Final

Second Quarter 2017 - Quarterly Groundwater Monitoring Report

Red Hill Bulk Fuel Storage Facility
Joint Base Pearl Harbor-Hickam, O‘ahu, Hawai‘i

DOH Facility ID No.: 9-102271
DOH Release ID Nos.: 990051, 010011, 020028, and 140010

July 2017

Naval Facilities Engineering Command
NAVFAC HAWAII

Contract Number N62742-12-D-1829, CTO 0053

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July 2017

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EXECUTIVE SUMMARY

This quarterly groundwater monitoring report presents the results of the Second Quarter 2017 groundwater monitoring event conducted during April 2–3, 2017, and the results of previous monthly monitoring events conducted during February 6–9 and March 6–8, 2017, at the Red Hill Bulk Fuel Storage Facility ("the Facility"), Joint Base Pearl Harbor-Hickam (JBPHH), Hawai‘i. The Facility is located in Hālawa Heights on the island of O‘ahu. There are 18 active and 2 inactive underground fuel storage tanks located at the Facility. The State of Hawai‘i Department of Health (DOH) Facility Identification (ID) number is 9-102271. The DOH Release ID numbers are 990051, 010011, 020028, and 140010.

The groundwater sampling was conducted as part of the Red Hill groundwater long-term monitoring (LTM) program, and performed under the Comprehensive Long-Term Environmental Action Navy (CLEAN) IV contract task order 0053. Data collected for this groundwater monitoring event also support Sections 6 and 7 of the *Administrative Order on Consent in the Matter of Red Hill Bulk Fuel Storage Facility, EPA Docket Number RCRA 7003-R9-2015-01 and DOH Docket Number 15-UST-EA-01*, Attachment A, Statement of Work (EPA Region 9 and DOH 2015). The purpose of the sampling is to assess the condition of groundwater beneath the Facility, and to ensure the United States Department of the Navy remains in compliance with DOH Underground Storage Tank (UST) release response requirements as described in Hawai‘i Administrative Rules (HAR) Chapter 11-281 Subchapter 7, Release Response Action. The sampling was conducted in accordance with the Naval Facilities Engineering Command (NAVFAC) Pacific Environmental Restoration Program *Project Procedures Manual* (DON 2015b), the DOH *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan* (DOH 2016b), and the Administrative Order on Consent (AOC) Statement of Work Sections 6 and 7 *Work Plan/Scope of Work* (WP/SOW) (DON 2017a). A *Sampling and Analysis Plan* (SAP) (DON 2017b,d) was also prepared for AOC Statement of Work Sections 6 and 7 that contains updated information for the groundwater sampling.

This report presents the activities conducted and sampling results for sampling locations both inside and outside the tunnels and combines the information into one report to facilitate review and provide a better understanding of the groundwater characteristics at the site.

Monthly sampling of the Red Hill monitoring network was initiated in November 2016 in response to information obtained that the Red Hill Shaft pumps had been relatively inoperable since February 2016 due to equipment (i.e., transformer) malfunction. Pumping at a reduced capacity was initiated in November 2016 using temporary equipment, and the pumping resumed to normal capacity in December 2016. To evaluate potential impacts the changed pumping conditions may have on chemical of potential concern (COPC) concentrations in groundwater at and around the Facility, monthly sampling was conducted in November and December 2016 and in February and March 2017 in conjunction with the scheduled quarterly sampling in January and April 2017. The next additional monthly monitoring events were conducted in May and June 2017, followed by a quarterly event in July 2017. Results of the monthly monitoring events are included in the scheduled quarterly monitoring reports.

During February 6–9, 2017, AECOM Technical Services, Inc. (AECOM) personnel conducted the second split sampling event with DOH and NAVFAC Hawaii oversight. AECOM collected groundwater samples from one sampling point at Red Hill Shaft (RHMW2254-01) and 11 monitoring wells in the Red Hill groundwater monitoring network (RHMW01 to RHMW09, HDMW2253-03, and OWDFMW01). One primary and one duplicate sample were collected from sampling point RHMW2254-01 and from wells RHMW08 and RHMW09.

During March 6–8, 2017, AECOM personnel conducted the third split sampling event with DOH and NAVFAC Hawaii oversight. AECOM collected groundwater samples from the sampling point at Red Hill Shaft and the 11 monitoring wells. One primary and one duplicate sample were collected from sampling point RHMW2254-01 and from well RHMW08.

During April 3–4, 2017, AECOM personnel collected groundwater and split samples from the sampling point at Red Hill Shaft and from ten monitoring wells. Monitoring well HDMW2253-03 was not sampled during the April 2017 event due to ongoing testing of an experimental transition-zone monitoring device being performed by the Commission on Water Resource Management (CWRM) and the University of Hawai'i; the testing is expected to continue through August 2017. One primary and one duplicate sample were collected from sampling point RHMW2254-01 and from well RHMW08.

Analytical results from the groundwater monitoring events were compared to the current LTM screening criteria – criteria agreed upon by the Parties to the AOC and presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016), and updated (where applicable) with the most current DOH Tier 1 Groundwater Environmental Action Levels (EALs) for sites where groundwater is a potential or current drinking water resource and the nearest surface water body is greater than 150 meters from the release site (DOH 2016a). Analytical results for wells RHMW01, RHMW02, and RHMW03 were also compared to the Site-Specific Risk-Based Levels (SSRBLs) for total petroleum hydrocarbons (TPH)-diesel-range organics (TPH-d) (4,500 micrograms per liter [µg/L]) and benzene (750 µg/L), as established in the Red Hill *Groundwater Protection Plan* (GWPP) (DON 2014) and presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016). Analytical results for the February and March 2017 monthly monitoring events and April 2017 quarterly monitoring event are summarized as follows:

- *RHMW2254-01, RHMW04, RHMW05, RHMW07, RHMW09,* and *HDMW2253-03:* No COPCs were detected in any of the three events.
- *RHMW01:* Concentrations of TPH-d (83–150 µg/L) were detected in all three events. The February 2017 result (150 µg/L) exceeded the screening criterion (100 µg/L).
- *RHMW02:* Concentrations of TPH-d (940–1,200 µg/L), 1-methylnaphthalene (20–22 µg/L), 2-methylnaphthalene (16–17 µg/L), and naphthalene (49–57 µg/L) exceeding the screening criteria (100 µg/L, 6 µg/L, 10 µg/L, and 17 µg/L, respectively) were detected in all three events. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. Concentrations of TPH-g (57–73 µg/L) below the screening criterion (100 µg/L) were detected in all three events. Concentrations of total xylenes (0.23 µg/L) and TPH-o (84 µg/L) below the screening criteria (20 µg/L and 100 µg/L, respectively) were detected in the February and April 2017 events, respectively.
- *RHMW03:* Concentrations of TPH-d (47–67 µg/L) and TPH-o (41–71 µg/L) below the screening criterion of 100 µg/L were detected in all three events.
- *RHMW06:* A concentration of TPH-o (47 µg/L) below the screening criterion of 100 µg/L was detected in the March 2017 event.
- *RHMW08:* Concentrations of TPH-d (25–27 µg/L) and TPH-o (23–31 µg/L) below the screening criterion of 100 µg/L were detected in the February and March 2017 events.
- *OWDFMW01:* A concentration of TPH-o (44 µg/L) below the screening criterion of 100 µg/L was detected in the February 2017 event.

The historical groundwater contaminant concentrations indicate relatively stable COPC concentrations since the First Quarter 2016 event.

The natural attenuation parameter (NAP) results also present evidence of anaerobic biodegradation occurring at RHMW02 at significant levels, based on the depleted dissolved oxygen, very high dissolved methane concentrations, and depleted sulfate concentrations. The concentrations of NAPs at RHMW01 and RHMW03 indicate that biodegradation is also occurring.

Based on the groundwater monitoring results and in accordance with AOC Statement of Work Sections 6 and 7, continued groundwater monitoring at the wells in the Red Hill groundwater monitoring network is recommended.

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CONTENTS

Executive Summary iii

Acronyms and Abbreviations ix

1. Introduction 1

1.1 Site Description 1
1.2 Physical Setting 5
1.3 Background 6
1.3.1 Previous Groundwater Monitoring Results 6
1.3.2 Previous Reports 10

2. Groundwater Monitoring Activities 11

2.1 Groundwater Sampling 12
2.2 Field Quality Assurance/Quality Control 14
2.3 Sampling Handling and Analysis 15
2.4 Decontamination 15
2.5 Investigation-Derived Waste Management 15

3. Data Quality Assessment 16

3.1 Groundwater Level Measurements 16
3.2 Analytical Results 17
3.3 Recent Groundwater Contaminant Concentrations 43
3.4 Data Validation and Assessment 44
3.5 Data Assessment and Usability Conclusions 51

4. Natural Attenuation Parameter Evaluation 52

4.1 Evaluation Using Groundwater COPC Concentrations 53
4.2 Evaluation Using Natural Attenuation Parameters 53
4.2.1 Dissolved Oxygen and Oxidation Reduction Potential 53
4.2.2 Nitrate 54
4.2.3 Ferrous Iron 54
4.2.4 Methane 54
4.2.5 Sulfate 54
4.2.6 Chloride 55
4.2.7 Alkalinity 55

5. Summary, Conclusions, and Recommendations 55

5.1 Summary 55
5.2 Conclusions and Recommendations 56

6. References 57

APPENDIXES

A Cumulative Historical Monitoring Results

A.1 Table of Cumulative COPC Results

A.2 Graphs of Cumulative COPC Results

A.3 Graphs of Cumulative NAP Results

A.4 Table and Graphs of Cumulative Depth to Water Results

B Field Activity Documentation, Second Quarter 2017 (on CD-ROM at end of document)

B.1 Groundwater Sampling Logs, Second Quarter 2017

B.2 Field Notes, Second Quarter 2017

C Analytical Documentation, Second Quarter 2017 (on CD-ROM at end of document)

C.1 Full Suite Analyte List for RHMW09

C.2 Laboratory Reports

C.3 Data Validation Reports

C.4 Fact Sheet – Detection and Quantitation

FIGURES

1 Site Location Map 3

2 COPC Detections 39

3 Natural Attenuation Parameters Results 41

4 Concentration Graphs 45

5 Natural Attenuation Parameters Graphs 47

TABLES

1-1 Current Status of the Facility's Fuel Storage Tanks as of April 2017 2

1-2 Distance of Wells/Sampling Point to Hālawa Stream 5

1-3 Summary of Groundwater Detections 7

1-4 Previous Groundwater Monitoring Reports 10

2-1 Groundwater Sampling Program for the February and March 2017 Monthly Events and the Second Quarter 2017 Monitoring Event 13

3-1 Groundwater Elevations 16

3-2 Groundwater Sample Results, February 2017 Groundwater Monitoring Event 19

3-3 Groundwater Sample Results, March 2017 Groundwater Monitoring Event 23

3-4 Groundwater Sample Results, April 2017 Groundwater Monitoring Event 25

3-5 Field QC Sample Results, February 2017 Groundwater Monitoring Event 29

3-6 Field QC Sample Results, March 2017 Groundwater Monitoring Event 33

3-7 Field QC Sample Results, April 2017 Groundwater Monitoring Event 35

3-8 Field Duplicate RPD Exceedances 49

ACRONYMS AND ABBREVIATIONS

—	no data
%	percent
%R	percent recovery
µg/L	microgram per liter
AECOM	AECOM Technical Services, Inc.
AOC	Administrative Order on Consent
APPL	Agriculture and Priority Pollutants Laboratories, Inc.
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
btoc	below top of casing
CLEAN	Comprehensive Long-Term Environmental Action Navy
CoC	chain-of-custody
COPC	chemical of potential concern
CWRM	Commission on Water Resource Management
DL	detection limit
DLNR	Department of Land and Natural Resources, State of Hawai‘i
DO	dissolved oxygen
DoD	Department of Defense
DOH	Department of Health, State of Hawai‘i
EAL	Environmental Action Level
EPA	Environmental Protection Agency, United States
F-24	NATO-grade F-24 jet fuel
F-76	Marine Diesel Fuel
Facility	Red Hill Bulk Fuel Storage Facility
ft	foot/feet
GPS	global positioning system
GW	groundwater
GW	groundwater
GWPP	Groundwater Protection Plan
HAR	Hawai‘i Administrative Rules
ID	identification
IDW	investigation-derived waste
JBPHH	Joint Base Pearl Harbor-Hickam
JP	Jet Fuel Propellant
JP-5	Jet Fuel Propellant No. 5
JP-8	Jet Fuel Propellant No. 8
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection
LOQ	limit of quantitation
LTM	long-term monitoring
MDL	method detection limit
mg/L	milligram per liter
MS	matrix spike
MSD	matrix spike duplicate

msl	mean sea level
mV	millivolt
NAP	natural attenuation parameter
NAPL	non-aqueous-phase liquid
NATO	North Atlantic Treaty Organization
NAVFAC	Naval Facilities Engineering Command
NAVSUP FLC	Naval Supply Systems Command Fleet Logistics Center
ORP	oxidation reduction potential
PAH	polynuclear aromatic hydrocarbon
PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
pH	hydrogen activity
PID	photoionization detector
ppm	part per million
QA	quality assurance
QC	quality control
QSM	quality systems manual
Qtr	quarter
RPD	relative percent difference
Rpt	report
SAP	sampling and analysis plan
SOW	Scope of Work
SSRBL	Site-Specific Risk-Based Level
TGM	Technical Guidance Manual
THQ	target hazard quotient
TPH	total petroleum hydrocarbons
TPH-d	total petroleum hydrocarbons-diesel range organics
TPH-g	total petroleum hydrocarbons-gasoline range organics
TPH-o	total petroleum hydrocarbons-residual range organics (i.e., TPH-oil)
U.S.	United States
UST	underground storage tank
VOA	volatile organic analyte
VOC	volatile organic compound
WP	work plan

1. Introduction

This quarterly groundwater monitoring report presents the results of the Second Quarter 2017 groundwater monitoring event conducted during April 3–4, 2017, and the results of previous monthly monitoring events conducted during February 6–9 and March 6–8, 2017, at the Red Hill Bulk Fuel Storage Facility (“the Facility”), Joint Base Pearl Harbor-Hickam (JBPHH), O‘ahu, Hawai‘i (Figure 1). The purpose of the sampling is to (1) assess the condition of groundwater beneath the Facility with respect to chemical constituents associated with jet fuel propellant (JP) and marine diesel fuel (F-76), and (2) ensure that the Navy remains in compliance with State of Hawai‘i Department of Health (DOH) Underground Storage Tank (UST) release response requirements as described in Hawai‘i Administrative Rules (HAR) Chapter 11-281 Subchapter 7, Release Response Action (2000). The DOH Facility Identification (ID) number for the Facility is 9-102271. The DOH Release ID numbers are 990051, 010011, 020028, and 140010.

The groundwater sampling was conducted as part of the long-term groundwater and soil vapor monitoring program at the Facility for Naval Supply Systems Command Fleet Logistics Center (NAVSUP FLC) Pearl Harbor, under Naval Facilities Engineering Command (NAVFAC) Contract Number N62742-12-D-1829. The sampling was conducted in accordance with the NAVFAC Pacific Environmental Restoration Program *Project Procedures Manual* (DON 2015b), the DOH *Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan* (TGM) (DOH 2016b), and the AOC Statement of Work Sections 6 and 7 *Work Plan/Scope of Work* (WP/SOW) (DON 2017a). A *Sampling and Analysis Plan* (SAP) (DON 2017b,d) was also prepared for Administrative Order on Consent (AOC) Statement of Work Sections 6 and 7 that contains updated information for the groundwater sampling.

This report presents the activities conducted and sampling results for sampling locations both inside and outside the Facility tunnels and combines the information into one report to facilitate review and provide a better understanding of the groundwater characteristics at the site. Cumulative historical monitoring results for the Red Hill monitoring network are presented in tables and charts in Appendix A. Field activity and analytical documentation for the Second Quarter 2017 sampling events are presented in Appendix B and Appendix C, respectively.

Monthly sampling of the Red Hill monitoring network was initiated in November 2016 in response to information obtained that the Red Hill Shaft pumps had been relatively inoperable since February 2016 due to equipment (i.e., transformer) malfunction. Pumping at a reduced capacity was initiated in November 2016 using temporary equipment, and the permanent equipment is scheduled to be replaced in 2017, at which time pumping will return to normal capacity. To evaluate potential impacts the changed pumping conditions may have on chemical of potential concern (COPC) concentrations in groundwater at and around the Facility, monthly sampling was conducted in November and December 2016 and in February and March 2017 in conjunction with the scheduled quarterly sampling in January and April 2017. The next additional monthly monitoring events were conducted in May and June 2017, followed by a quarterly event in July 2017. Results of the monthly monitoring events are included in the scheduled quarterly monitoring reports.

1.1 Site Description

The Facility is located on Federal government land (zoned F1- Military and Federal) in Hālawa Heights, approximately 2.5 miles northeast of Pearl Harbor (Figure 1). It is located on a low ridge on the western edge of the Ko‘olau Mountain Range that divides Hālawa Valley from Moanalua Valley. The Facility is bordered on the north by Hālawa Correctional Facility and private businesses, on the southwest by the United States (U.S.) Coast Guard reservation, on the south by

residential neighborhoods, and on the east by residential neighborhoods in Moanalua Valley. A quarry is located less than one-quarter mile to the northwest. The Facility occupies 144 acres of land, and the majority of the ground surface of the site lies at an elevation of approximately 200–500 feet (ft) above mean sea level (msl).

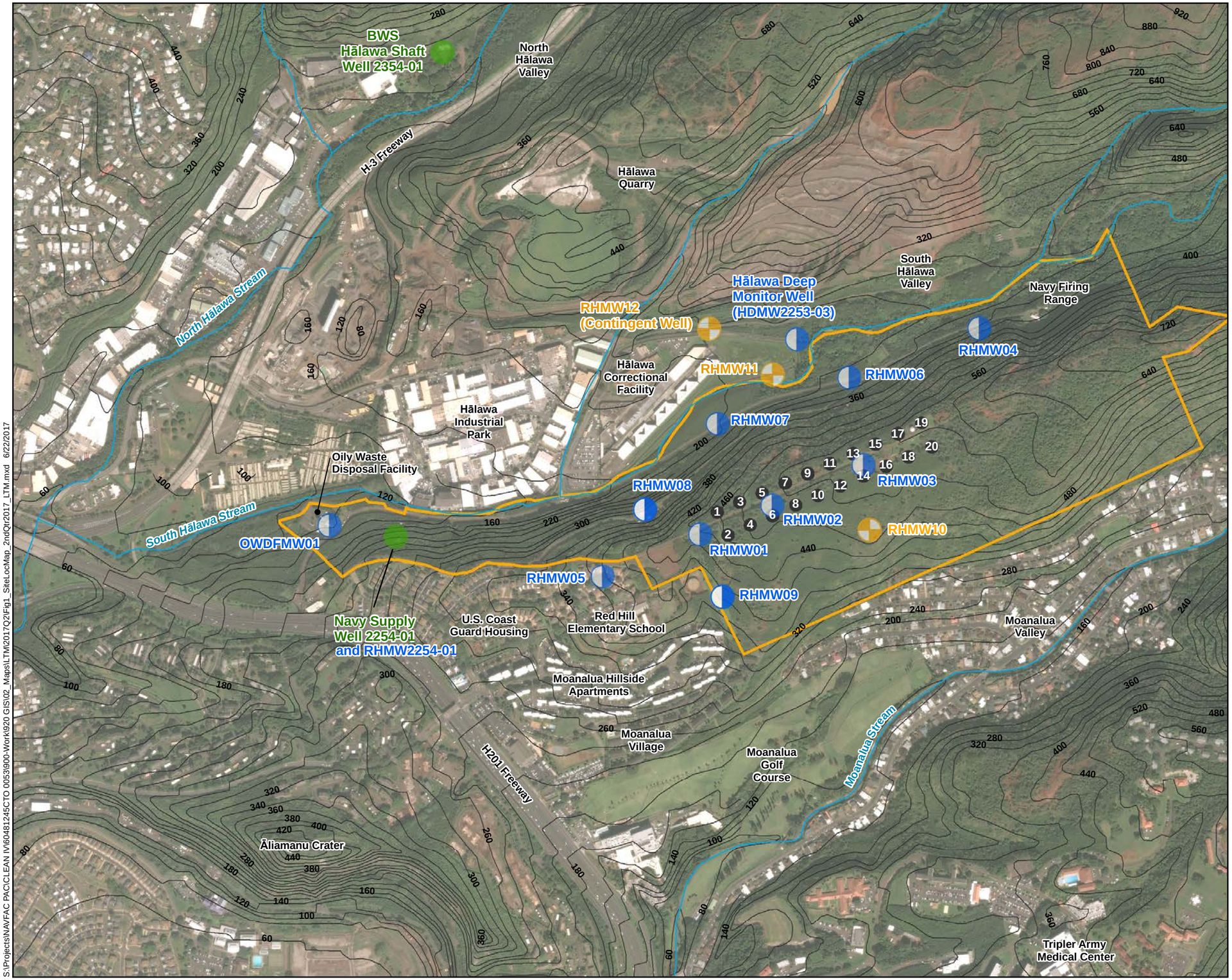
The Facility contains 18 active and 2 inactive underground fuel storage tanks that are operated by NAVSUP FLC Pearl Harbor. Each tank has a capacity of approximately 12.5 million gallons. The bottoms of the Facility's tanks are located approximately 100 ft above the basal aquifer. The fuel storage tanks currently contain JP-5, North Atlantic Treaty Organization (NATO)-grade F-24 jet fuel, and F-76. The current status of each tank is summarized in Table 1-1.

Table 1-1: Current Status of the Facility's Fuel Storage Tanks as of April 2017

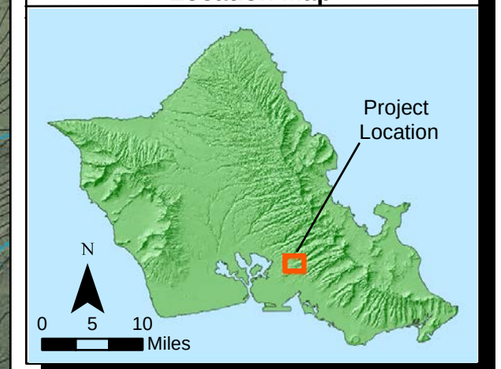
Tank Identification	Fuel Type	Status [a]	Capacity [b]
F-1	Empty	Inactive	12.5 million gallons
F-2	F-24	Active	12.5 million gallons
F-3	F-24	Active	12.5 million gallons
F-4	F-24	Active	12.5 million gallons
F-5	F-24	Active	12.5 million gallons
F-6	F-24	Active	12.5 million gallons
F-7	JP-5	Active	12.5 million gallons
F-8	JP-5	Active	12.5 million gallons
F-9	JP-5	Active	12.5 million gallons
F-10	JP-5	Active	12.5 million gallons
F-11	JP-5	Active	12.5 million gallons
F-12	JP-5	Active	12.5 million gallons
F-13	Empty [c]	Active	12.5 million gallons
F-14	Empty [c]	Active	12.5 million gallons
F-15	F-76	Active	12.5 million gallons
F-16	F-76	Active	12.5 million gallons
F-17	Empty	Active	12.5 million gallons
F-18	JP-5	Active	12.5 million gallons
F-19	Empty	Inactive	12.5 million gallons
F-20	JP-5	Active	12.5 million gallons

F-24 NATO-grade F-24 jet fuel
F-76 Marine Diesel Fuel
JP-5 Jet Fuel Propellant No. 5
[a] Active status indicates a tank is currently available for use, but does not necessarily indicate the tank is currently filled. Inactive status indicates a tank is currently not available for use.
[b] Tank capacity in this table is estimated, and is not considered a tank-rated capacity or maximum allowable fill volume.
[c] Currently being converted from F-76 to JP-5.

One sampling point at Red Hill Shaft (RHMW2254-01) and four groundwater monitoring wells (RHMW01 through RHMW03 and RHMW05) are located within the Facility's lower access tunnel (Figure 1). Seven groundwater monitoring wells (RHMW04, RHMW06 through RHMW09, HDMW2253-03, and OWDFMW01) are located outside the Facility tunnel system.



Location Map



Legend

- Existing Monitoring Well Location
- Existing Water Supply Sampling Point
- Future Monitoring Well Location
- Red Hill Tank
- Stream
- Topographic Contour (feet above mean sea level)
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. Installation of monitoring well RHMW12 is contingent pending subsurface conditions. encountered during installation of RHMW11.
4. RHMW10 installed on April 10, 2017; and will be included in the 3rd Quarter 2017 sampling program.

N

0 400 800 1,600 Feet

Figure 1
Site Location Map
2nd Qtr 2017 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

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1.2 PHYSICAL SETTING

The Facility is located on the southwest flank of the Ko‘olau shield volcano and is underlain by primarily Ko‘olau volcanic series basalts. Climatological conditions in the area of the Facility consist of warm to moderate temperatures and low to moderate rainfall. The average annual precipitation is approximately 40 inches, which occurs mainly between November and April (Giambelluca, Nullet, and Schroeder 1986). Average temperatures range from the low 60s to high 80s (degrees Fahrenheit) (Juvik and Juvik 1998).

The Facility is located at the boundary between the Waimalu Aquifer System of the Pearl Harbor Aquifer Sector and the Moanalua Aquifer System of the Honolulu Aquifer Sector. The aquifer is classified as a basal, unconfined, flank-type; and is currently used as a drinking water source. The aquifer is considered fresh, with less than 250 milligrams per liter (mg/L) of chloride, and is considered an irreplaceable resource with a high vulnerability to contamination (Mink and Lau 1990).

The nearest drinking water supply well is Navy Supply Well 2254-01, located within the Facility lower tunnel. Navy Supply Well 2254-01 is located approximately 2,600 ft topographically downgradient of the fuel storage tanks (Figure 1) and provides potable water to the JBPHH Water System, which serves approximately 65,200 military customers. NAVFAC Hawaii Public Works Department operates the infiltration gallery and Navy Supply Well 2254-01. Sampling point RHMW2254-01 is located inside the infiltration gallery of Navy Supply Well 2254-01.

The nearest body of surface water is Hālawa Stream, which is an ephemeral stream present along the north side of the facility. Wells RHMW01 through RHMW03, RHMW05, and RHMW09 are all located greater than 150 meters from any portion of Hālawa Stream. Sampling point RHMW2254-01 and wells RHMW04, RHMW06 through RHMW08, HDMW2253-03, and OWDFMW01 are located within 150 meters of a portion of Hālawa Stream. The distance of each well and sampling point to Hālawa Stream is presented in Table 1-2. Both Hālawa Stream and Moanalua Stream (located in Moanalua Valley east of the Facility) are losing streams located approximately 100 ft or more above the groundwater table. However, the bottoms of the fuel tanks are located at least 50 ft below the bottom of the streams (a cross section diagram depicting these elevations is presented in the Red Hill Monitoring Well Installation WP; DON 2016). Thus, analytical results for the long-term monitoring (LTM) program are compared to the screening criteria based on Table D-1b Environmental Action Levels (EALs) (groundwater EALs for sites where groundwater is a current or potential drinking water resource, and the nearest surface water body is greater than 150 meters from release site) because there are no indications of any complete pathways to ecological receptors in the nearby water bodies, despite some of the wells being within 150 meters of Hālawa Stream.

Table 1-2: Distance of Wells/Sampling Point to Hālawa Stream

Well/Sampling Point	Distance to Hālawa Stream (meters)
RHMW2254-01	85
RHMW01	232
RHMW02	299
RHMW03	271
RHMW04	81
RHMW05	225
RHMW06	104
RHMW07	81

Well/Sampling Point	Distance to Hālawa Stream (meters)
RHMW08	64
RHMW09	376
HDMW2253-03	64
OWDFMW01	143

1.3 BACKGROUND

The Facility was constructed by the U.S. Government in the early 1940s. Twenty underground fuel storage tanks and a series of tunnels were constructed. The tanks were constructed of concrete with a steel liner, and in the past have stored Navy special fuel oil, Navy distillate, aviation gasoline, and motor gasoline (DON 2010). The tanks currently contain JP-5, F-24, and F-76. The fueling system is a self-contained underground unit that was installed into native rock composed primarily of basalt with some interbedded tuffs and breccias (DON 2010). Each tank measures approximately 250 ft in height and 100 ft in diameter. The upper domes of the tanks lie at a depth varying between 100 ft and 200 ft below ground surface (bgs).

1.3.1 Previous Groundwater Monitoring Results

Results of the Red Hill groundwater LTM program spanning from 2005 to January 2017 are summarized in Table 1-3. Historical results indicate that most COPCs, and in general the highest detected COPC concentrations, occur in well RHMW02. Cumulative results of historical groundwater monitoring are tabulated in Appendix A.1, and graphs of COPC concentrations over time are presented in Appendix A.2. Groundwater sampling locations are depicted on Figure 1.

Previous sampling results through January 2017 are summarized below:

- RHMW2254-01 is a sampling point located inside the infiltration gallery of Navy Supply Well 2254-01. Samples collected during the first two quarterly monitoring events in 2005 had lead concentrations above the screening criterion (DOH Tier 1 action levels), but these samples were not filtered prior to analysis and thus the results were not considered appropriate for a risk assessment. In 2008, a concentration of total petroleum hydrocarbons (TPH)-diesel range organics (TPH-d) was initially reported as 102 micrograms per liter (µg/L) but was later validated to 102 µg/L non-detect. Detections of TPH-d, TPH-gasoline range organics (TPH-g), TPH-residual range organics (TPH-o), and polynuclear aromatic hydrocarbons (PAHs) occurred occasionally during quarterly monitoring events between 2005 and January 2017, but no COPCs have been detected above the screening criteria.
- RHMW01, an in-tunnel monitoring well located southwest of the tank farm, was installed in 2001 (DON 2002). TPH-d has been detected consistently, with the most recent screening criterion exceedance during the Fourth Quarter 2016 event; however, TPH-d never exceeded the Site-Specific Risk-Based Level (SSRBL). The SSRBLs for total petroleum hydrocarbons (TPH)-diesel-range organics (TPH-d) (4,500 µg/L) and benzene (750 µg/L) are established in the Red Hill *Groundwater Protection Plan* (GWPP) (DON 2014) and presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016). TPH-o exceeded the screening criterion in 2005, and 1-methylnapthalene exceeded the screening criterion once in 2009.

Table 1-3: Summary of Groundwater Detections

			RHMW2254-01						Inside Tunnel Wells							Outside Tunnel Wells						
Analyte	Unit	DOH EAL (<150m from surface water)	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Location of Max Concentration	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration	No. of Detects	No. of Non-detects	Percent Detected	Did Detects Exceed EALs?	Location of Max Concentration	Maximum Detected Concentration (µg/L)	Date Sampled of Max Concentration
TPH-d	µg/L	100	10	48	17%	No	67	28-Jun-05	158	50	76%	**Yes**	RHMW02	6500	20-Jan-16	51	86	37%	**Yes**	OWDFMW01	3100	22-Jul-15
TPH-g	µg/L	100	5	47	10%	No	19.1	13-May-09	57	129	31%	**Yes**	RHMW02	660	28-Jan-13	8	128	6%	No	OWDFMW01	31	23-Apr-14
TPH-o	µg/L	100	4	13	24%	No	59	8-Sep-05	35	29	55%	**Yes**	RHMW01	890	17-Feb-05	25	62	29%	**Yes**	OWDFMW01	390	22-Jul-15
Benzene	µg/L	5	0	59	0%	—	—	—	11	195	5%	No	RHMW02	0.26	4-Feb-09	18	119	13%	No	OWDFMW01	1.3	19-Jul-12
Ethylbenzene	µg/L	30	2	57	3%	No	0.1	20-Jul-16	30	176	15%	No	RHMW02	1.3	10-Jul-06	0	137	0%	—	—	—	—
Toluene	µg/L	40	4	55	7%	No	1.2	16-Feb-05	16	190	8%	No	RHMW01	2.5	15-Jan-14	13	124	9%	No	HDMW2253-03	3.8	22-Oct-14
Xylenes, Total (p/m-, o-xylene)	µg/L	20	0	59	0%	—	—	—	36	170	17%	No	RHMW02	1.1	15-Jan-08	1	136	1%	No	OWDFMW01	0.39	21-Apr-11
1-Methylnaphthalene	µg/L	6	2	50	4%	No	0.0435	15-Apr-08	81	123	40%	**Yes**	RHMW02	142	10-Jul-06	8	129	6%	No	OWDFMW01	0.03	19-Jan-16
2-Methylnaphthalene	µg/L	10	4	53	7%	No	0.0561	15-Apr-08	85	123	41%	**Yes**	RHMW02	88.5	20-Sep-05	16	121	12%	No	OWDFMW01	0.02	19-Jan-16
Naphthalene	µg/L	17	12	46	21%	No	0.099	23-Jul-13	110	98	53%	**Yes**	RHMW02	343	10-Jul-06	25	112	18%	No	RHMW04	0.18	19-Jul-16

Notes:

Analyte detected above DOH EAL.

Inside Wells: RHMW01, RHMW02, RHMW03, RHMW05

Outside Wells: RHMW04, RHMW06, RHMW07, RHMW08, RHMW09, OWDFMW01, HDMW2253-03

— = no data

% = percent

µg/L = microgram per liter

DOH = Department of Health, State of Hawai'i

EAL = Environmental Action Level

m = meter

No. = number

TPH-d = total petroleum hydrocarbons-diesel range organics

TPH-g = total petroleum hydrocarbons-gasoline range organics

TPH-o = total petroleum hydrocarbons-residual range organics (i.e., TPH-oil)

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- RHMW01, an in-tunnel monitoring well located southwest of the tank farm, was installed in 2001 (DON 2002). TPH-d has been detected consistently, with the most recent screening criterion exceedance during the Fourth Quarter 2016 event; however, TPH-d never exceeded the Site-Specific Risk-Based Level (SSRBL). The SSRBLs for total petroleum hydrocarbons (TPH)-diesel-range organics (TPH-d) (4,500 µg/L) and benzene (750 µg/L) are established in the Red Hill *Groundwater Protection Plan* (GWPP) (DON 2014) and presented in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016). TPH-o exceeded the screening criterion in 2005, and 1-methylnapthalene exceeded the screening criterion once in 2009.
- RHMW02, an in-tunnel monitoring well located next to Tank 6, was installed in 2005 (DON 2007). TPH-d exceeded the screening criterion in all monitoring events and exceeded the SSRBL in 2008, 2014, and 2015. TPH-g exceeded the screening criterion during monitoring events in 2006, 2007, 2010, and 2012. TPH-o exceeded the screening criterion during monitoring events in 2015 and 2016. 1-Methylnapthalene, 2-methylnapthalene, and naphthalene exceeded their screening criteria frequently during monitoring events between 2005 and 2017.
- RHMW03, an in-tunnel monitoring well located next to Tank 14, was installed in 2005 (DON 2007). TPH-d exceeded the screening criterion during monitoring events in 2005 to 2010, 2015, and 2016, but never exceeded the SSRBL. TPH-o exceeded the screening criterion during monitoring events in 2015 and 2016.
- RHMW04, an outside-tunnel monitoring well located northeast of the tank farm, was installed in 2005 as a background monitoring location (DON 2007). TPH-d exceeded the screening criterion once during the initial monitoring event in 2005.
- RHMW05, an inside-tunnel monitoring well located southwest of the tank farm and southeast of sampling point RHMW2254-01, was installed in 2009. TPH-d exceeded the screening criterion during monitoring events in 2009 and 2010.
- RHMW06, an outside-tunnel monitoring well located north of the tank farm, was installed in 2014 in response to the January 2014 release (DON 2015a). No COPCs have been detected above the screening criteria.
- RHMW07, an outside-tunnel monitoring well located north of the tank farm, was installed in 2014 in response to the January 2014 release (DON 2015a). TPH-o was detected above the screening criterion during one monitoring event in 2016.
- RHMW08, an outside-tunnel monitoring well located west of Tank 1, was installed in 2016 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). No COPCs have been detected above the screening criteria.
- RHMW09, an outside-tunnel monitoring well located south of Tank 2, was installed in 2016 as part of the AOC Statement of Work Sections 6 and 7 investigation (DON 2017a). No COPCs have been detected above the screening criteria.
- HDMW2253-03 (Hālawa Deep Monitor Well 2253-03), an outside-tunnel well located north of the tank farm at the Hālawa Correctional Facility, was installed in 2000 by the State of Hawai‘i Department of Land and Natural Resources (DLNR). TPH-d exceeded the screening criterion during quarterly monitoring events in 2010, 2012, 2013, and 2014.
- OWDFMW01, located at the former Oily Waste Disposal Facility west of Navy Supply Well 2254-01, was installed in 1998 (DON 2000). TPH-d exceeded the screening criterion during quarterly monitoring events in 2010 and between 2012 and 2016. TPH-o exceeded the screening criterion during monitoring events in 2015 and 2016.

1.3.2 Previous Reports

The Red Hill groundwater LTM reports listed in Table 1-4 were previously submitted to DOH. Starting from the Fourth Quarter 2016 groundwater monitoring event, the information for both the inside-tunnel and outside-tunnel wells have been combined into one report.

Table 1-4: Previous Groundwater Monitoring Reports

Year	Title	Inside-Tunnel Wells		Outside-Tunnel Wells	
		Sampling Period	Submittal Date	Sampling Period	Submittal Date
Separate Reports for Inside- and Outside-Tunnel Wells					
2005	1st Qtr 2005 GW Sampling Rpt	1st Qtr	Apr	—	—
	2nd Qtr 2005 GW Sampling Rpt	2nd Qtr	Aug	—	—
	3rd Qtr 2005 GW Sampling Rpt	3rd Qtr	Nov	—	—
	4th Qtr 2005 GW Sampling Rpt	4th Qtr	Feb 2006	—	—
2006	3rd Qtr 2006 GW Monitoring Results	Jul	Sep	—	—
	4th Qtr 2006 GW Monitoring Results	Dec	Jan 2007	—	—
2007	1st Qtr 2007 GW Monitoring Results	Mar	May	—	—
	2nd Qtr 2007 GW Monitoring Results	Jun	Aug	—	—
	3rd Qtr 2007 GW Monitoring Results	Sep	Oct	—	—
2008	1st Qtr 2008 GW Monitoring Rpt	Jan	Mar	—	—
	2nd Qtr 2008 GW Monitoring Rpt	Apr	May	—	—
	3rd Qtr 2008 GW Monitoring Rpt	Jul	Oct	—	—
	4th Qtr 2008 GW Monitoring Rpt	Oct, Dec	Feb 2009	—	—
2009	1st Qtr 2009 GW Monitoring Rpt	Feb	May	—	—
	2nd Qtr 2009 GW Monitoring Rpt	May	Jul	—	—
	3rd Qtr 2009 GW Monitoring Rpt	Jul	Sep	Aug	Sep
	4th Qtr 2009 GW Monitoring Rpt	Oct	Dec	Oct	Dec
2010	1st Qtr 2010 GW Monitoring Rpt	Jan, Feb, Mar	Apr	Jan	Apr
	2nd Qtr 2010 GW Monitoring Rpt	Apr	May	Apr	May
	3rd Qtr 2010 GW Monitoring Rpt	Jul	Aug	Jul	Aug
	4th Qtr 2010 GW Monitoring Rpt	Oct	Dec	Oct	Dec
2011	1st Qtr 2011 GW Monitoring Rpt	Jan	Mar	Jan	Mar
	2nd Qtr 2011 GW Monitoring Rpt	Apr	Jun	Apr	Jun
	3rd Qtr 2011 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	4th Qtr 2011 GW Monitoring Rpt	Oct	Dec	Oct	Dec
2012	1st Qtr 2012 GW Monitoring Rpt	Jan, Feb	Mar	Jan	Mar
	2nd Qtr 2012 GW Monitoring Rpt	Apr	Jul	Apr	Jul
	3rd Qtr 2012 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	4th Qtr 2012 GW Monitoring Rpt	Oct	Jan 2013	Nov	Jan 2013
2013	1st Qtr 2013 GW Monitoring Rpt	Jan	Apr	Jan	Apr
	2nd Qtr 2013 GW Monitoring Rpt	Apr	Jul	Apr	Jul
	3rd Qtr 2013 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	4th Qtr 2013 GW Monitoring Rpt	Oct	Jan 2014	Oct	Jan 2014
2014	1st Qtr 2014 GW Monitoring Rpt	Jan	Apr	Jan	Apr
	2nd Qtr 2014 GW Monitoring Rpt	Apr	Jun	Apr	Jun
	3rd Qtr 2014 GW Monitoring Rpt	Jul	Sep	Jul	Sep
	4th Qtr 2014 GW Monitoring Rpt	Oct	Jan 2015	Oct	Jan 2015

Year	Title	Inside-Tunnel Wells		Outside-Tunnel Wells	
		Sampling Period	Submittal Date	Sampling Period	Submittal Date
2014	GW Sampling Rpt for Additional Sampling (Inside-Tunnel)/GW Monitoring Rpt for Additional Sampling of HDMW2253-03 (Outside-Tunnel)	Jan	Jan	Jan	Feb
	GW Sampling Rpt for Tank 5 Release Response on March 5 and 6	Mar 5, 6	Mar	—	—
	GW Sampling Rpt for Tank 5 Release Response on March 10	Mar 10	Mar	—	—
	GW Sampling Rpt for Tank 5 Release Response on March 25 and 26	Mar 25, 26	Apr	—	—
	GW Sampling Rpt for Tank 5 Release Response on April 7	Apr	Apr	—	—
	GW Sampling Rpt for Tank 5 Release Response on May 27 and 28	May 27, 28	Jun	—	—
	GW Sampling Rpt for Tank 5 Release Response on June 23 and 24	Jun 23, 24	Jul	—	—
2015	1st Qtr 2015 GW Monitoring Rpt	Jan	Mar	Jan	Mar
	2nd Qtr 2015 GW Monitoring Rpt	Apr	Aug	Apr	Aug
	3rd Qtr 2015 GW Monitoring Rpt	Jul	Nov	Jul	Nov
	4th Qtr 2015 GW Monitoring Rpt	Oct	Jan 2016	Oct	Feb 2016
	Draft Monitoring Well Installation Rpt for RHMW06 and RHMW07	—	—	—	Mar
2016	1st Qtr 2016 GW Monitoring Rpt	Jan	Mar	Jan	Mar
	2nd Qtr 2016 GW Monitoring Rpt	Apr	Jul	Apr	Jul
	3rd Qtr 2016 GW Monitoring Rpt	Jul	Oct	Jul	Oct
Combined Reports for Inside- and Outside-Tunnel Wells		Sampling Period		Submittal Date	
2016	4th Qtr 2016 GW Monitoring Rpt	Oct		Dec	
2017	1st Qtr 2017 GW Monitoring Rpt	Nov 2016 to Jan 2017		Apr	

— no data
GW groundwater
Qtr quarter
Rpt report

2. Groundwater Monitoring Activities

During February 6–9, March 6–8, and April 3–4, 2017, groundwater samples were collected from one sampling point at Red Hill Shaft (RHMW2254-01) and from 11 monitoring wells in the Red Hill groundwater monitoring network (RHMW01 through RHMW09, HDMW2253-03, and OWDFMW01). All samples were collected in accordance with the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a) and SAP (DON 2017b,d). The WP/SOW and SAP are consistent with DOH UST release response requirements (HAR 11-281), NAVFAC Pacific Environmental Restoration Program Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b), and the Red Hill *Groundwater Protection Plan* (GWPP) (DON 2014). Prior to purging and sampling, organic vapor readings from each well were measured using a MiniRAE 2000 photoionization detector (PID) and a 4-gas meter. A methane analyzer was also used to determine the percent volume of methane in the well headspace at inside-tunnel sampling locations. The depth to groundwater was measured using a Solinst oil/water interface probe. No sheen was detected in any of the wells, but slight non-petroleum and petroleum odors were observed at RHMW01 and RHMW02. Methane was not detected in any of the sampling locations.

2.1 GROUNDWATER SAMPLING

During the February and March 2017 monitoring events, one sample was collected from each of the 11 wells and one sampling point. During the April 2017 event, a sample was collected from each of 10 wells and one sampling point; HDMW2253-03 was not sampled during this event due to ongoing testing of an experimental transition-zone monitoring device being performed by DLNR's Commission on Water Resource Management (CWRM) and the University of Hawai'i; the testing is expected to continue through August 2017.

During the February and March 2017 monthly monitoring events, split sampling was conducted at all of the sampling locations in support of the U.S. Environmental Protection Agency (EPA) split-sampling SAP (EPA 2017). One set of the split volumes collected for the groundwater and field QC samples was sent directly to Agriculture and Priority Pollutants Laboratories, Inc. (APPL) by the sampling team, and the remaining set of split samples were relinquished to DOH custody to be sent to the EPA Region 9 laboratory.

Prior to collecting groundwater samples, the monitoring wells were purged of standing water in the well casings. Sampling point RHMW2254-01 and wells RHMW02 through RHMW09 each contain a dedicated bladder pump, which was used to purge the well and to collect samples. A rental bladder pump was used to purge the well and collect samples from RHMW01, HDMW2253-03, and OWDFMW01. The groundwater wells were purged using low flow sampling methodology at flow rates of approximately 0.15–0.30 liter per minute to minimize drawdown.

To operate the pump, a portable air compressor with an in-line filter was connected to a QED MP10 MicroPurge Basics Controller box, which was then connected to the pump. The compressor was turned on to power the pump, and the controller was used to adjust the pumping rate to less than 1 liter of water per minute. Compressed nitrogen gas was used to purge all wells.

Water quality parameters were monitored on a periodic basis during well purging using a YSI 6920. Parameters measured included hydrogen activity (pH), temperature, specific conductivity, dissolved oxygen (DO), turbidity, oxidation reduction potential (ORP), and salinity. The water quality parameters were evaluated to assess whether the natural characteristics of the aquifer formation water were present within the monitoring wells before collecting the samples. A minimum of four readings were collected at each well during the purging process. When possible, water level measurements were collected during purging to detect any indication of drawdown; if drawdown was detected approaching 0.2 ft, the rate of low-flow purging was reduced. Purging was considered complete when at least three consecutive water quality measurements stabilized within the specified range for each parameter noted in groundwater sampling logs (Appendix A.1) and in accordance with NAVFAC Pacific Environmental Restoration Program Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b). The readings were recorded on the groundwater sampling logs (Appendix B.1). Field notes were taken to document the monitoring event (Appendix B.2).

When the water quality parameters stabilized, groundwater samples were immediately collected from the wells using the bladder pumps. During the February and March 2017 split sampling events, the groundwater samples were completely collected no more than 5 hours after purging was completed. During the April 2017 monitoring event, groundwater samples were completely collected no more than 2.75 hours after purging. Groundwater samples were collected into sampling containers that were pre-preserved (as necessary) and provided by the analytical laboratory. The analytical suites for the February and March 2017 monthly events and the Second Quarter 2017 groundwater monitoring event are shown in Table 2-1. Samples collected for ferrous iron and dissolved lead analysis were filtered in the field using new, individual 0.45-micron filters attached at the end of the pump discharge tubing.

Table 2-1: Groundwater Sampling Program for the February and March 2017 Monthly Events and the Second Quarter 2017 Monitoring Event

Parameter	Analytical Method	Analyte(s)	Screening Criterion (µg/L)	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01
TPH	SW-846 8260	TPH-g	100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SW-846 8015	TPH-d	100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		TPH-o	100	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VOCs	SW-846 8260	Benzene	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Ethylbenzene	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Toluene	40	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Total Xylenes	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Full Analyte List [a]	—										✓		
PAHs	SW-846 8270 SIM	1-Methylnaphthalene	6 [b]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		2-Methylnaphthalene	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Naphthalene	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Full Analyte List [a]	—										✓		
NAPs	Field parameter	DO, ORP	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	SM 3500-Fe	Ferrous Iron	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	RSK 175M	Methane	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EPA 300.0	Nitrate, Sulfate, Chloride	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lead Scavengers [c]	SW-846 8011	1,2-Dibromoethane	0.04									✓	✓		
	SW-846 8260	1,2-Dichloroethane	5									✓	✓		
Fuel Additives	SW-846 8270	Phenol	300 [b]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Full Analyte List [a]	—										✓		
	Lab Procedure	2-(2-methoxyethoxy)-ethanol	800 [d]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
General Groundwater Chemistry	EPA 6010	Total Calcium, Iron, Lead, Magnesium, Manganese, Potassium, Sodium [e]	—										✓		
	EPA 6010	Dissolved Lead [e]	—										✓		
	EPA 300.0	Bromide, Fluoride [e]	—										✓		
	SM 4500-SiD	Dissolved Silica [f]	—										✓		
		Total Silica [f]	—										✓		

Notes: COPC screening criteria were provided in the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter from the Regulatory Agencies (EPA Region 9 and DOH 2016), and updated with the most current DOH Tier 1 EALs in Table D-1b (DOH 2016a) where appropriate.

— not applicable
✓ analyzed
NAP natural attenuation parameter
VOC volatile organic compound

[a] Expanded list of analytes were analyzed for RHMW09 during the February and April 2017 monitoring events. The full suite analyte list is presented in Appendix C.1.

[b] Screening criteria from DOH Tier 1 EALs, Table D-1b, Groundwater Action Levels (groundwater is a current or potential drinking water resource, and surface water body is not located within 150 meters of release site) (DOH 2016a).

[c] Lead scavengers will be collected from the indicated wells for at least 1 year of sampling, and may be discontinued if sample results are below the Groundwater Action Levels established in the February 4, 2016, scoping completion letter (EPA Region 9 and DOH 2016).

[d] Screening criterion from EPA Tap Water Regional Screening Levels, target hazard quotient (THQ) = 1.0, May 2016 (EPA 2016).
[e] Additional general groundwater chemistry parameters were collected to profile the groundwater at RHMW09 during the February 2017 monitoring event (Appendix C.1).
[f] Dissolved and total silica were collected to profile the groundwater at RHMW09 during the April 2017 monitoring event (Appendix C.1).

2.2 FIELD QUALITY ASSURANCE/QUALITY CONTROL

A quality assurance/quality control (QA/QC) program was implemented in the field in accordance with the NAVFAC Pacific *Project Procedures Manual* (DON 2015b), the DOH TGM (DOH 2016b), the project WP (DON 2015c), the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a), and the SAP (DON 2017b,d) to support generating data of known and defensible quality. The QA/QC program was designed to minimize error, provide early identification and correction of potential problems, and evaluate the performance of the sampling program.

Every morning, field instruments were calibrated prior to starting field activities. The PID was calibrated with 100 parts per million (ppm) isobutylene calibration gas. The 4-gas meter was calibrated with 100 ppm isobutylene calibration gas and a 4-gas meter calibration gas. The 4-gas meter calibration gas was comprised of 50 ppm carbon monoxide, 25 ppm dihydrogen sulfide, 19 percent (%) oxygen and 50% of the lower explosive limit of methane. The methane analyzer was calibrated using methane calibration gas composed of 35% carbon dioxide, 50% methane, and the balance nitrogen. The water quality meter was calibrated with auto calibration solution prior to recording measurements.

To assess the effectiveness of the equipment decontamination process after sampling, at least one equipment blank sample was collected in the field during each monitoring event. A field blank sample was also collected to assess the quality of the store-bought Menehune Water Company distilled water used to collect the equipment blank. Prior to each monitoring event, equipment blank samples were collected from the two rental bladder pumps in the warehouse to assess the cleanliness of the rental equipment after the initial equipment decontamination process.

The field blank was collected by pouring distilled water directly into sample containers. The equipment blanks were collected by pouring distilled water into a decontaminated rental bladder pump then into sample containers. The field blank and equipment blank samples were analyzed for the same COPCs as the groundwater samples.

To assess the precision of the data collection activity, including sampling and analysis, two field duplicates were collected. During the February, March, and April 2017 events, one duplicate was collected from RHMW2254-01 and one from RHMW08, at the same approximate time as their respective primary samples. During the February and April 2017 events, one duplicate was also collected from RHMW09 at the same approximate time as its respective primary sample for full suite analyses.

During the February through April 2017 events, one trip blank was collected at each sampling location in order to more accurately represent the condition of the samples in each shipment. The hermetically sealed trip blank samples were supplied "pre-filled" by APPL and remained in the sample cooler during the field event and transport to and from the site.

2.3 SAMPLING HANDLING AND ANALYSIS

The samples were labeled and logged in accordance with NAVFAC Pacific Environmental Restoration Program Procedure III-E, *Record Keeping, Sample Labeling, and Chain-of-Custody Procedures* (DON 2015b). Immediately after collection, all samples were labeled, logged in the field logbooks, custody sealed, sealed with tape, and placed in a resealable plastic bag. To meet method recommended hold time for nitrate analysis, efforts were made to ship the groundwater and field QC samples collected in the morning of each monitoring event to the laboratory the same day as sample collection; samples not shipped on the day of collection were transported to the warehouse and stored in a secure cold storage device for shipment the next day.

Before shipping, samples were placed in a cooler with double-bagged wet ice and logged onto a chain-of-custody (CoC) form. Split sampling was conducted during the February and March 2017 events. An identical duplicate set of samples was collected from each well following the same handling procedures. Prior to sealing the coolers, DOH personnel chose one of the identically packed coolers and took custody of the samples. DOH sent their set of custody-sealed coolers via express courier overnight shipping to the EPA Region 9 laboratory in Richmond, CA. The remaining set was sent by field personnel via express courier overnight shipping in custody-sealed coolers to APPL in Clovis, CA. Similarly, samples and COC forms from the Second Quarter 2017 monitoring event (April 2017) were shipped via overnight courier in custody-sealed coolers to APPL. Sample transport and custody details are provided in the CoC records in the laboratory reports in Appendix C.2.

2.4 DECONTAMINATION

Decontamination activities were performed in accordance with NAVFAC Pacific Environmental Restoration Program Procedure I-F, *Equipment Decontamination* (DON 2015b). A staging and decontamination area was established near each well location. Non-disposable sampling equipment was decontaminated at the beginning of each day and after purging and sampling each well. The decontamination process included washing and scrubbing the equipment with stiff-bristled nylon brushes in a non-phosphate detergent (e.g., Alconox) solution, followed by rinsing once with isopropyl alcohol and twice with distilled water. Liquid wastes generated during decontamination activities were captured and containerized in properly labeled U.S. Department of Transportation-approved 55-gallon drums or other suitable temporary containers, and managed as investigation-derived waste (IDW).

2.5 INVESTIGATION-DERIVED WASTE MANAGEMENT

IDW generated during the monitoring events consisted of purged groundwater from the monitoring wells and decontamination water. The IDW was handled, stored, and labeled in accordance with NAVFAC Pacific Environmental Restoration Program Procedure I-A-6, *Investigation-Derived Waste Management* (DON 2015b). Approximately 120 gallons of fluid from all wells and all three events were containerized in three, clearly labeled 55-gallon capacity drums, covered with a tarp, and stored on site in an area designated by the Navy. IDW is pending disposal. Disposable personal protective equipment and sampling equipment and supplies were collected in plastic trash bags and disposed of as municipal waste.

3. Data Quality Assessment

A data quality assessment, which consists of a review of the overall groundwater sample collection and analysis process, was performed in order to determine whether the analytical data generated met the quality objectives for the project. The data quality assessment was performed in accordance with the AOC Statement of Work Sections 6 and 7 WP/SOW (DON 2017a) and SAP (DON 2017b,d). The field QC program consisted of standardized sample collection and management procedures, and the collection of field duplicate samples, matrix spike (MS) samples, and trip blank samples. The laboratory QA program consisted of the use of standard analytical methods and the preparation and analyses of MS/MS duplicate (MSD) samples, surrogate spikes, blanks, and laboratory control samples (LCSs)/LCS duplicates (LCSDs).

3.1 GROUNDWATER LEVEL MEASUREMENTS

Depths to groundwater were gauged from the notched and surveyed top of casing using a Solinst oil/water interface probe in sampling point RHMW2254-01 and wells RHMW01 through RHMW09, HDMW2253-03, and OWDFMW01 prior to sampling (Table 3-1). The oil/water interface probe was decontaminated between well measurements by washing with a non-phosphate detergent solution and rinsing with isopropyl alcohol and distilled water to prevent cross-contamination. Groundwater elevations beneath the site ranged from 18.01 to 25.7 ft msl. Because questions on the accuracy of surveyed measuring points have been raised, the wells will be resurveyed in 2017. PID readings at the wellheads ranged from 0.0 to 2.3 ppm. No measurable non-aqueous-phase liquid (NAPL) was observed during the groundwater monitoring event. Cumulative graphs of historical depth to water readings are presented in Appendix A.4.

Table 3-1: Groundwater Elevations

Monitoring Well Number	Location (relative to tunnel)	Water Level Measurement Date	PID Reading at Wellhead (ppm)	Depth to Water (ft btoc)	Top of Casing Elevation (ft msl)	Groundwater Elevation (ft msl)
RHMW2254-01	Inside	2/7/2017	0.4	80.29	105.76 [a]	25.47 [f]
		3/6/2017	0.1	80.06	105.76 [a]	25.70 [f]
		4/3/2017	0.1	80.23	105.76 [a]	25.53 [f]
RHMW01	Inside	2/8/2017	0.5	82.69	102.41 [a]	19.72
		3/8/2017	0.0	82.28	102.41 [a]	20.13
		4/3/2017	0.4	82.43	102.41 [a]	19.98
RHMW02	Inside	2/7/2017	0.9	85.24	105.01 [a]	19.77
		3/7/2017	0.0	84.99	105.01 [a]	20.02
		4/4/2017	0.3	85.27	105.01 [a]	19.74
RHMW03	Inside	2/8/2017	0.8	101.55	121.31 [a]	19.76
		3/7/2017	0.0	101.30	121.31 [a]	20.01
		4/4/2017	0.1	101.55	121.31 [a]	19.76
RHMW04	Outside	2/6/2017	0.0	292.85	312.57 [a]	19.72
		3/6/2017	0.0	292.62	312.57 [a]	19.95
		4/3/2017	0.1	292.78	312.57 [a]	19.79
RHMW05	Inside	2/7/2017	0.2	81.91	101.71 [b]	19.80
		3/8/2017	0.0	81.61	101.71 [b]	20.10
		4/3/2017	0.1	81.81	101.71 [b]	19.90

Monitoring Well Number	Location (relative to tunnel)	Water Level Measurement Date	PID Reading at Wellhead (ppm)	Depth to Water (ft btoc)	Top of Casing Elevation (ft msl)	Groundwater Elevation (ft msl)
RHMW06	Outside	2/7/2017	0.1	239.90	259.01 [c]	19.11
		3/7/2017	0.1	239.63	259.01 [c]	19.38
		4/3/2017	0.0	239.86	259.01 [c]	19.15
RHMW07	Outside	2/8/2017	0.0	197.25	220.29 [c]	23.04
		3/7/2017	0.0	197.08	220.29 [c]	23.21
		4/3/2017	0.0	197.07	220.29 [c]	23.22
RHMW08	Outside	2/6/2017	0.0	291.51	310.47 [d]	18.96
		3/6/2017	2.3	291.16	310.47 [d]	19.31
		4/4/2017	0.1	291.38	310.47 [d]	19.09
RHMW09	Outside	2/8/2017	0.0	376.67	394.71 [d]	18.04
		3/7/2017	0.1	376.30	394.71 [d]	18.41
		4/4/2017	0.1	376.70	394.71 [d]	18.01
HDMW2253-03 [e]	Outside	2/7/2017	0.0	206.32	226.68 [a]	20.36
		3/8/2017	0.5	206.13	226.68 [a]	20.55
OWDFMW-01	Outside	2/9/2017	0.0	119.03	138.57 [a]	19.54
		3/8/2017	0.4	118.61	138.57 [a]	19.96
		4/4/2017	0.1	118.87	138.57 [a]	19.70

— not recorded
btoc below top of casing
[a] Source: DON 2007.
[b] Source: RHMW05 boring and well completion log, Robert Whittier, TEC Inc. April 24, 2009.
[c] Source: DON 2015a.
[d] Source: AECOM internal Global Positioning System (GPS) survey (July 28, 2016).
[e] Monitoring well HDMW2253-03 was not sampled during the April 2017 monitoring event (Section 2.1).
[f] RHMW2254-01 groundwater elevation is considered anomalous, likely due to sampling point pipe slippage.

3.2 ANALYTICAL RESULTS

The samples were analyzed for TPH-d and TPH-o using EPA Method 8015C; TPH-g, benzene, toluene, ethylbenzene, and xylenes (BTEX), and 1,2-dichloroethane using EPA Method 8260C; 1,2-dibromoethane using EPA Method 8011; PAHs using EPA Method 8270D SIM; phenol using EPA Method 8270D; and 2-(2-methoxyethoxy)-ethanol using a proprietary laboratory procedure. Additionally, RHMW09 groundwater samples that were collected during the February 2017 and April 2017 events were also analyzed for full suite VOCs by EPA Method 8260C, full suite SVOCs by EPA Method 8270D, full suite PAHs by EPA Method 8270D SIM, and general groundwater chemistry parameters by EPA Method 6010C, EPA Method 300.0, and SM4500-SiD. Copies of the laboratory reports are presented in Appendix C.2. Copies of the third-party data validation reports are presented in Appendix C.3.

Analytical results were compared to the current LTM screening criteria as established by the February 4, 2016, AOC Statement of Work Sections 6 and 7 scoping completion letter (EPA Region 9 and DOH 2016) and updated with the most current DOH Tier 1 EALs in Table D-1b, Groundwater Action Levels (groundwater is a current or potential drinking water resource, and surface water body is not located within 150 meters of release site) (DOH 2016a) where appropriate. The results of the February 2017, March 2017, and April 2017 monitoring events are summarized in Table 3-2 through Table 3-4, and QC sample results are presented in Table 3-5 through Table 3-7.

In general, COPCs were not detected in RHMW2254-01, RHMW04, RHMW05, RHMW07, RHMW09, and HDMW2253-03. However, TPH-d, 1-methylnapthalene, 2-methylnapthalene, and naphthalene remain above screening criteria in RHMW02. Figure 2 presents detections and exceedances in COPC concentrations, and Figure 3 presents the natural attenuation parameter (NAP) results at all wells. A cumulative groundwater COPC table containing analytical chemistry results from the beginning of the LTM program is presented in Appendix C.1. A description of laboratory data qualifiers, definitions of the terms detection limit (DL), limit of detection (LOD), and limit of quantitation (LOQ), and basic concepts of those terms are presented in the Fact Sheet included as Appendix C.4.

Analytical results for the February, March, and April 2017 monitoring events are summarized below:

- *RHMW2254-01, RHMW04, RHMW05, RHMW07, RHMW09,* and *HDMW2253-03:* No COPCs were detected in any of the three events.
- *RHMW01:* Concentrations of TPH-d (83–150 µg/L) were detected in all three events. The February 2017 result (150 µg/L) exceeded the screening criterion (100 µg/L). The TPH-d concentrations did not exceed the SSRBL of 4,500 µg/L.
- *RHMW02:* Concentrations of TPH-d (940–1,200 µg/L), 1-methylnaphthalene (20–22 µg/L), 2-methylnaphthalene (16–17 µg/L), and naphthalene (49–57 µg/L) exceeding the respective screening criteria were detected in all three events. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. Concentrations of TPH-o (84 µg/L), TPH-g (57–73 µg/L), and total xylenes (0.23 µg/L) below the respective screening criteria were detected in all three events.
- *RHMW03:* Concentrations of TPH-d (47–67 µg/L) and TPH-o (41–71 µg/L) below the respective screening criteria were detected in all three events. The TPH-d concentrations did not exceed the SSRBL of 4,500 µg/L.
- *RHMW06:* A concentration of TPH-o (47 µg/L) below the screening criterion was detected in the March 2017 event.
- *RHMW08:* Concentrations of TPH-d (25–27 µg/L) and TPH-o (23–31 µg/L) below the respective screening criteria were detected in the January and February 2017 events.
- *OWDFMW01:* A concentration of TPH-o (44 µg/L) below the screening criterion was detected in the February 2017 event.

Table 3-2: Groundwater Sample Results, February 2017 Groundwater Monitoring Event

					Sample ID	ERH205	ERH206	ERH223	ERH216	ERH231	ERH208	ERH212	ERH210	ERH218	ERH220	ERH221	ERH225	ERH247	ERH214	ERH227
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	HDMW2253-03	OWDFMW01
					Collection Date	2/6/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017	2/9/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N	N
					FD Parent Sample	-	ERH205	-	-	-	-	-	-	-	-	ERH220	-	ERH225	-	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	750	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	-	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	**0.23 J**	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	-	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	**65**	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-Diesel Range C10-C24	-3527	8015B_E	100	4500	µg/L	< 25.00 U	< 25.00 U	**150**	**1000**	**67**	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	**26 J**	**25 J**	< 25.00 U	< 25.00 U	< 25.00 U	< 23 U
TPH-Oil Range C24-C40	-3528	8015B_E	100	-	µg/L	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	**71**	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	**31 J**	**28 J**	< 40.00 U	< 40.00 U	< 40.00 U	**44**
1-Methylnaphthalene	90-12-0	8270D_SIM	6	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**22**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-Methylnaphthalene	91-57-6	8270D_SIM	10	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**16**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Naphthalene	91-20-3	8270D_SIM	17	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**57**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	-	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U
Phenol	108-95-2	8270D	300	-	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	-	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	-	-
Methane	74-82-8	RSK-175	-	-	µg/L	< 1.00 U	-	**1300**	**16000**	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	-	< 1.00 U	-	< 1.00 U	< 1.00 U
Iron, Ferrous	15438-31-0	3500_FE_B	-	-	mg/L	< 0.32 U	-	**0.50 J**	**2.9**	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	-	< 0.32 U	-	**1.8**	< 0.32 U
Alkalinity, As CaCO3	-17	2320B	-	-	mg/L	**63.1**	-	**92.0**	**193**	**281**	**79.3**	**107**	**113**	**113**	**77.9**	-	**66.1**	-	**50.7**	**174**
Alkalinity, Bicarbonate	71-52-3	2320B	-	-	mg/L	**63.1**	-	**92.0**	**193**	**281**	**79.3**	**107**	**113**	**113**	**77.9**	-	**66.1**	-	**50.7**	**174**
Alkalinity, Carbonate	3812-32-6	2320B	-	-	mg/L	< 1.70 U	-	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	-	< 1.70 U	-	< 1.70 U	< 1.70 U
Chloride	16887-00-6	300.0	-	-	mg/L	**91.8**	-	**40.9**	**39.9**	**47.5**	**84.1**	**162**	**468**	**408**	**169**	-	**52.7**	-	**91.1**	**1040**
Nitrate	14797-55-8	300.0	-	-	mg/L	**2.5 J**	-	**0.44 J**	**0.44 J**	**6.7**	**2.5**	**4.2**	**3.0**	**3.7**	**2.3**	-	**2.3 J**	-	**1.2**	**7.9**
Sulfate	14808-79-8	300.0	-	-	mg/L	**14.8**	-	**4.6**	**1.0**	**45.4**	**10.3**	**49.0**	**95.2**	**63.0**	**79.8**	-	**9.4**	-	**28.6**	**337**
Bromide	24959-67-9	300.0	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**0.30 J**	-	-	-
Fluoride	16984-48-8	300.0	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**0.14**	-	-	-
Calcium, Total	7440-70-2	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**12800**	**13400**	-	-
Iron, Total	7439-89-6	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 25.0 U	< 25.0 U	-	-
Lead, Dissolved	7439-92-1	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-	-
Lead, Total	7439-92-1	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-	-
Magnesium, Total	7439-95-4	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**11800**	**12400**	-	-
Manganese, Total	7439-96-5	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-	-
Potassium, Total	7440-09-7	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**2060 J**	**2200 J**	-	-
Sodium, Total	7440-23-5	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**35700**	**36700**	-	-
Dissolved Oxygen	-	Field	-	-	mg/L	**8.62**	-	**0.46**	**0.1**	**1.61**	**9.01**	**8.33**	**6.54**	**2.52**	**3.89**	-	**9.06**	**-**	**0.98**	**4.63**
1,1,1,2-Tetrachloroethane	630-20-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,1,1-Trichloroethane	71-55-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,1,2,2-Tetrachloroethane	79-34-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,1,2-Trichloroethane	79-00-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,1-Dichloroethane	75-34-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,1-Dichloroethene	75-35-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,1-Dichloropropene	563-58-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,2,3-Trichlorobenzene	87-61-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,2,3-Trichloropropane	96-18-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-	-
1,2,4-Trichlorobenzene	120-82-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,2,4-Trimethylbenzene	95-63-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,2-Dibromo-3-Chloropropane	96-12-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-	-
1,2-Dibromoethane	106-93-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
1,2-Dichlorobenzene	95-50-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,2-Dichloropropane	78-87-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,3,5-Trimethylbenzene	108-67-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,3-Dichlorobenzene	541-73-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,3-Dichloropropane	142-28-9	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,3-Dichloropropene, Total	542-75-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,4-Dichlorobenzene	106-46-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
2,2-Dichloropropane	594-20-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
2-Butanone	78-93-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	< 2.00 U	-	-
2-Chlorotoluene	95-49-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
2-Hexanone	591-78-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	< 2.00 U	-	-
4-Chlorotoluene	106-43-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-

Table 3-2: Groundwater Sample Results, February 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH205	ERH206	ERH223	ERH216	ERH231	ERH208	ERH212	ERH210	ERH218	ERH220	ERH221	ERH225	ERH247	ERH214	ERH227
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	HDMW2253-03	OWDFMW01
					Collection Date	2/6/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017	2/9/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N	N
					FD Parent Sample	-	ERH205	-	-	-	-	-	-	-	-	ERH220	-	ERH225	-	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
4-Isopropyltoluene	99-87-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
4-Methyl-2-Pentanone	108-10-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Acetone	67-64-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	< 2.00 U	-	-
Bromobenzene	108-86-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Bromochloromethane	74-97-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Bromodichloromethane	75-27-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Bromoform	75-25-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Bromomethane	74-83-9	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Carbon Disulfide	75-15-0	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Carbon Tetrachloride	56-23-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Chlorobenzene	108-90-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Chloroethane	75-00-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Chloroform	67-66-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Chloromethane	74-87-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Cis-1,2-Dichloroethene	156-59-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Cis-1,3-Dichloropropene	10061-01-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Dibromochloromethane	124-48-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Dibromomethane	74-95-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Dichlorodifluoromethane	75-71-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Ethyl Tert-Butyl Ether	637-92-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Hexachlorobutadiene	87-68-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Isopropyl Ether	108-20-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Isopropylbenzene	98-82-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Methyl Tert-Butyl Ether	1634-04-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.52 U	< 0.52 U	-	-
Methylene Chloride	75-09-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-	-
M-Xylene	108-38-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Naphthalene	91-20-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
N-Butylbenzene	104-51-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
o-Xylene	95-47-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Propylbenzene	103-65-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
sec-Butylbenzene	135-98-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Styrene	100-42-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
t-Amyl Methyl Ether	994-05-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
tert-Butanol	75-65-0	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 10.00 U	< 10.00 U	-	-
tert-Butylbenzene	98-06-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Tetrachloroethene	127-18-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Trans-1,2-dichloroethene	156-60-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Trans-1,3-dichloropropene	10061-02-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Trichloroethene	79-01-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
Trichlorofluoromethane	75-69-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
Vinyl Chloride	75-01-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-
1,2,4-Trichlorobenzene	120-82-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
1,2-Dichlorobenzene	95-50-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
1,3-Dichlorobenzene	541-73-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
1,4-Dichlorobenzene	106-46-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
1,4-Dioxane	123-91-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-	-
2,2'-Oxybis(1-chloropropane)	108-60-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4,5-Trichlorophenol	95-95-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4,6-Trichlorophenol	88-06-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4-Dichlorophenol	120-83-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4-Dimethylphenol	105-67-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4-Dinitrophenol	51-28-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,4-Dinitrotoluene	121-14-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2,6-Dinitrotoluene	606-20-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2-Chloronaphthalene	91-58-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2-Chlorophenol	95-57-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2-Methylnaphthalene	91-57-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2-Methylphenol	95-48-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
2-Nitroaniline	88-74-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-

Table 3-2: Groundwater Sample Results, February 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH205	ERH206	ERH223	ERH216	ERH231	ERH208	ERH212	ERH210	ERH218	ERH220	ERH221	ERH225	ERH247	ERH214	ERH227
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	HDMW2253-03	OWDFMW01
					Collection Date	2/6/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017	2/9/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N	N
					FD Parent Sample	-	ERH205	-	-	-	-	-	-	-	-	ERH220	-	ERH225	-	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2-Nitrophenol	88-75-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
3- And 4-Methylphenol	108-39-4/106-44	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
3,3-Dichlorobenzidine	91-94-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
3-Nitroaniline	99-09-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4,6-Dinitro-2-methylphenol	534-52-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Bromophenyl-phenylether	101-55-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Chloro-3-methylphenol	59-50-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Chloroaniline	106-47-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Chlorophenyl-phenylether	7005-72-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Nitroaniline	100-01-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
4-Nitrophenol	100-02-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Acenaphthene	83-32-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Acenaphthylene	208-96-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Anthracene	120-12-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzo[a]anthracene	56-55-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzo[a]pyrene	50-32-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzo[b]fluoranthene	205-99-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzo[g,h,i]perylene	191-24-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzo[k]fluoranthene	207-08-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Benzyl Alcohol	100-51-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Bis(2-chloroethoxy)methane	111-91-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Bis(2-chloroethyl)ether	111-44-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Bis(2-ethylhexyl)phthalate	117-81-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Butylbenzylphthalate	85-68-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Carbazole	86-74-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Chrysene	218-01-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Dibenz[a,h]anthracene	53-70-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Dibenzofuran	132-64-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Diethylphthalate	84-66-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Dimethyl Phthalate	131-11-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Di-n-butylphthalate	84-74-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Di-n-octylphthalate	117-84-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Diphenylamine	122-39-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Fluoranthene	206-44-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Fluorene	86-73-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Hexachlorobenzene	118-74-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Hexachlorobutadiene	87-68-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Hexachlorocyclopentadiene	77-47-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 9.00 U	< 9.00 U	-	-
Hexachloroethane	67-72-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Isophorone	78-59-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Naphthalene	91-20-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Nitrobenzene	98-95-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
N-Nitrosodinpropylamine	621-64-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Pentachlorophenol	87-86-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Phenanthrene	85-01-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Pyrene	129-00-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-	-
Acenaphthene	83-32-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Acenaphthylene	208-96-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Anthracene	120-12-7	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Benzo[a]anthracene	56-55-3	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Benzo[a]pyrene	50-32-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Benzo[b]fluoranthene	205-99-2	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Benzo[g,h,i]perylene	191-24-2	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Benzo[k]fluoranthene	207-08-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Chrysene	218-01-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Dibenz[a,h]anthracene	53-70-3	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Fluoranthene	206-44-0	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Fluorene	86-73-7	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-

Table 3-2: Groundwater Sample Results, February 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH205	ERH206	ERH223	ERH216	ERH231	ERH208	ERH212	ERH210	ERH218	ERH220	ERH221	ERH225	ERH247	ERH214	ERH227
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	HDMW2253-03	OWDFMW01
					Collection Date	2/6/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017	2/9/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N	N
					FD Parent Sample	-	ERH205	-	-	-	-	-	-	-	-	ERH220	-	ERH225	-	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Indeno[1,2,3-cd]pyrene	193-39-5	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Phenanthrene	85-01-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-
Pyrene	129-00-0	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-	-

Bold text indicates detected value.

Exceeds screening criterion.

[a] SSRBL applies to RHMW01, RHMW02, and RHMW03.

– - not analyzed or not applicable

µg/L - micrograms per liter

FD - field duplicate

J - estimated value

mg/L - milligrams per liter

N - normal (primary) sample

SSRBL - site-specific risk-based level

U - nondetect value

Table 3-3: Groundwater Sample Results, March 2017 Groundwater Monitoring Event

					Sample ID	ERH257	ERH258	ERH275	ERH265	ERH268	ERH260	ERH278	ERH284	ERH270	ERH262	ERH263	ERH272	ERH280	ERH286
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	HDMW2253-03	OWDFMW01
					Collection Date	3/6/2017	3/6/2017	3/8/2017	3/7/2017	3/7/2017	3/6/2017	3/8/2017	3/7/2017	3/7/2017	3/6/2017	3/6/2017	3/7/2017	3/8/2017	3/8/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
					FD Parent Sample	-	ERH257	-	-	-	-	-	-	-	-	ERH262	-	-	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	750	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	-	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	-	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	**73**	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-Diesel Range C10-C24	-3527	8015B_E	100	4500	µg/L	< 25.00 U	< 25.00 U	**83**	**1200**	**55**	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	**27 J**	**25 J**	< 25.00 U	< 25.00 U	< 25.00 U
TPH-Oil Range C24-C40	-3528	8015B_E	100	-	µg/L	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	**41**	< 40.00 U	< 40.00 U	**47**	< 40.00 U	**23 J**	**25 J**	< 40.00 U	< 40.00 U	< 40.00 U
1-Methylnaphthalene	90-12-0	8270D_SIM	6	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**22**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-Methylnaphthalene	91-57-6	8270D_SIM	10	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**17**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Naphthalene	91-20-3	8270D_SIM	17	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**49**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	-	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U
Phenol	108-95-2	8270D	300	-	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	< 0.020 U	-	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	< 0.30 U	-	-
Methane	74-82-8	RSK-175	-	-	µg/L	< 1.00 U	-	**470**	**5700**	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	-	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	15438-31-0	3500_FE_B	-	-	mg/L	< 0.32 U	-	**0.52 J**	**3.0**	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	< 0.32 U	-	< 0.32 U	**0.53 J**	< 0.32 U
Alkalinity, As CaCO3	-17	2320B	-	-	mg/L	**61.2**	-	**92.7**	**204**	**289**	**78.4**	**103**	**112**	**118**	**80.8**	-	**67.4**	**49.0**	**165**
Alkalinity, Bicarbonate	71-52-3	2320B	-	-	mg/L	**61.2**	-	**92.7**	**204**	**289**	**78.4**	**103**	**112**	**118**	**80.8**	-	**67.4**	**49.0**	**165**
Alkalinity, Carbonate	3812-32-6	2320B	-	-	mg/L	< 1.70 U	-	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	-	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	16887-00-6	300.0	-	-	mg/L	**91.8**	-	**39.9**	**39.4**	**47.2**	**75.9**	**161**	**413**	**454**	**159**	-	**51.3**	**86.2**	**1000**
Nitrate	14797-55-8	300.0	-	-	mg/L	**2.8 J**	-	< 0.18 UJ	**0.60**	**7.4**	**2.7**	**4.5**	**3.5**	**4.4**	**2.7 J**	-	**2.5**	**1.4**	**9.1**
Sulfate	14808-79-8	300.0	-	-	mg/L	**15.6**	-	**5.1**	**1.1**	**46.8**	**10.7**	**49.6**	**92.0**	**68.8**	**80.1**	-	**9.8**	**30.7**	**333**
Dissolved Oxygen	-	Field	-	-	mg/L	**8.51**	-	**0.95**	**0.25**	**1.06**	**8.73**	**8.28**	**6.51**	**2.84**	**3.7**	-	**8.65**	**1.02**	**4.94**

Bold text indicates detected value.

Exceeds screening criterion.

[a] SSRBL applies to RHMW01, RHMW02, and RHMW03.

– - not analyzed or not applicable

µg/L - micrograms per liter

FD - field duplicate

J - estimated value

mg/L - milligrams per liter

N - normal (primary) sample

SSRBL - site-specific risk-based level

U - nondetect value

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Table 3-4: Groundwater Sample Results, April 2017 Groundwater Monitoring Event

					Sample ID	ERH292	ERH293	ERH310	ERH300	ERH303	ERH295	ERH313	ERH319	ERH305	ERH297	ERH298	ERH307	ERH314	ERH321
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	OWDFMW01
					Collection Date	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N
					FD Parent Sample	-	ERH292	-	-	-	-	-	-	-	-	ERH297	-	ERH307	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	750	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	-	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	-	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	-	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	**57**	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 UJ	< 18.0 U	< 18.0 U
TPH-Diesel Range C10-C24	-3527	8015B_E	100	4500	µg/L	< 25.00 U	< 25.00 U	**97**	**940**	**47**	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U
TPH-Oil Range C24-C40	-3528	8015B_E	100	-	µg/L	< 40.00 U	< 40.00 U	< 40.00 U	**84**	**47**	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U
1-Methylnaphthalene	90-12-0	8270D_SIM	6	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**20**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-Methylnaphthalene	91-57-6	8270D_SIM	10	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**17**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
Naphthalene	91-20-3	8270D_SIM	17	-	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	**52**	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	-	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U
Phenol	108-95-2	8270D	300	-	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	< 0.020 U	< 0.020 U	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	-	µg/L	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	-
Methane	74-82-8	RSK-175	-	-	µg/L	< 1.00 U	-	**500**	**6000**	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	-	< 1.00 U	-	< 1.00 U
Iron, Ferrous	15438-31-0	3500_FE_B	-	-	mg/L	< 0.32 U	-	**0.70 J**	**2.8**	< 0.32 U	< 0.32 U	**0.17 J**	< 0.32 U	< 0.32 U	**0.16 J**	-	< 0.32 U	-	< 0.32 U
Alkalinity, As CaCO3	-17	2320B	-	-	mg/L	**61.5**	-	**91.3**	**206**	**283**	**77.7**	**101**	**115**	**118**	**83.0**	-	**67.5**	-	**169**
Alkalinity, Bicarbonate	71-52-3	2320B	-	-	mg/L	**61.5**	-	**91.3**	**206**	**283**	**77.7**	**101**	**115**	**118**	**83.0**	-	**67.5**	-	**169**
Alkalinity, Carbonate	3812-32-6	2320B	-	-	mg/L	< 1.70 U	-	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	< 1.70 U	-	< 1.70 U	-	< 1.70 U
Chloride	16887-00-6	300.0	-	-	mg/L	**96.2**	-	**40.1**	**39.9**	**47.3**	**83.6**	**148**	**505**	**473**	**175**	-	**52.3 J**	**52.5**	**1110**
Nitrate	14797-55-8	300.0	-	-	mg/L	**2.8**	-	< 0.18 U	< 0.18 U	**7.2 J**	**2.7**	**4.5**	**3.6**	**5.1**	**3.3**	-	**2.5**	**2.5**	**9.2 J**
Sulfate	14808-79-8	300.0	-	-	mg/L	**16.2**	-	**5.0**	**1.1**	**48.9**	**11.0**	**44.1**	**120**	**75.3**	**88.3**	-	**9.9**	**10.0**	**350**
Bromide	24959-67-9	300.0	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**0.37 J**	**0.38 J**	-
Fluoride	16984-48-8	300.0	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**0.10 J**	**0.099 J**	-
Silica, Dissolved	7631-86-9	4500_SI_D	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**47.2 J**	**46.9**	-
Silica, Total	7631-86-9	4500_SI_D	-	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	**44.0**	**51.9**	-
Calcium, Total	7440-70-2	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**12900**	**12400**	-
Iron, Total	7439-89-6	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 25.0 U	< 25.0 U	-
Lead, Dissolved	7439-92-1	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-
Lead, Total	7439-92-1	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-
Magnesium, Total	7439-95-4	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**12000**	**11500**	-
Manganese, Total	7439-96-5	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 4.00 U	< 4.00 U	-
Potassium, Total	7440-09-7	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**1960 J**	**1900 J**	-
Sodium, Total	7440-23-5	6010C	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**35900**	**34400**	-
Dissolved Oxygen	-	Field	-	-	mg/L	**8.47**	-	**0.54**	**0.32**	**1.78**	**8.64**	**8.23**	**5.71**	**3.06**	**3.71**	-	**8.36**	**-**	**4.73**
1,1,1,2-Tetrachloroethane	630-20-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,1,1-Trichloroethane	71-55-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,1,2,2-Tetrachloroethane	79-34-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,1,2-Trichloroethane	79-00-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,1-Dichloroethane	75-34-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,1-Dichloroethene	75-35-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,1-Dichloropropene	563-58-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,2,3-Trichlorobenzene	87-61-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,2,3-Trichloropropane	96-18-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-
1,2,4-Trichlorobenzene	120-82-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,2,4-Trimethylbenzene	95-63-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,2-Dibromo-3-Chloropropane	96-12-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-
1,2-Dibromoethane	106-93-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
1,2-Dichlorobenzene	95-50-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,2-Dichloropropane	78-87-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,3,5-Trimethylbenzene	108-67-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,3-Dichlorobenzene	541-73-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,3-Dichloropropane	142-28-9	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,3-Dichloropropene, Total	542-75-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,4-Dichlorobenzene	106-46-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
2,2-Dichloropropane	594-20-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
2-Butanone	78-93-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	< 2.00 U	-
2-Chlorotoluene	95-49-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-

Table 3-4: Groundwater Sample Results, April 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH292	ERH293	ERH310	ERH300	ERH303	ERH295	ERH313	ERH319	ERH305	ERH297	ERH298	ERH307	ERH314	ERH321
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	OWDFMW01
					Collection Date	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N
					FD Parent Sample	-	ERH292	-	-	-	-	-	-	-	-	ERH297	-	ERH307	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2-Hexanone	591-78-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	< 2.00 U	-
4-Chlorotoluene	106-43-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
4-Isopropyltoluene	99-87-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
4-Methyl-2-Pentanone	108-10-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Acetone	67-64-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	**1.8 J**	< 2.00 U	-
Bromobenzene	108-86-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Bromochloromethane	74-97-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Bromodichloromethane	75-27-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Bromoform	75-25-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Bromomethane	74-83-9	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Carbon Disulfide	75-15-0	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Carbon Tetrachloride	56-23-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Chlorobenzene	108-90-7	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Chloroethane	75-00-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Chloroform	67-66-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Chloromethane	74-87-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Cis-1,2-Dichloroethene	156-59-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Cis-1,3-Dichloropropene	10061-01-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Dibromochloromethane	124-48-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Dibromomethane	74-95-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Dichlorodifluoromethane	75-71-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Ethyl Tert-Butyl Ether	637-92-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Hexachlorobutadiene	87-68-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Isopropyl Ether	108-20-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Isopropylbenzene	98-82-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Methyl Tert-Butyl Ether	1634-04-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.52 U	< 0.52 U	-
Methylene Chloride	75-09-2	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	< 1.00 U	-
M-Xylene	108-38-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Naphthalene	91-20-3	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
N-Butylbenzene	104-51-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
o-Xylene	95-47-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Propylbenzene	103-65-1	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
sec-Butylbenzene	135-98-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Styrene	100-42-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
t-Amyl Methyl Ether	994-05-8	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
tert-Butanol	75-65-0	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 10.00 UJ	< 10.00 UJ	-
tert-Butylbenzene	98-06-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Tetrachloroethene	127-18-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Trans-1,2-dichloroethene	156-60-5	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Trans-1,3-dichloropropene	10061-02-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Trichloroethene	79-01-6	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Trichlorofluoromethane	75-69-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
Vinyl Chloride	75-01-4	8260B	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
1,2,4-Trichlorobenzene	120-82-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
1,2-Dichlorobenzene	95-50-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 UJ	< 5.00 U	-
1,3-Dichlorobenzene	541-73-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
1,4-Dichlorobenzene	106-46-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
1,4-Dioxane	123-91-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	< 0.50 U	-
2,2'-Oxybis(1-chloropropane)	108-60-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4,5-Trichlorophenol	95-95-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4,6-Trichlorophenol	88-06-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4-Dichlorophenol	120-83-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4-Dimethylphenol	105-67-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4-Dinitrophenol	51-28-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,4-Dinitrotoluene	121-14-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2,6-Dinitrotoluene	606-20-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2-Chloronaphthalene	91-58-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2-Chlorophenol	95-57-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2-Methylnaphthalene	91-57-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-

Table 3-4: Groundwater Sample Results, April 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH292	ERH293	ERH310	ERH300	ERH303	ERH295	ERH313	ERH319	ERH305	ERH297	ERH298	ERH307	ERH314	ERH321
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	OWDFMW01
					Collection Date	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N
					FD Parent Sample	-	ERH292	-	-	-	-	-	-	-	-	ERH297	-	ERH307	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
2-Methylphenol	95-48-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2-Nitroaniline	88-74-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
2-Nitrophenol	88-75-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
3- And 4-Methylphenol	108-39-4/106-44	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
3,3-Dichlorobenzidine	91-94-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
3-Nitroaniline	99-09-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4,6-Dinitro-2-methylphenol	534-52-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Bromophenyl-phenylether	101-55-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Chloro-3-methylphenol	59-50-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Chloroaniline	106-47-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Chlorophenyl-phenylether	7005-72-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Nitroaniline	100-01-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
4-Nitrophenol	100-02-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Acenaphthene	83-32-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Acenaphthylene	208-96-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Anthracene	120-12-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzo[a]anthracene	56-55-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzo[a]pyrene	50-32-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzo[b]fluoranthene	205-99-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzo[g,h,i]perylene	191-24-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzo[k]fluoranthene	207-08-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Benzyl Alcohol	100-51-6	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Bis(2-chloroethoxy)methane	111-91-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Bis(2-chloroethyl)ether	111-44-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Bis(2-ethylhexyl)phthalate	117-81-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Bisphenol A	80-05-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	85-68-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Carbazole	86-74-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Chrysene	218-01-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Dibenz[a,h]anthracene	53-70-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Dibenzofuran	132-64-9	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Diethylphthalate	84-66-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Dimethyl Phthalate	131-11-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 3.3 UJ	**3.6 J**	-
Di-n-butylphthalate	84-74-2	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Di-n-octylphthalate	117-84-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Diphenylamine	122-39-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Fluoranthene	206-44-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Fluorene	86-73-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Hexachlorobenzene	118-74-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Hexachlorobutadiene	87-68-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Hexachlorocyclopentadiene	77-47-4	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 9.00 U	< 9.00 U	-
Hexachloroethane	67-72-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Isophorone	78-59-1	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Naphthalene	91-20-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Nitrobenzene	98-95-3	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
N-Nitrosodinpropylamine	621-64-7	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Pentachlorophenol	87-86-5	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Phenanthrene	85-01-8	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Pyrene	129-00-0	8270D	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	< 5.00 U	-
Acenaphthene	83-32-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Acenaphthylene	208-96-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Anthracene	120-12-7	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Benzo[a]anthracene	56-55-3	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Benzo[a]pyrene	50-32-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Benzo[b]fluoranthene	205-99-2	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Benzo[g,h,i]perylene	191-24-2	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Benzo[k]fluoranthene	207-08-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Chrysene	218-01-9	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-

Table 3-4: Groundwater Sample Results, April 2017 Groundwater Monitoring Event (cont.)

					Sample ID	ERH292	ERH293	ERH310	ERH300	ERH303	ERH295	ERH313	ERH319	ERH305	ERH297	ERH298	ERH307	ERH314	ERH321
					Location	RHMW2254-01	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW08	RHMW09	RHMW09	OWDFMW01
					Collection Date	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017	4/4/2017
					Sample Type	N	FD	N	N	N	N	N	N	N	N	FD	N	FD	N
					FD Parent Sample	-	ERH292	-	-	-	-	-	-	-	-	ERH297	-	ERH307	-
Analyte	CAS No.	Method	Screening Criterion	SSRBL [a]	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Dibenz[a,h]anthracene	53-70-3	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Fluoranthene	206-44-0	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Fluorene	86-73-7	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Phenanthrene	85-01-8	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-
Pyrene	129-00-0	8270D_SIM	-	-	µg/L	-	-	-	-	-	-	-	-	-	-	-	< 0.10 U	< 0.10 U	-

Bold text indicates detected value.

Exceeds screening criterion.

[a] SSRBL applies to RHMW01, RHMW02, and RHMW03.

– - not analyzed or not applicable

µg/L - micrograms per liter

FD - field duplicate

J - estimated value

mg/L - milligrams per liter

N - normal (primary) sample

SSRBL - site-specific risk-based level

U - nondetect value

Table 3-5: Field QC Sample Results, February 2017 Groundwater Monitoring Event

				Sample ID	ERH248	ERH244	ERH245	ERH229	ERH228	ERH204	ERH222	ERH215	ERH230	ERH207	ERH211	ERH217	ERH209	ERH219	ERH224	ERH213	ERH226	ERH246	ERH232	ERH240	ERH243	ERH235
				Location	RHMW09	Warehouse	Warehouse	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01	Warehouse	RHMW2254-01	RHMW01	RHMW03	RHMW05
				Collection Date	2/8/2017	2/3/2017	2/3/2017	2/7/2017	2/7/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/8/2017	2/7/2017	2/9/2017	2/3/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017
				Sample Type	FB	EB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	AB	AB	AB	AB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	**0.21 J**	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	**0.31 J**	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	-	-	-	-	-
TPH-Diesel Range C10-C24	-3527	8015B_E	100	µg/L	< 25.00 U	**20 J**	**42**	< 25.00 U	< 25.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH-Oil Range C24-C40	-3528	8015B_E	100	µg/L	< 40.00 U	< 40.00 U	**110**	< 40.00 U	< 40.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	90-12-0	8270D_SIM	6	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	8270D_SIM	10	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	8270D_SIM	17	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	108-95-2	8270D	300	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	µg/L	< 0.020 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	-	-	-	-	-	-	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-	-	-	-	-	-
Methane	74-82-8	RSK-175	-	µg/L	-	-	-	-	-	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	-	-	-	-	-
Calcium, Total	7440-70-2	6010C	-	µg/L	**62.8 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total	7439-89-6	6010C	-	µg/L	< 25.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Dissolved	7439-92-1	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Total	7439-92-1	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, Total	7439-95-4	6010C	-	µg/L	**35.7 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Total	7439-96-5	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Total	7440-09-7	6010C	-	µg/L	< 500.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Total	7440-23-5	6010C	-	µg/L	< 410 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Oxygen	-	Field	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	630-20-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,1,1-Trichloroethane	71-55-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79-34-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79-00-5	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,1-Dichloroethane	75-34-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,1-Dichloroethene	75-35-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,1-Dichloropropene	563-58-6	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene	87-61-6	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96-18-4	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120-82-1	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95-63-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.22 J**	-	-	-	-	-	-	-
1,2-Dibromo-3-Chloropropane	96-12-8	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-	-	-	-	-	-	-
1,2-Dibromoethane	106-93-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95-50-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,2-Dichloropropane	78-87-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	108-67-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541-73-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,3-Dichloropropane	142-28-9	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,3-Dichloropropene, Total	542-75-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,4-Dichlorobenzene	106-46-7	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
2,2-Dichloropropane	594-20-7	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
2-Butanone	78-93-3	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-	-	-	-	-	-	-
2-Chlorotoluene	95-49-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
2-Hexanone	591-78-6	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-	-	-	-	-	-	-
4-Chlorotoluene	106-43-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
4-Isopropyltoluene	99-87-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
4-Methyl-2-Pentanone	108-10-1	8260B	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	-	-	-	-	-	-	-
Acetone	67-64-1	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-	-	-	-	-	-	-
Bromobenzene	108-86-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Bromochloromethane	74-97-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Bromodichloromethane	75-27-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Bromoform	75-25-2	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Bromomethane	74-83-9	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Carbon Disulfide	75-15-0	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Carbon Tetrachloride	56-23-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Chlorobenzene	108-90-7	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Chloroethane	75-00-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Chloroform	67-66-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Chloromethane	74-87-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Cis-1,2-Dichloroethene	156-59-2	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Cis-1,3-Dichloropropene	10061-01-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Dibromochloromethane	124-48-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Dibromomethane	74-95-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Dichlorodifluoromethane	75-71-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Ethyl Tert-Butyl Ether	637-92-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Hexachlorobutadiene	87-68-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Isopropyl Ether	108-20-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Isopropylbenzene	98-82-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Methyl Tert-Butyl Ether	1634-04-4	8260B	-	µg/L	< 0.52 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.52 U	-	-	-	-	-	-	-
Methylene Chloride	75-09-2	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-	-	-	-	-	-	-
M-Xylene	108-38-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.31 J**	-	-	-	-	-	-	-
Naphthalene	91-20-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-

Table 3-5: Field QC Sample Results, February 2017 Groundwater Monitoring Event (cont.)

				Sample ID	ERH248	ERH244	ERH245	ERH229	ERH228	ERH204	ERH222	ERH215	ERH230	ERH207	ERH211	ERH217	ERH209	ERH219	ERH224	ERH213	ERH226	ERH246	ERH232	ERH240	ERH243	ERH235
				Location	RHMW09	Warehouse	Warehouse	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01	Warehouse	RHMW2254-01	RHMW01	RHMW03	RHMW05
				Collection Date	2/8/2017	2/3/2017	2/3/2017	2/7/2017	2/7/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/8/2017	2/7/2017	2/9/2017	2/3/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017
				Sample Type	FB	EB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	AB	AB	AB	AB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
N-Butylbenzene	104-51-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
o-Xylene	95-47-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Propylbenzene	103-65-1	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
sec-Butylbenzene	135-98-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Styrene	100-42-5	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
t-Amyl Methyl Ether	994-05-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
tert-Butanol	75-65-0	8260B	-	µg/L	< 10.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 10.00 U	-	-	-	-	-	-	-
tert-Butylbenzene	98-06-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Tetrachloroethene	127-18-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Trans-1,2-dichloroethene	156-60-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Trans-1,3-dichloropropene	10061-02-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Trichloroethene	79-01-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
Trichlorofluoromethane	75-69-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-	-	-	-	-	-	-
Vinyl Chloride	75-01-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120-82-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95-50-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541-73-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	106-46-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123-91-1	8270D	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane)	108-60-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	95-95-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	88-06-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	120-83-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	105-67-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	51-28-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	121-14-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	606-20-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	91-58-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	95-57-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	95-48-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	88-74-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	88-75-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3- And 4-Methylphenol	108-39-4/106-44	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3-Dichlorobenzidine	91-94-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	99-09-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	534-52-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	101-55-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	59-50-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	106-47-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl-phenylether	7005-72-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	100-01-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	100-02-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	83-32-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	208-96-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	120-12-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	56-55-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	50-32-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	205-99-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	191-24-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	207-08-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	100-51-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	111-91-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	111-44-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	117-81-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	85-68-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	86-74-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	218-01-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	53-70-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	132-64-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethylphthalate	84-66-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl Phthalate	131-11-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	84-74-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	117-84-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphenylamine	122-39-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	206-44-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	86-73-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	118-74-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	87-68-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	77-47-4	8270D	-	µg/L	< 9.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	67-72-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	78-59-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	98-95-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodinpropylamine	621-64-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	87-86-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3-5: Field QC Sample Results, February 2017 Groundwater Monitoring Event (cont.)

				Sample ID	ERH248	ERH244	ERH245	ERH229	ERH228	ERH204	ERH222	ERH215	ERH230	ERH207	ERH211	ERH217	ERH209	ERH219	ERH224	ERH213	ERH226	ERH246	ERH232	ERH240	ERH243	ERH235
				Location	RHMW09	Warehouse	Warehouse	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01	Warehouse	RHMW2254-01	RHMW01	RHMW03	RHMW05
				Collection Date	2/8/2017	2/3/2017	2/3/2017	2/7/2017	2/7/2017	2/6/2017	2/8/2017	2/7/2017	2/8/2017	2/6/2017	2/7/2017	2/7/2017	2/8/2017	2/6/2017	2/8/2017	2/7/2017	2/9/2017	2/3/2017	2/6/2017	2/8/2017	2/8/2017	2/7/2017
				Sample Type	FB	EB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	AB	AB	AB	AB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Phenanthrene	85-01-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	129-00-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	83-32-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	208-96-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	120-12-7	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	56-55-3	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	50-32-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	205-99-2	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	191-24-2	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	207-08-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	218-01-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	53-70-3	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	206-44-0	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	86-73-7	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	85-01-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	129-00-0	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold text indicates detected value.

Exceeds screening criterion.

-- - not analyzed or not applicable

µg/L - micrograms per liter

AB - ambient blank

EB - equipment blank (rinsate)

FB - field blank (source water)

J - estimated value

mg/L - milligrams per liter

TB - trip blank

U - nondetect value

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Table 3-6: Field QC Sample Results, March 2017 Groundwater Monitoring Event

				Sample ID	ERH281	ERH282	ERH253	ERH254	ERH252	ERH255	ERH273	ERH264	ERH266	ERH259	ERH276	ERH283	ERH269	ERH261	ERH271	ERH279	ERH285	ERH256	ERH274	ERH267	ERH277
				Location	Field	Field	Pre-Field Event	Pre-Field Event	Pre-Field Event	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01	RHMW2254-01	RHMW01	RHMW03	RHMW05
				Collection Date	3/8/2017	3/8/2017	3/3/2017	3/3/2017	3/3/2017	3/6/2017	3/8/2017	3/7/2017	3/7/2017	3/6/2017	3/8/2017	3/7/2017	3/7/2017	3/6/2017	3/7/2017	3/8/2017	3/8/2017	3/6/2017	3/8/2017	3/7/2017	3/8/2017
				Sample Type	FB	EB	EB	EB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	AB	AB	AB	AB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	-	-	-	-
TPH-Diesel Range C10-C24	-3527	8015B_E	100	µg/L	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TPH-Oil Range C24-C40	-3528	8015B_E	100	µg/L	**40**	< 40.00 U	< 40.00 U	**47**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	90-12-0	8270D_SIM	6	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	8270D_SIM	10	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	8270D_SIM	17	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	108-95-2	8270D	300	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	-	-	-	-	-	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	µg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-	-	-	-	-	-
Methane	74-82-8	RSK-175	-	µg/L	-	-	-	-	-	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	-	-	-	-
Iron, Ferrous	15438-31-0	3500_FE_B	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, As CaCO3	-17	2320B	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate	71-52-3	2320B	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Carbonate	3812-32-6	2320B	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloride	16887-00-6	300.0	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate	14797-55-8	300.0	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate	14808-79-8	300.0	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dissolved Oxygen	-	Field	-	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold text indicates detected value.

-- - not analyzed or not applicable

µg/L - micrograms per liter

AB - ambient blank

EB - equipment blank (rinsate)

FB - field blank (source water)

J - estimated value

mg/L - milligrams per liter

TB - trip blank

U - nondetect value

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Table 3-7: Field QC Sample Results, April 2017 Groundwater Monitoring Event

				Sample ID	ERH315	ERH288	ERH316	ERH289	ERH290	ERH308	ERH299	ERH301	ERH294	ERH311	ERH318	ERH304	ERH296	ERH306	ERH320
				Location	RHMW09	Field	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	OWDFMW01
				Collection Date	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017
				Sample Type	FB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Benzene	71-43-2	8260B	5	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Ethylbenzene	100-41-4	8260B	30	µg/L	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U	< 0.50 U
Toluene	108-88-3	8260B	40	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
Xylenes, Total	1330-20-7	8260B	20	µg/L	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	-3534	8260B	100	µg/L	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U	< 18.0 U
TPH-Diesel Range C10-C24	-3527	8015B_E	100	µg/L	< 25.00 U	< 25.00 U	< 25.00 U	< 25.00 U	-	-	-	-	-	-	-	-	-	-	-
TPH-Oil Range C24-C40	-3528	8015B_E	100	µg/L	< 40.00 U	< 40.00 U	< 40.00 U	< 40.00 U	-	-	-	-	-	-	-	-	-	-	-
1-Methylnaphthalene	90-12-0	8270D_SIM	6	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	8270D_SIM	10	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	8270D_SIM	17	µg/L	< 0.10 U	< 0.10 U	< 0.10 U	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-
2-(2-Methoxyethoxy)-ethanol	111-77-3	8270D	800	µg/L	< 80.0 U	< 80.0 U	< 80.0 U	< 80.0 U	-	-	-	-	-	-	-	-	-	-	-
Phenol	108-95-2	8270D	300	µg/L	< 4.00 U	< 4.00 U	< 4.00 U	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (lead scavenger)	106-93-4	8011	0.04	µg/L	< 0.020 U	-	-	-	-	-	-	-	-	-	-	-	< 0.020 U	< 0.020 U	-
1,2-Dichloroethane (lead scavenger)	107-06-2	8260B	5	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	< 0.30 U	-
Methane	74-82-8	RSK-175	-	µg/L	-	-	-	-	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U	< 1.00 U
Chloride	16887-00-6	300.0	-	mg/L	**1.0**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrate	14797-55-8	300.0	-	mg/L	< 0.18 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sulfate	14808-79-8	300.0	-	mg/L	< 0.20 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromide	24959-67-9	300.0	-	mg/L	< 0.16 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoride	16984-48-8	300.0	-	mg/L	< 0.09 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silica, Dissolved	7631-86-9	4500_SI_D	-	mg/L	< 0.80 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silica, Total	7631-86-9	4500_SI_D	-	mg/L	< 0.80 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium, Total	7440-70-2	6010C	-	µg/L	**186 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron, Total	7439-89-6	6010C	-	µg/L	< 25.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Dissolved	7439-92-1	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead, Total	7439-92-1	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium, Total	7439-95-4	6010C	-	µg/L	**45.4 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese, Total	7439-96-5	6010C	-	µg/L	< 4.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium, Total	7440-09-7	6010C	-	µg/L	< 500.0 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium, Total	7440-23-5	6010C	-	µg/L	**118 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	630-20-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,1,1-Trichloroethane	71-55-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,1,2,2-Tetrachloroethane	79-34-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,1,2-Trichloroethane	79-00-5	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,1-Dichloroethane	75-34-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,1-Dichloroethene	75-35-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,1-Dichloropropene	563-58-6	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,2,3-Trichlorobenzene	87-61-6	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,2,3-Trichloropropane	96-18-4	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-
1,2,4-Trichlorobenzene	120-82-1	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,2,4-Trimethylbenzene	95-63-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,2-Dibromo-3-Chloropropane	96-12-8	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-
1,2-Dibromoethane	106-93-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
1,2-Dichlorobenzene	95-50-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,2-Dichloropropane	78-87-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,3,5-Trimethylbenzene	108-67-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,3-Dichlorobenzene	541-73-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,3-Dichloropropane	142-28-9	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,3-Dichloropropene, Total	542-75-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,4-Dichlorobenzene	106-46-7	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
2,2-Dichloropropane	594-20-7	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
2-Butanone	78-93-3	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-
2-Chlorotoluene	95-49-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
2-Hexanone	591-78-6	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-
4-Chlorotoluene	106-43-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
4-Isopropyltoluene	99-87-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
4-Methyl-2-Pentanone	108-10-1	8260B	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 5.00 U	-
Acetone	67-64-1	8260B	-	µg/L	< 2.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 2.00 U	-
Bromobenzene	108-86-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Bromochloromethane	74-97-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Bromodichloromethane	75-27-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-

Table 3-7: Field QC Sample Results, April 2017 Groundwater Monitoring Event (cont.)

				Sample ID	ERH315	ERH288	ERH316	ERH289	ERH290	ERH308	ERH299	ERH301	ERH294	ERH311	ERH318	ERH304	ERH296	ERH306	ERH320
				Location	RHMW09	Field	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	OWDFMW01
				Collection Date	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017
				Sample Type	FB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Bromoform	75-25-2	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Bromomethane	74-83-9	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Carbon Disulfide	75-15-0	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Carbon Tetrachloride	56-23-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Chlorobenzene	108-90-7	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Chloroethane	75-00-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Chloroform	67-66-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Chloromethane	74-87-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Cis-1,2-Dichloroethene	156-59-2	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Cis-1,3-Dichloropropene	10061-01-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Dibromochloromethane	124-48-1	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Dibromomethane	74-95-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Dichlorodifluoromethane	75-71-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Ethyl Tert-Butyl Ether	637-92-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Hexachlorobutadiene	87-68-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Isopropyl Ether	108-20-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Isopropylbenzene	98-82-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Methyl Tert-Butyl Ether	1634-04-4	8260B	-	µg/L	< 0.52 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.52 U	-
Methylene Chloride	75-09-2	8260B	-	µg/L	< 1.00 U	-	-	-	-	-	-	-	-	-	-	-	-	< 1.00 U	-
M-Xylene	108-38-3	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Naphthalene	91-20-3	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
N-Butylbenzene	104-51-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
o-Xylene	95-47-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Propylbenzene	103-65-1	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
sec-Butylbenzene	135-98-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Styrene	100-42-5	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
t-Amyl Methyl Ether	994-05-8	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
tert-Butanol	75-65-0	8260B	-	µg/L	< 10.00 UJ	-	-	-	-	-	-	-	-	-	-	-	-	< 10.00 UJ	-
tert-Butylbenzene	98-06-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Tetrachloroethene	127-18-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Trans-1,2-dichloroethene	156-60-5	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Trans-1,3-dichloropropene	10061-02-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Trichloroethene	79-01-6	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
Trichlorofluoromethane	75-69-4	8260B	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.50 U	-
Vinyl Chloride	75-01-4	8260B	-	µg/L	< 0.30 U	-	-	-	-	-	-	-	-	-	-	-	-	< 0.30 U	-
1,2,4-Trichlorobenzene	120-82-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95-50-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541-73-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	106-46-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123-91-1	8270D	-	µg/L	< 0.50 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(1-chloropropane)	108-60-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	95-95-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	88-06-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	120-83-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	105-67-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	51-28-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	121-14-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	606-20-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	91-58-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	95-57-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	91-57-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	95-48-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	88-74-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	88-75-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3- And 4-Methylphenol	108-39-4/106-44	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3,3-Dichlorobenzidine	91-94-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	99-09-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	534-52-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl-phenylether	101-55-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	59-50-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	106-47-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl-phenylether	7005-72-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3-7: Field QC Sample Results, April 2017 Groundwater Monitoring Event (cont.)

				Sample ID	ERH315	ERH288	ERH316	ERH289	ERH290	ERH308	ERH299	ERH301	ERH294	ERH311	ERH318	ERH304	ERH296	ERH306	ERH320
				Location	RHMW09	Field	Field	Field	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	OWDFMW01
				Collection Date	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/3/2017	4/3/2017	4/3/2017	4/3/2017	4/4/2017	4/4/2017	4/4/2017
				Sample Type	FB	EB	EB	FB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB	TB
Analyte	CAS No.	Method	Screening Criterion	Unit	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
4-Nitroaniline	100-01-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	100-02-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	83-32-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	208-96-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	120-12-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	56-55-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	50-32-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	205-99-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	191-24-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	207-08-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	100-51-6	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	111-91-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-chloroethyl)ether	111-44-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bis(2-ethylhexyl)phthalate	117-81-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bisphenol A	80-05-7	8270D	-	µg/L	**5.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butylbenzylphthalate	85-68-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	86-74-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	218-01-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	53-70-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	132-64-9	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diethylphthalate	84-66-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl Phthalate	131-11-3	8270D	-	µg/L	**3.1 J**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	84-74-2	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octylphthalate	117-84-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphenylamine	122-39-4	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	206-44-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	86-73-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	118-74-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	87-68-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	77-47-4	8270D	-	µg/L	< 9.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	67-72-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	78-59-1	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91-20-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	98-95-3	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodinpropylamine	621-64-7	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	87-86-5	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	85-01-8	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	129-00-0	8270D	-	µg/L	< 5.00 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	83-32-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	208-96-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	120-12-7	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]anthracene	56-55-3	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[a]pyrene	50-32-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[b]fluoranthene	205-99-2	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[g,h,i]perylene	191-24-2	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo[k]fluoranthene	207-08-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	218-01-9	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz[a,h]anthracene	53-70-3	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	206-44-0	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	86-73-7	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-cd]pyrene	193-39-5	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	85-01-8	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	129-00-0	8270D_SIM	-	µg/L	< 0.10 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Bold text indicates detected value.

– - not analyzed or not applicable

µg/L - micrograms per liter

EB - equipment blank (rinsate)

FB - field blank (source water)

J - estimated value

mg/L - milligrams per liter

TB - trip blank

U - nondetect value

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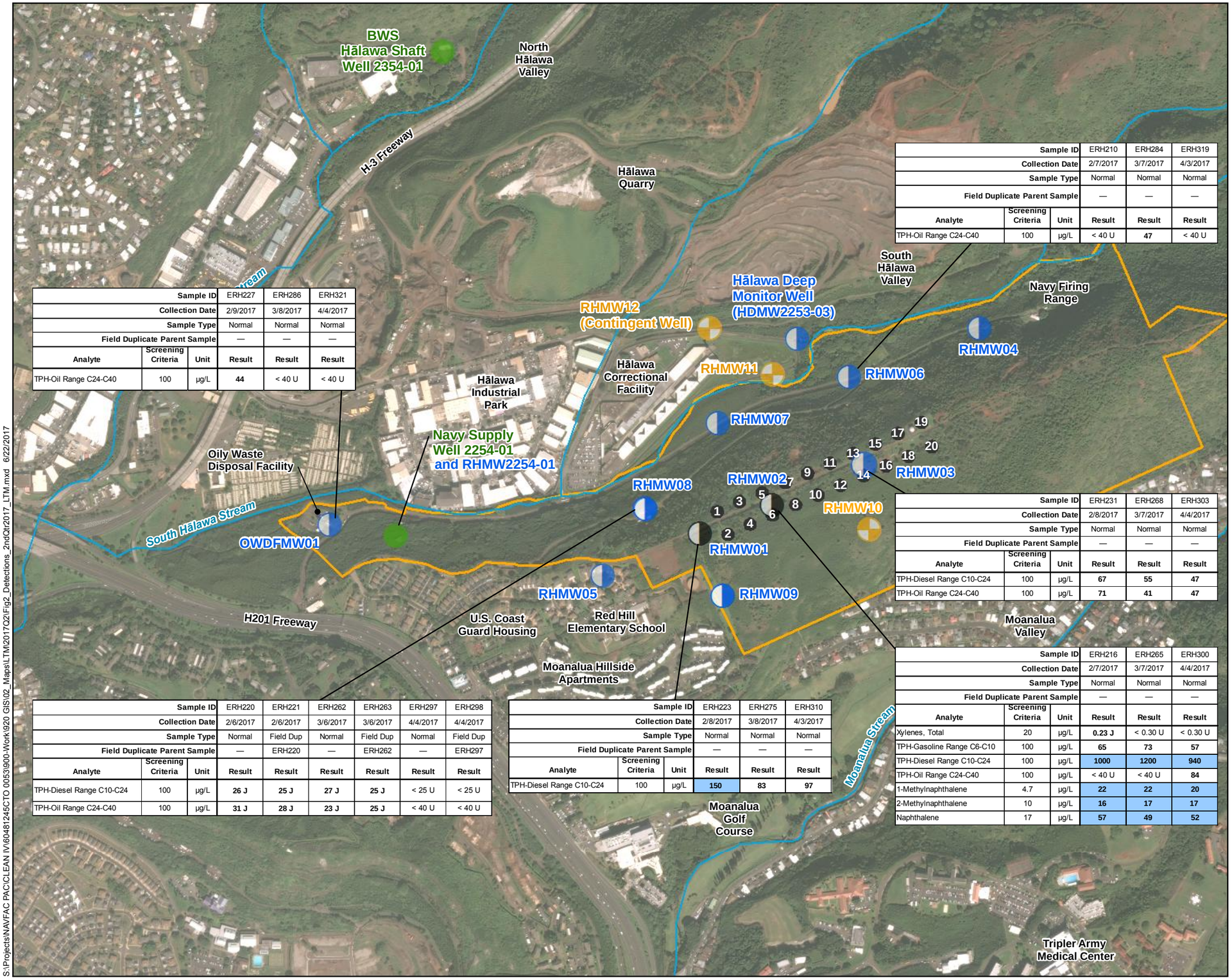


Sample ID			ERH210	ERH284	ERH319
Collection Date			2/7/2017	3/7/2017	4/3/2017
Sample Type			Normal	Normal	Normal
Field Duplicate Parent Sample			—	—	—
Analyte	Screening Criteria	Unit	Result	Result	Result
TPH-Oil Range C24-C40	100	µg/L	< 40 U	**47**	< 40 U

Sample ID			ERH227	ERH286	ERH321
Collection Date			2/9/2017	3/8/2017	4/4/2017
Sample Type			Normal	Normal	Normal
Field Duplicate Parent Sample			—	—	—
Analyte	Screening Criteria	Unit	Result	Result	Result
TPH-Oil Range C24-C40	100	µg/L	**44**	< 40 U	< 40 U

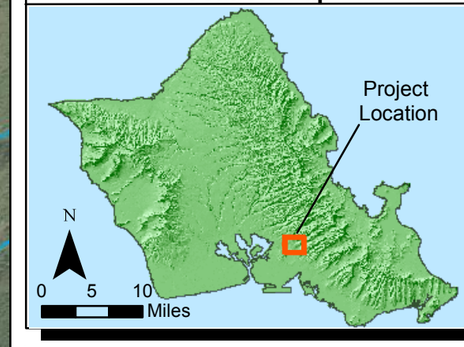
Sample ID			ERH231	ERH268	ERH303
Collection Date			2/8/2017	3/7/2017	4/4/2017
Sample Type			Normal	Normal	Normal
Field Duplicate Parent Sample			—	—	—
Analyte	Screening Criteria	Unit	Result	Result	Result
TPH-Diesel Range C10-C24	100	µg/L	**67**	**55**	**47**
TPH-Oil Range C24-C40	100	µg/L	**71**	**41**	**47**

Sample ID			ERH216	ERH265	ERH300
Collection Date			2/7/2017	3/7/2017	4/4/2017
Sample Type			Normal	Normal	Normal
Field Duplicate Parent Sample			—	—	—
Analyte	Screening Criteria	Unit	Result	Result	Result
Xylenes, Total	20	µg/L	**0.23 J**	< 0.30 U	< 0.30 U
TPH-Gasoline Range C6-C10	100	µg/L	**65**	**73**	**57**
TPH-Diesel Range C10-C24	100	µg/L	**1000**	**1200**	**940**
TPH-Oil Range C24-C40	100	µg/L	< 40 U	< 40 U	**84**
1-Methylnaphthalene	4.7	µg/L	**22**	**22**	**20**
2-Methylnaphthalene	10	µg/L	**16**	**17**	**17**
Naphthalene	17	µg/L	**57**	**49**	**52**

Sample ID			ERH220	ERH221	ERH262	ERH263	ERH297	ERH298
Collection Date			2/6/2017	2/6/2017	3/6/2017	3/6/2017	4/4/2017	4/4/2017
Sample Type			Normal	Field Dup	Normal	Field Dup	Normal	Field Dup
Field Duplicate Parent Sample			—	ERH220	—	ERH262	—	ERH297
Analyte	Screening Criteria	Unit	Result	Result	Result	Result	Result	Result
TPH-Diesel Range C10-C24	100	µg/L	**26 J**	**25 J**	**27 J**	**25 J**	< 25 U	< 25 U
TPH-Oil Range C24-C40	100	µg/L	**31 J**	**28 J**	**23 J**	**25 J**	< 40 U	< 40 U

Sample ID			ERH223	ERH275	ERH310
Collection Date			2/8/2017	3/8/2017	4/3/2017
Sample Type			Normal	Normal	Normal
Field Duplicate Parent Sample			—	—	—
Analyte	Screening Criteria	Unit	Result	Result	Result
TPH-Diesel Range C10-C24	100	µg/L	**150**	**83**	**97**

Location Map



Legend

- Monitoring Well with Screening Criteria Exceedances
- Existing Monitoring Well Location
- Existing Water Supply Sampling Point
- Future Monitoring Well Location
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. Installation of monitoring well RHMW12 is contingent pending subsurface conditions. encountered during installation of RHMW11.
4. RHMW10 installed on April 10, 2017; and will be included in the 3rd Quarter 2017 sampling program.

ABBREVIATIONS:

J estimated value

U non-detect value (reported as less than the limit of detection [LOD])

µg/L microgram per liter

1300 Exceeds screening criteria

N

0 400 800 1,600 Feet

Figure 2
COPC Detections
2nd Qtr 2017 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

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		Sample ID	ERH218	ERH270	ERH305
		Collection Date	2/8/2017	3/7/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	2.52	2.84	3.06
Oxygen Reduction Potential	Field	mV	137.8	160.9	103.2
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	113	118	118
Alkalinity, Bicarbonate	2320B	mg/L	113	118	118
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	408	454	473
Nitrate	300.0	mg/L	3.7	4.4	5.1
Sulfate	300.0	mg/L	63.0	68.8	75.3

		Sample ID	ERH205	ERH257	ERH292
		Collection Date	2/6/2017	3/6/2017	4/3/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	8.62	8.51	8.47
Oxygen Reduction Potential	Field	mV	143.3	211.9	200.6
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	63.1	61.2	61.5
Alkalinity, Bicarbonate	2320B	mg/L	63.1	61.2	61.5
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	91.8	91.8	96.2
Nitrate	300.0	mg/L	2.5 J	2.8 J	2.8
Sulfate	300.0	mg/L	14.8	15.6	16.2

		Sample ID	ERH227	ERH286	ERH321
		Collection Date	2/9/2017	3/8/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	4.63	4.94	4.73
Oxygen Reduction Potential	Field	mV	181.5	158.2	130.9
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	174	165	169
Alkalinity, Bicarbonate	2320B	mg/L	174	165	169
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	1040	1000	1110
Nitrate	300.0	mg/L	7.9	9.1	9.2 J
Sulfate	300.0	mg/L	337	333	350

		Sample ID	ERH220	ERH262	ERH297
		Collection Date	2/6/2017	3/6/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	3.89	3.7	3.71
Oxygen Reduction Potential	Field	mV	193.7	173.7	106.6
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	0.16 J
Alkalinity, as CaCO3	2320B	mg/L	77.9	80.8	83
Alkalinity, Bicarbonate	2320B	mg/L	77.9	80.8	83
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	169	159	175
Nitrate	300.0	mg/L	2.3	2.7 J	3.3
Sulfate	300.0	mg/L	79.8	80.1	88.3

		Sample ID	ERH212	ERH278	ERH313
		Collection Date	2/7/2017	3/8/2017	4/3/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	8.33	8.28	8.23
Oxygen Reduction Potential	Field	mV	118.8	99.4	175.3
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	0.17 J
Alkalinity, as CaCO3	2320B	mg/L	107	103	101
Alkalinity, Bicarbonate	2320B	mg/L	107	103	101
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	162	161	148
Nitrate	300.0	mg/L	4.2	4.5	4.5
Sulfate	300.0	mg/L	49	49.6	44.1

		Sample ID	ERH214	ERH280
		Collection Date	2/7/2017	3/8/2017
Analyte	Method	Unit	Result	Result
Dissolved Oxygen	Field	mg/L	0.98	1.02
Oxygen Reduction Potential	Field	mV	29.8	66.1
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	1.8	0.53 J
Alkalinity, as CaCO3	2320B	mg/L	50.7	49
Alkalinity, Bicarbonate	2320B	mg/L	50.7	49
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	91.1	86.2
Nitrate	300.0	mg/L	1.2	1.4
Sulfate	300.0	mg/L	28.6	30.7

		Sample ID	ERH208	ERH260	ERH295
		Collection Date	2/6/2017	3/6/2017	4/3/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	9.01	8.73	8.64
Oxygen Reduction Potential	Field	mV	209.3	163.5	147.7
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	79.3	78.4	77.7
Alkalinity, Bicarbonate	2320B	mg/L	79.3	78.4	77.7
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	84.1	75.9	83.6
Nitrate	300.0	mg/L	2.5	2.7	2.7
Sulfate	300.0	mg/L	10.3	10.7	11

		Sample ID	ERH210	ERH284	ERH319
		Collection Date	2/7/2017	3/7/2017	4/3/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	6.54	6.51	5.71
Oxygen Reduction Potential	Field	mV	133.1	155.6	112.2
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	113	112	115
Alkalinity, Bicarbonate	2320B	mg/L	113	112	115
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	468	413	505
Nitrate	300.0	mg/L	3	3.5	3.6
Sulfate	300.0	mg/L	95.2	92	120

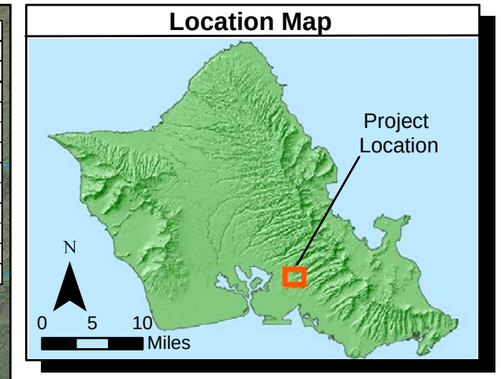
		Sample ID	ERH231	ERH268	ERH303
		Collection Date	2/8/2017	3/7/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	1.61	1.06	1.78
Oxygen Reduction Potential	Field	mV	120	123.2	129.8
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	281	289	283
Alkalinity, Bicarbonate	2320B	mg/L	281	289	283
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	47.5	47.2	47.3
Nitrate	300.0	mg/L	6.7	7.4	7.2 J
Sulfate	300.0	mg/L	45.4	46.8	48.9

		Sample ID	ERH223	ERH275	ERH310
		Collection Date	2/8/2017	3/8/2017	4/3/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	0.46	0.95	0.54
Oxygen Reduction Potential	Field	mV	-18.9	-38.1	-30.8
Methane	RSK-175	µg/L	1300	470	500
Iron, Ferrous	3500_FE_B	mg/L	0.50 J	0.52 J	0.7 J
Alkalinity, as CaCO3	2320B	mg/L	92	92.7	91.3
Alkalinity, Bicarbonate	2320B	mg/L	92	92.7	91.3
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	40.9	39.9	40.1
Nitrate	300.0	mg/L	0.44 J	< 0.18 UJ	< 0.18 U
Sulfate	300.0	mg/L	4.6	5.1	5

		Sample ID	ERH225	ERH272	ERH307
		Collection Date	2/8/2017	3/7/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	9.06	8.65	8.36
Oxygen Reduction Potential	Field	mV	218.3	157.1	134.9
Methane	RSK-175	µg/L	< 1.00 U	< 1.00 U	< 1.00 U
Iron, Ferrous	3500_FE_B	mg/L	< 0.32 U	< 0.32 U	< 0.32 U
Alkalinity, as CaCO3	2320B	mg/L	66.1	67.4	67.5
Alkalinity, Bicarbonate	2320B	mg/L	66.1	67.4	67.5
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	52.7	51.3	52.3 J
Nitrate	300.0	mg/L	2.3 J	2.5	2.5
Sulfate	300.0	mg/L	9.4	9.8	9.9

		Sample ID	ERH216	ERH265	ERH300
		Collection Date	2/7/2017	3/7/2017	4/4/2017
Analyte	Method	Unit	Result	Result	Result
Dissolved Oxygen	Field	mg/L	0.1	0.25	0.32
Oxygen Reduction Potential	Field	mV	-36.8	-89.7	-43.5
Methane	RSK-175	µg/L	16000	5700	6000
Iron, Ferrous	3500_FE_B	mg/L	2.9	3	2.8
Alkalinity, as CaCO3	2320B	mg/L	193	204	206
Alkalinity, Bicarbonate	2320B	mg/L	193	204	206
Alkalinity, Carbonate	2320B	mg/L	< 1.70 U	< 1.70 U	< 1.70 U
Chloride	300.0	mg/L	39.9	39.4	39.9
Nitrate	300.0	mg/L	0.44 J	0.6	< 0.18 U
Sulfate	300.0	mg/L	1	1.1	1.1

Location Map



Legend

- Monitoring Well with Screening Criteria Exceedances
- Existing Monitoring Well Location
- Existing Water Supply Sampling Point
- Future Monitoring Well Location
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. Installation of monitoring well RHMW12 is contingent pending subsurface conditions. encountered during installation of RHMW11.
4. RHMW10 installed on April 10, 2017; and will be included in the 3rd Quarter 2017 sampling program.

ABBREVIATIONS:

J estimated value
mg/L milligrams per liter
mV millivolts
NA not analyzed or not applicable
U non-detect value (reported as less than the limit of detection [LOD])
µg/L microgram per liter

N

0 400 800 1,600 Feet

Figure 3
Natural Attenuation Parameters Results
2nd Qtr 2017 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

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3.3 RECENT GROUNDWATER CONTAMINANT CONCENTRATIONS

The historical groundwater contaminant concentrations for TPH-g, TPH-d, TPH-o, BTEX, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene are illustrated in Appendix A.2. No graphs were created for lead scavengers, fuel additives, analytes that have been discontinued and are no longer COPCs for the LTM program, and additional analytes for the full suite analyses from RHMW09. A table of cumulative historical groundwater results is included as Appendix A.1. Figure 4 shows the COPC concentration graphs. Figure 5 displays graphs of NAP measurements starting from the Fourth Quarter 2016 event.

The following summary of groundwater contaminant concentrations focuses on the 2016 and 2017 groundwater results, before and during the reduced or no pumping status of Navy Supply Well 2254-01 pumps that began in February 2016.

- *RHMW2254-01:* COPCs (TPH-d and TPH-o) were detected only in the December 2016 monitoring event; this event was the first time TPH-d had been detected since the First Quarter 2016 monitoring event. Although the method reporting limits for TPH-d were above the screening criterion in several results prior to August 2010, TPH-d has not been detected in RHMW2254-01 at a concentration above the screening criterion of 100 µg/L.
- *RHMW01:* TPH-d was the only COPC that exceeded the EAL of 100 µg/L, and groundwater COPC concentrations have generally been declining since the First Quarter 2016 monitoring event with some fluctuations occurring in 2017. TPH-d has historically been detected at concentrations above the screening criterion (100 µg/L) during most monitoring events. More recent results have been below the screening criterion since the November 2016 monitoring event with the exception of the TPH-d concentration during the February 2017 monitoring event.
- *RHMW02:* TPH-g, TPH-d, TPH-o, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene have historically been detected at concentrations above the respective screening criteria (100 µg/L, 100 µg/L, 100 µg/L, 6 µg/L, 10 µg/L, and 17 µg/L, respectively). Starting from the Second Quarter 2016 monitoring event, concentrations of TPH-d decreased to a level below the SSRBL of 4,500 µg/L, which was exceeded during quarterly events in 2015 and the First Quarter 2016 event. The concentrations of TPH-g, TPH-d, 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene are showing a general decline since the First Quarter 2016 monitoring event; similarly, TPH-o, which was historically detected at RHMW02 and at concentrations above the screening criterion, has been detected at or below the screening criterion since the November 2016 monitoring event.
- *RHMW03:* TPH-d and TPH-o, which have historically been detected at concentrations above the screening criteria (both 100 µg/L), were detected below screening criteria and show a general decline in concentrations since the Second Quarter 2016 monitoring event.
- *RHMW04, RHMW05, RHMW09, and HDMW2253-03:* No COPCs were detected in the February through April 2017 events (HDMW2253-03 was not sampled in the April 2017 event).
- *RHMW06:* COPC results were generally consistent with the historical data for RHMW06. TPH-o was detected below the screening criterion (100 µg/L) in the March 2017 event, but was not detected in the other 2016 and 2017 monitoring events.
- *RHMW07:* COPC results were generally consistent with the historical data for RHMW07 with the exception of TPH-o from the Third Quarter 2016 monitoring event that exceeded the screening criterion (100 µg/L). The unusually high concentration of TPH-o from that

event was significantly higher than results for other monitoring events. Similar to other wells, most COPCs have not been detected since the First Quarter 2016 monitoring event.

- *RHMW08:* No COPCs were detected during RHMW08's first monitoring event (October 2016), but TPH-d and TPH-o were detected below the screening criteria (both 100 µg/L) in subsequent monitoring events until the March 2017 monitoring event. No COPCs were detected in the April 2017 event.
- *OWDFMW01:* TPH-d has periodically been detected significantly above the screening criterion since the start of monitoring activities at OWDFMW01 in 2009. The low concentrations of TPH-d since Second Quarter 2016 groundwater monitoring event are consistent with the pattern of very high detections historically followed by sharp declines in concentration during the monitoring events directly after the spike. The recent concentrations of TPH-o also show a decline since the Second Quarter 2015 monitoring event, when it began to be consistently analyzed as part of the COPC list for the well.

3.4 DATA VALIDATION AND ASSESSMENT

The analytical laboratory data were submitted to a third-party data validator (Laboratory Data Consultants, Inc.) for data validation and assessment. The objective of data validation is to provide data of known quality for project decisions. Data quality is judged in terms of precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) and performed in accordance with the data validation procedures in the NAVFAC Pacific Environmental Restoration Program *Project Procedures Manual* (DON 2015b) and consistent with the protocol in the Department of Defense (DoD) QSM Version 5.0 (DoD 2013). A number of factors may affect the quality of data, including sample collection methods, sample analysis methods, and adherence to established procedures for sample collection, preservation, management, shipment, and analysis. Data validation reports are presented in Appendix C.3.

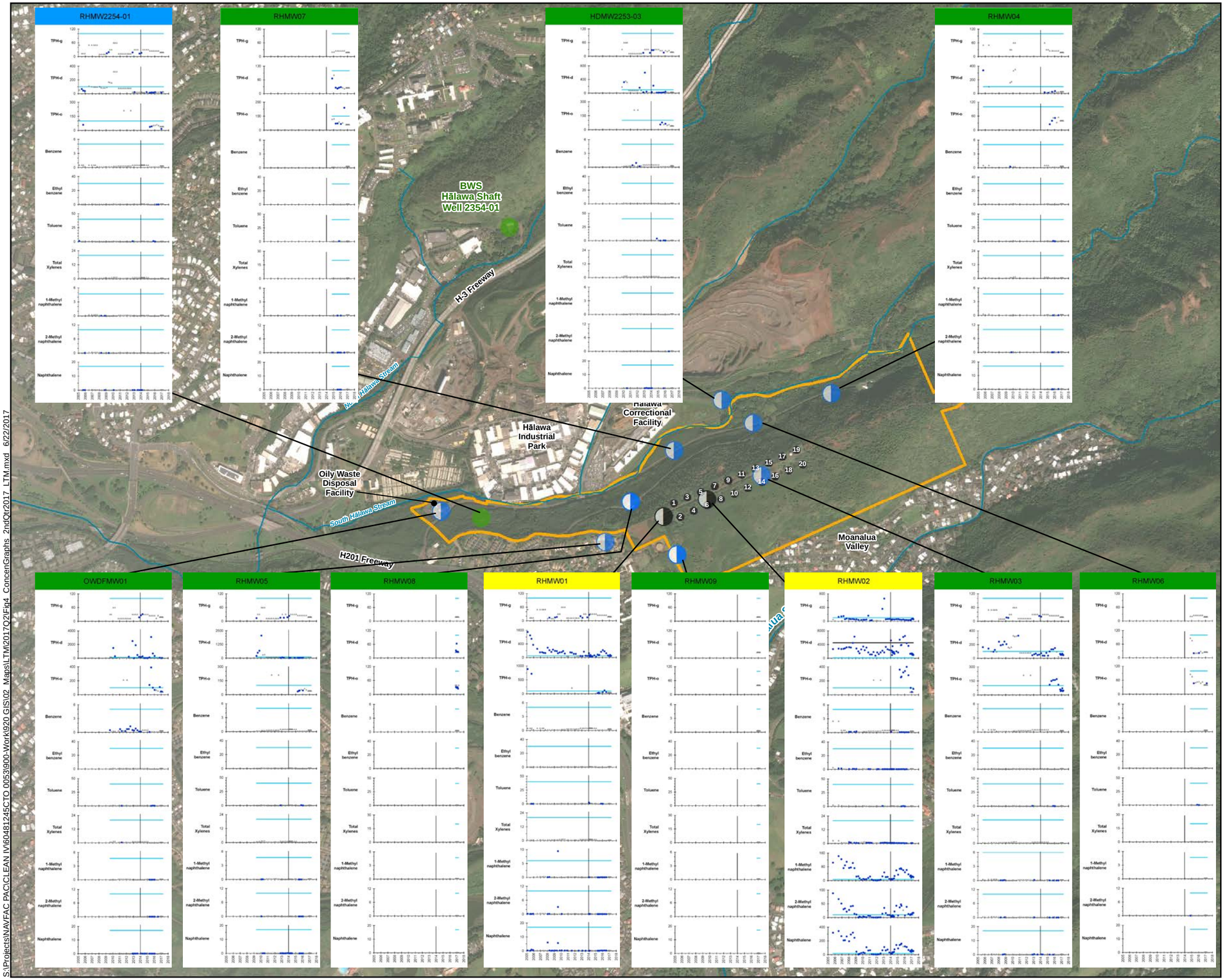
Precision

Precision is defined as the reproducibility of replicate measurements. Precision is evaluated by relative percent difference (RPD) of field duplicates, LCS/LCSD, and MS/MSD results. Field duplicate and MS/MSD samples were collected at a rate of approximately 10% of primary samples. Field duplicates were sent to the laboratory along with the primary samples.

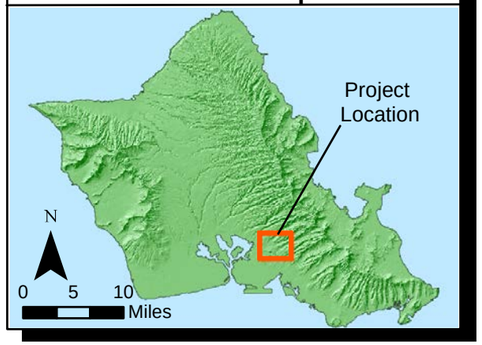
No COPCs were detected in the following primary and field duplicate samples for RHMW2254-01, thus no RPDs can be calculated for these samples: ERH205 and ERH206 (February 2017); ERH257 and ERH258 (March 2017); and ERH292 and ERH293 (April 2017).

Only TPH-d and TPH-o were detected in the following RHMW08 primary and field duplicate samples with acceptable RPDs: ERH220 and ERH221 (February 2017) with RPDs 4% and 10% for TPH-d and TPH-o respectively; and ERH262 and ERH263 (March 2017) with a RPD of 8% for both TPH-d and TPH-o. All calculated RPDs were within the 50% measurement performance criteria (MPC). No other COPCs were detected in the RHMW08 primary and field duplicate samples during the February and March 2017 events, and no COPCs were detected in primary and field duplicate samples ERH297 and ERH298 (April 2017 event).

No COPCs were detected in the following RHMW09 primary and field duplicate samples: ERH225 and ERH247 (February 2017); and ERH307 and ERH314 (April 2017). However, acetone was detected in primary sample ERH307 but not in the duplicate sample ERH314, yielding RPD at 200%, exceeding the MPC (Table 3-8).



Location Map



Legend

- Existing Monitoring Well Location
- Groundwater Monitoring Location with Most Recent Results Above Screening Criteria
- Existing Water Supply Sampling Point
- Red Hill Tank
- Stream
- Red Hill Installation Boundary
- Detected Concentration
- Non-Detect Concentration
- Regulatory Screening Level (DOH)
- Site-Specific Risk-Based Level (SSRBL)
- 2014 Tank 5 Release

2013 2014 2015

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. All results in parts per billion (ppb or micrograms per liter)

N

0 650 1,300 2,600 Feet

Figure 4
Concentration Graphs
2nd Qtr 2017 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

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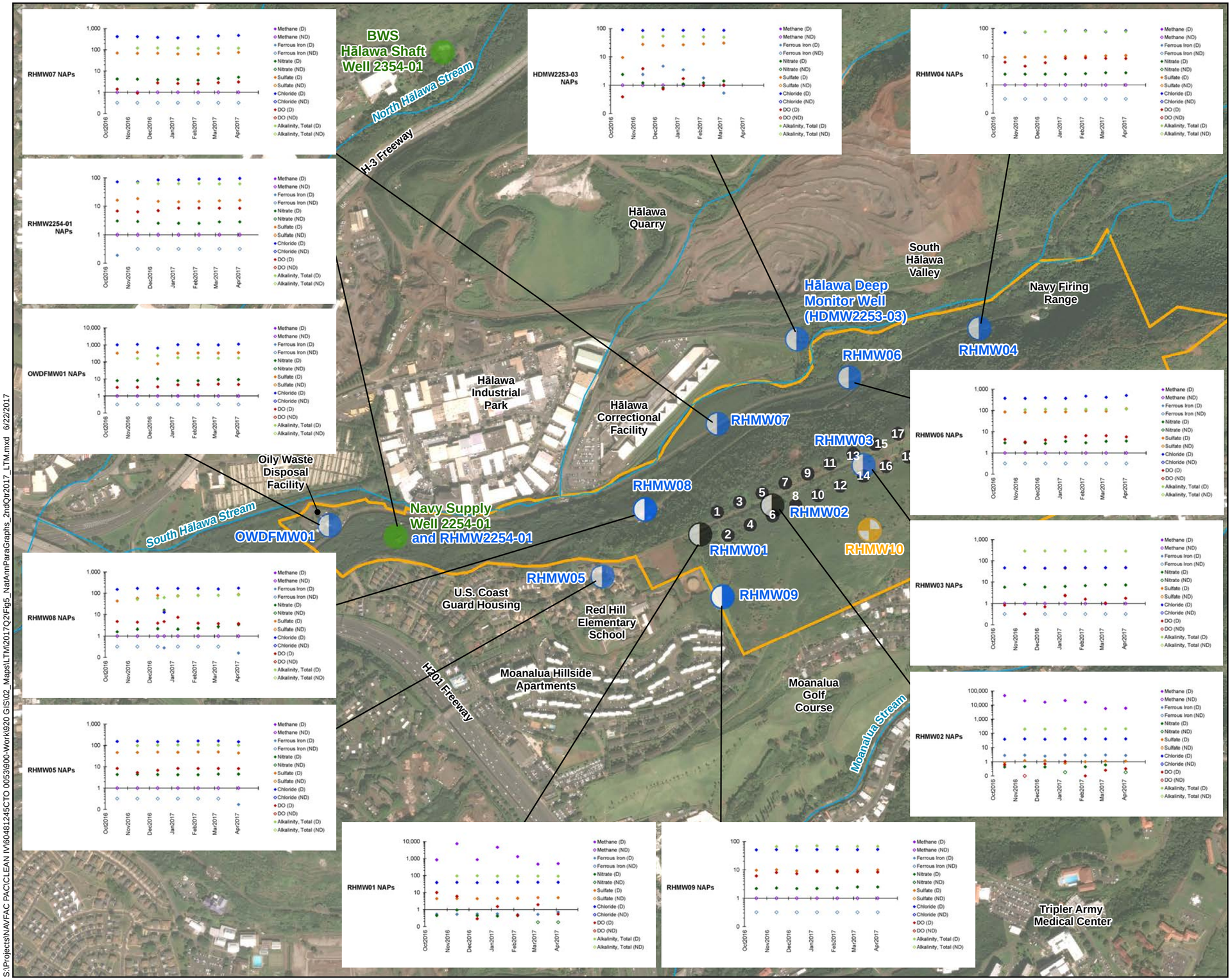
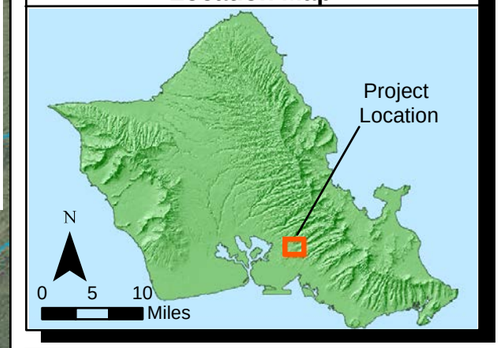


Location Map



Legend

- Monitoring Well with Screening Criteria Exceedances
- Existing Monitoring Well Location
- Existing Water Supply Sampling Point
- Red Hill Tank
- Stream
- Red Hill Installation Boundary

Notes

1. Map projection: NAD 1983 UTM Zone 4N
2. Base Map: DigitalGlobe, Inc. (DG) and NRCS. Publication_Date: 2015
3. Installation of monitoring well RHMW12 is contingent pending subsurface conditions. encountered during installation of RHMW11.
4. RHMW10 installed on April 10, 2017; and will be included in the 3rd Quarter 2017 sampling program.
5. Methane results in parts per billion (ppb or micrograms per liter). All others in parts per million (ppm or milligrams per liter).

ABBREVIATIONS:

J estimated value
mg/L milligrams per liter
mV millivolts
NA not analyzed or not applicable
U non-detect value (reported as less than the limit of detection [LOD])
µg/L microgram per liter

N

0 400 800 1,600 Feet

Figure 5
Natural Attenuation Parameters Graphs
2nd Qtr 2017 Groundwater LTM Report
Red Hill Bulk Fuel Storage Facility
JBPHH, O'ahu, Hawai'i

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Table 3-8: Field Duplicate RPD Exceedances

Monitoring Event	Sampling Location	Analyte	Screening Criterion	Sample ID	Concentration (µg/L)	RPD
April 2017 (Quarterly)	RHMW09	Acetone	none	ERH307	1.8 J	200%
				ERH314	< 2 U	

µg/L microgram per liter
J estimated value
RPD relative percent difference
U non-detect value (shown as less than [<] the LOD)

No other precision concerns identified during validation affected sample results. Data usability of the samples is discussed in Section 3.5.

Accuracy

Accuracy is defined as the degree of conformity of a measurement to a standard or true value. Accuracy is evaluated through measurement of the percent recovery (%R) of an analyte in a reference standard or spiked sample. Accuracy limits for surrogates, laboratory control spike, MS, and MSD samples are either prescribed by the DoD or established by the individual laboratory. The acceptance criteria for accuracy are dependent on the analytical method and are based on historical laboratory or DoD data.

The MS and MSD percent recoveries (%R) exceeded laboratory acceptance limits for the following: 1,2-dichlorobenzene, TPH-g, dissolved silica, chloride, and fluoride in ERH307 (RHMW09, April 2017 event). Results for 1,2-dichlorobenzene, TPH-g, and dissolved silica were qualified as estimated due to possible low bias introduced by the matrix, and results for chloride and fluoride were qualified as estimated due to possible high bias.

No other accuracy concerns were identified during validation affected sample results. Data usability is discussed in Section 3.5.

Representativeness

Representativeness is the degree that data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness was achieved by conducting sampling in accordance with the sample collection procedures described in the AOC Statement of Work Sections 6 and 7 WP/SOW, including standardized sample collection methods identified in NAVFAC Pacific Environmental Restoration Program Procedure I-C-3, *Monitoring Well Sampling* (DON 2015b).

Representativeness is also evaluated through the compliance with the method-recommended sample holding time and sample preservation methods, and through the analysis of blank samples, including method blank and trip blank samples. For the February to April 2017 monitoring events, all sample holding times and sample preservation were consistent with EPA SW-846 method recommendations and DoD QSM Version 5.0 (DoD 2013).

All samples were associated with a method blank and trip blank. No COPCs were found in the laboratory method blanks and trip blanks with the exception of the following: sodium in laboratory blanks during the February 2017 event; alkalinity in the laboratory blanks during February through April 2017 events; 1,2,4-trimethylbenzene, m-xylene, toluene, and total xylenes in the RHMW09 trip blanks during the February 2017 event; and calcium and magnesium in the laboratory blanks during

the April 2017 event. Due to the laboratory blank contamination, the ERH248 (RHMW09 field blank sample, February 2017) sodium result was qualified as non-detect. No data were qualified for alkalinity, 1,2,4-trimethylbenzene, m-xylene, toluene, total xylenes, calcium, and magnesium as these were either not detected in any of the associated samples or the sample concentrations exceeded 5 times the concentration found in the laboratory or trip blank.

For RHMW01, OWDFMW01, and HDMW2253-03, field blank and equipment blanks were collected and analyzed to demonstrate field equipment decontamination efficiency. Additionally, field blanks were collected and analyzed to demonstrate ambient conditions at RHMW09 during the February 2017 and April 2017 (full suite analyte) events. The only COPCs found in the field and equipment blanks were: magnesium and calcium were detected in the February 2017 field blank; TPH-d and TPH-o in the February 2017 equipment blanks; TPH-o in the March 2017 field and equipment blanks; and chloride, magnesium, sodium, calcium, and dimethyl phthalate in the RHMW09 April 2017 field blank. The associated analytes were not qualified as the analytes are either not detected or were at concentrations greater than 5 times the concentration found in the field or equipment blanks with the exception of the following: TPH-d in ERH227 (OWDFMW01, February 2017) and dimethyl phthalate in ERH307 (RHMW09, April 2017) were qualified as non-detect (U) due to equipment and field blank contamination.

All holding times were met with the exception of the following: three February 2017, three March 2017, and two April 2017 nitrate results were qualified as estimated due to extraction up to 52.18 hours after the sample collection dates, thus exceeding the 48-hour method recommended holding time. These eight results were qualified as estimated (J) due to the hold time exceedance.

The representativeness of the data is considered acceptable after qualification for holding time. Data usability is discussed in Section 3.5.

Completeness

Completeness is defined as the overall percentage of valid analytical results (including estimated results) compared to the total number of analytical results reported by the analytical laboratory.

Of the 2,333 total results reported, none of the results was rejected. The completeness of the data (100%) met the 90% completeness goal.

Comparability

Comparability expresses the confidence with which one data set can be compared to another data set. Comparability can be related to accuracy and precision because these quantities are measures of data reliability. Data with acceptable precision and accuracy are considered comparable if collection techniques, analytical procedures, methods and reporting are equivalent.

All samples collected from October 2010 to February 2015 were analyzed by Calscience Environmental Laboratories in Garden Grove, CA (now Eurofins Calscience). Samples collected from April 2015 through July 2016 were analyzed by ALS Environmental in Kelso, WA. Samples collected from October 2016 to present were analyzed by APPL in Clovis, CA. Analytical method detection limits (MDLs), limits of detection (LODs), and LOQs starting from the Fourth Quarter 2016 event were lower for most analytes than they had been during previous events. The method used to analyze TPH-g was changed from 8015 to 8260 to improve sensitivity. The significantly improved reporting limits should be considered when results are compared to data from previous events.

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

Sensitivity

The LOQs are established by the laboratory based on the LODs or instrument DLs, historical data, and EPA limits established for the various methods. The LOQs and LODs for samples may require adjustment by the laboratory due to matrix interference or if high levels of target analytes necessitate dilution before analysis. Matrix interference and sample dilutions have the effect of decreasing sensitivity and increasing the LOQs/LODs. No results in this data set have increased LOQs or LODs that have impacted sensitivity and data usability.

3.5 DATA ASSESSMENT AND USABILITY CONCLUSIONS

The PARCCS criteria were evaluated, and with some exceptions, all criteria were met. Results associated with QC data that failed acceptance criteria are discussed in detail in Section 3.4 of this report. Data quality issues that need to be taken into account for project decisions are summarized below.

The 200% RPD for the acetone result was caused by a non-detect result in one of the samples in the field duplicate pair. The field duplicate imprecision indicate that sampling bias may exist in the collected sample volumes, but that the exact nature of the bias (high or low) cannot be determined due to the nature of the RPD exceedance. Due to the imprecision, there is uncertainty in the true concentration of the acetone. Nonetheless, the acetone concentration of 1.8 µg/L was just above the laboratory's detection limit and is four orders of magnitude lower than the DOH Tier 1 EAL (Table D1-b, Groundwater Action Levels) and the EPA Tapwater Regional Screening Level of 14,000 µg/L.

The MS and MSD %R exceedances for 1,2-dichlorobenzene, TPH-g, dissolved silica, chloride, and fluoride in the April 2017 RHMW09 groundwater sample indicate possible bias due to matrix effects. The affected results were flagged as estimated to denote the possible bias and are deemed usable.

The sodium result for the RHMW09 field blank sample and the dimethyl phthalate result for the RHMW09 groundwater sample were also both qualified as non-detect due to laboratory blank and field blank contamination, respectively. Similarly, the TPH-d contamination in the equipment blank for the February 2017 event affected TPH-d results for OWDFMW01, flagging the result as non-detect. It is of note that other existing TPH-d data for OWDFMW01 indicate that the TPH-d results are consistent with recently previous events, thus it is possible that the field blank contamination may have little actual contribution to the TPH-d results. Additionally, the affected TPH-d result is below the screening criteria. However, as the contributed contamination cannot be quantified, per the validation procedures of the NAVFAC Pacific Environmental Restoration Program *Project Procedures Manual* (DON 2015b) results less than 5 times the blank concentration are flagged as non-detect.

The holding time exceedances for the nitrate results indicate a possible low bias may have been introduced to the data. However, the data were deemed usable with qualification as the sample extractions did not exceed the method-recommended holding time by a factor of 2. The usability of the nitrate data is deemed acceptable after the data are qualified as estimated.

The third-party data assessment concludes that all data generated during this event are usable for the intended purpose, with the limitations described above.

4. Natural Attenuation Parameter Evaluation

The natural attenuation evaluation uses lines of evidence, as follows:

- The use of historical groundwater primary indicators (COPC data) to demonstrate contaminant concentration over time.
- The use of secondary indicators (hydrogeologic and geochemical data) can demonstrate natural attenuation processes are active at the site, and the rate at which such processes will reduce contaminant concentration to screening levels.
- The analysis of TPH-d and TPH-o with and without the use of silica gel cleanup to determine fraction of polar weathered hydrocarbons and total recoverable hydrocarbons.

Two of the objectives of analyzing for the NAPs are to assess whether natural attenuation is occurring on site, and whether there is the potential for natural attenuation to reduce the concentrations of the petroleum-related constituents in groundwater. The decline in TPH concentrations at RHMW01, RHMW02, and RHMW03 within the last seven groundwater events may be attributable to changed aquifer conditions and pumping scenarios at the Red Hill Shaft, characteristic contaminant pulse from a declining source, natural attenuation, changes in precipitation, or a combination of one or more of these factors. Secondary lines of evidence for natural attenuation are based on additional information collected during the groundwater monitoring events and include DO, ORP, pH, specific conductance, dissolved ferrous iron, methane, nitrate, and sulfate.

Fuel hydrocarbons can be biodegraded by microorganisms in the subsurface under aerobic or anaerobic conditions. Biodegradation is the result of microbial-mediated redox reactions in which coupling of oxidation of an electron donor and reduction of an electron acceptor occurs.

Biodegradation of fuel hydrocarbons causes changes to the groundwater geochemistry. During aerobic biodegradation of hydrocarbons, DO concentrations are depleted as aerobic respiration occurs because DO is the most thermodynamically favored electron acceptor used in biodegradation. ORP is a measure of electron activity and is an indicator of the relative tendency of a solute species to gain or lose electrons. Higher ORP measurements suggest aerobic respiration is occurring.

In methanogenic anaerobic respiration, potential electron acceptors include nitrate, ferric iron, sulfate, and carbon dioxide. Use of the electron acceptors proceeds along a natural succession in the order listed above because of decreasing energetic efficiency (Leeson et al. 2004). Nitrate is the most thermodynamically favored electron acceptor of the anaerobic pathways, biodegrading to nitrite (followed by nitrogen gas) and carbon dioxide. Ferric iron in soil can be consumed by anaerobic biodegradation when both DO and nitrate have been depleted in anaerobic groundwater, yielding dissolved ferrous iron in groundwater. Sulfate can be consumed by anaerobic degradation after DO, nitrate, and ferric iron are depleted, yielding precipitated iron sulfides. Lower concentrations of sulfate in groundwater compared to background levels indicate that sulfate reduction is an ongoing biological process for petroleum hydrocarbon degradation within plume areas. When all the soluble electron acceptors (i.e., DO, nitrate, ferric iron, and sulfate) are depleted, groundwater conditions become conducive to fermentation and methane is generated by methanogenesis.

Alkalinity is a general indicator of buffering capacity of an aquifer system against pH changes due to attenuation processes in the groundwater. Alkalinity is used in conjunction with pH measurements to determine if the groundwater is sufficient to neutralize metabolic acids produced by biodegradation.

Production of carbon dioxide during biodegradation causes carbonate minerals to dissolve, increasing alkalinity concentrations in the groundwater.

Both aerobic and anaerobic biodegradation may be occurring at the site and COPC such as naphthalene are known to degrade both aerobically and anaerobically, and geochemical parameters indicative of biodegradation may vary with location and with time (Wiedemeier et al. 1999).

For the February through April 2017 monitoring events, the field water quality data parameters are included on the field sampling logs (Appendix B.1). Table 3-2 through Table 3-4 summarize DO, ORP, and other geochemical parameters (ferrous iron, methane, nitrate, and sulfate) indicative of evidence of biodegradation. Graphs of the DO, ORP, and NAPs are presented in Appendix A.3.

Unweathered petroleum tends to contain nonpolar hydrocarbons that, when weathered in the environment create polar hydrocarbons as byproducts of biological sources and processes. Silica gel cleanup is commonly used to separate polar from nonpolar hydrocarbons. Polar compounds will preferentially adsorb to silica, while non-polar compounds will not. DOH TGM Section 9.3.1.2, Total Petroleum Hydrocarbons, discusses the use of silica gel cleanup to separate out the polar TPH fraction and compare the remaining non-polar TPH fraction to the screening criteria: "*Comparison of data for groundwater samples tested with and without silica gel cleanup could be useful for assessing the state of natural biodegradation within a plume of petroleum-contaminated groundwater and optimizing remedial and monitoring actions*" (DOH 2016b). TPH-d and TPH- with silica gel cleanup was performed in select groundwater samples in November and December 2016 and discussed in the *First Quarter 2017 Quarterly Groundwater Monitoring Report* (DON 2017c); however, groundwater samples were not analyzed for TPH-d and TPH-o with silica gel clean-up during the February through April 2017 groundwater monitoring events.

4.1 Evaluation Using Groundwater COPC Concentrations

The groundwater COPC concentrations illustrated in Appendix A.2 indicate a general decline in concentration in most monitoring wells since the First Quarter 2016 monitoring event. The general decline seems to start immediately after the First Quarter 2016 monitoring event. Historical TPH-d concentrations from 2007 and onwards show, especially in RHMW02, that seasonal increase and decreases occur respectively during the beginning and end of wet-season sampling (October through May). However, the recent decline in concentrations may also be attributable to other factors such as the reduced pumping activity at the Red Hill Shaft starting from February 2016.

4.2 Evaluation Using Natural Attenuation Parameters

NAPs were collected during the groundwater monitoring field activities and include DO, ORP, ferrous iron, methane, nitrate, sulfate, and chloride. These parameters indicate the conditions under which natural attenuation is likely occurring.

4.2.1 Dissolved Oxygen and Oxidation Reduction Potential

The February and April 2017 DO and ORP concentrations for most wells were generally consistent with previous measurements. The background (RHMW04) DO measurement for the February to April 2017 monitoring events ranged between 8.64 and 9.01 mg/L, and ORP ranged between 147.7 and 209.3 millivolts (mV). DO concentrations for RHMW01, RHMW02, and RHMW03 were consistently depressed and the ORP values were consistently negative.

In RHMW01 and RHMW02, DO was depleted in the groundwater, and when evaluated in conjunction with other NAPs such as the high dissolved methane concentrations (between 470 µg/L

to 16,000 µg/L), the observed depletion indicates that anaerobic respiration is likely occurring. DO and ORP conditions at RHMW03 are indicative of conditions conducive to biodegradation, although methane was not detected at RHMW03.

4.2.2 Nitrate

Nitrate is the most thermodynamically favored electron acceptor of the anaerobic pathways, in which petroleum hydrocarbons are biodegrading to nitrogen gas. RHMW01 and RHMW02 consistently have had nitrate at concentrations below 1 mg/L. This suggests that anaerobic respiration is likely occurring. The rest of the wells have nitrate at concentrations greater than the background level of 2.5 to 2.7 mg/L in RHMW04, which when evaluated in conjunction with the DO and ORP results, suggests that no attenuation is likely occurring (for wells that show no TPH detections) or that aerobic conditions are likely occurring such as at RHMW03 where DO and ORP are depressed but nitrate is not.

4.2.3 Ferrous Iron

Bacteria will typically break down ferric iron in soil once oxygen is depleted, which causes ferrous iron to be detected in groundwater. Elevated levels of ferrous iron indicate that the groundwater environment can sustain iron reduction for anaerobic respiration. During the February through April 2017, ferrous iron was present in wells RHMW01, RHMW02, RHMW05, RHMW08, and HDMW2253-03 at concentrations ranging from 0.16 mg/L to 3.0 mg/L. Ferrous iron was not detected in any other wells.

The ferrous iron concentrations in RHMW01 and RHMW02 are in line with other NAPs discussed above, suggesting that anaerobic respiration may be occurring at these locations. The ferrous iron at RHMW08 may be indicative of anaerobic biological activity; however, other NAP results do not indicate attenuation. The presence of ferrous iron and other NAPs at RHMW05 and HDMW2253-03 are likely not indicative of anaerobic biological activity at these locations because TPH has not been reported for these wells in the last eight monitoring events. Future groundwater monitoring events will provide more data to evaluate the ferrous iron trends at all the monitoring well locations.

4.2.4 Methane

An additional line of evidence for biological degradation of petroleum hydrocarbons includes the presence of methane, a reaction byproduct of fermentative biological reactions. Methane was detected in the samples from RHMW01 and RHMW02 at concentrations ranging from 470 µg/L to 1,300 µg/L and 5,700 µg/L to 16,000 µg/L, respectively. This evidence of methane concentrations suggests that methanogenic, anaerobic biodegradation is occurring in these wells. Methane was not detected in any of the other wells/sampling location.

4.2.5 Sulfate

Sulfate is usually consumed by bacteria only when DO, nitrate, and ferric iron have been depleted. Concentrations of sulfate lower than background concentrations, when evaluated in conjunction with depressed DO and nitrate concentrations, suggest that anaerobic activity is occurring. The concentrations of sulfate in groundwater at RHMW01 and RHMW02 were 4.6–5.1 mg/L and 1.0–1.1 mg/L, respectively, which are much lower than the sulfate concentrations in RHMW04 (10.3–11 mg/L). The sulfate results in RHMW01 and RHMW02 suggest that anaerobic activity is likely actively occurring. The concentrations of sulfate at the other wells are equal to or greater than the background concentration at RHMW04.

4.2.6 Chloride

Chloride is a general water quality parameter and is also usually produced by anaerobic dechlorination of chlorinated compounds. Elevated levels of chloride may indicate that dechlorination is occurring, but only if background concentrations of chloride in the aquifer do not mask the production of chloride due to dechlorination. In addition, elevated chloride levels may also inhibit certain microbial activity. As such, chloride is generally considered as an indicator parameter only. Chloride concentrations in RHMW2254-01 (sampling point near Navy Supply Well 2254-01) and RHMW04 (background well) were approximately 2 times higher than chloride concentrations in RHMW01, RHMW02, and RHMW03 (the monitoring wells where biodegradation is likely occurring based on results of other NAPs). Additionally, chloride concentrations in RHMW05 through RHMW08, OWDFMW01, and HDMW2253-03 are higher than in RHMW04. Thus, chloride results may not provide a strong line of evidence to support conclusions on natural attenuation at the facility. Future groundwater monitoring events will provide more data to evaluate the chloride trends at all the monitoring well locations.

4.2.7 Alkalinity

Alkalinity was added to the NAP list during the November 2016 monitoring event. Total and bicarbonate alkalinity concentrations in RHMW02 and RHMW03 are significantly higher than in other monitoring well locations. During the February through April 2017 events, the alkalinity in RHMW02 ranged from 193 mg/L to 206 mg/L, and in RHMW03 from 281 mg/L to 289 mg/L, which are much higher than the background concentrations ranging from 77.7 mg/L to 79.3 mg/L. The elevated alkalinity in RHMW02 and RHMW03 may be attributable to natural attention process occurring at these locations.

In contrast, high alkalinity concentrations were detected in OWDFMW01 (ranging from 165 mg/L to 174 mg/L), but the location did not have other NAP measurements that support evidence of natural attenuation. Thus the alkalinity concentrations in OWDFMW01 may be attributed to the groundwater conditions existing at OWDFMW01, which profiles as very hard water and is very different compared to the other monitoring locations as discussed in Section 3.4 of the *First Quarter 2017 – Quarterly Groundwater Monitoring Report* (DON 2017c).

5. Summary, Conclusions, and Recommendations

5.1 SUMMARY

During the February 6–9 and March 6–8, 2017, monitoring events, groundwater samples were collected from one sampling point at Red Hill Shaft (RHMW2254-01) and 11 monitoring wells in the Red Hill groundwater monitoring network (RHMW01 through RHMW09, HDMW2253-03, and OWDFMW01). During the April 3–4, 2017, event, groundwater samples were collected the same locations with the exception of HDMW2253-03 due to ongoing testing of an experimental transition-zone monitoring device being performed by the CWRM and the University of Hawai'i; the testing is expected to continue through August 2017. One primary and one duplicate sample were collected from sampling point RHMW2254-01 and well RHMW08 in all three events, and a field duplicate sample was also collected from RHMW09 during the February and April 2017 events.

The groundwater sampling was conducted as part of the long-term groundwater monitoring program at the Facility. Analytical results for the sampling locations with the highest and most frequent historical detections are summarized as follows:

- *RHMW01:* Concentrations of TPH-d (83–150 µg/L) were detected during all three events. The February 2017 result (150 µg/L) exceeded the screening criterion (100 µg/L). The TPH-d concentrations did not exceed the SSRBL of 4,500 µg/L.
- *RHMW02:* Concentrations of TPH-d (940–1,200 µg/L), 1-methylnaphthalene (20–22 µg/L), 2-methylnaphthalene (16–17 µg/L), and naphthalene (49–57 µg/L) exceeding the respective screening criteria were detected in all three events. The concentrations of TPH-d did not exceed the SSRBL of 4,500 µg/L. Concentrations of TPH-o (84 µg/L), TPH-g (57–73 µg/L), and total xylenes (0.23 µg/L) below the respective screening criteria were detected in all three events.
- *RHMW03:* Concentrations of TPH-d (47–67 µg/L) and TPH-o (41–71 µg/L) below the respective screening criteria were detected in all three events. The TPH-d concentrations did not exceed the SSRBL of 4,500 µg/L.
- *OWDFMW01:* A concentration of TPH-o (44 µg/L) below the screening criterion was detected in the February 2017 event.

A table of cumulative historical groundwater results is presented in Appendix A.1, and historical groundwater COPC concentration graphs are presented in Appendix A.2. The historical groundwater COPC concentration graphs indicate a general decline in COPC concentrations since the First Quarter 2016 event.

The NAPs present evidence of anaerobic biodegradation occurring at RHMW02 at significant levels based on depleted DO, very high dissolved methane concentrations, depleted nitrate and sulfate concentrations, and high alkalinity concentrations. The concentrations of NAPs at RHMW01 and RHMW02 also suggest that biodegradation is also occurring. Other monitoring wells showed very low or no TPH detections, which when evaluated into consideration with the NAP results indicate that biodegradation is unlikely to be occurring.

5.2 Conclusions and Recommendations

During the February, March, and April 2017 monitoring events, there were no SSRBL exceedances, although TPH-d exceeded the DOH EAL screening criterion at RHMW01 and RHMW02. 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene also exceeded the respective DOH EAL screening criteria at RHMW02. RHMW08 showed low detections of TPH-d and TPH-o during the November 2016 through March 2017 events, but these COPCs were not detected during the April 2017 event. TPH-d at OWDFMW01 was at a high during Third Quarter 2015 and has dropped to non-detect in the April 2017 event, similar to the pattern seen during the quarterly monitoring events in 2012. Groundwater contaminant concentrations in other wells generally remained at non-detect or at low concentrations and did not change significantly from the previous event.

Based on the groundwater monitoring results and in accordance with AOC Statement of Work Sections 6 and 7, continued groundwater monitoring at the wells in the Red Hill groundwater monitoring network is recommended. Monthly sampling of the Red Hill monitoring network was initiated in November 2016 in response to information obtained that the Red Hill Shaft pumps have been relatively inoperable since February 2016 due to equipment (i.e., transformer) malfunction. Pumping at a reduced capacity was initiated in November 2016 using temporary equipment, and the pumping resumed to normal capacity in December 2016. To evaluate potential impacts the changed pumping conditions may have on COPC concentrations in groundwater at and around the Facility, samples were collected monthly starting in November 2016 through April 2017, with the January 2017 and April 2017 events being the regularly scheduled quarterly monitoring events. Split

sampling was also conducted during the January through March 2017 events. Results of the monthly monitoring events are included in the scheduled quarterly monitoring reports.

It is recommended that the groundwater monitoring program continue testing for the NAPs at each monitoring event, and that it continue to include silica-gel-cleaned TPH-d and TPH-o analysis if (1) TPH-d and TPH-o results increase by a factor of 2 from the previous monitoring event and the results are above screening criteria, or (2) upon the first finding of TPH-d and TPH-o in the newly installed monitoring wells. At this time, pumping effects of Red Hill Shaft will be evaluated and included in relevant and applicable deliverables pursuant to AOC Statement of Work Sections 6 and 7.

Additional monthly groundwater monitoring events were performed in May and June 2017, followed by the Third Quarter 2017 monitoring event performed in July 2017.

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Appendix A:
Cumulative Historical Monitoring Results

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Appendix A.1:
Table of Cumulative Groundwater COPC Results

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Appendix A.1: Cumulative Groundwater COPC Results
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015										8260												8260SIM		8011	8270			8270/8270 Mod.	
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****	1,2-Dibromoethane *****	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenol	2-(2-Methoxyethoxy)-ethanol
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0	0.04	6	10	17	300	800
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—	—	—	—	—	—	—
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result	Result	Result	Result	Result	Result
RHMW2254-01	RH-B-001	2/16/2005[be]	< 50	U	< 50	U	< 100	U	—		<0.0083	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**1.0**		< 0.50	U	—		—	—	—	—	< 0.020	U	< 0.020	U	—	—
	RH-B-002	2/16/2005[bf]	< 53	U	< 50	U	<110	U	—		<0.0081	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**1.2**		< 0.50	U	—		—	—	—	—	< 0.022	U	< 0.022	U	—	—
	RH-B-003	2/16/2005*[bf]	< 50	U	< 50	U	< 100	U	—		<0.0082	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**0.81**		< 0.50	U	—		—	—	—	—	< 0.021	U	< 0.021	U	—	—
	RH-B-004	6/28/2005[ae]	**43**	J	< 13	U	—		—		< 0.00096	U	<0.50[b]	U	<0.50[b]	U	<0.50[b]	U	—		<0.50[b]	U	<0.50[b]	U	—		—	—	—	—	<0.020[b]	U	<0.020[b]	U	—	—
	RH-B-005	6/28/2005*[ae]	**67**	Z	< 13	U	—		—		< 0.00096	U	<0.50[b]	U	<0.50[b]	U	<0.50[b]	U	—		<0.50[b]	U	<0.50[b]	U	—		—	—	—	—	<0.020[b]	U	<0.020[b]	U	—	—
	RH-B-006	6/28/2005*[af]	**58**	Z	< 13	U	—		—		< 0.00096	U	<0.50[b]	U	<0.50[b]	U	<0.50[b]	U	—		<0.50[b]	U	<0.50[b]	U	—		—	—	—	—	<0.021[b]	U	<0.021[b]	U	—	—
	RH-B-007	9/8/2005[ae]	**45**	J	< 13	U	**59**	J	—		< 0.00096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	<0.020[b]	U	**0.085**		—	—
	RH-B-008	9/8/2005[af]	< 50	U	< 13	U	<28	U	—		< 0.00096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	<0.020[b]	U	<0.020[b]	U	—	—
	RH-B-009	9/8/2005*[af]	<50[d]	U	< 13	U	<100[d]	U	—		< 0.00096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	<0.020[b]	U	**0.045**		—	—
	RHMW2254W01	9/20/2005[bd]	—		—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—	—	—	—	—		—		—	—
	RH-B-010	12/6/2005[ae]	**38**	J	< 13	U	—		—		<0.0096[b]	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	**0.038**		**0.036**		—	—
	RH-B-011	12/6/2005*[ae]	**24**	J	< 13	U	—		—		<0.0094[b]	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	**0.022**		**0.024**		—	—
	RH-B-012	12/7/2005[af]	< 20	U	< 13	U	—		—		<0.0095[b]	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 0.11	U	< 0.22	U	—		—	—	—	—	**0.0071**	J	**0.011**	J	—	—
	RHMW2254-01-GW02	7/10/2006[ad]	< 110	U	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—	—	—	< 0.26	U	< 0.26	U	< 0.26	U	—	—
	RHMW2254-01-GW06	12/5/2006[ad]	< 100	U	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—	—	—	< 0.25	U	< 0.25	U	< 0.25	U	—	—
	RHMW2254-01-WG07	3/27/2007[a]	< 98	U	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—	—	—	< 0.24	U	< 0.24	U	< 0.24	U	—	—
	RHMW2254-01-WG08	6/12/2007[a]	< 98	U	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—	—	—	< 0.25	U	< 0.25	U	< 0.25	U	—	—
	RHMW2254-01-WG0	9/10/2007[a]	< 97	U	< 50	U	—		—		< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	< 0.44	U	< 0.27	U	< 0.36	U	—		—	—	—	< 0.25	U	< 0.25	U	< 0.25	U	—	—
	RHMW2254-01-WG10	1/15/2008[a]	< 102	U	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	—	< 0.0150	U	< 0.0150	U	< 0.0310	U	—	—
	RHMW2254-01-WG10.1	2/6/2008[a]	< 100	U	—		—		—		—		—		—		—		—		—		—		—		—	—	—	—		—		—		—	—
	RHMW2254-01-WG10.1	2/6/2008[a]	< 10.3	U	—		—		—		—		—		—		—		—		—		—		—		—	—	—	—		—		—		—	—
	RHMW2254-01-WG11	4/15/2008[a]	< 86.0	U	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	**0.0435**	J	**0.0561**		< 0.0332	U	—	—
	RHMW2254-01-WG12	7/29/2008[a]	< 83.3	U	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	< 0.0156	U	< 0.0156	U	< 0.0323	U	—	—
	RHMW2254-01-WG13	10/22/2008[a]	< 84.2	U	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	**0.0276**	J	< 0.0150	U	**0.0466**	J	—	—
	RHMW2254-WG13B	12/16/2008[c]	—		—		—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.93	U	—		—	—	—	—		—		—		—	—
	RHMWA01-WG13B	12/16/2008*[c]	—		—		—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.93	U	—		—	—	—	—		—		—		—	—
	RHMW2254-01-WG14	2/4/2009[a]	< 92.0	U	**14.0**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	< 0.0161	U	< 0.0161	U	< 0.0333	U	—	—
	RHMW2254-01-WG15	5/13/2009[a]	< 169	U	**19.1**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	< 0.0156	U	**0.0180**	J	< 0.0323	U	—	—
	RHMW2254-01-WG16	7/15/2009[a]	< 163	U	< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—	—	< 0.0165	U	< 0.0165	U	< 0.0341	U	—	—
	RHMW2254-WG17	10/14/2009[a]	< 158	U	< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 1	U	—		—	—	< 0.017	U	< 0.017	U	< 0.0352	U	—	—
	RHMW2254-01-WG18	1/27/2010	< 320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—	—	< 0.0316	U	< 0.0316	U	**0.0375**	J	—	—
	RHMW2254-01-WG19	4/13/2010	< 320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—	—	< 0.0330	U	< 0.0330	U	< 0.0682	U	—	—
	RHMW2254-01-WG20	7/13/2010	< 320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—	—	< 0.0320	U	< 0.0320	U	< 0.0664	U	—	—
	ES004	10/19/2010	< 80.0	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES014	1/20/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES019	4/19/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES040	7/20/2011	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES050	10/25/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES062	2/1/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES074	4/17/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES077	7/17/2012	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES006	10/22/2012	< 20	U	—		—		**18**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**0.71**	J	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.037**	J	—	—
	ES014	1/29/2013	**22**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.052**	J	—	—
	ES023	4/23/2013	< 20	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.051	U	< 0.051	U	< 0.051	U	—	—
	ES032	7/23/2013	< 20	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.099**	J	—	—
	ES041	10/22/2013	< 20	U	—		—		**13**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.036**	J	—	—
	ES050	1/16/2014	< 20	U	—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.049	U	< 0.049	U	**0.046**	J	—	—
	ES060	1/29/2014	< 20	U	—		—		**16**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.049**	J	—	—
	ES067	3/6/2014	< 20	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	**0.081**	J	—	—
	ES075	3/26/2014	< 10	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.050	U	< 0.050	U	< 0.050	U	—	—
	ES085	4/22/2014	< 10	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—	—	< 0.049	U	< 0.049	U	< 0.049	U	—	—

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW2254-01	ES094	5/28/2014	< 12	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	< 0.050	U	—		—	
(cont'd)	ES102	6/24/2014	< 12	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.049	U	< 0.049	U	< 0.049	U	—		—	
	ES107	7/22/2014	< 12	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.048	U	< 0.048	U	< 0.048	U	—		—	
	ES117	10/28/2014	**22**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.097	U	< 0.049	U	< 0.049	U	—		—	
	ES125	1/27/2015	< 12	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.050	U	< 0.050	U	—		—	
	ES134	4/21/2015	**14**	BJ	< 25	U	**37**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	U	< 0.0050	UJ	< 0.0050	UJ	< 0.0050	UJ	—		—	
	ES149	7/21/2015	**17**	J	< 25	U	**42**	J	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH009	10/20/2015	**16**	BJ	< 25	U	< 53	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.990**	Tb**	< 0.20	U**	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	UB	< 0.0050	UB	—		—	
	ERH021	1/20/2016	**21**	BJ	< 25	U	< 54	UB	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.16**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH037	4/20/2016	< 21	UB	< 25	U	<61	UB	—		—		—		< 0.10	U	**0.10**	J	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH051	7/20/2016	< 21	U	< 25	U	< 52	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	UBF	—		—	
	ERH088/092	10/18/2016*	< 25	U	—		< 40	U	< 18	UJ	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH115/116	11/14/2016*	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH135/137	12/12/2016*	**14**	J	—		**16**	J	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH161/162	1/10/2017*	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH205/206	2/7/2017*	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH257/258	3/6/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH292/293	4/3/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW01	RH-W-001	2/17/2005[b]	**1,400**	Y	< 50[b]	U	**770**	O	—		< 0.0083[b]	U	< 0.50[b]	U	< 0.50[b]	U	< 0.50[b]	U	—		< 0.50[b]	U	< 0.50[b]	U	—		—		—		—		**0.14**		**0.25**		—		—	
	RH-W-002	2/17/2005*[b]	**1,500**		< 50[b]	U	**890**		—		< 0.0082[b]	U	< 0.50[b]	U	< 0.50[b]	U	< 0.50[b]	U	—		< 0.50[b]	U	< 0.50[b]	U	—		—		—		—		**0.057**		**0.21**		—		—	
	RH-W-003	6/28/2005[a]	**1,300**	Z	< 13	U	—		—		< 0.00096	U	< 0.50[b]	U	< 0.50[b]	U	< 0.50[b]	U	—		< 0.50[b]	U	< 0.50[b]	U	—		—		—		—		**0.054**		**0.073**		—		—	
	RH-W-004	6/28/2005*[a]	**1,100**	Z	< 13	U	—		—		<0.00095[d]	U	< 0.50[b]	U	< 0.50[b]	U	< 0.50[b]	U	—		< 0.50[b]	U	< 0.50[b]	U	—		—		—		—		**0.051**		**0.055**		—		—	
	RH-W-005	9/8/2005[a]	**950**	Y	< 13	U	**540**	O	—		< 0.00096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		**0.15**	J	< 0.22	U	—		—		—		—		**0.038**		**0.83**		—		—	
	RH-W-006	9/8/2005*[a]	**1,100**	Y	< 13	U	**720**	O	—		< 0.00096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		**0.15**	J	< 0.22	U	—		—		—		—		**0.038**		**0.78**		—		—	
	RHMW01W01	9/20/2005[b]	—		—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		—		—		—		—		—	
	RH-W-007	12/6/2005[a]	**670**	Z	< 13	U	—		—		< 0.0096	U	< 0.12	U	< 0.14	U	< 0.13	U	—		**0.12**	J	< 0.33	U	—		—		—		—		**0.098**		**0.51**		—		—	
	RH-W-008	12/6/2005*[a]	**740**	Z	< 13	U	—		—		< 0.0095	U	< 0.12	U	< 0.14	U	< 0.13	U	—		< 11	U	< 0.33	U	—		—		—		—		**0.11**		**0.48**		—		—	
	RHMW01-GW02	7/10/2006[ad]	**509**		< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW01-GW06	12/5/2006[ad]	**303**		< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW01-WG07	3/27/2007[ad]	**307**		< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW01-WG08	6/12/2007[ad]	**274**		< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW01-WG09	9/10/2007[a]	**261**		< 50	U	—		—		< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	< 0.44	U	< 0.27	U	< 0.36	U	—		—		—		< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW01-WG10	1/15/2008[a]	**574**		< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	**5.98**		< 0.310	U	< 0.620	U	—		—		—		**0.0640**		**0.0478**	J	**0.210**		—		—	
	RHMW01-WG11	4/15/2008[a]	**427**	J	**13.6**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		**0.101**		**0.0789**		**0.216**		—		—	
	RHMW01-WG12	7/29/2008[a]	**327**	J	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0150	U	< 0.0150	U	**0.114**		—		—	
	RHMW01-WG13	10/22/2008[a]	**459**		< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0150	U	< 0.0150	U	**0.103**		—		—	
	RHMW01-WG14	2/4/2009[a]	**387**	J	**14.4**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0165	U	< 0.0165	U	**0.173**		—		—	
	RHMW01-WG15	5/13/2009[a]	**373**	J	**16.6**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0150	U	< 0.0150	U	**0.182**		—		—	
	RHMW01-WG16	7/15/2009[a]	**248**	J	< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		**9.44**		**3.07**		**5.61**		—		—	
	RHMW01-WG17	10/14/2009[a]	**299**	F	< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 1	U	—		—		—		< 0.0174	U	< 0.0174	U	**0.193**		—		—	
	RHMW01-WG18	1/27/2010	**312**	J	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0334	U	**0.0559**		**0.330**		—		—	
	RHMW01-WG19	4/13/2010	**377**	J	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0322	U	< 0.0322	U	< 0.0666	U	—		—	
	RHMW01-WG20	7/13/2010	**228**	J	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0316	U	< 0.0316	U	**0.184**		—		—	
	ES009	11/3/2010	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	**0.17**	J	—		—	
	ES015	1/20/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES033	4/28/2011	**300**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES041	7/20/2011	**290**		—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	**0.12**	J	—		—	
	ES057	11/2/2011	**210**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES069	2/14/2012	**210**	++	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES075	4/17/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES088	7/20/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	**0.13**	J	—		—	
	ES001	10/22/2012	**85**	J,HD	—		—		**20**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES010	2/4/2013	**79**		—		—		**13**	J	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.10**	J	—		—	
	ES019	4/22/2013	**340**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.052	U	< 0.052	U	< 0.052	U	—		—	
	ES028	7/22/2013	**99**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50[1]	U	< 0.50[1]	U	—		< 0.50[1]	U	<1.0[1]	U	—		—		—		< 0.050	U	< 0.050	U	**0.048**	J	—		—	
	ES037	10/21/2013	**92**	HD	—		—		**15**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.052	U	< 0.052	U	< 0.052	U	—		—	
	ES048	1/15/2014	**250**	HD	—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**2.5**		< 1.0	U	—		—		—		**0.040**	J	**0.039**	J	**0.062**	J	—		—	
	ES056	1/28/2014	**130**	HD	—		—		**26**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**1.3**		< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.045**	J	—		—	
	ES062	2/24/2014	**89**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.037**	J	—		—	
	ES064	3/5/2014	**93**		—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	**0.038**	J	< 0.050	U	—		—	
	ES069	3/10/2014	**38**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.052	U	< 0.052	U	< 0.052	U	—		—	
	ES072	3/25/2014	**82**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.051	U	< 0.051	U	< 0.051	U	—		—	
	ES077	4/7/2014	**140**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES080	4/21/2014	**88**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES091	5/27/2014	**66**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.051	U	< 0.051	U	< 0.051	U	—		—	
	ES098	6/23/2014	**77**		—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES103	7/21/2014	**67**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.051	U	< 0.051	U	< 0.051	U	—		—	
	ES113	10/27/2014	**120**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U,IH	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.052	U	< 0.052	U	—		—	
	ES120X	1/27/2015	**33**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.11	U	< 0.054	U	< 0.054	U	—		—	
	ES130	4/20/2015	**170**	Y	< 25	U	**23**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	U	**0.014**	J	**0.0093**	J	**0.056**	J	—		—	
	ES143	6/25/2015	**130**	Y	—		**40**	J	—		—		—		—		—		—		—		—		—		—		—		**0.0068**	JX	**0.0058**	JX	**0.040**	X	—		—	

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW01	ES145	7/20/2015	**150**	Y	< 25	U	**21**	J	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	**0.014**	JX	**0.013**	J	**0.057**		—		—	
(cont'd)	ERH011	10/20/2015	**330**	BY	< 25	U	<54	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.42**	J,**,Tb	< 0.20	U**	—		< 0.015	U	< 0.0040	U	**0.037**		**0.024**	B	**0.20**	B	—		—	
	ERH024	1/20/2016	**430**	BY	< 25	U	**60**	BJ	—		< 0.004	U	< 0.020	U	< 0.10	U	< 0.10	U	—		**0.17**	JTb	< 0.20	U	—		< 0.015	U	< 0.0040	U	**0.029**	X	**0.023**	X	**0.18**		—		—	
	ERH039	4/20/2016	**360**	Y	< 25	U	<120	LB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		**0.024**	X	**0.014**	J,X	**0.23**		—		—	
	ERH053	7/20/2016	**250**	Y	< 25	U	**59**	J	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		**0.032**	XJV	**0.0068**	XJV	**0.21**		—		—	
	ERH090	10/17/2016	**120**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH117	11/14/2016	**94**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH143	12/13/2016	< 96	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH172	1/11/2017	**88**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH223	2/8/2017	**150**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH275	3/8/2017	**83**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH310	4/3/2017	**97**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015										8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****	1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04	6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—	—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result		Result		Result		Result		Result	
RHMW02	RHMW02W01	9/20/2005[b]	**2,660**		< 50	U	—		—		< 2.5	U	< 2.5	U	< 2.5	U	< 2.5	U	**283**	J	< 2.5	U	< 2.5	U	—		—		—	**104**		**88.5**		**120**		—		—	
	RHMW02Q01	9/20/2005*[b]	**2,500**		< 50	U	—		—		< 2.5	U	< 2.5	U	< 2.5	U	< 2.5	U	**319**		< 2.5	U	< 2.5	U	—		—		—	**102**		**87.2**		**123**		—		—	
	RHMW02-GW02	7/10/2006[a]	**2,800**		**124**		—		—		< 0.50	U	< 0.50	U	< 0.50	U	**1.3**		**343**		< 0.50	U	< 0.50	U	—		—		—	**142**		**65.8**		**171**		—		—	
	RHMW05-GW02	7/10/2006*[a]	**2,790**		**119**		—		—		< 2.5	U	< 2.5	U	< 2.5	U	< 2.5	U	**335**		< 2.5	U	< 2.5	U	—		—		—	**133**		**67.1**		**180**		—		—	
	RHMW02-GW06	12/5/2006[a]	**2,600**		**110**		—		—		< 0.50	U	< 0.50	U	< 0.50	U	**1.2**		**257**		< 0.50	U	< 0.50	U	—		—		—	**124**		**45.1**		**160**		—		—	
	RHMWA01-GW06	12/5/2006*[a]	**2,690**		**138**		—		—		< 0.50	U	< 0.50	U	< 0.50	U	**1.1**		**269**		< 0.50	U	< 0.50	U	—		—		—	**114**		**51.1**		**147**		—		—	
	RHMW02-WG07	3/27/2007[a]	**2,750**	O	**122**	O	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	**196**	O	< 0.50	U	< 0.50	U	—		—		—	**72.1**	O	**30.3**	O	**105**	O	—		—	
	RHMWA01-WG07	3/27/2007*[a]	**2,250**	O	**148**	O	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	**207**	O	< 0.50	U	< 0.50	U	—		—		—	**59.4**	O	**26.2**	O	**90.1**	O	—		—	
	RHMW02-WG08	6/12/2007[a]	**2,750**		**52.5**	J	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	**209**		< 0.50	U	< 0.5	U	—		—		—	**67.3**		**26.5**		**87.2**		—		—	
	RHMWA01-WG08	6/12/2007*[a]	**2,900**		**56.5**	J	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	**207**		< 0.50	U	< 0.50	U	—		—		—	**88.3**		**33**		**128**		—		—	
	RHMW02-WG09	9/10/2007[a]	**2,810**		**76**	J	—		—		< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	**206**		< 0.27	U	< 0.36	U	—		—		—	**109**		**21.5**		**144**		—		—	
	RHMWA01-WG09	9/10/2007*[a]	**3,180**		**78.2**	J	—		—		< 0.20	U	< 0.20	U	< 0.2	U	< 0.20	U	**264**		< 0.27	U	< 0.38	U	—		—		—	**102**		**19.7**		**136**		—		—	
	RHMW02-WG10	1/15/2008[a]	**2,310**		**64.3**	J	—		—		< 0.310	U	< 0.150	U	**0.170**	J	< 0.310	U	**195**		< 0.310	U	**1.06**		—		—		—	**67.0**		**23.8**		**93.6**		—		—	
	RHMWA01-WG10	1/15/2008*[a]	**3,230**		**66.2**	J	—		—		< 0.310	U	< 0.150	U	**0.170**	J	**0.350**	J	**194**		< 0.310	U	**1.10**		—		—		—	**73.2**		**27.6**		**102**		—		—	
	RHMW02-WG11	4/15/2008[a]	**3,120**		**58.9**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	**290**		< 0.310	U	**0.740**	J	—		—		—	**75.8**		**34.5**		**73.0**		—		—	
	RHMWA01-WG11	4/15/2008*[a]	**3,020**		**58.9**	J	—		—		< 0.310	U	< 0.150	U	**0.150**	J	< 0.310	U	**293**		< 0.310	U	**0.750**	J	—		—		—	**71.9**		**40.8**		**105**		—		—	
	RHMW02-WG12	7/29/2008[a]	**4,470**		**61.7**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	**0.580**	J	**320**		< 0.310	U	< 0.620	U	—		—		—	**102**		**31.5**		**140**		—		—	
	RHMWA01-WG12	7/29/2008*[a]	**3,640**		**61.2**	J	—		—		< 0.310	U	< 0.150	U	**0.120**	J	**0.560**	J	**309**		< 0.310	U	< 0.620	U	—		—		—	**96.0**		**42.2**		**132**		—		—	
	RHMW02-WG13	10/22/2008[a]	**4,540**		**52.8**	J	—		—		< 0.310	U	< 0.150	U	**0.140**	J	**0.450**	J	**239**		< 0.310	U	**0.450**	J	—		—		—	**72.1**		**13.7**		**97.4**		—		—	
	RHMWA01-WG13	10/22/2008*[a]	**6,300**		**52.9**	J	—		—		< 0.310	U	< 0.150	U	**0.150**	J	**0.420**	J	**245**		< 0.310	U	**0.490**	J	—		—		—	**62.4**		**12.7**		**82.3**		—		—	
	RHMW02-WG14	2/4/2009[a]	**2,840**		**52.3**	J	—		—		< 0.310	U	< 0.150	U	**0.260**	J	**0.490**	J	**42.8**		< 0.310	U	**0.400**	J	—		—		—	**21.2**		**10.5**		**15.2**		—		—	
	RHMWA01-WG14	2/4/2009*[a]	**2,840**		**54.3**	J	—		—		< 0.310	U	< 0.150	U	**0.240**	J	**0.520**	J	**43.0**		< 0.310	U	**0.470**	J	—		—		—	**22.8**		**11.1**		**16.6**		—		—	
	RHMW02-WG15	5/13/2009[a]	**1,620**		**39.1**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	**0.310**	J	—		—		—	**17.9**		**0.136**		**1.17**		—		—	
	RHMWA01-WG15	5/13/2009*[a]	**2,000**		**36.7**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	**24.6**		**0.107**		**1.08**		—		—	
	RHMW02-WG16	7/15/2009[a]	**1,450**		< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	**10.1**		< 0.310	U	< 0.620	U	—		—		—	**13.2**		**3.66**		**8.37**		—		—	
	RHMWA01-WG16	7/15/2009*[a]	**1,300**		< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	**11.2**		< 0.310	U	< 0.620	U	—		—		—	**10.6**		**2.58**		**6.71**		—		—	
	RHMW02-WG17	10/13/2009[ad]	**2,570**		**36.9**	F	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	**23.3**		< 0.31	U	< 1	U	—		—		—	**2.46**		**0.486**		**6.77**		—		—	
	RHMWA01-WG17	10/13/2009*[a]	**2,570**		< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	**20.0**		< 0.31	U	< 1	U	—		—		—	**4.03**		**0.783**		**7.82**		—		—	
	RHMW02-WG18	1/26/2010	**2,130**		**42.3**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**31.5**		< 0.620	U	< 1.24	U	—		—		—	**9.03**		**3.85**		**17.3**		—		—	
	RHMWA01-WG18	1/26/2010*	**3,410**		**38.1**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**9.30**		< 0.620	U	< 1.24	U	—		—		—	**8.26**		**2.65**		**15.7**		—		—	
	RHMW02-WG19	4/13/2010	**2,350**		**39.3**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**20.6**		< 0.620	U	< 1.24	U	—		—		—	**6.61**		**1.69**		**14.3**		—		—	
	RHMWA01-WG19	4/13/2010*	**2,080**		**39.0**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**21.4**		< 0.620	U	< 1.24	U	—		—		—	**5.90**		**1.90**		**12.7**		—		—	
	RHMW02-WG20	7/13/2010	**3,060**		**46.5**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**107**		< 0.620	U	**0.690**	J	—		—		—	**7.43**		**1.06**		**59.9**		—		—	
	RHMWA01-WG20	7/13/2010*	**3,110**		**45.4**	J	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	**102**		< 0.620	U	**0.660**	J	—		—		—	**7.05**		**0.937**		**61.1**		—		—	
	ES002	10/18/2010	**1,700**	++	—		—		**150**	++	< 0.40	U	< 0.28	U	< 0.32	U	**0.25**	J	—		< 0.34	U	**0.60**	J	—		—		—	**15**		**5.0**		**59**		—		—	
	ES003	10/18/2010*	**1,700**	++	—		—		**160**	++	< 0.40	U	< 0.28	U	< 0.32	U	**0.32**	J	—		< 0.34	U	**0.51**	J	—		—		—	**15**		**6.3**		**54**		—		—	
	ES010	1/18/2011	**1,100**	++	—		—		**17**	J++	< 0.40	U	< 0.28	U	< 0.32	U	**0.29**	J	—		< 0.34	U	**0.48**	J	—		—		—	**19**		**3.6**		**57**		—		—	
	ES011	1/18/2011*	**1,100**	++	—		—		**20**	++	< 0.40	U	< 0.28	U	< 0.32	U	**0.25**	J	—		< 0.34	U	**0.58**	J	—		—		—	**23**		**5.6**		**63**		—		—	
	ES020	4/19/2011	**1,100**	++	—		—		**24**	++	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	**0.41**	J	—		—		—	**5.1**		**0.43**		**3.5**		—		—	
	ES021	4/19/2011*	**1,100**	++	—		—		**29**	++	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	**0.41**	J	—		—		—	**5.2**		**0.53**		**4.2**		—		—	
	ES037	7/19/2011	**1,100**		—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	**0.85**		**0.16**	J	**2.2**		—		—	
	ES038	7/19/2011*	**1,800**		—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	**0.90**		**0.12**	J	**2.7**		—		—	
	ES046	10/24/2011	**750**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	**0.53**		**0.15**	J	**0.80**		—		—	
	ES047	10/24/2011*	**730**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	**0.62**		**0.20**		**1.0**		—		—	
	ES061	1/26/2012	**1,700**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	**0.30**	J	—		< 0.34	U	< 0.38	U	—		—		—	**0.57**		**0.17**	J	**1.7**		—		—	
	ES071	4/16/2012	**1,200**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	**0.30**		< 0.12	U	**0.86**		—		—	
	ES072	4/16/2012*	**1,100**		—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	**0.23**	J	—		< 0.34	U	< 0.38	U	—		—		—	**1.2**		**0.61**		**2.9**		—		—	
	ES082	7/18/2012	**1,700**	++	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	**0.43**	J	—		—		—	**4.7**		**0.88**		**17**		—		—	
	ES002	10/22/2012	**2,200**	HD	—		—		**320**	B	< 0.50	U	< 0.50	U	< 0.50	U	**0.18**	J	—		**0.59**	J	**0.51**	J	—		—		—	**24**		**14**		**63**		—		—	
	ES003	10/22/2012*	**1,800**	HD	—		—		**360**	B	< 0.50	U	< 0.50	U	< 0.50	U	**0.18**	J	—		**0.60**	J	**0.47**	J	—		—		—	**21**		**12**		**61**		—		—	
	ES011	1/28/2013	**1,700**	HD	—		—		**660**		< 0.50	U	< 0.50	U	< 0.50	U	**0.21**	J	—		< 0.50	U	**0.65**	J	—		—		—	**47**		**35**		**110**		—		—	
	ES012	1/28/2013*	**1,500**	HD	—		—		**650**		< 0.50	U	< 0.50	U	< 0.50	U	**0.24**	J	—		< 0.50	U	**0.69**	J	—		—		—	**41**		**31**		**100**		—		—	

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015										8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****	1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04	6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—	—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result		Result		Result		Result		Result	
RHMW02 (cont'd)	ES020	4/22/2013	**2,600**	HD	—		—		**54**		< 0.50	U	< 0.50	U	< 0.50	U	**0.21**	J	—		< 0.50	U	**0.58**	J	—		—		—	**16**		**13**		**53**		—		—	
	ES021	4/22/2013*	**3,300**	HD	—		—		**56**		< 0.50	U	< 0.50	U	< 0.50	U	**0.21**	J	—		< 0.50	U	**0.58**	J	—		—		—	**20**		**16**		**61**		—		—	
	ES029	7/22/2013	**2,500**	HD	—		—		**55**		< 0.50	U	< 0.50	U	< 0.50[1]	U	**0.17[1]**	J	—		< 0.50[1]	U	**0.45[1]**	J	—		—		—	**21**		**9.1**		**73**		—		—	
	ES030	7/22/2013*	**2,600**	HD	—		—		**61**		< 0.50	U	< 0.50	U	< 0.50[1]	U	**0.19[1]**	J	—		< 0.50[1]	U	**0.50[1]**	J	—		—		—	**18**		**6.6**		**67**		—		—	
	ES038	10/21/2013	**2,400**	HD	—		—		**48**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	**0.14**	J	—		< 0.50	U	**0.37**	J	—		—		—	**9.0**		**9.0**		**30**		—		—	
	ES039	10/21/2013*	**2,400**	HD	—		—		**63**	B	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	**0.37**	J	—		—		—	**7.5**		**7.5**		**25**		—		—	
	ES046	1/15/2014	**5,000**		—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	**0.17**	J	—		< 0.50	U	**0.48**	J	—		—		—	**6.0**		**4.9**		**18**		—		—	
	ES047	1/15/2014*	**5,200**		—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	**0.17**	J	—		< 0.50	U	**0.45**	J	—		—		—	**5.3**		**4.3**		**17**		—		—	
	ES057	1/28/2014	**2,300**	HD	—		—		**50**	B	< 0.50	U	< 0.50	U	**0.14**	J	**0.20**	J	—		< 0.50	U	**0.38**	J	—		—		—	**8.8**		**5.4**		**18**		—		—	
	ES058	1/28/2014*	**2,100**	HD	—		—		**52**	B	< 0.50	U	< 0.50	U	**0.15**	J	**0.20**	J	—		< 0.50	U	**0.34**	J	—		—		—	**9.0**		**5.9**		**18**		—		—	
	ES063	2/24/2014	**2,200**	HD	—		—		**40**	J	< 0.50	U	< 0.50	U	< 0.50	U	**0.15**	J	—		< 0.50	U	**0.29**	J	—		—		—	**5.2**		**2.5**		**15**		—		—	
	ES065	3/5/2014	**2,100**		—		—		—		—		—		< 0.50	U	**0.15**	J	—		< 0.50	U	**0.29**	J	—		—		—	**2.6**		**1.5**		**10**		—		—	
	ES066	3/5/2014*	**2,200**		—		—		—		—		—		< 0.50	U	**0.15**	J	—		< 0.50	U	**0.32**	J	—		—		—	**3.9**		**2.9**		**13**		—		—	
	ES070	3/10/2014	**930**		—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	**0.30**	J	—		—		—	**3.7**		**2.5**		**11**		—		—	
	ES071	3/10/2014*	**890**		—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	**0.31**	J	—		—		—	**4.2**		**3.0**		**12**		—		—	
	ES073	3/25/2014	**1,700**	HD	—		—		—		—		—		< 0.50	U	**0.15**	J	—		< 0.50	U	**0.38**	J	—		—		—	**9.0**		**4.9**		**33**		—		—	
	ES074	3/25/2014*	**1,700**	HD	—		—		—		—		—		< 0.50	U	**0.16**	J	—		< 0.50	U	**0.41**	J	—		—		—	**8.1**		**4.0**		**33**		—		—	
	ES078	4/7/2014	**3,500**	HD	—		—		—		—		—		< 0.50	U	**0.18**	J	—		< 0.50	U	**0.40**	J	—		—		—	**6.2**		**4.4**		**25**		—		—	
	ES079	4/7/2014*	**3,300**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	**0.33**	J	—		—		—	**9.0**		**7.6**		**31**		—		—	
	ES081	4/21/2014	**1,900**		—		—		**53**		< 0.50	U	< 0.50	U	< 0.50	U	**0.17**	J	—		< 0.50	U	**0.43**	J	—		—		—	**8.7**		**8.1**		**31**		—		—	
	ES082	4/21/2014*	**1,500**		—		—		**50**		< 0.50	U	< 0.50	U	< 0.50	U	**0.16**	J	—		< 0.50	U	**0.42**	J	—		—		—	**8.3**		**7.7**		**32**		—		—	
	ES092	5/27/2014	**1,500**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	**0.31**	J	—		—		—	**9.3**		**2.7**		**34**		—		—	
	ES093	5/27/2014*	**1,300**	HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	**0.32**	J	—		—		—	**7.8**		**1.5**		**28**		—		—	
	ES099	6/23/2014	**1,800**		—		—		—		—		—		< 0.50	U	**0.16**	J	—		< 0.50	U	**0.40**	J	—		—		—	**11**		**3.4**		**38**		—		—	
	ES100	6/23/2014*	**1,600**		—		—		—		—		—		< 0.50	U	**0.18**	J	—		< 0.50	U	**0.37**	J	—		—		—	**12**		**4.5**		**41**		—		—	
	ES104	7/21/2014	**1,200**	HD	—		—		**48**	J	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	**0.36**	J	—		—		—	**25**		**20**		**71**		—		—	
	ES105	7/21/2014*	**1,300**	HD	—		—		**49**	J	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	**0.33**	J	—		—		—	**26**		**22**		**76**		—		—	
	ES114	10/27/2014	**2,000**	J,HD	—		—		**57**		< 0.50	U	< 0.50	U,IH	< 0.50	U	**0.15**	J	—		< 0.50	U	**0.32**	J	—		—		—	**59**		**43**		**140**		—		—	
	ES115	10/27/2014	**2,000**	J,HD	—		—		**53**		< 0.50	U	< 0.50	U,IH	< 0.50	U	**0.14**	J	—		< 0.50	U	**0.29**	J	—		—		—	**54**		**36**		**130**		—		—	
	ES126	1/28/2015	**1,100**	HD	—		—		**54**		< 0.50	U	< 0.50	U	< 0.50	U	**0.16**	J	—		< 0.50	U	**0.35**	J	—		—		—	**34**		**7.6**	J	**90**		—		—	
	ES127	1/28/2015*	**1,700**	HD	—		—		**59**		< 0.50	U	< 0.50	U	< 0.50	U	**0.17**	J	—		< 0.50	U	**0.35**	J	—		—		—	**25**		**2.7**	J	**63**		—		—	
	ES131	4/20/2015	**5,200**	Y	**46**	J	**360**	L	—		< 0.20	U	—		**0.090**	J	**0.18**	J	—		< 0.10	U	**0.26**	J	< 0.010	U	< 0.015	U	< 0.0040	U	**31**	JD	**15**	JD	**39**	JD	—		—	
	ES132	4/20/2015*	**5,400**	Y	**47**	J	**360**	L	—		< 0.20	U	—		**0.080**	J	**0.19**	J	—		< 0.10	U	**0.30**	J	< 0.010	U	< 0.015	U	< 0.0040	U	**68**	JD	**37**	JD	**140**	JD	—		—	
	ES144	6/25/2015	**3,800**	Y	—		**250**	L	—		—		—		—		—		—		—		—		—		—		—		**71**	JD	**48**	JD	**150**	JD	—		—	
	ES146	7/20/2015	**3,900**	Y	**40**	J	**240**	L	—		< 0.20	U	—		< 0.10	U	**0.16**	J	—		**0.060**	J	**0.26**	J	—		< 0.015	U	< 0.0040	U	**65**	JD	**43**	JD	**150**	JD	—		—	
	ES147	7/20/2015*	**3,200**	Y	**41**	J	**260**	L	—		< 0.20	U	—		**0.10**	J	**0.17**	J	—		< 0.10	U	**0.27**	J	—		< 0.015	U	< 0.0040	U	**66**	D	**43**	D	**160**	D	—		—	
	ERH012	10/20/2015	**6,100**	BY	**47**	J	**310**	BL	—		< 0.20	U**	—		**0.090**	J,**	**0.29**	J,**	—		**0.30**	J,**,Tb	**0.32**	J,**	—		—	U	< 0.0040	U	**60**	D	**27**	BD	**120**	BD	—		—	
	ERH013	10/20/2015*	**6,200**	BY	**47**	J	**320**	BL	—		< 0.20	U**	—		**0.090**	J,**	**0.26**	J,**	—		**0.49**	J,**,Tb	**0.30**	J,**	—		—	U	< 0.0040	U	**57**	D	**24**	BD	**88**	BD	—		—	
	ERH025	1/20/2016	**6,500**	BY	**36**	J	**340**	BL	—		< 0.20	U	—		**0.080**	J	**0.014**	J	—		**0.070**	TbJ	**0.21**	J	—		< 0.015	U	< 0.0040	U	**48**	D	**7.9**	D	**120**	D	—		—	
	ERH040	4/20/2016	**4,400**	Y	**35**	J	**390**	L	—		—		—		< 0.10	U	**0.17**	J	—		< 0.10	U	**0.16**	J	—		—		—	**59**	D	**38**	D	**100**	D	—		—	
	ERH041	4/20/2016*	**3,700**	Y	**35**	J	**400**	L	—		—		—		**0.070**	J	**0.17**	J	—		< 0.10	U	**0.18**	J	—		—		—	**61**	D	**39**	D	**110**	D	—		—	
	ERH054	7/20/2016	**3,600**	Y	**31**	JS	**280**	L	—		—		—		**0.070**	J	< 0.10	UF	—		< 0.10	U	< 0.20	UF	—		—		—	**36**	D	**13**	D	**67**	D	—		—	
	ERH055	7/20/2016*	**3,200**	Y	**30**	JS	**270**	L	—		—		—		**0.080**	J	< 0.10	UF	—		< 0.10	U	< 0.20	UF	—		—		—	**33**	D	**12**	D	**62**	D	—		—	
	ERH091	10/19/2016	**1,300**		—		< 40	U	**35**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	**25**		**9.2**		**49**		< 4.00	U	< 80.0	UJ
	ERH124	11/15/2016	**1,300**		—		**100**		**26**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	**29**		**12**		**58**		< 4.00	U	< 80.0	U
	ERH144	12/13/2016	**1,300**		—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	**0.19**	J	—		—		—	**17**		**11**		**40**		< 4.00	U	< 80.0	U
	ERH174	1/10/2017	**1,400**		—		**42**		**63**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	**0.26**	J	—		—		—	**25**		**11**		**69**		< 4.00	U	< 80.0	U
	ERH216	2/7/2017	**1,000**		—		< 40	U	**65**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	**0.23**	J	—		—		—	**22**		**16**		**57**		< 4.00	U	< 80.0	U
	ERH265	3/7/2017	**1,200**		—		< 40	U	**73**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	**22**		**17**		**49**		< 4.00	U	< 80.0	U
	ERH300	4/4/2017	**940**		—		**84**		**57**		—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	**20**		**17**		**52**		< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****	1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04	6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—	—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result		Result		Result		Result		Result	
RHMW03	RHMW03W01	9/20/2005[b]	**162**	J	< 0.50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—	< 0.24	U	< 0.24	U	< 0.24	U	—		—	
	RHMW03-GW02	7/10/2006[ad]	**142**	J	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—	< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW03-GW06	12/5/2006[ad]	< 100	U	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—	< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW03-WG07	3/27/2007[a]	**95.7**	J	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—	< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW03-WG08	6/12/2007[a]	**123**	J	< 50	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—	< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW03-WG09	9/10/2007[a]	< 96	U	< 50	U	—		—		< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	< 0.44	U	< 0.27	U	< 0.36	U	—		—		—	< 0.25	U	< 0.25	U	< 0.25	U	—		—	
	RHMW03-WG10	1/15/2008[a]	**242**	J	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0156	U	< 0.0156	U	< 0.0323	U	—		—	
	RHMW03-WG11	4/15/2008[a]	**190**	J	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	**0.0268**	J	**0.0279**	J	< 0.0341	U	—		—	
	RHMW03-WG12	7/29/2008[a]	**199**	J	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	**0.0294**	J	< 0.0156	U	**0.0689**	J	—		—	
	RHMW03-WG13	10/22/2008[a]	**244**	J	< 10.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	**0.0658**		**0.0937**		**0.219**		—		—	
	RHMW03-WG14	2/4/2009[a]	**207**	J	**16.1**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0161	U	< 0.0161	U	< 0.0333	U	—		—	
	RHMW03-WG15	5/13/2009[a]	< 161	U	**14.8**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0152	U	< 0.0152	U	< 0.0313	U	—		—	
	RHMW03-WG16	7/15/2009[a]	< 150	U	< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0158	U	< 0.0158	U	< 0.0326	U	—		—	
	RHMW03-WG17	10/14/2009[a]	< 163	U	< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 1	U	—		—		—	< 0.0169	U	< 0.0169	U	< 0.0348	U	—		—	
	RHMW03-WG18	1/27/2010	< 330	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	< 0.0322	U	< 0.0322	U	< 0.0666	U	—		—	
	RHMW03-WG19	4/13/2010	< 320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	< 0.0322	U	< 0.0322	U	< 0.0666	U	—		—	
	RHMW03-WG20	7/13/2010	< 324	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	< 0.0322	U	< 0.0322	U	< 0.0666	U	—		—	
	ES001	10/18/2010	**330**	++	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES012	1/19/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES025	4/20/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES035	7/19/2011	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES049	10/24/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES060	1/26/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES073	4/16/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES081	7/18/2012	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES004	10/22/2012	**45**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**0.54**	J	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.029**	J	—		—	
	ES013	1/28/2013	**59**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	**0.10**	J	**0.069**	J	**0.32**		—		—	
	ES022	4/22/2013	**69**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.053	U	< 0.053	U	< 0.053	U	—		—	
	ES031	7/22/2013	**48**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50[1]	U	< 0.50[1]	U	—		< 0.50[1]	U	<1.0[1]	U	—		—		—	< 0.050	U	< 0.050	U	**0.064**	J	—		—	
	ES040	10/21/2013	**54**	HD	—		—		**23**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES059	1/28/2014	**74**		—		—		**20**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.15**	J	—		—	
	ES083	4/21/2014	**39**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.049	U	< 0.049	U	**0.11**	J	—		—	
	ES106	7/22/2014	**37**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.047	U	< 0.047	U	< 0.047	U	—		—	
	ES116	10/27/2014	**80**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U,IH	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.11	U	< 0.054	U	< 0.054	U	—		—	
	ES123	1/28/2015	**39**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.097	U	< 0.048	U	< 0.048	U	—		—	
	ES133	4/20/2015	**100**	BY	< 25	U	**110**	BL	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	U	**0.015**	J	**0.0083**	J	**0.035**	J	—		—	
	ES148	7/20/2015	**130**	Y	< 25	U	**150**	L	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0052	U	< 0.0052	U	< 0.0052	U	—		—	
	ERH014	10/20/2015	**130**	BY	< 25	U	**160**	BL	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.40**	J,**,Tb	< 0.20	U**	—		< 0.015	U	< 0.0040	U	**0.0039**	J	**0.0034**	BJ	**0.0094**	BJ	—		—	
	ERH026	1/20/2016	**150**	BY	< 25	U	**160**	BL	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.14**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH042	4/20/2016	< 95	YUB	< 25	U	< 170	BL	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—	**0.0084**	J	**0.0075**	J	< 0.0050	U	—		—	
	ERH056	7/20/2016	< 70	YUB	< 25	U	**110**	J	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—	**0.0073**	J	**0.0040**	J	< 0.0050	UF	—		—	
	ERH093	10/19/2016	**65**		—		**59**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH125	11/15/2016	**51**		—		**42**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH152	12/14/2016	**56**		—		**49**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH181	1/12/2017	**51**		—		**46**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH231	2/8/2017	**67**		—		**71**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH268	3/7/2017	**55**		—		**41**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH303	4/4/2017	**47**		—		**47**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW04	RHMW04W01	9/19/2005[a,b]	**338**		< 50.0	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.28	U	< 0.28	U	< 0.28	U	—		—	
	RHMW04-GW02	7/10/2006[a,b]	< 100	U	< 50.0	U	—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	< 1.0	U	< 0.50	U	< 0.50	U	—		—		—		< 0.26	U	< 0.26	U	< 0.26	U	—		—	
	RHMW04-WG-01	8/4/2009[a]	<157	U	< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0162	U	< 0.0162	U	<0.0335	U	—		—	
	RHMWA01-WG-01	8/4/2009*[a]	<161	U	< 30.0	U	—		—		< 0.310	U	< 0.150	U	**0.250**	J	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0167	U	< 0.0167	U	<0.0344	U	—		—	
	RHMW04-WG-02	10/13/2009[ab]	<169	U	< 30.0	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 0.62	U	—		—		—		< 0.0172	U	< 0.0172	U	<0.0356	U	—		—	
	RHMWA01-WG-02	10/13/2009*[ab]	<174	U	< 30.0	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 0.62	U	—		—		—		< 0.0169	U	< 0.0169		< 0.0348	U	—		—	
	RHMW04-WG-03	1/26/2010	<334	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		<0.0326	U	<0.0326	U	<0.0674	U	—		—	
	RHMWA01-WG-03	1/26/2010*	<330	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		<0.0338	U	<0.0338	U	<0.0696	U	—		—	
	RHMW04-WG-04	4/26/2010	<348	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0352	U	< 0.0352	U	<0.0730	U	—		—	
	RHMWA01-WG-04	4/26/2010*	<352	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0352	U	< 0.0352	U	<0.0730	U	—		—	
	ES112	7/23/2014	**17**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.052	U	< 0.052	U	< 0.052	U	—		—	
	ES119	10/29/2014	< 12	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.099	U	< 0.050	U	< 0.050	U	—		—	
	ES129	1/29/2015	**10**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.052	U	< 0.052	U	—		—	
	ES139	4/22/2015	< 21	U	< 25	U	**25**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	UJ	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ES156	8/20/2015	**24**	BJ	< 25	U	**40**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	**0.0059**	J	**0.0075**	J	—		—	
	ERH006	10/19/2015	< 22	UB	< 25	U	< 53	UB	—		< 0.20	U**	—		**0.08**	J,**	< 0.10	U**	—		**0.420**	J**	< 0.20	U**	—		< 0.015	U	< 0.0040	U	**0.0043**	J	**0.0047**	BJ	**0.0051**	BJ	—		—	
	ERH019	1/19/2016	**36**	BJ	< 25	U	**52**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH020	1/19/2016	**29**	BJ	< 25	U	< 53	UB	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.11**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH034	4/19/2016	< 20	UB	< 25	U	<33	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH048	7/19/2016	< 22	UF	< 25	U	< 55	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		**0.0070**	J	**0.0068**	J	**0.18**		—		—	
	ERH096	10/25/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH128	11/14/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH138	12/13/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH166	1/9/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH208	2/6/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH260	3/6/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH295	4/3/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015										8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****	1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04	6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—	—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result		Result		Result		Result		Result	
RHMW05	RHMW05-WG15	5/13/2009[a]	**200**	J	**13.2**	J	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0158	U	< 0.0158	U	< 0.0326	U	—		—	
	RHMW05-WG16	7/15/2009[a]	**491**		< 30.0	U	—		—		< 0.310	U	< 0.150	U	< 0.120	U	< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—	< 0.0165	U	< 0.0165	U	< 0.0341	U	—		—	
	RHMW05-WG17	10/13/2009[ad]	**673**		< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 1	U	—		—		—	< 0.017	U	< 0.017	U	< 0.0352	U	—		—	
	RHMW05-WG18	1/26/2010	**2,060**		< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	**0.0207**	J	**0.0246**	J	< 0.0712	U	—		—	
	RHMW05-WG19	4/13/2010	< 300	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	**0.0335**	J	< 0.0326	U	**0.0752**	J	—		—	
	RHMW05-WG20	7/13/2010	< 320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—	< 0.0316	U	< 0.0316	U	**0.0643**	J	—		—	
	ES005	10/20/2010	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES013	1/19/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES024	4/20/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES039	7/19/2011	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES051	10/25/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES063	2/1/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES070	4/16/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES079	7/17/2012	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES080	7/17/2012*	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	< 0.46	U	—		< 0.34	U	< 0.38	U	—		—		—	< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES005	10/22/2012	**17**	J,HD	—		—		**15**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**0.31**	J	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.038**	J	—		—	
	ES015	1/29/2013	**62**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.075**	J	—		—	
	ES024	4/23/2013	**27**	J	—		—		**15**	J	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.048	U	< 0.048	U	**0.033**	J	—		—	
	ES033	7/23/2013	< 20	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.051	U	< 0.051	U	**0.033**	J	—		—	
	ES042	10/22/2013	< 20	U	—		—		**17**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.051	U	< 0.051	U	**0.17**	J	—		—	
	ES049	1/16/2014	< 20	U	—		—		—		< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	< 0.050	U	—		—	
	ES061	1/29/2014	**16**	J,HD	—		—		**23**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.064**	J	—		—	
	ES068	3/6/2014	< 21	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.038**	J	—		—	
	ES076	3/26/2014	**17**	J,HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.050	U	< 0.050	U	**0.092**	J	—		—	
	ES084	4/22/2014	< 10	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.051	U	< 0.051	U	**0.066**	J	—		—	
	ES095	5/28/2014	< 12	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.049	U	< 0.049	U	< 0.049	U	—		—	
	ES101	6/24/2014	< 12	U	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.051	U	< 0.051	U	< 0.051	U	—		—	
	ES108	7/22/2014	< 12	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.049	U	< 0.049	U	< 0.049	U	—		—	
	ES118	10/28/2014	**16**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.096	U	< 0.048	U	< 0.048	U	—		—	
	ES124	1/27/2015	< 13	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—	< 0.096	U	< 0.048	U	< 0.048	U	—		—	
	ES135	4/21/2015	**17**	BJ	< 25	U	**34**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	U	< 0.0050	UJ	< 0.0050	UJ	< 0.0050	UJ	—		—	
	ES142	6/25/2015	**15**	J	—		**41**	J	—		—		—		—		—		—		—		—		—		—		—	**0.0046**	J	**0.0029**	J	< 0.0050	U	—		—	
	ES150	7/21/2015	**18**	J	< 25	U	**44**	J	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	**0.0041**	J	**0.0036**	J	**0.0058**	J	—		—	
	ERH010	10/20/2015	**20**	BJ	< 25	U	<54	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.59**	**, Tb	< 0.20	U**	—		< 0.015	U	< 0.0040	U	**0.0050**	J	**0.0066**	BJ	**0.0074**	BJ	—		—	
	ERH022	1/20/2016	**27**	BJ	< 25	U	**45**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.18**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	**0.0031**	J	< 0.0050	U	—		—	
	ERH023	1/20/2016	**26**	BJ	< 25	U	**44**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.12**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	**0.0039**	J	**0.0046**	J	—		—	
	ERH038	4/20/2016	< 22	UB	< 25	U	< 65	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH052	7/20/2016	< 21	U	< 25	U	< 52	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—	< 0.0050	U	< 0.0050	U	< 0.0050	UBF	—		—	
	ERH089	10/19/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH126	11/15/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH136	12/12/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH164	1/10/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH212	2/7/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH278	3/8/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH295	4/3/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW06	RHMW06-GW-01	10/21/2014	<86	U	< 20	U	<86	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.011	U	**0.0064**	J	< 0.053	U	—		—	
	RHMW06-GW-02	1/23/2015[d]	<76	U	< 20	U	<76	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.010	U	< 0.010	U	< 0.052	U	—		—	
	ES140	4/23/2015	**20**	J	< 25	U	**47**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	UJ	< 0.0052	U	< 0.0052	U	< 0.0052	U	—		—	
	ES155	7/28/2015	< 20	U	< 25	U	< 50	U	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH004	10/19/2015	**17**	BJ	< 25	U	< 53	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**1.1**	**	< 0.20	U**	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	UB	< 0.0050	UB	—		—	
	ERH005	10/19/2015	< 21	UB	< 25	U	< 53	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.50**	**	< 0.20	U**	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	UB	< 0.0050	UB	—		—	
	ERH018	1/19/2016	**21**	BJ	< 25	U	< 54	UB	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.10**	TbJ	< 0.20	U	—		< 0.015	U	< 0.0040	U	< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH033	4/19/2016	<28	UB	< 25	U	<48	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH047	7/19/2016	<23	U	< 25	U	< 56	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	UBF	—		—	
	ERH097	10/19/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH120	11/14/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH139	12/12/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH168	1/9/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH210	2/7/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH284	3/7/2017	< 25	U	—		**47**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH319	4/3/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260										8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW07	RHMW07-GW-01	10/20/2014	**57**	J	< 20	U	<78	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.0096	U	**0.0084**	J	< 0.048	U	—		—	
	RHMW07-GW-01FD	10/20/2014	**66**	J	< 20	U	<77	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.010	U	**0.0060**	J	< 0.050	U	—		—	
	RHMW07-GW-02	1/22/2015[d]	<75	U	< 20	U	<75	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.011	U	< 0.011	U	< 0.055	U	—		—	
	RHMW07-GW-02FD	1/22/2015[d*]	<81	U	< 20	U	<81	U	—		< 0.50	U	< 0.100	U	< 0.200	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.020	U	< 0.010	U	< 0.010	U	< 0.050	U	—		—	
	ES141	4/23/2015	**26**	J	< 25	U	**47**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	< 0.015	U	< 0.0040	UJ	< 0.0052	U	< 0.0052	U	< 0.0052	U	—		—	
	ES154	7/27/2015	**22**	J	< 25	U	**48**	J	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	**0.0051**	J	**0.0095**	J	**0.0060**	J	—		—	
	ERH003	10/19/2015	**26**	BJ	< 25	U	< 59	UB	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.640**	**	< 0.20	U**	—		< 0.015	U	< 0.0040	U	**0.0067**	J	**0.010**	BJ	**0.010**	BJ	—		—	
	ERH017	1/19/2016	**28**	BJ	< 25	U	**44**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		< 0.015	U	< 0.0040	U	**0.0046**	J	**0.0077**	J	**0.0038**	J	—		—	
	ERH032	4/19/2016	<26	UB	< 25	U	< 52	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	<0.0036	UB	< 0.0050	U	—		—	
	ERH045	7/19/2016	< 22	U	< 25	U	< 53	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	**0.0037**	J	< 0.0050	UBF	—		—	
	ERH046	7/19/2016	< 22	UF	< 25	U	**160**	O	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	**0.0033**	J	< 0.0050	UBF	—		—	
	ERH098	10/19/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH121	11/14/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH140	12/13/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH179	1/10/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH218	2/8/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH270	3/7/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH305	4/3/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW08	ERH102	10/19/2016	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH122	11/15/2016	**33**	J	—		**32**	J	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH141	12/12/2016	**27**	J	—		**29**	J	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH157/158	12/21/2016	**63**		—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH169/170	1/11/2017	**28**	J	—		**29**	J	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH220/221	2/6/2017	**26**	J	—		**31**	J	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH262/263	3/6/2017	**27**	J	—		**25**	J	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH297/298	4/4/2017	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
RHMW09	ERH103	10/25/2016	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	UJ
	ERH129	11/15/2016	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH146	12/12/2016	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	**1.1**	J	< 80.0	U
	ERH178	1/11/2017	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH225/247	2/8/2017	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH272	3/7/2017	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH307/314	4/4/2017	< 25	U	—		< 40	U	< 18	U	—		< 0.30	U	< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		< 0.02	U	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015										8260												8260SIM		8011	8270			8270/8270 Mod.	
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****	1,2-Dichloroethane ****	1,2-Dibromoethane *****	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenol	2-(2-Methoxyethoxy)-ethanol
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04	5.0	0.04	6	10	17	300	800
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—	—	—	—	—	—	—	—
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	Result	Result	Result	Result	Result	Result	Result
HDMW2253-03	HDMW2253-03-WG-02	10/13/2009[ab]	<185	U	< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 0.62	U	—	—	—	< 0.0169	U	< 0.0169	U	<0.035	U	—	—
	HDMW2253-03-WG-03	1/26/2010	**322**	J	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—	—	—	< 0.0500	U	< 0.0500	U	<0.103	U	—	—
	HDMW2253-03-WG-04	4/26/2010	<352	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—	—	—	< 0.0348	U	< 0.0348	U	<0.0720	U	—	—
	HDMW2253-03-WG-05	7/8/2010	<320	U	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—	—	—	< 0.0348	U	< 0.0348	U	**0.0596**	J	—	—
	ES006	10/21/2010	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES016	1/21/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES028	4/21/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.42**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES043	7/21/2011	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES053	10/26/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.92**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES057	1/24/2012	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES076	4/26/2012	**160**	++	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.20**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES083	7/19/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—	—	—	< 0.12	U	< 0.12	U	< 0.10	U	—	—
	ES009	11/7/2012	**25**	J,HD	—		—		**15**	BU,B	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1	U	—	—	—	< 0.050	U	< 0.050	U	< 0.050	U	—	—
	ES018	1/30/2013	**600**		—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1	U	—	—	—	< 0.050	U	< 0.050	U	**0.037**	J	—	—
	ES027	4/24/2013	**45**	J	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.052	U	< 0.052	U	**0.16**	J	—	—
	ES036	7/24/2013	< 21	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.047	U	< 0.047	U	**0.030**	J	—	—
	ES045	10/23/2013	< 20	U	—		—		**15**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.050	U	< 0.050	U	**0.041**	J	—	—
	ES051	1/22/2014	**18**	J,HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.051	U	< 0.051	U	< 0.051	U	—	—
	ES052	1/22/2014*	**18**	J,HD	—		—		—		—		—		< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.051	U	< 0.051	U	< 0.051	U	—	—
	ES055	1/27/2014	**35**	J,HD	—		—		**27**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.051	U	< 0.051	U	**0.064**	J	—	—
	ES088***	4/23/2014	**220**	HD	—		—		**27**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.051	U	< 0.051	U	< 0.051	U	—	—
	ES111	7/23/2014	< 12	U	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.053	U	< 0.053	U	< 0.053	U	—	—
	ES120	10/22/2014	**14**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		**3.8**		< 1.0	U	—	—	—	< 0.10	U	< 0.051	U	< 0.051	U	—	—
	ES128	1/29/2015	**16**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—	—	—	< 0.11	U	< 0.053	U	< 0.053	U	—	—
	ES136	4/22/2015	**13**	J	< 25	U	**55**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.070**	J	< 0.20	U	< 0.010	U < 0.015	U < 0.0040	UJ < 0.0052	U	< 0.0052	U	< 0.0052	U	—	—
	ES151	7/22/2015	**18**	J	< 25	U	**77**	J	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—	< 0.015	U < 0.0040	U < 0.0050	U	< 0.0050	U	< 0.0050	U	—	—
	ERH001	10/19/2015	**21**	BJ	**16**	J	< 56	UB	—		< 0.20	U**	—		< 0.10	U,**	< 0.10	U**	—		**0.37**	J**	< 0.20	U**	—	< 0.015	U < 0.0040	U < 0.0050	U	< 0.0050	UB	**0.0042**	BJ	—	—
	ERH015	1/19/2016	**43**	BJ	< 25	U	**63**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.24**	TbJ	< 0.20	U	—	< 0.015	U < 0.0040	U < 0.0050	U	< 0.0050	U	< 0.0050	U	—	—
	ERH029	4/19/2016	< 25	UB	< 21	UB	<48	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—	—	—	< 0.0050	U	< 0.0050	U	< 0.0050	U	—	—
	ERH043	7/19/2016	< 22	UF	< 25	U	<54	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—	—	—	< 0.0050	U	**0.0027**	J	< 0.0050	UBF	—	—
	ERH095	10/18/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	UJ
	ERH127	11/16/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	U
	ERH145	12/13/2016	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	U
	ERH176	1/10/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	U
	ERH214	2/7/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	U
	ERH280	3/8/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—	—	—	< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U < 80.0	U

Appendix A.1: Cumulative Groundwater COPC Results (cont'd)
Second Quarter 2017 - Quarterly Groundwater Monitoring Report, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i

		Method	8015												8260												8260SIM				8011		8270						8270/8270 Mod.			
			TPH-d		TPH-g ****		TPH-o		TPH-g ****		1,2-Dibromoethane *****		1,2-Dichloroethane *****		Benzene		Ethylbenzene		Naphthalene		Toluene		Xylenes, Total (p/m-, o-xylene)		1,2-Dibromoethane *****		1,2-Dichloroethane *****		1,2-Dibromoethane *****		1-Methylnaphthalene		2-Methylnaphthalene		Naphthalene		Phenol		2-(2-Methoxyethoxy)-ethanol	
		Unit	(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/l)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)		(µg/L)	
		Screening Criterion	100		100		100		100		0.04		5.0		5.0		30		17		40		20		0.04		5.0		0.04		6		10		17		300		800	
		SSRBL	4500		—		—		—		—		—		750		—		—		—		—		—		—		—		—		—		—		—		—	
Well Name	Sample ID	Sampled	Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result		Result	
OWDFMW01	OWDFMW01-WG-01	8/4/2009[a]	<171	U	< 30.0	U	—		—		< 0.310	U	< 0.150	U	**0.470**		< 0.310	U	< 0.620	U	< 0.310	U	< 0.620	U	—		—		—		< 0.0164	U	< 0.0164	U	<0.0339	U	—		—	
	OWDFMW01-WG-02	10/13/2009[ab]	<167	U	< 30	U	—		—		< 0.31	U	< 0.15	U	< 0.12	U	< 0.31	U	< 0.62	U	< 0.31	U	< 0.62	U	—		—		—		< 0.0168	U	< 0.0168	U	<0.0346	U	—		—	
	OWDFMW01-WG-03	1/26/2010	**1,490**		< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0320	U	< 0.0320	U	<0.0664	U	—		—	
	OWDFMW01-WG-04	4/26/2010	**288**	J	< 60.0	U	—		—		< 0.620	U	< 0.300	U	< 0.240	U	< 0.620	U	< 1.24	U	< 0.620	U	< 1.24	U	—		—		—		< 0.0352	U	< 0.0352	U	<0.0730	U	—		—	
	ES007	10/21/2010	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES008	10/21/2010*	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES017	1/21/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.54**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES018	1/21/2011*	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.69**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES029	4/21/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		**0.21**	J	**0.39**	J	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES031	4/21/2011*	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.29**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES044	7/21/2011	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES045	7/21/2011*	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES055	10/26/2011	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	< 0.32	U	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES056	10/26/2011*	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.28**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES058	1/24/2012	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	**0.70**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES059	1/24/2012*	< 80.8	U	—		< 212.0	U	< 12.12	U	< 0.40	U	< 0.28	U	**0.58**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES077	4/26/2012	**220**	++	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**0.71**	J	<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES084	7/19/2012	< 80.8	U	—		—		< 12.12	U	< 0.40	U	< 0.28	U	**1.3**		<0.46	U	—		< 0.34	U	< 0.38	U	—		—		—		< 0.12	U	< 0.12	U	< 0.10	U	—		—	
	ES008	11/7/2012	**2,500**	HD	—		—		**17**	BU,B	< 0.50	U	< 0.50	U	**0.38**	BU,J	< 0.50	U	—		< 0.50	U	< 1	U	—		—		—		< 0.050	U	< 0.050	U	**0.025**	J	—		—	
	ES007	11/7/2012*	**2,500**	HD	—		—		< 30	BU,U	< 0.50	U	< 0.50	U	**0.49**	BU,J	< 0.50	U	—		< 0.50	U	< 1	U	—		—		—		< 0.050	U	< 0.050	U	**0.035**	J	—		—	
	ES016	1/30/2013	**1,000**		—		—		< 30	U	< 0.50	U	< 0.50	U	**0.39**	J	< 0.50	U	—		< 0.50	U	< 1	U	—		—		—		< 0.050	U	< 0.050	U	**0.032**	J	—		—	
	ES017	1/30/2013*	**1,000**		—		—		< 30	U	< 0.50	U	< 0.50	U	**0.17**	J	< 0.50	U	—		< 0.50	U	< 1	U	—		—		—		< 0.050	U	< 0.050	U	**0.039**	J	—		—	
	ES025	4/24/2013	**1,900**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	**0.82**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.051	U	< 0.051	U	**0.063**	J	—		—	
	ES026	4/24/2013*	**1,600**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	**0.67**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.068**	J	—		—	
	ES034	7/24/2013	**470**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	**0.42**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.081**	J	—		—	
	ES035	7/24/2013*	**340**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	**0.44**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.048	U	< 0.048	U	**0.12**	J	—		—	
	ES043	10/23/2013	**170**	HD	—		—		**17**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.049	U	< 0.049	U	< 0.049	U	—		—	
	ES044	10/23/2013*	**200**	HD	—		—		**14**	BJ	< 0.50	U	< 0.50	U	**0.17**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.049	U	< 0.049	U	< 0.049	U	—		—	
	ES053	1/27/2014	**170**	HD	—		—		**26**	BJ	< 0.50	U	< 0.50	U	**0.15**	J	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.093**	J	—		—	
	ES054	1/27/2014*	**140**	HD	—		—		**23**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.085**	J	—		—	
	ES086	4/23/2014	**270**	HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.049	U	< 0.049	U	**0.035**	J	—		—	
	ES087***	4/23/2014*	**32**	HD	—		—		**31**	BJ	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.035**	J	—		—	
	ES109	7/24/2014	**17**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.051	U	< 0.051	U	**0.031**	J	—		—	
	ES110	7/24/2014*	**15**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.050	U	< 0.050	U	**0.027**	J	—		—	
	ES121	10/22/2014	**19**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.052	U	**0.047**	J	—		—	
	ES122	10/22/2014*	**19**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U,IH	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.052	U	< 0.052	U	—		—	
	ES121X	1/26/2015	**24**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.052	U	< 0.052	U	—		—	
	ES122X	1/26/2015*	**16**	J,HD	—		—		< 30	U	< 0.50	U	< 0.50	U	< 0.50	U	< 0.50	U	—		< 0.50	U	< 1.0	U	—		—		—		< 0.10	U	< 0.051	U	< 0.051	U	—		—	
	ES137	4/22/2015	**120**	Z	< 25	U	**110**	BZ	—		< 0.20	U	—		**0.070**	J	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	**0.010**	J	< 0.0040	UJ	**0.023**		**0.017**	J	**0.025**		—		—	
	ES138	4/22/2015*	**120**	Z	< 25	U	**140**	BZ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	< 0.010	U	**0.0081**	J	< 0.0040	UJ	**0.020**		**0.015**	J	**0.023**		—		—	
	ES152	7/22/2015	**3,100**	Z	< 25	U	**390**	Z	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		**0.012**	J	< 0.0040	U	**0.0088**	J	**0.0086**	J	**0.014**	J	—		—	
	ES153	7/22/2015*	**3,000**	Z	< 25	U	**330**	Z	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.060**	J	< 0.20	U	—		**0.012**	J	< 0.0040	U	**0.0096**	J	**0.0097**	J	**0.016**	J	—		—	
	ERH002	10/19/2015	**680**	BZ	< 25	U	**100**	BJ	—		< 0.20	U**	—		< 0.10	U**	< 0.10	U**	—		**0.40**	J**	< 0.20	U**	< 0.010	U	**0.0009**	J	< 0.0040	U	**0.019**	J	**0.013**	BJ	**0.025**	BJ	—		—	
	ERH016	1/19/2016	**320**	BZ	< 25	U	**69**	BJ	—		< 0.20	U	—		< 0.10	U	< 0.10	U	—		**0.18**	TbJ	< 0.20	U	—		**0.0096**	J	< 0.0040	U	**0.030**		**0.020**		**0.024**		—		—	
	ERH030	4/19/2016	<38	UB	< 13	UB	< 56	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH031	4/19/2016	< 36	UB	<9	UB	<67	UB	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	< 0.0050	U	< 0.0050	U	—		—	
	ERH044	7/19/2016	< 22	UF	< 25	U	<54	UBF	—		—		—		< 0.10	U	< 0.10	U	—		< 0.10	U	< 0.20	U	—		—		—		< 0.0050	U	**0.0027**	J	< 0.0050	UBF	—		—	
	ERH104/105	10/20/2016*	**54**		—		**110**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH118/119	11/15/2016*	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH147/148	12/14/2016*	< 58	U	—		**46**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH184	1/12/2017	< 25	U	—		**45**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH227	2/9/2017	< 23	U	—		**44**		< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH286	3/8/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U
	ERH321	4/4/2017	< 25	U	—		< 40	U	< 18	U	—		—		< 0.30	U	< 0.50	U	—		< 0.30	U	< 0.30	U	—		—		—		< 0.10	U	< 0.10	U	< 0.10	U	< 4.00	U	< 80.0	U

Appendix A.1 Table Notes:

DOH Tier 1 Environmental Action Levels, Table D-1b. Groundwater Action Levels (Groundwater IS a current or potential drinking water resource, surface water body IS NOT located within 150 meters of release site)

Background historical data are from February 2005 to July 2012.

Non-detects (from October 2012 on) are the LOD values.

Results for October 2015 sampling have been adjusted to reflect corrections from hits in the laboratory blank.

1	The holding time until analysis was exceeded by 1 day; the results may be biased low.
*	Duplicate sample
**	Samples analyzed passed the EPA recommended holding time.
***	Samples ES087 and ES088 possibly switched prior to analysis.
****	TPH-g analyzed by either 8015 or 8260.
*****	Analyzed by either 8260, 8260 SIM, or 8011.
a	MDL values were used for non-detects.
b	MRL values were used for non-detects.
c	No analytical lab reports found, could not verify results.
d	No analytical lab reports available, used summary table from DOH Quarterly GW Reports.
e	Results from stilling basin, pumps offline
f	Results from stilling basin, pumps online
g	Analyzed by Method 6010B
h	Analyzed by Method 6020
i	The MRL/MDL was elevated due to a chromatographic interference
k	Analyzed by Method 200.8
µg/L	micrograms per liter
Grey highlight	Exceeds EAL
Bold	Detected value
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
D	The reported result is from a dilution.
F	The compound was identified but the concentration was above the MDL and below the RL.
ICH	Initial calibration verification recovery above method CL for this analyte.
ICJ	Initial calibration verification recovery below method CL for this analyte.
IH	Calibration verification recovery below method CL for this analyte.
IJ	Calibration verification recovery above method CL for this analyte.
J	Estimated value
U	The compound was analyzed for but not detected at or above the stated limit. The stated limit is the LOD unless otherwise specified.
HD, Y, L, O, Z, H, ++	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
S	Surrogate recovery was outside quality control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the associated quarterly monitoring analytical data validation report.
X	Possible high bias due to matrix interference
Tb	The analyte was also detected in the associated trip blank at a similar concentration.

Appendix A.2:
Graphs of Cumulative Groundwater COPC Results

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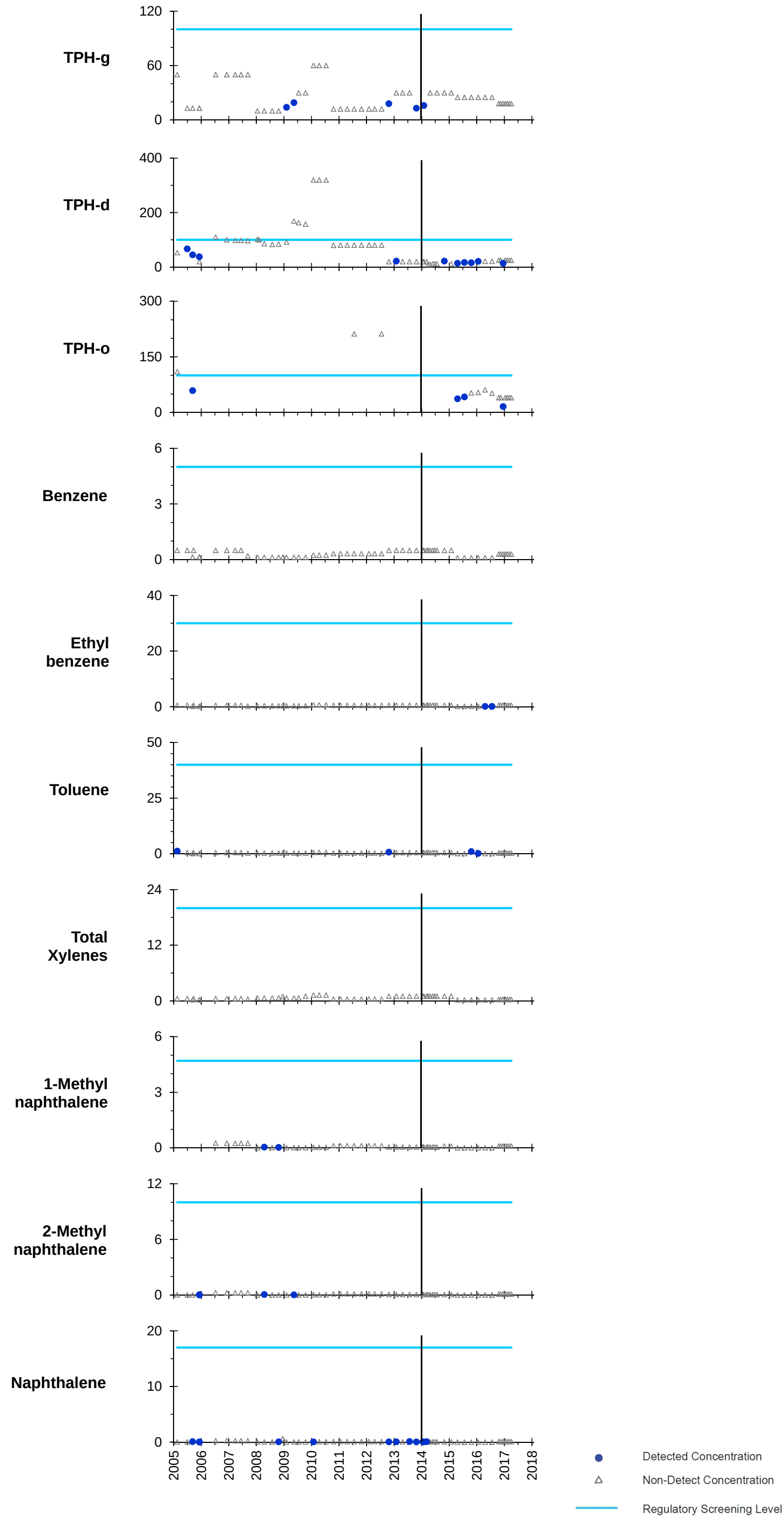
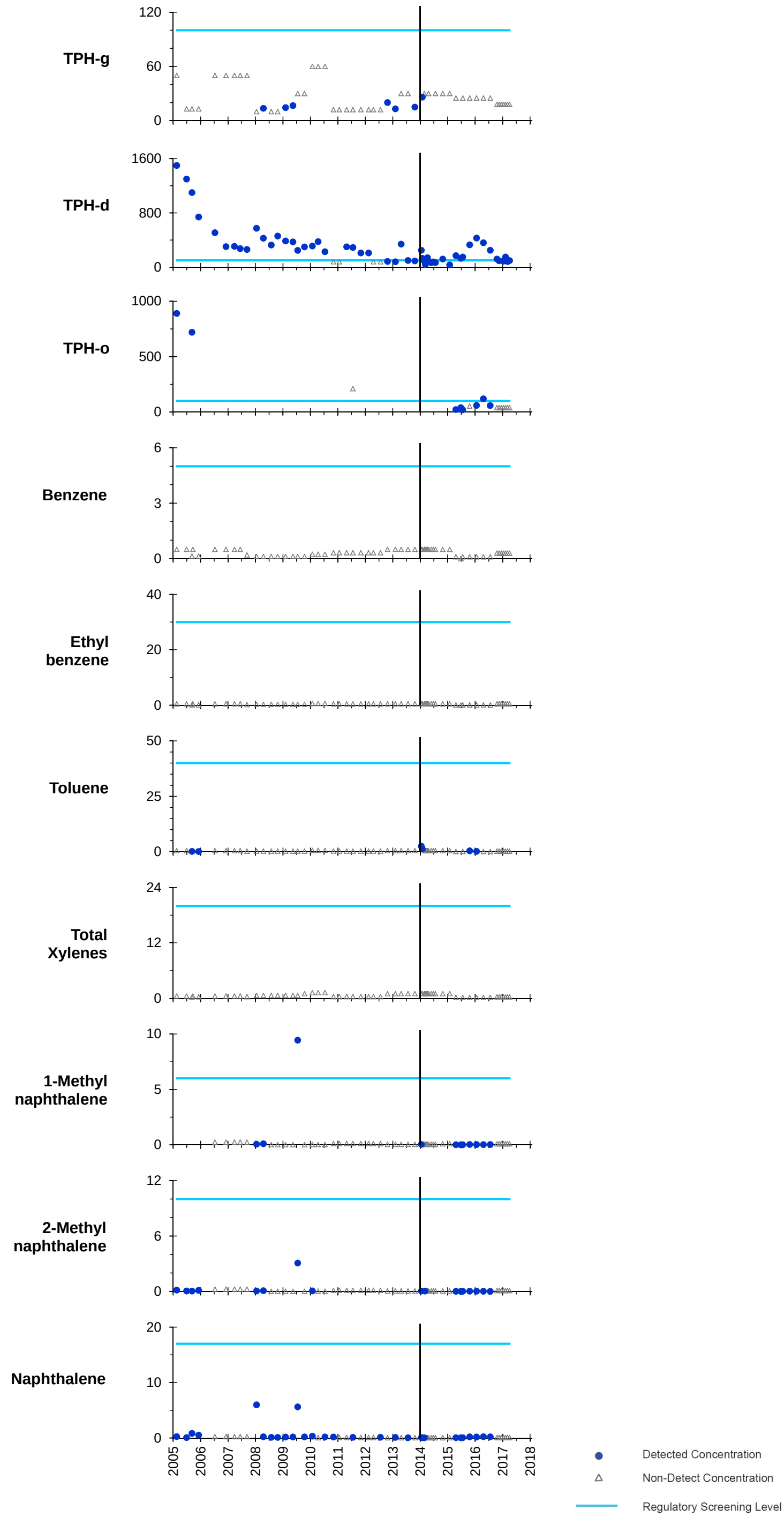
RHMW2254-01



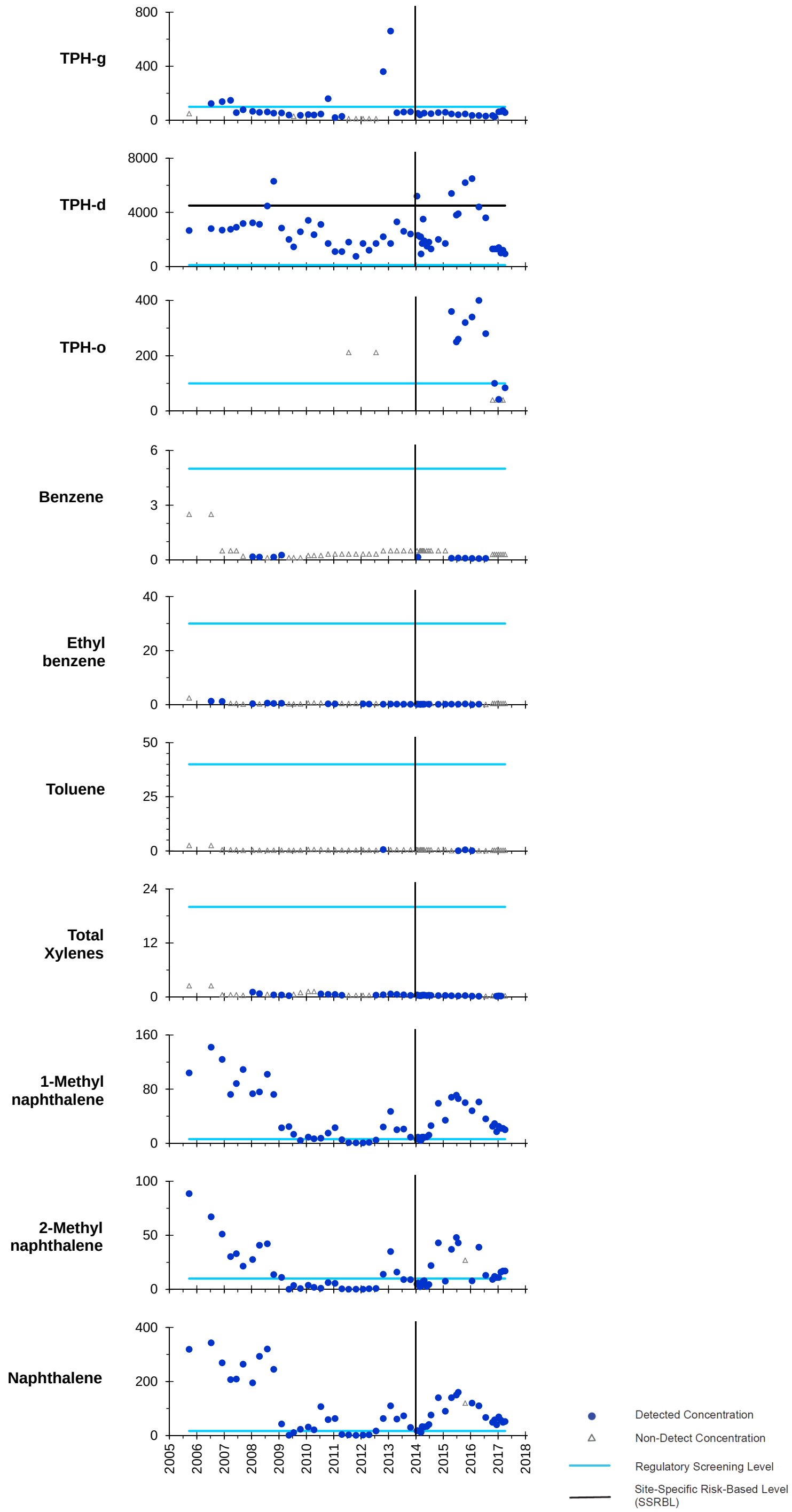
All units in micrograms per liter (ug/L or parts per billion).

RHMW01



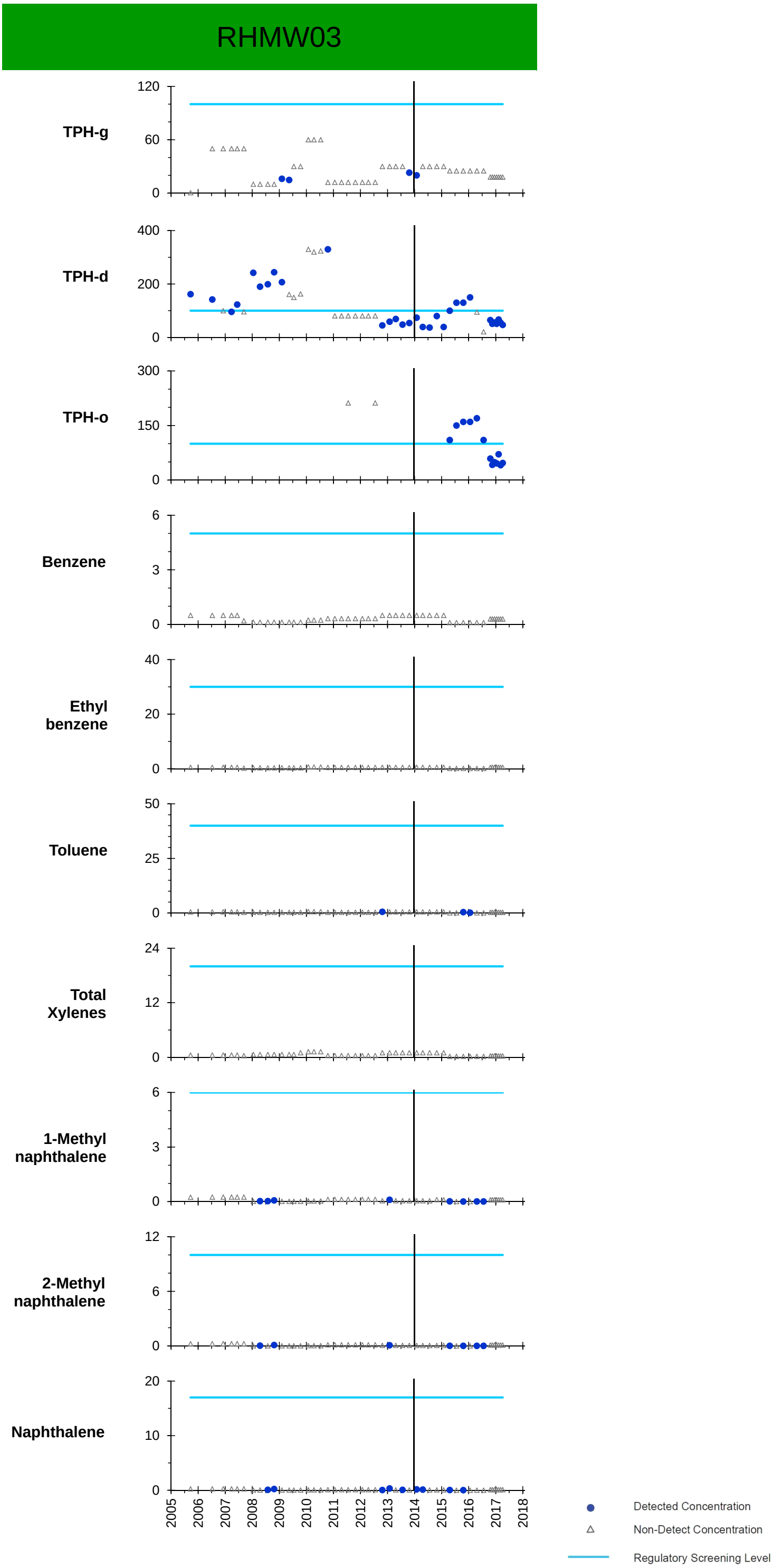
All units in micrograms per liter (ug/L or parts per billion).

RHMW02



All units in micrograms per liter (ug/L or parts per billion).

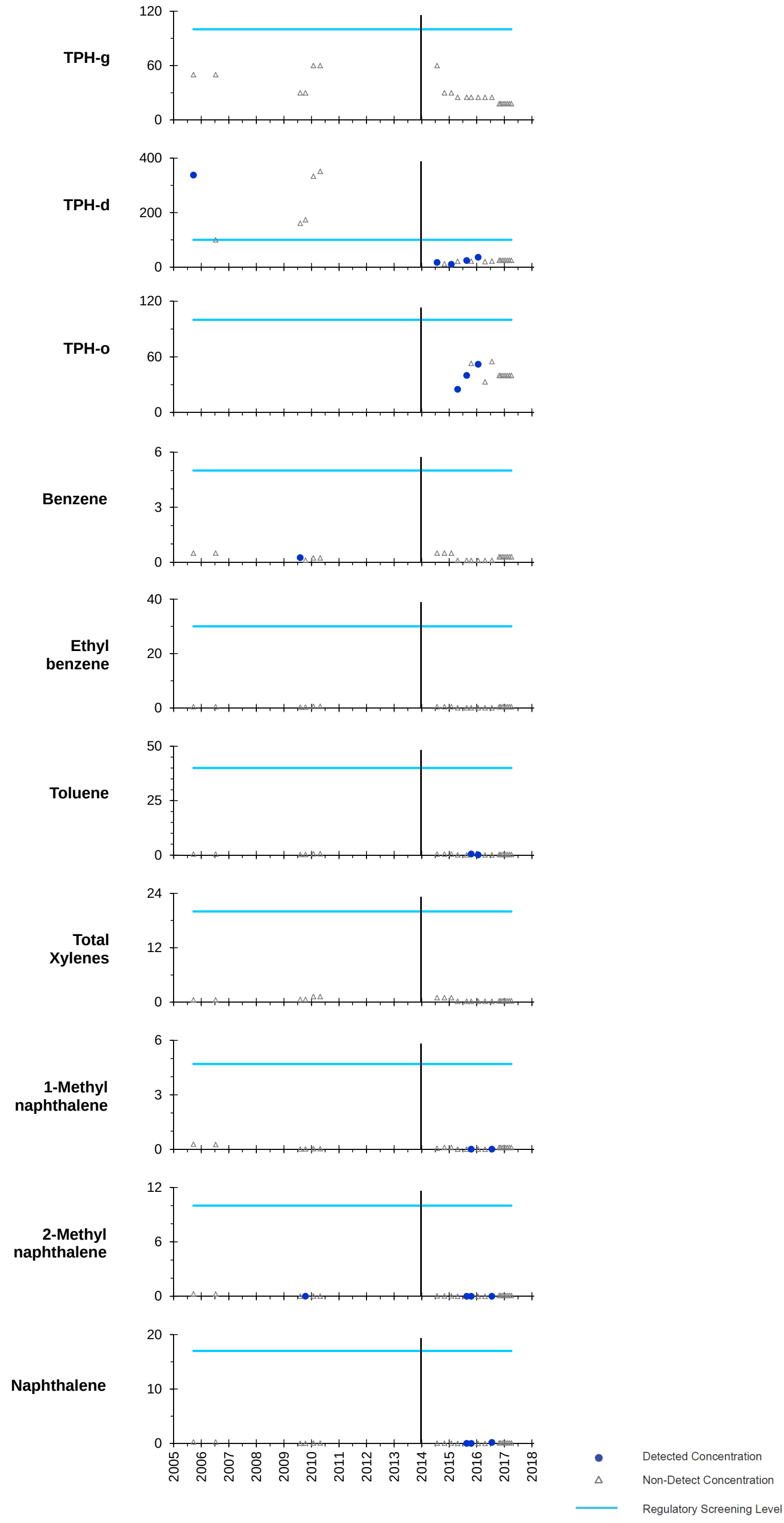
Appendix A.2. Groundwater COPC Graphs



All units in micrograms per liter (ug/L or parts per billion).

Appendix A.2. Groundwater COPC Graphs

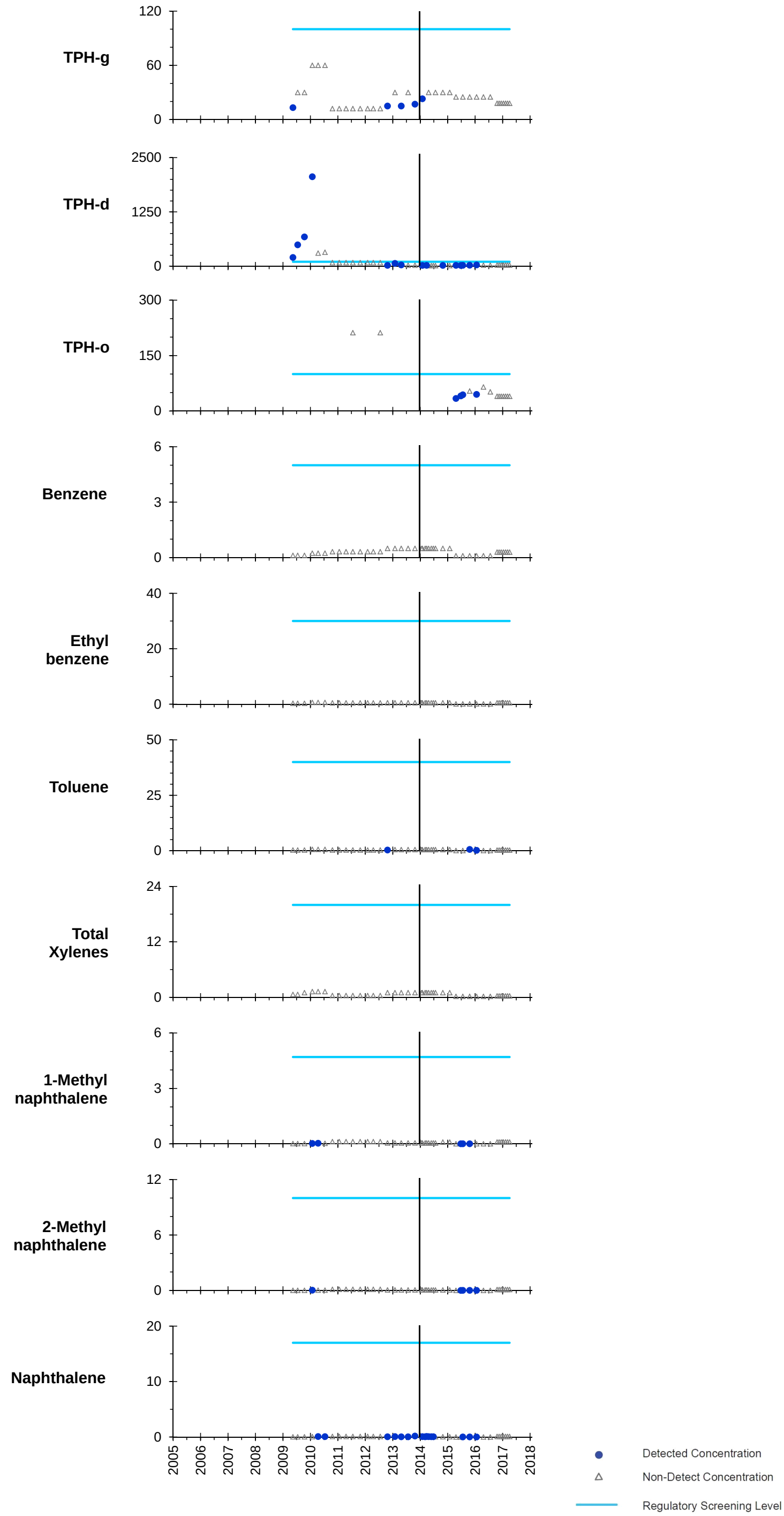
RHMW04



All units in micrograms per liter (ug/L or parts per billion).

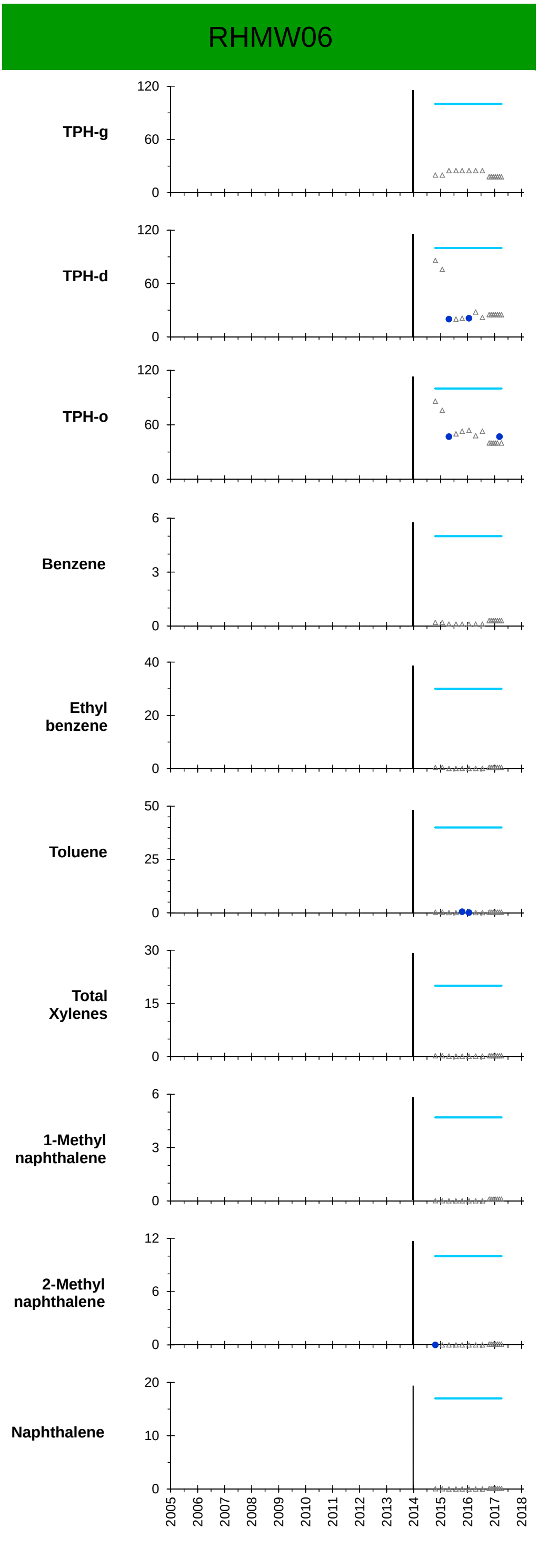
Appendix A.2. Groundwater COPC Graphs

RHMW05



All units in micrograms per liter (ug/L or parts per billion).

Appendix A.2. Groundwater COPC Graphs



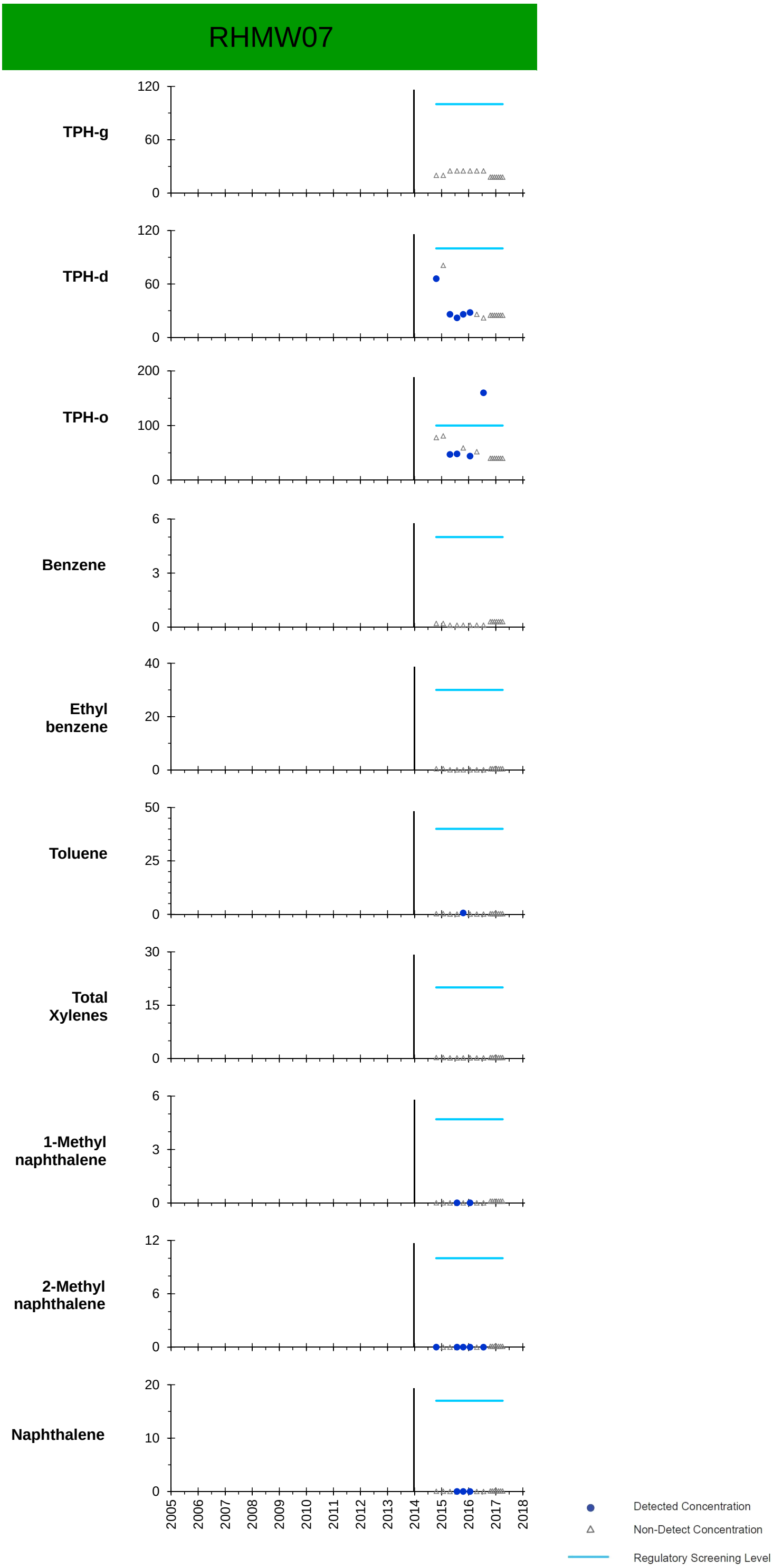
Detected Concentration

Non-Detect Concentration

Regulatory Screening Level

All units in micrograms per liter (ug/L or parts per billion).

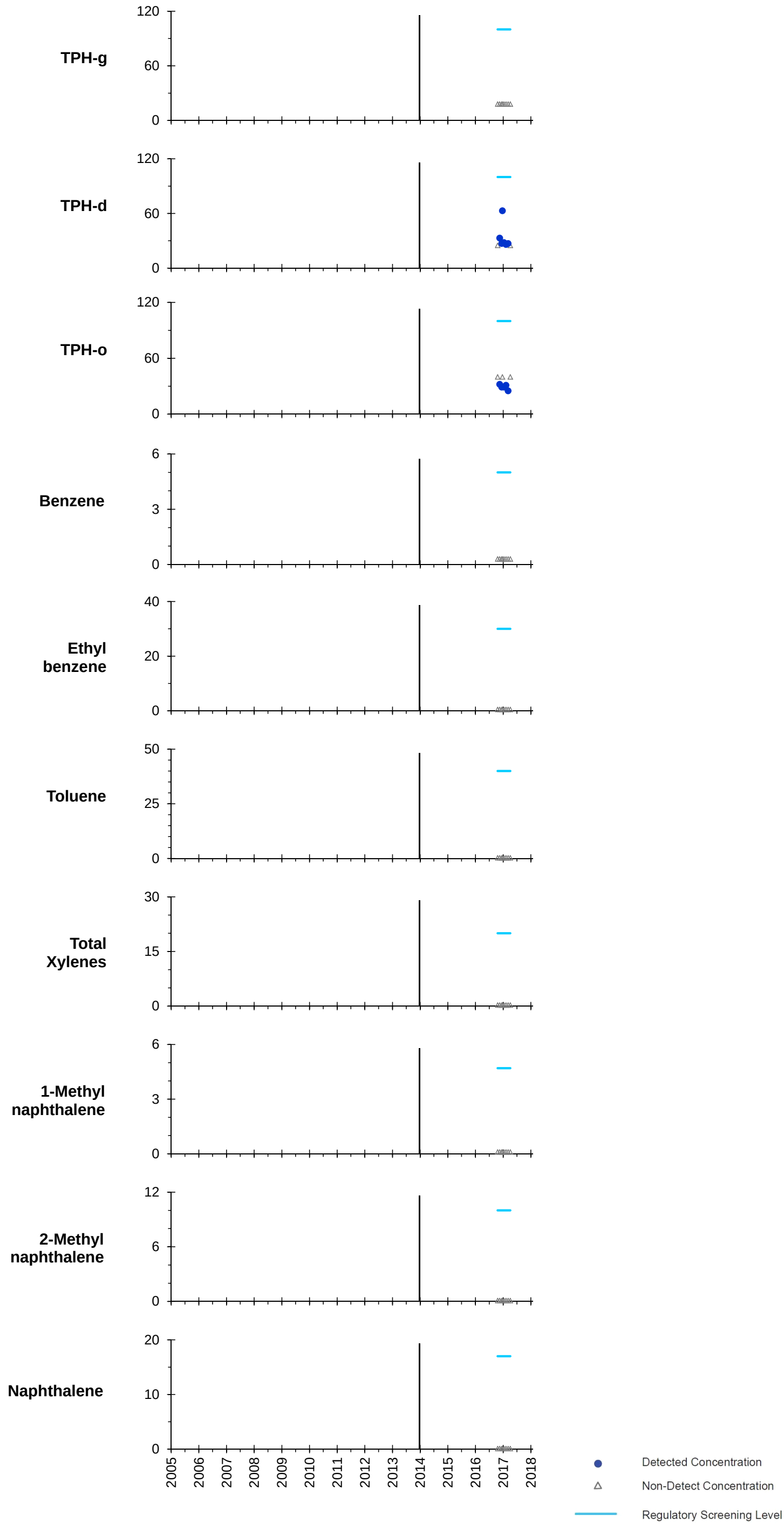
Appendix A.2. Groundwater COPC Graphs



All units in micrograms per liter (ug/L or parts per billion).

Appendix A.2. Groundwater COPC Graphs

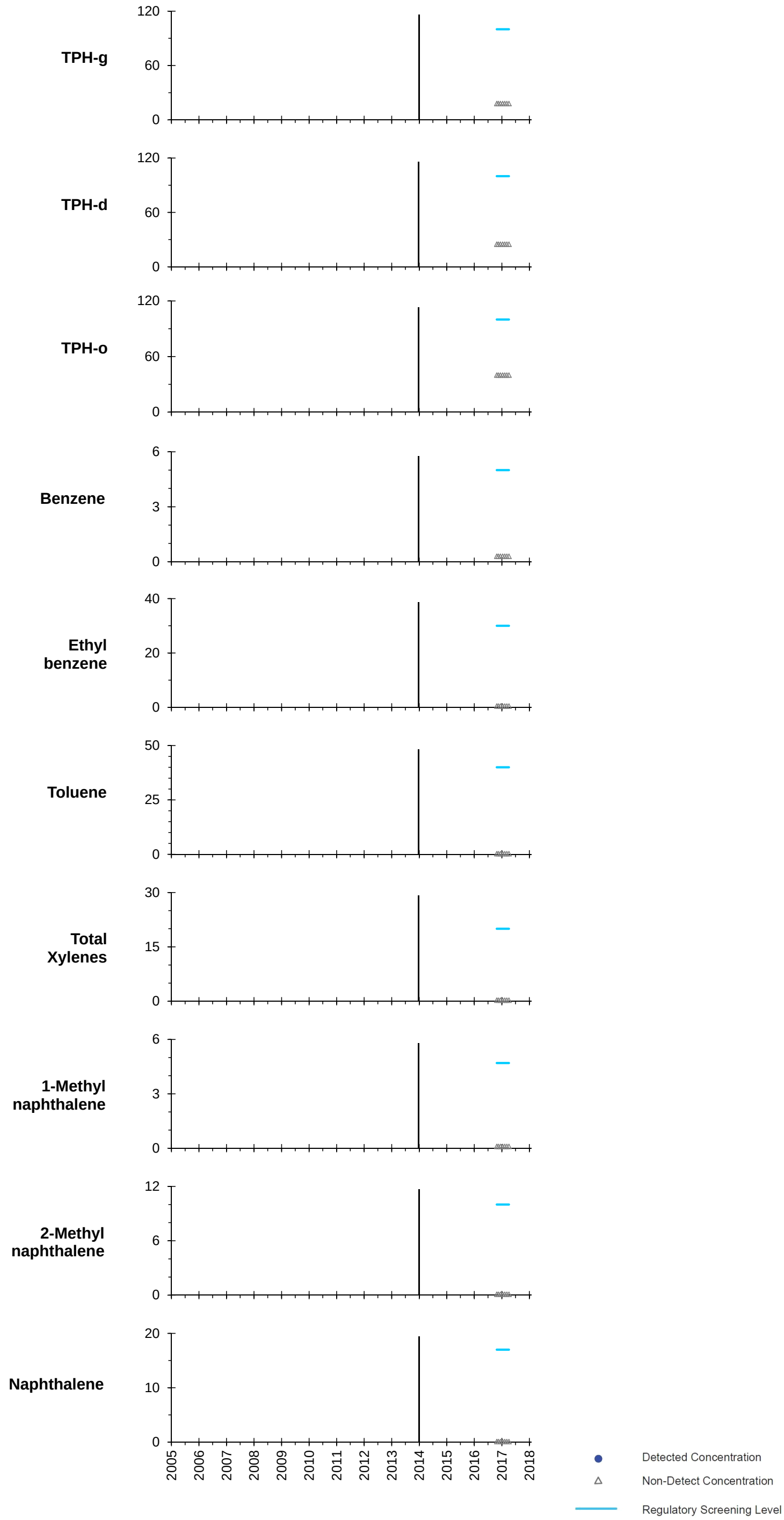
RHMW08



All units in micrograms per liter (ug/L or parts per billion).

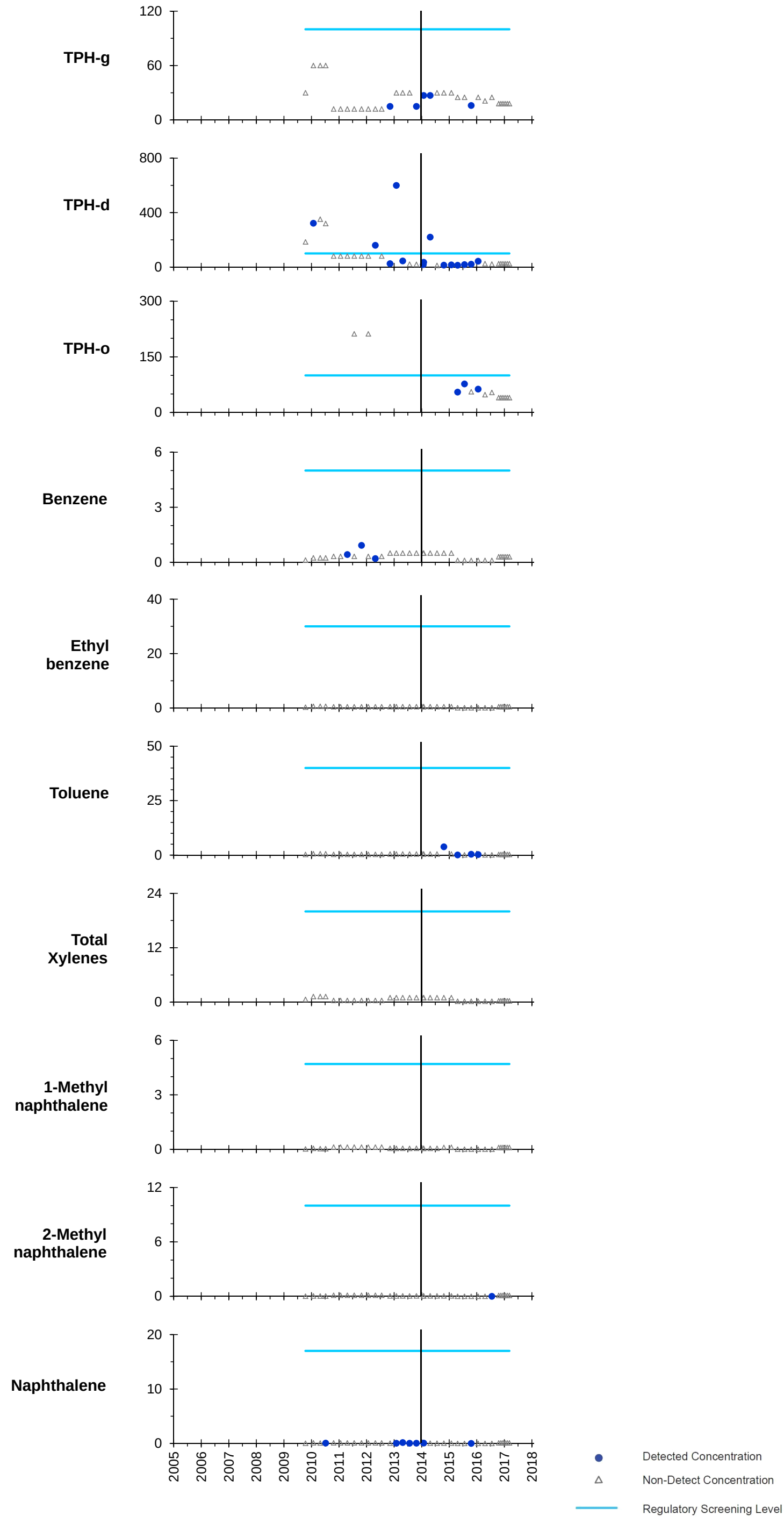
Appendix A.2. Groundwater COPC Graphs

RHMW09



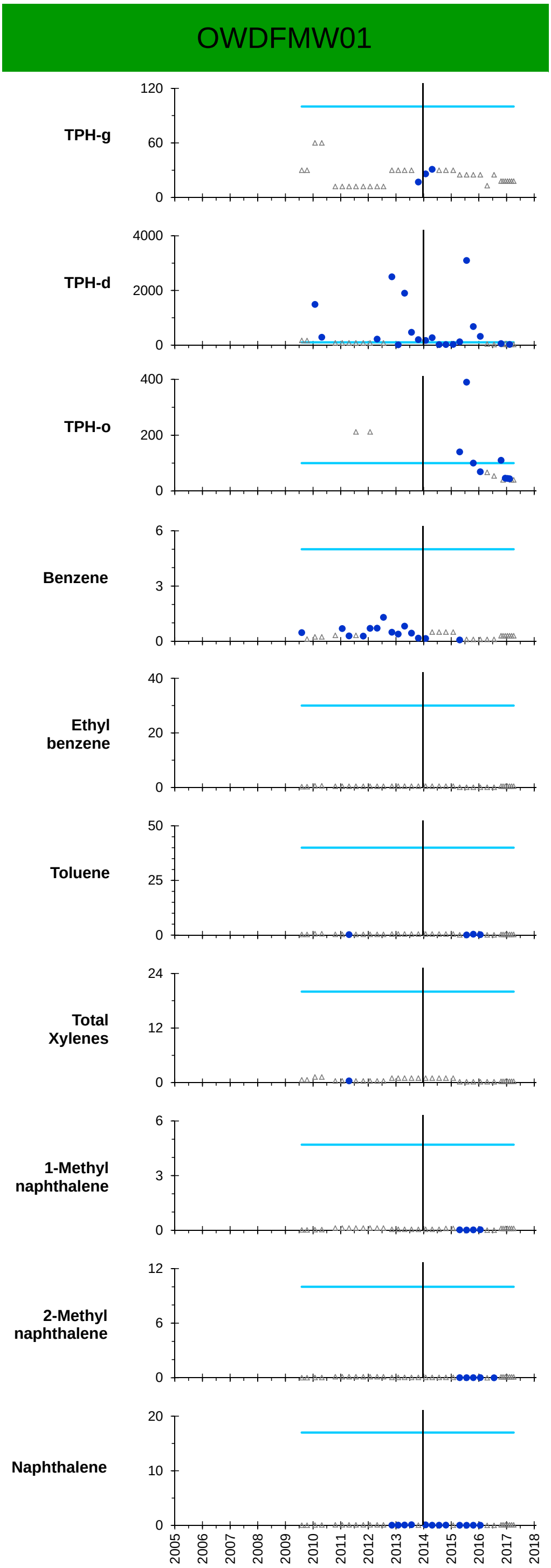
All units in micrograms per liter (ug/L or parts per billion).

HDMW2253-03



All units in micrograms per liter (ug/L or parts per billion).

Appendix A.2. Groundwater COPC Graphs



Detected Concentration
Non-Detect Concentration
Regulatory Screening Level

All units in micrograms per liter (ug/L or parts per billion).

Appendix A.3:
Graphs of Cumulative NAP Results

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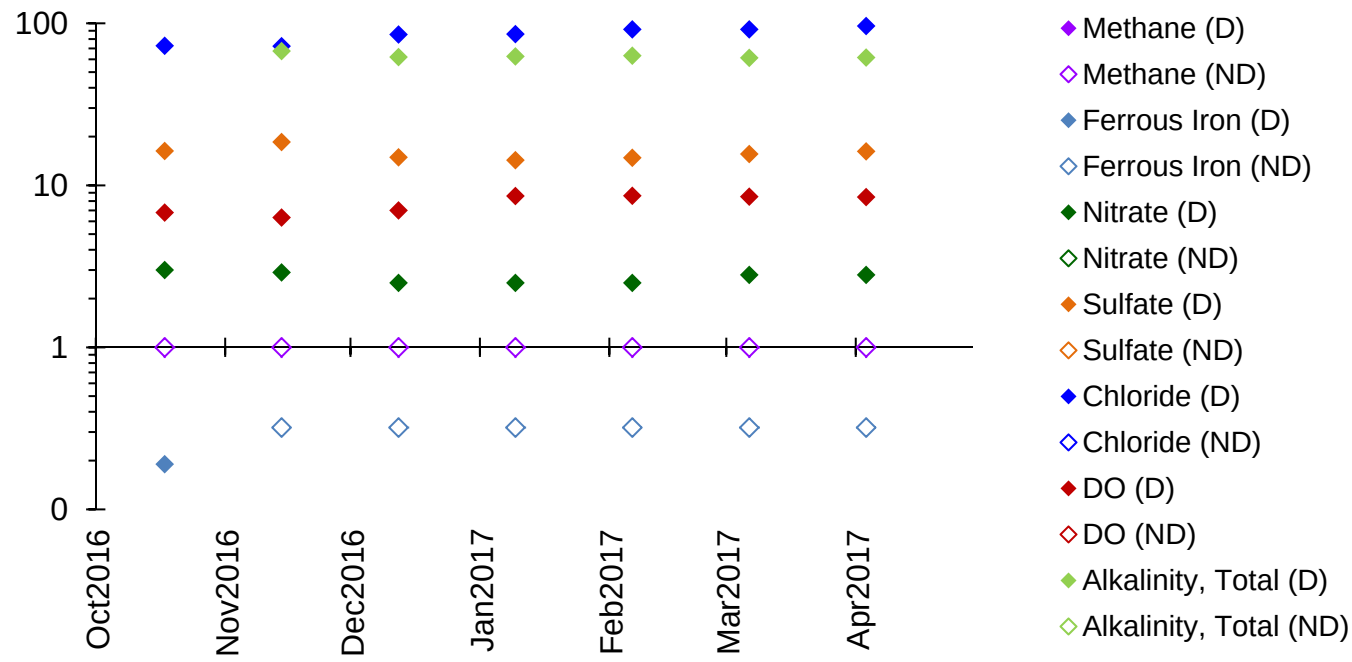
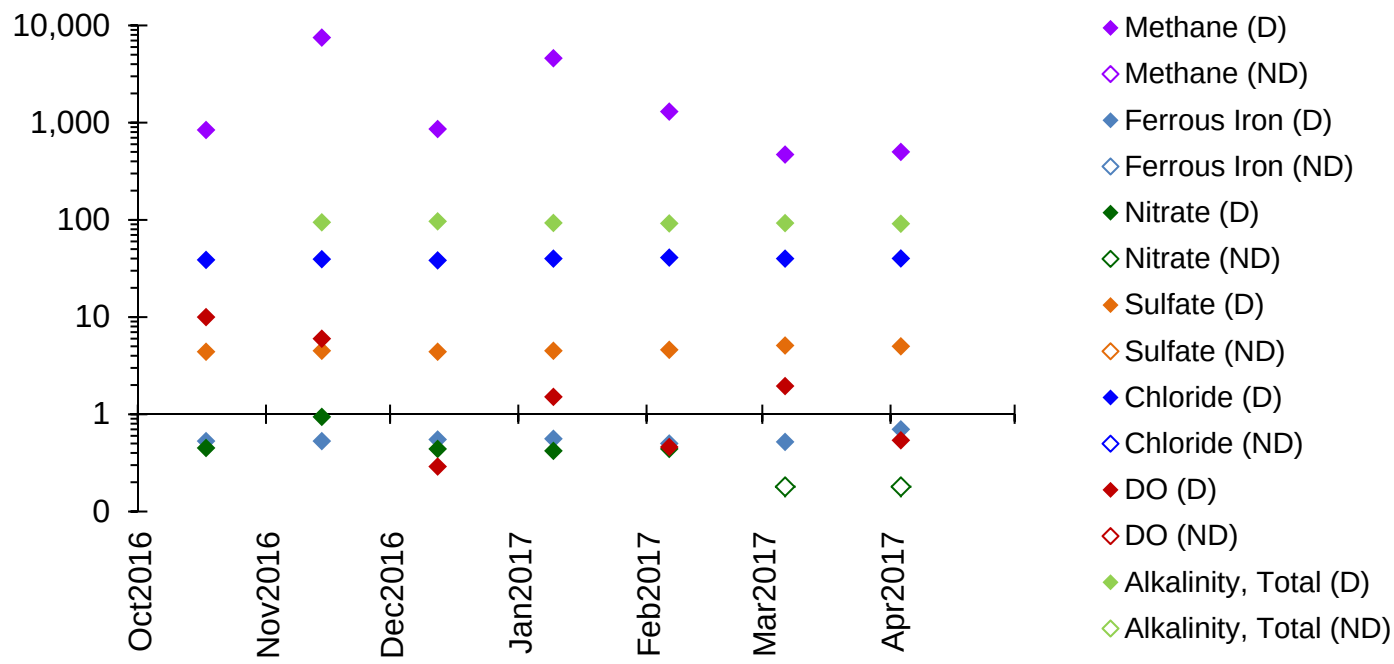
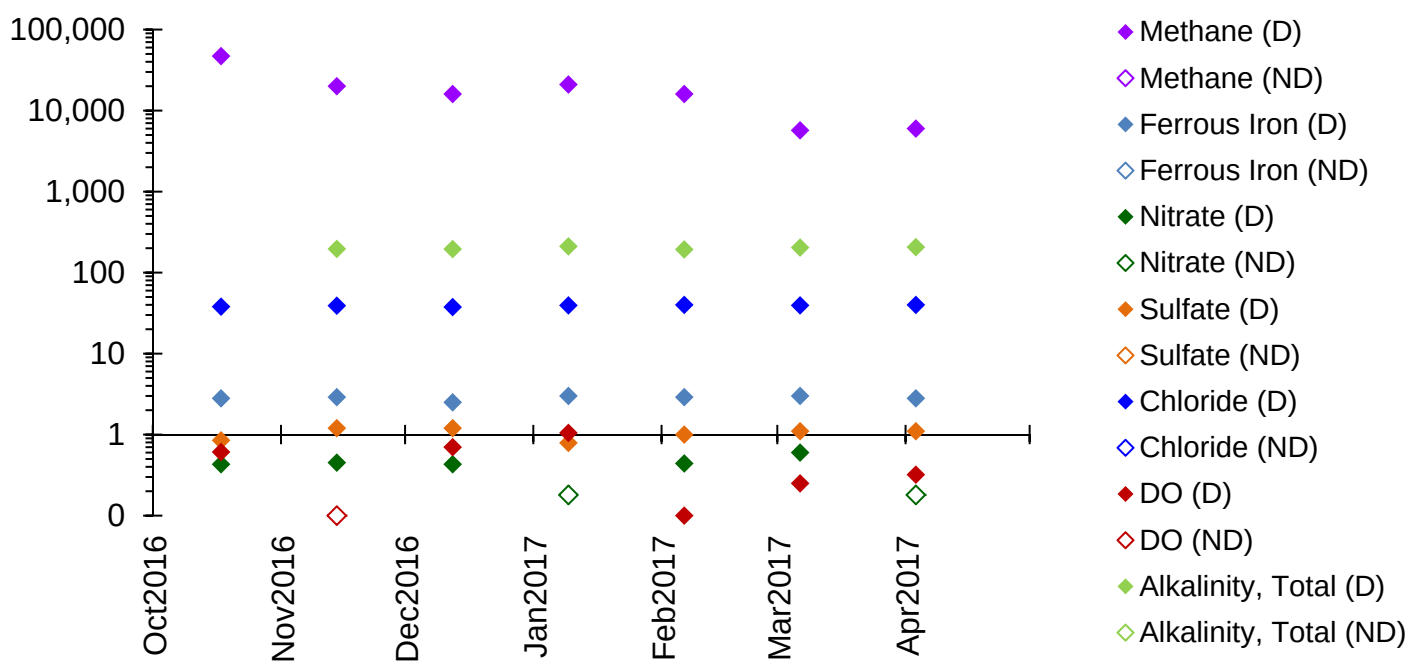
RHMW2254-01 NAPs



RHMW01 NAPs



RHMW02 NAPs



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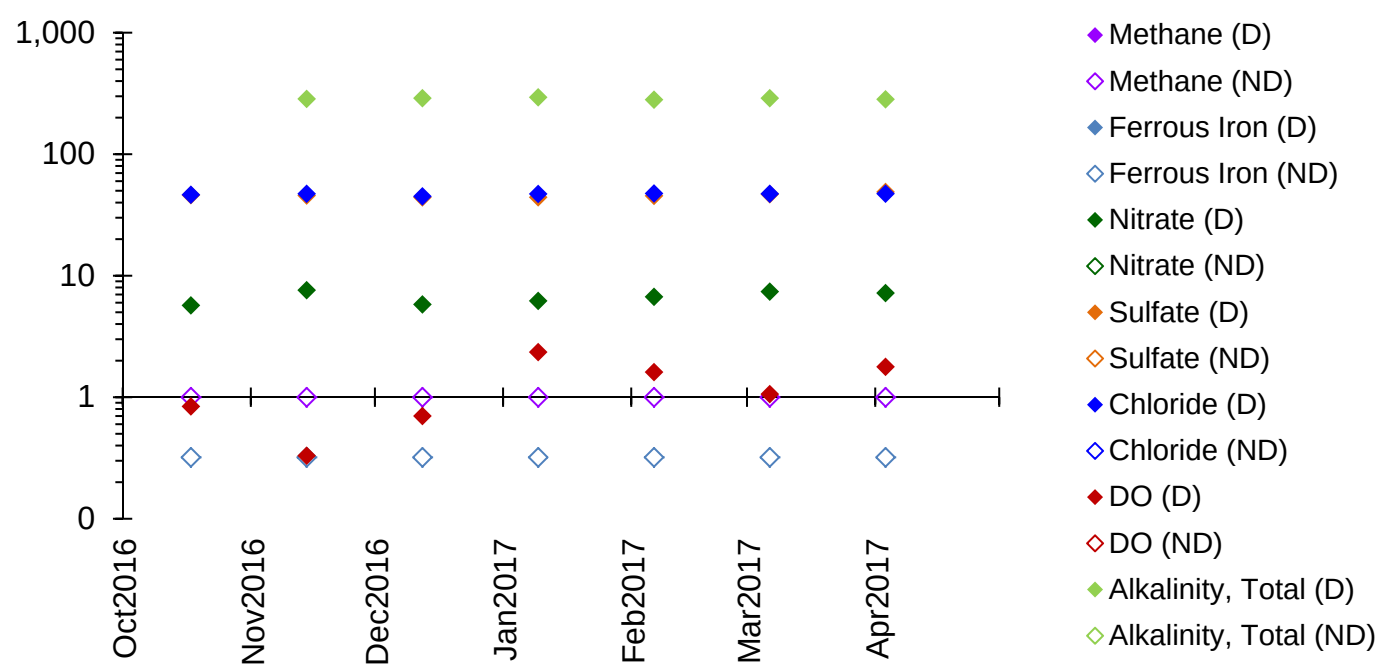
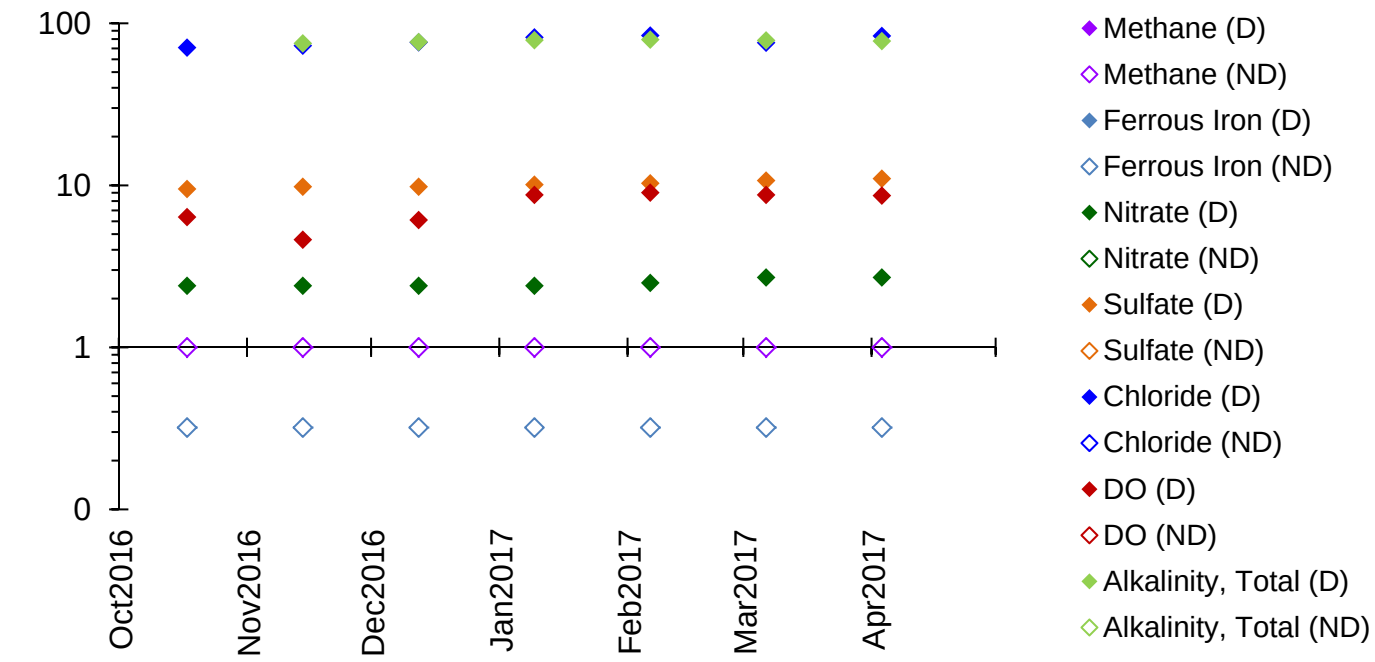


D = detected value DO = dissolved oxygen ND = not detected at the laboratory limit of detection
Methane in parts per billion (ppb or micrograms per liter). All others in parts per million (ppm or milligrams per liter).

RHMW04 NAPs



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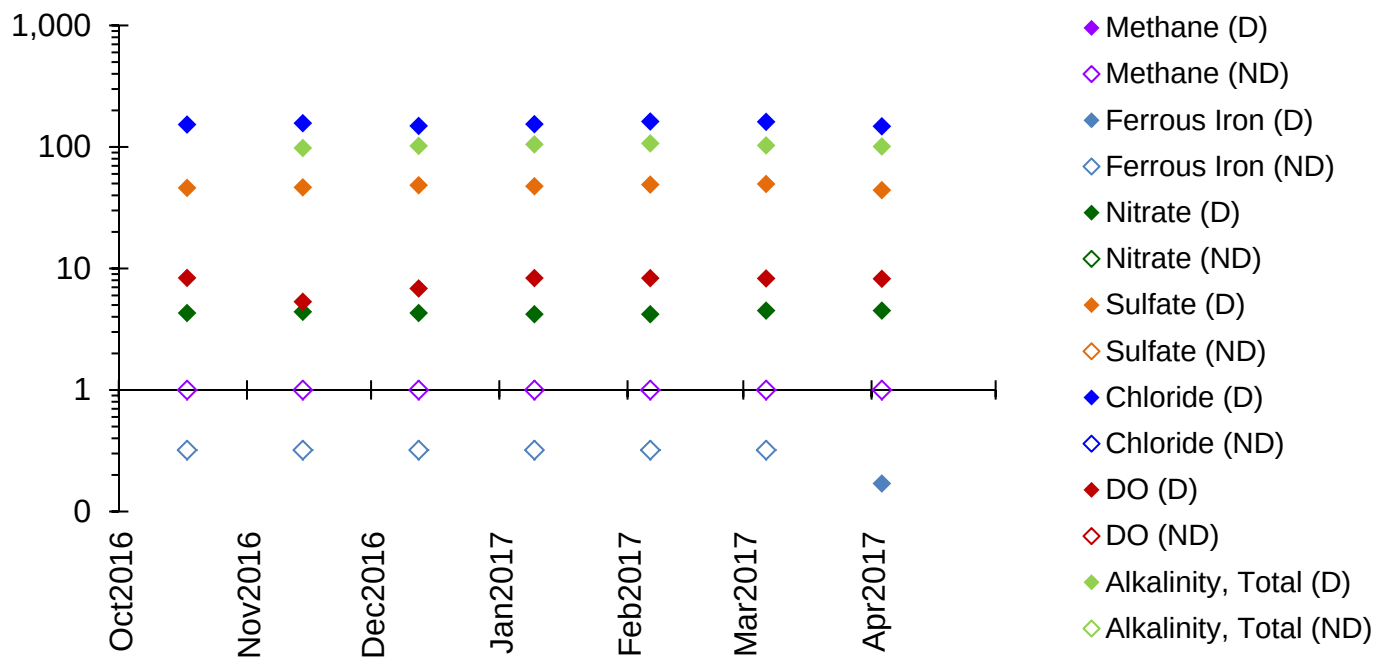

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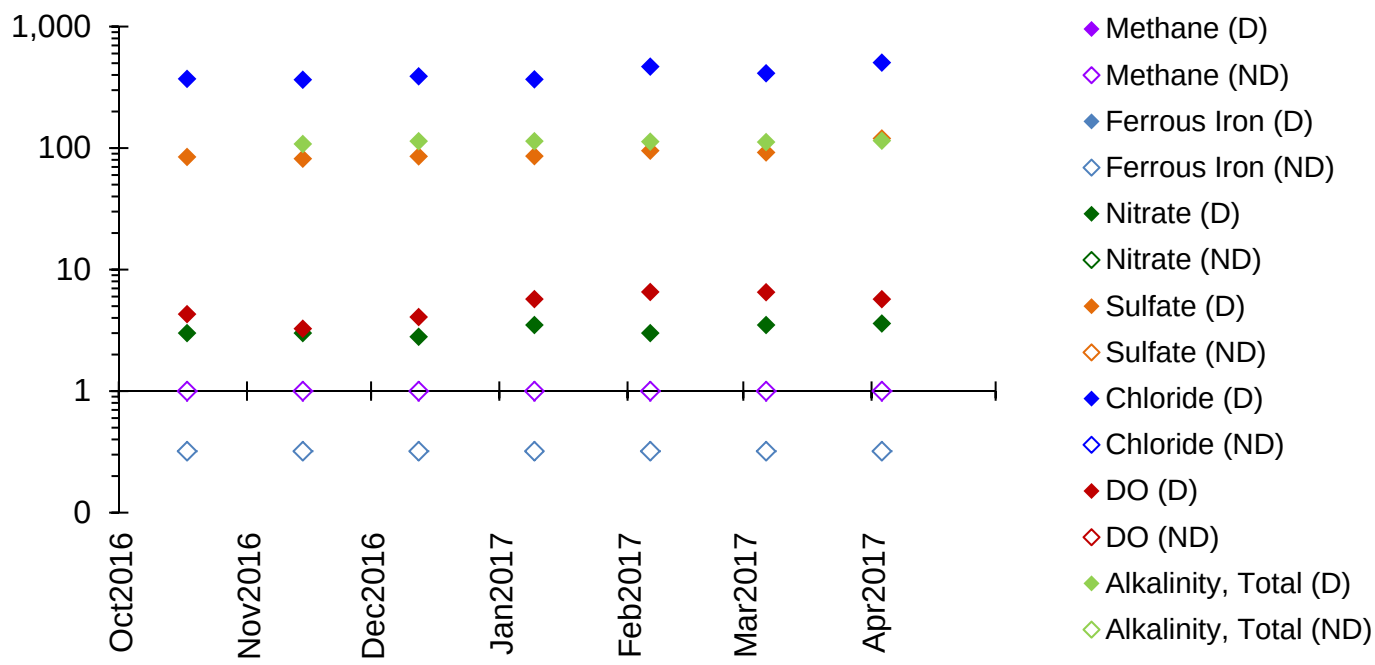

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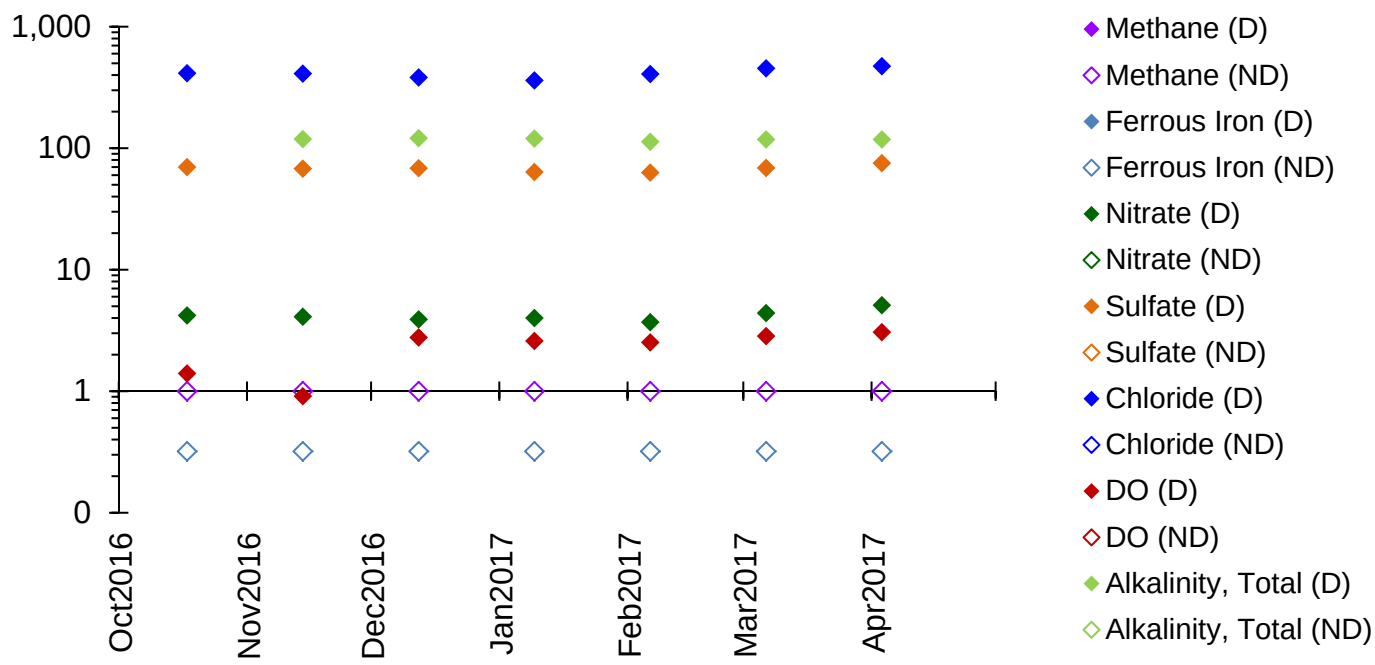
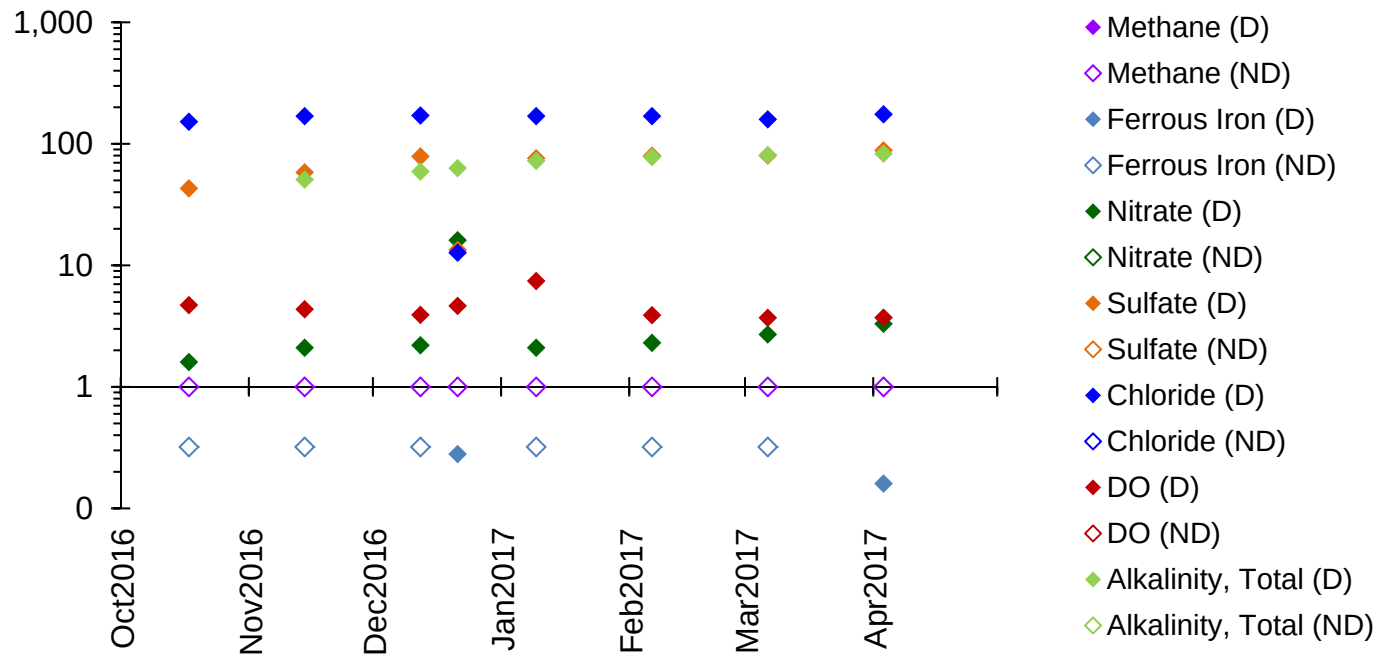


D = detected value DO = dissolved oxygen ND = not detected at the laboratory limit of detection
Methane in parts per billion (ppb or micrograms per liter). All others in parts per million (ppm or milligrams per liter).

Appendix A.3. Natural Attenuation Parameters Graphs

RHMW08 NAPs



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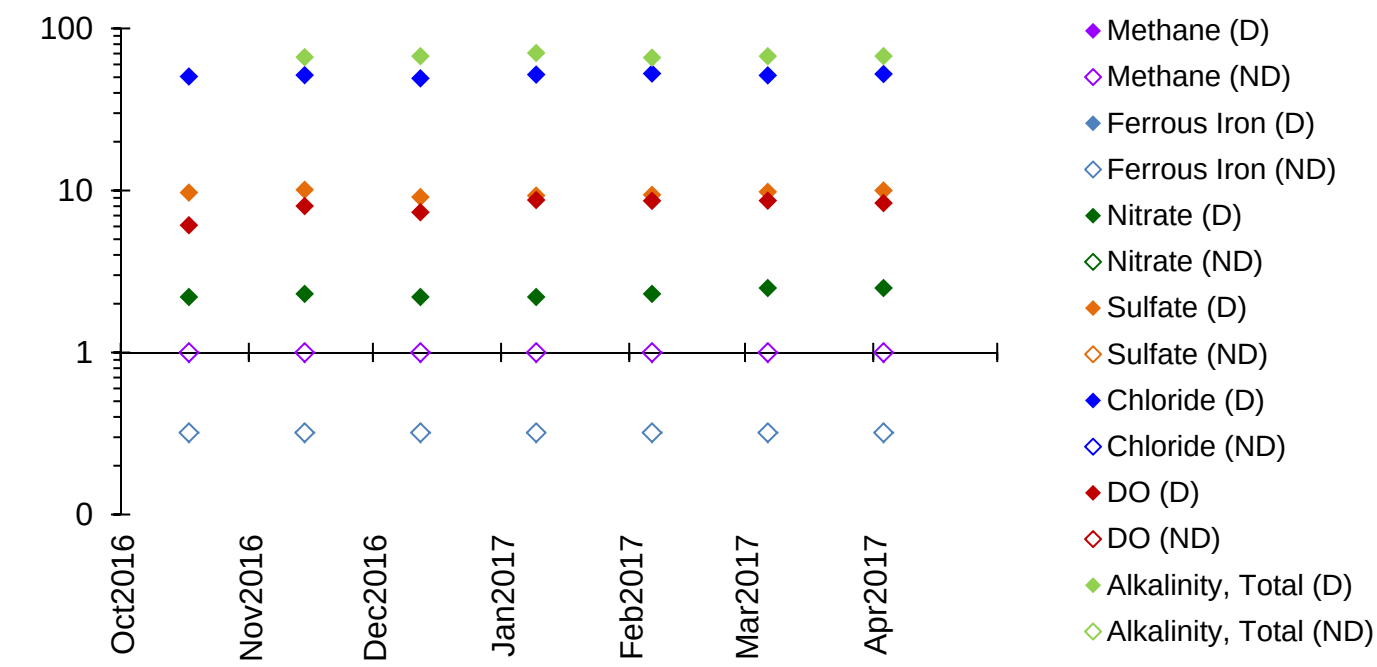
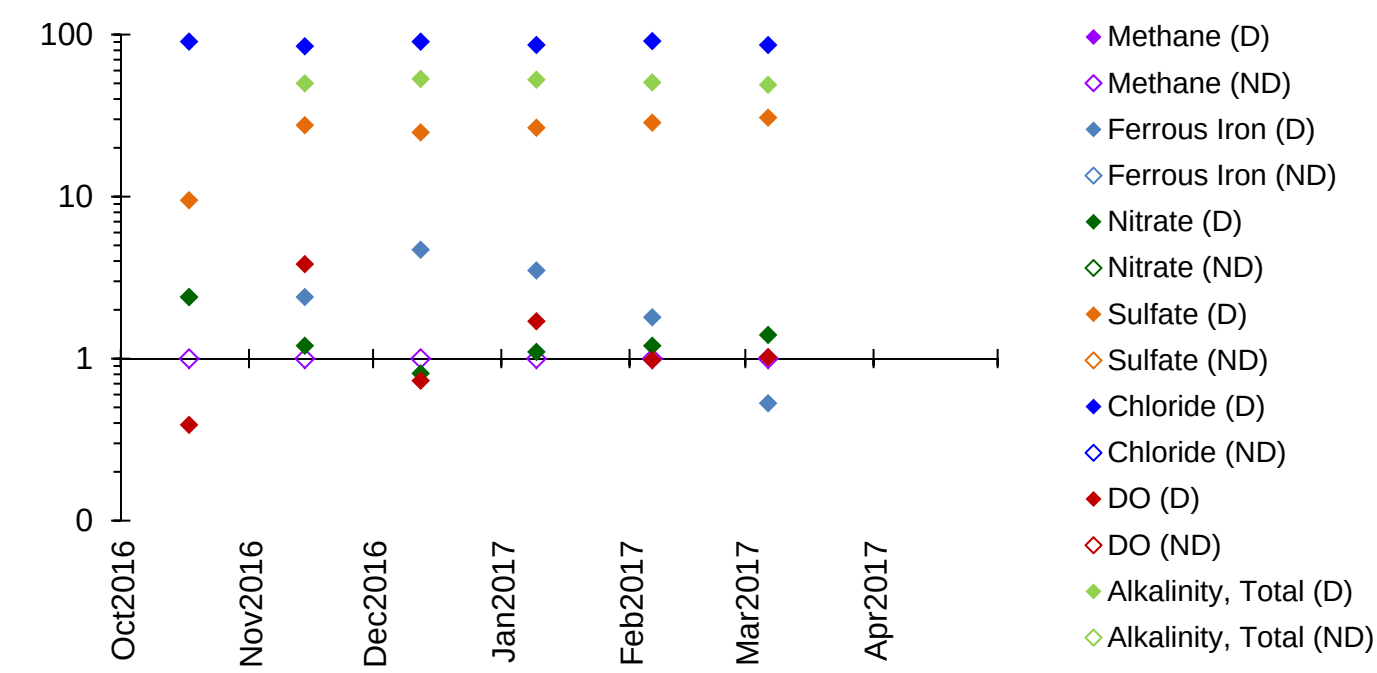
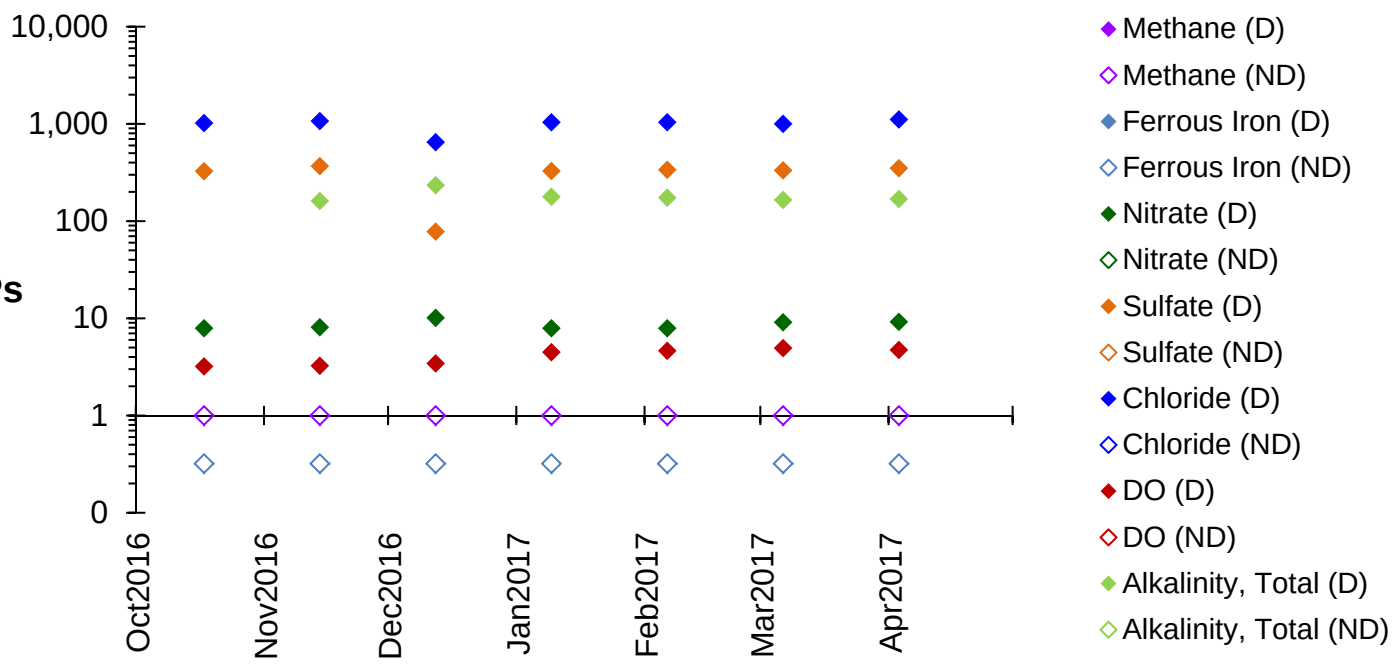


HDMW2253-03 NAPs



OWDFMW01 NAPs



D = detected value DO = dissolved oxygen ND = not detected at the laboratory limit of detection
Methane in parts per billion (ppb or micrograms per liter). All others in parts per million (ppm or milligrams per liter).

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Appendix A.4:
Table and Graphs of Cumulative Depth to Water Results

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Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells [a]

Sample Date	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01
4/4/2017	—	—	85.27	101.55	—	—	—	—	291.38	376.7	—	118.87
4/3/2017	80.23	82.43	—	—	292.78	81.81	239.86	197.07	—	—	—	—
3/8/2017	—	82.28	—	—	—	81.61	—	—	—	—	206.13	188.61
3/7/2017	—	—	84.99	101.3	—	—	239.63	197.08	—	376.3	—	—
3/6/2017	80.06	—	—	—	292.62	—	—	—	291.19	—	—	—
2/9/2017	—	—	—	—	—	—	—	—	—	—	—	119.03
2/8/2017	—	82.69	—	101.55	—	—	—	197.25	—	376.67	—	—
2/7/2017	—	—	85.24	—	—	81.91	239.9	—	—	—	206.32	—
2/6/2017	80.29	—	—	—	292.85	—	—	—	291.51	—	—	—
1/12/2017	—	—	—	101.59	—	—	—	—	—	—	—	118.93
1/11/2017	—	82.7	—	—	—	—	—	—	291.26	376.1	—	—
1/10/2017	—	—	85.29	—	—	82.1	—	197.02	—	—	206.12	—
1/9/2017	80.39	—	—	—	292.48	—	239.76	—	—	—	—	—
12/21/2016	—	—	—	—	—	—	—	—	291.69	—	—	—
12/20/2016	—	82.67	85.36	101.61	—	82.01	—	—	—	—	—	—
12/14/2016	—	—	—	101.81	—	—	—	—	—	—	—	119.09
12/13/2016	—	82.88	85.51	—	292.61	—	—	197.13	—	—	206.33	—
12/12/2016	80.49	—	—	—	—	82.12	240.04	—	291.42	376.28	—	—
11/18/2016	80.45	82.85	85.55	101.78	293.11	82.19	240.17	197.45	291.63	376.74	—	119.07
11/17/2016	—	82.92	85.56	101.82	—	82.24	—	—	—	—	—	—
11/16/2016	—	—	—	—	—	—	—	—	—	—	206.83	—
11/15/2016	—	—	85.35	101.87	—	82.25	—	—	291.81	377.05	—	119.29
11/14/2016	80.52	82.87	—	—	293.22	—	240.31	197.56	—	—	—	—
10/29/2016	—	—	—	—		—	—	—	—	—	—	—
10/25/2016	—	—	—	—	293.33	—	—	—	—	377.09	—	—
10/20/2016	80.68	—	—	—	—	—			—	—		119.39
10/19/2016	—	83.01	85.69	101.95	—	82.39	—	—	—	—	—	—
10/19/2016	—	—	85.69	102.02	—	82.37	240.47	197.68	291.94	—	—	—
10/18/2016	80.68	—	—	—	—	—	—	—	—	—	207.02	—
10/17/2016	—	83	—	—	—	—	—	—	—	—	—	—
9/21/2016	—	83.13	85.74	102.06	—	82.44	—	—	—	—	—	—
8/23/2016	—	83.27	85.96	102.2	—	82.63	—	—	—	—	—	—
7/20/2016	80.96	83.32	85.99	102.31	—	82.63	—	—	—	—	—	—
7/19/2016	—	—	—	—	293.6	—	240.7	197.79	—	—	207.42	119.65
6/21/2016	—	83.16	85.77	102.03	—	82.54	—	—	—	—	—	—
5/23/2016	—	83.14	85.81	102.03	—	82.5	—	—	—	—	—	—
4/20/2016	80.57	82.97	85.63	101.91	—	82.31	—	—	—	—	—	—
4/19/2016	—	—	—	—	293.21	—	240.35	197.76	—	—	206.97	119.28
3/15/2016	—	82.89	85.6	101.82	—	82.26	—	—	—	—	—	—
2/17/2016	—	83.17	85.81	102.1	—	—	—	—	—	—	—	—
1/20/2016	81	83.31	85.97	102.21	—	—	—	—	—	—	—	—
1/19/2016	—	—	—	—	293.61	—	240.69	198.24	—	—	207.42	119.82
12/17/2015	—	83.76	86.36	102.56	—	83.18	—	—	—	—	—	—
11/18/2015	—	84.25	86.93	103.24	—	84.62	—	—	—	—	—	—
10/20/2015	82.34	84	86.38	103.38	—	—	—	—	—	—	—	—
10/19/2015	—	—	—	—	294.61	—	241.69	198.88	—	—	208.4	120.88
9/23/2016	—	84.26	86.91	103.21	—	83.63	—	—	—	—	—	—
8/27/2015	—	84.44	87.13	103.41	—	83.69	—	—	—	—	—	—
8/20/2015	—	—	—	—	295.1	—	—	—	—	—	—	—
7/28/2015	—	—	—	—	—	—	241.98	—	—	—	—	—
7/27/2015	—	—	—	—	—	—	—	198.61	—	—	—	—
7/22/2015	—	—	—	—	—	—	—	—	—	—	208.69	120.99
7/21/2015	82.24	—	—	—	—	83.76	—	—	—	—	—	—
7/20/2015	—	84.58	87.24	103.44	—	—	—	—	—	—	—	—
6/25/2015	—	84.58	87.28	103.57	—	83.75	—	—	—	—	—	—
5/28/2015	—	84.29	86.97	103.24	—	83.95	—	—	—	—	—	—
5/26/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/25/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/24/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/23/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/22/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/21/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/20/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/19/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/18/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/17/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/16/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/15/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/14/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/13/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/12/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/11/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/10/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/9/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/8/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/7/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/6/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/5/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/4/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/3/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/2/2015	—	—	—	—	—	—	—	—	—	—	—	—
5/1/2015	—	—	—	—	—	—	—	—	—	—	—	—
4/30/2015	—	—	—	—	—	—	—	—	—	—	—	—
4/29/2015	—	—	—	—	—	—	—	—	—	—	—	—
4/23/2015	—	—	—	—	—	—	—	198.4	—	—	—	—
4/22/2015	—	—	—	—	294.43	—	241.59	—	—	—	—	120.68
4/21/2015	82.99	—	—	—	—	83.72	—	—	—	—	—	—
4/20/2015	—	84.33	86.97	103.18	—	—	—	—	—	—	—	—
3/26/2015		83.83	86.04	102.79	—	83.24	—	—	—	—		
2/2/2015		83.68	86.28	102.52	—	83.06	—	—	—	—		
1/29/2015	—	—	—	—	293.91	—	—	—	—	—	206.67	—
1/28/2015	—	—	86.35	102.63	—	—	—	—	—	—	—	—
1/27/2015	81.37	83.63	—	—	—	83.03	—	—	—	—	—	—
1/26/2015	—	—	—	—	—	—	—	—	—	—	—	120.54
12/23/2014	—	83.67	86.37	102.64		83.05	—	—	—	—	—	—
11/20/2014	—	83.87	86.56	102.78		83.35	—	—	—	—	—	—
10/28/2014	83.44	—	—	—	—	83.21	—	—	—	—	—	—
10/27/2014	—	83.79	86.51	102.78	—	—	—	—	—	—	—	—
10/22/2014	—	—	—	—	—	—	—	—	—	—	207.99	120.49
9/25/2014	—	84.64	87.27	103.51	—	84.1	—	—	—	—	—	—
8/27/2014	—	84.01	86.65	102.87	—	83.04	—	—	—	—	—	—
7/24/2014	—	—	—	—	—	—	—	—	—	—	—	120.57
7/23/2014	—	—	—	—	294.33	—	—	—	—	—	208.08	—
7/22/2014	82.19	—	—	102.98	—	83.49	—	—	—	—	—	—
7/21/2014	—	84.13	86.8	—	—	—	—	—	—	—	—	—
6/23/2016	—	84.06	86.72	103.99	—	83.54	—	—	—	—	—	—

Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells [a] (cont.)

Sample Date	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01
6/10/2014	—	83.93	86.55	—	—	83.34	—	—	—	—	—	—
5/27/2014	—	83.91	86.6	102.85	—	83.31	—	—	—	—	—	—
5/22/2014	—	83.81	86.47	—	—	83.15	—	—	—	—	—	—
5/8/2014	—	84.03	86.68	—	—	83.46	—	—	—	—	—	—
4/21/2014	—	83.93	86.58	102.8	—	83.27	—	—	—	—	—	—
4/7/2014	—	83.42	86.43	—	—	83.21	—	—	—	—	—	—
3/28/2014	—	83.76	86.42	102.65	—	83.18	—	—	—	—	—	—
2/24/2014	—	83.54	86.24	102.47	—	82.97	—	—	—	—	—	—
2/10/2014	—	84.49	86.16	102.47	—	82.83	—	—	—	—	—	—
2/4/2014	—	83.54	86.2	—	—	82.89	—	—	—	—	—	—
2/3/2014	—	83.54	86.2	—	—	82.91	—	—	—	—	—	—
1/31/2014	—	83.53	86.19	—	—	82.88	—	—	—	—	—	—
1/30/2014	—	83.53	86.21	—	—	82.93	—	—	—	—	—	—
1/29/2014	—	83.56	86.22	—	—	82.94	—	—	—	—	—	—
1/28/2014	—	83.56	86.25	102.52	—	82.94	—	—	—	—	—	—
1/27/2014	—	83.55	86.23	—	—	82.93	—	—	—	—	—	—
1/24/2014	—	83.57	86.23	—	—	82.93	—	—	—	—	—	—
1/23/2014	—	83.58	86.24	—	—	82.94	—	—	—	—	—	—
1/22/2014	—	83.53	86.2	—	—	82.87	—	—	—	—	—	—
1/16/2014	—	—	—	—	—	83.09	—	—	—	—	—	—
1/15/2014	—	83.94	86.62	—	—	—	—	—	—	—	—	—
10/23/2013	—	—	—	—	—	—	—	—	—	—	—	120.74
10/22/2013	—	—	—	—	—	83.81	—	—	—	—	—	—
10/21/2013	—	84.47	87.08	103.31	—	—	—	—	—	—	—	—
9/1/2013	—	84.57	87.2	103.43	—	84	—	—	—	—	—	—
8/1/2013	—	84.66	86.28	103.5	—	84.09	—	—	—	—	—	—
7/24/2013	—		—	—	—	—	—	—	—	—	—	120.72
7/23/2013	82.56	—	—	—	—	83.85	—	—	—	—	—	—
7/23/2013	—	—	—	—	—	—	—	—	—	—	—	—
7/22/2013	—	84.29	86.96	103.23	—	—	—	—	—	—	—	—
7/1/2013	—		—	—	—	—	—	—	—	—	—	—
6/1/2013	—	84.22	86.86	103.12	—	83.66	—	—	—	—	—	—
5/1/2013	—	84.03	86.69	102.95	—	83.41	—	—	—	—	—	—
4/30/2013	—	—	—	—	—	—	—		—	—	—	—
4/29/2013	—	—	—	—	—	—	—		—	—	—	—
4/24/2013	—	—	—	—	—	—	—	—	—	—	208.03	120.15
4/23/2013	82.61	—	—	—	—	83.41	—		—	—	—	—
4/22/2013	—	83.84	86.5	102.78	—	—	—	—	—	—	—	—
4/1/2013	—		—	—	—	—	—	—	—	—	—	—
3/1/2013	—	83.82	86.48	102.75	—	83.19	—	—	—	—	—	—
2/4/2013	—	84.04	—	—	—	—	—	—	—	—	—	—
2/1/2013	—	—	86.62	102.87	—	83.43	—	—	—	—	—	—
1/30/2013	—	—	—	—	—	—	—	—	—	—	208.15	120.55
1/29/2013	82.78	—	—	—	—	83.61	—	—	—	—	—	—
1/28/2013	—	—	86.75	102.98	—	—	—	—	—	—	—	—
1/1/2013	—	84.05	86.87	103.14	—	83.7	—	—	—	—	—	—
1/1/2013	—	—		—	—	—	—	—	—	—	—	—
12/1/2012	—	84.21	86.87	103.14	—	83.7	—	—	—	—	—	—
11/7/2012	—	—	—	—	—	—	—	—	—	—	208.2	—
11/1/2012	—	84.23	86.85	103.1	—	83.7	—	—	—	—	—	—
10/23/2012	83.05	—	—	—	—	83.72	—	—	—	—	—	—
10/22/2012	—	84.19	86.81	103.05	—	—	—	—	—	—	—	—
10/1/2012	—	84.19	86.81	103.5	—	83.72	—	—	—	—	—	—
8/1/2012	—	84.19	86.81	103.3	—	83.62	—	—	—	—	—	—
7/20/2012	—	84.05	—	—	—	—	—	—	—	—	—	—
7/19/2012	—	—	—	—	—	—	—	—	—	—	207.87	120.15
7/18/2012	—	—	86.7	103.09	—	—	—	—	—	—	—	—
7/17/2012	—	—	—	—	—	83.5	—	—	—	—	—	—
7/1/2012	—	84.2	86.64	102.89	—	83.41	—	—	—	—	—	—
6/1/2012	—	84.34	86.95	103.17	—	83.97	—	—	—	—	—	—
5/1/2012	—	84.09	86.71	102.98	—	83.53	—	—	—	—	—	—
4/26/2012	—	—	—	—	—	—	—	—	—	—	207.76	120.29
4/17/2012	—	83.6	—	—	—	—	—	—	—	—	—	—
4/16/2012	—	—	86.34	102.71	—	83.17	—	—	—	—	—	—
3/1/2012	—	83.41	86.51	102.45	—	82.79	—	—	—	—	—	—
2/14/2012	—	83.75	—	—	—	—	—	—	—	—	—	—
2/1/2012	—	—	—	—	—	83.15	—	—	—	—	—	—
2/1/2012	—	83.8	86.41	102.71	—	83.2	—	—	—	—	—	—
1/26/2012	—	—	86.31	102.56	—	—	—	—	—	—	—	—
1/24/2012	—	—	—	—	—	—	—	—	—	—	207.6	120.02
1/1/2012	—	83.57	86.18	102.56	—	82.9	—	—	—	—	—	—
12/1/2011	—	83.49	86.1	102.36	—	82.85	—	—	—	—	—	—
11/2/2011	—	83.71	—	—	—	—	—	—	—	—	—	—
11/1/2011	—	83.6	86.25	102.47	—	83	—	—	—	—	—	—
10/26/2011	—	—	—	—	—	—	—	—	—	—	207.73	120.12
10/25/2011	—	—	—	—	—	83.15	—	—	—	—	—	—
10/24/2011	—	—	86.38	102.9	—	—	—	—	—	—	—	—
10/1/2011	—	83.71	—	—	—	—	—	—	—	—	—	—
9/1/2011	—	83.81	86.44	102.69	—	83.21	—	—	—	—	—	—
8/1/2011	—	83.81	86.42	102.66	—	83.21	—	—	—	—	—	—
7/20/2011	—	83.6	—	—	—	—	—	—	—	—	—	—
7/19/2011	—	—	86.28	102.49	—	83.08	—	—	—	—	—	—
7/1/2011	—	83.57	86.22	102.44	—	82.99	—	—	—	—	—	—
6/1/2011	—	83.41	86.11	102.33	—	82.81	—	—	—	—	—	—
5/1/2011	—	83.39	86.05	102.69	—	82.72	—	—	—	—	—	—
4/1/2011	—	83.54	86.18	102.39	—	82.9	—	—	—	—	—	—
3/1/2011	—	83.77	86.39	102.87	—	83.2	—	—	—	—	—	—
2/1/2011	—	83.82	86.48	103.02	—	83.2	—	—	—	—	—	—
1/1/2011	—	85.32	86.91	103.41	—	83.65	—	—	—	—	—	—
12/1/2010	—	84.87	87.55	103.98	—	84.22	—	—	—	—	—	—
11/1/2010	—	85.2	87.84	104.3	—	84.6	—	—	—	—	—	—
10/1/2010	—	85.29	87.91	104.13	—	84.75	—	—	—	—	—	—
9/1/2010	—	85.3	87.92	104.13	—	84.71	—	—	—	—	—	—
7/1/2010	—	85.03	87.66	103.89	—	84.48	—	—	—	—	—	—
6/1/2010	—	84.87	87.51	103.74	—	84.3	—	—	—	—	—	—
5/1/2010	—	84.8	87.43	103.66	—	84.23	—	—	—	—	—	—
4/1/2010	—	84.75	87.37	103.6	—	84.17	—	—	—	—	—	—
3/1/2010	—	84.53	87.15	103.38	—	83.96	—	—	—	—	—	—
2/1/2010	—	84.24	86.89	103.14	—	83.6	—	—	—	—	—	—
1/1/2010	—	84.36	87	103.22	—	83.75	—	—	—	—	—	—
12/1/2009	—	84.12	86.75	103	—	83.53	—	—	—	—	—	—
11/1/2009	—	83.91	86.56	102.81	—	83.25	—	—	—	—	—	—
10/1/2009	—	84.24	86.87	103.07	—	83.62	—	—	—	—	—	—
9/1/2009	—	84.21	86.84	103.07	—	83.61	—	—	—	—	—	—
8/1/2009	—	84.04	86.71	102.84	—	83.51	—	—	—	—	—	—
7/1/2009	—	83.75	86.42	102.67	—	83.09	—	—	—	—	—	—

Table A.4-1: Depth to Groundwater (ft btoc) in Red Hill Groundwater Monitoring Wells [a] (cont.)

Sample Date	RHMW2254-01	RHMW01	RHMW02	RHMW03	RHMW04	RHMW05	RHMW06	RHMW07	RHMW08	RHMW09	HDMW2253-03	OWDFMW01
5/1/2009	—	83.5	86.15	102.41	—	—	—	—	—	—	—	—
5/6/2009	—	83.72	86.37	102.59	—	—	—	—	—	—	—	—
3/1/2009	—	83.82	86.44	102.64	—	—	—	—	—	—	—	—
2/1/2009	—	—	86.35	102.56	—	—	—	—	—	—	—	—
1/1/2009	—	83.13	85.79	102.04	—	—	—	—	—	—	—	—
11/1/2008	—	83.91	86.56	102.8	—	—	—	—	—	—	—	—
10/1/2008	—	83.8	86.45	102.49	—	—	—	—	—	—	—	—
7/1/2008	—	83.37	86.1	102.45	—	—	—	—	—	—	—	—
1/1/2008	—	84.67	86.23	—	—	—	—	—	—	—	—	—
9/1/2007	—	—	86.8	103.44	—	—	—	—	—	—	—	—
6/28/2005	87	83.56	—	—	—	—	—	—	—	—	—	—
2/17/2005	86.48	82.64	—	—	—	—	—	—	—	—	—	—

[a] Depth to groundwater values from Appendix A Groundwater Tables GW-9, GW-10, GW-14, GW-15, and GW-17 through GW-24 in:
Department of the Navy. 2007. *Existing Data Summary and Evaluation Report for Groundwater Flow and Contaminant Fate and Transport Modeling, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i; March 5, 2017 [Revision 00].* Prepared by AECOM Technical Services, Inc., Honolulu, HI. Prepared for Defense Logistics Agency Energy, Fort Belvoir, VA, under Naval Facilities Engineering Command, Hawaii, JBPHH HI.

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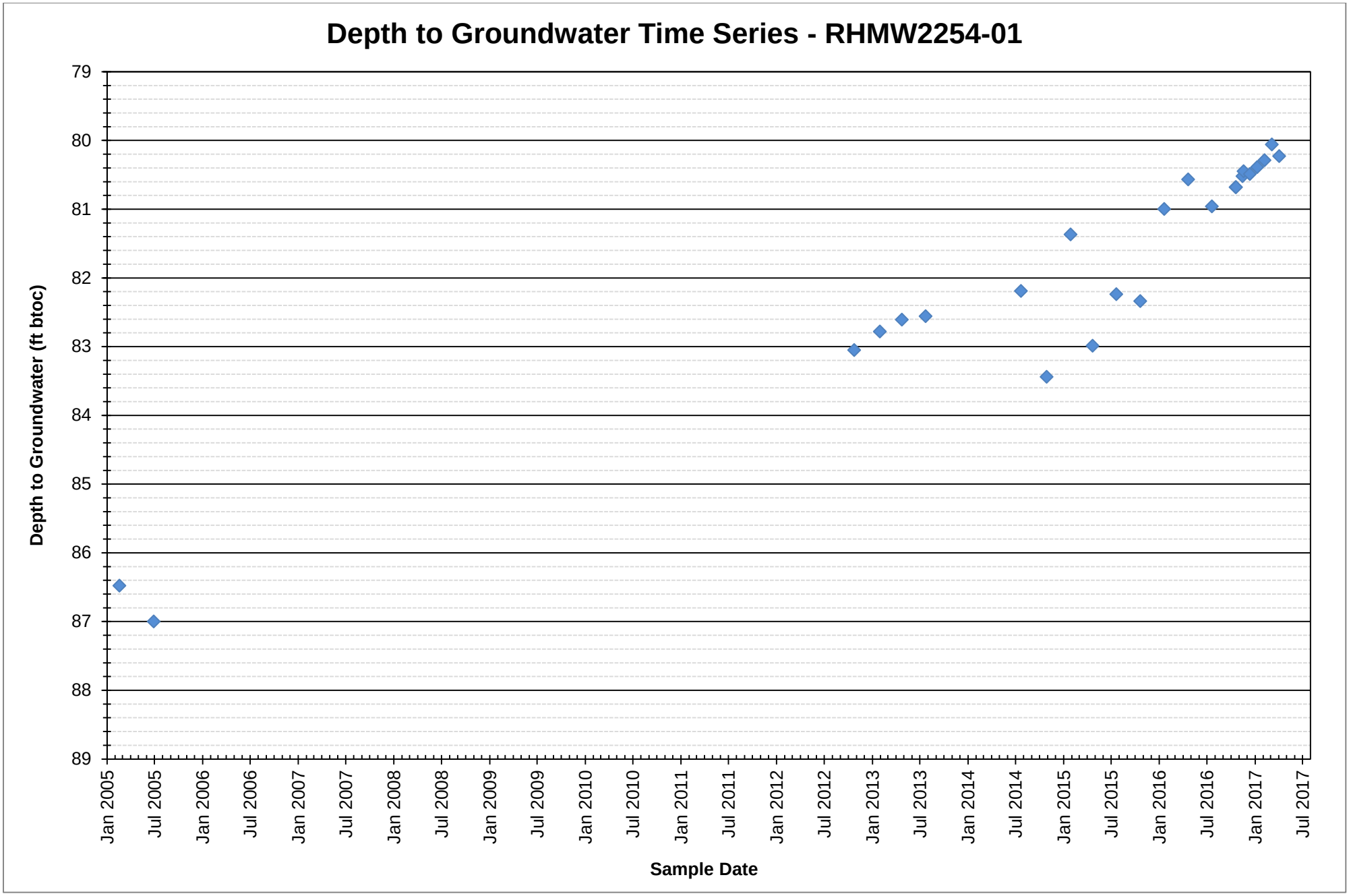
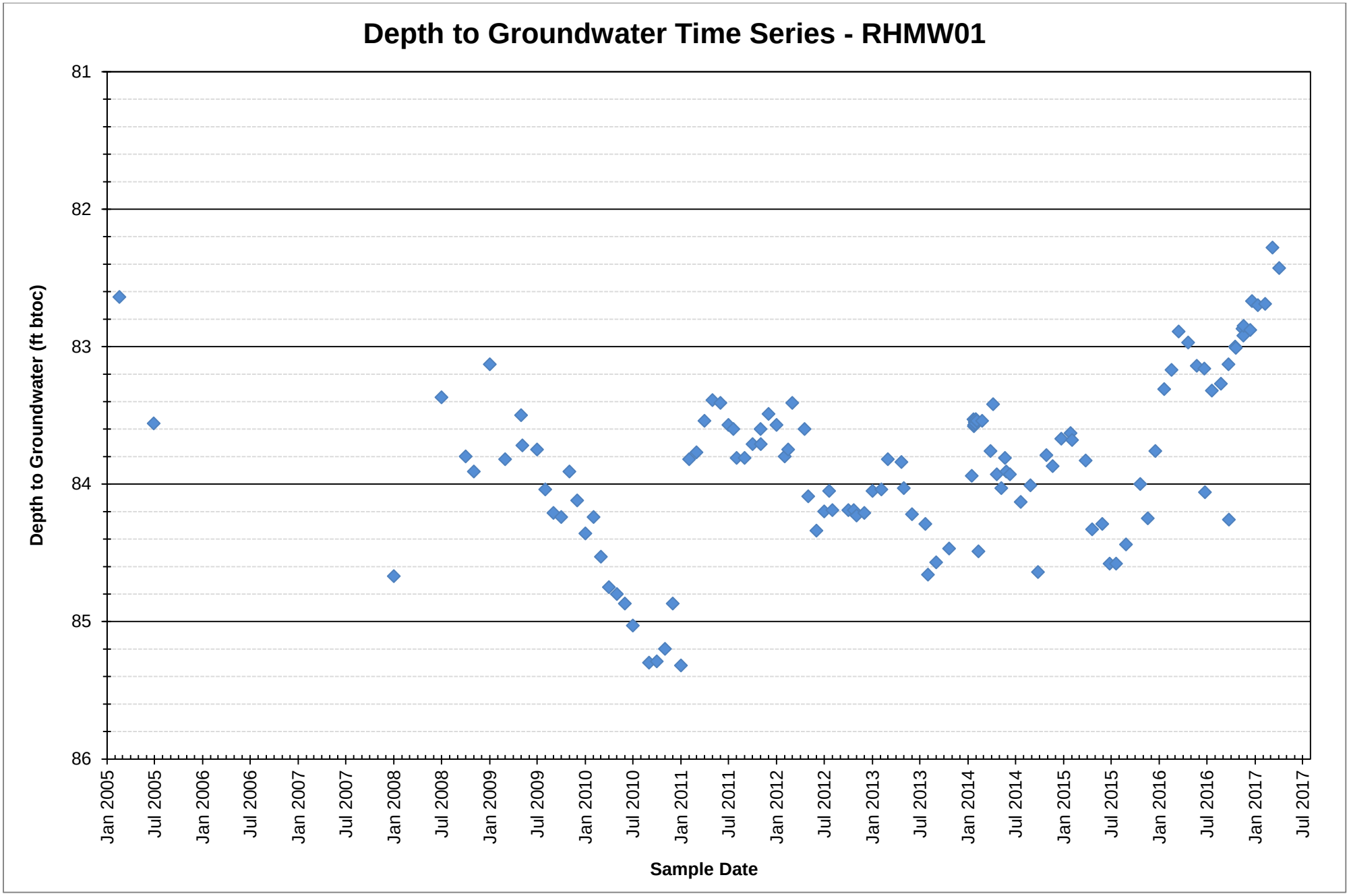

Depth to Groundwater Time Series - RHMW2254-01
Depth to Groundwater (ft btoc)
79
80
81
82
83
84
85
86
87
88
89
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
Jul 2010
Jan 2011
Jul 2011
Jan 2012
Jul 2012
Jan 2013
Jul 2013
Jan 2014
Jul 2014
Jan 2015
Jul 2015
Jan 2016
Jul 2016
Jan 2017
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW01
Depth to Groundwater (ft btoc)
81
82
83
84
85
86
Jan 2005
Jul 2005
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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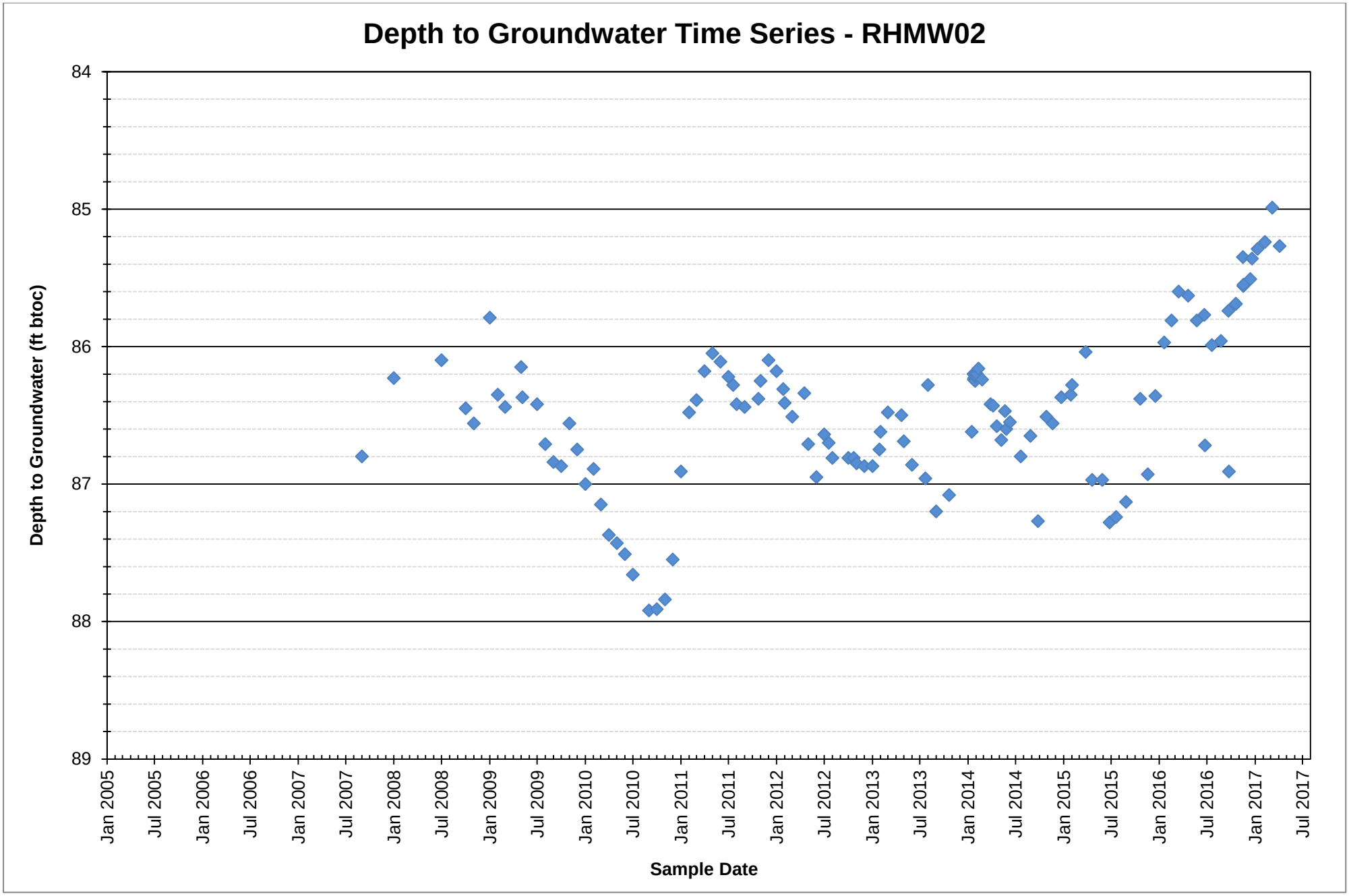
Sample Date


Depth to Groundwater Time Series - RHMW02
Depth to Groundwater (ft btoc)
84
85
86
87
88
89
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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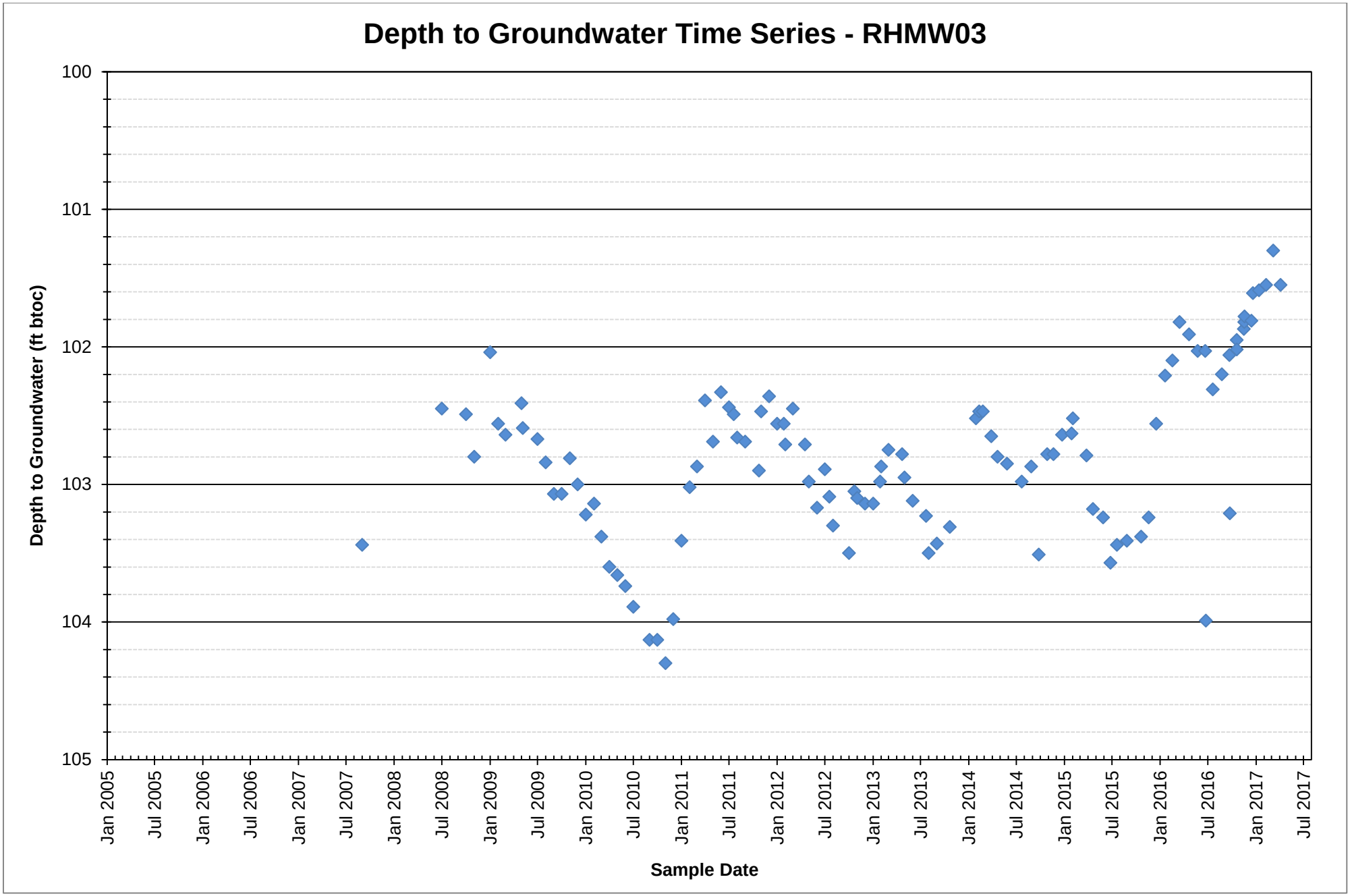
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW03
Depth to Groundwater (ft btoc)
100
101
102
103
104
105
Jan 2005
Jul 2005
Jan 2006
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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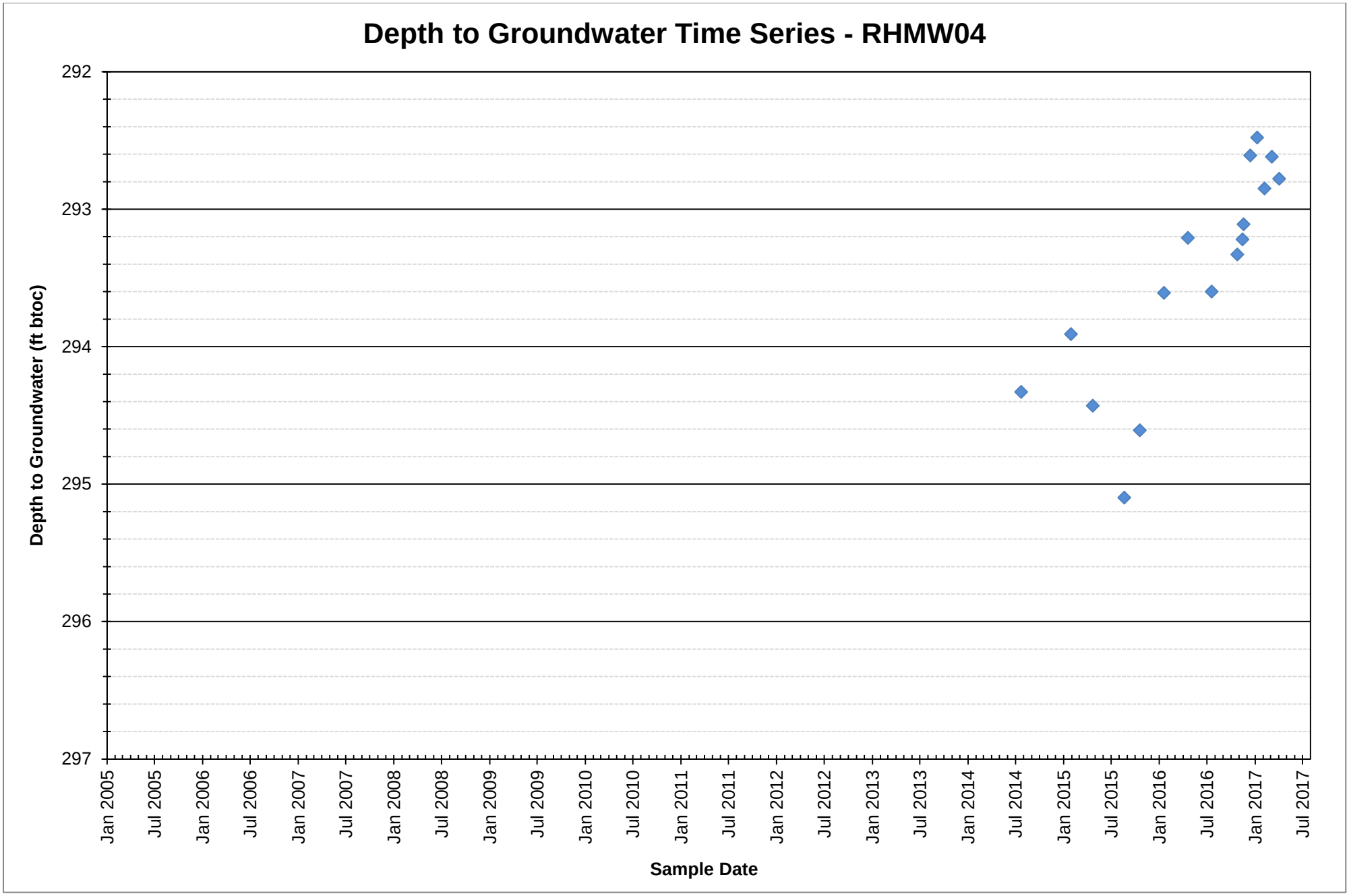
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW04
Depth to Groundwater (ft btoc)
292
293
294
295
296
297
Jan 2005
Jul 2005
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
Jul 2009
Jan 2010
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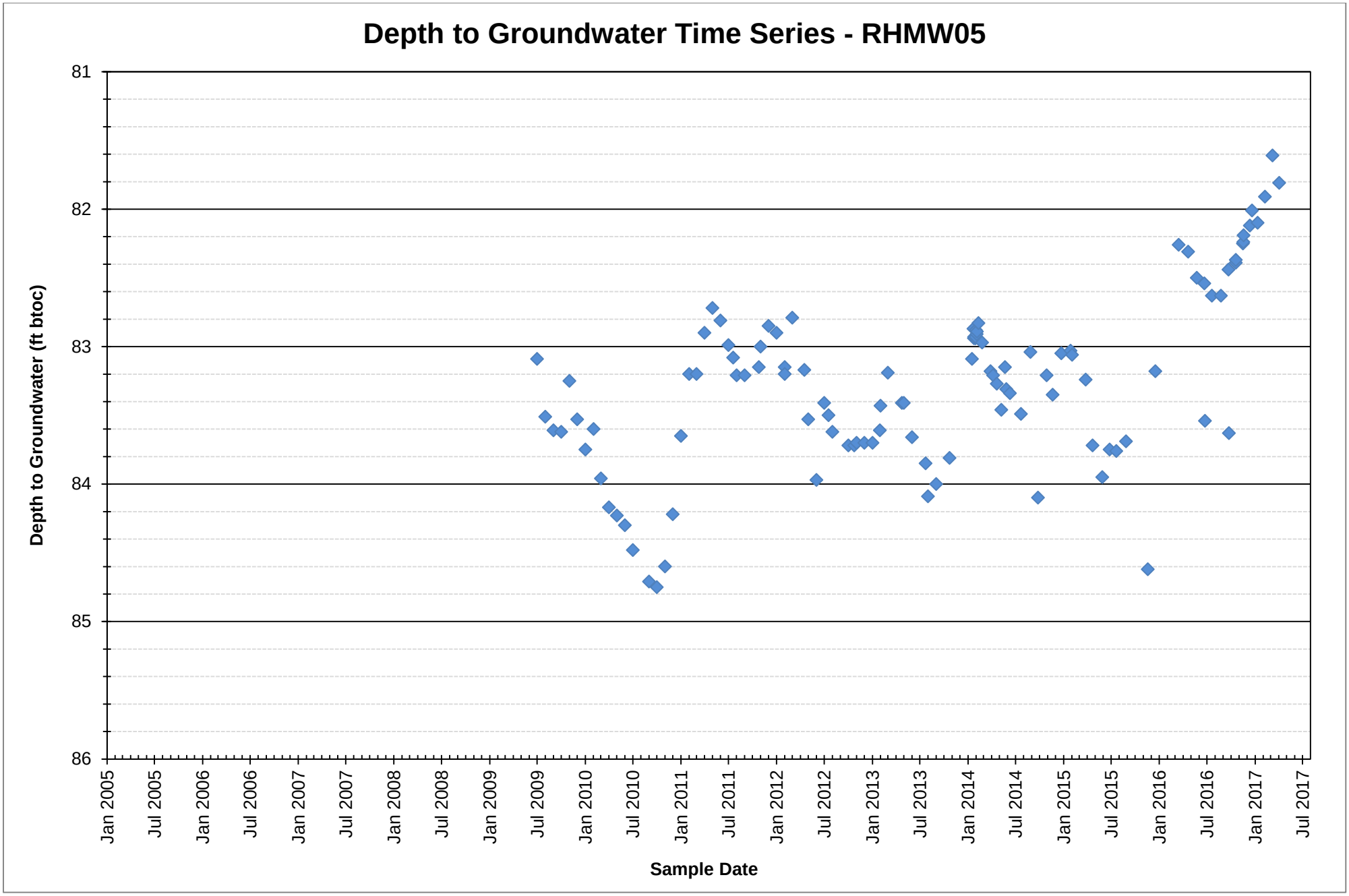
Jul 2016
Jan 2017
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW05
Depth to Groundwater (ft btoc)
81
82
83
84
85
86
Jan 2005
Jul 2005
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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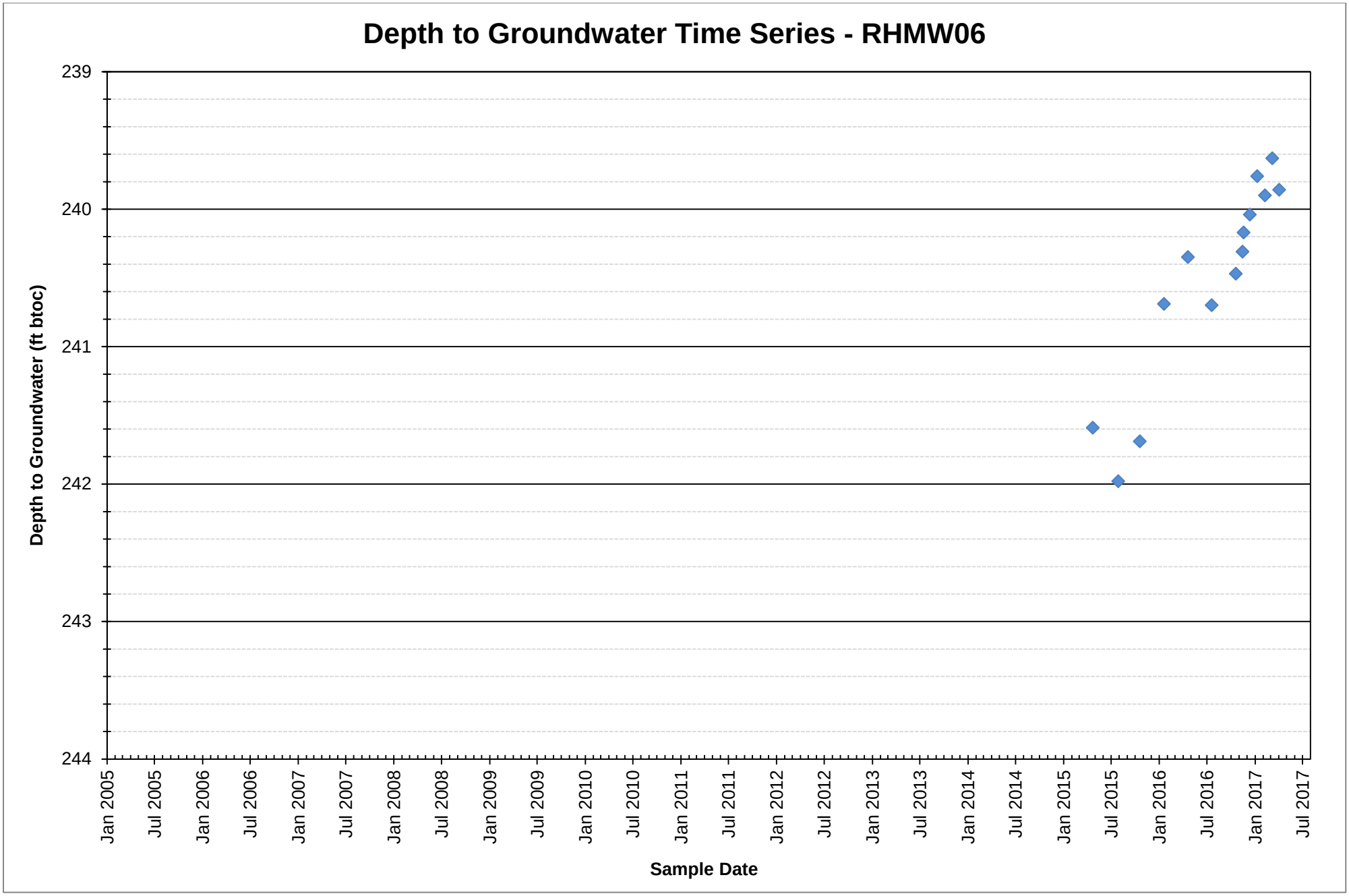
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW06
Depth to Groundwater (ft btoc)
239
240
241
242
243
244
Jan 2005
Jul 2005
Jan 2006
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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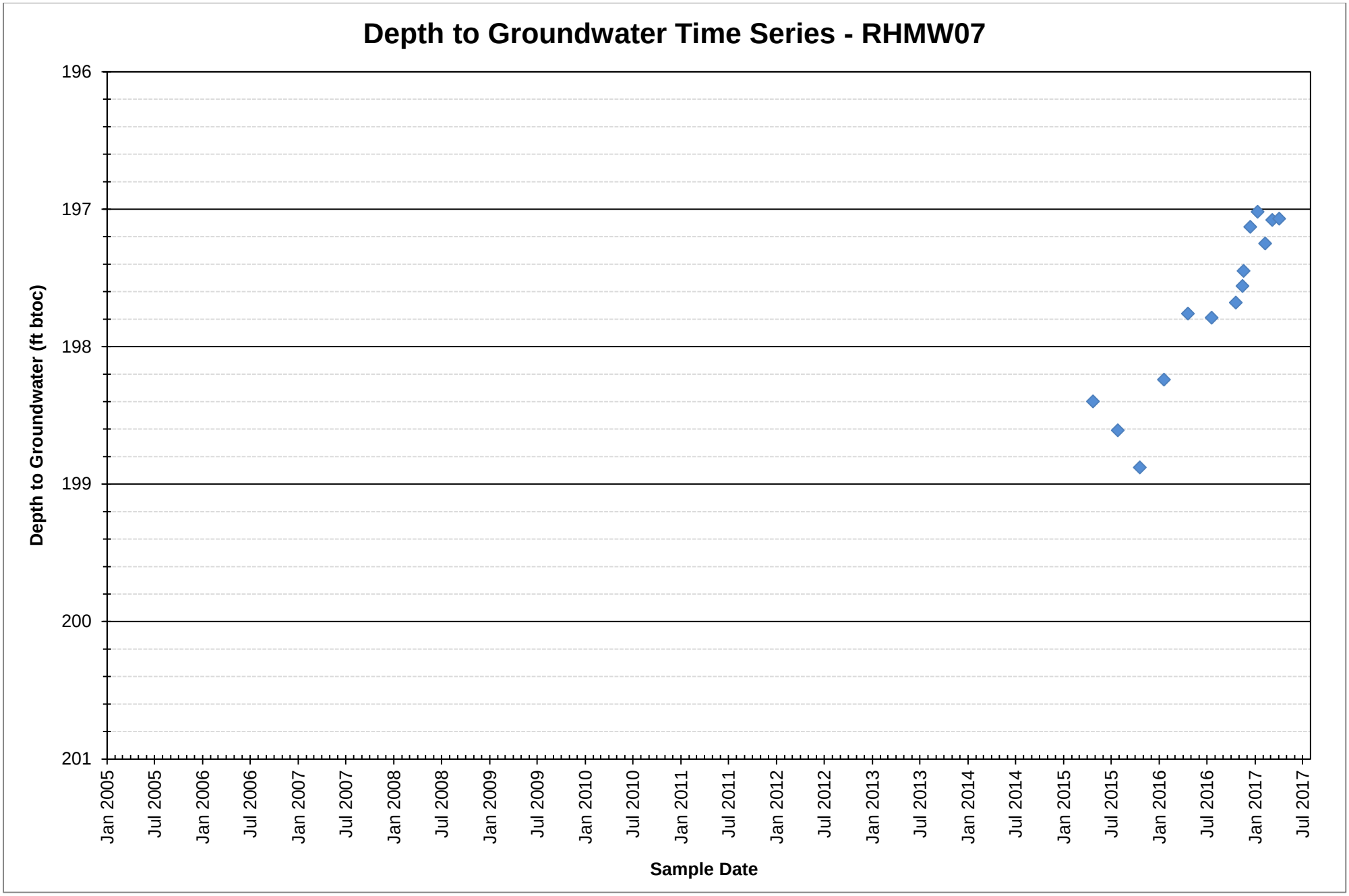
Jan 2017
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW07
Depth to Groundwater (ft btoc)
196
197
198
199
200
201
Jan 2005
Jul 2005
Jan 2006
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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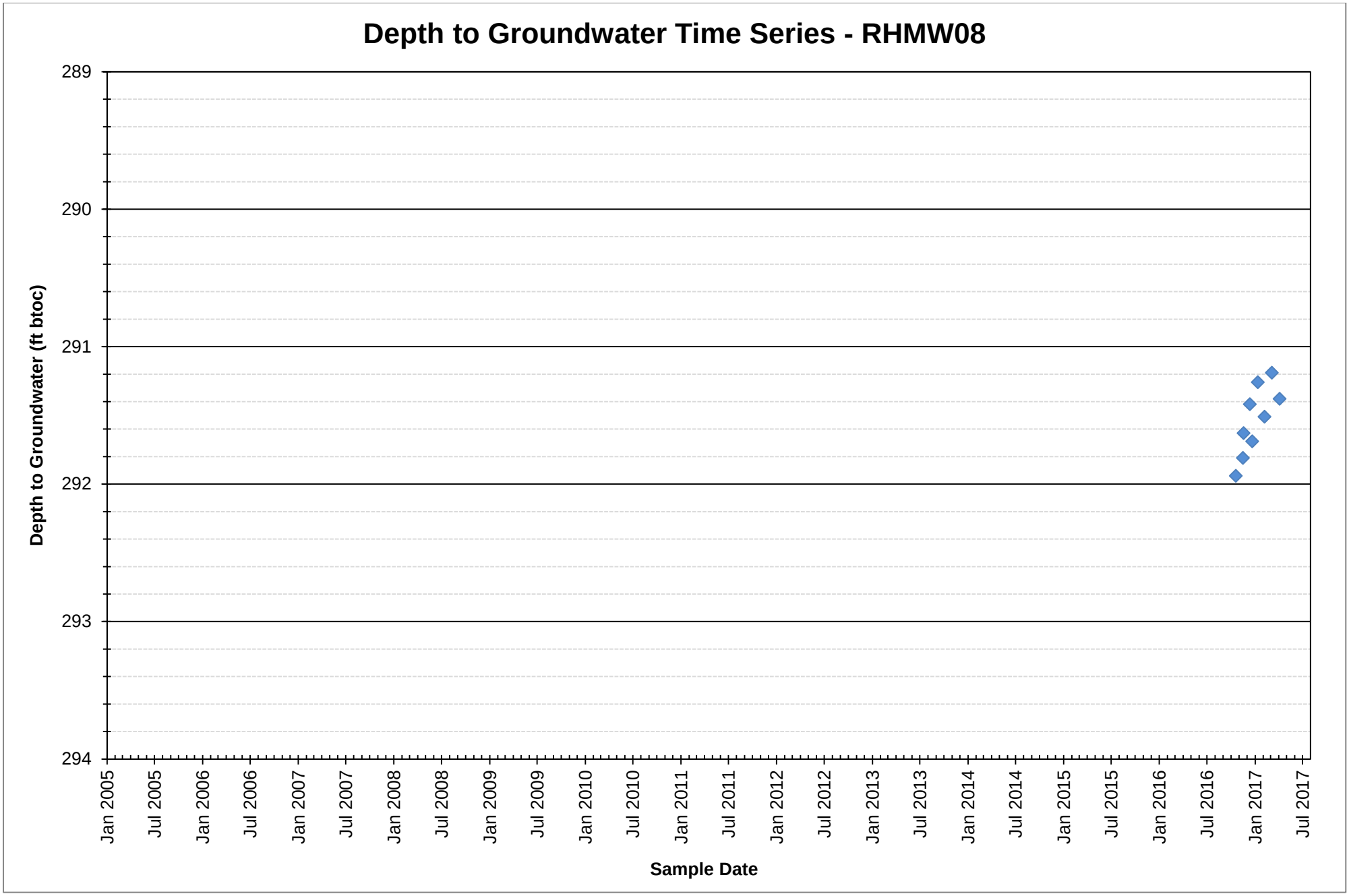
Jul 2017
Sample Date


Depth to Groundwater Time Series - RHMW08
Depth to Groundwater (ft btoc)
289
290
291
292
293
294
Jan 2005
Jul 2005
Jan 2006
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Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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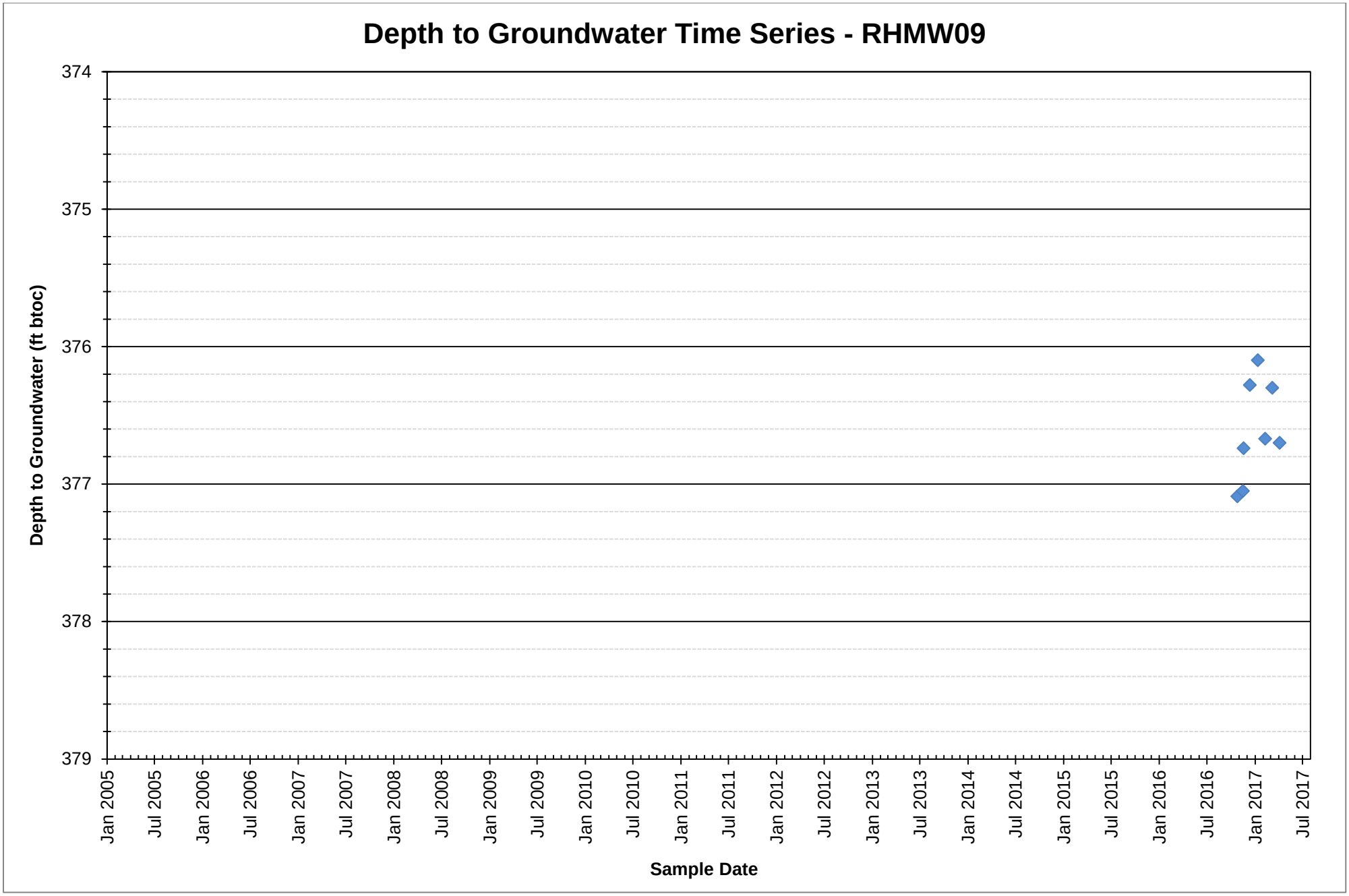
Sample Date


Depth to Groundwater Time Series - RHMW09
Depth to Groundwater (ft btoc)
374
375
376
377
378
379
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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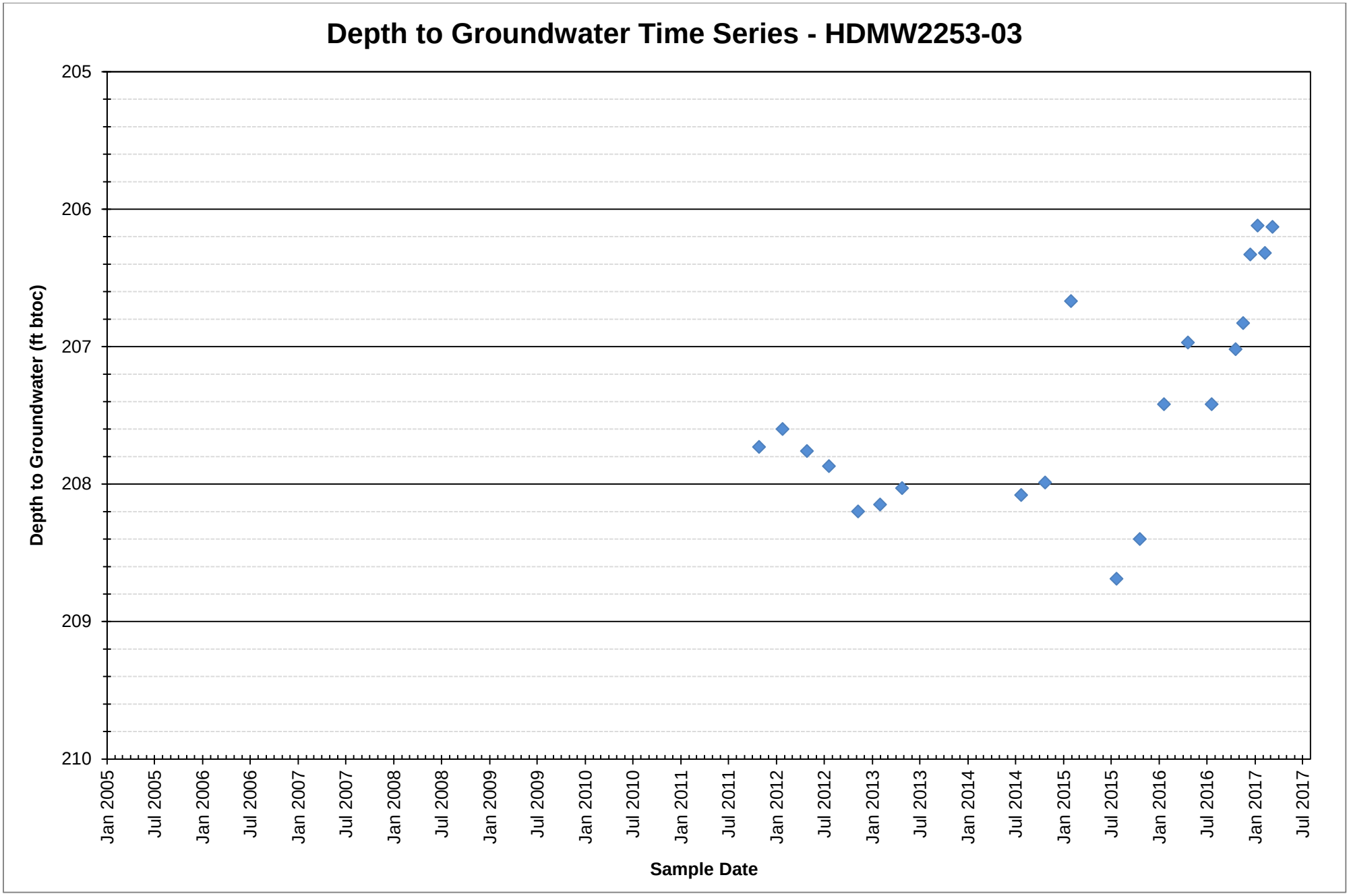
Jan 2017
Jul 2017
Sample Date


Depth to Groundwater Time Series - HDMW2253-03
Depth to Groundwater (ft btoc)
205
206
207
208
209
210
Jan 2005
Jul 2005
Jan 2006
Jul 2006
Jan 2007
Jul 2007
Jan 2008
Jul 2008
Jan 2009
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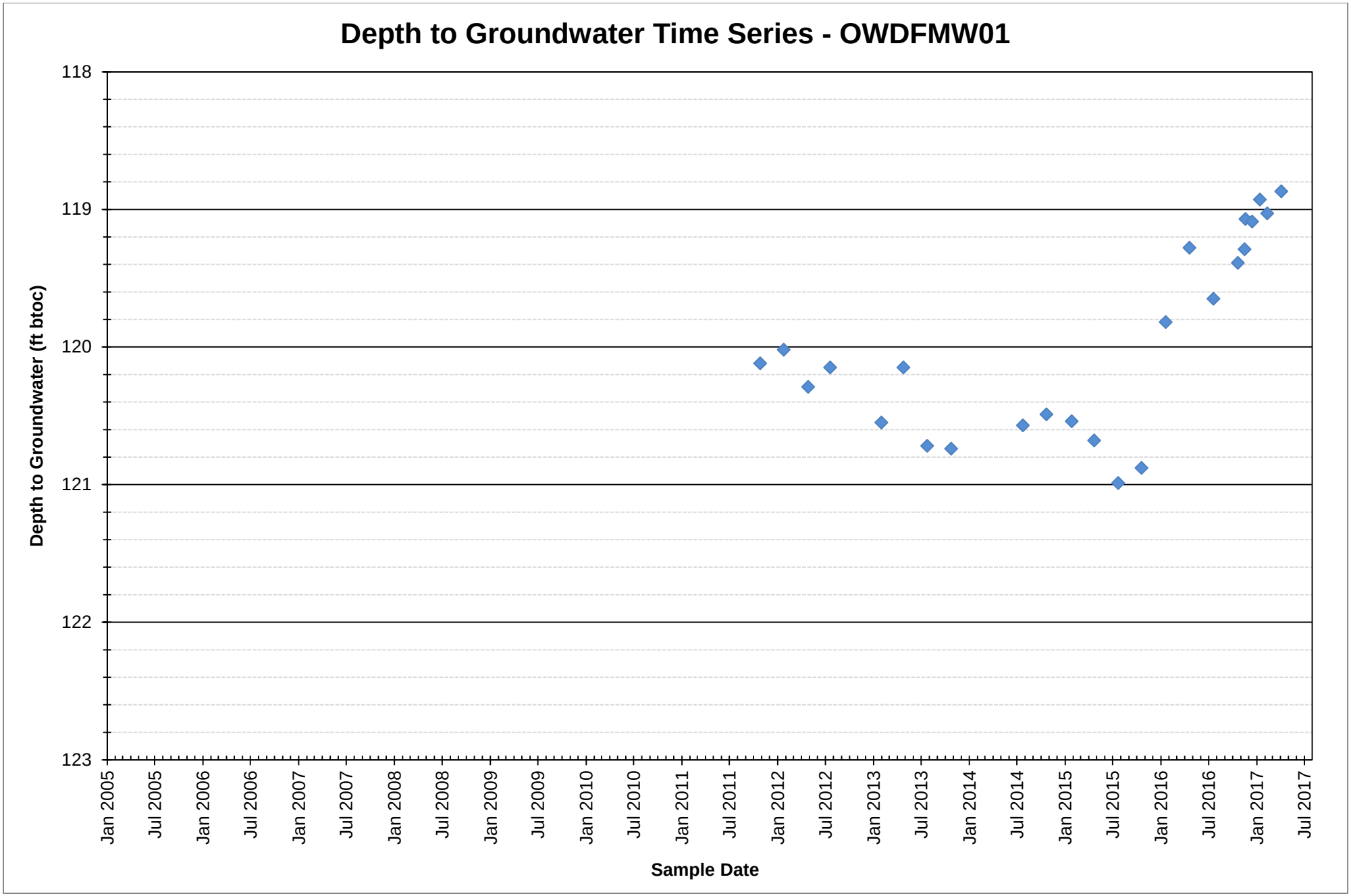
Sample Date


Depth to Groundwater Time Series - OWDFMW01
Depth to Groundwater (ft btoc)
118
119
120
121
122
123
Jan 2005
Jul 2005
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Jan 2007
Jul 2007
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Jul 2008
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Jul 2017
Sample Date

Appendix B:
Field Activity Documentation,
Second Quarter 2017
(on CD-ROM at end of document)

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Appendix B.1:
Groundwater Sampling Logs,
Second Quarter 2017

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Red Hill Groundwater Sampling Log

WELL NO. **RHMW2254-01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 2/6/17 TIME: 0855 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
80.39	80.29	--	None	115.79	--	300	0905	<5	1800 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	50	5	7	15	23

Headspace PID: 0.4 ppm Ambient PID: 0.7 ppm

Pump intake: -- linear ft. btoc Barometric Pressure: 29.68 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0920	N/A	1.5	0.328	7.07	0.505	8.57	1.4	21.58	148.7	0.24
0925	N/A		0.328	7.14	0.505	8.60	1.4	21.54	146.9	0.24
0930	N/A		0.328	7.18	0.504	8.60	1.4	21.53	145.5	0.24
0935	N/A		0.327	7.23	0.504	8.62	1.4	21.54	144.1	0.24
0940	N/A	3.0	0.327	7.26	0.503	8.62	1.4	21.47	143.3	0.24
1340	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary + 10 dup + 10 SS dup + 20 MS/MSD + 20 SS MS/MSD = 90

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
(6 + 6) + (4 + 4) + (8 + 8) x 40-ml VOA w/HCl	(6 + 6) + (6 + 6) + (12 + 12) x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
36 total	48 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH205 (N, MS/MSD) and ERH206 (Duplicate)**

DATE: 2/6/17 TIME: 0950

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1340

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 2/8/17 TIME: 0820 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
82.70 @ 0822	82.69	82.69	None	99.8	--	120	0840	3.0	>2100 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	60	60	5	5	5	5

Headspace PID: 0.5 ppm Ambient PID: 0.4 ppm

Pump intake: 88 linear ft. btoc Barometric Pressure: 29.81 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0850	82.70	0.1	0.217	7.09	0.333	4.52	-5.6	23.46	-8.8	0.16
0855	82.70		0.218	7.01	0.336	2.47	-5.7	23.32	-15.1	0.16
0900	82.70		0.219	6.97	0.336	1.46	-5.7	23.22	-18.6	0.16
0905	82.70		0.218	6.96	0.336	1.19	-5.8	23.18	-19.4	0.16
0910	82.70		0.218	6.94	0.336	1.02	-5.7	23.16	-20.0	0.16
0915	82.70		0.218	6.93	0.335	0.89	-5.8	23.14	-20.1	0.16
0920	82.70		0.218	6.92	0.335	0.76	-5.8	23.12	-20.2	0.16
0925	82.70		0.218	6.91	0.335	0.71	-5.7	23.11	-20.1	0.16
0930	82.70		0.217	6.90	0.334	0.65	-5.8	23.10	-19.8	0.16
0935	82.70		0.217	6.90	0.334	0.59	-5.8	23.08	-19.5	0.16
0940	82.70		0.217	6.89	0.334	0.56	-5.8	23.08	-19.1	0.16
0945	82.70		0.217	6.88	0.334	0.51	-5.7	23.06	-19.0	0.16

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: Organic odor (non-petroleum)

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH223**

DATE: 2/8/17 TIME: 1010

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Wet rock drilling happening adjacent to well

Sample end time: 1240

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0950	82.70		0.217	6.88	0.333	0.48	-5.8	23.06	-18.9	0.16
0955	82.70		0.217	6.87	0.333	0.46	-5.8	23.06	-18.9	0.16
1000	82.70		0.217	6.87	0.333	0.46	-5.8	23.05	-18.9	0.16
1115	New nitrogen tank									
1240	End sample									
1245	80.69	Final water level								

Red Hill Groundwater Sampling Log

WELL NO. **RHMW02** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 2/7/17 TIME: 1245 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
85.29	85.24	85.24	None	99	--	300	1250	6.5	700 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	50	20	20	10	10

Headspace PID: 0.9 Ppm Ambient PID: 1.0 ppm

Pump intake: 96 linear ft. btoc Barometric Pressure: 29.67 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1300	85.24	1.5	0.337	6.45	0.519	0.31	-1.3	23.60	-38.2	0.25
1305	85.24	2.0	0.337	6.47	0.519	0.22	-1.8	23.58	-36.7	0.25
1310	85.23	2.25	0.338	6.48	0.520	0.18	-1.8	23.55	-34.6	0.25
1315	85.23	2.50	0.338	6.49	0.520	0.15	-1.9	23.54	-34.4	0.25
1320	85.25	2.75	0.338	6.50	0.520	0.14	-2.0	23.54	-34.1	0.25
1325	85.24	3.00	0.338	6.51	0.520	0.13	-2.0	23.53	-34.0	0.25
1330	85.24	3.25	0.338	6.52	0.520	0.11	-2.1	23.54	-35.2	0.25
1335	85.25		0.338	6.53	0.520	0.11	-2.1	23.53	-36.2	0.25
1340	85.24		0.338	6.54	0.519	0.10	-2.1	23.53	-36.6	0.25
1345	85.25	5.5	0.338	6.54	0.519	0.10	-2.1	23.54	-36.8	0.25
1500	End Sample									
1506	85.24	6.5	Final water level							

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clean

SEDIMENT: No sediment

OTHER: Organic odor (not petroleum)

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH216**

DATE: 2/7/17 TIME: 1355

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 1500

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW03** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 2/8/17 TIME: 1330 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
101.59	101.55	101.51	None	117.30	--	100	1335	2.5	1000 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	65	--	50	--	10	--

Headspace PID: 0.8 ppm Ambient PID: 0.6 ppm

Pump intake: 112 linear ft. btoc Barometric Pressure: 29.78 in. Hg

Saturated Zone Length: linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1400	101.65	0.5	0.531	6.81	0.817	2.25	-2.0	26.94	119.4	0.40
1405	101.75		0.533	6.79	0.820	1.97	-1.7	26.97	118.8	0.40
1410	101.56		0.533	6.78	0.820	1.78	-1.6	27.02	117.7	0.40
1415	101.61		0.533	6.76	0.820	1.69	-1.9	27.02	118.1	0.40
1420	101.73		0.532	6.75	0.819	1.65	-2.9	26.98	120.9	0.40
1425	101.55		0.532	6.75	0.819	1.61	-3.6	26.97	122.1	0.40
1430	101.62		0.532	6.75	0.818	1.61	-3.4	26.95	120.0	0.40
1740	101.51	2.5	End sample, final water level							

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH231**

DATE: 2/8/17 TIME: 1440

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Water level appeared to fluctuate between readings

Sample end time: 1740

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW04** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/6/17 TIME: 0750 CLIMATIC CONDITIONS: Cloudy, ~78º

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
292.48	292.85	292.85	None	305	--	300	0755	4.5	600 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	--	25	--	35	--

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 304 linear ft. btoc Barometric Pressure: 750.7 mm Hg

Saturated Zone Length: 12.15 linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0800	Water at surface									
0810	292.88	1	0.335	7.31	0.517	8.74	11.0	20.76	183.7	0.25
0815	292.88	1.25	0.335	7.34	0.515	8.86	9.7	20.73	187.6	0.25
0820	292.88	1.75	0.334	7.36	0.514	9.02	1.2	20.71	194.5	0.25
0825	292.88	2.0	0.335	7.40	0.515	9.03	1.3	20.85	198.7	0.25
0830	292.88		0.335	7.38	0.515	9.06	1.2	20.96	200.6	0.25
0835	292.88	2.5	0.334	7.36	0.514	9.04	1.3	20.86	205.9	0.25
0840	292.88	2.75	0.334	7.36	0.514	9.01	1.3	20.84	209.3	0.25
1035	292.88	End sample								
-	Clean up									
1045	292.85	Final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH208**

DATE: 2/6/17 TIME: 0850

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1035

SAMPLED BY: CB, GM, MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW05** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 2/7/17 TIME: 0910 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
82.10	81.91 @0917	81.98	None	93	--	200	0945	3	1000 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	45	45	20	17	10	13

Headspace PID: 0.2 ppm Ambient PID: 2.5 ppm

Pump intake: 90 linear ft. btoc Barometric Pressure: 29.71 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0950	81.94	1.0	0.549	7.91	0.844	8.29	-1.9	23.71	126.1	0.41
0955	81.93		0.549	7.91	0.844	8.31	-2.1	23.64	121.4	0.41
1000	81.94		0.549	7.90	0.844	8.33	-2.1	23.61	119.7	0.41
1005	81.84		0.548	7.91	0.844	8.32	-2.1	23.62	118.7	0.41
1010	81.97	2.5	0.548	7.91	0.844	8.33	-2.2	23.62	118.8	0.41
1150	End sample									
1157	81.98	Final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH212**

DATE: 2/7/17 TIME: 1020

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: After ending, collected additional samples for UH

Sample end time: 1150

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW06** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/7/17 TIME: 1422 CLIMATIC CONDITIONS: Partly cloudy

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
239.76	239.90	239.97	None	263.20	--	290	1425	2	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	115	115	22	30	38	30

Headspace PID: 0.1 ppm Ambient PID: 0.0 ppm

Pump intake: 254 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1427	Water at surface									
1440	239.95	0.5	1.096	7.09	1.692	6.83	36.7	23.06	160.0	0.85
1445	239.92		1.111	6.95	1.716	6.50	33.9	23.36	160.1	0.87
1450	239.93	1.0	1.130	6.85	1.744	6.44	16.7	23.07	155.6	0.88
1455	239.93	1.25	1.135	6.83	1.742	6.48	9.4	23.26	147.4	0.89
1500	239.94		1.133	6.83	1.743	6.49	8.0	23.31	144.0	0.89
1505	239.93	1.5	1.133	6.82	1.747	6.50	4.5	23.22	139.3	0.88
1510	239.94		1.138	6.82	1.747	6.51	4.8	23.47	136.4	0.88
1515	239.94	2.0	1.132	6.82	1.742	6.54	5.7	22.90	133.1	0.88
1655	239.97	End sample final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH210**

DATE: 2/7/17 TIME: 1525

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1655

SAMPLED BY: CB, MH, GM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW07** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/8/17 TIME: 0700 CLIMATIC CONDITIONS: Partly cloudy, mid 70's

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
197.02	197.25	197.77	None	217.76	--	270	0713	5.25	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	100	90	25	35	35	25

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 210 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0720	Water at surface									
0730	197.61	1	1.130	7.19	1.767	5.86	21.6	21.30	144.2	0.89
0740	197.71	2	1.153	7.12	1.769	4.00	9.6	20.87	141.8	0.90
0745	197.71	2.25	1.155	7.12	1.779	3.83	8.9	20.88	141.8	0.90
0750	197.71	2.5	1.157	7.12	1.781	3.76	9.0	20.99	142.0	0.90
0755	197.72	2.75	1.152	7.13	1.772	3.53	8.5	21.03	142.1	0.90
0800	197.74	3	1.143	7.14	1.756	3.39	8.8	21.04	141.7	0.90
0805	197.76	3.25	1.130	7.16	1.739	3.15	9.6	20.95	141.1	0.88
0810	197.77	3.75	1.116	7.18	1.718	3.06	11.2	21.09	140.1	0.87
0815	197.81	4	1.102	7.20	1.697	2.66	0.1	21.13	139.3	0.86
0820	197.79	4.5	1.093	7.21	1.681	2.58	0.1	21.23	138.5	0.85

See next page

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH218**

DATE: 2/8/17 TIME: 0835

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 0957

SAMPLED BY: CB, GM, MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0825	197.80	5	1.085	7.22	1.669	2.55	0.1	21.23	138.1	0.84
0830	197.80	5.25	1.078	7.23	1.658	2.52	0.0	21.24	137.8	0.84
0957	End sample									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW08** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/6/17 TIME: 1130 CLIMATIC CONDITIONS: Rainy, overcast

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
291.26	291.51	291.52	None	311.30	--	250	1135	3.5	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	150	150	25	23	35	37

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 303 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1140	Water at surface									
1145	291.63	0.5	0.620	7.92	0.937	3.81	11.4	22.83	157.9	0.47
1150	291.57	0.75	0.640	8.11	0.982	4.07	14.9	22.62	161.2	0.49
1200	291.57	1.25	0.647	8.19	0.995	4.21	17.0	22.49	169.7	0.49
1205	291.57	1.75	0.646	8.19	0.992	4.14	85.1	22.41	174.0	0.49
1210	291.58	2.0	0.644	8.20	0.992	4.07	87.6	22.40	177.6	0.49
1215	291.58	2.25	0.643	8.20	0.990	3.95	97.4	22.36	180.0	0.49
1220	291.59	2.5	0.644	8.20	0.990	4.03	1.7	22.35	182.6	0.49
1225	291.59	2.75	0.642	8.19	0.989	4.00	1.5	22.35	185.7	0.49
1230	291.59	3	0.641	8.19	0.985	3.97	1.7	22.35	189.1	0.49
1235	291.59	3.5	0.638	8.19	0.981	3.89	2.0	22.33	193.7	0.49
1535	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 18 primary + 18 SS primary + 13 dup + 13 SS dup = 90

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	$NO_3/SO_4/Cl$ by 300.0
(6 + 6) + (4 + 4) x 40-ml VOA w/HCl	(3 + 3) + (3 + 3) x 40 ml VOA np	(6 + 6) + (6 + 6) x 40-ml VOA w/HCl	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
20 total	12 total	24 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH220 (N) and ERH221 (Duplicate)**

DATE: 2/6/17 TIME: 1245

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: DTW= 291.44 @1545; Sample end time: 1535

SAMPLED BY: CB, GM, MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW09** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/8/17 TIME: 1022 CLIMATIC CONDITIONS: Sunny 70's

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
376.08	376.67	376.53	None	396.69	--	295	1040	10	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	180	190	35	54	40	28

Headspace PID: 0.0 ppm Ambient PID: 0.1 ppm

Pump intake: 389 linear ft. btoc Barometric Pressure: 753.1 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1045	Water at surface									
1112			0.270	7.66	0.416	8.61	1.9	22.42	157.9	0.20
1115	376.65	2.0	0.270	7.61	0.416	8.38	9.3	22.40	160.2	0.20
1120			0.269	7.59	0.413	11.54	5.6	22.14	168.7	0.20
1125	Recalibrate DO									
1130	376.63	2.5	0.270	7.64	0.414	9.82	0.2	22.16	182.2	0.20
1135	376.64		0.268	7.63	0.412	9.27	5.20	22.10	186.7	0.20
1140	376.63	3.5	0.267	7.63	0.411	8.76	28.1	21.94	191.9	0.20
1145	376.63		0.267	7.62	0.410	8.59	62.9	21.81	196.4	0.20
1150	376.63		0.267	7.63	0.410	9.04	17.2	21.86	202.3	0.20

See next page

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 18 primary + 18 SS primary + 16 dup + 16 SS dup + 27 MS/MSD + 27 SS MS/MSD = 122

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Dissolved Pb and Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
(6 + 6) + (4 + 4) + (8 + 8) x 40-ml VOA w/HCl	(3 + 3) + (3 + 3) + (6 + 6) x 40 ml VOA np	(6 + 6) + (6 + 6) + (12 + 12) x 40-ml VOA w/HCl	(1 + 1) + (1 + 1) + (1 + 1) x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
36 total	24 total	48 total	6 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH225 (N, MS/MSD), ERH 247 (Dup)**

DATE: 2/8/17 TIME: 1230

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 1748

SAMPLED BY: CB, MH, GM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1200	376.63		0.267	7.64	0.411	9.06	7.2	22.01	206.9	0.20
1205	376.62	5	0.268	7.64	0.412	8.86	15.7	21.89	210.6	0.20
1210	376.62	5.25	0.268	7.65	0.412	8.89	32.2	22.99	214.3	0.20
1215	376.62	5.5	0.267	7.65	0.412	8.63	69.8	22.06	218.3	0.90
1220	Decreased flow rate to 150 mL/min									
1330	Start sampling									
1400	Changed air supply tank									
1748	End sample									

Red Hill Groundwater Sampling Log

WELL NO. **HDMW2253-03** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/7/17 TIME: 0829 CLIMATIC CONDITIONS: Sunny, 79º, no clouds

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
206.12	206.32	206.31	None	1575	--	250	0853	5.5	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	140	15	15	30	30

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 250 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0903	Water at surface									
0920	206.33	0.75	0.350	6.43	0.538	2.47	3.5	21.62	38.5	0.26
0925	206.33	1	0.350	6.47	0.539	1.92	3.1	21.84	25.0	0.26
0930	206.33	1.25	0.351	6.46	0.540	1.72	4.2	21.94	26.3	0.26
0935	206.34	1.5	0.350	6.46	0.538	1.57	8.5	22.01	27.6	0.26
0940	206.33	1.75	0.349	6.44	0.538	1.53	1.1	22.04	32.5	0.26
0945	206.33	2.25	0.350	6.44	0.538	1.41	2.2	22.04	32.0	0.26
0950	206.33	2.50	0.350	6.44	0.538	1.31	3.5	22.04	31.3	0.26
0955	206.33	2.75	0.349	6.42	0.536	1.24	3.7	22.08	35.7	0.26
1000	206.34	3.25	0.348	6.44	0.538	1.23	14.3	22.09	31.0	0.26
1005	206.34	3.5	0.349	6.44	0.538	1.16	17.2	21.99	28.4	0.26

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH214**

DATE: 2/7/17 TIME: 1045

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1200

SAMPLED BY: CB, GM, MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1010	206.34	3.75	0.349	6.44	0.536	1.12	17.1	21.93	29.3	0.26
1015	206.34	4	0.349	6.43	0.535	1.08	14.8	21.98	30.7	0.26
1020	206.34	4.25	0.349	6.43	0.536	1.02	12.2	22.06	30.8	0.26
1025	206.34	4.5	0.348	6.42	0.537	1.02	14.9	21.97	32.6	0.26
1030	206.34	4.75	0.348	6.43	0.537	0.98	16.8	21.84	29.8	0.26
1200	End sample									

Red Hill Groundwater Sampling Log

WELL NO. **OWDFMW01** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 2/9/17 TIME: 0745 CLIMATIC CONDITIONS: Overcast, 75º

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
118.93	119.03	119.68	None	144.74	--	130	0817	3.25	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	70	68	15	15	15	15

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 138 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0818	Water at surface									
0830	119.64		2.347	8.98	3.608	7.11	3.1	22.97	-118	1.89
0835	119.72		2.324	9.21	3.575	5.06	19.5	22.94	153.0	1.88
0845	119.59	1.25	2.427	9.11	3.708	5.02	26.3	24.68	186.1	1.97
0850	119.65		2.456	9.05	3.767	4.93	10.3	24.78	184.4	1.99
0855	119.69	1.5	2.505	8.82	3.828	4.87	1.6	24.74	185.6	2.04
0900	119.73		2.528	8.67	3.878	4.84	-1.1	24.85	186.1	2.05
0905	119.74		2.533	8.63	3.897	4.84	-1.5	25.00	185.5	2.06
0910	119.77	2	2.532	8.63	3.906	4.84	-3.4	25.12	184.6	2.05
0915	119.80	2.5	2.529	8.64	3.880	4.69	12.2	24.86	184.5	2.05
0920	119.84		2.521	8.64	3.858	4.63	11.6	24.70	184.5	2.05

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: --

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH227**

DATE: 2/9/17 TIME: 0950

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Temperature increase due to heating of day, gas changed at 0925

Sample end time: 1145

SAMPLED BY: CB, GM, MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0935	119.80		2.497	8.78	3.832	4.40	10.8	24.86	181.0	2.03
0940	119.75	3.0	2.487	8.85	3.818	4.59	10.5	24.95	180.0	2.01
0945	119.70	3.25	2.494	8.75	3.833	4.63	7.4	24.95	181.5	2.02
0950	Begin sample									
1145	End sample									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW2254-01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 3/6/17 TIME: 0900 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
80.29	80.06	N/A	None	115.79	N/A	275	0915	5	1500 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	50	7	7	23	23

Headspace PID: 0.1 ppm Ambient PID: 0.2 ppm

Pump intake: -- linear ft. btoc Barometric Pressure: 29.80 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0925	N/A	0.75	0.317	7.63	0.489	8.48	-8.7	22.18	196.6	0.24
0930	N/A		0.317	7.66	0.488	8.49	-8.7	22.13	200.0	0.23
0935	N/A		0.317	7.66	0.487	8.49	-8.8	22.10	204.7	0.23
0940	N/A		0.316	7.67	0.487	8.51	-8.8	22.09	208.7	0.23
0945	N/A	2.5	0.316	7.67	0.487	8.51	-8.8	21.99	211.9	0.23
1430	N/A	End sample								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary + 10 dup + 10 SS dup + 20 MS/MSD + 20 SS MS/MSD = 90

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
(6 + 6) + (4 + 4) + (8 + 8) x 40-ml VOA w/HCl	(6 + 6) + (6 + 6) + (12 + 12) x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
36 total	48 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH257 (N, MS/MSD) and ERH258 (Duplicate)**

DATE: 3/6/17 TIME: 0950

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1430

SAMPLED BY: KE/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 3/8/17 TIME: 0925 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
82.70	82.28	82.27	None	--	--	100	0948	--	3300 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	60	60	5	5	5	5

Headspace PID: 0.0 ppm Ambient PID: -- ppm

Pump intake: 88 linear ft. btoc Barometric Pressure: 29.82 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.00 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1000	82.28	0.5	0.342	7.15	0.526	1.92	-0.6	23.75	-19.2	0.25
1005	82.29		0.342	7.17	0.526	1.58	-0.7	23.58	-32.0	0.25
1010	82.27		0.341	7.15	0.525	1.43	-0.8	23.49	-36.8	0.25
1015	82.28		0.341	7.13	0.524	1.33	-0.8	23.45	-38.2	0.25
1020	82.28		0.340	7.11	0.523	1.26	-0.8	23.42	-38.5	0.25
1025	82.28		0.339	7.09	0.522	1.19	-0.9	23.42	-38.0	0.25
1030	87.28		0.339	7.09	0.521	1.38	-0.9	23.40	-38.0	0.25
1035	87.28		0.338	7.07	0.520	1.12	-0.9	23.42	-35.6	0.25
1045	87.28			0.339	7.06	0.521	1.17	-0.9	23.60	-17.4
1050	87.28		0.338	7.07	0.521	1.41	-0.8	23.85	-29.3	0.25
1055	87.28		0.337	7.07	0.518	1.20	-0.8	23.58	-32.5	0.25
1100	82.28		0.338	7.05	0.519	1.01	-0.9	23.41	-36.1	0.25

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH275**

DATE: 3/8/17 TIME: 1120

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Swapped nitrogen tank at 1040

Sample end time: 1340

SAMPLED BY: FK/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1105	82.29		0.338	7.05	0.520	1.00	-0.9	23.38	-36.9	0.25
1110	82.28		0.338	7.05	0.520	0.96	-0.9	23.37	-37.9	0.25
1115	82.29		0.338	7.05	0.520	1.95	-0.9	23.36	-38.1	0.25
1120	Start sampling									
1340	82.27	End sample, final water level								

Red Hill Groundwater Sampling Log

WELL NO. **RHMW02** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 3/7/17 TIME: 1220 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
85.24	84.99	89.96	None	99	--	275	1245	5.5	600 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	50	20	15	10	15

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 96 linear ft. btoc Barometric Pressure: 29.74 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1255	84.98	0.5	0.335	6.67	0.515	0.48	-9.5	24.41	-90.3	0.25
1300	84.95		0.337	6.67	0.519	0.37	-9.6	24.10	-99.5	0.25
1305	84.98		0.339	6.70	0.522	0.30	-9.7	24.03	-98.1	0.25
1310	84.97		0.340	6.70	0.524	0.28	-9.7	24.00	-96.2	0.25
1315	84.96		0.341	6.71	0.524	0.25	-9.8	24.00	-91.3	0.25
1320	84.98		0.341	6.72	0.525	0.24	-9.8	23.98	-88.4	0.25
1325	84.97		0.342	6.72	0.526	0.25	-9.8	23.97	-89.7	0.25
1445	89.96	5.5	End sample, final water level							

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: --

OTHER: Odor – organic, non-petroleum odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH265**

DATE: 3/7/17 TIME: 1330

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1445

SAMPLED BY: AM/TQ/KE

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW03** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 3/7/17 TIME: 0905 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
101.55	101.30	101.54	None	117.30	--	250	0920	5	900 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	65	65	50	12	10	48

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 112 linear ft. btoc Barometric Pressure: 29.79 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0925	101.51	0.5	0.528	6.92	0.812	1.31	-2.9	27.30	211.0	0.39
0930	101.50		0.524	6.86	0.806	1.23	-7.6	27.13	210.0	0.39
0935	101.51		0.523	6.86	0.804	1.31	-8.0	27.13	206.2	0.39
0940	101.50		0.522	6.89	0.804	1.25	-8.9	27.07	196.0	0.39
0945	101.50		0.521	6.90	0.802	1.23	-9.6	27.07	184.4	0.39
0950	101.52		0.521	6.90	0.802	1.16	-9.7	27.00	171.9	0.39
0955	101.52		0.521	6.91	0.801	1.14	-9.8	26.99	163.6	0.39
1000	101.52		0.520	6.91	0.801	1.11	-9.8	26.98	156.9	0.39
1005	101.52		0.520	6.92	0.800	1.10	-9.8	26.93	145.9	0.39
1010	101.50		0.520	6.92	0.799	1.08	-9.8	26.94	139.1	0.39
1015	101.52		0.519	6.93	0.800	1.06	-9.8	26.93	133.3	0.39

See next page

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH268**

DATE: 3/7/17 TIME: 1030

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1200

SAMPLED BY: AM/TQ/KE

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1020	101.51		0.519	6.93	0.799	1.05	-9.8	26.87	127.9	0.39
1025	101.51	4	0.519	6.93	0.799	1.06	-9.8	26.87	123.2	0.39
1030	Start sampling									
1200	101.54	5.5	End sample, final water level							

Red Hill Groundwater Sampling Log

WELL NO. **RHMW04** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/6/17 TIME: 0751 CLIMATIC CONDITIONS: Clear, 79 ºF

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
292.85	292.62	292.62	None	305	--	250	0757	2	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	--	25	--	35	--

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 304 linear ft. btoc Barometric Pressure: 752.8 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0802	Water at surface									
0805	292.63		0.294	6.99	0.426	7.71	-4.4	21.93	162.7	0.22
0810	292.63	0.5	0.293	7.18	0.424	8.42	-4.4	21.90	157.8	0.22
0815	292.63		0.292	7.29	0.423	8.71	-4.5	21.83	158.0	0.22
0820	292.63	1.5	0.292	7.31	0.422	8.69	-4.4	21.90	159.8	0.22
0825	292.63	1.75	0.292	7.33	0.422	8.72	-4.3	21.87	161.3	0.22
0830	292.63	2	0.291	7.36	0.421	8.73	-4.4	21.86	163.5	0.22
0948	292.62	End sample, final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH260**

DATE: 3/6/17 TIME: 0835

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 0948

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW05** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 3/8/17 TIME: 1425 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
81.91	81.61	81.64	None	93	--	250	1443	--	500 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	45	45	20	10	10	20

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 90 linear ft. btoc Barometric Pressure: 29.73 in. Hg

Saturated Zone Length: -- linear ft. Methane: 0.0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1445	81.67	0.5	0.860	8.13	1.324	8.22	4.1	24.00	91.8	0.66
1450	81.61		0.859	8.13	1.322	8.26	2.5	23.99	98.5	0.66
1455	81.62		0.859	8.13	1.321	8.28	1.7	24.00	97.5	0.66
1500	81.62		0.859	8.13	1.321	8.29	1.1	24.01	98.4	0.66
1505	81.62		0.858	8.13	1.321	8.28	0.6	24.02	99.4	0.66
1655	81.64	End sample, final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH278**

DATE: 3/8/17 TIME: 1510

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1655

SAMPLED BY: FK/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW06** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/7/17 TIME: 1340 CLIMATIC CONDITIONS: Sunny, 87 ºF, light wind

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
239.90	239.63	239.65	None	263.20	--	--	1345	2.5	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	115	115	22	22	38	38

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: 254 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1345	Start purge									
1359	Water at surface									
1410	239.63		1.153	7.48	1.765	7.10	10.3	24.53	149.7	0.90
1415	239.65	1.0	1.132	7.06	1.712	6.33	3.6	24.10	145.6	0.88
1420	239.66	1.25	1.118	6.93	1.685	6.40	9.4	23.92	148.1	0.87
1425	239.65	1.75	1.114	6.88	1.676	6.44	7.3	23.90	149.7	0.87
1430	239.67	2	1.113	6.89	1.673	6.48	4.1	23.81	152.6	0.86
1435	239.65		1.111	6.86	1.671	6.50	4.3	23.84	153.7	0.86
1440	239.66	2.5	1.111	6.85	1.668	6.50	3.8	23.83	154.8	0.86
1445	239.65		1.109	6.85	1.669	6.51	3.9	23.79	155.6	0.86
1620	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: --

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH284**

DATE: 3/7/17 TIME: 1450

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1620

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW07** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/7/17 TIME: 0715 CLIMATIC CONDITIONS: Sunny, 80 ºF, light wind

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
197.25	197.08	197.55	None	217.76	--	200	0725	4	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	100	90	25	25	35	35

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 210 linear ft. btoc Barometric Pressure: 755.3 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0725	Purge start									
0730	Water at surface									
0739	Changed nitrogen tank									
0745	197.35	1.25	1.181	7.06	1.744	3.41	6.0	22.95	162.0	0.92
0750	197.42	1.5	1.198	7.07	1.766	3.12	0.0	22.77	161.9	0.94
0755	197.52	1.8	1.201	7.08	1.765	3.01	-2.6	22.62	161.6	0.94
0800	197.52	2.1	1.198	7.09	1.754	2.96	-3.5	22.49	161.4	0.94
0805	197.53	2.3	1.193	7.10	1.750	2.91	-3.8	22.53	161.3	0.93
0810	197.51	2.5	1.189	7.11	1.747	2.88	-4.1	22.62	161.1	0.93
0815	197.52	2.8	1.186	7.12	1.741	2.84	-4.3	22.65	160.9	0.92
0938	End sample									
0940	197.55	Final Water Level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: None

OTHER: No odor no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH270**

DATE: 3/7/17 TIME: 0820

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 0938; Adjusted pressure to 90 psi at 0800

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW08** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/6/17 TIME: 1040 CLIMATIC CONDITIONS: Sunny 85 ºF

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
291.51	291.16	291.33	None	311.30	--	250	1041	4.3	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	150	--	25	--	35	--

Headspace PID: 2.3/0.7 ppm Ambient PID: 2.3/0.7 (@1025/1032) ppm

Pump intake: 303 linear ft. btoc Barometric Pressure: 753.3 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1041	Start purge									
1045	Water at surface									
1105	291.35	0.75	0.613	8.11	0.943	4.61	-4.4	25.12	159.5	0.47
1110	291.37	1.25	0.621	8.19	0.947	4.75	-3.9	24.50	161.2	0.47
1115	291.40	1.80	0.619	8.21	0.940	4.29	-4.4	24.34	163.1	0.47
1120			0.619	8.21	0.938	4.43	-3.6	24.24	165.1	0.47
1125	291.42	2.5	0.619	8.22	0.938	4.09	-3.3	24.20	166.1	0.47
1130	291.39	2.8	0.616	8.22	0.937	4.01	-3.8	24.31	167.2	0.47
1135	291.35	3.1	0.616	8.22	0.947	3.96	-4.1	24.34	168.7	0.47
1140	291.34	3.4	0.616	8.22	0.937	3.91	-4.1	24.40	170.1	0.47

See next page

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No Sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 18 primary + 18 SS primary + 13 dup + 13 SS dup + 14 MS/MSD + 14 SS MS/MSD = 90

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
(6 + 6) + (4 + 4) + (8 + 8) x 40-ml VOA w/HCl	(3 + 3) + (3 + 3) + (6 + 6) x 40 ml VOA np	(6 + 6) + (6 + 6) x 40-ml VOA w/HCl	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
36 total	24 total	24 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH262 (N, MS/MSD) and ERH263 (Duplicate)**

DATE: 3/6/17 TIME: 1200

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Periodic faint ambient petrol odor from surrounding activities

Sample end time: 1508

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1145	291.34	3.60	0.614	8.22	0.932	3.85	-4.2	24.35	171.2	0.46
1150	291.34	4.0	0.611	8.22	0.929	3.77	-4.3	24.40	172.3	0.46
1155	291.36	4.3	0.610	8.22	0.926	3.70	-4.4	24.37	173.3	0.46
1200	Sample									
1508	End sample									

Red Hill Groundwater Sampling Log

WELL NO. **RHMW09** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/7/17 TIME: 1020 CLIMATIC CONDITIONS: Sunny, 89 ºF, light wind

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
376.67	376.30	376.41	None	396.69	--	290	1020	3.3	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	190	190	54	54	28	28

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: 389 linear ft. btoc Barometric Pressure: 751.2 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1020	Start purge									
1034	Water to surface									
1045	376.45	1	0.226	7.69	0.340	8.24	-4.8	23.85		
1050	376.45	1.3	0.226	7.69	0.348	8.51	-4.8	23.69		
1055	376.44	1.6	0.226	7.68	0.348	8.49	-4.9	23.65		
1100	376.44	2.0	0.226	7.68	0.338	8.62	-4.9	23.54		
1105	376.44	2.3	0.226	7.68	0.348	8.52	-4.9	23.50		
1110	376.44	2.6	0.226	7.68	0.348	8.67	-4.9	23.45		
1115	376.44	3.0	0.226	7.68	0.336	8.66	-4.8	23.31		
1120	376.44	3.3	0.225	7.67	0.336	8.65	-4.9	23.42		
1305	End sample									
1310	376.41	Final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 18 primary + 18 SS primary = 36 total

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	3 + 3 x 40 ml VOA np	6 + 6 x 40-ml VOA w/HCl	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	6 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH272**

DATE: 3/7/17 TIME: 1125

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 1305

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **HDMW2253-03** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/8/17 TIME: 0828 CLIMATIC CONDITIONS: --

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
206.32	206.13	206.10	None	1575	--	300	0857	6	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	140	15	15	30	15

Headspace PID: 0.5 ppm Ambient PID: 0.4 Ppm

Pump intake: 250 linear ft. btoc Barometric Pressure: 757.4 in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0915	206.13		0.610	6.49	0.938	7.05	16.6	22.91	70.2	0.46
0920	206.12		0.609	6.46	0.937	3.84	15.9	22.89	75.9	0.46
0925	206.12		0.608	6.45	0.935	2.76	15.9	22.88	76.7	0.46
0930	206.12		0.609	6.44	0.937	2.03	15.0	22.77	72.0	0.46
0935	206.12		0.607	6.45	0.934	1.51	15.2	22.76	72.0	0.46
0940	206.13		0.607	6.45	0.935	1.34	15.4	22.77	67.1	0.46
0945	206.13		0.608	6.45	0.935	1.28	13.3	22.78	63.6	0.46
0950	206.13		0.608	6.47	0.936	1.14	12.3	22.79	57.1	0.46
0955	206.13		0.607	6.47	0.934	1.07	13.5	22.81	61.2	0.46
1000	206.13	5.0	0.607	6.48	0.934	1.02	13.0	22.82	58.7	0.46
1005	206.13		0.607	6.47	0.933	0.97	14.4	22.84	62.4	0.46

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH280**

DATE: 3/8/17 TIME: 1015

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1115

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1010	206.13	6.0	0.606	6.47	0.934	1.02	14.7	22.83	16.1	0.46
1115	206.10	End sample, final water level								

Red Hill Groundwater Sampling Log

WELL NO. **OWDFMW01** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 3/8/17 TIME: 1335 CLIMATIC CONDITIONS: Sunny, mid 80's no clouds

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
119.03	118.61	119.03	None	144.74	--	150	1350	2.2	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	68	--	15	--	15	--

Headspace PID: 0.4 ppm Ambient PID: 0.6 ppm

Pump intake: 138 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1352	Water at surface									
1357	119.14									
1413	119.23		5.137	8.55	7.905	5.52	19.6	25.50	98.3	4.37
1420	119.25		5.149	8.50	7.922	5.42	15.7	25.57	112.2	4.38
1425	119.23		5.167	8.47	7.948	5.31	12.8	25.58	121.7	4.39
1430	119.22		5.167	8.45	7.947	5.24	12.3	25.61	129.8	4.40
1435	Changed Nitrogen Tank									
1445	118.94		5.175	8.47	7.965	5.34	10.3	26.20	146.0	4.40
1450	119.02		5.178	8.44	7.968	5.32	9.1	25.95	152.0	4.40
1455	119.10		5.185	8.40	7.984	5.17	5.3	25.93	156.1	4.41
1500	119.13	2.2	5.204	8.36	8.006	4.94	2.7	25.94	158.2	4.43
1810	End sample									

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: --

OTHER: No odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 15 primary + 15 SS primary = 30 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Total Ca/Mg/Mn /K/Na by 6010	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 6 x 40-ml VOA w/HCl	6 + 6 x 1-L Amber	1 + 1 x 500-ml HNO_3	1 + 1 x 250-ml w/HCl	1 + 1 x 250-ml np
12 total	12 total	2 total	2 total	2 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH286**

DATE: 3/8/17 TIME: 1505

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 1810

SAMPLED BY: CB/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW2254-01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: 0849 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
80.06	80.23	--	None	115.79	--	300	0925	4	800 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	55	7	7	23	23

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: -- linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0930	--	0.25	0.319	7.47	0.492	8.29	-0.8	22.15	192.8	0.24
0935	--		0.320	7.49	0.492	8.40	-0.4	22.01	194.0	0.24
0940	--		0.319	7.51	0.491	8.45	-0.8	21.93	196.4	0.24
0945	--		0.319	7.51	0.492	8.45	-0.8	21.91	198.8	0.24
0950	--		0.319	7.51	0.491	8.47	-0.8	21.89	200.6	0.24
1000	Changed flow rate to 100 mL/min for VOAs									
1030	Changed flow rate back to 300 mL/min									
1150	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 primary + 10 dup + 20 MS/MSD = 44 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 4 + 8 x 40-ml VOA w/HCl	6 + 6 + 12 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
18 total	24 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH292 (N, MS/MSD) and ERH293 (Duplicate)**

DATE: 4/3/17 TIME: 1000

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1150

SAMPLED BY: AM/FK/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW01** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: 1500 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
82.28	82.43	88.45	None	99.8	--	120	1520	4.5	3100 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	60	60	5	5	5	5

Headspace PID: 0.4 ppm Ambient PID: 0.4 ppm

Pump intake: 88 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as --possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1530	82.42	0.25	0.209	7.18	0.321	3.01	-0.9	24.22	-4.7	0.15
1535	82.42		0.208	7.09	0.321	2.22	-0.8	24.12	-17.2	0.15
1540	82.43		0.208	7.04	0.320	1.57	-0.9	23.84	-24.9	0.15
1545	82.43		0.208	7.00	0.319	1.25	-0.9	23.70	-27.9	0.15
1550	82.43		0.207	6.99	0.319	1.11	-0.9	23.65	-28.1	0.15
1555	82.43		0.207	6.97	0.318	1.00	-0.9	23.63	-29.5	0.15
1600	Swapped out nitrogen tank									
1605	82.43		0.206	6.96	0.317	0.93	-0.9	23.82	-29.3	0.15
1610	82.43		0.206	6.95	0.317	0.88	-0.9	23.68	-29.7	0.15
1615	82.43		0.206	6.94	0.317	0.77	-0.9	23.62	-30.9	0.15
1620	82.43		0.206	6.94	0.317	0.72	-0.9	23.57	-31.0	0.15
1625	82.43		0.206	6.93	0.316	0.69	-0.9	23.55	-31.2	0.15

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH310**

DATE: 4/3/17 TIME: 1705

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1811

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1630	82.43		0.205	6.92	0.316	0.65	-0.9	23.55	-30.0	0.15
1635	82.43		0.205	6.92	0.316	0.62	-0.9	23.56	-30.9	0.15
1640	82.43		0.205	6.91	0.315	0.60	-0.9	23.54	-30.6	0.15
1645	82.43		0.205	6.91	0.315	0.57	-0.9	23.53	-30.5	0.15
1650	82.43		0.205	6.91	0.315	0.56	-0.9	23.54	-30.8	0.15
1655	82.43		0.205	6.91	0.315	0.54	-0.9	23.54	-30.9	0.15
1700	82.43		0.205	6.91	0.315	0.54	-0.9	23.54	-30.8	0.15
1811	82.45	4.5	End sample, final water level							

Red Hill Groundwater Sampling Log

WELL NO. **RHMW02** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 4/4/17 TIME: 0840 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
84.99	85.27	85.22	None	99	--	250	0900	5	550 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	50	60	15	22	15	8

Headspace PID: 0.3 ppm Ambient PID: 0.5 ppm

Pump intake: 96 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: 0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0910	85.26	0.5	0.334	6.53	0.513	0.56	-10.7	24.17	-24.7	0.25
0915	85.26		0.334	6.58	0.513	0.45	-10.7	24.07	-27.0	0.25
0920	85.26		0.334	6.60	0.514	0.51	-10.7	24.04	-29.1	0.25
0925	85.26		0.335	6.61	0.515	0.38	-10.8	24.02	-32.9	0.25
0931	85.25		0.335	6.62	0.516	0.36	-10.8	24.02	-35.0	0.25
0935	85.26		0.336	6.62	0.516	0.35	-10.8	24.02	-36.5	0.25
0940	85.26		0.336	6.63	0.517	0.33	-10.8	24.01	-38.5	0.25
0945	85.24		0.336	6.64	0.517	0.32	-10.8	24.03	-40.7	0.25
0950	85.23		0.336	6.64	0.517	0.32	-10.8	24.17	-43.5	0.25
1035	85.22	End sample, final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: Odor – slight petroleum

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH300**

DATE: 4/4/17 TIME: 0955

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1035

SAMPLED BY: QM/AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW03** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 4/4/17 TIME: 1113 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
101.30	101.55	101.71	None	117.30	--	120	1115	2	850 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	65	--	50	--	10	--

Headspace PID: 0.1 ppm Ambient PID: 0.2 ppm

Pump intake: 112 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: 0 linear ft. Methane: 0 %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1125	101.55	0.25	0.508	6.81	0.781	5.30	-11.1	28.40	115.9	0.38
1130	101.60		0.512	6.78	0.788	1.99	-10.2	27.76	123.7	0.38
1135	101.55		0.512	6.77	0.788	1.79	-10.0	27.68	125.4	0.38
1140	101.52		0.511	6.76	0.787	1.76	-10.0	27.72	127.5	0.38
1145	101.54		0.511	6.75	0.787	1.78	-10.0	27.84	129.8	0.8
1242	101.71	2	End of sample, final water level							

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH303**

DATE: 4/4/17 TIME: 1155

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Had to increase pressure at 1200

Sample end time: 1242

SAMPLED BY: AM/TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW04** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: CLIMATIC CONDITIONS: --

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
292.62	292.78	292.76	None	305	--	300	0911	3.0	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	140	140	25	25	35	35

Headspace PID: 0.1 ppm Ambient PID: 0.0 ppm

Pump intake: 304 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0911	Start purge									
0917	Water at surface									
0930	292.79	1	0.292	7.01	0.424	8.64	2.0	22.01	144.8	0.22
0935	292.79	1.25	0.292	7.13	0.423	8.71	1.8	22.04	145.2	0.22
0940	292.79	1.5	0.292	7.19	0.423	8.72	2.0	21.99	145.8	0.22
0945	292.79	2.0	0.292	7.19	0.423	8.71	1.8	22.01	147.0	0.22
0950	292.79	2.5	0.291	7.22	0.423	8.67	2.1	22.03	147.5	0.22
0955	292.79	3.0	0.292	7.24	0.423	8.64	2.6	22.07	147.7	0.22
End sample										

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH295**

DATE: 4/3/17 TIME: 1005

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: --

SAMPLED BY: MH/GM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW05** LOCATION: Inside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: 1255 CLIMATIC CONDITIONS: Indoors

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
81.61	81.81	81.81	None	93	--	300	1305	4	400 psi

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	45	--	20	--	10	--

Headspace PID: 0.1 ppm Ambient PID: 0.5 ppm

Pump intake: 90 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1310	81.81	1	0.522	7.91	0.803	8.13	1.4	24.03	141.5	0.39
1315	81.81		0.522	7.91	0.802	8.21	0.1	24.05	150.0	0.39
1320	81.81		0.521	7.91	0.802	8.22	0.2	24.07	158.9	0.39
1325	81.81		0.521	7.91	0.802	8.22	0.1	24.07	167.5	0.39
1330	81.81		0.521	7.91	0.802	8.23	-0.1	24.09	172.5	0.39
1335	81.81		0.521	7.91	0.802	8.23	-0.3	24.07	175.3	0.39
1340	Change flow rate									
1420	81.81	End sample, final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH313**

DATE: 4/3/17 TIME: 1345

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1420

SAMPLED BY: TQ

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW06** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: 1110 CLIMATIC CONDITIONS: Partly cloudy, 89ºF

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
239.63	239.86	239.82	None	263.20	--	300	1120	4	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	115	120	22	25	38	35

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 254 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1120	Began purge									
1126	Water at surface									
1135	239.92		1.099	7.15	1.646	6.45	60.0	24.10	106.4	0.85
1140	239.88		1.148	6.78	1.725	5.76	25.1	23.77	100.5	0.89
1145	239.92	1	1.158	6.73	1.737	5.71	13.7	23.71	101.8	0.90
1150	239.92		1.160	6.72	1.735	5.74	11.9	23.60	103.0	0.90
1155	239.92	2	1.160	6.70	1.738	5.76	7.3	23.64	105.1	0.90
1200	239.88		1.161	6.70	1.741	5.74	5.3	23.65	107.9	0.90
1205	239.89		1.160	6.70	1.737	5.76	4.1	23.65	110.1	0.90
1210	239.90	4	1.161	6.69	1.745	5.71	2.8	23.73	112.2	0.90
End sample										

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear, no color

SEDIMENT: No sediment

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH319**

DATE: 4/3/17 TIME: 1215

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: --

SAMPLED BY: GM/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW07** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/3/17 TIME: 1345 CLIMATIC CONDITIONS: Partially cloudy, 89ºF

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
197.08	197.07	197.33	None	217.76	--	200	1347	--	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	90	--	25	--	35	--

Headspace PID: 0.0 ppm Ambient PID: 0.0 ppm

Pump intake: 210 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1347	Start purge									
1349	Water at surface									
1400	197.22	0.25	1.035	6.19	1.595	6.28	12.6	25.09	54.5	0.80
1405	197.28		1.121	7.13	1.721	4.27	10.0	24.73	69.7	0.87
1410	197.31	0.5	1.161	6.99	1.784	3.65	10.4	24.91	78.9	0.91
1415	197.33		1.176	6.94	1.804	3.40	6.9	24.81	86.5	0.92
1420	197.35	~1	1.183	6.94	1.814	3.26	4.8	24.78	91.8	0.92
1425	197.37		1.187	6.93	1.824	3.14	2.6	24.93	97.2	0.92
1430	197.37		1.188	6.93	1.824	3.08	2.8	24.95	99.8	0.92
1435	197.37		1.183	6.95	1.817	3.06	1.1	24.99	103.2	0.92
1520	End sample									
1532	197.33	Final water level								

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear – no color

SEDIMENT: --

OTHER: --

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH305**

DATE: 4/3/17 TIME: 1440

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1520

SAMPLED BY: GM/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW08** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/4/17 TIME: 1535 CLIMATIC CONDITIONS: Sunny, 85ºF, breezy

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
291.16	291.38	291.49	None	311.30	--	300	1535	4	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	150	45	25	25	35	35

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: 303 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1535	Start purge									
1540	Water @ surface									
1555	291.52		0.600	7.81	0.909	4.29	1.5	24.18	70.0	0.45
1600	291.52	1.25	0.600	7.90	0.909	4.14	0.2	24.20	83.0	0.45
1605	291.50	1.5	0.599	7.93	0.908	4.03	0.5	24.21	93.1	0.45
1610	291.48	1.75	0.598	7.97	0.906	3.98	-0.1	24.15	98.0	0.45
1615	291.56	2.0	0.596	7.97	0.903	3.90	0.1	24.17	102.3	0.45
1620	291.43	2.5	0.595	7.96	0.900	3.81	-0.3	24.15	105.0	0.45
1625	291.48	3.0	0.594	7.97	0.899	3.75	-0.3	24.15	105.8	0.45
1630	291.49	3.25	0.592	7.96	0.895	3.71	-0.4	24.14	106.6	0.45
1742	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: --

OTHER: No sheen, no odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 17 primary + 13 dup = 30 total

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 + 4 x 40-ml VOA w/HCl	3 + 3 x 40 ml VOA np	6 + 6 x 40-ml VOA w/HCl	1 x 250-ml w/HCl	1 x 250-ml np
10 total	6 total	12 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH297 (Primary) and ERH298 (Duplicate)**

DATE: 4/4/17 TIME: 1635

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1742

SAMPLED BY: MH/GM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **RHMW09** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/4/17 TIME: 0730 CLIMATIC CONDITIONS: Overcast, 85ºF

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
376.30	376.70	376.49*	None	396.69	--	250	0730	--	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	190	190	54	52	28	28

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: 389 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
0730	Started purge									
0748	Water at surface									
0755	376.55*		0.218	6.62	0.330	6.94	-0.4	24.15	150.2	0.16
0800	376.55		0.217	7.11	0.325	7.91	-1.0	23.73	135.5	0.16
0805	376.56		0.217	7.25	0.325	8.19	-1.1	23.72	133.3	0.16
0820	376.55		0.216	7.40	0.325	8.36	-1.1	23.72	137.0	0.16
0825	376.55		0.216	7.41	0.323	8.49	-1.0	23.46	136.9	0.16
0830	376.55		0.216	7.43	0.322	8.34	0.6	23.28	136.2	0.16
0835	376.55		0.216	7.45	0.321	8.36	-1.1	23.21	135.6	0.16
0840	376.55		0.216	7.47	0.320	8.36	-0.2	23.18	134.9	0.16
1125	End sample									

SAMPLING EQUIPMENT: Dedicated Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: --

OTHER: No sheen, no odor

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 21 primary + 31 MS/MSD + 18 Dup = 70 total

VOCs/TPH/DCA by 8260, Methane by RSK175M	EDB by 8011	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	Br/F/NO_3/SO_4/Cl by 300.0
6 + 8 + 4 x 40-ml VOA w/HCl	3 + 6 + 3 x 40 ml VOA np	6 + 12 + 6 x 1-L amber	1 x 250-ml w/HCl	1 + 1 + 1 x 250-ml np
18 total	12 total	24 total	1 total	3 total

Dissolved silica **(filtered)** by SM4500SiD	Total silica by SM4500SiD	Dissolved Lead **(filtered)** by 6010	Total Pb/Fe/Ca/Mg/Mn /K/Na by 6010
1 + 1 + 1 x 250-ml np	1 + 1 + 1 x 250-ml np	1 + 1 + 1 x 500-ml HNO_3	1 + 1 + 1 x 500-ml HNO_3
3 total	3 total	3 total	3 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH307(N, MS/MSD) and ERH314 (Duplicate)**

DATE: 4/4/17 TIME: 0850

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES: Sample end time: 1125 *level taken from top of grey casing, changed nitrogen tank at 0820

SAMPLED BY: GM/MH

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

Red Hill Groundwater Sampling Log

WELL NO. **OWDFMW01** LOCATION: Outside Tunnel PROJECT NO. 60481245

DATE: 4/4/17 TIME: 1200 CLIMATIC CONDITIONS: Sunny, high 70's, breezy

Depth to groundwater		Final Depth	Depth to Product	Depth to bottom		Purge			
Previous (ft btoc)	Current (ft btoc)	(ft btoc)	(ft btoc)	Previous (ft btoc)	Current (ft btoc)	Flow rate (mL/min)	Start Time	Total Volume (gal)	Nitrogen used
118.61	118.87	119.29	None	144.74	--	100	1212	3.6	--

Pump settings:	Pressure (PSI)		Discharge (sec)		Fill (sec)	
Previous/Actual	68	65	15	15	15	15

Headspace PID: 0.1 ppm Ambient PID: 0.1 ppm

Pump intake: 138 linear ft. btoc Barometric Pressure: -- in. Hg

Saturated Zone Length: -- linear ft. Methane: -- %

Stabilization:+/- 0.2 ºC, +/- 3% conductivity, +/- 10% DO, +/- 0.1 pH, +/-10 mv ORP, turb=as low as possible (< 10 NTU ideal) for 3 consecutive readings following a min of 5 readings

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1212	Start purge									
1217	Water at surface									
1230	119.52		2.522	8.49	3.947	7.16	13.6	25.82	81.1	2.03
1235	119.65		2.414	8.86	3.741	5.20	29.8	25.75	82.4	1.94
1245	119.65	~1	2.382	8.92	3.740	4.95	12.5	26.09	92.0	1.93
1250	119.62		2.456	8.66	3.887	5.01	11.3	26.41	103.6	1.99
1255	119.61	1.75	2.517	8.46	3.977	5.03	7.0	26.42	110.4	2.04
1300	119.58		2.544	8.40	4.034	4.99	6.1	26.59	115.0	2.06
1305	119.55	2.25	2.560	8.32	4.062	5.01	6.5	26.64	117.3	2.08
1310	119.45		2.562	8.31	4.081	4.98	7.2	26.91	121.2	2.08
1315	119.50		2.582	8.29	4.092	5.02	7.6	26.61	123.7	2.09

See next page

SAMPLING EQUIPMENT: Bladder Pump

APPEARANCE OF SAMPLE: COLOR: Clear

SEDIMENT: No sediment

OTHER: No odor, no sheen

LABORATORY ANALYSIS PARAMETERS AND PRESERVATIVES / NUMBER AND TYPES OF SAMPLE CONTAINERS USED: 14 total

VOCs/TPH by 8260, Methane by RSK175M	TPH/PAH SVOC by 8270	Iron **(filtered)** by SM3500Fe	NO_3/SO_4/Cl by 300.0
6 x 40-ml VOA w/HCl	6 x 1-L Amber	1 x 250-ml w/HCl	1 x 250-ml np
6 total	6 total	1 total	1 total

SAMPLE IDENTIFICATION NUMBER(S) **ERH321**

DATE: 4/4/17 TIME: 1335

DECONTAMINATION PROCEDURES: Alconox, DI water, and Alcohol wash

NOTES:

Sample end time: 1500

SAMPLED BY: CB/MH/GM

SAMPLES DELIVERED TO: APPL TRANSPORTER: FedEx

TIME	DTW	GALLONS REMOVED	TDS (g/L)	pH	SP. COND. (mS/cm)	D.O. (mg/L)	TURB. (NTU)	TEMP. (°C)	ORP (mV)	SAL (ppt)
1320	119.55		2.583	8.22	4.071	5.84	9.3	26.22	126.6	2.10
1325	119.65		2.577	8.17	4.034	5.09	4.9	25.95	131.1	2.09
1330	119.65	3	2.548	8.27	3.994	4.83	4.8	25.95	130.5	2.07
1335	119.65	3.5	2.537	8.30	3.978	4.73	3.7	26.03	130.9	2.05
1500	End sample									

Appendix B.2:
Field Notes,
Second Quarter 2017

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Jan GW Sampling - Tunnel 1/12/17

1115 (cont.) DI water from Merehurene.
JK arrives onsite

1240 Sampling complete. JK mobilizes samples out of tunnel.

1300 Demob out of tunnel.

1330 Exit tunnel.
DOH follows TQ + samples (taken by MH in truck) to warehouse.

1400 Arrive at warehouse to demob

1600 leave warehouse - end of day.

1/12/17

Feb GW Sampling - Tunnel 2/6/17

0515 AM and TQ meet at warehouse

0520 Begin calibrations. See logs for
- YSI water quality meters (2)
- 4gas + PID meters (2)
- PID
- Gem 2000 plus
- All calibrations ok

0600 CB, GM, & MH meet at warehouse to mobilize equipment.

0630 leave for site.

0655 Arrive at Adit 3 to unload.

0730 TQ gives safety brief
Weather: 76°, windy, partly cloudy

0740 Begin to mob equipment into tunnel.

0800 JK arrives onsite. TQ gives briefing

0815 NAVSUPP arrives to provide access to Red Hill Shaft. Mob to RHMW 2254-01 and begin set up.

0905 Begin purging. See log.

0935 Collect sample ERH20 and trip blank at RHMW 2254-01.

Feb GW Sampling-Tunnel 2/6/17
Note trip blank ERH204 has lab provided custody seal written with a sharpie on dark HCl vials

0950 Collect ERH205 from RHMW-2254-01 - primary, MS/MSD, dup. Change flow rate foo 100 mL/min after first five VOAs
Change flow rate back to 300 mL/min

1100 Red Hill Shaft person arrives. Note: pumps are not currently on.

1115 Leak heard in connection between nitrogen hose and control box. Cannot fix. AM exits tunnel to call Jack K.

1150 Collect sample ERH232 ambient blank at RHMW 2254-01. Leak fixed. AM returns with additional nitrogen.

1340 End sample time.

1415 Demob from RHMW2254-01.

1445 AM, JK & TQ take equipment from Adit 3 to MW05 and MW02 for next day's sampling.

Feb GW Sampling 2/6/17

1530 All exit from Tunnel Adit #3

1605 AM & TQ arrive at warehouse to demob equipment

1700 leave warehouse - end of day.

2/6/17

Feb GW Sampling 2/7/16

0515 AM&TQ arrive at warehouse
0525 Begin Calibrations - See logs.
- PID (x2)
- YSI (x2)
- 4gas + PID (x2)
- Landtec
0600 MH&GM arrive at warehouse.
0620 AM&TQ leave warehouse
0650 Arrive onsite at Adit #3
Check rebreather packs
s/n 12083223 - 3000 ok
s/n 12071665 - 3000 - ok
0700 Load gear into tunnel.
0715 Hensel Phelps operating train offers to help mobilize equipment. AM proceeds to MW05 with train operator and equipment. TQ waits for Navy/DOH/UH to arrive.
0730 Weather - Partly cloudy, ~76°
0805 TQ talks to SK who will mob into tunnel to pick up first samples. RL (Navy) calls to let

Feb GW Sampling-Tunnel 2/7/16

0805 (cont.) team know that DOH, Navy, and UH have badges and will be at Adit #3 in ~20 minutes
0835 Navy - Pete LaPlaca
DOH - Richard Takabat
DOH - William F
UH - Danny Powell
Arrive onsite
0840 TQ gives safety brief
0850 All mobilize into tunnel and proceed to MW05.
0910 Arrive at well MW05 and begin set up.
0935 Collect sample ERH211 trip blank at MW05.
0945 Changed flow rate to 200 ml/min
1020 Changed flow rate to 100 mL/min
Collect sample ERH212 from RHMW05.
1150 End sample time.
1200 Collect sample ERH235 for RHMW05 ambient blank.
1215 Begin mob to RHMW02.
1250 Start purging

Rite in the Rain

1310 Collect sample ERH215 trip blank for RHMW02.

1355 changed flow rate to 100 ml/min collect sample ERH 216 from RHMW02

1500 end sample time make to adit 5 to drop off samples and equipment

1540 @ adit 6; meet JK to drop off samples & equipment

1550 make to MW02 to set up equipment @ RHMW01 for tomorrow

1620 make to adit 3

1640 @ adit 3 DOH, NAVY, & UH leave site

Feb GW Sampling - Thurs 2/8/17

0525 AM & TQ arrive at warehouse and begin calibrations - see log.
- PID (x2)
- 4 gas + PID (x2) => one PID did not calibrate, will not use for readings
- YSI (x2)
- Dust Monitor
- Land Tec

0630 Leave warehouse for site

0700 Arrive at Adit #3 to unload
Weather: Partly Cloudy, ~68°F

0715 TQ gives safety brief.

0730 Leave Adit 3 and head to MW01.

0800 Drilling <10 feet from MW01. Set up scaffold with plastic sheeting to protect well from dust
Dust: 0.112 mg/m3

0810 Retrieve equipment from MW-05 and set up MW01

0820 Obtain water level.

0840 Start pumping
Dust: 0.206 mg/m3 TWA=0.120

Rite in the Rain

Feb GW Monitoring-Tunnel 2/8/17

0845 Collect sample [ERH 222] trip blank for RHMW01
Doubleehearing protection donned.
0905 Dust: 0.168 mg/m³ TWA: 0.121
0915 Collect Sample [ERH240] ambient blank using 1-gallon Merehuere water at RHMW01
0940 Prometheus stops drilling and takes a break.
Dust: 0.042 mg/m³ TWA: 0.109
1000 Collect sample [ERH 223] from RHMW01.
1020 Dust: 0.116 TWA: 0.090
1030 Prometheus resumes drilling. Sampling 1-L amber bottles. All donned hearing protection
1115 Dust 1.325 mg/m³ TWA: 0.102
Swapped Nitrogen tank.
1140 Dust. 0.343 mg/m³ TWA: 0.104
1155 Dust. 0.189 mg/m³ TWA: 0.112
Drilling stops.
1200 Dust 0.064 TWA: 0.111
1240 End samples
1300 Drilling resumes

Feb GW Monitoring-Tunnel 2/8/17

1305 Demob from MW01 to RHMW03.
Dust 0.067 TWA 0.090
1330 Arrive at MW03 and setup
1335 Start pumping. See log.
1410 Collect sample [ERH230] trip blank for MW03.
1440 Collect sample [ERH231] from RHMW03 at flow rate 100 mL/min
1510 Collect sample [ERH243] as ambient blank for RHMW03.
1740 End sample at RHMW03.
1800 Demob from MW03.
1820 Exit at Adit 5 and meet team 2.
1830 Return to MW03 to get IDW and last of equipment.
1850 Exit tunnel and proceed to IDW staging area
1930 Arrive at warehouse to demob equipment
1745. Leave warehouse. End of day.

2/8/17

(9) 2/6/17

0640 - mob to RHMW04 & Red Hill Shaft.

0655 - CB, TQ, GM, AM, MH at Red Hill. CB mob to RHMW04. All others to Adit 3 to off load equipment for Tunnel well sampling. See Book 3 for Tunnel Details

0740 - MH + GM at RHMW04. MH gives tailgate briefing. Continue setting up to sample RHMW04.

0755 - Begin purging RHMW04. See Purge Log for details.

Objective: Sample RHMW04 and RHMW08.

Personnel: AECOM - CB, MH, GM.

Weather, Overcast, Breezy, Mid 70's.

0815 - collect Trip Blank, ERH207. See QC logbook for details.

0850 - collect ERH 208 from RHMW04. See QC logbook for details.

1035 - complete collecting ERH208; clean up site.

1100 - GM, MH + CB mob to RHMW08. JK mob to warehouse with ERH207 and ERH208

1105 - set up at RHMW08.

1135 - Begin purge at RHMW08. See purge log for details

1245 - Begin sampling ERH220 (primary) and ERH221 (Dup) at RHMW08. See QC logbook for details

1535 - complete collection of ERH220 and ERH221. ERH219 (Trip Blank) collected at 1140. Clean up site.

1600 - GM + MH mob to warehouse with ERH219, 220 and 221. CB mob to dispose of IDW.

1630 - CB mob to warehouse to off load.

1655 - All off site. End of field day

2/6/17

2/7/17 (10)

0640 - mob to Halawa Prison Parking Lot.

TQ + AM have moved to Adit 3. See logbook 3 for details of sampling RHMW02/05.

0700 - CB, MH + GM at Prison Parking Lot.

Objective: Collect GW from HDMW2253-03 and RHMW07.

Personnel: AECOM - CB, MH, GM
DLNR Water - Patrick

Weather: Mostly Sunny, Mid 70's.

0750 - DLNR Water commission + JK at parking lot, mob to HDMW2253-03

0800 - at well. CB gives tailgate then set up.

0853 - Begin purge at HDMW225303. See Purge log for details.

0900 - collect Trip Blank ERH213. Set up to collect Field Blank for 1.66" Bladder Pump.

0915 - collect Field Blank ERH228. See QC logbook for details.

1045 - stabilization. Turbidity was outside of 10% after cleaning optics on probe multiple times. ~~All off~~ CB. Visually, water is clear. Turbidity is less than 20NTU for all readings. All other parameters are stabilized. Collect ERH214. See QC logbook for details.

1 - complete sampling HDMW2253-03. Clean up and decon pump. JK mob to warehouse with ERH213, 214 and 228 for shipment to Lab. GM mob to set up at RHMW07.

1235 - collect ERH217, trip blank for Remable bladder pump + RHMW07

1245 - collect ERH229 - Equipment blank for 1.66" Bladder Pump.

1400 - mob to RHMW07. GM set up at RHMW06. Mob to RHMW06

1425 - Begin purge at RHMW06. See purge log for details

1525 - collect ERH210 from RHMW07. See QC logbook for details

1655 - complete sample collection at RHMW07. Clean up.

1725 - mob to IDW to dispose of purge water. GM mob to warehouse.

1740 - CB+MH mob to warehouse. All offsite.

1830 - complete offload at warehouse. End of field day

2/7/17

0620 - mob to RHMW07 from warehouse. CB, GM+MH.

0640 - onsite. CB gives tailgate safety briefing. TQ+AM mob to sample RHMW01 in Tunnel. See Book 3 for Tunnel well sampling details.

Objective: collect GW samples from RHMW07 and RHMW09.

Personnel: C Begeal, M. Hizley, G Mura.

Weather: Mostly Sunny, mid 70's, slight breeze.

0700 - set up at RHMW07.

0713 - Begin purge at RHMW07. See purge log for details

0715 - collect ERH209, trip blank for RHMW07.

0835 - collect ERH218 from RHMW07. See QC logbook for details.

0957 - complete sample collection. Clean up and mob to RHMW09.

1020 - Begin setup at RHMW09, GM takes ERH209/218 to warehouse

1040 - Begin purge at RHMW09. See purge log for details.

1100 - collect ERH224, trip blank for RHMW09. See QC logbook for details.

1220 - needed to change Nitrogen tank; parameters stabilized. Needed to ~~wa~~ clean optics multiple times due to changing turbidity. Spoke w/ JJJ regarding unstable turbidity, despite clear purge water and all other parameters stable. JJJ confirmed with T. Saguibo (RPM) that sample collection can proceed.

1230 - collect ERH225 (Primary/MS/MSD) and ERH247 (duplicate) from RHMW09. See QC logbook for details

1450 - collect ERH248 (Field Blank) for RHMW09. GM mob to warehouse w/ RHMW01 samples.

1530 - GM returns. Sampling ERH225/247 continues

1748 - complete collection of ERH225/247. Clean up site

1620 - mob to warehouse. GM, CB, MH offsite. TQ+AM offloading from Tunnel.

1910 - complete at warehouse. End of field day ~~2/8/17~~

(13) 2/9/17

0600 - at warehouse. MH+GM calibrate YSI's, CB calibrates PID. then load equipment.

0700 - All mob to OWDFMW01.

0730 - at OWDF MW01. CB gives tailgate safety briefing. Then setup to collect sample

Objective: Collect GW sample from OWDFMW01.

Personnel: CBegeal, M. Higley, G Mura.

Weather: Sunny, Mid 70's slight breeze.

0745 - setup.

0817 - Begin purging OWDFMW01. See CB purge log for details.

0815 - collect ERH226, trip blank for OWDFMW01, see QC log for details.

0950 - Begin collecting ERH227 at OWDFMW01. See QC log for details.

1145 - complete sampling ERH227. Cleanup.

1210 - All offsite. mob to warehouse.

1305 - End offload at warehouse. End of field day

2/9/17

3/6/17 (14)

0650 - mob to RHMW04.

0730 - Begin setup. CB gives tailgate safety briefing. See Tailgate log for details.

0751 - Begin purging RHMW04. See purge log for details

Personnel: CB, MH, GM.

Objective: collect groundwater at RHMW04 and RHMW08.

Weather: Sunny, 70's.

0802 - water at surface. collect ERH259 Trip Blank

0835 - Begin collection of ERH260. See QC log for details.

0948 - complete sample collection. Clean up sampling area.

1005 - mob to RHMW08.

1025 - at RHMW08 and set up to collect samples

1040 - Begin purging RHMW08. See purge log for details

1200 - collect sample ERH262 and ERH263 (Duplicate) from RHMW08.

1508 - complete sampling RHMW08. Clean up.

1520 - TQ called and said they have finished RHMW2254-01.

1530 - GM+MH mob to Adit 3 to assist TQ+KE. CB mob to IDW area then assists tunnel team

1700 - at warehouse. offload and stock up.

1745 - end of day

3/6/17

March GW Sampling - Tunnel 3/3/17

0800 KE & TQ arrive at warehouse for equipment prep.

0830 MH filling in for TQ (family emergency) Arrive warehouse with KS.

0920 KE & MH left warehouse to conduct equipment blank sampling at RHMW07

0940 Stopped at Menehune water company to pick up three 5-gallon bottles DI water. (deionized water)

1000 KE & MH arrive at RHMW07. MH conducted safety meeting.

1005 Set-up area to decontaminate and sample equipment (two bladder pumps - 1.66" and 0.675").

1010 Packed trip blank bottles (ERH 252)

1030 Sampled ERH 254 from bladder pump - 1.66" for outside wells

1120 Sampled ERH 253 from bladder pump - 0.675" for inside wells

1200 Packed all samples over ice and cleaned up site.

1215 Left RHMW07 back to warehouse

1230 KE & MH arrive at warehouse and placed all samples in warehouse fridge.

1245 Lunch

1315 KE & MH decontaminated remaining equipment (200' & 500' water level meters) and staged equipment/supplies for GW event.

1530 KE & MH left warehouse, end of field day.

3/3/17

Rite in the Rain

GW Sampling – Tunnel 3/6/17

0530 MH, GM, KE, & TQ arrive at warehouse.

0535 Calibrate – see logs
- YSIs (2)
- Methane Meter
- PID
- 4-gas
- 4-gas + PID

0620 CB arrives at warehouse

0630 All leave and mob to site.

0700 Arrive at Adit 3.

0705 Check re-breather packs
#12083273 – 3000 psi – OK
12071665 – 3000 psi – OK

0730 TQ gives safety brief – see log.
Weather: ~70°F, clear skies, sunny

0740 Begin mobilizing equipment into tunnel

0800 HP train utilized to mob gear to Red Hill Shaft.

0820 NAVSUP arrives to unlock shaft.

0825 Mobilize equipment into RHMWW 2254-01 and

GW Sampling – Tunnel 3/6/17

begin set up. Note: pumps are currently running.

0900 Take water level at RHMW 2254-01.

0915 Start pumping. See sampling log.

0930 Collect sample ERH255 trip blank for RHWM 2254-01.

0950 Changed flow rate to 90 mL/min
Collect sample ERH257 primary/MS/MSD and ERH258 duplicate from RHMW 2254-01.

1020 Pumps shut off during primary VOC sampling (9 VOA vials remaining)

1055 Changed flow rate to 275 mL/min and began collecting ambers.

1145 Collect sample ERH256 ambient blank using new 1 gallon Menehune DI water.

1430 Complete samples and close cover.

1450 Demob from Red Hill Shaft and lock door.

1515 Exit tunnel. Call CB and request a truck for support.

1530 Left message for Pete La Pidea

Rite in the Rain

GW Sampling Tunnel 3/6/17

1535 PL calls back. TQ requests to meet at Adit 5 for Tuesday sampling PL indicates earlier construction at Adit 5.

1540 Re-enter tunnel to mob gear to MW02.

1615 Arrive at MW02 and drop off gear. Hear report that elevator at Adit 5/6 is broken.

1630 Arrive at elevator - no problems.

1635 Sign at exit to Adit 5 says under construction. However NAVSUP personnel indicates exit is available to use.

1640 Exit Adit 5. HP worker indicates construction at Adit 5 exit will be from 0600 to 1530. Return to Adit 3 with wagons and will mob from Adit 3 tomorrow.

1650 Demob from Adit 3 and leave site.

1700 Call PL and tell Navy and

GW Sampling - Tunnel 3/6/17

DOH to meet at Adit 3 instead. Leave to return to warehouse

1725 Arrive at warehouse to drop off samples.

1800 Finish de-mob. End of day.

3/6/17

GW Sampling - Tunnel 3/7/17

0500 AM & KE Meet at warehouse and begin calibrations. See log.
- YSIs (x 2)
- PID
- 4 gas meter
- 4 gas meter + PID
- Methane meter

0630 Leave warehouse and mob to site.

0700 Arrive onsite and mob gear into tunnel

0740 TQ gives AECOM team safety briefing. Team mobs into MW03 to set up while TQ waits for DOH and Navy to arrive

0825 Navy and DOH arrive Onsite. TQ gives safety brief.

0830 Proceed into tunnel and mob to MW03.

0905 Arrive at MW03.

0920 Start pumping at RHMW03. Collect sample ERH266 trip blank.

1030 Collect sample ERH268 from RHMW03. Change flow rate to 100 mL/min.

1035 Collect sample ERH267 ambient blank using 1 gallon Menehune water.

1050 Change flow rate back to 250 mL/min and resume collecting amber bottles.

1200 Finish collecting sample at RHMW03. Demob and bring gear to MW02

1230 Arrive at MW02. AM and KE bring samples to Adit 3 for shipment.

1245 Begin pumping at RHMW02. See sample log.

1315 collect sample ERH264 trip blank

1330 Collect sample ERH265 from RHMW02.

1445 Finish collecting sample from RHMW02.

1505 Demob from RHMW02 with help from AM.

GW Sampling Tunnel 3/7/17

1515 Leave gear at MW01. HP containment set up with neg air over well. Asked if it could be shifted over for Wednesday morning

1600 Arrive at Adit 3 and demob.

1645 Brought IDW to drums

1700 Demob from site.

1730 Arrive at warehouse.

1800 Drop off samples and gear. End of day.

3/7/17

GW Sampling Tunnel 3/8/17

0500 Arrive at warehouse and begin calibrations - see log
- YSI (x2)
- PID
- 4 gas meter
- 4 gas meter + PID
- Methane meter

0630 Leave warehouse for site.

0730 Arrive onsite

0740 Calibrate Data Ram - see log.

0800 ~~Giv~~ TQ gives initial site briefing, re-breather demo and tailgate safety brief.

0830 Mobilize into tunnel and go to MW01.

0900 Arrive at MW01 and cannot find water level meter. Go to MW02 to retrieve the water level meter

0920 Set up at RHMW01 and begin pumping. See log.

1010 Collect sample GRH273 Trip blank.

1040 Swap nitrogen tank. Note:

Rite in the Rain

GW Sampling Tunnel 3/8/17

although labelled as "full" the tank only had 900 psi.

1120 Collect sample ERH275 from RHMW01.

1205 Collect sample ERH274 ambient blank.

1340 End sample at RHMW01 Mob to MW05.

1445 Start purging at RHMW05. See sample log.

1500 Collect sample ERH276 trip blank.

1510 Collect sample ERH278 from RHMW05. Changed flowrate to 100 mL/min.

1535 Collect sample ERH277 ambient blank.

1545 Changed flowrate back to 250 mL/min.

1655 End sample time. Demob from RHMW05.

1730 Bring samples to Adit 3.

1800 Bring rest of gear to Adit 3.

1815 Brought 15 gal to drum

staging area

1845 Leave site for warehouse

1915 Arrive at warehouse to demob.

2000 Finish demob and leave warehouse.

3/8/17

1525 - collect ERH210 from RHMW07. See QC logbook for details

1655 - complete sample collection at RHMW07. Clean up.

1725 - mob to IDW to dispose of purge water. GM mob to warehouse.

1740 - CB+MH mob to warehouse. All offsite.

1830 - complete offload at warehouse. End of field day

2/7/17

0620 - mob to RHMW07 from warehouse. CB, GM+MH.

0640 - onsite. CB gives tailgate safety briefing. TQ+AM mob to sample RHMW01 in Tunnel. See Book 3 for Tunnel well sampling details.

Objective: collect GW samples from RHMW07 and RHMW09.

Personnel: C Begeal, M. Hizley, G Mura.

Weather: Mostly Sunny, mid 70's, slight breeze.

0700 - set up at RHMW07.

0713 - Begin purge at RHMW07. See purge log for details

0715 - collect ERH209, trip blank for RHMW07.

0835 - collect ERH218 from RHMW07. See QC logbook for details.

0957 - complete sample collection. Clean up and mob to RHMW09.

1020 - Begin setup at RHMW09, GM takes ERH209/218 to warehouse

1040 - Begin purge at RHMW09. See purge log for details.

1100 - collect ERH224, trip blank for RHMW09. See QC logbook for details.

1220 - needed to change Nitrogen tank; parameters stabilized. Needed to ~~wa~~ clean optics multiple times due to changing turbidity. Spoke w/ JJJ regarding unstable turbidity, despite clear purge water and all other parameters stable. JJJ confirmed with T. Saguibo (RPM) that sample collection can proceed.

1230 - collect ERH225 (Primary/MS/MSD) and ERH247 (duplicate) from RHMW09. See QC logbook for details

1450 - collect ERH248 (Field Blank) for RHMW09. GM mob to warehouse w/ RHMW01 samples.

1530 - GM returns. Sampling ERH225/247 continues

1748 - complete collection of ERH225/247. Clean up site

1620 - mob to warehouse. GM, CB, MH offsite. TQ+AM offloading from Tunnel.

1910 - complete at warehouse. End of field day ~~2/8/17~~

(13) 2/9/17

0600 - at warehouse. MH+GM calibrate YSI's, CB calibrates PID. then load equipment.

0700 - All mob to OWDFMW01.

0730 - at OWDF MW01. CB gives tailgate safety briefing. Then setup to collect sample

Objective: Collect GW sample from OWDFMW01.

Personnel: CBegeal, M. Higley, G Mura.

Weather: Sunny, Mid 70's slight breeze.

0745 - setup.

0817 - Begin purging OWDFMW01. See CB purge log for details.

0815 - collect ERH226, trip blank for OWDFMW01, see QC log for details.

0950 - Begin collecting ERH227 at OWDFMW01. See QC log for details.

1145 - complete sampling ERH227. Cleanup.

1210 - All offsite. mob to warehouse.

1305 - End offload at warehouse. End of field day

2/9/17

3/6/17 (14)

0650 - mob to RHMW04.

0730 - Begin setup. CB gives tailgate safety briefing. See Tailgate log for details.

0751 - Begin purging RHMW04. See purge log for details

Personnel: CB, MH, GM.

Objective: collect groundwater at RHMW04 and RHMW08.

Weather: Sunny, 70's.

0802 - water at surface. collect ERH259 Trip Blank

0835 - Begin collection of ERH260. See QC log for details.

0948 - complete sample collection. Clean up sampling area.

1005 - mob to RHMW08.

1025 - at RHMW08 and set up to collect samples

1040 - Begin purging RHMW08. See purge log for details

1200 - collect sample ERH262 and ERH263 (Duplicate) from RHMW08.

1508 - complete sampling RHMW08. Clean up.

1520 - TQ called and said they have finished RHMW2254-01.

1530 - GM+MH mob to Adit 3 to assist TQ+KE. CB mob to IDW area then assists tunnel team

1700 - at warehouse. offload and stock up.

1745 - end of day

3/6/17

 3/7/17

0630 - mob to RHMW07. TQ, KE & AM have mob'd to tunnel. See logbook 3 for details on tunnel sampling.

0655 - at RHMW07. CB gives tailgate safety, then setup at RHMW07.

Objective: collect groundwater samples from RHMW07 and RHMW09.

Personnel: CB, MH, GM.

Weather: Sunny, 70's.

0730 - Begin purging RHMW07. See purge log for details. Collect ERH269 - Trip Blank. See QC logbook for details.

0820 - Begin sampling ERH270 from RHMW07. See QC logbook for details.

0938 - Finish sampling ERH260. Clean up then mob to RHMW09.

1000 - at RHMW10 and begin setup.

1015 - Collect ERH271 - Trip Blank. See QC logbook for details.

1020 - Begin purging RHMW09. See Purge log for details.

1035 - GM mob to warehouse w/ ERH259 and ERH260.

1125 - Begin sampling ERH272 from RHMW09. See QC log for details.

1305 - complete sampling. Clean up then mob to RHMW06

1330 - set up at RHMW06.

1345 - Begin purge at RHMW06. See purge log for details.

1450 - collect ERH284 from RHMW06. See QC logbook for details

1620 - complete sampling. AM takes all IDW to DM032. Clean up.

1640 - mob to AECOM Warehouse.

1730 - all equipment offloaded at AECOM warehouse. mobilize equipment for tomorrow. End of day.

3/7/17

0630 GM + AM mob to site.
0745 - CB meets GM + AM at Halawa Prison. TQ, FK in Tunnel. See Book 3 for Tunnel details.
0800 - RC of CWRM at prison. mob to HDMW2253-03.
Objective: collect GW sample from HDMW2253-03 and OWDFMW01.
Personnel - AECOM: AM, GM, CB
CWRM - RC
Weather: Partly Sunny, 70's.
0820 - set up at HDMW2253-03.
0857 - Start purging HDMW2253-03. See purge log for details.
0900 - collect ERH279 - Trip Blank. See QC logbook for details.
0935 - collect ERH281 - Field Blank. See QC logbook for details.
1015 - collect ERH280 from HDMW2253-03. See QC logbook for details.
1115 - complete sample collection. Clean up. then decon Bladder Pump.
1155 - collect ERH285 - Trip Blank
1210 - collect ERH282 - Equipment Blank HDMW2253-03 Bladder Pump. See QC log for details
1315 - cleaned up. Mob to OWDF MW01.
1335 - set up at ~~RHMW~~ CB 3/8/17 OWDF MW01.
1350 - Begin purging OWDFMW01. See purge log for details.
1400 - CB mob to RHMW10 to pick up IDW drum then to IDW area to dispose of purge water.
1505 - CB collect ~~RHMW~~ sample ERH286 from OWDFMW01.

1545 - AM goes to Adit 3 to relieve TQ in Tunnel.
1645 - AM goes into tunnel. TQ + KE off site. Tunnel crew is still sampling RHMW05. See Book 3 for further tunnel details.
1810 - complete sampling OWDF MW01. Tunnel team complete and out. Clean up site then mob to dispose of IDW.
1845 - all offsite. AM, FK, GM mob to warehouse. End of field day.

3/8/17

4/3/17 JV ~~3/4/17~~

red hill Ground water Sampling

weather: Partly cloudy, mod. trade winds, 80°-85°

Planned work: groundwater sampling @ RHMW04, 06, 07

0645 AECOM (MH, GM, CB) arrive at RHMW04, conduct safety briefing (see log), set up to collect equipment blanks. + ground water sample.

0830 collect ERH 288 (small pump EB), Trip Blanks ERH 287 & collected @ 0810. ~~SR~~

0911 start purge @ RHMW04 (see purge log)

0925 collect ERH 316 (big pump EB)

1005 collect ERH 295. TB is ERH294 ERH287 is Trip Blank for ERH316 and ERH288.

1100 Mob to RHMW06 + set up.

1120 begin purge

1115 collect ERH ~~#~~ 318 (trip blank)

1215 collect ERH 319

1310 finish ERH 319 clean up & mob to RHMW07.

1345 Collect ~~ERH~~ 304 trip blank

1347 start Purge @ RHMW07.

1440 - Finish purge. See purge log for details. Sample ERH 305

1520 - complete sample collection clean up then dispose of IDW.

1540 - mob to warehouse.

1640 - offloaded samples. End of day

4/3/17

Rite in the Rain

4/4/17

0700 - all onsite at RHMW09. See Book for Tunnel well sampling details. Set up at RHMW09 and MH gives tailgate briefing.
Objective: GW sampling at RHMW09, RHMW08 and OWDFMW01.
Personnel: AECOM - MH, CB, GM.
Weather: Partly Sunny, High 70's
0730 - collect ERH306 Trip Blank
- Start purging RHMW09. See purge log for details.
0745 - collect ERH315 - Field Blank for RHMW09. See QC logbook for details.
0850 - Sample ERH307 - Primary/MS/MSD and ERH314 - Duplicate from RHMW09 See QC logbook for details.
1125 - complete sampling at RHMW09
1140 - mob to OWDFMW01.
1200 - set up at OWDFMW01.
- CB mobs to warehouse w/ samples QM offsite
1245 - collect Field Blank ERH289 collected Trip Blank ERH320 @ 1225.
1320 - CB returns. continue purging

OWDFMW01. See purge log for details.
1335 collect ERH 321. Primary
1500 complete sampling @ OWDF MW01 Mob to RHMW08
1535 start purge, collect trip blank ERH 296.
1635 collect sample ERH 297 primary + ERH 298 Duplicate.
1742 Sample ERH 297 + ERH 298 complete. clean up dispose of IDW
1800 Mob to warehouse.
1835 Drop off samples @ warehouse. end field day

4/4/17.

Rite in the Rain

Appendix C:
Analytical Documentation,
Second Quarter 2017
(on CD-ROM at end of document)

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Appendix C.1:
Full Suite Analyte List for RHMW09

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Full Suite Analyte List for RHMW09 (samples collected during February and April 2017 monitoring events)

Analytical Group	Analyte	CAS No.
Alkalinity	Bicarbonate Alkalinity	71-52-3
Alkalinity	Carbonate Alkalinity	3812-32-6
Alkalinity	Total Alkalinity	-17
Anion	Bromide	24959-67-9
Anion	Chloride	16887-00-6
Anion	Fluoride	16984-48-8
Anion	Nitrate	14797-55-8
Anion	Sulfate	14808-79-8
Ferrous Iron	Ferrous Iron	15438-31-0
Fixed Gas	Methane	74-82-8
Fuel Additive	Diethylene glycol monomethyl ether (DiEGME; 2-(2-methoxyethoxy)-ethanol)	111-77-3
Metal	Calcium, total	7440-70-2
Metal	Iron, total	7439-89-6
Metal	Lead, dissolved	7439-92-1
Metal	Lead, total	7439-92-1
Metal	Magnesium, total	7439-95-4
Metal	Manganese, total	7439-96-5
Metal	Potassium, total	7440-09-7
Metal	Sodium, total	7440-23-5
PAHs	1-Methylnaphthalene	90-12-0
PAHs	2-Methylnaphthalene	91-57-6
PAHs	Acenaphthene	83-32-9
PAHs	Acenaphthylene	208-96-8
PAHs	Anthracene	120-12-7
PAHs	Benzo(a)anthracene	56-55-3
PAHs	Benzo(a)pyrene	50-32-8
PAHs	Benzo(b)fluoranthene	205-99-2
PAHs	Benzo(g,h,i)perylene	191-24-2
PAHs	Benzo(k)fluoranthene	207-08-9
PAHs	Chrysene	218-01-9
PAHs	Dibenz(a,h)anthracene	53-70-3
PAHs	Fluoranthene	206-44-0
PAHs	Fluorene	86-73-7
PAHs	Indeno(1,2,3-cd)pyrene	193-39-5
PAHs	Naphthalene	91-20-3
PAHs	Phenanthrene	85-01-8
PAHs	Pyrene	129-00-0
SVOC	1,2,4-Trichlorobenzene	120-82-1
SVOC	1,2-Dichlorobenzene	95-50-1
SVOC	1,3-Dichlorobenzene	541-73-1
SVOC	1,4-Dichlorobenzene	106-46-7
SVOC	1,4-Dioxane	123-91-1
SVOC	2,4,5-Trichlorophenol	95-95-4
SVOC	2,4,6-Trichlorophenol	88-06-2
SVOC	2,4-Dichlorophenol	120-83-2
SVOC	2,4-Dimethylphenol	105-67-9

Analytical Group	Analyte	CAS No.
SVOC	2,4-Dinitrophenol	51-28-5
SVOC	2,4-Dinitrotoluene	121-14-2
SVOC	2,6-Dinitrotoluene	606-20-2
SVOC	2-Chloronaphthalene	91-58-7
SVOC	2-Chlorophenol	95-57-8
SVOC	2-Methylnaphthalene	91-57-6
SVOC	2-Methylphenol	95-48-7
SVOC	2-Nitroaniline	88-74-4
SVOC	2-Nitrophenol	88-75-5
SVOC	3&4-Methylphenol	108-39-4/106-44-5
SVOC	3,3'-Dichlorobenzidine	91-94-1
SVOC	3-Nitroaniline	99-09-2
SVOC	4,6-Dinitro-2-methylphenol	534-52-1
SVOC	4-Bromophenyl phenyl ether	101-55-3
SVOC	4-Chloro-3-methylphenol	59-50-7
SVOC	4-Chloroaniline	106-47-8
SVOC	4-Chlorophenyl phenyl ether	7005-72-3
SVOC	4-Nitroaniline	100-01-6
SVOC	4-Nitrophenol	100-02-7
SVOC	Acenaphthene	83-32-9
SVOC	Acenaphthylene	208-96-8
SVOC	Anthracene	120-12-7
SVOC	Benzo(a)anthracene	56-55-3
SVOC	Benzo(a)pyrene	50-32-8
SVOC	Benzo(b)fluoranthene	205-99-2
SVOC	Benzo(g,h,i)perylene	191-24-2
SVOC	Benzo(k)fluoranthene	207-08-9
SVOC	Benzyl alcohol	100-51-6
SVOC	Bis(2-chloro-1-methylethyl)ether	108-60-1
SVOC	Bis(2-chloroethoxy)methane	111-91-1
SVOC	Bis(2-chloroethyl)ether	111-44-4
SVOC	Bis(2-ethylhexyl) phthalate	117-81-7
SVOC	Butyl benzyl phthalate	85-68-7
SVOC	Carbazole	86-74-8
SVOC	Chrysene	218-01-9
SVOC	Dibenz(a,h)anthracene	53-70-3
SVOC	Dibenzofuran	132-64-9
SVOC	Diethyl phthalate	84-66-2
SVOC	Dimethyl phthalate	131-11-3
SVOC	Di-n-butyl phthalate	84-74-2
SVOC	Di-n-octyl phthalate	117-84-0
SVOC	Diphenyl amine	122-39-4
SVOC	Fluoranthene	206-44-0
SVOC	Fluorene	86-73-7
SVOC	Hexachlorobenzene	118-74-1
SVOC	Hexachlorobutadiene	87-68-3
SVOC	Hexachlorocyclopentadiene	77-47-4

Analytical Group	Analyte	CAS No.
SVOC	Hexachloroethane	67-72-1
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5
SVOC	Isophorone	78-59-1
SVOC	Naphthalene	91-20-3
SVOC	Nitrobenzene	98-95-3
SVOC	N-Nitrosodipropylamine	621-64-7
SVOC	Pentachlorophenol	87-86-5
SVOC	Phenanthrene	85-01-8
SVOC	Phenol	108-95-2
SVOC	Pyrene	129-00-0
SVOC	Tentatively Identified Compounds	N/A
TPH	TPH-d	-3527
TPH	TPH-g	-3534
TPH	TPH-o	-3528
VOC	1,1,1,2-Tetrachloroethane	630-20-6
VOC	1,1,1-Trichloroethane	71-55-6
VOC	1,1,2,2-Tetrachloroethane	79-34-5
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
VOC	1,1,2-Trichloroethane	79-00-5
VOC	1,1-Dichloroethane	75-34-3
VOC	1,1-Dichloroethylene (1,1-Dichloroethene)	75-35-4
VOC	1,1-Dichloropropene	563-58-6
VOC	1,2,3-Trichlorobenzene	87-61-6
VOC	1,2,3-Trichloropropane	96-18-4
VOC	1,2,4-Trichlorobenzene	120-82-1
VOC	1,2,4-Trimethylbenzene	95-63-6
VOC	1,2-Dibromo-3-chloropropane	96-12-8
VOC	1,2-Dibromoethane (EDB)	106-93-4
VOC	1,2-Dichlorobenzene	95-50-1
VOC	1,2-Dichloroethane	107-06-2
VOC	1,2-Dichloropropane	78-87-5
VOC	1,3,5-Trimethylbenzene	108-67-8
VOC	1,3-Dichlorobenzene	541-73-1
VOC	1,3-Dichloropropane	142-28-9
VOC	1,3-Dichloropropene (total of cis/trans)	542-75-6
VOC	1,4-Dichlorobenzene	106-46-7
VOC	2,2-Dichloropropane	594-20-7
VOC	2-Butanone (Methyl ethyl ketone; MEK)	78-93-3
VOC	2-Chlorotoluene	95-49-8
VOC	2-Hexanone	591-78-6
VOC	4-Chlorotoluene	106-43-4
VOC	4-Methyl-2-Pentanone (Methyl isobutyl ketone; MIBK)	108-10-1
VOC	Acetone	67-64-1
VOC	Benzene	71-43-2
VOC	Bromobenzene	108-86-1
VOC	Bromochloromethane	74-97-5
VOC	Bromodichloromethane	75-27-4

Analytical Group	Analyte	CAS No.
VOC	Bromoform	75-25-2
VOC	Bromomethane	74-83-9
VOC	Butylbenzene	104-51-8
VOC	Carbon disulfide	75-15-0
VOC	Carbon Tetrachloride	56-23-5
VOC	Chlorobenzene	108-90-7
VOC	Chloroethane	75-00-3
VOC	Chloroform	67-66-3
VOC	Chloromethane	74-87-3
VOC	cis-1,2-Dichloroethylene	156-59-2
VOC	cis-1,3-Dichloropropene	10061-01-5
VOC	Dibromochloromethane	124-48-1
VOC	Dibromomethane	74-95-3
VOC	Dichlorodifluoromethane	75-71-8
VOC	Diisopropyl ether	108-20-3
VOC	Ethyl tert-butyl ether	637-92-3
VOC	Ethylbenzene	100-41-4
VOC	Hexachlorobutadiene	87-68-3
VOC	Isopropylbenzene	98-82-8
VOC	Methyl tert-butyl Ether (MTBE)	1634-04-4
VOC	Methylene chloride (Dichloromethane)	75-09-2
VOC	Naphthalene	91-20-3
VOC	p-Isopropyltoluene	99-87-6
VOC	Propylbenzene	103-65-1
VOC	sec-Butylbenzene	135-98-8
VOC	Styrene	100-42-5
VOC	Tentatively Identified Compounds	N/A
VOC	tert-Amyl methyl ether	994-05-8
VOC	tert-Butyl alcohol	75-65-0
VOC	tert-Butylbenzene	98-06-6
VOC	Tetrachloroethylene	127-18-4
VOC	Toluene	108-88-3
VOC	trans-1,2-Dichloroethylene	156-60-5
VOC	trans-1,3-Dichloropropene	10061-02-6
VOC	Trichloroethylene	79-01-6
VOC	Trichlorofluoromethane	75-69-4
VOC	Vinyl chloride	75-01-4
VOC	Xylene, m&p-	108-38-3/106-42-3
VOC	Xylene, o-	95-47-6
VOC	Xylenes, Total (p/m-, o-xylene)	1330-20-7

CAS No. Chemical Abstracts Service number
EDB ethylene dibromide; 1,2-dibromoethane
N/A not applicable
PAH polynuclear aromatic hydrocarbon
SVOC semivolatile organic compound
TPH total petroleum hydrocarbons
VOC volatile organic compound

Appendix C.2:
Analytical Laboratory Reports

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908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 21, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82117

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Five water samples were received February 7, 2017. Written results for the requested analyses are being provided on this February 21, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

for PM

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 620

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82117

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Method 8015B TPH-E	17
QC Summary	18
Sample Data	23
Calibration Data	33
Raw Data	74
Method 8270D SIM	97
QC Summary	98
Sample Data	108
Calibration Data	118
Raw Data	145
Method 8270D SVOCs	164
QC Summary	165
Sample Data	176
Calibration Data	186
Raw Data	232

Method 8270D SVOCs (MEE) 254
QC Summary 255
Sample Data 263
Calibration Data 273
Raw Data 300
Method 8260B VOCs 318
QC Summary 319
Sample Data 328
Calibration Data 345
Raw Data 403
Method 8260B GRO 417
QC Summary 418
Sample Data 423
Calibration Data 449
Raw Data 500
Method RSK-175 Methane 515
QC Summary 516
Sample Data 519
Calibration Data 526
Raw Data 560
Inorganic Analyses 569
QC Summary 570
Sample Data 573
Calibration Data 578
Raw Data 625

CASE NARRATIVE

Case Narrative

ARF: 82117

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Five water samples were received February 7, 2017, at 1.0°C, 2.0°C, and 3.0°C. The sample group was assigned Analytical Request Form (ARF) number 82117. The following discrepancies were noted and reported to the client: three vials labeled ERH207 were unpreserved; a metals bottle was received for sample ERH208 though metals analysis was not requested; and sample ERH208 was received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analyses, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the sample was prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8270D SIM: The ending CCV (file ID: 0214L044) was injected the next day because the instrument stopped after work hours.

APPL SOP ANA2MEE: Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

Inorganic Analyses: The sample was received more than 24 hours after collection; it was analyzed for ferrous iron as soon as possible on the day received. A manual integration for chloride was performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed. In the 170211A method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82117	02/07/17	ERH207	AZ49655	02/06/17	08:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82117	02/07/17	ERH207	AZ49655	02/06/17	08:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82117	02/07/17	ERH207	AZ49655	02/06/17	08:15 AM	WATER	RSK 175	METHANE BY RSK 175
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	RSK 175	METHANE BY RSK 175
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	SM 2320B	Wetlab 2320B - Water
82117	02/07/17	ERH208	AZ49656	02/06/17	08:50 AM	WATER	SM3500FeB	Ferrous Iron
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	8270D-SIM	EPA 8270D SIM
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82117	02/07/17	ERH244	AZ49657	02/03/17	07:55 AM	WATER	EPA 8270D	EPA 8270D WATER
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	8270D-SIM	EPA 8270D SIM
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82117	02/07/17	ERH245	AZ49658	02/03/17	08:15 AM	WATER	EPA 8270D	EPA 8270D WATER
82117	02/07/17	ERH246	AZ49659	02/03/17	07:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82117	02/07/17	ERH246	AZ49659	02/03/17	07:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82117

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 020617a,b,c
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: ONE WEEK

Received by: SMA
Date Received: 02/07/17 Time: 11:20
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 1.0,2.0,3.0°C
Color: VOA/M-PRPLPNK/Q-ORGY
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/14/17

Comments:
7-day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O; RSK: Methane only. CHANGE IN ARF: add methane to ERH207 per email. 2-8-17 rp
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 3-$87DC53W5, 3-$87DMEEW5, 3-$DOC53W5, 3-$SIMDOD5W
Extractions: 3-_MWE2MEE, 3-_SEP004, 3-_SEP004S, 3-_SEP011LL
VOA: 5-$86BTOTXDOD5W, 5-$GASBL, 5-$GRO86BW, 2-$RSKMETH
Wetlab: 1-$232W(HCO3,CO3,ALK), 1-$300W(NO3,CL,SO4), 1-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

Client ID	APPL ID	Sampled	Analyses Requested
1. ERH207	AZ49655W	02/06/17 08:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA
2. ERH208	AZ49656W	02/06/17 08:50	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH244	AZ49657W 02/03/17 07:55	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
4.	ERH245	AZ49658W 02/03/17 08:15	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
5.	ERH246	AZ49659W 02/03/17 07:50	$86BTOTXDOD5W, $GASBL, $GRO86BW

APPL Sample Receipt Form

ARF# **82117**

Sample	Container Type	Count	pH
AZ49655	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49656	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49657	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ49658	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ49659	13 VOAs - HCL	6	NA

Sample	Container Type	Count	pH

Renee Patterson

From: Thach, Margie [Margie.Thach@aecom.com]
Sent: Wednesday, February 08, 2017 1:07 PM
To: Renee Patterson; 'Libby Cheeseborough'
Subject: RE: 82117 Red Hill log in

Thank you, Renee!
Can you please add methane on ERH207 (AZ49655W)?

Thank you,

Margie Pascua Thach
Environmental Scientist
Environment, West Region, Pacific District
Direct 808.356.5373
Margie.Thach@aecom.com

From: Renee Patterson [mailto:rpatterson@applinc.com]
Sent: Tuesday, February 07, 2017 4:03 PM
To: Thach, Margie; 'Libby Cheeseborough'
Subject: 82117 Red Hill log in

Here is a log in for your review.

Please let me know if there are any changes.

Thank you, Renée

Renée Patterson

Agriculture & Priority Pollutants Laboratories, Inc.
WOSB. NELAP Accredited.

t. 559.275-2175 f. 559.275-4422
a. 908 N. Temperance Ave., Clovis, CA 93611

Website • Email

DoD accredited for ISM, Dioxins and PCB congeners.

This is a PRIVATE and CONFIDENTIAL message. If you are not the intended recipient, please delete without copying and kindly advise us by e-mail of the mistake in delivery. NOTE: Regardless of content, this e-mail shall not operate to bind APPL, Inc. to any order or other contract unless pursuant to explicit written agreement or government initiative expressly permitting the use of e-mail for such purpose.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. _____

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB | AM | TQ | MH
Purchase Order Number: 77265
Sampler (Signature): Kaela Shiji for CB | AM | TQ | MH
Date Shipped: 2/6/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq (KS 2/6/17)	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	3630C/8015C TPH-DRO W/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy) ethanol	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	RSK175M Methane	SM 2320B Alk.	
ERH 207	Trip Blank	2/6/17	0815	HST	~~3~~ 6	X				X	X												
ERH 208	RHMW04	2/6/17	0850	HST	15	X				X	X			X	X		X	X	X	X	X	X	

MT 2/6/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other _____
Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiji AECOM	2/6/17	1300					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/7/17	1520	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

1.0, 2.0, 3.0, 8021/7

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): AM, CB
Sampler (Signature): MT for AM, CB

Date Shipped: 02/06/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	3630C/8015C TPH-D/O w/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	RSK175M Methane	SM2320B Alk.	
ERH 244	Equip Blk - small	02/06/17	0755	HST	10	X				X	X			X	X		X	X					
ERH 245	Equip Blk - big	02/06/17	0815	HST	~~10~~ 4	X				X	X			~~X~~ 105 2/6/17	~~X~~		~~X~~ 19 2/6/17	~~X~~					see other order for other lo
ERH 246	Trip Blk	02/06/17	0750	HST	6	X				X	X												

MT 2/6/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach for AECOM	02/06/17	1300					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/7/17	11:20	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. _____

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): AM, CB
Purchase Order Number: 77265
Sampler (Signature): MT for AM, CB

Date Shipped: 2/6/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	8015C TPH-D/O w/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	RSK175M Methane	SM22/2540 A/B	
ERH 245	Equip rinse - big	02/03/17	0815	HST	6	X								X	X		X	X					see cooler for [illegible]

MT 2/6/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other _____

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	2/6/17	1300					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/7/17	1:26	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82117**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 02/07/17

2) Coolers: Number of Coolers: 3

3) YES Were custody seals present and intact?
How many? 6 Name/Date on seal? See below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __popcorn __foam X plastic bags
X wet ice __dry ice __no ice __other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 1.0	2: 2.0	3: 3.0	4:	5:	6:
7:	8:	9:	10:	11:	12:

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials MT
Date 2/6/17

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ49655W02-W06,AZ49656W06,AZ49659W01-W06

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

Sample ERH207 - client label indicate HCL for all voa vials, but 3 of the 6 voa vials are unpreserved. They do not have any HCL stickers. Sample ERH208 - received 500 mL plastic with HNO3 for metals department, but no analysis listed on COC. Also, same sample, ferrous Iron received greater than 24 hours.

Personnel receiving samples: YL Second reviewer: SM
Personnel labeling samples:
Project manager notified: YL Date/Time of notification ~~2/6~~ YL 2/7/17 2/7/17 12:59
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216139**
Batch ID: #DOC53-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: OCTACOSANE (S)	92.0	60-142			%	02/09/17	02/13/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.9	56-125			%	02/09/17	02/13/17

Quant Method: DOC0207.M
Run #: 213037
Instrument: Apollo
Sequence: 170213
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 9:37:44 AM

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170209W-49674 LCS - 216139**
Batch ID: #DOC53-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	479	71.8	36-132
OIL (C24-C40)	667	567	85.0	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.7	91.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	36.0	90.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Apollo
Run :	213038
Initials :	DPO

Printed: 02/14/17 9:37:39 AM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	60-142	92.0		56-125	78.9	
170209A-LCS	Lab Control Spike	60-142	91.8		56-125	90.0	
AZ49656	ERH208	60-142	90.4		56-125	77.4	
AZ49657	ERH244	60-142	86.4		56-125	75.7	
AZ49658	ERH245	60-142	88.0		56-125	77.8	

Comments: Batch: #DOC53-170209A

Printed: 02/14/17 9:37:41 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Apollo
Time Analyzed: 2111

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	213037	02/13/17 2111
170209A-LCS	Lab Control Spike	213038	02/13/17 2132
AZ49656	ERH208	213040	02/13/17 2213
AZ49657	ERH244	213041	02/13/17 2233
AZ49658	ERH245	213042	02/13/17 2253

Comments: Batch: #DOC53-170209A

Printed: 02/14/17 9:37:33 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	90.4	60-142			%	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.4	56-125			%	02/09/17	02/13/17

Quant Method: DOC0207.M
Run #: 213040
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:37:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213040.D
Acq On : 2-13-17 22:13:02
Sample : AZ49656W10 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

Vial: 40
Operator: DP
Inst : Apollo
Multiplr: 1.33

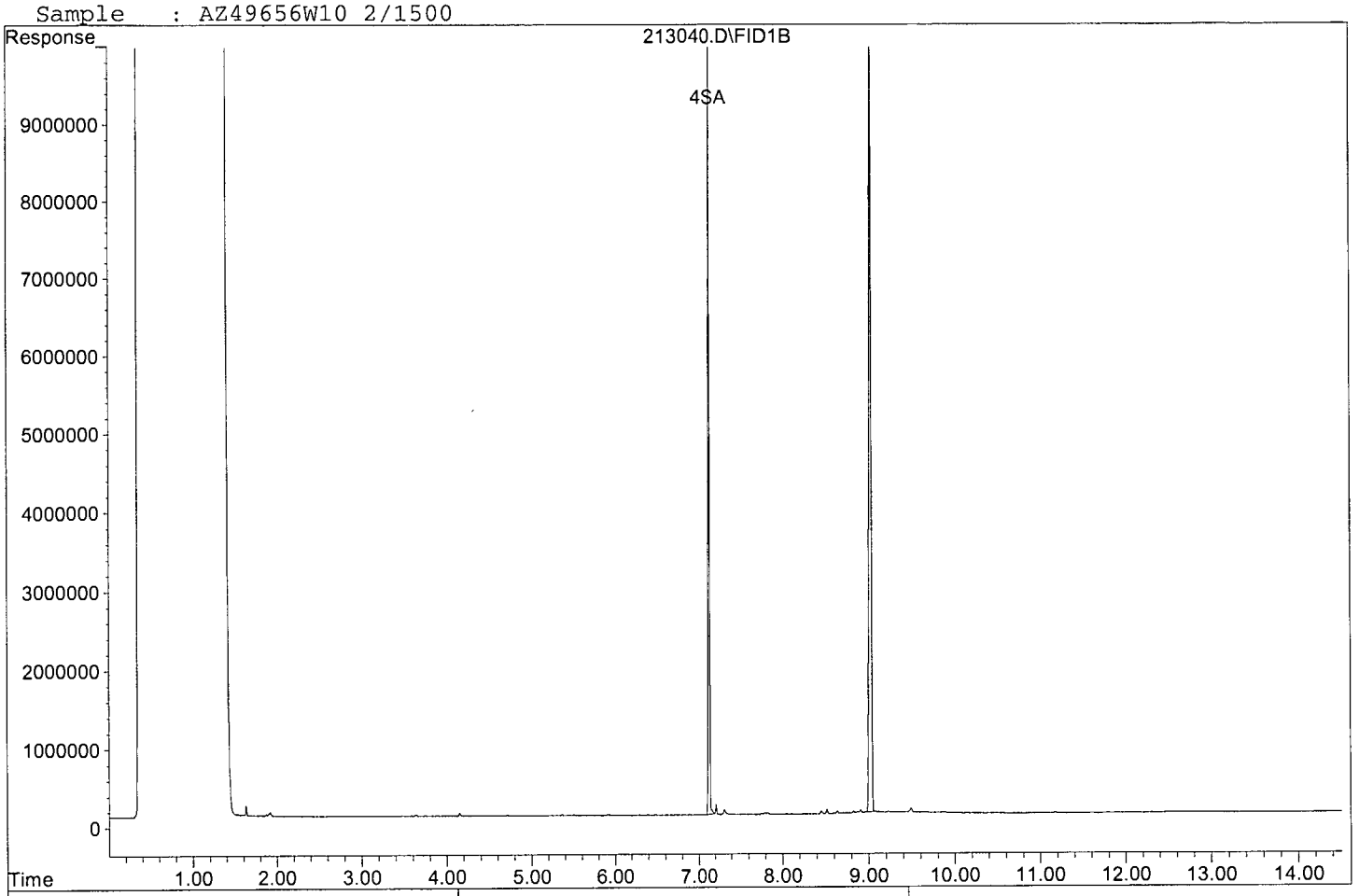
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

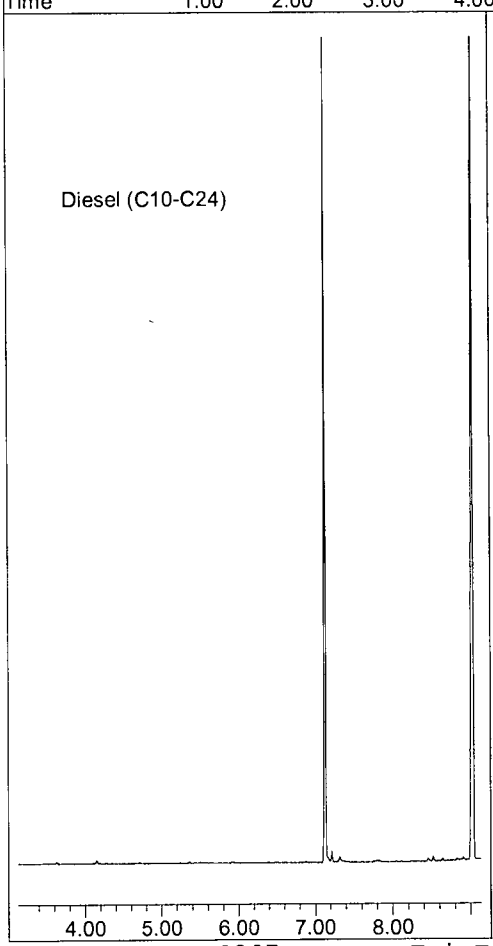
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

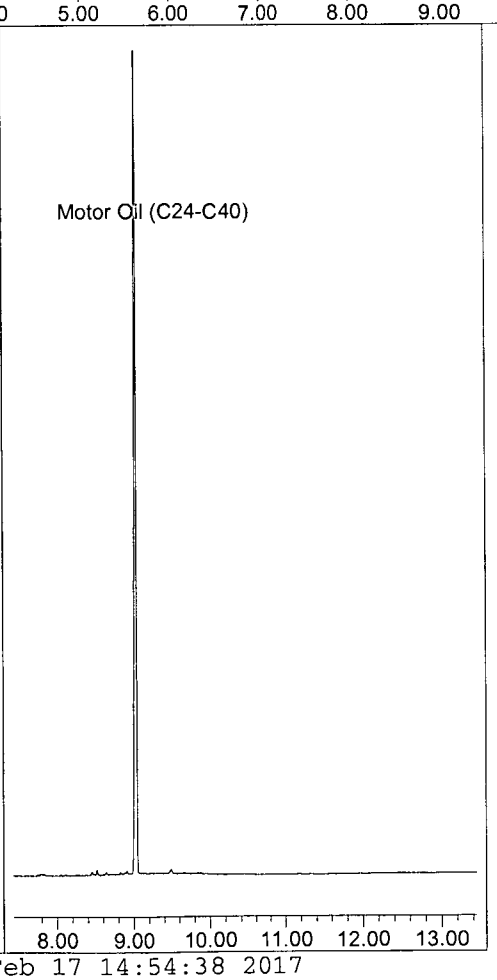
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99201776	30.948 ppb
Surrogate Spike 40.000		Recovery =	77.37%
5) SA Octacosane(S)	9.03	170344820	36.167 ppb
Surrogate Spike 40.000		Recovery =	90.42%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213040.D
Sample : AZ49656W10 2/1500







EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	20 ++J	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	86.4	60-142			%	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	75.7	56-125			%	02/09/17	02/13/17

J = Estimated value.
++(T4M) The analyst has noted that the chromatogram of this sample does not contain a petroleum hydrocarbon pattern, however the presence of a dominant peak(s) were noted.

Quant Method: DOC0207.M
Run #: 213041
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:37:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213041.D
Acq On : 2-13-17 22:33:22
Sample : AZ49657W10 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

Vial: 41
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

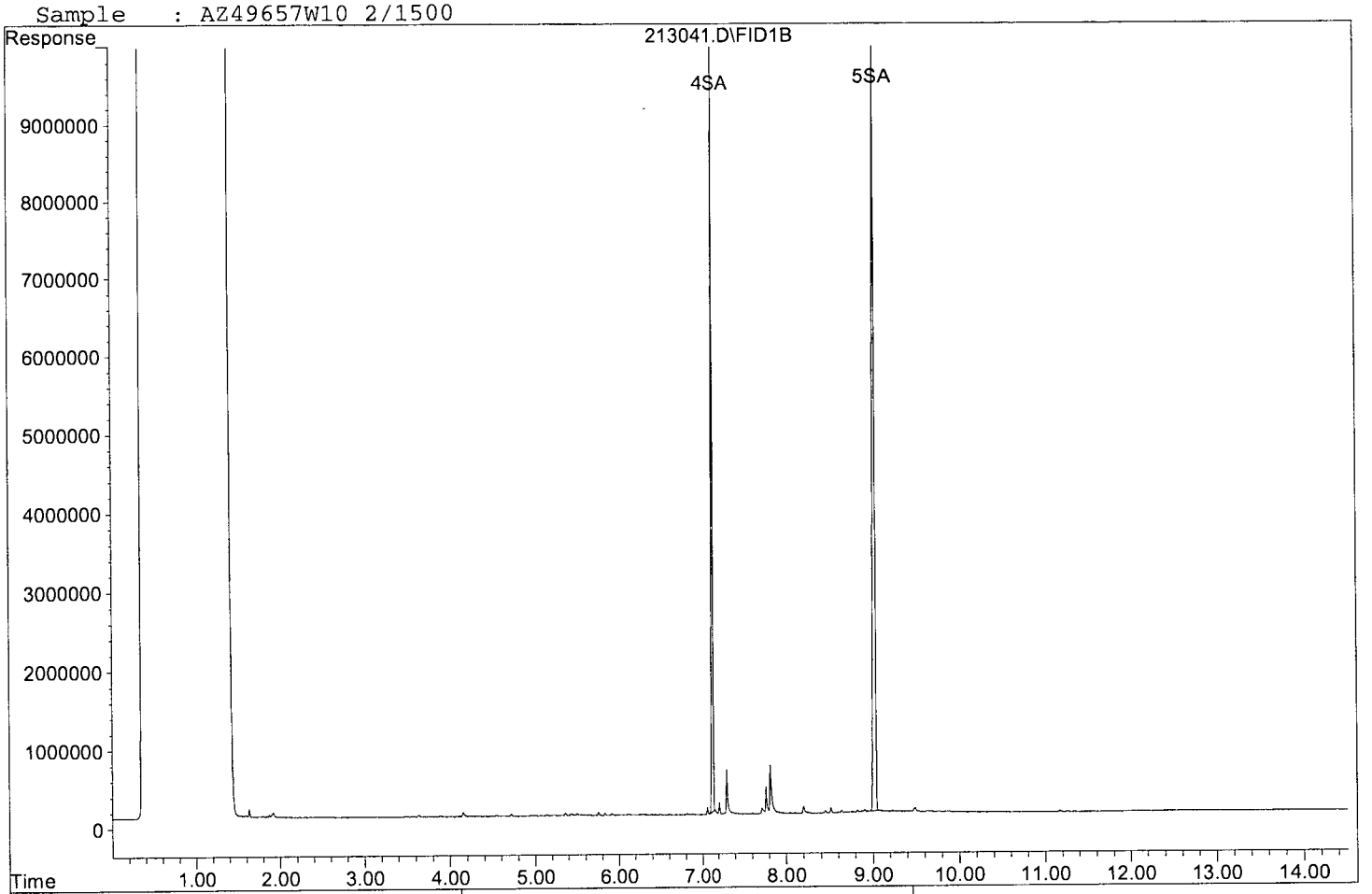
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

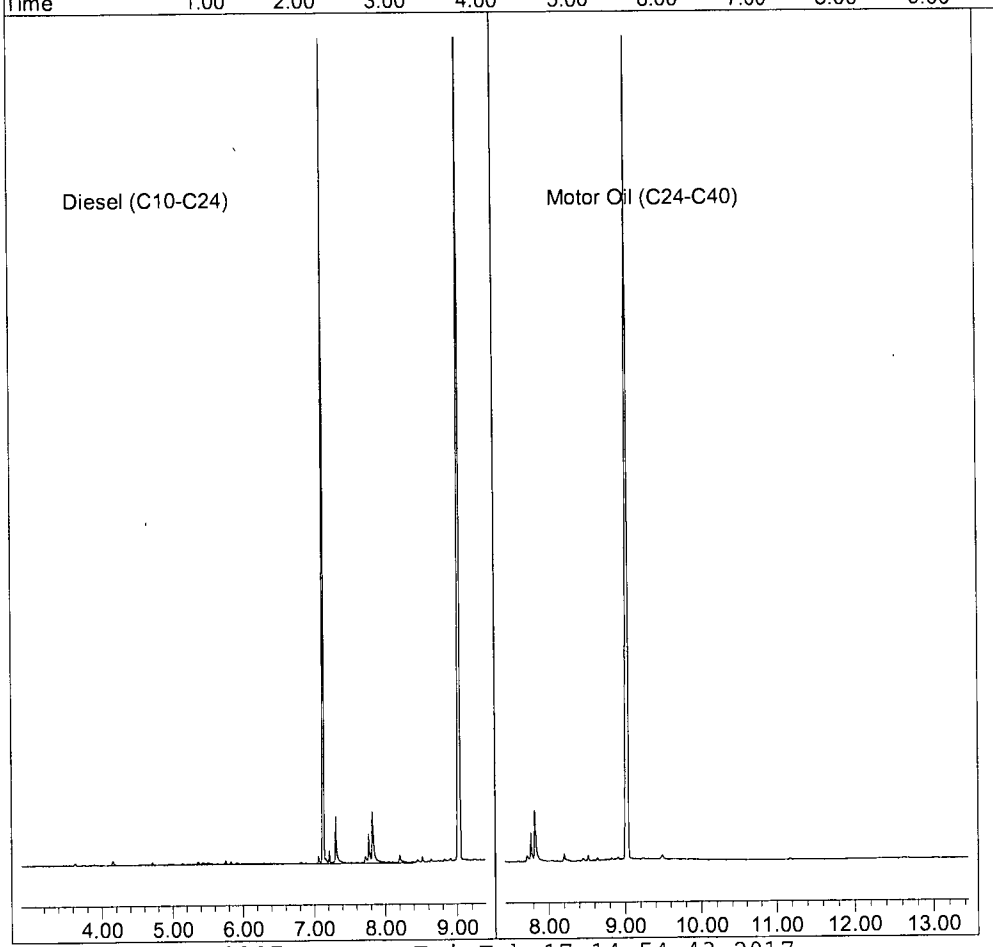
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97037479	30.272 ppb
Surrogate Spike 40.000		Recovery =	75.68%
5) SA Octacosane(S)	9.03	162751522	34.555 ppb
Surrogate Spike 40.000		Recovery =	86.39%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	48215416	19.677 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213041.D
Sample : AZ49657W10 2/1500





213041.D DOC0207.M Fri Feb 17 14:54:43 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	42 ++	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
EPA 8015B-eL	OIL (C24-C40)	110	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	88.0	60-142			%	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.8	56-125			%	02/09/17	02/13/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0207.M
Run #: 213042
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:37:25 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213042.D
Acq On : 2-13-17 22:53:43
Sample : AZ49658W09 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:28 2017 Quant Results File: DOC0207.RES

Vial: 42
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

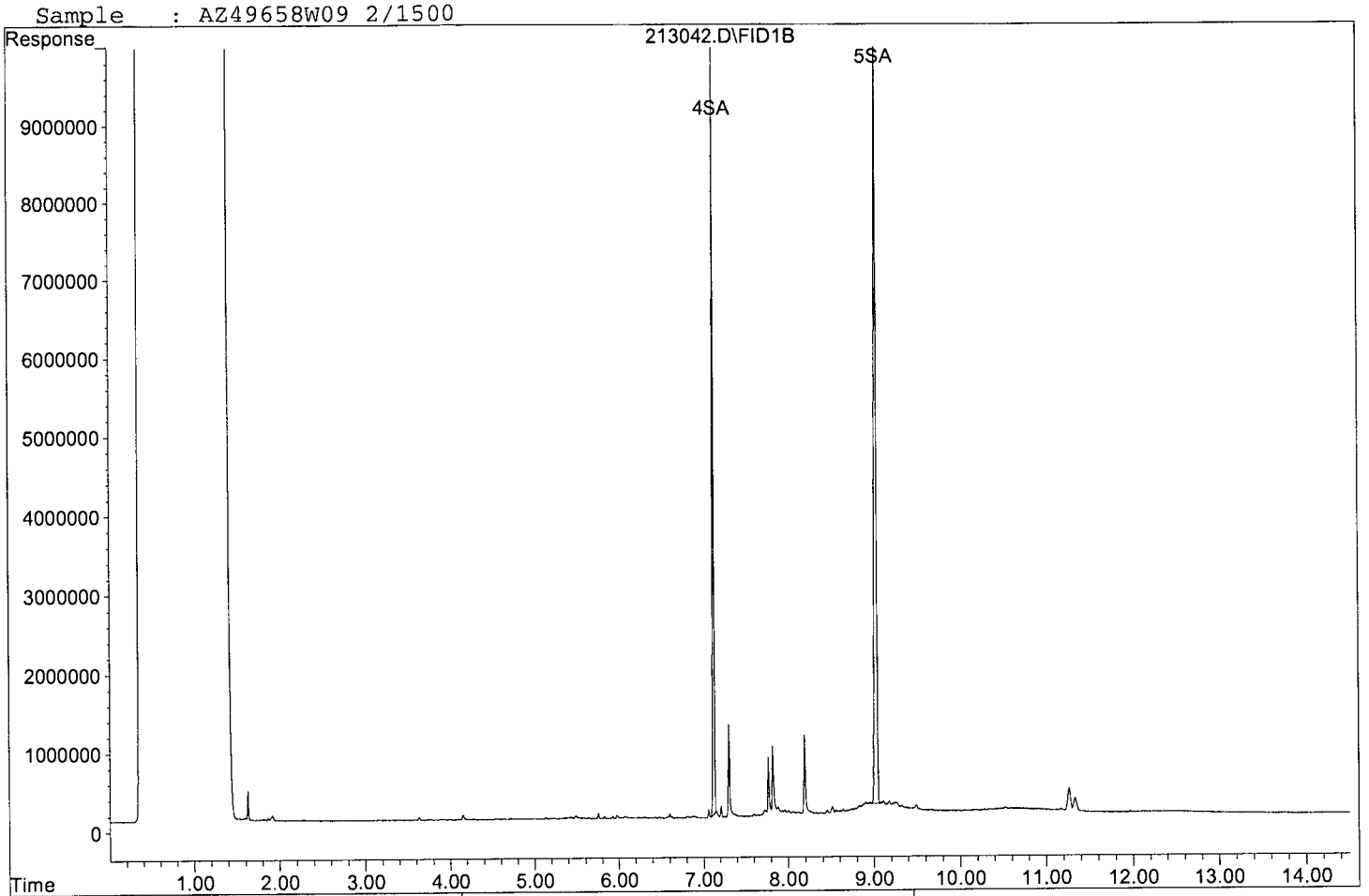
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

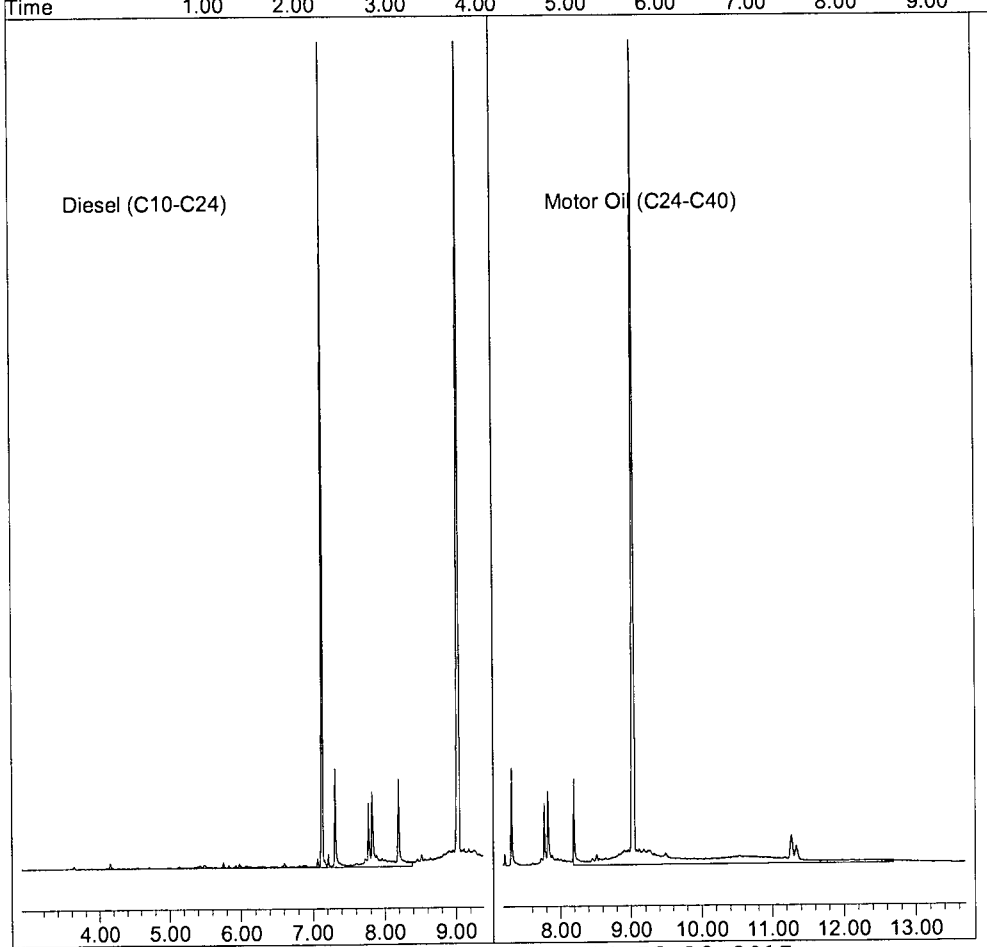
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99770674	31.125 ppb
Surrogate Spike 40.000		Recovery =	77.81%
5) SA Octacosane(S)	9.04	165833299	35.210 ppb
Surrogate Spike 40.000		Recovery =	88.02%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	102235240	41.724 ppb
2) HBTM Motor Oil (C24-C40)	10.44	205970820	111.700 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213042.D
Sample : AZ49658W09 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0207

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
Diesel: 207013.D 207014.D 207015.D 207016.D 207017.D 207018.D
Motor Oil: 207020.D 207021.D 207022.D 207023.D 207024.D 207025.D

SDG No:
Initial Cal. Date: 02/07/17
Instrument: Apollo

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SC	Decanoic Acid(S)	436509	643644	711658	659596	590571	627574					611592	15	SC	
4	SA	Ortho-Terphenyl(S)	2112818	2160204	2135806	2184447	2121052	2107568					2136982	1.4	SA	
5	SA	Octacosane(S)	3130783	3214870	3136696	3178445	3091400	3087353					3139925	1.6	SA	
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0.6435556

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D
Acq On : 2-7-17 13:53:40
Sample : Diesel-1 10/1000 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 13
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

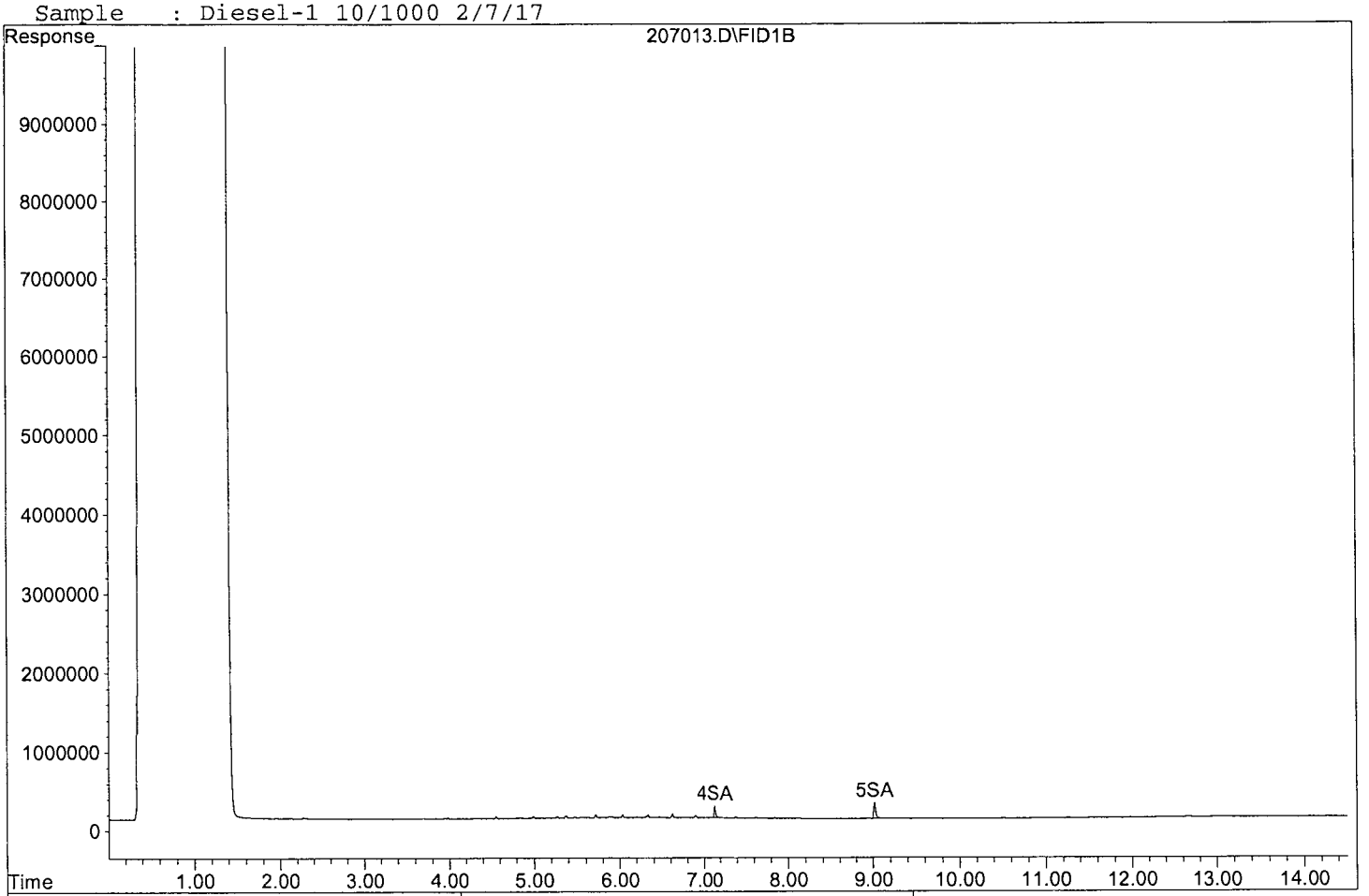
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

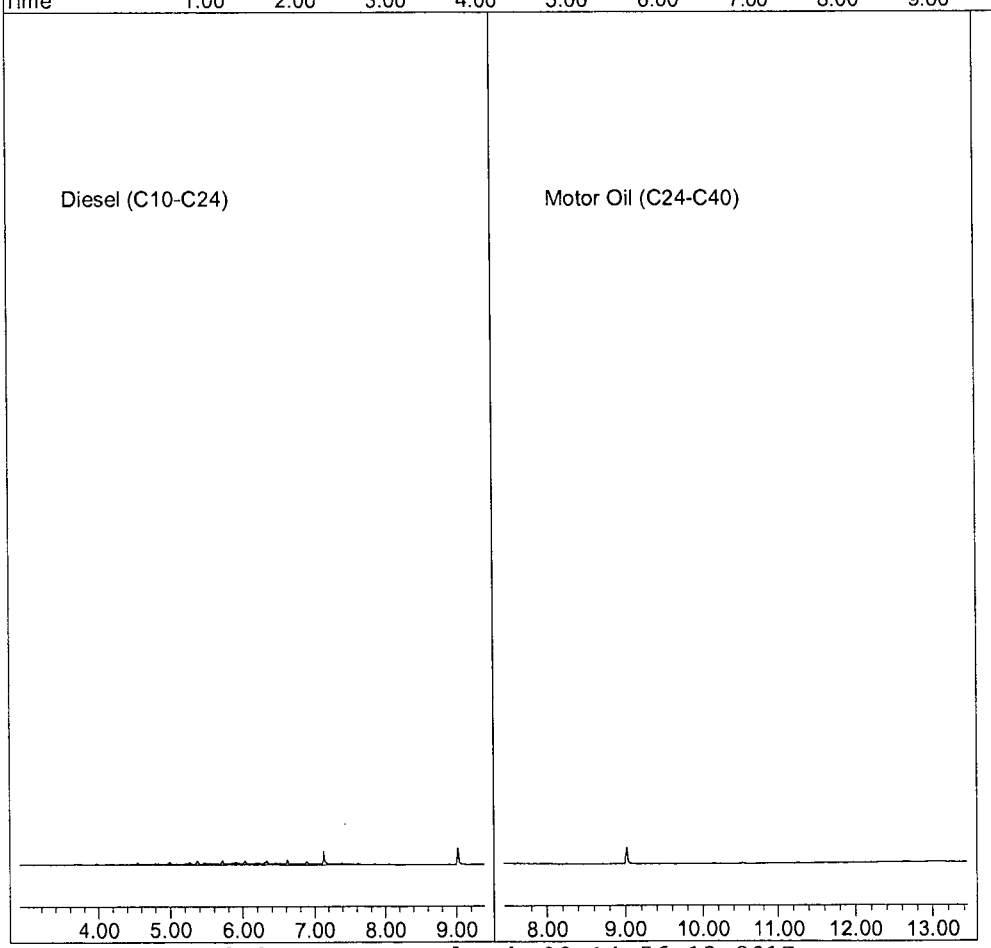
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000		Recovery =	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000		Recovery =	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

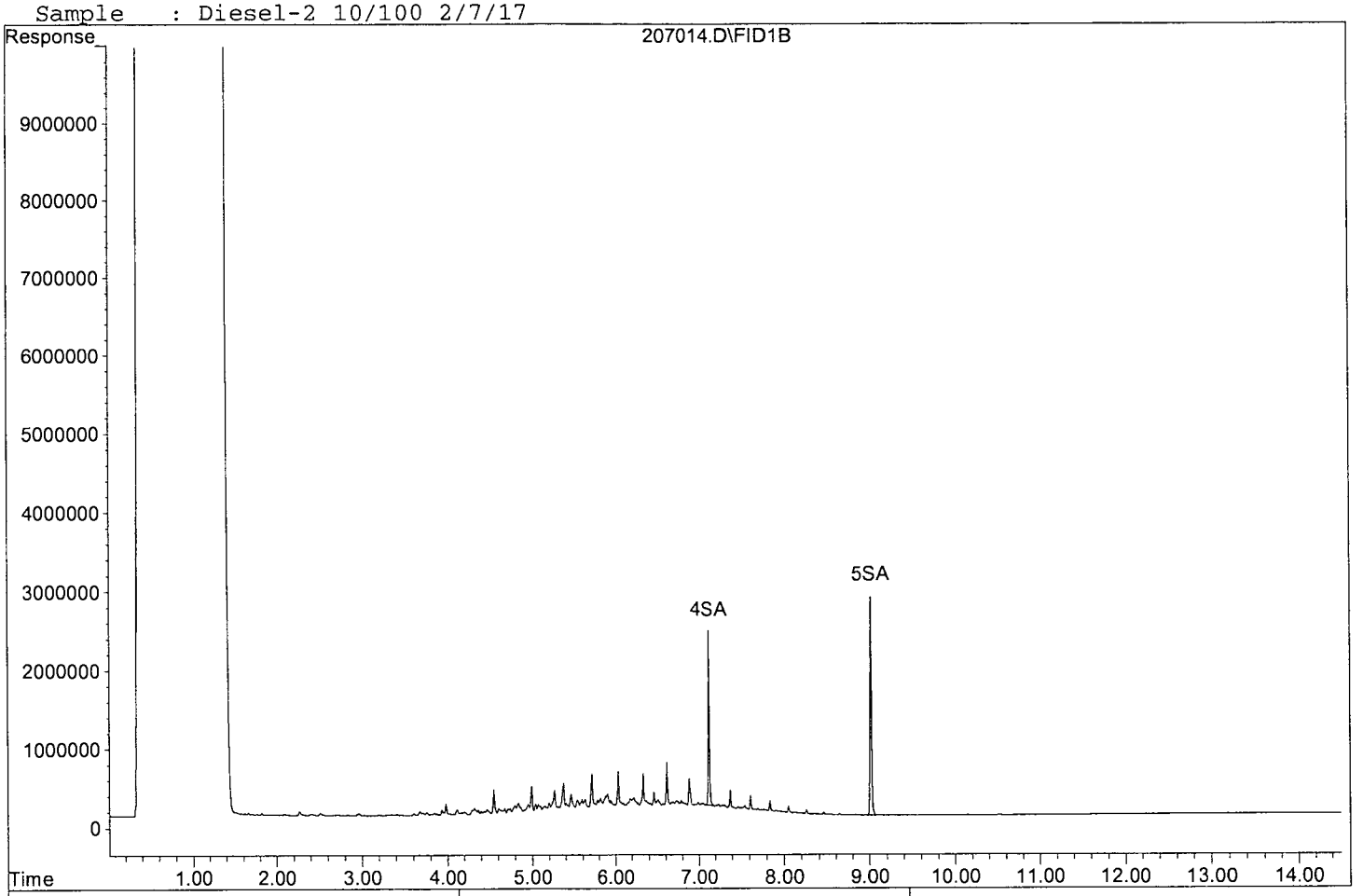
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

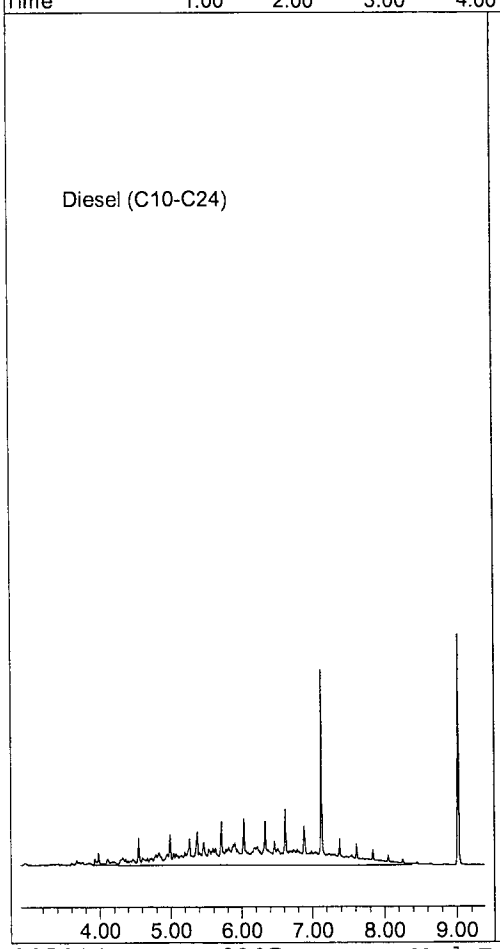
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

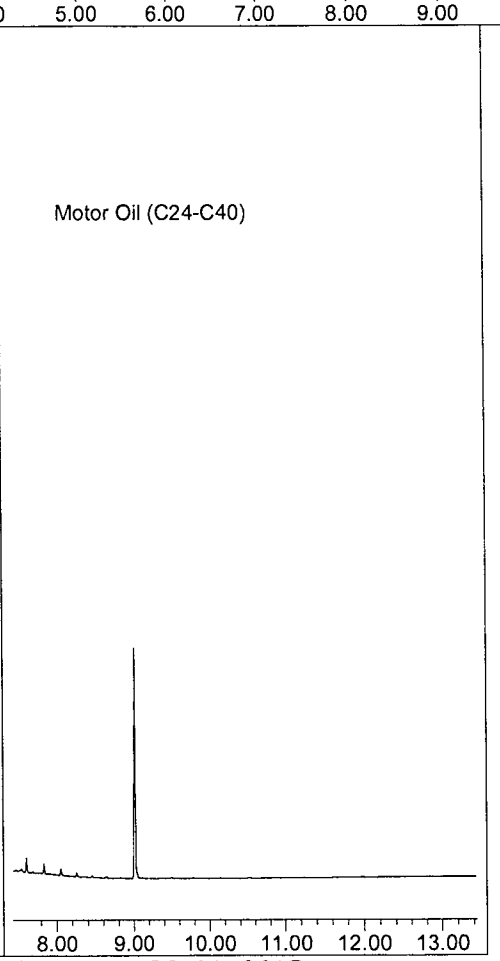
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

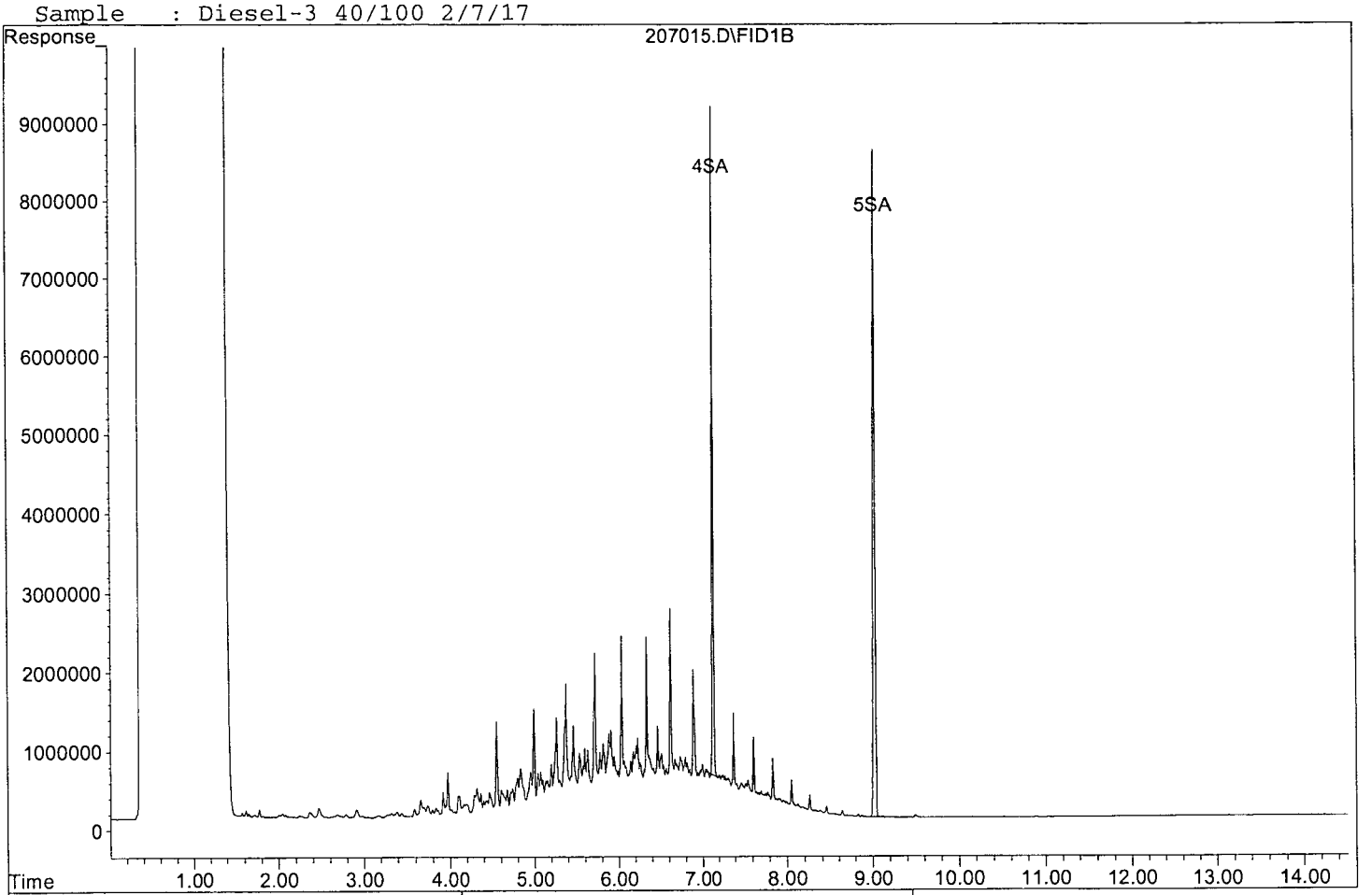
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

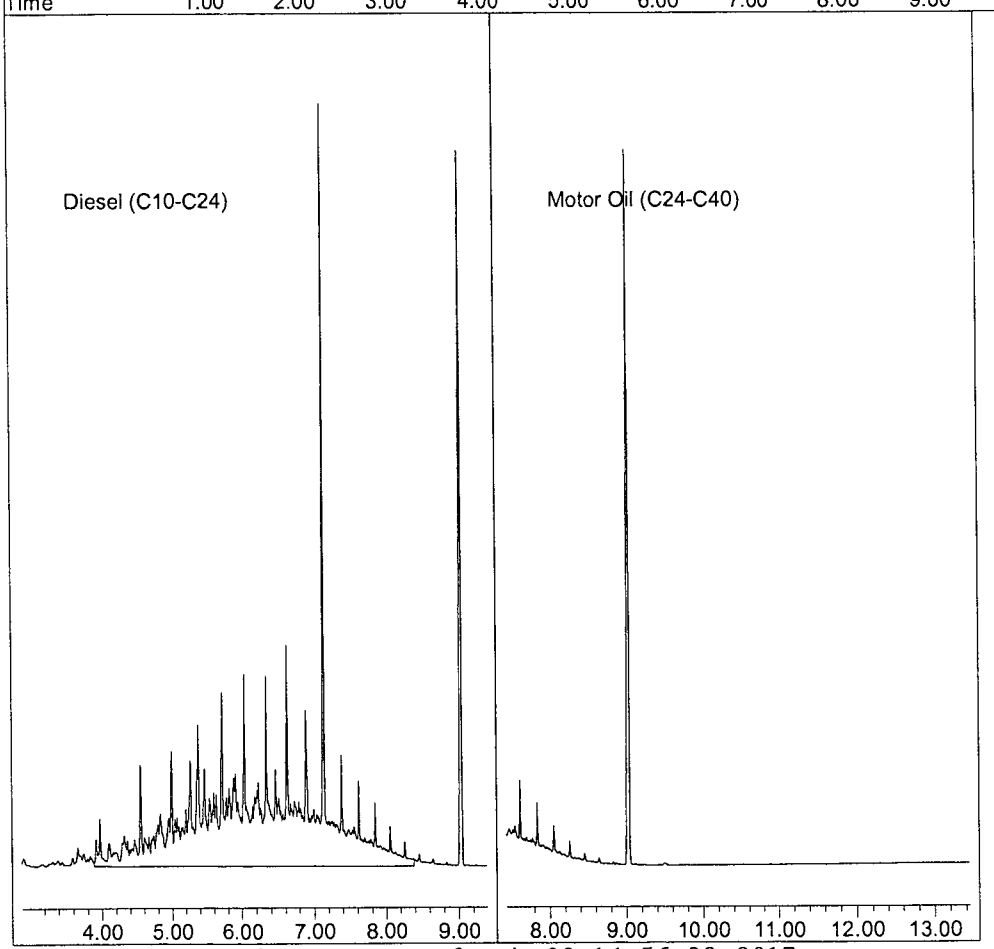
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D
Acq On : 2-7-17 14:55:35
Sample : Diesel-4 60/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

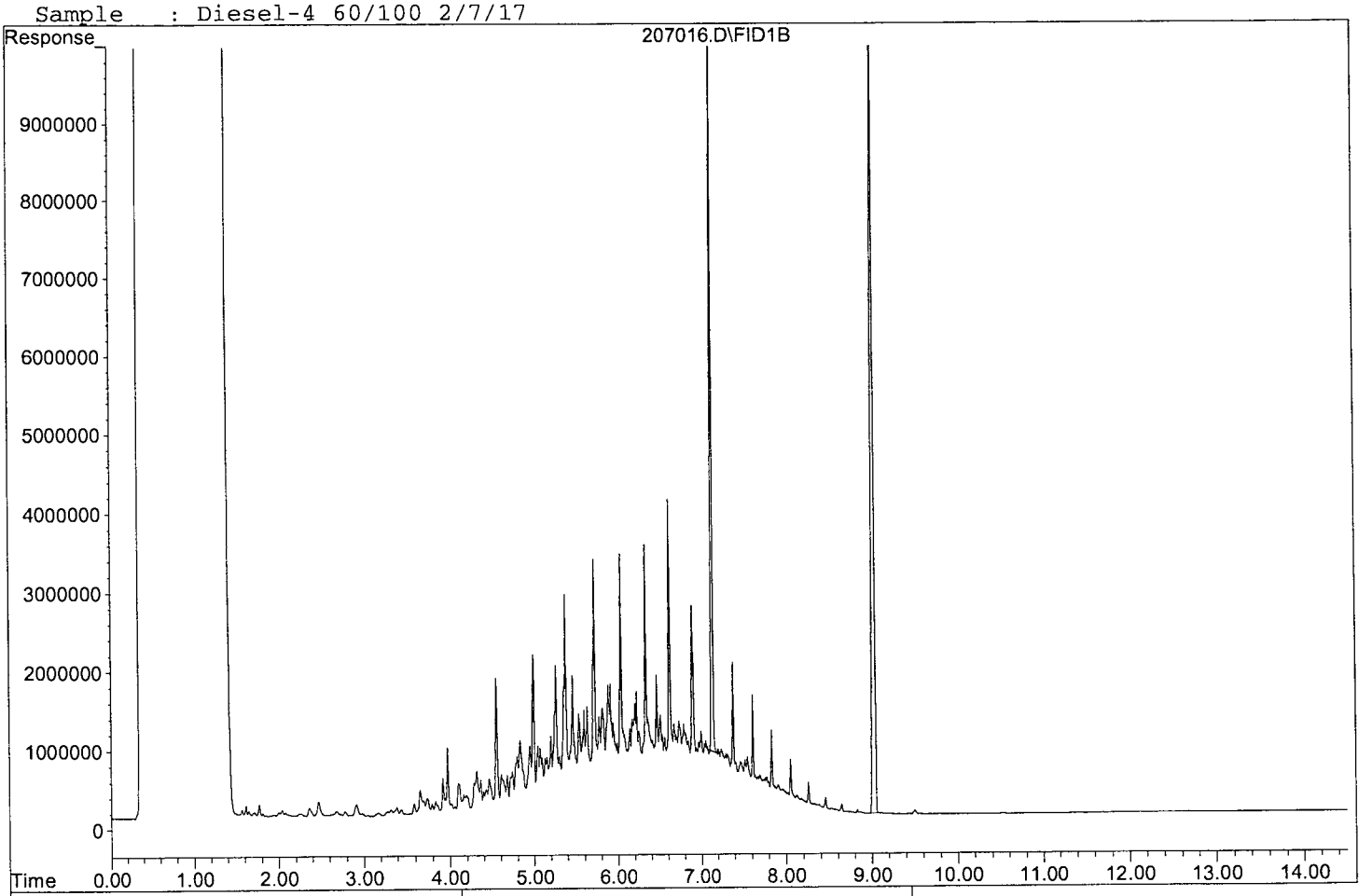
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	30.666 ppb
Surrogate Spike 30.000		Recovery =	102.22%
5) SA Octacosane(S)	9.04	190706691	30.368 ppb
Surrogate Spike 30.000		Recovery =	101.23%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

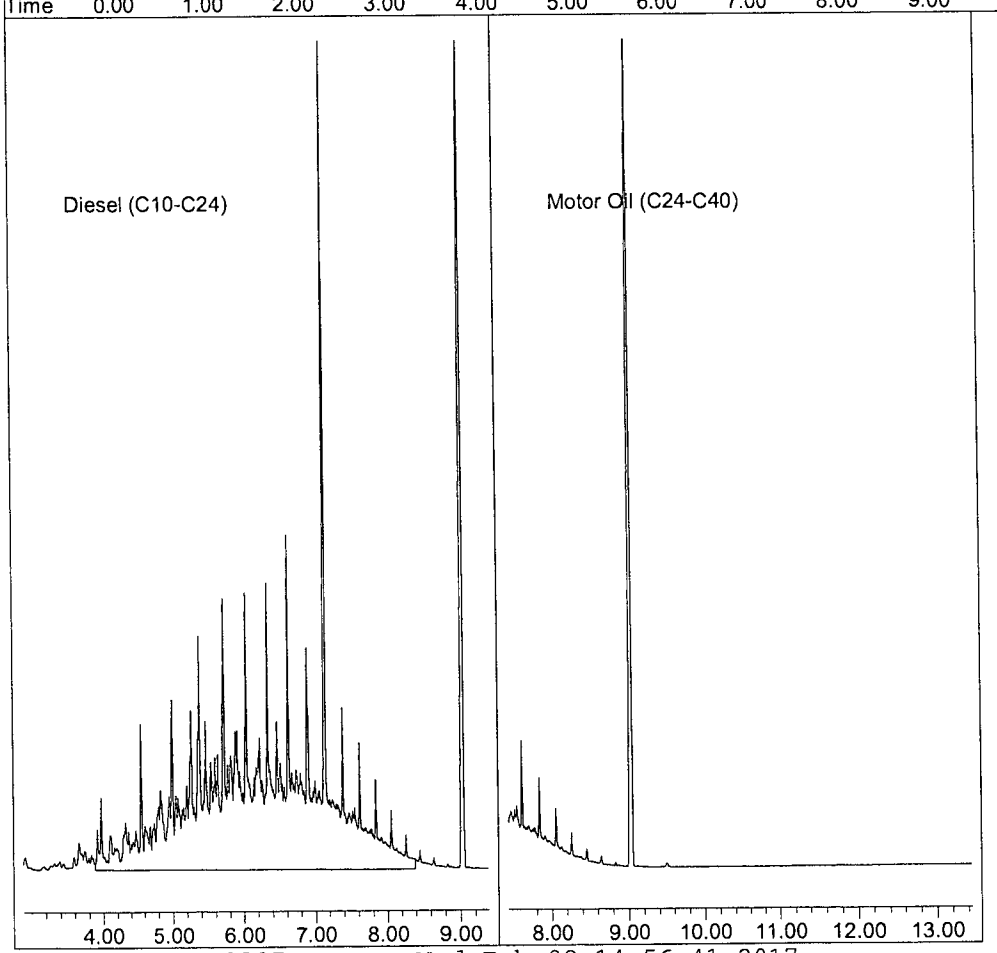
(f)=RT Delta > 1/2 Window (m)=manual int.

207016.D DOC0207.M Wed Feb 08 14:56:40 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D Vial: 17
Acq On : 2-7-17 15:16:16 Operator: DP
Sample : Diesel-5 80/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

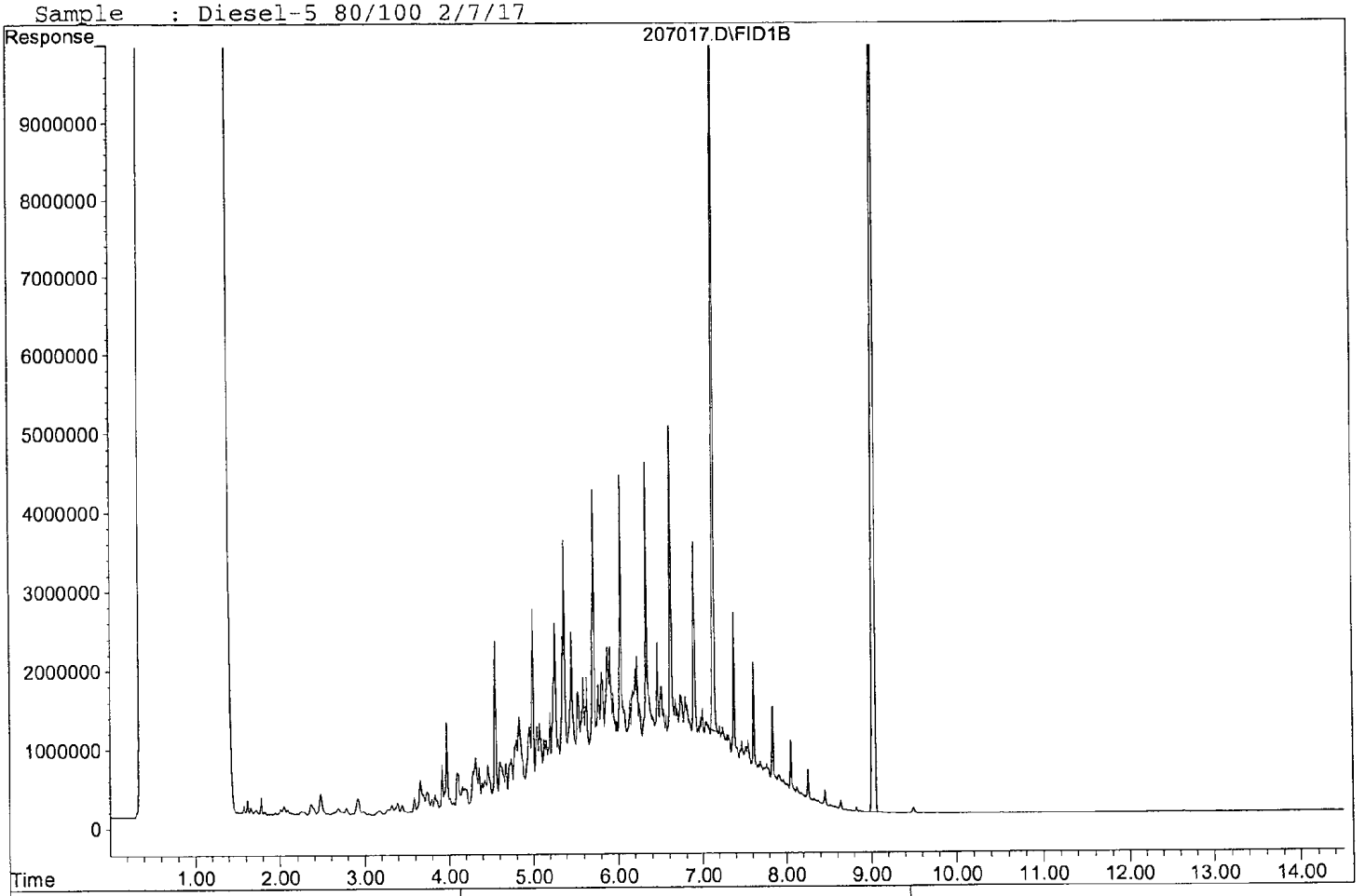
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

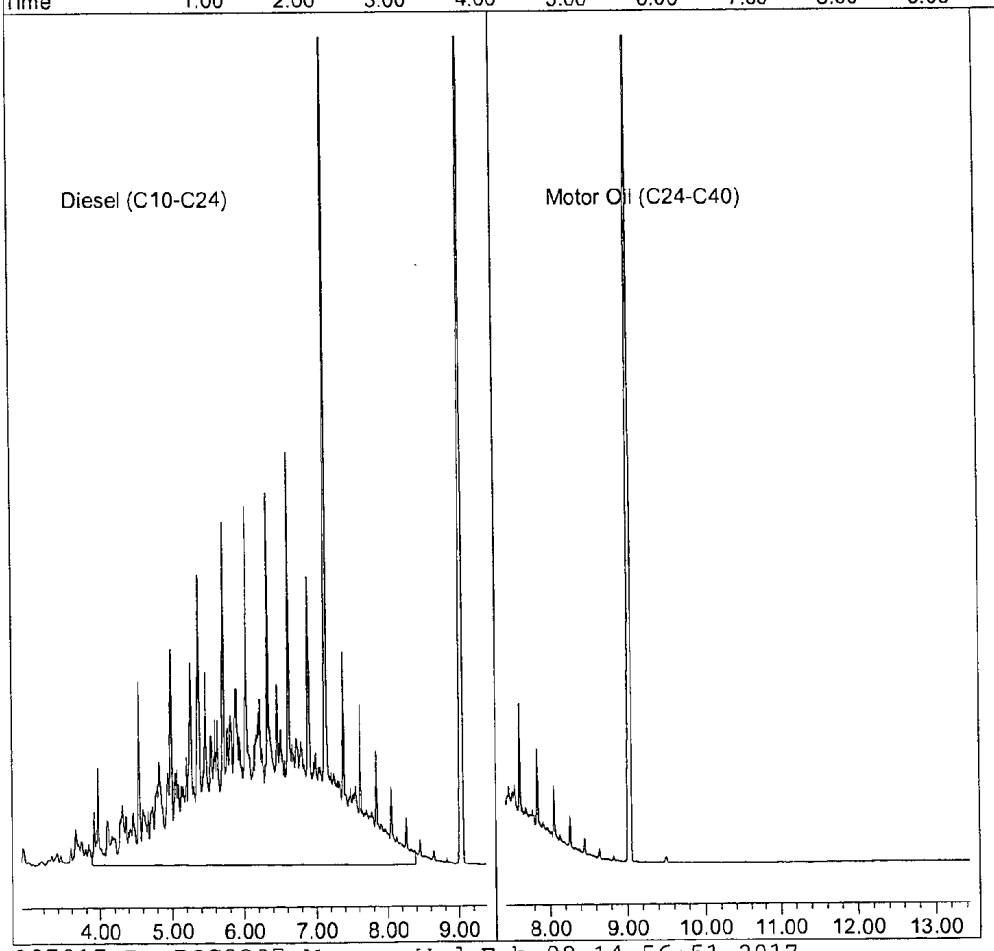
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D Vial: 18
Acq On : 2-7-17 15:36:59 Operator: DP
Sample : Diesel-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

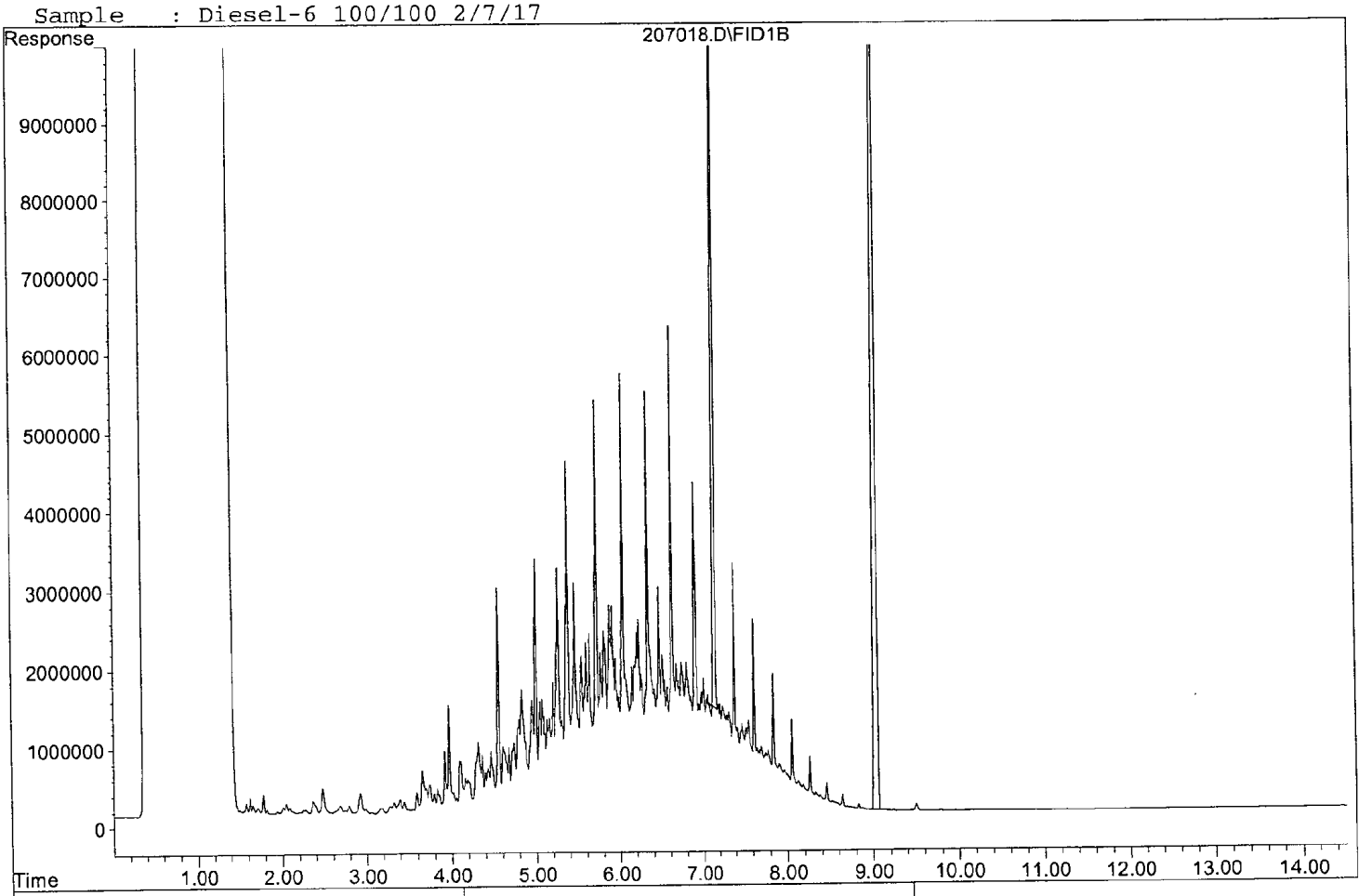
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

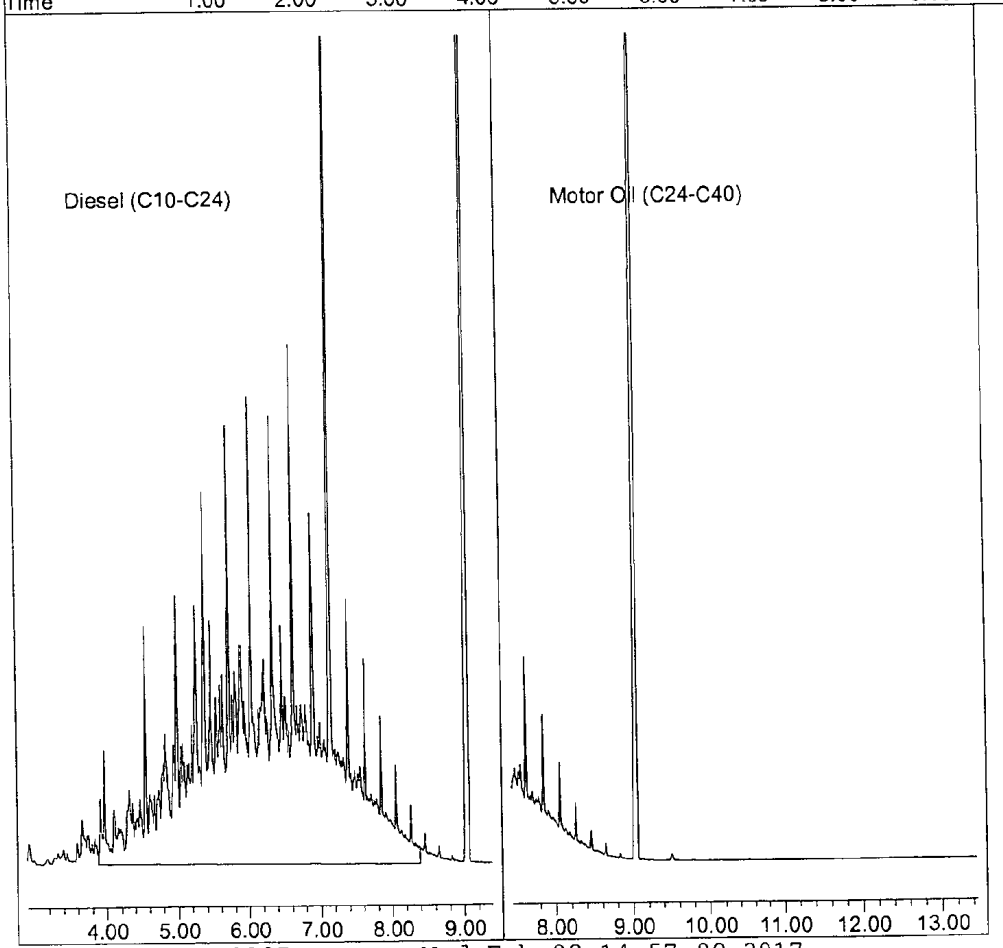
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

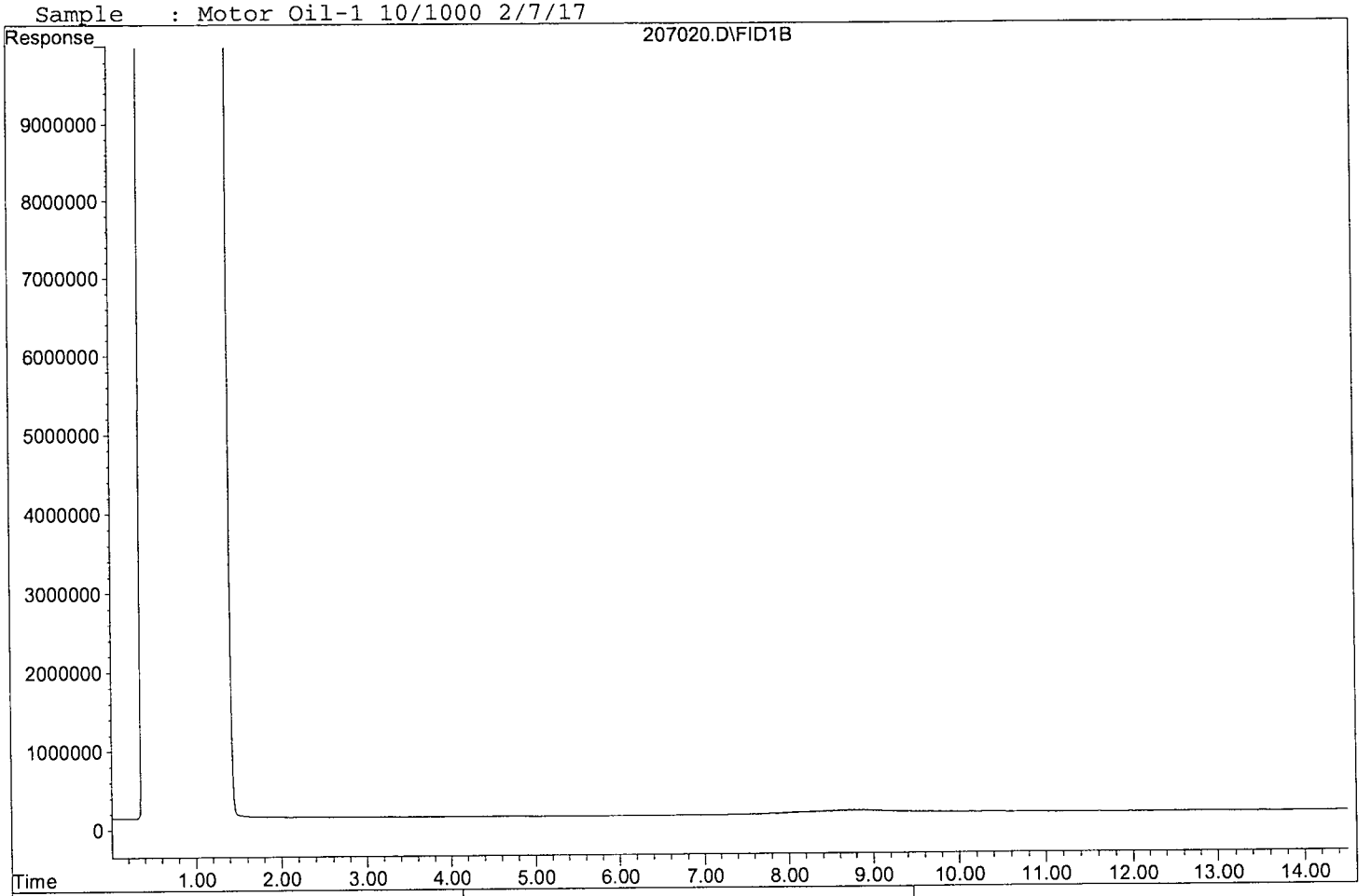
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

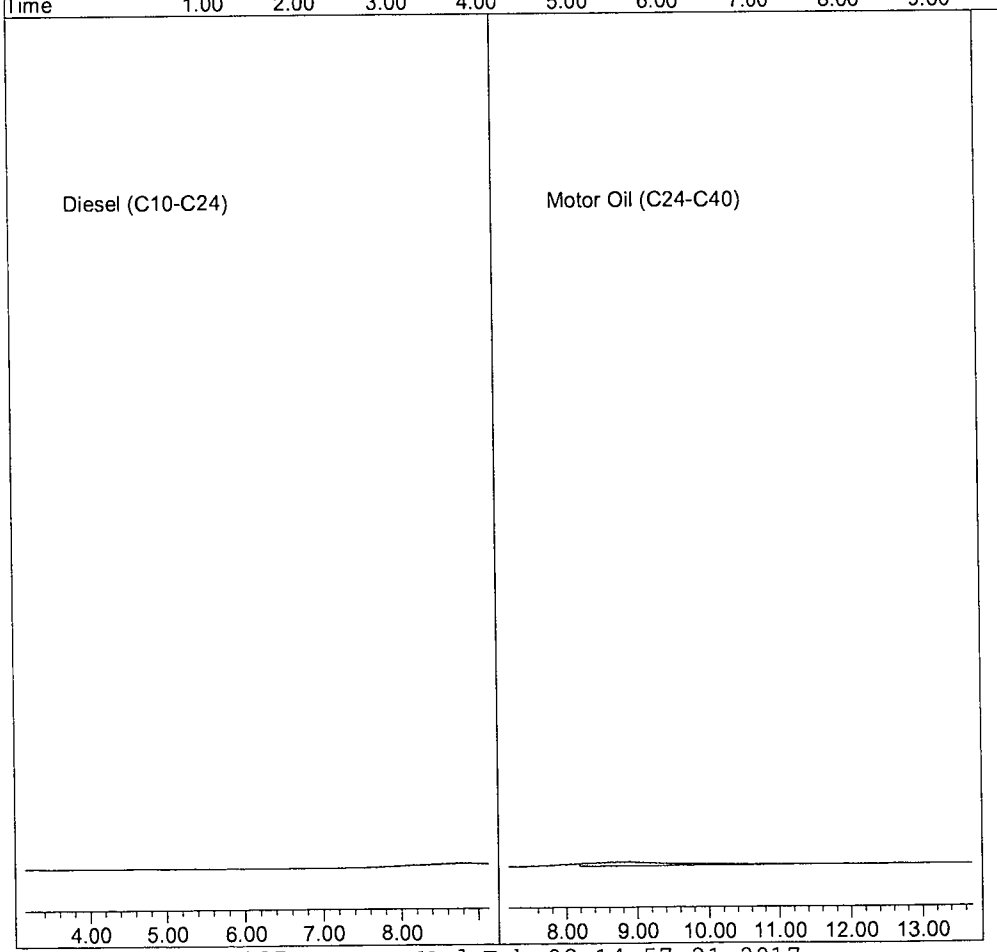
(f)=RT Delta > 1/2 Window (m)=manual int.

207020.D DOC0207.M Wed Feb 08 14:57:19 2017 Page 1

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

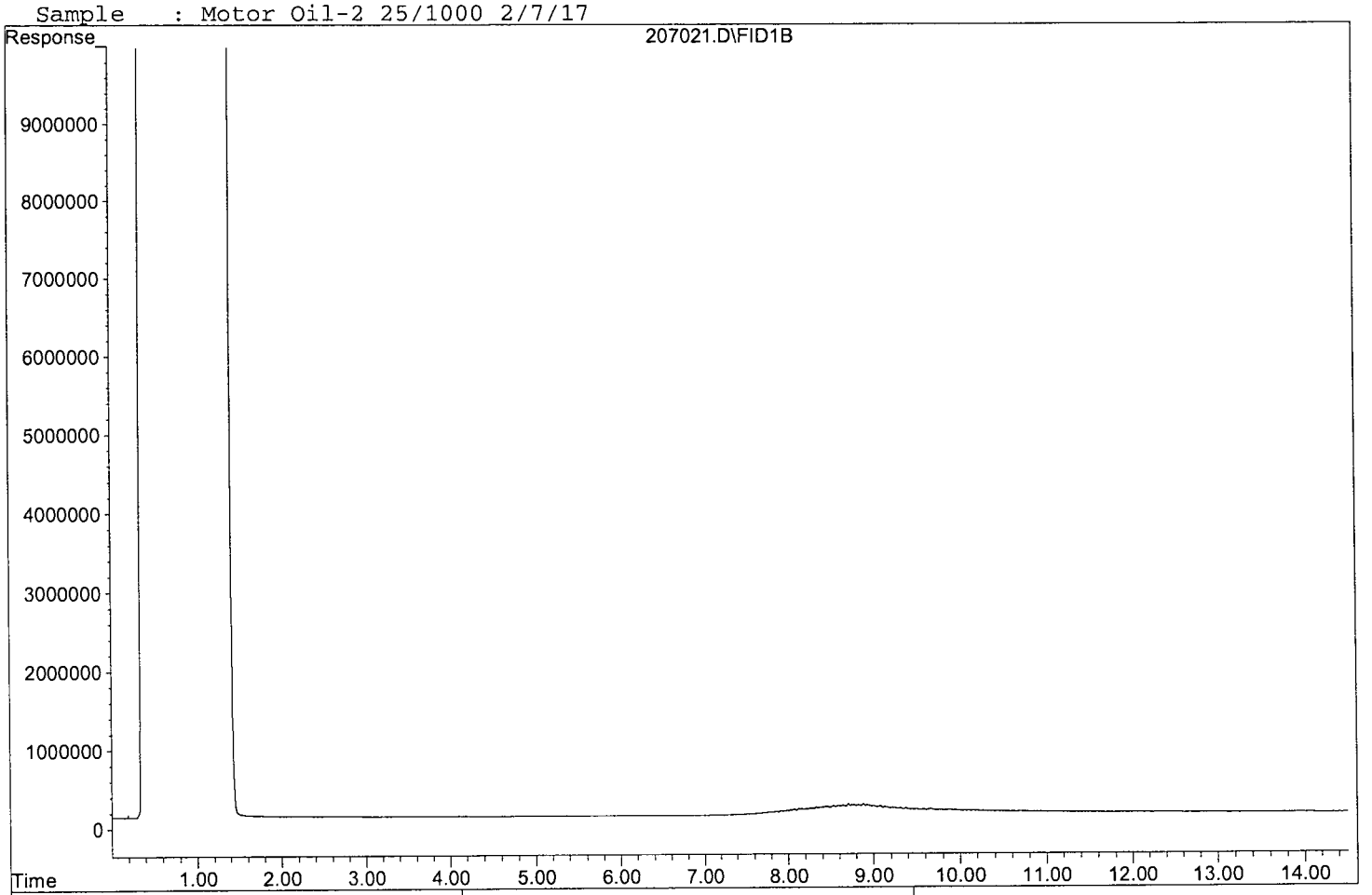
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

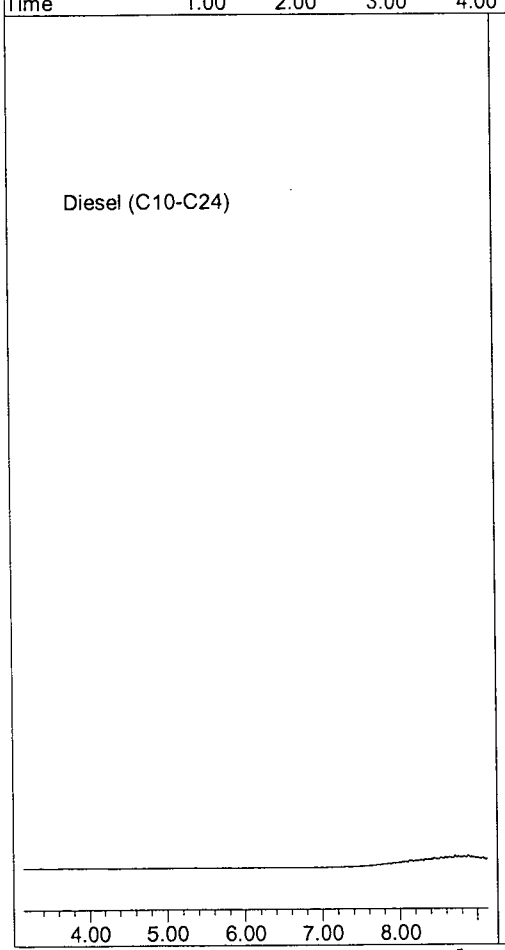
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

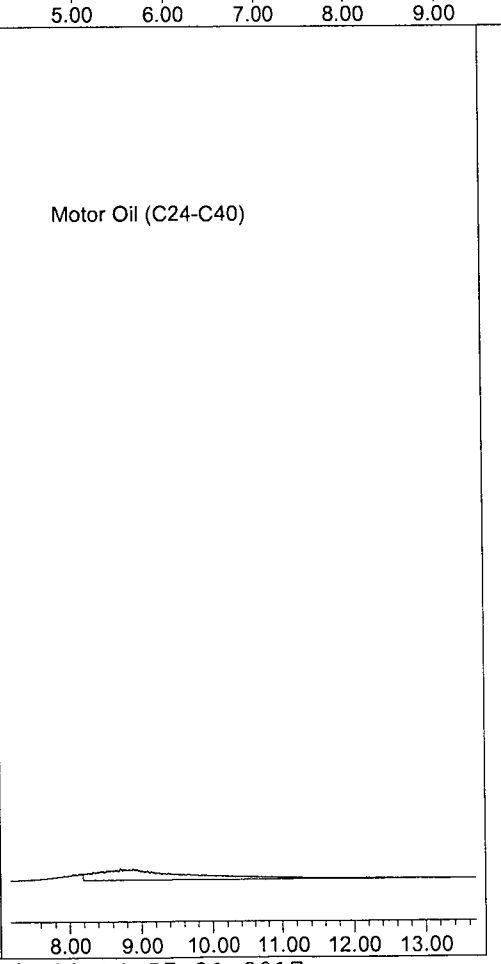
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D
Acq On : 2-7-17 16:59:39
Sample : Motor Oil-3 125/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

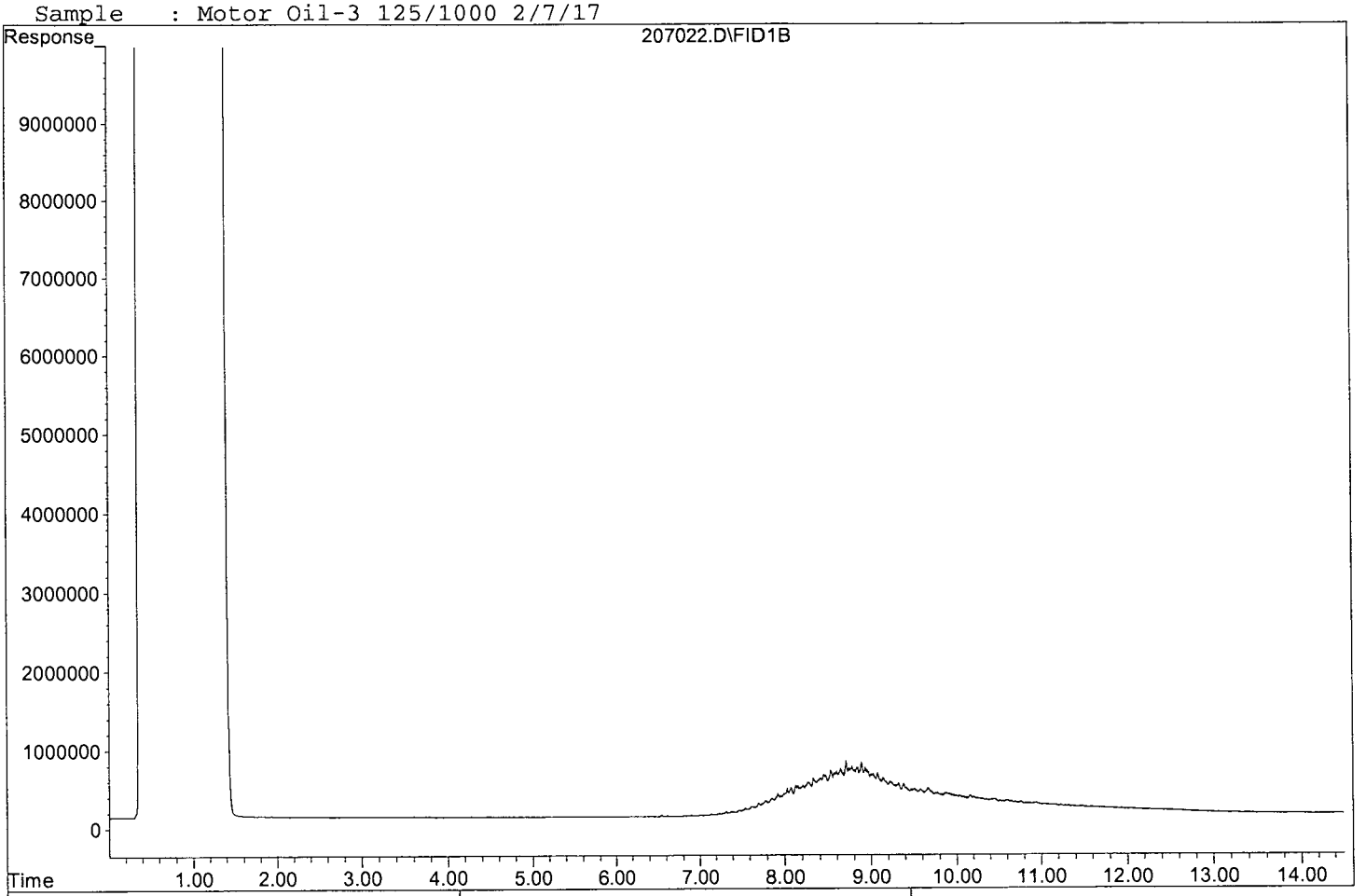
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

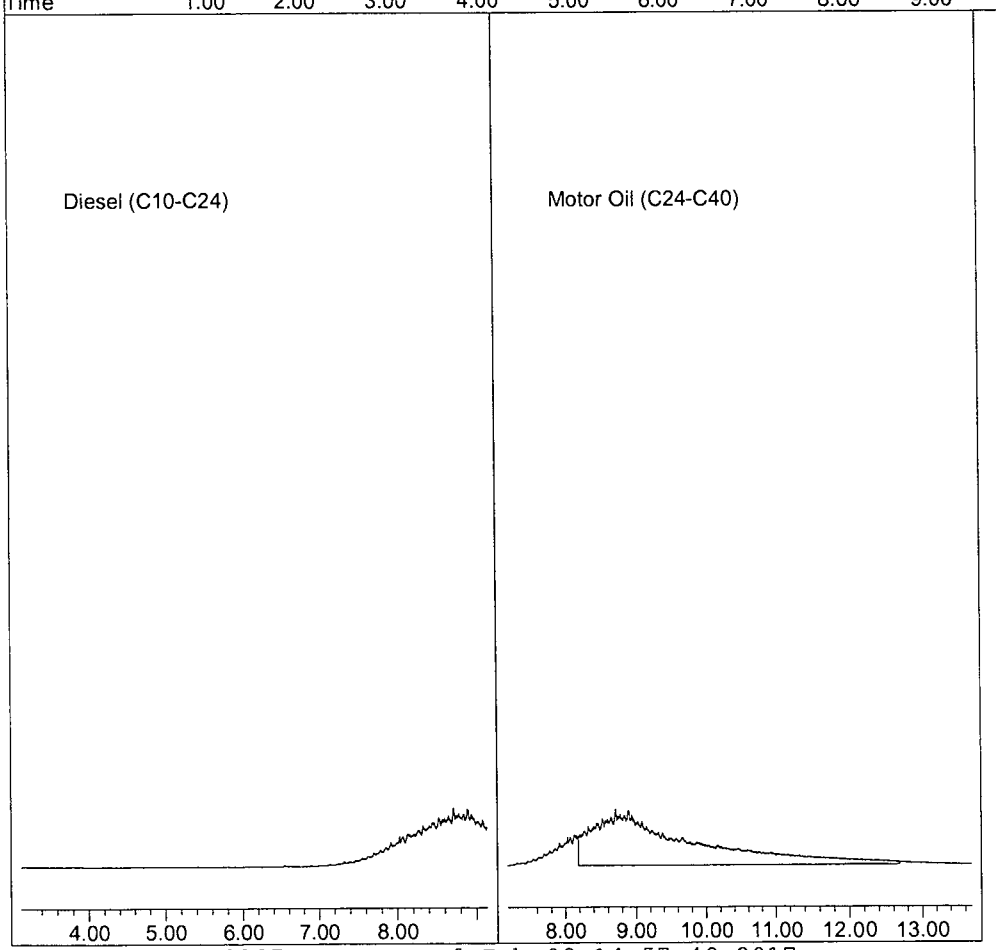
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

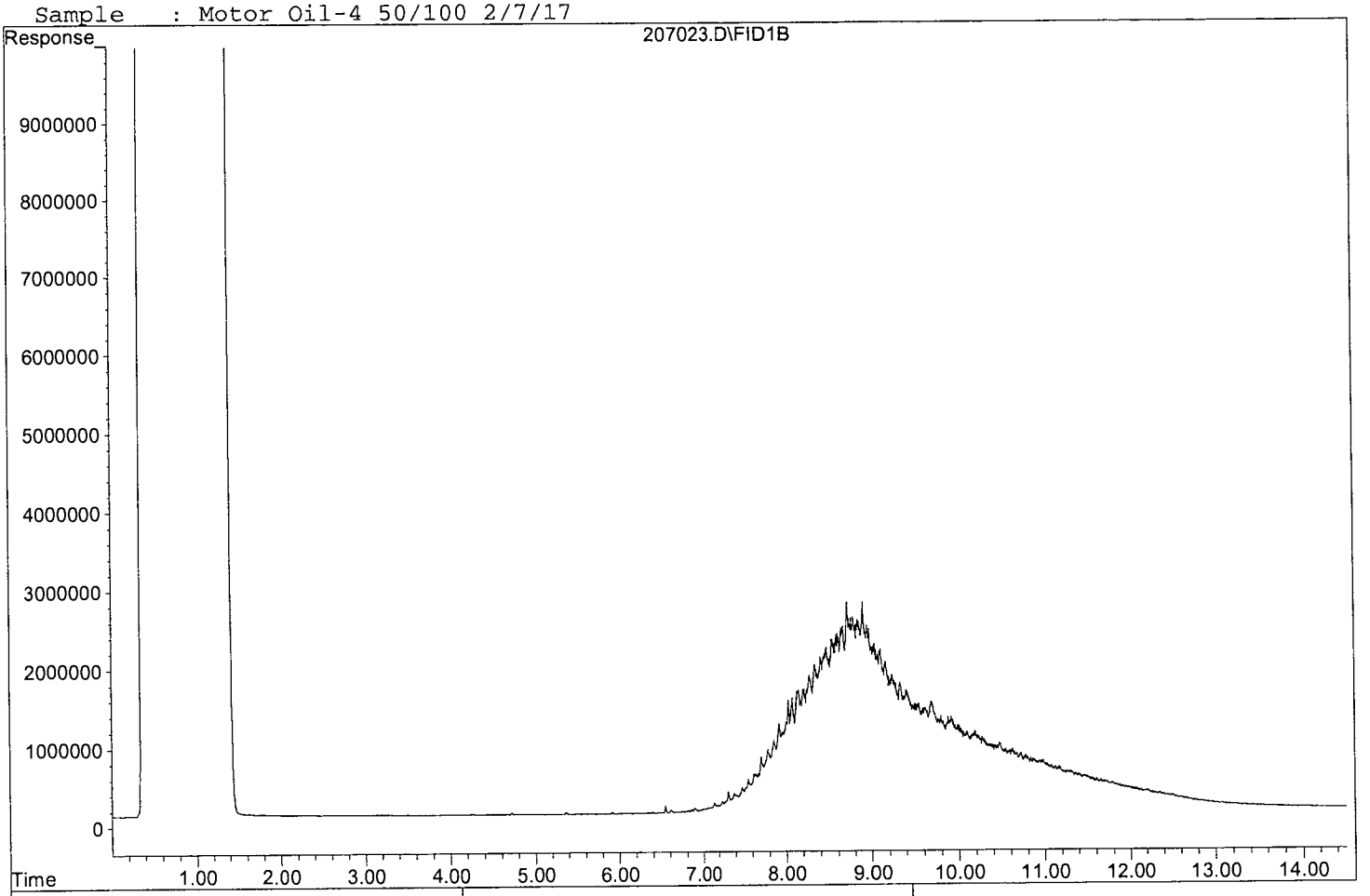
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

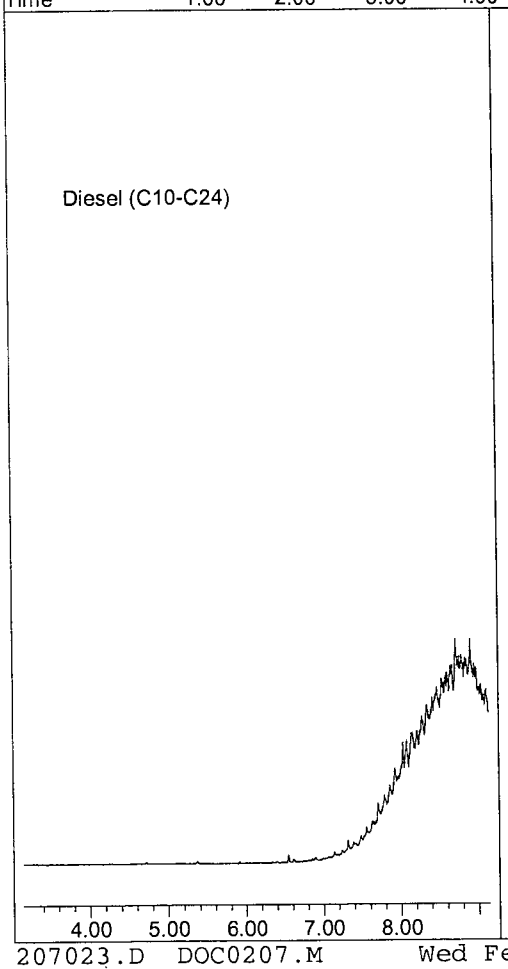
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382	ppb

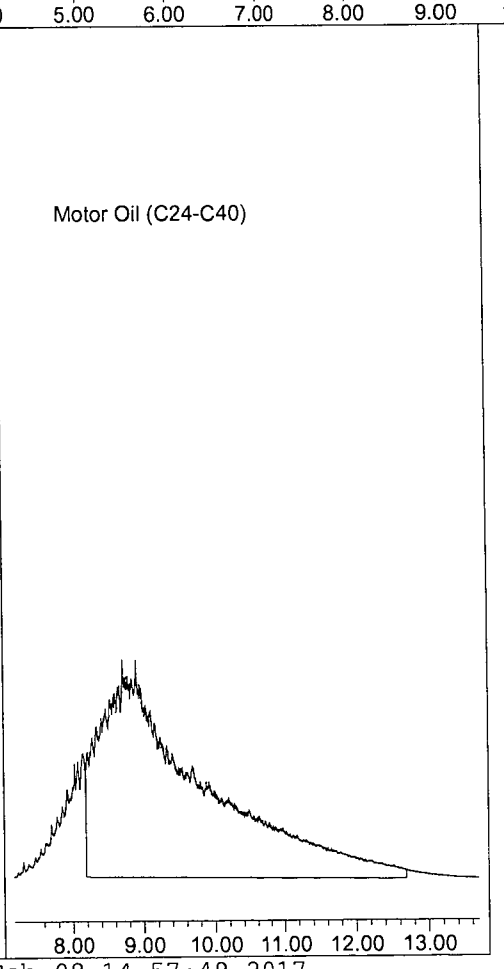
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

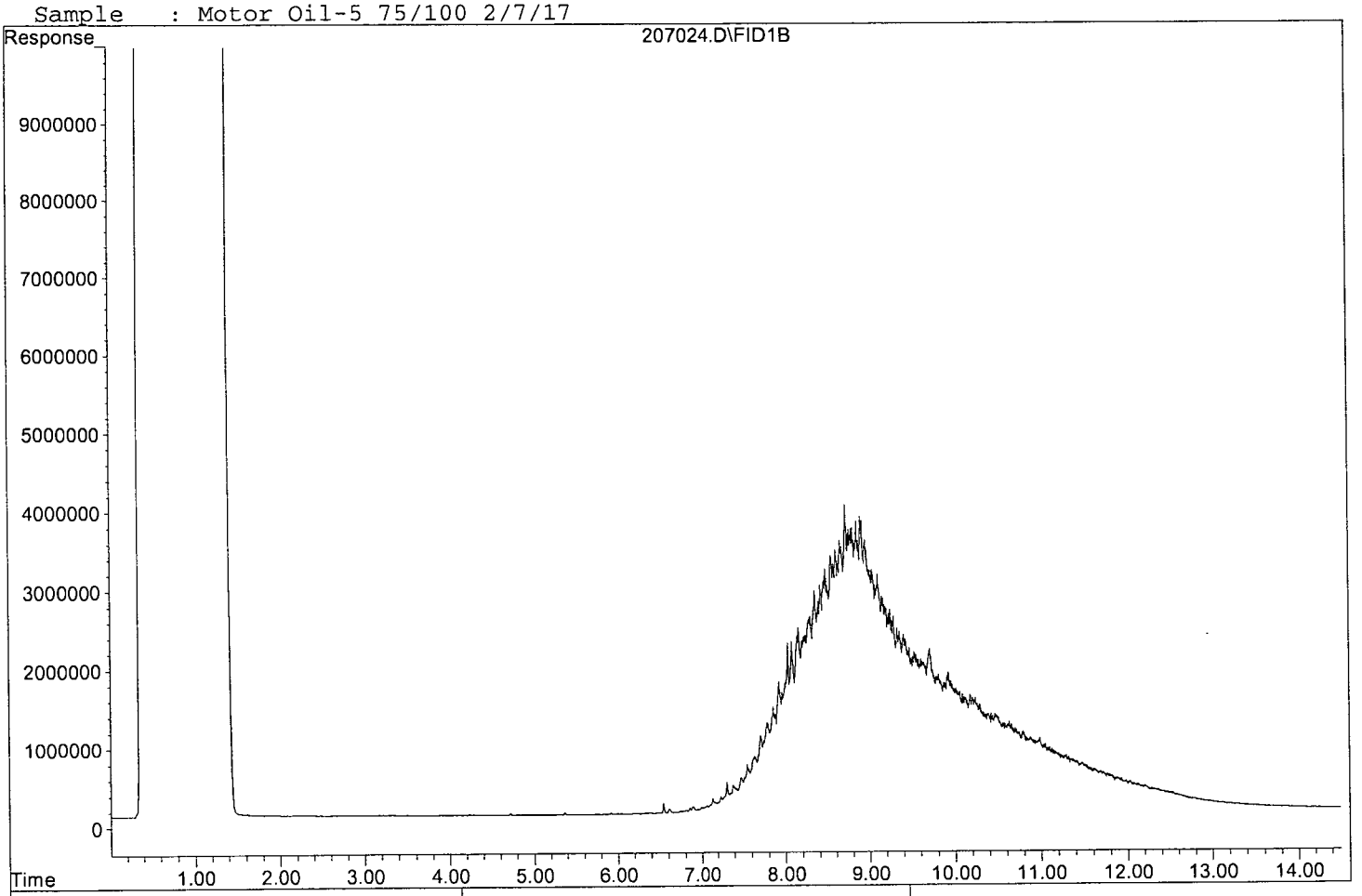
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

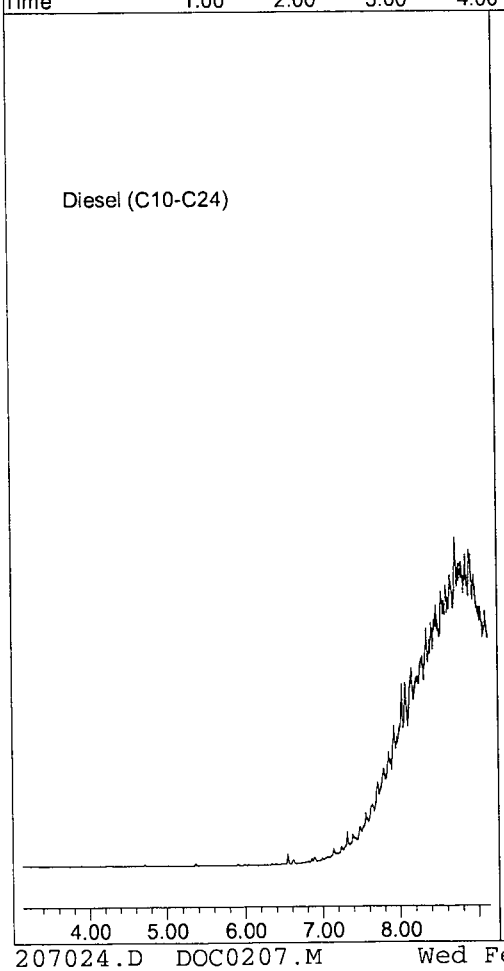
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

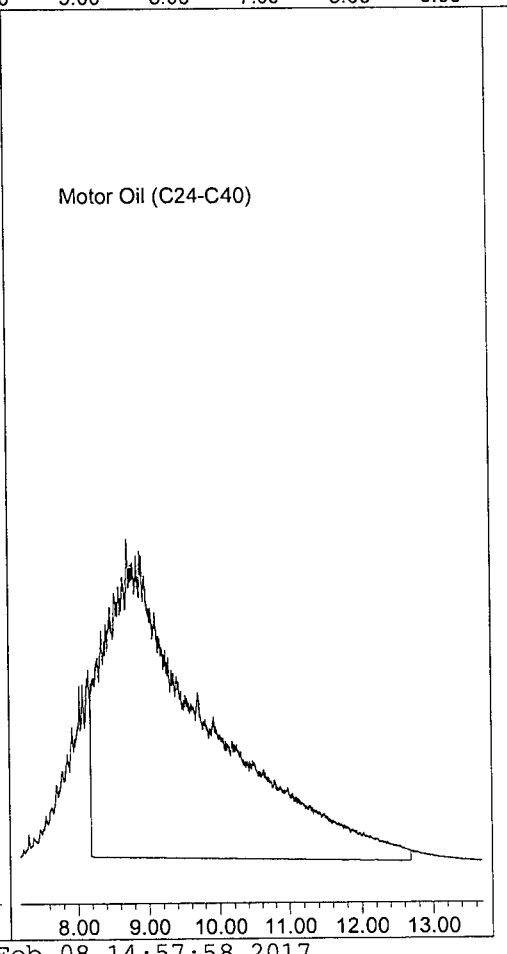
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17







207024.D DOC0207.M Wed Feb 08 14:57:58 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D
Acq On : 2-7-17 18:01:11
Sample : Motor Oil-6 100/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

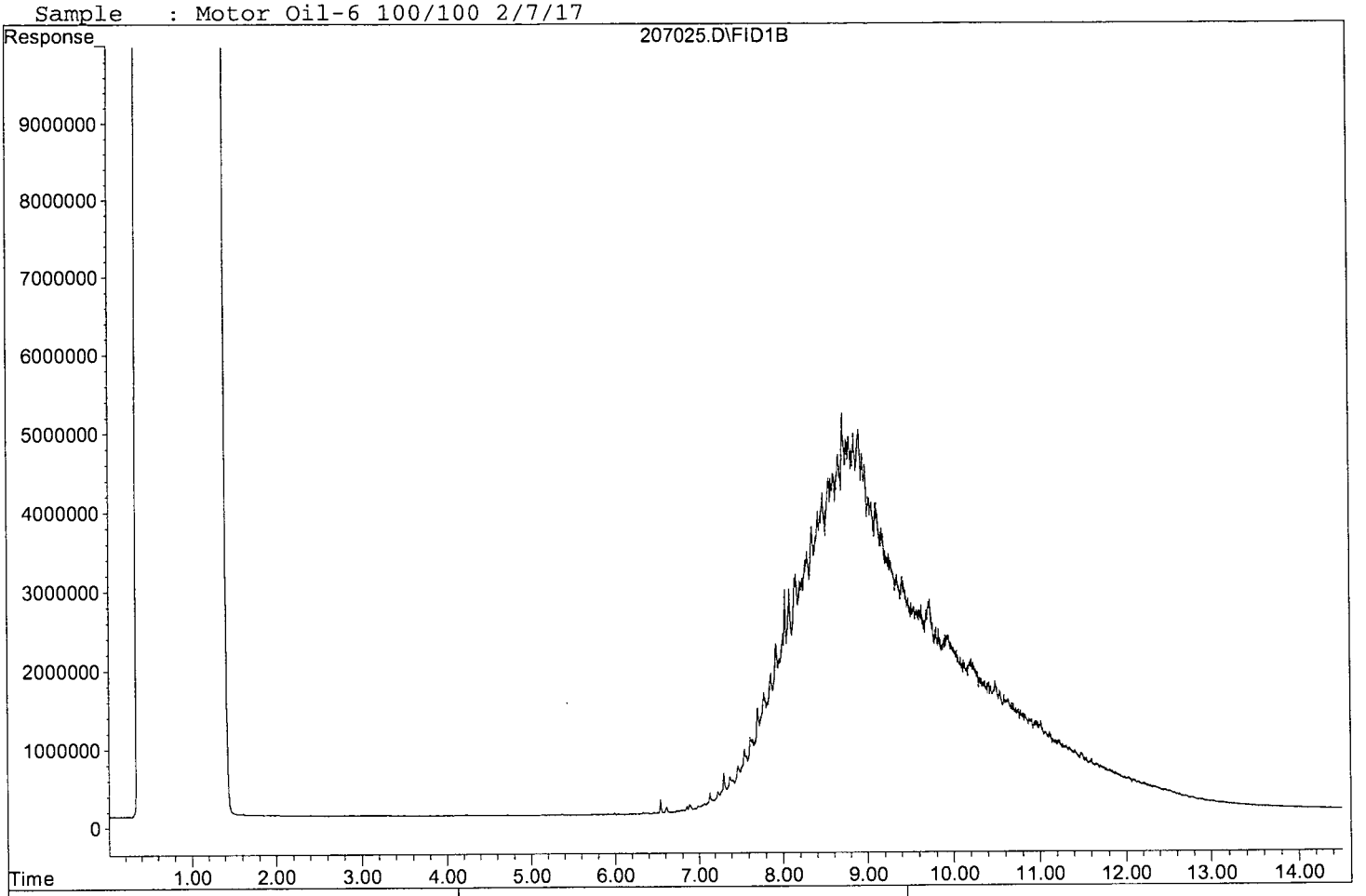
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961	ppb

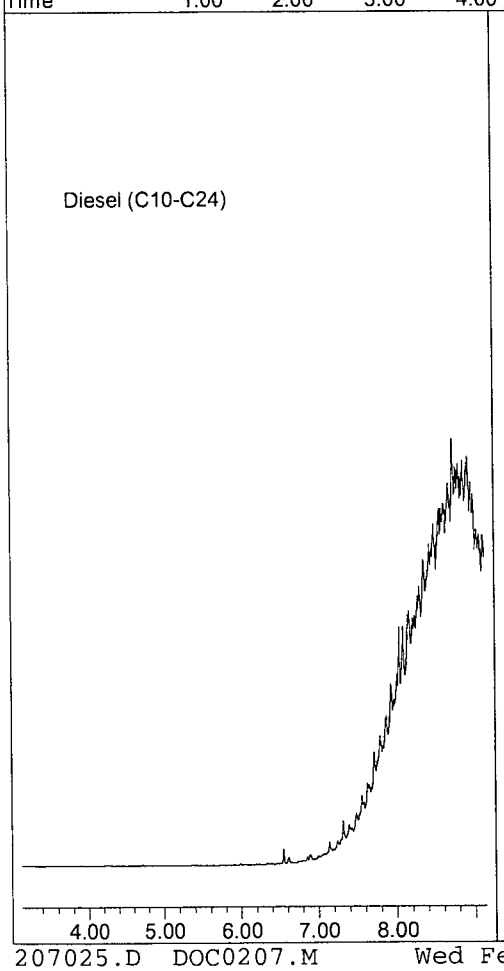
(f)=RT Delta > 1/2 Window (m)=manual int.

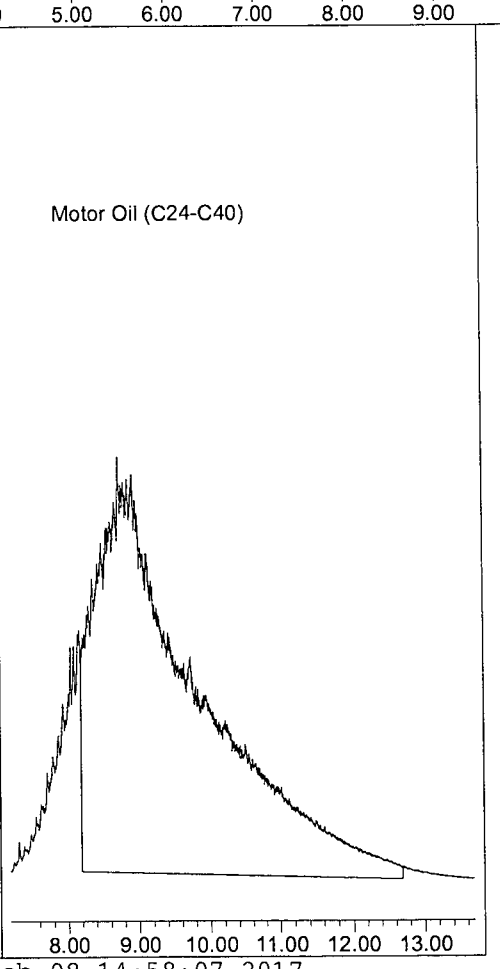
207025.D DOC0207.M Wed Feb 08 14:58:05 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







TPH Extractables
DOC0207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 207019.D (Diesel) 207026.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
4							
5							
6							
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37							
38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:53 2017 Quant Results File: DOC0207.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.591 ppb
Surrogate Spike 30.000		Recovery =	8.64%
5) SA Octacosane(S)	9.01	2024928	0.322 ppb
Surrogate Spike 30.000		Recovery =	1.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

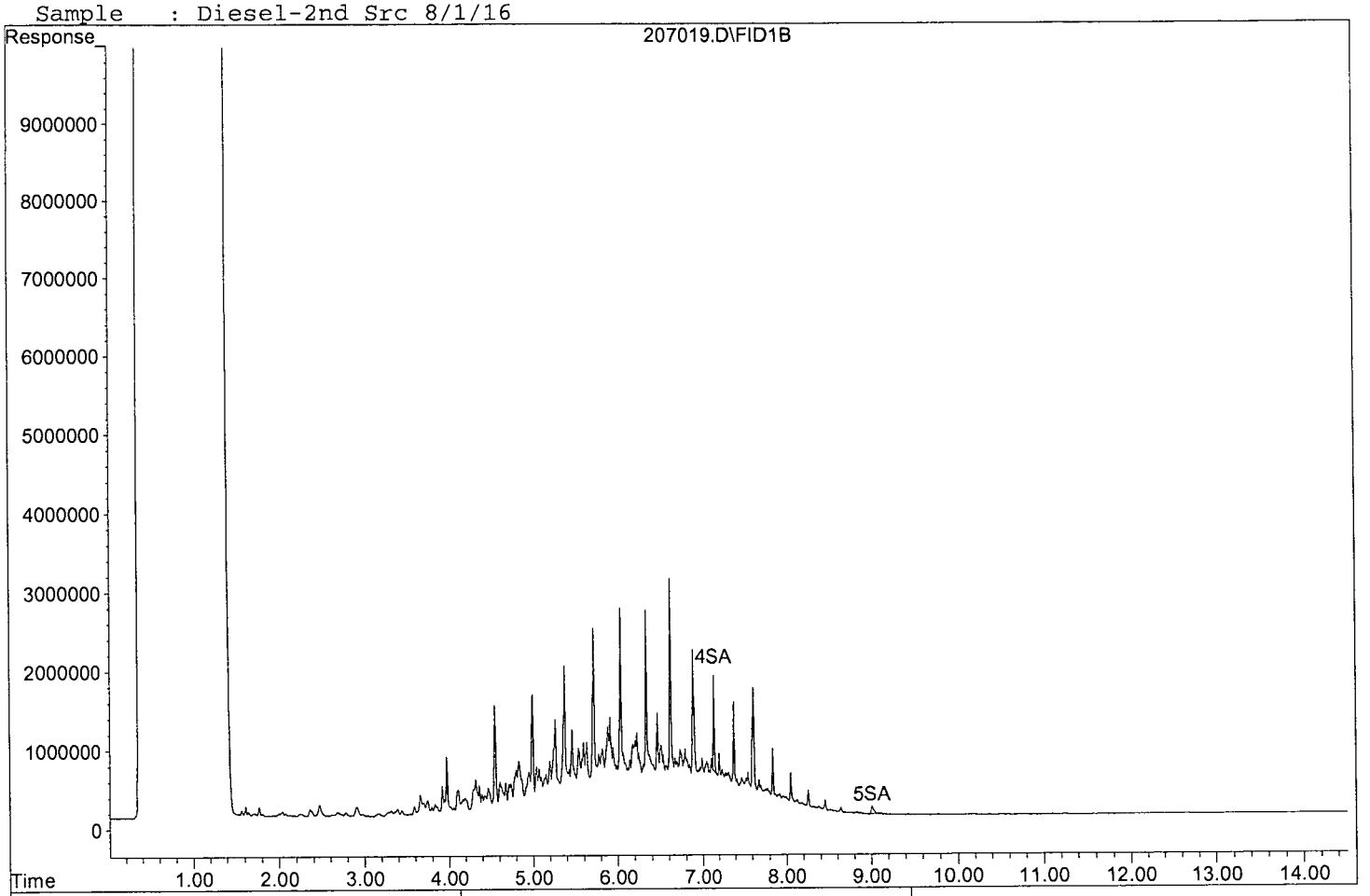
algorithm check: $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

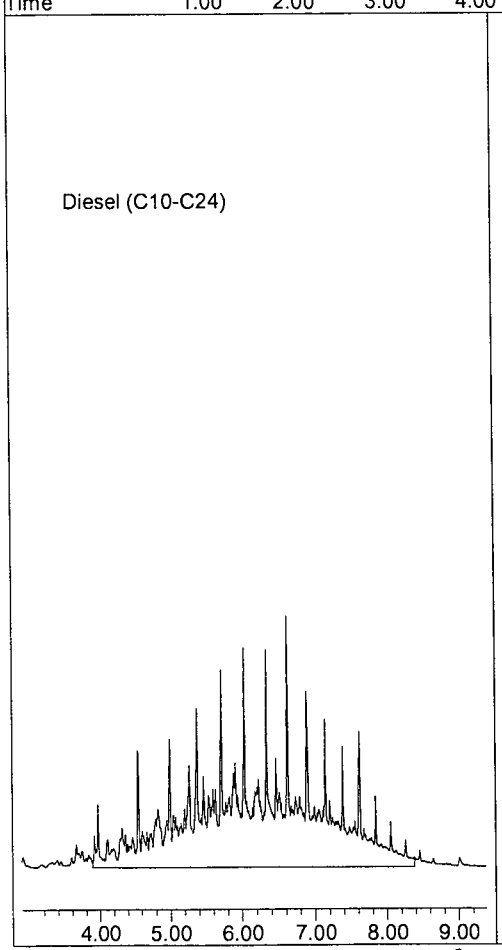
D.P. 2/9/17

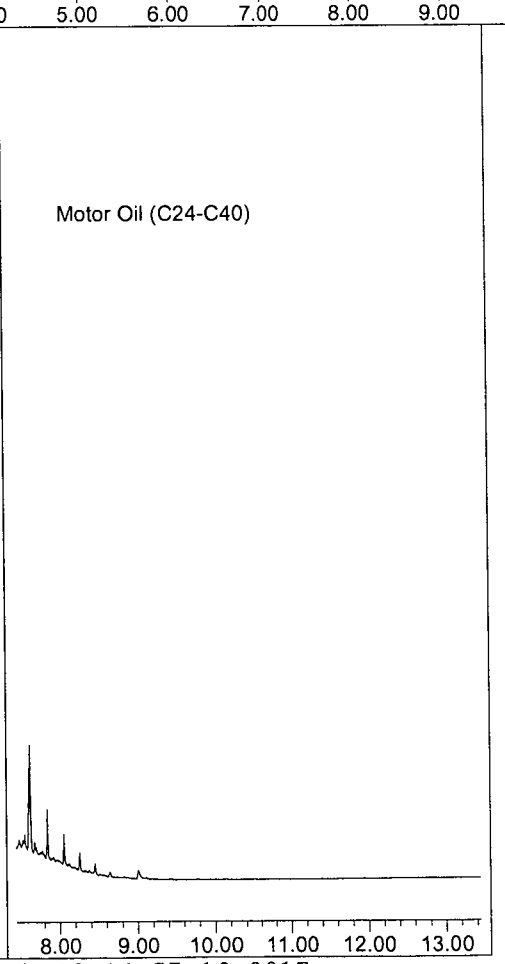
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

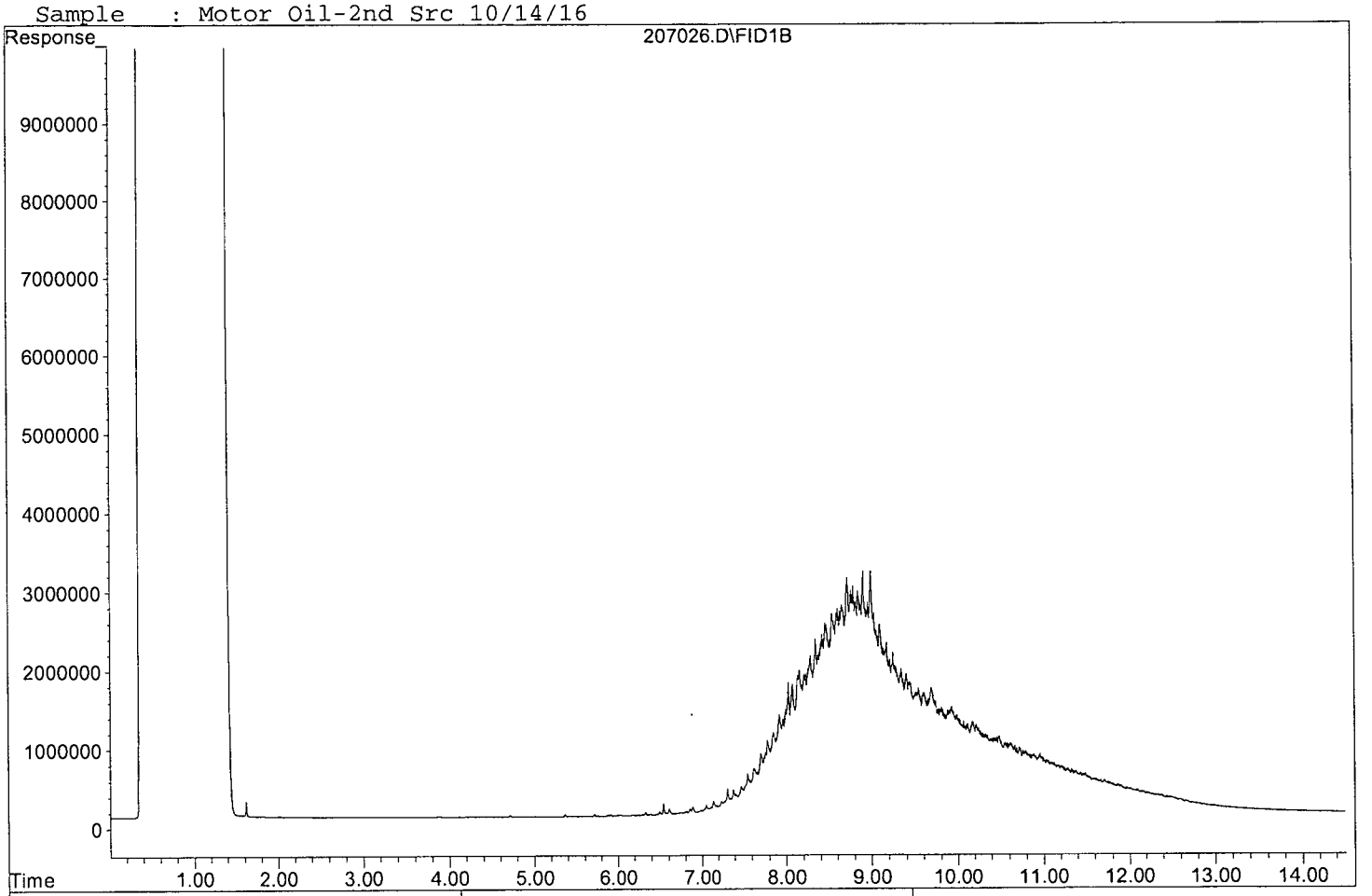
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

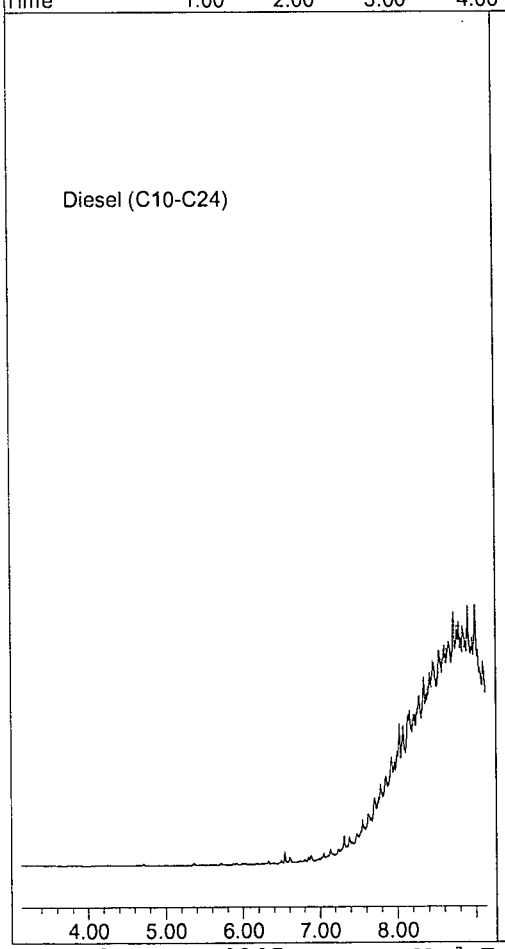
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

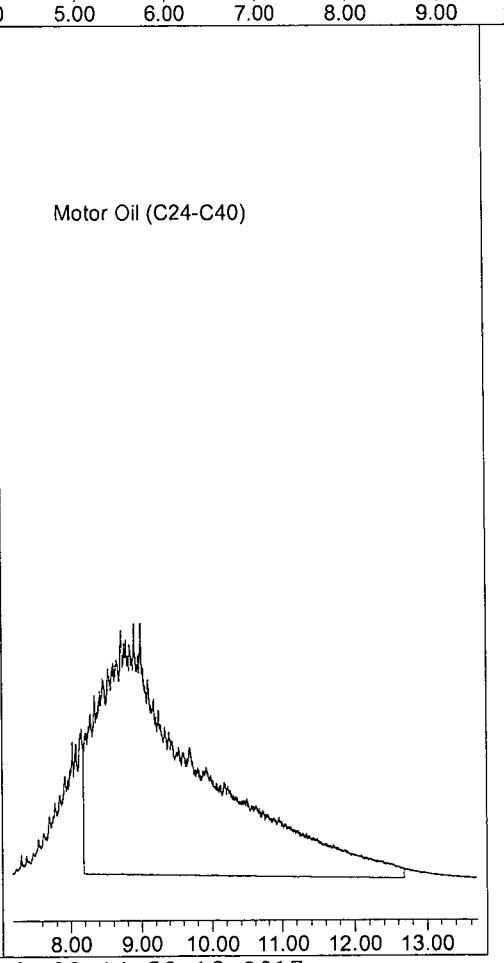
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 213018-19.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1678500	2.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1243220	1.1	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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15							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213018.D Vial: 18
Acq On : 2-13-17 14:41:53 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 13 15:28 2017 Quant Results File: DOC0207.RES

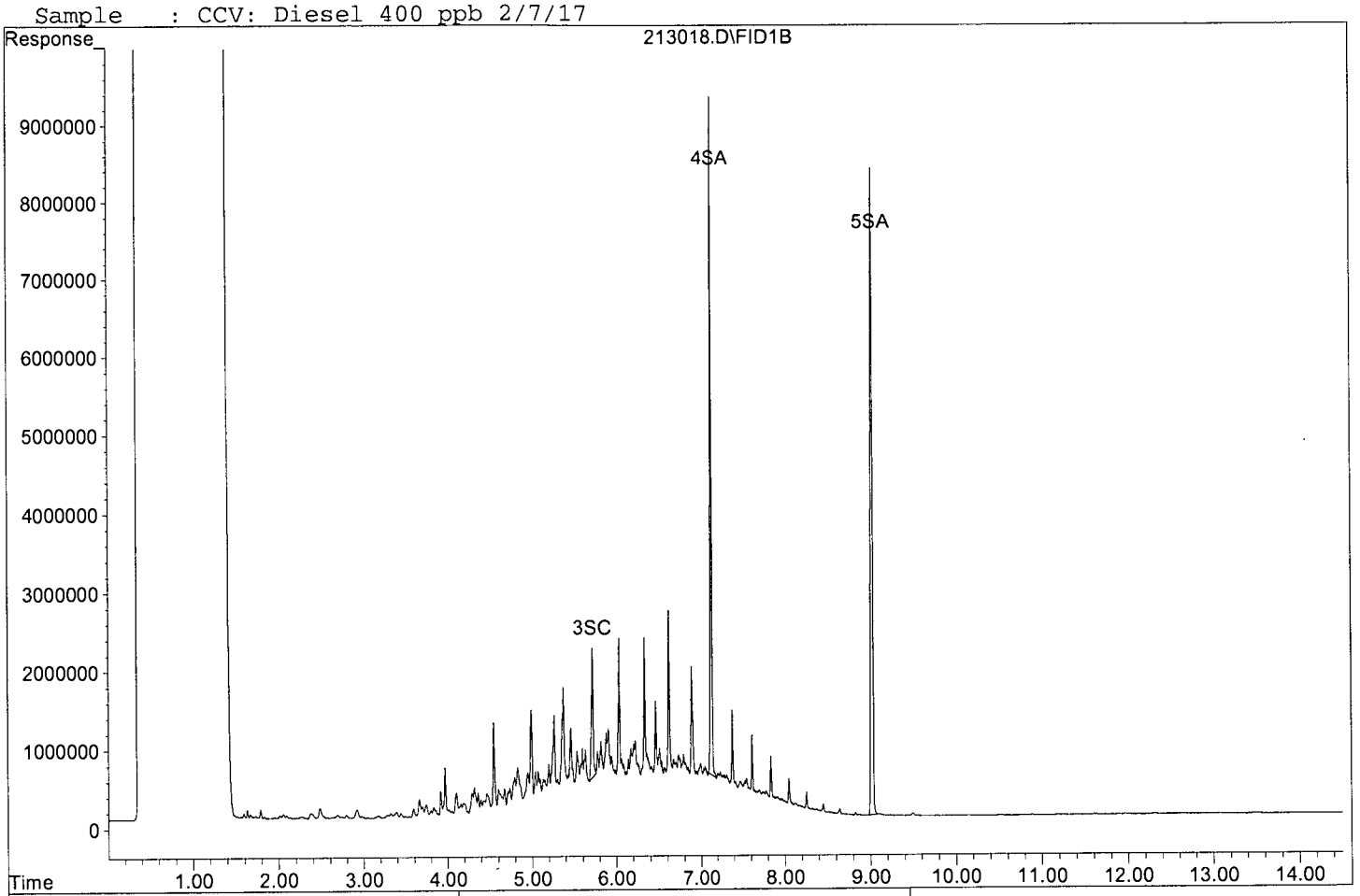
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

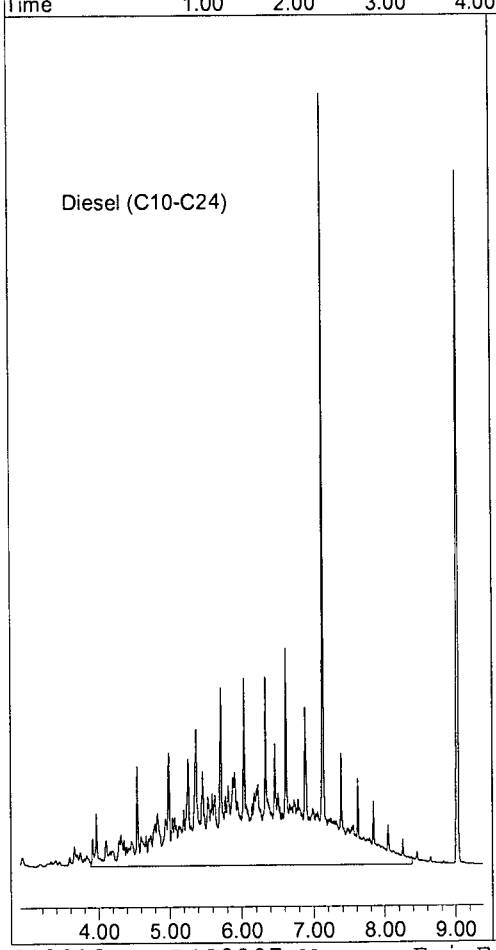
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

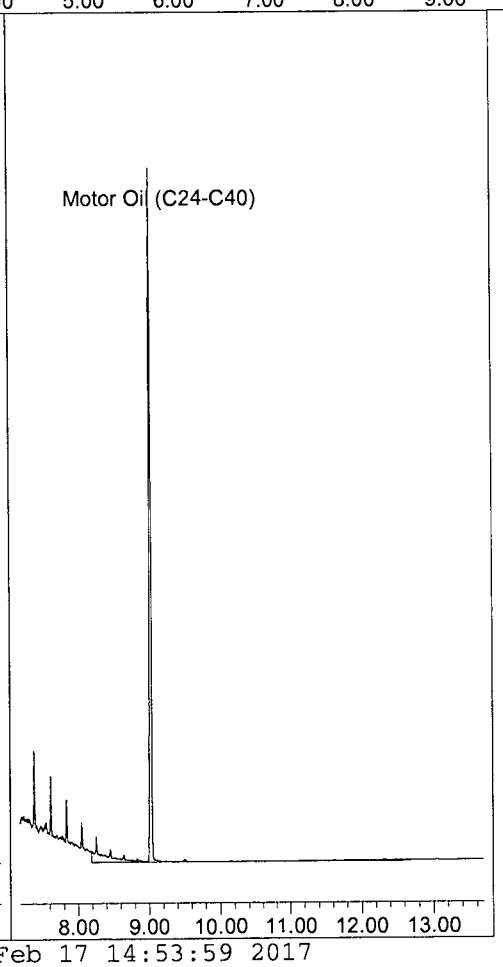
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22581684	18.461 ppb
Surrogate Spike 48.000		Recovery =	38.46%
4) SA Ortho-Terphenyl(S)	7.14	88920040	20.805 ppb
Surrogate Spike 30.000		Recovery =	69.35%
5) SA Octacosane(S)	9.03	126882211	20.205 ppb
Surrogate Spike 30.000		Recovery =	67.35%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1342802391	411.013 ppb
2) HBTM Motor Oil (C24-C40)	10.44	40113004	16.315 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213018.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213019.D Vial: 19
Acq On : 2-13-17 15:02:32 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 13 15:28 2017 Quant Results File: DOC0207.RES

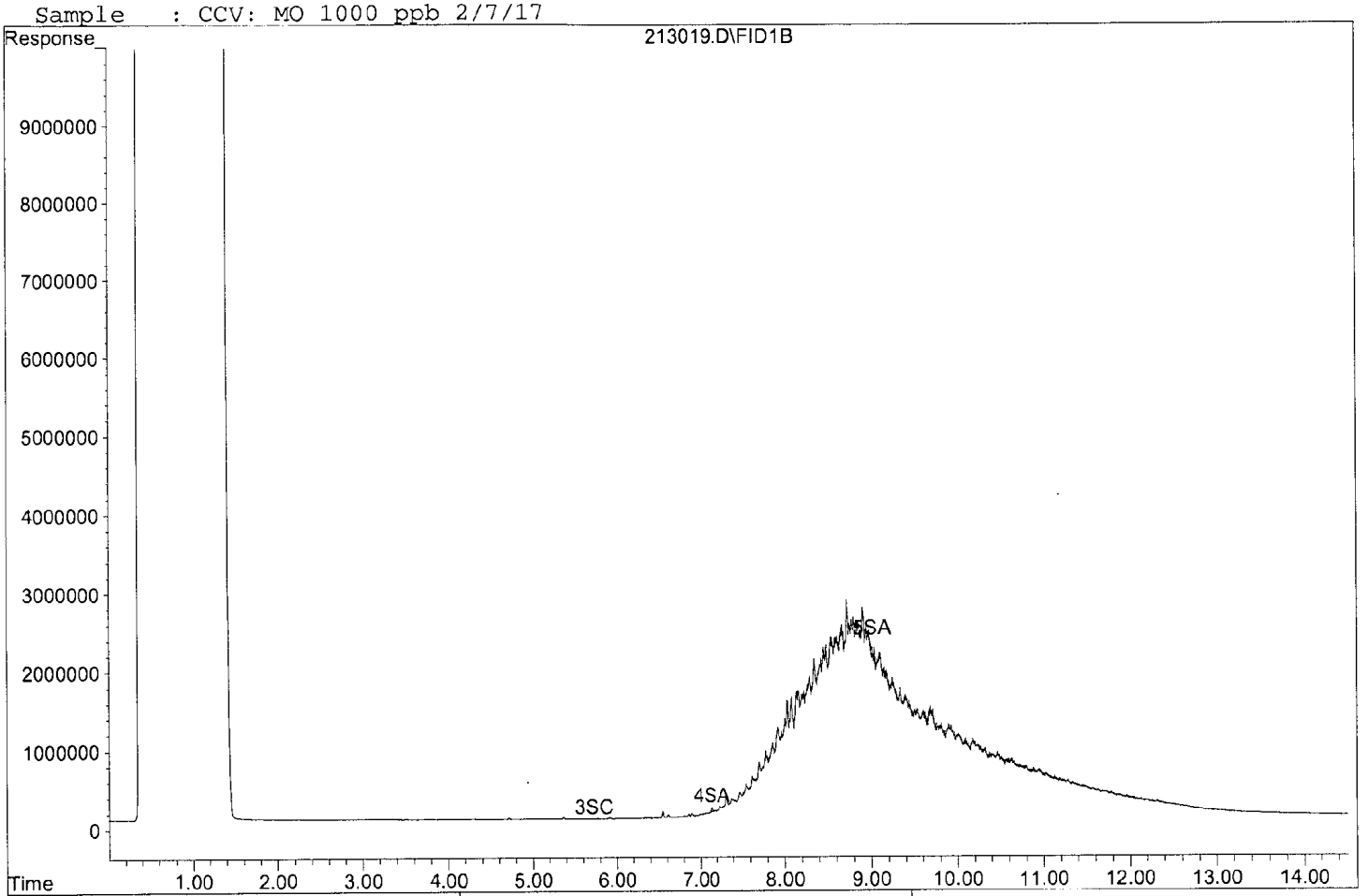
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

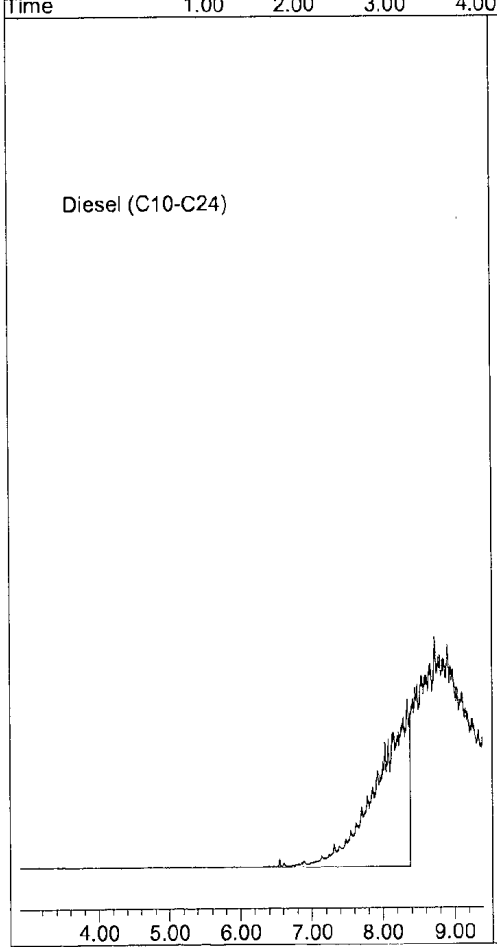
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

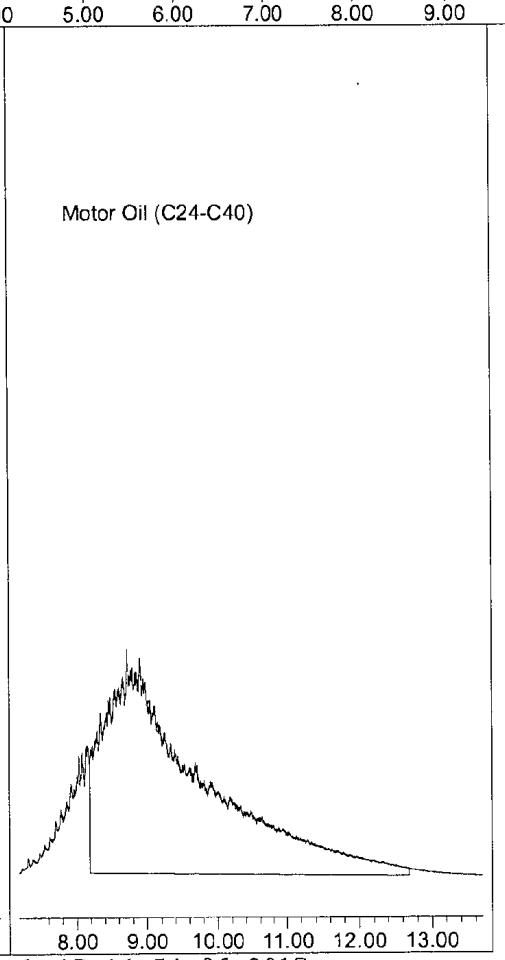
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	2902	0.002 ppb
Surrogate Spike 48.000		Recovery =	0.00%
4) SA Ortho-Terphenyl(S)	7.14	614181	0.144 ppb
Surrogate Spike 30.000		Recovery =	0.48%
5) SA Octacosane(S)	9.01	611201	0.097 ppb
Surrogate Spike 30.000		Recovery =	0.32%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	618389703	189.281 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2486431988	1011.317 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213019.D
Sample : CCV: MO 1000 ppb 2/7/17







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 213043-44.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1647670	0.87	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1169540	4.9	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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15							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.9		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213043.D Vial: 43
Acq On : 2-13-17 23:14:06 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 14 8:47 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

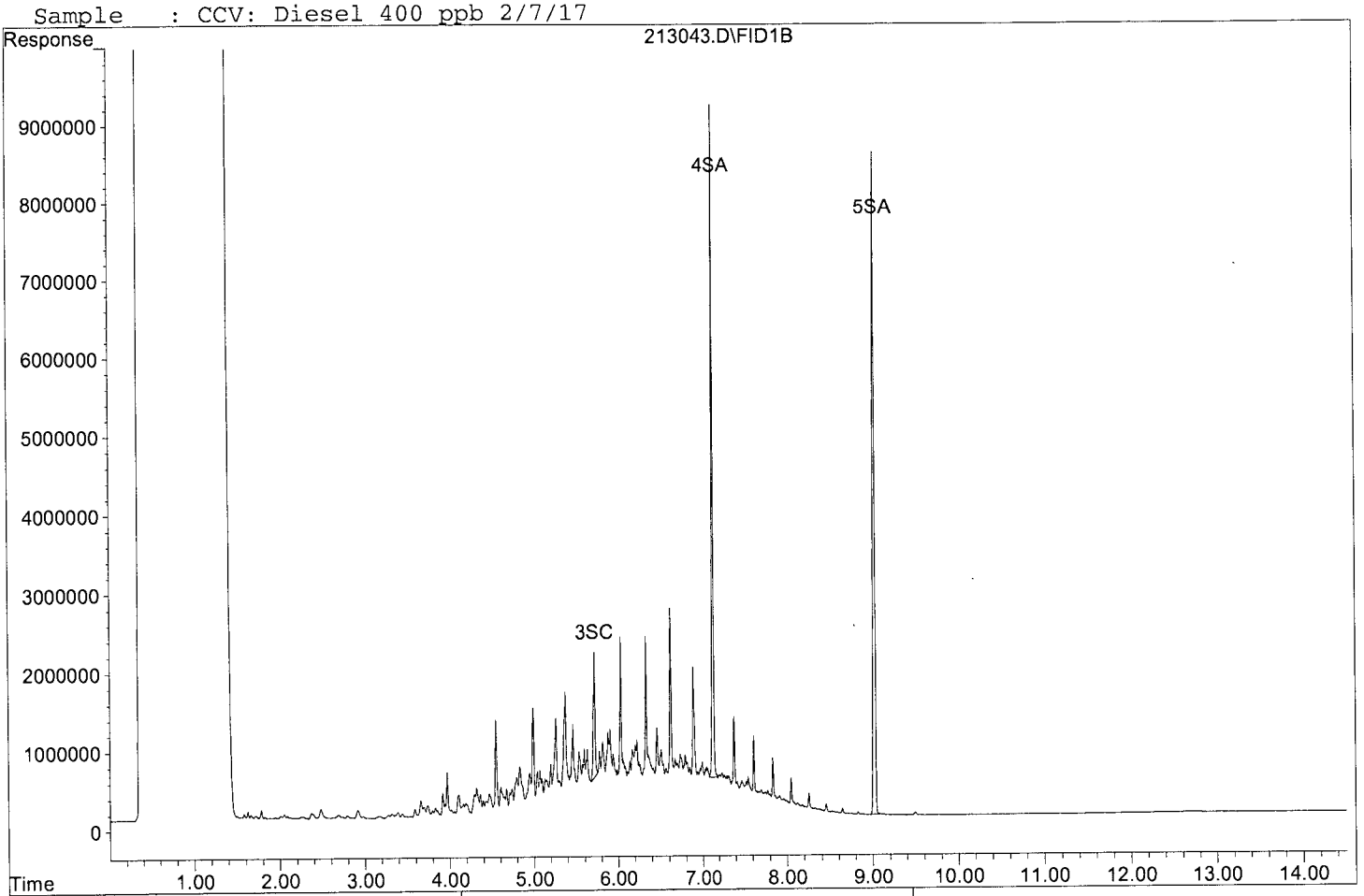
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

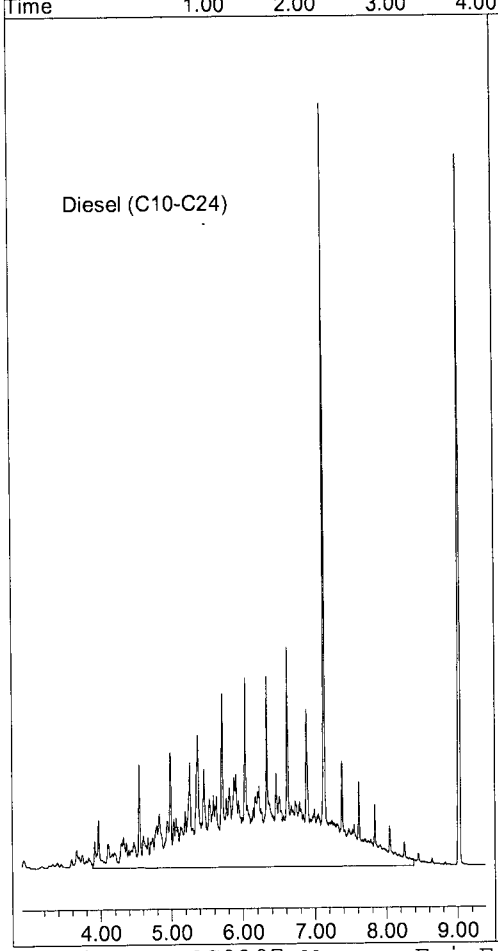
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	21928038	17.927 ppb
Surrogate Spike 48.000		Recovery =	37.35%
4) SA Ortho-Terphenyl(S)	7.13	88990292	20.821 ppb
Surrogate Spike 30.000		Recovery =	69.40%
5) SA Octacosane(S)	9.03	122716114	19.541 ppb
Surrogate Spike 30.000		Recovery =	65.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1318137751	403.464 ppb
2) HBTM Motor Oil (C24-C40)	10.44	39902657	16.230 ppb

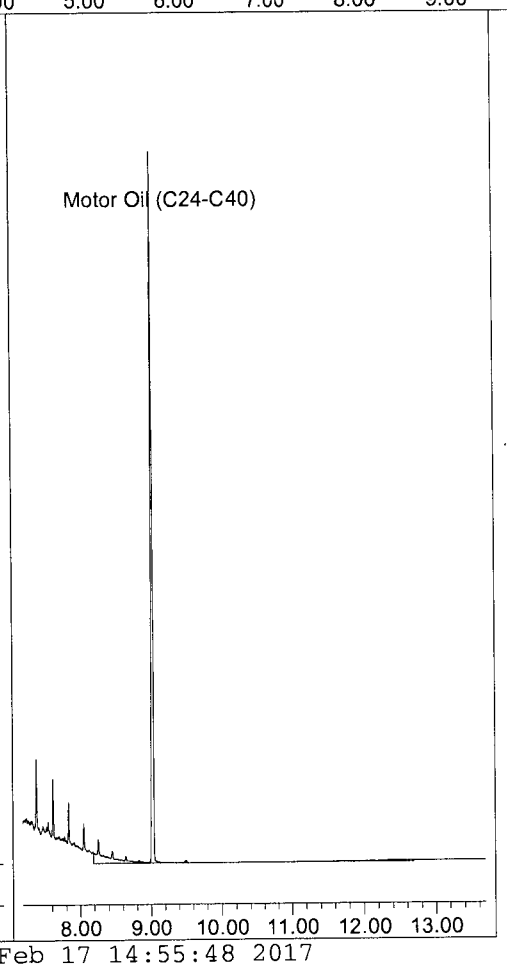
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213043.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213044.D Vial: 44
Acq On : 2-13-17 23:34:33 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 14 8:47 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

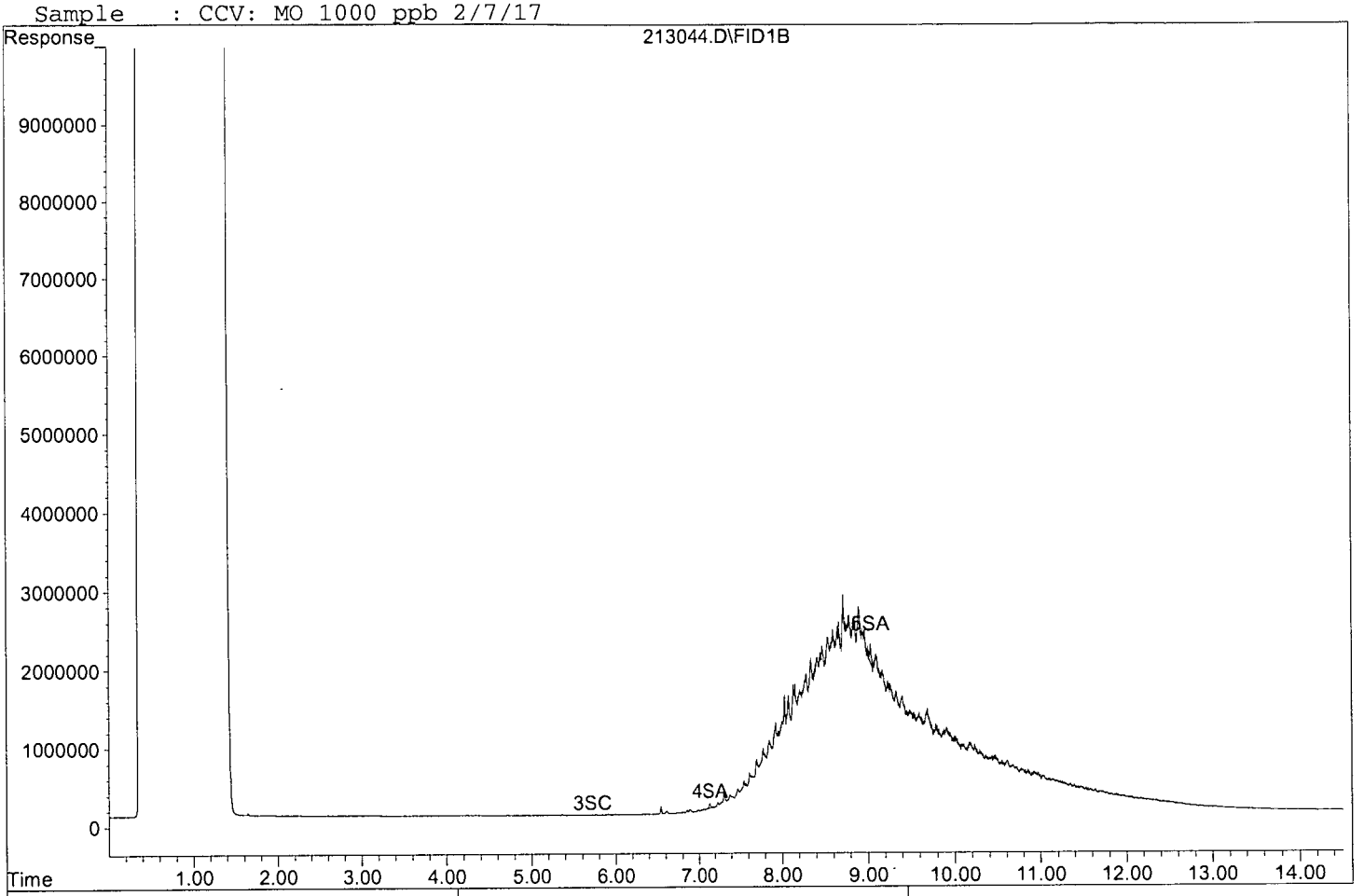
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

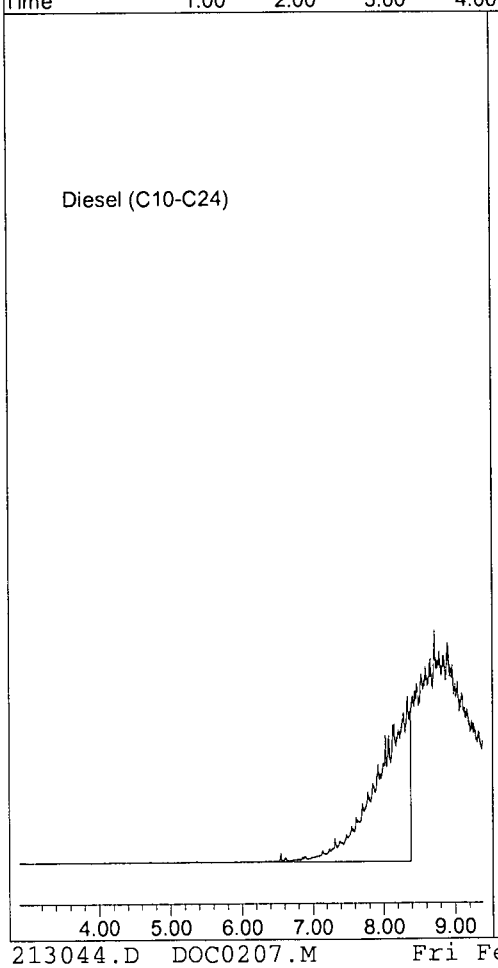
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	18557	0.015 ppb
Surrogate Spike 48.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.14	751507	0.176 ppb
Surrogate Spike 30.000		Recovery =	0.59%
5) SA Octacosane(S)	9.03	3401858	0.542 ppb
Surrogate Spike 30.000		Recovery =	1.81%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	616310296	188.644 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2339074071	951.381 ppb

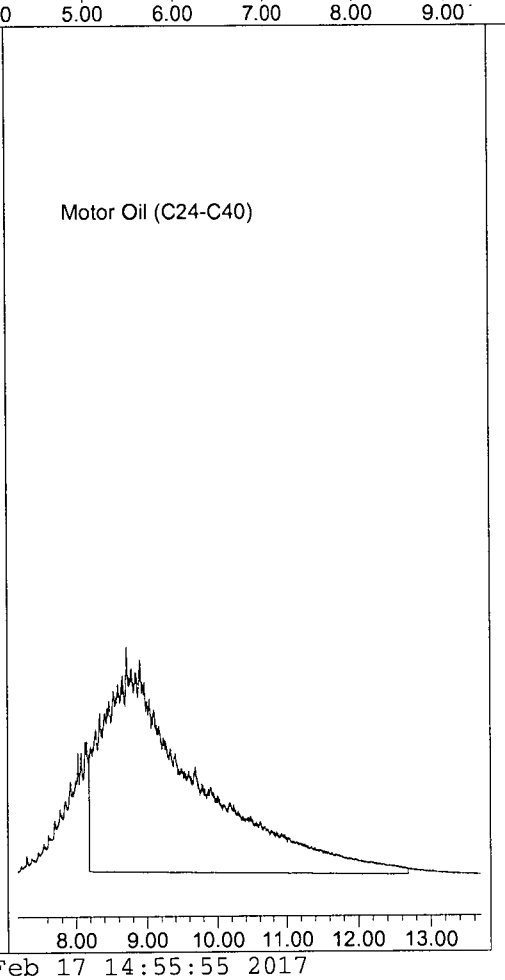
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213044.D
Sample : CCV: MO 1000 ppb 2/7/17







ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216139**
Batch ID: #DOC53-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: OCTACOSANE (S)	92.0	60-142			%	02/09/17	02/13/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.9	56-125			%	02/09/17	02/13/17

Quant Method:DOC0207.M
Run #:213037
Instrument:Apollo
Sequence:170213
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 9:37:44 AM

Quantitation Report (QT Reviewed)

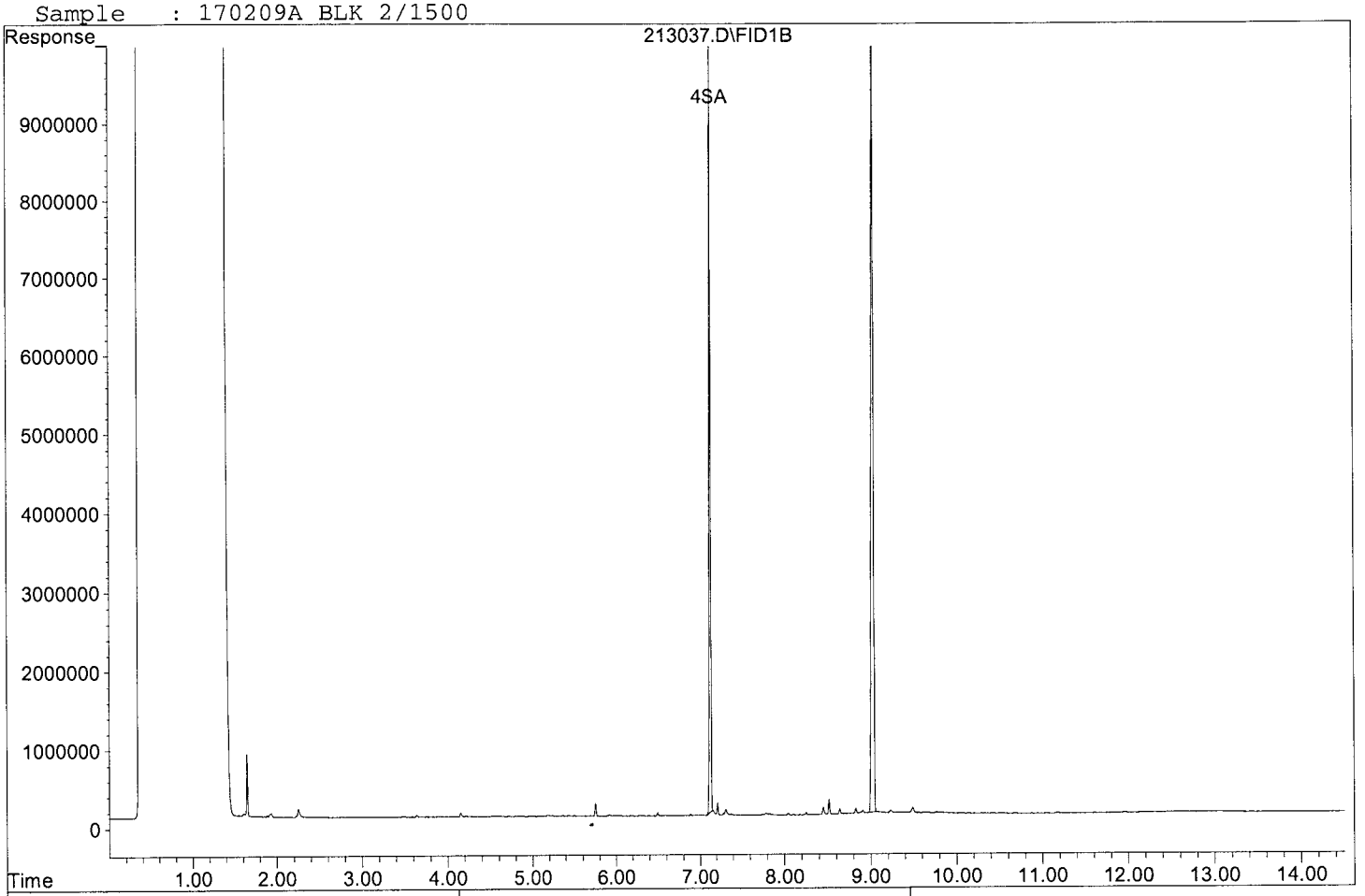
Data File : G:\APOLLO\DATA\170213\213037.D Vial: 37
Acq On : 2-13-17 21:11:55 Operator: DP
Sample : 170209A BLK 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

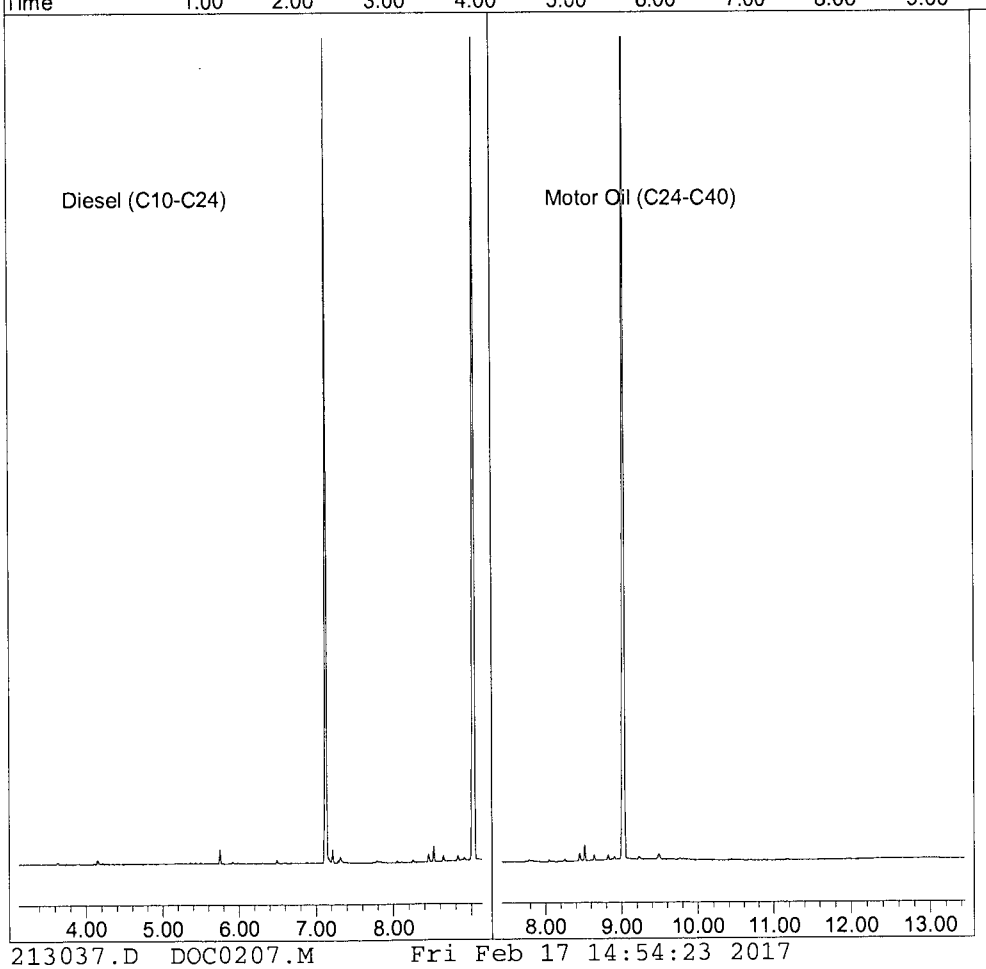
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	101100874	31.540 ppb
Surrogate Spike 40.000		Recovery =	78.85%
5) SA Octacosane(S)	9.04	173393742	36.815 ppb
Surrogate Spike 40.000		Recovery =	92.04%
Target Compounds			

Data File: G:\APOLLO\DATA\170213\213037.D
Sample : 170209A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170209W-49674 LCS - 216139**
Batch ID: #DOC53-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	479	71.8	36-132
OIL (C24-C40)	667	567	85.0	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.7	91.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	36.0	90.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Apollo
Run :	213038
Initials :	DPO

Printed: 02/14/17 9:37:39 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213038.D
Acq On : 2-13-17 21:32:20
Sample : 170209A LCS-1 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

Vial: 38
Operator: DP
Inst : Apollo
Multiplr: 1.33

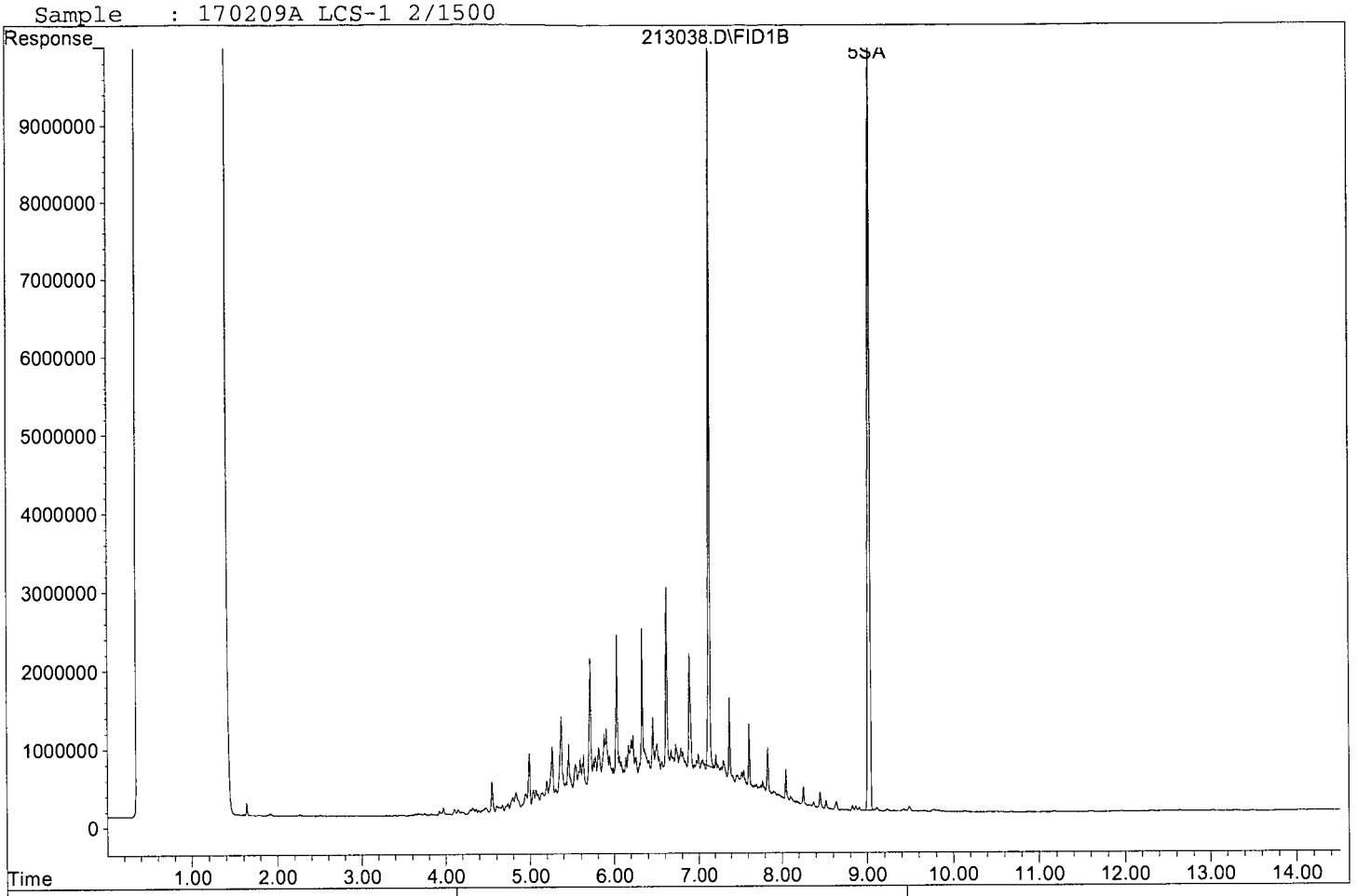
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

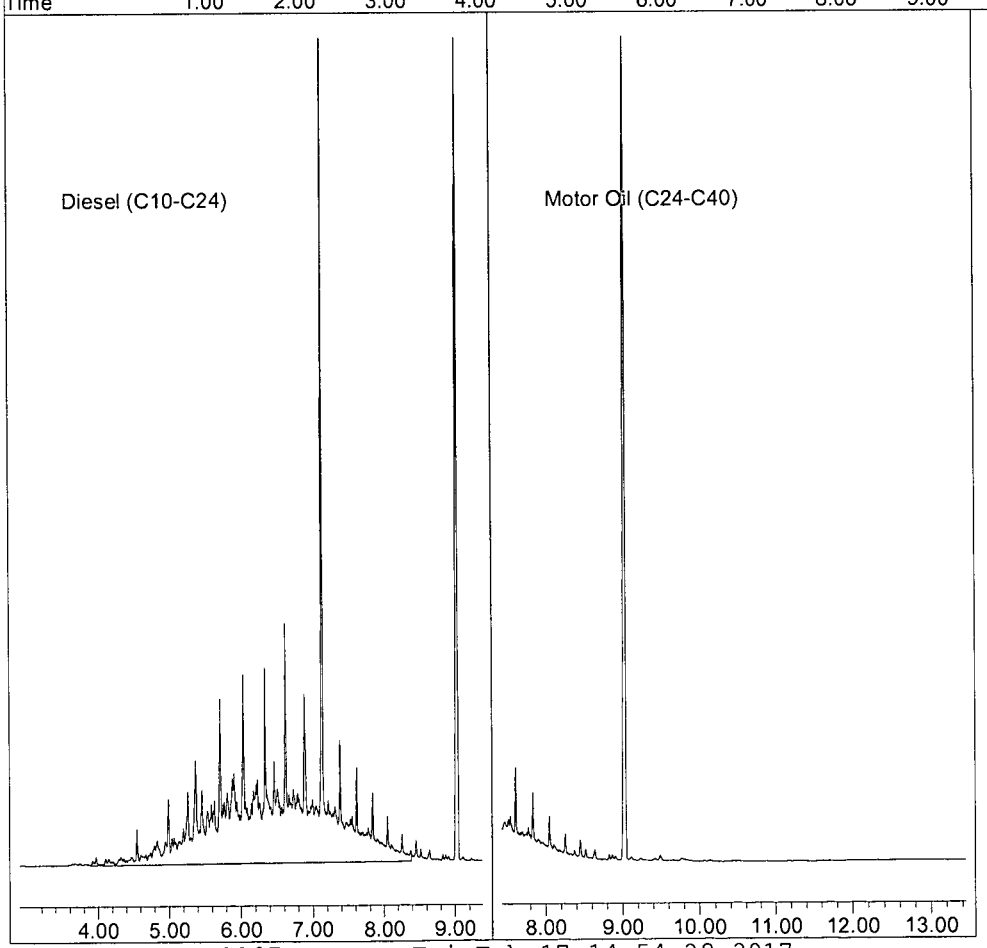
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	115370714	35.992 ppb
Surrogate Spike 40.000		Recovery =	89.98%
5) SA Octacosane(S)	9.04	172660368	36.659 ppb
Surrogate Spike 40.000		Recovery =	91.65%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1173956102	479.108 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213038.D
Sample : 170209A LCS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213039.D
Acq On : 2-13-17 21:52:40
Sample : 170209A LCS-2 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:25 2017 Quant Results File: DOC0207.RES

Vial: 39
Operator: DP
Inst : Apollo
Multiplr: 1.33

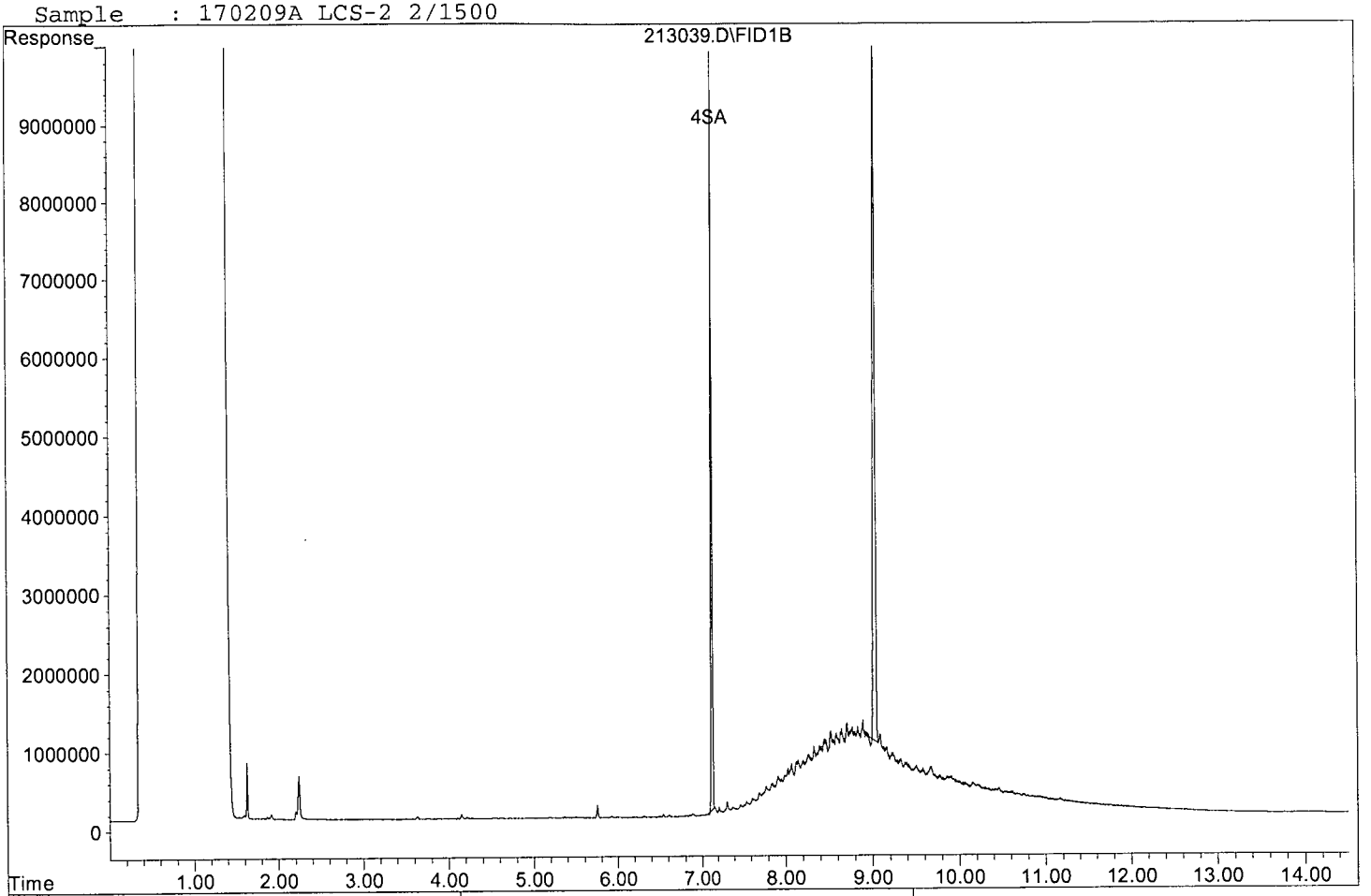
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

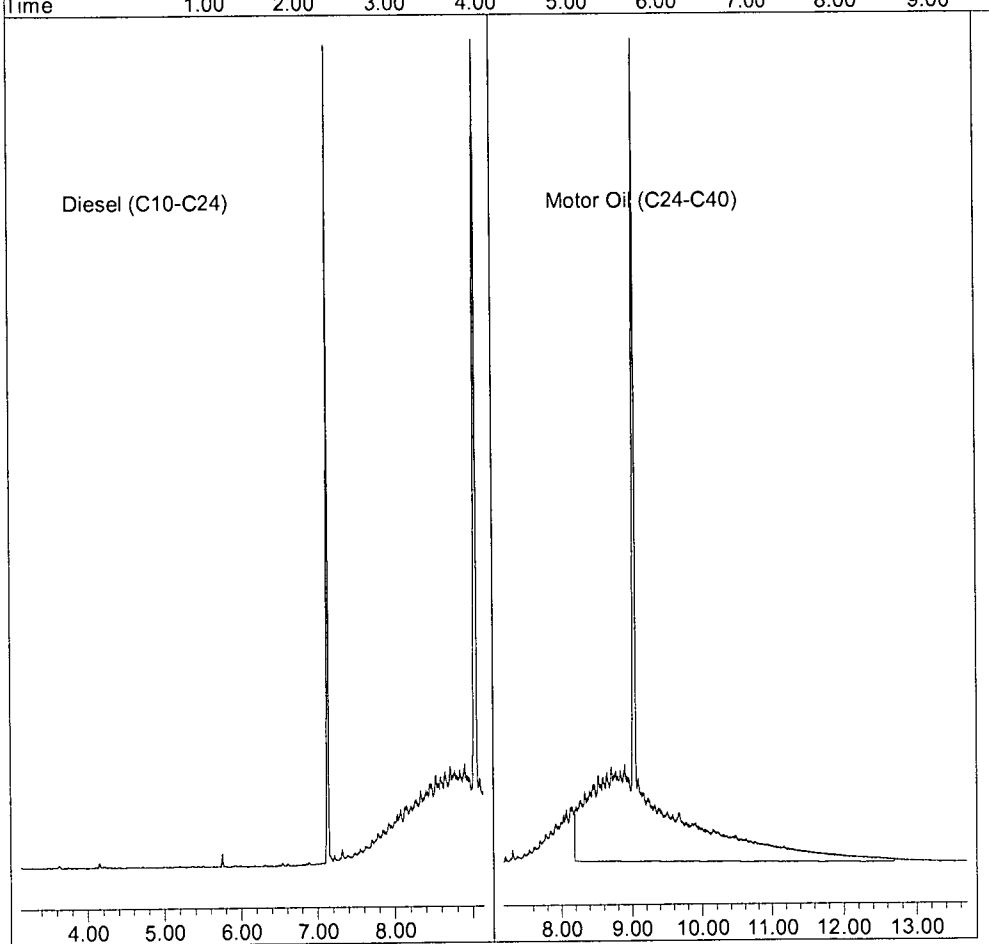
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	94296229	29.417 ppb
Surrogate Spike 40.000		Recovery =	73.54%
5) SA Octacosane(S)	9.04	154899394	32.888 ppb
Surrogate Spike 40.000		Recovery =	82.22%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1046267025	567.402 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213039.D
Sample : 170209A LCS-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 02/07/17-D.P. Ex: 02/07/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	02/07/18				

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

Diesel Spike
Cat: 011598-03
Lot: 280736-37352
Op: 01/19/17-D.P.
Exp: 01/19/18

THC Surrogate	
Cat:	110316-05
Lot:	295677-37411
Op:	02/07/17-D.P.
Exp:	02/07/18

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CCV 1000ppb						
Prep: 02/07/17-D.P. Ex: 11/09/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	2500µL	5mL	1000 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	11/09/17				

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34446
Op: 02/07/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170209A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-7-17 exp 2-7-18	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 16:20	
Spiked ID 8			Ext. End Time:	02/13/17 14:00	
			GC Requires Extract By:	**02/15/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	
2	170209A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	
3	170209A LCS-2		0.020	2	0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	
4	AZ49656	AZ49656W10			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
5	AZ49657	AZ49657W10			0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
6	AZ49658	AZ49658W09			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
7	AZ49674 MS-1	AZ49674W20	0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
8	AZ49674 MSD-1	AZ49674W32	0.020	1	0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
9	AZ49674 MS-2	AZ49674W18	0.020	2	0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
10	AZ49674 MSD-2	AZ49674W27	0.020	2	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
11	AZ49674	AZ49674W25			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
12	AZ49676	AZ49676W08			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
13	AZ49679	AZ49679W11			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
14	AZ49682	AZ49682W13			0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
15	AZ49683	AZ49683W10			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
16	AZ49685	AZ49685W14			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	7:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY
Extraction	JR,KY,DL
Concentration	DL

Modified	02/13/17 2:05:41 PM

Reviewed By: KY94 **Date** 2/13/17

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170209A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-7-17 exp 2-7-18
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/09/17 16:20
Spiked ID 8			Ext. End Time:	02/13/17 14:00
			GC Requires Extract By:	02/15/17 0:00

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49686	AZ49686W09			0.1	1	1500	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
						equip	E-WB2				

KY 2/13/17

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY
Extraction	JR,KY,DL
Concentration	DL

Modified	02/13/17 2:05:41 PM

Reviewed By: KY 95 **Date** 2/13/17

Ext_ID 53960

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	18	213018.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-13-17 14:41:53
16	19	213019.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-13-17 15:02:32
17	37	213037.D	1.33333	170209A BLK 2/1500	Water	2-13-17 21:11:55
18	38	213038.D	1.33333	170209A LCS-1 2/1500	Water	2-13-17 21:32:20
19	39	213039.D	1.33333	170209A LCS-2 2/1500	Water	2-13-17 21:52:40
20	40	213040.D	1.33333	AZ49656W10 2/1500	Water	2-13-17 22:13:02
21	41	213041.D	1.33333	AZ49657W10 2/1500	Water	2-13-17 22:33:22
22	42	213042.D	1.33333	AZ49658W09 2/1500	Water	2-13-17 22:53:43
23	43	213043.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-13-17 23:14:06
24	44	213044.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-13-17 23:34:33

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49656 - 216199**
Batch ID: #SIMDO-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.5	53-106			%	02/09/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	63.7	55-111			%	02/09/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	77.7	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L031
Instrument: Linus
Sequence: L170214
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 2:48:41 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170209W-49656 LCS - 216199**
Batch ID: #SIMDO-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.96	79.2	41-115
2-METHYLNAPHTHALENE	5.00	3.82	76.4	39-114
NAPHTHALENE	5.00	3.57	71.4	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.33	66.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.51	70.2	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.90	78.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/09/17
Analysis Date :	02/15/17
Instrument :	Linus
Run :	0214L032
Initials :	MA

Printed: 02/17/17 2:48:34 PM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/15/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	53-106	56.5		55-111	63.7	
170209A-LCS	Lab Control Spike	53-106	66.6		55-111	70.2	
AZ49656	ERH208	53-106	63.8		55-111	69.1	
AZ49658	ERH245	53-106	58.2		55-111	63.4	
AZ49657	ERH244	53-106	58.0		55-111	67.1	

Comments: Batch: #SIMDO-170209A

Printed: 02/17/17 2:48:38 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/15/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	58-132	77.7				
170209A-LCS	Lab Control Spike	58-132	78.0				
AZ49656	ERH208	58-132	85.7				
AZ49658	ERH245	58-132	95.0				
AZ49657	ERH244	58-132	86.3				

Comments: Batch: #SIMDO-170209A

Printed: 02/17/17 2:48:39 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82117
Date Analyzed: 02/15/17
Instrument: Linus
Time Analyzed: 1338

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	0214L031	02/15/17 1338
170209A-LCS	Lab Control Spike	0214L032	02/15/17 1411
AZ49656	ERH208	0214L033	02/15/17 1444
AZ49658	ERH245	0214L035	02/15/17 1549
AZ49657	ERH244	0214L037	02/15/17 1655

Comments: Batch: #SIMDO-170209A

Printed: 02/17/17 2:48:31 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82117
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82117
Date Analyzed: 02/14/17
Instrument: Linus
Time Analyzed: 18:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 02/14/17	0214L003.D	02/14/17 18:21
2		0.2 SIM 02/14/17	0214L004.D	02/14/17 18:53
3		0.5 SIM 02/14/17	0214L005.D	02/14/17 19:26
4		1.0 SIM 02/14/17	0214L006.D	02/14/17 19:59
5		5.0 SIM 02/14/17	0214L007.D	02/14/17 20:32
6		10 SIM 02/14/17	0214L008.D	02/14/17 21:04
7		50 SIM 02/14/17	0214L009.D	02/14/17 21:37
8		100 SIM 02/14/17	0214L010.D	02/14/17 22:10
9		SS SIM 02/14/17	0214L011.D	02/14/17 22:43
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	55.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	20.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	90.5
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	19.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82117
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82117
Date Analyzed: 02/15/17
Instrument: Linus
Time Analyzed: 12:48

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L030.D	02/15/17 13:05
2	Blank	170209A BLK 1/1000	0214L031.D	02/15/17 13:38
3	Lab Control Spike	170209A LCS-1 1/1000	0214L032.D	02/15/17 14:11
4	ERH208	AZ49656W09 1/1050	0214L033.D	02/15/17 14:44
5	ERH245	AZ49658W05 1/1070	0214L035.D	02/15/17 15:49
6	ERH244	AZ49657W09 1/1000	0214L037.D	02/15/17 16:55
7		5.0 SIM 02/14/17	0214L044.D	02/16/17 9:56
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.3
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	53.8
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	85.1
442	40 - 150% of mass 198	55.6
443	17 - 23% of mass 442	18.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82117
Lab File ID (Standard): 0214L007.D
Date Analyzed: 02/14/17
Instrument ID: Linus
Time Analyzed: 20:32
GC Column:
ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	23069	5.81	11695	7.86	22161	9.76
	UPPER LIMIT	46138	6.31	23390	8.36	44322	10.26
	LOWER LIMIT	11535	5.31	5848	7.36	11081	9.26
	SAMPLE NO.						
01	5.0 SIM 02/14/17	22980	5.81	11627	7.86	22169	9.76
02	170209A BLK 1/1000	28693	5.82	14909	7.86	27659	9.78
03	170209A LCS-1 1/1000	23944	5.82	12003	7.86	23416	9.76
04	AZ49656W09 1/1050	25636	5.82	13046	7.86	24552	9.78
05	AZ49658W05 1/1070	23707	5.82	12472	7.86	23119	9.78
06	AZ49657W09 1/1000	21535	5.82	11226	7.86	20958	9.78
07	5.0 SIM 02/14/17	21317	5.81	10809	7.86	20745	9.76
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82117

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26224	16.68	21900	20.45		
	UPPER LIMIT	52448	17.18	43800	20.95		
	LOWER LIMIT	13112	16.18	10950	19.95		
	SAMPLE NO.						
01	5.0 SIM 02/14/17	26280	16.68	21876	20.45		
02	170209A BLK 1/1000	31732	16.70	27028	20.47		
03	170209A LCS-1 1/1000	27879	16.68	23810	20.45		
04	AZ49656W09 1/1050	28858	16.71	24895	20.48		
05	AZ49658W05 1/1070	27094	16.71	22599	20.48		
06	AZ49657W09 1/1000	24801	16.71	21464	20.49		
07	5.0 SIM 02/14/17	24501	16.67	20358	20.45		
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #SIMDO-170209A-216199

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	63.8	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	69.1	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	85.7	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L033
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 2:48:29 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L033.D Vial: 33
Acq On : 15 Feb 17 14:44 Operator: MA
Sample : AZ49656W09 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Feb 15 16:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	25636	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	13046	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	24552	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	28858	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	24895	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	12282	3.28966 ppb	-0.01
Spiked Amount 4.762			Recovery	= 69.090%	
7) Surrogate Recovery (FBP)	7.07	172	26131	3.03708 ppb	-0.01
Spiked Amount 4.762			Recovery	= 63.777%	
17) Surrogate Recovery (TPH)	13.70	244	37331	4.07962 ppb	-0.01
Spiked Amount 4.762			Recovery	= 85.680%	

Target Compounds Qvalue

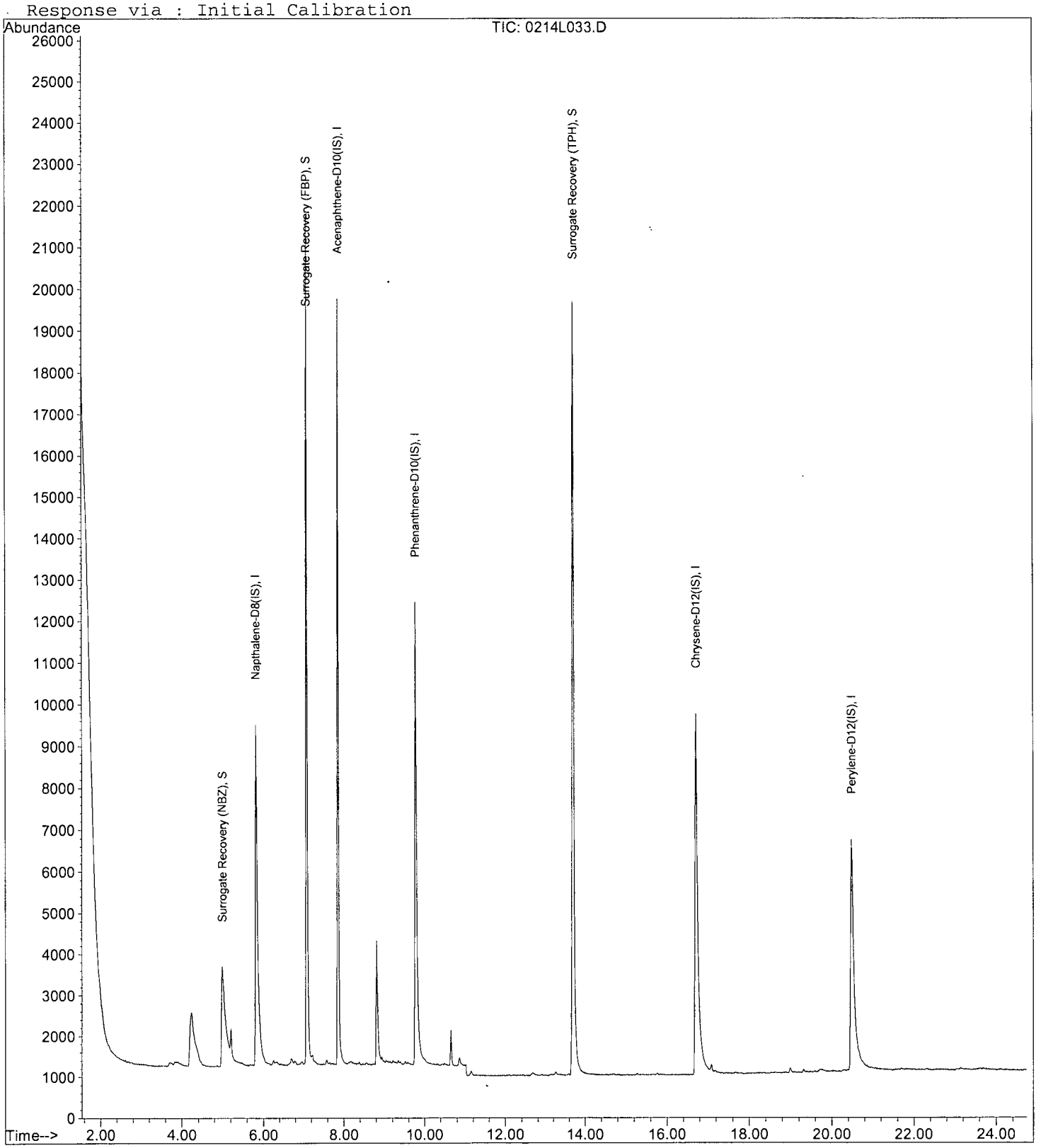
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L033.D Vial: 33
Acq On : 15 Feb 17 14:44 Operator: MA
Sample : AZ49656W09 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Feb 15 16:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #SIMDO-170209A-216199

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.0	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	67.1	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	86.3	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L037
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 2:48:29 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L037.D Vial: 37
Acq On : 15 Feb 17 16:55 Operator: MA
Sample : AZ49657W09 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 17:21 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	21535	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11226	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	20958	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	24801	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	21464	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	9991	3.35583 ppb	-0.01
Spiked Amount 5.000			Recovery	= 67.120%	
7) Surrogate Recovery (FBP)	7.09	172	20443	2.89926 ppb	0.00
Spiked Amount 5.000			Recovery	= 57.980%	
17) Surrogate Recovery (TPH)	13.70	244	32302	4.31286 ppb	-0.01
Spiked Amount 5.000			Recovery	= 86.260%	

Target Compounds Qvalue

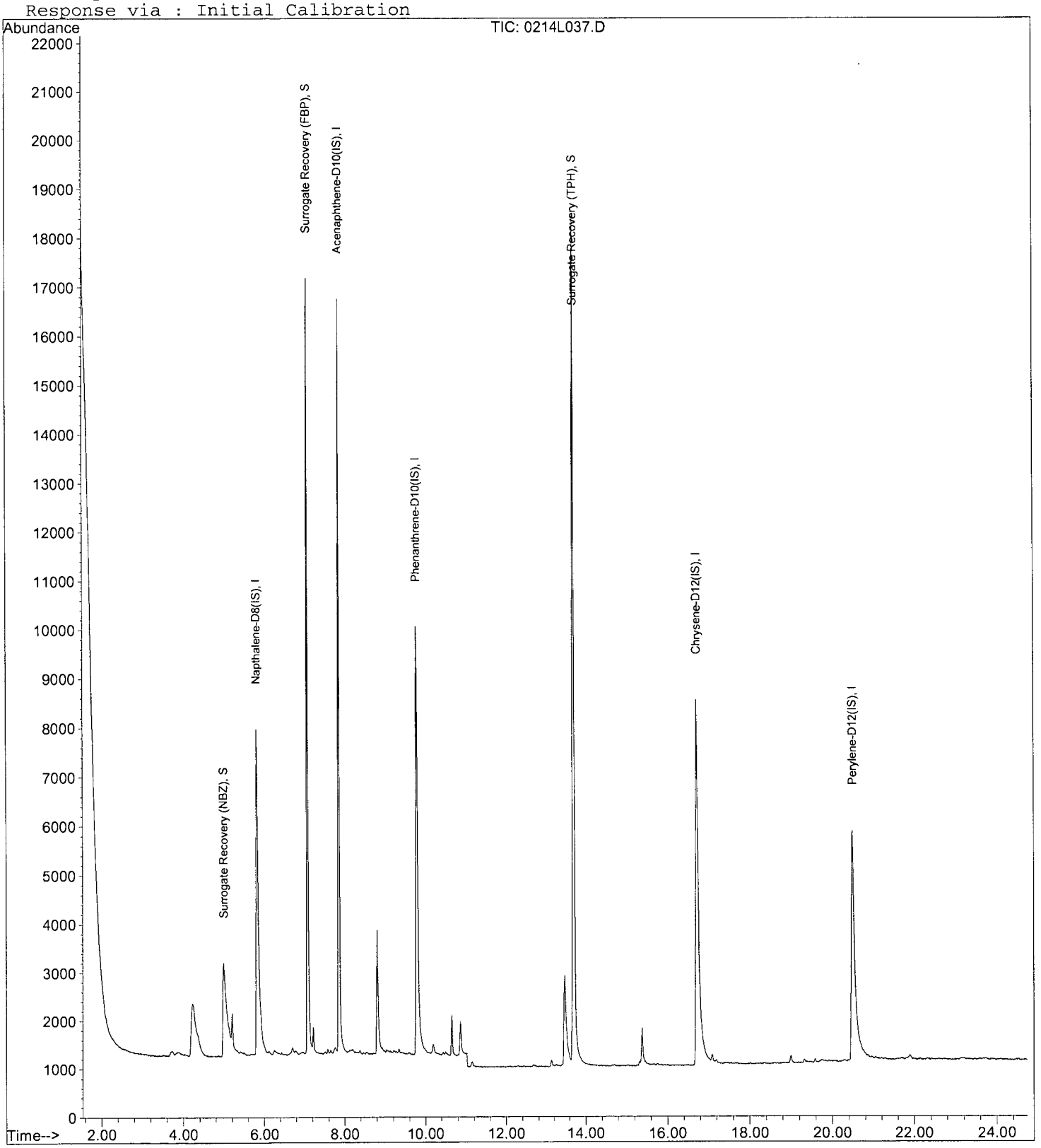
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L037.D Vial: 37
Acq On : 15 Feb 17 16:55 Operator: MA
Sample : AZ49657W09 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 17:21 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #SIMDO-170209A-216199

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.2	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	63.4	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	95.0	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L035
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 2:48:29 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L035.D Vial: 35
Acq On : 15 Feb 17 15:49 Operator: MA
Sample : AZ49658W05 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 15 16:24 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23707	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12472	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	23119	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	27094	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	22599	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	10313	2.96087 ppb	-0.02
Spiked Amount 4.673			Recovery	= 63.365%	
7) Surrogate Recovery (FBP)	7.09	172	22805	2.72068 ppb	0.00
Spiked Amount 4.673			Recovery	= 58.229%	
17) Surrogate Recovery (TPH)	13.69	244	38848	4.43728 ppb	-0.02
Spiked Amount 4.673			Recovery	= 94.952%	

Target Compounds Qvalue

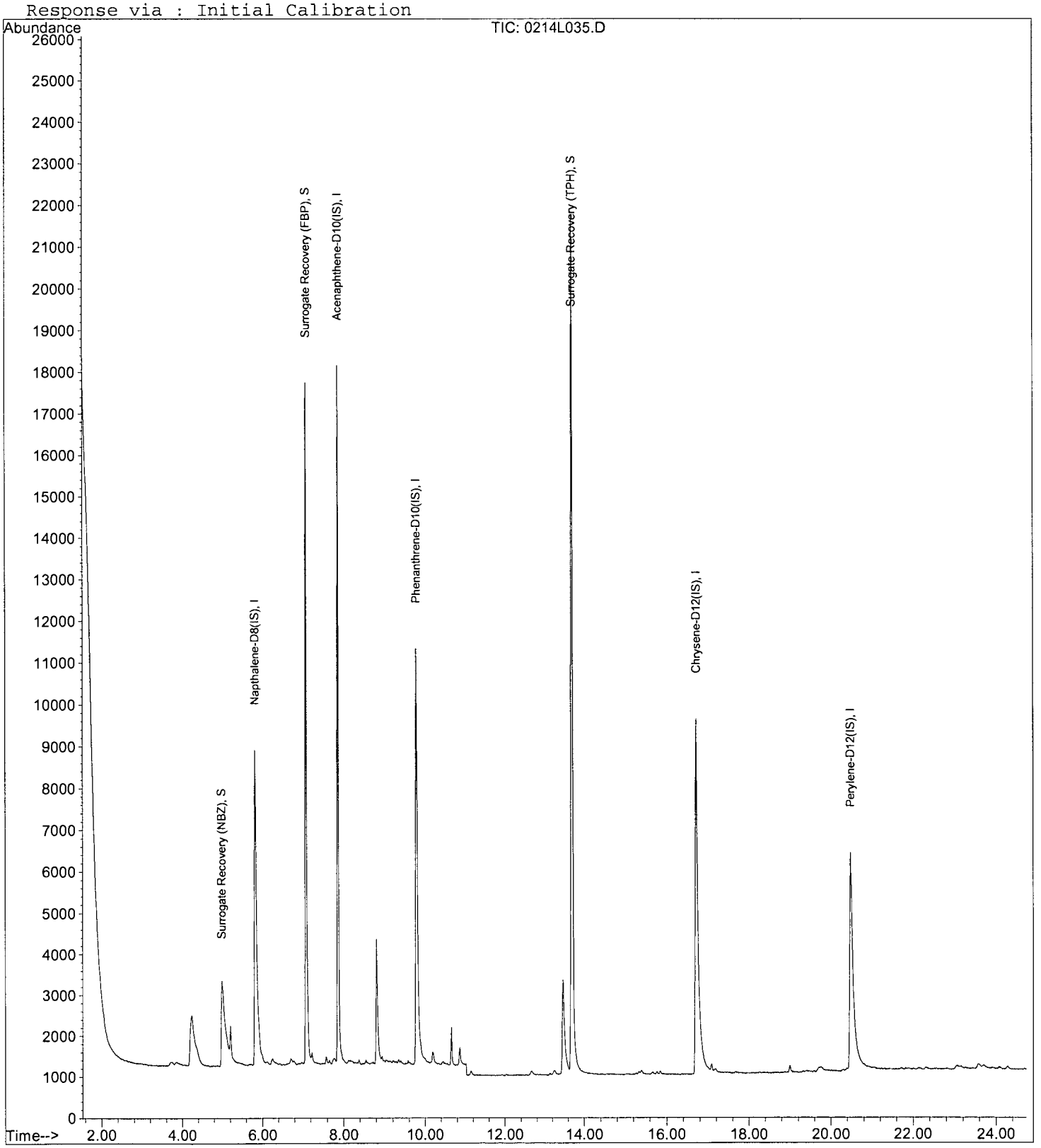
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L035.D Vial: 35
Acq On : 15 Feb 17 15:49 Operator: MA
Sample : AZ49658W05 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 15 16:24 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/14/17
Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0214L003 D	0214L004.D	0214L005 D	0214L006 D	0214L007 D	0214L008.D	0214L009 D	0214L010.D						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1065	0.1124	0.3308	0.3451	0.3803	0.3826			0.28	47	SL	1.00
3	TM	Naphthalene	1.010	0.9921	1.051	1.049	1.145	1.023	0.9862	0.9552			1.0	5.6	TM	
4	TML	2-Methylnaphthalene	0.3818	0.3414	0.4333	0.4940	0.6571	0.6112	0.5897	0.5737			0.51	23	TML	1.000
5	TM	1-Methylnaphthalene	0.6460	0.7352	0.7366	0.7038	0.7151	0.6150	0.5591	0.5463			0.66	12	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.525	1.494	1.557	1.553	1.662	1.670	1.532	1.569			1.6	4.0	S	
8	TM	Acenaphthylene	1.854	1.724	1.848	1.857	2.240	2.044	1.955	1.990			1.9	8.1	TM	
9	*TM	Acenaphthene	1.348	1.229	1.242	1.174	1.337	1.184	1.114	0.9760			1.2	10	*TM	
10	TM	Fluorene	1.234	1.185	1.293	1.299	1.515	1.373	1.258	1.104			1.3	9.6	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	0.9312	0.8801	0.9506	0.9318	1.138	1.024	0.9566	0.8772			0.96	8.9	TM	
13	TML	Anthracene	0.6271	0.5685	0.7039	0.7224	1.053	0.9756	0.9420	0.8532			0.81	22	TML	0.998
14	*TM	Fluoranthene	1.214	1.140	1.272	1.339	1.734	1.522	1.584	1.620			1.4	15	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.165	1.145	1.316	1.320	1.529	1.408	1.373	1.336			1.3	9.4	TM	
17	S	Surrogate Recovery (TPH)	0.7005	0.7659	0.7652	0.7483	0.7646	0.7848	0.7431	0.7674			0.75	3.4	S	
18	TML	Benz (a) anthracene	0.6559	0.5630	0.6349	0.6981	0.9860	0.9808	1.134	1.151			0.85	28	TML	1.000
19	TM	Chrysene	0.8637	1.145	1.305	1.206	1.301	1.156	1.137	1.077			1.1	12	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.1599	0.1231	0.2623	0.3763	0.9521	0.8862	0.9905	0.9835			0.59	67	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.3826	0.3336	0.3580	0.5016	0.9666	1.008	1.232	1.129			0.74	51	TML	0.998
23	TML	Benzo (k) fluoranthene	0.5552	0.3119	0.3884	0.5739	0.5544	0.8217	1.000	0.9514			0.64	39	TML	0.999
24	*TML	Benzo (a) pyrene	0.4764	0.4873	0.5921	0.7416	1.181	1.178	1.160	1.087			0.86	37	*TML	0.999
25	TML	Dibenz (a,h) anthracene	0.1575	0.0332	0.0603	0.2698	0.8584	0.8479	0.9253	0.8745			0.50	81	TML	0.999
26	TML	Benzo (g,h,i) perylene	0.0675	0.0689	0.0747	0.2975	0.9588	0.8876	0.9566	0.8823			0.52	82	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24883	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.87	164	11407	2.50000 ppb		0.01
11) Phenanthrene-D10(IS)	9.79	188	20968	2.50000 ppb		0.02
15) Chrysene-D12(IS)	16.71	240	22983	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.49	264	19994	2.50000 ppb		0.04
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.03	82	5	0.34644 ppb		0.02
Spiked Amount 5.000			Recovery	= 6.920%		
7) Surrogate Recovery (FBP)	7.13	172	348	0.04857 ppb		0.05
Spiked Amount 5.000			Recovery	= 0.980%		
17) Surrogate Recovery (TPH)	13.75	244	322	0.04639 ppb		0.04
Spiked Amount 5.000			Recovery	= 0.920%		
Target Compounds						Qvalue
3) Naphthalene	5.84	128	1005	0.09840 ppb		99
4) 2-Methylnaphthalene	6.75	142	380	-0.16530 ppb		92
5) 1-Methylnaphthalene	6.82	142	643	0.09831 ppb		90
8) Acenaphthylene	7.73	152	846	0.09562 ppb		97
9) Acenaphthene	7.91	154	615	0.11228 ppb		96
10) Fluorene	8.56	166	563	0.09620 ppb		96
12) Phenanthrene	9.82	178	781	0.09688 ppb		98
13) Anthracene	9.97	178	526	-0.56919 ppb		96
14) Fluoranthene	12.63	202	1018	0.08499 ppb		95
16) Pyrene	13.25	202	1071	0.08800 ppb		98
18) Benz (a) anthracene	16.70	228	603	0.56996 ppb	#	72
19) Chrysene	16.81	228	794	0.07518 ppb	#	78
20) Indeno (1,2,3-cd) pyrene	22.96	276	147	0.37977 ppb	#	95
22) Benzo (b) fluoranthene	19.65	252	306m	0.22445 ppb		51
23) Benzo (k) fluoranthene	19.72	252	444m	0.59738 ppb		51
24) Benzo (a) pyrene	20.37	252	381	-0.22318 ppb	#	83
25) Dibenz (a,h) anthracene	22.97	278	126	0.15329 ppb	#	38
26) Benzo (g,h,i) perylene	23.58	276	54	-0.07760 ppb	#	67

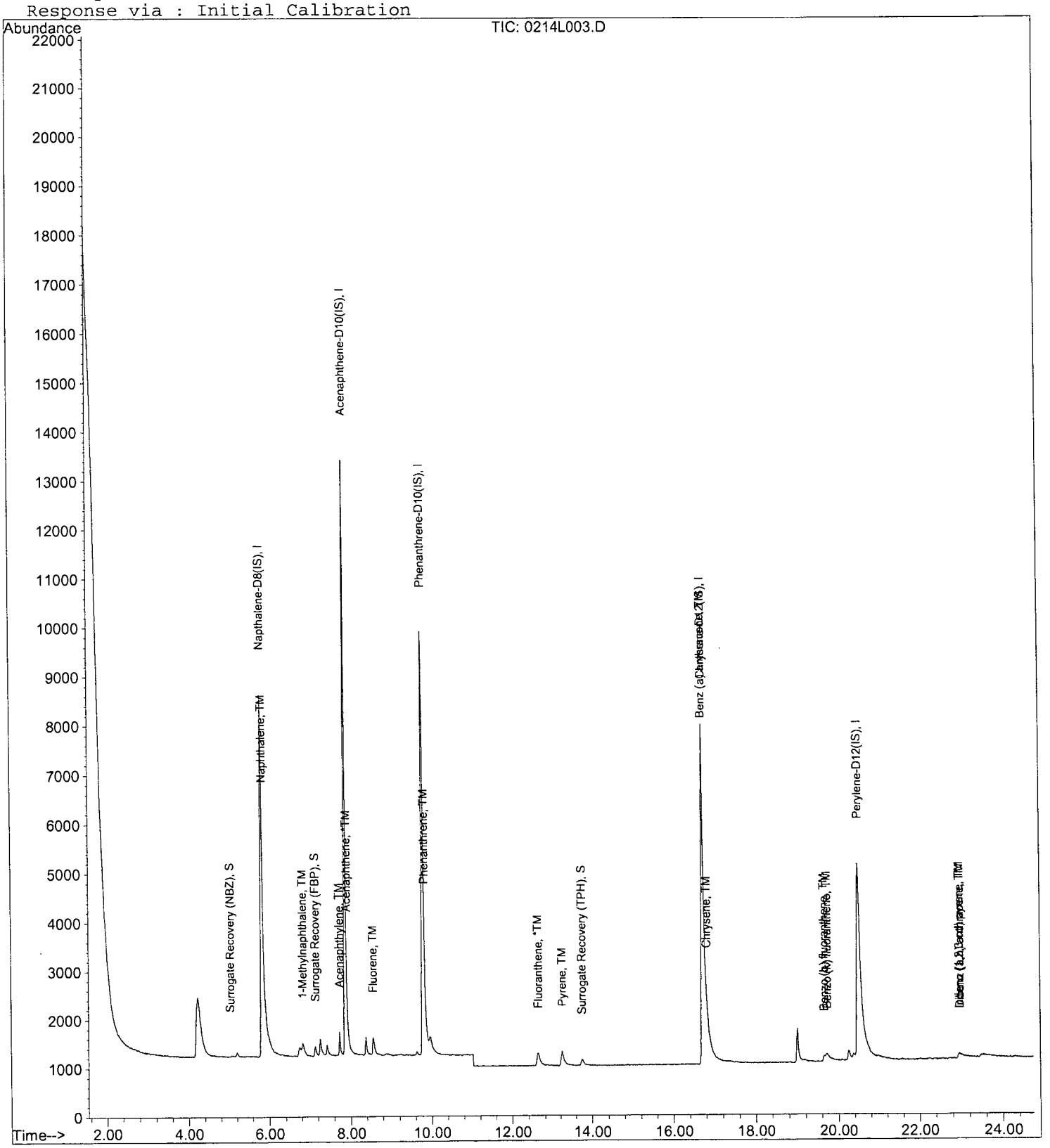
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L004.D
Acq On : 14 Feb 17 18:53
Sample : 0.2 SIM 02/14/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:18 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:48 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24569	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	12218	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	22470	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22848	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19597	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	7	0.00241 ppb	-0.05
Spiked Amount 5.000			Recovery	= 0.040%	
7) Surrogate Recovery (FBP)	7.13	172	730	0.09551 ppb	0.05
Spiked Amount 5.000			Recovery	= 1.920%	
17) Surrogate Recovery (TPH)	13.76	244	700	0.09963 ppb	0.05
Spiked Amount 5.000			Recovery	= 2.000%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	1950	0.19441 ppb		99
4) 2-Methylnaphthalene	6.75	142	671	0.12650 ppb		95
5) 1-Methylnaphthalene	6.81	142	1445	0.21388 ppb		98
8) Acenaphthylene	7.73	152	1685	0.16798 ppb		98
9) Acenaphthene	7.91	154	1201	0.19341 ppb		97
10) Fluorene	8.57	166	1158	0.17200 ppb		97
12) Phenanthrene	9.82	178	1582	0.16914 ppb		98
13) Anthracene	9.97	178	1022	0.11718 ppb		94
14) Fluoranthene	12.61	202	2050	0.13728 ppb		99
16) Pyrene	13.24	202	2093	0.16238 ppb		99
18) Benz (a) anthracene	16.70	228	1029	0.11783 ppb		93
19) Chrysene	16.80	228	2093	0.15885 ppb		98
20) Indeno (1,2,3-cd) pyrene	22.93	276	225	0.02768 ppb	#	93
22) Benzo (b) fluoranthene	19.63	252	523	0.05979 ppb	#	93
23) Benzo (k) fluoranthene	19.70	252	489	0.05161 ppb	#	71
24) Benzo (a) pyrene	20.38	252	764	0.08906 ppb	#	65
25) Dibenz (a,h) anthracene	22.99	278	52	0.00723 ppb	#	65
26) Benzo (g,h,i) perylene	23.52	276	108	0.01500 ppb	#	35

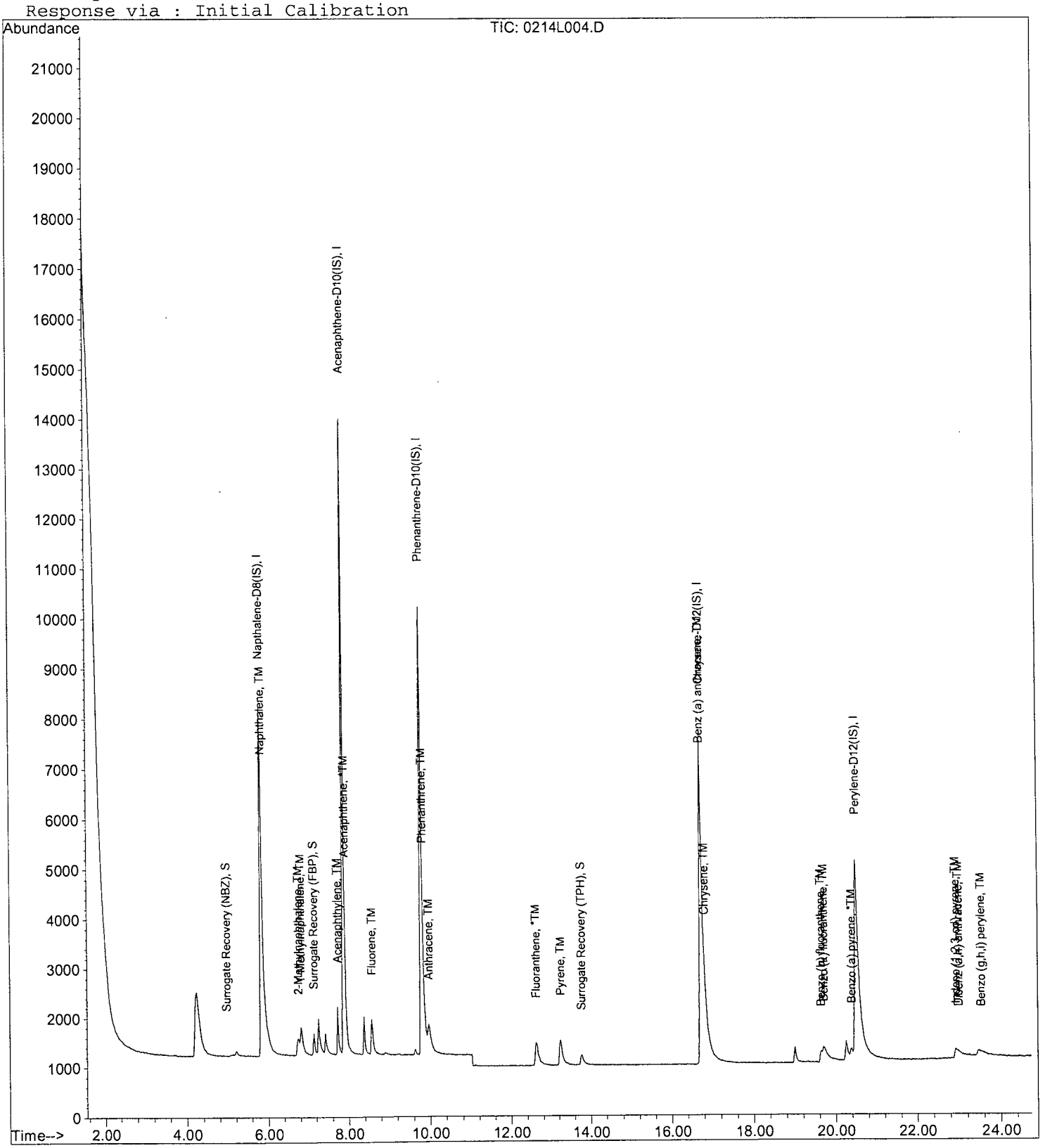
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L004.D Vial: 4
Acq On : 14 Feb 17 18:53 Operator: MA
Sample : 0.2 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:18 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:01 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23655	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11847	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	21487	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	21327	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	19077	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.12	82	252	0.08995 ppb	0.11
Spiked Amount 5.000			Recovery	= 1.800%	
7) Surrogate Recovery (FBP)	7.12	172	1844	0.24883 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
17) Surrogate Recovery (TPH)	13.75	244	1632	0.24884 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
Target Compounds					Qvalue
3) Naphthalene	5.86	128	4970	0.51463 ppb	99
4) 2-Methylnaphthalene	6.71	142	2050	0.40141 ppb	99
5) 1-Methylnaphthalene	6.80	142	3485	0.53576 ppb	99
8) Acenaphthylene	7.73	152	4379	0.45023 ppb	99
9) Acenaphthene	7.91	154	2943	0.48880 ppb	98
10) Fluorene	8.55	166	3064	0.46935 ppb	95
12) Phenanthrene	9.82	178	4085	0.45673 ppb	98
13) Anthracene	9.96	178	3025	0.36270 ppb	97
14) Fluoranthene	12.59	202	5465	0.38272 ppb	100
16) Pyrene	13.21	202	5612	0.46646 ppb	98
18) Benz (a) anthracene	16.71	228	2708	0.33221 ppb	98
19) Chrysene	16.80	228	5565	0.45249 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.88	276	1119	0.14748 ppb #	94
22) Benzo (b) fluoranthene	19.61	252	1366	0.16041 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1482	0.16066 ppb	93
24) Benzo (a) pyrene	20.36	252	2259	0.27050 ppb #	84
25) Dibenz (a,h) anthracene	22.94	278	230	0.03287 ppb #	54
26) Benzo (g,h,i) perylene	23.48	276	285	0.04066 ppb #	69

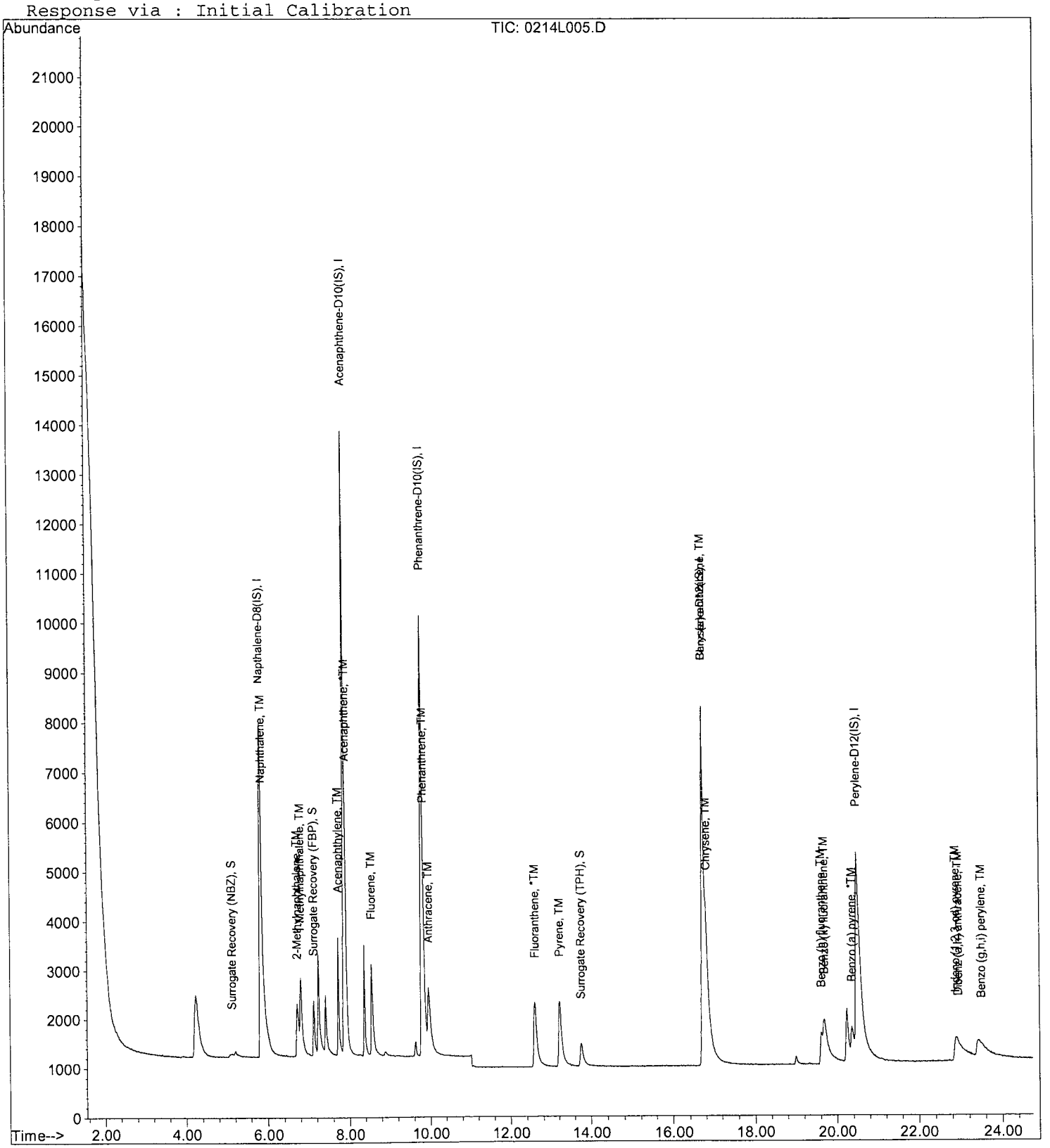
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:10:08 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22641	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11561	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.78	188	21533	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23167	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.47	264	19846	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.07	82	509	0.18983 ppb	0.06
Spiked Amount 5.000			Recovery	= 3.800%	
7) Surrogate Recovery (FBP)	7.11	172	3592	0.49669 ppb	0.02
Spiked Amount 5.000			Recovery	= 9.940%	
17) Surrogate Recovery (TPH)	13.74	244	3467	0.48664 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.740%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	9496	1.02733 ppb	100
4) 2-Methylnaphthalene	6.69	142	4474	0.91529 ppb	99
5) 1-Methylnaphthalene	6.78	142	6374	1.02378 ppb	98
8) Acenaphthylene	7.71	152	8586	0.90461 ppb	99
9) Acenaphthene	7.91	154	5428	0.92382 ppb	99
10) Fluorene	8.53	166	6009	0.94323 ppb	99
12) Phenanthrene	9.82	178	8026	0.89544 ppb	100
13) Anthracene	9.95	178	6222	0.74442 ppb	100
14) Fluoranthene	12.56	202	11537	0.80622 ppb	99
16) Pyrene	13.19	202	12230	0.93579 ppb	99
18) Benz (a) anthracene	16.70	228	6469	0.73057 ppb	99
19) Chrysene	16.78	228	11177	0.83663 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.86	276	3487	0.42307 ppb #	91
22) Benzo (b) fluoranthene	19.59	252	3982	0.44948 ppb	99
23) Benzo (k) fluoranthene	19.67	252	4556	0.47478 ppb	93
24) Benzo (a) pyrene	20.36	252	5887	0.67760 ppb	100
25) Dibenz (a,h) anthracene	22.87	278	2142	0.29428 ppb	96
26) Benzo (g,h,i) perylene	23.38	276	2362	0.32389 ppb	89

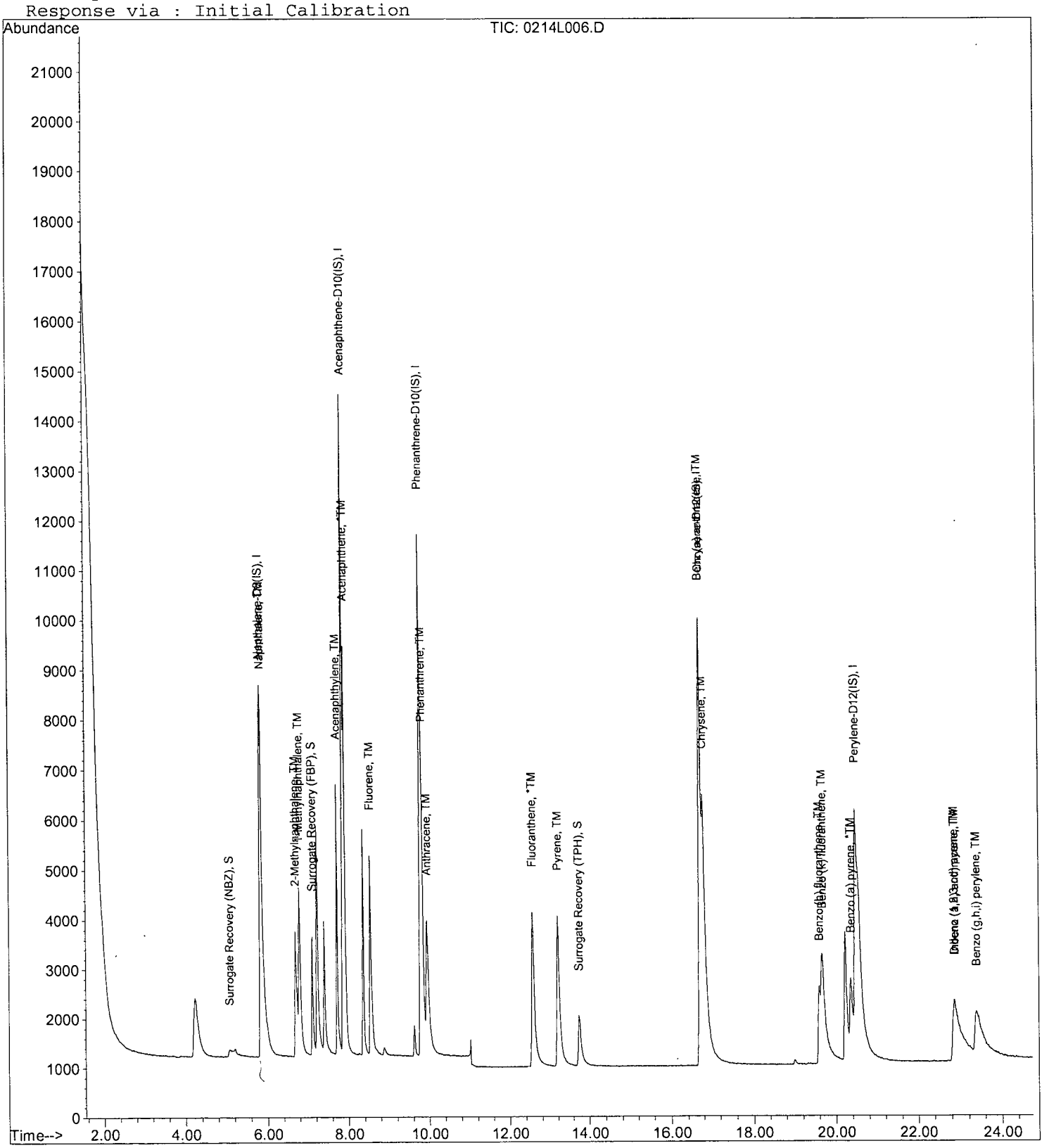
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	23069	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11695	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22161	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26224	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	21900	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7632	2.16155 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.240%	
7) Surrogate Recovery (FBP)	7.09	172	19441	2.30557 ppb	0.01
Spiked Amount 5.000			Recovery	= 46.120%	
17) Surrogate Recovery (TPH)	13.71	244	20051	2.15776 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.160%	

Target Compounds					Qvalue
3) Naphthalene	5.83	128	52807	5.55542 ppb	100
4) 2-Methylnaphthalene	6.65	142	30318	5.82670 ppb	99
5) 1-Methylnaphthalene	6.76	142	32993	5.07935 ppb	90
8) Acenaphthylene	7.70	152	52392	5.39398 ppb	99
9) Acenaphthene	7.89	154	31274	5.23130 ppb	98
10) Fluorene	8.51	166	35429	5.42550 ppb	99
12) Phenanthrene	9.80	178	50432	5.42620 ppb	99
13) Anthracene	9.90	178	46660	5.36380 ppb	99
14) Fluoranthene	12.52	202	76875	5.17089 ppb	99
16) Pyrene	13.15	202	80173	5.38905 ppb	99
18) Benz (a) anthracene	16.66	228	51714	4.99837 ppb	99
19) Chrysene	16.76	228	68220	4.49857 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.78	276	49937	5.25941 ppb	92
22) Benzo (b) fluoranthene	19.55	252	42337	4.20558 ppb	100
23) Benzo (k) fluoranthene	19.61	252	24283	2.20116 ppb	99
24) Benzo (a) pyrene	20.32	252	51711	5.30494 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	37598	4.57609 ppb	96
26) Benzo (g,h,i) perylene	23.30	276	41994	5.16288 ppb #	77

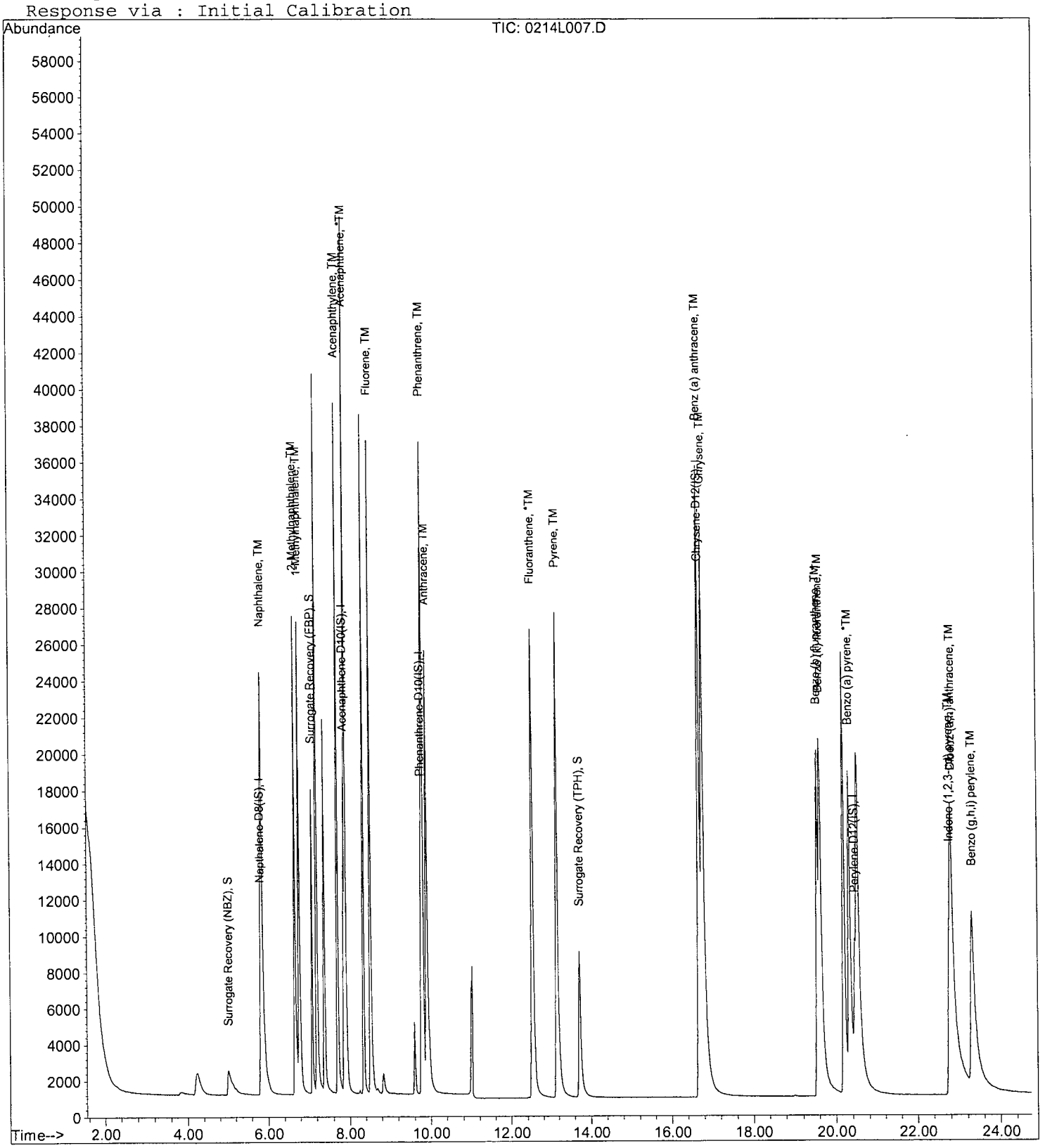
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L007.D Vial: 7
Acq On : 14 Feb 17 20:32 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L008.D Vial: 8
Acq On : 14 Feb 17 21:04 Operator: MA
Sample : 10 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25521	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	13054	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25109	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27862	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	22643	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	17613	5.82737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 116.540%	
7) Surrogate Recovery (FBP)	7.07	172	43593	5.33847 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.760%	
17) Surrogate Recovery (TPH)	13.70	244	43734	5.10427 ppb	-0.01
Spiked Amount 5.000			Recovery	= 102.080%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	104393	10.01930 ppb	100
4) 2-Methylnaphthalene	6.65	142	62394	11.32415 ppb	98
5) 1-Methylnaphthalene	6.76	142	62777	8.94524 ppb	98
8) Acenaphthylene	7.70	152	106739	9.95971 ppb	100
9) Acenaphthene	7.89	154	61799	9.31500 ppb	98
10) Fluorene	8.51	166	71715	9.96963 ppb	98
12) Phenanthrene	9.80	178	102855	9.84092 ppb	100
13) Anthracene	9.89	178	97984	10.05354 ppb	100
14) Fluoranthene	12.51	202	152895	9.16281 ppb	100
16) Pyrene	13.14	202	156870	9.98048 ppb	99
18) Benz (a) anthracene	16.65	228	109307	10.26431 ppb	100
19) Chrysene	16.75	228	128791	8.01587 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.75	276	98762	9.96348 ppb #	95
22) Benzo (b) fluoranthene	19.53	252	91272	9.02992 ppb	98
23) Benzo (k) fluoranthene	19.60	252	74425	6.79771 ppb	99
24) Benzo (a) pyrene	20.31	252	106652	10.75944 ppb	100
25) Dibenz (a,h) anthracene	22.80	278	76794	9.24705 ppb	98
26) Benzo (g,h,i) perylene	23.27	276	80392	9.66204 ppb	99

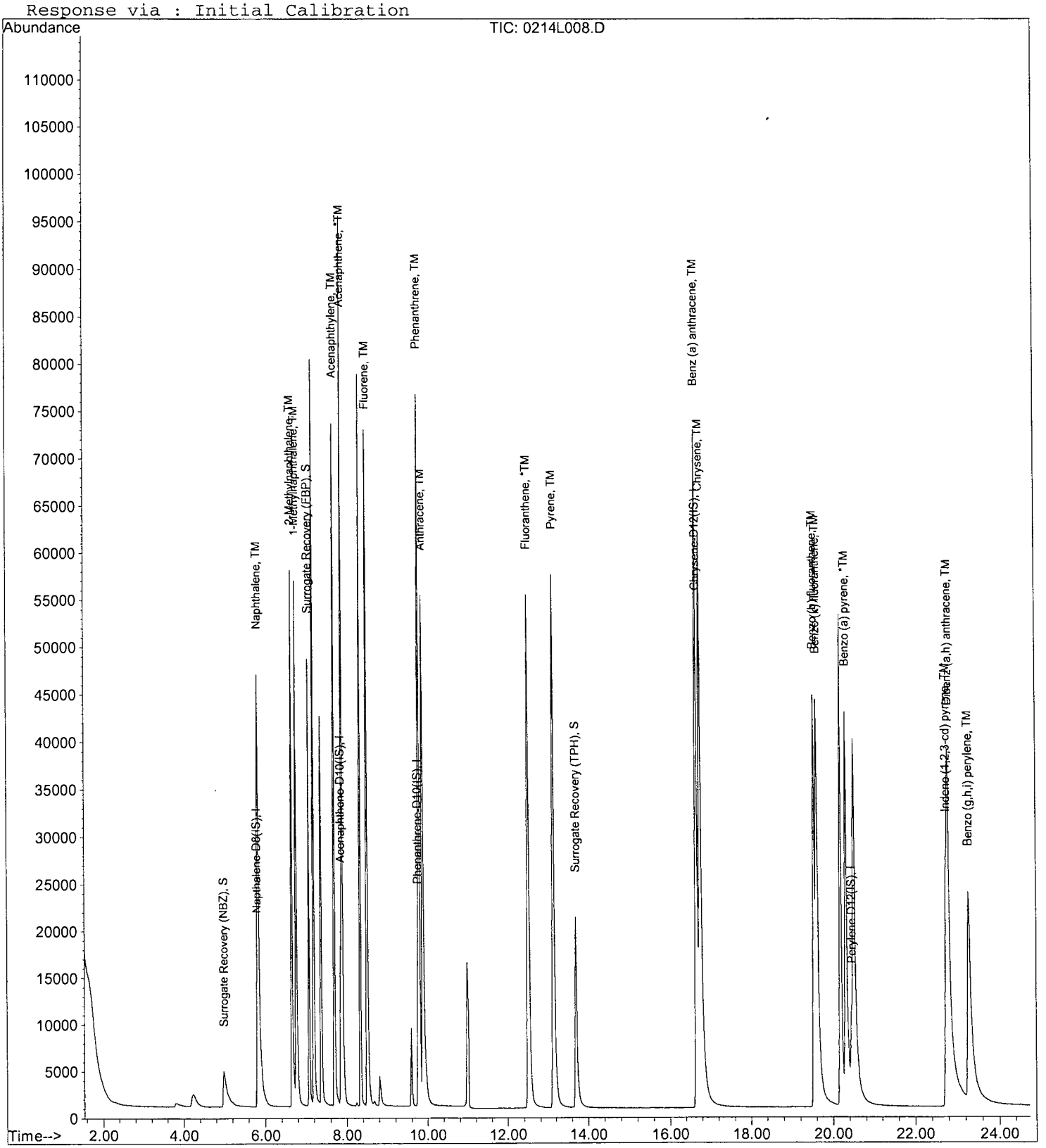
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L008.D Vial: 8
Acq On : 14 Feb 17 21:04 Operator: MA
Sample : 10 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L009.D Vial: 9
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 50 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24268	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11807	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	23286	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	27820	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23474	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	92288	32.11060 ppb	-0.06
Spiked Amount 5.000			Recovery	= 642.220%	
7) Surrogate Recovery (FBP)	7.07	172	180923	24.49615 ppb	-0.01
Spiked Amount 5.000			Recovery	= 489.920%	
17) Surrogate Recovery (TPH)	13.69	244	206717	24.16271 ppb	-0.02
Spiked Amount 5.000			Recovery	= 483.260%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	478672	48.31342 ppb		100
4) 2-Methylnaphthalene	6.64	142	286232	54.63167 ppb		97
5) 1-Methylnaphthalene	6.75	142	271379	40.66601 ppb		100
8) Acenaphthylene	7.69	152	461582	47.61857 ppb		99
9) Acenaphthene	7.89	154	263095	43.84480 ppb		98
10) Fluorene	8.50	166	296983	45.64619 ppb		100
12) Phenanthrene	9.80	178	445520	45.96339 ppb		100
13) Anthracene	9.89	178	438700	48.53621 ppb		100
14) Fluoranthene	12.51	202	737558	47.66133 ppb		100
16) Pyrene	13.14	202	763990	48.68040 ppb		100
18) Benz (a) anthracene	16.65	228	630780	59.32187 ppb		99
19) Chrysene	16.75	228	632756	39.44178 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	551119	55.68287 ppb	#	97
22) Benzo (b) fluoranthene	19.54	252	578169	55.17574 ppb		99
23) Benzo (k) fluoranthene	19.61	252	469577	41.37111 ppb		100
24) Benzo (a) pyrene	20.32	252	544492	52.98576 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	434416	50.45783 ppb		96
26) Benzo (g,h,i) perylene	23.28	276	449102	52.06524 ppb		98

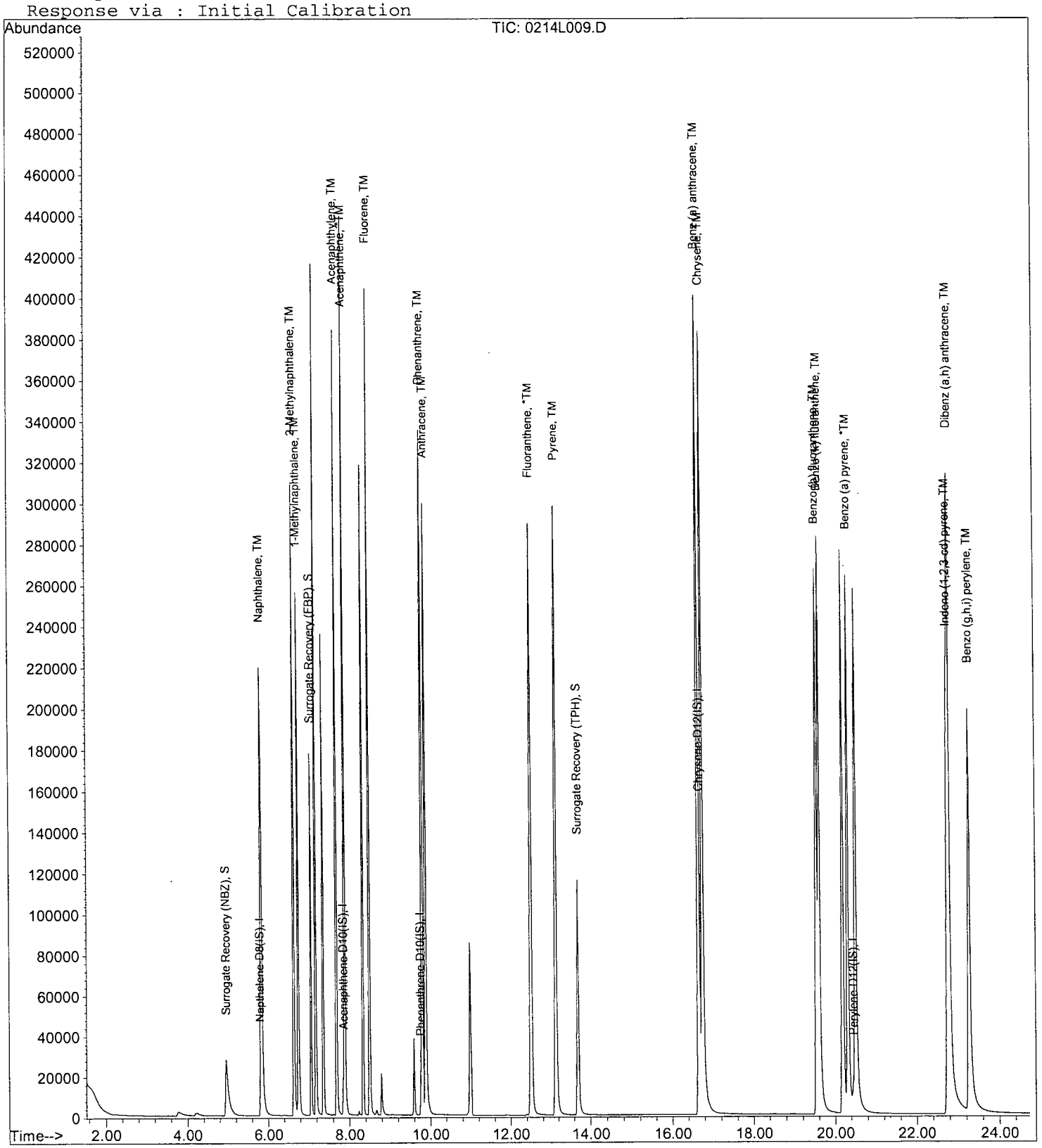
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L009.D Vial: 9
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 50 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L010.D Vial: 10
Acq On : 14 Feb 17 22:10 Operator: MA
Sample : 100 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24826	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11795	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23221	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25126	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22273	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	189983	64.61675 ppb	-0.06
Spiked Amount 5.000			Recovery	= 1292.340%	
7) Surrogate Recovery (FBP)	7.06	172	370044	50.15324 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1003.060%	
17) Surrogate Recovery (TPH)	13.69	244	385634	49.90897 ppb	-0.02
Spiked Amount 5.000			Recovery	= 998.180%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	948587	93.59101 ppb	100
4) 2-Methylnaphthalene	6.64	142	569721	106.29572 ppb	98
5) 1-Methylnaphthalene	6.76	142	542487	79.46428 ppb	97
8) Acenaphthylene	7.69	152	938988	96.96815 ppb	98
9) Acenaphthene	7.89	154	460489	76.81860 ppb	98
10) Fluorene	8.51	166	520677	80.10930 ppb	98
12) Phenanthrene	9.80	178	814732	84.28951 ppb	99
13) Anthracene	9.90	178	792530	87.92814 ppb	99
14) Fluoranthene	12.52	202	1504305	97.48097 ppb	100
16) Pyrene	13.16	202	1342341	94.70286 ppb	100
18) Benz (a) anthracene	16.67	228	1157282	120.50634 ppb	99
19) Chrysene	16.78	228	1082847	74.73450 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	988467	110.57887 ppb #	97
22) Benzo (b) fluoranthene	19.56	252	1005475	101.12837 ppb	99
23) Benzo (k) fluoranthene	19.64	252	847638	78.70624 ppb	99
24) Benzo (a) pyrene	20.35	252	968264	99.30470 ppb	100
25) Dibenz (a,h) anthracene	22.84	278	779082	95.37056 ppb	99
26) Benzo (g,h,i) perylene	23.32	276	786063	96.04365 ppb	94

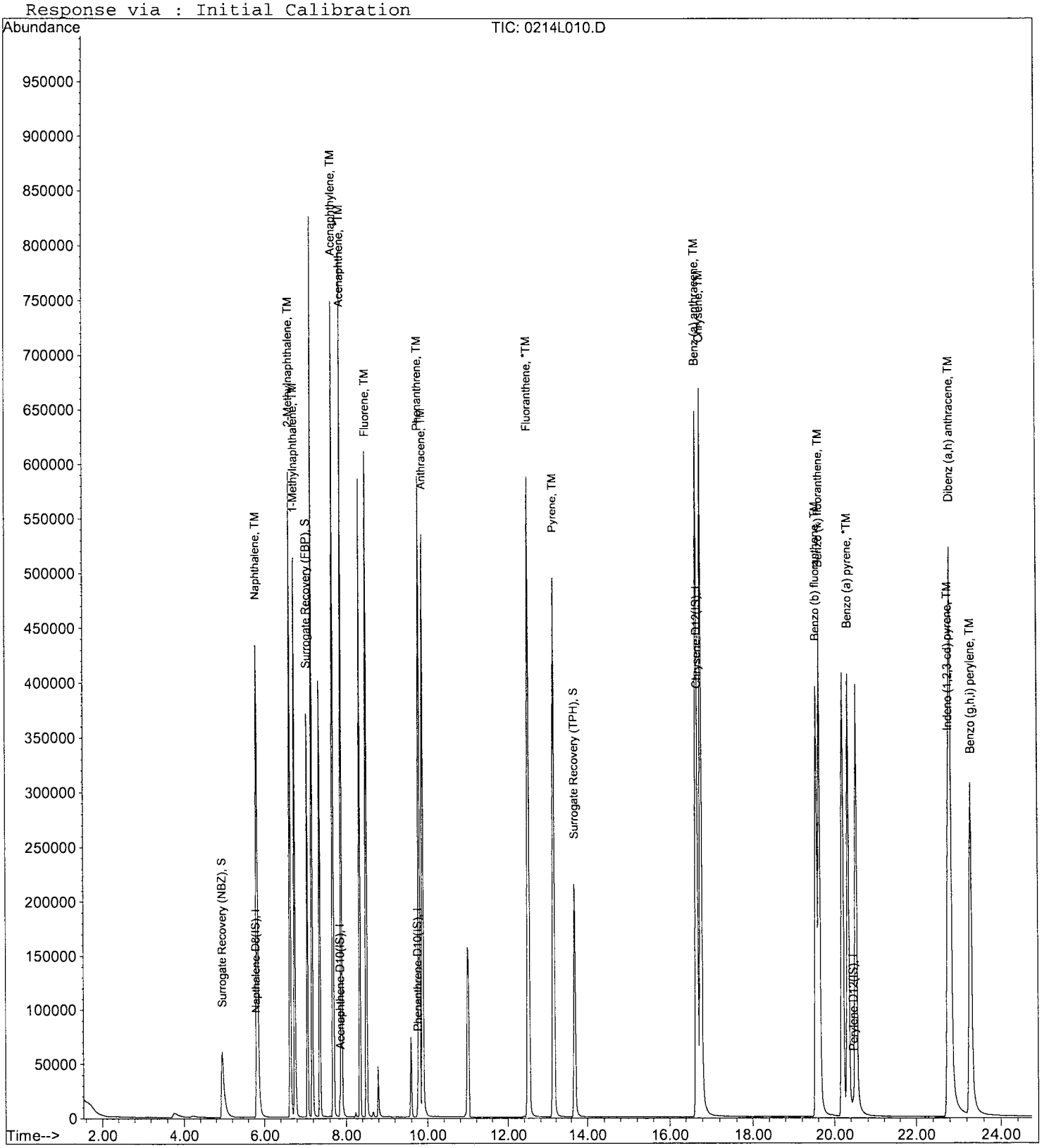
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L010.D Vial: 10
Acq On : 14 Feb 17 22:10 Operator: MA
Sample : 100 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L011.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Naphthalene	1.026	1.159	13	TM		
2	TML	2-Methylnaphthalene	0.5103	0.6494	27	TML	8.2	
3	TM	1-Methylnaphthalene	0.6571	0.7339	12	TM		
4	TM	Acenaphthylene	1.939	2.256	16	TM		
5	*TM	Acenaphthene	1.200	1.348	12	*TM		
6	TM	Fluorene	1.283	1.547	21	TM		*NT
7	TM	Phenanthrene	0.9612	1.134	18	TM		
8	TML	Anthracene	0.8057	1.063	32	TML	10	
9	*TM	Fluoranthene	1.428	1.772	24	*TM		*NT
10	TM	Pyrene	1.324	1.538	16	TM		
11	TML	Benz (a) anthracene	0.8505	1.046	23	TML	0.88	
12	TM	Chrysene	1.149	1.392	21	TM		*NT
13	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9918	68	TML	7.6	
14	TML	Benzo (b) fluoranthene	0.7388	1.064	44	TML	3.7	
15	TML	Benzo (k) fluoranthene	0.6446	0.6659	3.3	TML	20	
16	*TML	Benzo (a) pyrene	0.8628	1.252	45	*TML	8.7	
17	TML	Dibenz (a,h) anthracene	0.5034	0.9061	80	TML	5.0	
18	TML	Benzo (g,h,i) perylene	0.5242	0.9296	77	TML	2.0	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			30.7			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L011.D Vial: 11
Acq On : 14 Feb 17 22:43 Operator: MA
Sample : SS SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:16 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20882	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10460	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19847	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23438	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19617	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.28394 ppb	
Spiked Amount 5.000			Recovery	= 5.680%	
7) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
17) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	48416	5.64846 ppb	99
4) 2-Methylnaphthalene	6.65	142	27123	5.40997 ppb	95
5) 1-Methylnaphthalene	6.76	142	30652	5.58432 ppb	93
8) Acenaphthylene	7.70	152	47203	5.81840 ppb	99
9) Acenaphthene	7.89	154	28207	5.61615 ppb	99
10) Fluorene	8.51	166	32360	6.03025 ppb	99
12) Phenanthrene	9.80	178	45008	5.89841 ppb	99
13) Anthracene	9.90	178	42197	5.50431 ppb	100
14) Fluoranthene	12.52	202	70335	6.20351 ppb	99
16) Pyrene	13.15	202	72113	5.81045 ppb	100
18) Benz (a) anthracene	16.66	228	49030	5.04402 ppb #	76
19) Chrysene	16.76	228	65269	6.06003 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	46492	5.37908 ppb	97
22) Benzo (b) fluoranthene	19.54	252	41743	4.81744 ppb	99
23) Benzo (k) fluoranthene	19.61	252	26124	3.97701 ppb	99
24) Benzo (a) pyrene	20.32	252	49136	5.43512 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	35550	5.24777 ppb #	39
26) Benzo (g,h,i) perylene	23.30	276	36472	5.10160 ppb #	49

Algorithum check = $\frac{48416 * 1 * 2.5}{1 * 20882 * 1.026} = \frac{121040}{21424.932} = 5.649$

RH 2/20/17

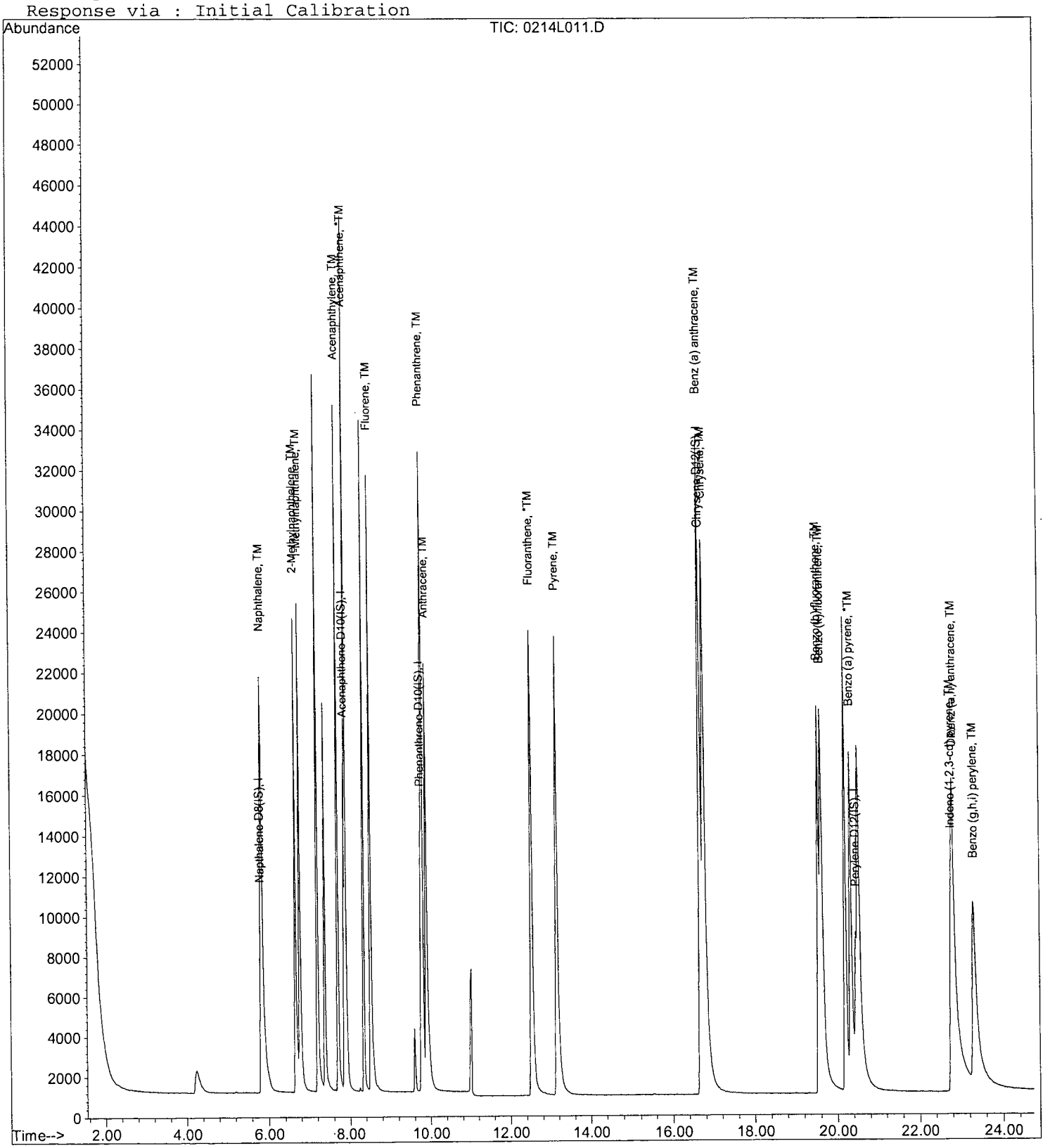
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L011.D Vial: 11
Acq On : 14 Feb 17 22:43 Operator: MA
Sample : SS SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:16 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L030.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3310	20	SL	0.27
3	TM	Naphthalene	1.026	1.061	3.4	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6046	18	TML	0.40
5	TM	1-Methylnaphthalene	0.6571	0.6647	1.2	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.657	5.5	S	
8	TM	Acenaphthylene	1.939	2.049	5.7	TM	
9	*TM	Acenaphthene	1.200	1.253	4.4	*TM	
10	TM	Fluorene	1.283	1.403	9.4	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.046	8.8	TM	
13	TML	Anthracene	0.8057	0.9710	21	TML	0.55
14	*TM	Fluoranthene	1.428	1.590	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.400	5.8	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7623	0.97	S	
18	TML	Benz (a) anthracene	0.8505	1.009	19	TML	2.4
19	TM	Chrysene	1.149	1.277	11	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9575	62	TML	4.1
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.085	47	TML	1.8
23	TML	Benzo (k) fluoranthene	0.6446	0.7039	9.2	TML	17
24	*TML	Benzo (a) pyrene	0.8628	1.185	37	*TML	2.6
25	TML	Dibenz (a,h) anthracene	0.5034	0.9226	83	TML	6.8
26	TML	Benzo (g,h,i) perylene	0.5242	0.8496	62	TML	6.9
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			21.2		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L030.D Vial: 30
Acq On : 15 Feb 17 13:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 14:17 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	22980	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11627	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22169	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26280	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	21876	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7607	2.49329 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.860%	
7) Surrogate Recovery (FBP)	7.09	172	19268	2.63837 ppb	0.00
Spiked Amount 5.000			Recovery	= 52.760%	
17) Surrogate Recovery (TPH)	13.71	244	20033	2.52421 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.480%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	48752	5.16839 ppb	100
4) 2-Methylnaphthalene	6.65	142	27786	5.02023 ppb	93
5) 1-Methylnaphthalene	6.76	142	30551	5.05776 ppb	95
8) Acenaphthylene	7.70	152	47649	5.28387 ppb	100
9) Acenaphthene	7.89	154	29134	5.21851 ppb	100
10) Fluorene	8.51	166	32634	5.47093 ppb	99
12) Phenanthrene	9.80	178	46379	5.44146 ppb	100
13) Anthracene	9.90	178	43054	4.97232 ppb	100
14) Fluoranthene	12.52	202	70511	5.56764 ppb	100
16) Pyrene	13.15	202	73597	5.28874 ppb	99
18) Benz (a) anthracene	16.66	228	53010	4.88203 ppb #	76
19) Chrysene	16.76	228	67141	5.55970 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	50324	5.20537 ppb #	94
22) Benzo (b) fluoranthene	19.54	252	47467	4.90853 ppb	98
23) Benzo (k) fluoranthene	19.61	252	30796	4.17383 ppb	99
24) Benzo (a) pyrene	20.32	252	51861	5.12990 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	40366	5.34095 ppb #	38
26) Benzo (g,h,i) perylene	23.29	276	37171	4.65514 ppb #	50

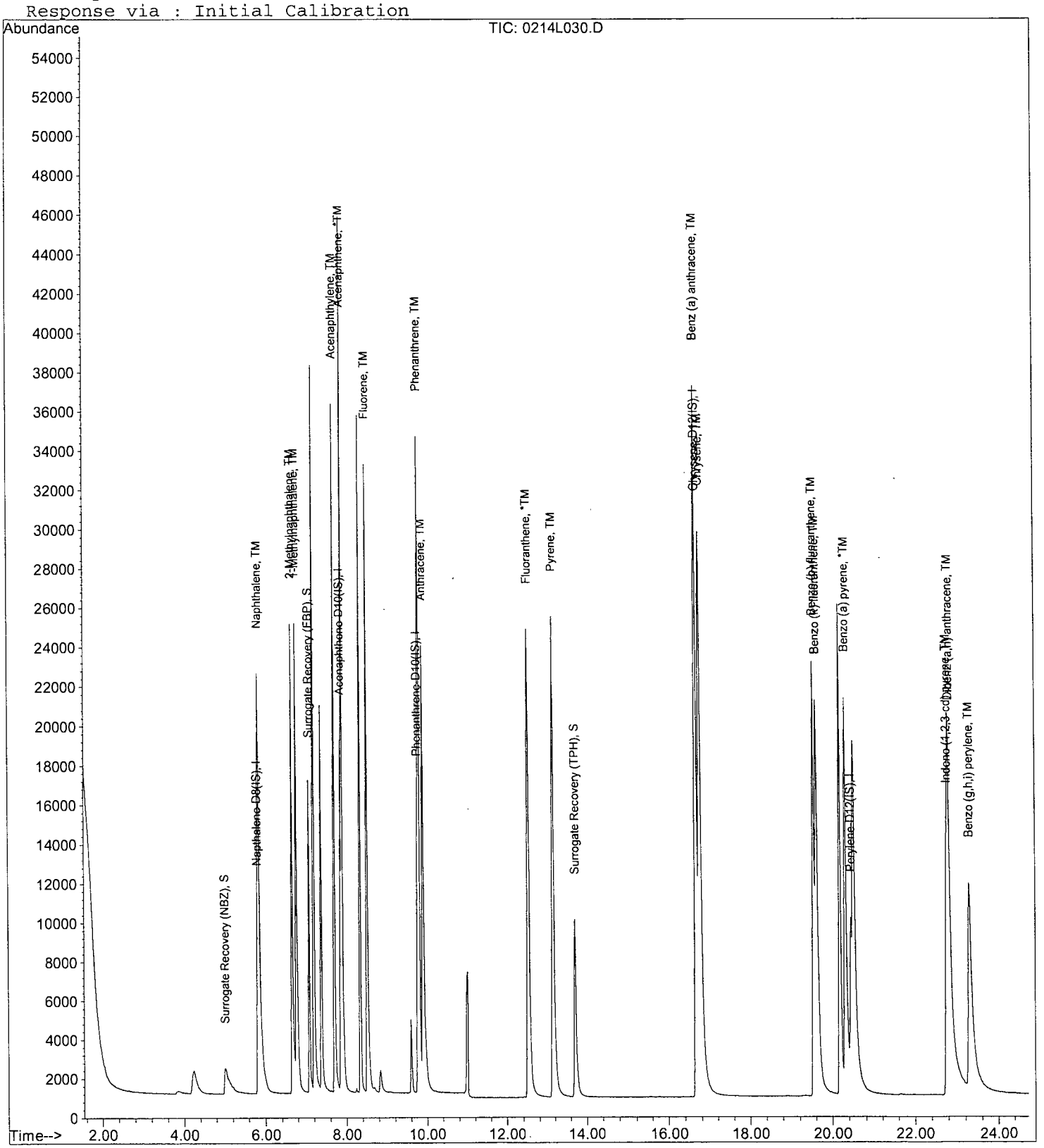
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L030.D Vial: 30
Acq On : 15 Feb 17 13:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 14:17 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L044.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3327	20	SL	0.18
3	TM	Naphthalene	1.026	1.123	9.4	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6469	27	TML	7.8
5	TM	1-Methylnaphthalene	0.6571	0.6969	6.1	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.611	2.6	S	
8	TM	Acenaphthylene	1.939	2.182	13	TM	
9	*TM	Acenaphthene	1.200	1.311	9.2	*TM	
10	TM	Fluorene	1.283	1.474	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.100	14	TM	
13	TML	Anthracene	0.8057	1.016	26	TML	4.7
14	*TM	Fluoranthene	1.428	1.670	17	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.475	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7492	0.77	S	
18	TML	Benz (a) anthracene	0.8505	1.023	20	TML	1.1
19	TM	Chrysene	1.149	1.357	18	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9824	66	TML	6.6
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.079	46	TML	2.3
23	TML	Benzo (k) fluoranthene	0.6446	0.8663	34	TML	0.29
24	*TML	Benzo (a) pyrene	0.8628	1.233	43	*TML	7.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9675	92	TML	12
26	TML	Benzo (g,h,i) perylene	0.5242	0.9063	73	TML	0.57
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			26.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L044.D Vial: 44
Acq On : 16 Feb 17 9:56 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 10:24 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21317	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	7.86	164	10809	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.76	188	20745	2.50000 ppb		0.00
15) Chrysene-D12(IS)	16.67	240	24501	2.50000 ppb		0.00
21) Perylene-D12(IS)	20.45	264	20358	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.01	82	7093	2.50440 ppb		0.00
Spiked Amount 5.000			Recovery	= 50.080%		
7) Surrogate Recovery (FBP)	7.07	172	17410	2.56437 ppb		-0.01
Spiked Amount 5.000			Recovery	= 51.280%		
17) Surrogate Recovery (TPH)	13.70	244	18355	2.48071 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.620%		
Target Compounds						Qvalue
3) Naphthalene	5.83	128	47879	5.47182 ppb		100
4) 2-Methylnaphthalene	6.65	142	27581	5.38817 ppb		93
5) 1-Methylnaphthalene	6.76	142	29712	5.30260 ppb		94
8) Acenaphthylene	7.70	152	47168	5.62636 ppb		100
9) Acenaphthene	7.89	154	28332	5.45890 ppb		100
10) Fluorene	8.51	166	31867	5.74664 ppb		100
12) Phenanthrene	9.80	178	45634	5.72157 ppb		100
13) Anthracene	9.90	178	42163	5.23352 ppb		99
14) Fluoranthene	12.51	202	69281	5.84604 ppb		98
16) Pyrene	13.15	202	72280	5.57123 ppb		99
18) Benz (a) anthracene	16.65	228	50146	4.94609 ppb	#	76
19) Chrysene	16.75	228	66493	5.90583 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	48138	5.33134 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	43937	4.88332 ppb		100
23) Benzo (k) fluoranthene	19.61	252	35271	5.01438 ppb		100
24) Benzo (a) pyrene	20.31	252	50212	5.34790 ppb		99
25) Dibenz (a,h) anthracene	22.81	278	39394	5.59452 ppb	#	38
26) Benzo (g,h,i) perylene	23.29	276	36900	4.97146 ppb	#	50

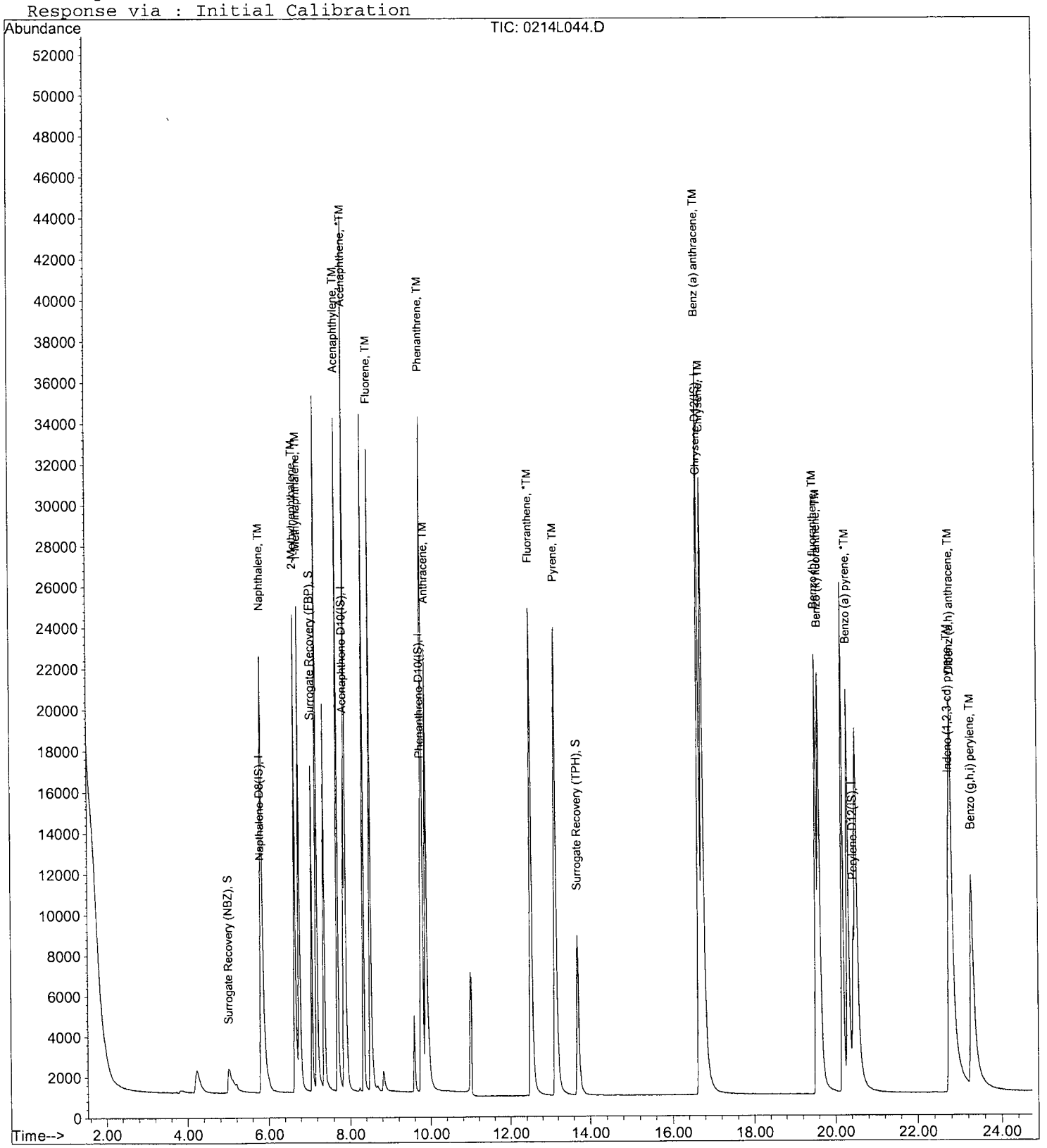
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L044.D Vial: 44
Acq On : 16 Feb 17 9:56 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 10:24 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49656 - 216199**
Batch ID: #SIMDO-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.5	53-106			%	02/09/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	63.7	55-111			%	02/09/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	77.7	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L031
Instrument: Linus
Sequence: L170214
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 2:48:42 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L031.D Vial: 31
Acq On : 15 Feb 17 13:38 Operator: MA
Sample : 170209A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 16:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	28693	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	14909	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	27659	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	31732	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	27028	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	12546	3.18261 ppb	-0.02
Spiked Amount 5.000			Recovery	= 63.660%	
7) Surrogate Recovery (FBP)	7.07	172	26445	2.82398 ppb	-0.01
Spiked Amount 5.000			Recovery	= 56.480%	
17) Surrogate Recovery (TPH)	13.70	244	37252	3.88738 ppb	0.00
Spiked Amount 5.000			Recovery	= 77.740%	

Target Compounds Qvalue

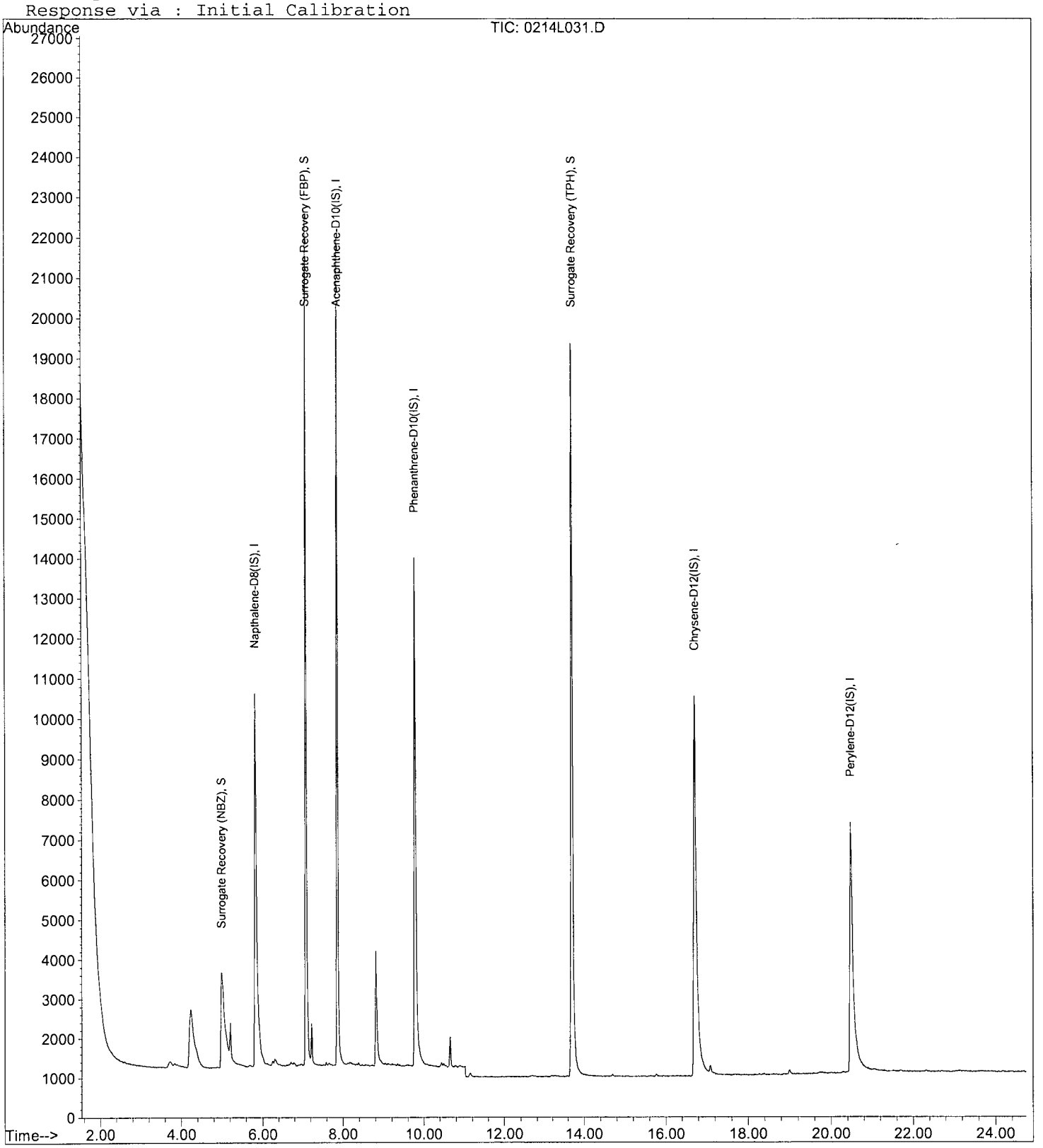
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L031.D Vial: 31
Acq On : 15 Feb 17 13:38 Operator: MA
Sample : 170209A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 16:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170209W-49656 LCS - 216199**
Batch ID: #SIMDO-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.96	79.2	41-115
2-METHYLNAPHTHALENE	5.00	3.82	76.4	39-114
NAPHTHALENE	5.00	3.57	71.4	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.33	66.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.51	70.2	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.90	78.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/09/17
Analysis Date :	02/15/17
Instrument :	Linus
Run :	0214L032
Initials :	MA

Printed: 02/17/17 2:48:35 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L032.D Vial: 32
Acq On : 15 Feb 17 14:11 Operator: MA
Sample : 170209A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 14:37 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23944	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12003	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23416	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	27879	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23810	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11673	3.50878 ppb	-0.02
Spiked Amount 5.000			Recovery	= 70.180%	
7) Surrogate Recovery (FBP)	7.07	172	25069	3.32517 ppb	-0.01
Spiked Amount 5.000			Recovery	= 66.500%	
17) Surrogate Recovery (TPH)	13.70	244	32870	3.90416 ppb	-0.01
Spiked Amount 5.000			Recovery	= 78.080%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	35131	3.57443 ppb		99
4) 2-Methylnaphthalene	6.65	142	22354	3.82341 ppb		92
5) 1-Methylnaphthalene	6.76	142	24905	3.95706 ppb		94
8) Acenaphthylene	7.70	152	37293	4.00593 ppb		100
9) Acenaphthene	7.89	154	21871	3.79483 ppb		100
10) Fluorene	8.51	166	26652	4.32811 ppb		99
12) Phenanthrene	9.80	178	39629	4.40190 ppb		100
13) Anthracene	9.90	178	36055	3.80931 ppb		100
14) Fluoranthene	12.52	202	63854	4.77349 ppb		100
16) Pyrene	13.15	202	66037	4.47329 ppb		98
18) Benz (a) anthracene	16.66	228	47648	4.21476 ppb	#	76
19) Chrysene	16.76	228	60778	4.74414 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	42789	4.24430 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	42673	4.08808 ppb		99
23) Benzo (k) fluoranthene	19.62	252	28269	3.60323 ppb		99
24) Benzo (a) pyrene	20.32	252	45747	4.10704 ppb		100
25) Dibenz (a,h) anthracene	22.82	278	36908	4.50803 ppb	#	38
26) Benzo (g,h,i) perylene	23.30	276	35864	4.11697 ppb	#	50

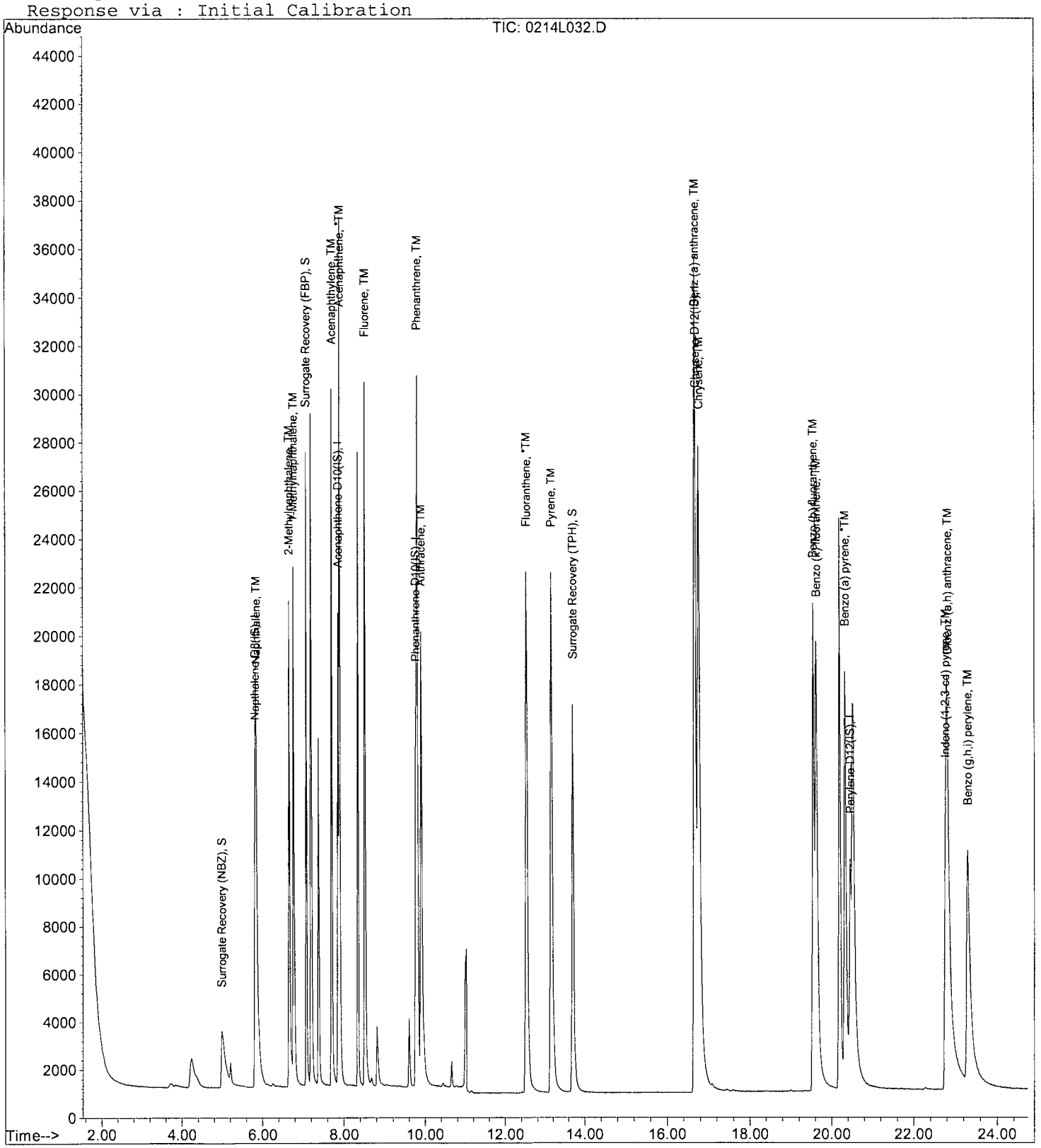
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L032.D Vial: 32
Acq On : 15 Feb 17 14:11 Operator: MA
Sample : 170209A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 14:37 2017 Quant Results File: L0214PR.RES

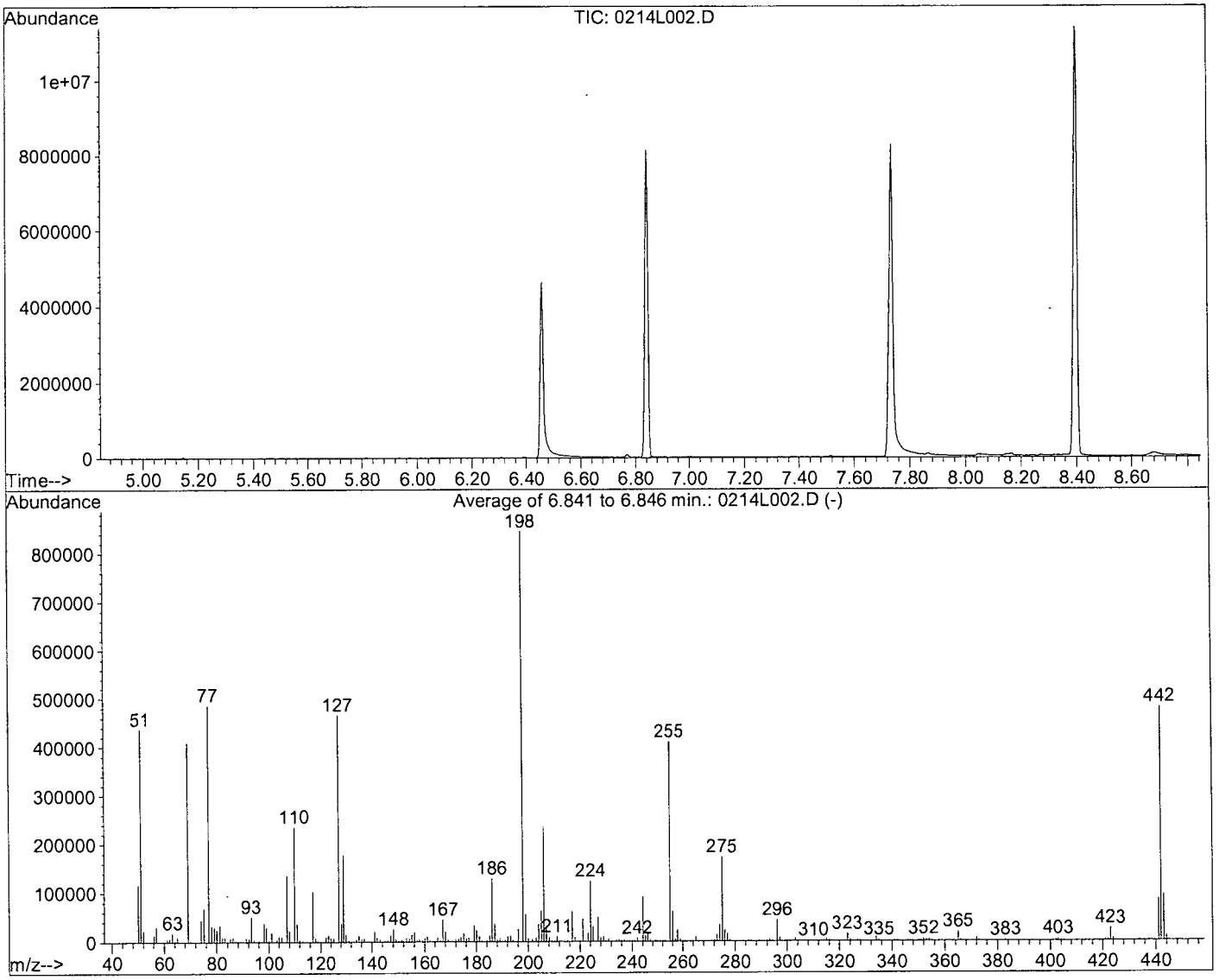
Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L170214\0214L002.D Vial: 2
Acq On : 14 Feb 17 18:03 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.7	437381	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1543	PASS
127	198	40	60	55.2	466752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	846059	PASS
199	198	5	9	6.6	55539	PASS
275	198	10	30	20.4	172288	PASS
365	198	1	100	2.2	18390	PASS
441	443	0.01	100	90.5	85072	PASS
442	198	50	150	56.8	480725	PASS
443	442	17	23	19.5	93955	PASS

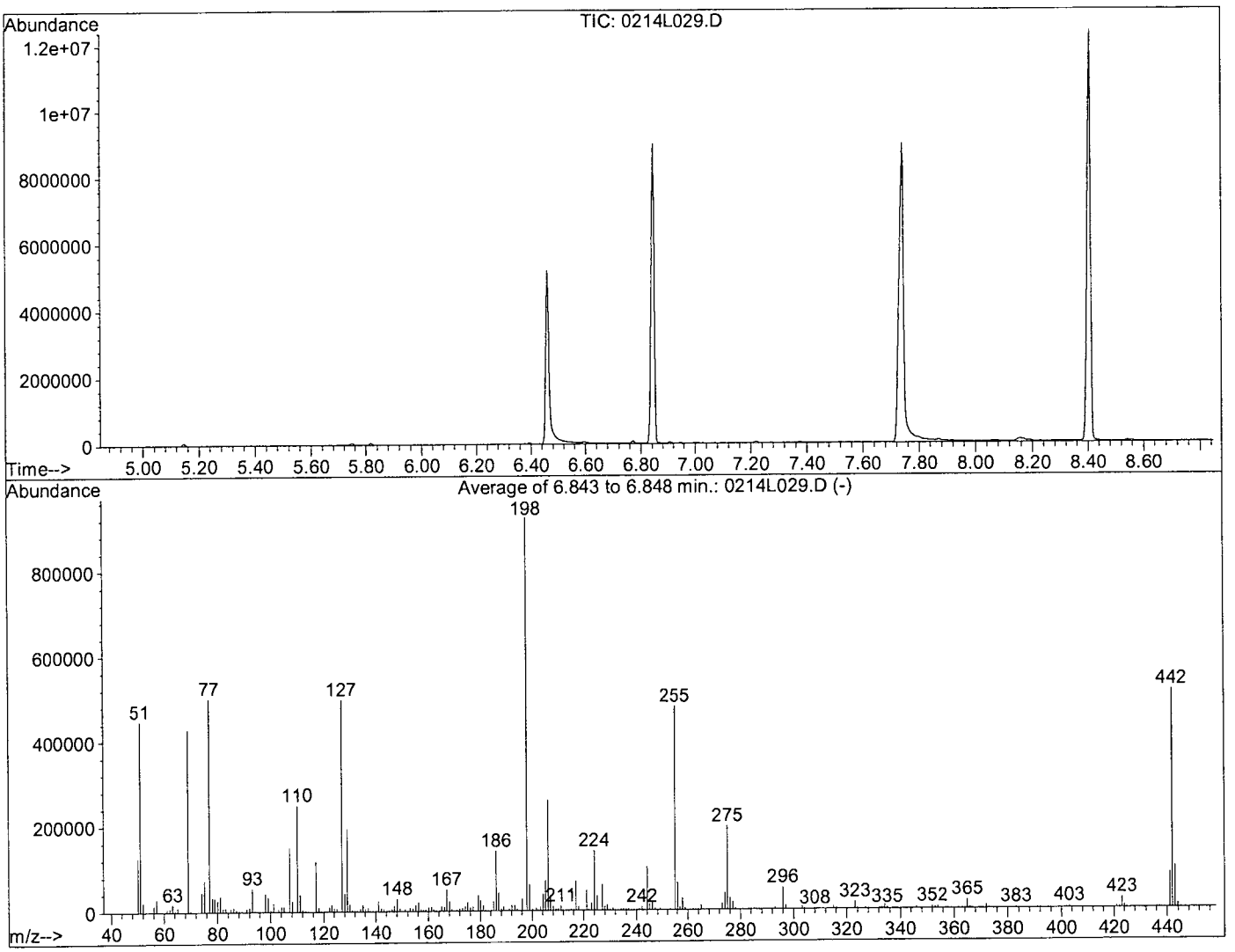
0214L002.D L0214PR.M Wed Feb 15 12:19:54 2017

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L029.D
Acq On : 15 Feb 17 12:48
Sample : SV Tune 2/9/17
Misc : water

Vial: 29
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.843 to 6.848 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	447387	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	428864	PASS
70	69	0.00	2	0.6	2641	PASS
127	198	40	60	53.8	498293	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	925547	PASS
199	198	5	9	6.6	60896	PASS
275	198	10	30	21.2	196203	PASS
365	198	1	100	2.2	20432	PASS
441	443	0.01	100	85.1	82909	PASS
442	198	40	150	55.6	514752	PASS
443	442	17	23	18.9	97437	PASS

0214L029.D DFTPP2.M Mon Feb 20 10:11:52 2017

8270 PAH SIM Standard Curve

PREP DATE:	2/14/16 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	6/14/17					0.1	0.2	0.5	1	5	10	50	100
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		9/12/16	7/29/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		9/12/16	7/29/17	10	20	0	0	0	0	0	0
O2Si	BNA SURR.	100/200		1/12/17	7/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56153			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM 2ND SRC			Prep: 02/14/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	VARIOUS	01/24/17	06/24/17	5
Methylene Chloride					195
o2si	SV Internal Standar	2000	10/10/16	10/10/17	4
LOT#	XA10079V-35507			Final Vol.	204

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/03/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	6/3/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	6/22/16	6/22/17	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 12/22/16 -R.H.	
EX: 12/22/17	

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170209A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 EXP 12-22-17	Surrogate ID 1	8270 Surrogate 1-12-17 EXP 7-12-17	
Spiked ID 2		Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	YES	
Spiked ID 7		Ext. Start Time:	02/09/17 10:40	
Spiked ID 8		Ext. End Time:	02/10/17 14:30	
		GC Requires Extract By:	02/14/17 0:00	

pH1	2	2/09/17 11:10:00 AM	Water Bath Temp Criteria	75,70 °C
pH2	14	02/09/17 1:00:00 PM		
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	
2	170209A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	
3	AZ49656	AZ49656W09			0.050	1 equip	1050 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W09			0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W05			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W23	0.0250	1	0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W21	0.0250	1	0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W33			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W06			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W12			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W09			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W08			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W13			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W10			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK

Ky 2/10/17

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	5:46
Refrigerator	Hsb 6/8

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,DL
Extraction	JR,DL
Concentration	KY

Modified	02/10/17 2:35:52 PM

Reviewed By: Ky **Date** 2/10/17

Injection Log

Directory: M:\LINUS\DATA\L170214\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0214L002.D	1	SV Tune 02/09/17	water	14 Feb 17 18:03
2	3	0214L003.D	1	0.1 SIM 02/14/17	water	14 Feb 17 18:21
3	4	0214L004.D	1	0.2 SIM 02/14/17	water	14 Feb 17 18:53
4	5	0214L005.D	1	0.5 SIM 02/14/17	water	14 Feb 17 19:26
5	6	0214L006.D	1	1.0 SIM 02/14/17	water	14 Feb 17 19:59
6	7	0214L007.D	1	5.0 SIM 02/14/17	water	14 Feb 17 20:32
7	8	0214L008.D	1	10 SIM 02/14/17	water	14 Feb 17 21:04
8	9	0214L009.D	1	50 SIM 02/14/17	water	14 Feb 17 21:37
9	10	0214L010.D	1	100 SIM 02/14/17	water	14 Feb 17 22:10
10	11	0214L011.D	1	SS SIM 02/14/17	water	14 Feb 17 22:43
11	29	0214L029.D	1	SV Tune 2/9/17	water	15 Feb 17 12:48
12	30	0214L030.D	1	5.0 SIM 02/14/17	water	15 Feb 17 13:05
13	31	0214L031.D	1	170209A BLK 1/1000	water	15 Feb 17 13:38
14	32	0214L032.D	1	170209A LCS-1 1/1000	water	15 Feb 17 14:11
15	33	0214L033.D	0.952381	AZ49656W09 1/1050	water	15 Feb 17 14:44
16	35	0214L035.D	0.934579	AZ49658W05 1/1070	water	15 Feb 17 15:49
17	37	0214L037.D	1	AZ49657W09 1/1000	water	15 Feb 17 16:55
18	44	0214L044.D	1	5.0 SIM 02/14/17	water	16 Feb 17 9:56

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216150**
Batch ID: #87DC5-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.7	43-140			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	52.8	44-119			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUOROPHENO	41.9	19-119			%	02/09/17	02/13/17
BLANK	SURROGATE: NITROBENZENE-	54.1	44-120			%	02/09/17	02/13/17
BLANK	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	02/09/17	02/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	68.9	50-134			%	02/09/17	02/13/17

Quant Method:Y0123.M
Run #:0123Y138
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 12:29:37 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	43-140	67.7		44-119	52.8	
170209A-LCS	Lab Control Spike	43-140	65.0		44-119	57.1	
AZ49656	ERH208	43-140	64.7		44-119	54.2	
AZ49657	ERH244	43-140	68.4		44-119	54.5	
AZ49658	ERH245	43-140	62.6		44-119	51.7	

Comments: Batch: #87DC5-170209A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	19-119	41.9		44-120	54.1	
170209A-LCS	Lab Control Spike	19-119	49.5		44-120	59.9	
AZ49656	ERH208	19-119	50.7		44-120	58.6	
AZ49657	ERH244	19-119	47.1		44-120	56.6	
AZ49658	ERH245	19-119	45.2		44-120	59.3	

Comments: Batch: #87DC5-170209A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	10-115	29.1		50-134	68.9	
170209A-LCS	Lab Control Spike	10-115	31.4		50-134	65.3	
AZ49656	ERH208	10-115	32.6		50-134	70.0	
AZ49657	ERH244	10-115	30.8		50-134	68.3	
AZ49658	ERH245	10-115	28.5		50-134	65.1	

Comments: Batch: #87DC5-170209A

Printed: 02/14/17 12:29:38 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170209W-49674 LCS - 216150**
Batch ID: #87DC5-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.3	36.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	130	65.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	57.1	57.1	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	99.1	49.5	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	59.9	59.9	44-120
SURROGATE: PHENOL-D6 (S)	200	62.8	31.4	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.3	65.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Yoda
Run :	0123Y139
Initials :	MA

Printed: 02/14/17 12:29:39 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Yoda
Time Analyzed: 1325

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	0123Y138	02/13/17 1325
170209A-LCS	Lab Control Spike	0123Y139	02/13/17 1356
AZ49656	ERH208	0123Y140	02/13/17 1426
AZ49657	ERH244	0123Y141	02/13/17 1456
AZ49658	ERH245	0123Y142	02/13/17 1526

Comments: Batch: #87DC5-170209A

Printed: 02/14/17 12:29:42 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82117
Matrix: Water
ID: SV Tune 12/15/16

SDG No: 82117
Date Analyzed: 02/13/17
Instrument: Yoda
Time Analyzed: 12:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 2/10/17	0123Y137.D	02/13/17 12:25
2	Blank	170209A BLK 1/1000	0123Y138.D	02/13/17 13:25
3	Lab Control Spike	170209A LCS-1 1/1000	0123Y139.D	02/13/17 13:56
4	ERH208	AZ49656W12 1/1050	0123Y140.D	02/13/17 14:26
5	ERH244	AZ49657W05 1/1000	0123Y141.D	02/13/17 14:56
6	ERH245	AZ49658W08 1/1070	0123Y142.D	02/13/17 15:26
7		50ug/ml SVOC 2/09/17	0123Y158.D	02/13/17 23:26
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	45.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	53.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	25.1
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	79.9
442	50 - 150% of mass 198	100.5
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82117
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 2/10/17	170752	4.82	726736	6.26	429658	8.26
02	170209A BLK 1/1000	151858	4.83	629755	6.26	360186	8.26
03	170209A LCS-1 1/1000	167743	4.83	753058	6.26	441218	8.26
04	AZ49656W12 1/1050	161684	4.82	750908	6.25	437998	8.26
05	AZ49657W05 1/1000	168301	4.82	736396	6.25	427975	8.27
06	AZ49658W08 1/1070	176084	4.83	778630	6.25	461948	8.27
07	50ug/ml SVOC 2/09/17	295621	4.82	1179490	6.26	724686	8.27
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82117
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 2/10/17	787250	9.99	770648	13.06	766965	14.70
02	170209A BLK 1/1000	652756	9.99	651309	13.06	559680	14.69
03	170209A LCS-1 1/1000	817558	9.99	799914	13.06	789605	14.70
04	AZ49656W12 1/1050	795288	9.99	799118	13.06	777245	14.69
05	AZ49657W05 1/1000	805742	9.99	816923	13.06	770607	14.69
06	AZ49658W08 1/1070	840486	9.99	808931	13.06	751971	14.69
07	50ug/ml SVOC 2/09/17	1413970	9.99	1254620	13.07	845440	14.70
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	64.7	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.2	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.7	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	58.6	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	32.6	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.0	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y140
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:29:43 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y140.D Vial: 40
Acq On : 13 Feb 17 14:26 Operator: MA
Sample : AZ49656W12 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Feb 13 17:28 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	161684	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	750908	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	437998	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	795288	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	799118	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	777245	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	517384	96.61399 ppb	0.00
Spiked Amount 190.476			Recovery	= 50.722%	
5) Phenol-D6 (S)	4.47	99	442410	62.09439 ppb	0.00
Spiked Amount 190.476			Recovery	= 32.599%	
21) Nitrobenzene-D5(S)	5.46	82	446074	55.78641 ppb	0.00
Spiked Amount 95.238			Recovery	= 58.575%	
45) 2-Fluorobiphenyl(S)	7.50	172	761148	51.59087 ppb	0.00
Spiked Amount 95.238			Recovery	= 54.171%	
63) 2,4,6-Tribromophenol(S)	9.19	330	262428	123.27987 ppb	0.00
Spiked Amount 190.476			Recovery	= 64.722%	
81) Terphenyl-D14(S)	11.84	244	1203307	66.67424 ppb	0.00
Spiked Amount 95.238			Recovery	= 70.008%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

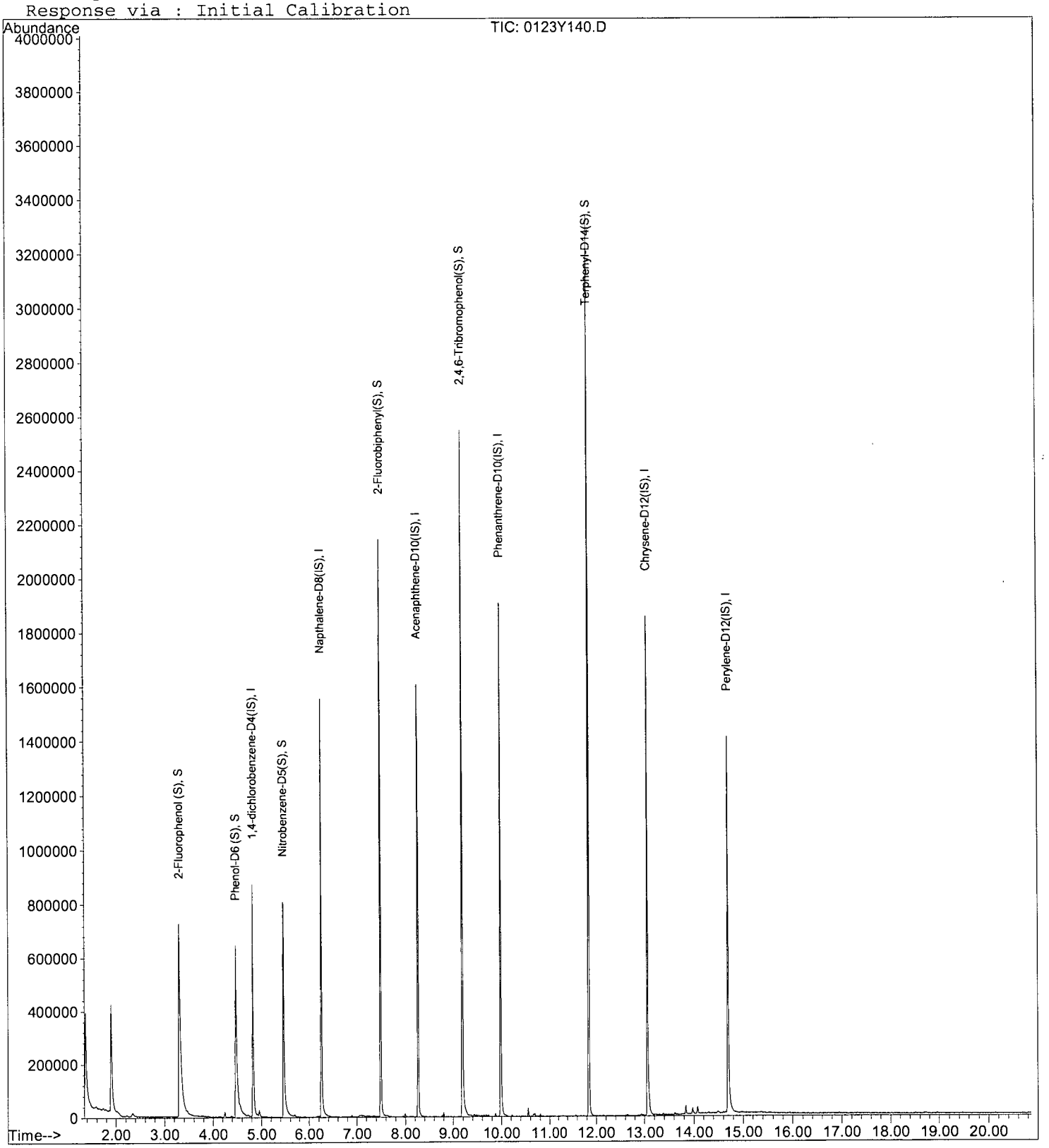
Data File : M:\YODA\DATA\Y170123\0123Y140.D
Acq On : 13 Feb 17 14:26
Sample : AZ49656W12 1/1050
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 0.95

Quant Time: Feb 13 17:28 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	68.4	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.5	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	47.1	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	56.6	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.8	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.3	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y141
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:29:43 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y141.D Vial: 41
Acq On : 13 Feb 17 14:56 Operator: MA
Sample : AZ49657W05 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 13 17:27 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	168301	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	736396	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	427975	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	805742	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	816923	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	770607	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	499600	94.10638 ppb	-0.01
Spiked Amount 200.000			Recovery	= 47.053%	
5) Phenol-D6 (S)	4.47	99	434410	61.50308 ppb	0.00
Spiked Amount 200.000			Recovery	= 30.752%	
21) Nitrobenzene-D5(S)	5.46	82	422953	56.63412 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.634%	
45) 2-Fluorobiphenyl(S)	7.50	172	748216	54.49714 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.497%	
63) 2,4,6-Tribromophenol(S)	9.19	330	270902	136.75312 ppb	0.00
Spiked Amount 200.000			Recovery	= 68.376%	
81) Terphenyl-D14(S)	11.85	244	1200761	68.33722 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.337%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

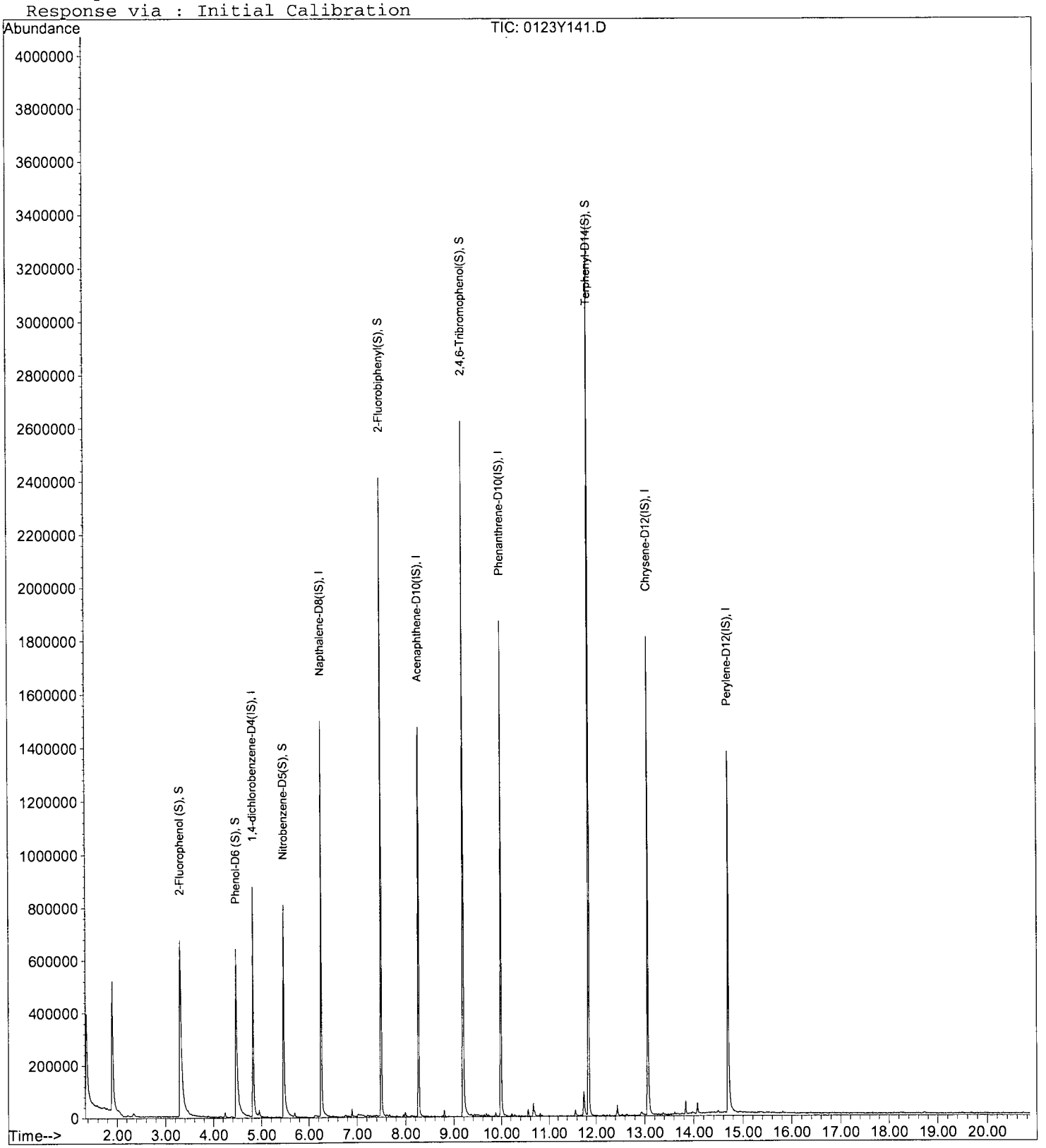
Data File : M:\YODA\DATA\Y170123\0123Y141.D
Acq On : 13 Feb 17 14:56
Sample : AZ49657W05 1/1000
Misc : water

Vial: 41
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 17:27 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.6	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	51.7	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	45.2	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	59.3	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.5	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	65.1	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y142
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:29:43 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y142.D Vial: 42
Acq On : 13 Feb 17 15:26 Operator: MA
Sample : AZ49658W08 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:27 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	176084	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	778630	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	461948	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	840486	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	808931	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	751971	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	501562	84.39255 ppb	0.00
Spiked Amount 186.916			Recovery	= 45.150%	
5) Phenol-D6 (S)	4.47	99	420562	53.18754 ppb	0.01
Spiked Amount 186.916			Recovery	= 28.456%	
21) Nitrobenzene-D5(S)	5.46	82	468449	55.44274 ppb	0.00
Spiked Amount 93.458			Recovery	= 59.324%	
45) 2-Fluorobiphenyl(S)	7.50	172	766432	48.33500 ppb	0.00
Spiked Amount 93.458			Recovery	= 51.718%	
63) 2,4,6-Tribromophenol(S)	9.19	330	267534	116.93522 ppb	0.00
Spiked Amount 186.916			Recovery	= 62.560%	
81) Terphenyl-D14(S)	11.84	244	1132033	60.80586 ppb	0.00
Spiked Amount 93.458			Recovery	= 65.062%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

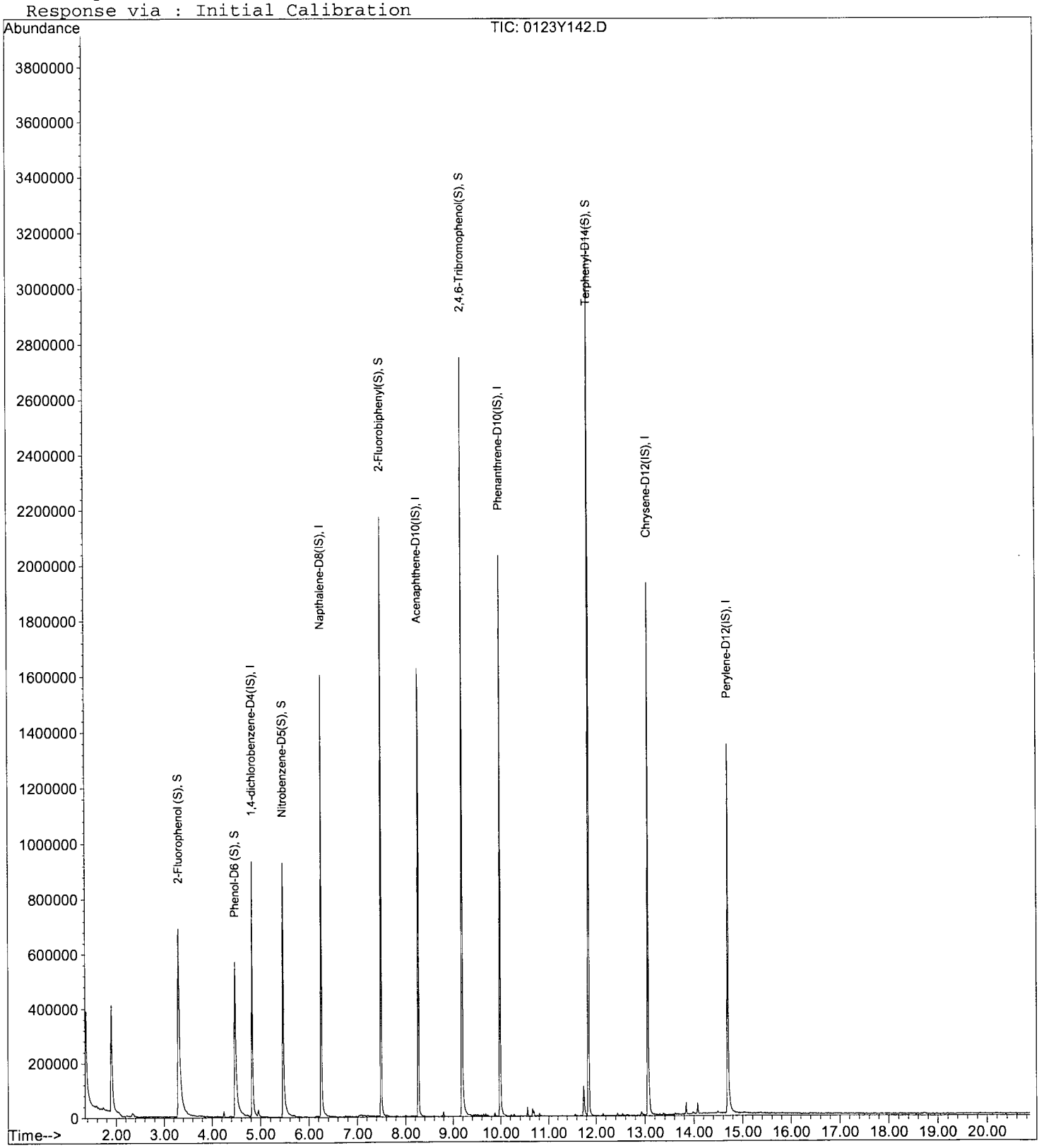
Data File : M:\YODA\DATA\Y170123\0123Y142.D
Acq On : 13 Feb 17 15:26
Sample : AZ49658W08 1/1070
Misc : water

Vial: 42
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 13 17:27 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003 D	0123Y004.D	0123Y005 D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41) Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43) 2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44) 2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46) 1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47) 2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48) 2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49) Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50) 2,6-DNT	8.07	165	13516	4.34276	ppb		98
51) Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52) 3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53) Acenaphthene	8.30	154	61118	5.27635	ppb		98
54) 2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55) 4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56) Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57) 2,4-DNT	8.55	165	18690	4.26757	ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59) Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60) 4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61) Fluorene	8.90	166	69616	5.27556	ppb		96
62) 4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65) 4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66) Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67) n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70) Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71) Atrazine	9.68	200	7883	2.10443	ppb		92
72) Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73) Phenanthrene	10.02	178	99531	5.00174	ppb		99
74) Anthracene	10.08	178	104078	5.06633	ppb		99
75) Carbazol	10.29	167	87488	4.74701	ppb		100
76) Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77) Fluoranthene	11.40	202	106801	4.84818	ppb		99
79) Benzidine	11.59	184	41695	5.01562	ppb		98
80) Pyrene	11.66	202	111459	4.57558	ppb		97
82) Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83) 3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84) Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85) Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86) Chrysene	13.10	228	115566	5.28777	ppb		99
87) Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89) Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90) Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91) Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93) Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94) Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

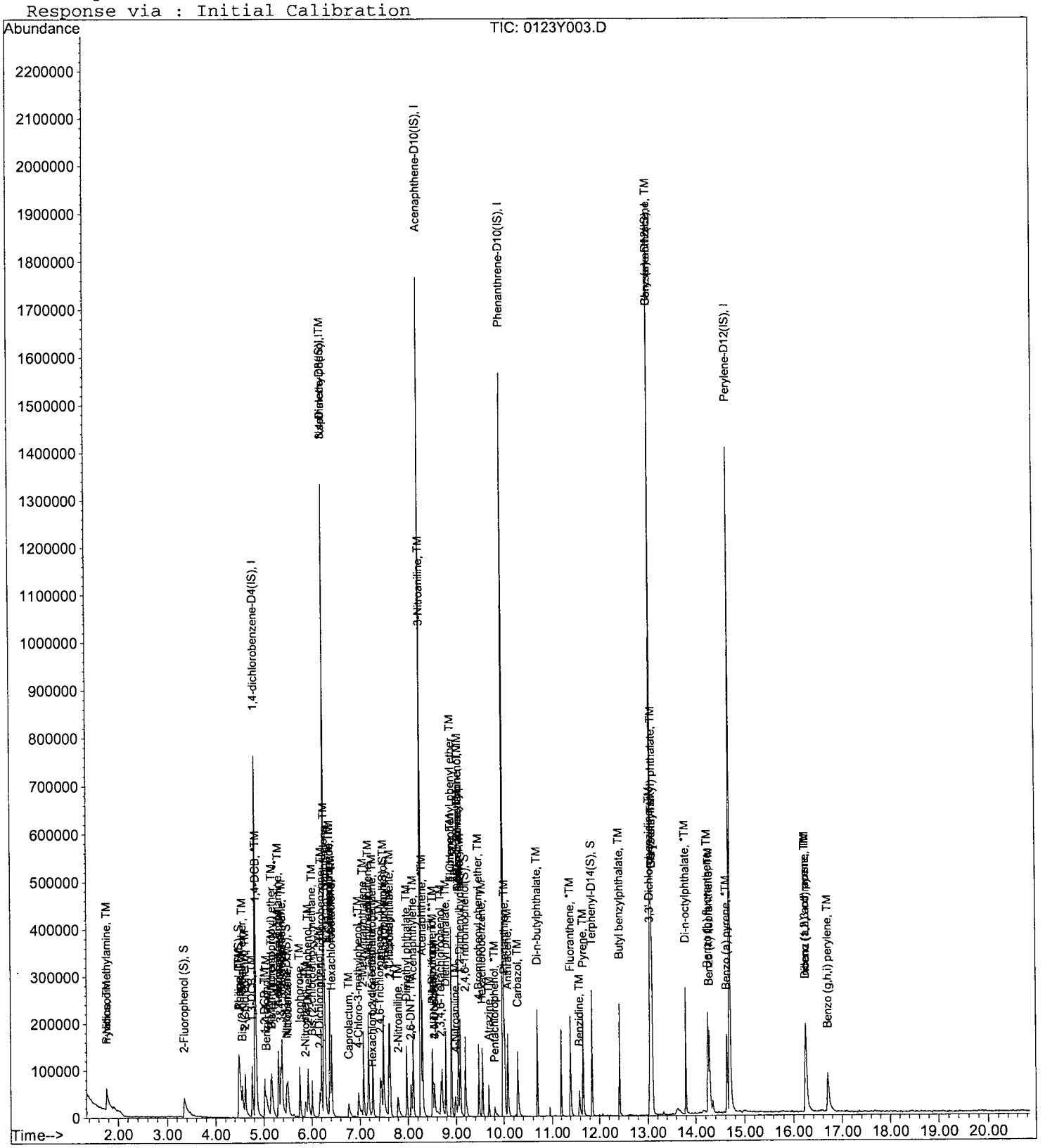
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933	ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860	ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861	ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944	ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646	ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318	ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796	ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690	ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723	ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118	ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937	ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420	ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425	ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231	ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926	ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904	ppb		86
61) Fluorene	8.90	166	136880	10.19080	ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103	ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238	ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238	ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736	ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230	ppb		89
71) Atrazine	9.69	200	17574	4.54512	ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148	ppb		93
73) Phenanthrene	10.01	178	207115	10.08340	ppb		100
74) Anthracene	10.08	178	215698	10.17215	ppb		99
75) Carbazol	10.28	167	186612	9.80942	ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533	ppb		100
77) Fluoranthene	11.40	202	215194	9.46381	ppb		99
79) Benzidine	11.58	184	88604	10.34478	ppb		98
80) Pyrene	11.66	202	225558	8.98704	ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716	ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727	ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157	ppb		98
86) Chrysene	13.10	228	218169	9.68864	ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023	ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764	ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396	ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464	ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986	ppb		97

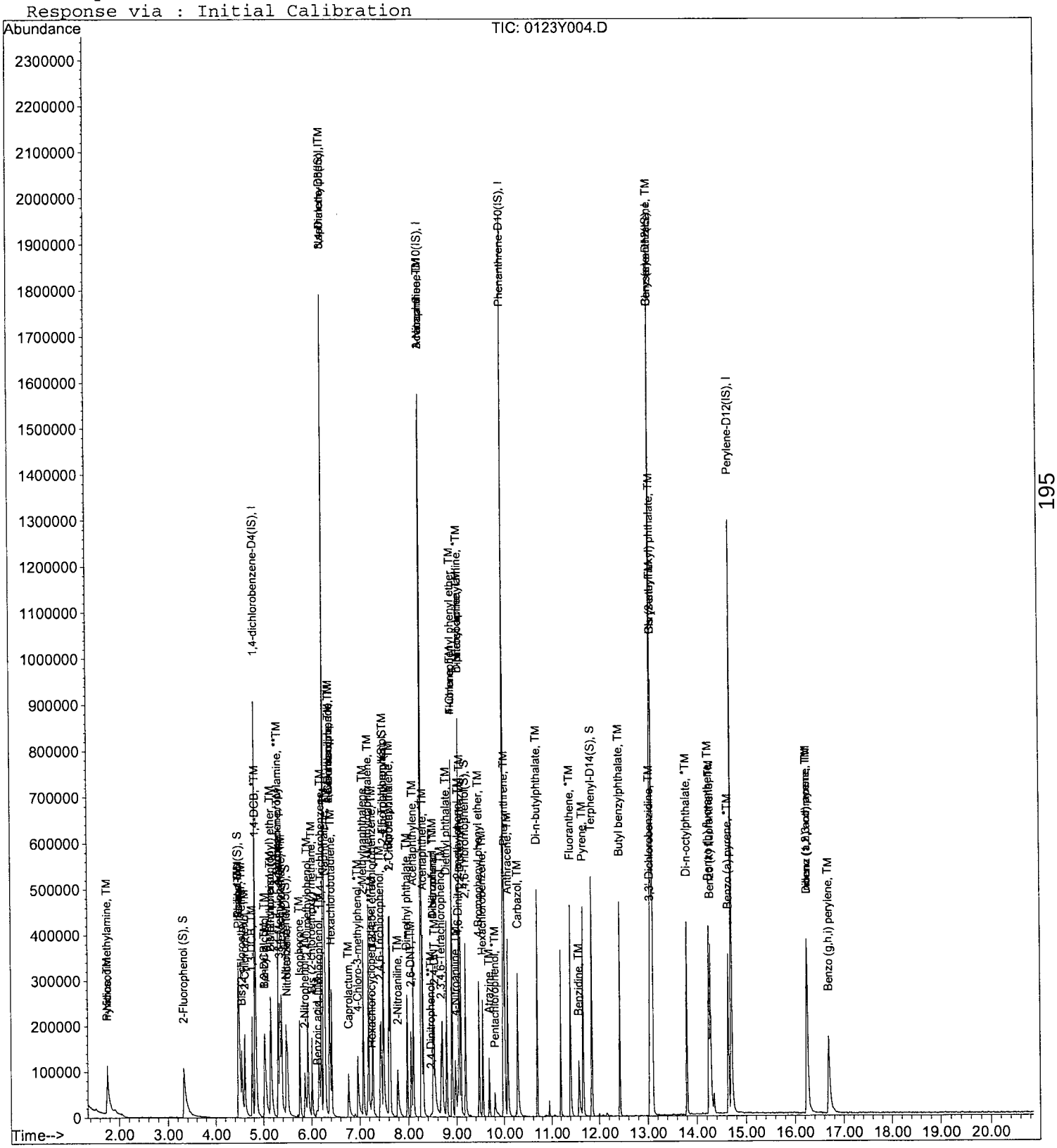
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39) 1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46) 1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47) 2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48) 2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49) Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50) 2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51) Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52) 3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53) Acenaphthene	8.31	154	221335	19.79298	ppb		99
54) 2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55) 4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56) Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57) 2,4-DNT	8.54	165	80650	19.07537	ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59) Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61) Fluorene	8.90	166	261042	20.49116	ppb		97
62) 4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65) 4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66) Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67) n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70) Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71) Atrazine	9.69	200	35669	9.98520	ppb		97
72) Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73) Phenanthrene	10.01	178	397013	20.92142	ppb		100
74) Anthracene	10.08	178	410432	20.95072	ppb		99
75) Carbazol	10.28	167	360002	20.48328	ppb		99
76) Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77) Fluoranthene	11.40	202	427993	20.37340	ppb		98
79) Benzidine	11.57	184	172576	22.40287	ppb		100
80) Pyrene	11.66	202	446464	19.77881	ppb		100
82) Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83) 3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84) Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86) Chrysene	13.10	228	408549	20.17296	ppb		99
87) Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89) Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90) Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91) Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92) Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93) Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94) Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

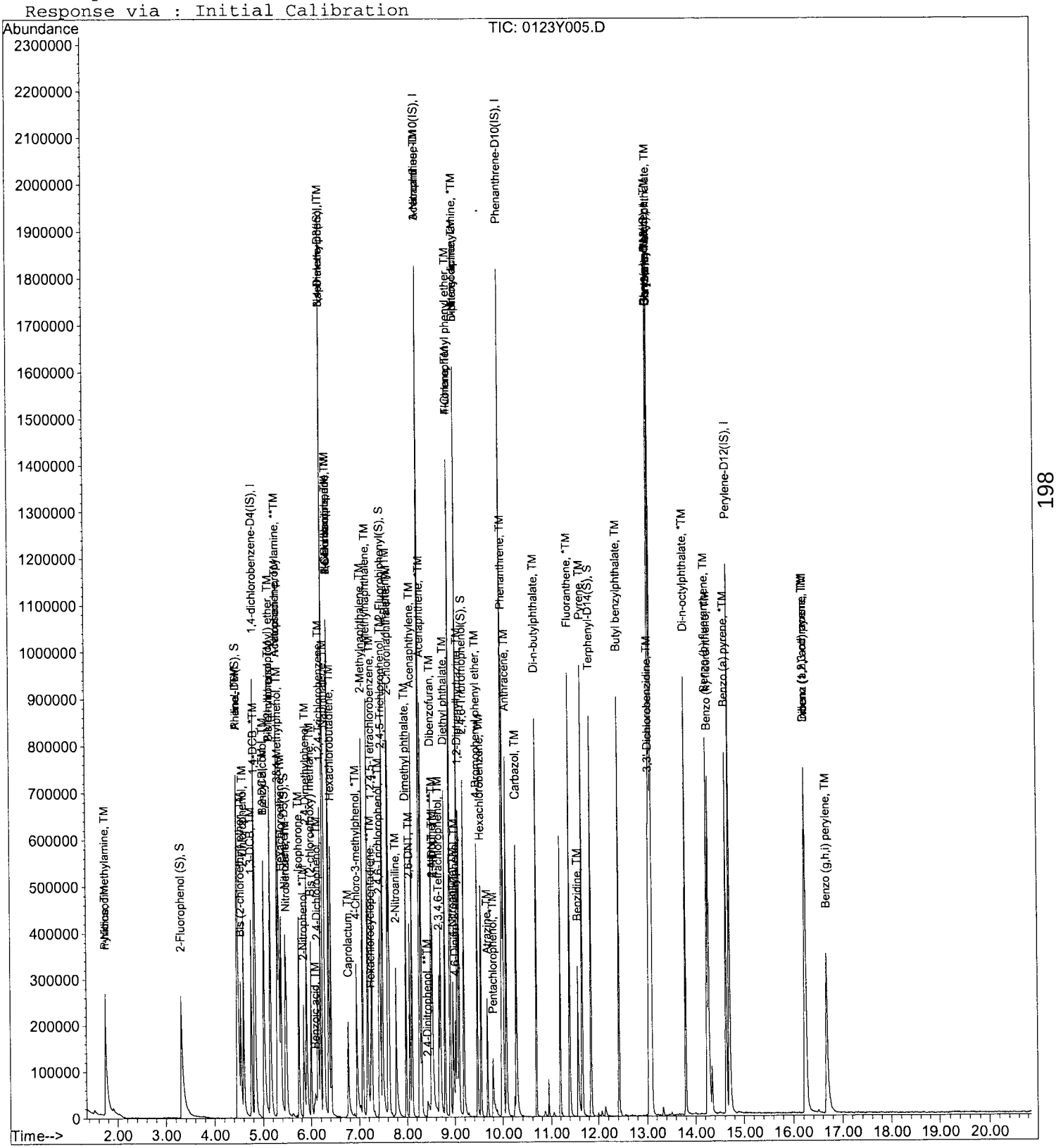
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121	ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53) Acenaphthene	8.31	154	448599	38.96400	ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547	ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61) Fluorene	8.90	166	515360	39.29261	ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71) Atrazine	9.69	200	75092	20.23603	ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73) Phenanthrene	10.02	178	797163	40.43889	ppb		99
74) Anthracene	10.08	178	837248	41.14126	ppb		99
75) Carbazol	10.28	167	750665	41.11558	ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77) Fluoranthene	11.40	202	872131	39.96448	ppb		97
79) Benzidine	11.58	184	358107	43.08926	ppb		99
80) Pyrene	11.66	202	926965	38.06361	ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86) Chrysene	13.10	228	847601	38.79268	ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

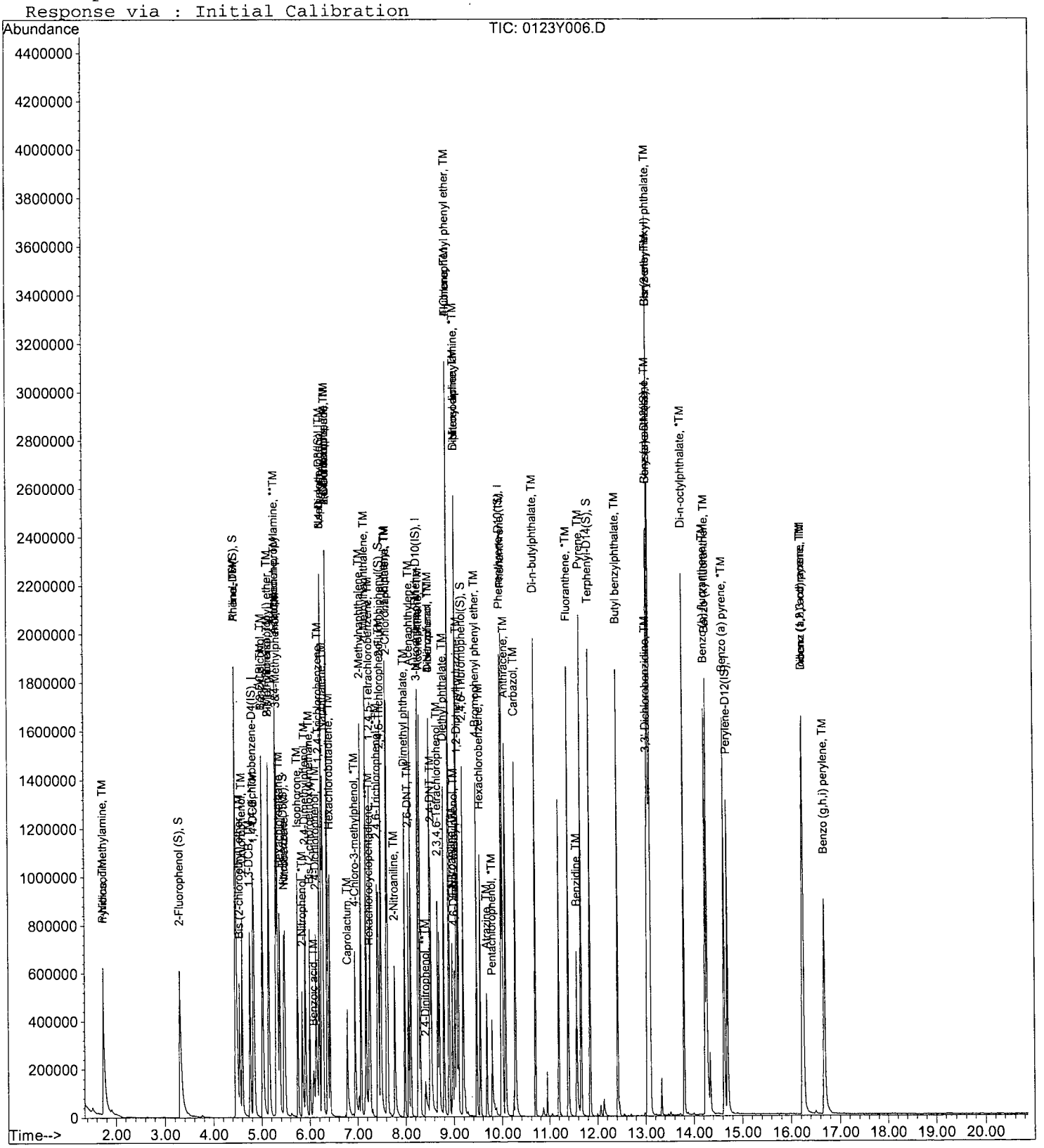
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

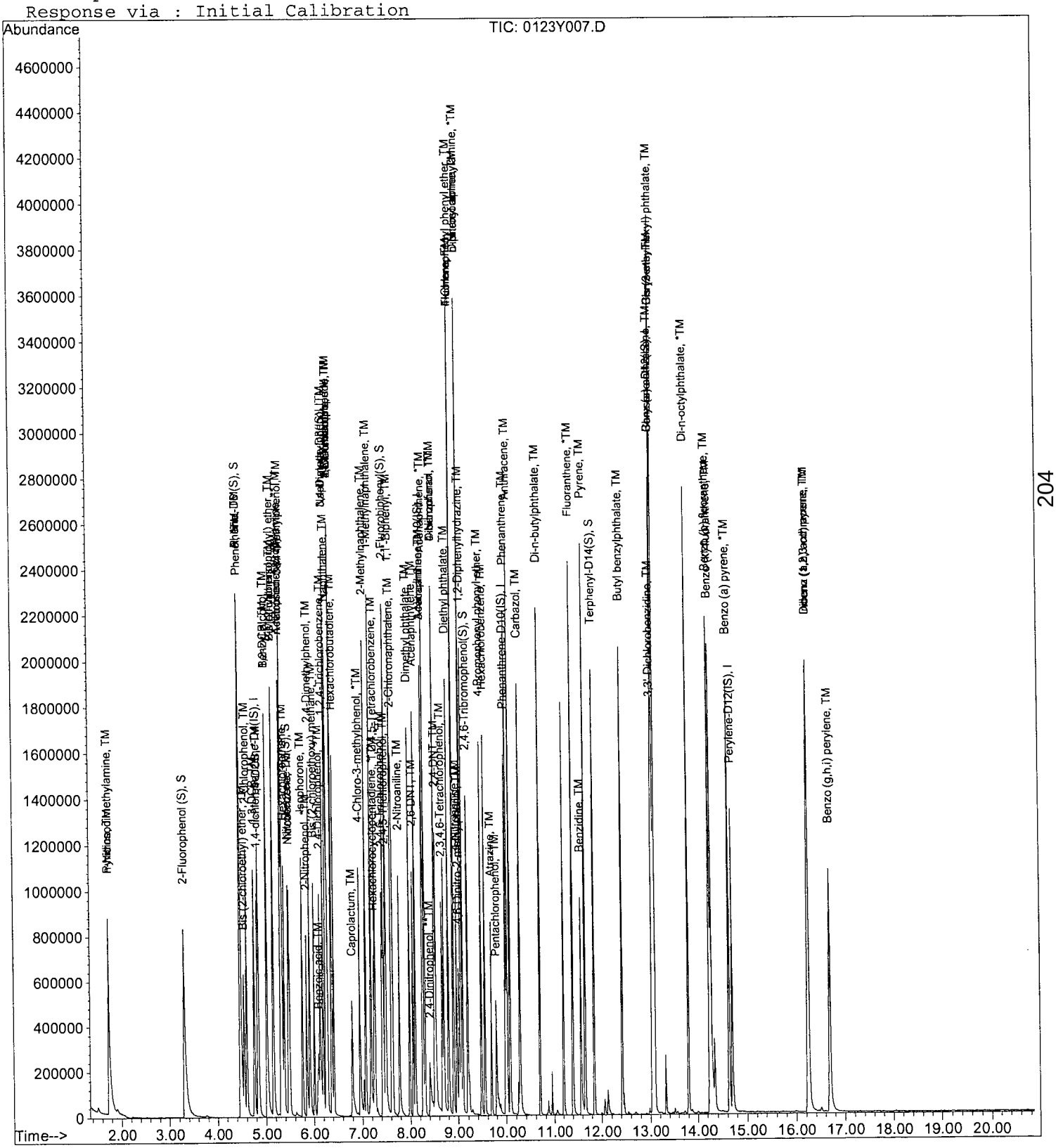
Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery	= 59.291%	
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.295%	
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.529%	
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.203%	
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.820%	
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.189%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750	ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588	ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920	ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008	ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161	ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869	ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920	ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675	ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844	ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818	ppb		99
53) Acenaphthene	8.31	154	660528	56.10991	ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470	ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087	ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197	ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227	ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298	ppb		98
61) Fluorene	8.90	166	723357	53.93814	ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356	ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272	ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420	ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533	ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941	ppb		96
71) Atrazine	9.69	200	113418	29.34015	ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528	ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905	ppb		99
74) Anthracene	10.08	178	1251780	59.04733	ppb		100
75) Carbazol	10.28	167	1130326	59.43097	ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811	ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928	ppb		99
79) Benzidine	11.57	184	543076	64.22768	ppb		98
80) Pyrene	11.66	202	1386950	55.97742	ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935	ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200	ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820	ppb		98
86) Chrysene	13.10	228	1217719	54.77858	ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777	ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932	ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798	ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419	ppb		98

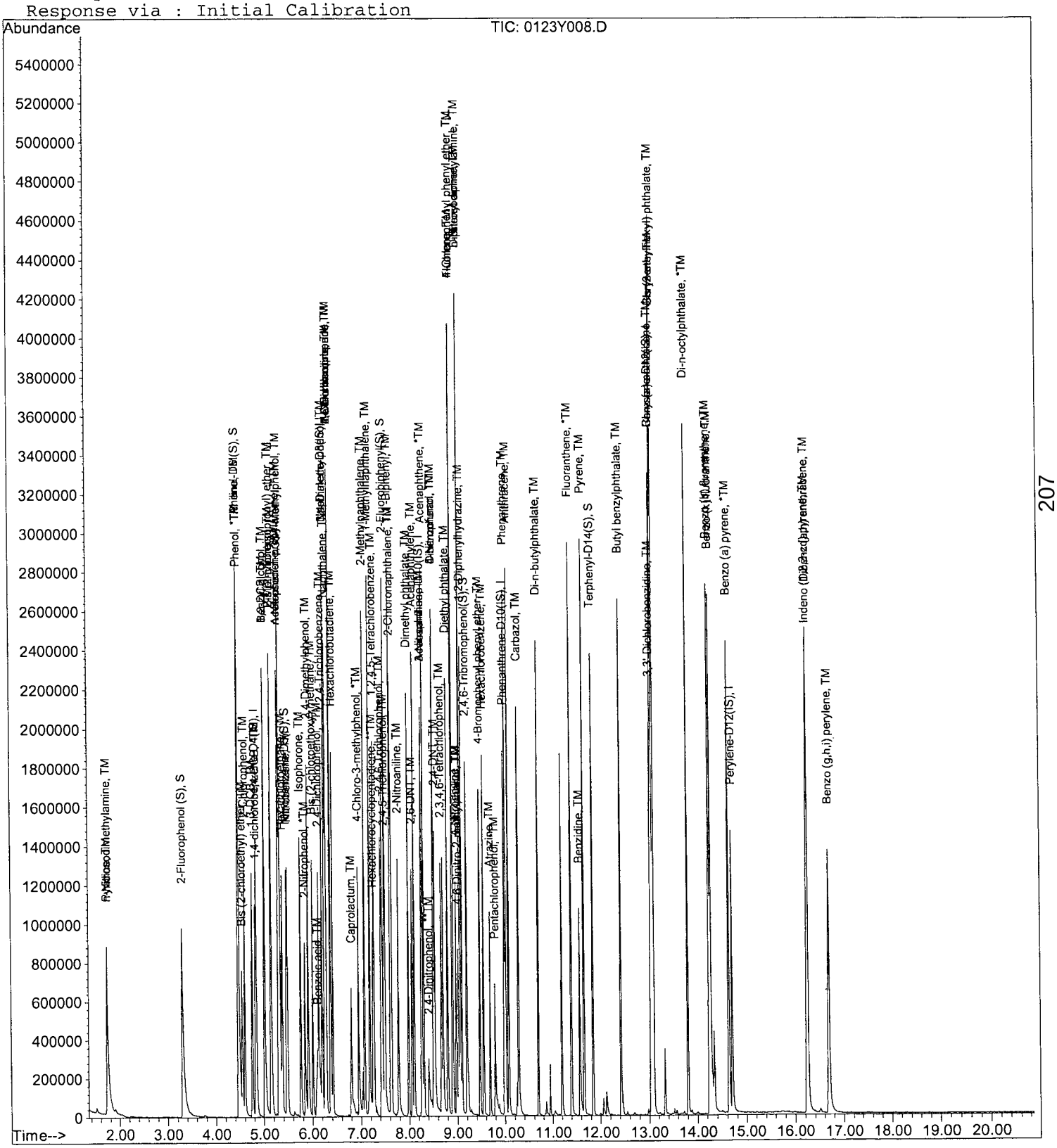
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery = 81.237%		
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery = 71.975%		
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery = 82.366%		
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery = 73.843%		
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery = 69.908%		
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery = 69.813%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb	98
3) Pyridine	1.73	79	634454	83.90277 ppb	100
6) Phenol	4.48	94	642315	77.49542 ppb	98
7) Aniline	4.48	66	611004	77.80712 ppb #	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb	91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb	99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb	99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb	96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb	93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb	99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb	96
16) Acetophenone	5.30	105	658013	77.62630 ppb	95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb	93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb	89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb	97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb	92
23) Isophorone	5.76	82	966459	84.20922 ppb	98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb	98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb	98
26) Benzoic acid	6.12	105	344797	79.06975 ppb	99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb	99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb	96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb	97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb	99
31) Naphthalene	6.28	128	1406137	78.62073 ppb	99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb	96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb	98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb	98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb	98
36) Caprolactum	6.82	55	245801	92.00545 ppb	98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39) 1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46) 1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47) 2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48) 2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49) Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50) 2,6-DNT	8.06	165	256478	79.34293	ppb		79
51) Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52) 3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53) Acenaphthene	8.31	154	898264	74.66354	ppb		99
54) 2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55) 4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56) Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57) 2,4-DNT	8.54	165	361878	79.55622	ppb		87
58) 2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59) Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61) Fluorene	8.91	166	979437	71.46214	ppb		98
62) 4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65) 4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66) Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67) n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70) Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71) Atrazine	9.70	200	156978	40.16501	ppb		97
72) Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73) Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74) Anthracene	10.08	178	1647829	76.87995	ppb		100
75) Carbazol	10.28	167	1507963	78.42030	ppb		97
76) Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77) Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79) Benzidine	11.57	184	728269	84.66366	ppb		99
80) Pyrene	11.67	202	1854714	73.58218	ppb		99
82) Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83) 3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84) Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85) Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86) Chrysene	13.11	228	1666992	73.71244	ppb		100
87) Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89) Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91) Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93) Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94) Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

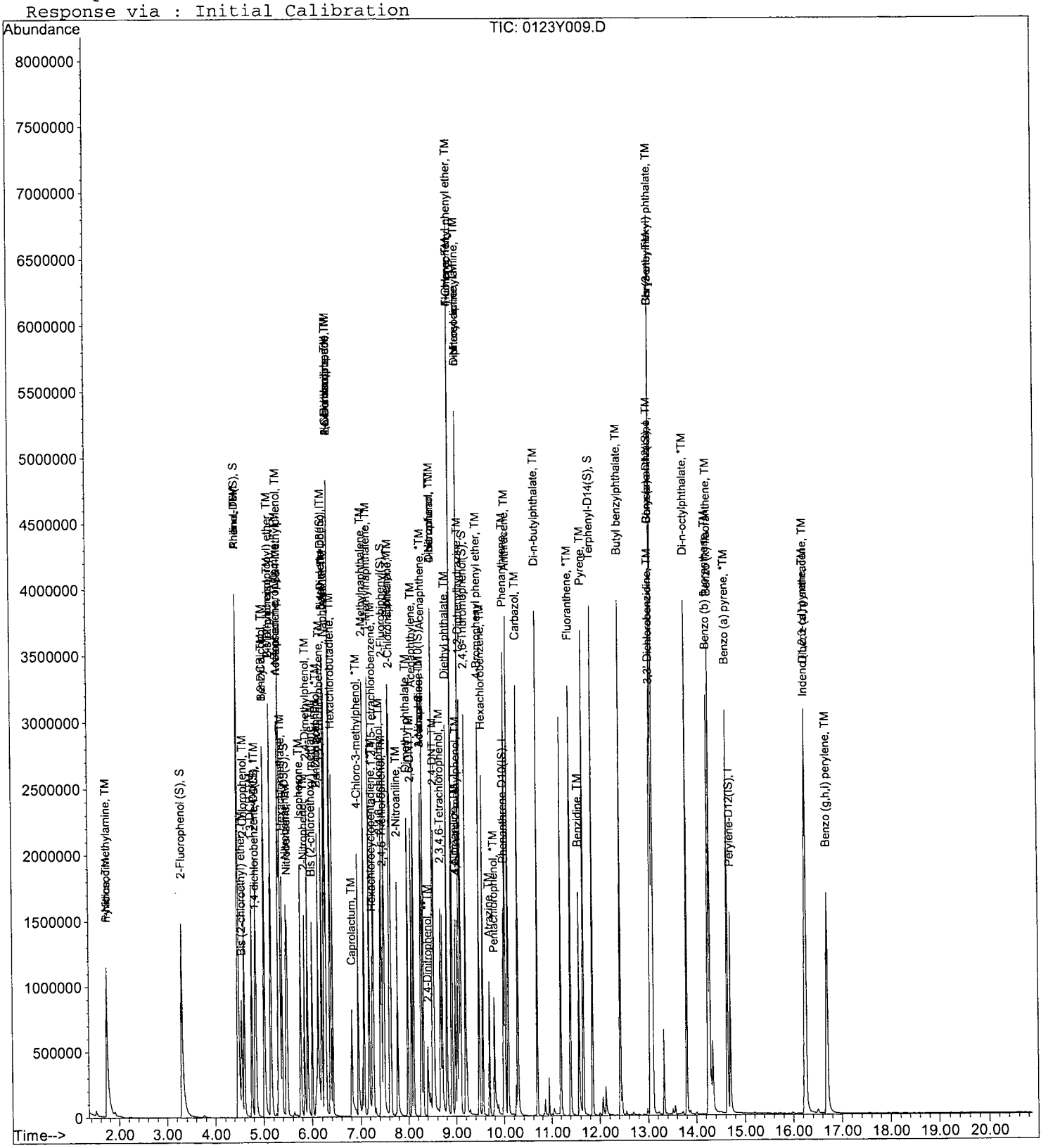
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562	ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946	ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351	ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756	ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843	ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130	ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964	ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747	ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681	ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230	ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232	ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576	ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521	ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657	ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139	ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091	ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456	ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458	ppb		86
61) Fluorene	8.91	166	1259262	98.30180	ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084	ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202	ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801	ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107	ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343	ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365	ppb	#	85
71) Atrazine	9.70	200	186402	51.29770	ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807	ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577	ppb		99
74) Anthracene	10.08	178	1948772	97.79130	ppb		100
75) Carbazol	10.29	167	1735219	97.05778	ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443	ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594	ppb	#	95
79) Benzidine	11.58	184	881021	112.09512	ppb		99
80) Pyrene	11.67	202	2238167	97.18146	ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181	ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441	ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548	ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876	ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644	ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142	ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131	ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324	ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950	ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985	ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647	ppb		95

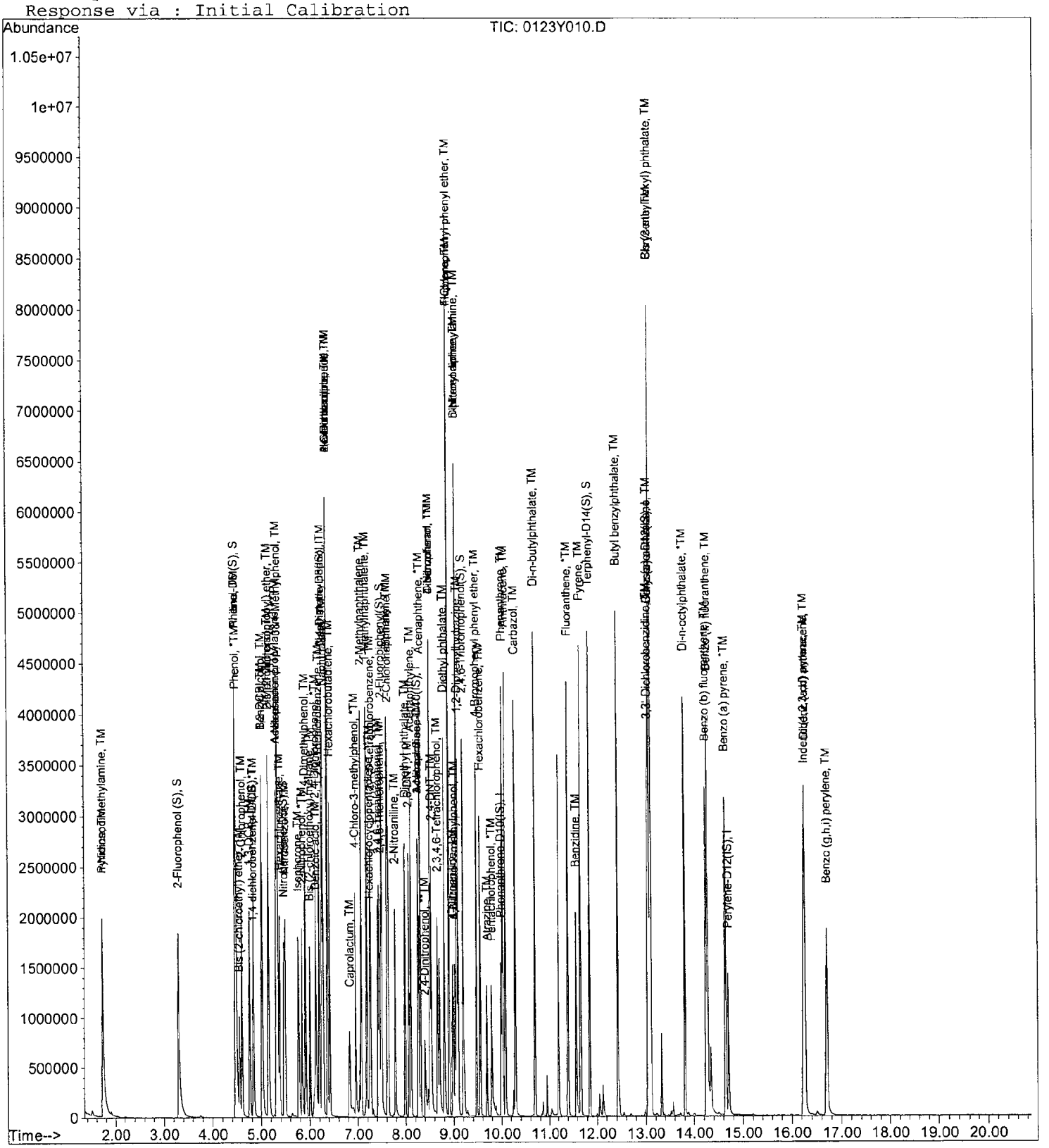
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
84							
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115							
116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.956}$ = 56.38 MA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	646439	48.57137	ppb		100
39) 1-Methylnaphthalene	7.19	142	602666	45.97150	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	121681	52.65785	ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	193346	48.88713	ppb		97
44) 2,4,5-Trichlorophenol	7.47	196	209742	48.34739	ppb		97
46) 1,1'-Biphenyl	7.61	154	822806	47.07970	ppb		99
47) 2-Chloronaphthalene	7.63	162	692861	51.88332	ppb		96
48) 2-Nitroaniline	7.77	65	233738	49.08526	ppb		85
49) Dimethyl phthalate	7.98	163	766645	47.87741	ppb		99
50) 2,6-DNT	8.06	165	178567	49.95212	ppb	#	72
51) Acenaphthylene	8.10	152	982221	45.67988	ppb		99
52) 3-Nitroaniline	8.25	138	193766	49.56328	ppb		85
53) Acenaphthene	8.31	154	608874	45.93545	ppb		100
54) 2,4-Dinitrophenol	8.41	184	82560	48.59465	ppb		95
55) 4-Nitrophenol	8.50	65	144946	48.19129	ppb		77
56) Dibenzofuran	8.50	168	875323	46.77048	ppb		98
57) 2,4-DNT	8.54	165	249063	49.96847	ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501	ppb	#	90
59) Diethyl phthalate	8.80	149	774517	47.76643	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651	ppb		86
61) Fluorene	8.90	166	658029	43.43306	ppb		96
62) 4-Nitroaniline	8.98	138	188537	50.69450	ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398	ppb	#	80
66) Diphenyl amine	9.06	169	1101615	100.68261	ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1101615	100.68261	ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1107522	57.98015	ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	213301	49.74664	ppb		85
70) Hexachlorobenzene	9.55	284	235108	52.56424	ppb		90
71) Atrazine	9.69	200	93523	22.08154	ppb		99
72) Pentachlorophenol	9.79	266	86715	45.18058	ppb		95
73) Phenanthrene	10.02	178	1072837	46.33434	ppb		100
74) Anthracene	10.08	178	1080433	44.73670	ppb		99
75) Carbazol	10.28	167	987284	46.17731	ppb		96
76) Di-n-butylphthalate	10.69	149	1336738	49.47728	ppb		99
77) Fluoranthene	11.40	202	1187541	47.24409	ppb		97
79) Benzidine	11.58	184	466479	44.95376	ppb		97
80) Pyrene	11.66	202	1231903	46.08479	ppb		98
82) Butyl benzylphthalate	12.42	149	620712	50.22071	ppb	#	78
83) 3,3'-Dichlorobenzidine	13.03	252	451989	53.92761	ppb		94
84) Benz (a) anthracene	13.05	228	1187024	47.21512	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640	ppb		99
86) Chrysene	13.10	228	1055130	42.79043	ppb		100
87) Di-n-octylphthalate	13.81	149	1488607	49.98751	ppb		97
89) Benzo (b) fluoranthene	14.25	252	1145100	44.79514	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1223330	51.92467	ppb		98
91) Benzo (a) pyrene	14.64	252	1142371	48.92994	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771	ppb		99
93) Dibenz (a,h) anthracene	16.26	278	1059706	47.56225	ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1051918	47.90166	ppb		97

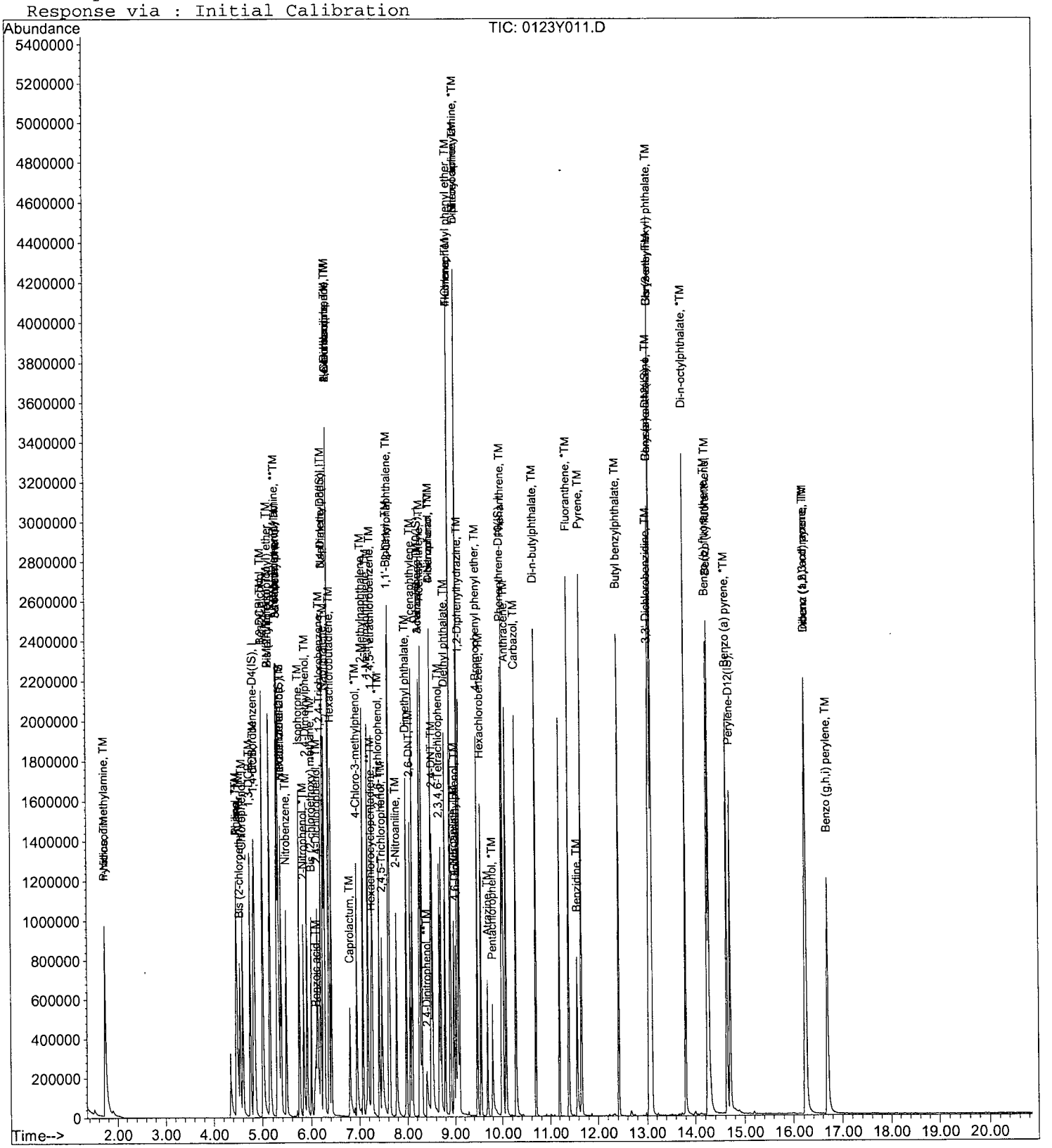
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.136	19	TM	
3	TM	Pyridine	1.902	2.210	16	TM	
4	S	2-Fluorophenol (S)	1.262	1.342	6.3	S	
5	S	Phenol-D6 (S)	1.679	1.674	0.29	S	
6	*TM	Phenol	1.927	2.086	8.3	*TM	
7	TM	Aniline	1.829	1.917	4.8	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9936	5.4	TM	
9	TM	2-Chlorophenol	1.490	1.587	6.5	TM	
10	TM	1,3-DCB	1.572	1.645	4.7	TM	
11	*TM	1,4-DCB	1.615	1.690	4.6	*TM	
12	TM	Benzyl alcohol	0.8487	0.9360	10	TM	
13	TM	1,2-DCB	1.472	1.561	6.0	TM	
14	TM	2-Methylphenol	1.114	1.169	5.0	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.168	4.7	TM	
16	TM	Acetophenone	1.985	2.107	6.2	TM	
17	TM	3&4-Methylphenol	1.446	1.582	9.4	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.198	8.7	**TM	
19	TM	Hexachloroethane	0.6642	0.7001	5.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3966	2.2	S	
22	TM	Nitrobenzene	0.4049	0.4169	2.9	TM	
23	TM	Isophorone	0.6723	0.6920	2.9	TM	
24	*TM	2-Nitrophenol	0.1899	0.2104	11	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3168	3.2	TM	
26	TML	Benzoic acid	0.1823	0.2609	43	TML	12
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4156	6.8	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3038	4.0	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3362	4.1	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4712	1.9	TM	
31	TM	Naphthalene	1.046	1.072	2.5	TM	
32	TM	4-Chloroaniline	0.3674	0.3730	1.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2734	1.1	TM	
34	TM	Hexachloropropene	0.2347	0.2443	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1934	1.0	*TM	
36	TM	Caprolactum	0.1663	0.1825	9.7	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3364	6.2	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7116	4.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6979	4.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			6.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1797	13	**TMQ	5.3
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5508	1.8	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3511	3.4	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3656	1.9	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.188	7.4	S	
46	TM	1,1'-Biphenyl	1.501	1.529	1.9	TM	
47	TM	2-Chloronaphthalene	1.147	1.184	3.2	TM	
48	TM	2-Nitroaniline	0.4089	0.4235	3.6	TM	
49	TM	Dimethyl phthalate	1.375	1.379	0.30	TM	
50	TM	2,6-DNT	0.3070	0.3171	3.3	TM	
51	TM	Acenaphthylene	1.846	1.845	0.09	TM	
52	TM	3-Nitroaniline	0.3357	0.3392	1.0	TM	
53	*TM	Acenaphthene	1.138	1.132	0.59	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1449	10	**TMQ	1.2
55	**TML	4-Nitrophenol	0.2262	0.2392	5.7	**TML	6.8
56	TM	Dibenzofuran	1.607	1.629	1.3	TM	
57	TM	2,4-DNT	0.4280	0.4579	7.0	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3083	5.1	TM	
59	TM	Diethyl phthalate	1.392	1.423	2.2	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5972	4.6	TM	
61	TM	Fluorene	1.301	1.236	5.0	TM	
62	TM	4-Nitroaniline	0.3194	0.3217	0.74	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1756	5.2	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1451	9.8	TML	1.3
66	TM	Diphenyl amine	0.5157	0.5542	7.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5542	7.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8296	7.9	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2128	5.3	TM	
70	TM	Hexachlorobenzene	0.2108	0.2129	0.98	TM	
71	TM	Atrazine	0.1996	0.2113	5.9	TM	
72	*TML	Pentachlorophenol	0.0838	0.0915	9.2	*TML	0.63
73	TM	Phenanthrene	1.091	1.097	0.48	TM	
74	TM	Anthracene	1.138	1.132	0.52	TM	
75	TM	Carbazol	1.008	1.025	1.7	TM	
76	TM	Di-n-butylphthalate	1.273	1.343	5.4	TM	
77	*TM	Fluoranthene	1.185	1.222	3.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4791	3.8	TM	
80	TM	Pyrene	1.283	1.351	5.3	TM	
		Average			4.3		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8269	3.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6484	9.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4397	9.3	TM	
84	TM	Benz (a) anthracene	1.206	1.212	0.43	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8618	3.3	TM	
86	TM	Chrysene	1.183	1.188	0.41	TM	
87	*TM	Di-n-octylphthalate	1.429	1.569	9.8	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.291	3.7	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.218	6.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.182	3.9	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.294	1.5	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.115	2.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.111	3.9	TM	
95							
96							
97							
98							
99							
100							
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111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y137.D
Acq On : 13 Feb 17 12:25
Sample : 50ug/ml SVOC 2/10/17
Misc : water

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 12:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	170752	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	726736	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	429658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	787250	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	770648	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	766965	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	572743	106.33527 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.168%	
5) Phenol-D6 (S)	4.47	99	714551	99.71286 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.857%	
21) Nitrobenzene-D5(S)	5.46	82	360245	48.87860 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.879%	
45) 2-Fluorobiphenyl(S)	7.49	172	637914	46.28117 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.281%	
63) 2,4,6-Tribromophenol(S)	9.19	330	188575	94.82102 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.411%	
81) Terphenyl-D14(S)	11.85	244	796584	48.05708 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.057%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	242418	59.39917 ppb		91
3) Pyridine	1.73	79	471760	58.11126 ppb		99
6) Phenol	4.47	94	445337	54.13945 ppb		87
7) Aniline	4.47	66	409114	52.39262 ppb		81
8) Bis (2-chloroethyl) ether	4.54	63	212080	52.67701 ppb		96
9) 2-Chlorophenol	4.60	128	338742	53.25149 ppb		92
10) 1,3-DCB	4.75	146	351178	52.33276 ppb		97
11) 1,4-DCB	4.84	146	360649	52.30023 ppb		99
12) Benzyl alcohol	5.01	108	199777	55.13964 ppb		86
13) 1,2-DCB	5.00	146	333156	53.00669 ppb		98
14) 2-Methylphenol	5.15	107	249551	52.49330 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	462657	52.37427 ppb	#	78
16) Acetophenone	5.29	105	449657	53.07896 ppb		97
17) 3&4-Methylphenol	5.33	107	675199	109.37287 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	255657	54.36322 ppb		99
19) Hexachloroethane	5.38	117	149436	52.70176 ppb		99
22) Nitrobenzene	5.48	77	378676	51.47375 ppb		99
23) Isophorone	5.76	82	628598	51.46412 ppb		94
24) 2-Nitrophenol	5.84	139	191106	55.38770 ppb		96
25) 2,4-Dimethylphenol	5.90	122	287745	51.58139 ppb		100
26) Benzoic acid	6.10	105	237042	55.81248 ppb		90
27) Bis (2-chloroethoxy) metha	6.00	93	377520	53.38621 ppb		98
28) 2,4-Dichlorophenol	6.13	162	275994	51.99174 ppb		95
29) 1,2,4-Trichlorobenzene	6.19	180	305421	52.07001 ppb		98
30) 3,4-Dimethylphenol	6.25	107	428040	50.96542 ppb		97
31) Naphthalene	6.28	128	973517	51.23600 ppb		99
32) 4-Chloroaniline	6.36	127	338830	50.76551 ppb		98
33) 2,6-Dichlorophenol	6.37	162	248342	50.54953 ppb		97
34) Hexachloropropene	6.37	213	221908	52.04376 ppb		98
35) Hexachlorobutadiene	6.41	225	175691	50.51283 ppb		99
36) Caprolactum	6.80	55	165789	54.87270 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	305575	53.12326 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y137.D
Acq On : 13 Feb 17 12:25
Sample : 50ug/ml SVOC 2/10/17
Misc : water

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 12:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	646446	52.37157 ppb		99
39) 1-Methylnaphthalene	7.18	142	634025	52.14695 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	96528	47.34635 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	295814	50.88115 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	188548	51.68598 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	196336	49.06582 ppb		96
46) 1,1'-Biphenyl	7.60	154	821333	50.95033 ppb		99
47) 2-Chloronaphthalene	7.63	162	635790	51.61630 ppb		98
48) 2-Nitroaniline	7.77	65	227429	51.77965 ppb		89
49) Dimethyl phthalate	7.97	163	740704	50.15018 ppb		100
50) 2,6-DNT	8.06	165	170332	51.65835 ppb		87
51) Acenaphthylene	8.10	152	990735	49.95336 ppb		99
52) 3-Nitroaniline	8.25	138	182176	50.52021 ppb		91
53) Acenaphthene	8.30	154	607700	49.70513 ppb		99
54) 2,4-Dinitrophenol	8.41	184	77800	49.37845 ppb		96
55) 4-Nitrophenol	8.53	65	128446	46.58522 ppb	#	61
56) Dibenzofuran	8.50	168	874662	50.66817 ppb		93
57) 2,4-DNT	8.53	165	245935	53.49321 ppb		82
58) 2,3,4,6-Tetrachlorophenol	8.67	232	165578	52.53526 ppb		92
59) Diethyl phthalate	8.79	149	764051	51.08644 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	320758	47.70663 ppb		95
61) Fluorene	8.90	166	663956	47.51232 ppb		98
62) 4-Nitroaniline	8.98	138	172782	50.36795 ppb		86
65) 4,6-Dinitro-2-methylphenol	9.01	198	142821	50.62844 ppb		88
66) Diphenyl amine	9.05	169	1090667	107.45334 ppb		99
67) n-Nitrosodiphenylamine	9.05	169	1090667	107.45334 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	816357	46.06916 ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	209370	52.63667 ppb		98
70) Hexachlorobenzene	9.54	284	209507	50.49225 ppb		91
71) Atrazine	9.68	200	103982	26.46502 ppb		99
72) Pentachlorophenol	9.79	266	90068	49.68685 ppb		96
73) Phenanthrene	10.02	178	1079146	50.24034 ppb		99
74) Anthracene	10.07	178	1114443	49.74245 ppb		100
75) Carbazol	10.28	167	1008765	50.86039 ppb		98
76) Di-n-butylphthalate	10.69	149	1321400	52.72262 ppb		100
77) Fluoranthene	11.40	202	1202486	51.56821 ppb		97
79) Benzidine	11.57	184	461507	48.10600 ppb		96
80) Pyrene	11.66	202	1301537	52.66532 ppb		99
82) Butyl benzylphthalate	12.42	149	624652	54.66608 ppb		91
83) 3,3'-Dichlorobenzidine	13.03	252	423573	54.66365 ppb	#	95
84) Benz (a) anthracene	13.05	228	1167140	50.21479 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	830217	51.65700 ppb		97
86) Chrysene	13.10	228	1144514	50.20522 ppb		99
87) Di-n-octylphthalate	13.80	149	1511052	54.88427 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1237521	51.83183 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1168057	53.08241 ppb		98
91) Benzo (a) pyrene	14.63	252	1133297	51.97179 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	1241035	50.76693 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1069179	51.37880 ppb		100
94) Benzo (g,h,i) perylene	16.68	276	1065224	51.93571 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

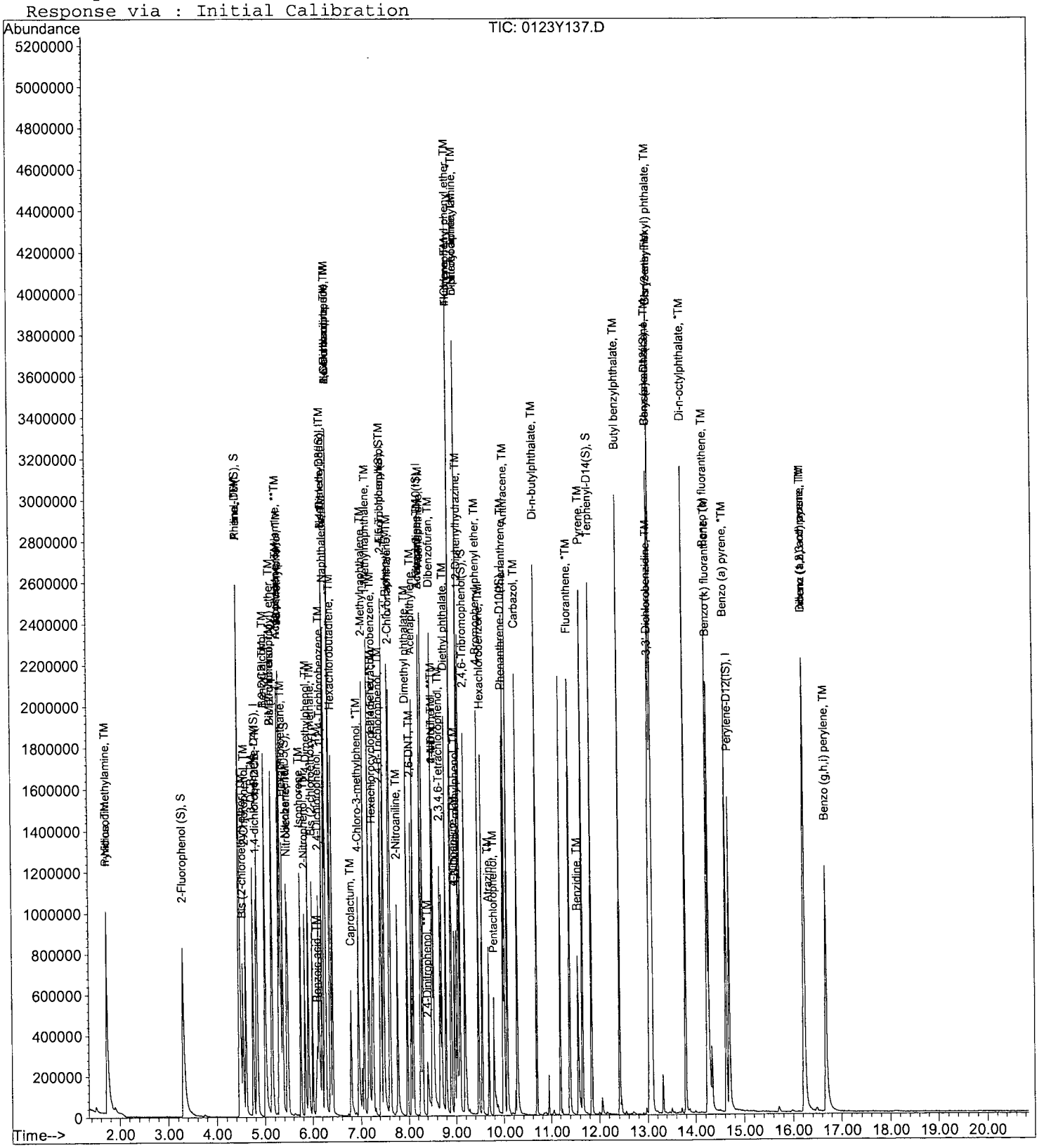
Data File : M:\YODA\DATA\Y170123\0123Y137.D
Acq On : 13 Feb 17 12:25
Sample : 50ug/ml SVOC 2/10/17
Misc : water

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 12:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.230	29	TM	
3	TM	Pyridine	1.902	2.232	17	TM	
4	S	2-Fluorophenol (S)	1.262	1.351	7.1	S	
5	S	Phenol-D6 (S)	1.679	1.581	5.8	S	
6	*TM	Phenol	1.927	2.013	4.5	*TM	
7	TM	Aniline	1.829	1.935	5.8	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	1.027	8.9	TM	
9	TM	2-Chlorophenol	1.490	1.577	5.8	TM	
10	TM	1,3-DCB	1.572	1.589	1.1	TM	
11	*TM	1,4-DCB	1.615	1.616	0.03	*TM	
12	TM	Benzyl alcohol	0.8487	0.9155	7.9	TM	
13	TM	1,2-DCB	1.472	1.452	1.4	TM	
14	TM	2-Methylphenol	1.114	1.158	4.0	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.103	1.6	TM	
16	TM	Acetophenone	1.985	2.088	5.2	TM	
17	TM	3&4-Methylphenol	1.446	1.486	2.7	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.188	7.9	**TM	
19	TM	Hexachloroethane	0.6642	0.6926	4.3	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.4434	9.3	S	
22	TM	Nitrobenzene	0.4049	0.4584	13	TM	
23	TM	Isophorone	0.6723	0.7770	16	TM	
24	*TM	2-Nitrophenol	0.1899	0.2287	20	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3417	11	TM	
26	TML	Benzoic acid	0.1823	0.2533	39	TML	8.7
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4397	13	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3326	14	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3507	8.6	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4753	2.8	TM	
31	TM	Naphthalene	1.046	1.108	5.9	TM	
32	TM	4-Chloroaniline	0.3674	0.3753	2.2	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2695	0.34	TM	
34	TM	Hexachloropropene	0.2347	0.2634	12	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.2068	8.0	*TM	
36	TM	Caprolactum	0.1663	0.2050	23	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3619	14	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7338	8.0	TM	
39	TM	1-Methylnaphthalene	0.6692	0.7069	5.6	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			9.3		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2329	46	**TMQ	14
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5451	0.71	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3630	6.9	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3833	2.9	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.182	7.9	S	
46	TM	1,1'-Biphenyl	1.501	1.507	0.45	TM	
47	TM	2-Chloronaphthalene	1.147	1.182	3.1	TM	
48	TM	2-Nitroaniline	0.4089	0.4525	11	TM	
49	TM	Dimethyl phthalate	1.375	1.432	4.1	TM	
50	TM	2,6-DNT	0.3070	0.3328	8.4	TM	
51	TM	Acenaphthylene	1.846	1.881	1.9	TM	
52	TM	3-Nitroaniline	0.3357	0.3409	1.5	TM	
53	*TM	Acenaphthene	1.138	1.150	1.0	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1709	30	**TMQ	12
55	**TML	4-Nitrophenol	0.2262	0.2804	24	**TML	6.7
56	TM	Dibenzofuran	1.607	1.587	1.3	TM	
57	TM	2,4-DNT	0.4280	0.4716	10	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3152	7.4	TM	
59	TM	Diethyl phthalate	1.392	1.409	1.2	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6463	3.3	TM	
61	TM	Fluorene	1.301	1.320	1.5	TM	
62	TM	4-Nitroaniline	0.3194	0.3556	11	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1830	1.2	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1494	13	TML	3.9
66	TM	Diphenyl amine	0.5157	0.4753	7.8	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.4753	7.8	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	1.011	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.1976	2.2	TM	
70	TM	Hexachlorobenzene	0.2108	0.2088	0.98	TM	
71	TM	Atrazine	0.1996	0.1966	1.5	TM	
72	*TML	Pentachlorophenol	0.0838	0.0883	5.4	*TML	3.6
73	TM	Phenanthrene	1.091	1.042	4.5	TM	
74	TM	Anthracene	1.138	1.082	4.9	TM	
75	TM	Carbazol	1.008	0.9811	2.6	TM	
76	TM	Di-n-butylphthalate	1.273	1.271	0.16	TM	
77	*TM	Fluoranthene	1.185	1.171	1.2	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4783	4.0	TM	
80	TM	Pyrene	1.283	1.363	6.3	TM	
		Average			6.9		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8824	2.6	S	
82	TM	Butyl benzylphthalate	0.5931	0.6553	10	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4332	7.7	TM	
84	TM	Benz (a) anthracene	1.206	1.211	0.38	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8642	3.6	TM	
86	TM	Chrysene	1.183	1.217	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.495	4.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.735	39	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.598	39	TM	
91	*TM	Benzo (a) pyrene	1.137	1.544	36	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.740	36	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.487	37	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.482	39	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.8		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y158.D Vial: 58
Acq On : 13 Feb 17 23:26 Operator: MA
Sample : 50ug/ml SVOC 2/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 9:00 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	295621	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	1179492	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	724686	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	1413969	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	1254621	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	845440	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	998374	107.06347 ppb	-0.01
Spiked Amount 200.000			Recovery	= 53.532%	
5) Phenol-D6 (S)	4.47	99	1168341	94.17119 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.086%	
21) Nitrobenzene-D5(S)	5.46	82	653716	54.65018 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.650%	
45) 2-Fluorobiphenyl(S)	7.50	172	1071011	46.06904 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.069%	
63) 2,4,6-Tribromophenol(S)	9.20	330	331466	98.81720 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.409%	
81) Terphenyl-D14(S)	11.85	244	1383831	51.28051 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.281%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.71	42	454371	64.30676 ppb		79
3) Pyridine	1.72	79	824738	58.67941 ppb		93
6) Phenol	4.49	94	743972	52.24109 ppb		83
7) Aniline	4.48	66	715106	52.89647 ppb	#	65
8) Bis (2-chloroethyl) ether	4.55	63	379451	54.43869 ppb		99
9) 2-Chlorophenol	4.60	128	582590	52.90007 ppb		99
10) 1,3-DCB	4.76	146	587260	50.54839 ppb		99
11) 1,4-DCB	4.84	146	597079	50.01280 ppb		97
12) Benzyl alcohol	5.02	108	338304	53.93319 ppb		94
13) 1,2-DCB	5.01	146	536712	49.32361 ppb		98
14) 2-Methylphenol	5.16	107	427872	51.98630 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	777043	50.80827 ppb	#	61
16) Acetophenone	5.31	105	771423	52.59739 ppb		96
17) 3&4-Methylphenol	5.33	107	1097939	102.72746 ppb		98
18) n-Nitrosodi-n-propylamine	5.32	70	439106	53.93211 ppb		97
19) Hexachloroethane	5.38	117	255926	52.13325 ppb		97
22) Nitrobenzene	5.49	77	675898	56.60840 ppb		91
23) Isophorone	5.76	82	1145644	57.79136 ppb		99
24) 2-Nitrophenol	5.84	139	337148	60.20620 ppb		99
25) 2,4-Dimethylphenol	5.92	122	503798	55.64465 ppb		98
26) Benzoic acid	6.14	105	373388	54.34667 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	648262	56.48347 ppb		99
28) 2,4-Dichlorophenol	6.13	162	490440	56.92490 ppb		94
29) 1,2,4-Trichlorobenzene	6.20	180	517130	54.32130 ppb		100
30) 3,4-Dimethylphenol	6.25	107	700745	51.40826 ppb		95
31) Naphthalene	6.28	128	1633267	52.96275 ppb		99
32) 4-Chloroaniline	6.37	127	553303	51.07773 ppb		97
33) 2,6-Dichlorophenol	6.37	162	397319	49.82967 ppb		98
34) Hexachloropropene	6.37	213	388344	56.11694 ppb		96
35) Hexachlorobutadiene	6.42	225	304912	54.01425 ppb		99
36) Caprolactum	6.83	55	302249	61.63780 ppb		95
37) 4-Chloro-3-methylphenol	6.96	107	533628	57.15934 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y158.D
Acq On : 13 Feb 17 23:26
Sample : 50ug/ml SVOC 2/09/17
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 9:00 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1081881	54.00382 ppb		98
39) 1-Methylnaphthalene	7.18	142	1042156	52.81252 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	210930	56.81794 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	493789	50.35616 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	328848	53.44647 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	347227	51.44766 ppb		94
46) 1,1'-Biphenyl	7.62	154	1365553	50.22377 ppb		97
47) 2-Chloronaphthalene	7.64	162	1070474	51.52551 ppb		97
48) 2-Nitroaniline	7.78	65	409910	55.33180 ppb		88
49) Dimethyl phthalate	7.99	163	1297037	52.06588 ppb		99
50) 2,6-DNT	8.06	165	301478	54.20919 ppb	#	67
51) Acenaphthylene	8.11	152	1703879	50.93531 ppb		99
52) 3-Nitroaniline	8.26	138	308811	50.77381 ppb		82
53) Acenaphthene	8.31	154	1041606	50.51130 ppb		99
54) 2,4-Dinitrophenol	8.41	184	154845	55.91643 ppb		97
55) 4-Nitrophenol	8.52	65	254024	53.36639 ppb		89
56) Dibenzofuran	8.51	168	1437536	49.37268 ppb		97
57) 2,4-DNT	8.55	165	427244	55.09692 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.68	232	285542	53.71447 ppb		91
59) Diethyl phthalate	8.81	149	1276101	50.58729 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	585449	51.62539 ppb		89
61) Fluorene	8.91	166	1195766	50.73249 ppb		97
62) 4-Nitroaniline	8.99	138	322097	55.66926 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	264128	51.93988 ppb		95
66) Diphenyl amine	9.07	169	1680043	92.15543 ppb		100
67) n-Nitrosodiphenylamine	9.07	169	1680043	92.15543 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	1787170	56.15246 ppb		93
69) 4-Bromophenyl phenyl ether	9.47	248	349236	48.88389 ppb		94
70) Hexachlorobenzene	9.55	284	368989	49.51222 ppb		87
71) Atrazine	9.70	200	173737	24.61949 ppb		97
72) Pentachlorophenol	9.80	266	156125	48.21532 ppb		98
73) Phenanthrene	10.02	178	1841230	47.72580 ppb		99
74) Anthracene	10.08	178	1912664	47.53142 ppb		99
75) Carbazol	10.28	167	1734133	48.67936 ppb		95
76) Di-n-butylphthalate	10.69	149	2247195	49.92019 ppb		99
77) Fluoranthene	11.41	202	2070006	49.42497 ppb	#	95
79) Benzidine	11.57	184	750066	48.02462 ppb		99
80) Pyrene	11.67	202	2137553	53.12863 ppb		99
82) Butyl benzylphthalate	12.43	149	1027756	55.24758 ppb		90
83) 3,3'-Dichlorobenzidine	13.04	252	679365	53.85388 ppb	#	95
84) Benz (a) anthracene	13.06	228	1899113	50.18836 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	1355252	51.79659 ppb		98
86) Chrysene	13.10	228	1908667	51.42821 ppb		99
87) Di-n-octylphthalate	13.80	149	2344468	52.30658 ppb		99
89) Benzo (b) fluoranthene	14.25	252	1833685	69.67251 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1688405	69.60749 ppb		97
91) Benzo (a) pyrene	14.64	252	1632150	67.90109 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1838702	68.23402 ppb		100
93) Dibenz (a,h) anthracene	16.26	278	1571661	68.51492 ppb		97
94) Benzo (g,h,i) perylene	16.70	276	1565806	69.25575 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

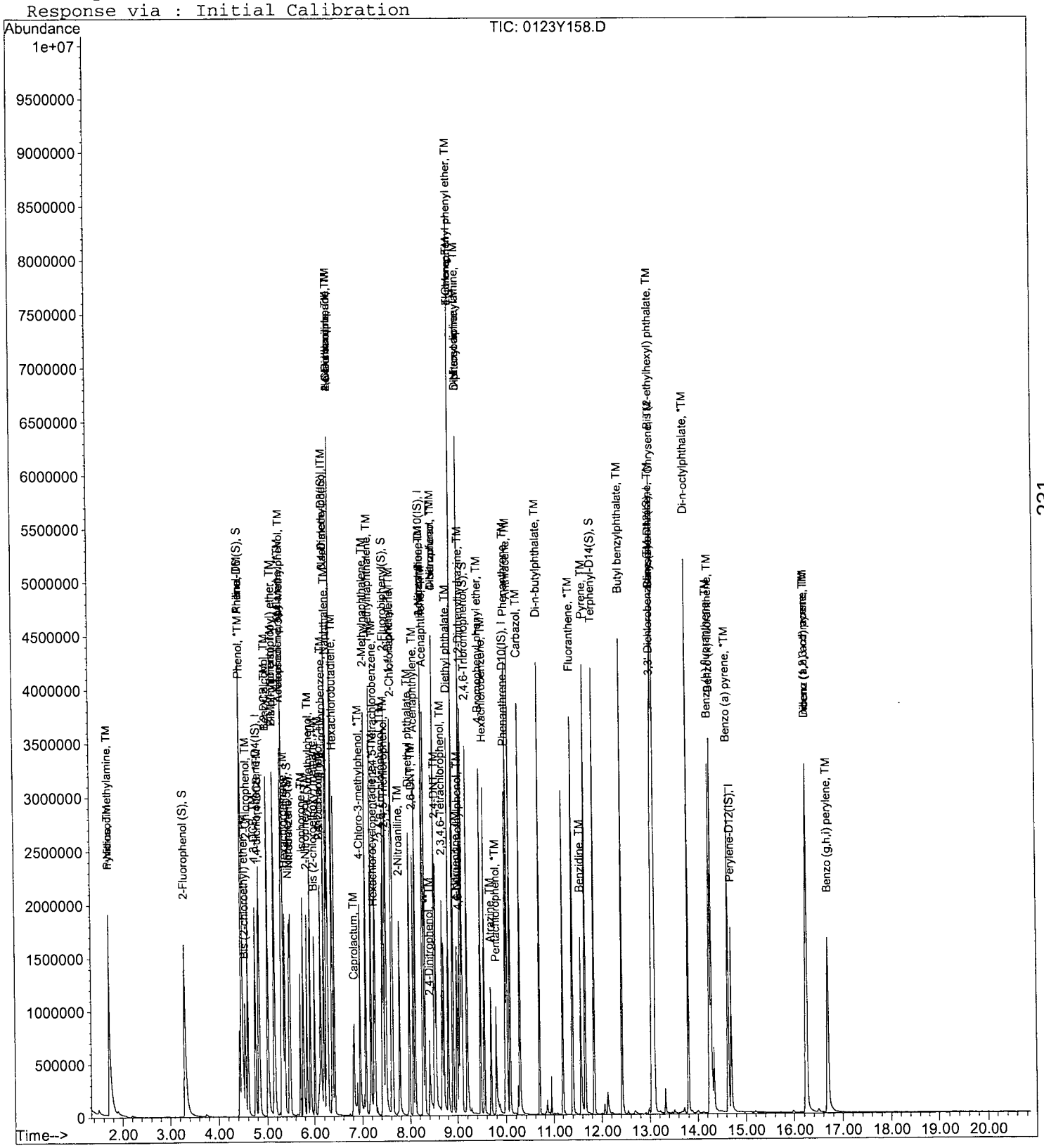
Data File : M:\YODA\DATA\Y170123\0123Y158.D
Acq On : 13 Feb 17 23:26
Sample : 50ug/ml SVOC 2/09/17
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 9:00 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216150**
Batch ID: #87DC5-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.7	43-140			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	52.8	44-119			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUOROPHENO	41.9	19-119			%	02/09/17	02/13/17
BLANK	SURROGATE: NITROBENZENE-	54.1	44-120			%	02/09/17	02/13/17
BLANK	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	02/09/17	02/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	68.9	50-134			%	02/09/17	02/13/17

Quant Method:Y0123.M
Run #:0123Y138
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 12:29:44 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y138.D Vial: 38
Acq On : 13 Feb 17 13:25 Operator: MA
Sample : 170209A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 13 13:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	151858	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	629755	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	360186	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	652756	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	651309	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	559680	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	401257	83.76610 ppb	0.00
Spiked Amount 200.000			Recovery	= 41.883%	
5) Phenol-D6 (S)	4.47	99	370548	58.14208 ppb	0.01
Spiked Amount 200.000			Recovery	= 29.071%	
21) Nitrobenzene-D5(S)	5.46	82	345779	54.14078 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.141%	
45) 2-Fluorobiphenyl(S)	7.49	172	609800	52.77469 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.775%	
63) 2,4,6-Tribromophenol(S)	9.19	330	225603	135.31984 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.660%	
81) Terphenyl-D14(S)	11.84	244	964711	68.86396 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.864%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

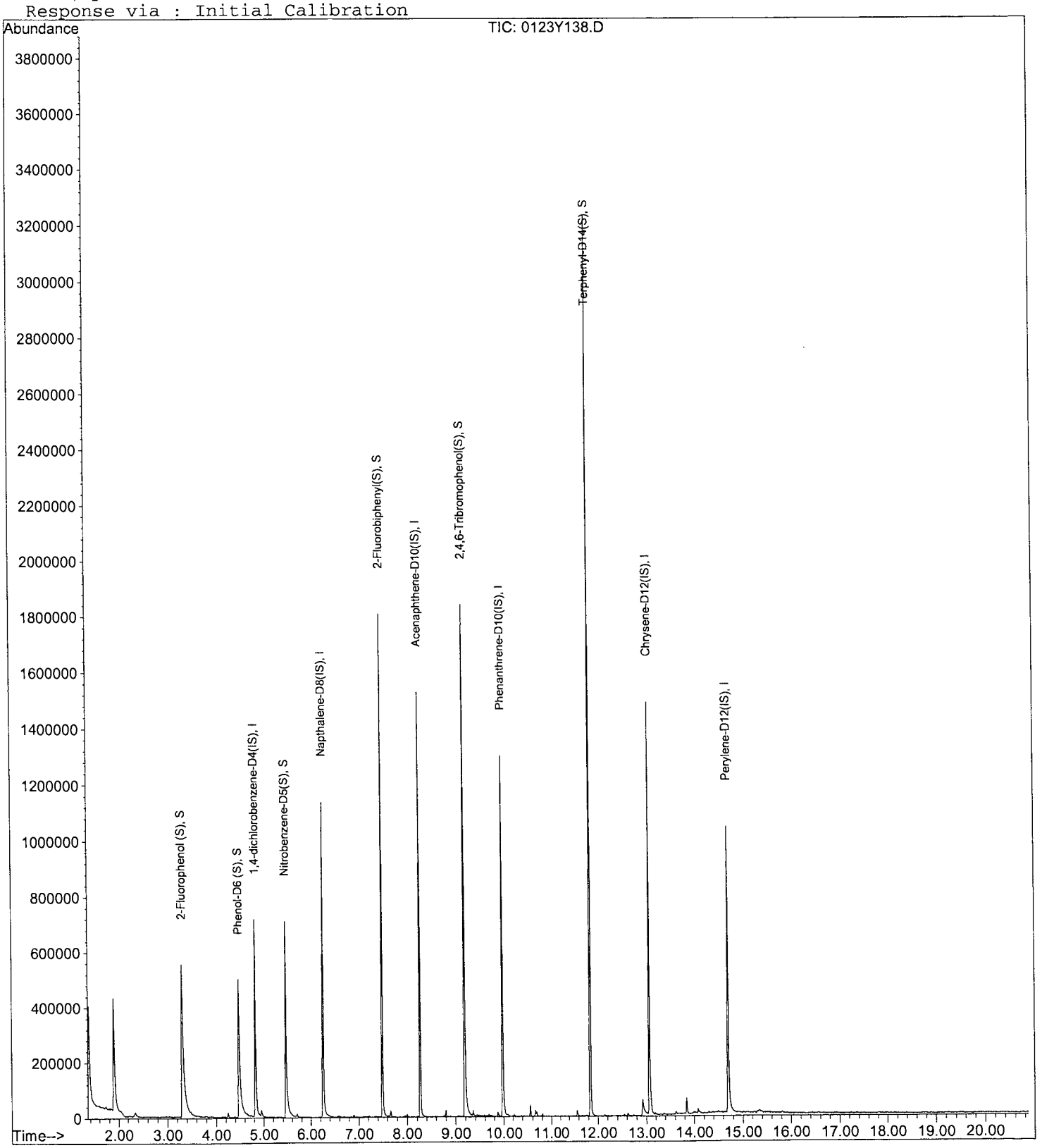
Data File : M:\YODA\DATA\Y170123\0123Y138.D
Acq On : 13 Feb 17 13:25
Sample : 170209A BLK 1/1000
Misc : water

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 13:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170209W-49674 LCS - 216150**
Batch ID: #87DC5-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.3	36.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	130	65.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	57.1	57.1	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	99.1	49.5	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	59.9	59.9	44-120
SURROGATE: PHENOL-D6 (S)	200	62.8	31.4	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.3	65.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Yoda
Run :	0123Y139
Initials :	MA

Printed: 02/14/17 12:29:45 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y139.D
Acq On : 13 Feb 17 13:56
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 16:59 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	167743	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	753058	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	441218	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	817558	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	799914	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	789605	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	524387	99.10392 ppb	-0.02
Spiked Amount 200.000			Recovery = 49.552%		
5) Phenol-D6 (S)	4.47	99	441794	62.75656 ppb	0.00
Spiked Amount 200.000			Recovery = 31.379%		
21) Nitrobenzene-D5(S)	5.46	82	457272	59.87474 ppb	0.00
Spiked Amount 100.000			Recovery = 59.875%		
45) 2-Fluorobiphenyl(S)	7.49	172	808536	57.12303 ppb	0.00
Spiked Amount 100.000			Recovery = 57.123%		
63) 2,4,6-Tribromophenol(S)	9.19	330	264982	129.74976 ppb	0.00
Spiked Amount 200.000			Recovery = 64.875%		
81) Terphenyl-D14(S)	11.85	244	1124026	65.33034 ppb	0.00
Spiked Amount 100.000			Recovery = 65.330%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	109864	27.40263 ppb		82
3) Pyridine	1.75	79	86752	10.87778 ppb		89
6) Phenol	4.48	94	147625	18.26865 ppb		82
7) Aniline	4.47	66	181291	23.63325 ppb	#	60
8) Bis (2-chloroethyl) ether	4.54	63	130537	33.00475 ppb		97
9) 2-Chlorophenol	4.60	128	224581	35.93827 ppb		94
10) 1,3-DCB	4.75	146	144437	21.91019 ppb		99
11) 1,4-DCB	4.85	146	158625	23.41595 ppb		96
12) Benzyl alcohol	5.01	108	124224	34.90160 ppb		90
13) 1,2-DCB	5.01	146	155941	25.25601 ppb		97
14) 2-Methylphenol	5.15	107	158733	33.98859 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	295739	34.07916 ppb	#	71
16) Acetophenone	5.29	105	294972	35.44404 ppb		97
17) 3&4-Methylphenol	5.33	107	414417	68.33399 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	170519	36.90980 ppb		97
19) Hexachloroethane	5.38	117	48279	17.33203 ppb		97
22) Nitrobenzene	5.49	77	242704	31.83781 ppb		94
23) Isophorone	5.75	82	439392	34.71618 ppb		99
24) 2-Nitrophenol	5.84	139	124484	34.81775 ppb		93
25) 2,4-Dimethylphenol	5.91	122	186810	32.31720 ppb		94
26) Benzoic acid	6.07	105	64539	19.12103 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	250048	34.12407 ppb		99
28) 2,4-Dichlorophenol	6.14	162	189720	34.49023 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	142104	23.37993 ppb		92
30) 3,4-Dimethylphenol	6.25	107	296903	34.11568 ppb		97
31) Naphthalene	6.28	128	583892	29.65599 ppb		99
32) 4-Chloroaniline	6.36	127	291547	42.15448 ppb		98
33) 2,6-Dichlorophenol	6.37	162	180252	35.40751 ppb		96
34) Hexachloropropene	6.38	213	69610	15.75490 ppb		97
35) Hexachlorobutadiene	6.41	225	60383	16.75387 ppb		98
36) Caprolactum	6.78	55	37206	11.88398 ppb		93
37) 4-Chloro-3-methylphenol	6.94	107	223696	37.52955 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y139.D
Acq On : 13 Feb 17 13:56
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 16:59 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	387588	30.30274 ppb		99
39) 1-Methylnaphthalene	7.19	142	389795	30.93905 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	17088	14.85771 ppb	#	89
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	171217	28.67839 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	133687	35.68697 ppb		100
44) 2,4,5-Trichlorophenol	7.48	196	147484	35.89167 ppb		91
46) 1,1'-Biphenyl	7.61	154	540948	32.67781 ppb		96
47) 2-Chloronaphthalene	7.63	162	403850	31.92735 ppb		99
48) 2-Nitroaniline	7.77	65	167623	37.16349 ppb		86
49) Dimethyl phthalate	7.97	163	563553	37.15628 ppb		99
50) 2,6-DNT	8.06	165	123077	36.34886 ppb		90
51) Acenaphthylene	8.10	152	658393	32.32675 ppb		99
52) 3-Nitroaniline	8.25	138	139131	37.57228 ppb		92
53) Acenaphthene	8.30	154	412760	32.87602 ppb		98
54) 2,4-Dinitrophenol	8.41	184	49703	34.89945 ppb		98
55) 4-Nitrophenol	8.50	65	4540	8.63571 ppb		72
56) Dibenzofuran	8.50	168	616028	34.75082 ppb		93
57) 2,4-DNT	8.53	165	174759	37.01584 ppb		84
58) 2,3,4,6-Tetrachlorophenol	8.67	232	117064	36.16940 ppb		94
59) Diethyl phthalate	8.79	149	569850	37.10339 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	235699	34.13726 ppb		97
61) Fluorene	8.90	166	493390	34.38167 ppb		97
62) 4-Nitroaniline	8.97	138	139366	39.56237 ppb		87
65) 4,6-Dinitro-2-methylphenol	9.01	198	99242	35.99939 ppb		86
66) Diphenyl amine	9.05	169	795544	75.47204 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	795544	75.47204 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	600936	32.65521 ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	151310	36.62990 ppb		95
70) Hexachlorobenzene	9.54	284	156129	36.23296 ppb		89
71) Atrazine	9.68	200	80042	19.61670 ppb		96
72) Pentachlorophenol	9.79	266	62144	35.53394 ppb		95
73) Phenanthrene	10.02	178	793848	35.58802 ppb		99
74) Anthracene	10.07	178	830400	35.69034 ppb		100
75) Carbazol	10.28	167	751767	36.49783 ppb		97
76) Di-n-butylphthalate	10.69	149	1017061	39.07543 ppb		100
77) Fluoranthene	11.40	202	887753	36.65964 ppb		96
79) Benzidine	11.58	184	126428	12.69630 ppb		98
80) Pyrene	11.66	202	945043	36.84109 ppb		99
82) Butyl benzylphthalate	12.42	149	462195	38.96887 ppb		95
83) 3,3'-Dichlorobenzidine	13.03	252	333757	41.49669 ppb	#	97
84) Benz (a) anthracene	13.05	228	876343	36.32416 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	620329	37.18540 ppb		99
86) Chrysene	13.09	228	858930	36.29930 ppb		98
87) Di-n-octylphthalate	13.80	149	1113300	38.95772 ppb		99
89) Benzo (b) fluoranthene	14.24	252	903299	36.74863 ppb		98
90) Benzo (k) fluoranthene	14.28	252	878775	38.79091 ppb		98
91) Benzo (a) pyrene	14.63	252	834106	37.15445 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	909711	36.14648 ppb		100
93) Dibenz (a,h) anthracene	16.25	278	786250	36.69947 ppb		100
94) Benzo (g,h,i) perylene	16.68	276	765759	36.26460 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

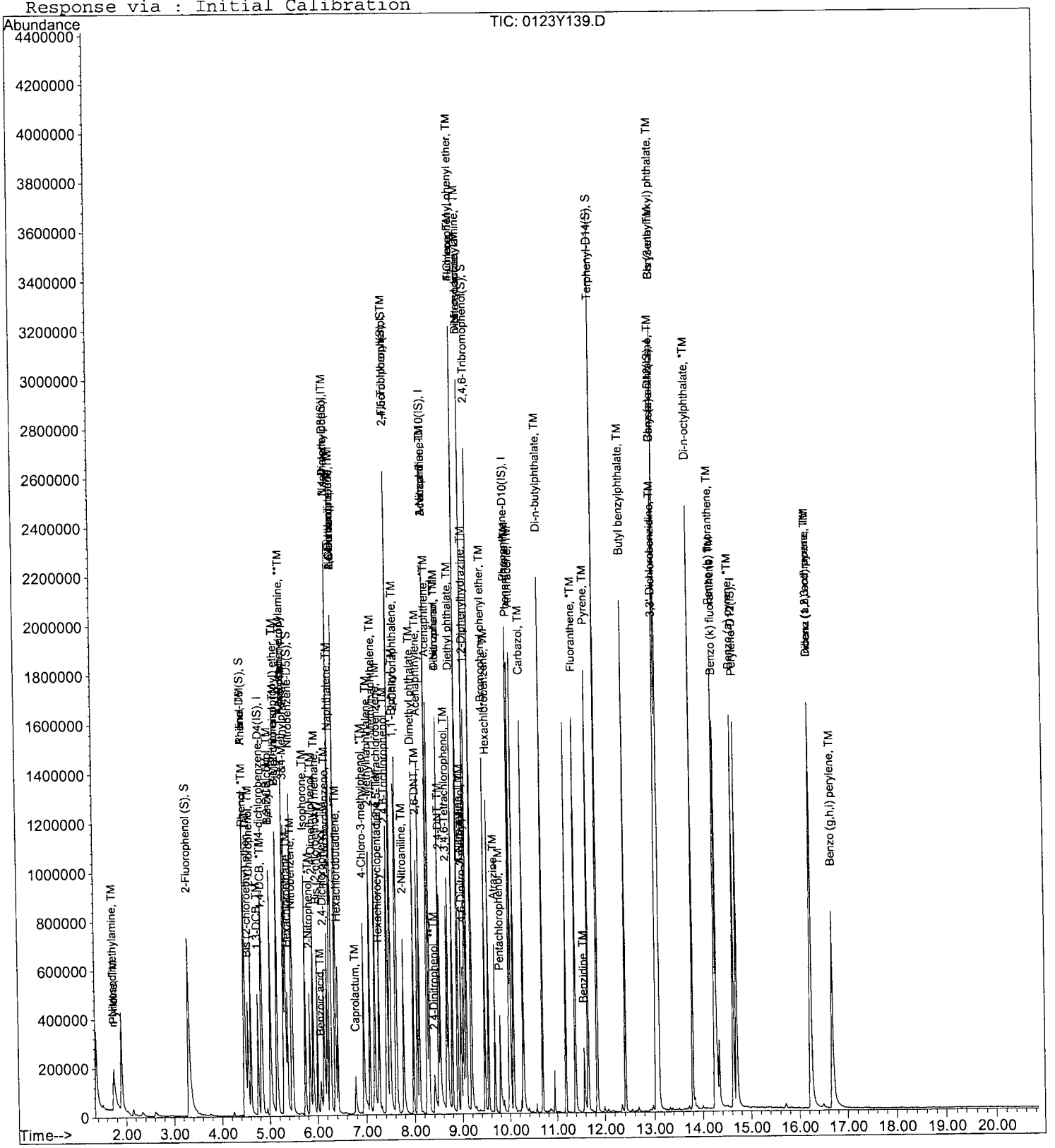
Data File : M:\YODA\DATA\Y170123\0123Y139.D
Acq On : 13 Feb 17 13:56
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 16:59 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration

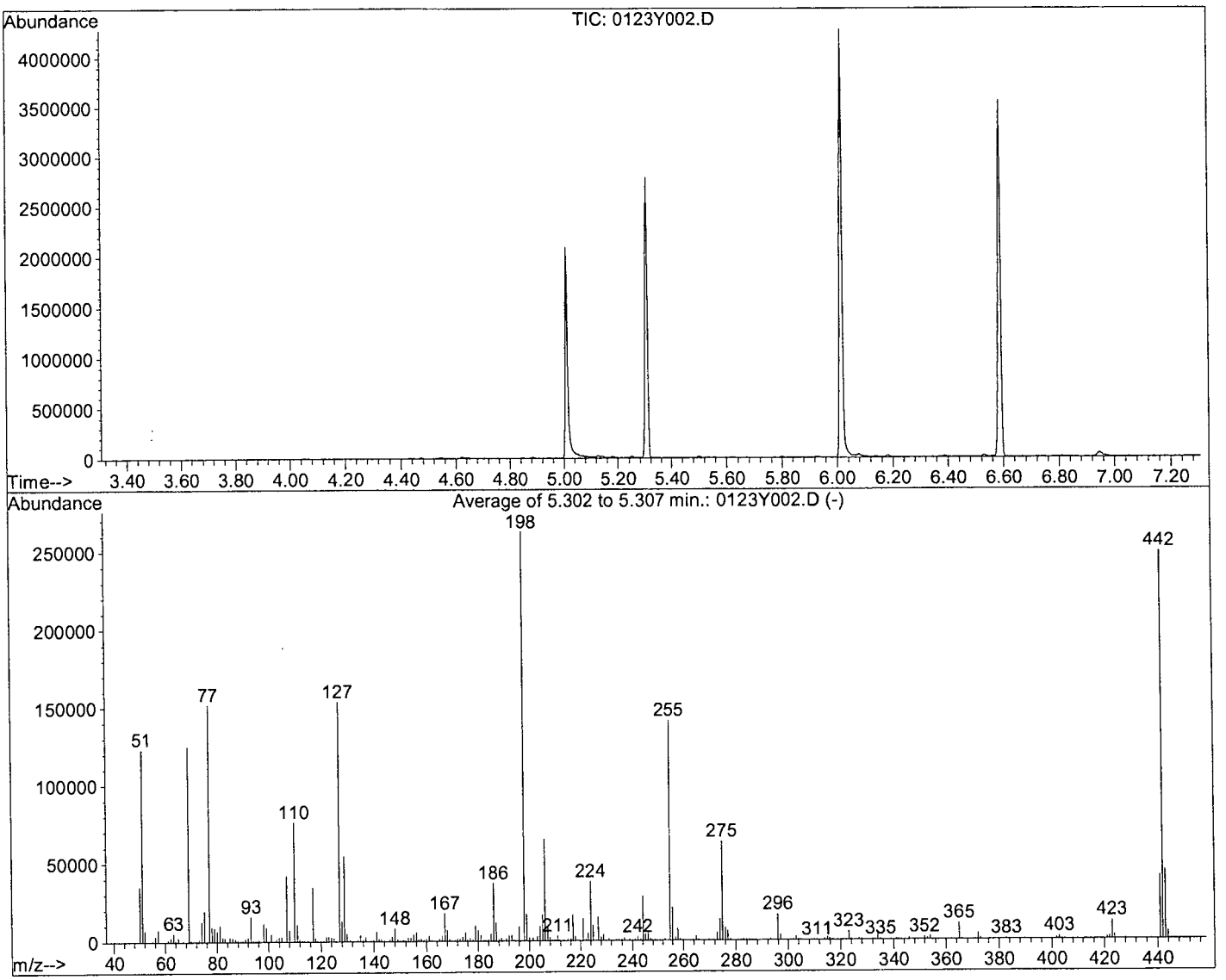


DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

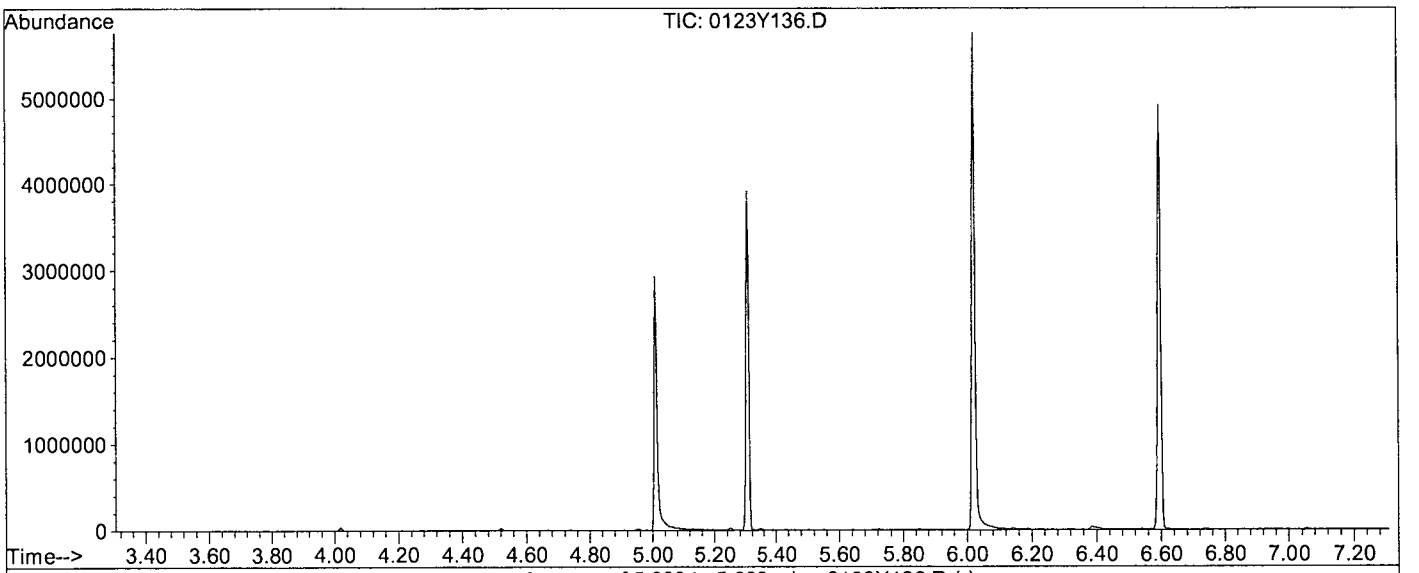
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

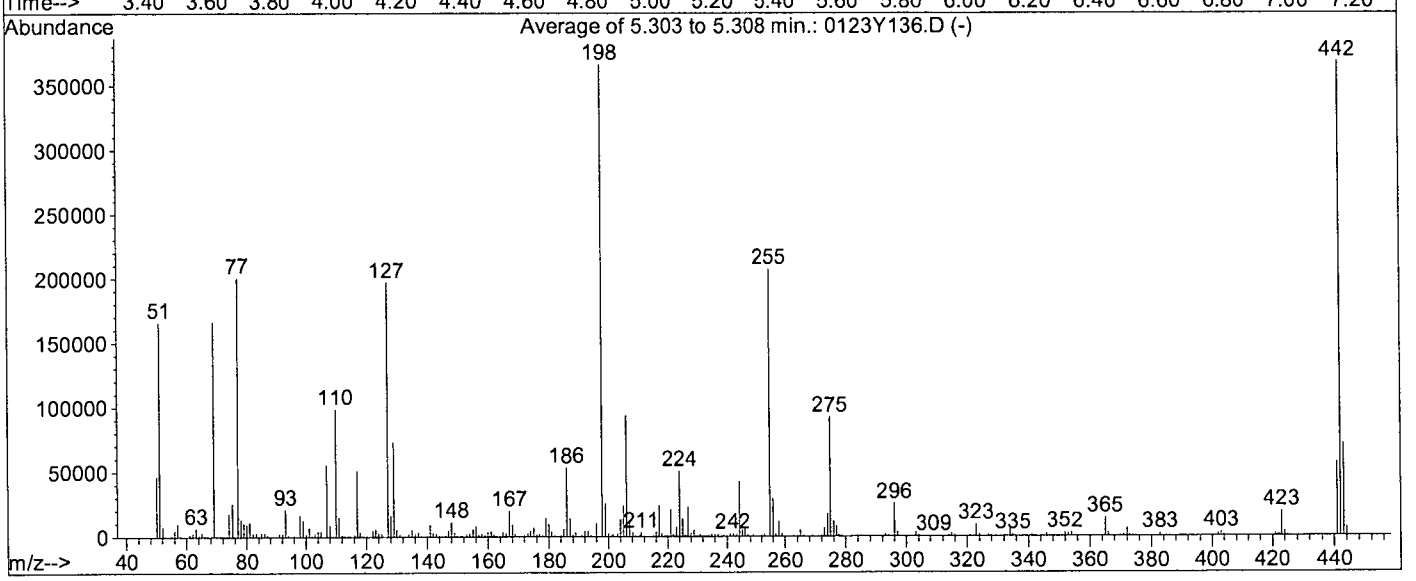
0123Y002.D Y0123.M Tue Jan 24 10:34:11 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y136.D Vial: 36
Acq On : 13 Feb 17 12:09 Operator: MA
Sample : SV Tune 12/15/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\DIX0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 687, 688, 689; Background Corrected with Scan 679

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.3	166016	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	642	PASS
127	198	40	60	53.8	197077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	366336	PASS
199	198	5	9	6.9	25405	PASS
275	198	10	30	25.1	91963	PASS
365	198	1	100	3.9	14157	PASS
441	443	0.01	100	79.9	56568	PASS
442	198	50	150	100.5	368299	PASS
443	442	17	23	19.2	70757	PASS

0123Y136.D DIX0123.M Mon Feb 13 12:19:35 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	12/08/16 RH					
Exp:	12/08/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-36838	12/08/16	12/08/17	1000
Absolute	10002	2000	062216-37257	12/08/16	12/08/17	1000
Absolute	10004	2000	012516-37148	12/08/16	12/08/17	1000
Absolute	10005	2000	110314-37138	12/08/16	12/08/17	1000
Absolute	10006	2000	081216-37078	12/08/16	12/08/17	1000
Absolute	10007	2000	020515-37140	12/08/16	12/08/17	1000
Absolute	10018	2000	090216-37152	12/08/16	12/08/17	1000
Absolute	70023	1000	042716-37304	12/08/16	12/08/17	1000
Absolute	82705	2000	012516-37142	12/08/16	12/08/17	1000
Absolute	94552	2000	042016-37259	12/08/16	12/08/17	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RI					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Full Scan Second Source Stock						
	7/8/16 GA					
8270 Second Source Stock						
Exp:	07/08/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	234696-35233	07/08/16	07/08/17	1000
o2si	110391-01	2000	252133-35880	07/08/16	07/08/17	1000
o2si	010337-01	1000	259144-35881	07/08/16	07/08/17	1000
o2si	110396-01	2000	252136-35882	07/08/16	07/08/17	1000
o2si	110397-01	2000	263077-35835	07/08/16	01/08/17	1000
o2si	110393-01	2000	252141-35248	07/08/16	07/08/17	1000
o2si	110394-01	2000	252143-35884	07/08/16	07/08/17	1000
o2si	**110395-01**	2000	252146-35885	07/08/16	07/08/17	1000
o2si	110392-01	2000	243259-35886	07/08/16	07/08/17	1000
Absolute	10006	2000	091115-35856	07/08/16	07/08/17	1000
				Final Vol.		10000

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	01/19/2018					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37137	01/19/17	01/19/18	1000
Absolute	10002	2000	062216-37146	01/19/17	01/19/18	1000
Absolute	10004	2000	012516-37149	01/19/17	01/19/18	1000
Absolute	10005	2000	110314-37139	01/19/17	01/19/18	1000
Absolute	10006	2000	081216-37077	01/19/17	01/19/18	1000
Absolute	10007	2000	020515-37141	01/19/17	01/19/18	1000
Absolute	10018	2000	090216-37153	01/19/17	01/19/18	1000
Absolute	70023	1000	083121-37151	01/19/17	01/19/18	1000
Absolute	82705	2000	012516-37143	01/19/17	01/19/18	1000
Absolute	94552	2000	042016-36864	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170209A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 1-19-17 exp 1-18-18		Surrogate ID 1	8270 Surrogate 1-12-17 exp 7-12-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/09/17 10:40
Spiked ID 8			Ext. End Time:	02/10/17 14:30
			GC Requires Extract By:	02/14/17 0:00

pH1	2	2/09/17 11:10:00 AM	Water Bath Temp Criteria	70,70 °C
pH2	14	02/09/17 1:00:00 PM		
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				1	1 equip	1000 e-wb7	1	2/1	02/09/17 10:40	
2	170209A LCS-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	02/09/17 10:40	
3	AZ49656	AZ49656W12			1	1 equip	1050 E-WB7	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W05			1	1 equip	1000 E-WB7	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W08			1	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W28	0.250	1	1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W30	0.250	1	1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W24			1	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W09			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W13			1	1 equip	1050 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W11			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W05			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W16			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W08			1	1 equip	1000 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK

Ky 2/10/17

Solvent and Lot#	
MC	56153
1+1 Sulfuric Acid	12-5-16
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-5-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	8:00
Refrigerator	Hubard

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,DL
Extraction	JR,DL
Concentration	KY

Modified	02/10/17 2:38:45 PM

Reviewed By: Ky 252 **Date** 2/10/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	36	0123Y136.D	1	SV Tune 12/15/16	water	13 Feb 17 12:09
12	37	0123Y137.D	1	50ug/ml SVOC 2/10/17	water	13 Feb 17 12:25
13	38	0123Y138.D	1	170209A BLK 1/1000	water	13 Feb 17 13:25
14	39	0123Y139.D	1	170209A LCS-1 1/1000	water	13 Feb 17 13:56
15	40	0123Y140.D	0.952381	AZ49656W12 1/1050	water	13 Feb 17 14:26
16	41	0123Y141.D	1	AZ49657W05 1/1000	water	13 Feb 17 14:56
17	42	0123Y142.D	0.934579	AZ49658W08 1/1070	water	13 Feb 17 15:26
18	58	0123Y158.D	1	50ug/ml SVOC 2/09/17	water	13 Feb 17 23:26

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.
Run #: 1220Y094
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 3:49:57 PM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Printed: 02/14/17 3:50:11 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82117
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 1105

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	1220Y094	02/14/17 1105
170209A-LCS	Lab Control Spike	1220Y095	02/14/17 1135
AZ49656	ERH208	1220Y096	02/14/17 1205
AZ49657	ERH244	1220Y097	02/14/17 1235
AZ49658	ERH245	1220Y098	02/14/17 1305

Comments: Batch: #87DME-170209A

Printed: 02/14/17 3:50:13 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1220Y002.D~~ 82117
Matrix: Water np 2-21-17
ID: SV Tune 11/15/16

SDG No: np 2-21-17 ~~Yoda~~ 82117
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82117
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82117
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 10:14

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y093.D	02/14/17 10:31
2	Blank	170209A BLK 2/500	1220Y094.D	02/14/17 11:05
3	Lab Control Spike	170209A LCS-1 2/500	1220Y095.D	02/14/17 11:35
4	ERH208	AZ49656W11 2/500	1220Y096.D	02/14/17 12:05
5	ERH244	AZ49657W08 2/500	1220Y097.D	02/14/17 12:35
6	ERH245	AZ49658W07 2/500	1220Y098.D	02/14/17 13:05
7		500ug/ml DEG 02/14/1	1220Y115.D	02/14/17 21:37
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	54.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	84.4
442	50 - 150% of mass 198	108.5
443	17 - 23% of mass 442	18.8

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82117

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)			Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	209455	4.83	932530	6.25	528957	8.26
02	170209A BLK 2/500	188520	4.84	817432	6.25	460025	8.26
03	170209A LCS-1 2/500	161275	4.83	700038	6.25	404665	8.26
04	AZ49656W11 2/500	161773	4.84	704628	6.25	394796	8.26
05	AZ49657W08 2/500	132496	4.84	574953	6.25	324881	8.26
06	AZ49658W07 2/500	131394	4.84	611914	6.26	344591	8.27
07	500ug/ml DEG 02/14/17	146880	4.84	639153	6.25	366952	8.26
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82117

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	954627	9.99	871378	13.06	617446	14.69
02	170209A BLK 2/500	853633	9.99	804727	13.06	727567	14.69
03	170209A LCS-1 2/500	747111	9.99	722289	13.06	646708	14.69
04	AZ49656W11 2/500	737903	9.99	700756	13.06	632370	14.69
05	AZ49657W08 2/500	575476	9.99	537929	13.06	NA 450170 *	14.69
06	AZ49658W07 2/500	682108	9.99	613274	13.06	594468	14.69
07	500ug/ml DEG 02/14/17	672733	9.99	636852	13.06	NA 428168 *	14.69
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y096
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 3:50:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y096.D Vial: 96
Acq On : 14 Feb 17 12:05 Operator: MA
Sample : AZ49656W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:21 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	161773	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	704628	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	394796	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	737903	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	700756	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	632370	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

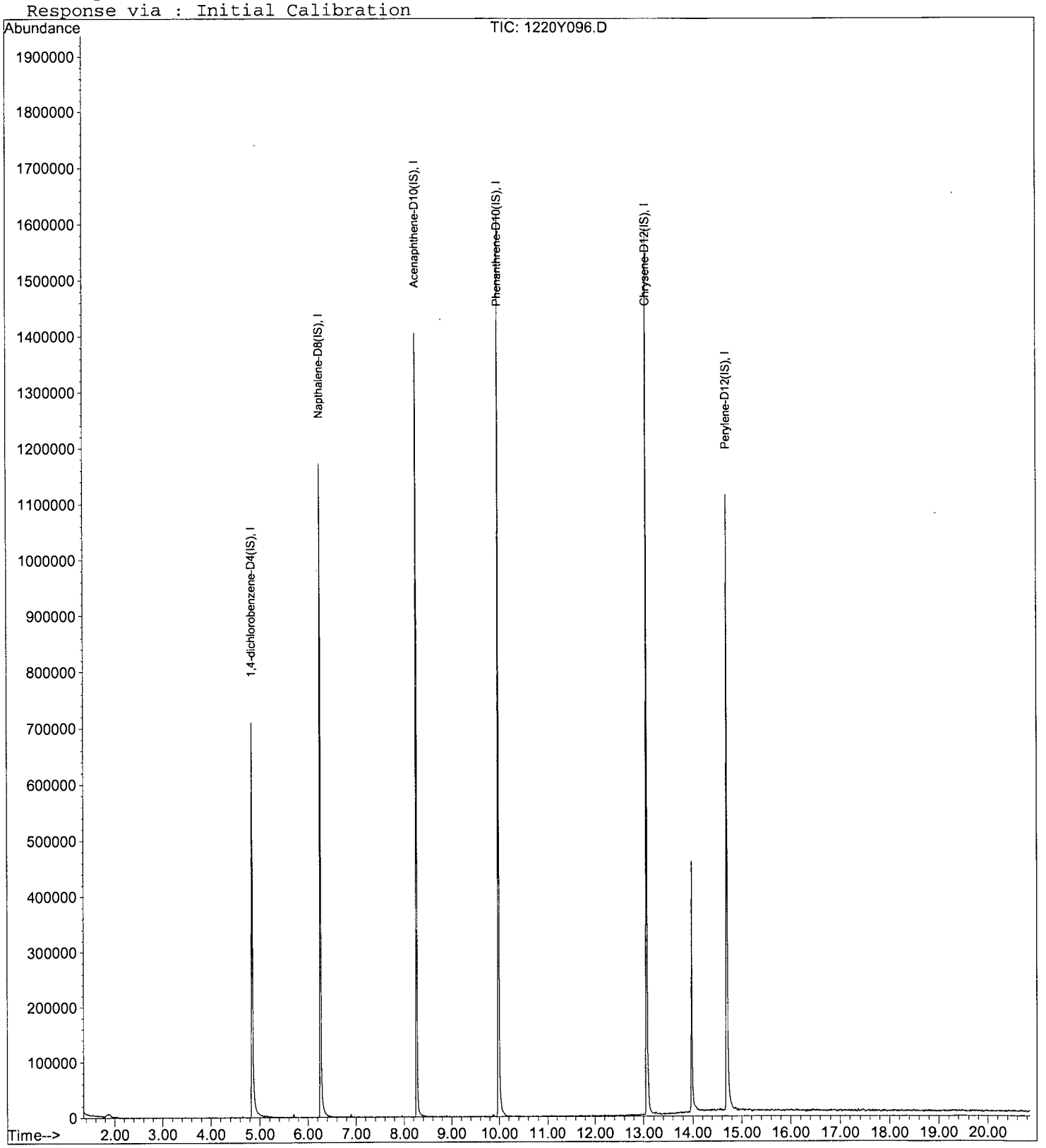
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y096.D Vial: 96
Acq On : 14 Feb 17 12:05 Operator: MA
Sample : AZ49656W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:21 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y097
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 3:50:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y097.D Vial: 97
Acq On : 14 Feb 17 12:35 Operator: MA
Sample : AZ49657W08 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	132496	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	574953	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	324881	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	575476	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	537929	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	450170	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

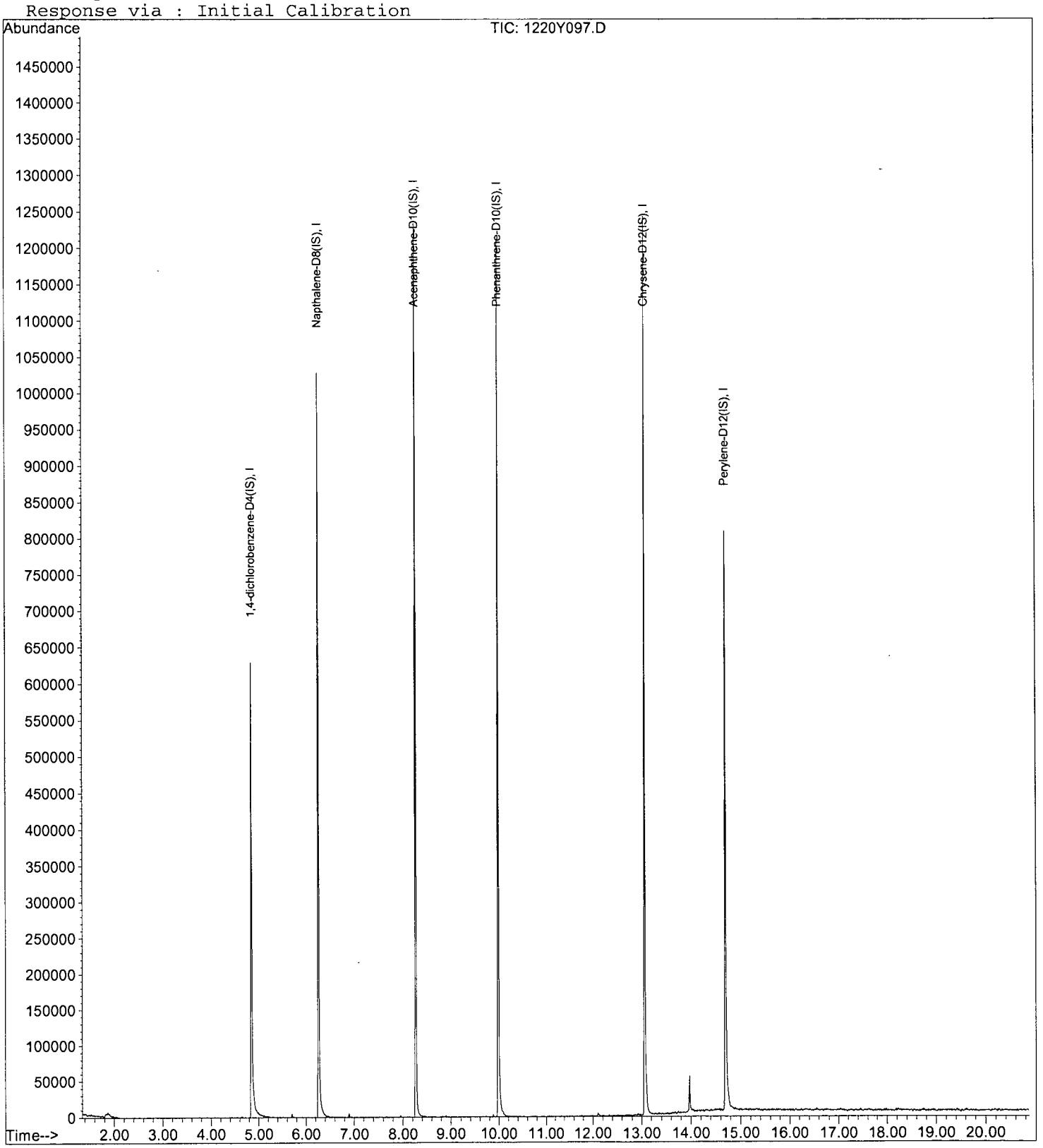
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y097.D Vial: 97
Acq On : 14 Feb 17 12:35 Operator: MA
Sample : AZ49657W08 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y098
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 3:50:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y098.D Vial: 98
Acq On : 14 Feb 17 13:05 Operator: MA
Sample : AZ49658W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:54 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	131394	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	611914	40.00000 ppb	-0.03
4) Acenaphthene-D10(IS)	8.27	164	344591	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	682108	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	613274	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	594468	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

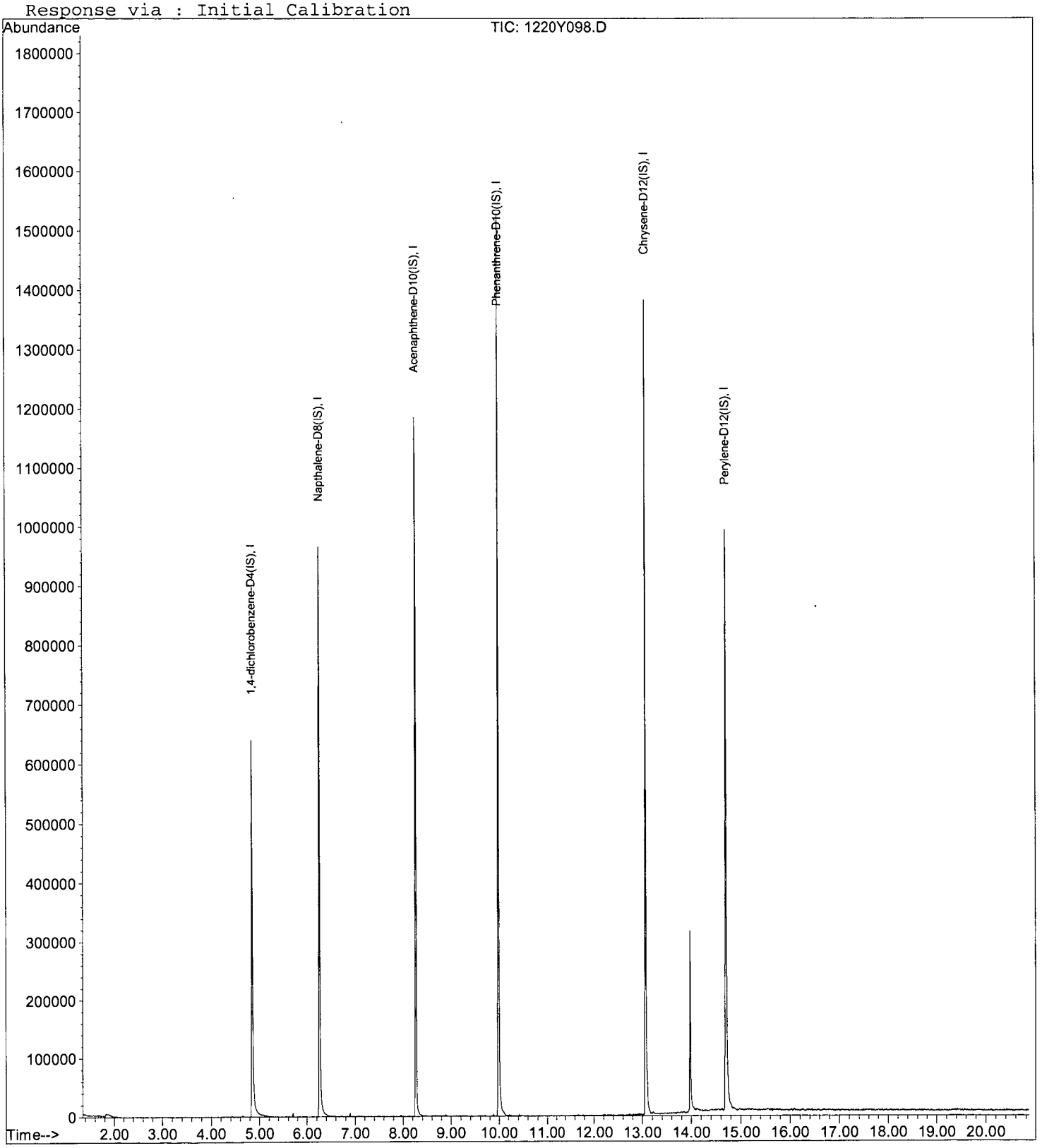
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y098.D Vial: 98
Acq On : 14 Feb 17 13:05 Operator: MA
Sample : AZ49658W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:54 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
12																
13																
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33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

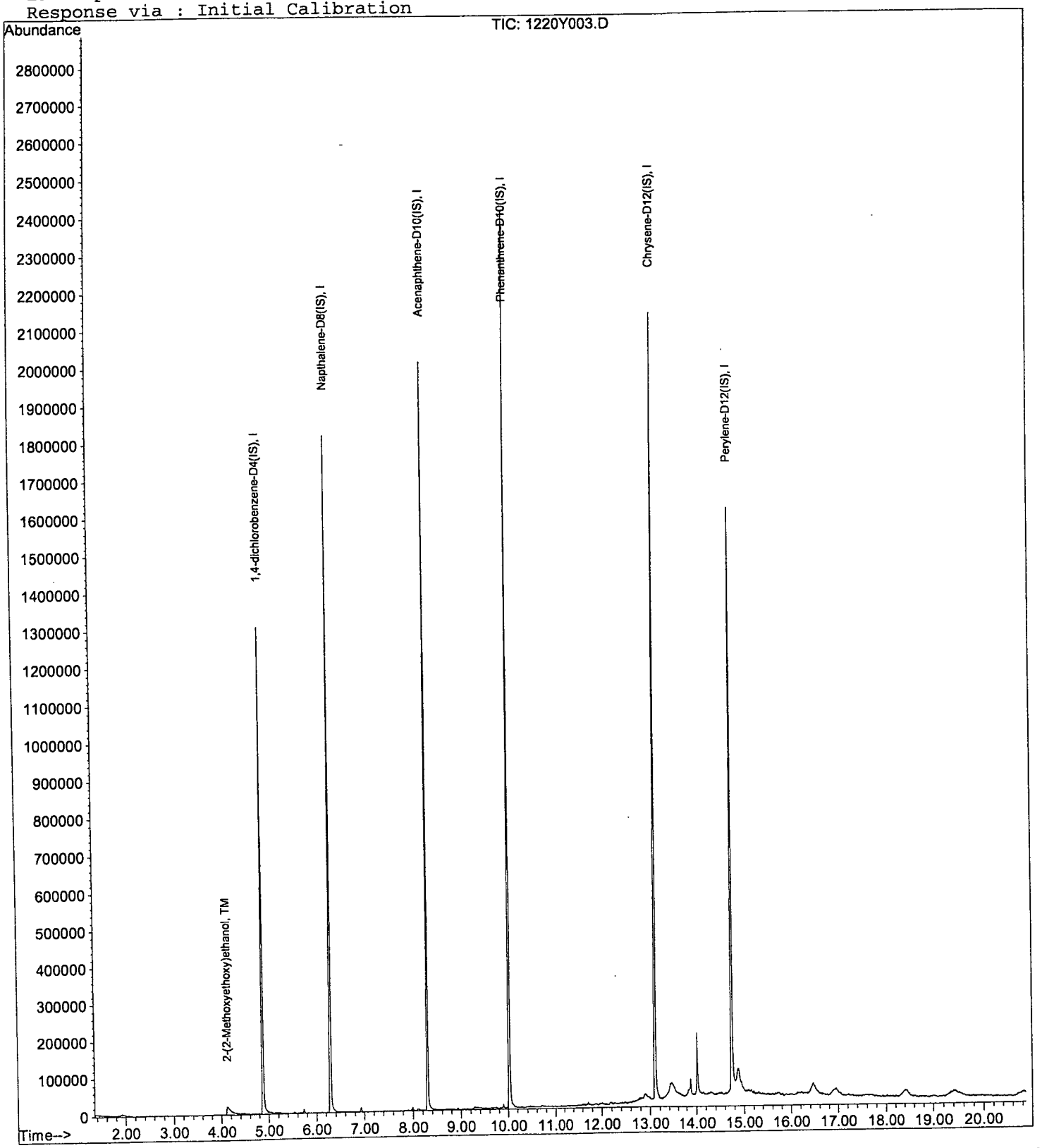
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration
1220Y004.D Y0GLYCOL.M Thu Jan 19 15:28:11 2017

Quantitation Report

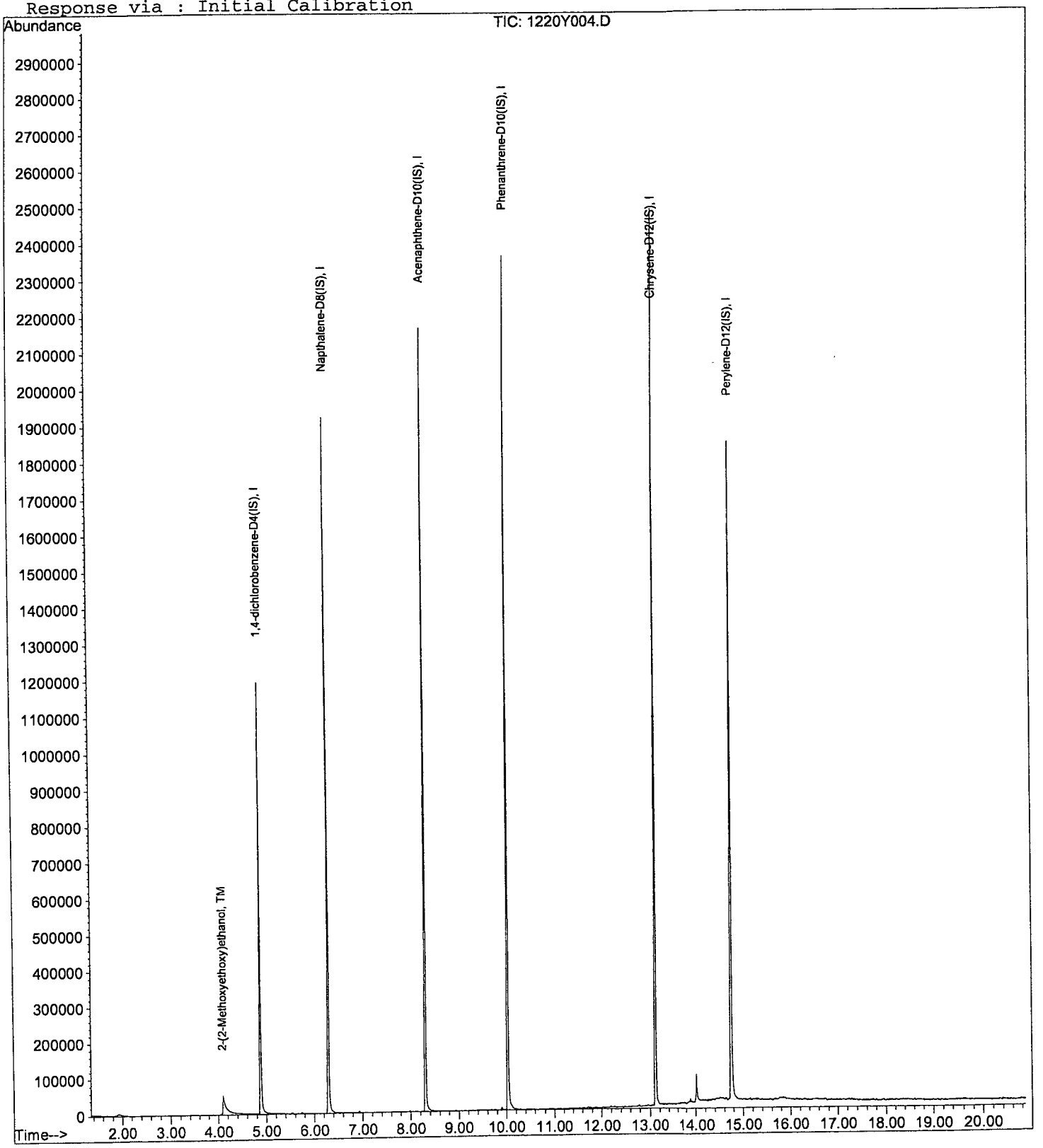
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

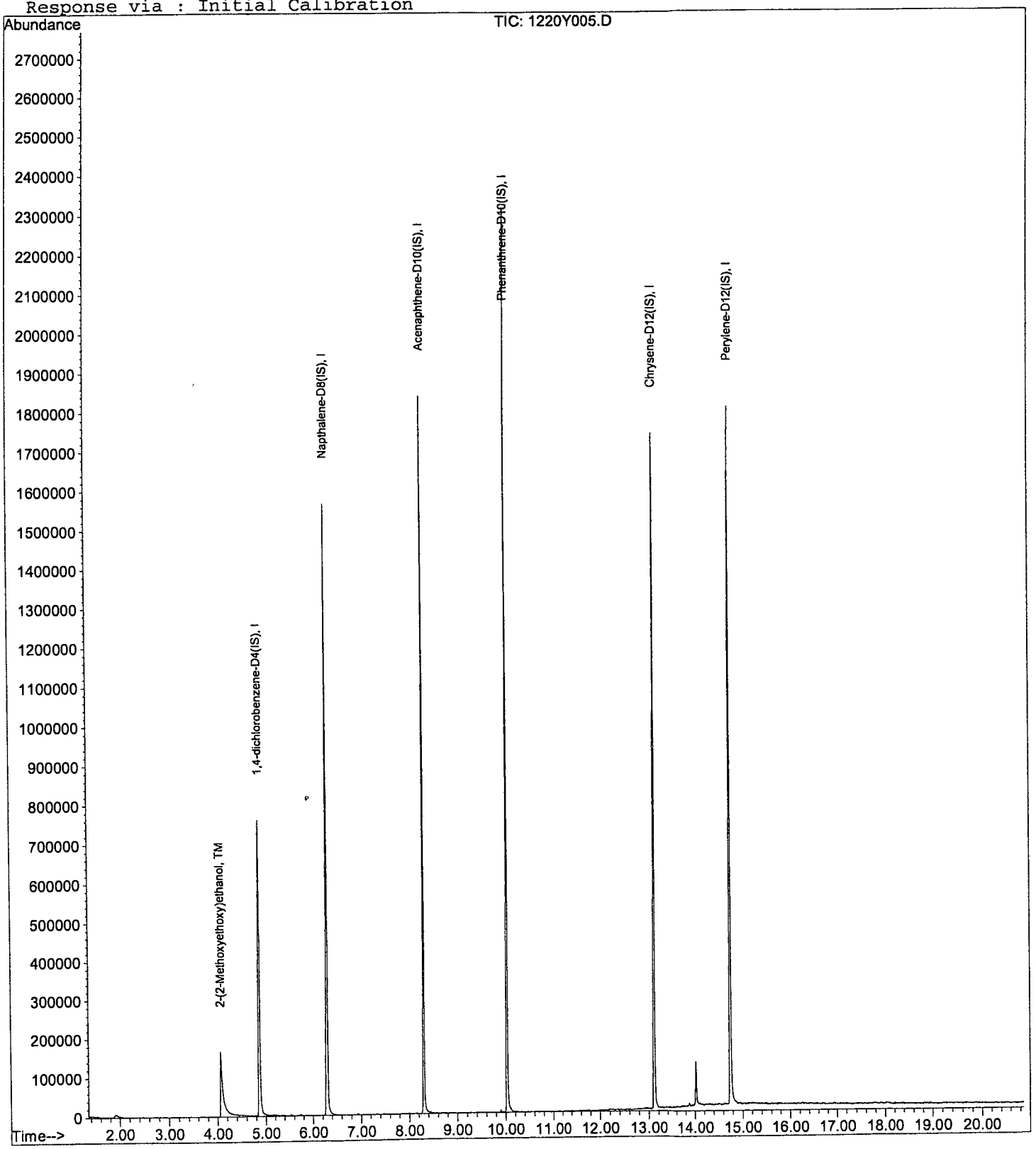
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D Vial: 6
Acq On : 20 Dec 16 11:57 Operator: MA
Sample : 400ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration
1220Y006.D Y0GLYCOL.M Thu Jan 19 15:32:08 2017

Quantitation Report

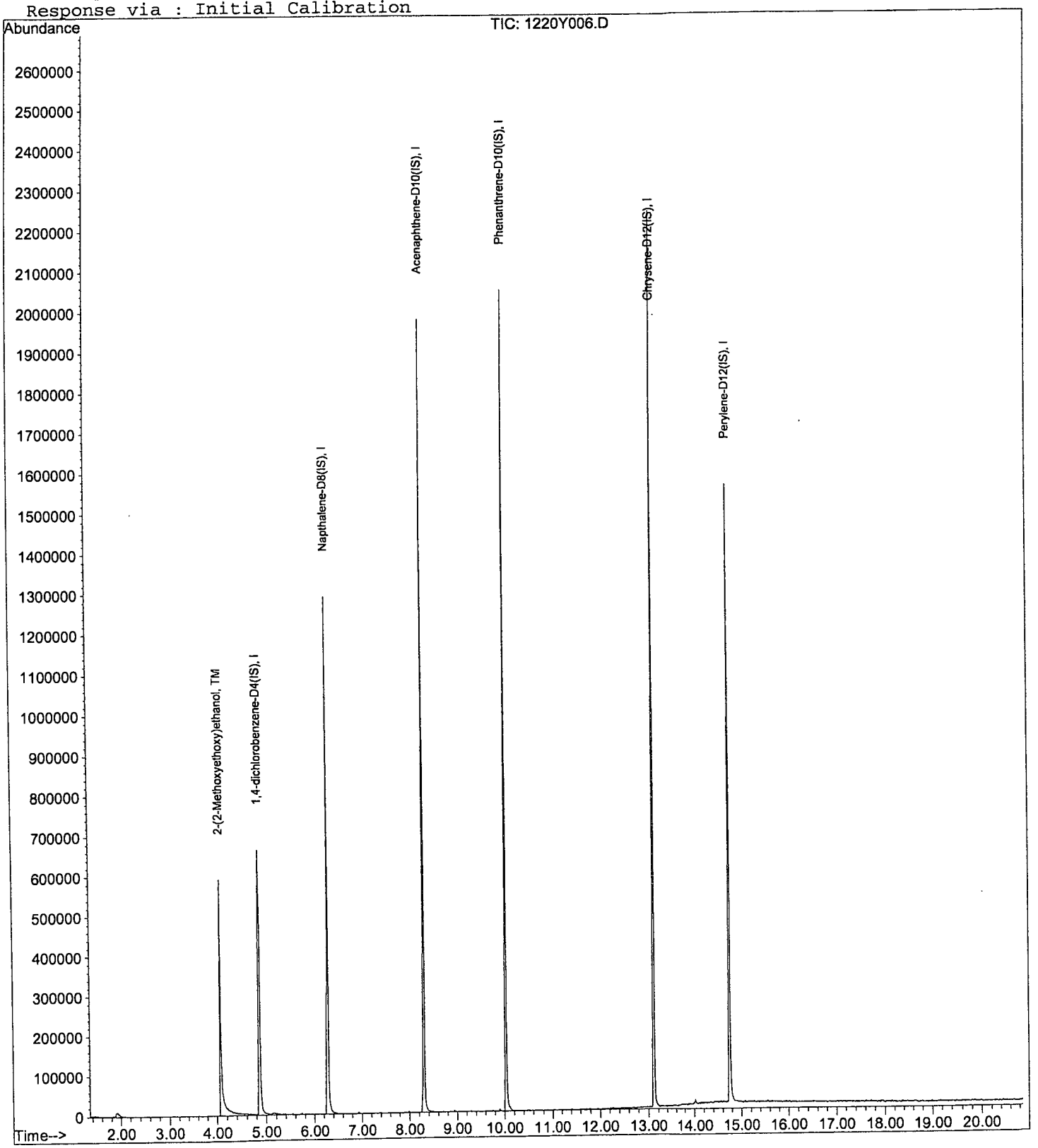
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

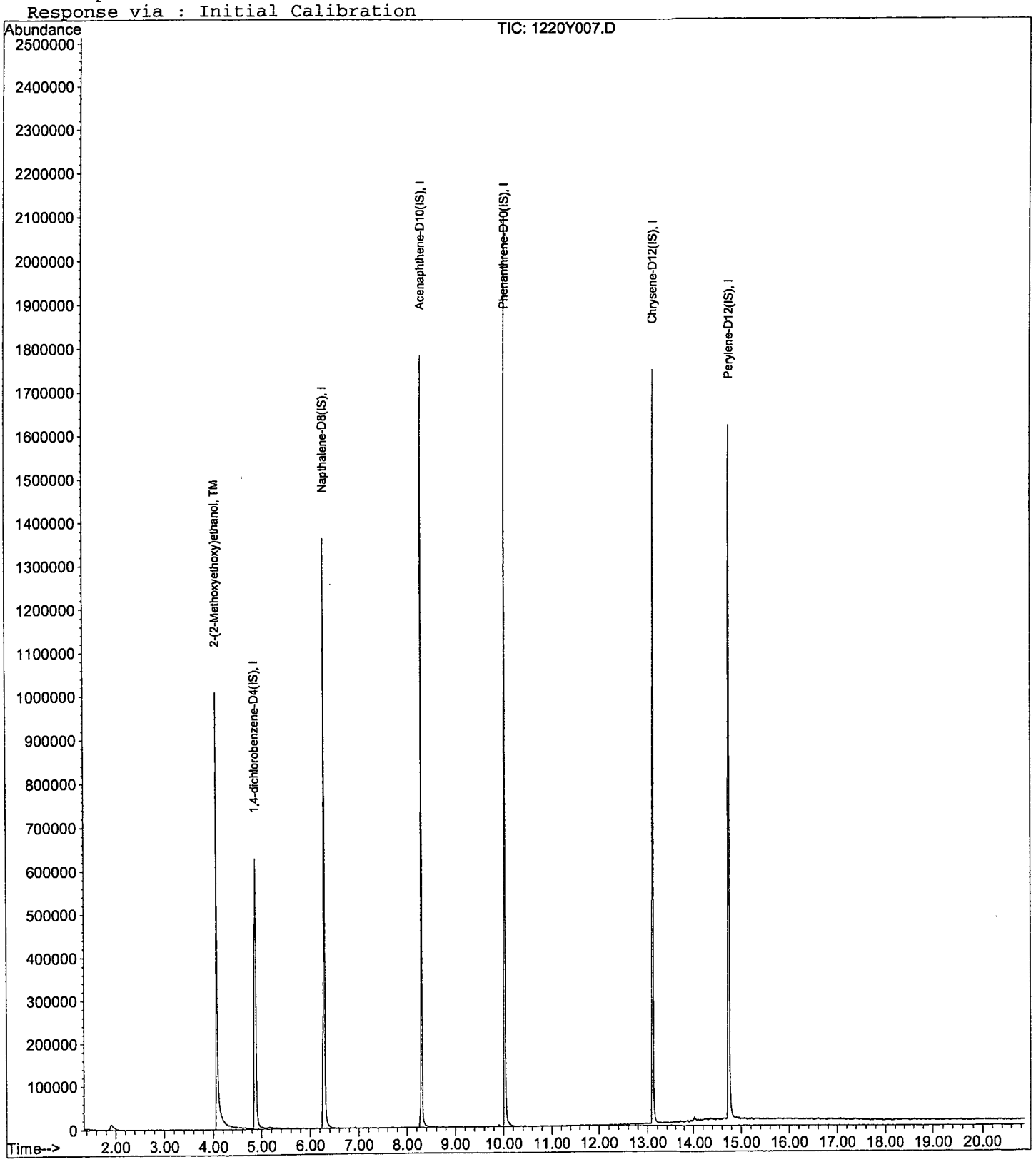
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds				Q	Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

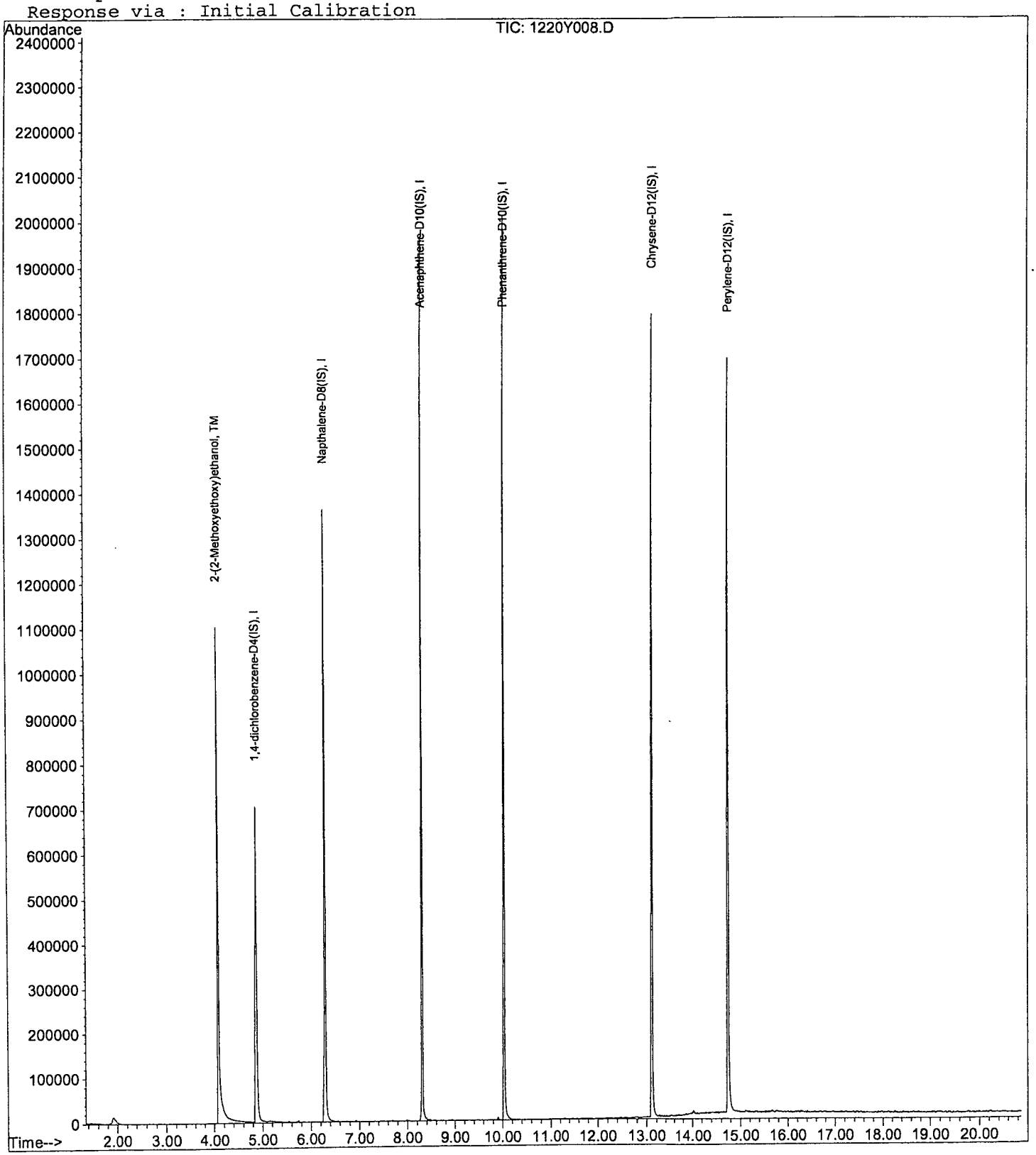
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D Vial: 9
Acq On : 20 Dec 16 13:28 Operator: MA
Sample : 800ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

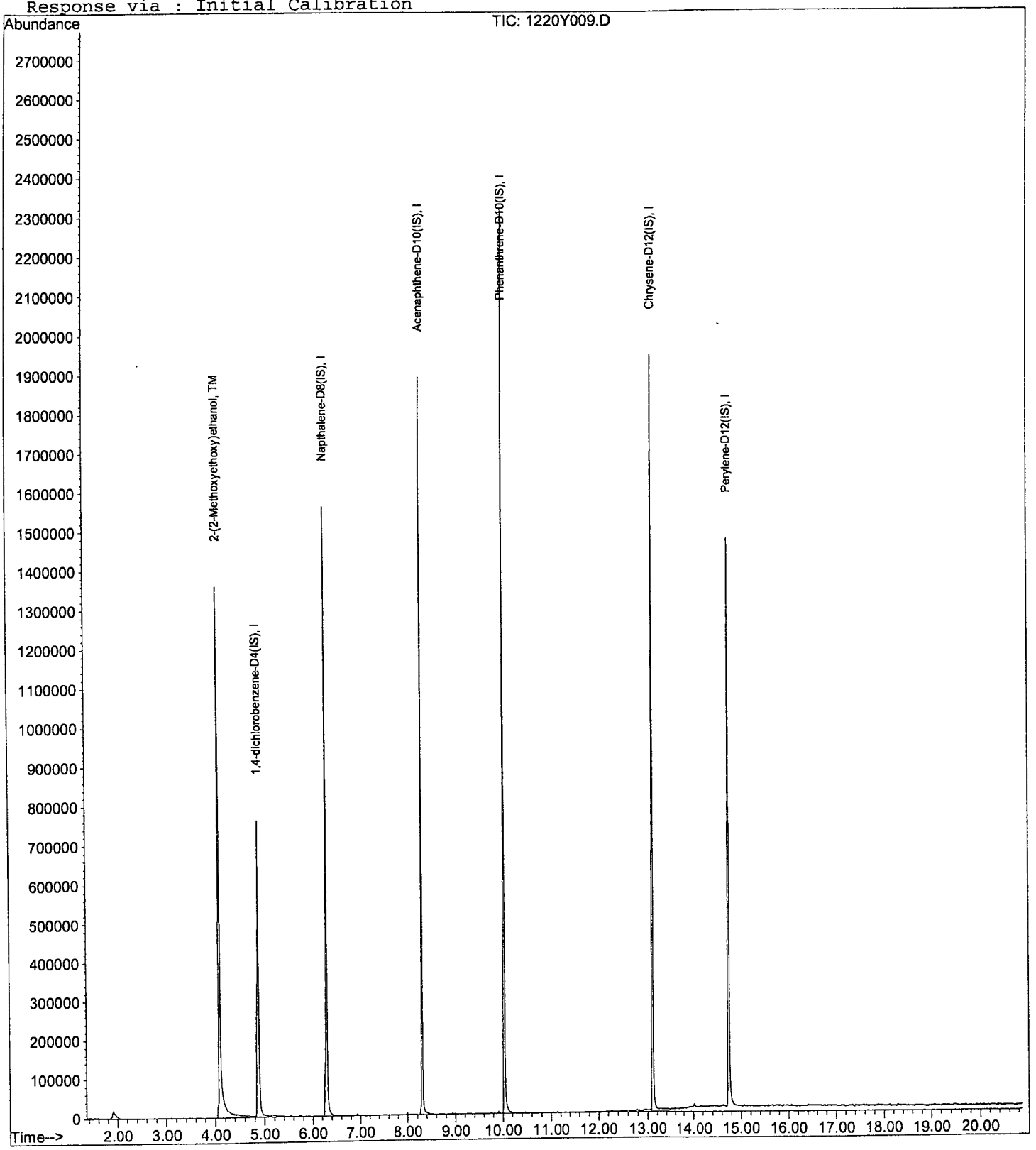
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y010.D Y0GLYCOL.M Thu Jan 19 15:37:28 2017

Quantitation Report

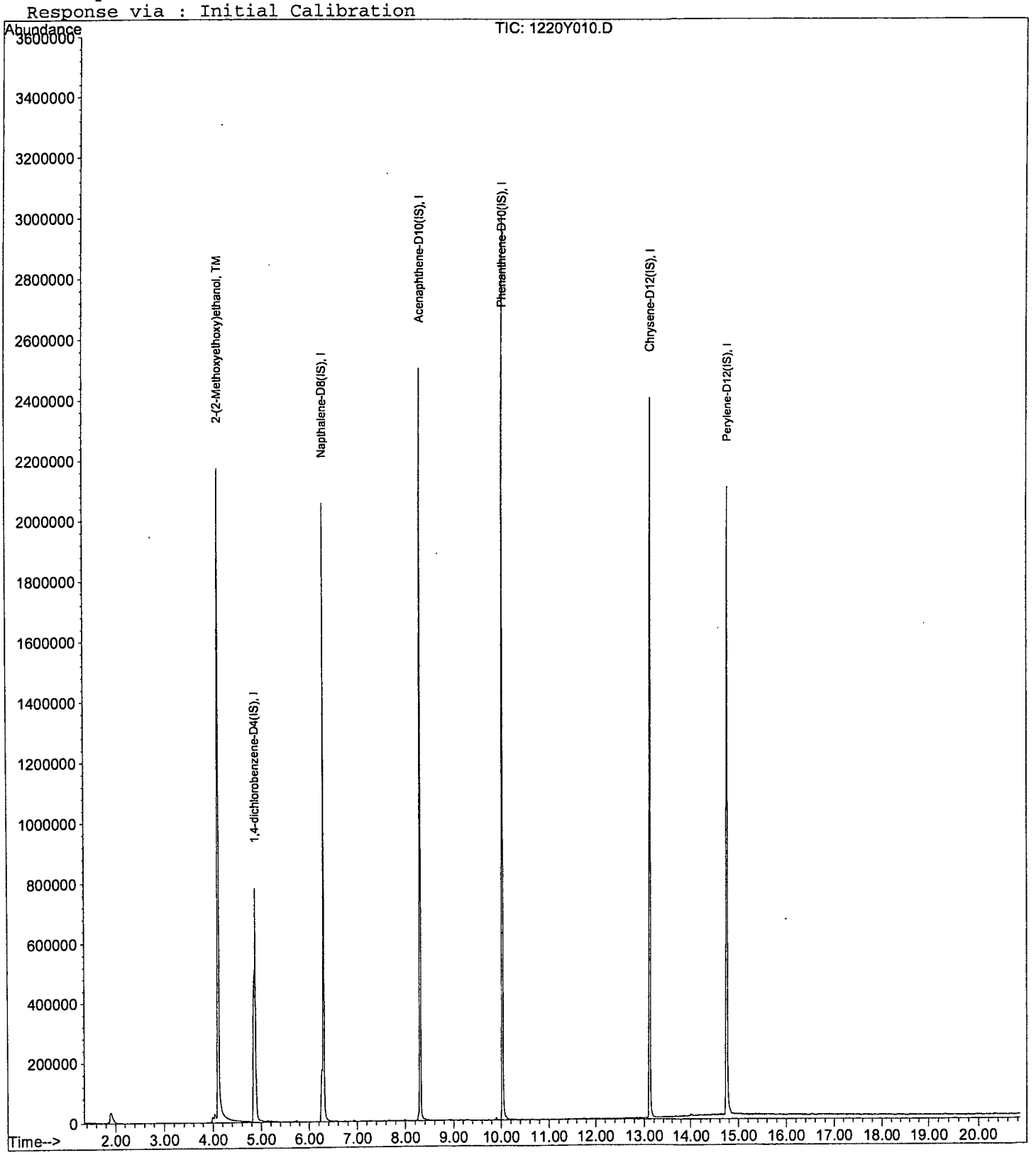
Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

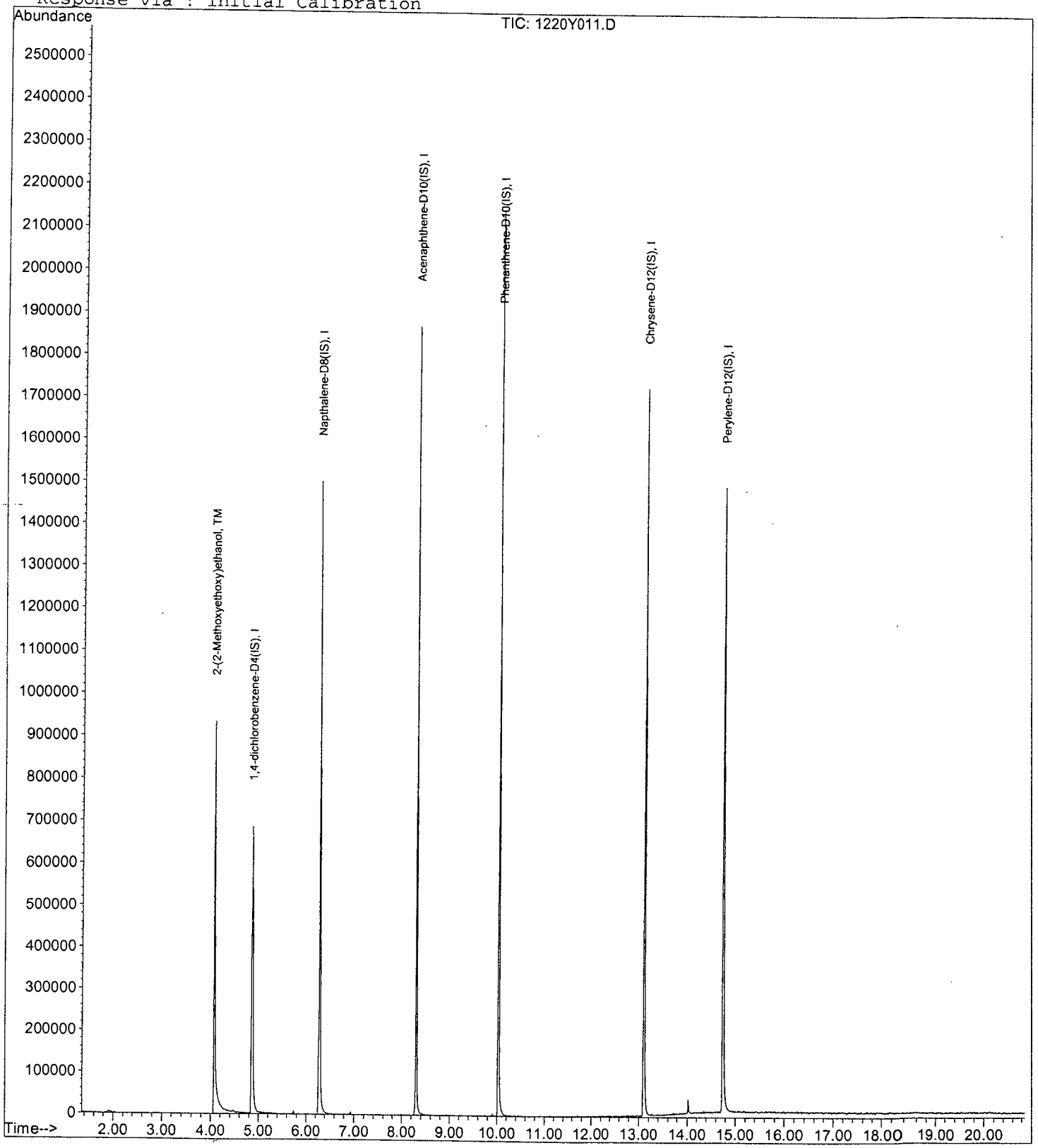
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y093.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2536	18	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y093.D
Acq On : 14 Feb 17 10:31
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 10:49 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	209455	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	932530	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	528957	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	954627	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	871378	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	617446	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	664045	591.40938 ppb	97

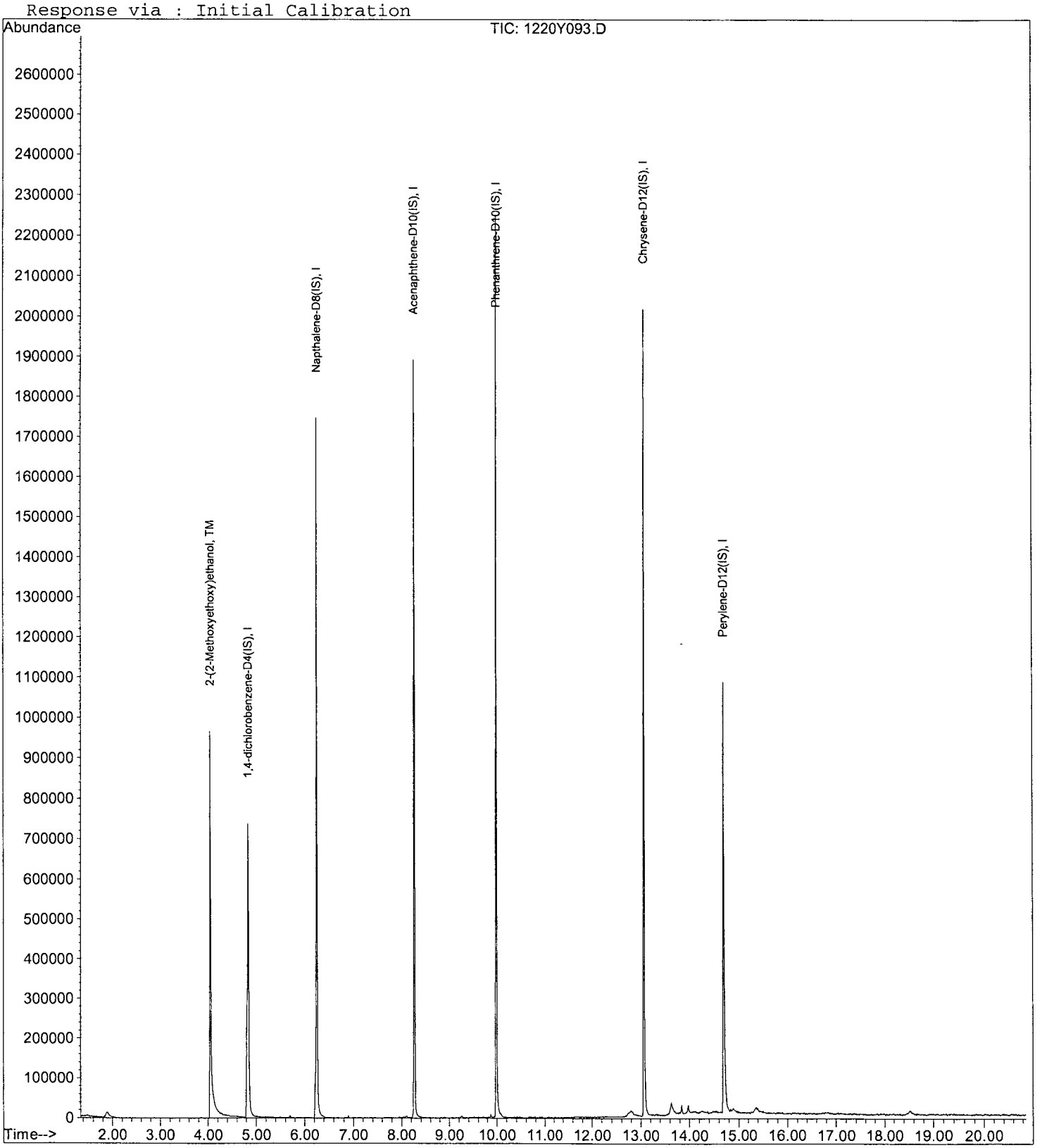
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y093.D Vial: 93
Acq On : 14 Feb 17 10:31 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 10:49 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y115.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2843	33	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			33.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y115.D Vial: 15
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	146880	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	639153	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	366952	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	672733	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636852	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	428168	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	522063	663.04298 ppb	97

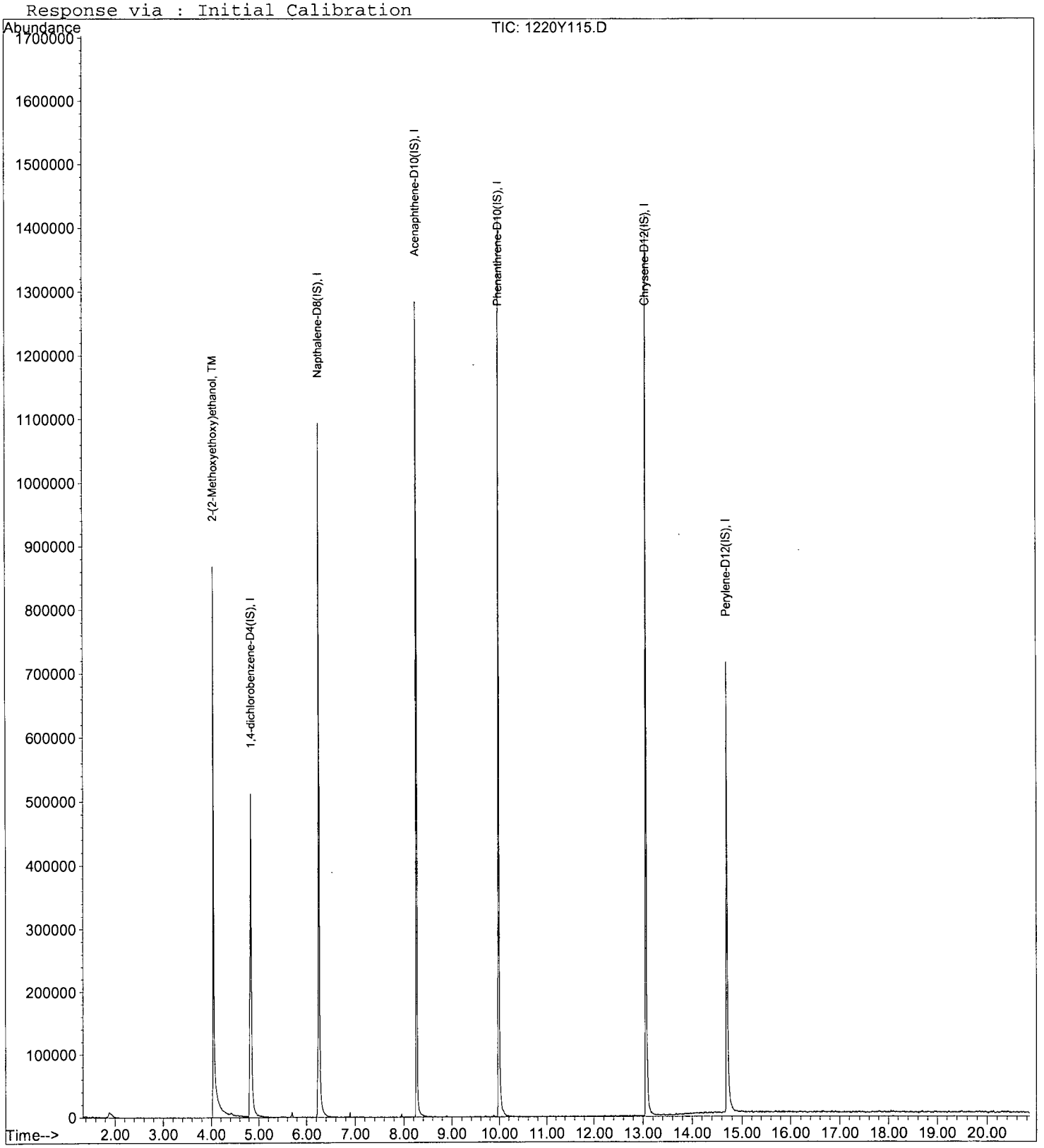
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y115.D Vial: 15
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method:Y0GLYCOL.
Run #:1220Y094
Instrument:Yoda
Sequence:Y161220G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 3:50:15 PM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y094.D Vial: 94
Acq On : 14 Feb 17 11:05 Operator: MA
Sample : 170209A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 11:53 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	188520	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	817432	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	460025	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	853633	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	804727	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	727567	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

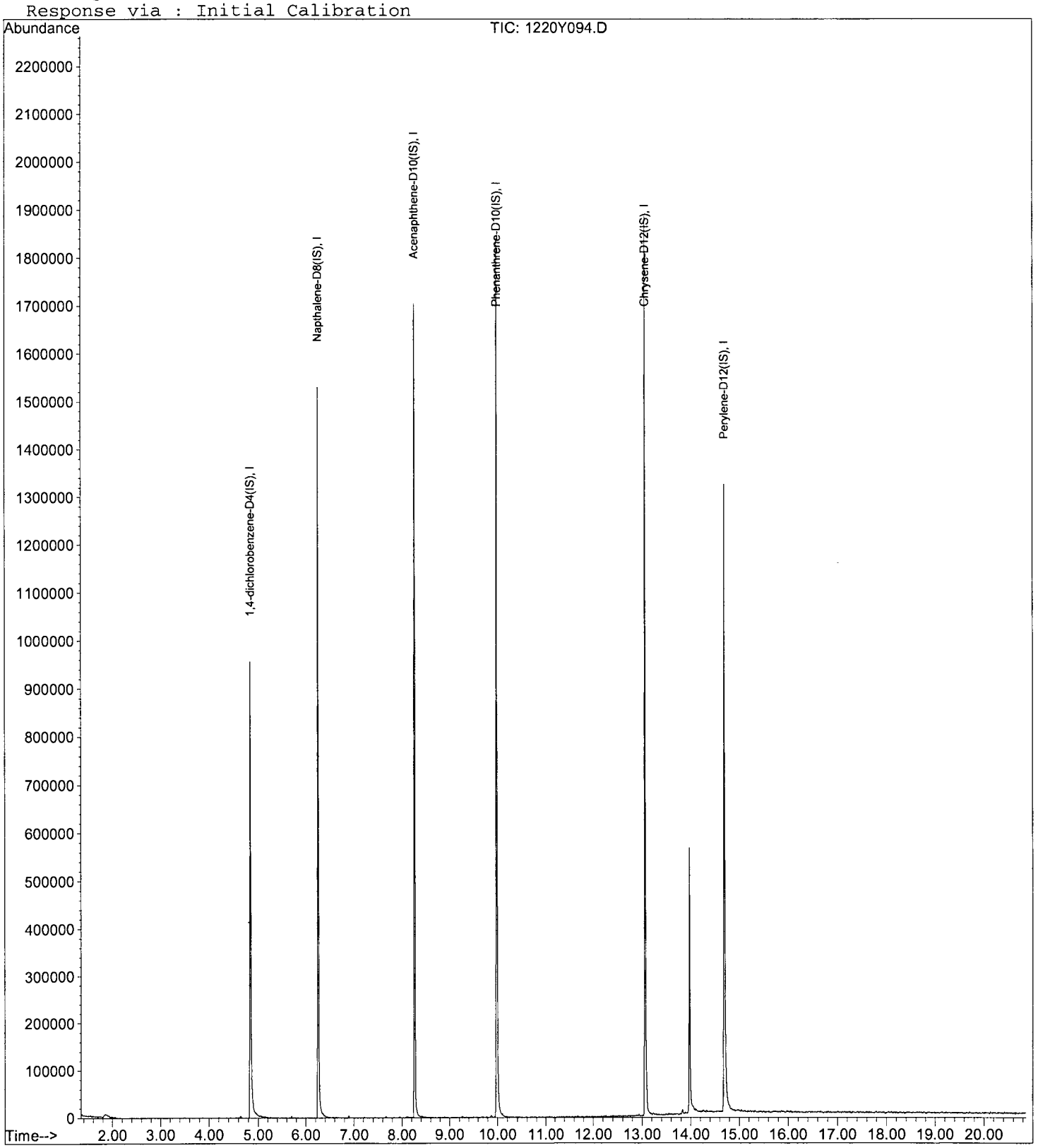
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y094.D Vial: 94
Acq On : 14 Feb 17 11:05 Operator: MA
Sample : 170209A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 11:53 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Printed: 02/14/17 3:50:16 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	161275	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	700038	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	404665	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	747111	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	722289	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	646708	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	75065m	86.82641 ppb	100

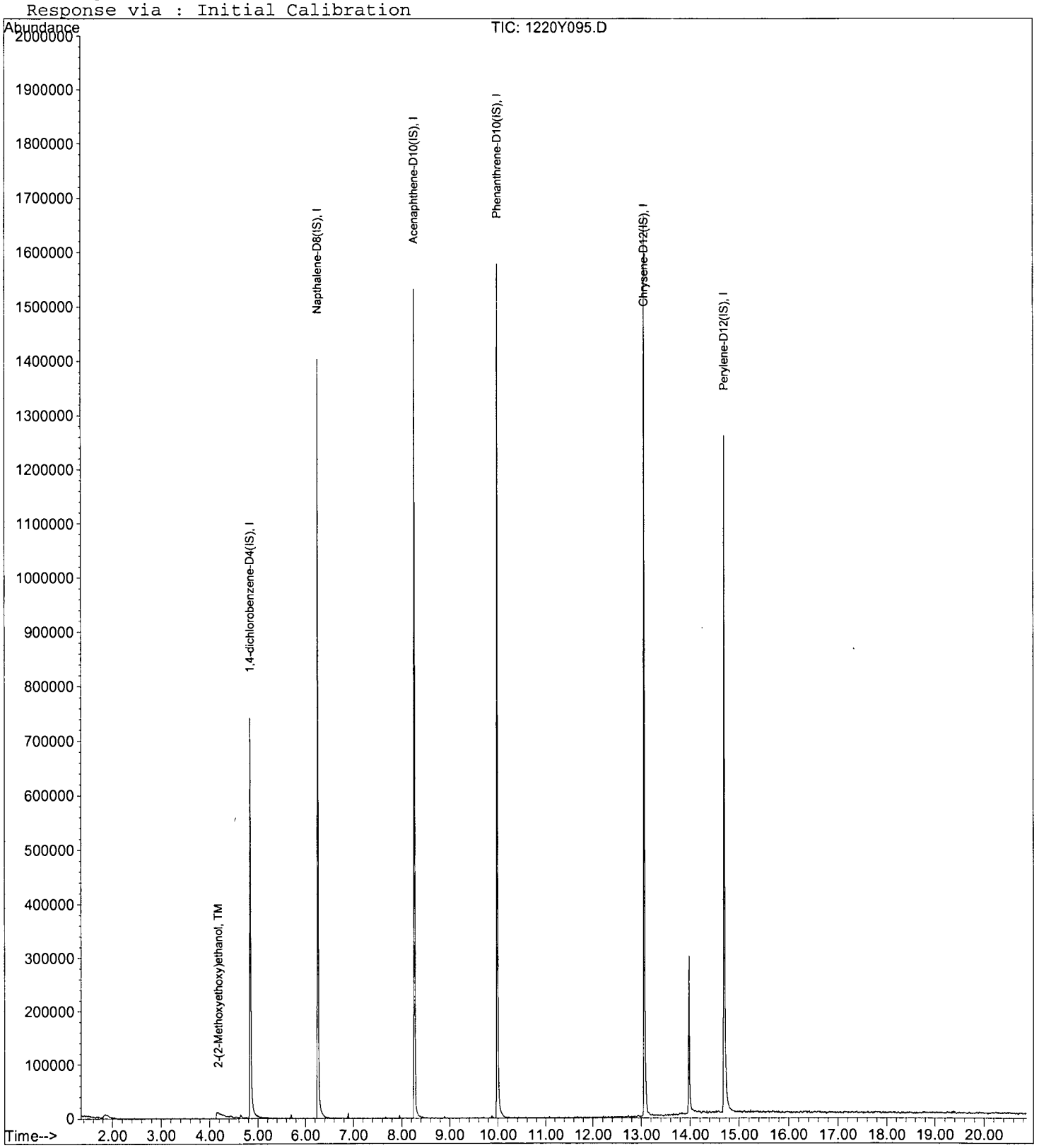
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

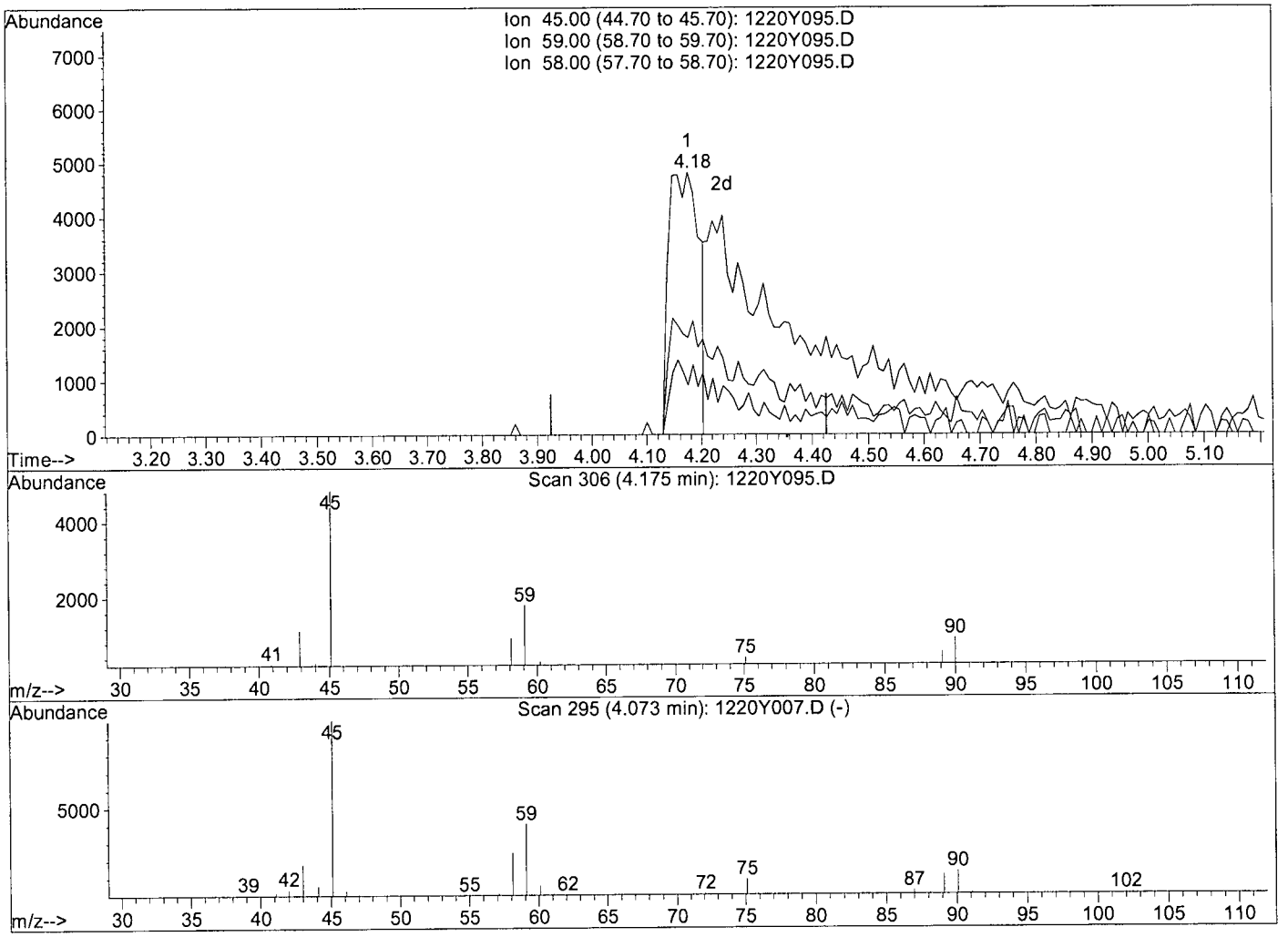


Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D
Acq On : 14 Feb 17 11:35
Sample : 170209A LCS-1 2/500
Misc : water
Quant Time: Feb 14 11:53 2017

Vial: 95
Operator: MA
Inst : Yoda
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration



TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 21.5363ppb

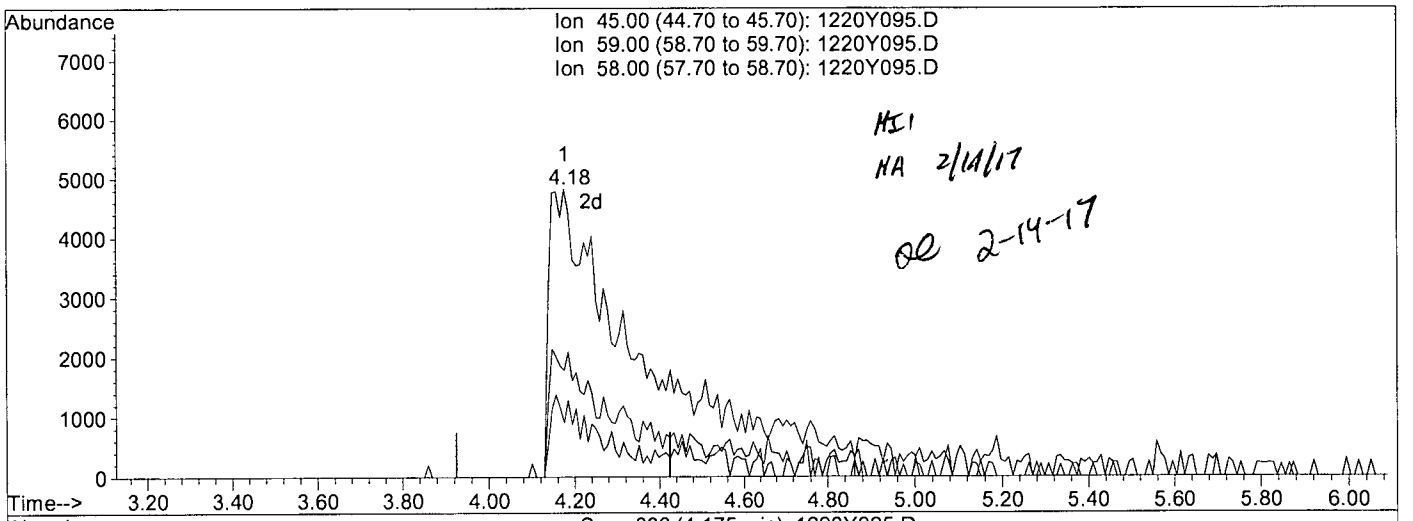
response 18619

Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

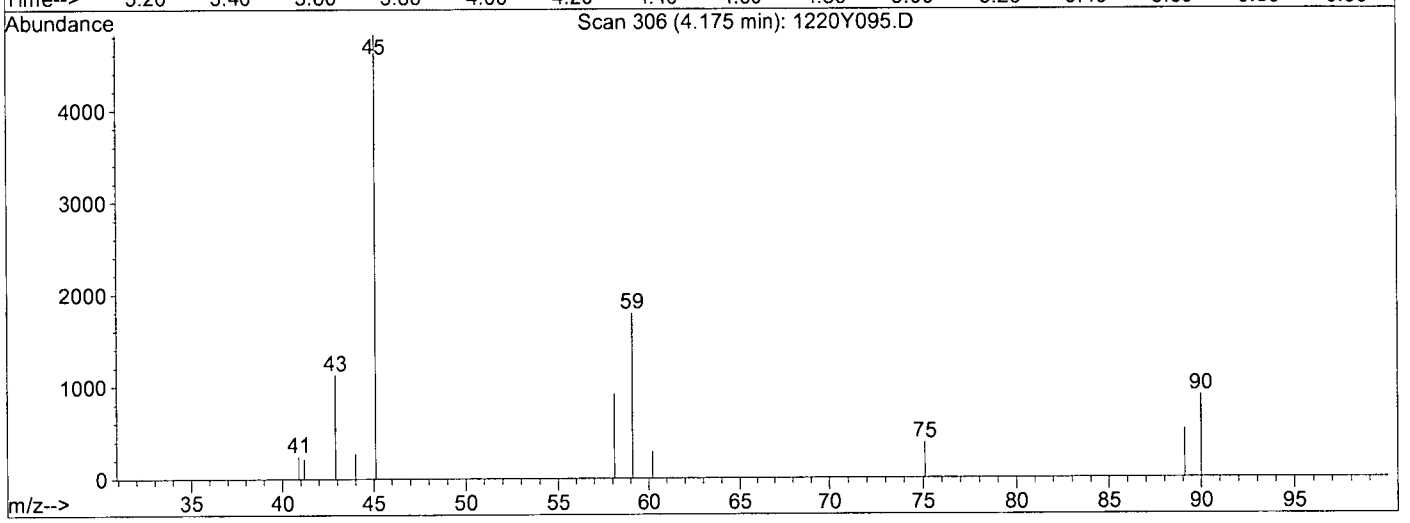
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 14 12:10 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration



HI
MA 2/14/17
QC 2-14-17



TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 86.8264ppb m

response 75065

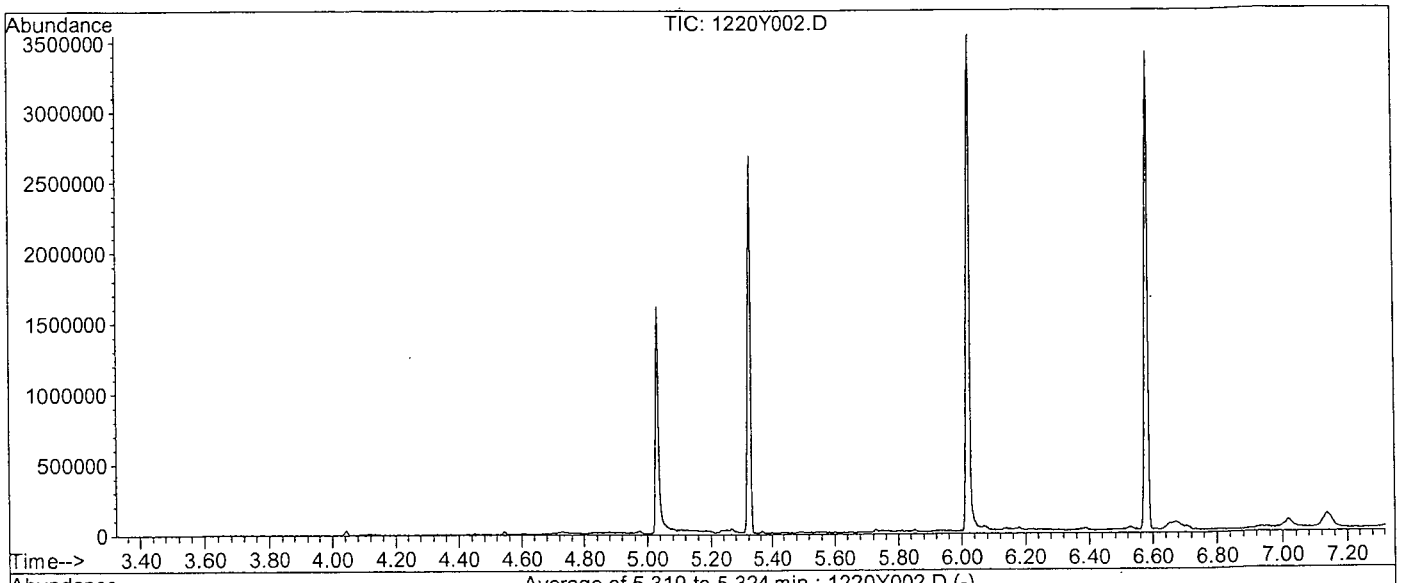
Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

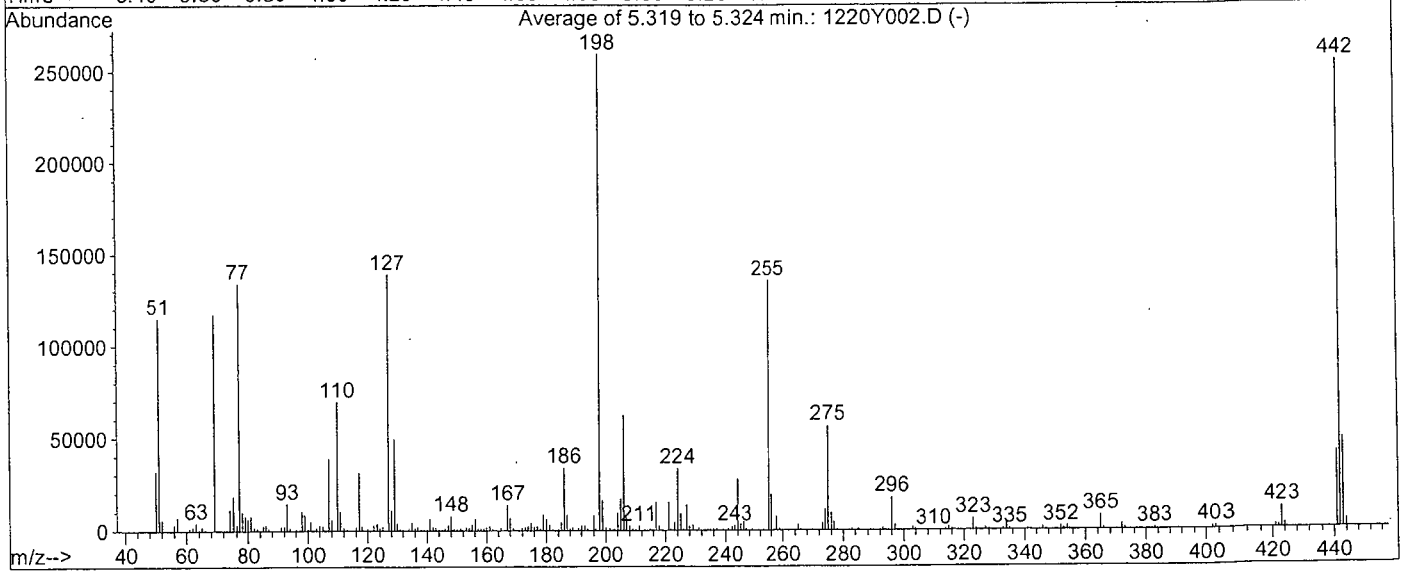
DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D
Acq On : 20 Dec 16 9:12
Sample : SV Tune 11/15/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

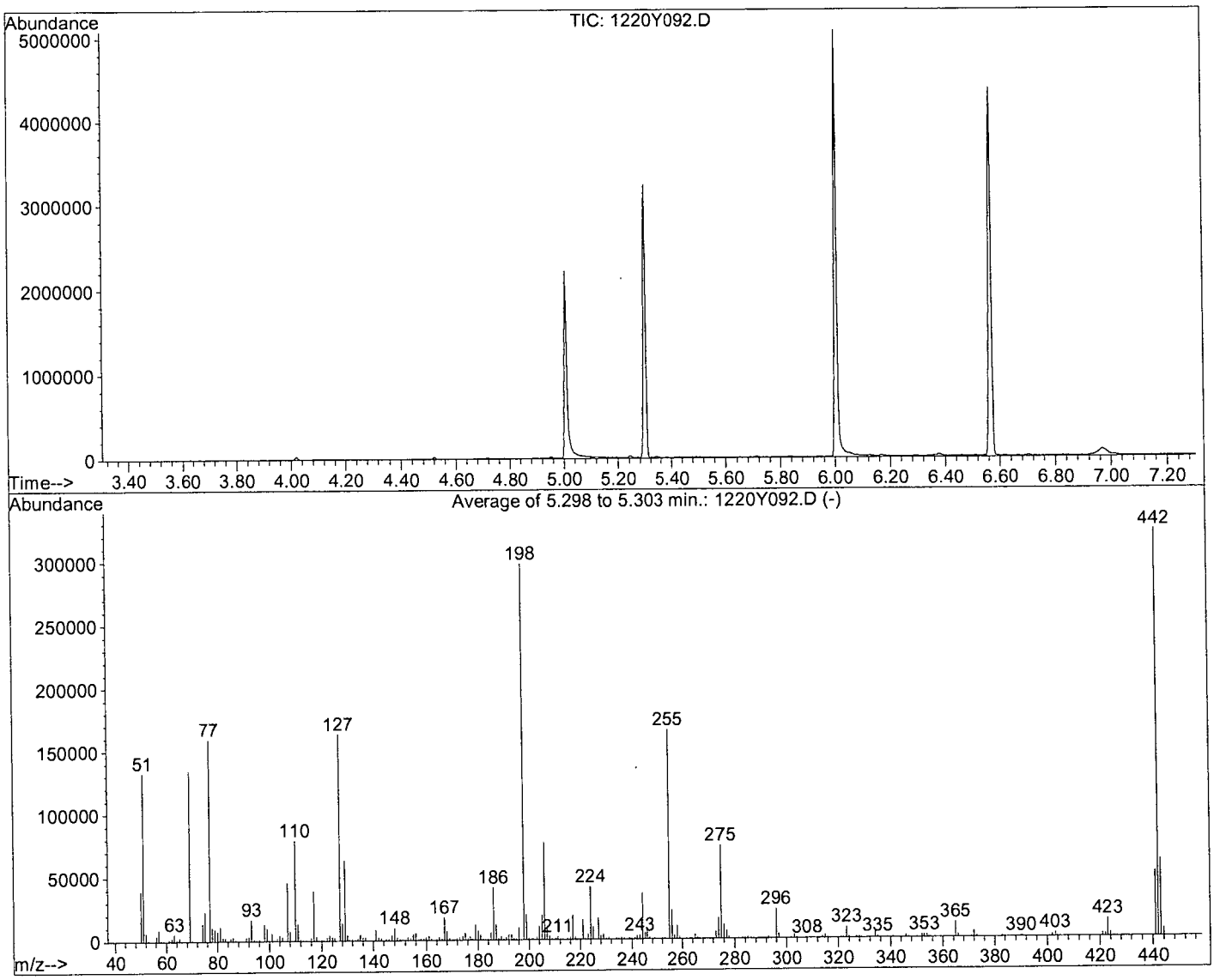
1220Y002.D Y0GLYCOL.M Tue Dec 20 09:18:08 2016

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y092.D
Acq On : 14 Feb 17 10:14
Sample : SV Tune 11/15/16
Misc : water

Vial: 92
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 685, 686, 687; Background Corrected with Scan 676

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	132576	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	488	PASS
127	198	40	60	54.8	163382	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	298112	PASS
199	198	5	9	6.6	19780	PASS
275	198	10	30	24.7	73645	PASS
365	198	1	100	4.0	11948	PASS
441	443	0.01	100	84.4	51451	PASS
442	198	50	150	108.5	323541	PASS
443	442	17	23	18.8	60976	PASS

1220Y092.D YOGLYCOL.M Tue Feb 14 10:25:22 2017

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170209A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-8-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/09/17 13:00
Spiked ID 8			Ext. End Time:	02/10/17 16:40
			GC Requires Extract By:	02/14/17 0:00

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 02/09/17 **Witnessed By:** CFM **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				NA	NA equip	500	2	7	02/09/17 13:00	
2	170209A LCS-1		0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	
3	AZ49656	AZ49656W11			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W08			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W07			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W26	0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W31	0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W26			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W05			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W09			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W10			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W06			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W17			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W12			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
15	AZ49739	AZ49739W10			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
16	AZ49741	AZ49741W09			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-9-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	8:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	CFM,JR
Sample Preparation	KY,CFM
Extraction	KY,CFM
Concentration	KY

Modified	02/10/17 4:45:25 PM

Reviewed By: KY 315 **Date** 2/10/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170209A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-8-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/09/17 13:00
Spiked ID 8			Ext. End Time:	02/10/17 16:40
			GC Requires Extract By:	**02/14/17 0:00**

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 02/09/17 **Witnessed By:** CFM **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49743	AZ49743W13			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
18	AZ49744	AZ49744W05			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
19	M STD		1	1	NA	NA equip	500	2	7	02/09/17 13:00	
20	SS		0.0870	2	NA	NA equip	500	2	7	02/09/17 13:00	

KY 2/10/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-9-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	CFM,JR
Sample Preparation	KY,CFM
Extraction	KY,CFM
Concentration	KY

Modified	02/10/17 4:45:25 PM

Reviewed By: KY **Date** 2/10/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	92	1220Y092.D	1	SV Tune 11/15/16	water	14 Feb 17 10:14
12	93	1220Y093.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 10:31
13	94	1220Y094.D	1	170209A BLK 2/500	water	14 Feb 17 11:05
14	95	1220Y095.D	1	170209A LCS-1 2/500	water	14 Feb 17 11:35
15	96	1220Y096.D	1	AZ49656W11 2/500	water	14 Feb 17 12:05
16	97	1220Y097.D	1	AZ49657W08 2/500	water	14 Feb 17 12:35
17	98	1220Y098.D	1	AZ49658W07 2/500	water	14 Feb 17 13:05
18	15	1220Y115.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 21:37

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170208W-49655 - 216060**
Batch ID: #86BTO-170208AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	02/08/17	02/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.8	85-114			%	02/08/17	02/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	02/08/17	02/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.7	89-112			%	02/08/17	02/08/17

Quant Method: MGAS6111.
Run #: 0208M11
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/13/17 11:41:48 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82117

Case No: 82117 Date Analyzed: 02/08/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170208AM-LCS	Lab Control Spike	81-118	100		85-114	100	
170208AM-BLK	Blank	81-118	102		85-114	98.8	
AZ49655	ERH207	81-118	102		85-114	102	
AZ49656	ERH208	81-118	101		85-114	97.8	
AZ49657	ERH244	81-118	109		85-114	99.9	
AZ49658	ERH245	81-118	102		85-114	100	
AZ49659	ERH246	81-118	106		85-114	102	

Comments: Batch: #86BTO-170208AM

Printed: 02/13/17 11:41:48 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82117

Case No: 82117 Date Analyzed: 02/08/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170208AM-LCS	Lab Control Spike	80-119	96.4		89-112	97.2	
170208AM-BLK	Blank	80-119	102		89-112	98.7	
AZ49655	ERH207	80-119	104		89-112	101	
AZ49656	ERH208	80-119	102		89-112	96.2	
AZ49657	ERH244	80-119	107		89-112	101	
AZ49658	ERH245	80-119	101		89-112	99.5	
AZ49659	ERH246	80-119	103		89-112	100	

Comments: Batch: #86BTO-170208AM

Printed: 02/13/17 11:41:48 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170208W-49655 LCS - 216060**
Batch ID: #86BTO-170208AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.1	101	79-120
ETHYLBENZENE	10.00	10.1	101	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.8	103	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.0	100	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.1	96.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.3	97.2	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	02/08/17
Analysis Date :	02/08/17
Instrument :	Max
Run :	0208M03
Initials :	ARO

Printed: 02/13/17 11:41:49 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82117

Case No: 82117 Date Analyzed: 02/08/17

Matrix: WATER Instrument: Max

Blank ID: 170208AM-BLK Time Analyzed: 1340

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170208AM-LCS	Lab Control Spike	0208M03	02/08/17 0953
170208AM-BLK	Blank	0208M11	02/08/17 1340
AZ49655	ERH207	0208M12	02/08/17 1408
AZ49656	ERH208	0208M13	02/08/17 1442
AZ49657	ERH244	0208M14	02/08/17 1511
AZ49658	ERH245	0208M15	02/08/17 1539
AZ49659	ERH246	0208M16	02/08/17 1607

Comments: Batch: #86BTO-170208AM

Printed: 02/13/17 11:41:50 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~0127M00.D~~ 82117
Matrix: Water rp 2-21-17
ID: 5ng BFB STD 12/15/16

rp 2-21-17
SDG No: ~~Max~~ 82117
Date Analyzed: 01/27/17
Instrument: Max
Time Analyzed: 9:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 01/2	0127M04.D	01/27/17 11:24
2		0.5ug/L VOC STD 01/2	0127M05.D	01/27/17 11:53
3		1.0ug/L VOC STD 01/2	0127M06.D	01/27/17 12:21
4		2.0ug/L VOC STD 01/2	0127M07.D	01/27/17 12:49
5		5.0ug/L VOC STD 01/2	0127M08.D	01/27/17 13:17
6		10ug/L VOC STD 01/27	0127M09.D	01/27/17 13:45
7		20ug/L VOC STD 01/27	0127M10.D	01/27/17 14:14
8		40ug/L VOC STD 01/27	0127M11.D	01/27/17 14:42
9		100ug/L VOC STD 01/2	0127M12.D	01/27/17 15:10
10		(SS) 10ug/L VOC STD	0127M16.D	01/27/17 17:03
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.8
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	100.0
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	97.4
177	5 - 9% of mass 176	5.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82117
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82117
Date Analyzed: 02/08/17
Instrument: Max
Time Analyzed: 9:00

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170208A CCV/LCS 10ug	0208M03.D	02/08/17 9:53
2	Blank	170208A BLK-1WM	0208M11.D	02/08/17 13:40
3	ERH207	AZ49655W01	0208M12.D	02/08/17 14:08
4	ERH208	AZ49656W01	0208M13.D	02/08/17 14:42
5	ERH244	AZ49657W01	0208M14.D	02/08/17 15:11
6	ERH245	AZ49658W01	0208M15.D	02/08/17 15:39
7	ERH246	AZ49659W01	0208M16.D	02/08/17 16:07
8		Ending CCV 8260 10ug	0208M19.D	02/08/17 17:33
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.4
75	30 - 60% of mass 95	44.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2% of mass 174	0.7
174	50 - 100% of mass 95	97.9
175	5 - 9% of mass 174	7.2
176	95.06 - 101% of mass 174	101.0
177	5 - 9% of mass 176	8.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82117

Lab File ID (Standard): 0127M09.D Date Analyzed: 01/27/17

Instrument ID: Max Time Analyzed: 13:45

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	330920	5.51	236599	9.15	123244	12.35
	UPPER LIMIT	661840	6.01	473198	9.65	246488	12.85
	LOWER LIMIT	165460	5.01	118300	8.65	61622	11.85
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	313129	5.51	223395	9.15	119323	12.35
02	170208A CCV/LCS 10ug	298676	5.51	215245	9.15	112953	12.35
03	170208A BLK-1WM	290729	5.51	211363	9.15	104361	12.35
04	AZ49655W01	310674	5.52	222503	9.15	107957	12.35
05	AZ49656W01	325809	5.51	238469	9.15	118849	12.35
06	AZ49657W01	287698	5.51	209208	9.15	105996	12.35
07	AZ49658W01	304705	5.52	220286	9.15	110182	12.35
08	AZ49659W01	287688	5.51	207821	9.15	107165	12.35
09	Ending CCV 8260 10ug/	295577	5.52	216014	9.15	118524	12.35
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS
Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH207
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49655
QCG: #86BTO-170208AM-216060

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/08/17	02/08/17

Quant Method: MALLW.M
Run #: 0208M12
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/13/17 11:41:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M12.D
Acq On : 8 Feb 17 14:08
Sample : AZ49655W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	310674	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	222503	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107957	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	69017	25.90 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.612%	
36) 1,2-DCA-D4(S)	5.13	65	54073	25.61 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
56) Toluene-D8(S)	7.35	98	272387	25.31 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.220%	
64) 4-Bromofluorobenzene(S)	10.74	95	98382	25.40 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.580%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

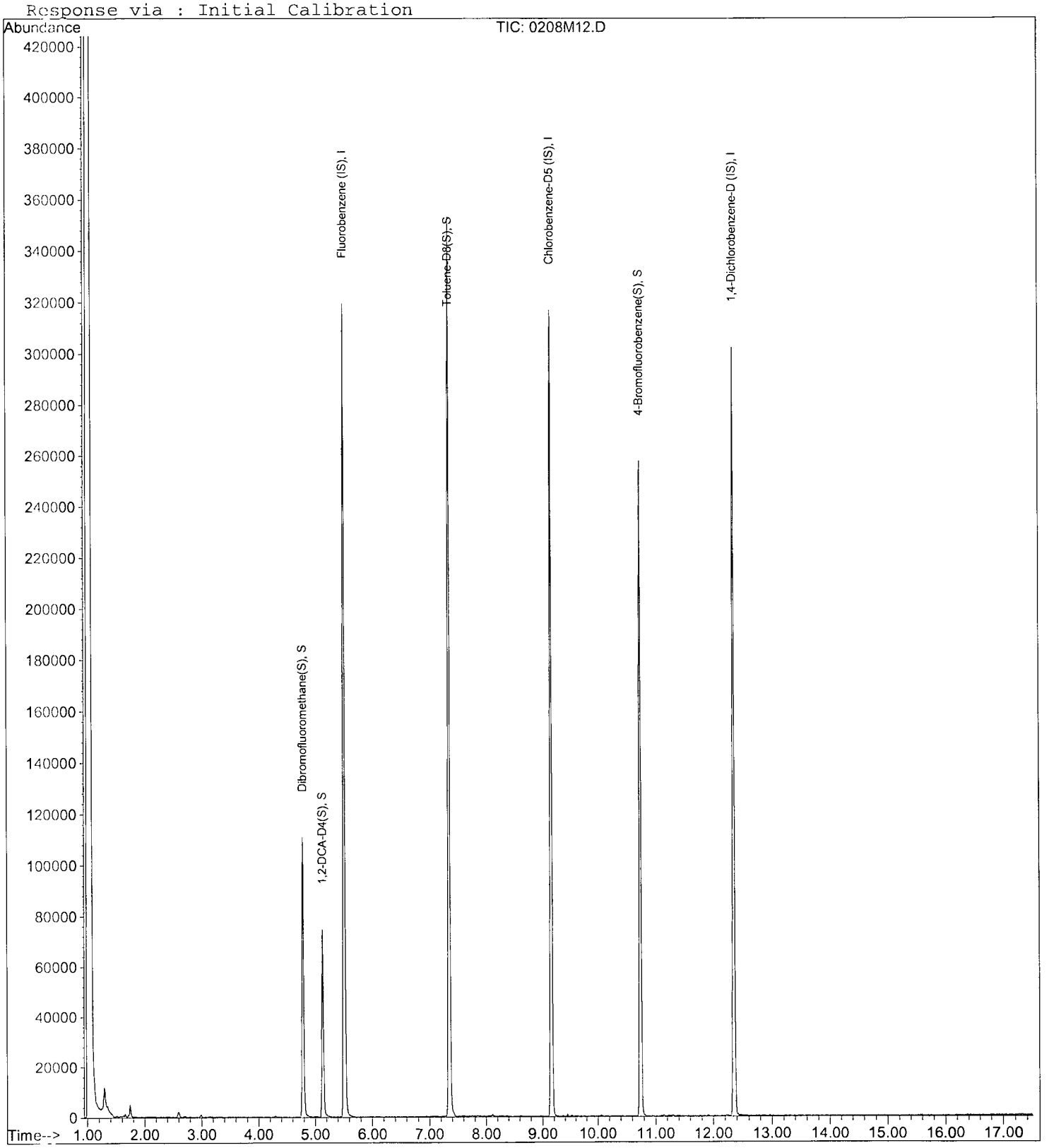
Data File : M:\MAX\DATA\M170127\0208M12.D
Acq On : 8 Feb 17 14:08
Sample : AZ49655W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #86BTO-170208AM-216060

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.8	85-114			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.2	89-112			%	02/08/17	02/08/17

Quant Method: MALLW.M
Run #: 0208M13
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/13/17 11:41:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M13.D
Acq On : 8 Feb 17 14:42
Sample : AZ49656W01
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:14 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	325809	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	238469	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	118849	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	71234	25.49 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.972%	
36) 1,2-DCA-D4(S)	5.13	65	56075	25.33 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.304%	
56) Toluene-D8(S)	7.35	98	277606	24.06 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.256%	
64) 4-Bromofluorobenzene(S)	10.74	95	101535	24.45 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.816%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

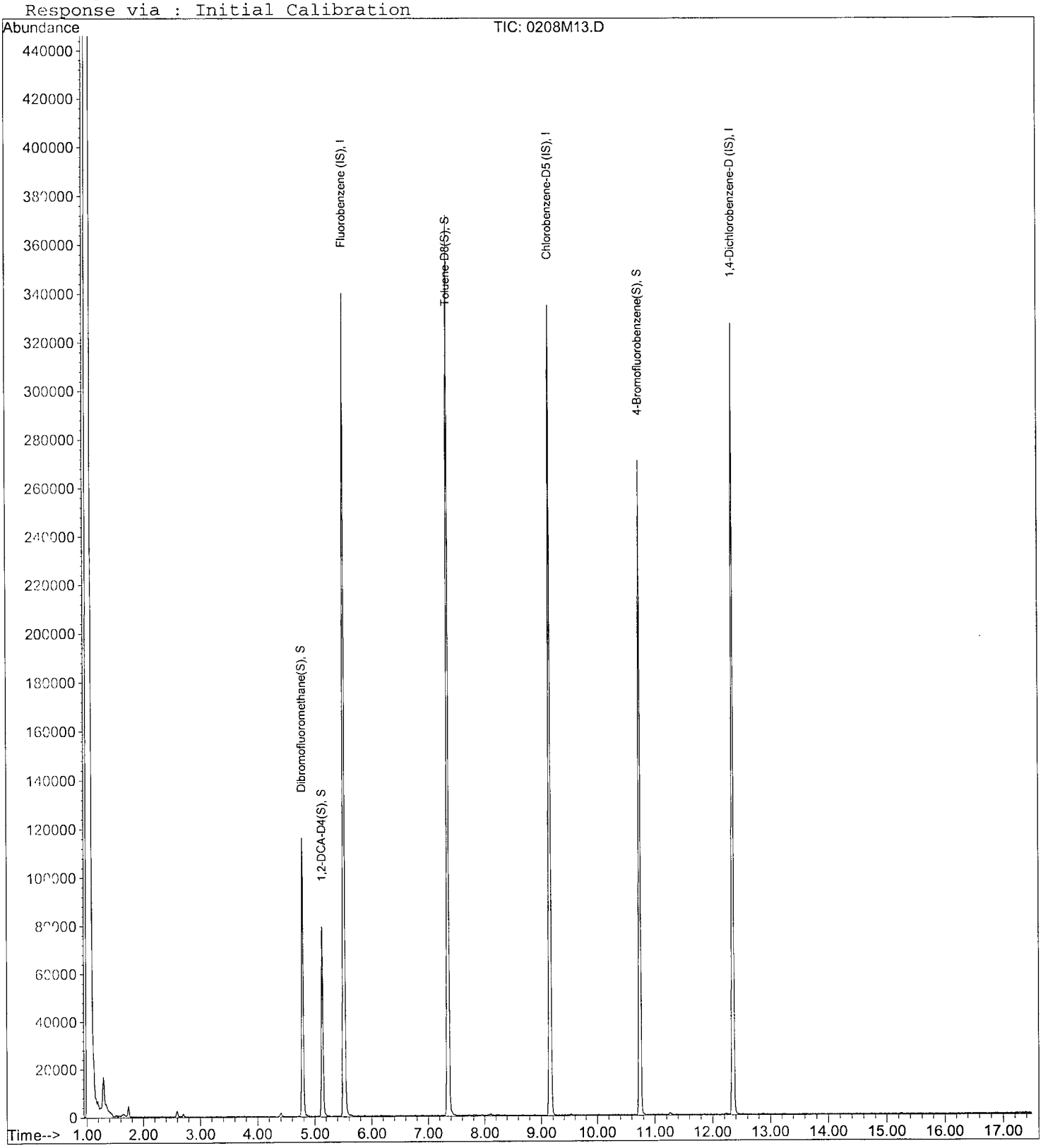
Quantitation Report

Data File : M:\MAX\DATA\M170127\0208M13.D
Acq On : 8 Feb 17 14:42
Sample : AZ49656W01
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:14 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #86BTO-170208AM-216060

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	109	81-118			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.9	85-114			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	107	80-119			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M14
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/13/17 11:41:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M14.D
Acq On : 8 Feb 17 15:11
Sample : AZ49657W01
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:19 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	287698	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	209208	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	105996	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	65956	26.73 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.924%	
36) 1,2-DCA-D4(S)	5.13	65	53286	27.25 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.016%	
56) Toluene-D8(S)	7.35	98	255531	25.25 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.992%	
64) 4-Bromofluorobenzene(S)	10.74	95	90993	24.98 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.924%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

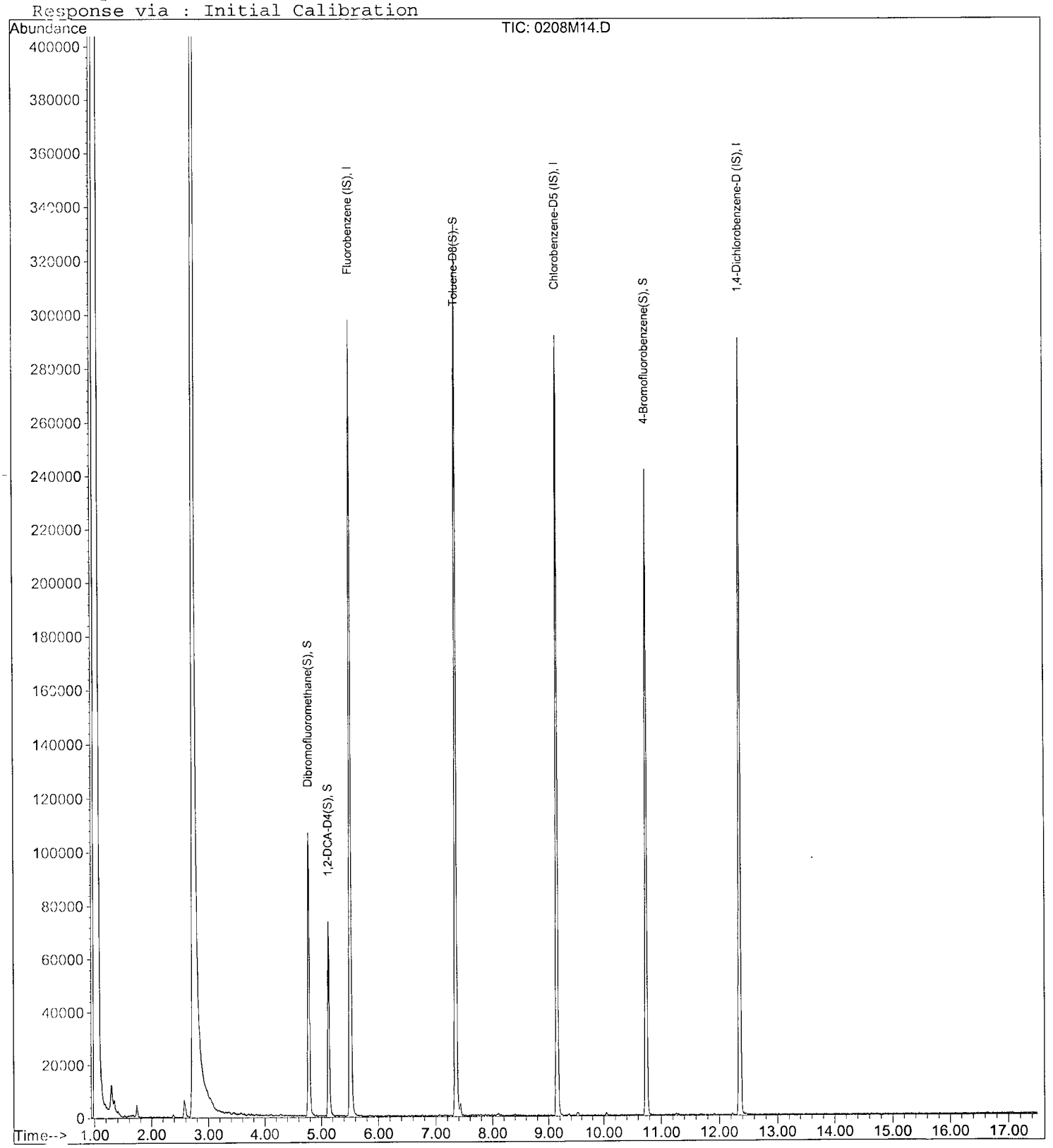
Data File : M:\MAX\DATA\M170127\0208M14.D
Acq On : 8 Feb 17 15:11
Sample : AZ49657W01
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:19 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #86BTO-170208AM-216060

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.5	89-112			%	02/08/17	02/08/17

Quant Method:	MGAS6111.M
Run #:	0208M15
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 02/13/17 11:41:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M15.D
Acq On : 8 Feb 17 15:39
Sample : AZ49658W01
Misc : IS&S 10/20/16

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:22 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	304705	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220286	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	110182	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	66277	25.36 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.448%	
36) 1,2-DCA-D4(S)	5.13	65	52947	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.276%	
56) Toluene-D8(S)	7.35	98	265186	24.88 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.536%	
64) 4-Bromofluorobenzene(S)	10.74	95	95992	25.03 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.112%	
Target Compounds					Qvalue
51) Toluene	7.44	91	3662	0.13 ppb	77

(#) = qualifier out of range (m) = manual integration

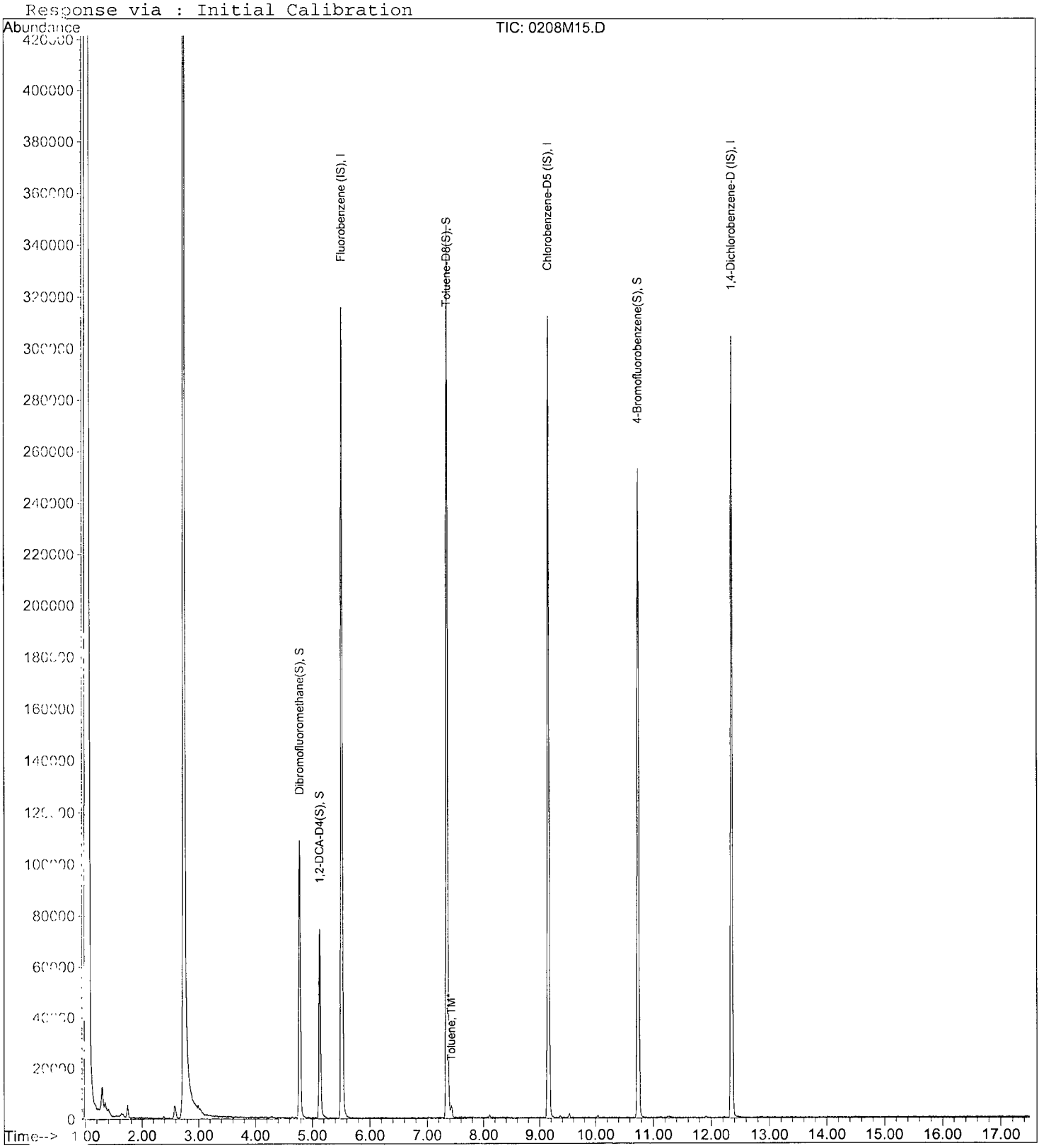
Quantitation Report

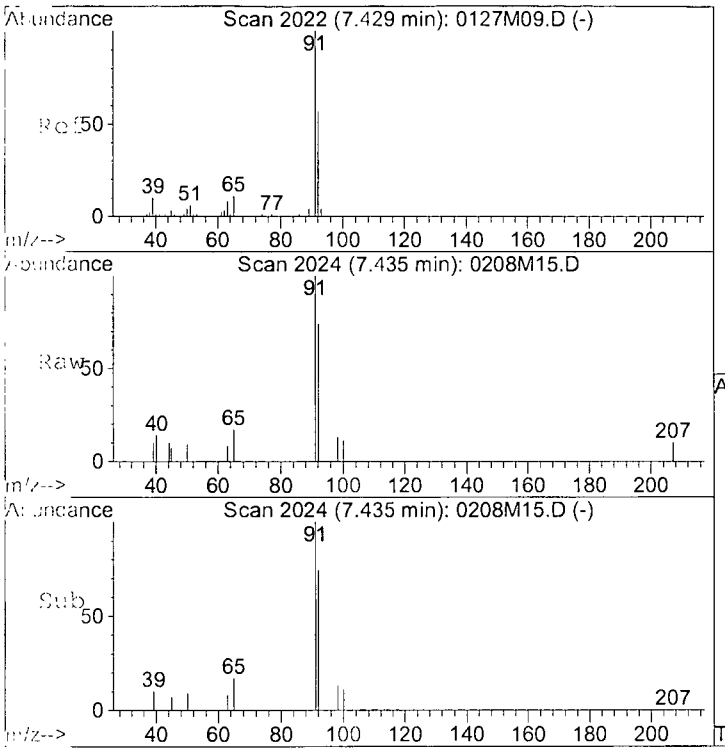
Data File : M:\MAX\DATA\M170127\0208M15.D
Acq On : 8 Feb 17 15:39
Sample : AZ49658W01
Misc : IS&S 10/20/16

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:22 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration

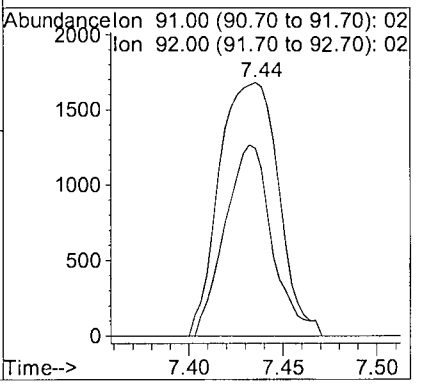




#51
Toluene
Concen: 0.13 ppb
RT: 7.44 min Scan# 2024
Delta R.T. 0.01 min
Lab File: 0208M15.D
Acq: 8 Feb 17 15:39

Tgt Ion: 91 Resp: 3662

Ion	Ratio	Lower	Upper
91	100		
92	74.0	40.1	74.5



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH246
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49659
QCG: #86BTO-170208AM-216060

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/08/17	02/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M16
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/13/17 11:41:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M16.D Vial: 4
Acq On : 8 Feb 17 16:07 Operator: PM,DG,SV,CMM
Sample : AZ49659W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:23 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	287688	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	207821	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107165	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63632	25.79 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.160%	
36) 1,2-DCA-D4(S)	5.13	65	51744	26.47 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.864%	
56) Toluene-D8(S)	7.35	98	251839	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	92514	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.272%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

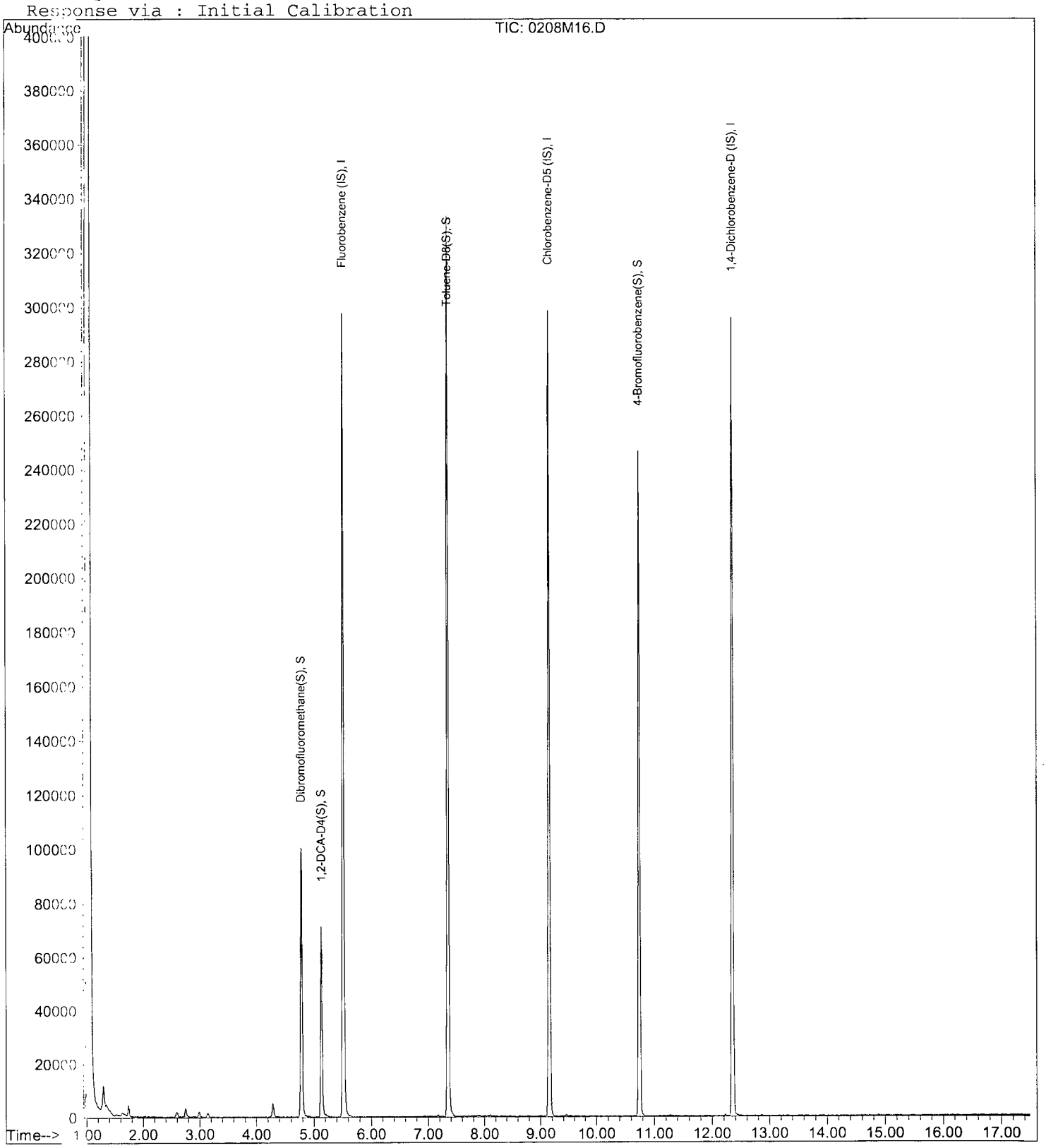
Quantitation Report

Data File : M:\MAX\DATA\M170127\0208M16.D
Acq On : 8 Feb 17 16:07
Sample : AZ49659W01
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:23 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06 D	0127M07.D	0127M08 D	0127M09.D	0127M10 D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2389	0.2502	0.2467	0.2270	0.2577	0.2512	0.2523	0.2547		0.25	4.0	TM	
3	TM	Freon 114		0.4371	0.3708	0.4129	0.3440	0.3916	0.3651	0.3776	0.3846		0.39	7.5	TM	
4	TM**	Chloromethane		0.5322	0.4562	0.4212	0.4361	0.4089	0.3805	0.3985	0.4121		0.43	11	TM**	
5	TM*	Vinyl chloride	0.6017	0.6231	0.5712	0.6041	0.5783	0.5965	0.5953	0.5871	0.6200		0.60	2.9	TM*	
6	TM	Bromomethane	0.4210	0.3988	0.3480	0.3346	0.3238	0.2727					0.35	15	TM	
7	TM	Chloroethane		0.4018	0.3267	0.3045	0.3231	0.3282	0.3196	0.3179			0.33	9.6	TM	
8	TM	Dichlorofluoromethane		0.9421	0.8705	0.8795	1.020	0.8947	0.8799	0.8934	0.8728		0.91	5.6	TM	
9	TM	Trichlorofluoromethane		0.6574	0.6021	0.6139	0.6325	0.6575	0.6351	0.6219	0.6246		0.63	3.1	TM	
10	TM	Acrolein	0.0221	0.0224	0.0209	0.0217	0.0215	0.0196	0.0218	0.0214	0.0205		0.02	4.0	TM	
11	TML	Acetone		0.1074	0.0946	0.0799	0.0694	0.0585	0.0589	0.0544	0.0512		0.07	28	TML	0.999
12	TM	Freon-113		0.4482	0.4215	0.4072	0.4180	0.4250	0.4032	0.4067	0.4093		0.42	3.5	TM	
13	TM*	1,1-DCE		0.6934	0.6988	0.6813	0.7560	0.6827	0.6557	0.6602	0.6469		0.68	5.0	TM*	
14	TM	t-Butanol	0.0102	0.0096	0.0099	0.0098	0.0103	0.0098	0.0109	0.0109	0.0115		0.01	6.4	TM	
15	TM	Methyl Acetate		0.1448	0.1772	0.1728	0.1817	0.1632	0.1614	0.1609	0.1615		0.17	7.0	TM	
16	TML	Iodomethane		0.2400	0.2533	0.3130	0.5299	0.5563	0.5570	0.5781	0.5790		0.45	34	TML	1.00
17	TML	Acrylonitrile		0.0339	0.0573	0.0595	0.0850	0.0793	0.0775	0.0742	0.0734		0.07	25	TML	1.000
18	TML	Methylene chloride		0.8435	0.6471	0.5541	0.5471	0.4416	0.4233	0.4235	0.4059		0.54	28	TML	1.000
19	TM	Carbon disulfide		1.448	1.423	1.314	1.512	1.354	1.283	1.291	1.272		1.4	6.5	TM	
20	TM	Methyl t-butyl ether (MtBE)		0.7248	0.6682	0.7029	0.8398	0.7264	0.7162	0.7104	0.6946		0.72	7.0	TM	
21	TM	Trans-1,2-DCE		0.4638	0.4872	0.4607	0.5704	0.5038	0.4877	0.4827	0.4695		0.49	7.2	TM	
22	TM	Diisopropyl Ether		1.323	1.349	1.315	1.638	1.384	1.381	1.362	1.311		1.4	7.7	TM	
23	TM**	1,1-DCA		0.8328	0.8592	0.8322	1.018	0.8720	0.8500	0.8485	0.8306		0.87	7.2	TM**	
24	TM	Vinyl Acetate		0.2662	0.2382	0.2259	0.3166	0.2565	0.3103	0.3003	0.2995		0.28	13	TM	
25	TM	Ethyl tert Butyl Ether		0.8982	0.8389	0.8009	1.051	0.9041	0.9042	0.9333	0.9098		0.91	8.1	TM	
26	TM	MEK (2-Butanone)			0.0963	0.0737	0.1152	0.1023	0.0950	0.0912	0.0853		0.09	14	TM	
27	TM	Cis-1,2-DCE		0.5195	0.5457	0.5490	0.6220	0.5303	0.5217	0.5205	0.4982		0.54	6.9	TM	
28	TM	2,2-Dichloropropane		0.5191	0.5335	0.5380	0.6527	0.5991	0.5938	0.6136	0.6333		0.59	8.5	TM	
29	TM*	Chloroform		0.8166	0.8536	0.7808	0.9802	0.8365	0.8162	0.8140	0.7929		0.84	7.5	TM*	
30	TM	Bromochloromethane		0.2089	0.1962	0.2011	0.2444	0.2040	0.2028	0.1998	0.1961		0.21	7.6	TM	
31	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
32	TM	1,1,1-TCA		0.7566	0.7060	0.7454	0.8620	0.7904	0.7575	0.7702	0.7723		0.77	5.8	TM	
33	TM	Cyclohexane	0.4380	0.4501	0.4062	0.4477	0.4651	0.4609	0.4307	0.4337	0.4358		0.44	4.0	TM	
34	TM	1,1-Dichloropropene	0.7193	0.6325	0.6951	0.6889	0.7756	0.7218	0.6778	0.6777	0.6632		0.69	5.9	TM	
35	TM	2,2,4-Trimethylpentane	1.318	1.321	1.241	1.266	1.227	1.268	1.193	1.247	1.232		1.3	3.3	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 1/27/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
37	TM	Carbon Tetrachloride	0.6686	0.6854	0.6062	0.6219	0.7013	0.6698	0.6594	0.6723	0.6739		0.66	4.5	TM	
38	TM	Tert Amyl Methyl Ether		0.6980	0.6866	0.6885	0.8779	0.7482	0.7749	0.7860	0.7759		0.75	8.6	TM	
39	TM	1,2-DCA		0.4278	0.4501	0.4406	0.5275	0.4537	0.4573	0.4483	0.4288		0.45	6.9	TM	
40	TM	Benzene		2.072	1.997	1.969	2.380	2.063	2.005	2.006	1.931		2.1	6.8	TM	
41	TM	TCE		0.5668	0.5447	0.5554	0.6157	0.5535	0.5343	0.5393	0.5153		0.55	5.4	TM	
42	TM	2-Pentanone		0.1242	0.1300	0.1341	0.1371	0.1326	0.1408	0.1446	0.1555		0.14	7.0	TM	
43	TM*	1,2-Dichloropropane		0.5084	0.4434	0.4432	0.5312	0.4695	0.4520	0.4508	0.4260		0.47	7.8	TM*	
44	TM	Bromodichloromethane		0.5321	0.5069	0.4962	0.6455	0.5360	0.5353	0.5356	0.5252		0.54	8.4	TM	
45	TM	Methyl Cyclohexane	0.7249	0.7092	0.7050	0.6884	0.7306	0.7472	0.6940	0.7128	0.7070		0.71	2.6	TM	
46	TM	Dibromomethane	0.1712	0.1757	0.1786	0.1631	0.2034	0.1690	0.1701	0.1698	0.1644		0.17	6.9	TM	
47	TML	MIBK (methyl isobutyl ketone)		0.3055	0.2692	0.2461	0.2463	0.2027	0.2052	0.1925	0.1823		0.23	18	TML	0.999
48	TM	1-Bromo-2-chloroethane		0.4146	0.4453	0.4332	0.5105	0.4364	0.4464	0.4475	0.4445		0.45	6.2	TM	
49	TM	2-Chloroethyl vinyl ether				0.0076	0.0102	0.0090	0.0091	0.0103			0.01	12	TM	
50	TM	Cis-1,3-Dichloropropene		0.5370	0.5411	0.5378	0.6853	0.5995	0.6034	0.6248	0.6174		0.59	8.8	TM	
51	TM*	Toluene		2.416	2.316	2.267	2.720	2.386	2.332	2.325	2.268		2.4	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene		0.3548	0.3508	0.3548	0.4477	0.4003	0.4234	0.4432	0.4539		0.40	11	TM	
53	TM	1,1,2-TCA		0.2307	0.1974	0.2094	0.2534	0.2148	0.2124	0.2098	0.2040		0.22	8.2	TM	
54	TM	2-Hexanone			0.1112	0.1044	0.1235	0.1089	0.1145	0.1201	0.1175		0.11	5.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
57	TM	1,2-EDB		0.3223	0.2898	0.3006	0.3915	0.3273	0.3383	0.3292	0.3149		0.33	9.4	TM	
58	TM	Tetrachloroethene		0.8281	0.8142	0.8213	0.9442	0.8079	0.7705	0.7452	0.6933		0.80	9.1	TM	
59	TM	1-Chlorohexane		0.8711	0.8667	0.8760	1.057	0.9862	0.9420	0.9434	0.9197		0.93	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane		0.6232	0.6950	0.6573	0.7786	0.6877	0.6701	0.6644	0.6616		0.68	6.7	TM	
61	TM	m&p-Xylene		1.455	1.402	1.439	1.746	1.489	1.471	1.426	1.331		1.5	8.3	TM	
62	TM	o-Xylene		1.199	1.412	1.284	1.669	1.406	1.396	1.337	1.269		1.4	10	TM	
63	TM	Styrene		1.973	1.999	1.956	2.515	2.151	2.177	2.104	2.003		2.1	8.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
65	TM	1,3-Dichloropropane		0.6557	0.6431	0.6168	0.7717	0.6417	0.6573	0.6241	0.5777		0.65	8.6	TM	
66	TM	Dibromochloromethane		0.5058	0.4645	0.4718	0.5895	0.5028	0.5045	0.4904	0.4624		0.50	8.2	TM	
67	TM**	Chlorobenzene		2.158	2.082	2.053	2.439	2.061	2.025	1.981	1.858		2.1	8.1	TM**	
68	TM*	Ethylbenzene		3.700	3.496	3.583	4.440	3.857	3.742	3.677	3.519		3.8	8.1	TM*	
69	TM**	Bromoform		0.2642	0.3027	0.2738	0.3453	0.2949	0.3024	0.2971	0.2900		0.30	8.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM	Isopropylbenzene		7.059	6.765	6.751	8.190	7.264	6.794	6.789	6.510		7.0	7.5	TM	
72	TM**	1,1,2,2-Tetrachloroethane		0.6919	0.6552	0.6275	0.7785	0.6556	0.6469	0.6345	0.6116		0.66	7.9	TM**	
73	TM	1,2,3-Trichloropropane		0.1856	0.2342	0.2409	0.2590	0.2284	0.2075	0.2047	0.1997		0.22	11	TM	
74	TML	t-1,4-Dichloro-2-Butene			0.0766	0.1035	0.1514	0.1369	0.1435	0.1405			0.13	23	TML	0.999
75	TM	Bromobenzene		1.712	1.544	1.554	1.870	1.618	1.567	1.555	1.541		1.6	7.2	TM	
76	TM	n-Propylbenzene		7.665	7.091	7.488	9.040	8.042	7.608	7.605	7.432		7.7	7.6	TM	
77	TM	4-Ethyltoluene	6.522	6.773	6.559	6.436	7.961	7.158	6.751	6.713	6.554		6.8	7.0	TM	
78	TM	2-Chlorotoluene		4.763	4.759	4.381	5.434	4.624	4.480	4.390	4.240		4.6	8.1	TM	
79	TM	1,3,5-Trimethylbenzene		5.301	5.630	5.751	6.688	5.850	5.533	5.486	5.288		5.7	7.9	TM	
80	TM	4-Chlorotoluene	5.136	5.338	5.112	5.012	6.204	5.303	5.048	5.018	4.829		5.2	7.6	TM	
81	TM	Tert-Butylbenzene	5.141	5.367	4.866	4.962	5.830	5.231	4.874	4.877	4.695		5.1	6.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.590	5.589	5.145	5.281	6.394	5.742	5.476	5.460	5.295		5.6	6.6	TM	
83	TM	Sec-Butylbenzene	6.828	6.837	6.335	6.601	7.819	7.113	6.643	6.538	6.383		6.8	6.7	TM	
84	TM	p-Isopropyltoluene	6.052	5.776	5.551	5.781	6.846	6.126	5.828	5.791	5.615		5.9	6.6	TM	
85	TM	Benzyl Chloride		0.3752	0.3984	0.3994	0.4460	0.4487	0.5581				0.44	15	TM	
86	TM	1,3-DCB	3.337	3.392	3.073	3.106	3.809	3.235	3.119	3.101	2.985		3.2	7.7	TM	
87	TM	1,4-DCB	3.662	3.246	3.127	3.021	3.581	3.169	2.999	2.959	2.807		3.2	8.9	TM	
88	TM	n-Butylbenzene	4.525	4.197	4.323	4.331	5.430	4.968	4.751	4.741	4.634		4.7	8.2	TM	
89	TM	1,2-DCB	2.746	2.654	2.511	2.515	3.104	2.679	2.603	2.560	2.484		2.7	7.2	TM	
90	TM	Hexachloroethane	0.7874	0.6768	0.6890	0.6923	0.8126	0.8046	0.8394	0.8927	0.8980		0.79	11	TM	
91	TM	1,2-Dibromo-3-chloropropane			0.0878	0.0830	0.0969	0.0880	0.0941	0.0915	0.0965		0.09	5.6	TM	
92	TML	1,2,4-Trichlorobenzene		0.5081	0.8288	0.9593	1.497	1.499	1.540				1.1	38	TML	0.999
93	TM	Hexachlorobutadiene		1.217	1.189	1.203	1.367	1.272	1.171	1.167	1.145		1.2	5.9	TM	
94	TML	Naphthalene		0.1544	0.3780	0.5168	0.9242	1.231	1.432				0.77	65	TML	0.994
95	TML	1,2,3-Trichlorobenzene		0.2039	0.3376	0.5517	0.8645	1.010	1.091				0.68	54	TML	0.999
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	14557	5.30855 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.236%	
36) 1,2-DCA-D4(S)	5.13	65	11763	5.20370 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.816%	
56) Toluene-D8(S)	7.35	98	57915	5.29894 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	20580	5.25859 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.036%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	979	0.26825 ppb		98
3) Freon 114	1.29	85	1579	0.33070 ppb		89
4) Chloromethane	1.34	50	2268	0.41495 ppb		95
5) Vinyl chloride	1.43	62	2257	0.31029 ppb	#	78
6) Bromomethane	1.70	94	1579	0.41187 ppb		95
7) Chloroethane	1.79	64	1408	0.34824 ppb		100
8) Dichlorofluoromethane	1.99	67	3728	0.36341 ppb		96
9) Trichlorofluoromethane	2.03	101	2598	0.30593 ppb		90
10) Acrolein	2.42	56	2758	17.27864 ppb		100
11) Acetone	2.56	43	558	-0.29199 ppb	#	48
12) Freon-113	2.53	101	1641	0.33748 ppb		97
13) 1,1-DCE	2.51	61	2908	0.35651 ppb		96
14) t-Butanol	3.14	59	1274	9.42179 ppb		91
15) Methyl Acetate	2.90	43	806	0.40640 ppb	#	57
16) Iodomethane	2.64	142	798	0.98728 ppb	#	81
17) Acrylonitrile	3.22	53	159	0.18576 ppb	#	22
18) Methylene chloride	2.98	84	4307	0.85010 ppb		84
19) Carbon disulfide	2.70	76	6027	0.36668 ppb		96
20) Methyl t-butyl ether (MtBE	3.28	73	2941	0.33757 ppb		97
21) Trans-1,2-DCE	3.25	96	1841	0.31022 ppb		97
22) Diisopropyl Ether	3.79	45	5019	0.31700 ppb	#	89
23) 1,1-DCA	3.67	63	3224	0.31870 ppb	#	91
24) Vinyl Acetate	3.76	43	1195	0.36212 ppb	#	73
25) Ethyl tert Butyl Ether	4.17	59	3616	0.33861 ppb		91
26) MEK (2-Butanone)	4.32	43	371	0.32964 ppb	#	56
27) Cis-1,2-DCE	4.27	96	1964	0.30491 ppb		87
28) 2,2-Dichloropropane	4.27	77	2454	0.33390 ppb		97
29) Chloroform	4.61	83	3749	0.38464 ppb		83
30) Bromochloromethane	4.51	128	705	0.28916 ppb		85
32) 1,1,1-TCA	4.80	97	2984	0.32429 ppb		96
33) Cyclohexane	4.87	41	1643	0.32519 ppb		82
34) 1,1-Dichloropropene	4.98	75	2698	0.32599 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	4943	0.33618 ppb		96
37) Carbon Tetrachloride	4.98	117	2508	0.32319 ppb		100
38) Tert Amyl Methyl Ether	5.36	73	2810	0.31353 ppb	#	97
39) 1,2-DCA	5.21	62	1918	0.35407 ppb		100
40) Benzene	5.20	78	8601	0.35839 ppb		95
41) TCE	5.93	95	2212	0.33392 ppb		89
42) 2-Pentanone	6.15	43	17738	10.20026 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	1533	0.28703	ppb	#	84
44) Bromodichloromethane	6.49	83	1978	0.31473	ppb		89
45) Methyl Cyclohexane	6.15	83	2719	0.34352	ppb		98
46) Dibromomethane	6.30	93	642	0.31732	ppb		88
47) MIBK (methyl isobutyl ket	7.25	43	829	0.31351	ppb	#	87
48) 1-Bromo-2-chloroethane	6.84	63	1485	0.28723	ppb	#	81
50) Cis-1,3-Dichloropropene	7.03	75	1855	0.26333	ppb	#	82
51) Toluene	7.43	91	9528	0.34926	ppb		93
52) Trans-1,3-Dichloropropene	7.71	75	1181	0.24172	ppb		93
53) 1,1,2-TCA	7.92	83	714	0.28047	ppb		81
54) 2-Hexanone	8.30	43	235	0.27422	ppb	#	75
57) 1,2-EDB	8.53	107	865	0.32061	ppb		90
58) Tetrachloroethene	8.10	164	2378	0.37321	ppb		92
59) 1-Chlorohexane	9.21	91	2592	0.36718	ppb		87
60) 1,1,1,2-Tetrachloroethane	9.31	131	1791	0.32805	ppb		99
61) m&p-Xylene	9.53	106	7895	0.67837	ppb		92
62) o-Xylene	10.04	106	3468	0.31955	ppb		75
63) Styrene	10.06	104	4704	0.28124	ppb		100
65) 1,3-Dichloropropane	8.13	76	1975	0.37502	ppb		98
66) Dibromochloromethane	8.40	129	1301	0.32426	ppb		83
67) Chlorobenzene	9.19	112	6081	0.37121	ppb		97
68) Ethylbenzene	9.36	91	9979	0.34040	ppb		97
69) Bromoform	10.27	173	832	0.33873	ppb		94
71) Isopropylbenzene	10.56	105	9690	0.37439	ppb		95
72) 1,1,2,2-Tetrachloroethane	10.97	83	894	0.34160	ppb	#	60
73) 1,2,3-Trichloropropane	11.00	110	180	0.19910	ppb		88
74) t-1,4-Dichloro-2-Butene	11.05	53	72	0.13263	ppb	#	38
75) Bromobenzene	10.93	156	2132	0.33843	ppb		97
76) n-Propylbenzene	11.13	91	10523	0.36727	ppb		98
77) 4-Ethyltoluene	11.30	105	8424	0.33402	ppb		94
78) 2-Chlorotoluene	11.22	91	6546	0.37834	ppb		94
79) 1,3,5-Trimethylbenzene	11.40	105	7150	0.34065	ppb		100
80) 4-Chlorotoluene	11.37	91	6634	0.33811	ppb		88
81) Tert-Butylbenzene	11.84	119	6640	0.35866	ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	7220	0.34937	ppb		88
83) Sec-Butylbenzene	12.15	105	8819	0.35352	ppb		98
84) p-Isopropyltoluene	12.38	119	7817	0.34940	ppb		95
85) Benzyl Chloride	12.59	91	530	0.24318	ppb	#	89
86) 1,3-DCB	12.26	146	4310	0.35813	ppb		95
87) 1,4-DCB	12.39	146	4730	0.40401	ppb		90
88) n-Butylbenzene	12.96	91	5844	0.32803	ppb		94
89) 1,2-DCB	12.90	146	3547	0.35438	ppb		95
90) Hexachloroethane	13.27	117	1017	0.34202	ppb		81
92) 1,2,4-Trichlorobenzene	15.22	180	538	0.51380	ppb	#	91
93) Hexachlorobutadiene	15.52	225	2104	0.45128	ppb		83
94) Naphthalene	15.55	128	177	0.96119	ppb	#	76
95) 1,2,3-Trichlorobenzene	15.93	180	245	0.81156	ppb	#	66

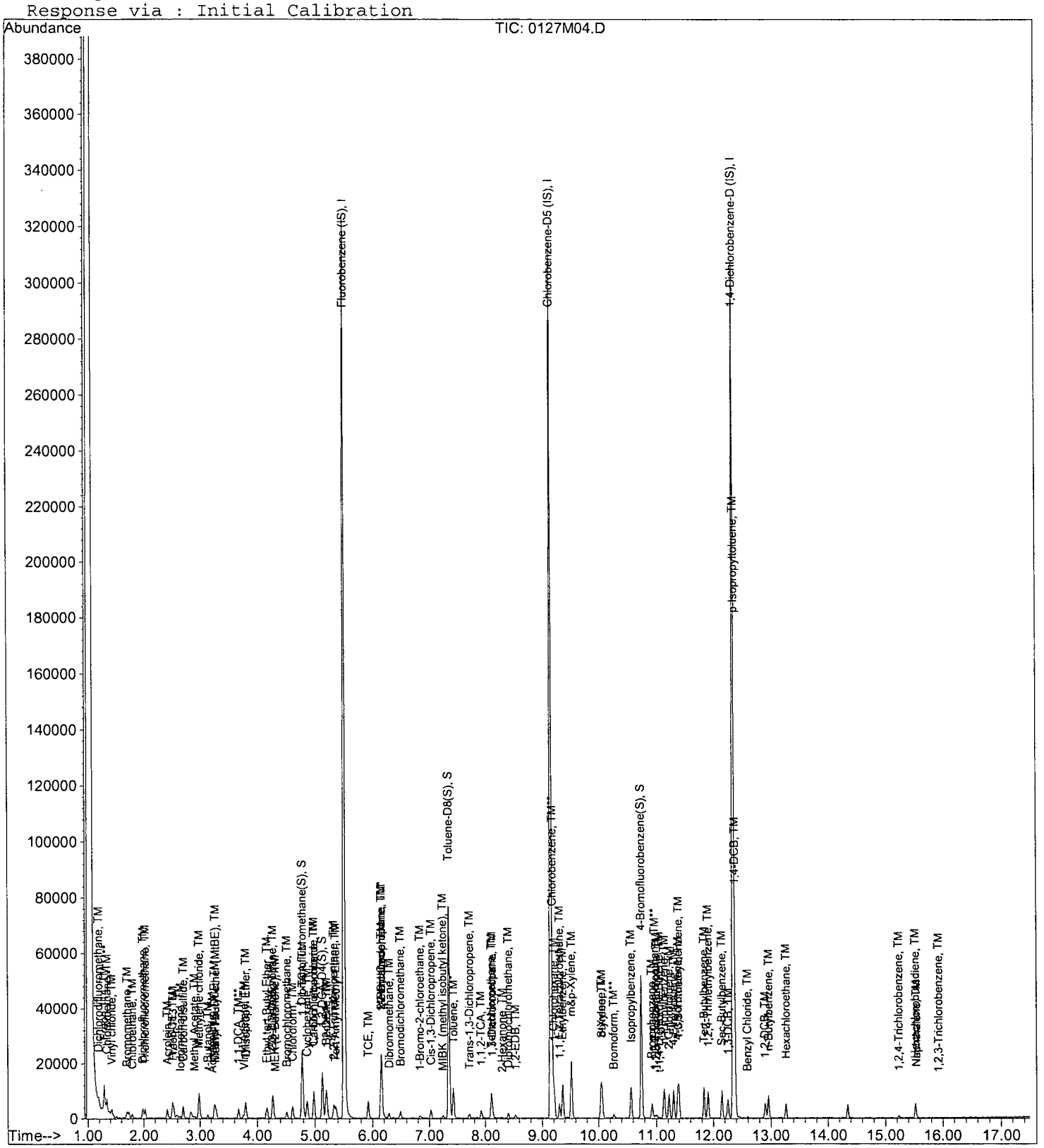
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M04.D Vial: 4
Acq On : 27 Jan 17 11:24 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 01/27/16A Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	13937	5.01048 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.040%	
36) 1,2-DCA-D4(S)	5.13	65	10688	4.66119 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.644%	
56) Toluene-D8(S)	7.35	98	52662	4.66182 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.648%	
64) 4-Bromofluorobenzene(S)	10.74	95	18960	4.68730 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.748%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	1515	0.40923 ppb		96
3) Freon 114	1.29	85	2772	0.57233 ppb		93
4) Chloromethane	1.34	50	3375	0.60873 ppb		96
5) Vinyl chloride	1.42	62	3951	0.53548 ppb		98
6) Bromomethane	1.70	94	2529	0.65033 ppb		89
7) Chloroethane	1.79	64	2548	0.62127 ppb		94
8) Dichlorofluoromethane	1.98	67	5974	0.57410 ppb		97
9) Trichlorofluoromethane	2.02	101	4169	0.48397 ppb		89
10) Acrolein	2.41	56	7093	43.80776 ppb		93
11) Acetone	2.57	43	681	-0.13069 ppb	#	48
12) Freon-113	2.53	101	2842	0.57620 ppb		84
13) 1,1-DCE	2.51	61	4397	0.53143 ppb	#	94
14) t-Butanol	3.14	59	3029	22.08357 ppb		97
15) Methyl Acetate	2.91	43	918	0.45632 ppb	#	57
16) Iodomethane	2.65	142	1522	1.08361 ppb	#	74
17) Acrylonitrile	3.22	53	215	0.24763 ppb	#	57
18) Methylene chloride	2.98	84	5349	1.04081 ppb		94
19) Carbon disulfide	2.70	76	9182	0.55071 ppb		98
20) Methyl t-butyl ether (MtBE	3.28	73	4596	0.52007 ppb		96
21) Trans-1,2-DCE	3.25	96	2941	0.48856 ppb		96
22) Diisopropyl Ether	3.79	45	8389	0.52235 ppb		99
23) 1,1-DCA	3.67	63	5281	0.51465 ppb		97
24) Vinyl Acetate	3.76	43	1688	0.50427 ppb	#	73
25) Ethyl tert Butyl Ether	4.16	59	5696	0.52583 ppb		94
26) MEK (2-Butanone)	4.30	43	400	0.35037 ppb	#	56
27) Cis-1,2-DCE	4.27	96	3294	0.50415 ppb		97
28) 2,2-Dichloropropane	4.26	77	3292	0.44158 ppb		99
29) Chloroform	4.61	83	5178	0.52372 ppb		97
30) Bromochloromethane	4.52	128	1325	0.53576 ppb		78
32) 1,1,1-TCA	4.80	97	4798	0.51405 ppb		96
33) Cyclohexane	4.86	41	2854	0.55689 ppb		82
34) 1,1-Dichloropropene	4.98	75	4011	0.47777 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	8376	0.56160 ppb		99
37) Carbon Tetrachloride	4.97	117	4346	0.55211 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	4426	0.48684 ppb		95
39) 1,2-DCA	5.21	62	2713	0.49374 ppb	#	89
40) Benzene	5.20	78	13139	0.53972 ppb		92
41) TCE	5.92	95	3594	0.53486 ppb		93
42) 2-Pentanone	6.15	43	39367	22.31746 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	3224	0.59509 ppb	#	84
44)	Bromodichloromethane	6.48	83	3374	0.52925 ppb		88
45)	Methyl Cyclohexane	6.15	83	4497	0.56011 ppb		97
46)	Dibromomethane	6.29	93	1114	0.54282 ppb		98
47)	MIBK (methyl isobutyl ket	7.25	43	1937	0.72217 ppb	#	91
48)	1-Bromo-2-chloroethane	6.84	63	2629	0.50130 ppb		88
50)	Cis-1,3-Dichloropropene	7.03	75	3405	0.47652 ppb		91
51)	Toluene	7.43	91	15318	0.55355 ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	2250	0.45399 ppb	#	73
53)	1,1,2-TCA	7.92	83	1463	0.56655 ppb		84
54)	2-Hexanone	8.29	43	440	0.50616 ppb	#	78
57)	1,2-EDB	8.54	107	1447	0.51890 ppb	#	71
58)	Tetrachloroethene	8.10	164	3718	0.56456 ppb		88
59)	1-Chlorohexane	9.21	91	3911	0.53603 ppb		87
60)	1,1,1,2-Tetrachloroethane	9.31	131	2798	0.49585 ppb		88
61)	m&p-Xylene	9.52	106	13068	1.08638 ppb		94
62)	o-Xylene	10.04	106	5381	0.47971 ppb		87
63)	Styrene	10.06	104	8858	0.51240 ppb		98
65)	1,3-Dichloropropane	8.13	76	2944	0.54086 ppb		92
66)	Dibromochloromethane	8.40	129	2271	0.54763 ppb		87
67)	Chlorobenzene	9.19	112	9687	0.57213 ppb		99
68)	Ethylbenzene	9.36	91	16612	0.54825 ppb		97
69)	Bromoform	10.27	173	1186	0.46716 ppb		96
71)	Isopropylbenzene	10.56	105	15823	0.58709 ppb		92
72)	1,1,2,2-Tetrachloroethane	10.96	83	1551	0.56913 ppb	#	77
73)	1,2,3-Trichloropropane	11.00	110	416	0.44188 ppb	#	20
74)	t-1,4-Dichloro-2-Butene	11.06	53	213	0.37679 ppb	#	38
75)	Bromobenzene	10.92	156	3837	0.58491 ppb		89
76)	n-Propylbenzene	11.13	91	17181	0.57585 ppb		98
77)	4-Ethyltoluene	11.30	105	15181	0.57805 ppb		95
78)	2-Chlorotoluene	11.21	91	10676	0.59256 ppb		85
79)	1,3,5-Trimethylbenzene	11.39	105	11882	0.54364 ppb		97
80)	4-Chlorotoluene	11.37	91	11966	0.58566 ppb		97
81)	Tert-Butylbenzene	11.84	119	12031	0.62407 ppb		95
82)	1,2,4-Trimethylbenzene	11.91	105	12528	0.58217 ppb		94
83)	Sec-Butylbenzene	12.15	105	15325	0.58995 ppb		98
84)	p-Isopropyltoluene	12.37	119	12948	0.55577 ppb		96
85)	Benzyl Chloride	12.58	91	841	0.37057 ppb	#	79
86)	1,3-DCB	12.26	146	7604	0.60677 ppb		84
87)	1,4-DCB	12.39	146	7275	0.59674 ppb		95
88)	n-Butylbenzene	12.95	91	9408	0.50713 ppb		95
89)	1,2-DCB	12.90	146	5949	0.57079 ppb		95
90)	Hexachloroethane	13.27	117	1517	0.48993 ppb		93
92)	1,2,4-Trichlorobenzene	15.23	180	1139	0.60234 ppb		82
93)	Hexachlorobutadiene	15.53	225	2728	0.56191 ppb	#	80
94)	Naphthalene	15.56	128	346	0.98858 ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	457	0.85367 ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

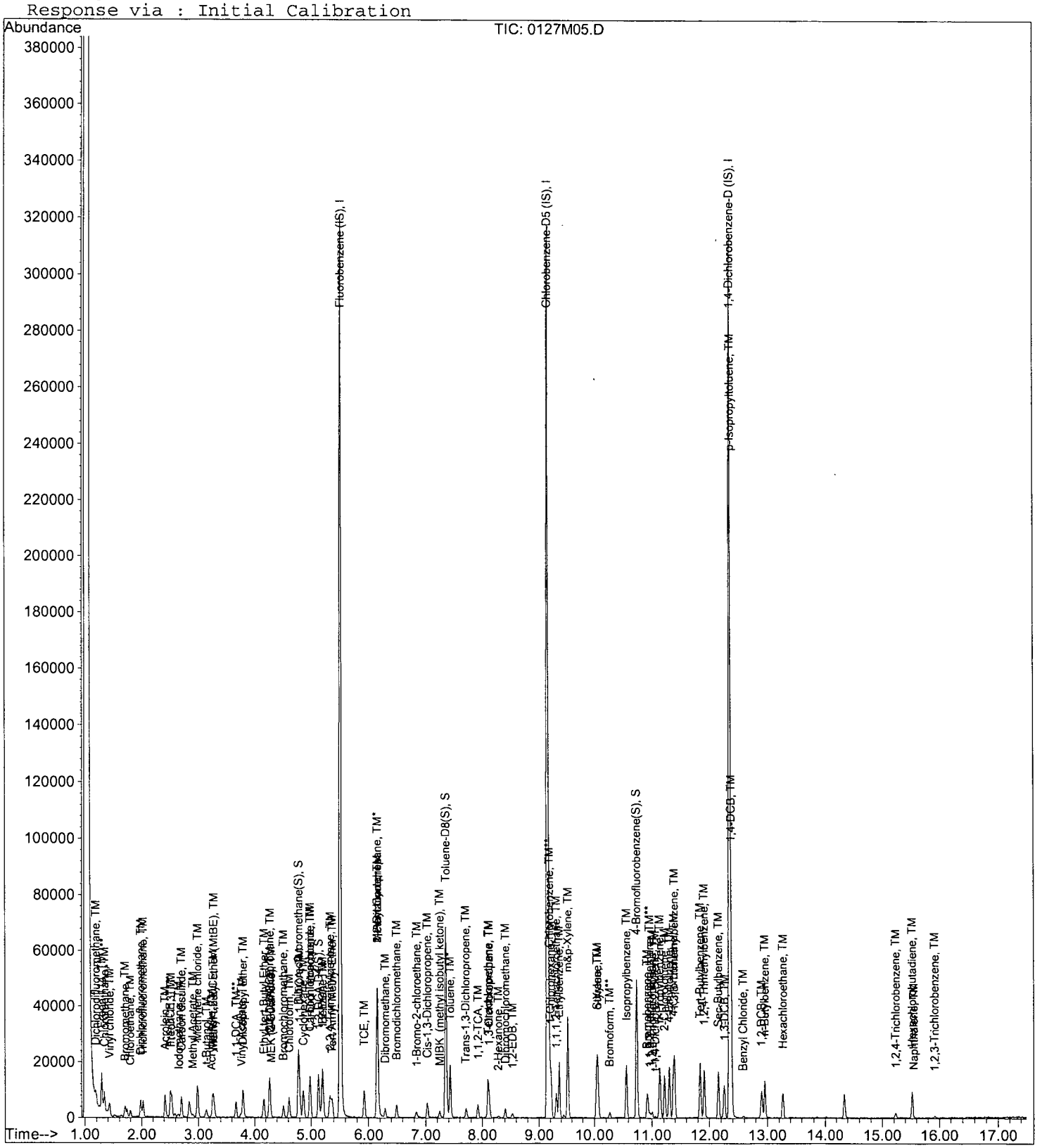
Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	24009	8.68572 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.744%	
36) 1,2-DCA-D4(S)	5.13	65	19787	8.68364 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.736%	
56) Toluene-D8(S)	7.35	98	96515	8.67446 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.696%	
64) 4-Bromofluorobenzene(S)	10.74	95	34814	8.73830 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.952%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	3153	0.85705 ppb		97
3) Freon 114	1.29	85	4673	0.97089 ppb		96
4) Chloromethane	1.34	50	5749	1.04344 ppb		96
5) Vinyl chloride	1.43	62	7199	0.98182 ppb		97
6) Bromomethane	1.69	94	4386	1.13495 ppb		95
7) Chloroethane	1.80	64	4118	1.01039 ppb		95
8) Dichlorofluoromethane	1.98	67	10971	1.06094 ppb		96
9) Trichlorofluoromethane	2.03	101	7588	0.88641 ppb		98
10) Acrolein	2.41	56	13194	82.00108 ppb		94
11) Acetone	2.57	43	1192	0.59663 ppb		92
12) Freon-113	2.53	101	5312	1.08374 ppb		96
13) 1,1-DCE	2.51	61	8807	1.07112 ppb		97
14) t-Butanol	3.14	59	6211	45.56733 ppb		92
15) Methyl Acetate	2.91	43	2233	1.11696 ppb		95
16) Iodomethane	2.64	142	3193	1.31248 ppb		95
17) Acrylonitrile	3.23	53	722	0.83680 ppb	#	85
18) Methylene chloride	2.98	84	8156	1.59698 ppb		91
19) Carbon disulfide	2.70	76	17937	1.08258 ppb		100
20) Methyl t-butyl ether (MtBE	3.28	73	8421	0.95888 ppb		92
21) Trans-1,2-DCE	3.26	96	6140	1.02640 ppb		87
22) Diisopropyl Ether	3.79	45	16999	1.06511 ppb		98
23) 1,1-DCA	3.67	63	10829	1.06195 ppb		92
24) Vinyl Acetate	3.76	43	3002	0.90245 ppb		96
25) Ethyl tert Butyl Ether	4.17	59	10573	0.98219 ppb		95
26) MEK (2-Butanone)	4.31	43	1214	1.07006 ppb	#	82
27) Cis-1,2-DCE	4.27	96	6877	1.05915 ppb		90
28) 2,2-Dichloropropane	4.27	77	6724	0.90761 ppb		100
29) Chloroform	4.62	83	10758	1.09495 ppb		92
30) Bromochloromethane	4.51	128	2473	1.00623 ppb		91
32) 1,1,1-TCA	4.80	97	8898	0.95931 ppb		93
33) Cyclohexane	4.87	41	5120	1.00532 ppb		95
34) 1,1-Dichloropropene	4.98	75	8761	1.05012 ppb		96
35) 2,2,4-Trimethylpentane	5.33	57	15645	1.05557 ppb		100
37) Carbon Tetrachloride	4.98	117	7640	0.97668 ppb		96
38) Tert Amyl Methyl Ether	5.37	73	8654	0.95788 ppb		98
39) 1,2-DCA	5.21	62	5673	1.03893 ppb		99
40) Benzene	5.20	78	25174	1.04060 ppb		98
41) TCE	5.92	95	6865	1.02808 ppb		95
42) 2-Pentanone	6.15	43	81903	46.72338 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	5588	1.03793 ppb	#	88
44) Bromodichloromethane	6.49	83	6389	1.00848 ppb		93
45) Methyl Cyclohexane	6.15	83	8885	1.11360 ppb		97
46) Dibromomethane	6.29	93	2251	1.10375 ppb		96
47) MIBK (methyl isobutyl ket	7.24	43	3393	1.27295 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	5612	1.07683 ppb		90
49) 2-Chloroethyl vinyl ether	6.89	106	43	1.76524 ppb	#	100
50) Cis-1,3-Dichloropropene	7.03	75	6820	0.96045 ppb		97
51) Toluene	7.43	91	29189	1.06145 ppb		96
52) Trans-1,3-Dichloropropene	7.71	75	4421	0.89765 ppb		99
53) 1,1,2-TCA	7.92	83	2488	0.96954 ppb		85
54) 2-Hexanone	8.28	43	1401	1.62179 ppb	#	72
57) 1,2-EDB	8.53	107	2563	0.93316 ppb		91
58) Tetrachloroethene	8.10	164	7201	1.11015 ppb		94
59) 1-Chlorohexane	9.21	91	7665	1.06660 ppb		84
60) 1,1,1,2-Tetrachloroethane	9.31	131	6147	1.10601 ppb		94
61) m&p-Xylene	9.52	106	24798	2.09305 ppb		100
62) o-Xylene	10.04	106	12485	1.13005 ppb		80
63) Styrene	10.06	104	17677	1.03818 ppb		88
65) 1,3-Dichloropropane	8.13	76	5688	1.06095 ppb		95
66) Dibromochloromethane	8.40	129	4108	1.00575 ppb		86
67) Chlorobenzene	9.19	112	18413	1.10413 ppb		94
68) Ethylbenzene	9.36	91	30917	1.03596 ppb		95
69) Bromoform	10.27	173	2677	1.07059 ppb		83
71) Isopropylbenzene	10.56	105	30821	1.12530 ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	2985	1.07783 ppb	#	93
73) 1,2,3-Trichloropropane	11.00	110	1067	1.11527 ppb	#	73
74) t-1,4-Dichloro-2-Butene	11.06	53	349	0.60751 ppb	#	46
75) Bromobenzene	10.92	156	7034	1.05513 ppb		98
76) n-Propylbenzene	11.13	91	32304	1.06544 ppb		96
77) 4-Ethyltoluene	11.30	105	29880	1.11958 ppb		93
78) 2-Chlorotoluene	11.22	91	21682	1.18422 ppb		93
79) 1,3,5-Trimethylbenzene	11.39	105	25649	1.15478 ppb		100
80) 4-Chlorotoluene	11.37	91	23291	1.12174 ppb		92
81) Tert-Butylbenzene	11.84	119	22167	1.13147 ppb		96
82) 1,2,4-Trimethylbenzene	11.91	105	23438	1.07176 ppb		91
83) Sec-Butylbenzene	12.15	105	28862	1.09332 ppb		97
84) p-Isopropyltoluene	12.37	119	25289	1.06815 ppb		97
85) Benzyl Chloride	12.58	91	1815	0.78698 ppb	#	91
86) 1,3-DCB	12.25	146	14001	1.09938 ppb		99
87) 1,4-DCB	12.38	146	14244	1.14972 ppb		98
88) n-Butylbenzene	12.95	91	19695	1.04468 ppb		95
89) 1,2-DCB	12.90	146	11438	1.07991 ppb		99
90) Hexachloroethane	13.26	117	3139	0.99758 ppb		92
91) 1,2-Dibromo-3-chloropropan	14.02	75	400	1.06917 ppb	#	60
92) 1,2,4-Trichlorobenzene	15.23	180	3776	0.99655 ppb		90
93) Hexachlorobutadiene	15.53	225	5416	1.09776 ppb		90
94) Naphthalene	15.57	128	1722	1.21664 ppb	#	76
95) 1,2,3-Trichlorobenzene	15.92	180	1538	1.07403 ppb		83

(#) = qualifier out of range (m) = manual integration

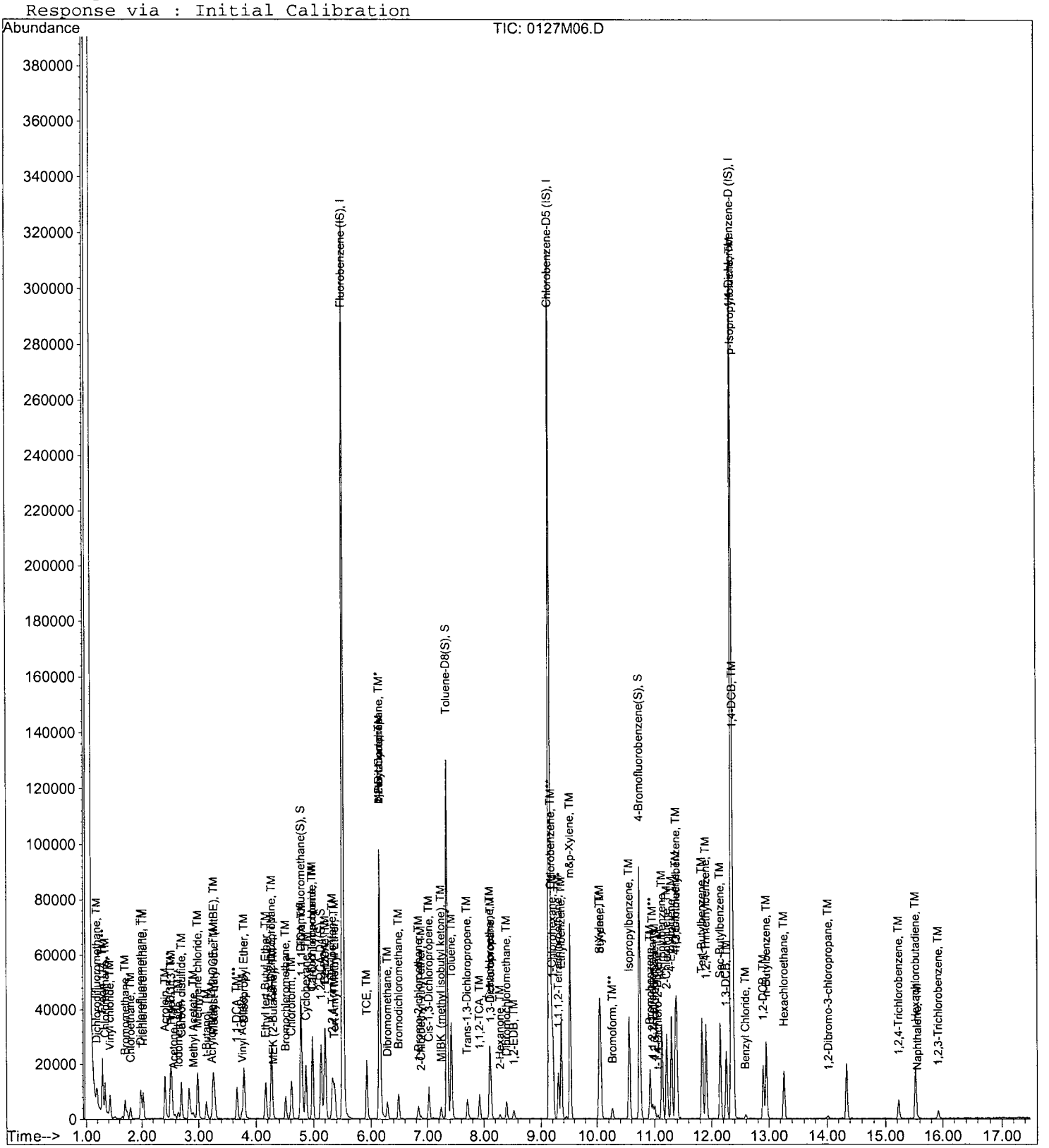
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



357

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
36) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
56) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	6197	1.99502 ppb		93
3) Freon 114	1.29	85	10371	2.14247 ppb		89
4) Chloromethane	1.34	50	10580	1.95594 ppb		99
5) Vinyl chloride	1.43	62	15174	2.02230 ppb		98
6) Bromomethane	1.70	94	8404	1.91300 ppb		97
7) Chloroethane	1.79	64	7649	1.83623 ppb		100
8) Dichlorofluoromethane	1.98	67	22090	1.94023 ppb		93
9) Trichlorofluoromethane	2.03	101	15419	1.94690 ppb		82
10) Acrolein	2.41	56	20463	76.40895 ppb		95
11) Acetone	2.57	43	2007	1.55884 ppb		86
12) Freon-113	2.53	101	10227	1.95105 ppb		97
13) 1,1-DCE	2.51	61	17113	1.99112 ppb		99
14) t-Butanol	3.14	59	9253	71.35111 ppb		99
15) Methyl Acetate	2.90	43	4341	2.08942 ppb		95
16) Iodomethane	2.64	142	7861	1.63338 ppb		99
17) Acrylonitrile	3.22	53	1494	1.34108 ppb	#	91
18) Methylene chloride	2.98	84	13918	1.71522 ppb		92
19) Carbon disulfide	2.70	76	33003	1.92940 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	17654	1.94458 ppb		98
21) Trans-1,2-DCE	3.26	96	11571	1.87754 ppb		96
22) Diisopropyl Ether	3.79	45	33028	1.90175 ppb		99
23) 1,1-DCA	3.67	63	20902	1.91759 ppb		96
24) Vinyl Acetate	3.76	43	5674	1.63290 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	20117	1.76999 ppb		100
26) MEK (2-Butanone)	4.31	43	1852	1.56634 ppb		98
27) Cis-1,2-DCE	4.27	96	13790	2.03965 ppb		95
28) 2,2-Dichloropropane	4.27	77	13512	1.83793 ppb		97
29) Chloroform	4.61	83	19612	1.86720 ppb		99
30) Bromochloromethane	4.51	128	5051	1.94614 ppb		89
32) 1,1,1-TCA	4.80	97	18722	1.93593 ppb		96
33) Cyclohexane	4.87	41	11246	2.03101 ppb		93
34) 1,1-Dichloropropene	4.98	75	17304	1.98346 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	31807	2.01499 ppb		98
37) Carbon Tetrachloride	4.98	117	15621	1.87868 ppb		85
38) Tert Amyl Methyl Ether	5.37	73	17294	1.82512 ppb		99
39) 1,2-DCA	5.21	62	11066	1.93975 ppb		100
40) Benzene	5.20	78	49465	1.91841 ppb		96
41) TCE	5.92	95	13950	2.00820 ppb		96
42) 2-Pentanone	6.15	43	126309	73.22545 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	11133	1.90409	ppb		100
44)	Bromodichloromethane	6.49	83	12462	1.84068	ppb		95
45)	Methyl Cyclohexane	6.15	83	17291	1.93043	ppb		88
46)	Dibromomethane	6.29	93	4096	1.87537	ppb		87
47)	MIBK (methyl isobutyl ket	7.24	43	6182	1.44991	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	10881	1.93701	ppb		99
49)	2-Chloroethyl vinyl ether	6.89	106	190	1.55527	ppb	#	100
50)	Cis-1,3-Dichloropropene	7.03	75	13507	1.81281	ppb		98
51)	Toluene	7.43	91	56943	1.90606	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	8912	1.75820	ppb		93
53)	1,1,2-TCA	7.92	83	5259	1.93436	ppb		83
54)	2-Hexanone	8.28	43	2622	1.82672	ppb	#	84
57)	1,2-EDB	8.53	107	5308	1.83996	ppb		97
58)	Tetrachloroethene	8.10	164	14503	2.04540	ppb		94
59)	1-Chlorohexane	9.21	91	15468	1.87831	ppb		94
60)	1,1,1,2-Tetrachloroethane	9.31	131	11607	1.93401	ppb		99
61)	m&p-Xylene	9.52	106	50808	3.91477	ppb		100
62)	o-Xylene	10.04	106	22679	1.87317	ppb		95
63)	Styrene	10.06	104	34536	1.85408	ppb		97
65)	1,3-Dichloropropane	8.13	76	10891	1.90204	ppb		91
66)	Dibromochloromethane	8.40	129	8332	1.89126	ppb		96
67)	Chlorobenzene	9.19	112	36247	1.97190	ppb		97
68)	Ethylbenzene	9.36	91	63277	1.91022	ppb		97
69)	Bromoform	10.27	173	4834	1.84790	ppb		98
71)	Isopropylbenzene	10.56	105	61554	1.92480	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	5721	1.89372	ppb		90
73)	1,2,3-Trichloropropane	11.01	110	2196	2.18994	ppb		85
74)	t-1,4-Dichloro-2-Butene	11.05	53	944	1.66410	ppb		95
75)	Bromobenzene	10.92	156	14166	1.91822	ppb		93
76)	n-Propylbenzene	11.13	91	68266	1.93324	ppb		98
77)	4-Ethyltoluene	11.30	105	58682	1.88606	ppb		99
78)	2-Chlorotoluene	11.21	91	39938	1.89068	ppb		96
79)	1,3,5-Trimethylbenzene	11.40	105	52435	2.02126	ppb		96
80)	4-Chlorotoluene	11.37	91	45694	1.91942	ppb		100
81)	Tert-Butylbenzene	11.84	119	45242	1.94844	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	48143	1.90206	ppb		92
83)	Sec-Butylbenzene	12.15	105	60178	1.94462	ppb		94
84)	p-Isopropyltoluene	12.37	119	52706	1.94992	ppb		98
85)	Benzyl Chloride	12.59	91	3641	1.82517	ppb		95
86)	1,3-DCB	12.26	146	28321	1.91772	ppb		93
87)	1,4-DCB	12.38	146	27546	1.90344	ppb		98
88)	n-Butylbenzene	12.96	91	39482	1.86039	ppb		92
89)	1,2-DCB	12.90	146	22934	1.89801	ppb		96
90)	Hexachloroethane	13.27	117	6312	1.75695	ppb		95
91)	1,2-Dibromo-3-chloropropan	14.01	75	757	1.82255	ppb		90
92)	1,2,4-Trichlorobenzene	15.23	180	8746	1.68979	ppb		95
93)	Hexachlorobutadiene	15.53	225	10964	1.97756	ppb		93
94)	Naphthalene	15.56	128	4712	1.81981	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	5030	1.80787	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

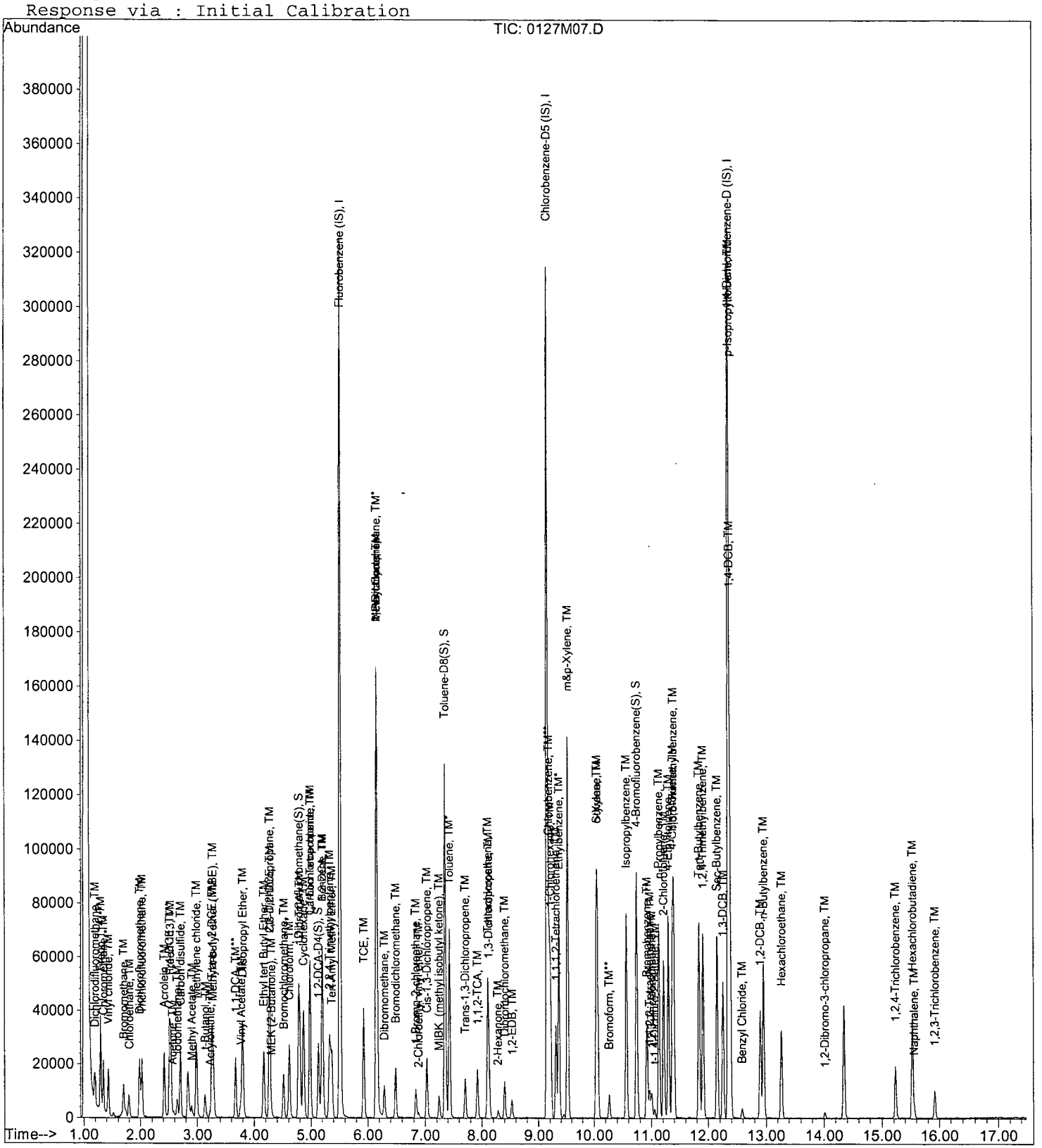
Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



360

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
56) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
64) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	14186	4.58932 ppb	96
3) Freon 114	1.29	85	21494	4.46204 ppb	91
4) Chloromethane	1.34	50	27248	5.06204 ppb	100
5) Vinyl chloride	1.43	62	36137	4.83971 ppb	98
6) Bromomethane	1.70	94	20231	4.62772 ppb	95
7) Chloroethane	1.80	64	20189	4.87034 ppb	92
8) Dichlorofluoromethane	1.98	67	63712	5.62342 ppb	97
9) Trichlorofluoromethane	2.03	101	39524	5.01499 ppb	93
10) Acrolein	2.41	56	26814	100.61392 ppb	100
11) Acetone	2.57	43	4339	5.24630 ppb	95
12) Freon-113	2.53	101	26118	5.00704 ppb	97
13) 1,1-DCE	2.51	61	47239	5.52323 ppb	95
14) t-Butanol	3.14	59	12878	99.79026 ppb	95
15) Methyl Acetate	2.90	43	11356	5.49267 ppb	100
16) Iodomethane	2.64	142	33114	5.10758 ppb	98
17) Acrylonitrile	3.22	53	5313	5.51150 ppb #	87
18) Methylene chloride	2.98	84	34185	5.74966 ppb	95
19) Carbon disulfide	2.70	76	94462	5.54941 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	52475	5.80840 ppb	98
21) Trans-1,2-DCE	3.25	96	35644	5.81202 ppb	98
22) Diisopropyl Ether	3.80	45	102358	5.92262 ppb	99
23) 1,1-DCA	3.67	63	63619	5.86512 ppb	99
24) Vinyl Acetate	3.76	43	19782	5.72086 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	65645	5.80404 ppb	99
26) MEK (2-Butanone)	4.31	43	7200	6.11925 ppb	89
27) Cis-1,2-DCE	4.27	96	38868	5.77703 ppb	97
28) 2,2-Dichloropropane	4.27	77	40785	5.57481 ppb	99
29) Chloroform	4.61	83	61253	5.86027 ppb	92
30) Bromochloromethane	4.51	128	15270	5.91231 ppb	96
32) 1,1,1-TCA	4.80	97	53865	5.59712 ppb	94
33) Cyclohexane	4.87	41	29060	5.27389 ppb	93
34) 1,1-Dichloropropene	4.98	75	48467	5.58269 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	76675	4.88118 ppb	98
37) Carbon Tetrachloride	4.98	117	43823	5.29624 ppb	99
38) Tert Amyl Methyl Ether	5.37	73	54859	5.81789 ppb	97
39) 1,2-DCA	5.21	62	32962	5.80619 ppb	98
40) Benzene	5.20	78	148728	5.79640 ppb	98
41) TCE	5.92	95	38475	5.56586 ppb	91
42) 2-Pentanone	6.15	43	171330	99.81199 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D Vial: 8
Acq On : 27 Jan 17 13:17 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 01/27/16E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	33196	5.70537	ppb		97
44)	Bromodichloromethane	6.49	83	40333	5.98648	ppb		87
45)	Methyl Cyclohexane	6.15	83	45650	5.12149	ppb		99
46)	Dibromomethane	6.29	93	12707	5.84643	ppb		76
47)	MIBK (methyl isobutyl ket	7.24	43	15391	5.52607	ppb		93
48)	1-Bromo-2-chloroethane	6.84	63	31900	5.70656	ppb		98
49)	2-Chloroethyl vinyl ether	6.87	106	637m	4.75437	ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	42825	5.77580	ppb		98
51)	Toluene	7.43	91	169990	5.71795	ppb		95
52)	Trans-1,3-Dichloropropene	7.71	75	27973	5.54565	ppb		92
53)	1,1,2-TCA	7.92	83	15832	5.85184	ppb		92
54)	2-Hexanone	8.28	43	7720	5.40478	ppb	#	94
57)	1,2-EDB	8.53	107	17157	5.99063	ppb		97
58)	Tetrachloroethene	8.10	164	41381	5.87860	ppb		94
59)	1-Chlorohexane	9.21	91	46310	5.66450	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	34121	5.72683	ppb		98
61)	m&p-Xylene	9.52	106	153047	11.87824	ppb		100
62)	o-Xylene	10.04	106	73128	6.08402	ppb		93
63)	Styrene	10.06	104	110225	5.96060	ppb		99
65)	1,3-Dichloropropane	8.13	76	33822	5.94985	ppb		99
66)	Dibromochloromethane	8.40	129	25834	5.90673	ppb		98
67)	Chlorobenzene	9.19	112	106910	5.85847	ppb		99
68)	Ethylbenzene	9.36	91	194581	5.91687	ppb		99
69)	Bromoform	10.27	173	15132	5.82669	ppb		95
71)	Isopropylbenzene	10.56	105	190220	5.83704	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	18082	5.87352	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	6015	5.88632	ppb		96
74)	t-1,4-Dichloro-2-Butene	11.05	53	3517	5.53849	ppb		85
75)	Bromobenzene	10.92	156	43441	5.77245	ppb		98
76)	n-Propylbenzene	11.13	91	209960	5.83481	ppb		99
77)	4-Ethyltoluene	11.30	105	184909	5.83201	ppb		98
78)	2-Chlorotoluene	11.21	91	126223	5.86378	ppb		94
79)	1,3,5-Trimethylbenzene	11.39	105	155345	5.87633	ppb		98
80)	4-Chlorotoluene	11.37	91	144088	5.93945	ppb		98
81)	Tert-Butylbenzene	11.84	119	135405	5.72253	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	148522	5.75825	ppb		99
83)	Sec-Butylbenzene	12.15	105	181604	5.75877	ppb		98
84)	p-Isopropyltoluene	12.37	119	159016	5.77304	ppb		99
85)	Benzyl Chloride	12.59	91	10359	5.09575	ppb		92
86)	1,3-DCB	12.26	146	88469	5.87863	ppb		98
87)	1,4-DCB	12.38	146	83174	5.63995	ppb		98
88)	n-Butylbenzene	12.95	91	126124	5.83191	ppb		94
89)	1,2-DCB	12.90	146	72088	5.85450	ppb		95
90)	Hexachloroethane	13.27	117	18873	5.15517	ppb		97
91)	1,2-Dibromo-3-chloropropan	14.00	75	2251	5.31823	ppb	#	77
92)	1,2,4-Trichlorobenzene	15.23	180	34761	5.21598	ppb		98
93)	Hexachlorobutadiene	15.53	225	31747	5.61915	ppb		97
94)	Naphthalene	15.56	128	21467	4.24164	ppb		98
95)	1,2,3-Trichlorobenzene	15.92	180	20080	4.66473	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

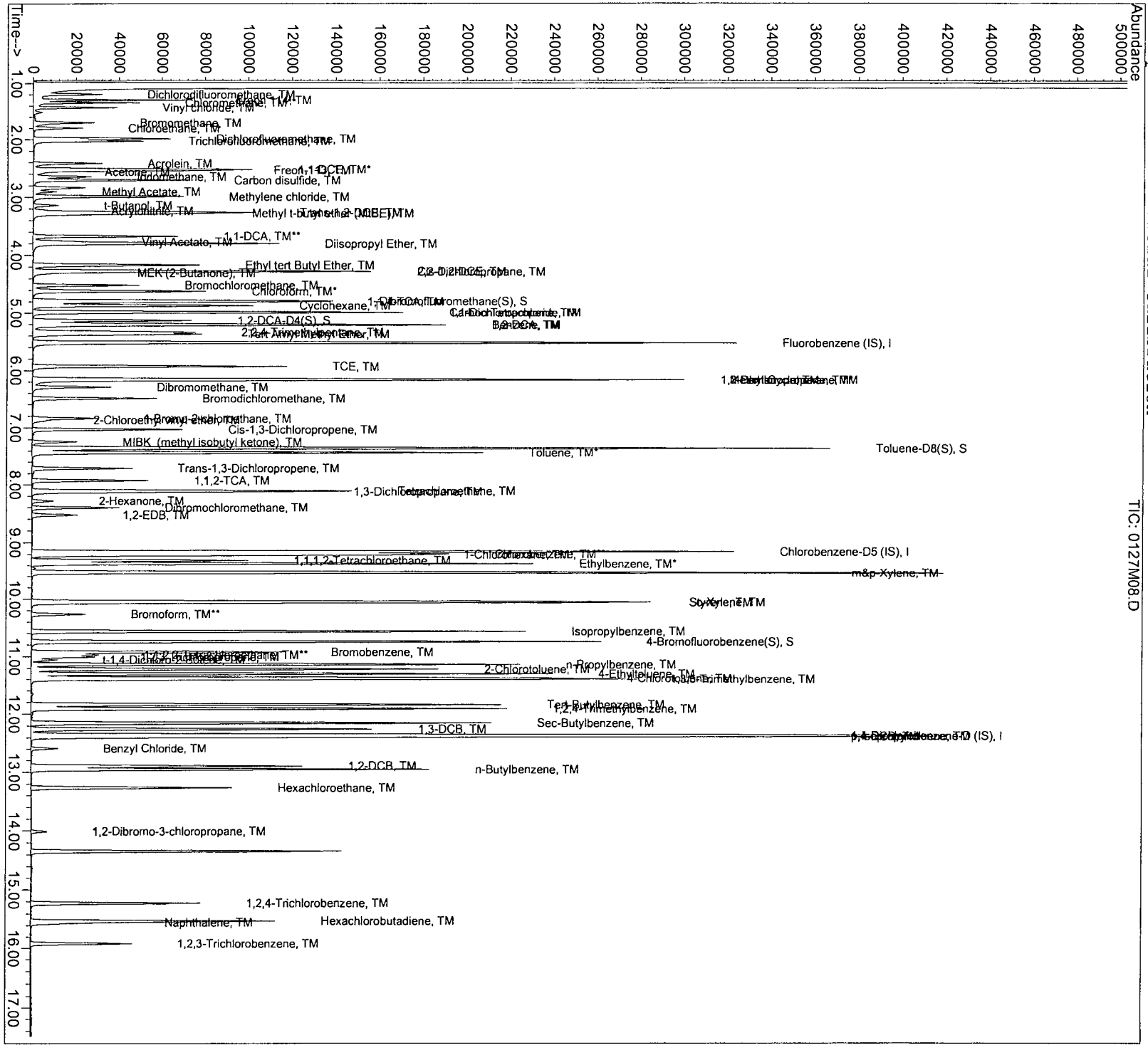
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
36) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
56) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
64) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	34112	10.41917 ppb	100
3) Freon 114	1.29	85	51835	10.15961 ppb	100
4) Chloromethane	1.34	50	54128	9.49403 ppb	100
5) Vinyl chloride	1.43	62	78953	9.98330 ppb	100
6) Bromomethane	1.69	94	36097	7.79577 ppb	100
7) Chloroethane	1.79	64	43444	9.89491 ppb	100
8) Dichlorofluoromethane	1.98	67	118435	9.86955 ppb	100
9) Trichlorofluoromethane	2.03	101	87038	10.42693 ppb	100
10) Acrolein	2.41	56	32459	114.99253 ppb	100
11) Acetone	2.57	43	7747	9.93129 ppb	100
12) Freon-113	2.53	101	56262	10.18344 ppb	100
13) 1,1-DCE	2.51	61	90361	9.97497 ppb	100
14) t-Butanol	3.14	59	16249	118.87880 ppb	100
15) Methyl Acetate	2.90	43	21601	9.86438 ppb	100
16) Iodomethane	2.64	142	73634	10.10872 ppb	100
17) Acrylonitrile	3.22	53	10491	10.51652 ppb	100
18) Methylene chloride	2.98	84	58449	9.91591 ppb	100
19) Carbon disulfide	2.70	76	179219	9.94059 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	96158	10.04911 ppb	100
21) Trans-1,2-DCE	3.25	96	66688	10.26660 ppb	100
22) Diisopropyl Ether	3.80	45	183205	10.00846 ppb	100
23) 1,1-DCA	3.67	63	115429	10.04715 ppb	100
24) Vinyl Acetate	3.75	43	33950	9.26977 ppb	100
25) Ethyl tert Butyl Ether	4.17	59	119668	9.98953 ppb	100
26) MEK (2-Butanone)	4.31	43	13542	10.86642 ppb	100
27) Cis-1,2-DCE	4.27	96	70191	9.84989 ppb	100
28) 2,2-Dichloropropane	4.27	77	79307	10.23480 ppb	100
29) Chloroform	4.61	83	110730	10.00215 ppb	100
30) Bromochloromethane	4.51	128	27002	9.87080 ppb	100
32) 1,1,1-TCA	4.80	97	104626	10.26445 ppb	100
33) Cyclohexane	4.87	41	61008	10.45346 ppb	100
34) 1,1-Dichloropropene	4.98	75	95546	10.39078 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	167786	10.08474 ppb	100
37) Carbon Tetrachloride	4.98	117	88656	10.11606 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	99041	9.91678 ppb	100
39) 1,2-DCA	5.21	62	60052	9.98719 ppb	100
40) Benzene	5.20	78	273120	10.04979 ppb	100
41) TCE	5.92	95	73263	10.00637 ppb	100
42) 2-Pentanone	6.15	43	219407	120.68071 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	62149	10.08487	ppb	100
44) Bromodichloromethane	6.49	83	70951	9.94278	ppb	100
45) Methyl Cyclohexane	6.15	83	98908	10.47672	ppb	100
46) Dibromomethane	6.29	93	22370	9.71744	ppb	100
47) MIBK (methyl isobutyl ket	7.24	43	26828	9.91077	ppb	100
48) 1-Bromo-2-chloroethane	6.84	63	57768	9.75684	ppb	100
49) 2-Chloroethyl vinyl ether	6.88	106	1196m	8.49827	ppb	0
50) Cis-1,3-Dichloropropene	7.02	75	79354	10.10466	ppb	100
51) Toluene	7.43	91	315888	10.03202	ppb	100
52) Trans-1,3-Dichloropropene	7.71	75	52987	9.91793	ppb	100
53) 1,1,2-TCA	7.92	83	28434	9.92276	ppb	100
54) 2-Hexanone	8.28	43	14409	9.52428	ppb	100
57) 1,2-EDB	8.53	107	30974	10.01658	ppb	100
58) Tetrachloroethene	8.10	164	76460	10.06001	ppb	100
59) 1-Chlorohexane	9.21	91	93336	10.57371	ppb	100
60) 1,1,1,2-Tetrachloroethane	9.31	131	65080	10.11652	ppb	100
61) m&p-Xylene	9.52	106	281914	20.26445	ppb	100
62) o-Xylene	10.04	106	133065	10.25326	ppb	100
63) Styrene	10.06	104	203560	10.19514	ppb	100
65) 1,3-Dichloropropane	8.13	76	60734	9.89531	ppb	100
66) Dibromochloromethane	8.40	129	47586	10.07688	ppb	100
67) Chlorobenzene	9.19	112	195049	9.89921	ppb	100
68) Ethylbenzene	9.36	91	365049	10.28096	ppb	100
69) Bromoform	10.27	173	27908	9.95281	ppb	100
71) Isopropylbenzene	10.56	105	358076	10.35393	ppb	100
72) 1,1,2,2-Tetrachloroethane	10.97	83	32319	9.89245	ppb	100
73) 1,2,3-Trichloropropane	11.00	110	11258	10.38157	ppb	100
74) t-1,4-Dichloro-2-Butene	11.05	53	6748	9.84760	ppb	100
75) Bromobenzene	10.92	156	79749	9.98571	ppb	100
76) n-Propylbenzene	11.13	91	396471	10.38234	ppb	100
77) 4-Ethyltoluene	11.30	105	352883	10.48780	ppb	100
78) 2-Chlorotoluene	11.21	91	227930	9.97779	ppb	100
79) 1,3,5-Trimethylbenzene	11.39	105	288368	10.27896	ppb	100
80) 4-Chlorotoluene	11.37	91	261434	10.15487	ppb	100
81) Tert-Butylbenzene	11.84	119	257862	10.26915	ppb	100
82) 1,2,4-Trimethylbenzene	11.91	105	283055	10.34104	ppb	100
83) Sec-Butylbenzene	12.15	105	350673	10.47853	ppb	100
84) p-Isopropyltoluene	12.37	119	301976	10.33071	ppb	100
85) Benzyl Chloride	12.59	91	22118	10.25250	ppb	100
86) 1,3-DCB	12.26	146	159472	9.98535	ppb	100
87) 1,4-DCB	12.38	146	156235	9.98297	ppb	100
88) n-Butylbenzene	12.95	91	244919	10.67160	ppb	100
89) 1,2-DCB	12.90	146	132092	10.10873	ppb	100
90) Hexachloroethane	13.27	117	39667	10.20997	ppb	100
91) 1,2-Dibromo-3-chloropropan	14.01	75	4337	9.65550	ppb	100
92) 1,2,4-Trichlorobenzene	15.23	180	73893	9.97275	ppb	100
93) Hexachlorobutadiene	15.53	225	62712	10.45954	ppb	100
94) Naphthalene	15.56	128	60675	9.43074	ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	49768	9.78784	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

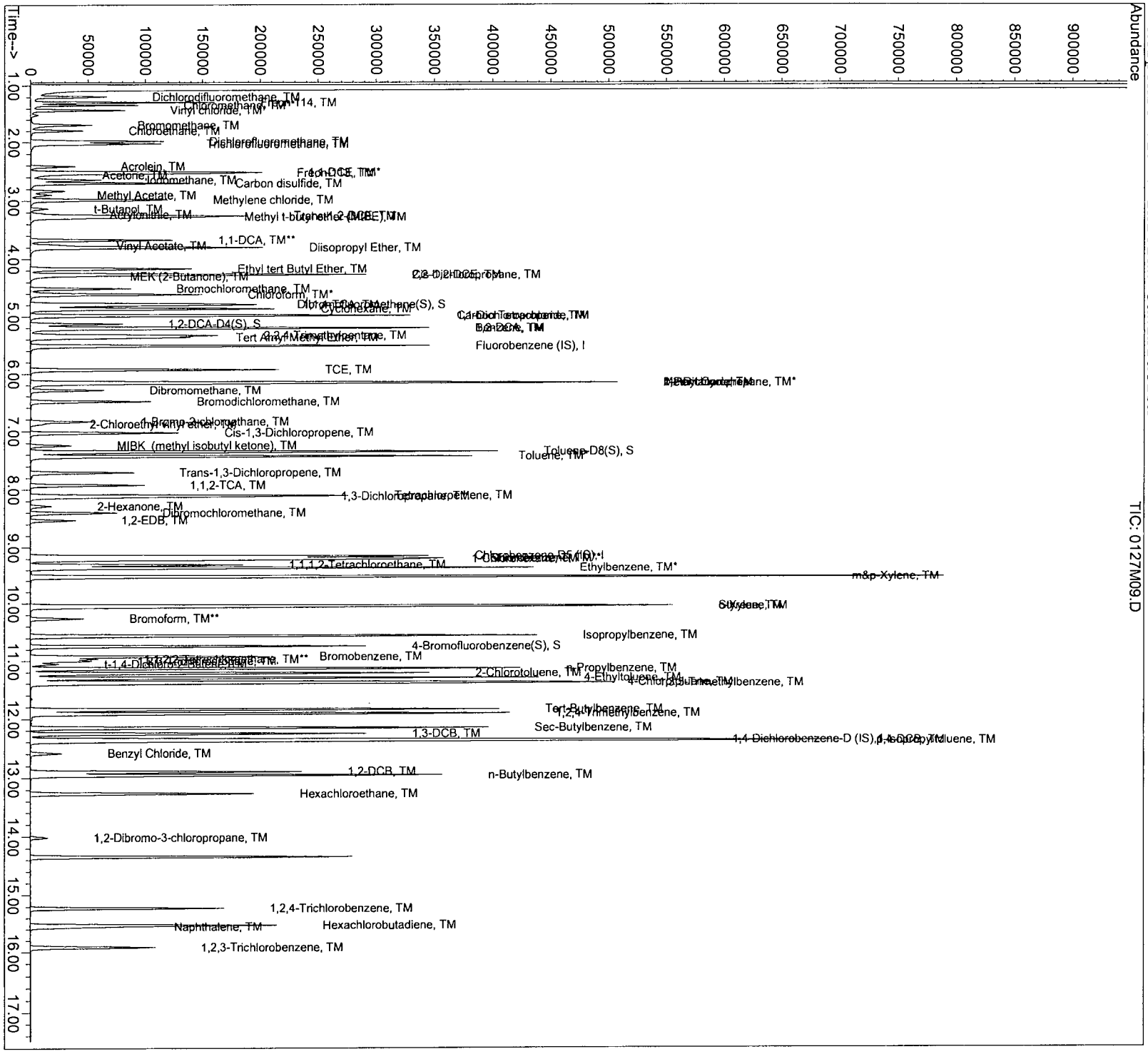
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
36) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
56) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	65256	20.31180 ppb		99
3) Freon 114	1.29	85	94834	18.94174 ppb		96
4) Chloromethane	1.34	50	98848	17.66845 ppb		97
5) Vinyl chloride	1.43	62	154639	19.92629 ppb		96
6) Bromomethane	1.69	94	63257	13.92190 ppb		100
7) Chloroethane	1.79	64	83028	19.27120 ppb		99
8) Dichlorofluoromethane	1.98	67	228593	19.41252 ppb		100
9) Trichlorofluoromethane	2.02	101	164977	20.14061 ppb		98
10) Acrolein	2.41	56	42431	153.18623 ppb		99
11) Acetone	2.57	43	15295	21.58632 ppb		90
12) Freon-113	2.53	101	104748	19.32089 ppb		97
13) 1,1-DCE	2.51	61	170333	19.16159 ppb		99
14) t-Butanol	3.14	59	21326	158.99707 ppb		93
15) Methyl Acetate	2.90	43	41931	19.51341 ppb		90
16) Iodomethane	2.64	142	144705	19.68404 ppb		99
17) Acrylonitrile	3.22	53	20123	20.82322 ppb	#	92
18) Methylene chloride	2.98	84	109978	19.96100 ppb		98
19) Carbon disulfide	2.70	76	333201	18.83372 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	186051	19.81418 ppb		98
21) Trans-1,2-DCE	3.25	96	126691	19.87590 ppb		97
22) Diisopropyl Ether	3.80	45	358853	19.97784 ppb		99
23) 1,1-DCA	3.67	63	220814	19.58648 ppb		98
24) Vinyl Acetate	3.75	43	80612	22.43007 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	234902	19.98276 ppb		98
26) MEK (2-Butanone)	4.30	43	24667	20.17075 ppb	#	84
27) Cis-1,2-DCE	4.27	96	135535	19.38222 ppb		98
28) 2,2-Dichloropropane	4.27	77	154252	20.28619 ppb		99
29) Chloroform	4.61	83	212028	19.51746 ppb		99
30) Bromochloromethane	4.51	128	52686	19.62699 ppb		95
32) 1,1,1-TCA	4.80	97	196786	19.67399 ppb		95
33) Cyclohexane	4.87	41	111882	19.53599 ppb		98
34) 1,1-Dichloropropene	4.98	75	176090	19.51516 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	309857	18.97896 ppb		100
37) Carbon Tetrachloride	4.98	117	171296	19.91831 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	201296	20.53963 ppb		93
39) 1,2-DCA	5.21	62	118786	20.13182 ppb		97
40) Benzene	5.20	78	520866	19.53132 ppb		99
41) TCE	5.92	95	138808	19.32005 ppb		95
42) 2-Pentanone	6.15	43	274360	153.78363 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	117421	19.41707	ppb		99
44)	Bromodichloromethane	6.49	83	139071	19.86039	ppb		94
45)	Methyl Cyclohexane	6.15	83	180292	19.46131	ppb		99
46)	Dibromomethane	6.29	93	44191	19.56238	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	53313	21.36624	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	115975	19.96127	ppb		97
49)	2-Chloroethyl vinyl ether	6.88	106	2355m	19.01059	ppb		0
50)	Cis-1,3-Dichloropropene	7.02	75	156748	20.34027	ppb		98
51)	Toluene	7.43	91	605872	19.60822	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	110003	20.98254	ppb		98
53)	1,1,2-TCA	7.92	83	55178	19.62286	ppb		98
54)	2-Hexanone	8.28	43	29744	20.03548	ppb		92
57)	1,2-EDB	8.53	107	62965	20.70855	ppb		96
58)	Tetrachloroethene	8.11	164	143390	19.18719	ppb		96
59)	1-Chlorohexane	9.21	91	175311	20.19834	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	124720	19.71733	ppb		99
61)	m&p-Xylene	9.52	106	547470	40.02276	ppb		99
62)	o-Xylene	10.04	106	259725	20.35356	ppb		99
63)	Styrene	10.06	104	405114	20.63509	ppb		99
65)	1,3-Dichloropropane	8.13	76	122326	20.26958	ppb		99
66)	Dibromochloromethane	8.40	129	93899	20.22256	ppb		98
67)	Chlorobenzene	9.19	112	376808	19.44937	ppb		98
68)	Ethylbenzene	9.36	91	696358	19.94543	ppb		99
69)	Bromoform	10.27	173	56276	20.41120	ppb		98
71)	Isopropylbenzene	10.56	105	687769	19.36855	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	65494	19.52413	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	21002	18.86195	ppb		89
74)	t-1,4-Dichloro-2-Butene	11.05	53	14527	20.42170	ppb	#	77
75)	Bromobenzene	10.92	156	158664	19.34891	ppb		100
76)	n-Propylbenzene	11.13	91	770212	19.64347	ppb		100
77)	4-Ethyltoluene	11.30	105	683460	19.78295	ppb		97
78)	2-Chlorotoluene	11.21	91	453557	19.33700	ppb		98
79)	1,3,5-Trimethylbenzene	11.39	105	560103	19.44439	ppb		99
80)	4-Chlorotoluene	11.37	91	510997	19.33102	ppb		98
81)	Tert-Butylbenzene	11.84	119	493464	19.13934	ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	554402	19.72615	ppb		99
83)	Sec-Butylbenzene	12.15	105	672523	19.57173	ppb		98
84)	p-Isopropyltoluene	12.37	119	589954	19.65622	ppb		99
85)	Benzyl Chloride	12.59	91	56498	25.50592	ppb		97
86)	1,3-DCB	12.26	146	315723	19.25348	ppb		98
87)	1,4-DCB	12.38	146	303653	18.89659	ppb		98
88)	n-Butylbenzene	12.95	91	481019	20.41237	ppb		98
89)	1,2-DCB	12.90	146	263479	19.63769	ppb		99
90)	Hexachloroethane	13.26	117	84976	21.30178	ppb		96
91)	1,2-Dibromo-3-chloropropan	14.02	75	9525	20.65259	ppb	#	84
92)	1,2,4-Trichlorobenzene	15.23	180	155863	19.98732	ppb		97
93)	Hexachlorobutadiene	15.53	225	118497	19.24835	ppb		97
94)	Naphthalene	15.56	128	144972	20.45653	ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	110444	20.19222	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

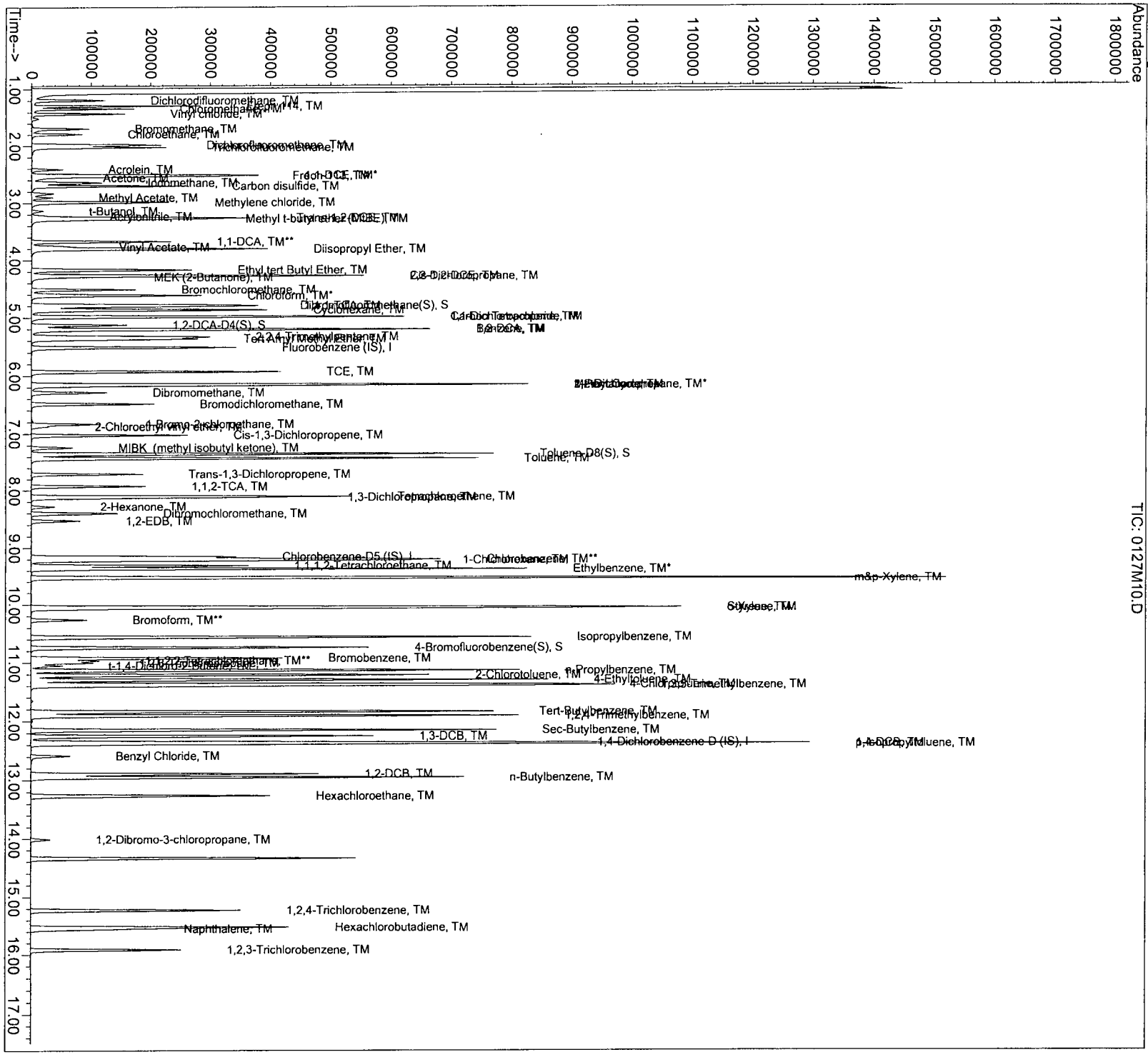
Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
36) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
56) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	133312	40.80107 ppb		99
3) Freon 114	1.29	85	199509	39.18254 ppb		99
4) Chloromethane	1.34	50	210573	37.00901 ppb		98
5) Vinyl chloride	1.43	62	310207	39.30370 ppb		97
6) Bromomethane	1.69	94	96551	20.89398 ppb		98
7) Chloroethane	1.78	64	167957	38.33157 ppb		99
8) Dichlorofluoromethane	1.98	67	472074	39.41881 ppb		98
9) Trichlorofluoromethane	2.02	101	328623	39.44769 ppb		96
10) Acrolein	2.41	56	49549	175.89182 ppb		99
11) Acetone	2.57	43	28736	41.22164 ppb		100
12) Freon-113	2.53	101	214899	38.97535 ppb		97
13) 1,1-DCE	2.51	61	348870	38.58963 ppb		98
14) t-Butanol	3.14	59	25278	185.30910 ppb		100
15) Methyl Acetate	2.90	43	85015	38.90164 ppb		98
16) Iodomethane	2.64	142	305480	40.25788 ppb		99
17) Acrylonitrile	3.22	53	39186	40.12683 ppb	#	86
18) Methylene chloride	2.98	84	223780	40.97010 ppb		97
19) Carbon disulfide	2.70	76	682194	37.91509 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	375369	39.30762 ppb		99
21) Trans-1,2-DCE	3.25	96	255063	39.34620 ppb		98
22) Diisopropyl Ether	3.80	45	719561	39.38891 ppb		99
23) 1,1-DCA	3.67	63	448373	39.10601 ppb		100
24) Vinyl Acetate	3.75	43	158690	43.41650 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	493183	41.25259 ppb		100
26) MEK (2-Butanone)	4.30	43	48188	38.74529 ppb		95
27) Cis-1,2-DCE	4.27	96	275009	38.66992 ppb		99
28) 2,2-Dichloropropane	4.27	77	324237	41.92823 ppb		99
29) Chloroform	4.61	83	430109	38.92988 ppb		96
30) Bromochloromethane	4.51	128	105560	38.66625 ppb		96
32) 1,1,1-TCA	4.80	97	406952	40.00513 ppb		96
33) Cyclohexane	4.86	41	229146	39.34249 ppb		95
34) 1,1-Dichloropropene	4.98	75	358097	39.02226 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	658725	39.67250 ppb		99
37) Carbon Tetrachloride	4.98	117	355267	40.61948 ppb		100
38) Tert Amyl Methyl Ether	5.37	73	415330	41.67015 ppb		92
39) 1,2-DCA	5.21	62	236874	39.47384 ppb		96
40) Benzene	5.20	78	1060118	39.08715 ppb		99
41) TCE	5.92	95	284986	39.00242 ppb		97
42) 2-Pentanone	6.15	43	334177	184.17903 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	238187	38.72847	ppb	99
44)	Bromodichloromethane	6.49	83	283017	39.74092	ppb	94
45)	Methyl Cyclohexane	6.15	83	376632	39.97488	ppb	98
46)	Dibromomethane	6.29	93	89746	39.06405	ppb	94
47)	MIBK (methyl isobutyl ket	7.24	43	101724	41.19361	ppb	98
48)	1-Bromo-2-chloroethane	6.84	63	236435	40.01381	ppb	98
49)	2-Chloroethyl vinyl ether	6.88	106	5417m	41.46331	ppb	0
50)	Cis-1,3-Dichloropropene	7.02	75	330146	42.12453	ppb	99
51)	Toluene	7.43	91	1228380	39.08988	ppb	99
52)	Trans-1,3-Dichloropropene	7.71	75	234193	43.92398	ppb	96
53)	1,1,2-TCA	7.92	83	110877	38.77146	ppb	99
54)	2-Hexanone	8.28	43	63446	42.02222	ppb	94
57)	1,2-EDB	8.53	107	127741	40.30615	ppb	99
58)	Tetrachloroethene	8.10	164	289113	37.11511	ppb	97
59)	1-Chlorohexane	9.21	91	366030	40.45888	ppb	99
60)	1,1,1,2-Tetrachloroethane	9.31	131	257761	39.09488	ppb	98
61)	m&p-Xylene	9.52	106	1106907	77.63336	ppb	100
62)	o-Xylene	10.04	106	518680	38.99569	ppb	99
63)	Styrene	10.06	104	816498	39.90018	ppb	97
65)	1,3-Dichloropropane	8.13	76	242159	38.49613	ppb	96
66)	Dibromochloromethane	8.40	129	190275	39.31403	ppb	100
67)	Chlorobenzene	9.19	112	768461	38.05378	ppb	97
68)	Ethylbenzene	9.36	91	1426753	39.20579	ppb	98
69)	Bromoform	10.27	173	115272	40.11065	ppb	95
71)	Isopropylbenzene	10.56	105	1402869	38.71140	ppb	99
72)	1,1,2,2-Tetrachloroethane	10.97	83	131105	38.29629	ppb	97
73)	1,2,3-Trichloropropane	11.00	110	42294	37.21962	ppb	92
74)	t-1,4-Dichloro-2-Butene	11.05	53	29024	39.78311	ppb	85
75)	Bromobenzene	10.92	156	321269	38.38966	ppb	100
76)	n-Propylbenzene	11.13	91	1571394	39.26996	ppb	100
77)	4-Ethyltoluene	11.30	105	1387171	39.34370	ppb	99
78)	2-Chlorotoluene	11.22	91	907052	37.89280	ppb	96
79)	1,3,5-Trimethylbenzene	11.40	105	1133478	38.55733	ppb	100
80)	4-Chlorotoluene	11.37	91	1036876	38.43533	ppb	98
81)	Tert-Butylbenzene	11.84	119	1007701	38.29750	ppb	98
82)	1,2,4-Trimethylbenzene	11.91	105	1128163	39.33297	ppb	98
83)	Sec-Butylbenzene	12.15	105	1350867	38.52140	ppb	100
84)	p-Isopropyltoluene	12.37	119	1196507	39.06290	ppb	99
85)	Benzyl Chloride	12.59	91	126401	55.91468	ppb	94
86)	1,3-DCB	12.26	146	640664	38.28253	ppb	97
87)	1,4-DCB	12.38	146	611409	37.28249	ppb	98
88)	n-Butylbenzene	12.95	91	979534	40.73034	ppb	98
89)	1,2-DCB	12.90	146	529009	38.63445	ppb	99
90)	Hexachloroethane	13.27	117	184461	45.30973	ppb	99
91)	1,2-Dibromo-3-chloropropan	14.01	75	18907	40.16978	ppb	91
92)	1,2,4-Trichlorobenzene	15.23	180	339884	42.16925	ppb	97
93)	Hexachlorobutadiene	15.52	225	241129	38.37981	ppb	95
94)	Naphthalene	15.56	128	344732	46.17235	ppb	96
95)	1,2,3-Trichlorobenzene	15.92	180	247669	43.37697	ppb	97

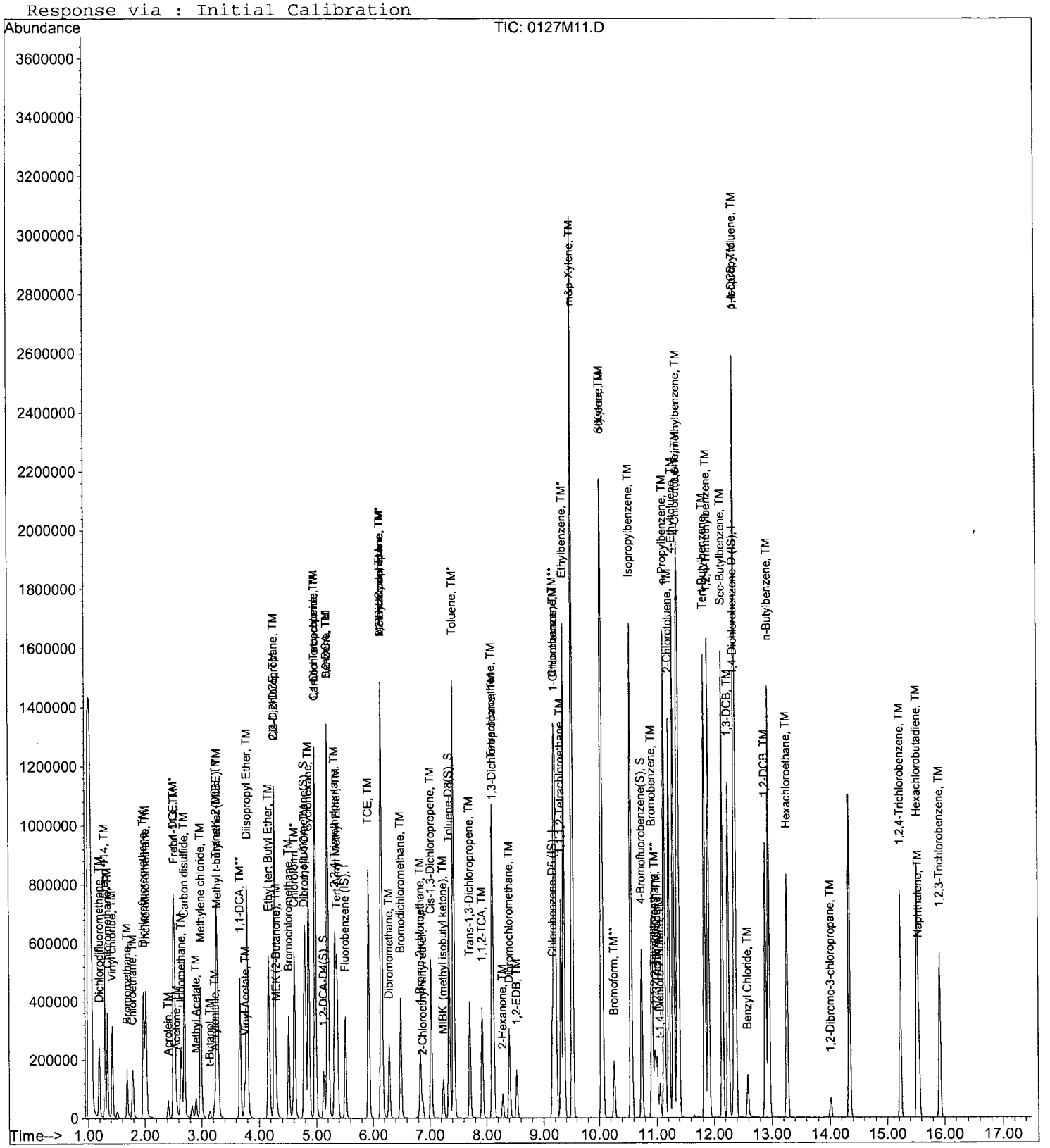
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M11.D Vial: 11
Acq On : 27 Jan 17 14:42 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 01/27/16H Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



372

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
36) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
56) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	343872	102.96990 ppb		100
3) Freon 114	1.29	85	519226	99.76950 ppb		97
4) Chloromethane	1.34	50	556437	95.68240 ppb		98
5) Vinyl chloride	1.43	62	837060	103.76469 ppb		98
6) Bromomethane	1.69	94	232713	49.27154 ppb		98
7) Chloroethane	1.77	64	300669	67.13645 ppb		99
8) Dichlorofluoromethane	1.98	67	1178469	96.27705 ppb		98
9) Trichlorofluoromethane	2.01	101	843283	99.03944 ppb		97
10) Acrolein	2.41	56	55481	192.69315 ppb		93
11) Acetone	2.57	43	69157	99.20986 ppb		96
12) Freon-113	2.53	101	552687	98.07225 ppb		98
13) 1,1-DCE	2.50	61	873386	94.52015 ppb		99
14) t-Butanol	3.15	59	31075	222.88272 ppb		96
15) Methyl Acetate	2.90	43	218014	97.60408 ppb		94
16) Iodomethane	2.64	142	781697	99.94986 ppb		99
17) Acrylonitrile	3.22	53	99130	99.72831 ppb	#	91
18) Methylene chloride	2.98	84	548005	99.60310 ppb		94
19) Carbon disulfide	2.69	76	1717258	93.37938 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	937758	96.07720 ppb		100
21) Trans-1,2-DCE	3.25	96	633975	95.68385 ppb		98
22) Diisopropyl Ether	3.80	45	1770389	94.81701 ppb		99
23) 1,1-DCA	3.67	63	1121521	95.70236 ppb		99
24) Vinyl Acetate	3.75	43	375424	100.49362 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	1228395	100.52924 ppb		100
26) MEK (2-Butanone)	4.30	43	115177	90.60602 ppb	#	87
27) Cis-1,2-DCE	4.27	96	672693	92.54533 ppb		99
28) 2,2-Dichloropropane	4.27	77	855122	108.18905 ppb		97
29) Chloroform	4.61	83	1070594	94.80703 ppb		94
30) Bromochloromethane	4.51	128	264760	94.88473 ppb		98
32) 1,1,1-TCA	4.80	97	1042776	100.29395 ppb		98
33) Cyclohexane	4.87	41	588370	98.83512 ppb		96
34) 1,1-Dichloropropene	4.98	75	895453	95.46975 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	1663299	98.00923 ppb		99
37) Carbon Tetrachloride	4.98	117	909832	101.77755 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	1047571	102.83158 ppb	#	90
39) 1,2-DCA	5.21	62	578988	94.40018 ppb		95
40) Benzene	5.20	78	2607792	94.07279 ppb		100
41) TCE	5.92	95	695754	93.16118 ppb		93
42) 2-Pentanone	6.15	43	419920	226.43388 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	575139	91.49477	ppb		98
44) Bromodichloromethane	6.49	83	709142	97.42487	ppb		93
45) Methyl Cyclohexane	6.15	83	954555	99.12477	ppb		99
46) Dibromomethane	6.29	93	221967	94.52829	ppb		94
47) MIBK (methyl isobutyl ket	7.24	43	246153	99.25534	ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	600146	99.37251	ppb		99
49) 2-Chloroethyl vinyl ether	6.87	106	18780	128.53504	ppb	#	100
50) Cis-1,3-Dichloropropene	7.02	75	833650	104.06962	ppb		98
51) Toluene	7.43	91	3062417	95.34702	ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	612826	112.45433	ppb		96
53) 1,1,2-TCA	7.92	83	275376	94.21239	ppb		98
54) 2-Hexanone	8.29	43	158688	102.83241	ppb		99
57) 1,2-EDB	8.53	107	323484	96.38165	ppb		98
58) Tetrachloroethene	8.10	164	712157	86.32953	ppb		96
59) 1-Chlorohexane	9.22	91	944682	98.60145	ppb		99
60) 1,1,1,2-Tetrachloroethane	9.31	131	679642	97.33821	ppb		99
61) m&p-Xylene	9.53	106	2734472	181.09699	ppb		98
62) o-Xylene	10.04	106	1303262	92.52293	ppb		98
63) Styrene	10.07	104	2057630	94.94836	ppb		96
65) 1,3-Dichloropropane	8.13	76	593413	89.07874	ppb		98
66) Dibromochloromethane	8.40	129	474989	92.67228	ppb		99
67) Chlorobenzene	9.19	112	1908155	89.22573	ppb		99
68) Ethylbenzene	9.36	91	3615105	93.80431	ppb		100
69) Bromoform	10.27	173	297921	97.88982	ppb		94
71) Isopropylbenzene	10.56	105	3535619	92.80069	ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	332138	92.28265	ppb		98
73) 1,2,3-Trichloropropane	11.00	110	108434	90.76589	ppb		96
74) t-1,4-Dichloro-2-Butene	11.06	53	82901	107.73234	ppb	#	78
75) Bromobenzene	10.92	156	836667	95.09597	ppb		100
76) n-Propylbenzene	11.14	91	4036079	95.93984	ppb		99
77) 4-Ethyltoluene	11.30	105	3559289	96.02237	ppb		99
78) 2-Chlorotoluene	11.22	91	2302880	91.50816	ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	2872021	92.92775	ppb		100
80) 4-Chlorotoluene	11.37	91	2622800	92.47685	ppb		97
81) Tert-Butylbenzene	11.84	119	2549618	92.16751	ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	2875638	95.36371	ppb		95
83) Sec-Butylbenzene	12.16	105	3466671	94.02992	ppb		98
84) p-Isopropyltoluene	12.38	119	3049296	94.69191	ppb		99
85) Benzyl Chloride	12.59	91	408642	171.94214	ppb		94
86) 1,3-DCB	12.26	146	1620967	92.13157	ppb		97
87) 1,4-DCB	12.39	146	1524655	88.43184	ppb		98
88) n-Butylbenzene	12.96	91	2516599	99.53516	ppb		98
89) 1,2-DCB	12.90	146	1348819	93.69780	ppb		98
90) Hexachloroethane	13.27	117	487718	113.95140	ppb		98
91) 1,2-Dibromo-3-chloropropan	14.01	75	52405	105.90429	ppb		94
92) 1,2,4-Trichlorobenzene	15.23	180	911146	106.79232	ppb		99
93) Hexachlorobutadiene	15.53	225	621815	94.14096	ppb		96
94) Naphthalene	15.56	128	912952	114.60440	ppb		97
95) 1,2,3-Trichlorobenzene	15.92	180	628361	103.50823	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

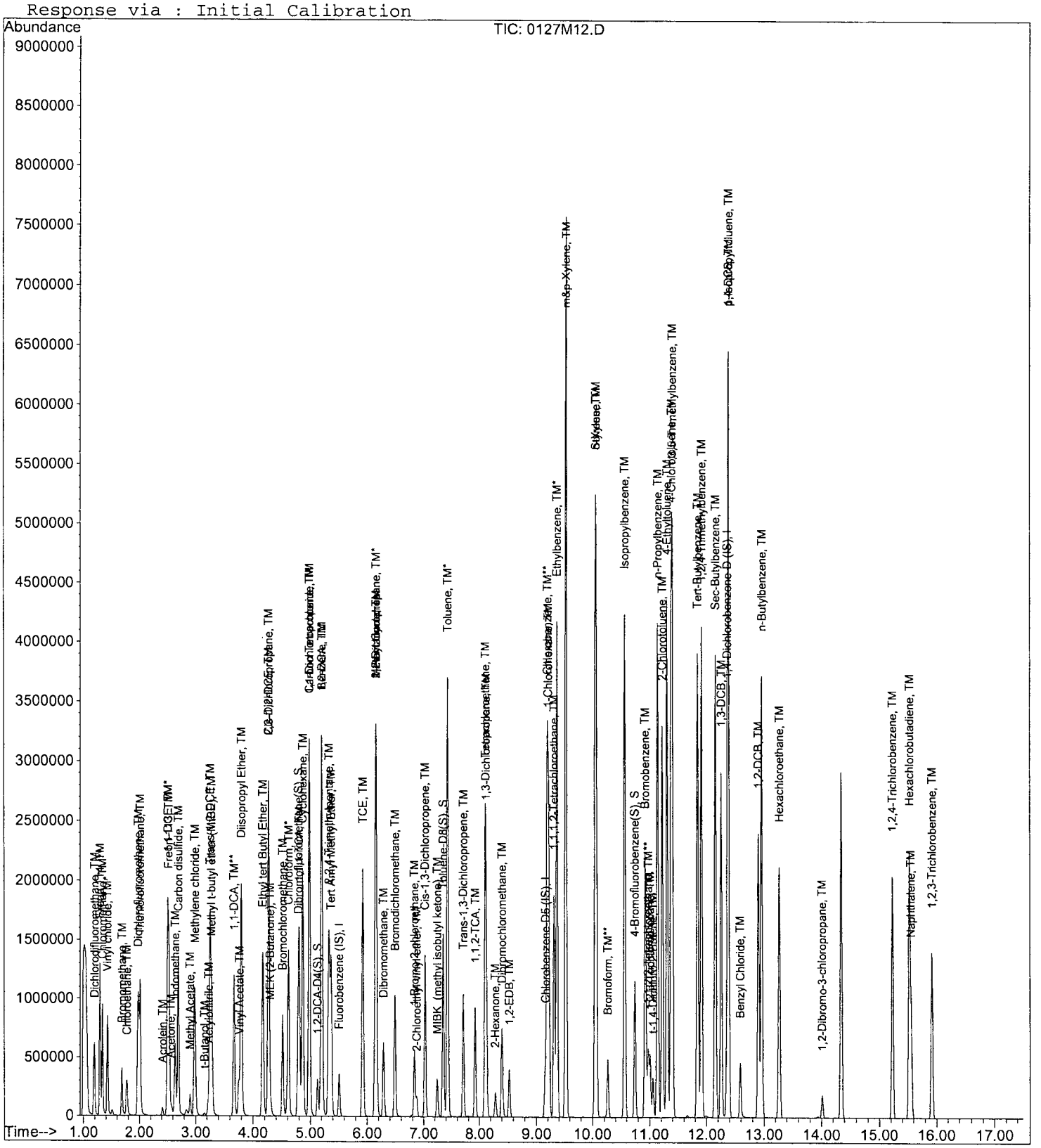
Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

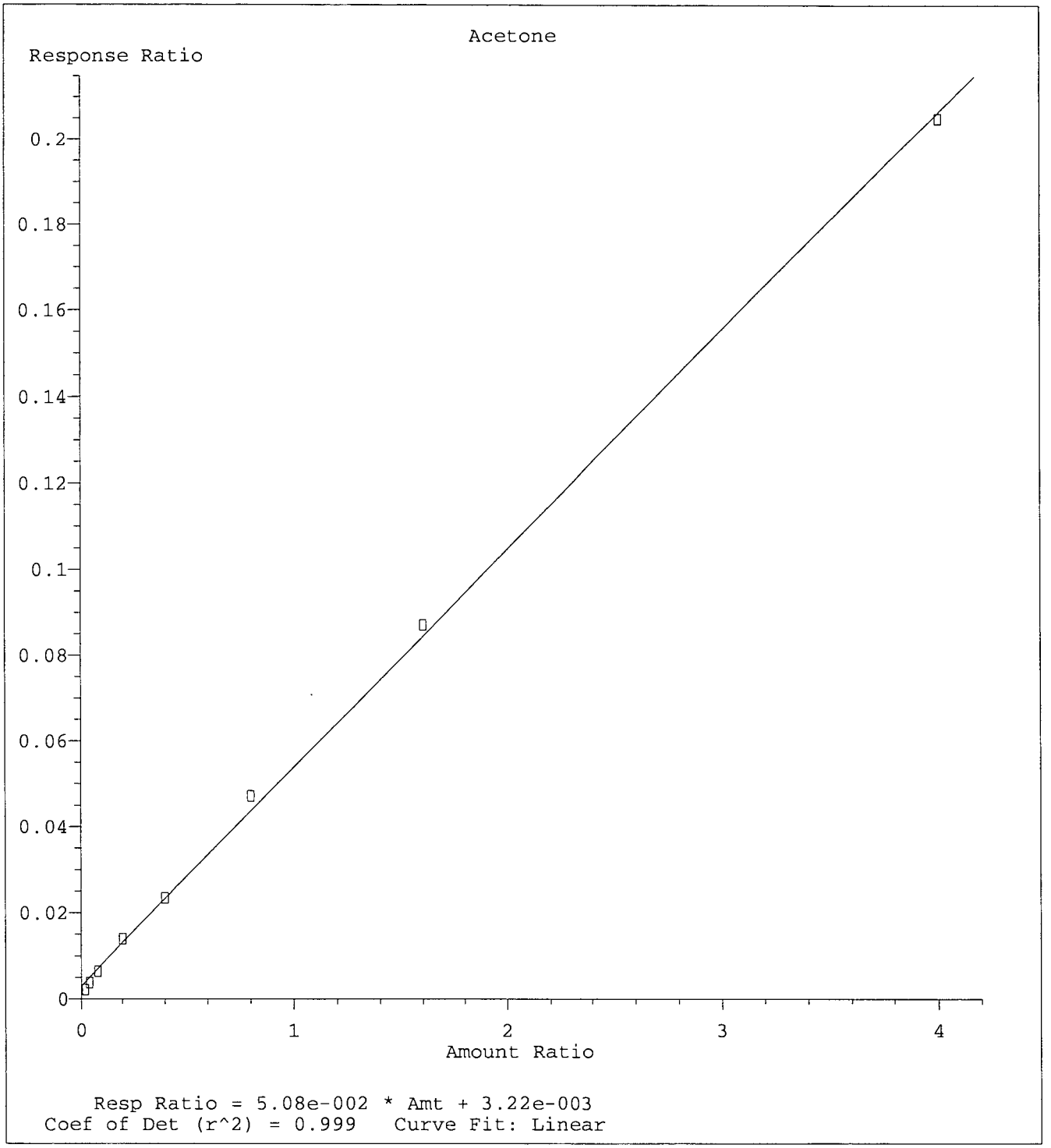
Quant Time: Jan 30 7:33 2017

Quant Results File: MALLW.RES

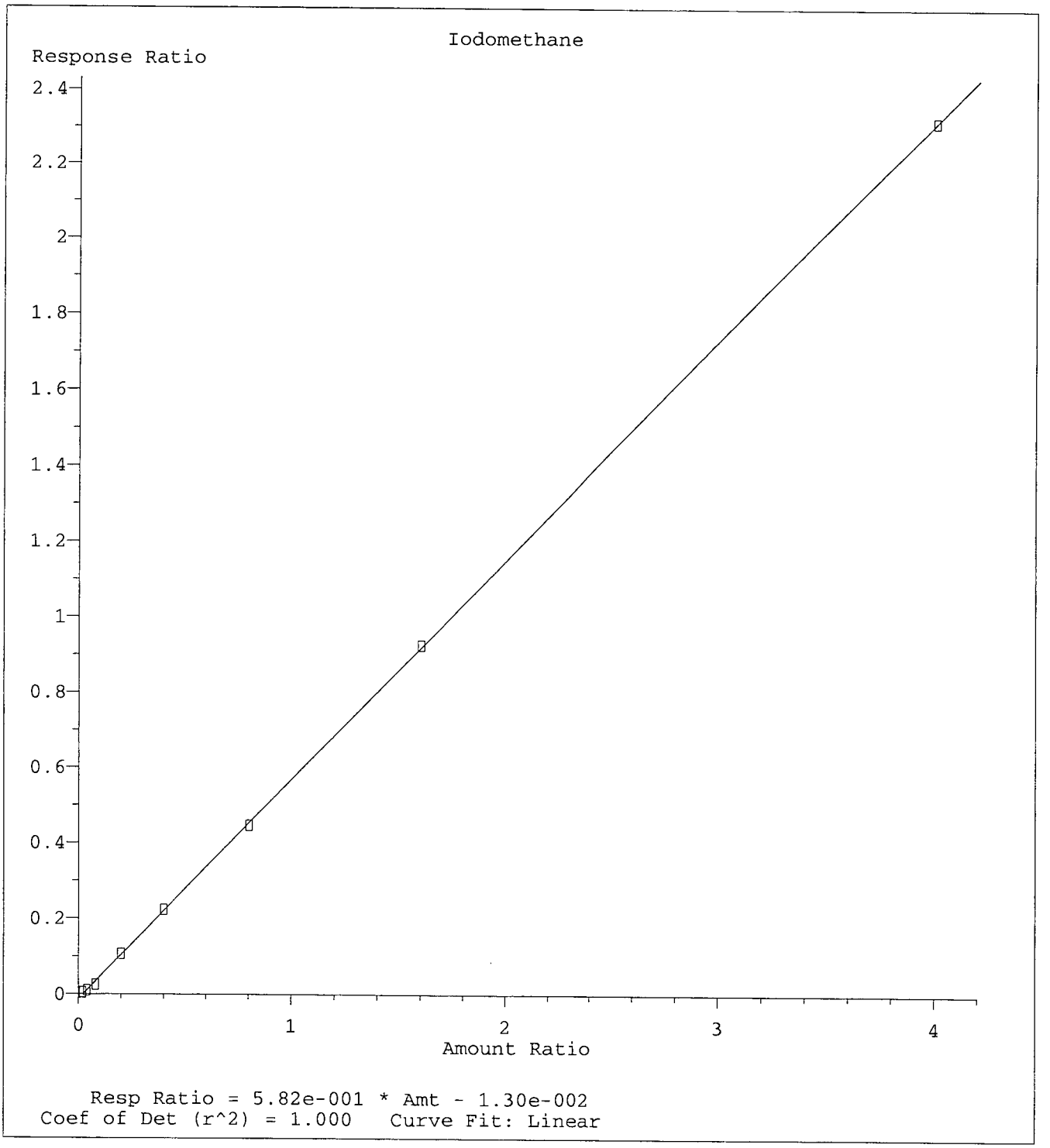
Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



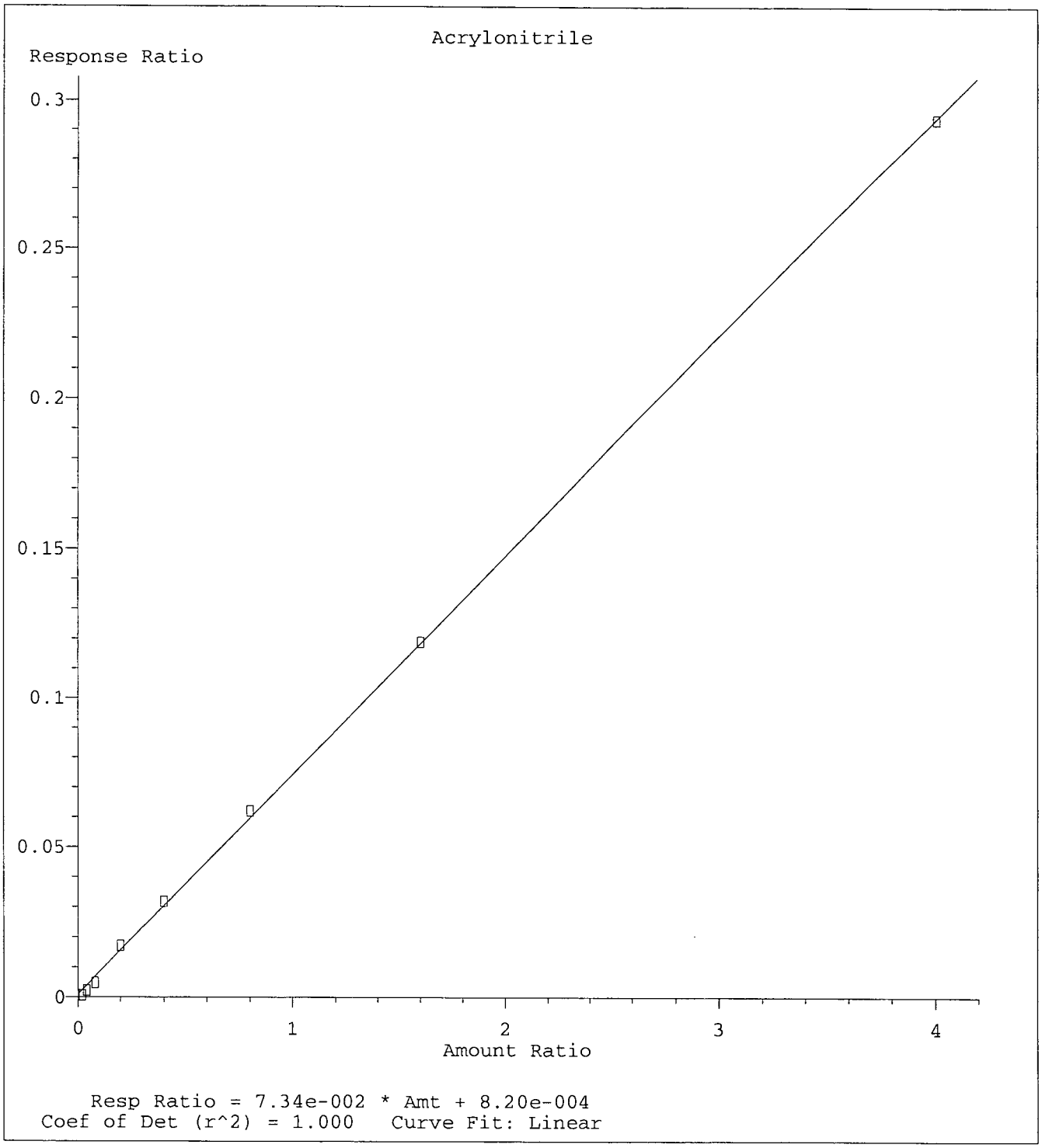
375



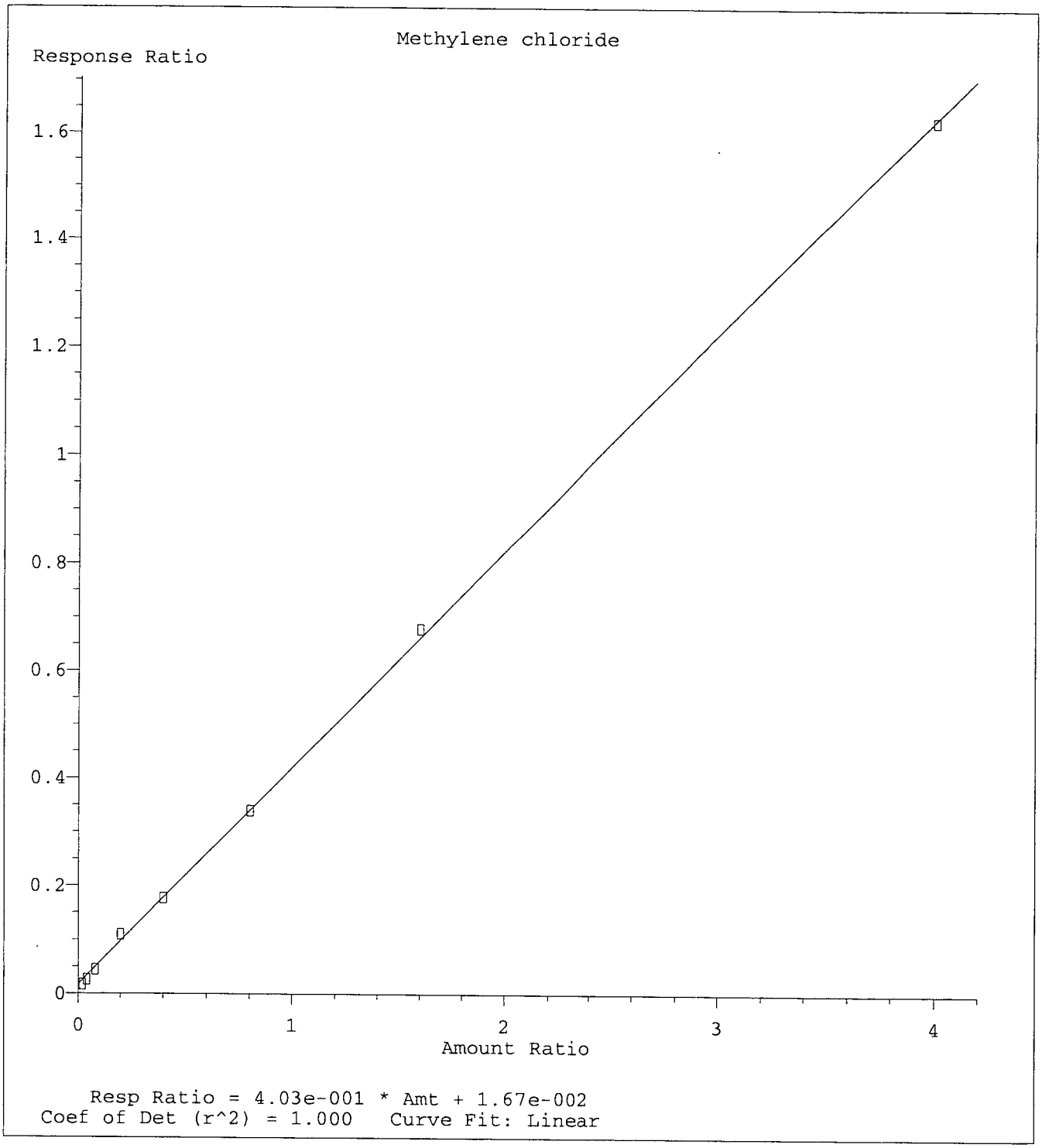
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



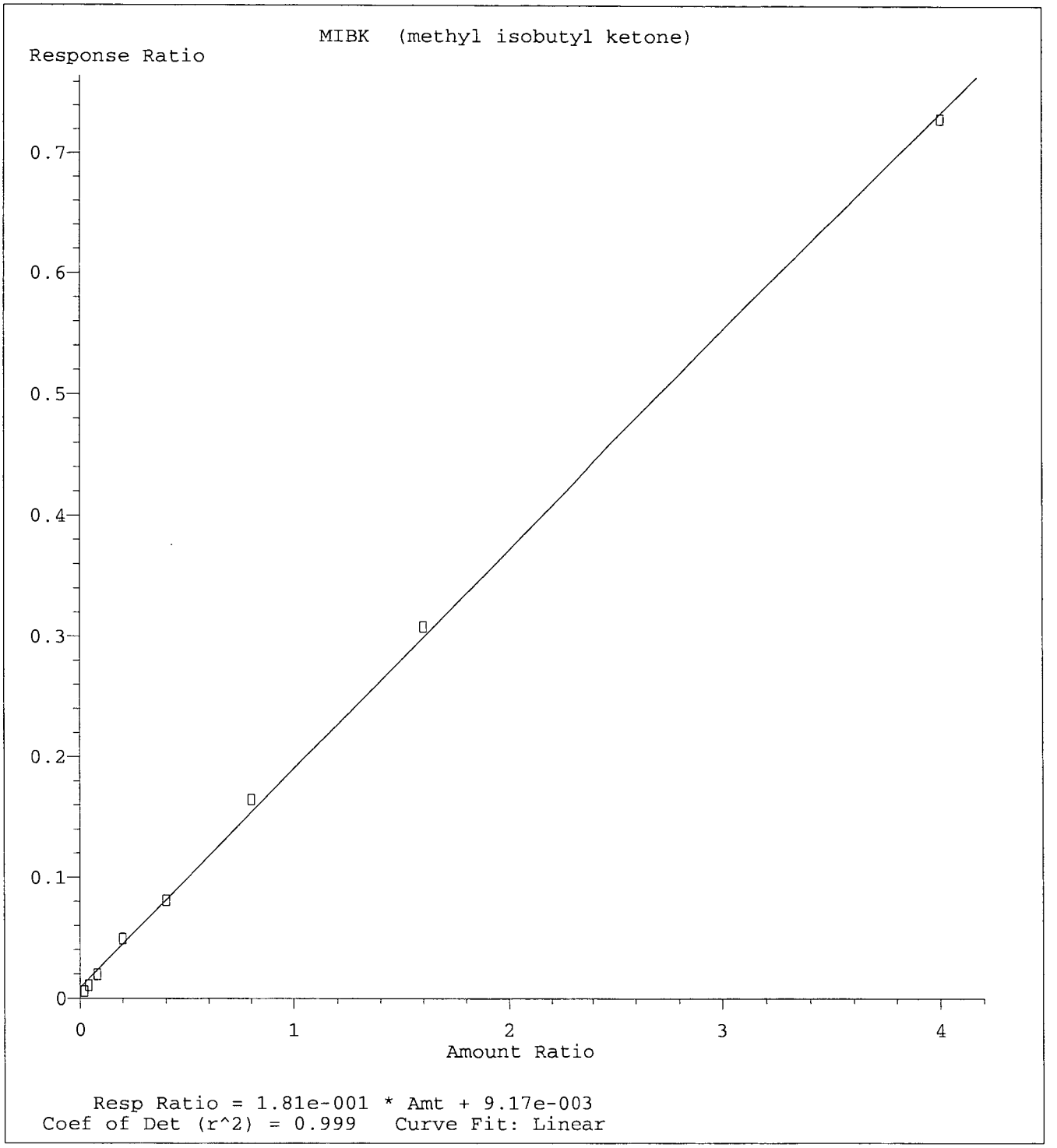
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



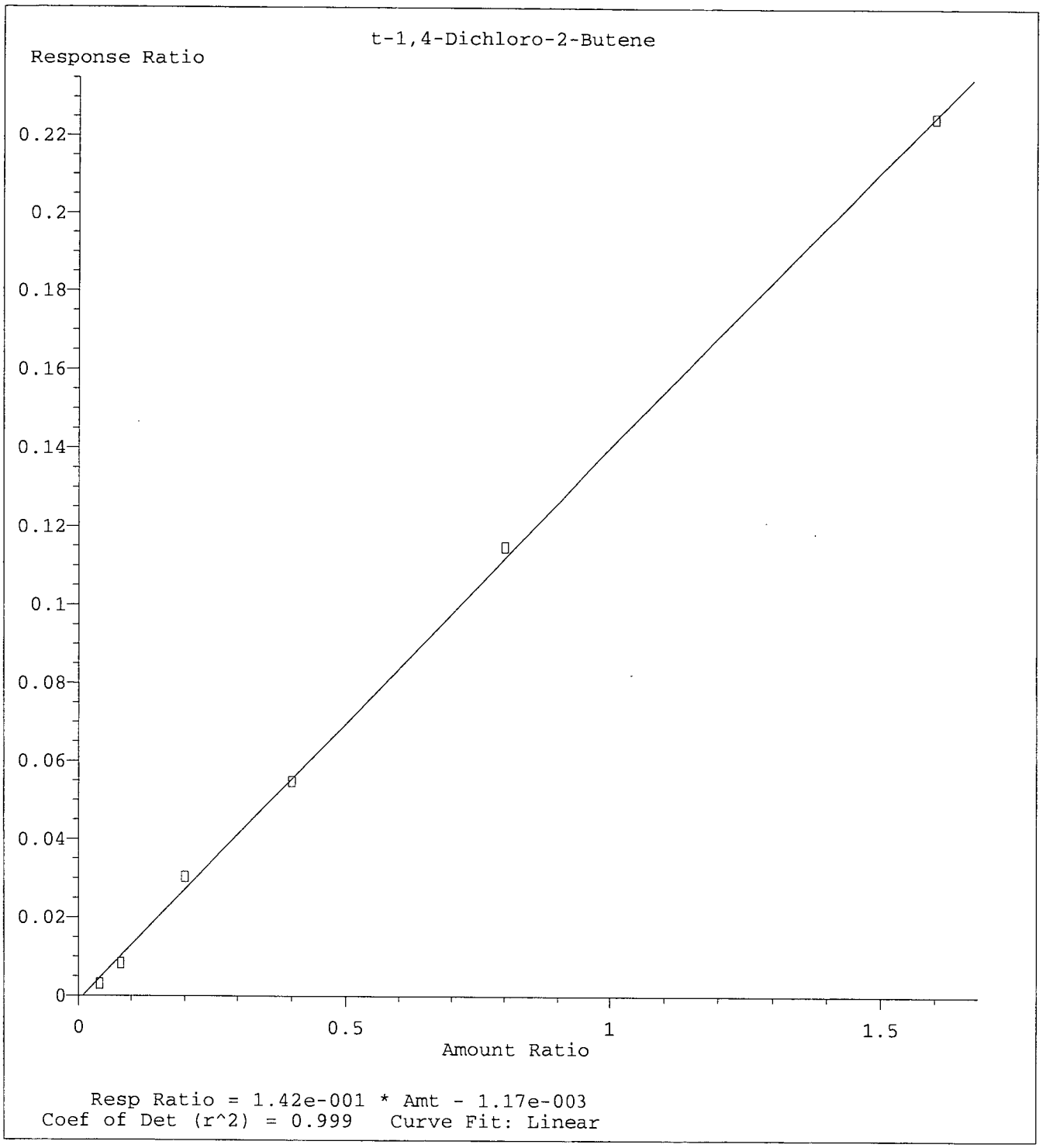
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



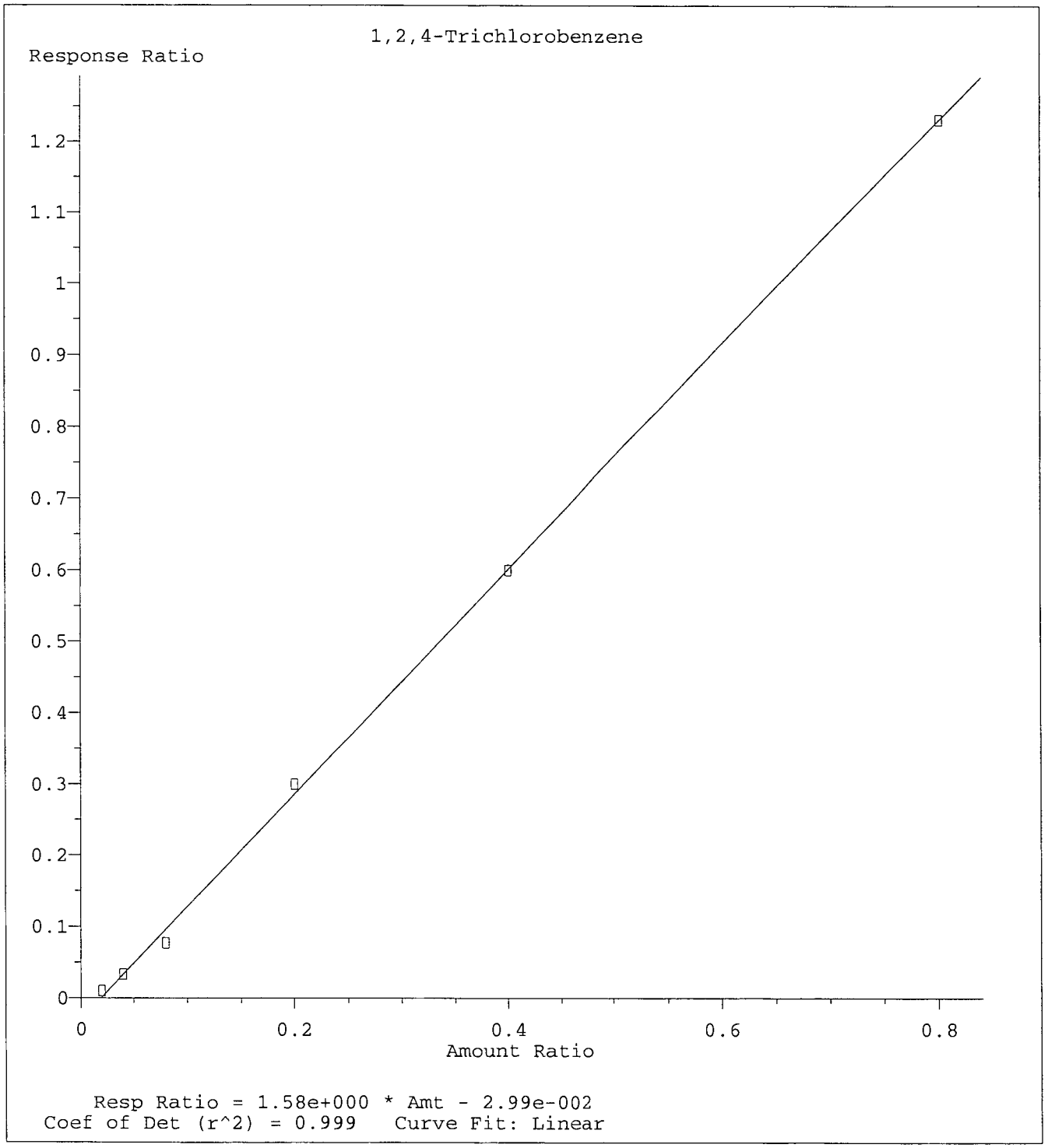
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



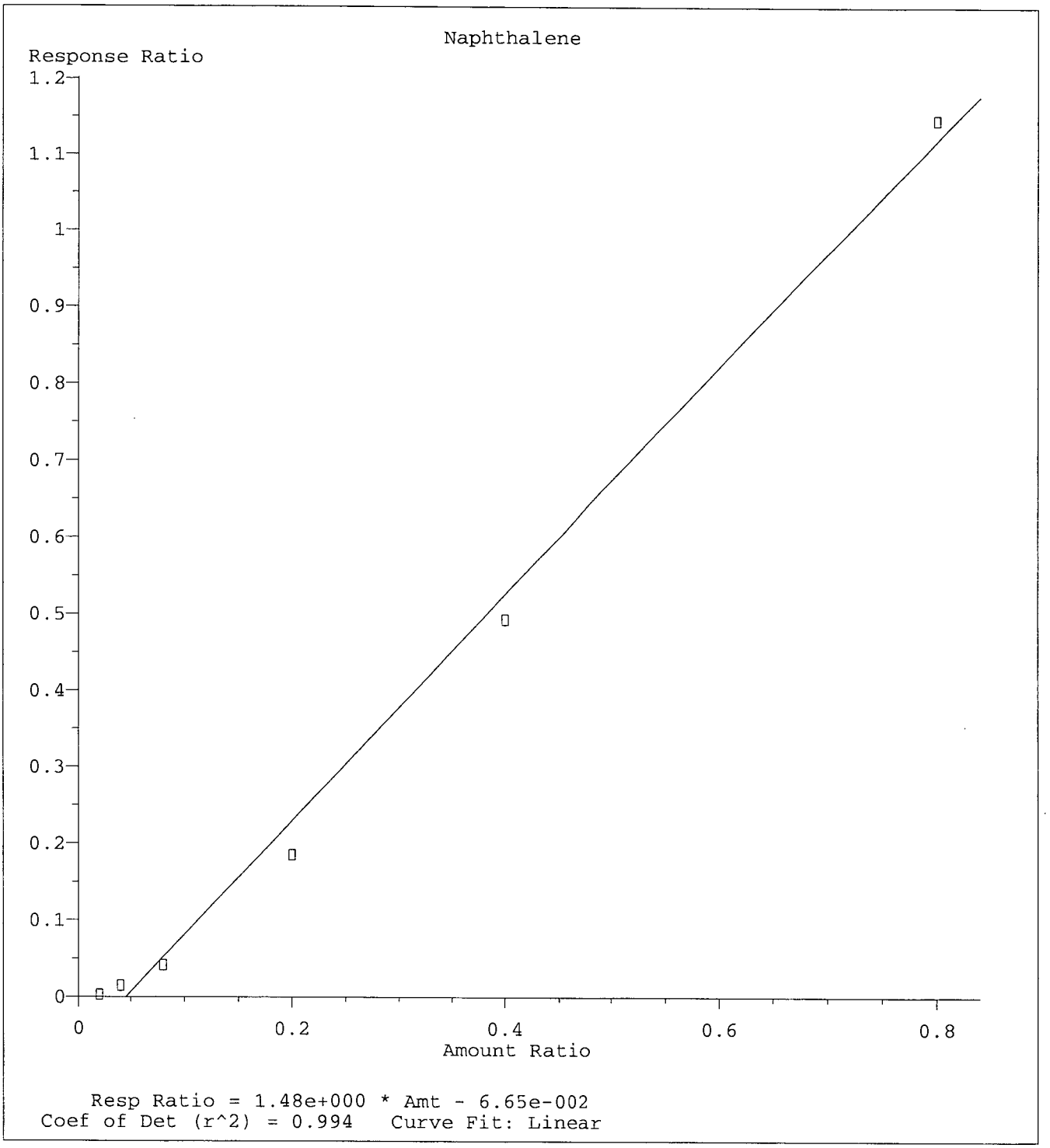
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



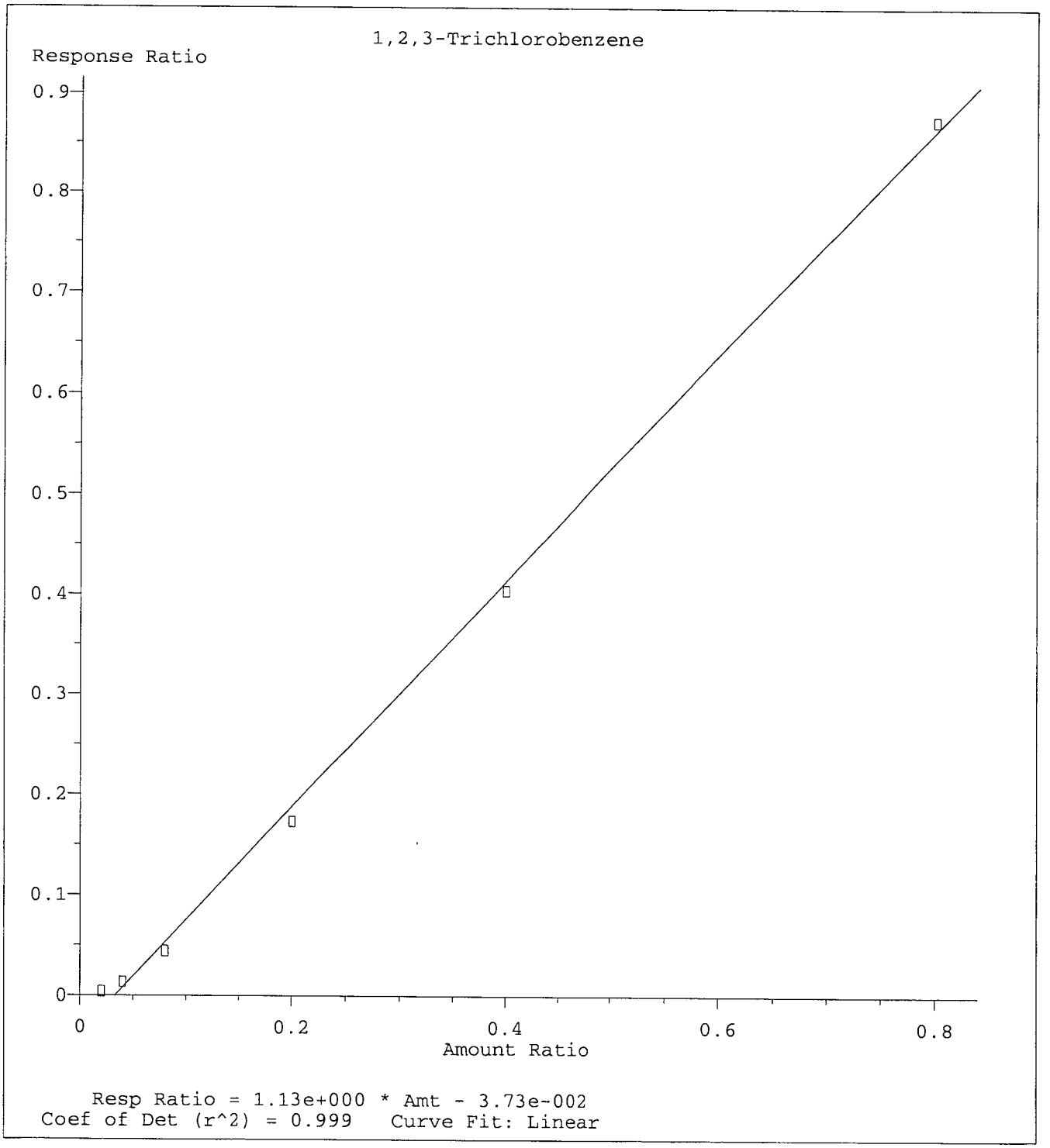
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2473	0.2429	1.8	TM		
2	TM	Freon 114	0.3854	0.3684	4.4	TM		
3	TM**	Chloromethane	0.4307	0.3945	8.4	TM**		
4	TM*	Vinyl chloride	0.5975	0.5851	2.1	TM*		
5	TM	Bromomethane	0.3498	0.3057	13	TM		
6	TM	Chloroethane	0.3317	0.3201	3.5	TM		
7	TM	Dichlorofluoromethane	0.9066	0.8969	1.1	TM		
8	TM	Trichlorofluoromethane	0.6306	0.6213	1.5	TM		
9	TM	Acrolein	0.0213	0.0202	5.4	TM		
10	TML	Acetone	0.0718	0.0610	15	TML	4.3	
11	TM	Freon-113	0.4174	0.4133	0.98	TM		
12	TM*	1,1-DCE	0.6844	0.6673	2.5	TM*		
13	TM	t-Butanol	0.0103	0.0103	0.14	TM		
14	TM	Methyl Acetate	0.1654	0.1703	3.0	TM		
15	TML	Iodomethane	0.4508	0.3541	21	TML	34	nt
16	TML	Acrylonitrile	0.0675	0.0740	9.7	TML	1.9	
17	TML	Methylene chloride	0.5358	0.4445	17	TML	0.12	
18	TM	Carbon disulfide	1.362	1.327	2.5	TM		
19	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7178	0.71	TM		
20	TM	Trans-1,2-DCE	0.4907	0.4848	1.2	TM		
21	TM	Diisopropyl Ether	1.383	1.366	1.2	TM		
22	TM**	1,1-DCA	0.8679	0.8523	1.8	TM**		
23	TM	Vinyl Acetate	0.2767	0.2522	8.8	TM		
24	TM	Ethyl tert Butyl Ether	0.9050	0.8972	0.87	TM		
25	TM	MEK (2-Butanone)	0.0941	0.0881	6.5	TM		
26	TM	Cis-1,2-DCE	0.5384	0.5253	2.4	TM		
27	TM	2,2-Dichloropropane	0.5854	0.5590	4.5	TM		
28	TM*	Chloroform	0.8364	0.8335	0.34	TM*		
29	TM	Bromochloromethane	0.2067	0.2018	2.4	TM		
30	TM	1,1,1-TCA	0.7701	0.7756	0.73	TM		
31	TM	Cyclohexane	0.4409	0.4403	0.14	TM		
32	TM	1,1-Dichloropropene	0.6947	0.6930	0.25	TM		
33	TM	2,2,4-Trimethylpentane	1.257	1.168	7.1	TM		
34	TM	Carbon Tetrachloride	0.6621	0.6617	0.06	TM		
35	TM	Tert Amyl Methyl Ether	0.7545	0.7481	0.84	TM		
36	TM	1,2-DCA	0.4543	0.4527	0.33	TM		
37	TM	Benzene	2.053	2.042	0.52	TM		
38	TM	TCE	0.5531	0.5502	0.53	TM		
39	TM	2-Pentanone	0.1374	0.1351	1.7	TM		
40	TM*	1,2-Dichloropropane	0.4656	0.4605	1.1	TM*		
		Average			3.9			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Bromodichloromethane	0.5391	0.5268	2.3	TM	
42	TM	Methyl Cyclohexane	0.7132	0.7045	1.2	TM	
43	TM	Dibromomethane	0.1739	0.1719	1.2	TM	
44	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2071	10	TML	1.6
45	TM	1-Bromo-2-chloroethane	0.4473	0.4444	0.64	TM	
46	TM	2-Chloroethyl vinyl ether	0.0092	0.0107	16	TM	
47	TM	Cis-1,3-Dichloropropene	0.5933	0.5855	1.3	TM	
48	TM*	Toluene	2.379	2.342	1.5	TM*	
49	TM	Trans-1,3-Dichloropropene	0.4036	0.4074	0.95	TM	
50	TM	1,1,2-TCA	0.2165	0.2138	1.3	TM	
51	TM	2-Hexanone	0.1143	0.1106	3.2	TM	
52	TM	1,2-EDB	0.3267	0.3257	0.30	TM	
53	TM	Tetrachloroethene	0.8031	0.7968	0.78	TM	
54	TM	1-Chlorohexane	0.9327	0.9382	0.59	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6728	1.0	TM	
56	TM	m&p-Xylene	1.470	1.484	0.94	TM	
57	TM	o-Xylene	1.371	1.429	4.2	TM	
58	TM	Styrene	2.110	2.174	3.0	TM	
59	TM	1,3-Dichloropropane	0.6485	0.6441	0.68	TM	
60	TM	Dibromochloromethane	0.4990	0.5018	0.57	TM	
61	TM**	Chlorobenzene	2.082	2.043	1.9	TM**	
62	TM*	Ethylbenzene	3.752	3.761	0.25	TM*	
63	TM**	Bromoform	0.2963	0.3019	1.9	TM**	
64	TM	Isopropylbenzene	7.015	6.921	1.3	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6369	3.9	TM**	
66	TM	1,2,3-Trichloropropane	0.2200	0.2262	2.8	TM	
67	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1247	0.59	TML	10
68	TM	Bromobenzene	1.620	1.591	1.8	TM	
69	TM	n-Propylbenzene	7.746	7.764	0.23	TM	
70	TM	4-Ethyltoluene	6.825	6.855	0.43	TM	
71	TM	2-Chlorotoluene	4.634	4.589	0.96	TM	
72	TM	1,3,5-Trimethylbenzene	5.691	5.657	0.59	TM	
73	TM	4-Chlorotoluene	5.222	5.134	1.7	TM	
74	TM	Tert-Butylbenzene	5.094	5.008	1.7	TM	
75	TM	1,2,4-Trimethylbenzene	5.552	5.573	0.38	TM	
76	TM	Sec-Butylbenzene	6.789	6.675	1.7	TM	
77	TM	p-Isopropyltoluene	5.929	5.993	1.1	TM	
78	TM	Benzyl Chloride	0.4376	0.4170	4.7	TM	
79	TM	1,3-DCB	3.240	3.138	3.1	TM	
80	TM	1,4-DCB	3.175	3.002	5.4	TM	
		Average			2.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	4.656	4.706	1.1	TM	
82	TM	1,2-DCB	2.651	2.608	1.6	TM	
83	TM	Hexachloroethane	0.7881	0.7961	1.0	TM	
84	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0914	0.35	TM	
85	TML	1,2,4-Trichlorobenzene	1.139	1.392	22	TML	7.0
86	TM	Hexachlorobutadiene	1.216	1.197	1.6	TM	
87	TML	Naphthalene	0.7727	1.076	39	TML	16
88	TML	1,2,3-Trichlorobenzene	0.6764	0.9023	33	TML	12
89							
90							
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117							
118							
119							
120							
		Average			12.5		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313129	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	223395	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	119323	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	70380	26.20738 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.828%	
36) 1,2-DCA-D4(S)	5.13	65	56191	26.40589 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.624%	
56) Toluene-D8(S)	7.35	98	285707	26.43686 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
64) 4-Bromofluorobenzene(S)	10.74	95	100338	25.79669 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.188%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30424	9.82069 ppb		99
3) Freon 114	1.29	85	46141	9.55742 ppb		98
4) Chloromethane	1.34	50	49408	9.15853 ppb		98
5) Vinyl chloride	1.43	62	73290	9.79377 ppb		99
6) Bromomethane	1.69	94	38284	8.73786 ppb		96
7) Chloroethane	1.79	64	40089	9.64955 ppb		96
8) Dichlorofluoromethane	1.98	67	112342	9.89371 ppb		98
9) Trichlorofluoromethane	2.03	101	77814	9.85156 ppb		94
10) Acrolein	2.41	56	31571	118.20139 ppb		97
11) Acetone	2.57	43	7645	10.42542 ppb		99
12) Freon-113	2.53	101	51764	9.90164 ppb		97
13) 1,1-DCE	2.51	61	83577	9.75028 ppb		99
14) t-Butanol	3.14	59	16144	124.82129 ppb		90
15) Methyl Acetate	2.90	43	21333	10.29551 ppb		98
16) Iodomethane	2.64	142	44348	6.63728 ppb		96
17) Acrylonitrile	3.22	53	9274	9.80638 ppb	#	88
18) Methylene chloride	2.98	84	55671	9.98804 ppb		92
19) Carbon disulfide	2.70	76	166265	9.74605 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	89901	9.92902 ppb		98
21) Trans-1,2-DCE	3.25	96	60718	9.87862 ppb		98
22) Diisopropyl Ether	3.80	45	171145	9.88084 ppb		99
23) 1,1-DCA	3.67	63	106753	9.81991 ppb		99
24) Vinyl Acetate	3.76	43	31590	9.11546 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	112371	9.91336 ppb		99
26) MEK (2-Butanone)	4.31	43	11030	9.35361 ppb		94
27) Cis-1,2-DCE	4.27	96	65791	9.75700 ppb		94
28) 2,2-Dichloropropane	4.27	77	70019	9.54956 ppb		98
29) Chloroform	4.61	83	104403	9.96646 ppb		97
30) Bromochloromethane	4.51	128	25270	9.76251 ppb		94
32) 1,1,1-TCA	4.80	97	97151	10.07264 ppb		98
33) Cyclohexane	4.87	41	55149	9.98644 ppb		98
34) 1,1-Dichloropropene	4.98	75	86794	9.97528 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	146264	9.29066 ppb		99
37) Carbon Tetrachloride	4.98	117	82878	9.99407 ppb		95
38) Tert Amyl Methyl Ether	5.37	73	93706	9.91568 ppb		94
39) 1,2-DCA	5.21	62	56707	9.96672 ppb		96
40) Benzene	5.20	78	255824	9.94820 ppb		98
41) TCE	5.92	95	68914	9.94716 ppb		97
42) 2-Pentanone	6.15	43	211483	122.93132 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	57677	9.89096	ppb		97
44)	Bromodichloromethane	6.49	83	65983	9.77194	ppb		96
45)	Methyl Cyclohexane	6.15	83	88237	9.87744	ppb		97
46)	Dibromomethane	6.29	93	21526	9.88209	ppb		97
47)	MIBK (methyl isobutyl ket	7.24	43	25941	10.15523	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	55668	9.93636	ppb		96
49)	2-Chloroethyl vinyl ether	6.87	106	1343m	11.62678	ppb		0
50)	Cis-1,3-Dichloropropene	7.02	75	73335	9.86879	ppb		100
51)	Toluene	7.43	91	293390	9.84692	ppb		100
52)	Trans-1,3-Dichloropropene	7.70	75	51032	10.09471	ppb		94
53)	1,1,2-TCA	7.92	83	26775	9.87469	ppb		99
54)	2-Hexanone	8.28	43	13856	9.67912	ppb		99
57)	1,2-EDB	8.53	107	29108	9.96951	ppb		88
58)	Tetrachloroethene	8.10	164	71201	9.92178	ppb		97
59)	1-Chlorohexane	9.21	91	83836	10.05884	ppb		96
60)	1,1,1,2-Tetrachloroethane	9.31	131	60123	9.89837	ppb		97
61)	m&p-Xylene	9.52	106	265176	20.18793	ppb		100
62)	o-Xylene	10.04	106	127658	10.41803	ppb		94
63)	Styrene	10.06	104	194229	10.30277	ppb		96
65)	1,3-Dichloropropane	8.13	76	57555	9.93162	ppb		96
66)	Dibromochloromethane	8.40	129	44841	10.05684	ppb		97
67)	Chlorobenzene	9.19	112	182591	9.81467	ppb		98
68)	Ethylbenzene	9.36	91	336090	10.02484	ppb		99
69)	Bromoform	10.27	173	26981	10.19094	ppb		99
71)	Isopropylbenzene	10.56	105	330344	9.86593	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	30398	9.61020	ppb		99
73)	1,2,3-Trichloropropane	11.00	110	10798	10.28458	ppb		99
74)	t-1,4-Dichloro-2-Butene	11.05	53	5950	8.98672	ppb	#	71
75)	Bromobenzene	10.92	156	75956	9.82330	ppb		97
76)	n-Propylbenzene	11.13	91	370554	10.02252	ppb		98
77)	4-Ethyltoluene	11.30	105	327171	10.04315	ppb		100
78)	2-Chlorotoluene	11.21	91	219043	9.90385	ppb		98
79)	1,3,5-Trimethylbenzene	11.39	105	270007	9.94074	ppb		99
80)	4-Chlorotoluene	11.37	91	245033	9.83056	ppb		99
81)	Tert-Butylbenzene	11.84	119	239012	9.83124	ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	266015	10.03786	ppb		99
83)	Sec-Butylbenzene	12.15	105	318604	9.83311	ppb		99
84)	p-Isopropyltoluene	12.37	119	286035	10.10691	ppb		98
85)	Benzyl Chloride	12.59	91	19903	9.52893	ppb		94
86)	1,3-DCB	12.26	146	149796	9.68770	ppb		98
87)	1,4-DCB	12.38	146	143291	9.45675	ppb		100
88)	n-Butylbenzene	12.95	91	224620	10.10874	ppb		98
89)	1,2-DCB	12.90	146	124460	9.83765	ppb		98
90)	Hexachloroethane	13.27	117	37998	10.10177	ppb		98
91)	1,2-Dibromo-3-chloropropan	14.02	75	4364	10.03487	ppb	#	78
92)	1,2,4-Trichlorobenzene	15.23	180	66438	9.29506	ppb		96
93)	Hexachlorobutadiene	15.53	225	57145	9.84423	ppb		96
94)	Naphthalene	15.56	128	51355	8.38557	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	43065	8.83592	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

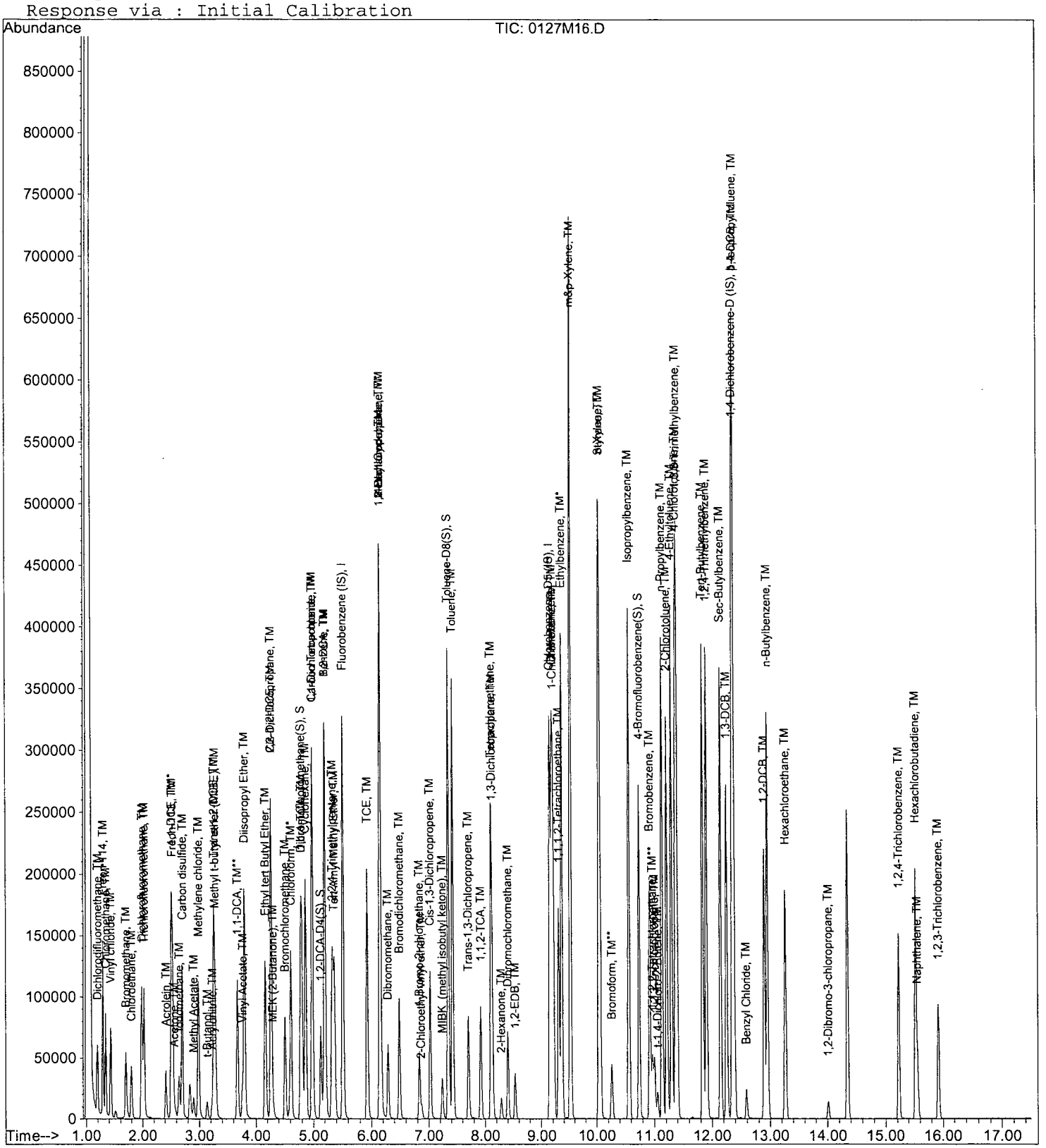
Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 9:53
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0208M03.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2473	0.2338	5.5	TM		
3	TM	Freon 114	0.3854	0.3838	0.42	TM		
4	TM**	Chloromethane	0.4307	0.3991	7.3	TM**		
5	TM*	Vinyl chloride	0.5975	0.5865	1.8	TM*		
6	TM	Bromomethane	0.3498	0.3013	14	TM		
7	TM	Chloroethane	0.3317	0.3282	1.0	TM		
8	TM	Dichlorofluoromethane	0.9066	0.9202	1.5	TM		
9	TM	Trichlorofluoromethane	0.6306	0.6858	8.7	TM		
10	TM	Acrolein	0.0213	0.0220	3.2	TM		
11	TML	Acetone	0.0718	0.0591	18	TML	0.48	
12	TM	Freon-113	0.4174	0.4434	6.2	TM		
13	TM*	1,1-DCE	0.6844	0.6997	2.2	TM*		
14	TM	t-Butanol	0.0103	0.0115	11	TM		
15	TM	Methyl Acetate	0.1654	0.1713	3.5	TM		
16	TML	Iodomethane	0.4508	0.4304	4.5	TML	21	nt
17	TML	Acrylonitrile	0.0675	0.0616	8.7	TML	19	
18	TML	Methylene chloride	0.5358	0.4409	18	TML	1.0	
19	TM	Carbon disulfide	1.362	1.276	6.3	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7287	0.80	TM		
21	TM	Trans-1,2-DCE	0.4907	0.4963	1.1	TM		
22	TM	Diisopropyl Ether	1.383	1.399	1.2	TM		
23	TM**	1,1-DCA	0.8679	0.8768	1.0	TM**		
24	TM	Vinyl Acetate	0.2767	0.2842	2.7	TM		
25	TM	Ethyl tert Butyl Ether	0.9050	0.9287	2.6	TM		
26	TM	MEK (2-Butanone)	0.0941	0.1054	12	TM		
27	TM	Cis-1,2-DCE	0.5384	0.5325	1.1	TM		
28	TM	2,2-Dichloropropane	0.5854	0.6277	7.2	TM		
29	TM*	Chloroform	0.8364	0.8549	2.2	TM*		
30	TM	Bromochloromethane	0.2067	0.2097	1.5	TM		
31	S	Dibromofluoromethane(S)	0.2144	0.2067	3.6	S		
32	TM	1,1,1-TCA	0.7701	0.7914	2.8	TM		
33	TM	Cyclohexane	0.4409	0.4502	2.1	TM		
34	TM	1,1-Dichloropropene	0.6947	0.6959	0.18	TM		
35	TM	2,2,4-Trimethylpentane	1.257	1.312	4.4	TM		
36	S	1,2-DCA-D4(S)	0.1699	0.1702	0.16	S		
37	TM	Carbon Tetrachloride	0.6621	0.6854	3.5	TM		
38	TM	Tert Amyl Methyl Ether	0.7545	0.7793	3.3	TM		
39	TM	1,2-DCA	0.4543	0.4467	1.7	TM		
40	TM	Benzene	2.053	2.065	0.60	TM		
		Average			4.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Feb 17 9:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0208M03.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5623	1.7	TM	
42	TM	2-Pentanone	0.1374	0.1609	17	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4627	0.61	TM*	
44	TM	Bromodichloromethane	0.5391	0.5630	4.4	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7598	6.5	TM	
46	TM	Dibromomethane	0.1739	0.1723	0.90	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2173	6.0	TML	7.2
48	TM	1-Bromo-2-chloroethane	0.4473	0.4090	8.6	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5930	0.04	TM	
50	TM*	Toluene	2.379	2.397	0.78	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4184	3.7	TM	
52	TM	1,1,2-TCA	0.2165	0.2188	1.1	TM	
53	TM	2-Hexanone	0.1143	0.1182	3.4	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.174	2.9	S	
56	TM	1,2-EDB	0.3267	0.3358	2.8	TM	
57	TM	Tetrachloroethene	0.8031	0.8316	3.5	TM	
58	TM	1-Chlorohexane	0.9327	0.9673	3.7	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6839	0.61	TM	
60	TM	m&p-Xylene	1.470	1.506	2.5	TM	
61	TM	o-Xylene	1.371	1.416	3.2	TM	
62	TM	Styrene	2.110	2.182	3.4	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4346	0.17	S	
64	TM	1,3-Dichloropropane	0.6485	0.6504	0.28	TM	
65	TM	Dibromochloromethane	0.4990	0.5056	1.3	TM	
66	TM**	Chlorobenzene	2.082	2.062	0.96	TM**	
67	TM*	Ethylbenzene	3.752	3.799	1.3	TM*	
68	TM**	Bromoform	0.2963	0.2970	0.25	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	7.272	3.7	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6967	5.1	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2245	2.1	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1360	8.4	TML	2.2
74	TM	Bromobenzene	1.620	1.622	0.14	TM	
75	TM	n-Propylbenzene	7.746	8.167	5.4	TM	
76	TM	4-Ethyltoluene	6.825	7.207	5.6	TM	
77	TM	2-Chlorotoluene	4.634	4.671	0.81	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	5.855	2.9	TM	
79	TM	4-Chlorotoluene	5.222	5.393	3.3	TM	
80	TM	Tert-Butylbenzene	5.094	5.212	2.3	TM	
		Average			3.2		

FORM71

APPL 02/09/17 8:09 AM

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Feb 17 9:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0208M03.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.740	3.4	TM	
82	TM	Sec-Butylbenzene	6.789	7.156	5.4	TM	
83	TM	p-Isopropyltoluene	5.929	6.293	6.1	TM	
84	TM	Benzyl Chloride	0.4376	0.5975	37	TM	
85	TM	1,3-DCB	3.240	3.318	2.4	TM	
86	TM	1,4-DCB	3.175	3.091	2.6	TM	
87	TM	n-Butylbenzene	4.656	5.131	10	TM	
88	TM	1,2-DCB	2.651	2.671	0.76	TM	
89	TM	Hexachloroethane	0.7881	0.8607	9.2	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0884	3.0	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.499	32	TML	0.25
92	TM	Hexachlorobutadiene	1.216	1.287	5.8	TM	
93	TML	Naphthalene	0.7727	1.149	49	TML	11
94	TML	1,2,3-Trichlorobenzene	0.6764	1.006	49	TML	2.5
95							
96							
97							
98							
99							
100							
101							
102							
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114							
115							
116							
117							
118							
119							
120							
		Average			15.4		

nt

FORM71

APPL 02/09/17 8:09 AM

Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	298676	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215245	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112953	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	61726	24.10 ppb	0.00
Spiked Amount 25.000			Recovery = 96.388%		
36) 1,2-DCA-D4(S)	5.13	65	50824	25.04 ppb	0.00
Spiked Amount 25.000			Recovery = 100.160%		
56) Toluene-D8(S)	7.35	98	252775	24.28 ppb	0.00
Spiked Amount 25.000			Recovery = 97.100%		
64) 4-Bromofluorobenzene(S)	10.74	95	93536	24.96 ppb	0.00
Spiked Amount 25.000			Recovery = 99.832%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	27928	9.45 ppb		96
3) Freon 114	1.29	85	45858	9.96 ppb		98
4) Chloromethane	1.34	50	47680	9.27 ppb		97
5) Vinyl chloride	1.43	62	70073	9.82 ppb		96
6) Bromomethane	1.70	94	35998	8.61 ppb		98
7) Chloroethane	1.80	64	39213	9.90 ppb		97
8) Dichlorofluoromethane	1.98	67	109931	10.15 ppb		98
9) Trichlorofluoromethane	2.03	101	81933	10.87 ppb		98
10) Acrolein	2.41	56	32869	129.02 ppb		94
11) Acetone	2.57	43	7063	10.05 ppb	#	84
12) Freon-113	2.54	101	52977	10.62 ppb		97
13) 1,1-DCE	2.51	61	83595	10.22 ppb		97
14) t-Butanol	3.14	59	17116	138.74 ppb		94
15) Methyl Acetate	2.90	43	20465	10.35 ppb		94
16) Iodomethane	2.64	142	51419	7.95 ppb		99
17) Acrylonitrile	3.23	53	7360	8.11 ppb	#	80
18) Methylene chloride	2.98	84	52676	9.90 ppb		96
19) Carbon disulfide	2.70	76	152502	9.37 ppb		100
20) Methyl t-butyl ether (MtBE	3.28	73	87057	10.08 ppb		100
21) Trans-1,2-DCE	3.26	96	59292	10.11 ppb		94
22) Diisopropyl Ether	3.80	45	167160	10.12 ppb		99
23) 1,1-DCA	3.67	63	104750	10.10 ppb		98
24) Vinyl Acetate	3.76	43	33948	10.27 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	110958	10.26 ppb		99
26) MEK (2-Butanone)	4.31	43	12597	11.20 ppb		93
27) Cis-1,2-DCE	4.27	96	63621	9.89 ppb		98
28) 2,2-Dichloropropane	4.27	77	74988	10.72 ppb		99
29) Chloroform	4.61	83	102140	10.22 ppb		92
30) Bromochloromethane	4.52	128	25050	10.15 ppb		98
32) 1,1,1-TCA	4.80	97	94543	10.28 ppb		99
33) Cyclohexane	4.87	41	53784	10.21 ppb		96
34) 1,1-Dichloropropene	4.98	75	83142	10.02 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	156756	10.44 ppb		99
37) Carbon Tetrachloride	4.98	117	81881	10.35 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	93107	10.33 ppb		94
39) 1,2-DCA	5.21	62	53369	9.83 ppb		96
40) Benzene	5.20	78	246754	10.06 ppb		99
41) TCE	5.92	95	67183	10.17 ppb		96
42) 2-Pentanone	6.15	43	240226	146.40 ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	55284	9.94 ppb	99
44) Bromodichloromethane	6.49	83	67260	10.44 ppb	92
45) Methyl Cyclohexane	6.15	83	90776	10.65 ppb	98
46) Dibromomethane	6.29	93	20590	9.91 ppb	92
47) MIBK (methyl isobutyl ket	7.24	43	25958	10.72 ppb	96
48) 1-Bromo-2-chloroethane	6.84	63	48858	9.14 ppb	100
50) Cis-1,3-Dichloropropene	7.03	75	70850	10.00 ppb	99
51) Toluene	7.43	91	286410	10.08 ppb	98
52) Trans-1,3-Dichloropropene	7.71	75	49988	10.37 ppb	97
53) 1,1,2-TCA	7.92	83	26144	10.11 ppb	96
54) 2-Hexanone	8.28	43	14117	10.34 ppb	94
57) 1,2-EDB	8.53	107	28910	10.28 ppb	97
58) Tetrachloroethene	8.10	164	71595	10.35 ppb	98
59) 1-Chlorohexane	9.21	91	83282	10.37 ppb	96
60) 1,1,1,2-Tetrachloroethane	9.31	131	58880	10.06 ppb	96
61) m&p-Xylene	9.52	106	259390	20.50 ppb	100
62) o-Xylene	10.04	106	121882	10.32 ppb	96
63) Styrene	10.06	104	187833	10.34 ppb	97
65) 1,3-Dichloropropane	8.13	76	55995	10.03 ppb	99
66) Dibromochloromethane	8.40	129	43529	10.13 ppb	95
67) Chlorobenzene	9.19	112	177526	9.90 ppb	98
68) Ethylbenzene	9.36	91	327087	10.13 ppb	97
69) Bromoform	10.27	173	25573	10.02 ppb	96
71) Isopropylbenzene	10.56	105	328557	10.37 ppb	100
72) 1,1,2,2-Tetrachloroethane	10.96	83	31480	10.51 ppb	95
73) 1,2,3-Trichloropropane	11.00	110	10144	10.21 ppb	91
74) t-1,4-Dichloro-2-Butene	11.05	53	6143	9.78 ppb	88
75) Bromobenzene	10.92	156	73294	10.01 ppb	96
76) n-Propylbenzene	11.13	91	368997	10.54 ppb	99
77) 4-Ethyltoluene	11.30	105	325642	10.56 ppb	100
78) 2-Chlorotoluene	11.21	91	211054	10.08 ppb	97
79) 1,3,5-Trimethylbenzene	11.39	105	264540	10.29 ppb	99
80) 4-Chlorotoluene	11.37	91	243670	10.33 ppb	95
81) Tert-Butylbenzene	11.84	119	235501	10.23 ppb	99
82) 1,2,4-Trimethylbenzene	11.91	105	259342	10.34 ppb	98
83) Sec-Butylbenzene	12.15	105	323333	10.54 ppb	99
84) p-Isopropyltoluene	12.37	119	284327	10.61 ppb	98
85) Benzyl Chloride	12.59	91	26998	13.65 ppb	97
86) 1,3-DCB	12.25	146	149893	10.24 ppb	96
87) 1,4-DCB	12.38	146	139663	9.74 ppb	96
88) n-Butylbenzene	12.95	91	231831	11.02 ppb	100
89) 1,2-DCB	12.90	146	120666	10.08 ppb	96
90) Hexachloroethane	13.27	117	38886	10.92 ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	3994	9.70 ppb	90
92) 1,2,4-Trichlorobenzene	15.23	180	67737	9.97 ppb	96
93) Hexachlorobutadiene	15.52	225	58160	10.58 ppb	98
94) Naphthalene	15.56	128	51928	8.88 ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	45440	9.75 ppb	94

(#) = qualifier out of range (m) = manual integration

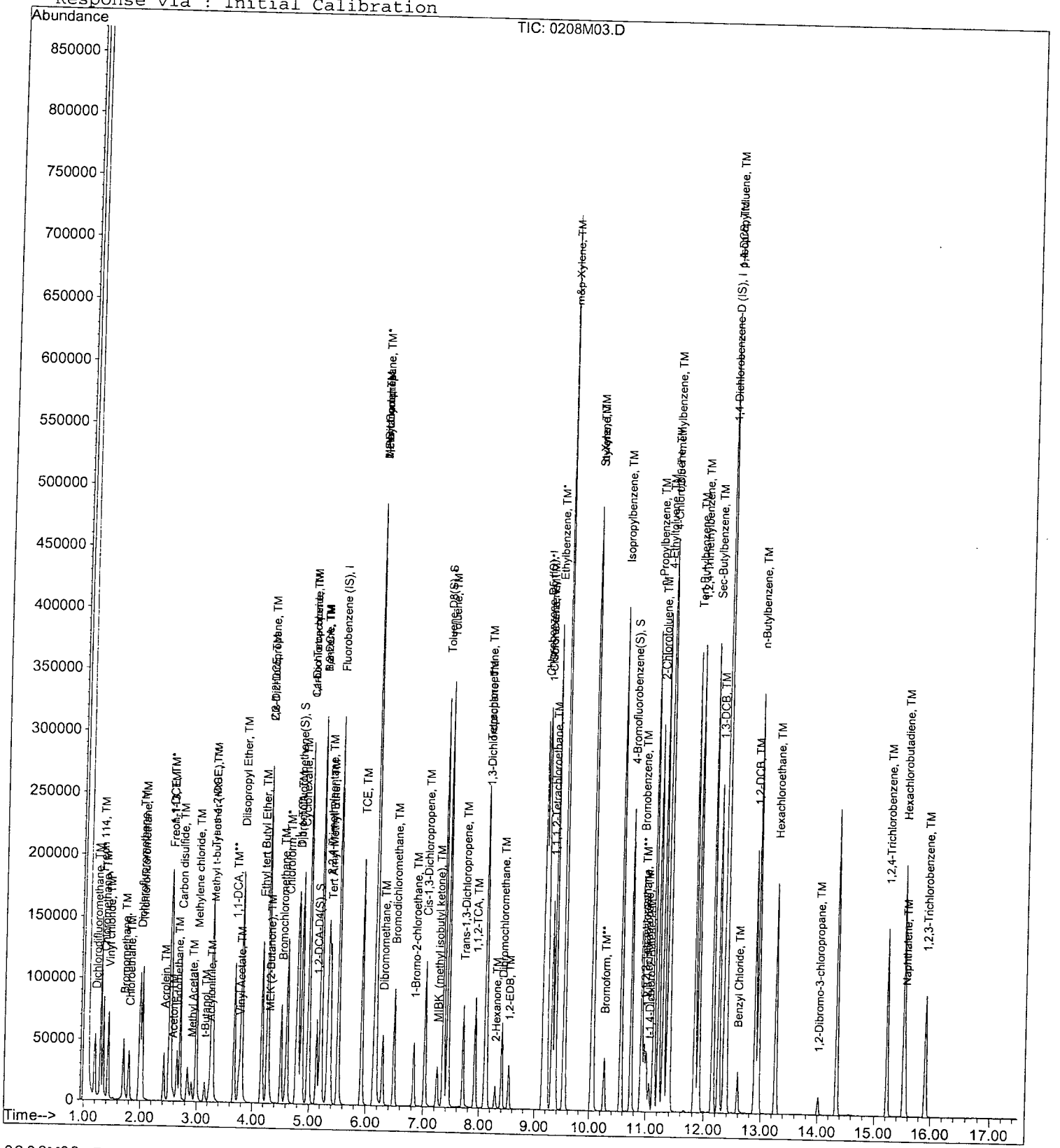
Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



396

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 17:33
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0208M19.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2251	9.0	TM	
3	TM	Freon 114	0.3854	0.3527	8.5	TM	
4	TM**	Chloromethane	0.4307	0.3732	13	TM**	
5	TM*	Vinyl chloride	0.5975	0.5566	6.8	TM*	
6	TM	Bromomethane	0.3498	0.2759	21	TM	
7	TM	Chloroethane	0.3317	0.3193	3.7	TM	
8	TM	Dichlorofluoromethane	0.9066	0.8963	1.1	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6246	0.95	TM	
10	TM	Acrolein	0.0213	0.0225	5.5	TM	
11	TML	Acetone	0.0718	0.0651	9.3	TML	12
12	TM	Freon-113	0.4174	0.4114	1.4	TM	
13	TM*	1,1-DCE	0.6844	0.6629	3.1	TM*	
14	TM	t-Butanol	0.0103	0.0128	24	TM	
15	TM	Methyl Acetate	0.1654	0.1862	13	TM	
16	TML	Iodomethane	0.4508	0.4009	11	TML	26
17	TML	Acrylonitrile	0.0675	0.0888	31	TML	18
18	TML	Methylene chloride	0.5358	0.4540	15	TML	2.2
19	TM	Carbon disulfide	1.362	1.214	11	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7799	7.9	TM	
21	TM	Trans-1,2-DCE	0.4907	0.4954	0.96	TM	
22	TM	Diisopropyl Ether	1.383	1.458	5.4	TM	
23	TM**	1,1-DCA	0.8679	0.8792	1.3	TM**	
24	TM	Vinyl Acetate	0.2767	0.2075	25	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9867	9.0	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0883	6.2	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5542	2.9	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5123	12	TM	
29	TM*	Chloroform	0.8364	0.8654	3.5	TM*	
30	TM	Bromochloromethane	0.2067	0.2162	4.6	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2235	4.2	S	
32	TM	1,1,1-TCA	0.7701	0.7728	0.35	TM	
33	TM	Cyclohexane	0.4409	0.4259	3.4	TM	
34	TM	1,1-Dichloropropene	0.6947	0.6887	0.85	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.122	11	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1778	4.7	S	
37	TM	Carbon Tetrachloride	0.6621	0.6620	0.01	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.8630	14	TM	
39	TM	1,2-DCA	0.4543	0.4923	8.4	TM	
40	TM	Benzene	2.053	2.104	2.5	TM	
		Average			8.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Feb 17 17:33
Instrument: Max
Cal. Date: 01/27/17
Data File: 0208M19.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5888	6.5	TM	
42	TM	2-Pentanone	0.1374	0.1708	24	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4858	4.3	TM*	
44	TM	Bromodichloromethane	0.5391	0.5843	8.4	TM	
45	TM	Methyl Cyclohexane	0.7132	0.6853	3.9	TM	
46	TM	Dibromomethane	0.1739	0.1909	9.8	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2442	5.6	TML	22
48	TM	1-Bromo-2-chloroethane	0.4473	0.4525	1.2	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.6225	4.9	TM	
50	TM*	Toluene	2.379	2.416	1.6	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4456	10	TM	
52	TM	1,1,2-TCA	0.2165	0.2523	17	TM	
53	TM	2-Hexanone	0.1143	0.1286	13	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.217	0.59	S	
56	TM	1,2-EDB	0.3267	0.3667	12	TM	
57	TM	Tetrachloroethene	0.8031	0.7966	0.80	TM	
58	TM	1-Chlorohexane	0.9327	0.9192	1.4	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7125	4.8	TM	
60	TM	m&p-Xylene	1.470	1.487	1.2	TM	
61	TM	o-Xylene	1.371	1.435	4.6	TM	
62	TM	Styrene	2.110	2.206	4.5	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4589	5.4	S	
64	TM	1,3-Dichloropropane	0.6485	0.7063	8.9	TM	
65	TM	Dibromochloromethane	0.4990	0.5407	8.4	TM	
66	TM**	Chlorobenzene	2.082	2.077	0.26	TM**	
67	TM*	Ethylbenzene	3.752	3.757	0.15	TM*	
68	TM**	Bromoform	0.2963	0.3270	10	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	6.760	3.6	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6885	3.9	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2406	9.4	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1525	22	TML	9.5
74	TM	Bromobenzene	1.620	1.604	0.99	TM	
75	TM	n-Propylbenzene	7.746	7.521	2.9	TM	
76	TM	4-Ethyltoluene	6.825	6.638	2.7	TM	
77	TM	2-Chlorotoluene	4.634	4.467	3.6	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	5.615	1.3	TM	
79	TM	4-Chlorotoluene	5.222	5.121	1.9	TM	
80	TM	Tert-Butylbenzene	5.094	4.970	2.4	TM	
		Average			6.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Feb 17 17:33
Instrument: Max
Cal. Date: 01/27/17
Data File: 0208M19.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.550	0.04	TM	
82	TM	Sec-Butylbenzene	6.789	6.511	4.1	TM	
83	TM	p-Isopropyltoluene	5.929	5.767	2.7	TM	
84	TM	Benzyl Chloride	0.4376	0.4805	9.8	TM	
85	TM	1,3-DCB	3.240	3.216	0.73	TM	
86	TM	1,4-DCB	3.175	3.126	1.5	TM	
87	TM	n-Butylbenzene	4.656	4.499	3.4	TM	
88	TM	1,2-DCB	2.651	2.688	1.4	TM	
89	TM	Hexachloroethane	0.7881	0.7657	2.8	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.1040	14	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.499	32	TML	0.27
92	TM	Hexachlorobutadiene	1.216	1.106	9.0	TM	
93	TML	Naphthalene	0.7727	1.300	68	TML	1.0
94	TML	1,2,3-Trichlorobenzene	0.6764	1.071	58	TML	3.3
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			14.8		

Data File : M:\MAX\DATA\M170127\0208M19.D
Acq On : 8 Feb 17 17:33
Sample : Ending CCV 8260 10ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	295577	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	216014	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	118524	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	66062	26.06 ppb	0.00
Spiked Amount 25.000			Recovery =	104.240%	
36) 1,2-DCA-D4(S)	5.13	65	52564	26.17 ppb	0.00
Spiked Amount 25.000			Recovery =	104.672%	
56) Toluene-D8(S)	7.35	98	262801	25.15 ppb	0.00
Spiked Amount 25.000			Recovery =	100.592%	
64) 4-Bromofluorobenzene(S)	10.74	95	99119	26.35 ppb	0.00
Spiked Amount 25.000			Recovery =	105.416%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	26608	9.10 ppb	99
3) Freon 114	1.29	85	41702	9.15 ppb	92
4) Chloromethane	1.34	50	44128	8.67 ppb	98
5) Vinyl chloride	1.43	62	65806	9.32 ppb	97
6) Bromomethane	1.70	94	32615	7.89 ppb	99
7) Chloroethane	1.80	64	37749	9.63 ppb	99
8) Dichlorofluoromethane	1.99	67	105970	9.89 ppb	98
9) Trichlorofluoromethane	2.03	101	73847	9.90 ppb	96
10) Acrolein	2.42	56	33255	131.90 ppb	100
11) Acetone	2.57	43	7697	11.23 ppb	97
12) Freon-113	2.54	101	48641	9.86 ppb	99
13) 1,1-DCE	2.51	61	78371	9.69 ppb	99
14) t-Butanol	3.15	59	18853	154.42 ppb	91
15) Methyl Acetate	2.91	43	22012	11.25 ppb	95
16) Iodomethane	2.64	142	47402	7.44 ppb	98
17) Acrylonitrile	3.22	53	10493	11.81 ppb	93
18) Methylene chloride	2.99	84	53671	10.22 ppb	93
19) Carbon disulfide	2.70	76	143522	8.91 ppb	99
20) Methyl t-butyl ether (MtBE	3.29	73	92203	10.79 ppb	98
21) Trans-1,2-DCE	3.26	96	58577	10.10 ppb	97
22) Diisopropyl Ether	3.80	45	172332	10.54 ppb	97
23) 1,1-DCA	3.67	63	103951	10.13 ppb	98
24) Vinyl Acetate	3.76	43	24536	7.50 ppb	96
25) Ethyl tert Butyl Ether	4.17	59	116653	10.90 ppb	99
26) MEK (2-Butanone)	4.31	43	10436	9.38 ppb	93
27) Cis-1,2-DCE	4.27	96	65519	10.29 ppb	97
28) 2,2-Dichloropropane	4.27	77	60568	8.75 ppb	99
29) Chloroform	4.62	83	102316	10.35 ppb	97
30) Bromochloromethane	4.52	128	25561	10.46 ppb	97
32) 1,1,1-TCA	4.80	97	91367	10.04 ppb	97
33) Cyclohexane	4.87	41	50354	9.66 ppb	92
34) 1,1-Dichloropropene	4.99	75	81431	9.91 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	132636	8.93 ppb	96
37) Carbon Tetrachloride	4.99	117	78274	10.00 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	102031	11.44 ppb	97
39) 1,2-DCA	5.21	62	58204	10.84 ppb	96
40) Benzene	5.20	78	248712	10.25 ppb	99
41) TCE	5.93	95	69616	10.65 ppb	96
42) 2-Pentanone	6.15	43	252490	155.48 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M19.D
Acq On : 8 Feb 17 17:33
Sample : Ending CCV 8260 10ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	57438	10.43 ppb	98
44) Bromodichloromethane	6.49	83	69083	10.84 ppb	94
45) Methyl Cyclohexane	6.15	83	81021	9.61 ppb	99
46) Dibromomethane	6.29	93	22569	10.98 ppb	96
47) MIBK (methyl isobutyl ket	7.24	43	28875	12.20 ppb	95
48) 1-Bromo-2-chloroethane	6.84	63	53495	10.12 ppb	99
50) Cis-1,3-Dichloropropene	7.03	75	73603	10.49 ppb	98
51) Toluene	7.43	91	285618	10.16 ppb	98
52) Trans-1,3-Dichloropropene	7.71	75	52685	11.04 ppb	96
53) 1,1,2-TCA	7.92	83	29825	11.65 ppb	92
54) 2-Hexanone	8.29	43	15206	11.25 ppb	94
57) 1,2-EDB	8.53	107	31683	11.22 ppb	99
58) Tetrachloroethene	8.11	164	68834	9.92 ppb	98
59) 1-Chlorohexane	9.21	91	79427	9.86 ppb	96
60) 1,1,1,2-Tetrachloroethane	9.31	131	61563	10.48 ppb	100
61) m&p-Xylene	9.52	106	256965	20.23 ppb	96
62) o-Xylene	10.04	106	123977	10.46 ppb	94
63) Styrene	10.06	104	190576	10.45 ppb	97
65) 1,3-Dichloropropane	8.13	76	61030	10.89 ppb	98
66) Dibromochloromethane	8.40	129	46716	10.84 ppb	96
67) Chlorobenzene	9.19	112	179423	9.97 ppb	98
68) Ethylbenzene	9.36	91	324662	10.01 ppb	99
69) Bromoform	10.27	173	28258	11.04 ppb	98
71) Isopropylbenzene	10.56	105	320508	9.64 ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	32642	10.39 ppb	98
73) 1,2,3-Trichloropropane	11.00	110	11405	10.94 ppb	99
74) t-1,4-Dichloro-2-Butene	11.05	53	7232	10.95 ppb	90
75) Bromobenzene	10.92	156	76047	9.90 ppb	99
76) n-Propylbenzene	11.13	91	356566	9.71 ppb	98
77) 4-Ethyltoluene	11.30	105	314713	9.73 ppb	100
78) 2-Chlorotoluene	11.21	91	211800	9.64 ppb	98
79) 1,3,5-Trimethylbenzene	11.39	105	266215	9.87 ppb	98
80) 4-Chlorotoluene	11.37	91	242779	9.81 ppb	95
81) Tert-Butylbenzene	11.84	119	235635	9.76 ppb	99
82) 1,2,4-Trimethylbenzene	11.91	105	263133	10.00 ppb	98
83) Sec-Butylbenzene	12.15	105	308683	9.59 ppb	99
84) p-Isopropyltoluene	12.37	119	273413	9.73 ppb	99
85) Benzyl Chloride	12.59	91	22779	10.98 ppb	96
86) 1,3-DCB	12.26	146	152471	9.93 ppb	96
87) 1,4-DCB	12.38	146	148182	9.85 ppb	98
88) n-Butylbenzene	12.95	91	213302	9.66 ppb	96
89) 1,2-DCB	12.90	146	127452	10.14 ppb	97
90) Hexachloroethane	13.27	117	36303	9.72 ppb	96
91) 1,2-Dibromo-3-chloropropan	14.01	75	4929	11.41 ppb	86
92) 1,2,4-Trichlorobenzene	15.23	180	71067	9.97 ppb	95
93) Hexachlorobutadiene	15.52	225	52449	9.10 ppb	97
94) Naphthalene	15.56	128	61614	9.90 ppb	98
95) 1,2,3-Trichlorobenzene	15.92	180	50780	10.33 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

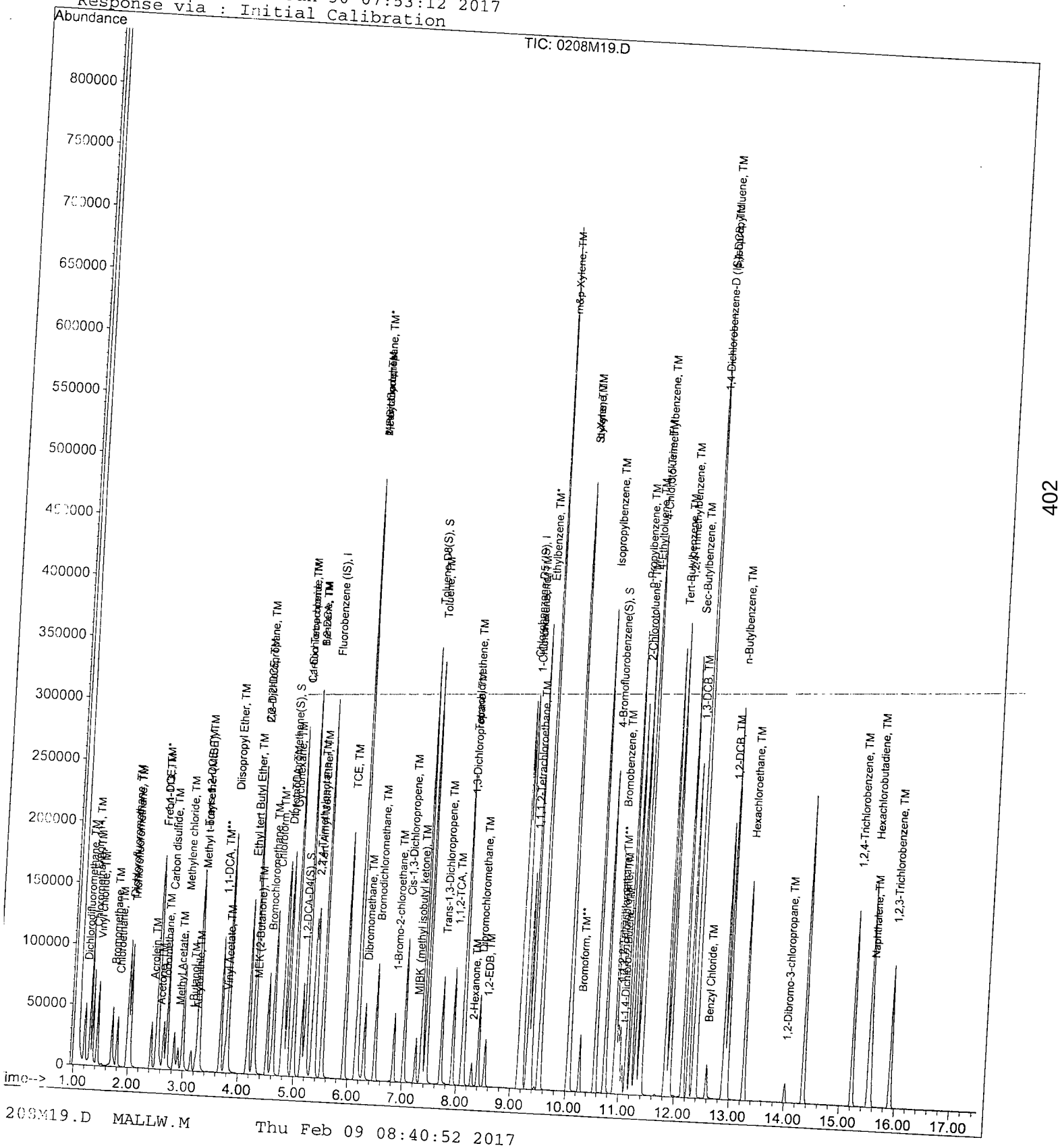
Data File : M:\MAX\DATA\M170127\0208M19.D
Acq On : 8 Feb 17 17:33
Sample : Ending CCV 8260 10ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:28 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



0208M19.D MALLW.M Thu Feb 09 08:40:52 2017

402

ORGANICS
Raw Data

APPL, INC.

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170208W-49655 - 216060**
Batch ID: #86BTO-170208AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/08/17	02/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/08/17	02/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/08/17	02/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/08/17	02/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	02/08/17	02/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.8	85-114			%	02/08/17	02/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	02/08/17	02/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.7	89-112			%	02/08/17	02/08/17

Quant Method: MGAS6111.
Run #: 0208M11
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/13/17 11:41:51 AM

Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:11 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	290729	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	211363	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	104361	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63612	25.51 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.048%	
36) 1,2-DCA-D4(S)	5.13	65	50404	25.51 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
56) Toluene-D8(S)	7.35	98	252398	24.68 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.736%	
64) 4-Bromofluorobenzene(S)	10.74	95	90883	24.70 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.784%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0208M11.D MALLW.M Thu Feb 09 08:40:48 2017

Quantitation Report

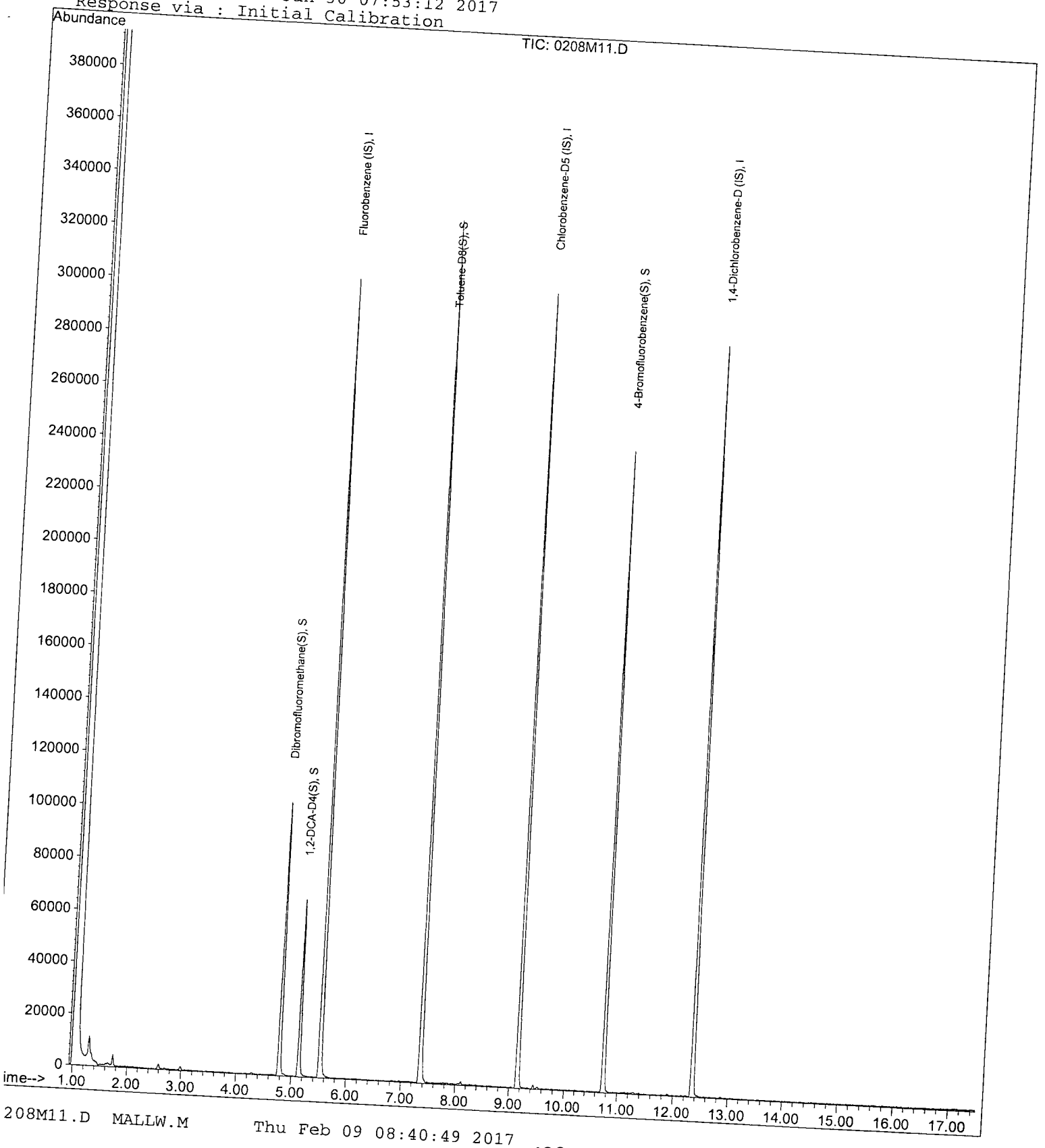
Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:11 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170208W-49655 LCS - 216060**
Batch ID: #86BTO-170208AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.1	101	79-120
ETHYLBENZENE	10.00	10.1	101	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.8	103	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.0	100	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.1	96.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.3	97.2	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	02/08/17
Analysis Date :	02/08/17
Instrument :	Max
Run :	0208M03
Initials :	ARO

Printed: 02/13/17 11:41:52 AM
APPL Standard LCS

Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.51	96	298676	25.00	ppb		0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215245	25.00	ppb		0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112953	25.00	ppb		0.00
System Monitoring Compounds							
31) Dibromofluoromethane(S)	4.78	111	61726	24.10	ppb		0.00
Spiked Amount 25.000			Recovery = 96.388%				
36) 1,2-DCA-D4(S)	5.13	65	50824	25.04	ppb		0.00
Spiked Amount 25.000			Recovery = 100.160%				
56) Toluene-D8(S)	7.35	98	252775	24.28	ppb		0.00
Spiked Amount 25.000			Recovery = 97.100%				
64) 4-Bromofluorobenzene(S)	10.74	95	93536	24.96	ppb		0.00
Spiked Amount 25.000			Recovery = 99.832%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.19	85	27928	9.45	ppb		96
3) Freon 114	1.29	85	45858	9.96	ppb		98
4) Chloromethane	1.34	50	47680	9.27	ppb		97
5) Vinyl chloride	1.43	62	70073	9.82	ppb		96
6) Bromomethane	1.70	94	35998	8.61	ppb		98
7) Chloroethane	1.80	64	39213	9.90	ppb		97
8) Dichlorofluoromethane	1.98	67	109931	10.15	ppb		98
9) Trichlorofluoromethane	2.03	101	81933	10.87	ppb		98
10) Acrolein	2.41	56	32869	129.02	ppb		94
11) Acetone	2.57	43	7063	10.05	ppb	#	84
12) Freon-113	2.54	101	52977	10.62	ppb		97
13) 1,1-DCE	2.51	61	83595	10.22	ppb		97
14) t-Butanol	3.14	59	17116	138.74	ppb		94
15) Methyl Acetate	2.90	43	20465	10.35	ppb		94
16) Iodomethane	2.64	142	51419	7.95	ppb		99
17) Acrylonitrile	3.23	53	7360	8.11	ppb	#	80
18) Methylene chloride	2.98	84	52676	9.90	ppb		96
19) Carbon disulfide	2.70	76	152502	9.37	ppb		100
20) Methyl t-butyl ether (MtBE	3.28	73	87057	10.08	ppb		100
21) Trans-1,2-DCE	3.26	96	59292	10.11	ppb		94
22) Diisopropyl Ether	3.80	45	167160	10.12	ppb		99
23) 1,1-DCA	3.67	63	104750	10.10	ppb		98
24) Vinyl Acetate	3.76	43	33948	10.27	ppb		98
25) Ethyl tert Butyl Ether	4.17	59	110958	10.26	ppb		99
26) MEK (2-Butanone)	4.31	43	12597	11.20	ppb		93
27) Cis-1,2-DCE	4.27	96	63621	9.89	ppb		98
28) 2,2-Dichloropropane	4.27	77	74988	10.72	ppb		99
29) Chloroform	4.61	83	102140	10.22	ppb		92
30) Bromochloromethane	4.52	128	25050	10.15	ppb		98
32) 1,1,1-TCA	4.80	97	94543	10.28	ppb		99
33) Cyclohexane	4.87	41	53784	10.21	ppb		96
34) 1,1-Dichloropropene	4.98	75	83142	10.02	ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	156756	10.44	ppb		99
37) Carbon Tetrachloride	4.98	117	81881	10.35	ppb		98
38) Tert Amyl Methyl Ether	5.37	73	93107	10.33	ppb		94
39) 1,2-DCA	5.21	62	53369	9.83	ppb		96
40) Benzene	5.20	78	246754	10.06	ppb		99
41) TCE	5.92	95	67183	10.17	ppb		96
42) 2-Pentanone	6.15	43	240226	146.40	ppb		99

(#) = qualifier out of range (m) = manual integration

Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	55284	9.94 ppb	99
44) Bromodichloromethane	6.49	83	67260	10.44 ppb	92
45) Methyl Cyclohexane	6.15	83	90776	10.65 ppb	98
46) Dibromomethane	6.29	93	20590	9.91 ppb	92
47) MIBK (methyl isobutyl ket	7.24	43	25958	10.72 ppb	96
48) 1-Bromo-2-chloroethane	6.84	63	48858	9.14 ppb	100
50) Cis-1,3-Dichloropropene	7.03	75	70850	10.00 ppb	99
51) Toluene	7.43	91	286410	10.08 ppb	98
52) Trans-1,3-Dichloropropene	7.71	75	49988	10.37 ppb	97
53) 1,1,2-TCA	7.92	83	26144	10.11 ppb	96
54) 2-Hexanone	8.28	43	14117	10.34 ppb	94
57) 1,2-EDB	8.53	107	28910	10.28 ppb	97
58) Tetrachloroethene	8.10	164	71595	10.35 ppb	98
59) 1-Chlorohexane	9.21	91	83282	10.37 ppb	96
60) 1,1,1,2-Tetrachloroethane	9.31	131	58880	10.06 ppb	96
61) m&p-Xylene	9.52	106	259390	20.50 ppb	100
62) o-Xylene	10.04	106	121882	10.32 ppb	96
63) Styrene	10.06	104	187833	10.34 ppb	97
65) 1,3-Dichloropropane	8.13	76	55995	10.03 ppb	99
66) Dibromochloromethane	8.40	129	43529	10.13 ppb	95
67) Chlorobenzene	9.19	112	177526	9.90 ppb	98
68) Ethylbenzene	9.36	91	327087	10.13 ppb	97
69) Bromoform	10.27	173	25573	10.02 ppb	96
71) Isopropylbenzene	10.56	105	328557	10.37 ppb	100
72) 1,1,2,2-Tetrachloroethane	10.96	83	31480	10.51 ppb	95
73) 1,2,3-Trichloropropane	11.00	110	10144	10.21 ppb	91
74) t-1,4-Dichloro-2-Butene	11.05	53	6143	9.78 ppb	88
75) Bromobenzene	10.92	156	73294	10.01 ppb	96
76) n-Propylbenzene	11.13	91	368997	10.54 ppb	99
77) 4-Ethyltoluene	11.30	105	325642	10.56 ppb	100
78) 2-Chlorotoluene	11.21	91	211054	10.08 ppb	97
79) 1,3,5-Trimethylbenzene	11.39	105	264540	10.29 ppb	99
80) 4-Chlorotoluene	11.37	91	243670	10.33 ppb	95
81) Tert-Butylbenzene	11.84	119	235501	10.23 ppb	99
82) 1,2,4-Trimethylbenzene	11.91	105	259342	10.34 ppb	98
83) Sec-Butylbenzene	12.15	105	323333	10.54 ppb	99
84) p-Isopropyltoluene	12.37	119	284327	10.61 ppb	98
85) Benzyl Chloride	12.59	91	26998	13.65 ppb	97
86) 1,3-DCB	12.25	146	149893	10.24 ppb	96
87) 1,4-DCB	12.38	146	139663	9.74 ppb	96
88) n-Butylbenzene	12.95	91	231831	11.02 ppb	100
89) 1,2-DCB	12.90	146	120666	10.08 ppb	96
90) Hexachloroethane	13.27	117	38886	10.92 ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	3994	9.70 ppb	90
92) 1,2,4-Trichlorobenzene	15.23	180	67737	9.97 ppb	96
93) Hexachlorobutadiene	15.52	225	58160	10.58 ppb	98
94) Naphthalene	15.56	128	51928	8.88 ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	45440	9.75 ppb	94

(#) = qualifier out of range (m) = manual integration

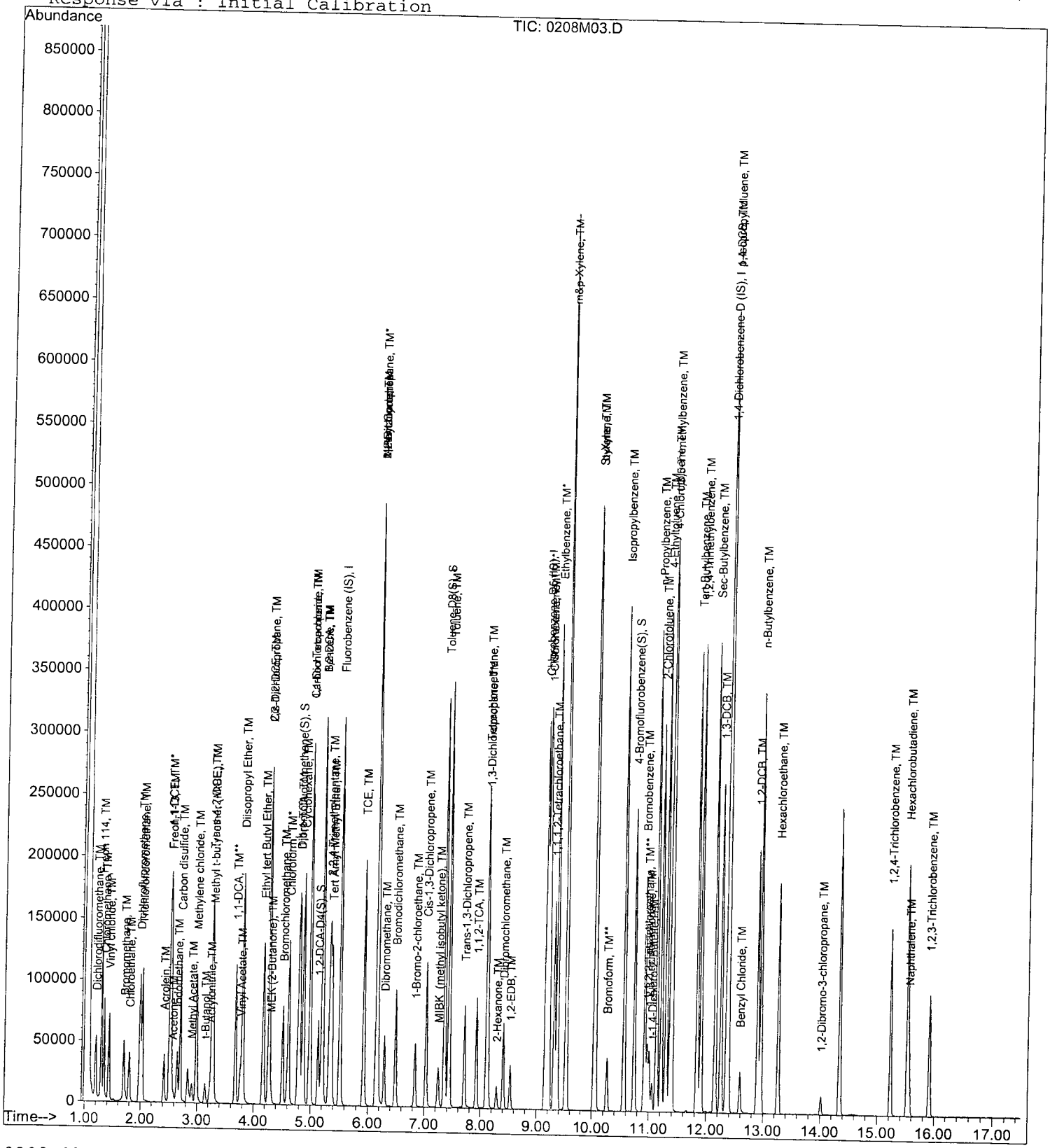
Data File : M:\MAX\DATA\M170127\0208M03.D
Acq On : 8 Feb 17 9:53
Sample : 170208A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



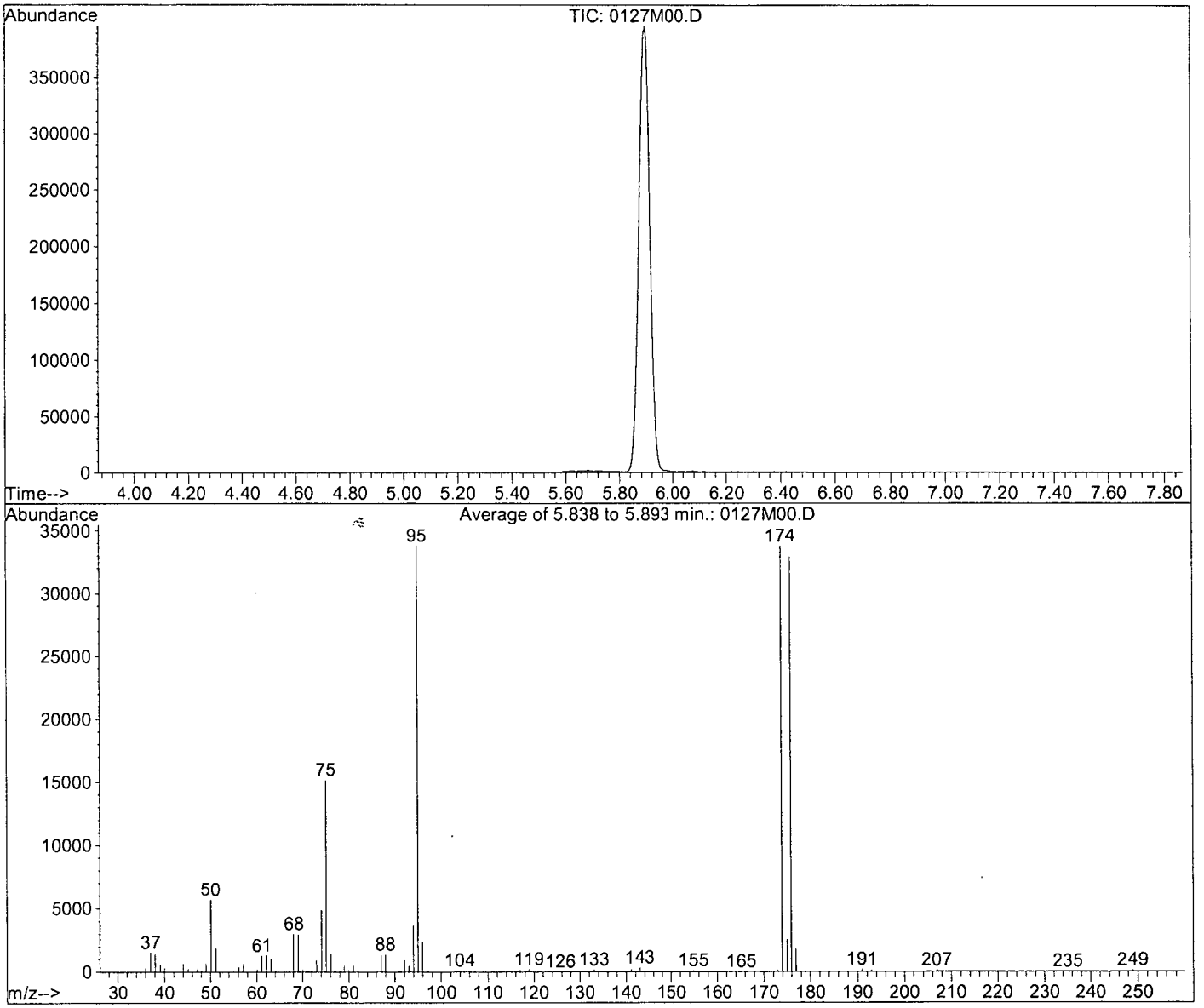
410

BFB

Data File : M:\MAX\DATA\M170127\0127M00.D
Acq On : 27 Jan 17 9:35
Sample : 5ng BFB STD 12/15/16
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.893 min.

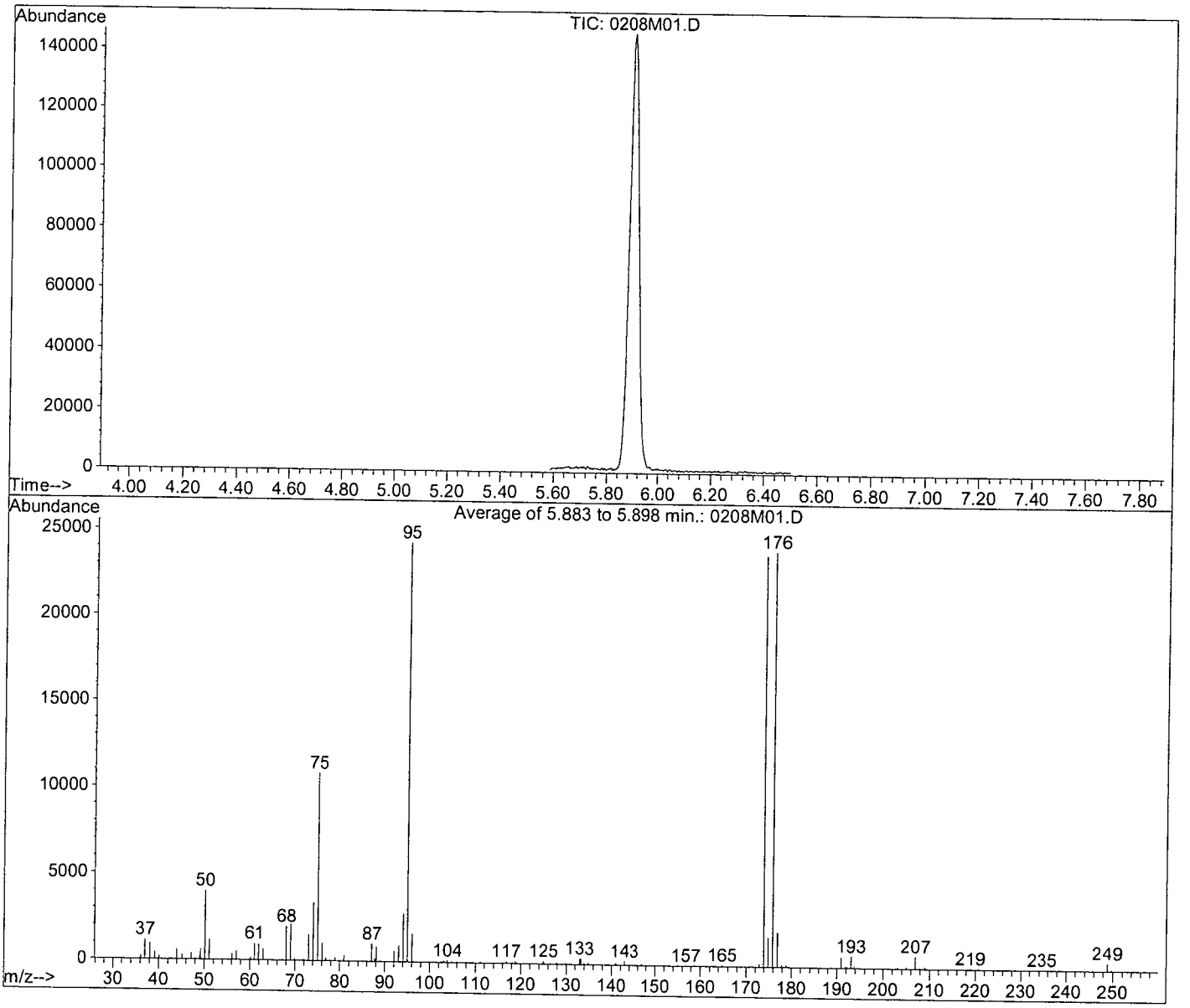
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	5692	PASS
75	95	30	60	44.8	15149	PASS
95	95	100	100	100.0	33790	PASS
96	95	5	9	7.1	2415	PASS
173	174	0.00	2	0.4	137	PASS
174	95	50	100	100.0	33786	PASS
175	174	5	9	7.5	2532	PASS
176	174	95	101	97.4	32900	PASS
177	176	5	9	5.4	1780	PASS

0127M00.D MALLW.M Mon Jan 30 08:03:23 2017

Data File : M:\MAX\DATA\M170127\0208M01.D
Acq On : 8 Feb 17 9:00
Sample : 5ng BFB STD 1/22/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.883 to 5.898 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	3981	PASS
75	95	30	60	44.6	10854	PASS
95	95	100	100	100.0	24314	PASS
96	95	5	9	6.7	1622	PASS
173	174	0.00	2	0.7	170	PASS
174	95	50	100	97.9	23806	PASS
175	174	5	9	7.2	1703	PASS
176	174	95	101	101.0	24038	PASS
177	176	5	9	8.3	1991	PASS

0208M01.D MALLW.M Wed Feb 08 09:08:10 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0127M00.D	1	5ng BFB STD 12/15/16	2ul	27 Jan 17 9:35
2	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
3	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
4	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
5	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
6	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
7	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
8	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
9	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
10	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
11	16	0127M16.D	1	(SS) 10ug/L VOC STD 01/27/16	IS&S 10/20/16	27 Jan 17 17:03
12	1	0208M01.D	1	5ng BFB STD 1/22/17	2ul	8 Feb 17 9:00
13	2	0208M03.D	1	170208A CCV/LCS 10ug/L	IS&S 10/20/16	8 Feb 17 9:53
14	10	0208M11.D	1	170208A BLK-1WM	IS&S 10/20/16	8 Feb 17 13:40
15	11	0208M12.D	1	AZ49655W01	IS&S 10/20/16	8 Feb 17 14:08
16	1	0208M13.D	1	AZ49656W01	IS&S 10/20/16	8 Feb 17 14:42
17	2	0208M14.D	1	AZ49657W01	IS&S 10/20/16	8 Feb 17 15:11
18	3	0208M15.D	1	AZ49658W01	IS&S 10/20/16	8 Feb 17 15:39
19	4	0208M16.D	1	AZ49659W01	IS&S 10/20/16	8 Feb 17 16:07
20	7	0208M19.D	1	Ending CCV 8260 10ug/L 02/08/17	IS&S 10/20/16	8 Feb 17 17:33

EPA METHOD 8260
Gasoline Range Organics (GRO)

APPL, INC.

EPA METHOD 8260
Gasoline Range Organics (GRO)

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170208W-49655 - 216061**
Batch ID: #GRO86-170208AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.8	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.
Run #: 0208M11
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/09/17 12:50:38 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER

SDG No: 82117
Date Analyzed: 02/08/17
Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170208AM-LCS	Lab Control Spike	85-114	99.2				
170208AM-BLK	Blank	85-114	98.8				
AZ49655	ERH207	85-114	102				
AZ49656	ERH208	85-114	97.8				
AZ49657	ERH244	85-114	99.9				
AZ49658	ERH245	85-114	100				
AZ49659	ERH246	85-114	102				

Comments: Batch: #GRO86-170208AM

Printed: 02/09/17 12:50:32 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170208W-49655 LCS - 216061**
Batch ID: #GRO86-170208AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	319	106	78-122
SURROGATE: 4-BROMOFLUOROBENZE	25.0	24.8	99.2	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	02/08/17
Analysis Date :	02/08/17
Instrument :	Max
Run :	0208M06
Initials :	ARO

Printed: 02/09/17 12:50:21 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82117
Matrix: WATER
Blank ID: 170208AM-BLK

SDG No: 82117
Date Analyzed: 02/08/17
Instrument: Max
Time Analyzed: 1340

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170208AM-LCS	Lab Control Spike	0208M06	02/08/17 1118
170208AM-BLK	Blank	0208M11	02/08/17 1340
AZ49655	ERH207	0208M12	02/08/17 1408
AZ49656	ERH208	0208M13	02/08/17 1442
AZ49657	ERH244	0208M14	02/08/17 1511
AZ49658	ERH245	0208M15	02/08/17 1539
AZ49659	ERH246	0208M16	02/08/17 1607

Comments: Batch: #GRO86-170208AM

Printed: 02/09/17 12:50:15 PM
Form 4, Blank Summary

EPA METHOD 8260
Gasoline Range Organics (GRO)

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH207
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49655
QCG: #GRO86-170208AM-216061

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M12
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/09/17 12:50:04 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M12.D Vial: 11
Acq On : 8 Feb 17 14:08 Operator: PM,DG,SV,CMM
Sample : AZ49655W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:30 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	319191	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

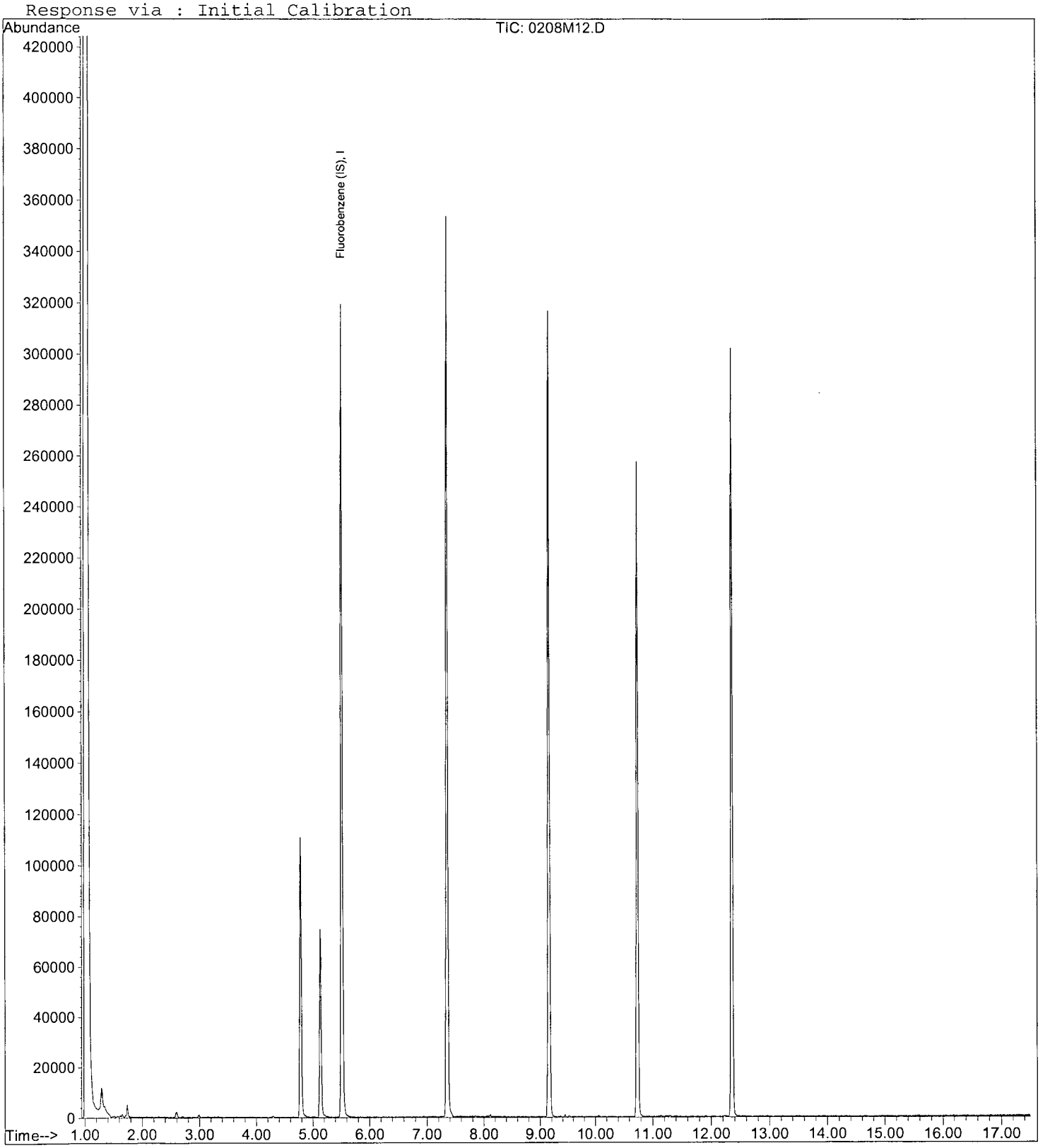
Data File : M:\MAX\DATA\M170127\0208M12.D
Acq On : 8 Feb 17 14:08
Sample : AZ49655W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:30 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M12.D
Acq On : 8 Feb 17 14:08
Sample : AZ49655W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	310674	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	222503	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107957	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	69017	25.90 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.612%	
3) 1,2-DCA-D4(S)	5.13	65	54073	25.61 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
5) Toluene-D8(S)	7.35	98	272387	25.31 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.220%	
6) 4-Bromofluorobenzene(S)	10.74	95	98382	25.40 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.580%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

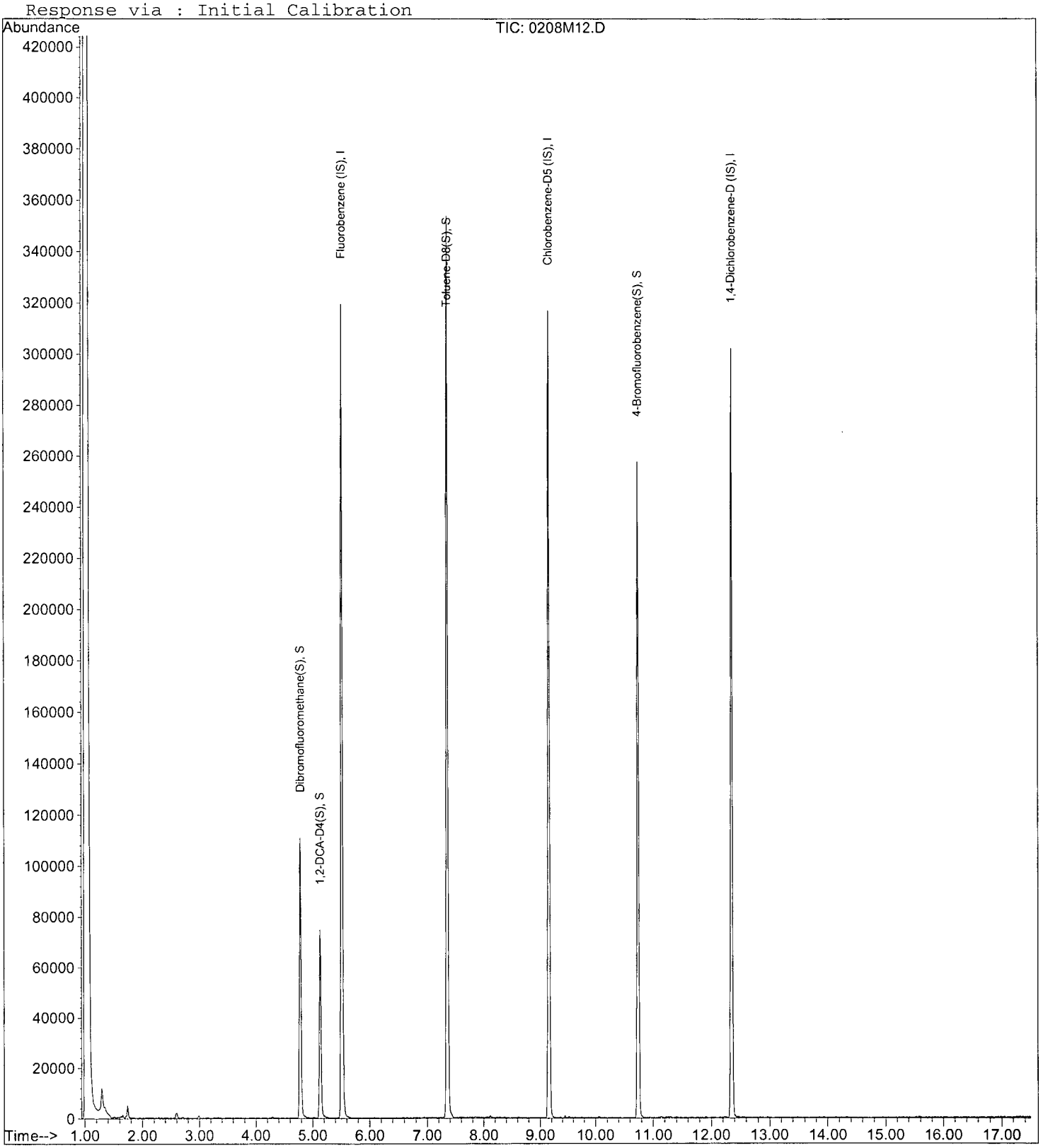
Data File : M:\MAX\DATA\M170127\0208M12.D
Acq On : 8 Feb 17 14:08
Sample : AZ49655W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #GRO86-170208AM-216061

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.8	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M13
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/09/17 12:50:05 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M13.D
Acq On : 8 Feb 17 14:42
Sample : AZ49656W01
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:30 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	339887	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

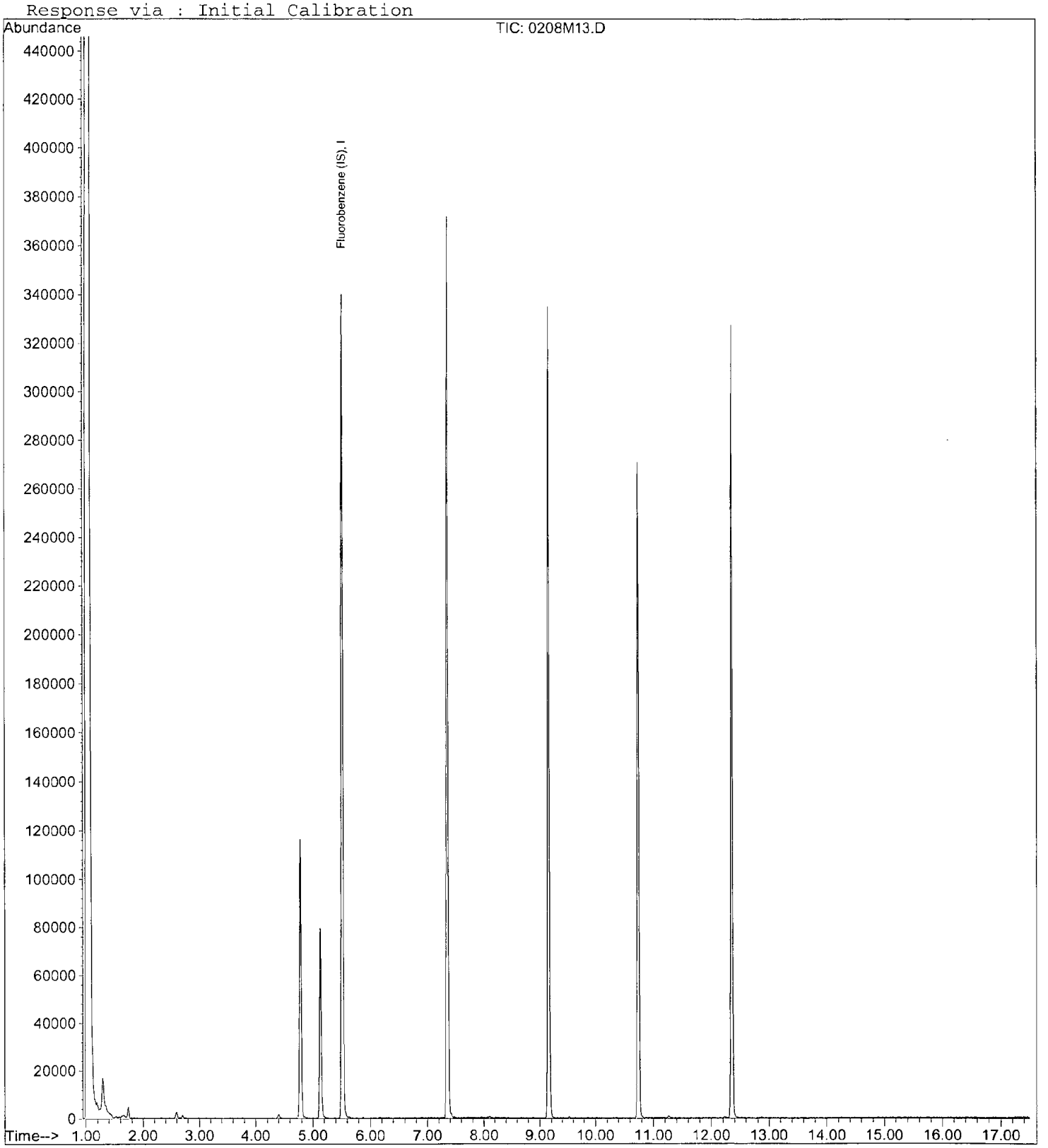
Data File : M:\MAX\DATA\M170127\0208M13.D
Acq On : 8 Feb 17 14:42
Sample : AZ49656W01
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:30 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M13.D Vial: 1
Acq On : 8 Feb 17 14:42 Operator: PM,DG,SV,CMM
Sample : AZ49656W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	325809	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	238469	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	118849	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	71234	25.49 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.972%	
3) 1,2-DCA-D4(S)	5.13	65	56075	25.33 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.304%	
5) Toluene-D8(S)	7.35	98	277606	24.06 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.256%	
6) 4-Bromofluorobenzene(S)	10.74	95	101535	24.45 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.816%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

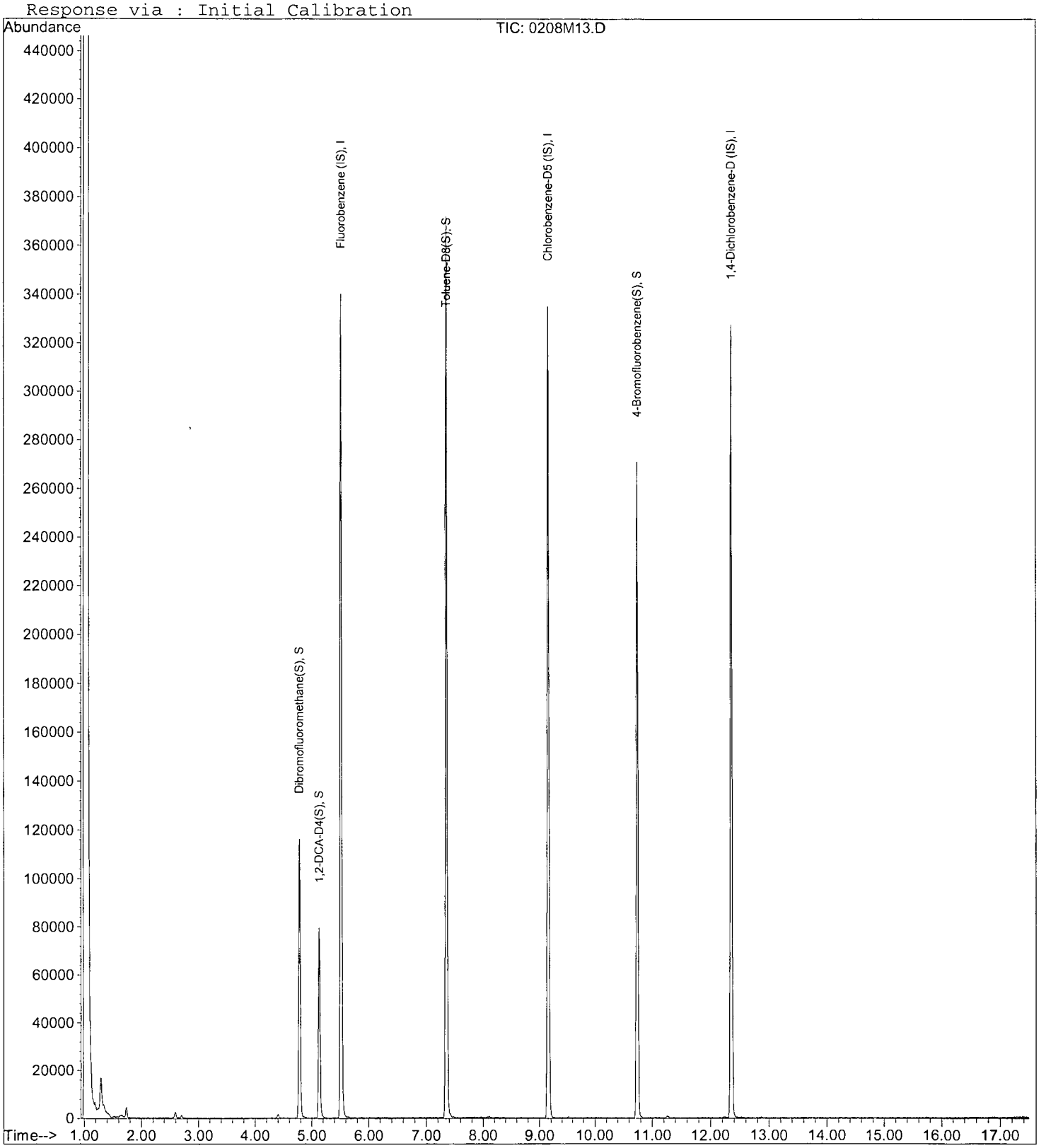
Data File : M:\MAX\DATA\M170127\0208M13.D
Acq On : 8 Feb 17 14:42
Sample : AZ49656W01
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH244
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49657
QCG: #GRO86-170208AM-216061

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.9	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M14
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/09/17 12:50:05 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M14.D Vial: 2
Acq On : 8 Feb 17 15:11 Operator: PM,DG,SV,CMM
Sample : AZ49657W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:31 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	297518	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

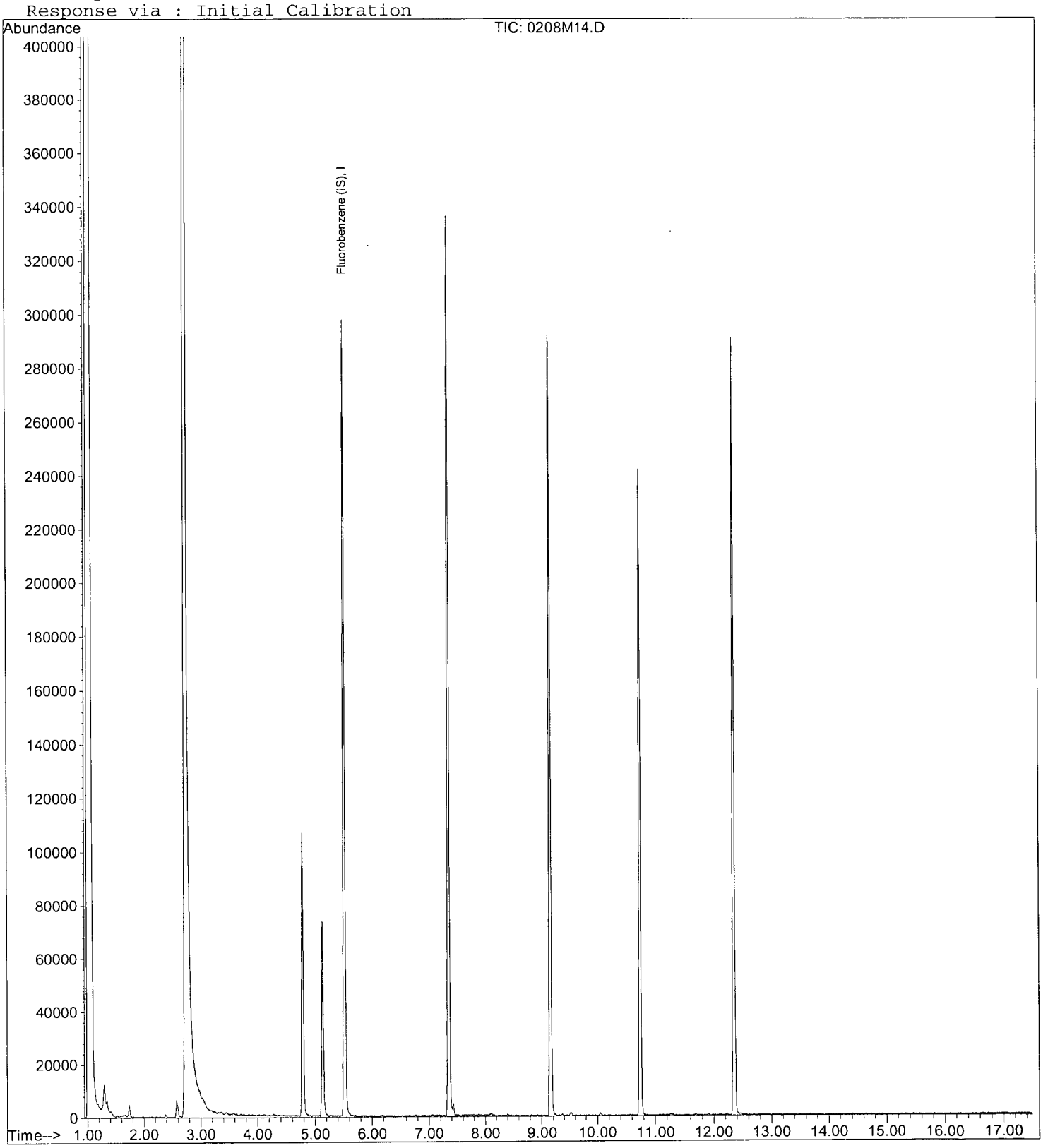
Data File : M:\MAX\DATA\M170127\0208M14.D
Acq On : 8 Feb 17 15:11
Sample : AZ49657W01
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:31 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M14.D Vial: 2
Acq On : 8 Feb 17 15:11 Operator: PM,DG,SV,CMM
Sample : AZ49657W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	287698	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	209208	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105996	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65956	26.73 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.924%	
3) 1,2-DCA-D4(S)	5.13	65	53286	27.25 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.016%	
5) Toluene-D8(S)	7.35	98	255531	25.25 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.992%	
6) 4-Bromofluorobenzene(S)	10.74	95	90993	24.98 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.924%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

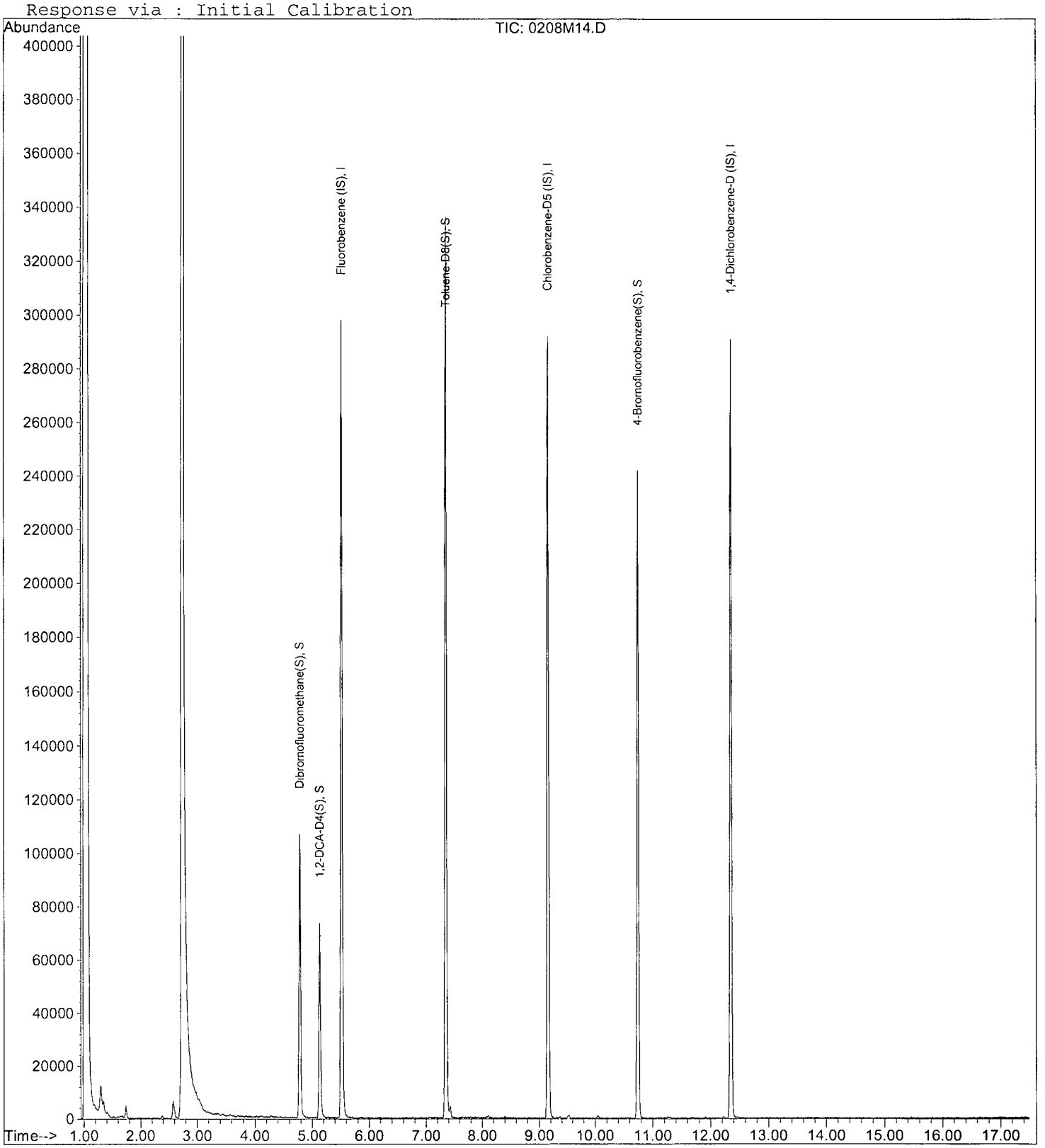
Data File : M:\MAX\DATA\M170127\0208M14.D
Acq On : 8 Feb 17 15:11
Sample : AZ49657W01
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH245
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49658
QCG: #GRO86-170208AM-216061

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M15
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/09/17 12:50:05 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M15.D Vial: 3
Acq On : 8 Feb 17 15:39 Operator: PM,DG,SV,CMM
Sample : AZ49658W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:31 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315805	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0208M15.D MGAS6111.M Thu Feb 09 08:39:37 2017 Page 1

Quantitation Report

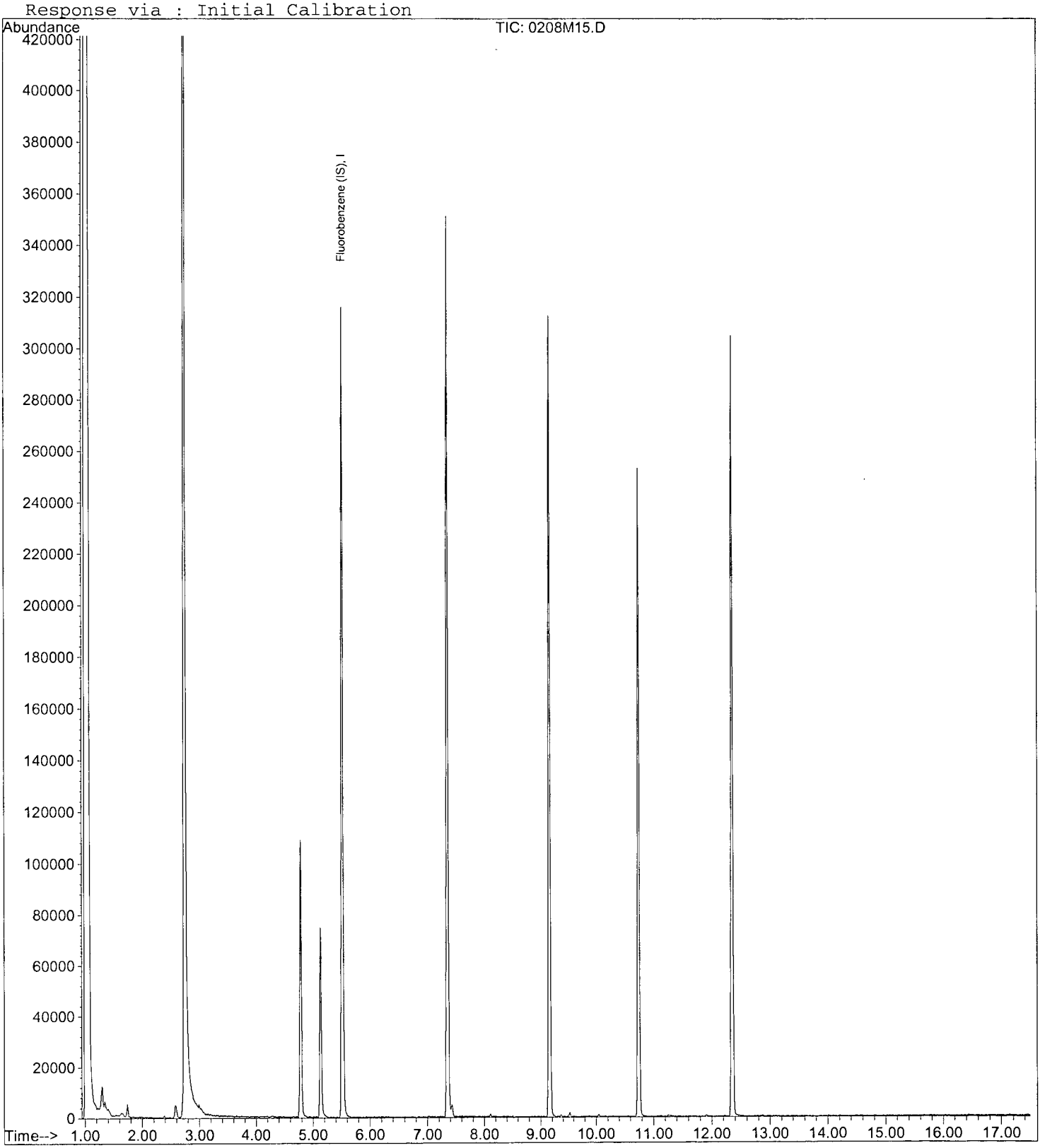
Data File : M:\MAX\DATA\M170127\0208M15.D
Acq On : 8 Feb 17 15:39
Sample : AZ49658W01
Misc : IS&S 10/20/16

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:31 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M15.D Vial: 3
Acq On : 8 Feb 17 15:39 Operator: PM,DG,SV,CMM
Sample : AZ49658W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	304705	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220286	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	110182	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	66277	25.36 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.448%	
3) 1,2-DCA-D4(S)	5.13	65	52947	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.276%	
5) Toluene-D8(S)	7.35	98	265186	24.88 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.536%	
6) 4-Bromofluorobenzene(S)	10.74	95	95992	25.03 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.112%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

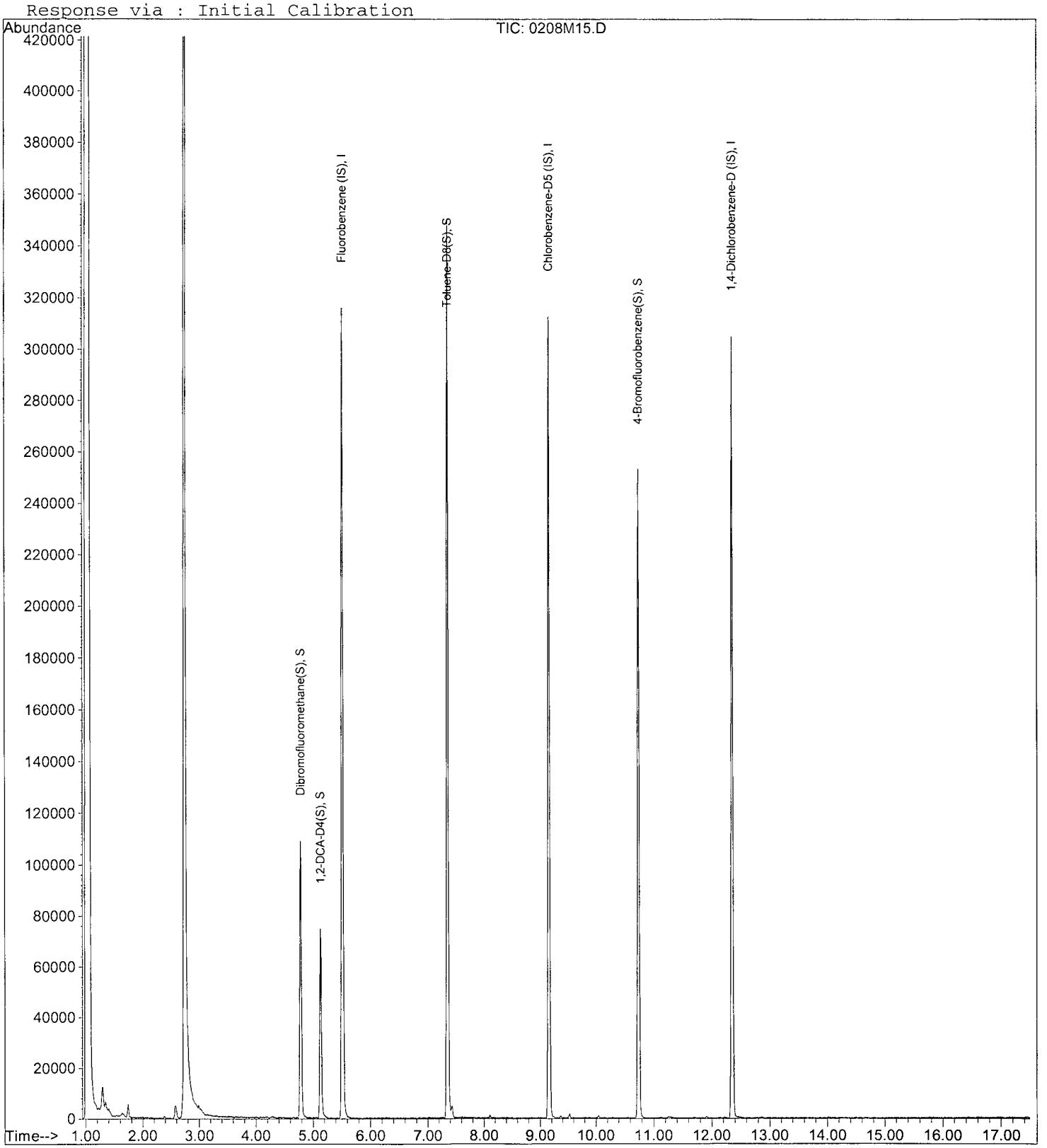
Data File : M:\MAX\DATA\M170127\0208M15.D
Acq On : 8 Feb 17 15:39
Sample : AZ49658W01
Misc : IS&S 10/20/16

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH246
Sample Collection Date: 02/03/17

ARF: 82117
APPL ID: AZ49659
QCG: #GRO86-170208AM-216061

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.M
Run #: 0208M16
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/09/17 12:50:05 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M16.D Vial: 4
Acq On : 8 Feb 17 16:07 Operator: PM,DG,SV,CMM
Sample : AZ49659W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:31 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	297834	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

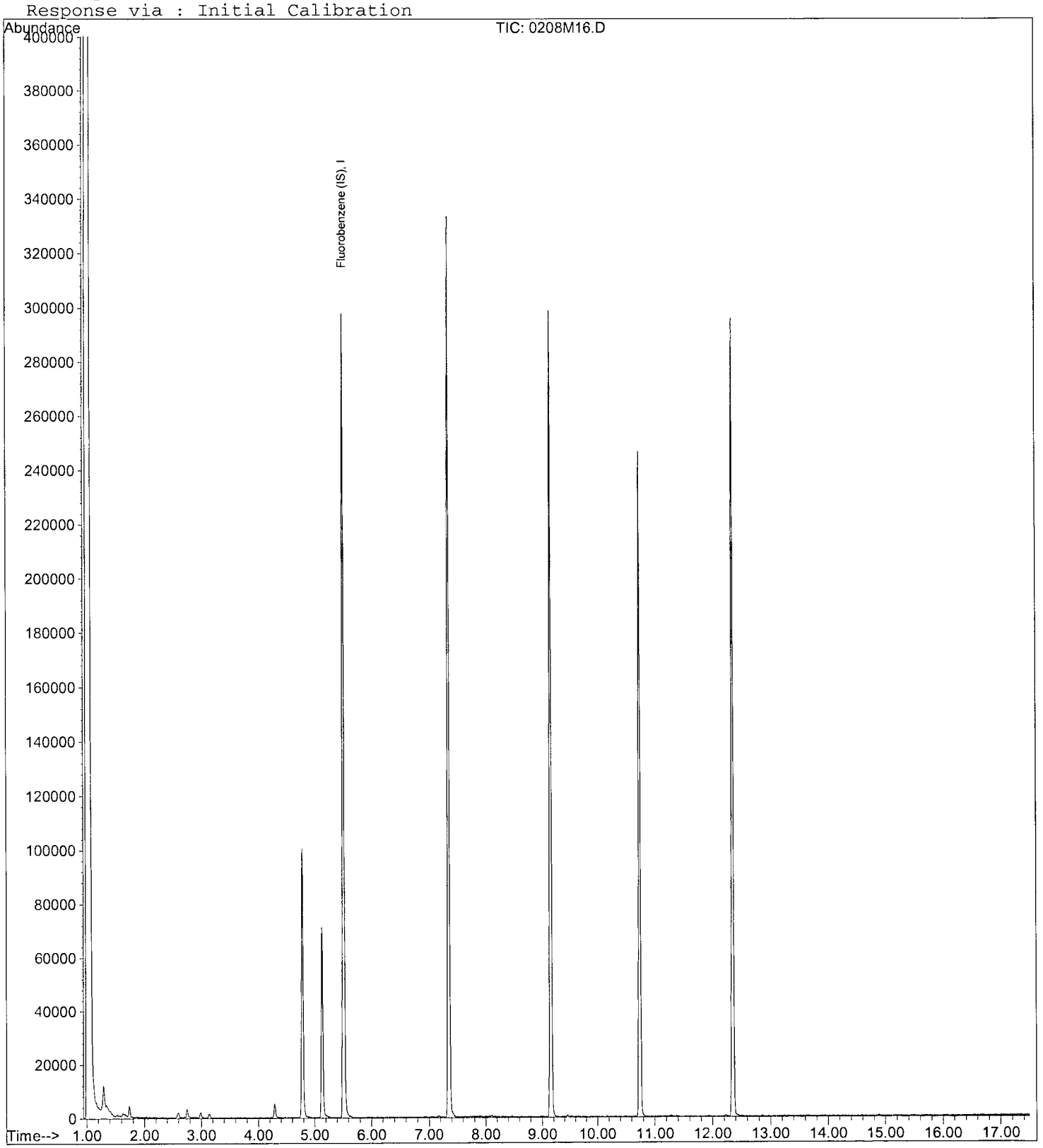
Data File : M:\MAX\DATA\M170127\0208M16.D
Acq On : 8 Feb 17 16:07
Sample : AZ49659W01
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:31 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M16.D Vial: 4
Acq On : 8 Feb 17 16:07 Operator: PM,DG,SV,CMM
Sample : AZ49659W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	287688	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	207821	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107165	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63632	25.79 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.160%	
3) 1,2-DCA-D4(S)	5.13	65	51744	26.47 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.864%	
5) Toluene-D8(S)	7.35	98	251839	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.196%	
6) 4-Bromofluorobenzene(S)	10.74	95	92514	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.272%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

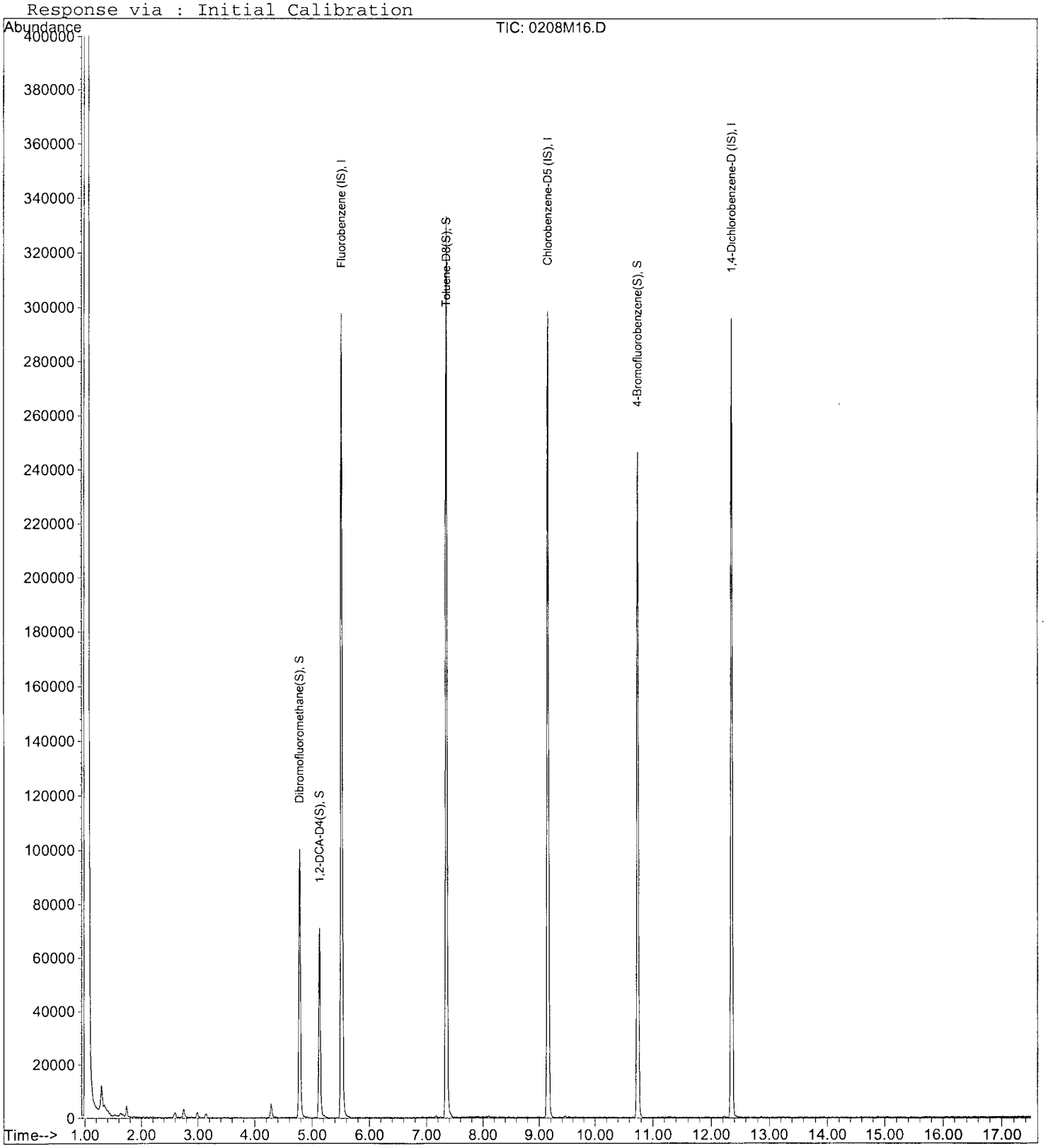
Quantitation Report

Data File : M:\MAX\DATA\M170127\0208M16.D
Acq On : 8 Feb 17 16:07
Sample : AZ49659W01
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA METHOD 8260
Gasoline Range Organics (GRO)

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 1/11/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0111M22.D	0111M23.D	0111M24.D	0111M25.D	0111M26.D	0111M27.D	0111M28.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	13.1	6.078	3.845	2.432	1.824	1.760	1.753				4.4	94	TMHBL	0.998
3																
4																
5																
6																
7																
8																
9																
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35																

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M22.D
Acq On : 11 Jan 17 18:56
Sample : 20ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:35 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	347960	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.35	TIC	3655169m	21.64320	ppb	100

(#) = qualifier out of range (m) = manual integration
0111M22.D MGAS6111.M Thu Jan 12 13:25:31 2017

Quantitation Report

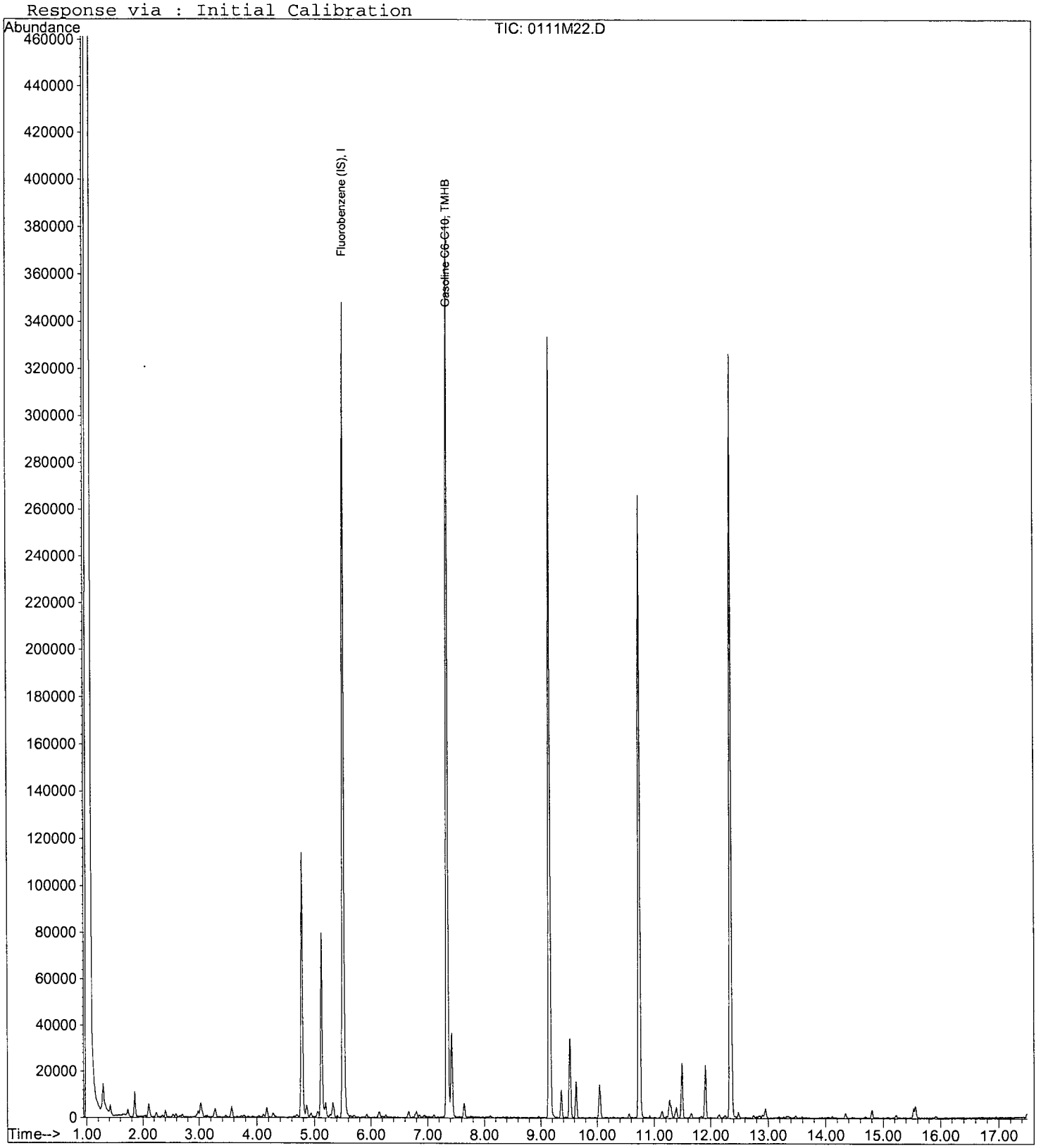
Data File : M:\MAX\DATA\M170111\0111M22.D
Acq On : 11 Jan 17 18:56
Sample : 20ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:35 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	356222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	4329888m	50.44105 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

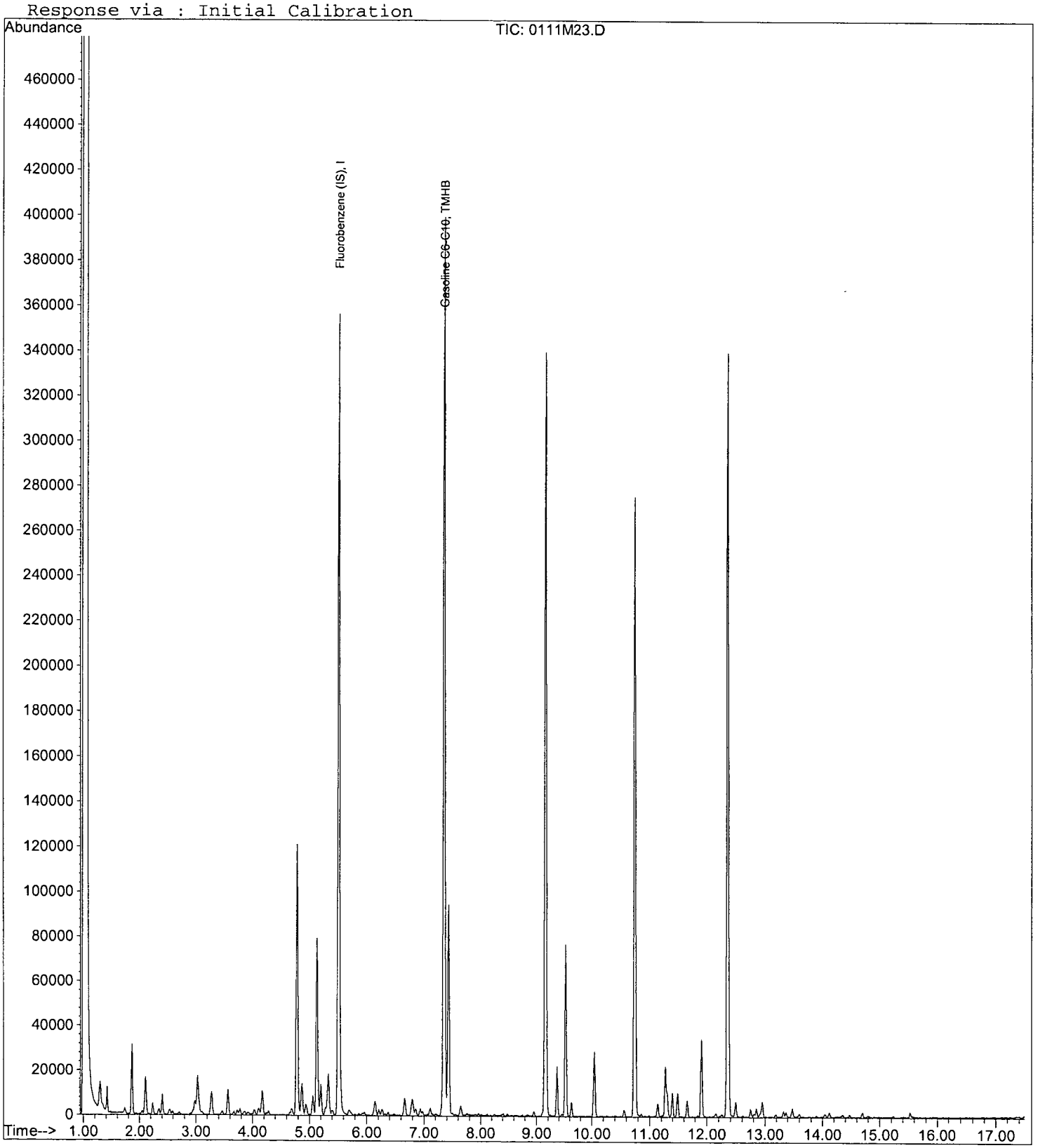
Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M24.D
Acq On : 11 Jan 17 19:53
Sample : 100ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348169	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.35	TIC	5338460m	105.89075	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

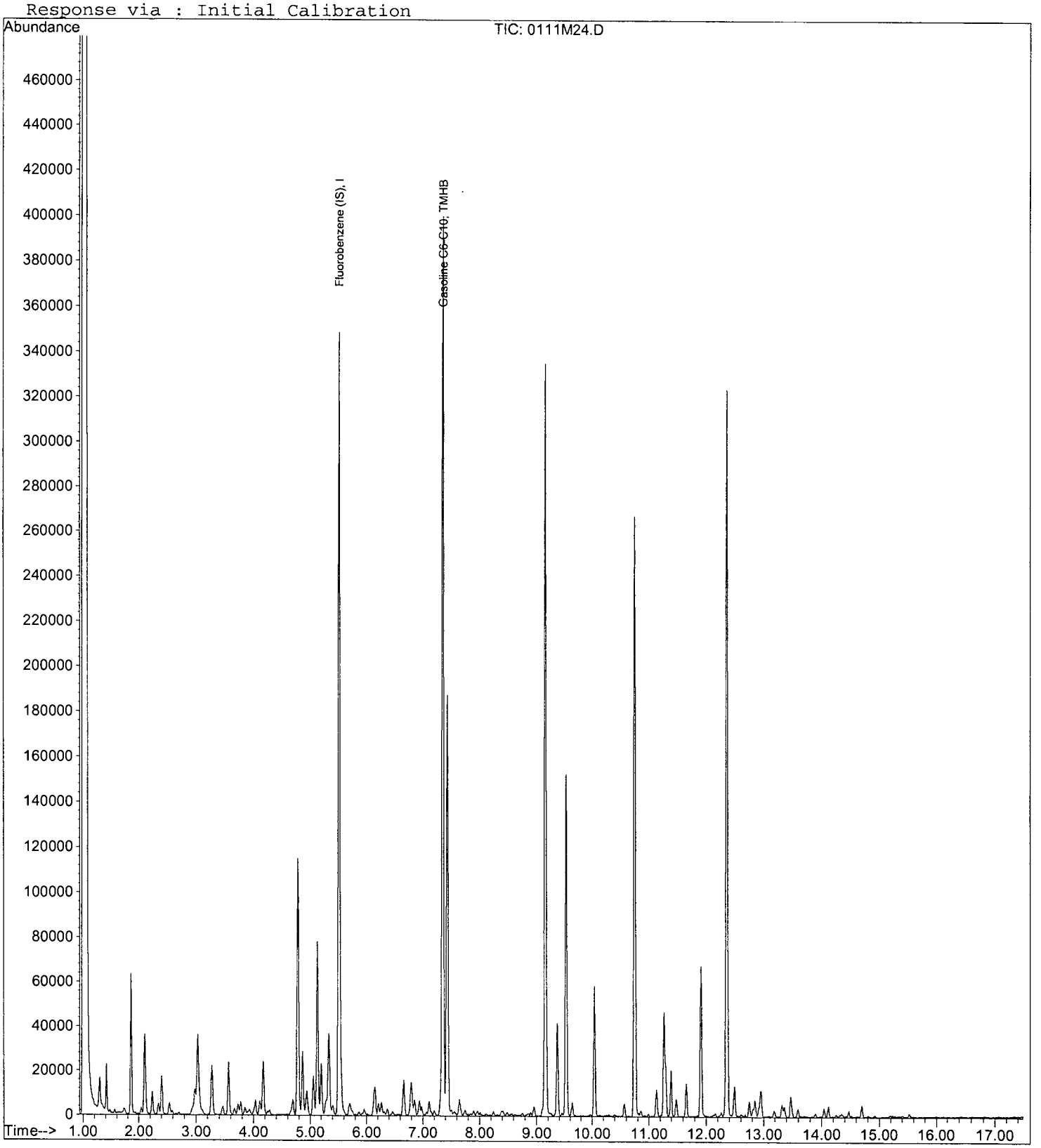
Data File : M:\MAX\DATA\M170111\0111M24.D
Acq On : 11 Jan 17 19:53
Sample : 100ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M25.D
Acq On : 11 Jan 17 20:21
Sample : 300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:38 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	335759	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8964309m	304.20348 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

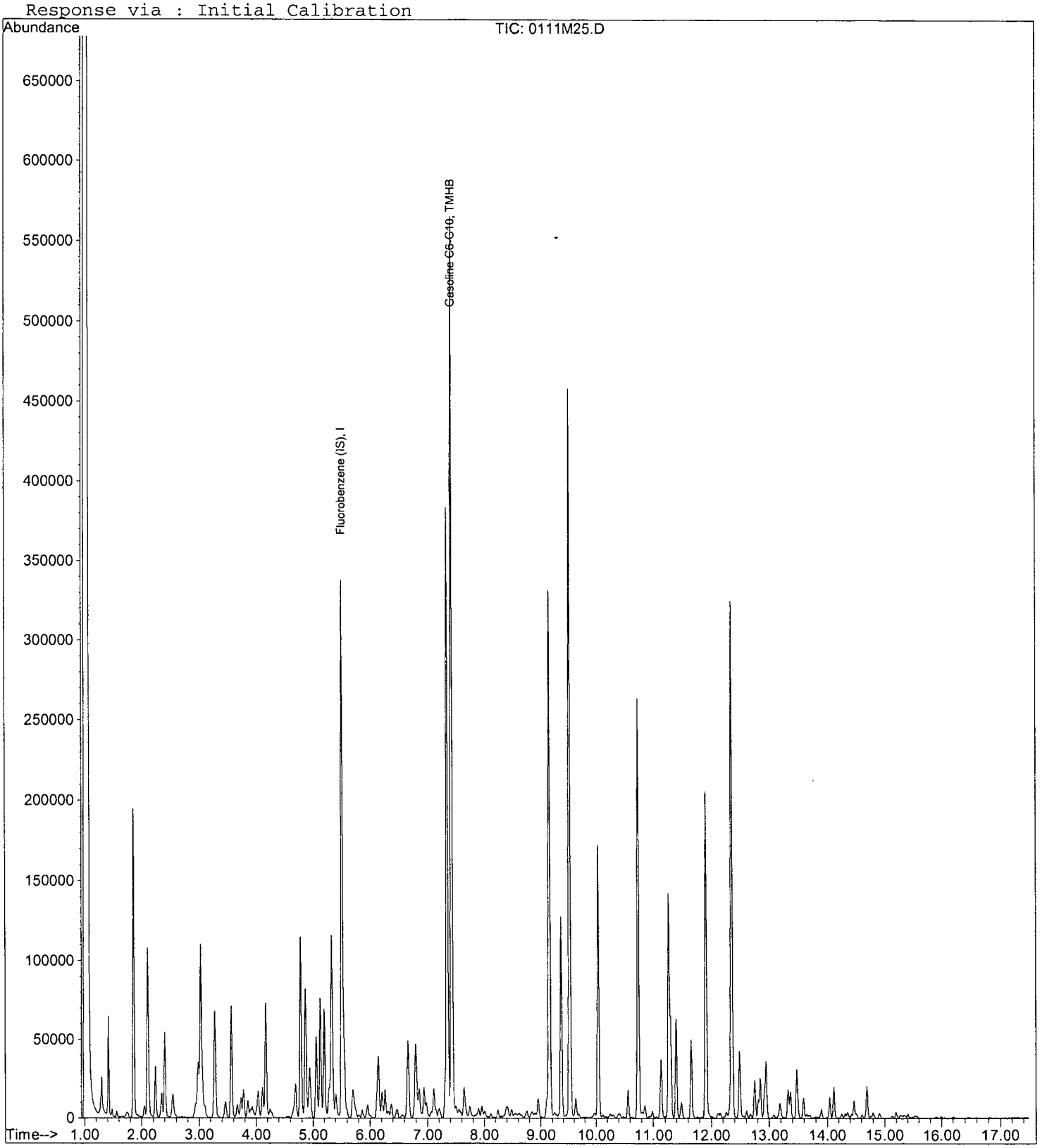
Data File : M:\MAX\DATA\M170111\0111M25.D
Acq On : 11 Jan 17 20:21
Sample : 300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:38 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	344780	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	15091213m	602.08069 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

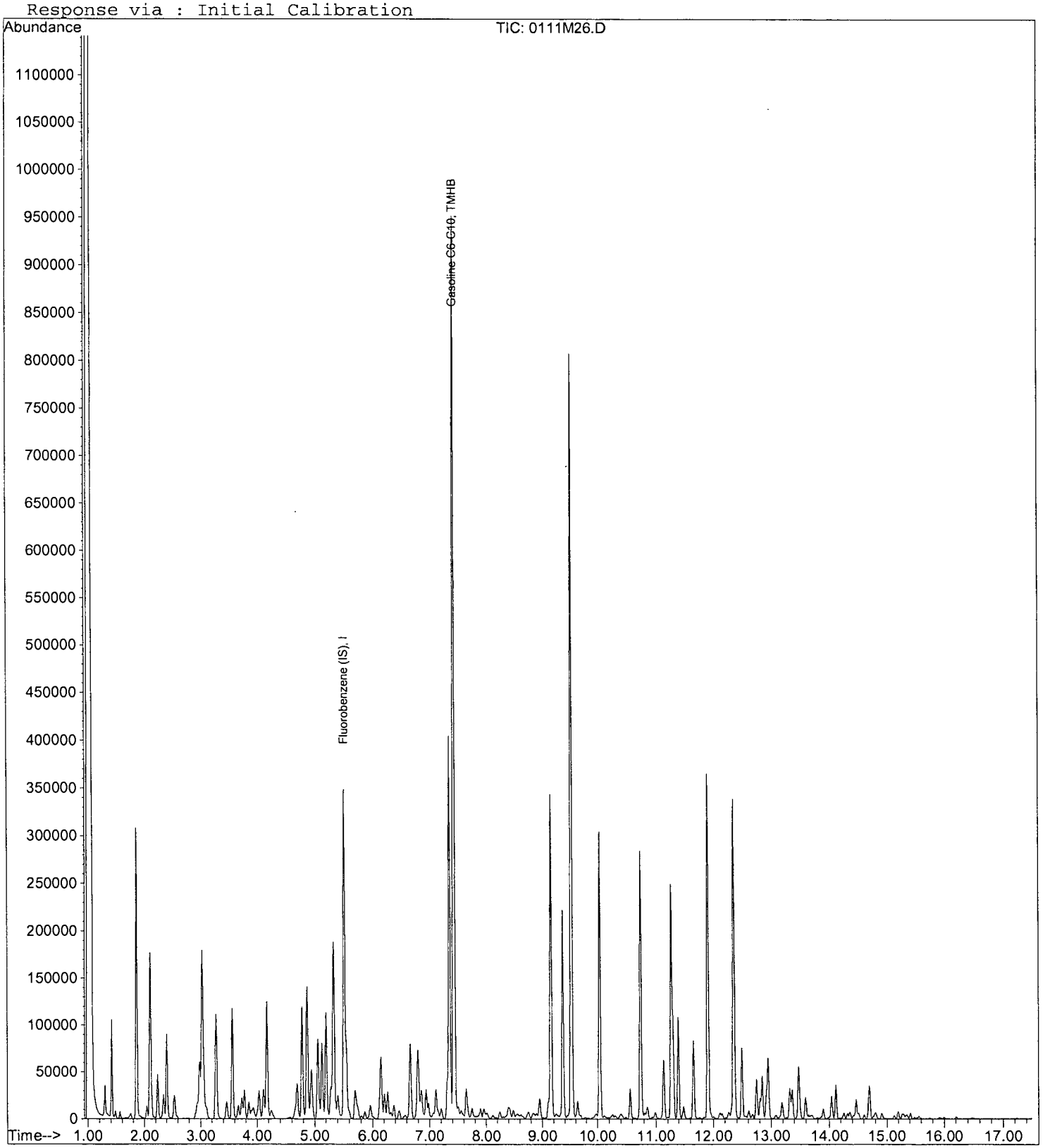
Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348982	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	19651549m	820.89221 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

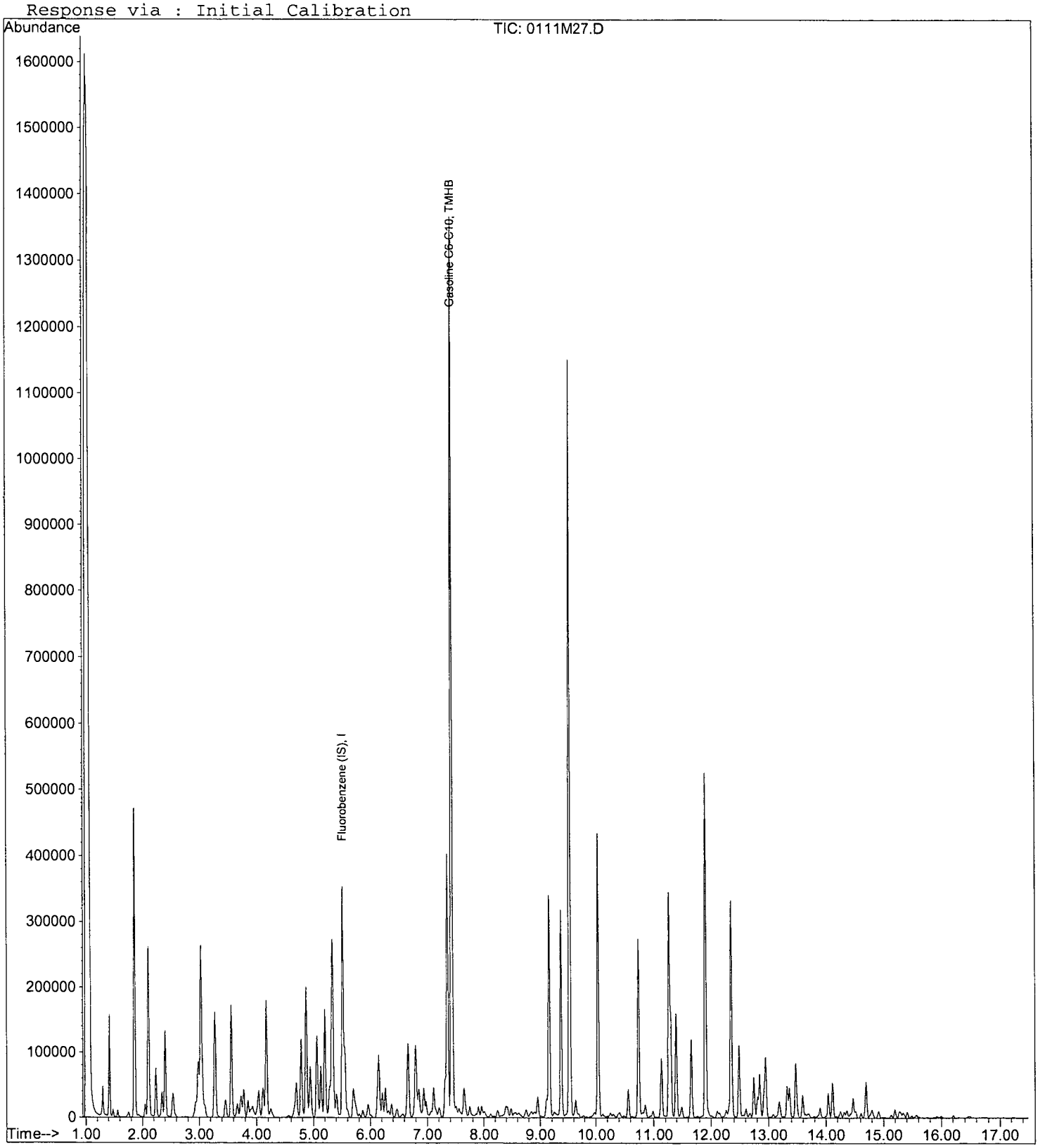
Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M28.D
Acq On : 11 Jan 17 21:46
Sample : 1000ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:09 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	369516	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	25906480m	1061.64762	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

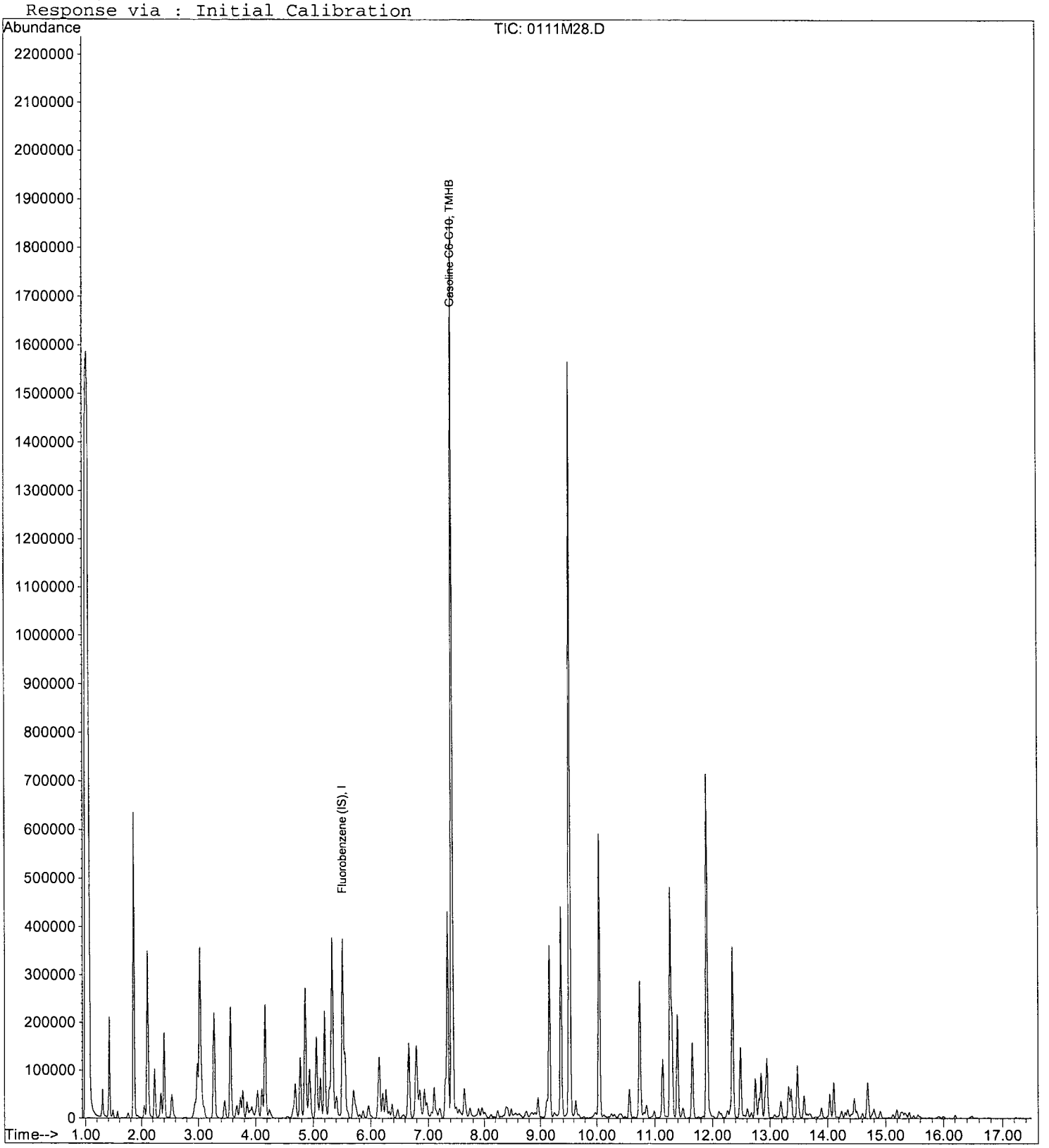
Data File : M:\MAX\DATA\M170111\0111M28.D
Acq On : 11 Jan 17 21:46
Sample : 1000ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

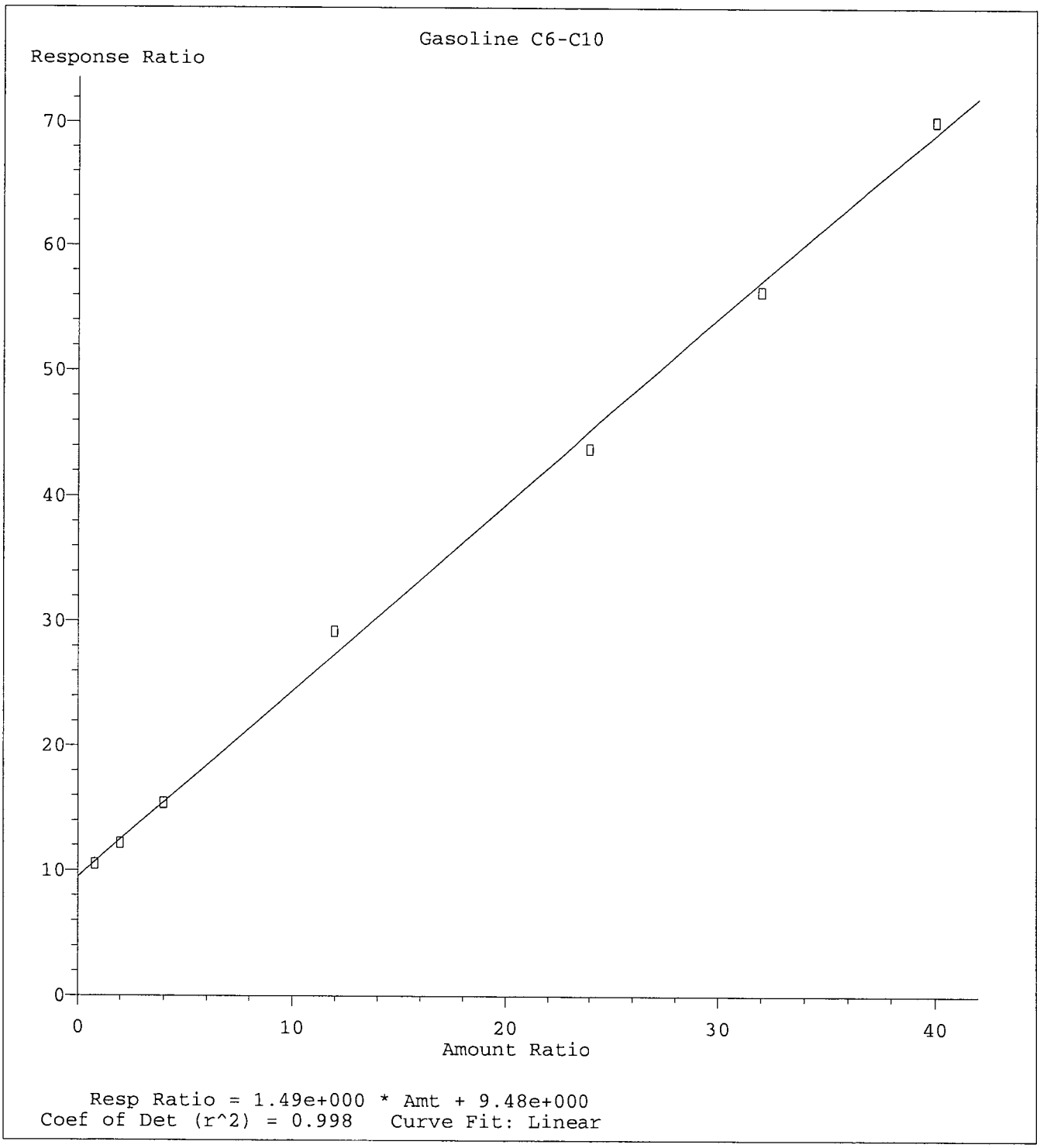
Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:09 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170111\MGAS6111.M
Calibration Table Last Updated: Thu Jan 12 13:09:40 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/11/17
Instrument: Max
Initial Cal. Date: 1/11/17
Data File: 0111M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.403	2.526	43	TMHBL	16
2							
3							
4							
5							
6							
7							
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36							
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38							
39							
40							
		Average			43.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	337548	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	10230204m	349.43485	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

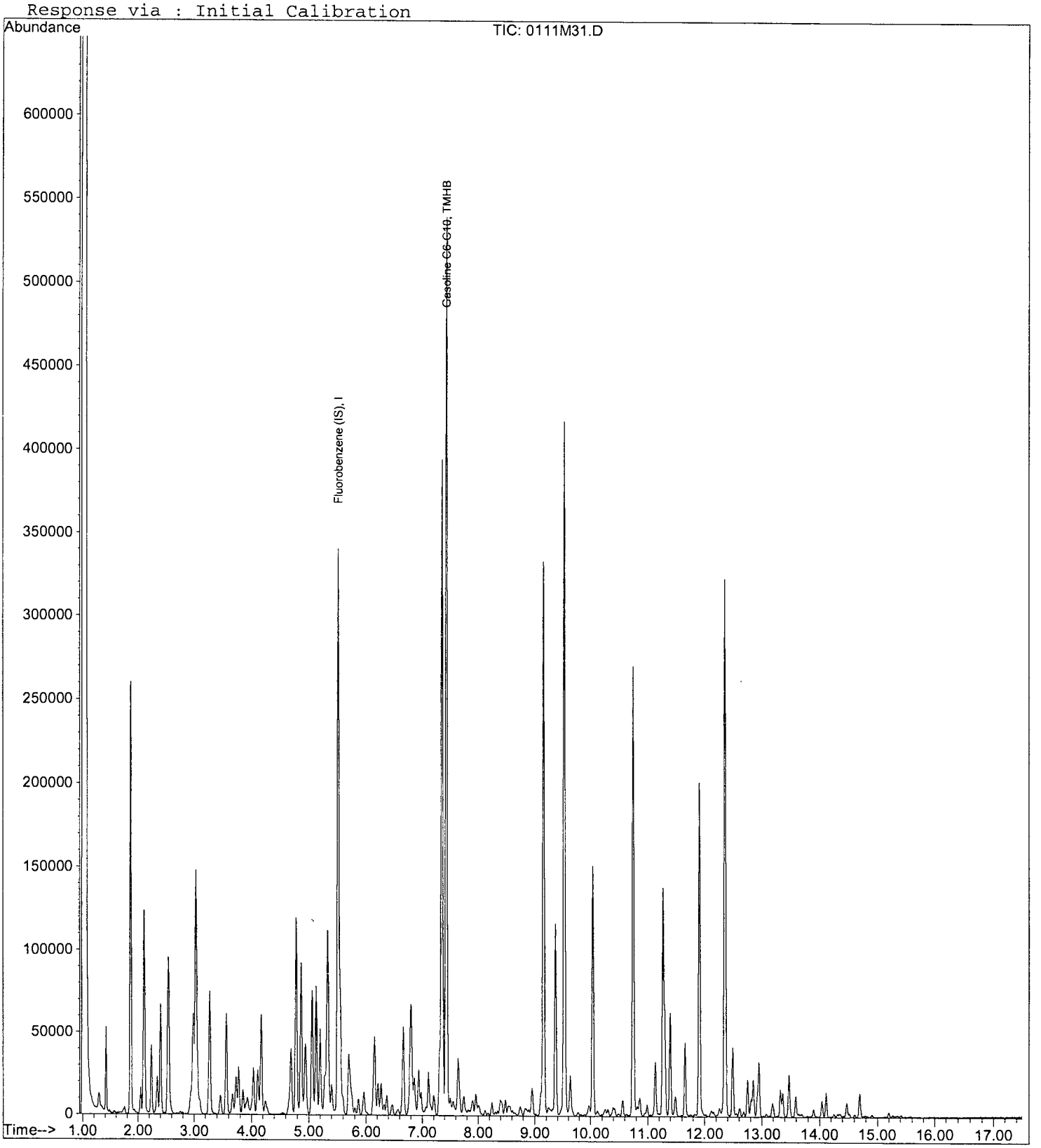
Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	0127M04.D 1	0127M05.D 2	0127M06.D 3	0127M07.D 4	0127M08.D 5	0127M09.D 6	0127M10.D 7	0127M11.D 8	0127M12.D 9		Avg	%RSD		
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
3	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	14557	5.43023 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
3) 1,2-DCA-D4(S)	5.13	65	11763	5.53763 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.152%	
5) Toluene-D8(S)	7.35	98	57915	5.51206 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.048%	
6) 4-Bromofluorobenzene(S)	10.74	95	20580	5.44224 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.768%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

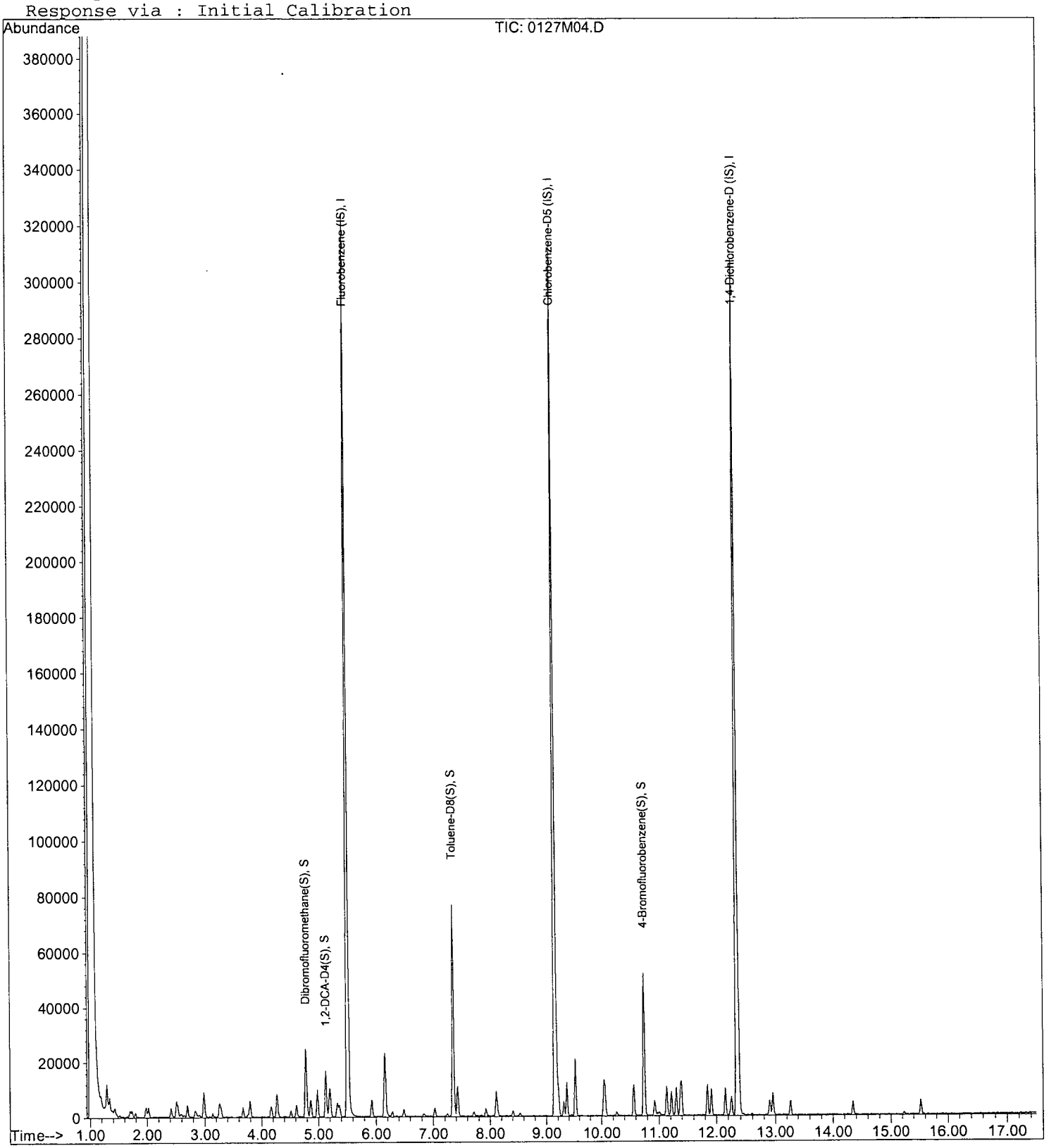
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13937	5.12533 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.500%	
3) 1,2-DCA-D4(S)	5.13	65	10688	4.96030 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.840%	
5) Toluene-D8(S)	7.35	98	52662	4.84931 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	18960	4.85099 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.404%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

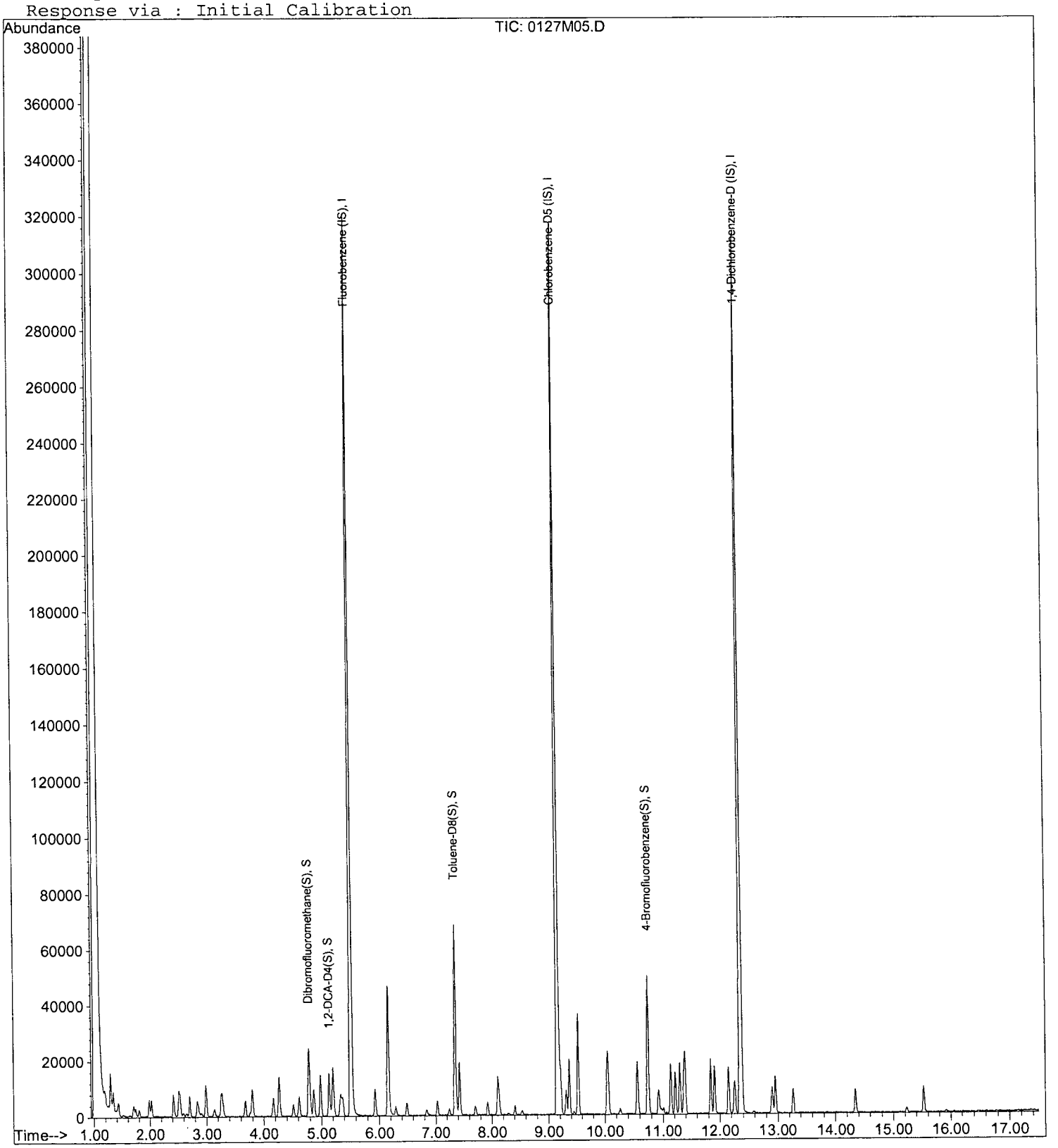
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	24009	8.88481 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.540%	
3) 1,2-DCA-D4(S)	5.13	65	19787	9.24089 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.964%	
5) Toluene-D8(S)	7.35	98	96515	9.02332 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.092%	
6) 4-Bromofluorobenzene(S)	10.74	95	34814	9.04347 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M06.D MSUR127.M Tue Jan 31 08:35:53 2017

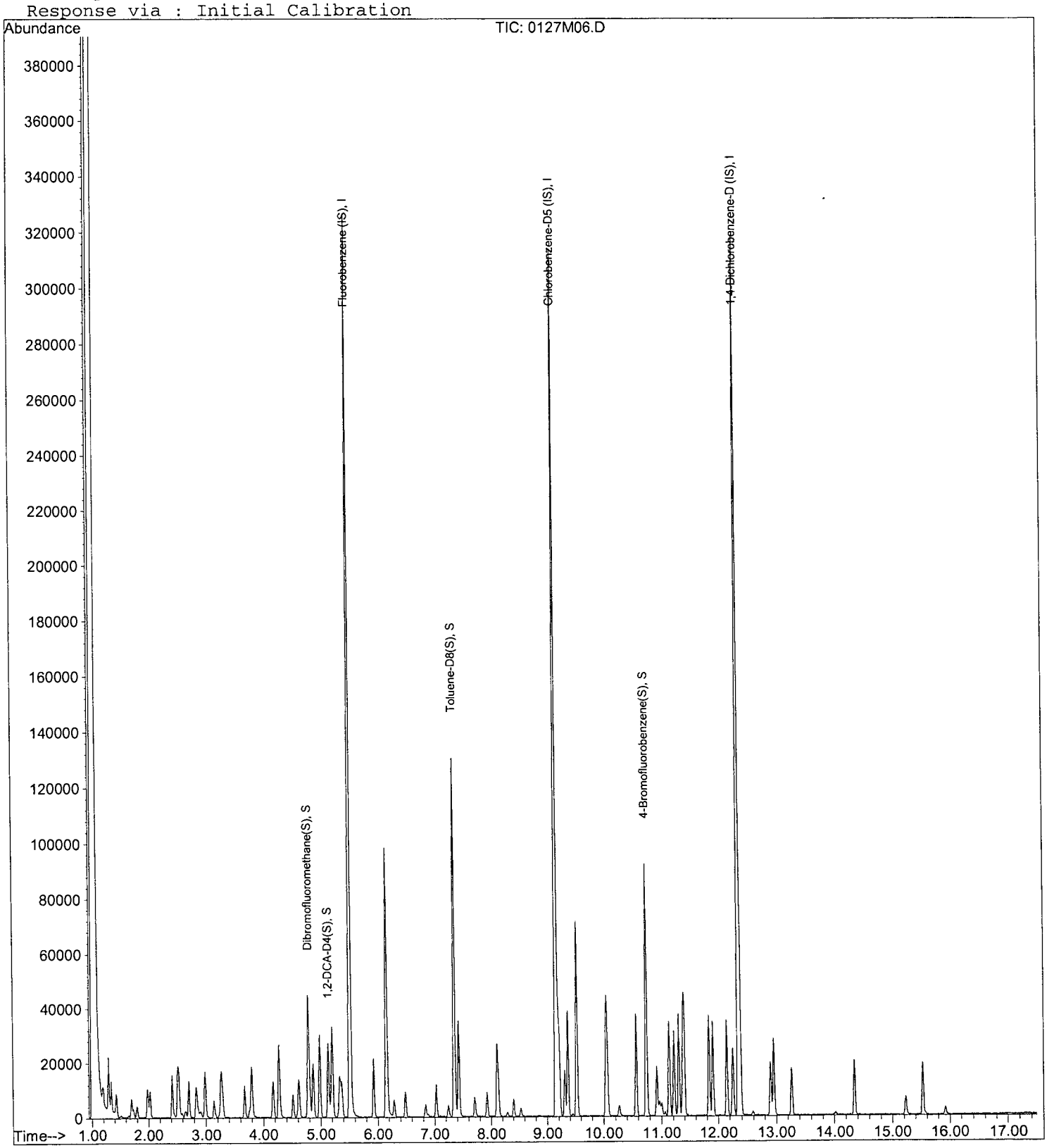
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
3) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
5) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M07.D MSUR127.M Tue Jan 31 08:35:56 2017

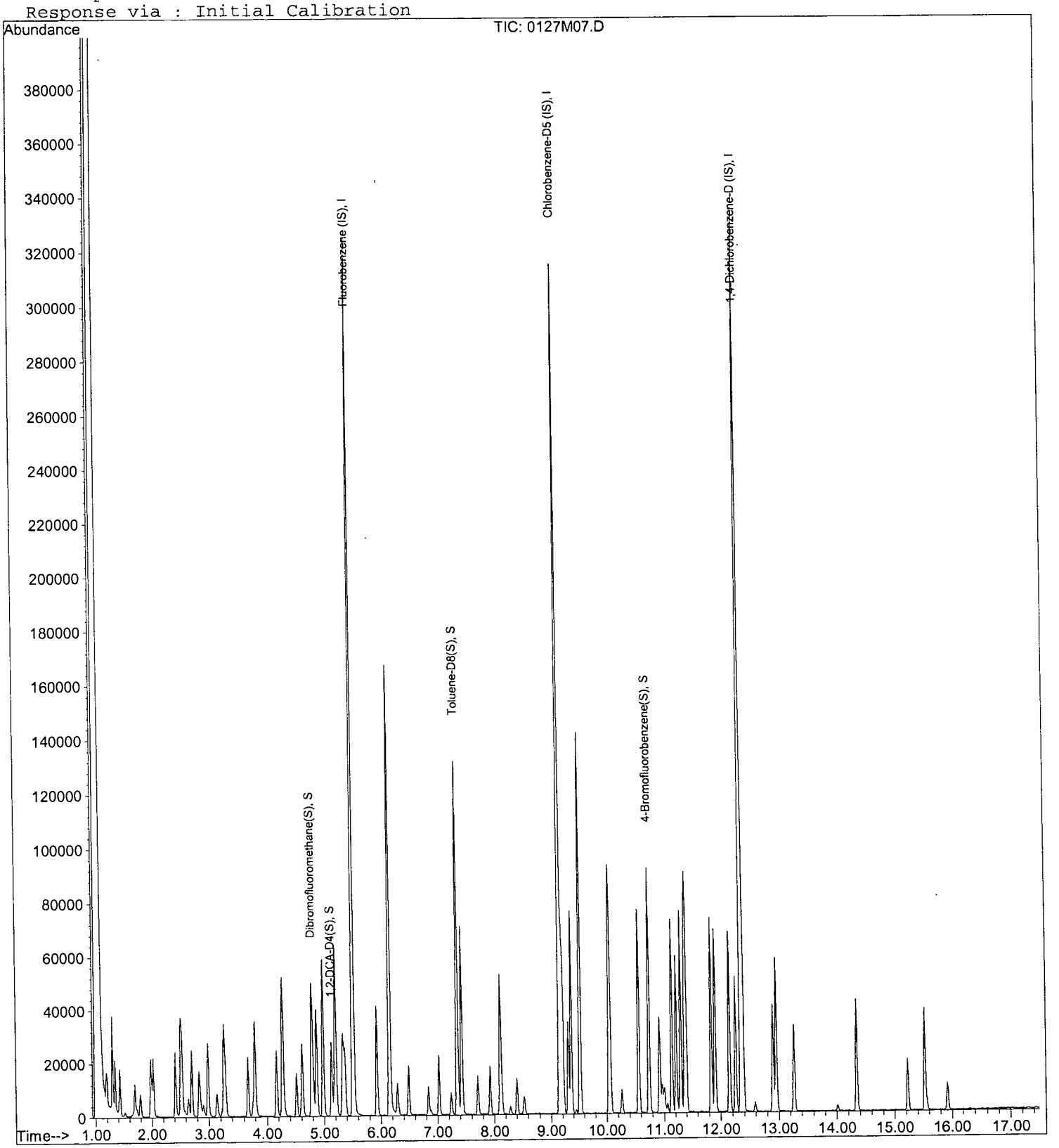
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D Vial: 8
Acq On : 27 Jan 17 13:17 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 01/27/16E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
3) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
5) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
6) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

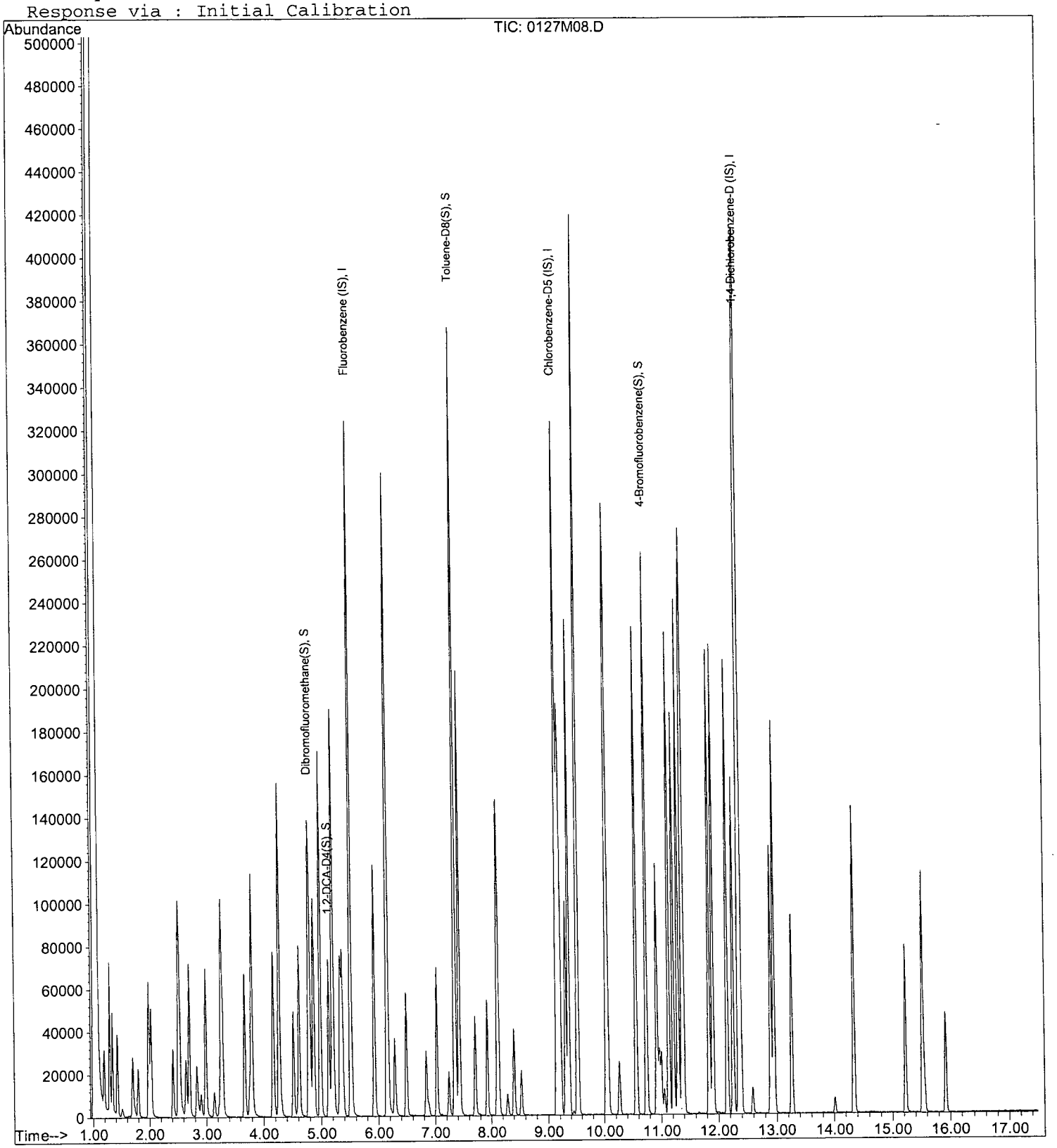
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
3) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
5) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
6) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

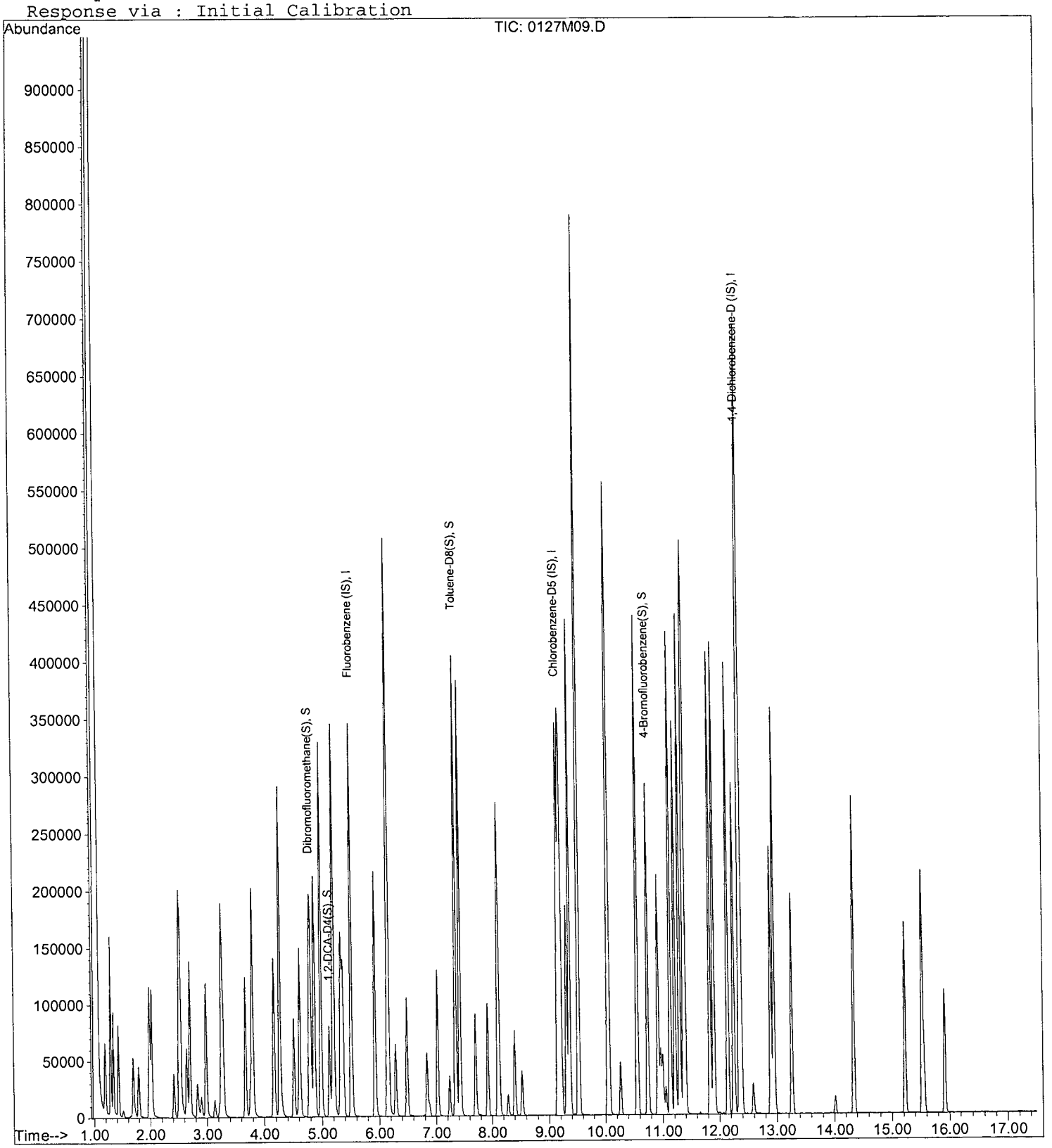
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
3) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
5) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

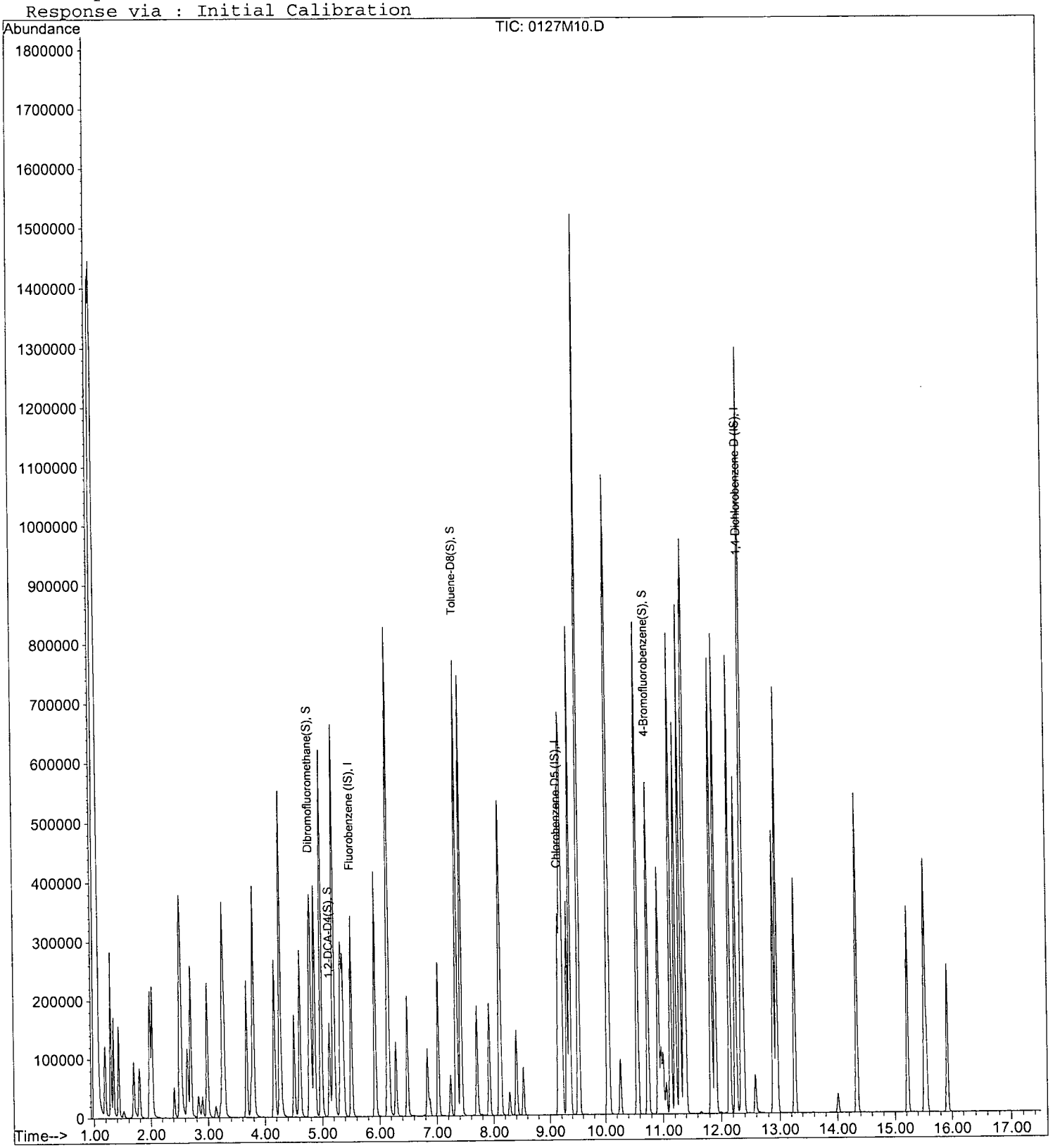
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
3) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
5) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M11.D MSUR127.M Tue Jan 31 08:36:12 2017

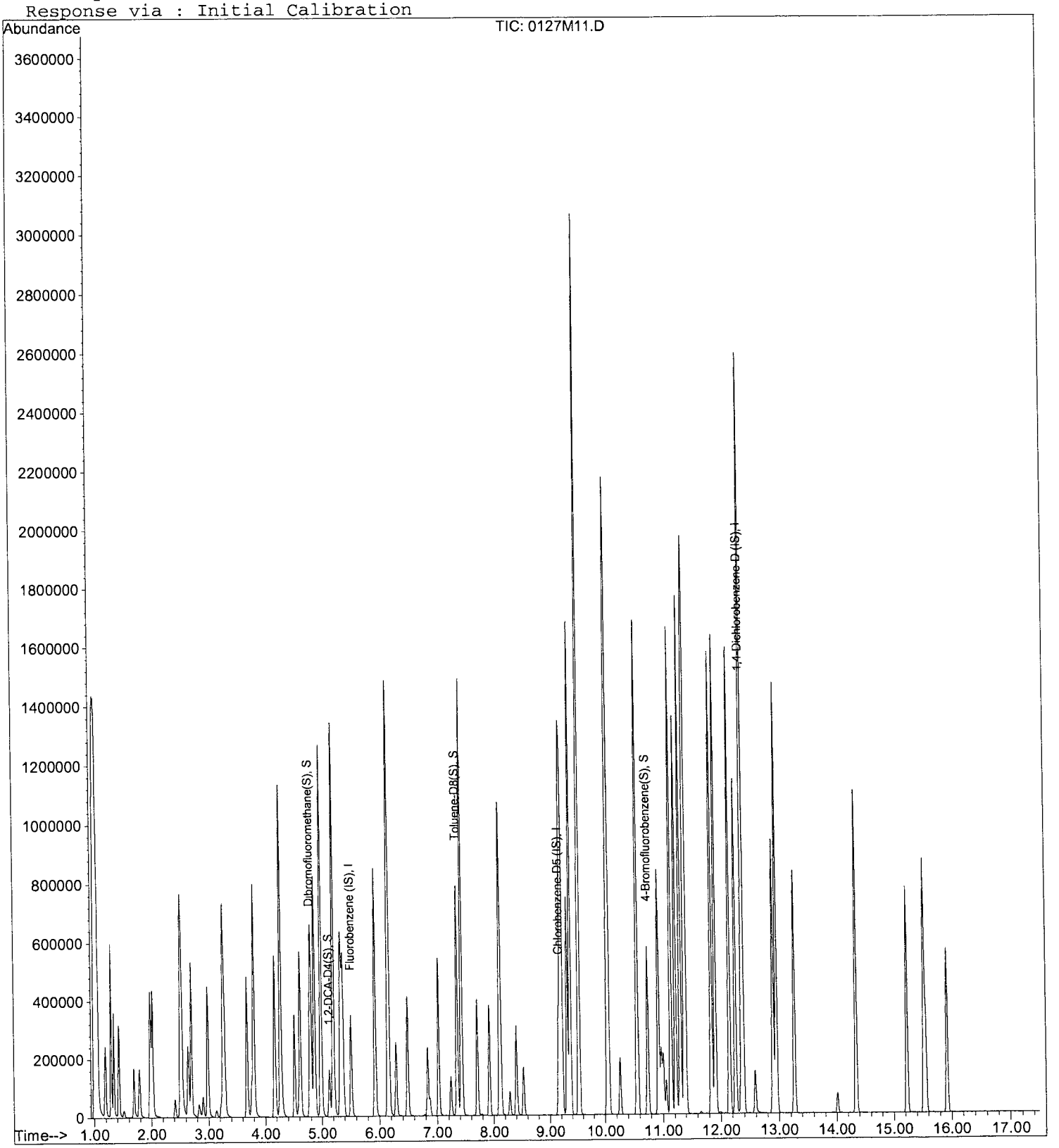
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D Vial: 12
Acq On : 27 Jan 17 15:10 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 01/27/16I Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
3) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
5) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M12.D MSUR127.M Tue Jan 31 08:36:16 2017

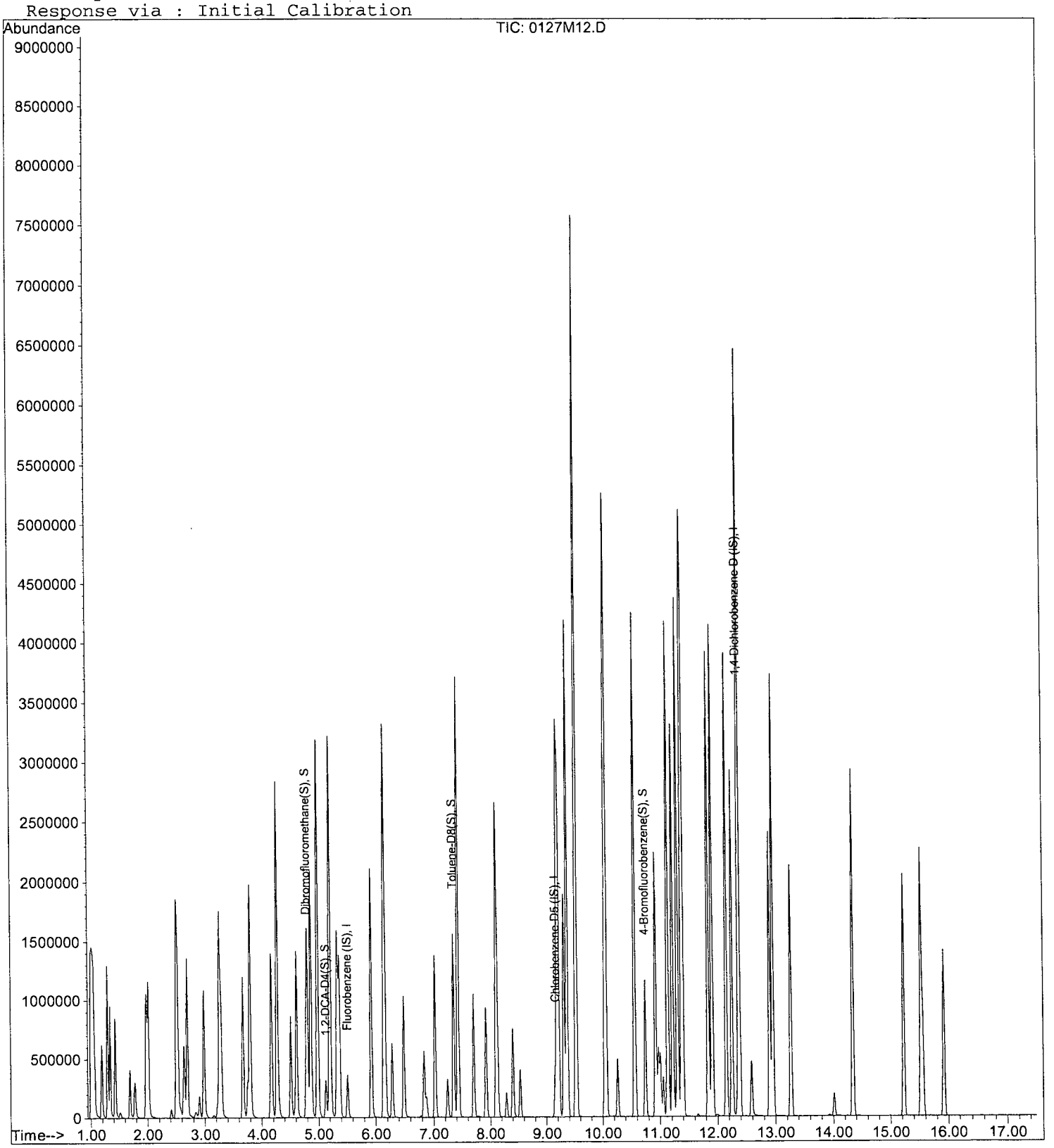
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 11:18
Instrument: Max
Initial Cal. Date: 01/11/17
Data File: 0208M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.374	46	TMHBL	6.3
3							
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		Average			46.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M06.D Vial: 5
Acq On : 8 Feb 17 11:18 Operator: PM,DG,SV,CMM
Sample : 170208A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 8 13:27 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315484	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8987067m	318.88 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

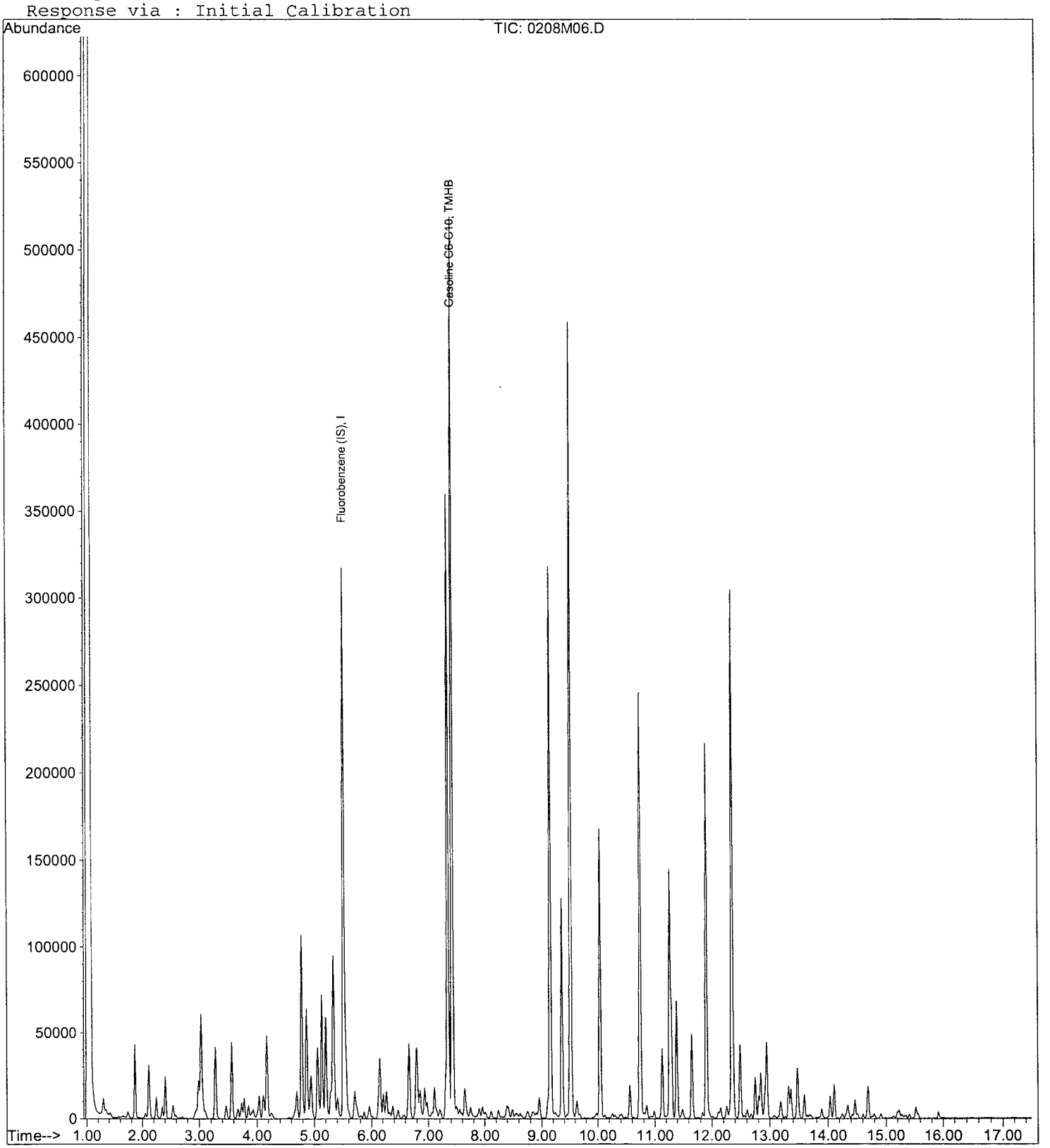
Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 13:27 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 11:18
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0208M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2168	1.1	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1707	0.49	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.223	1.1	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4324	0.66	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			0.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	302459	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	218084	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	109783	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65586	25.28 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.136%	
3) 1,2-DCA-D4(S)	5.13	65	51639	25.12 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.492%	
5) Toluene-D8(S)	7.35	98	266620	25.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.088%	
6) 4-Bromofluorobenzene(S)	10.74	95	94305	24.84 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.344%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

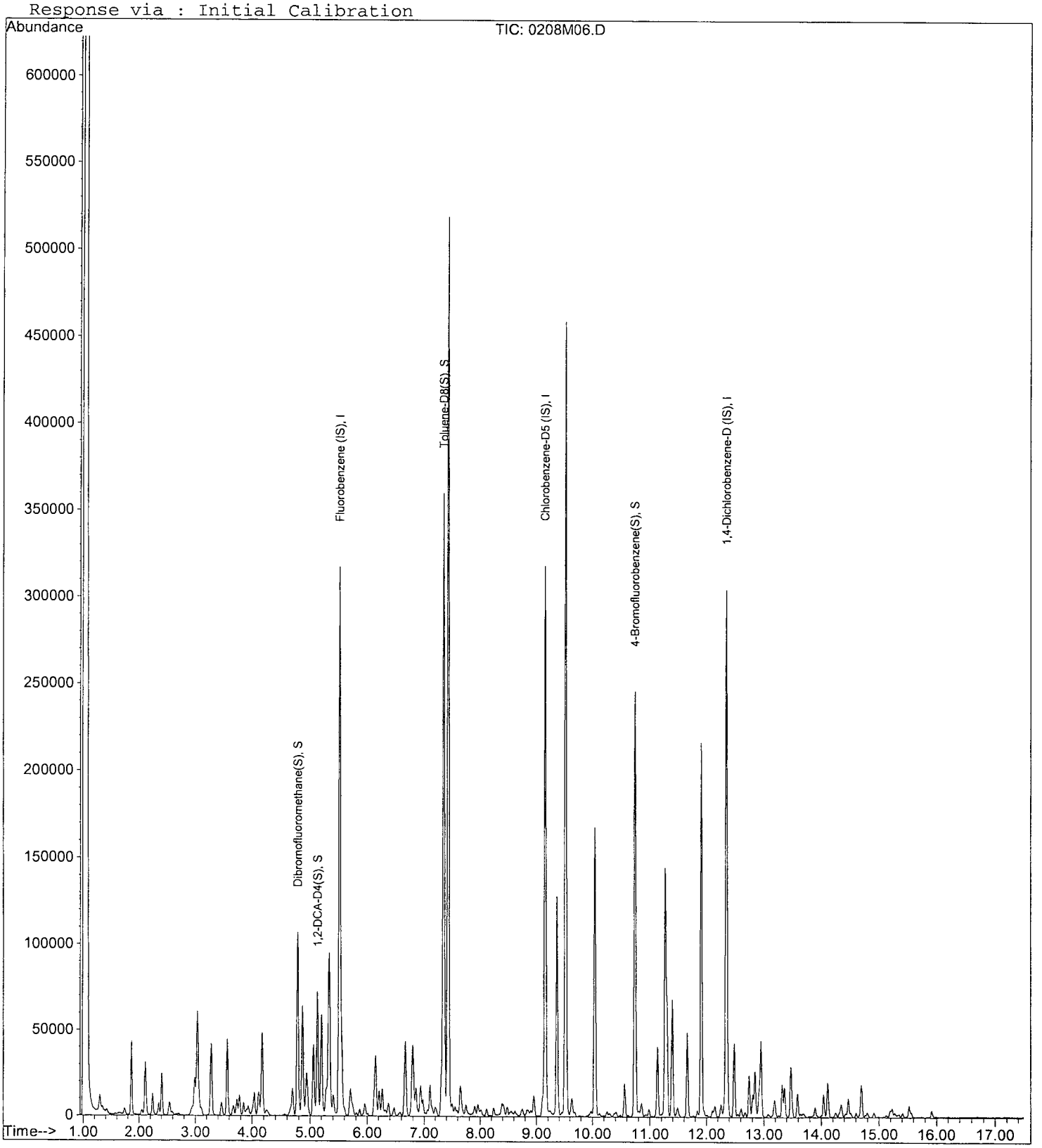
Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 18:01
Instrument: Max
Initial Cal. Date: 01/11/17
Data File: 0208M20.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.063	53	TMHBL	15
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			53.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M20.D
Acq On : 8 Feb 17 18:01
Sample : Ending CCV 8260 300ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:29 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	305850	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7569935m	256.18 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

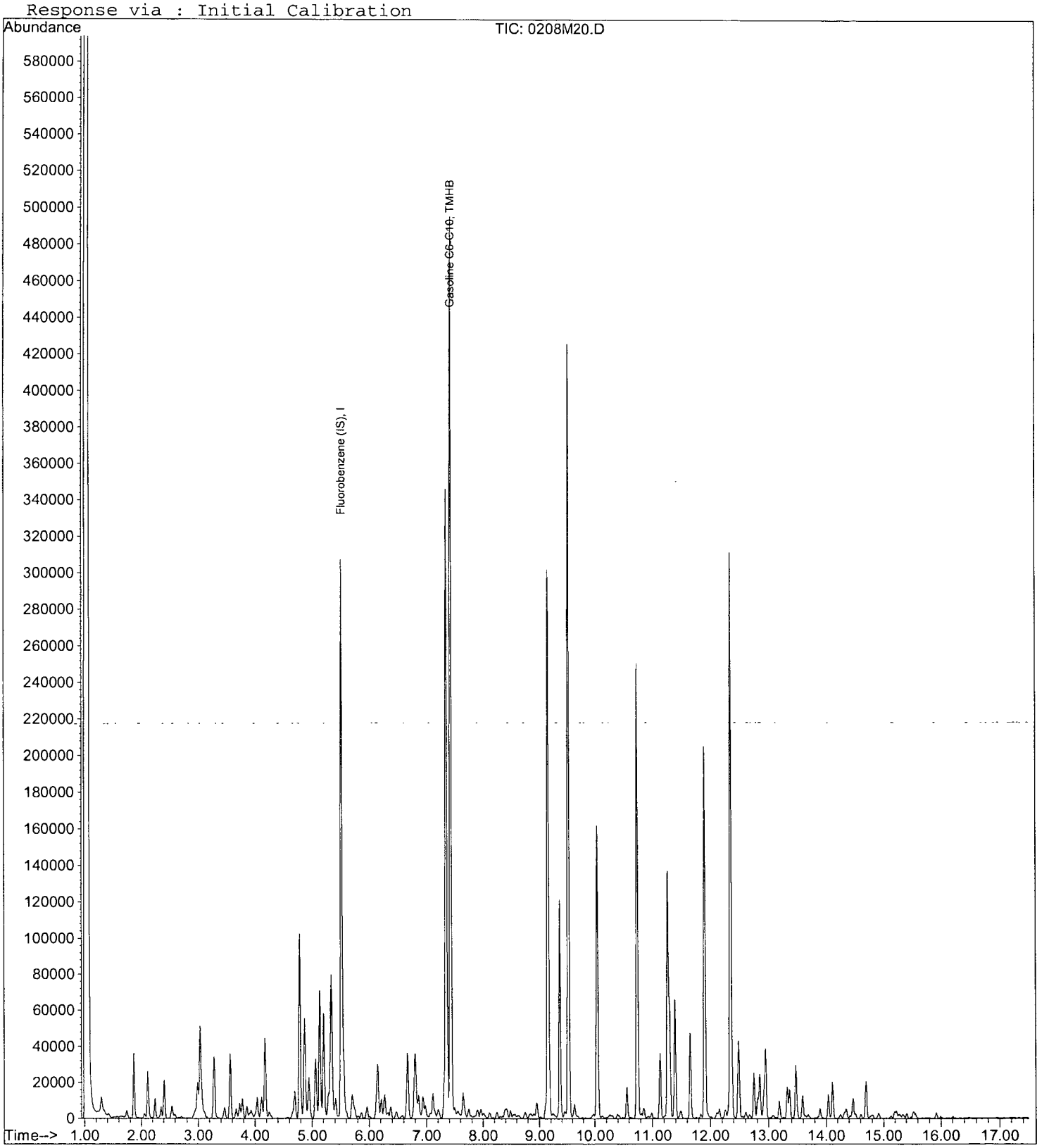
Data File : M:\MAX\DATA\M170127\0208M20.D
Acq On : 8 Feb 17 18:01
Sample : Ending CCV 8260 300ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:29 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Feb 17 18:01
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0208M20.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2189	2.1	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1744	2.6	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.210	0.02	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4463	2.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M20.D
Acq On : 8 Feb 17 18:01
Sample : Ending CCV 8260 300ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	289681	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	210723	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	111740	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63400	25.52 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.076%	
3) 1,2-DCA-D4(S)	5.13	65	50515	25.66 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.640%	
5) Toluene-D8(S)	7.35	98	254902	25.00 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.020%	
6) 4-Bromofluorobenzene(S)	10.74	95	94051	25.63 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.536%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

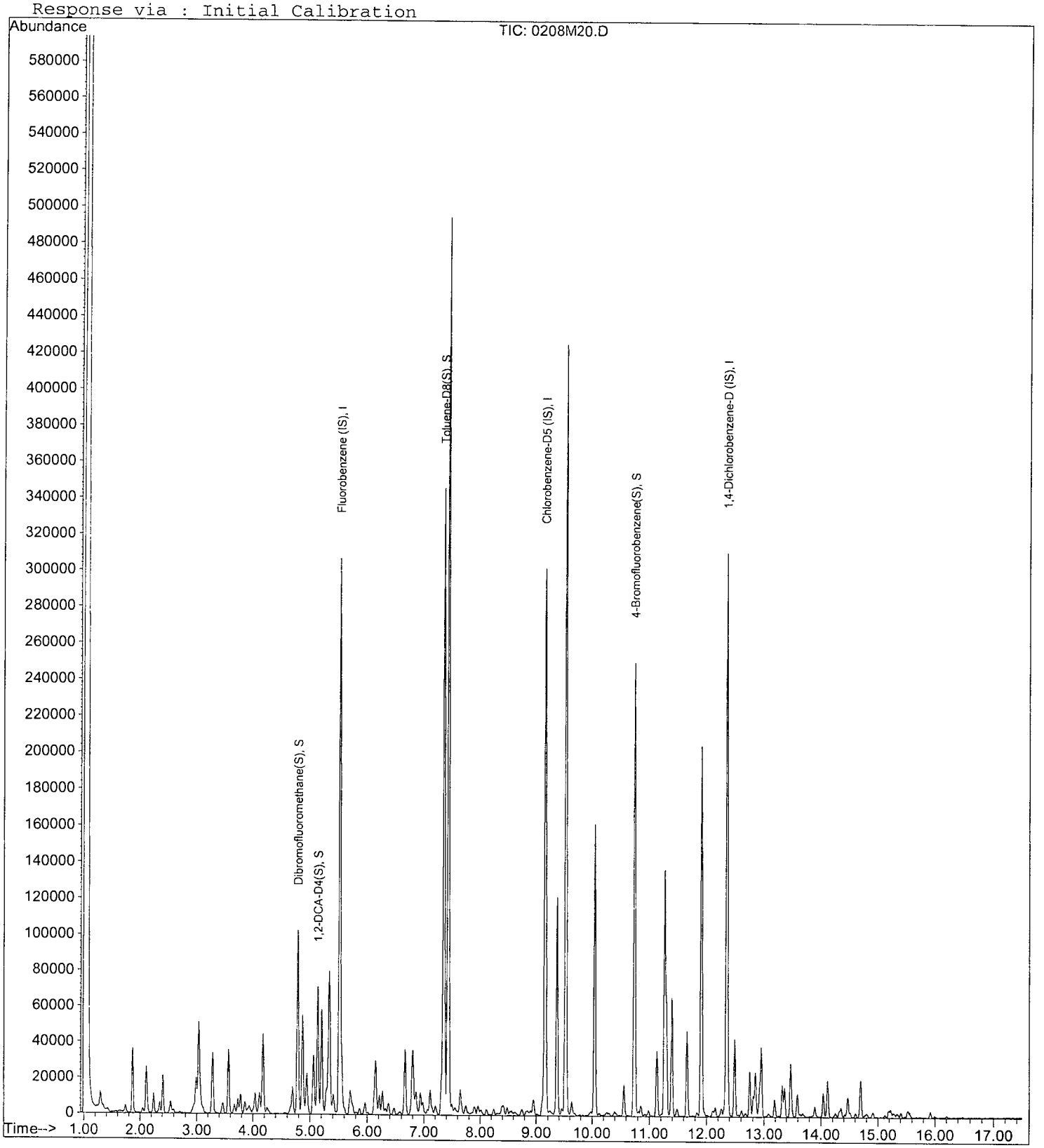
Data File : M:\MAX\DATA\M170127\0208M20.D
Acq On : 8 Feb 17 18:01
Sample : Ending CCV 8260 300ug/L 02/08/17
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA METHOD 8260
Gasoline Range Organics (GRO)

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170208W-49655 - 216061**
Batch ID: #GRO86-170208AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/08/17	02/08/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.8	85-114			%	02/08/17	02/08/17

Quant Method: MGAS6111.
Run #: 0208M11
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/09/17 12:50:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:30 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	303496	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

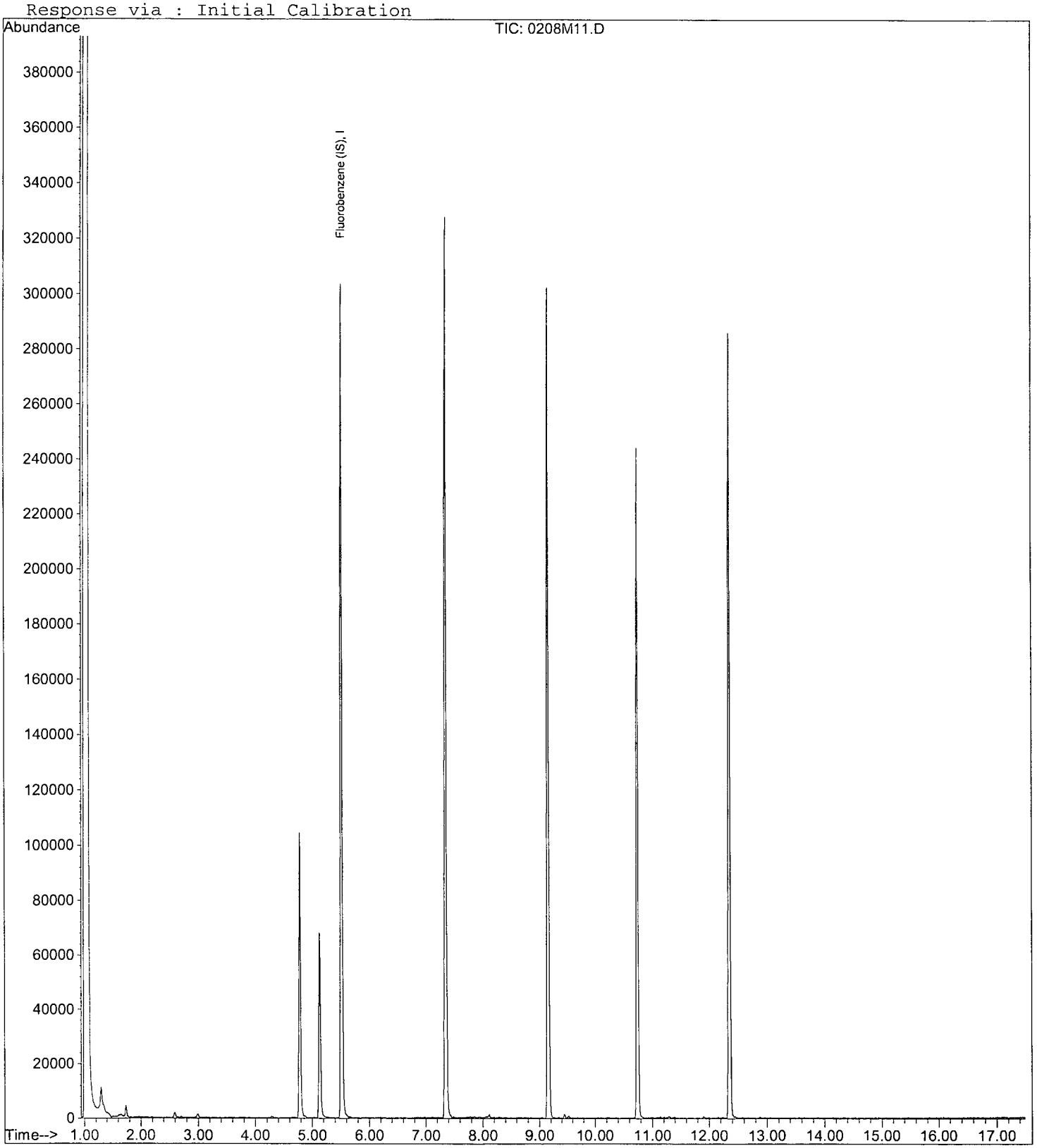
Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:30 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	290729	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	211363	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104361	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63612	25.51 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.048%	
3) 1,2-DCA-D4(S)	5.13	65	50404	25.51 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
5) Toluene-D8(S)	7.35	98	252398	24.68 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.736%	
6) 4-Bromofluorobenzene(S)	10.74	95	90883	24.70 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.784%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

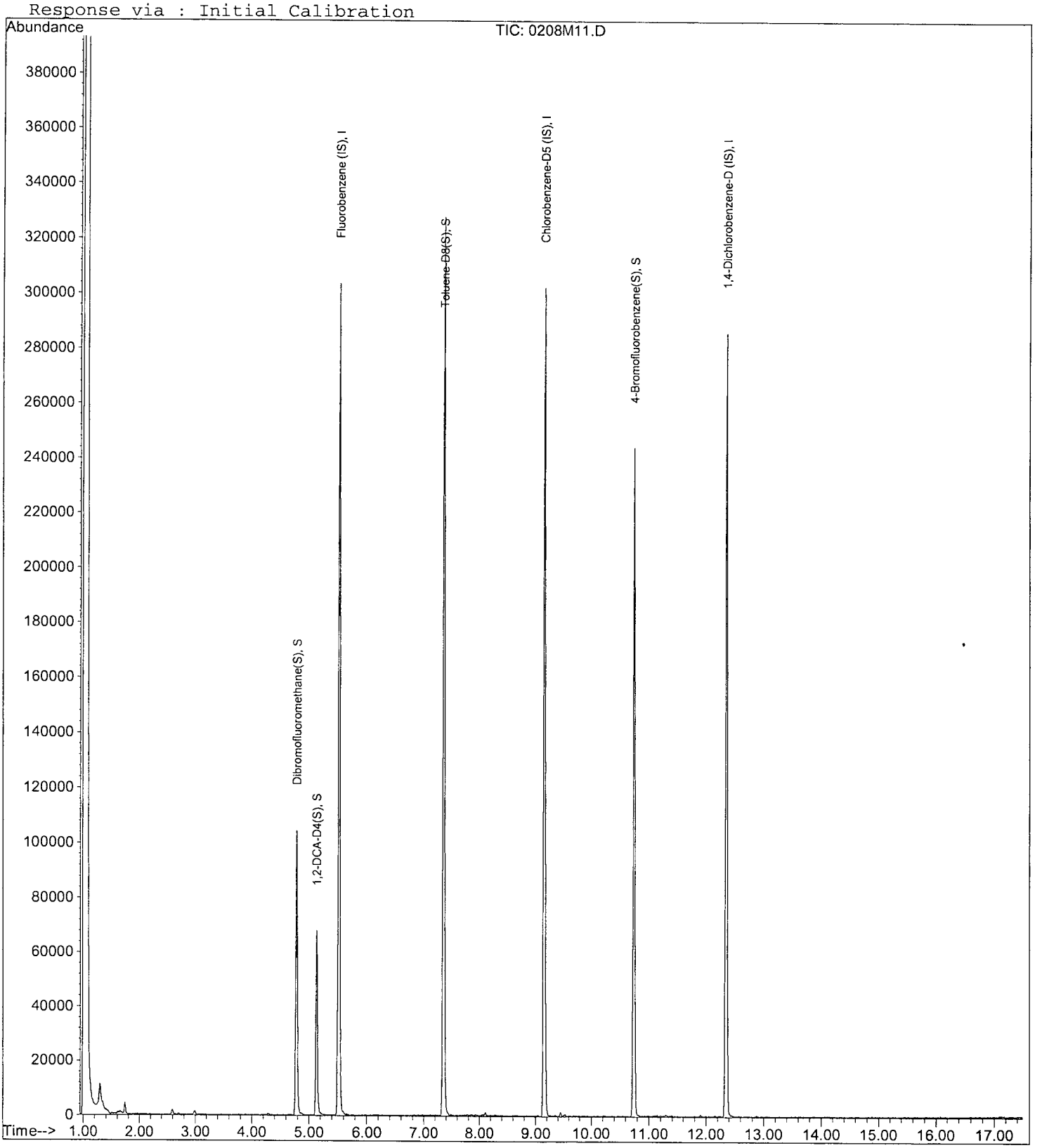
Data File : M:\MAX\DATA\M170127\0208M11.D
Acq On : 8 Feb 17 13:40
Sample : 170208A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170208W-49655 LCS - 216061**
Batch ID: #GRO86-170208AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	319	106	78-122
SURROGATE: 4-BROMOFLUOROBENZE	25.0	24.8	99.2	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	02/08/17
Analysis Date :	02/08/17
Instrument :	Max
Run :	0208M06
Initials :	ARO

Printed: 02/09/17 12:50:21 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 13:27 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315484	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8987067m	318.88 ppb	100

(#) = qualifier out of range (m) = manual integration

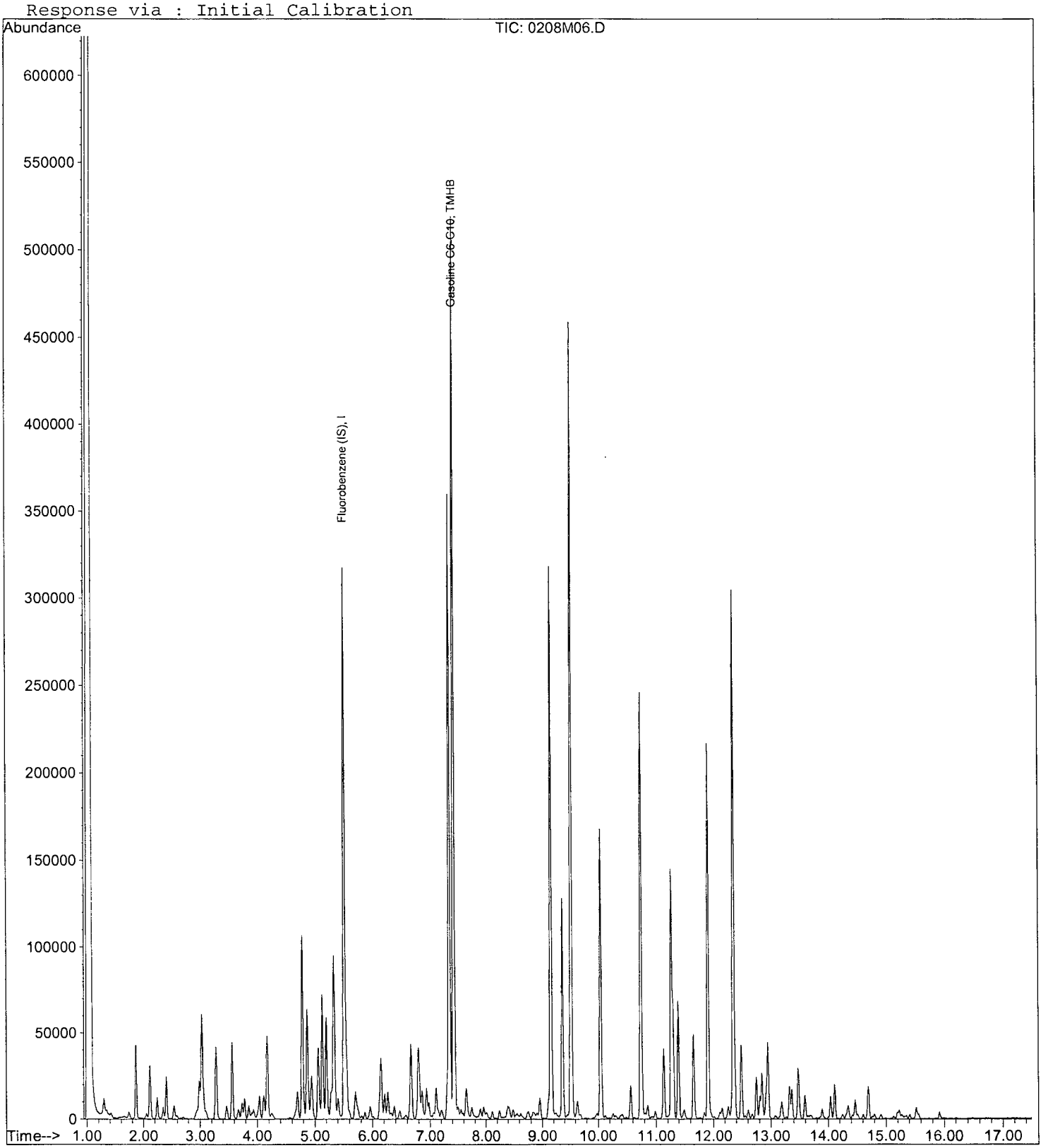
Quantitation Report

Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 8 13:27 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	302459	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	218084	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	109783	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65586	25.28 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.136%	
3) 1,2-DCA-D4(S)	5.13	65	51639	25.12 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.492%	
5) Toluene-D8(S)	7.35	98	266620	25.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.088%	
6) 4-Bromofluorobenzene(S)	10.74	95	94305	24.84 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.344%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

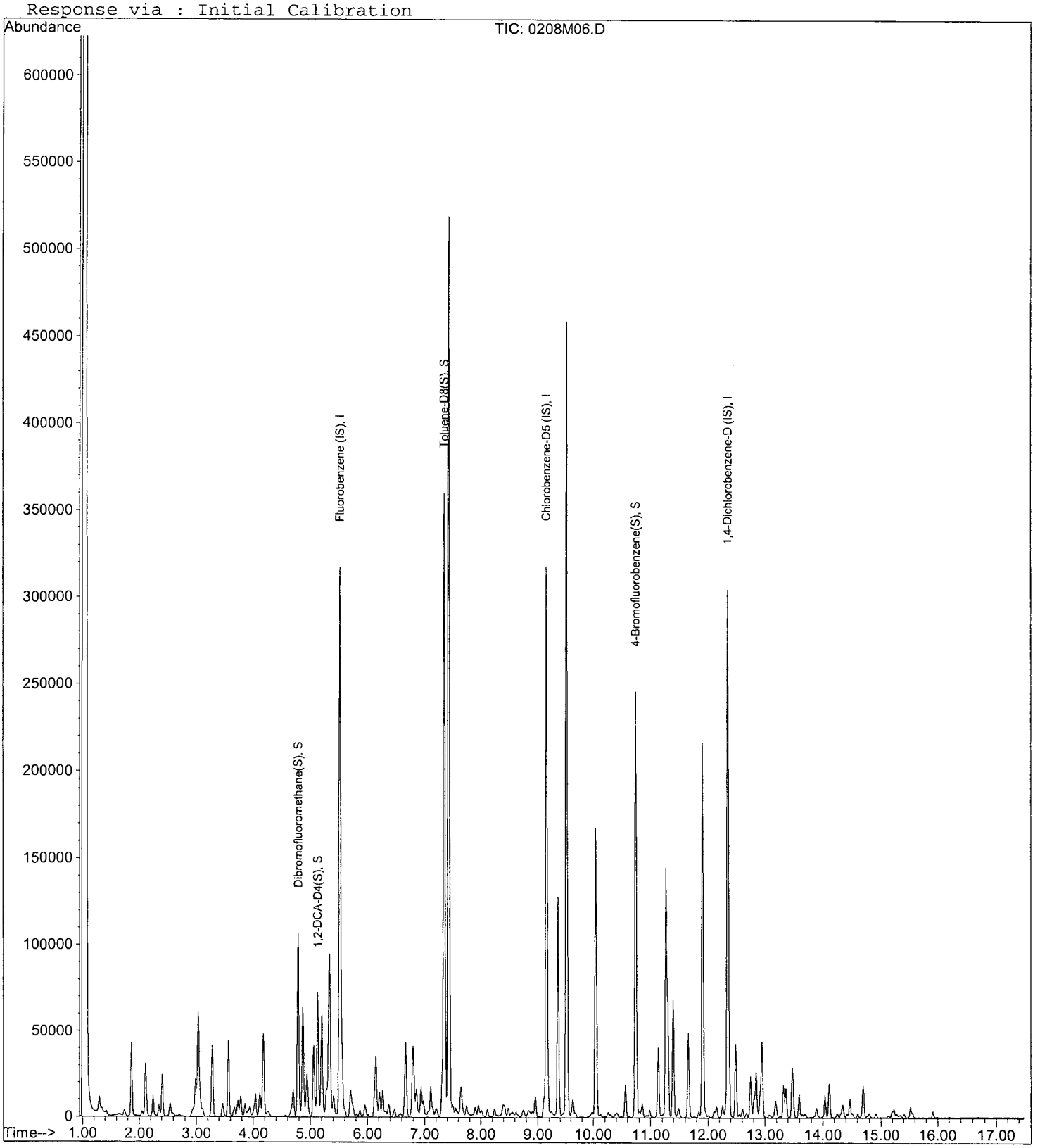
Data File : M:\MAX\DATA\M170127\0208M06.D
Acq On : 8 Feb 17 11:18
Sample : 170208A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 8:33 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/4/16A	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17V-DG	20	1	100
01/11/17W-DG	50	2.5	100
01/11/17X-DG	100	5	100
01/11/17Y-DG	300	15	100
01/11/17Z-DG	600	30	100
01/11/17AA-DG	800	40	100
01/11/17AB-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17	300	15	100

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	20	0111M22.D	1	20ug/L GAS STD 1/11/17V	IS&S 10/20/16	11 Jan 17 18:56
2	21	0111M23.D	1	50ug/L GAS STD 1/11/17W	IS&S 10/20/16	11 Jan 17 19:24
3	22	0111M24.D	1	100ug/L GAS STD 1/11/17X	IS&S 10/20/16	11 Jan 17 19:53
4	23	0111M25.D	1	300ug/L GAS STD 1/11/17Y	IS&S 10/20/16	11 Jan 17 20:21
5	24	0111M26.D	1	600ug/L GAS STD 1/11/17Z	IS&S 10/20/16	11 Jan 17 20:49
6	25	0111M27.D	1	800ug/L GAS STD 1/11/17AA	IS&S 10/20/16	11 Jan 17 21:17
7	26	0111M28.D	1	1000ug/L GAS STD 1/11/17AB	IS&S 10/20/16	11 Jan 17 21:46
8	29	0111M31.D	1	(SS)300ug/L GAS STD 1/11/17	IS&S 10/20/16	11 Jan 17 23:11
9	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
10	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
11	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
12	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
13	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
14	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
15	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
16	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
17	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
18	5	0208M06.D	1	170208A CCV/LCS 300ug/L	IS&S 10/20/16	8 Feb 17 11:18
19	10	0208M11.D	1	170208A BLK-1WM	IS&S 10/20/16	8 Feb 17 13:40
20	11	0208M12.D	1	AZ49655W01	IS&S 10/20/16	8 Feb 17 14:08
21	1	0208M13.D	1	AZ49656W01	IS&S 10/20/16	8 Feb 17 14:42
22	2	0208M14.D	1	AZ49657W01	IS&S 10/20/16	8 Feb 17 15:11
23	3	0208M15.D	1	AZ49658W01	IS&S 10/20/16	8 Feb 17 15:39
24	4	0208M16.D	1	AZ49659W01	IS&S 10/20/16	8 Feb 17 16:07
25	8	0208M20.D	1	Ending CCV 8260 300ug/L 02/08/17	IS&S 10/20/16	8 Feb 17 18:01

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49674 - 216084**
Batch ID: #RSKME-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021003
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/11/17 11:53:27 AM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170210W-49674 LCS - 216084**
Batch ID: #RSKME-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1070	80.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/10/17
Analysis Date :	02/10/17
Instrument :	Rocky
Run :	17021002
Initials :	CMO

Printed: 02/11/17 11:53:13 AM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH207
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49655
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method:	RSK0901.M
Run #:	17021004
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/11/17 11:53:18 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021004.D Vial: 5
Acq On : 10 Feb 17 8:53 Operator: lac
Sample : AZ49655W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:55 2017 Quant Results File: RSK0901.RES

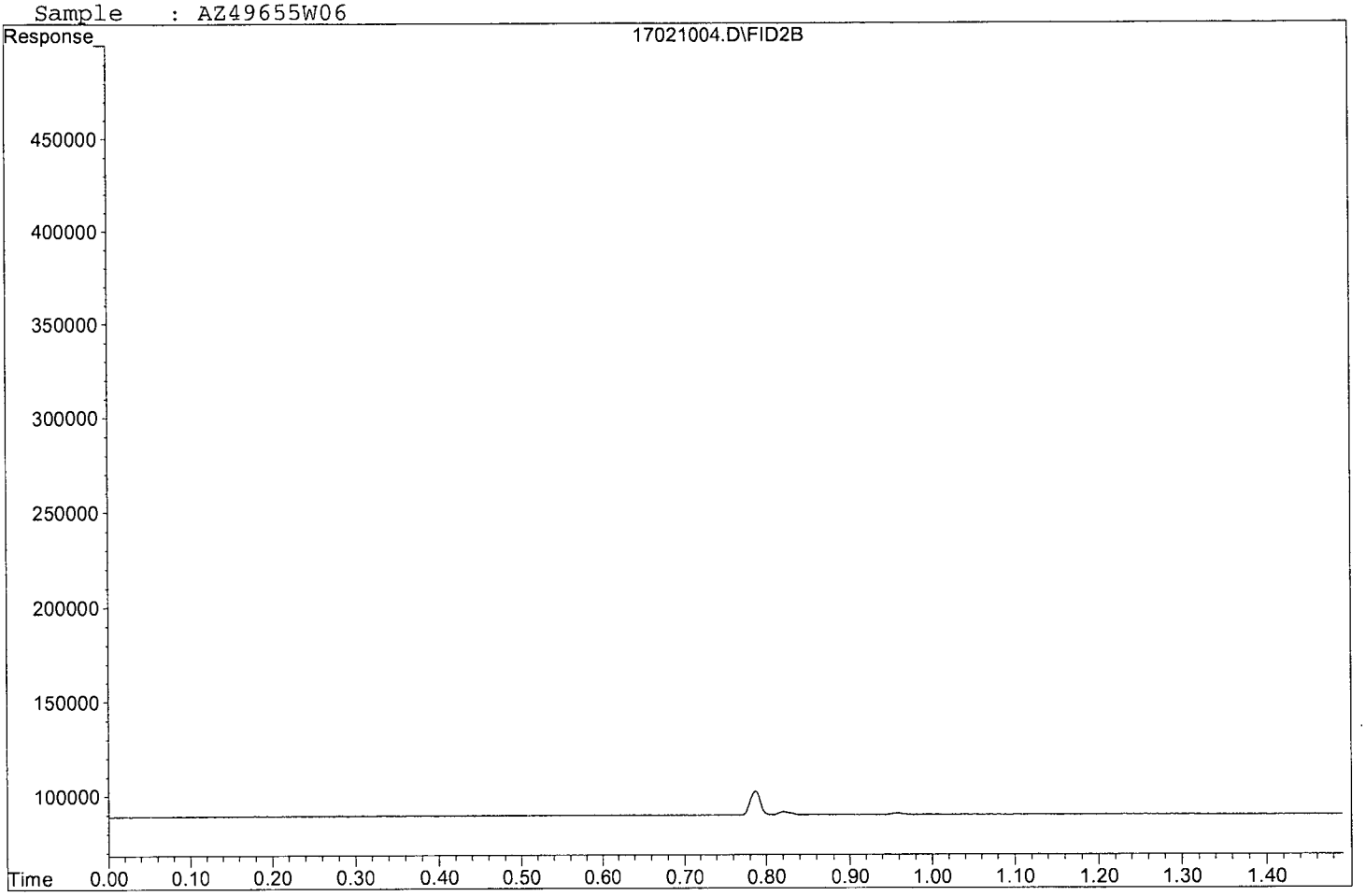
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	424	N.D.	ppb
2) ATM Ethane	1.01	361	N.D.	ppb
3) ATM Ethene	1.13	307	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021004.D
Sample : AZ49655W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH208
Sample Collection Date: 02/06/17

ARF: 82117
APPL ID: AZ49656
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method:	RSK0901.M
Run #:	17021005
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/11/17 11:53:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021005.D Vial: 6
Acq On : 10 Feb 17 8:56 Operator: lac
Sample : AZ49656W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:58 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

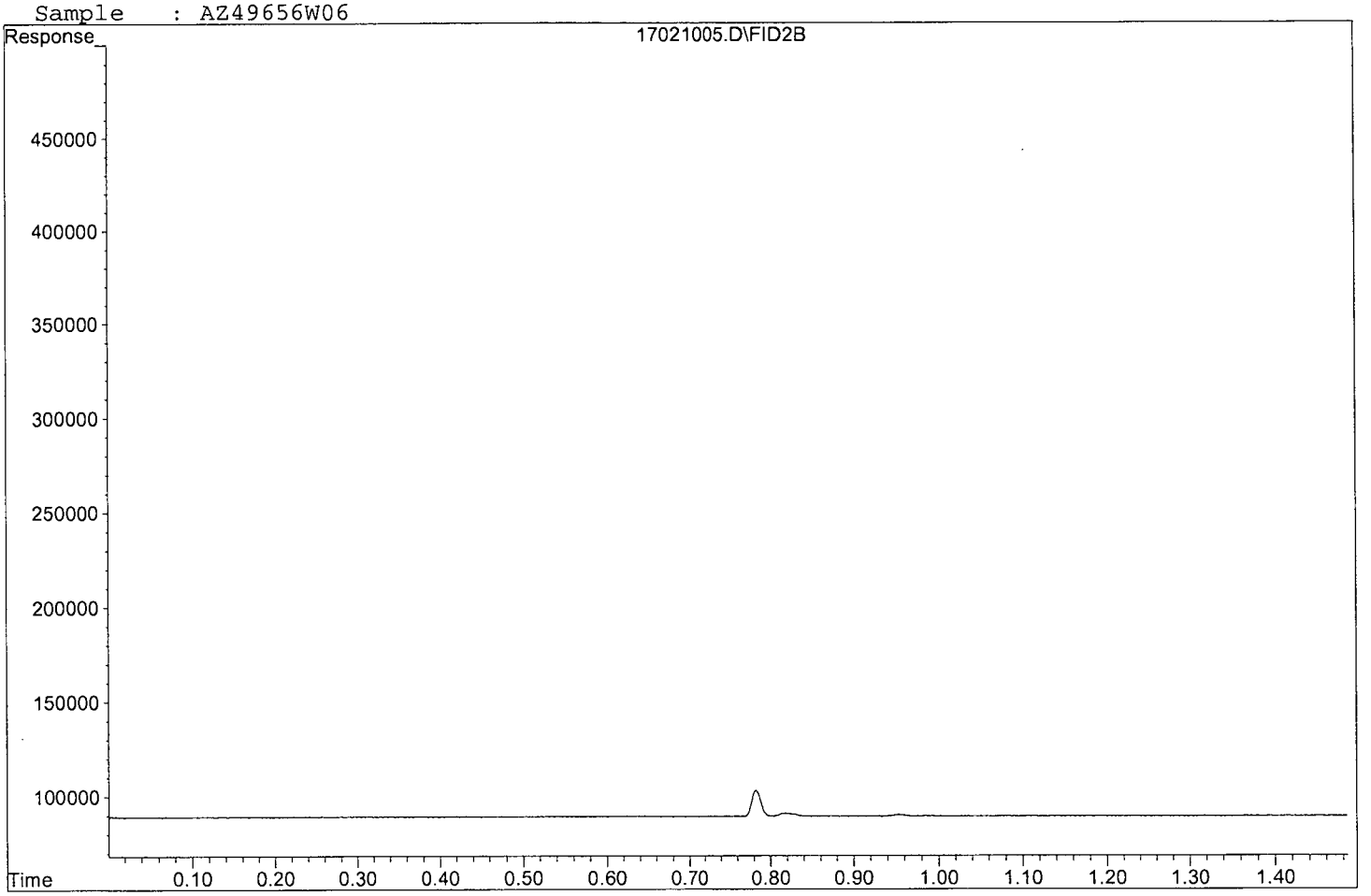
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	449	N.D.	ppb
2) ATM Ethane	1.02	170	N.D.	ppb
3) ATM Ethene	1.12	232	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021005.D
Sample : AZ49656W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 09/01/16
Instrument: 7890

Initials:

		Compound	0901000.D 1	0901001.D 2	0901002.D 3	0901003.D 4	0901004.D 5	0901005.D 6	0901006.D 7	0901007.D 8	0901008.D 9	0901009.D 10	Avg	%RSD		
1	ATM	Methane	7448	5672	3042	3435	1074	1006	1184	1314	1084	1089	2635	87	ATM	
2	ATM	Ethane	1509	1521	1416	2554	478	657	816	933	791	798	1147	54	ATM	
3	ATM	Ethene	1826	1525	1280	2301	444	570	693	733	628	626	1063	60	ATM	
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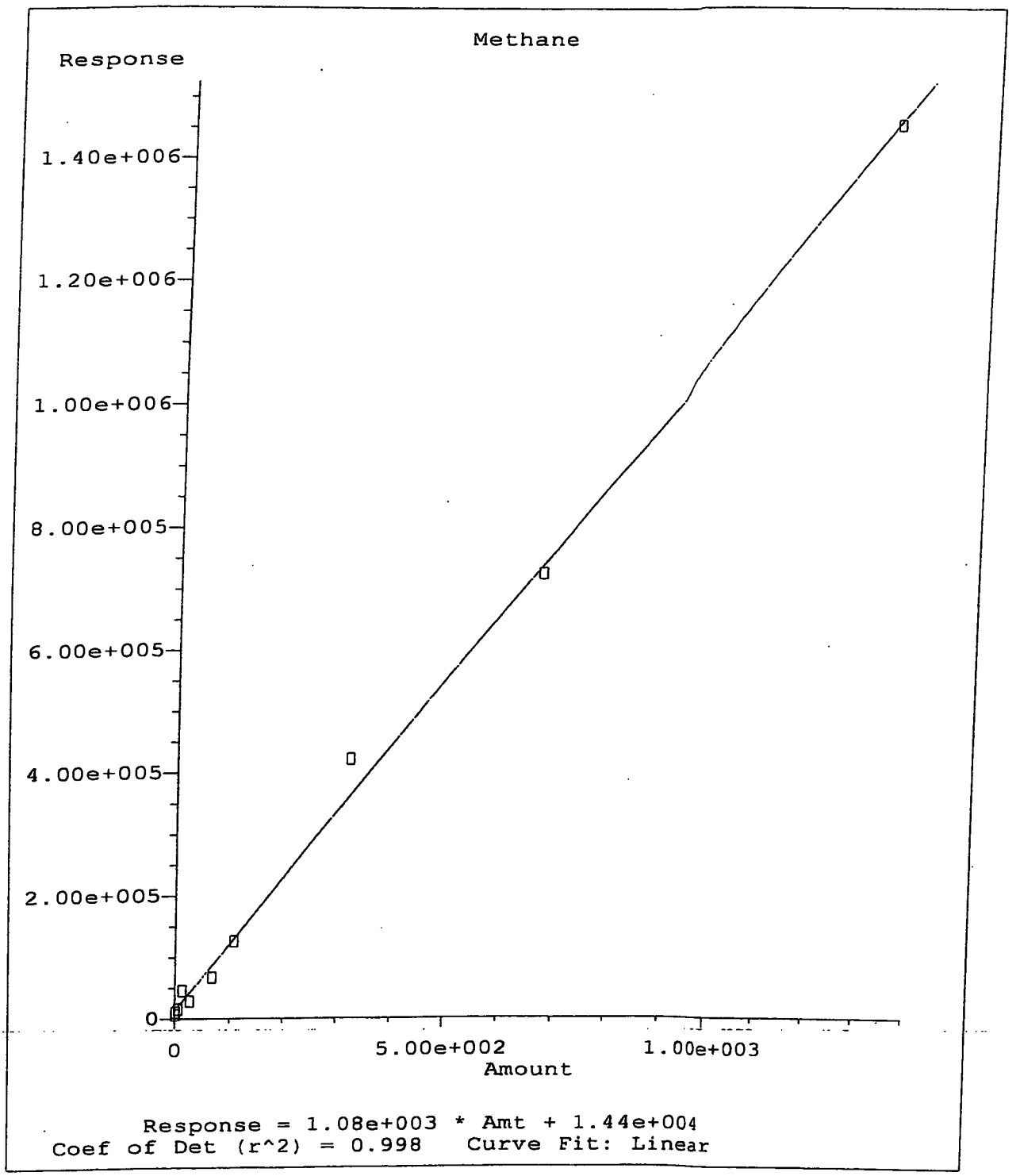
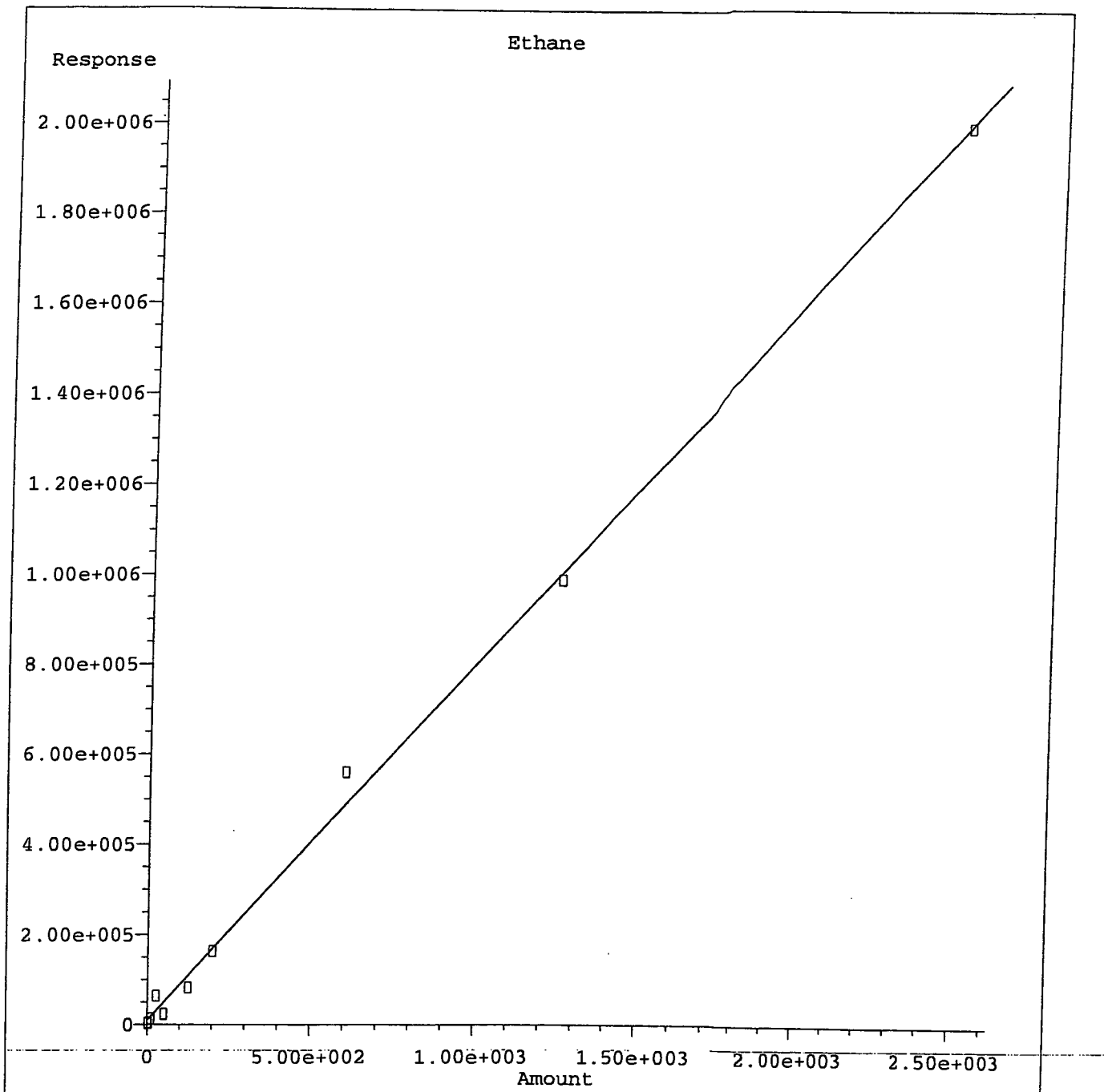
FORM61

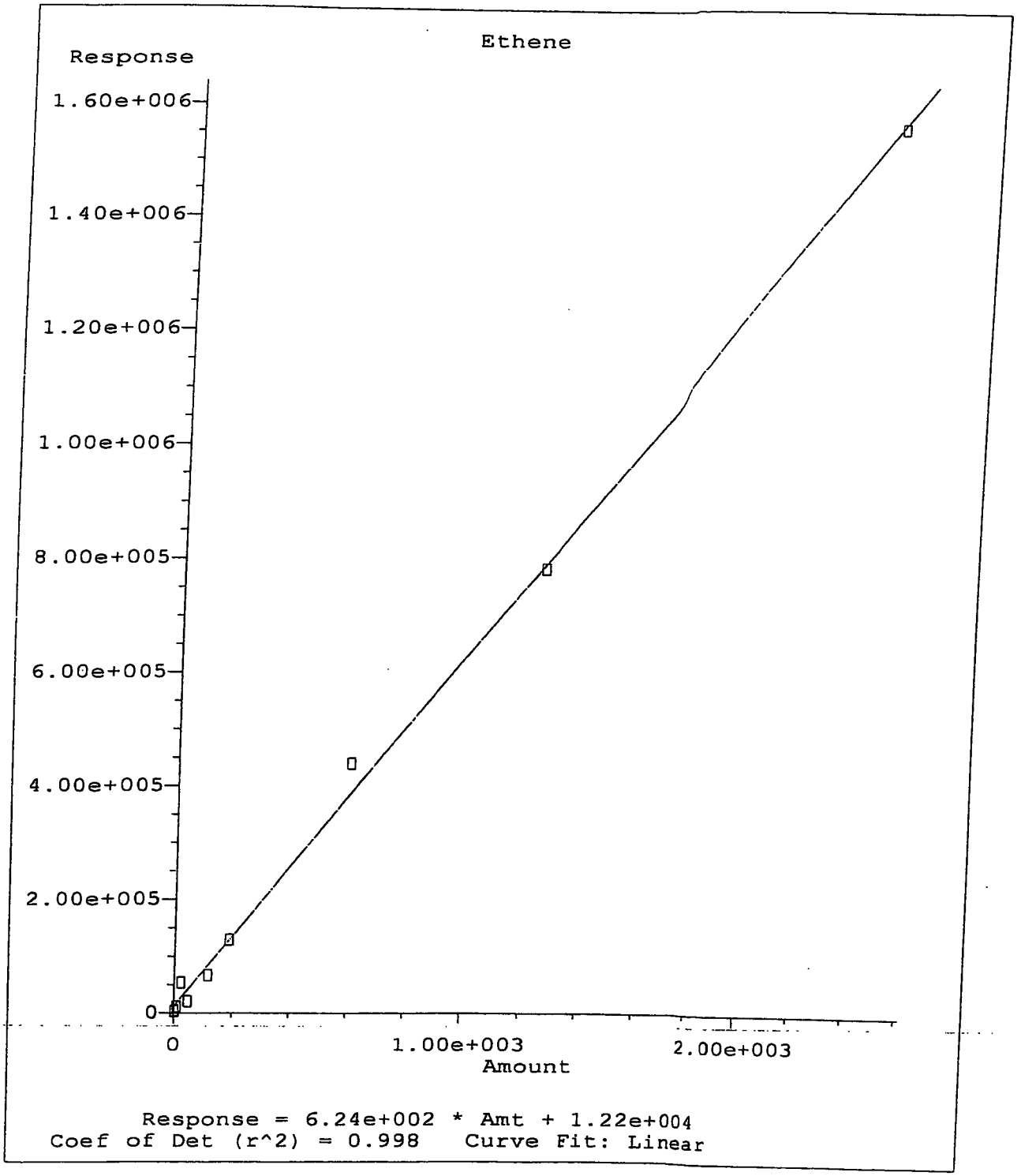


Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016



Response = 7.96e+002 * Amt + 1.03e+004
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Thu Nov 10 08:49:51 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901000.D
Acq On : 1 Sep 16 11:38
Sample : RSK Level 1 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 1
Operator: lac
Inst : 7890
Multiplr: 1.00

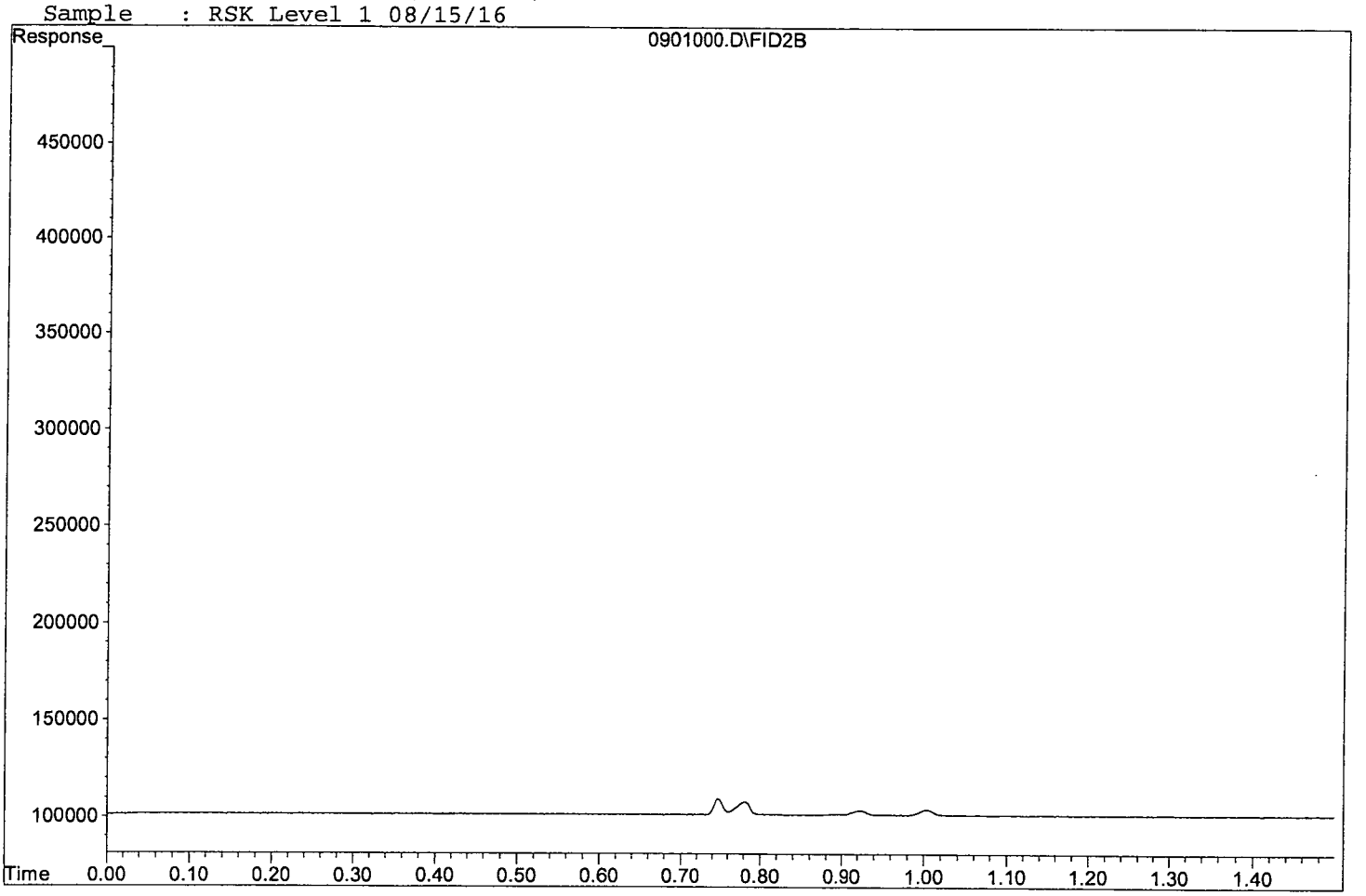
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	6703	N.D.	ppb
2) ATM Ethane	0.92	2566	N.D.	ppb
3) ATM Ethene	1.00	2922	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901000.D
Sample : RSK Level 1 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901001.D
Acq On : 1 Sep 16 11:41
Sample : RSK Level 2 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Jan 26 12:10 2017 Quant Results File: RSK0901.RES

Vial: 2
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 26 12:11:56 2017
Response via : Multiple Level Calibration

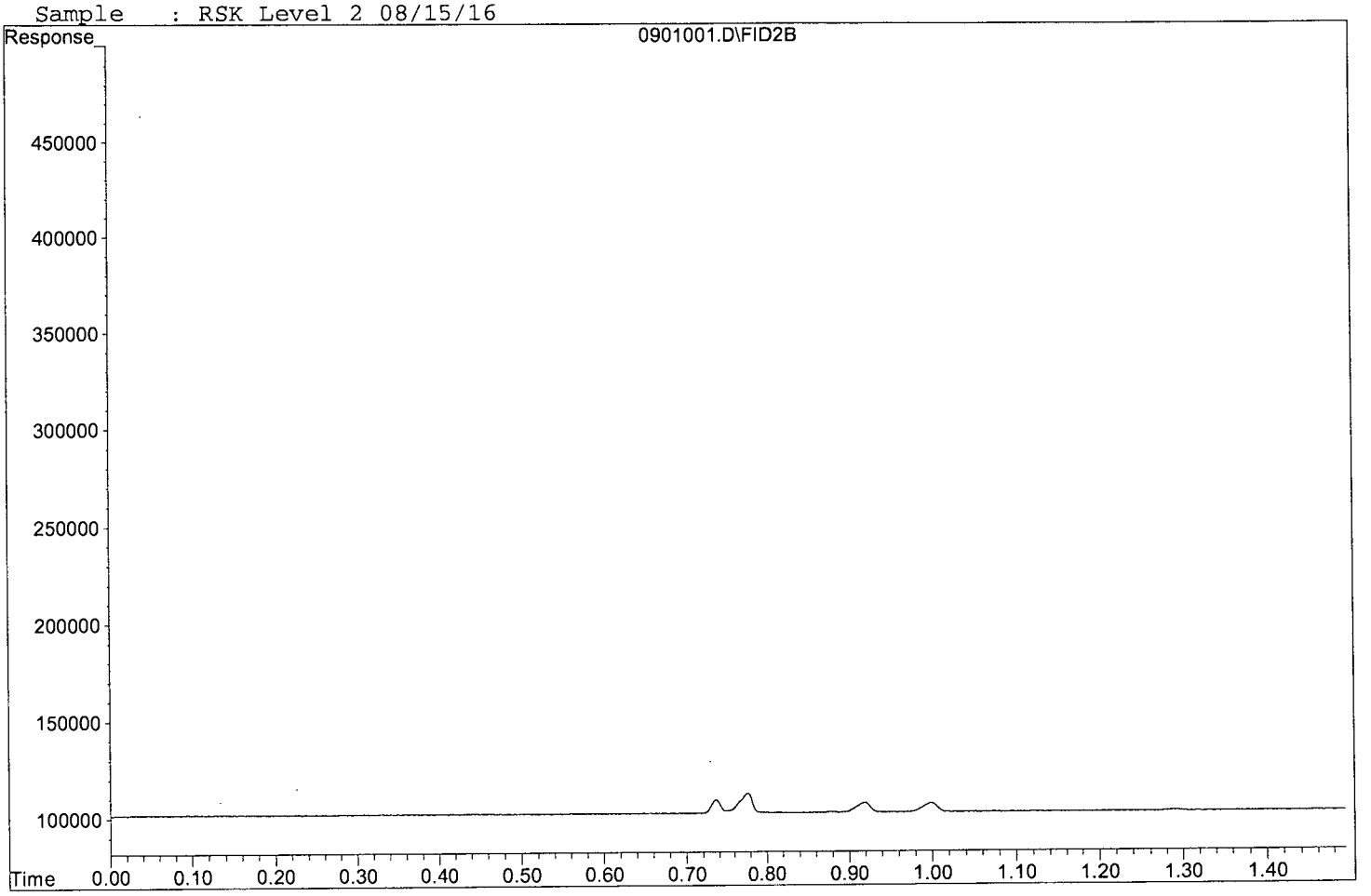
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	10209	N.D.	ppb
2) ATM Ethane	0.92	5171	N.D.	ppb
3) ATM Ethene	1.00	4881	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901001.D
Sample : RSK Level 2 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901002.D Vial: 3
Acq On : 1 Sep 16 11:44 Operator: lac
Sample : RSK Level 3 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 14 13:31 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

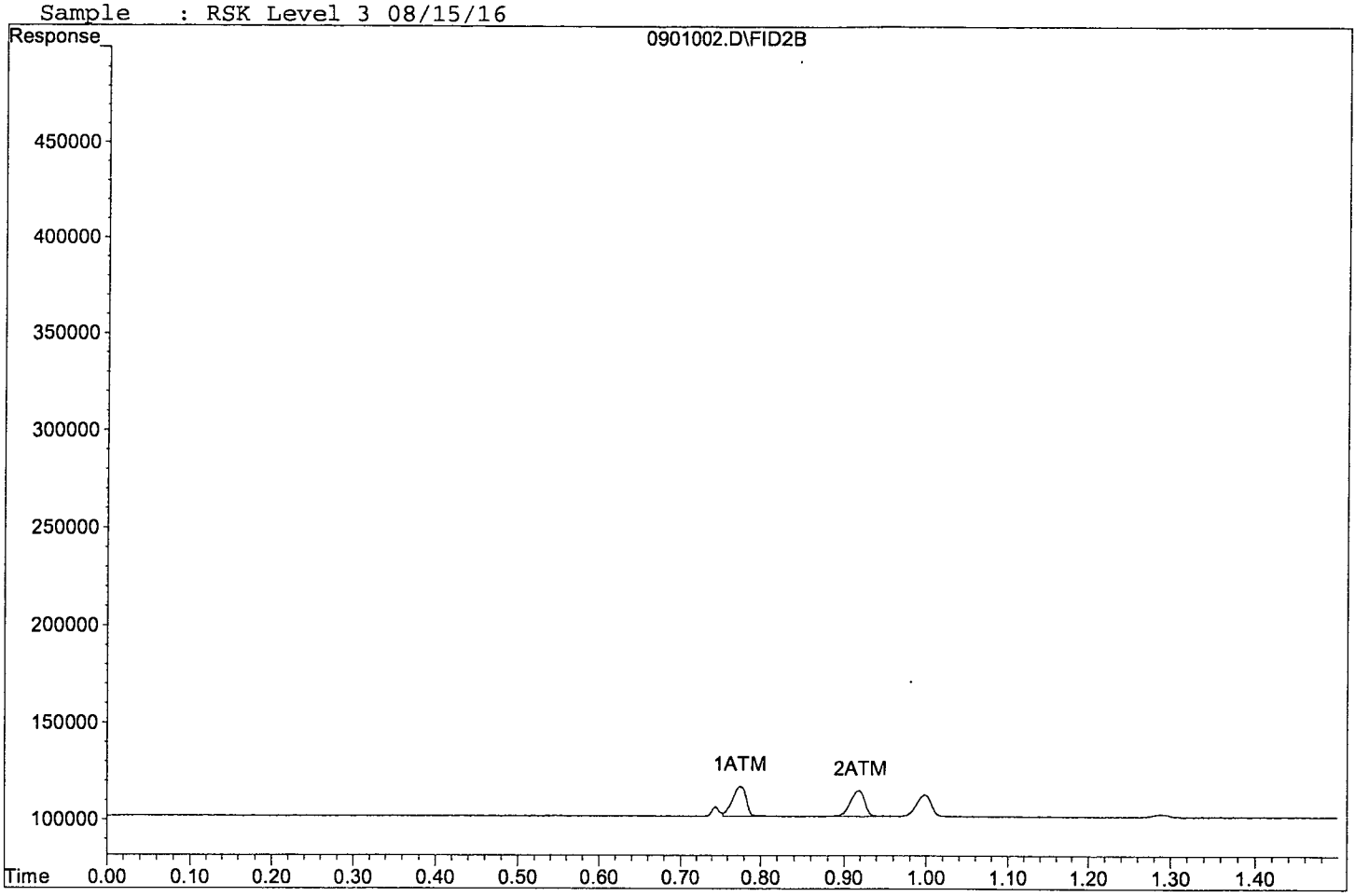
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	15515	1.054 ppb
2) ATM Ethane	0.92	13452	3.912 ppb
Target Compounds			
3) ATM Ethene	1.00	11390	N.D. ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901002.D
Sample : RSK Level 3 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901003.D Vial: 4
Acq On : 1 Sep 16 11:46 Operator: lac
Sample : RSK Level 4 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

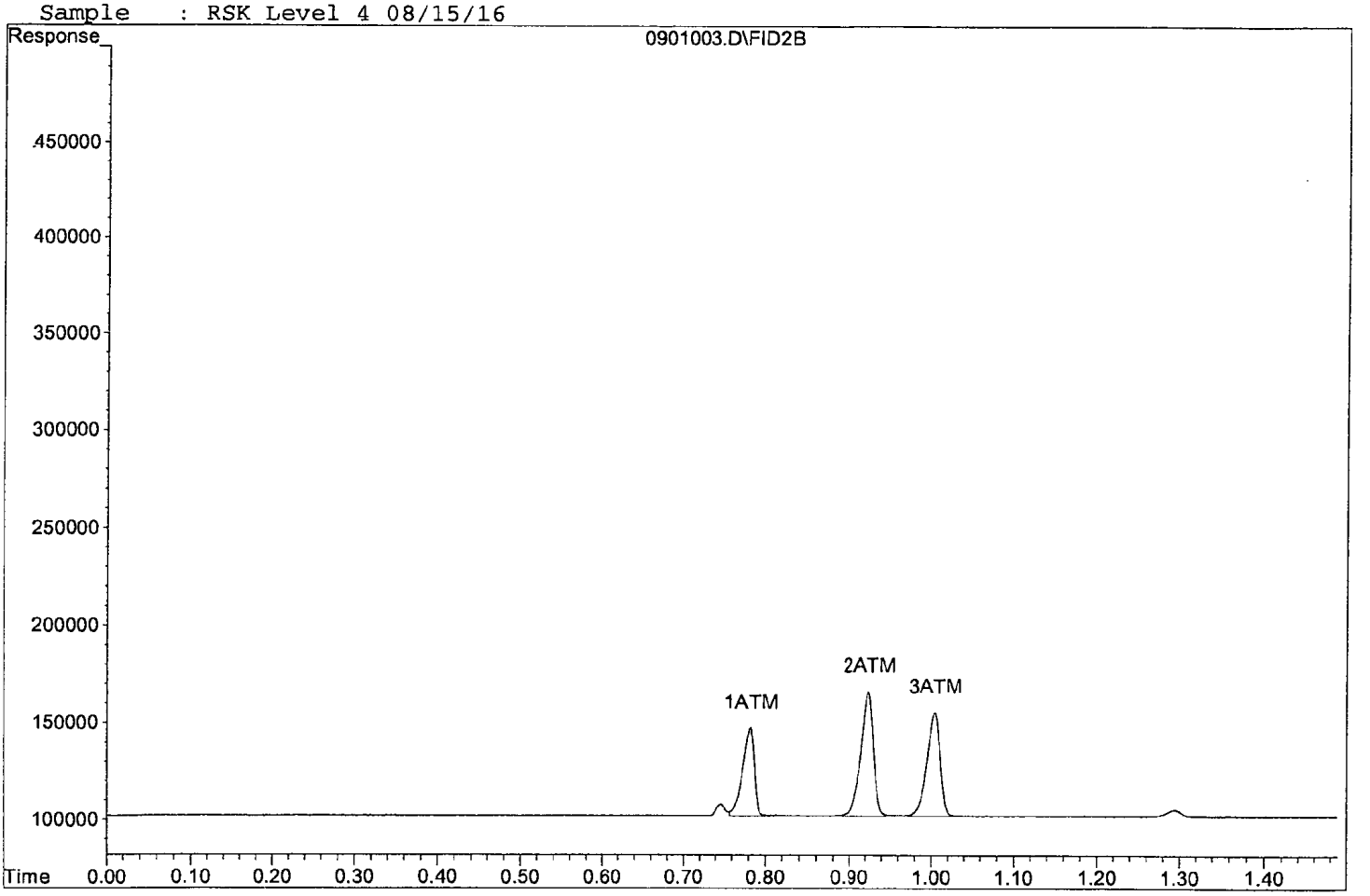
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	45792	29.006 ppb
2) ATM Ethane	0.92	63853	67.197 ppb
3) ATM Ethene	1.00	53608	66.354 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901003.D
Sample : RSK Level 4 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901004.D Vial: 5
Acq On : 1 Sep 16 11:48 Operator: lac
Sample : RSK Level 5 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

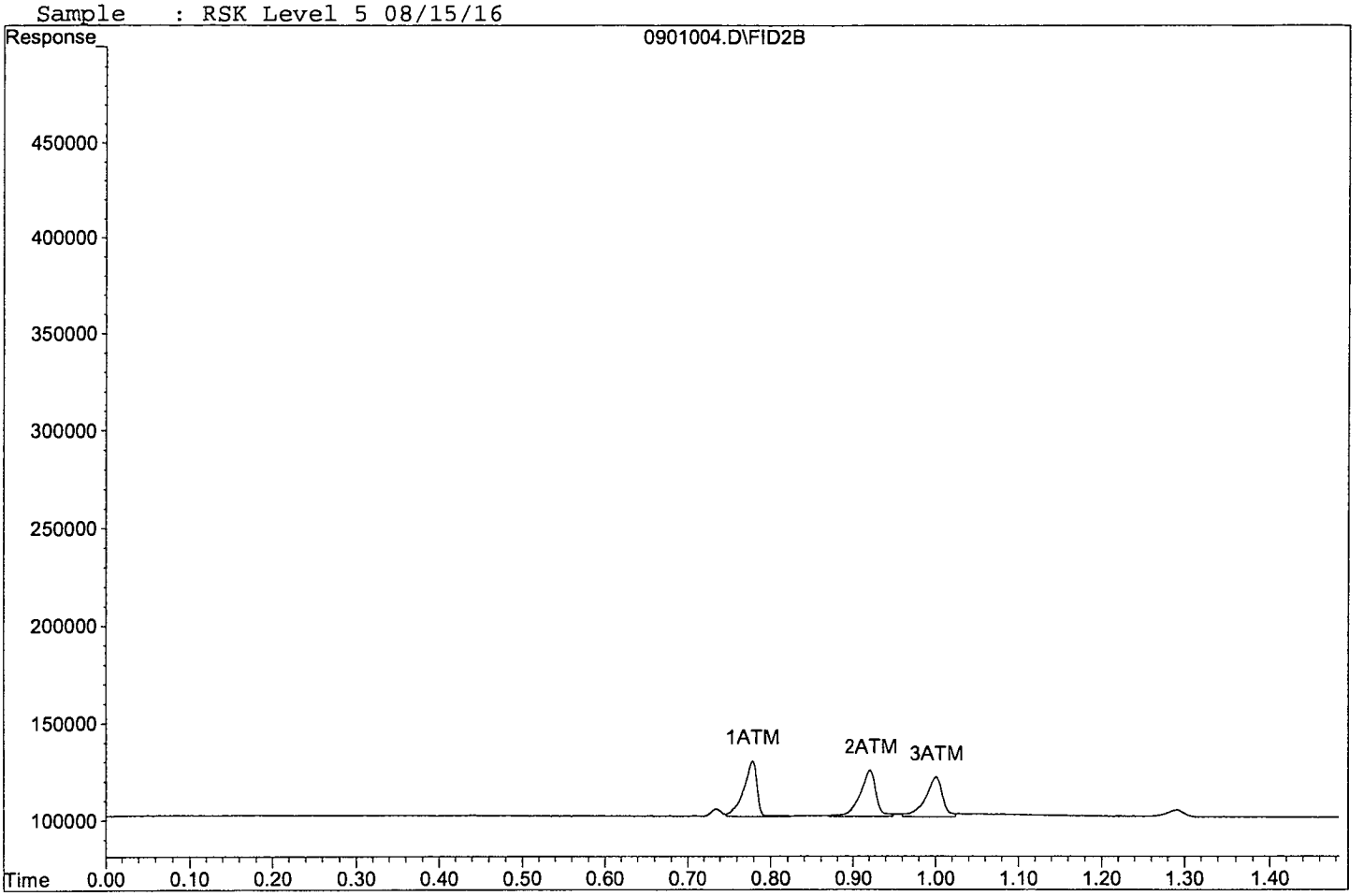
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	28664	13.193 ppb
2) ATM Ethane	0.92	23891	17.020 ppb
3) ATM Ethene	1.00	20700	13.631 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901004.D
Sample : RSK Level 5 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901005.D Vial: 6
Acq On : 1 Sep 16 11:50 Operator: lac
Sample : RSK Level 6 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

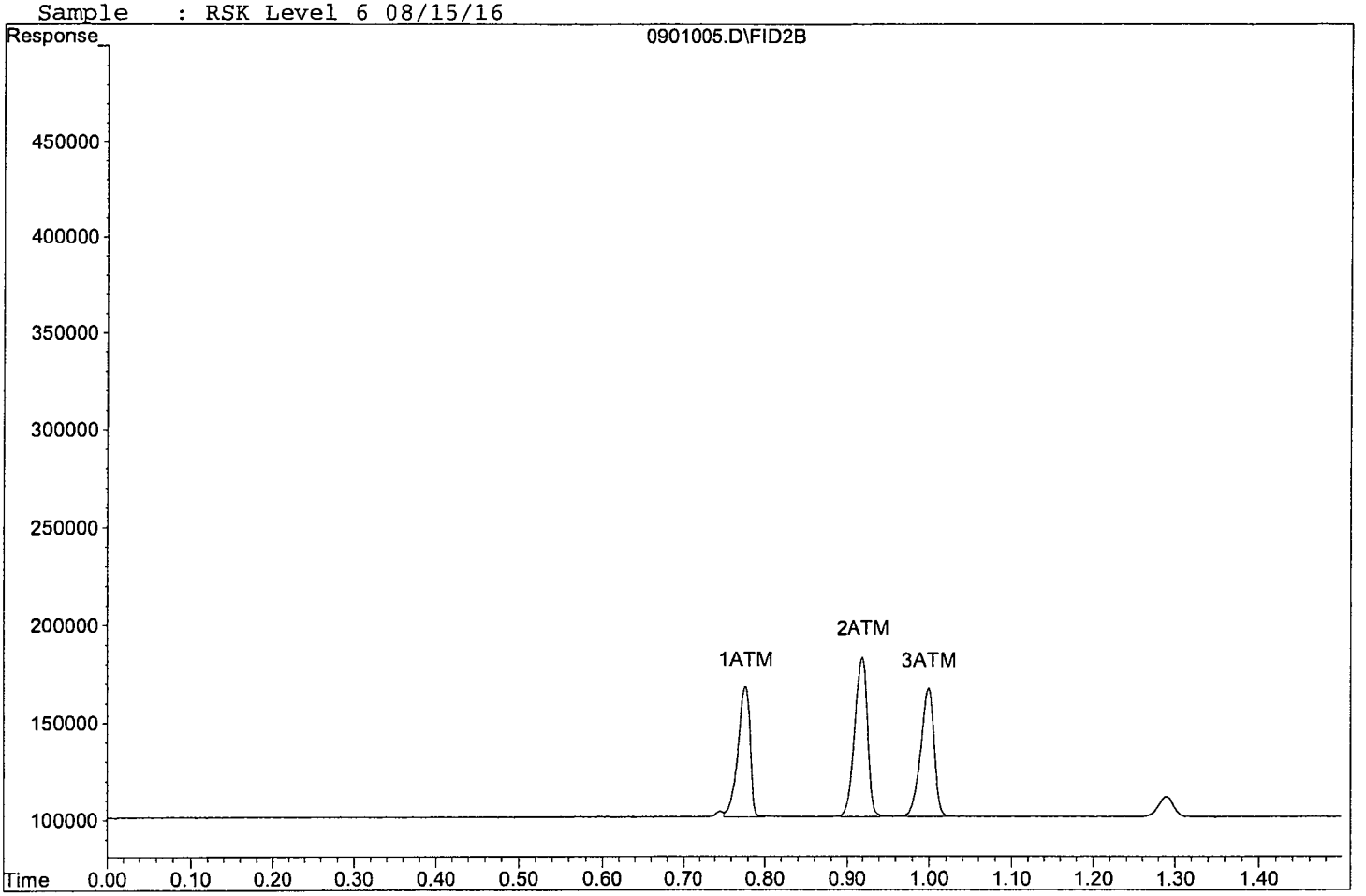
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	67137	48.712 ppb
2) ATM Ethane	0.92	82167	90.193 ppb
3) ATM Ethene	1.00	66348	86.764 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901005.D
Sample : RSK Level 6 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901006.D Vial: 7
Acq On : 1 Sep 16 11:52 Operator: lac
Sample : RSK Level 7 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

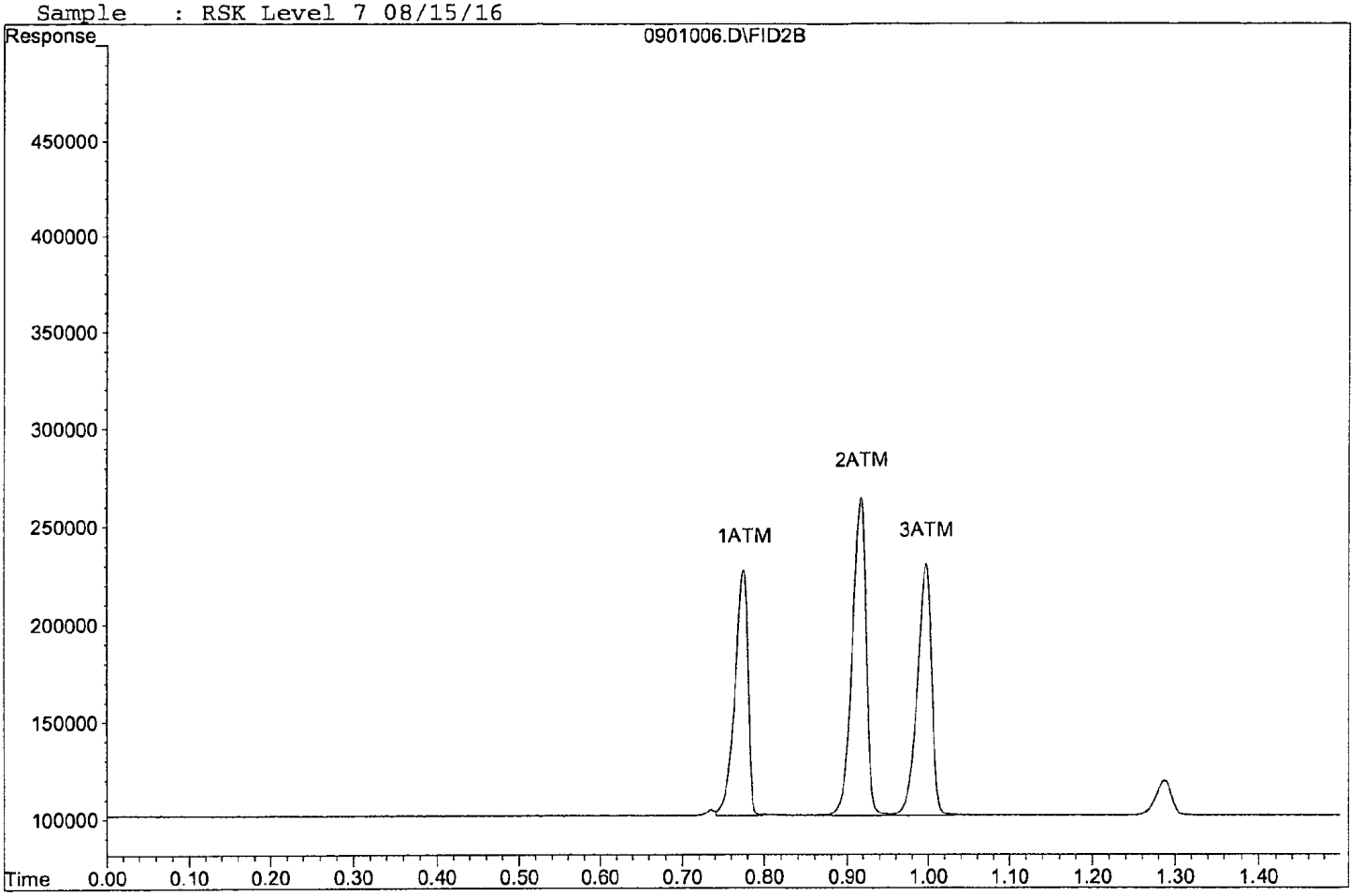
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	126422	103.446 ppb
2) ATM Ethane	0.92	163281	192.041 ppb
3) ATM Ethene	1.00	129200	187.460 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901006.D
Sample : RSK Level 7 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901007.D Vial: 8
Acq On : 1 Sep 16 11:55 Operator: lac
Sample : RSK Level 8 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

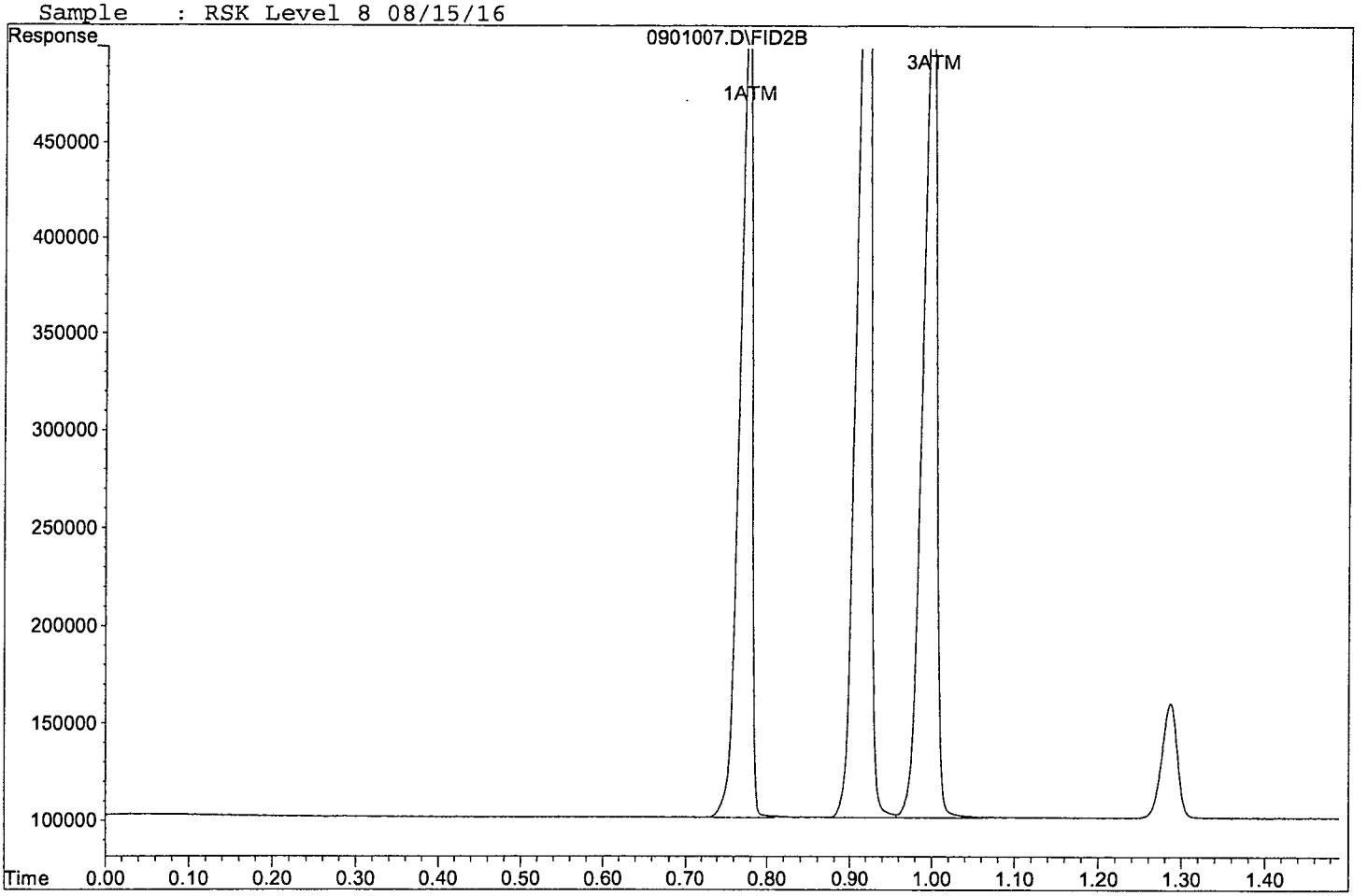
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	421052	375.455 ppb
2) ATM Ethane	0.92	559640	689.720 ppb
3) ATM Ethene	1.00	439383	684.403 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901007.D
Sample : RSK Level 8 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901008.D Vial: 9
Acq On : 1 Sep 16 11:57 Operator: lac
Sample : RSK Level 9 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

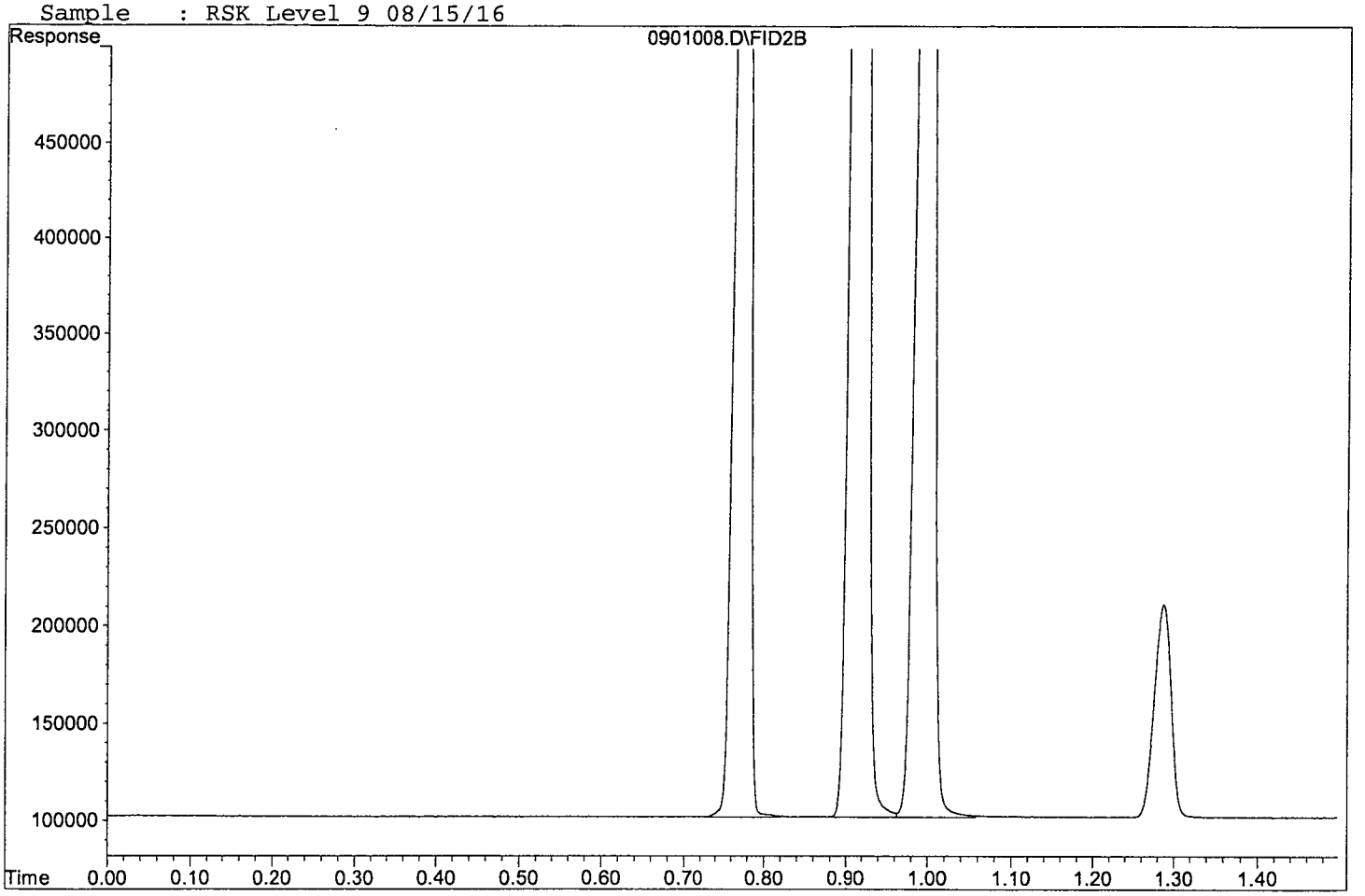
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	723824	654.982	ppb
2) ATM Ethane	0.92	989344	1229.268	ppb
3) ATM Ethene	1.00	783615	1235.897	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901008.D
Sample : RSK Level 9 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901009.D
Acq On : 1 Sep 16 11:59
Sample : RSK Level 10 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

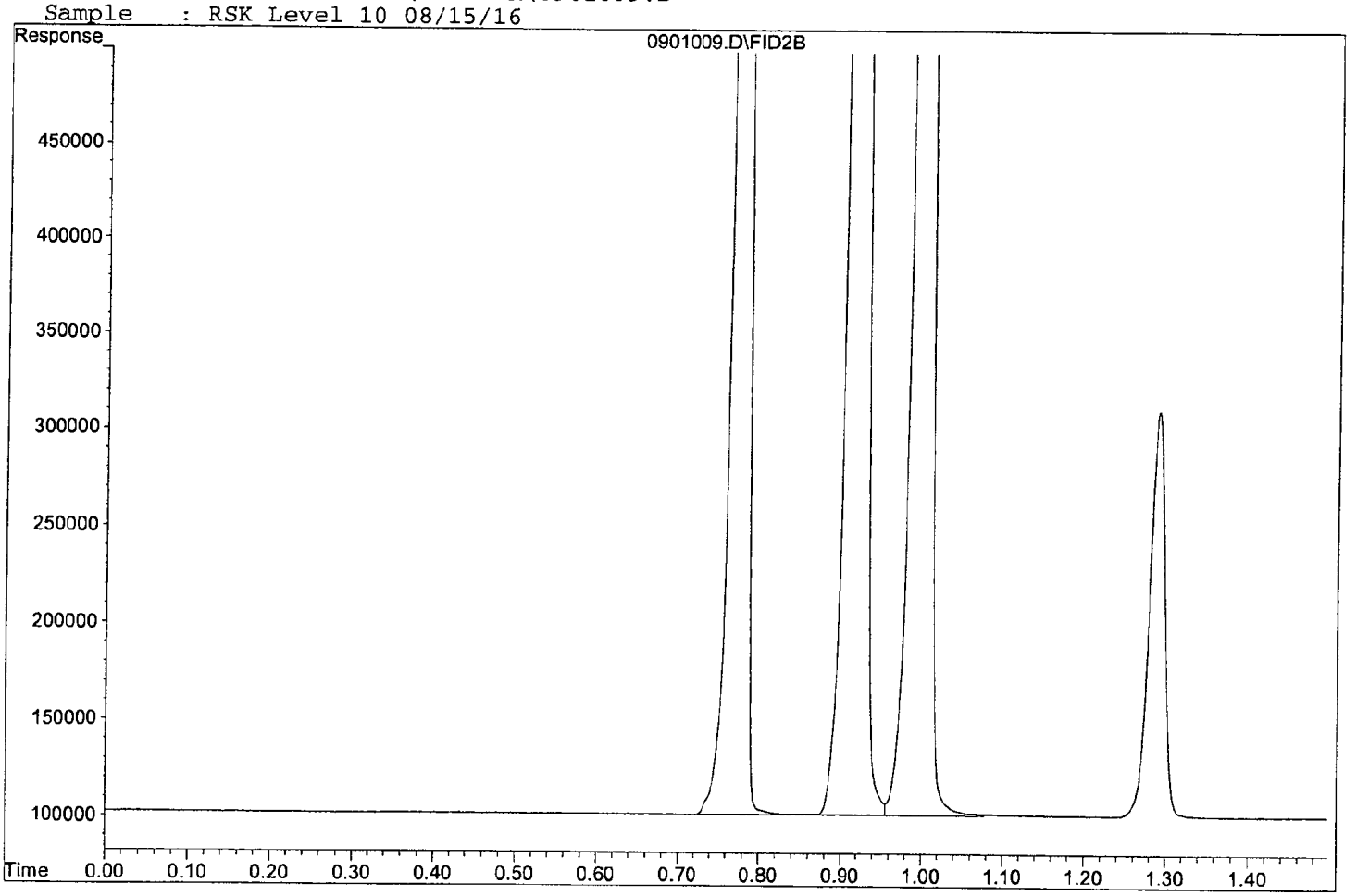
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	1454283	1329.358	ppb
2) ATM Ethane	0.92	1994598	2491.490	ppb
3) ATM Ethene	1.00	1562244	2483.337	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901009.D
Sample : RSK Level 10 08/15/16



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Sep 16 13:11
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 0901018.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1090	59	ATML	19
2	ATML	Ethane	1147	964	16	ATML	11
3	ATML	Ethene	1063	853	20	ATML	20
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			31.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901018.D
Acq On : 1 Sep 16 13:11
Sample : (SS/LCS) RSK Level 6 09/01/16
Misc :
IntFile : autoint1.e
Quant Time: Sep 1 13:16 2016 Quant Results File: RSK0901.RES

Vial: 19
Operator: lac
Inst : 7890
Multiplr: 1.00

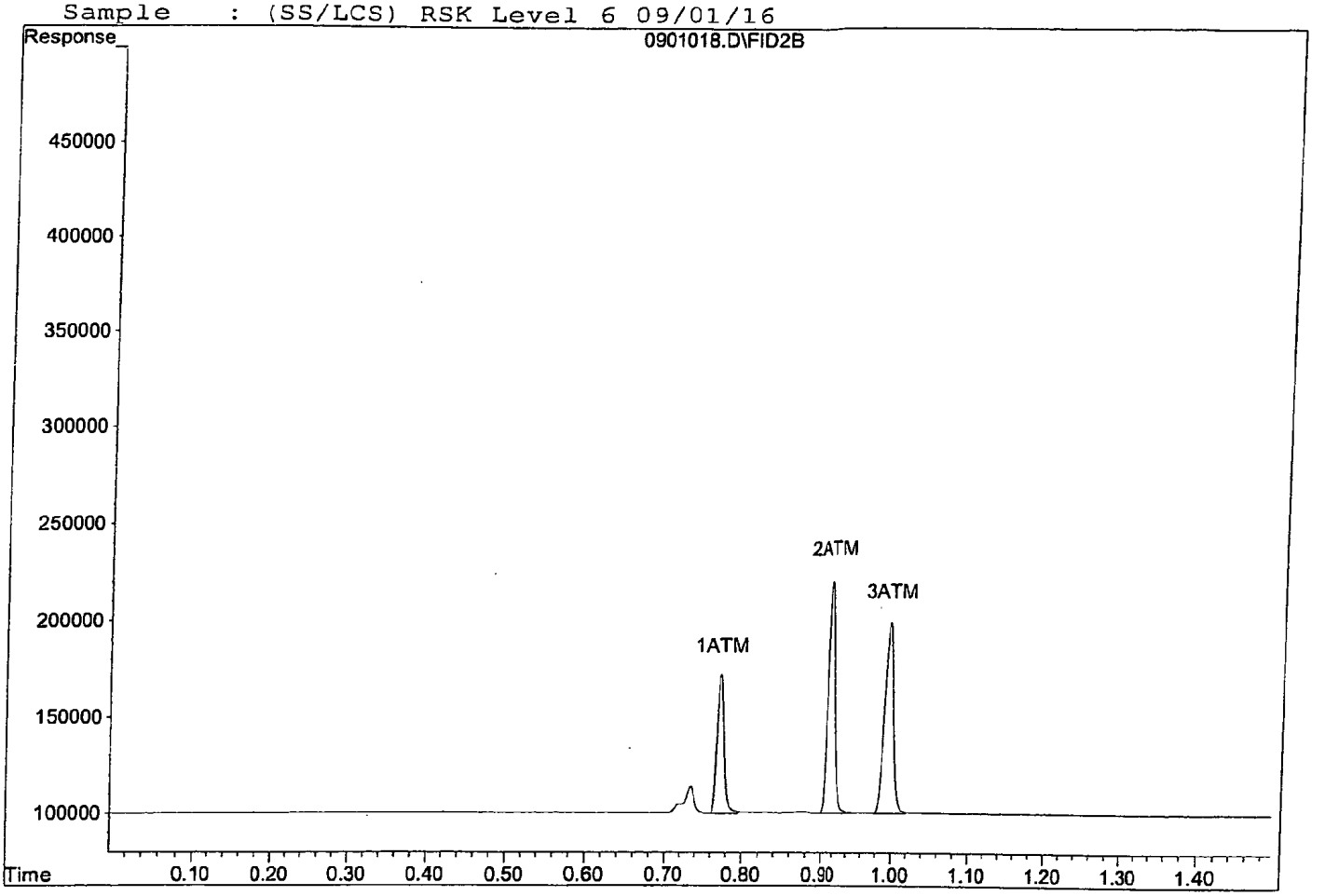
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Sep 01 14:40:19 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	72750	53.894 ppb
2) ATM Ethane	0.91	120545	138.382 ppb
3) ATM Ethene	0.99	99349	139.636 ppb

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901018.D
Sample : (SS/LCS) RSK Level 6 09/01/16



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/10/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021002.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	877	67	ATML	20
2	ATML	Ethane	1147	707	38	ATML	12
3	ATML	Ethene	1063	508	52	ATML	19
4							
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35							
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37							
38							
39							
40							
		Average			52.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021002.D Vial: 3
Acq On : 10 Feb 17 8:43 Operator: lac
Sample : 170210A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:49 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

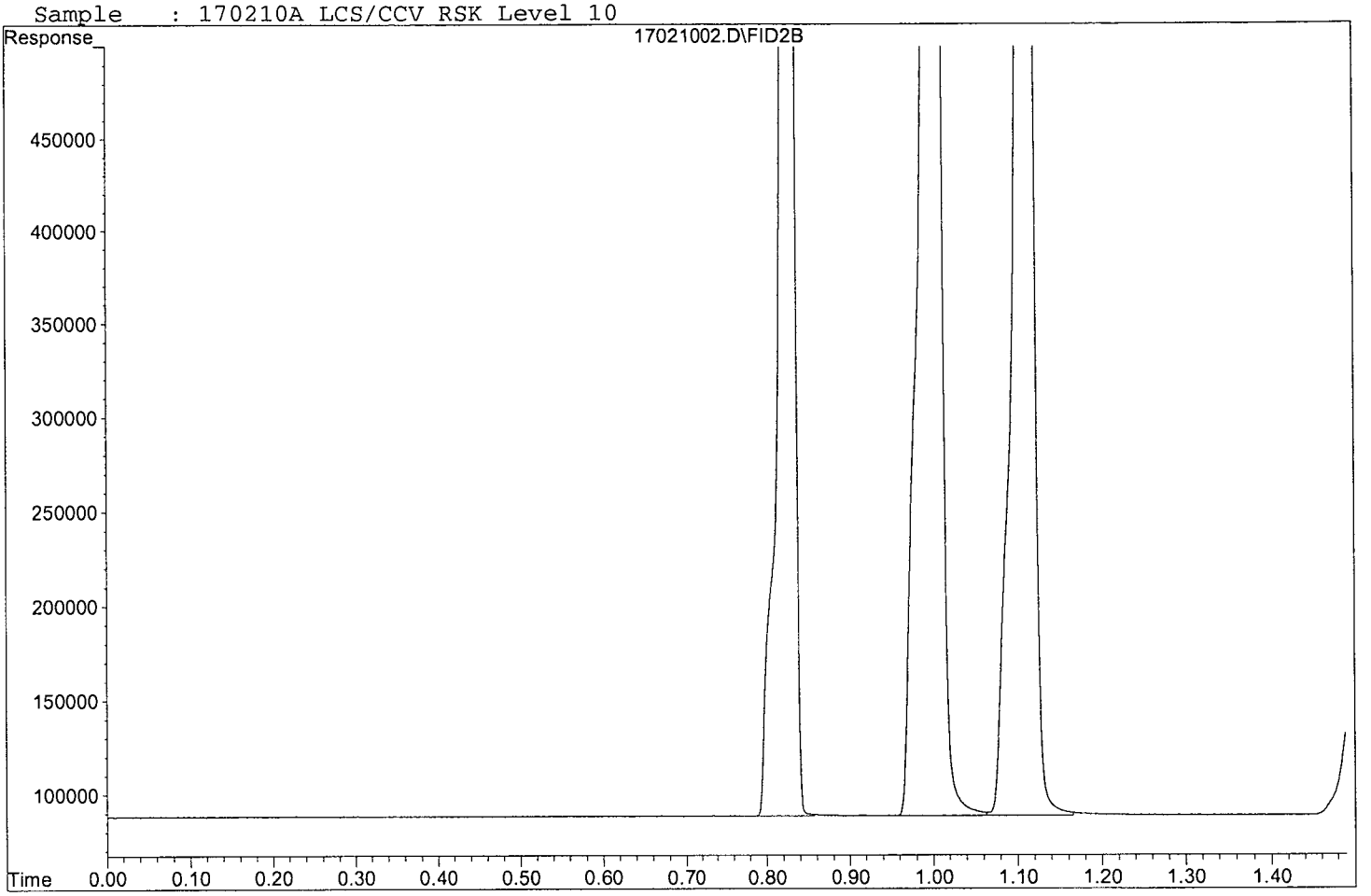
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1170768	1067.611	ppb
2) ATM Ethane	1.00	1767602	2206.468	ppb
3) ATM Ethene	1.11	1268183	2012.222	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021002.D
Sample : 170210A LCS/CCV RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/10/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021020.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	899	66	ATML	18
2	ATML	Ethane	1147	702	39	ATML	12
3	ATML	Ethene	1063	503	53	ATML	20
4							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			52.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021020.D Vial: 21
Acq On : 10 Feb 17 10:21 Operator: lac
Sample : Ending CCV RSK Level 10 02/10/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 10:23 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

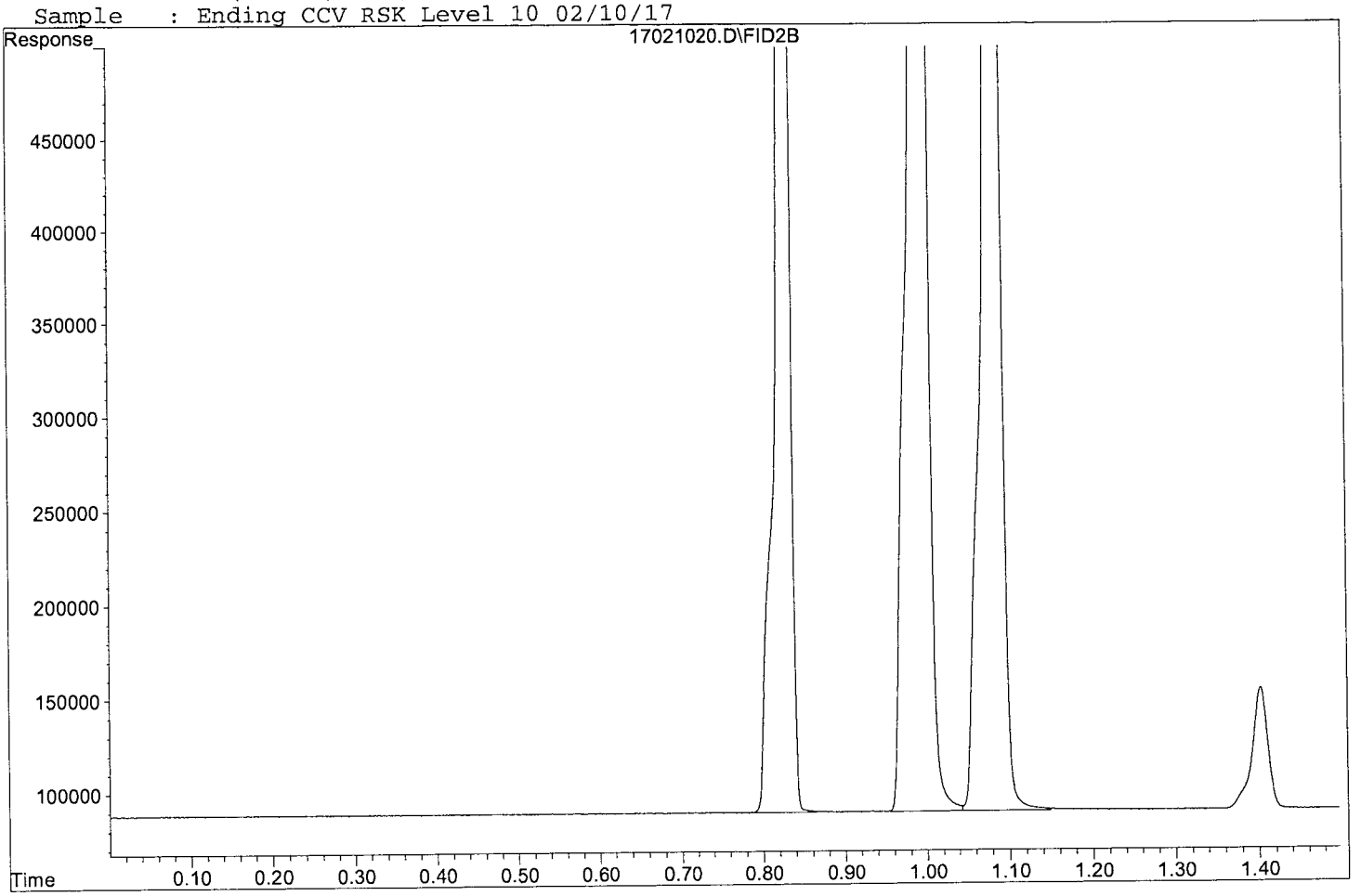
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1200373	1094.942	ppb
2) ATM Ethane	1.00	1754743	2190.322	ppb
3) ATM Ethene	1.09	1254926	1990.984	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021020.D
Sample : Ending CCV RSK Level 10 02/10/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49674 - 216084**
Batch ID: #RSKME-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021003
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/11/17 11:53:27 AM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021003.D Vial: 4
Acq On : 10 Feb 17 8:50 Operator: lac
Sample : 170210A BLK-RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:52 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

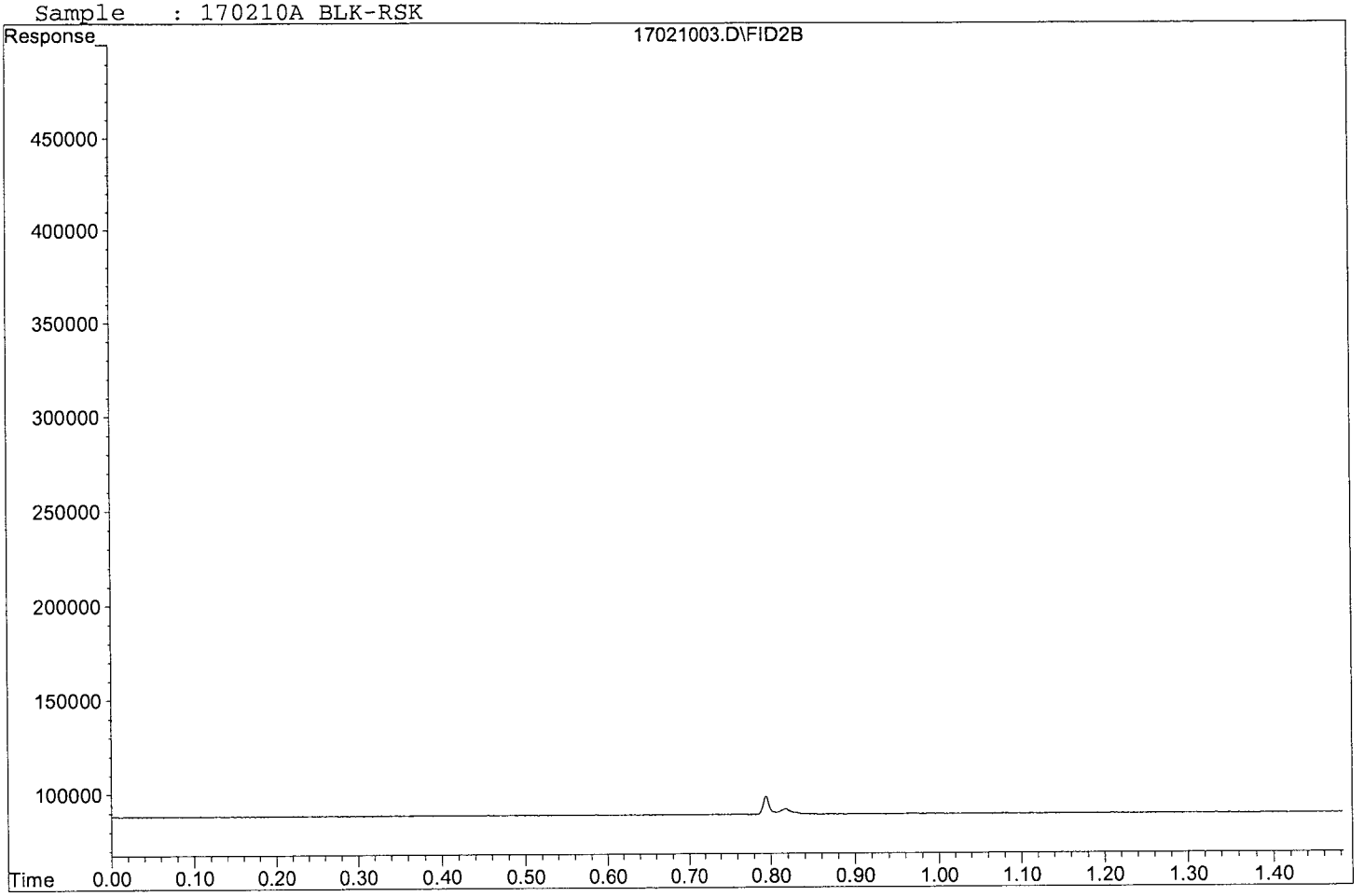
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	498	N.D.	ppb
2) ATM Ethane	1.01	228	N.D.	ppb
3) ATM Ethene	1.12	161	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021003.D
Sample : 170210A BLK-RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170210W-49674 LCS - 216084**
Batch ID: #RSKME-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1070	80.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/10/17
Analysis Date :	02/10/17
Instrument :	Rocky
Run :	17021002
Initials :	CMO

Printed: 02/11/17 11:53:13 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021002.D Vial: 3
Acq On : 10 Feb 17 8:43 Operator: lac
Sample : 170210A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:49 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

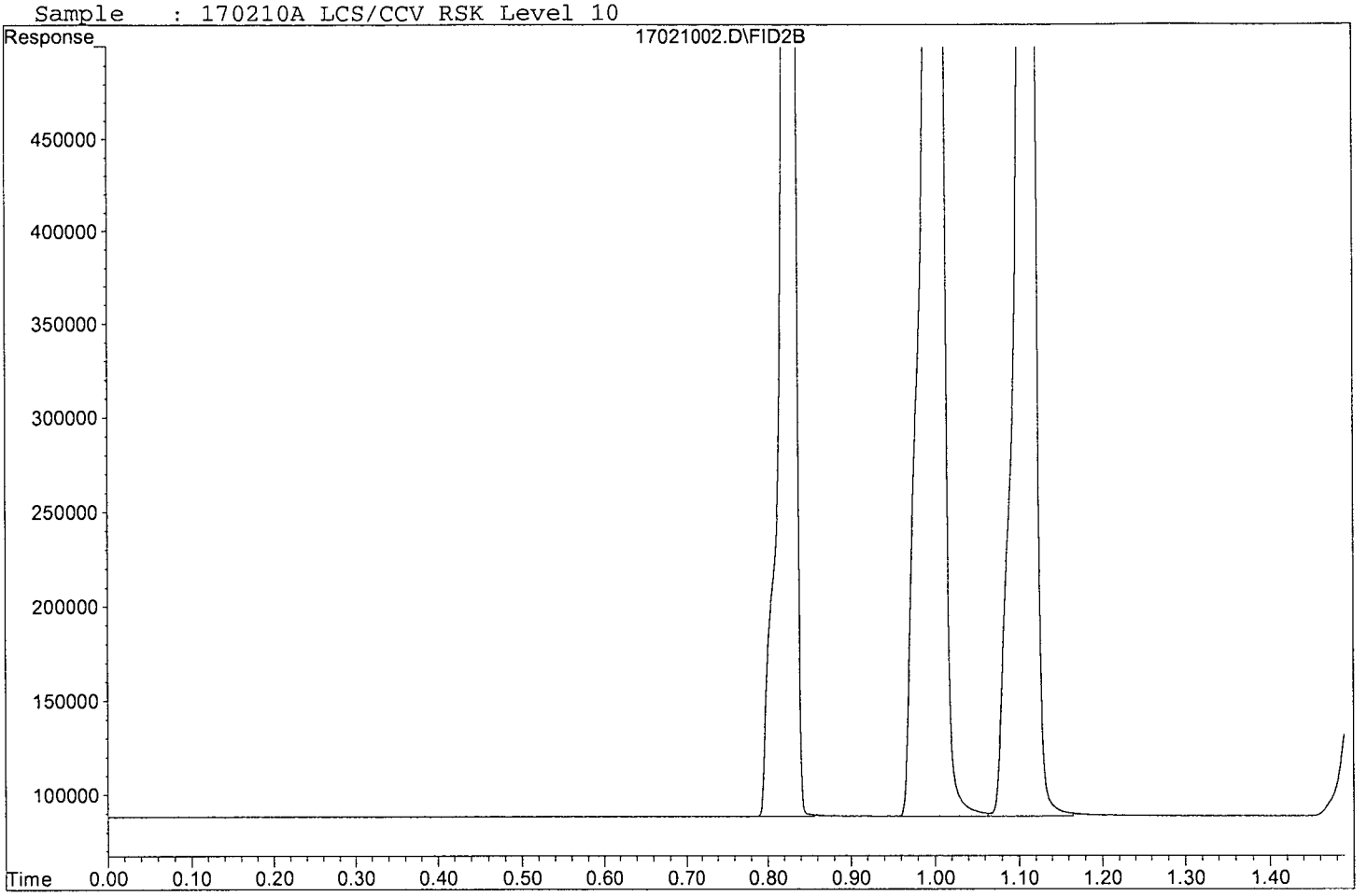
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1170768	1067.611	ppb
2) ATM Ethane	1.00	1767602	2206.468	ppb
3) ATM Ethene	1.11	1268183	2012.222	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021002.D
Sample : 170210A LCS/CCV RSK Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CM 8/15/16

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 8/15/17** CM 8/15/16

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 9/28/16** CM 9/1/16

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CM 8/15/16

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 8/15/17** CM 8/15/16

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 10/1/16** CM 9/1/16

10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water

final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 03/10/17** CMM 02/10/17

2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\160901R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0901000.D	1	RSK Level 1 08/15/16	Methane 0.9, Ethane, 1.7 Etl	1 Sep 16 11:38
2	2	0901001.D	1	RSK Level 2 08/15/16		1 Sep 16 11:41
3	3	0901002.D	1	RSK Level 3 08/15/16	Methane 5.1, Ethane, 9.5 Etl	1 Sep 16 11:44
4	4	0901003.D	1	RSK Level 4 08/15/16		1 Sep 16 11:46
5	5	0901004.D	1	RSK Level 5 08/15/16		1 Sep 16 11:48
6	6	0901005.D	1	RSK Level 6 08/15/16		1 Sep 16 11:50
7	7	0901006.D	1	RSK Level 7 08/15/16		1 Sep 16 11:52
8	8	0901007.D	1	RSK Level 8 08/15/16		1 Sep 16 11:55
9	9	0901008.D	1	RSK Level 9 08/15/16		1 Sep 16 11:57
10	10	0901009.D	1	RSK Level 10 08/15/16		1 Sep 16 11:59
11	19	0901018.D	1	(SS/LCS) RSK Level 6 09/01/16		1 Sep 16 13:11
12	3	17021002.D	1	170210A LCS/CCV RSK Level 10		10 Feb 17 8:43
13	4	17021003.D	1	170210A BLK-RSK		10 Feb 17 8:50
14	5	17021004.D	1	AZ49655W06		10 Feb 17 8:53
15	6	17021005.D	1	AZ49656W06		10 Feb 17 8:56
16	21	17021020.D	1	Ending CCV RSK Level 10 02/10/17		10 Feb 17 10:21

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/07/17	02/07/17	#35FE-170207A-AZ49656

Wetlab SC-Blank-REG MDLs
Printed: 02/13/17 2:39:33 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
SM 2320B	BICARBONATE AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM3500Fe	FERROUS IRON	3.00	2.95	98.3	80-120	02/07/17	02/07/17	#35FE-170207A-AZ49656

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH208
Sample Collection Date: 02/06/17

APPL ID: AZ49656
ARF: 82117

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	02/07/17	02/07/17
EPA 300.0	SULFATE	10.3	1.0	0.20	0.09	mg/L	1	02/07/17	02/07/17
EPA 300.0	CHLORIDE	84.1	2.0	0.40	0.16	mg/L	2	02/07/17	02/07/17
SM 2320B	BICARBONATE AS CACO3	79.3	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	TOTAL ALKALINITY AS CACO3	79.3	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/07/17	02/07/17

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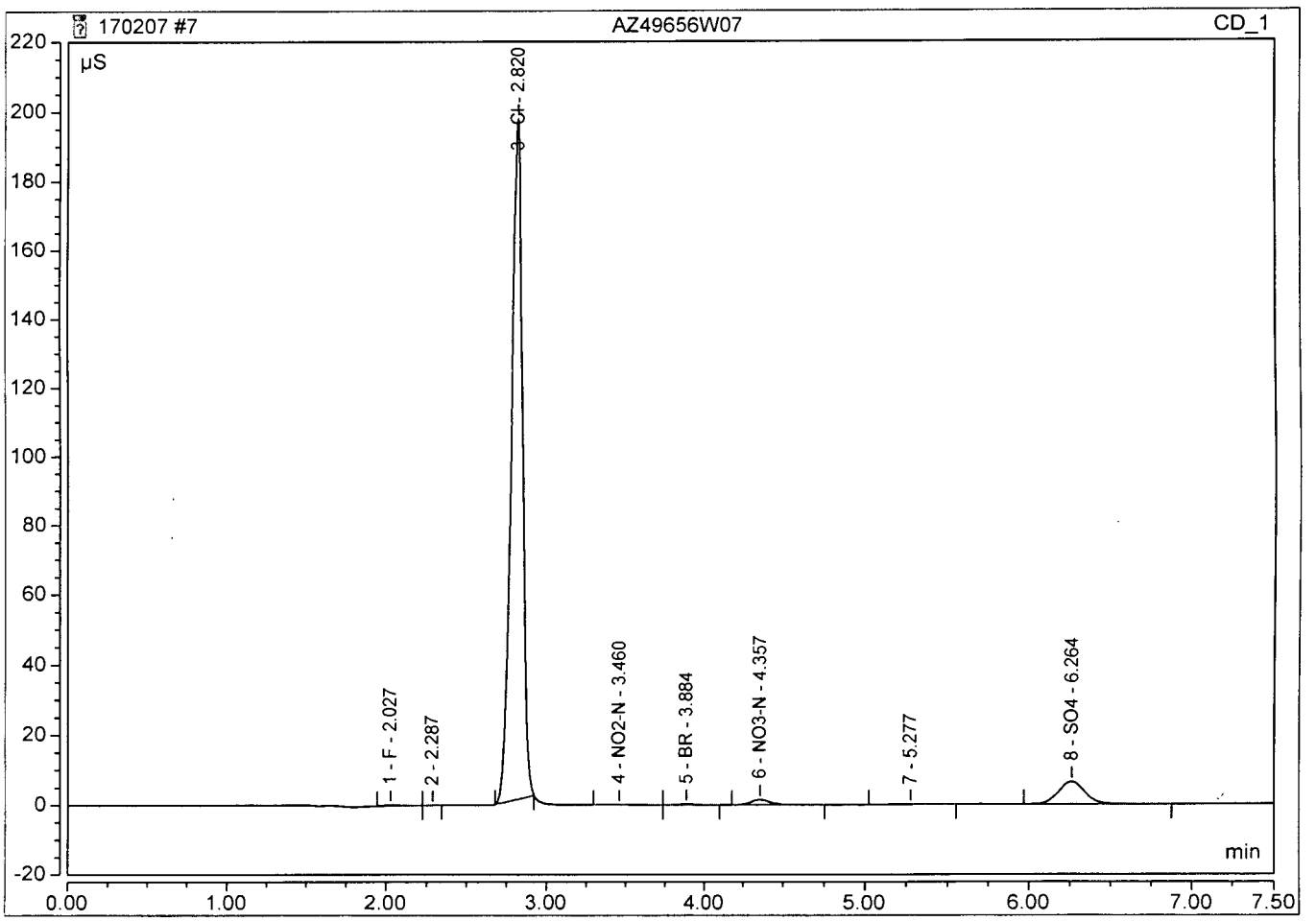
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49656W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 14:19**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.025	0.246	0.1512
3	2.82	Cl	BMB	15.804	196.231	87.5446
4	3.46	NO2-N	BMB	0.003	0.011	0.0310
5	3.88	BR	BMB	0.017	0.149	0.3904
6	4.36	NO3-N	BMB	0.190	1.449	0.5569
8	6.26	SO4	BMB	1.196	6.418	10.2862
TOTAL:				17.23	204.50	98.96

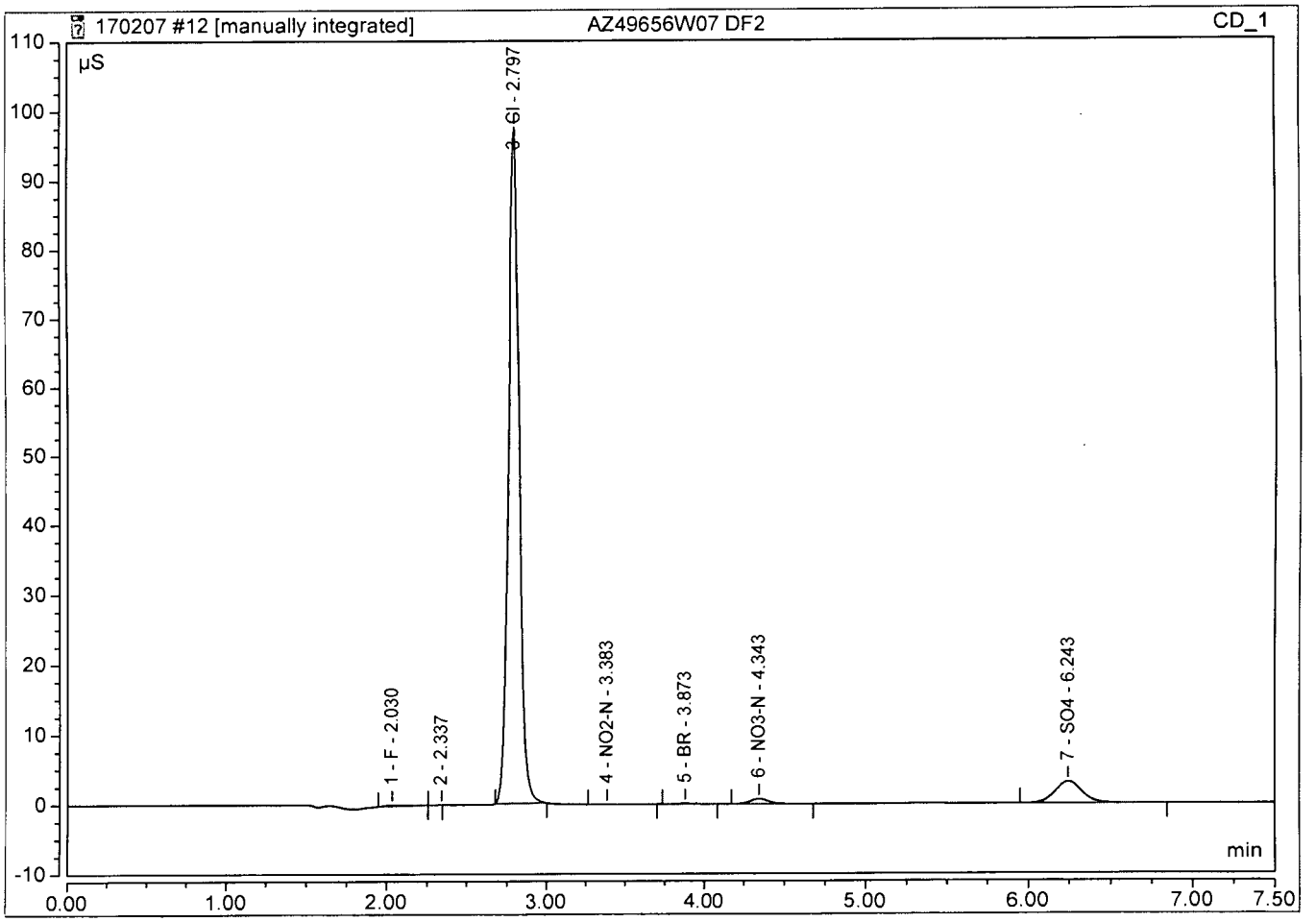


MI mm 2/13/17
PW

Peak Integration Report

Sample Name:	**AZ49656W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 15:28**	*Run Time:*	**7.50**

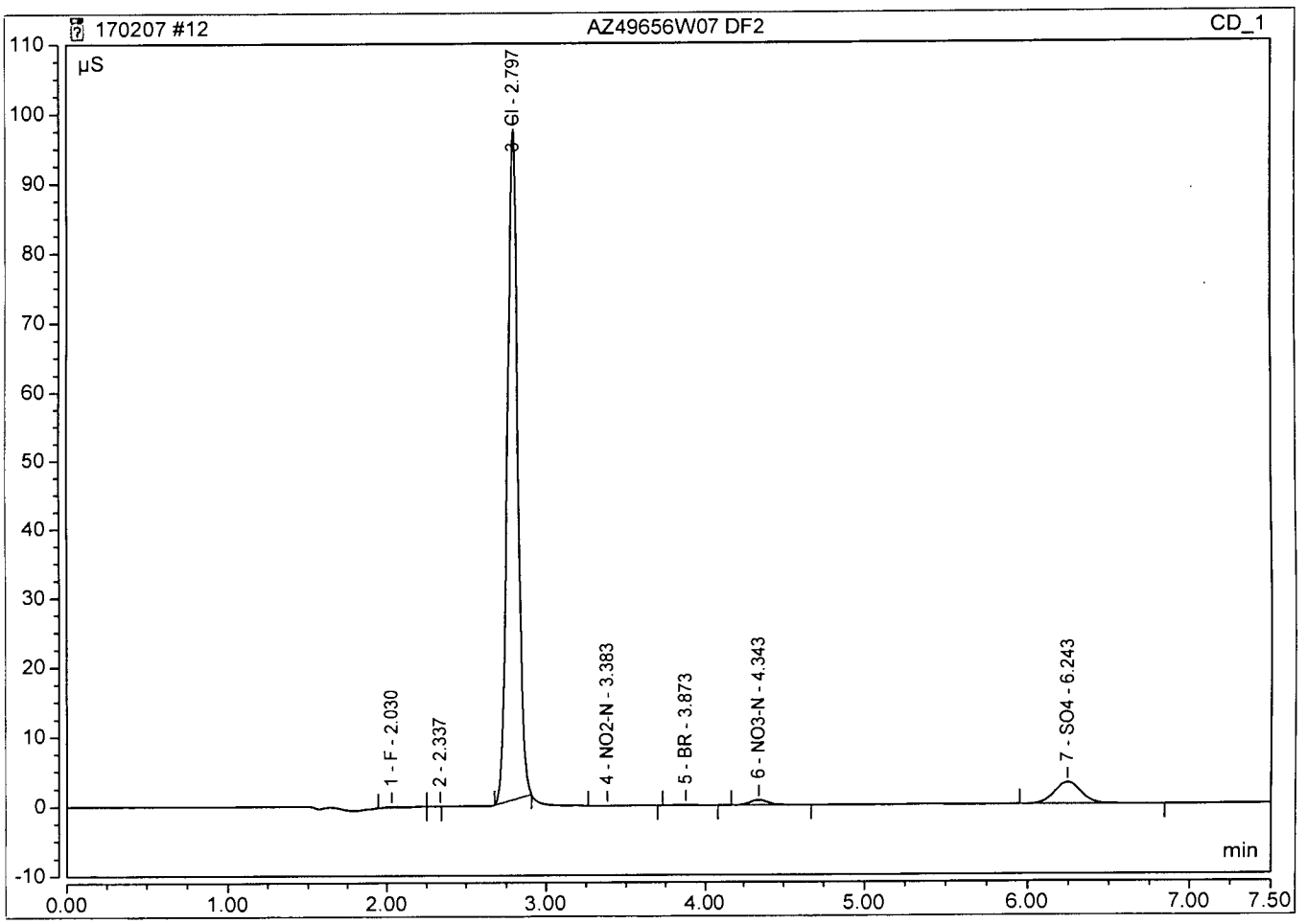
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.021	0.155	0.2625
3	2.80	Cl	BMB*	7.540	97.471	84.0733
4	3.38	NO2-N	BMB	0.001	0.004	0.0510
5	3.87	BR	BMB	0.009	0.077	0.5207
6	4.34	NO3-N	BMB	0.094	0.735	0.6502
7	6.24	SO4	BMB	0.589	3.074	10.6283
TOTAL:				8.25	101.52	96.19



Peak Integration Report

Sample Name:	**AZ49656W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 15:28**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	**F**	BMB	0.021	0.155	0.2625
3	2.80	**Cl**	BMB	7.336	96.727	81.8254
4	3.38	**NO2-N**	BMB	0.001	0.004	0.0510
5	3.87	**BR**	BMB	0.009	0.077	0.5207
6	4.34	**NO3-N**	BMB	0.094	0.735	0.6502
7	6.24	**SO4**	BMB	0.589	3.074	10.6283
		TOTAL:		8.05	100.77	93.94



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82117 SDG: 82117
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 14:32	%R(1)	True CCV1	Found 14:39	%R(1)	
Ferrous Iron	3	3.01396	100	4	4.06294	102	4	4.05295	101	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

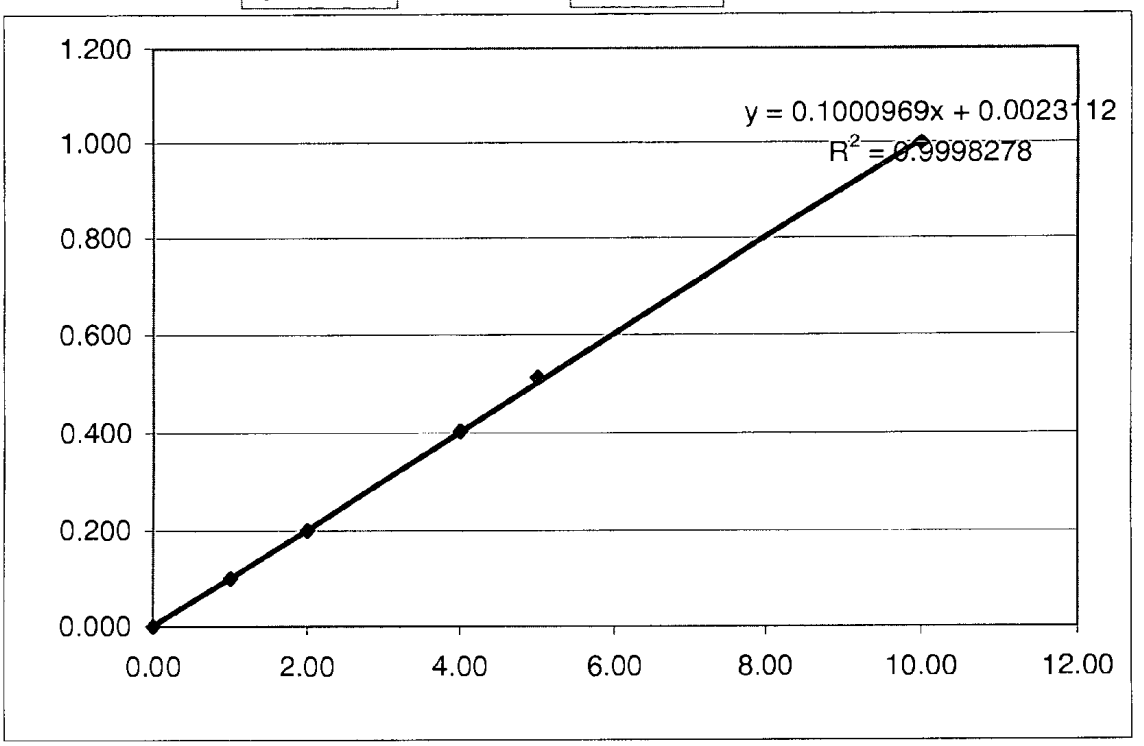
ARF No.: 82117 SDG: 82117

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 02/07/17 14:33	C	CCB 02/07/17 14:40	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

Ferrous Iron **170207A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.298	02/07/17	14:34
dilution=	1		
result (x)=	2.95 ✓		

mm 2/14/17

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 10/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:37	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.8422	94.7							
chloride	20	18.2183	91.1							
fluoride	2.5	2.55939	102							
Nitrate(NO3)	22.1	20.0573	90.8							
Nitrate(NO3)-N	5	4.52905	90.6							
Nitrite(NO2)	9.98	9.81221	98.3							
Nitrite(NO2)-N	3.04	2.98733	98.3							
phosphate	15.3225	14.7130	96.0							
phosphate-p	5	4.80111	96.0							
sulfate	20	18.4058	92.0							

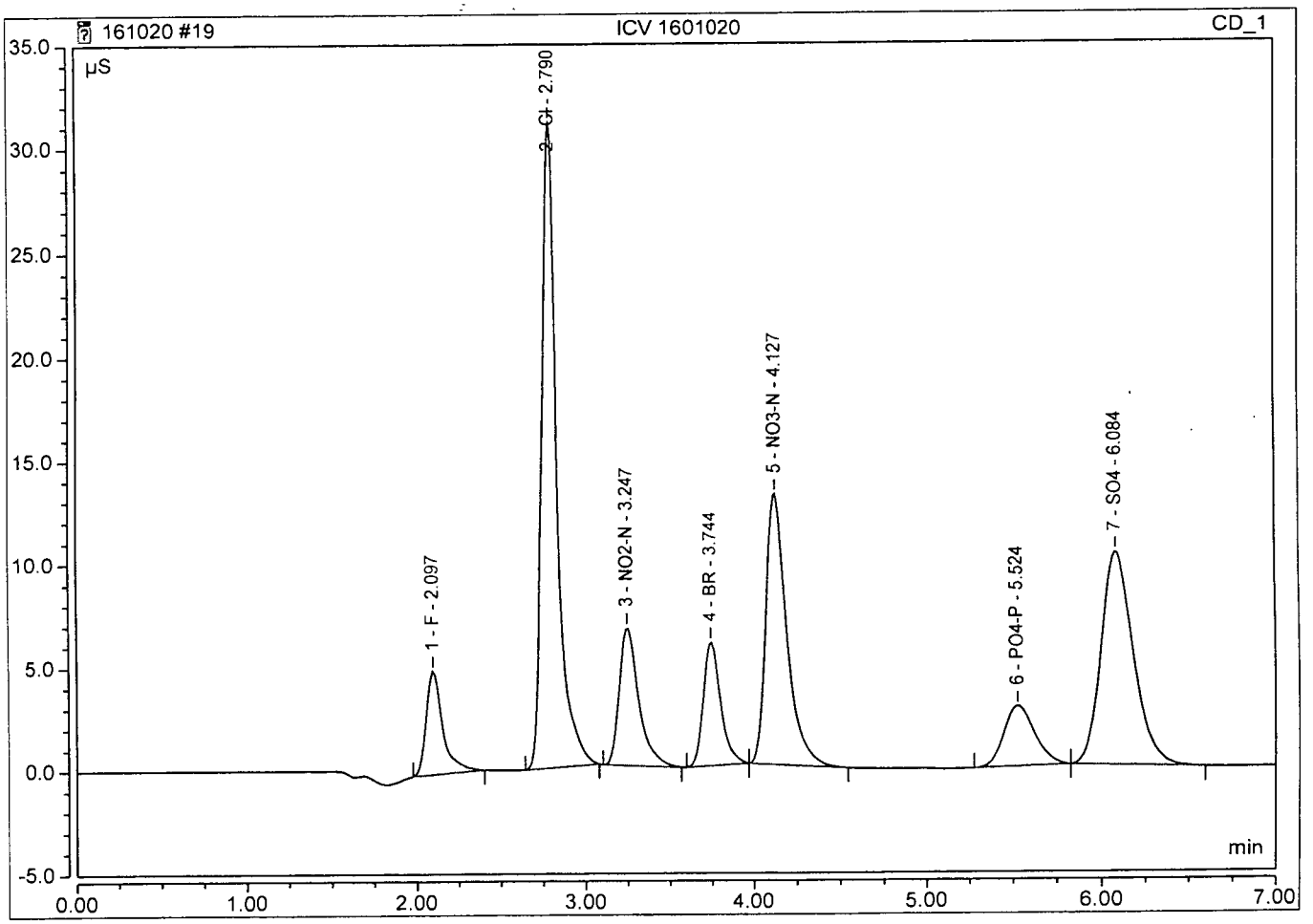
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 1601020**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:37**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.568	5.018	2.5594
2	2.79	Cl	BMB	3.214	31.139	18.2184
3	3.25	NO2-N	BMB	0.894	6.653	2.9873
4	3.74	BR	BMB	0.739	5.970	11.8423
5	4.13	NO3-N	BMB	1.827	13.075	4.5291
6	5.52	PO4-P	BMB	0.590	2.913	4.8011
7	6.08	SO4	BMB	2.187	10.255	18.4058
		TOTAL:		10.02	75.02	63.34



Algorithm Check (Charlie)

SEQUENCE: 161020 **CALIBRATION: 161020**

RUN #: 19 **AMPLE ID:** 161020 ICV

ANALYTE	SLOPE	INTERCEP	AREA	RESULT (r	SPIKE (mg/L)	% R	Pass?
Flouride	0.225	-0.009	0.568	2.56	2.50	102.4%	Pass
Chloride	0.182	-0.094	3.214	18.22	20.00	91.1%	Pass
NO2-N	0.301	-0.007	0.894	2.99	3.04	98.3%	Pass
Bromide	0.063	-0.008	0.739	11.84	12.50	94.7%	Pass
NO3-N	0.412	-0.039	1.827	4.53	5.00	90.6%	Pass
PO4-P	0.125	-0.008	0.59	4.80	5.00	96.0%	Pass
Sulfate	0.122	-0.060	2.187	18.40	20.00	92.0%	Pass

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

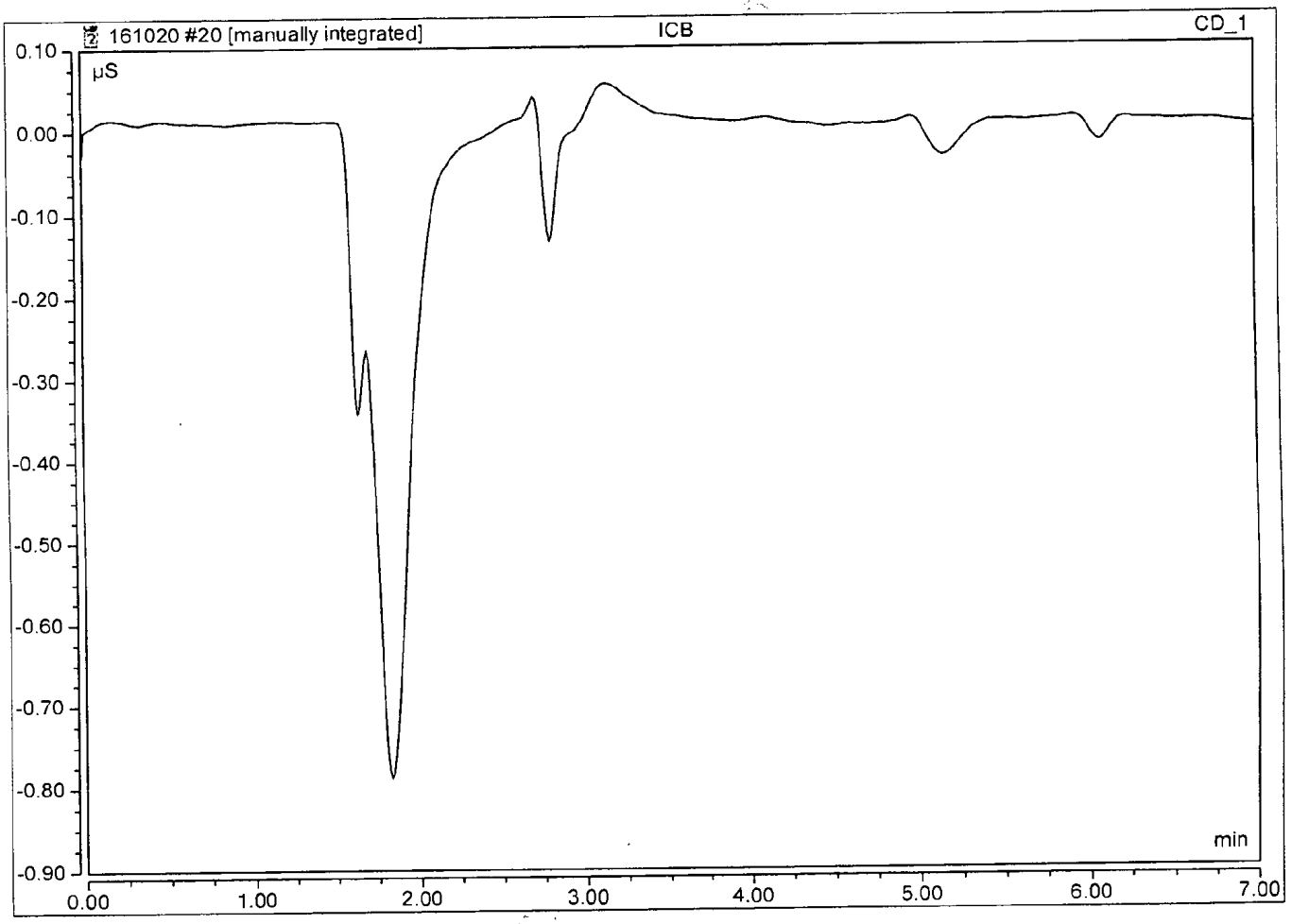
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 10/20/16 12:50	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 161020 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	20-Oct-2016 / 12:50	*Run Time:*	7.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82117 SDG: 82117
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/07/17

Analyte	Calibration Verification									M
	True CCV1	Found 13:25	%R(1)	True CCV1	Found 14:46	%R(1)	True CCV1	Found 16:46	%R(1)	
chloride	25	25.0148	100	25	25.0335	100	25	25.0258	100	
Nitrate(NO3)	22.1	22.2926	101	22.1	22.3170	101	22.1	22.3245	101	
sulfate	25	24.3226	97.3	25	24.3457	97.4	25	24.346	97.4	

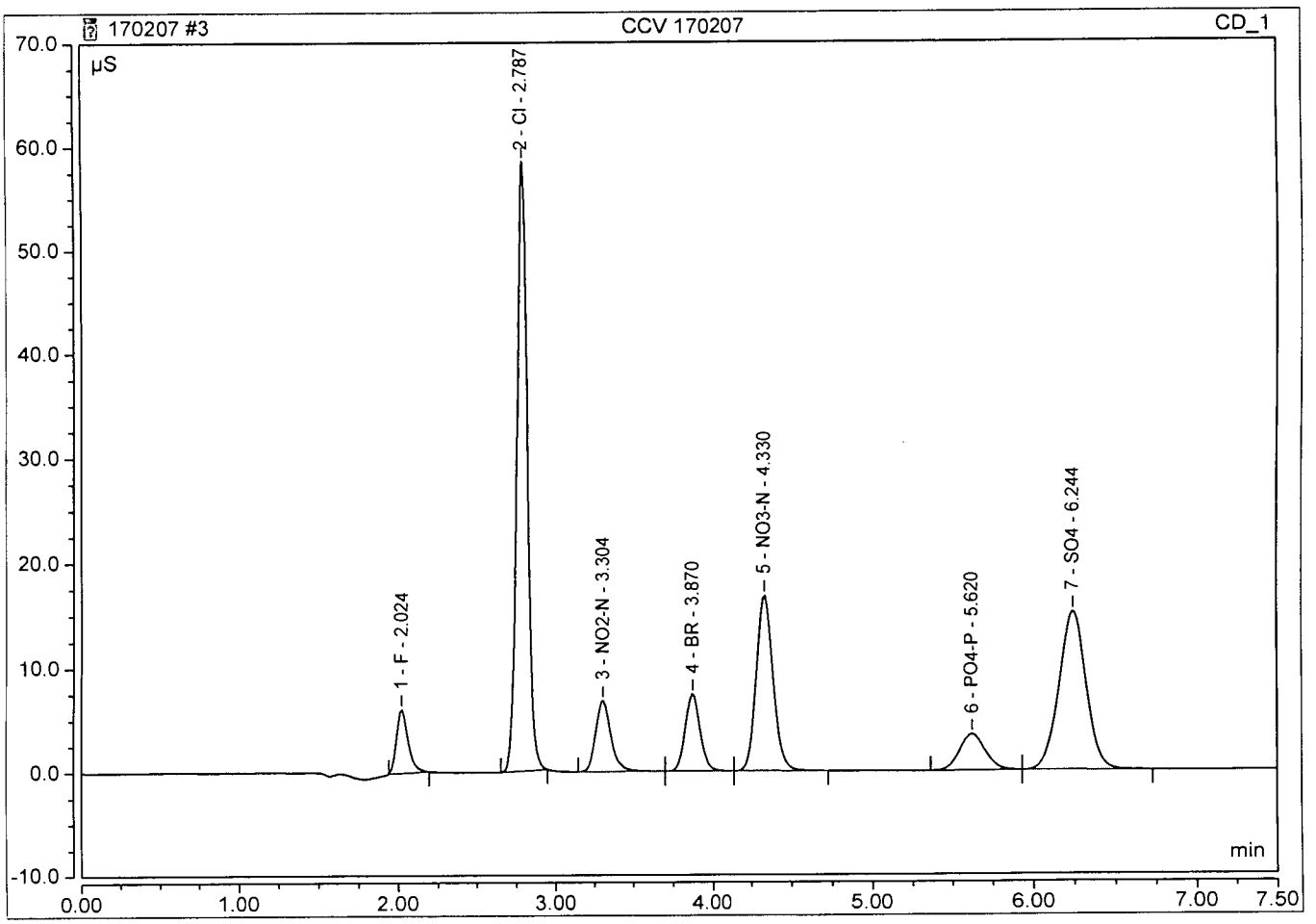
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170207**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 13:25**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.515	6.153	2.3259
2	2.79	Cl	BMB	4.448	58.395	25.0148
3	3.30	NO2-N	BMB	0.777	6.835	2.5983
4	3.87	BR	BMB	0.800	7.427	12.8087
5	4.33	NO3-N	BMB	2.035	16.744	5.0338
6	5.62	PO4-P	BMB	0.648	3.485	5.2665
7	6.24	SO4	BMB	2.910	15.082	24.3226
		TOTAL:		12.13	114.12	77.37



Algorithm Check

y = .1221x - .06

x = 24.32 ✓

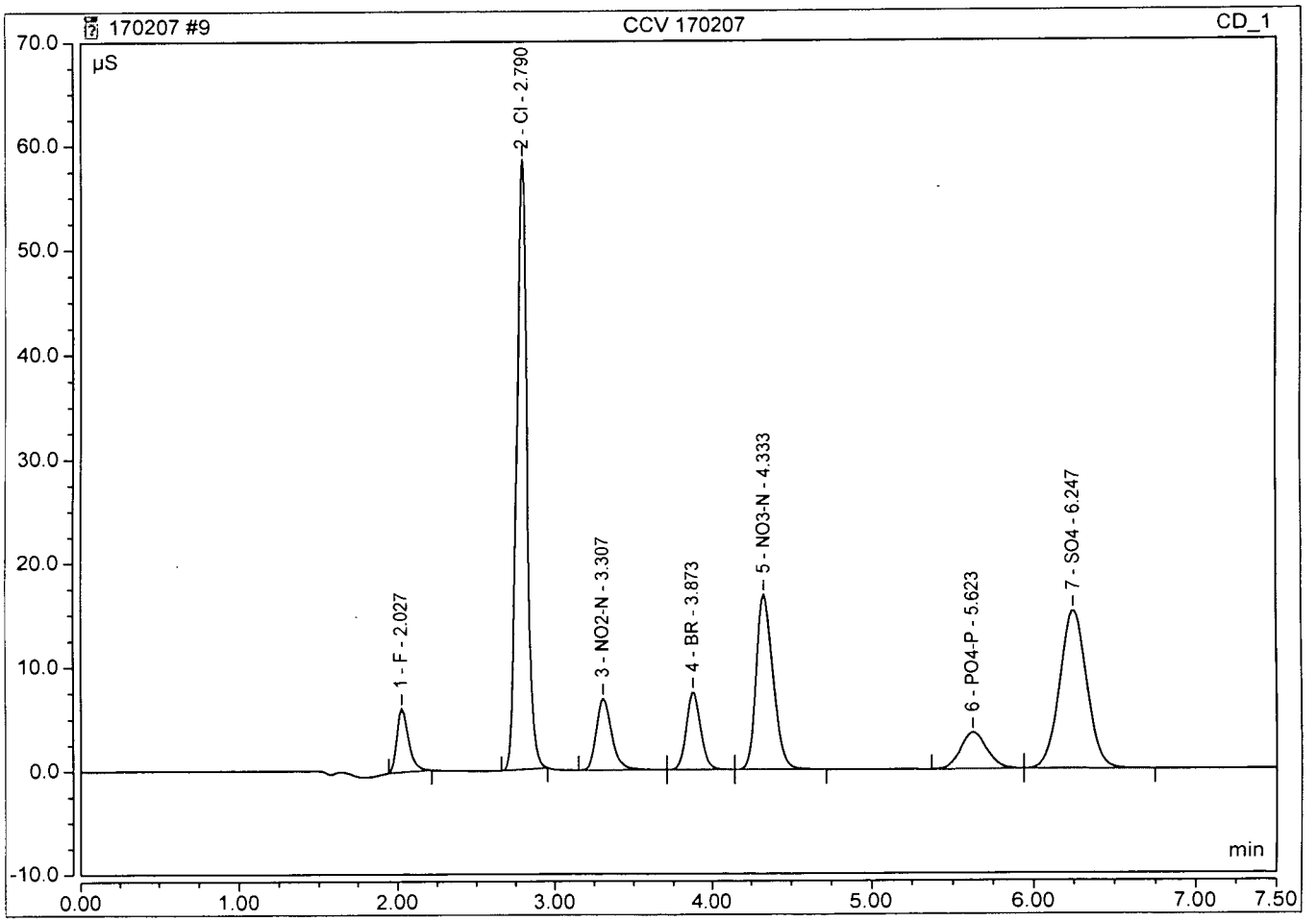
y = Peak Area
x = Amnt

MM 2/14/17

Peak Integration Report

Sample Name:	**CCV 170207**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 14:46**	*Run Time:*	**7.50**

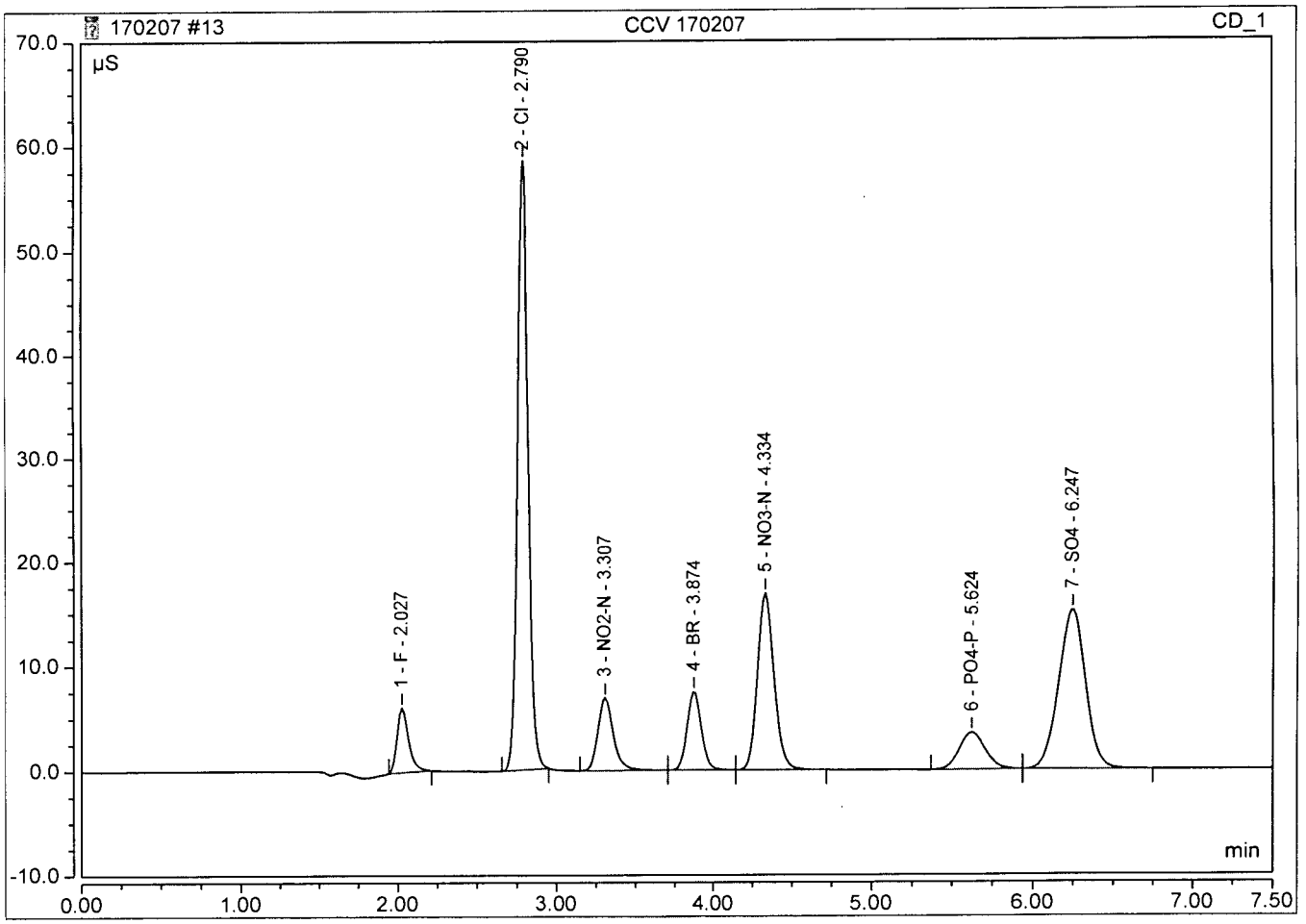
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.521	6.119	2.3497
2	2.79	Cl	BMB	4.452	58.469	25.0335
3	3.31	NO2-N	BMB	0.782	6.873	2.6144
4	3.87	BR	BMB	0.800	7.437	12.8105
5	4.33	NO3-N	BMB	2.037	16.778	5.0393
6	5.62	PO4-P	BMB	0.650	3.498	5.2800
7	6.25	SO4	BMB	2.913	15.094	24.3457
TOTAL:				12.15	114.27	77.47



Peak Integration Report

Sample Name:	**CCV 170207**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 16:46**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.522	6.153	2.3575
2	2.79	Cl	BMB	4.450	58.490	25.0258
3	3.31	NO2-N	BMB	0.782	6.877	2.6169
4	3.87	BR	BMB	0.801	7.437	12.8154
5	4.33	NO3-N	BMB	2.038	16.774	5.0410
6	5.62	PO4-P	BMB	0.650	3.502	5.2837
7	6.25	SO4	BMB	2.913	15.095	24.3460
		TOTAL:		12.16	114.33	77.49



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82117 SDG: 82117

Preparation Blank Matrix (soil/water): water

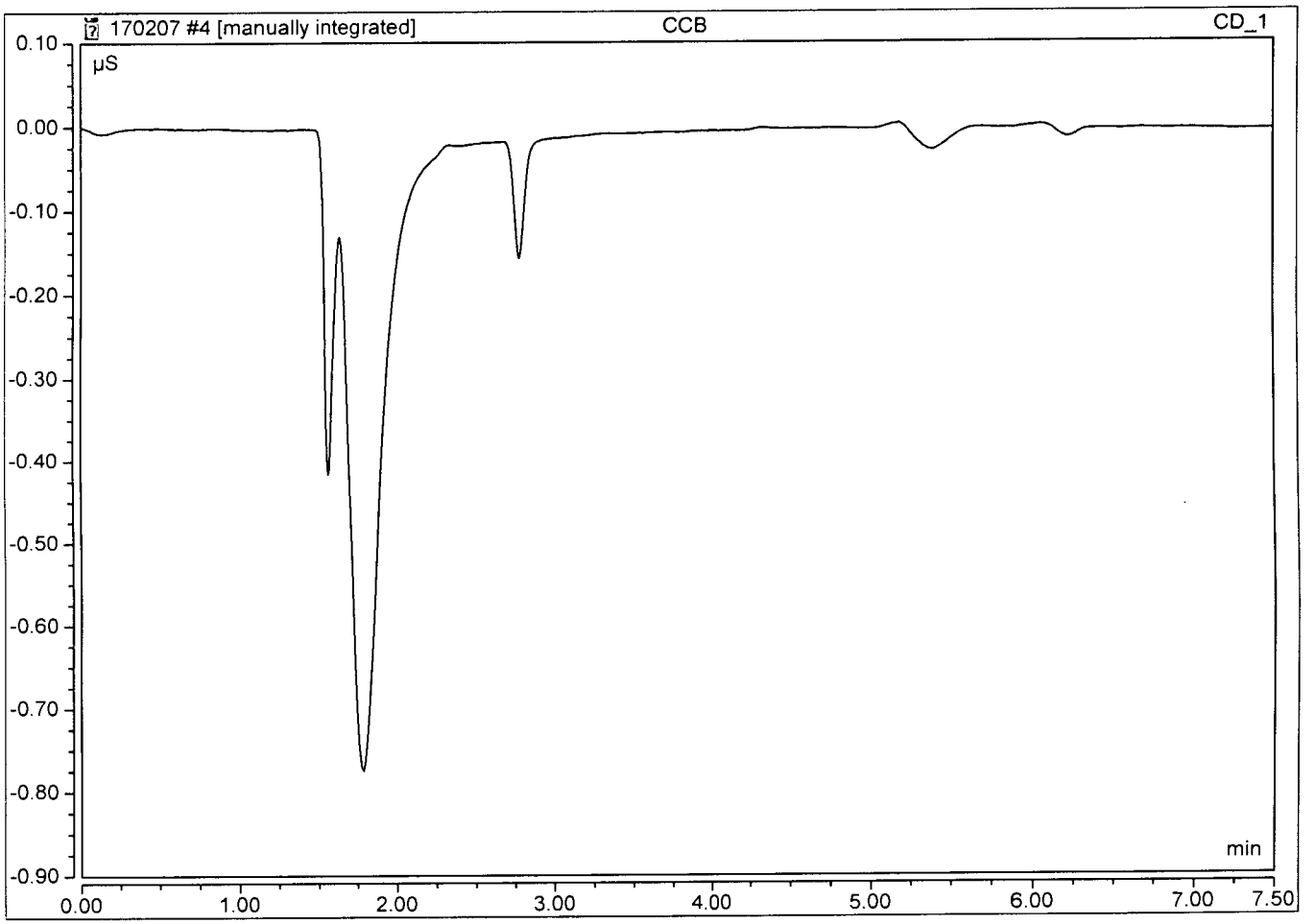
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/07/17 13:39	C	CCB 02/07/17 15:00	C	CCB 02/07/17 16:59	C		C		C	
chloride	1.000	U	1.000	U	1.000	U					
Nitrate(NO3)	.500	U	.500	U	.500	U					
sulfate	1.000	U	1.000	U	1.000	U					

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 13:39**	*Run Time:*	**7.50**

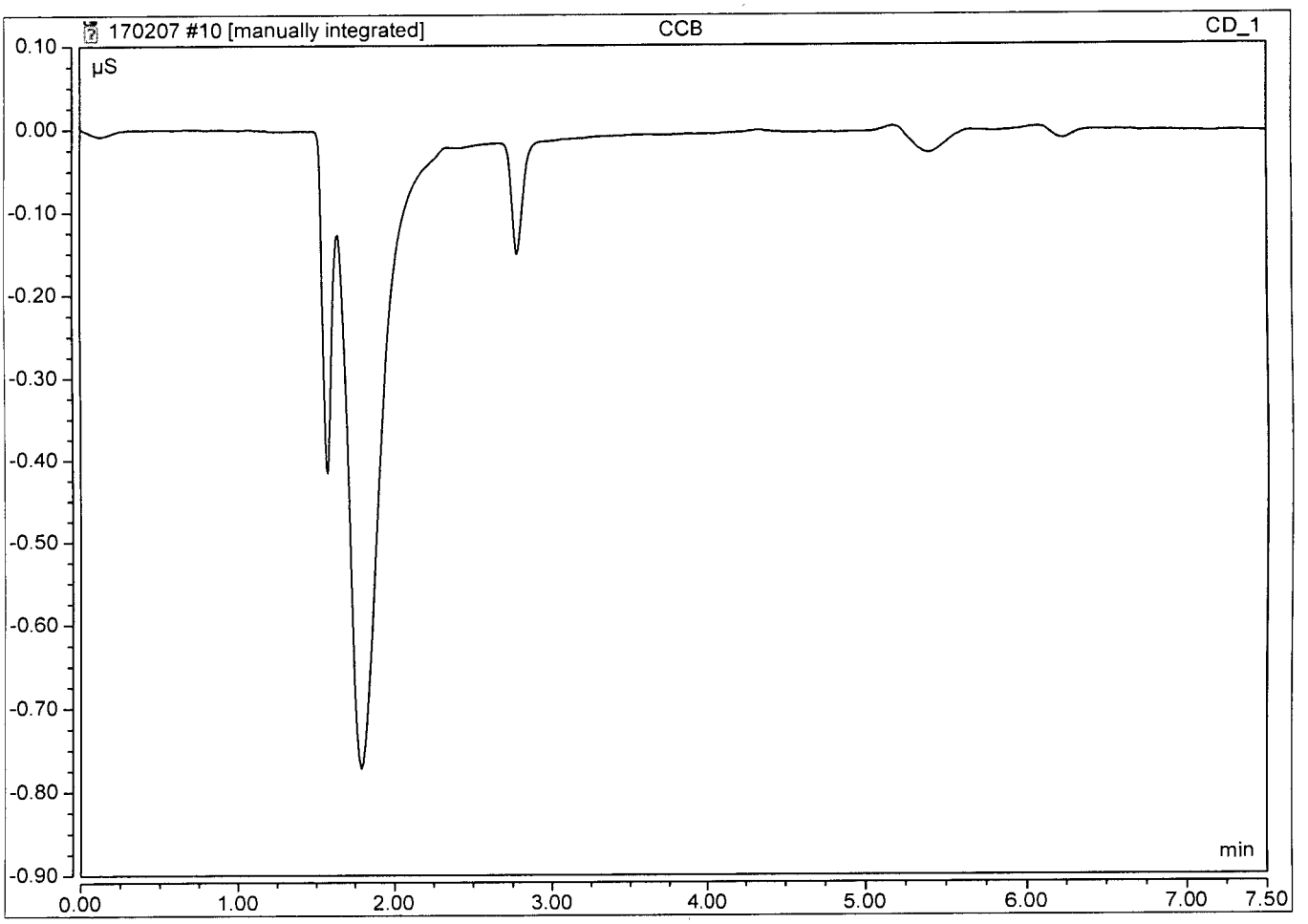
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 15:00**	*Run Time:*	**7.50**

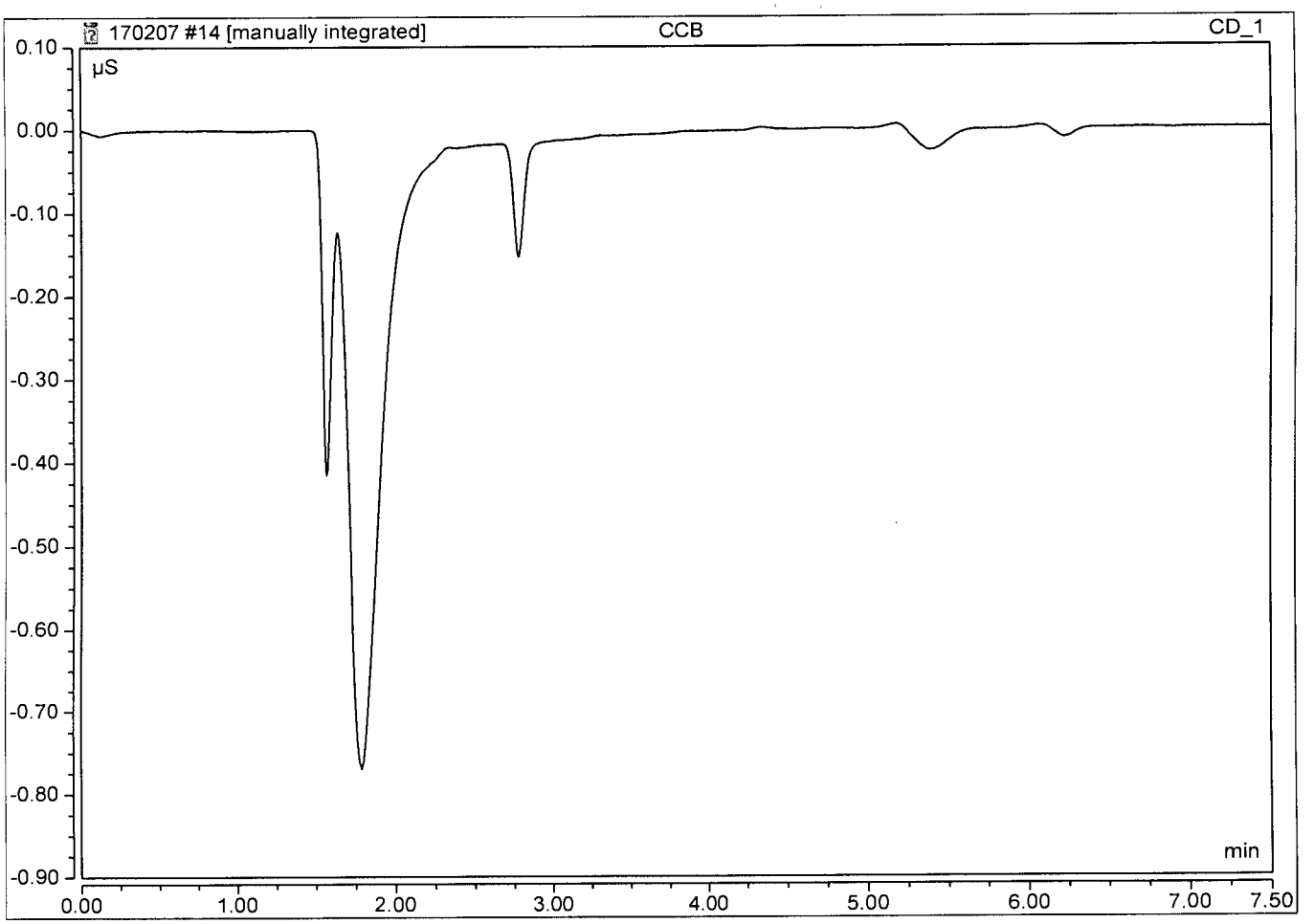
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Feb-2017 / 16:59**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



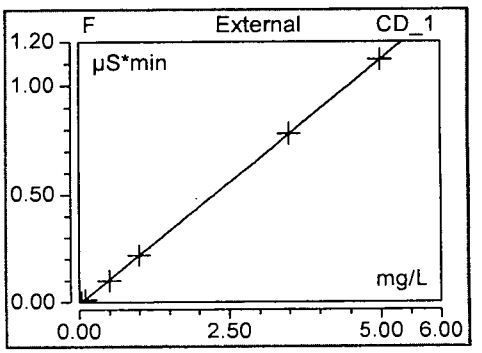
Calibration Batch Report

Sequence:	**161020**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7**

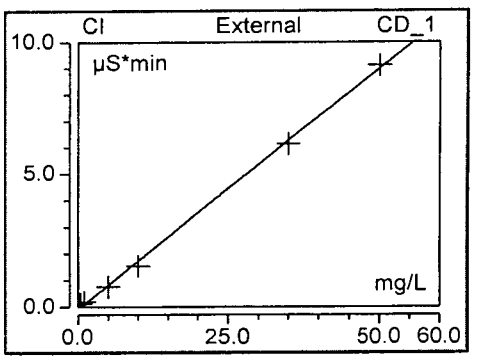
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.225	0.000	99.9840
Cl	Area	in, WithOffse	6.000	-0.094	0.182	0.000	99.8613
NO2-N	Area	in, WithOffse	6.000	-0.007	0.301	0.000	99.9917
BR	Area	in, WithOffse	6.000	-0.008	0.063	0.000	99.9802
NO3-N	Area	in, WithOffse	6.000	-0.039	0.412	0.000	99.9329
PO4-P	Area	in, WithOffse	6.000	-0.008	0.125	0.000	99.9563
SO4	Area	in, WithOffse	6.000	-0.060	0.122	0.000	99.9400
		AVERAGE:		-0.0322	0.2043	0.0000	99.9495

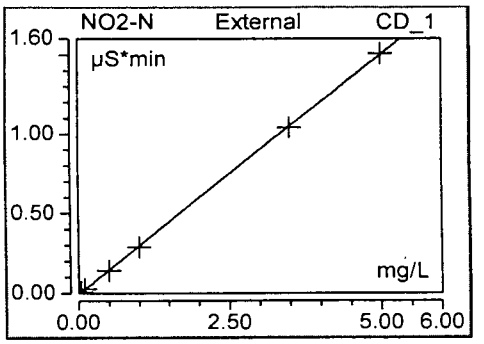
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 10/20/16	2.123	0.0012	0.022	0.044
ICAL 2 10/20/16	2.107	0.0123	0.139	0.093
ICAL 3 10/20/16	2.100	0.1000	0.922	0.483
ICAL 4 10/20/16	2.104	0.2174	1.958	1.004
ICAL 5 10/20/16	2.097	0.7826	6.953	3.513
ICAL 6 10/20/16	2.103	1.1183	9.996	5.004
Average	2.106			
Rel. Std. Dev.	0.443 %			



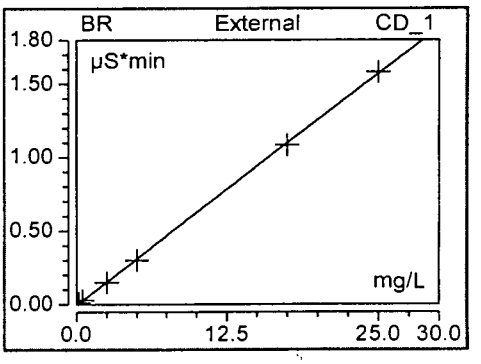
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 10/20/16	2.793	0.1132	1.052	1.143
ICAL 2 10/20/16	2.790	0.1861	1.743	1.544
ICAL 3 10/20/16	2.790	0.7617	7.117	4.714
ICAL 4 10/20/16	2.797	1.5419	14.708	9.010
ICAL 5 10/20/16	2.793	6.1288	59.398	34.268
ICAL 6 10/20/16	2.803	9.1171	87.978	50.723
Average	2.795			
Rel. Std. Dev.	0.179 %			



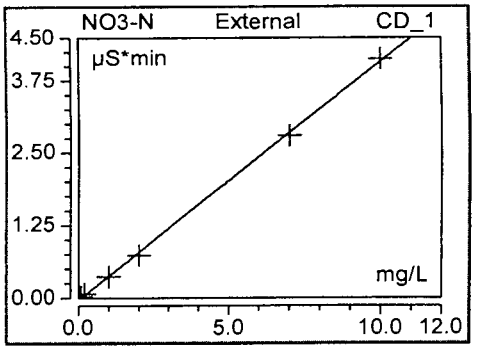
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 10/20/16	3.250	0.0095	0.073	0.053
ICAL 2 10/20/16	3.247	0.0276	0.209	0.113
ICAL 3 10/20/16	3.250	0.1420	1.072	0.493
ICAL 4 10/20/16	3.254	0.2907	2.188	0.986
ICAL 5 10/20/16	3.250	1.0405	7.775	3.473
ICAL 6 10/20/16	3.257	1.5072	11.205	5.022
Average	3.251			
Rel. Std. Dev.	0.106 %			



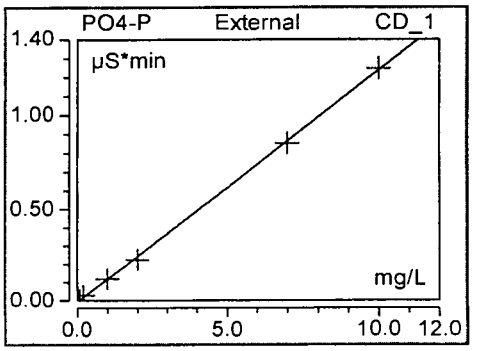
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 10/20/16	3.757	0.0109	0.087	0.299
ICAL 2 10/20/16	3.753	0.0293	0.232	0.589
ICAL 3 10/20/16	3.750	0.1485	1.179	2.478
ICAL 4 10/20/16	3.754	0.2993	2.389	4.870
ICAL 5 10/20/16	3.743	1.0832	8.801	17.295
ICAL 6 10/20/16	3.747	1.5800	13.023	25.169
Average	3.751			
Rel. Std. Dev.	0.131 %			



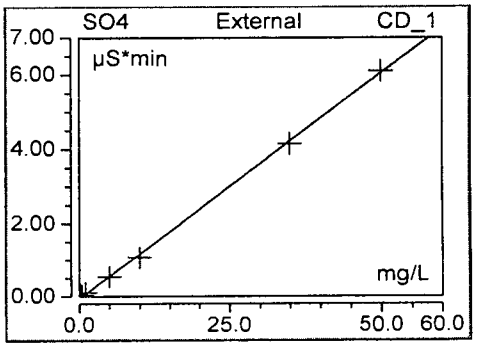
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 10/20/16	4.143	0.0290	0.196	0.166
ICAL 2 10/20/16	4.140	0.0717	0.496	0.270
ICAL 3 10/20/16	4.137	0.3656	2.533	0.983
ICAL 4 10/20/16	4.140	0.7330	5.168	1.875
ICAL 5 10/20/16	4.123	2.7923	20.144	6.873
ICAL 6 10/20/16	4.123	4.1278	30.098	10.114
Average	4.135			
Rel. Std. Dev.	0.215 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 10/20/16	5.540	0.0032	0.021	0.092
ICAL 2 10/20/16	5.540	0.0284	0.107	0.295
ICAL 3 10/20/16	5.537	0.1191	0.557	1.022
ICAL 4 10/20/16	5.537	0.2251	1.103	1.873
ICAL 5 10/20/16	5.520	0.8544	4.243	6.922
ICAL 6 10/20/16	5.523	1.2473	6.244	10.075
Average	5.533			
Rel. Std. Dev.	0.160 %			



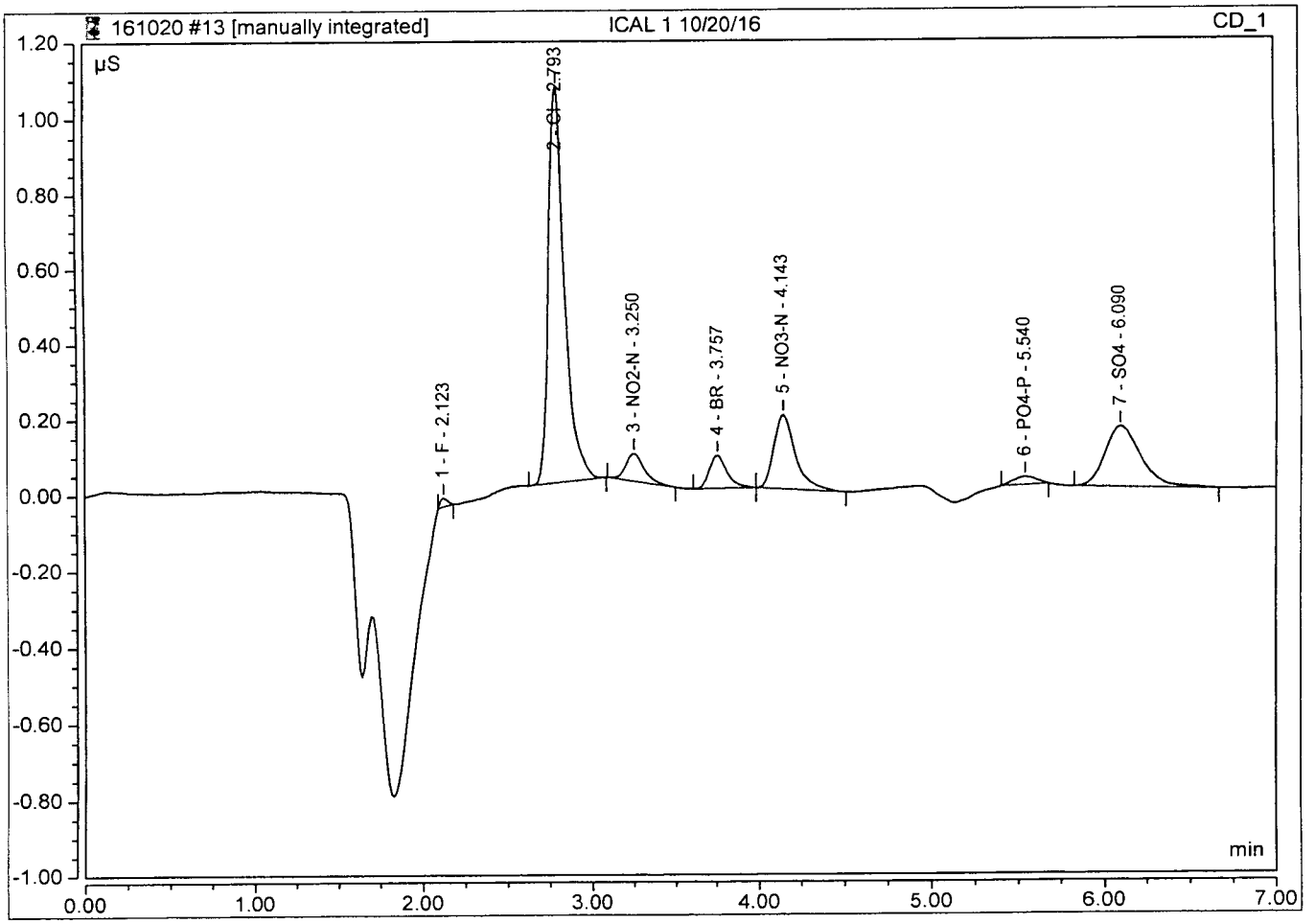
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 10/20/16	6.090	0.0385	0.159	0.808
ICAL 2 10/20/16	6.093	0.1046	0.455	1.350
ICAL 3 10/20/16	6.097	0.5456	2.464	4.961
ICAL 4 10/20/16	6.100	1.0756	4.975	9.302
ICAL 5 10/20/16	6.097	4.1512	19.714	34.487
ICAL 6 10/20/16	6.110	6.1057	29.270	50.492
Average	6.098			
Rel. Std. Dev.	0.113 %			



Peak Integration Report

Sample Name:	**ICAL 1 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:19**	*Run Time:*	**7.00**

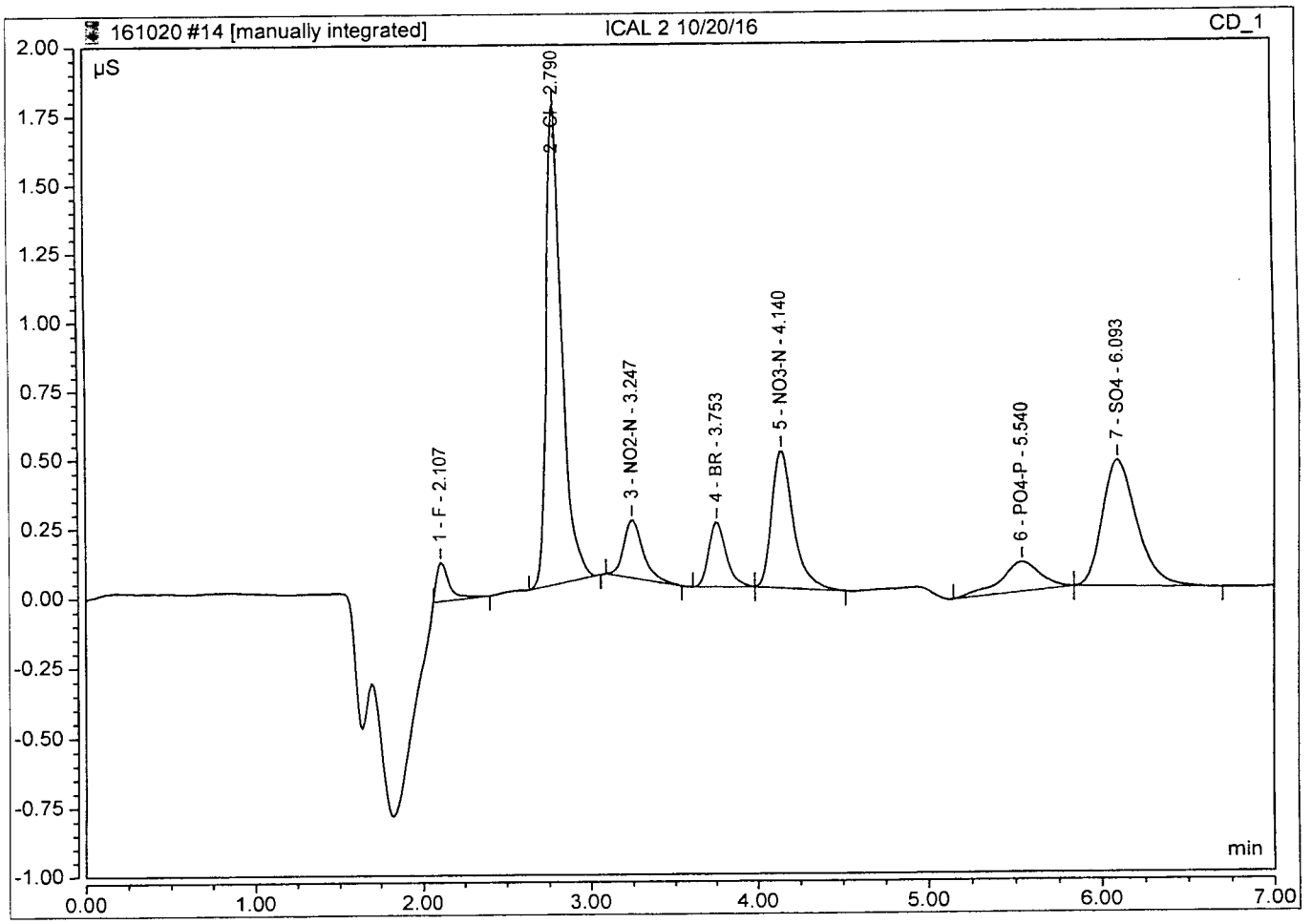
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB*	0.001	0.022	0.0438
2	2.79	Cl	BMB	0.113	1.052	1.1427
3	3.25	NO2-N	BMB	0.009	0.073	0.0531
4	3.76	BR	BMB	0.011	0.087	0.2985
5	4.14	NO3-N	BMB	0.029	0.196	0.1660
6	5.54	PO4-P	BMB*	0.003	0.021	0.0923
7	6.09	SO4	BMB	0.038	0.159	0.8084
		TOTAL:		0.21	1.61	2.60



Peak Integration Report

Sample Name:	**ICAL 2 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:32**	*Run Time:*	**7.00**

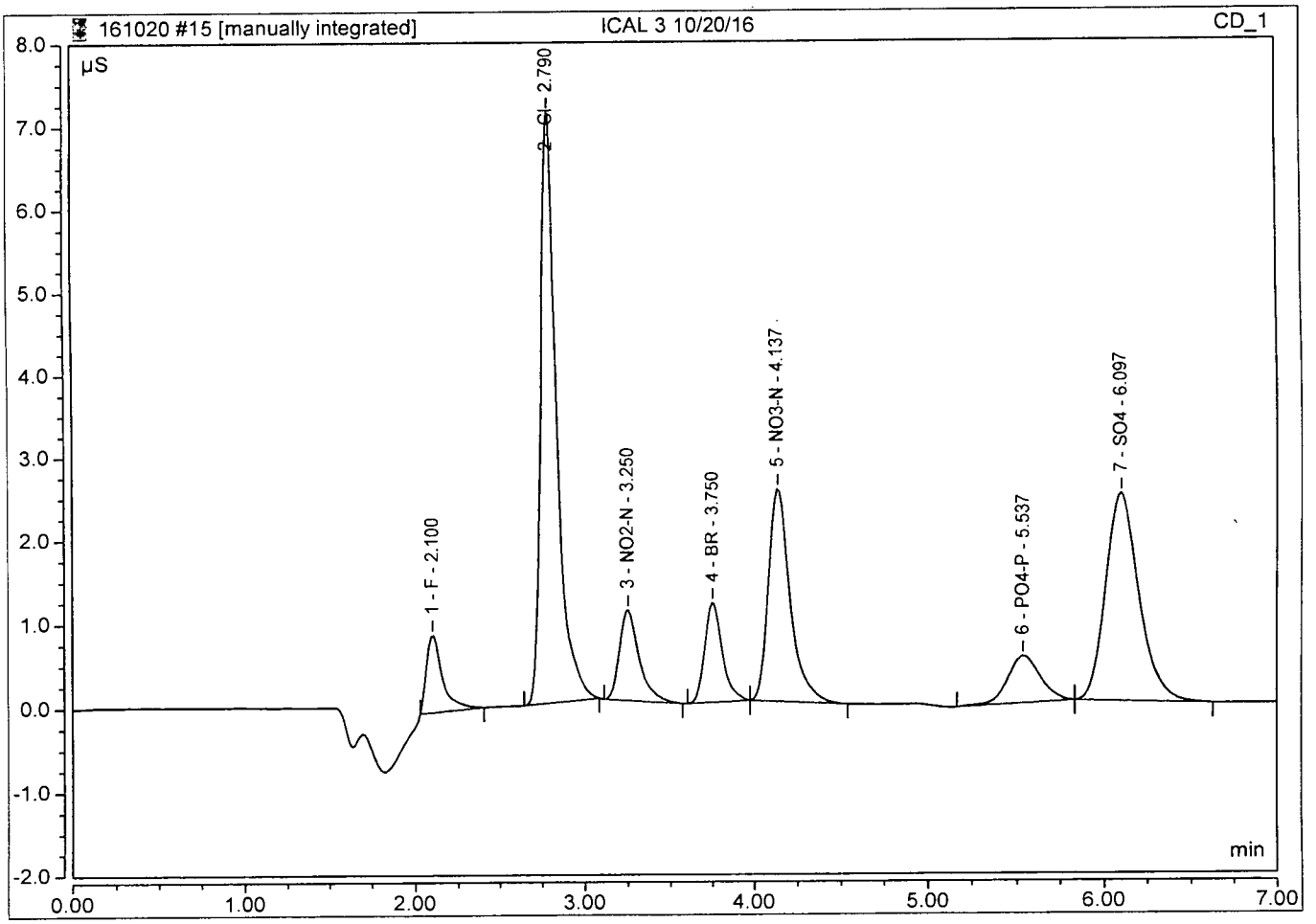
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB*	0.012	0.139	0.0933
2	2.79	Cl	BMB	0.186	1.743	1.5439
3	3.25	NO2-N	BMB	0.028	0.209	0.1132
4	3.75	BR	BMB	0.029	0.232	0.5894
5	4.14	NO3-N	BMB	0.072	0.496	0.2699
6	5.54	PO4-P	BMB	0.028	0.107	0.2946
7	6.09	SO4	BMB	0.105	0.455	1.3496
TOTAL:				0.46	3.38	4.25



Peak Integration Report

Sample Name:	**ICAL 3 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:45**	*Run Time:*	**7.00**

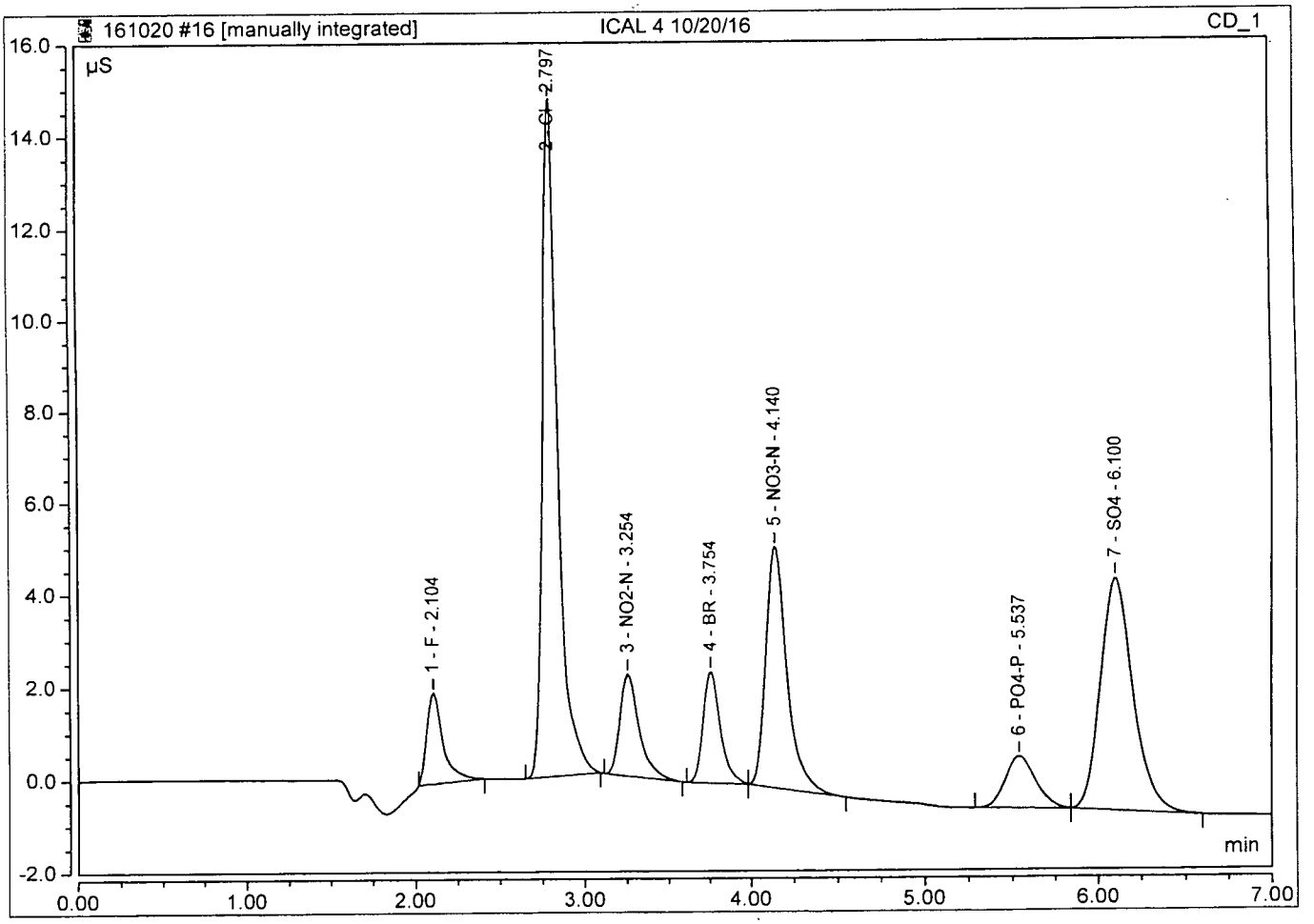
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.100	0.922	0.4827
2	2.79	Cl	BMB	0.762	7.117	4.7137
3	3.25	NO2-N	BMB	0.142	1.072	0.4926
4	3.75	BR	BMB	0.148	1.179	2.4784
5	4.14	NO3-N	BMB	0.366	2.533	0.9830
6	5.54	PO4-P	BMB	0.119	0.557	1.0221
7	6.10	SO4	BMB	0.546	2.464	4.9609
		TOTAL:		2.18	15.84	15.13



Peak Integration Report

Sample Name:	**ICAL 4 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:58**	*Run Time:*	**7.00**

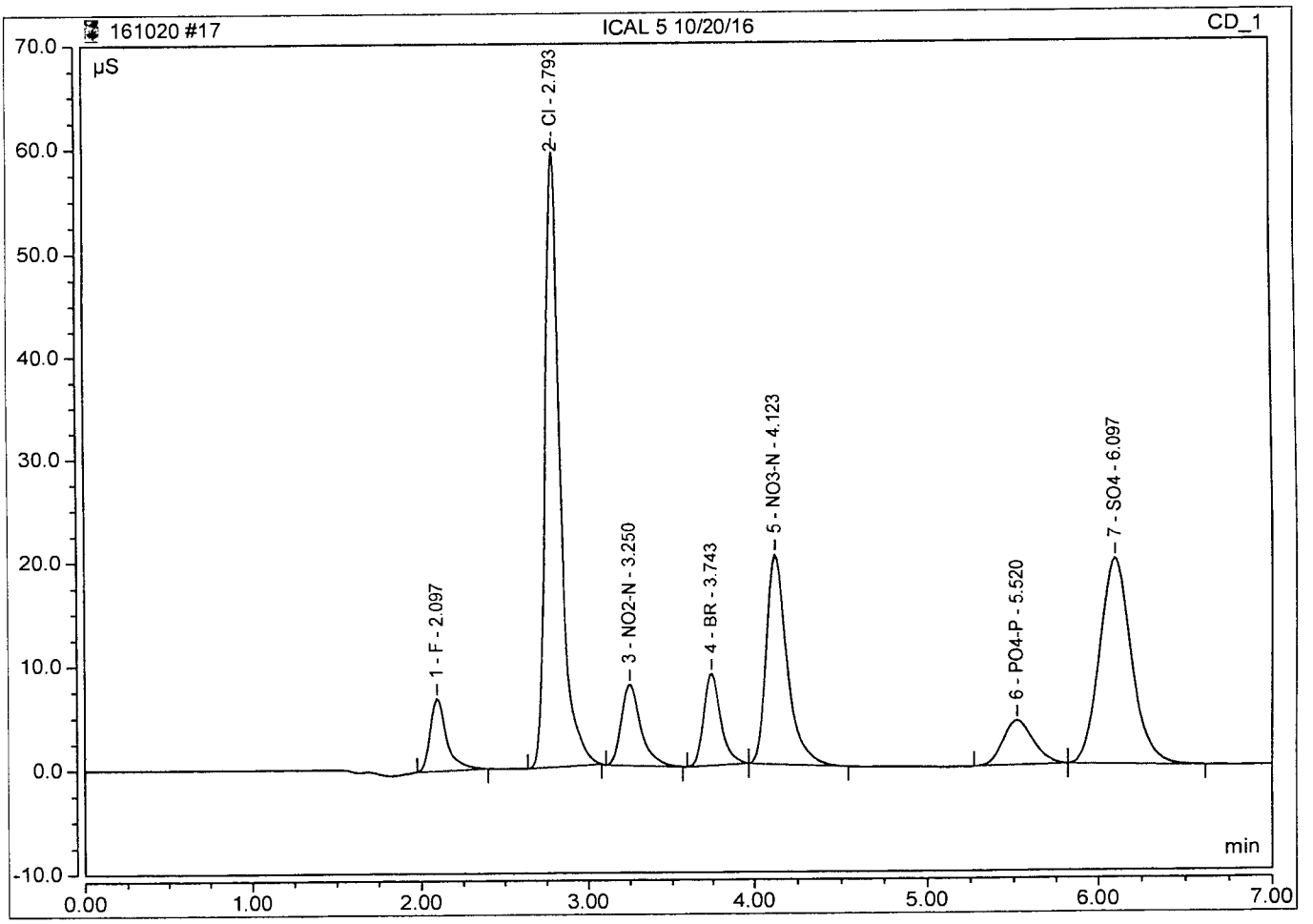
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.217	1.958	1.0036
2	2.80	Cl	BMB	1.542	14.708	9.0096
3	3.25	NO2-N	BMB	0.291	2.188	0.9859
4	3.75	BR	BMB	0.299	2.389	4.8695
5	4.14	NO3-N	BMB	0.733	5.168	1.8746
6	5.54	PO4-P	BMB	0.225	1.103	1.8731
7	6.10	SO4	BMB	1.076	4.975	9.3015
		TOTAL:		4.38	32.49	28.92



Peak Integration Report

Sample Name:	**ICAL 5 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:11**	*Run Time:*	**7.00**

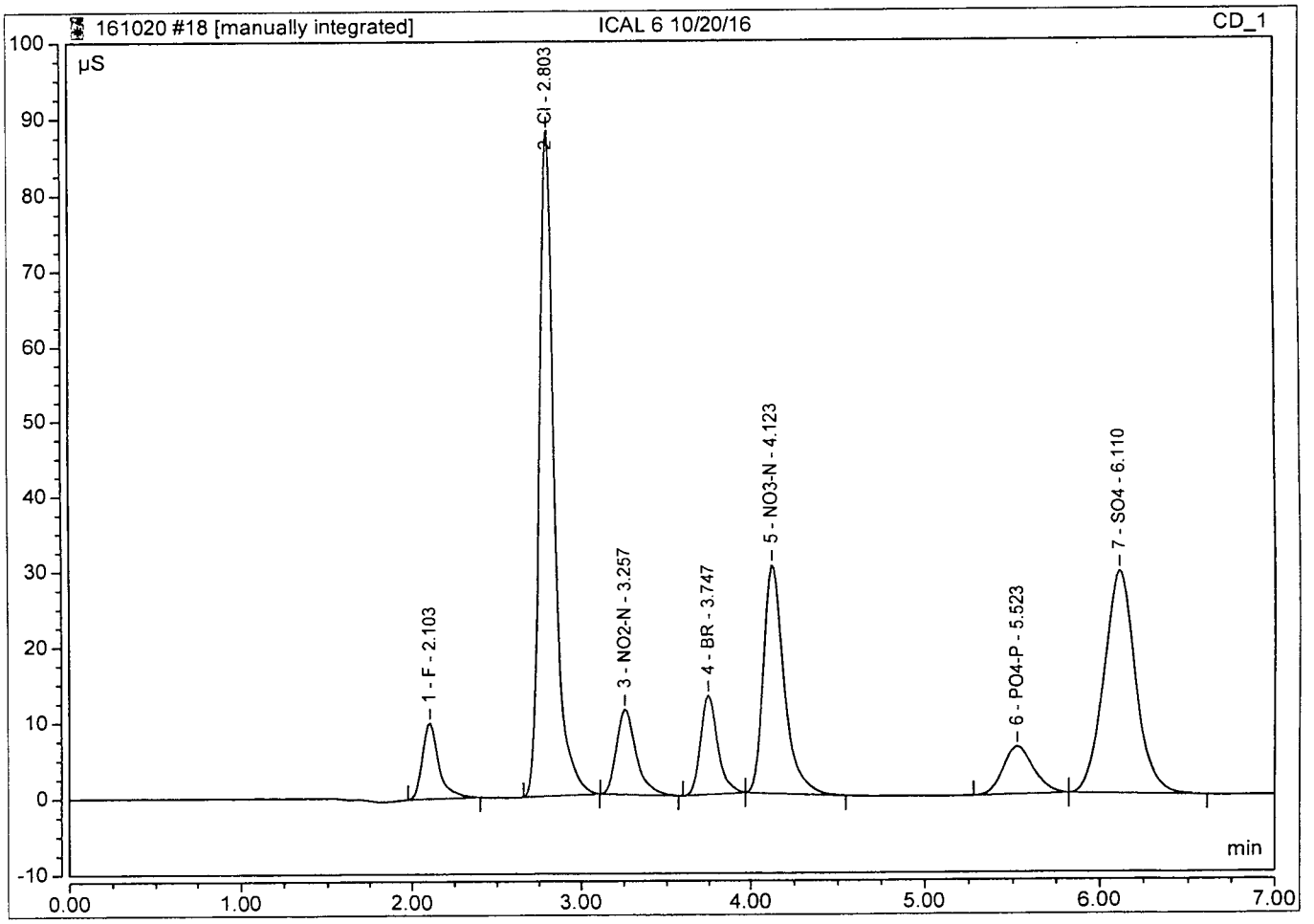
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.783	6.953	3.5131
2	2.79	Cl	BMB	6.129	59.398	34.2675
3	3.25	NO2-N	BMB	1.040	7.775	3.4734
4	3.74	BR	BMB	1.083	8.801	17.2948
5	4.12	NO3-N	BMB	2.792	20.144	6.8727
6	5.52	PO4-P	BMB	0.854	4.243	6.9225
7	6.10	SO4	BMB	4.151	19.714	34.4871
		TOTAL:		16.83	127.03	106.83



Peak Integration Report

Sample Name:	**ICAL 6 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	**F**	BMB	1.118	9.996	5.0036
2	2.80	**Cl**	BMB*	9.117	87.978	50.7226
3	3.26	**NO2-N**	BMB	1.507	11.205	5.0218
4	3.75	**BR**	BMB	1.580	13.023	25.1693
5	4.12	**NO3-N**	BMB	4.128	30.098	10.1138
6	5.52	**PO4-P**	BMB	1.247	6.244	10.0755
7	6.11	**SO4**	BMB	6.106	29.270	50.4924
		TOTAL:		24.80	187.81	156.60

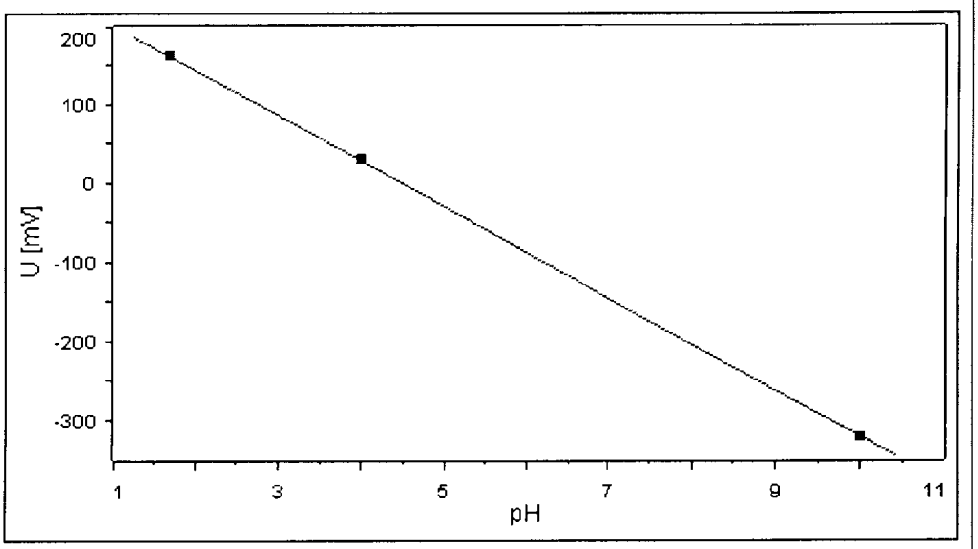


Tiamo Calibration Curve
02/11/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	161.7	21.5	41
Buffer 2:	4.000	29.0	21.3	21
Buffer 3:	10.000	-320.6	21.5	35

Slope:	99.3	%
pH	4.481	
Variance:	2.2	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/07/17	02/07/17	#300W-170207A-AZ49656
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/07/17	02/07/17	#35FE-170207A-AZ49656

Wetlab SC-Blank-REG MDLs
Printed: 02/13/17 2:39:33 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/07/17	02/07/17	#300W-170207A-AZ49656
SM 2320B	BICARBONATE AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM3500Fe	FERROUS IRON	3.00	2.95	98.3	80-120	02/07/17	02/07/17	#35FE-170207A-AZ49656

Comments: _____

SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170207A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (12/09/16)
BUFFER (2/7/17)

Date	Time	APPL ID	25mL	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
02/07/17	14:32	CCV 4.0 170207	1	0.409	25mL		4.06	4.063	4.000	*101.57*
02/07/17	14:33	CCB 170207	1	-0.003	25mL		-0.05	-0.053		
02/07/17	14:34	170207A LCS 3.0	1	0.298	25mL		2.95	2.954	3.000	*98.47*
02/07/17	14:35	170207A LCSD 3.0	1	0.301	25mL		2.98	2.984	3.000	*99.47*
02/07/17	14:36	AZ49656W08	1	0.001	25mL		-0.01	-0.013		
02/07/17	14:37	AZ49656W08 MS	1	0.302	25mL		2.99	2.994	3.000	*99.80*
02/07/17	14:38	AZ49656W08 MSD	1	0.300	25mL		2.97	2.974	3.00	*99.13*
02/07/17	14:39	CCV 4.0 170207	1	0.408	25mL		4.05	4.053	4.00	*101.32*
02/07/17	14:40	CCB 170207	1	-0.001	25mL		-0.03	-0.033		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ49656W07	2017-02-11 13:00:59 UTC-8	Alkalinity	0.000	1.844	0.00	0.00	79.29	79.29	mg/L	25 mL	0.0215	170211A	AH
170211A LCS	2017-02-11 12:37:17 UTC-8	Alkalinity	0.000	5.816	0.00	0.00	250.09	250.09	mg/L	25 mL	0.0215	170211A	AH
170211A Blk	2017-02-11 12:21:56 UTC-8	Alkalinity	0.000	0.040	0.00	0.00	1.72	1.72	mg/L	25 mL	0.0215	170211A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 02/07/17
Exp Date: 02/08/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

PW 10/20/16

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.25	5
O2SI*	Cl-	5,000	1069557-34558	01/08/17	0.5	50
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.25	5
Ultra Scientific	Br-	1,000	CL-3274-36926	08/31/20	1.25	25
O2SI	NO3-N	1,000	1078397-35587	01/30/17	0.5	10
O2SI	PO4-P	1,000	1072004-34911	09/03/16	0.5	10
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.125	2.50
CPI	Cl-	1,000	16E065-36694	12/06/17	1.00	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.50	3.04
CPI	Br-	1,000	15L093-36101	07/21/17	0.625	12.50
CPI	NO3-N	1,000	16E022-36783	12/30/17	0.25	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.25	5.00
CPI	SO4	1,000	16E104-36693	12/06/17	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100	08/19/16	08/21/16	0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170207 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

0.02N H2SO4 Titrant for Alkalinity

Dilute 600 mL 0.1N H2SO4 (prep 1/6/17)
To final volume 3L w/ DI water
Prep 1/6/17
Exp 1/6/18
AH 1/6/17

Inorganic Spiking Solution

7.0001g $NaHCO_3$ BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	07 Feb 2017	14:32	CCV 4.0 170207		170207A	1.
2	07 Feb 2017	14:33	CCB 170207		170207A	1.
3	07 Feb 2017	14:34	170207A LCS 3.0		170207A	1.
5	07 Feb 2017	14:36	AZ49656W08		170207A	1.
8	07 Feb 2017	14:39	CCV 4.0 170207		170207A	1.
9	07 Feb 2017	14:40	CCB 170207		170207A	1.
10	20 May 2016	12:37	0 BB 5/20/16		170207A	1.
11	20 May 2016	12:38	1		170207A	1.
13	20 May 2016	12:39	2		170207A	1.
12	20 May 2016	12:39	4		170207A	1.
15	20 May 2016	12:40	5		170207A	1.
14	20 May 2016	12:40	10		170207A	1.
16	20 May 2016	12:41	160520A ICV 3.0		170207A	1.
17	20 May 2016	12:42	160520A ICB		170207A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	20 Oct 2016	11:19	ICAL 1 10/20/16		161020	1.
15	20 Oct 2016	11:32	ICAL 2 10/20/16		161020	1.
16	20 Oct 2016	11:45	ICAL 3 10/20/16		161020	1.
17	20 Oct 2016	11:58	ICAL 4 10/20/16		161020	1.
18	20 Oct 2016	12:11	ICAL 5 10/20/16		161020	1.
19	20 Oct 2016	12:24	ICAL 6 10/20/16		161020	1.
20	20 Oct 2016	12:37	ICV 1601020		161020	1.
21	20 Oct 2016	12:50	ICB		161020	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	07 Feb 2017	13:25	CCV 170207		170207	1.
4	07 Feb 2017	13:39	CCB		170207	1.
5	07 Feb 2017	13:52	170207A LCS		170207	1.
9	07 Feb 2017	14:46	CCV 170207		170207	1.
10	07 Feb 2017	15:00	CCB		170207	1.
12	07 Feb 2017	15:28	AZ49656W07 DF2		170207	2.
13	07 Feb 2017	16:46	CCV 170207		170207	1.
14	07 Feb 2017	16:59	CCB		170207	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	11 Feb 2017	12:21	170211A Blk		170211A_AL	1.
2	11 Feb 2017	12:37	170211A LCS		170211A_AL	1.
3	11 Feb 2017	13:00	AZ49656W07		170211A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 22, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82121

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Thirteen water samples were received February 8, 2017. Written results for the requested analyses are being provided on this February 22, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 937

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82121

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	5
Sample Management Records	11
Method 8011	27
QC Summary	28
Sample Data	33
Calibration Data	43
Raw Data	66
Method 8015B TPH-E	82
QC Summary	83
Sample Data	89
Calibration Data	111
Raw Data	157
Method 8270D SIM	189
QC Summary	190
Sample Data	203
Calibration Data	225
Raw Data	258

Method 8270D SVOCs 284
QC Summary 285
Sample Data 297
Calibration Data 319
Raw Data 365
Method 8270D SVOCs (MEE) 394
QC Summary 395
Sample Data 404
Calibration Data 426
Raw Data 453
Method 8260B VOCs 476
QC Summary 477
Sample Data 496
Calibration Data 536
Raw Data 606
Method 8260B Gasoline 635
QC Summary 636
Sample Data 646
Calibration Data 695
Raw Data 768
Method RSK-175 Methane 798
QC Summary 799
Sample Data 803
Calibration Data 828
Raw Data 862

Inorganic Analyses 876

QC Summary 877

Sample Data 881

Calibration Data 895

Raw Data 920

CASE NARRATIVE

Case Narrative

ARF: 82121

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Thirteen water samples were received February 8, 2017, at 4.0°C, 4.0°C, 2.0°C, 2.5°C, 5.0°C, 3.0°C, 1.0°C, 1.0°C, and 0.5°C. The sample group was assigned Analytical Request Form (ARF) number 82121. The following discrepancies were noted and reported to the client: for sample ERH212, the COC listed the collection time as 10:20, but the container labels had 12:00 as the collection time; a metals bottle was received for four samples ERH205, ERH214, ERH220 and ERH212 though metals analysis was not requested; samples ERH205 and ERH220 were received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to the method.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX, 1,2-DCA, and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8270D SIM: The ending CCV (file ID: 0214L044) was injected the next day because the instrument stopped after work hours.

APPL SOP ANA2MEE: Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

The RPD exceeded the 20% limit in MS/MSD.

Inorganic Analyses:

Two samples were received more than 24 hours after collection. They were analyzed for ferrous iron as soon as possible on the day received.

One manual integration for chloride was performed in accordance with APPL's SOP. Chromatograms of before and after manual integration are enclosed.

In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceed the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	SM 2320B	Wetlab 2320B - Water
82121	02/08/17	ERH205	AZ49674	02/06/17	09:50 AM	WATER	SM3500FeB	Ferrous Iron
82121	02/08/17	ERH204	AZ49675	02/06/17	09:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH204	AZ49675	02/06/17	09:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH204	AZ49675	02/06/17	09:35 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH206	AZ49676	02/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH232	AZ49677	02/06/17	11:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH232	AZ49677	02/06/17	11:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH211	AZ49678	02/07/17	09:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH211	AZ49678	02/07/17	09:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH211	AZ49678	02/07/17	09:35 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	SM 2320B	Wetlab 2320B - Water
82121	02/08/17	ERH212	AZ49679	02/07/17	10:20 AM	WATER	SM3500FeB	Ferrous Iron
82121	02/08/17	ERH235	AZ49680	02/07/17	10:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH213	AZ49681	02/07/17	09:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH213	AZ49681	02/07/17	09:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH213	AZ49681	02/07/17	09:00 AM	WATER	RSK 175	METHANE BY RSK 175

82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	SM 2320B	Wetlab 2320B - Water
82121	02/08/17	ERH214	AZ49682	02/07/17	10:45 AM	WATER	SM3500FeB	Ferrous Iron
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH228	AZ49683	02/07/17	09:15 AM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH219	AZ49684	02/06/17	11:40 AM	WATER	8011	EPA 8011
82121	02/08/17	ERH219	AZ49684	02/06/17	11:40 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82121	02/08/17	ERH219	AZ49684	02/06/17	11:40 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH219	AZ49684	02/06/17	11:40 AM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	8011	EPA 8011
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	EPA 8270D	EPA 8270D WATER
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	RSK 175	METHANE BY RSK 175
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	SM 2320B	Wetlab 2320B - Water
82121	02/08/17	ERH220	AZ49685	02/06/17	12:45 PM	WATER	SM3500FeB	Ferrous Iron
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	8011	EPA 8011
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	8270D-SIM	EPA 8270D SIM
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82121	02/08/17	ERH221	AZ49686	02/06/17	12:45 PM	WATER	EPA 8270D	EPA 8270D WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82121

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 020717
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: ONE WEEK

Received by: SMA
Date Received: 02/08/17 Time: 10:10
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): SEE CRF
Color: VOA/C-BLACK
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/15/17

Comments:
1-week TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O ; RSK: Methane only; 8011: EDB only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 7-$87DC53W5, 7-$87DMEEW5, 7-$DOC53W5, 7-$SIMDOD5W, 3-$8011
Extractions: 7-_MWE2MEE, 7-_SEP004, 7-_SEP004S, 7-_SEP011LL, 3-_MWE012
VOA: 10-$86BTOTXDOD5W, 12-$GASBL, 12-$GRO86BW, 8-$RSKMETH, 3-$86BTOTXDCAW
Wetlab: 4-$232W(HCO3,CO3,ALK), 4-$300W(NO3,CL,SO4), 4-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

Client ID	APPL ID	Sampled	Analyses Requested
1. ERH205	AZ49674W MS/MSD	02/06/17 09:50	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-80ppb spk; no methane & WL MS/MSD
2. ERH204	AZ49675W	02/06/17 09:35	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH206	AZ49676W	02/06/17 09:50	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
4.	ERH232	AZ49677W	02/06/17 11:50	$86BTOTXDOD5W, $GASBL, $GRO86BW
5.	ERH211	AZ49678W	02/07/17 09:35	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA
6.	ERH212	AZ49679W	02/07/17 10:20	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
7.	ERH235	AZ49680W	02/07/17 10:20	$86BTOTXDOD5W
8.	ERH213	AZ49681W	02/07/17 09:00	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA
9.	ERH214	AZ49682W	02/07/17 10:45	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
10.	ERH228	AZ49683W	02/07/17 09:15	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
11.	ERH219	AZ49684W	02/06/17 11:40	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved vials for 8011
12.	ERH220	AZ49685W	02/06/17 12:45	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-80ppb spk; unpreserv vial for 8011
13.	ERH221	AZ49686W	02/06/17 12:45	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-80ppb spk; unpreserv vial for 8011

APPL Sample Receipt Form

ARF# **82121**

Sample	Container Type	Count	p
AZ49674	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	14	NA
	17 Amber Liter	18	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49675	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49676	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ49677	13 VOAs - HCL	5	NA
AZ49678	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49679	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49680	13 VOAs - HCL	5	NA
AZ49681	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49682	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49683	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ49684	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49685	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49686	13 VOAs - HCL	4	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	p

Renee Patterson

From: Libby Cheeseborough [libby@applinc.com]
Sent: Wednesday, February 08, 2017 2:07 PM
To: receiving@applinc.com; cmoua@applinc.com; rpatterson@applinc.com
Subject: FW: ARF 82121 Receiving Notes

Please see notes below

thank you,
Libby

Libby Cheeseborough

Agriculture & Priority Pollutants Laboratories, Inc.
WOSB. NELAP Accredited.
t. 559.275-2175 f. 559.275-4422
a. 908 N. Temperance Ave., Clovis, CA 93611

Website • Email

DoD accredited for ISM, Dioxins and PCB congeners.

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From: Thach, Margie [mailto:Margie.Thach@aecom.com]
Sent: Wednesday, February 08, 2017 2:06 PM
To: Libby Cheeseborough
Subject: RE: ARF 82121 Receiving Notes

HI Libby,
Yes, no analysis on the metals container. Also, for the question on the collection time, does log-in mean ERH212? That's the one that is supposed to have time 10:20. Please log in ERH212 with time 10:20; ERH211 should have time 09:35.

Thank you,

Margie Pascua Thach
Environmental Scientist
Environment, West Region, Pacific District
Direct 808.356.5373
Margie.Thach@aecom.com

From: Libby Cheeseborough [mailto:libby@applinc.com]
Sent: Wednesday, February 08, 2017 11:51 AM
To: Thach, Margie
Subject: FW: ARF 82121 Receiving Notes

Hi Margie,
Please see the receiving notes below.

thank you,
Libby

Libby Cheeseborough

Agriculture & Priority Pollutants Laboratories, Inc.
WOSB. NELAP Accredited.
t. 559.275-2175 f. 559.275-4422
a. 908 N. Temperance Ave., Clovis, CA 93611

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From: receiving [mailto:receiving@applinc.com]
Sent: Wednesday, February 08, 2017 1:23 PM
To: Chue Moua; Diane Anderson; Libby Anderson; Paula Young; Renée Patterson
Subject: ARF 82121 Receiving Notes

Libby,

AECOM; CIV0053 Red Hill Fuel Storage

For samples ERH205, ERH214, ERH220, and ERH 212 We received a 500 plastic container w/HNO3, but none of those samples had metals analysis requested. For Sample ERH 211 the collection time on the COC is 10:20, but the collection time on the Container labels is 12:00. please see attached COC for more information regarding this project.

Thank you!
Stephanie Mast

02171

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 4.0, 2.0, 25, 5.0, 3.0, 22, 1.0, 0.5

Report to: PLEASE PRINT
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Margie Thach
Phone: 808-356-5373
Fax:
Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Mary Basano
Phone: 808-356-7249
Fax:
Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TR, MH
Sampler (Signature): MT for CB, AM, TR, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3510C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 204	Trip	02/06/17	0935	HST	6	✓				X								X				
ERH 205	RHMW2254-01	02/06/17	0950	HST	19	/				X			X		X	X	X	X	X	X	X	MS/MSD: 8015, 8260, 8270 see other orders for other bottles
ERH 206	RHMW2254-01	02/06/17	0950	HST	6	/				X												see other order for other bottles
ERH 232	Ambient	02/06/17	1150	HST	5	/				X												

MT 2/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	10:10	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, AM, TR, MH
Purchase Order Number: 77265
Sampler (Signature): MT for CB, AM, TR, MH

Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8015C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 205	RHMW2254-01	02/06/17	0950	HST	8	✓							X		X	X	X					MS/MSD: 8015, 8260, 8270 see other order for other lab

MT 2/7/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	10:10	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxyl)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERM205	RHMW2294-01	02/06/17	0950	HST	3	✓							X		X	X	X					MS/MSD: 8015, 8260, 8270 use other coolers for other bottles

MT 2/7/17

Shuttle Temperature:
Turnaround Requested: Check one: ☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	10:10	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity total, Sol'n, carb)	Date Shipped: 02/07/17
ER-1-2016	RI-MW-2254-01	02/06/17	0950	HST	6	✓							X		X	X	X					see other cooler for VOA vial
	MT 2/7/17																					

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	1010	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

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Phone: (559) 275-2175
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Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH

Date Shipped: 02/07/17
Carrier: Telex
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	8330C/8015C TPH-D/O w/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	RSK175M Methane	Sm3500 Alk.	
ERH211	Trip	02/07/17	0935	HST	6	X				X	X										X		
ERH212	RHMW05	02/07/17	1020	HST	15	X				X	X			X	X		X	X	X	X	X	X	
GRH235	RHMW05 Ambient	02/07/17	1020	HST	5	X				X	X	KS 2/7/17											

KS 2/7/17

Shuttle Temperature:
Turnaround Requested: Check one ☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/8/17	1015	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH

Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH213	Trip	02/07/17	0900	HST	6	✓				X								X				
ERH214	HGMW2253-03	02/07/17	1045	HST	6	✓				X								X				See other color for other lab
ERH228	Field Blk	02/07/17	0915	HST	10	✓				X			X		X	X	X					

MT 02/07/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1600					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	1040	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
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C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8830C/8015C TPH-d/ow SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Analysis Requested/Method Number
ERH214	HDMW 2253-03	02/07/17	1045	HST	9	✓							X		X	X	X	X MT 2/7/17	X	X	X	See other order for VOA vials

MT 02/07/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/8/17	1010	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3550C/8015C TPH-d/oil SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 219	Trip	02/06/17	1140	HST	6	✓				X	X	X						X				
ERH 220	RHMW08	02/06/17	1245	HST		/				X	X	X						X				see other cooler for other bottles
ERH 221	RHMW08	02/06/17	1245	HST	20	/				X	X	X	X		X	X	X					
	MT 2/7/17																					

Shuttle Temperature:
Turnaround Requested: Check one ☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/8/17	1010	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Margie Thach
Phone: 808-356-5373
Fax:
Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Mary Basano
Phone: 808-356-7249
Fax:
Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/07/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3550C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb., carb)	
ERH220	RHMW08	02/06/17	1245	HST	9	✓							X		X	X	X		X	X	X	See other color for variable

Analysis Requested/Method Number

MT 2/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/07/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/8/17	1400	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82121**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 02/08/17

2) Coolers: Number of Coolers: 9

3) YES Were custody seals present and intact?
How many? 18 Name/Date on seal? ~~See Below~~ YL 2/8/17 Could not Salvage

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap ___ popcorn ___ foam X plastic bags
X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 4.0	2: 4.0	3: 2.0	4: 2.5	5: 5.0	6: 3.0
7: 1.0	8: 1.0	9: 0.5	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation Hold time:

18) NO/Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) ip 2-8-17 Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) YL 2/8/17 YES ~~NO~~ Were unpreserved VOA Vials received?

23) YL 2/8/17 YES ~~NA~~ Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

For samples ERH205, ERH214, ERH220, and ERH 212 We received a 500 plastic container w/HNO3, but none of those samples had metals analysis requested. For Sample sERH211 the collection time on the COC is 10:20, but the collection time on the Container labels is 12:00.

YL 2/8/17

Ferrous iron, received greater than 24 hours for samples ERH205, ERH212, ~~ERH214~~ and ERH 220 ip 2-8-17 YL 2/8/1

Personnel receiving samples: SM Second reviewer: YL

Personnel labeling samples: SM

Project manager notified: SM Date/Time of notification 2/8/17

Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49684 - 216195**
Batch ID: #8011-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/10/17	02/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	103	70-132			%	02/10/17	02/13/17

Quant Method: 80110210.M
Run #: 0111129
Instrument: Herbie
Sequence: 170111
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 4:32:23 PM

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 02/13/17

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170210A-BLK	Blank	70-132	103				
170210A-LCS	Lab Control Spike	70-132	78.0				
AZ49684	ERH219	70-132	102				
AZ49685	ERH220	70-132	97.6				
AZ49686	ERH221	70-132	97.0				

Comments: Batch: #8011-170210A

Printed: 02/15/17 4:32:20 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170210W-49684 LCS - 216195**
Batch ID: #8011-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.253	101	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.273	109	70-132

Comments: _____

Primary	SPK
Quant Method :	80110210.M
Extraction Date :	02/10/17
Analysis Date :	02/13/17
Instrument :	Herbie
Run :	0111132
Initials :	RHA

Printed: 02/21/17 3:20:48 PM
APPL Standard LCS

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170210A-BLK

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Herbie
Time Analyzed: 1539

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170210A-BLK	Blank	0111129	02/13/17 1539
170210A-LCS	Lab Control Spike	0111132	02/13/17 1642
AZ49684	ERH219	0111137	02/13/17 1827
AZ49685	ERH220	0111138	02/13/17 1847
AZ49686	ERH221	0111139	02/13/17 1908

Comments: Batch: #8011-170210A

Printed: 02/15/17 4:32:11 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH219
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49684
QCG: #8011-170210A-216195

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/10/17	02/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	102	70-132			%	02/10/17	02/13/17

Quant Method: 80110210.M
Run #: 0111137
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/15/17 4:32:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111137.D\ECD1A.CH Vial: 37
Signal #2 : G:\HERBIE\DATA\170111\0111137.D\ECD2B.CH
Acq On : 02-13-17 18:27:02 Operator: RH
Sample : AZ49684W04 2/34.14G Inst : Herbie
Misc : Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 16:10 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

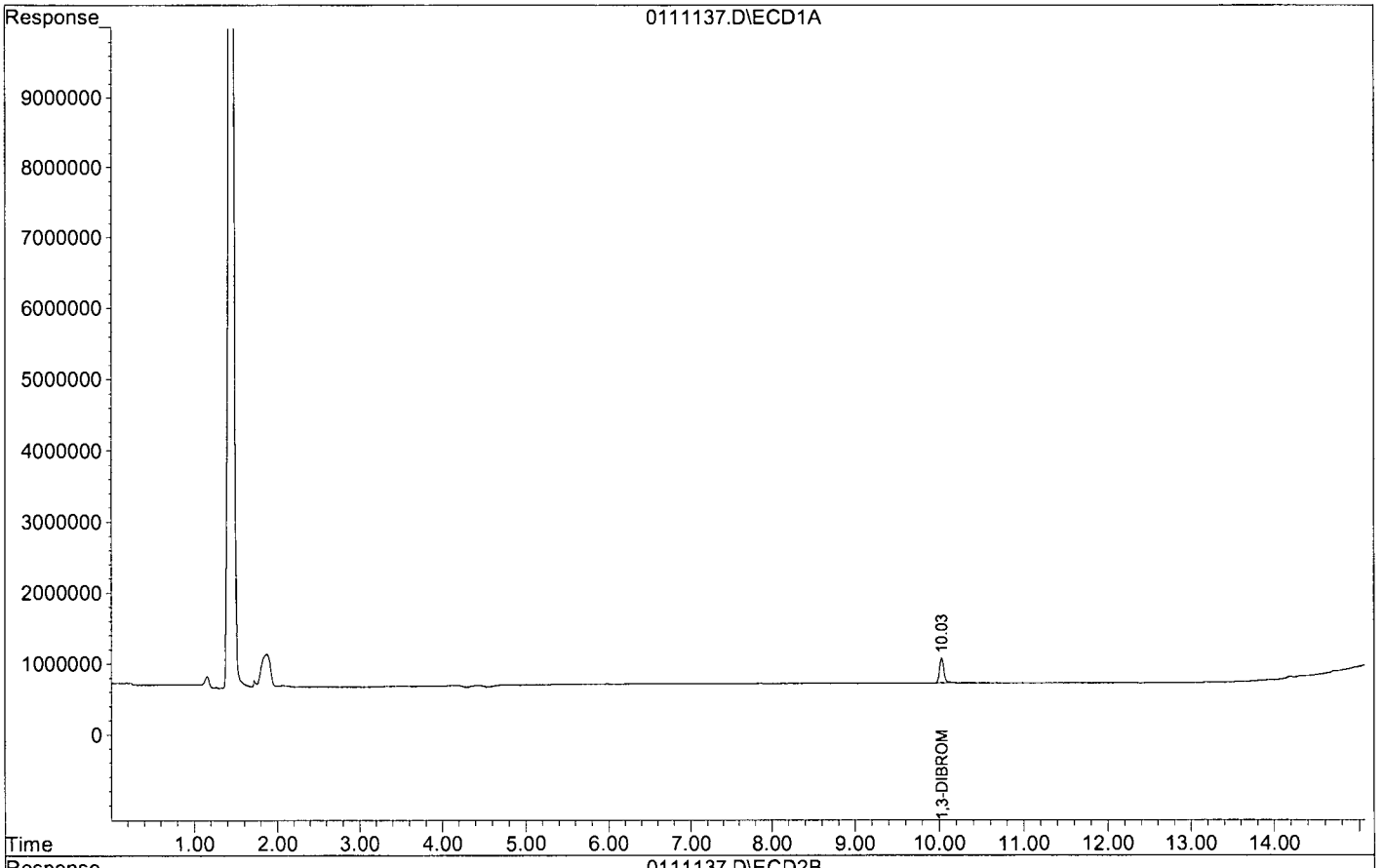
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	358036	633848	0.365	0.357
Spiked Amount 0.359			Recovery	=	101.72%	99.49%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

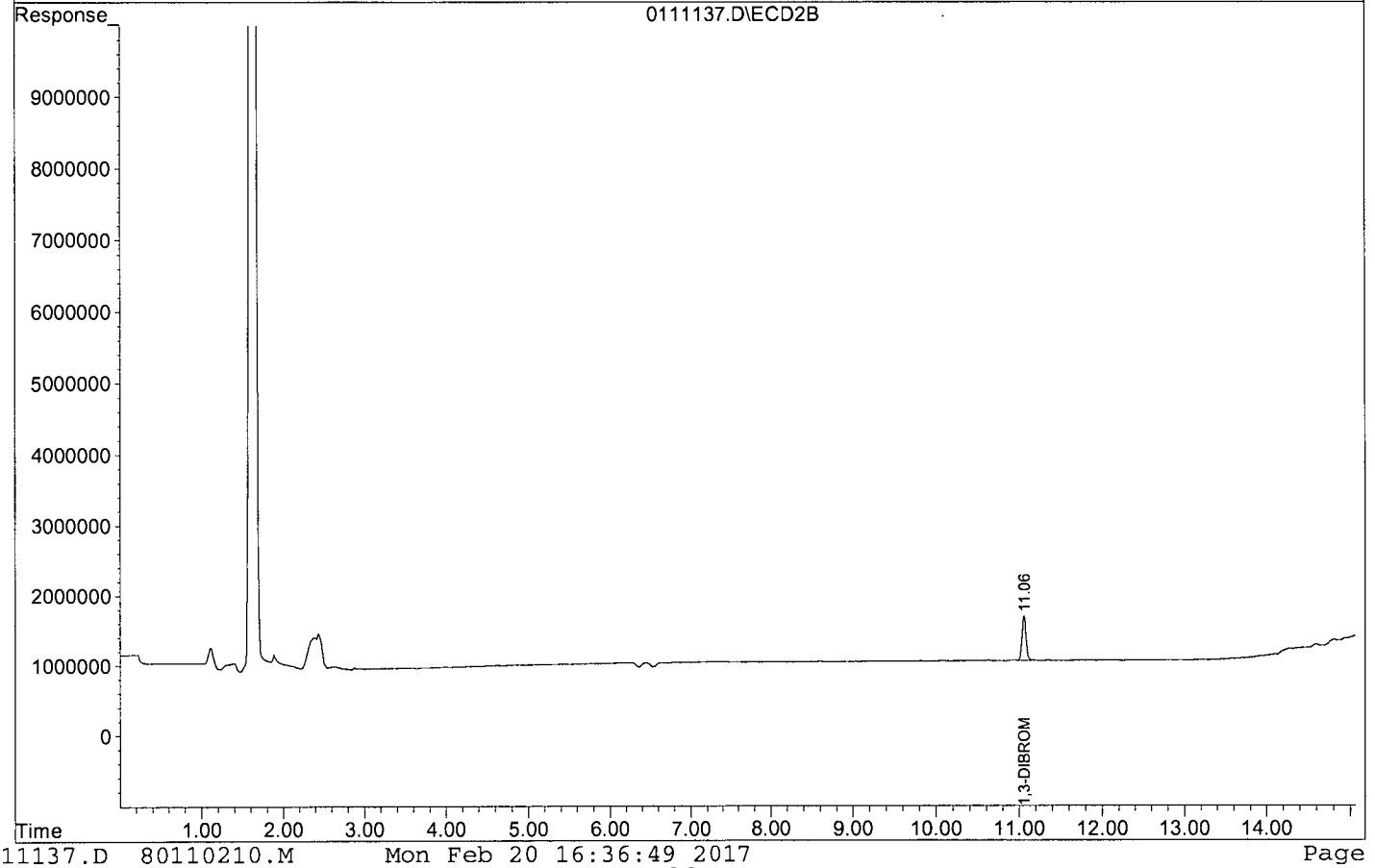
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111137.D
Acq On : 02-13-17 18:27:02
Sample : AZ49684W04 2/34.14G
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 37
Operator: RH
Inst : Herbie
Multiplr: 1.03





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #8011-170210A-216195

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/10/17	02/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	97.6	70-132			%	02/10/17	02/13/17

Quant Method: 80110210.M
Run #: 0111138
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/15/17 4:32:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111138.D\ECD1A.CH Vial: 38
Signal #2 : G:\HERBIE\DATA\170111\0111138.D\ECD2B.CH
Acq On : 02-13-17 18:47:53 Operator: RH
Sample : AZ49685W07 2/34.67G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 16:10 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

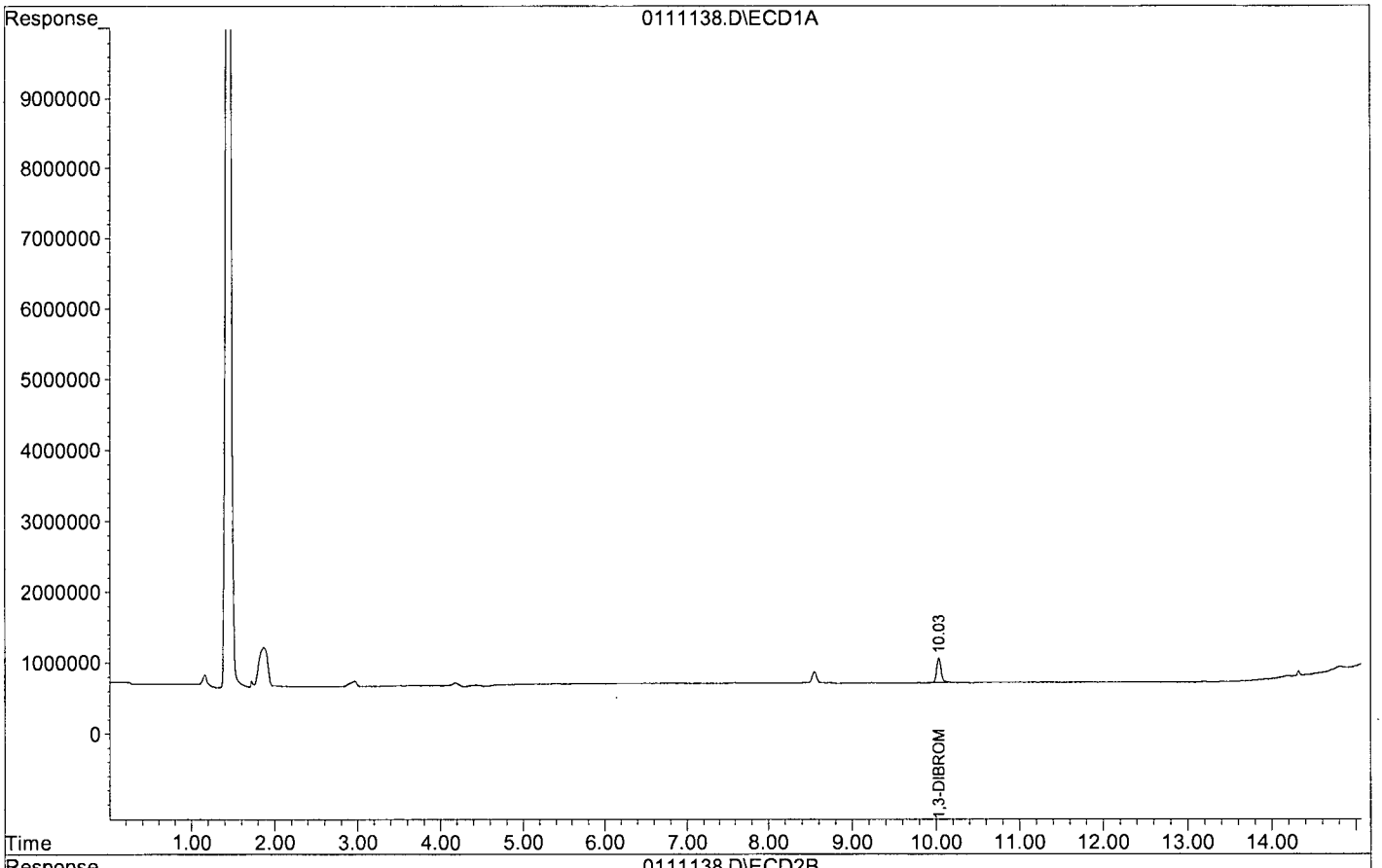
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	343750	625749	0.345	0.348
Spiked Amount 0.353			Recovery	=	97.64%	98.49%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

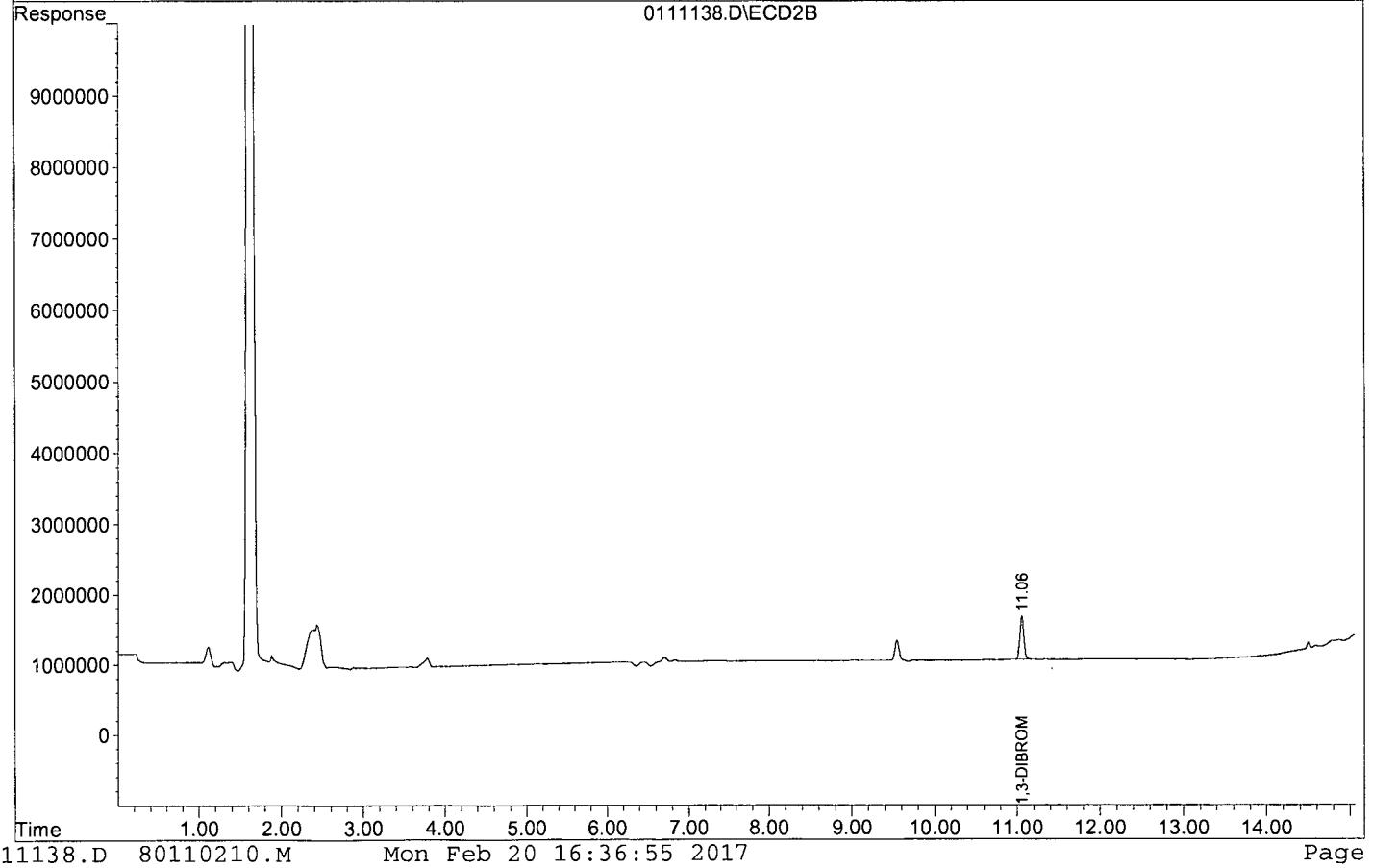
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111138.D
Acq On : 02-13-17 18:47:53
Sample : AZ49685W07 2/34.67G
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 38
Operator: RH
Inst : Herbie
Multiplr: 1.01





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH221
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49686
QCG: #8011-170210A-216195

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/10/17	02/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	97.0	70-132			%	02/10/17	02/13/17

Quant Method: 80110210.M
Run #: 0111139
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/15/17 4:32:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111139.D\ECD1A.CH Vial: 39
Acq On : 02-13-17 19:08:36 Operator: RH
Sample : AZ49686W07 2/34.75G Inst : Herbie
Misc : Multiplr: 1.01
IntFile : rteint.p

Data File : G:\HERBIE\DATA\170111\0111139.D\ECD2B.CH Vial: 39
Acq On : 02-13-17 19:08:37 Operator: RH
Sample : AZ49686W07 2/34.75G Inst : Herbie
Misc : Multiplr: 1.01
IntFile : rteint2.p
Quant Time: Feb 15 16:10 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

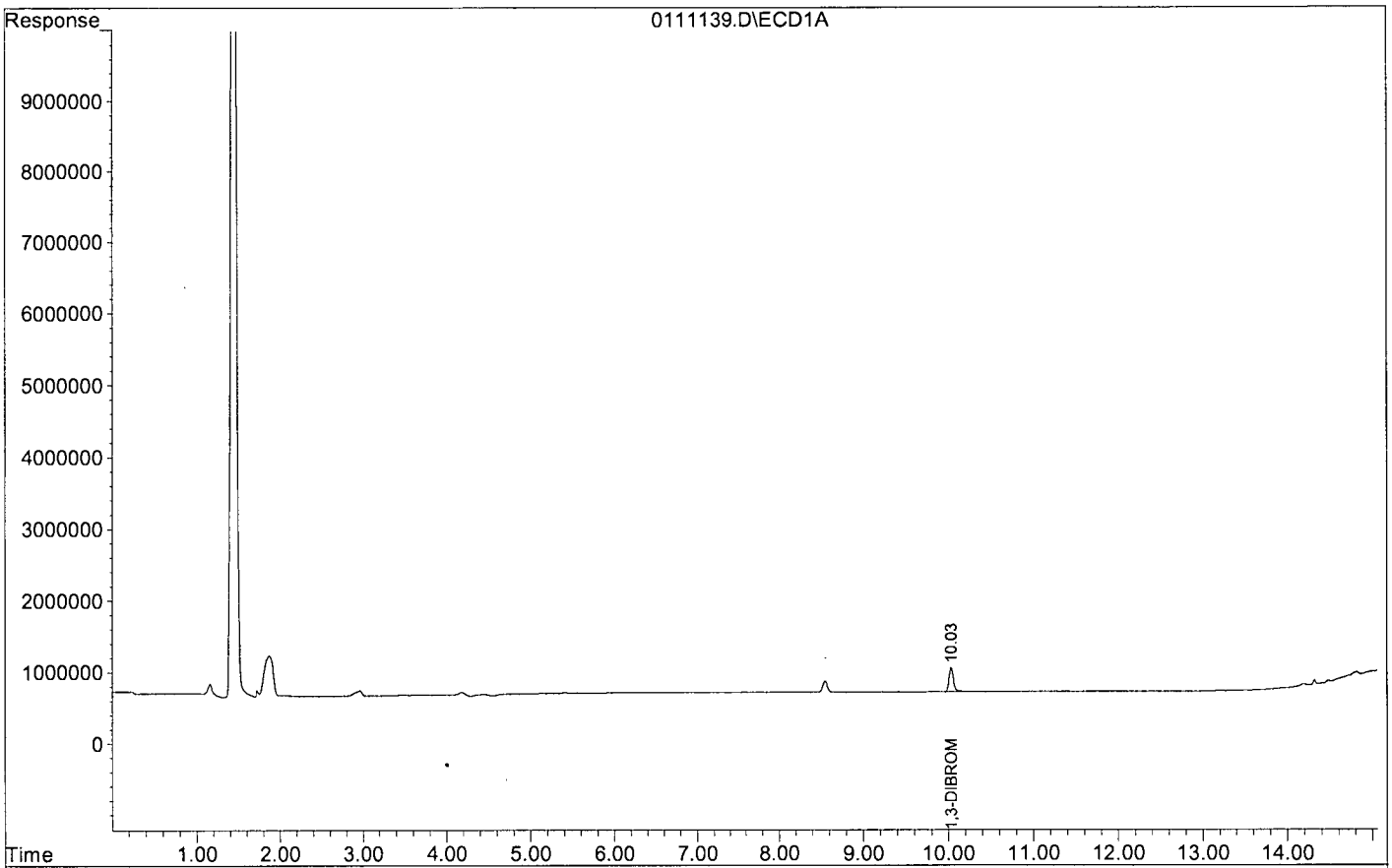
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	341318	621222	0.342	0.344
Spiked Amount 0.353			Recovery	=	97.02%	97.58%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

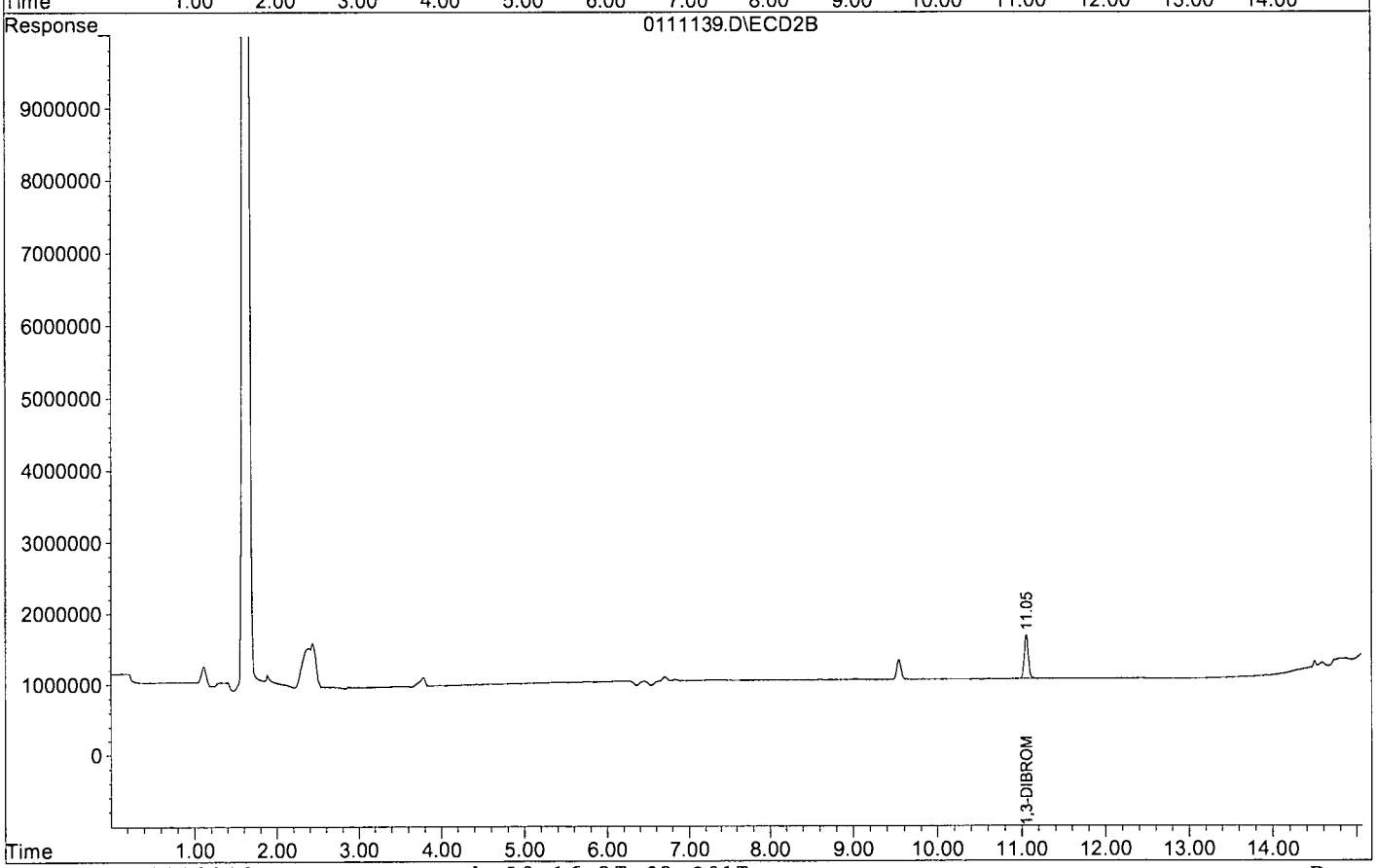
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111139.D
Acq On : 02-13-17 19:08:36
Sample : AZ49686W07 2/34.75G
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 39
Operator: RH
Inst : Herbie
Multiplr: 1.01





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0111122 D	0111123.D	0111124.D	0111125.D	0111126.D	0111127 D								
1	TM	EDB	795275	754760	680100	619165	619055	580421					674796	13	TM	
2	TM	1,2,3-TCP	149575	158670	154176	145390	143112	133615					147423	6.0	TM	
3	S	1,3-DIBROMOPROPANE(S)	513900	582180	543308	478328	459087	438146					502491	11	S	
4	TM	DBCP	2071750	1880805	1764290	1610881	1645553	1613850					1764521	10	TM	
5		Signal #2											0	0		
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1.1367057

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0111122.D	0111123.D	0111124.D	0111125.D	0111126.D	0111127.D								
36	TM	EDB #2	2050725	1701705	1578222	1504976	1502399	1402301					1623388	14	TM	
37	TM	1,2,3-TCP #2	290400	289825	269990	259460	256099	247261					268839	6.7	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	996325	1007115	904154	871973	869573	804092					908872	8.7	S	
39	TM	DBCP #2	4172500	4562685	4103358	4123759	4309774	4130828					4233817	4.2	TM	
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0.9672583

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111122.D\ECD1A.CH Vial: 22
Signal #2 : G:\HERBIE\DATA\170111\0111122.D\ECD2B.CH
Acq On : 02-13-17 13:11:56 Operator: RH
Sample : 8011 STD 1 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 20 17:03 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

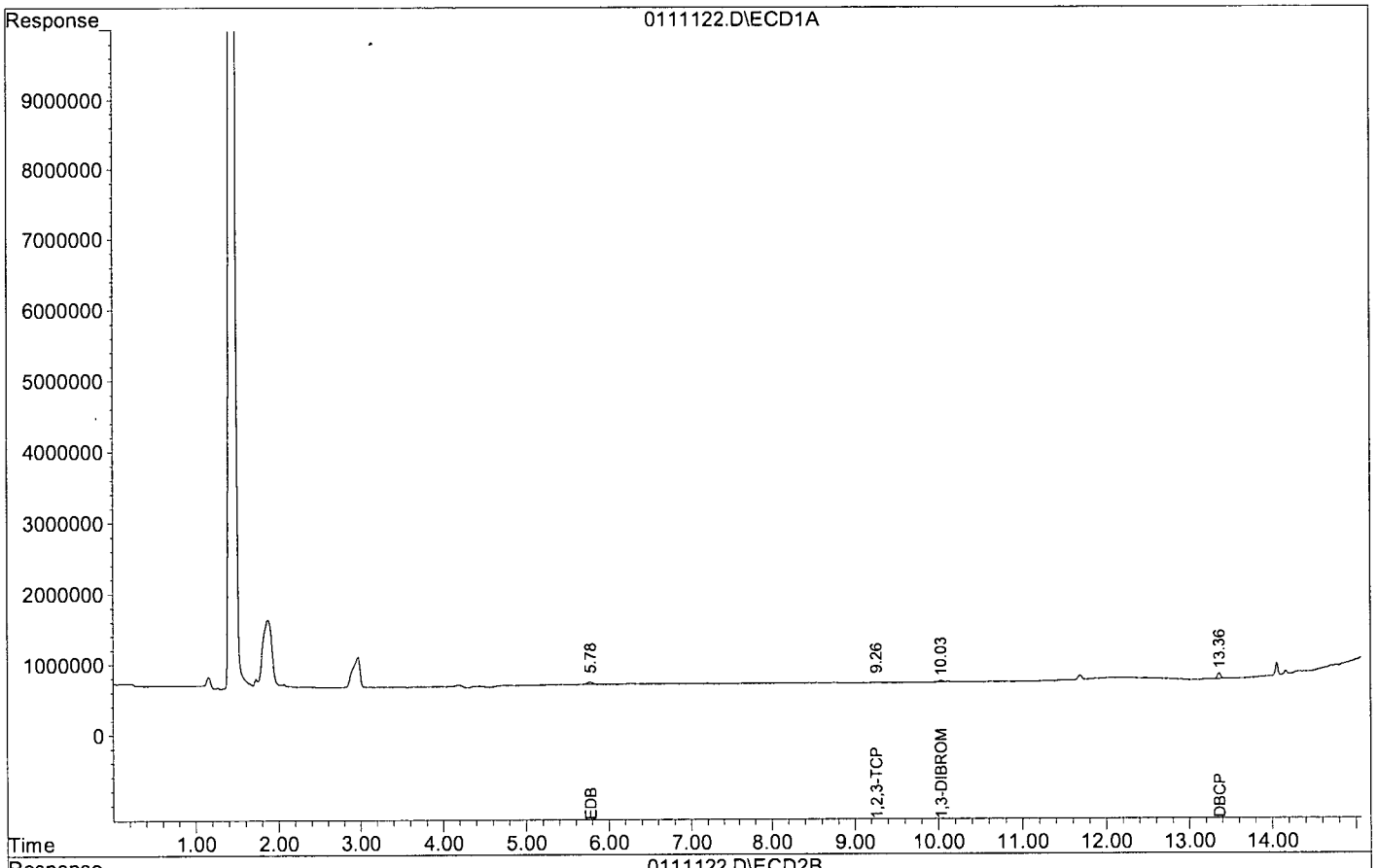
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	20556	39853	0.020	0.022
Spiked Amount 0.350			Recovery	=	5.71%	6.29%
Target Compounds						
1) TM EDB	5.78	7.23	31811	82029	0.024	0.025
2) TM 1,2,3-TCP	9.26	10.46	5983	11616	0.020	0.022
4) TM DBCP	13.36	14.10	82870	166900	0.023	0.020
Target Compounds						

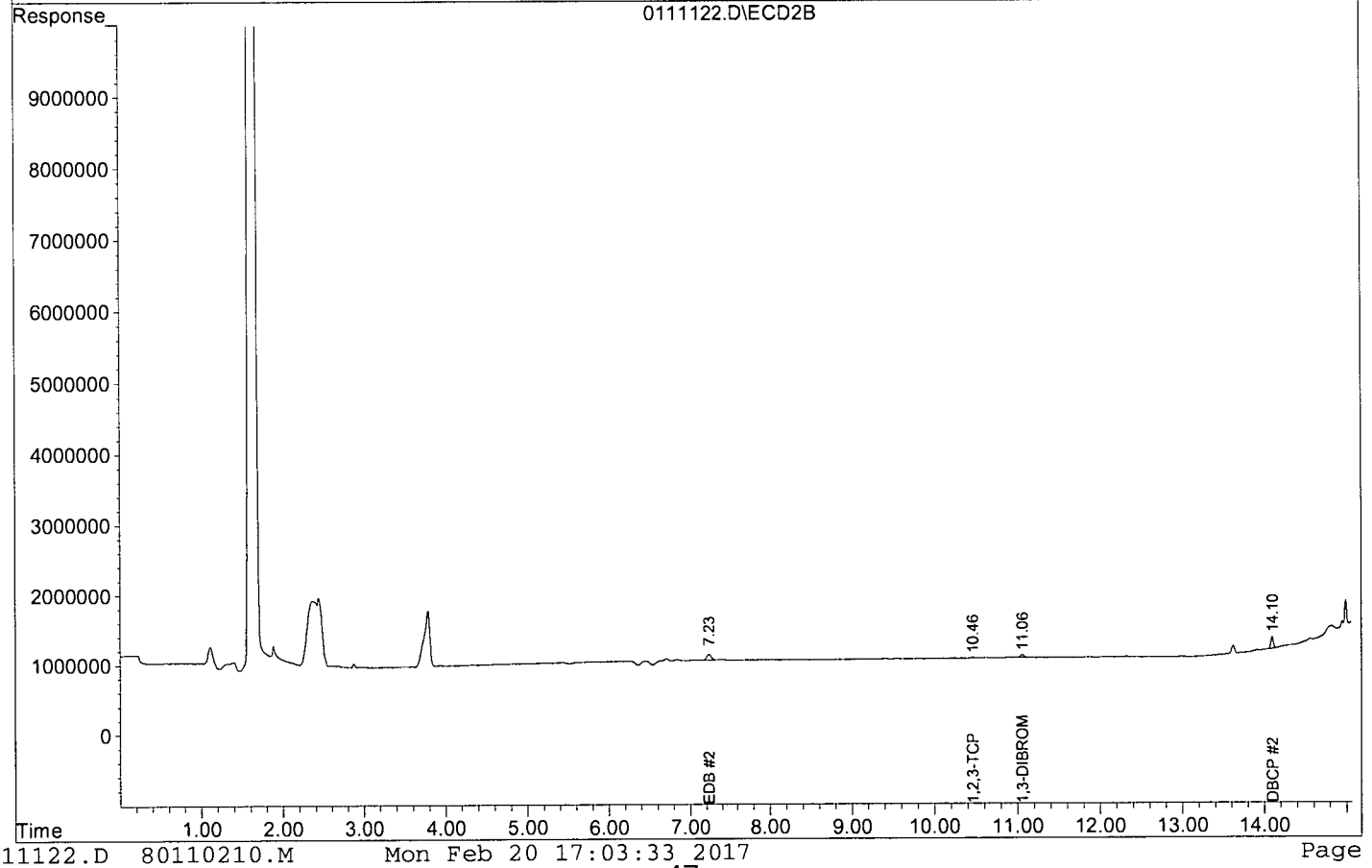
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111122.D
Acq On : 02-13-17 13:11:56
Sample : 8011 STD 1 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 22
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111123.D\ECD1A.CH Vial: 23
Signal #2 : G:\HERBIE\DATA\170111\0111123.D\ECD2B.CH
Acq On : 02-13-17 13:33:04 Operator: RH
Sample : 8011 STD 2 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 20 17:04 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	116436	201423	0.116	0.111
Spiked Amount 0.350			Recovery	=	33.14%	31.71%
Target Compounds						
1) TM EDB	5.77	7.23	150952	340341	0.112	0.105
2) TM 1,2,3-TCP	9.26	10.47	31734	57965	0.108	0.108
4) TM DBCP	13.36	14.10	376161	912537	0.107	0.108

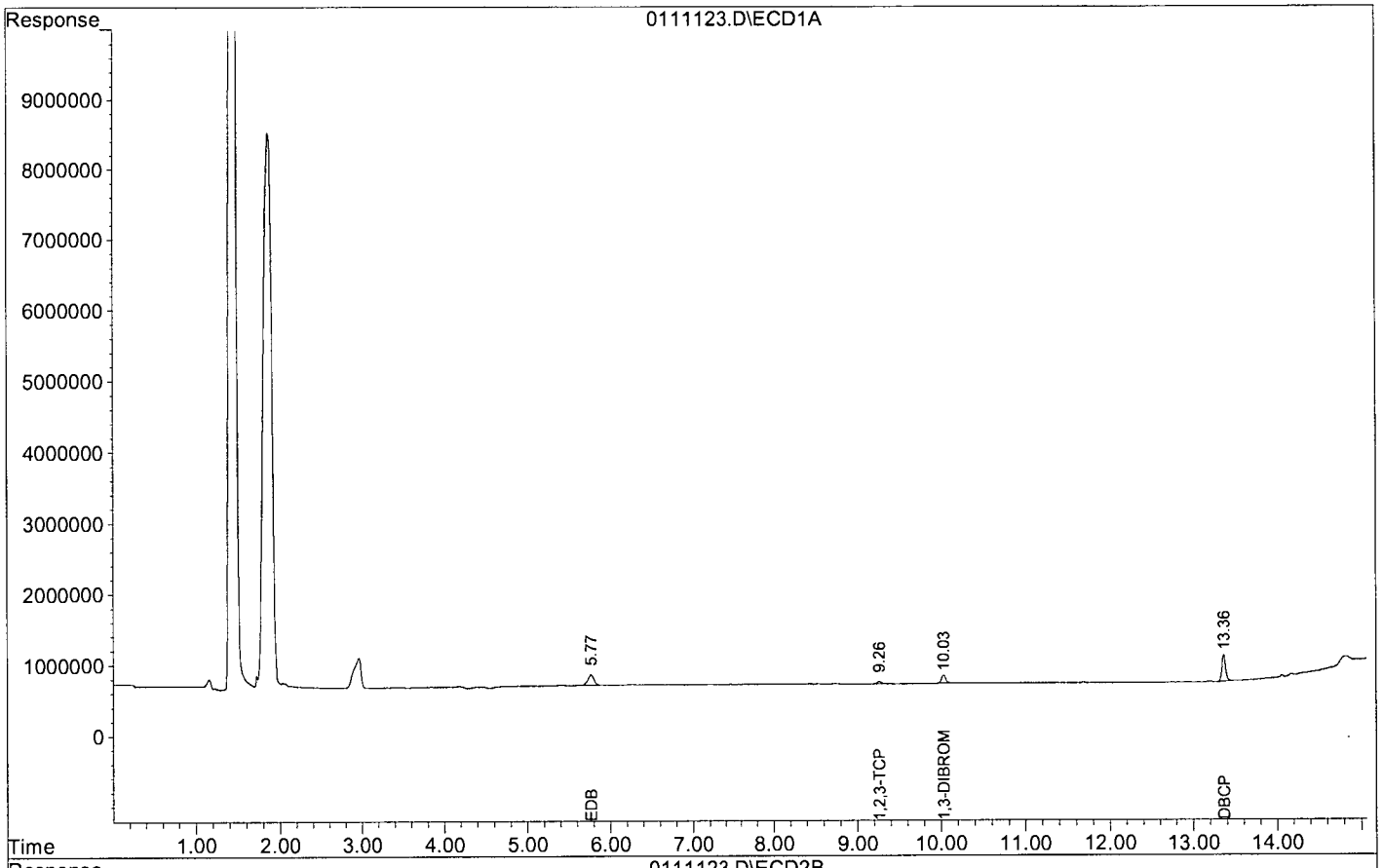
Target Compounds

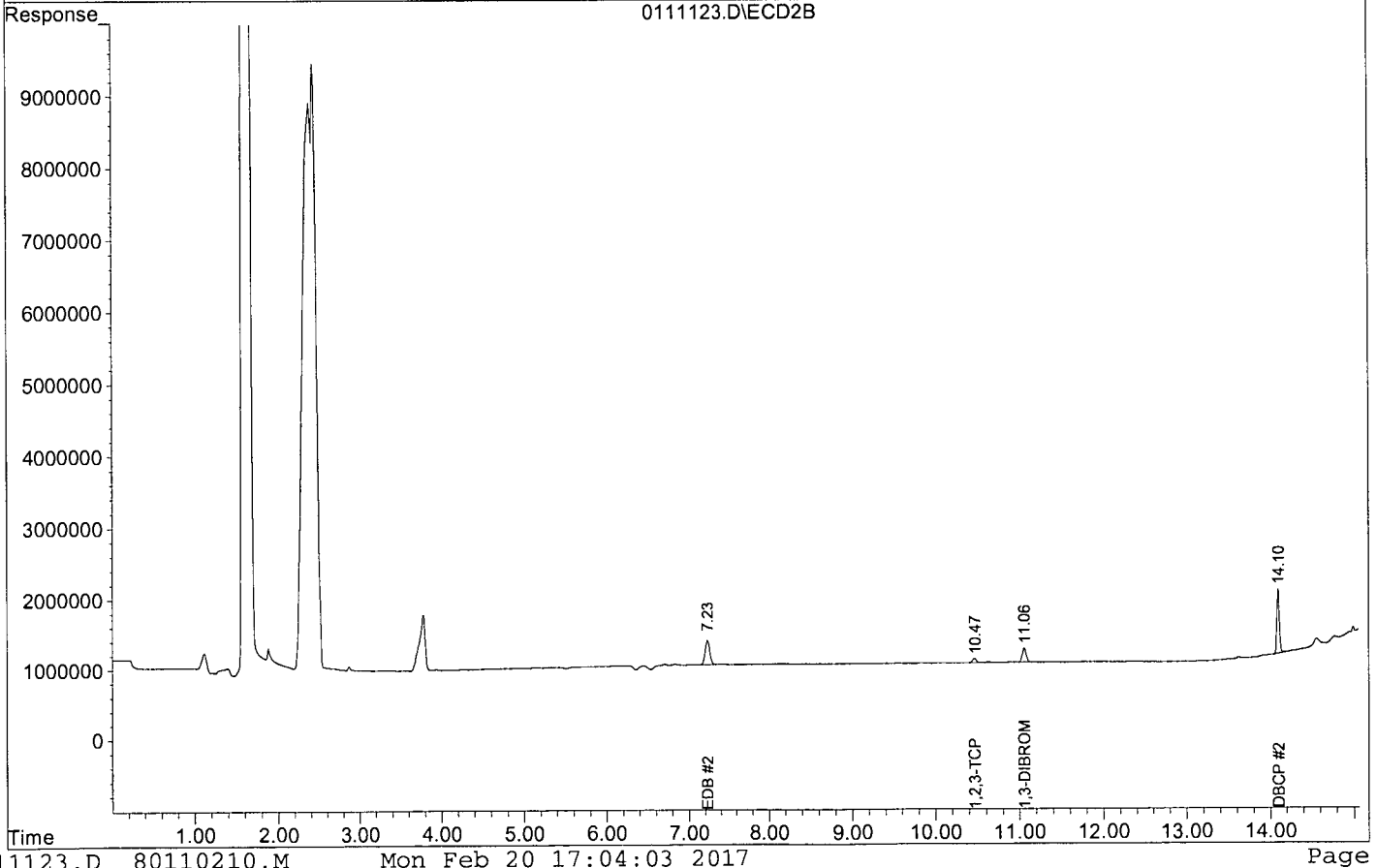
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111123.D
Acq On : 02-13-17 13:33:04
Sample : 8011 STD 2 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 23
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111124.D\ECD1A.CH Vial: 24
Signal #2 : G:\HERBIE\DATA\170111\0111124.D\ECD2B.CH
Acq On : 02-13-17 13:54:05 Operator: RH
Sample : 8011 STD 3 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 12:15 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:15:01 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	271654	452077	0.194	0.211
Spiked Amount 0.350			Recovery	=	55.43%	60.29%
Target Compounds						
1) TM EDB	5.77	7.23	340050	789111	0.203	0.209
2) TM 1,2,3-TCP	9.26	10.46	77088	134995	0.164	0.205 #
4) TM DBCP	13.36	14.10	882145	2051679	0.187	0.203

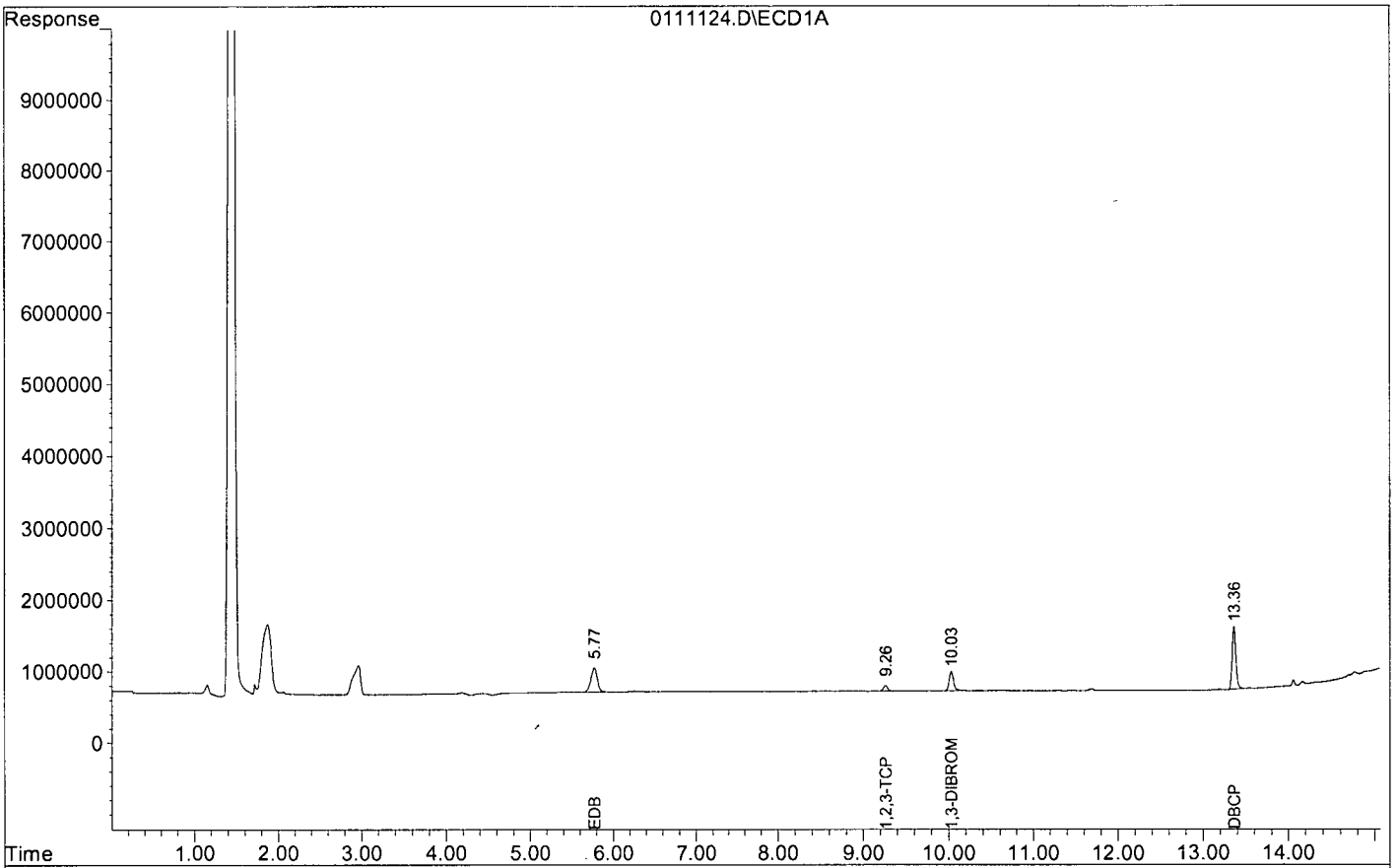
Target Compounds

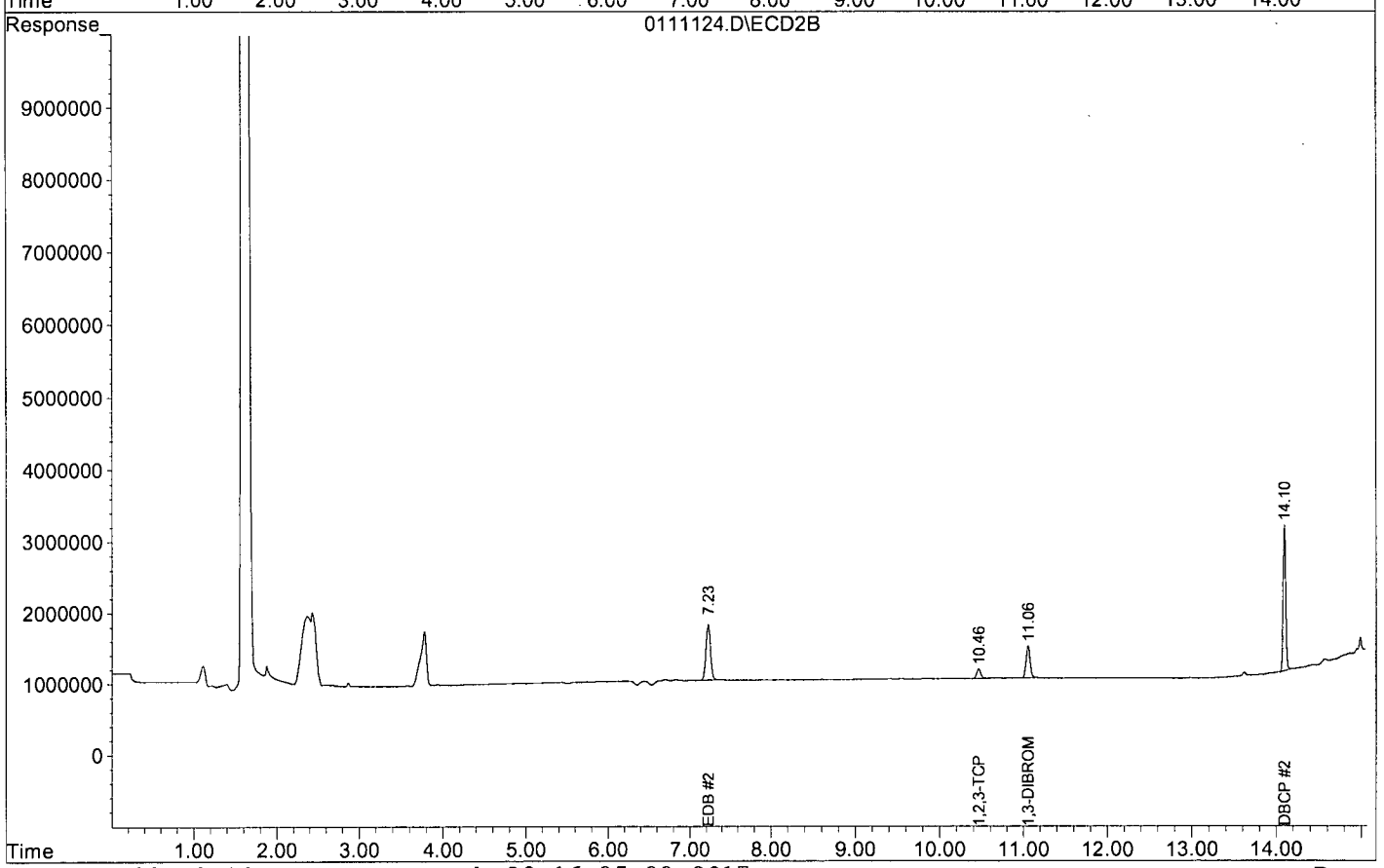
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111124.D
Acq On : 02-13-17 13:54:05
Sample : 8011 STD 3 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 24
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111125.D\ECD1A.CH Vial: 25
Signal #2 : G:\HERBIE\DATA\170111\0111125.D\ECD2B.CH
Acq On : 02-13-17 14:15:07 Operator: RH
Sample : 8011 STD 4 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 12:15 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:15:01 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	478328	871973	0.341	0.407
Spiked Amount 0.350			Recovery	=	97.43%	116.29%
Target Compounds						
1) TM EDB	5.77	7.22	619165	1504976	0.370	0.398
2) TM 1,2,3-TCP	9.26	10.46	145390	259460	0.381	0.395
4) TM DBCP	13.36	14.10	1610881	4123759	0.341	0.408

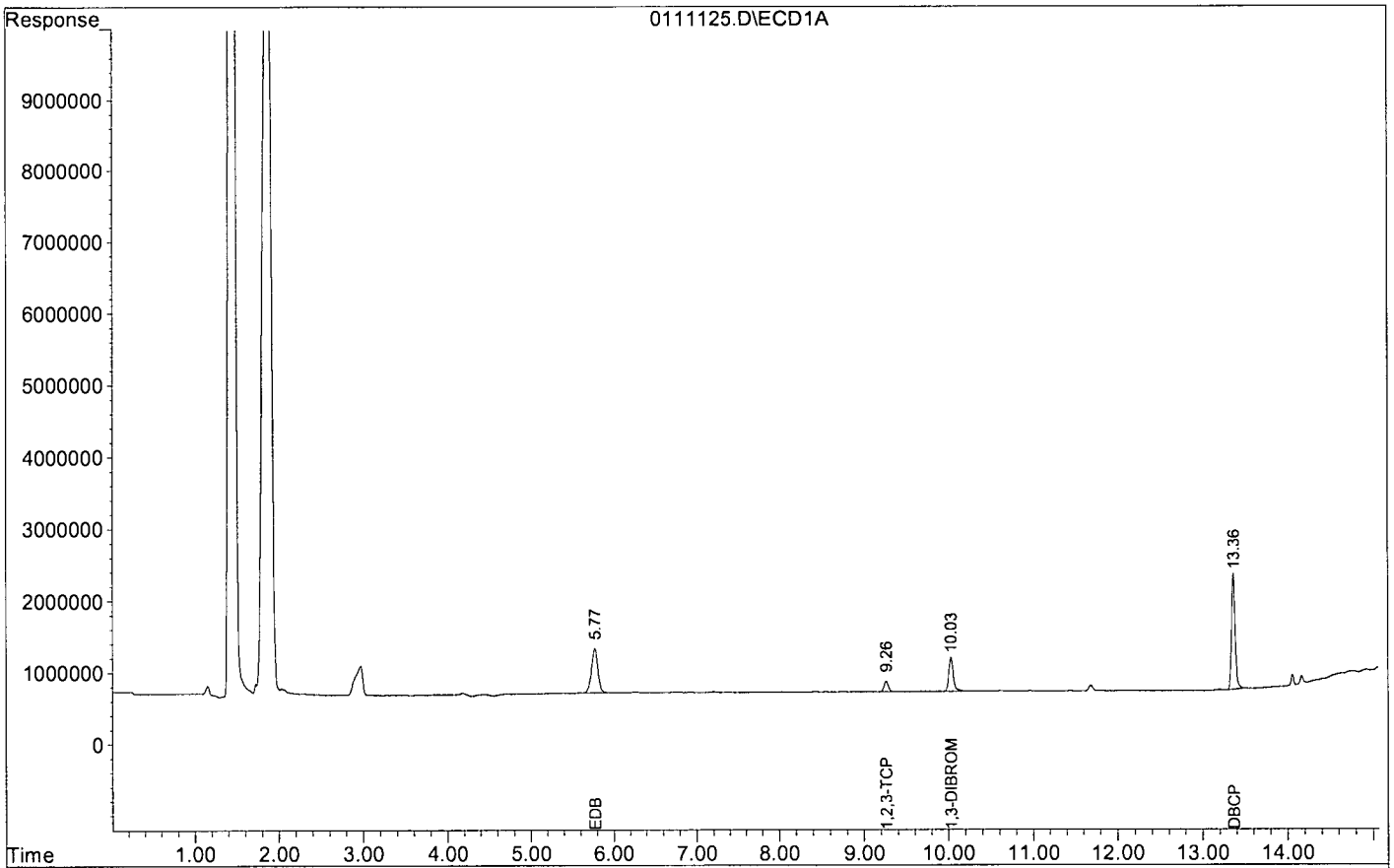
Target Compounds

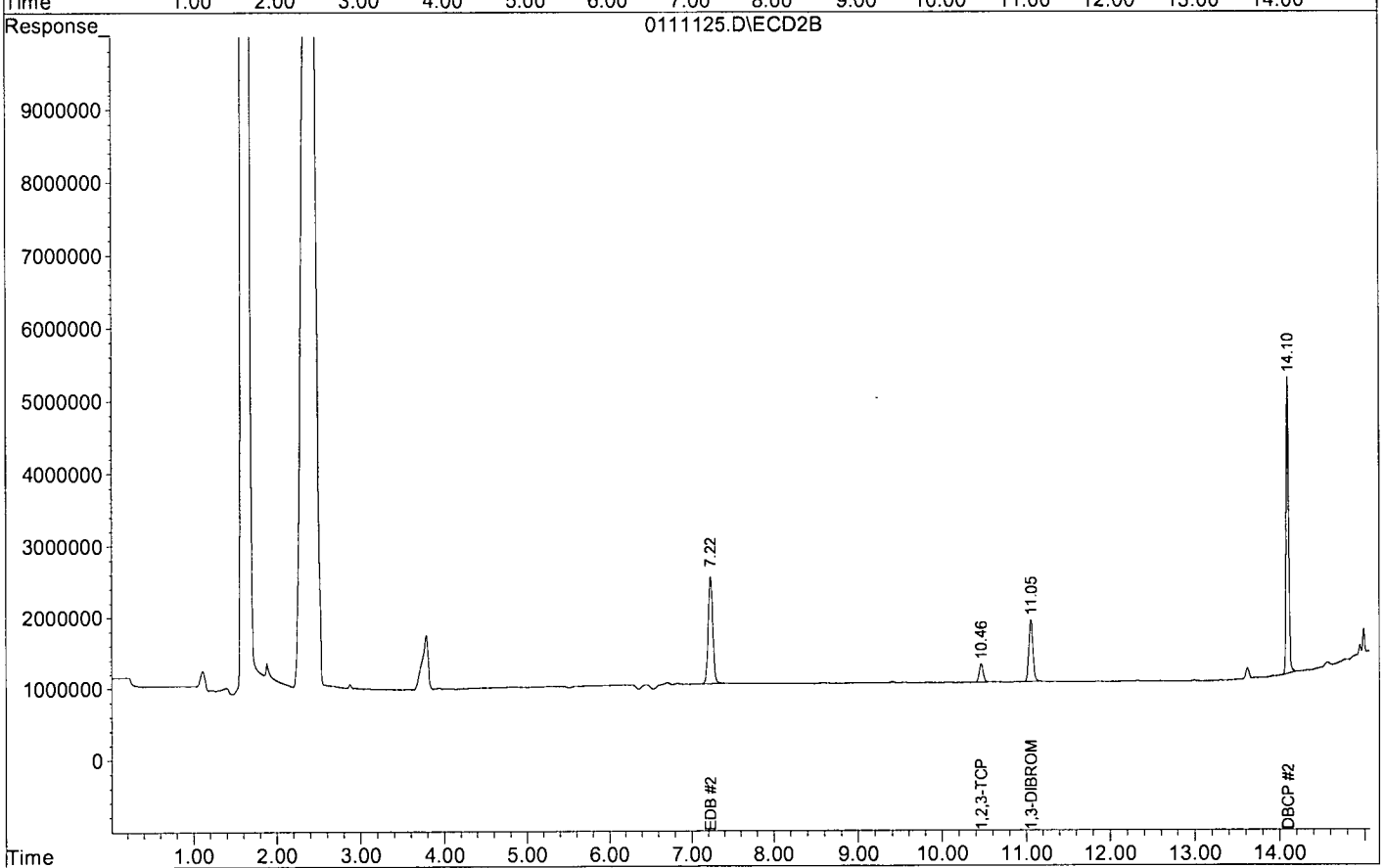
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111125.D
Acq On : 02-13-17 14:15:07
Sample : 8011 STD 4 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 25
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111126.D\ECD1A.CH Vial: 26
Signal #2 : G:\HERBIE\DATA\170111\0111126.D\ECD2B.CH
Acq On : 02-13-17 14:36:23 Operator: RH
Sample : 8011 STD 5 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 12:15 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:15:01 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

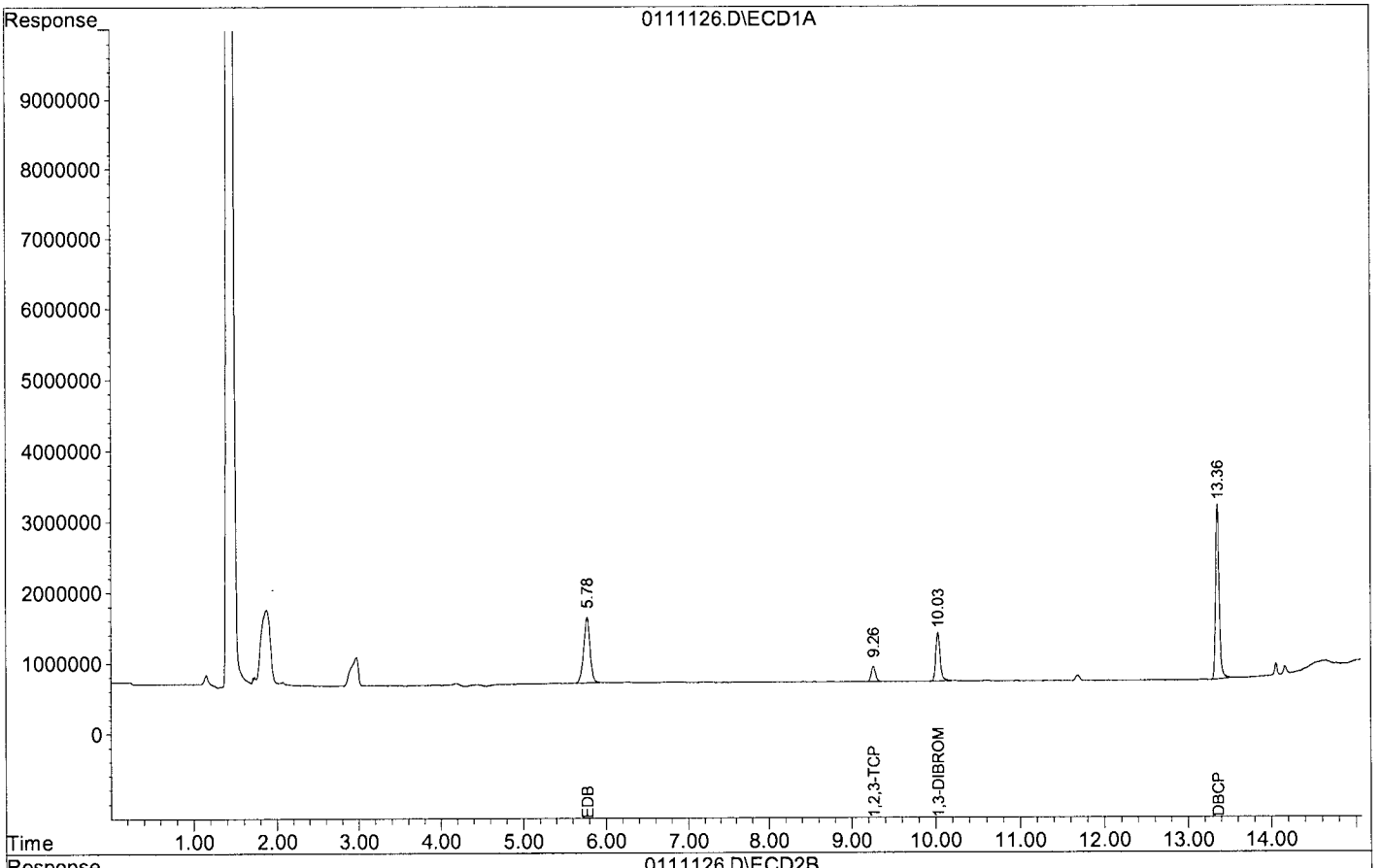
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	688630	1304359	0.491	0.610
Spiked Amount 0.350			Recovery	=	140.29%	174.29%
Target Compounds						
1) TM EDB	5.78	7.23	928582	2253598	0.555	0.596
2) TM 1,2,3-TCP	9.26	10.46	214668	384149	0.600	0.584
4) TM DBCP	13.36	14.10	2468329	6464661	0.522	0.639
Target Compounds						

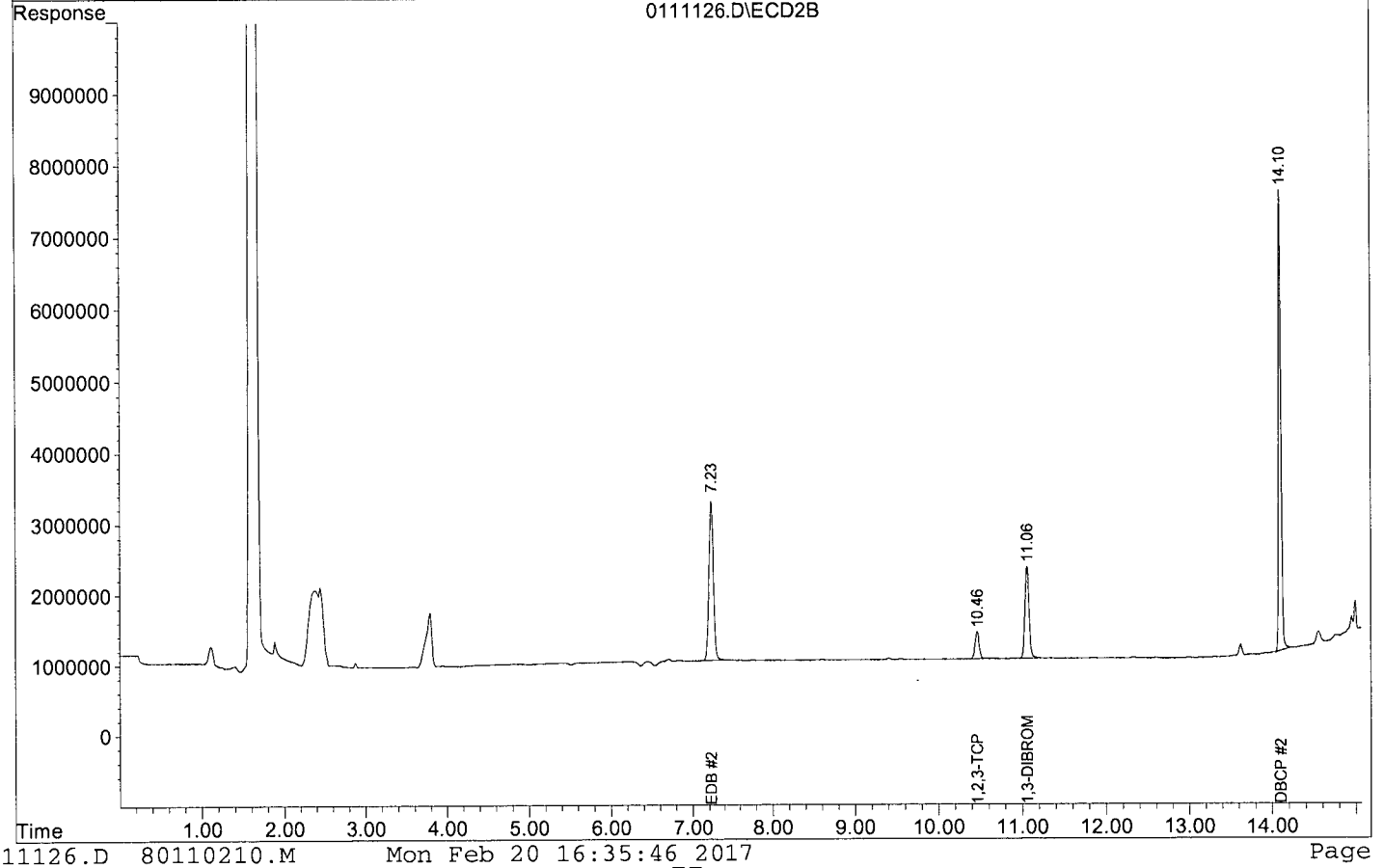
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111126.D
Acq On : 02-13-17 14:36:23
Sample : 8011 STD 5 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 26
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111127.D\ECD1A.CH Vial: 27
Signal #2 : G:\HERBIE\DATA\170111\0111127.D\ECD2B.CH
Acq On : 02-13-17 14:57:32 Operator: RH
Sample : 8011 STD 6 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 12:15 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:15:01 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	876292	1608183	0.624	0.752
Spiked Amount 0.350			Recovery	=	178.29%	214.86%
Target Compounds						
1) TM EDB	5.77	7.22	1160842	2804602	0.693	0.741
2) TM 1,2,3-TCP	9.26	10.46	267229	494522	0.767	0.752
4) TM DBCP	13.36	14.10	3227700	8261656	0.683	0.817

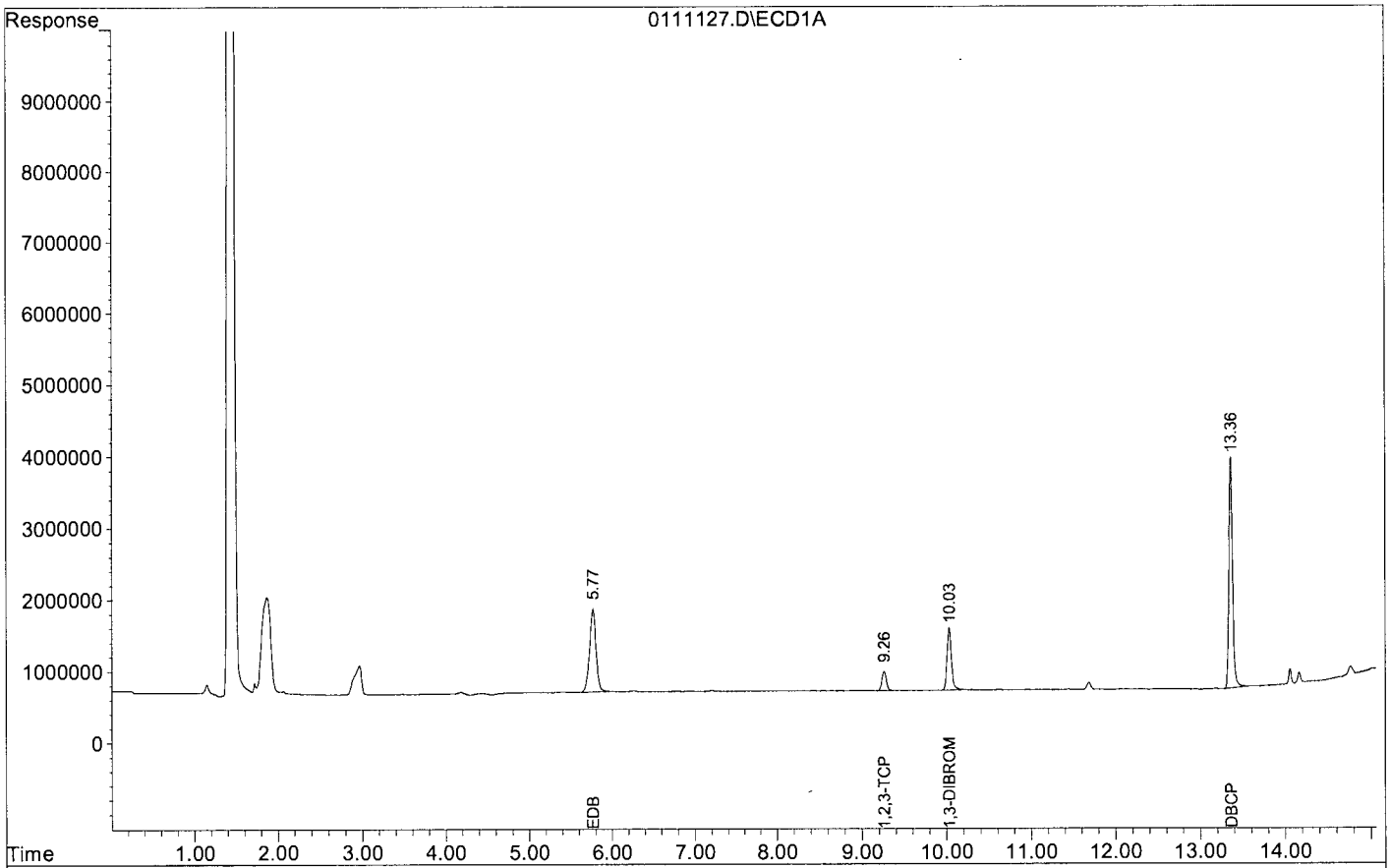
Target Compounds

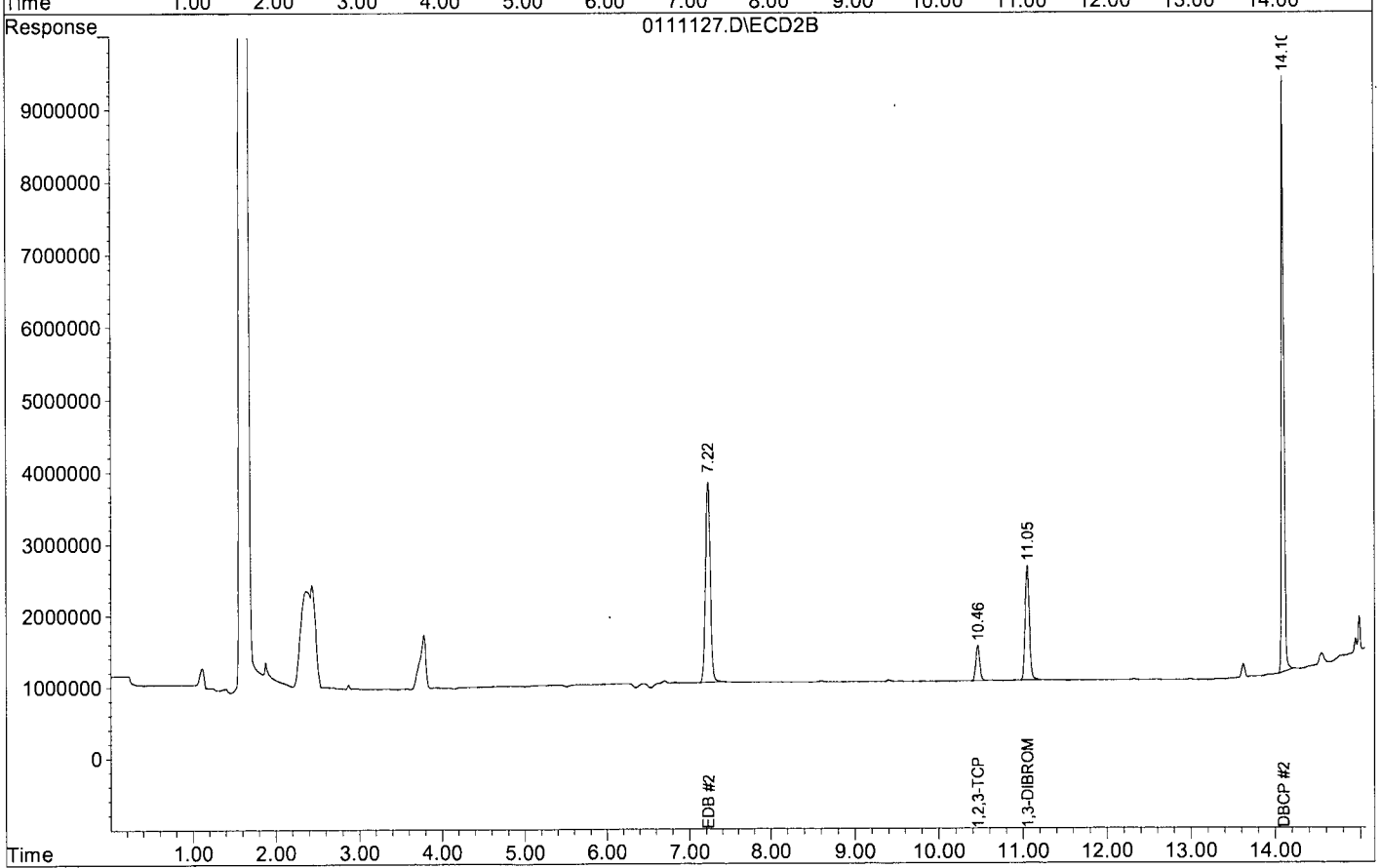
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111127.D
Acq On : 02-13-17 14:57:32
Sample : 8011 STD 6 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 27
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Herbie
Initial Cal. Date: 02/13/17
Data File: 0111130.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	674796	662385	1.8	TM	
2	TM	1,2,3-TCP	147423	143120	2.9	TM	
3	TM	DBCP	1764520	1676730	5.0	TM	
4							
5							
6							
7							
8							
9							
10							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.2		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Herbie
Cal. Date: 02/13/17
Data File: 0111130.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1623390	1472370	9.3	TM	
42	TM	1,2,3-TCP	268839	260460	3.1	TM	
43	TM	DBCP	4233820	3946440	6.8	TM	
44							
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
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70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			6.4		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111130.D\ECD1A.CH Vial: 30
Signal #2 : G:\HERBIE\DATA\170111\0111130.D\ECD2B.CH
Acq On : 02-13-17 16:00:39 Operator: RH
Sample : 170210A LCS-1 2/34.89G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 12:26 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	345690	626368	0.345	0.346
Spiked Amount 0.351			Recovery	=	98.26%	98.55%
Target Compounds						
1) TM EDB	5.77	7.23	132477	294473	0.098	0.091
2) TM 1,2,3-TCP	9.26	10.46	28624	52092	0.097	0.097
4) TM DBCP	13.36	14.10	335345	789287	0.095	0.094
Target Compounds						

Algorithum check = $\frac{132477 * 1}{674796 * 2}$ = 0.098

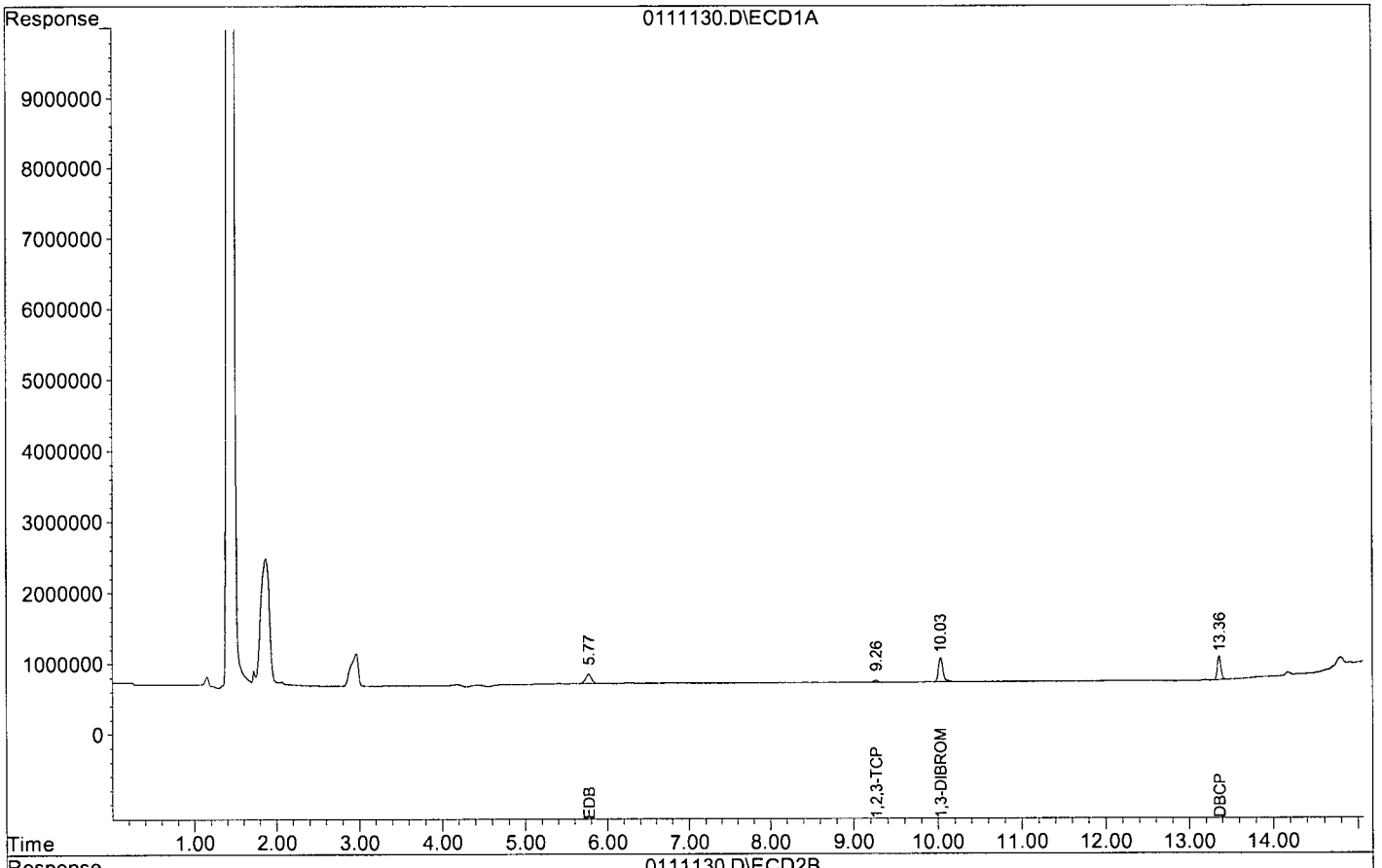
RH 2/20/17

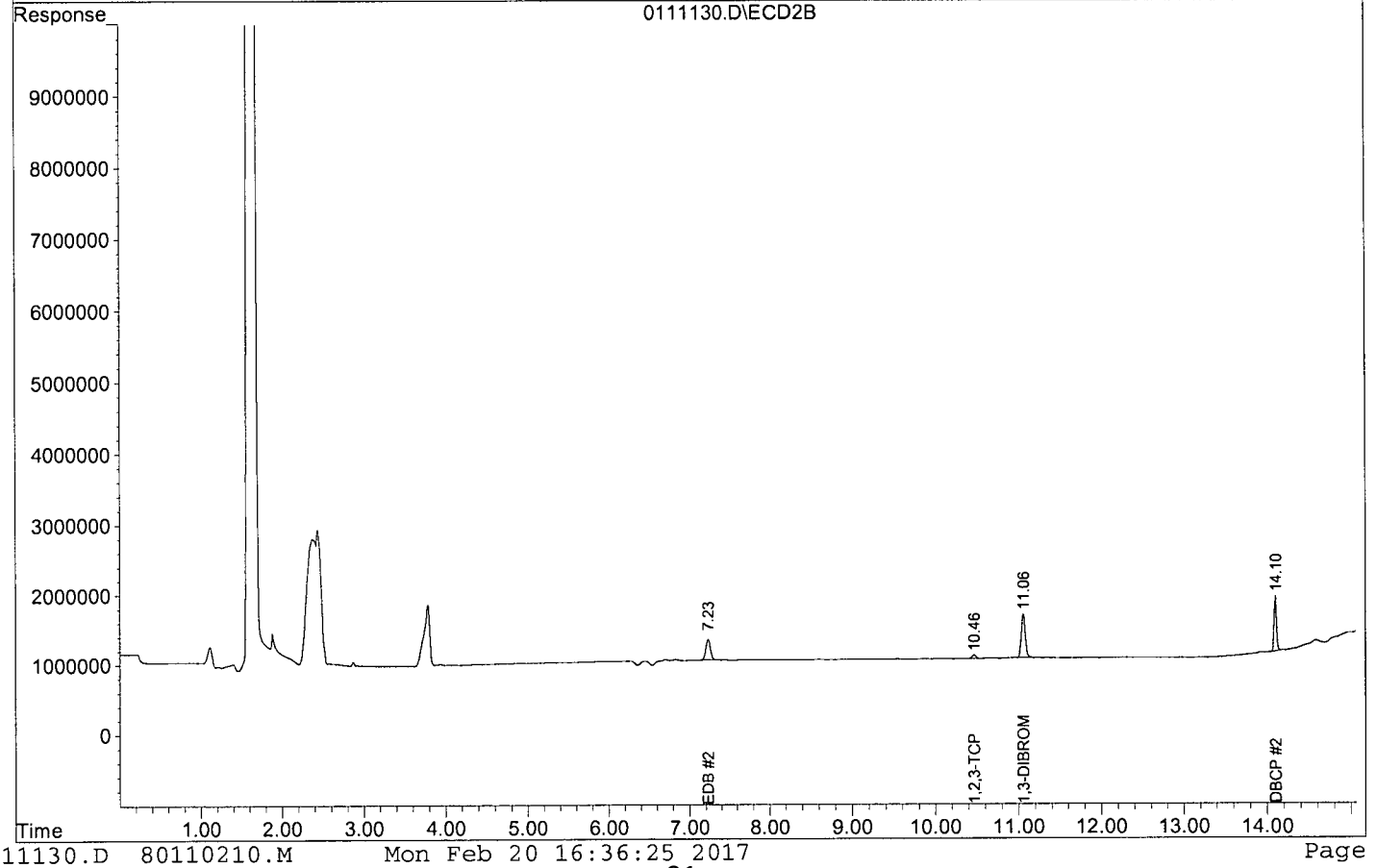
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111130.D
Acq On : 02-13-17 16:00:39
Sample : 170210A LCS-1 2/34.89G
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 30
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Herbie
Initial Cal. Date: 02/13/17
Data File: 0111146.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	674796	671602	0.47	TM	
2	TM	1,2,3-TCP	147423	154640	4.9	TM	
3	S	1,3-DIBROMOPROPANE(S)	502491	538792	7.2	S	
4	TM	DBCP	1764520	1774940	0.59	TM	
5							
6							
7							
8							
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11							
12							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.3		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Herbie
Cal. Date: 02/13/17
Data File: 0111146.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1623390	1602770	1.3	TM	
42	TM	1,2,3-TCP	268839	283582	5.5	TM	
43	S	1,3-DIBROMOPROPANE(S)	908872	962724	5.9	S	
44	TM	DBCP	4233820	4512240	6.6	TM	
45							
46							
47							
48							
49							
50							
51							
52							
53							
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70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			4.8		

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111146.D\ECD1A.CH Vial: 46
Acq On : 02-13-17 21:33:41 Operator: RH
Sample : 8011 M STD 3 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint.p

Data File : G:\HERBIE\DATA\170111\0111146.D\ECD2B.CH Vial: 46
Acq On : 02-13-17 21:33:42 Operator: RH
Sample : 8011 M STD 3 02/10/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint2.p
Quant Time: Feb 15 12:26 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	269396	481362	0.268	0.265
Spiked Amount 0.350			Recovery	=	76.57%	75.71%
Target Compounds						
1) TM EDB	5.77	7.23	335801	801383	0.249	0.247
2) TM 1,2,3-TCP	9.26	10.46	77320	141791	0.262	0.264
4) TM DBCP	13.36	14.10	887468	2256118	0.251	0.266

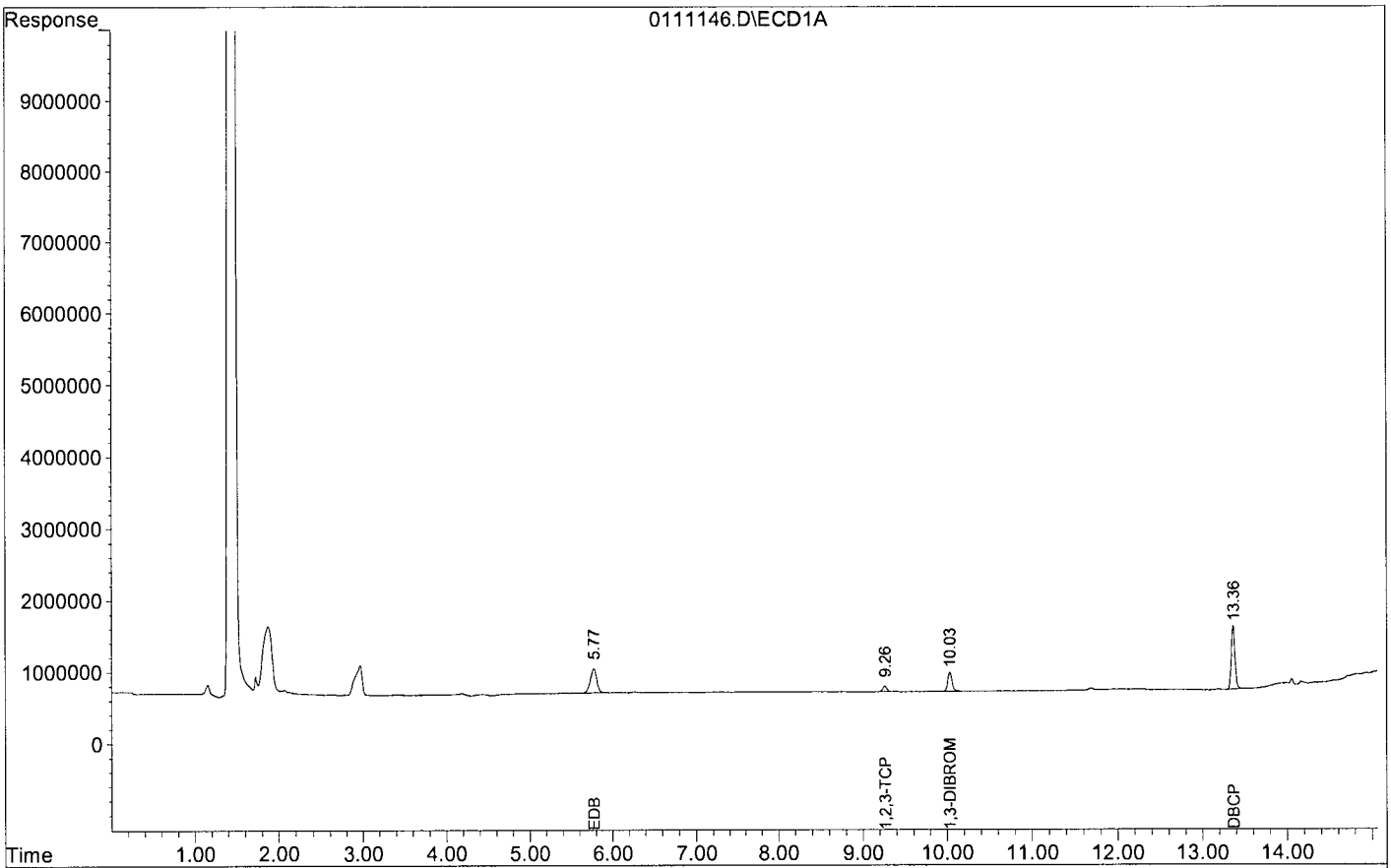
Target Compounds

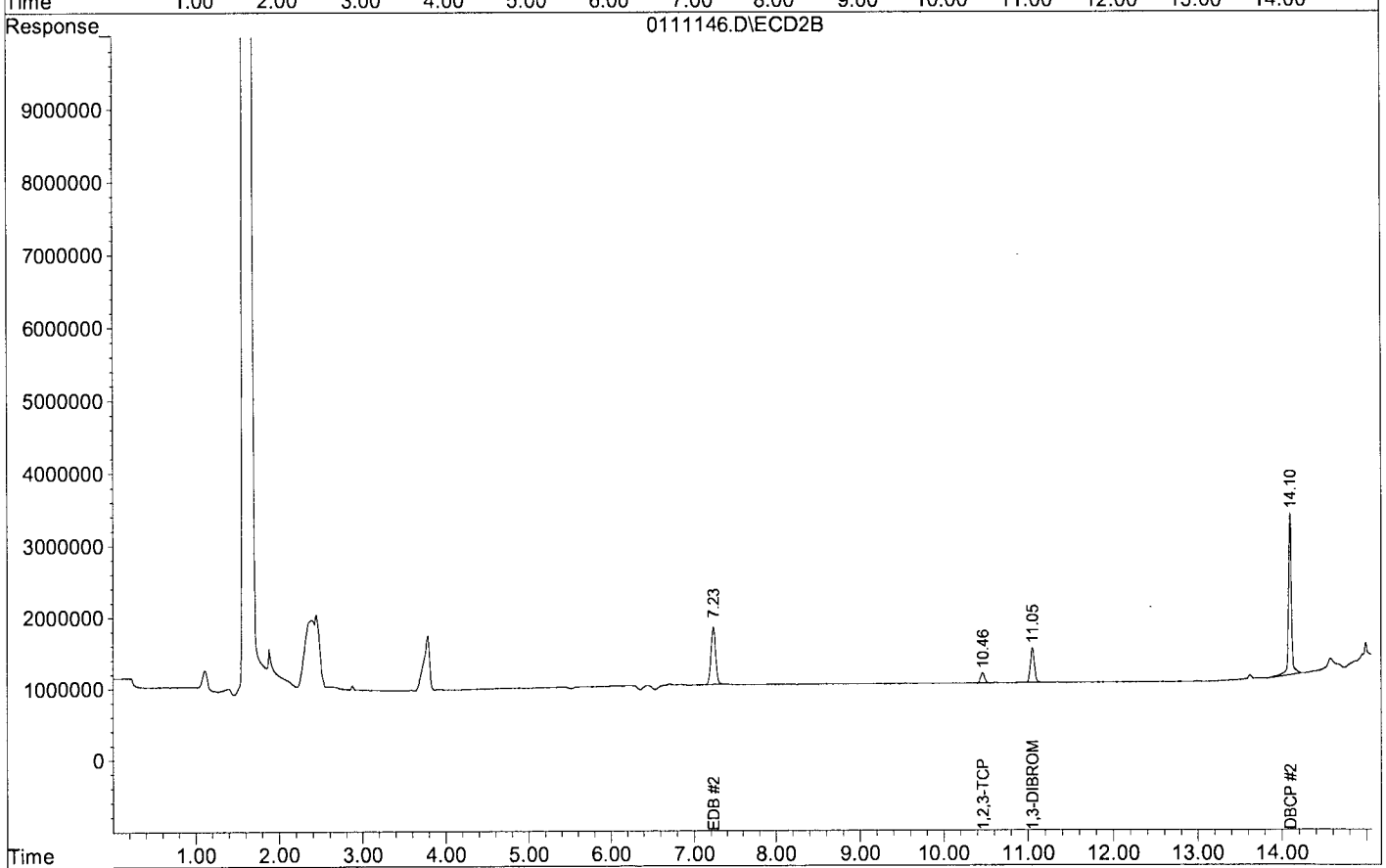
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111146.D
Acq On : 02-13-17 21:33:41
Sample : 8011 M STD 3 02/10/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 46
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49684 - 216195**
Batch ID: #8011-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/10/17	02/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	103	70-132			%	02/10/17	02/13/17

Quant Method: 80110210.M
Run #: 0111129
Instrument: Herbie
Sequence: 170111
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 4:32:23 PM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111129.D\ECD1A.CH Vial: 29
Signal #2 : G:\HERBIE\DATA\170111\0111129.D\ECD2B.CH
Acq On : 02-13-17 15:39:38 Operator: RH
Sample : 170210A BLK 2/34.98G Inst : Herbie
Misc : water Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 13:31 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

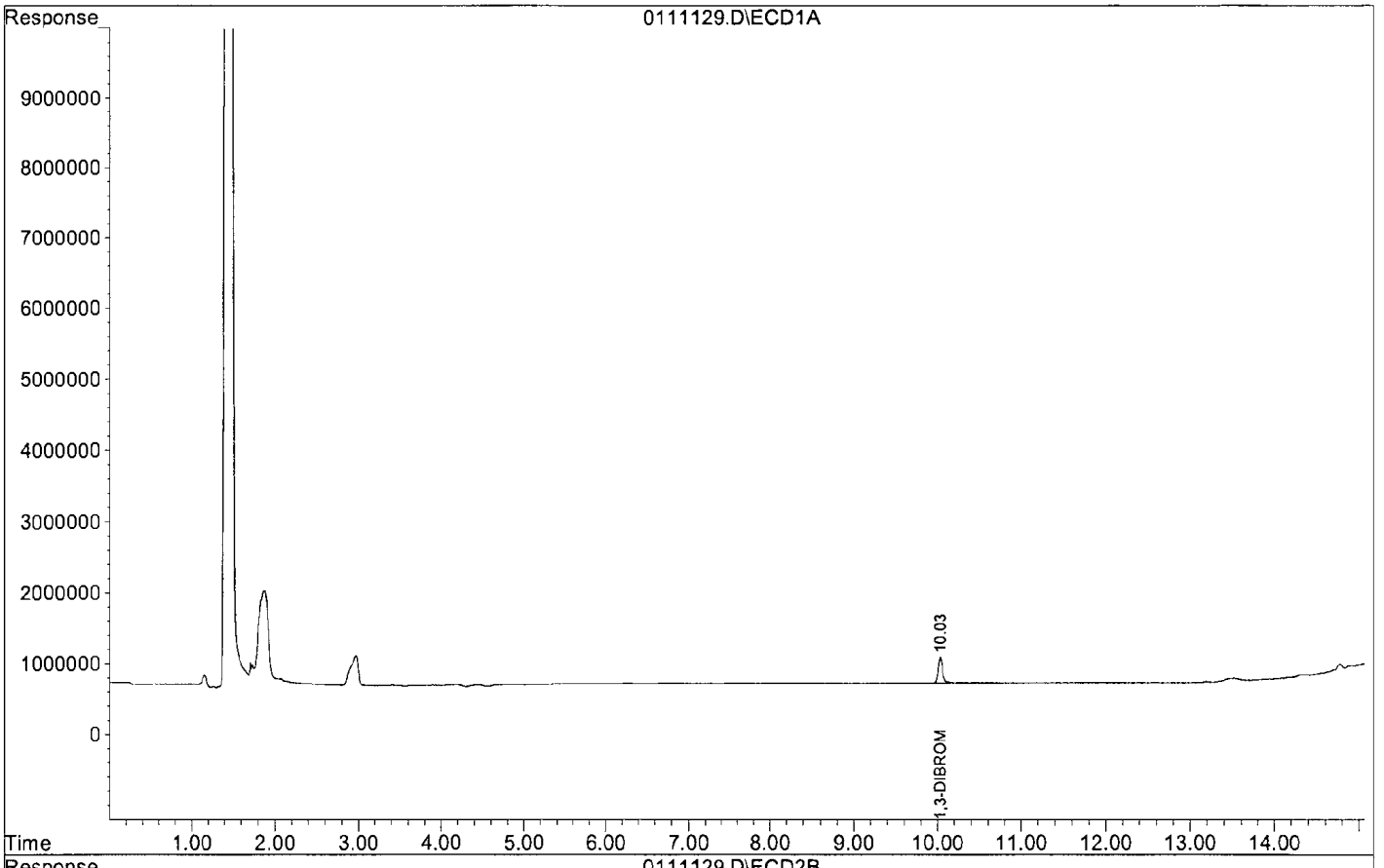
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	360467	644381	0.359	0.355
Spiked Amount 0.350			Recovery	=	102.51%	101.37%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

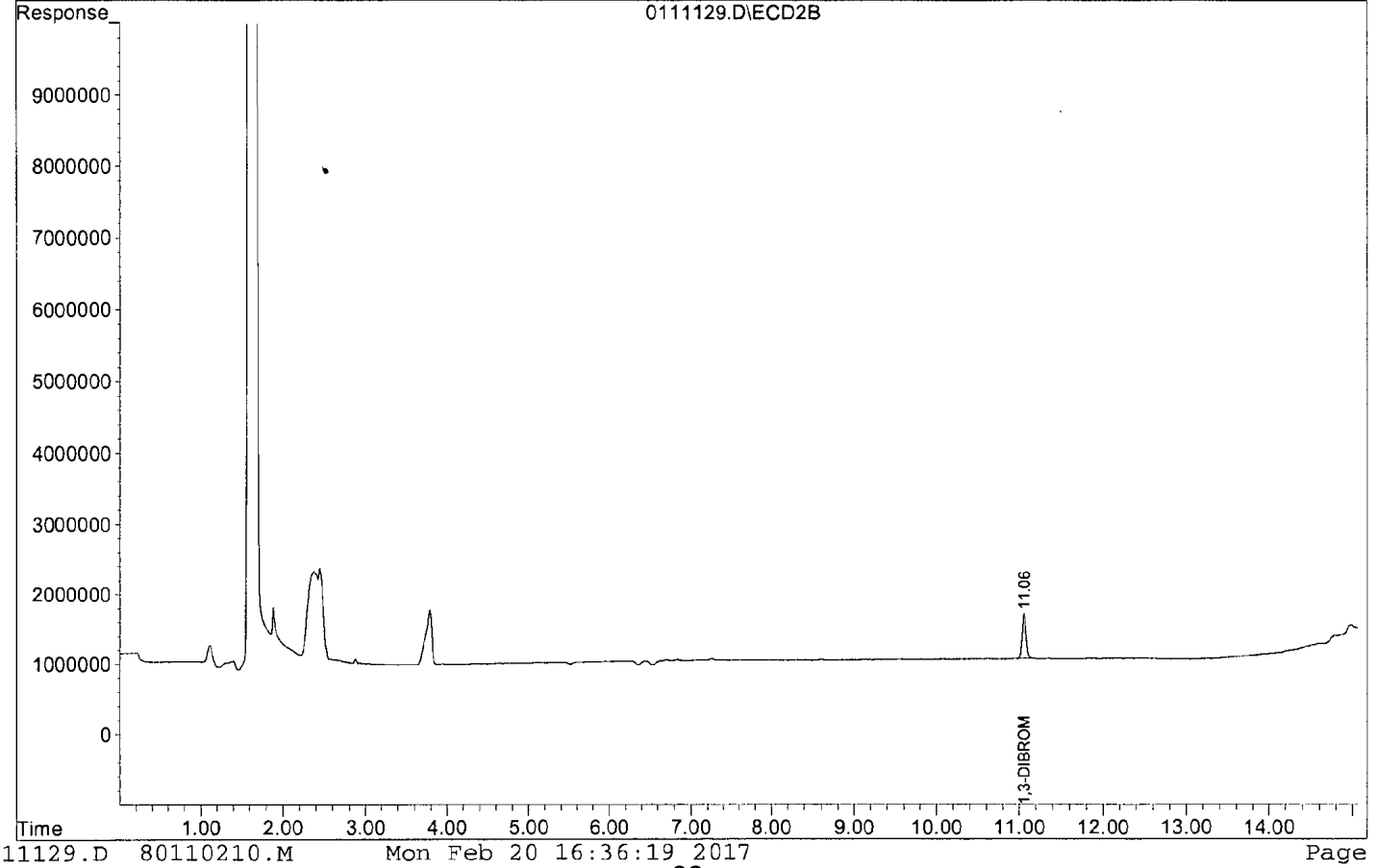
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111129.D
Acq On : 02-13-17 15:39:38
Sample : 170210A BLK 2/34.98G
Misc : water
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 29
Operator: RH
Inst : Herbie
Multiplr: 1.00





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170210W-49684 LCS - 216195**
Batch ID: #8011-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.253	101	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.273	109	70-132

Comments: _____

Primary	SPK
Quant Method :	80110210.M
Extraction Date :	02/10/17
Analysis Date :	02/13/17
Instrument :	Herbie
Run :	0111132
Initials :	RHA

Printed: 02/21/17 3:20:48 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111132.D\ECD1A.CH Vial: 32
Signal #2 : G:\HERBIE\DATA\170111\0111132.D\ECD2B.CH
Acq On : 02-13-17 16:42:40 Operator: RH
Sample : 170210A LCS-2 2/34.59G Inst : Herbie
Misc : water Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 15 13:32 2017 Quant Results File: 80110210.RES

Quant Method : G:\HERBIE\DATA\170111\80110210.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Feb 15 12:19:09 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	271417	475058	0.273	0.264
Spiked Amount 0.354			Recovery	=	77.09%	74.54%
Target Compounds						
1) TM EDB	5.77	7.23	336928	795934	0.253	0.248
2) TM 1,2,3-TCP	9.26	10.46	76665	141783	0.263	0.267
4) TM DBCP	13.36	14.10	870828	2200542	0.250	0.263

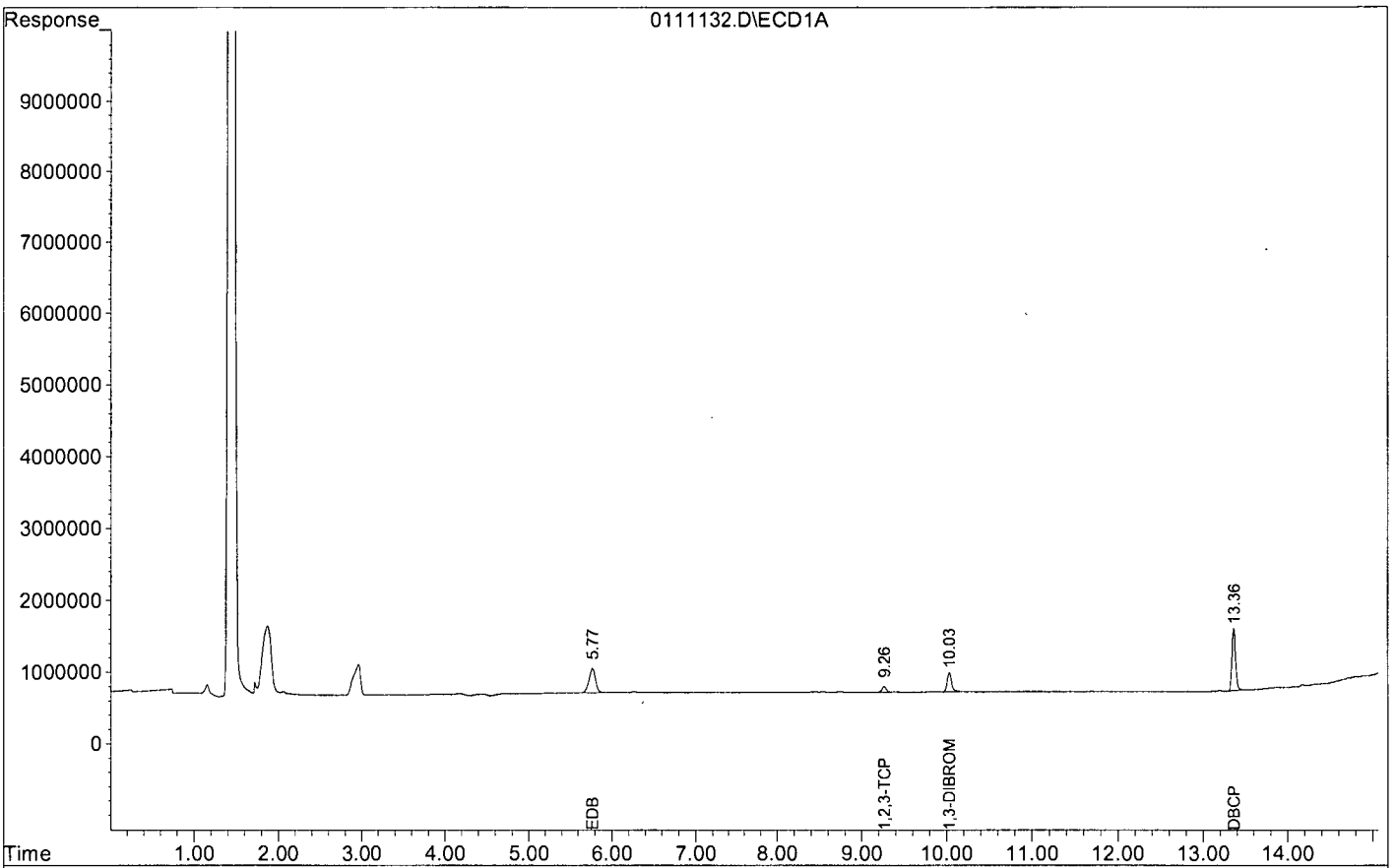
Target Compounds

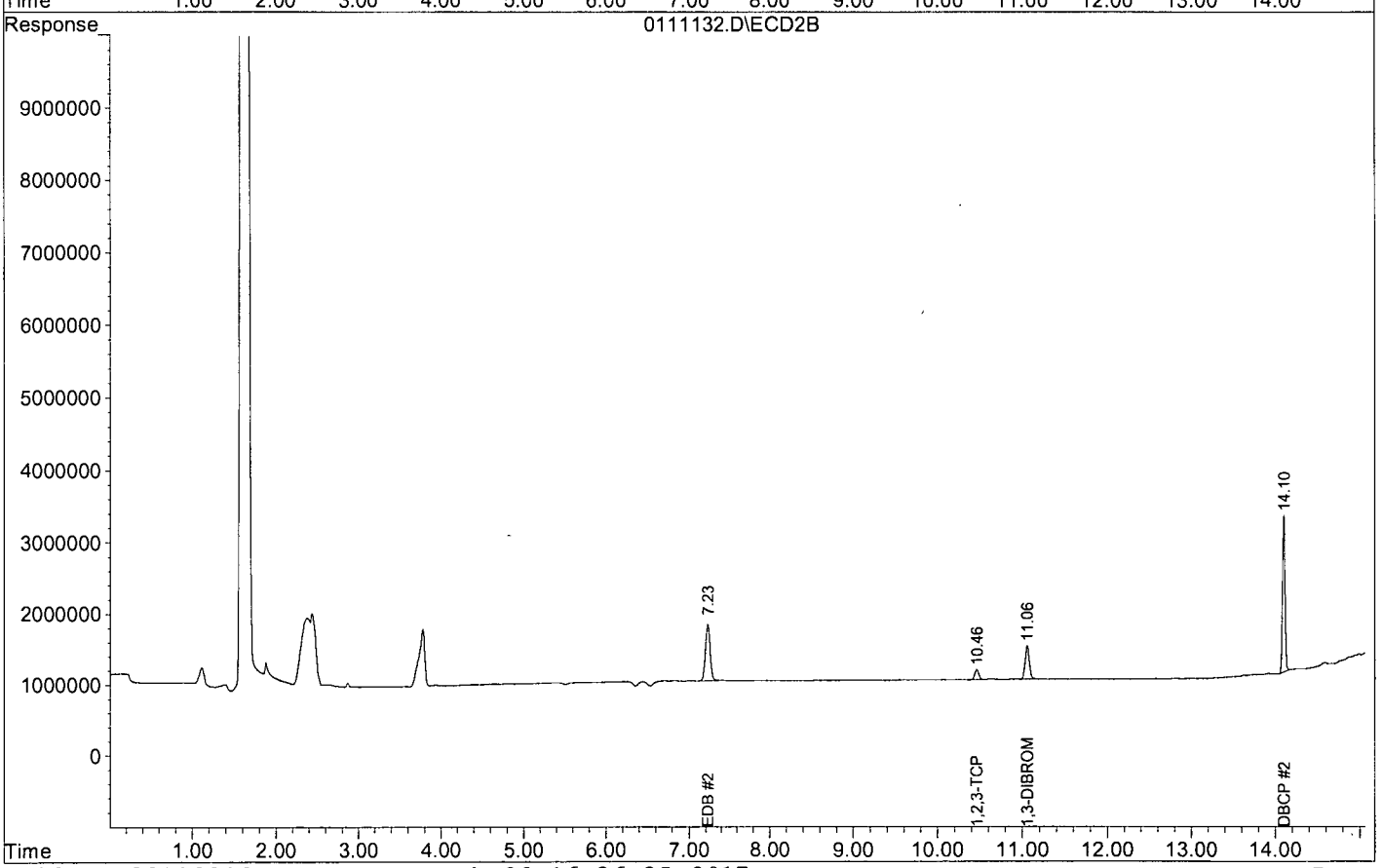
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111132.D
Acq On : 02-13-17 16:42:40
Sample : 170210A LCS-2 2/34.59G
Misc : water
Quant Method : G:\HERBIE\DATA\170111\80110210.M

Vial: 32
Operator: RH
Inst : Herbie
Multiplr: 1.01





		504/8011 M STD					
Prep: 02/02/17 Exp: 04/08/17 RH							
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent	
EDB	0.35ug/mL	504/8011 M STD STK	1000uL	10mL	0.035ug/mL	Methanol	
TCP		prep.12/08/16				BDH1135-4LG	
DBCP		exp: 04/08/17					
1,3 DBP							

		504/8011 SS				
Prep: 02/10/17 RH Ex: 7/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 1/18/18				

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 6/7/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

504/8011 M STD STOCK						
Prep: 12/08/16-R.H.		Exp: 04/08/17				
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol
TCP		prep. 06/07/16				021915C
DBCP		exp: 06/07/17				
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL			
		prep.06/07/16				
		exp. 06/07/17				

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 1/18/18						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170210A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 EXP 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17	
Spiked ID 2	504.1 M. STD 2-2-17 exp 4-8-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	02/10/17 13:20	
Spiked ID 8			Ext. End Time:	02/10/17 14:50	
			GC Requires Extract By:	02/16/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 02/10/17 **Witnessed By:** DL **Date** 02/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170210A Blk				0.035	1 equip	34.98g	2	7	02/10/17 13:20	
2	170210A LCS-1		0.100	1	0.035	1 equip	34.89g	2	7	02/10/17 13:20	
3	170210A LCS-2		0.250	2	NA	NA equip	34.59g	2	7	02/10/17 13:20	
4	170210A LCSD-1		0.100	1	0.035	1 equip	34.53g	2	7	02/10/17 13:20	
5	170210A LCSD-2		0.250	2	NA	NA equip	34.54g	2	7	02/10/17 13:20	
6	AZ49594	AZ49594W04			0.035	1 equip	34.30g	2	7	02/10/17 13:20	82100
7	AZ49595	AZ49595W04			0.035	1 equip	34.46g	2	7	02/10/17 13:20	82100
8	AZ49596	AZ49596W04			0.035	1 equip	34.54g	2	7	02/10/17 13:20	82100
9	AZ49684	AZ49684W04			0.035	1 equip	34.14g	2	7	02/10/17 13:20	82121 RUSH 1 WEEK
10	AZ49685	AZ49685W07			0.035	1 equip	34.67g	2	7	02/10/17 13:20	82121 RUSH 1 WEEK
11	AZ49686	AZ49686W07			0.035	1 equip	34.75g	2	7	02/10/17 13:20	82121 RUSH 1 WEEK
12	AZ49808	AZ49808W04			0.035	1 equip	35.87g	2	7	02/10/17 13:20	82138
13	AZ49809	AZ49809W04			0.035	1 equip	34.67g	2	7	02/10/17 13:20	82138
14	AZ49810	AZ49810W04			0.035	1 equip	34.74g	2	7	02/10/17 13:20	82138
15	AZ49821	AZ49821W05			0.035	1 equip	34.85g	2	7	02/10/17 13:20	82143
16	M STD 1		0.020	2	NA	NA equip	35.03g	2	7	02/10/17 13:20	

Solvent and Lot#	
NaCL	16B100011
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	8:00
Refrigerator	Ho bay 3

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	---------
Modified	02/10/17 5:00:39 PM

Reviewed By: Kr **Date** 2/10/17

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170210A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 EXP 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17
Spiked ID 2	504.1 M. STD 2-2-17 exp 4-8-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	NO
Spiked ID 7			Ext. Start Time:	02/10/17 13:20
Spiked ID 8			Ext. End Time:	02/10/17 14:50
			GC Requires Extract By:	**02/16/17 0:00**

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 02/10/17 **Witnessed By:** DL **Date** 02/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 2		0.100	2	NA	NA	34.64g	2	7	02/10/17 13:20	
						equip					
18	M STD 3		0.250	2	NA	NA	34.35g	2	7	02/10/17 13:20	
						equip					
19	M STD 4		0.500	2	NA	NA	34.93g	2	7	02/10/17 13:20	
						equip					
20	M STD 5		0.750	2	NA	NA	34.98g	2	7	02/10/17 13:20	
						equip					
21	M STD 6		1	2	NA	NA	35.00g	2	7	02/10/17 13:20	
						equip					

KY 2/10/17

Solvent and Lot#	
NaCL	16B100011
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	---------

Modified	02/10/17 5:00:39 PM

Reviewed By: KY **Date** 2/10/17

Injection Log

Directory: G:\HERBIE\DATA\170111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	22	0111122.D	1	8011 STD 1 02/10/17		02-13-17 13:11:56
2	23	0111123.D	1	8011 STD 2 02/10/17		02-13-17 13:33:04
3	24	0111124.D	1	8011 STD 3 02/10/17		02-13-17 13:54:05
4	25	0111125.D	1	8011 STD 4 02/10/17		02-13-17 14:15:07
5	26	0111126.D	1	8011 STD 5 02/10/17		02-13-17 14:36:23
6	27	0111127.D	1	8011 STD 6 02/10/17		02-13-17 14:57:32
7	29	0111129.D	1.00057	170210A BLK 2/34.98G	water	02-13-17 15:39:38
8	30	0111130.D	1.00315	170210A LCS-1 2/34.89G		02-13-17 16:00:39
9	32	0111132.D	1.01185	170210A LCS-2 2/34.59G	water	02-13-17 16:42:40
10	37	0111137.D	1.02519	AZ49684W04 2/34.14G		02-13-17 18:27:02
11	38	0111138.D	1.00952	AZ49685W07 2/34.67G		02-13-17 18:47:53
12	39	0111139.D	1.00719	AZ49686W07 2/34.75G		02-13-17 19:08:36
13	46	0111146.D	1	8011 M STD 3 02/10/17		02-13-17 21:33:41

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216139**
Batch ID: #DOC53-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: OCTACOSANE (S)	92.0	60-142			%	02/09/17	02/13/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.9	56-125			%	02/09/17	02/13/17

Quant Method: DOC0207.M
Run #: 213037
Instrument: Apollo
Sequence: 170213
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 9:38:59 AM

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170209W-49674 LCS - 216139**
Batch ID: #DOC53-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	479	71.8	36-132
OIL (C24-C40)	667	567	85.0	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.7	91.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	36.0	90.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Apollo
Run :	213038
Initials :	DPO

Printed: 02/14/17 9:38:53 AM
APPL Standard LCS

Matrix Spike Recoveries
EPA 8015B TPH WATER

APPL ID: **170209W-49674 MS - 216139**
Batch ID: #DOC53-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	471	469	70.6	70.3	36-132	0.43	30
OIL (C24-C40)	667	ND	575	581	86.2	87.1	41-113	1.0	30
SURROGATE: OCTACOSANE (S)	40.0	NA	35.9	36.8	89.8	92.0	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	35.6	36.2	89.0	90.5	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0207.M	DOC0207.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/14/17	02/14/17
Instrument :	Apollo	Apollo
Run :	213048	213049
Initials :	DPO	

Printed: 02/14/17 9:38:50 AM
APPL MSD SCII

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	60-142	92.0		56-125	78.9	
170209A-LCS	Lab Control Spike	60-142	91.8		56-125	90.0	
AZ49674	ERH205	60-142	86.8		56-125	75.9	
AZ49674-MS	Matrix Spike	60-142	89.8		56-125	89.0	
AZ49674-MSD	Matrix SpikeD	60-142	92.0		56-125	90.5	
AZ49676	ERH206	60-142	89.0		56-125	77.8	
AZ49679	ERH212	60-142	89.4		56-125	78.7	
AZ49682	ERH214	60-142	95.4		56-125	85.4	
AZ49683	ERH228	60-142	92.5		56-125	82.5	
AZ49685	ERH220	60-142	86.5		56-125	76.3	
AZ49686	ERH221	60-142	90.5		56-125	79.9	

Comments: Batch: #DOC53-170209A

Printed: 02/14/17 9:38:55 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Apollo
Time Analyzed: 2111

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	213037	02/13/17 2111
170209A-LCS	Lab Control Spike	213038	02/13/17 2132
AZ49674	ERH205	213045	02/13/17 2354
170209A-MS	Matrix Spike	213048	02/14/17 0056
170209A-MSD	Matrix SpikeD	213049	02/14/17 0116
AZ49676	ERH206	213050	02/14/17 0136
AZ49679	ERH212	213051	02/14/17 0157
AZ49682	ERH214	213052	02/14/17 0217
AZ49683	ERH228	213053	02/14/17 0237
AZ49685	ERH220	213054	02/14/17 0258
AZ49686	ERH221	213055	02/14/17 0318

Comments: Batch: #DOC53-170209A

Printed: 02/14/17 9:38:46 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	86.8	60-142			%	02/09/17	02/13/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	75.9	56-125			%	02/09/17	02/13/17

Quant Method: DOC0207.M
Run #: 213045
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213045.D
Vial: 45
Acq On : 2-13-17 23:54:54
Operator: DP
Sample : AZ49674W25 2/1500
Inst : Apollo
Misc : Water
Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:28 2017 Quant Results File: DOC0207.RES

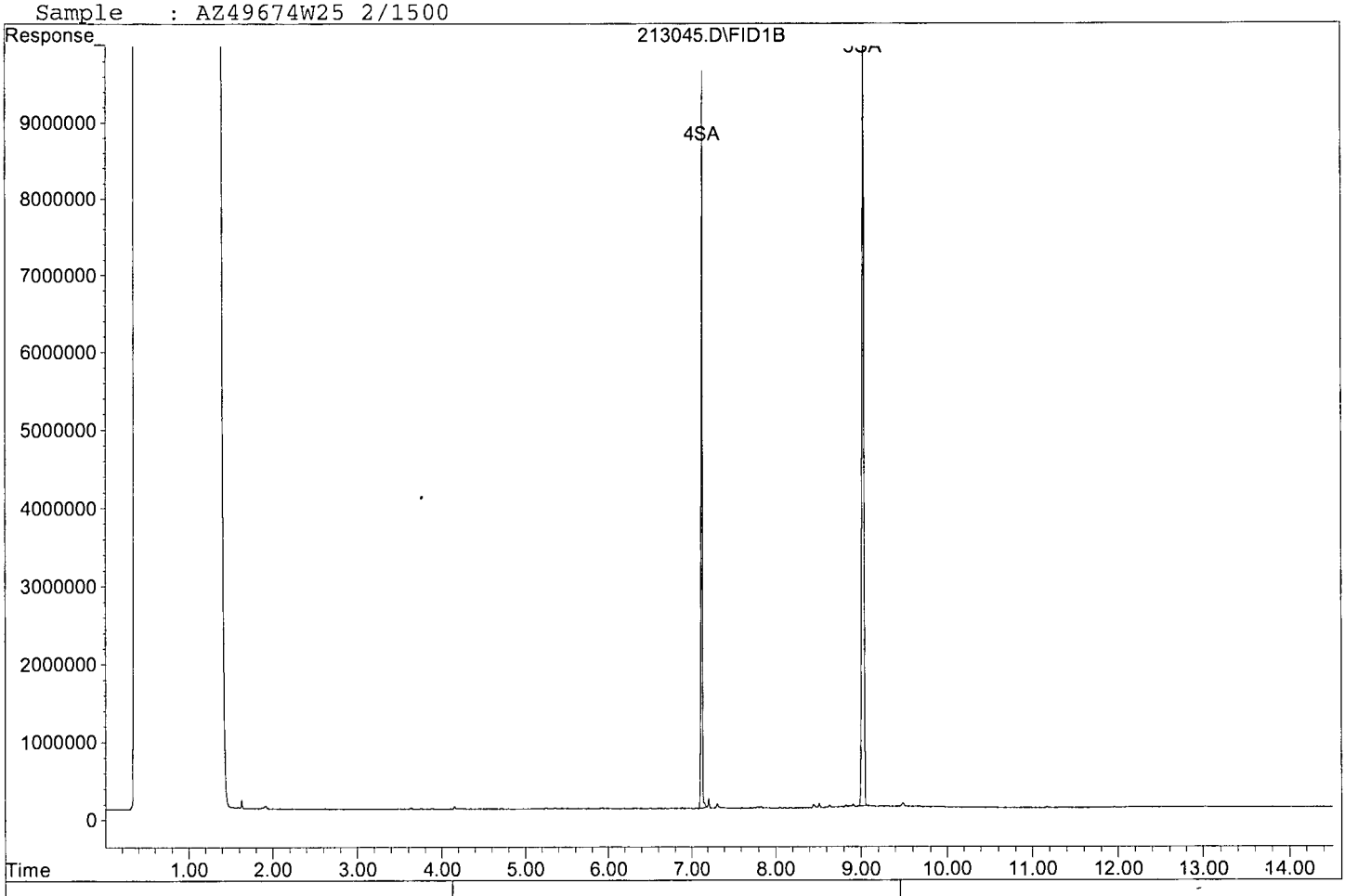
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

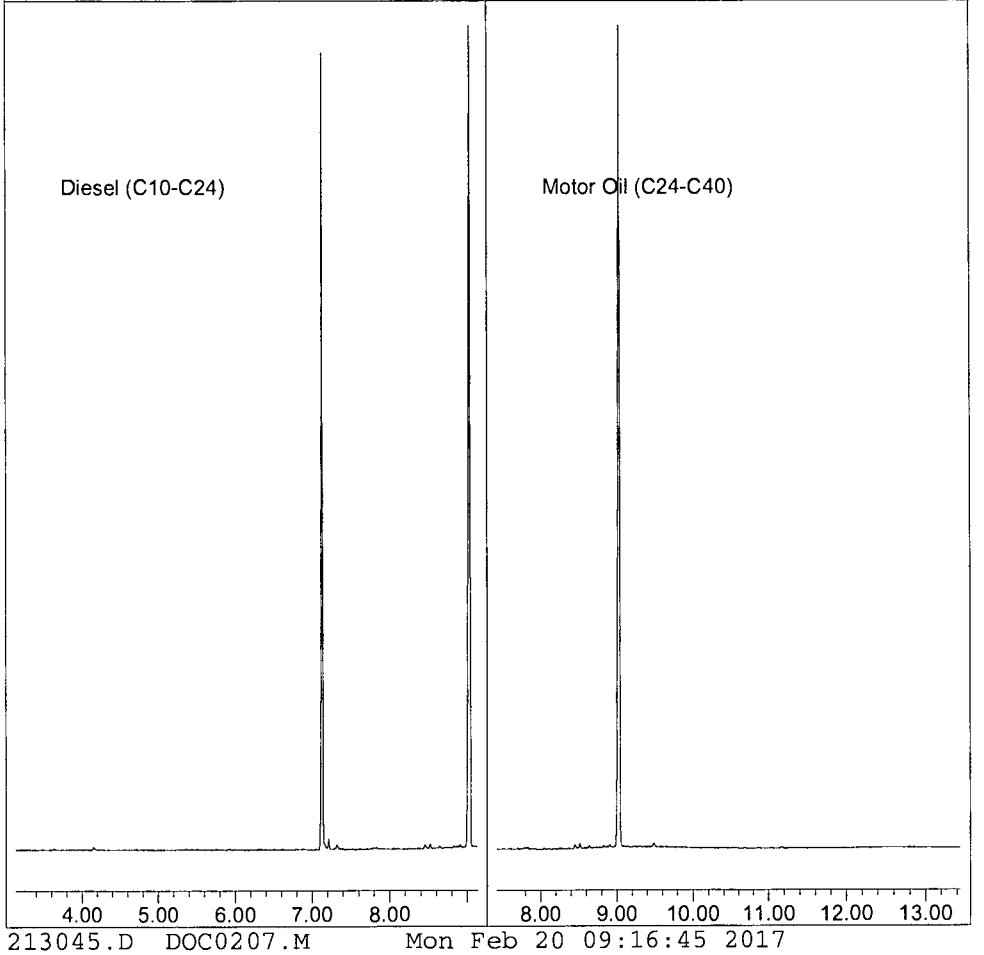
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97270453	30.345 ppb
Surrogate Spike 40.000		Recovery =	75.86%
5) SA Octacosane(S)	9.03	163498186	34.714 ppb
Surrogate Spike 40.000		Recovery =	86.79%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213045.D
Sample : AZ49674W25 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	89.0	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.8	56-125			%	02/09/17	02/14/17

Quant Method: DOC0207.M
Run #: 213050
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213050.D Vial: 50
Acq On : 2-14-17 1:36:48 Operator: DP
Sample : AZ49676W08 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:29 2017 Quant Results File: DOC0207.RES

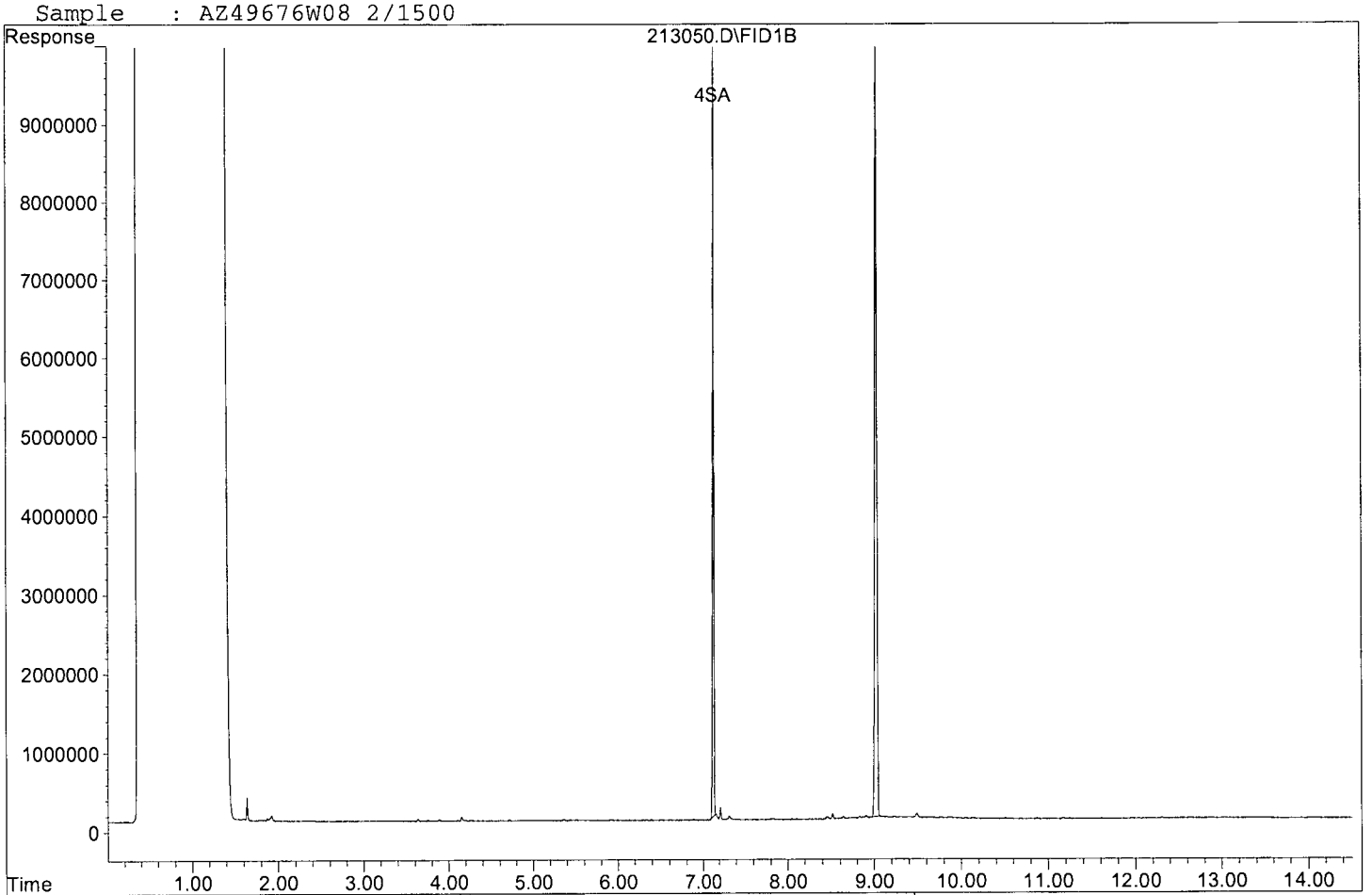
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

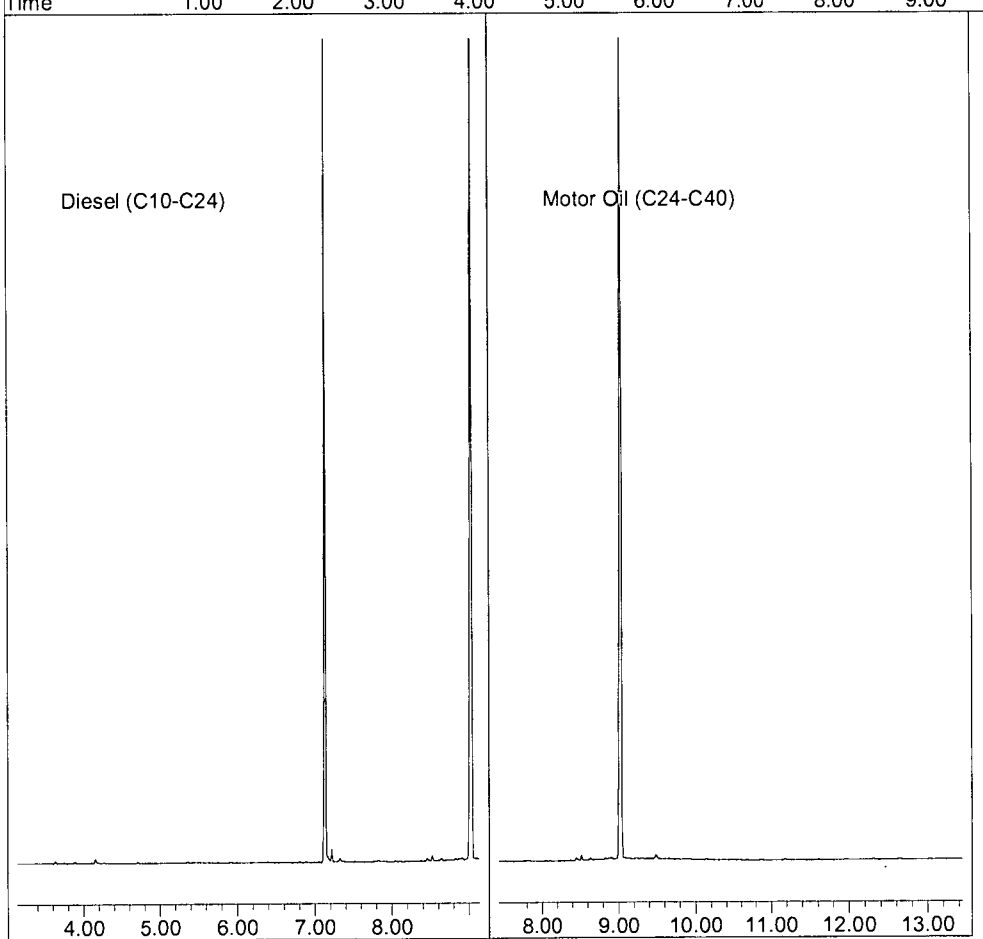
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99713179	31.107 ppb
Surrogate Spike 40.000		Recovery =	77.77%
5) SA Octacosane(S)	9.04	167723813	35.611 ppb
Surrogate Spike 40.000		Recovery =	89.03%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213050.D
Sample : AZ49676W08 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	89.4	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	78.7	56-125			%	02/09/17	02/14/17

Quant Method: DOC0207.M
Run #: 213051
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213051.D Vial: 51
Acq On : 2-14-17 1:57:08 Operator: DP
Sample : AZ49679W11 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:29 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

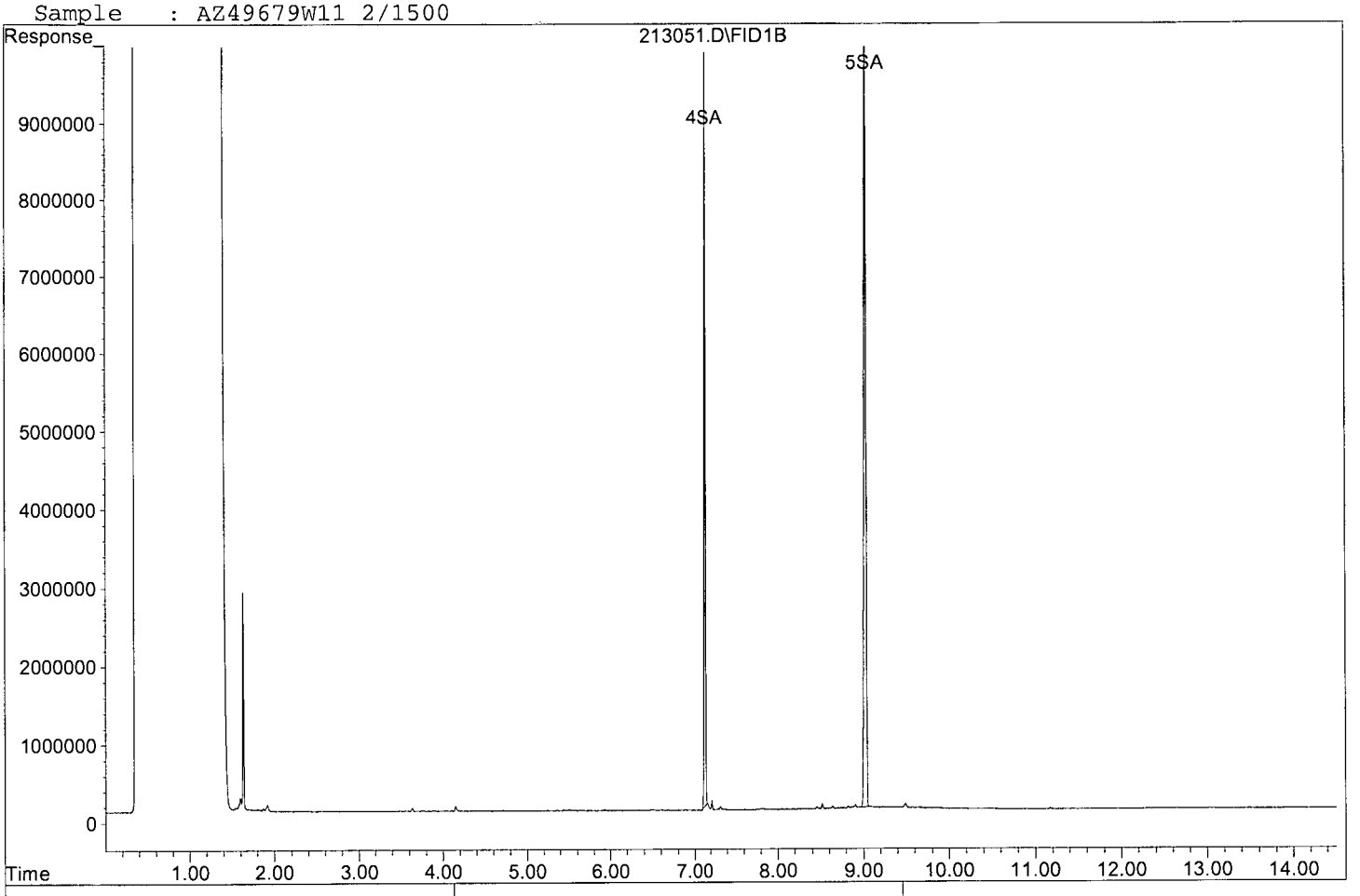
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

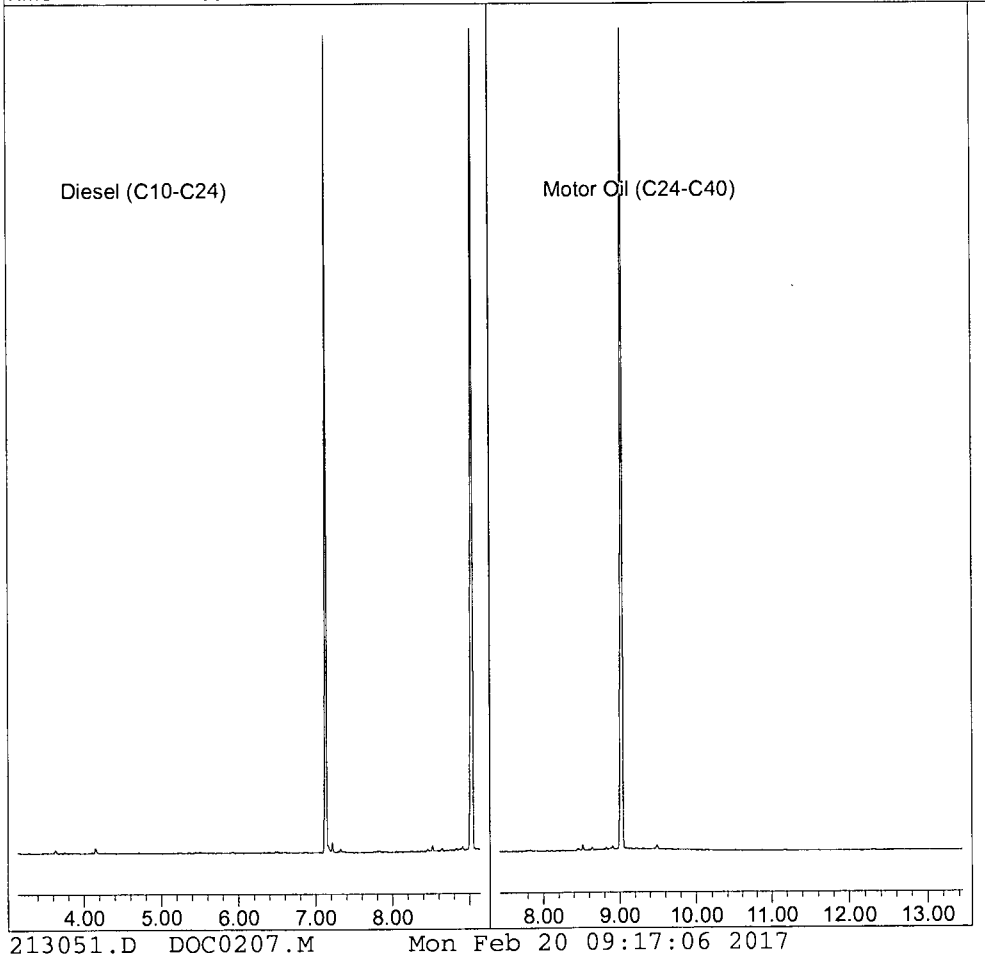
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	100934244	31.488 ppb
Surrogate Spike 40.000		Recovery =	78.72%
5) SA Octacosane(S)	9.03	168331141	35.740 ppb
Surrogate Spike 40.000		Recovery =	89.35%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213051.D
Sample : AZ49679W11 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	95.4	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	85.4	56-125			%	02/09/17	02/14/17

Quant Method: DOC0207.M
Run #: 213052
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213052.D
Acq On : 2-14-17 2:17:30
Sample : AZ49682W13 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 9:30 2017 Quant Results File: DOC0207.RES

Vial: 52
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

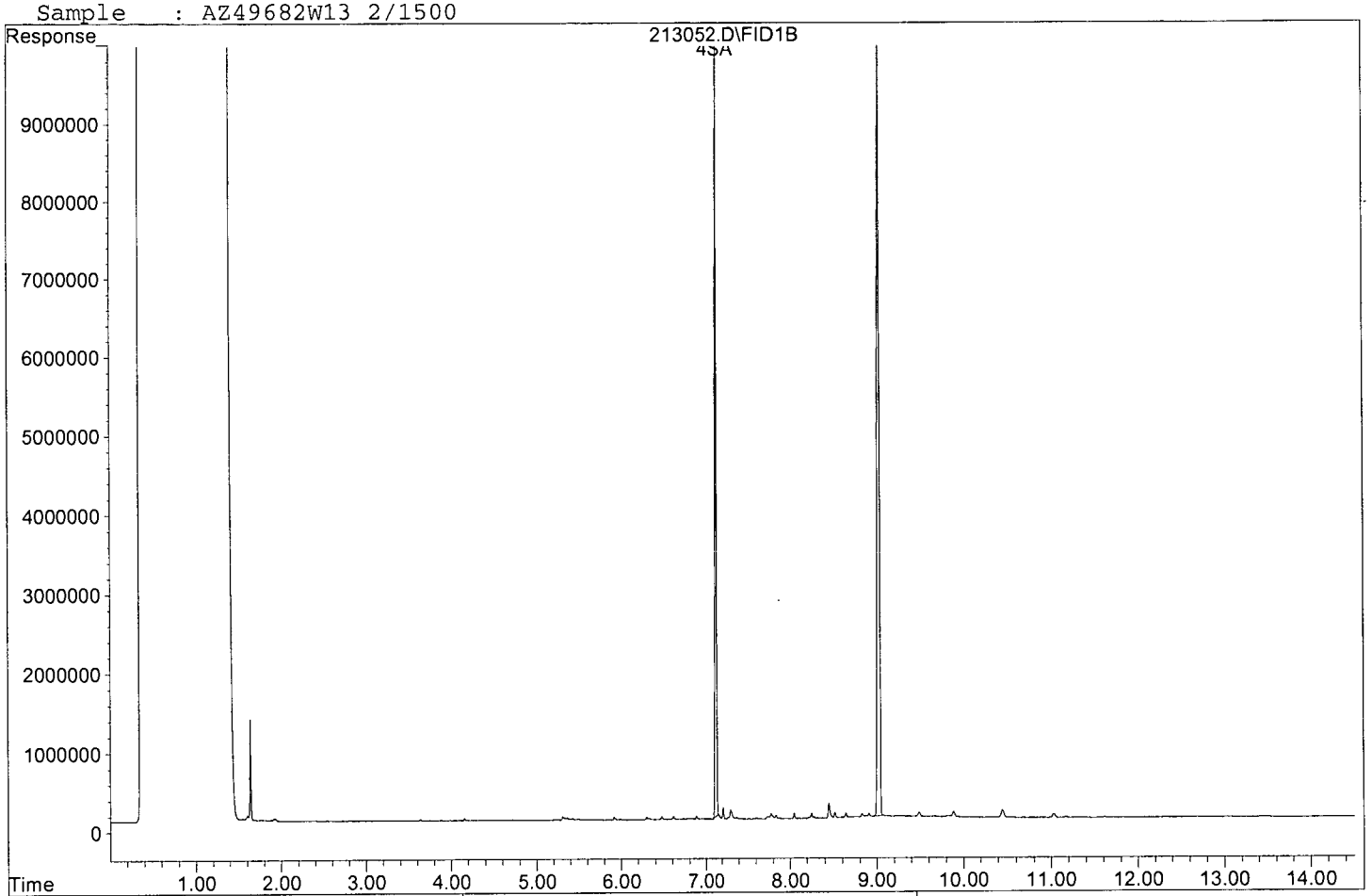
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

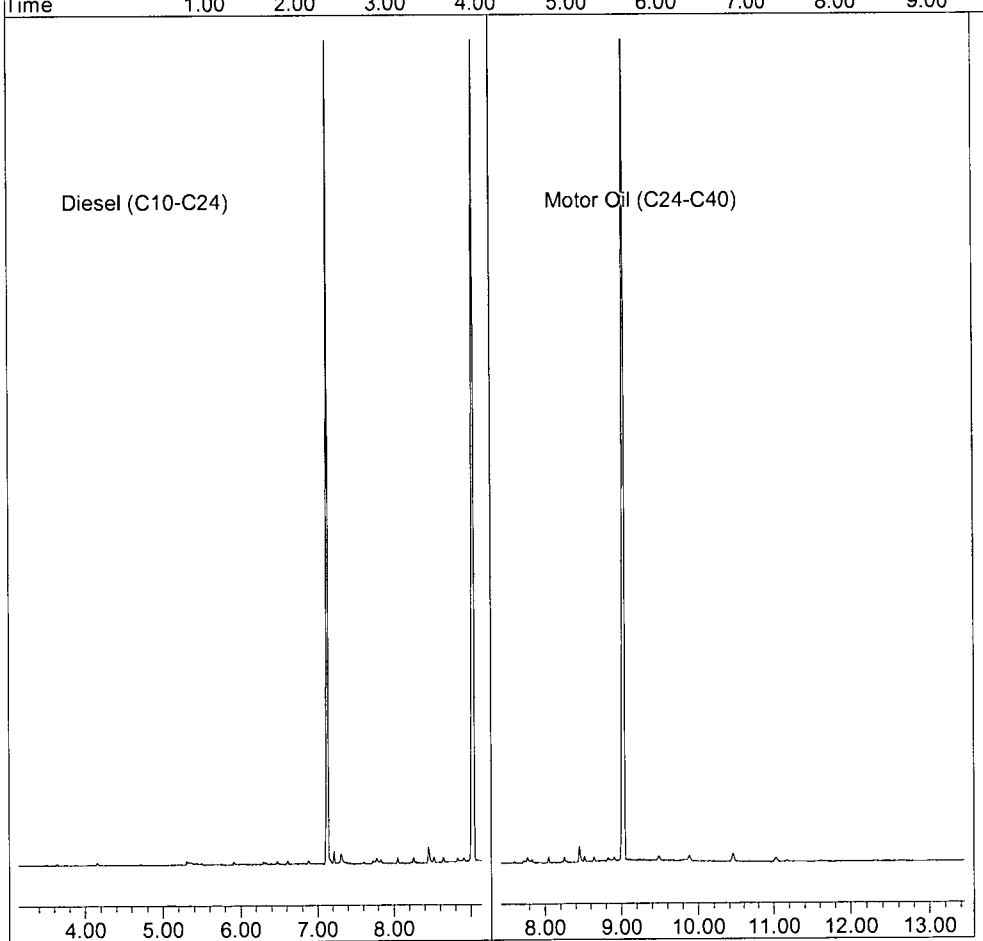
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	109496960	34.159 ppb
Surrogate Spike 40.000		Recovery =	85.40%
5) SA Octacosane(S)	9.04	179790318	38.173 ppb
Surrogate Spike 40.000		Recovery =	95.43%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213052.D
Sample : AZ49682W13 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	92.5	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	82.5	56-125			%	02/09/17	02/14/17

Quant Method: DOC0207.M
Run #: 213053
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213053.D
Acq On : 2-14-17 2:37:46
Sample : AZ49683W10 2/1500
Misc : Water
IntFile : events.e
Quant Time: Feb 14 15:25 2017 Quant Results File: DOC0207.RES

Vial: 53
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

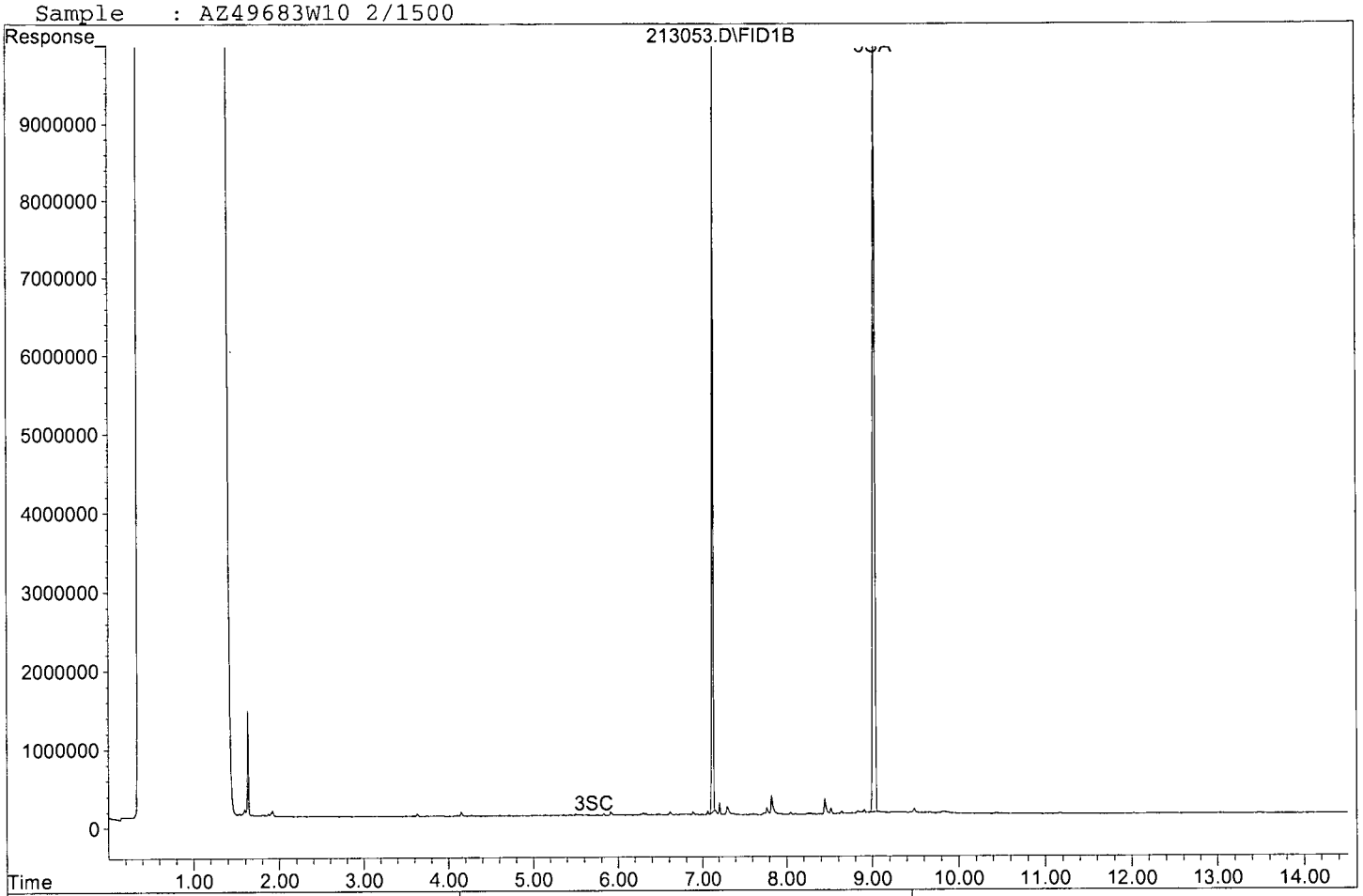
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
3) SC Decanoic Acid(S)	5.71	17567	0.019	ppb
Surrogate Spike 64.000		Recovery =	0.03%	
4) SA Ortho-Terphenyl(S)	7.13	105711003	32.978	ppb
Surrogate Spike 40.000		Recovery =	82.45%	
5) SA Octacosane(S)	9.03	174251480	36.997	ppb
Surrogate Spike 40.000		Recovery =	92.49%	

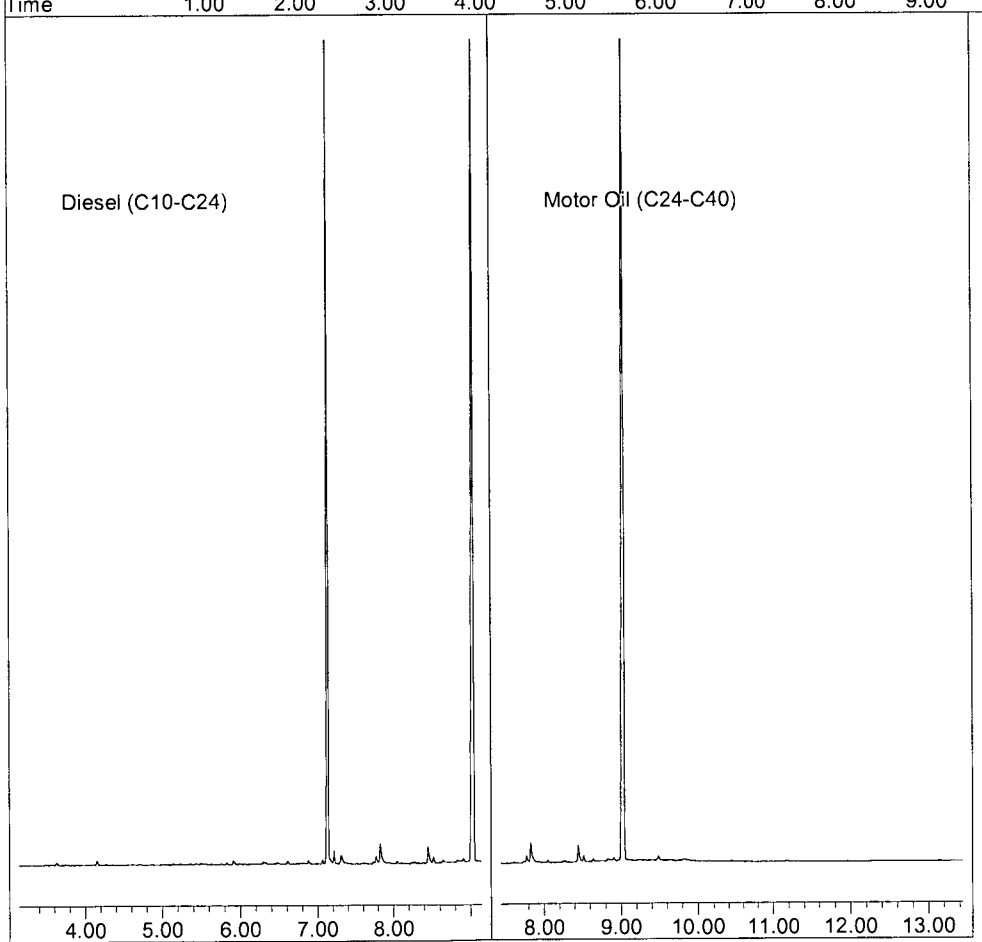
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213053.D
Sample : AZ49683W10 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	26 ++J	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	31 J	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	86.5	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	76.3	56-125			%	02/09/17	02/14/17

J = Estimated value.
++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0207.M
Run #: 213054
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213054.D
Vial: 54
Acq On : 2-14-17 2:58:06
Operator: DP
Sample : AZ49685W14 2/1500
Inst : Apollo
Misc : Water
Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 15:24 2017 Quant Results File: DOC0207.RES

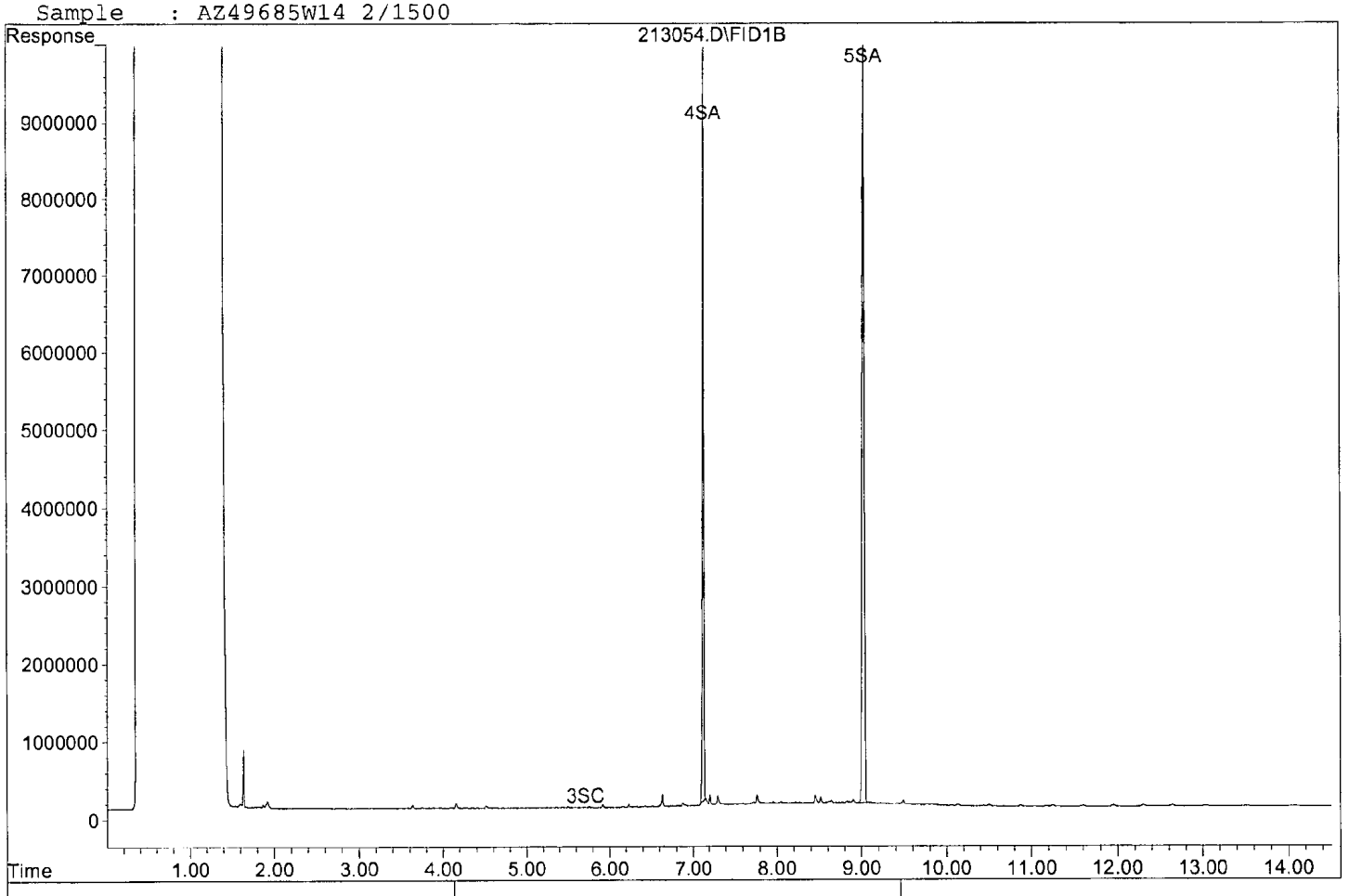
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

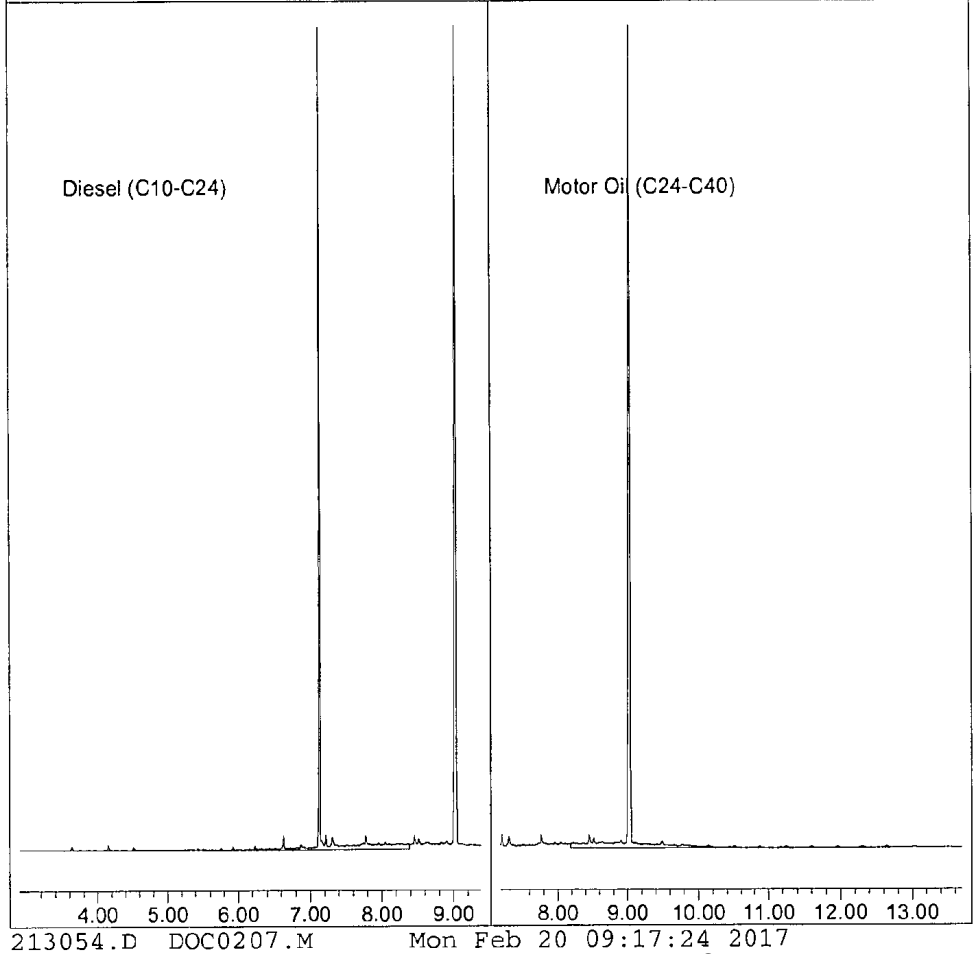
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	16632	0.018 ppb
Surrogate Spike 64.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.13	97818750	30.516 ppb
Surrogate Spike 40.000		Recovery =	76.29%
5) SA Octacosane(S)	9.03	162982143	34.604 ppb
Surrogate Spike 40.000		Recovery =	86.51%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	63700277	25.997 ppb
2) HBTM Motor Oil (C24-C40)	10.44	57910955	31.406 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Data File: G:\APOLLO\DATA\170213\213054.D
Sample : AZ49685W14 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH221
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49686
QCG: #DOC53-170209A-216139

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25 ++J	40.0	25.00	13.07	ug/L	02/09/17	02/14/17
EPA 8015B-eL	OIL (C24-C40)	28 J	40.0	40.00	5.54	ug/L	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	90.5	60-142			%	02/09/17	02/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	79.9	56-125			%	02/09/17	02/14/17

J = Estimated value.
++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0207.M
Run #: 213055
Instrument: Apollo
Sequence: 170213
Dilution Factor: 1
Initials: DPO

Printed: 02/14/17 9:38:43 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213055.D
Vial: 55
Acq On : 2-14-17 3:18:22
Operator: DP
Sample : AZ49686W09 2/1500
Inst : Apollo
Misc : Water
Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:31 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

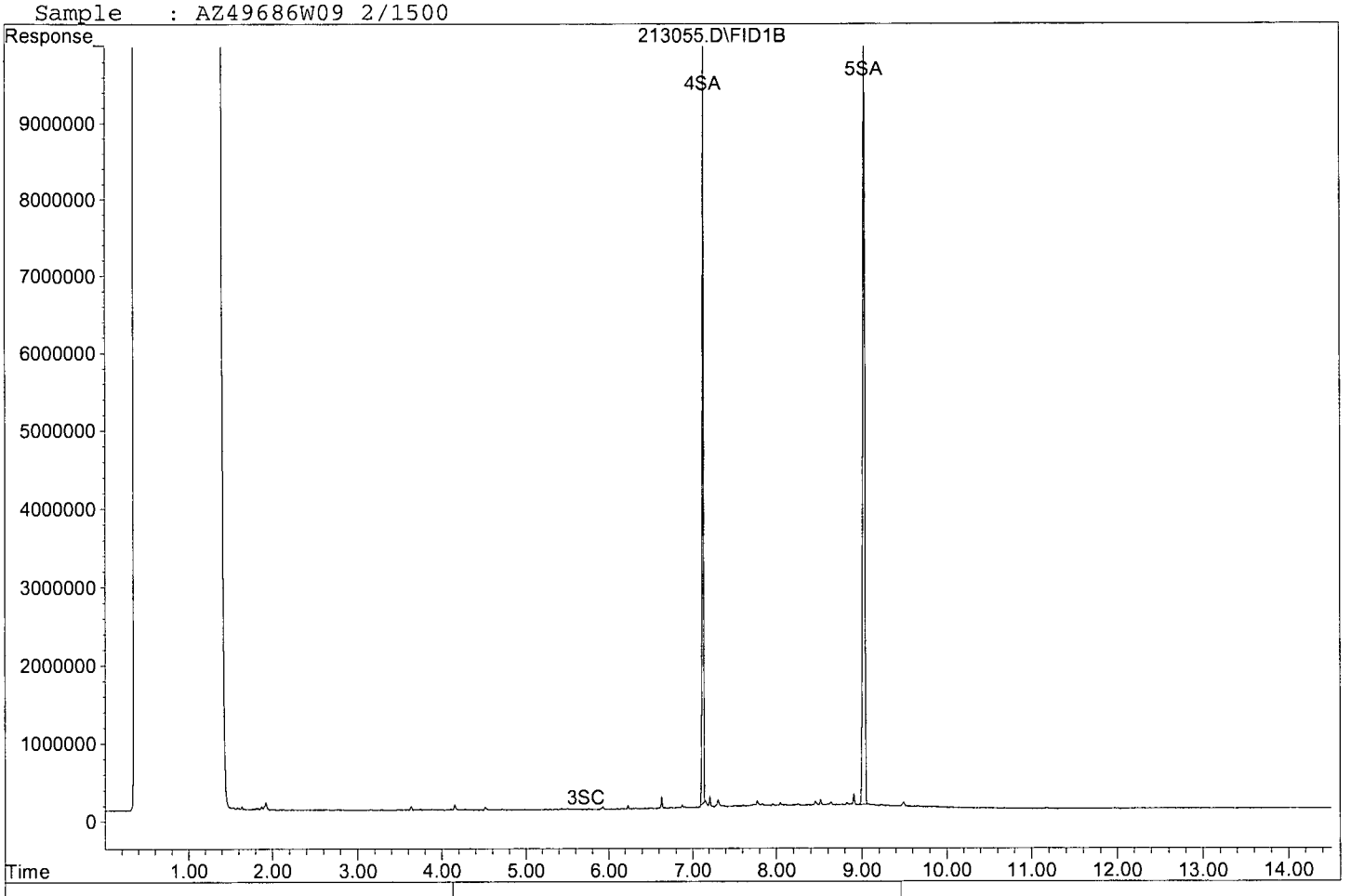
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

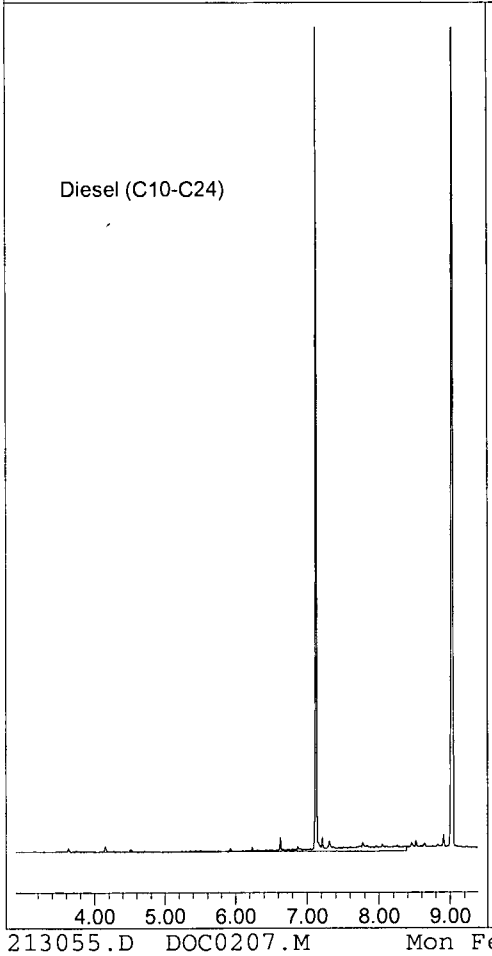
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	29421	0.032 ppb
Surrogate Spike 64.000		Recovery =	0.05%
4) SA Ortho-Terphenyl(S)	7.13	102403040	31.946 ppb
Surrogate Spike 40.000		Recovery =	79.87%
5) SA Octacosane(S)	9.04	170435584	36.187 ppb
Surrogate Spike 40.000		Recovery =	90.47%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	62236784	25.400 ppb
2) HBTM Motor Oil (C24-C40)	10.44	52452862	28.446 ppb

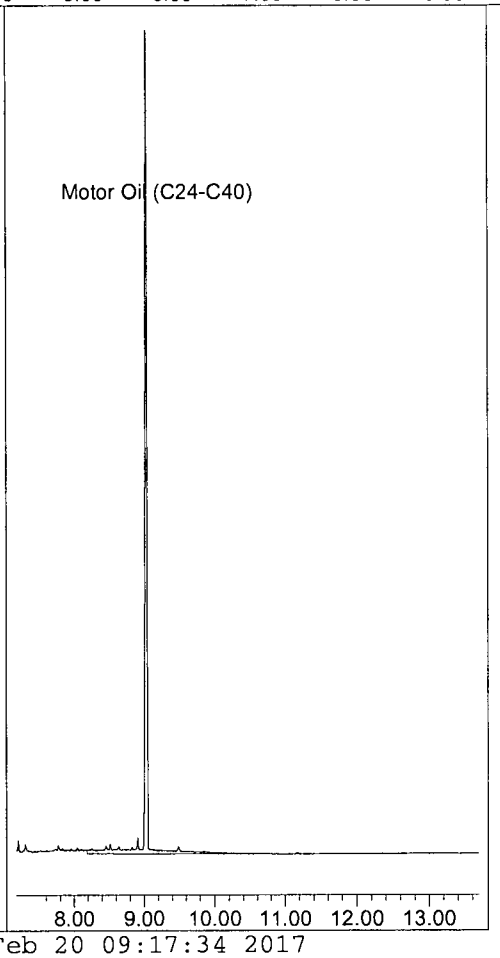
(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213055.D
Sample : AZ49686W09 2/1500







ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0207

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 02/07/17
Instrument: Apollo
Initials:

Diesel: 207013.D 207014.D 207015.D 207016.D 207017.D 207018.D
Motor Oil: 207020 D 207021.D 207022.D 207023.D 207024.D 207025.D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SC	Decanoic Acid(S)	436509	643644	711658	659596	590571	627574					611592	15	SC	
4	SA	Ortho-Terphenyl(S)	2112818	2160204	2135806	2184447	2121052	2107568					2136982	1.4	SA	
5	SA	Octacosane(S)	3130783	3214870	3136696	3178445	3091400	3087353					3139925	1.6	SA	
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0.6435556

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

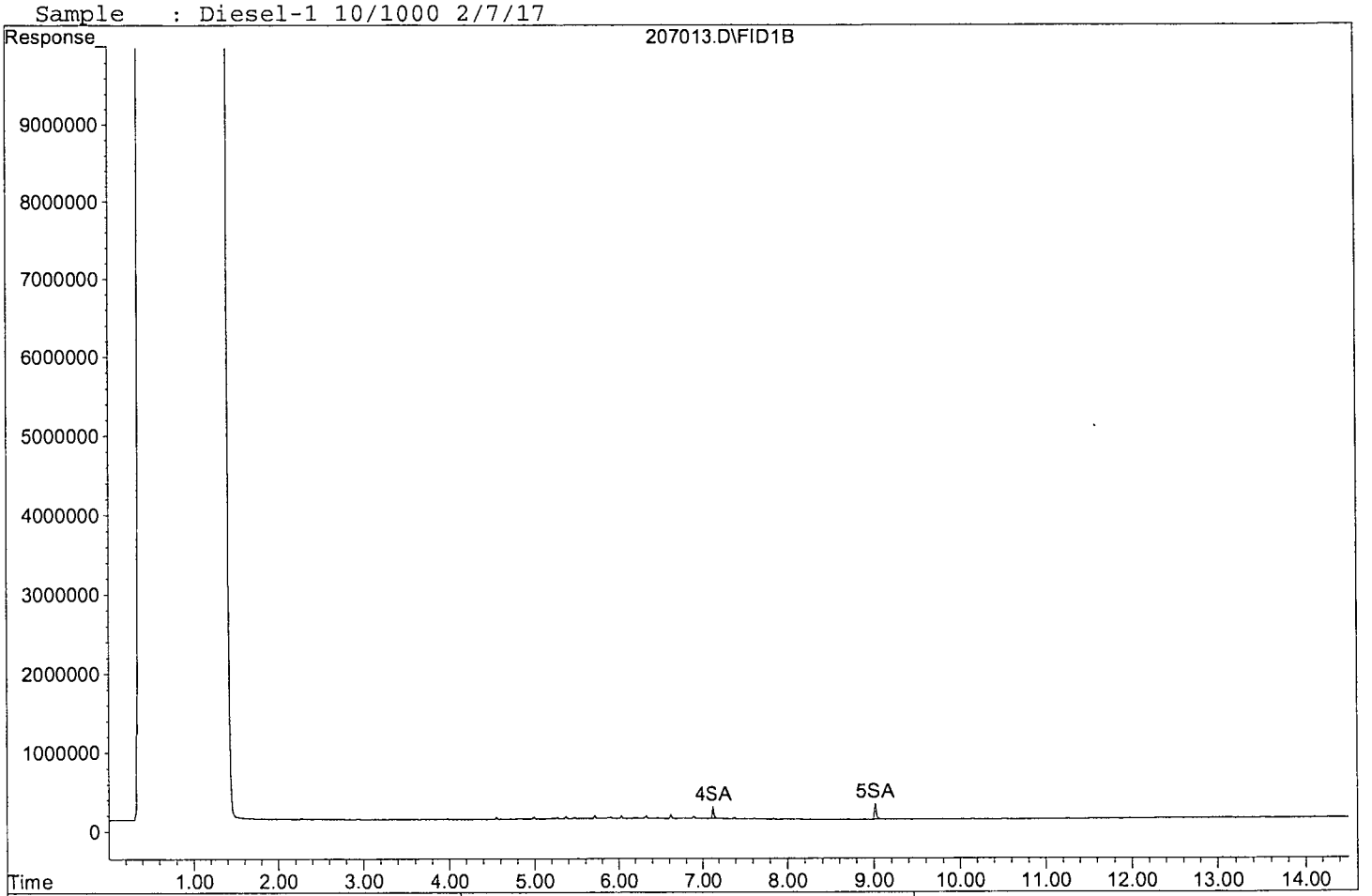
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

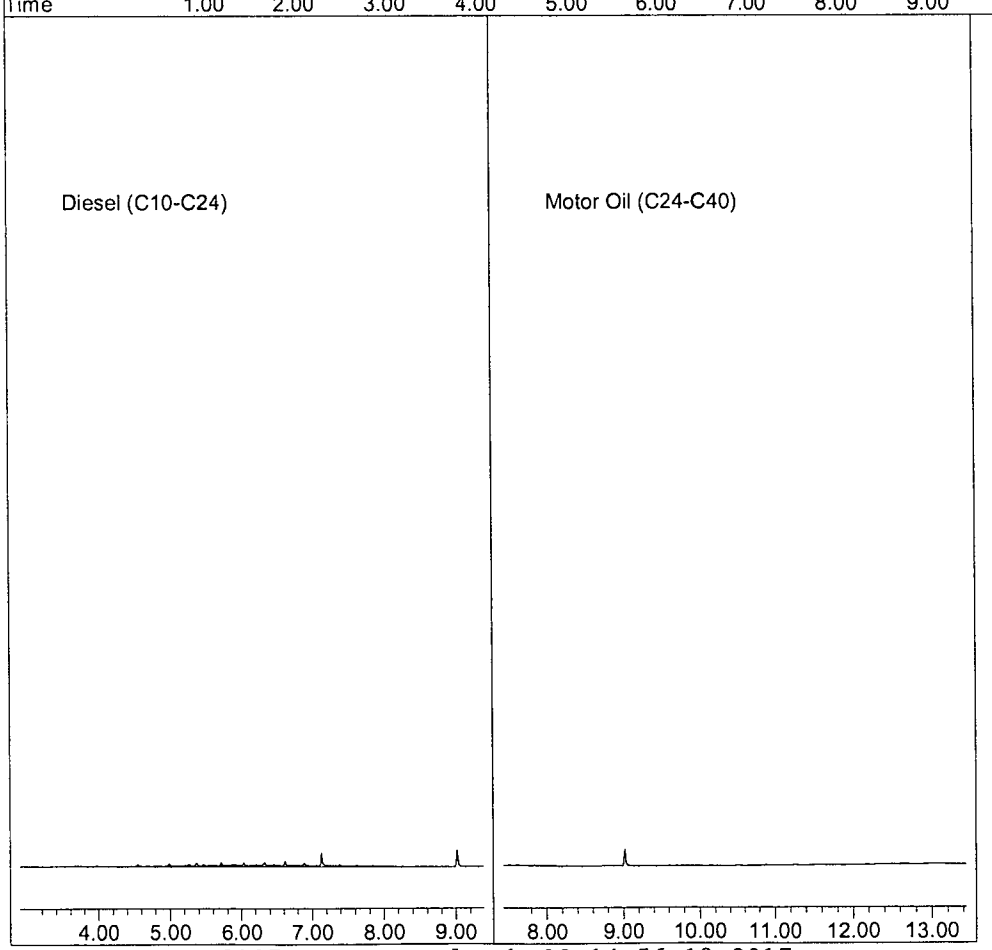
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

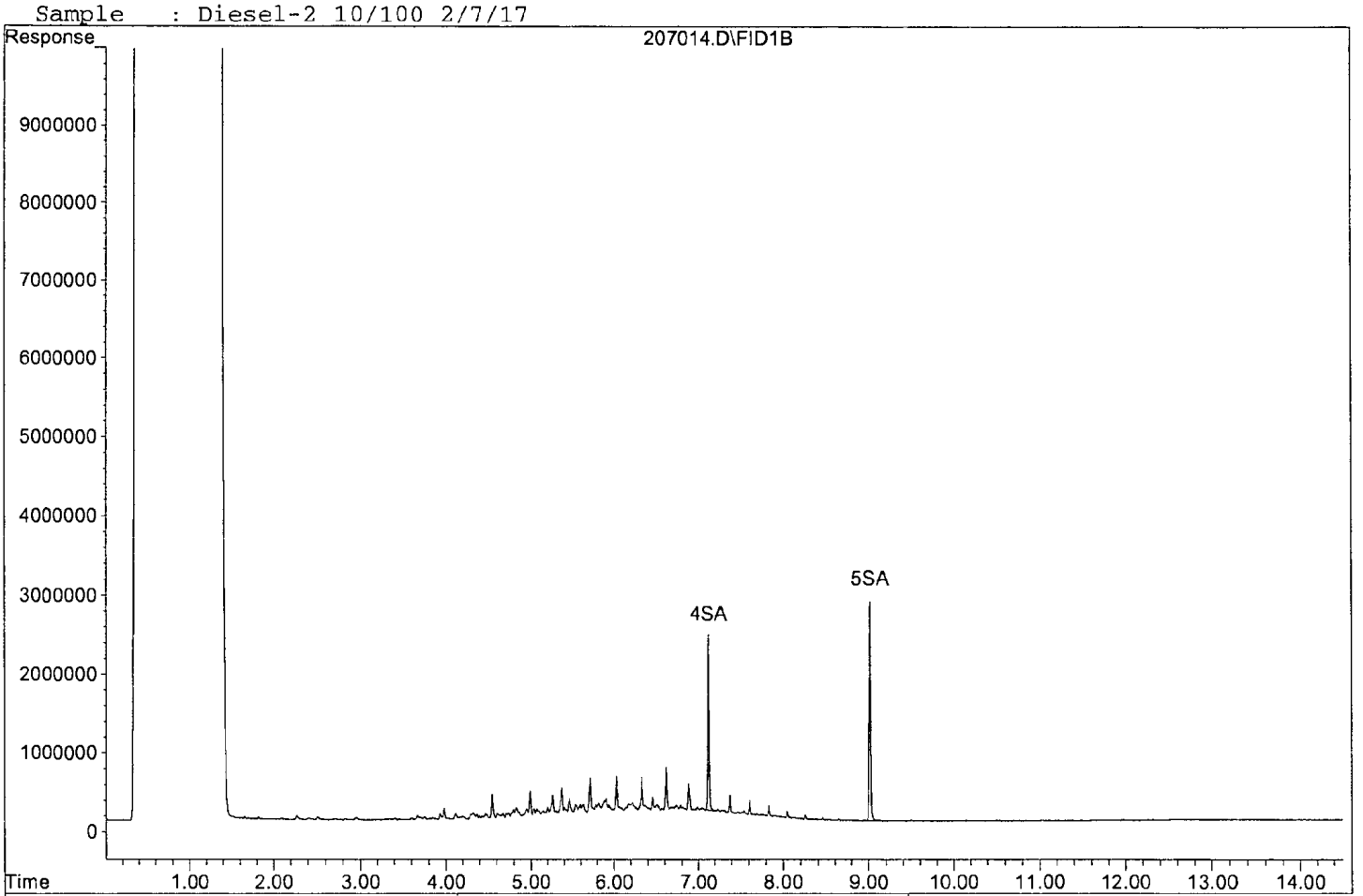
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

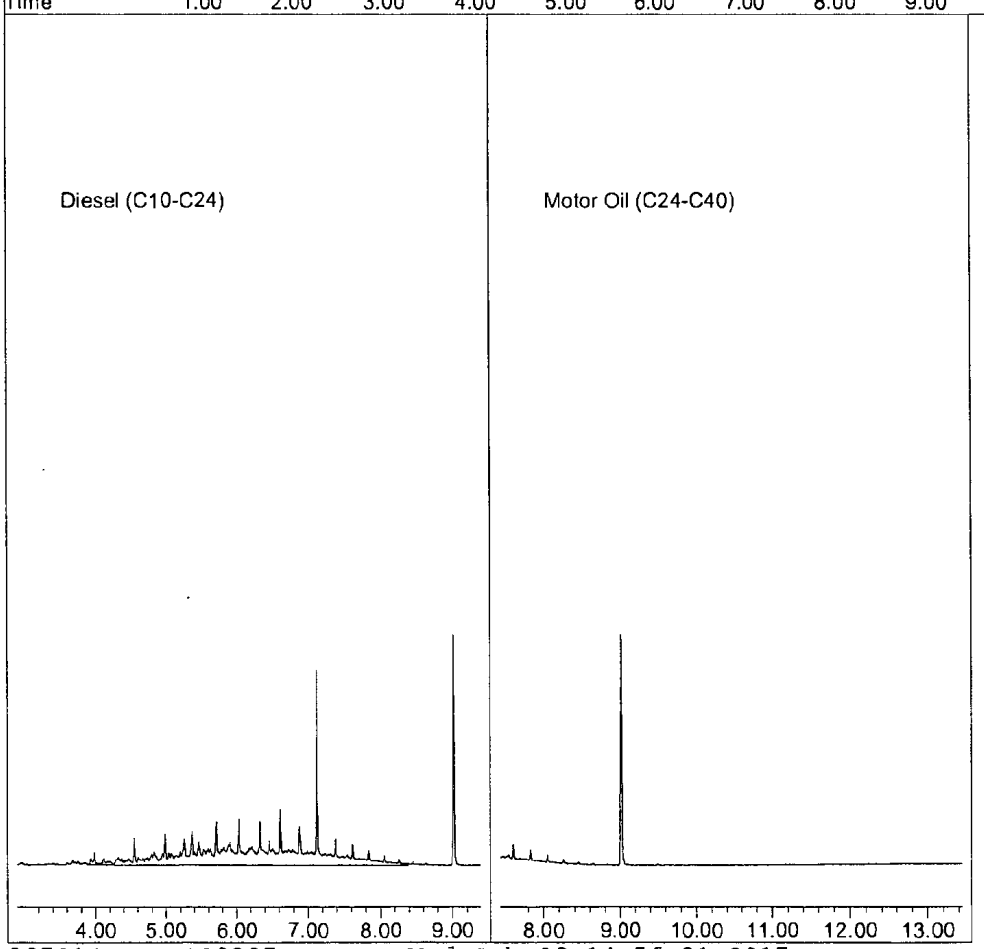
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

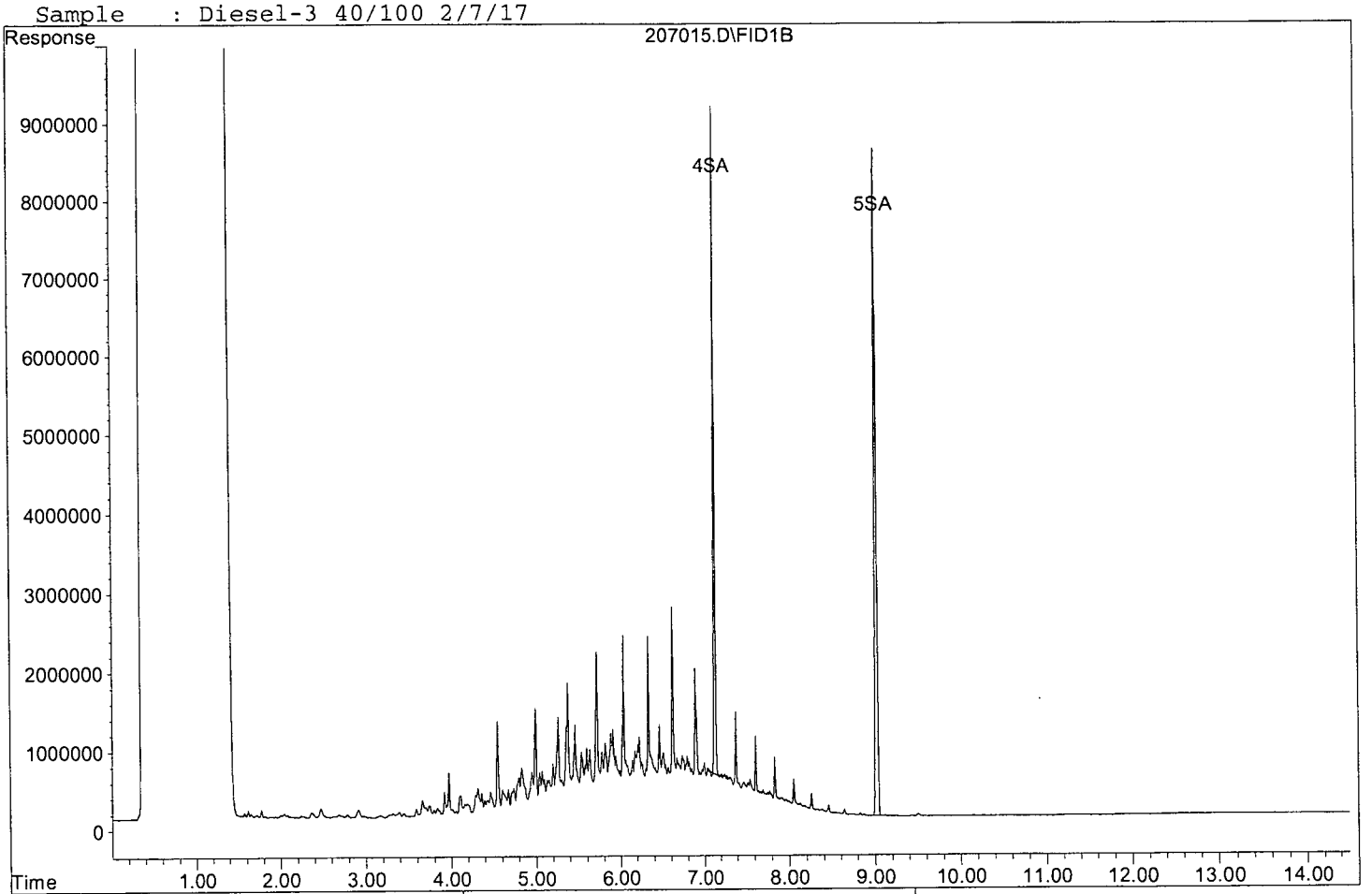
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

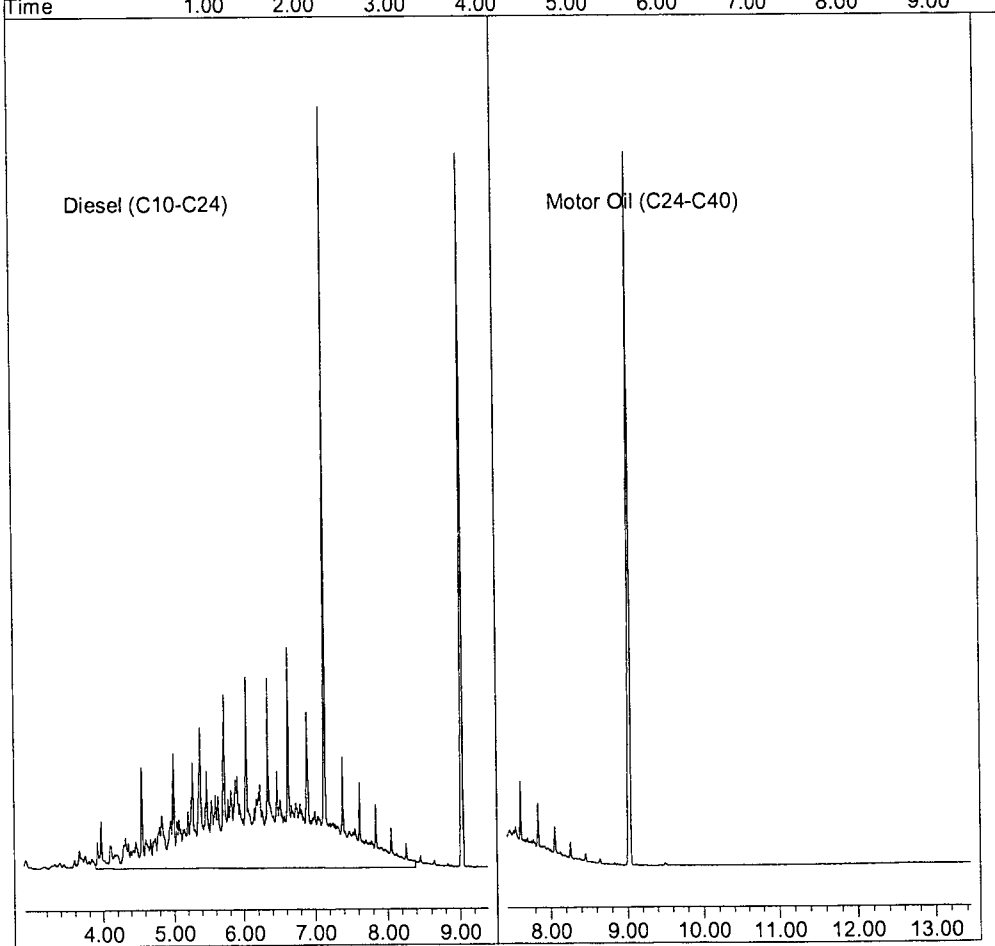
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

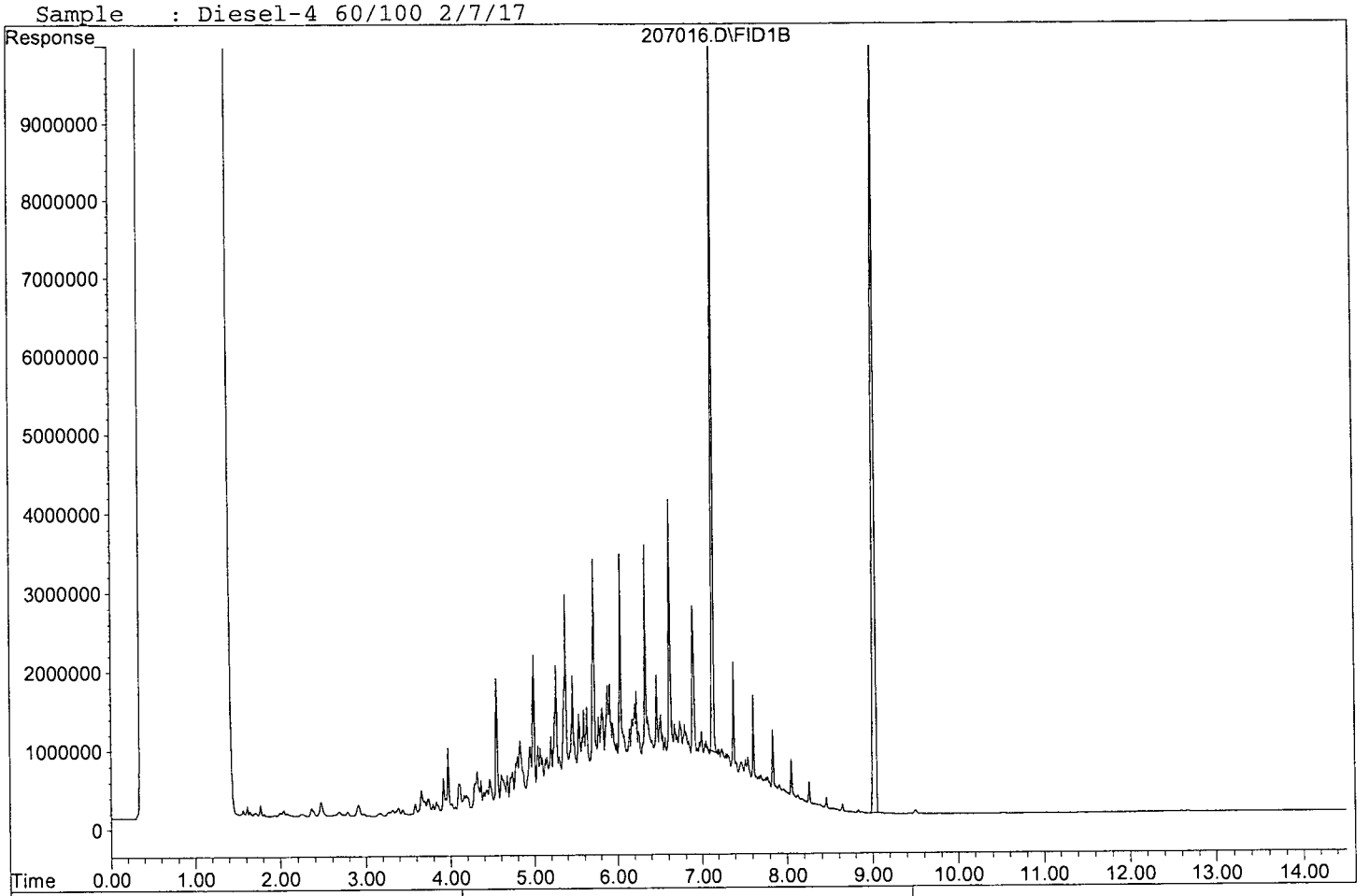
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

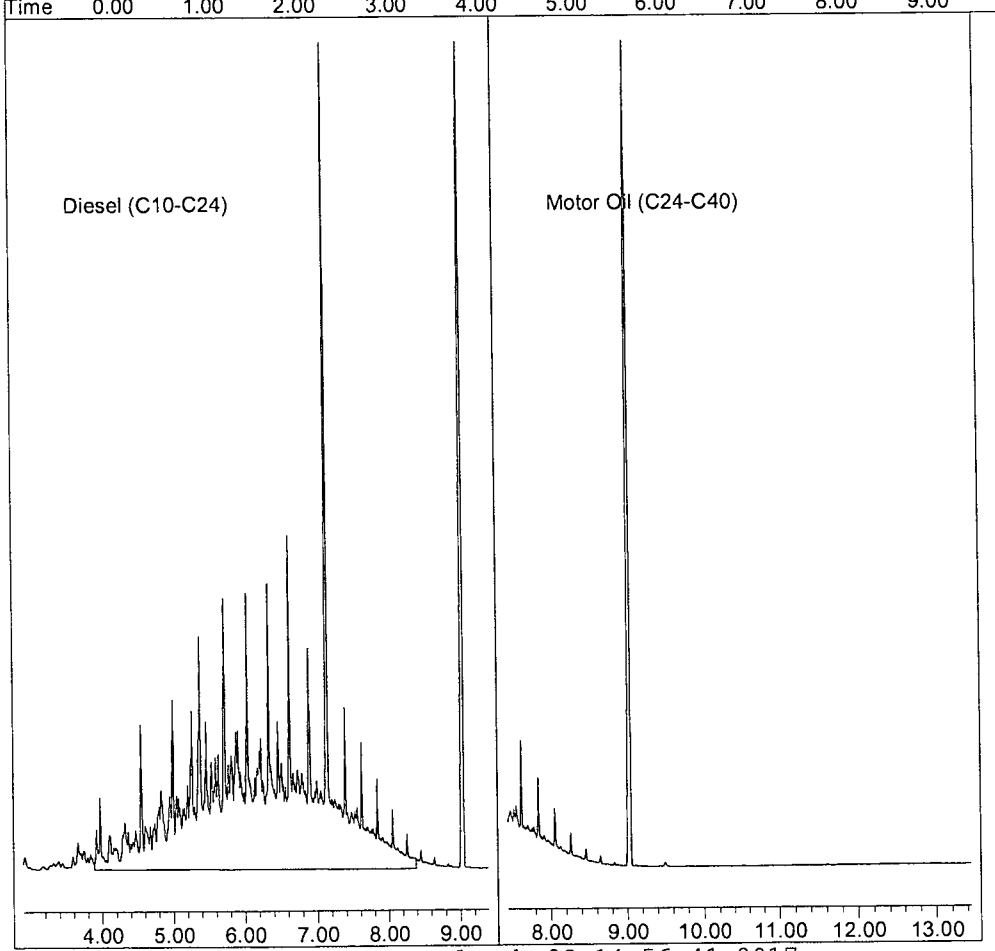
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	30.666 ppb
Surrogate Spike 30.000		Recovery =	102.22%
5) SA Octacosane(S)	9.04	190706691	30.368 ppb
Surrogate Spike 30.000		Recovery =	101.23%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D Vial: 17
Acq On : 2-7-17 15:16:16 Operator: DP
Sample : Diesel-5 80/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

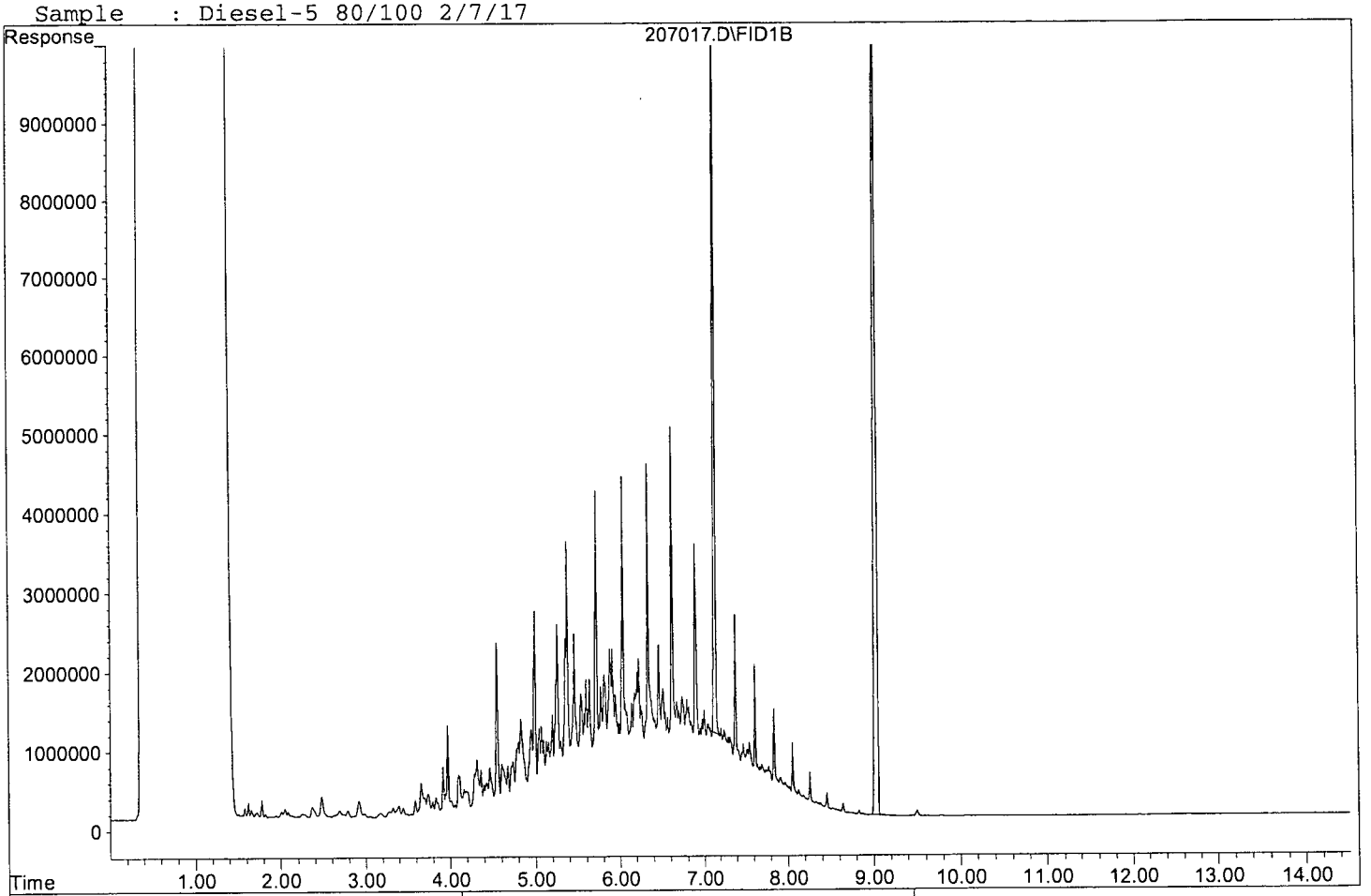
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

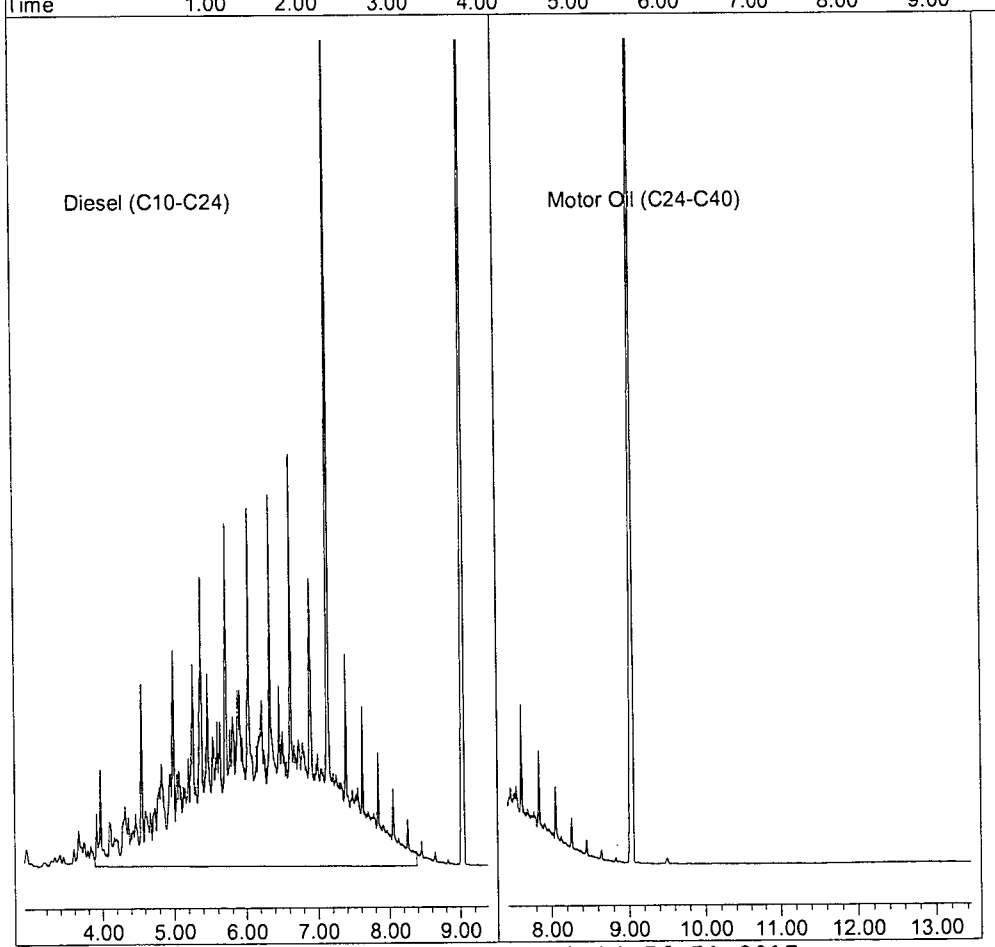
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D Vial: 18
Acq On : 2-7-17 15:36:59 Operator: DP
Sample : Diesel-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

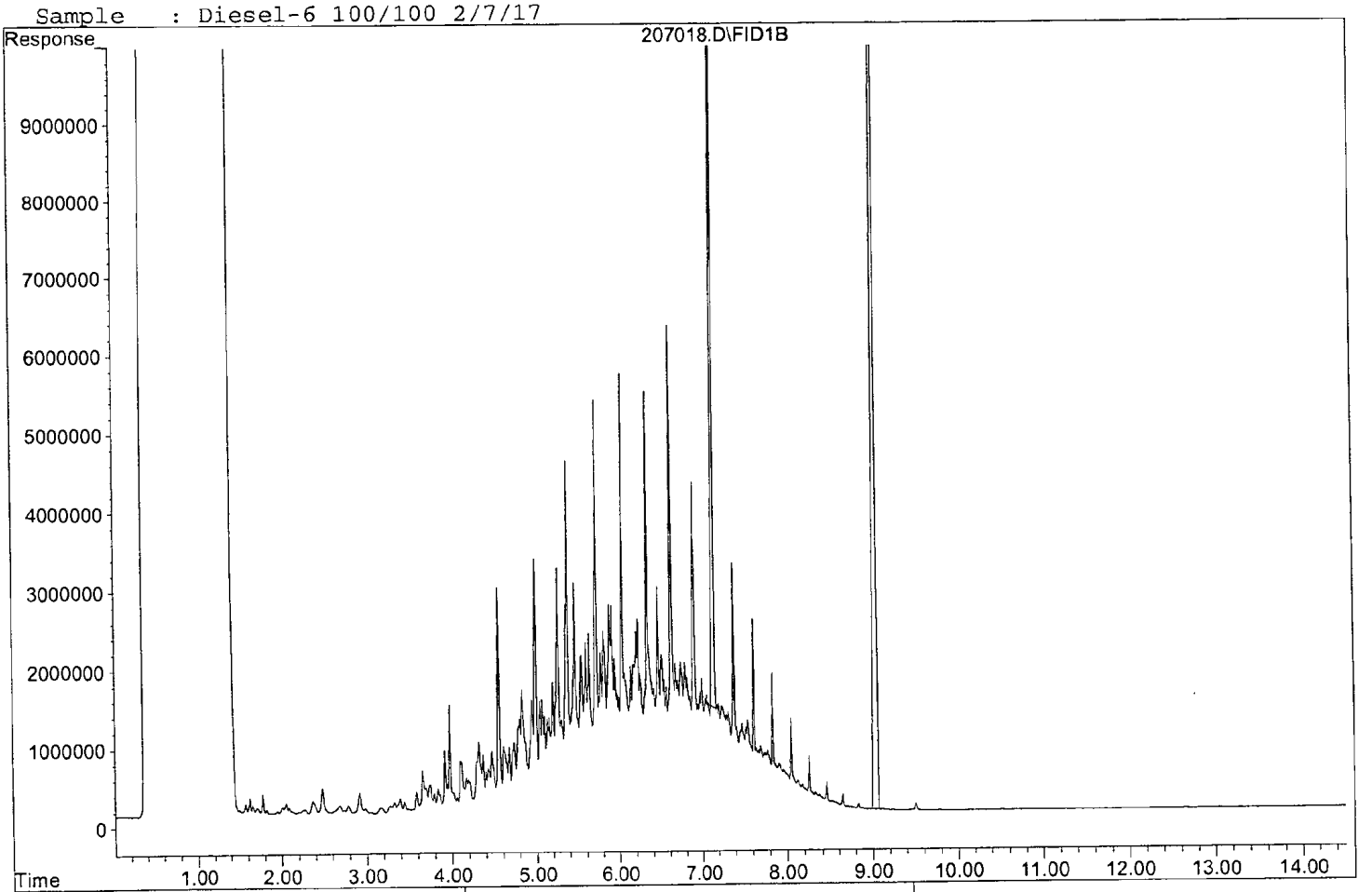
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

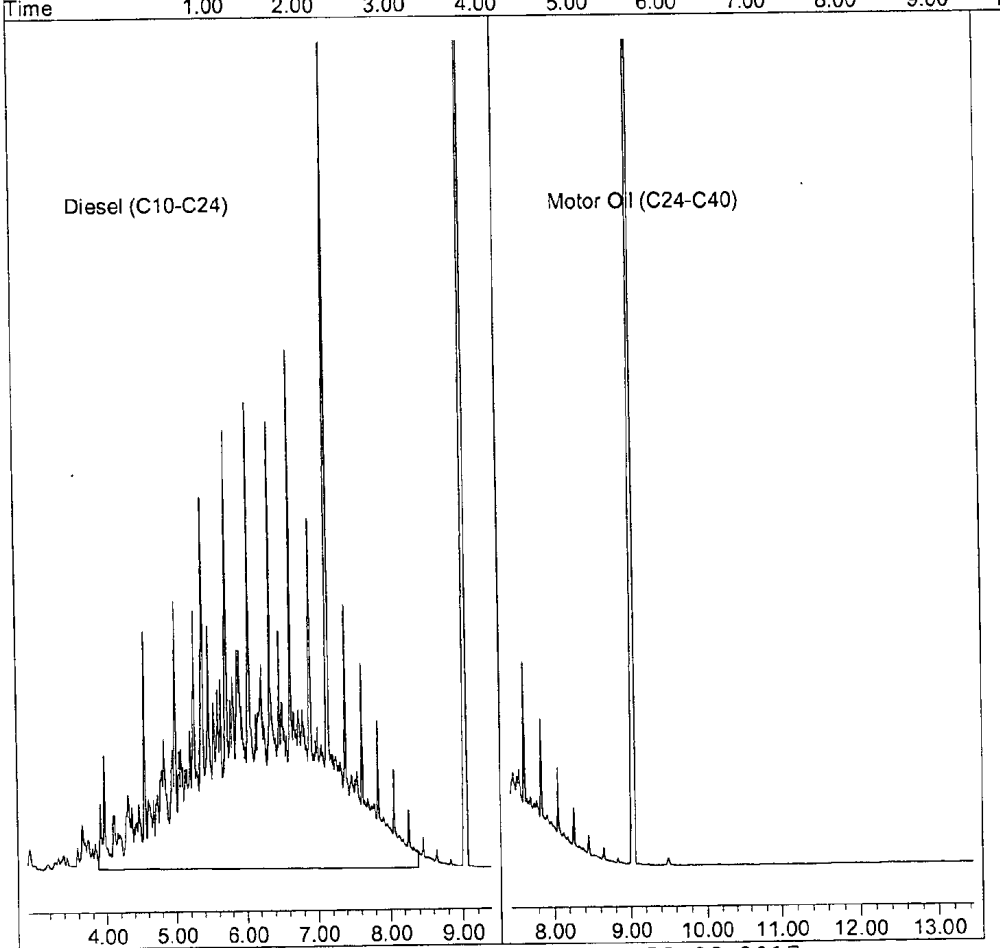
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

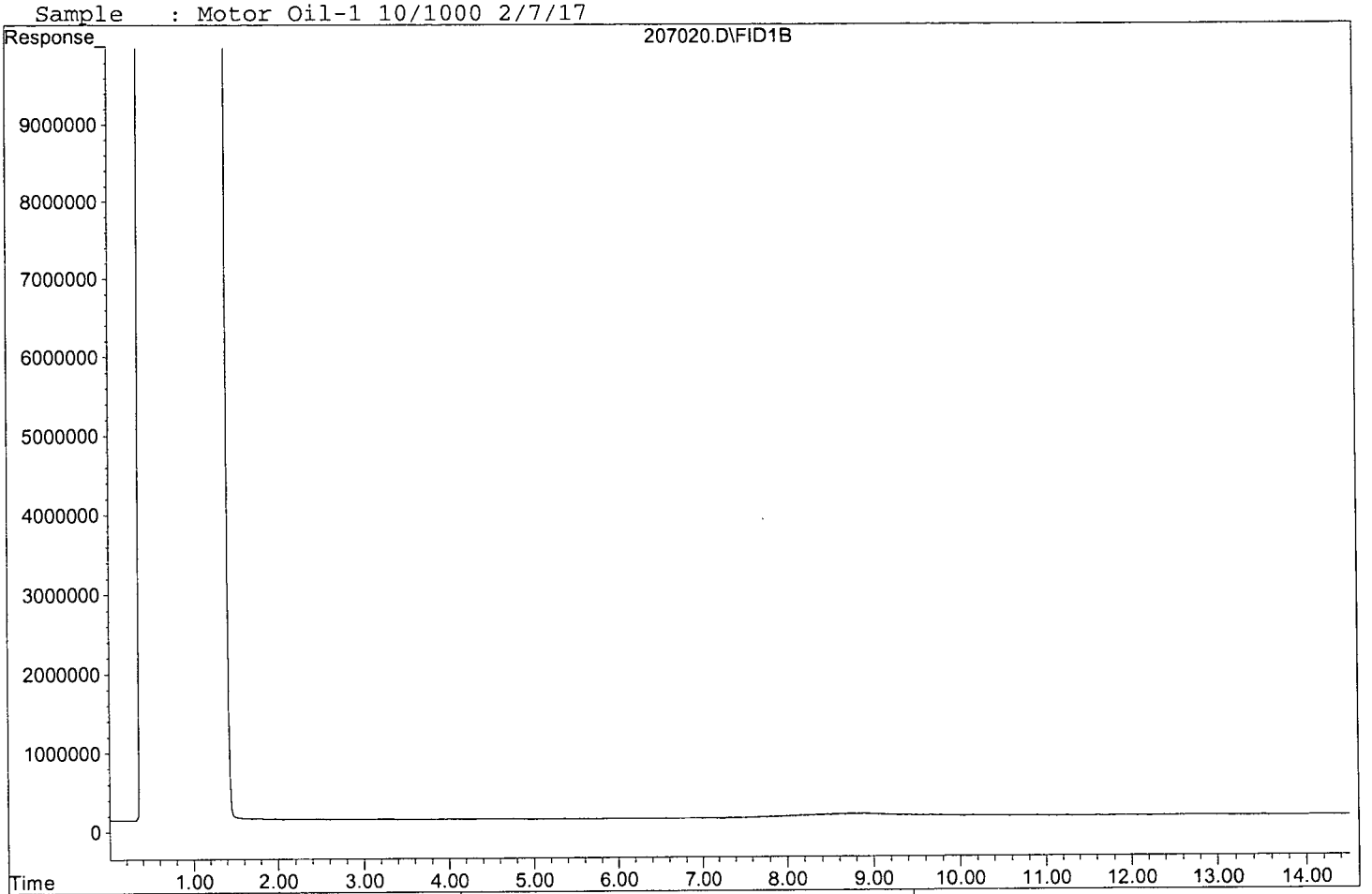
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

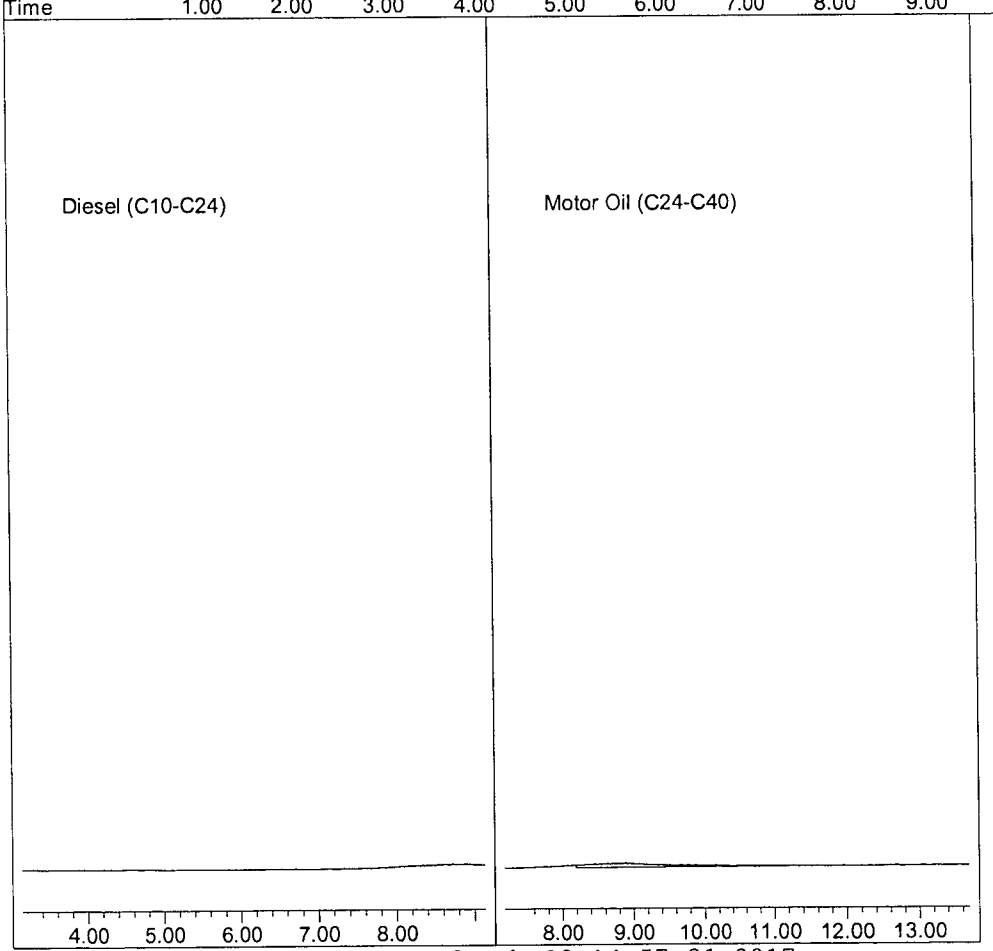
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

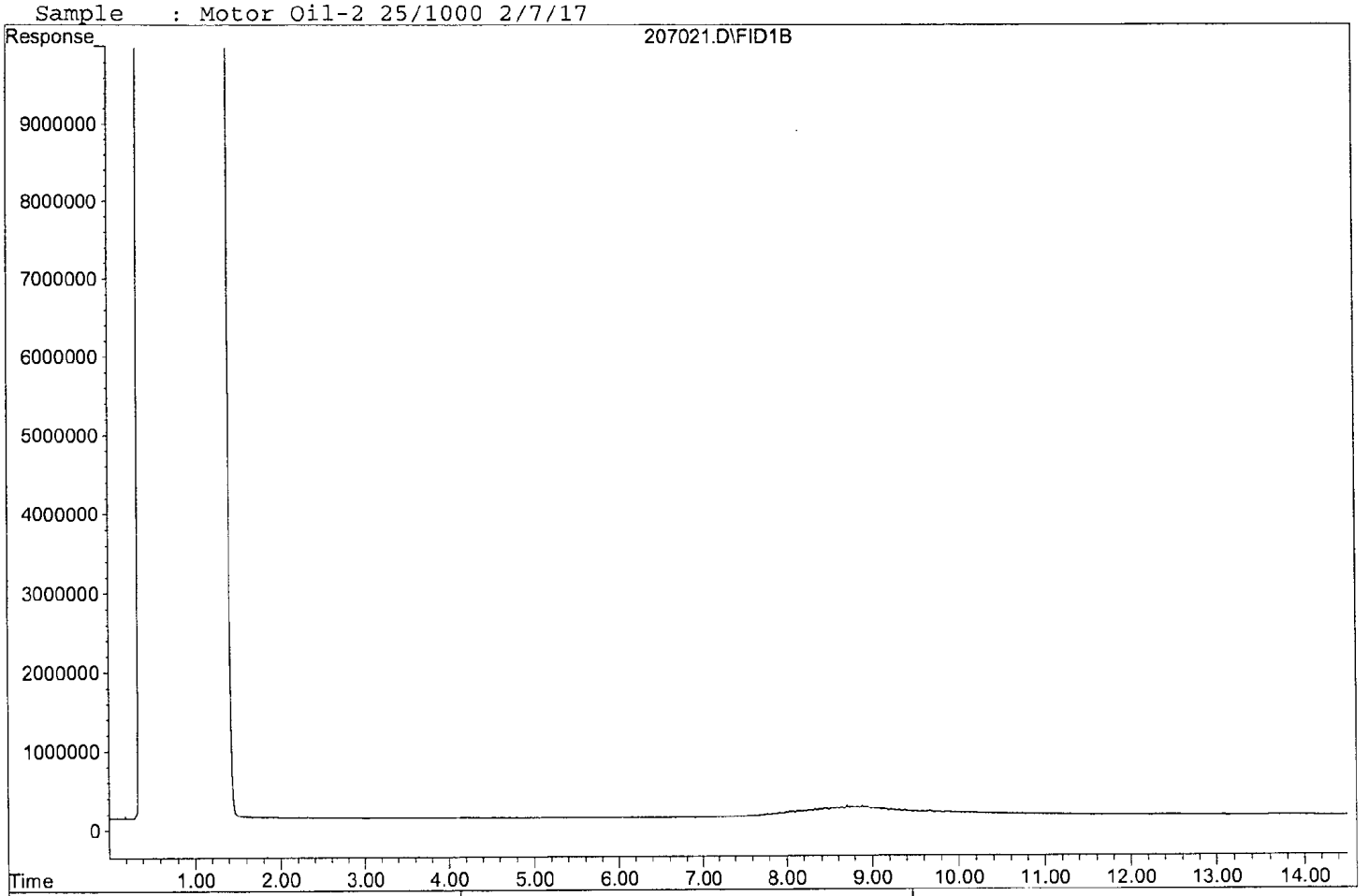
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

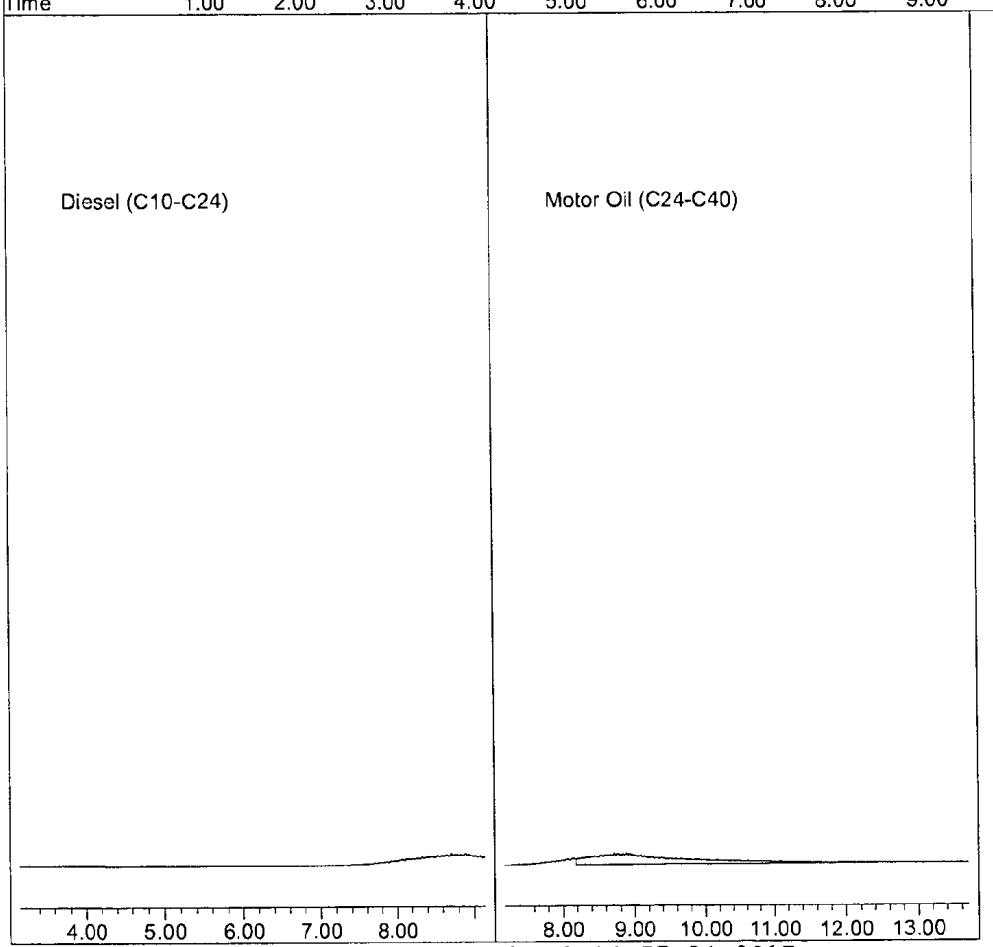
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

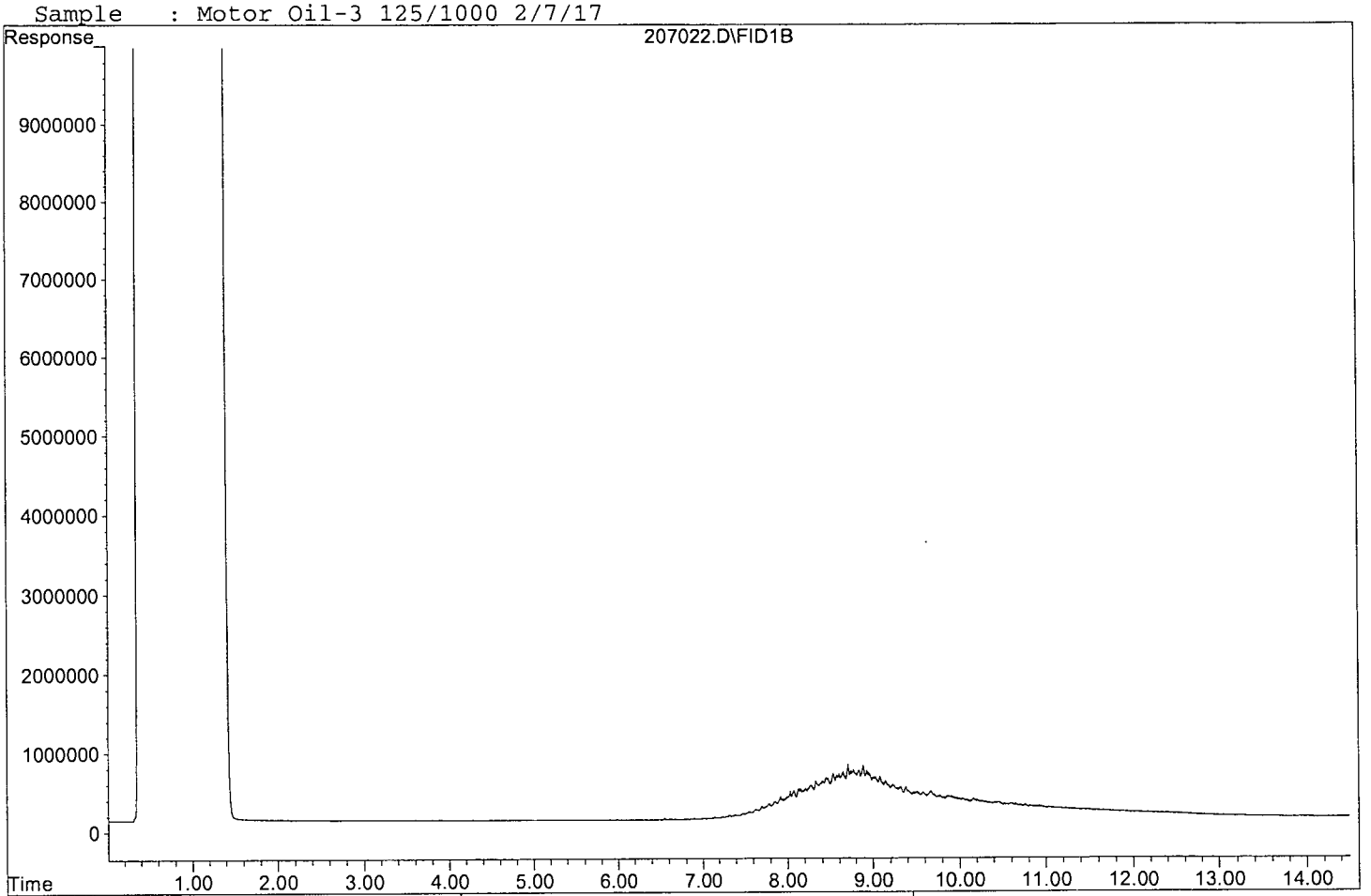
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

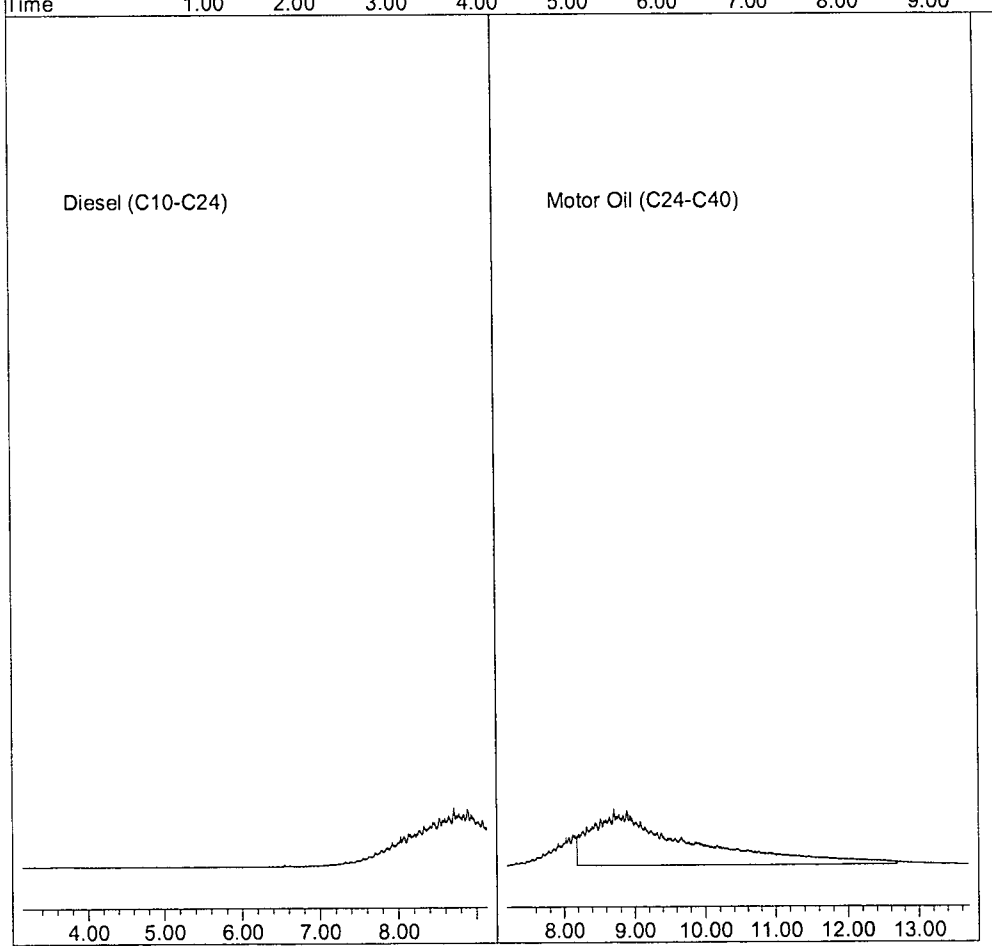
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

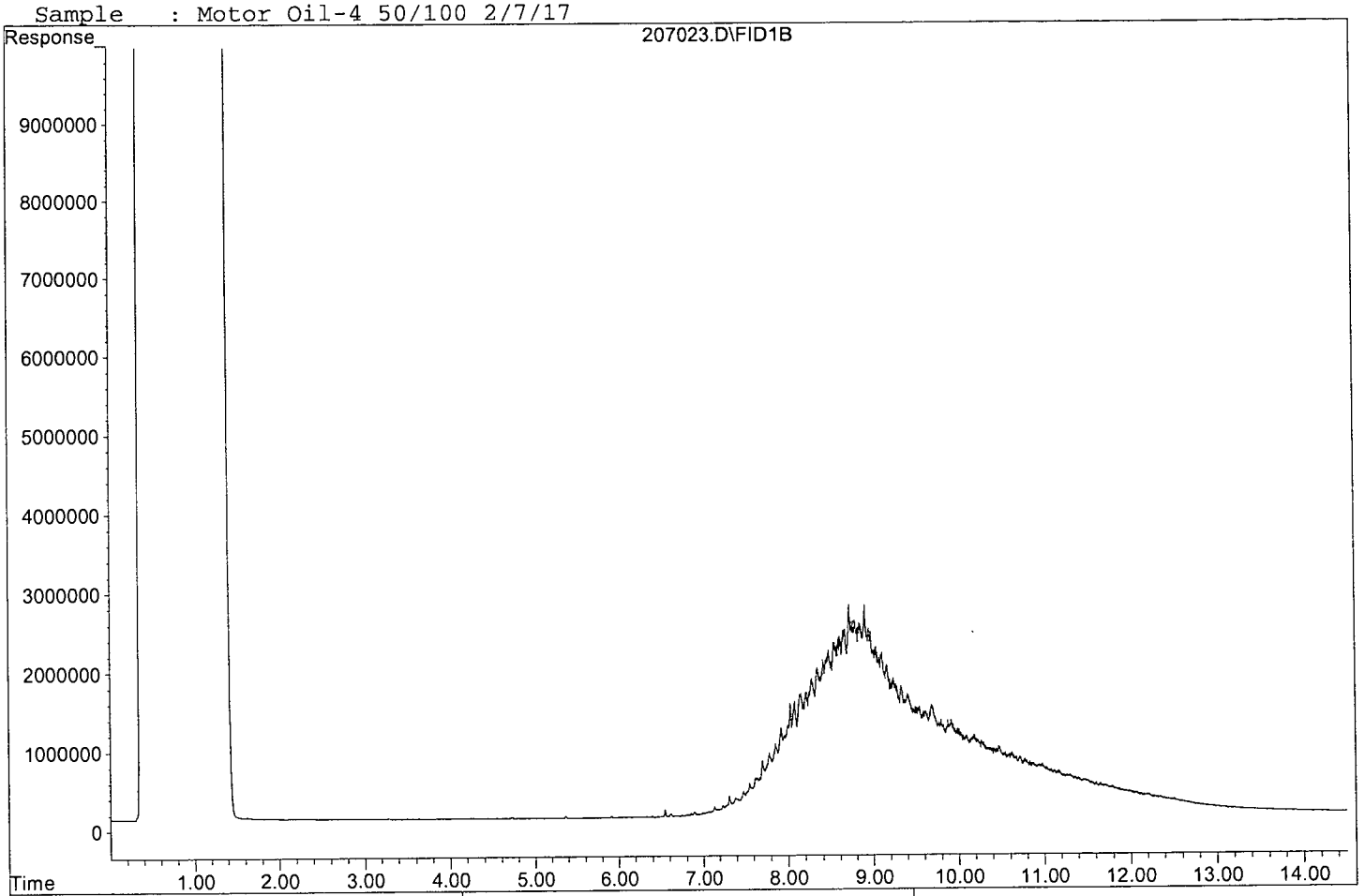
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

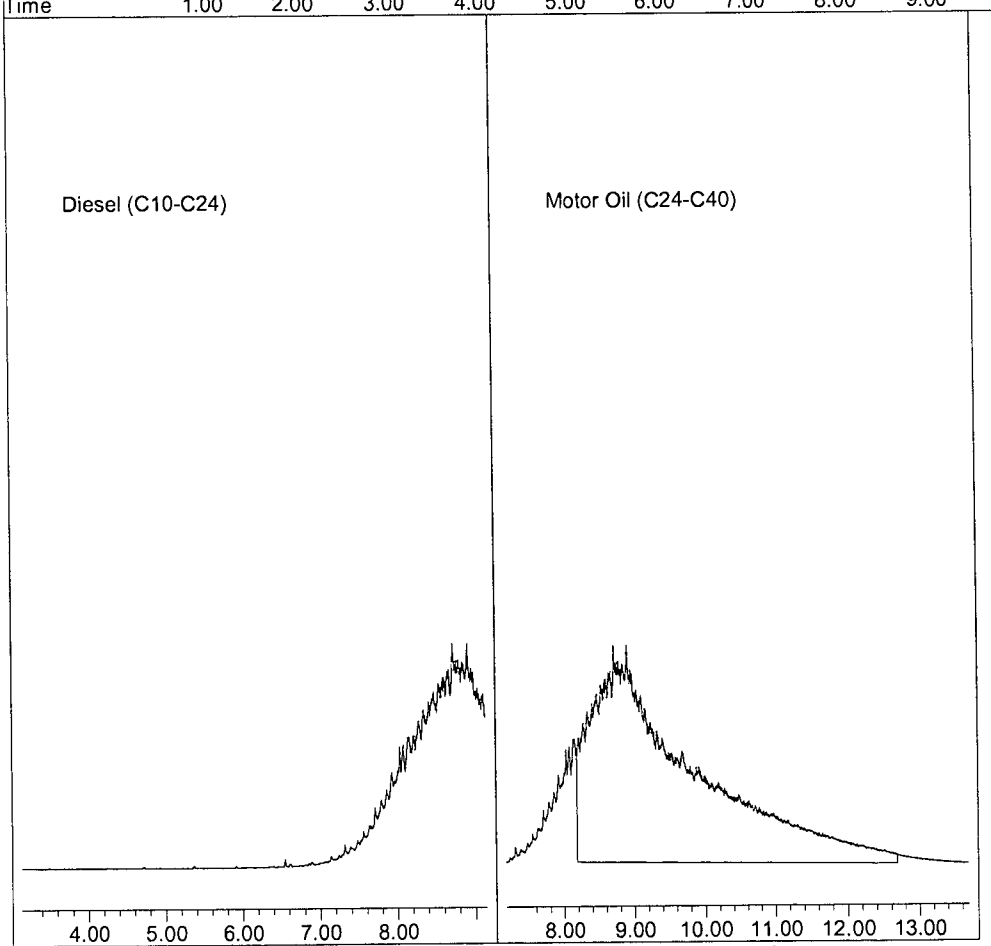
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

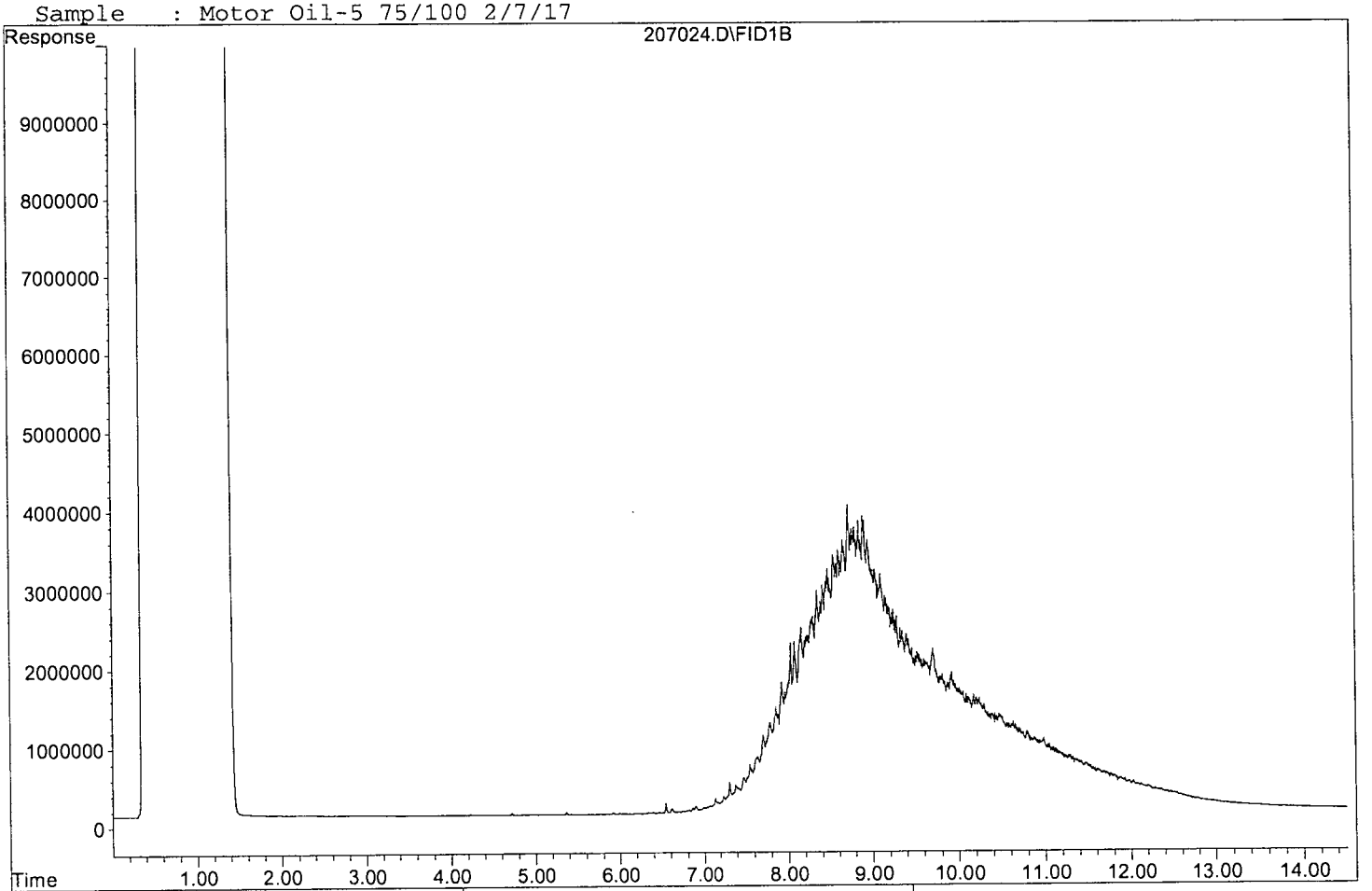
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

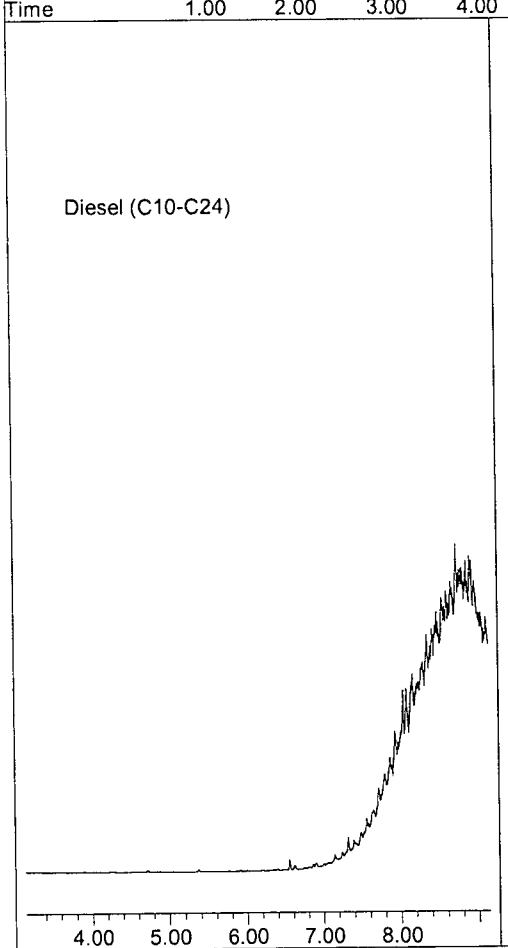
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601	ppb

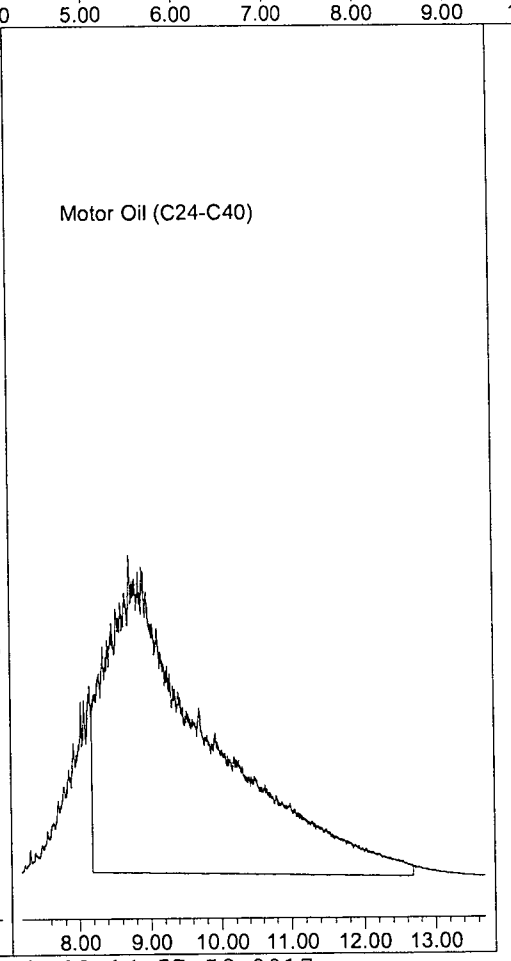
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D
Acq On : 2-7-17 18:01:11
Sample : Motor Oil-6 100/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

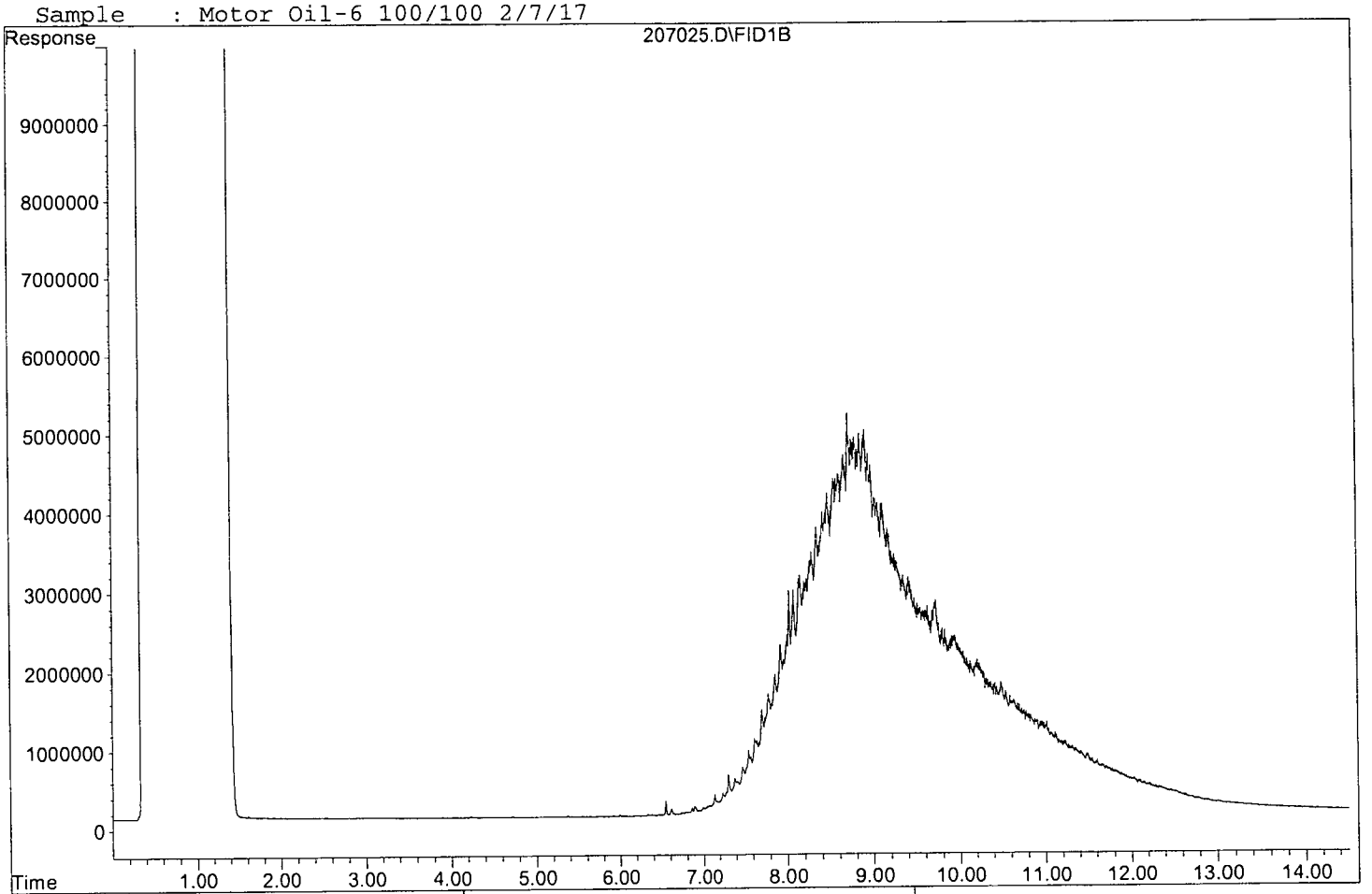
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

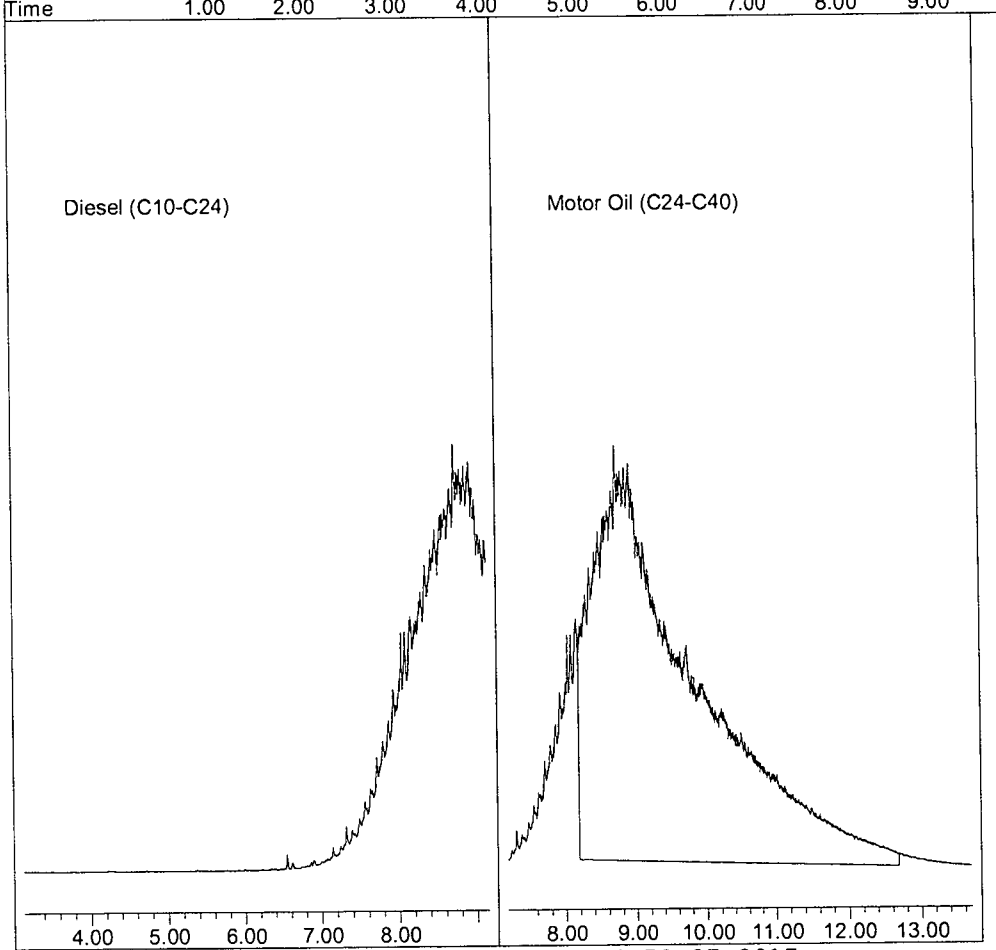
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17





TPH Extractables
DOC0207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 207019.D (Diesel) 207026.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:53 2017 Quant Results File: DOC0207.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.591 ppb
Surrogate Spike 30.000		Recovery =	8.64%
5) SA Octacosane(S)	9.01	2024928	0.322 ppb
Surrogate Spike 30.000		Recovery =	1.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

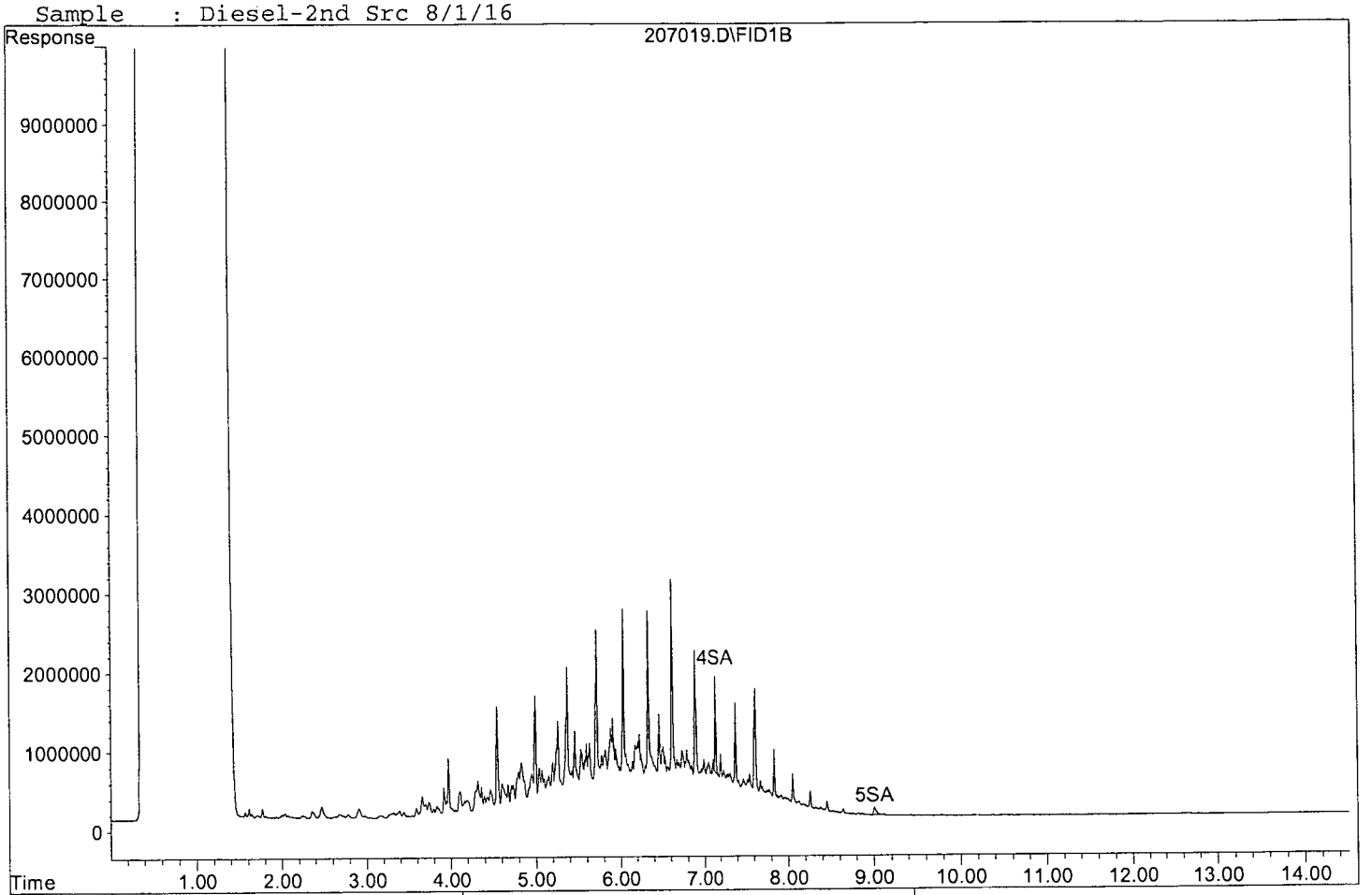
algorithm check: $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

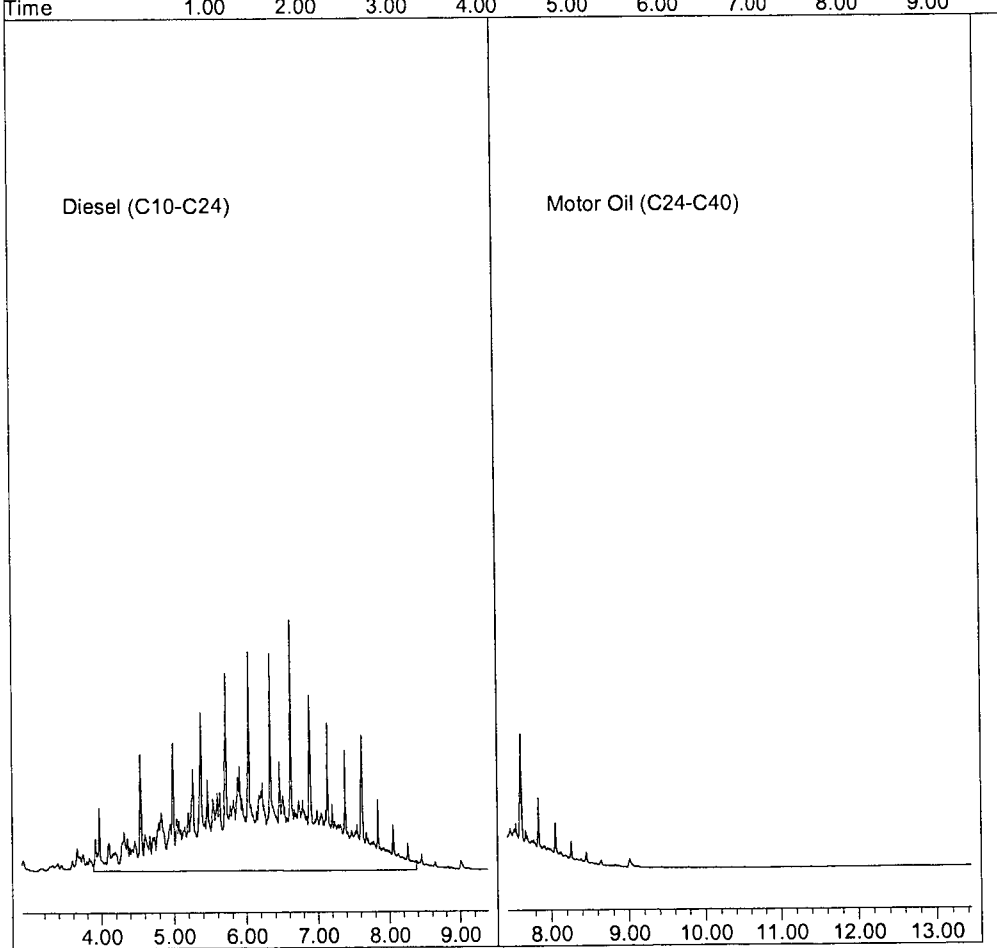
D.P. 2/9/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D
Acq On : 2-7-17 18:21:35
Sample : Motor Oil-2nd Src 10/14/16
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

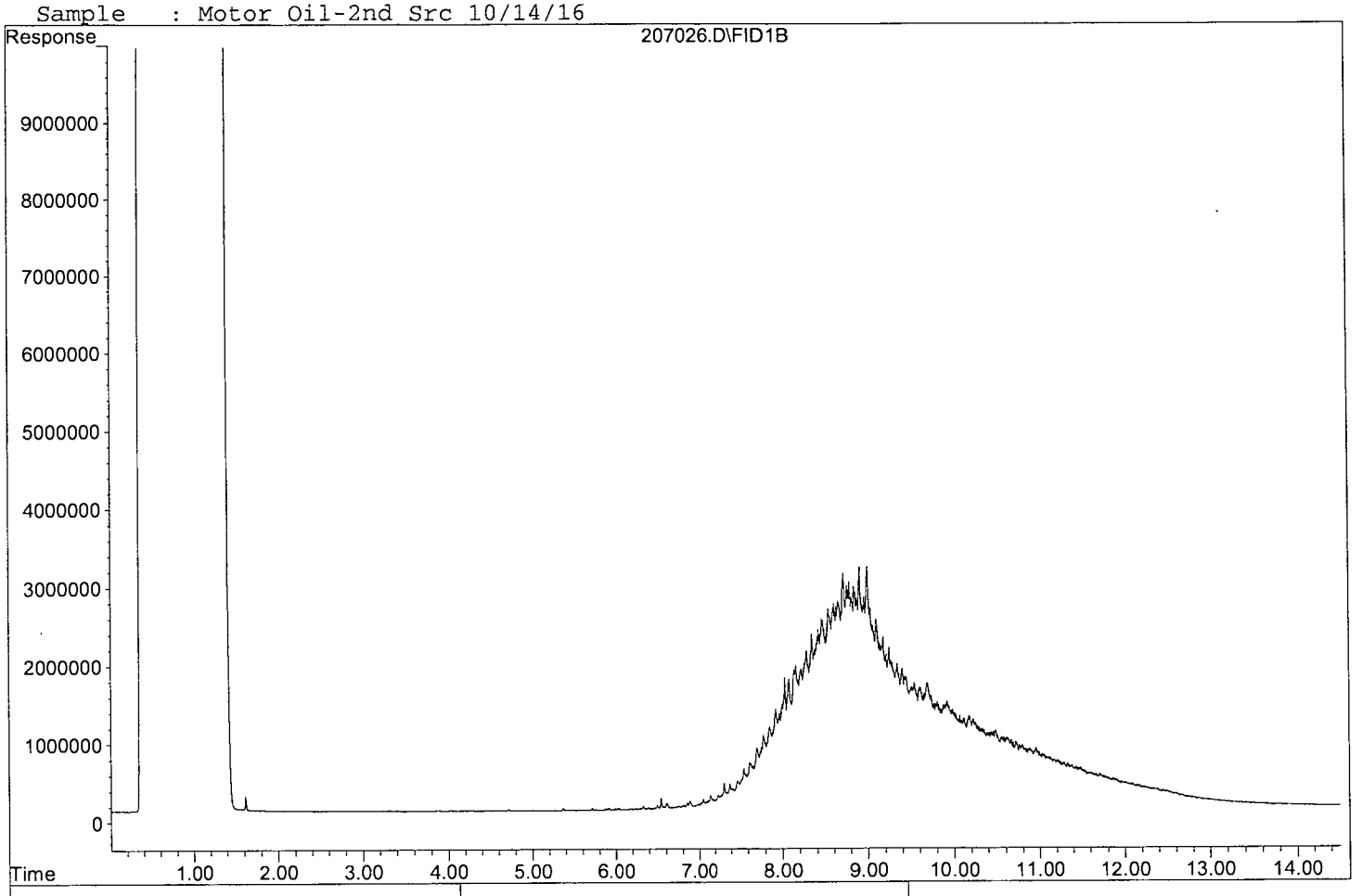
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

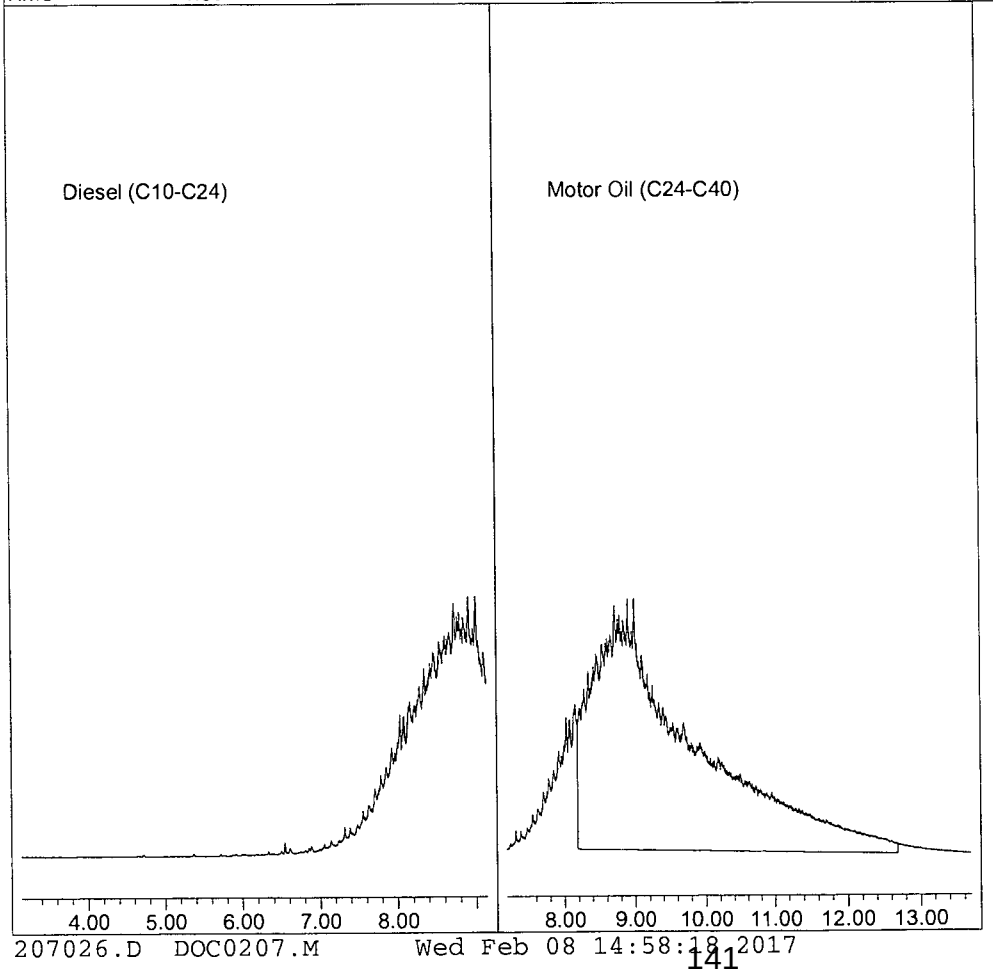
(f)=RT Delta > 1/2 Window (m)=manual int.

207026.D DOC0207.M Wed Feb 08 14:58:16 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 213018-19.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1678500	2.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1243220	1.1	HBTM	
3							
4							
5							
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34							
35							
36							
37							
38							
39							
40							
		Average			2.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213018.D Vial: 18
Acq On : 2-13-17 14:41:53 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 13 15:28 2017 Quant Results File: DOC0207.RES

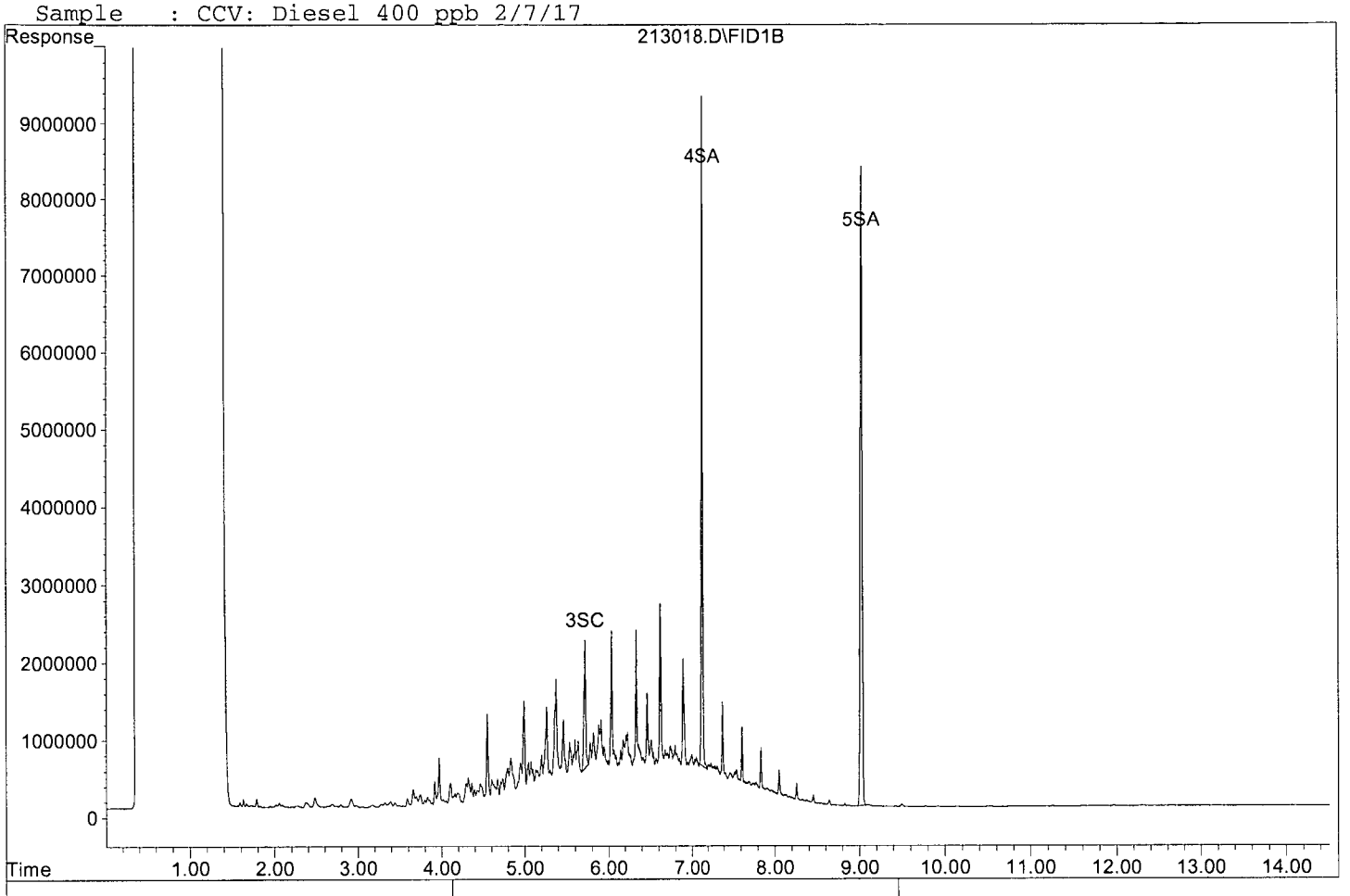
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

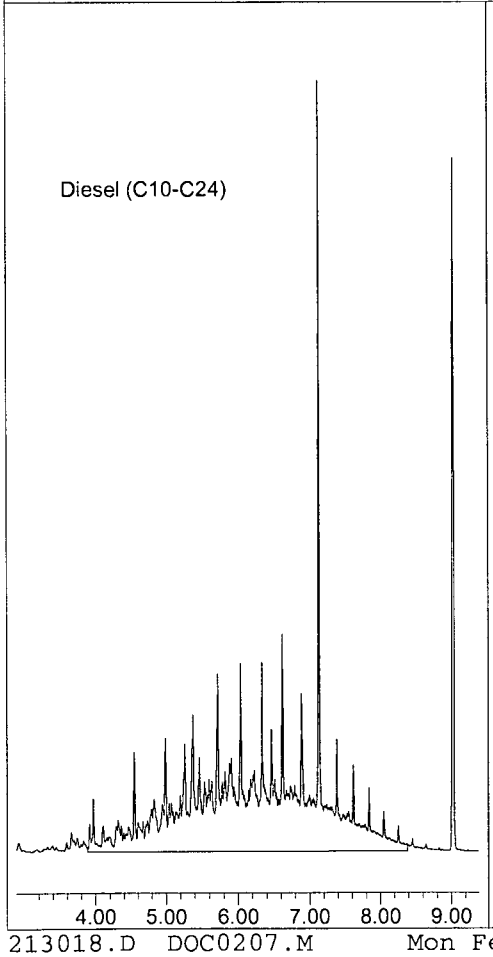
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

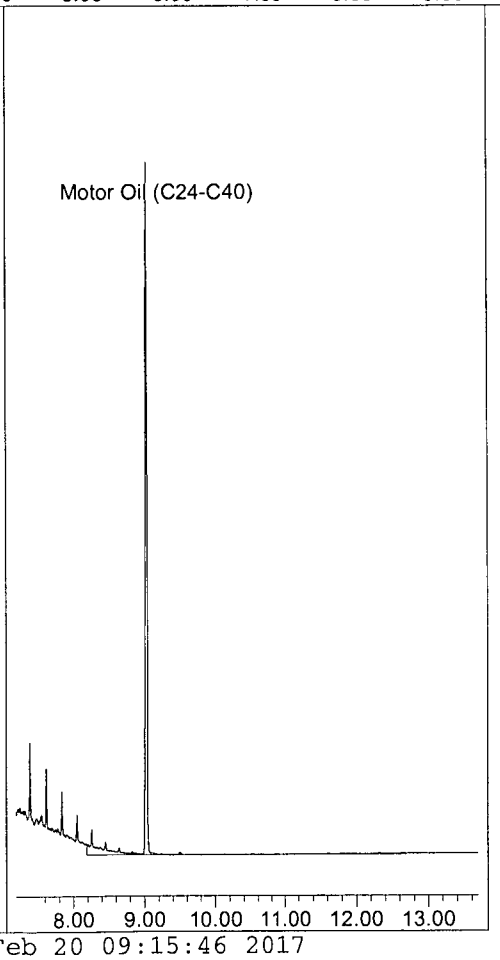
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22581684	18.461 ppb
Surrogate Spike 48.000		Recovery =	38.46%
4) SA Ortho-Terphenyl(S)	7.14	88920040	20.805 ppb
Surrogate Spike 30.000		Recovery =	69.35%
5) SA Octacosane(S)	9.03	126882211	20.205 ppb
Surrogate Spike 30.000		Recovery =	67.35%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1342802391	411.013 ppb
2) HBTM Motor Oil (C24-C40)	10.44	40113004	16.315 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213018.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213019.D Vial: 19
Acq On : 2-13-17 15:02:32 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 13 15:28 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

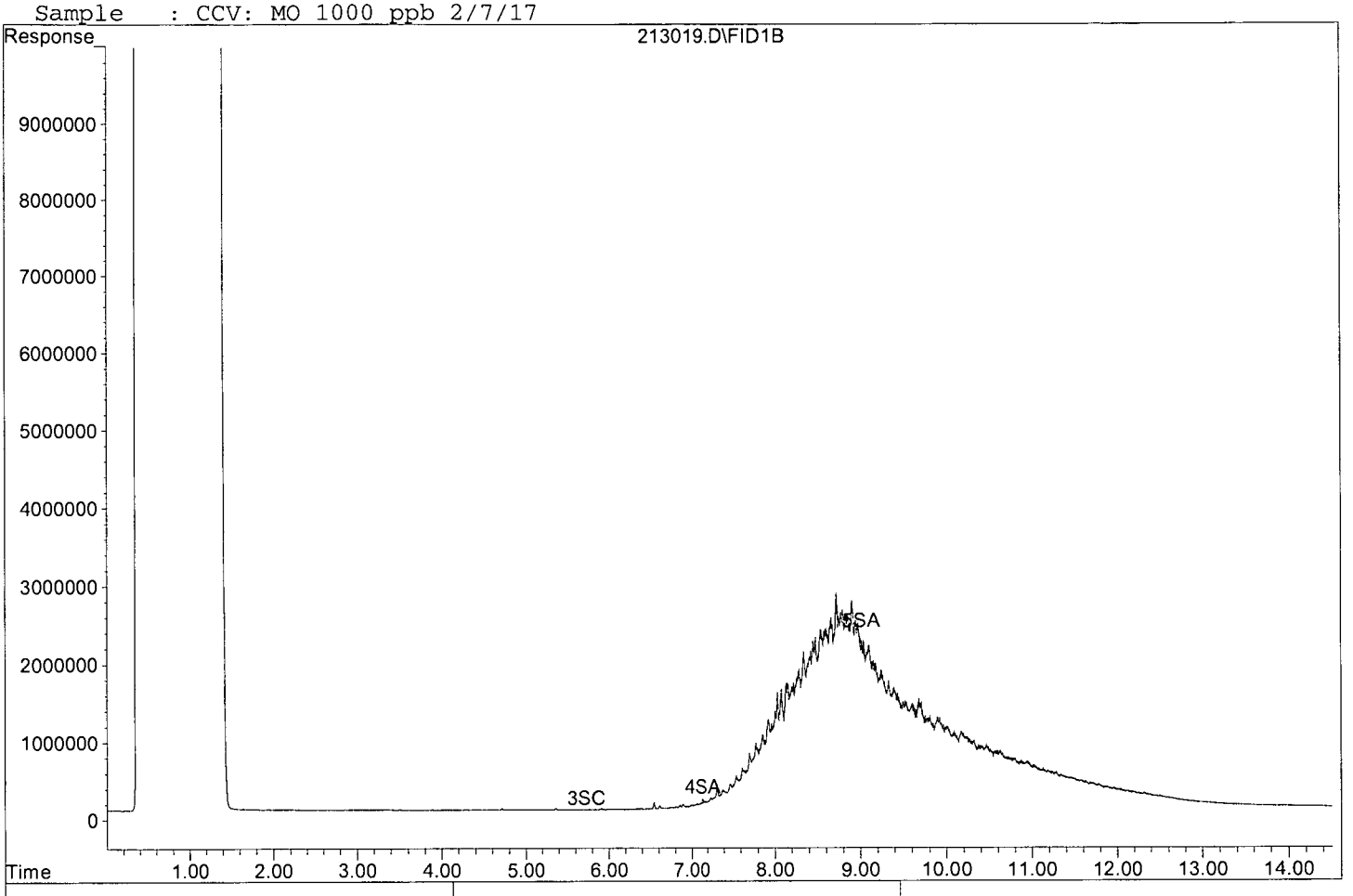
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

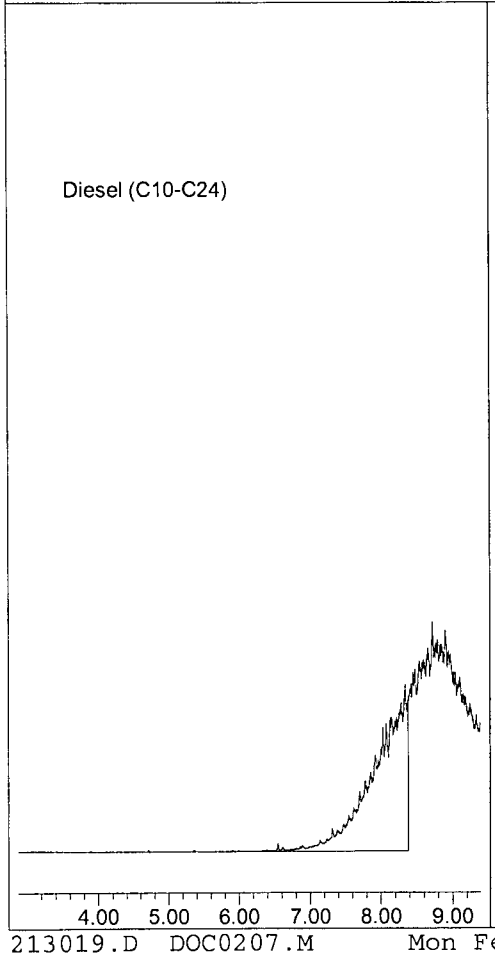
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	2902	0.002 ppb
Surrogate Spike 48.000	Recovery	=	0.00%
4) SA Ortho-Terphenyl(S)	7.14	614181	0.144 ppb
Surrogate Spike 30.000	Recovery	=	0.48%
5) SA Octacosane(S)	9.01	611201	0.097 ppb
Surrogate Spike 30.000	Recovery	=	0.32%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	618389703	189.281 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2486431988	1011.317 ppb

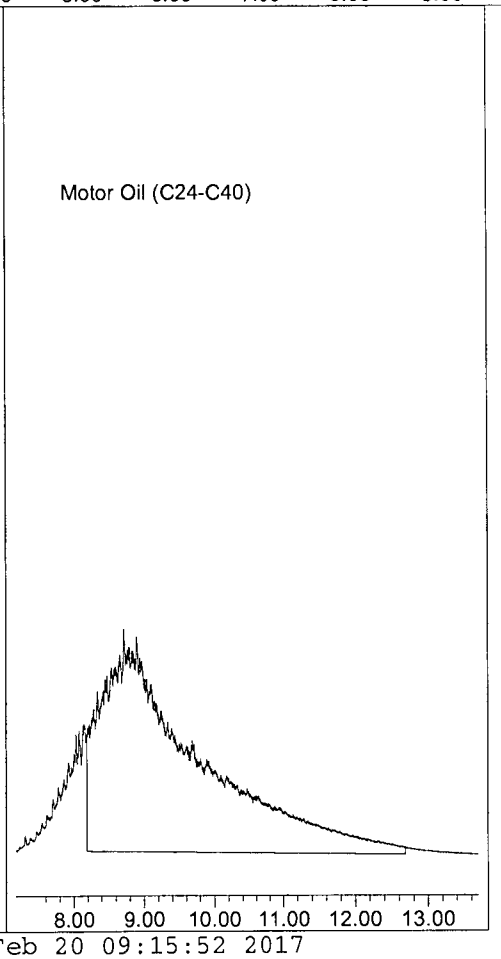
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213019.D
Sample : CCV: MO 1000 ppb 2/7/17







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 213043-44.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1647670	0.87	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1169540	4.9	HBTM	
3							
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5							
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7							
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11							
12							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.9		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213043.D Vial: 43
Acq On : 2-13-17 23:14:06 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 14 8:47 2017 Quant Results File: DOC0207.RES

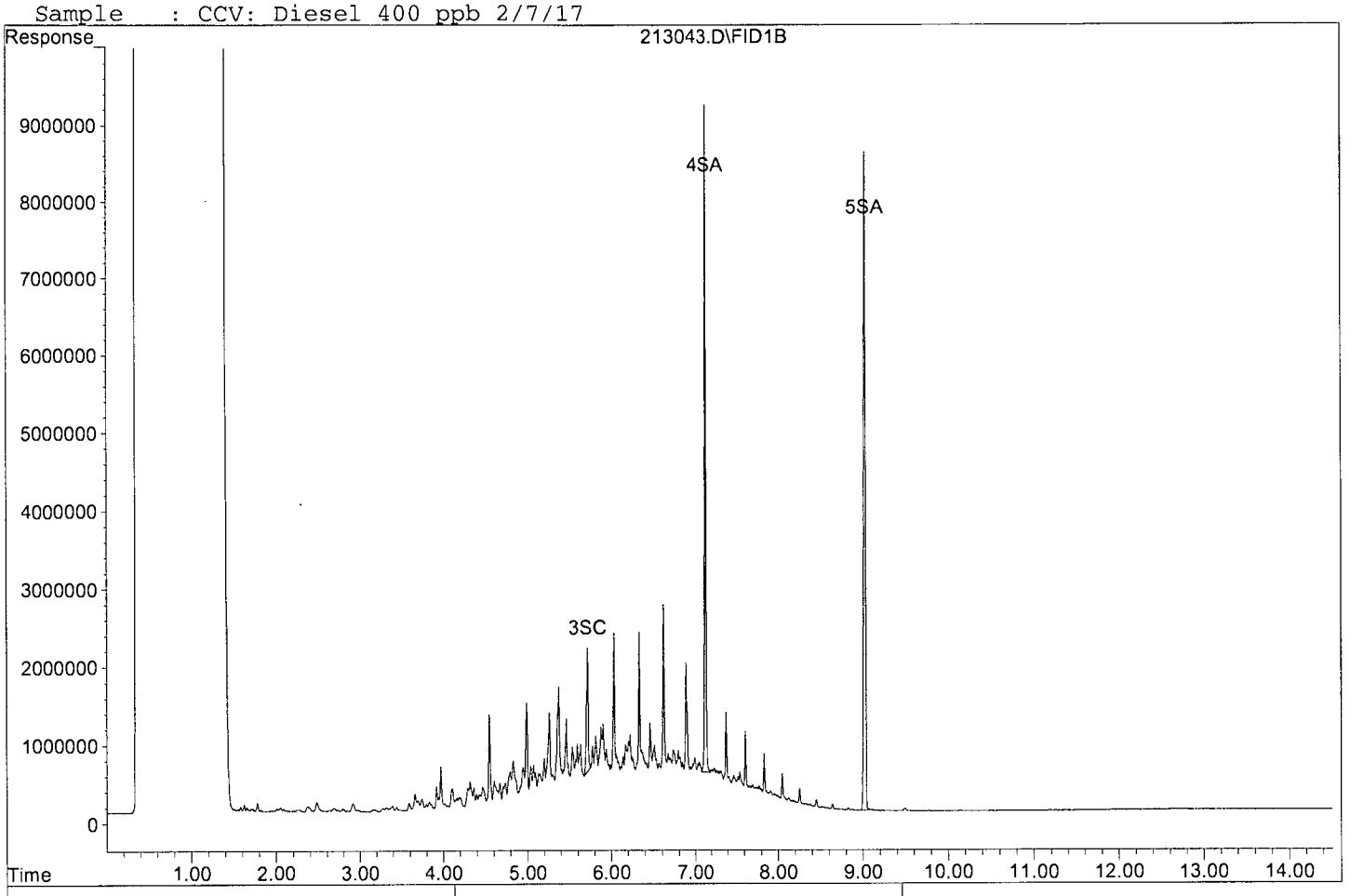
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

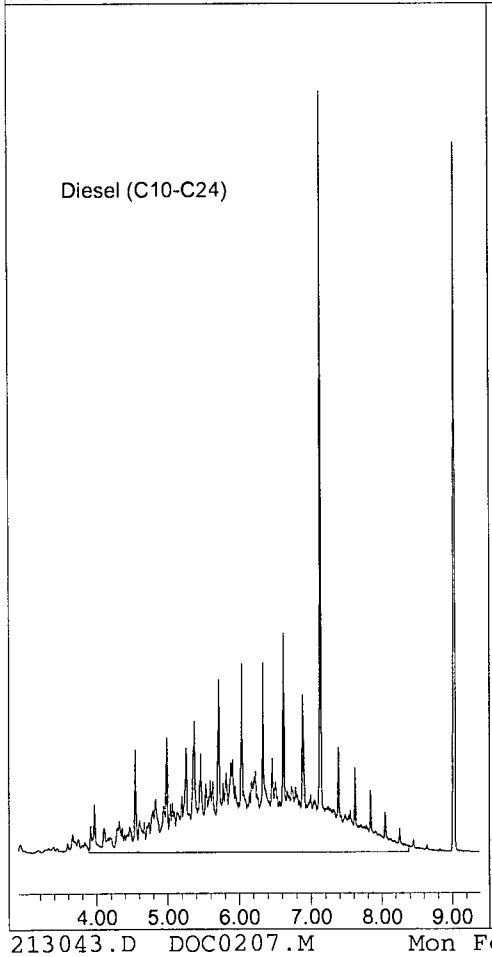
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

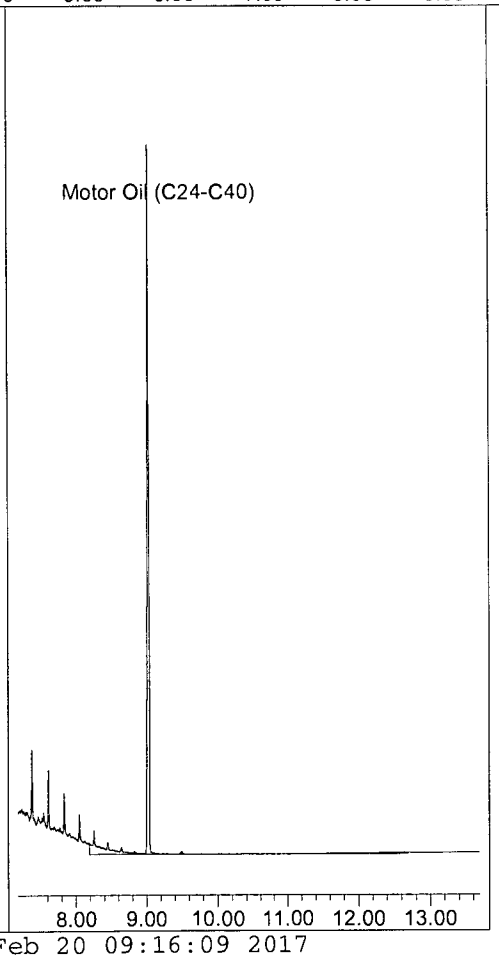
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	21928038	17.927 ppb
Surrogate Spike 48.000		Recovery =	37.35%
4) SA Ortho-Terphenyl(S)	7.13	88990292	20.821 ppb
Surrogate Spike 30.000		Recovery =	69.40%
5) SA Octacosane(S)	9.03	122716114	19.541 ppb
Surrogate Spike 30.000		Recovery =	65.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1318137751	403.464 ppb
2) HBTM Motor Oil (C24-C40)	10.44	39902657	16.230 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213043.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213044.D Vial: 44
Acq On : 2-13-17 23:34:33 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 14 8:47 2017 Quant Results File: DOC0207.RES

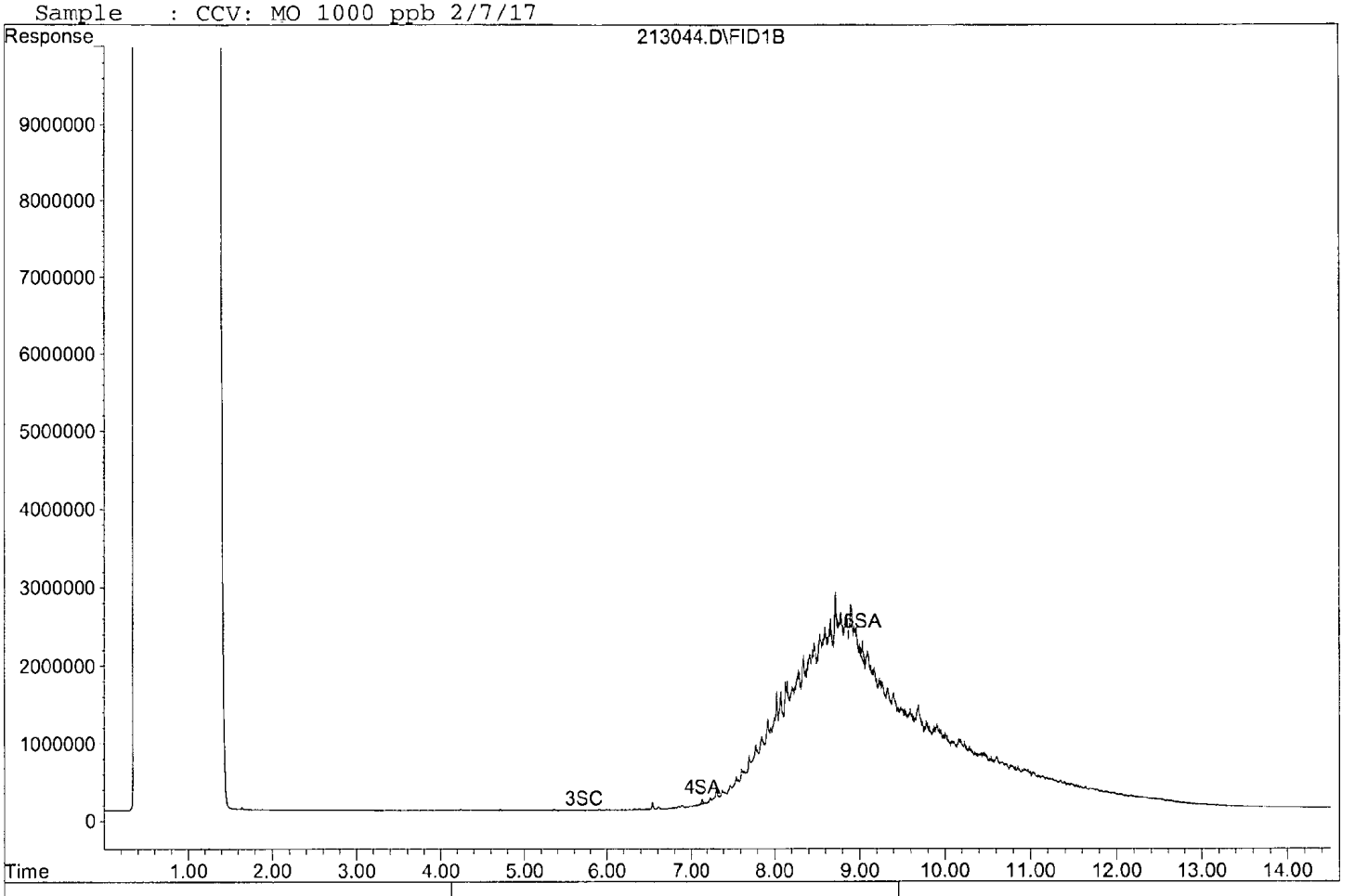
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

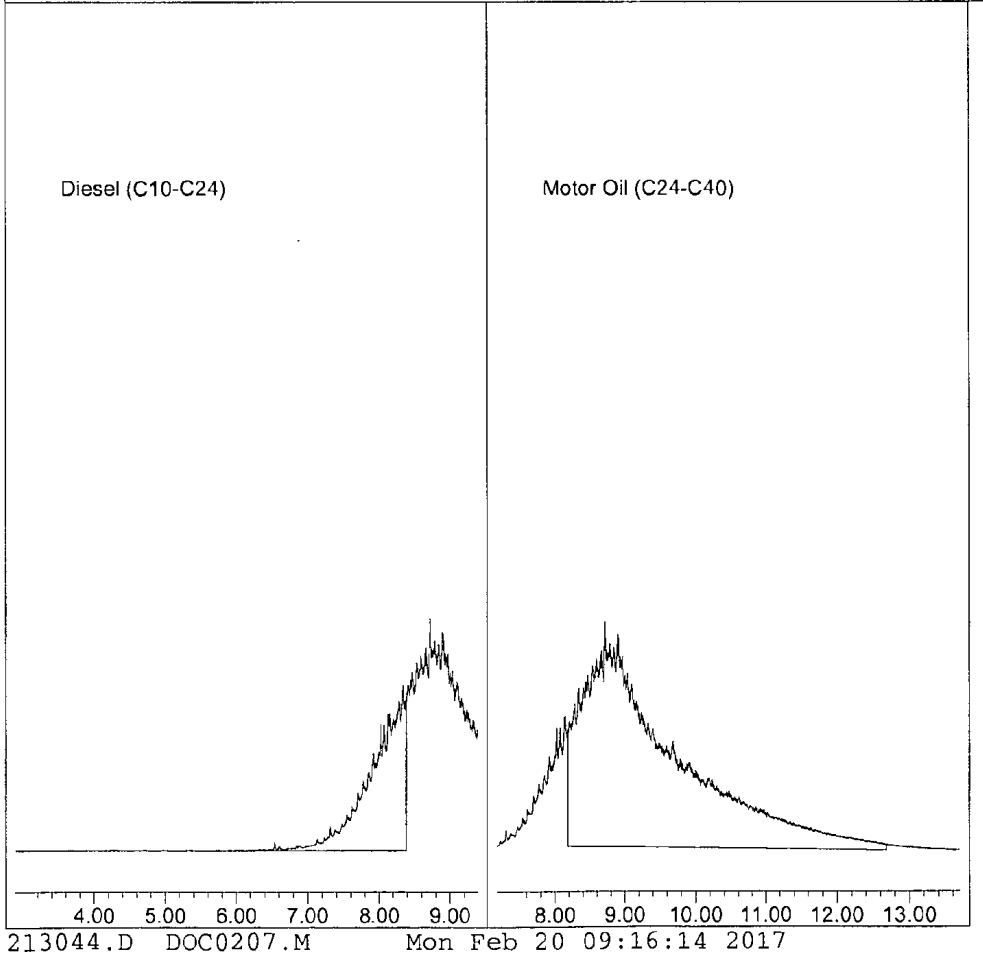
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	18557	0.015 ppb
Surrogate Spike 48.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.14	751507	0.176 ppb
Surrogate Spike 30.000		Recovery =	0.59%
5) SA Octacosane(S)	9.03	3401858	0.542 ppb
Surrogate Spike 30.000		Recovery =	1.81%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	616310296	188.644 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2339074071	951.381 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213044.D
Sample : CCV: MO 1000 ppb 2/7/17





TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 213056-57.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1667410	2.1	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1132890	7.8	HBTM	
3							
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37							
38							
39							
40							
		Average			5.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213056.D Vial: 56
Acq On : 2-14-17 3:38:46 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 14 8:48 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

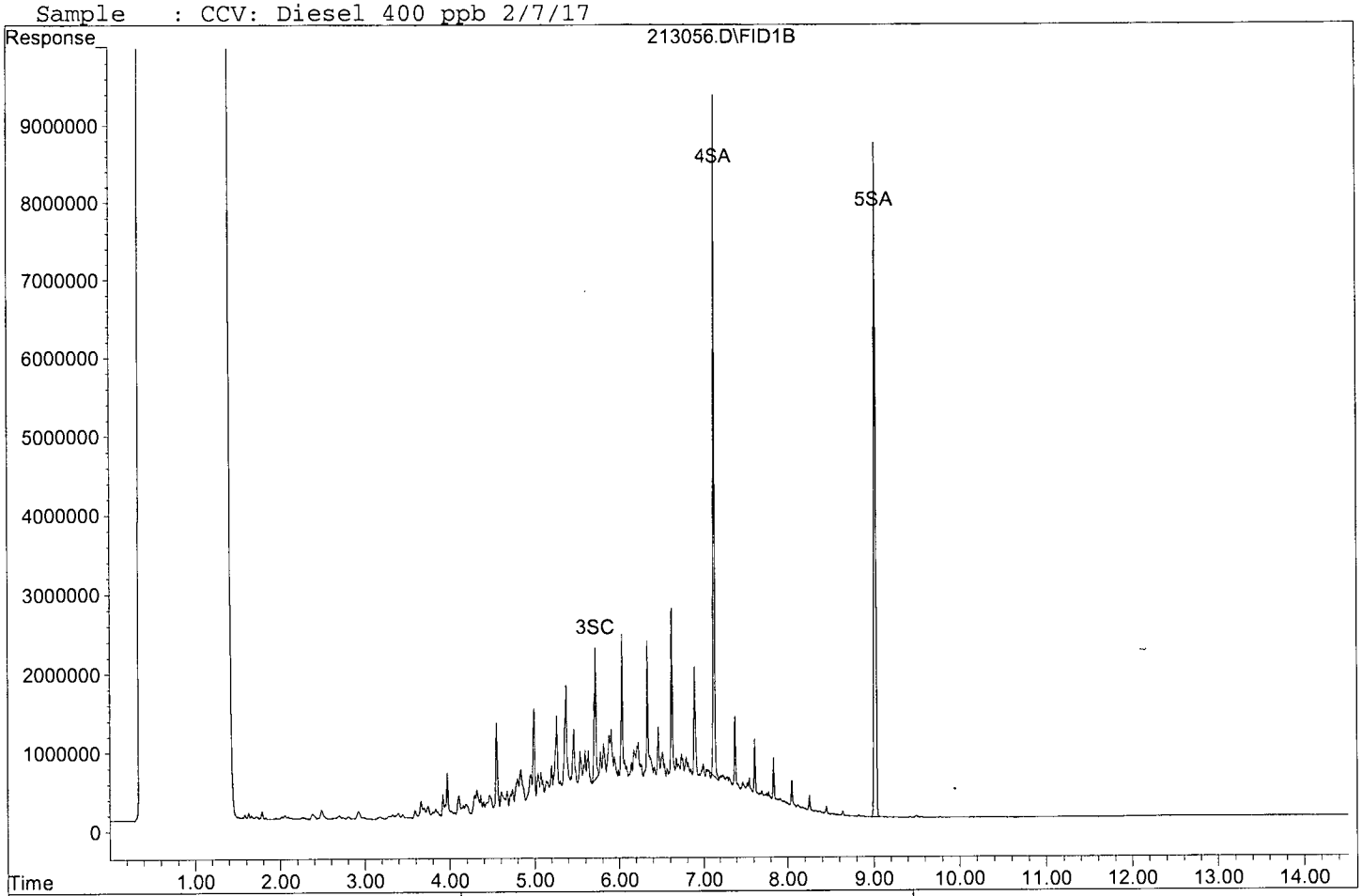
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

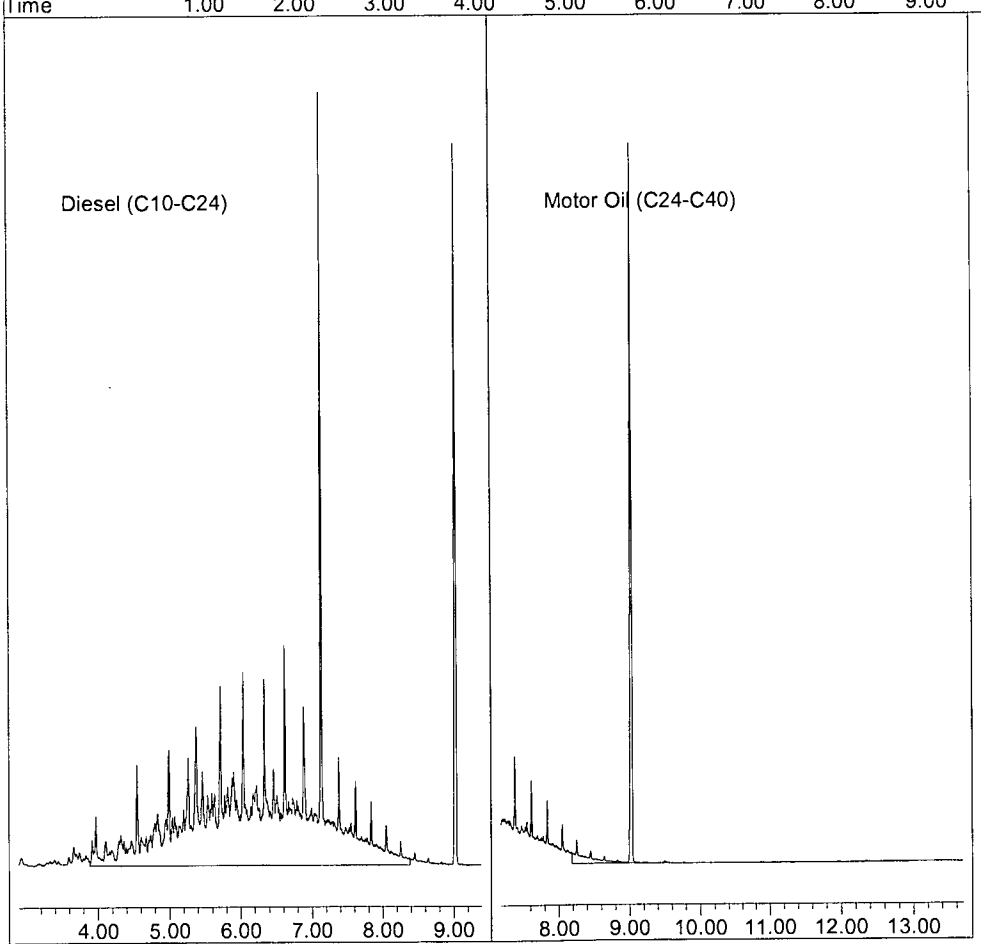
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22925737	18.743 ppb
Surrogate Spike 48.000		Recovery =	39.05%
4) SA Ortho-Terphenyl(S)	7.13	88272743	20.654 ppb
Surrogate Spike 30.000		Recovery =	68.85%
5) SA Octacosane(S)	9.03	121712771	19.381 ppb
Surrogate Spike 30.000		Recovery =	64.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1333929672	408.298 ppb
2) HBTM Motor Oil (C24-C40)	10.44	35213604	14.323 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213056.D
Sample : CCV: Diesel 400 ppb 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170213\213057.D
Acq On : 2-14-17 3:59:10
Sample : CCV: MO 1000 ppb 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 14 8:48 2017 Quant Results File: DOC0207.RES

Vial: 57
Operator: DP
Inst : Apollo
Multiplr: 1.00

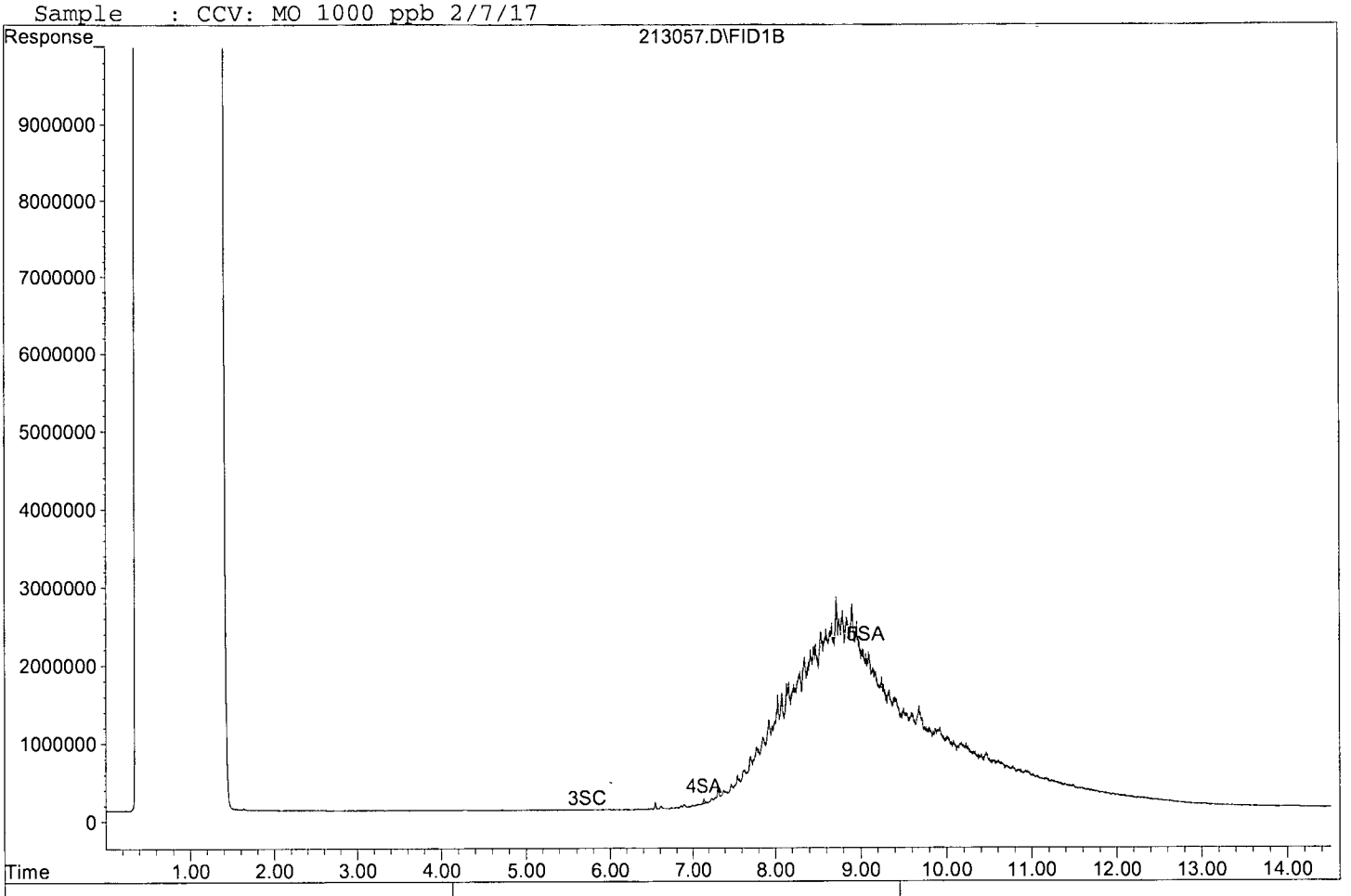
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

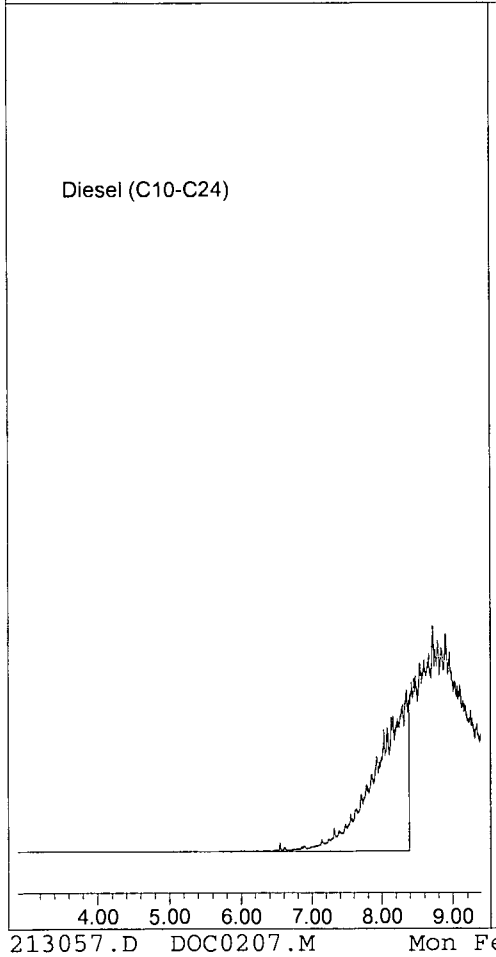
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

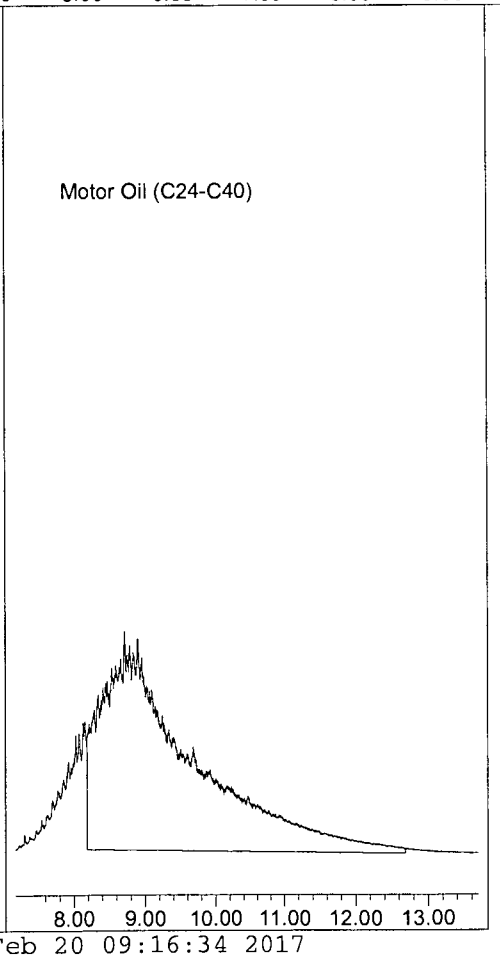
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	15930	0.013 ppb
Surrogate Spike 48.000	Recovery	=	0.03%
4) SA Ortho-Terphenyl(S)	7.14	848725	0.199 ppb
Surrogate Spike 30.000	Recovery	=	0.66%
5) SA Octacosane(S)	9.06	886010	0.141 ppb
Surrogate Spike 30.000	Recovery	=	0.47%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	607149676	185.840 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2265773128	921.567 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213057.D
Sample : CCV: MO 1000 ppb 2/7/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216139**
Batch ID: #DOC53-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/09/17	02/13/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: OCTACOSANE (S)	92.0	60-142			%	02/09/17	02/13/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.9	56-125			%	02/09/17	02/13/17

Quant Method:DOC0207.M
Run #:213037
Instrument:Apollo
Sequence:170213
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 9:38:59 AM

Quantitation Report (QT Reviewed)

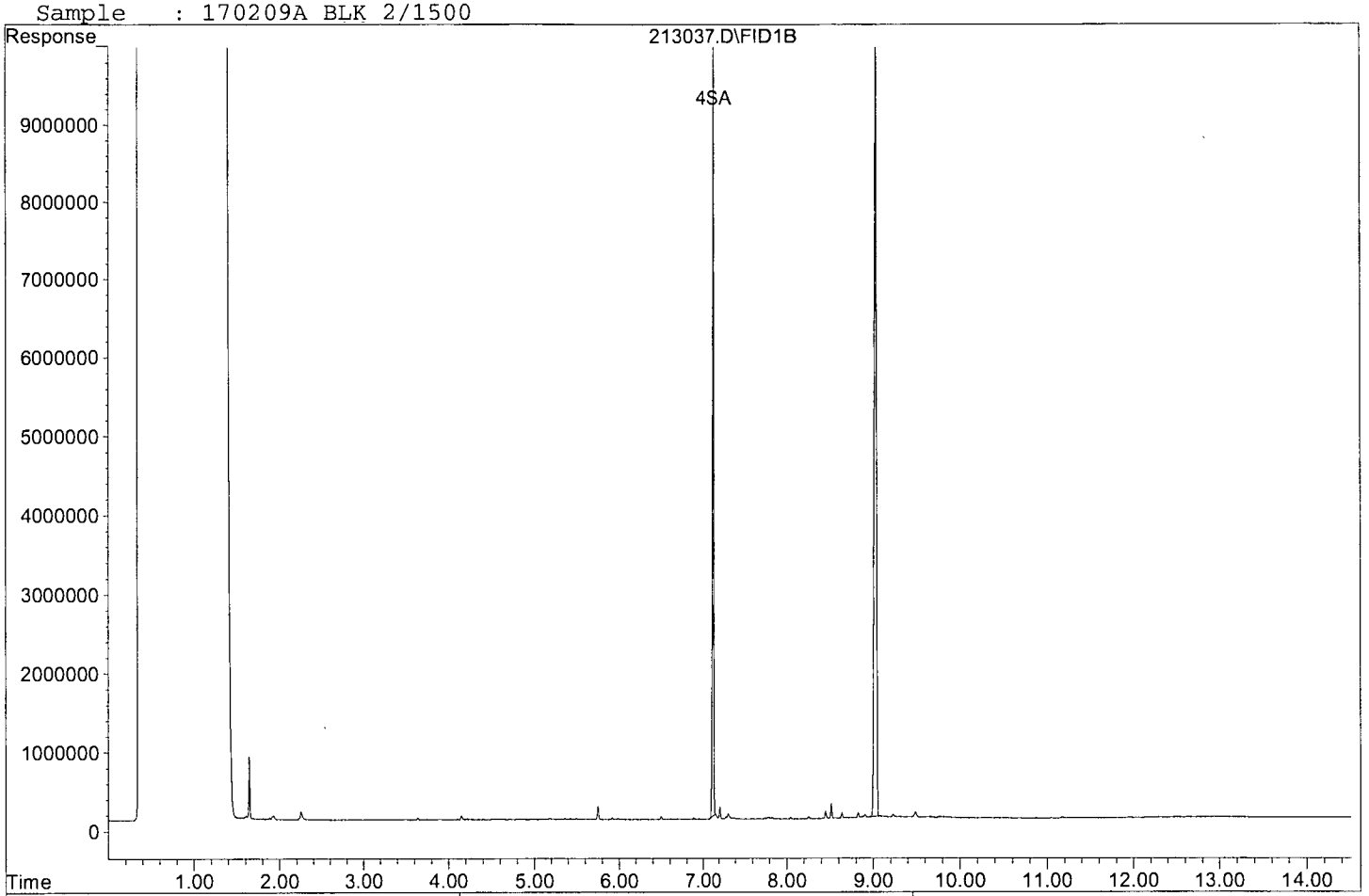
Data File : G:\APOLLO\DATA\170213\213037.D Vial: 37
Acq On : 2-13-17 21:11:55 Operator: DP
Sample : 170209A BLK 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

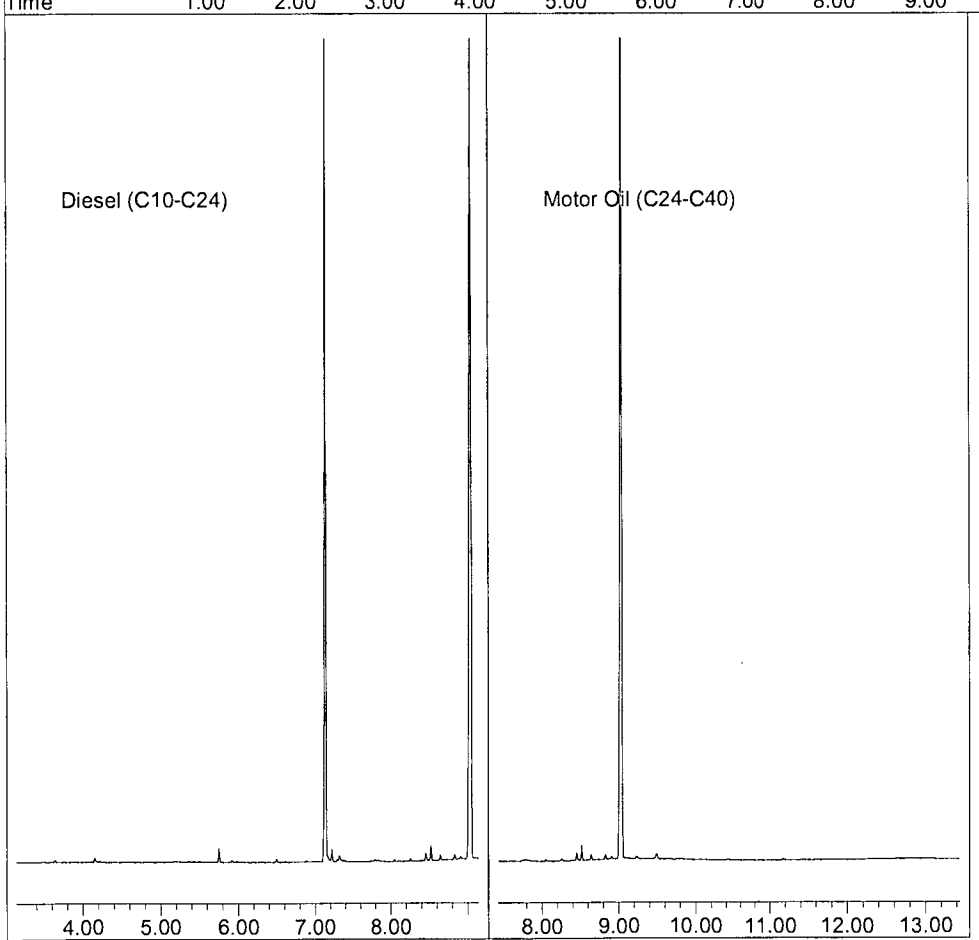
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	101100874	31.540 ppb
Surrogate Spike 40.000		Recovery =	78.85%
5) SA Octacosane(S)	9.04	173393742	36.815 ppb
Surrogate Spike 40.000		Recovery =	92.04%
Target Compounds			

Data File: G:\APOLLO\DATA\170213\213037.D
Sample : 170209A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170209W-49674 LCS - 216139**
Batch ID: #DOC53-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	479	71.8	36-132
OIL (C24-C40)	667	567	85.0	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.7	91.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	36.0	90.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Apollo
Run :	213038
Initials :	DPO

Printed: 02/14/17 9:38:53 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213038.D Vial: 38
Acq On : 2-13-17 21:32:20 Operator: DP
Sample : 170209A LCS-1 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:26 2017 Quant Results File: DOC0207.RES

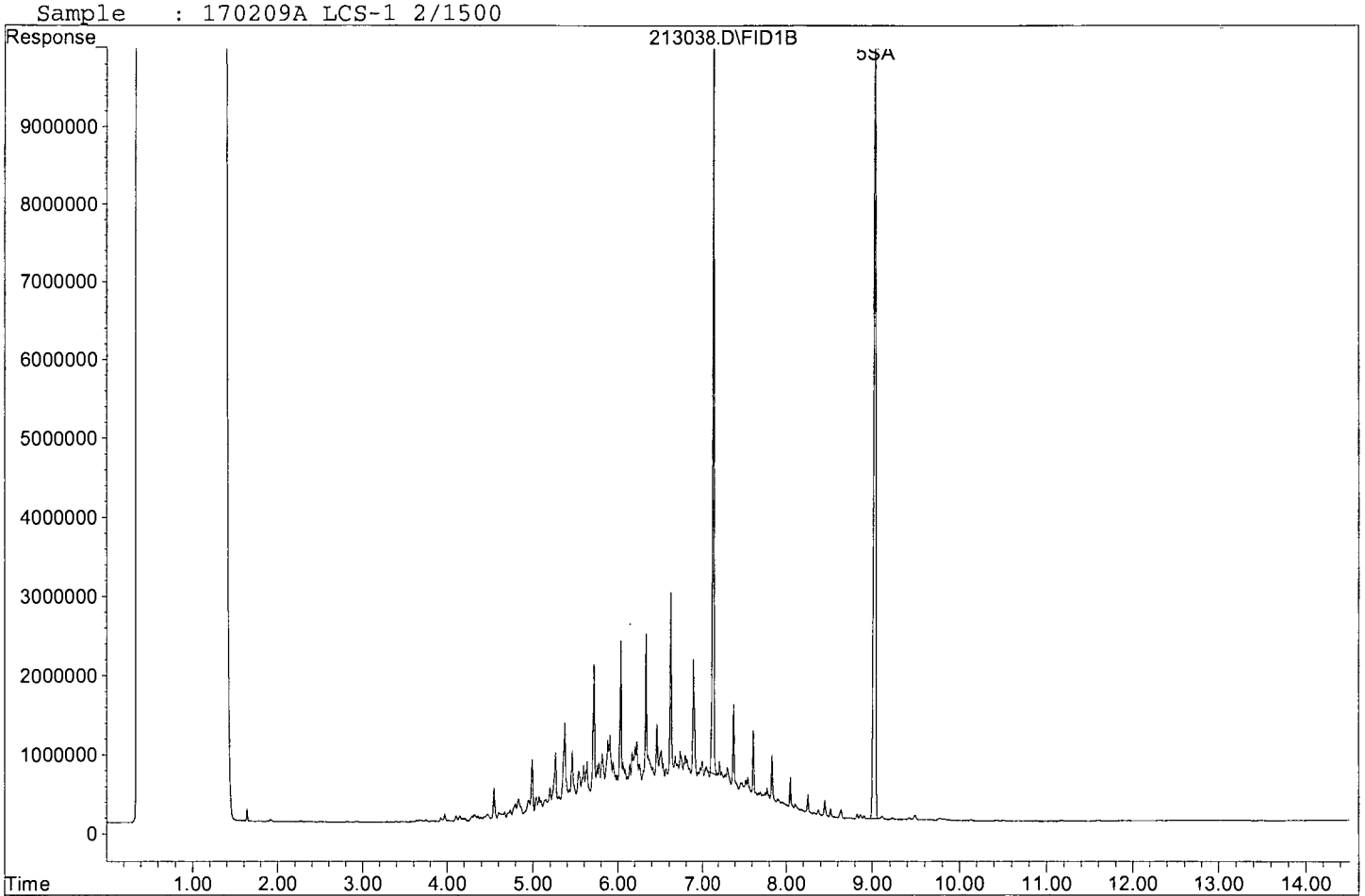
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

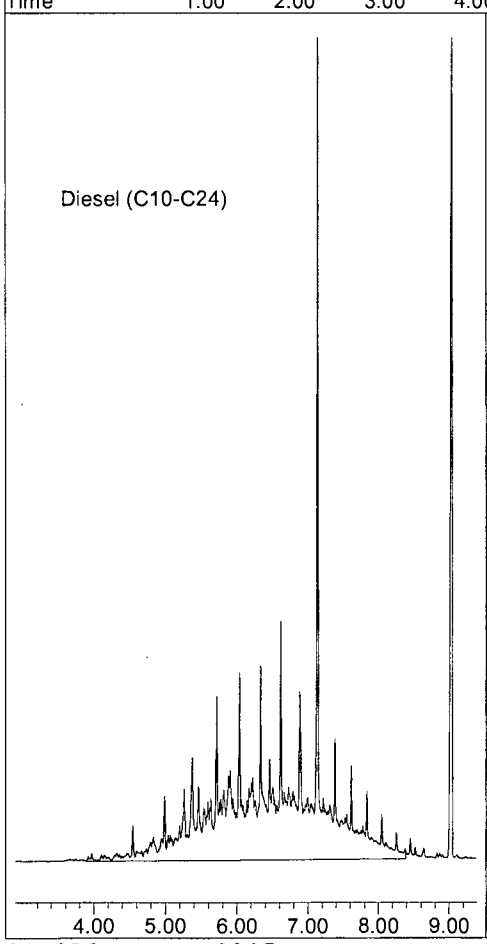
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

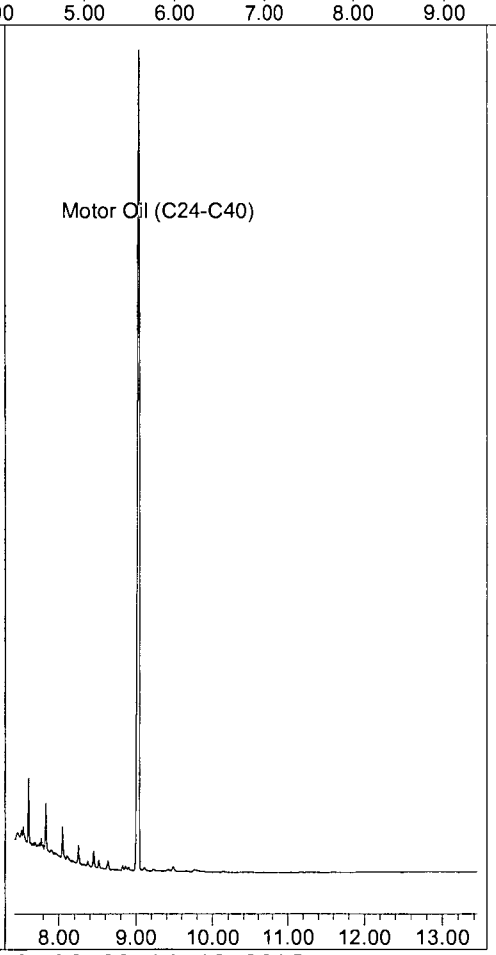
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	115370714	35.992 ppb
Surrogate Spike 40.000		Recovery =	89.98%
5) SA Octacosane(S)	9.04	172660368	36.659 ppb
Surrogate Spike 40.000		Recovery =	91.65%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1173956102	479.108 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213038.D
Sample : 170209A LCS-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213039.D Vial: 39
Acq On : 2-13-17 21:52:40 Operator: DP
Sample : 170209A LCS-2 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:25 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

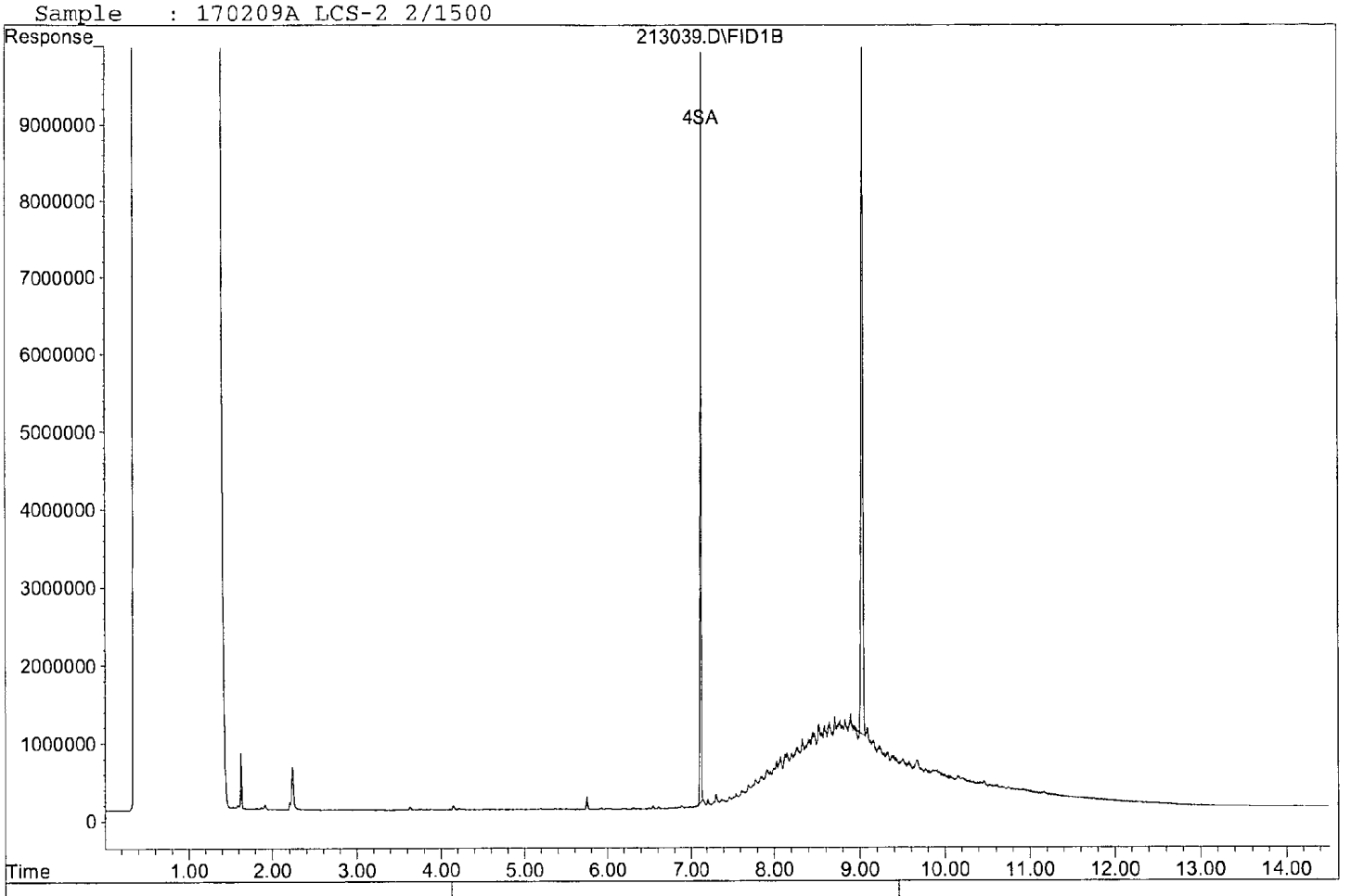
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

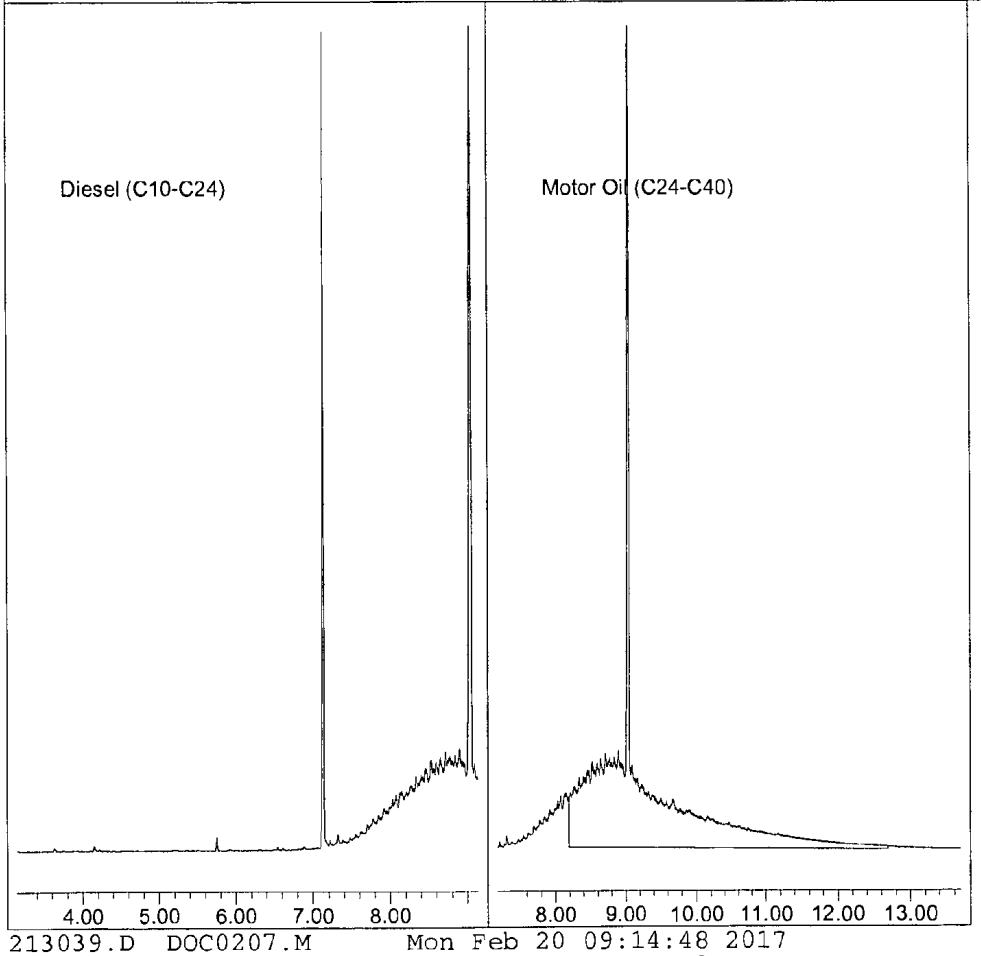
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	94296229	29.417 ppb
Surrogate Spike 40.000		Recovery =	73.54%
5) SA Octacosane(S)	9.04	154899394	32.888 ppb
Surrogate Spike 40.000		Recovery =	82.22%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1046267025	567.402 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170213\213039.D
Sample : 170209A LCS-2 2/1500





Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170209W-49674 MS - 216139**
Batch ID: #DOC53-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	471	469	70.6	70.3	36-132	0.43	30
OIL (C24-C40)	667	ND	575	581	86.2	87.1	41-113	1.0	30
SURROGATE: OCTACOSANE (S)	40.0	NA	35.9	36.8	89.8	92.0	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	35.6	36.2	89.0	90.5	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0207.M	DOC0207.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/14/17	02/14/17
Instrument :	Apollo	Apollo
Run :	213048	213049
Initials :	DPO	

Printed: 02/14/17 9:38:50 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

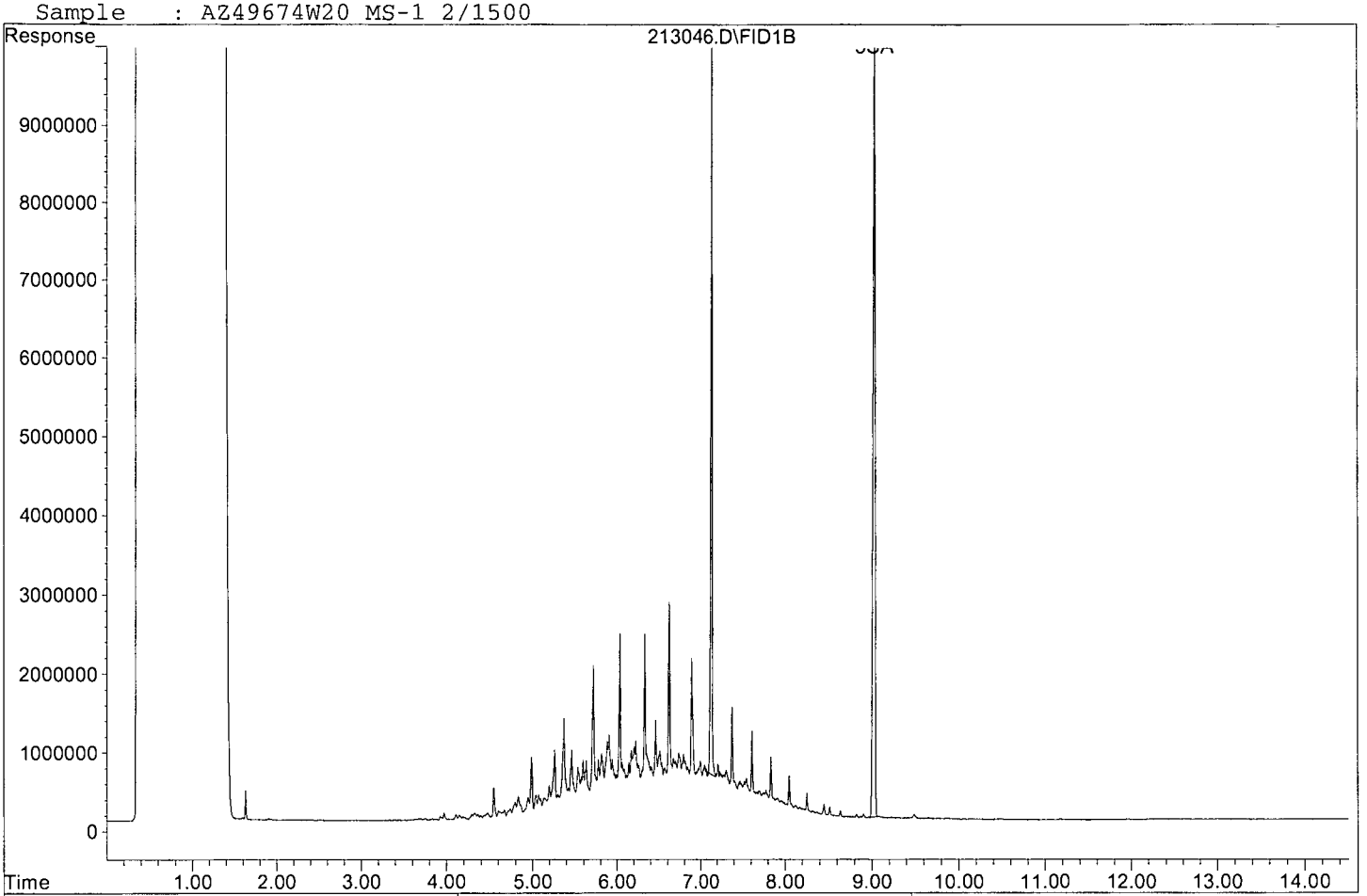
Data File : G:\APOLLO\DATA\170213\213046.D Vial: 46
Acq On : 2-14-17 0:15:21 Operator: DP
Sample : AZ49674W20 MS-1 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:28 2017 Quant Results File: DOC0207.RES

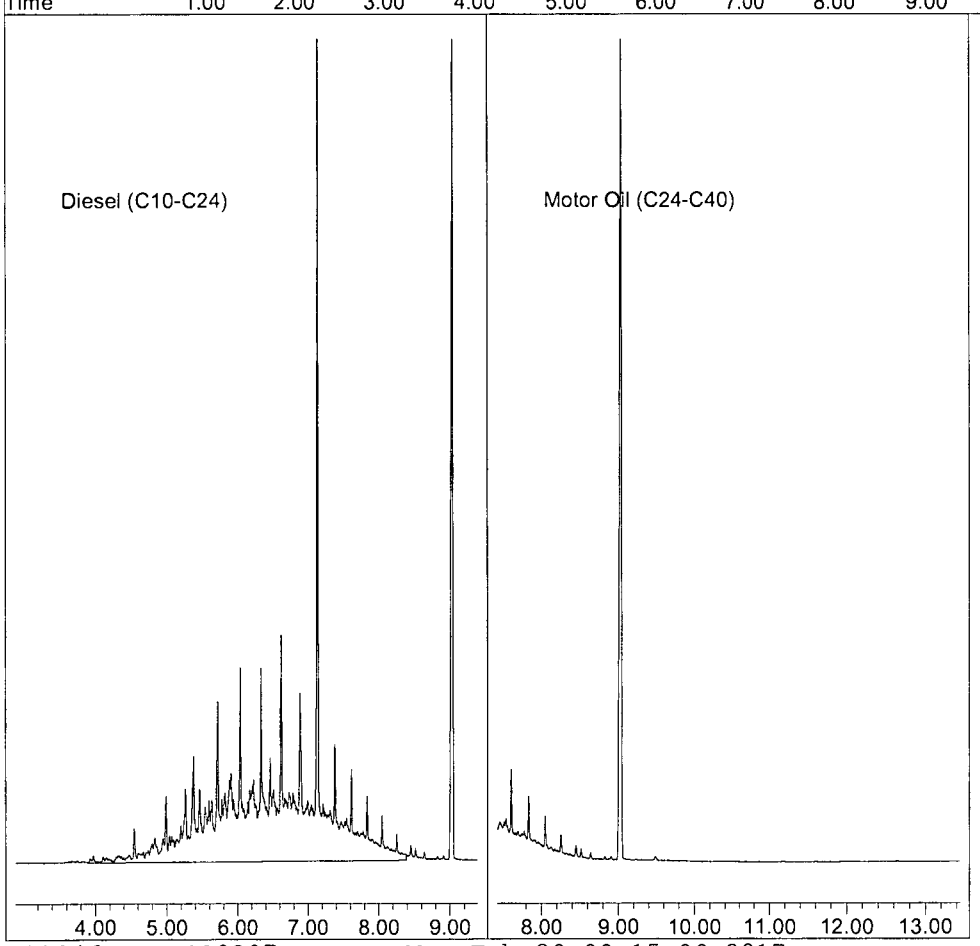
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	114234992	35.637 ppb
Surrogate Spike 40.000		Recovery =	89.09%
5) SA Octacosane(S)	9.04	169260786	35.937 ppb
Surrogate Spike 40.000		Recovery =	89.84%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1154027935	470.975 ppb

Data File: G:\APOLLO\DATA\170213\213046.D
Sample : AZ49674W20 MS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213047.D Vial: 47
Acq On : 2-14-17 0:35:42 Operator: DP
Sample : AZ49674W32 MSD-1 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:28 2017 Quant Results File: DOC0207.RES

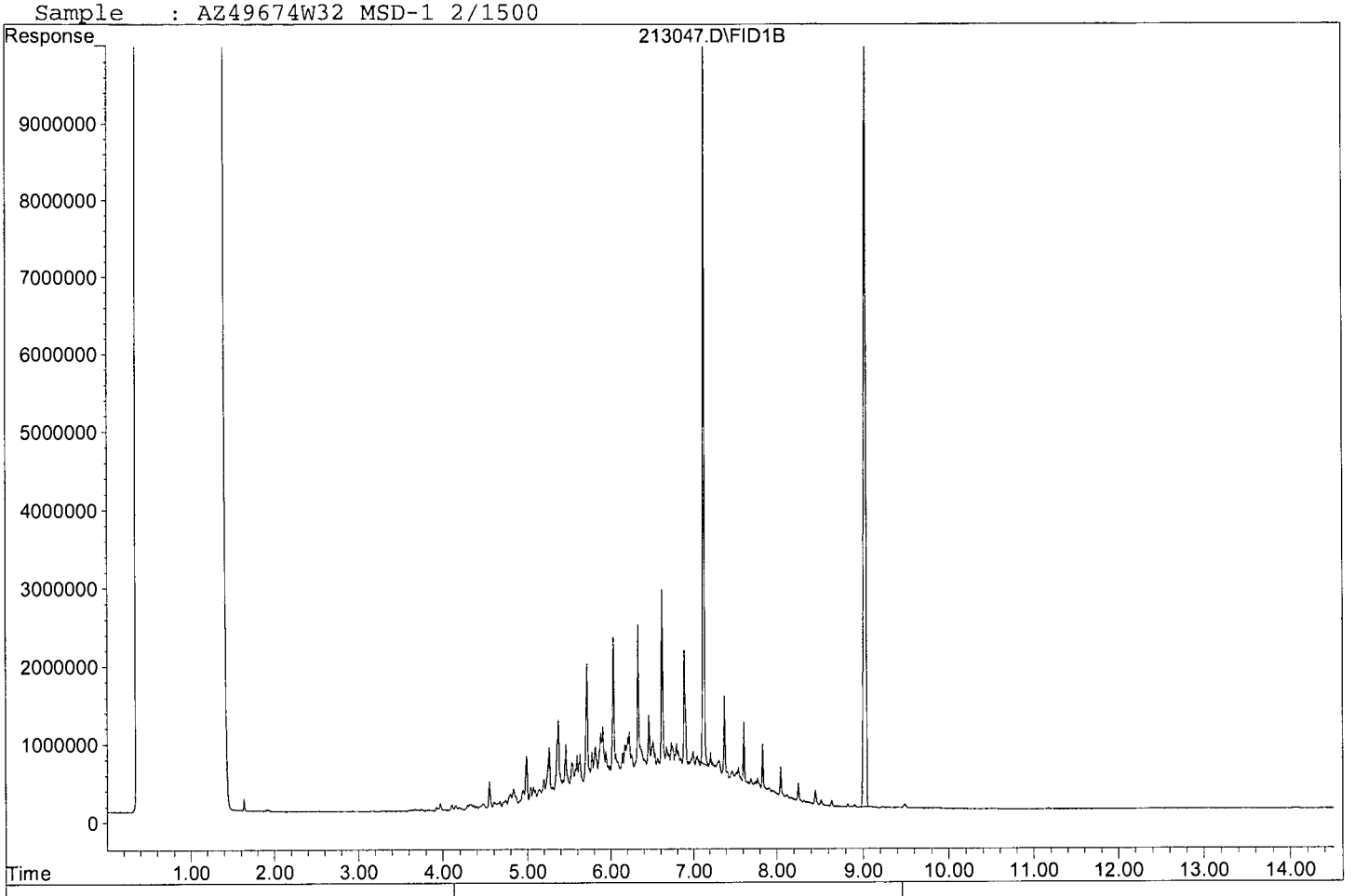
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

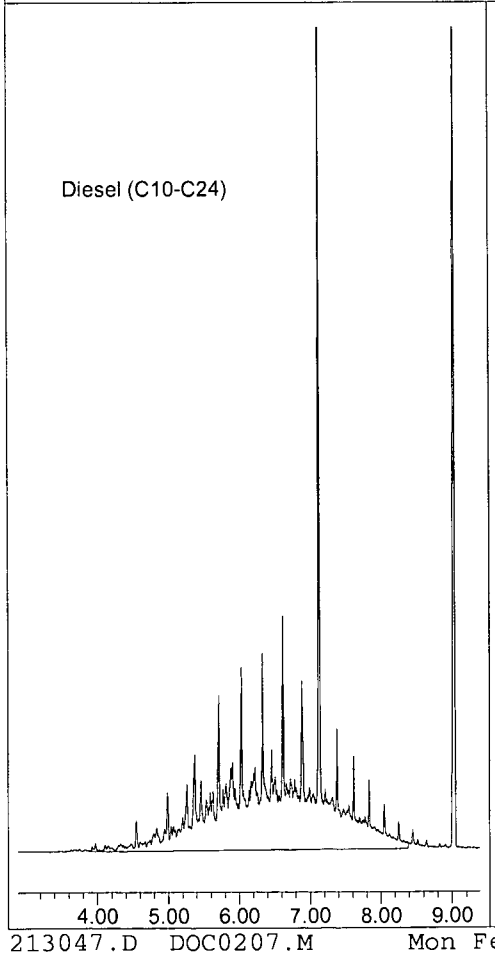
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

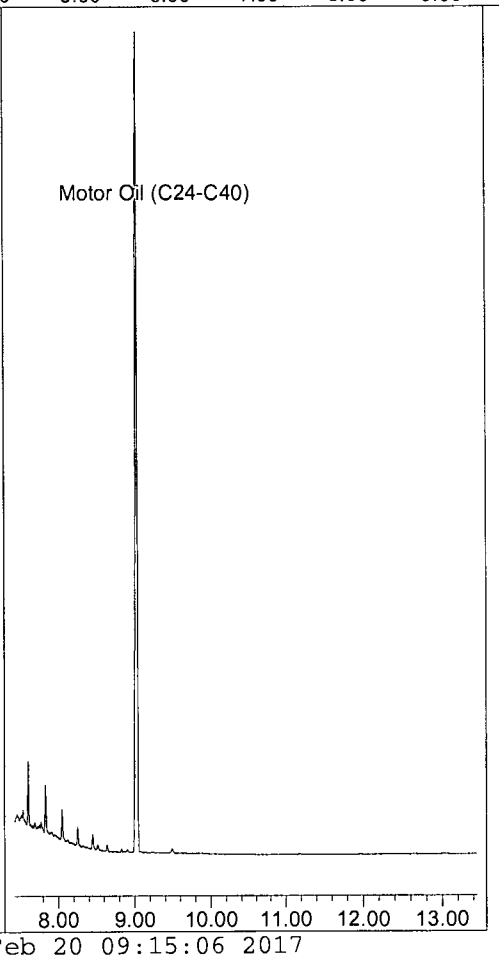
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	116045501	36.202 ppb
Surrogate Spike 40.000		Recovery =	90.51%
5) SA Octacosane(S)	9.04	173484309	36.834 ppb
Surrogate Spike 40.000		Recovery =	92.09%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1148666505	468.787 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213047.D
Sample : AZ49674W32 MSD-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213048.D Vial: 48
Acq On : 2-14-17 0:56:02 Operator: DP
Sample : AZ49674W18 MS-2 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:28 2017 Quant Results File: DOC0207.RES

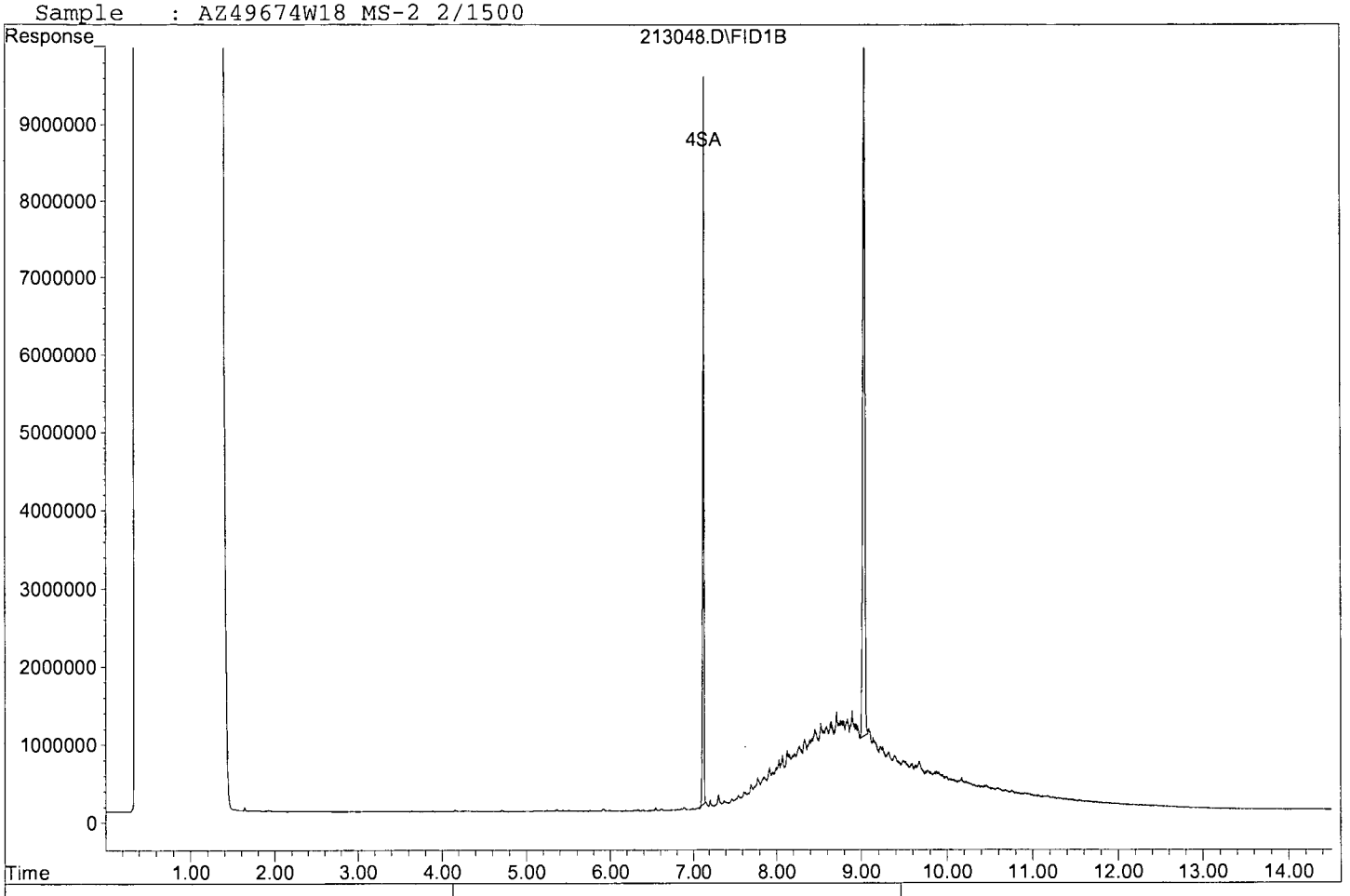
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

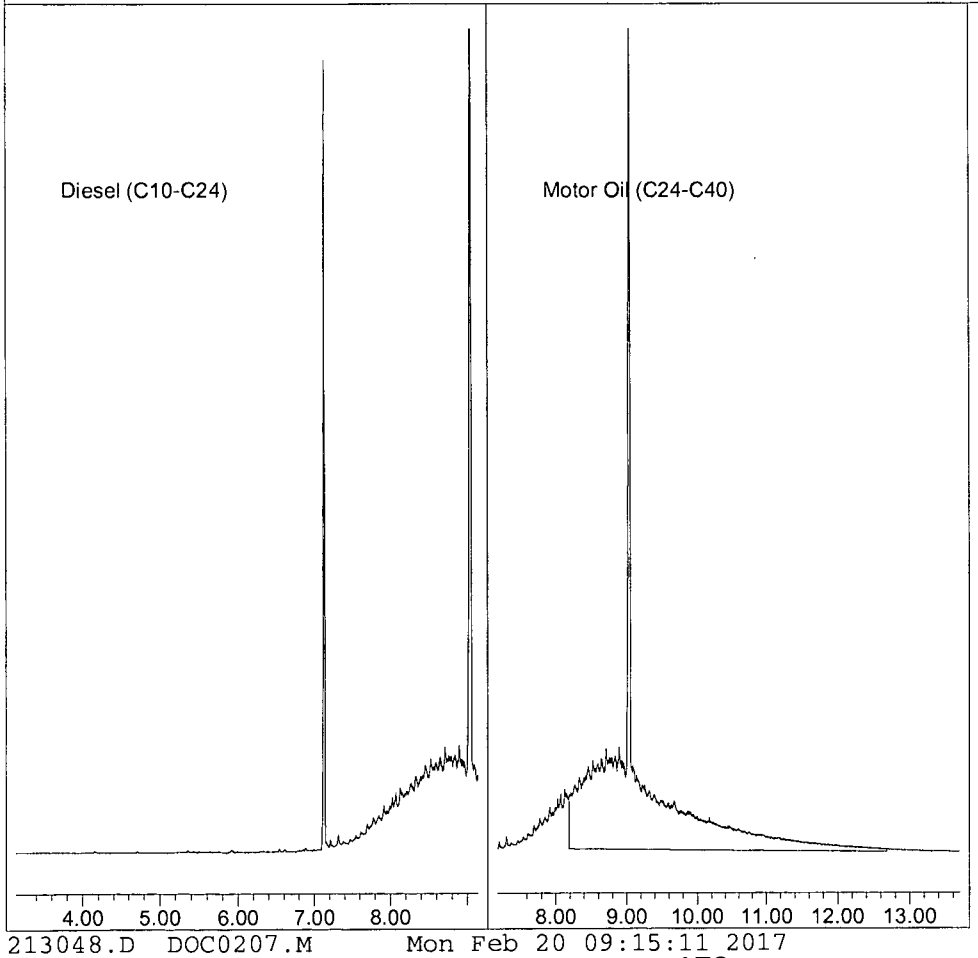
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	94779468	29.568 ppb
Surrogate Spike 40.000		Recovery =	73.92%
5) SA Octacosane(S)	9.04	159685138	33.904 ppb
Surrogate Spike 40.000		Recovery =	84.76%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1060584703	575.167 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213048.D
Sample : AZ49674W18 MS-2 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170213\213049.D Vial: 49
Acq On : 2-14-17 1:16:25 Operator: DP
Sample : AZ49674W27 MSD-2 2/1500 Inst : Apollo
Misc : Water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 14 9:29 2017 Quant Results File: DOC0207.RES

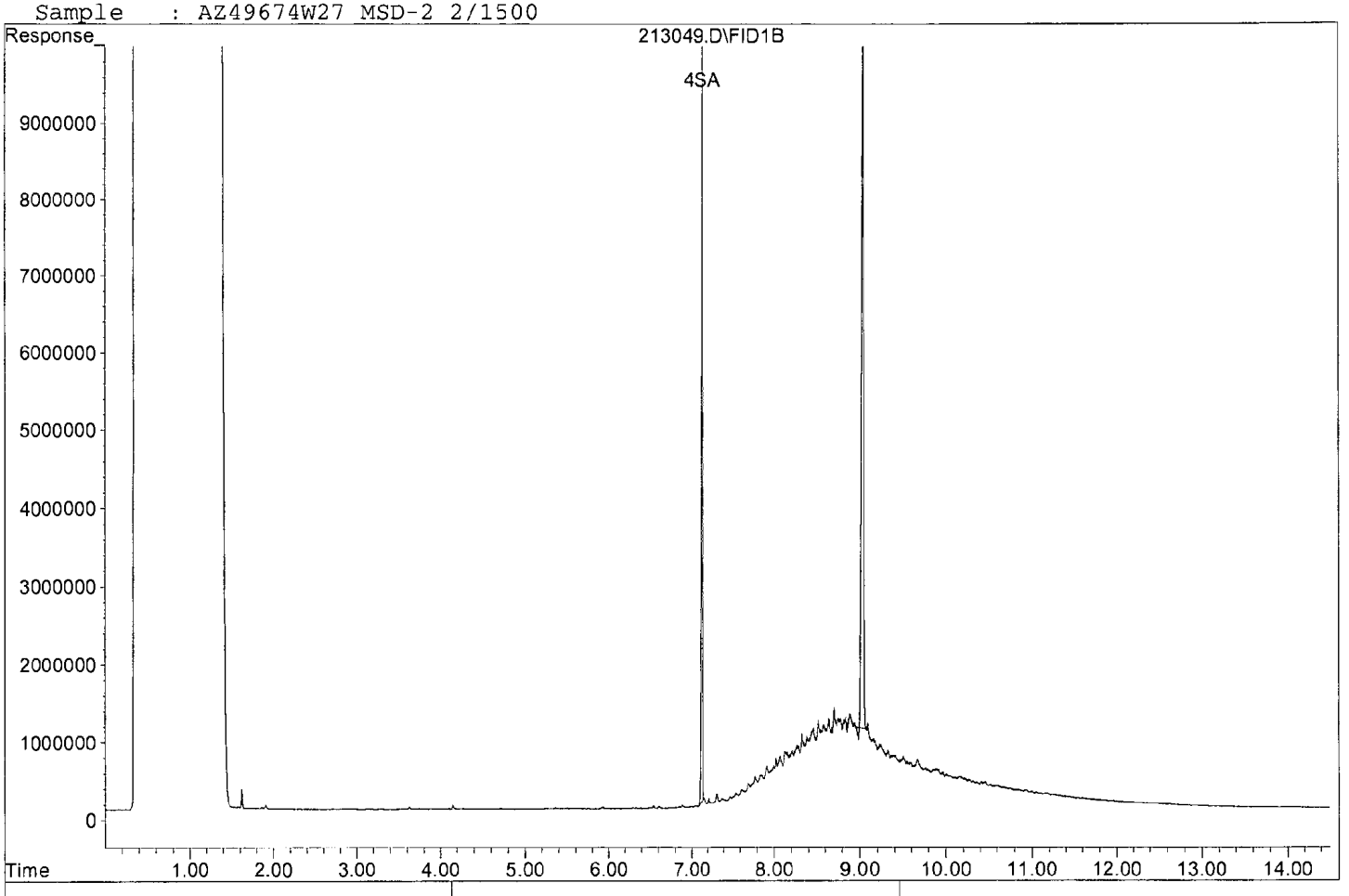
Method : G:\APOLLO\DATA\170213\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

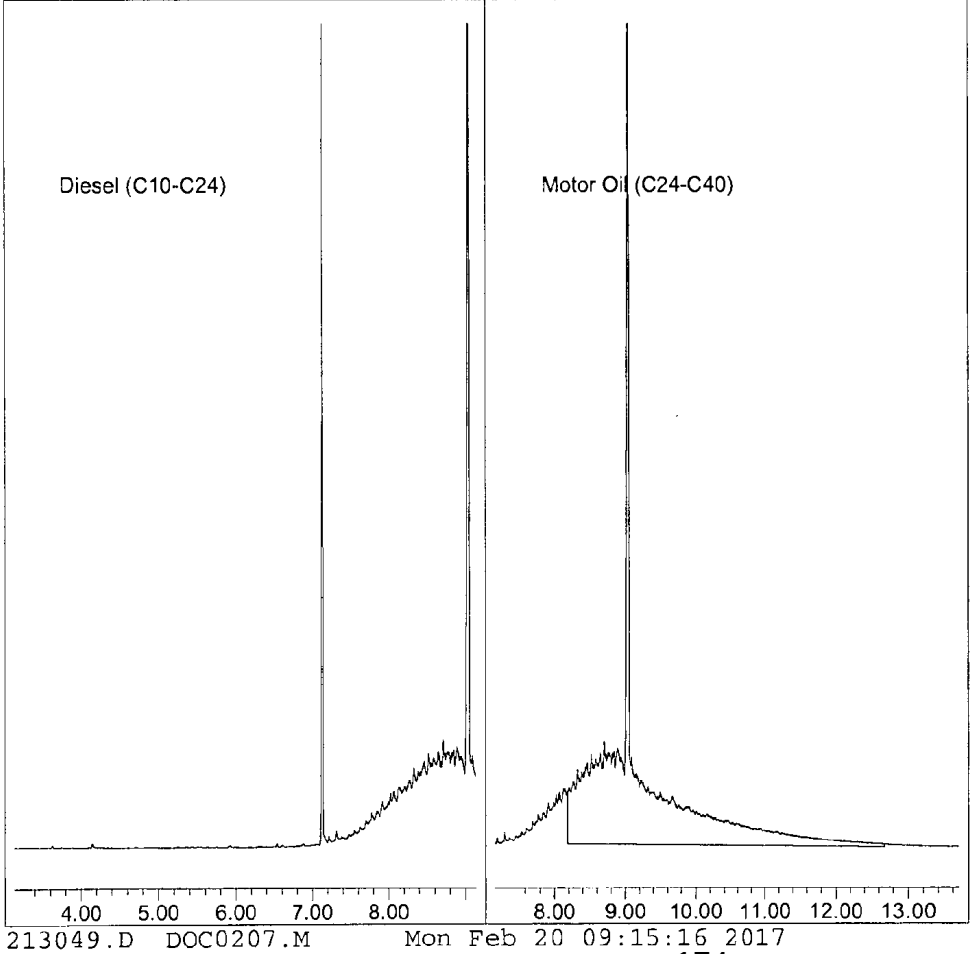
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	100170360	31.250 ppb
Surrogate Spike 40.000		Recovery =	78.13%
5) SA Octacosane(S)	9.04	162111556	34.419 ppb
Surrogate Spike 40.000		Recovery =	86.05%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1071411141	581.038 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170213\213049.D
Sample : AZ49674W27 MSD-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 02/07/17-D.P. Ex: 02/07/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	02/07/18				

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

Diesel Spike	
Cat:	011598-03
Lot:	280736-37352
Op:	01/19/17-D.P.
Exp:	01/19/18

THC Surrogate
Cat: 110316-05
Lot: 295677-37411
Op: 02/07/17-D.P.
Exp: 02/07/18

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CCV 1000ppb						
Prep: 02/07/17-D.P. Ex: 11/09/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	2500µL	5mL	1000 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	11/09/17				

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34446
Op: 02/07/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170209A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-7-17 exp 2-7-18	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 16:20	
Spiked ID 8			Ext. End Time:	02/13/17 14:00	
			GC Requires Extract By:	**02/15/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	
2	170209A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	
3	170209A LCS-2		0.020	2	0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	
4	AZ49656	AZ49656W10			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
5	AZ49657	AZ49657W10			0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
6	AZ49658	AZ49658W09			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82117 RUSH 1 WEEK
7	AZ49674 MS-1	AZ49674W20	0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
8	AZ49674 MSD-1	AZ49674W32	0.020	1	0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
9	AZ49674 MS-2	AZ49674W18	0.020	2	0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
10	AZ49674 MSD-2	AZ49674W27	0.020	2	0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
11	AZ49674	AZ49674W25			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
12	AZ49676	AZ49676W08			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
13	AZ49679	AZ49679W11			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
14	AZ49682	AZ49682W13			0.1	1 equip	1500 E-WB2	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
15	AZ49683	AZ49683W10			0.1	1 equip	1500 E-WB4	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
16	AZ49685	AZ49685W14			0.1	1 equip	1500 E-WB1	2	7	02/09/17 16:20	82121 RUSH 1 WEEK

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	7:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY
Extraction	JR,KY,DL
Concentration	DL

Modified	02/13/17 2:05:41 PM

Reviewed By: KY 186 **Date** 2/13/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170209A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-7-17 exp 2-7-18	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 16:20	
Spiked ID 8			Ext. End Time:	02/13/17 14:00	
			GC Requires Extract By:	**02/15/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49686	AZ49686W09			0.1	1	1500	2	7	02/09/17 16:20	82121 RUSH 1 WEEK
						equip	E-WB2				

KY 2/13/17

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY
Extraction	JR,KY,DL
Concentration	DL

Modified	02/13/17 2:05:41 PM

Reviewed By: KY 187 **Date** 2/13/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	18	213018.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-13-17 14:41:53
16	19	213019.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-13-17 15:02:32
17	37	213037.D	1.33333	170209A BLK 2/1500	Water	2-13-17 21:11:55
18	38	213038.D	1.33333	170209A LCS-1 2/1500	Water	2-13-17 21:32:20
19	39	213039.D	1.33333	170209A LCS-2 2/1500	Water	2-13-17 21:52:40
20	43	213043.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-13-17 23:14:06
21	44	213044.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-13-17 23:34:33
22	45	213045.D	1.33333	AZ49674W25 2/1500	Water	2-13-17 23:54:54
23	46	213046.D	1.33333	AZ49674W20 MS-1 2/1500	Water	2-14-17 0:15:21
24	47	213047.D	1.33333	AZ49674W32 MSD-1 2/1500	Water	2-14-17 0:35:42
25	48	213048.D	1.33333	AZ49674W18 MS-2 2/1500	Water	2-14-17 0:56:02
26	49	213049.D	1.33333	AZ49674W27 MSD-2 2/1500	Water	2-14-17 1:16:25
27	50	213050.D	1.33333	AZ49676W08 2/1500	Water	2-14-17 1:36:48
28	51	213051.D	1.33333	AZ49679W11 2/1500	Water	2-14-17 1:57:08
29	52	213052.D	1.33333	AZ49682W13 2/1500	Water	2-14-17 2:17:30
30	53	213053.D	1.33333	AZ49683W10 2/1500	Water	2-14-17 2:37:46
31	54	213054.D	1.33333	AZ49685W14 2/1500	Water	2-14-17 2:58:06
32	55	213055.D	1.33333	AZ49686W09 2/1500	Water	2-14-17 3:18:22
33	56	213056.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-14-17 3:38:46
34	57	213057.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-14-17 3:59:10

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216230**
Batch ID: #SIMDO-170209A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.5	53-106			%	02/09/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	63.7	55-111			%	02/09/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	77.7	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L031
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 3:42:26 PM

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 02/15/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A1-BLK	Blank	53-106	56.5		55-111	63.7	
170209A1-LCS	Lab Control Spike	53-106	66.6		55-111	70.2	
AZ49674-MS	Matrix Spike	53-106	66.8		55-111	72.4	
AZ49674-MSD	Matrix SpikeD	53-106	60.6		55-111	65.4	
AZ49674	ERH205	53-106	67.0		55-111	72.4	
AZ49676	ERH206	53-106	53.9		55-111	59.2	
AZ49679	ERH212	53-106	56.3		55-111	62.9	
AZ49683	ERH228	53-106	58.9		55-111	68.8	
AZ49685	ERH220	53-106	58.7		55-111	67.8	
AZ49686	ERH221	53-106	54.8		55-111	59.3	
AZ49682	ERH214	53-106	56.2		55-111	65.8	

Comments: Batch: #SIMDO-170209A1

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121
Case No: 82121 Date Analyzed: 02/15/17
Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A1-BLK	Blank	58-132	77.7				
170209A1-LCS	Lab Control Spike	58-132	78.0				
AZ49674-MS	Matrix Spike	58-132	81.2				
AZ49674-MSD	Matrix SpikeD	58-132	71.4				
AZ49674	ERH205	58-132	95.5				
AZ49676	ERH206	58-132	76.1				
AZ49679	ERH212	58-132	87.8				
AZ49683	ERH228	58-132	82.5				
AZ49685	ERH220	58-132	77.5				
AZ49686	ERH221	58-132	76.5				
AZ49682	ERH214	58-132	90.4				

Comments: Batch: #SIMDO-170209A1

Printed: 02/17/17 10:27:22 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170209W-49674 LCS - 216230**
Batch ID: #SIMDO-170209A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.96	79.2	41-115
2-METHYLNAPHTHALENE	5.00	3.82	76.4	39-114
NAPHTHALENE	5.00	3.57	71.4	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.33	66.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.51	70.2	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.90	78.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/09/17
Analysis Date :	02/15/17
Instrument :	Linus
Run :	0214L032
Initials :	RHA

Printed: 02/16/17 3:42:19 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170209W-49674 MS - 216230**
Batch ID: #SIMDO-170209A1
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.94	3.72	78.8	74.4	41-115	5.7	20
2-METHYLNAPHTHALENE	5.00	ND	4.08	3.66	81.6	73.2	39-114	10.9	20
NAPHTHALENE	5.00	ND	3.61	3.40	72.2	68.0	43-114	6.0	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.34	3.03	66.8	60.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.62	3.27	72.4	65.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.06	3.57	81.2	71.4	58-132		

Comments:

Primary	SPK	DUP
Quant Method :	L0214PR.M	L0214PR.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Linus	Linus
Run :	0214L036	0214L038
Initials :	RHA	

Printed: 02/16/17 3:42:17 PM
APPL MSD SCII

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170209A1-BLK

SDG No: 82121
Date Analyzed: 02/15/17
Instrument: Linus
Time Analyzed: 1338

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A1-BLK	Blank	0214L031	02/15/17 1338
170209A1-LCS	Lab Control Spike	0214L032	02/15/17 1411
170209A1-MS	Matrix Spike	0214L036	02/15/17 1622
170209A1-MSD	Matrix SpikeD	0214L038	02/15/17 1728
AZ49674	ERH205	0214L039	02/15/17 1800
AZ49676	ERH206	0214L040	02/15/17 1833
AZ49679	ERH212	0214L041	02/15/17 1906
AZ49683	ERH228	0214L047	02/16/17 1302
AZ49685	ERH220	0214L048	02/16/17 1335
AZ49686	ERH221	0214L049	02/16/17 1406
AZ49682	ERH214	0214L053	02/16/17 1604

Comments: Batch: #SIMDO-170209A1

Printed: 02/17/17 10:27:14 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82121
Date Analyzed: 02/14/17
Instrument: Linus
Time Analyzed: 18:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 02/14/17	0214L003.D	02/14/17 18:21
2		0.2 SIM 02/14/17	0214L004.D	02/14/17 18:53
3		0.5 SIM 02/14/17	0214L005.D	02/14/17 19:26
4		1.0 SIM 02/14/17	0214L006.D	02/14/17 19:59
5		5.0 SIM 02/14/17	0214L007.D	02/14/17 20:32
6		10 SIM 02/14/17	0214L008.D	02/14/17 21:04
7		50 SIM 02/14/17	0214L009.D	02/14/17 21:37
8		100 SIM 02/14/17	0214L010.D	02/14/17 22:10
9		SS SIM 02/14/17	0214L011.D	02/14/17 22:43
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	55.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	20.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	90.5
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	19.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82121
Date Analyzed: 02/15/17
Instrument: Linus
Time Analyzed: 12:48

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L030.D	02/15/17 13:05
2	Blank	170209A BLK 1/1000	0214L031.D	02/15/17 13:38
3	Lab Control Spike	170209A LCS-1 1/1000	0214L032.D	02/15/17 14:11
4		AZ49674W23 MS-1 1/10	0214L036.D	02/15/17 16:22
5		AZ49674W21 MSD-1 1/1	0214L038.D	02/15/17 17:28
6	ERH205	AZ49674W33 1/1070	0214L039.D	02/15/17 18:00
7	ERH206	AZ49676W06 1/1070	0214L040.D	02/15/17 18:33
8	ERH212	AZ49679W12 1/1070	0214L041.D	02/15/17 19:06
9		5.0 SIM 02/14/17	0214L044.D	02/16/17 9:56
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.3
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	53.8
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	85.1
442	40 - 150% of mass 198	55.6
443	17 - 23% of mass 442	18.9

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82121
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 9:23

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L044.D	02/16/17 9:56
2	ERH228	AZ49683W08 1/1070	0214L047.D	02/16/17 13:02
3	ERH220	AZ49685W13 1/1070	0214L048.D	02/16/17 13:35
4	ERH221	AZ49686W10 1/1070	0214L049.D	02/16/17 14:06
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.0
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	53.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	86.2
442	40 - 150% of mass 198	55.2
443	17 - 23% of mass 442	19.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82121
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 15:14

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L052.D	02/16/17 15:31
2	ERH214	AZ49682W09 1/1070	0214L053.D	02/16/17 16:04
3		5.0 SIM 02/14/17	0214L059.D	02/16/17 19:05
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	53.6
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	21.1
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	93.7
442	40 - 150% of mass 198	55.2
443	17 - 23% of mass 442	18.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82121

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	23069	5.81	11695	7.86	22161	9.76
	UPPER LIMIT	46138	6.31	23390	8.36	44322	10.26
	LOWER LIMIT	11535	5.31	5848	7.36	11081	9.26
	SAMPLE NO.						
01	5.0 SIM 02/14/17	22980	5.81	11627	7.86	22169	9.76
02	170209A BLK 1/1000	28693	5.82	14909	7.86	27659	9.78
03	170209A LCS-1 1/1000	23944	5.82	12003	7.86	23416	9.76
04	AZ49674W23 MS-1 1/1(	24240	5.81	12189	7.86	23767	9.76
05	AZ49674W21 MSD-1 1/	22764	5.82	11462	7.86	22150	9.76
06	AZ49674W33 1/1070	21677	5.82	11134	7.86	20504	9.78
07	AZ49676W06 1/1070	25374	5.82	12956	7.86	24251	9.78
08	AZ49679W12 1/1070	22381	5.82	11533	7.86	21267	9.78
09	5.0 SIM 02/14/17	21317	5.81	10809	7.86	20745	9.76
10	AZ49683W08 1/1070	22116	5.82	11694	7.86	21690	9.78
11	AZ49685W13 1/1070	23638	5.82	12099	7.86	23112	9.78
12	AZ49686W10 1/1070	22658	5.82	11479	7.86	21893	9.78
13	5.0 SIM 02/14/17	20263	5.81	10179	7.86	19677	9.76
14	AZ49682W09 1/1070	28743	5.82	14667	7.86	27971	9.78
15	5.0 SIM 02/14/17	21152	5.81	10824	7.86	20561	9.76
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82121

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26224	16.68	21900	20.45		
	UPPER LIMIT	52448	17.18	43800	20.95		
	LOWER LIMIT	13112	16.18	10950	19.95		
	SAMPLE NO.						
01	5.0 SIM 02/14/17	26280	16.68	21876	20.45		
02	170209A BLK 1/1000	31732	16.70	27028	20.47		
03	170209A LCS-1 1/1000	27879	16.68	23810	20.45		
04	AZ49674W23 MS-1 1/1(	28809	16.68	24296	20.45		
05	AZ49674W21 MSD-1 1/	27194	16.68	22792	20.45		
06	AZ49674W33 1/1070	24267	16.72	20725	20.49		
07	AZ49676W06 1/1070	28488	16.71	24630	20.48		
08	AZ49679W12 1/1070	25102	16.71	21901	20.48		
09	5.0 SIM 02/14/17	24501	16.67	20358	20.45		
10	AZ49683W08 1/1070	25148	16.71	21751	20.48		
11	AZ49685W13 1/1070	27323	16.70	23183	20.47		
12	AZ49686W10 1/1070	25836	16.70	21976	20.47		
13	5.0 SIM 02/14/17	23783	16.68	19778	20.45		
14	AZ49682W09 1/1070	33388	16.70	28739	20.47		
15	5.0 SIM 02/14/17	24824	16.68	20815	20.45		
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	67.0	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	72.4	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	95.5	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L039
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L039.D Vial: 39
Acq On : 15 Feb 17 18:00 Operator: MA
Sample : AZ49674W33 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:22 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	21677	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11134	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	20504	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.72	240	24267	2.50000 ppb	0.04
21) Perylene-D12(IS)	20.49	264	20725	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10942	3.38393 ppb	-0.01
Spiked Amount 4.673			Recovery	= 72.418%	
7) Surrogate Recovery (FBP)	7.09	172	23412	3.12875 ppb	0.00
Spiked Amount 4.673			Recovery	= 66.961%	
17) Surrogate Recovery (TPH)	13.70	244	34998	4.46322 ppb	-0.01
Spiked Amount 4.673			Recovery	= 95.508%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

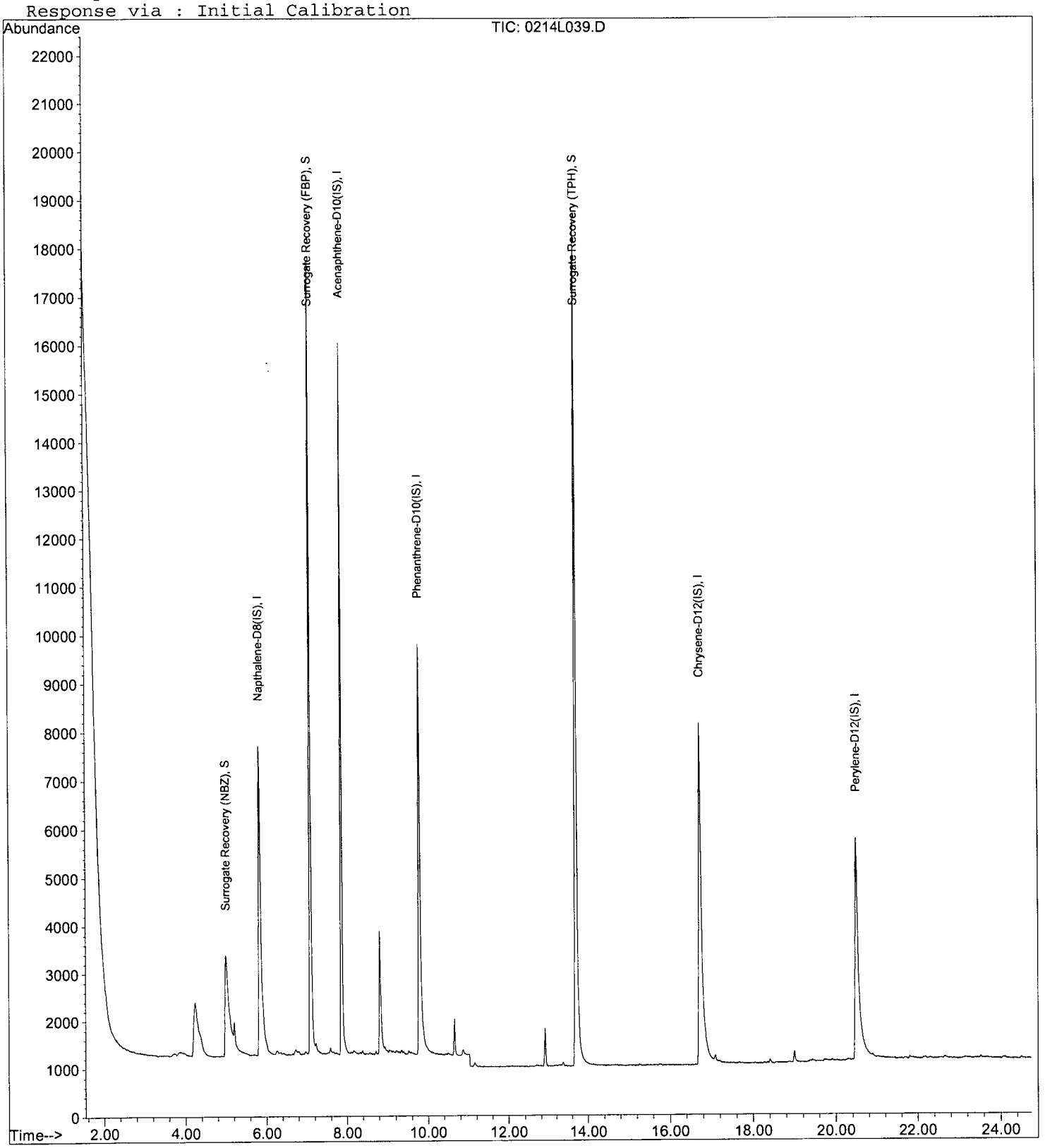
Data File : M:\LINUS\DATA\L170214\0214L039.D
Acq On : 15 Feb 17 18:00
Sample : AZ49674W33 1/1070
Misc : water

Vial: 39
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 21 11:22 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	53.9	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	59.2	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	76.1	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L040
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L040.D Vial: 40
Acq On : 15 Feb 17 18:33 Operator: MA
Sample : AZ49676W06 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:23 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	25374	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12956	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	24251	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	28488	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	24630	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10231	2.76794 ppb	-0.01
Spiked Amount 4.673			Recovery	= 59.235%	
7) Surrogate Recovery (FBP)	7.07	172	21914	2.51671 ppb	-0.01
Spiked Amount 4.673			Recovery	= 53.864%	
17) Surrogate Recovery (TPH)	13.70	244	32740	3.55663 ppb	-0.01
Spiked Amount 4.673			Recovery	= 76.120%	

Target Compounds Qvalue

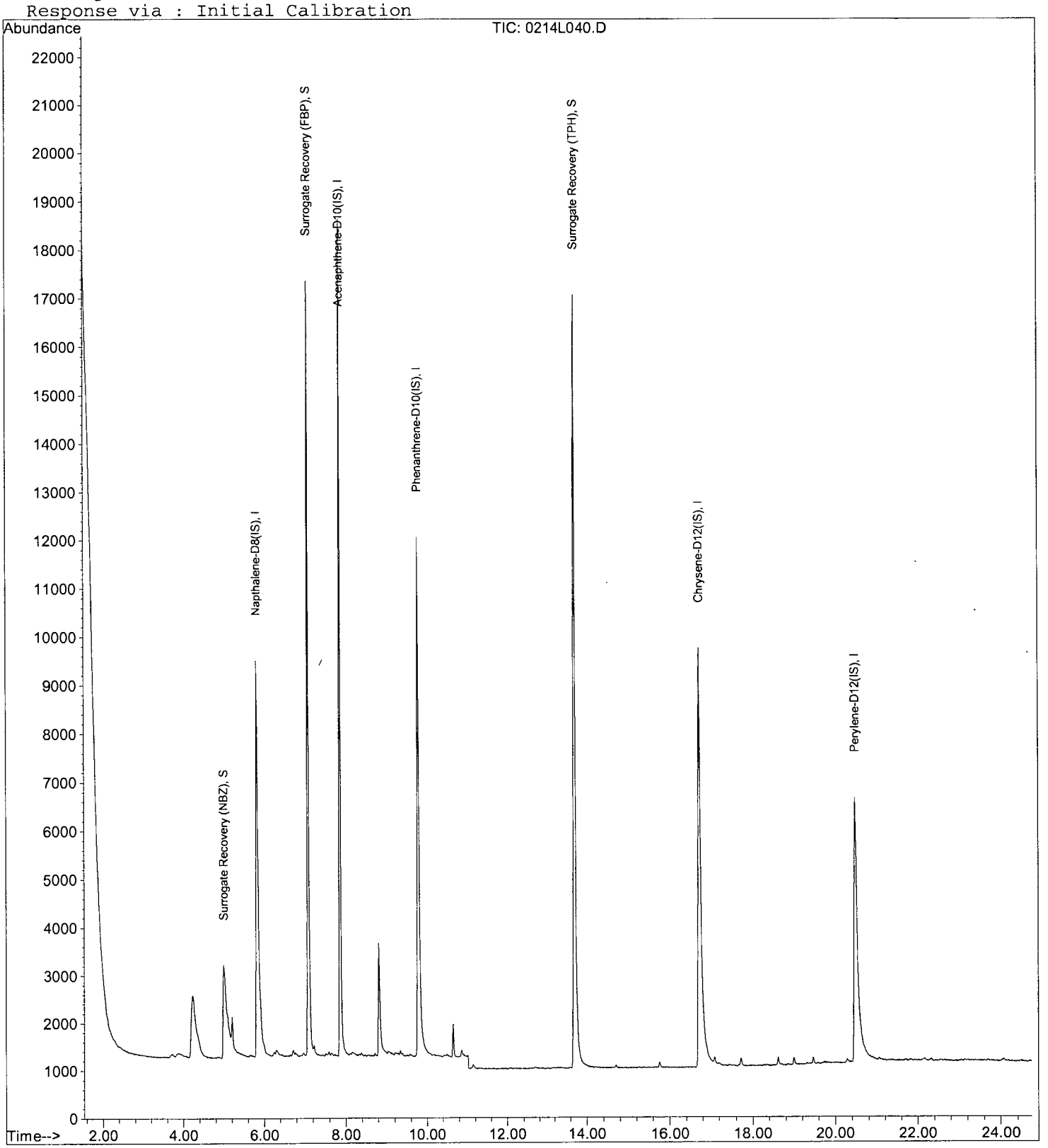
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L040.D Vial: 40
Acq On : 15 Feb 17 18:33 Operator: MA
Sample : AZ49676W06 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:23 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	56.3	53-106			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	62.9	55-111			%	02/09/17	02/15/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	87.8	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L041
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L041.D Vial: 41
Acq On : 15 Feb 17 19:06 Operator: MA
Sample : AZ49679W12 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:23 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22381	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11533	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21267	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	25102	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	21901	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	9649	2.93725 ppb	-0.01
Spiked Amount 4.673			Recovery	= 62.852%	
7) Surrogate Recovery (FBP)	7.07	172	20389	2.63049 ppb	-0.01
Spiked Amount 4.673			Recovery	= 56.282%	
17) Surrogate Recovery (TPH)	13.70	244	33290	4.10418 ppb	-0.01
Spiked Amount 4.673			Recovery	= 87.826%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

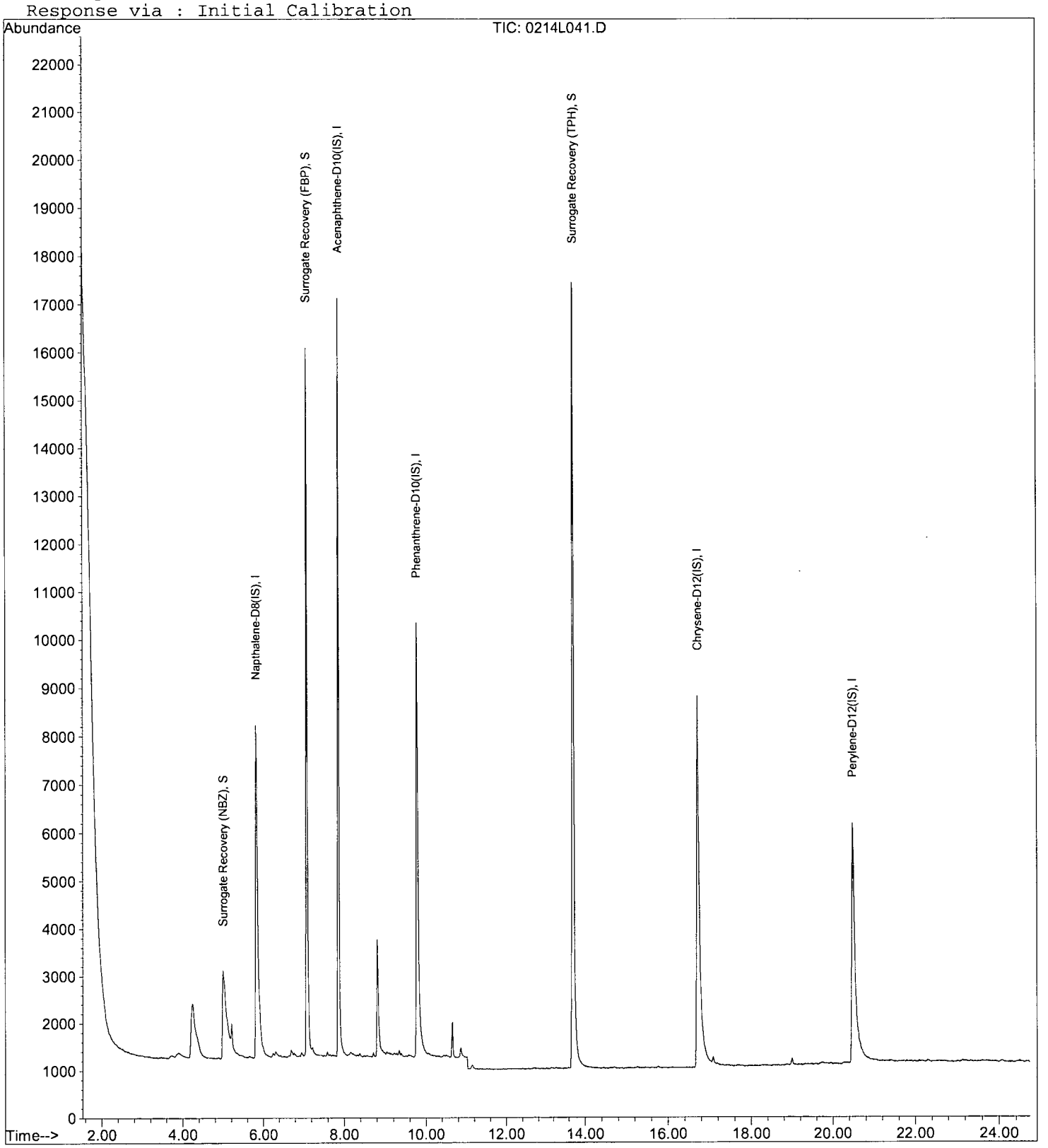
Data File : M:\LINUS\DATA\L170214\0214L041.D
Acq On : 15 Feb 17 19:06
Sample : AZ49679W12 1/1070
Misc : water

Vial: 41
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 21 11:23 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	56.2	53-106			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	65.8	55-111			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	90.4	58-132			%	02/09/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L053
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 10:27:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L053.D Vial: 53
Acq On : 16 Feb 17 16:04 Operator: MA
Sample : AZ49682W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 16 16:32 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	28743	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	14667	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	27971	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	33388	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	28739	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	13034	3.07276 ppb	-0.02
Spiked Amount 4.673			Recovery	= 65.762%	
7) Surrogate Recovery (FBP)	7.07	172	25884	2.62587 ppb	-0.01
Spiked Amount 4.673			Recovery	= 56.196%	
17) Surrogate Recovery (TPH)	13.69	244	45575	4.22433 ppb	-0.02
Spiked Amount 4.673			Recovery	= 90.394%	

Target Compounds Qvalue

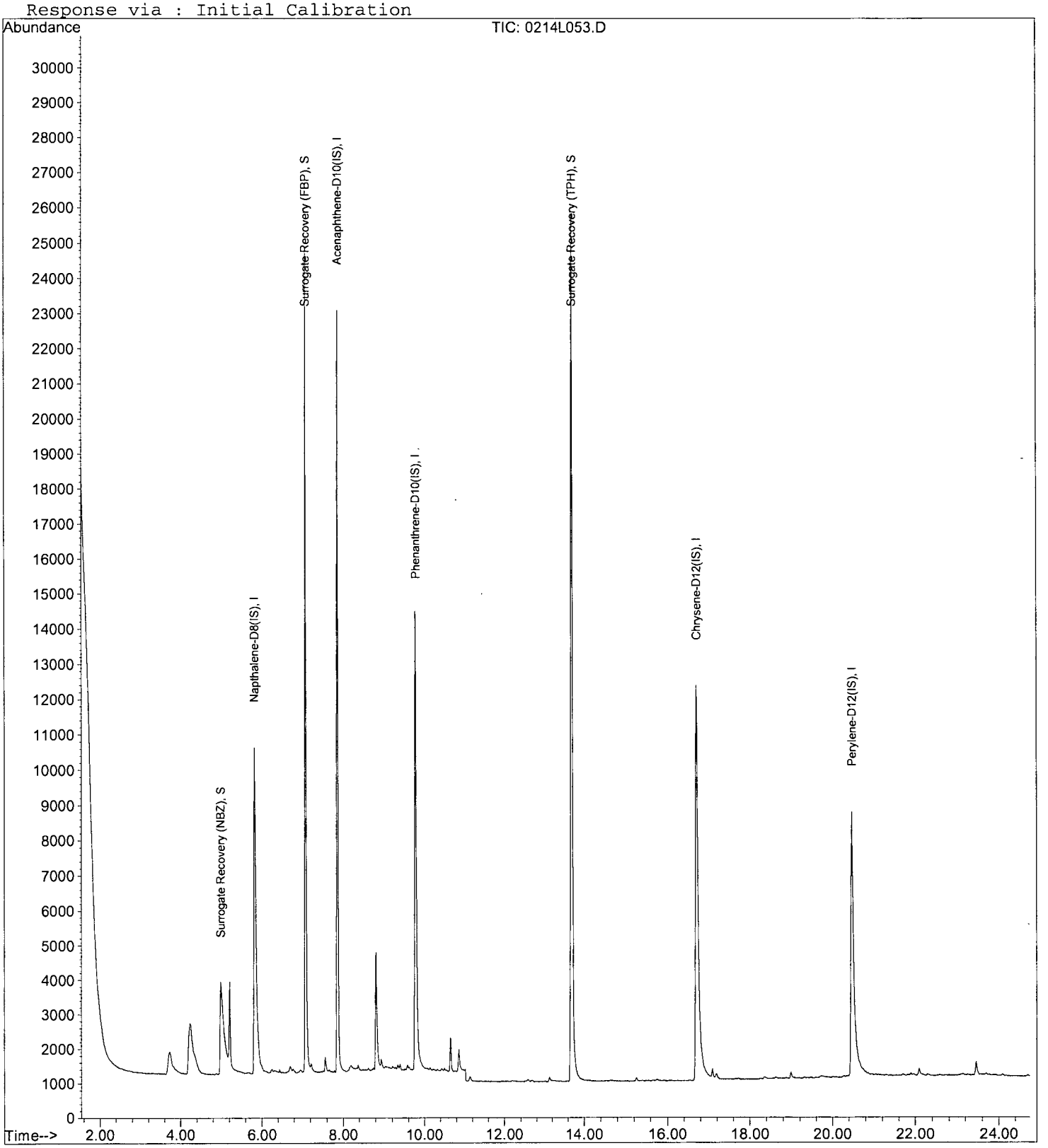
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L053.D Vial: 53
Acq On : 16 Feb 17 16:04 Operator: MA
Sample : AZ49682W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 16 16:32 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.9	53-106			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	68.8	55-111			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	82.5	58-132			%	02/09/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L047
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L047.D Vial: 47
Acq On : 16 Feb 17 13:02 Operator: MA
Sample : AZ49683W08 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:24 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22116	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11694	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21690	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	25148	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	21751	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	10551	3.21594 ppb	-0.02
Spiked Amount 4.673			Recovery	= 68.822%	
7) Surrogate Recovery (FBP)	7.07	172	21616	2.75040 ppb	-0.01
Spiked Amount 4.673			Recovery	= 58.850%	
17) Surrogate Recovery (TPH)	13.69	244	31339	3.85659 ppb	-0.02
Spiked Amount 4.673			Recovery	= 82.540%	
Target Compounds					Qvalue
5) 1-Methylnaphthalene	6.81	142	37	0.00595 ppb	93

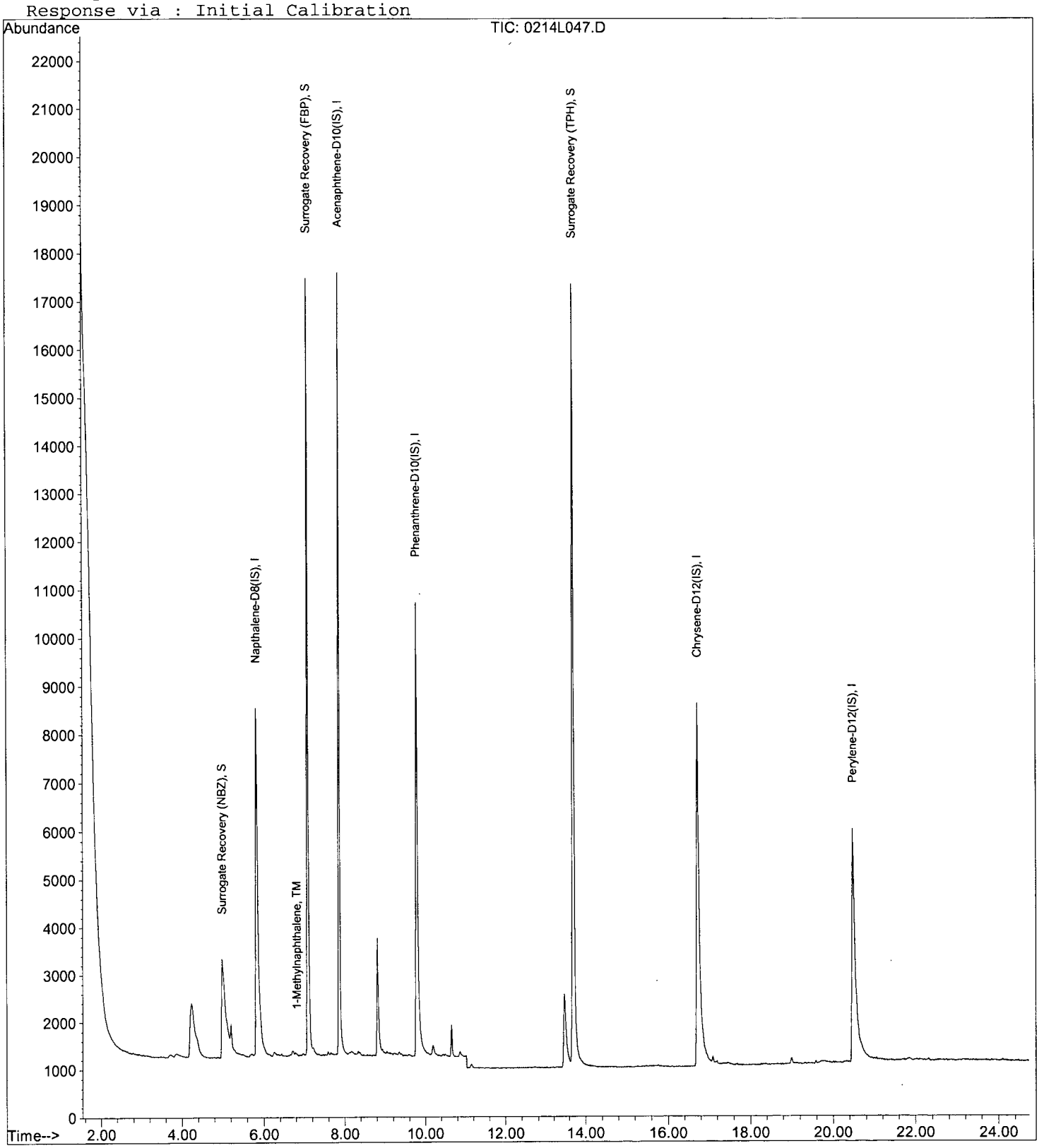
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L047.D Vial: 47
Acq On : 16 Feb 17 13:02 Operator: MA
Sample : AZ49683W08 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:24 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.7	53-106			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	67.8	55-111			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	77.5	58-132			%	02/09/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L048
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L048.D Vial: 48
Acq On : 16 Feb 17 13:35 Operator: MA
Sample : AZ49685W13 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:26 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23638	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12099	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	23112	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	27323	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	23183	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11085	3.16665 ppb	-0.02
Spiked Amount 4.673			Recovery	= 67.774%	
7) Surrogate Recovery (FBP)	7.07	172	22297	2.74208 ppb	-0.01
Spiked Amount 4.673			Recovery	= 58.679%	
17) Surrogate Recovery (TPH)	13.69	244	31987	3.62299 ppb	-0.02
Spiked Amount 4.673			Recovery	= 77.532%	
Target Compounds					Qvalue
5) 1-Methylnaphthalene	6.81	142	38	0.00572 ppb	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

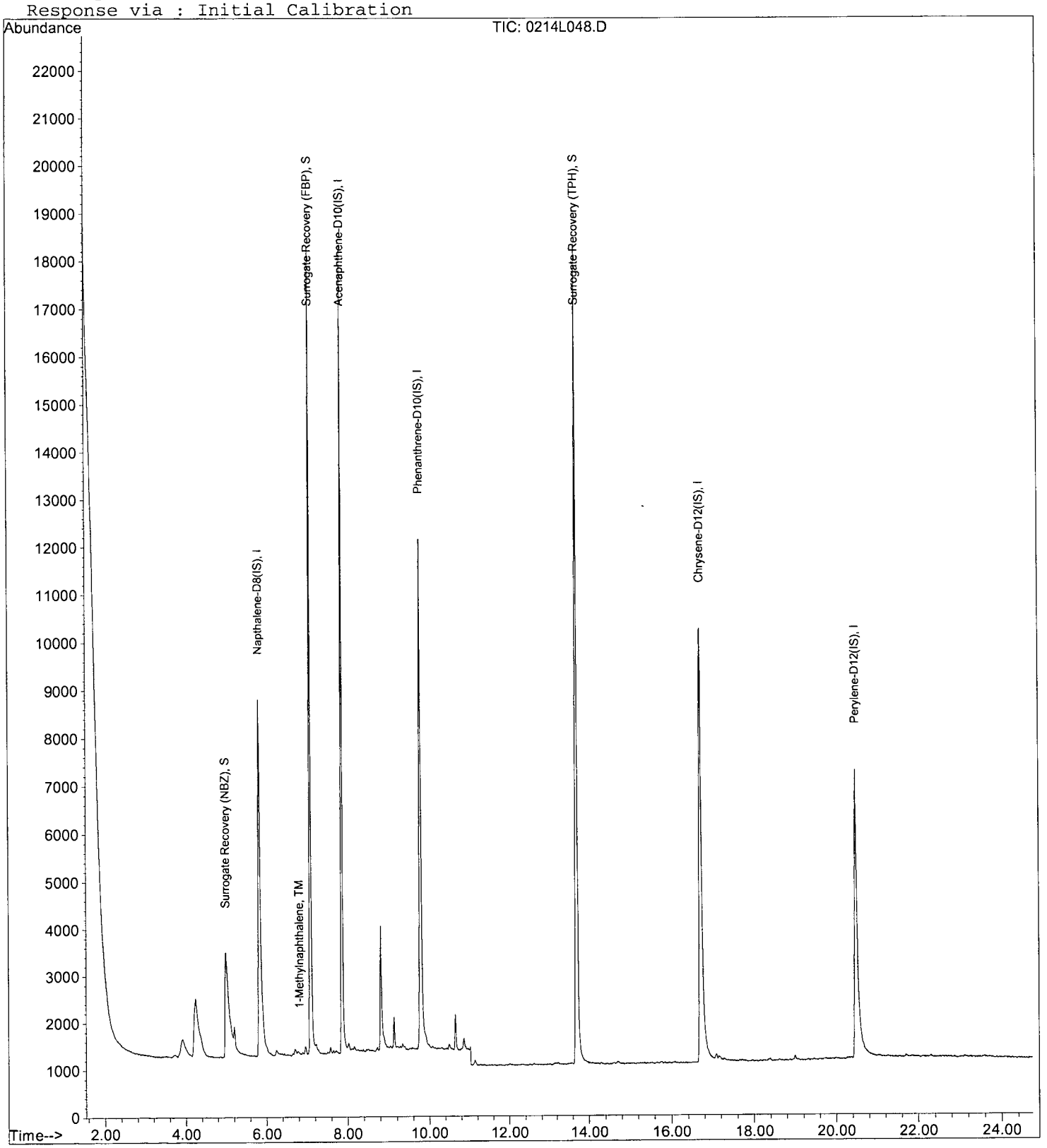
Data File : M:\LINUS\DATA\L170214\0214L048.D
Acq On : 16 Feb 17 13:35
Sample : AZ49685W13 1/1070
Misc : water

Vial: 48
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 21 11:26 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH221
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49686
QCG: #SIMDO-170209A1-216230

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	54.8	53-106			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	59.3	55-111			%	02/09/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	76.5	58-132			%	02/09/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L049
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/16/17 3:42:13 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L049.D Vial: 49
Acq On : 16 Feb 17 14:06 Operator: MA
Sample : AZ49686W10 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:27 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22658	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11479	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21893	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	25836	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	21976	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	9144	2.77011 ppb	-0.01
Spiked Amount 4.673			Recovery	= 59.278%	
7) Surrogate Recovery (FBP)	7.07	172	19774	2.56315 ppb	-0.01
Spiked Amount 4.673			Recovery	= 54.848%	
17) Surrogate Recovery (TPH)	13.69	244	29842	3.57457 ppb	-0.02
Spiked Amount 4.673			Recovery	= 76.505%	

Target Compounds Qvalue

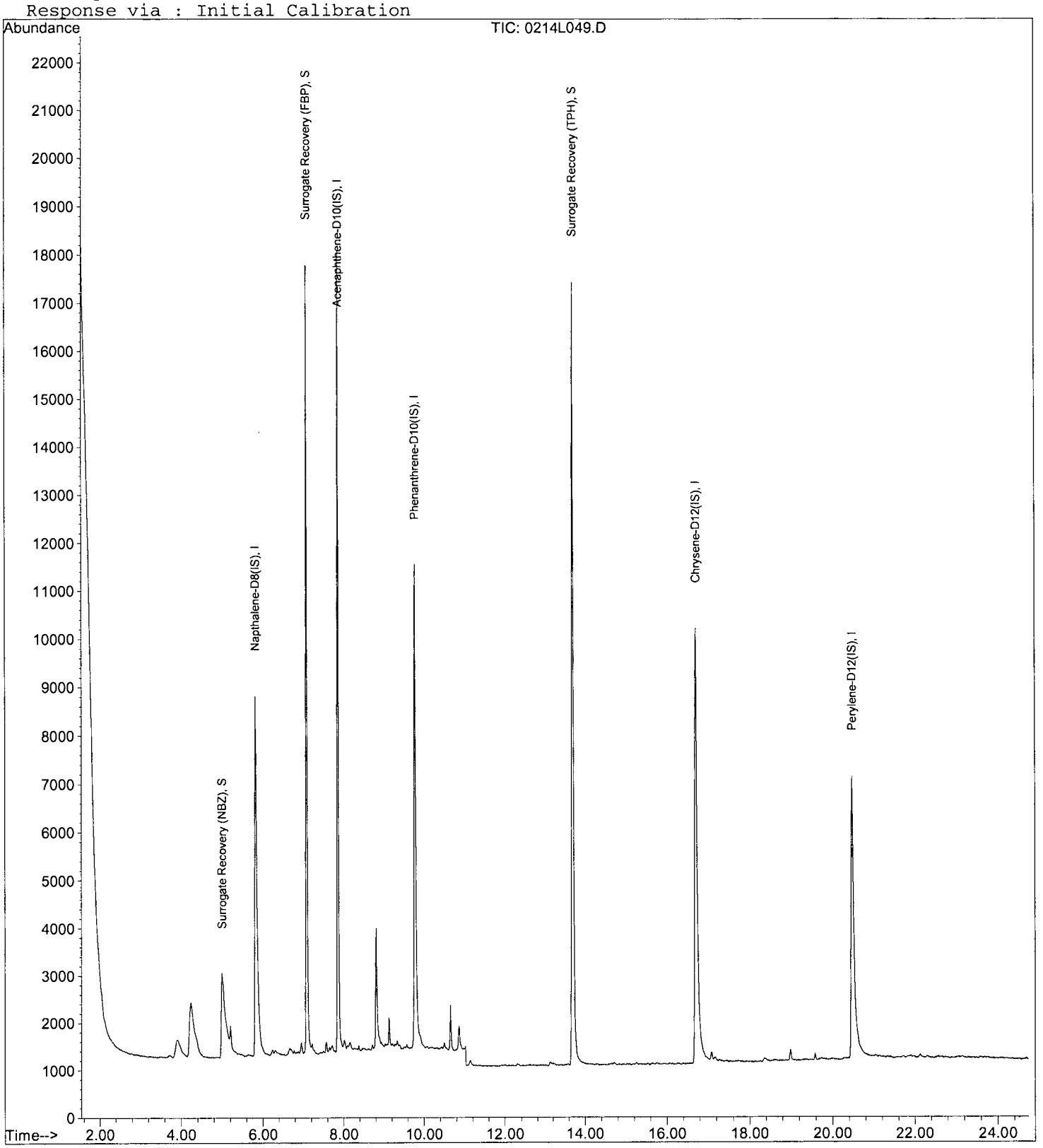
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L049.D Vial: 49
Acq On : 16 Feb 17 14:06 Operator: MA
Sample : AZ49686W10 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Feb 21 11:27 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/14/17
Instrument: Linus

Initials:

		Compound	0214L003 D	0214L004 D	0214L005 D	0214L006.D	0214L007.D	0214L008.D	0214L009.D	0214L010.D			Avg	%RSD		
			0.1	0.2	0.5	1	5	10	50	100						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1065	0.1124	0.3308	0.3451	0.3803	0.3826			0.28	47	SL	1.00
3	TM	Naphthalene	1.010	0.9921	1.051	1.049	1.145	1.023	0.9862	0.9552			1.0	5.6	TM	
4	TML	2-Methylnaphthalene	0.3818	0.3414	0.4333	0.4940	0.6571	0.6112	0.5897	0.5737			0.51	23	TML	1.000
5	TM	1-Methylnaphthalene	0.6460	0.7352	0.7366	0.7038	0.7151	0.6150	0.5591	0.5463			0.66	12	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.525	1.494	1.557	1.553	1.662	1.670	1.532	1.569			1.6	4.0	S	
8	TM	Acenaphthylene	1.854	1.724	1.848	1.857	2.240	2.044	1.955	1.990			1.9	8.1	TM	
9	*TM	Acenaphthene	1.348	1.229	1.242	1.174	1.337	1.184	1.114	0.9760			1.2	10	*TM	
10	TM	Fluorene	1.234	1.185	1.293	1.299	1.515	1.373	1.258	1.104			1.3	9.6	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	0.9312	0.8801	0.9506	0.9318	1.138	1.024	0.9566	0.8772			0.96	8.9	TM	
13	TML	Anthracene	0.6271	0.5685	0.7039	0.7224	1.053	0.9756	0.9420	0.8532			0.81	22	TML	0.998
14	*TM	Fluoranthene	1.214	1.140	1.272	1.339	1.734	1.522	1.584	1.620			1.4	15	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.165	1.145	1.316	1.320	1.529	1.408	1.373	1.336			1.3	9.4	TM	
17	S	Surrogate Recovery (TPH)	0.7005	0.7659	0.7652	0.7483	0.7646	0.7848	0.7431	0.7674			0.75	3.4	S	
18	TML	Benz (a) anthracene	0.6559	0.5630	0.6349	0.6981	0.9860	0.9808	1.134	1.151			0.85	28	TML	1.000
19	TM	Chrysene	0.8637	1.145	1.305	1.206	1.301	1.156	1.137	1.077			1.1	12	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.1599	0.1231	0.2623	0.3763	0.9521	0.8862	0.9905	0.9835			0.59	67	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.3826	0.3336	0.3580	0.5016	0.9666	1.008	1.232	1.129			0.74	51	TML	0.998
23	TML	Benzo (k) fluoranthene	0.5552	0.3119	0.3884	0.5739	0.5544	0.8217	1.000	0.9514			0.64	39	TML	0.999
24	*TML	Benzo (a) pyrene	0.4764	0.4873	0.5921	0.7416	1.181	1.178	1.160	1.087			0.86	37	*TML	0.999
25	TML	Dibenz (a,h) anthracene	0.1575	0.0332	0.0603	0.2698	0.8584	0.8479	0.9253	0.8745			0.50	81	TML	0.999
26	TML	Benzo (g,h,i) perylene	0.0675	0.0689	0.0747	0.2975	0.9588	0.8876	0.9566	0.8823			0.52	82	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24883	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11407	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	20968	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22983	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19994	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.03	82	5	0.34644 ppb	0.02
Spiked Amount 5.000			Recovery	= 6.920%	
7) Surrogate Recovery (FBP)	7.13	172	348	0.04857 ppb	0.05
Spiked Amount 5.000			Recovery	= 0.980%	
17) Surrogate Recovery (TPH)	13.75	244	322	0.04639 ppb	0.04
Spiked Amount 5.000			Recovery	= 0.920%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	1005	0.09840 ppb	99
4) 2-Methylnaphthalene	6.75	142	380	-0.16530 ppb	92
5) 1-Methylnaphthalene	6.82	142	643	0.09831 ppb	90
8) Acenaphthylene	7.73	152	846	0.09562 ppb	97
9) Acenaphthene	7.91	154	615	0.11228 ppb	96
10) Fluorene	8.56	166	563	0.09620 ppb	96
12) Phenanthrene	9.82	178	781	0.09688 ppb	98
13) Anthracene	9.97	178	526	-0.56919 ppb	96
14) Fluoranthene	12.63	202	1018	0.08499 ppb	95
16) Pyrene	13.25	202	1071	0.08800 ppb	98
18) Benz (a) anthracene	16.70	228	603	0.56996 ppb #	72
19) Chrysene	16.81	228	794	0.07518 ppb #	78
20) Indeno (1,2,3-cd) pyrene	22.96	276	147	0.37977 ppb #	95
22) Benzo (b) fluoranthene	19.65	252	306m	0.22445 ppb	51
23) Benzo (k) fluoranthene	19.72	252	444m	0.59738 ppb	51
24) Benzo (a) pyrene	20.37	252	381	-0.22318 ppb #	83
25) Dibenz (a,h) anthracene	22.97	278	126	0.15329 ppb #	38
26) Benzo (g,h,i) perylene	23.58	276	54	-0.07760 ppb #	67

(#) = qualifier out of range (m) = manual integration

Quantitation Report

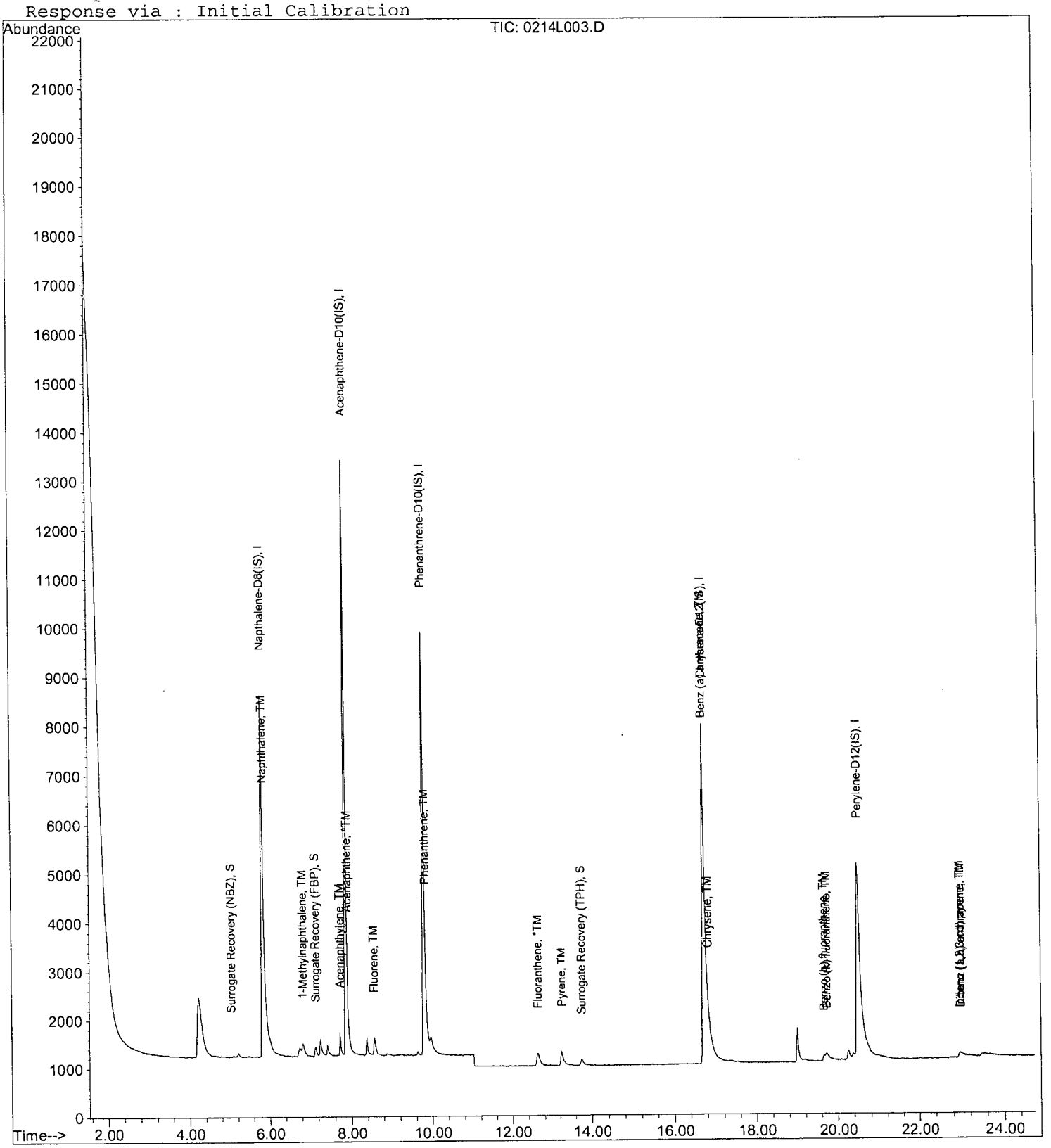
Data File : M:\LINUS\DATA\L170214\0214L003.D
Acq On : 14 Feb 17 18:21
Sample : 0.1 SIM 02/14/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:12 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L004.D
Acq On : 14 Feb 17 18:53
Sample : 0.2 SIM 02/14/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:18 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:48 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24569	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.87	164	12218	2.50000 ppb		0.01
11) Phenanthrene-D10(IS)	9.79	188	22470	2.50000 ppb		0.02
15) Chrysene-D12(IS)	16.71	240	22848	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.49	264	19597	2.50000 ppb		0.04
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	4.96	82	7	0.00241 ppb		-0.05
Spiked Amount 5.000			Recovery	= 0.040%		
7) Surrogate Recovery (FBP)	7.13	172	730	0.09551 ppb		0.05
Spiked Amount 5.000			Recovery	= 1.920%		
17) Surrogate Recovery (TPH)	13.76	244	700	0.09963 ppb		0.05
Spiked Amount 5.000			Recovery	= 2.000%		
Target Compounds						Qvalue
3) Naphthalene	5.84	128	1950	0.19441 ppb		99
4) 2-Methylnaphthalene	6.75	142	671	0.12650 ppb		95
5) 1-Methylnaphthalene	6.81	142	1445	0.21388 ppb		98
8) Acenaphthylene	7.73	152	1685	0.16798 ppb		98
9) Acenaphthene	7.91	154	1201	0.19341 ppb		97
10) Fluorene	8.57	166	1158	0.17200 ppb		97
12) Phenanthrene	9.82	178	1582	0.16914 ppb		98
13) Anthracene	9.97	178	1022	0.11718 ppb		94
14) Fluoranthene	12.61	202	2050	0.13728 ppb		99
16) Pyrene	13.24	202	2093	0.16238 ppb		99
18) Benz (a) anthracene	16.70	228	1029	0.11783 ppb		93
19) Chrysene	16.80	228	2093	0.15885 ppb		98
20) Indeno (1,2,3-cd) pyrene	22.93	276	225	0.02768 ppb	#	93
22) Benzo (b) fluoranthene	19.63	252	523	0.05979 ppb	#	93
23) Benzo (k) fluoranthene	19.70	252	489	0.05161 ppb	#	71
24) Benzo (a) pyrene	20.38	252	764	0.08906 ppb	#	65
25) Dibenz (a,h) anthracene	22.99	278	52	0.00723 ppb	#	65
26) Benzo (g,h,i) perylene	23.52	276	108	0.01500 ppb	#	35

(#) = qualifier out of range (m) = manual integration

Quantitation Report

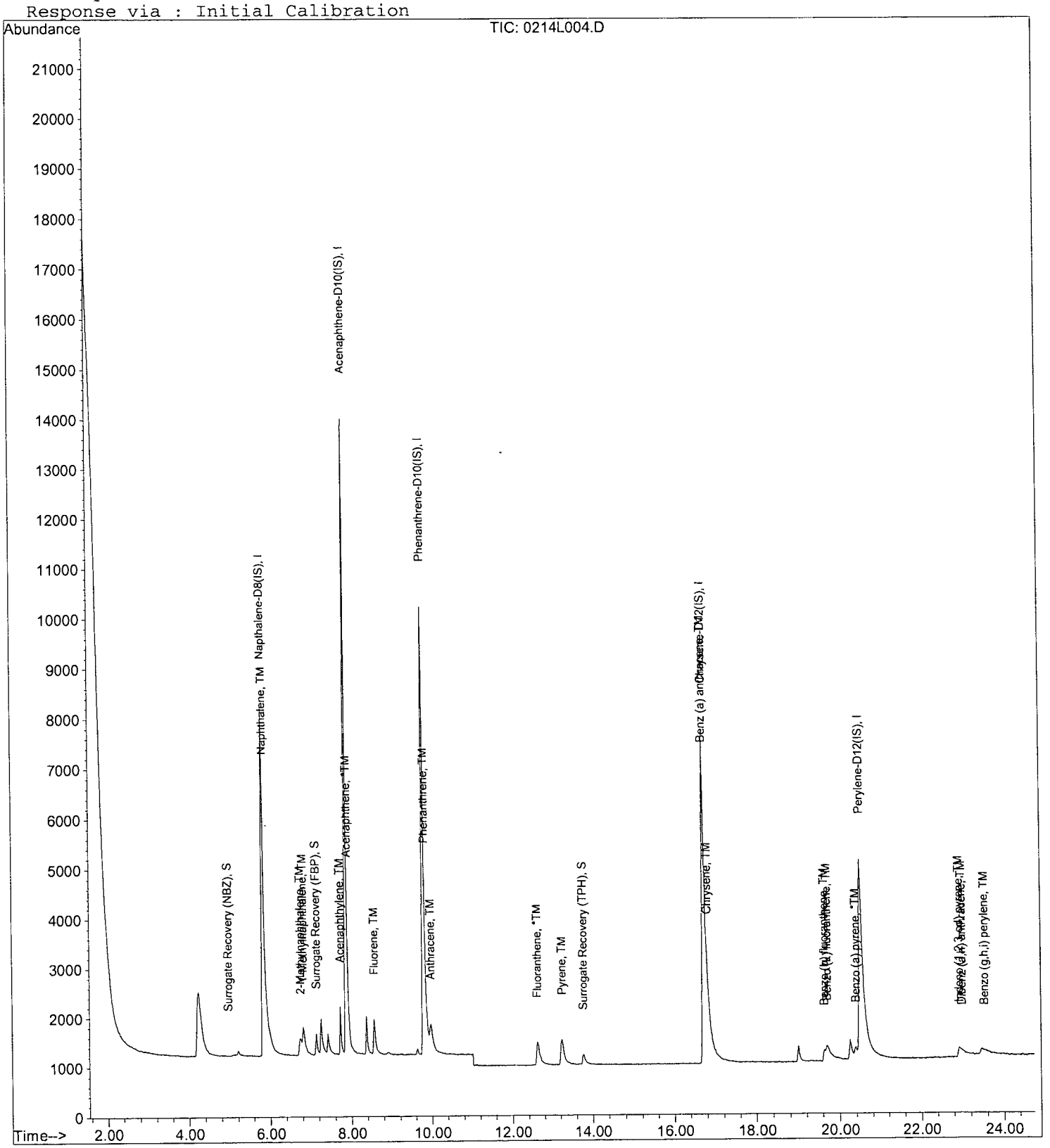
Data File : M:\LINUS\DATA\L170214\0214L004.D
Acq On : 14 Feb 17 18:53
Sample : 0.2 SIM 02/14/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:18 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L005.D
Acq On : 14 Feb 17 19:26
Sample : 0.5 SIM 02/14/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:17 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:01 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23655	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11847	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	21487	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	21327	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	19077	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.12	82	252	0.08995 ppb	0.11
Spiked Amount 5.000			Recovery	= 1.800%	
7) Surrogate Recovery (FBP)	7.12	172	1844	0.24883 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
17) Surrogate Recovery (TPH)	13.75	244	1632	0.24884 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
Target Compounds					Qvalue
3) Naphthalene	5.86	128	4970	0.51463 ppb	99
4) 2-Methylnaphthalene	6.71	142	2050	0.40141 ppb	99
5) 1-Methylnaphthalene	6.80	142	3485	0.53576 ppb	99
8) Acenaphthylene	7.73	152	4379	0.45023 ppb	99
9) Acenaphthene	7.91	154	2943	0.48880 ppb	98
10) Fluorene	8.55	166	3064	0.46935 ppb	95
12) Phenanthrene	9.82	178	4085	0.45673 ppb	98
13) Anthracene	9.96	178	3025	0.36270 ppb	97
14) Fluoranthene	12.59	202	5465	0.38272 ppb	100
16) Pyrene	13.21	202	5612	0.46646 ppb	98
18) Benz (a) anthracene	16.71	228	2708	0.33221 ppb	98
19) Chrysene	16.80	228	5565	0.45249 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.88	276	1119	0.14748 ppb #	94
22) Benzo (b) fluoranthene	19.61	252	1366	0.16041 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1482	0.16066 ppb	93
24) Benzo (a) pyrene	20.36	252	2259	0.27050 ppb #	84
25) Dibenz (a,h) anthracene	22.94	278	230	0.03287 ppb #	54
26) Benzo (g,h,i) perylene	23.48	276	285	0.04066 ppb #	69

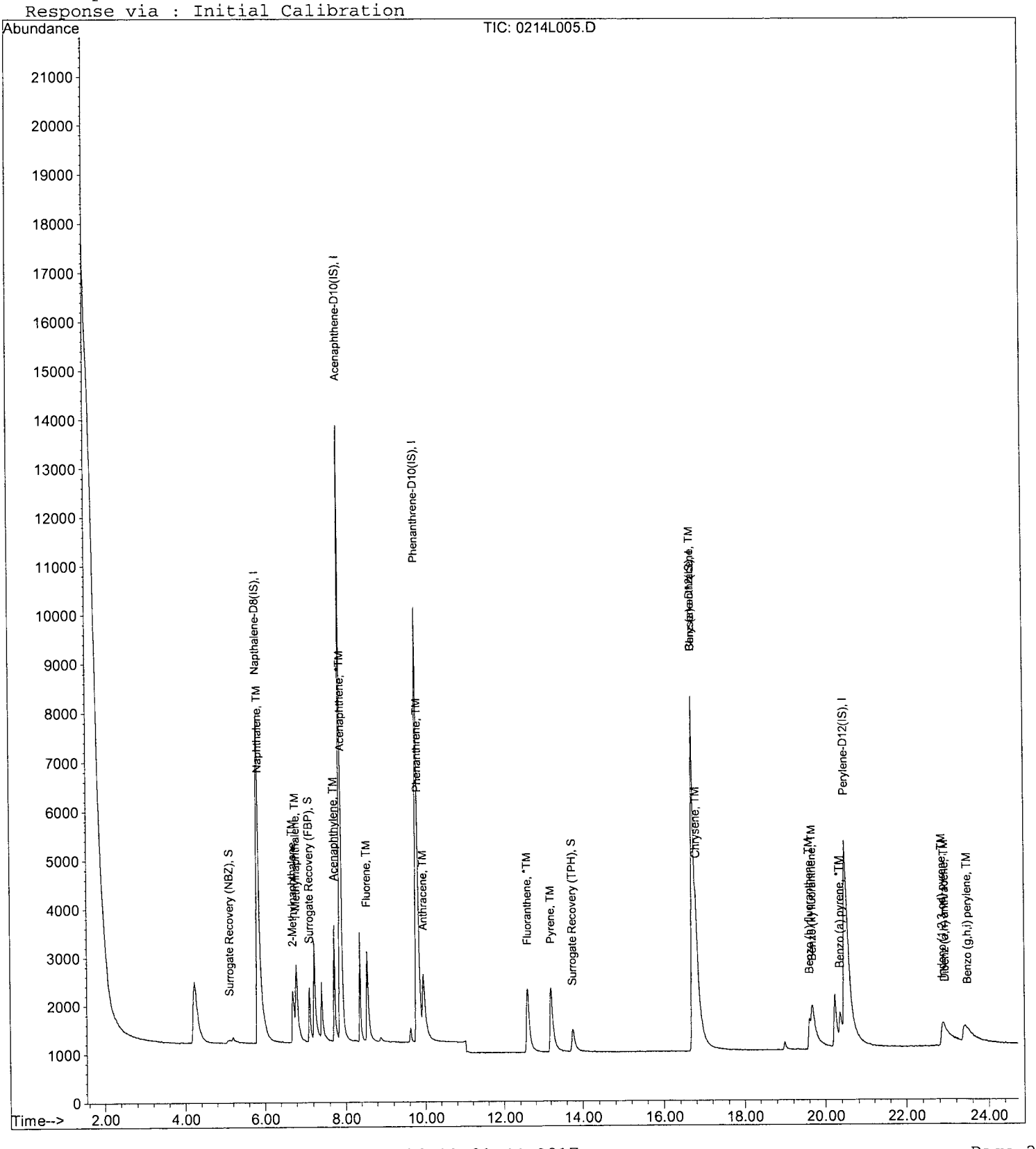
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:10:08 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22641	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11561	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.78	188	21533	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23167	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.47	264	19846	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.07	82	509	0.18983 ppb	0.06
Spiked Amount 5.000			Recovery	= 3.800%	
7) Surrogate Recovery (FBP)	7.11	172	3592	0.49669 ppb	0.02
Spiked Amount 5.000			Recovery	= 9.940%	
17) Surrogate Recovery (TPH)	13.74	244	3467	0.48664 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.740%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	9496	1.02733 ppb	100
4) 2-Methylnaphthalene	6.69	142	4474	0.91529 ppb	99
5) 1-Methylnaphthalene	6.78	142	6374	1.02378 ppb	98
8) Acenaphthylene	7.71	152	8586	0.90461 ppb	99
9) Acenaphthene	7.91	154	5428	0.92382 ppb	99
10) Fluorene	8.53	166	6009	0.94323 ppb	99
12) Phenanthrene	9.82	178	8026	0.89544 ppb	100
13) Anthracene	9.95	178	6222	0.74442 ppb	100
14) Fluoranthene	12.56	202	11537	0.80622 ppb	99
16) Pyrene	13.19	202	12230	0.93579 ppb	99
18) Benz (a) anthracene	16.70	228	6469	0.73057 ppb	99
19) Chrysene	16.78	228	11177	0.83663 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.86	276	3487	0.42307 ppb #	91
22) Benzo (b) fluoranthene	19.59	252	3982	0.44948 ppb	99
23) Benzo (k) fluoranthene	19.67	252	4556	0.47478 ppb	93
24) Benzo (a) pyrene	20.36	252	5887	0.67760 ppb	100
25) Dibenz (a,h) anthracene	22.87	278	2142	0.29428 ppb	96
26) Benzo (g,h,i) perylene	23.38	276	2362	0.32389 ppb	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

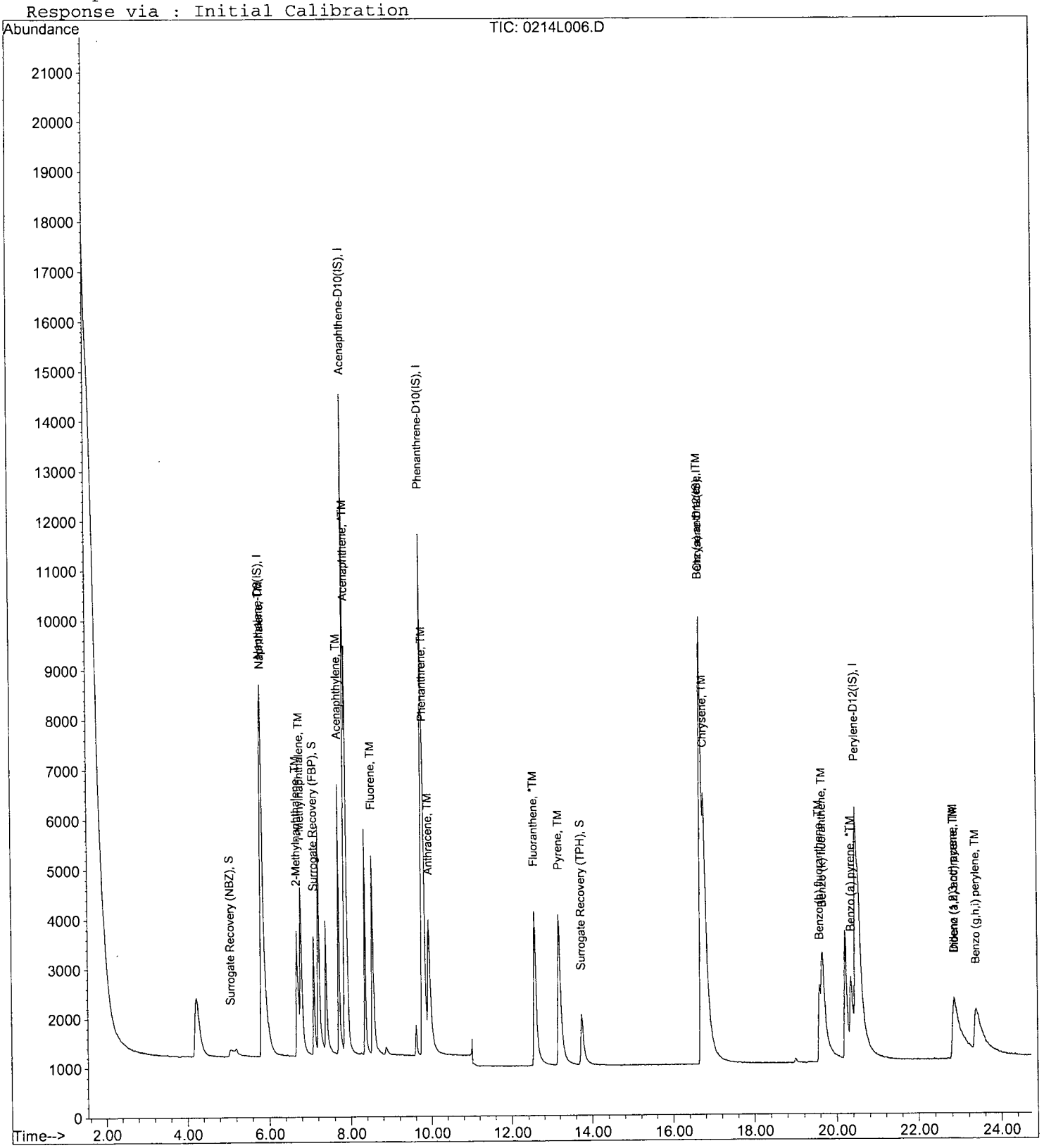
Data File : M:\LINUS\DATA\L170214\0214L006.D
Acq On : 14 Feb 17 19:59
Sample : 1.0 SIM 02/14/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:10 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	23069	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11695	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22161	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26224	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	21900	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7632	2.16155 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.240%	
7) Surrogate Recovery (FBP)	7.09	172	19441	2.30557 ppb	0.01
Spiked Amount 5.000			Recovery	= 46.120%	
17) Surrogate Recovery (TPH)	13.71	244	20051	2.15776 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.160%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	52807	5.55542 ppb	100
4) 2-Methylnaphthalene	6.65	142	30318	5.82670 ppb	99
5) 1-Methylnaphthalene	6.76	142	32993	5.07935 ppb	90
8) Acenaphthylene	7.70	152	52392	5.39398 ppb	99
9) Acenaphthene	7.89	154	31274	5.23130 ppb	98
10) Fluorene	8.51	166	35429	5.42550 ppb	99
12) Phenanthrene	9.80	178	50432	5.42620 ppb	99
13) Anthracene	9.90	178	46660	5.36380 ppb	99
14) Fluoranthene	12.52	202	76875	5.17089 ppb	99
16) Pyrene	13.15	202	80173	5.38905 ppb	99
18) Benz (a) anthracene	16.66	228	51714	4.99837 ppb	99
19) Chrysene	16.76	228	68220	4.49857 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.78	276	49937	5.25941 ppb	92
22) Benzo (b) fluoranthene	19.55	252	42337	4.20558 ppb	100
23) Benzo (k) fluoranthene	19.61	252	24283	2.20116 ppb	99
24) Benzo (a) pyrene	20.32	252	51711	5.30494 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	37598	4.57609 ppb	96
26) Benzo (g,h,i) perylene	23.30	276	41994	5.16288 ppb #	77

(#) = qualifier out of range (m) = manual integration

Quantitation Report

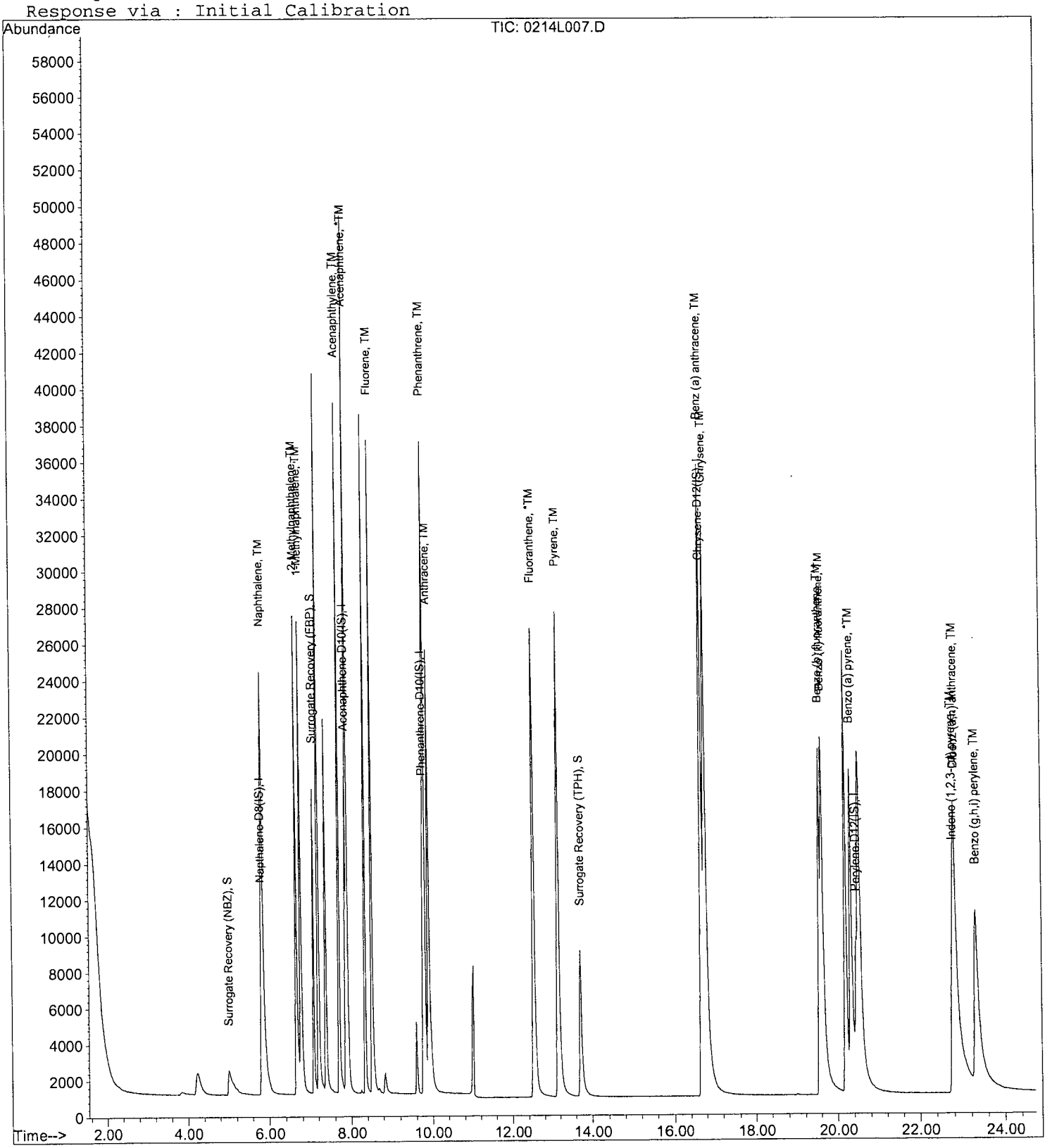
Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L008.D
Acq On : 14 Feb 17 21:04
Sample : 10 SIM 02/14/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25521	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	13054	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25109	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27862	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	22643	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	17613	5.82737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 116.540%	
7) Surrogate Recovery (FBP)	7.07	172	43593	5.33847 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.760%	
17) Surrogate Recovery (TPH)	13.70	244	43734	5.10427 ppb	-0.01
Spiked Amount 5.000			Recovery	= 102.080%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	104393	10.01930 ppb		100
4) 2-Methylnaphthalene	6.65	142	62394	11.32415 ppb		98
5) 1-Methylnaphthalene	6.76	142	62777	8.94524 ppb		98
8) Acenaphthylene	7.70	152	106739	9.95971 ppb		100
9) Acenaphthene	7.89	154	61799	9.31500 ppb		98
10) Fluorene	8.51	166	71715	9.96963 ppb		98
12) Phenanthrene	9.80	178	102855	9.84092 ppb		100
13) Anthracene	9.89	178	97984	10.05354 ppb		100
14) Fluoranthene	12.51	202	152895	9.16281 ppb		100
16) Pyrene	13.14	202	156870	9.98048 ppb		99
18) Benz (a) anthracene	16.65	228	109307	10.26431 ppb		100
19) Chrysene	16.75	228	128791	8.01587 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.75	276	98762	9.96348 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	91272	9.02992 ppb		98
23) Benzo (k) fluoranthene	19.60	252	74425	6.79771 ppb		99
24) Benzo (a) pyrene	20.31	252	106652	10.75944 ppb		100
25) Dibenz (a,h) anthracene	22.80	278	76794	9.24705 ppb		98
26) Benzo (g,h,i) perylene	23.27	276	80392	9.66204 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

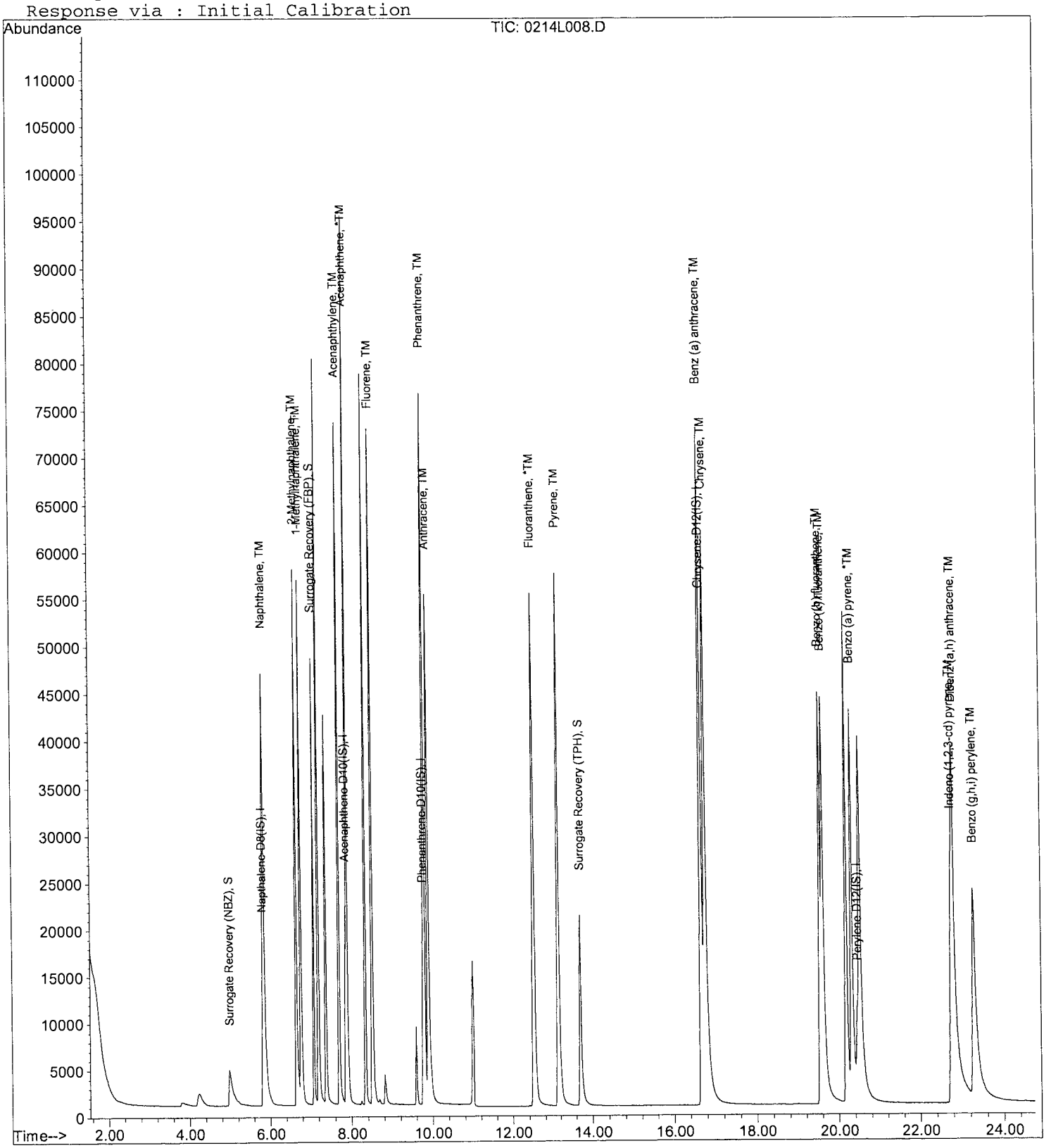
Data File : M:\LINUS\DATA\L170214\0214L008.D
Acq On : 14 Feb 17 21:04
Sample : 10 SIM 02/14/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L009.D
Acq On : 14 Feb 17 21:37
Sample : 50 SIM 02/14/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24268	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11807	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	23286	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	27820	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23474	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	92288	32.11060 ppb	-0.06
Spiked Amount 5.000			Recovery	= 642.220%	
7) Surrogate Recovery (FBP)	7.07	172	180923	24.49615 ppb	-0.01
Spiked Amount 5.000			Recovery	= 489.920%	
17) Surrogate Recovery (TPH)	13.69	244	206717	24.16271 ppb	-0.02
Spiked Amount 5.000			Recovery	= 483.260%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	478672	48.31342 ppb		100
4) 2-Methylnaphthalene	6.64	142	286232	54.63167 ppb		97
5) 1-Methylnaphthalene	6.75	142	271379	40.66601 ppb		100
8) Acenaphthylene	7.69	152	461582	47.61857 ppb		99
9) Acenaphthene	7.89	154	263095	43.84480 ppb		98
10) Fluorene	8.50	166	296983	45.64619 ppb		100
12) Phenanthrene	9.80	178	445520	45.96339 ppb		100
13) Anthracene	9.89	178	438700	48.53621 ppb		100
14) Fluoranthene	12.51	202	737558	47.66133 ppb		100
16) Pyrene	13.14	202	763990	48.68040 ppb		100
18) Benz (a) anthracene	16.65	228	630780	59.32187 ppb		99
19) Chrysene	16.75	228	632756	39.44178 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	551119	55.68287 ppb	#	97
22) Benzo (b) fluoranthene	19.54	252	578169	55.17574 ppb		99
23) Benzo (k) fluoranthene	19.61	252	469577	41.37111 ppb		100
24) Benzo (a) pyrene	20.32	252	544492	52.98576 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	434416	50.45783 ppb		96
26) Benzo (g,h,i) perylene	23.28	276	449102	52.06524 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

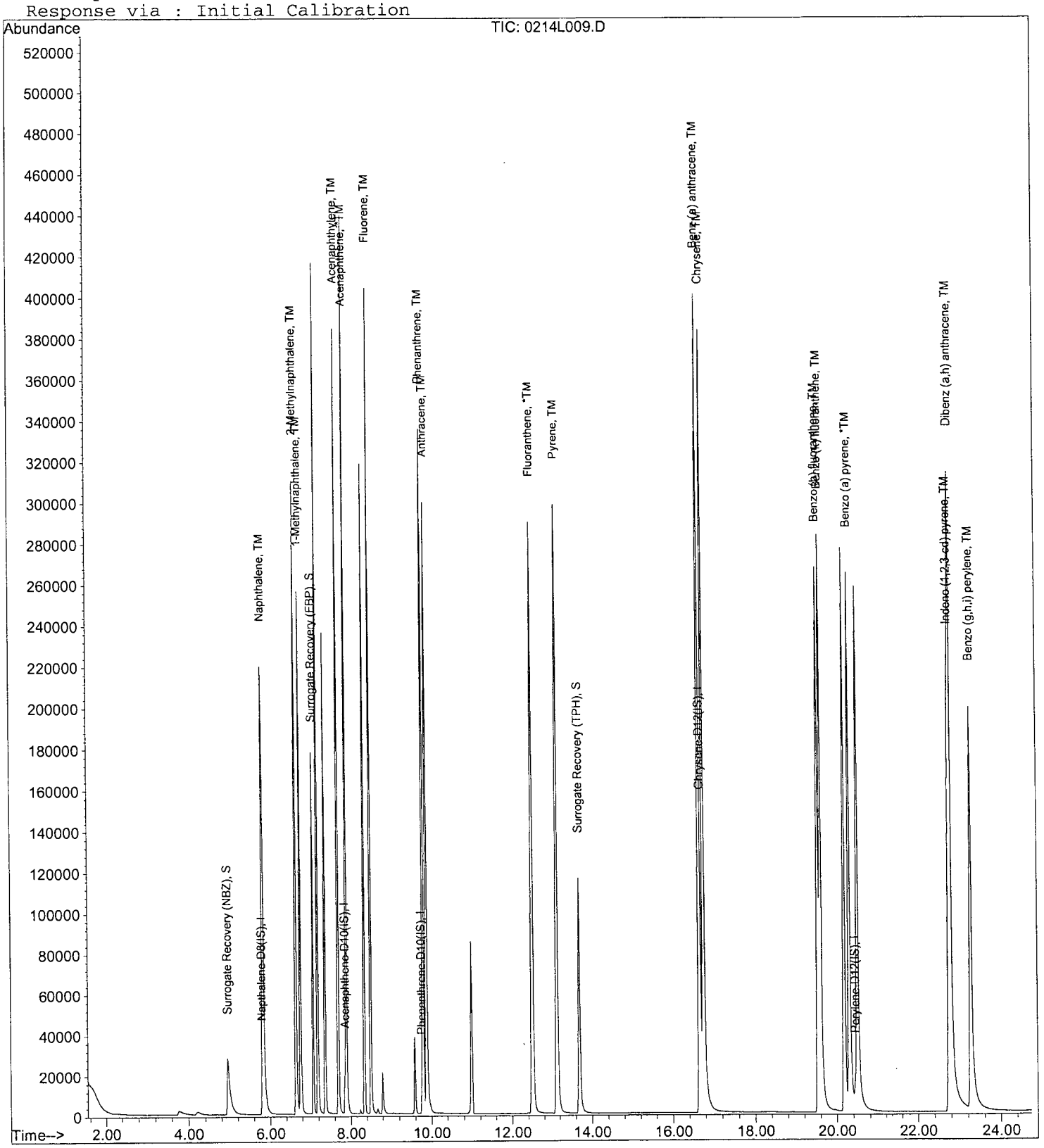
Data File : M:\LINUS\DATA\L170214\0214L009.D
Acq On : 14 Feb 17 21:37
Sample : 50 SIM 02/14/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L010.D
Acq On : 14 Feb 17 22:10
Sample : 100 SIM 02/14/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24826	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11795	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23221	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25126	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22273	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	189983	64.61675 ppb	-0.06
Spiked Amount 5.000			Recovery	= 1292.340%	
7) Surrogate Recovery (FBP)	7.06	172	370044	50.15324 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1003.060%	
17) Surrogate Recovery (TPH)	13.69	244	385634	49.90897 ppb	-0.02
Spiked Amount 5.000			Recovery	= 998.180%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	948587	93.59101 ppb	100
4) 2-Methylnaphthalene	6.64	142	569721	106.29572 ppb	98
5) 1-Methylnaphthalene	6.76	142	542487	79.46428 ppb	97
8) Acenaphthylene	7.69	152	938988	96.96815 ppb	98
9) Acenaphthene	7.89	154	460489	76.81860 ppb	98
10) Fluorene	8.51	166	520677	80.10930 ppb	98
12) Phenanthrene	9.80	178	814732	84.28951 ppb	99
13) Anthracene	9.90	178	792530	87.92814 ppb	99
14) Fluoranthene	12.52	202	1504305	97.48097 ppb	100
16) Pyrene	13.16	202	1342341	94.70286 ppb	100
18) Benz (a) anthracene	16.67	228	1157282	120.50634 ppb	99
19) Chrysene	16.78	228	1082847	74.73450 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	988467	110.57887 ppb #	97
22) Benzo (b) fluoranthene	19.56	252	1005475	101.12837 ppb	99
23) Benzo (k) fluoranthene	19.64	252	847638	78.70624 ppb	99
24) Benzo (a) pyrene	20.35	252	968264	99.30470 ppb	100
25) Dibenz (a,h) anthracene	22.84	278	779082	95.37056 ppb	99
26) Benzo (g,h,i) perylene	23.32	276	786063	96.04365 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

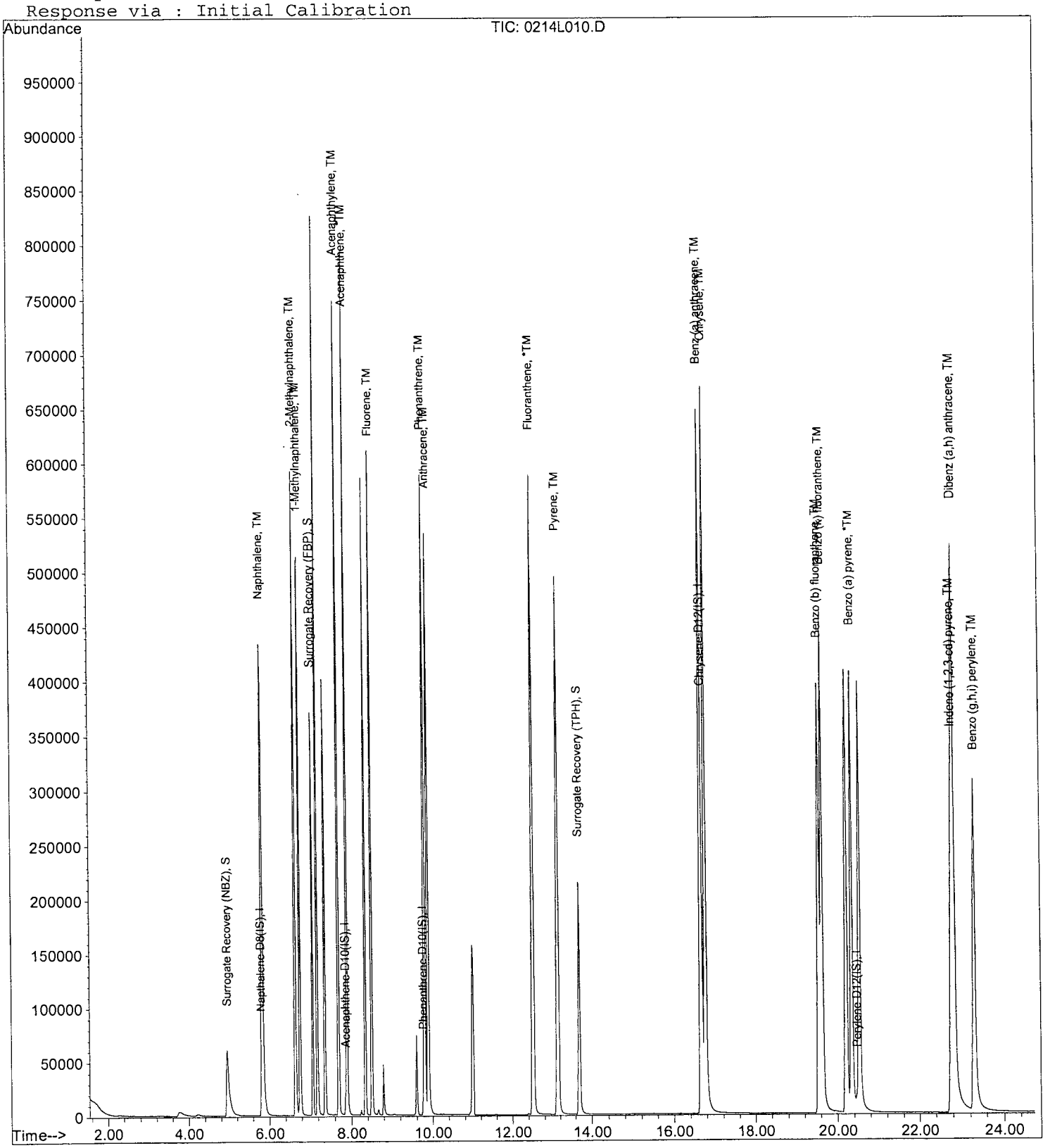
Data File : M:\LINUS\DATA\L170214\0214L010.D
Acq On : 14 Feb 17 22:10
Sample : 100 SIM 02/14/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L011.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Naphthalene	1.026	1.159	13	TM		
2	TML	2-Methylnaphthalene	0.5103	0.6494	27	TML	8.2	
3	TM	1-Methylnaphthalene	0.6571	0.7339	12	TM		
4	TM	Acenaphthylene	1.939	2.256	16	TM		
5	*TM	Acenaphthene	1.200	1.348	12	*TM		
6	TM	Fluorene	1.283	1.547	21	TM		*NT
7	TM	Phenanthrene	0.9612	1.134	18	TM		
8	TML	Anthracene	0.8057	1.063	32	TML	10	
9	*TM	Fluoranthene	1.428	1.772	24	*TM		*NT
10	TM	Pyrene	1.324	1.538	16	TM		
11	TML	Benz (a) anthracene	0.8505	1.046	23	TML	0.88	
12	TM	Chrysene	1.149	1.392	21	TM		*NT
13	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9918	68	TML	7.6	
14	TML	Benzo (b) fluoranthene	0.7388	1.064	44	TML	3.7	
15	TML	Benzo (k) fluoranthene	0.6446	0.6659	3.3	TML	20	
16	*TML	Benzo (a) pyrene	0.8628	1.252	45	*TML	8.7	
17	TML	Dibenz (a,h) anthracene	0.5034	0.9061	80	TML	5.0	
18	TML	Benzo (g,h,i) perylene	0.5242	0.9296	77	TML	2.0	
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
		Average			30.7			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L011.D
Acq On : 14 Feb 17 22:43
Sample : SS SIM 02/14/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:16 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20882	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10460	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19847	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23438	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19617	2.50000 ppb	0.00

System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.28394 ppb	
Spiked Amount 5.000			Recovery	= 5.680%	
7) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
17) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	48416	5.64846 ppb		99
4) 2-Methylnaphthalene	6.65	142	27123	5.40997 ppb		95
5) 1-Methylnaphthalene	6.76	142	30652	5.58432 ppb		93
8) Acenaphthylene	7.70	152	47203	5.81840 ppb		99
9) Acenaphthene	7.89	154	28207	5.61615 ppb		99
10) Fluorene	8.51	166	32360	6.03025 ppb		99
12) Phenanthrene	9.80	178	45008	5.89841 ppb		99
13) Anthracene	9.90	178	42197	5.50431 ppb		100
14) Fluoranthene	12.52	202	70335	6.20351 ppb		99
16) Pyrene	13.15	202	72113	5.81045 ppb		100
18) Benz (a) anthracene	16.66	228	49030	5.04402 ppb	#	76
19) Chrysene	16.76	228	65269	6.06003 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	46492	5.37908 ppb		97
22) Benzo (b) fluoranthene	19.54	252	41743	4.81744 ppb		99
23) Benzo (k) fluoranthene	19.61	252	26124	3.97701 ppb		99
24) Benzo (a) pyrene	20.32	252	49136	5.43512 ppb		99
25) Dibenz (a,h) anthracene	22.82	278	35550	5.24777 ppb	#	39
26) Benzo (g,h,i) perylene	23.30	276	36472	5.10160 ppb	#	49

Algorithum check = $\frac{48416 * 1 * 2.5}{1 * 20882 * 1.026} = \frac{121040}{21424.932} = 5.649$

RH 2/20/17

(#) = qualifier out of range (m) = manual integration

Quantitation Report

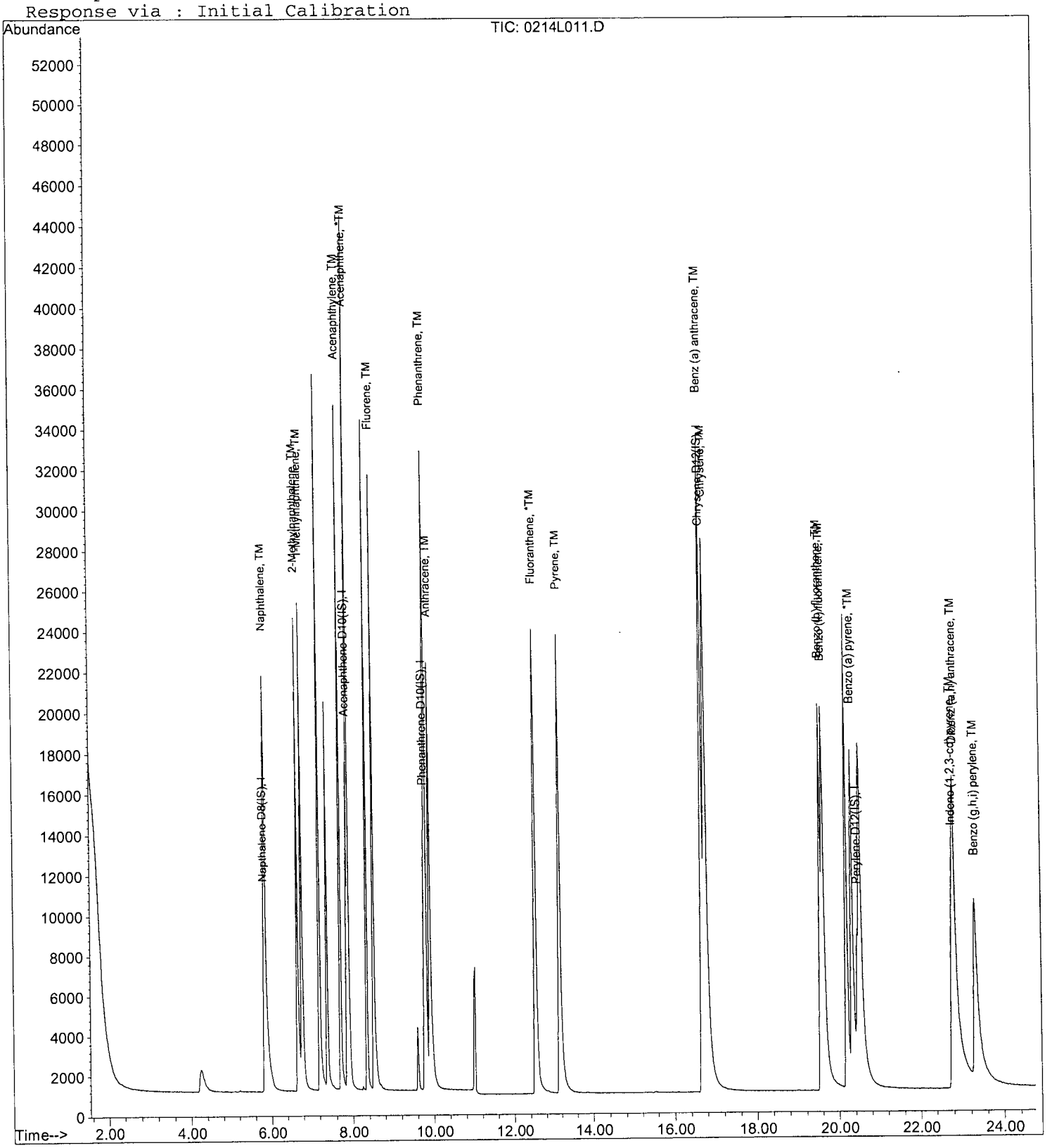
Data File : M:\LINUS\DATA\L170214\0214L011.D
Acq On : 14 Feb 17 22:43
Sample : SS SIM 02/14/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:16 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L030.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3310	20	SL	0.27
3	TM	Naphthalene	1.026	1.061	3.4	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6046	18	TML	0.40
5	TM	1-Methylnaphthalene	0.6571	0.6647	1.2	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.657	5.5	S	
8	TM	Acenaphthylene	1.939	2.049	5.7	TM	
9	*TM	Acenaphthene	1.200	1.253	4.4	*TM	
10	TM	Fluorene	1.283	1.403	9.4	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.046	8.8	TM	
13	TML	Anthracene	0.8057	0.9710	21	TML	0.55
14	*TM	Fluoranthene	1.428	1.590	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.400	5.8	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7623	0.97	S	
18	TML	Benz (a) anthracene	0.8505	1.009	19	TML	2.4
19	TM	Chrysene	1.149	1.277	11	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9575	62	TML	4.1
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.085	47	TML	1.8
23	TML	Benzo (k) fluoranthene	0.6446	0.7039	9.2	TML	17
24	*TML	Benzo (a) pyrene	0.8628	1.185	37	*TML	2.6
25	TML	Dibenz (a,h) anthracene	0.5034	0.9226	83	TML	6.8
26	TML	Benzo (g,h,i) perylene	0.5242	0.8496	62	TML	6.9
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			21.2		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L030.D
Acq On : 15 Feb 17 13:05
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 30
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 14:17 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	22980	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11627	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22169	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26280	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	21876	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7607	2.49329 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.860%	
7) Surrogate Recovery (FBP)	7.09	172	19268	2.63837 ppb	0.00
Spiked Amount 5.000			Recovery	= 52.760%	
17) Surrogate Recovery (TPH)	13.71	244	20033	2.52421 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.480%	

Target Compounds					Qvalue
3) Naphthalene	5.83	128	48752	5.16839 ppb	100
4) 2-Methylnaphthalene	6.65	142	27786	5.02023 ppb	93
5) 1-Methylnaphthalene	6.76	142	30551	5.05776 ppb	95
8) Acenaphthylene	7.70	152	47649	5.28387 ppb	100
9) Acenaphthene	7.89	154	29134	5.21851 ppb	100
10) Fluorene	8.51	166	32634	5.47093 ppb	99
12) Phenanthrene	9.80	178	46379	5.44146 ppb	100
13) Anthracene	9.90	178	43054	4.97232 ppb	100
14) Fluoranthene	12.52	202	70511	5.56764 ppb	100
16) Pyrene	13.15	202	73597	5.28874 ppb	99
18) Benz (a) anthracene	16.66	228	53010	4.88203 ppb #	76
19) Chrysene	16.76	228	67141	5.55970 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	50324	5.20537 ppb #	94
22) Benzo (b) fluoranthene	19.54	252	47467	4.90853 ppb	98
23) Benzo (k) fluoranthene	19.61	252	30796	4.17383 ppb	99
24) Benzo (a) pyrene	20.32	252	51861	5.12990 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	40366	5.34095 ppb #	38
26) Benzo (g,h,i) perylene	23.29	276	37171	4.65514 ppb #	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

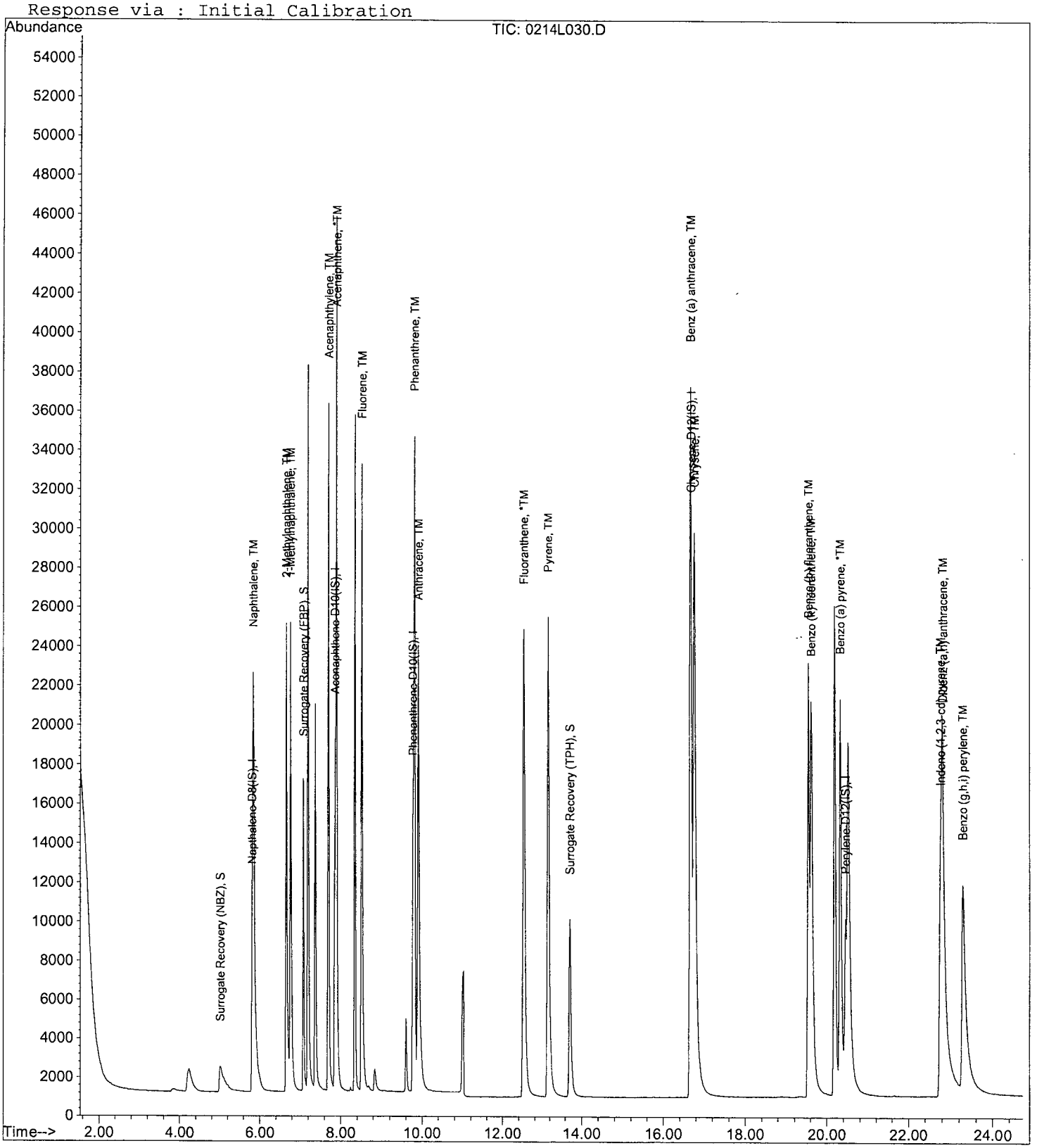
Data File : M:\LINUS\DATA\L170214\0214L030.D
Acq On : 15 Feb 17 13:05
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 30
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 14:17 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L044.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3327	20	SL	0.18
3	TM	Naphthalene	1.026	1.123	9.4	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6469	27	TML	7.8
5	TM	1-Methylnaphthalene	0.6571	0.6969	6.1	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.611	2.6	S	
8	TM	Acenaphthylene	1.939	2.182	13	TM	
9	*TM	Acenaphthene	1.200	1.311	9.2	*TM	
10	TM	Fluorene	1.283	1.474	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.100	14	TM	
13	TML	Anthracene	0.8057	1.016	26	TML	4.7
14	*TM	Fluoranthene	1.428	1.670	17	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.475	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7492	0.77	S	
18	TML	Benz (a) anthracene	0.8505	1.023	20	TML	1.1
19	TM	Chrysene	1.149	1.357	18	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9824	66	TML	6.6
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.079	46	TML	2.3
23	TML	Benzo (k) fluoranthene	0.6446	0.8663	34	TML	0.29
24	*TML	Benzo (a) pyrene	0.8628	1.233	43	*TML	7.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9675	92	TML	12
26	TML	Benzo (g,h,i) perylene	0.5242	0.9063	73	TML	0.57
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			26.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L044.D Vial: 44
Acq On : 16 Feb 17 9:56 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 10:24 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21317	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	7.86	164	10809	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.76	188	20745	2.50000 ppb		0.00
15) Chrysene-D12(IS)	16.67	240	24501	2.50000 ppb		0.00
21) Perylene-D12(IS)	20.45	264	20358	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.01	82	7093	2.50440 ppb		0.00
Spiked Amount 5.000			Recovery	= 50.080%		
7) Surrogate Recovery (FBP)	7.07	172	17410	2.56437 ppb		-0.01
Spiked Amount 5.000			Recovery	= 51.280%		
17) Surrogate Recovery (TPH)	13.70	244	18355	2.48071 ppb		0.00
Spiked Amount 5.000			Recovery	= 49.620%		
Target Compounds						Qvalue
3) Naphthalene	5.83	128	47879	5.47182 ppb		100
4) 2-Methylnaphthalene	6.65	142	27581	5.38817 ppb		93
5) 1-Methylnaphthalene	6.76	142	29712	5.30260 ppb		94
8) Acenaphthylene	7.70	152	47168	5.62636 ppb		100
9) Acenaphthene	7.89	154	28332	5.45890 ppb		100
10) Fluorene	8.51	166	31867	5.74664 ppb		100
12) Phenanthrene	9.80	178	45634	5.72157 ppb		100
13) Anthracene	9.90	178	42163	5.23352 ppb		99
14) Fluoranthene	12.51	202	69281	5.84604 ppb		98
16) Pyrene	13.15	202	72280	5.57123 ppb		99
18) Benz (a) anthracene	16.65	228	50146	4.94609 ppb	#	76
19) Chrysene	16.75	228	66493	5.90583 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	48138	5.33134 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	43937	4.88332 ppb		100
23) Benzo (k) fluoranthene	19.61	252	35271	5.01438 ppb		100
24) Benzo (a) pyrene	20.31	252	50212	5.34790 ppb		99
25) Dibenz (a,h) anthracene	22.81	278	39394	5.59452 ppb	#	38
26) Benzo (g,h,i) perylene	23.29	276	36900	4.97146 ppb	#	50

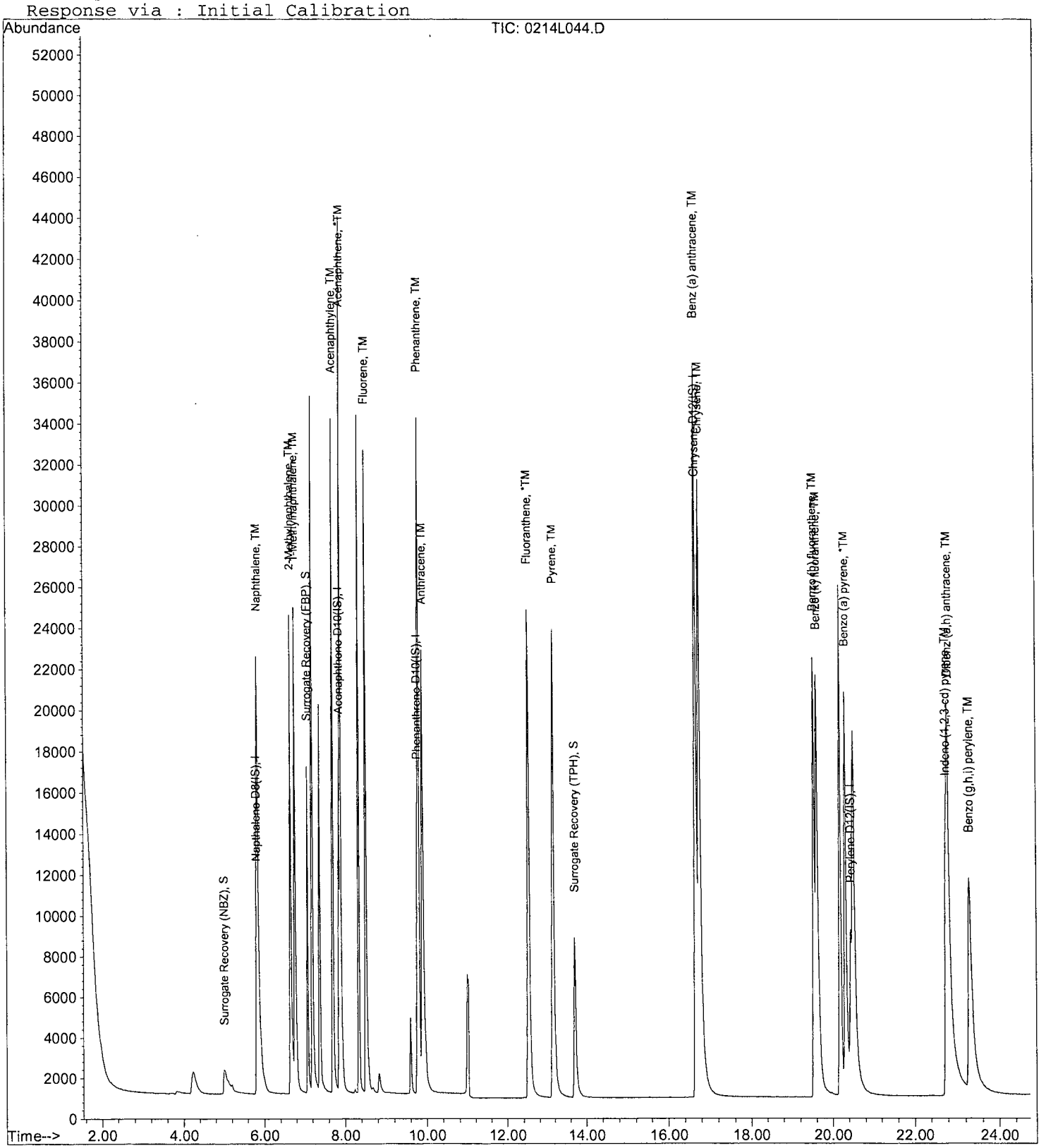
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L044.D Vial: 44
Acq On : 16 Feb 17 9:56 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 10:24 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L052.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3363	22	SL	1.1
3	TM	Naphthalene	1.026	1.114	8.6	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6453	26	TML	7.5
5	TM	1-Methylnaphthalene	0.6571	0.7009	6.7	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.646	4.8	S	
8	TM	Acenaphthylene	1.939	2.209	14	TM	
9	*TM	Acenaphthene	1.200	1.324	10	*TM	
10	TM	Fluorene	1.283	1.490	16	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.098	14	TM	
13	TML	Anthracene	0.8057	1.025	27	TML	5.7
14	*TM	Fluoranthene	1.428	1.717	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.470	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7567	0.22	S	
18	TML	Benz (a) anthracene	0.8505	1.087	28	TML	4.4
19	TM	Chrysene	1.149	1.320	15	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9917	68	TML	7.6
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.192	61	TML	7.5
23	TML	Benzo (k) fluoranthene	0.6446	0.7785	21	TML	8.8
24	*TML	Benzo (a) pyrene	0.8628	1.243	44	*TML	7.9
25	TML	Dibenz (a,h) anthracene	0.5034	0.9535	89	TML	10
26	TML	Benzo (g,h,i) perylene	0.5242	0.8642	65	TML	5.3
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			27.2		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L052.D Vial: 52
Acq On : 16 Feb 17 15:31 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20263	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10179	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19677	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23783	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19778	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	6815	2.52769 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.560%	
7) Surrogate Recovery (FBP)	7.09	172	16757	2.62095 ppb	0.00
Spiked Amount 5.000			Recovery	= 52.420%	
17) Surrogate Recovery (TPH)	13.70	244	17996	2.50562 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.120%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	45150	5.42834 ppb		100
4) 2-Methylnaphthalene	6.65	142	26152	5.37418 ppb		92
5) 1-Methylnaphthalene	6.76	142	28406	5.33322 ppb		94
8) Acenaphthylene	7.70	152	44963	5.69529 ppb		99
9) Acenaphthene	7.89	154	26949	5.51380 ppb		99
10) Fluorene	8.51	166	30328	5.80760 ppb		98
12) Phenanthrene	9.80	178	43229	5.71421 ppb		100
13) Anthracene	9.90	178	40344	5.28518 ppb		99
14) Fluoranthene	12.52	202	67570	6.01112 ppb		99
16) Pyrene	13.15	202	69941	5.55370 ppb		100
18) Benz (a) anthracene	16.65	228	51700	5.22149 ppb	#	76
19) Chrysene	16.76	228	62774	5.74383 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	47171	5.37851 ppb	#	93
22) Benzo (b) fluoranthene	19.54	252	47140	5.37273 ppb		98
23) Benzo (k) fluoranthene	19.61	252	30794	4.56004 ppb		100
24) Benzo (a) pyrene	20.32	252	49182	5.39400 ppb		99
25) Dibenz (a,h) anthracene	22.82	278	37718	5.51551 ppb	#	38
26) Benzo (g,h,i) perylene	23.29	276	34185	4.73679 ppb	#	51

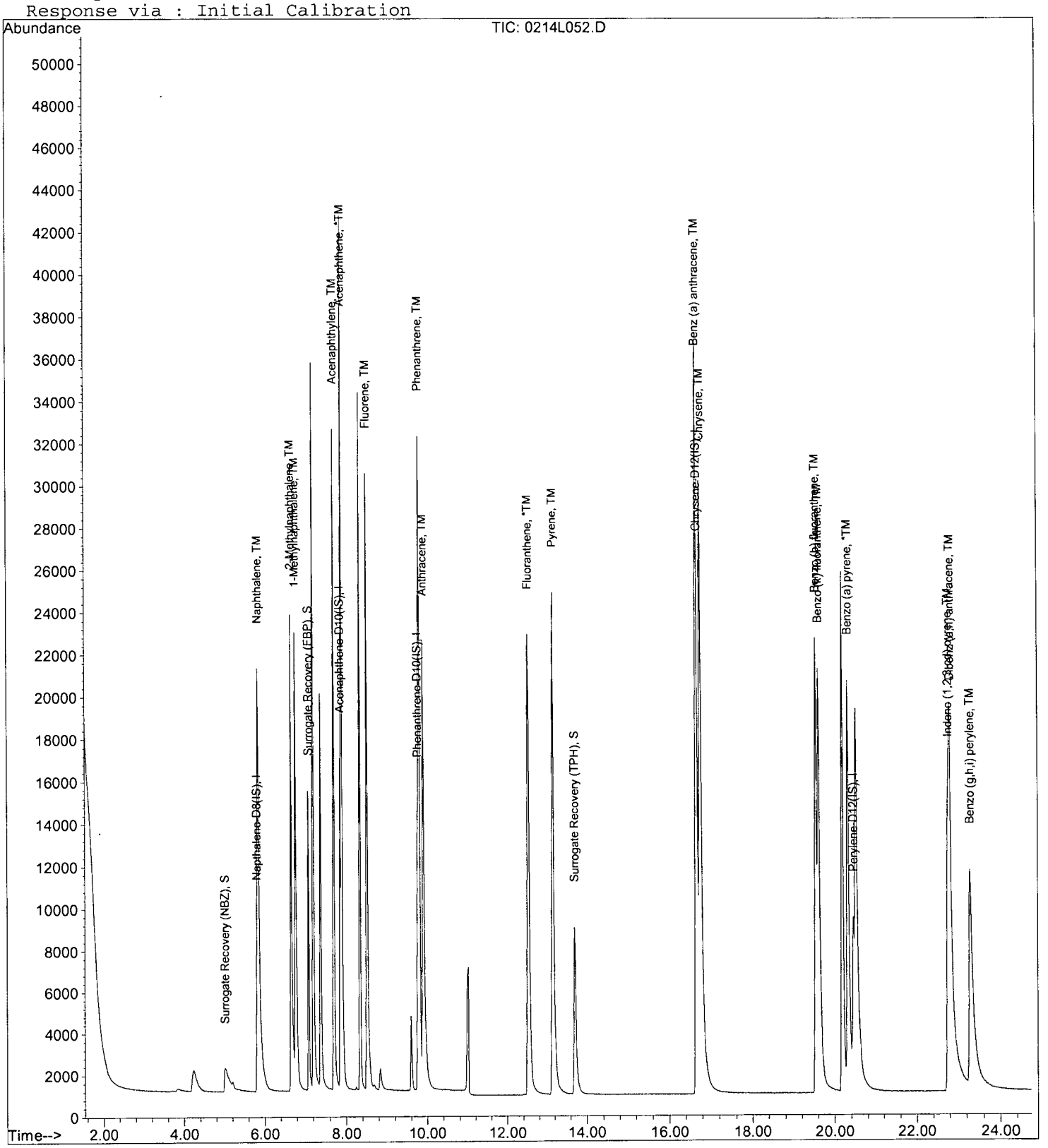
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L052.D Vial: 52
Acq On : 16 Feb 17 15:31 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L059.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3364	22	SL	1.1
3	TM	Naphthalene	1.026	1.126	9.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6485	27	TML	8.0
5	TM	1-Methylnaphthalene	0.6571	0.7065	7.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.627	3.6	S	
8	TM	Acenaphthylene	1.939	2.173	12	TM	
9	*TM	Acenaphthene	1.200	1.307	8.9	*TM	
10	TM	Fluorene	1.283	1.469	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.110	15	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.716	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.484	12	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7576	0.34	S	
18	TML	Benz (a) anthracene	0.8505	1.106	30	TML	6.1
19	TM	Chrysene	1.149	1.322	15	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.018	72	TML	10
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.096	48	TML	0.90
23	TML	Benzo (k) fluoranthene	0.6446	0.8797	36	TML	1.7
24	*TML	Benzo (a) pyrene	0.8628	1.245	44	*TML	8.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9561	90	TML	11
26	TML	Benzo (g,h,i) perylene	0.5242	0.8564	63	TML	6.1
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			27.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21152	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10824	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20561	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	24824	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	20815	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7115	2.52799 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.560%	
7) Surrogate Recovery (FBP)	7.07	172	17616	2.59111 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.820%	
17) Surrogate Recovery (TPH)	13.71	244	18806	2.50859 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.180%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	47620	5.48467 ppb		99
4) 2-Methylnaphthalene	6.65	142	27435	5.40203 ppb		93
5) 1-Methylnaphthalene	6.76	142	29887	5.37544 ppb		93
8) Acenaphthylene	7.70	152	47031	5.60225 ppb		100
9) Acenaphthene	7.89	154	28287	5.44268 ppb		100
10) Fluorene	8.51	166	31810	5.72841 ppb		100
12) Phenanthrene	9.80	178	45642	5.77378 ppb		99
13) Anthracene	9.90	178	42498	5.33320 ppb		100
14) Fluoranthene	12.52	202	70573	6.00835 ppb		100
16) Pyrene	13.15	202	73697	5.60654 ppb		99
18) Benz (a) anthracene	16.65	228	54901	5.30335 ppb	#	76
19) Chrysene	16.75	228	65616	5.75210 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50540	5.51136 ppb		94
22) Benzo (b) fluoranthene	19.54	252	45612	4.95521 ppb		98
23) Benzo (k) fluoranthene	19.61	252	36620	5.08366 ppb		99
24) Benzo (a) pyrene	20.31	252	51826	5.40114 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	39802	5.52993 ppb	#	39
26) Benzo (g,h,i) perylene	23.29	276	35651	4.69305 ppb	#	50

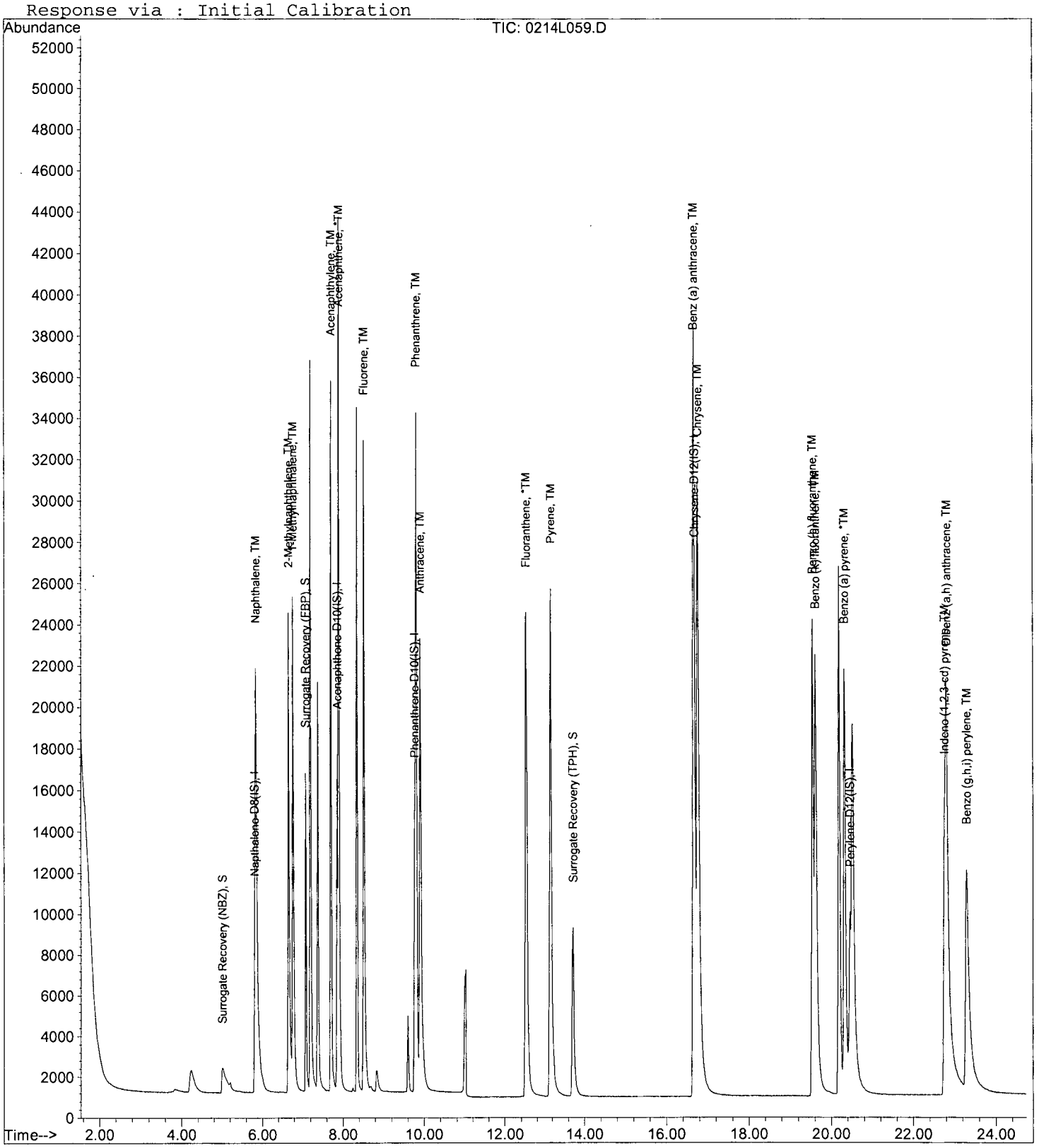
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216230**
Batch ID: #SIMDO-170209A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/09/17	02/15/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/09/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.5	53-106			%	02/09/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	63.7	55-111			%	02/09/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	77.7	58-132			%	02/09/17	02/15/17

Quant Method: L0214PR.M
Run #: 0214L031
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 3:42:26 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L031.D
Acq On : 15 Feb 17 13:38
Sample : 170209A BLK 1/1000
Misc : water

Vial: 31
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 16:12 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	28693	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	14909	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	27659	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	31732	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	27028	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	12546	3.18261 ppb	-0.02
Spiked Amount 5.000			Recovery	= 63.660%	
7) Surrogate Recovery (FBP)	7.07	172	26445	2.82398 ppb	-0.01
Spiked Amount 5.000			Recovery	= 56.480%	
17) Surrogate Recovery (TPH)	13.70	244	37252	3.88738 ppb	0.00
Spiked Amount 5.000			Recovery	= 77.740%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

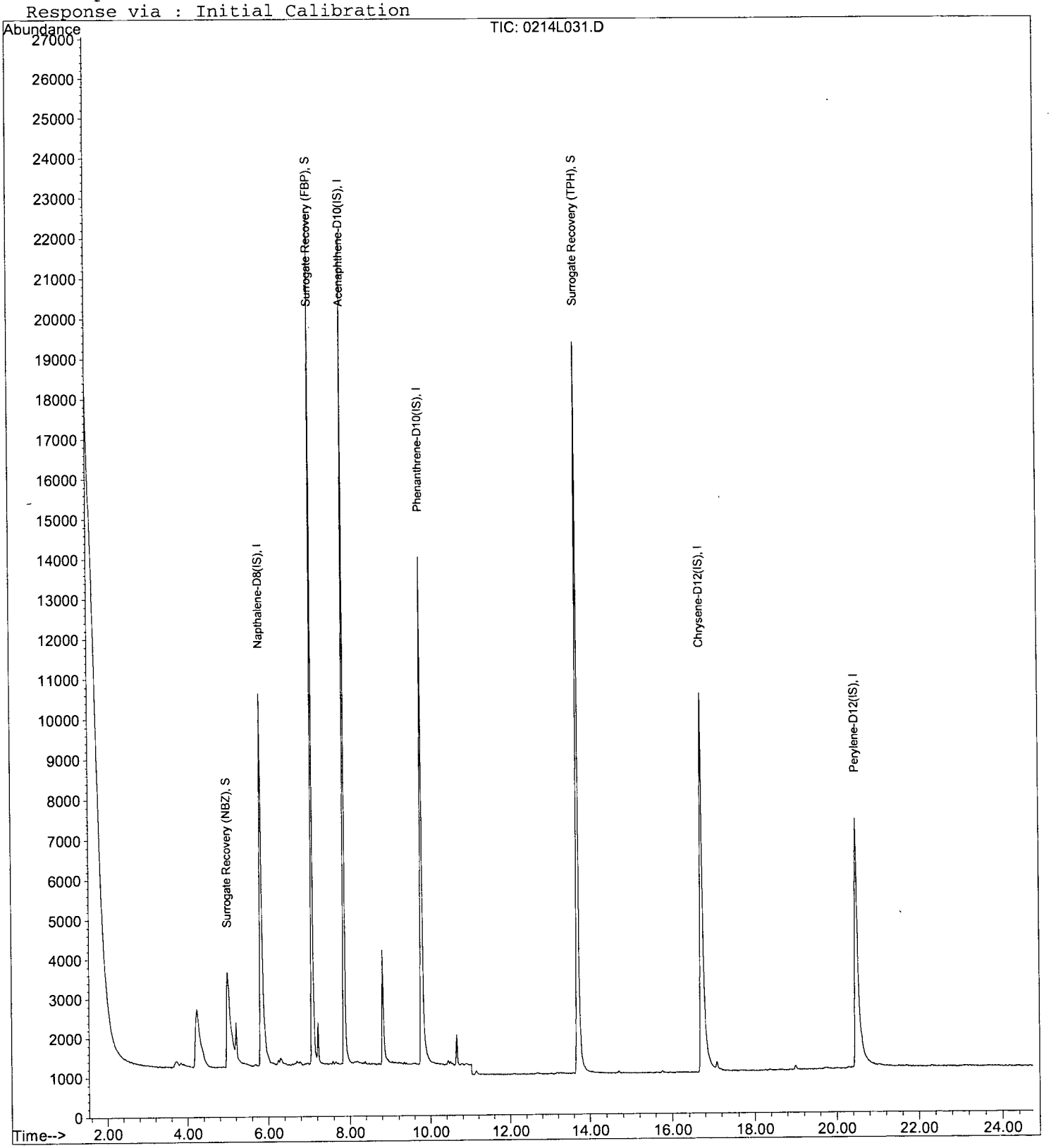
Data File : M:\LINUS\DATA\L170214\0214L031.D
Acq On : 15 Feb 17 13:38
Sample : 170209A BLK 1/1000
Misc : water

Vial: 31
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 16:12 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170209W-49674 LCS - 216230**
Batch ID: #SIMDO-170209A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.96	79.2	41-115
2-METHYLNAPHTHALENE	5.00	3.82	76.4	39-114
NAPHTHALENE	5.00	3.57	71.4	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.33	66.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.51	70.2	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.90	78.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/09/17
Analysis Date :	02/15/17
Instrument :	Linus
Run :	0214L032
Initials :	RHA

Printed: 02/16/17 3:42:19 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L032.D
Acq On : 15 Feb 17 14:11
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 32
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 14:37 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23944	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12003	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23416	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	27879	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23810	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11673	3.50878 ppb	-0.02
Spiked Amount 5.000			Recovery	= 70.180%	
7) Surrogate Recovery (FBP)	7.07	172	25069	3.32517 ppb	-0.01
Spiked Amount 5.000			Recovery	= 66.500%	
17) Surrogate Recovery (TPH)	13.70	244	32870	3.90416 ppb	-0.01
Spiked Amount 5.000			Recovery	= 78.080%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	35131	3.57443 ppb		99
4) 2-Methylnaphthalene	6.65	142	22354	3.82341 ppb		92
5) 1-Methylnaphthalene	6.76	142	24905	3.95706 ppb		94
8) Acenaphthylene	7.70	152	37293	4.00593 ppb		100
9) Acenaphthene	7.89	154	21871	3.79483 ppb		100
10) Fluorene	8.51	166	26652	4.32811 ppb		99
12) Phenanthrene	9.80	178	39629	4.40190 ppb		100
13) Anthracene	9.90	178	36055	3.80931 ppb		100
14) Fluoranthene	12.52	202	63854	4.77349 ppb		100
16) Pyrene	13.15	202	66037	4.47329 ppb		98
18) Benz (a) anthracene	16.66	228	47648	4.21476 ppb	#	76
19) Chrysene	16.76	228	60778	4.74414 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	42789	4.24430 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	42673	4.08808 ppb		99
23) Benzo (k) fluoranthene	19.62	252	28269	3.60323 ppb		99
24) Benzo (a) pyrene	20.32	252	45747	4.10704 ppb		100
25) Dibenz (a,h) anthracene	22.82	278	36908	4.50803 ppb	#	38
26) Benzo (g,h,i) perylene	23.30	276	35864	4.11697 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

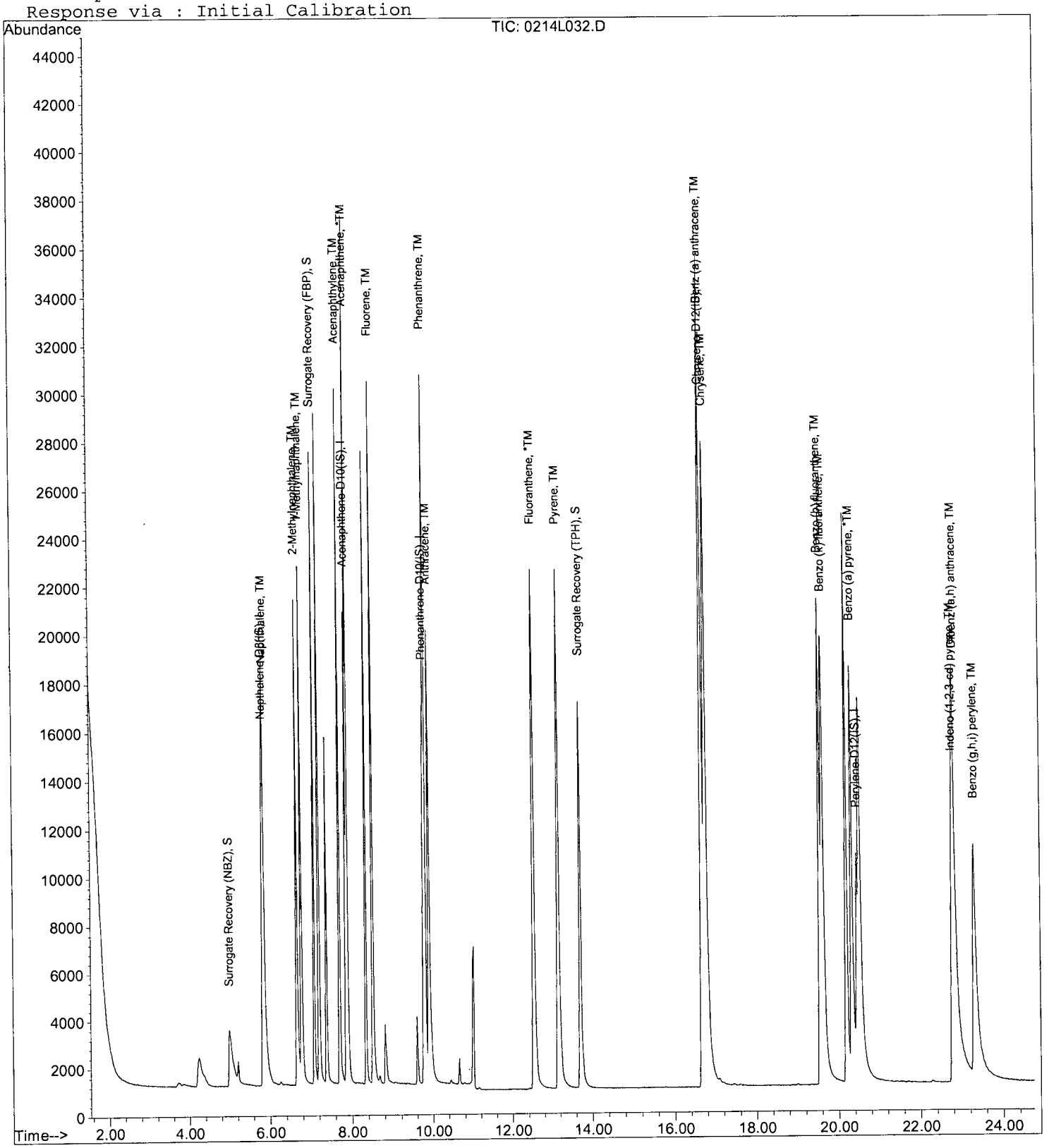
Data File : M:\LINUS\DATA\L170214\0214L032.D
Acq On : 15 Feb 17 14:11
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 32
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 14:37 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170209W-49674 MS - 216230**
Batch ID: #SIMDO-170209A1
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.94	3.72	78.8	74.4	41-115	5.7	20
2-METHYLNAPHTHALENE	5.00	ND	4.08	3.66	81.6	73.2	39-114	10.9	20
NAPHTHALENE	5.00	ND	3.61	3.40	72.2	68.0	43-114	6.0	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.34	3.03	66.8	60.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.62	3.27	72.4	65.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.06	3.57	81.2	71.4	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0214PR.M	L0214PR.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Linus	Linus
Run :	0214L036	0214L038
Initials :	RHA	

Printed: 02/16/17 3:42:17 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L036.D
Acq On : 15 Feb 17 16:22
Sample : AZ49674W23 MS-1 1/1070
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 15 16:49 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	24240	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	12189	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23767	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	28809	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	24296	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	13180	3.62018 ppb	-0.02
Spiked Amount 4.673			Recovery	= 77.468%	
7) Surrogate Recovery (FBP)	7.07	172	27352	3.33890 ppb	-0.01
Spiked Amount 4.673			Recovery	= 71.455%	
17) Surrogate Recovery (TPH)	13.70	244	37803	4.06087 ppb	-0.01
Spiked Amount 4.673			Recovery	= 86.905%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	38460	3.61248 ppb		100
4) 2-Methylnaphthalene	6.65	142	25633	4.07612 ppb		92
5) 1-Methylnaphthalene	6.76	142	26846	3.93773 ppb		95
8) Acenaphthylene	7.70	152	41957	4.14780 ppb		99
9) Acenaphthene	7.89	154	24377	3.89262 ppb		100
10) Fluorene	8.51	166	29417	4.39648 ppb		99
12) Phenanthrene	9.80	178	44387	4.53981 ppb		100
13) Anthracene	9.90	178	40575	4.01246 ppb		99
14) Fluoranthene	12.52	202	73657	5.07010 ppb		99
16) Pyrene	13.15	202	76226	4.66991 ppb		100
18) Benz (a) anthracene	16.65	228	59220	4.64056 ppb	#	77
19) Chrysene	16.76	228	68448	4.83211 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	49401	4.39190 ppb	#	93
22) Benzo (b) fluoranthene	19.54	252	52585	4.57630 ppb		99
23) Benzo (k) fluoranthene	19.61	252	34646	3.94490 ppb		100
24) Benzo (a) pyrene	20.32	252	53010	4.39255 ppb		99
25) Dibenz (a,h) anthracene	22.81	278	42045	4.68903 ppb	#	39
26) Benzo (g,h,i) perylene	23.30	276	40953	4.31518 ppb	#	49

(#) = qualifier out of range (m) = manual integration

Quantitation Report

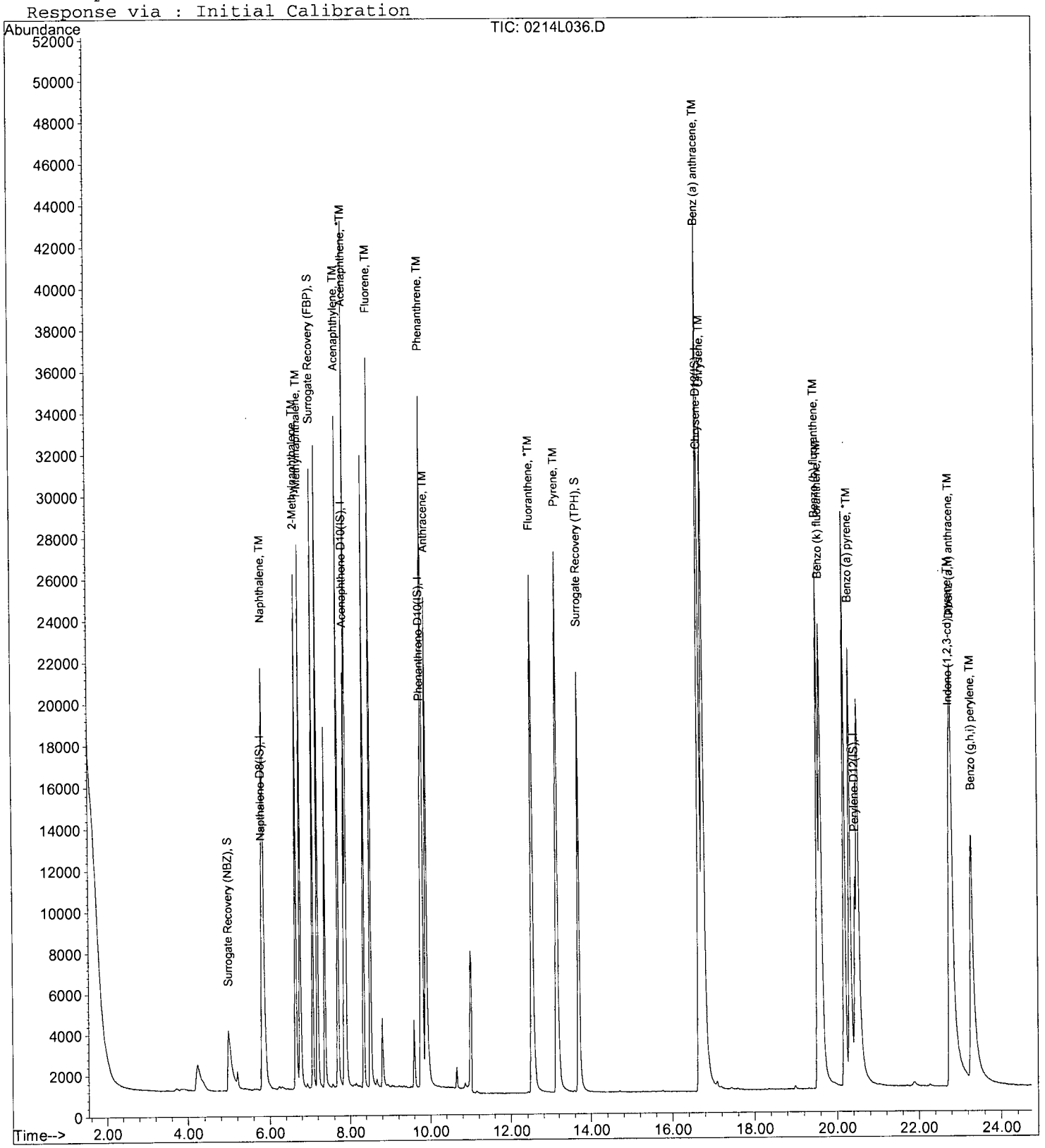
Data File : M:\LINUS\DATA\L170214\0214L036.D
Acq On : 15 Feb 17 16:22
Sample : AZ49674W23 MS-1 1/1070
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 15 16:49 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L038.D
Acq On : 15 Feb 17 17:28
Sample : AZ49674W21 MSD-1 1/1070
Misc : water

Vial: 38
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 16 14:21 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22764	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11462	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22150	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	27194	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	22792	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	11051	3.26678 ppb	-0.01
Spiked Amount 4.673			Recovery	= 69.914%	
7) Surrogate Recovery (FBP)	7.07	172	23355	3.03181 ppb	-0.01
Spiked Amount 4.673			Recovery	= 64.885%	
17) Surrogate Recovery (TPH)	13.70	244	31381	3.57121 ppb	0.00
Spiked Amount 4.673			Recovery	= 76.419%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	34027	3.40333 ppb		99
4) 2-Methylnaphthalene	6.65	142	21721	3.65685 ppb		93
5) 1-Methylnaphthalene	6.76	142	23816	3.71980 ppb		95
8) Acenaphthylene	7.70	152	35428	3.72450 ppb		99
9) Acenaphthene	7.89	154	20852	3.54093 ppb		99
10) Fluorene	8.51	166	25117	3.99192 ppb		100
12) Phenanthrene	9.80	178	37715	4.13901 ppb		100
13) Anthracene	9.90	178	33681	3.50831 ppb		100
14) Fluoranthene	12.52	202	61632	4.55207 ppb		99
16) Pyrene	13.15	202	63652	4.13116 ppb		99
18) Benz (a) anthracene	16.66	228	46747	3.95911 ppb	#	76
19) Chrysene	16.76	228	58729	4.39222 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	42436	4.02731 ppb		94
22) Benzo (b) fluoranthene	19.54	252	41821	3.90728 ppb		99
23) Benzo (k) fluoranthene	19.62	252	27313	3.39432 ppb		99
24) Benzo (a) pyrene	20.32	252	44129	3.86989 ppb		100
25) Dibenz (a,h) anthracene	22.82	278	36082	4.30014 ppb	#	38
26) Benzo (g,h,i) perylene	23.29	276	33077	3.70422 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

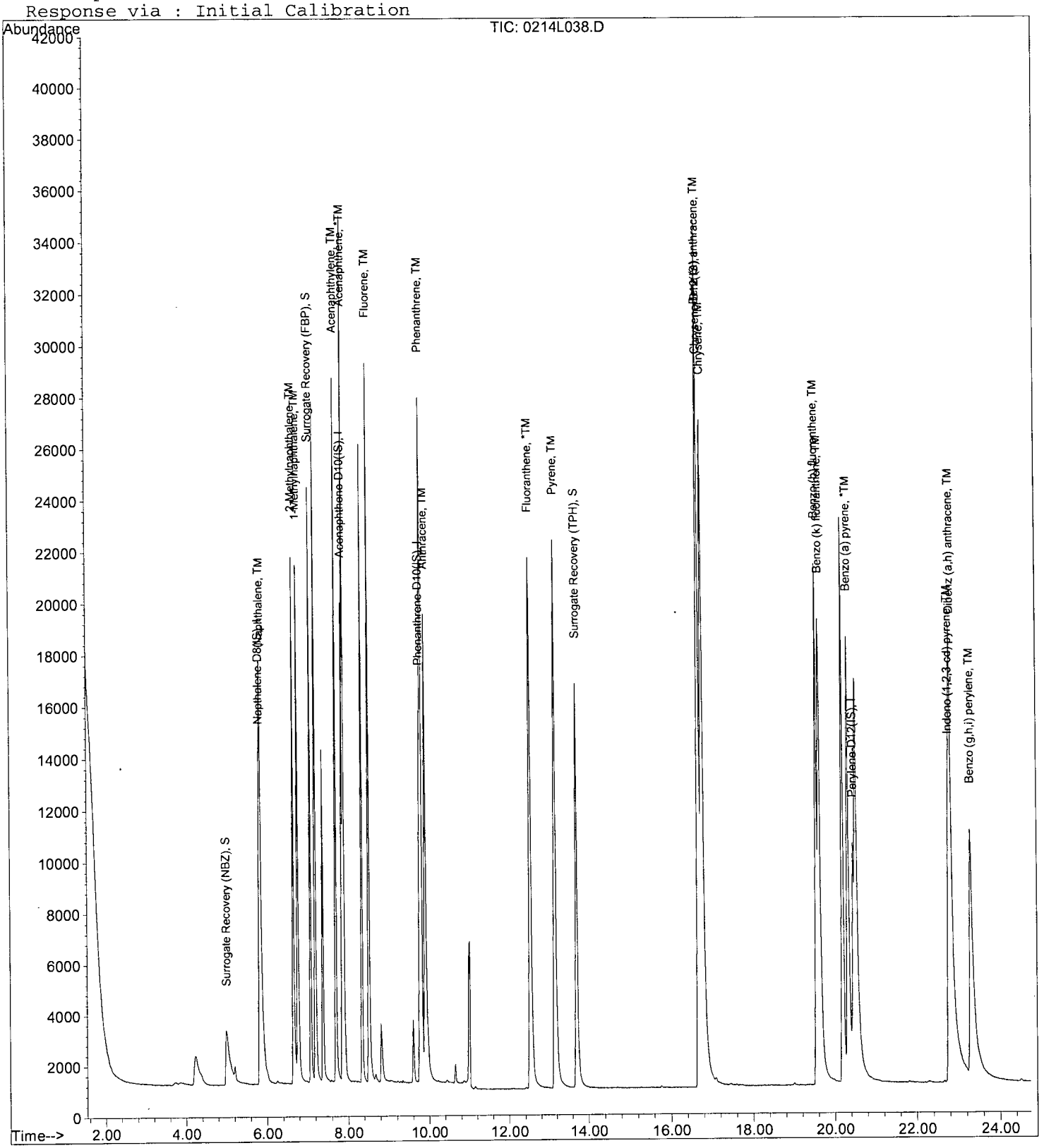
Data File : M:\LINUS\DATA\L170214\0214L038.D
Acq On : 15 Feb 17 17:28
Sample : AZ49674W21 MSD-1 1/1070
Misc : water

Vial: 38
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Feb 16 14:21 2017

Quant Results File: L0214PR.RES

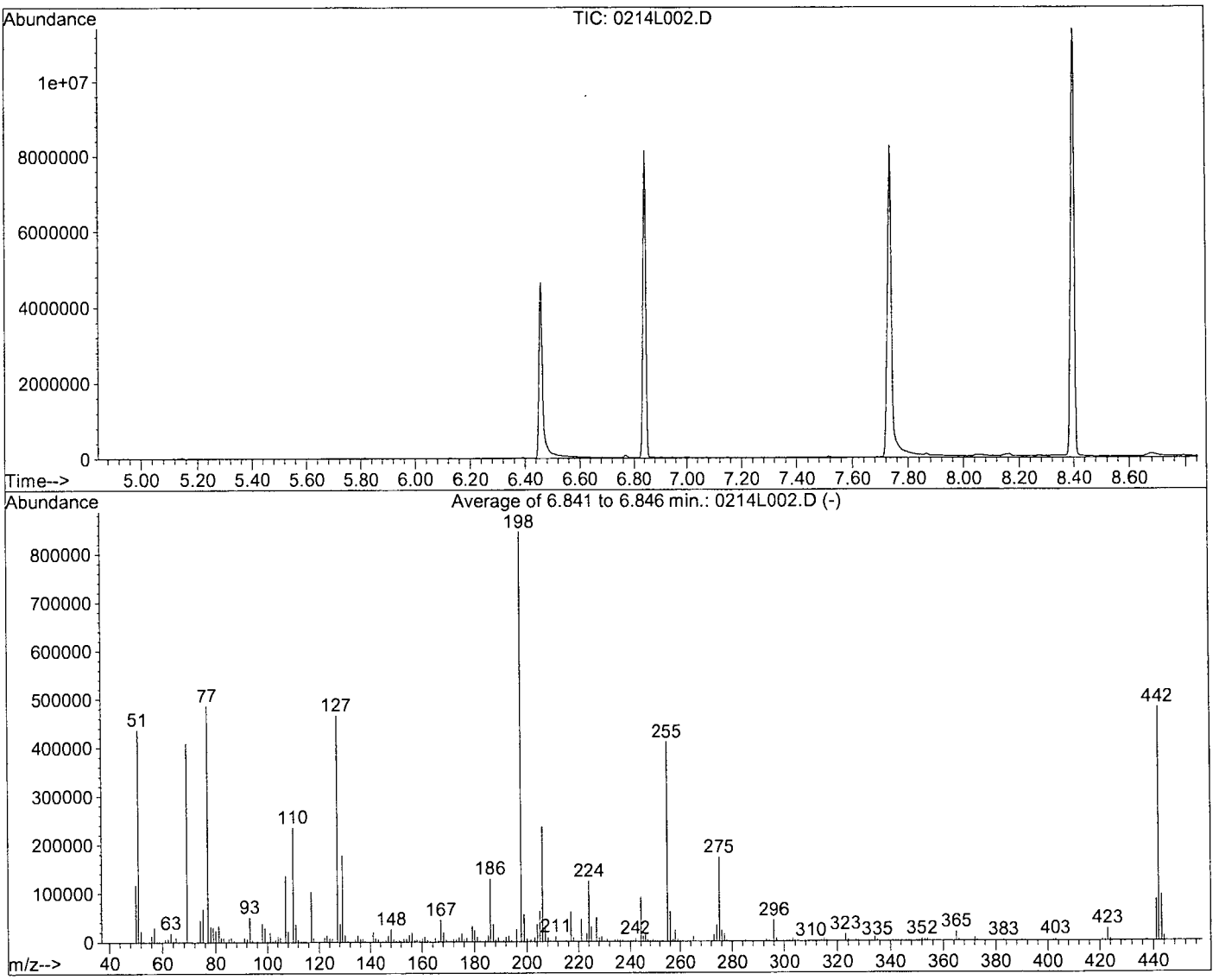
Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L170214\0214L002.D Vial: 2
Acq On : 14 Feb 17 18:03 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270



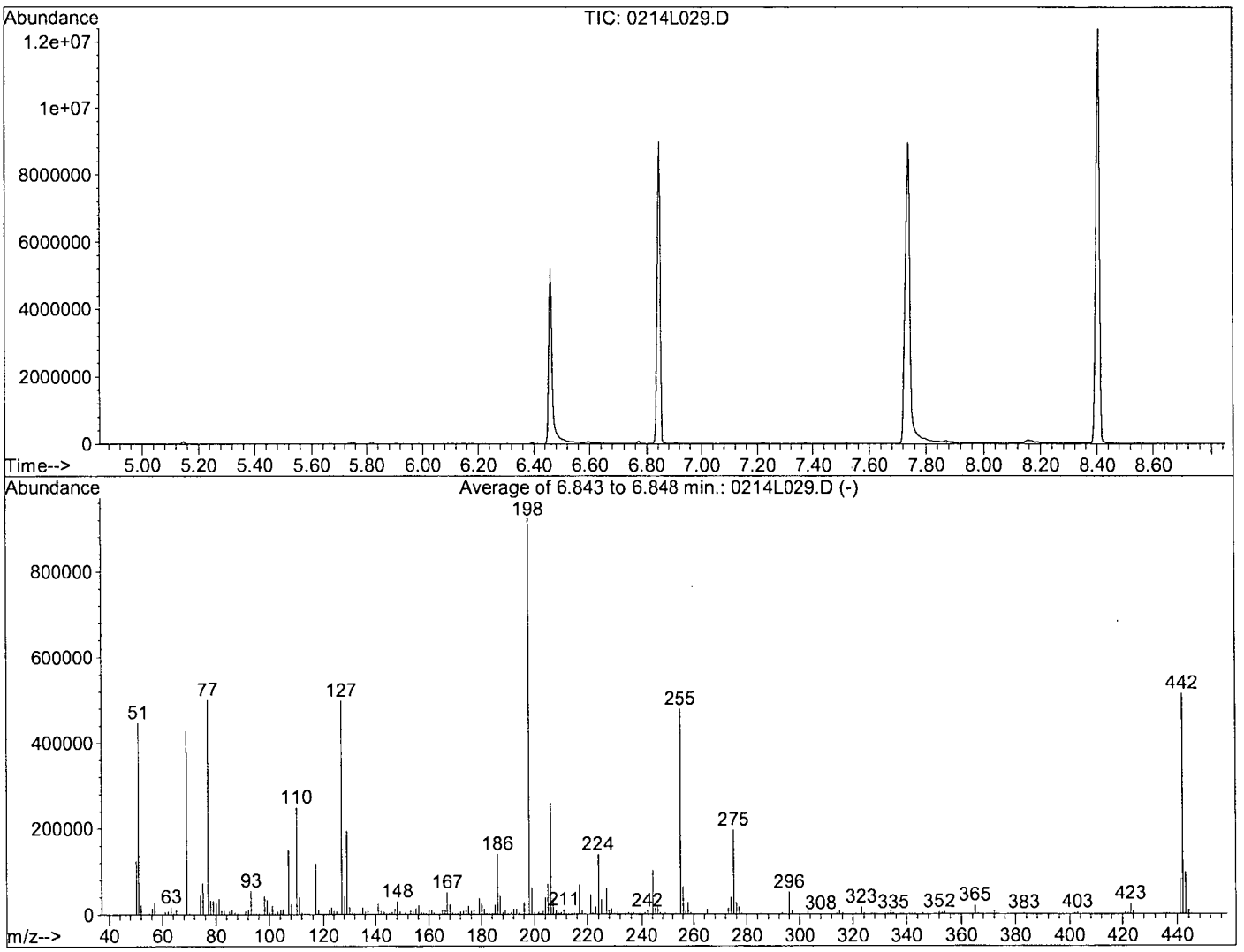
AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.7	437381	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1543	PASS
127	198	40	60	55.2	466752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	846059	PASS
199	198	5	9	6.6	55539	PASS
275	198	10	30	20.4	172288	PASS
365	198	1	100	2.2	18390	PASS
441	443	0.01	100	90.5	85072	PASS
442	198	50	150	56.8	480725	PASS
443	442	17	23	19.5	93955	PASS

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L029.D Vial: 29
Acq On : 15 Feb 17 12:48 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



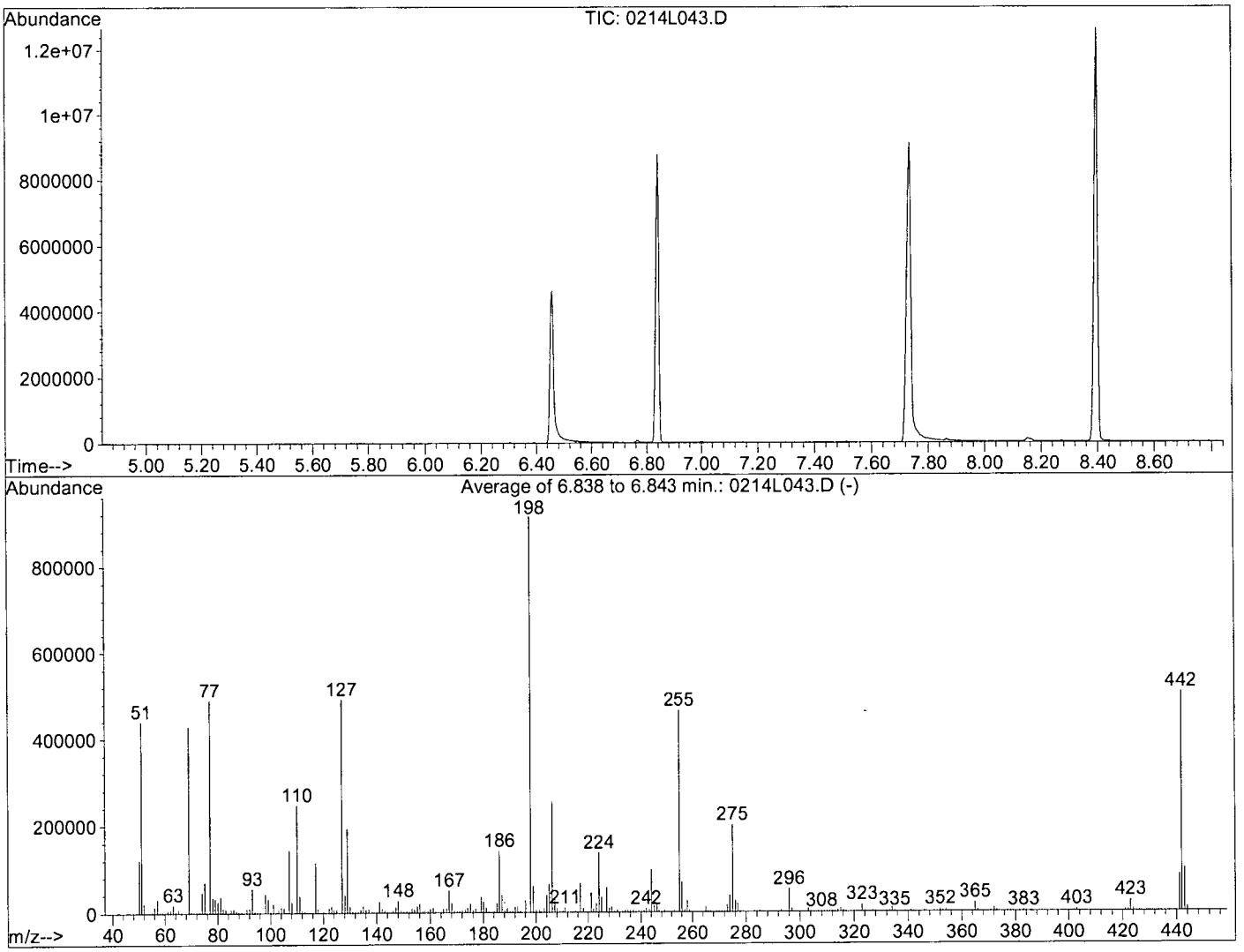
Spectrum Information: Average of 6.843 to 6.848 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	447387	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	428864	PASS
70	69	0.00	2	0.6	2641	PASS
127	198	40	60	53.8	498293	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	925547	PASS
199	198	5	9	6.6	60896	PASS
275	198	10	30	21.2	196203	PASS
365	198	1	100	2.2	20432	PASS
441	443	0.01	100	85.1	82909	PASS
442	198	40	150	55.6	514752	PASS
443	442	17	23	18.9	97437	PASS

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L043.D Vial: 43
Acq On : 16 Feb 17 9:23 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.838 to 6.843 min.

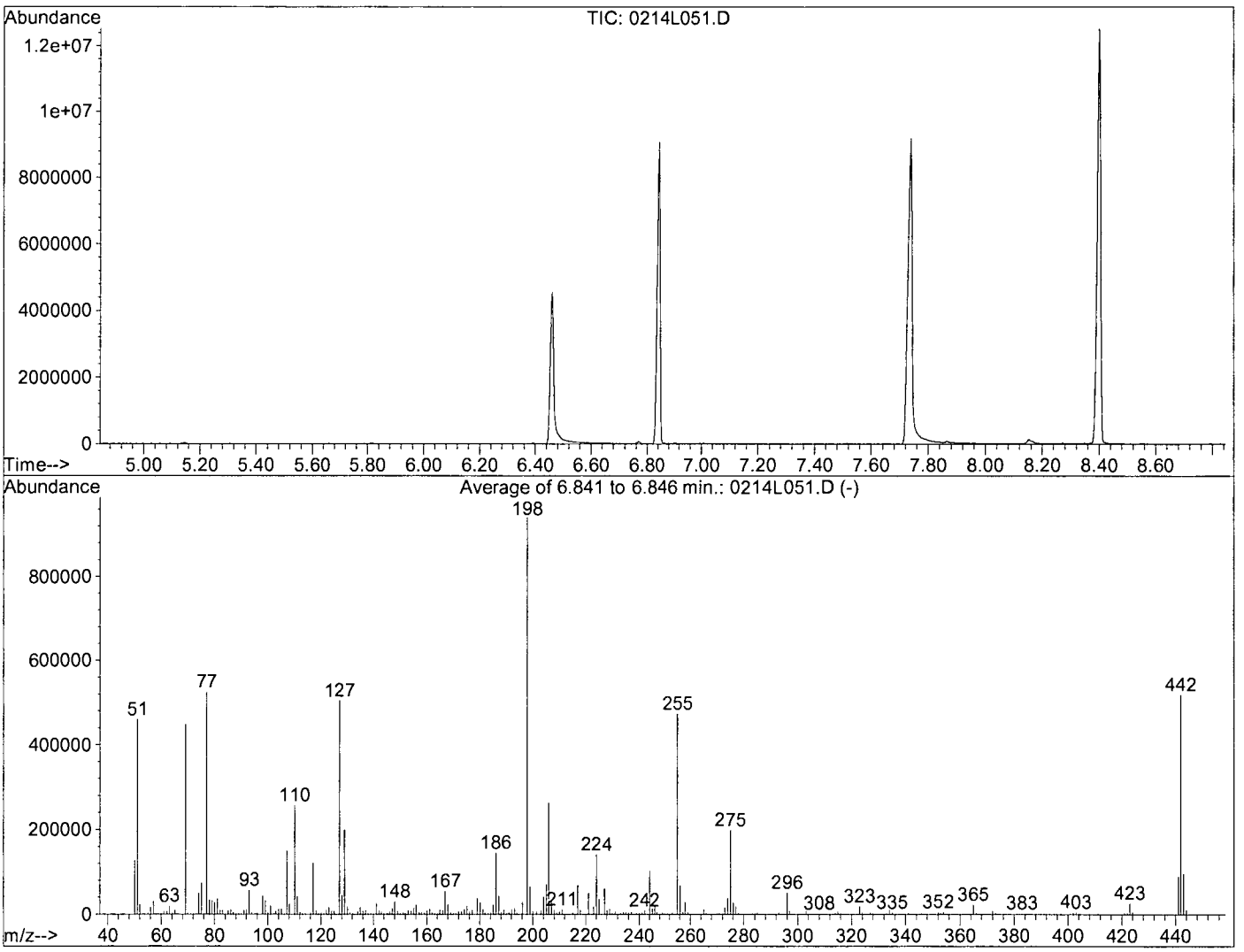
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.0	440056	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	427947	PASS
70	69	0.00	2	0.5	2291	PASS
127	198	40	60	53.7	491605	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	915904	PASS
199	198	5	9	6.4	59035	PASS
275	198	10	30	21.8	199573	PASS
365	198	1	100	2.2	20008	PASS
441	443	0.01	100	86.2	84077	PASS
442	198	40	150	55.2	505941	PASS
443	442	17	23	19.3	97531	PASS

0214L043.D DFTPP2.M Tue Feb 21 11:13:05 2017

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L051.D Vial: 51
Acq On : 16 Feb 17 15:14 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1698

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	459274	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	447467	PASS
70	69	0.00	2	0.5	2397	PASS
127	198	40	60	53.6	504661	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	941077	PASS
199	198	5	9	6.8	63688	PASS
275	198	10	30	21.1	198272	PASS
365	198	1	100	2.2	20901	PASS
441	443	0.01	100	93.7	89243	PASS
442	198	40	150	55.2	519445	PASS
443	442	17	23	18.3	95293	PASS

0214L051.D DFTPP2.M Tue Feb 21 11:14:52 2017

8270 PAH SIM Standard Curve

PREP DATE:	2/14/16 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**6/14/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		9/12/16	7/29/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		9/12/16	7/29/17	10	20	0	0	0	0	0	0
O2ST	BNA SURR.	100/200		1/12/17	7/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56153			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM 2ND SRC			Prep: 02/14/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	VARIOUS	01/24/17	06/24/17	5
	Methylene Chloride				195
o2si	SV Internal Standar	2000	10/10/16	10/10/17	4
LOT#	XA10079V-35507			Final Vol.	204

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/03/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	6/3/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	6/22/16	6/22/17	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36758	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 12/22/16 -R.H.	
EX: 12/22/17	

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170209A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 EXP 12-22-17		Surrogate ID 1	8270 Surrogate 1-12-17 EXP 7-12-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 10:40	
Spiked ID 8			Ext. End Time:	02/10/17 14:30	
			GC Requires Extract By:	**02/14/17 0:00**	

pH1	2	2/09/17 11:10:00 AM	Water Bath Temp Criteria	75,70 °C
pH2	14	02/09/17 1:00:00 PM		
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	
2	170209A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	
3	AZ49656	AZ49656W09			0.050	1 equip	1050 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W09			0.050	1 equip	1000 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W05			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W23	0.0250	1	0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W21	0.0250	1	0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W33			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W06			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W12			0.050	1 equip	1070 E-WB6	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W09			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W08			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W13			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W10			0.050	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK

Ky 2/10/17

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	5:46
Refrigerator	Ksb W8

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,DL
Extraction	JR,DL
Concentration	KY

Modified	02/10/17 2:35:52 PM

Reviewed By: Ke382 **Date** 2/10/17

Injection Log

Directory: M:\LINUS\DATA\L170214\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0214L002.D	1	SV Tune 02/09/17	water	14 Feb 17 18:03
2	3	0214L003.D	1	0.1 SIM 02/14/17	water	14 Feb 17 18:21
3	4	0214L004.D	1	0.2 SIM 02/14/17	water	14 Feb 17 18:53
4	5	0214L005.D	1	0.5 SIM 02/14/17	water	14 Feb 17 19:26
5	6	0214L006.D	1	1.0 SIM 02/14/17	water	14 Feb 17 19:59
6	7	0214L007.D	1	5.0 SIM 02/14/17	water	14 Feb 17 20:32
7	8	0214L008.D	1	10 SIM 02/14/17	water	14 Feb 17 21:04
8	9	0214L009.D	1	50 SIM 02/14/17	water	14 Feb 17 21:37
9	10	0214L010.D	1	100 SIM 02/14/17	water	14 Feb 17 22:10
10	11	0214L011.D	1	SS SIM 02/14/17	water	14 Feb 17 22:43
11	29	0214L029.D	1	SV Tune 2/9/17	water	15 Feb 17 12:48
12	30	0214L030.D	1	5.0 SIM 02/14/17	water	15 Feb 17 13:05
13	31	0214L031.D	1	170209A BLK 1/1000	water	15 Feb 17 13:38
14	32	0214L032.D	1	170209A LCS-1 1/1000	water	15 Feb 17 14:11
15	36	0214L036.D	0.934579	AZ49674W23 MS-1 1/1070	water	15 Feb 17 16:22
16	38	0214L038.D	0.934579	AZ49674W21 MSD-1 1/1070	water	15 Feb 17 17:28
17	39	0214L039.D	0.934579	AZ49674W33 1/1070	water	15 Feb 17 18:00
18	40	0214L040.D	0.934579	AZ49676W06 1/1070	water	15 Feb 17 18:33
19	41	0214L041.D	0.934579	AZ49679W12 1/1070	water	15 Feb 17 19:06
20	43	0214L043.D	1	SV Tune 2/9/17	water	16 Feb 17 9:23
21	44	0214L044.D	1	5.0 SIM 02/14/17	water	16 Feb 17 9:56
22	47	0214L047.D	0.934579	AZ49683W08 1/1070	water	16 Feb 17 13:02
23	48	0214L048.D	0.934579	AZ49685W13 1/1070	water	16 Feb 17 13:35
24	49	0214L049.D	0.934579	AZ49686W10 1/1070	water	16 Feb 17 14:06
25	51	0214L051.D	1	SV Tune 2/9/17	water	16 Feb 17 15:14
26	52	0214L052.D	1	5.0 SIM 02/14/17	water	16 Feb 17 15:31
27	53	0214L053.D	0.934579	AZ49682W09 1/1070	water	16 Feb 17 16:04
28	59	0214L059.D	1	5.0 SIM 02/14/17	water	16 Feb 17 19:05

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216150**
Batch ID: #87DC5-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.7	43-140			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	52.8	44-119			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUOROPHENO	41.9	19-119			%	02/09/17	02/13/17
BLANK	SURROGATE: NITROBENZENE-	54.1	44-120			%	02/09/17	02/13/17
BLANK	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	02/09/17	02/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	68.9	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y138
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 12:32:43 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 02/13/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	43-140	67.7		44-119	52.8	
170209A-LCS	Lab Control Spike	43-140	65.0		44-119	57.1	
AZ49674-MS	Matrix Spike	43-140	75.0		44-119	65.0	
AZ49674-MSD	Matrix SpikeD	43-140	72.5		44-119	58.0	
AZ49674	ERH205	43-140	61.7		44-119	53.5	
AZ49676	ERH206	43-140	72.8		44-119	62.6	
AZ49679	ERH212	43-140	59.0		44-119	52.5	
AZ49682	ERH214	43-140	59.2		44-119	53.0	
AZ49683	ERH228	43-140	56.6		44-119	52.4	
AZ49685	ERH220	43-140	60.3		44-119	55.2	
AZ49686	ERH221	43-140	65.0		44-119	54.7	

Comments: Batch: #87DC5-170209A

Printed: 02/14/17 12:32:44 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	19-119	41.9		44-120	54.1	
170209A-LCS	Lab Control Spike	19-119	49.5		44-120	59.9	
AZ49674-MS	Matrix Spike	19-119	49.5		44-120	71.5	
AZ49674-MSD	Matrix SpikeD	19-119	47.6		44-120	65.8	
AZ49674	ERH205	19-119	46.3		44-120	56.6	
AZ49676	ERH206	19-119	52.1		44-120	64.3	
AZ49679	ERH212	19-119	46.0		44-120	59.3	
AZ49682	ERH214	19-119	44.3		44-120	55.6	
AZ49683	ERH228	19-119	43.2		44-120	53.8	
AZ49685	ERH220	19-119	42.2		44-120	57.0	
AZ49686	ERH221	19-119	44.7		44-120	57.7	

Comments: Batch: #87DC5-170209A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209A-BLK	Blank	10-115	29.1		50-134	68.9	
170209A-LCS	Lab Control Spike	10-115	31.4		50-134	65.3	
AZ49674-MS	Matrix Spike	10-115	31.1		50-134	73.3	
AZ49674-MSD	Matrix SpikeD	10-115	31.1		50-134	73.4	
AZ49674	ERH205	10-115	28.6		50-134	64.8	
AZ49676	ERH206	10-115	32.9		50-134	71.7	
AZ49679	ERH212	10-115	28.6		50-134	62.5	
AZ49682	ERH214	10-115	25.9		50-134	62.1	
AZ49683	ERH228	10-115	27.4		50-134	58.2	
AZ49685	ERH220	10-115	27.0		50-134	58.4	
AZ49686	ERH221	10-115	29.2		50-134	66.2	

Comments: Batch: #87DC5-170209A

Printed: 02/14/17 12:32:45 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170209W-49674 LCS - 216150**
Batch ID: #87DC5-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.3	36.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	130	65.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	57.1	57.1	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	99.1	49.5	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	59.9	59.9	44-120
SURROGATE: PHENOL-D6 (S)	200	62.8	31.4	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.3	65.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Yoda
Run :	0123Y139
Initials :	MA

Printed: 02/14/17 12:32:46 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170209W-49674 MS - 216150**
Batch ID: #87DC5-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	19.5	19.1	39.0	38.2	10-115	2.1	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	150	145	75.0	72.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	65.0	58.0	65.0	58.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	99.1	95.2	49.5	47.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	71.5	65.8	71.5	65.8	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	62.2	62.2	31.1	31.1	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	73.3	73.4	73.3	73.4	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/13/17	02/13/17
Instrument :	Yoda	Yoda
Run :	0123Y143	0123Y144
Initials :	MA	

Printed: 02/14/17 12:32:49 PM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Yoda
Time Analyzed: 1325

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	0123Y138	02/13/17 1325
170209A-LCS	Lab Control Spike	0123Y139	02/13/17 1356
170209A-MS	Matrix Spike	0123Y143	02/13/17 1556
170209A-MSD	Matrix SpikeD	0123Y144	02/13/17 1627
AZ49674	ERH205	0123Y145	02/13/17 1657
AZ49676	ERH206	0123Y146	02/13/17 1727
AZ49679	ERH212	0123Y147	02/13/17 1757
AZ49682	ERH214	0123Y148	02/13/17 1827
AZ49683	ERH228	0123Y149	02/13/17 1857
AZ49685	ERH220	0123Y150	02/13/17 1927
AZ49686	ERH221	0123Y151	02/13/17 1957

Comments: Batch: #87DC5-170209A

Printed: 02/14/17 12:32:50 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 12/15/16

SDG No: 82121
Date Analyzed: 02/13/17
Instrument: Yoda
Time Analyzed: 12:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 2/10/17	0123Y137.D	02/13/17 12:25
2	Blank	170209A BLK 1/1000	0123Y138.D	02/13/17 13:25
3	Lab Control Spike	170209A LCS-1 1/1000	0123Y139.D	02/13/17 13:56
4		AZ49674W28 MS-1 1/10	0123Y143.D	02/13/17 15:56
5		AZ49674W30 MSD-1 1/1	0123Y144.D	02/13/17 16:27
6	ERH205	AZ49674W24 1/1070	0123Y145.D	02/13/17 16:57
7	ERH206	AZ49676W09 1/1070	0123Y146.D	02/13/17 17:27
8	ERH212	AZ49679W13 1/1050	0123Y147.D	02/13/17 17:57
9	ERH214	AZ49682W11 1/1070	0123Y148.D	02/13/17 18:27
10	ERH228	AZ49683W05 1/1070	0123Y149.D	02/13/17 18:57
11	ERH220	AZ49685W16 1/1070	0123Y150.D	02/13/17 19:27
12	ERH221	AZ49686W08 1/1000	0123Y151.D	02/13/17 19:57
13		50ug/ml SVOC 2/09/17	0123Y158.D	02/13/17 23:26
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	45.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	53.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	25.1
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	79.9
442	50 - 150% of mass 198	100.5
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82121

Lab File ID (Standard): 0123Y007.D Date Analyzed: 01/23/17

Instrument ID: Yoda Time Analyzed: 12:32

GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)			Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 2/10/17	170752	4.82	726736	6.26	429658	8.26
02	170209A BLK 1/1000	151858	4.83	629755	6.26	360186	8.26
03	170209A LCS-1 1/1000	167743	4.83	753058	6.26	441218	8.26
04	AZ49674W28 MS-1 1/1(	173997	4.83	750852	6.26	411383	8.27
05	AZ49674W30 MSD-1 1/	175948	4.83	767739	6.26	457914	8.26
06	AZ49674W24 1/1070	173351	4.83	768803	6.25	451776	8.26
07	AZ49676W09 1/1070	148337	4.83	669618	6.26	386411	8.26
08	AZ49679W13 1/1050	165369	4.82	695780	6.25	415921	8.27
09	AZ49682W11 1/1070	157603	4.82	710956	6.25	416454	8.27
10	AZ49683W05 1/1070	173603	4.83	776879	6.26	453211	8.26
11	AZ49685W16 1/1070	173438	4.83	775302	6.26	451514	8.26
12	AZ49686W08 1/1000	175319	4.83	764177	6.26	439235	8.26
13	50ug/ml SVOC 2/09/17	295621	4.82	1179490	6.26	724686	8.27
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82121
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 2/10/17	787250	9.99	770648	13.06	766965	14.70
02	170209A BLK 1/1000	652756	9.99	651309	13.06	559680	14.69
03	170209A LCS-1 1/1000	817558	9.99	799914	13.06	789605	14.70
04	AZ49674W28 MS-1 1/1(	753386	9.99	745180	13.06	761253	14.70
05	AZ49674W30 MSD-1 1/	840048	9.99	850051	13.06	828192	14.70
06	AZ49674W24 1/1070	838595	9.99	829567	13.06	825350	14.69
07	AZ49676W09 1/1070	712070	9.99	719083	13.06	668581	14.70
08	AZ49679W13 1/1050	747777	9.99	736963	13.06	718245	14.69
09	AZ49682W11 1/1070	780201	9.99	773698	13.06	823798	14.69
10	AZ49683W05 1/1070	844830	9.99	836592	13.06	846044	14.69
11	AZ49685W16 1/1070	837460	9.99	854081	13.06	853821	14.70
12	AZ49686W08 1/1000	831198	9.99	828591	13.06	822530	14.69
13	50ug/ml SVOC 2/09/17	1413970	9.99	1254620	13.07	845440	14.70
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	61.7	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	53.5	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	46.3	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	56.6	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.6	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	64.8	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y145
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y145.D Vial: 45
Acq On : 13 Feb 17 16:57 Operator: MA
Sample : AZ49674W24 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	173351	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	768803	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	451776	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	838595	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	829567	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	825350	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	506421	86.55352 ppb	0.00
Spiked Amount 186.916			Recovery	= 46.306%	
5) Phenol-D6 (S)	4.47	99	415454	53.36989 ppb	0.01
Spiked Amount 186.916			Recovery	= 28.553%	
21) Nitrobenzene-D5(S)	5.46	82	441247	52.89081 ppb	0.00
Spiked Amount 93.458			Recovery	= 56.593%	
45) 2-Fluorobiphenyl(S)	7.50	172	775027	49.97753 ppb	0.00
Spiked Amount 93.458			Recovery	= 53.476%	
63) 2,4,6-Tribromophenol(S)	9.19	330	258171	115.38351 ppb	0.00
Spiked Amount 186.916			Recovery	= 61.730%	
81) Terphenyl-D14(S)	11.84	244	1156585	60.57926 ppb	0.00
Spiked Amount 93.458			Recovery	= 64.820%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

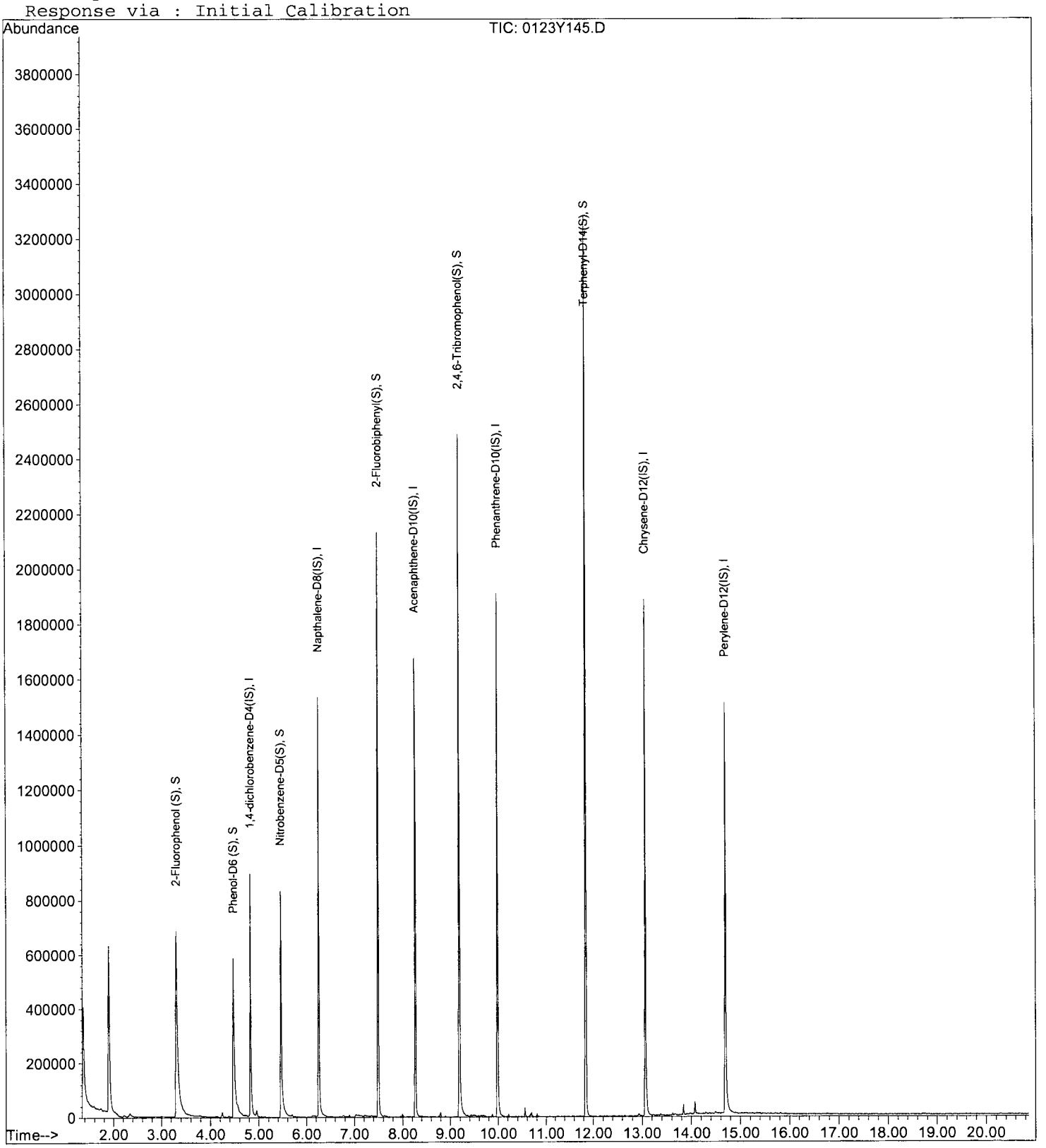
Data File : M:\YODA\DATA\Y170123\0123Y145.D
Acq On : 13 Feb 17 16:57
Sample : AZ49674W24 1/1070
Misc : water

Vial: 45
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 13 17:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	72.8	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	62.6	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	52.1	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	64.3	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	32.9	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	71.7	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y146
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y146.D Vial: 46
Acq On : 13 Feb 17 17:27 Operator: MA
Sample : AZ49676W09 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 14 9:06 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	148337	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	669618	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	386411	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	712070	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	719083	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	668581	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	487186	97.30723 ppb	-0.02
Spiked Amount 186.916			Recovery	= 52.059%	
5) Phenol-D6 (S)	4.47	99	409600	61.49088 ppb	0.00
Spiked Amount 186.916			Recovery	= 32.898%	
21) Nitrobenzene-D5(S)	5.46	82	436539	60.07723 ppb	0.00
Spiked Amount 93.458			Recovery	= 64.282%	
45) 2-Fluorobiphenyl(S)	7.49	172	775823	58.49177 ppb	0.00
Spiked Amount 93.458			Recovery	= 62.586%	
63) 2,4,6-Tribromophenol(S)	9.19	330	260460	136.09791 ppb	0.00
Spiked Amount 186.916			Recovery	= 72.812%	
81) Terphenyl-D14(S)	11.85	244	1109722	67.05536 ppb	0.00
Spiked Amount 93.458			Recovery	= 71.749%	

Target Compounds Qvalue

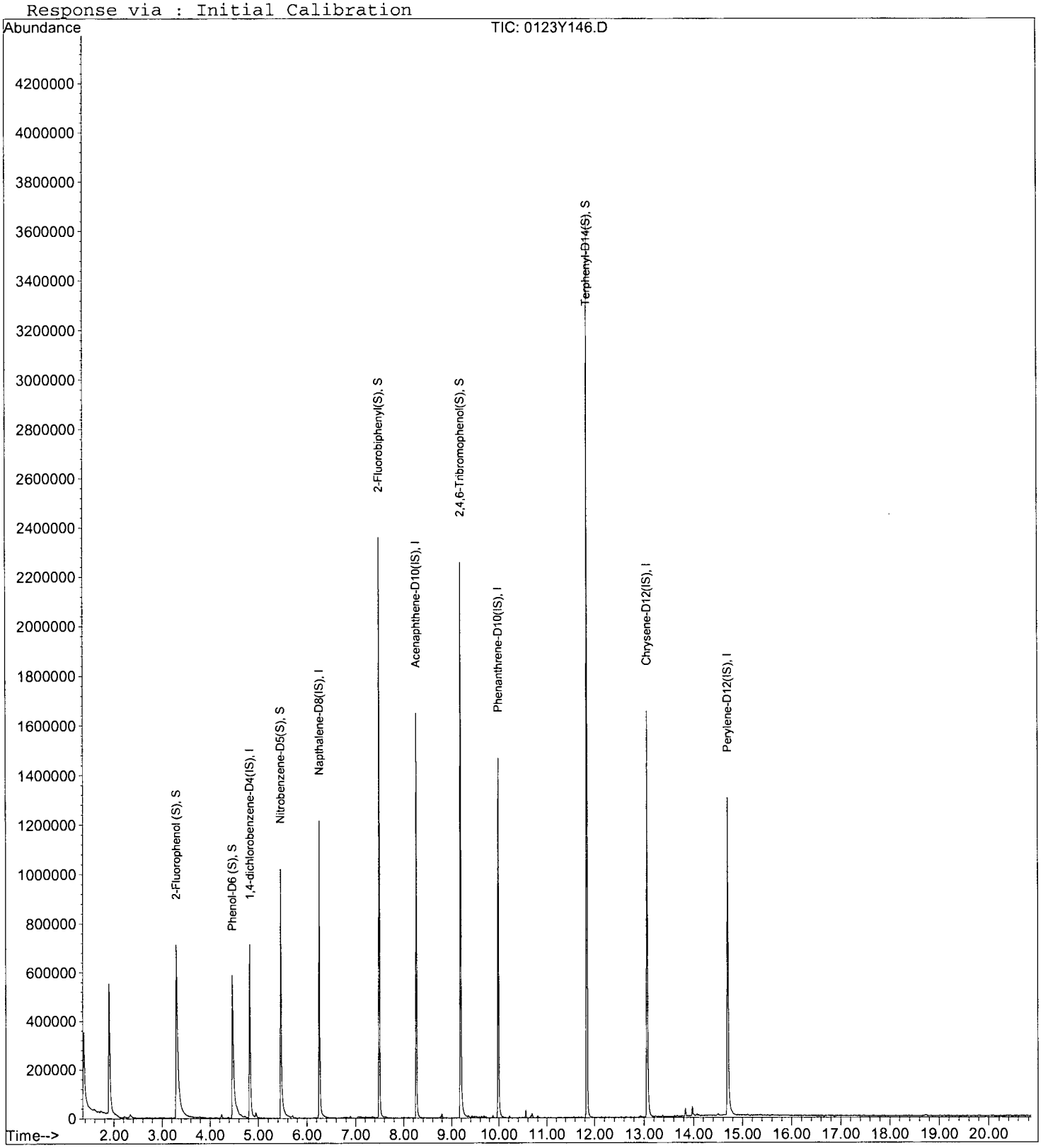
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y146.D Vial: 46
Acq On : 13 Feb 17 17:27 Operator: MA
Sample : AZ49676W09 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 14 9:06 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.0	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	52.5	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	46.0	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	59.3	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.6	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.5	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y147
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y147.D Vial: 47
Acq On : 13 Feb 17 17:57 Operator: MA
Sample : AZ49679W13 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Feb 14 9:06 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	165369	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	695780	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	415921	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	747777	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	736963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	718245	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	480277	87.68621 ppb	-0.01
Spiked Amount 190.476			Recovery	= 46.035%	
5) Phenol-D6 (S)	4.47	99	397399	54.53391 ppb	0.00
Spiked Amount 190.476			Recovery	= 28.630%	
21) Nitrobenzene-D5(S)	5.46	82	418171	56.44035 ppb	0.00
Spiked Amount 95.238			Recovery	= 59.262%	
45) 2-Fluorobiphenyl(S)	7.50	172	700624	50.00916 ppb	0.00
Spiked Amount 95.238			Recovery	= 52.509%	
63) 2,4,6-Tribromophenol(S)	9.19	330	227253	112.42230 ppb	0.00
Spiked Amount 190.476			Recovery	= 59.022%	
81) Terphenyl-D14(S)	11.84	244	991372	59.56389 ppb	0.00
Spiked Amount 95.238			Recovery	= 62.542%	

Target Compounds Qvalue

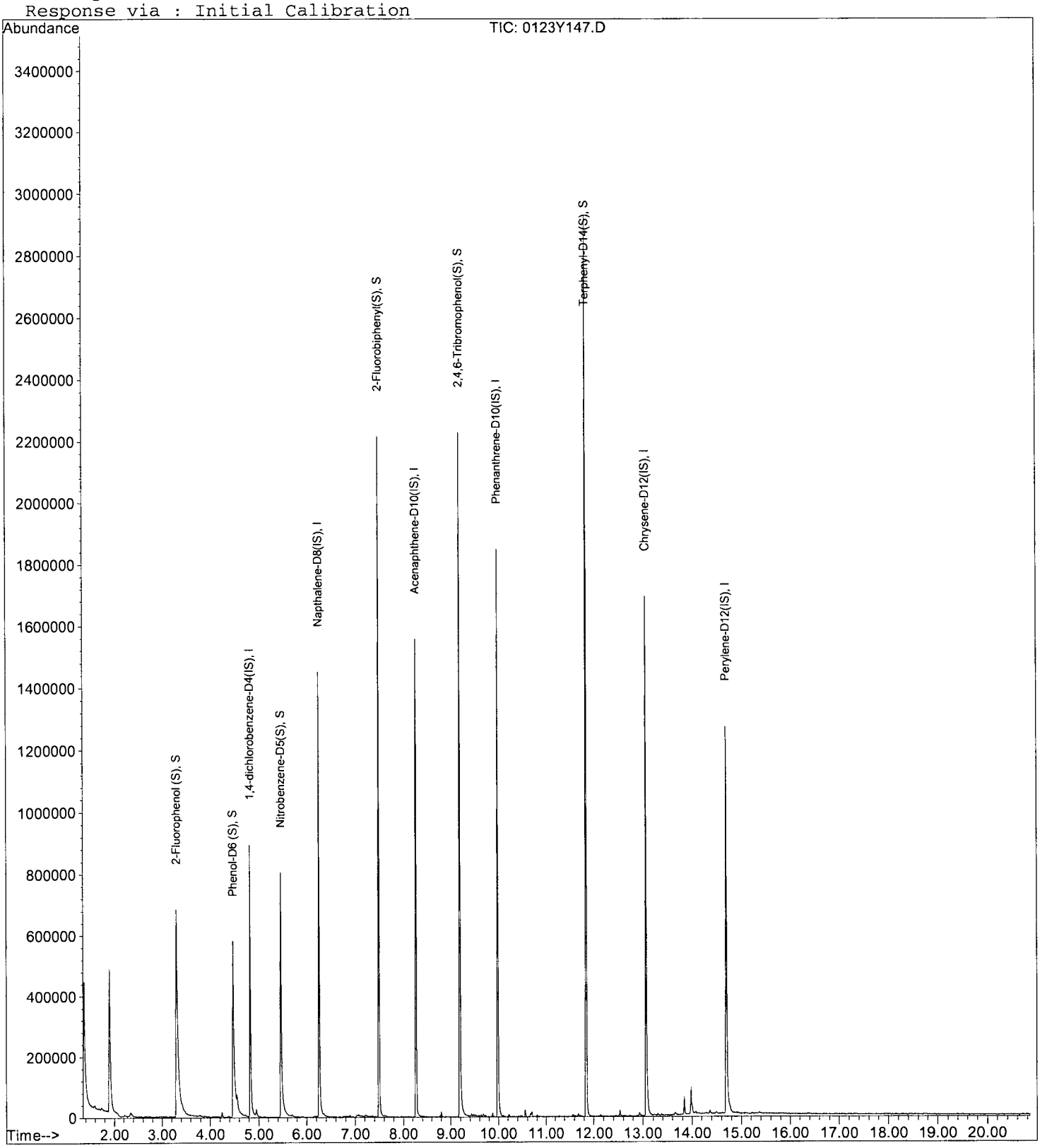
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y147.D Vial: 47
Acq On : 13 Feb 17 17:57 Operator: MA
Sample : AZ49679W13 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Feb 14 9:06 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.2	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	53.0	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	44.3	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	55.6	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.9	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.1	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y148
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y148.D Vial: 48
Acq On : 13 Feb 17 18:27 Operator: MA
Sample : AZ49682W11 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 14 9:07 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	157603	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	710956	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	416454	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	780201	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	773698	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	823798	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	440948	82.89393 ppb	-0.01
Spiked Amount 186.916			Recovery	= 44.348%	
5) Phenol-D6 (S)	4.47	99	343100	48.47931 ppb	0.00
Spiked Amount 186.916			Recovery	= 25.936%	
21) Nitrobenzene-D5(S)	5.46	82	401104	51.99101 ppb	0.00
Spiked Amount 93.458			Recovery	= 55.630%	
45) 2-Fluorobiphenyl(S)	7.50	172	708090	49.53396 ppb	0.00
Spiked Amount 93.458			Recovery	= 53.001%	
63) 2,4,6-Tribromophenol(S)	9.19	330	228242	110.65943 ppb	0.00
Spiked Amount 186.916			Recovery	= 59.203%	
81) Terphenyl-D14(S)	11.84	244	1033251	58.02734 ppb	0.00
Spiked Amount 93.458			Recovery	= 62.089%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

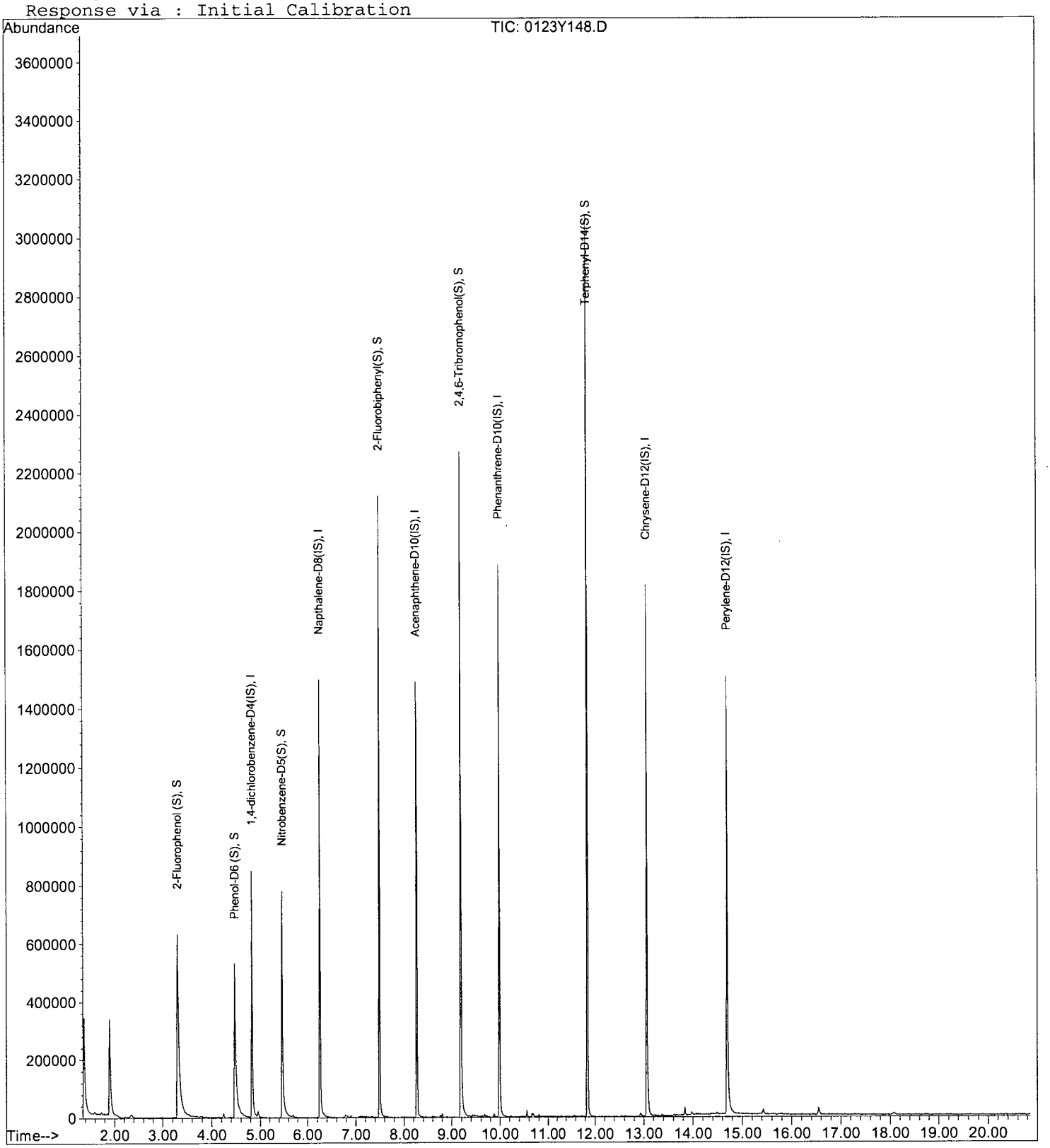
Data File : M:\YODA\DATA\Y170123\0123Y148.D
Acq On : 13 Feb 17 18:27
Sample : AZ49682W11 1/1070
Misc : water

Vial: 48
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 14 9:07 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	56.6	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	52.4	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	43.2	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	53.8	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	27.4	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	58.2	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y149
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y149.D Vial: 49
Acq On : 13 Feb 17 18:57 Operator: MA
Sample : AZ49683W05 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 14 9:08 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	173603	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	776879	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	453211	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	844830	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	836592	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	846044	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	472996	80.72351 ppb	0.00
Spiked Amount 186.916			Recovery	= 43.187%	
5) Phenol-D6 (S)	4.47	99	399485	51.24405 ppb	0.01
Spiked Amount 186.916			Recovery	= 27.416%	
21) Nitrobenzene-D5(S)	5.46	82	424009	50.29626 ppb	0.00
Spiked Amount 93.458			Recovery	= 53.817%	
45) 2-Fluorobiphenyl(S)	7.50	172	761491	48.94924 ppb	0.00
Spiked Amount 93.458			Recovery	= 52.375%	
63) 2,4,6-Tribromophenol(S)	9.19	330	237491	105.80510 ppb	0.00
Spiked Amount 186.916			Recovery	= 56.606%	
81) Terphenyl-D14(S)	11.84	244	1047937	54.42767 ppb	0.00
Spiked Amount 93.458			Recovery	= 58.238%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

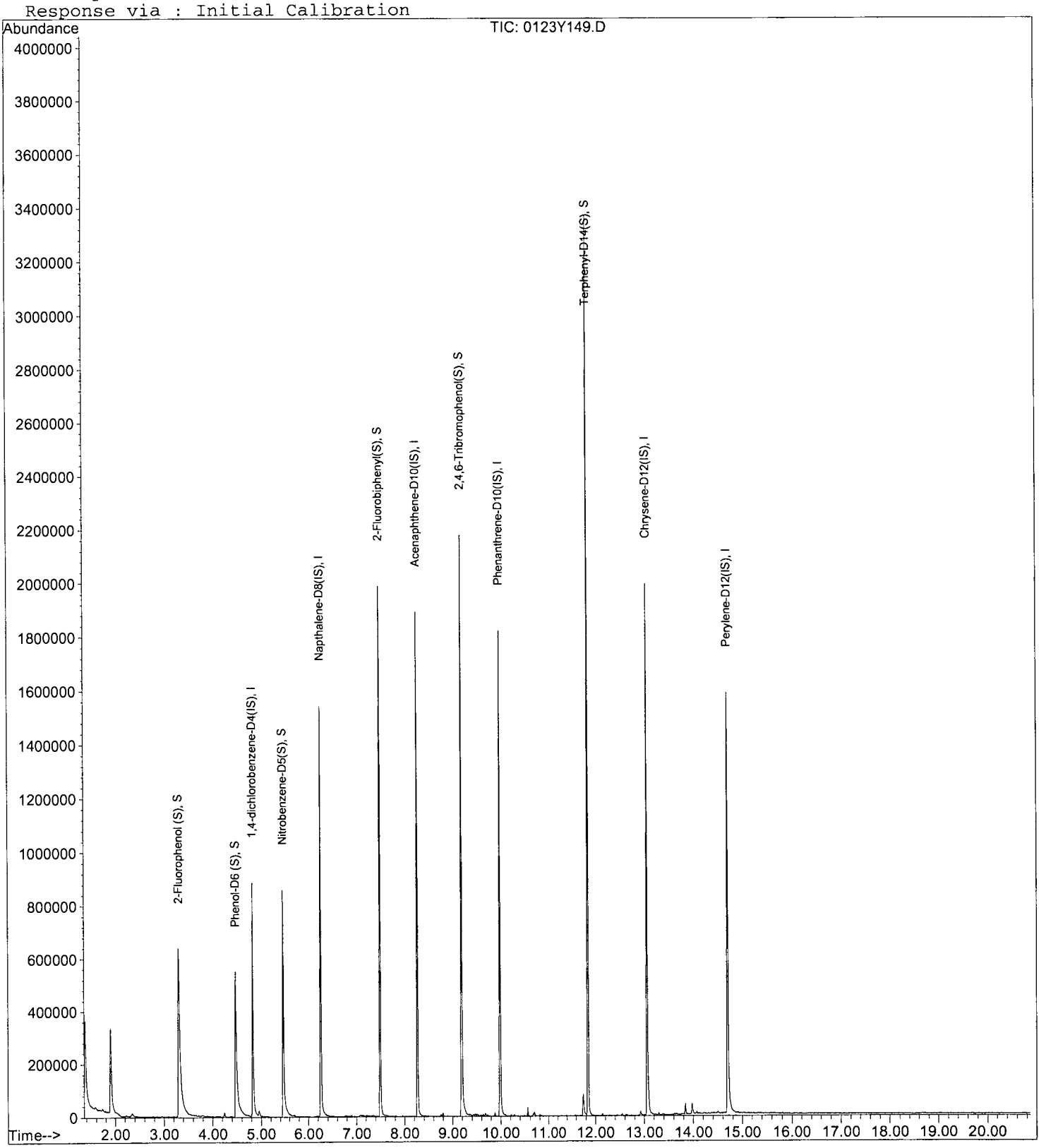
Data File : M:\YODA\DATA\Y170123\0123Y149.D
Acq On : 13 Feb 17 18:57
Sample : AZ49683W05 1/1070
Misc : water

Vial: 49
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 14 9:08 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	60.3	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	55.2	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.2	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.0	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	27.0	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	58.4	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y150
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:51 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y150.D Vial: 50
Acq On : 13 Feb 17 19:27 Operator: MA
Sample : AZ49685W16 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 14 9:09 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	173438	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	775302	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	451514	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	837460	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	854081	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	853821	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	461944	78.91233 ppb	0.00
Spiked Amount 186.916			Recovery	= 42.218%	
5) Phenol-D6 (S)	4.47	99	392910	50.44859 ppb	0.01
Spiked Amount 186.916			Recovery	= 26.990%	
21) Nitrobenzene-D5(S)	5.46	82	447784	53.22451 ppb	0.00
Spiked Amount 93.458			Recovery	= 56.951%	
45) 2-Fluorobiphenyl(S)	7.49	172	799132	51.56190 ppb	0.00
Spiked Amount 93.458			Recovery	= 55.171%	
63) 2,4,6-Tribromophenol(S)	9.19	330	252197	112.77909 ppb	0.00
Spiked Amount 186.916			Recovery	= 60.337%	
81) Terphenyl-D14(S)	11.85	244	1073181	54.59743 ppb	0.00
Spiked Amount 93.458			Recovery	= 58.419%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

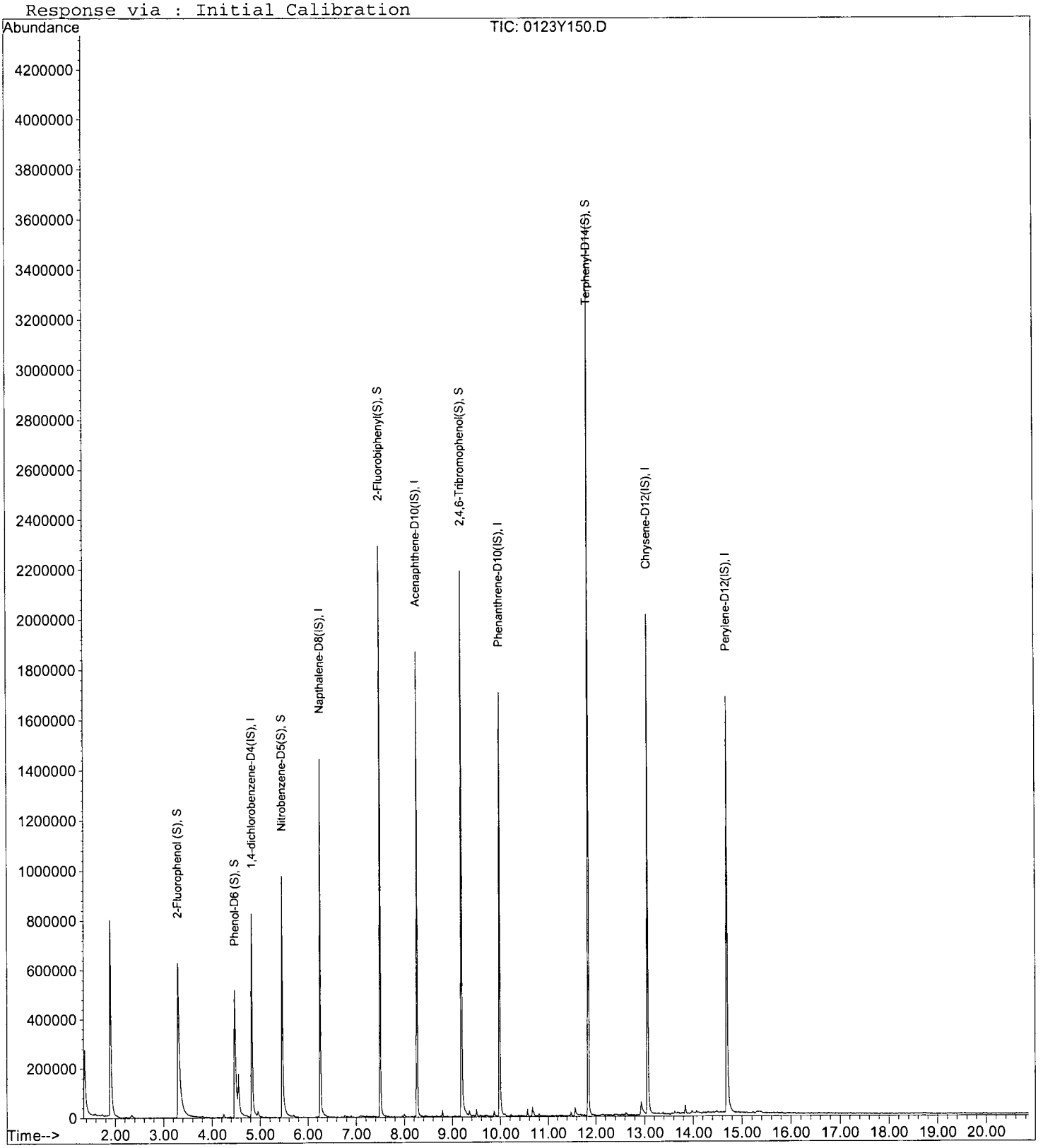
Data File : M:\YODA\DATA\Y170123\0123Y150.D
Acq On : 13 Feb 17 19:27
Sample : AZ49685W16 1/1070
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 14 9:09 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH221
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49686
QCG: #87DC5-170209A-216150

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	65.0	43-140			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.7	44-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	44.7	19-119			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.7	44-120			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	29.2	10-115			%	02/09/17	02/13/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	66.2	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y151
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/14/17 12:32:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y151.D Vial: 51
Acq On : 13 Feb 17 19:57 Operator: MA
Sample : AZ49686W08 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 9:10 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	175319	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	764177	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	439235	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	831198	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	828591	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	822530	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	493985	89.32399 ppb	0.00
Spiked Amount 200.000			Recovery	= 44.662%	
5) Phenol-D6 (S)	4.47	99	429844	58.42055 ppb	0.01
Spiked Amount 200.000			Recovery	= 29.211%	
21) Nitrobenzene-D5(S)	5.46	82	447464	57.73798 ppb	0.00
Spiked Amount 100.000			Recovery	= 57.738%	
45) 2-Fluorobiphenyl(S)	7.49	172	771308	54.73889 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.739%	
63) 2,4,6-Tribromophenol(S)	9.19	330	264382	130.04042 ppb	0.00
Spiked Amount 200.000			Recovery	= 65.020%	
81) Terphenyl-D14(S)	11.84	244	1179458	66.17959 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

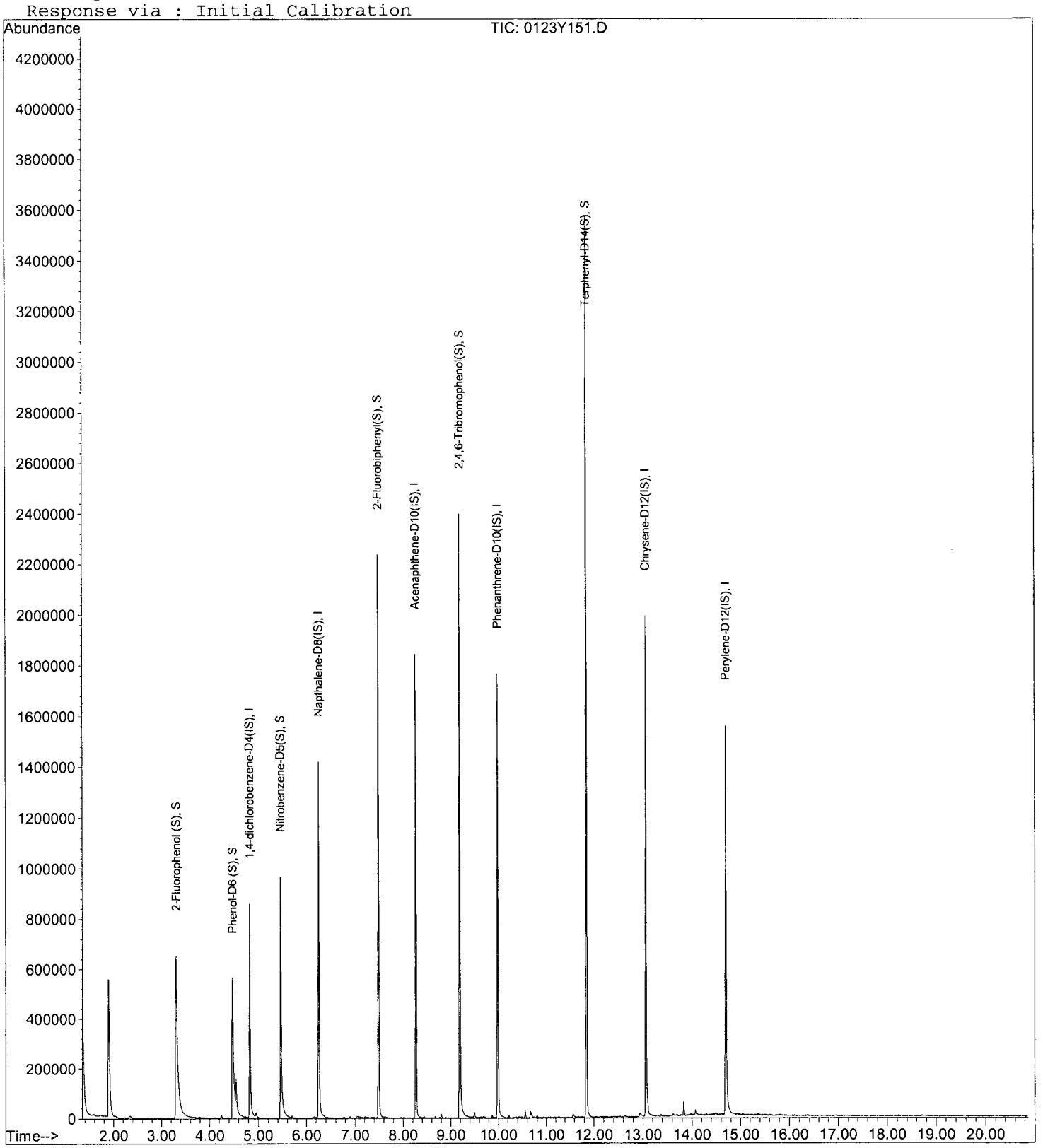
Data File : M:\YODA\DATA\Y170123\0123Y151.D
Acq On : 13 Feb 17 19:57
Sample : AZ49686W08 1/1000
Misc : water

Vial: 51
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 9:10 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003 D	0123Y004.D	0123Y005.D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41) Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43) 2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44) 2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46) 1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47) 2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48) 2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49) Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50) 2,6-DNT	8.07	165	13516	4.34276	ppb		98
51) Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52) 3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53) Acenaphthene	8.30	154	61118	5.27635	ppb		98
54) 2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55) 4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56) Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57) 2,4-DNT	8.55	165	18690	4.26757	ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59) Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60) 4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61) Fluorene	8.90	166	69616	5.27556	ppb		96
62) 4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65) 4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66) Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67) n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70) Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71) Atrazine	9.68	200	7883	2.10443	ppb		92
72) Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73) Phenanthrene	10.02	178	99531	5.00174	ppb		99
74) Anthracene	10.08	178	104078	5.06633	ppb		99
75) Carbazol	10.29	167	87488	4.74701	ppb		100
76) Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77) Fluoranthene	11.40	202	106801	4.84818	ppb		99
79) Benzidine	11.59	184	41695	5.01562	ppb		98
80) Pyrene	11.66	202	111459	4.57558	ppb		97
82) Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83) 3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84) Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85) Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86) Chrysene	13.10	228	115566	5.28777	ppb		99
87) Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89) Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90) Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91) Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93) Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94) Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

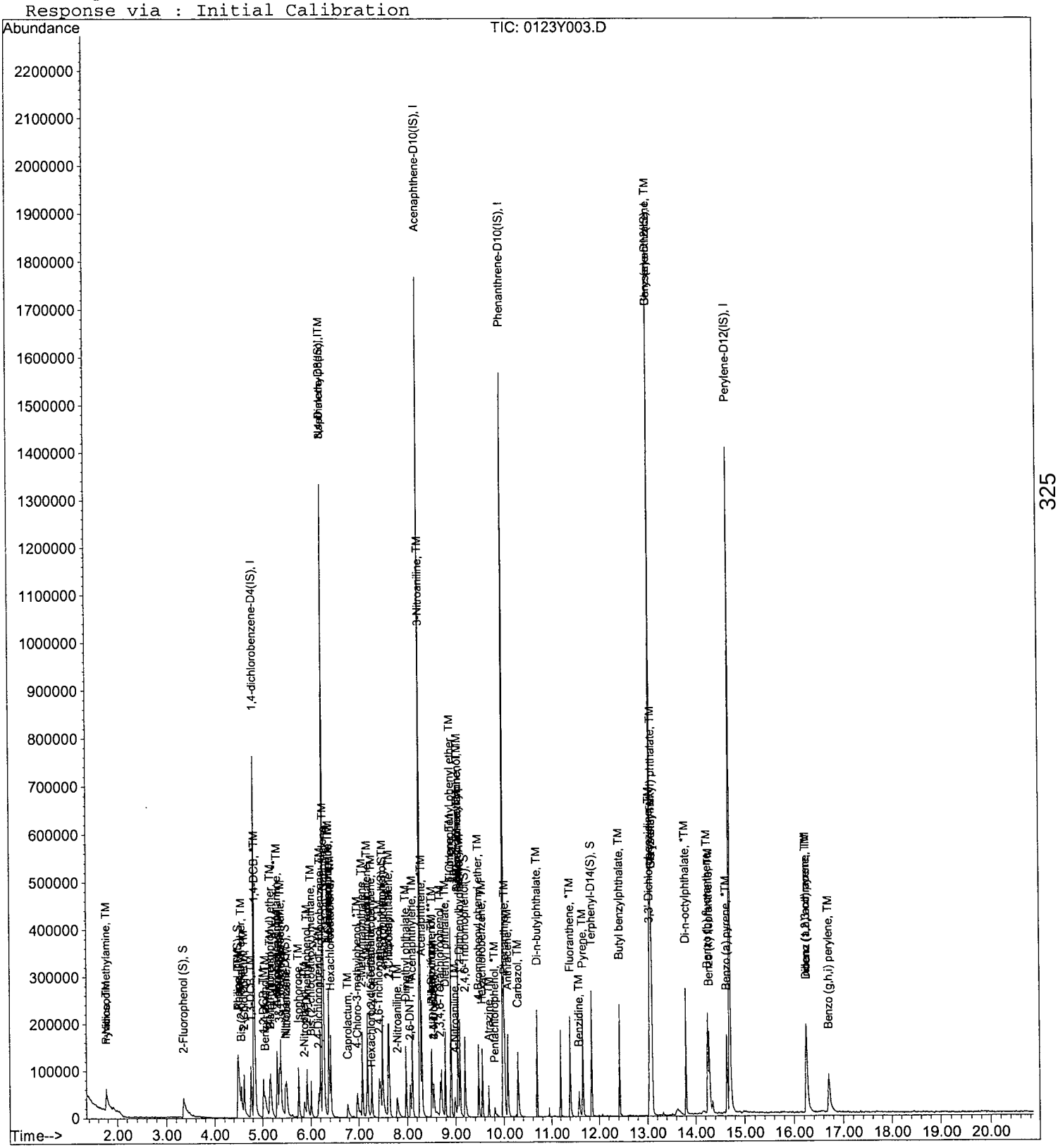
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933	ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860	ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861	ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944	ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646	ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318	ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796	ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690	ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723	ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118	ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937	ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420	ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425	ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231	ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926	ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904	ppb		86
61) Fluorene	8.90	166	136880	10.19080	ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103	ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238	ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238	ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736	ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230	ppb		89
71) Atrazine	9.69	200	17574	4.54512	ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148	ppb		93
73) Phenanthrene	10.01	178	207115	10.08340	ppb		100
74) Anthracene	10.08	178	215698	10.17215	ppb		99
75) Carbazol	10.28	167	186612	9.80942	ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533	ppb		100
77) Fluoranthene	11.40	202	215194	9.46381	ppb		99
79) Benzidine	11.58	184	88604	10.34478	ppb		98
80) Pyrene	11.66	202	225558	8.98704	ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716	ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727	ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157	ppb		98
86) Chrysene	13.10	228	218169	9.68864	ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023	ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764	ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396	ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464	ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

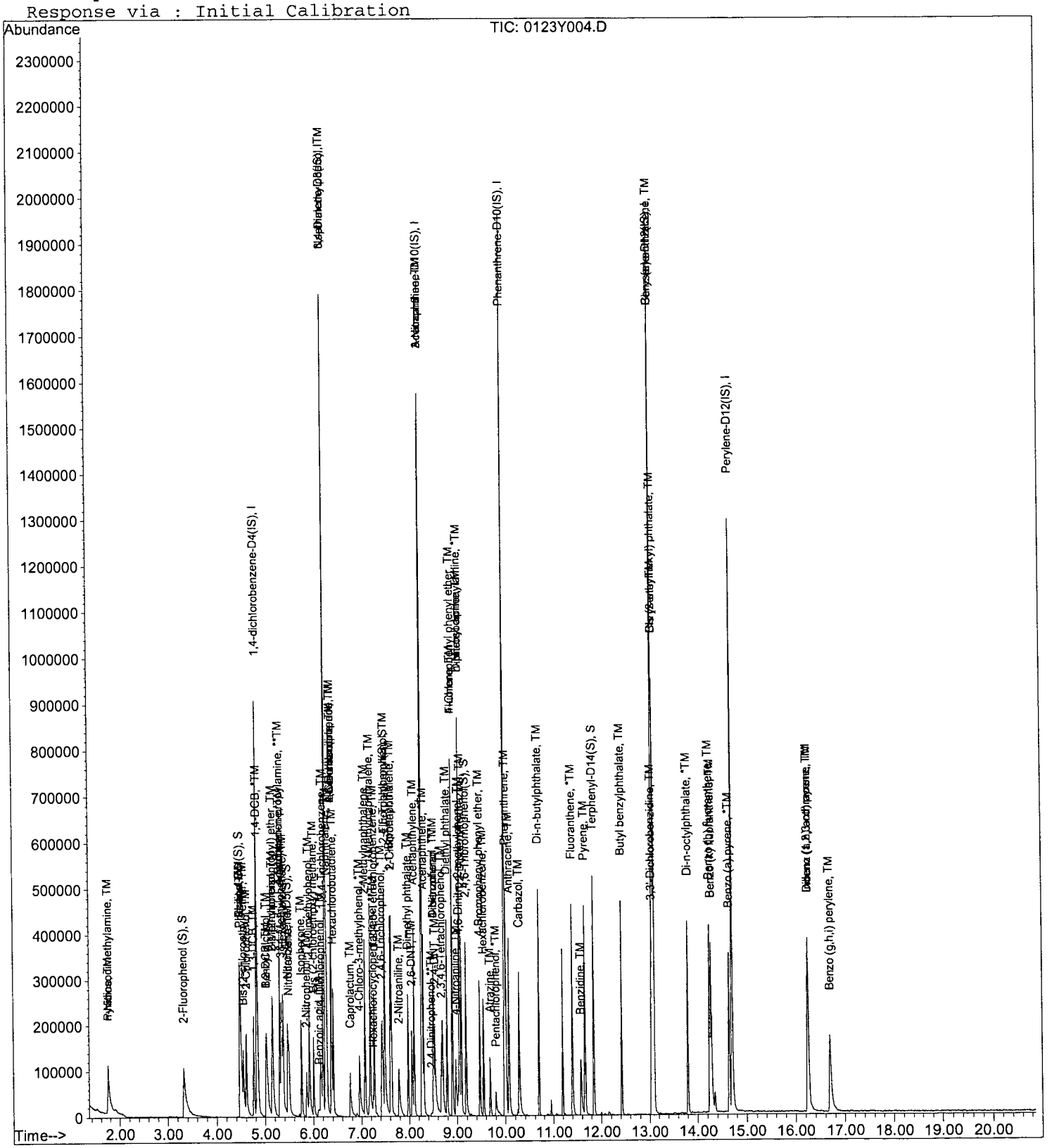
Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

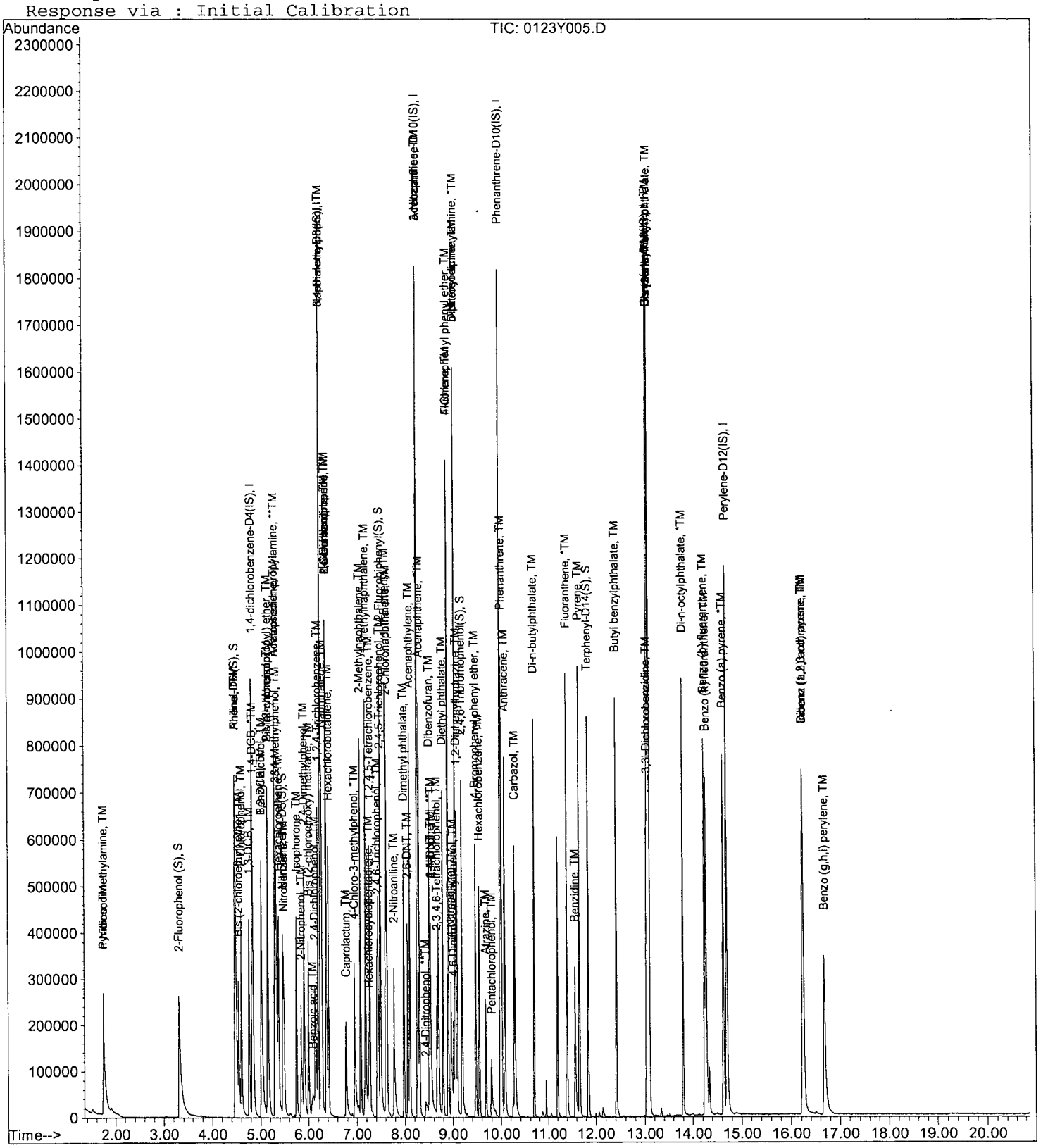
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121	ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53) Acenaphthene	8.31	154	448599	38.96400	ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547	ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61) Fluorene	8.90	166	515360	39.29261	ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71) Atrazine	9.69	200	75092	20.23603	ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73) Phenanthrene	10.02	178	797163	40.43889	ppb		99
74) Anthracene	10.08	178	837248	41.14126	ppb		99
75) Carbazol	10.28	167	750665	41.11558	ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77) Fluoranthene	11.40	202	872131	39.96448	ppb		97
79) Benzidine	11.58	184	358107	43.08926	ppb		99
80) Pyrene	11.66	202	926965	38.06361	ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86) Chrysene	13.10	228	847601	38.79268	ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

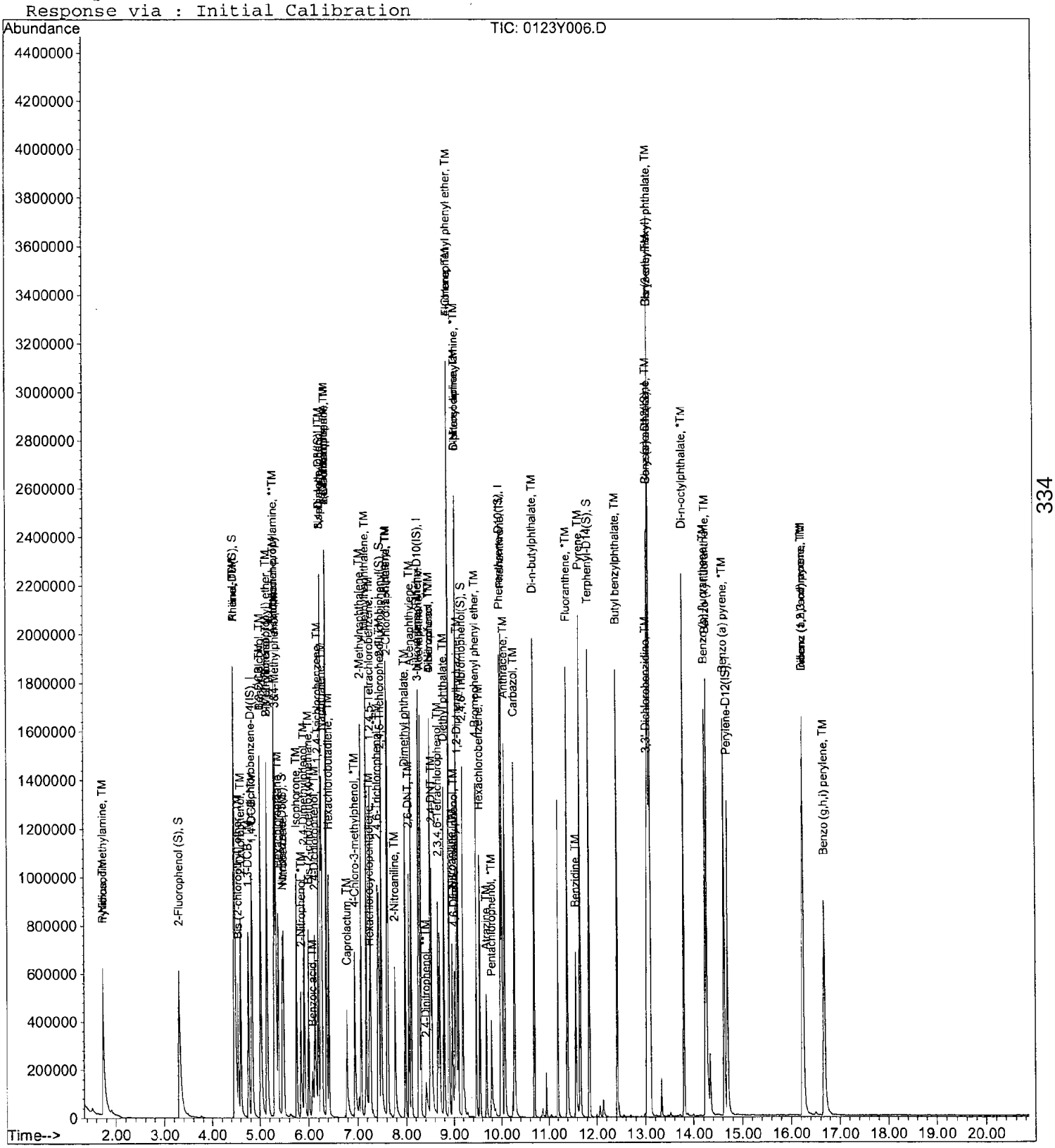
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

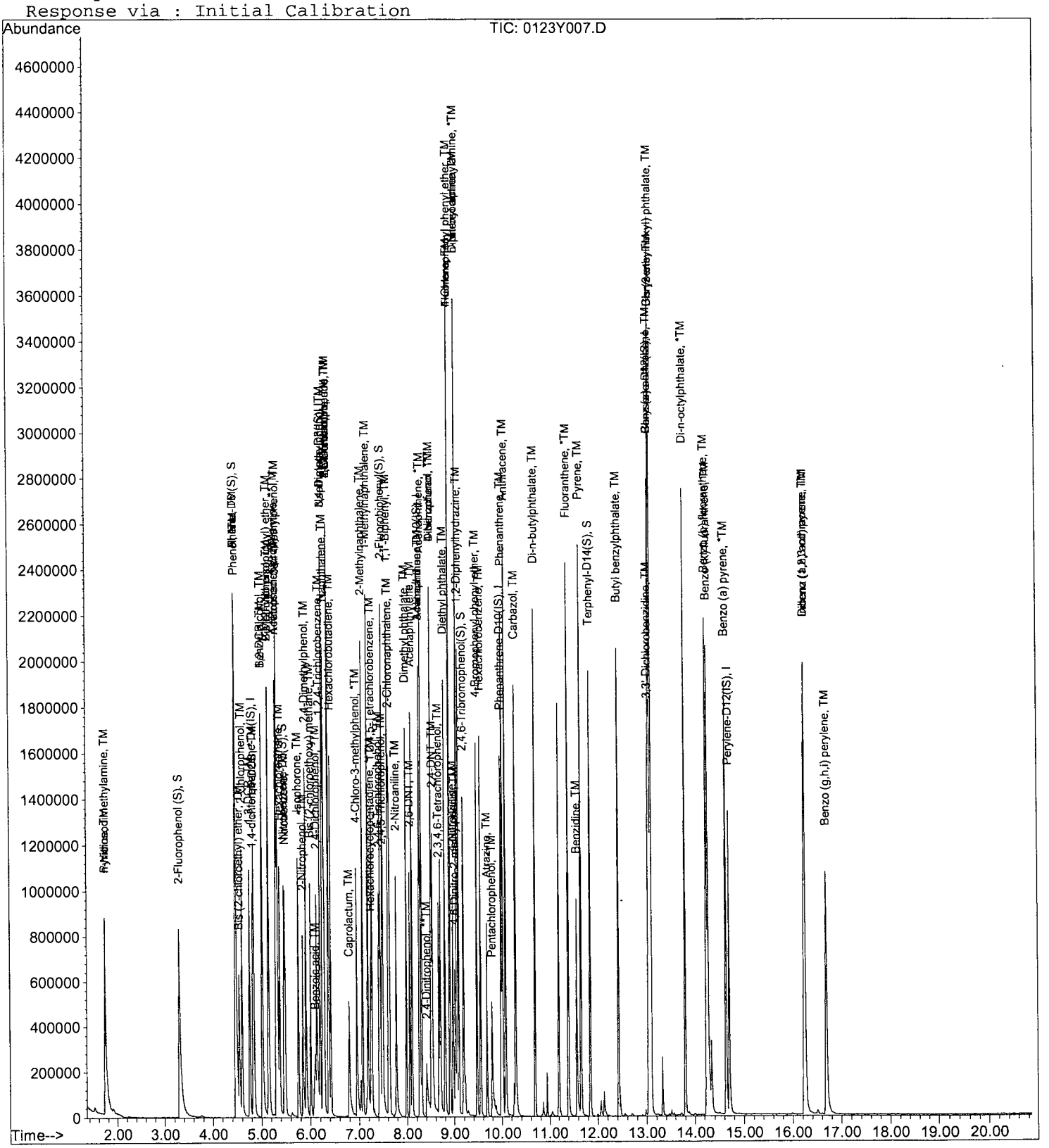
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery = 59.291%		
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery = 56.295%		
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery = 60.529%		
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery = 56.203%		
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery = 53.820%		
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery = 55.189%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750	ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588	ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920	ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008	ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161	ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869	ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920	ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675	ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844	ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818	ppb		99
53) Acenaphthene	8.31	154	660528	56.10991	ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470	ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087	ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197	ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227	ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298	ppb		98
61) Fluorene	8.90	166	723357	53.93814	ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356	ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272	ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420	ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533	ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941	ppb		96
71) Atrazine	9.69	200	113418	29.34015	ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528	ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905	ppb		99
74) Anthracene	10.08	178	1251780	59.04733	ppb		100
75) Carbazol	10.28	167	1130326	59.43097	ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811	ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928	ppb		99
79) Benzidine	11.57	184	543076	64.22768	ppb		98
80) Pyrene	11.66	202	1386950	55.97742	ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935	ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200	ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820	ppb		98
86) Chrysene	13.10	228	1217719	54.77858	ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777	ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932	ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798	ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

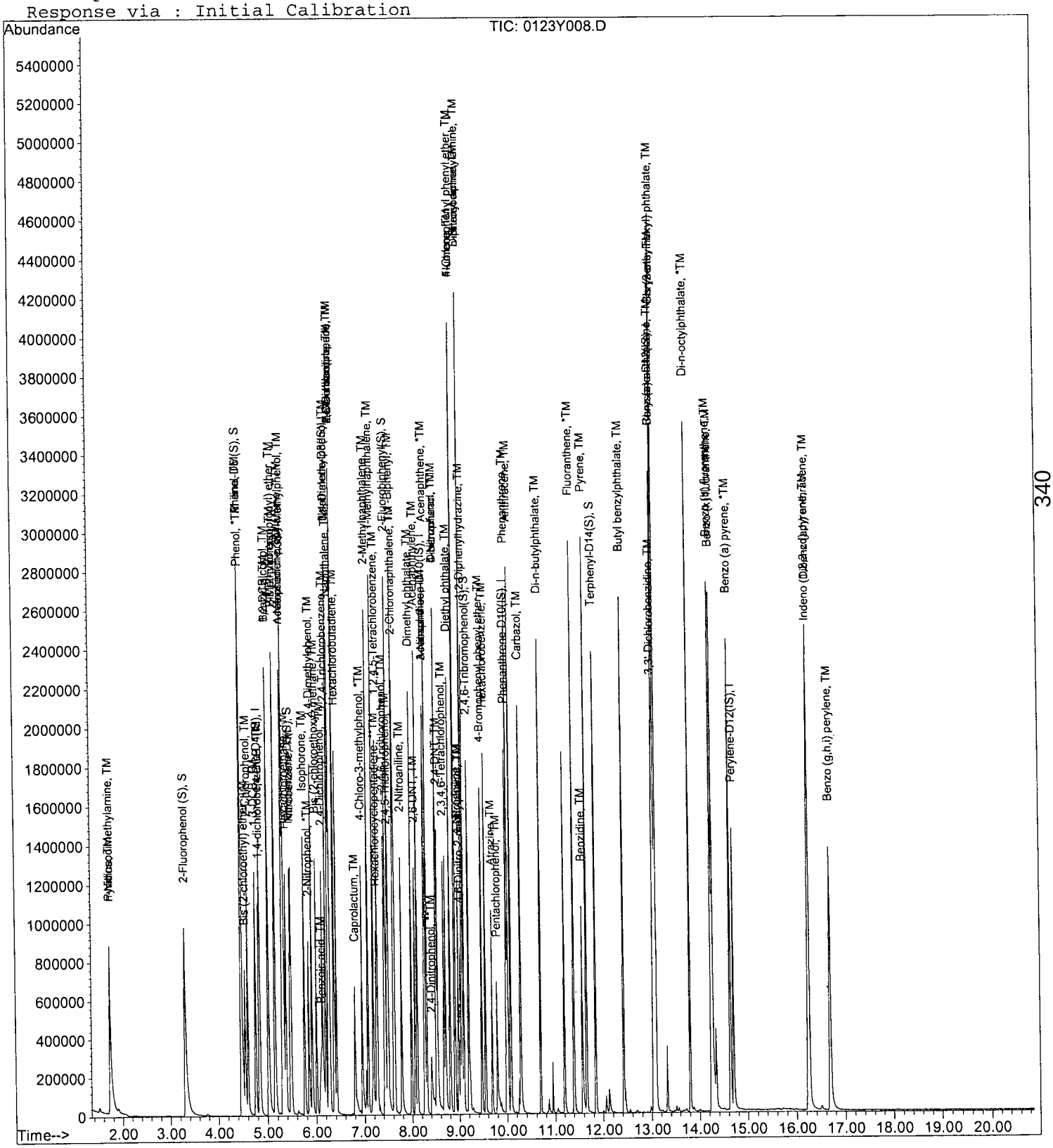
Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



340

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb		98
3) Pyridine	1.73	79	634454	83.90277 ppb		100
6) Phenol	4.48	94	642315	77.49542 ppb		98
7) Aniline	4.48	66	611004	77.80712 ppb	#	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb		91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb		99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb		99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb		96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb		93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb		99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb		98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb		96
16) Acetophenone	5.30	105	658013	77.62630 ppb		95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb		93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb		89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb		97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb		92
23) Isophorone	5.76	82	966459	84.20922 ppb		98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb		98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb		98
26) Benzoic acid	6.12	105	344797	79.06975 ppb		99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb		99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb		97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb		99
31) Naphthalene	6.28	128	1406137	78.62073 ppb		99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb		96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb		98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb		98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb		98
36) Caprolactum	6.82	55	245801	92.00545 ppb		98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39) 1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46) 1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47) 2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48) 2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49) Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50) 2,6-DNT	8.06	165	256478	79.34293	ppb		79
51) Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52) 3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53) Acenaphthene	8.31	154	898264	74.66354	ppb		99
54) 2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55) 4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56) Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57) 2,4-DNT	8.54	165	361878	79.55622	ppb		87
58) 2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59) Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61) Fluorene	8.91	166	979437	71.46214	ppb		98
62) 4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65) 4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66) Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67) n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70) Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71) Atrazine	9.70	200	156978	40.16501	ppb		97
72) Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73) Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74) Anthracene	10.08	178	1647829	76.87995	ppb		100
75) Carbazol	10.28	167	1507963	78.42030	ppb		97
76) Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77) Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79) Benzidine	11.57	184	728269	84.66366	ppb		99
80) Pyrene	11.67	202	1854714	73.58218	ppb		99
82) Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83) 3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84) Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85) Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86) Chrysene	13.11	228	1666992	73.71244	ppb		100
87) Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89) Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91) Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93) Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94) Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

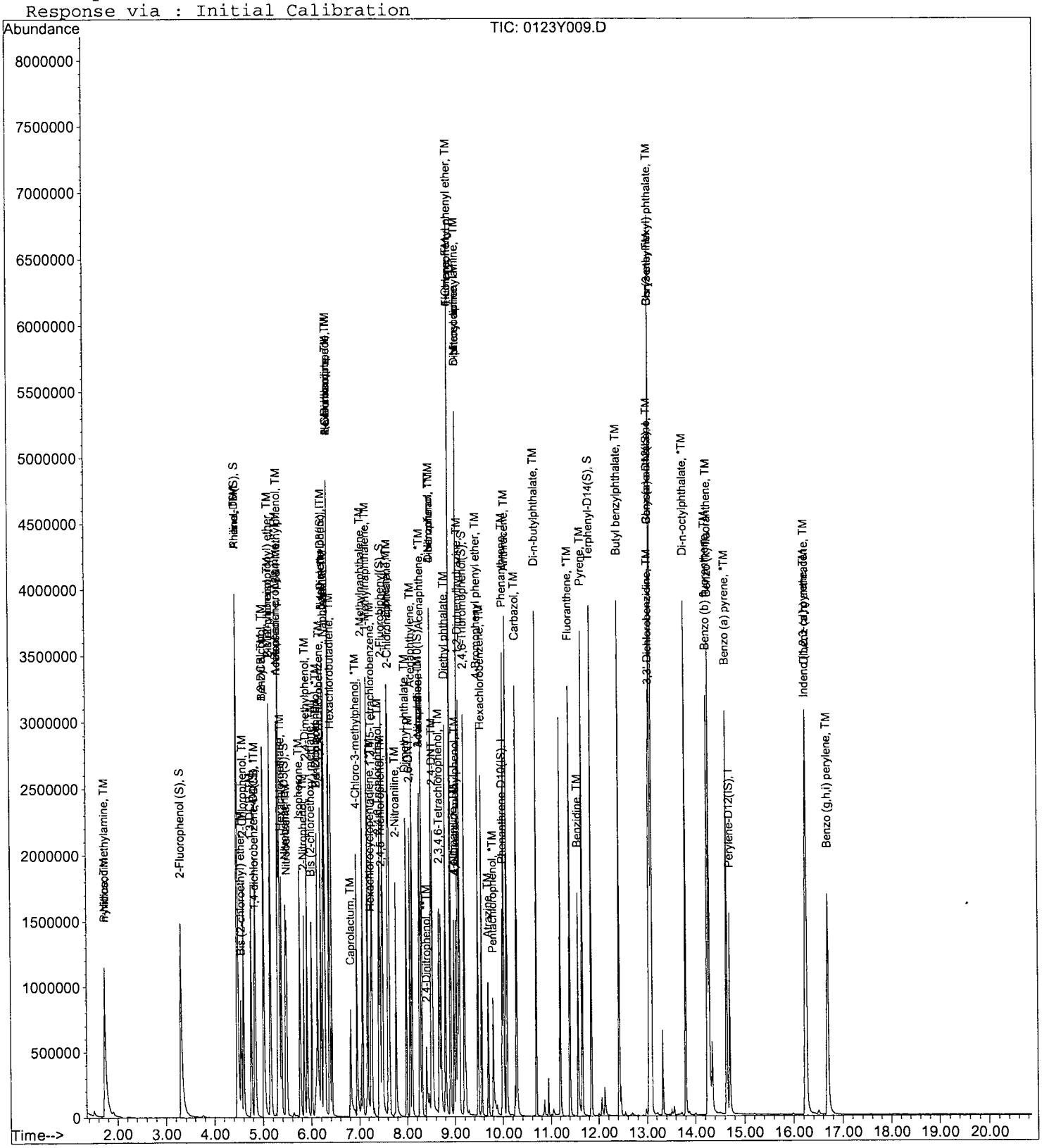
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562	ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946	ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351	ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756	ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843	ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130	ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964	ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747	ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681	ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230	ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232	ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576	ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521	ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657	ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139	ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091	ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456	ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458	ppb		86
61) Fluorene	8.91	166	1259262	98.30180	ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084	ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202	ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801	ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107	ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343	ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365	ppb	#	85
71) Atrazine	9.70	200	186402	51.29770	ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807	ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577	ppb		99
74) Anthracene	10.08	178	1948772	97.79130	ppb		100
75) Carbazol	10.29	167	1735219	97.05778	ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443	ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594	ppb	#	95
79) Benzidine	11.58	184	881021	112.09512	ppb		99
80) Pyrene	11.67	202	2238167	97.18146	ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181	ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441	ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548	ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876	ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644	ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142	ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131	ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324	ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950	ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985	ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

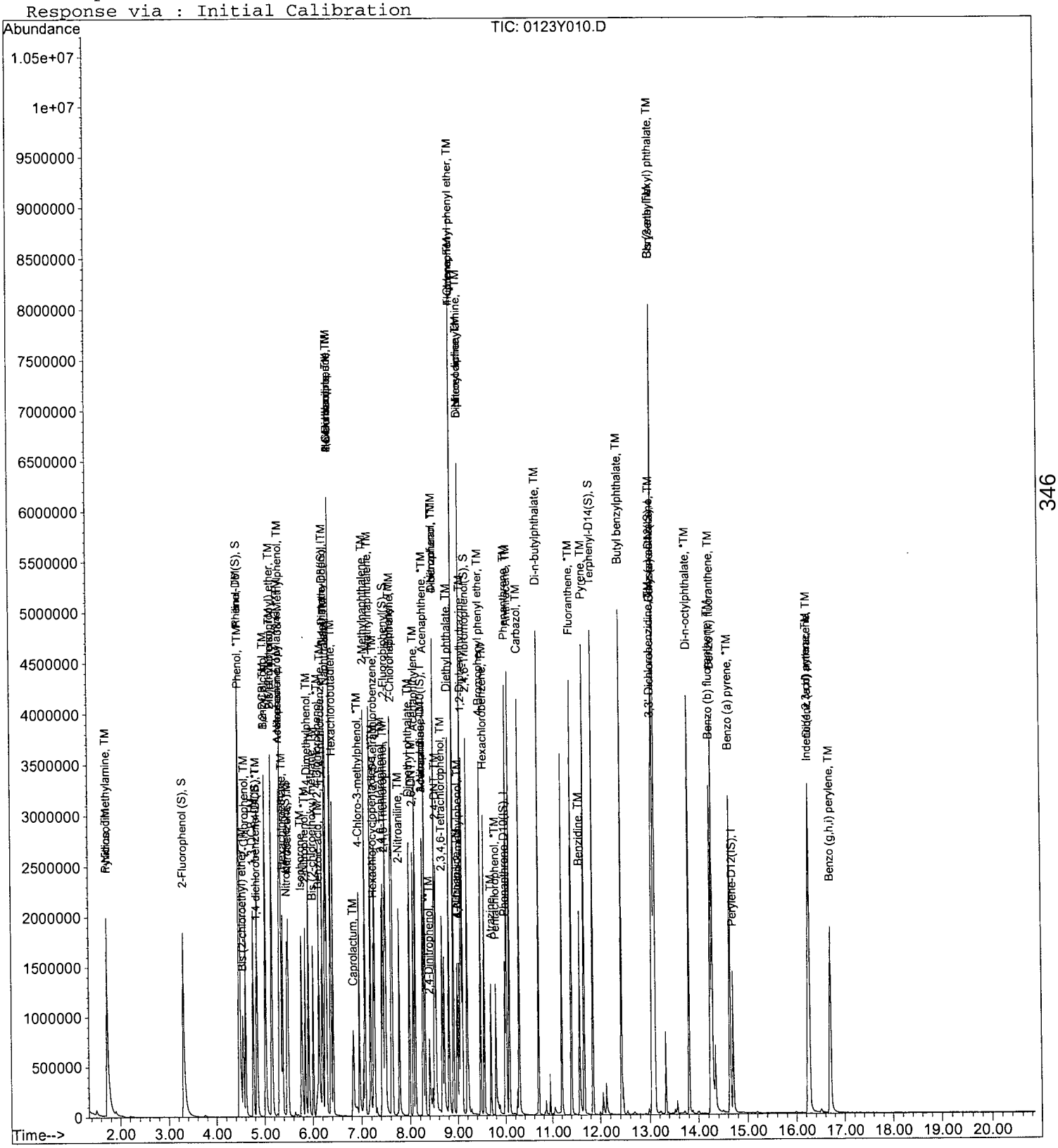
Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



346

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

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0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
84							
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117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

$A_{quantitation} = \frac{247372 \times 40 \times 1}{183587 \times 0.956} = 56.38$ HA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	646439	48.57137	ppb		100
39)	1-Methylnaphthalene	7.19	142	602666	45.97150	ppb		100
41)	Hexachlorocyclopentadiene	7.25	237	121681	52.65785	ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	193346	48.88713	ppb		97
44)	2,4,5-Trichlorophenol	7.47	196	209742	48.34739	ppb		97
46)	1,1'-Biphenyl	7.61	154	822806	47.07970	ppb		99
47)	2-Chloronaphthalene	7.63	162	692861	51.88332	ppb		96
48)	2-Nitroaniline	7.77	65	233738	49.08526	ppb		85
49)	Dimethyl phthalate	7.98	163	766645	47.87741	ppb		99
50)	2,6-DNT	8.06	165	178567	49.95212	ppb	#	72
51)	Acenaphthylene	8.10	152	982221	45.67988	ppb		99
52)	3-Nitroaniline	8.25	138	193766	49.56328	ppb		85
53)	Acenaphthene	8.31	154	608874	45.93545	ppb		100
54)	2,4-Dinitrophenol	8.41	184	82560	48.59465	ppb		95
55)	4-Nitrophenol	8.50	65	144946	48.19129	ppb		77
56)	Dibenzofuran	8.50	168	875323	46.77048	ppb		98
57)	2,4-DNT	8.54	165	249063	49.96847	ppb		89
58)	2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501	ppb	#	90
59)	Diethyl phthalate	8.80	149	774517	47.76643	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651	ppb		86
61)	Fluorene	8.90	166	658029	43.43306	ppb		96
62)	4-Nitroaniline	8.98	138	188537	50.69450	ppb		89
65)	4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398	ppb	#	80
66)	Diphenyl amine	9.06	169	1101615	100.68261	ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	1101615	100.68261	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1107522	57.98015	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	213301	49.74664	ppb		85
70)	Hexachlorobenzene	9.55	284	235108	52.56424	ppb		90
71)	Atrazine	9.69	200	93523	22.08154	ppb		99
72)	Pentachlorophenol	9.79	266	86715	45.18058	ppb		95
73)	Phenanthrene	10.02	178	1072837	46.33434	ppb		100
74)	Anthracene	10.08	178	1080433	44.73670	ppb		99
75)	Carbazol	10.28	167	987284	46.17731	ppb		96
76)	Di-n-butylphthalate	10.69	149	1336738	49.47728	ppb		99
77)	Fluoranthene	11.40	202	1187541	47.24409	ppb		97
79)	Benzidine	11.58	184	466479	44.95376	ppb		97
80)	Pyrene	11.66	202	1231903	46.08479	ppb		98
82)	Butyl benzylphthalate	12.42	149	620712	50.22071	ppb	#	78
83)	3,3'-Dichlorobenzidine	13.03	252	451989	53.92761	ppb		94
84)	Benz (a) anthracene	13.05	228	1187024	47.21512	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640	ppb		99
86)	Chrysene	13.10	228	1055130	42.79043	ppb		100
87)	Di-n-octylphthalate	13.81	149	1488607	49.98751	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1145100	44.79514	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1223330	51.92467	ppb		98
91)	Benzo (a) pyrene	14.64	252	1142371	48.92994	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771	ppb		99
93)	Dibenz (a,h) anthracene	16.26	278	1059706	47.56225	ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1051918	47.90166	ppb		97

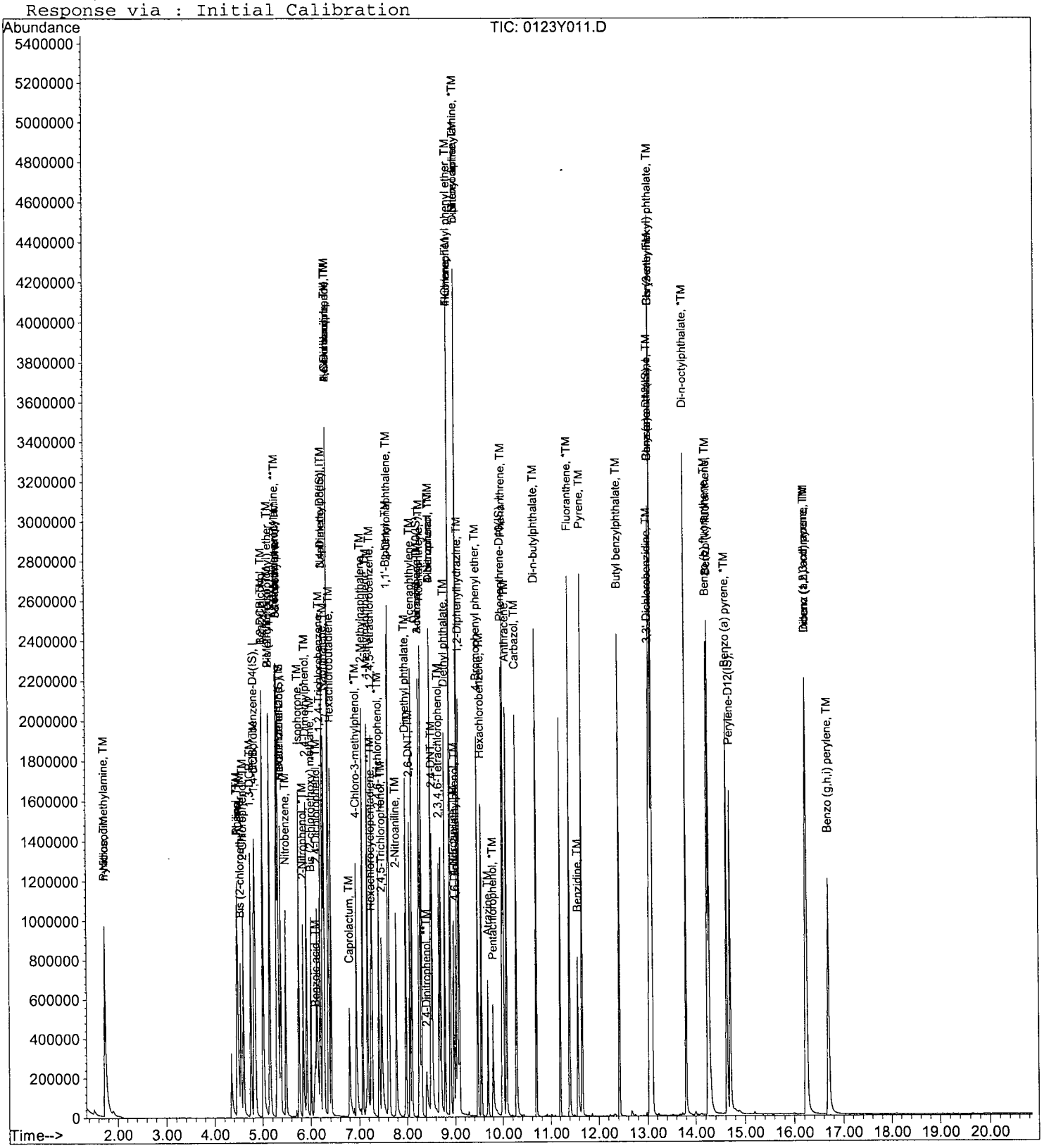
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.136	19	TM	
3	TM	Pyridine	1.902	2.210	16	TM	
4	S	2-Fluorophenol (S)	1.262	1.342	6.3	S	
5	S	Phenol-D6 (S)	1.679	1.674	0.29	S	
6	*TM	Phenol	1.927	2.086	8.3	*TM	
7	TM	Aniline	1.829	1.917	4.8	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9936	5.4	TM	
9	TM	2-Chlorophenol	1.490	1.587	6.5	TM	
10	TM	1,3-DCB	1.572	1.645	4.7	TM	
11	*TM	1,4-DCB	1.615	1.690	4.6	*TM	
12	TM	Benzyl alcohol	0.8487	0.9360	10	TM	
13	TM	1,2-DCB	1.472	1.561	6.0	TM	
14	TM	2-Methylphenol	1.114	1.169	5.0	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.168	4.7	TM	
16	TM	Acetophenone	1.985	2.107	6.2	TM	
17	TM	3&4-Methylphenol	1.446	1.582	9.4	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.198	8.7	**TM	
19	TM	Hexachloroethane	0.6642	0.7001	5.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3966	2.2	S	
22	TM	Nitrobenzene	0.4049	0.4169	2.9	TM	
23	TM	Isophorone	0.6723	0.6920	2.9	TM	
24	*TM	2-Nitrophenol	0.1899	0.2104	11	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3168	3.2	TM	
26	TML	Benzoic acid	0.1823	0.2609	43	TML	12
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4156	6.8	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3038	4.0	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3362	4.1	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4712	1.9	TM	
31	TM	Naphthalene	1.046	1.072	2.5	TM	
32	TM	4-Chloroaniline	0.3674	0.3730	1.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2734	1.1	TM	
34	TM	Hexachloropropene	0.2347	0.2443	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1934	1.0	*TM	
36	TM	Caprolactum	0.1663	0.1825	9.7	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3364	6.2	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7116	4.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6979	4.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			6.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1797	13	**TMQ	5.3
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5508	1.8	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3511	3.4	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3656	1.9	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.188	7.4	S	
46	TM	1,1'-Biphenyl	1.501	1.529	1.9	TM	
47	TM	2-Chloronaphthalene	1.147	1.184	3.2	TM	
48	TM	2-Nitroaniline	0.4089	0.4235	3.6	TM	
49	TM	Dimethyl phthalate	1.375	1.379	0.30	TM	
50	TM	2,6-DNT	0.3070	0.3171	3.3	TM	
51	TM	Acenaphthylene	1.846	1.845	0.09	TM	
52	TM	3-Nitroaniline	0.3357	0.3392	1.0	TM	
53	*TM	Acenaphthene	1.138	1.132	0.59	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1449	10	**TMQ	1.2
55	**TML	4-Nitrophenol	0.2262	0.2392	5.7	**TML	6.8
56	TM	Dibenzofuran	1.607	1.629	1.3	TM	
57	TM	2,4-DNT	0.4280	0.4579	7.0	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3083	5.1	TM	
59	TM	Diethyl phthalate	1.392	1.423	2.2	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5972	4.6	TM	
61	TM	Fluorene	1.301	1.236	5.0	TM	
62	TM	4-Nitroaniline	0.3194	0.3217	0.74	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1756	5.2	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1451	9.8	TML	1.3
66	TM	Diphenyl amine	0.5157	0.5542	7.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5542	7.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8296	7.9	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2128	5.3	TM	
70	TM	Hexachlorobenzene	0.2108	0.2129	0.98	TM	
71	TM	Atrazine	0.1996	0.2113	5.9	TM	
72	*TML	Pentachlorophenol	0.0838	0.0915	9.2	*TML	0.63
73	TM	Phenanthrene	1.091	1.097	0.48	TM	
74	TM	Anthracene	1.138	1.132	0.52	TM	
75	TM	Carbazol	1.008	1.025	1.7	TM	
76	TM	Di-n-butylphthalate	1.273	1.343	5.4	TM	
77	*TM	Fluoranthene	1.185	1.222	3.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4791	3.8	TM	
80	TM	Pyrene	1.283	1.351	5.3	TM	
		Average			4.3		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y137.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8269	3.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6484	9.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4397	9.3	TM	
84	TM	Benz (a) anthracene	1.206	1.212	0.43	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8618	3.3	TM	
86	TM	Chrysene	1.183	1.188	0.41	TM	
87	*TM	Di-n-octylphthalate	1.429	1.569	9.8	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.291	3.7	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.218	6.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.182	3.9	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.294	1.5	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.115	2.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.111	3.9	TM	
95							
96							
97							
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111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y137.D
Vial: 37
Acq On : 13 Feb 17 12:25
Operator: MA
Sample : 50ug/ml SVOC 2/10/17
Inst : Yoda
Misc : water
Multiplr: 1.00

Quant Time: Feb 13 12:40 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	170752	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	726736	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	429658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	787250	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	770648	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	766965	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	572743	106.33527 ppb	0.00
Spiked Amount 200.000			Recovery = 53.168%		
5) Phenol-D6 (S)	4.47	99	714551	99.71286 ppb	0.00
Spiked Amount 200.000			Recovery = 49.857%		
21) Nitrobenzene-D5(S)	5.46	82	360245	48.87860 ppb	0.00
Spiked Amount 100.000			Recovery = 48.879%		
45) 2-Fluorobiphenyl(S)	7.49	172	637914	46.28117 ppb	0.00
Spiked Amount 100.000			Recovery = 46.281%		
63) 2,4,6-Tribromophenol(S)	9.19	330	188575	94.82102 ppb	0.00
Spiked Amount 200.000			Recovery = 47.411%		
81) Terphenyl-D14(S)	11.85	244	796584	48.05708 ppb	0.00
Spiked Amount 100.000			Recovery = 48.057%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	242418	59.39917 ppb		91
3) Pyridine	1.73	79	471760	58.11126 ppb		99
6) Phenol	4.47	94	445337	54.13945 ppb		87
7) Aniline	4.47	66	409114	52.39262 ppb		81
8) Bis (2-chloroethyl) ether	4.54	63	212080	52.67701 ppb		96
9) 2-Chlorophenol	4.60	128	338742	53.25149 ppb		92
10) 1,3-DCB	4.75	146	351178	52.33276 ppb		97
11) 1,4-DCB	4.84	146	360649	52.30023 ppb		99
12) Benzyl alcohol	5.01	108	199777	55.13964 ppb		86
13) 1,2-DCB	5.00	146	333156	53.00669 ppb		98
14) 2-Methylphenol	5.15	107	249551	52.49330 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	462657	52.37427 ppb	#	78
16) Acetophenone	5.29	105	449657	53.07896 ppb		97
17) 3&4-Methylphenol	5.33	107	675199	109.37287 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	255657	54.36322 ppb		99
19) Hexachloroethane	5.38	117	149436	52.70176 ppb		99
22) Nitrobenzene	5.48	77	378676	51.47375 ppb		99
23) Isophorone	5.76	82	628598	51.46412 ppb		94
24) 2-Nitrophenol	5.84	139	191106	55.38770 ppb		96
25) 2,4-Dimethylphenol	5.90	122	287745	51.58139 ppb		100
26) Benzoic acid	6.10	105	237042	55.81248 ppb		90
27) Bis (2-chloroethoxy) metha	6.00	93	377520	53.38621 ppb		98
28) 2,4-Dichlorophenol	6.13	162	275994	51.99174 ppb		95
29) 1,2,4-Trichlorobenzene	6.19	180	305421	52.07001 ppb		98
30) 3,4-Dimethylphenol	6.25	107	428040	50.96542 ppb		97
31) Naphthalene	6.28	128	973517	51.23600 ppb		99
32) 4-Chloroaniline	6.36	127	338830	50.76551 ppb		98
33) 2,6-Dichlorophenol	6.37	162	248342	50.54953 ppb		97
34) Hexachloropropene	6.37	213	221908	52.04376 ppb		98
35) Hexachlorobutadiene	6.41	225	175691	50.51283 ppb		99
36) Caprolactum	6.80	55	165789	54.87270 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	305575	53.12326 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y137.D
Acq On : 13 Feb 17 12:25
Sample : 50ug/ml SVOC 2/10/17
Misc : water

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 12:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	646446	52.37157 ppb		99
39) 1-Methylnaphthalene	7.18	142	634025	52.14695 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	96528	47.34635 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	295814	50.88115 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	188548	51.68598 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	196336	49.06582 ppb		96
46) 1,1'-Biphenyl	7.60	154	821333	50.95033 ppb		99
47) 2-Chloronaphthalene	7.63	162	635790	51.61630 ppb		98
48) 2-Nitroaniline	7.77	65	227429	51.77965 ppb		89
49) Dimethyl phthalate	7.97	163	740704	50.15018 ppb		100
50) 2,6-DNT	8.06	165	170332	51.65835 ppb		87
51) Acenaphthylene	8.10	152	990735	49.95336 ppb		99
52) 3-Nitroaniline	8.25	138	182176	50.52021 ppb		91
53) Acenaphthene	8.30	154	607700	49.70513 ppb		99
54) 2,4-Dinitrophenol	8.41	184	77800	49.37845 ppb		96
55) 4-Nitrophenol	8.53	65	128446	46.58522 ppb	#	61
56) Dibenzofuran	8.50	168	874662	50.66817 ppb		93
57) 2,4-DNT	8.53	165	245935	53.49321 ppb		82
58) 2,3,4,6-Tetrachlorophenol	8.67	232	165578	52.53526 ppb		92
59) Diethyl phthalate	8.79	149	764051	51.08644 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	320758	47.70663 ppb		95
61) Fluorene	8.90	166	663956	47.51232 ppb		98
62) 4-Nitroaniline	8.98	138	172782	50.36795 ppb		86
65) 4,6-Dinitro-2-methylphenol	9.01	198	142821	50.62844 ppb		88
66) Diphenyl amine	9.05	169	1090667	107.45334 ppb		99
67) n-Nitrosodiphenylamine	9.05	169	1090667	107.45334 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	816357	46.06916 ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	209370	52.63667 ppb		98
70) Hexachlorobenzene	9.54	284	209507	50.49225 ppb		91
71) Atrazine	9.68	200	103982	26.46502 ppb		99
72) Pentachlorophenol	9.79	266	90068	49.68685 ppb		96
73) Phenanthrene	10.02	178	1079146	50.24034 ppb		99
74) Anthracene	10.07	178	1114443	49.74245 ppb		100
75) Carbazol	10.28	167	1008765	50.86039 ppb		98
76) Di-n-butylphthalate	10.69	149	1321400	52.72262 ppb		100
77) Fluoranthene	11.40	202	1202486	51.56821 ppb		97
79) Benzidine	11.57	184	461507	48.10600 ppb		96
80) Pyrene	11.66	202	1301537	52.66532 ppb		99
82) Butyl benzylphthalate	12.42	149	624652	54.66608 ppb		91
83) 3,3'-Dichlorobenzidine	13.03	252	423573	54.66365 ppb	#	95
84) Benz (a) anthracene	13.05	228	1167140	50.21479 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	830217	51.65700 ppb		97
86) Chrysene	13.10	228	1144514	50.20522 ppb		99
87) Di-n-octylphthalate	13.80	149	1511052	54.88427 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1237521	51.83183 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1168057	53.08241 ppb		98
91) Benzo (a) pyrene	14.63	252	1133297	51.97179 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	1241035	50.76693 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1069179	51.37880 ppb		100
94) Benzo (g,h,i) perylene	16.68	276	1065224	51.93571 ppb		97

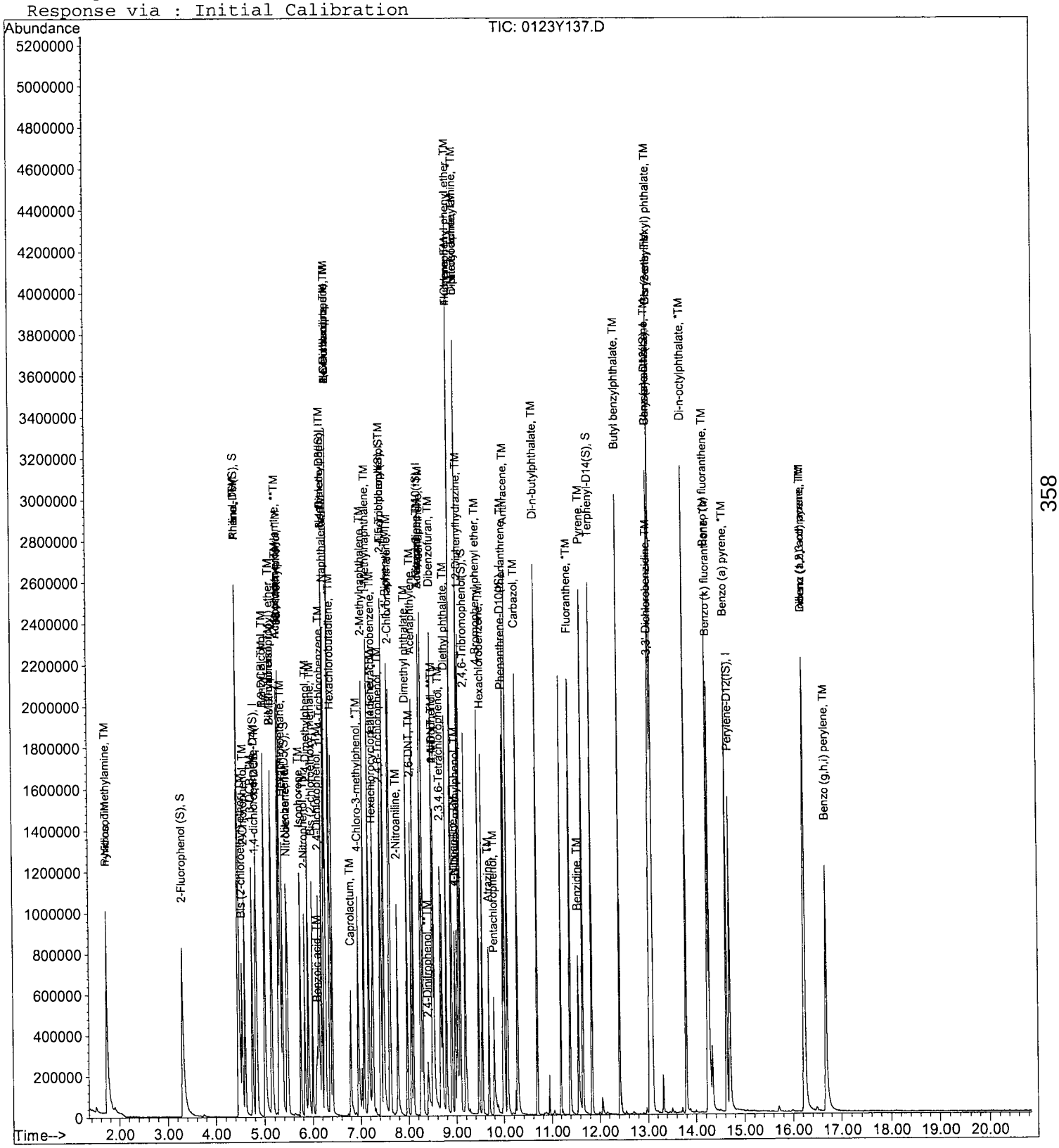
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y137.D Vial: 37
Acq On : 13 Feb 17 12:25 Operator: MA
Sample : 50ug/ml SVOC 2/10/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 13 12:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



358

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.230	29	TM	
3	TM	Pyridine	1.902	2.232	17	TM	
4	S	2-Fluorophenol (S)	1.262	1.351	7.1	S	
5	S	Phenol-D6 (S)	1.679	1.581	5.8	S	
6	*TM	Phenol	1.927	2.013	4.5	*TM	
7	TM	Aniline	1.829	1.935	5.8	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	1.027	8.9	TM	
9	TM	2-Chlorophenol	1.490	1.577	5.8	TM	
10	TM	1,3-DCB	1.572	1.589	1.1	TM	
11	*TM	1,4-DCB	1.615	1.616	0.03	*TM	
12	TM	Benzyl alcohol	0.8487	0.9155	7.9	TM	
13	TM	1,2-DCB	1.472	1.452	1.4	TM	
14	TM	2-Methylphenol	1.114	1.158	4.0	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.103	1.6	TM	
16	TM	Acetophenone	1.985	2.088	5.2	TM	
17	TM	3&4-Methylphenol	1.446	1.486	2.7	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.188	7.9	**TM	
19	TM	Hexachloroethane	0.6642	0.6926	4.3	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.4434	9.3	S	
22	TM	Nitrobenzene	0.4049	0.4584	13	TM	
23	TM	Isophorone	0.6723	0.7770	16	TM	
24	*TM	2-Nitrophenol	0.1899	0.2287	20	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3417	11	TM	
26	TML	Benzoic acid	0.1823	0.2533	39	TML	8.7
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4397	13	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3326	14	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3507	8.6	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4753	2.8	TM	
31	TM	Naphthalene	1.046	1.108	5.9	TM	
32	TM	4-Chloroaniline	0.3674	0.3753	2.2	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2695	0.34	TM	
34	TM	Hexachloropropene	0.2347	0.2634	12	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.2068	8.0	*TM	
36	TM	Caprolactum	0.1663	0.2050	23	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3619	14	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7338	8.0	TM	
39	TM	1-Methylnaphthalene	0.6692	0.7069	5.6	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			9.3		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2329	46	**TMQ	14
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5451	0.71	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3630	6.9	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3833	2.9	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.182	7.9	S	
46	TM	1,1'-Biphenyl	1.501	1.507	0.45	TM	
47	TM	2-Chloronaphthalene	1.147	1.182	3.1	TM	
48	TM	2-Nitroaniline	0.4089	0.4525	11	TM	
49	TM	Dimethyl phthalate	1.375	1.432	4.1	TM	
50	TM	2,6-DNT	0.3070	0.3328	8.4	TM	
51	TM	Acenaphthylene	1.846	1.881	1.9	TM	
52	TM	3-Nitroaniline	0.3357	0.3409	1.5	TM	
53	*TM	Acenaphthene	1.138	1.150	1.0	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1709	30	**TMQ	12
55	**TML	4-Nitrophenol	0.2262	0.2804	24	**TML	6.7
56	TM	Dibenzofuran	1.607	1.587	1.3	TM	
57	TM	2,4-DNT	0.4280	0.4716	10	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3152	7.4	TM	
59	TM	Diethyl phthalate	1.392	1.409	1.2	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6463	3.3	TM	
61	TM	Fluorene	1.301	1.320	1.5	TM	
62	TM	4-Nitroaniline	0.3194	0.3556	11	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1830	1.2	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1494	13	TML	3.9
66	TM	Diphenyl amine	0.5157	0.4753	7.8	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.4753	7.8	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	1.011	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.1976	2.2	TM	
70	TM	Hexachlorobenzene	0.2108	0.2088	0.98	TM	
71	TM	Atrazine	0.1996	0.1966	1.5	TM	
72	*TML	Pentachlorophenol	0.0838	0.0883	5.4	*TML	3.6
73	TM	Phenanthrene	1.091	1.042	4.5	TM	
74	TM	Anthracene	1.138	1.082	4.9	TM	
75	TM	Carbazol	1.008	0.9811	2.6	TM	
76	TM	Di-n-butylphthalate	1.273	1.271	0.16	TM	
77	*TM	Fluoranthene	1.185	1.171	1.2	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4783	4.0	TM	
80	TM	Pyrene	1.283	1.363	6.3	TM	
		Average			6.9		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/13/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y158.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8824	2.6	S	
82	TM	Butyl benzylphthalate	0.5931	0.6553	10	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4332	7.7	TM	
84	TM	Benz (a) anthracene	1.206	1.211	0.38	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8642	3.6	TM	
86	TM	Chrysene	1.183	1.217	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.495	4.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.735	39	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.598	39	TM	
91	*TM	Benzo (a) pyrene	1.137	1.544	36	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.740	36	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.487	37	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.482	39	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.8		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y158.D Vial: 58
Acq On : 13 Feb 17 23:26 Operator: MA
Sample : 50ug/ml SVOC 2/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 9:00 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	295621	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	1179492	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	724686	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	1413969	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	1254621	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	845440	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	998374	107.06347 ppb	-0.01
Spiked Amount 200.000			Recovery	= 53.532%	
5) Phenol-D6 (S)	4.47	99	1168341	94.17119 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.086%	
21) Nitrobenzene-D5(S)	5.46	82	653716	54.65018 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.650%	
45) 2-Fluorobiphenyl(S)	7.50	172	1071011	46.06904 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.069%	
63) 2,4,6-Tribromophenol(S)	9.20	330	331466	98.81720 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.409%	
81) Terphenyl-D14(S)	11.85	244	1383831	51.28051 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.281%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.71	42	454371	64.30676 ppb		79
3) Pyridine	1.72	79	824738	58.67941 ppb		93
6) Phenol	4.49	94	743972	52.24109 ppb		83
7) Aniline	4.48	66	715106	52.89647 ppb	#	65
8) Bis (2-chloroethyl) ether	4.55	63	379451	54.43869 ppb		99
9) 2-Chlorophenol	4.60	128	582590	52.90007 ppb		99
10) 1,3-DCB	4.76	146	587260	50.54839 ppb		99
11) 1,4-DCB	4.84	146	597079	50.01280 ppb		97
12) Benzyl alcohol	5.02	108	338304	53.93319 ppb		94
13) 1,2-DCB	5.01	146	536712	49.32361 ppb		98
14) 2-Methylphenol	5.16	107	427872	51.98630 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	777043	50.80827 ppb	#	61
16) Acetophenone	5.31	105	771423	52.59739 ppb		96
17) 3&4-Methylphenol	5.33	107	1097939	102.72746 ppb		98
18) n-Nitrosodi-n-propylamine	5.32	70	439106	53.93211 ppb		97
19) Hexachloroethane	5.38	117	255926	52.13325 ppb		97
22) Nitrobenzene	5.49	77	675898	56.60840 ppb		91
23) Isophorone	5.76	82	1145644	57.79136 ppb		99
24) 2-Nitrophenol	5.84	139	337148	60.20620 ppb		99
25) 2,4-Dimethylphenol	5.92	122	503798	55.64465 ppb		98
26) Benzoic acid	6.14	105	373388	54.34667 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	648262	56.48347 ppb		99
28) 2,4-Dichlorophenol	6.13	162	490440	56.92490 ppb		94
29) 1,2,4-Trichlorobenzene	6.20	180	517130	54.32130 ppb		100
30) 3,4-Dimethylphenol	6.25	107	700745	51.40826 ppb		95
31) Naphthalene	6.28	128	1633267	52.96275 ppb		99
32) 4-Chloroaniline	6.37	127	553303	51.07773 ppb		97
33) 2,6-Dichlorophenol	6.37	162	397319	49.82967 ppb		98
34) Hexachloropropene	6.37	213	388344	56.11694 ppb		96
35) Hexachlorobutadiene	6.42	225	304912	54.01425 ppb		99
36) Caprolactum	6.83	55	302249	61.63780 ppb		95
37) 4-Chloro-3-methylphenol	6.96	107	533628	57.15934 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y158.D
Acq On : 13 Feb 17 23:26
Sample : 50ug/ml SVOC 2/09/17
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 9:00 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1081881	54.00382 ppb		98
39) 1-Methylnaphthalene	7.18	142	1042156	52.81252 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	210930	56.81794 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	493789	50.35616 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	328848	53.44647 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	347227	51.44766 ppb		94
46) 1,1'-Biphenyl	7.62	154	1365553	50.22377 ppb		97
47) 2-Chloronaphthalene	7.64	162	1070474	51.52551 ppb		97
48) 2-Nitroaniline	7.78	65	409910	55.33180 ppb		88
49) Dimethyl phthalate	7.99	163	1297037	52.06588 ppb		99
50) 2,6-DNT	8.06	165	301478	54.20919 ppb	#	67
51) Acenaphthylene	8.11	152	1703879	50.93531 ppb		99
52) 3-Nitroaniline	8.26	138	308811	50.77381 ppb		82
53) Acenaphthene	8.31	154	1041606	50.51130 ppb		99
54) 2,4-Dinitrophenol	8.41	184	154845	55.91643 ppb		97
55) 4-Nitrophenol	8.52	65	254024	53.36639 ppb		89
56) Dibenzofuran	8.51	168	1437536	49.37268 ppb		97
57) 2,4-DNT	8.55	165	427244	55.09692 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.68	232	285542	53.71447 ppb		91
59) Diethyl phthalate	8.81	149	1276101	50.58729 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	585449	51.62539 ppb		89
61) Fluorene	8.91	166	1195766	50.73249 ppb		97
62) 4-Nitroaniline	8.99	138	322097	55.66926 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	264128	51.93988 ppb		95
66) Diphenyl amine	9.07	169	1680043	92.15543 ppb		100
67) n-Nitrosodiphenylamine	9.07	169	1680043	92.15543 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	1787170	56.15246 ppb		93
69) 4-Bromophenyl phenyl ether	9.47	248	349236	48.88389 ppb		94
70) Hexachlorobenzene	9.55	284	368989	49.51222 ppb		87
71) Atrazine	9.70	200	173737	24.61949 ppb		97
72) Pentachlorophenol	9.80	266	156125	48.21532 ppb		98
73) Phenanthrene	10.02	178	1841230	47.72580 ppb		99
74) Anthracene	10.08	178	1912664	47.53142 ppb		99
75) Carbazol	10.28	167	1734133	48.67936 ppb		95
76) Di-n-butylphthalate	10.69	149	2247195	49.92019 ppb		99
77) Fluoranthene	11.41	202	2070006	49.42497 ppb	#	95
79) Benzidine	11.57	184	750066	48.02462 ppb		99
80) Pyrene	11.67	202	2137553	53.12863 ppb		99
82) Butyl benzylphthalate	12.43	149	1027756	55.24758 ppb		90
83) 3,3'-Dichlorobenzidine	13.04	252	679365	53.85388 ppb	#	95
84) Benz (a) anthracene	13.06	228	1899113	50.18836 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	1355252	51.79659 ppb		98
86) Chrysene	13.10	228	1908667	51.42821 ppb		99
87) Di-n-octylphthalate	13.80	149	2344468	52.30658 ppb		99
89) Benzo (b) fluoranthene	14.25	252	1833685	69.67251 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1688405	69.60749 ppb		97
91) Benzo (a) pyrene	14.64	252	1632150	67.90109 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1838702	68.23402 ppb		100
93) Dibenz (a,h) anthracene	16.26	278	1571661	68.51492 ppb		97
94) Benzo (g,h,i) perylene	16.70	276	1565806	69.25575 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

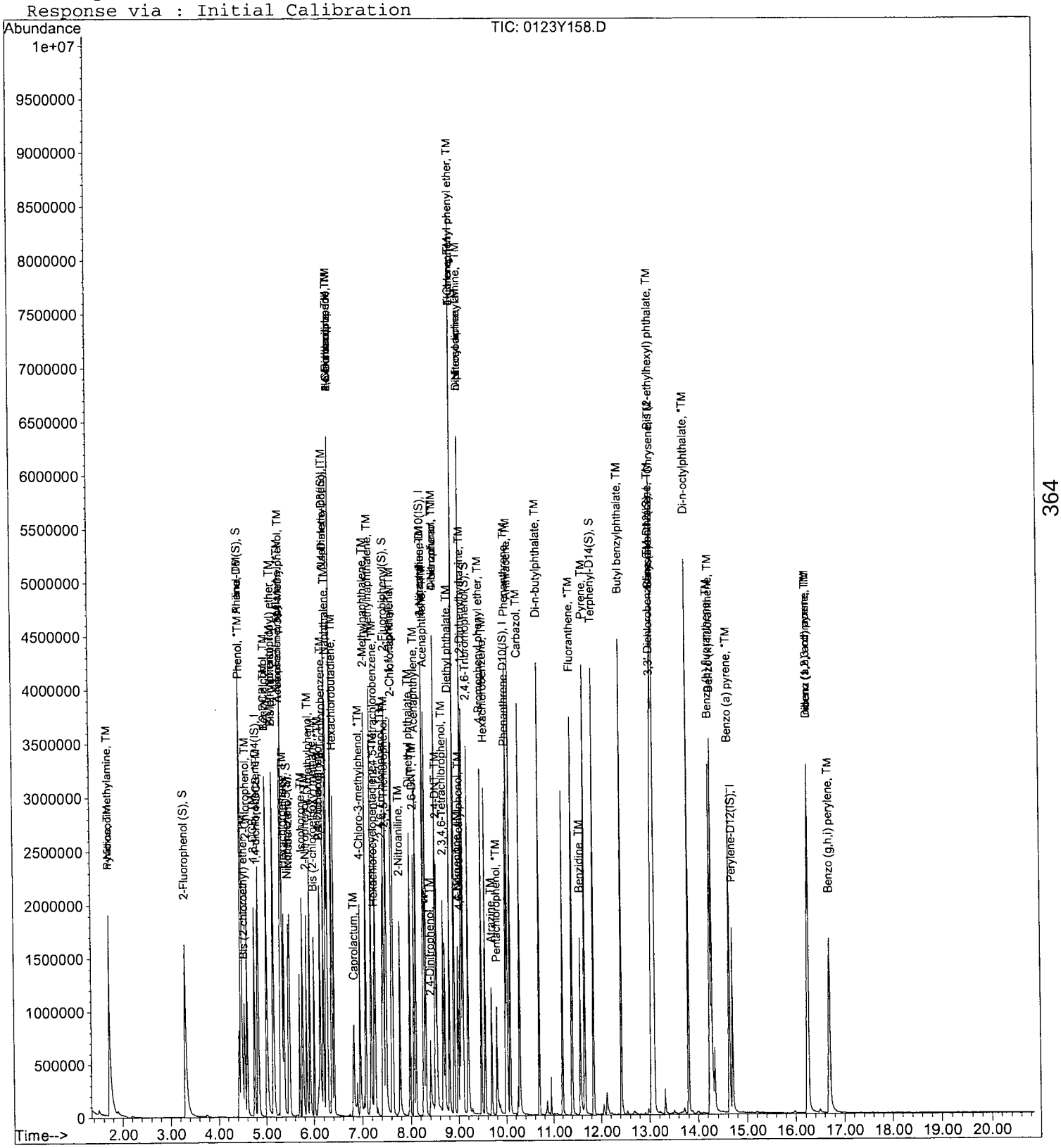
Data File : M:\YODA\DATA\Y170123\0123Y158.D
Acq On : 13 Feb 17 23:26
Sample : 50ug/ml SVOC 2/09/17
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 9:00 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



364

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216150**
Batch ID: #87DC5-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/09/17	02/13/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.7	43-140			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	52.8	44-119			%	02/09/17	02/13/17
BLANK	SURROGATE: 2-FLUOROPHENO	41.9	19-119			%	02/09/17	02/13/17
BLANK	SURROGATE: NITROBENZENE-	54.1	44-120			%	02/09/17	02/13/17
BLANK	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	02/09/17	02/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	68.9	50-134			%	02/09/17	02/13/17

Quant Method: Y0123.M
Run #: 0123Y138
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/14/17 12:32:53 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y138.D Vial: 38
Acq On : 13 Feb 17 13:25 Operator: MA
Sample : 170209A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 13 13:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	151858	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	629755	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	360186	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	652756	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	651309	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	559680	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	401257	83.76610 ppb	0.00
Spiked Amount 200.000			Recovery	= 41.883%	
5) Phenol-D6 (S)	4.47	99	370548	58.14208 ppb	0.01
Spiked Amount 200.000			Recovery	= 29.071%	
21) Nitrobenzene-D5(S)	5.46	82	345779	54.14078 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.141%	
45) 2-Fluorobiphenyl(S)	7.49	172	609800	52.77469 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.775%	
63) 2,4,6-Tribromophenol(S)	9.19	330	225603	135.31984 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.660%	
81) Terphenyl-D14(S)	11.84	244	964711	68.86396 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.864%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

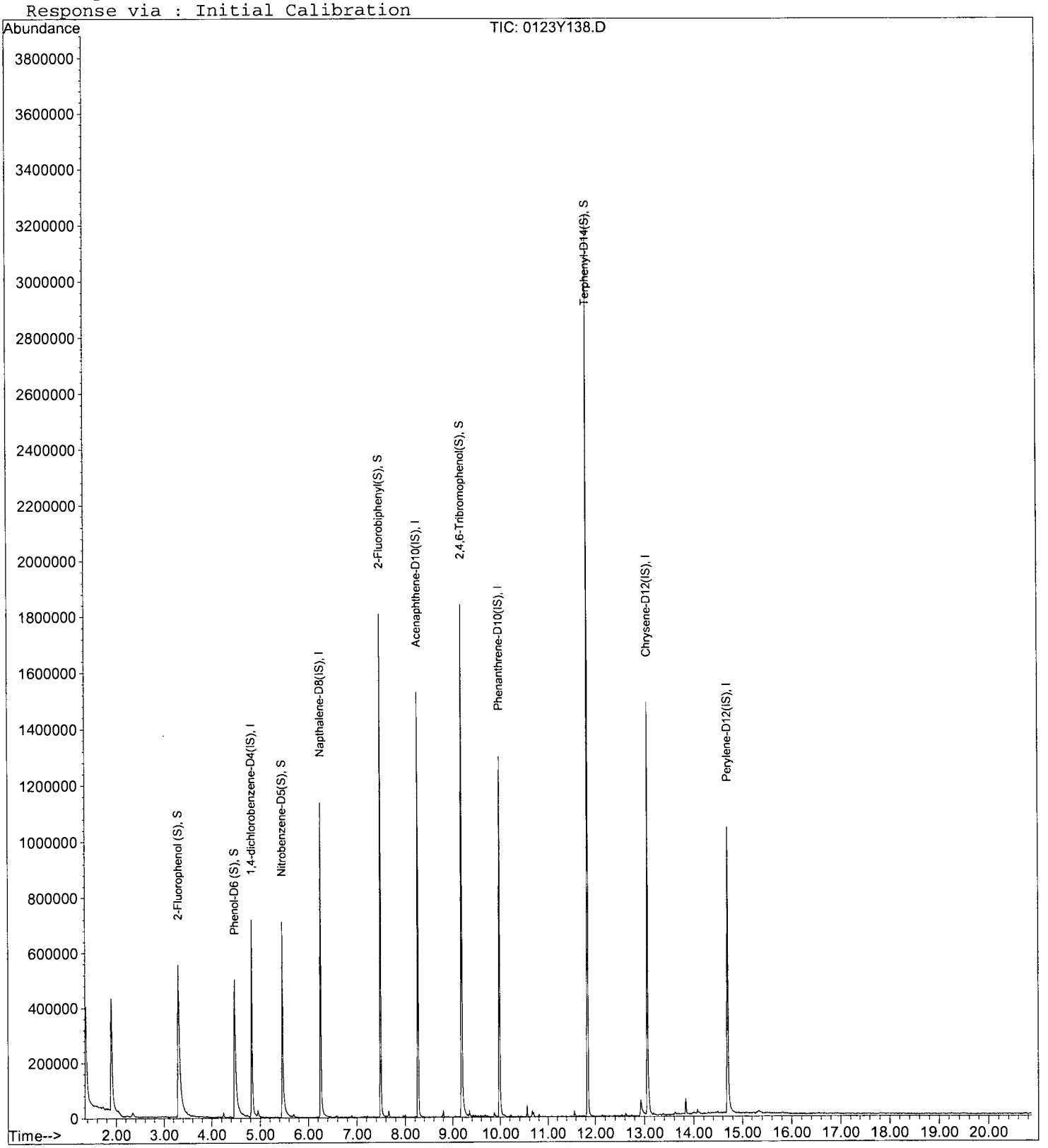
Data File : M:\YODA\DATA\Y170123\0123Y138.D
Acq On : 13 Feb 17 13:25
Sample : 170209A BLK 1/1000
Misc : water

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 13:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170209W-49674 LCS - 216150**
Batch ID: #87DC5-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.3	36.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	130	65.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	57.1	57.1	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	99.1	49.5	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	59.9	59.9	44-120
SURROGATE: PHENOL-D6 (S)	200	62.8	31.4	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.3	65.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/09/17
Analysis Date :	02/13/17
Instrument :	Yoda
Run :	0123Y139
Initials :	MA

Printed: 02/14/17 12:32:54 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y139.D
Acq On : 13 Feb 17 13:56
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 16:59 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	167743	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	753058	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	441218	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	817558	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	799914	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	789605	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	524387	99.10392 ppb	-0.02
Spiked Amount 200.000			Recovery = 49.552%		
5) Phenol-D6 (S)	4.47	99	441794	62.75656 ppb	0.00
Spiked Amount 200.000			Recovery = 31.379%		
21) Nitrobenzene-D5(S)	5.46	82	457272	59.87474 ppb	0.00
Spiked Amount 100.000			Recovery = 59.875%		
45) 2-Fluorobiphenyl(S)	7.49	172	808536	57.12303 ppb	0.00
Spiked Amount 100.000			Recovery = 57.123%		
63) 2,4,6-Tribromophenol(S)	9.19	330	264982	129.74976 ppb	0.00
Spiked Amount 200.000			Recovery = 64.875%		
81) Terphenyl-D14(S)	11.85	244	1124026	65.33034 ppb	0.00
Spiked Amount 100.000			Recovery = 65.330%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	109864	27.40263 ppb		82
3) Pyridine	1.75	79	86752	10.87778 ppb		89
6) Phenol	4.48	94	147625	18.26865 ppb		82
7) Aniline	4.47	66	181291	23.63325 ppb	#	60
8) Bis (2-chloroethyl) ether	4.54	63	130537	33.00475 ppb		97
9) 2-Chlorophenol	4.60	128	224581	35.93827 ppb		94
10) 1,3-DCB	4.75	146	144437	21.91019 ppb		99
11) 1,4-DCB	4.85	146	158625	23.41595 ppb		96
12) Benzyl alcohol	5.01	108	124224	34.90160 ppb		90
13) 1,2-DCB	5.01	146	155941	25.25601 ppb		97
14) 2-Methylphenol	5.15	107	158733	33.98859 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	295739	34.07916 ppb	#	71
16) Acetophenone	5.29	105	294972	35.44404 ppb		97
17) 3&4-Methylphenol	5.33	107	414417	68.33399 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	170519	36.90980 ppb		97
19) Hexachloroethane	5.38	117	48279	17.33203 ppb		97
22) Nitrobenzene	5.49	77	242704	31.83781 ppb		94
23) Isophorone	5.75	82	439392	34.71618 ppb		99
24) 2-Nitrophenol	5.84	139	124484	34.81775 ppb		93
25) 2,4-Dimethylphenol	5.91	122	186810	32.31720 ppb		94
26) Benzoic acid	6.07	105	64539	19.12103 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	250048	34.12407 ppb		99
28) 2,4-Dichlorophenol	6.14	162	189720	34.49023 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	142104	23.37993 ppb		92
30) 3,4-Dimethylphenol	6.25	107	296903	34.11568 ppb		97
31) Naphthalene	6.28	128	583892	29.65599 ppb		99
32) 4-Chloroaniline	6.36	127	291547	42.15448 ppb		98
33) 2,6-Dichlorophenol	6.37	162	180252	35.40751 ppb		96
34) Hexachloropropene	6.38	213	69610	15.75490 ppb		97
35) Hexachlorobutadiene	6.41	225	60383	16.75387 ppb		98
36) Caprolactum	6.78	55	37206	11.88398 ppb		93
37) 4-Chloro-3-methylphenol	6.94	107	223696	37.52955 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y139.D
Acq On : 13 Feb 17 13:56
Sample : 170209A LCS-1 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 13 16:59 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	387588	30.30274	ppb		99
39) 1-Methylnaphthalene	7.19	142	389795	30.93905	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	17088	14.85771	ppb	#	89
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	171217	28.67839	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	133687	35.68697	ppb		100
44) 2,4,5-Trichlorophenol	7.48	196	147484	35.89167	ppb		91
46) 1,1'-Biphenyl	7.61	154	540948	32.67781	ppb		96
47) 2-Chloronaphthalene	7.63	162	403850	31.92735	ppb		99
48) 2-Nitroaniline	7.77	65	167623	37.16349	ppb		86
49) Dimethyl phthalate	7.97	163	563553	37.15628	ppb		99
50) 2,6-DNT	8.06	165	123077	36.34886	ppb		90
51) Acenaphthylene	8.10	152	658393	32.32675	ppb		99
52) 3-Nitroaniline	8.25	138	139131	37.57228	ppb		92
53) Acenaphthene	8.30	154	412760	32.87602	ppb		98
54) 2,4-Dinitrophenol	8.41	184	49703	34.89945	ppb		98
55) 4-Nitrophenol	8.50	65	4540	8.63571	ppb		72
56) Dibenzofuran	8.50	168	616028	34.75082	ppb		93
57) 2,4-DNT	8.53	165	174759	37.01584	ppb		84
58) 2,3,4,6-Tetrachlorophenol	8.67	232	117064	36.16940	ppb		94
59) Diethyl phthalate	8.79	149	569850	37.10339	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	235699	34.13726	ppb		97
61) Fluorene	8.90	166	493390	34.38167	ppb		97
62) 4-Nitroaniline	8.97	138	139366	39.56237	ppb		87
65) 4,6-Dinitro-2-methylphenol	9.01	198	99242	35.99939	ppb		86
66) Diphenyl amine	9.05	169	795544	75.47204	ppb		100
67) n-Nitrosodiphenylamine	9.05	169	795544	75.47204	ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	600936	32.65521	ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	151310	36.62990	ppb		95
70) Hexachlorobenzene	9.54	284	156129	36.23296	ppb		89
71) Atrazine	9.68	200	80042	19.61670	ppb		96
72) Pentachlorophenol	9.79	266	62144	35.53394	ppb		95
73) Phenanthrene	10.02	178	793848	35.58802	ppb		99
74) Anthracene	10.07	178	830400	35.69034	ppb		100
75) Carbazol	10.28	167	751767	36.49783	ppb		97
76) Di-n-butylphthalate	10.69	149	1017061	39.07543	ppb		100
77) Fluoranthene	11.40	202	887753	36.65964	ppb		96
79) Benzidine	11.58	184	126428	12.69630	ppb		98
80) Pyrene	11.66	202	945043	36.84109	ppb		99
82) Butyl benzylphthalate	12.42	149	462195	38.96887	ppb		95
83) 3,3'-Dichlorobenzidine	13.03	252	333757	41.49669	ppb	#	97
84) Benz (a) anthracene	13.05	228	876343	36.32416	ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	620329	37.18540	ppb		99
86) Chrysene	13.09	228	858930	36.29930	ppb		98
87) Di-n-octylphthalate	13.80	149	1113300	38.95772	ppb		99
89) Benzo (b) fluoranthene	14.24	252	903299	36.74863	ppb		98
90) Benzo (k) fluoranthene	14.28	252	878775	38.79091	ppb		98
91) Benzo (a) pyrene	14.63	252	834106	37.15445	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	909711	36.14648	ppb		100
93) Dibenz (a,h) anthracene	16.25	278	786250	36.69947	ppb		100
94) Benzo (g,h,i) perylene	16.68	276	765759	36.26460	ppb		99

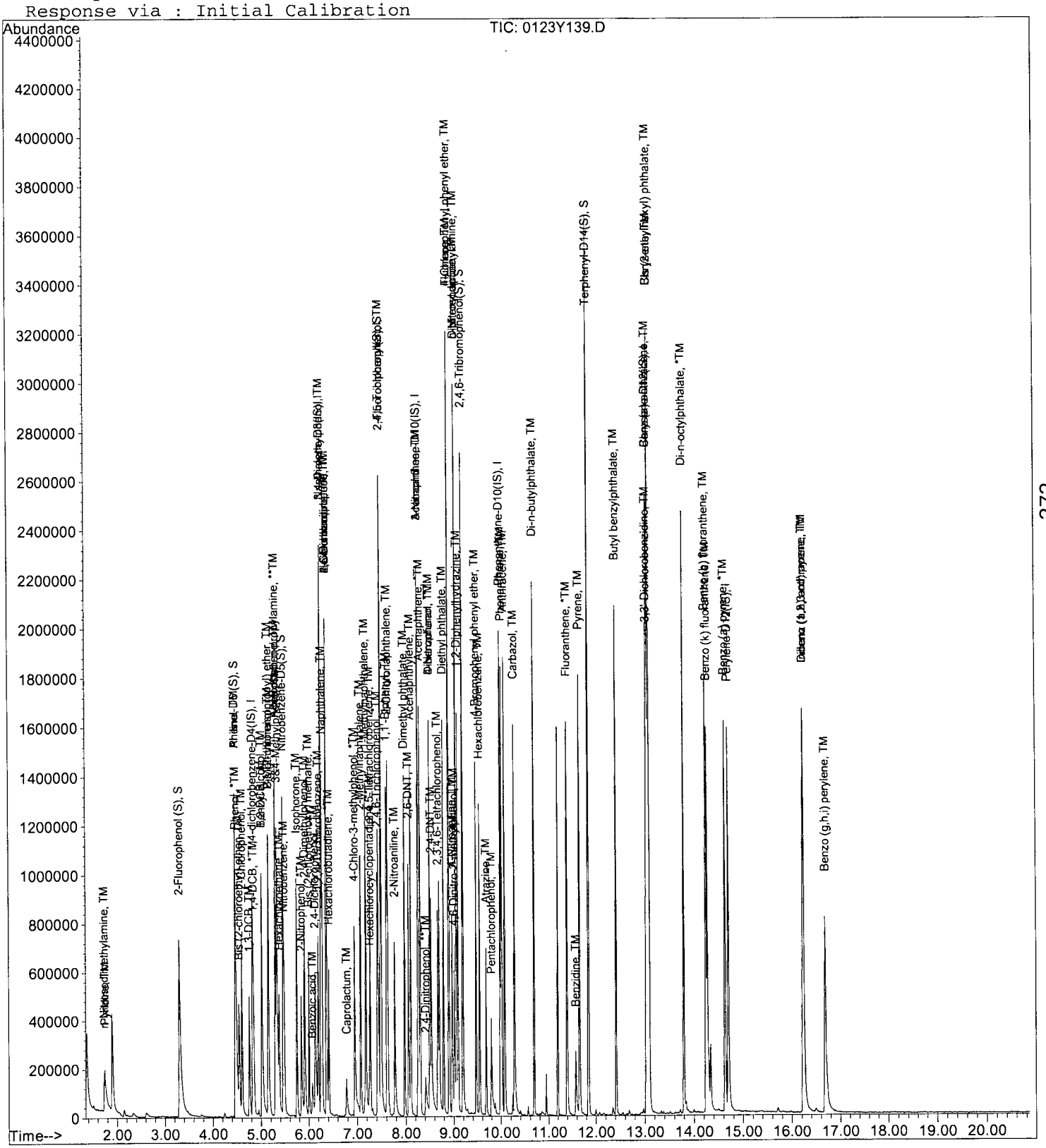
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y139.D Vial: 39
Acq On : 13 Feb 17 13:56 Operator: MA
Sample : 170209A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 13 16:59 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170209W-49674 MS - 216150**
Batch ID: #87DC5-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	19.5	19.1	39.0	38.2	10-115	2.1	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	150	145	75.0	72.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	65.0	58.0	65.0	58.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	99.1	95.2	49.5	47.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	71.5	65.8	71.5	65.8	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	62.2	62.2	31.1	31.1	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	73.3	73.4	73.3	73.4	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/13/17	02/13/17
Instrument :	Yoda	Yoda
Run :	0123Y143	0123Y144
Initials :	MA	

Printed: 02/14/17 12:32:56 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y143.D Vial: 43
Acq On : 13 Feb 17 15:56 Operator: MA
Sample : AZ49674W28 MS-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	173997	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	750852	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	411383	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753386	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	745180	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	761253	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	582114	99.12099 ppb	-0.02
Spiked Amount 186.916			Recovery	= 53.030%	
5) Phenol-D6 (S)	4.46	99	485828	62.17854 ppb	0.00
Spiked Amount 186.916			Recovery	= 33.266%	
21) Nitrobenzene-D5(S)	5.47	82	582846	71.53408 ppb	0.00
Spiked Amount 93.458			Recovery	= 76.541%	
45) 2-Fluorobiphenyl(S)	7.50	172	917382	64.96583 ppb	0.00
Spiked Amount 93.458			Recovery	= 69.514%	
63) 2,4,6-Tribromophenol(S)	9.20	330	304744	149.57130 ppb	0.00
Spiked Amount 186.916			Recovery	= 80.020%	
81) Terphenyl-D14(S)	11.85	244	1257752	73.33844 ppb	0.00
Spiked Amount 93.458			Recovery	= 78.472%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	117480	26.40095 ppb		96
3) Pyridine	1.74	79	169098	19.10371 ppb		96
6) Phenol	4.48	94	174919	19.50303 ppb	#	73
7) Aniline	4.46	66	229545	26.96086 ppb	#	52
8) Bis (2-chloroethyl) ether	4.55	63	165343	37.66581 ppb		90
9) 2-Chlorophenol	4.60	128	258785	37.31143 ppb		95
10) 1,3-DCB	4.75	146	195939	26.77980 ppb		97
11) 1,4-DCB	4.85	146	199913	26.58887 ppb		97
12) Benzyl alcohol	5.01	108	142475	36.06593 ppb		91
13) 1,2-DCB	5.01	146	200458	29.25139 ppb		97
14) 2-Methylphenol	5.15	107	183844	35.46778 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	374168	38.84772 ppb	#	68
16) Acetophenone	5.29	105	362254	39.21880 ppb		95
17) 3&4-Methylphenol	5.33	107	454925	67.58615 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	201095	39.21831 ppb		95
19) Hexachloroethane	5.37	117	66519	21.51571 ppb		93
22) Nitrobenzene	5.49	77	310712	38.20449 ppb		92
23) Isophorone	5.76	82	528050	39.10614 ppb		94
24) 2-Nitrophenol	5.84	139	147601	38.69605 ppb		87
25) 2,4-Dimethylphenol	5.91	122	207891	33.71005 ppb		98
26) Benzoic acid	6.08	105	70997	19.13250 ppb		94
27) Bis (2-chloroethoxy) metha	6.01	93	302907	38.74689 ppb		96
28) 2,4-Dichlorophenol	6.13	162	218644	37.25724 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	193286	29.80763 ppb		96
30) 3,4-Dimethylphenol	6.26	107	338290	36.43500 ppb		97
31) Naphthalene	6.28	128	714923	34.03528 ppb		99
32) 4-Chloroaniline	6.37	127	322708	43.73559 ppb		95
33) 2,6-Dichlorophenol	6.37	162	203546	37.47727 ppb		99
34) Hexachloropropene	6.38	213	103226	21.89894 ppb		98
35) Hexachlorobutadiene	6.41	225	86044	22.37748 ppb		98
36) Caprolactum	6.78	55	42154	12.62053 ppb		89
37) 4-Chloro-3-methylphenol	6.94	107	249878	39.29464 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y143.D
Acq On : 13 Feb 17 15:56
Sample : AZ49674W28 MS-1 1/1070
Misc : water

Vial: 43
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	470628	34.48891 ppb		98
39) 1-Methylnaphthalene	7.18	142	457232	34.01711 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	27070	19.05386 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	203653	34.19177 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	146461	39.18911 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	159501	38.90766 ppb		92
46) 1,1'-Biphenyl	7.61	154	596955	36.14614 ppb		98
47) 2-Chloronaphthalene	7.63	162	448667	35.55411 ppb		96
48) 2-Nitroaniline	7.77	65	182175	40.48504 ppb		80
49) Dimethyl phthalate	7.98	163	598972	39.58466 ppb		98
50) 2,6-DNT	8.06	165	130943	38.76315 ppb	#	67
51) Acenaphthylene	8.10	152	737949	36.31835 ppb		99
52) 3-Nitroaniline	8.25	138	151862	41.10699 ppb		85
53) Acenaphthene	8.31	154	468093	37.37117 ppb		99
54) 2,4-Dinitrophenol	8.41	184	54217	36.50705 ppb		88
55) 4-Nitrophenol	8.55	65	47984	21.13781 ppb		78
56) Dibenzofuran	8.50	168	676423	38.24775 ppb		95
57) 2,4-DNT	8.54	165	197134	41.85357 ppb		87
58) 2,3,4,6-Tetrachlorophenol	8.67	232	126218	39.08968 ppb	#	88
59) Diethyl phthalate	8.80	149	639746	41.75260 ppb		95
60) 4-Chlorophenyl phenyl ethe	8.90	204	258172	37.48029 ppb		91
61) Fluorene	8.90	166	526945	36.80652 ppb		99
62) 4-Nitroaniline	8.98	138	142472	40.53945 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.01	198	114528	40.62029 ppb	#	75
66) Diphenyl amine	9.06	169	872348	83.93221 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	872348	83.93221 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	786825	43.36301 ppb		91
69) 4-Bromophenyl phenyl ether	9.47	248	163617	40.17108 ppb		91
70) Hexachlorobenzene	9.55	284	177443	41.76343 ppb	#	83
71) Atrazine	9.69	200	87340	21.70893 ppb		97
72) Pentachlorophenol	9.79	266	64977	36.73502 ppb		97
73) Phenanthrene	10.02	178	860975	39.14480 ppb		99
74) Anthracene	10.07	178	919176	40.06629 ppb		99
75) Carbazol	10.28	167	828649	40.80106 ppb		97
76) Di-n-butylphthalate	10.68	149	1081861	42.15463 ppb		99
77) Fluoranthene	11.40	202	967989	40.53998 ppb		96
79) Benzidine	11.58	184	166259	16.75009 ppb		98
80) Pyrene	11.66	202	1041115	40.71719 ppb		99
82) Butyl benzylphthalate	12.42	149	500705	42.35187 ppb		88
83) 3,3'-Dichlorobenzidine	13.03	252	347920	43.39709 ppb	#	94
84) Benz (a) anthracene	13.05	228	973447	40.47920 ppb		100
85) Bis (2-ethylhexyl) phthala	13.09	149	700605	42.13293 ppb	#	95
86) Chrysene	13.10	228	950857	40.31381 ppb		99
87) Di-n-octylphthalate	13.79	149	1236295	43.40118 ppb		95
89) Benzo (b) fluoranthene	14.24	252	975923	38.48771 ppb		98
90) Benzo (k) fluoranthene	14.28	252	964914	41.28932 ppb		97
91) Benzo (a) pyrene	14.63	252	899578	38.84412 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1116277	42.99633 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	953636	43.14979 ppb		100
94) Benzo (g,h,i) perylene	16.68	276	899064	41.27416 ppb		98

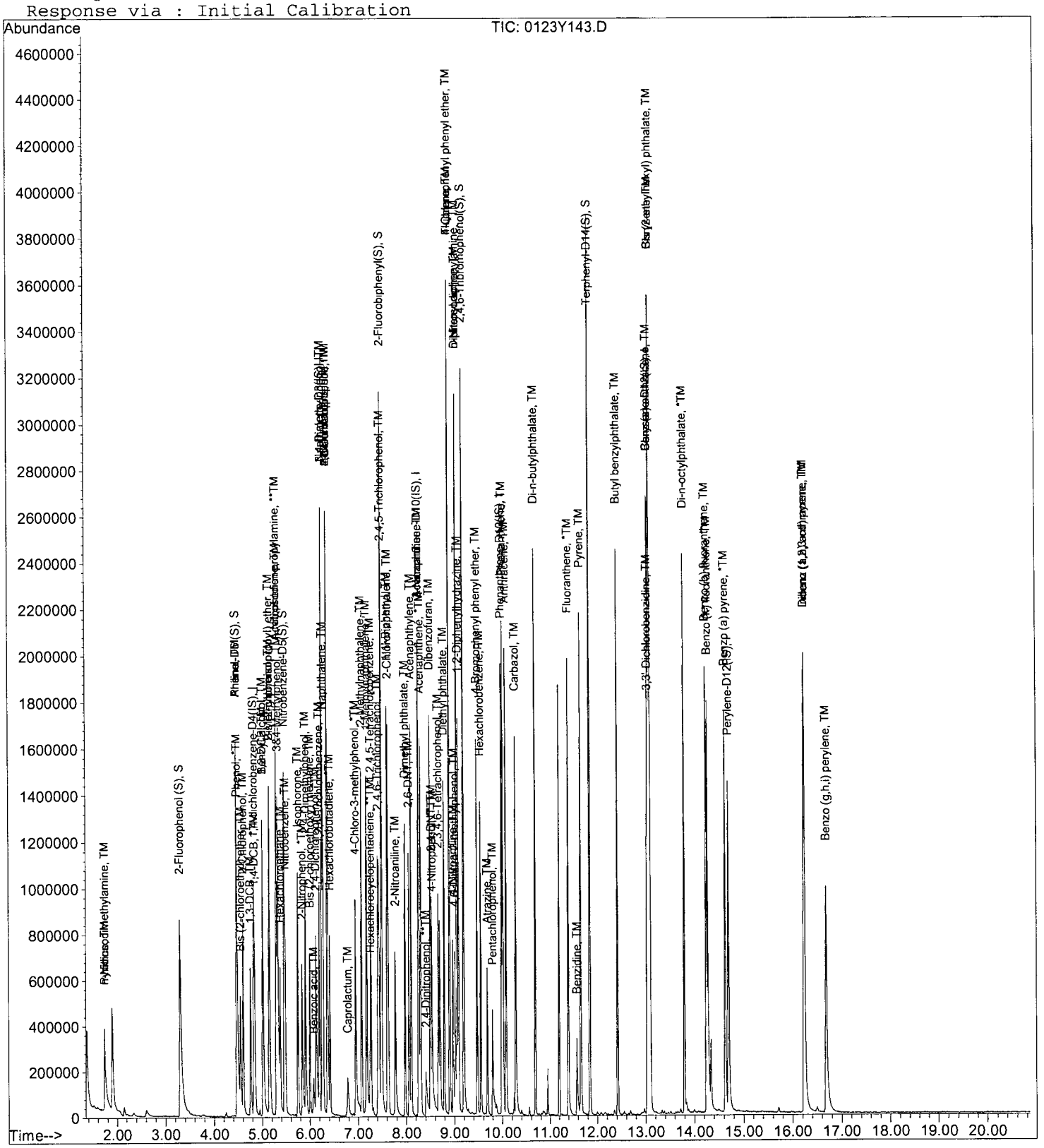
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y143.D Vial: 43
Acq On : 13 Feb 17 15:56 Operator: MA
Sample : AZ49674W28 MS-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y144.D Vial: 44
Acq On : 13 Feb 17 16:27 Operator: MA
Sample : AZ49674W30 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	175948	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	767739	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	457914	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	840048	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	850051	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	828192	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	565569	95.23588 ppb	-0.02
Spiked Amount 186.916			Recovery	= 50.951%	
5) Phenol-D6 (S)	4.47	99	491397	62.19392 ppb	0.00
Spiked Amount 186.916			Recovery	= 33.274%	
21) Nitrobenzene-D5(S)	5.46	82	548507	65.83882 ppb	0.00
Spiked Amount 93.458			Recovery	= 70.448%	
45) 2-Fluorobiphenyl(S)	7.50	172	911573	57.99475 ppb	0.00
Spiked Amount 93.458			Recovery	= 62.055%	
63) 2,4,6-Tribromophenol(S)	9.20	330	328231	144.72885 ppb	0.00
Spiked Amount 186.916			Recovery	= 77.430%	
81) Terphenyl-D14(S)	11.85	244	1435219	73.36198 ppb	0.00
Spiked Amount 93.458			Recovery	= 78.497%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	116386	25.86507 ppb		95
3) Pyridine	1.74	79	153358	17.13338 ppb		88
6) Phenol	4.48	94	172950	19.06967 ppb		80
7) Aniline	4.47	66	224158	26.03619 ppb	#	58
8) Bis (2-chloroethyl) ether	4.54	63	150564	33.91877 ppb		98
9) 2-Chlorophenol	4.60	128	259426	36.98909 ppb		94
10) 1,3-DCB	4.75	146	162728	21.99410 ppb		99
11) 1,4-DCB	4.85	146	175800	23.12252 ppb		93
12) Benzyl alcohol	5.01	108	146911	36.77649 ppb		88
13) 1,2-DCB	5.01	146	170352	24.58260 ppb		96
14) 2-Methylphenol	5.15	107	186918	35.66097 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	344226	35.34272 ppb	#	71
16) Acetophenone	5.29	105	338642	36.25596 ppb		95
17) 3&4-Methylphenol	5.33	107	452768	66.51981 ppb		94
18) n-Nitrosodi-n-propylamine	5.30	70	189989	36.64152 ppb		97
19) Hexachloroethane	5.38	117	53335	17.06003 ppb		96
22) Nitrobenzene	5.49	77	282020	33.91384 ppb		90
23) Isophorone	5.75	82	522967	37.87782 ppb		99
24) 2-Nitrophenol	5.84	139	142469	36.52906 ppb		96
25) 2,4-Dimethylphenol	5.91	122	212948	33.77054 ppb		94
26) Benzoic acid	6.08	105	71163	18.86675 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	294928	36.89642 ppb		98
28) 2,4-Dichlorophenol	6.13	162	221920	36.98369 ppb		98
29) 1,2,4-Trichlorobenzene	6.20	180	161651	24.38070 ppb		95
30) 3,4-Dimethylphenol	6.25	107	345005	36.34090 ppb		96
31) Naphthalene	6.28	128	640740	29.83270 ppb		100
32) 4-Chloroaniline	6.36	127	339994	45.06477 ppb		98
33) 2,6-Dichlorophenol	6.37	162	199989	36.01241 ppb		92
34) Hexachloropropene	6.38	213	78300	16.24563 ppb		97
35) Hexachlorobutadiene	6.42	225	61951	15.75722 ppb		100
36) Caprolactum	6.78	55	41031	12.01411 ppb		95
37) 4-Chloro-3-methylphenol	6.94	107	264711	40.71158 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y144.D Vial: 44
Acq On : 13 Feb 17 16:27 Operator: MA
Sample : AZ49674W30 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	431363	30.91614 ppb		98
39) 1-Methylnaphthalene	7.18	142	436091	31.73063 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	19226	14.52690 ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	181463	27.37041 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	164707	39.59295 ppb		96
44) 2,4,5-Trichlorophenol	7.47	196	173884	38.10603 ppb		94
46) 1,1'-Biphenyl	7.61	154	623170	33.89919 ppb		97
47) 2-Chloronaphthalene	7.63	162	458567	32.64607 ppb		98
48) 2-Nitroaniline	7.77	65	195343	39.00013 ppb		94
49) Dimethyl phthalate	7.97	163	706962	41.97386 ppb		99
50) 2,6-DNT	8.06	165	153650	40.86315 ppb		89
51) Acenaphthylene	8.10	152	786219	34.76208 ppb		100
52) 3-Nitroaniline	8.25	138	166735	40.54672 ppb		87
53) Acenaphthene	8.30	154	483683	34.69188 ppb		98
54) 2,4-Dinitrophenol	8.41	184	64617	38.37040 ppb		97
55) 4-Nitrophenol	8.54	65	38960	17.26021 ppb	#	18
56) Dibenzofuran	8.50	168	723644	36.75995 ppb		91
57) 2,4-DNT	8.53	165	218973	41.76610 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.67	232	146986	40.89585 ppb		92
59) Diethyl phthalate	8.79	149	704997	41.33573 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.90	204	271496	35.40949 ppb		95
61) Fluorene	8.90	166	580851	36.44909 ppb		98
62) 4-Nitroaniline	8.98	138	165391	42.27880 ppb		83
65) 4,6-Dinitro-2-methylphenol	9.01	198	129744	41.17387 ppb	#	80
66) Diphenyl amine	9.06	169	985465	85.03419 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	985465	85.03419 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	727128	35.93897 ppb		96
69) 4-Bromophenyl phenyl ether	9.47	248	181869	40.04582 ppb		96
70) Hexachlorobenzene	9.54	284	194083	40.96738 ppb		90
71) Atrazine	9.69	200	98608	21.98117 ppb		97
72) Pentachlorophenol	9.79	266	84287	41.58856 ppb		97
73) Phenanthrene	10.02	178	983544	40.10428 ppb		100
74) Anthracene	10.07	178	1050797	41.07832 ppb		99
75) Carbazol	10.28	167	951260	42.00621 ppb		98
76) Di-n-butylphthalate	10.69	149	1237104	43.23082 ppb		99
77) Fluoranthene	11.40	202	1117838	41.98609 ppb		97
79) Benzidine	11.59	184	56971	5.03155 ppb		98
80) Pyrene	11.66	202	1205470	41.32869 ppb		99
82) Butyl benzylphthalate	12.42	149	574822	42.62263 ppb		91
83) 3,3'-Dichlorobenzidine	13.03	252	385995	42.20648 ppb	#	95
84) Benz (a) anthracene	13.05	228	1109201	40.43394 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	787485	41.51518 ppb	#	97
86) Chrysene	13.10	228	1088955	40.47294 ppb		99
87) Di-n-octylphthalate	13.80	149	1443235	44.41531 ppb		97
89) Benzo (b) fluoranthene	14.24	252	1133784	41.09934 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1120668	44.07823 ppb		98
91) Benzo (a) pyrene	14.63	252	1058940	42.02966 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	1170766	41.45028 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1008580	41.94734 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	984833	41.55739 ppb		98

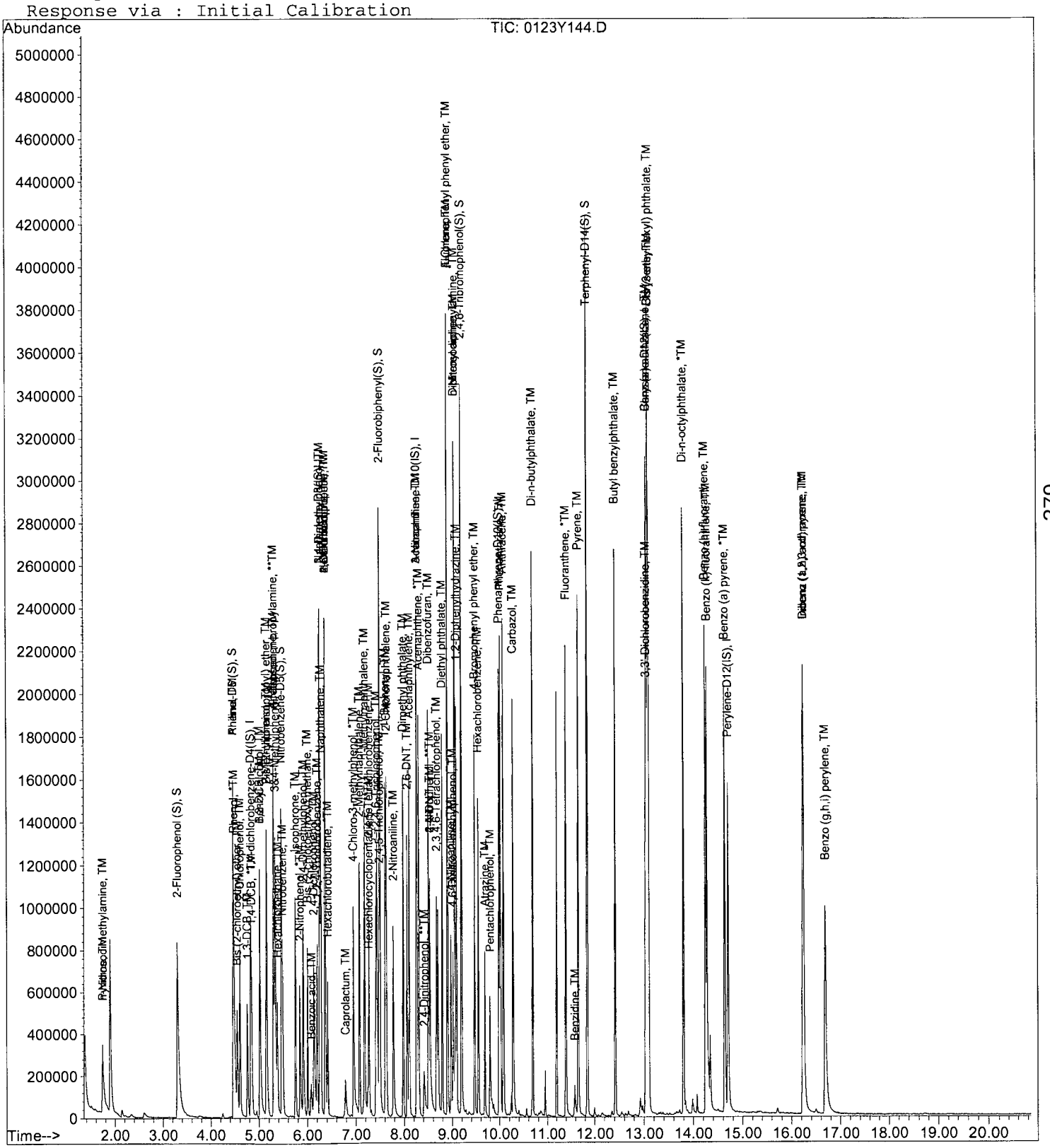
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y144.D Vial: 44
Acq On : 13 Feb 17 16:27 Operator: MA
Sample : AZ49674W30 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 13 17:01 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration

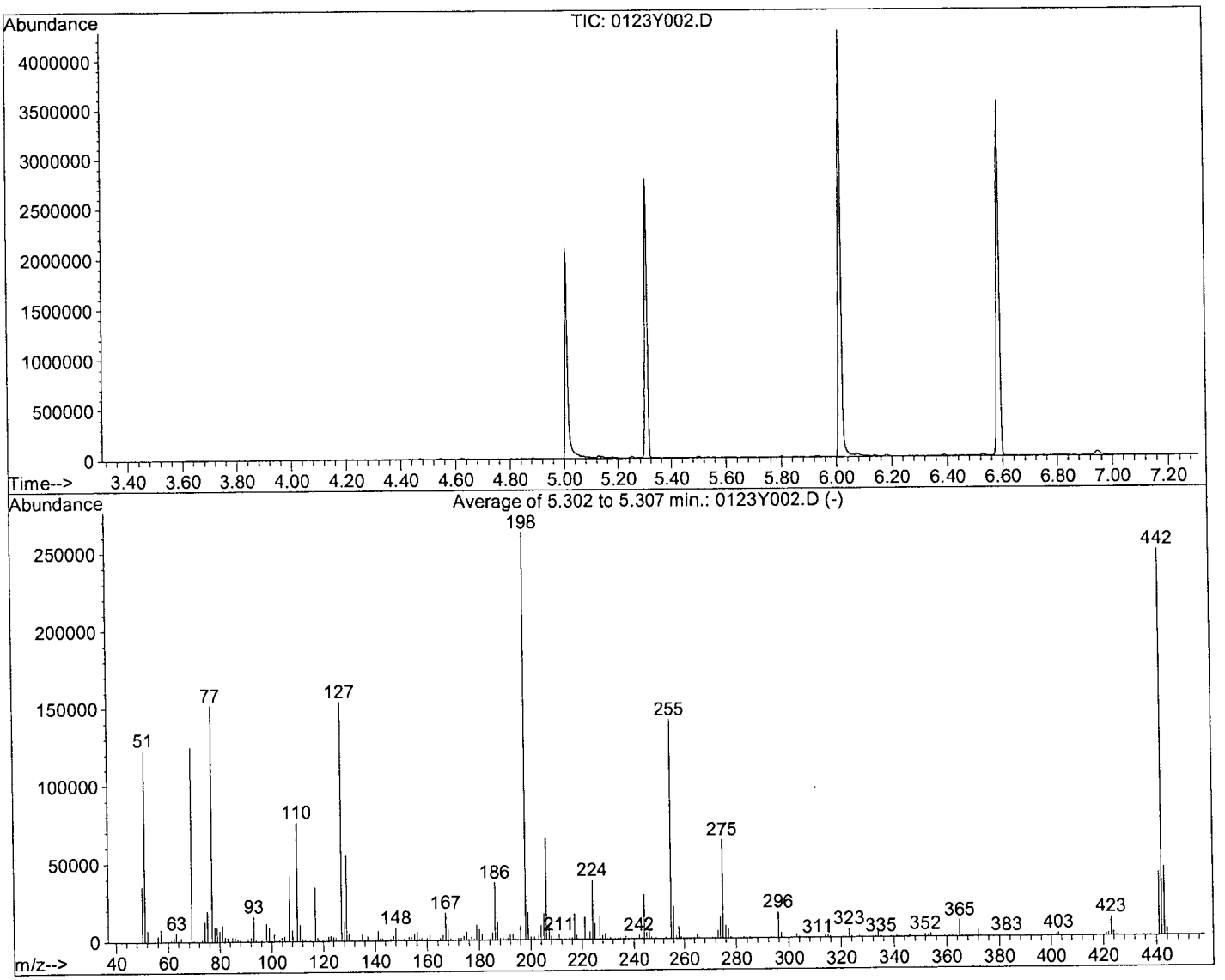


DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



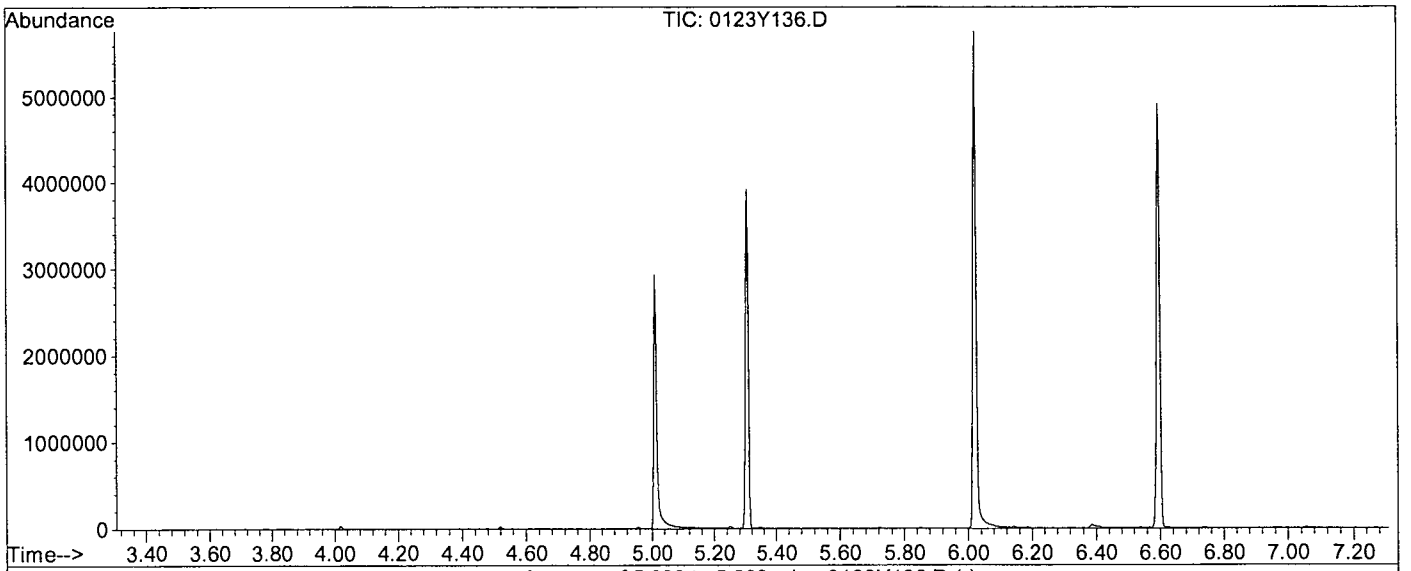
AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

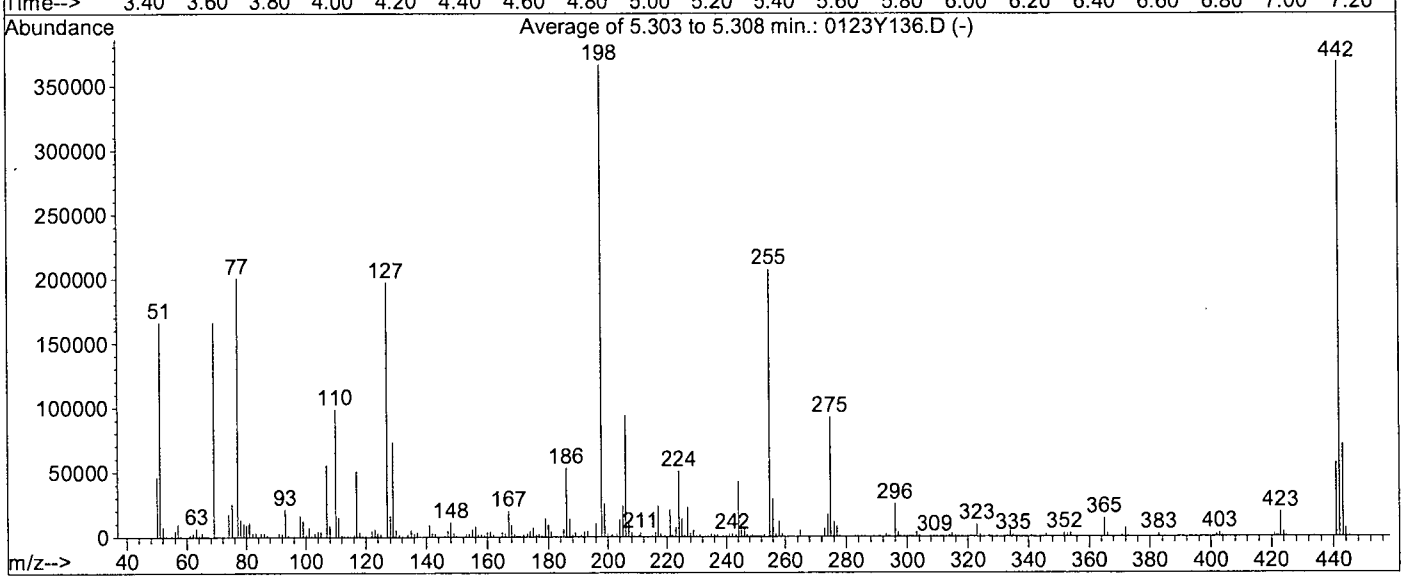
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y136.D Vial: 36
Acq On : 13 Feb 17 12:09 Operator: MA
Sample : SV Tune 12/15/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\DIX0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 687, 688, 689; Background Corrected with Scan 679

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	45.3	166016	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	642	PASS
127	198	40	60	53.8	197077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	366336	PASS
199	198	5	9	6.9	25405	PASS
275	198	10	30	25.1	91963	PASS
365	198	1	100	3.9	14157	PASS
441	443	0.01	100	79.9	56568	PASS
442	198	50	150	100.5	368299	PASS
443	442	17	23	19.2	70757	PASS

0123Y136.D DIX0123.M Mon Feb 13 12:19:35 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	12/08/16 RH					
Exp:	12/08/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-36838	12/08/16	12/08/17	1000
Absolute	10002	2000	062216-37257	12/08/16	12/08/17	1000
Absolute	10004	2000	012516-37148	12/08/16	12/08/17	1000
Absolute	10005	2000	110314-37138	12/08/16	12/08/17	1000
Absolute	10006	2000	081216-37078	12/08/16	12/08/17	1000
Absolute	10007	2000	020515-37140	12/08/16	12/08/17	1000
Absolute	10018	2000	090216-37152	12/08/16	12/08/17	1000
Absolute	70023	1000	042716-37304	12/08/16	12/08/17	1000
Absolute	82705	2000	012516-37142	12/08/16	12/08/17	1000
Absolute	94552	2000	042016-37259	12/08/16	12/08/17	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Full Scan Second Source Stock						
	7/8/16 GA					
8270 Second Source Stock						
Exp:	07/08/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	234696-35233	07/08/16	07/08/17	1000
o2si	110391-01	2000	252133-35880	07/08/16	07/08/17	1000
o2si	010337-01	1000	259144-35881	07/08/16	07/08/17	1000
o2si	110396-01	2000	252136-35882	07/08/16	07/08/17	1000
o2si	110397-01	2000	263077-35835	07/08/16	01/08/17	1000
o2si	110393-01	2000	252141-35248	07/08/16	07/08/17	1000
o2si	110394-01	2000	252143-35884	07/08/16	07/08/17	1000
o2si	**110395-01**	2000	252146-35885	07/08/16	07/08/17	1000
o2si	110392-01	2000	243259-35886	07/08/16	07/08/17	1000
Absolute	10006	2000	091115-35856	07/08/16	07/08/17	1000
				Final Vol.		10000

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	01/19/2018					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37137	01/19/17	01/19/18	1000
Absolute	10002	2000	062216-37146	01/19/17	01/19/18	1000
Absolute	10004	2000	012516-37149	01/19/17	01/19/18	1000
Absolute	10005	2000	110314-37139	01/19/17	01/19/18	1000
Absolute	10006	2000	081216-37077	01/19/17	01/19/18	1000
Absolute	10007	2000	020515-37141	01/19/17	01/19/18	1000
Absolute	10018	2000	090216-37153	01/19/17	01/19/18	1000
Absolute	70023	1000	083121-37151	01/19/17	01/19/18	1000
Absolute	82705	2000	012516-37143	01/19/17	01/19/18	1000
Absolute	94552	2000	042016-36864	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170209A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 1-19-17 exp 1-18-18		Surrogate ID 1	8270 Surrogate 1-12-17 exp 7-12-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 10:40	
Spiked ID 8			Ext. End Time:	02/10/17 14:30	
			GC Requires Extract By:	**02/14/17 0:00**	

pH1	2	2/09/17 11:10:00 AM	Water Bath Temp Criteria	70,70 °C
pH2	14	02/09/17 1:00:00 PM		
pH3				

Spiked By: DL **Date** 02/09/17 **Witnessed By:** JR **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				1	1 equip	1000 e-wb7	1	2/1	02/09/17 10:40	
2	170209A LCS-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	02/09/17 10:40	
3	AZ49656	AZ49656W12			1	1 equip	1050 E-WB7	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W05			1	1 equip	1000 E-WB7	1	2/1	02/09/17 10:40	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W08			1	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W28	0.250	1	1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W30	0.250	1	1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W24			1	1 equip	1070 E-WB7	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W09			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W13			1	1 equip	1050 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W11			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W05			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W16			1	1 equip	1070 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W08			1	1 equip	1000 E-WB5	1	2/1	02/09/17 10:40	82121 RUSH 1 WEEK

Ky 2/10/17

Solvent and Lot#	
MC	56153
1+1 Sulfuric Acid	12-5-16
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-5-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	8:00
Refrigerator	Hubard

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,DL
Extraction	JR,DL
Concentration	KY

Modified	02/10/17 2:38:45 PM

Reviewed By: Ky392 **Date** 2/10/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	36	0123Y136.D	1	SV Tune 12/15/16	water	13 Feb 17 12:09
12	37	0123Y137.D	1	50ug/ml SVOC 2/10/17	water	13 Feb 17 12:25
13	38	0123Y138.D	1	170209A BLK 1/1000	water	13 Feb 17 13:25
14	39	0123Y139.D	1	170209A LCS-1 1/1000	water	13 Feb 17 13:56
15	43	0123Y143.D	0.934579	AZ49674W28 MS-1 1/1070	water	13 Feb 17 15:56
16	44	0123Y144.D	0.934579	AZ49674W30 MSD-1 1/1070	water	13 Feb 17 16:27
17	45	0123Y145.D	0.934579	AZ49674W24 1/1070	water	13 Feb 17 16:57
18	46	0123Y146.D	0.93458	AZ49676W09 1/1070	water	13 Feb 17 17:27
19	47	0123Y147.D	0.95238	AZ49679W13 1/1050	water	13 Feb 17 17:57
20	48	0123Y148.D	0.93458	AZ49682W11 1/1070	water	13 Feb 17 18:27
21	49	0123Y149.D	0.93458	AZ49683W05 1/1070	water	13 Feb 17 18:57
22	50	0123Y150.D	0.93458	AZ49685W16 1/1070	water	13 Feb 17 19:27
23	51	0123Y151.D	1	AZ49686W08 1/1000	water	13 Feb 17 19:57
24	58	0123Y158.D	1	50ug/ml SVOC 2/09/17	water	13 Feb 17 23:26

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.
Run #: 1220Y094
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 3:26:34 PM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Printed: 02/15/17 3:26:36 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 MS - 216164**
Batch ID: #87DME-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	35.9	27.9	44.9	34.9	30-130	25.1 #	20

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/14/17	02/14/17
Instrument :	Yoda	Yoda
Run :	1220Y099	1220Y100
Initials :	MA	

Printed: 02/15/17 3:26:49 PM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82121
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 1105

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	1220Y094	02/14/17 1105
170209A-LCS	Lab Control Spike	1220Y095	02/14/17 1135
170209A-MS	Matrix Spike	1220Y099	02/14/17 1335
170209A-MSD	Matrix SpikeD	1220Y100	02/14/17 1406
AZ49674	ERH205	1220Y101	02/14/17 1436
AZ49676	ERH206	1220Y102	02/14/17 1506
AZ49679	ERH212	1220Y103	02/14/17 1537
AZ49682	ERH214	1220Y104	02/14/17 1607
AZ49683	ERH228	1220Y105	02/14/17 1637
AZ49685	ERH220	1220Y106	02/14/17 1708
AZ49686	ERH221	1220Y107	02/14/17 1738

Comments: Batch: #87DME-170209A

Printed: 02/15/17 3:26:57 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1220Y002.D~~ 82121
Matrix: Water rp 2-2217
ID: SV Tune 11/15/16

SDG No: ~~Yoda~~ rp2-2217 82121
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82121
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 10:14

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y093.D	02/14/17 10:31
2	Blank	170209A BLK 2/500	1220Y094.D	02/14/17 11:05
3	Lab Control Spike	170209A LCS-1 2/500	1220Y095.D	02/14/17 11:35
4		AZ49674W26 MS-1 2/50	1220Y099.D	02/14/17 13:35
5		AZ49674W31 MSD-1 2/5	1220Y100.D	02/14/17 14:06
6	ERH205	AZ49674W26 2/500	1220Y101.D	02/14/17 14:36
7	ERH206	AZ49676W05 2/500	1220Y102.D	02/14/17 15:06
8	ERH212	AZ49679W09 2/500	1220Y103.D	02/14/17 15:37
9	ERH214	AZ49682W10 2/500	1220Y104.D	02/14/17 16:07
10	ERH228	AZ49683W06 2/500	1220Y105.D	02/14/17 16:37
11	ERH220	AZ49685W17 2/500	1220Y106.D	02/14/17 17:08
12	ERH221	AZ49686W12 2/500	1220Y107.D	02/14/17 17:38
13		500ug/ml DEG 02/14/1	1220Y115.D	02/14/17 21:37
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	54.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	84.4
442	50 - 150% of mass 198	108.5
443	17 - 23% of mass 442	18.8

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82121
Lab File ID (Standard): 1220Y007.D
Date Analyzed: 12/20/16
Instrument ID: Yoda
Time Analyzed: 12:27
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	209455	4.83	932530	6.25	528957	8.26
02	170209A BLK 2/500	188520	4.84	817432	6.25	460025	8.26
03	170209A LCS-1 2/500	161275	4.83	700038	6.25	404665	8.26
04	AZ49674W26 MS-1 2/5(	140347	4.84	595850	6.25	349883	8.27
05	AZ49674W31 MSD-1 2/	162597	4.84	682080	6.25	387008	8.27
06	AZ49674W26 2/500	151017	4.84	692189	6.25	385738	8.26
07	AZ49676W05 2/500	145883	4.85	650140	6.26	366618	8.26
08	AZ49679W09 2/500	142360	4.85	628641	6.26	381356	8.26
09	AZ49682W10 2/500	155752	4.83	664870	6.25	375901	8.26
10	AZ49683W06 2/500	140826	4.84	614988	6.26	361710	8.27
11	AZ49685W17 2/500	152810	4.85	653342	6.26	378845	8.26
12	AZ49686W12 2/500	155220	4.84	677277	6.26	397830	8.27
13	500ug/ml DEG 02/14/17	146880	4.84	639153	6.25	366952	8.26
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82121

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	954627	9.99	871378	13.06	617446	14.69
02	170209A BLK 2/500	853633	9.99	804727	13.06	727567	14.69
03	170209A LCS-1 2/500	747111	9.99	722289	13.06	646708	14.69
04	AZ49674W26 MS-1 2/5(	646082	9.99	652205	13.06	565666	14.69
05	AZ49674W31 MSD-1 2/	713734	9.99	694889	13.06	625237	14.69
06	AZ49674W26 2/500	711682	9.99	693878	13.06	615145	14.69
07	AZ49676W05 2/500	645605	9.99	615395	13.06	546949	14.69
08	AZ49679W09 2/500	658340	9.99	611205	13.06	563670	14.70
09	AZ49682W10 2/500	697601	9.99	669736	13.06	647976	14.69
10	AZ49683W06 2/500	640257	9.99	633600	13.06	581923	14.70
11	AZ49685W17 2/500	687756	9.99	596393	13.06	559520	14.70
12	AZ49686W12 2/500	723203	9.99	676826	13.06	657127	14.69
13	500ug/ml DEG 02/14/17	672733	9.99	636852	13.06	NA 428168 *	14.69
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y101
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y101.D Vial: 1
Acq On : 14 Feb 17 14:36 Operator: MA
Sample : AZ49674W26 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:01 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	151017	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	692189	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	385738	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	711682	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	693878	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	615145	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

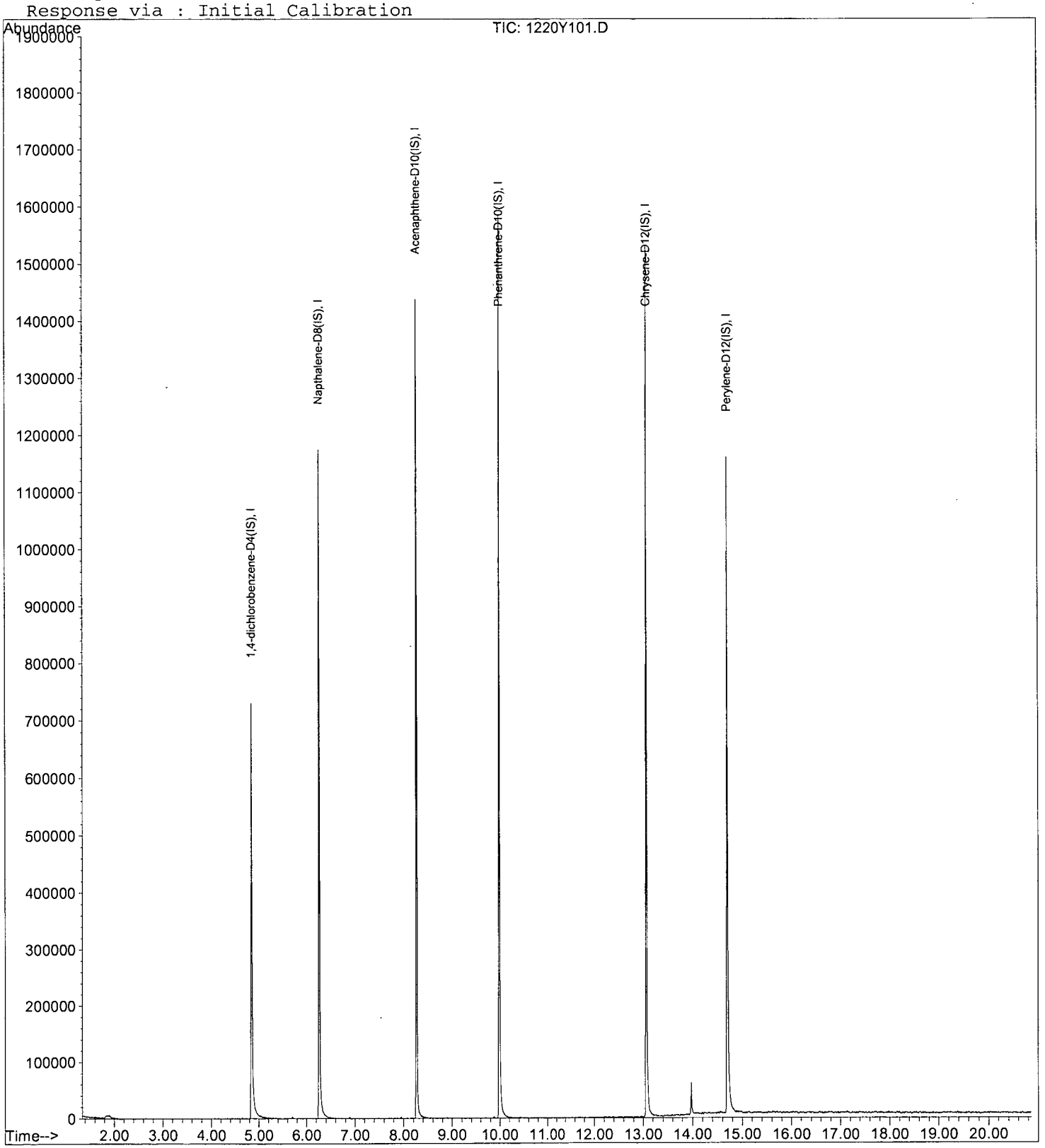
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y101.D Vial: 1
Acq On : 14 Feb 17 14:36 Operator: MA
Sample : AZ49674W26 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:01 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y102
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y102.D Vial: 2
Acq On : 14 Feb 17 15:06 Operator: MA
Sample : AZ49676W05 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:27 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	145883	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	650140	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	366618	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	645605	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	615395	40.00000 ppb	-0.04
7) Perylene-D12(IS)	14.69	264	546949	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

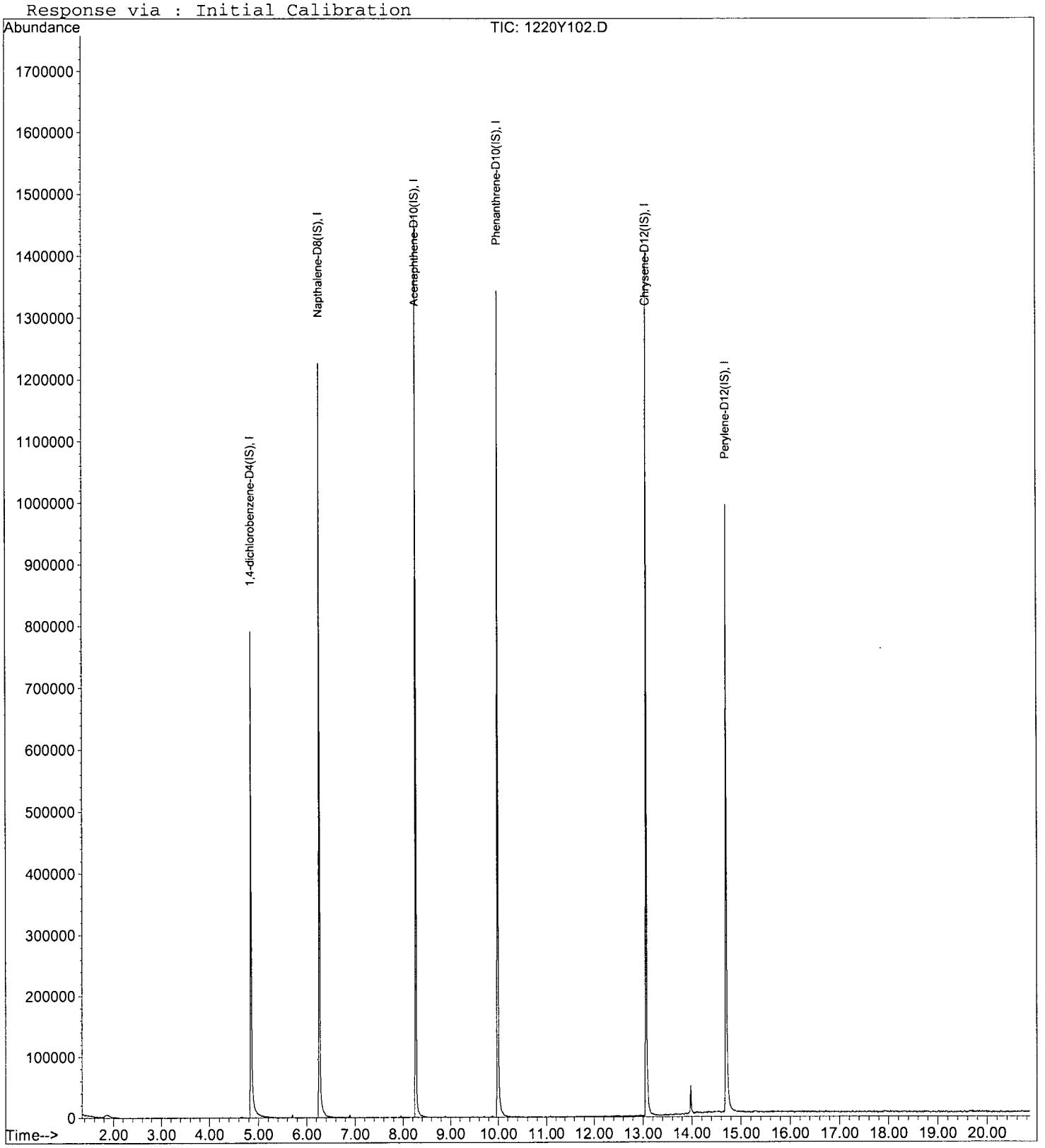
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y102.D Vial: 2
Acq On : 14 Feb 17 15:06 Operator: MA
Sample : AZ49676W05 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:27 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y103
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y103.D Vial: 3
Acq On : 14 Feb 17 15:37 Operator: MA
Sample : AZ49679W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:07 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:07:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	142360	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	628641	40.00000 ppb	-0.03
4) Acenaphthene-D10(IS)	8.26	164	381356	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	658340	40.00000 ppb	-0.03
6) Chrysene-D12(IS)	13.06	240	611205	40.00000 ppb	-0.04
7) Perylene-D12(IS)	14.70	264	563670	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

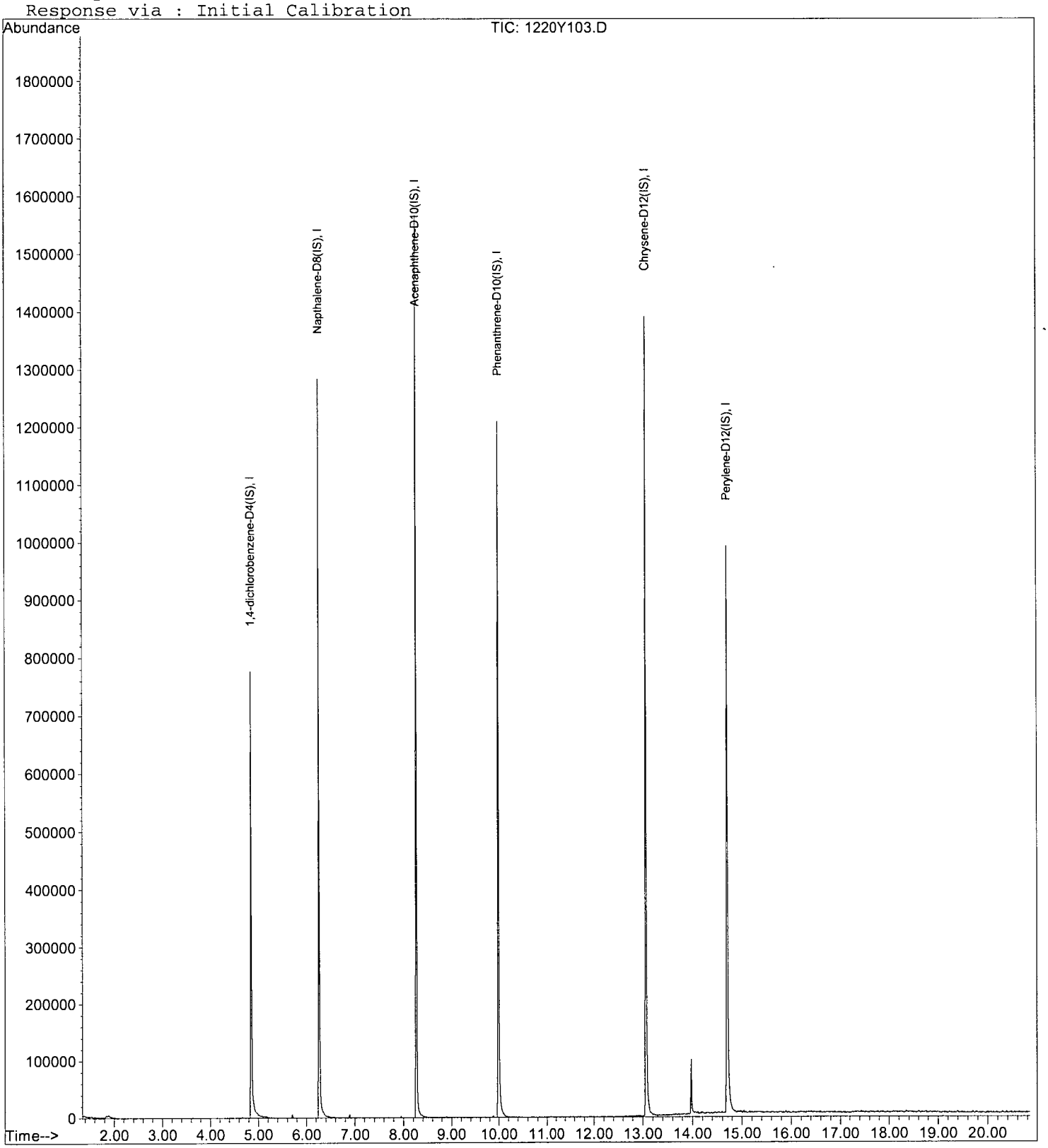
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y103.D Vial: 3
Acq On : 14 Feb 17 15:37 Operator: MA
Sample : AZ49679W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:07 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y104
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y104.D Vial: 4
Acq On : 14 Feb 17 16:07 Operator: MA
Sample : AZ49682W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155752	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	664870	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	375901	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	697601	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	669736	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	647976	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

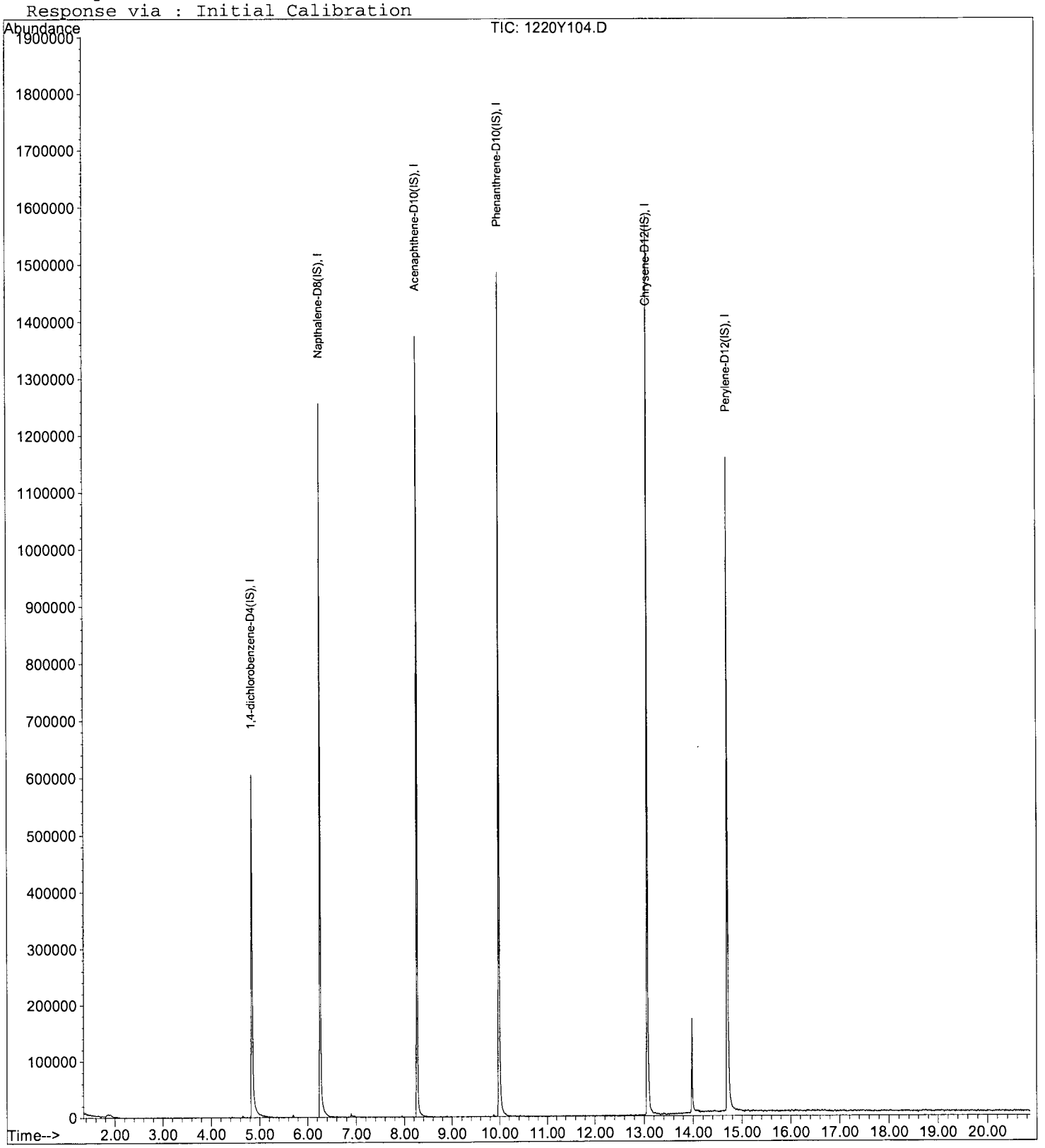
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y104.D Vial: 4
Acq On : 14 Feb 17 16:07 Operator: MA
Sample : AZ49682W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y105
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y105.D Vial: 5
Acq On : 14 Feb 17 16:37 Operator: MA
Sample : AZ49683W06 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	140826	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	614988	40.00000 ppb	-0.03
4) Acenaphthene-D10(IS)	8.27	164	361710	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	640257	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	633600	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.70	264	581923	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

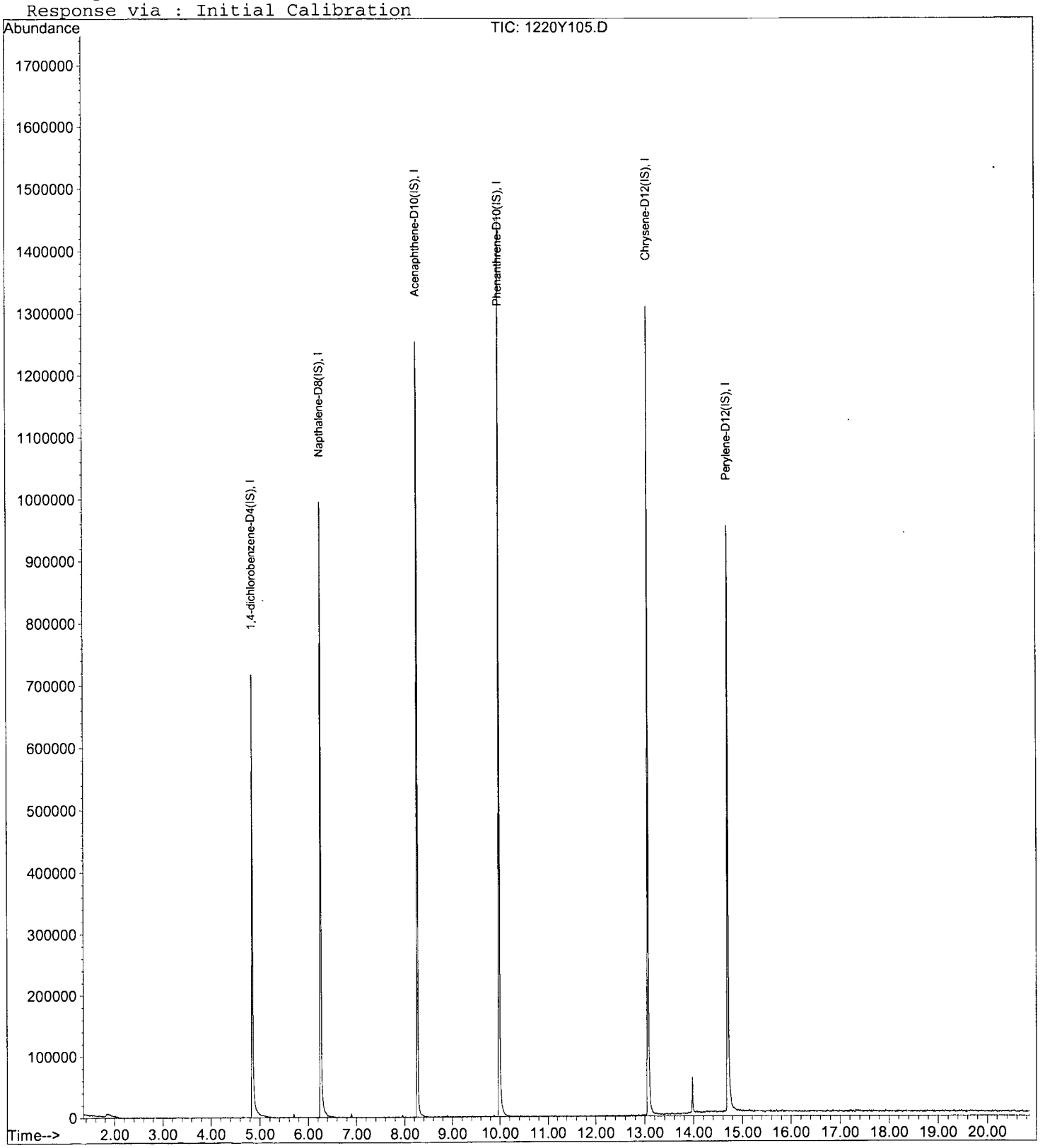
Data File : M:\YODA\DATA\Y161220G\1220Y105.D
Acq On : 14 Feb 17 16:37
Sample : AZ49683W06 2/500
Misc : water

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 9:06 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y106
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y106.D Vial: 6
Acq On : 14 Feb 17 17:08 Operator: MA
Sample : AZ49685W17 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	152810	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	653342	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	378845	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	687756	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	596393	40.00000 ppb	-0.04
7) Perylene-D12(IS)	14.70	264	559520	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

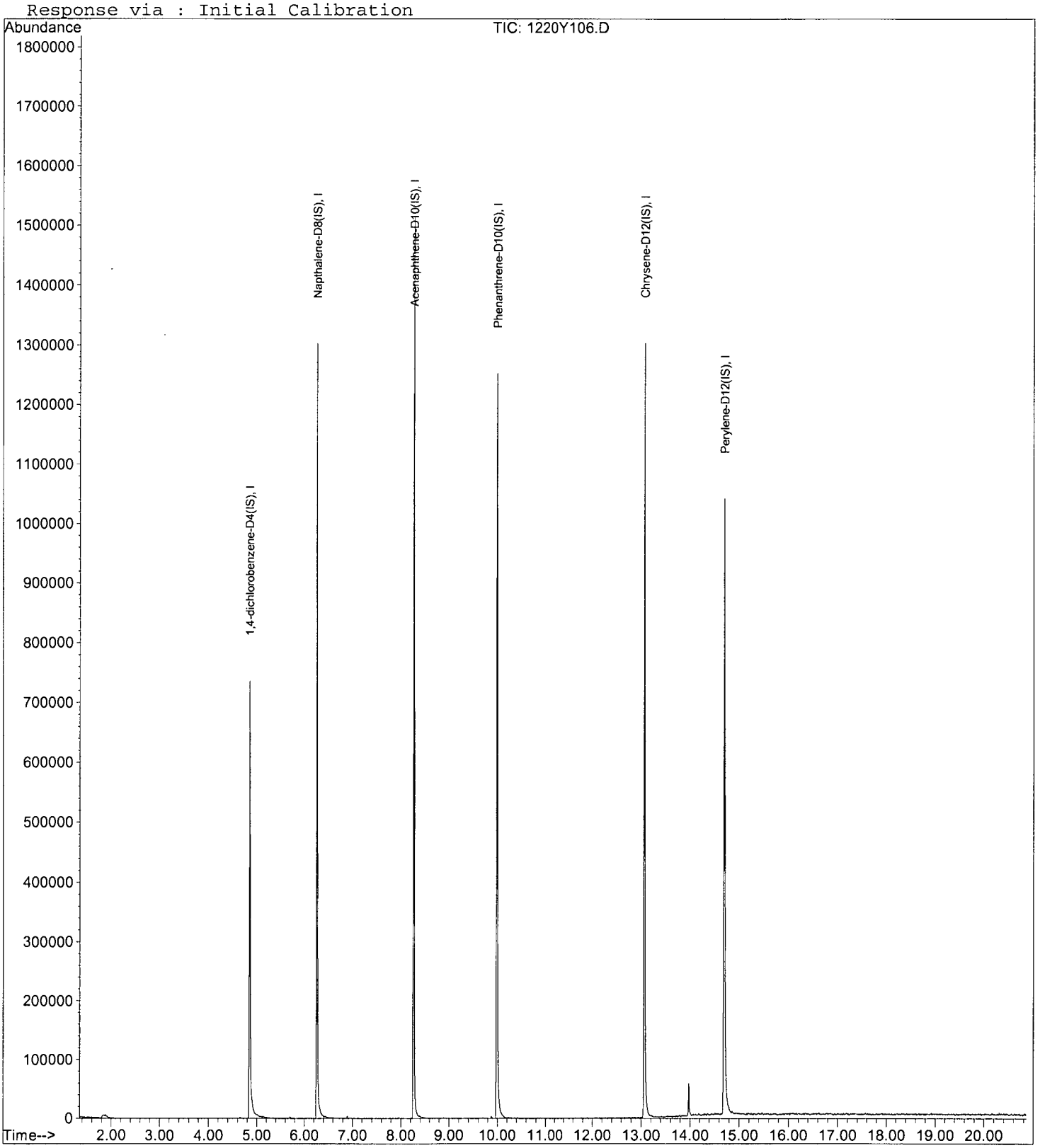
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y106.D Vial: 6
Acq On : 14 Feb 17 17:08 Operator: MA
Sample : AZ49685W17 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH221
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49686
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y107
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:26:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y107.D Vial: 7
Acq On : 14 Feb 17 17:38 Operator: MA
Sample : AZ49686W12 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	155220	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	677277	40.00000 ppb	-0.03
4) Acenaphthene-D10(IS)	8.27	164	397830	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	723203	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	676826	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	657127	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

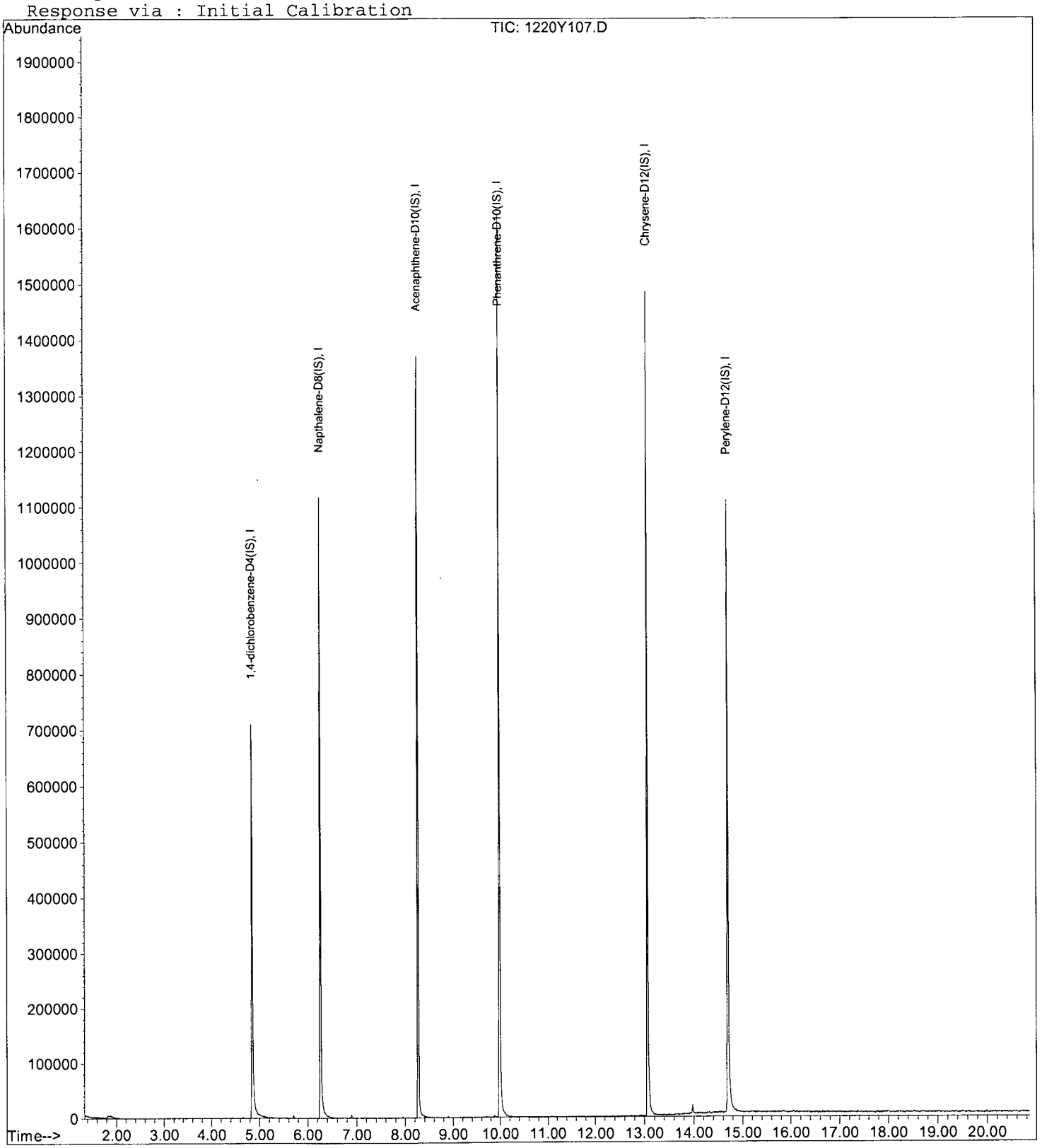
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y107.D Vial: 7
Acq On : 14 Feb 17 17:38 Operator: MA
Sample : AZ49686W12 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

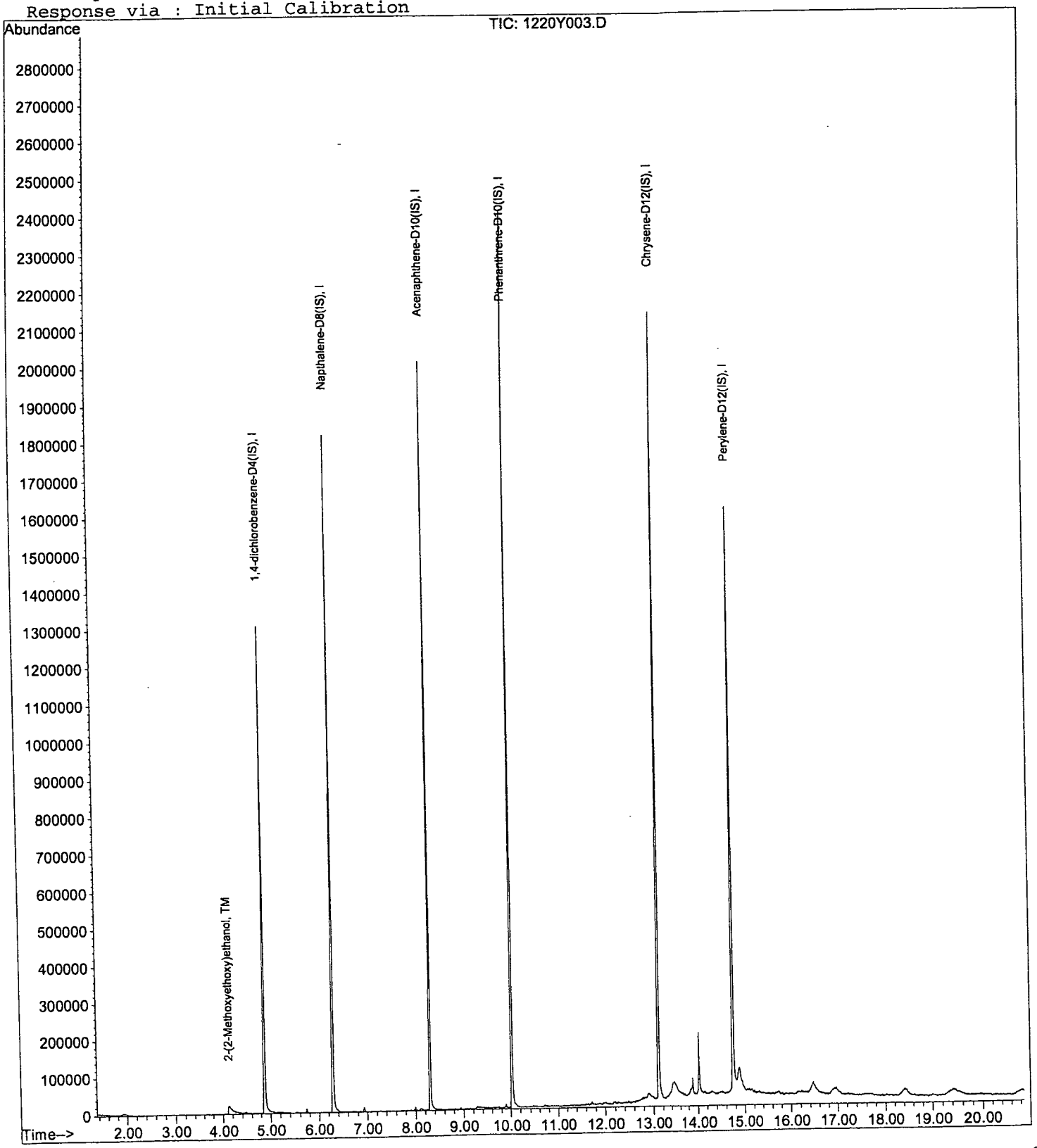
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration
1220Y004.D YOGLYCOL.M Thu Jan 19 15:28:11 2017

Quantitation Report

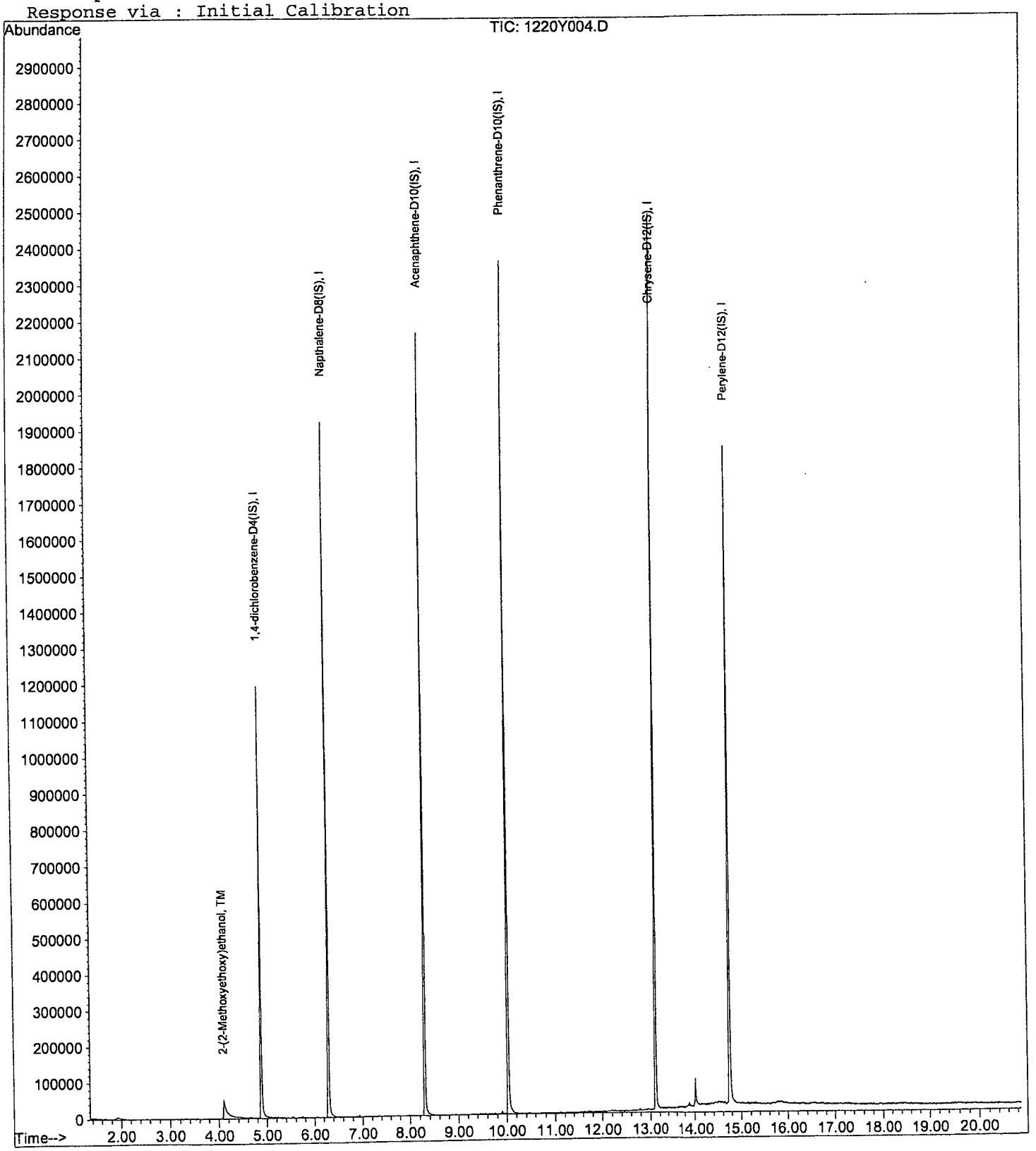
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

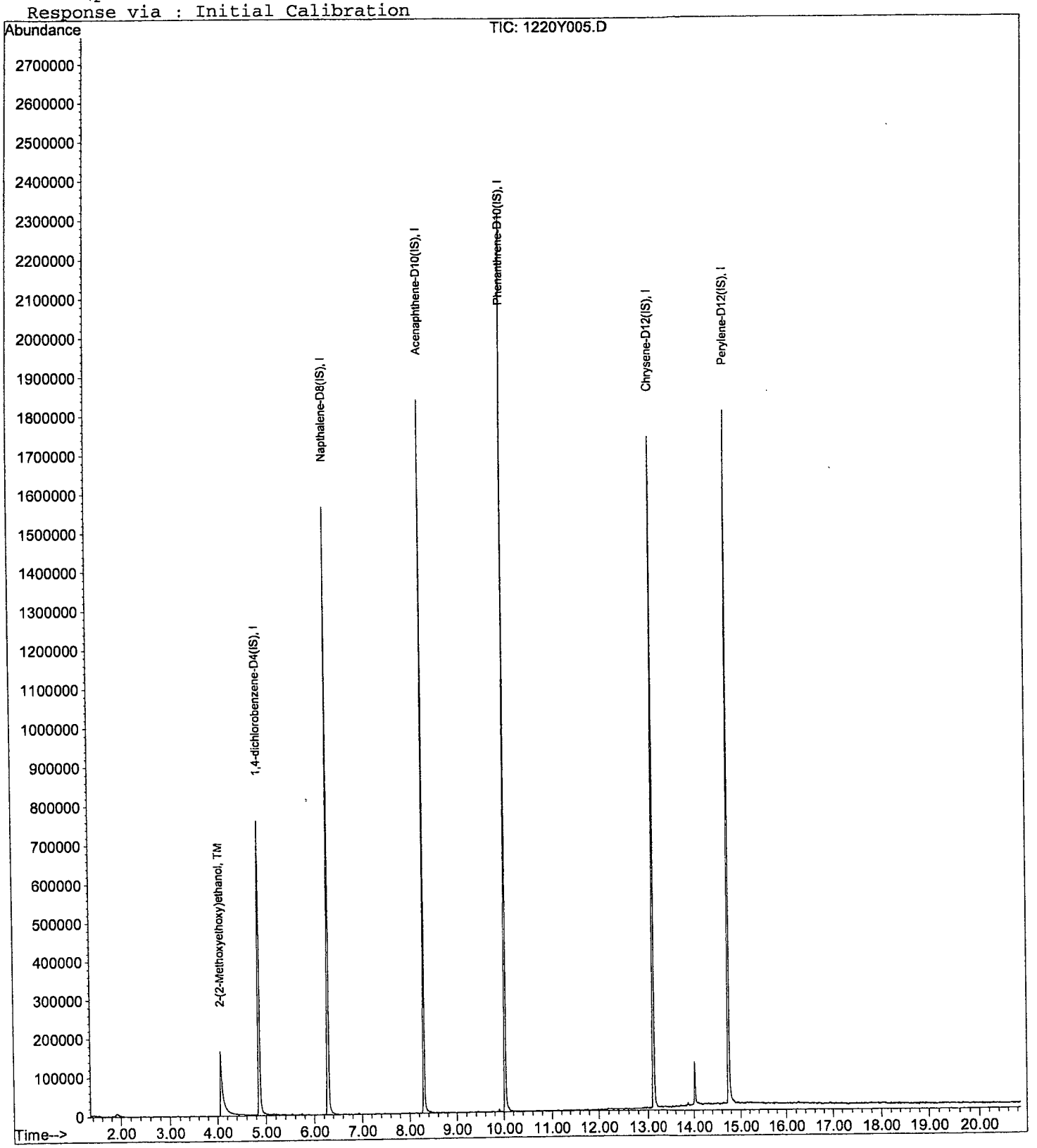
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D Vial: 6
Acq On : 20 Dec 16 11:57 Operator: MA
Sample : 400ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

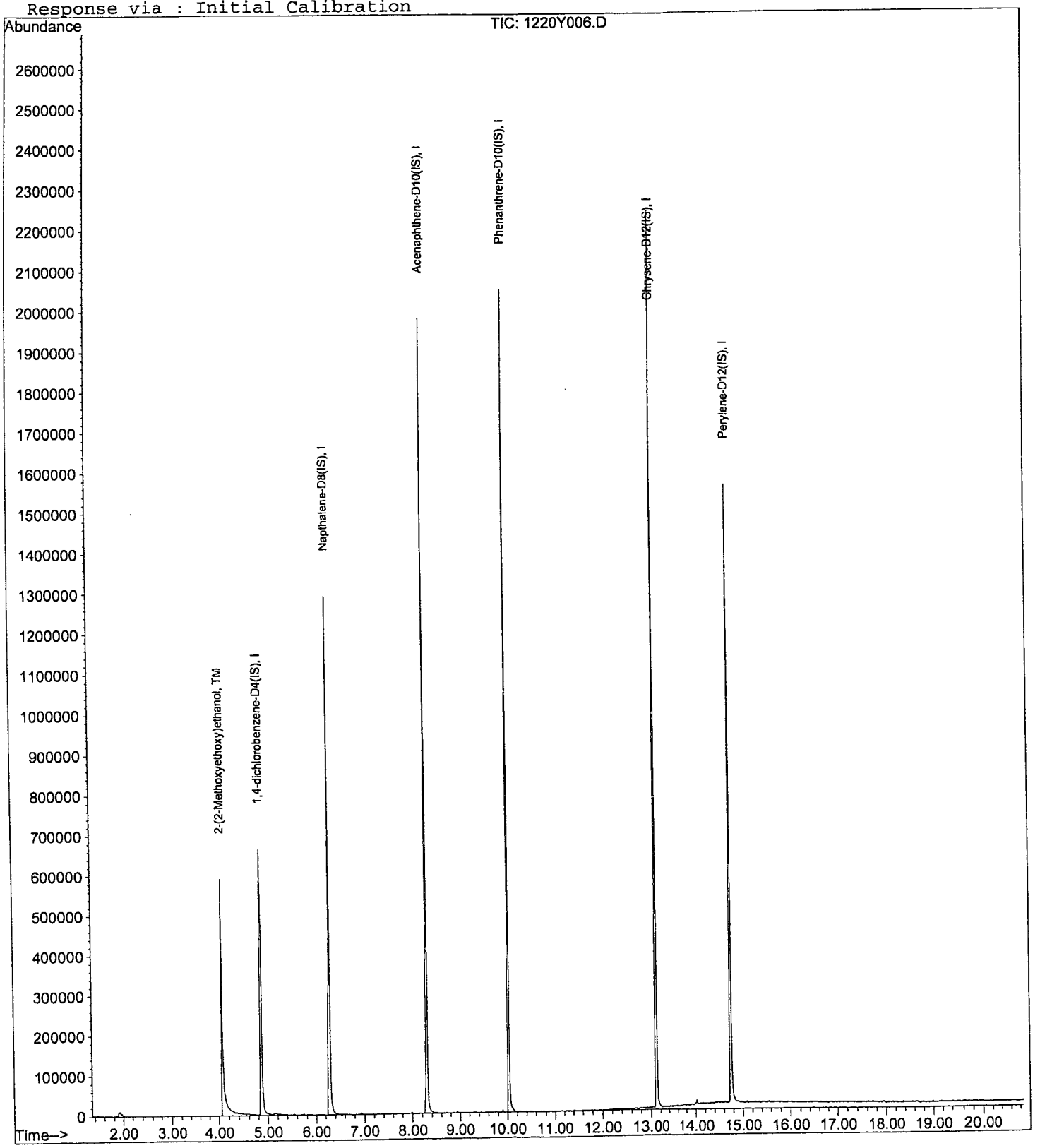
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

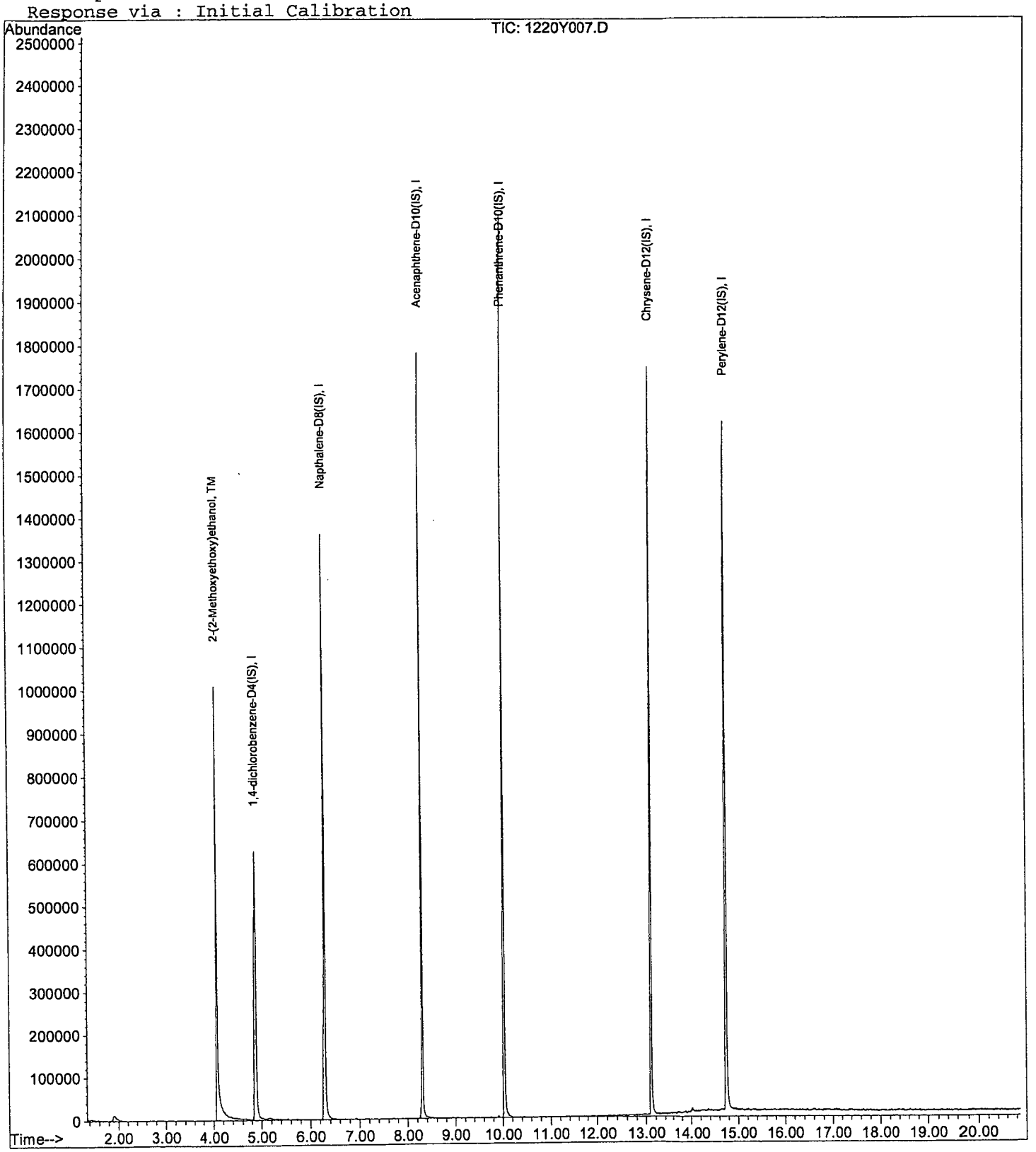
(#) = qualifier out of range (m) = manual integration
1220Y007.D Y0GLYCOL.M Thu Jan 19 15:34:55 2017

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y007.D Vial: 7
Acq On : 20 Dec 16 12:27 Operator: MA
Sample : 500ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:34 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

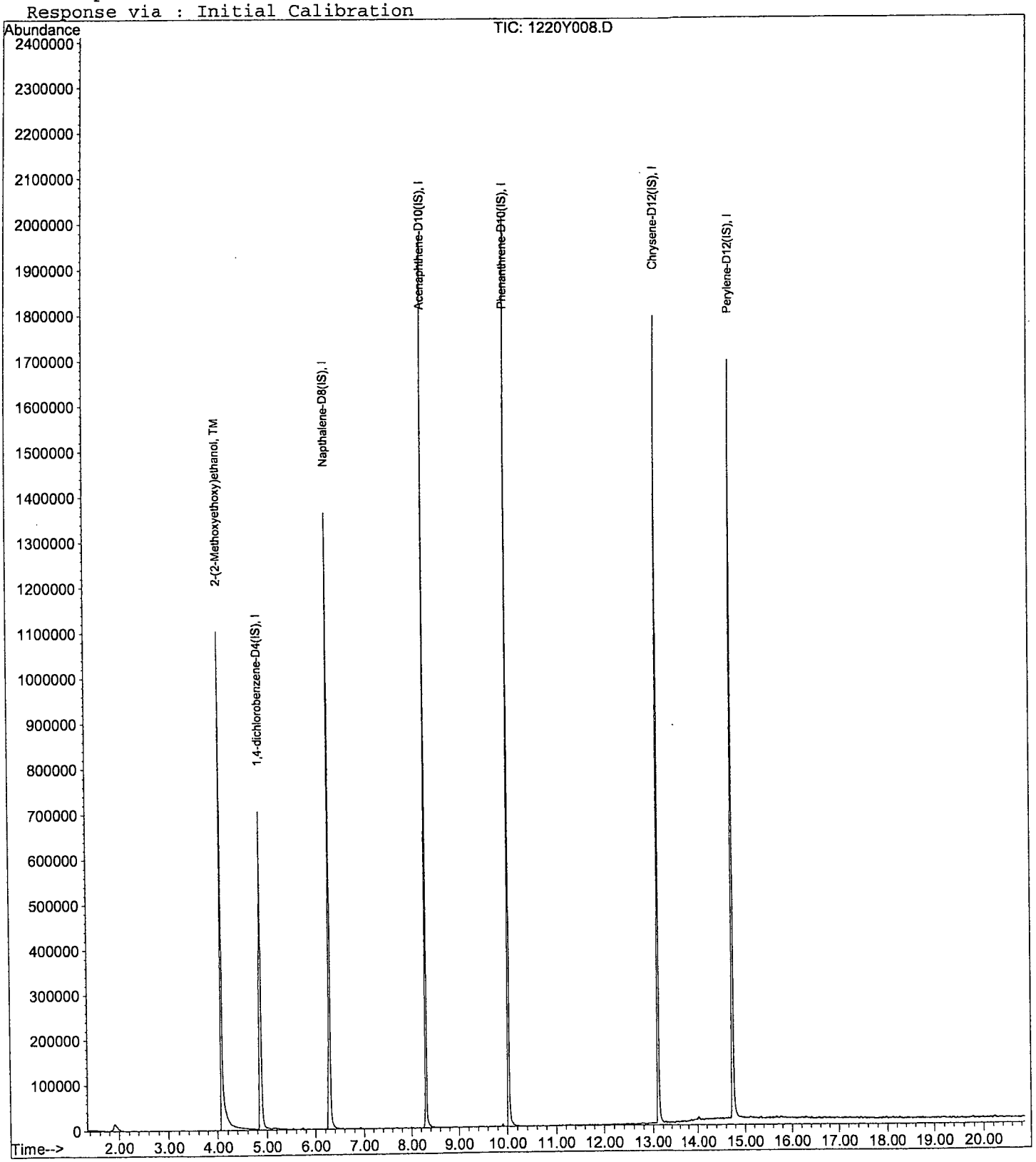
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

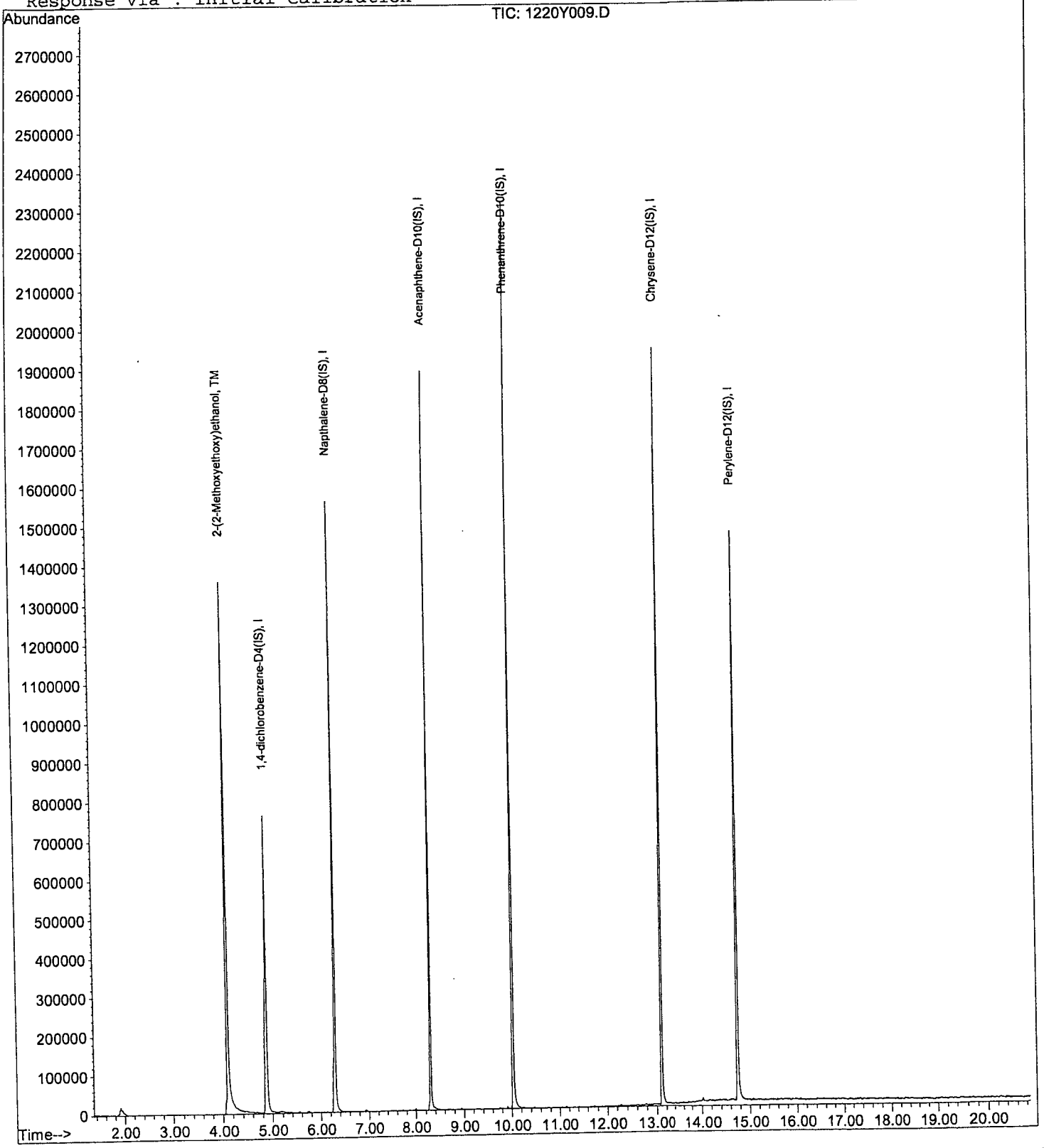
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

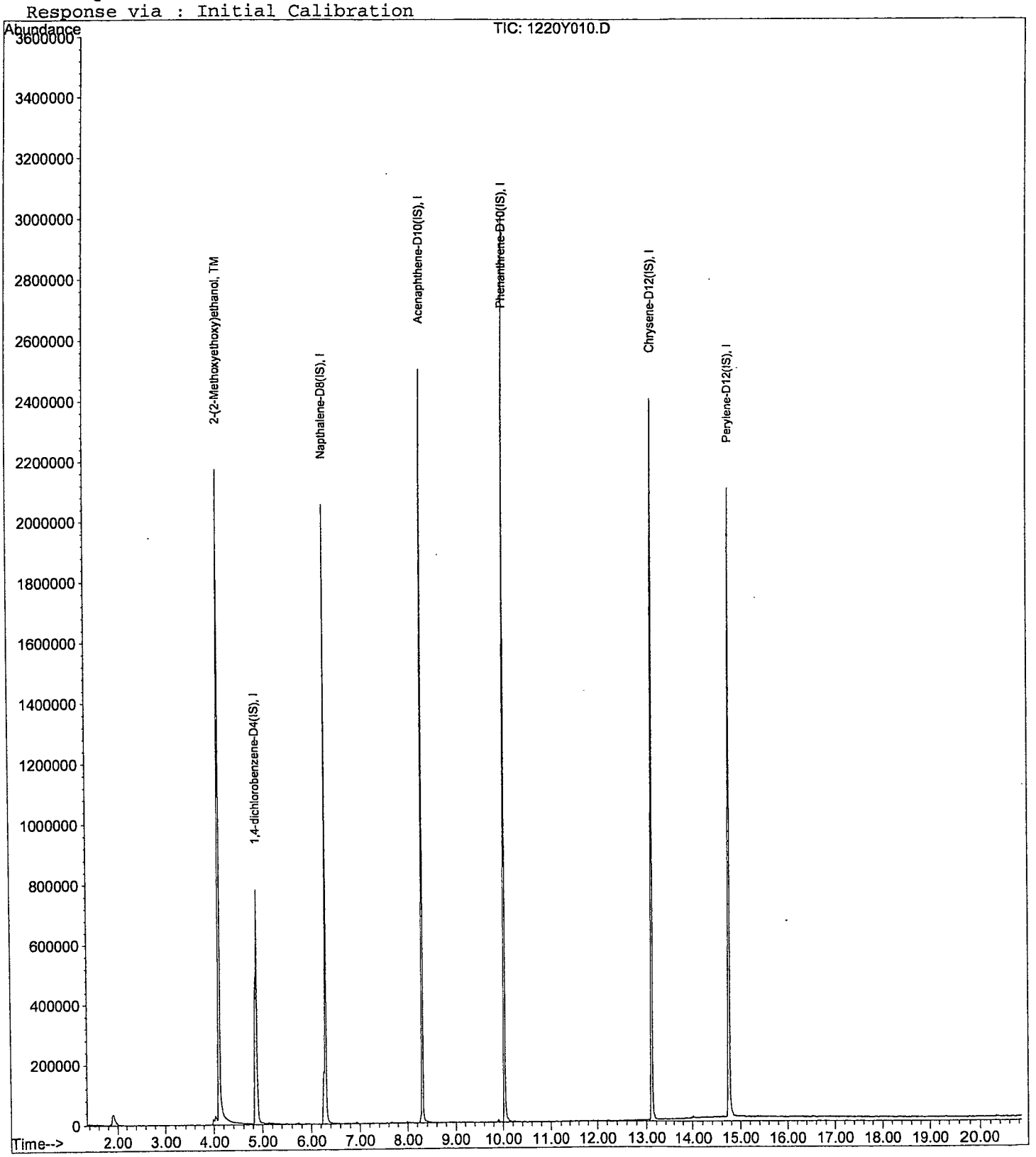
Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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19							
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21							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

Algorithm = $\frac{676019 \times 40 \times 1}{226449 \times 0.2144}$ = 556.9 MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

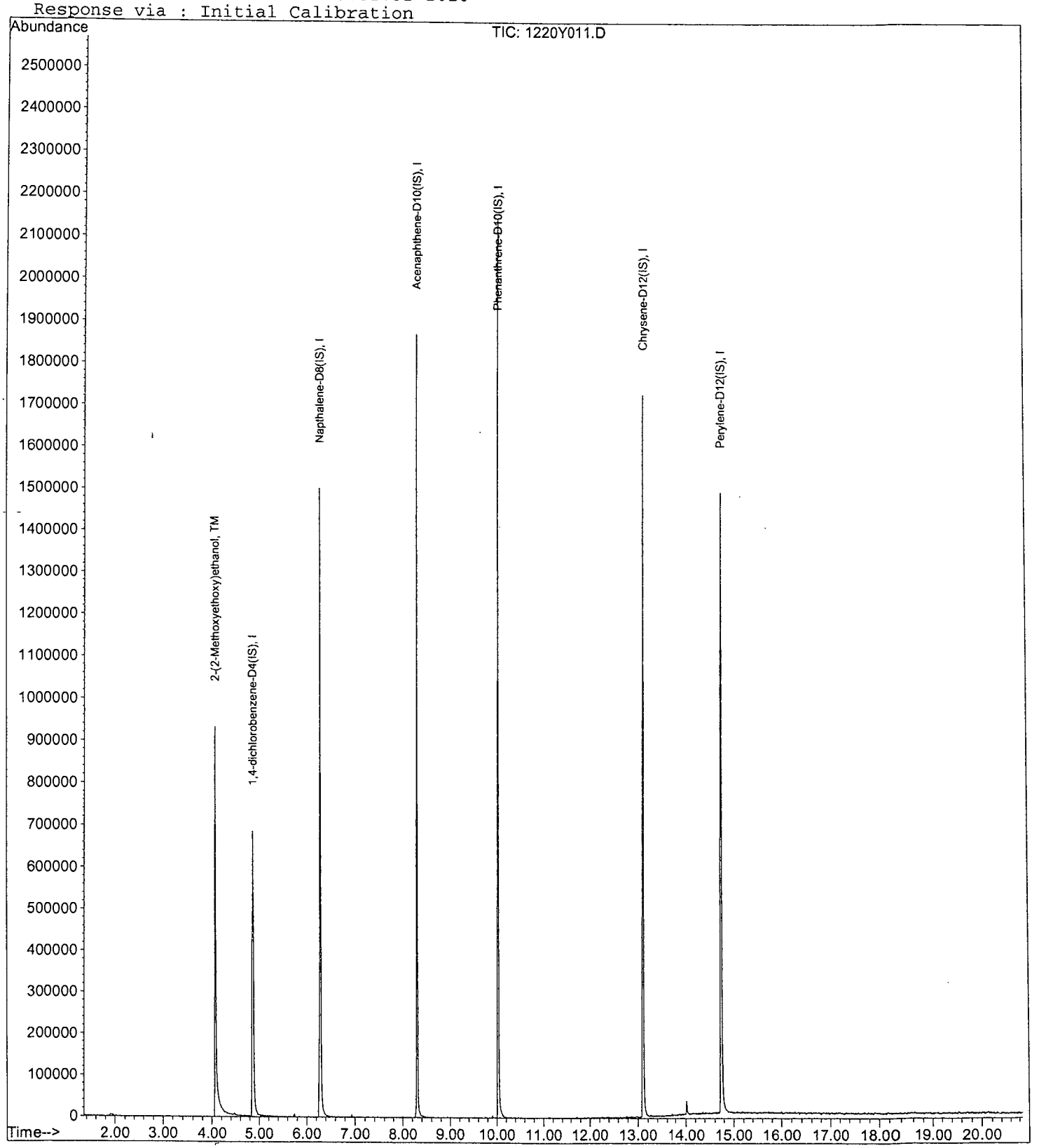
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y093.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2536	18	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y093.D
Acq On : 14 Feb 17 10:31
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 10:49 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	209455	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	932530	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	528957	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	954627	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	871378	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	617446	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	664045	591.40938 ppb	97

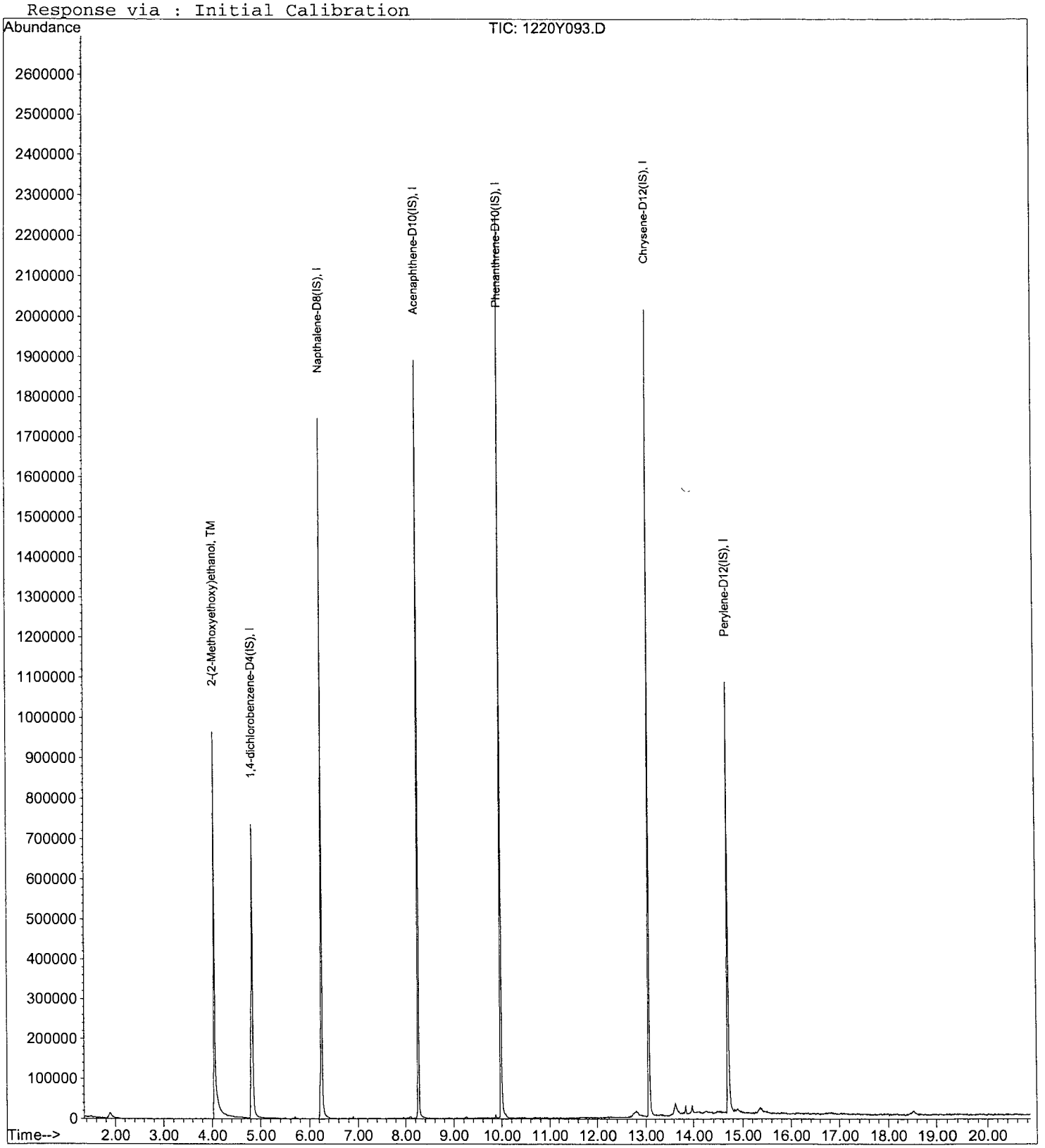
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y093.D Vial: 93
Acq On : 14 Feb 17 10:31 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 10:49 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y115.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2843	33	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			33.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y115.D
Acq On : 14 Feb 17 21:37
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	146880	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	639153	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	366952	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	672733	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636852	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	428168	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	522063	663.04298 ppb	97

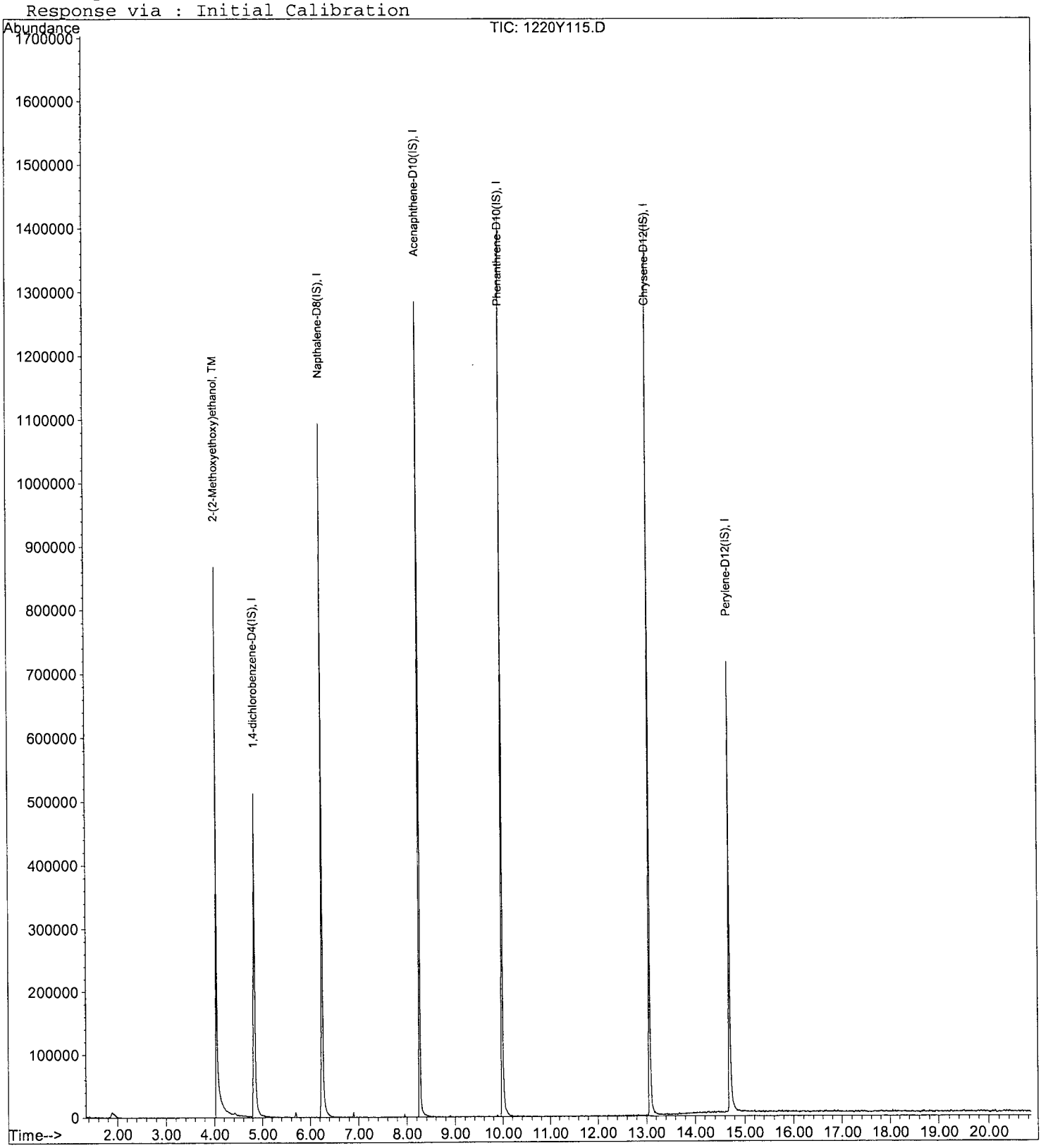
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y115.D Vial: 15
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method:Y0GLYCOL.
Run #:1220Y094
Instrument:Yoda
Sequence:Y161220G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 3:27:04 PM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y094.D Vial: 94
Acq On : 14 Feb 17 11:05 Operator: MA
Sample : 170209A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 11:53 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	188520	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	817432	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	460025	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	853633	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	804727	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	727567	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

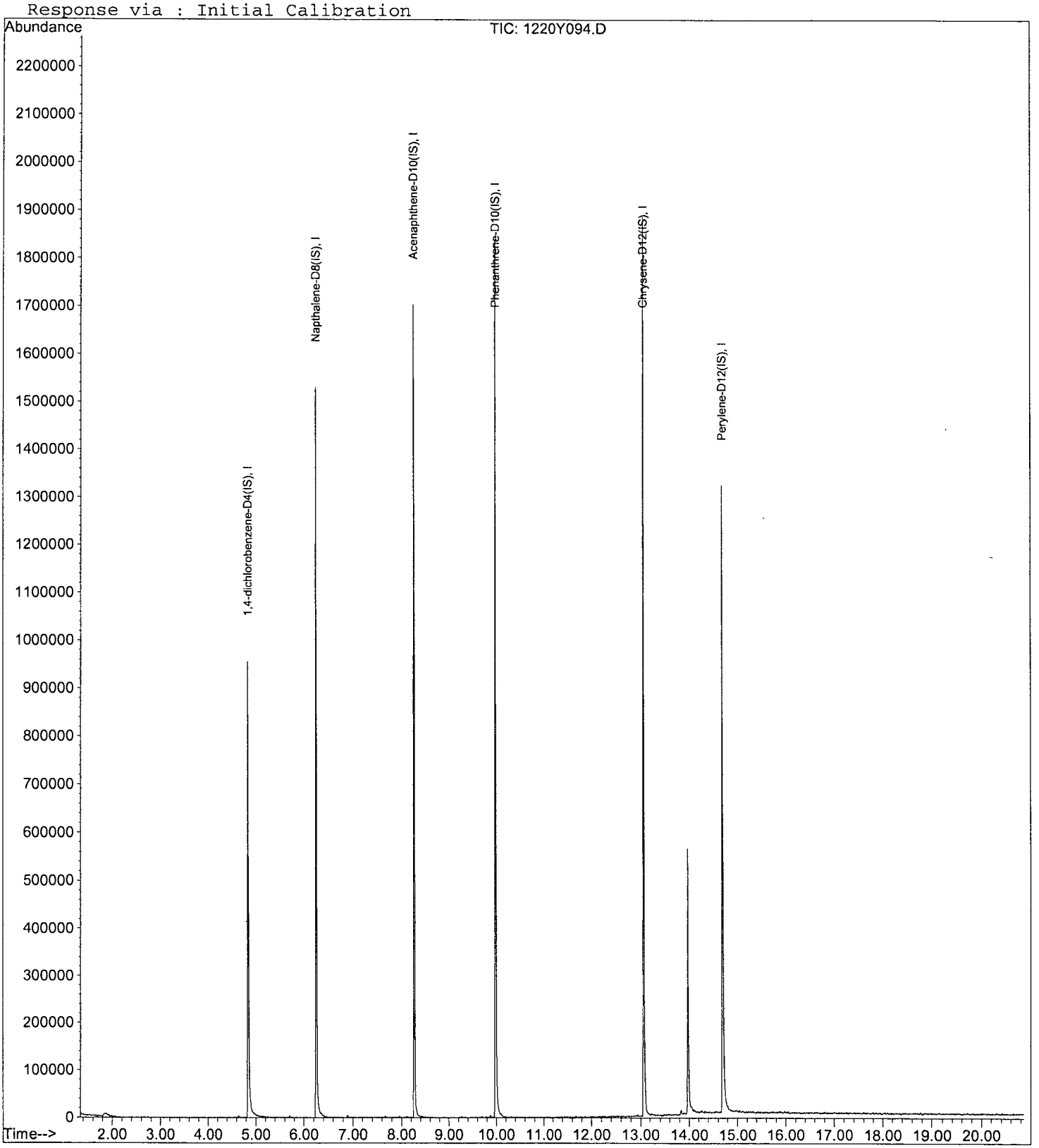
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y094.D Vial: 94
Acq On : 14 Feb 17 11:05 Operator: MA
Sample : 170209A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 11:53 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Printed: 02/15/17 3:27:05 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	161275	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	700038	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	404665	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	747111	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	722289	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	646708	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	75065m	86.82641 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

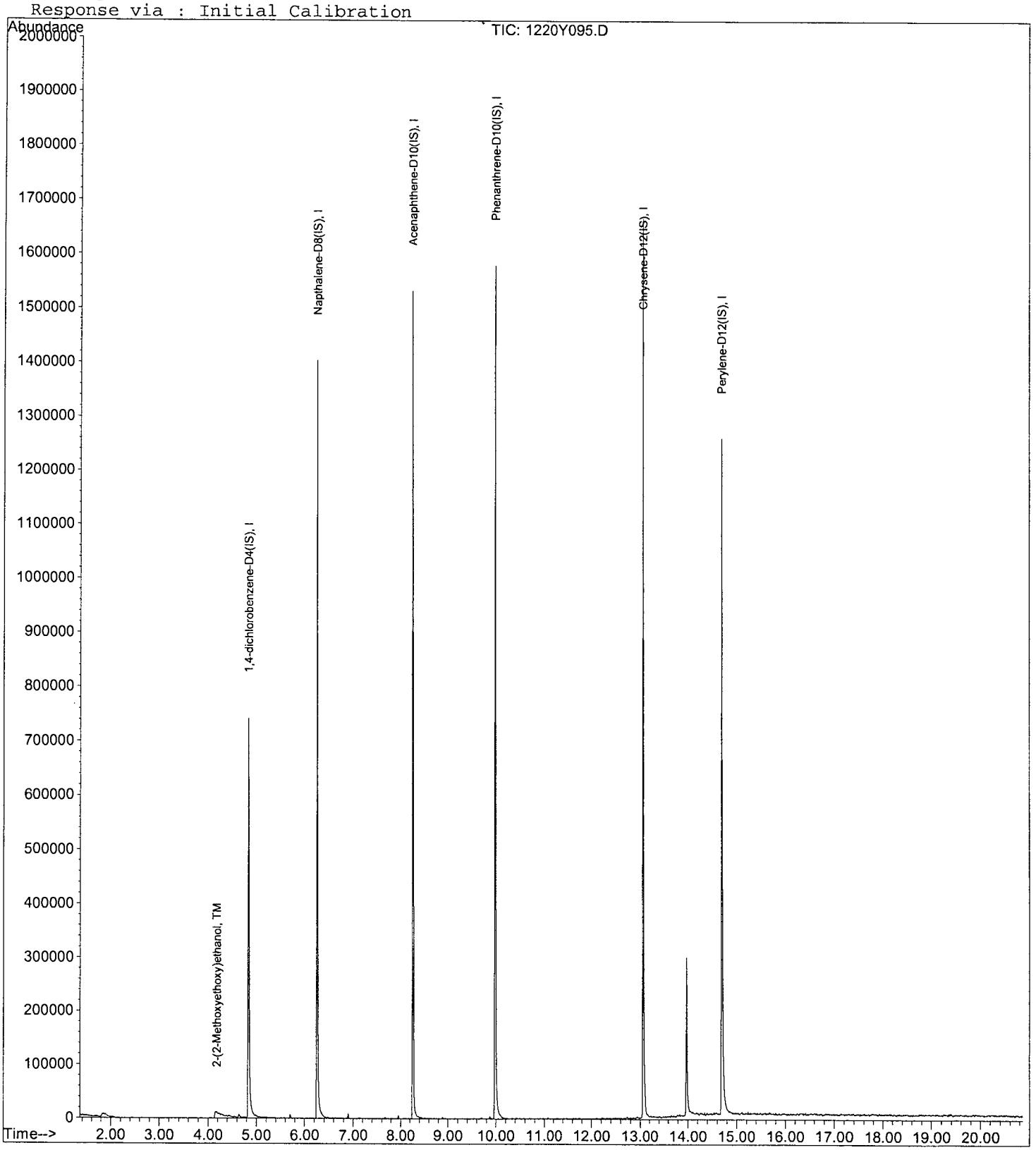
Data File : M:\YODA\DATA\Y161220G\1220Y095.D
Acq On : 14 Feb 17 11:35
Sample : 170209A LCS-1 2/500
Misc : water

Vial: 95
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 12:10 2017

Quant Results File: Y0GLYCOL.RES

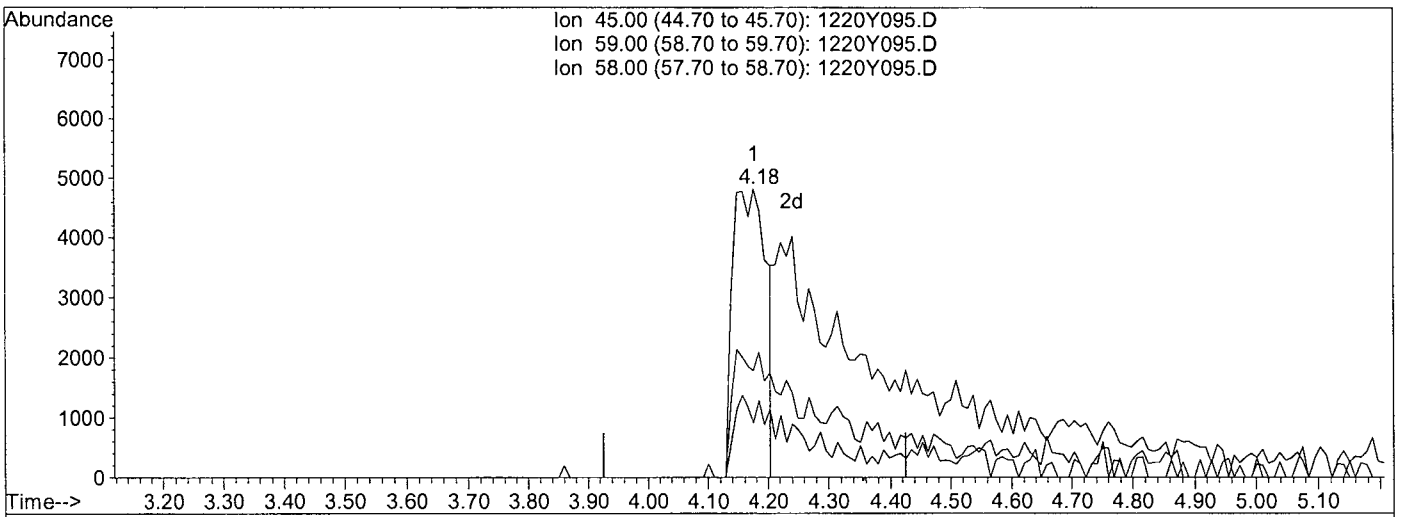
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

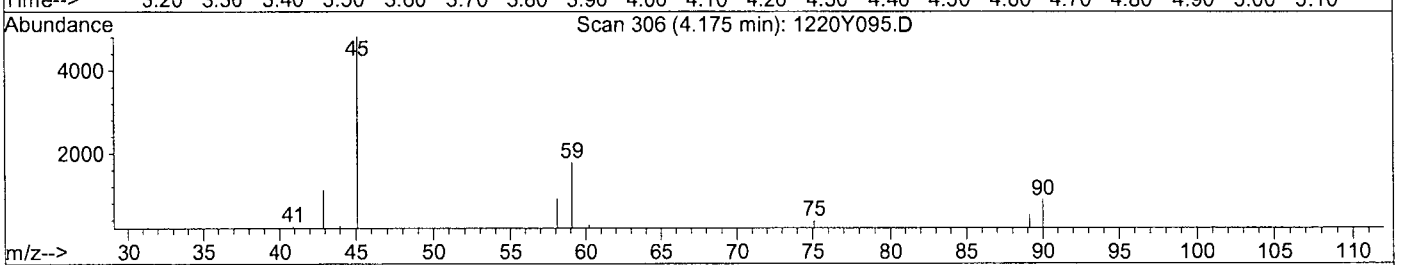


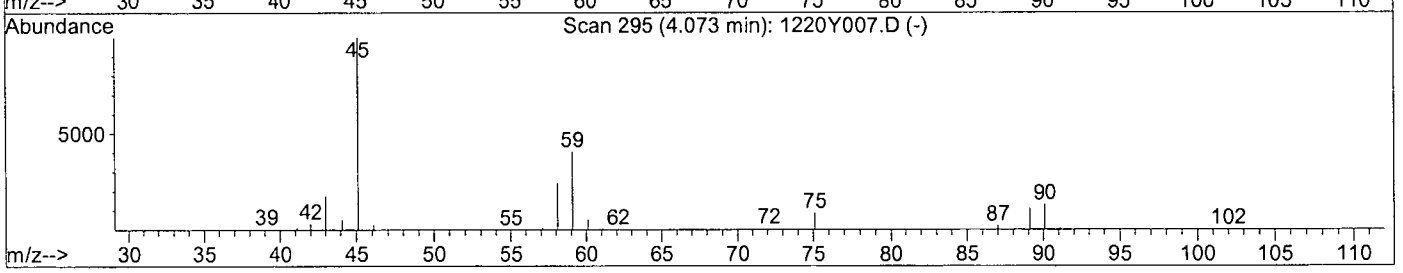
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 14 11:53 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration







TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 21.5363ppb

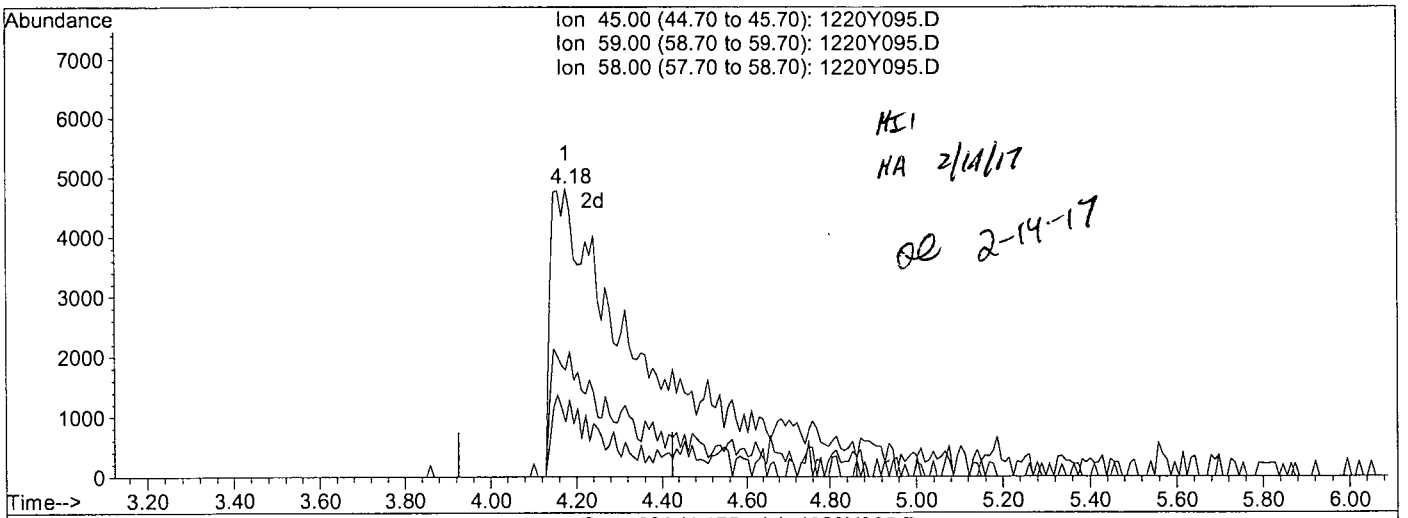
response 18619

Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

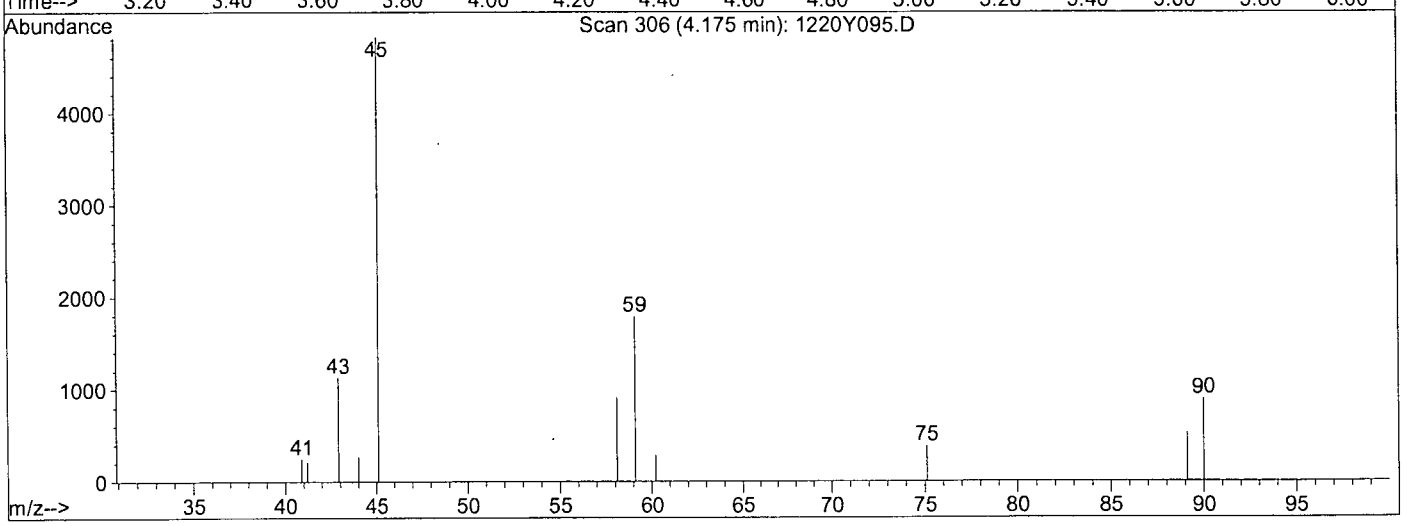
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 14 12:10 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration



HSI
HA 2/14/17
QC 2-14-17



TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 86.8264ppb m

response 75065

Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 MS - 216164**
Batch ID: #87DME-170209A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	35.9	27.9	44.9	34.9	30-130	25.1 #	20

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	02/09/17	02/09/17
Analysis Date :	02/14/17	02/14/17
Instrument :	Yoda	Yoda
Run :	1220Y099	1220Y100
Initials :	MA	

Printed: 02/15/17 3:27:14 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y099.D Vial: 99
Acq On : 14 Feb 17 13:35 Operator: MA
Sample : AZ49674W26 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:54 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	140347	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	595850	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.27	164	349883	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	646082	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	652205	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	565666	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.17	45	26978	35.85816 ppb	89

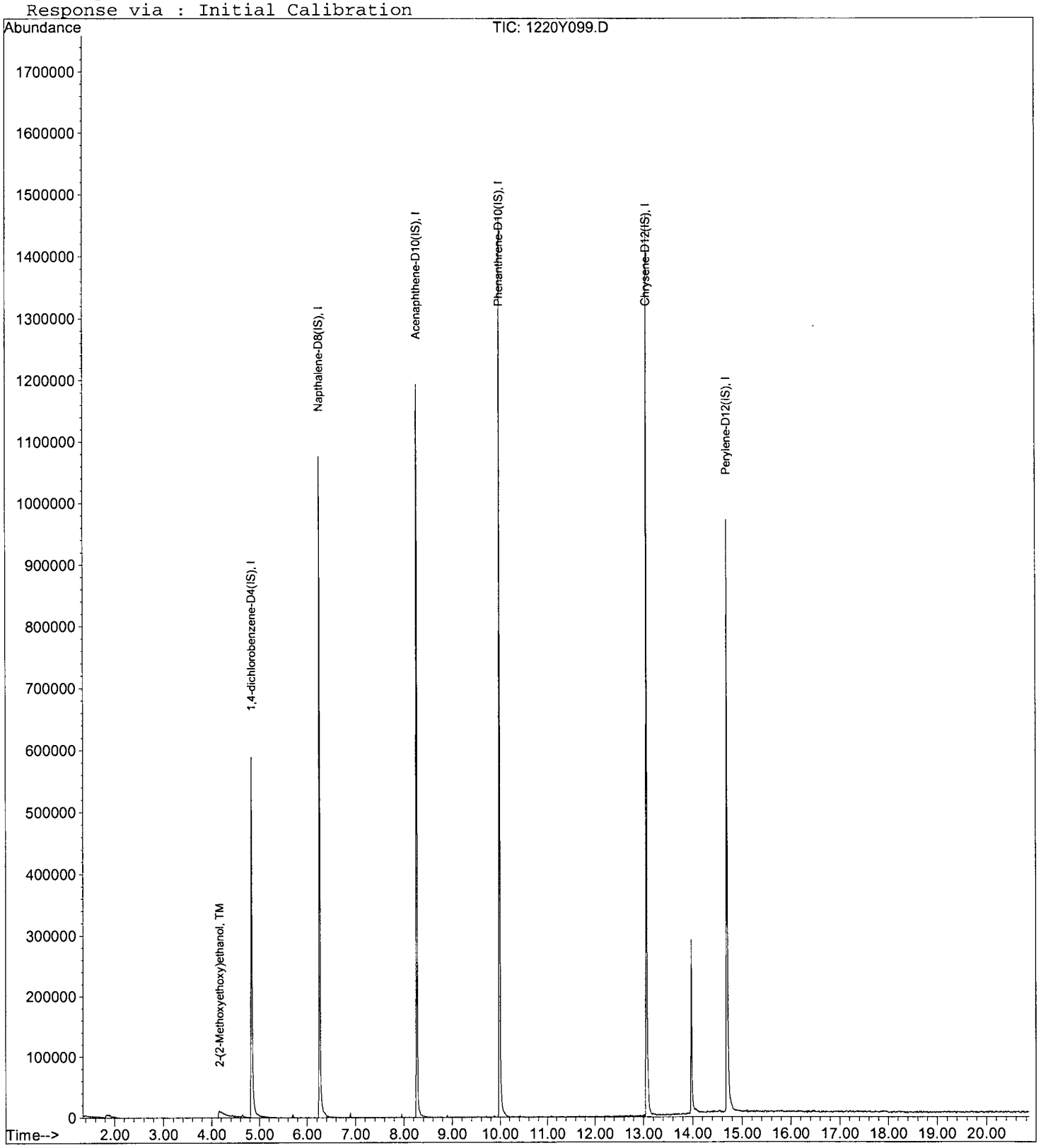
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y099.D Vial: 99
Acq On : 14 Feb 17 13:35 Operator: MA
Sample : AZ49674W26 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 13:54 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y100.D Vial: 100
Acq On : 14 Feb 17 14:06 Operator: MA
Sample : AZ49674W31 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:00 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	162597	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	682080	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.27	164	387008	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	713734	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	694889	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	625237	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	24295	27.87313 ppb	96

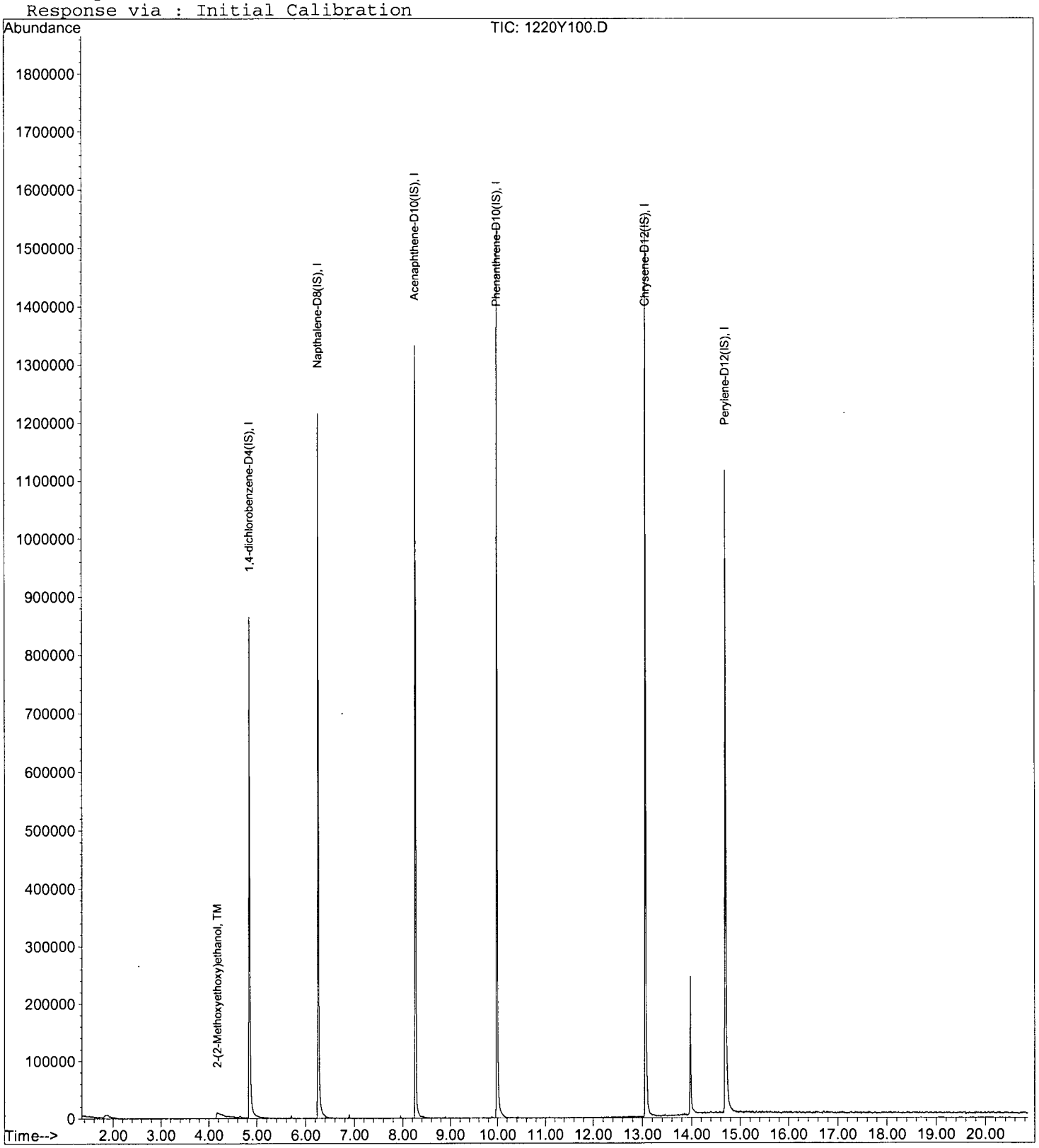
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y100.D Vial: 100
Acq On : 14 Feb 17 14:06 Operator: MA
Sample : AZ49674W31 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 15:00 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

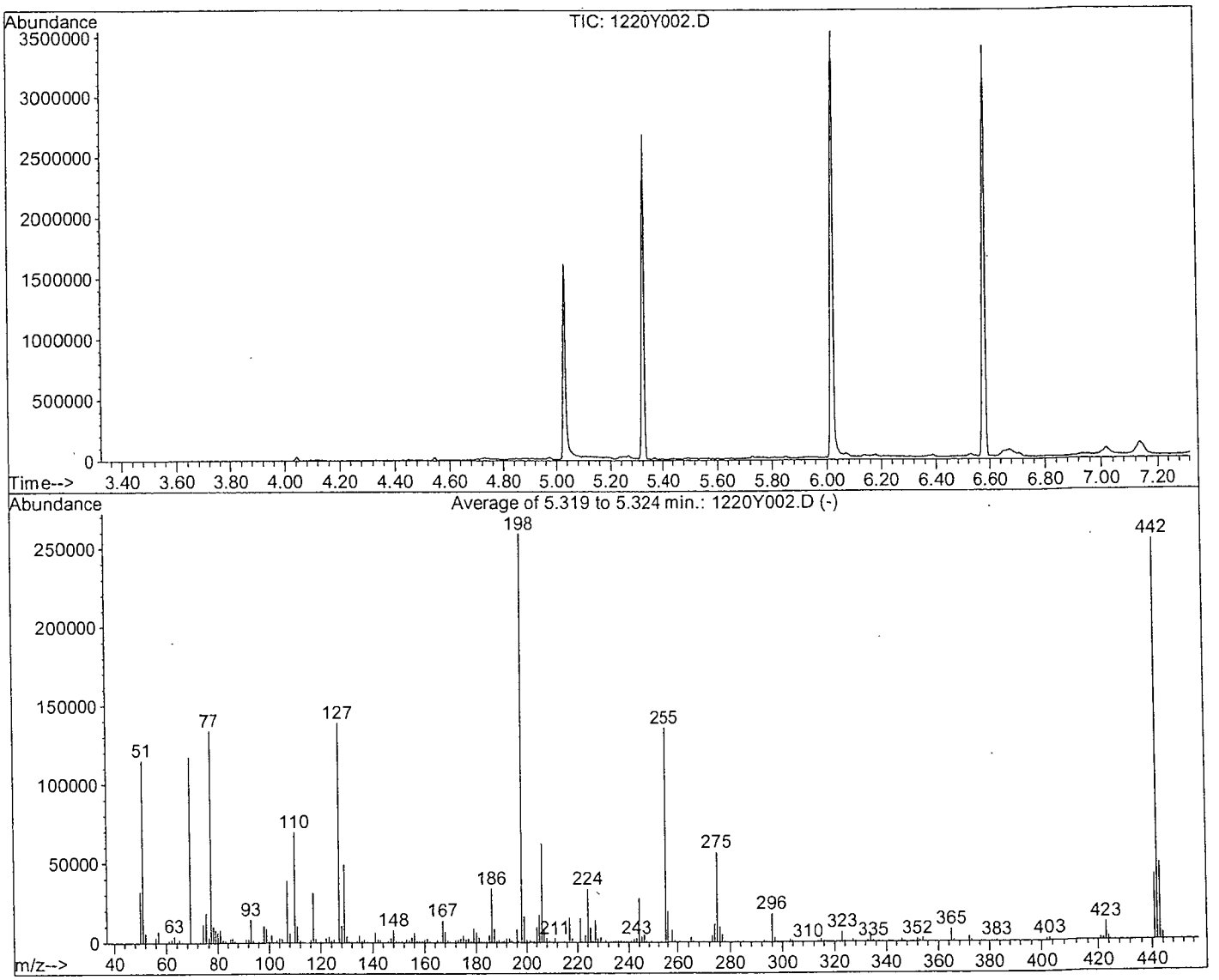


DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D
Acq On : 20 Dec 16 9:12
Sample : SV Tune 11/15/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

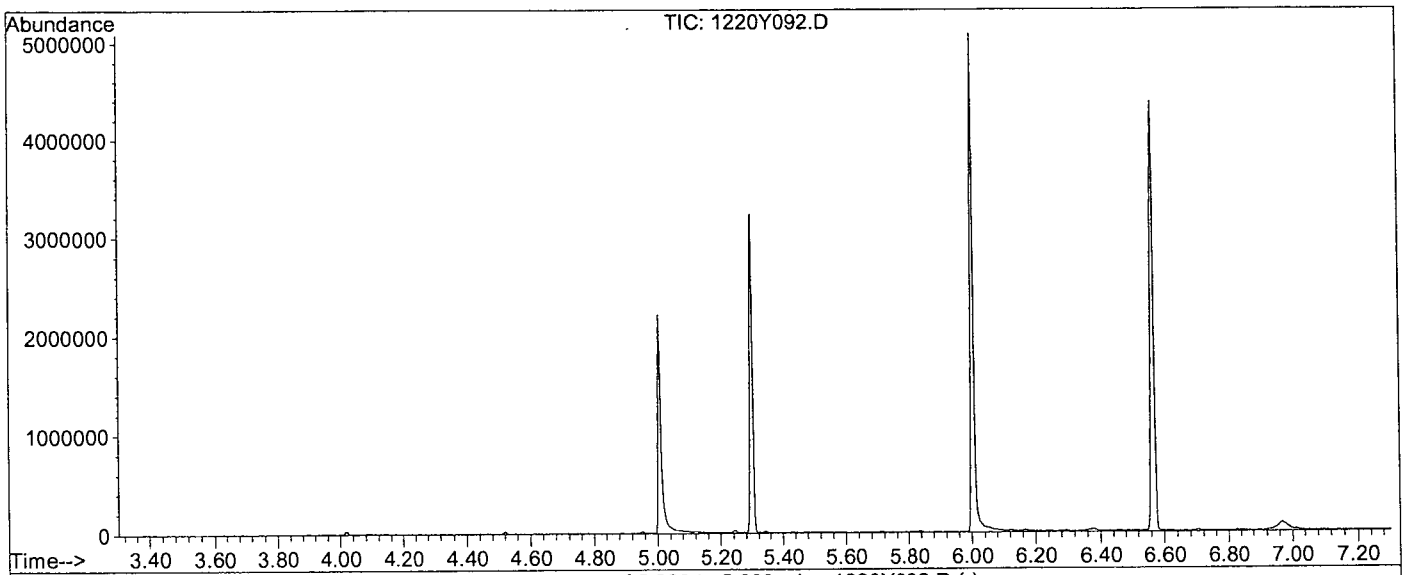
1220Y002.D YOGLYCOL.M Tue Dec 20 09:18:08 2016

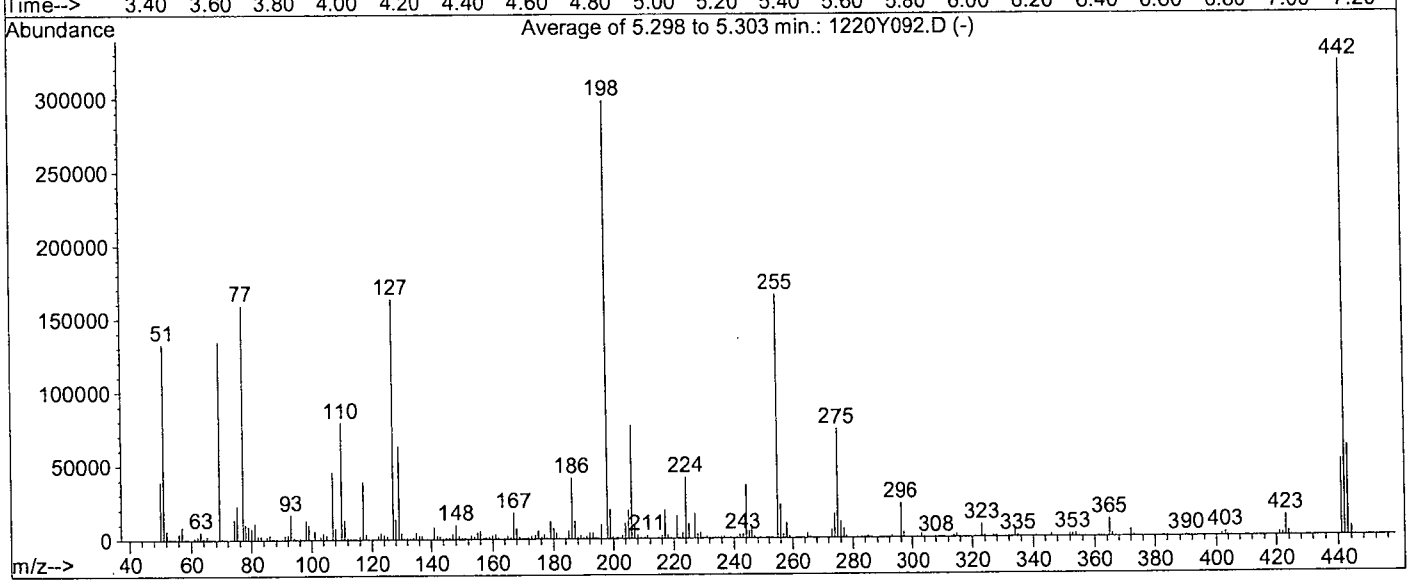
DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y092.D
Acq On : 14 Feb 17 10:14
Sample : SV Tune 11/15/16
Misc : water

Vial: 92
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 685, 686, 687; Background Corrected with Scan 676

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	132576	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	488	PASS
127	198	40	60	54.8	163382	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	298112	PASS
199	198	5	9	6.6	19780	PASS
275	198	10	30	24.7	73645	PASS
365	198	1	100	4.0	11948	PASS
441	443	0.01	100	84.4	51451	PASS
442	198	50	150	108.5	323541	PASS
443	442	17	23	18.8	60976	PASS

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					50	100	200	400	500	600	800	1000
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					500
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

GC - MultiLevel Review

ARF number(s) 82117, 82121, 82130

SAMPLE PREPARATION

Extraction/Preparation Method 2MEE APPL SOP MWE2MEE

The reviewer's initials below indicate the following criteria were met with the exceptions being noted in the comments:

HT met: HT date(s): 2/10/17 Ext. date: 2/09/17

Sample preservation is acceptable

Method and client-specific QC requirements were performed (DoD etc)

Information was entered into proper lab notebooks

Proper lab equipment was documented on extraction sheet

The client ID on the sample label matches the client ID on the APPL label

Soil samples were corrected for % Moisture (or Encores)	Yes	No	NA
Soil samples were prepared correctly for Incremental Sampling	Yes	No	NA
Sufficient sample was provided for matrix QC	Yes	No	NA

#1 Initials of reviewer/Date: Ken Gray 2/10/17

Comments: Sample water smell of strong odor diesel and had trouble filtering through cartridge. Sample color is clear Final extract color is tint of yellow.

INSTRUMENTATION LABORATORY

Analytical Method EPA 8270 APPL SOP ANA8270

The analyst(s) initials below indicate the following criteria were met with the exceptions being noted below:

Holding times were met for all analyses

Checked ARF and COC for specific reporting requirements

Correct quantitation method used

Calibrations include all pertinent analytes

Initial calibration in control

Internal standards in control (when applicable)

Second source calibrations in control

Continuing calibrations in control

DDT Degradation Check Passes (when applicable)

Tune within control (when applicable)

LCS(/LCSD) passes

Method blank/calibration blank passes

Matrix Duplicate and MS/MSD passes (when applicable) % RPD > QC

Surrogate(s) passes

Client-specific QC requirements met (DoD or client QAPP)

The units on the Form 1 were properly transcribed

Algorithm checked (LCS) Data File ID: 122OX011

Correct multiplier used to quantitate sample data

The dilutions agree (when applicable)

Soil samples were corrected for % Moisture (when applicable)

Samples were checked for TICs (when applicable)

Manual integration(s) were dated / signed (when applicable)

Sample results were reviewed in EnviroQuant

LA/MA Target Analyte Values were checked

#1 Initials of analyst(s)/Date: MA 2/15/17

Initials of data entry/Date: MA 2/15/17

#2 Initials of technical reviewer/Date: RH 2/21/17

Comments / Case Narrative Data Qualifiers:

MI in LCS

Is a NWR needed for the above failures? : NWR#: 473 Yes: No: NA:

GC - MultiLevel Review

ARF number(s) 82117, 82121, 82130

SAMPLE PREPARATION

Extraction/Preparation Method 2MEE APPL SOP MUE2MEE

The reviewer's initials below indicate the following criteria were met with the exceptions being noted in the comments:

HT met: HT date(s): 2/10/17 Ext. date: 2/09/17

Sample preservation is acceptable

Method and client-specific QC requirements were performed (DoD etc)

Information was entered into proper lab notebooks

Proper lab equipment was documented on extraction sheet

The client ID on the sample label matches the client ID on the APPL label

Soil samples were corrected for % Moisture (or Encores)	Yes	No	(NA)
Soil samples were prepared correctly for Incremental Sampling	Yes	No	(NA)
Sufficient sample was provided for matrix QC	(Yes)	No	NA

#1 Initials of reviewer/Date: KL 2/10/17

Comments: Sample water smell of strong odor diesel and had trouble filtering through cartridge. Sample ~~extract~~ color ~~was~~ is clear. Final extract color is tint of yellow. Kg wrong wrong 2/10/17

INSTRUMENTATION LABORATORY

Analytical Method _____ APPL SOP _____

The analyst(s) initials below indicate the following criteria were met with the exceptions being noted below:

Holding times were met for all analyses

Checked ARF and COC for specific reporting requirements

Correct quantitation method used

Calibrations include all pertinent analytes

Initial calibration in control

Internal standards in control (when applicable)

Second source calibrations in control

Continuing calibrations in control

DDT Degradation Check Passes (when applicable)

Tune within control (when applicable)

LCS(/LCSD) passes

Method blank/calibration blank passes

Matrix Duplicate and MS/MSD passes (when applicable)

Surrogate(s) passes

Client-specific QC requirements met (DoD or client QAPP)

The units on the Form 1 were properly transcribed

Algorithm checked (LCS) Data File ID:

Correct multiplier used to quantitate sample data

The dilutions agree (when applicable)

Soil samples were corrected for % Moisture (when applicable)

Samples were checked for TICs (when applicable)

Manual integration(s) were dated / signed (when applicable)

Sample results were reviewed in EnviroQuant

LA/MA Target Analyte Values were checked

#1 Initials of analyst(s)/Date:

Initials of data entry/Date:

#2 Initials of technical reviewer/Date:

Comments / Case Narrative Data Qualifiers:

Is a NWR needed for the above failures? : NWR#: 474	Yes:	No:	NA:

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	92	1220Y092.D	1	SV Tune 11/15/16	water	14 Feb 17 10:14
12	93	1220Y093.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 10:31
13	94	1220Y094.D	1	170209A BLK 2/500	water	14 Feb 17 11:05
14	95	1220Y095.D	1	170209A LCS-1 2/500	water	14 Feb 17 11:35
15	99	1220Y099.D	1	AZ49674W26 MS-1 2/500	water	14 Feb 17 13:35
16	100	1220Y100.D	1	AZ49674W31 MSD-1 2/500	water	14 Feb 17 14:06
17	1	1220Y101.D	1	AZ49674W26 2/500	water	14 Feb 17 14:36
18	2	1220Y102.D	1	AZ49676W05 2/500	water	14 Feb 17 15:06
19	3	1220Y103.D	1	AZ49679W09 2/500	water	14 Feb 17 15:37
20	4	1220Y104.D	1	AZ49682W10 2/500	water	14 Feb 17 16:07
21	5	1220Y105.D	1	AZ49683W06 2/500	water	14 Feb 17 16:37
22	6	1220Y106.D	1	AZ49685W17 2/500	water	14 Feb 17 17:08
23	7	1220Y107.D	1	AZ49686W12 2/500	water	14 Feb 17 17:38
24	15	1220Y115.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 21:37

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49684 - 216078**
Batch ID: #86BTO-170209AM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/9/17	2/9/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/9/17	2/9/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/9/17	2/9/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/9/17	2/9/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/9/17	2/9/17
BLANK	SURROGATE: 1,2-DICHLOROET	106	81-118			%	2/9/17	2/9/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.7	85-114			%	2/9/17	2/9/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	2/9/17	2/9/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	2/9/17	2/9/17

Quant Method: MALLW.M
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:32:39 PM

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170211W-49674 - 216099**
Batch ID: #86BTO-170211AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/11/17	2/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/11/17	2/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/11/17	2/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/11/17	2/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.8	81-118			%	2/11/17	2/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.5	85-114			%	2/11/17	2/11/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	2/11/17	2/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	2/11/17	2/11/17

Quant Method: MALLW.M
Run #: 0211M26
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:32:39 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 2/9/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	81-118	108		85-114	103	
170209AM-BLK	Blank	81-118	106		85-114	98.7	
AZ49675	ERH204	81-118	106		85-114	99.7	
AZ49678	ERH211	81-118	106		85-114	98.2	
AZ49681	ERH213	81-118	107		85-114	99.1	
AZ49676	ERH206	81-118	110		85-114	103	
AZ49677	ERH232	81-118	107		85-114	101	
AZ49679	ERH212	81-118	110		85-114	103	
AZ49680	ERH235	81-118	106		85-114	104	
AZ49682	ERH214	81-118	107		85-114	101	
AZ49683	ERH228	81-118	107		85-114	100	

Comments: Batch: #86BTO-170209AM

Printed: 2/13/17 1:32:45 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121
Case No: 82121 Date Analyzed: 2/9/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	80-119	101		89-112	98.0	
170209AM-BLK	Blank	80-119	103		89-112	97.5	
AZ49675	ERH204	80-119	106		89-112	98.2	
AZ49678	ERH211	80-119	105		89-112	98.2	
AZ49681	ERH213	80-119	104		89-112	99.4	
AZ49676	ERH206	80-119	105		89-112	101	
AZ49677	ERH232	80-119	105		89-112	98.8	
AZ49679	ERH212	80-119	106		89-112	101	
AZ49680	ERH235	80-119	104		89-112	101	
AZ49682	ERH214	80-119	105		89-112	99.7	
AZ49683	ERH228	80-119	104		89-112	98.1	

Comments: Batch: #86BTO-170209AM

Printed: 2/13/17 1:32:45 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER

SDG No: 82121
Date Analyzed: 2/9/17
Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM1-LCS	Lab Control Spike	81-118	108		85-114	103	
170209AM1-BLK	Blank	81-118	106		85-114	98.7	
AZ49684	ERH219	81-118	108		85-114	100	
AZ49685	ERH220	81-118	107		85-114	98.1	
AZ49686	ERH221	81-118	110		85-114	100	

Comments: Batch: #86BTO-170209AM

Printed: 2/13/17 1:32:45 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121
Case No: 82121 Date Analyzed: 2/9/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM1-LCS	Lab Control Spike	80-119	101		89-112	98.0	
170209AM1-BLK	Blank	80-119	103		89-112	97.5	
AZ49684	ERH219	80-119	105		89-112	97.6	
AZ49685	ERH220	80-119	104		89-112	96.6	
AZ49686	ERH221	80-119	105		89-112	99.3	

Comments: Batch: #86BTO-170209AM

Printed: 2/13/17 1:32:45 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 2/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170211AM-LCS	Lab Control Spike	81-118	101		85-114	100	
170211AM-BLK	Blank	81-118	98.8		85-114	98.5	
AZ49674	ERH205	81-118	95.4		85-114	98.1	
AZ49674-MS	Matrix Spike	81-118	105		85-114	101	
AZ49674-MSD	Matrix SpikeD	81-118	95.6		85-114	102	

Comments: Batch: #86BTO-170211AM

Printed: 2/13/17 1:32:45 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121
Case No: 82121 Date Analyzed: 2/11/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170211AM-LCS	Lab Control Spike	80-119	99.2		89-112	101	
170211AM-BLK	Blank	80-119	100		89-112	101	
AZ49674	ERH205	80-119	99.0		89-112	102	
AZ49674-MS	Matrix Spike	80-119	102		89-112	100	
AZ49674-MSD	Matrix SpikeD	80-119	100		89-112	100	

Comments: Batch: #86BTO-170211AM

Printed: 2/13/17 1:32:45 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170209W-49684 LCS - 216078**
Batch ID: #86BTO-170209AM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	10.7	107	73-128
BENZENE	10.00	10.4	104	79-120
ETHYLBENZENE	10.00	10.4	104	79-121
TOLUENE	10.00	10.4	104	80-121
XYLENES (TOTAL)	30.0	31.6	105	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.9	108	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.8	103	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.5	98.0	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/9/17
Analysis Date :	2/9/17
Instrument :	Max
Run :	0209M06
Initials :	ARO

Printed: 2/13/17 1:32:50 PM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170211W-49674 LCS - 216099**
Batch ID: #86BTO-170211AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.7	107	79-120
ETHYLBENZENE	10.00	10.9	109	79-121
TOLUENE	10.00	10.5	105	80-121
XYLENES (TOTAL)	30.0	32.8	109	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.2	101	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/11/17
Analysis Date :	2/11/17
Instrument :	Max
Run :	0211M19
Initials :	SV

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APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170211W-49674 MS - 216099**
Batch ID: #86BTO-170211AM
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	9.42	9.17	94.2	91.7	79-120	2.7	20
ETHYLBENZENE	10.00	ND	9.26	9.08	92.6	90.8	79-121	2.0	20
TOLUENE	10.00	ND	9.21	9.02	92.1	90.2	80-121	2.1	20
XYLENES (TOTAL)	30.0	ND	27.8	27.6	92.7	92.0	79-121	0.72	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	26.3	23.9	105	95.6	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.2	25.5	101	102	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.5	25.1	102	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.0	25.0	100	100	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/11/17	2/11/17
Analysis Date :	2/11/17	2/11/17
Instrument :	Max	Max
Run :	0211M29	0211M30
Initials :	SV	

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APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82121
Case No: 82121
Date Analyzed: 2/9/17
Matrix: WATER
Instrument: Max
Blank ID: 170209AM-BLK
Time Analyzed: 1219

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209AM-LCS	Lab Control Spike	0209M06	2/9/17 0831
170209AM-BLK	Blank	0209M14	2/9/17 1219
AZ49675	ERH204	0209M15	2/9/17 1247
AZ49678	ERH211	0209M16	2/9/17 1316
AZ49681	ERH213	0209M17	2/9/17 1344
AZ49676	ERH206	0209M19	2/9/17 1441
AZ49677	ERH232	0209M20	2/9/17 1509
AZ49679	ERH212	0209M21	2/9/17 1538
AZ49680	ERH235	0209M22	2/9/17 1606
AZ49682	ERH214	0209M23	2/9/17 1635
AZ49683	ERH228	0209M24	2/9/17 1703

Comments: Batch: #86BTO-170209AM

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Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82121
Case No: 82121
Date Analyzed: 2/9/17
Matrix: WATER
Instrument: Max
Blank ID: 170209AM1-BLK
Time Analyzed: 1220

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209AM1-LCS	Lab Control Spike	0209M06	2/9/17 0832
170209AM1-BLK	Blank	0209M14	2/9/17 1220
AZ49684	ERH219	0209M18	2/9/17 1412
AZ49685	ERH220	0209M25	2/9/17 1731
AZ49686	ERH221	0209M26	2/9/17 1800

Comments: Batch: #86BTO-170209AM

Printed: 2/13/17 1:32:59 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82121
Matrix: WATER
Blank ID: 170211AM-BLK

SDG No: 82121
Date Analyzed: 2/11/17
Instrument: Max
Time Analyzed: 2120

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170211AM-LCS	Lab Control Spike	0211M19	2/11/17 1802
170211AM-BLK	Blank	0211M26	2/11/17 2120
AZ49674	ERH205	0211M28	2/11/17 2217
170211AM-MS	Matrix Spike	0211M29	2/11/17 2245
170211AM-MSD	Matrix SpikeD	0211M30	2/11/17 2313

Comments: Batch: #86BTO-170211AM

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: 5ng BFB STD 12/15/16

SDG No: 82121
Date Analyzed: 1/27/17
Instrument: Max
Time Analyzed: 9:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 01/2	0127M04.D	1/27/17 11:24
2		0.5ug/L VOC STD 01/2	0127M05.D	1/27/17 11:53
3		1.0ug/L VOC STD 01/2	0127M06.D	1/27/17 12:21
4		2.0ug/L VOC STD 01/2	0127M07.D	1/27/17 12:49
5		5.0ug/L VOC STD 01/2	0127M08.D	1/27/17 13:17
6		10ug/L VOC STD 01/27	0127M09.D	1/27/17 13:45
7		20ug/L VOC STD 01/27	0127M10.D	1/27/17 14:14
8		40ug/L VOC STD 01/27	0127M11.D	1/27/17 14:42
9		100ug/L VOC STD 01/2	0127M12.D	1/27/17 15:10
10		(SS) 10ug/L VOC STD	0127M16.D	1/27/17 17:03
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.8
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	100.0
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	97.4
177	5 - 9% of mass 176	5.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82121
Date Analyzed: 2/9/17
Instrument: Max
Time Analyzed: 7:39

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170209A CCV/LCS 10ug	0209M06.D	2/9/17 8:31
2	Blank	170209A BLK-1WM	0209M14.D	2/9/17 12:19
3	ERH204	AZ49675W01	0209M15.D	2/9/17 12:47
4	ERH211	AZ49678W01	0209M16.D	2/9/17 13:16
5	ERH213	AZ49681W01	0209M17.D	2/9/17 13:44
6	ERH219	AZ49684W01	0209M18.D	2/9/17 14:12
7	ERH206	AZ49676W01	0209M19.D	2/9/17 14:41
8	ERH232	AZ49677W01	0209M20.D	2/9/17 15:09
9	ERH212	AZ49679W01	0209M21.D	2/9/17 15:38
10	ERH235	AZ49680W01	0209M22.D	2/9/17 16:06
11	ERH214	AZ49682W02	0209M23.D	2/9/17 16:35
12	ERH228	AZ49683W01	0209M24.D	2/9/17 17:03
13	ERH220	AZ49685W01	0209M25.D	2/9/17 17:31
14	ERH221	AZ49686W01	0209M26.D	2/9/17 18:00
15		Ending CCV 8260 10ug	0209M30.D	2/9/17 19:53
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.6
75	30 - 60% of mass 95	44.4
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	99.3
175	5 - 9% of mass 174	8.1
176	95.06 - 101% of mass 174	98.5
177	5 - 9% of mass 176	7.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82121
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82121
Date Analyzed: 2/11/17
Instrument: Max
Time Analyzed: 17:34

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170211A CCV/LCS 10ug	0211M19.D	2/11/17 18:02
2	Blank	170211A BLK-1WM	0211M26.D	2/11/17 21:20
3	ERH205	AZ49674W01	0211M28.D	2/11/17 22:17
4		AZ49674W02,3,6 MS 1	0211M29.D	2/11/17 22:45
5		AZ49674W02,3,6 MSD	0211M30.D	2/11/17 23:13
6		Ending CCV 8260 10ug	0211M33.D	2/12/17 0:38
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.2
75	30 - 60% of mass 95	45.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.9
173	0 - 2% of mass 174	0.1
174	50 - 100% of mass 95	97.2
175	5 - 9% of mass 174	8.0
176	95.06 - 101% of mass 174	96.8
177	5 - 9% of mass 176	7.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82121

Lab File ID (Standard): 0127M09.D Date Analyzed: 01/27/17

Instrument ID: Max Time Analyzed: 13:45

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	330920	5.51	236599	9.15	123244	12.35
	UPPER LIMIT	661840	6.01	473198	9.65	246488	12.85
	LOWER LIMIT	165460	5.01	118300	8.65	61622	11.85
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	313129	5.51	223395	9.15	119323	12.35
02	170209A CCV/LCS 10ug	292687	5.51	215613	9.15	116060	12.35
03	170209A BLK-1WM	305671	5.51	221943	9.15	112083	12.35
04	AZ49675W01	285200	5.52	211599	9.15	106826	12.35
05	AZ49678W01	280084	5.52	206670	9.15	104279	12.35
06	AZ49681W01	278669	5.52	204397	9.15	104346	12.35
07	AZ49684W01	280054	5.52	208473	9.15	106313	12.35
08	AZ49676W01	283184	5.52	208249	9.15	104642	12.35
09	AZ49677W01	288080	5.52	210425	9.15	106401	12.35
10	AZ49679W01	280146	5.51	199289	9.15	102812	12.35
11	AZ49680W01	293541	5.52	210035	9.15	107221	12.35
12	AZ49682W02	297086	5.52	213743	9.15	110012	12.35
13	AZ49683W01	279526	5.52	205210	9.15	105126	12.35
14	AZ49685W01	274879	5.52	202677	9.15	101939	12.35
15	AZ49686W01	277667	5.52	203347	9.15	98562	12.35
16	Ending CCV 8260 10ug/	288346	5.52	212438	9.15	114547	12.35
17	170211A CCV/LCS 10ug	302885	5.51	212295	9.15	112953	12.35
18	170211A BLK-1WM	293250	5.52	206958	9.16	98535	12.35
19	AZ49674W01	291995	5.52	198805	9.16	95590	12.35
20	AZ49674W02,3,6 MS 1	303773	5.52	216182	9.15	115469	12.35
21	AZ49674W02,3,6 MSD	299042	5.52	213615	9.15	110620	12.35
22	Ending CCV 8260 10ug/	307975	5.52	218741	9.15	115632	12.35

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS
Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #86BTO-170211AM-216099

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/11/17	02/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/11/17	02/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/11/17	02/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/11/17	02/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	95.4	81-118			%	02/11/17	02/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.1	85-114			%	02/11/17	02/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.0	80-119			%	02/11/17	02/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	02/11/17	02/11/17

Quant Method: MALLW.M
Run #: 0211M28
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/13/17 1:33:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M28.D Vial: 28
Acq On : 11 Feb 17 22:17 Operator: PM,DG,SV,CMM
Sample : AZ49674W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:34 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	291995	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	198805	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	95590	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	61949	24.73755 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	
36) 1,2-DCA-D4(S)	5.14	65	47342	23.85769 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.432%	
56) Toluene-D8(S)	7.36	98	245426	25.51853 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.076%	
64) 4-Bromofluorobenzene(S)	10.74	95	84907	24.52947 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.116%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

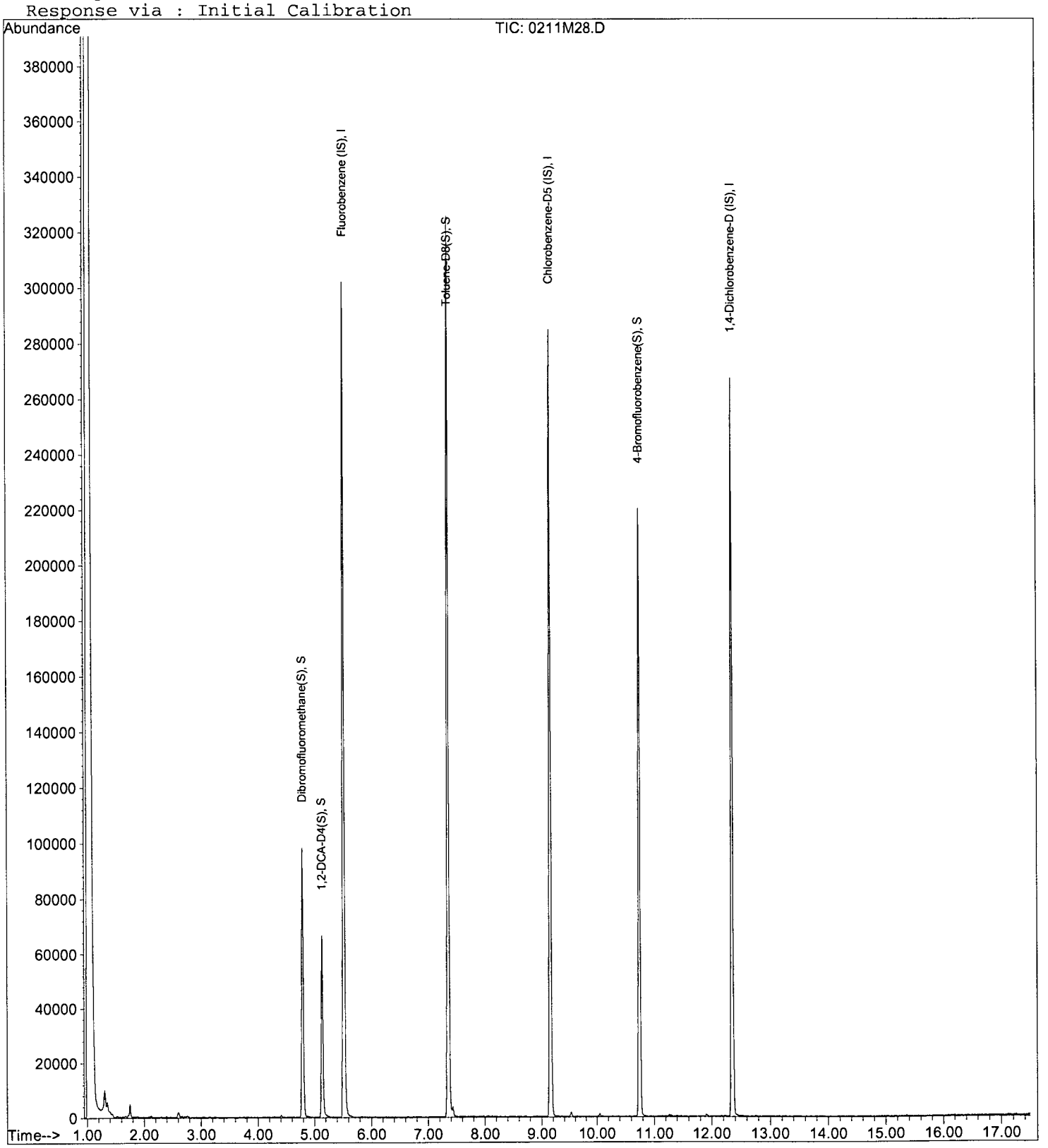
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M28.D
Acq On : 11 Feb 17 22:17
Sample : AZ49674W01
Misc : IS&S 10/20/16

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:34 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82121

Sample ID: ERH204

APPL ID: AZ49675

Sample Collection Date: 02/06/17

QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.7	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.2	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M15
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M15.D Vial: 11
Acq On : 9 Feb 17 12:47 Operator: PM,DG,SV,CMM
Sample : AZ49675W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	285200	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	211599	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	106826	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64694	26.45 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.796%	
36) 1,2-DCA-D4(S)	5.13	65	51330	26.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.936%	
56) Toluene-D8(S)	7.35	98	251366	24.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.224%	
64) 4-Bromofluorobenzene(S)	10.74	95	91831	24.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.704%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

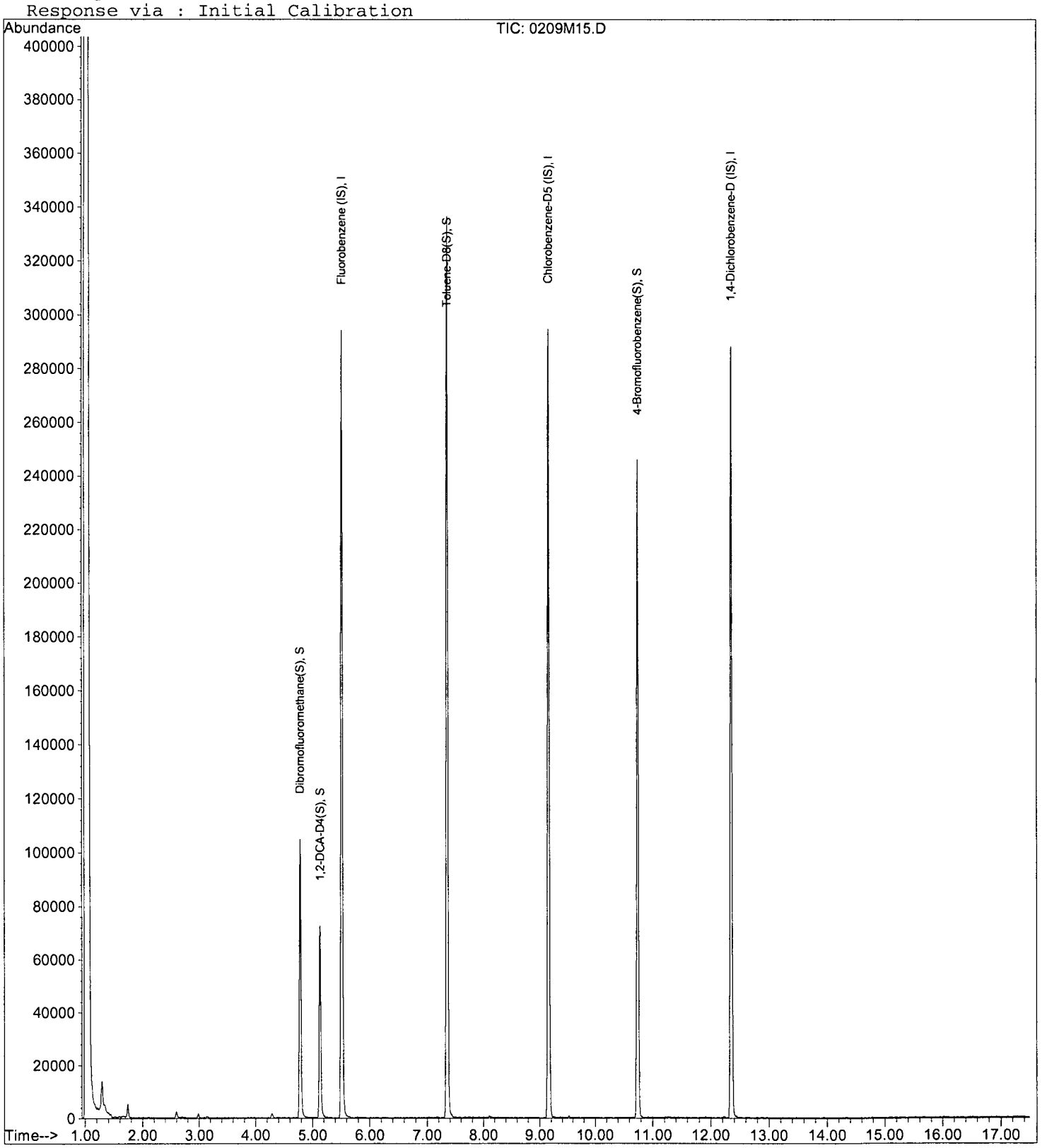
Data File : M:\MAX\DATA\M170127\0209M15.D
Acq On : 9 Feb 17 12:47
Sample : AZ49675W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:28 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	110	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	103	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M19
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M19.D Vial: 15
Acq On : 9 Feb 17 14:41 Operator: PM,DG,SV,CMM
Sample : AZ49676W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	283184	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	208249	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	104642	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63604	26.19 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.756%	
36) 1,2-DCA-D4(S)	5.13	65	53024	27.55 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.212%	
56) Toluene-D8(S)	7.35	98	253210	25.13 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.536%	
64) 4-Bromofluorobenzene(S)	10.74	95	93476	25.78 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.120%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

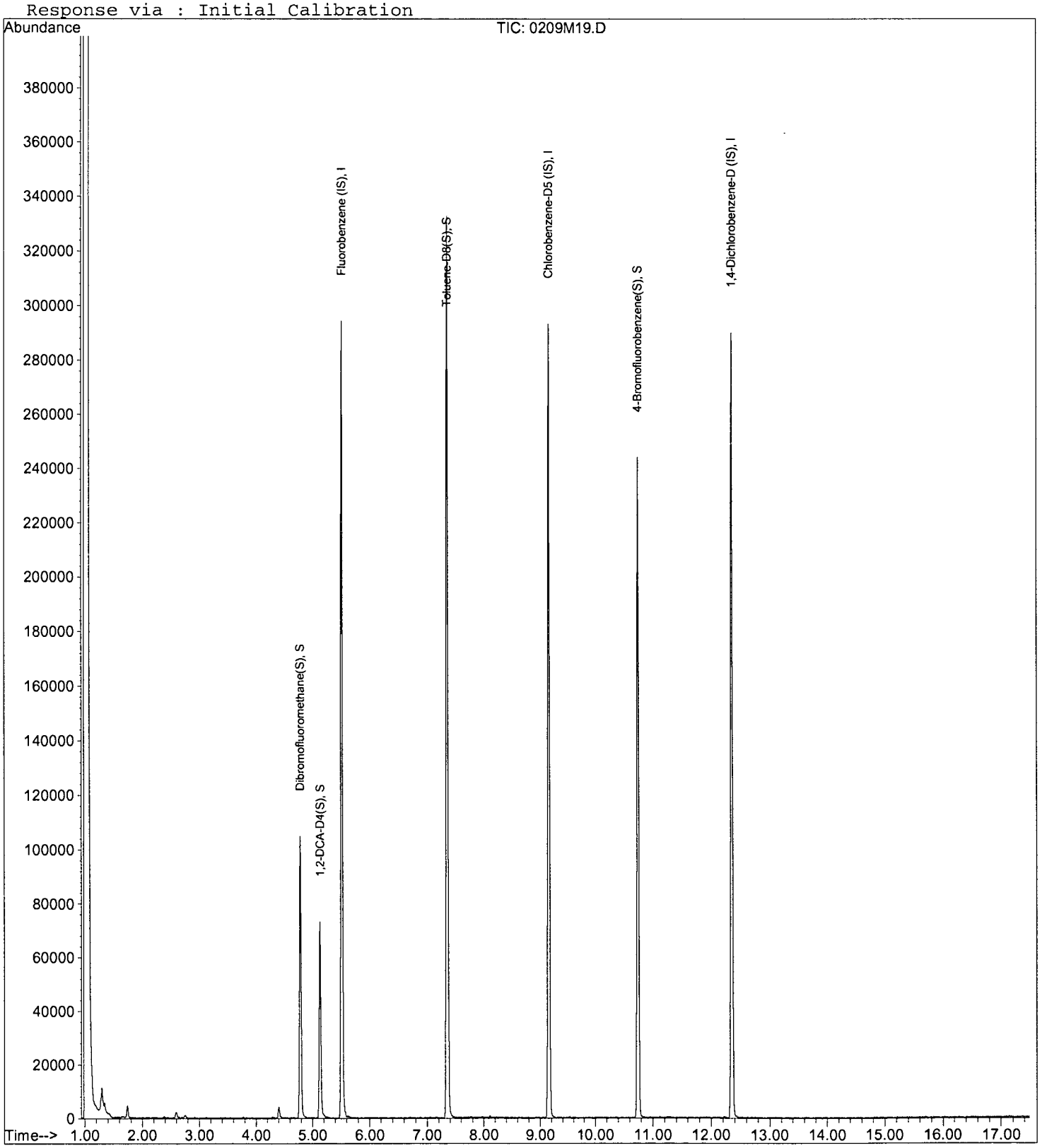
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M19.D
Acq On : 9 Feb 17 14:41
Sample : AZ49676W01
Misc : IS&S 10/20/16

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH232
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49677
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.8	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M20
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M20.D Vial: 16
Acq On : 9 Feb 17 15:09 Operator: PM,DG,SV,CMM
Sample : AZ49677W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:40 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	288080	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	210425	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	106401	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64878	26.26 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.036%	
36) 1,2-DCA-D4(S)	5.13	65	52424	26.78 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.112%	
56) Toluene-D8(S)	7.35	98	251421	24.70 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.792%	
64) 4-Bromofluorobenzene(S)	10.74	95	92154	25.15 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.612%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

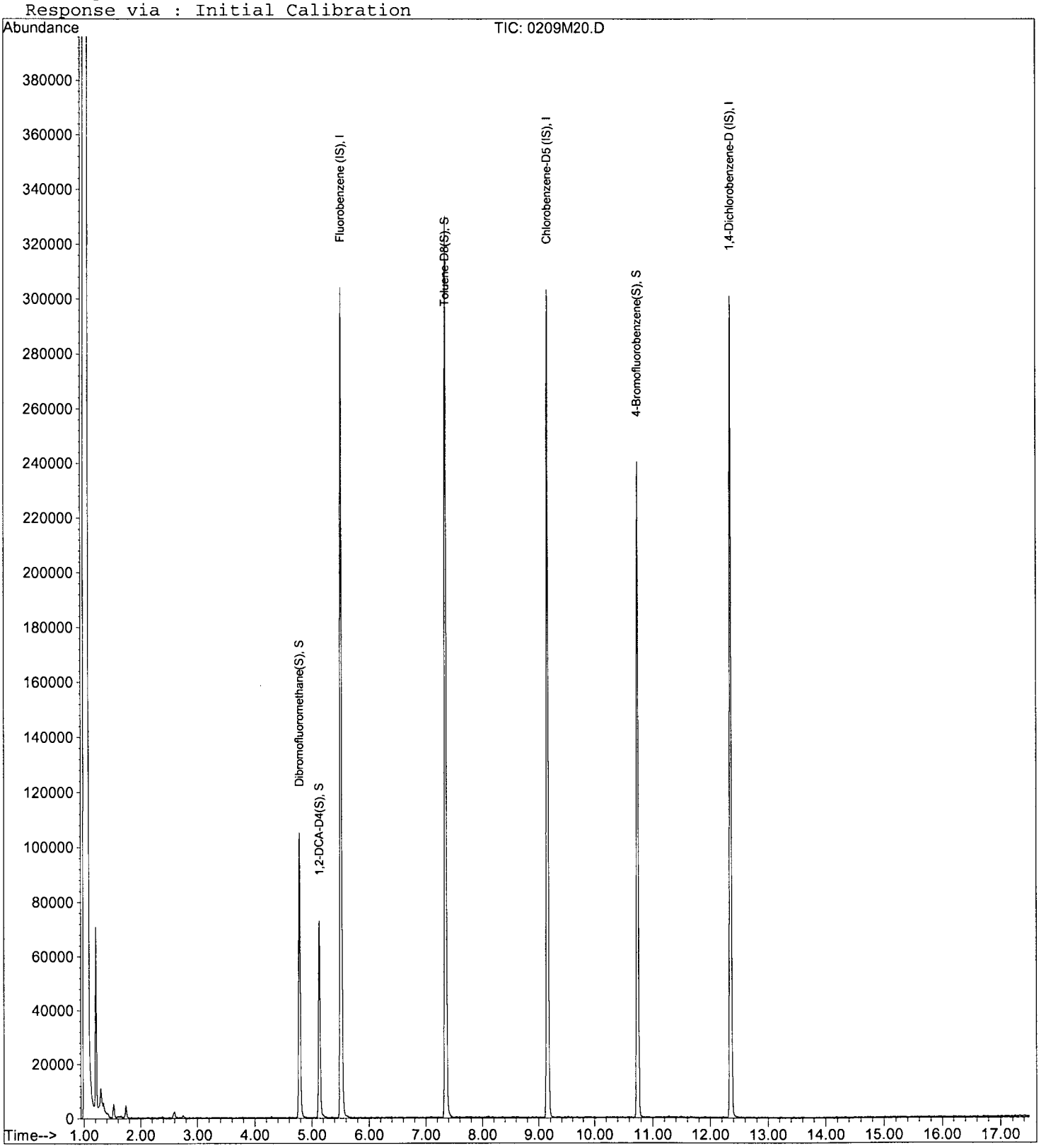
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M20.D
Acq On : 9 Feb 17 15:09
Sample : AZ49677W01
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:40 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH211
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49678
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.2	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M16
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M16.D Vial: 12
Acq On : 9 Feb 17 13:16 Operator: PM,DG,SV,CMM
Sample : AZ49678W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	280084	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	206670	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	104279	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	62879	26.18 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.708%	
36) 1,2-DCA-D4(S)	5.13	65	50224	26.39 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.544%	
56) Toluene-D8(S)	7.35	98	245431	24.55 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.192%	
64) 4-Bromofluorobenzene(S)	10.74	95	88366	24.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.228%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

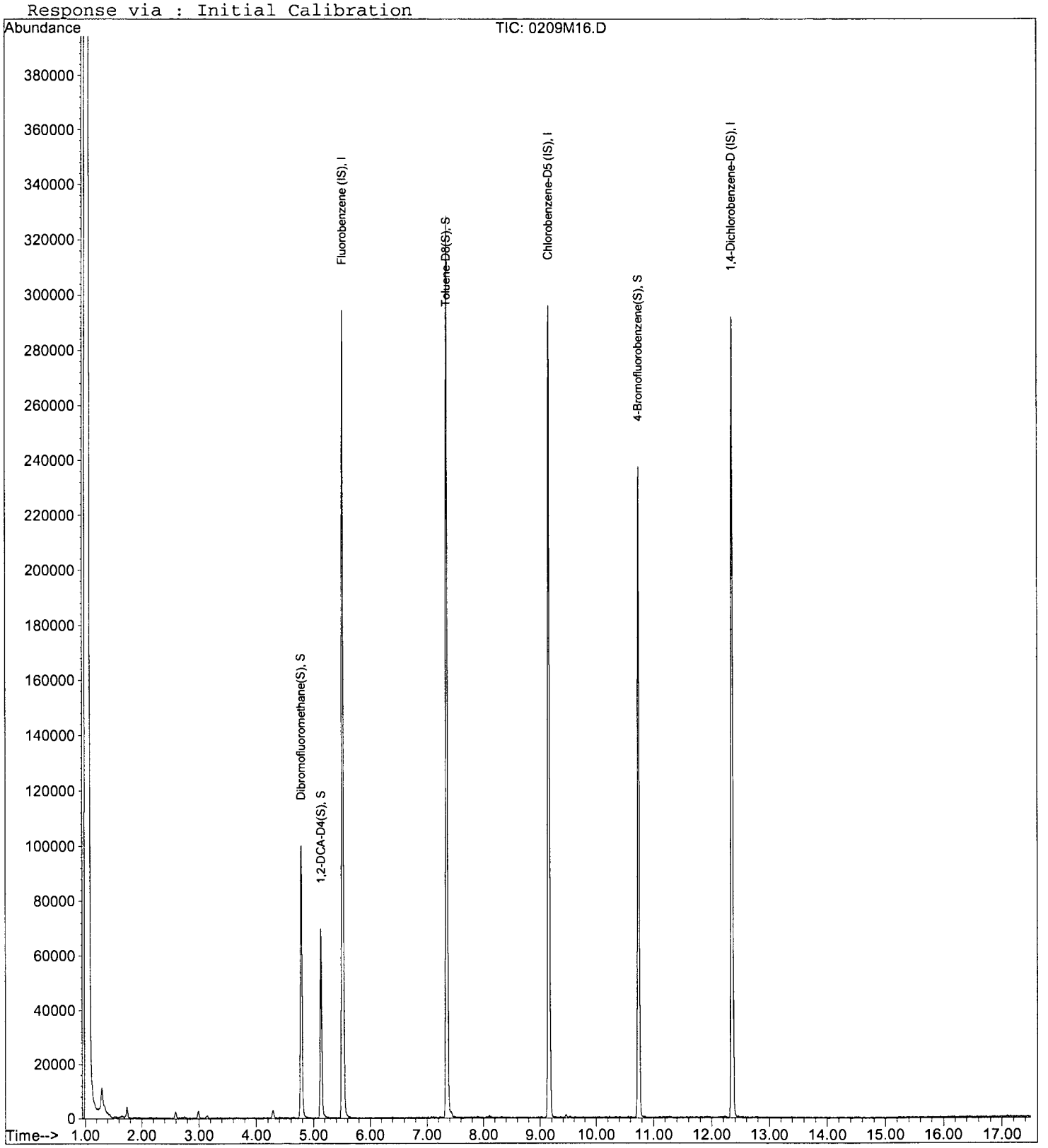
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M16.D
Acq On : 9 Feb 17 13:16
Sample : AZ49678W01
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:31 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	110	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	103	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M21
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M21.D
Acq On : 9 Feb 17 15:38
Sample : AZ49679W01
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	280146	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	199289	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	102812	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63739	26.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.116%	
36) 1,2-DCA-D4(S)	5.13	65	52419	27.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.136%	
56) Toluene-D8(S)	7.35	98	243602	25.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.068%	
64) 4-Bromofluorobenzene(S)	10.74	95	89506	25.80 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

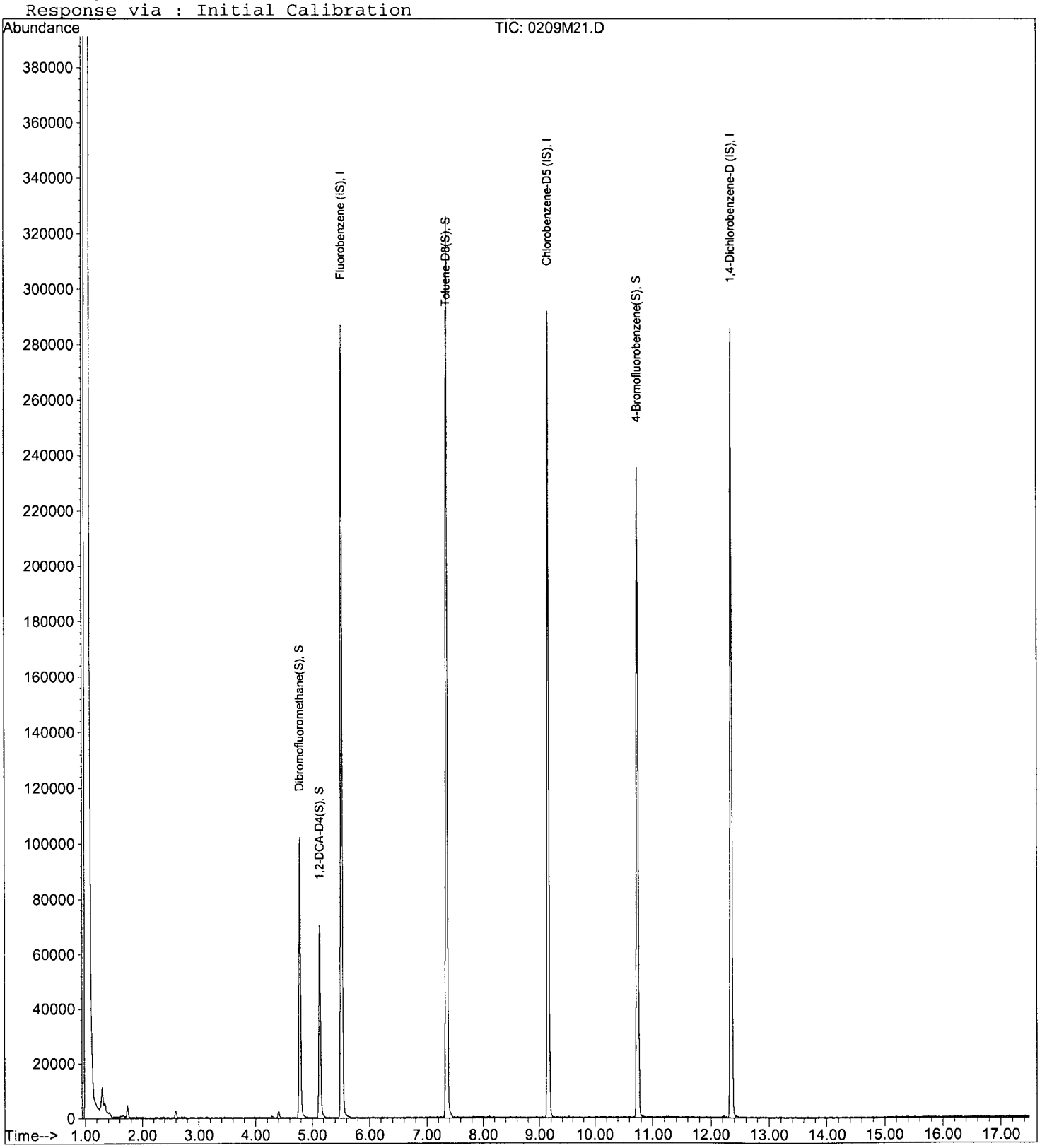
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M21.D
Acq On : 9 Feb 17 15:38
Sample : AZ49679W01
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82121

Sample ID: ERH235

APPL ID: AZ49680

Sample Collection Date: 02/07/17

QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	104	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/09/17	02/09/17

Quant Method:	MALLW.M
Run #:	0209M22
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:33:03 PM

APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M22.D Vial: 18
Acq On : 9 Feb 17 16:06 Operator: PM,DG,SV,CMM
Sample : AZ49680W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:43 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	293541	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	210035	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107221	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	65716	26.10 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.416%	
36) 1,2-DCA-D4(S)	5.13	65	53098	26.62 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.468%	
56) Toluene-D8(S)	7.35	98	256280	25.22 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.888%	
64) 4-Bromofluorobenzene(S)	10.74	95	95224	26.04 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.156%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

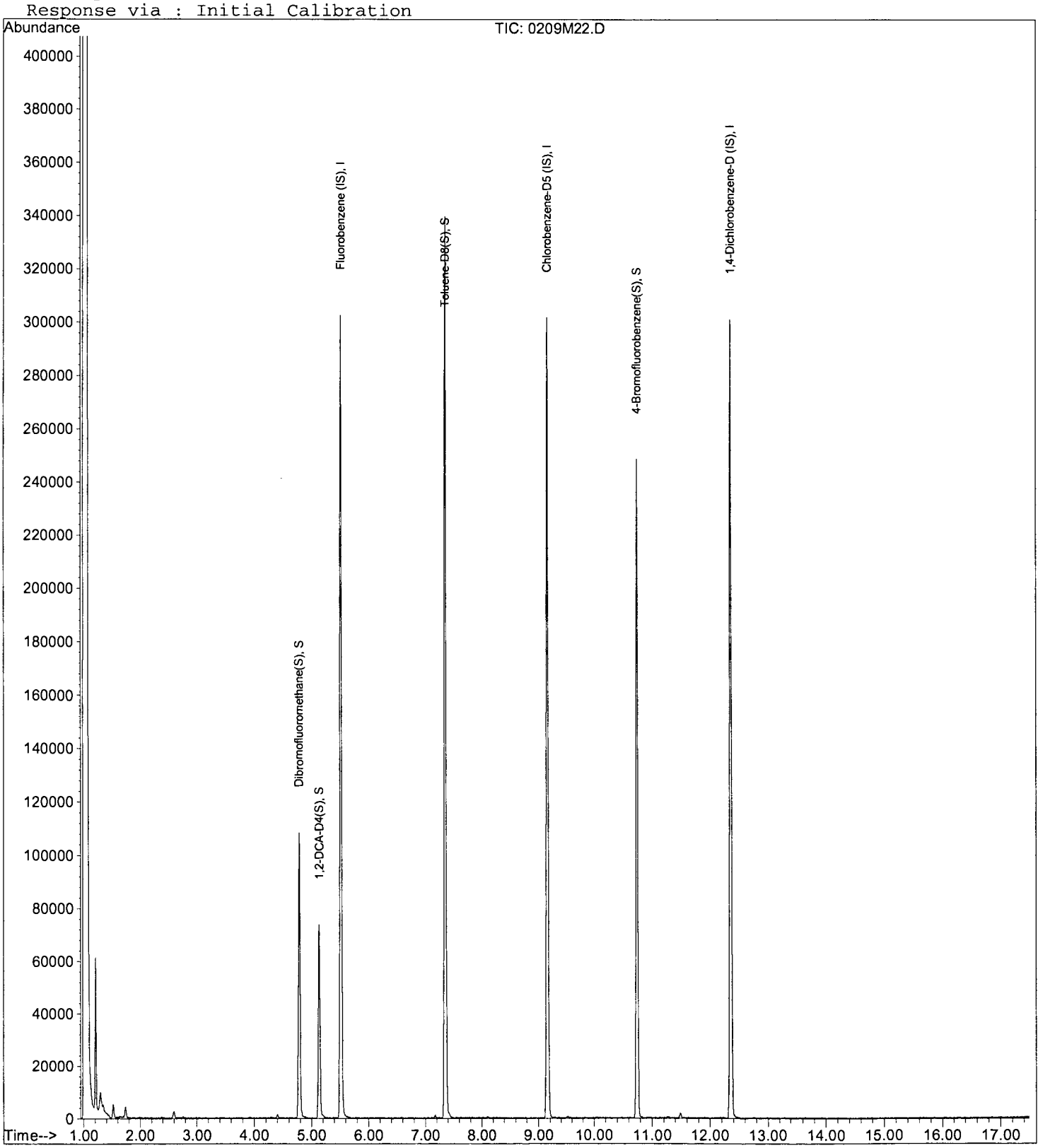
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M22.D
Acq On : 9 Feb 17 16:06
Sample : AZ49680W01
Misc : IS&S 10/20/16

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:43 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82121

Sample ID: ERH213

APPL ID: AZ49681

Sample Collection Date: 02/07/17

QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.1	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.4	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M17
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M17.D Vial: 13
Acq On : 9 Feb 17 13:44 Operator: PM,DG,SV,CMM
Sample : AZ49681W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:36 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	278669	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	204397	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	104346	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	61963	25.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.704%	
36) 1,2-DCA-D4(S)	5.13	65	50809	26.83 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.316%	
56) Toluene-D8(S)	7.35	98	245708	24.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.396%	
64) 4-Bromofluorobenzene(S)	10.74	95	88209	24.79 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.144%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

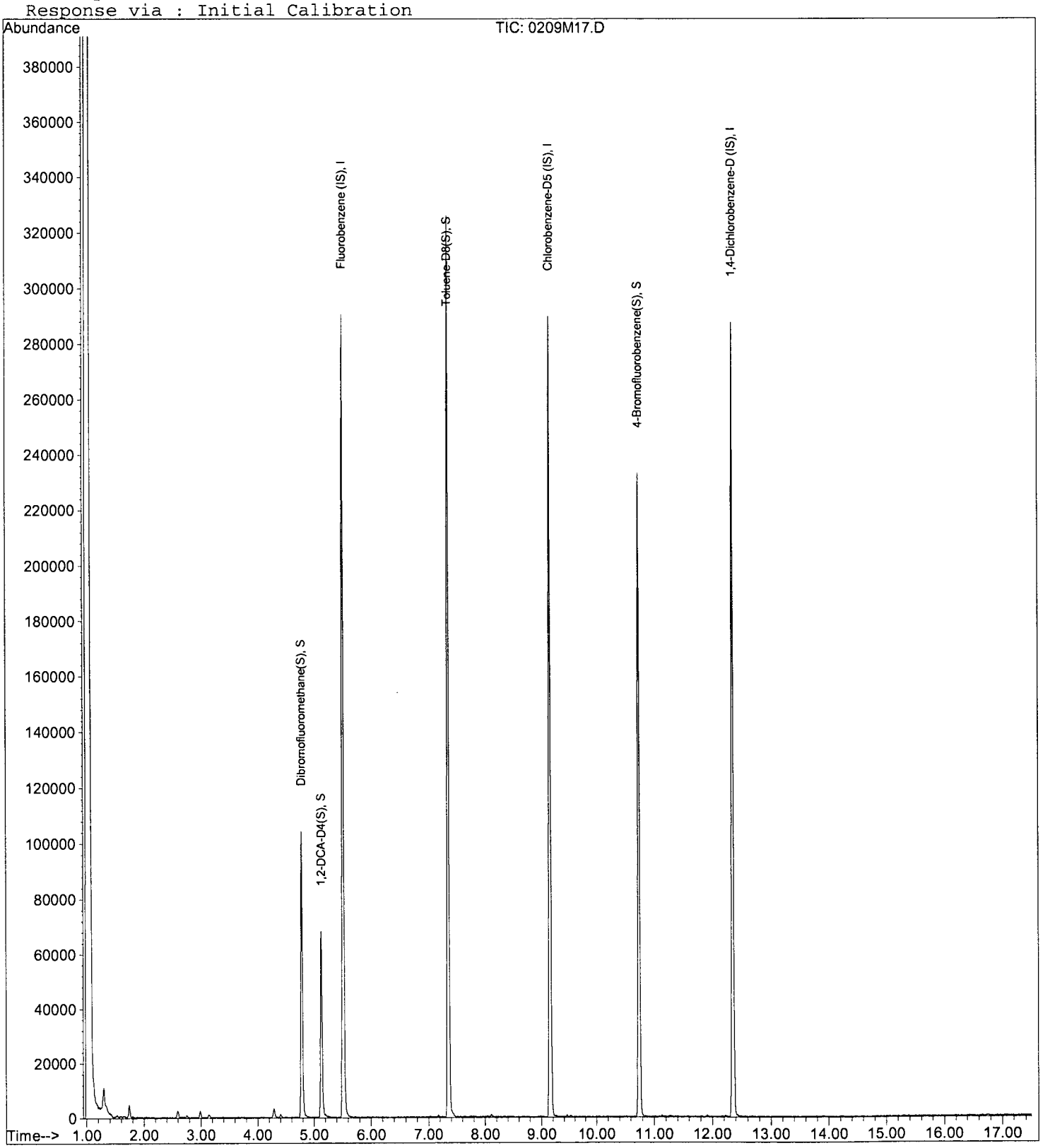
Data File : M:\MAX\DATA\M170127\0209M17.D
Acq On : 9 Feb 17 13:44
Sample : AZ49681W01
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:36 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.7	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M23
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M23.D Vial: 19
Acq On : 9 Feb 17 16:35 Operator: PM,DG,SV,CMM
Sample : AZ49682W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:44 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	297086	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	213743	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	110012	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67196	26.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.492%	
36) 1,2-DCA-D4(S)	5.13	65	54010	26.75 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.008%	
56) Toluene-D8(S)	7.35	98	257621	24.91 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.656%	
64) 4-Bromofluorobenzene(S)	10.74	95	93678	25.17 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.688%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

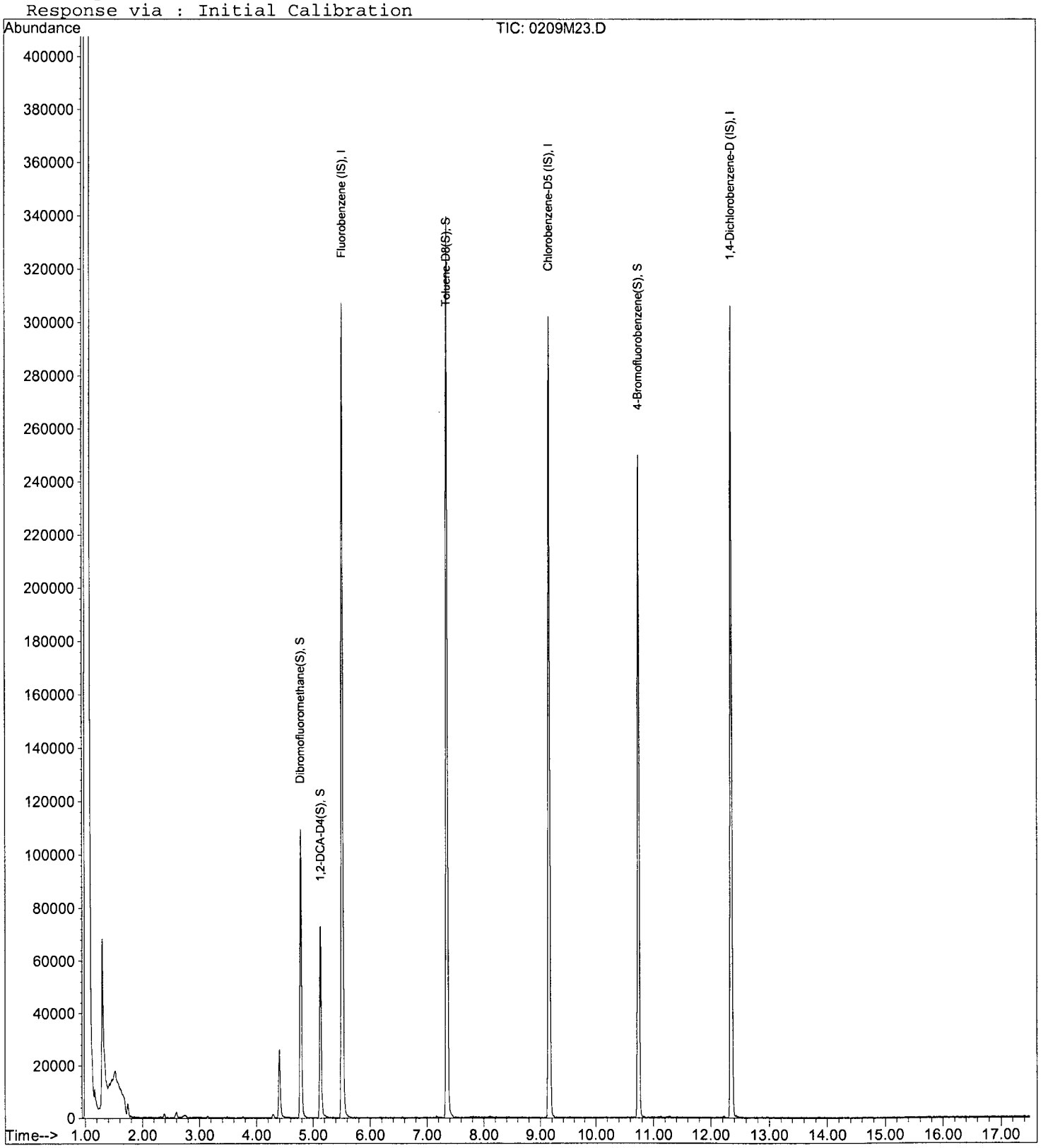
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M23.D
Acq On : 9 Feb 17 16:35
Sample : AZ49682W02
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:44 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.1	89-112			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M24
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M24.D
Acq On : 9 Feb 17 17:03
Sample : AZ49683W01
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:45 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	279526	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	205210	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	105126	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	62556	26.09 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.376%	
36) 1,2-DCA-D4(S)	5.13	65	50696	26.69 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.752%	
56) Toluene-D8(S)	7.35	98	243513	24.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.116%	
64) 4-Bromofluorobenzene(S)	10.74	95	89478	25.04 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

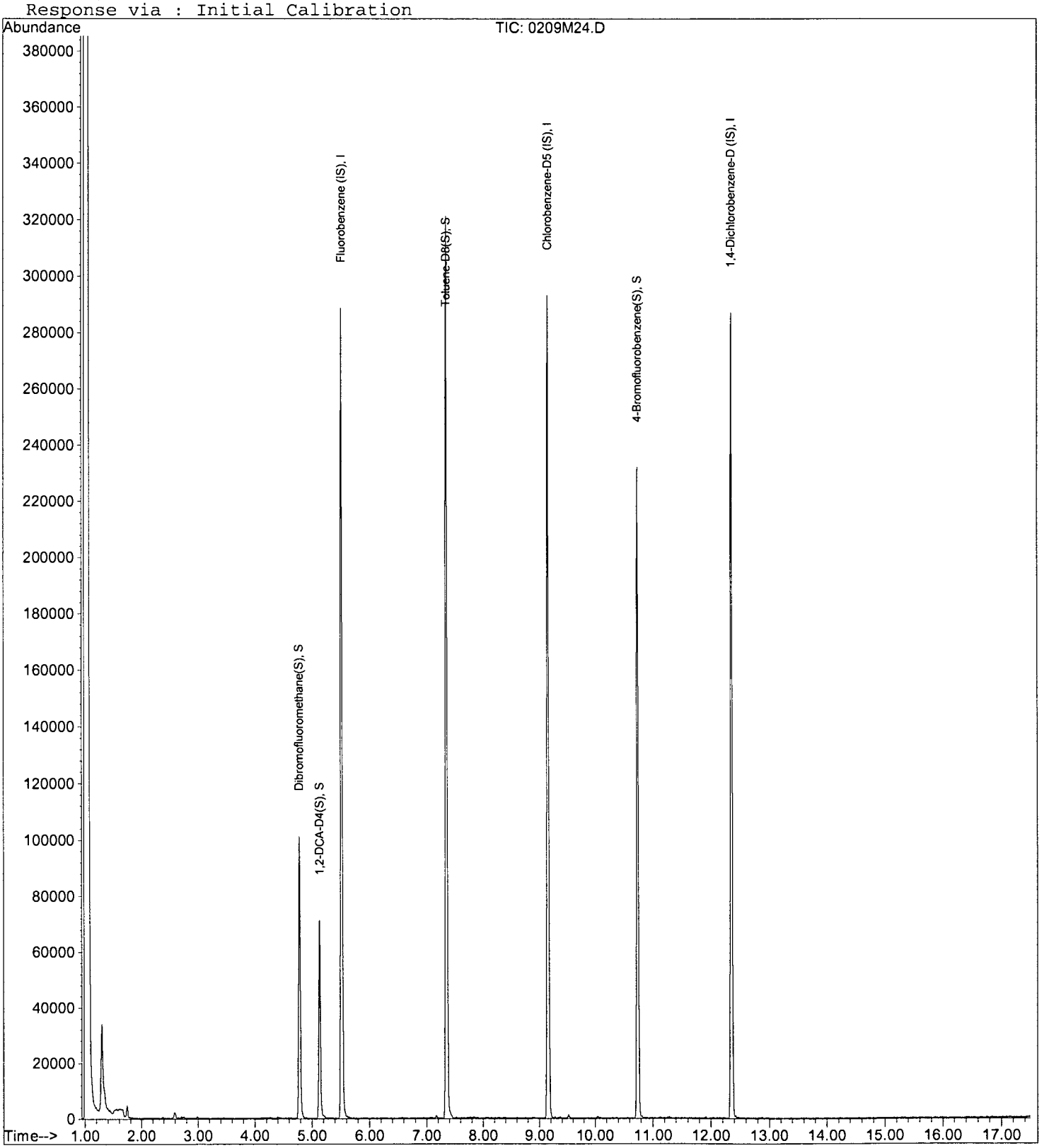
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M24.D
Acq On : 9 Feb 17 17:03
Sample : AZ49683W01
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:45 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82121

Sample ID: ERH219

APPL ID: AZ49684

Sample Collection Date: 02/06/17

QCG: #86BTO-170209AM1-21607

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/09/17	02/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	108	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.6	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M18
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M18.D Vial: 14
Acq On : 9 Feb 17 14:12 Operator: PM,DG,SV,CMM
Sample : AZ49684W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:37 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	280054	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	208473	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	106313	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63022	26.24 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.956%	
36) 1,2-DCA-D4(S)	5.13	65	51256	26.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.724%	
56) Toluene-D8(S)	7.35	98	245982	24.39 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.560%	
64) 4-Bromofluorobenzene(S)	10.74	95	91091	25.10 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.384%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

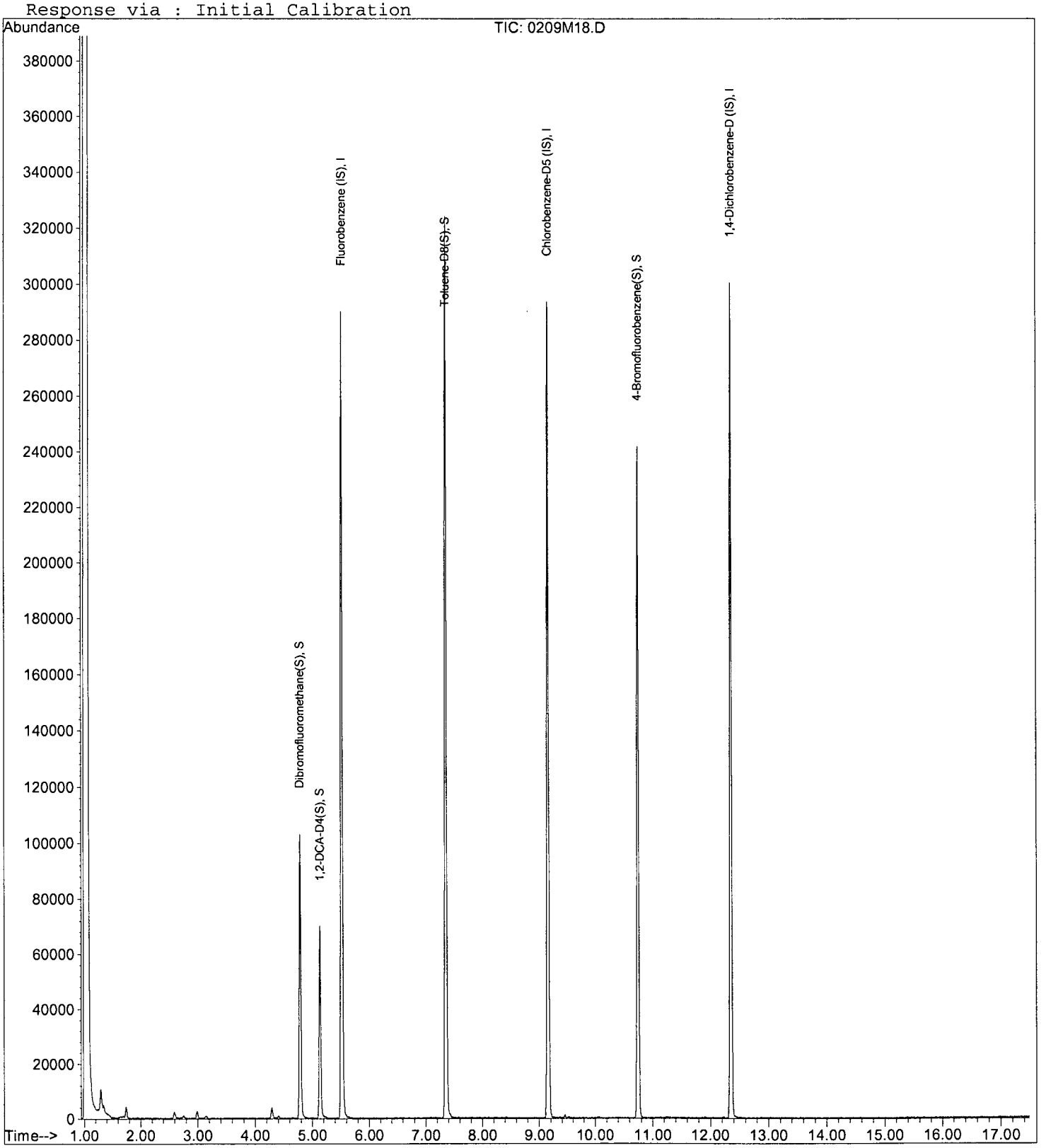
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M18.D
Acq On : 9 Feb 17 14:12
Sample : AZ49684W01
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:37 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #86BTO-170209AM1-21607

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/09/17	02/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.1	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.6	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M25
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M25.D Vial: 21
Acq On : 9 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49685W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:46 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	274879	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	202677	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	101939	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	61461	26.07 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.284%	
36) 1,2-DCA-D4(S)	5.13	65	49827	26.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.696%	
56) Toluene-D8(S)	7.35	98	236739	24.15 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.580%	
64) 4-Bromofluorobenzene(S)	10.74	95	86570	24.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.128%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

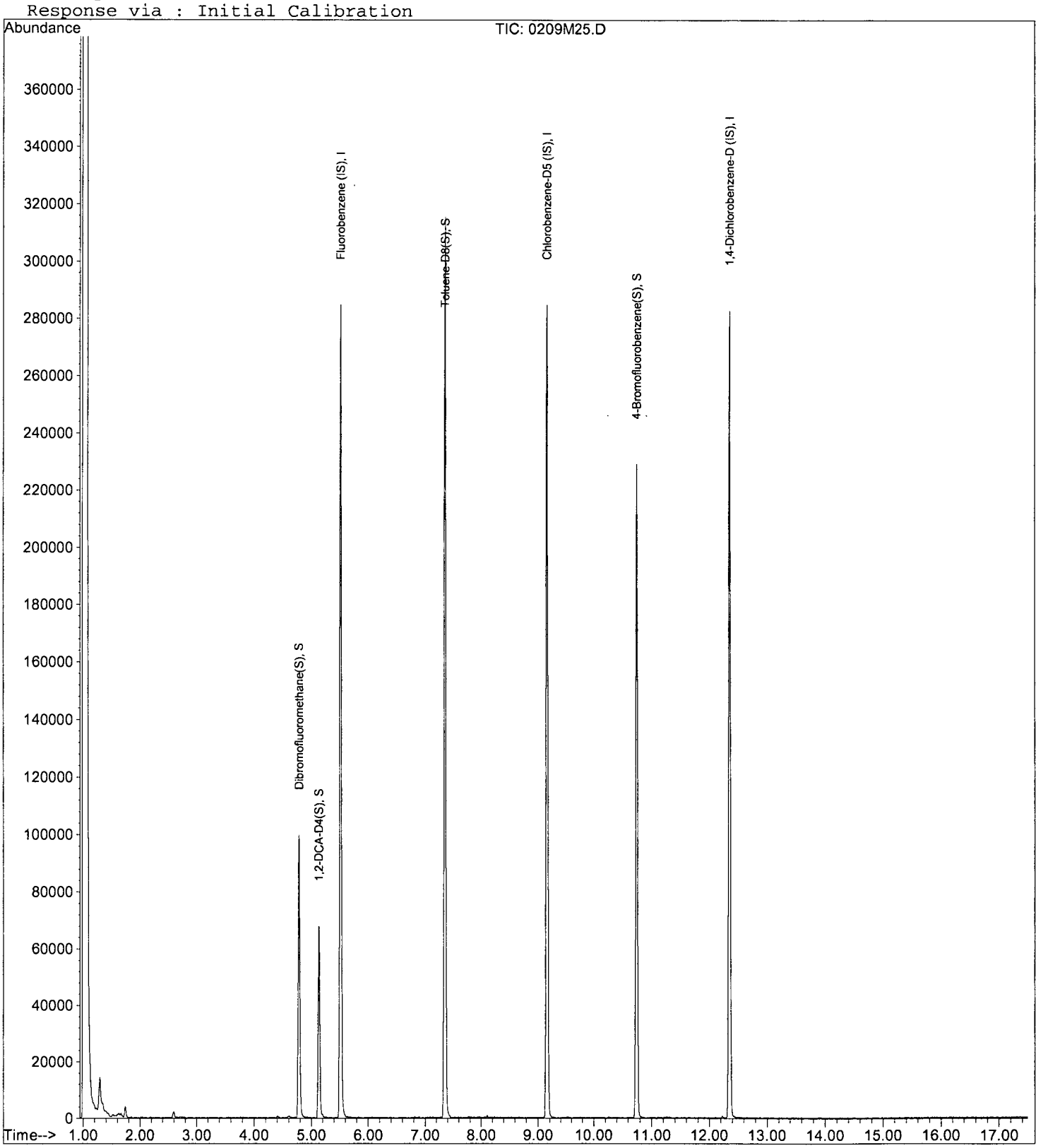
Data File : M:\MAX\DATA\M170127\0209M25.D
Acq On : 9 Feb 17 17:31
Sample : AZ49685W01
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:46 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82121

Sample ID: ERH221

APPL ID: AZ49686

Sample Collection Date: 02/06/17

QCG: #86BTO-170209AM1-21607

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/09/17	02/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	110	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.3	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M26
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:33:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M26.D Vial: 22
Acq On : 9 Feb 17 18:00 Operator: PM,DG,SV,CMM
Sample : AZ49686W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	277667	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	203347	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	98562	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	62641	26.30 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.220%	
36) 1,2-DCA-D4(S)	5.13	65	51839	27.47 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.888%	
56) Toluene-D8(S)	7.35	98	244139	24.82 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.272%	
64) 4-Bromofluorobenzene(S)	10.74	95	88895	25.11 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.432%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

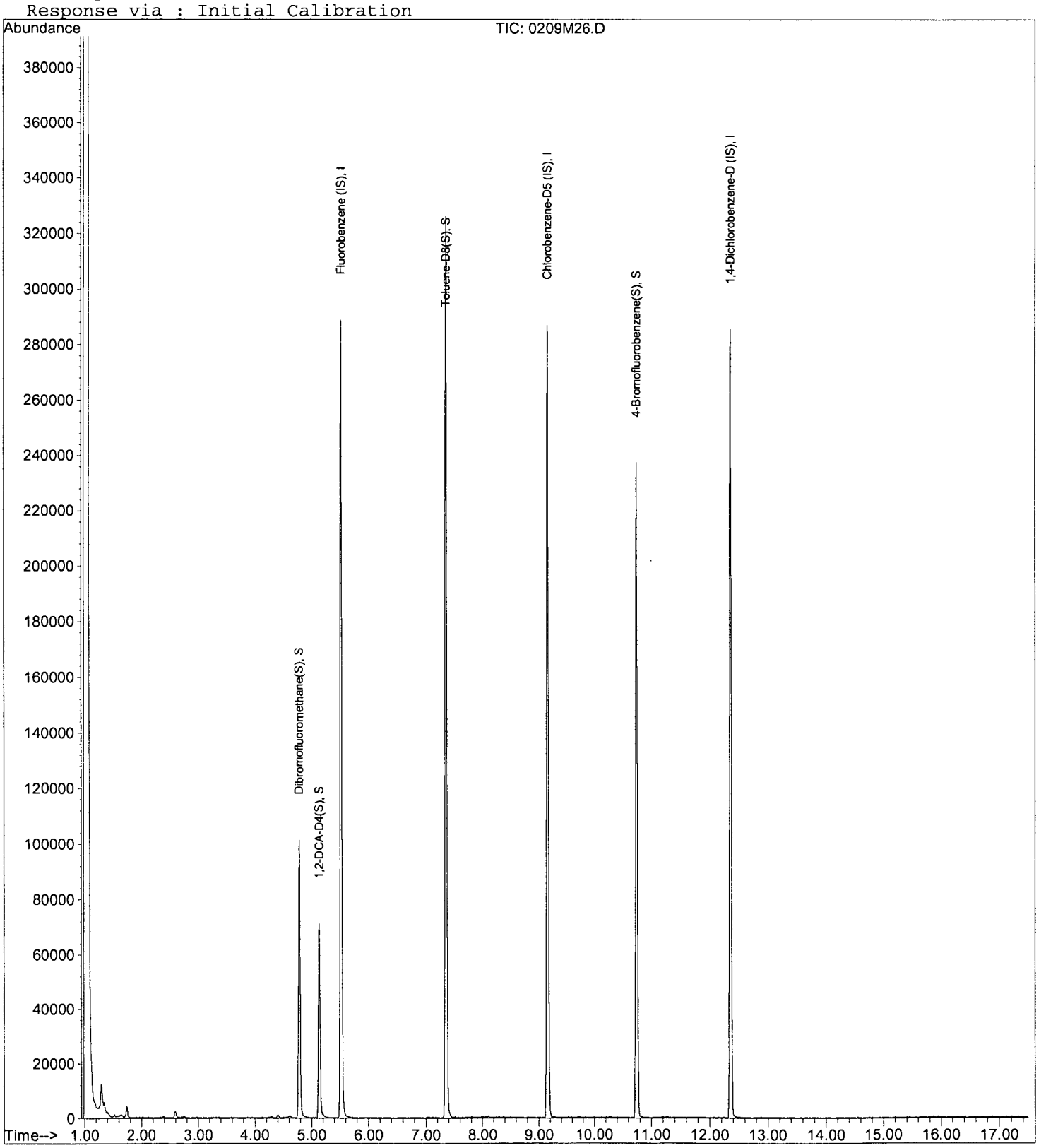
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M26.D
Acq On : 9 Feb 17 18:00
Sample : AZ49686W01
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:47 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2389	0.2502	0.2467	0.2270	0.2577	0.2512	0.2523	0.2547		0.25	4.0	TM	
3	TM	Freon 114		0.4371	0.3708	0.4129	0.3440	0.3916	0.3651	0.3776	0.3846		0.39	7.5	TM	
4	TM**	Chloromethane		0.5322	0.4562	0.4212	0.4361	0.4089	0.3805	0.3985	0.4121		0.43	11	TM**	
5	TM*	Vinyl chloride	0.6017	0.6231	0.5712	0.6041	0.5783	0.5965	0.5953	0.5871	0.6200		0.60	2.9	TM*	
6	TM	Bromomethane	0.4210	0.3988	0.3480	0.3346	0.3238	0.2727					0.35	15	TM	
7	TM	Chloroethane		0.4018	0.3267	0.3045	0.3231	0.3282	0.3196	0.3179			0.33	9.6	TM	
8	TM	Dichlorofluoromethane		0.9421	0.8705	0.8795	1.020	0.8947	0.8799	0.8934	0.8728		0.91	5.6	TM	
9	TM	Trichlorofluoromethane		0.6574	0.6021	0.6139	0.6325	0.6575	0.6351	0.6219	0.6246		0.63	3.1	TM	
10	TM	Acrolein	0.0221	0.0224	0.0209	0.0217	0.0215	0.0196	0.0218	0.0214	0.0205		0.02	4.0	TM	
11	TML	Acetone		0.1074	0.0946	0.0799	0.0694	0.0585	0.0589	0.0544	0.0512		0.07	28	TML	0.999
12	TM	Freon-113		0.4482	0.4215	0.4072	0.4180	0.4250	0.4032	0.4067	0.4093		0.42	3.5	TM	
13	TM*	1,1-DCE		0.6934	0.6988	0.6813	0.7560	0.6827	0.6557	0.6602	0.6469		0.68	5.0	TM*	
14	TM	t-Butanol	0.0102	0.0096	0.0099	0.0098	0.0103	0.0098	0.0109	0.0109	0.0115		0.01	6.4	TM	
15	TM	Methyl Acetate		0.1448	0.1772	0.1728	0.1817	0.1632	0.1614	0.1609	0.1615		0.17	7.0	TM	
16	TML	Iodomethane		0.2400	0.2533	0.3130	0.5299	0.5563	0.5570	0.5781	0.5790		0.45	34	TML	1.00
17	TML	Acrylonitrile		0.0339	0.0573	0.0595	0.0850	0.0793	0.0775	0.0742	0.0734		0.07	25	TML	1.000
18	TML	Methylene chloride		0.8435	0.6471	0.5541	0.5471	0.4416	0.4233	0.4235	0.4059		0.54	28	TML	1.000
19	TM	Carbon disulfide		1.448	1.423	1.314	1.512	1.354	1.283	1.291	1.272		1.4	6.5	TM	
20	TM	Methyl t-butyl ether (MtBE)		0.7248	0.6682	0.7029	0.8398	0.7264	0.7162	0.7104	0.6946		0.72	7.0	TM	
21	TM	Trans-1,2-DCE		0.4638	0.4872	0.4607	0.5704	0.5038	0.4877	0.4827	0.4695		0.49	7.2	TM	
22	TM	Diisopropyl Ether		1.323	1.349	1.315	1.638	1.384	1.381	1.362	1.311		1.4	7.7	TM	
23	TM**	1,1-DCA		0.8328	0.8592	0.8322	1.018	0.8720	0.8500	0.8485	0.8306		0.87	7.2	TM**	
24	TM	Vinyl Acetate		0.2662	0.2382	0.2259	0.3166	0.2565	0.3103	0.3003	0.2995		0.28	13	TM	
25	TM	Ethyl tert Butyl Ether		0.8982	0.8389	0.8009	1.051	0.9041	0.9042	0.9333	0.9098		0.91	8.1	TM	
26	TM	MEK (2-Butanone)			0.0963	0.0737	0.1152	0.1023	0.0950	0.0912	0.0853		0.09	14	TM	
27	TM	Cis-1,2-DCE		0.5195	0.5457	0.5490	0.6220	0.5303	0.5217	0.5205	0.4982		0.54	6.9	TM	
28	TM	2,2-Dichloropropane		0.5191	0.5335	0.5380	0.6527	0.5991	0.5938	0.6136	0.6333		0.59	8.5	TM	
29	TM*	Chloroform		0.8166	0.8536	0.7808	0.9802	0.8365	0.8162	0.8140	0.7929		0.84	7.5	TM*	
30	TM	Bromochloromethane		0.2089	0.1962	0.2011	0.2444	0.2040	0.2028	0.1998	0.1961		0.21	7.6	TM	
31	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
32	TM	1,1,1-TCA		0.7566	0.7060	0.7454	0.8620	0.7904	0.7575	0.7702	0.7723		0.77	5.8	TM	
33	TM	Cyclohexane	0.4380	0.4501	0.4062	0.4477	0.4651	0.4609	0.4307	0.4337	0.4358		0.44	4.0	TM	
34	TM	1,1-Dichloropropene	0.7193	0.6325	0.6951	0.6889	0.7756	0.7218	0.6778	0.6777	0.6632		0.69	5.9	TM	
35	TM	2,2,4-Trimethylpentane	1.318	1.321	1.241	1.266	1.227	1.268	1.193	1.247	1.232		1.3	3.3	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
37	TM	Carbon Tetrachloride	0.6686	0.6854	0.6062	0.6219	0.7013	0.6698	0.6594	0.6723	0.6739		0.66	4.5	TM	
38	TM	Tert Amyl Methyl Ether		0.6980	0.6866	0.6885	0.8779	0.7482	0.7749	0.7860	0.7759		0.75	8.6	TM	
39	TM	1,2-DCA		0.4278	0.4501	0.4406	0.5275	0.4537	0.4573	0.4483	0.4288		0.45	6.9	TM	
40	TM	Benzene		2.072	1.997	1.969	2.380	2.063	2.005	2.006	1.931		2.1	6.8	TM	
41	TM	TCE		0.5668	0.5447	0.5554	0.6157	0.5535	0.5343	0.5393	0.5153		0.55	5.4	TM	
42	TM	2-Pentanone		0.1242	0.1300	0.1341	0.1371	0.1326	0.1408	0.1446	0.1555		0.14	7.0	TM	
43	TM*	1,2-Dichloropropane		0.5084	0.4434	0.4432	0.5312	0.4695	0.4520	0.4508	0.4260		0.47	7.8	TM*	
44	TM	Bromodichloromethane		0.5321	0.5069	0.4962	0.6455	0.5360	0.5353	0.5356	0.5252		0.54	8.4	TM	
45	TM	Methyl Cyclohexane	0.7249	0.7092	0.7050	0.6884	0.7306	0.7472	0.6940	0.7128	0.7070		0.71	2.6	TM	
46	TM	Dibromomethane	0.1712	0.1757	0.1786	0.1631	0.2034	0.1690	0.1701	0.1698	0.1644		0.17	6.9	TM	
47	TML	MIBK (methyl isobutyl ketone)		0.3055	0.2692	0.2461	0.2463	0.2027	0.2052	0.1925	0.1823		0.23	18	TML	0.999
48	TM	1-Bromo-2-chloroethane		0.4146	0.4453	0.4332	0.5105	0.4364	0.4464	0.4475	0.4445		0.45	6.2	TM	
49	TM	2-Chloroethyl vinyl ether				0.0076	0.0102	0.0090	0.0091	0.0103			0.01	12	TM	
50	TM	Cis-1,3-Dichloropropene		0.5370	0.5411	0.5378	0.6853	0.5995	0.6034	0.6248	0.6174		0.59	8.8	TM	
51	TM*	Toluene		2.416	2.316	2.267	2.720	2.386	2.332	2.325	2.268		2.4	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene		0.3548	0.3508	0.3548	0.4477	0.4003	0.4234	0.4432	0.4539		0.40	11	TM	
53	TM	1,1,2-TCA		0.2307	0.1974	0.2094	0.2534	0.2148	0.2124	0.2098	0.2040		0.22	8.2	TM	
54	TM	2-Hexanone			0.1112	0.1044	0.1235	0.1089	0.1145	0.1201	0.1175		0.11	5.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
57	TM	1,2-EDB		0.3223	0.2898	0.3006	0.3915	0.3273	0.3383	0.3292	0.3149		0.33	9.4	TM	
58	TM	Tetrachloroethene		0.8281	0.8142	0.8213	0.9442	0.8079	0.7705	0.7452	0.6933		0.80	9.1	TM	
59	TM	1-Chlorohexane		0.8711	0.8667	0.8760	1.057	0.9862	0.9420	0.9434	0.9197		0.93	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane		0.6232	0.6950	0.6573	0.7786	0.6877	0.6701	0.6644	0.6616		0.68	6.7	TM	
61	TM	m&p-Xylene		1.455	1.402	1.439	1.746	1.489	1.471	1.426	1.331		1.5	8.3	TM	
62	TM	o-Xylene		1.199	1.412	1.284	1.669	1.406	1.396	1.337	1.269		1.4	10	TM	
63	TM	Styrene		1.973	1.999	1.956	2.515	2.151	2.177	2.104	2.003		2.1	8.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
65	TM	1,3-Dichloropropane		0.6557	0.6431	0.6168	0.7717	0.6417	0.6573	0.6241	0.5777		0.65	8.6	TM	
66	TM	Dibromochloromethane		0.5058	0.4645	0.4718	0.5895	0.5028	0.5045	0.4904	0.4624		0.50	8.2	TM	
67	TM**	Chlorobenzene		2.158	2.082	2.053	2.439	2.061	2.025	1.981	1.858		2.1	8.1	TM**	
68	TM*	Ethylbenzene		3.700	3.496	3.583	4.440	3.857	3.742	3.677	3.519		3.8	8.1	TM*	
69	TM**	Bromoform		0.2642	0.3027	0.2738	0.3453	0.2949	0.3024	0.2971	0.2900		0.30	8.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM	Isopropylbenzene		7.059	6.765	6.751	8.190	7.264	6.794	6.789	6.510		7.0	7.5	TM	
72	TM**	1,1,2,2-Tetrachloroethane		0.6919	0.6552	0.6275	0.7785	0.6556	0.6469	0.6345	0.6116		0.66	7.9	TM**	
73	TM	1,2,3-Trichloropropane		0.1856	0.2342	0.2409	0.2590	0.2284	0.2075	0.2047	0.1997		0.22	11	TM	
74	TML	t-1,4-Dichloro-2-Butene			0.0766	0.1035	0.1514	0.1369	0.1435	0.1405			0.13	23	TML	0.999
75	TM	Bromobenzene		1.712	1.544	1.554	1.870	1.618	1.567	1.555	1.541		1.6	7.2	TM	
76	TM	n-Propylbenzene		7.665	7.091	7.488	9.040	8.042	7.608	7.605	7.432		7.7	7.6	TM	
77	TM	4-Ethyltoluene	6.522	6.773	6.559	6.436	7.961	7.158	6.751	6.713	6.554		6.8	7.0	TM	
78	TM	2-Chlorotoluene		4.763	4.759	4.381	5.434	4.624	4.480	4.390	4.240		4.6	8.1	TM	
79	TM	1,3,5-Trimethylbenzene		5.301	5.630	5.751	6.688	5.850	5.533	5.486	5.288		5.7	7.9	TM	
80	TM	4-Chlorotoluene	5.136	5.338	5.112	5.012	6.204	5.303	5.048	5.018	4.829		5.2	7.6	TM	
81	TM	Tert-Butylbenzene	5.141	5.367	4.866	4.962	5.830	5.231	4.874	4.877	4.695		5.1	6.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.590	5.589	5.145	5.281	6.394	5.742	5.476	5.460	5.295		5.6	6.6	TM	
83	TM	Sec-Butylbenzene	6.828	6.837	6.335	6.601	7.819	7.113	6.643	6.538	6.383		6.8	6.7	TM	
84	TM	p-Isopropyltoluene	6.052	5.776	5.551	5.781	6.846	6.126	5.828	5.791	5.615		5.9	6.6	TM	
85	TM	Benzyl Chloride		0.3752	0.3984	0.3994	0.4460	0.4487	0.5581				0.44	15	TM	
86	TM	1,3-DCB	3.337	3.392	3.073	3.106	3.809	3.235	3.119	3.101	2.985		3.2	7.7	TM	
87	TM	1,4-DCB	3.662	3.246	3.127	3.021	3.581	3.169	2.999	2.959	2.807		3.2	8.9	TM	
88	TM	n-Butylbenzene	4.525	4.197	4.323	4.331	5.430	4.968	4.751	4.741	4.634		4.7	8.2	TM	
89	TM	1,2-DCB	2.746	2.654	2.511	2.515	3.104	2.679	2.603	2.560	2.484		2.7	7.2	TM	
90	TM	Hexachloroethane	0.7874	0.6768	0.6890	0.6923	0.8126	0.8046	0.8394	0.8927	0.8980		0.79	11	TM	
91	TM	1,2-Dibromo-3-chloropropane			0.0878	0.0830	0.0969	0.0880	0.0941	0.0915	0.0965		0.09	5.6	TM	
92	TML	1,2,4-Trichlorobenzene		0.5081	0.8288	0.9593	1.497	1.499	1.540				1.1	38	TML	0.999
93	TM	Hexachlorobutadiene		1.217	1.189	1.203	1.367	1.272	1.171	1.167	1.145		1.2	5.9	TM	
94	TML	Naphthalene		0.1544	0.3780	0.5168	0.9242	1.231	1.432				0.77	65	TML	0.994
95	TML	1,2,3-Trichlorobenzene		0.2039	0.3376	0.5517	0.8645	1.010	1.091				0.68	54	TML	0.999
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	14557	5.30855 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.236%	
36) 1,2-DCA-D4(S)	5.13	65	11763	5.20370 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.816%	
56) Toluene-D8(S)	7.35	98	57915	5.29894 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	20580	5.25859 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.036%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	979	0.26825 ppb		98
3) Freon 114	1.29	85	1579	0.33070 ppb		89
4) Chloromethane	1.34	50	2268	0.41495 ppb		95
5) Vinyl chloride	1.43	62	2257	0.31029 ppb	#	78
6) Bromomethane	1.70	94	1579	0.41187 ppb		95
7) Chloroethane	1.79	64	1408	0.34824 ppb		100
8) Dichlorofluoromethane	1.99	67	3728	0.36341 ppb		96
9) Trichlorofluoromethane	2.03	101	2598	0.30593 ppb		90
10) Acrolein	2.42	56	2758	17.27864 ppb		100
11) Acetone	2.56	43	558	-0.29199 ppb	#	48
12) Freon-113	2.53	101	1641	0.33748 ppb		97
13) 1,1-DCE	2.51	61	2908	0.35651 ppb		96
14) t-Butanol	3.14	59	1274	9.42179 ppb		91
15) Methyl Acetate	2.90	43	806	0.40640 ppb	#	57
16) Iodomethane	2.64	142	798	0.98728 ppb	#	81
17) Acrylonitrile	3.22	53	159	0.18576 ppb	#	22
18) Methylene chloride	2.98	84	4307	0.85010 ppb		84
19) Carbon disulfide	2.70	76	6027	0.36668 ppb		96
20) Methyl t-butyl ether (MtBE	3.28	73	2941	0.33757 ppb		97
21) Trans-1,2-DCE	3.25	96	1841	0.31022 ppb		97
22) Diisopropyl Ether	3.79	45	5019	0.31700 ppb	#	89
23) 1,1-DCA	3.67	63	3224	0.31870 ppb	#	91
24) Vinyl Acetate	3.76	43	1195	0.36212 ppb	#	73
25) Ethyl tert Butyl Ether	4.17	59	3616	0.33861 ppb		91
26) MEK (2-Butanone)	4.32	43	371	0.32964 ppb	#	56
27) Cis-1,2-DCE	4.27	96	1964	0.30491 ppb		87
28) 2,2-Dichloropropane	4.27	77	2454	0.33390 ppb		97
29) Chloroform	4.61	83	3749	0.38464 ppb		83
30) Bromochloromethane	4.51	128	705	0.28916 ppb		85
32) 1,1,1-TCA	4.80	97	2984	0.32429 ppb		96
33) Cyclohexane	4.87	41	1643	0.32519 ppb		82
34) 1,1-Dichloropropene	4.98	75	2698	0.32599 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	4943	0.33618 ppb		96
37) Carbon Tetrachloride	4.98	117	2508	0.32319 ppb		100
38) Tert Amyl Methyl Ether	5.36	73	2810	0.31353 ppb	#	97
39) 1,2-DCA	5.21	62	1918	0.35407 ppb		100
40) Benzene	5.20	78	8601	0.35839 ppb		95
41) TCE	5.93	95	2212	0.33392 ppb		89
42) 2-Pentanone	6.15	43	17738	10.20026 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	1533	0.28703 ppb	#	84
44) Bromodichloromethane	6.49	83	1978	0.31473 ppb		89
45) Methyl Cyclohexane	6.15	83	2719	0.34352 ppb		98
46) Dibromomethane	6.30	93	642	0.31732 ppb		88
47) MIBK (methyl isobutyl ket	7.25	43	829	0.31351 ppb	#	87
48) 1-Bromo-2-chloroethane	6.84	63	1485	0.28723 ppb	#	81
50) Cis-1,3-Dichloropropene	7.03	75	1855	0.26333 ppb	#	82
51) Toluene	7.43	91	9528	0.34926 ppb		93
52) Trans-1,3-Dichloropropene	7.71	75	1181	0.24172 ppb		93
53) 1,1,2-TCA	7.92	83	714	0.28047 ppb		81
54) 2-Hexanone	8.30	43	235	0.27422 ppb	#	75
57) 1,2-EDB	8.53	107	865	0.32061 ppb		90
58) Tetrachloroethene	8.10	164	2378	0.37321 ppb		92
59) 1-Chlorohexane	9.21	91	2592	0.36718 ppb		87
60) 1,1,1,2-Tetrachloroethane	9.31	131	1791	0.32805 ppb		99
61) m&p-Xylene	9.53	106	7895	0.67837 ppb		92
62) o-Xylene	10.04	106	3468	0.31955 ppb		75
63) Styrene	10.06	104	4704	0.28124 ppb		100
65) 1,3-Dichloropropane	8.13	76	1975	0.37502 ppb		98
66) Dibromochloromethane	8.40	129	1301	0.32426 ppb		83
67) Chlorobenzene	9.19	112	6081	0.37121 ppb		97
68) Ethylbenzene	9.36	91	9979	0.34040 ppb		97
69) Bromoform	10.27	173	832	0.33873 ppb		94
71) Isopropylbenzene	10.56	105	9690	0.37439 ppb		95
72) 1,1,2,2-Tetrachloroethane	10.97	83	894	0.34160 ppb	#	60
73) 1,2,3-Trichloropropane	11.00	110	180	0.19910 ppb		88
74) t-1,4-Dichloro-2-Butene	11.05	53	72	0.13263 ppb	#	38
75) Bromobenzene	10.93	156	2132	0.33843 ppb		97
76) n-Propylbenzene	11.13	91	10523	0.36727 ppb		98
77) 4-Ethyltoluene	11.30	105	8424	0.33402 ppb		94
78) 2-Chlorotoluene	11.22	91	6546	0.37834 ppb		94
79) 1,3,5-Trimethylbenzene	11.40	105	7150	0.34065 ppb		100
80) 4-Chlorotoluene	11.37	91	6634	0.33811 ppb		88
81) Tert-Butylbenzene	11.84	119	6640	0.35866 ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	7220	0.34937 ppb		88
83) Sec-Butylbenzene	12.15	105	8819	0.35352 ppb		98
84) p-Isopropyltoluene	12.38	119	7817	0.34940 ppb		95
85) Benzyl Chloride	12.59	91	530	0.24318 ppb	#	89
86) 1,3-DCB	12.26	146	4310	0.35813 ppb		95
87) 1,4-DCB	12.39	146	4730	0.40401 ppb		90
88) n-Butylbenzene	12.96	91	5844	0.32803 ppb		94
89) 1,2-DCB	12.90	146	3547	0.35438 ppb		95
90) Hexachloroethane	13.27	117	1017	0.34202 ppb		81
92) 1,2,4-Trichlorobenzene	15.22	180	538	0.51380 ppb	#	91
93) Hexachlorobutadiene	15.52	225	2104	0.45128 ppb		83
94) Naphthalene	15.55	128	177	0.96119 ppb	#	76
95) 1,2,3-Trichlorobenzene	15.93	180	245	0.81156 ppb	#	66

(#) = qualifier out of range (m) = manual integration

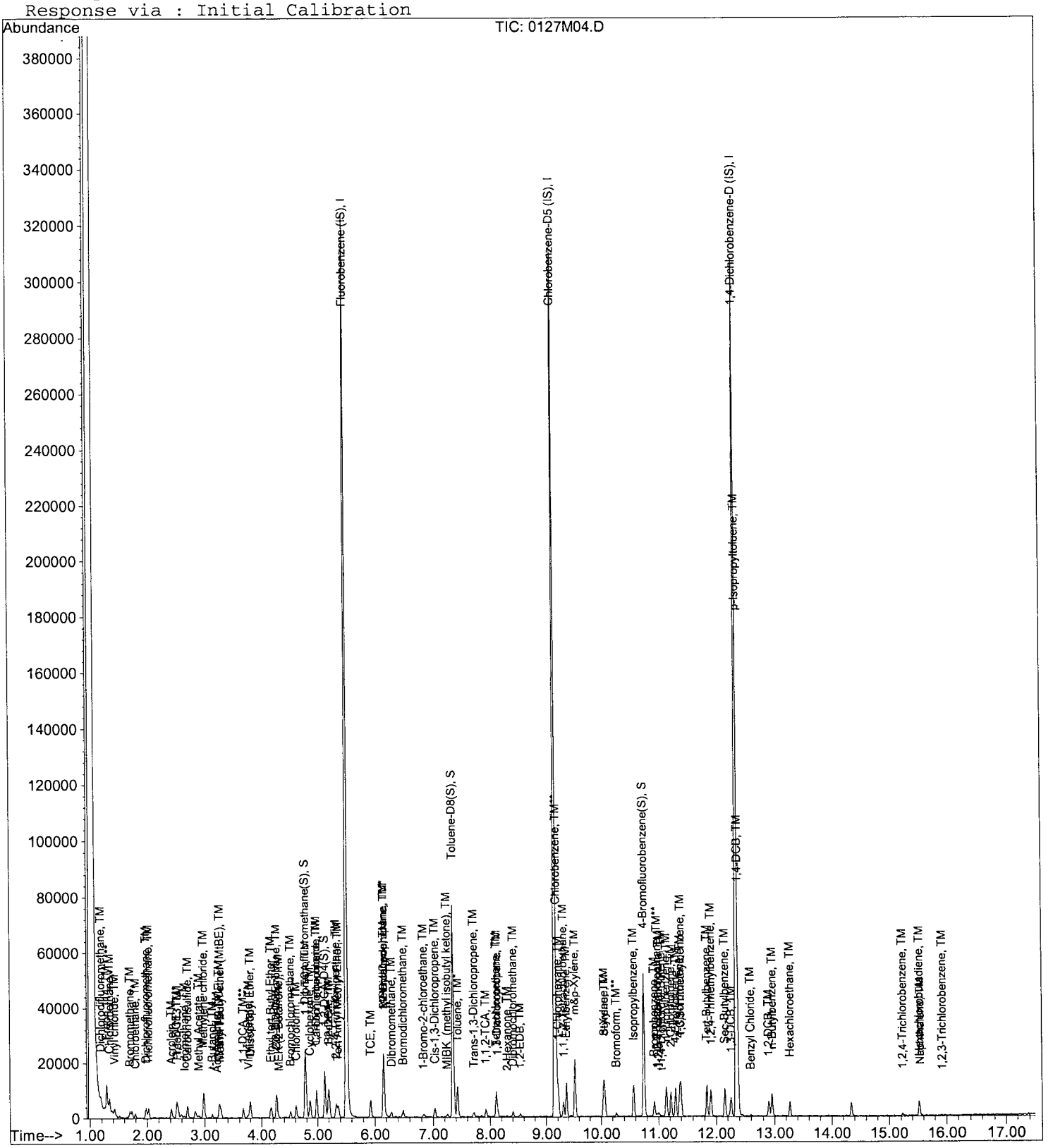
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	13937	5.01048 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.040%	
36) 1,2-DCA-D4(S)	5.13	65	10688	4.66119 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.644%	
56) Toluene-D8(S)	7.35	98	52662	4.66182 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.648%	
64) 4-Bromofluorobenzene(S)	10.74	95	18960	4.68730 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.748%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	1515	0.40923 ppb		96
3) Freon 114	1.29	85	2772	0.57233 ppb		93
4) Chloromethane	1.34	50	3375	0.60873 ppb		96
5) Vinyl chloride	1.42	62	3951	0.53548 ppb		98
6) Bromomethane	1.70	94	2529	0.65033 ppb		89
7) Chloroethane	1.79	64	2548	0.62127 ppb		94
8) Dichlorofluoromethane	1.98	67	5974	0.57410 ppb		97
9) Trichlorofluoromethane	2.02	101	4169	0.48397 ppb		89
10) Acrolein	2.41	56	7093	43.80776 ppb		93
11) Acetone	2.57	43	681	-0.13069 ppb	#	48
12) Freon-113	2.53	101	2842	0.57620 ppb		84
13) 1,1-DCE	2.51	61	4397	0.53143 ppb	#	94
14) t-Butanol	3.14	59	3029	22.08357 ppb		97
15) Methyl Acetate	2.91	43	918	0.45632 ppb	#	57
16) Iodomethane	2.65	142	1522	1.08361 ppb	#	74
17) Acrylonitrile	3.22	53	215	0.24763 ppb	#	57
18) Methylene chloride	2.98	84	5349	1.04081 ppb		94
19) Carbon disulfide	2.70	76	9182	0.55071 ppb		98
20) Methyl t-butyl ether (MtBE	3.28	73	4596	0.52007 ppb		96
21) Trans-1,2-DCE	3.25	96	2941	0.48856 ppb		96
22) Diisopropyl Ether	3.79	45	8389	0.52235 ppb		99
23) 1,1-DCA	3.67	63	5281	0.51465 ppb		97
24) Vinyl Acetate	3.76	43	1688	0.50427 ppb	#	73
25) Ethyl tert Butyl Ether	4.16	59	5696	0.52583 ppb		94
26) MEK (2-Butanone)	4.30	43	400	0.35037 ppb	#	56
27) Cis-1,2-DCE	4.27	96	3294	0.50415 ppb		97
28) 2,2-Dichloropropane	4.26	77	3292	0.44158 ppb		99
29) Chloroform	4.61	83	5178	0.52372 ppb		97
30) Bromochloromethane	4.52	128	1325	0.53576 ppb		78
32) 1,1,1-TCA	4.80	97	4798	0.51405 ppb		96
33) Cyclohexane	4.86	41	2854	0.55689 ppb		82
34) 1,1-Dichloropropene	4.98	75	4011	0.47777 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	8376	0.56160 ppb		99
37) Carbon Tetrachloride	4.97	117	4346	0.55211 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	4426	0.48684 ppb		95
39) 1,2-DCA	5.21	62	2713	0.49374 ppb	#	89
40) Benzene	5.20	78	13139	0.53972 ppb		92
41) TCE	5.92	95	3594	0.53486 ppb		93
42) 2-Pentanone	6.15	43	39367	22.31746 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D Vial: 5
Acq On : 27 Jan 17 11:53 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 01/27/16B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	3224	0.59509 ppb	#	84
44) Bromodichloromethane	6.48	83	3374	0.52925 ppb		88
45) Methyl Cyclohexane	6.15	83	4497	0.56011 ppb		97
46) Dibromomethane	6.29	93	1114	0.54282 ppb		98
47) MIBK (methyl isobutyl ket	7.25	43	1937	0.72217 ppb	#	91
48) 1-Bromo-2-chloroethane	6.84	63	2629	0.50130 ppb		88
50) Cis-1,3-Dichloropropene	7.03	75	3405	0.47652 ppb		91
51) Toluene	7.43	91	15318	0.55355 ppb		96
52) Trans-1,3-Dichloropropene	7.71	75	2250	0.45399 ppb	#	73
53) 1,1,2-TCA	7.92	83	1463	0.56655 ppb		84
54) 2-Hexanone	8.29	43	440	0.50616 ppb	#	78
57) 1,2-EDB	8.54	107	1447	0.51890 ppb	#	71
58) Tetrachloroethene	8.10	164	3718	0.56456 ppb		88
59) 1-Chlorohexane	9.21	91	3911	0.53603 ppb		87
60) 1,1,1,2-Tetrachloroethane	9.31	131	2798	0.49585 ppb		88
61) m&p-Xylene	9.52	106	13068	1.08638 ppb		94
62) o-Xylene	10.04	106	5381	0.47971 ppb		87
63) Styrene	10.06	104	8858	0.51240 ppb		98
65) 1,3-Dichloropropane	8.13	76	2944	0.54086 ppb		92
66) Dibromochloromethane	8.40	129	2271	0.54763 ppb		87
67) Chlorobenzene	9.19	112	9687	0.57213 ppb		99
68) Ethylbenzene	9.36	91	16612	0.54825 ppb		97
69) Bromoform	10.27	173	1186	0.46716 ppb		96
71) Isopropylbenzene	10.56	105	15823	0.58709 ppb		92
72) 1,1,2,2-Tetrachloroethane	10.96	83	1551	0.56913 ppb	#	77
73) 1,2,3-Trichloropropane	11.00	110	416	0.44188 ppb	#	20
74) t-1,4-Dichloro-2-Butene	11.06	53	213	0.37679 ppb	#	38
75) Bromobenzene	10.92	156	3837	0.58491 ppb		89
76) n-Propylbenzene	11.13	91	17181	0.57585 ppb		98
77) 4-Ethyltoluene	11.30	105	15181	0.57805 ppb		95
78) 2-Chlorotoluene	11.21	91	10676	0.59256 ppb		85
79) 1,3,5-Trimethylbenzene	11.39	105	11882	0.54364 ppb		97
80) 4-Chlorotoluene	11.37	91	11966	0.58566 ppb		97
81) Tert-Butylbenzene	11.84	119	12031	0.62407 ppb		95
82) 1,2,4-Trimethylbenzene	11.91	105	12528	0.58217 ppb		94
83) Sec-Butylbenzene	12.15	105	15325	0.58995 ppb		98
84) p-Isopropyltoluene	12.37	119	12948	0.55577 ppb		96
85) Benzyl Chloride	12.58	91	841	0.37057 ppb	#	79
86) 1,3-DCB	12.26	146	7604	0.60677 ppb		84
87) 1,4-DCB	12.39	146	7275	0.59674 ppb		95
88) n-Butylbenzene	12.95	91	9408	0.50713 ppb		95
89) 1,2-DCB	12.90	146	5949	0.57079 ppb		95
90) Hexachloroethane	13.27	117	1517	0.48993 ppb		93
92) 1,2,4-Trichlorobenzene	15.23	180	1139	0.60234 ppb		82
93) Hexachlorobutadiene	15.53	225	2728	0.56191 ppb	#	80
94) Naphthalene	15.56	128	346	0.98858 ppb	#	76
95) 1,2,3-Trichlorobenzene	15.92	180	457	0.85367 ppb	#	87

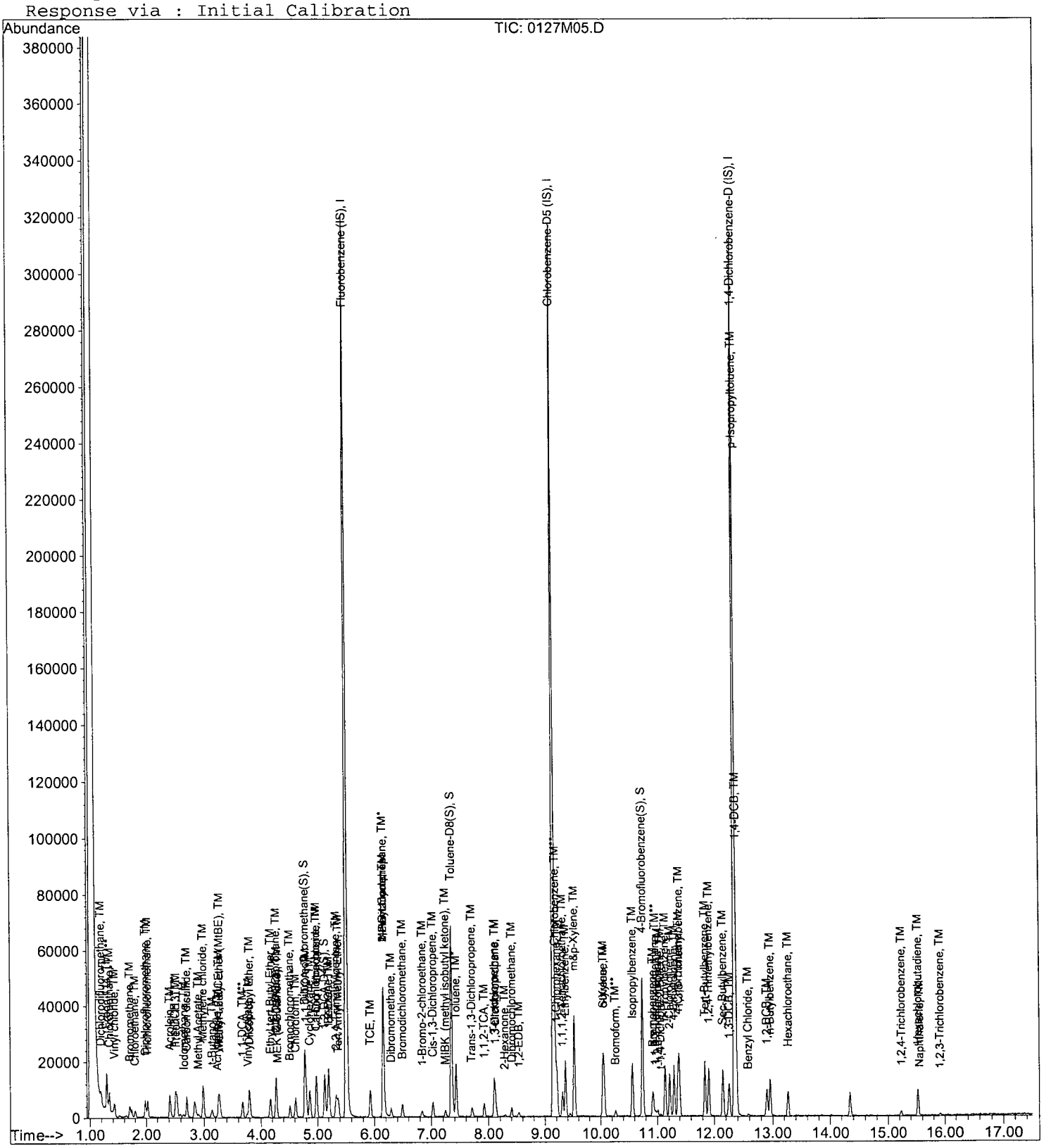
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M05.D Vial: 5
Acq On : 27 Jan 17 11:53 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 01/27/16B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



545

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D Vial: 6
Acq On : 27 Jan 17 12:21 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 01/27/16C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	24009	8.68572 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.744%	
36) 1,2-DCA-D4(S)	5.13	65	19787	8.68364 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.736%	
56) Toluene-D8(S)	7.35	98	96515	8.67446 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.696%	
64) 4-Bromofluorobenzene(S)	10.74	95	34814	8.73830 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.952%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	3153	0.85705 ppb	97
3) Freon 114	1.29	85	4673	0.97089 ppb	96
4) Chloromethane	1.34	50	5749	1.04344 ppb	96
5) Vinyl chloride	1.43	62	7199	0.98182 ppb	97
6) Bromomethane	1.69	94	4386	1.13495 ppb	95
7) Chloroethane	1.80	64	4118	1.01039 ppb	95
8) Dichlorofluoromethane	1.98	67	10971	1.06094 ppb	96
9) Trichlorofluoromethane	2.03	101	7588	0.88641 ppb	98
10) Acrolein	2.41	56	13194	82.00108 ppb	94
11) Acetone	2.57	43	1192	0.59663 ppb	92
12) Freon-113	2.53	101	5312	1.08374 ppb	96
13) 1,1-DCE	2.51	61	8807	1.07112 ppb	97
14) t-Butanol	3.14	59	6211	45.56733 ppb	92
15) Methyl Acetate	2.91	43	2233	1.11696 ppb	95
16) Iodomethane	2.64	142	3193	1.31248 ppb	95
17) Acrylonitrile	3.23	53	722	0.83680 ppb #	85
18) Methylene chloride	2.98	84	8156	1.59698 ppb	91
19) Carbon disulfide	2.70	76	17937	1.08258 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	8421	0.95888 ppb	92
21) Trans-1,2-DCE	3.26	96	6140	1.02640 ppb	87
22) Diisopropyl Ether	3.79	45	16999	1.06511 ppb	98
23) 1,1-DCA	3.67	63	10829	1.06195 ppb	92
24) Vinyl Acetate	3.76	43	3002	0.90245 ppb	96
25) Ethyl tert Butyl Ether	4.17	59	10573	0.98219 ppb	95
26) MEK (2-Butanone)	4.31	43	1214	1.07006 ppb #	82
27) Cis-1,2-DCE	4.27	96	6877	1.05915 ppb	90
28) 2,2-Dichloropropane	4.27	77	6724	0.90761 ppb	100
29) Chloroform	4.62	83	10758	1.09495 ppb	92
30) Bromochloromethane	4.51	128	2473	1.00623 ppb	91
32) 1,1,1-TCA	4.80	97	8898	0.95931 ppb	93
33) Cyclohexane	4.87	41	5120	1.00532 ppb	95
34) 1,1-Dichloropropene	4.98	75	8761	1.05012 ppb	96
35) 2,2,4-Trimethylpentane	5.33	57	15645	1.05557 ppb	100
37) Carbon Tetrachloride	4.98	117	7640	0.97668 ppb	96
38) Tert Amyl Methyl Ether	5.37	73	8654	0.95788 ppb	98
39) 1,2-DCA	5.21	62	5673	1.03893 ppb	99
40) Benzene	5.20	78	25174	1.04060 ppb	98
41) TCE	5.92	95	6865	1.02808 ppb	95
42) 2-Pentanone	6.15	43	81903	46.72338 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43)	1,2-Dichloropropane	6.16	63	5588	1.03793	ppb	#	88
44)	Bromodichloromethane	6.49	83	6389	1.00848	ppb		93
45)	Methyl Cyclohexane	6.15	83	8885	1.11360	ppb		97
46)	Dibromomethane	6.29	93	2251	1.10375	ppb		96
47)	MIBK (methyl isobutyl ket	7.24	43	3393	1.27295	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	5612	1.07683	ppb		90
49)	2-Chloroethyl vinyl ether	6.89	106	43	1.76524	ppb	#	100
50)	Cis-1,3-Dichloropropene	7.03	75	6820	0.96045	ppb		97
51)	Toluene	7.43	91	29189	1.06145	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	4421	0.89765	ppb		99
53)	1,1,2-TCA	7.92	83	2488	0.96954	ppb		85
54)	2-Hexanone	8.28	43	1401	1.62179	ppb	#	72
57)	1,2-EDB	8.53	107	2563	0.93316	ppb		91
58)	Tetrachloroethene	8.10	164	7201	1.11015	ppb		94
59)	1-Chlorohexane	9.21	91	7665	1.06660	ppb		84
60)	1,1,1,2-Tetrachloroethane	9.31	131	6147	1.10601	ppb		94
61)	m&p-Xylene	9.52	106	24798	2.09305	ppb		100
62)	o-Xylene	10.04	106	12485	1.13005	ppb		80
63)	Styrene	10.06	104	17677	1.03818	ppb		88
65)	1,3-Dichloropropane	8.13	76	5688	1.06095	ppb		95
66)	Dibromochloromethane	8.40	129	4108	1.00575	ppb		86
67)	Chlorobenzene	9.19	112	18413	1.10413	ppb		94
68)	Ethylbenzene	9.36	91	30917	1.03596	ppb		95
69)	Bromoform	10.27	173	2677	1.07059	ppb		83
71)	Isopropylbenzene	10.56	105	30821	1.12530	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	2985	1.07783	ppb	#	93
73)	1,2,3-Trichloropropane	11.00	110	1067	1.11527	ppb	#	73
74)	t-1,4-Dichloro-2-Butene	11.06	53	349	0.60751	ppb	#	46
75)	Bromobenzene	10.92	156	7034	1.05513	ppb		98
76)	n-Propylbenzene	11.13	91	32304	1.06544	ppb		96
77)	4-Ethyltoluene	11.30	105	29880	1.11958	ppb		93
78)	2-Chlorotoluene	11.22	91	21682	1.18422	ppb		93
79)	1,3,5-Trimethylbenzene	11.39	105	25649	1.15478	ppb		100
80)	4-Chlorotoluene	11.37	91	23291	1.12174	ppb		92
81)	Tert-Butylbenzene	11.84	119	22167	1.13147	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	23438	1.07176	ppb		91
83)	Sec-Butylbenzene	12.15	105	28862	1.09332	ppb		97
84)	p-Isopropyltoluene	12.37	119	25289	1.06815	ppb		97
85)	Benzyl Chloride	12.58	91	1815	0.78698	ppb	#	91
86)	1,3-DCB	12.25	146	14001	1.09938	ppb		99
87)	1,4-DCB	12.38	146	14244	1.14972	ppb		98
88)	n-Butylbenzene	12.95	91	19695	1.04468	ppb		95
89)	1,2-DCB	12.90	146	11438	1.07991	ppb		99
90)	Hexachloroethane	13.26	117	3139	0.99758	ppb		92
91)	1,2-Dibromo-3-chloropropan	14.02	75	400	1.06917	ppb	#	60
92)	1,2,4-Trichlorobenzene	15.23	180	3776	0.99655	ppb		90
93)	Hexachlorobutadiene	15.53	225	5416	1.09776	ppb		90
94)	Naphthalene	15.57	128	1722	1.21664	ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	1538	1.07403	ppb		83

(#) = qualifier out of range (m) = manual integration

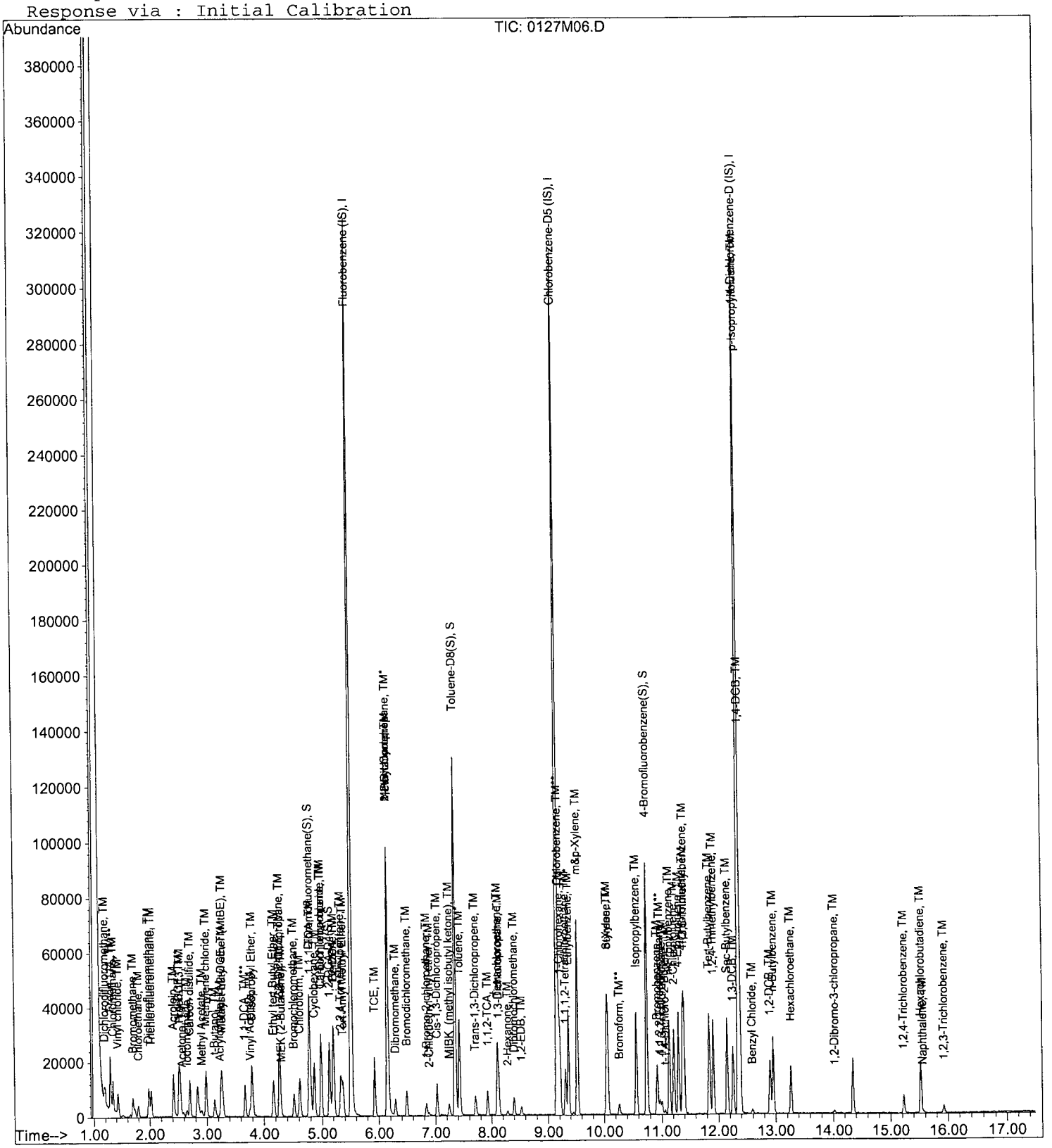
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



548

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
36) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
56) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	6197	1.99502 ppb		93
3) Freon 114	1.29	85	10371	2.14247 ppb		89
4) Chloromethane	1.34	50	10580	1.95594 ppb		99
5) Vinyl chloride	1.43	62	15174	2.02230 ppb		98
6) Bromomethane	1.70	94	8404	1.91300 ppb		97
7) Chloroethane	1.79	64	7649	1.83623 ppb		100
8) Dichlorofluoromethane	1.98	67	22090	1.94023 ppb		93
9) Trichlorofluoromethane	2.03	101	15419	1.94690 ppb		82
10) Acrolein	2.41	56	20463	76.40895 ppb		95
11) Acetone	2.57	43	2007	1.55884 ppb		86
12) Freon-113	2.53	101	10227	1.95105 ppb		97
13) 1,1-DCE	2.51	61	17113	1.99112 ppb		99
14) t-Butanol	3.14	59	9253	71.35111 ppb		99
15) Methyl Acetate	2.90	43	4341	2.08942 ppb		95
16) Iodomethane	2.64	142	7861	1.63338 ppb		99
17) Acrylonitrile	3.22	53	1494	1.34108 ppb	#	91
18) Methylene chloride	2.98	84	13918	1.71522 ppb		92
19) Carbon disulfide	2.70	76	33003	1.92940 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	17654	1.94458 ppb		98
21) Trans-1,2-DCE	3.26	96	11571	1.87754 ppb		96
22) Diisopropyl Ether	3.79	45	33028	1.90175 ppb		99
23) 1,1-DCA	3.67	63	20902	1.91759 ppb		96
24) Vinyl Acetate	3.76	43	5674	1.63290 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	20117	1.76999 ppb		100
26) MEK (2-Butanone)	4.31	43	1852	1.56634 ppb		98
27) Cis-1,2-DCE	4.27	96	13790	2.03965 ppb		95
28) 2,2-Dichloropropane	4.27	77	13512	1.83793 ppb		97
29) Chloroform	4.61	83	19612	1.86720 ppb		99
30) Bromochloromethane	4.51	128	5051	1.94614 ppb		89
32) 1,1,1-TCA	4.80	97	18722	1.93593 ppb		96
33) Cyclohexane	4.87	41	11246	2.03101 ppb		93
34) 1,1-Dichloropropene	4.98	75	17304	1.98346 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	31807	2.01499 ppb		98
37) Carbon Tetrachloride	4.98	117	15621	1.87868 ppb		85
38) Tert Amyl Methyl Ether	5.37	73	17294	1.82512 ppb		99
39) 1,2-DCA	5.21	62	11066	1.93975 ppb		100
40) Benzene	5.20	78	49465	1.91841 ppb		96
41) TCE	5.92	95	13950	2.00820 ppb		96
42) 2-Pentanone	6.15	43	126309	73.22545 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	11133	1.90409 ppb		100
44) Bromodichloromethane	6.49	83	12462	1.84068 ppb		95
45) Methyl Cyclohexane	6.15	83	17291	1.93043 ppb		88
46) Dibromomethane	6.29	93	4096	1.87537 ppb		87
47) MIBK (methyl isobutyl ket	7.24	43	6182	1.44991 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	10881	1.93701 ppb		99
49) 2-Chloroethyl vinyl ether	6.89	106	190	1.55527 ppb	#	100
50) Cis-1,3-Dichloropropene	7.03	75	13507	1.81281 ppb		98
51) Toluene	7.43	91	56943	1.90606 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	8912	1.75820 ppb		93
53) 1,1,2-TCA	7.92	83	5259	1.93436 ppb		83
54) 2-Hexanone	8.28	43	2622	1.82672 ppb	#	84
57) 1,2-EDB	8.53	107	5308	1.83996 ppb		97
58) Tetrachloroethene	8.10	164	14503	2.04540 ppb		94
59) 1-Chlorohexane	9.21	91	15468	1.87831 ppb		94
60) 1,1,1,2-Tetrachloroethane	9.31	131	11607	1.93401 ppb		99
61) m&p-Xylene	9.52	106	50808	3.91477 ppb		100
62) o-Xylene	10.04	106	22679	1.87317 ppb		95
63) Styrene	10.06	104	34536	1.85408 ppb		97
65) 1,3-Dichloropropane	8.13	76	10891	1.90204 ppb		91
66) Dibromochloromethane	8.40	129	8332	1.89126 ppb		96
67) Chlorobenzene	9.19	112	36247	1.97190 ppb		97
68) Ethylbenzene	9.36	91	63277	1.91022 ppb		97
69) Bromoform	10.27	173	4834	1.84790 ppb		98
71) Isopropylbenzene	10.56	105	61554	1.92480 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	5721	1.89372 ppb		90
73) 1,2,3-Trichloropropane	11.01	110	2196	2.18994 ppb		85
74) t-1,4-Dichloro-2-Butene	11.05	53	944	1.66410 ppb		95
75) Bromobenzene	10.92	156	14166	1.91822 ppb		93
76) n-Propylbenzene	11.13	91	68266	1.93324 ppb		98
77) 4-Ethyltoluene	11.30	105	58682	1.88606 ppb		99
78) 2-Chlorotoluene	11.21	91	39938	1.89068 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	52435	2.02126 ppb		96
80) 4-Chlorotoluene	11.37	91	45694	1.91942 ppb		100
81) Tert-Butylbenzene	11.84	119	45242	1.94844 ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	48143	1.90206 ppb		92
83) Sec-Butylbenzene	12.15	105	60178	1.94462 ppb		94
84) p-Isopropyltoluene	12.37	119	52706	1.94992 ppb		98
85) Benzyl Chloride	12.59	91	3641	1.82517 ppb		95
86) 1,3-DCB	12.26	146	28321	1.91772 ppb		93
87) 1,4-DCB	12.38	146	27546	1.90344 ppb		98
88) n-Butylbenzene	12.96	91	39482	1.86039 ppb		92
89) 1,2-DCB	12.90	146	22934	1.89801 ppb		96
90) Hexachloroethane	13.27	117	6312	1.75695 ppb		95
91) 1,2-Dibromo-3-chloropropan	14.01	75	757	1.82255 ppb		90
92) 1,2,4-Trichlorobenzene	15.23	180	8746	1.68979 ppb		95
93) Hexachlorobutadiene	15.53	225	10964	1.97756 ppb		93
94) Naphthalene	15.56	128	4712	1.81981 ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	5030	1.80787 ppb		97

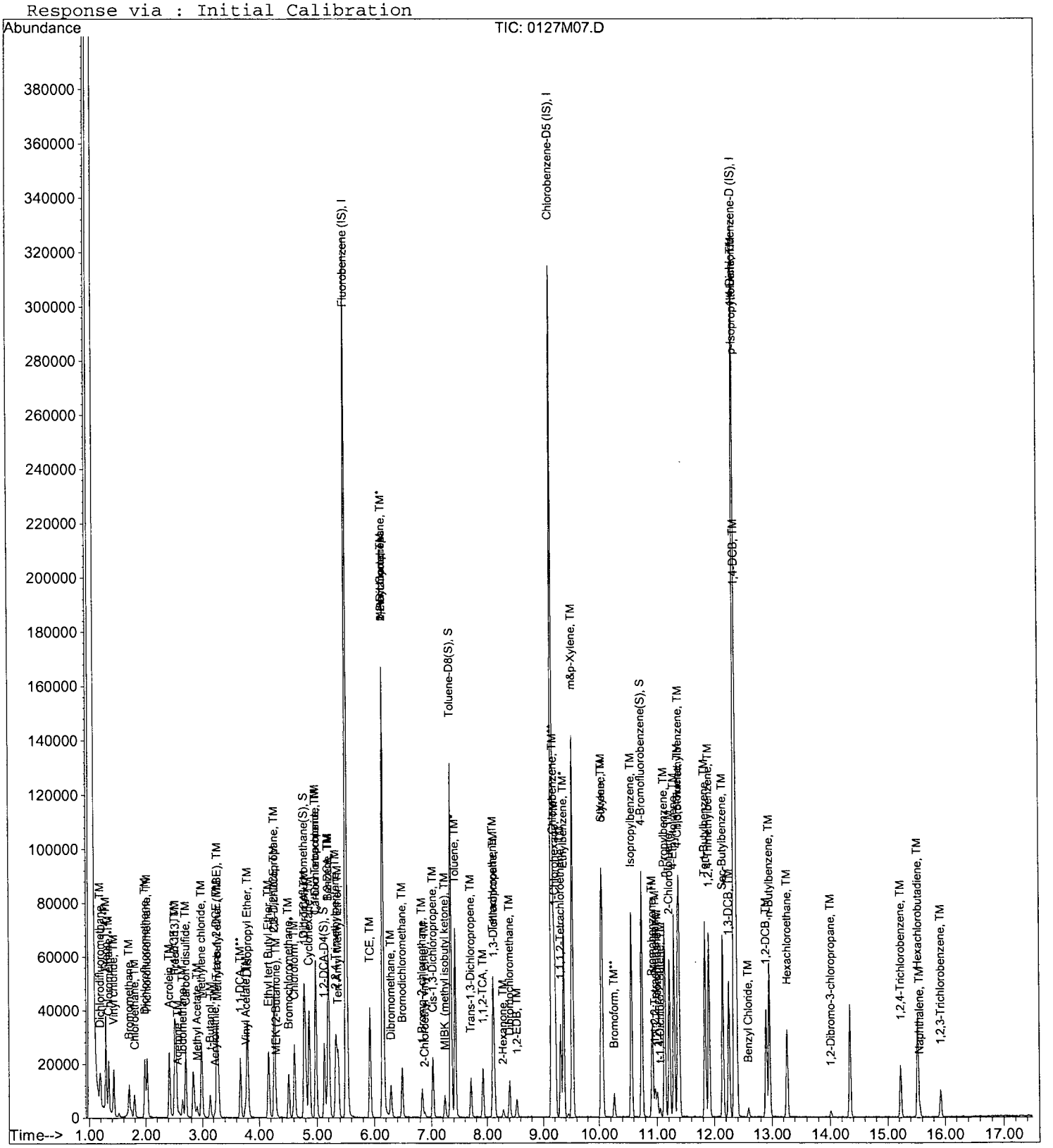
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M07.D Vial: 7
Acq On : 27 Jan 17 12:49 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 01/27/16D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



551

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D Vial: 8
Acq On : 27 Jan 17 13:17 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 01/27/16E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
56) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
64) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	14186	4.58932 ppb		96
3) Freon 114	1.29	85	21494	4.46204 ppb		91
4) Chloromethane	1.34	50	27248	5.06204 ppb		100
5) Vinyl chloride	1.43	62	36137	4.83971 ppb		98
6) Bromomethane	1.70	94	20231	4.62772 ppb		95
7) Chloroethane	1.80	64	20189	4.87034 ppb		92
8) Dichlorofluoromethane	1.98	67	63712	5.62342 ppb		97
9) Trichlorofluoromethane	2.03	101	39524	5.01499 ppb		93
10) Acrolein	2.41	56	26814	100.61392 ppb		100
11) Acetone	2.57	43	4339	5.24630 ppb		95
12) Freon-113	2.53	101	26118	5.00704 ppb		97
13) 1,1-DCE	2.51	61	47239	5.52323 ppb		95
14) t-Butanol	3.14	59	12878	99.79026 ppb		95
15) Methyl Acetate	2.90	43	11356	5.49267 ppb		100
16) Iodomethane	2.64	142	33114	5.10758 ppb		98
17) Acrylonitrile	3.22	53	5313	5.51150 ppb	#	87
18) Methylene chloride	2.98	84	34185	5.74966 ppb		95
19) Carbon disulfide	2.70	76	94462	5.54941 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	52475	5.80840 ppb		98
21) Trans-1,2-DCE	3.25	96	35644	5.81202 ppb		98
22) Diisopropyl Ether	3.80	45	102358	5.92262 ppb		99
23) 1,1-DCA	3.67	63	63619	5.86512 ppb		99
24) Vinyl Acetate	3.76	43	19782	5.72086 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	65645	5.80404 ppb		99
26) MEK (2-Butanone)	4.31	43	7200	6.11925 ppb		89
27) Cis-1,2-DCE	4.27	96	38868	5.77703 ppb		97
28) 2,2-Dichloropropane	4.27	77	40785	5.57481 ppb		99
29) Chloroform	4.61	83	61253	5.86027 ppb		92
30) Bromochloromethane	4.51	128	15270	5.91231 ppb		96
32) 1,1,1-TCA	4.80	97	53865	5.59712 ppb		94
33) Cyclohexane	4.87	41	29060	5.27389 ppb		93
34) 1,1-Dichloropropene	4.98	75	48467	5.58269 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	76675	4.88118 ppb		98
37) Carbon Tetrachloride	4.98	117	43823	5.29624 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	54859	5.81789 ppb		97
39) 1,2-DCA	5.21	62	32962	5.80619 ppb		98
40) Benzene	5.20	78	148728	5.79640 ppb		98
41) TCE	5.92	95	38475	5.56586 ppb		91
42) 2-Pentanone	6.15	43	171330	99.81199 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	33196	5.70537	ppb		97
44) Bromodichloromethane	6.49	83	40333	5.98648	ppb		87
45) Methyl Cyclohexane	6.15	83	45650	5.12149	ppb		99
46) Dibromomethane	6.29	93	12707	5.84643	ppb		76
47) MIBK (methyl isobutyl ket	7.24	43	15391	5.52607	ppb		93
48) 1-Bromo-2-chloroethane	6.84	63	31900	5.70656	ppb		98
49) 2-Chloroethyl vinyl ether	6.87	106	637m	4.75437	ppb		0
50) Cis-1,3-Dichloropropene	7.03	75	42825	5.77580	ppb		98
51) Toluene	7.43	91	169990	5.71795	ppb		95
52) Trans-1,3-Dichloropropene	7.71	75	27973	5.54565	ppb		92
53) 1,1,2-TCA	7.92	83	15832	5.85184	ppb		92
54) 2-Hexanone	8.28	43	7720	5.40478	ppb	#	94
57) 1,2-EDB	8.53	107	17157	5.99063	ppb		97
58) Tetrachloroethene	8.10	164	41381	5.87860	ppb		94
59) 1-Chlorohexane	9.21	91	46310	5.66450	ppb		97
60) 1,1,1,2-Tetrachloroethane	9.31	131	34121	5.72683	ppb		98
61) m&p-Xylene	9.52	106	153047	11.87824	ppb		100
62) o-Xylene	10.04	106	73128	6.08402	ppb		93
63) Styrene	10.06	104	110225	5.96060	ppb		99
65) 1,3-Dichloropropane	8.13	76	33822	5.94985	ppb		99
66) Dibromochloromethane	8.40	129	25834	5.90673	ppb		98
67) Chlorobenzene	9.19	112	106910	5.85847	ppb		99
68) Ethylbenzene	9.36	91	194581	5.91687	ppb		99
69) Bromoform	10.27	173	15132	5.82669	ppb		95
71) Isopropylbenzene	10.56	105	190220	5.83704	ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	18082	5.87352	ppb		95
73) 1,2,3-Trichloropropane	11.00	110	6015	5.88632	ppb		96
74) t-1,4-Dichloro-2-Butene	11.05	53	3517	5.53849	ppb		85
75) Bromobenzene	10.92	156	43441	5.77245	ppb		98
76) n-Propylbenzene	11.13	91	209960	5.83481	ppb		99
77) 4-Ethyltoluene	11.30	105	184909	5.83201	ppb		98
78) 2-Chlorotoluene	11.21	91	126223	5.86378	ppb		94
79) 1,3,5-Trimethylbenzene	11.39	105	155345	5.87633	ppb		98
80) 4-Chlorotoluene	11.37	91	144088	5.93945	ppb		98
81) Tert-Butylbenzene	11.84	119	135405	5.72253	ppb		96
82) 1,2,4-Trimethylbenzene	11.91	105	148522	5.75825	ppb		99
83) Sec-Butylbenzene	12.15	105	181604	5.75877	ppb		98
84) p-Isopropyltoluene	12.37	119	159016	5.77304	ppb		99
85) Benzyl Chloride	12.59	91	10359	5.09575	ppb		92
86) 1,3-DCB	12.26	146	88469	5.87863	ppb		98
87) 1,4-DCB	12.38	146	83174	5.63995	ppb		98
88) n-Butylbenzene	12.95	91	126124	5.83191	ppb		94
89) 1,2-DCB	12.90	146	72088	5.85450	ppb		95
90) Hexachloroethane	13.27	117	18873	5.15517	ppb		97
91) 1,2-Dibromo-3-chloropropan	14.00	75	2251	5.31823	ppb	#	77
92) 1,2,4-Trichlorobenzene	15.23	180	34761	5.21598	ppb		98
93) Hexachlorobutadiene	15.53	225	31747	5.61915	ppb		97
94) Naphthalene	15.56	128	21467	4.24164	ppb		98
95) 1,2,3-Trichlorobenzene	15.92	180	20080	4.66473	ppb		91

(#) = qualifier out of range (m) = manual integration

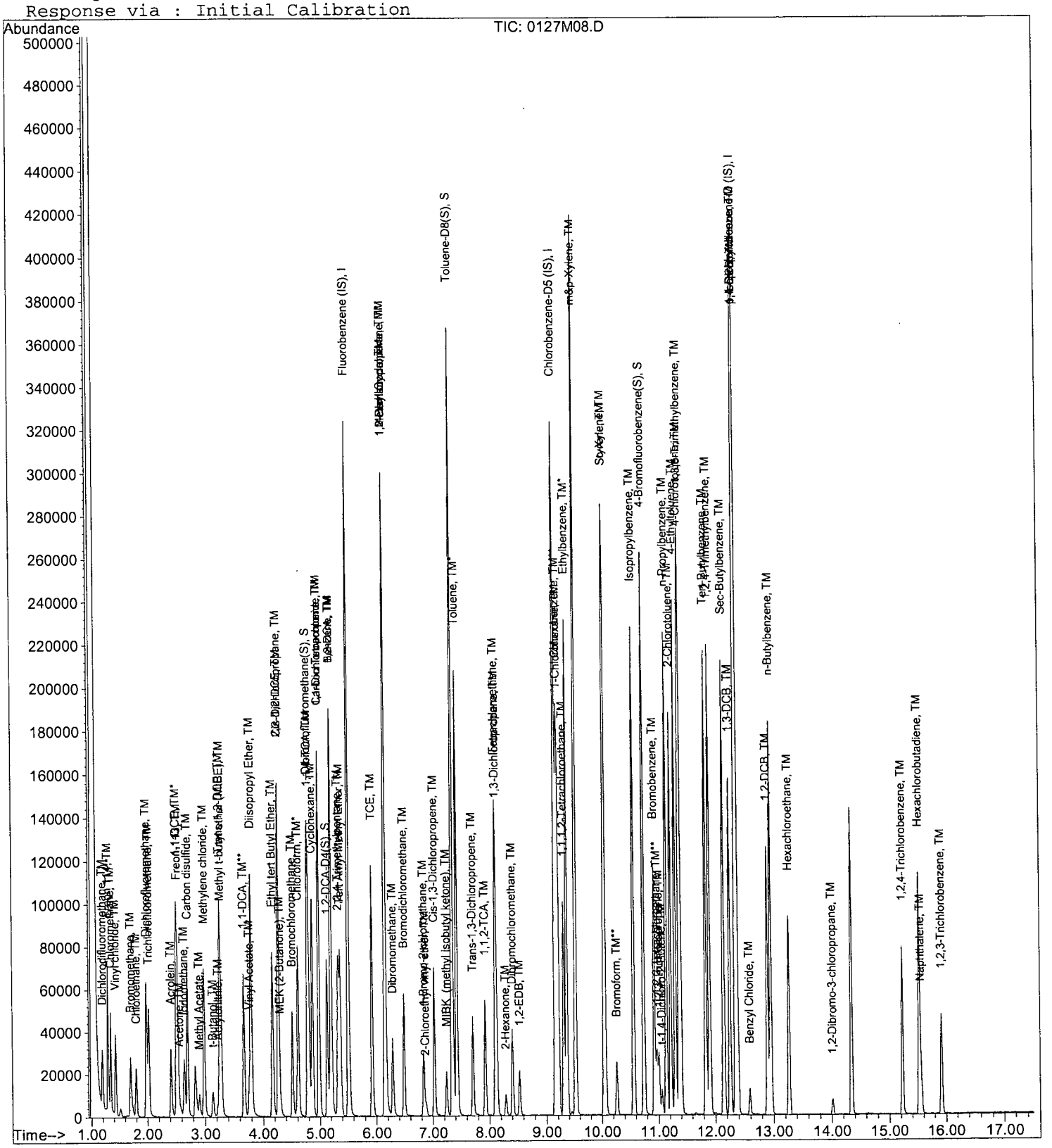
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



554

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
36) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
56) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
64) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	34112	10.41917 ppb	100
3) Freon 114	1.29	85	51835	10.15961 ppb	100
4) Chloromethane	1.34	50	54128	9.49403 ppb	100
5) Vinyl chloride	1.43	62	78953	9.98330 ppb	100
6) Bromomethane	1.69	94	36097	7.79577 ppb	100
7) Chloroethane	1.79	64	43444	9.89491 ppb	100
8) Dichlorofluoromethane	1.98	67	118435	9.86955 ppb	100
9) Trichlorofluoromethane	2.03	101	87038	10.42693 ppb	100
10) Acrolein	2.41	56	32459	114.99253 ppb	100
11) Acetone	2.57	43	7747	9.93129 ppb	100
12) Freon-113	2.53	101	56262	10.18344 ppb	100
13) 1,1-DCE	2.51	61	90361	9.97497 ppb	100
14) t-Butanol	3.14	59	16249	118.87880 ppb	100
15) Methyl Acetate	2.90	43	21601	9.86438 ppb	100
16) Iodomethane	2.64	142	73634	10.10872 ppb	100
17) Acrylonitrile	3.22	53	10491	10.51652 ppb	100
18) Methylene chloride	2.98	84	58449	9.91591 ppb	100
19) Carbon disulfide	2.70	76	179219	9.94059 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	96158	10.04911 ppb	100
21) Trans-1,2-DCE	3.25	96	66688	10.26660 ppb	100
22) Diisopropyl Ether	3.80	45	183205	10.00846 ppb	100
23) 1,1-DCA	3.67	63	115429	10.04715 ppb	100
24) Vinyl Acetate	3.75	43	33950	9.26977 ppb	100
25) Ethyl tert Butyl Ether	4.17	59	119668	9.98953 ppb	100
26) MEK (2-Butanone)	4.31	43	13542	10.86642 ppb	100
27) Cis-1,2-DCE	4.27	96	70191	9.84989 ppb	100
28) 2,2-Dichloropropane	4.27	77	79307	10.23480 ppb	100
29) Chloroform	4.61	83	110730	10.00215 ppb	100
30) Bromochloromethane	4.51	128	27002	9.87080 ppb	100
32) 1,1,1-TCA	4.80	97	104626	10.26445 ppb	100
33) Cyclohexane	4.87	41	61008	10.45346 ppb	100
34) 1,1-Dichloropropene	4.98	75	95546	10.39078 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	167786	10.08474 ppb	100
37) Carbon Tetrachloride	4.98	117	88656	10.11606 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	99041	9.91678 ppb	100
39) 1,2-DCA	5.21	62	60052	9.98719 ppb	100
40) Benzene	5.20	78	273120	10.04979 ppb	100
41) TCE	5.92	95	73263	10.00637 ppb	100
42) 2-Pentanone	6.15	43	219407	120.68071 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	62149	10.08487	ppb	100
44) Bromodichloromethane	6.49	83	70951	9.94278	ppb	100
45) Methyl Cyclohexane	6.15	83	98908	10.47672	ppb	100
46) Dibromomethane	6.29	93	22370	9.71744	ppb	100
47) MIBK (methyl isobutyl ket	7.24	43	26828	9.91077	ppb	100
48) 1-Bromo-2-chloroethane	6.84	63	57768	9.75684	ppb	100
49) 2-Chloroethyl vinyl ether	6.88	106	1196m	8.49827	ppb	0
50) Cis-1,3-Dichloropropene	7.02	75	79354	10.10466	ppb	100
51) Toluene	7.43	91	315888	10.03202	ppb	100
52) Trans-1,3-Dichloropropene	7.71	75	52987	9.91793	ppb	100
53) 1,1,2-TCA	7.92	83	28434	9.92276	ppb	100
54) 2-Hexanone	8.28	43	14409	9.52428	ppb	100
57) 1,2-EDB	8.53	107	30974	10.01658	ppb	100
58) Tetrachloroethene	8.10	164	76460	10.06001	ppb	100
59) 1-Chlorohexane	9.21	91	93336	10.57371	ppb	100
60) 1,1,1,2-Tetrachloroethane	9.31	131	65080	10.11652	ppb	100
61) m&p-Xylene	9.52	106	281914	20.26445	ppb	100
62) o-Xylene	10.04	106	133065	10.25326	ppb	100
63) Styrene	10.06	104	203560	10.19514	ppb	100
65) 1,3-Dichloropropane	8.13	76	60734	9.89531	ppb	100
66) Dibromochloromethane	8.40	129	47586	10.07688	ppb	100
67) Chlorobenzene	9.19	112	195049	9.89921	ppb	100
68) Ethylbenzene	9.36	91	365049	10.28096	ppb	100
69) Bromoform	10.27	173	27908	9.95281	ppb	100
71) Isopropylbenzene	10.56	105	358076	10.35393	ppb	100
72) 1,1,2,2-Tetrachloroethane	10.97	83	32319	9.89245	ppb	100
73) 1,2,3-Trichloropropane	11.00	110	11258	10.38157	ppb	100
74) t-1,4-Dichloro-2-Butene	11.05	53	6748	9.84760	ppb	100
75) Bromobenzene	10.92	156	79749	9.98571	ppb	100
76) n-Propylbenzene	11.13	91	396471	10.38234	ppb	100
77) 4-Ethyltoluene	11.30	105	352883	10.48780	ppb	100
78) 2-Chlorotoluene	11.21	91	227930	9.97779	ppb	100
79) 1,3,5-Trimethylbenzene	11.39	105	288368	10.27896	ppb	100
80) 4-Chlorotoluene	11.37	91	261434	10.15487	ppb	100
81) Tert-Butylbenzene	11.84	119	257862	10.26915	ppb	100
82) 1,2,4-Trimethylbenzene	11.91	105	283055	10.34104	ppb	100
83) Sec-Butylbenzene	12.15	105	350673	10.47853	ppb	100
84) p-Isopropyltoluene	12.37	119	301976	10.33071	ppb	100
85) Benzyl Chloride	12.59	91	22118	10.25250	ppb	100
86) 1,3-DCB	12.26	146	159472	9.98535	ppb	100
87) 1,4-DCB	12.38	146	156235	9.98297	ppb	100
88) n-Butylbenzene	12.95	91	244919	10.67160	ppb	100
89) 1,2-DCB	12.90	146	132092	10.10873	ppb	100
90) Hexachloroethane	13.27	117	39667	10.20997	ppb	100
91) 1,2-Dibromo-3-chloropropan	14.01	75	4337	9.65550	ppb	100
92) 1,2,4-Trichlorobenzene	15.23	180	73893	9.97275	ppb	100
93) Hexachlorobutadiene	15.53	225	62712	10.45954	ppb	100
94) Naphthalene	15.56	128	60675	9.43074	ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	49768	9.78784	ppb	100

(#) = qualifier out of range (m) = manual integration

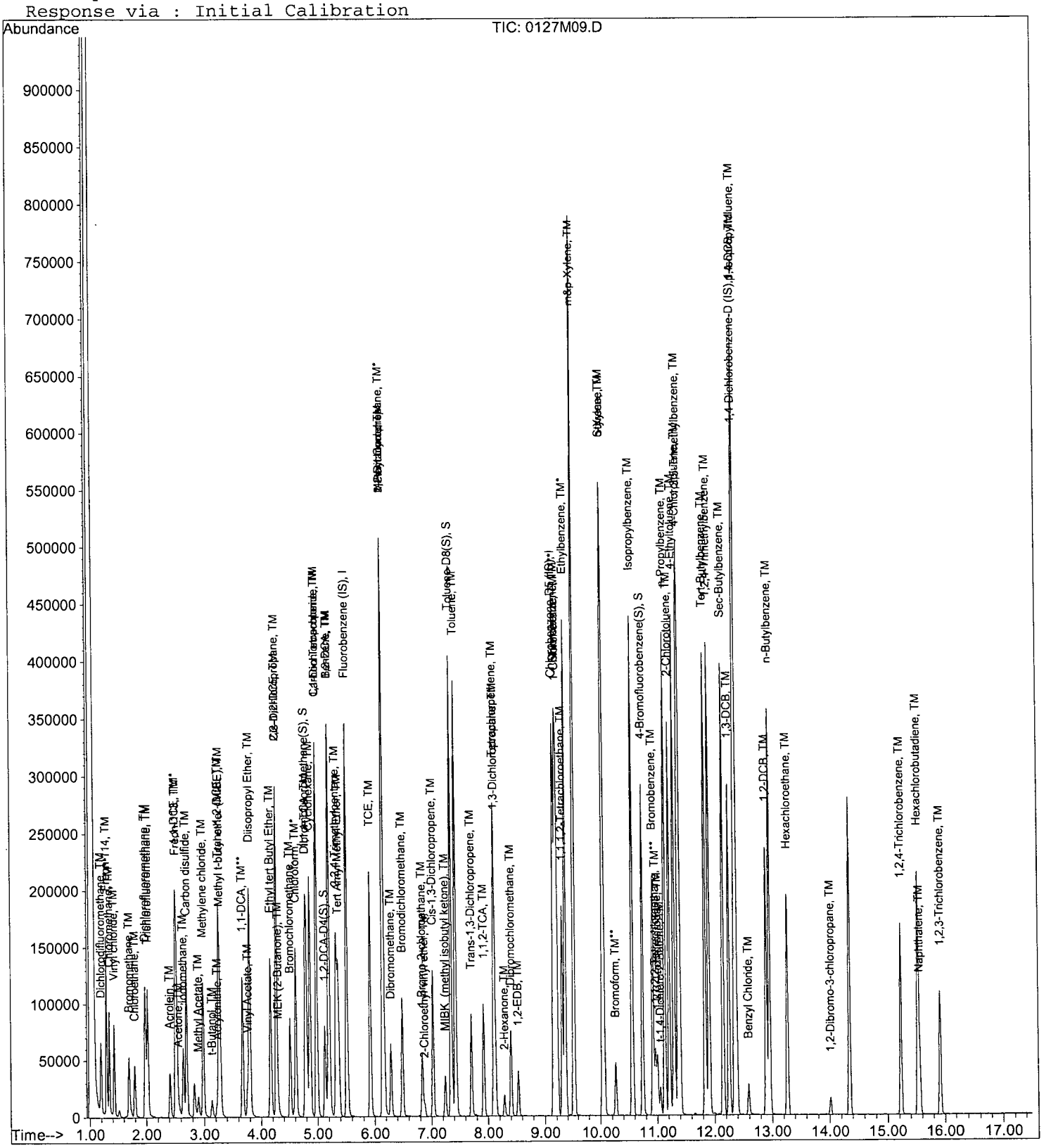
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



557

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
36) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
56) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	65256	20.31180 ppb	99
3) Freon 114	1.29	85	94834	18.94174 ppb	96
4) Chloromethane	1.34	50	98848	17.66845 ppb	97
5) Vinyl chloride	1.43	62	154639	19.92629 ppb	96
6) Bromomethane	1.69	94	63257	13.92190 ppb	100
7) Chloroethane	1.79	64	83028	19.27120 ppb	99
8) Dichlorofluoromethane	1.98	67	228593	19.41252 ppb	100
9) Trichlorofluoromethane	2.02	101	164977	20.14061 ppb	98
10) Acrolein	2.41	56	42431	153.18623 ppb	99
11) Acetone	2.57	43	15295	21.58632 ppb	90
12) Freon-113	2.53	101	104748	19.32089 ppb	97
13) 1,1-DCE	2.51	61	170333	19.16159 ppb	99
14) t-Butanol	3.14	59	21326	158.99707 ppb	93
15) Methyl Acetate	2.90	43	41931	19.51341 ppb	90
16) Iodomethane	2.64	142	144705	19.68404 ppb	99
17) Acrylonitrile	3.22	53	20123	20.82322 ppb #	92
18) Methylene chloride	2.98	84	109978	19.96100 ppb	98
19) Carbon disulfide	2.70	76	333201	18.83372 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	186051	19.81418 ppb	98
21) Trans-1,2-DCE	3.25	96	126691	19.87590 ppb	97
22) Diisopropyl Ether	3.80	45	358853	19.97784 ppb	99
23) 1,1-DCA	3.67	63	220814	19.58648 ppb	98
24) Vinyl Acetate	3.75	43	80612	22.43007 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	234902	19.98276 ppb	98
26) MEK (2-Butanone)	4.30	43	24667	20.17075 ppb #	84
27) Cis-1,2-DCE	4.27	96	135535	19.38222 ppb	98
28) 2,2-Dichloropropane	4.27	77	154252	20.28619 ppb	99
29) Chloroform	4.61	83	212028	19.51746 ppb	99
30) Bromochloromethane	4.51	128	52686	19.62699 ppb	95
32) 1,1,1-TCA	4.80	97	196786	19.67399 ppb	95
33) Cyclohexane	4.87	41	111882	19.53599 ppb	98
34) 1,1-Dichloropropene	4.98	75	176090	19.51516 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	309857	18.97896 ppb	100
37) Carbon Tetrachloride	4.98	117	171296	19.91831 ppb	99
38) Tert Amyl Methyl Ether	5.37	73	201296	20.53963 ppb	93
39) 1,2-DCA	5.21	62	118786	20.13182 ppb	97
40) Benzene	5.20	78	520866	19.53132 ppb	99
41) TCE	5.92	95	138808	19.32005 ppb	95
42) 2-Pentanone	6.15	43	274360	153.78363 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	117421	19.41707 ppb		99
44) Bromodichloromethane	6.49	83	139071	19.86039 ppb		94
45) Methyl Cyclohexane	6.15	83	180292	19.46131 ppb		99
46) Dibromomethane	6.29	93	44191	19.56238 ppb		93
47) MIBK (methyl isobutyl ket	7.24	43	53313	21.36624 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	115975	19.96127 ppb		97
49) 2-Chloroethyl vinyl ether	6.88	106	2355m	19.01059 ppb		0
50) Cis-1,3-Dichloropropene	7.02	75	156748	20.34027 ppb		98
51) Toluene	7.43	91	605872	19.60822 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	110003	20.98254 ppb		98
53) 1,1,2-TCA	7.92	83	55178	19.62286 ppb		98
54) 2-Hexanone	8.28	43	29744	20.03548 ppb		92
57) 1,2-EDB	8.53	107	62965	20.70855 ppb		96
58) Tetrachloroethene	8.11	164	143390	19.18719 ppb		96
59) 1-Chlorohexane	9.21	91	175311	20.19834 ppb		97
60) 1,1,1,2-Tetrachloroethane	9.31	131	124720	19.71733 ppb		99
61) m&p-Xylene	9.52	106	547470	40.02276 ppb		99
62) o-Xylene	10.04	106	259725	20.35356 ppb		99
63) Styrene	10.06	104	405114	20.63509 ppb		99
65) 1,3-Dichloropropane	8.13	76	122326	20.26958 ppb		99
66) Dibromochloromethane	8.40	129	93899	20.22256 ppb		98
67) Chlorobenzene	9.19	112	376808	19.44937 ppb		98
68) Ethylbenzene	9.36	91	696358	19.94543 ppb		99
69) Bromoform	10.27	173	56276	20.41120 ppb		98
71) Isopropylbenzene	10.56	105	687769	19.36855 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	65494	19.52413 ppb		95
73) 1,2,3-Trichloropropane	11.00	110	21002	18.86195 ppb		89
74) t-1,4-Dichloro-2-Butene	11.05	53	14527	20.42170 ppb	#	77
75) Bromobenzene	10.92	156	158664	19.34891 ppb		100
76) n-Propylbenzene	11.13	91	770212	19.64347 ppb		100
77) 4-Ethyltoluene	11.30	105	683460	19.78295 ppb		97
78) 2-Chlorotoluene	11.21	91	453557	19.33700 ppb		98
79) 1,3,5-Trimethylbenzene	11.39	105	560103	19.44439 ppb		99
80) 4-Chlorotoluene	11.37	91	510997	19.33102 ppb		98
81) Tert-Butylbenzene	11.84	119	493464	19.13934 ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	554402	19.72615 ppb		99
83) Sec-Butylbenzene	12.15	105	672523	19.57173 ppb		98
84) p-Isopropyltoluene	12.37	119	589954	19.65622 ppb		99
85) Benzyl Chloride	12.59	91	56498	25.50592 ppb		97
86) 1,3-DCB	12.26	146	315723	19.25348 ppb		98
87) 1,4-DCB	12.38	146	303653	18.89659 ppb		98
88) n-Butylbenzene	12.95	91	481019	20.41237 ppb		98
89) 1,2-DCB	12.90	146	263479	19.63769 ppb		99
90) Hexachloroethane	13.26	117	84976	21.30178 ppb		96
91) 1,2-Dibromo-3-chloropropan	14.02	75	9525	20.65259 ppb	#	84
92) 1,2,4-Trichlorobenzene	15.23	180	155863	19.98732 ppb		97
93) Hexachlorobutadiene	15.53	225	118497	19.24835 ppb		97
94) Naphthalene	15.56	128	144972	20.45653 ppb		96
95) 1,2,3-Trichlorobenzene	15.92	180	110444	20.19222 ppb		98

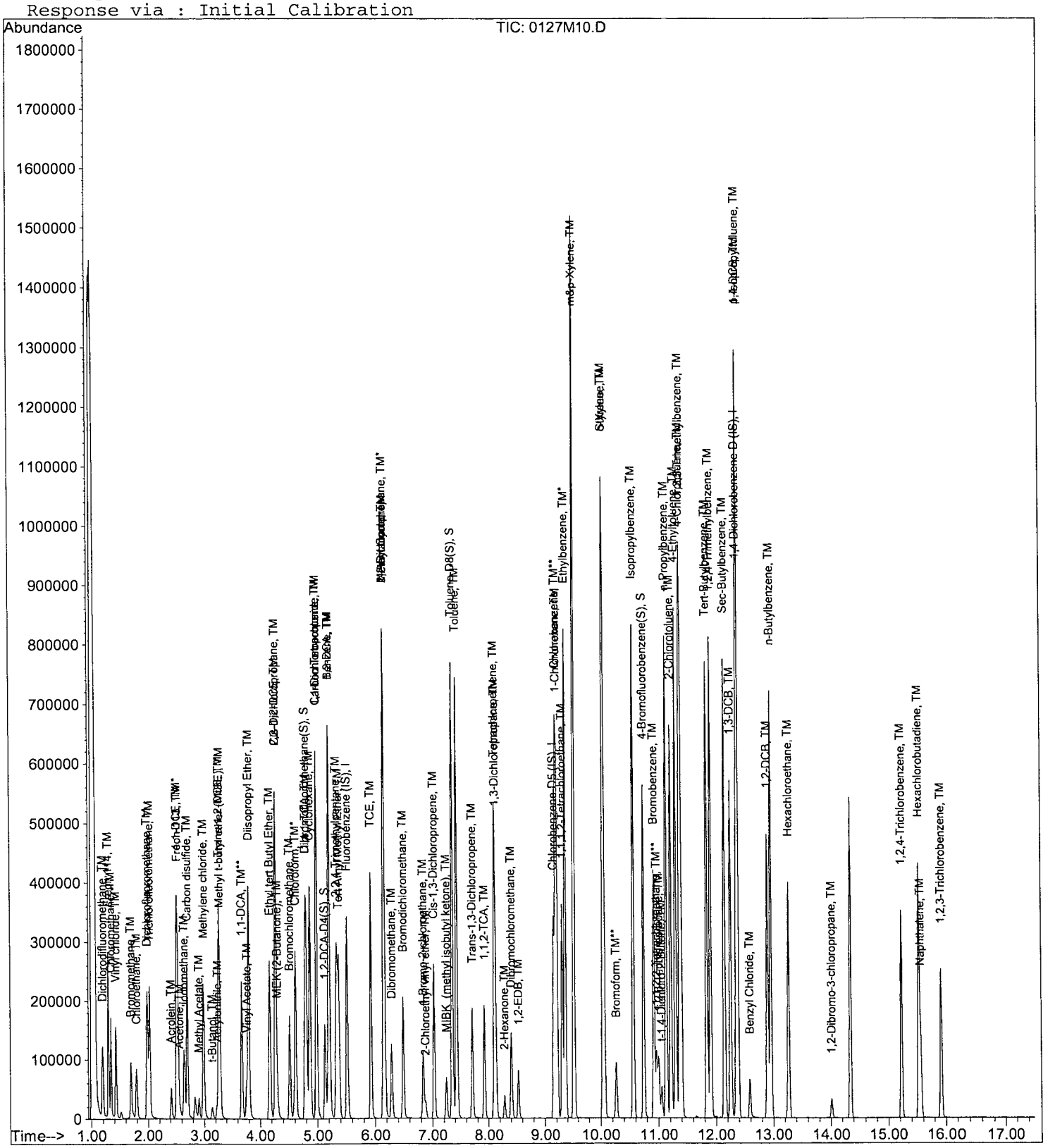
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M10.D Vial: 10
Acq On : 27 Jan 17 14:14 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 01/27/16G Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
36) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
56) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	133312	40.80107 ppb		99
3) Freon 114	1.29	85	199509	39.18254 ppb		99
4) Chloromethane	1.34	50	210573	37.00901 ppb		98
5) Vinyl chloride	1.43	62	310207	39.30370 ppb		97
6) Bromomethane	1.69	94	96551	20.89398 ppb		98
7) Chloroethane	1.78	64	167957	38.33157 ppb		99
8) Dichlorofluoromethane	1.98	67	472074	39.41881 ppb		98
9) Trichlorofluoromethane	2.02	101	328623	39.44769 ppb		96
10) Acrolein	2.41	56	49549	175.89182 ppb		99
11) Acetone	2.57	43	28736	41.22164 ppb		100
12) Freon-113	2.53	101	214899	38.97535 ppb		97
13) 1,1-DCE	2.51	61	348870	38.58963 ppb		98
14) t-Butanol	3.14	59	25278	185.30910 ppb		100
15) Methyl Acetate	2.90	43	85015	38.90164 ppb		98
16) Iodomethane	2.64	142	305480	40.25788 ppb		99
17) Acrylonitrile	3.22	53	39186	40.12683 ppb	#	86
18) Methylene chloride	2.98	84	223780	40.97010 ppb		97
19) Carbon disulfide	2.70	76	682194	37.91509 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	375369	39.30762 ppb		99
21) Trans-1,2-DCE	3.25	96	255063	39.34620 ppb		98
22) Diisopropyl Ether	3.80	45	719561	39.38891 ppb		99
23) 1,1-DCA	3.67	63	448373	39.10601 ppb		100
24) Vinyl Acetate	3.75	43	158690	43.41650 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	493183	41.25259 ppb		100
26) MEK (2-Butanone)	4.30	43	48188	38.74529 ppb		95
27) Cis-1,2-DCE	4.27	96	275009	38.66992 ppb		99
28) 2,2-Dichloropropane	4.27	77	324237	41.92823 ppb		99
29) Chloroform	4.61	83	430109	38.92988 ppb		96
30) Bromochloromethane	4.51	128	105560	38.66625 ppb		96
32) 1,1,1-TCA	4.80	97	406952	40.00513 ppb		96
33) Cyclohexane	4.86	41	229146	39.34249 ppb		95
34) 1,1-Dichloropropene	4.98	75	358097	39.02226 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	658725	39.67250 ppb		99
37) Carbon Tetrachloride	4.98	117	355267	40.61948 ppb		100
38) Tert Amyl Methyl Ether	5.37	73	415330	41.67015 ppb		92
39) 1,2-DCA	5.21	62	236874	39.47384 ppb		96
40) Benzene	5.20	78	1060118	39.08715 ppb		99
41) TCE	5.92	95	284986	39.00242 ppb		97
42) 2-Pentanone	6.15	43	334177	184.17903 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D Vial: 11
Acq On : 27 Jan 17 14:42 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 01/27/16H Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	238187	38.72847	ppb	99
44) Bromodichloromethane	6.49	83	283017	39.74092	ppb	94
45) Methyl Cyclohexane	6.15	83	376632	39.97488	ppb	98
46) Dibromomethane	6.29	93	89746	39.06405	ppb	94
47) MIBK (methyl isobutyl ket	7.24	43	101724	41.19361	ppb	98
48) 1-Bromo-2-chloroethane	6.84	63	236435	40.01381	ppb	98
49) 2-Chloroethyl vinyl ether	6.88	106	5417m	41.46331	ppb	0
50) Cis-1,3-Dichloropropene	7.02	75	330146	42.12453	ppb	99
51) Toluene	7.43	91	1228380	39.08988	ppb	99
52) Trans-1,3-Dichloropropene	7.71	75	234193	43.92398	ppb	96
53) 1,1,2-TCA	7.92	83	110877	38.77146	ppb	99
54) 2-Hexanone	8.28	43	63446	42.02222	ppb	94
57) 1,2-EDB	8.53	107	127741	40.30615	ppb	99
58) Tetrachloroethene	8.10	164	289113	37.11511	ppb	97
59) 1-Chlorohexane	9.21	91	366030	40.45888	ppb	99
60) 1,1,1,2-Tetrachloroethane	9.31	131	257761	39.09488	ppb	98
61) m&p-Xylene	9.52	106	1106907	77.63336	ppb	100
62) o-Xylene	10.04	106	518680	38.99569	ppb	99
63) Styrene	10.06	104	816498	39.90018	ppb	97
65) 1,3-Dichloropropane	8.13	76	242159	38.49613	ppb	96
66) Dibromochloromethane	8.40	129	190275	39.31403	ppb	100
67) Chlorobenzene	9.19	112	768461	38.05378	ppb	97
68) Ethylbenzene	9.36	91	1426753	39.20579	ppb	98
69) Bromoform	10.27	173	115272	40.11065	ppb	95
71) Isopropylbenzene	10.56	105	1402869	38.71140	ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	131105	38.29629	ppb	97
73) 1,2,3-Trichloropropane	11.00	110	42294	37.21962	ppb	92
74) t-1,4-Dichloro-2-Butene	11.05	53	29024	39.78311	ppb	85
75) Bromobenzene	10.92	156	321269	38.38966	ppb	100
76) n-Propylbenzene	11.13	91	1571394	39.26996	ppb	100
77) 4-Ethyltoluene	11.30	105	1387171	39.34370	ppb	99
78) 2-Chlorotoluene	11.22	91	907052	37.89280	ppb	96
79) 1,3,5-Trimethylbenzene	11.40	105	1133478	38.55733	ppb	100
80) 4-Chlorotoluene	11.37	91	1036876	38.43533	ppb	98
81) Tert-Butylbenzene	11.84	119	1007701	38.29750	ppb	98
82) 1,2,4-Trimethylbenzene	11.91	105	1128163	39.33297	ppb	98
83) Sec-Butylbenzene	12.15	105	1350867	38.52140	ppb	100
84) p-Isopropyltoluene	12.37	119	1196507	39.06290	ppb	99
85) Benzyl Chloride	12.59	91	126401	55.91468	ppb	94
86) 1,3-DCB	12.26	146	640664	38.28253	ppb	97
87) 1,4-DCB	12.38	146	611409	37.28249	ppb	98
88) n-Butylbenzene	12.95	91	979534	40.73034	ppb	98
89) 1,2-DCB	12.90	146	529009	38.63445	ppb	99
90) Hexachloroethane	13.27	117	184461	45.30973	ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	18907	40.16978	ppb	91
92) 1,2,4-Trichlorobenzene	15.23	180	339884	42.16925	ppb	97
93) Hexachlorobutadiene	15.52	225	241129	38.37981	ppb	95
94) Naphthalene	15.56	128	344732	46.17235	ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	247669	43.37697	ppb	97

(#) = qualifier out of range (m) = manual integration

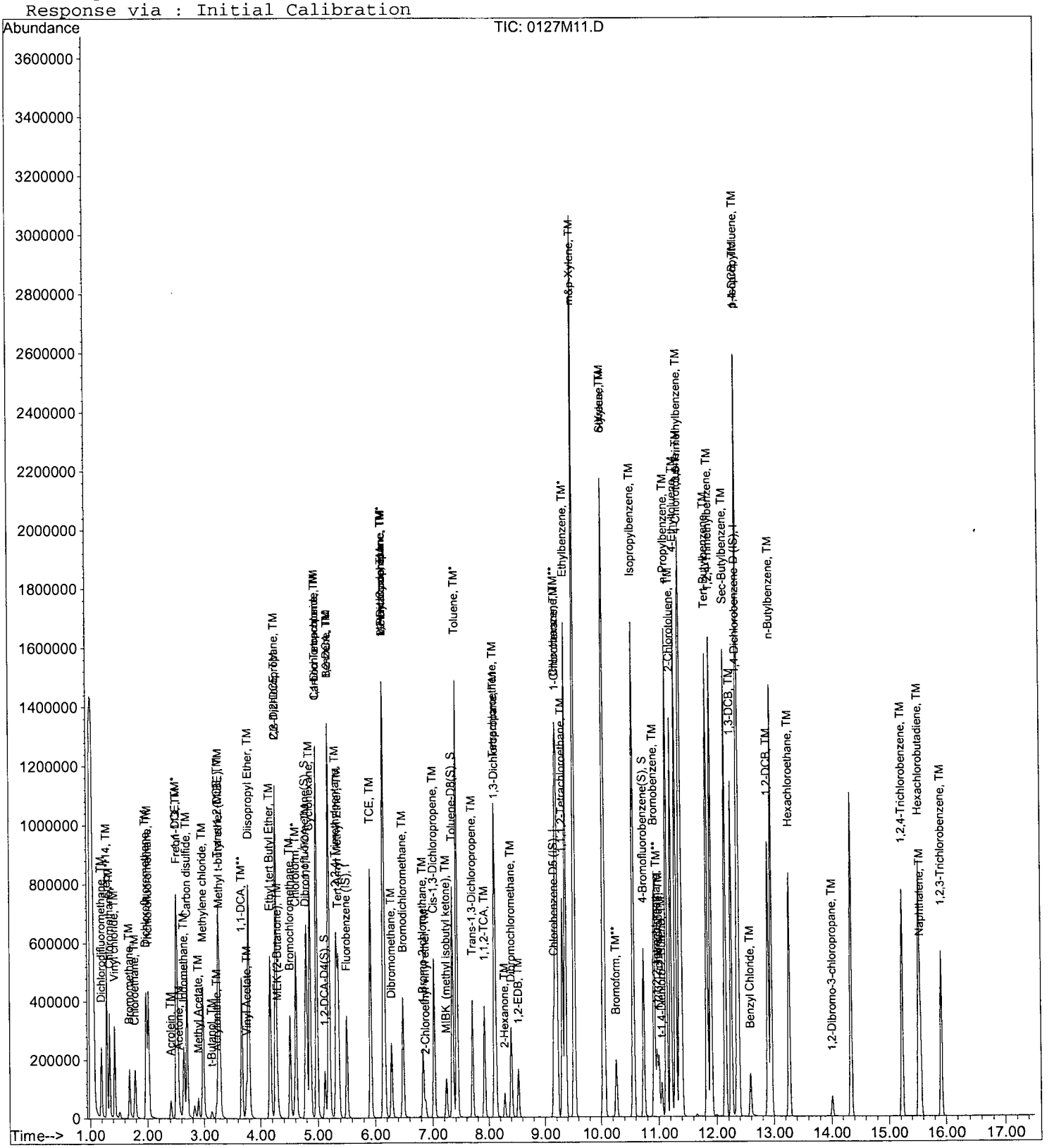
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



563

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
36) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
56) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	343872	102.96990 ppb		100
3) Freon 114	1.29	85	519226	99.76950 ppb		97
4) Chloromethane	1.34	50	556437	95.68240 ppb		98
5) Vinyl chloride	1.43	62	837060	103.76469 ppb		98
6) Bromomethane	1.69	94	232713	49.27154 ppb		98
7) Chloroethane	1.77	64	300669	67.13645 ppb		99
8) Dichlorofluoromethane	1.98	67	1178469	96.27705 ppb		98
9) Trichlorofluoromethane	2.01	101	843283	99.03944 ppb		97
10) Acrolein	2.41	56	55481	192.69315 ppb		93
11) Acetone	2.57	43	69157	99.20986 ppb		96
12) Freon-113	2.53	101	552687	98.07225 ppb		98
13) 1,1-DCE	2.50	61	873386	94.52015 ppb		99
14) t-Butanol	3.15	59	31075	222.88272 ppb		96
15) Methyl Acetate	2.90	43	218014	97.60408 ppb		94
16) Iodomethane	2.64	142	781697	99.94986 ppb		99
17) Acrylonitrile	3.22	53	99130	99.72831 ppb	#	91
18) Methylene chloride	2.98	84	548005	99.60310 ppb		94
19) Carbon disulfide	2.69	76	1717258	93.37938 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	937758	96.07720 ppb		100
21) Trans-1,2-DCE	3.25	96	633975	95.68385 ppb		98
22) Diisopropyl Ether	3.80	45	1770389	94.81701 ppb		99
23) 1,1-DCA	3.67	63	1121521	95.70236 ppb		99
24) Vinyl Acetate	3.75	43	375424	100.49362 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	1228395	100.52924 ppb		100
26) MEK (2-Butanone)	4.30	43	115177	90.60602 ppb	#	87
27) Cis-1,2-DCE	4.27	96	672693	92.54533 ppb		99
28) 2,2-Dichloropropane	4.27	77	855122	108.18905 ppb		97
29) Chloroform	4.61	83	1070594	94.80703 ppb		94
30) Bromochloromethane	4.51	128	264760	94.88473 ppb		98
32) 1,1,1-TCA	4.80	97	1042776	100.29395 ppb		98
33) Cyclohexane	4.87	41	588370	98.83512 ppb		96
34) 1,1-Dichloropropene	4.98	75	895453	95.46975 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	1663299	98.00923 ppb		99
37) Carbon Tetrachloride	4.98	117	909832	101.77755 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	1047571	102.83158 ppb	#	90
39) 1,2-DCA	5.21	62	578988	94.40018 ppb		95
40) Benzene	5.20	78	2607792	94.07279 ppb		100
41) TCE	5.92	95	695754	93.16118 ppb		93
42) 2-Pentanone	6.15	43	419920	226.43388 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D Vial: 12
Acq On : 27 Jan 17 15:10 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 01/27/16I Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	575139	91.49477	ppb		98
44)	Bromodichloromethane	6.49	83	709142	97.42487	ppb		93
45)	Methyl Cyclohexane	6.15	83	954555	99.12477	ppb		99
46)	Dibromomethane	6.29	93	221967	94.52829	ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	246153	99.25534	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	600146	99.37251	ppb		99
49)	2-Chloroethyl vinyl ether	6.87	106	18780	128.53504	ppb	#	100
50)	Cis-1,3-Dichloropropene	7.02	75	833650	104.06962	ppb		98
51)	Toluene	7.43	91	3062417	95.34702	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	612826	112.45433	ppb		96
53)	1,1,2-TCA	7.92	83	275376	94.21239	ppb		98
54)	2-Hexanone	8.29	43	158688	102.83241	ppb		99
57)	1,2-EDB	8.53	107	323484	96.38165	ppb		98
58)	Tetrachloroethene	8.10	164	712157	86.32953	ppb		96
59)	1-Chlorohexane	9.22	91	944682	98.60145	ppb		99
60)	1,1,1,2-Tetrachloroethane	9.31	131	679642	97.33821	ppb		99
61)	m&p-Xylene	9.53	106	2734472	181.09699	ppb		98
62)	o-Xylene	10.04	106	1303262	92.52293	ppb		98
63)	Styrene	10.07	104	2057630	94.94836	ppb		96
65)	1,3-Dichloropropane	8.13	76	593413	89.07874	ppb		98
66)	Dibromochloromethane	8.40	129	474989	92.67228	ppb		99
67)	Chlorobenzene	9.19	112	1908155	89.22573	ppb		99
68)	Ethylbenzene	9.36	91	3615105	93.80431	ppb		100
69)	Bromoform	10.27	173	297921	97.88982	ppb		94
71)	Isopropylbenzene	10.56	105	3535619	92.80069	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	332138	92.28265	ppb		98
73)	1,2,3-Trichloropropane	11.00	110	108434	90.76589	ppb		96
74)	t-1,4-Dichloro-2-Butene	11.06	53	82901	107.73234	ppb	#	78
75)	Bromobenzene	10.92	156	836667	95.09597	ppb		100
76)	n-Propylbenzene	11.14	91	4036079	95.93984	ppb		99
77)	4-Ethyltoluene	11.30	105	3559289	96.02237	ppb		99
78)	2-Chlorotoluene	11.22	91	2302880	91.50816	ppb		96
79)	1,3,5-Trimethylbenzene	11.40	105	2872021	92.92775	ppb		100
80)	4-Chlorotoluene	11.37	91	2622800	92.47685	ppb		97
81)	Tert-Butylbenzene	11.84	119	2549618	92.16751	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	2875638	95.36371	ppb		95
83)	Sec-Butylbenzene	12.16	105	3466671	94.02992	ppb		98
84)	p-Isopropyltoluene	12.38	119	3049296	94.69191	ppb		99
85)	Benzyl Chloride	12.59	91	408642	171.94214	ppb		94
86)	1,3-DCB	12.26	146	1620967	92.13157	ppb		97
87)	1,4-DCB	12.39	146	1524655	88.43184	ppb		98
88)	n-Butylbenzene	12.96	91	2516599	99.53516	ppb		98
89)	1,2-DCB	12.90	146	1348819	93.69780	ppb		98
90)	Hexachloroethane	13.27	117	487718	113.95140	ppb		98
91)	1,2-Dibromo-3-chloropropan	14.01	75	52405	105.90429	ppb		94
92)	1,2,4-Trichlorobenzene	15.23	180	911146	106.79232	ppb		99
93)	Hexachlorobutadiene	15.53	225	621815	94.14096	ppb		96
94)	Naphthalene	15.56	128	912952	114.60440	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	628361	103.50823	ppb		97

(#) = qualifier out of range (m) = manual integration

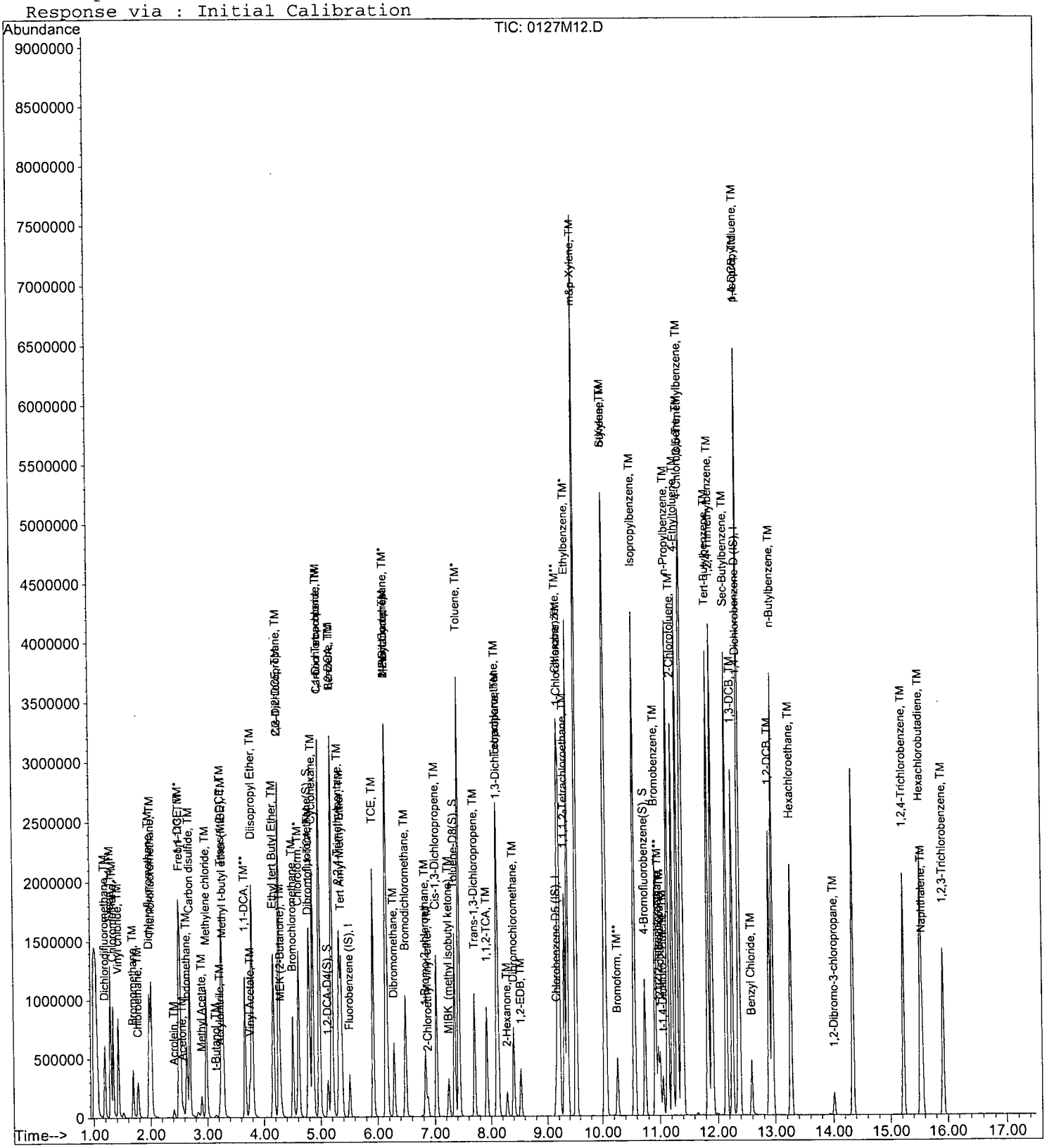
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

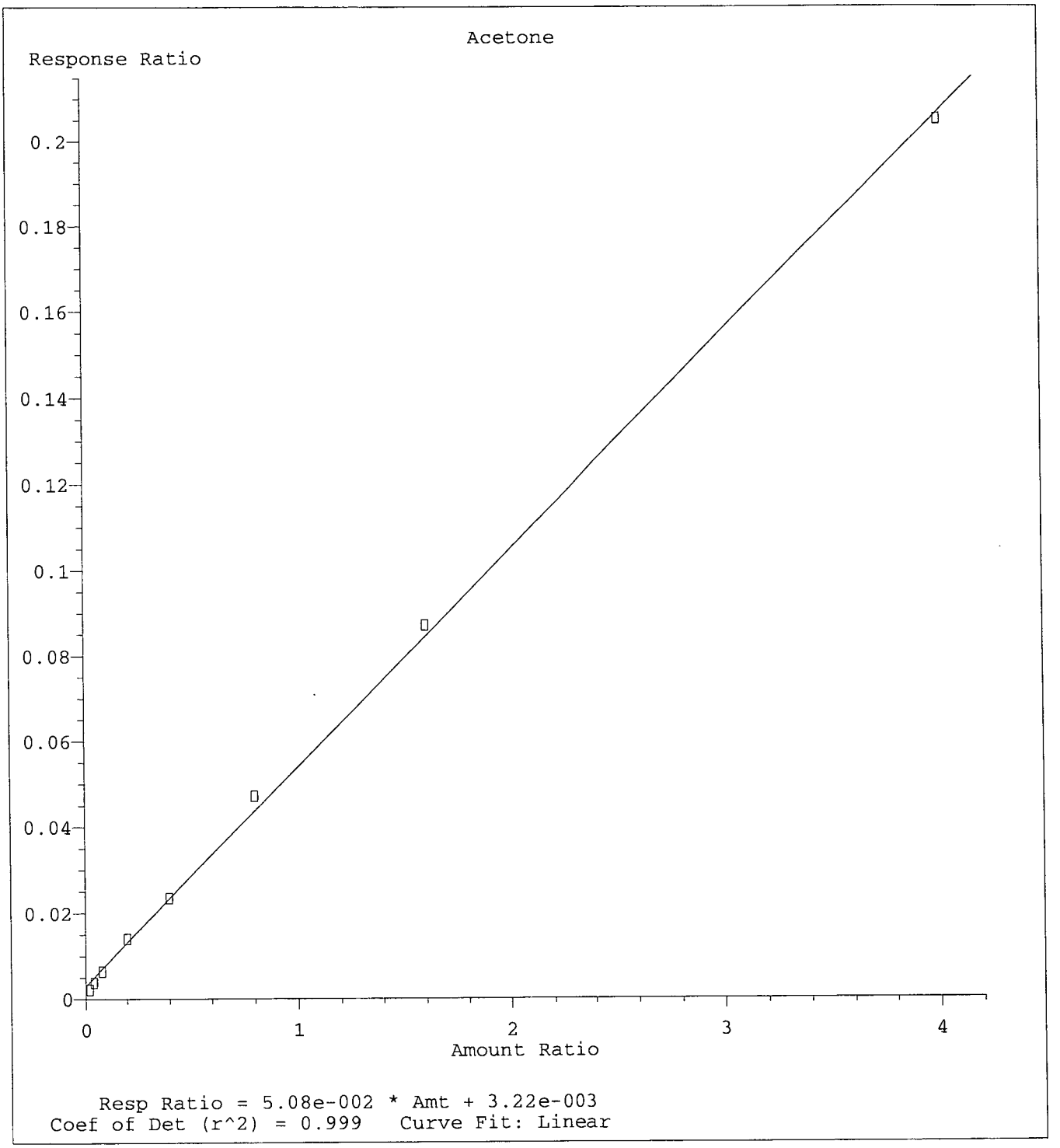
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

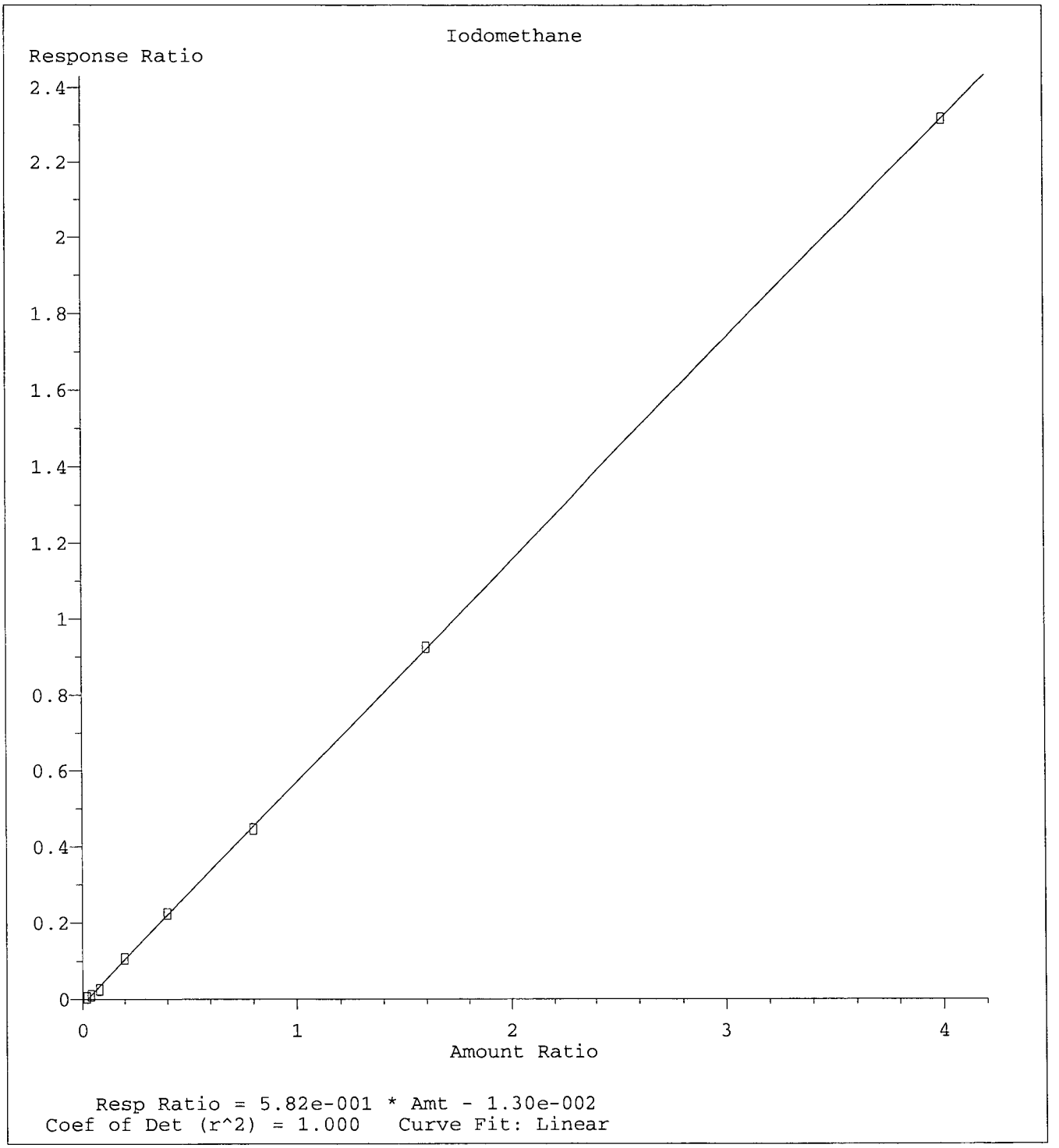
Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



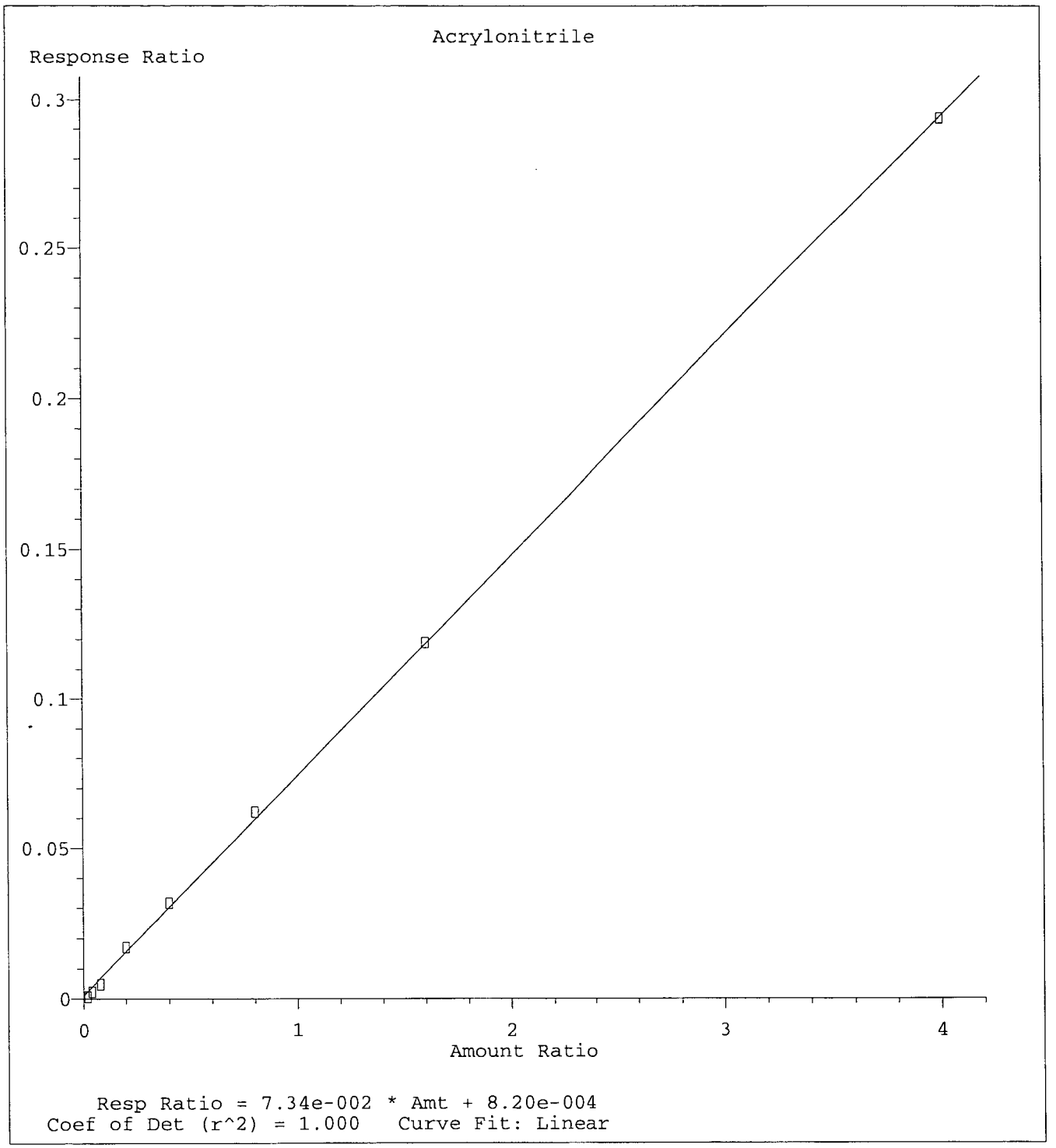
566



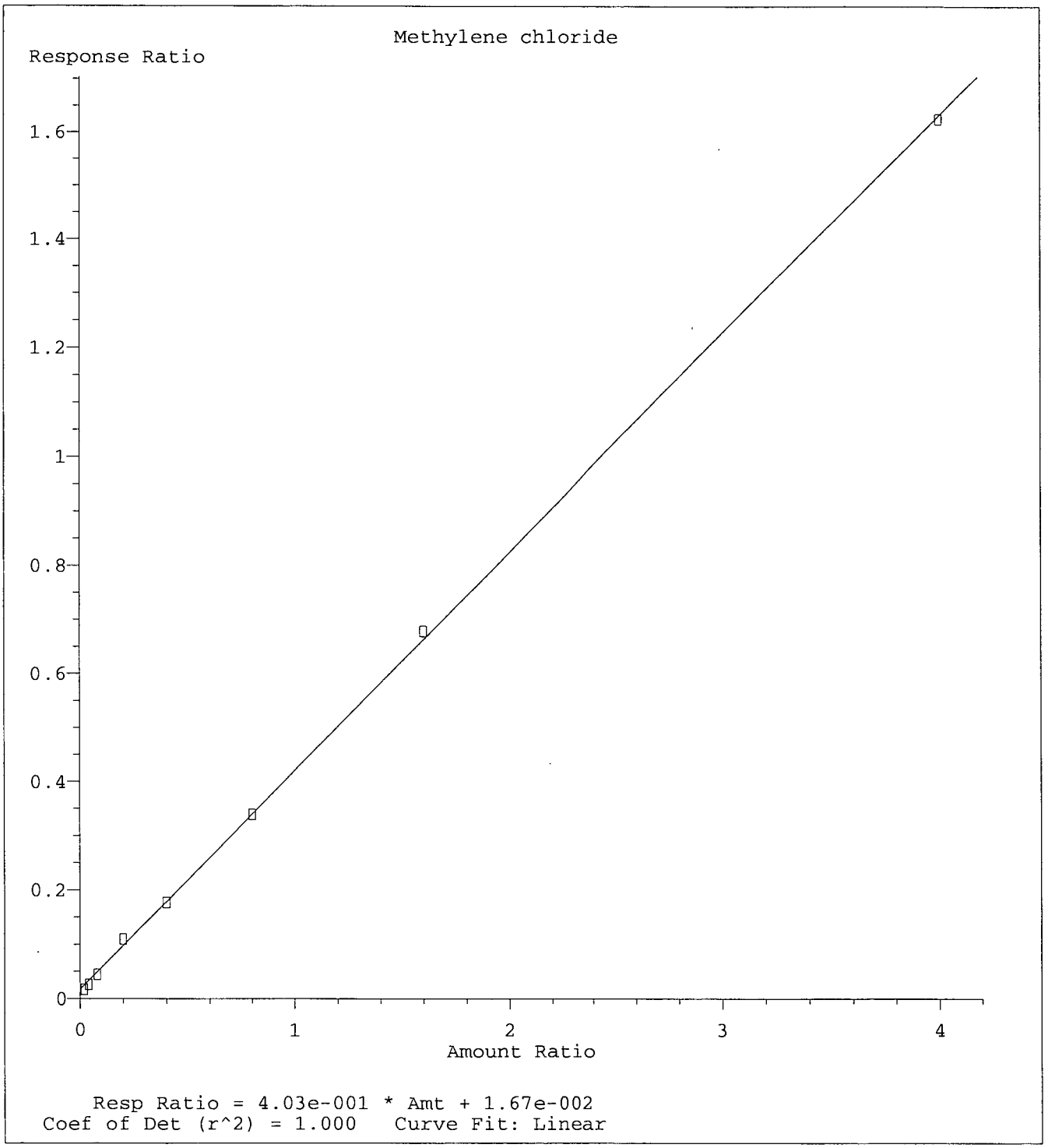
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



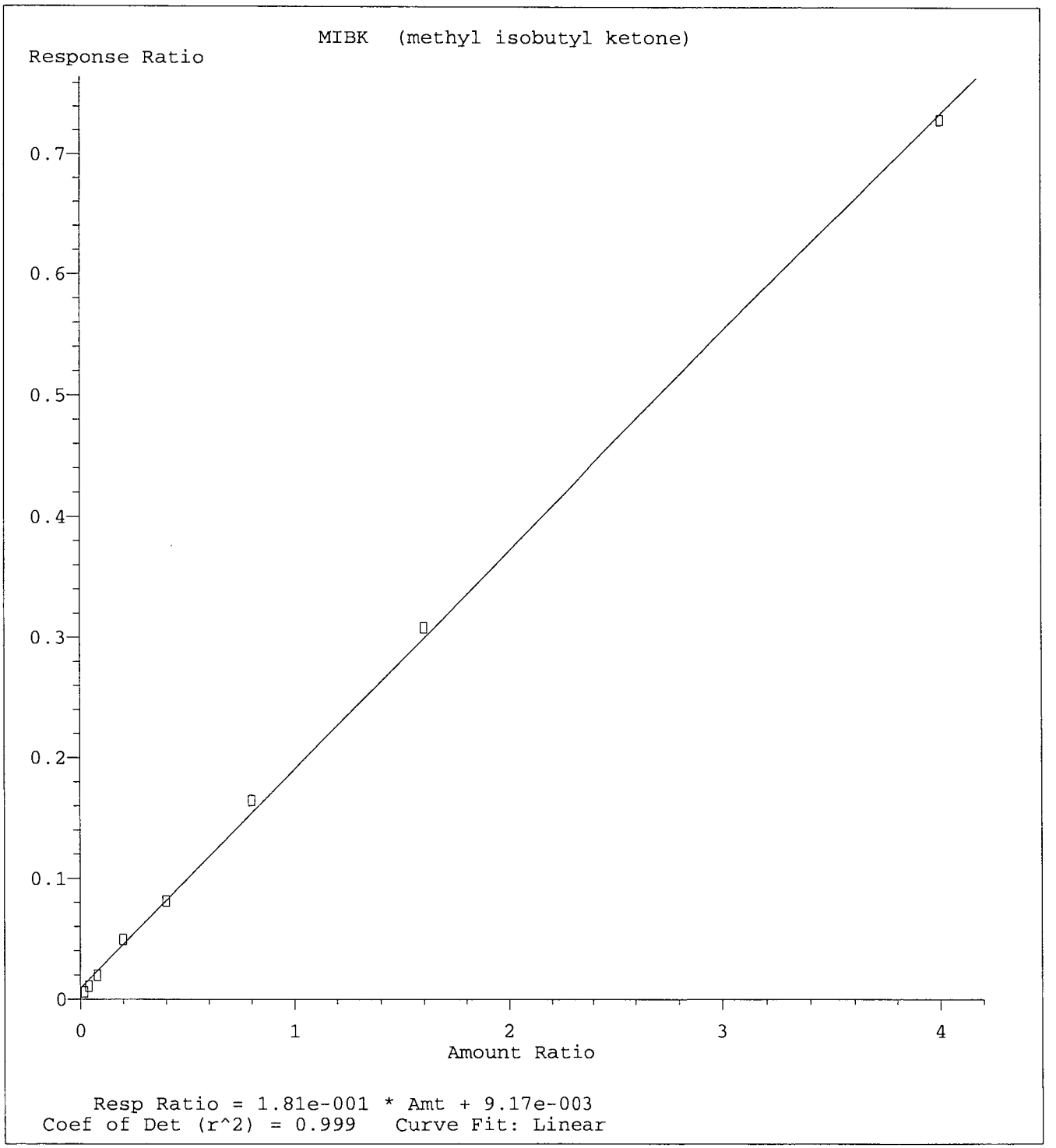
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



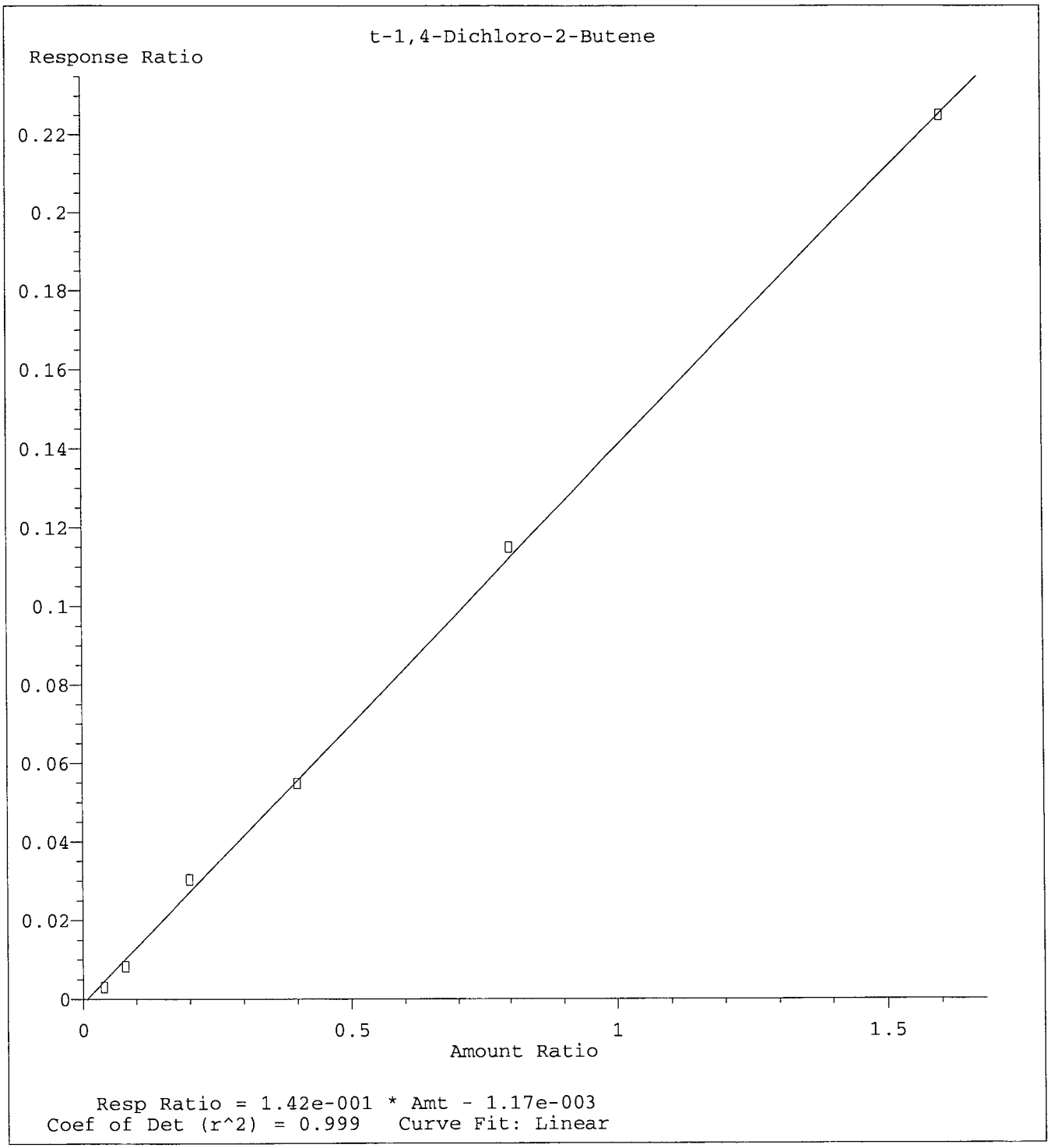
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



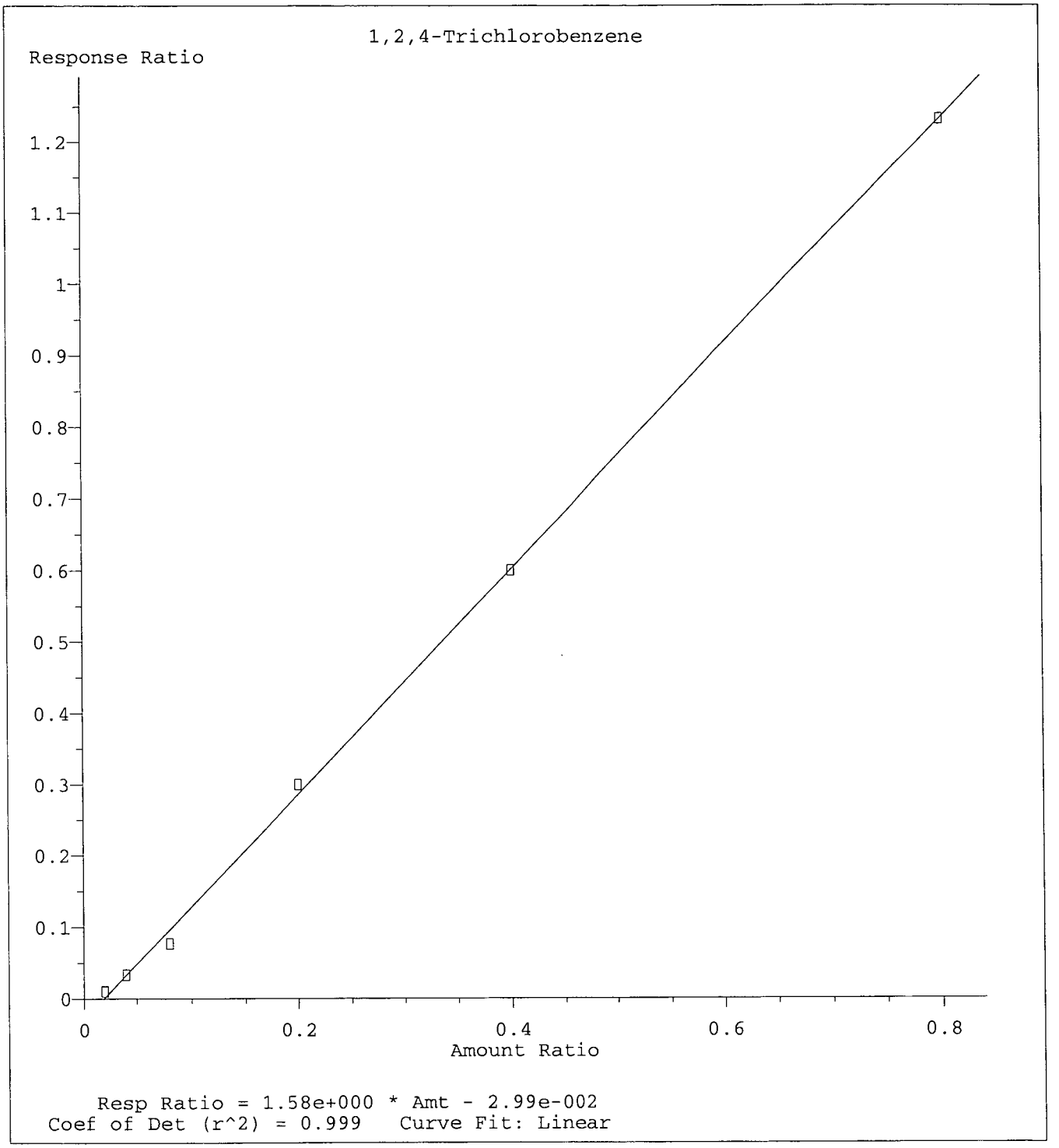
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



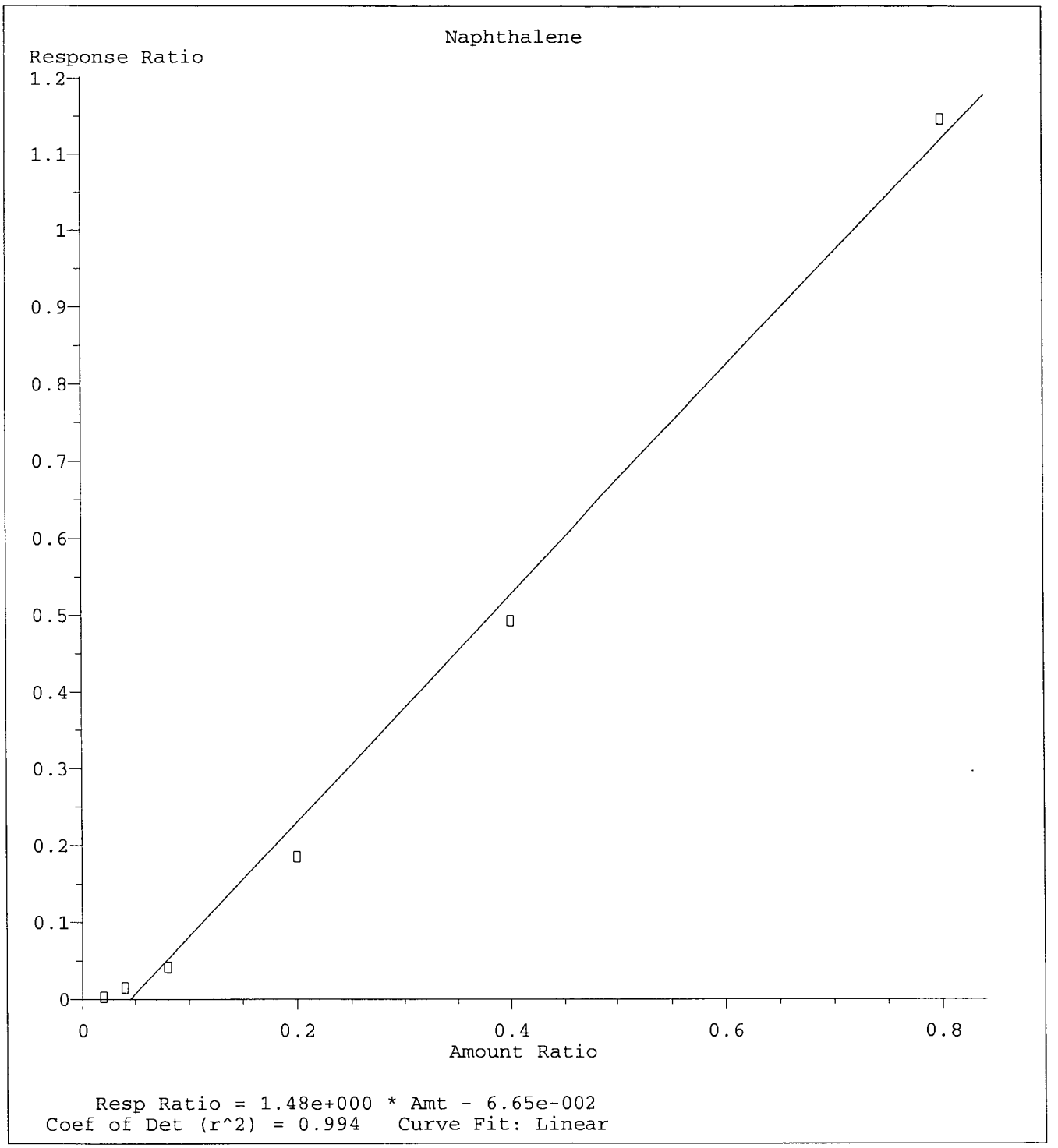
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



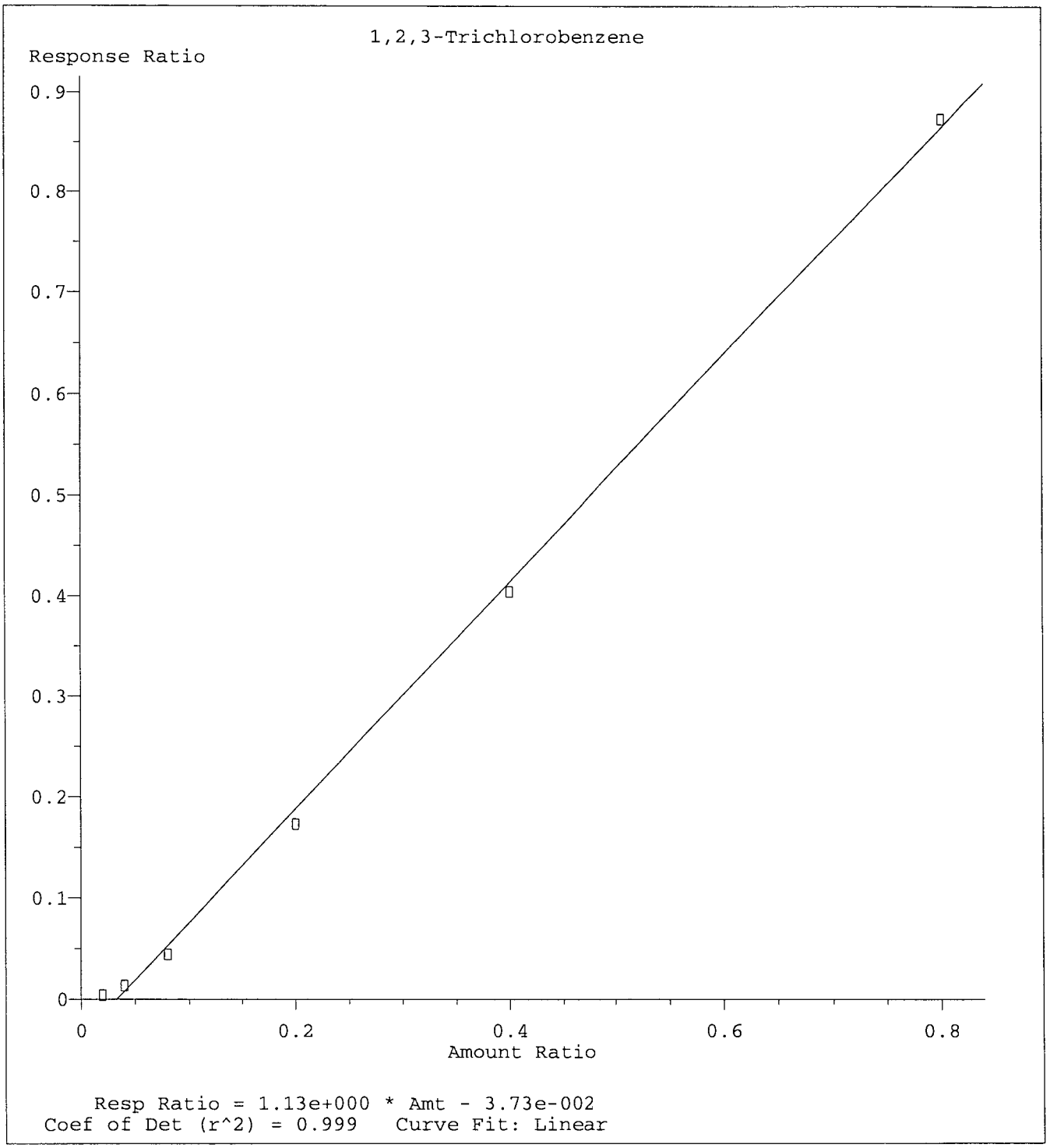
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	Dichlorodifluoromethane	0.2473	0.2429	1.8	TM	
2	TM	Freon 114	0.3854	0.3684	4.4	TM	
3	TM**	Chloromethane	0.4307	0.3945	8.4	TM**	
4	TM*	Vinyl chloride	0.5975	0.5851	2.1	TM*	
5	TM	Bromomethane	0.3498	0.3057	13	TM	
6	TM	Chloroethane	0.3317	0.3201	3.5	TM	
7	TM	Dichlorofluoromethane	0.9066	0.8969	1.1	TM	
8	TM	Trichlorofluoromethane	0.6306	0.6213	1.5	TM	
9	TM	Acrolein	0.0213	0.0202	5.4	TM	
10	TML	Acetone	0.0718	0.0610	15	TML	4.3
11	TM	Freon-113	0.4174	0.4133	0.98	TM	
12	TM*	1,1-DCE	0.6844	0.6673	2.5	TM*	
13	TM	t-Butanol	0.0103	0.0103	0.14	TM	
14	TM	Methyl Acetate	0.1654	0.1703	3.0	TM	
15	TML	Iodomethane	0.4508	0.3541	21	TML	34 nt
16	TML	Acrylonitrile	0.0675	0.0740	9.7	TML	1.9
17	TML	Methylene chloride	0.5358	0.4445	17	TML	0.12
18	TM	Carbon disulfide	1.362	1.327	2.5	TM	
19	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7178	0.71	TM	
20	TM	Trans-1,2-DCE	0.4907	0.4848	1.2	TM	
21	TM	Diisopropyl Ether	1.383	1.366	1.2	TM	
22	TM**	1,1-DCA	0.8679	0.8523	1.8	TM**	
23	TM	Vinyl Acetate	0.2767	0.2522	8.8	TM	
24	TM	Ethyl tert Butyl Ether	0.9050	0.8972	0.87	TM	
25	TM	MEK (2-Butanone)	0.0941	0.0881	6.5	TM	
26	TM	Cis-1,2-DCE	0.5384	0.5253	2.4	TM	
27	TM	2,2-Dichloropropane	0.5854	0.5590	4.5	TM	
28	TM*	Chloroform	0.8364	0.8335	0.34	TM*	
29	TM	Bromochloromethane	0.2067	0.2018	2.4	TM	
30	TM	1,1,1-TCA	0.7701	0.7756	0.73	TM	
31	TM	Cyclohexane	0.4409	0.4403	0.14	TM	
32	TM	1,1-Dichloropropene	0.6947	0.6930	0.25	TM	
33	TM	2,2,4-Trimethylpentane	1.257	1.168	7.1	TM	
34	TM	Carbon Tetrachloride	0.6621	0.6617	0.06	TM	
35	TM	Tert Amyl Methyl Ether	0.7545	0.7481	0.84	TM	
36	TM	1,2-DCA	0.4543	0.4527	0.33	TM	
37	TM	Benzene	2.053	2.042	0.52	TM	
38	TM	TCE	0.5531	0.5502	0.53	TM	
39	TM	2-Pentanone	0.1374	0.1351	1.7	TM	
40	TM*	1,2-Dichloropropane	0.4656	0.4605	1.1	TM*	
		Average			3.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Bromodichloromethane	0.5391	0.5268	2.3	TM	
42	TM	Methyl Cyclohexane	0.7132	0.7045	1.2	TM	
43	TM	Dibromomethane	0.1739	0.1719	1.2	TM	
44	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2071	10	TML	1.6
45	TM	1-Bromo-2-chloroethane	0.4473	0.4444	0.64	TM	
46	TM	2-Chloroethyl vinyl ether	0.0092	0.0107	16	TM	
47	TM	Cis-1,3-Dichloropropene	0.5933	0.5855	1.3	TM	
48	TM*	Toluene	2.379	2.342	1.5	TM*	
49	TM	Trans-1,3-Dichloropropene	0.4036	0.4074	0.95	TM	
50	TM	1,1,2-TCA	0.2165	0.2138	1.3	TM	
51	TM	2-Hexanone	0.1143	0.1106	3.2	TM	
52	TM	1,2-EDB	0.3267	0.3257	0.30	TM	
53	TM	Tetrachloroethene	0.8031	0.7968	0.78	TM	
54	TM	1-Chlorohexane	0.9327	0.9382	0.59	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6728	1.0	TM	
56	TM	m&p-Xylene	1.470	1.484	0.94	TM	
57	TM	o-Xylene	1.371	1.429	4.2	TM	
58	TM	Styrene	2.110	2.174	3.0	TM	
59	TM	1,3-Dichloropropane	0.6485	0.6441	0.68	TM	
60	TM	Dibromochloromethane	0.4990	0.5018	0.57	TM	
61	TM**	Chlorobenzene	2.082	2.043	1.9	TM**	
62	TM*	Ethylbenzene	3.752	3.761	0.25	TM*	
63	TM**	Bromoform	0.2963	0.3019	1.9	TM**	
64	TM	Isopropylbenzene	7.015	6.921	1.3	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6369	3.9	TM**	
66	TM	1,2,3-Trichloropropane	0.2200	0.2262	2.8	TM	
67	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1247	0.59	TML	10
68	TM	Bromobenzene	1.620	1.591	1.8	TM	
69	TM	n-Propylbenzene	7.746	7.764	0.23	TM	
70	TM	4-Ethyltoluene	6.825	6.855	0.43	TM	
71	TM	2-Chlorotoluene	4.634	4.589	0.96	TM	
72	TM	1,3,5-Trimethylbenzene	5.691	5.657	0.59	TM	
73	TM	4-Chlorotoluene	5.222	5.134	1.7	TM	
74	TM	Tert-Butylbenzene	5.094	5.008	1.7	TM	
75	TM	1,2,4-Trimethylbenzene	5.552	5.573	0.38	TM	
76	TM	Sec-Butylbenzene	6.789	6.675	1.7	TM	
77	TM	p-Isopropyltoluene	5.929	5.993	1.1	TM	
78	TM	Benzyl Chloride	0.4376	0.4170	4.7	TM	
79	TM	1,3-DCB	3.240	3.138	3.1	TM	
80	TM	1,4-DCB	3.175	3.002	5.4	TM	
		Average			2.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	4.656	4.706	1.1	TM	
82	TM	1,2-DCB	2.651	2.608	1.6	TM	
83	TM	Hexachloroethane	0.7881	0.7961	1.0	TM	
84	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0914	0.35	TM	
85	TML	1,2,4-Trichlorobenzene	1.139	1.392	22	TML	7.0
86	TM	Hexachlorobutadiene	1.216	1.197	1.6	TM	
87	TML	Naphthalene	0.7727	1.076	39	TML	16
88	TML	1,2,3-Trichlorobenzene	0.6764	0.9023	33	TML	12
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.5		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313129	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	223395	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	119323	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	70380	26.20738 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.828%	
36) 1,2-DCA-D4(S)	5.13	65	56191	26.40589 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.624%	
56) Toluene-D8(S)	7.35	98	285707	26.43686 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
64) 4-Bromofluorobenzene(S)	10.74	95	100338	25.79669 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.188%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30424	9.82069 ppb		99
3) Freon 114	1.29	85	46141	9.55742 ppb		98
4) Chloromethane	1.34	50	49408	9.15853 ppb		98
5) Vinyl chloride	1.43	62	73290	9.79377 ppb		99
6) Bromomethane	1.69	94	38284	8.73786 ppb		96
7) Chloroethane	1.79	64	40089	9.64955 ppb		96
8) Dichlorofluoromethane	1.98	67	112342	9.89371 ppb		98
9) Trichlorofluoromethane	2.03	101	77814	9.85156 ppb		94
10) Acrolein	2.41	56	31571	118.20139 ppb		97
11) Acetone	2.57	43	7645	10.42542 ppb		99
12) Freon-113	2.53	101	51764	9.90164 ppb		97
13) 1,1-DCE	2.51	61	83577	9.75028 ppb		99
14) t-Butanol	3.14	59	16144	124.82129 ppb		90
15) Methyl Acetate	2.90	43	21333	10.29551 ppb		98
16) Iodomethane	2.64	142	44348	6.63728 ppb		96
17) Acrylonitrile	3.22	53	9274	9.80638 ppb	#	88
18) Methylene chloride	2.98	84	55671	9.98804 ppb		92
19) Carbon disulfide	2.70	76	166265	9.74605 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	89901	9.92902 ppb		98
21) Trans-1,2-DCE	3.25	96	60718	9.87862 ppb		98
22) Diisopropyl Ether	3.80	45	171145	9.88084 ppb		99
23) 1,1-DCA	3.67	63	106753	9.81991 ppb		99
24) Vinyl Acetate	3.76	43	31590	9.11546 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	112371	9.91336 ppb		99
26) MEK (2-Butanone)	4.31	43	11030	9.35361 ppb		94
27) Cis-1,2-DCE	4.27	96	65791	9.75700 ppb		94
28) 2,2-Dichloropropane	4.27	77	70019	9.54956 ppb		98
29) Chloroform	4.61	83	104403	9.96646 ppb		97
30) Bromochloromethane	4.51	128	25270	9.76251 ppb		94
32) 1,1,1-TCA	4.80	97	97151	10.07264 ppb		98
33) Cyclohexane	4.87	41	55149	9.98644 ppb		98
34) 1,1-Dichloropropene	4.98	75	86794	9.97528 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	146264	9.29066 ppb		99
37) Carbon Tetrachloride	4.98	117	82878	9.99407 ppb		95
38) Tert Amyl Methyl Ether	5.37	73	93706	9.91568 ppb		94
39) 1,2-DCA	5.21	62	56707	9.96672 ppb		96
40) Benzene	5.20	78	255824	9.94820 ppb		98
41) TCE	5.92	95	68914	9.94716 ppb		97
42) 2-Pentanone	6.15	43	211483	122.93132 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	57677	9.89096	ppb		97
44) Bromodichloromethane	6.49	83	65983	9.77194	ppb		96
45) Methyl Cyclohexane	6.15	83	88237	9.87744	ppb		97
46) Dibromomethane	6.29	93	21526	9.88209	ppb		97
47) MIBK (methyl isobutyl ket	7.24	43	25941	10.15523	ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	55668	9.93636	ppb		96
49) 2-Chloroethyl vinyl ether	6.87	106	1343m	11.62678	ppb		0
50) Cis-1,3-Dichloropropene	7.02	75	73335	9.86879	ppb		100
51) Toluene	7.43	91	293390	9.84692	ppb		100
52) Trans-1,3-Dichloropropene	7.70	75	51032	10.09471	ppb		94
53) 1,1,2-TCA	7.92	83	26775	9.87469	ppb		99
54) 2-Hexanone	8.28	43	13856	9.67912	ppb		99
57) 1,2-EDB	8.53	107	29108	9.96951	ppb		88
58) Tetrachloroethene	8.10	164	71201	9.92178	ppb		97
59) 1-Chlorohexane	9.21	91	83836	10.05884	ppb		96
60) 1,1,1,2-Tetrachloroethane	9.31	131	60123	9.89837	ppb		97
61) m&p-Xylene	9.52	106	265176	20.18793	ppb		100
62) o-Xylene	10.04	106	127658	10.41803	ppb		94
63) Styrene	10.06	104	194229	10.30277	ppb		96
65) 1,3-Dichloropropane	8.13	76	57555	9.93162	ppb		96
66) Dibromochloromethane	8.40	129	44841	10.05684	ppb		97
67) Chlorobenzene	9.19	112	182591	9.81467	ppb		98
68) Ethylbenzene	9.36	91	336090	10.02484	ppb		99
69) Bromoform	10.27	173	26981	10.19094	ppb		99
71) Isopropylbenzene	10.56	105	330344	9.86593	ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	30398	9.61020	ppb		99
73) 1,2,3-Trichloropropane	11.00	110	10798	10.28458	ppb		99
74) t-1,4-Dichloro-2-Butene	11.05	53	5950	8.98672	ppb	#	71
75) Bromobenzene	10.92	156	75956	9.82330	ppb		97
76) n-Propylbenzene	11.13	91	370554	10.02252	ppb		98
77) 4-Ethyltoluene	11.30	105	327171	10.04315	ppb		100
78) 2-Chlorotoluene	11.21	91	219043	9.90385	ppb		98
79) 1,3,5-Trimethylbenzene	11.39	105	270007	9.94074	ppb		99
80) 4-Chlorotoluene	11.37	91	245033	9.83056	ppb		99
81) Tert-Butylbenzene	11.84	119	239012	9.83124	ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	266015	10.03786	ppb		99
83) Sec-Butylbenzene	12.15	105	318604	9.83311	ppb		99
84) p-Isopropyltoluene	12.37	119	286035	10.10691	ppb		98
85) Benzyl Chloride	12.59	91	19903	9.52893	ppb		94
86) 1,3-DCB	12.26	146	149796	9.68770	ppb		98
87) 1,4-DCB	12.38	146	143291	9.45675	ppb		100
88) n-Butylbenzene	12.95	91	224620	10.10874	ppb		98
89) 1,2-DCB	12.90	146	124460	9.83765	ppb		98
90) Hexachloroethane	13.27	117	37998	10.10177	ppb		98
91) 1,2-Dibromo-3-chloropropan	14.02	75	4364	10.03487	ppb	#	78
92) 1,2,4-Trichlorobenzene	15.23	180	66438	9.29506	ppb		96
93) Hexachlorobutadiene	15.53	225	57145	9.84423	ppb		96
94) Naphthalene	15.56	128	51355	8.38557	ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	43065	8.83592	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

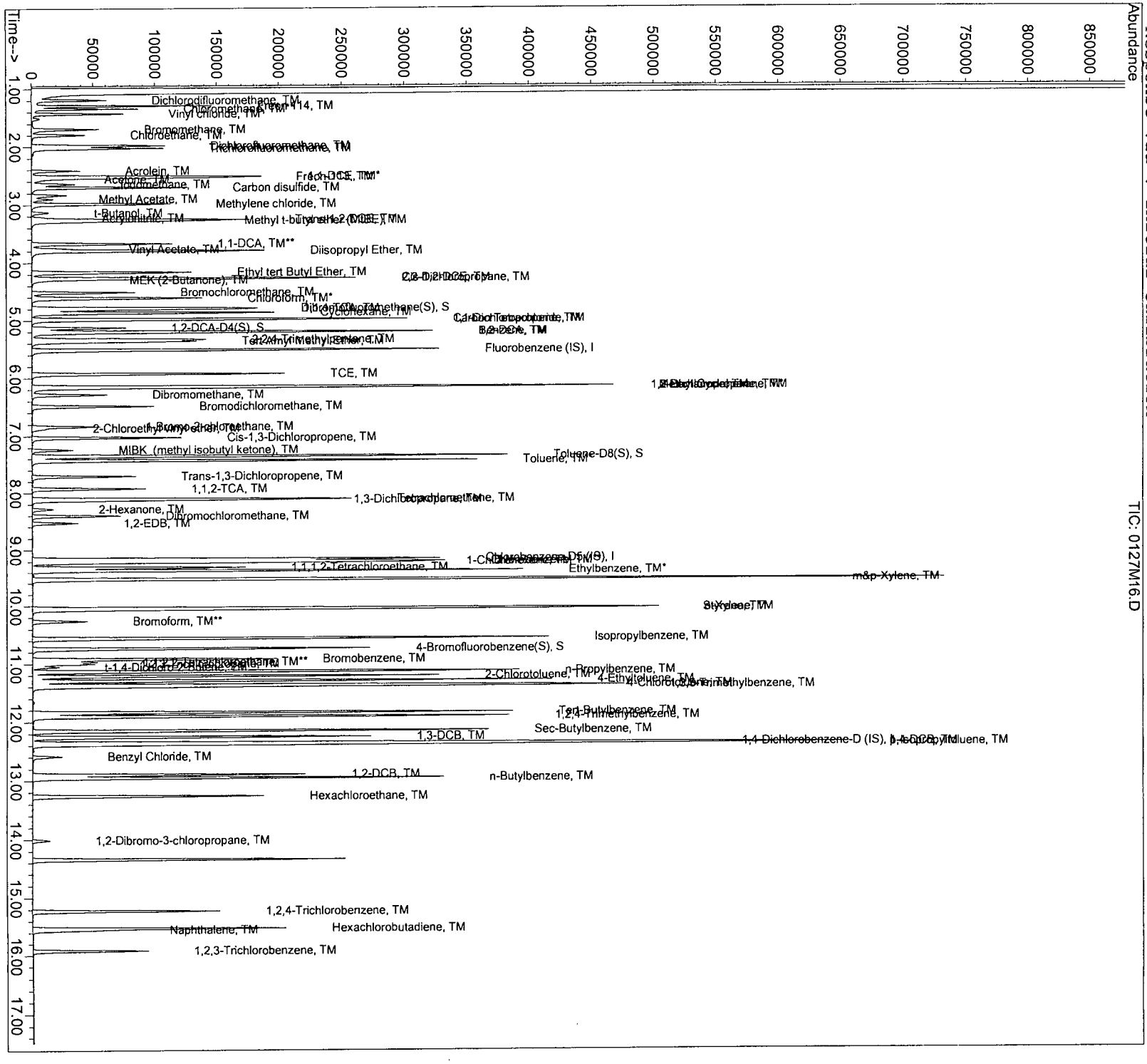
Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2473	0.2282	7.7	TM		
3	TM	Freon 114	0.3854	0.3907	1.4	TM		
4	TM**	Chloromethane	0.4307	0.3879	9.9	TM**		
5	TM*	Vinyl chloride	0.5975	0.5991	0.28	TM*		
6	TM	Bromomethane	0.3498	0.2971	15	TM		
7	TM	Chloroethane	0.3317	0.3389	2.2	TM		
8	TM	Dichlorofluoromethane	0.9066	0.9457	4.3	TM		
9	TM	Trichlorofluoromethane	0.6306	0.6758	7.2	TM		
10	TM	Acrolein	0.0213	0.0231	8.2	TM		
11	TML	Acetone	0.0718	0.0090	87	TML	98	* NT
12	TM	Freon-113	0.4174	0.4672	12	TM		
13	TM*	1,1-DCE	0.6844	0.6973	1.9	TM*		
14	TM	t-Butanol	0.0103	0.0117	13	TM		
15	TM	Methyl Acetate	0.1654	0.1778	7.5	TM		
16	TML	Iodomethane	0.4508	0.4536	0.62	TML	17	
17	TML	Acrylonitrile	0.0675	0.0885	31	TML	18	
18	TML	Methylene chloride	0.5358	0.4502	16	TML	1.3	
19	TM	Carbon disulfide	1.362	1.275	6.4	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7999	11	TM		
21	TM	Trans-1,2-DCE	0.4907	0.5089	3.7	TM		
22	TM	Diisopropyl Ether	1.383	1.479	7.0	TM		
23	TM**	1,1-DCA	0.8679	0.9148	5.4	TM**		
24	TM	Vinyl Acetate	0.2767	0.2833	2.4	TM		
25	TM	Ethyl tert Butyl Ether	0.9050	0.9991	10	TM		
26	TM	MEK (2-Butanone)	0.0941	0.0231	75	TM		*NT
27	TM	Cis-1,2-DCE	0.5384	0.5703	5.9	TM		
28	TM	2,2-Dichloropropane	0.5854	0.6566	12	TM		
29	TM*	Chloroform	0.8364	0.8954	7.1	TM*		
30	TM	Bromochloromethane	0.2067	0.2184	5.7	TM		
31	S	Dibromofluoromethane(S)	0.2144	0.2159	0.72	S		
32	TM	1,1,1-TCA	0.7701	0.8352	8.5	TM		
33	TM	Cyclohexane	0.4409	0.4562	3.5	TM		
34	TM	1,1-Dichloropropene	0.6947	0.7214	3.8	TM		
35	TM	2,2,4-Trimethylpentane	1.257	1.369	8.9	TM		
36	S	1,2-DCA-D4(S)	0.1699	0.1829	7.7	S		
37	TM	Carbon Tetrachloride	0.6621	0.6978	5.4	TM		
38	TM	Tert Amyl Methyl Ether	0.7545	0.8312	10	TM		
39	TM	1,2-DCA	0.4543	0.4848	6.7	TM		
40	TM	Benzene	2.053	2.126	3.6	TM		
		Average			11.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	TCE	0.5531	0.5794	4.8	TM		
42	TM	2-Pentanone	0.1374	0.1681	22	TM		*NT
43	TM*	1,2-Dichloropropane	0.4656	0.4954	6.4	TM*		
44	TM	Bromodichloromethane	0.5391	0.5810	7.8	TM		
45	TM	Methyl Cyclohexane	0.7132	0.7762	8.8	TM		
46	TM	Dibromomethane	0.1739	0.1852	6.5	TM		
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.0304	87	TML	96	*NT
48	TM	1-Bromo-2-chloroethane	0.4473	0.4295	4.0	TM		
49	TM	Cis-1,3-Dichloropropene	0.5933	0.6344	6.9	TM		
50	TM*	Toluene	2.379	2.482	4.3	TM*		
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4398	9.0	TM		
52	TM	1,1,2-TCA	0.2165	0.2404	11	TM		
53	TM	2-Hexanone	0.1143	0.0002	100	TM		*NT
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	1.209	1.184	2.1	S		
56	TM	1,2-EDB	0.3267	0.3538	8.3	TM		
57	TM	Tetrachloroethene	0.8031	0.8365	4.2	TM		
58	TM	1-Chlorohexane	0.9327	1.002	7.4	TM		
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6877	1.2	TM		
60	TM	m&p-Xylene	1.470	1.559	6.1	TM		
61	TM	o-Xylene	1.371	1.432	4.4	TM		
62	TM	Styrene	2.110	2.242	6.3	TM		
63	S	4-Bromofluorobenzene(S)	0.4353	0.4500	3.4	S		
64	TM	1,3-Dichloropropane	0.6485	0.6800	4.9	TM		
65	TM	Dibromochloromethane	0.4990	0.5336	6.9	TM		
66	TM**	Chlorobenzene	2.082	2.109	1.3	TM**		
67	TM*	Ethylbenzene	3.752	3.889	3.7	TM*		
68	TM**	Bromoform	0.2963	0.3287	11	TM**		
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TM	Isopropylbenzene	7.015	7.276	3.7	TM		
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6998	5.6	TM**		
72	TM	1,2,3-Trichloropropane	0.2200	0.2407	9.4	TM		
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1398	11	TML	0.53	
74	TM	Bromobenzene	1.620	1.662	2.6	TM		
75	TM	n-Propylbenzene	7.746	8.095	4.5	TM		
76	TM	4-Ethyltoluene	6.825	7.160	4.9	TM		
77	TM	2-Chlorotoluene	4.634	4.696	1.3	TM		
78	TM	1,3,5-Trimethylbenzene	5.691	5.991	5.3	TM		
79	TM	4-Chlorotoluene	5.222	5.371	2.8	TM		
80	TM	Tert-Butylbenzene	5.094	5.210	2.3	TM		
		Average			10.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,2,4-Trimethylbenzene	5.552	5.764	3.8	TM		
82	TM	Sec-Butylbenzene	6.789	7.087	4.4	TM		
83	TM	p-Isopropyltoluene	5.929	6.313	6.5	TM		
84	TM	Benzyl Chloride	0.4376	0.5963	36	TM		*NT
85	TM	1,3-DCB	3.240	3.332	2.8	TM		
86	TM	1,4-DCB	3.175	3.192	0.55	TM		
87	TM	n-Butylbenzene	4.656	5.087	9.3	TM		
88	TM	1,2-DCB	2.651	2.717	2.5	TM		
89	TM	Hexachloroethane	0.7881	0.8355	6.0	TM		
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0999	9.6	TM		
91	TML	1,2,4-Trichlorobenzene	1.139	1.489	31	TML	0.93	
92	TM	Hexachlorobutadiene	1.216	1.259	3.5	TM		
93	TML	Naphthalene	0.7727	1.162	50	TML	10	
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9859	46	TML	4.2	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			15.1			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	292687	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215613	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116060	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63205	25.18 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.716%	
36) 1,2-DCA-D4(S)	5.13	65	53531	26.91 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.652%	
56) Toluene-D8(S)	7.35	98	255311	24.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.908%	
64) 4-Bromofluorobenzene(S)	10.74	95	97031	25.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.388%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.23 ppb		99
3) Freon 114	1.29	85	45744	10.14 ppb		99
4) Chloromethane	1.34	50	45416	9.01 ppb		100
5) Vinyl chloride	1.43	62	70143	10.03 ppb		94
6) Bromomethane	1.70	94	34781	8.49 ppb		99
7) Chloroethane	1.80	64	39681	10.22 ppb		99
8) Dichlorofluoromethane	1.98	67	110715	10.43 ppb		100
9) Trichlorofluoromethane	2.03	101	79122	10.72 ppb		98
10) Acrolein	2.41	56	33779	135.30 ppb		98
11) Acetone	2.57	43	1053	0.18 ppb		96
12) Freon-113	2.53	101	54698	11.19 ppb		97
13) 1,1-DCE	2.51	61	81634	10.19 ppb		99
14) t-Butanol	3.14	59	17088	141.35 ppb		96
15) Methyl Acetate	2.90	43	20820	10.75 ppb		98
16) Iodomethane	2.64	142	53110	8.35 ppb		97
17) Acrylonitrile	3.23	53	10364	11.78 ppb	#	95
18) Methylene chloride	2.98	84	52711	10.13 ppb		96
19) Carbon disulfide	2.70	76	149224	9.36 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	93653	11.07 ppb		97
21) Trans-1,2-DCE	3.26	96	59583	10.37 ppb		98
22) Diisopropyl Ether	3.80	45	173205	10.70 ppb		99
23) 1,1-DCA	3.67	63	107104	10.54 ppb		97
24) Vinyl Acetate	3.76	43	33167	10.24 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	116967	11.04 ppb		98
26) MEK (2-Butanone)	4.27	43	2703	2.45 ppb	#	83
27) Cis-1,2-DCE	4.27	96	66767	10.59 ppb		99
28) 2,2-Dichloropropane	4.27	77	76871	11.22 ppb		100
29) Chloroform	4.61	83	104830	10.71 ppb		93
30) Bromochloromethane	4.52	128	25566	10.57 ppb		98
32) 1,1,1-TCA	4.80	97	97776	10.85 ppb		96
33) Cyclohexane	4.87	41	53408	10.35 ppb		95
34) 1,1-Dichloropropene	4.99	75	84452	10.38 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	160221	10.89 ppb		99
37) Carbon Tetrachloride	4.98	117	81698	10.54 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	97318	11.02 ppb		96
39) 1,2-DCA	5.21	62	56758	10.67 ppb		96
40) Benzene	5.20	78	248938	10.36 ppb		98
41) TCE	5.92	95	67835	10.48 ppb		96
42) 2-Pentanone	6.15	43	246075	153.03 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	58001	10.64	ppb		99
44)	Bromodichloromethane	6.49	83	68015	10.78	ppb		95
45)	Methyl Cyclohexane	6.15	83	90875	10.88	ppb		100
46)	Dibromomethane	6.29	93	21679	10.65	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	3556	0.41	ppb	#	83
48)	1-Bromo-2-chloroethane	6.84	63	50287	9.60	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	74269	10.69	ppb		98
51)	Toluene	7.43	91	290614	10.43	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	51485	10.90	ppb		97
53)	1,1,2-TCA	7.92	83	28142	11.10	ppb		98
57)	1,2-EDB	8.53	107	30510	10.83	ppb		97
58)	Tetrachloroethene	8.10	164	72148	10.42	ppb		93
59)	1-Chlorohexane	9.21	91	86415	10.74	ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	59314	10.12	ppb		98
61)	m&p-Xylene	9.52	106	268928	21.21	ppb		98
62)	o-Xylene	10.04	106	123525	10.44	ppb		97
63)	Styrene	10.06	104	193369	10.63	ppb		98
65)	1,3-Dichloropropane	8.13	76	58651	10.49	ppb		100
66)	Dibromochloromethane	8.40	129	46024	10.69	ppb		99
67)	Chlorobenzene	9.19	112	181884	10.13	ppb		99
68)	Ethylbenzene	9.36	91	335431	10.37	ppb		99
69)	Bromoform	10.27	173	28345	11.09	ppb		98
71)	Isopropylbenzene	10.56	105	337799	10.37	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	32488	10.56	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	11175	10.94	ppb		100
74)	t-1,4-Dichloro-2-Butene	11.05	53	6490	10.05	ppb		93
75)	Bromobenzene	10.92	156	77153	10.26	ppb		98
76)	n-Propylbenzene	11.13	91	375802	10.45	ppb		99
77)	4-Ethyltoluene	11.30	105	332415	10.49	ppb		98
78)	2-Chlorotoluene	11.21	91	218018	10.13	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	278145	10.53	ppb		96
80)	4-Chlorotoluene	11.37	91	249347	10.28	ppb		96
81)	Tert-Butylbenzene	11.84	119	241870	10.23	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	267579	10.38	ppb		98
83)	Sec-Butylbenzene	12.15	105	329023	10.44	ppb		98
84)	p-Isopropyltoluene	12.37	119	293096	10.65	ppb		98
85)	Benzyl Chloride	12.59	91	27684	13.63	ppb		90
86)	1,3-DCB	12.26	146	154663	10.28	ppb		98
87)	1,4-DCB	12.38	146	148187	10.05	ppb		99
88)	n-Butylbenzene	12.95	91	236180	10.93	ppb		98
89)	1,2-DCB	12.90	146	126112	10.25	ppb		97
90)	Hexachloroethane	13.27	117	38785	10.60	ppb		100
91)	1,2-Dibromo-3-chloropropan	14.01	75	4638	10.96	ppb	#	83
92)	1,2,4-Trichlorobenzene	15.23	180	69103	9.91	ppb		97
93)	Hexachlorobutadiene	15.52	225	58452	10.35	ppb		96
94)	Naphthalene	15.56	128	53930	8.96	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	45769	9.58	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

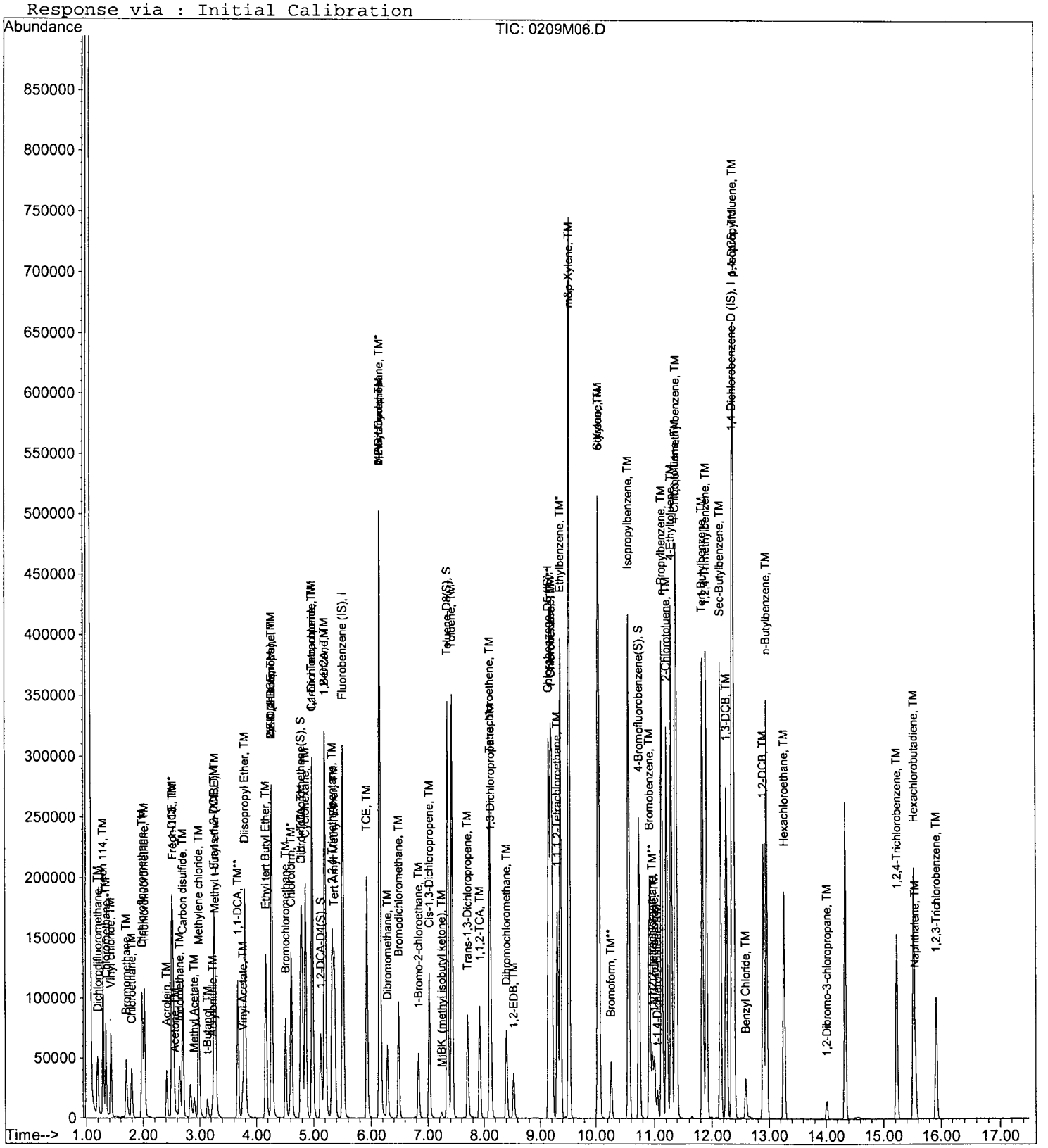
Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



587

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2473	0.2187	12	TM		
3	TM	Freon 114	0.3854	0.3263	15	TM		
4	TM**	Chloromethane	0.4307	0.3695	14	TM**		
5	TM*	Vinyl chloride	0.5975	0.5562	6.9	TM*		
6	TM	Bromomethane	0.3498	0.2856	18	TM		
7	TM	Chloroethane	0.3317	0.3094	6.7	TM		
8	TM	Dichlorofluoromethane	0.9066	0.8869	2.2	TM		
9	TM	Trichlorofluoromethane	0.6306	0.6276	0.47	TM		
10	TM	Acrolein	0.0213	0.0201	5.8	TM		
11	TML	Acetone	0.0718	0.0139	81	TML	89	nt
12	TM	Freon-113	0.4174	0.4087	2.1	TM		
13	TM*	1,1-DCE	0.6844	0.6470	5.5	TM*		
14	TM	t-Butanol	0.0103	0.0117	13	TM		
15	TM	Methyl Acetate	0.1654	0.1759	6.3	TM		
16	TML	Iodomethane	0.4508	0.3475	23	TML	35	
17	TML	Acrylonitrile	0.0675	0.0839	24	TML	11	
18	TML	Methylene chloride	0.5358	0.4419	18	TML	0.76	
19	TM	Carbon disulfide	1.362	1.164	15	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7607	5.2	TM		
21	TM	Trans-1,2-DCE	0.4907	0.4805	2.1	TM		
22	TM	Diisopropyl Ether	1.383	1.407	1.7	TM		
23	TM**	1,1-DCA	0.8679	0.8563	1.3	TM**		
24	TM	Vinyl Acetate	0.2767	0.1513	45	TM		
25	TM	Ethyl tert Butyl Ether	0.9050	0.9685	7.0	TM		
26	TM	MEK (2-Butanone)	0.0941	0.0210	78	TM		nt
27	TM	Cis-1,2-DCE	0.5384	0.5388	0.09	TM		
28	TM	2,2-Dichloropropane	0.5854	0.4568	22	TM		
29	TM*	Chloroform	0.8364	0.8714	4.2	TM*		
30	TM	Bromochloromethane	0.2067	0.2131	3.1	TM		
31	S	Dibromofluoromethane(S)	0.2144	0.2228	3.9	S		
32	TM	1,1,1-TCA	0.7701	0.7726	0.33	TM		
33	TM	Cyclohexane	0.4409	0.4124	6.5	TM		
34	TM	1,1-Dichloropropene	0.6947	0.6635	4.5	TM		
35	TM	2,2,4-Trimethylpentane	1.257	1.057	16	TM		
36	S	1,2-DCA-D4(S)	0.1699	0.1872	10	S		
37	TM	Carbon Tetrachloride	0.6621	0.6375	3.7	TM		
38	TM	Tert Amyl Methyl Ether	0.7545	0.8080	7.1	TM		
39	TM	1,2-DCA	0.4543	0.4754	4.7	TM		
40	TM	Benzene	2.053	2.050	0.18	TM		
		Average			12.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	TCE	0.5531	0.5928	7.2	TM		
42	TM	2-Pentanone	0.1374	0.1627	18	TM		
43	TM*	1,2-Dichloropropane	0.4656	0.4806	3.2	TM*		
44	TM	Bromodichloromethane	0.5391	0.5778	7.2	TM		
45	TM	Methyl Cyclohexane	0.7132	0.6629	7.1	TM		
46	TM	Dibromomethane	0.1739	0.1842	5.9	TM		
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.0281	88	TML	97	nt
48	TM	1-Bromo-2-chloroethane	0.4473	0.4268	4.6	TM		
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5956	0.40	TM		
50	TM*	Toluene	2.379	2.367	0.50	TM*		
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4122	2.1	TM		
52	TM	1,1,2-TCA	0.2165	0.2321	7.2	TM		
53	I	Chlorobenzene-D5 (IS)	ISTD			I		
54	S	Toluene-D8(S)	1.209	1.213	0.33	S		
55	TM	1,2-EDB	0.3267	0.3461	5.9	TM		
56	TM	Tetrachloroethene	0.8031	0.7783	3.1	TM		
57	TM	1-Chlorohexane	0.9327	0.8787	5.8	TM		
58	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6849	0.76	TM		
59	TM	m&p-Xylene	1.470	1.441	2.0	TM		
60	TM	o-Xylene	1.371	1.397	1.9	TM		
61	TM	Styrene	2.110	2.154	2.1	TM		
62	S	4-Bromofluorobenzene(S)	0.4353	0.4578	5.2	S		
63	TM	1,3-Dichloropropane	0.6485	0.6978	7.6	TM		
64	TM	Dibromochloromethane	0.4990	0.5280	5.8	TM		
65	TM**	Chlorobenzene	2.082	2.023	2.8	TM**		
66	TM*	Ethylbenzene	3.752	3.681	1.9	TM*		
67	TM**	Bromoform	0.2963	0.3234	9.2	TM**		
68	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
69	TM	Isopropylbenzene	7.015	6.679	4.8	TM		
70	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6250	5.7	TM**		
71	TM	1,2,3-Trichloropropane	0.2200	0.2365	7.5	TM		
72	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1271	1.4	TML	8.4	
73	TM	Bromobenzene	1.620	1.595	1.6	TM		
74	TM	n-Propylbenzene	7.746	7.444	3.9	TM		
75	TM	4-Ethyltoluene	6.825	6.666	2.3	TM		
76	TM	2-Chlorotoluene	4.634	4.547	1.9	TM		
77	TM	1,3,5-Trimethylbenzene	5.691	5.508	3.2	TM		
78	TM	4-Chlorotoluene	5.222	5.016	4.0	TM		
79	TM	Tert-Butylbenzene	5.094	4.878	4.2	TM		
80	TM	1,2,4-Trimethylbenzene	5.552	5.410	2.6	TM		
		Average			6.5			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Sec-Butylbenzene	6.789	6.542	3.6	TM	
82	TM	p-Isopropyltoluene	5.929	5.742	3.2	TM	
83	TM	Benzyl Chloride	0.4376	0.3937	10	TM	
84	TM	1,3-DCB	3.240	3.158	2.5	TM	
85	TM	1,4-DCB	3.175	3.036	4.4	TM	
86	TM	n-Butylbenzene	4.656	4.457	4.3	TM	
87	TM	1,2-DCB	2.651	2.689	1.4	TM	
88	TM	Hexachloroethane	0.7881	0.7910	0.37	TM	
89	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0897	1.5	TM	
90	TML	1,2,4-Trichlorobenzene	1.139	1.422	25	TML	5.2
91	TM	Hexachlorobutadiene	1.216	1.113	8.5	TM	
92	TML	Naphthalene	0.7727	1.165	51	TML	10
93	TML	1,2,3-Trichlorobenzene	0.6764	1.017	50	TML	1.5
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M30.D
Acq On : 9 Feb 17 19:53
Sample : Ending CCV 8260 10ug/L 02/09/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:27 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	288346	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	212438	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	114547	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64242	25.98 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.912%	
36) 1,2-DCA-D4(S)	5.13	65	53967	27.54 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.160%	
56) Toluene-D8(S)	7.35	98	257763	25.08 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.324%	
64) 4-Bromofluorobenzene(S)	10.74	95	97256	26.29 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.176%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	25224	8.84 ppb	98
3) Freon 114	1.29	85	37634	8.47 ppb	99
4) Chloromethane	1.34	50	42616	8.58 ppb	98
5) Vinyl chloride	1.43	62	64155	9.31 ppb	96
6) Bromomethane	1.70	94	32942	8.16 ppb	98
7) Chloroethane	1.80	64	35684	9.33 ppb	98
8) Dichlorofluoromethane	1.99	67	102288	9.78 ppb	100
9) Trichlorofluoromethane	2.03	101	72391	9.95 ppb	95
10) Acrolein	2.42	56	28955	117.72 ppb	95
11) Acetone	2.57	43	1603	1.15 ppb	93
12) Freon-113	2.54	101	47136	9.79 ppb	99
13) 1,1-DCE	2.51	61	74621	9.45 ppb	98
14) t-Butanol	3.14	59	16809	141.13 ppb	95
15) Methyl Acetate	2.91	43	20290	10.63 ppb	98
16) Iodomethane	2.64	142	40084	6.53 ppb	98
17) Acrylonitrile	3.23	53	9675	11.15 ppb	97
18) Methylene chloride	2.99	84	50968	9.92 ppb	95
19) Carbon disulfide	2.70	76	134217	8.54 ppb	99
20) Methyl t-butyl ether (MtBE	3.29	73	87743	10.52 ppb	99
21) Trans-1,2-DCE	3.26	96	55425	9.79 ppb	97
22) Diisopropyl Ether	3.80	45	162249	10.17 ppb	98
23) 1,1-DCA	3.68	63	98768	9.87 ppb	99
24) Vinyl Acetate	3.76	43	17455	5.47 ppb	95
25) Ethyl tert Butyl Ether	4.17	59	111701	10.70 ppb	98
26) MEK (2-Butanone)	4.27	43	2417	2.23 ppb	90
27) Cis-1,2-DCE	4.27	96	62150	10.01 ppb	99
28) 2,2-Dichloropropane	4.27	77	52686	7.80 ppb	100
29) Chloroform	4.62	83	100509	10.42 ppb	91
30) Bromochloromethane	4.52	128	24580	10.31 ppb	99
32) 1,1,1-TCA	4.80	97	89108	10.03 ppb	97
33) Cyclohexane	4.87	41	47568	9.35 ppb	98
34) 1,1-Dichloropropene	4.99	75	76526	9.55 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	121931	8.41 ppb	97
37) Carbon Tetrachloride	4.99	117	73526	9.63 ppb	95
38) Tert Amyl Methyl Ether	5.37	73	93199	10.71 ppb	99
39) 1,2-DCA	5.21	62	54833	10.47 ppb	95
40) Benzene	5.20	78	236387	9.98 ppb	100
41) TCE	5.93	95	68377	10.72 ppb	96
42) 2-Pentanone	6.15	43	234633	148.11 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M30.D Vial: 26
Acq On : 9 Feb 17 19:53 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.17	63	55436	10.32 ppb	99
44) Bromodichloromethane	6.49	83	66648	10.72 ppb	92
45) Methyl Cyclohexane	6.15	83	76459	9.29 ppb	99
46) Dibromomethane	6.29	93	21248	10.59 ppb	94
47) MIBK (methyl isobutyl ket	7.24	43	3246	0.29 ppb	92
48) 1-Bromo-2-chloroethane	6.84	63	49224	9.54 ppb	99
50) Cis-1,3-Dichloropropene	7.03	75	68700	10.04 ppb	96
51) Toluene	7.43	91	273001	9.95 ppb	97
52) Trans-1,3-Dichloropropene	7.71	75	47538	10.21 ppb	99
53) 1,1,2-TCA	7.92	83	26766	10.72 ppb	99
57) 1,2-EDB	8.53	107	29409	10.59 ppb	96
58) Tetrachloroethene	8.11	164	66139	9.69 ppb	93
59) 1-Chlorohexane	9.21	91	74670	9.42 ppb	95
60) 1,1,1,2-Tetrachloroethane	9.31	131	58203	10.08 ppb	98
61) m&p-Xylene	9.52	106	244878	19.60 ppb	98
62) o-Xylene	10.04	106	118750	10.19 ppb	96
63) Styrene	10.06	104	183055	10.21 ppb	100
65) 1,3-Dichloropropane	8.13	76	59298	10.76 ppb	99
66) Dibromochloromethane	8.40	129	44869	10.58 ppb	100
67) Chlorobenzene	9.19	112	171879	9.72 ppb	100
68) Ethylbenzene	9.36	91	312818	9.81 ppb	99
69) Bromoform	10.27	173	27484	10.92 ppb	96
71) Isopropylbenzene	10.56	105	306009	9.52 ppb	98
72) 1,1,2,2-Tetrachloroethane	10.97	83	28638	9.43 ppb	96
73) 1,2,3-Trichloropropane	11.00	110	10836	10.75 ppb	98
74) t-1,4-Dichloro-2-Butene	11.05	53	5824	9.16 ppb	99
75) Bromobenzene	10.92	156	73074	9.84 ppb	99
76) n-Propylbenzene	11.13	91	341084	9.61 ppb	99
77) 4-Ethyltoluene	11.30	105	305407	9.77 ppb	100
78) 2-Chlorotoluene	11.21	91	208321	9.81 ppb	92
79) 1,3,5-Trimethylbenzene	11.39	105	252369	9.68 ppb	100
80) 4-Chlorotoluene	11.37	91	229810	9.60 ppb	97
81) Tert-Butylbenzene	11.84	119	223488	9.58 ppb	98
82) 1,2,4-Trimethylbenzene	11.91	105	247864	9.74 ppb	98
83) Sec-Butylbenzene	12.15	105	299766	9.64 ppb	98
84) p-Isopropyltoluene	12.37	119	263114	9.68 ppb	98
85) Benzyl Chloride	12.59	91	18038	9.00 ppb	99
86) 1,3-DCB	12.25	146	144712	9.75 ppb	98
87) 1,4-DCB	12.38	146	139124	9.56 ppb	99
88) n-Butylbenzene	12.95	91	204237	9.57 ppb	96
89) 1,2-DCB	12.90	146	123202	10.14 ppb	99
90) Hexachloroethane	13.27	117	36244	10.04 ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	4111	9.85 ppb	84
92) 1,2,4-Trichlorobenzene	15.23	180	65141	9.48 ppb	95
93) Hexachlorobutadiene	15.52	225	50985	9.15 ppb	98
94) Naphthalene	15.56	128	53375	8.99 ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	46582	9.85 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

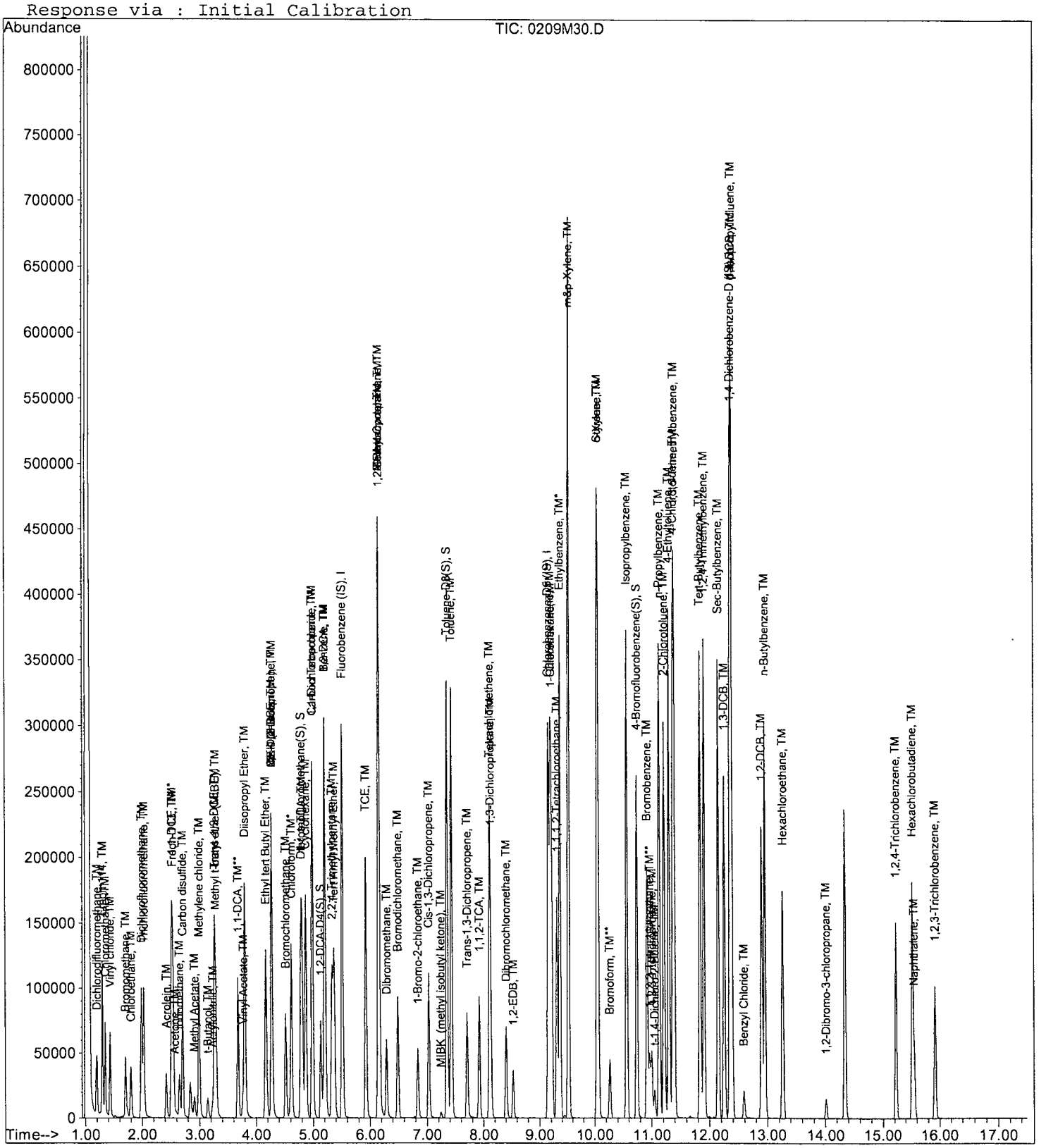
Data File : M:\MAX\DATA\M170127\0209M30.D
Acq On : 9 Feb 17 19:53
Sample : Ending CCV 8260 10ug/L 02/09/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:27 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



593

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0211M19.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2771	12	TM	
3	TM	Freon 114	0.3854	0.3874	0.51	TM	
4	TM**	Chloromethane	0.4307	0.4575	6.2	TM**	
5	TM*	Vinyl chloride	0.5975	0.6520	9.1	TM*	
6	TM	Bromomethane	0.3498	0.3334	4.7	TM	
7	TM	Chloroethane	0.3317	0.3582	8.0	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9484	4.6	TM	
9	TM	Trichlorofluoromethane	0.6306	0.7140	13	TM	
10	TM	Acrolein	0.0213	0.0196	8.2	TM	
11	TML	Acetone	0.0718	0.0585	19	TML	0.80
12	TM	Freon-113	0.4174	0.4465	7.0	TM	
13	TM*	1,1-DCE	0.6844	0.7399	8.1	TM*	
14	TM	t-Butanol	0.0103	0.0091	12	TM	
15	TM	Methyl Acetate	0.1654	0.1675	1.3	TM	
16	TML	Iodomethane	0.4508	0.4635	2.8	TML	15
17	TML	Acrylonitrile	0.0675	0.0728	7.9	TML	3.6
18	TML	Methylene chloride	0.5358	0.4741	12	TML	7.2
19	TM	Carbon disulfide	1.362	1.376	1.0	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.6994	3.3	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5246	6.9	TM	
22	TM	Diisopropyl Ether	1.383	1.368	1.1	TM	
23	TM**	1,1-DCA	0.8679	0.9202	6.0	TM**	
24	TM	Vinyl Acetate	0.2767	0.2194	21	TM	nt
25	TM	Ethyl tert Butyl Ether	0.9050	0.8819	2.5	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0759	19	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5670	5.3	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5786	1.2	TM	
29	TM*	Chloroform	0.8364	0.8732	4.4	TM*	
30	TM	Bromochloromethane	0.2067	0.2044	1.1	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2123	0.96	S	
32	TM	1,1,1-TCA	0.7701	0.8248	7.1	TM	
33	TM	Cyclohexane	0.4409	0.4664	5.8	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7456	7.3	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.284	2.2	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1718	1.1	S	
37	TM	Carbon Tetrachloride	0.6621	0.6912	4.4	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7477	0.90	TM	
39	TM	1,2-DCA	0.4543	0.4686	3.1	TM	
40	TM	Benzene	2.053	2.201	7.2	TM	
		Average			6.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0211M19.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5863	6.0	TM	
42	TM	2-Pentanone	0.1374	0.1437	4.6	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4765	2.4	TM*	
44	TM	Bromodichloromethane	0.5391	0.5554	3.0	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7719	8.2	TM	
46	TM	Dibromomethane	0.1739	0.1773	1.9	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1968	15	TML	4.1
48	TM	1-Bromo-2-chloroethane	0.4473	0.4411	1.4	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5916	0.29	TM	
50	TM*	Toluene	2.379	2.507	5.4	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4023	0.34	TM	
52	TM	1,1,2-TCA	0.2165	0.2214	2.3	TM	
53	TM	2-Hexanone	0.1143	0.1093	4.4	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.219	0.79	S	
56	TM	1,2-EDB	0.3267	0.3581	9.6	TM	
57	TM	Tetrachloroethene	0.8031	0.8900	11	TM	
58	TM	1-Chlorohexane	0.9327	1.004	7.7	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6971	2.6	TM	
60	TM	m&p-Xylene	1.470	1.604	9.1	TM	
61	TM	o-Xylene	1.371	1.508	9.9	TM	
62	TM	Styrene	2.110	2.290	8.6	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4359	0.14	S	
64	TM	1,3-Dichloropropane	0.6485	0.6661	2.7	TM	
65	TM	Dibromochloromethane	0.4990	0.5121	2.6	TM	
66	TM**	Chlorobenzene	2.082	2.135	2.5	TM**	
67	TM*	Ethylbenzene	3.752	4.085	8.9	TM*	
68	TM**	Bromoform	0.2963	0.2983	0.68	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	7.681	9.5	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6447	2.7	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2133	3.0	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1243	0.88	TML	10
74	TM	Bromobenzene	1.620	1.674	3.3	TM	
75	TM	n-Propylbenzene	7.746	8.553	10	TM	
76	TM	4-Ethyltoluene	6.825	7.248	6.2	TM	
77	TM	2-Chlorotoluene	4.634	4.898	5.7	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	6.154	8.1	TM	
79	TM	4-Chlorotoluene	5.222	5.536	6.0	TM	
80	TM	Tert-Butylbenzene	5.094	5.510	8.2	TM	
		Average			5.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0211M19.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.921	6.6	TM	
82	TM	Sec-Butylbenzene	6.789	7.407	9.1	TM	
83	TM	p-Isopropyltoluene	5.929	6.450	8.8	TM	
84	TM	Benzyl Chloride	0.4376	0.4441	1.5	TM	
85	TM	1,3-DCB	3.240	3.388	4.6	TM	
86	TM	1,4-DCB	3.175	3.219	1.4	TM	
87	TM	n-Butylbenzene	4.656	5.120	10.0	TM	
88	TM	1,2-DCB	2.651	2.729	2.9	TM	
89	TM	Hexachloroethane	0.7881	0.8253	4.7	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0826	9.3	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.419	25	TML	5.3
92	TM	Hexachlorobutadiene	1.216	1.333	9.6	TM	
93	TML	Naphthalene	0.7727	1.089	41	TML	15
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9355	38	TML	8.7
95							
96							
97							
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113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M19.D Vial: 19
Acq On : 11 Feb 17 18:02 Operator: PM,DG,SV,CMM
Sample : 170211A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	302885	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	212295	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112953	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64315	24.75895 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.036%	
36) 1,2-DCA-D4(S)	5.13	65	52037	25.28085 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.124%	
56) Toluene-D8(S)	7.35	98	258777	25.19697 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.788%	
64) 4-Bromofluorobenzene(S)	10.74	95	92539	25.03554 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.144%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	33568	11.20203 ppb	99
3) Freon 114	1.29	85	46936	10.05091 ppb	98
4) Chloromethane	1.34	50	55424	10.62115 ppb	98
5) Vinyl chloride	1.43	62	78989	10.91233 ppb	98
6) Bromomethane	1.70	94	40393	9.53102 ppb	99
7) Chloroethane	1.80	64	43395	10.79859 ppb	100
8) Dichlorofluoromethane	1.99	67	114906	10.46177 ppb	99
9) Trichlorofluoromethane	2.03	101	86507	11.32254 ppb	96
10) Acrolein	2.42	56	29662	114.81012 ppb	90
11) Acetone	2.57	43	7084	9.92043 ppb	95
12) Freon-113	2.54	101	54096	10.69768 ppb	99
13) 1,1-DCE	2.51	61	89647	10.81214 ppb	96
14) t-Butanol	3.14	59	13819	110.45863 ppb	98
15) Methyl Acetate	2.90	43	20296	10.12632 ppb	93
16) Iodomethane	2.65	142	56158	8.51633 ppb	98
17) Acrylonitrile	3.23	53	8824	9.64156 ppb #	78
18) Methylene chloride	2.99	84	57436	10.72200 ppb	96
19) Carbon disulfide	2.70	76	166691	10.10149 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	84730	9.67441 ppb	97
21) Trans-1,2-DCE	3.26	96	63557	10.69025 ppb	97
22) Diisopropyl Ether	3.80	45	165781	9.89487 ppb	98
23) 1,1-DCA	3.68	63	111490	10.60252 ppb	99
24) Vinyl Acetate	3.76	43	26585	7.93069 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	106851	9.74520 ppb	98
26) MEK (2-Butanone)	4.31	43	9200	8.06560 ppb	91
27) Cis-1,2-DCE	4.27	96	68699	10.53285 ppb	98
28) 2,2-Dichloropropane	4.27	77	70105	9.88467 ppb	99
29) Chloroform	4.62	83	105795	10.44092 ppb	97
30) Bromochloromethane	4.52	128	24759	9.88860 ppb	94
32) 1,1,1-TCA	4.80	97	99926	10.71075 ppb	99
33) Cyclohexane	4.87	41	56501	10.57730 ppb	94
34) 1,1-Dichloropropene	4.99	75	90331	10.73291 ppb	97
35) 2,2,4-Trimethylpentane	5.33	57	155577	10.21645 ppb	99
37) Carbon Tetrachloride	4.99	117	83742	10.43979 ppb	96
38) Tert Amyl Methyl Ether	5.37	73	90590	9.91017 ppb	98
39) 1,2-DCA	5.21	62	56767	10.31471 ppb	94
40) Benzene	5.20	78	266669	10.72066 ppb	100
41) TCE	5.93	95	71028	10.59904 ppb	94
42) 2-Pentanone	6.16	43	217675	130.81007 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M19.D
Acq On : 11 Feb 17 18:02
Sample : 170211A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 1,2-Dichloropropane	6.17	63	57734	10.23559	ppb	100
44) Bromodichloromethane	6.49	83	67288	10.30225	ppb	93
45) Methyl Cyclohexane	6.15	83	93514	10.82220	ppb	96
46) Dibromomethane	6.29	93	21478	10.19354	ppb	90
47) MIBK (methyl isobutyl ket	7.24	43	23842	9.58620	ppb	98
48) 1-Bromo-2-chloroethane	6.84	63	53438	9.86092	ppb	98
50) Cis-1,3-Dichloropropene	7.03	75	71673	9.97134	ppb	99
51) Toluene	7.43	91	303761	10.53981	ppb	96
52) Trans-1,3-Dichloropropene	7.71	75	48735	9.96639	ppb	96
53) 1,1,2-TCA	7.92	83	26824	10.22735	ppb	99
54) 2-Hexanone	8.28	43	13238	9.56018	ppb	94
57) 1,2-EDB	8.53	107	30409	10.95966	ppb	95
58) Tetrachloroethene	8.11	164	75579	11.08252	ppb	98
59) 1-Chlorohexane	9.21	91	85294	10.76886	ppb	99
60) 1,1,1,2-Tetrachloroethane	9.31	131	59198	10.25566	ppb	99
61) m&p-Xylene	9.52	106	272355	21.81859	ppb	100
62) o-Xylene	10.04	106	128029	10.99460	ppb	96
63) Styrene	10.06	104	194489	10.85597	ppb	99
65) 1,3-Dichloropropane	8.13	76	56562	10.27059	ppb	100
66) Dibromochloromethane	8.40	129	43490	10.26383	ppb	100
67) Chlorobenzene	9.19	112	181276	10.25346	ppb	99
68) Ethylbenzene	9.36	91	346882	10.88773	ppb	99
69) Bromoform	10.27	173	25330	10.06758	ppb	91
71) Isopropylbenzene	10.56	105	347017	10.94836	ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	29129	9.72836	ppb	99
73) 1,2,3-Trichloropropane	11.00	110	9636	9.69542	ppb	87
74) t-1,4-Dichloro-2-Butene	11.05	53	5616	8.96121	ppb	99
75) Bromobenzene	10.92	156	75623	10.33180	ppb	98
76) n-Propylbenzene	11.13	91	386449	11.04190	ppb	99
77) 4-Ethyltoluene	11.30	105	327494	10.62001	ppb	98
78) 2-Chlorotoluene	11.21	91	221276	10.56903	ppb	97
79) 1,3,5-Trimethylbenzene	11.40	105	278056	10.81440	ppb	100
80) 4-Chlorotoluene	11.37	91	250123	10.60068	ppb	98
81) Tert-Butylbenzene	11.84	119	248970	10.81838	ppb	99
82) 1,2,4-Trimethylbenzene	11.91	105	267511	10.66358	ppb	99
83) Sec-Butylbenzene	12.15	105	334662	10.91119	ppb	99
84) p-Isopropyltoluene	12.37	119	291397	10.87704	ppb	98
85) Benzyl Chloride	12.59	91	20067	10.14926	ppb	99
86) 1,3-DCB	12.26	146	153072	10.45785	ppb	95
87) 1,4-DCB	12.38	146	145434	10.13948	ppb	99
88) n-Butylbenzene	12.95	91	231316	10.99716	ppb	96
89) 1,2-DCB	12.90	146	123284	10.29425	ppb	97
90) Hexachloroethane	13.27	117	37289	10.47235	ppb	98
91) 1,2-Dibromo-3-chloropropan	14.01	75	3733	9.06799	ppb	86
92) 1,2,4-Trichlorobenzene	15.22	180	64116	9.46685	ppb	96
93) Hexachlorobutadiene	15.53	225	60233	10.96136	ppb	97
94) Naphthalene	15.56	128	49184	8.47082	ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	42268	9.13095	ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

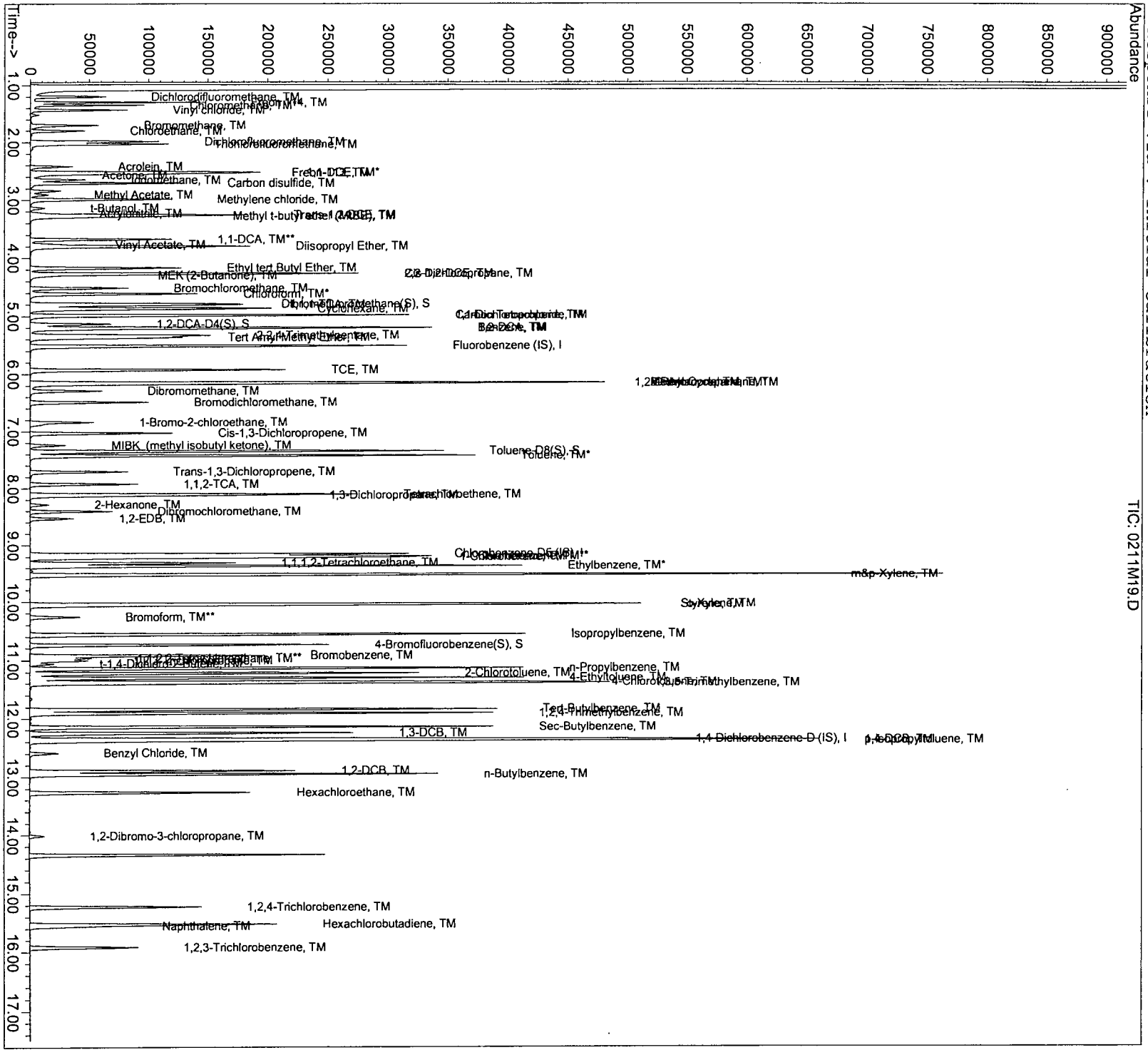
Data File : M:\MAX\DATA\M170127\0211M19.D
Acq On : 11 Feb 17 18:02
Sample : 170211A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:26 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/12/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0211M33.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2565	3.7	TM	
3	TM	Freon 114	0.3854	0.3430	11	TM	
4	TM**	Chloromethane	0.4307	0.4604	6.9	TM**	
5	TM*	Vinyl chloride	0.5975	0.5965	0.16	TM*	
6	TM	Bromomethane	0.3498	0.3065	12	TM	
7	TM	Chloroethane	0.3317	0.3378	1.8	TM	
8	TM	Dichlorofluoromethane	0.9066	0.8927	1.5	TM	
9	TM	Trichlorofluoromethane	0.6306	0.5823	7.7	TM	
10	TM	Acrolein	0.0213	0.0180	15	TM	
11	TML	Acetone	0.0718	0.0627	13	TML	7.6
12	TM	Freon-113	0.4174	0.4110	1.5	TM	
13	TM*	1,1-DCE	0.6844	0.6948	1.5	TM*	
14	TM	t-Butanol	0.0103	0.0097	6.5	TM	
15	TM	Methyl Acetate	0.1654	0.1689	2.1	TM	
16	TML	Iodomethane	0.4508	0.4660	3.4	TML	14
17	TML	Acrylonitrile	0.0675	0.0728	7.9	TML	3.6
18	TML	Methylene chloride	0.5358	0.4517	16	TML	1.7
19	TM	Carbon disulfide	1.362	1.294	5.0	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7135	1.3	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5246	6.9	TM	
22	TM	Diisopropyl Ether	1.383	1.341	3.0	TM	
23	TM**	1,1-DCA	0.8679	0.9084	4.7	TM**	
24	TM	Vinyl Acetate	0.2767	0.1711	38	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.8965	0.94	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0779	17	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5505	2.3	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5308	9.3	TM	
29	TM*	Chloroform	0.8364	0.8692	3.9	TM*	
30	TM	Bromochloromethane	0.2067	0.1995	3.5	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2145	0.05	S	
32	TM	1,1,1-TCA	0.7701	0.7870	2.2	TM	
33	TM	Cyclohexane	0.4409	0.4291	2.7	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7086	2.0	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.153	8.3	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1700	0.04	S	
37	TM	Carbon Tetrachloride	0.6621	0.6609	0.18	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7520	0.34	TM	
39	TM	1,2-DCA	0.4543	0.4720	3.9	TM	
40	TM	Benzene	2.053	2.124	3.4	TM	
		Average			5.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/12/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0211M33.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5706	3.2	TM	
42	TM	2-Pentanone	0.1374	0.1244	9.5	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4727	1.5	TM*	
44	TM	Bromodichloromethane	0.5391	0.5340	0.94	TM	
45	TM	Methyl Cyclohexane	0.7132	0.6912	3.1	TM	
46	TM	Dibromomethane	0.1739	0.1730	0.53	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1924	17	TML	6.6
48	TM	1-Bromo-2-chloroethane	0.4473	0.4268	4.6	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5836	1.6	TM	
50	TM*	Toluene	2.379	2.402	0.97	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.3948	2.2	TM	
52	TM	1,1,2-TCA	0.2165	0.2189	1.1	TM	
53	TM	2-Hexanone	0.1143	0.1045	8.6	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.211	0.11	S	
56	TM	1,2-EDB	0.3267	0.3368	3.1	TM	
57	TM	Tetrachloroethene	0.8031	0.8165	1.7	TM	
58	TM	1-Chlorohexane	0.9327	0.9132	2.1	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6788	0.13	TM	
60	TM	m&p-Xylene	1.470	1.495	1.7	TM	
61	TM	o-Xylene	1.371	1.434	4.6	TM	
62	TM	Styrene	2.110	2.123	0.63	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4377	0.56	S	
64	TM	1,3-Dichloropropane	0.6485	0.6375	1.7	TM	
65	TM	Dibromochloromethane	0.4990	0.4935	1.1	TM	
66	TM**	Chlorobenzene	2.082	2.056	1.2	TM**	
67	TM*	Ethylbenzene	3.752	3.835	2.2	TM*	
68	TM**	Bromoform	0.2963	0.2946	0.57	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	7.121	1.5	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6066	8.5	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2011	8.6	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1119	11	TML	19
74	TM	Bromobenzene	1.620	1.597	1.4	TM	
75	TM	n-Propylbenzene	7.746	7.952	2.7	TM	
76	TM	4-Ethyltoluene	6.825	6.793	0.47	TM	
77	TM	2-Chlorotoluene	4.634	4.628	0.13	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	5.867	3.1	TM	
79	TM	4-Chlorotoluene	5.222	5.177	0.87	TM	
80	TM	Tert-Butylbenzene	5.094	5.079	0.28	TM	
		Average			3.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/12/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0211M33.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.739	3.4	TM	
82	TM	Sec-Butylbenzene	6.789	6.825	0.54	TM	
83	TM	p-Isopropyltoluene	5.929	6.091	2.7	TM	
84	TM	Benzyl Chloride	0.4376	0.3736	15	TM	
85	TM	1,3-DCB	3.240	3.191	1.5	TM	
86	TM	1,4-DCB	3.175	3.030	4.5	TM	
87	TM	n-Butylbenzene	4.656	4.713	1.2	TM	
88	TM	1,2-DCB	2.651	2.600	1.9	TM	
89	TM	Hexachloroethane	0.7881	0.7698	2.3	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0840	7.8	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.321	16	TML	12
92	TM	Hexachlorobutadiene	1.216	1.195	1.7	TM	
93	TML	Naphthalene	0.7727	0.9877	28	TML	22
94	TML	1,2,3-Trichlorobenzene	0.6764	0.8579	27	TML	16
95							
96							
97							
98							
99							
100							
101							
102							
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108							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M33.D Vial: 33
Acq On : 12 Feb 17 00:38 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	307975	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	218741	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	115632	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	66064	25.01192 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.048%	
36) 1,2-DCA-D4(S)	5.14	65	52344	25.00971 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.040%	
56) Toluene-D8(S)	7.35	98	264838	25.02721 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.108%	
64) 4-Bromofluorobenzene(S)	10.74	95	95751	25.14115 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.564%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	31600	10.37100 ppb		98
3) Freon 114	1.30	85	42257	8.89939 ppb		98
4) Chloromethane	1.35	50	56720	10.68987 ppb		99
5) Vinyl chloride	1.44	62	73483	9.98389 ppb		94
6) Bromomethane	1.71	94	37758	8.76203 ppb		97
7) Chloroethane	1.81	64	41617	10.18499 ppb		98
8) Dichlorofluoromethane	2.00	67	109966	9.84653 ppb		98
9) Trichlorofluoromethane	2.04	101	71732	9.23353 ppb		96
10) Acrolein	2.43	56	27788	105.77897 ppb		96
11) Acetone	2.58	43	7727	10.75742 ppb		92
12) Freon-113	2.54	101	50626	9.84602 ppb		94
13) 1,1-DCE	2.52	61	85590	10.15223 ppb		96
14) t-Butanol	3.15	59	14869	116.88724 ppb		96
15) Methyl Acetate	2.91	43	20801	10.20676 ppb		97
16) Iodomethane	2.65	142	57406	8.55873 ppb		100
17) Acrylonitrile	3.23	53	8970	9.63903 ppb	#	85
18) Methylene chloride	2.99	84	55646	10.16744 ppb		94
19) Carbon disulfide	2.71	76	159405	9.50030 ppb		99
20) Methyl t-butyl ether (MtBE	3.29	73	87898	9.87026 ppb		96
21) Trans-1,2-DCE	3.27	96	64628	10.69073 ppb		94
22) Diisopropyl Ether	3.80	45	165256	9.70052 ppb		100
23) 1,1-DCA	3.68	63	111901	10.46572 ppb		97
24) Vinyl Acetate	3.77	43	21073	6.18248 ppb		99
25) Ethyl tert Butyl Ether	4.18	59	110439	9.90597 ppb		96
26) MEK (2-Butanone)	4.32	43	9602	8.27891 ppb	#	85
27) Cis-1,2-DCE	4.28	96	67818	10.22593 ppb		96
28) 2,2-Dichloropropane	4.28	77	65388	9.06720 ppb		100
29) Chloroform	4.62	83	107071	10.39220 ppb		96
30) Bromochloromethane	4.52	128	24572	9.65172 ppb		92
32) 1,1,1-TCA	4.81	97	96945	10.21949 ppb		98
33) Cyclohexane	4.88	41	52857	9.73158 ppb		96
34) 1,1-Dichloropropene	4.99	75	87287	10.19982 ppb		99
35) 2,2,4-Trimethylpentane	5.34	57	141993	9.17030 ppb		99
37) Carbon Tetrachloride	4.99	117	81416	9.98207 ppb		100
38) Tert Amyl Methyl Ether	5.38	73	92633	9.96618 ppb		98
39) 1,2-DCA	5.22	62	58141	10.38977 ppb		96
40) Benzene	5.21	78	261643	10.34476 ppb		100
41) TCE	5.93	95	70292	10.31586 ppb		95
42) 2-Pentanone	6.15	43	191498	113.17726 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M33.D Vial: 33
Acq On : 12 Feb 17 00:38 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	58230	10.15291	ppb	98
44) Bromodichloromethane	6.49	83	65784	9.90551	ppb	91
45) Methyl Cyclohexane	6.15	83	85143	9.69059	ppb	98
46) Dibromomethane	6.29	93	21311	9.94712	ppb	95
47) MIBK (methyl isobutyl ket	7.24	43	23700	9.34332	ppb	97
48) 1-Bromo-2-chloroethane	6.84	63	52573	9.54096	ppb	96
50) Cis-1,3-Dichloropropene	7.03	75	71898	9.83733	ppb	99
51) Toluene	7.43	91	295893	10.09712	ppb	98
52) Trans-1,3-Dichloropropene	7.71	75	48631	9.78075	ppb	99
53) 1,1,2-TCA	7.93	83	26969	10.11269	ppb	92
54) 2-Hexanone	8.28	43	12875	9.14436	ppb	95
57) 1,2-EDB	8.53	107	29466	10.30685	ppb	96
58) Tetrachloroethene	8.11	164	71445	10.16760	ppb	98
59) 1-Chlorohexane	9.21	91	79903	9.79093	ppb	95
60) 1,1,1,2-Tetrachloroethane	9.31	131	59396	9.98673	ppb	99
61) m&p-Xylene	9.52	106	261579	20.33779	ppb	99
62) o-Xylene	10.04	106	125484	10.45849	ppb	96
63) Styrene	10.06	104	185748	10.06254	ppb	98
65) 1,3-Dichloropropane	8.13	76	55783	9.83064	ppb	98
66) Dibromochloromethane	8.40	129	43182	9.89082	ppb	99
67) Chlorobenzene	9.19	112	179908	9.87620	ppb	100
68) Ethylbenzene	9.36	91	335533	10.22116	ppb	98
69) Bromoform	10.27	173	25775	9.94256	ppb	100
71) Isopropylbenzene	10.56	105	329356	10.15041	ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	28057	9.15324	ppb	97
73) 1,2,3-Trichloropropane	11.00	110	9302	9.14252	ppb	93
74) t-1,4-Dichloro-2-Butene	11.05	53	5175	8.08672	ppb	89
75) Bromobenzene	10.92	156	73882	9.86008	ppb	100
76) n-Propylbenzene	11.13	91	367811	10.26588	ppb	98
77) 4-Ethyltoluene	11.30	105	314197	9.95276	ppb	100
78) 2-Chlorotoluene	11.22	91	214054	9.98721	ppb	97
79) 1,3,5-Trimethylbenzene	11.39	105	271380	10.31022	ppb	98
80) 4-Chlorotoluene	11.37	91	239450	9.91322	ppb	95
81) Tert-Butylbenzene	11.84	119	234933	9.97192	ppb	97
82) 1,2,4-Trimethylbenzene	11.91	105	265445	10.33608	ppb	96
83) Sec-Butylbenzene	12.15	105	315681	10.05389	ppb	98
84) p-Isopropyltoluene	12.37	119	281720	10.27219	ppb	98
85) Benzyl Chloride	12.59	91	17279	8.53670	ppb	95
86) 1,3-DCB	12.25	146	147593	9.84991	ppb	99
87) 1,4-DCB	12.39	146	140155	9.54504	ppb	98
88) n-Butylbenzene	12.95	91	217971	10.12263	ppb	99
89) 1,2-DCB	12.90	146	120247	9.80804	ppb	98
90) Hexachloroethane	13.27	117	35604	9.76746	ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	3884	9.21621	ppb	85
92) 1,2,4-Trichlorobenzene	15.23	180	61105	8.84596	ppb	96
93) Hexachlorobutadiene	15.53	225	55282	9.82728	ppb	99
94) Naphthalene	15.56	128	45683	7.78958	ppb	97
95) 1,2,3-Trichlorobenzene	15.92	180	39681	8.44223	ppb	98

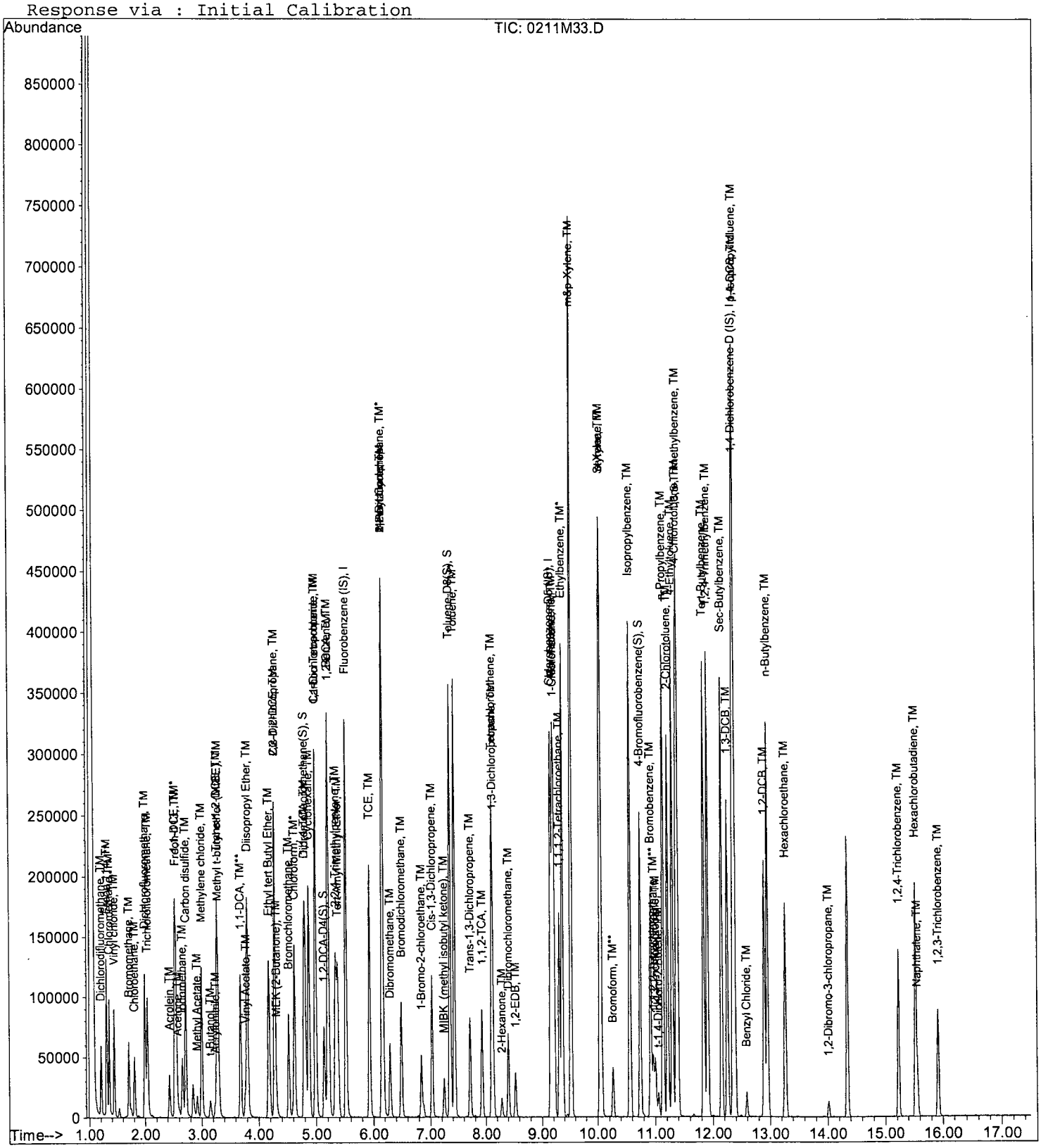
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M33.D Vial: 33
Acq On : 12 Feb 17 00:38 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



605

ORGANICS
Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49684 - 216078**
Batch ID: #86BTO-170209AM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/9/17	2/9/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/9/17	2/9/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/9/17	2/9/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/9/17	2/9/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/9/17	2/9/17
BLANK	SURROGATE: 1,2-DICHLOROET	106	81-118			%	2/9/17	2/9/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.7	85-114			%	2/9/17	2/9/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	2/9/17	2/9/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	2/9/17	2/9/17

Quant Method: MALLW.M
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:33:07 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 14:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305671	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221943	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112083	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67658	25.81 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
36) 1,2-DCA-D4(S)	5.13	65	54917	26.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
56) Toluene-D8(S)	7.35	98	261668	24.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.484%	
64) 4-Bromofluorobenzene(S)	10.74	95	95330	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.676%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

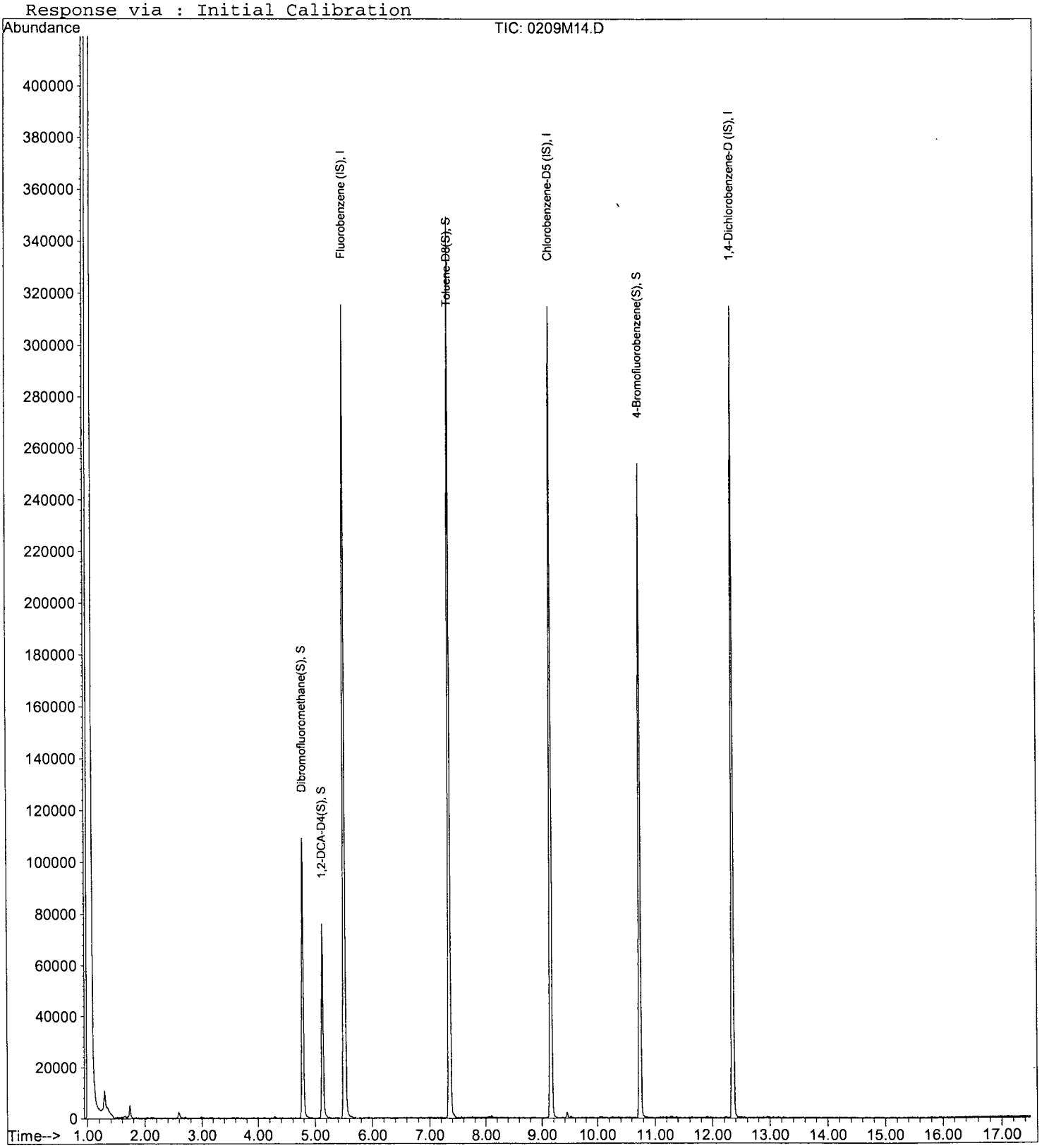
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 14:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170211W-49674 - 216099**
Batch ID: #86BTO-170211AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/11/17	2/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/11/17	2/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/11/17	2/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/11/17	2/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.8	81-118			%	2/11/17	2/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.5	85-114			%	2/11/17	2/11/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	2/11/17	2/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	2/11/17	2/11/17

Quant Method: MALLW.M
Run #: 0211M26
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:33:07 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M26.D
Acq On : 11 Feb 17 21:20
Sample : 170211A BLK-1WM
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:32 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	293250	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	206958	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	98535	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	62889	25.00543 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.020%	
36) 1,2-DCA-D4(S)	5.14	65	49249	24.71250 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.848%	
56) Toluene-D8(S)	7.36	98	253935	25.36312 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.452%	
64) 4-Bromofluorobenzene(S)	10.74	95	88716	24.62021 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

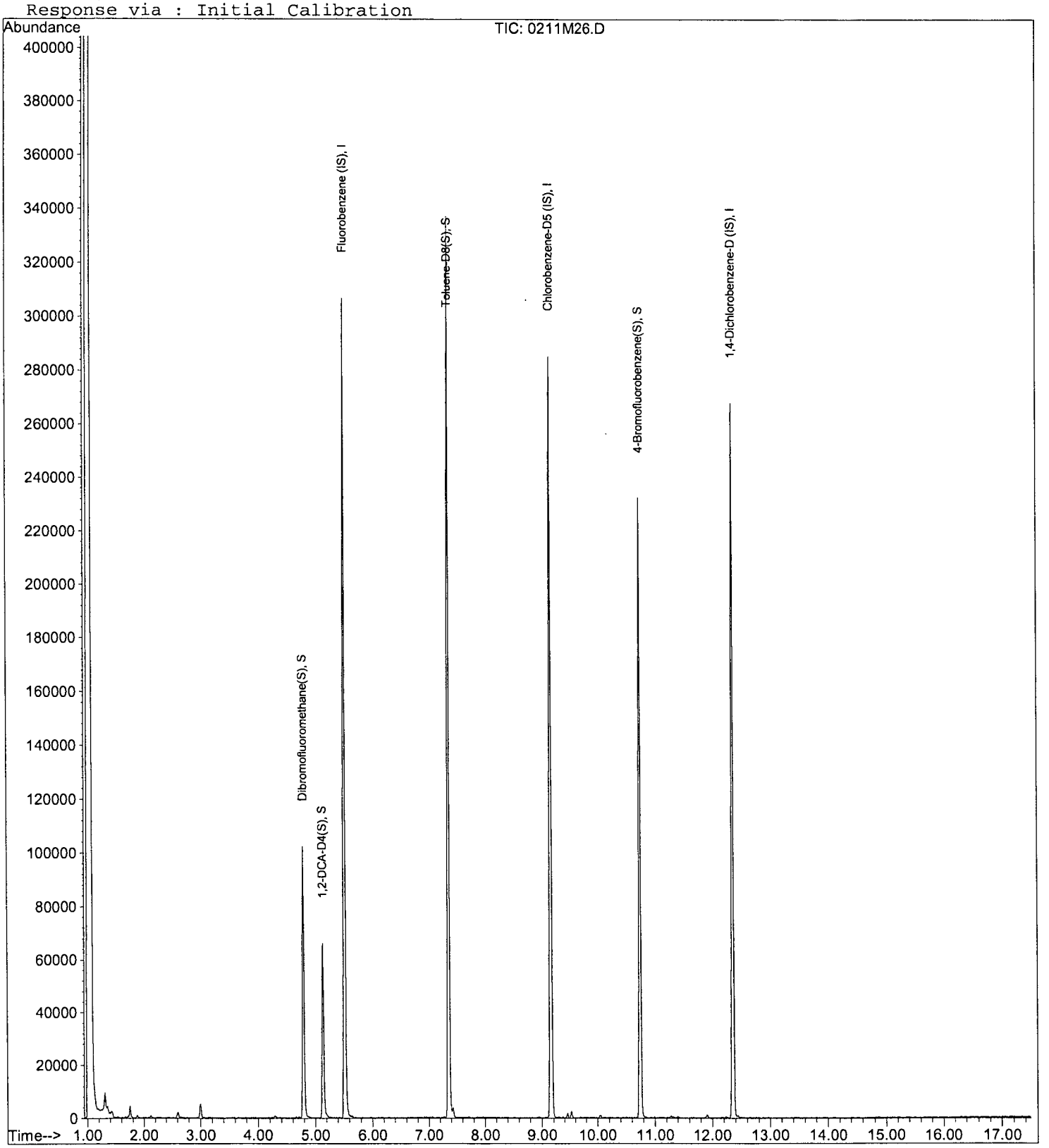
Data File : M:\MAX\DATA\M170127\0211M26.D
Acq On : 11 Feb 17 21:20
Sample : 170211A BLK-1WM
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:32 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170209W-49684 LCS - 216078**
Batch ID: #86BTO-170209AM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	10.7	107	73-128
BENZENE	10.00	10.4	104	79-120
ETHYLBENZENE	10.00	10.4	104	79-121
TOLUENE	10.00	10.4	104	80-121
XYLENES (TOTAL)	30.0	31.6	105	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.9	108	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.8	103	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.5	98.0	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/9/17
Analysis Date :	2/9/17
Instrument :	Max
Run :	0209M06
Initials :	ARO

Printed: 2/13/17 1:33:11 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D Vial: 2
Acq On : 9 Feb 17 8:31 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	292687	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215613	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116060	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63205	25.18 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.716%	
36) 1,2-DCA-D4(S)	5.13	65	53531	26.91 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.652%	
56) Toluene-D8(S)	7.35	98	255311	24.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.908%	
64) 4-Bromofluorobenzene(S)	10.74	95	97031	25.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.388%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.23 ppb		99
3) Freon 114	1.29	85	45744	10.14 ppb		99
4) Chloromethane	1.34	50	45416	9.01 ppb		100
5) Vinyl chloride	1.43	62	70143	10.03 ppb		94
6) Bromomethane	1.70	94	34781	8.49 ppb		99
7) Chloroethane	1.80	64	39681	10.22 ppb		99
8) Dichlorofluoromethane	1.98	67	110715	10.43 ppb		100
9) Trichlorofluoromethane	2.03	101	79122	10.72 ppb		98
10) Acrolein	2.41	56	33779	135.30 ppb		98
11) Acetone	2.57	43	1053	0.18 ppb		96
12) Freon-113	2.53	101	54698	11.19 ppb		97
13) 1,1-DCE	2.51	61	81634	10.19 ppb		99
14) t-Butanol	3.14	59	17088	141.35 ppb		96
15) Methyl Acetate	2.90	43	20820	10.75 ppb		98
16) Iodomethane	2.64	142	53110	8.35 ppb		97
17) Acrylonitrile	3.23	53	10364	11.78 ppb	#	95
18) Methylene chloride	2.98	84	52711	10.13 ppb		96
19) Carbon disulfide	2.70	76	149224	9.36 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	93653	11.07 ppb		97
21) Trans-1,2-DCE	3.26	96	59583	10.37 ppb		98
22) Diisopropyl Ether	3.80	45	173205	10.70 ppb		99
23) 1,1-DCA	3.67	63	107104	10.54 ppb		97
24) Vinyl Acetate	3.76	43	33167	10.24 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	116967	11.04 ppb		98
26) MEK (2-Butanone)	4.27	43	2703	2.45 ppb	#	83
27) Cis-1,2-DCE	4.27	96	66767	10.59 ppb		99
28) 2,2-Dichloropropane	4.27	77	76871	11.22 ppb		100
29) Chloroform	4.61	83	104830	10.71 ppb		93
30) Bromochloromethane	4.52	128	25566	10.57 ppb		98
32) 1,1,1-TCA	4.80	97	97776	10.85 ppb		96
33) Cyclohexane	4.87	41	53408	10.35 ppb		95
34) 1,1-Dichloropropene	4.99	75	84452	10.38 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	160221	10.89 ppb		99
37) Carbon Tetrachloride	4.98	117	81698	10.54 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	97318	11.02 ppb		96
39) 1,2-DCA	5.21	62	56758	10.67 ppb		96
40) Benzene	5.20	78	248938	10.36 ppb		98
41) TCE	5.92	95	67835	10.48 ppb		96
42) 2-Pentanone	6.15	43	246075	153.03 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	58001	10.64	ppb		99
44)	Bromodichloromethane	6.49	83	68015	10.78	ppb		95
45)	Methyl Cyclohexane	6.15	83	90875	10.88	ppb		100
46)	Dibromomethane	6.29	93	21679	10.65	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	3556	0.41	ppb	#	83
48)	1-Bromo-2-chloroethane	6.84	63	50287	9.60	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	74269	10.69	ppb		98
51)	Toluene	7.43	91	290614	10.43	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	51485	10.90	ppb		97
53)	1,1,2-TCA	7.92	83	28142	11.10	ppb		98
57)	1,2-EDB	8.53	107	30510	10.83	ppb		97
58)	Tetrachloroethene	8.10	164	72148	10.42	ppb		93
59)	1-Chlorohexane	9.21	91	86415	10.74	ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	59314	10.12	ppb		98
61)	m&p-Xylene	9.52	106	268928	21.21	ppb		98
62)	o-Xylene	10.04	106	123525	10.44	ppb		97
63)	Styrene	10.06	104	193369	10.63	ppb		98
65)	1,3-Dichloropropane	8.13	76	58651	10.49	ppb		100
66)	Dibromochloromethane	8.40	129	46024	10.69	ppb		99
67)	Chlorobenzene	9.19	112	181884	10.13	ppb		99
68)	Ethylbenzene	9.36	91	335431	10.37	ppb		99
69)	Bromoform	10.27	173	28345	11.09	ppb		98
71)	Isopropylbenzene	10.56	105	337799	10.37	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	32488	10.56	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	11175	10.94	ppb		100
74)	t-1,4-Dichloro-2-Butene	11.05	53	6490	10.05	ppb		93
75)	Bromobenzene	10.92	156	77153	10.26	ppb		98
76)	n-Propylbenzene	11.13	91	375802	10.45	ppb		99
77)	4-Ethyltoluene	11.30	105	332415	10.49	ppb		98
78)	2-Chlorotoluene	11.21	91	218018	10.13	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	278145	10.53	ppb		96
80)	4-Chlorotoluene	11.37	91	249347	10.28	ppb		96
81)	Tert-Butylbenzene	11.84	119	241870	10.23	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	267579	10.38	ppb		98
83)	Sec-Butylbenzene	12.15	105	329023	10.44	ppb		98
84)	p-Isopropyltoluene	12.37	119	293096	10.65	ppb		98
85)	Benzyl Chloride	12.59	91	27684	13.63	ppb		90
86)	1,3-DCB	12.26	146	154663	10.28	ppb		98
87)	1,4-DCB	12.38	146	148187	10.05	ppb		99
88)	n-Butylbenzene	12.95	91	236180	10.93	ppb		98
89)	1,2-DCB	12.90	146	126112	10.25	ppb		97
90)	Hexachloroethane	13.27	117	38785	10.60	ppb		100
91)	1,2-Dibromo-3-chloropropan	14.01	75	4638	10.96	ppb	#	83
92)	1,2,4-Trichlorobenzene	15.23	180	69103	9.91	ppb		97
93)	Hexachlorobutadiene	15.52	225	58452	10.35	ppb		96
94)	Naphthalene	15.56	128	53930	8.96	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	45769	9.58	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

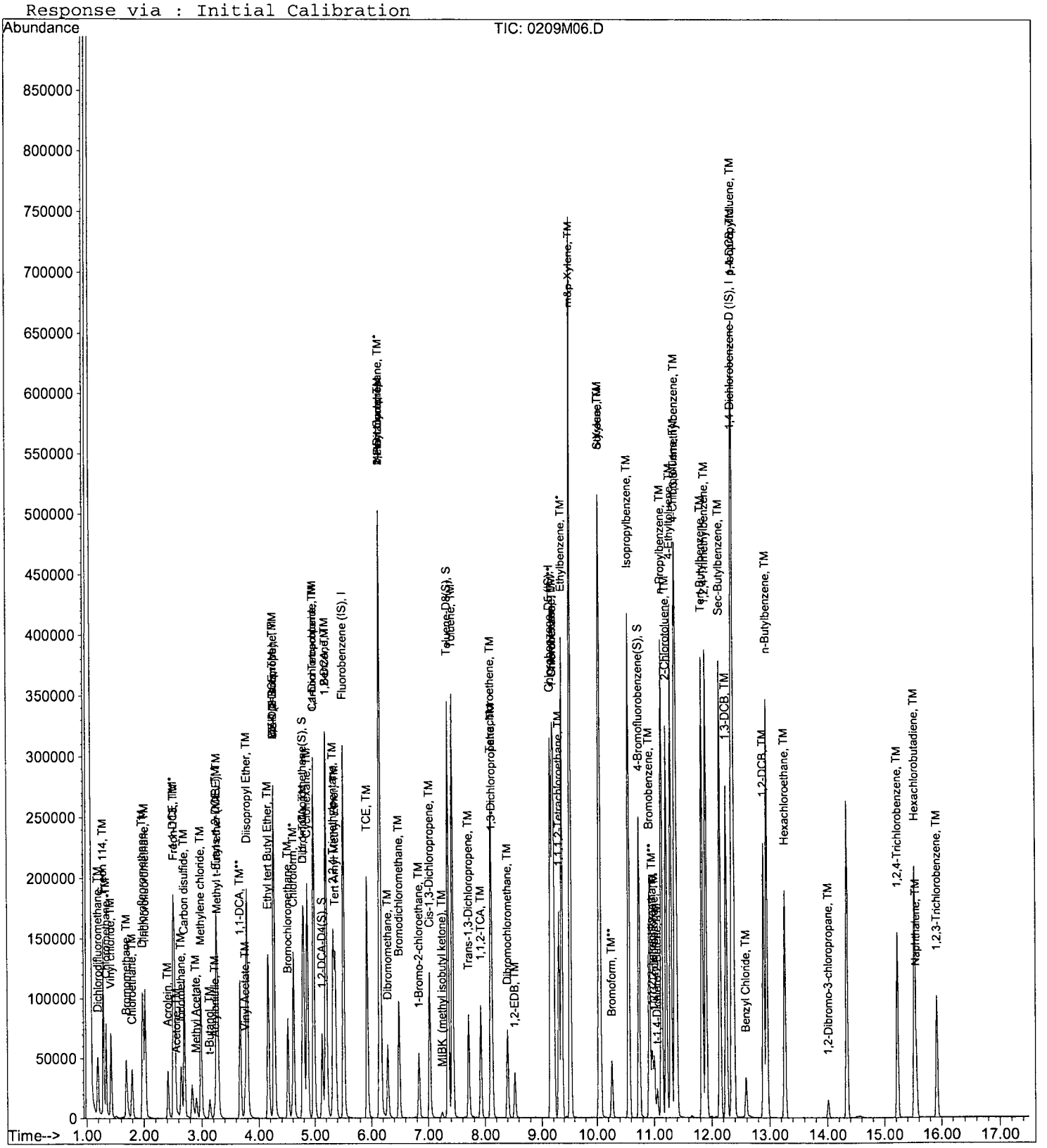
Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



616

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170211W-49674 LCS - 216099**
Batch ID: #86BTO-170211AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.7	107	79-120
ETHYLBENZENE	10.00	10.9	109	79-121
TOLUENE	10.00	10.5	105	80-121
XYLENES (TOTAL)	30.0	32.8	109	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.2	101	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/11/17
Analysis Date :	2/11/17
Instrument :	Max
Run :	0211M19
Initials :	SV

Printed: 2/13/17 1:33:11 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M19.D Vial: 19
Acq On : 11 Feb 17 18:02 Operator: PM,DG,SV,CMM
Sample : 170211A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	302885	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	212295	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112953	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64315	24.75895 ppb	0.00
Spiked Amount 25.000			Recovery = 99.036%		
36) 1,2-DCA-D4(S)	5.13	65	52037	25.28085 ppb	0.00
Spiked Amount 25.000			Recovery = 101.124%		
56) Toluene-D8(S)	7.35	98	258777	25.19697 ppb	0.00
Spiked Amount 25.000			Recovery = 100.788%		
64) 4-Bromofluorobenzene(S)	10.74	95	92539	25.03554 ppb	0.00
Spiked Amount 25.000			Recovery = 100.144%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	33568	11.20203 ppb		99
3) Freon 114	1.29	85	46936	10.05091 ppb		98
4) Chloromethane	1.34	50	55424	10.62115 ppb		98
5) Vinyl chloride	1.43	62	78989	10.91233 ppb		98
6) Bromomethane	1.70	94	40393	9.53102 ppb		99
7) Chloroethane	1.80	64	43395	10.79859 ppb		100
8) Dichlorofluoromethane	1.99	67	114906	10.46177 ppb		99
9) Trichlorofluoromethane	2.03	101	86507	11.32254 ppb		96
10) Acrolein	2.42	56	29662	114.81012 ppb		90
11) Acetone	2.57	43	7084	9.92043 ppb		95
12) Freon-113	2.54	101	54096	10.69768 ppb		99
13) 1,1-DCE	2.51	61	89647	10.81214 ppb		96
14) t-Butanol	3.14	59	13819	110.45863 ppb		98
15) Methyl Acetate	2.90	43	20296	10.12632 ppb		93
16) Iodomethane	2.65	142	56158	8.51633 ppb		98
17) Acrylonitrile	3.23	53	8824	9.64156 ppb	#	78
18) Methylene chloride	2.99	84	57436	10.72200 ppb		96
19) Carbon disulfide	2.70	76	166691	10.10149 ppb		100
20) Methyl t-butyl ether (MtBE	3.29	73	84730	9.67441 ppb		97
21) Trans-1,2-DCE	3.26	96	63557	10.69025 ppb		97
22) Diisopropyl Ether	3.80	45	165781	9.89487 ppb		98
23) 1,1-DCA	3.68	63	111490	10.60252 ppb		99
24) Vinyl Acetate	3.76	43	26585	7.93069 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	106851	9.74520 ppb		98
26) MEK (2-Butanone)	4.31	43	9200	8.06560 ppb		91
27) Cis-1,2-DCE	4.27	96	68699	10.53285 ppb		98
28) 2,2-Dichloropropane	4.27	77	70105	9.88467 ppb		99
29) Chloroform	4.62	83	105795	10.44092 ppb		97
30) Bromochloromethane	4.52	128	24759	9.88860 ppb		94
32) 1,1,1-TCA	4.80	97	99926	10.71075 ppb		99
33) Cyclohexane	4.87	41	56501	10.57730 ppb		94
34) 1,1-Dichloropropene	4.99	75	90331	10.73291 ppb		97
35) 2,2,4-Trimethylpentane	5.33	57	155577	10.21645 ppb		99
37) Carbon Tetrachloride	4.99	117	83742	10.43979 ppb		96
38) Tert Amyl Methyl Ether	5.37	73	90590	9.91017 ppb		98
39) 1,2-DCA	5.21	62	56767	10.31471 ppb		94
40) Benzene	5.20	78	266669	10.72066 ppb		100
41) TCE	5.93	95	71028	10.59904 ppb		94
42) 2-Pentanone	6.16	43	217675	130.81007 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M19.D
Acq On : 11 Feb 17 18:02
Sample : 170211A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	57734	10.23559	ppb	100
44) Bromodichloromethane	6.49	83	67288	10.30225	ppb	93
45) Methyl Cyclohexane	6.15	83	93514	10.82220	ppb	96
46) Dibromomethane	6.29	93	21478	10.19354	ppb	90
47) MIBK (methyl isobutyl ket	7.24	43	23842	9.58620	ppb	98
48) 1-Bromo-2-chloroethane	6.84	63	53438	9.86092	ppb	98
50) Cis-1,3-Dichloropropene	7.03	75	71673	9.97134	ppb	99
51) Toluene	7.43	91	303761	10.53981	ppb	96
52) Trans-1,3-Dichloropropene	7.71	75	48735	9.96639	ppb	96
53) 1,1,2-TCA	7.92	83	26824	10.22735	ppb	99
54) 2-Hexanone	8.28	43	13238	9.56018	ppb	94
57) 1,2-EDB	8.53	107	30409	10.95966	ppb	95
58) Tetrachloroethene	8.11	164	75579	11.08252	ppb	98
59) 1-Chlorohexane	9.21	91	85294	10.76886	ppb	99
60) 1,1,1,2-Tetrachloroethane	9.31	131	59198	10.25566	ppb	99
61) m&p-Xylene	9.52	106	272355	21.81859	ppb	100
62) o-Xylene	10.04	106	128029	10.99460	ppb	96
63) Styrene	10.06	104	194489	10.85597	ppb	99
65) 1,3-Dichloropropane	8.13	76	56562	10.27059	ppb	100
66) Dibromochloromethane	8.40	129	43490	10.26383	ppb	100
67) Chlorobenzene	9.19	112	181276	10.25346	ppb	99
68) Ethylbenzene	9.36	91	346882	10.88773	ppb	99
69) Bromoform	10.27	173	25330	10.06758	ppb	91
71) Isopropylbenzene	10.56	105	347017	10.94836	ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	29129	9.72836	ppb	99
73) 1,2,3-Trichloropropane	11.00	110	9636	9.69542	ppb	87
74) t-1,4-Dichloro-2-Butene	11.05	53	5616	8.96121	ppb	99
75) Bromobenzene	10.92	156	75623	10.33180	ppb	98
76) n-Propylbenzene	11.13	91	386449	11.04190	ppb	99
77) 4-Ethyltoluene	11.30	105	327494	10.62001	ppb	98
78) 2-Chlorotoluene	11.21	91	221276	10.56903	ppb	97
79) 1,3,5-Trimethylbenzene	11.40	105	278056	10.81440	ppb	100
80) 4-Chlorotoluene	11.37	91	250123	10.60068	ppb	98
81) Tert-Butylbenzene	11.84	119	248970	10.81838	ppb	99
82) 1,2,4-Trimethylbenzene	11.91	105	267511	10.66358	ppb	99
83) Sec-Butylbenzene	12.15	105	334662	10.91119	ppb	99
84) p-Isopropyltoluene	12.37	119	291397	10.87704	ppb	98
85) Benzyl Chloride	12.59	91	20067	10.14926	ppb	99
86) 1,3-DCB	12.26	146	153072	10.45785	ppb	95
87) 1,4-DCB	12.38	146	145434	10.13948	ppb	99
88) n-Butylbenzene	12.95	91	231316	10.99716	ppb	96
89) 1,2-DCB	12.90	146	123284	10.29425	ppb	97
90) Hexachloroethane	13.27	117	37289	10.47235	ppb	98
91) 1,2-Dibromo-3-chloropropan	14.01	75	3733	9.06799	ppb	86
92) 1,2,4-Trichlorobenzene	15.22	180	64116	9.46685	ppb	96
93) Hexachlorobutadiene	15.53	225	60233	10.96136	ppb	97
94) Naphthalene	15.56	128	49184	8.47082	ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	42268	9.13095	ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

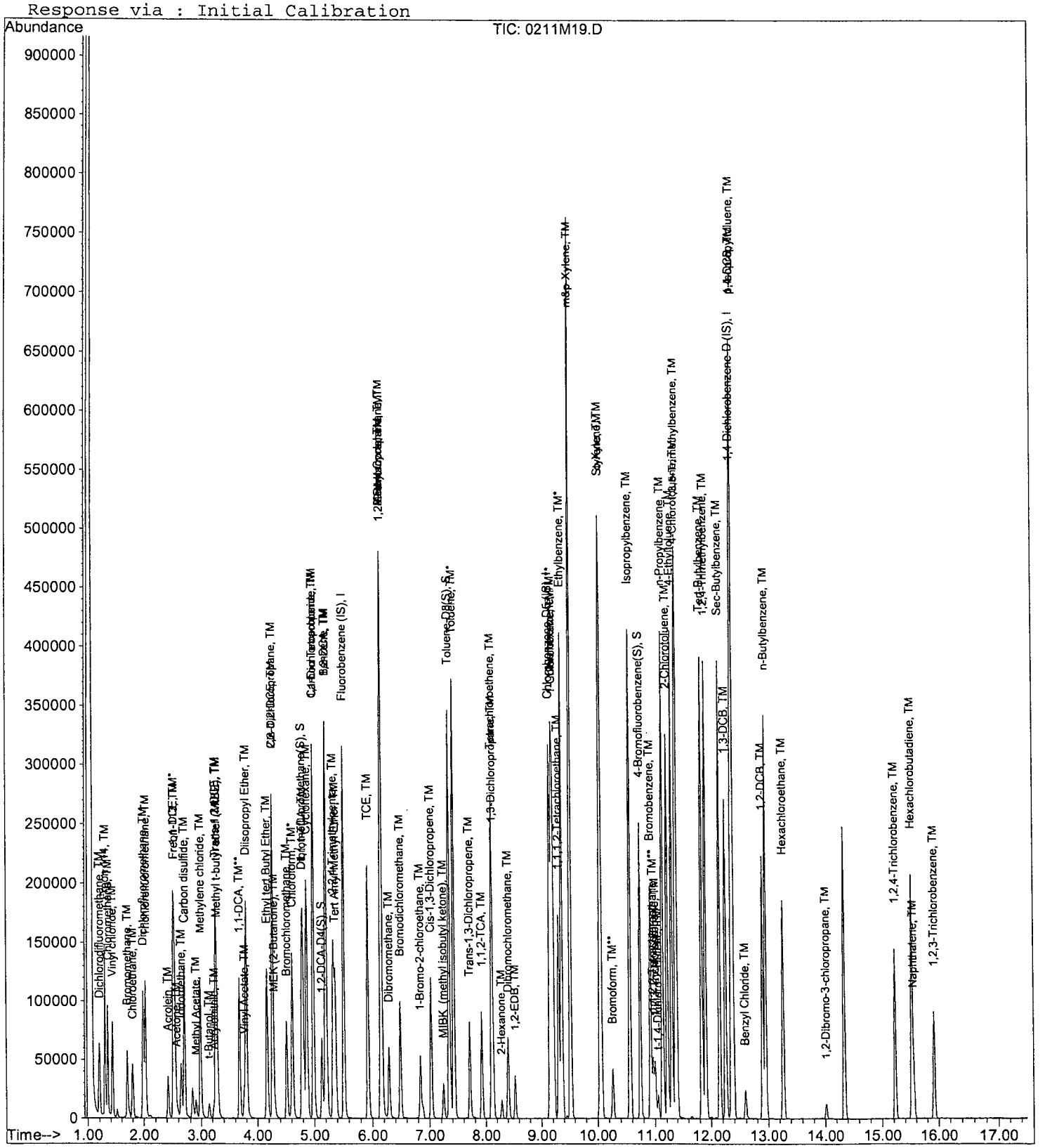
Data File : M:\MAX\DATA\M170127\0211M19.D
Acq On : 11 Feb 17 18:02
Sample : 170211A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:26 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



620

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170211W-49674 MS - 216099**
Batch ID: #86BTO-170211AM
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	9.42	9.17	94.2	91.7	79-120	2.7	20
ETHYLBENZENE	10.00	ND	9.26	9.08	92.6	90.8	79-121	2.0	20
TOLUENE	10.00	ND	9.21	9.02	92.1	90.2	80-121	2.1	20
XYLENES (TOTAL)	30.0	ND	27.8	27.6	92.7	92.0	79-121	0.72	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	26.3	23.9	105	95.6	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.2	25.5	101	102	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.5	25.1	102	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.0	25.0	100	100	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/11/17	2/11/17
Analysis Date :	2/11/17	2/11/17
Instrument :	Max	Max
Run :	0211M29	0211M30
Initials :	SV	

Printed: 2/13/17 1:33:15 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M29.D
Acq On : 11 Feb 17 22:45
Sample : AZ49674W02,3,6 MS 10ug/L
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:27 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	303773	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	216182	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	115469	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	66408	25.48995 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.960%	
36) 1,2-DCA-D4(S)	5.13	65	54300	26.30316 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.212%	
56) Toluene-D8(S)	7.35	98	261471	25.00152 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.008%	
64) 4-Bromofluorobenzene(S)	10.74	95	94959	25.22834 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.912%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	39840	13.25620 ppb		99
3) Freon 114	1.30	85	42340	9.04021 ppb		91
4) Chloromethane	1.35	50	56216	10.74144 ppb		98
5) Vinyl chloride	1.44	62	77411	10.66307 ppb		98
6) Bromomethane	1.71	94	37926	8.92275 ppb		99
7) Chloroethane	1.80	64	42791	10.61716 ppb		94
8) Dichlorofluoromethane	1.99	67	101088	9.17679 ppb		100
9) Trichlorofluoromethane	2.04	101	82414	10.75529 ppb		97
10) Acrolein	2.42	56	28069	108.32665 ppb		97
11) Acetone	2.58	43	6102	8.29640 ppb		99
12) Freon-113	2.54	101	49195	9.70006 ppb		97
13) 1,1-DCE	2.52	61	79773	9.59313 ppb		99
14) t-Butanol	3.15	59	15056	119.99447 ppb		92
15) Methyl Acetate	2.91	43	15962	7.94067 ppb		95
16) Iodomethane	2.65	142	52415	7.96424 ppb		98
17) Acrylonitrile	3.23	53	7609	8.25051 ppb	#	90
18) Methylene chloride	2.99	84	48770	8.91926 ppb		94
19) Carbon disulfide	2.71	76	146222	8.83516 ppb		100
20) Methyl t-butyl ether (MtBE	3.29	73	76328	8.68960 ppb		98
21) Trans-1,2-DCE	3.27	96	57589	9.65812 ppb		95
22) Diisopropyl Ether	3.80	45	147501	8.77807 ppb		99
23) 1,1-DCA	3.68	63	99900	9.47255 ppb		98
24) Vinyl Acetate	3.76	43	25862	7.69245 ppb		97
25) Ethyl tert Butyl Ether	4.18	59	96330	8.75996 ppb		100
26) MEK (2-Butanone)	4.31	43	10855	9.48872 ppb		100
27) Cis-1,2-DCE	4.28	96	60140	9.19364 ppb		95
28) 2,2-Dichloropropane	4.28	77	61172	8.59992 ppb		100
29) Chloroform	4.62	83	96289	9.47499 ppb		95
30) Bromochloromethane	4.52	128	22180	8.83267 ppb		95
32) 1,1,1-TCA	4.81	97	88726	9.48246 ppb		98
33) Cyclohexane	4.87	41	50353	9.39880 ppb		94
34) 1,1-Dichloropropene	4.99	75	82074	9.72333 ppb		99
35) 2,2,4-Trimethylpentane	5.34	57	134453	8.80346 ppb		99
37) Carbon Tetrachloride	4.99	117	74449	9.25414 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	79507	8.67231 ppb		97
39) 1,2-DCA	5.22	62	50922	9.22561 ppb		96
40) Benzene	5.21	78	235005	9.42008 ppb		99
41) TCE	5.93	95	61469	9.14580 ppb		93
42) 2-Pentanone	6.15	43	184792	110.72467 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M29.D
Acq On : 11 Feb 17 22:45
Sample : AZ49674W02,3,6 MS 10ug/L
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	52295	9.24421	ppb		98
44)	Bromodichloromethane	6.49	83	59103	9.02262	ppb		93
45)	Methyl Cyclohexane	6.15	83	83972	9.68952	ppb		98
46)	Dibromomethane	6.29	93	19012	8.99679	ppb		93
47)	MIBK (methyl isobutyl ket	7.25	43	22310	8.85932	ppb		96
48)	1-Bromo-2-chloroethane	6.84	63	42188	7.76220	ppb		99
50)	Cis-1,3-Dichloropropene	7.03	75	63133	8.75756	ppb		96
51)	Toluene	7.43	91	266263	9.21170	ppb		100
52)	Trans-1,3-Dichloropropene	7.71	75	41030	8.36617	ppb		96
53)	1,1,2-TCA	7.92	83	23198	8.81899	ppb		99
54)	2-Hexanone	8.29	43	11605	8.35637	ppb	#	93
57)	1,2-EDB	8.53	107	25402	8.99049	ppb		100
58)	Tetrachloroethene	8.11	164	66873	9.62960	ppb		98
59)	1-Chlorohexane	9.21	91	74199	9.19961	ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	50939	8.66617	ppb		95
61)	m&p-Xylene	9.52	106	237857	18.71231	ppb		96
62)	o-Xylene	10.04	106	108067	9.11349	ppb		99
63)	Styrene	10.06	104	165278	9.05960	ppb		98
65)	1,3-Dichloropropane	8.13	76	50671	9.03546	ppb		96
66)	Dibromochloromethane	8.40	129	37370	8.66090	ppb		97
67)	Chlorobenzene	9.19	112	160677	8.92491	ppb		96
68)	Ethylbenzene	9.36	91	300533	9.26335	ppb		99
69)	Bromoform	10.27	173	21925	8.55756	ppb		97
71)	Isopropylbenzene	10.56	105	297412	9.17887	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	27131	8.86364	ppb		97
73)	1,2,3-Trichloropropane	11.00	110	8913	8.77255	ppb		94
74)	t-1,4-Dichloro-2-Butene	11.05	53	4772	7.48323	ppb		96
75)	Bromobenzene	10.92	156	65895	8.80657	ppb		99
76)	n-Propylbenzene	11.13	91	327581	9.15594	ppb		100
77)	4-Ethyltoluene	11.30	105	284473	9.02392	ppb		99
78)	2-Chlorotoluene	11.21	91	191470	8.94611	ppb		97
79)	1,3,5-Trimethylbenzene	11.40	105	242326	9.21940	ppb		99
80)	4-Chlorotoluene	11.37	91	216599	8.97985	ppb		95
81)	Tert-Butylbenzene	11.84	119	215625	9.16530	ppb		97
82)	1,2,4-Trimethylbenzene	11.91	105	233623	9.10981	ppb		97
83)	Sec-Butylbenzene	12.15	105	289137	9.22151	ppb		98
84)	p-Isopropyltoluene	12.37	119	255149	9.31648	ppb		98
85)	Benzyl Chloride	12.59	91	16050	7.94071	ppb		94
86)	1,3-DCB	12.26	146	131303	8.77513	ppb		96
87)	1,4-DCB	12.38	146	121405	8.27977	ppb		97
88)	n-Butylbenzene	12.95	91	195993	9.11482	ppb		98
89)	1,2-DCB	12.90	146	106946	8.73545	ppb		99
90)	Hexachloroethane	13.27	117	33838	9.29609	ppb		95
91)	1,2-Dibromo-3-chloropropan	14.01	75	3257	7.73933	ppb		91
92)	1,2,4-Trichlorobenzene	15.23	180	52527	7.68085	ppb		95
93)	Hexachlorobutadiene	15.53	225	50643	9.01533	ppb		96
94)	Naphthalene	15.56	128	37721	6.63527	ppb		94
95)	1,2,3-Trichlorobenzene	15.92	180	32813	7.13336	ppb		98

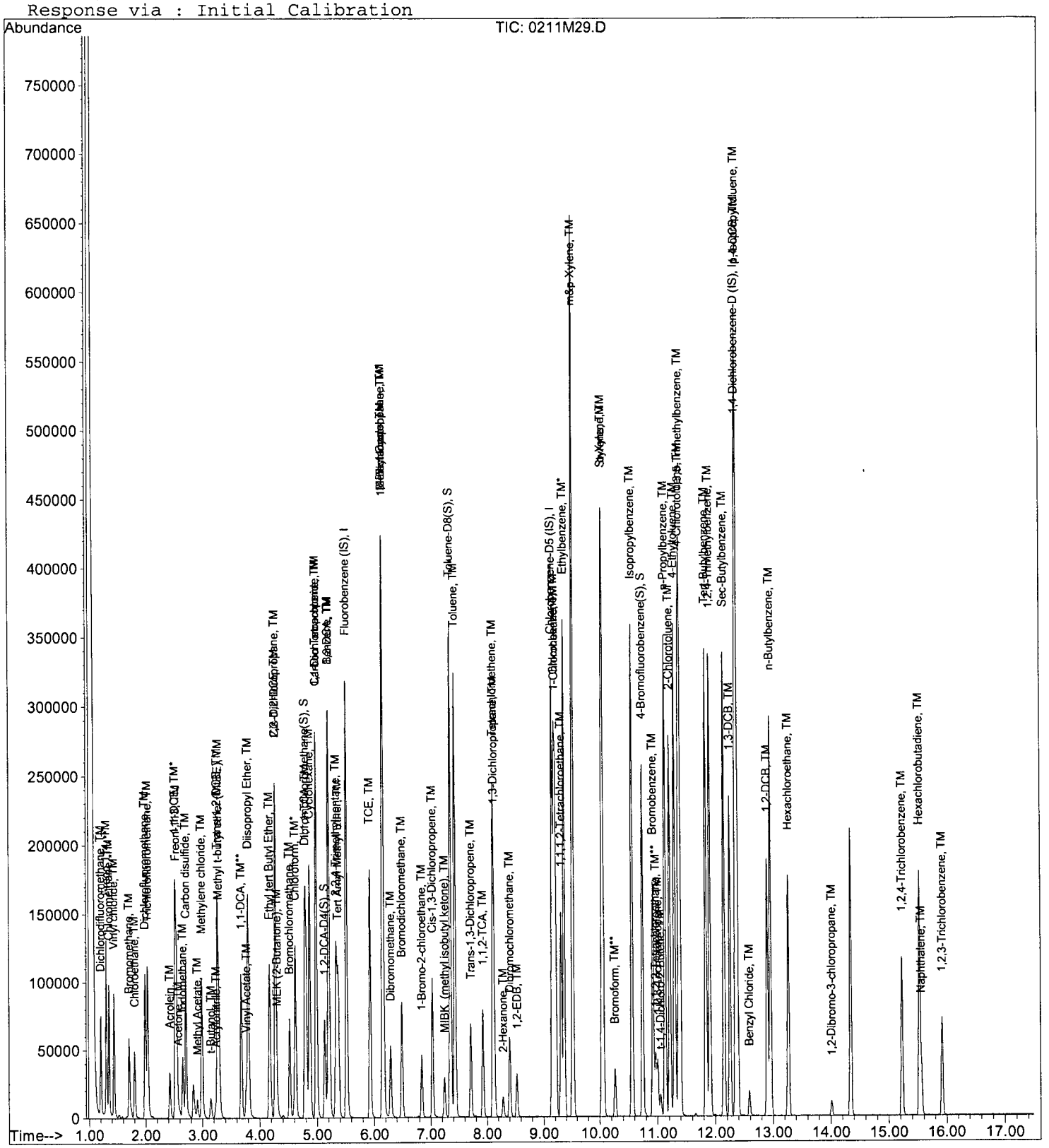
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M29.D Vial: 29
Acq On : 11 Feb 17 22:45 Operator: PM,DG,SV,CMM
Sample : AZ49674W02,3,6 MS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



624

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M30.D
Acq On : 11 Feb 17 23:13
Sample : AZ49674W02,3,6 MSD 10ug/L
Misc : IS&S 10/20/16

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	299042	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	213615	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	110620	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64355	25.09272 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.372%	
36) 1,2-DCA-D4(S)	5.13	65	48581	23.90515 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.620%	
56) Toluene-D8(S)	7.35	98	258102	24.97595 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.904%	
64) 4-Bromofluorobenzene(S)	10.74	95	94828	25.49628 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.984%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	31744	10.72948 ppb	95
3) Freon 114	1.30	85	40192	8.71735 ppb	98
4) Chloromethane	1.34	50	52632	10.21573 ppb	98
5) Vinyl chloride	1.43	62	75204	10.52295 ppb	99
6) Bromomethane	1.70	94	37913	9.06081 ppb	92
7) Chloroethane	1.80	64	40089	10.10412 ppb	97
8) Dichlorofluoromethane	1.99	67	97129	8.95688 ppb	98
9) Trichlorofluoromethane	2.03	101	80721	10.70101 ppb	98
10) Acrolein	2.42	56	27353	107.23346 ppb	99
11) Acetone	2.57	43	6055	8.37543 ppb	98
12) Freon-113	2.54	101	46903	9.39444 ppb	97
13) 1,1-DCE	2.52	61	74147	9.05764 ppb	94
14) t-Butanol	3.14	59	14573	117.98250 ppb	97
15) Methyl Acetate	2.91	43	16883	8.53172 ppb	97
16) Iodomethane	2.65	142	54672	8.40532 ppb	98
17) Acrylonitrile	3.23	53	7627	8.40596 ppb	90
18) Methylene chloride	2.99	84	45848	8.47102 ppb	95
19) Carbon disulfide	2.71	76	140547	8.62661 ppb	99
20) Methyl t-butyl ether (MtBE	3.29	73	73469	8.49644 ppb	98
21) Trans-1,2-DCE	3.26	96	56157	9.56696 ppb	93
22) Diisopropyl Ether	3.80	45	140859	8.51541 ppb	99
23) 1,1-DCA	3.68	63	93472	9.00327 ppb	99
24) Vinyl Acetate	3.76	43	27706	8.37131 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	96849	8.94649 ppb	99
26) MEK (2-Butanone)	4.31	43	10341	9.18242 ppb #	82
27) Cis-1,2-DCE	4.28	96	56396	8.75768 ppb	95
28) 2,2-Dichloropropane	4.27	77	59348	8.47549 ppb	98
29) Chloroform	4.62	83	90432	9.03943 ppb	97
30) Bromochloromethane	4.52	128	21842	8.83567 ppb	96
32) 1,1,1-TCA	4.81	97	85591	9.29213 ppb	97
33) Cyclohexane	4.87	41	49950	9.47108 ppb	95
34) 1,1-Dichloropropene	4.99	75	77033	9.27050 ppb	99
35) 2,2,4-Trimethylpentane	5.33	57	128467	8.54460 ppb	99
37) Carbon Tetrachloride	4.99	117	71154	8.98449 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	79348	8.79189 ppb	95
39) 1,2-DCA	5.21	62	48002	8.83417 ppb	98
40) Benzene	5.20	78	225129	9.16697 ppb	99
41) TCE	5.93	95	58596	8.85626 ppb	96
42) 2-Pentanone	6.16	43	176063	107.16335 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M30.D
Acq On : 11 Feb 17 23:13
Sample : AZ49674W02,3,6 MSD 10ug/L
Misc : IS&S 10/20/16

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	49930	8.96579	ppb		98
44)	Bromodichloromethane	6.49	83	57528	8.92112	ppb		92
45)	Methyl Cyclohexane	6.15	83	77556	9.09076	ppb		100
46)	Dibromomethane	6.29	93	18175	8.73678	ppb		92
47)	MIBK (methyl isobutyl ket	7.24	43	21688	8.73277	ppb		96
48)	1-Bromo-2-chloroethane	6.84	63	42389	7.92257	ppb		95
50)	Cis-1,3-Dichloropropene	7.03	75	61246	8.63021	ppb		99
51)	Toluene	7.43	91	256771	9.02386	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	40781	8.44696	ppb		94
53)	1,1,2-TCA	7.92	83	22093	8.53179	ppb		99
54)	2-Hexanone	8.29	43	11127	8.13893	ppb	#	95
57)	1,2-EDB	8.53	107	24731	8.85819	ppb		95
58)	Tetrachloroethene	8.11	164	63114	9.19752	ppb		98
59)	1-Chlorohexane	9.21	91	72814	9.13638	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	52115	8.97279	ppb		97
61)	m&p-Xylene	9.52	106	232378	18.50096	ppb		99
62)	o-Xylene	10.04	106	106645	9.10164	ppb		99
63)	Styrene	10.06	104	163117	9.04859	ppb		96
65)	1,3-Dichloropropane	8.13	76	48479	8.74847	ppb		98
66)	Dibromochloromethane	8.40	129	36894	8.65334	ppb		100
67)	Chlorobenzene	9.19	112	155054	8.71608	ppb		98
68)	Ethylbenzene	9.36	91	291136	9.08154	ppb		97
69)	Bromoform	10.27	173	21606	8.53439	ppb		93
71)	Isopropylbenzene	10.56	105	289520	9.32698	ppb		98
72)	1,1,2,2-Tetrachloroethane	10.97	83	26950	9.19045	ppb		96
73)	1,2,3-Trichloropropane	11.00	110	8202	8.42662	ppb		100
74)	t-1,4-Dichloro-2-Butene	11.05	53	4891	7.99169	ppb		94
75)	Bromobenzene	10.92	156	64105	8.94289	ppb		99
76)	n-Propylbenzene	11.13	91	322761	9.41666	ppb		99
77)	4-Ethyltoluene	11.30	105	279641	9.25948	ppb		100
78)	2-Chlorotoluene	11.22	91	184555	9.00100	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	236916	9.40868	ppb		99
80)	4-Chlorotoluene	11.37	91	212510	9.19653	ppb		96
81)	Tert-Butylbenzene	11.84	119	211838	9.39903	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	229230	9.33033	ppb		98
83)	Sec-Butylbenzene	12.15	105	286223	9.52872	ppb		98
84)	p-Isopropyltoluene	12.37	119	249113	9.49481	ppb		97
85)	Benzyl Chloride	12.59	91	16858	8.70607	ppb		95
86)	1,3-DCB	12.26	146	128554	8.96802	ppb		96
87)	1,4-DCB	12.38	146	121311	8.63602	ppb		100
88)	n-Butylbenzene	12.95	91	197517	9.58834	ppb		98
89)	1,2-DCB	12.90	146	106013	9.03881	ppb		98
90)	Hexachloroethane	13.27	117	33968	9.74086	ppb		93
91)	1,2-Dibromo-3-chloropropan	14.01	75	3652	9.05833	ppb		90
92)	1,2,4-Trichlorobenzene	15.23	180	54710	8.30941	ppb		93
93)	Hexachlorobutadiene	15.53	225	50200	9.32820	ppb		95
94)	Naphthalene	15.56	128	41547	7.46066	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	34645	7.77715	ppb		99

(#) = qualifier out of range (m) = manual integration

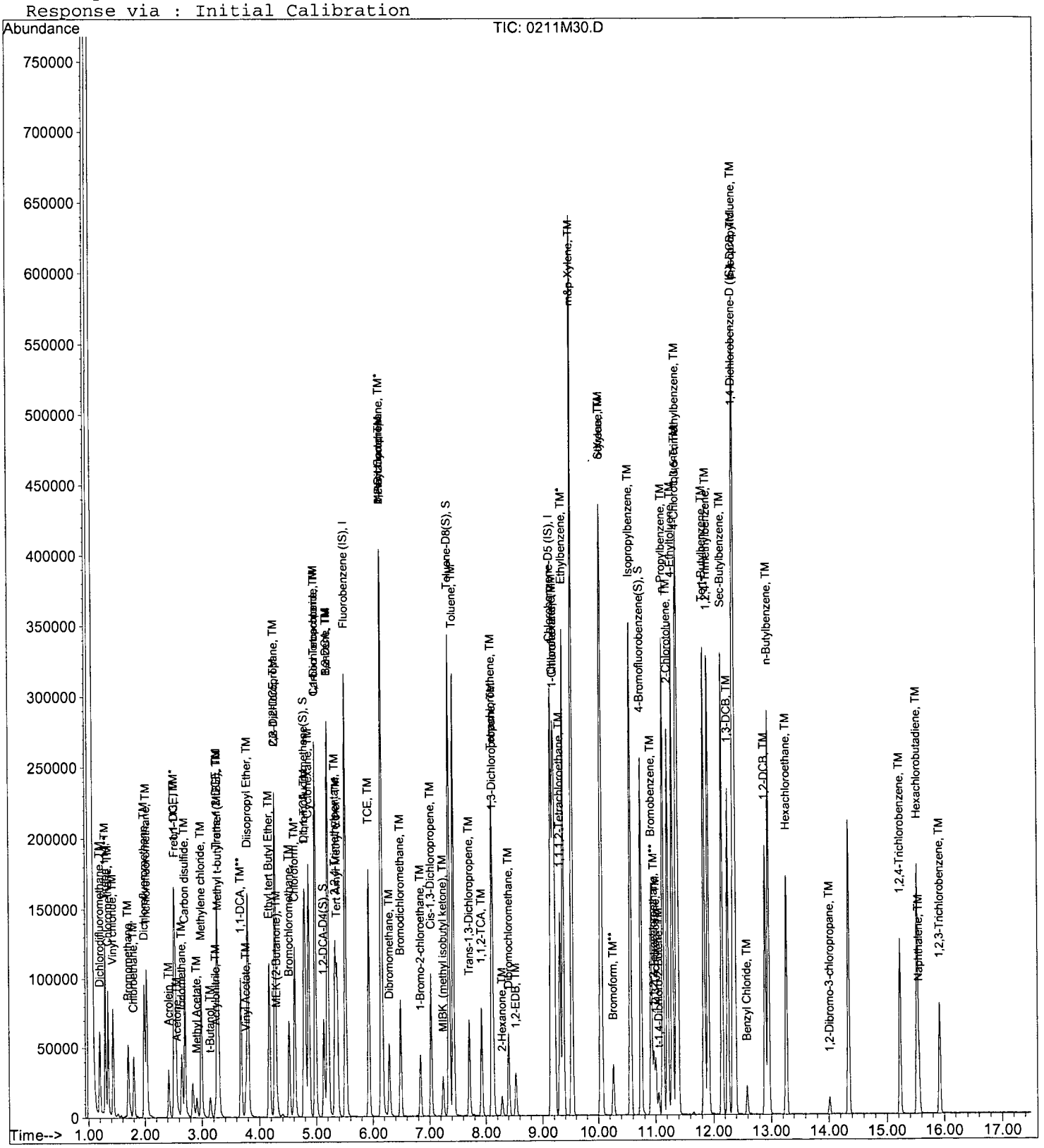
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M30.D
Acq On : 11 Feb 17 23:13
Sample : AZ49674W02,3,6 MSD 10ug/L
Misc : IS&S 10/20/16

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



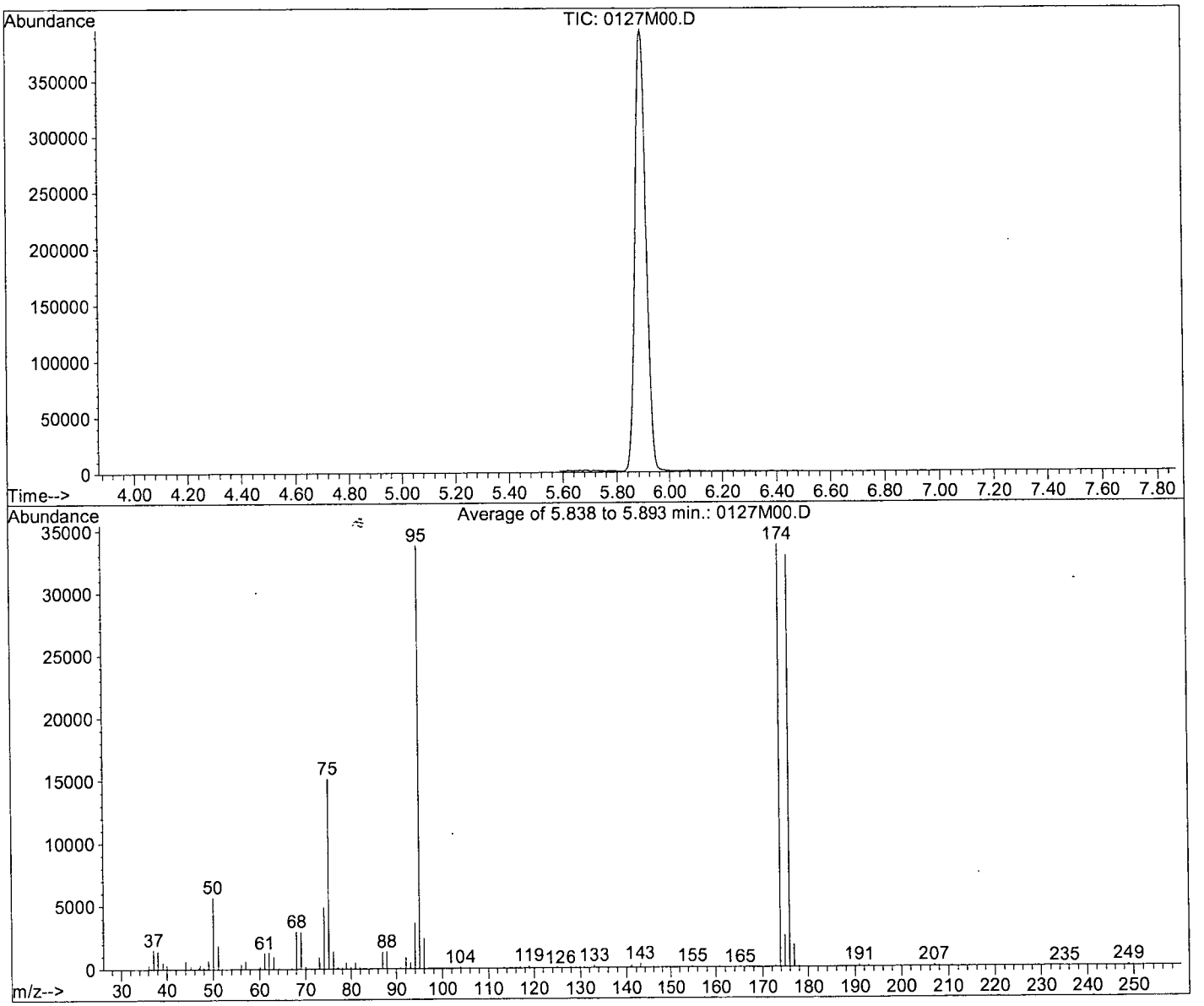
627

BFB

Data File : M:\MAX\DATA\M170127\0127M00.D
Acq On : 27 Jan 17 9:35
Sample : 5ng BFB STD 12/15/16
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	5692	PASS
75	95	30	60	44.8	15149	PASS
95	95	100	100	100.0	33790	PASS
96	95	5	9	7.1	2415	PASS
173	174	0.00	2	0.4	137	PASS
174	95	50	100	100.0	33786	PASS
175	174	5	9	7.5	2532	PASS
176	174	95	101	97.4	32900	PASS
177	176	5	9	5.4	1780	PASS

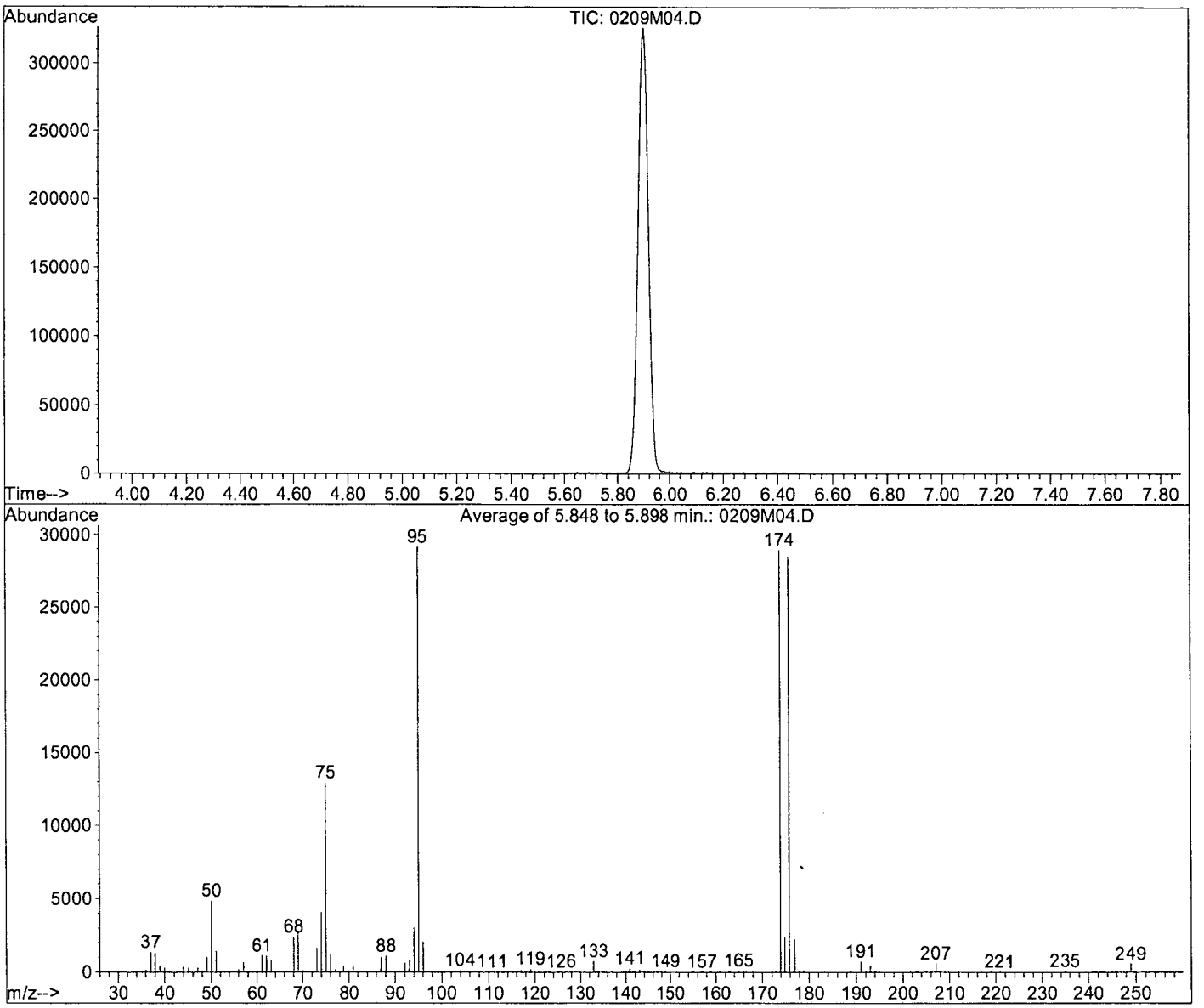
0127M00.D MALLW.M Mon Jan 30 08:03:23 2017

BFB

Data File : M:\MAX\DATA\M170127\0209M04.D
Acq On : 9 Feb 17 7:39
Sample : 5ng BFB STD 1/22/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.848 to 5.898 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	4853	PASS
75	95	30	60	44.4	12958	PASS
95	95	100	100	100.0	29159	PASS
96	95	5	9	7.1	2063	PASS
173	174	0.00	2	0.3	91	PASS
174	95	50	100	99.3	28954	PASS
175	174	5	9	8.1	2350	PASS
176	174	95	101	98.5	28510	PASS
177	176	5	9	7.8	2227	PASS

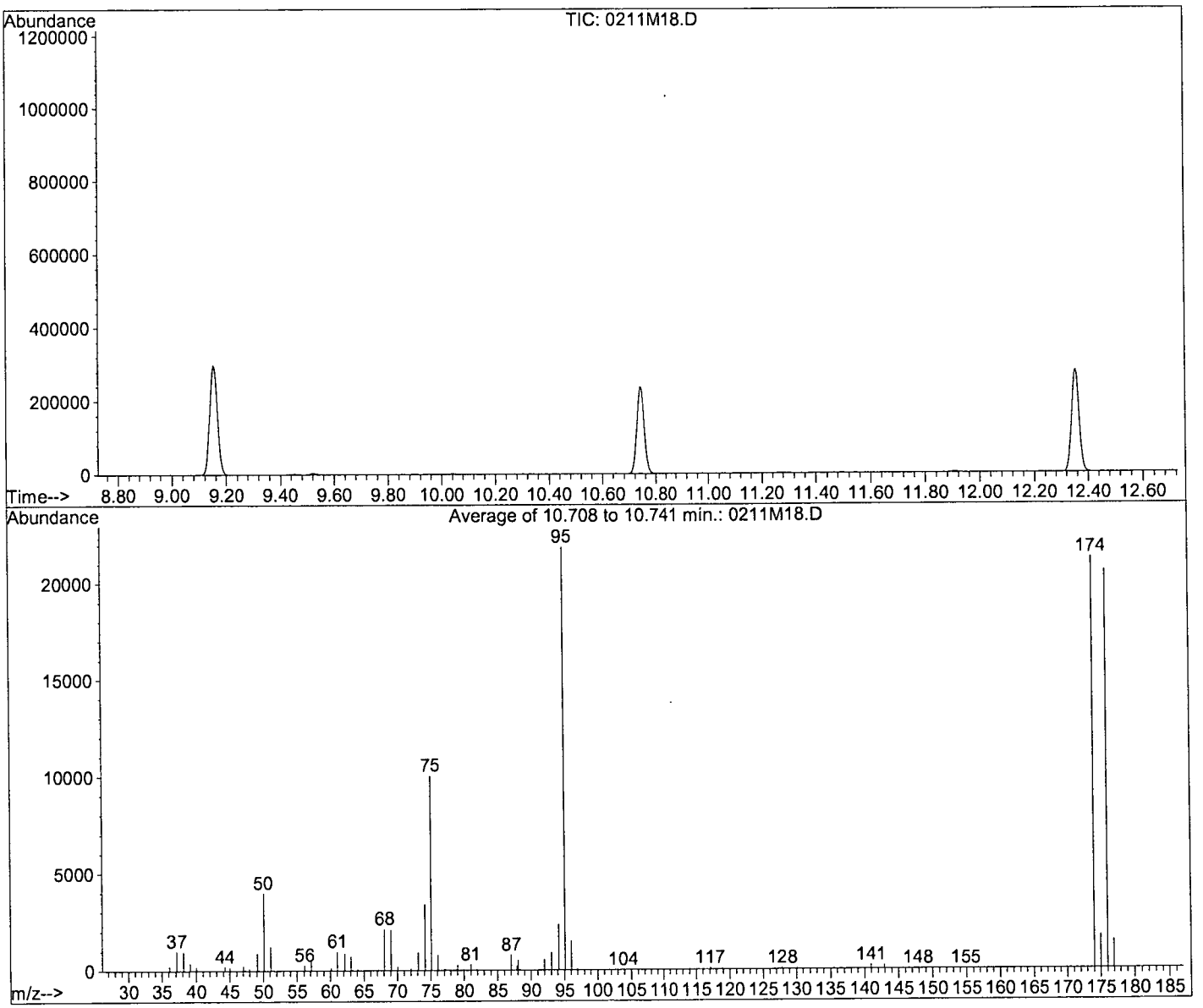
0209M04.D MALLW.M Thu Feb 09 14:41:28 2017

BFB

Data File : M:\MAX\DATA\M170127\0211M18.D
Acq On : 11 Feb 17 17:34
Sample : 5ng BFB STD 1/22/17
Misc : IS&S 10/20/16

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.708 to 10.741 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	3983	PASS
75	95	30	60	45.8	10031	PASS
95	95	100	100	100.0	21882	PASS
96	95	5	9	6.9	1499	PASS
173	174	0.00	2	0.1	16	PASS
174	95	50	100	97.2	21272	PASS
175	174	5	9	8.0	1699	PASS
176	174	95	101	96.8	20586	PASS
177	176	5	9	7.1	1462	PASS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
O2SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0127M00.D	1	5ng BFB STD 12/15/16	2ul	27 Jan 17 9:35
2	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
3	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
4	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
5	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
6	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
7	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
8	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
9	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
10	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
11	16	0127M16.D	1	(SS) 10ug/L VOC STD 01/27/16	IS&S 10/20/16	27 Jan 17 17:03
12	1	0209M04.D	1	5ng BFB STD 1/22/17	2ul	9 Feb 17 7:39
13	2	0209M06.D	1	170209A CCV/LCS 10ug/L	IS&S 10/20/16	9 Feb 17 8:31
14	10	0209M14.D	1	170209A BLK-1WM	IS&S 10/20/16	9 Feb 17 12:19
15	11	0209M15.D	1	AZ49675W01	IS&S 10/20/16	9 Feb 17 12:47
16	12	0209M16.D	1	AZ49678W01	IS&S 10/20/16	9 Feb 17 13:16
17	13	0209M17.D	1	AZ49681W01	IS&S 10/20/16	9 Feb 17 13:44
18	14	0209M18.D	1	AZ49684W01	IS&S 10/20/16	9 Feb 17 14:12
19	15	0209M19.D	1	AZ49676W01	IS&S 10/20/16	9 Feb 17 14:41
20	16	0209M20.D	1	AZ49677W01	IS&S 10/20/16	9 Feb 17 15:09
21	17	0209M21.D	1	AZ49679W01	IS&S 10/20/16	9 Feb 17 15:38
22	18	0209M22.D	1	AZ49680W01	IS&S 10/20/16	9 Feb 17 16:06
23	19	0209M23.D	1	AZ49682W02	IS&S 10/20/16	9 Feb 17 16:35
24	20	0209M24.D	1	AZ49683W01	IS&S 10/20/16	9 Feb 17 17:03
25	21	0209M25.D	1	AZ49685W01	IS&S 10/20/16	9 Feb 17 17:31
26	22	0209M26.D	1	AZ49686W01	IS&S 10/20/16	9 Feb 17 18:00
27	26	0209M30.D	1	Ending CCV 8260 10ug/L 02/09/1	IS&S 10/20/16	9 Feb 17 19:53
28	18	0211M18.D	1	5ng BFB STD 1/22/17	IS&S 10/20/16	11 Feb 17 17:34
29	19	0211M19.D	1	170211A CCV/LCS 10ug/L	IS&S 10/20/16	11 Feb 17 18:02
30	26	0211M26.D	1	170211A BLK-1WM	IS&S 10/20/16	11 Feb 17 21:20
31	28	0211M28.D	1	AZ49674W01	IS&S 10/20/16	11 Feb 17 22:17
32	29	0211M29.D	1	AZ49674W02,3,6 MS 10ug/L	IS&S 10/20/16	11 Feb 17 22:45
33	30	0211M30.D	1	AZ49674W02,3,6 MSD 10ug/L	IS&S 10/20/16	11 Feb 17 23:13
34	33	0211M33.D	1	Ending CCV 8260 10ug/L 02/11/1	IS&S 10/20/16	12 Feb 17 00:38

EPA METHOD 8260
Gasoline Range Organics (GRO)

APPL, INC.

EPA METHOD 8260
Gasoline Range Organics (GRO)

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216080**
Batch ID: #GRO86-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/9/17	2/9/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.7	85-114			%	2/9/17	2/9/17

Quant Method: MGAS6111.
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:26:05 PM

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170211W-49674 - 216098**
Batch ID: #GRO86-170211AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/11/17	2/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.5	85-114			%	2/11/17	2/11/17

Quant Method: MGAS6211.
Run #: 0211M26
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:26:05 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121
Case No: 82121 Date Analyzed: 2/9/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	85-114	102				
170209AM-BLK	Blank	85-114	98.7				
AZ49675	ERH204	85-114	99.7				
AZ49678	ERH211	85-114	98.2				
AZ49681	ERH213	85-114	99.1				
AZ49684	ERH219	85-114	100				
AZ49676	ERH206	85-114	103				
AZ49677	ERH232	85-114	101				
AZ49679	ERH212	85-114	103				
AZ49682	ERH214	85-114	101				
AZ49683	ERH228	85-114	100				
AZ49685	ERH220	85-114	98.1				
AZ49686	ERH221	85-114	100				

Comments: Batch: #GRO86-170209A

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Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82121

Case No: 82121 Date Analyzed: 2/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170211AM-LCS	Lab Control Spike	85-114	103				
170211AM-BLK	Blank	85-114	98.5				
AZ49674	ERH205	85-114	98.1				
AZ49674-MS	Matrix Spike	85-114	101				
AZ49674-MSD	Matrix SpikeD	85-114	102				

Comments: Batch: #GRO86-170211A

Printed: 2/13/17 1:26:09 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170211W-49674 LCS - 216098**
Batch ID: #GRO86-170211AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	288	96.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.7	103	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/11/17
Analysis Date :	2/11/17
Instrument :	Max
Run :	0211M21
Initials :	SV

Printed: 2/13/17 1:26:13 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170209W-49675 LCS - 216080**
Batch ID: #GRO86-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	295	98.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.6	102	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	2/9/17
Analysis Date :	2/9/17
Instrument :	Max
Run :	0209M09
Initials :	ARO

Printed: 2/13/17 1:26:13 PM
APPL Standard LCS

Matrix Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **170211W-49674 MS - 216098**
Batch ID: #GRO86-170211AM
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	259	261	86.3	87.0	78-122	0.77	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.3	25.6	101	102	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6211.M	MGAS6211.M
Extraction Date :	2/11/17	2/12/17
Analysis Date :	2/11/17	2/12/17
Instrument :	Max	Max
Run :	0211M31	0211M32
Initials :	SV	

Printed: 2/13/17 1:26:19 PM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82121
Case No: 82121
Date Analyzed: 2/9/17
Matrix: WATER
Instrument: Max
Blank ID: 170209AM-BLK
Time Analyzed: 1219

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209AM-LCS	Lab Control Spike	0209M09	2/9/17 0957
170209AM-BLK	Blank	0209M14	2/9/17 1219
AZ49675	ERH204	0209M15	2/9/17 1247
AZ49678	ERH211	0209M16	2/9/17 1316
AZ49681	ERH213	0209M17	2/9/17 1344
AZ49684	ERH219	0209M18	2/9/17 1412
AZ49676	ERH206	0209M19	2/9/17 1441
AZ49677	ERH232	0209M20	2/9/17 1509
AZ49679	ERH212	0209M21	2/9/17 1538
AZ49682	ERH214	0209M23	2/9/17 1635
AZ49683	ERH228	0209M24	2/9/17 1703
AZ49685	ERH220	0209M25	2/9/17 1731
AZ49686	ERH221	0209M26	2/9/17 1800

Comments: Batch: #GRO86-170209A

Printed: 2/13/17 1:26:22 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82121
Case No: 82121
Date Analyzed: 2/11/17
Matrix: WATER
Instrument: Max
Blank ID: 170211AM-BLK
Time Analyzed: 2120

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170211AM-LCS	Lab Control Spike	0211M21	2/11/17 1859
170211AM-BLK	Blank	0211M26	2/11/17 2120
AZ49674	ERH205	0211M28	2/11/17 2217
170211AM-MS	Matrix Spike	0211M31	2/11/17 2341
170211AM-MSD	Matrix SpikeD	0211M32	2/12/17 0010

Comments: Batch: #GRO86-170211A

Printed: 2/13/17 1:26:23 PM
Form 4, Blank Summary

EPA METHOD 8260
Gasoline Range Organics (GRO)

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #GRO86-170211AM-216098

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/11/17	02/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.1	85-114			%	02/11/17	02/11/17

Quant Method:	MGAS6211.M
Run #:	0211M28
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	SV

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M28.D Vial: 28
Acq On : 11 Feb 17 22:17 Operator: PM,DG,SV,CMM
Sample : AZ49674W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:52 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	302048	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0211M28.D MGAS6211.M Mon Feb 13 08:57:04 2017 Page 1

Quantitation Report

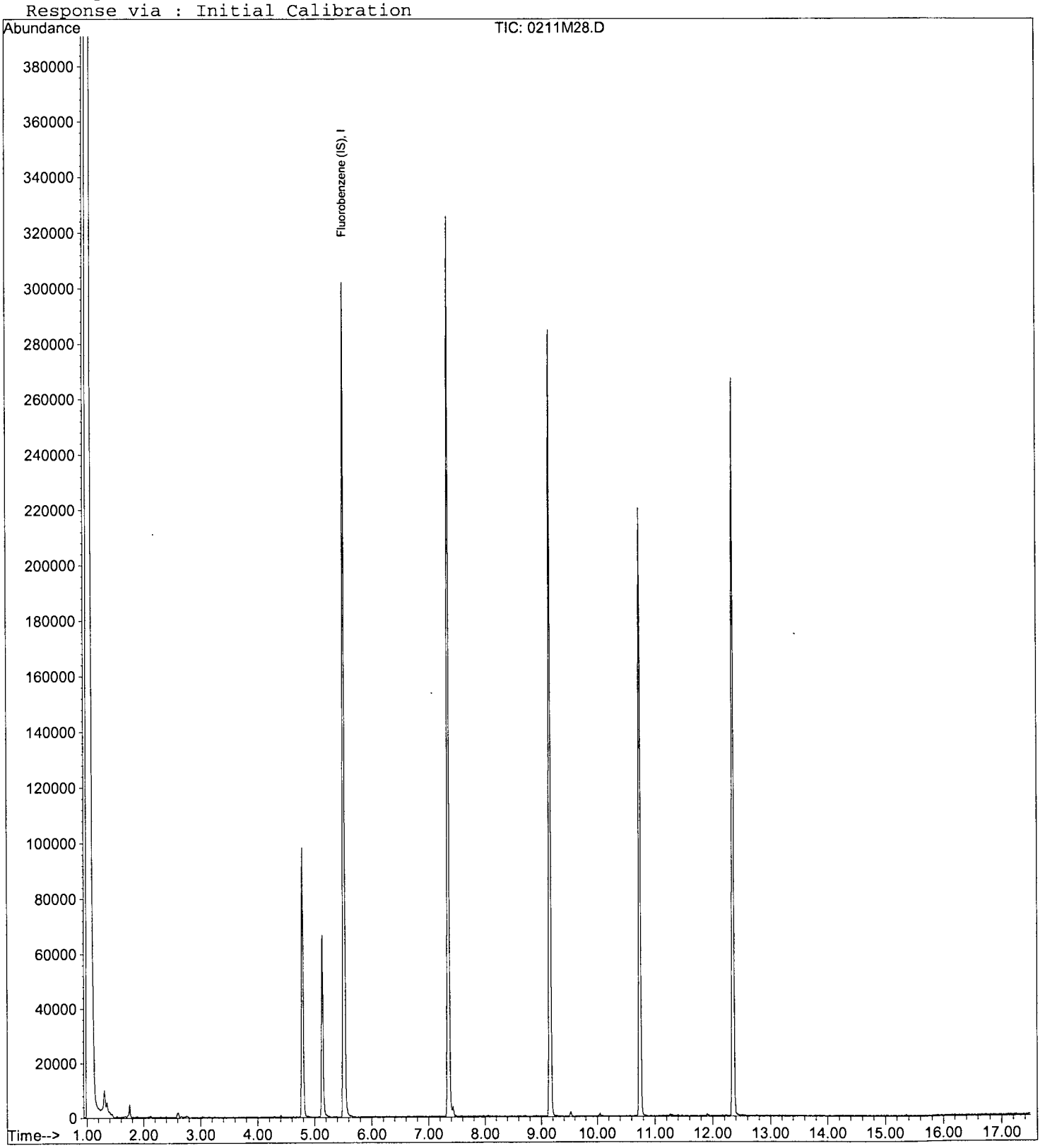
Data File : M:\MAX\DATA\M170127\0211M28.D
Acq On : 11 Feb 17 22:17
Sample : AZ49674W01
Misc : IS&S 10/20/16

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:52 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M28.D Vial: 28
Acq On : 11 Feb 17 22:17 Operator: PM,DG,SV,CMM
Sample : AZ49674W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:10 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	291995	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	198805	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	95590	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	61949	24.73755 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	
3) 1,2-DCA-D4(S)	5.14	65	47342	23.85769 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.432%	
5) Toluene-D8(S)	7.36	98	245426	25.51853 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.076%	
6) 4-Bromofluorobenzene(S)	10.74	95	84907	24.52947 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.116%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH204
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49675
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.7	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M15
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M15.D Vial: 11
Acq On : 9 Feb 17 12:47 Operator: PM,DG,SV,CMM
Sample : AZ49675W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:56 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	294212	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

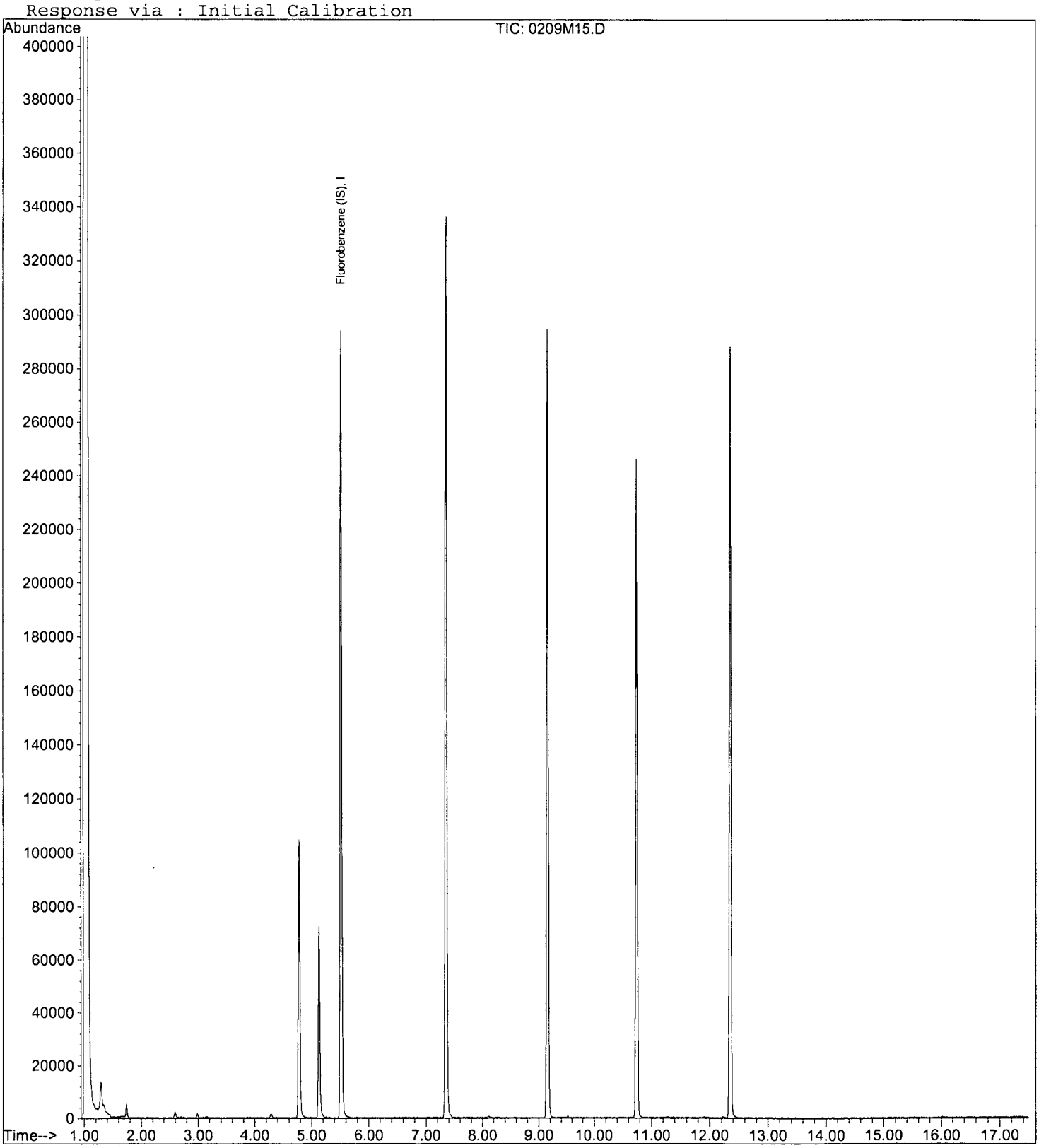
Data File : M:\MAX\DATA\M170127\0209M15.D
Acq On : 9 Feb 17 12:47
Sample : AZ49675W01
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M15.D Vial: 11
Acq On : 9 Feb 17 12:47 Operator: PM,DG,SV,CMM
Sample : AZ49675W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	285200	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	211599	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	106826	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64694	26.45 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.796%	
3) 1,2-DCA-D4(S)	5.13	65	51330	26.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.936%	
5) Toluene-D8(S)	7.35	98	251366	24.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.224%	
6) 4-Bromofluorobenzene(S)	10.74	95	91831	24.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.704%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH206
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49676
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	103	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M19
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M19.D Vial: 15
Acq On : 9 Feb 17 14:41 Operator: PM,DG,SV,CMM
Sample : AZ49676W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:56 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294146	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

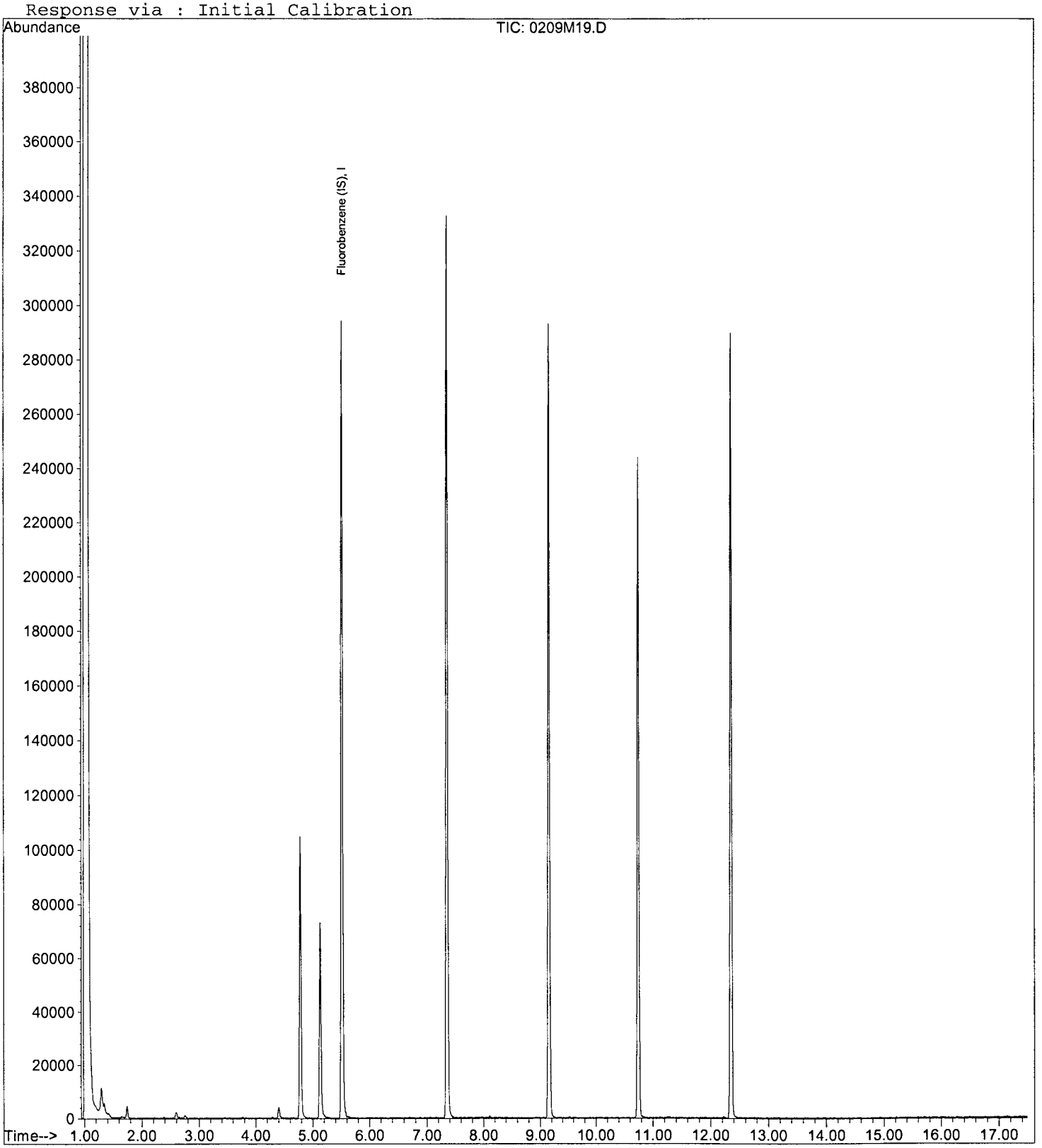
Data File : M:\MAX\DATA\M170127\0209M19.D
Acq On : 9 Feb 17 14:41
Sample : AZ49676W01
Misc : IS&S 10/20/16

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M19.D Vial: 15
Acq On : 9 Feb 17 14:41 Operator: PM,DG,SV,CMM
Sample : AZ49676W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	283184	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	208249	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104642	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63604	26.19 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.756%	
3) 1,2-DCA-D4(S)	5.13	65	53024	27.55 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.212%	
5) Toluene-D8(S)	7.35	98	253210	25.13 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.536%	
6) 4-Bromofluorobenzene(S)	10.74	95	93476	25.78 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.120%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH232
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49677
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M20
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M20.D
Acq On : 9 Feb 17 15:09
Sample : AZ49677W01
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:57 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	303785	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

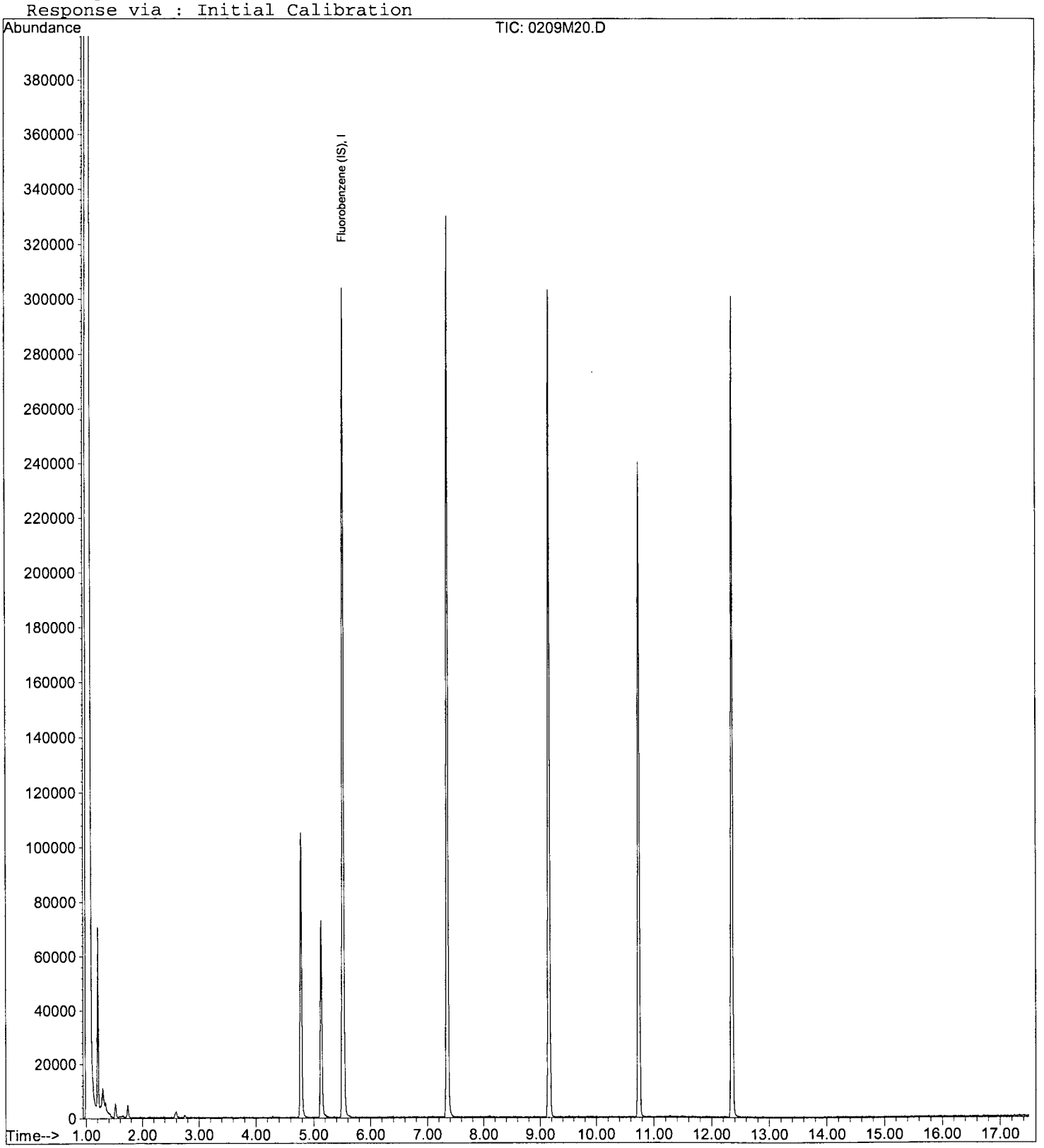
Data File : M:\MAX\DATA\M170127\0209M20.D
Acq On : 9 Feb 17 15:09
Sample : AZ49677W01
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:57 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M20.D Vial: 16
Acq On : 9 Feb 17 15:09 Operator: PM,DG,SV,CMM
Sample : AZ49677W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	288080	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	210425	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	106401	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64878	26.26 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.036%	
3) 1,2-DCA-D4(S)	5.13	65	52424	26.78 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.112%	
5) Toluene-D8(S)	7.35	98	251421	24.70 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.792%	
6) 4-Bromofluorobenzene(S)	10.74	95	92154	25.15 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.612%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH211
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49678
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M16
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M16.D
Acq On : 9 Feb 17 13:16
Sample : AZ49678W01
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	294383	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

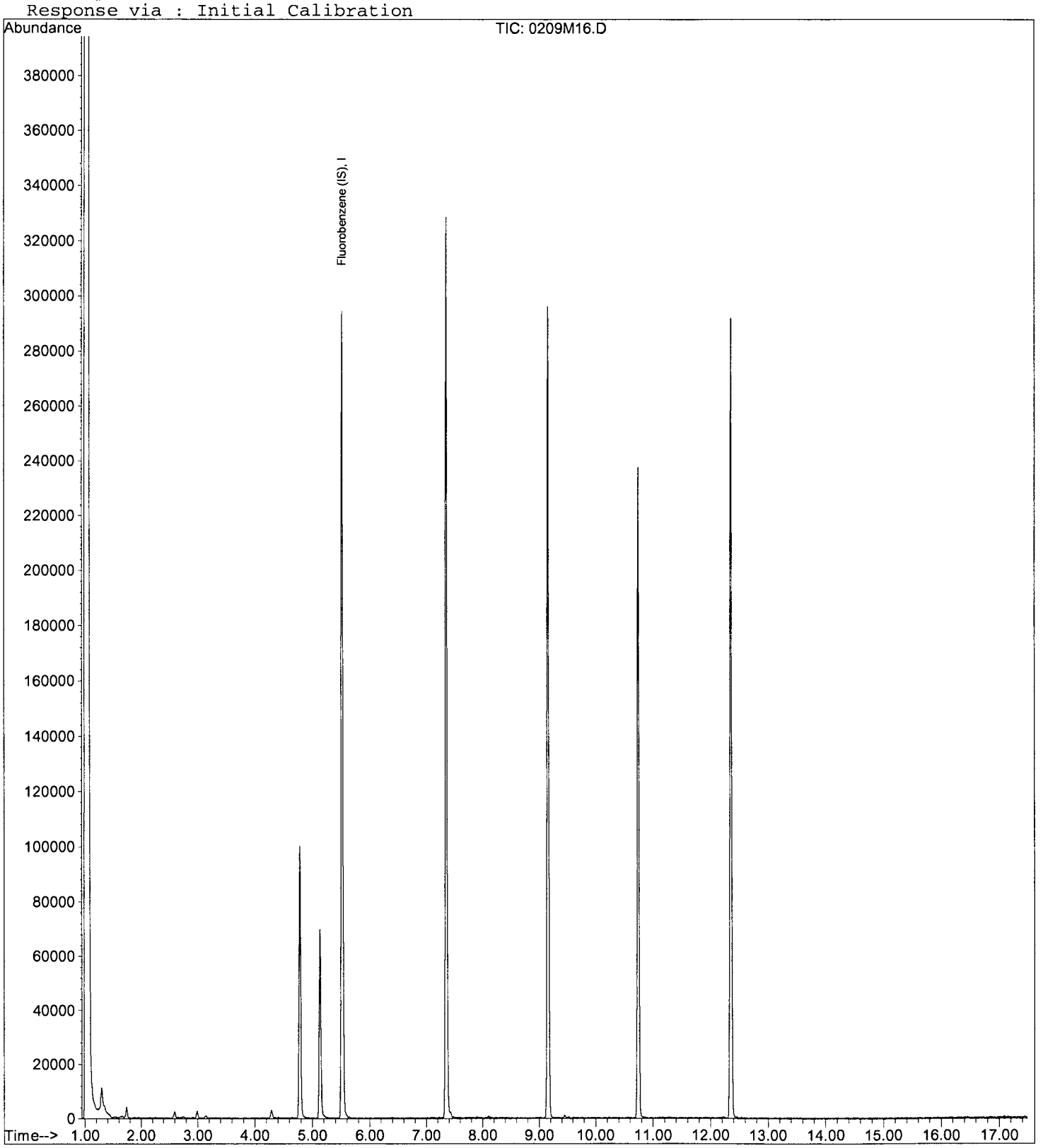
Data File : M:\MAX\DATA\M170127\0209M16.D
Acq On : 9 Feb 17 13:16
Sample : AZ49678W01
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M16.D
Acq On : 9 Feb 17 13:16
Sample : AZ49678W01
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	280084	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	206670	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104279	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62879	26.18 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.708%	
3) 1,2-DCA-D4(S)	5.13	65	50224	26.39 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.544%	
5) Toluene-D8(S)	7.35	98	245431	24.55 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.192%	
6) 4-Bromofluorobenzene(S)	10.74	95	88366	24.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.228%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	103	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M21
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M21.D Vial: 17
Acq On : 9 Feb 17 15:38 Operator: PM,DG,SV,CMM
Sample : AZ49679W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:57 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	286875	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

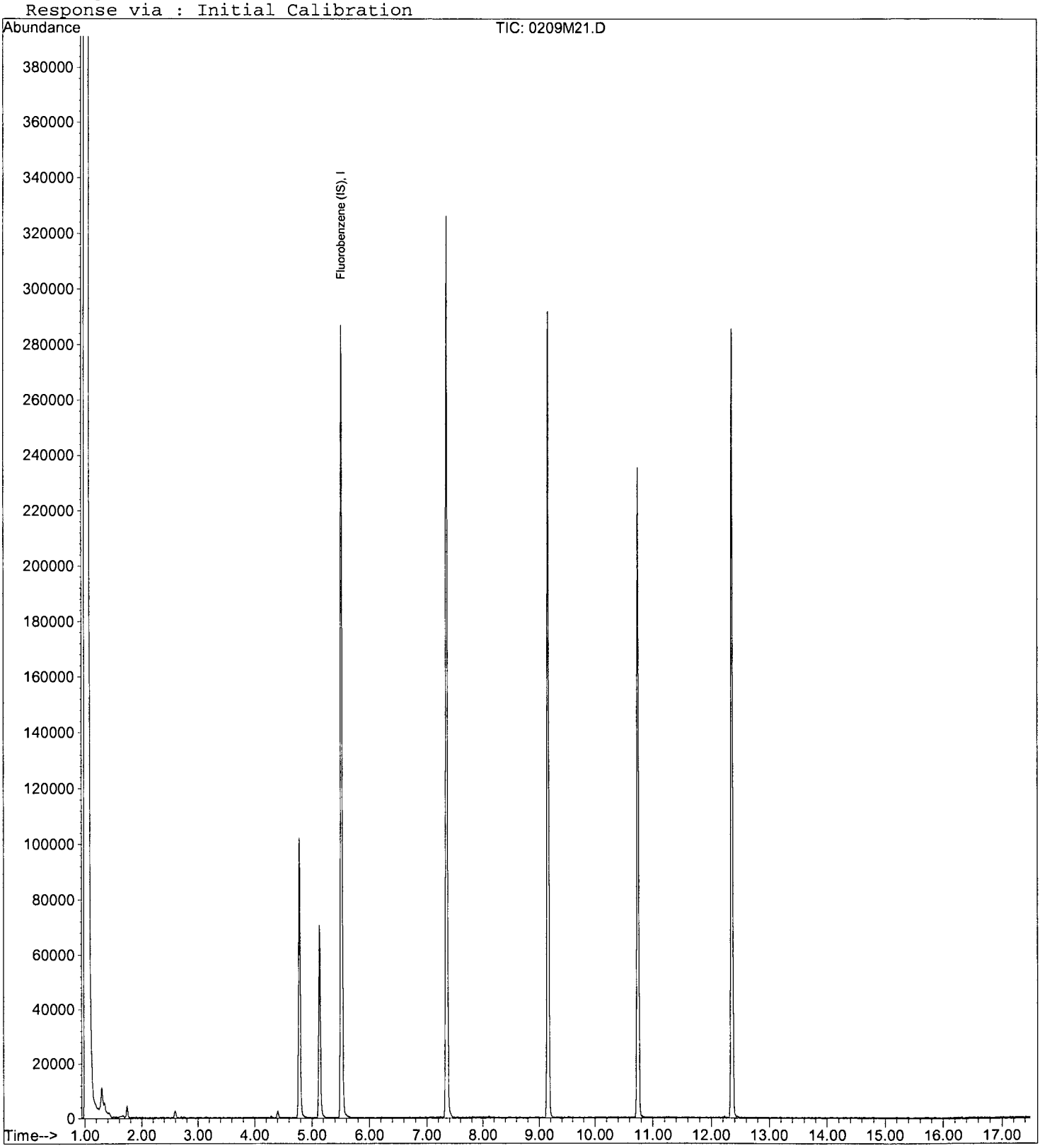
Data File : M:\MAX\DATA\M170127\0209M21.D
Acq On : 9 Feb 17 15:38
Sample : AZ49679W01
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:57 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M21.D Vial: 17
Acq On : 9 Feb 17 15:38 Operator: PM,DG,SV,CMM
Sample : AZ49679W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	280146	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	199289	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	102812	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63739	26.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.116%	
3) 1,2-DCA-D4(S)	5.13	65	52419	27.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.136%	
5) Toluene-D8(S)	7.35	98	243602	25.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.068%	
6) 4-Bromofluorobenzene(S)	10.74	95	89506	25.80 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH213
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49681
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.1	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M17
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M17.D Vial: 13
Acq On : 9 Feb 17 13:44 Operator: PM,DG,SV,CMM
Sample : AZ49681W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:56 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290510	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

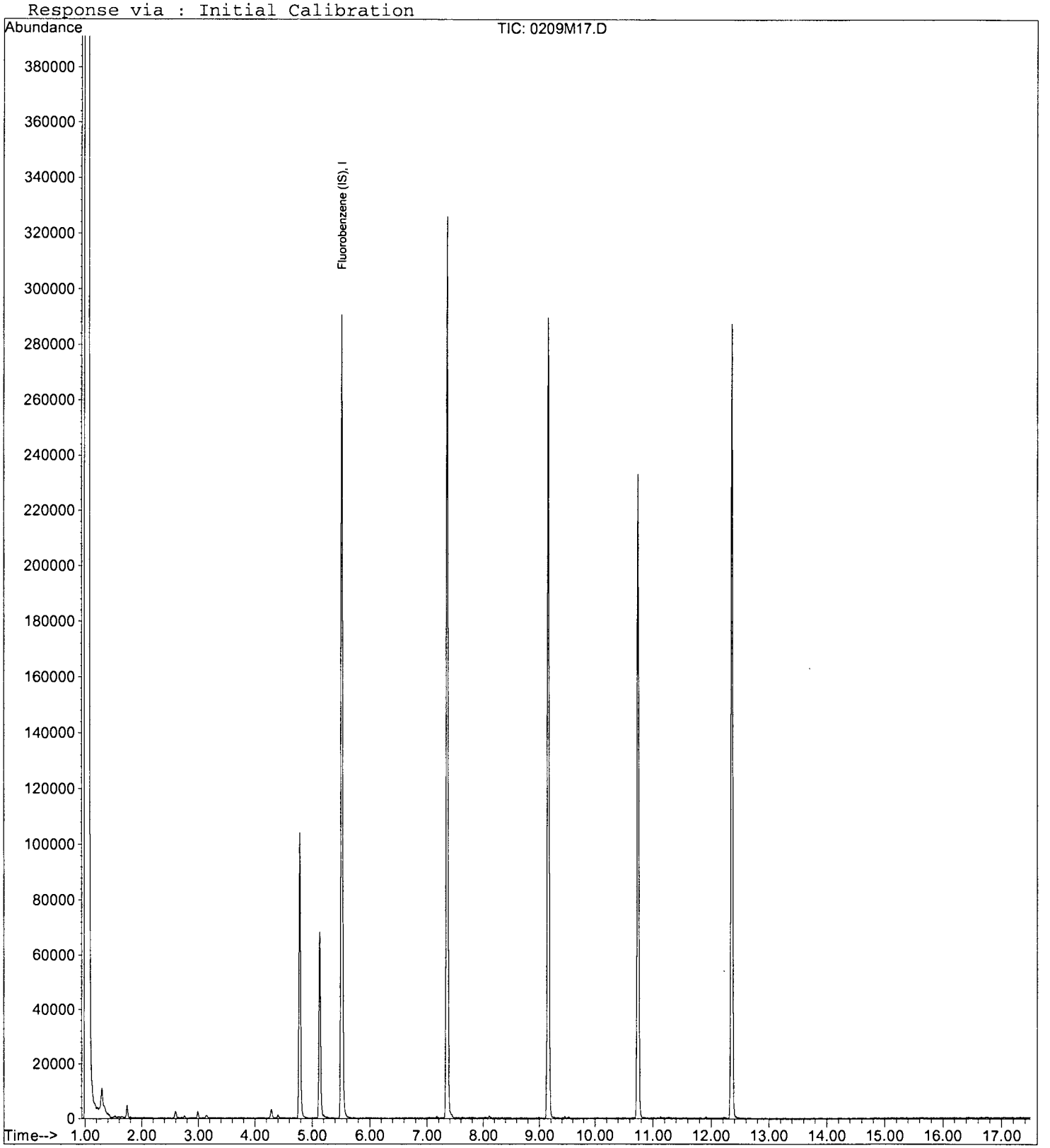
Data File : M:\MAX\DATA\M170127\0209M17.D
Acq On : 9 Feb 17 13:44
Sample : AZ49681W01
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M17.D
Acq On : 9 Feb 17 13:44
Sample : AZ49681W01
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	278669	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	204397	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104346	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61963	25.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.704%	
3) 1,2-DCA-D4(S)	5.13	65	50809	26.83 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.316%	
5) Toluene-D8(S)	7.35	98	245708	24.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	88209	24.79 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.144%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M23
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M23.D Vial: 19
Acq On : 9 Feb 17 16:35 Operator: PM,DG,SV,CMM
Sample : AZ49682W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:57 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	307100	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

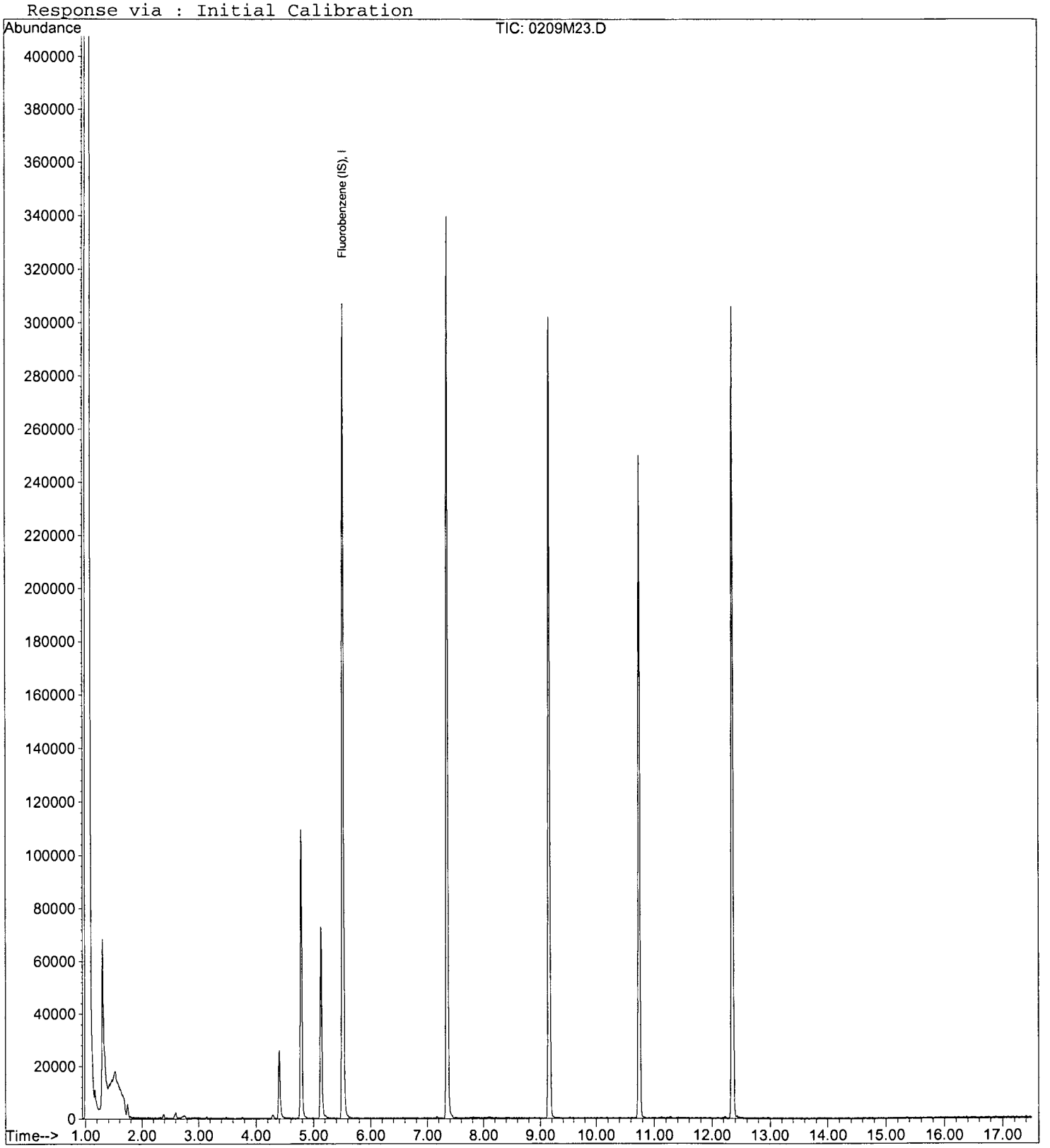
Data File : M:\MAX\DATA\M170127\0209M23.D
Acq On : 9 Feb 17 16:35
Sample : AZ49682W02
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:57 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M23.D Vial: 19
Acq On : 9 Feb 17 16:35 Operator: PM,DG,SV,CMM
Sample : AZ49682W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	297086	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	213743	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	110012	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67196	26.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.492%	
3) 1,2-DCA-D4(S)	5.13	65	54010	26.75 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.008%	
5) Toluene-D8(S)	7.35	98	257621	24.91 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.656%	
6) 4-Bromofluorobenzene(S)	10.74	95	93678	25.17 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.688%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH228
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49683
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M24
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M24.D Vial: 20
Acq On : 9 Feb 17 17:03 Operator: PM,DG,SV,CMM
Sample : AZ49683W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:57 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	288603	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

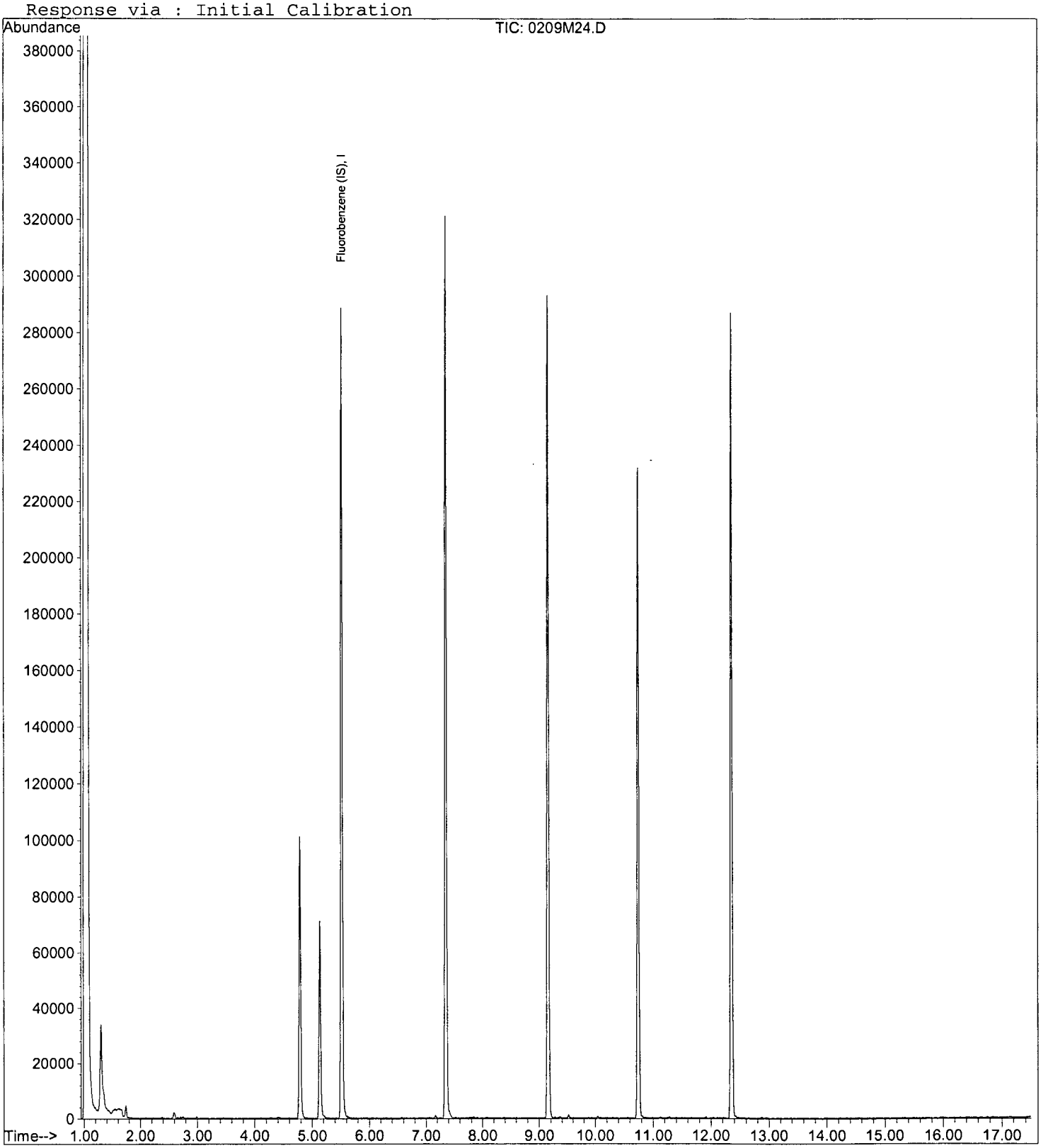
Data File : M:\MAX\DATA\M170127\0209M24.D
Acq On : 9 Feb 17 17:03
Sample : AZ49683W01
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:57 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M24.D
Acq On : 9 Feb 17 17:03
Sample : AZ49683W01
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:32 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	279526	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	205210	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105126	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62556	26.09 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.376%	
3) 1,2-DCA-D4(S)	5.13	65	50696	26.69 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.752%	
5) Toluene-D8(S)	7.35	98	243513	24.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.116%	
6) 4-Bromofluorobenzene(S)	10.74	95	89478	25.04 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH219
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49684
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M18
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M18.D
Acq On : 9 Feb 17 14:12
Sample : AZ49684W01
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290269	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

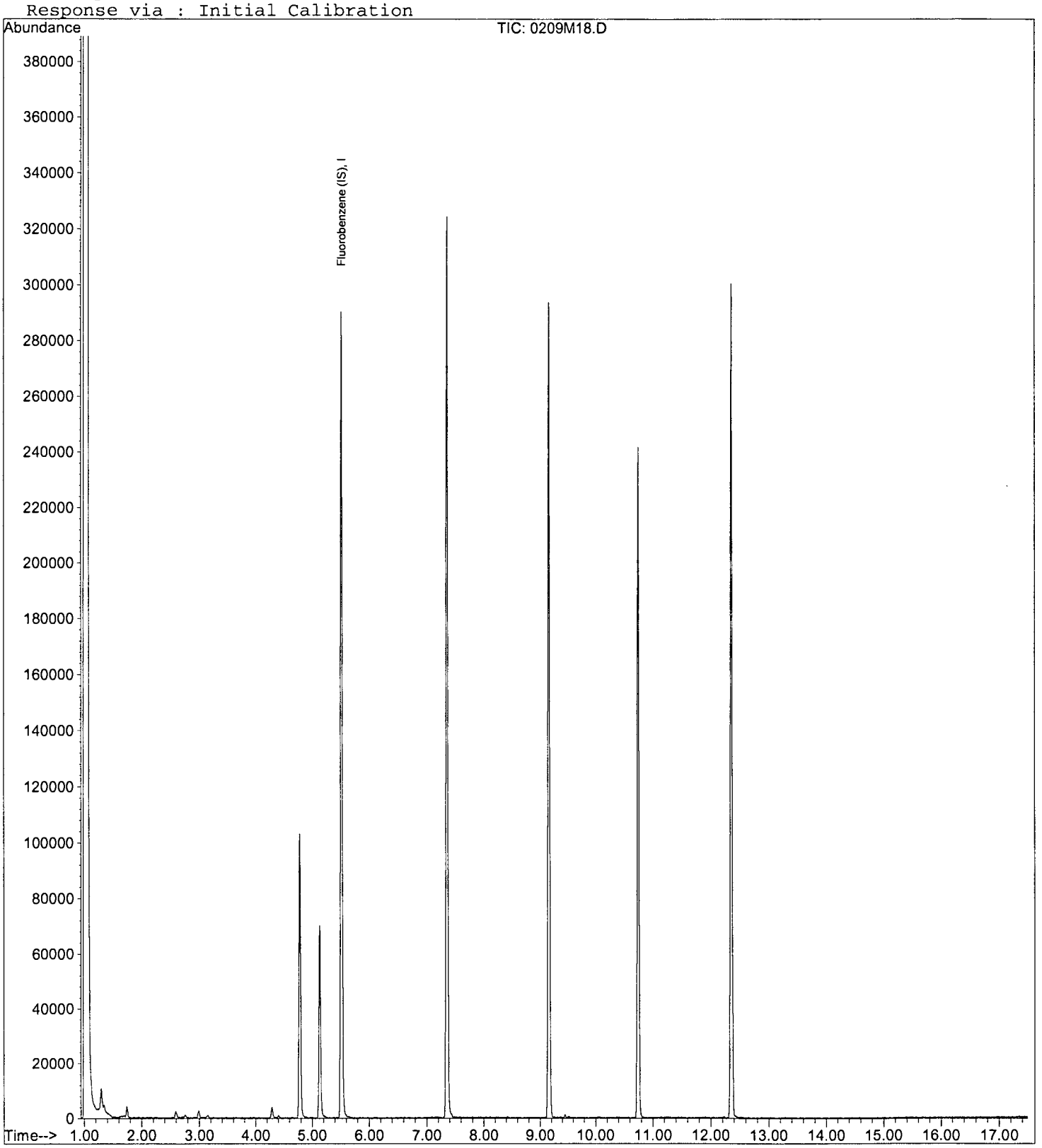
Data File : M:\MAX\DATA\M170127\0209M18.D
Acq On : 9 Feb 17 14:12
Sample : AZ49684W01
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M18.D
Acq On : 9 Feb 17 14:12
Sample : AZ49684W01
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	280054	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	208473	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	106313	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63022	26.24 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.956%	
3) 1,2-DCA-D4(S)	5.13	65	51256	26.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.724%	
5) Toluene-D8(S)	7.35	98	245982	24.39 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.560%	
6) 4-Bromofluorobenzene(S)	10.74	95	91091	25.10 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.384%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.1	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M25
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M25.D Vial: 21
Acq On : 9 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49685W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:58 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	284593	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

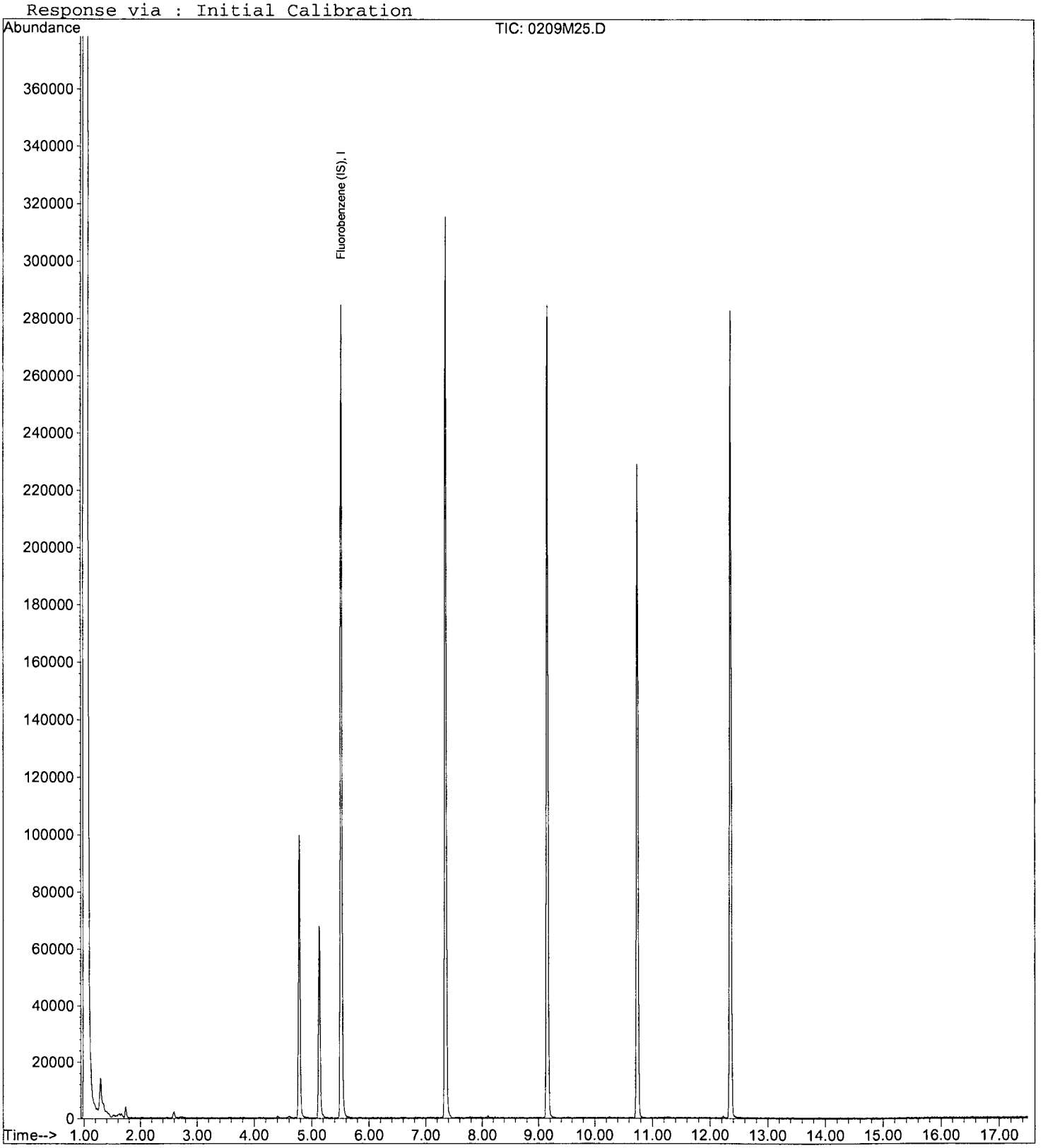
Data File : M:\MAX\DATA\M170127\0209M25.D
Acq On : 9 Feb 17 17:31
Sample : AZ49685W01
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M25.D Vial: 21
Acq On : 9 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49685W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	274879	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	202677	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	101939	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61461	26.07 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.284%	
3) 1,2-DCA-D4(S)	5.13	65	49827	26.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.696%	
5) Toluene-D8(S)	7.35	98	236739	24.15 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.580%	
6) 4-Bromofluorobenzene(S)	10.74	95	86570	24.53 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.128%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH221

Sample Collection Date: 02/06/17

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 82121

APPL ID: AZ49686

QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17

Quant Method:	MGAS6111.M
Run #:	0209M26
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	ARO

Printed: 2/13/17 1:26:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M26.D Vial: 22
Acq On : 9 Feb 17 18:00 Operator: PM,DG,SV,CMM
Sample : AZ49686W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:58 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	288722	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

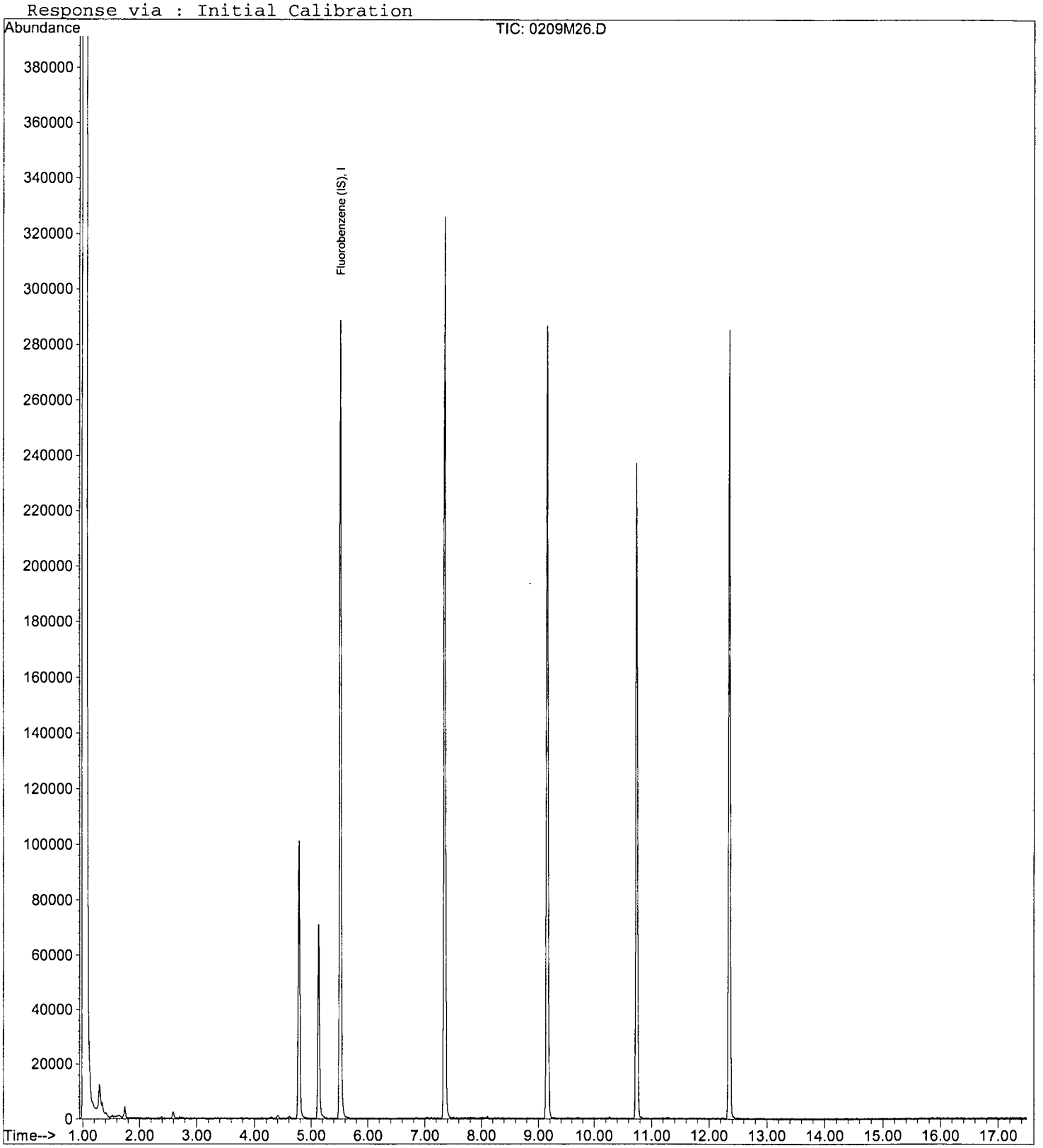
Data File : M:\MAX\DATA\M170127\0209M26.D
Acq On : 9 Feb 17 18:00
Sample : AZ49686W01
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M26.D Vial: 22
Acq On : 9 Feb 17 18:00 Operator: PM,DG,SV,CMM
Sample : AZ49686W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	277667	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	203347	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	98562	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62641	26.30 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.220%	
3) 1,2-DCA-D4(S)	5.13	65	51839	27.47 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.888%	
5) Toluene-D8(S)	7.35	98	244139	24.82 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.272%	
6) 4-Bromofluorobenzene(S)	10.74	95	88895	25.11 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.432%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA METHOD 8260
Gasoline Range Organics (GRO)

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/11/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0111M22.D	0111M23.D	0111M24 D	0111M25.D	0111M26.D	0111M27.D	0111M28.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	13.1	6.078	3.845	2.432	1.824	1.760	1.753				4.4	94	TMHBL	0.998
3																
4																
5																
6																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M22.D Vial: 20
Acq On : 11 Jan 17 18:56 Operator: PM,DG,SV,CMM
Sample : 20ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 12:35 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	347960	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	3655169m	21.64320 ppb	100

(#) = qualifier out of range (m) = manual integration

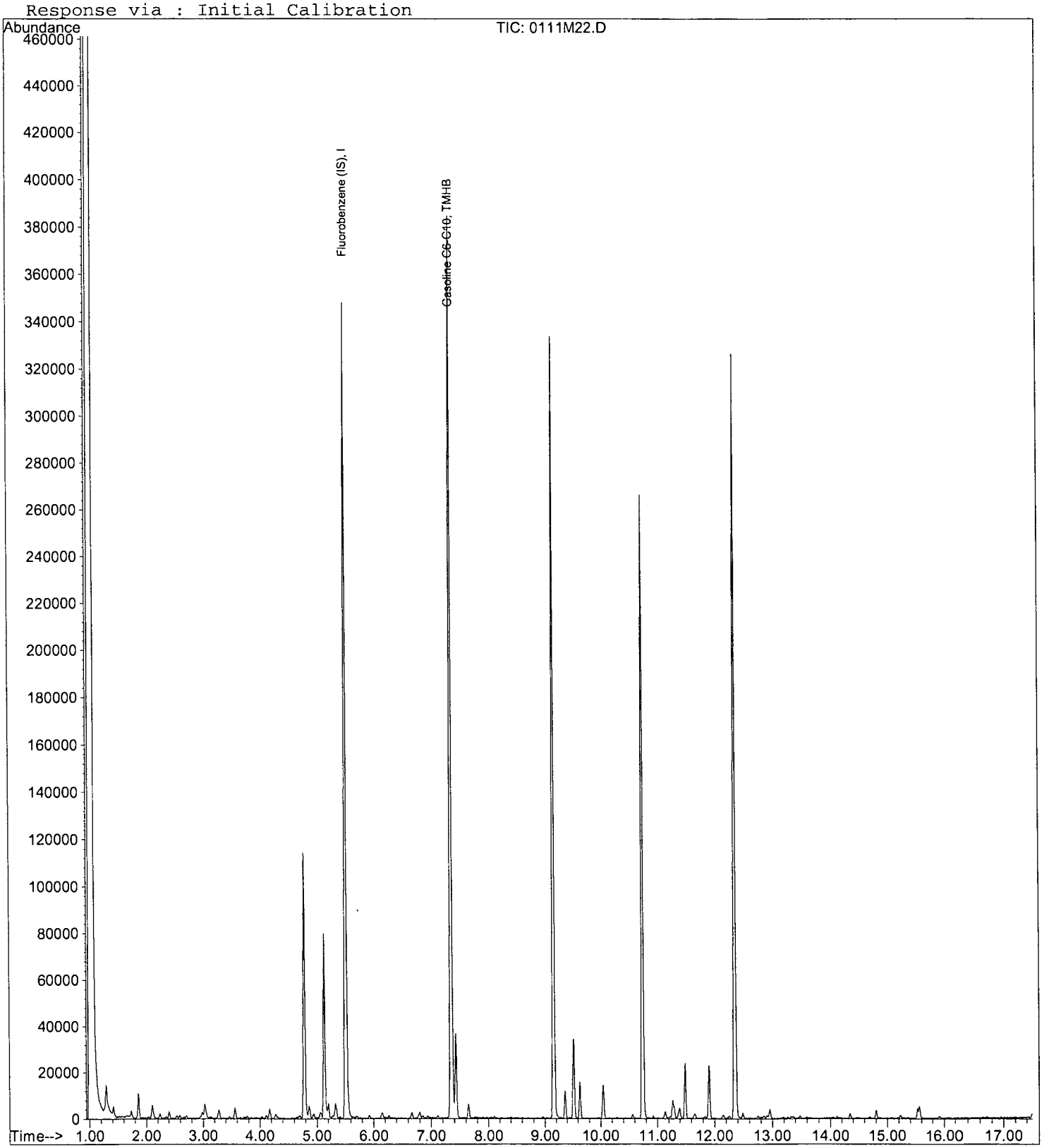
Quantitation Report

Data File : M:\MAX\DATA\M170111\0111M22.D
Acq On : 11 Jan 17 18:56
Sample : 20ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:35 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	356222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	4329888m	50.44105 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

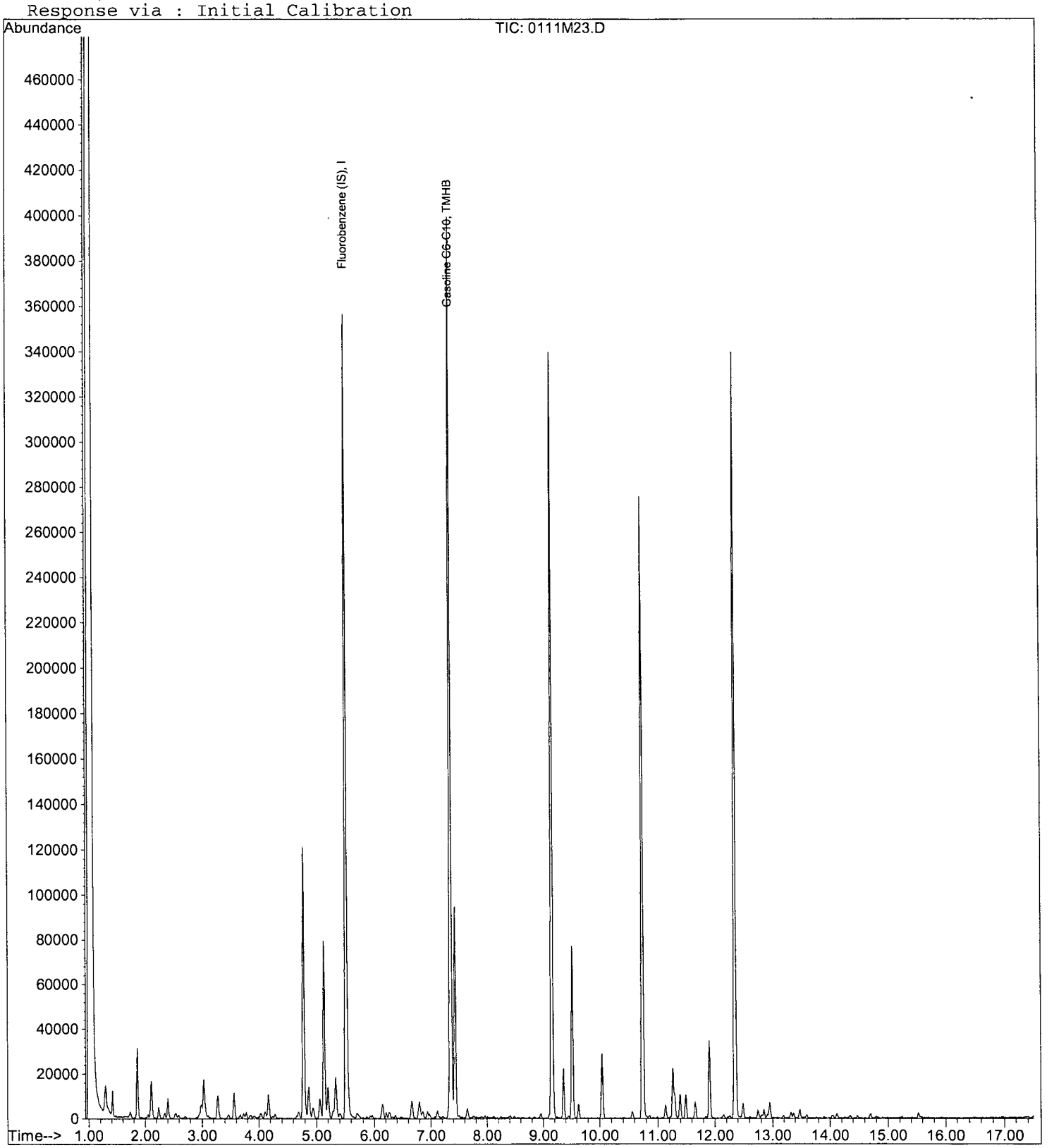
Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M24.D Vial: 22
Acq On : 11 Jan 17 19:53 Operator: PM,DG,SV,CMM
Sample : 100ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 12:37 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348169	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	5338460m	105.89075 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

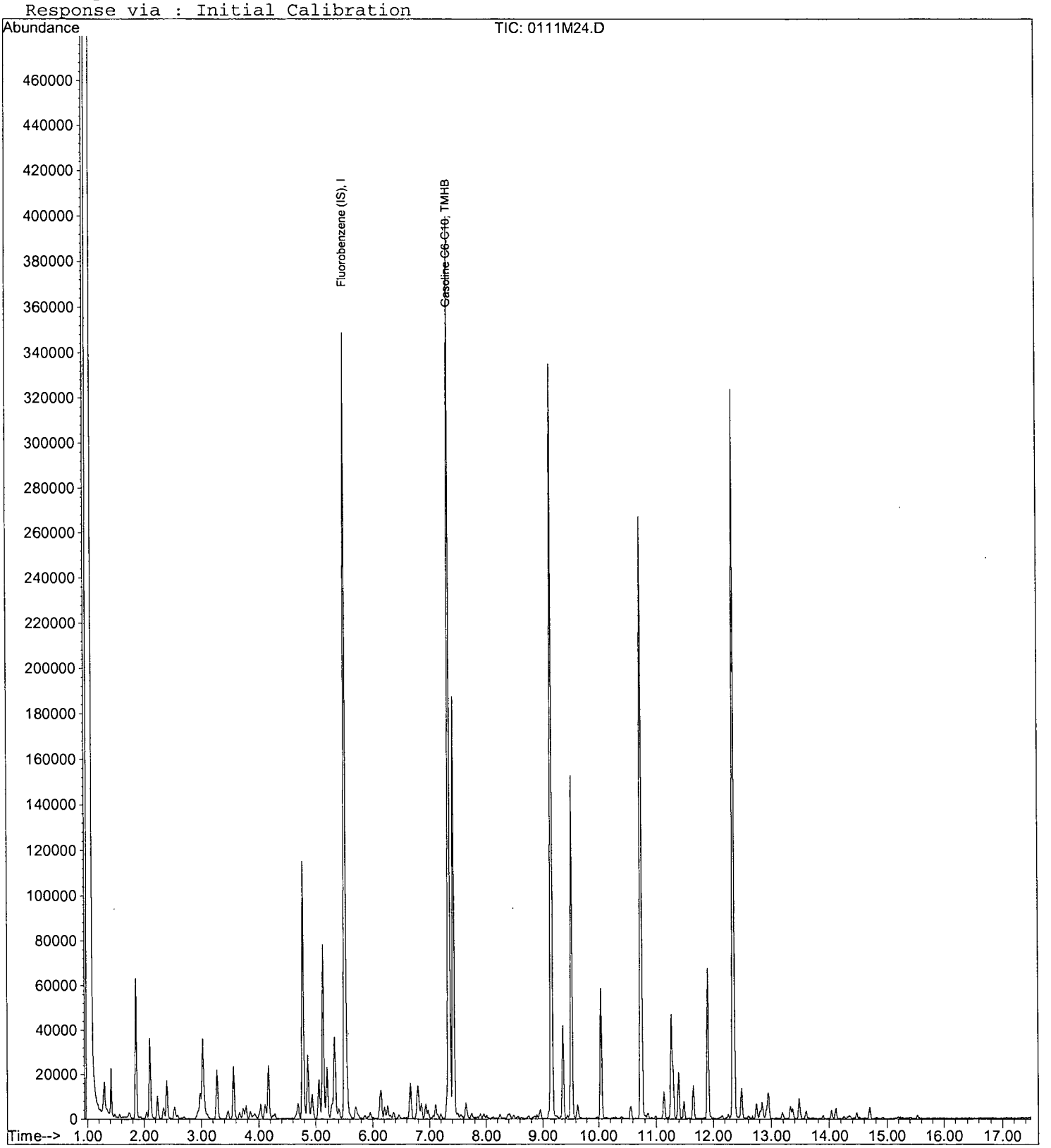
Data File : M:\MAX\DATA\M170111\0111M24.D
Acq On : 11 Jan 17 19:53
Sample : 100ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M25.D Vial: 23
Acq On : 11 Jan 17 20:21 Operator: PM,DG,SV,CMM
Sample : 300ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 12:38 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	335759	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8964309m	304.20348 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

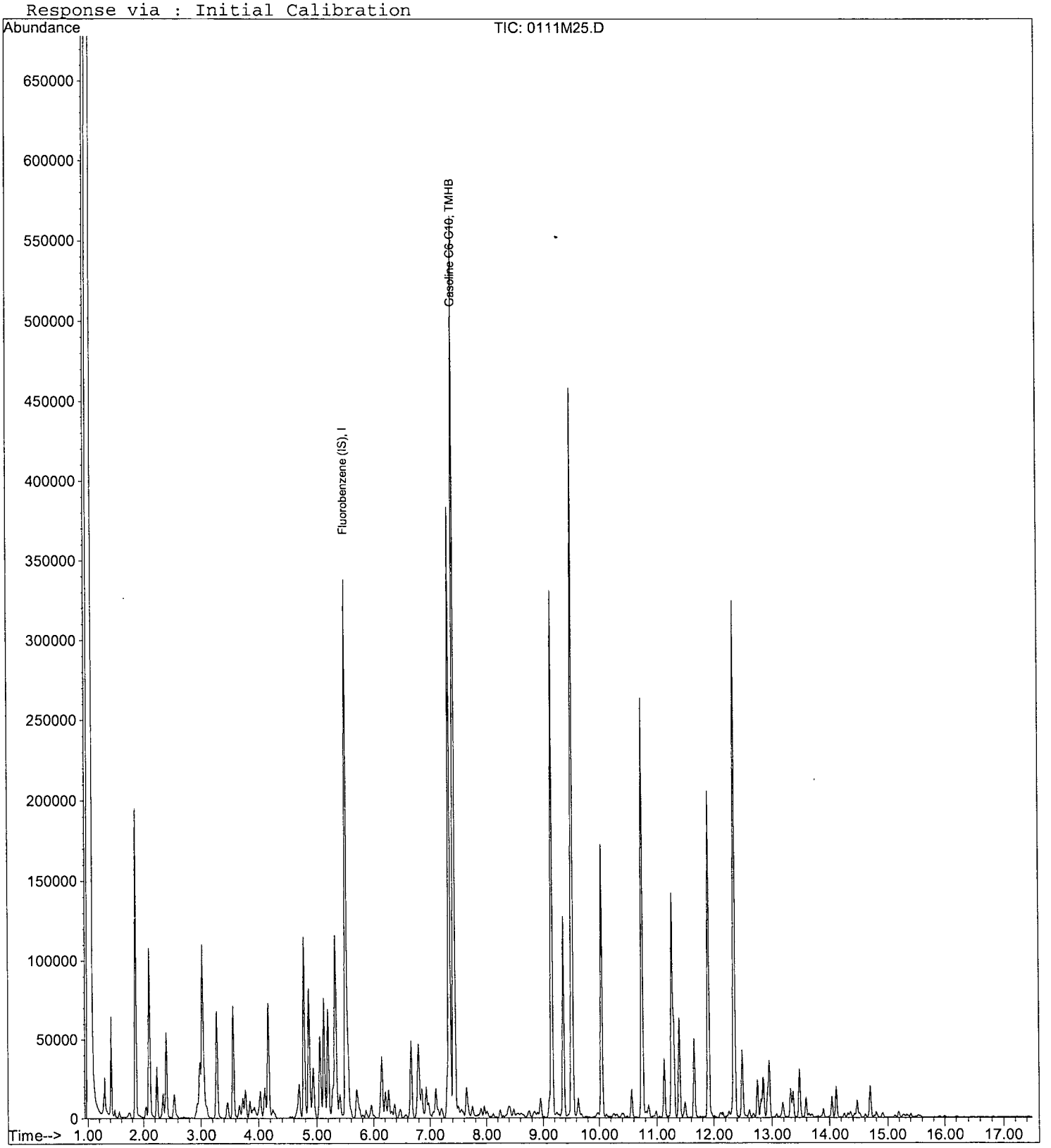
Data File : M:\MAX\DATA\M170111\0111M25.D
Acq On : 11 Jan 17 20:21
Sample : 300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:38 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	344780	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	15091213m	602.08069	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

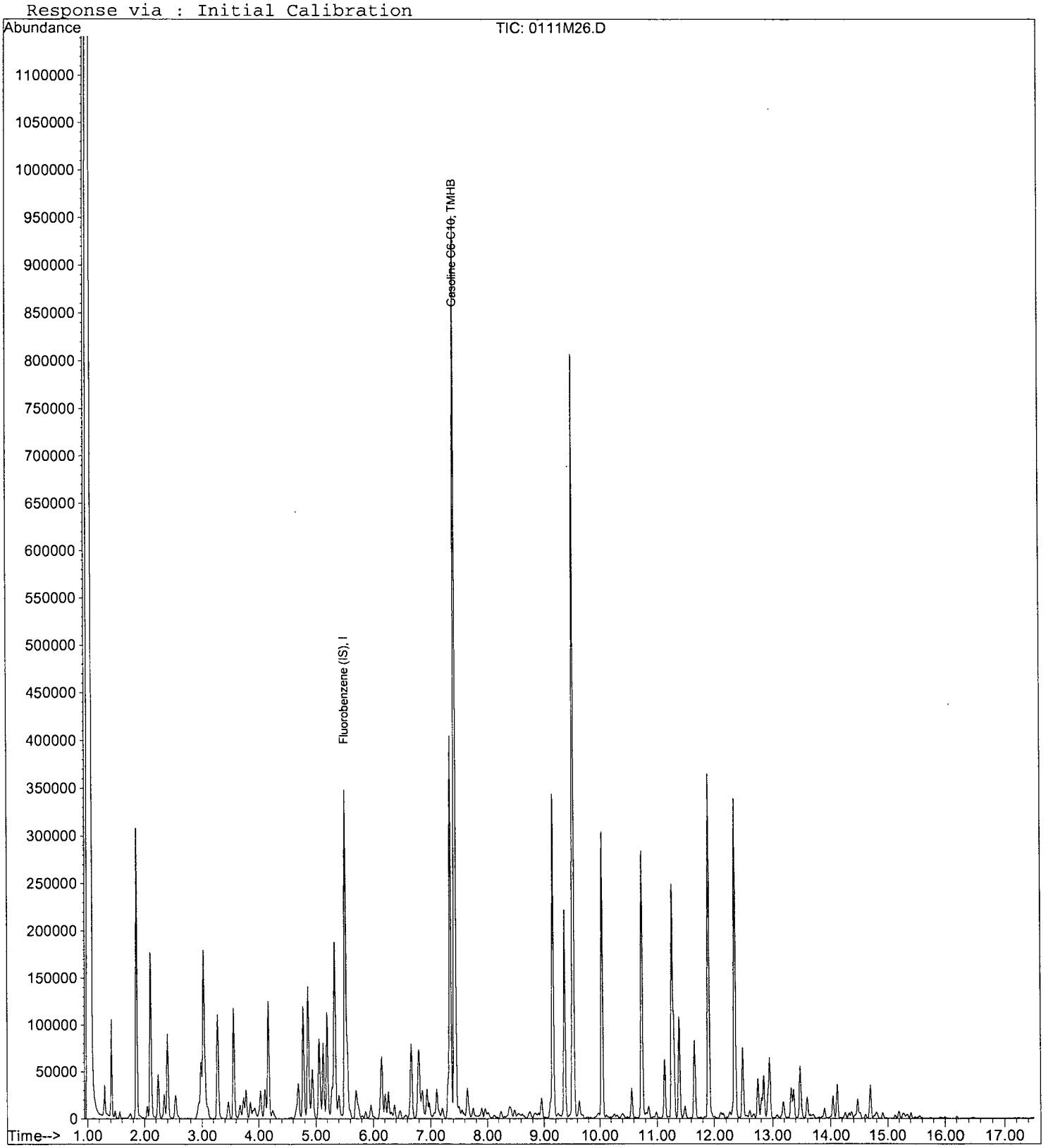
Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348982	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	19651549m	820.89221 ppb	100

(#) = qualifier out of range (m) = manual integration

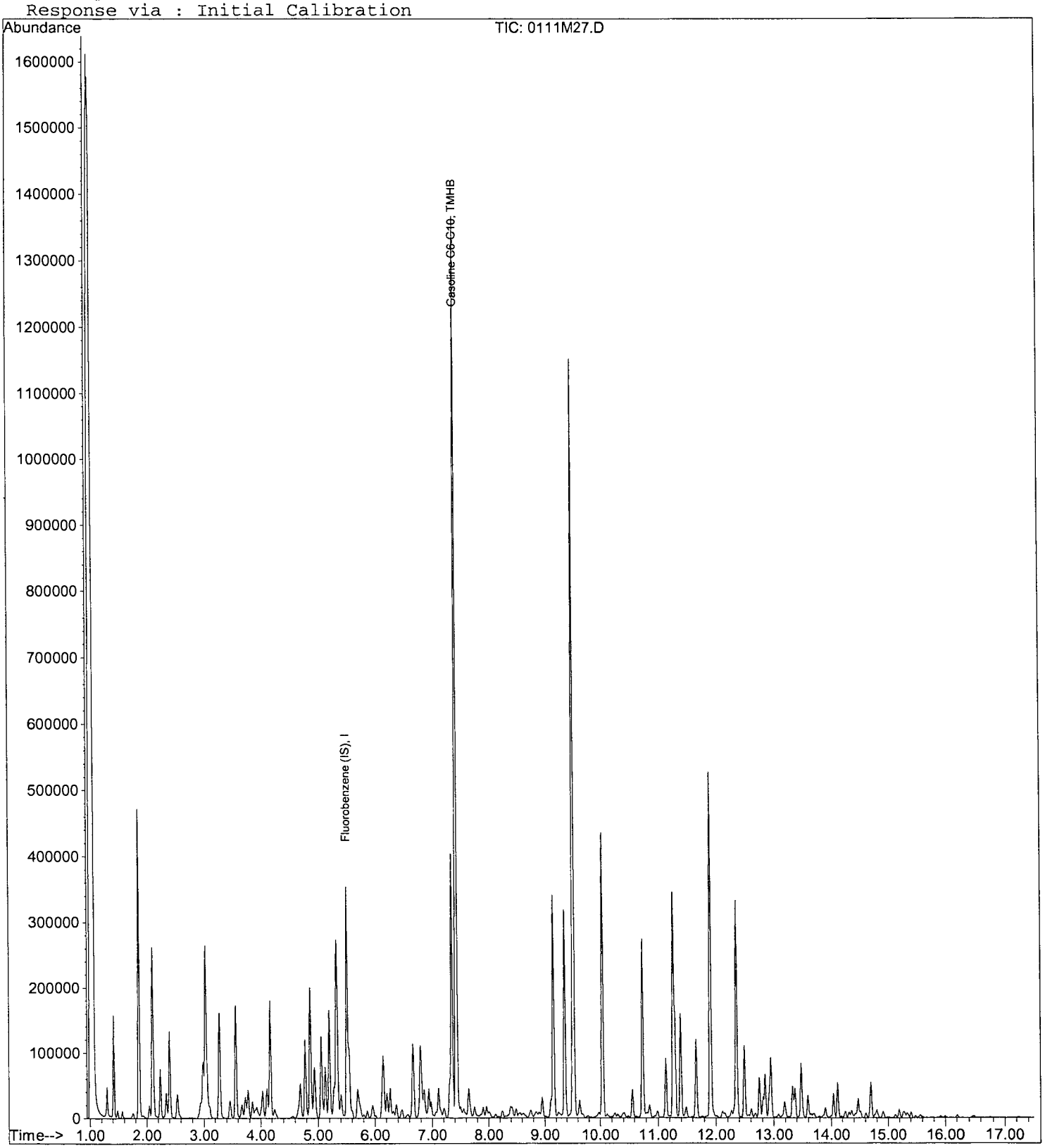
Quantitation Report

Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M28.D Vial: 26
Acq On : 11 Jan 17 21:46 Operator: PM,DG,SV,CMM
Sample : 1000ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 13:09 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	369516	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	25906480m	1061.64762 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

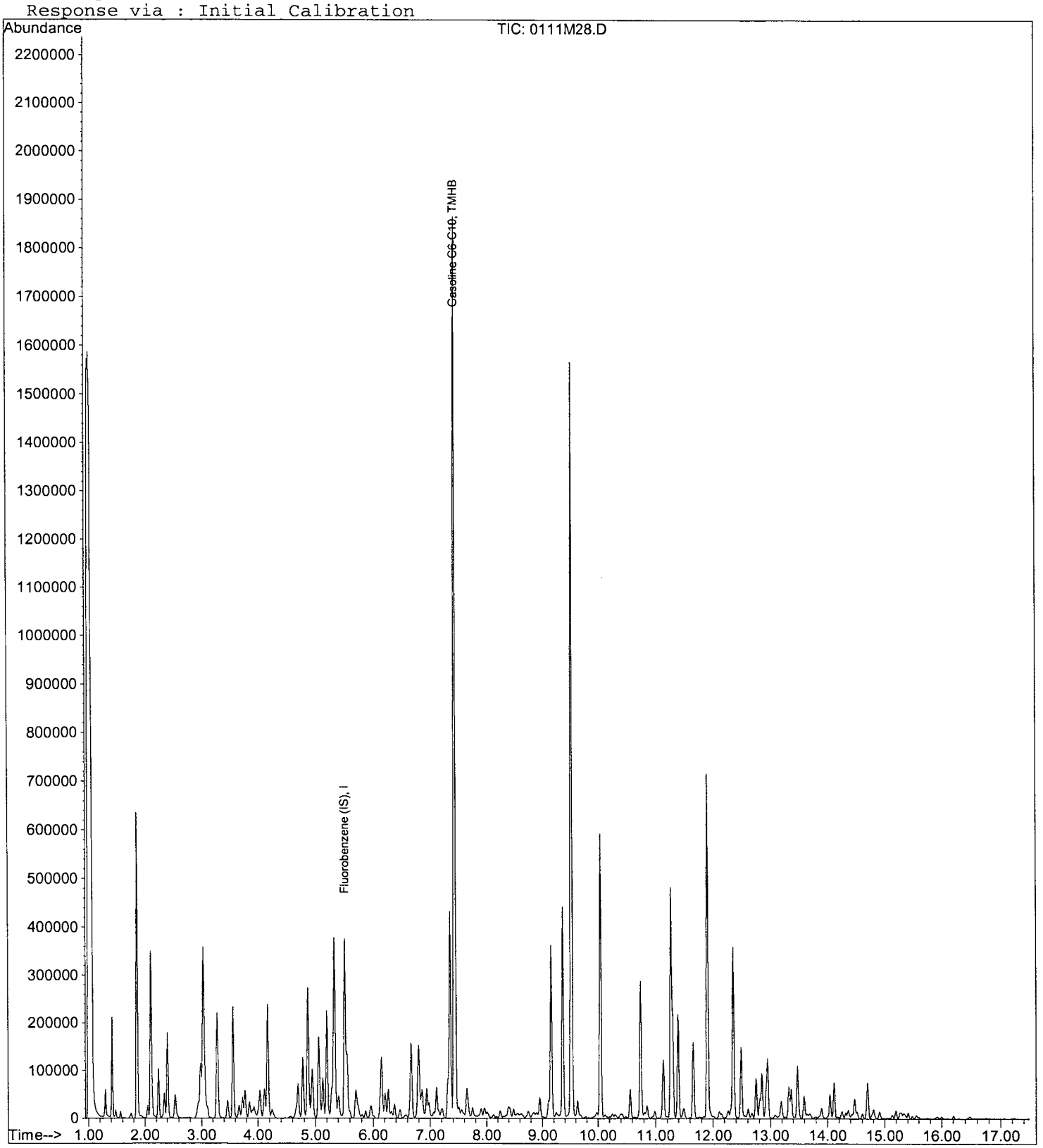
Data File : M:\MAX\DATA\M170111\0111M28.D
Acq On : 11 Jan 17 21:46
Sample : 1000ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

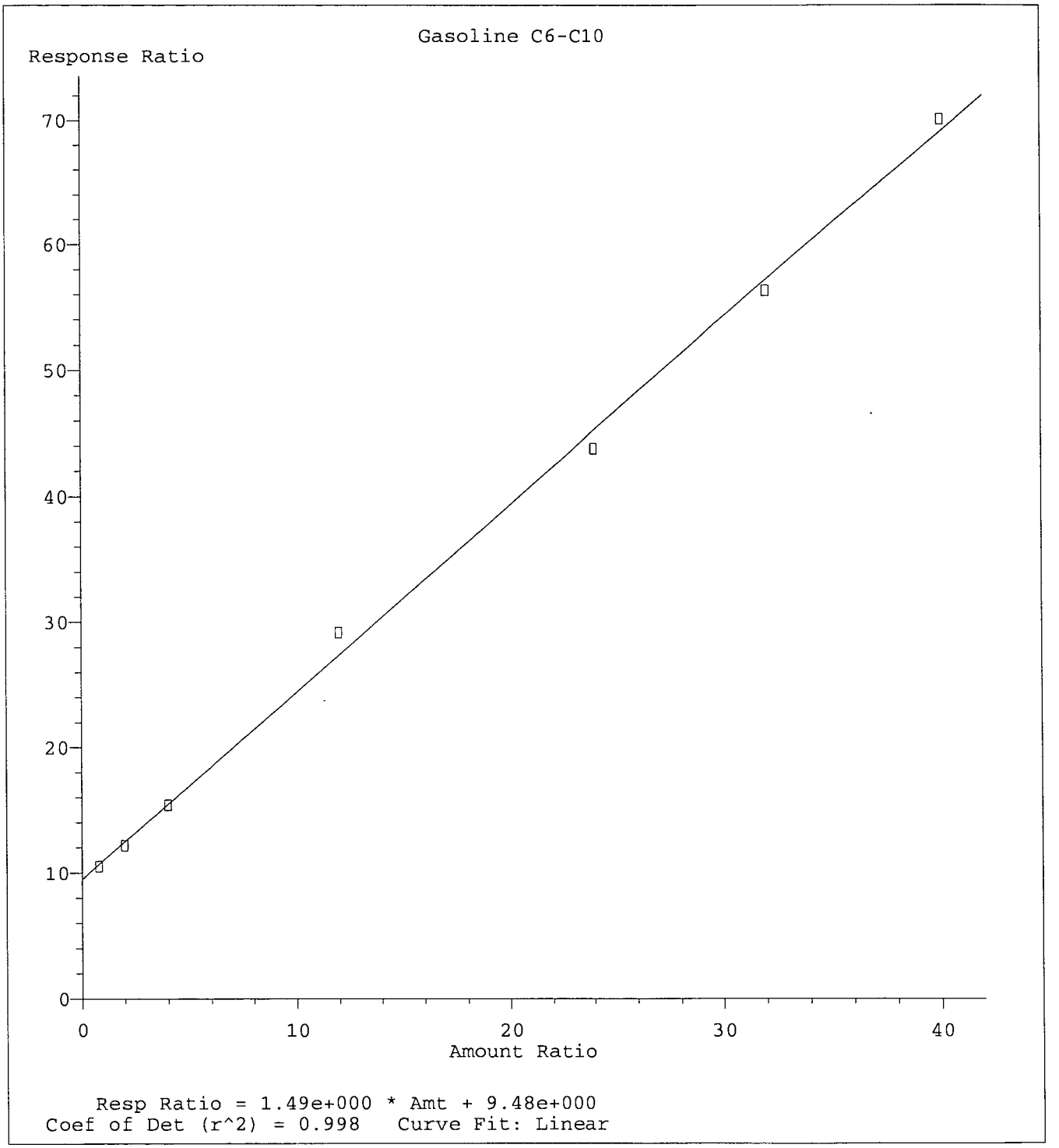
Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:09 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170111\MGAS6111.M
Calibration Table Last Updated: Thu Jan 12 13:09:40 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/11/17
Instrument: Max
Initial Cal. Date: 1/11/17
Data File: 0111M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.403	2.526	43	TMHBL	16
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			43.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	337548	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	10230204m	349.43485 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

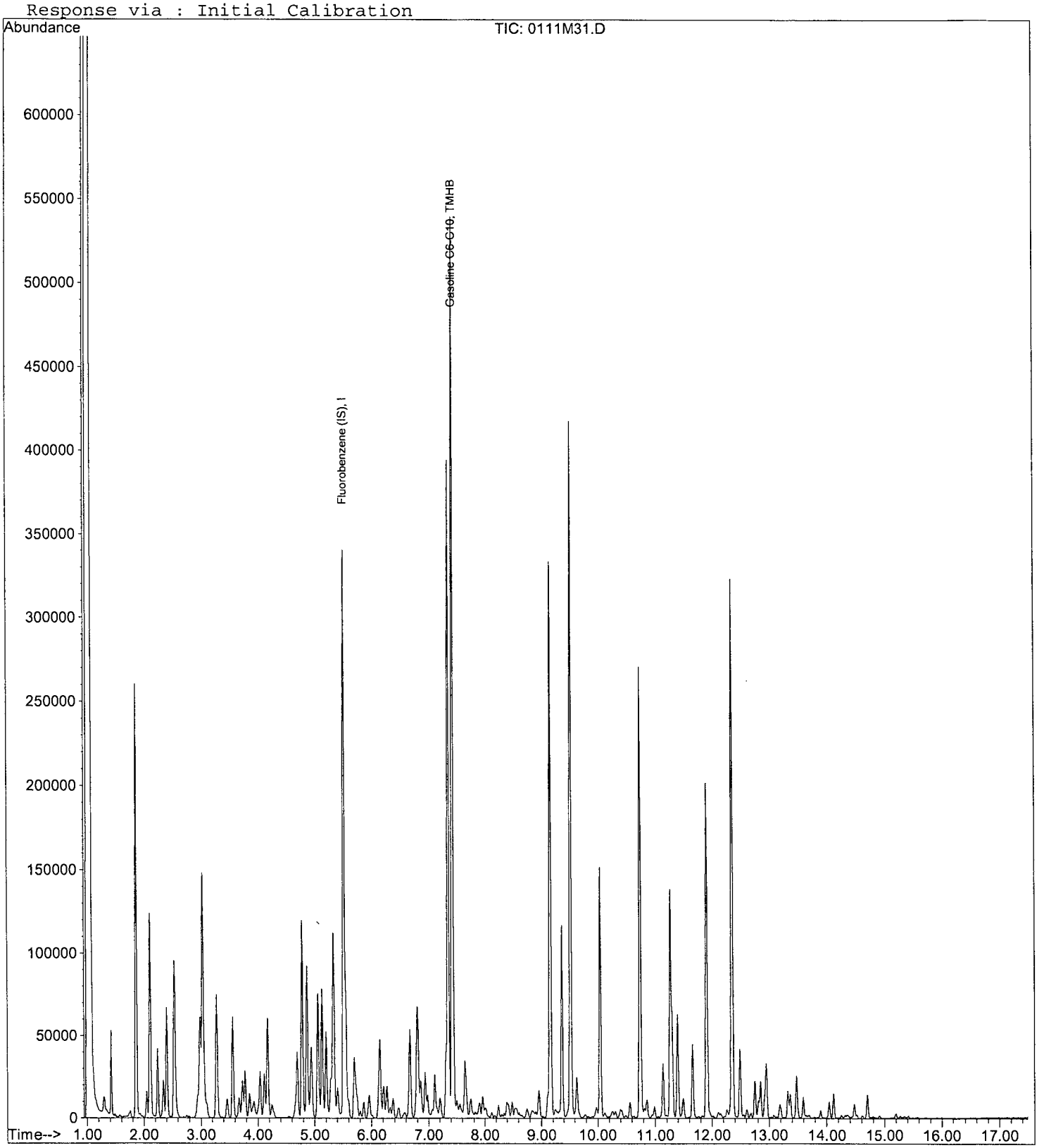
Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
3	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
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35																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	14557	5.43023 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
3) 1,2-DCA-D4(S)	5.13	65	11763	5.53763 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.152%	
5) Toluene-D8(S)	7.35	98	57915	5.51206 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.048%	
6) 4-Bromofluorobenzene(S)	10.74	95	20580	5.44224 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.768%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

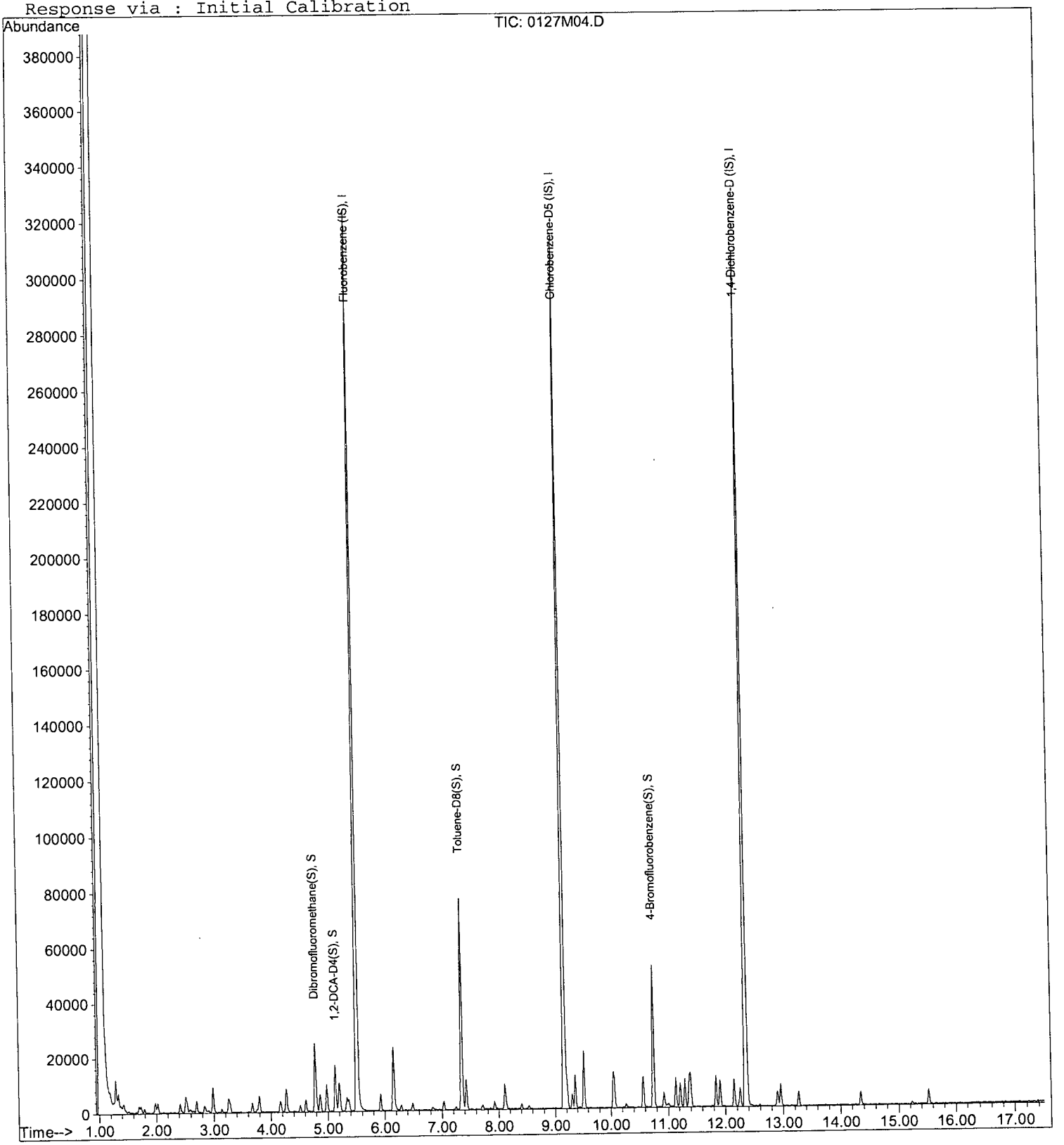
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13937	5.12533 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.500%	
3) 1,2-DCA-D4(S)	5.13	65	10688	4.96030 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.840%	
5) Toluene-D8(S)	7.35	98	52662	4.84931 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	18960	4.85099 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.404%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

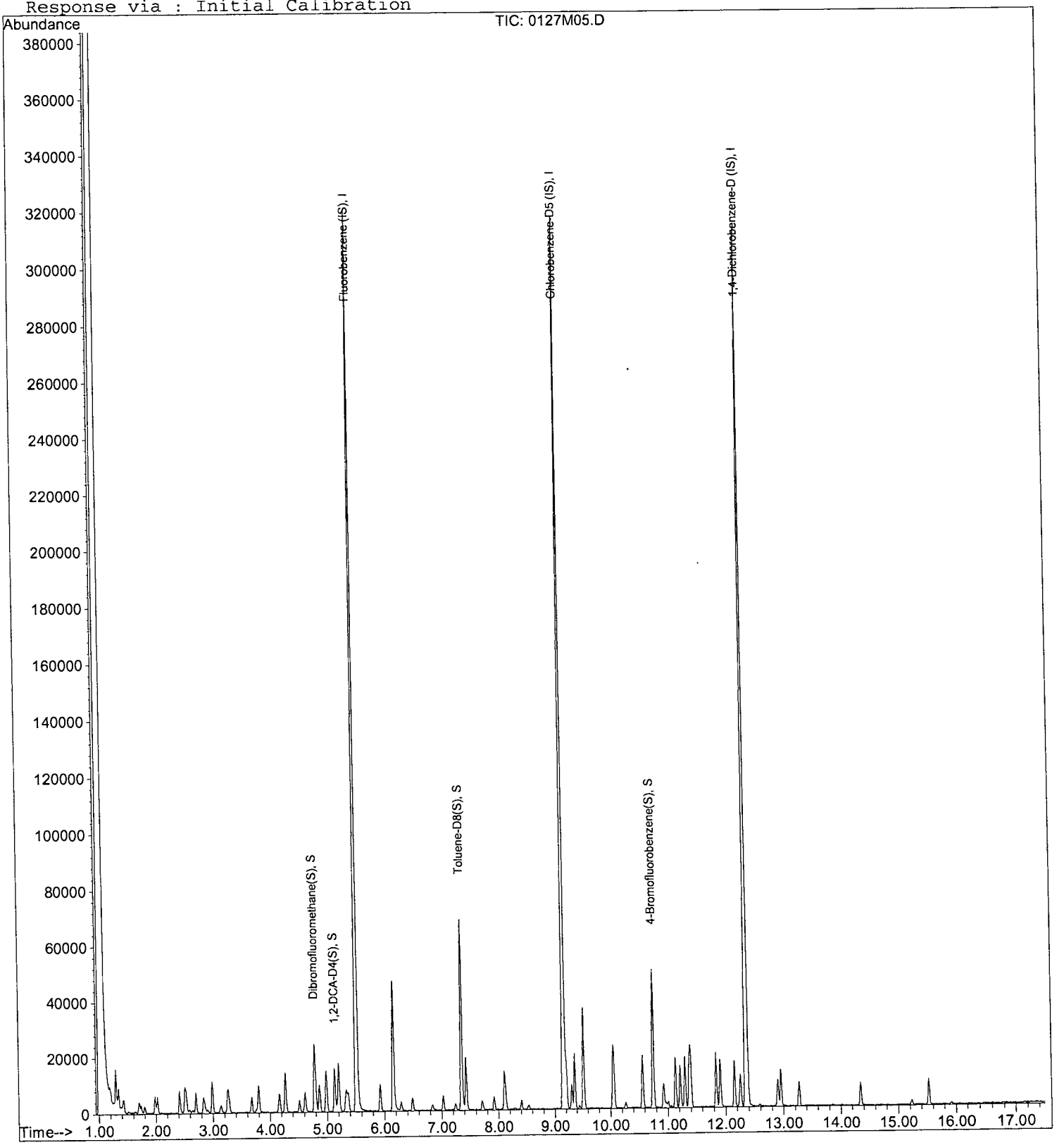
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	24009	8.88481 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.540%	
3) 1,2-DCA-D4(S)	5.13	65	19787	9.24089 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.964%	
5) Toluene-D8(S)	7.35	98	96515	9.02332 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.092%	
6) 4-Bromofluorobenzene(S)	10.74	95	34814	9.04347 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M06.D MSUR127.M Tue Jan 31 08:35:53 2017

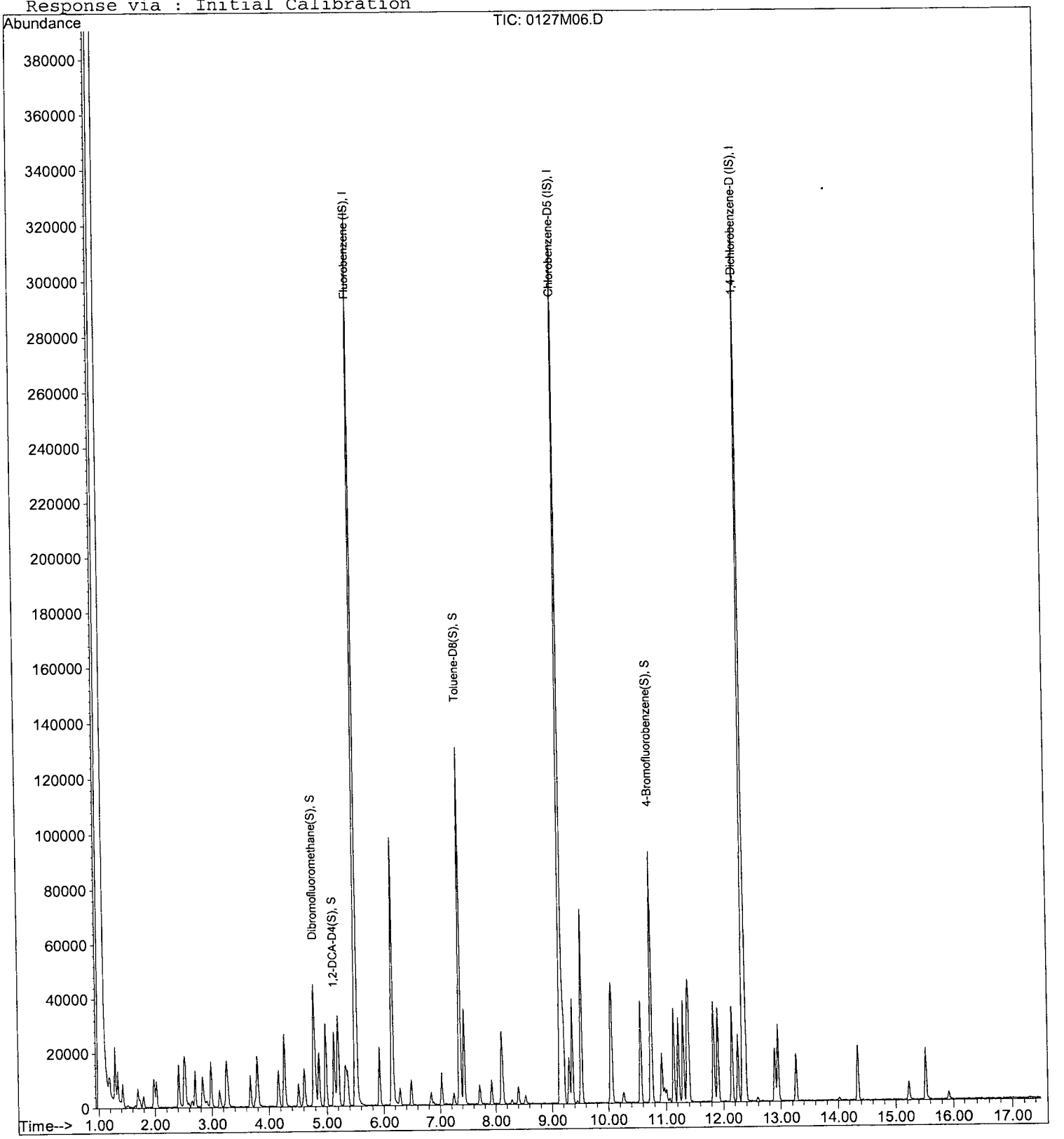
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
3) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
5) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M07.D MSUR127.M Tue Jan 31 08:35:56 2017

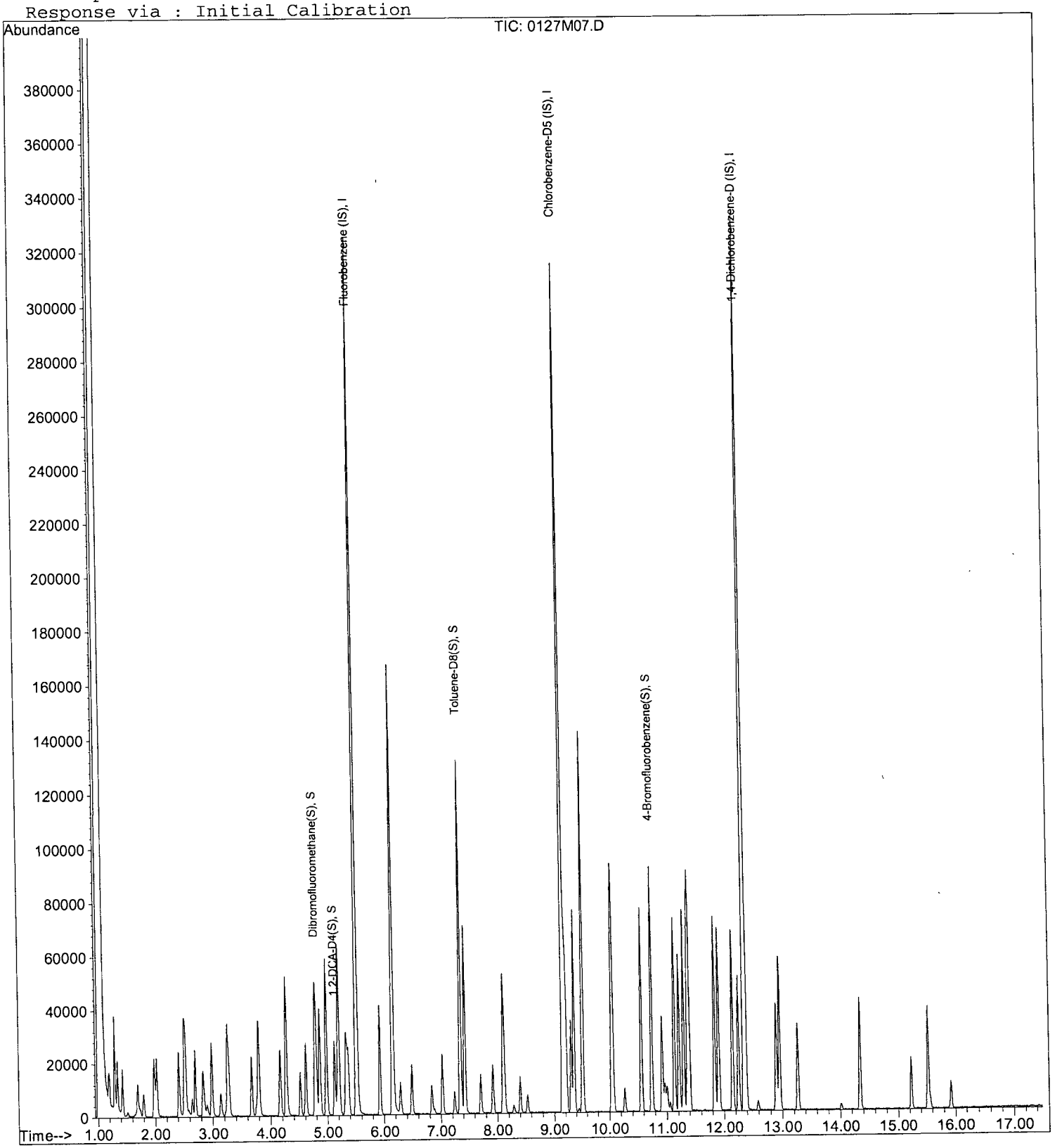
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
3) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
5) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
6) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M08.D MSUR127.M Tue Jan 31 08:36:00 2017

Quantitation Report

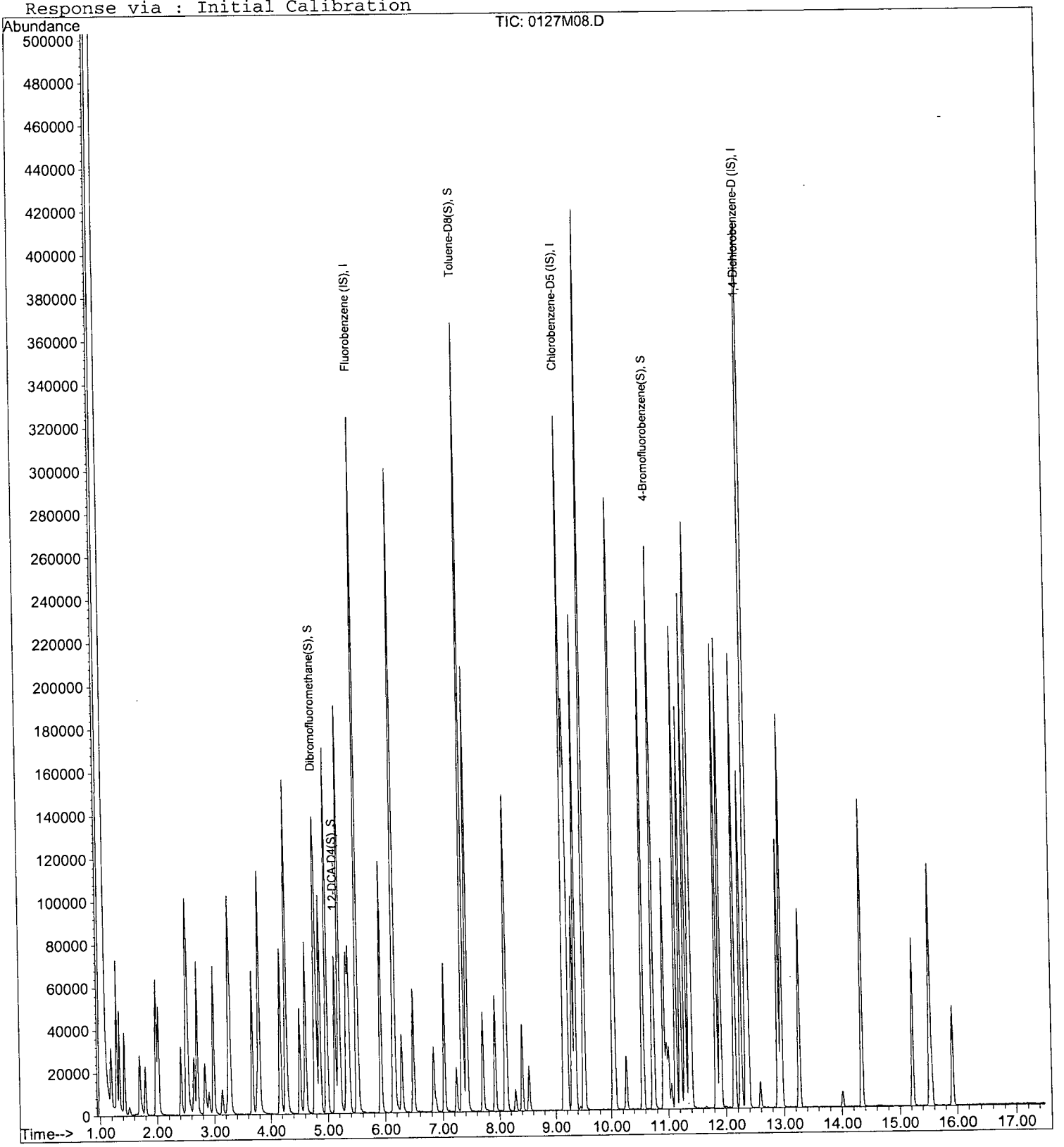
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
3) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
5) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
6) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M09.D MSUR127.M Tue Jan 31 08:36:04 2017

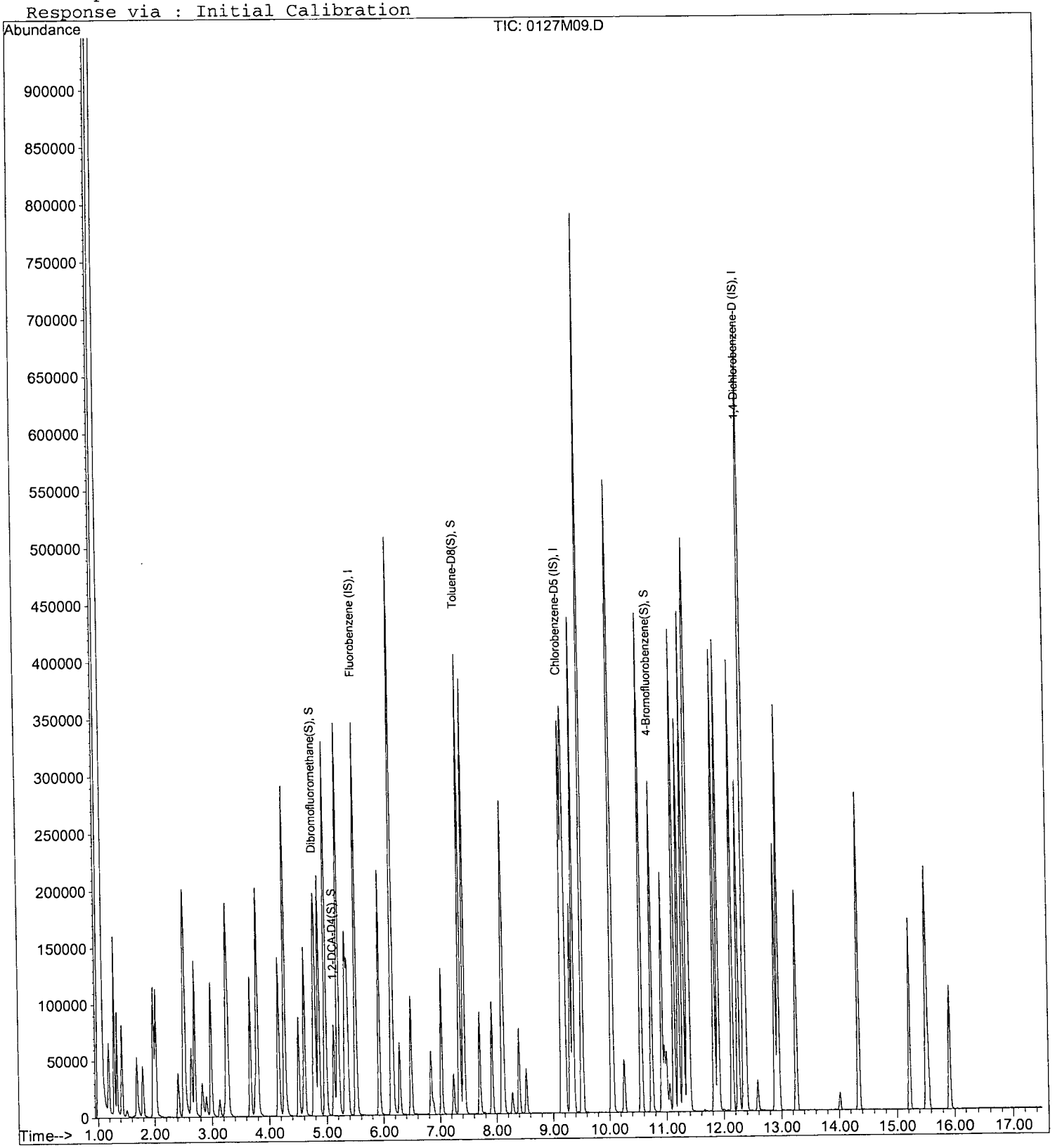
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
3) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
5) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M10.D MSUR127.M Tue Jan 31 08:36:08 2017

Quantitation Report

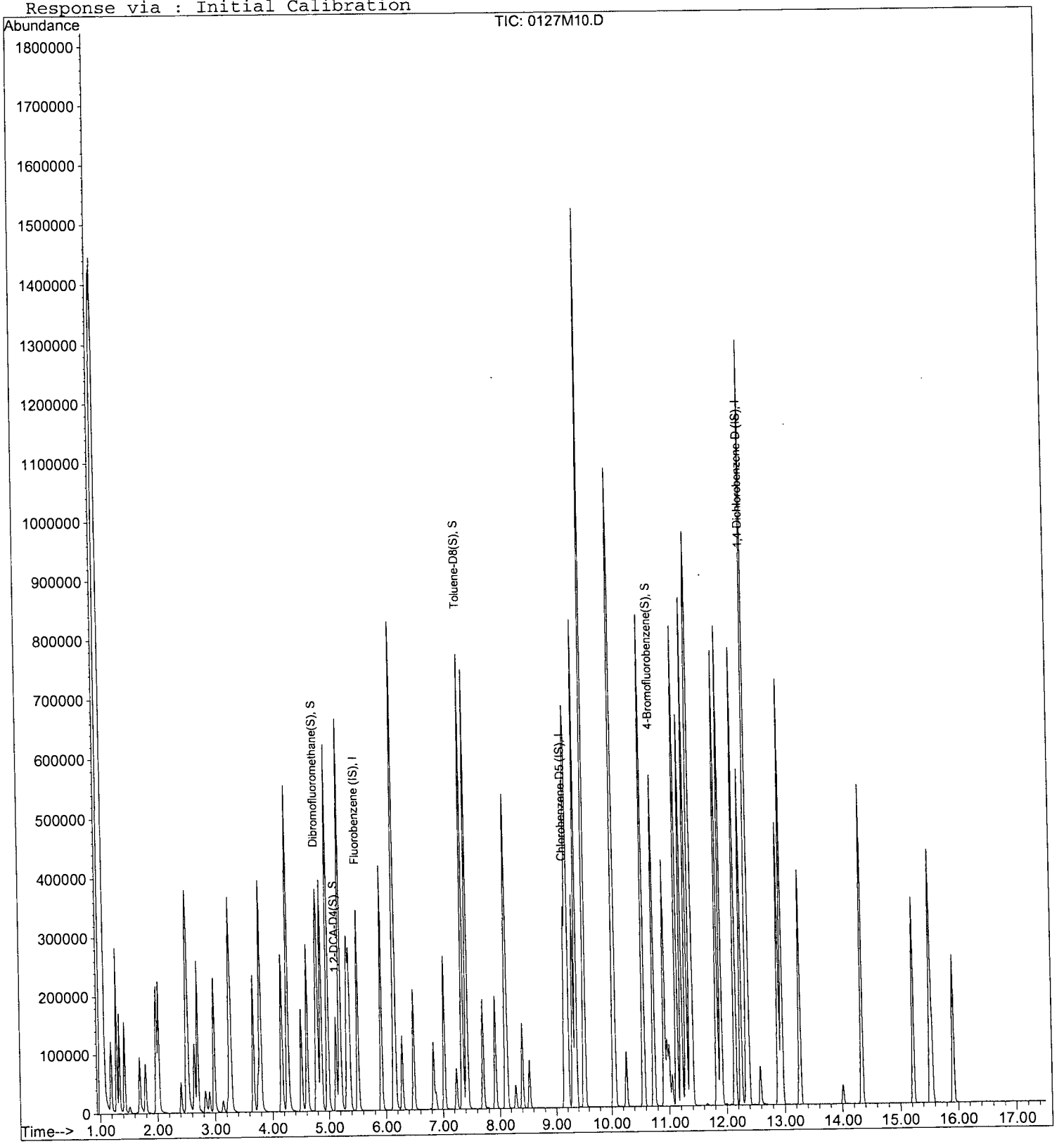
Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
3) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
5) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

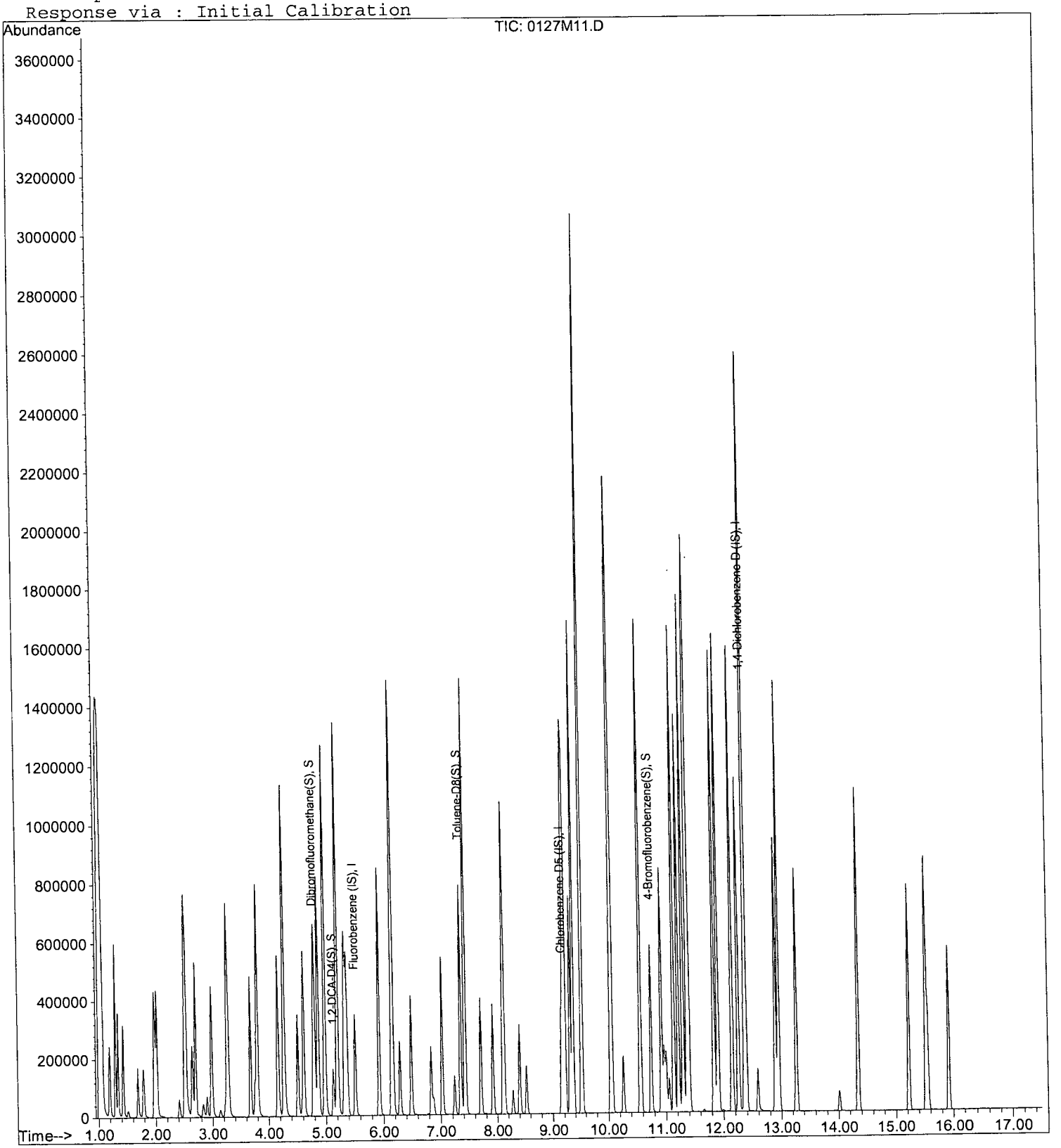
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
3) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
5) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

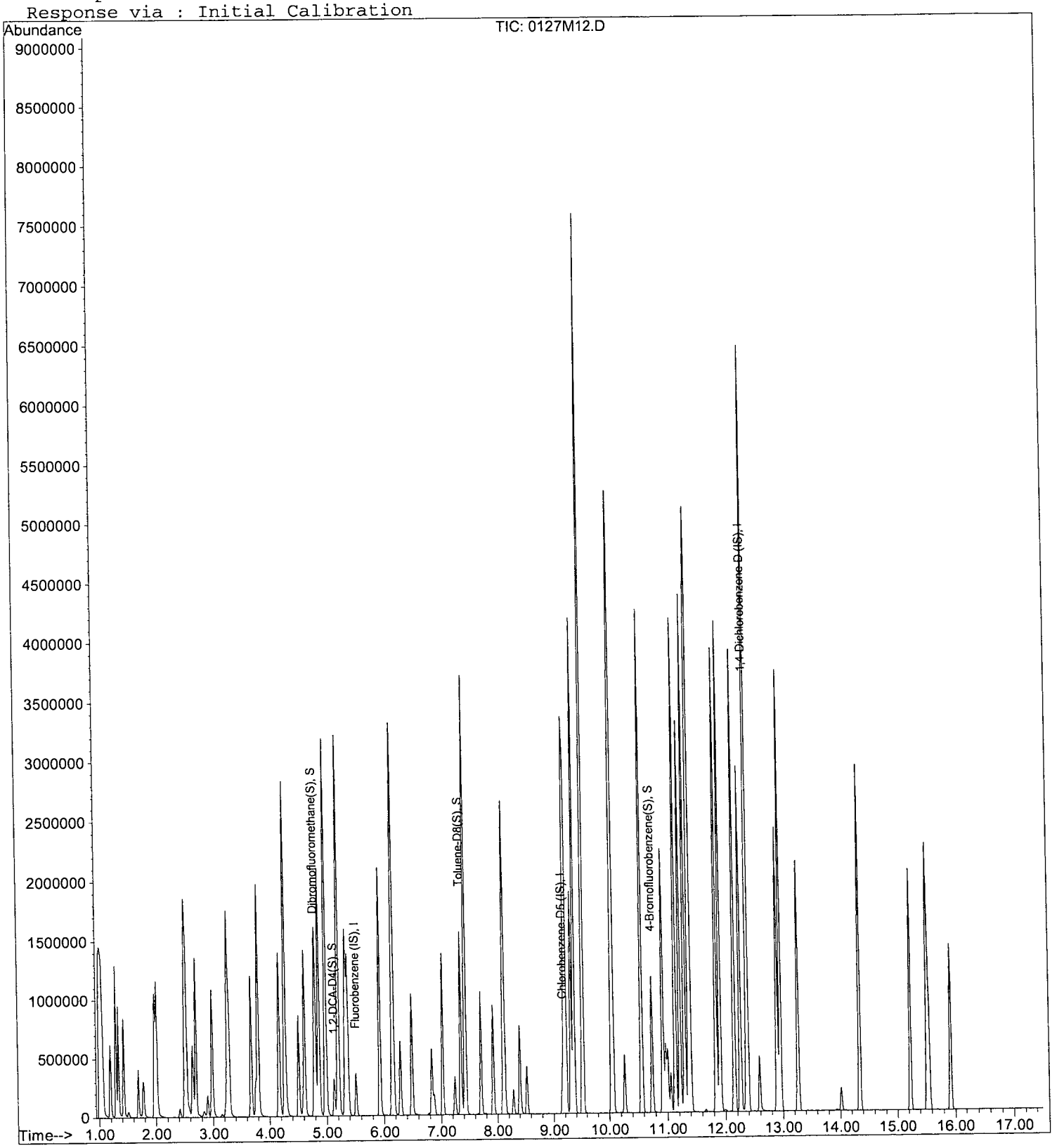
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 9:57
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M09.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.255	49	TMHBL	1.7
3							
4							
5							
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39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	309319	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8369339m	294.89 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

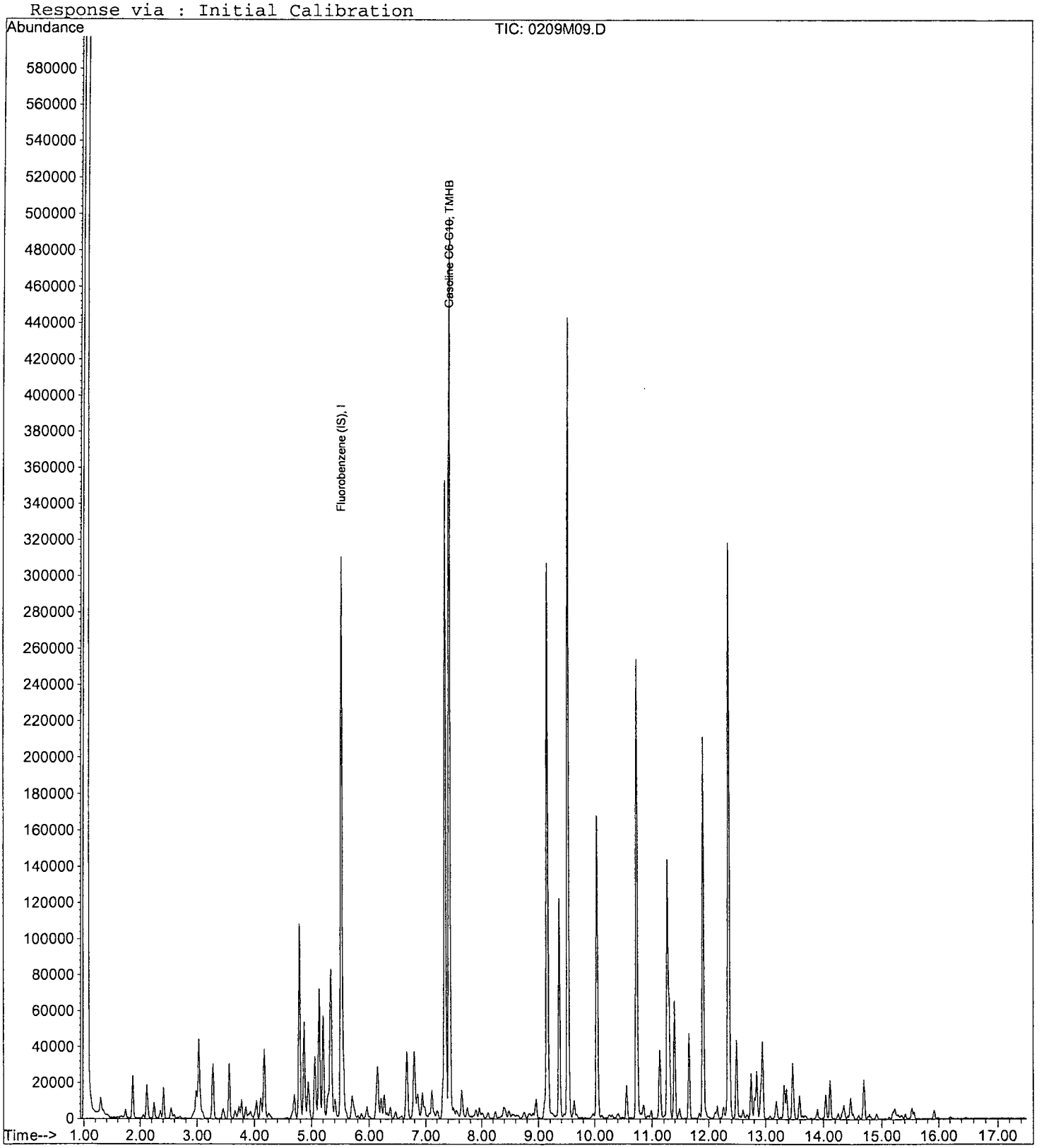
Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 9:57
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M09.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2193	2.3	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1737	2.3	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.212	0.20	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4464	2.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
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38							
39							
40							
		Average			1.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	297773	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	215467	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	114414	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65288	25.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
3) 1,2-DCA-D4(S)	5.13	65	51734	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
5) Toluene-D8(S)	7.35	98	261120	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.204%	
6) 4-Bromofluorobenzene(S)	10.74	95	96177	25.64 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.548%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 20:22
Instrument: Max
Initial Cal. Date: 01/11/17
Data File: 0209M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.246	49	TMHBL	2.3
3							
4							
5							
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39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M31.D Vial: 27
Acq On : 9 Feb 17 20:22 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:53 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295564	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7964789m	293.05 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

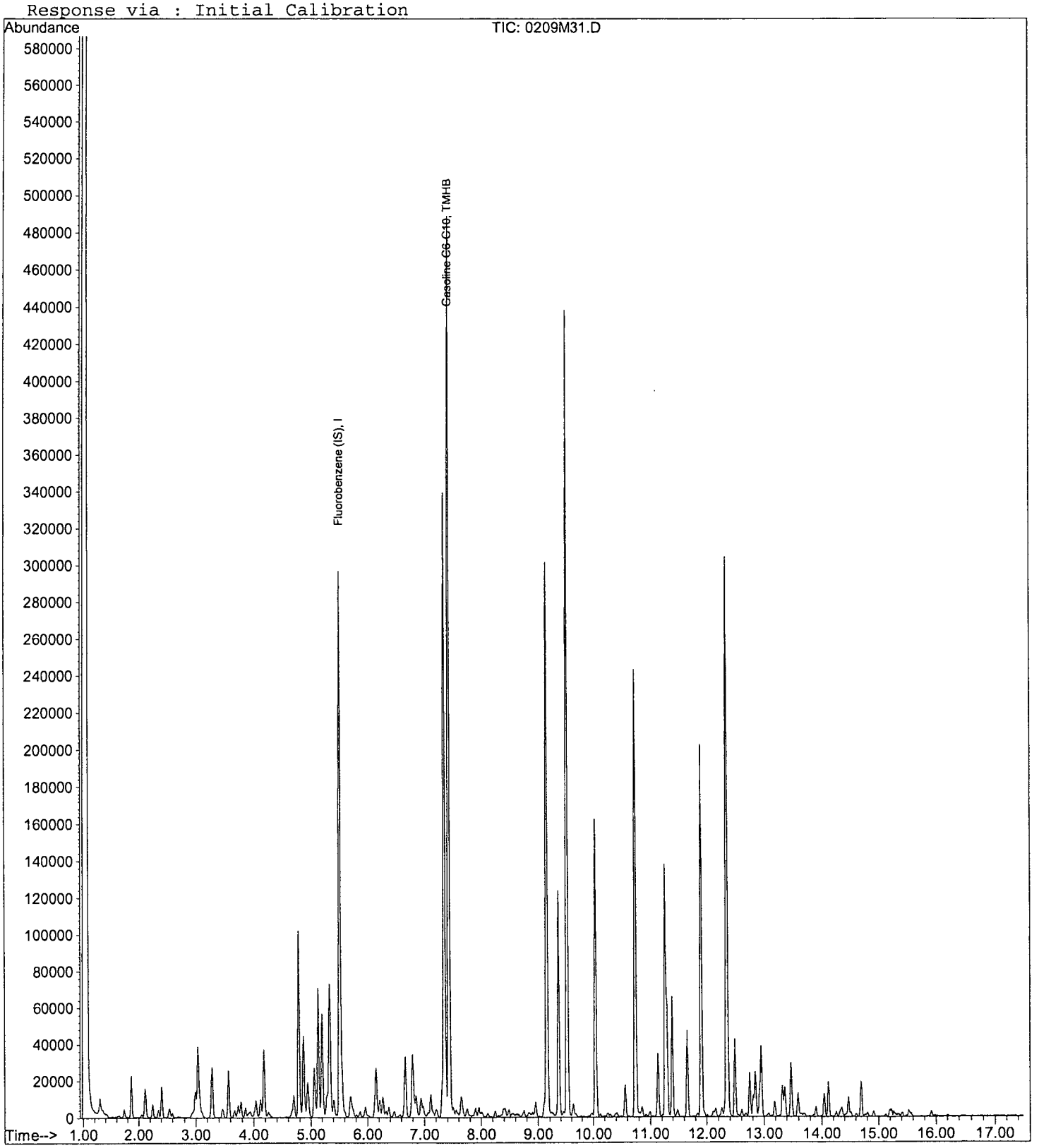
Data File : M:\MAX\DATA\M170127\0209M31.D
Acq On : 9 Feb 17 20:22
Sample : Ending CCV 8260 300ug/L 02/09/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:53 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 20:22
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2159	0.67	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1741	2.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.212	0.25	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4395	0.98	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
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39							
40							
		Average			1.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M31.D Vial: 27
Acq On : 9 Feb 17 20:22 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	289416	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	210245	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	106798	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62471	25.17 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.672%	
3) 1,2-DCA-D4(S)	5.13	65	50380	25.61 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.460%	
5) Toluene-D8(S)	7.35	98	254902	25.06 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.248%	
6) 4-Bromofluorobenzene(S)	10.74	95	92408	25.24 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.976%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 2/11/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0211M08.D	0211M09.D	0211M10.D	0211M11.D	0211M12.D	0211M13.D	0211M14.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	11.5	5.746	4.005	2.663	2.410	2.364	2.332				4.4	76	TMHBL	1.000
3																
4																
5																
6																
7																
8																
9																
10																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M08.D Vial: 8
Acq On : 11 Feb 17 12:52 Operator: PM,DG,SV,CMM
Sample : 20ppb GAS STD 02/11/17A Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	293113	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	2692304m	22.09310 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

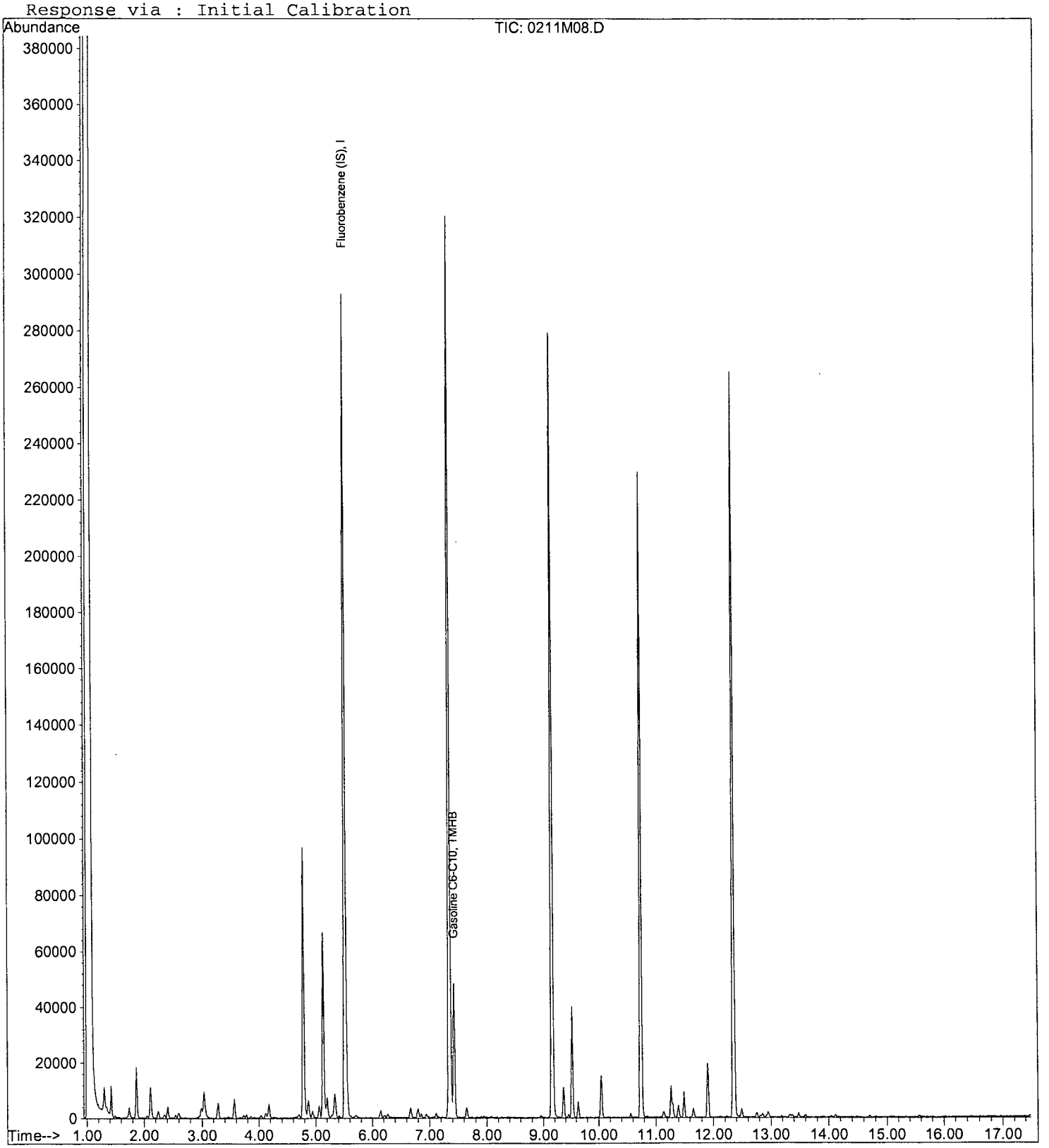
Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M09.D Vial: 9
Acq On : 11 Feb 17 13:20 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 02/11/17B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290206	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	3335070m	50.30162 ppb	100

(#) = qualifier out of range (m) = manual integration

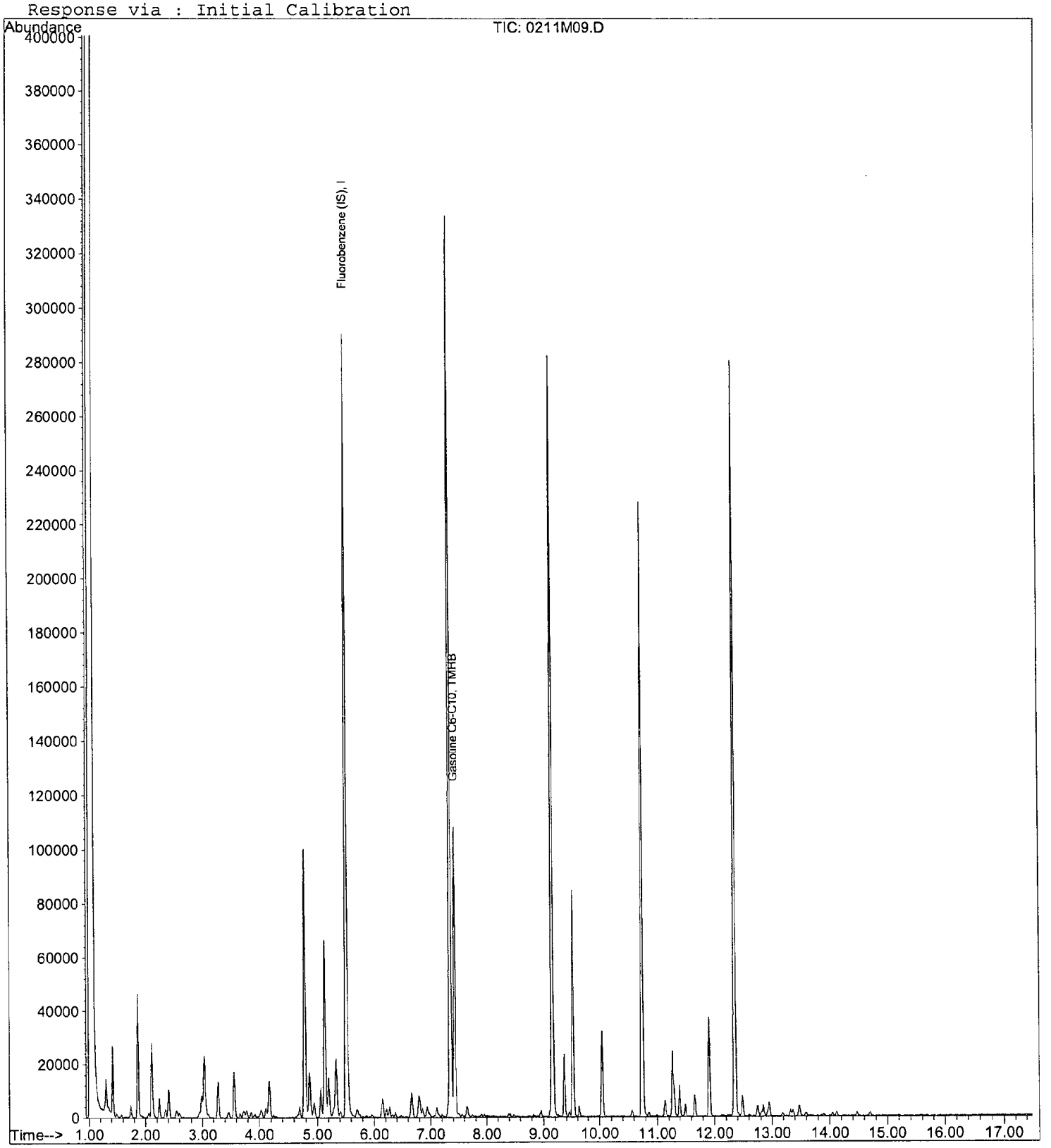
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M09.D
Acq On : 11 Feb 17 13:20
Sample : 50ppb GAS STD 02/11/17B
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M10.D Vial: 10
Acq On : 11 Feb 17 13:48 Operator: PM,DG,SV,CMM
Sample : 100ppb GAS STD 02/11/17C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	305473	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	4893597m	105.66606 ppb	100

(#) = qualifier out of range (m) = manual integration

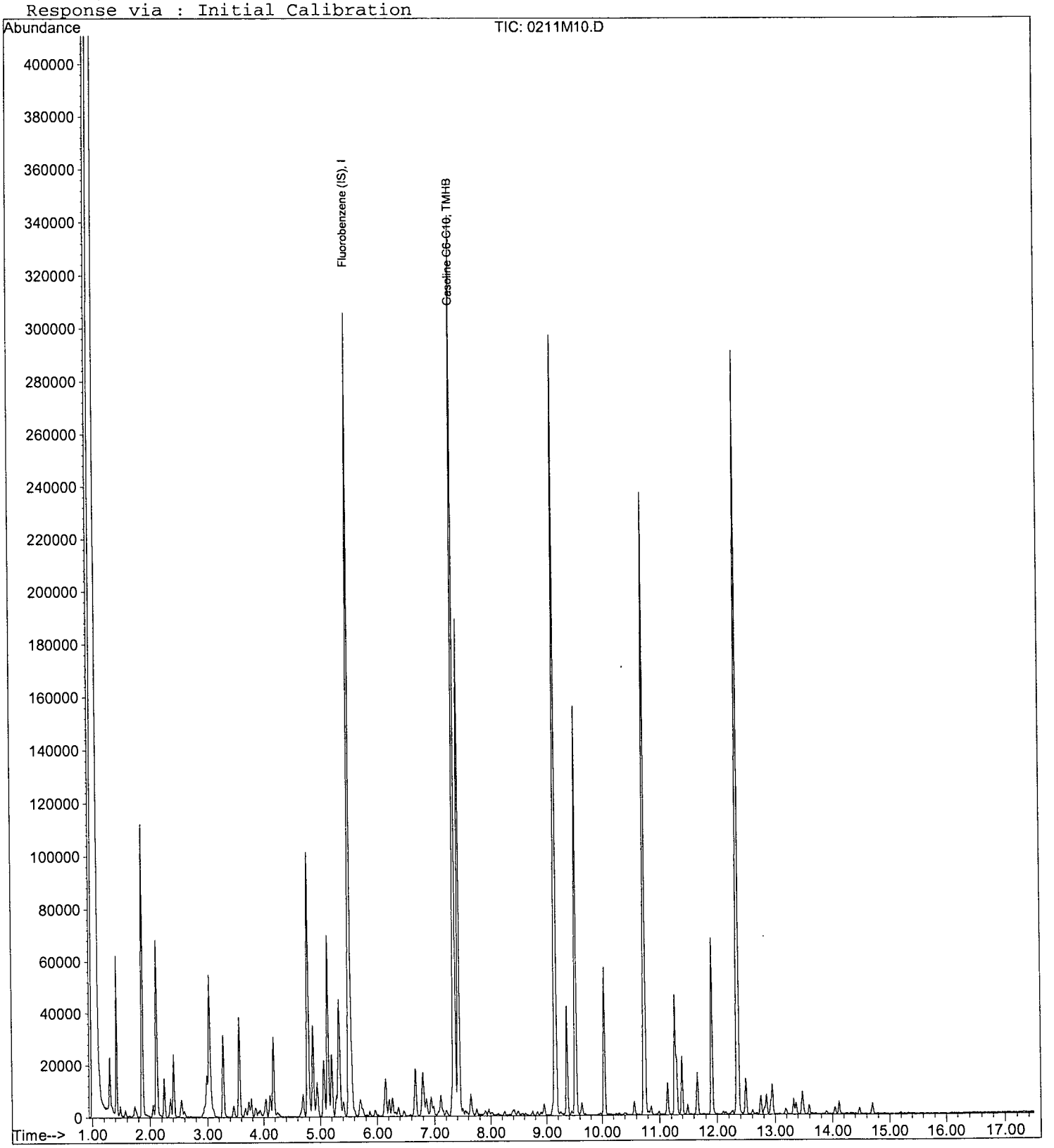
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M11.D Vial: 11
Acq On : 11 Feb 17 14:16 Operator: PM,DG,SV,CMM
Sample : 300ppb GAS STD 02/11/17D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:07 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	304946	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9745877m	300.57649 ppb	100

(#) = qualifier out of range (m) = manual integration

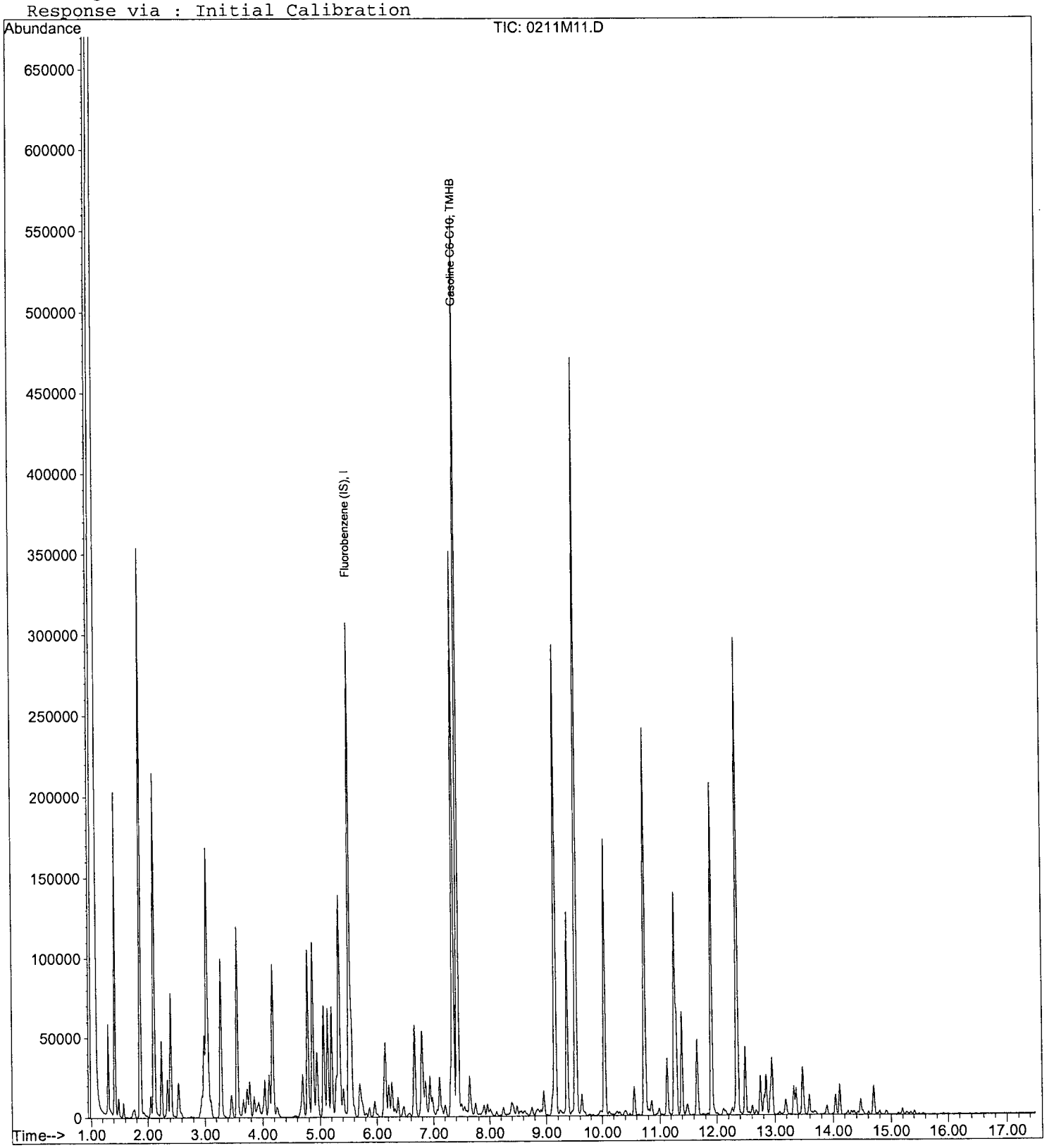
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295633	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	17097428m	616.96425	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

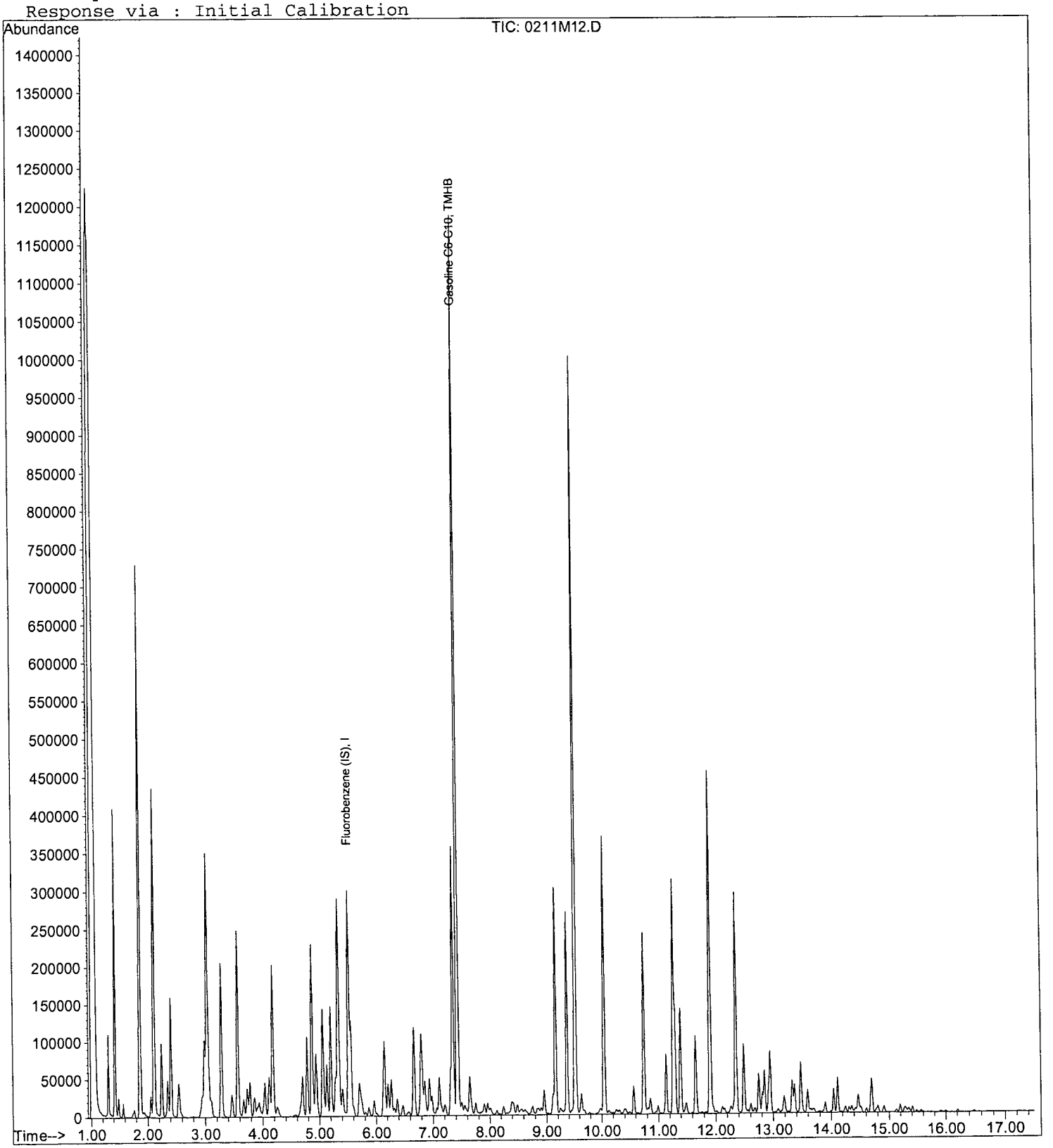
Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M13.D Vial: 13
Acq On : 11 Feb 17 15:13 Operator: PM,DG,SV,CMM
Sample : 800ppb GAS STD 02/11/17F Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:13 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:12:24 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	303025	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	22923559m	812.12410 ppb	100

(#) = qualifier out of range (m) = manual integration
0211M13.D MGAS6211.M Mon Feb 13 08:29:55 2017

Quantitation Report

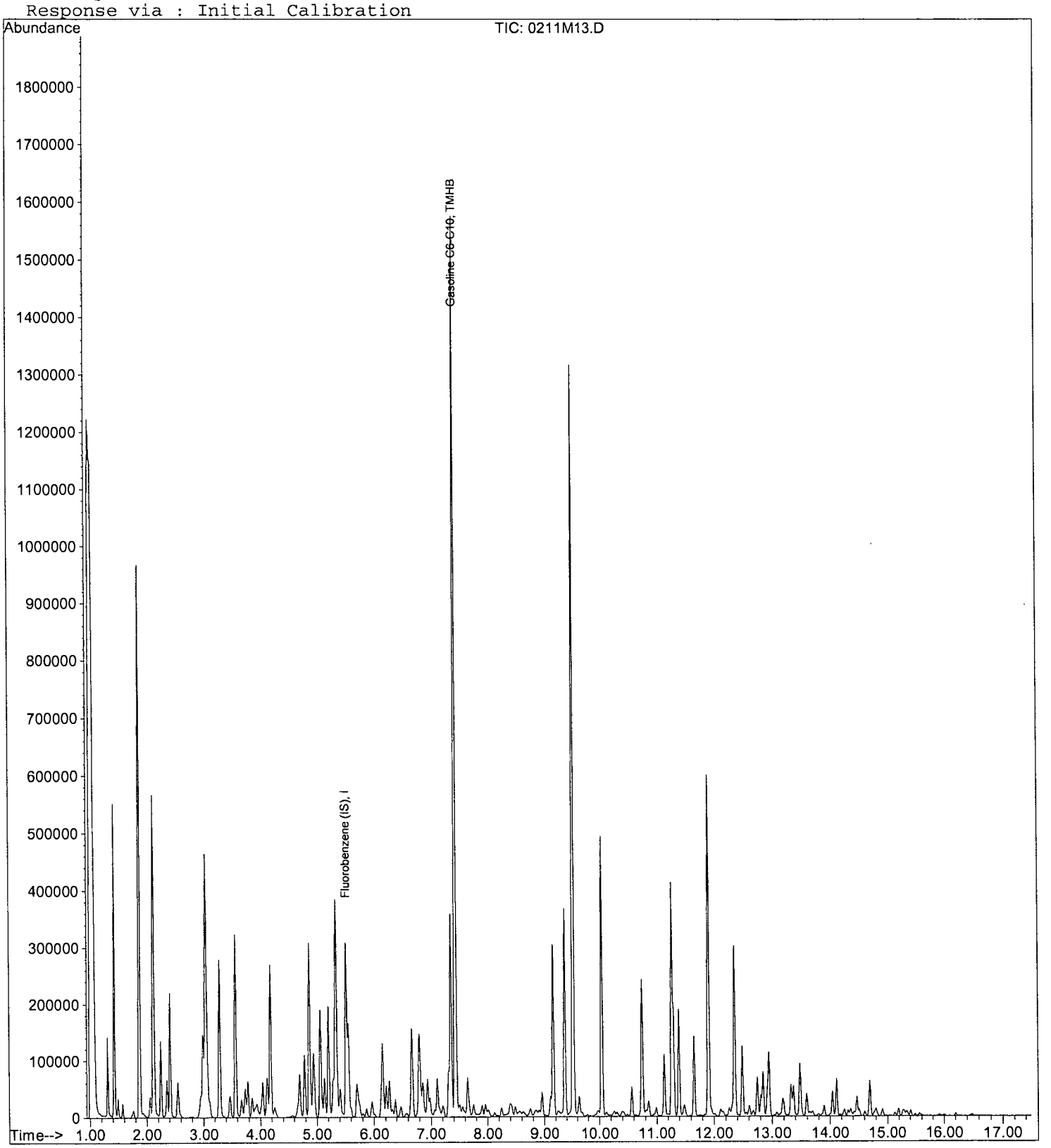
Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M14.D Vial: 14
Acq On : 11 Feb 17 15:41 Operator: PM,DG,SV,CMM
Sample : 1000ppb GAS STD 02/11/17G Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:11 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:10:45 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294463	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	27466994m	1011.16091 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

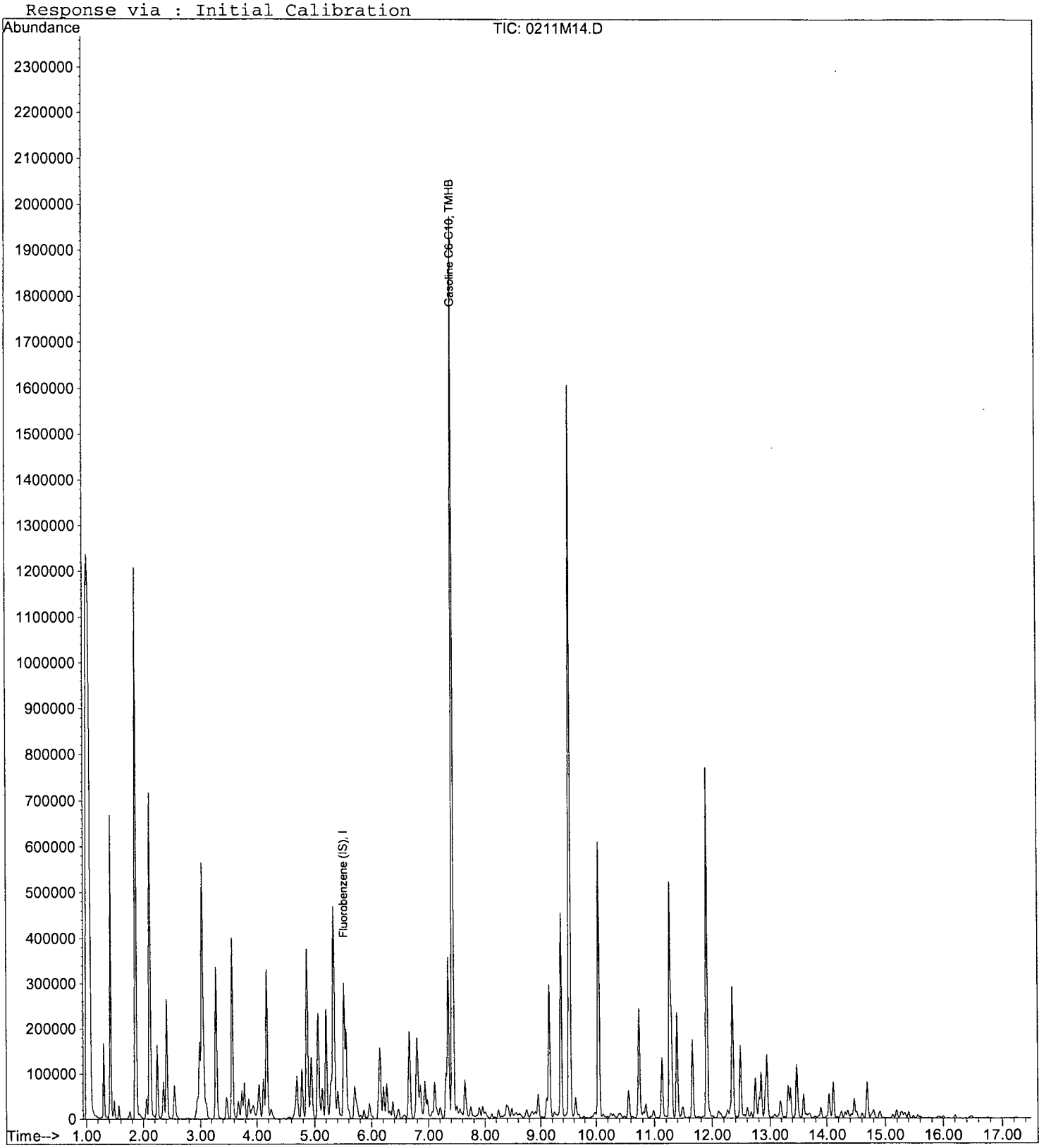
Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

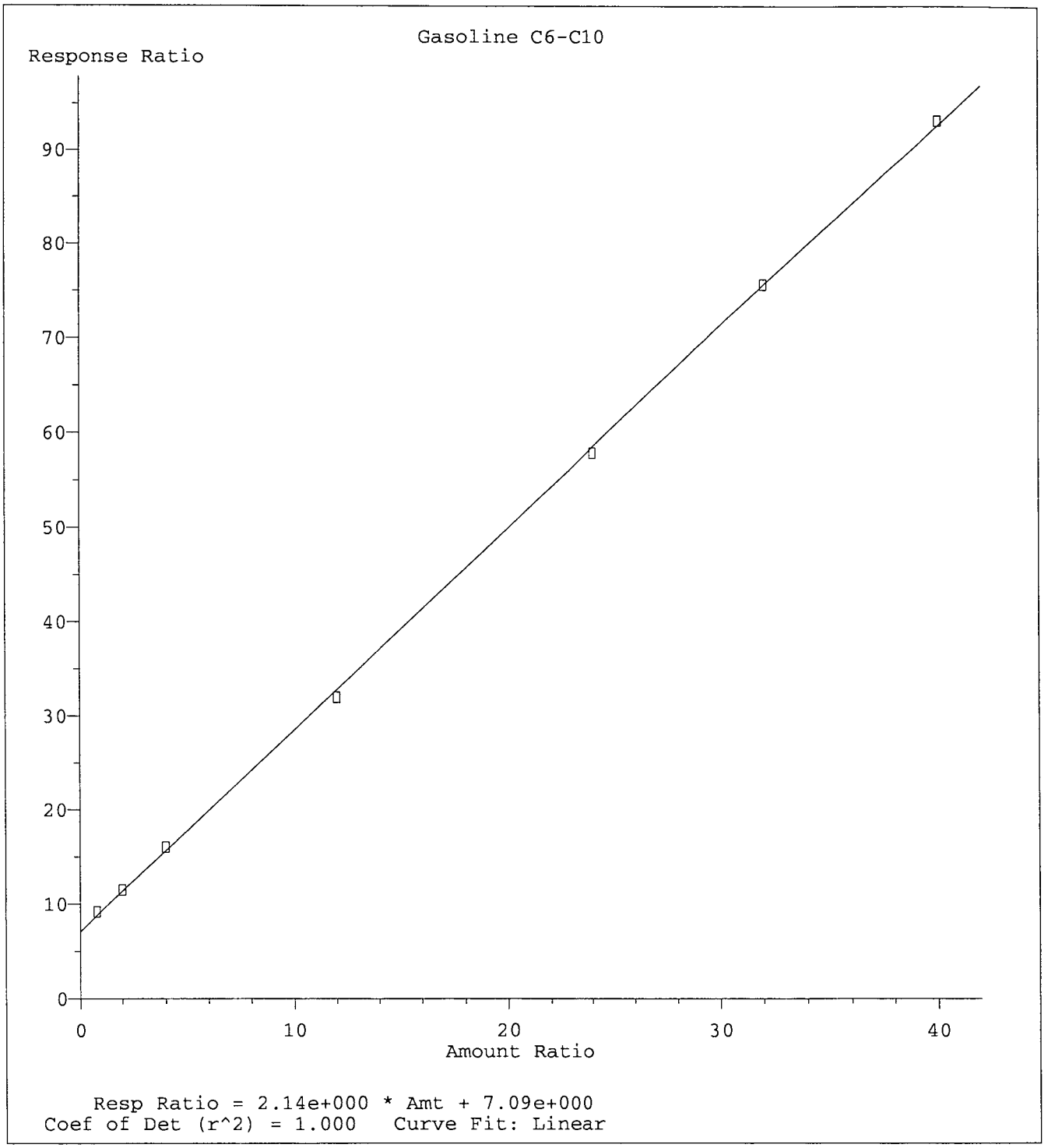
Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170127\MGAS6211.M
Calibration Table Last Updated: Mon Feb 13 08:19:08 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0211M17.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TMHB	Gasoline C6-C10	4.429	2.610	41	TMHBL	5.7
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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14							
15							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M17.D Vial: 17
Acq On : 11 Feb 17 17:06 Operator: PM,DG,SV,CMM
Sample : (SS) 300ppb GAS STD 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:21 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	302898	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9487242m	282.95435 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

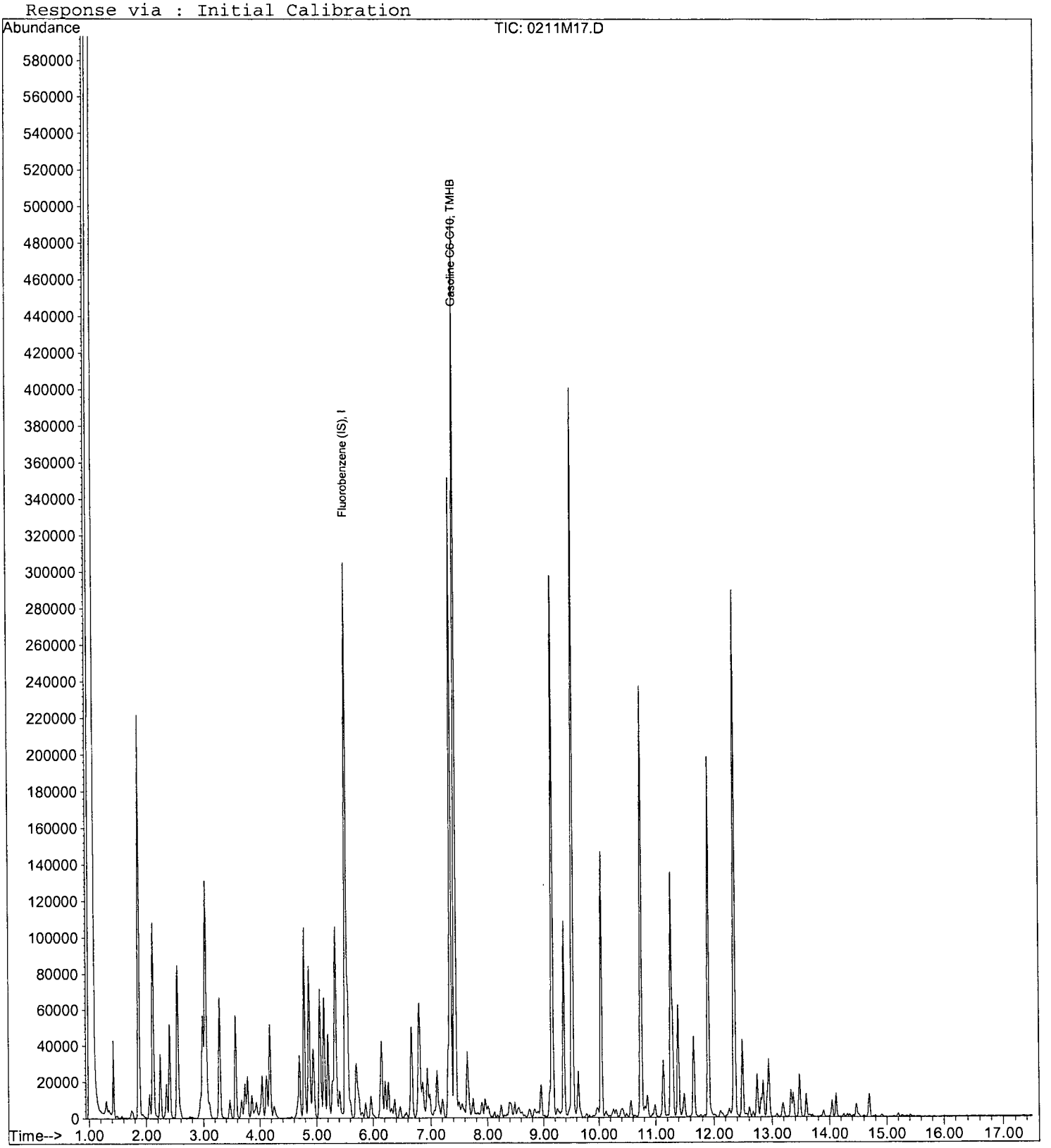
Data File : M:\MAX\DATA\M170127\0211M17.D
Acq On : 11 Feb 17 17:06
Sample : (SS) 300ppb GAS STD 02/11/17
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:21 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/12/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0211M34.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.623	41	TMHBL	5.1
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M34.D Vial: 34
Acq On : 12 Feb 17 1:06 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:55 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	308605	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9712628m	284.71874 ppb	100

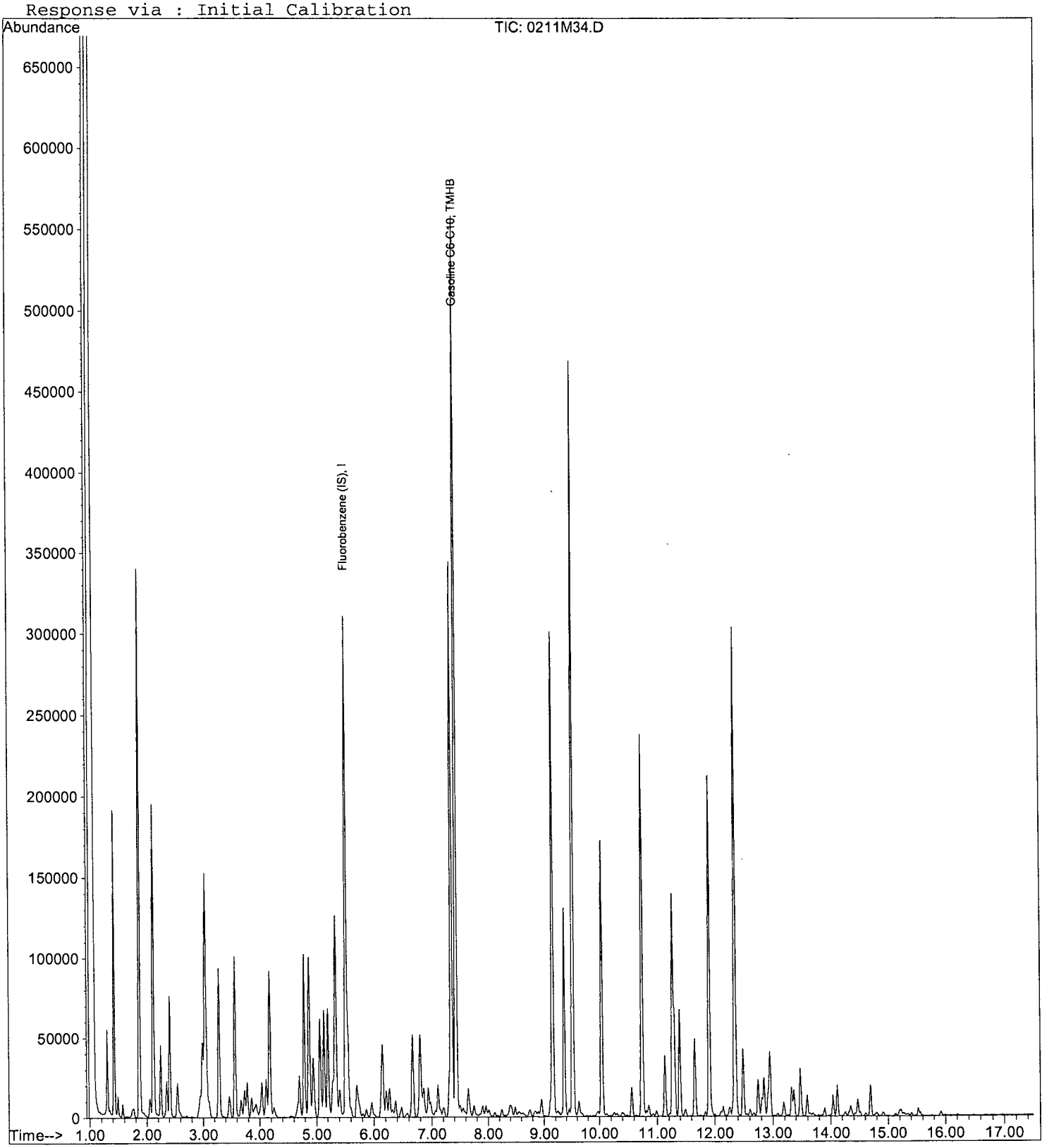
(#) = qualifier out of range (m) = manual integration
0211M34.D MGAS6211.M Mon Feb 13 08:57:15 2017

Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M34.D Vial: 34
Acq On : 12 Feb 17 1:06 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:55 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/12/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0211M34.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2092	2.4	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1600	5.9	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.236	2.2	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4379	0.59	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M34.D Vial: 34
Acq On : 12 Feb 17 1:06 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:10 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	301782	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	208999	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105433	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63145	24.39739 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.588%	
3) 1,2-DCA-D4(S)	5.13	65	48271	23.53695 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.148%	
5) Toluene-D8(S)	7.35	98	258310	25.54815 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.192%	
6) 4-Bromofluorobenzene(S)	10.74	95	91514	25.14869 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.596%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA METHOD 8260
Gasoline Range Organics (GRO)

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216080**
Batch ID: #GRO86-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/9/17	2/9/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.7	85-114			%	2/9/17	2/9/17

Quant Method: MGAS6111.
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:26:32 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315671	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

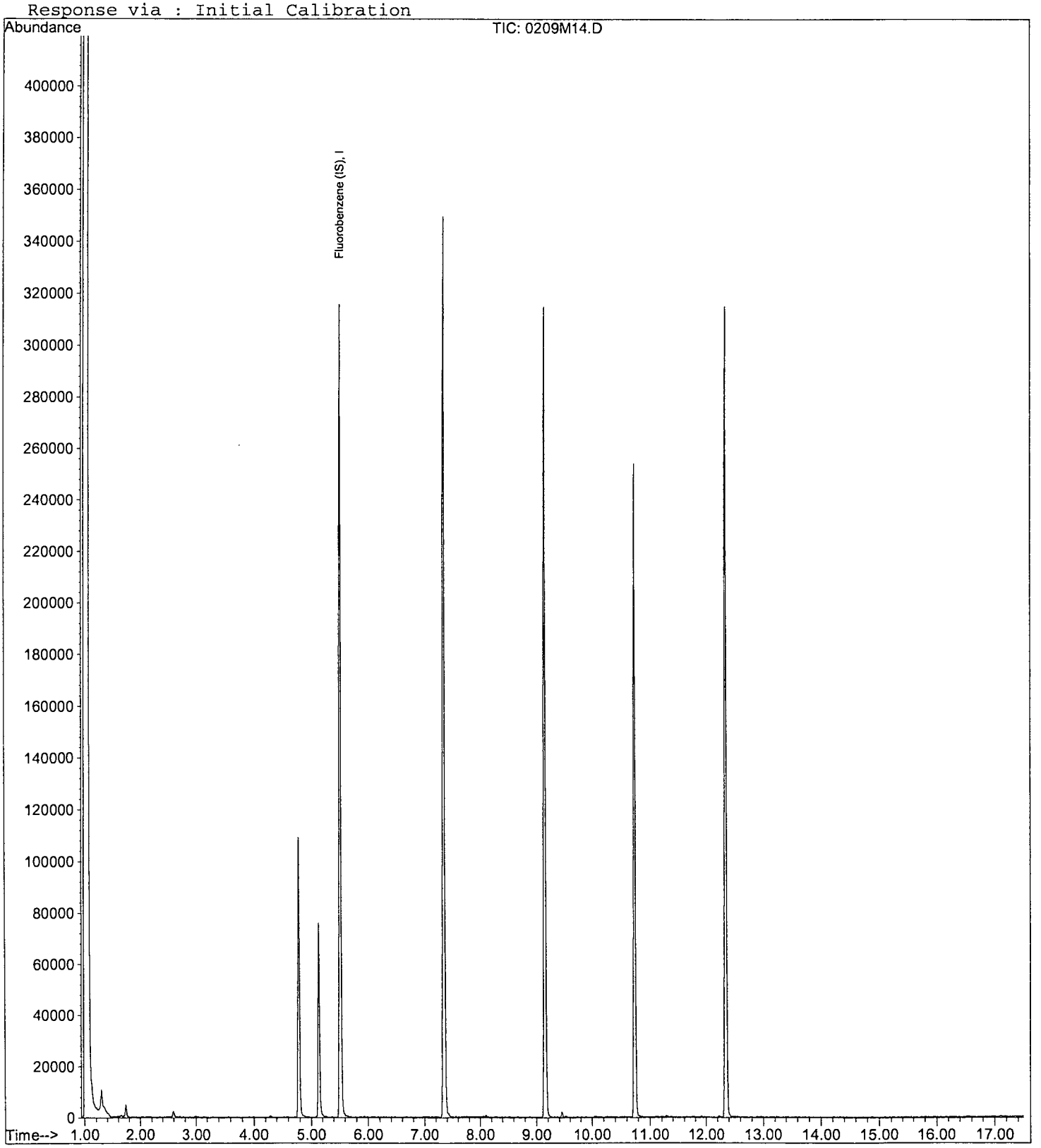
Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305671	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221943	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112083	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67658	25.81 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
3) 1,2-DCA-D4(S)	5.13	65	54917	26.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
5) Toluene-D8(S)	7.35	98	261668	24.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.484%	
6) 4-Bromofluorobenzene(S)	10.74	95	95330	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.676%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170211W-49674 - 216098**
Batch ID: #GRO86-170211AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/11/17	2/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.5	85-114			%	2/11/17	2/11/17

Quant Method: MGAS6211.
Run #: 0211M26
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/13/17 1:26:32 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M26.D Vial: 26
Acq On : 11 Feb 17 21:20 Operator: PM,DG,SV,CMM
Sample : 170211A BLK-1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:04 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	306571	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

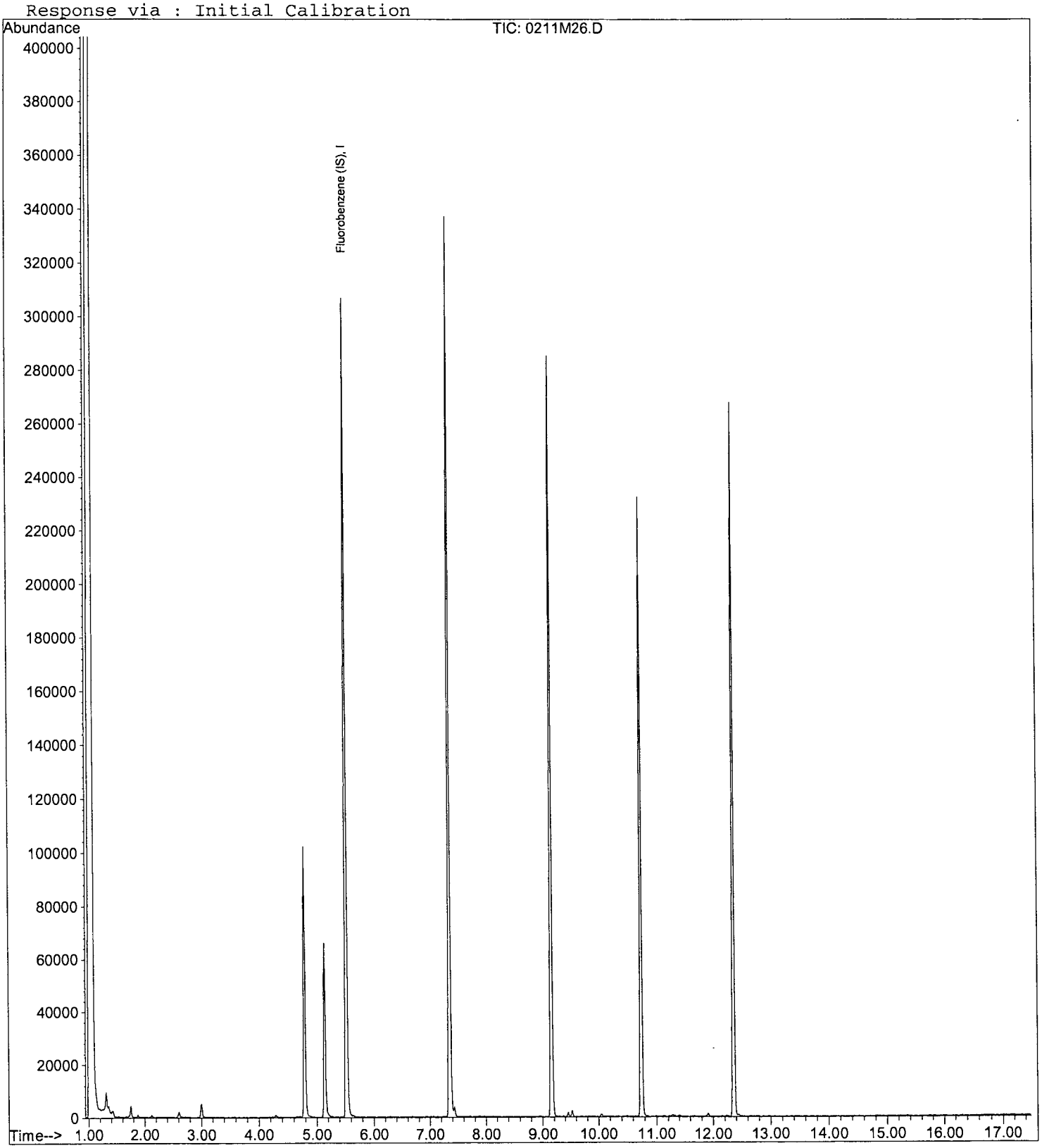
Data File : M:\MAX\DATA\M170127\0211M26.D
Acq On : 11 Feb 17 21:20
Sample : 170211A BLK-1WM
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:04 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M26.D
Acq On : 11 Feb 17 21:20
Sample : 170211A BLK-1WM
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:10 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	293250	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	206958	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	98535	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	62889	25.00543 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.020%	
3) 1,2-DCA-D4(S)	5.14	65	49249	24.71250 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.848%	
5) Toluene-D8(S)	7.36	98	253935	25.36312 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.452%	
6) 4-Bromofluorobenzene(S)	10.74	95	88716	24.62021 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170209W-49675 LCS - 216080**
Batch ID: #GRO86-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	295	98.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.6	102	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	2/9/17
Analysis Date :	2/9/17
Instrument :	Max
Run :	0209M09
Initials :	ARO

Printed: 2/13/17 1:26:36 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	309319	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8369339m	294.89 ppb	100

(#) = qualifier out of range (m) = manual integration

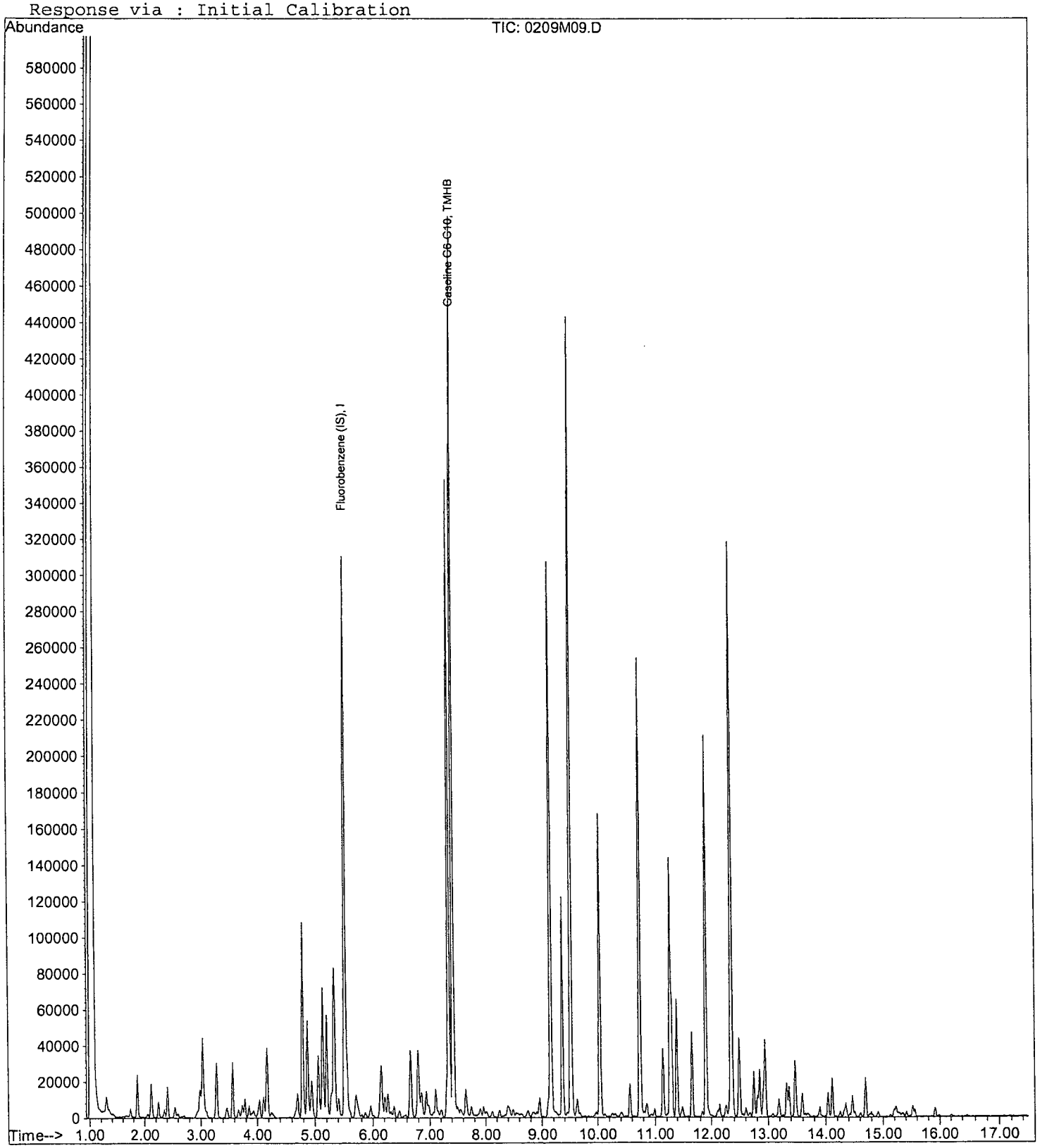
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	297773	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	215467	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	114414	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65288	25.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
3) 1,2-DCA-D4(S)	5.13	65	51734	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
5) Toluene-D8(S)	7.35	98	261120	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.204%	
6) 4-Bromofluorobenzene(S)	10.74	95	96177	25.64 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.548%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170211W-49674 LCS - 216098**
Batch ID: #GRO86-170211AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	288	96.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.7	103	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/11/17
Analysis Date :	2/11/17
Instrument :	Max
Run :	0211M21
Initials :	SV

Printed: 2/13/17 1:26:36 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M21.D Vial: 21
Acq On : 11 Feb 17 18:59 Operator: PM,DG,SV,CMM
Sample : 170211A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:40 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	304524	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9674370m	288.17650 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

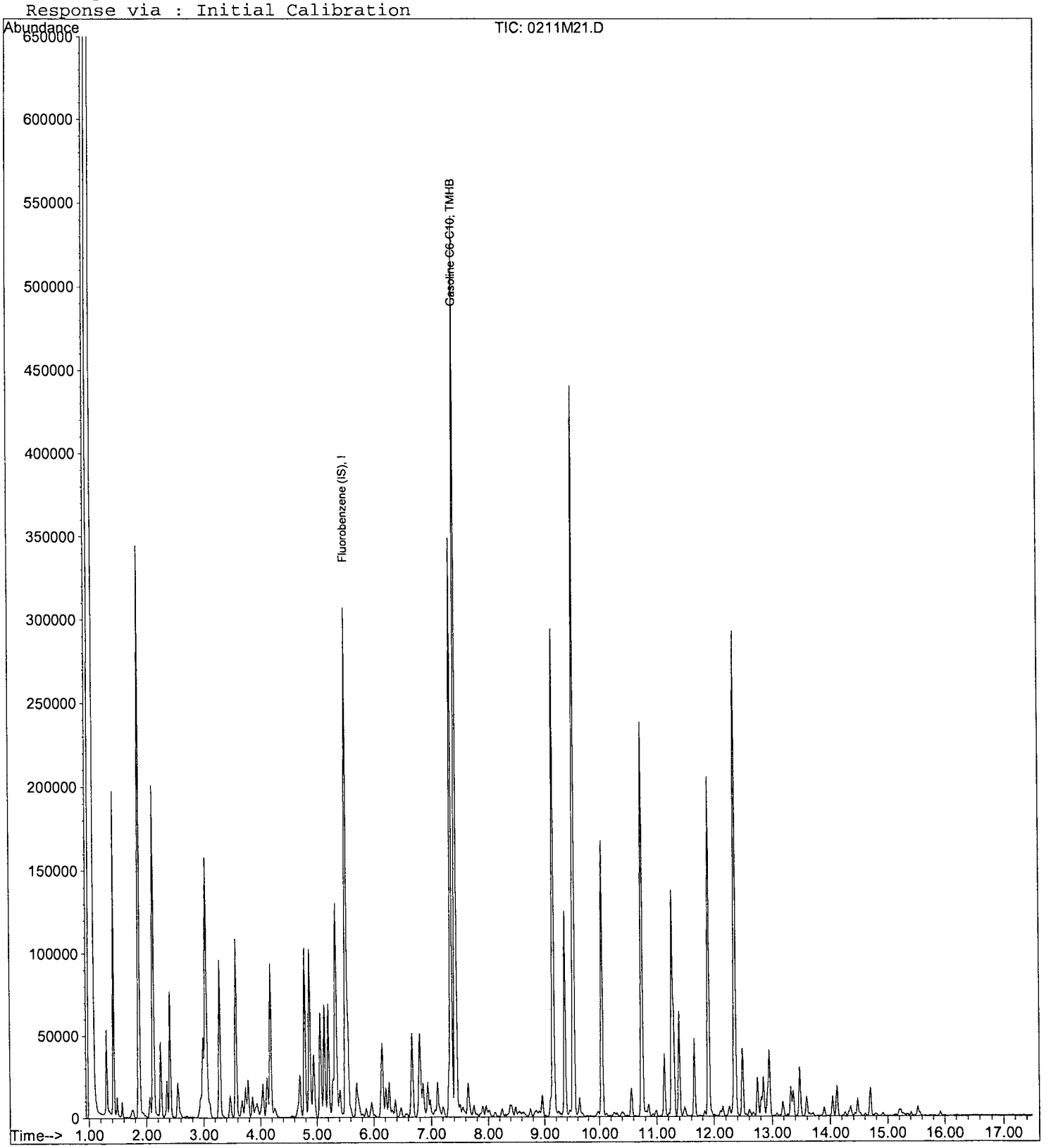
Data File : M:\MAX\DATA\M170127\0211M21.D
Acq On : 11 Feb 17 18:59
Sample : 170211A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:40 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M21.D Vial: 21
Acq On : 11 Feb 17 18:59 Operator: PM,DG,SV,CMM
Sample : 170211A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:10 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	292589	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	207999	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105826	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64109	25.54811 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.192%	
3) 1,2-DCA-D4(S)	5.13	65	50115	25.20386 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.816%	
5) Toluene-D8(S)	7.35	98	255751	25.41666 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.668%	
6) 4-Bromofluorobenzene(S)	10.74	95	92961	25.66915 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.676%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Matrix Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **170211W-49674 MS - 216098**
Batch ID: #GRO86-170211AM
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	259	261	86.3	87.0	78-122	0.77	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.3	25.6	101	102	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6211.M	MGAS6211.M
Extraction Date :	2/11/17	2/12/17
Analysis Date :	2/11/17	2/12/17
Instrument :	Max	Max
Run :	0211M31	0211M32
Initials :	SV	

Printed: 2/13/17 1:26:40 PM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M31.D Vial: 31
Acq On : 11 Feb 17 23:41 Operator: PM,DG,SV,CMM
Sample : AZ49674W04,5,6 MS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:53 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	322796	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	9447135m	258.96009	ppb	100

(#) = qualifier out of range (m) = manual integration

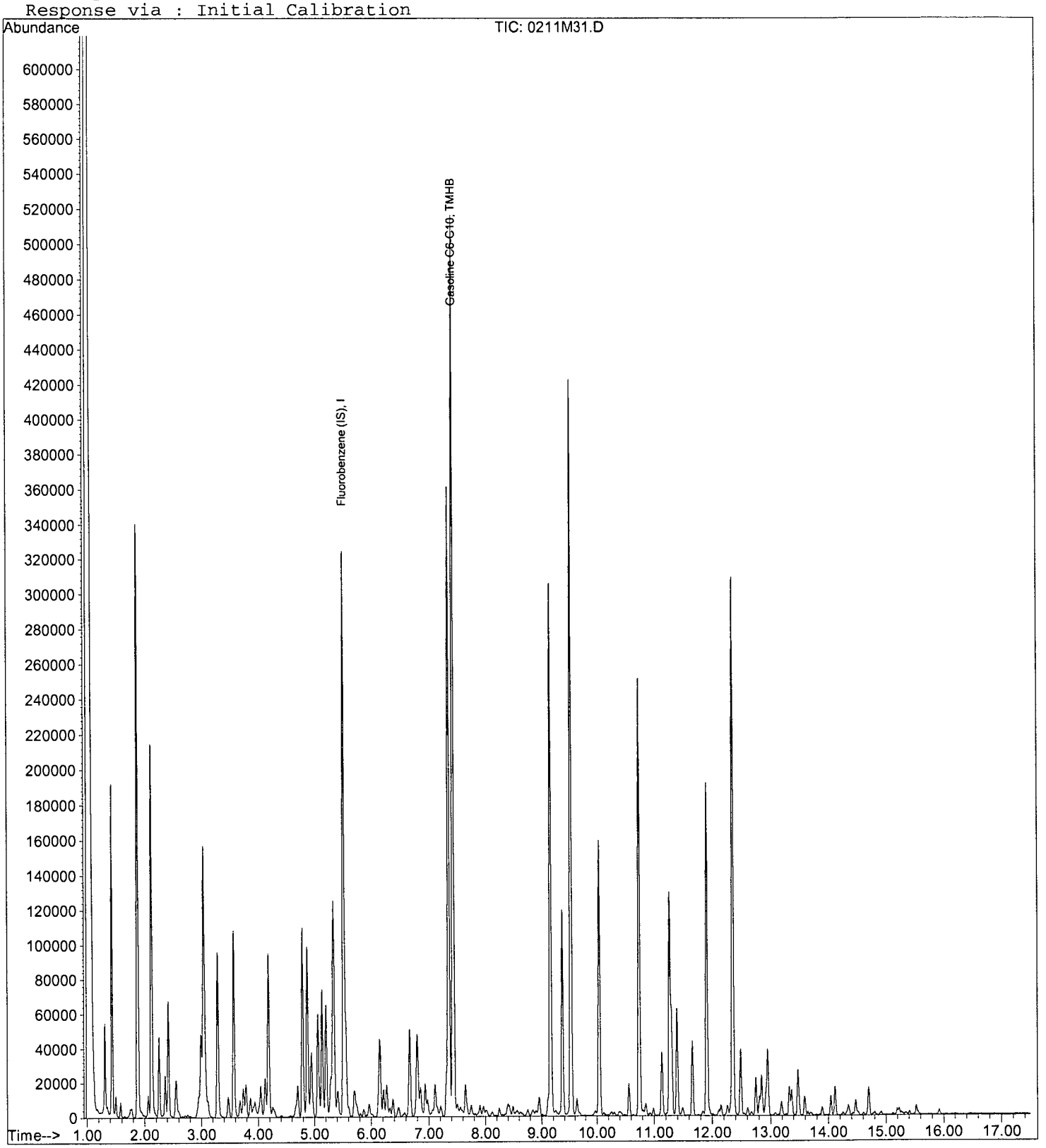
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M31.D
Acq On : 11 Feb 17 23:41
Sample : AZ49674W04,5,6 MS 300ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:53 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M31.D Vial: 31
Acq On : 11 Feb 17 23:41 Operator: PM,DG,SV,CMM
Sample : AZ49674W04,5,6 MS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 9:10 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	307298	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	211967	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	108632	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	66153	25.10080 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.404%	
3) 1,2-DCA-D4(S)	5.14	65	52014	24.90679 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.628%	
5) Toluene-D8(S)	7.35	98	259370	25.29379 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.176%	
6) 4-Bromofluorobenzene(S)	10.74	95	93459	25.32357 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.296%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M32.D Vial: 32
Acq On : 12 Feb 17 00:10 Operator: PM,DG,SV,CMM
Sample : AZ49674W04,5,6 MSD 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:54 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	307444	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9054191m	261.10040 ppb	100

(#) = qualifier out of range (m) = manual integration
0211M32.D MGAS6211.M Mon Feb 13 08:57:11 2017

Quantitation Report

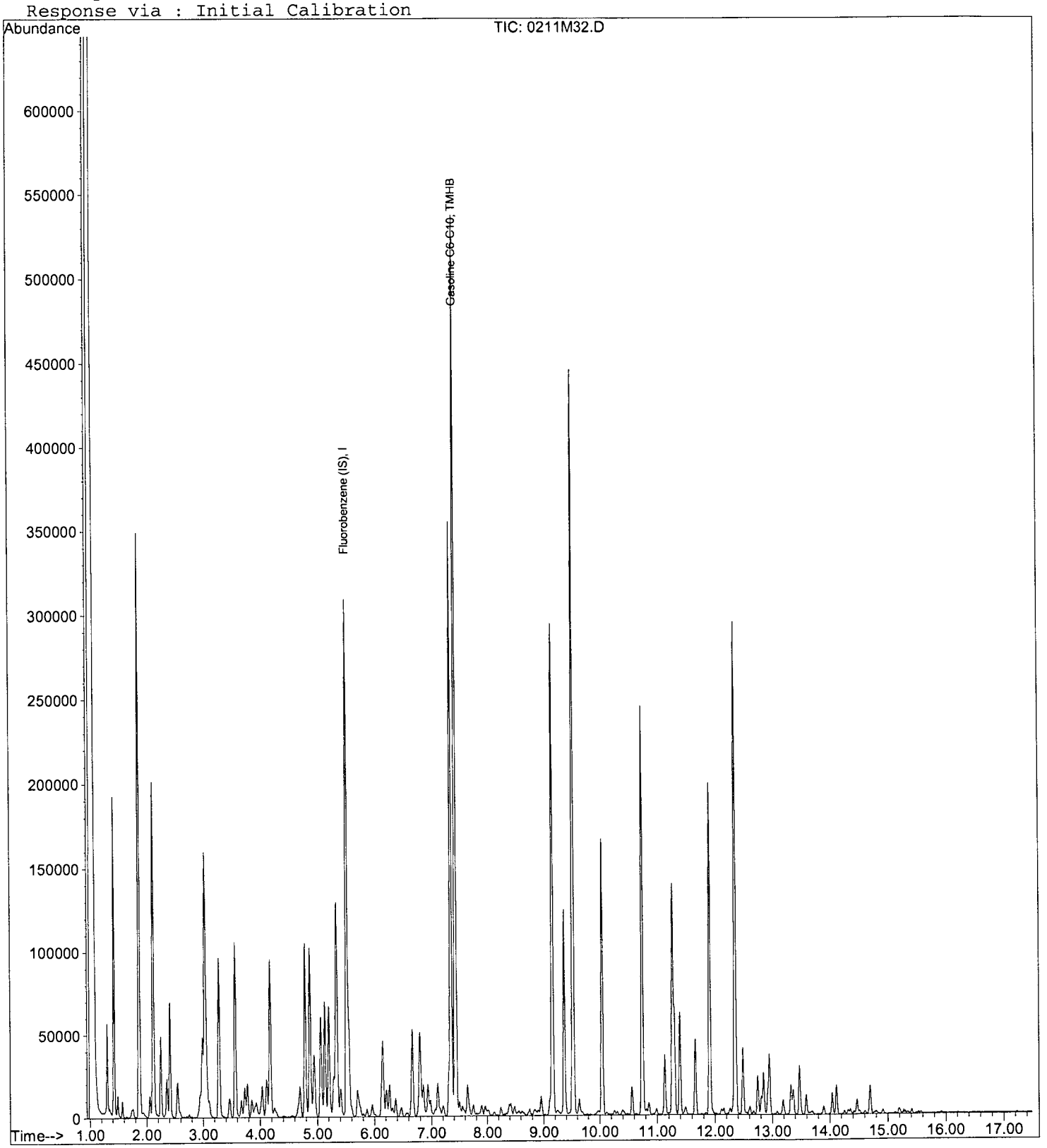
Data File : M:\MAX\DATA\M170127\0211M32.D
Acq On : 12 Feb 17 00:10
Sample : AZ49674W04,5,6 MSD 300ug/L
Misc : IS&S 10/20/16

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:54 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M32.D
Acq On : 12 Feb 17 00:10
Sample : AZ49674W04,5,6 MSD 300ug/L
Misc : IS&S 10/20/16

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 9:10 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	295904	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	208570	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	103084	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63622	25.06999 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.280%	
3) 1,2-DCA-D4(S)	5.13	65	50547	25.13633 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.544%	
5) Toluene-D8(S)	7.35	98	259781	25.74648 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.984%	
6) 4-Bromofluorobenzene(S)	10.74	95	93130	25.64542 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.580%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/4/16A	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17V-DG	20	1	100
01/11/17W-DG	50	2.5	100
01/11/17X-DG	100	5	100
01/11/17Y-DG	300	15	100
01/11/17Z-DG	600	30	100
01/11/17AA-DG	800	40	100
01/11/17AB-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17	300	15	100

GASOLINE							
12/04/16A							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00866	11/15/16	11/15/17	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	11/15/16	11/15/17	1200

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	20	0111M22.D	1	20ug/L GAS STD 1/11/17V	IS&S 10/20/16	11 Jan 17 18:56
2	21	0111M23.D	1	50ug/L GAS STD 1/11/17W	IS&S 10/20/16	11 Jan 17 19:24
3	22	0111M24.D	1	100ug/L GAS STD 1/11/17X	IS&S 10/20/16	11 Jan 17 19:53
4	23	0111M25.D	1	300ug/L GAS STD 1/11/17Y	IS&S 10/20/16	11 Jan 17 20:21
5	24	0111M26.D	1	600ug/L GAS STD 1/11/17Z	IS&S 10/20/16	11 Jan 17 20:49
6	25	0111M27.D	1	800ug/L GAS STD 1/11/17AA	IS&S 10/20/16	11 Jan 17 21:17
7	26	0111M28.D	1	1000ug/L GAS STD 1/11/17AB	IS&S 10/20/16	11 Jan 17 21:46
8	29	0111M31.D	1	(SS)300ug/L GAS STD 1/11/17	IS&S 10/20/16	11 Jan 17 23:11
9	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
10	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
11	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
12	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
13	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
14	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
15	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
16	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
17	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
18	5	0209M09.D	1	170209A CCV/LCS 300ug/L	IS&S 10/20/16	9 Feb 17 9:57
19	10	0209M14.D	1	170209A BLK-1WM	IS&S 10/20/16	9 Feb 17 12:19
20	11	0209M15.D	1	AZ49675W01	IS&S 10/20/16	9 Feb 17 12:47
21	12	0209M16.D	1	AZ49678W01	IS&S 10/20/16	9 Feb 17 13:16
22	13	0209M17.D	1	AZ49681W01	IS&S 10/20/16	9 Feb 17 13:44
23	14	0209M18.D	1	AZ49684W01	IS&S 10/20/16	9 Feb 17 14:12
24	15	0209M19.D	1	AZ49676W01	IS&S 10/20/16	9 Feb 17 14:41
25	16	0209M20.D	1	AZ49677W01	IS&S 10/20/16	9 Feb 17 15:09
26	17	0209M21.D	1	AZ49679W01	IS&S 10/20/16	9 Feb 17 15:38
27	19	0209M23.D	1	AZ49682W02	IS&S 10/20/16	9 Feb 17 16:35
28	20	0209M24.D	1	AZ49683W01	IS&S 10/20/16	9 Feb 17 17:03
29	21	0209M25.D	1	AZ49685W01	IS&S 10/20/16	9 Feb 17 17:31
30	22	0209M26.D	1	AZ49686W01	IS&S 10/20/16	9 Feb 17 18:00
31	27	0209M31.D	1	Ending CCV 8260 300ug/L 02/09/	IS&S 10/20/16	9 Feb 17 20:22
32	8	0211M08.D	1	20ppb GAS STD 02/11/17A	IS&S 10/20/16	11 Feb 17 12:52
33	9	0211M09.D	1	50ppb GAS STD 02/11/17B	IS&S 10/20/16	11 Feb 17 13:20
34	10	0211M10.D	1	100ppb GAS STD 02/11/17C	IS&S 10/20/16	11 Feb 17 13:48
35	11	0211M11.D	1	300ppb GAS STD 02/11/17D	IS&S 10/20/16	11 Feb 17 14:16
36	12	0211M12.D	1	600ppb GAS STD 02/11/17E	IS&S 10/20/16	11 Feb 17 14:45
37	13	0211M13.D	1	800ppb GAS STD 02/11/17F	IS&S 10/20/16	11 Feb 17 15:13
38	14	0211M14.D	1	1000ppb GAS STD 02/11/17G	IS&S 10/20/16	11 Feb 17 15:41
39	17	0211M17.D	1	(SS) 300ppb GAS STD 02/11/17	IS&S 10/20/16	11 Feb 17 17:06
40	21	0211M21.D	1	170211A CCV/LCS 300ug/L	IS&S 10/20/16	11 Feb 17 18:59
41	26	0211M26.D	1	170211A BLK-1WM	IS&S 10/20/16	11 Feb 17 21:20
42	28	0211M28.D	1	AZ49674W01	IS&S 10/20/16	11 Feb 17 22:17
43	31	0211M31.D	1	AZ49674W04,5,6 MS 300ug/L	IS&S 10/20/16	11 Feb 17 23:41
44	32	0211M32.D	1	AZ49674W04,5,6 MSD 300ug/L	IS&S 10/20/16	12 Feb 17 00:10
45	34	0211M34.D	1	Ending CCV GAS 300ug/L 02/11/	IS&S 10/20/16	12 Feb 17 1:06

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49674 - 216084**
Batch ID: #RSKME-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021003
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/11/17 12:26:41 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170210W-49674 LCS - 216084**
Batch ID: #RSKME-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1070	80.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/10/17
Analysis Date :	02/10/17
Instrument :	Rocky
Run :	17021002
Initials :	CMO

Printed: 02/11/17 12:26:03 PM
APPL Standard LCS

Matrix Spike Recoveries
METHANE

APPL ID: **170210W-49674 MS - 216084**
Batch ID: #RSKME-170210A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	1300	1290	97.4	96.6	72-125	0.77	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK0901.M	RSK0901.M
Extraction Date :	02/10/17	02/10/17
Analysis Date :	02/10/17	02/10/17
Instrument :	Rocky	Rocky
Run :	17021008	17021009
Initials :	CMO	

Printed: 02/11/17 12:25:59 PM
APPL MSD SCII

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH205
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49674
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021006
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021006.D Vial: 7
Acq On : 10 Feb 17 9:00 Operator: lac
Sample : AZ49674W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:02 2017 Quant Results File: RSK0901.RES

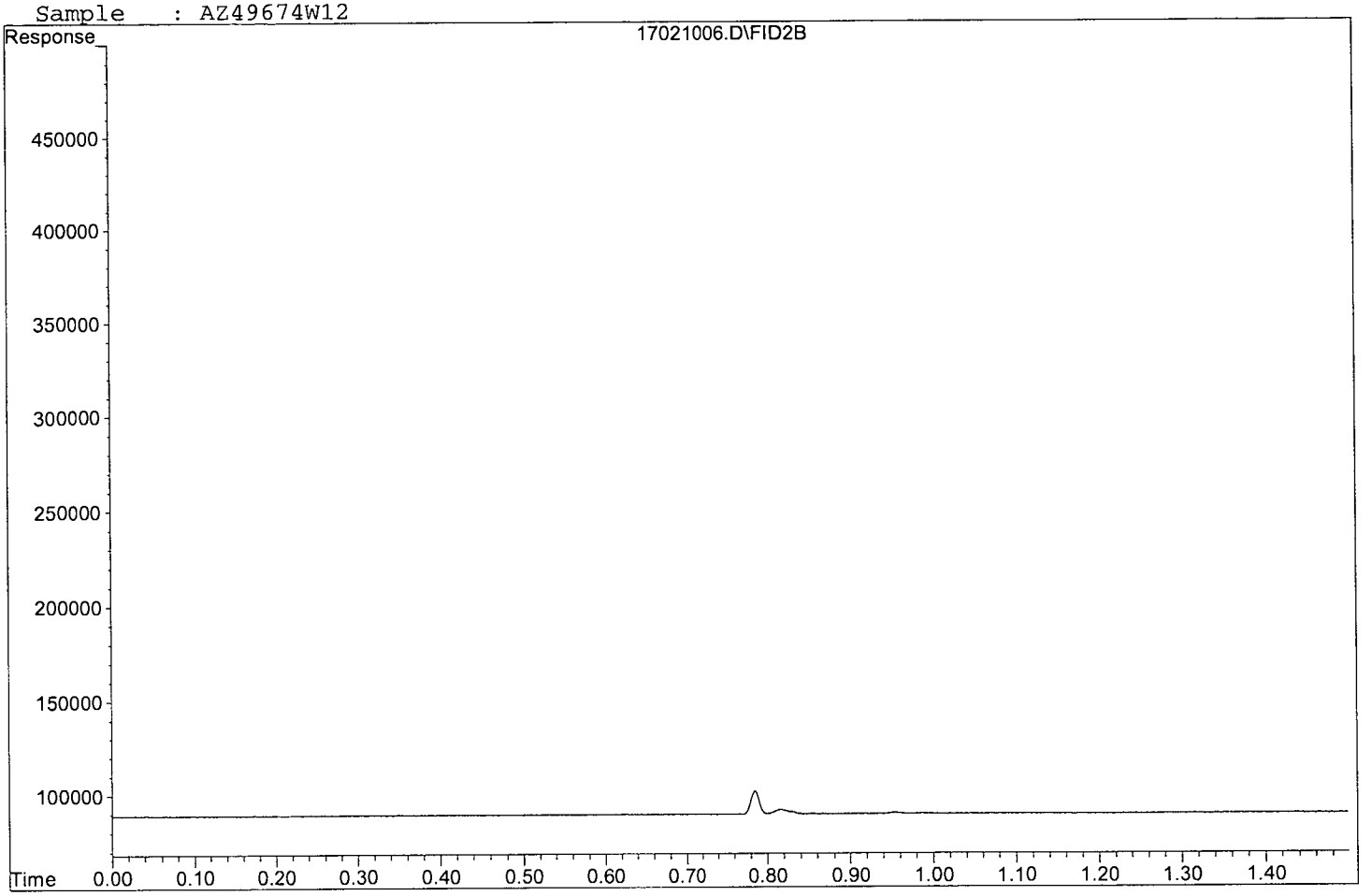
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.83	1482	N.D.	ppb
2) ATM Ethane	1.01	192	N.D.	ppb
3) ATM Ethene	1.12	254	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021006.D
Sample : AZ49674W12



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH204
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49675
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021010
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021010.D Vial: 11
Acq On : 10 Feb 17 9:26 Operator: lac
Sample : AZ49675W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:28 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

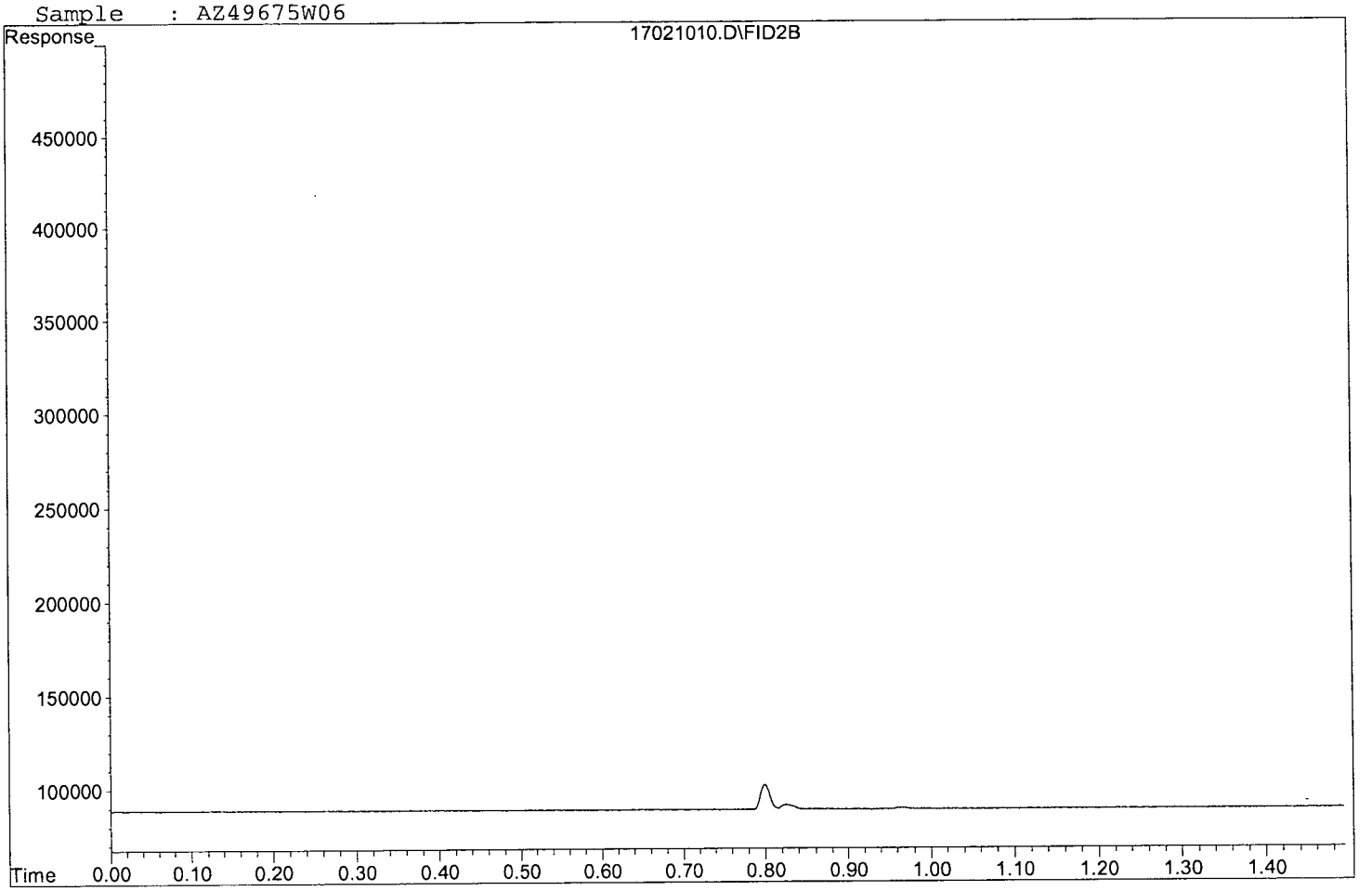
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.83	2506	N.D.	ppb
2) ATM Ethane	1.02	219	N.D.	ppb
3) ATM Ethene	1.12	314	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021010.D
Sample : AZ49675W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH211
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49678
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021011
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021011.D Vial: 12
Acq On : 10 Feb 17 9:29 Operator: lac
Sample : AZ49678W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:31 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

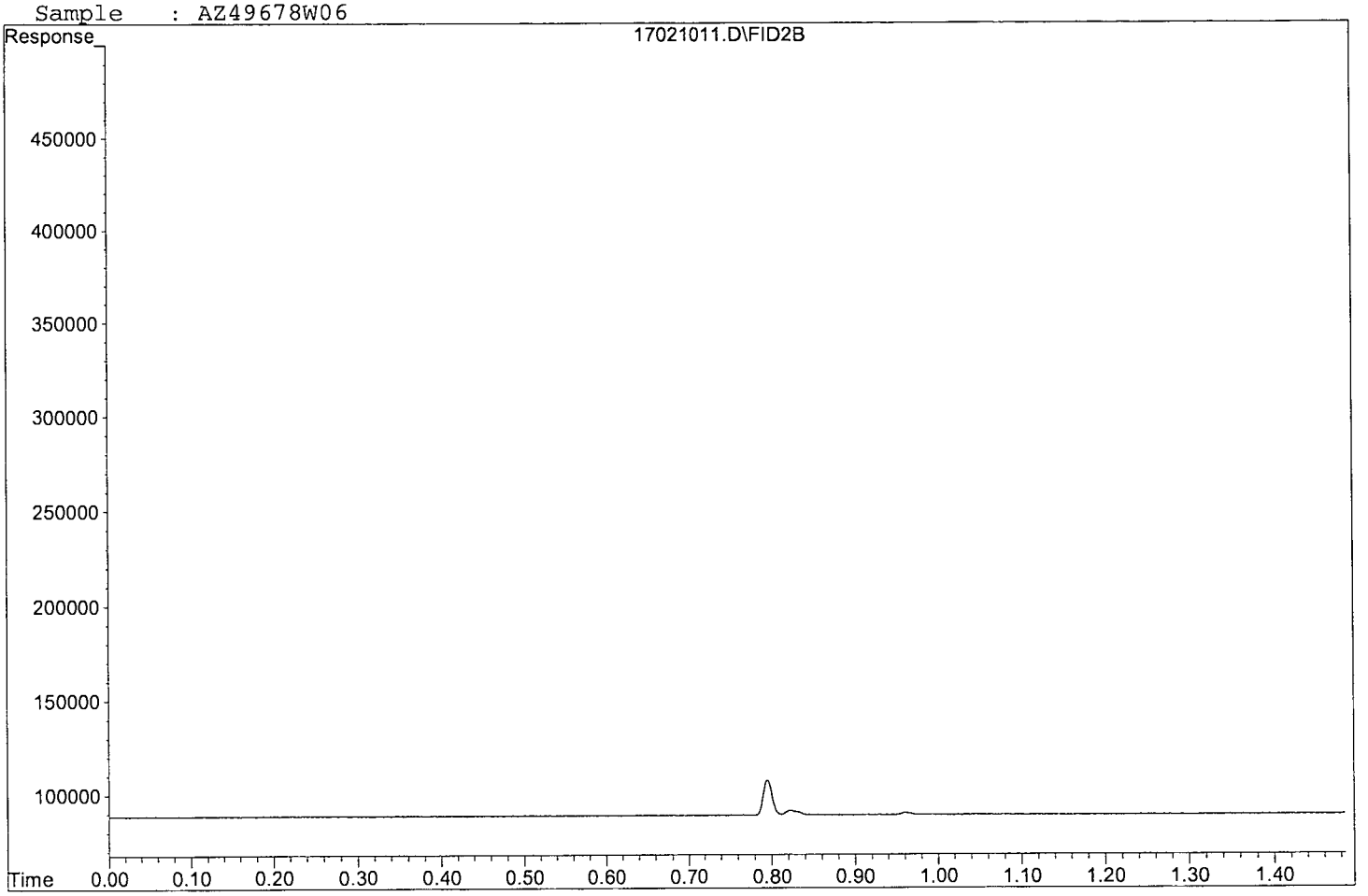
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.82	2352	N.D.	ppb
2) ATM Ethane	1.01	273	N.D.	ppb
3) ATM Ethene	1.12	278	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021011.D
Sample : AZ49678W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH212
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49679
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method:	RSK0901.M
Run #:	17021012
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021012.D Vial: 13
Acq On : 10 Feb 17 9:32 Operator: lac
Sample : AZ49679W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:35 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

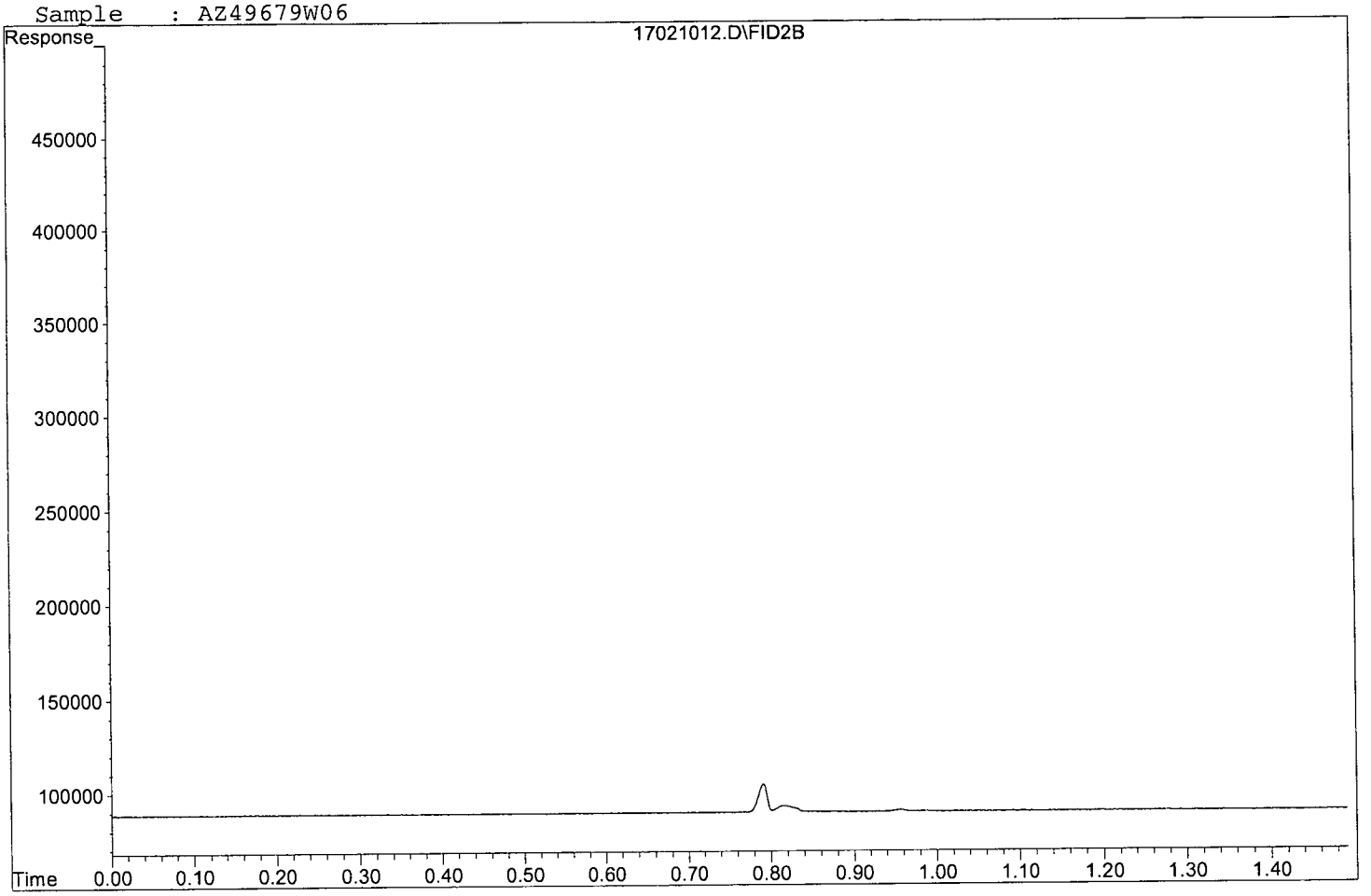
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	504	N.D.	ppb
2) ATM Ethane	1.02	282	N.D.	ppb
3) ATM Ethene	1.11	216	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021012.D
Sample : AZ49679W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH213
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49681
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021013
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021013.D
Acq On : 10 Feb 17 9:36
Sample : AZ49681W06
Misc :
IntFile : autoint1.e
Quant Time: Feb 10 9:38 2017 Quant Results File: RSK0901.RES

Vial: 14
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

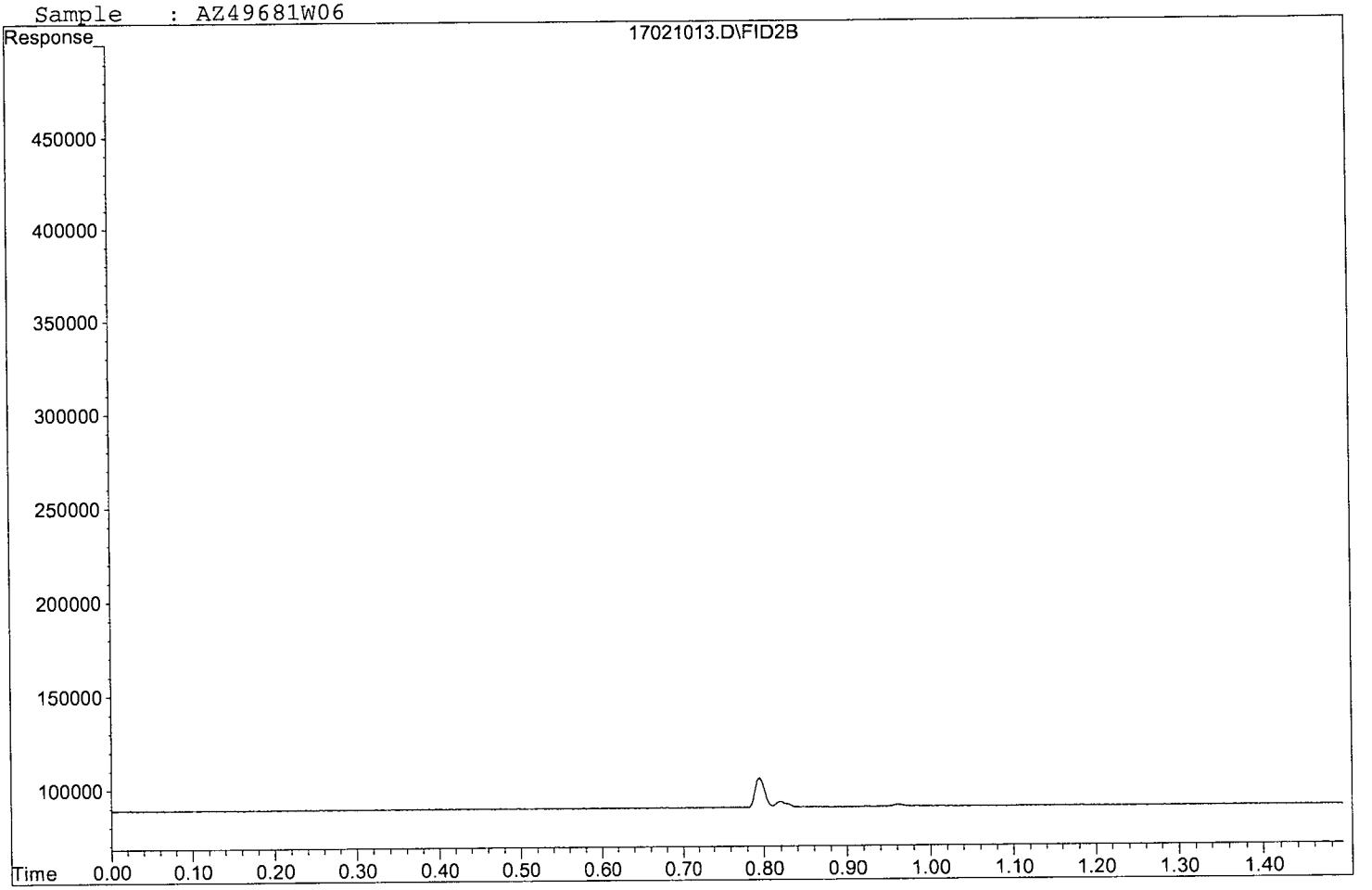
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	328	N.D.	ppb
2) ATM Ethane	1.01	313	N.D.	ppb
3) ATM Ethene	1.11	306	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021013.D
Sample : AZ49681W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH214
Sample Collection Date: 02/07/17

ARF: 82121
APPL ID: AZ49682
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021014
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021014.D Vial: 15
Acq On : 10 Feb 17 9:40 Operator: lac
Sample : AZ49682W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:42 2017 Quant Results File: RSK0901.RES

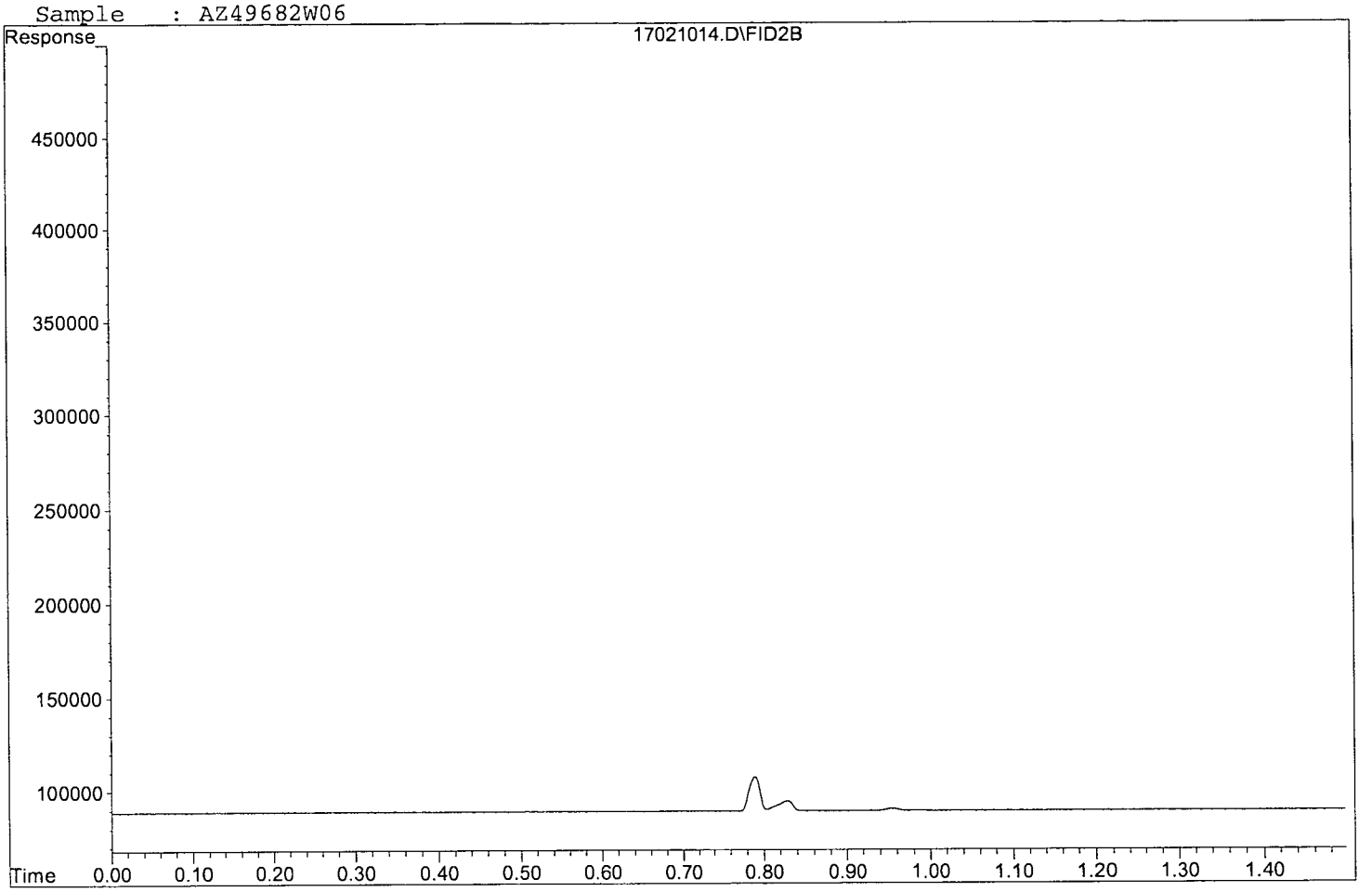
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.83	5382	N.D.	ppb
2) ATM Ethane	1.00	245	N.D.	ppb
3) ATM Ethene	1.12	355	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021014.D
Sample : AZ49682W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH219
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49684
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021015
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021015.D Vial: 16
Acq On : 10 Feb 17 9:43 Operator: lac
Sample : AZ49684W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:45 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

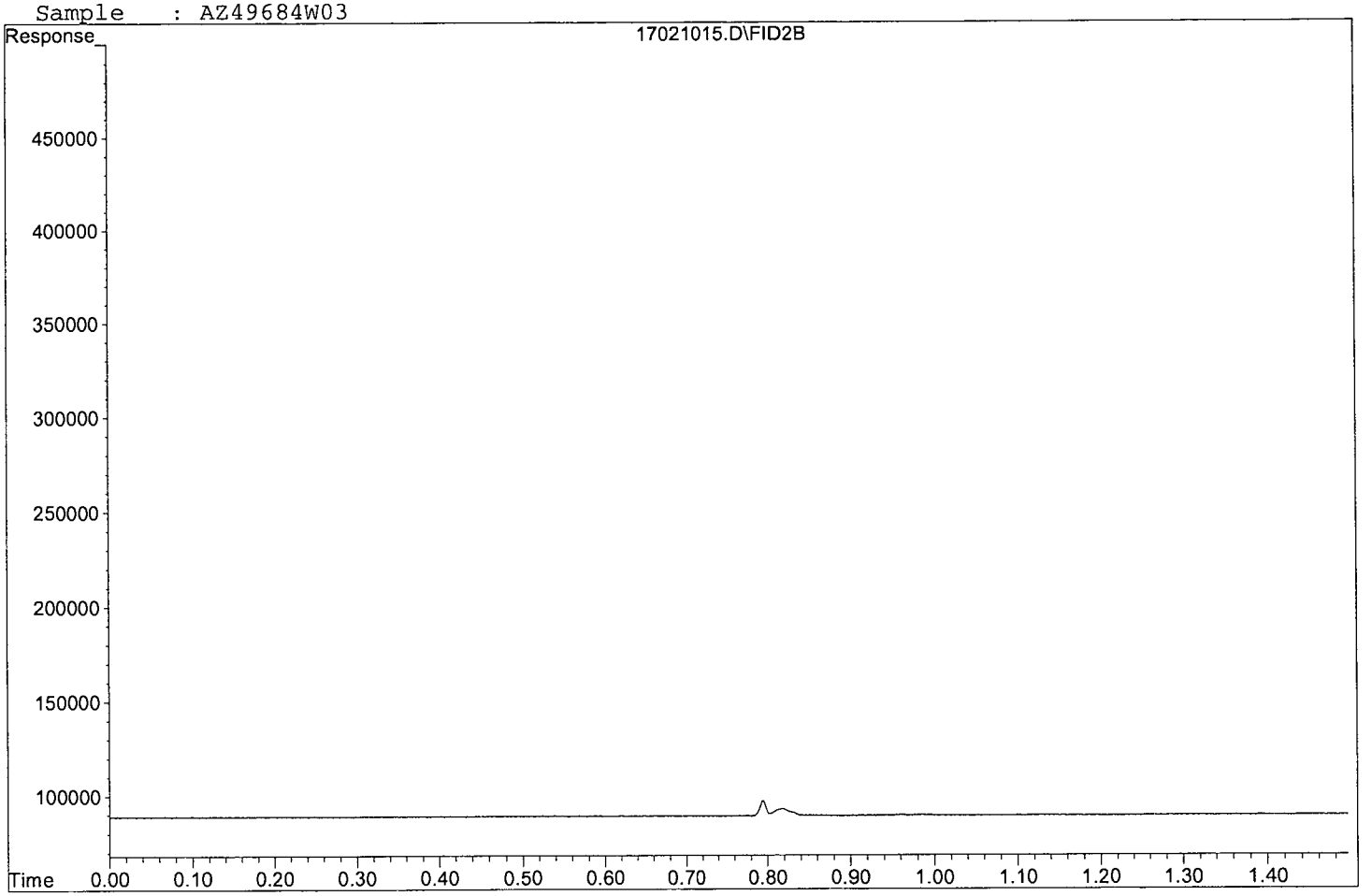
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.82	3803	N.D.	ppb
2) ATM Ethane	1.01	271	N.D.	ppb
3) ATM Ethene	1.12	269	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021015.D
Sample : AZ49684W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH220
Sample Collection Date: 02/06/17

ARF: 82121
APPL ID: AZ49685
QCG: #RSKME-170210A-216084

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method:	RSK0901.M
Run #:	17021016
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/11/17 12:26:12 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021016.D Vial: 17
Acq On : 10 Feb 17 9:46 Operator: lac
Sample : AZ49685W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:48 2017 Quant Results File: RSK0901.RES

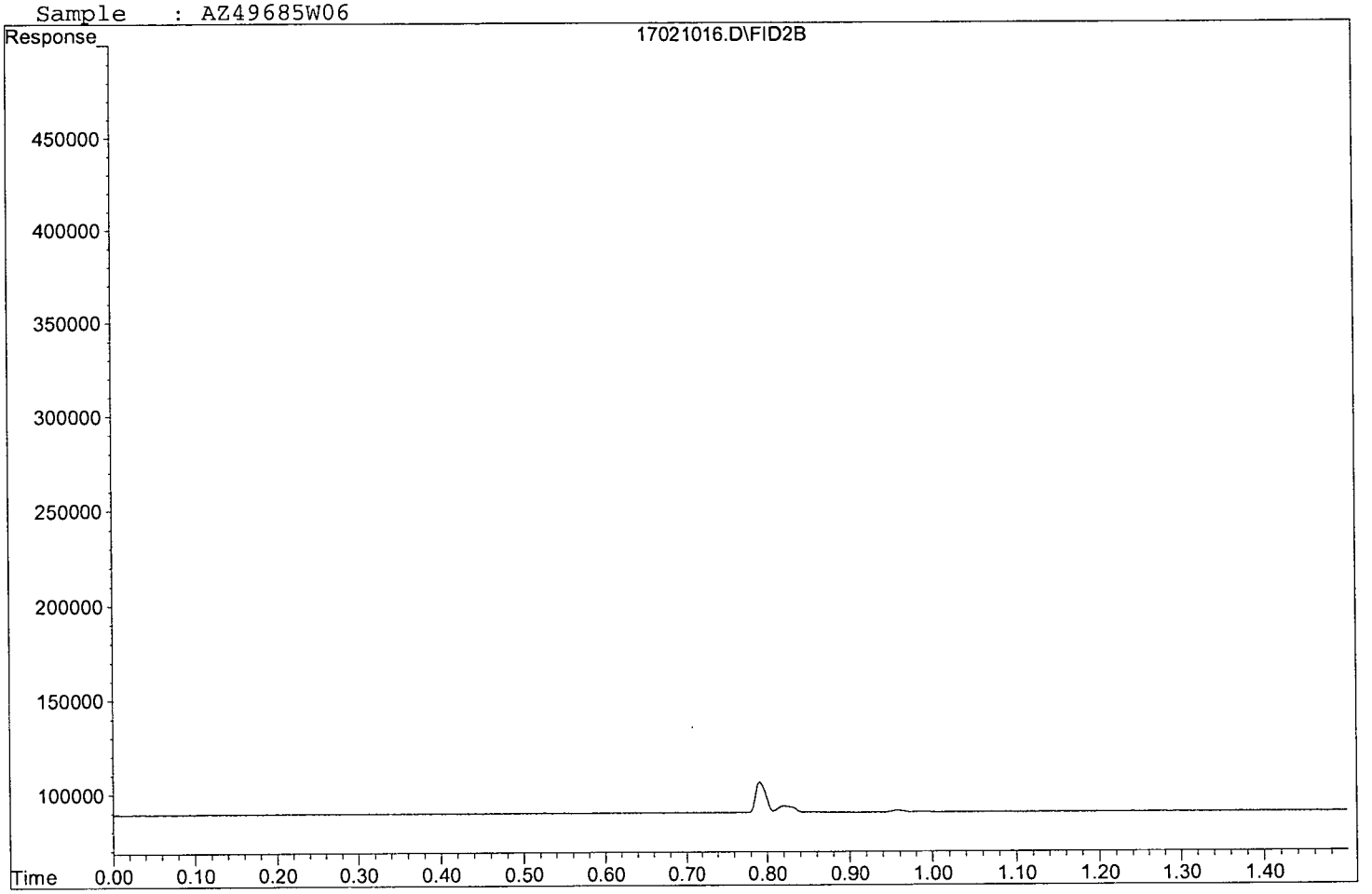
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.82	3620	N.D.	ppb
2) ATM Ethane	1.02	267	N.D.	ppb
3) ATM Ethene	1.12	144	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021016.D
Sample : AZ49685W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 09/01/16
Instrument: 7890

Initials:

		Compound	0901000.D 1	0901001.D 2	0901002.D 3	0901003.D 4	0901004.D 5	0901005.D 6	0901006.D 7	0901007.D 8	0901008.D 9	0901009.D 10	Avg	%RSD		
1	ATM	Methane	7448	5672	3042	3435	1074	1006	1184	1314	1084	1089	2635	87	ATM	
2	ATM	Ethane	1509	1521	1416	2554	478	657	816	933	791	798	1147	54	ATM	
3	ATM	Ethene	1826	1525	1280	2301	444	570	693	733	628	626	1063	60	ATM	
4																
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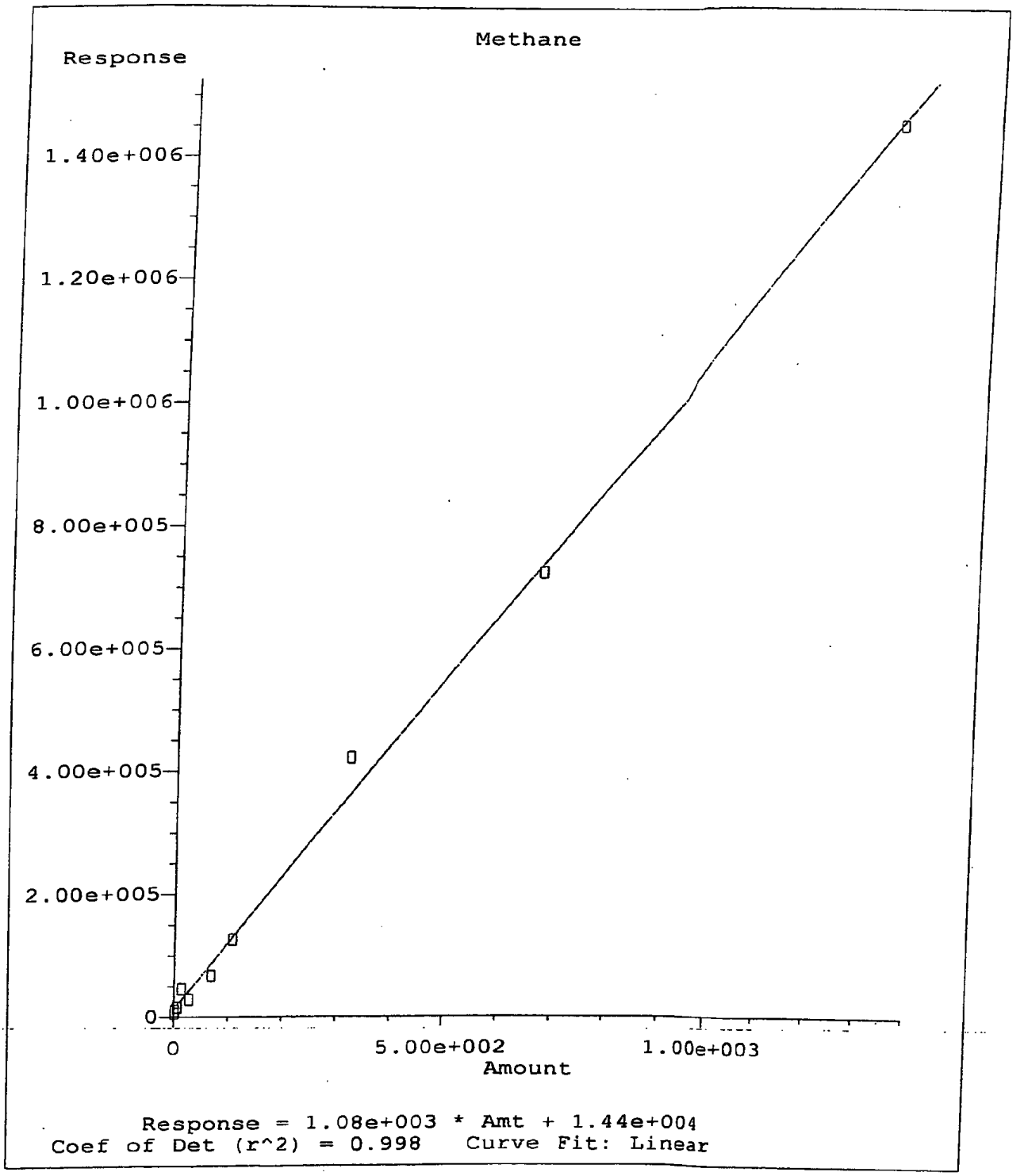
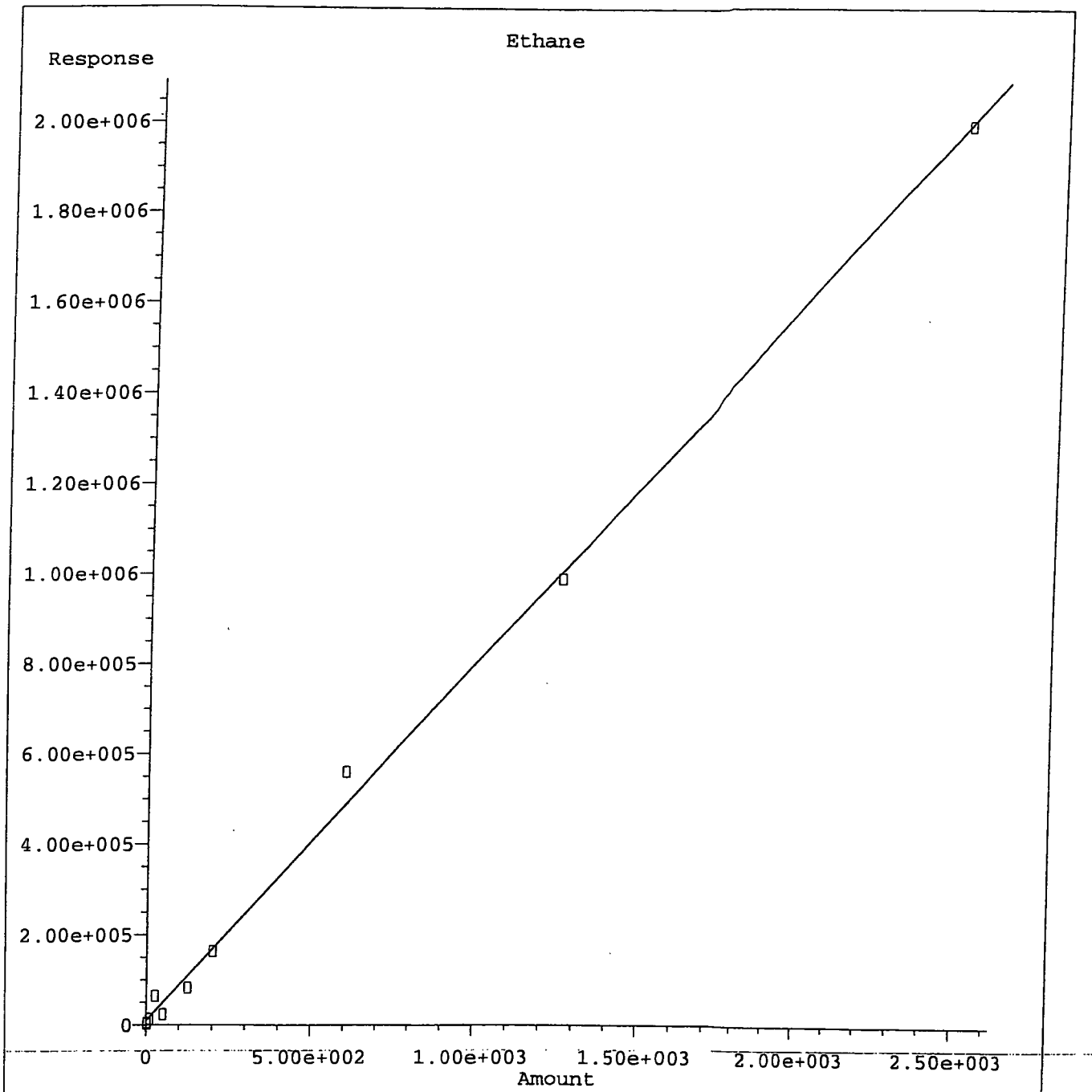
5.7170224

FORM61

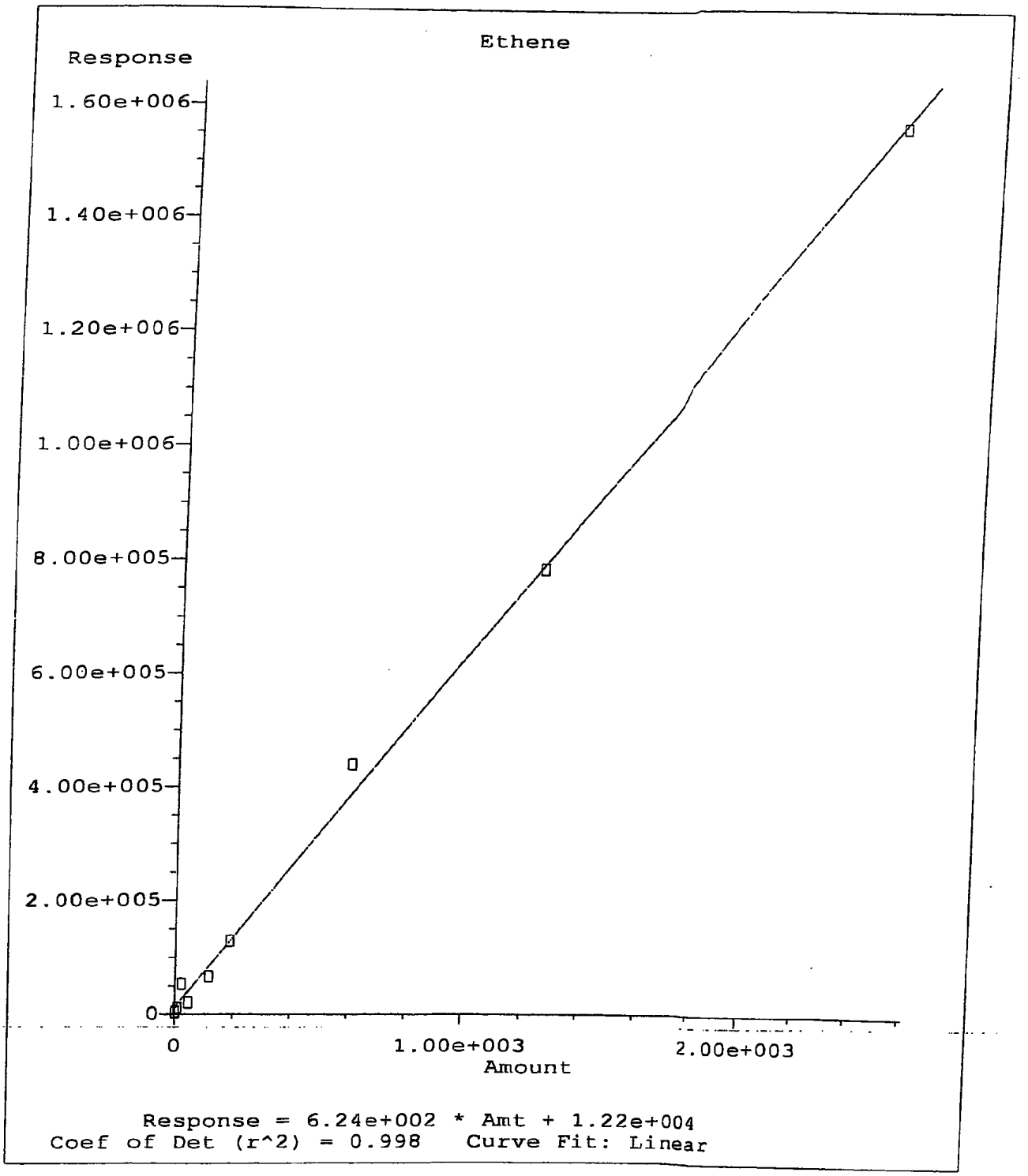


Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016



Response = 7.96e+002 * Amt + 1.03e+004
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Thu Nov 10 08:49:51 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901000.D
Acq On : 1 Sep 16 11:38
Sample : RSK Level 1 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 1
Operator: lac
Inst : 7890
Multiplr: 1.00

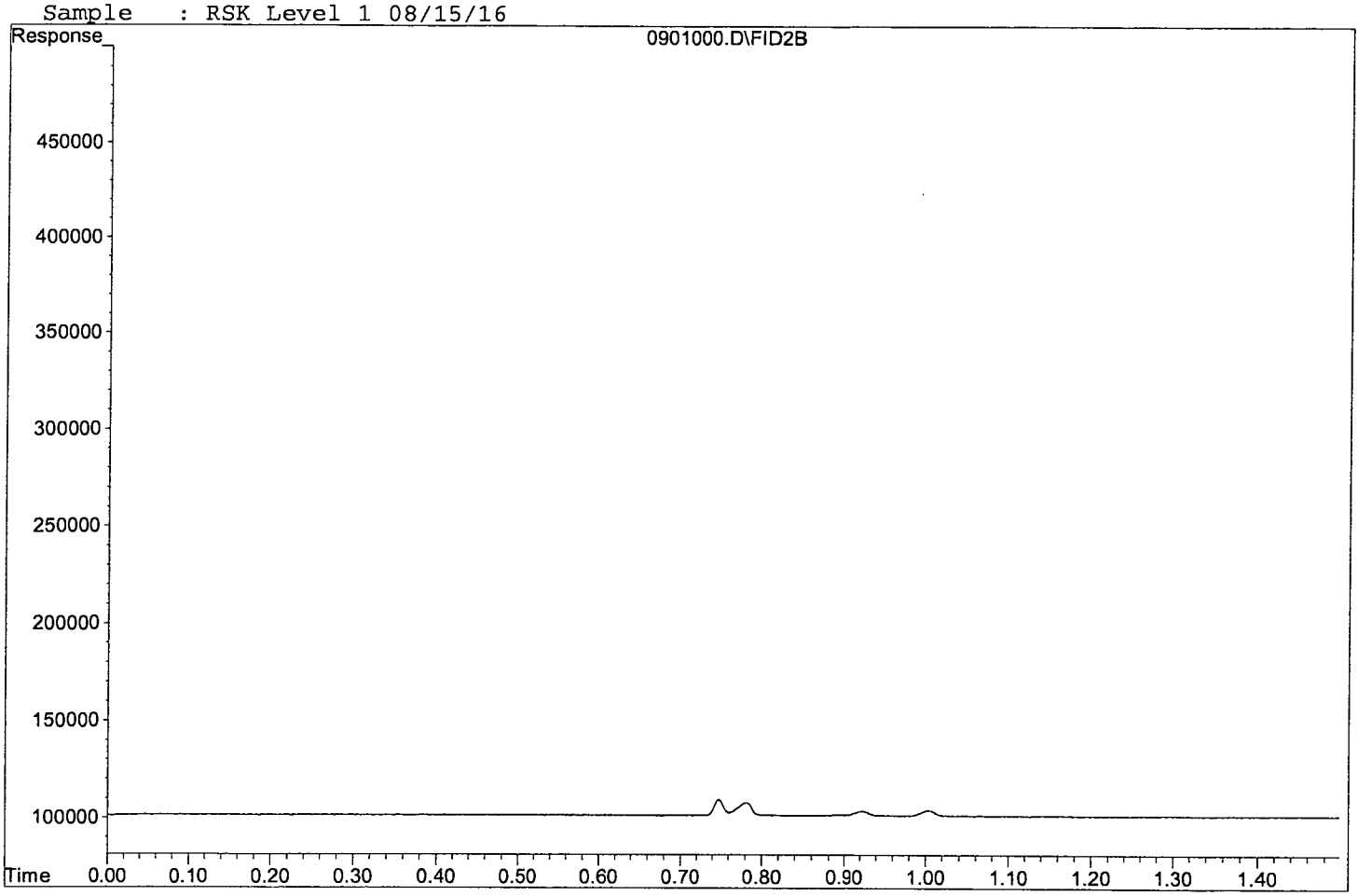
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	6703	N.D.	ppb
2) ATM Ethane	0.92	2566	N.D.	ppb
3) ATM Ethene	1.00	2922	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901000.D
Sample : RSK Level 1 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901001.D
Acq On : 1 Sep 16 11:41
Sample : RSK Level 2 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Jan 26 12:10 2017 Quant Results File: RSK0901.RES

Vial: 2
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 26 12:11:56 2017
Response via : Multiple Level Calibration

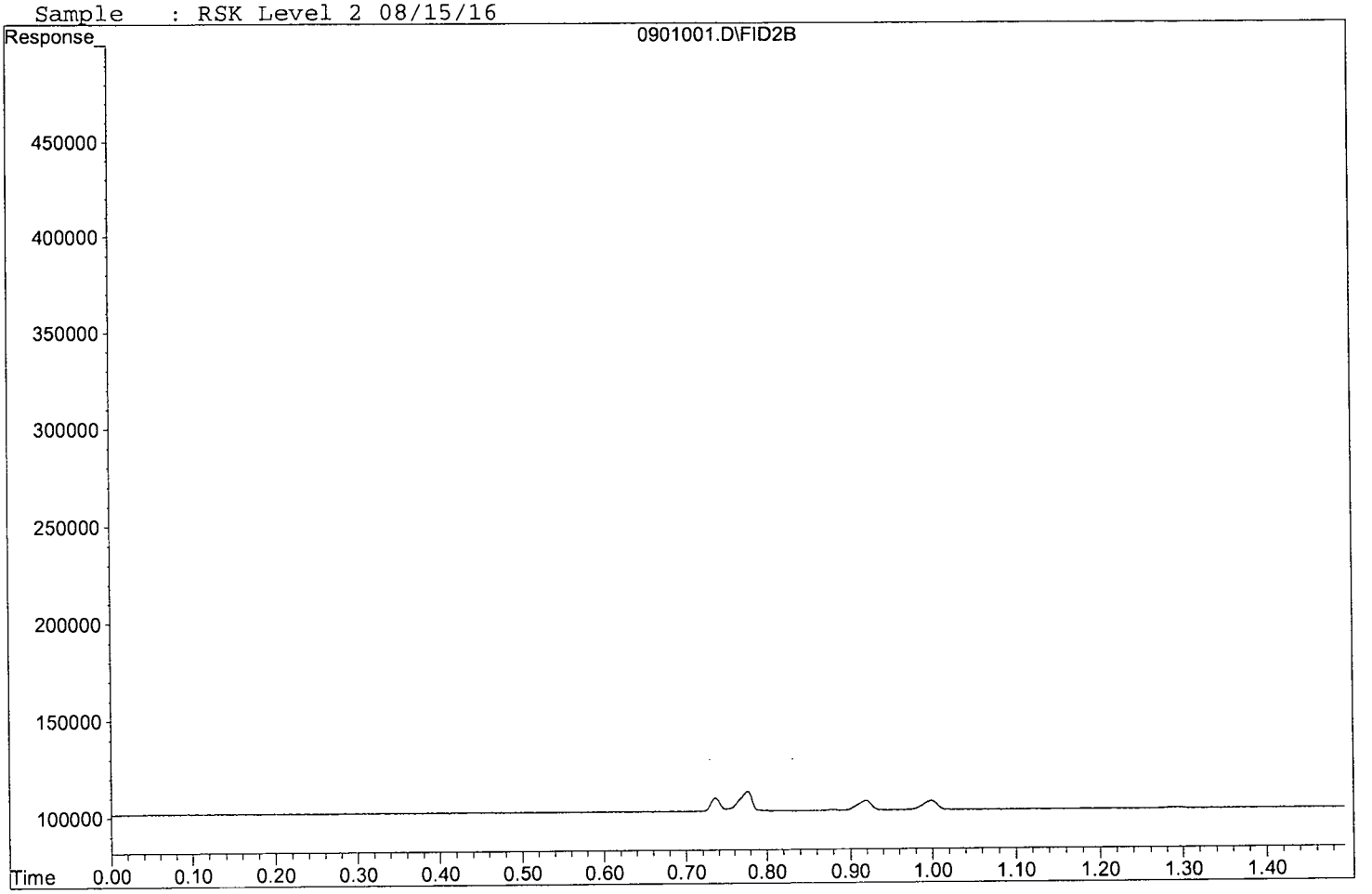
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	10209	N.D.	ppb
2) ATM Ethane	0.92	5171	N.D.	ppb
3) ATM Ethene	1.00	4881	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901001.D
Sample : RSK Level 2 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901002.D Vial: 3
Acq On : 1 Sep 16 11:44 Operator: lac
Sample : RSK Level 3 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 14 13:31 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

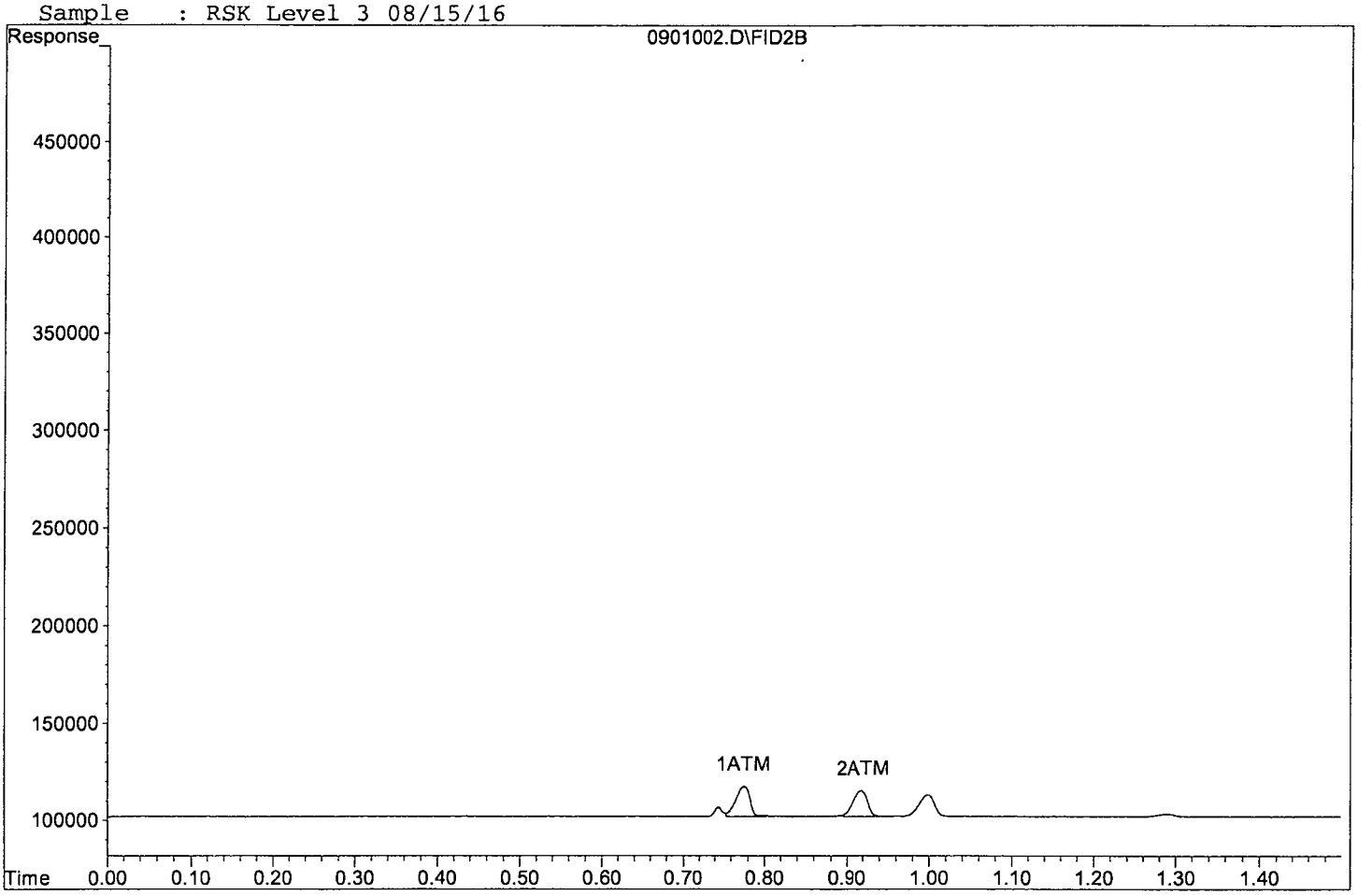
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	15515	1.054 ppb
2) ATM Ethane	0.92	13452	3.912 ppb
Target Compounds			
3) ATM Ethene	1.00	11390	N.D. ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901002.D
Sample : RSK Level 3 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901003.D Vial: 4
Acq On : 1 Sep 16 11:46 Operator: lac
Sample : RSK Level 4 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

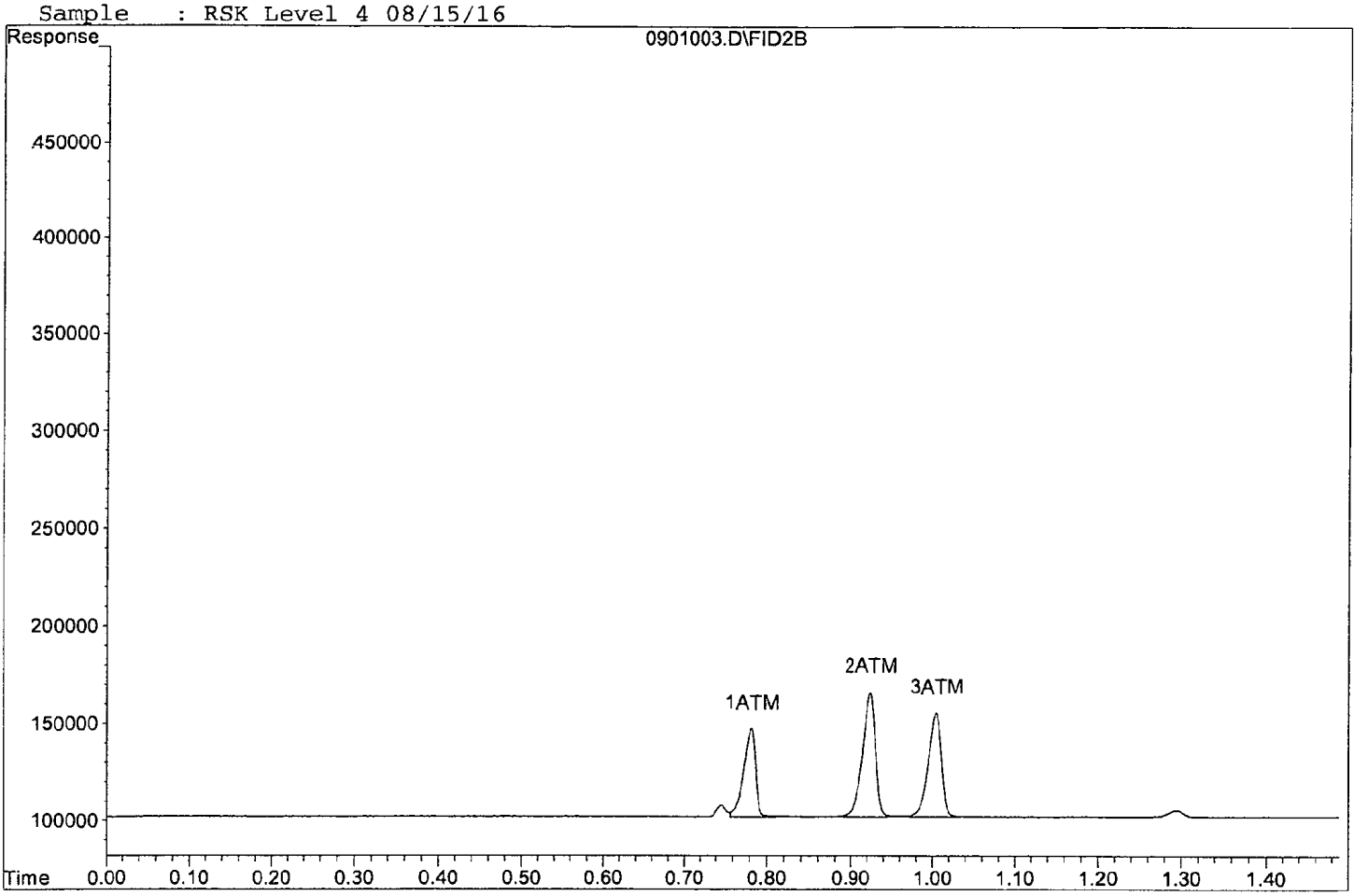
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	45792	29.006 ppb
2) ATM Ethane	0.92	63853	67.197 ppb
3) ATM Ethene	1.00	53608	66.354 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901003.D
Sample : RSK Level 4 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901004.D Vial: 5
Acq On : 1 Sep 16 11:48 Operator: lac
Sample : RSK Level 5 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

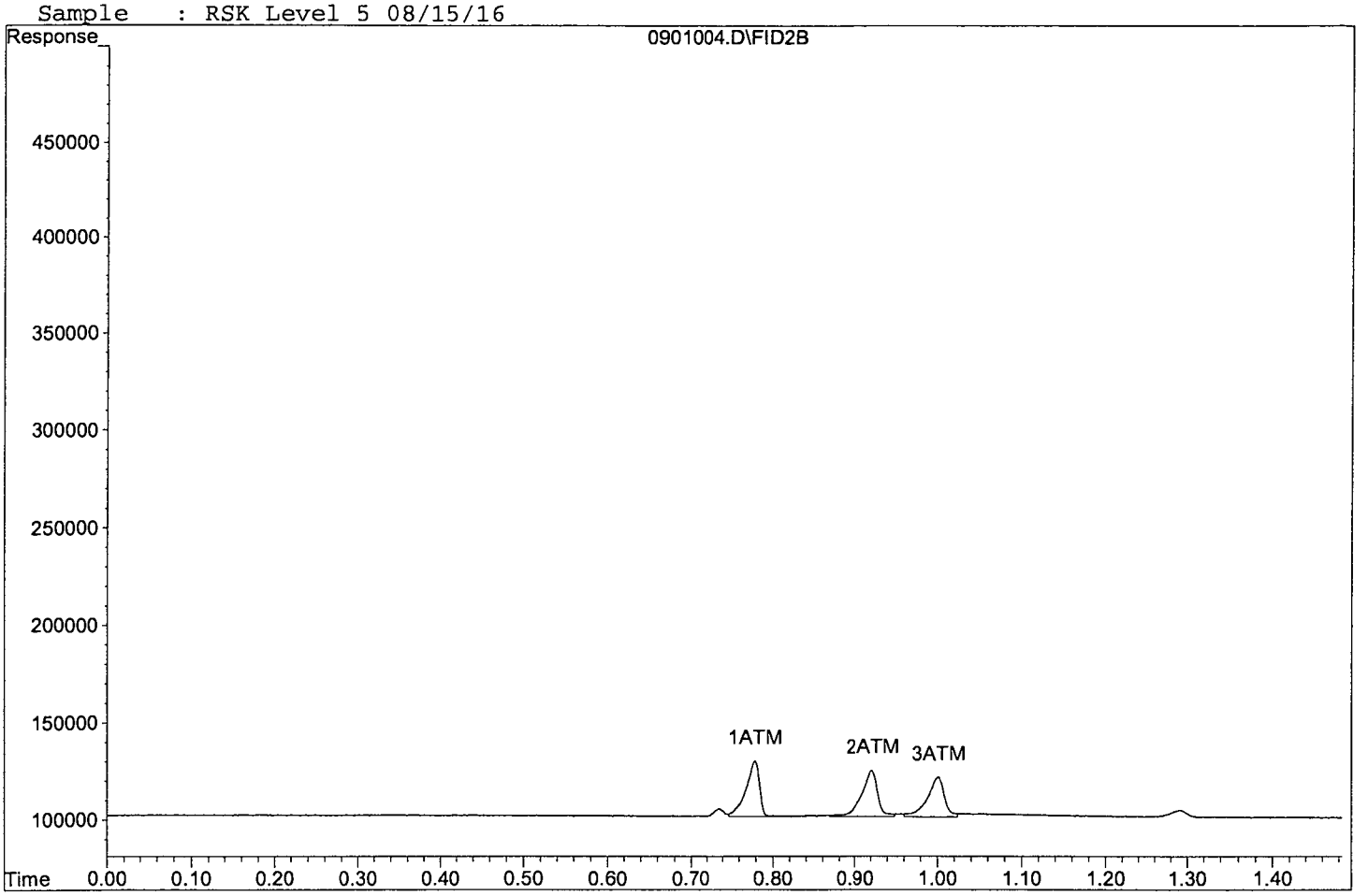
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	28664	13.193 ppb
2) ATM Ethane	0.92	23891	17.020 ppb
3) ATM Ethene	1.00	20700	13.631 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901004.D
Sample : RSK Level 5 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901005.D Vial: 6
Acq On : 1 Sep 16 11:50 Operator: lac
Sample : RSK Level 6 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

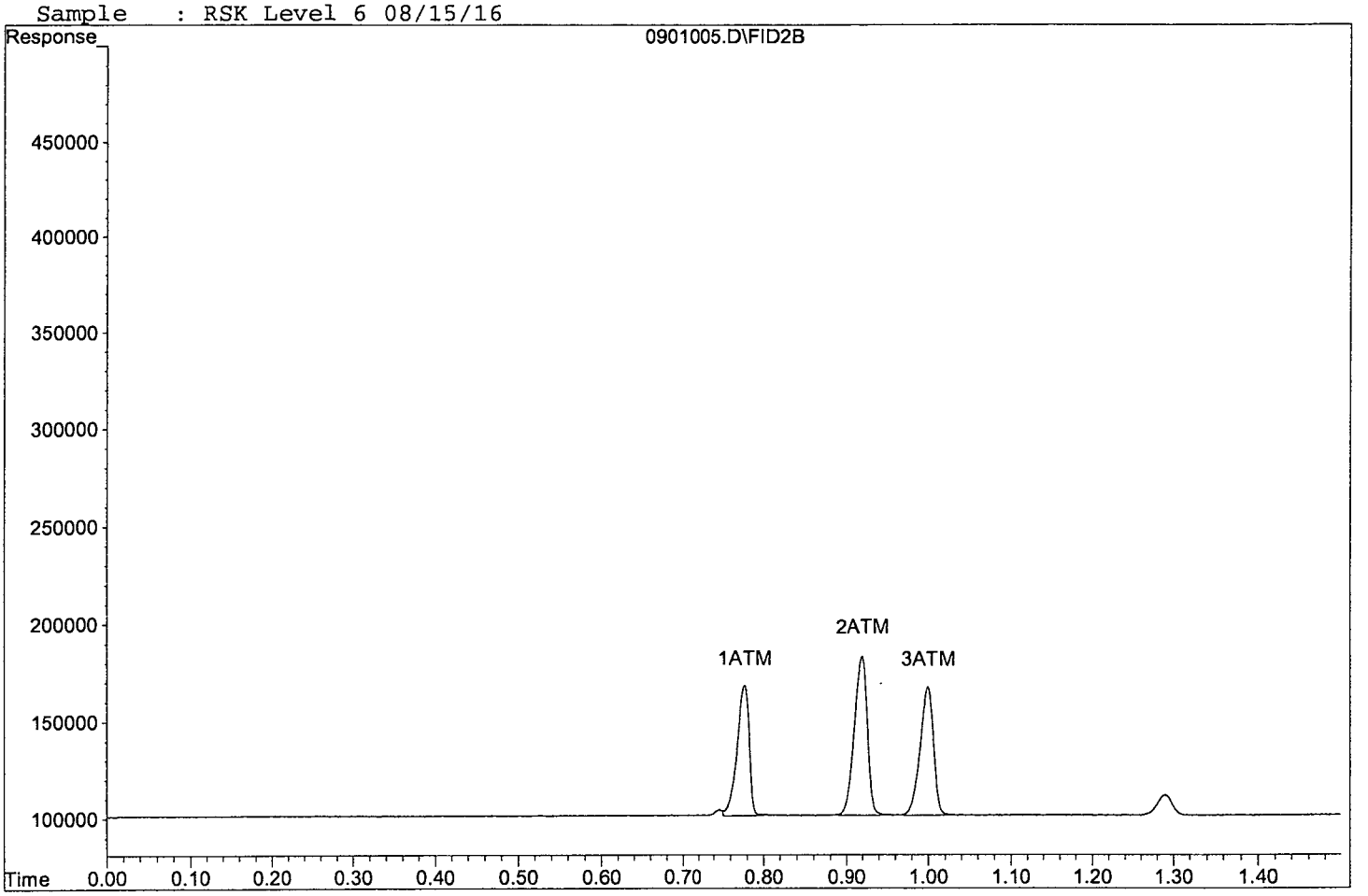
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	67137	48.712 ppb
2) ATM Ethane	0.92	82167	90.193 ppb
3) ATM Ethene	1.00	66348	86.764 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901005.D
Sample : RSK Level 6 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901006.D Vial: 7
Acq On : 1 Sep 16 11:52 Operator: lac
Sample : RSK Level 7 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

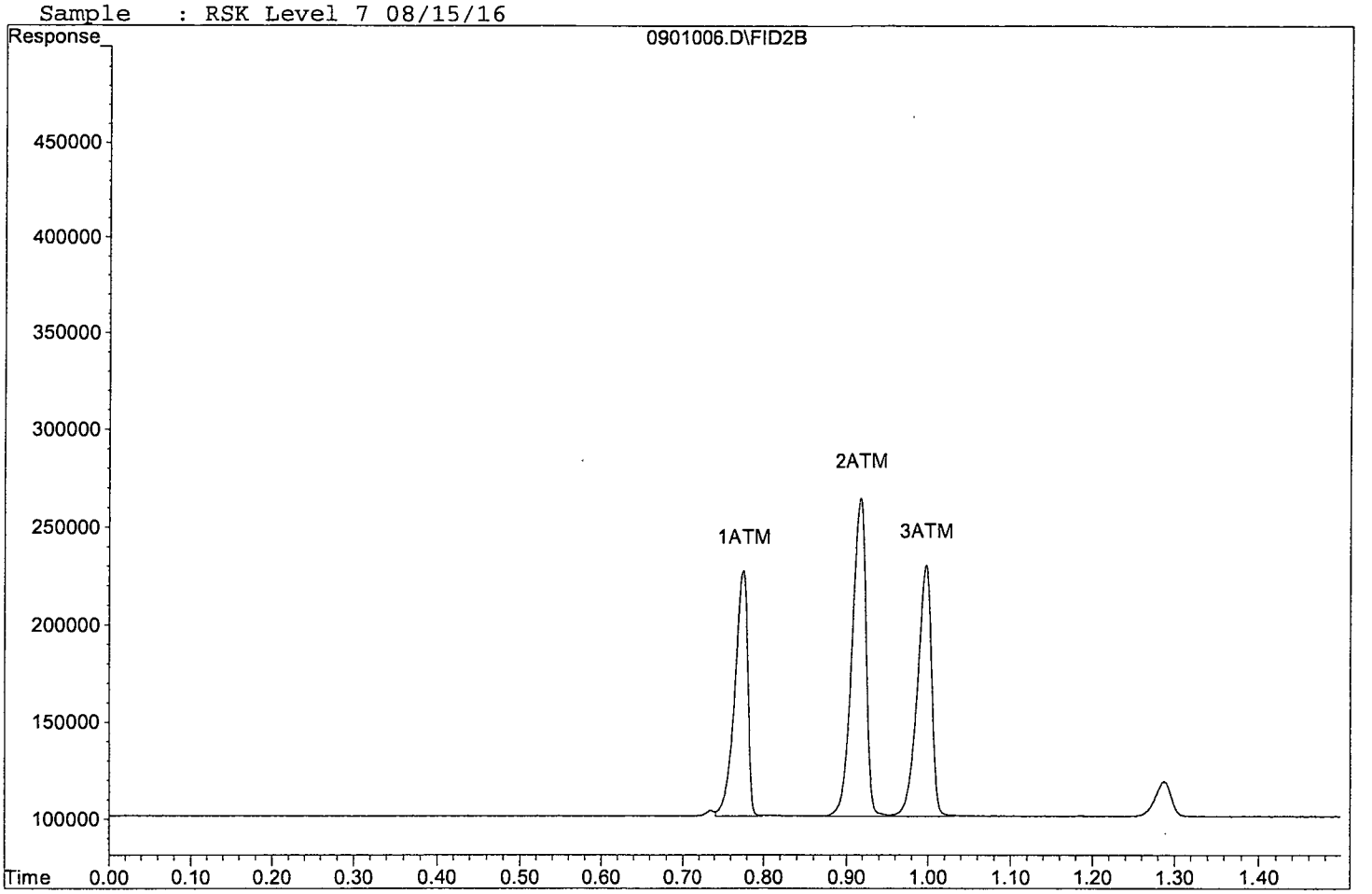
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	126422	103.446 ppb
2) ATM Ethane	0.92	163281	192.041 ppb
3) ATM Ethene	1.00	129200	187.460 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901006.D
Sample : RSK Level 7 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901007.D Vial: 8
Acq On : 1 Sep 16 11:55 Operator: lac
Sample : RSK Level 8 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

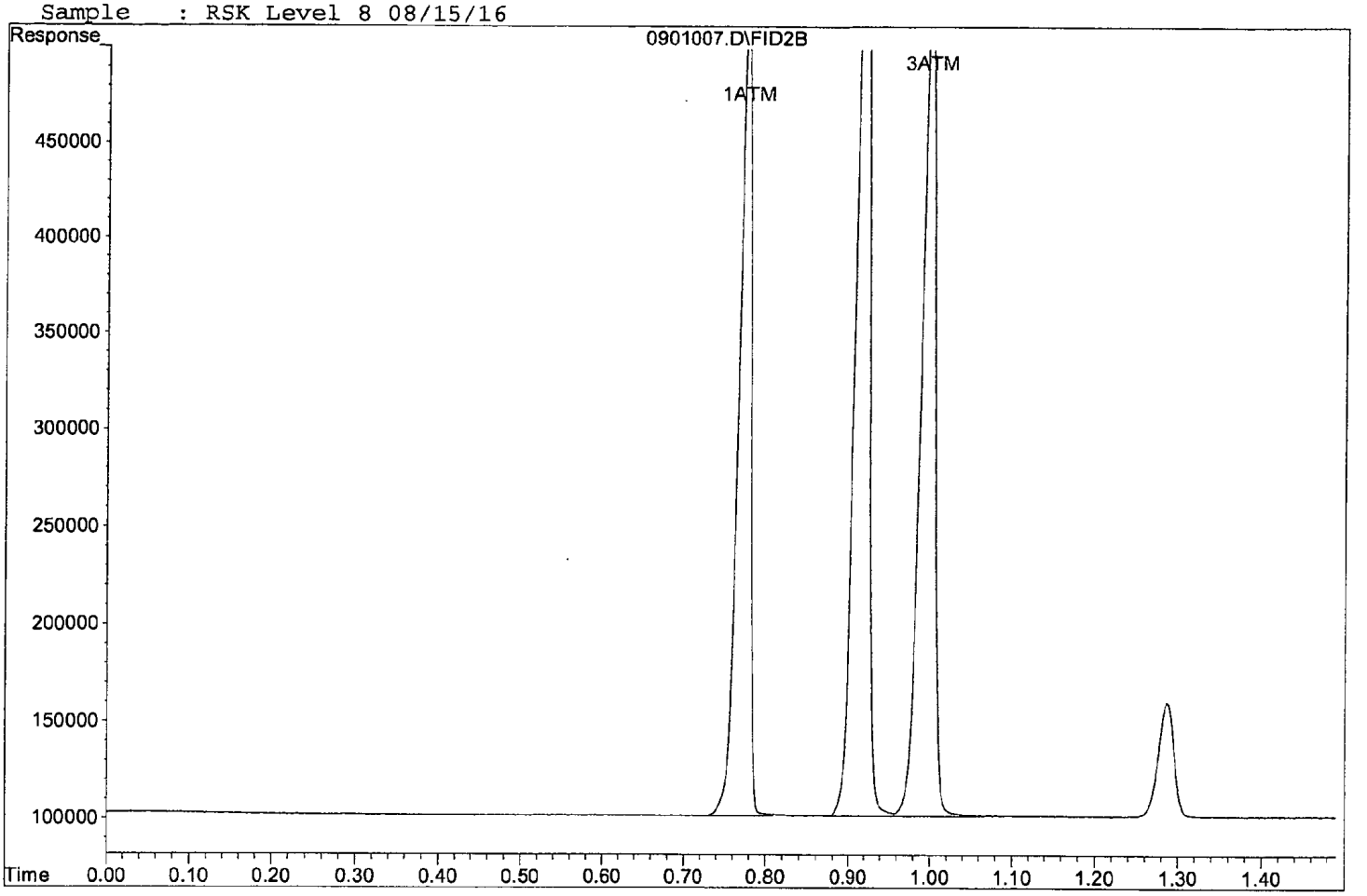
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	421052	375.455 ppb
2) ATM Ethane	0.92	559640	689.720 ppb
3) ATM Ethene	1.00	439383	684.403 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901007.D
Sample : RSK Level 8 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901008.D Vial: 9
Acq On : 1 Sep 16 11:57 Operator: lac
Sample : RSK Level 9 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

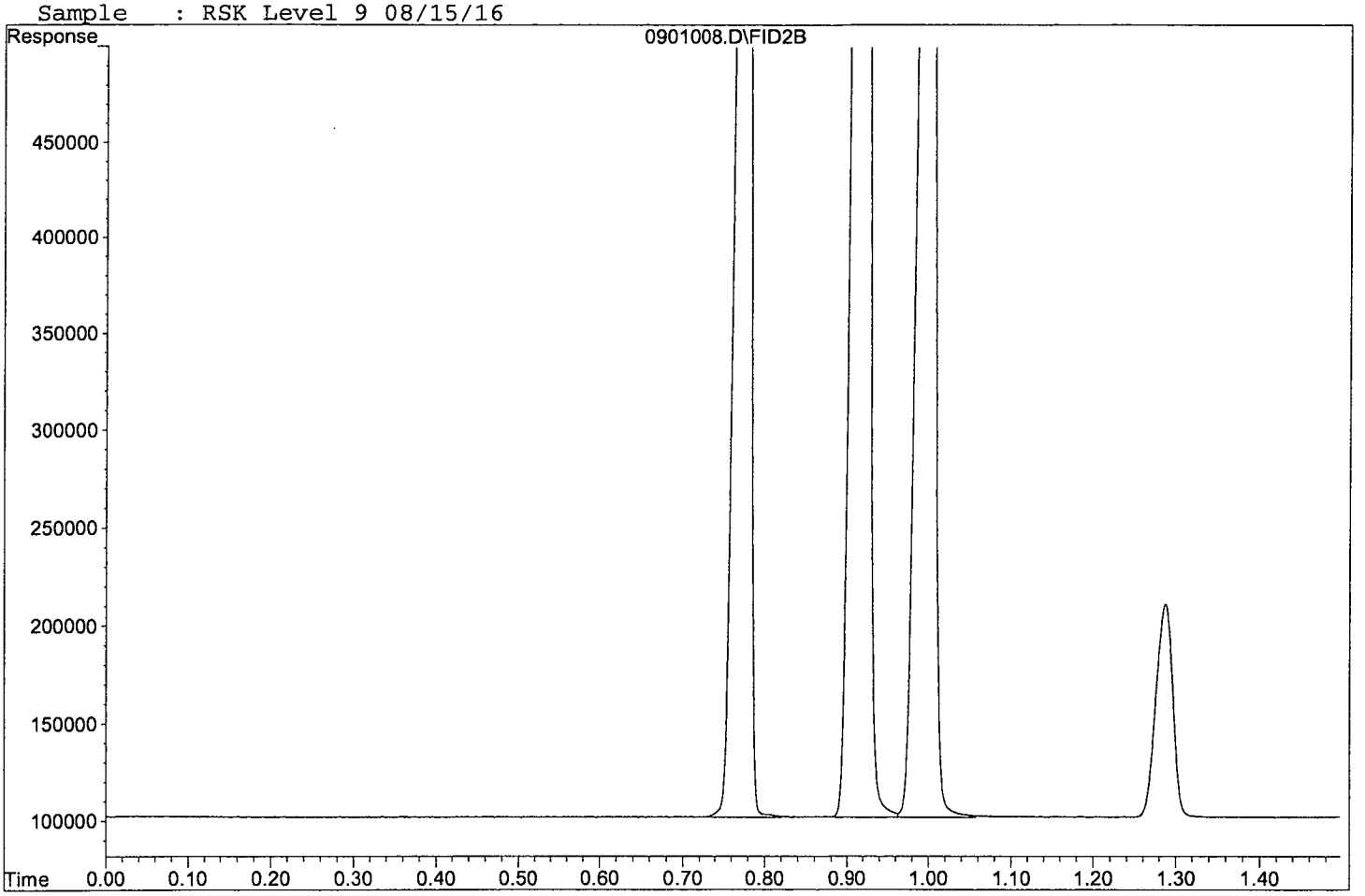
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	723824	654.982	ppb
2) ATM Ethane	0.92	989344	1229.268	ppb
3) ATM Ethene	1.00	783615	1235.897	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901008.D
Sample : RSK Level 9 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901009.D Vial: 10
Acq On : 1 Sep 16 11:59 Operator: lac
Sample : RSK Level 10 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

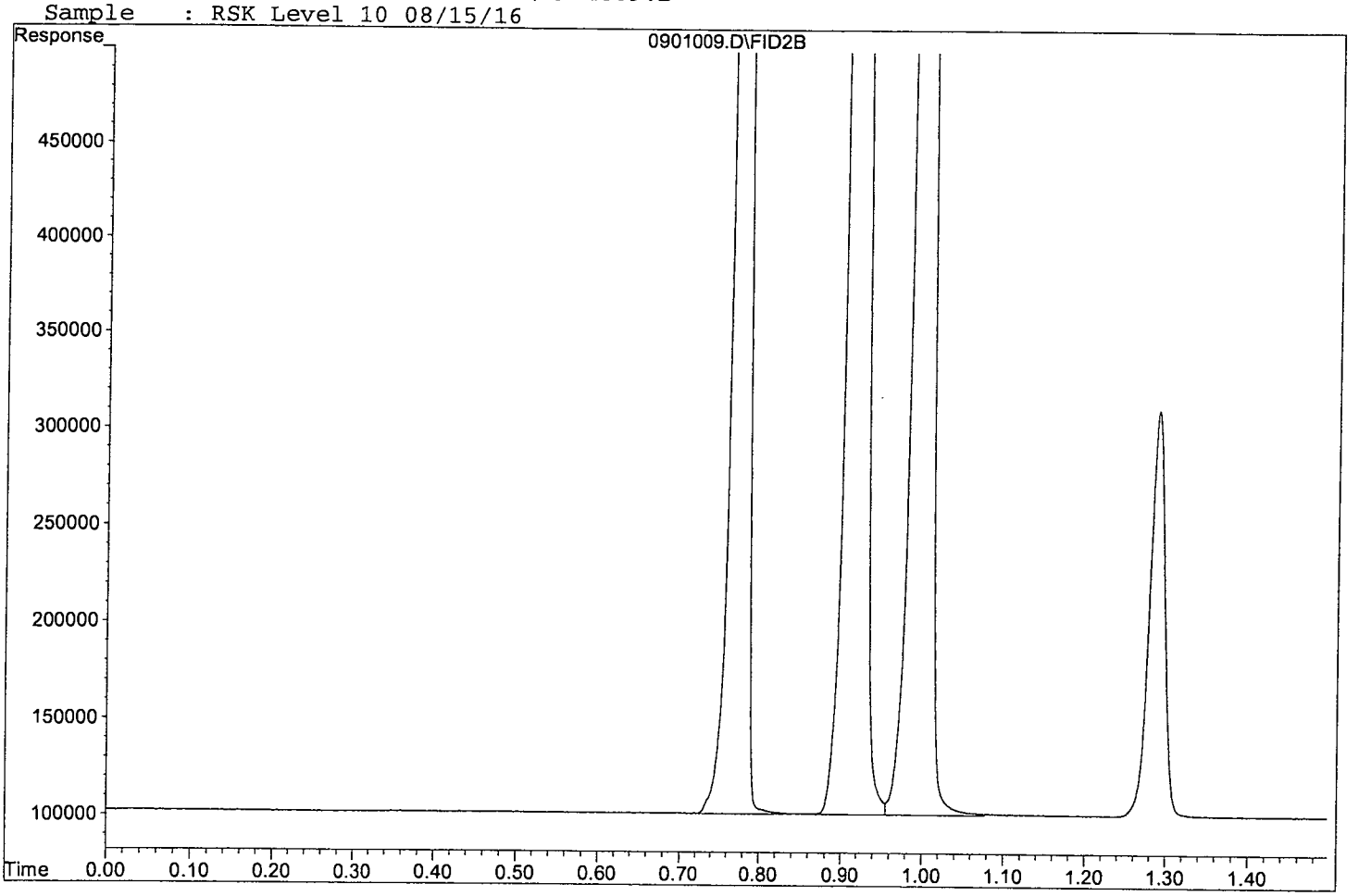
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	1454283	1329.358	ppb
2) ATM Ethane	0.92	1994598	2491.490	ppb
3) ATM Ethene	1.00	1562244	2483.337	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901009.D
Sample : RSK Level 10 08/15/16



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Sep 16 13:11
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 0901018.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	1090	59	ATML	19
2	ATML	Ethane	1147	964	16	ATML	11
3	ATML	Ethene	1063	853	20	ATML	20
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			31.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901018.D
Acq On : 1 Sep 16 13:11
Sample : (SS/LCS) RSK Level 6 09/01/16
Misc :
IntFile : autoint1.e
Quant Time: Sep 1 13:16 2016 Quant Results File: RSK0901.RES

Vial: 19
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Sep 01 14:40:19 2016
Response via : Multiple Level Calibration

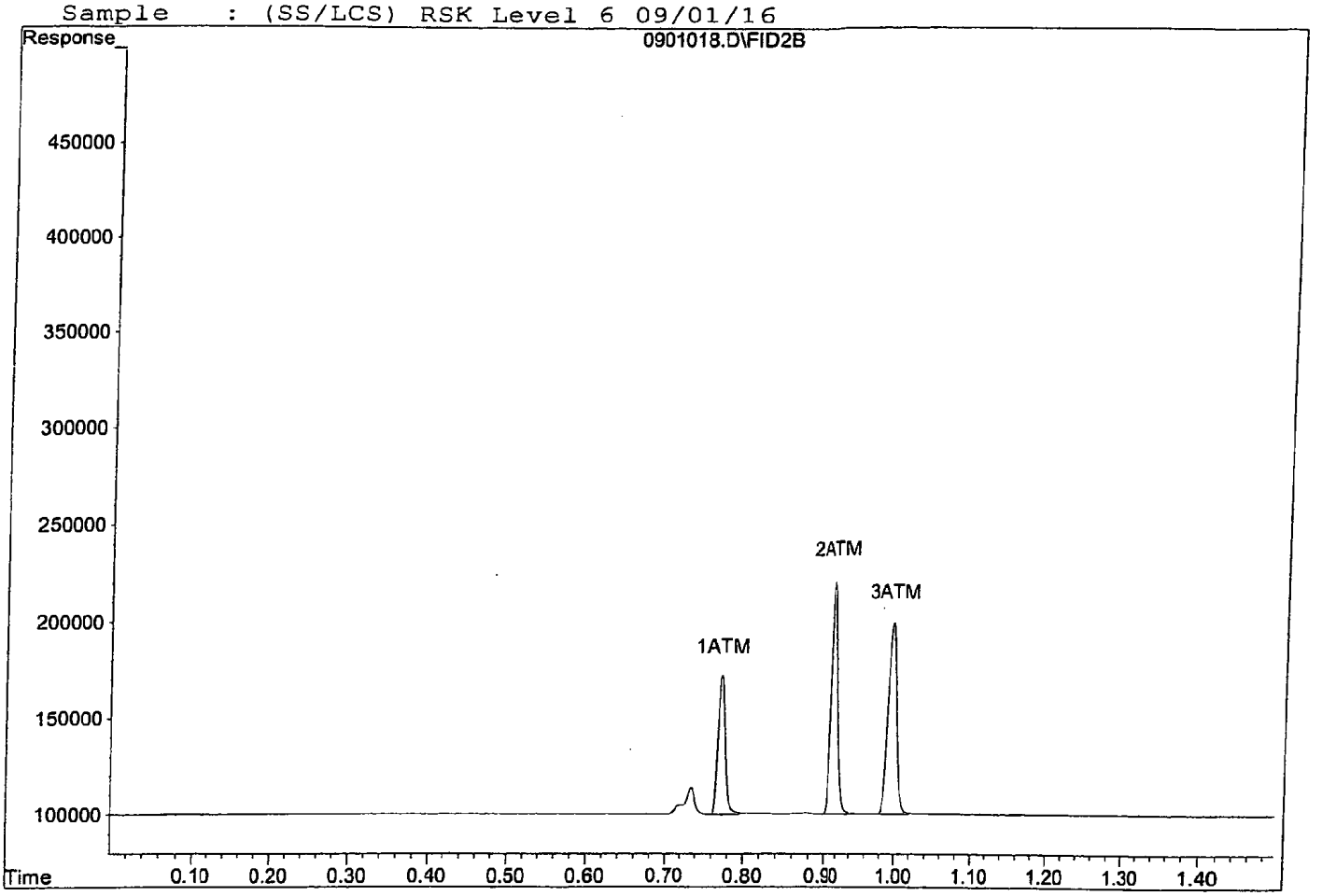
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	72750	53.894 ppb
2) ATM Ethane	0.91	120545	138.382 ppb
3) ATM Ethene	0.99	99349	139.636 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901018.D
Sample : (SS/LCS) RSK Level 6 09/01/16



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/10/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021002.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	877	67	ATML	20
2	ATML	Ethane	1147	707	38	ATML	12
3	ATML	Ethene	1063	508	52	ATML	19
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			52.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021002.D Vial: 3
Acq On : 10 Feb 17 8:43 Operator: lac
Sample : 170210A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:49 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

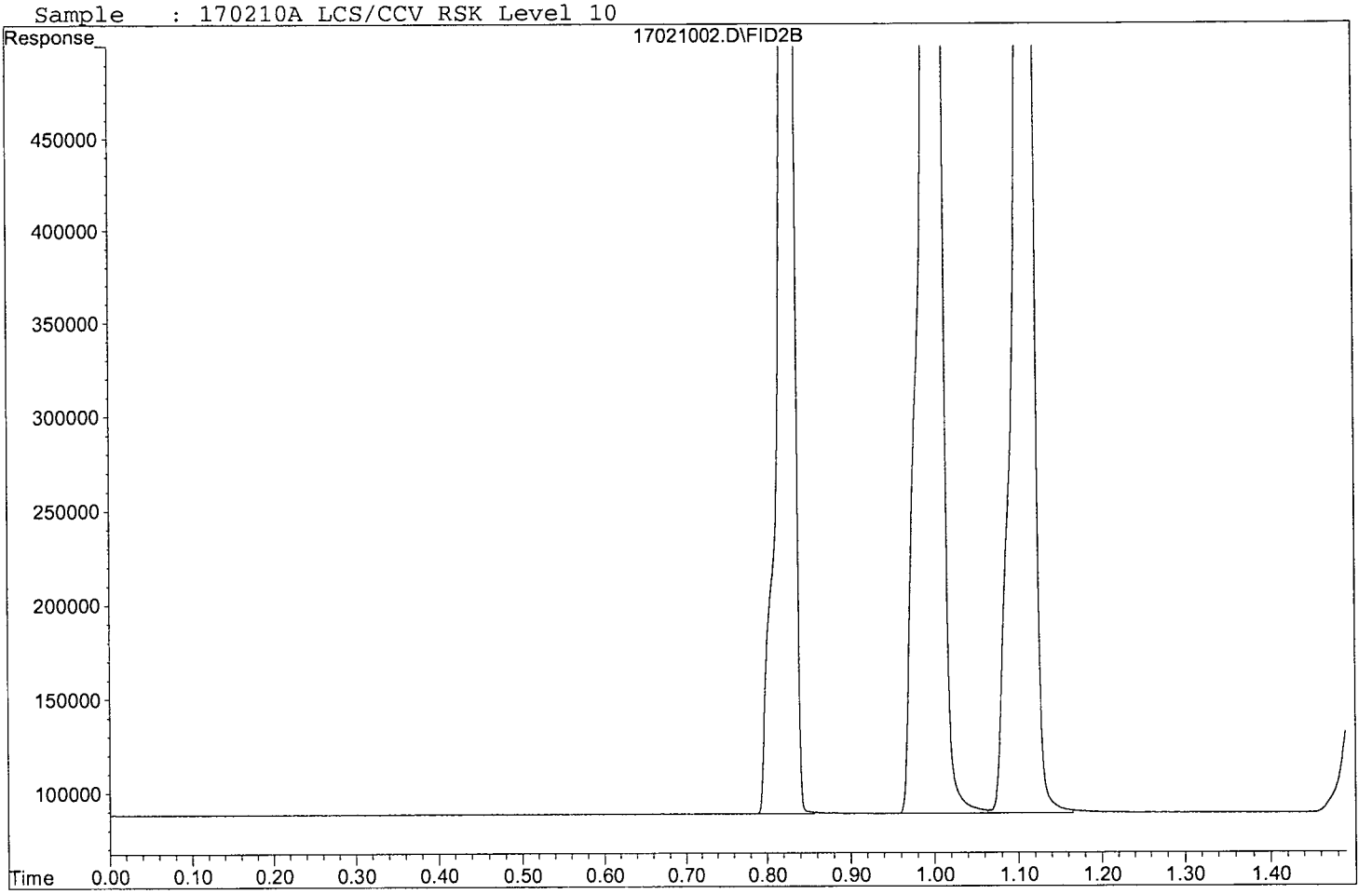
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1170768	1067.611	ppb
2) ATM Ethane	1.00	1767602	2206.468	ppb
3) ATM Ethene	1.11	1268183	2012.222	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021002.D
Sample : 170210A LCS/CCV RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/10/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021020.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	899	66	ATML	18
2	ATML	Ethane	1147	702	39	ATML	12
3	ATML	Ethene	1063	503	53	ATML	20
4							
5							
6							
7							
8							
9							
10							
11							
12							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			52.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021020.D Vial: 21
Acq On : 10 Feb 17 10:21 Operator: lac
Sample : Ending CCV RSK Level 10 02/10/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 10:23 2017 Quant Results File: RSK0901.RES

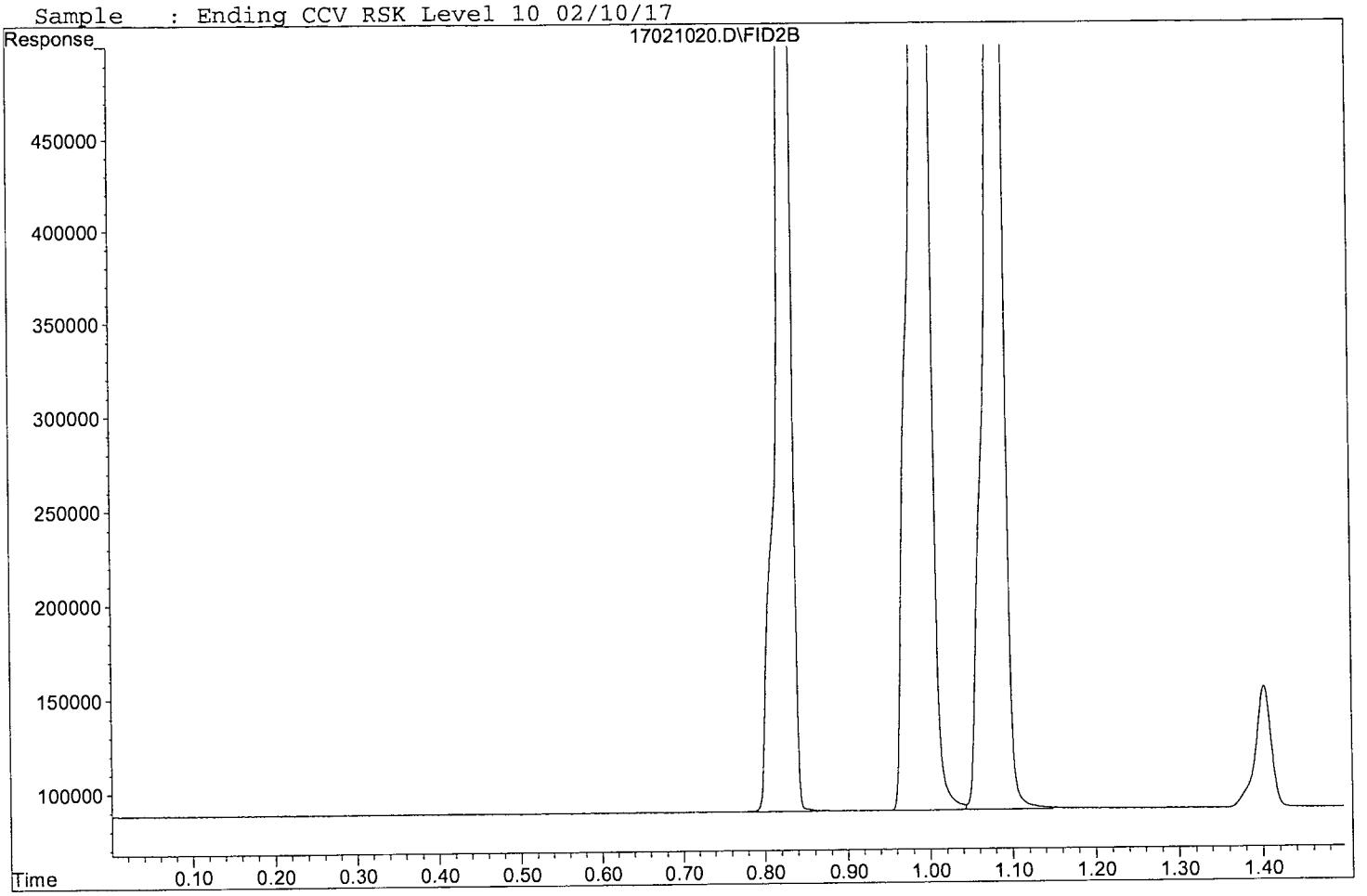
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1200373	1094.942	ppb
2) ATM Ethane	1.00	1754743	2190.322	ppb
3) ATM Ethene	1.09	1254926	1990.984	ppb

Target Compounds

Data File: G:\ROCKY\DATA\160901R\17021020.D
Sample : Ending CCV RSK Level 10 02/10/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170210W-49674 - 216084**
Batch ID: #RSKME-170210A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/10/17	02/10/17

Quant Method: RSK0901.M
Run #: 17021003
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/11/17 12:26:39 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021003.D Vial: 4
Acq On : 10 Feb 17 8:50 Operator: lac
Sample : 170210A BLK-RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 8:52 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

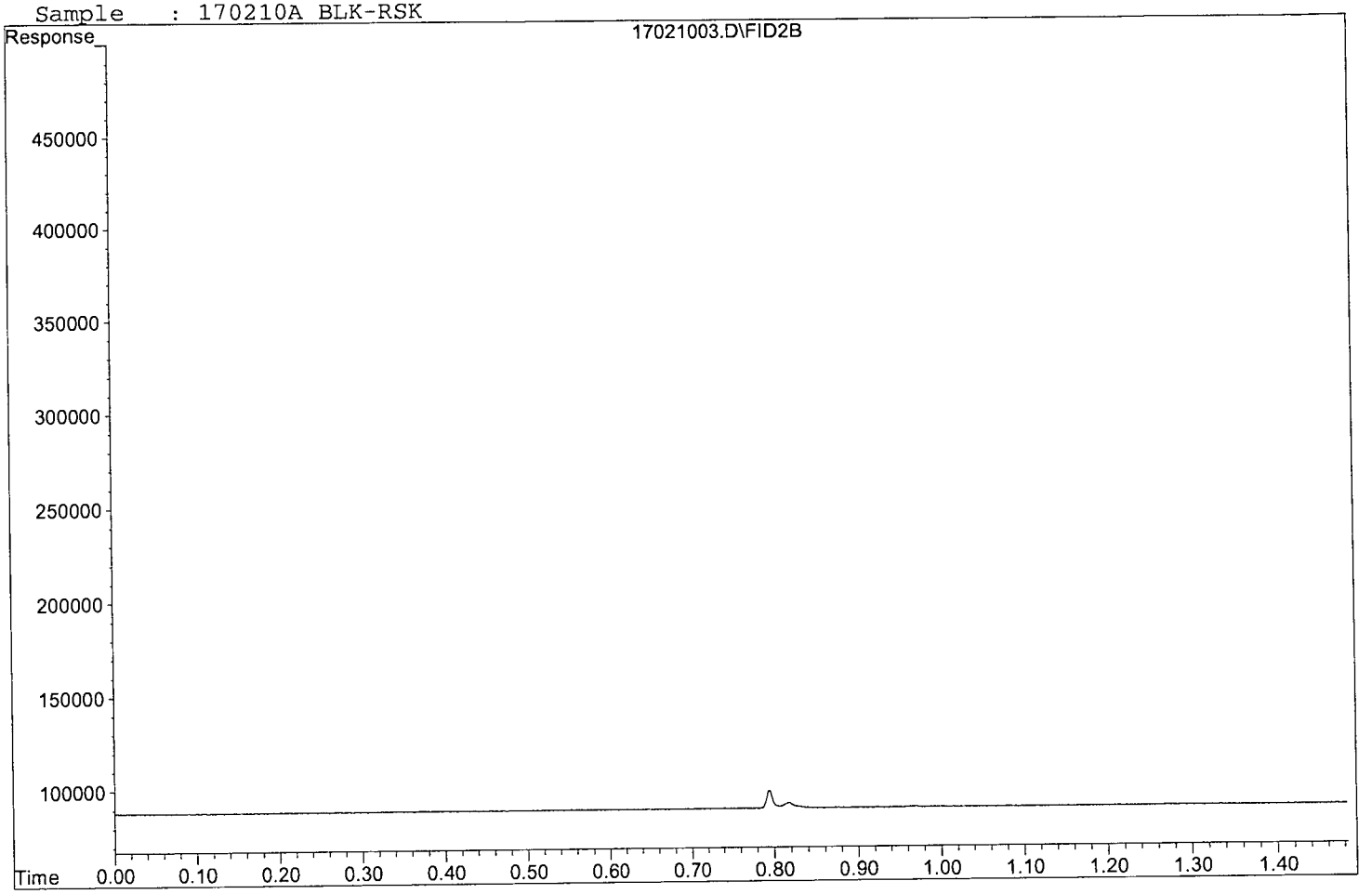
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	498	N.D.	ppb
2) ATM Ethane	1.01	228	N.D.	ppb
3) ATM Ethene	1.12	161	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021003.D
Sample : 170210A BLK-RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170210W-49674 LCS - 216084**
Batch ID: #RSKME-170210A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1070	80.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/10/17
Analysis Date :	02/10/17
Instrument :	Rocky
Run :	17021002
Initials :	CMO

Printed: 02/11/17 12:26:06 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021002.D
Acq On : 10 Feb 17 8:43
Sample : 170210A LCS/CCV RSK Level 10
Misc :
IntFile : autoint1.e
Quant Time: Feb 10 8:49 2017 Quant Results File: RSK0901.RES

Vial: 3
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

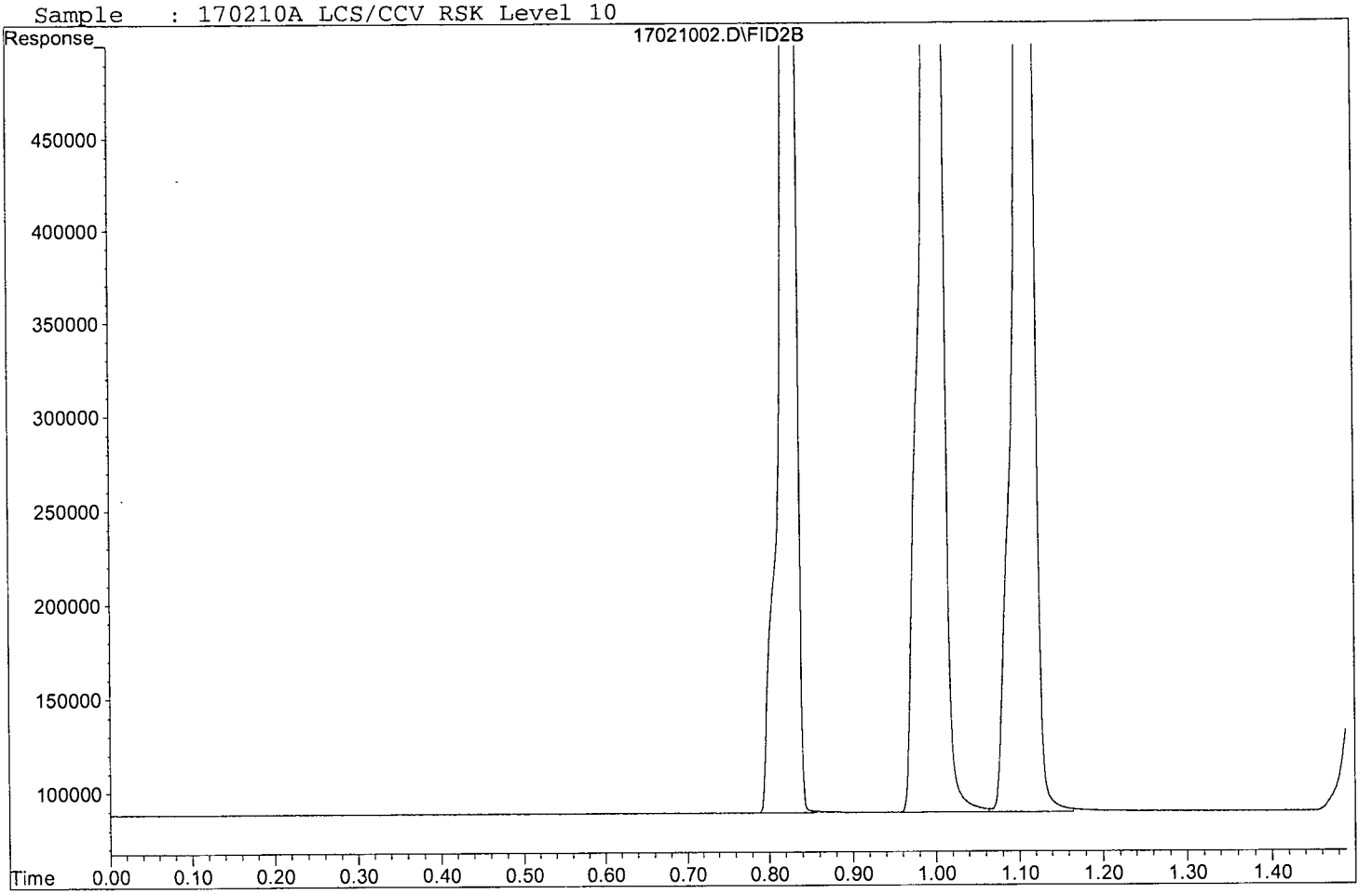
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1170768	1067.611	ppb
2) ATM Ethane	1.00	1767602	2206.468	ppb
3) ATM Ethene	1.11	1268183	2012.222	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021002.D
Sample : 170210A LCS/CCV RSK Level 10



Matrix Spike Recoveries

METHANE

APPL ID: **170210W-49674 MS - 216084**
Batch ID: #RSKME-170210A
Sample ID: AZ49674
Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	1300	1290	97.4	96.6	72-125	0.77	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK0901.M	RSK0901.M
Extraction Date :	02/10/17	02/10/17
Analysis Date :	02/10/17	02/10/17
Instrument :	Rocky	Rocky
Run :	17021008	17021009
Initials :	CMO	

Printed: 02/11/17 12:27:04 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021008.D Vial: 9
Acq On : 10 Feb 17 9:14 Operator: lac
Sample : AZ49674W13 MS Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:17 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

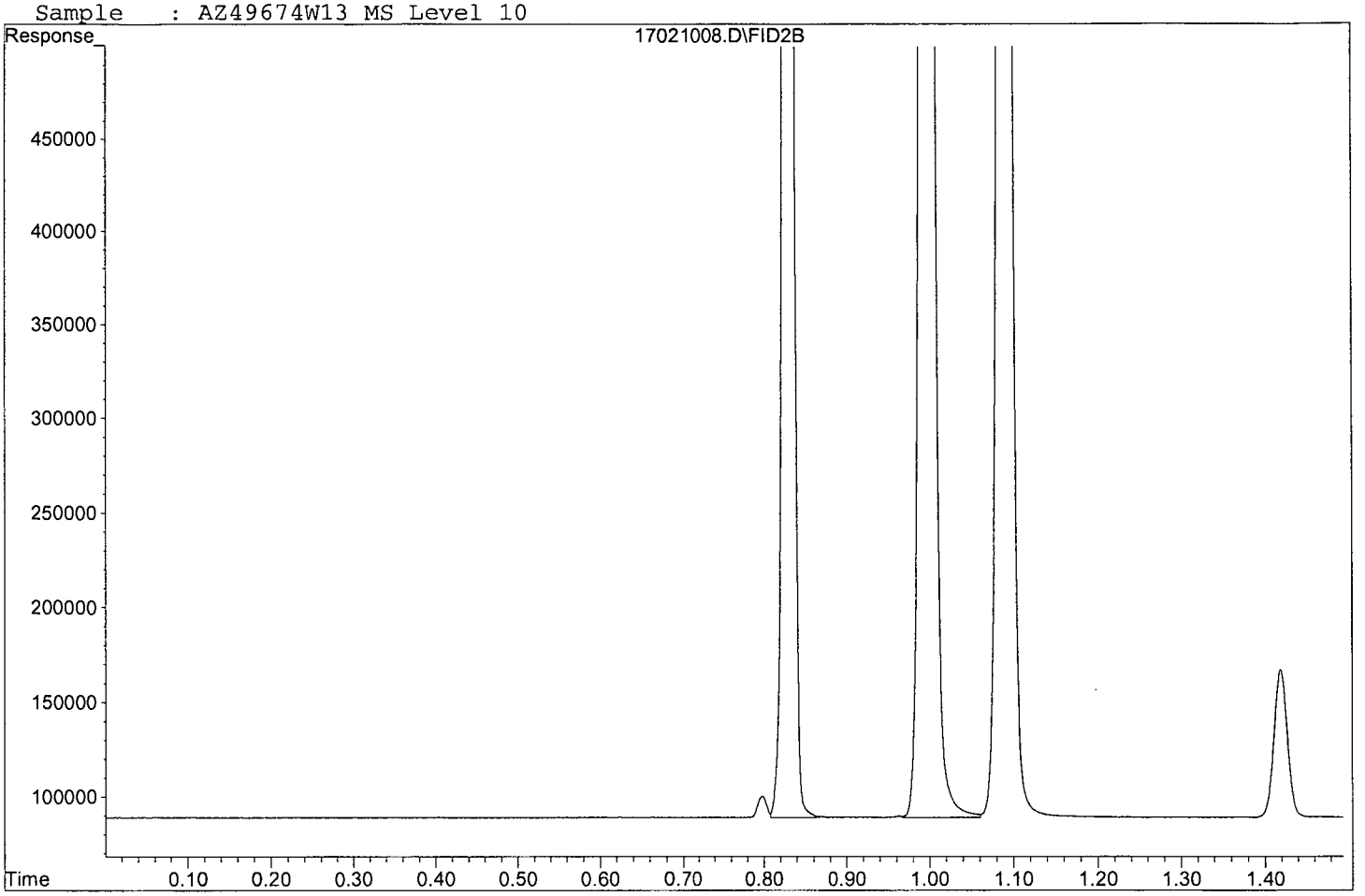
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1421017	1298.646	ppb
2) ATM Ethane	1.00	2316878	2896.153	ppb
Target Compounds				
3) ATM Ethene	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021008.D
Sample : AZ49674W13 MS Level 10



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021009.D Vial: 10
Acq On : 10 Feb 17 9:20 Operator: lac
Sample : AZ49674W14 MSD Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 10 9:24 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 08:42:41 2017
Response via : Multiple Level Calibration

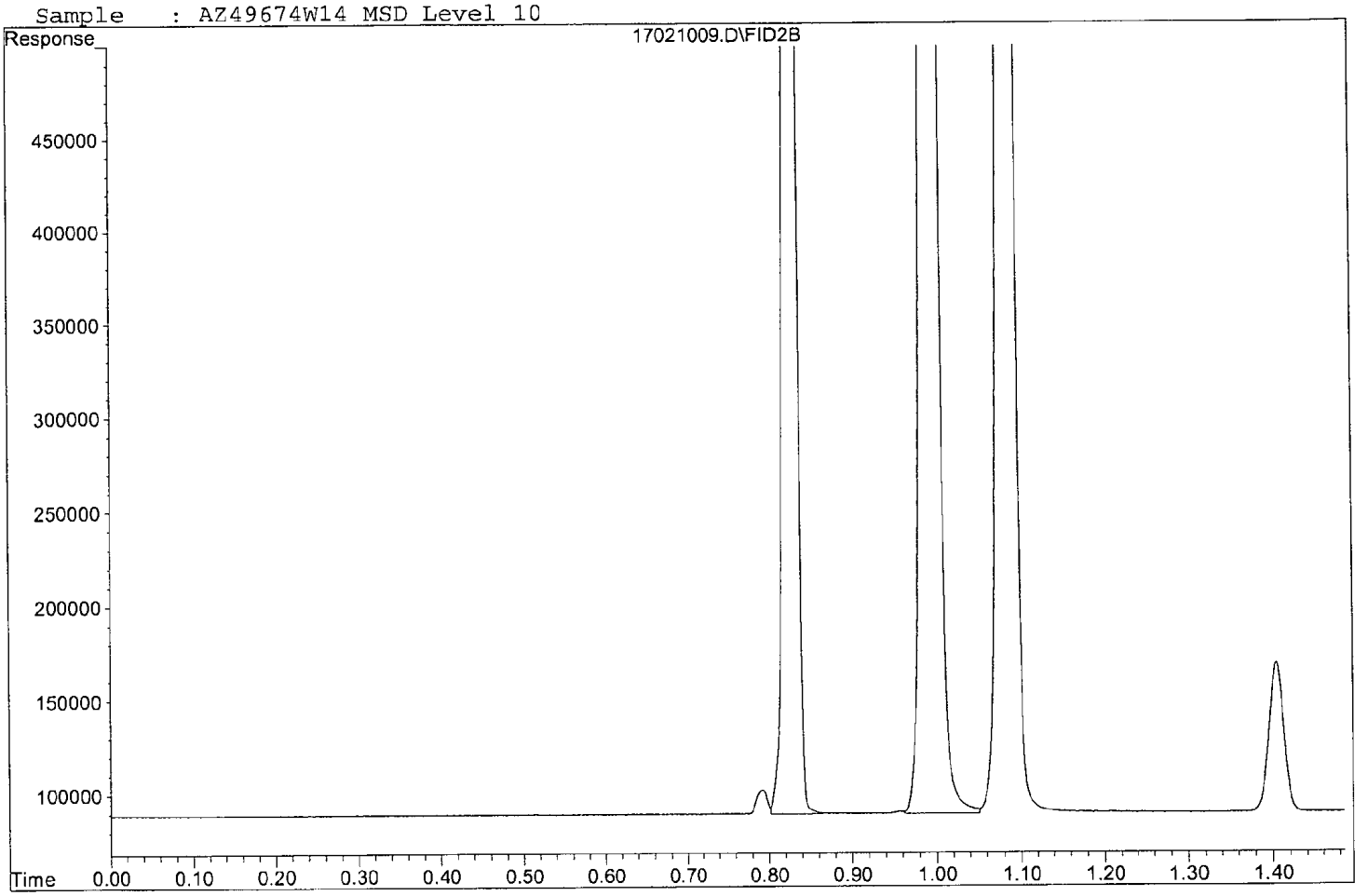
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1415575	1293.622	ppb
2) ATM Ethane	1.00	2320924	2901.234	ppb
Target Compounds				
3) ATM Ethene	0.00	0	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021009.D
Sample : AZ49674W14 MSD Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CM 8/15/16
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 8/15/17** CM 8/15/16
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 9/28/16** CM 9/1/16

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4SP C05L-34436	Primary Source Std #164PLU4S PC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CM 8/15/16
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 8/15/17** CM 8/15/16
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 10/1/16** CM 9/1/16
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 03/10/17** CMM 02/10/17
2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

AZ49674W13/W14 MS/MSD Level 10 **Expires 03/10/17** CMM 02/10/17
2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\160901R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0901000.D	1	RSK Level 1 08/15/16	Methane 0.9, Ethane, 1.7 Etl	1 Sep 16 11:38
2	2	0901001.D	1	RSK Level 2 08/15/16		1 Sep 16 11:41
3	3	0901002.D	1	RSK Level 3 08/15/16	Methane 5.1, Ethane, 9.5 Etl	1 Sep 16 11:44
4	4	0901003.D	1	RSK Level 4 08/15/16		1 Sep 16 11:46
5	5	0901004.D	1	RSK Level 5 08/15/16		1 Sep 16 11:48
6	6	0901005.D	1	RSK Level 6 08/15/16		1 Sep 16 11:50
7	7	0901006.D	1	RSK Level 7 08/15/16		1 Sep 16 11:52
8	8	0901007.D	1	RSK Level 8 08/15/16		1 Sep 16 11:55
9	9	0901008.D	1	RSK Level 9 08/15/16		1 Sep 16 11:57
10	10	0901009.D	1	RSK Level 10 08/15/16		1 Sep 16 11:59
11	19	0901018.D	1	(SS/LCS) RSK Level 6 09/01/16		1 Sep 16 13:11
12	3	17021002.D	1	170210A LCS/CCV RSK Level 10		10 Feb 17 8:43
13	4	17021003.D	1	170210A BLK-RSK		10 Feb 17 8:50
14	7	17021006.D	1	AZ49674W12		10 Feb 17 9:00
15	9	17021008.D	1	AZ49674W13 MS Level 10		10 Feb 17 9:14
16	10	17021009.D	1	AZ49674W14 MSD Level 10		10 Feb 17 9:20
17	11	17021010.D	1	AZ49675W06		10 Feb 17 9:26
18	12	17021011.D	1	AZ49678W06		10 Feb 17 9:29
19	13	17021012.D	1	AZ49679W06		10 Feb 17 9:32
20	14	17021013.D	1	AZ49681W06		10 Feb 17 9:36
21	15	17021014.D	1	AZ49682W06		10 Feb 17 9:40
22	16	17021015.D	1	AZ49684W03		10 Feb 17 9:43
23	17	17021016.D	1	AZ49685W06		10 Feb 17 9:46
24	21	17021020.D	1	Ending CCV RSK Level 10 02/10/17		10 Feb 17 10:21

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/08/17	02/08/17	#35FE-170208A-AZ49674

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
SM 2320B	BICARBONATE AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM3500Fe	FERROUS IRON	3.00	2.88	96.0	80-120	02/08/17	02/08/17	#35FE-170208A-AZ49674

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **170211W-49674 MS - 216096**

Sample ID: AZ49674

Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	63.1	309	307	98.4	97.6	0.65	20	90-110	02/11/17	02/11/17	02/11/17	02/11/17	216096	AZ49674
SM 2320B	TOTAL ALKALINITY AS	250	63.1	309	307	98.4	97.6	0.65	20	90-110	02/11/17	02/11/17	02/11/17	02/11/17	216096	AZ49674
SM3500Fe	FERROUS IRON	3.00	0.027	3.02	3.01	99.8	99.4	0.33	20	80-120	02/08/17	02/08/17	02/08/17	02/08/17	216117	AZ49674

Comments: _____

Printed: 02/14/17 12:16:46 PM
APPL MSD SCII

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH205

APPL ID: AZ49674

Sample Collection Date: 02/06/17

ARF: 82121

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	02/08/17	02/08/17
EPA 300.0	SULFATE	14.8	1.0	0.20	0.09	mg/L	1	02/08/17	02/08/17
EPA 300.0	CHLORIDE	91.8	5.0	1.00	0.40	mg/L	5	02/08/17	02/08/17
SM 2320B	BICARBONATE AS CACO3	63.1	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	TOTAL ALKALINITY AS CACO3	63.1	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/08/17	02/08/17

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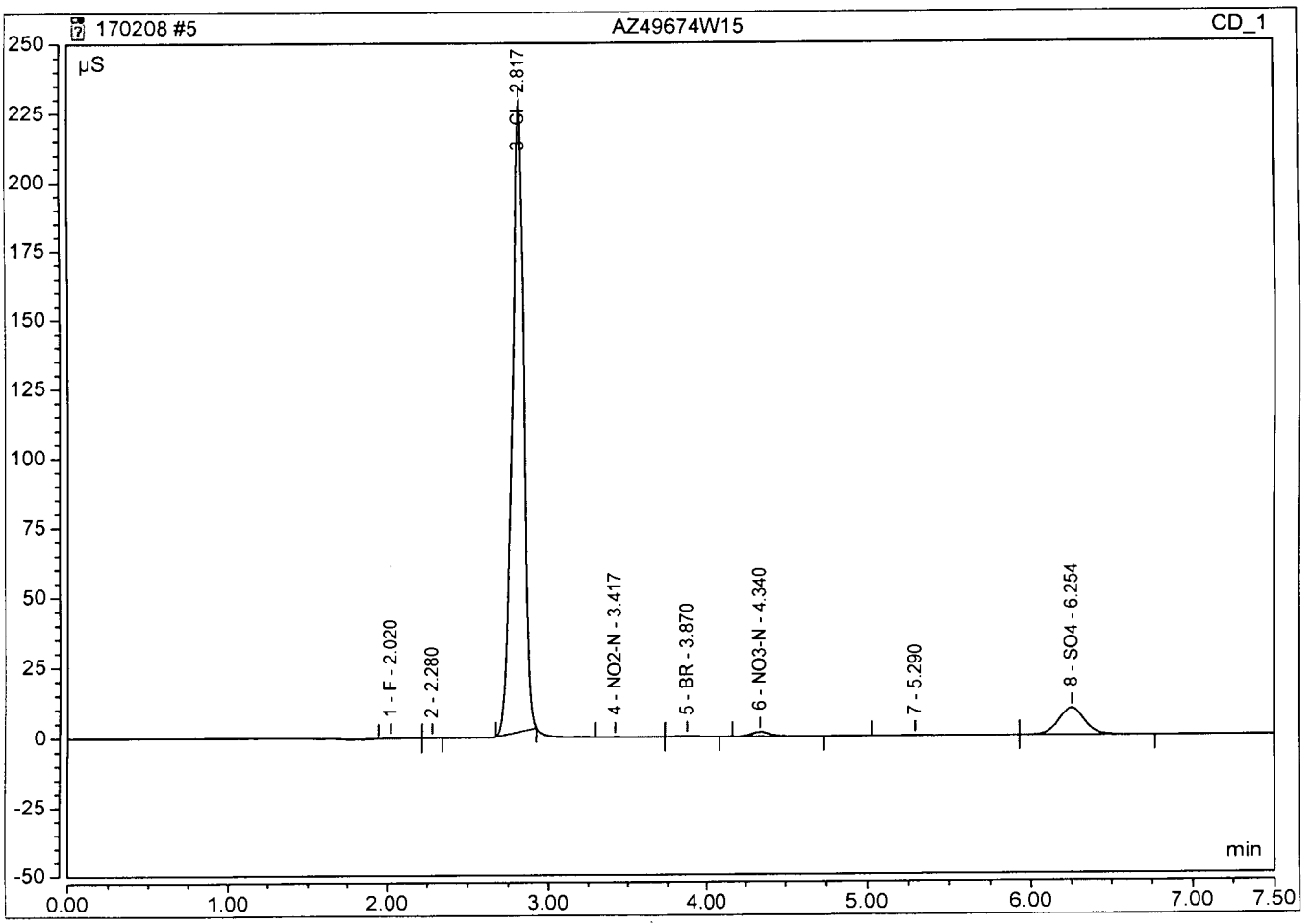
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49674W15**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 11:40**	*Run Time:*	**7.50**

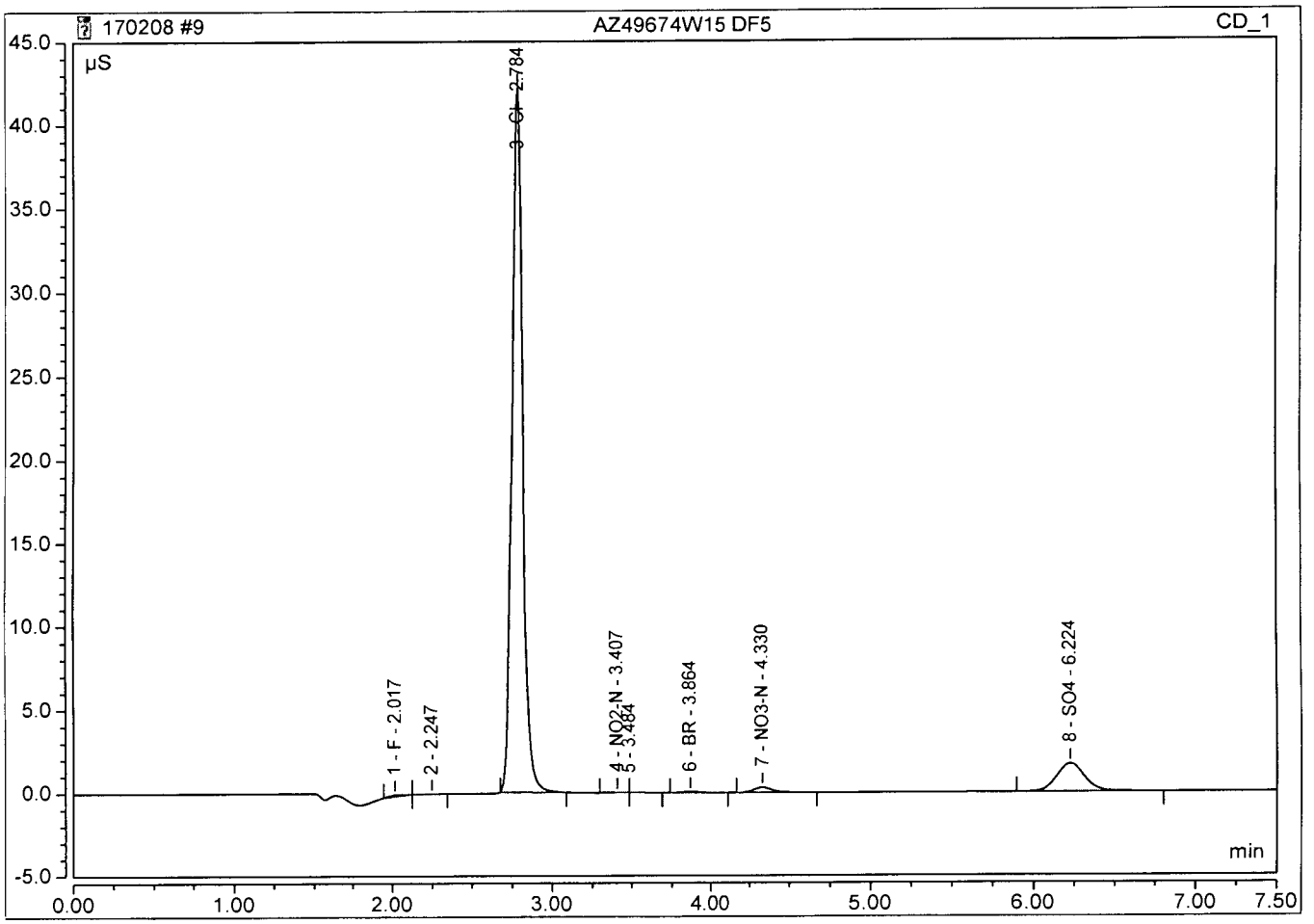
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.026	0.257	0.1523
3	2.82	Cl	BMB	18.773	227.175	103.8924
4	3.42	NO2-N	BMB	0.003	0.010	0.0315
5	3.87	BR	BMB	0.020	0.177	0.4375
6	4.34	NO3-N	BMB	0.197	1.509	0.5739
8	6.25	SO4	BMB	1.744	9.384	14.7783
TOTAL:				20.76	238.51	119.87



Peak Integration Report

Sample Name:	**AZ49674W15 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 14:33**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.009	0.090	0.3947
3	2.78	Cl	BMB	3.240	42.140	91.7958
4	3.41	NO2-N	BMB	0.000	0.002	0.1102
6	3.86	BR	BMB	0.004	0.037	0.9548
7	4.33	NO3-N	BMB	0.039	0.309	0.9560
8	6.22	SO4	BMB	0.333	1.688	16.0875
		TOTAL:		3.63	44.27	110.30



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH212

Sample Collection Date: 02/07/17

APPL ID: AZ49679

ARF: 82121

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	4.2	0.5	0.18	0.04	mg/L	1	02/08/17	02/08/17
EPA 300.0	SULFATE	49.0	1.0	0.20	0.09	mg/L	1	02/08/17	02/08/17
EPA 300.0	CHLORIDE	162	5.0	1.00	0.40	mg/L	5	02/08/17	02/08/17
SM 2320B	BICARBONATE AS CACO3	107	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	TOTAL ALKALINITY AS CACO3	107	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/08/17	02/08/17

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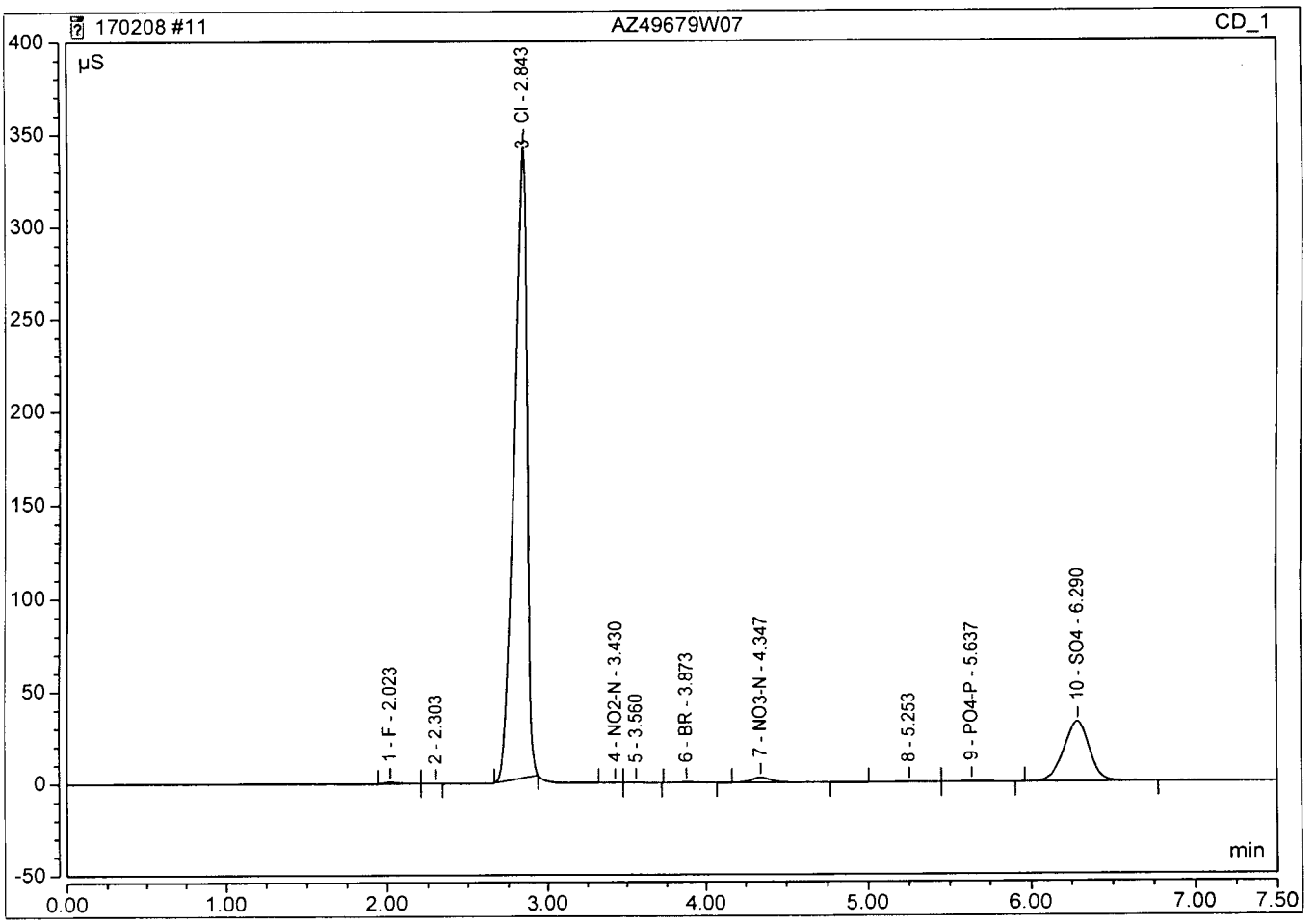
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49679W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 15:00**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.081	0.937	0.3997
3	2.84	Cl	BMB	31.246	339.760	172.5769
4	3.43	NO2-N	BMB	0.000	0.004	0.0229
6	3.87	BR	BMB	0.031	0.278	0.6182
7	4.35	NO3-N	BMB	0.353	2.680	0.9535
9	5.64	PO4-P	BMB	0.054	0.303	0.4963
10	6.29	SO4	BMB	5.921	32.662	48.9827
		TOTAL:		37.69	376.62	224.05

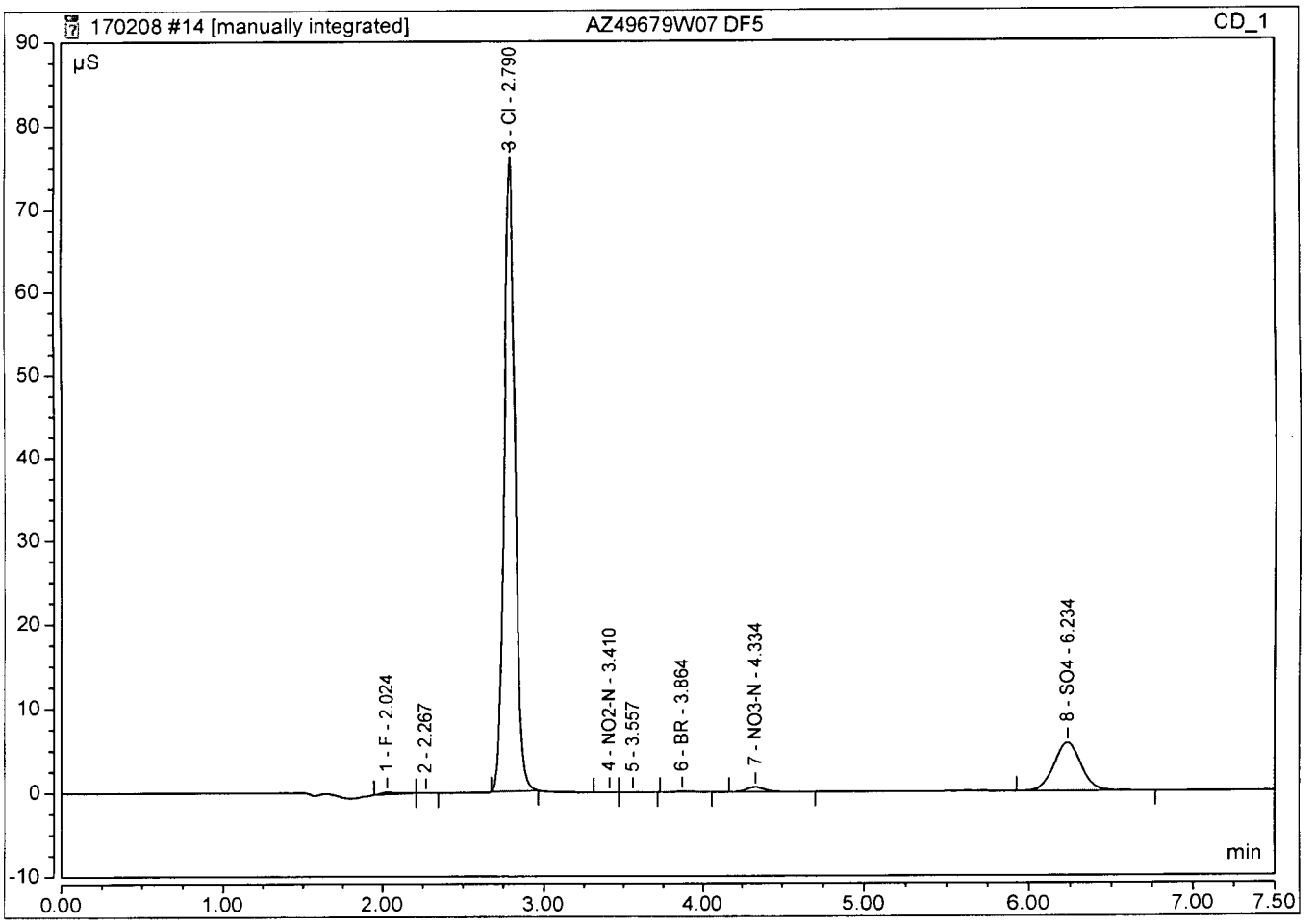


MI MM 2/14/17

Peak Integration Report

Sample Name:	**AZ49679W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 15:41**	*Run Time:*	**7.50**

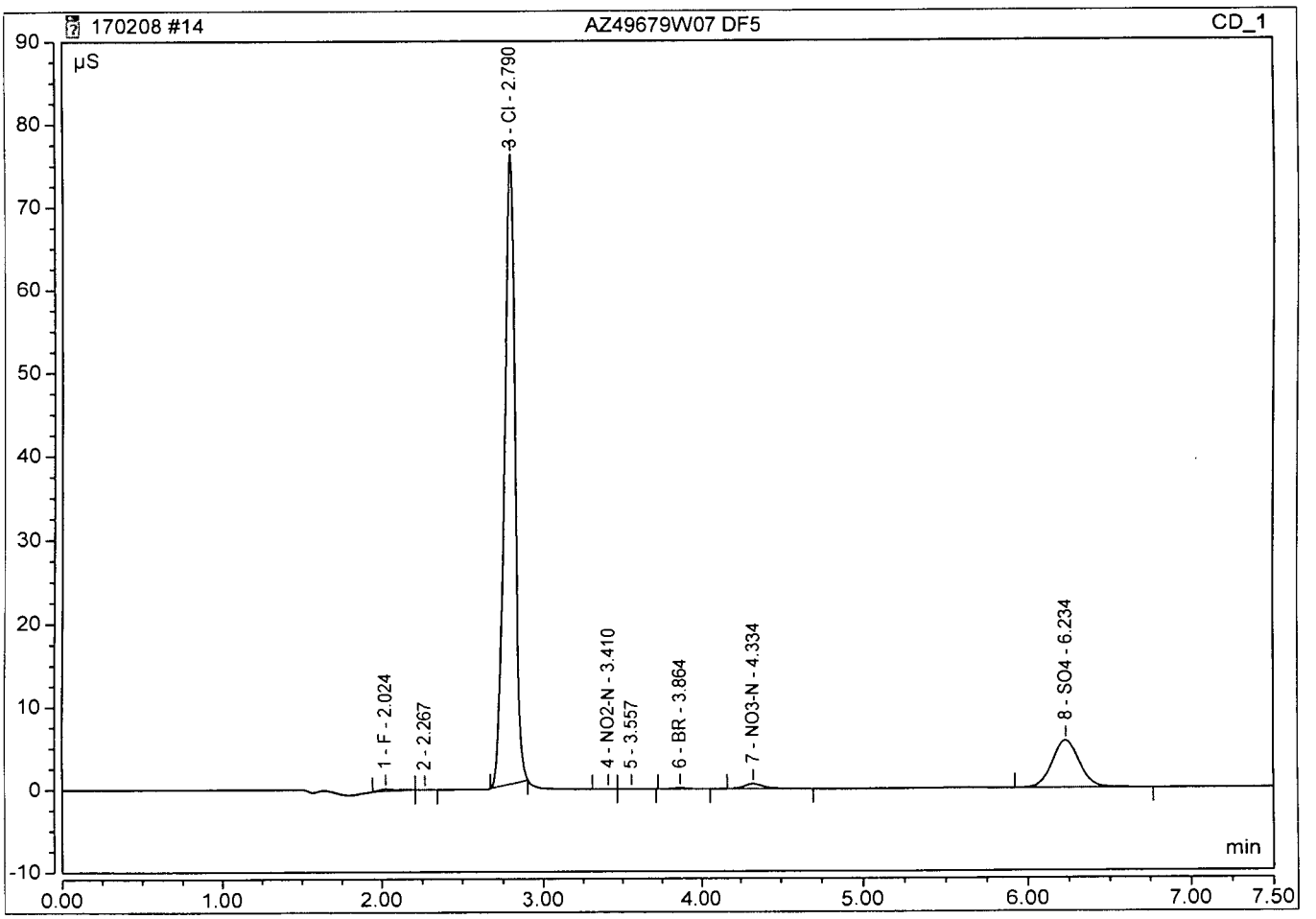
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.028	0.262	0.8146
3	2.79	Cl	BMB*	5.798	76.139	162.2355
4	3.41	NO2-N	BMB	0.000	0.001	0.1095
6	3.86	BR	BMB	0.007	0.061	1.1570
7	4.33	NO3-N	BMB	0.073	0.577	1.3681
8	6.23	SO4	BMB	1.088	5.669	47.0303
TOTAL:				6.99	82.71	212.72



Peak Integration Report

Sample Name:	**AZ49679W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 15:41**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.028	0.262	0.8146
3	2.79	Cl	BMB	5.683	75.706	159.0524
4	3.41	NO2-N	BMB	0.000	0.001	0.1095
6	3.86	BR	BMB	0.007	0.061	1.1570
7	4.33	NO3-N	BMB	0.073	0.577	1.3681
8	6.23	SO4	BMB	1.088	5.669	47.0303
TOTAL:				6.88	82.28	209.53



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH214

APPL ID: AZ49682

Sample Collection Date: 02/07/17

ARF: 82121

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	1.2	0.5	0.18	0.04	mg/L	1	02/08/17	02/08/17
EPA 300.0	SULFATE	28.6	1.0	0.20	0.09	mg/L	1	02/08/17	02/08/17
EPA 300.0	CHLORIDE	91.1	5.0	1.00	0.40	mg/L	5	02/08/17	02/08/17
SM 2320B	BICARBONATE AS CACO3	50.7	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	TOTAL ALKALINITY AS CACO3	50.7	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM3500FeB	FERROUS IRON	1.8	1.0	0.32	0.16	mg/L	1	02/08/17	02/08/17

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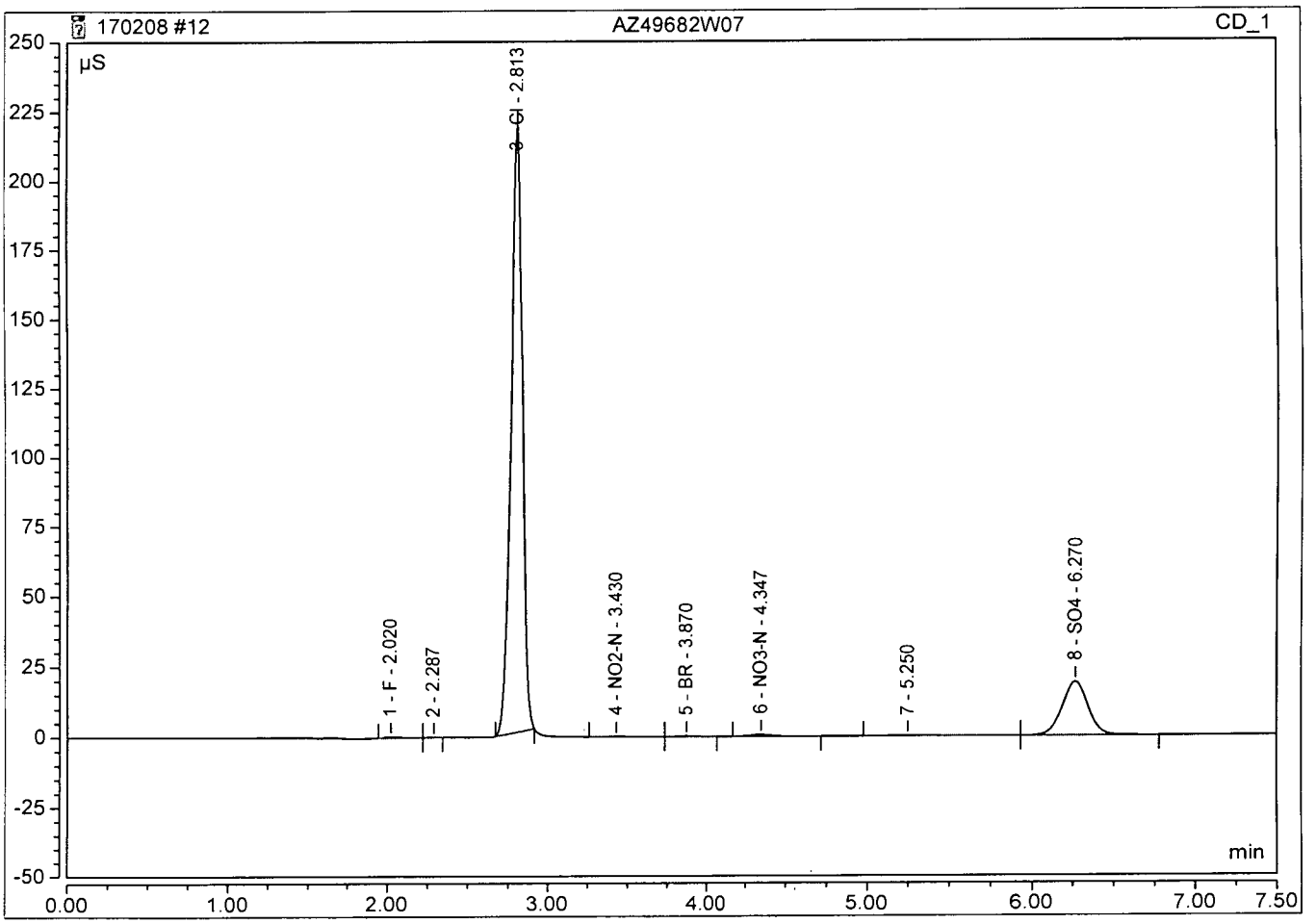
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49682W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 15:14**	*Run Time:*	**7.50**

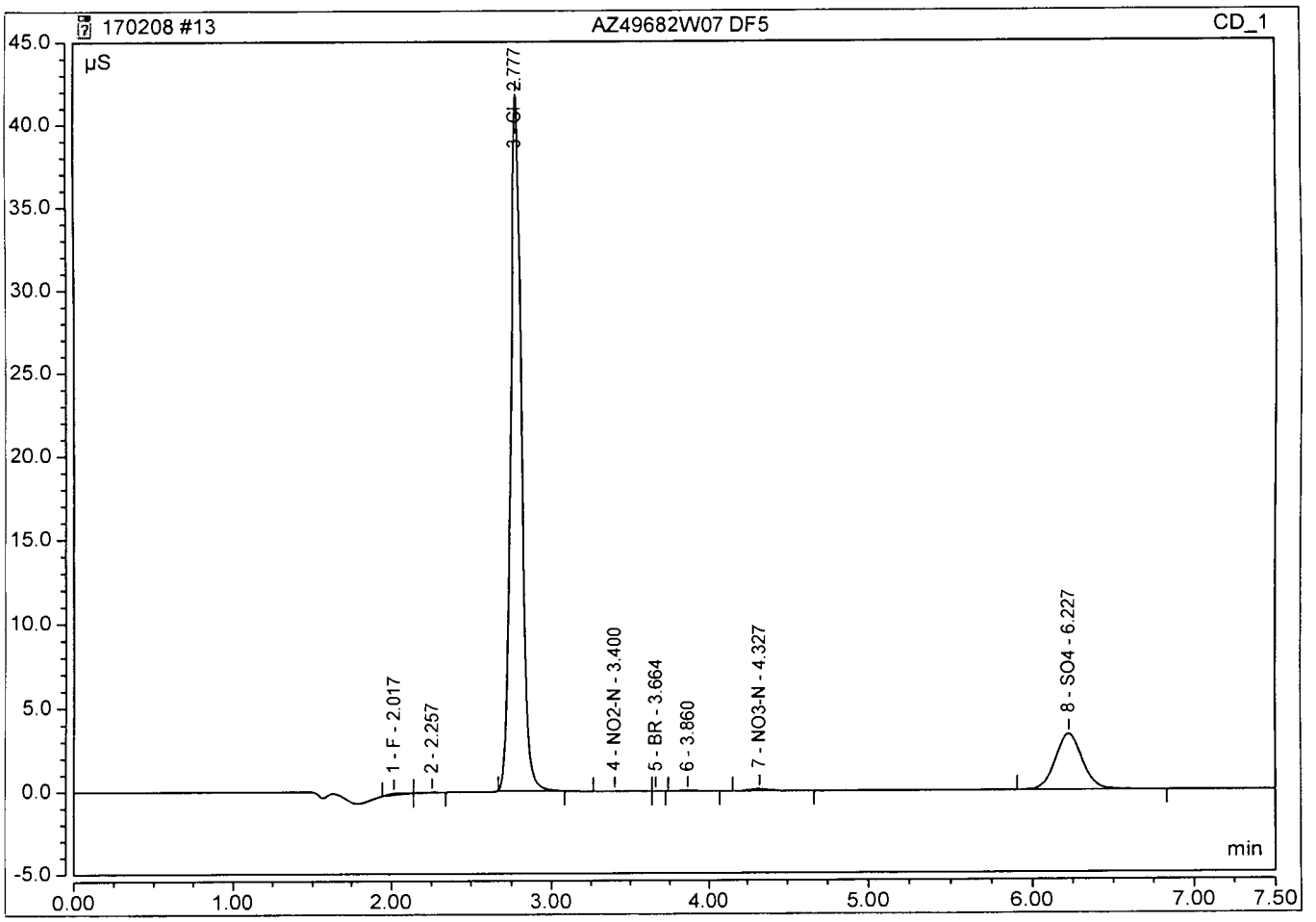
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.027	0.277	0.1591
3	2.81	Cl	BMB	17.896	218.257	99.0659
4	3.43	NO2-N	BMB	0.003	0.011	0.0317
5	3.87	BR	BMB	0.016	0.144	0.3793
6	4.35	NO3-N	BMB	0.073	0.553	0.2730
8	6.27	SO4	BMB	3.433	18.901	28.6036
TOTAL:				21.45	238.14	128.51



Peak Integration Report

Sample Name:	**AZ49682W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 15:27**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.011	0.100	0.4300
3	2.78	Cl	BMB	3.213	41.738	91.0648
4	3.40	NO2-N	BMB	0.000	0.002	0.1161
5	3.66	BR	BMB	0.000	0.000	0.6286
7	4.33	NO3-N	BMB	0.015	0.119	0.6643
8	6.23	SO4	BMB	0.654	3.352	29.2313
TOTAL:				3.89	45.31	122.13



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH220

APPL ID: AZ49685

Sample Collection Date: 02/06/17

ARF: 82121

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	2.3	0.5	0.18	0.04	mg/L	1	02/08/17	02/08/17
EPA 300.0	CHLORIDE	169	5.0	1.00	0.40	mg/L	5	02/08/17	02/08/17
EPA 300.0	SULFATE	79.8	5.0	1.00	0.45	mg/L	5	02/08/17	02/08/17
SM 2320B	BICARBONATE AS CACO3	77.9	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM 2320B	TOTAL ALKALINITY AS CACO3	77.9	2.0	1.70	0.85	mg/L	1	02/11/17	02/11/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/08/17	02/08/17

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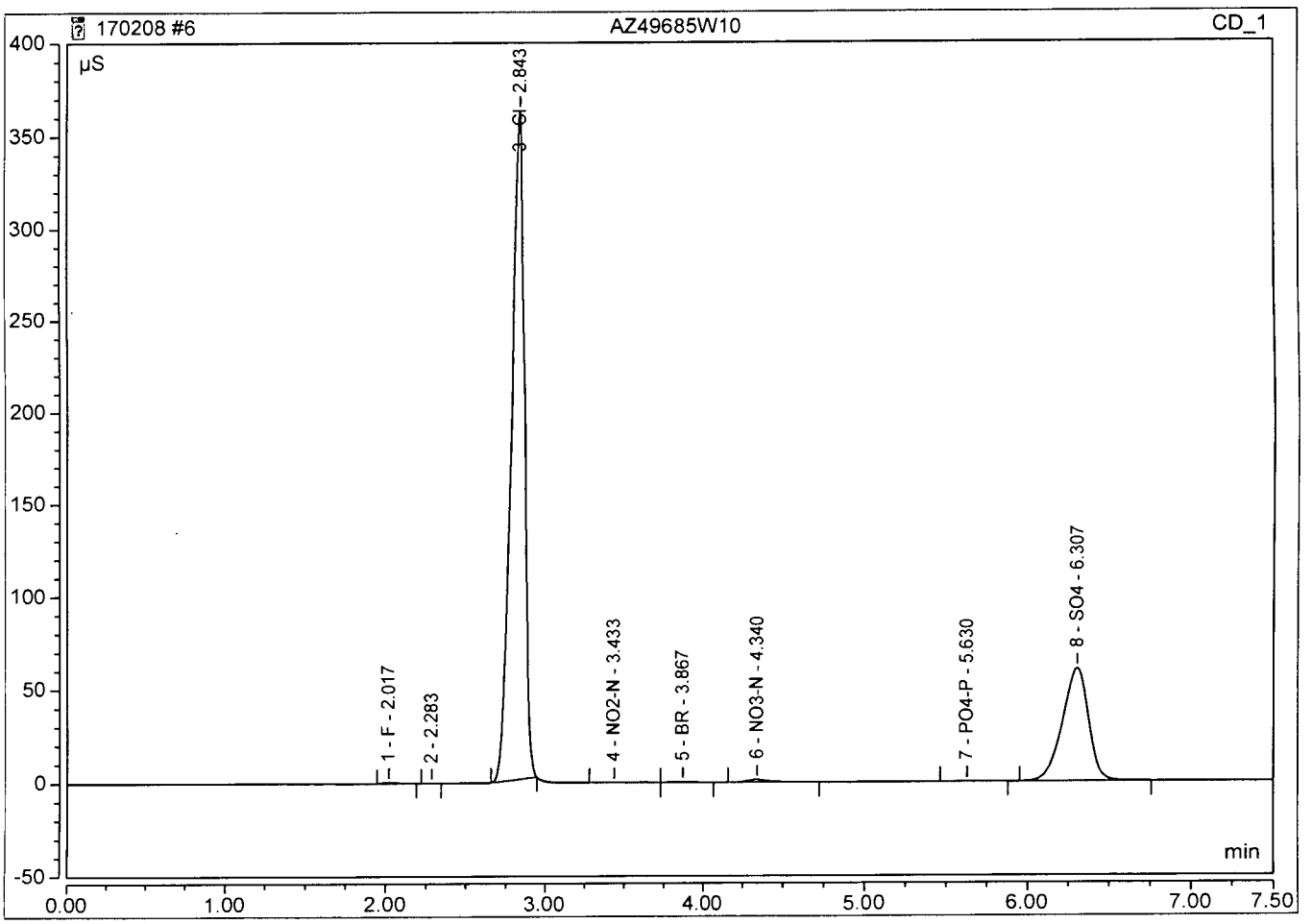
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49685W10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 11:54**	*Run Time:*	**7.50**

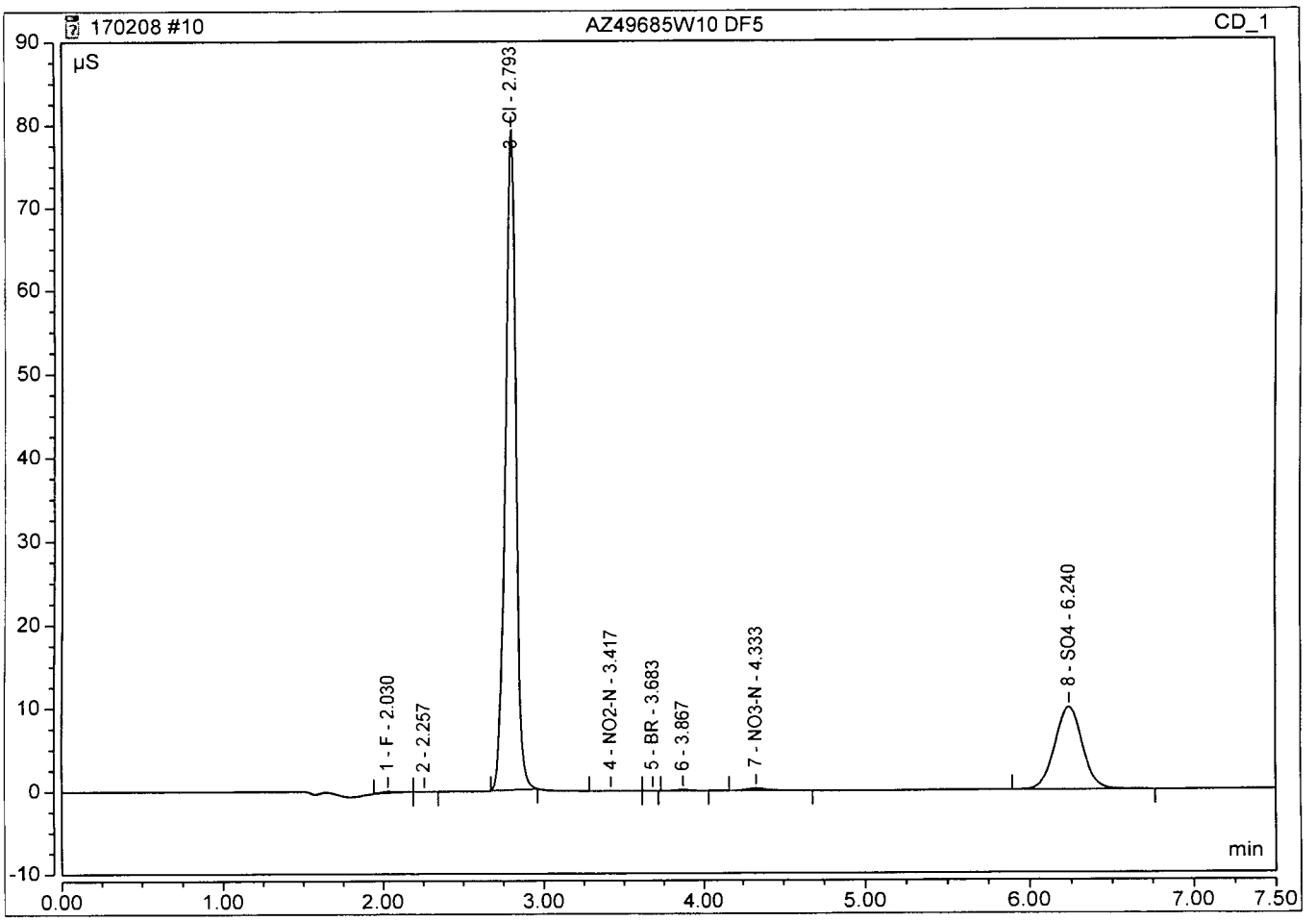
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.052	0.594	0.2680
3	2.84	Cl	BMB	34.042	361.504	187.9721
4	3.43	NO2-N	BMB	0.006	0.023	0.0421
5	3.87	BR	BMB	0.033	0.298	0.6498
6	4.34	NO3-N	BMB	0.172	1.322	0.5124
7	5.63	PO4-P	BMB	0.012	0.069	0.1593
8	6.31	SO4	BMB	11.123	60.005	91.5751
		TOTAL:		45.44	423.82	281.18



Peak Integration Report

Sample Name:	**AZ49685W10 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 14:46**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.021	0.183	0.6540
3	2.79	Cl	BMB	6.026	79.058	168.5128
4	3.42	NO2-N	BMB	0.001	0.004	0.1211
5	3.68	BR	BMB	0.000	0.000	0.6284
7	4.33	NO3-N	BMB	0.035	0.272	0.8977
8	6.24	SO4	BMB	1.889	9.842	79.8278
		TOTAL:		7.97	89.36	250.64



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82121 SDG: 82121
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 12:10	%R(1)	True CCV1	Found 12:20	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.99301	99.8	4	4.08292	102	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82121 SDG: 82121

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 02/08/17 12:11	C	CCB 02/08/17 12:21	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 10/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:37	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.8422	94.7							
chloride	20	18.2183	91.1							
fluoride	2.5	2.55939	102							
Nitrate(NO3)	22.1	20.0573	90.8							
Nitrate(NO3)-N	5	4.52905	90.6							
Nitrite(NO2)	9.98	9.81221	98.3							
Nitrite(NO2)-N	3.04	2.98733	98.3							
phosphate	15.3225	14.7130	96.0							
phosphate-p	5	4.80111	96.0							
sulfate	20	18.4058	92.0							

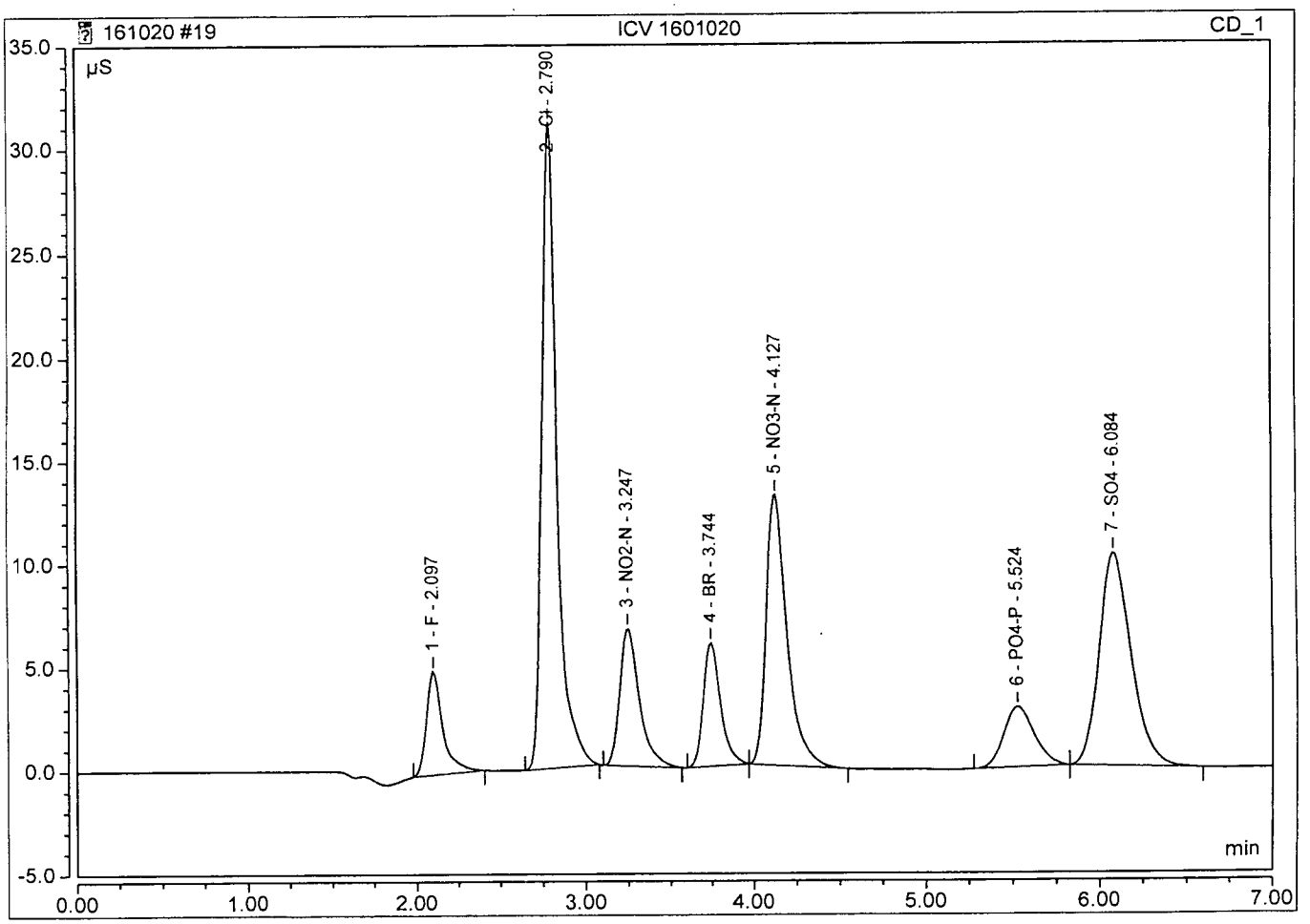
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 1601020**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:37**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.568	5.018	2.5594
2	2.79	Cl	BMB	3.214	31.139	18.2184
3	3.25	NO2-N	BMB	0.894	6.653	2.9873
4	3.74	BR	BMB	0.739	5.970	11.8423
5	4.13	NO3-N	BMB	1.827	13.075	4.5291
6	5.52	PO4-P	BMB	0.590	2.913	4.8011
7	6.08	SO4	BMB	2.187	10.255	18.4058
		TOTAL:		10.02	75.02	63.34



Algorithm Check (Charlie)

SEQUENCE:	161020			CALIBRATION: 161020			
RUN #:	19	AMPLE ID:	161020 ICV				
ANALYTE	SLOPE	INTERCEP	AREA	RESULT (r	SPIKE (mg/L)	% R	Pass?
Flouride	0.225	-0.009	0.568	2.56	2.50	102.4%	Pass
Chloride	0.182	-0.094	3.214	18.22	20.00	91.1%	Pass
NO2-N	0.301	-0.007	0.894	2.99	3.04	98.3%	Pass
Bromide	0.063	-0.008	0.739	11.84	12.50	94.7%	Pass
NO3-N	0.412	-0.039	1.827	4.53	5.00	90.6%	Pass
PO4-P	0.125	-0.008	0.59	4.80	5.00	96.0%	Pass
Sulfate	0.122	-0.060	2.187	18.40	20.00	92.0%	Pass

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

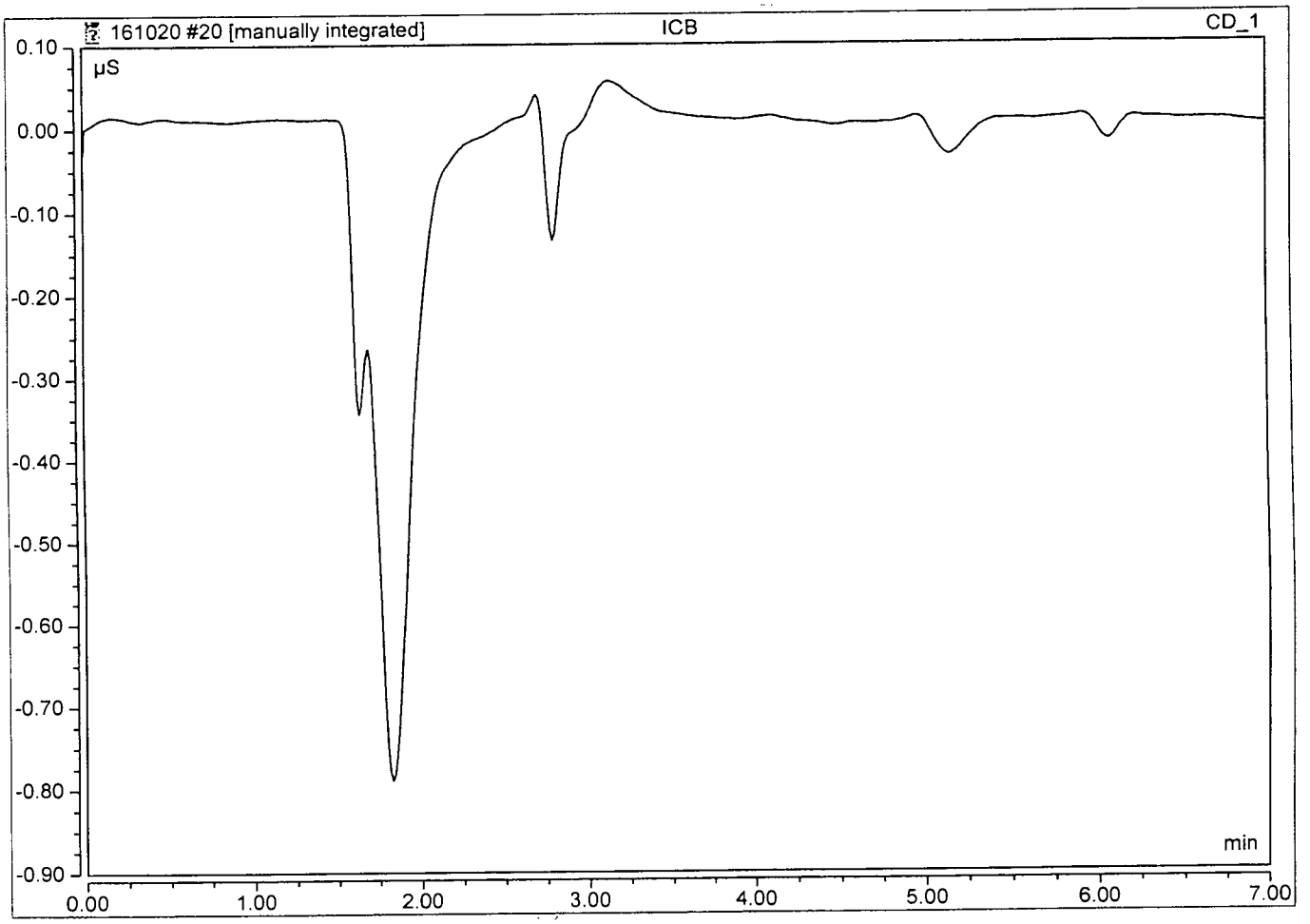
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 10/20/16 12:50	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:50**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82121 SDG: 82121
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/08/17

Analyte	Calibration Verification									M
	True CCV1	Found 11:13	%R(1)	True CCV1	Found 16:08	%R(1)	True	Found	%R(1)	
chloride	25	24.7921	99.2	25	25.0326	100				
Nitrate(NO3)	22.1	22.2271	101	22.1	22.3210	101				
sulfate	25	24.2642	97.1	25	24.3681	97.5				

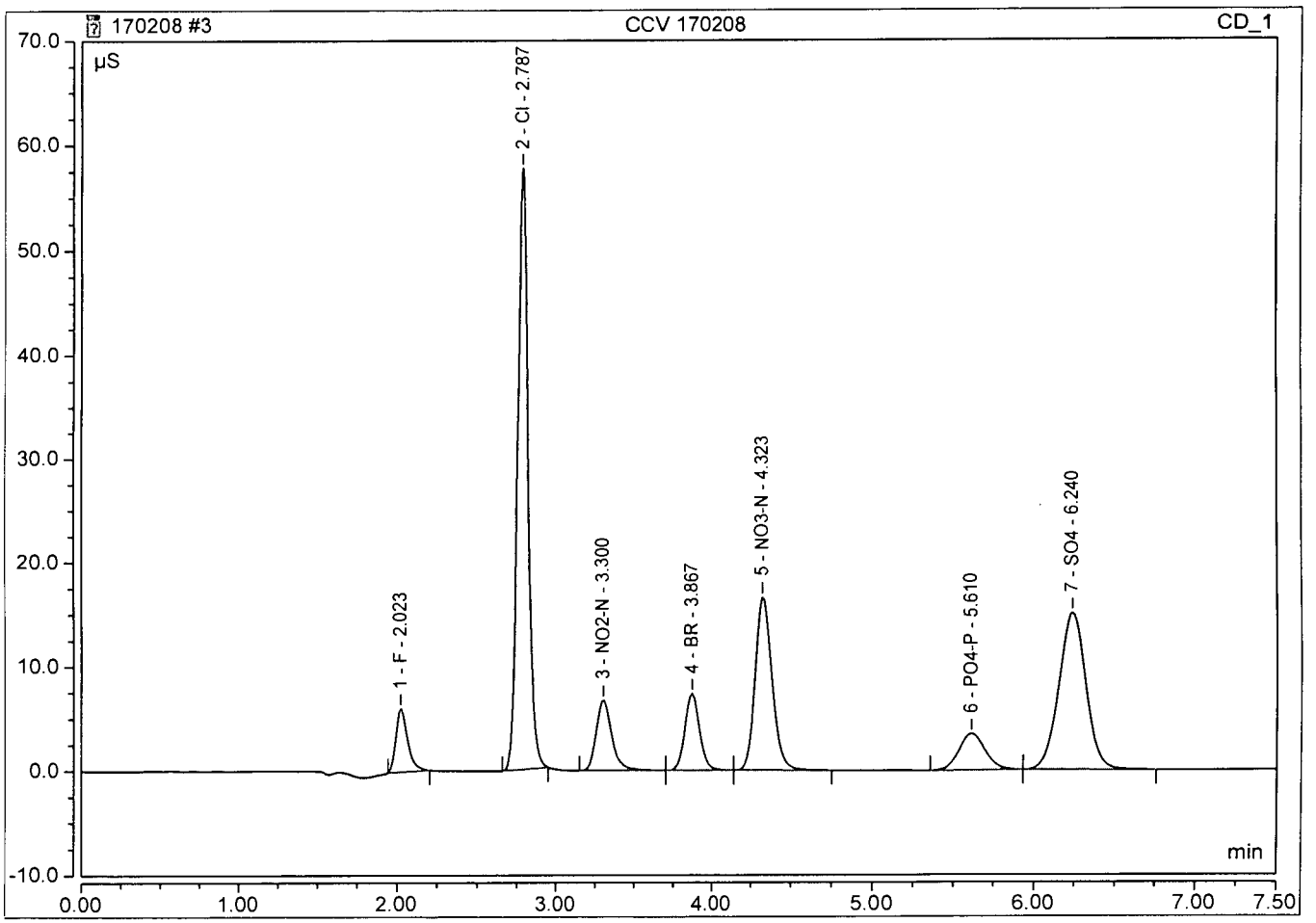
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170208**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 11:13**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.516	6.083	2.3300
2	2.79	Cl	BMB	4.408	57.626	24.7921
3	3.30	NO2-N	BMB	0.772	6.759	2.5841
4	3.87	BR	BMB	0.796	7.351	12.7491
5	4.32	NO3-N	BMB	2.029	16.585	5.0190
6	5.61	PO4-P	BMB	0.648	3.478	5.2635
7	6.24	SO4	BMB	2.903	15.012	24.2642
TOTAL:				12.07	112.89	77.00



Algorithm Check

y = .1221x - .06

x = 24.26 ✓

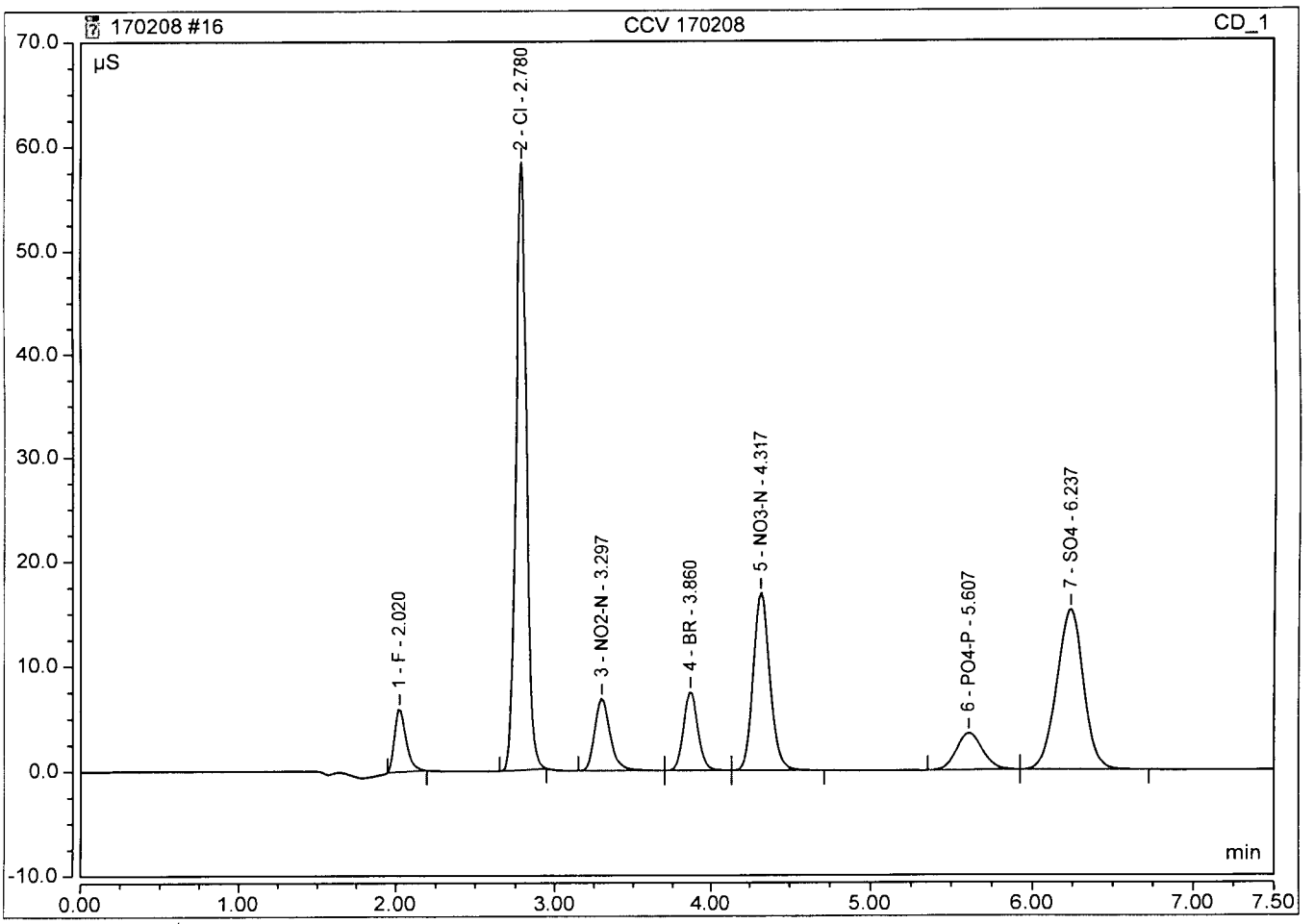
y = Peak Area
x = Amnt

MM 2/15/17

Peak Integration Report

Sample Name:	**CCV 170208**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 16:08**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.505	6.021	2.2793
2	2.78	Cl	BMB	4.452	58.386	25.0326
3	3.30	NO2-N	BMB	0.780	6.860	2.6104
4	3.86	BR	BMB	0.800	7.451	12.8111
5	4.32	NO3-N	BMB	2.037	16.823	5.0402
6	5.61	PO4-P	BMB	0.647	3.487	5.2584
7	6.24	SO4	BMB	2.916	15.136	24.3681
TOTAL:				12.14	114.16	77.40



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82121 SDG: 82121

Preparation Blank Matrix (soil/water): water

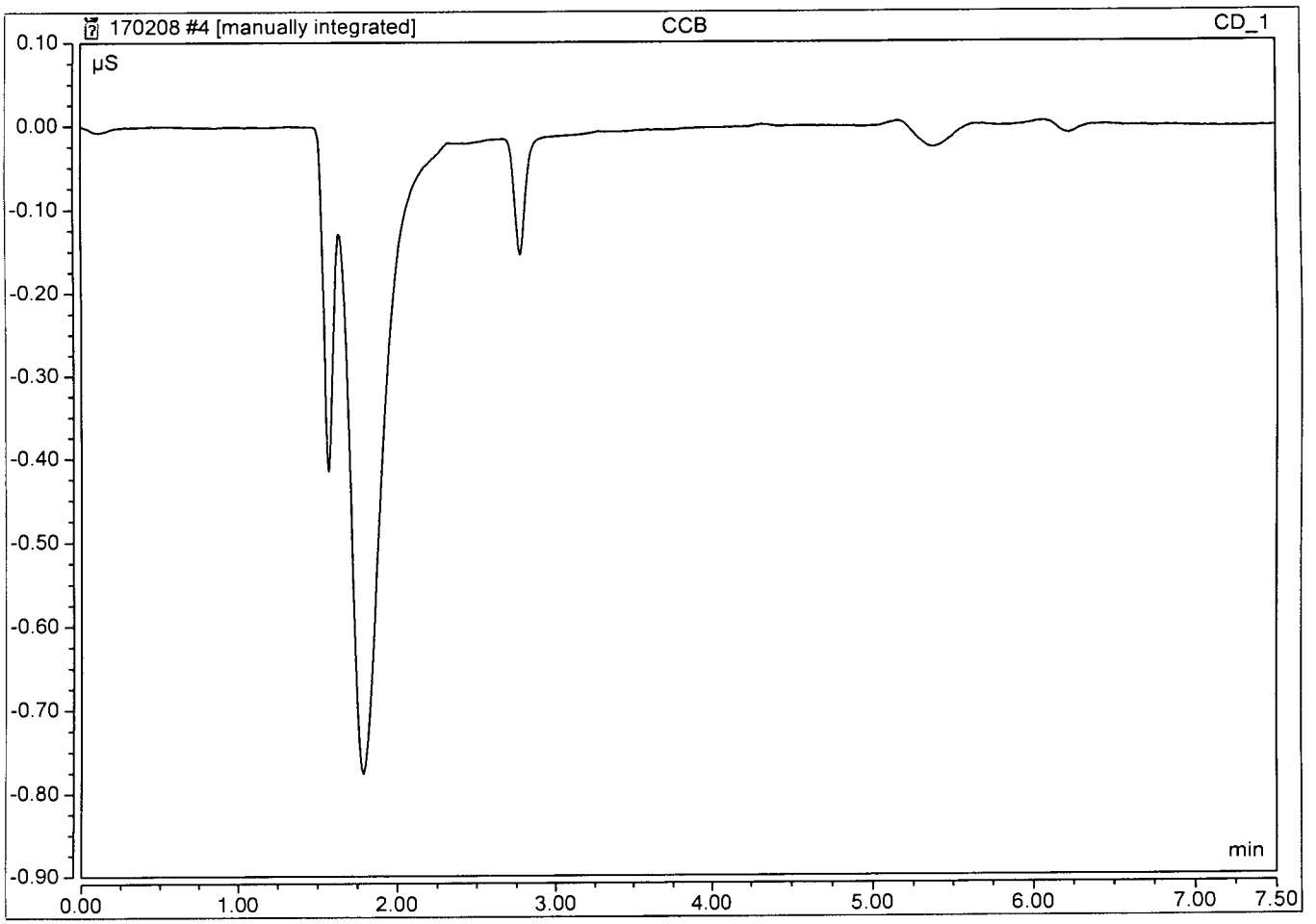
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/08/17 11:26	C	CCB 02/08/17 16:21	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 11:26**	*Run Time:*	**7.50**

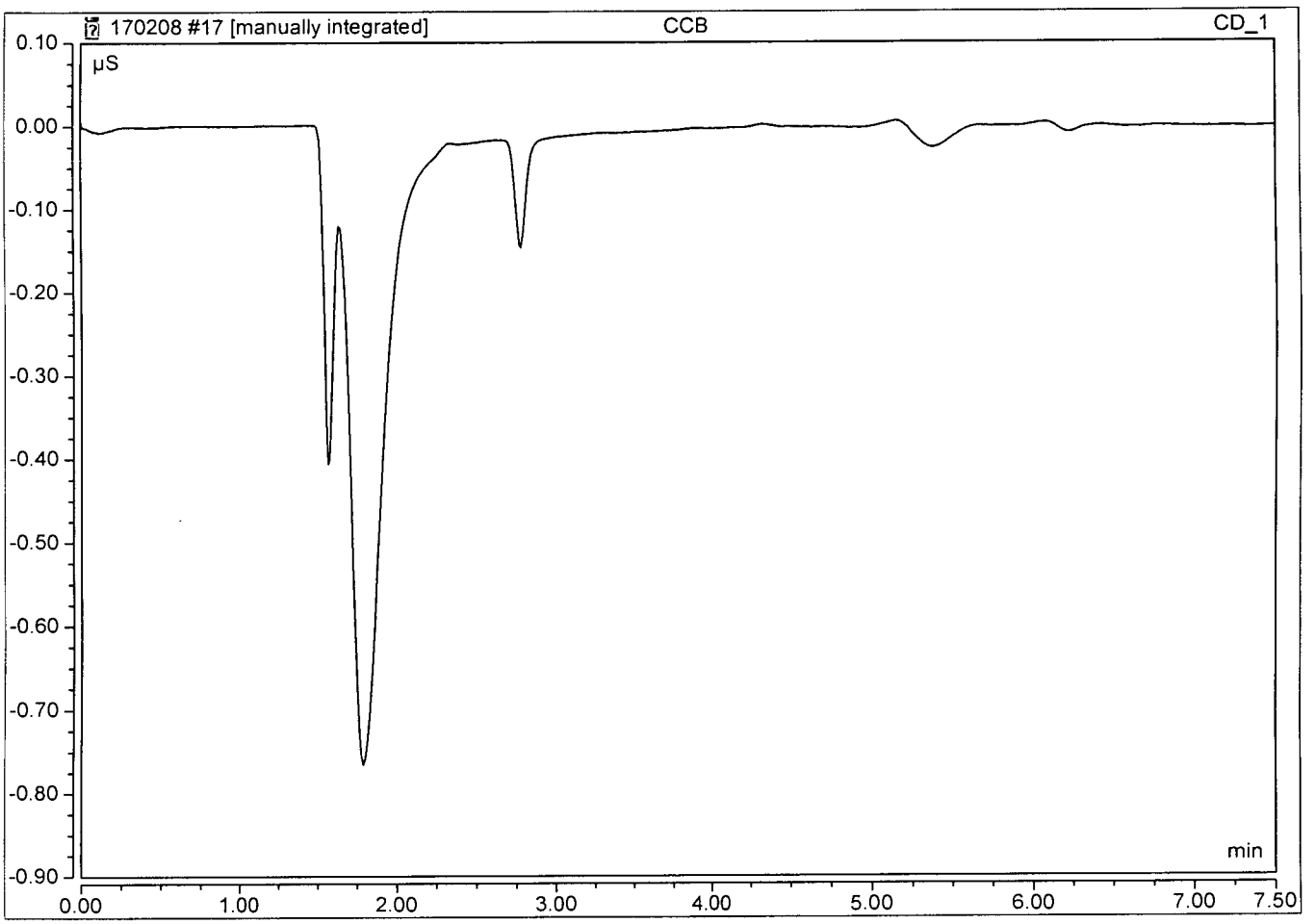
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



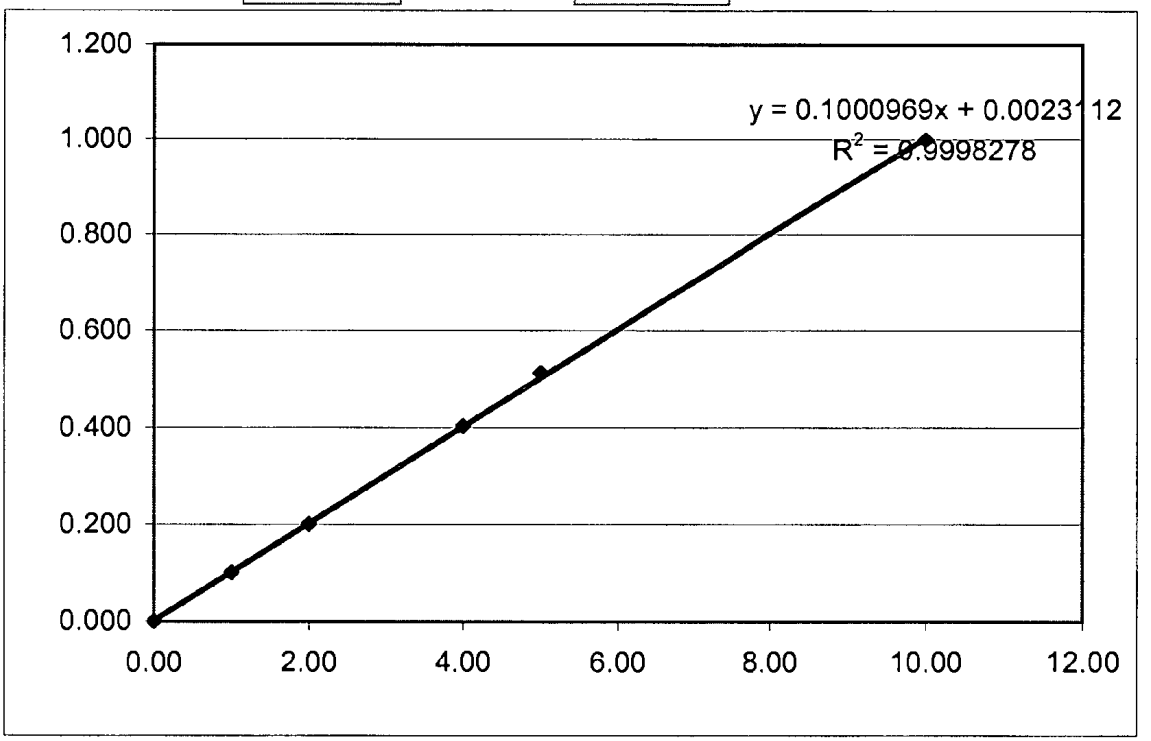
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 16:21**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170208A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.291	02/08/17	12:12
dilution=	1		
result (x)=	2.88		

MM 2/15/17

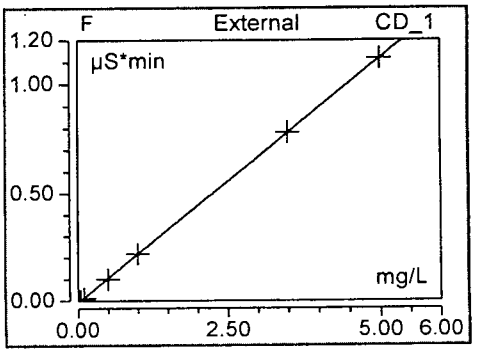
Calibration Batch Report

Sequence:	**161020**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7**

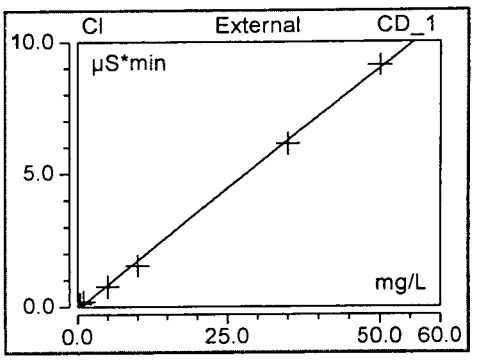
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.225	0.000	99.9840
Cl	Area	in, WithOffse	6.000	-0.094	0.182	0.000	99.8613
NO2-N	Area	in, WithOffse	6.000	-0.007	0.301	0.000	99.9917
BR	Area	in, WithOffse	6.000	-0.008	0.063	0.000	99.9802
NO3-N	Area	in, WithOffse	6.000	-0.039	0.412	0.000	99.9329
PO4-P	Area	in, WithOffse	6.000	-0.008	0.125	0.000	99.9563
SO4	Area	in, WithOffse	6.000	-0.060	0.122	0.000	99.9400
		AVERAGE:		-0.0322	0.2043	0.0000	99.9495

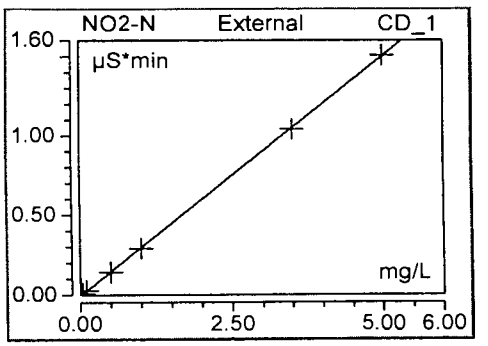
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 10/20/16	2.123	0.0012	0.022	0.044
ICAL 2 10/20/16	2.107	0.0123	0.139	0.093
ICAL 3 10/20/16	2.100	0.1000	0.922	0.483
ICAL 4 10/20/16	2.104	0.2174	1.958	1.004
ICAL 5 10/20/16	2.097	0.7826	6.953	3.513
ICAL 6 10/20/16	2.103	1.1183	9.996	5.004
Average	2.106			
Rel. Std. Dev.	0.443 %			



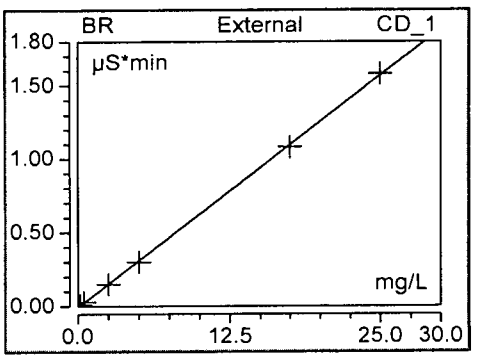
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 10/20/16	2.793	0.1132	1.052	1.143
ICAL 2 10/20/16	2.790	0.1861	1.743	1.544
ICAL 3 10/20/16	2.790	0.7617	7.117	4.714
ICAL 4 10/20/16	2.797	1.5419	14.708	9.010
ICAL 5 10/20/16	2.793	6.1288	59.398	34.268
ICAL 6 10/20/16	2.803	9.1171	87.978	50.723
Average	2.795			
Rel. Std. Dev.	0.179 %			



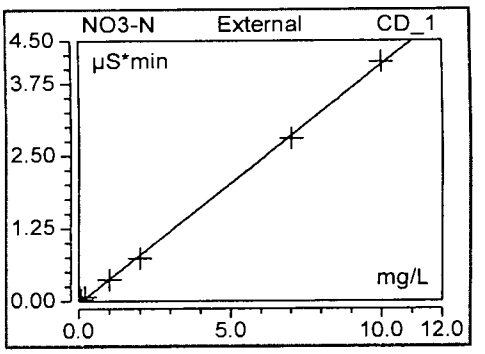
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 10/20/16	3.250	0.0095	0.073	0.053
ICAL 2 10/20/16	3.247	0.0276	0.209	0.113
ICAL 3 10/20/16	3.250	0.1420	1.072	0.493
ICAL 4 10/20/16	3.254	0.2907	2.188	0.986
ICAL 5 10/20/16	3.250	1.0405	7.775	3.473
ICAL 6 10/20/16	3.257	1.5072	11.205	5.022
Average	3.251			
Rel. Std. Dev.	0.106 %			



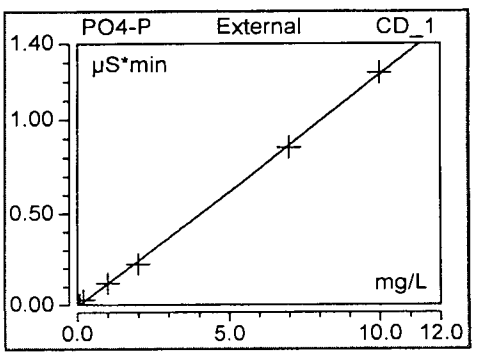
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 10/20/16	3.757	0.0109	0.087	0.299
ICAL 2 10/20/16	3.753	0.0293	0.232	0.589
ICAL 3 10/20/16	3.750	0.1485	1.179	2.478
ICAL 4 10/20/16	3.754	0.2993	2.389	4.870
ICAL 5 10/20/16	3.743	1.0832	8.801	17.295
ICAL 6 10/20/16	3.747	1.5800	13.023	25.169
Average	3.751			
Rel. Std. Dev.	0.131 %			



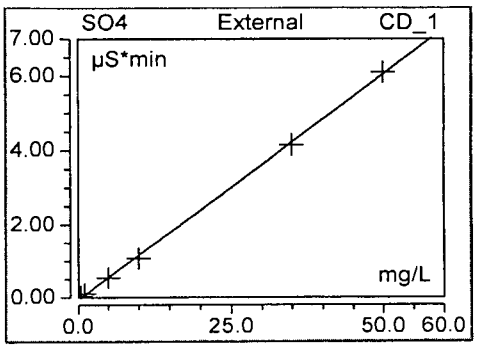
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 10/20/16	4.143	0.0290	0.196	0.166
ICAL 2 10/20/16	4.140	0.0717	0.496	0.270
ICAL 3 10/20/16	4.137	0.3656	2.533	0.983
ICAL 4 10/20/16	4.140	0.7330	5.168	1.875
ICAL 5 10/20/16	4.123	2.7923	20.144	6.873
ICAL 6 10/20/16	4.123	4.1278	30.098	10.114
Average	4.135			
Rel. Std. Dev.	0.215 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 10/20/16	5.540	0.0032	0.021	0.092
ICAL 2 10/20/16	5.540	0.0284	0.107	0.295
ICAL 3 10/20/16	5.537	0.1191	0.557	1.022
ICAL 4 10/20/16	5.537	0.2251	1.103	1.873
ICAL 5 10/20/16	5.520	0.8544	4.243	6.922
ICAL 6 10/20/16	5.523	1.2473	6.244	10.075
Average	5.533			
Rel. Std. Dev.	0.160 %			



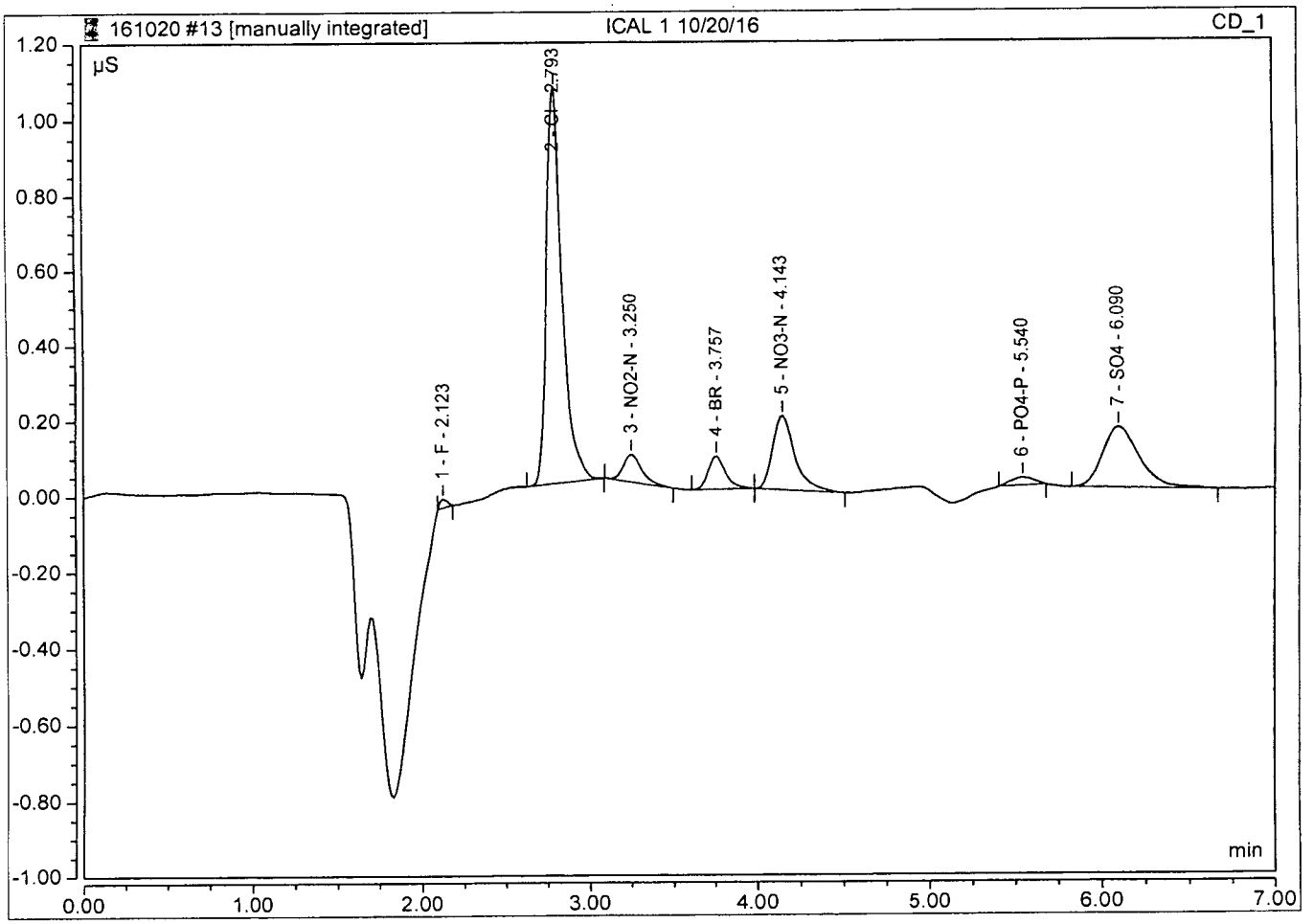
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 10/20/16	6.090	0.0385	0.159	0.808
ICAL 2 10/20/16	6.093	0.1046	0.455	1.350
ICAL 3 10/20/16	6.097	0.5456	2.464	4.961
ICAL 4 10/20/16	6.100	1.0756	4.975	9.302
ICAL 5 10/20/16	6.097	4.1512	19.714	34.487
ICAL 6 10/20/16	6.110	6.1057	29.270	50.492
Average	6.098			
Rel. Std. Dev.	0.113 %			



Peak Integration Report

Sample Name:	**ICAL 1 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:19**	*Run Time:*	**7.00**

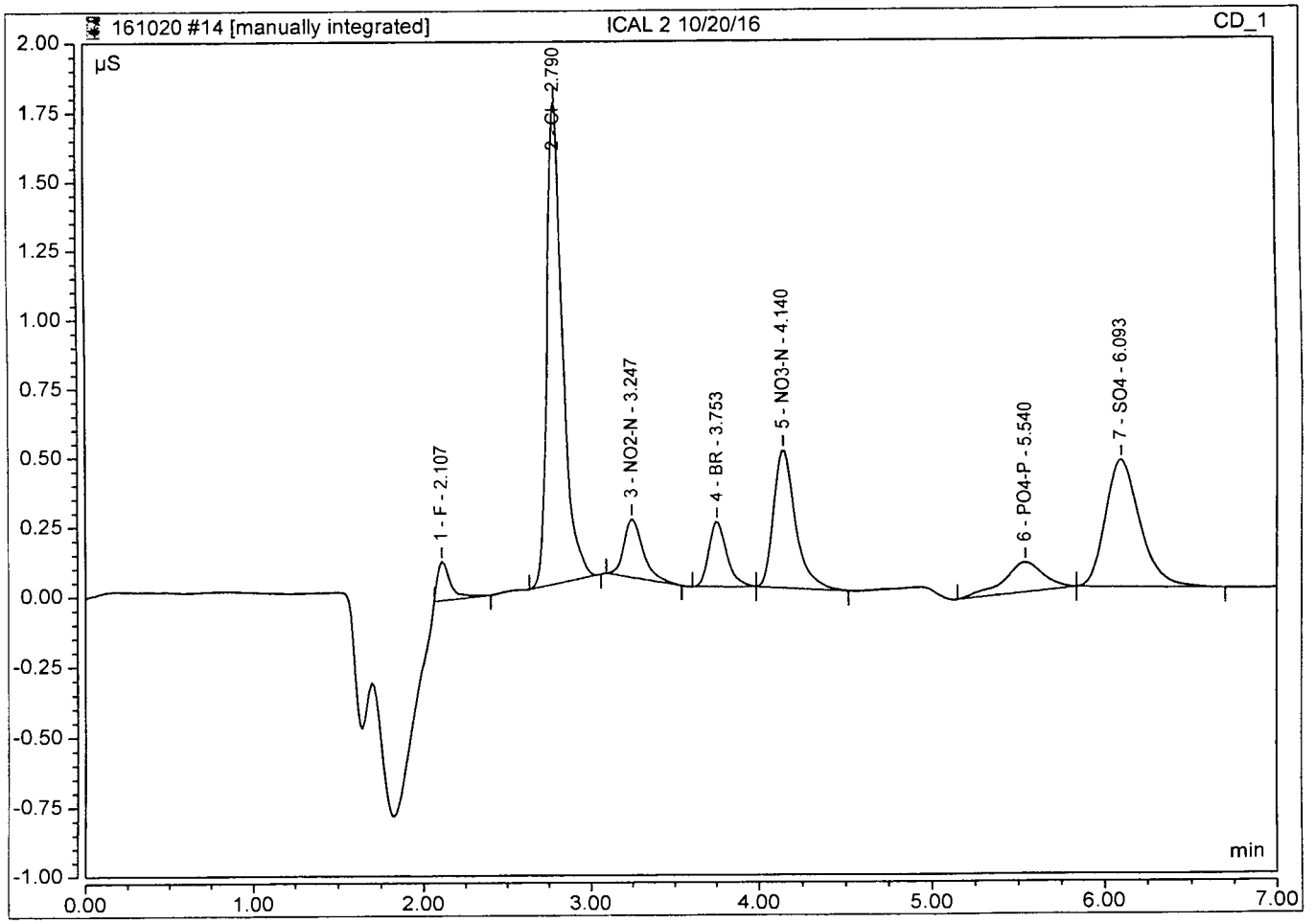
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB*	0.001	0.022	0.0438
2	2.79	Cl	BMB	0.113	1.052	1.1427
3	3.25	NO2-N	BMB	0.009	0.073	0.0531
4	3.76	BR	BMB	0.011	0.087	0.2985
5	4.14	NO3-N	BMB	0.029	0.196	0.1660
6	5.54	PO4-P	BMB*	0.003	0.021	0.0923
7	6.09	SO4	BMB	0.038	0.159	0.8084
		TOTAL:		0.21	1.61	2.60



Peak Integration Report

Sample Name:	**ICAL 2 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:32**	*Run Time:*	**7.00**

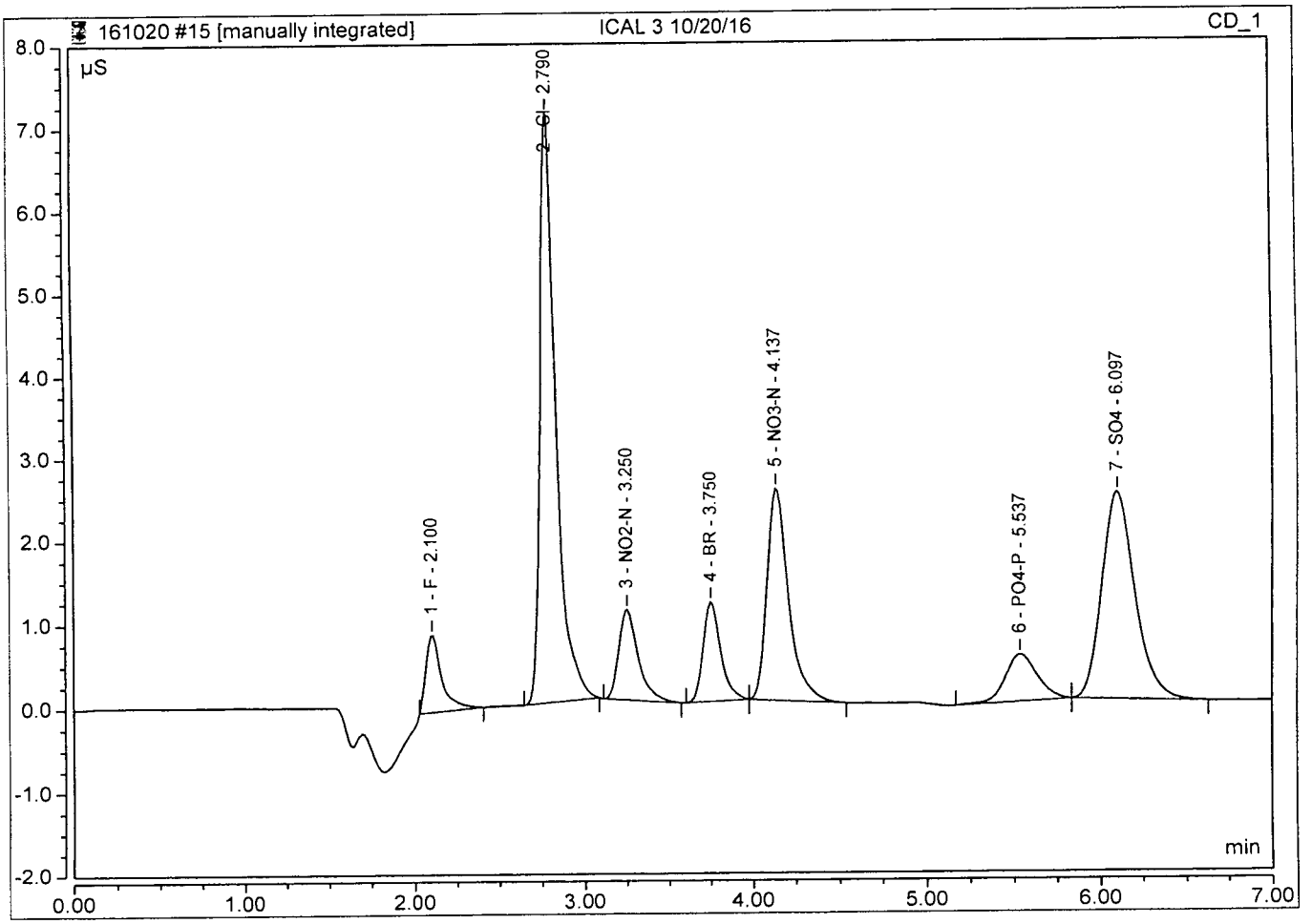
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB*	0.012	0.139	0.0933
2	2.79	Cl	BMB	0.186	1.743	1.5439
3	3.25	NO2-N	BMB	0.028	0.209	0.1132
4	3.75	BR	BMB	0.029	0.232	0.5894
5	4.14	NO3-N	BMB	0.072	0.496	0.2699
6	5.54	PO4-P	BMB	0.028	0.107	0.2946
7	6.09	SO4	BMB	0.105	0.455	1.3496
		TOTAL:		0.46	3.38	4.25



Peak Integration Report

Sample Name:	**ICAL 3 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:45**	*Run Time:*	**7.00**

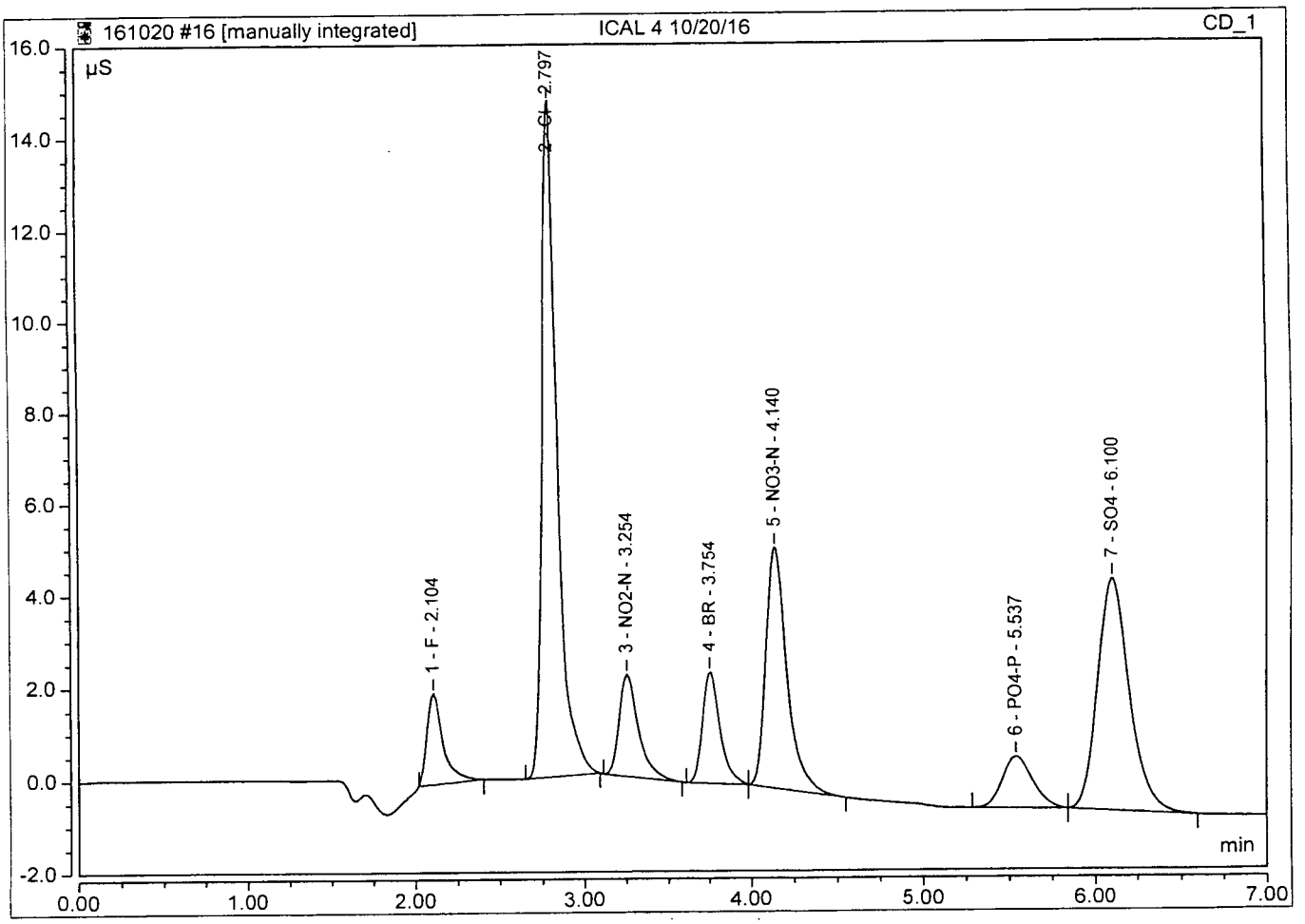
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.100	0.922	0.4827
2	2.79	Cl	BMB	0.762	7.117	4.7137
3	3.25	NO2-N	BMB	0.142	1.072	0.4926
4	3.75	BR	BMB	0.148	1.179	2.4784
5	4.14	NO3-N	BMB	0.366	2.533	0.9830
6	5.54	PO4-P	BMB	0.119	0.557	1.0221
7	6.10	SO4	BMB	0.546	2.464	4.9609
		TOTAL:		2.18	15.84	15.13



Peak Integration Report

Sample Name:	ICAL 4 10/20/16	*Inj. Vol.:*	25.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 161020 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	20-Oct-2016 / 11:58	*Run Time:*	7.00

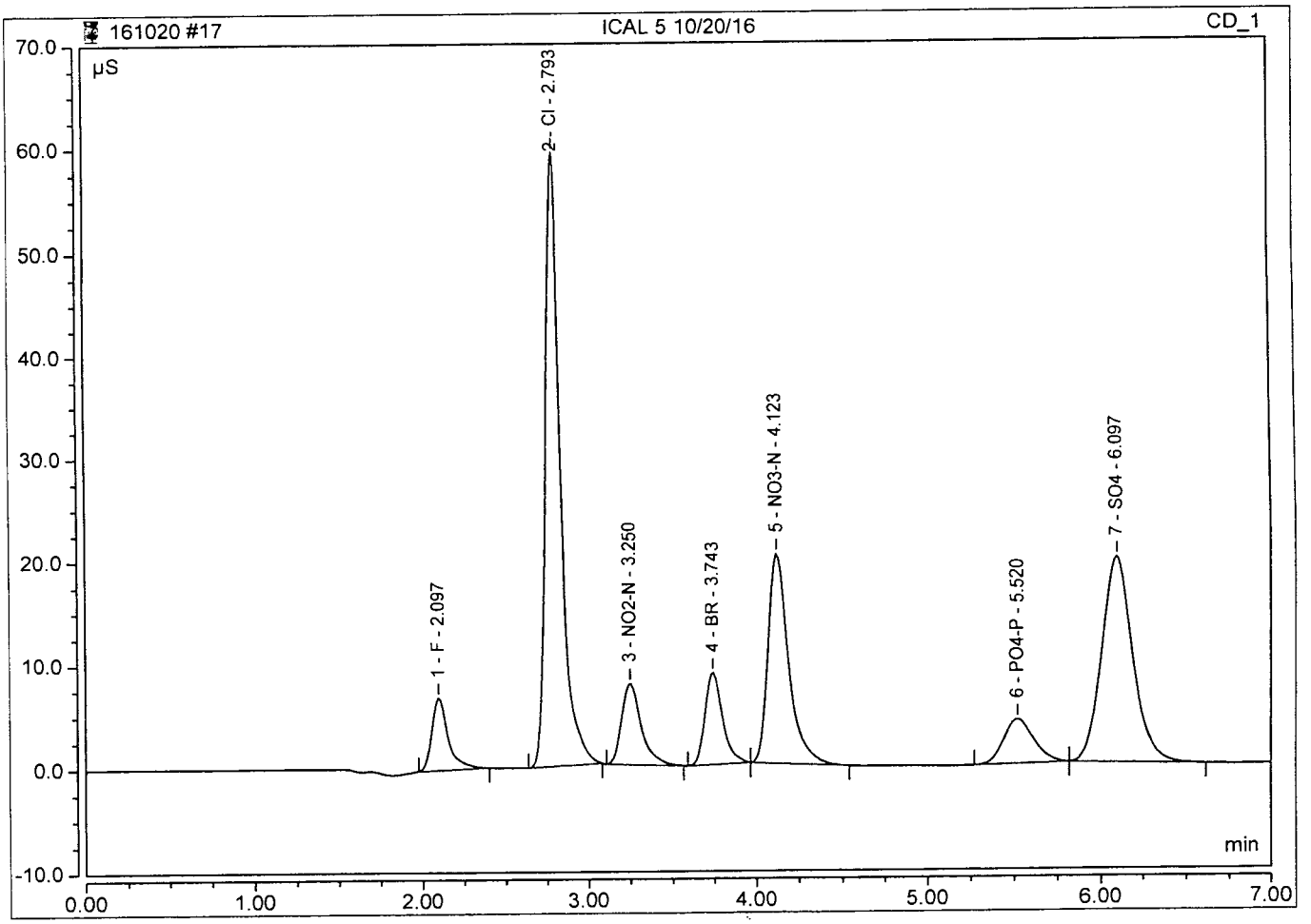
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.217	1.958	1.0036
2	2.80	Cl	BMB	1.542	14.708	9.0096
3	3.25	NO2-N	BMB	0.291	2.188	0.9859
4	3.75	BR	BMB	0.299	2.389	4.8695
5	4.14	NO3-N	BMB	0.733	5.168	1.8746
6	5.54	PO4-P	BMB	0.225	1.103	1.8731
7	6.10	SO4	BMB	1.076	4.975	9.3015
TOTAL:				4.38	32.49	28.92



Peak Integration Report

Sample Name:	**ICAL 5 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:11**	*Run Time:*	**7.00**

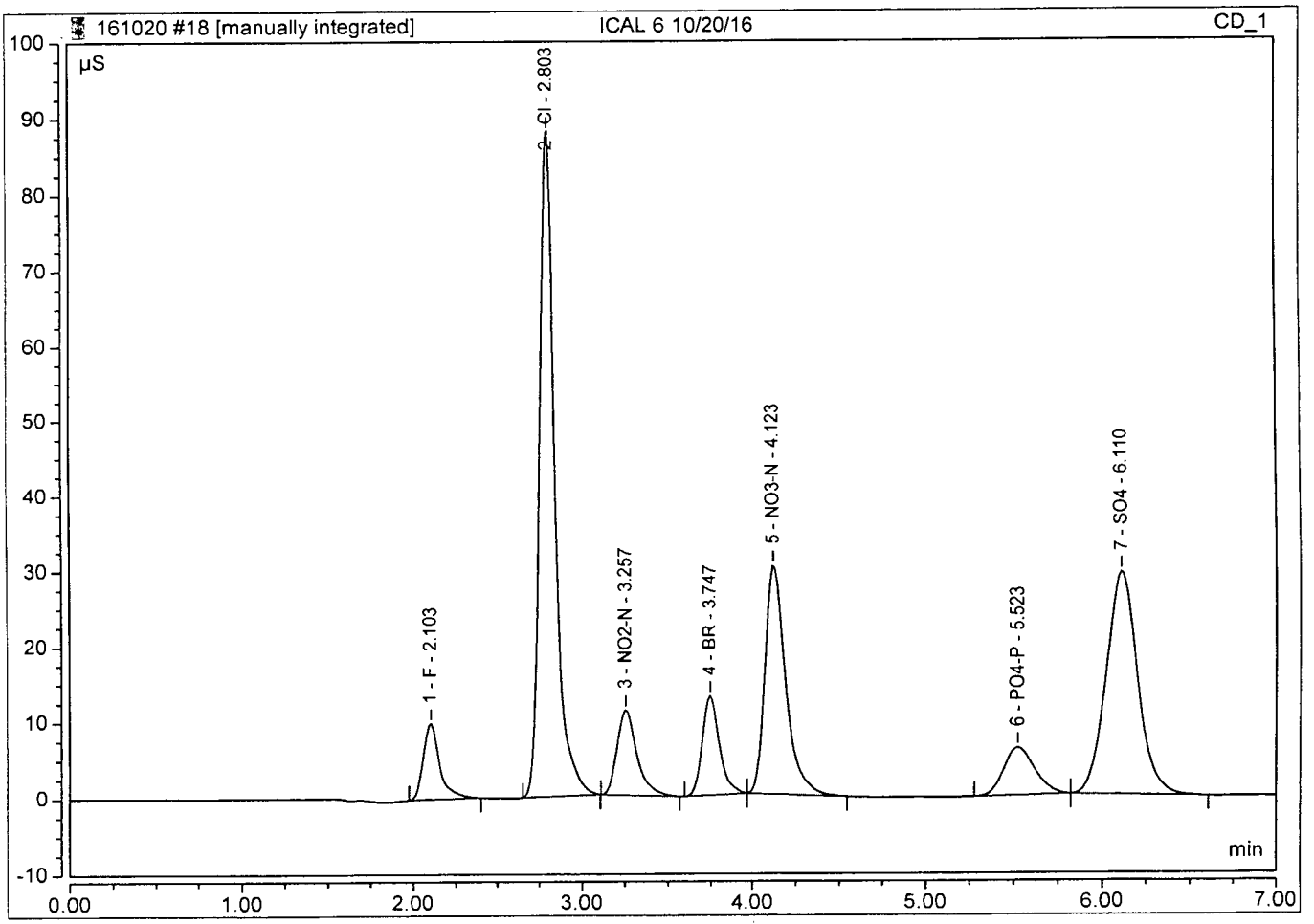
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.783	6.953	3.5131
2	2.79	Cl	BMB	6.129	59.398	34.2675
3	3.25	NO2-N	BMB	1.040	7.775	3.4734
4	3.74	BR	BMB	1.083	8.801	17.2948
5	4.12	NO3-N	BMB	2.792	20.144	6.8727
6	5.52	PO4-P	BMB	0.854	4.243	6.9225
7	6.10	SO4	BMB	4.151	19.714	34.4871
		TOTAL:		16.83	127.03	106.83



Peak Integration Report

Sample Name:	**ICAL 6 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	1.118	9.996	5.0036
2	2.80	Cl	BMB*	9.117	87.978	50.7226
3	3.26	NO2-N	BMB	1.507	11.205	5.0218
4	3.75	BR	BMB	1.580	13.023	25.1693
5	4.12	NO3-N	BMB	4.128	30.098	10.1138
6	5.52	PO4-P	BMB	1.247	6.244	10.0755
7	6.11	SO4	BMB	6.106	29.270	50.4924
		TOTAL:		24.80	187.81	156.60

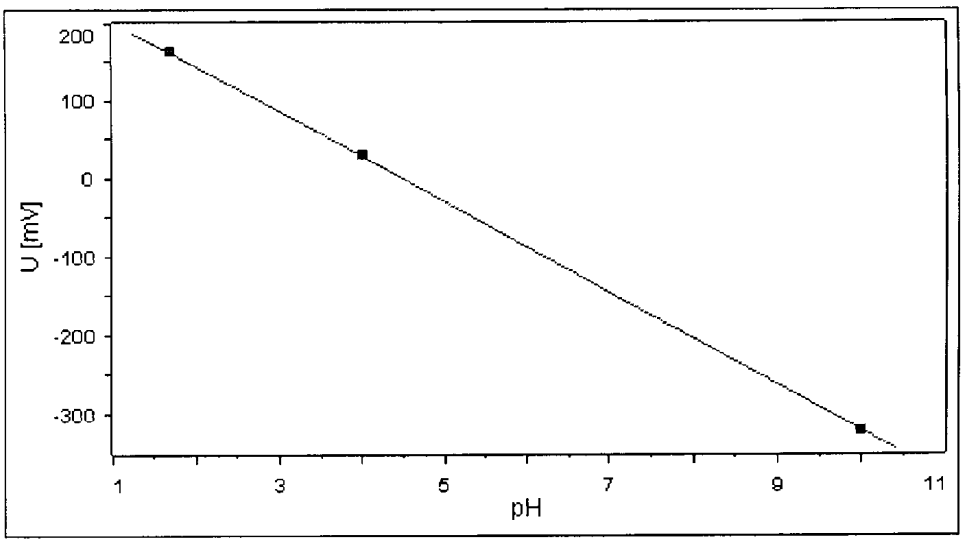


Tiamo Calibration Curve
02/11/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	161.7	21.5	41
Buffer 2:	4.000	29.0	21.3	21
Buffer 3:	10.000	-320.6	21.5	35

Slope:	99.3	%
pH	4.481	
Variance:	2.2	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY	1.7 J	2.0	1.70	0.85	mg/L	02/11/17	02/11/17	#232W-170211A-AZ49674
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/08/17	02/08/17	#300W-170208A-AZ49674
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/08/17	02/08/17	#35FE-170208A-AZ49674

Wetlab SC-Blank-REG MDLs
Printed: 02/14/17 12:16:37 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

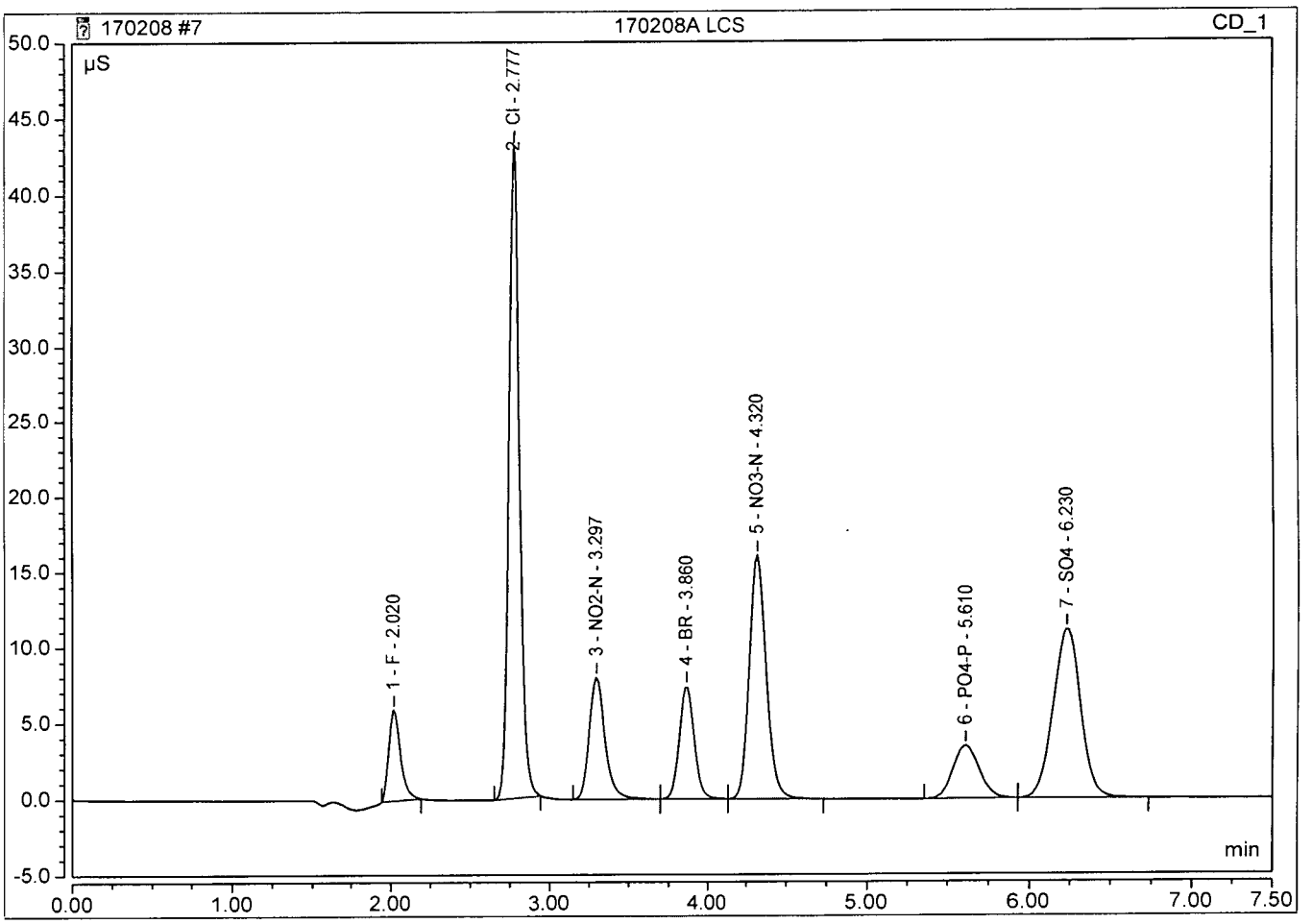
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/08/17	02/08/17	#300W-170208A-AZ49674
SM 2320B	BICARBONATE AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM 2320B	TOTAL ALKALINITY AS CACO3	250	250	100	90-110	02/11/17	02/11/17	#232W-170211A-AZ49674
SM3500Fe	FERROUS IRON	3.00	2.88	96.0	80-120	02/08/17	02/08/17	#35FE-170208A-AZ49674

Comments: _____

Peak Integration Report

Sample Name:	**170208A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Feb-2017 / 12:07**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	**F**	BMB	0.502	5.969	2.2658
2	2.78	**Cl**	BMB	3.306	43.091	18.7214
3	3.30	**NO2-N**	BMB	0.920	8.002	3.0735
4	3.86	**BR**	BMB	0.800	7.395	12.8127
5	4.32	**NO3-N**	BMB	1.961	16.039	4.8560
6	5.61	**PO4-P**	BMB	0.647	3.474	5.2608
7	6.23	**SO4**	BMB	2.152	11.091	18.1165
		TOTAL:		10.29	95.06	65.11



Matrix Spike Recoveries

WETLAB

APPL ID: **170211W-49674 MS - 216096**

Sample ID: AZ49674

Client ID: ERH205

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	63.1	309	307	98.4	97.6	0.65	20	90-110	02/11/17	02/11/17	02/11/17	02/11/17	216096	AZ49674
SM 2320B	TOTAL ALKALINITY AS	250	63.1	309	307	98.4	97.6	0.65	20	90-110	02/11/17	02/11/17	02/11/17	02/11/17	216096	AZ49674
SM3500Fe	FERROUS IRON	3.00	0.027	3.02	3.01	99.8	99.4	0.33	20	80-120	02/08/17	02/08/17	02/08/17	02/08/17	216117	AZ49674

Comments: _____

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APPL MSD SCII

SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170208A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	25mL	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
02/08/17	12:10	CCV 4.0 170208	1	0.402	25mL		3.99	3.993	4.000	*99.83*
02/08/17	12:11	CCB 170208	1	0.000	25mL		-0.02	-0.023		
02/08/17	12:12	170208A LCS 3.0	1	0.291	25mL		2.88	2.884	3.000	*96.14*
02/08/17	12:13	170208A LCSD 3.0	1	0.304	25mL		3.01	3.014	3.000	*100.47*
02/08/17	12:14	AZ49674W16	1	0.005	25mL		0.03	0.027		
02/08/17	12:15	AZ49679W08	1	0.007	25mL		0.05	0.047		
02/08/17	12:16	AZ49682W08	1	0.183	25mL		1.81	1.805		
02/08/17	12:17	AZ49685W11	1	0.012	25mL		0.10	0.097		
02/08/17	12:18	AZ49674W16 MS	1	0.305	25mL		3.02	3.024	3.00	*100.80*
02/08/17	12:19	AZ49674W16 MSD	1	0.304	25mL		3.01	3.014	3.00	*100.47*
02/08/17	12:20	CCV 4.0 170208	1	0.411	25mL		4.08	4.083	4.000	*102.07*
02/08/17	12:21	CCB 170208	1	0.001	25mL		-0.01	-0.013		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ49685W10	2017-02-11 13:50:32 UTC-8	Alkalinity	0.000	1.812	0.00	0.00	77.92	77.92	mg/L	25 mL	0.0215	170211A	AH
AZ49682W07	2017-02-11 13:45:26 UTC-8	Alkalinity	0.000	1.180	0.00	0.00	50.74	50.74	mg/L	25 mL	0.0215	170211A	AH
AZ49679W07	2017-02-11 13:39:30 UTC-8	Alkalinity	0.000	2.478	0.00	0.00	106.55	106.55	mg/L	25 mL	0.0215	170211A	AH
AZ49674W15 MSD	2017-02-11 13:25:32 UTC-8	Alkalinity	0.000	7.136	0.00	0.00	306.85	306.85	mg/L	25 mL	0.0215	170211A	AH
AZ49674W15 MS	2017-02-11 13:11:31 UTC-8	Alkalinity	0.000	7.176	0.00	0.00	308.57	308.57	mg/L	25 mL	0.0215	170211A	AH
AZ49674W15	2017-02-11 13:06:34 UTC-8	Alkalinity	0.000	1.468	0.00	0.00	63.12	63.12	mg/L	25 mL	0.0215	170211A	AH
170211A LCS	2017-02-11 12:37:17 UTC-8	Alkalinity	0.000	5.816	0.00	0.00	250.09	250.09	mg/L	25 mL	0.0215	170211A	AH
170211A Blk	2017-02-11 12:21:56 UTC-8	Alkalinity	0.000	0.040	0.00	0.00	1.72	1.72	mg/L	25 mL	0.0215	170211A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 02/08/17
Exp Date: 02/09/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

PW 10/20/16

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.25	5
O2SI*	Cl-	5,000	1069557-34558	01/08/17	0.5	50
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.25	5
Ultra Scientific	Br-	1,000	CL-3274-36926	08/31/20	1.25	25
O2SI	NO3-N	1,000	1078397-35587	01/30/17	0.5	10
O2SI	PO4-P	1,000	1072004-34911	09/03/16	0.5	10
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.125	2.50
CPI	Cl-	1,000	16E065-36694	12/06/17	1.00	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.50	3.04
CPI	Br-	1,000	15L093-36101	07/21/17	0.625	12.50
CPI	NO3-N	1,000	16E022-36783	12/30/17	0.25	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.25	5.00
CPI	SO4	1,000	16E104-36693	12/06/17	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100	08/19/16	08/21/16	0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170208 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

0.02N H2SO4 Titrant for Alkalinity

Dilute 600 mL 0.1N H2SO4 (prep 1/6/17)
To final volume 3L w/ DI water
Prep 1/6/17
Exp 1/6/18
AH 1/6/17

Inorganic Spiking Solution

7.0001g $NaHCO_3$ BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	08 Feb 2017	12:10	CCV 4.0 170208		170208A	1.
2	08 Feb 2017	12:11	CCB 170208		170208A	1.
3	08 Feb 2017	12:12	170208A LCS 3.0		170208A	1.
5	08 Feb 2017	12:14	AZ49674W16		170208A	1.
6	08 Feb 2017	12:15	AZ49679W08		170208A	1.
7	08 Feb 2017	12:16	AZ49682W08		170208A	1.
8	08 Feb 2017	12:17	AZ49685W11		170208A	1.
9	08 Feb 2017	12:18	AZ49674W16 MS		170208A	1.
10	08 Feb 2017	12:19	AZ49674W16 MSD		170208A	1.
11	08 Feb 2017	12:20	CCV 4.0 170208		170208A	1.
12	08 Feb 2017	12:21	CCB 170208		170208A	1.
13	20 May 2016	12:37	0 BB 5/20/16		170208A	1.
14	20 May 2016	12:38	1		170208A	1.
15	20 May 2016	12:39	2		170208A	1.
16	20 May 2016	12:39	4		170208A	1.
17	20 May 2016	12:40	10		170208A	1.
18	20 May 2016	12:40	5		170208A	1.
19	20 May 2016	12:41	160520A ICV 3.0		170208A	1.
20	20 May 2016	12:42	160520A ICB		170208A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	20 Oct 2016	11:19	ICAL 1 10/20/16		161020	1.
15	20 Oct 2016	11:32	ICAL 2 10/20/16		161020	1.
16	20 Oct 2016	11:45	ICAL 3 10/20/16		161020	1.
17	20 Oct 2016	11:58	ICAL 4 10/20/16		161020	1.
18	20 Oct 2016	12:11	ICAL 5 10/20/16		161020	1.
19	20 Oct 2016	12:24	ICAL 6 10/20/16		161020	1.
20	20 Oct 2016	12:37	ICV 1601020		161020	1.
21	20 Oct 2016	12:50	ICB		161020	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	08 Feb 2017	11:13	CCV 170208		170208	1.
4	08 Feb 2017	11:26	CCB		170208	1.
5	08 Feb 2017	11:40	AZ49674W15		170208	1.
6	08 Feb 2017	11:54	AZ49685W10		170208	1.
7	08 Feb 2017	12:07	170208A LCS		170208	1.
9	08 Feb 2017	14:33	AZ49674W15 DF5		170208	5.
10	08 Feb 2017	14:46	AZ49685W10 DF5		170208	5.
11	08 Feb 2017	15:00	AZ49679W07		170208	1.
12	08 Feb 2017	15:14	AZ49682W07		170208	1.
13	08 Feb 2017	15:27	AZ49679W07 DF5		170208	5.
14	08 Feb 2017	15:41	AZ49682W07 DF5		170208	5.
16	08 Feb 2017	16:08	CCV 170208		170208	1.
17	08 Feb 2017	16:21	CCB		170208	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	11 Feb 2017	12:21	170211A Blk		170211A_AL	1.
2	11 Feb 2017	12:37	170211A LCS		170211A_AL	1.
4	11 Feb 2017	13:06	AZ49674W15		170211A_AL	1.
5	11 Feb 2017	13:11	AZ49674W15 MS		170211A_AL	1.
6	11 Feb 2017	13:25	AZ49674W15 MSD		170211A_AL	1.
7	11 Feb 2017	13:39	AZ49679W07		170211A_AL	1.
8	11 Feb 2017	13:45	AZ49682W07		170211A_AL	1.
9	11 Feb 2017	13:50	AZ49685W10		170211A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 23, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82130

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Seven water samples were received February 9, 2017. Written results for the requested analyses are being provided on this February 23, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 742

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82130

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Method 8015B TPH-E	18
QC Summary	19
Sample Data	24
Calibration Data	37
Raw Data	78
Method 8270D SIM	101
QC Summary	102
Sample Data	112
Calibration Data	127
Raw Data	154
Method 8270D SVOCs	174
QC Summary	175
Sample Data	186
Calibration Data	199
Raw Data	245

Method 8270D SVOCs (MEE) 267
QC Summary 268
Sample Data 276
Calibration Data 289
Raw Data 316
Method 8260B VOCs 334
QC Summary 335
Sample Data 350
Calibration Data 373
Raw Data 443
Method 8260B Gasoline 465
QC Summary 466
Sample Data 475
Calibration Data 504
Raw Data 582
Method RSK-175 Methane 605
QC Summary 606
Sample Data 609
Calibration Data 628
Raw Data 662
Inorganic Analyses 671
QC Summary 672
Sample Data 677
Calibration Data 689
Raw Data 722

CASE NARRATIVE

Case Narrative

ARF: 82130

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Seven water samples were received February 9, 2017, at 2.0°C, 3.0°C, 1.0°C, and 1.5°C. The sample group was assigned Analytical Request Form (ARF) number 82130. The following discrepancies were noted and reported to the client: a metals bottle was received for three samples ERH218, ERH216, and ERH210 though metals analysis was not requested; samples ERH218, ERH216, and ERH210 were received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

APPL SOP ANA2MEE: Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

Inorganic Analyses:

The samples were received more than 24 hours after collection. They were analyzed for ferrous iron as soon as possible on the day received. Manual integrations for chloride were performed in accordance with APPL's SOP. Before and after chromatograms are included in the package. In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82130	02/09/17	ERH209	AZ49738	02/08/17	07:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH209	AZ49738	02/08/17	07:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH209	AZ49738	02/08/17	07:15 AM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	8270D-SIM	EPA 8270D SIM
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	EPA 8270D	EPA 8270D WATER
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	SM 2320B	Wetlab 2320B - Water
82130	02/09/17	ERH218	AZ49739	02/08/17	08:35 AM	WATER	SM3500FeB	Ferrous Iron
82130	02/09/17	ERH215	AZ49740	02/07/17	01:10 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH215	AZ49740	02/07/17	01:10 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH215	AZ49740	02/07/17	01:10 PM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	8270D-SIM	EPA 8270D SIM
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	EPA 8270D	EPA 8270D WATER
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	SM 2320B	Wetlab 2320B - Water
82130	02/09/17	ERH216	AZ49741	02/07/17	01:55 PM	WATER	SM3500FeB	Ferrous Iron
82130	02/09/17	ERH217	AZ49742	02/07/17	12:35 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH217	AZ49742	02/07/17	12:35 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH217	AZ49742	02/07/17	12:35 PM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	8270D-SIM	EPA 8270D SIM
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	EPA 8270D	EPA 8270D WATER
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	RSK 175	METHANE BY RSK 175
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	SM 2320B	Wetlab 2320B - Water
82130	02/09/17	ERH210	AZ49743	02/07/17	03:25 PM	WATER	SM3500FeB	Ferrous Iron
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	8270D-SIM	EPA 8270D SIM
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82130	02/09/17	ERH229	AZ49744	02/07/17	12:45 PM	WATER	EPA 8270D	EPA 8270D WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82130

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 020817
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: ONE WEEK

Received by: SMA
Date Received: 02/09/17 Time: 10:40
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 1.0,1.5,2.0,3.0°C
Color: VOA/G-BLUE/P-ORNGGRN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/16/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 4-$87DC53W5, 4-$87DMEEW5, 4-$DOC53W5, 4-$SIMDOD5W
Extractions: 4-_MWE2MEE, 4-_SEP004, 4-_SEP004S, 4-_SEP011LL
VOA: 7-$86BTOTXDOD5W, 7-$GASBL, 7-$GRO86BW, 6-$RSKMETH
Wetlab: 3-$232W(HCO3,CO3,ALK), 3-$300W(NO3,CL,SO4), 3-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH209	AZ49738W	02/08/17 07:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA
2.	ERH218	AZ49739W	02/08/17 08:35	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
3.	ERH215	AZ49740W	02/07/17 13:10	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH216	AZ49741W	02/07/17 13:55	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
5.	ERH217	AZ49742W	02/07/17 12:35	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Unpreserved VOA
6.	ERH210	AZ49743W	02/07/17 15:25	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
7.	ERH229	AZ49744W	02/07/17 12:45	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# 82130

Sample	Container Type	Count	pH
AZ49738	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49739	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49740	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49741	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49742	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49743	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49744	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	pH

RECEIVING APPL

From: RECEIVING APPL <receiving@applinc.com>
Sent: Thursday, February 09, 2017 12:48 PM
To: libby@applinc.com
Cc: cmoua@applinc.com; danderson@applinc.com; rpatterson@applinc.com; pyoung@applinc.com
Subject: ARF 82130 Receiving Notes
Attachments: COC82130_20170209_1059.pdf

Libby,

Client: AECOM
Job: 60481245 CIV0053 Red Hill Fuel Storage

- Received ferrous iron greater than 24 hours for samples ERH218, ERH216, and ERH210. Sample ERH216 -The 250mL brown plastic container with HCL has ID ERH218, collection time and date matches that of ERH216. Sample ERH218 is all accounted.

Thanks,

Yang Lor

1.0°, 1.5°, 2.0°, 3.0° 82130

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): Kaela [signature] for MH, CB, AM, TQ

Date Shipped: 2/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-diesel SGT	8270D SIM PAHs	8270D Phenol, TICs	2-Q-methoxyethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate Sulfate,Chloride	SM2320B Alkalinity (total, bicarb., carb)
GRH209	Trip Blank	2/8/17	0745	HST	6	✓				X	X							X			
GRH218	RHMW07	2/8/17	0835	HST	15	X				X	X		X		X	X	X	X	X	X	X

KS 2/8/17

KS 2/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Ghigi AECOM	2/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/9/17	10:40	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, AM, TQ, MH
Purchase Order Number: 77265
Sampler (Signature): MT for CB, AM, TQ, MH

Date Shipped: 2/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8030C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 215	~~RHMW02~~ Trip Blank	2/7/16	1310	HST	6	✓				X								X				
ERH 216	RHMW02	2/7/16	1355	HST	15	/				X			X		X	X	X	X	X	X	X	

KS 2/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiga AECOM	2/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/8/17	10:40	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): for CB, AM, TQ, MH

Date Shipped: 02/08/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	8015C TPH-D/O w/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	RSK175M Methane	SM22 (165) Alk	Comments
ERH217	Trip Blank	02/07/17	1235	HST	6	X				X	X										X		
ERH ~~218~~ 216 KS 2/8/17	RMMW016	02/07/17	1525	HST	15	X				X	X			X	X		X	X	X	X	X	X	
ERH 229	Equip Blank	02/07/17	1245	HST	4	X				X	X												see other order for other tests

KS 2/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kalla Smith AECOM	2/8/17	1215	DOH				
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/9/17	10:40	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. _____

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax: _____
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): for CB, AM, TQ, MH
Date Shipped: 02/05/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX	8260C TPH-G	8260C DCA	8011 EDB	8270D SIM PAHs	8015C TPH-D/O	8015C TPH-G/O w/ SGT	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	RSK175M Methane	SM 2320B Alk.	
ERH229	Equip Blank	02/03/17	1245	HST	10	X				X	X	X		X	X		X	X					see other cooler for vials
					6																		

Shuttle Temperature:
Turnaround Requested, Check one: ☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other _____
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shilgi AECOM	2/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/7/17	10:40	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82130**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 02/09/17

2) Coolers: Number of Coolers: 4

3) YES Were custody seals present and intact?
How many? 8 Name/Date on seal? See below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap ___ popcorn ___ foam X plastic bags
X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 1.0	2: 1.5	3: 2.0	4: 3.0	5:	6:
7:	8:	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: AZ49738W03,AZ49740W03,
Smaller than a pea: AZ49738W04-W06, AZ49740W02,W04-W06,AZ49742W02-W03,W05-W06,AZ49744W04

Preservation Hold time:

18) No/Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) No Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials 123
Date 2/8/17

Notes/Deficiencies:

Received ferrous iron greater than 24 hours for samples ERH218, ERH216, and ERH210. Sample ERH216 -The 250mL brown plastic container with HCL has ID ERH218, collection time and date matches that of ERH216.Sample ERH218 is all accounted.

Personnel receiving samples: YL Second reviewer: [signature]
Personnel labeling samples:
Project manager notified: YL Date/Time of notification 2/9/17 12:48
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49739 - 216225**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method:DOC0207.M
Run #:216005
Instrument:Apollo
Sequence:170216
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 2:11:41 PM

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49739 LCS - 216225**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/16/17 2:11:36 PM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	60-142	75.7		56-125	76.4	
170214A-LCS	Lab Control Spike	60-142	80.3		56-125	94.0	
AZ49739	ERH218	60-142	75.5		56-125	77.6	
AZ49741	ERH216	60-142	76.1		56-125	83.5	
AZ49743	ERH210	60-142	76.8		56-125	78.7	
AZ49744	ERH229	60-142	75.1		56-125	76.4	

Comments: Batch: #DOC53-170214A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Apollo
Time Analyzed: 1141

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	216005	02/16/17 1141
170214A-LCS	Lab Control Spike	216006	02/16/17 1202
AZ49739	ERH218	216008	02/16/17 1242
AZ49741	ERH216	216009	02/16/17 1303
AZ49743	ERH210	216010	02/16/17 1323
AZ49744	ERH229	216011	02/16/17 1344

Comments: Batch: #DOC53-170214A

Printed: 02/16/17 2:11:33 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #DOC53-170214A-216225

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	75.5	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.6	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216008
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/16/17 2:11:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

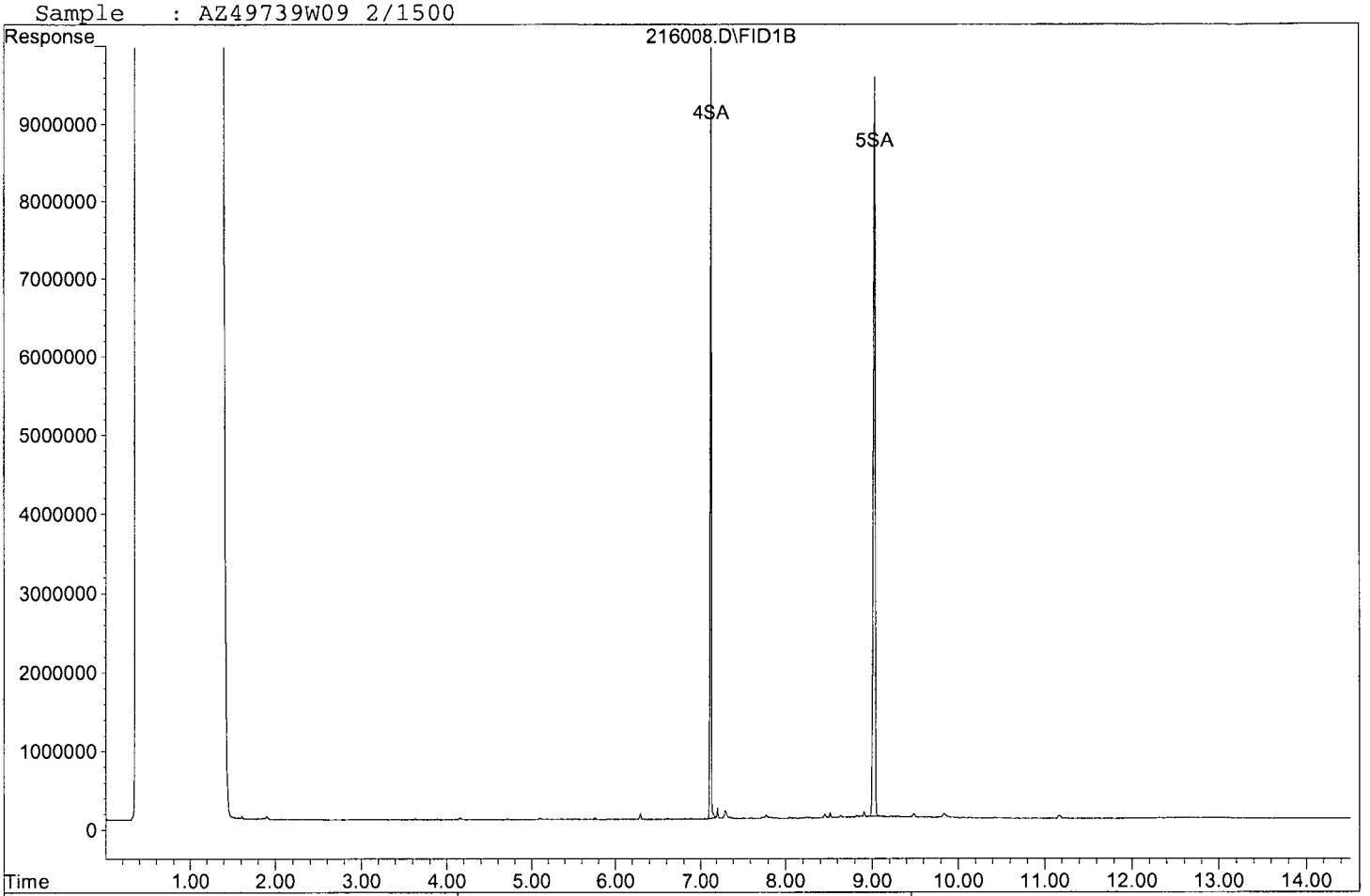
Data File : G:\APOLLO\DATA\170216\216008.D Vial: 8
Acq On : 2-16-17 12:42:55 Operator: DP
Sample : AZ49739W09 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:59 2017 Quant Results File: DOC0207.RES

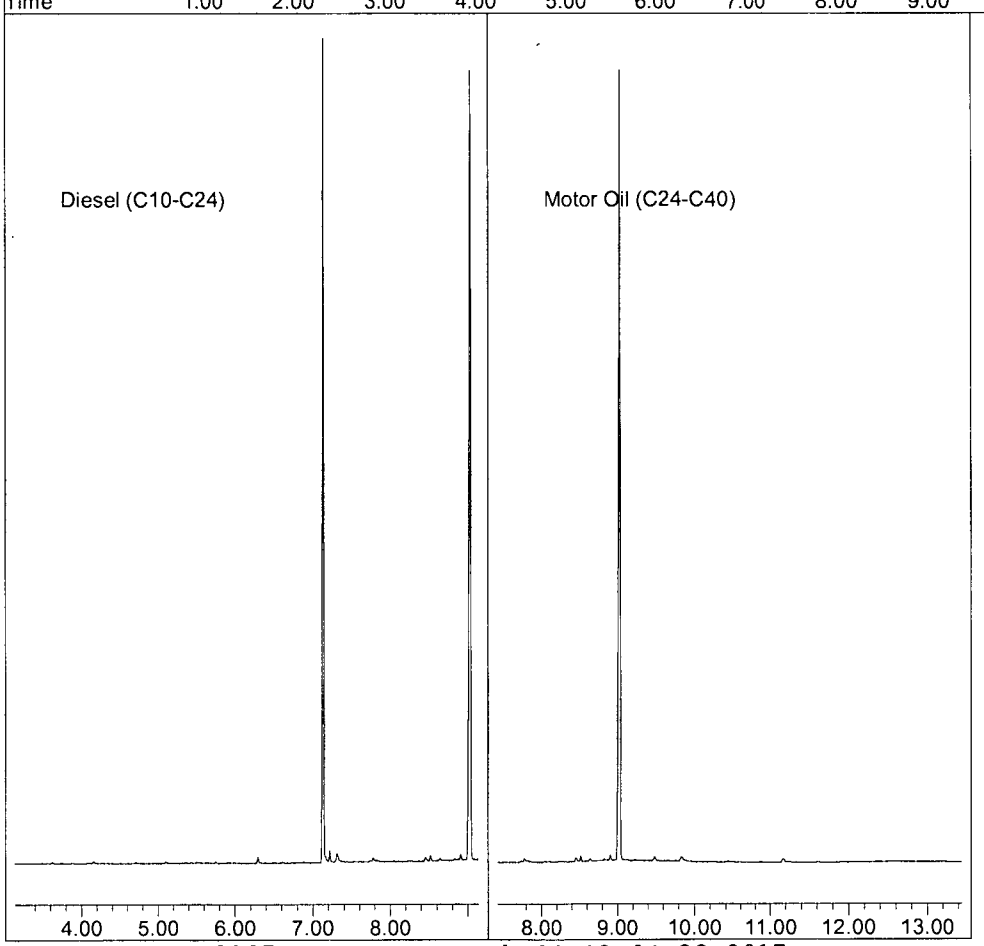
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99509286	31.043 ppb
Surrogate Spike 40.000		Recovery =	77.61%
5) SA Octacosane(S)	9.03	142145619	30.180 ppb
Surrogate Spike 40.000		Recovery =	75.45%
Target Compounds			

Data File: G:\APOLLO\DATA\170216\216008.D
Sample : AZ49739W09 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #DOC53-170214A-216225

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	1000 ++	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	76.1	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	83.5	56-125			%	02/14/17	02/16/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0207.M
Run #: 216009
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/16/17 2:11:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216009.D Vial: 9
Acq On : 2-16-17 13:03:24 Operator: DP
Sample : AZ49741W12 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 13:30 2017 Quant Results File: DOC0207.RES

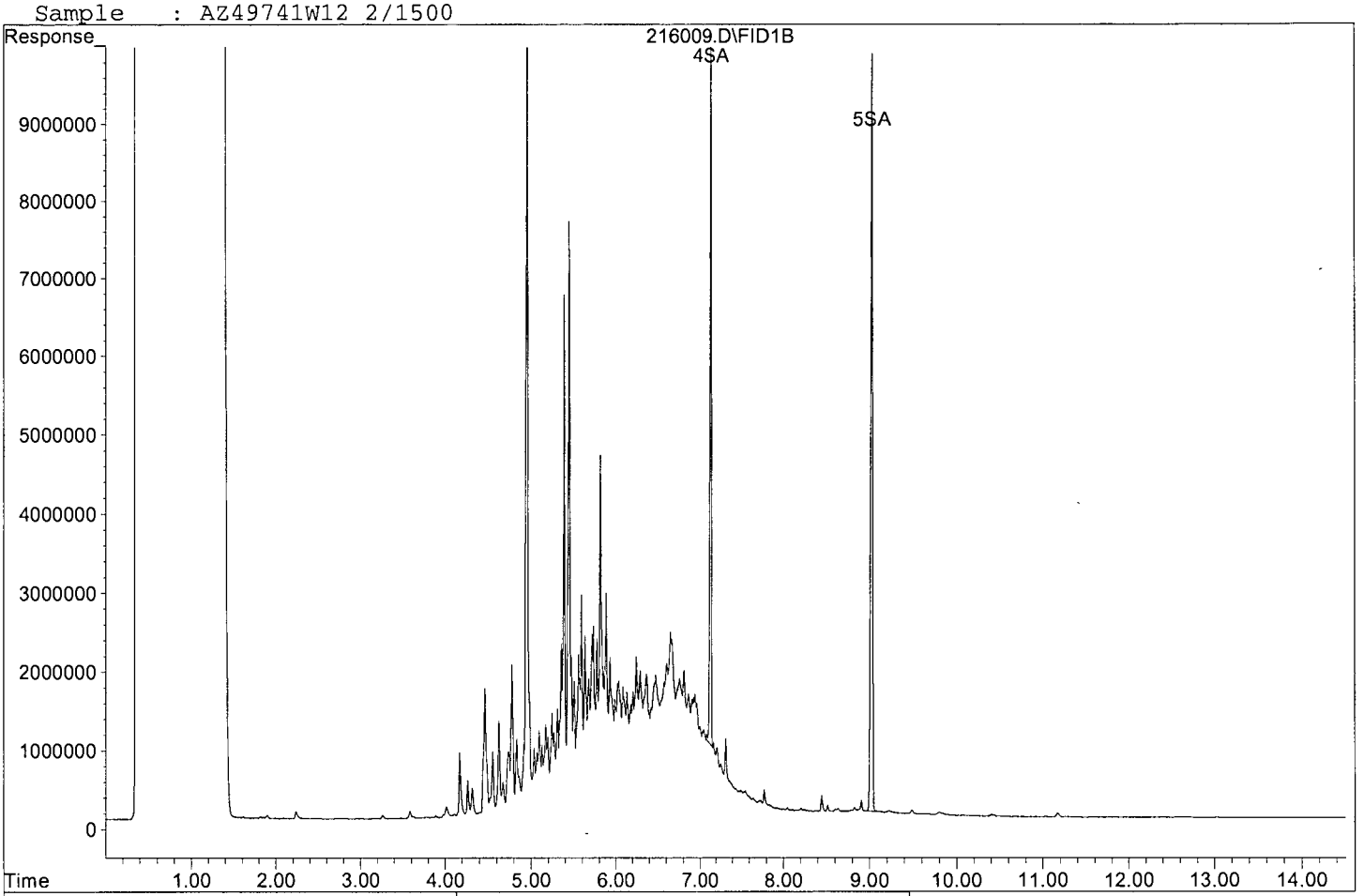
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

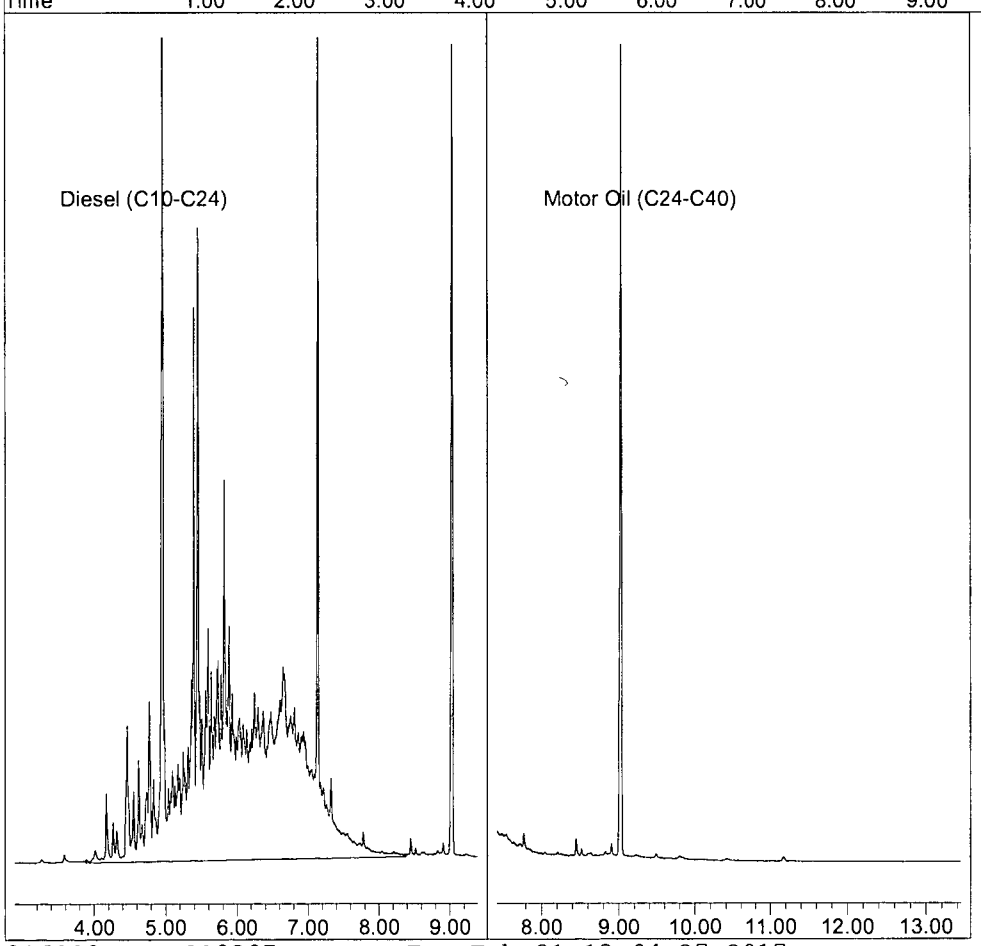
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	107087438	33.408 ppb
Surrogate Spike 40.000		Recovery =	83.52%
5) SA Octacosane(S)	9.03	143432839	30.453 ppb
Surrogate Spike 40.000		Recovery =	76.13%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2527872240	1031.660 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216009.D
Sample : AZ49741W12 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #DOC53-170214A-216225

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	76.8	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	78.7	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216010
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/16/17 2:11:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

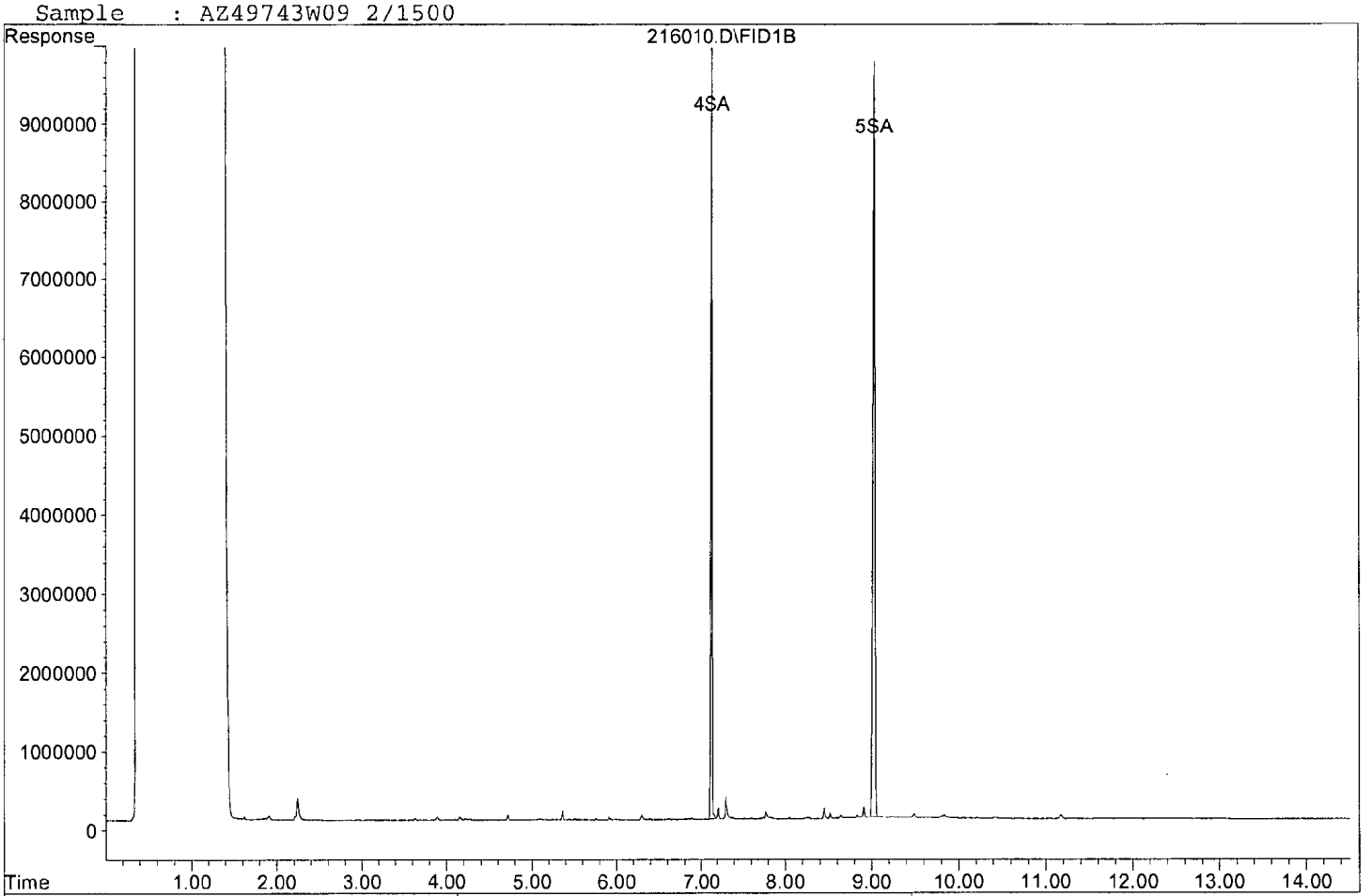
Data File : G:\APOLLO\DATA\170216\216010.D Vial: 10
Acq On : 2-16-17 13:23:50 Operator: DP
Sample : AZ49743W09 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 13:41 2017 Quant Results File: DOC0207.RES

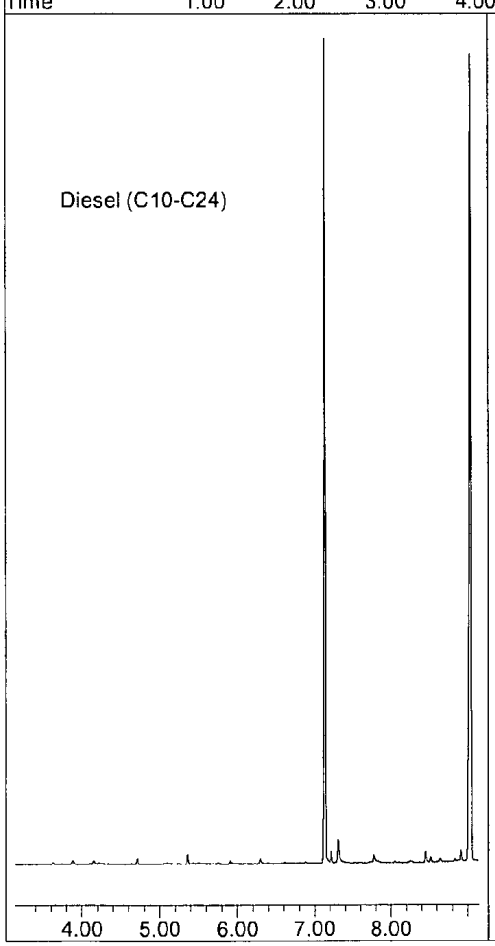
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

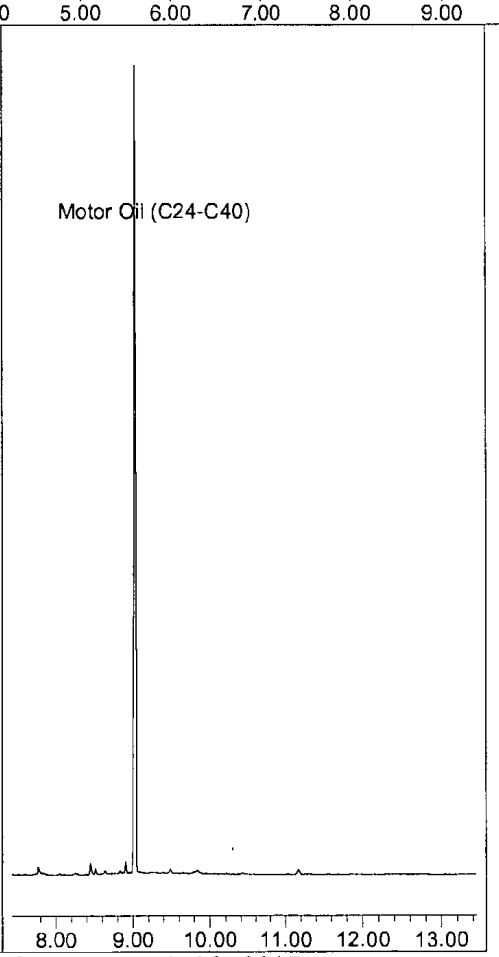
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	100863059	31.466 ppb
Surrogate Spike 40.000		Recovery =	78.67%
5) SA Octacosane(S)	9.03	144647292	30.711 ppb
Surrogate Spike 40.000		Recovery =	76.78%
Target Compounds			

Data File: G:\APOLLO\DATA\170216\216010.D
Sample : AZ49743W09 2/1500







EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #DOC53-170214A-216225

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	75.1	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	76.4	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216011
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/16/17 2:52:47 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216011.D Vial: 11
Acq On : 2-16-17 13:44:23 Operator: DP
Sample : AZ49744W06 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 21 13:04 2017 Quant Results File: DOC0207.RES

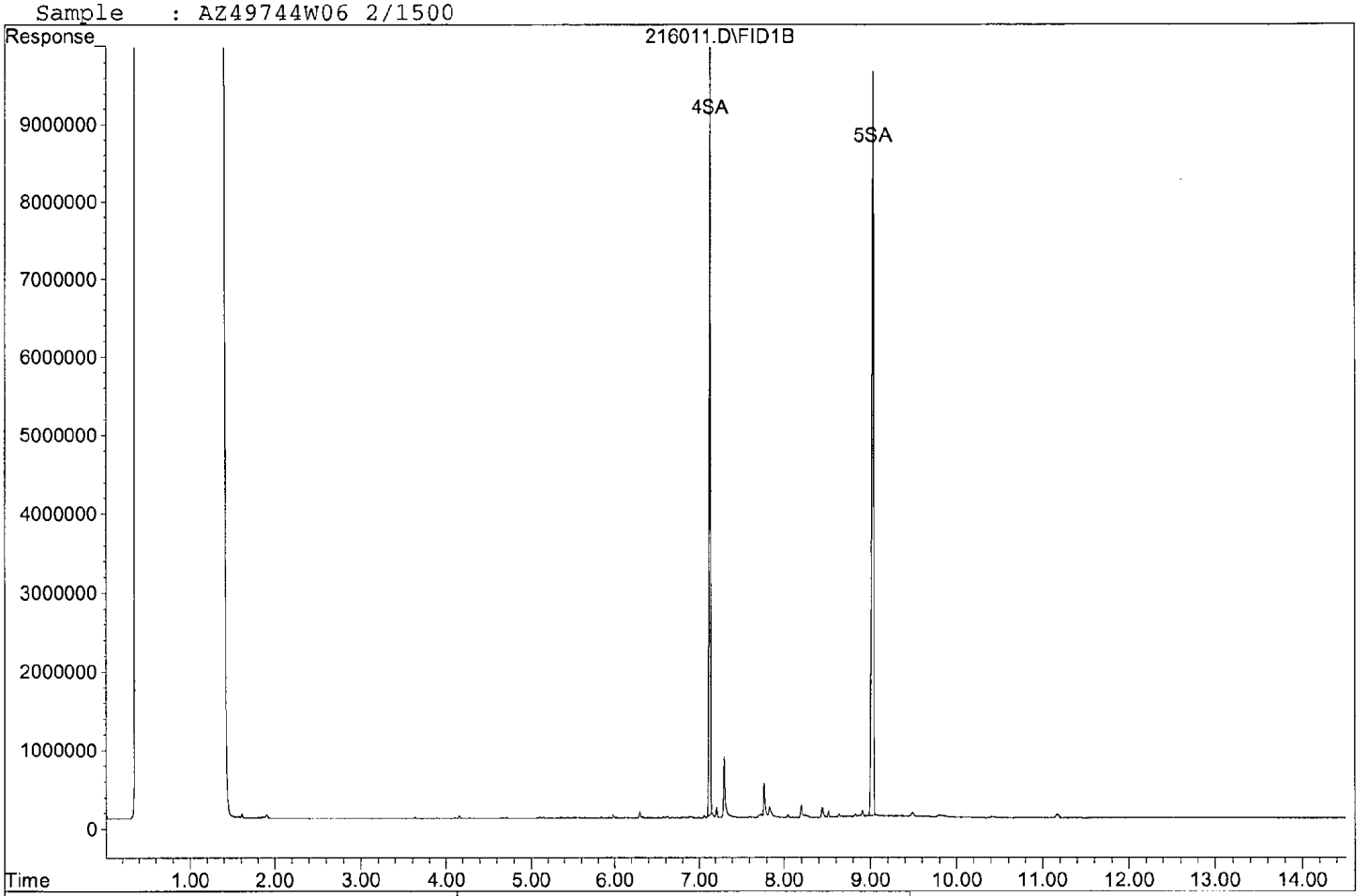
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

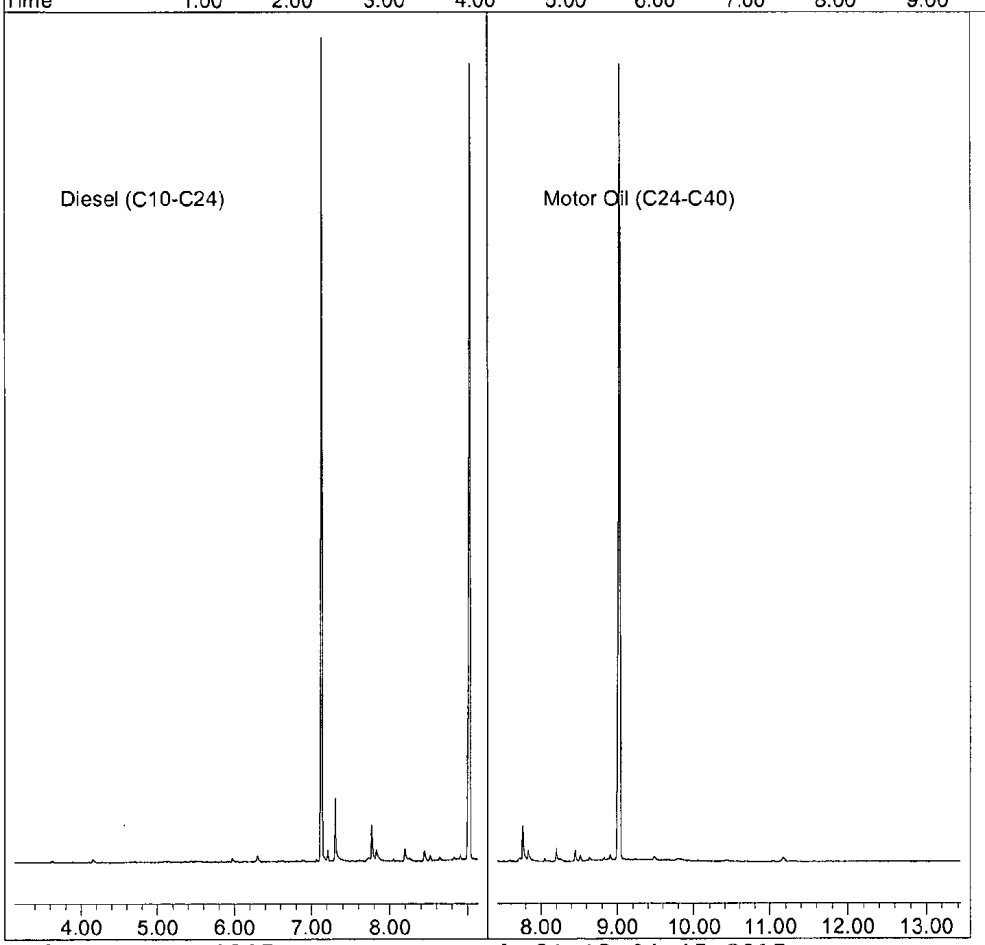
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97915264	30.546 ppb
Surrogate Spike 40.000		Recovery =	76.36%
5) SA Octacosane(S)	9.03	141402159	30.022 ppb
Surrogate Spike 40.000		Recovery =	75.05%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216011.D
Sample : AZ49744W06 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0207

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 02/07/17
Matrix: Instrument: Apollo Initials:

Diesel: 207013.D 207014.D 207015.D 207016.D 207017.D 207018.D
Motor Oil: 207020.D 207021.D 207022.D 207023.D 207024.D 207025.D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2112818	2160204	2135806	2184447	2121052	2107568					2136982	1.4	SA	
5	SA	Octacosane(S)	3130783	3214870	3136696	3178445	3091400	3087353					3139925	1.6	SA	
6																
7																
8																
9																
10																
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0.9606591

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D
Acq On : 2-7-17 13:53:40
Sample : Diesel-1 10/1000 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 13
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

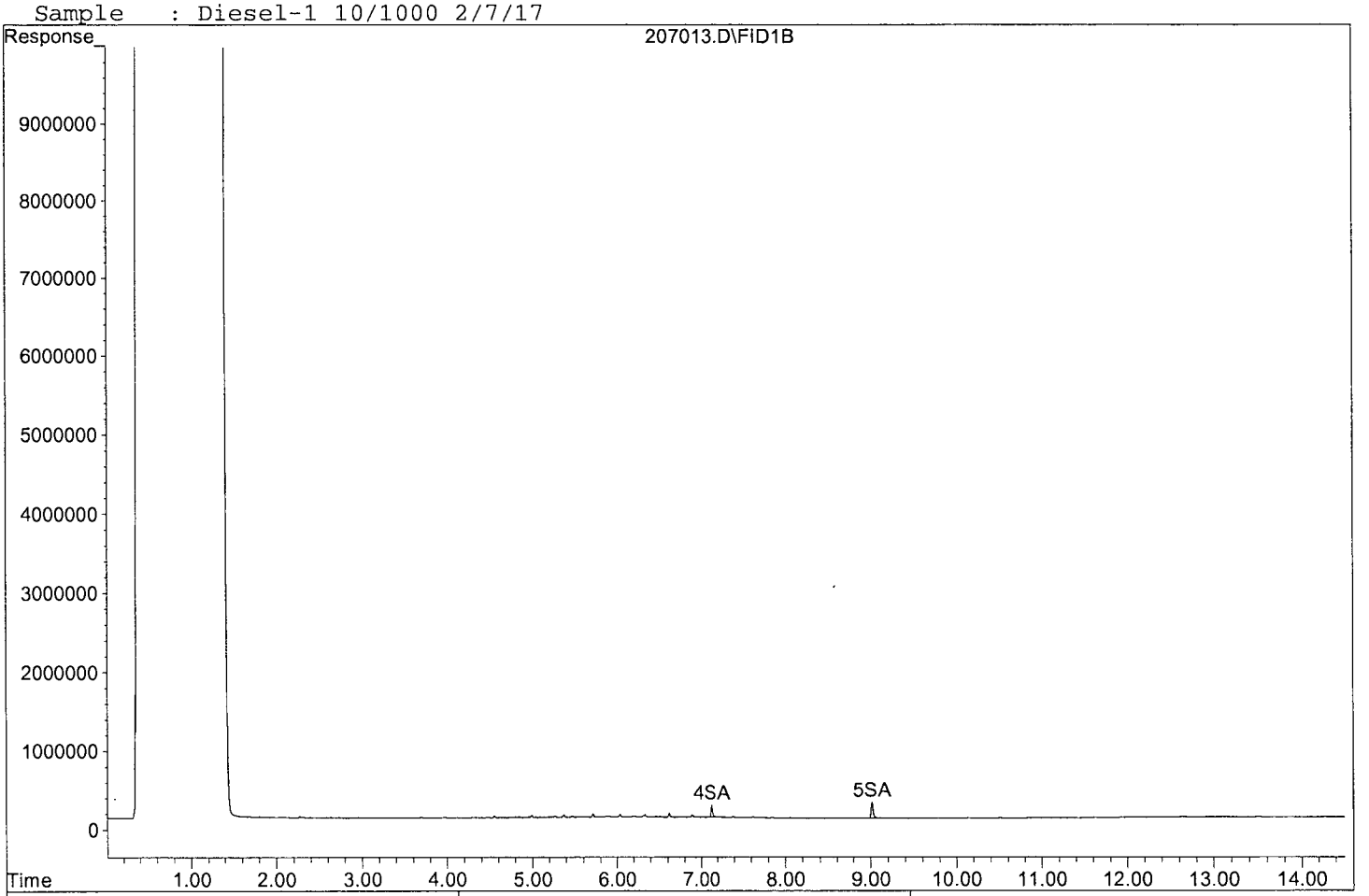
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

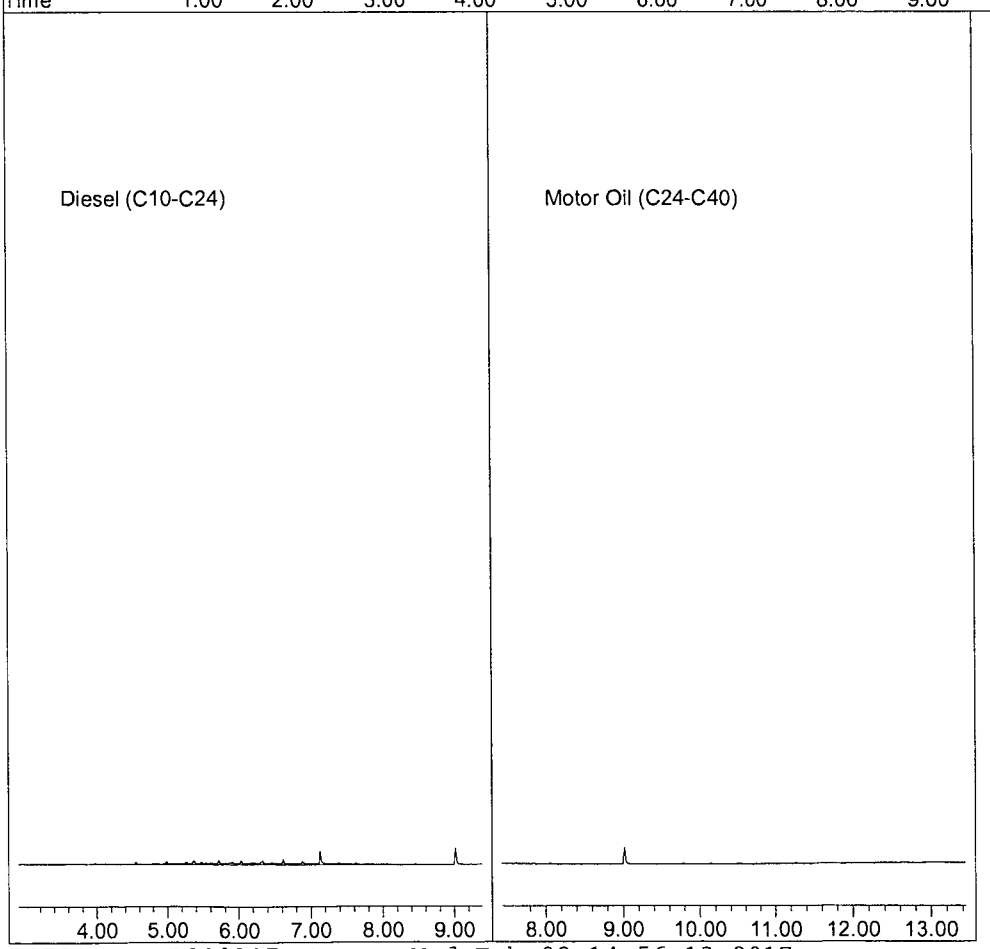
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000		Recovery =	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000		Recovery =	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

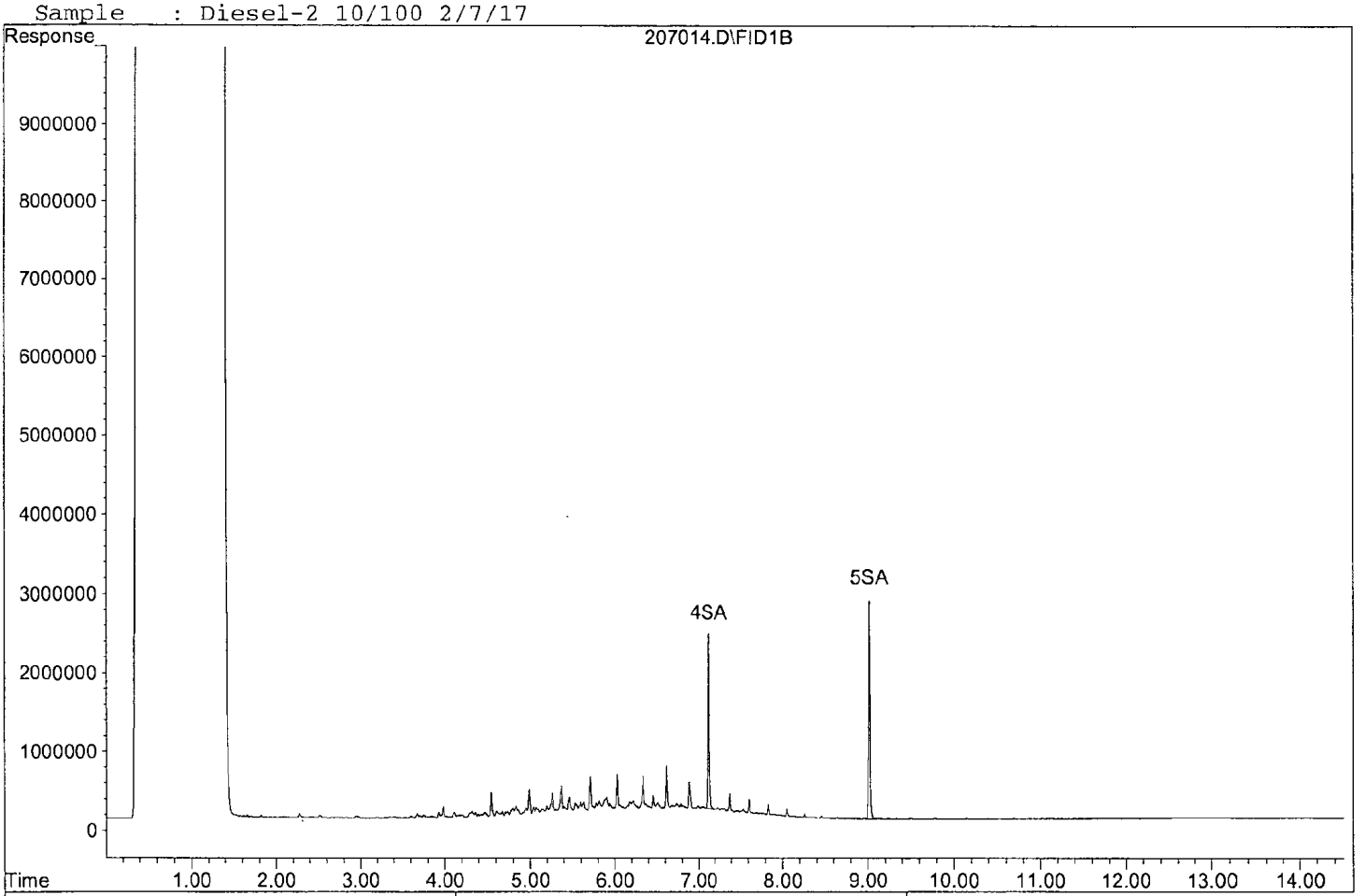
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

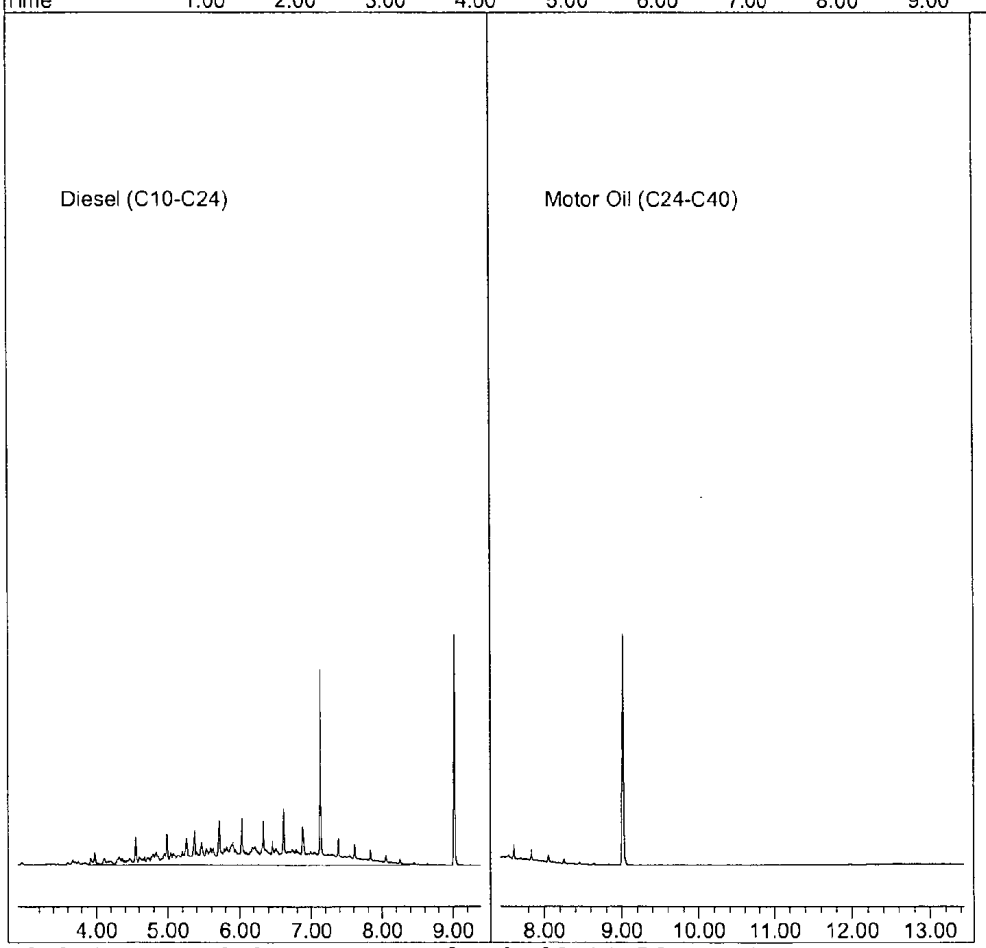
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

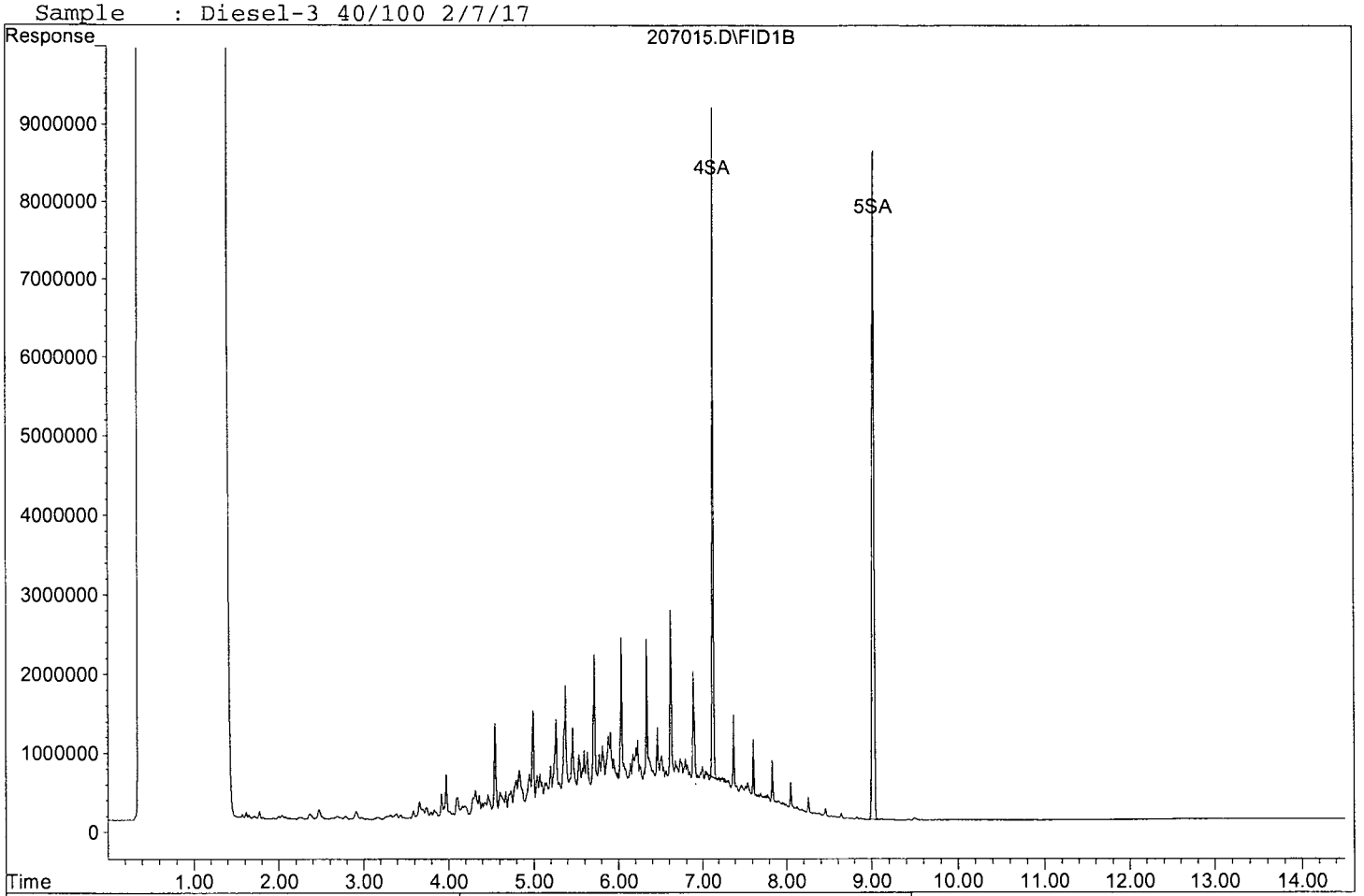
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

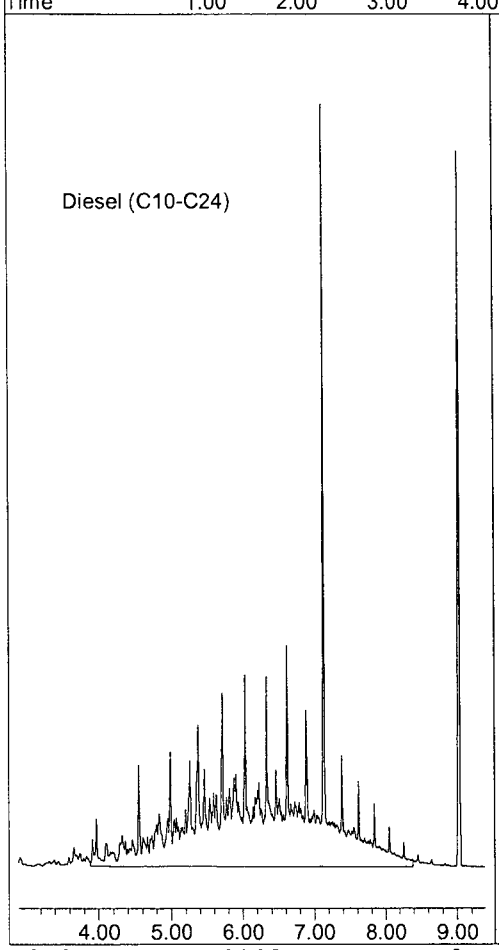
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

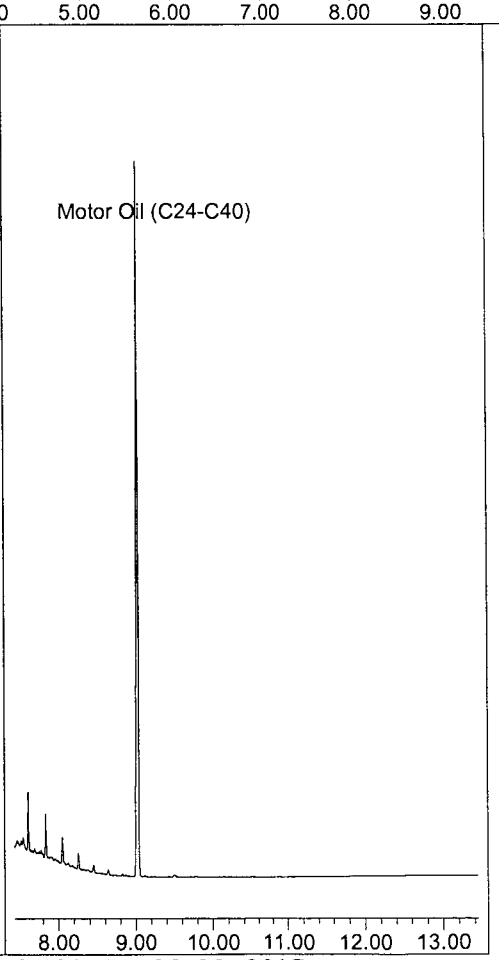
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

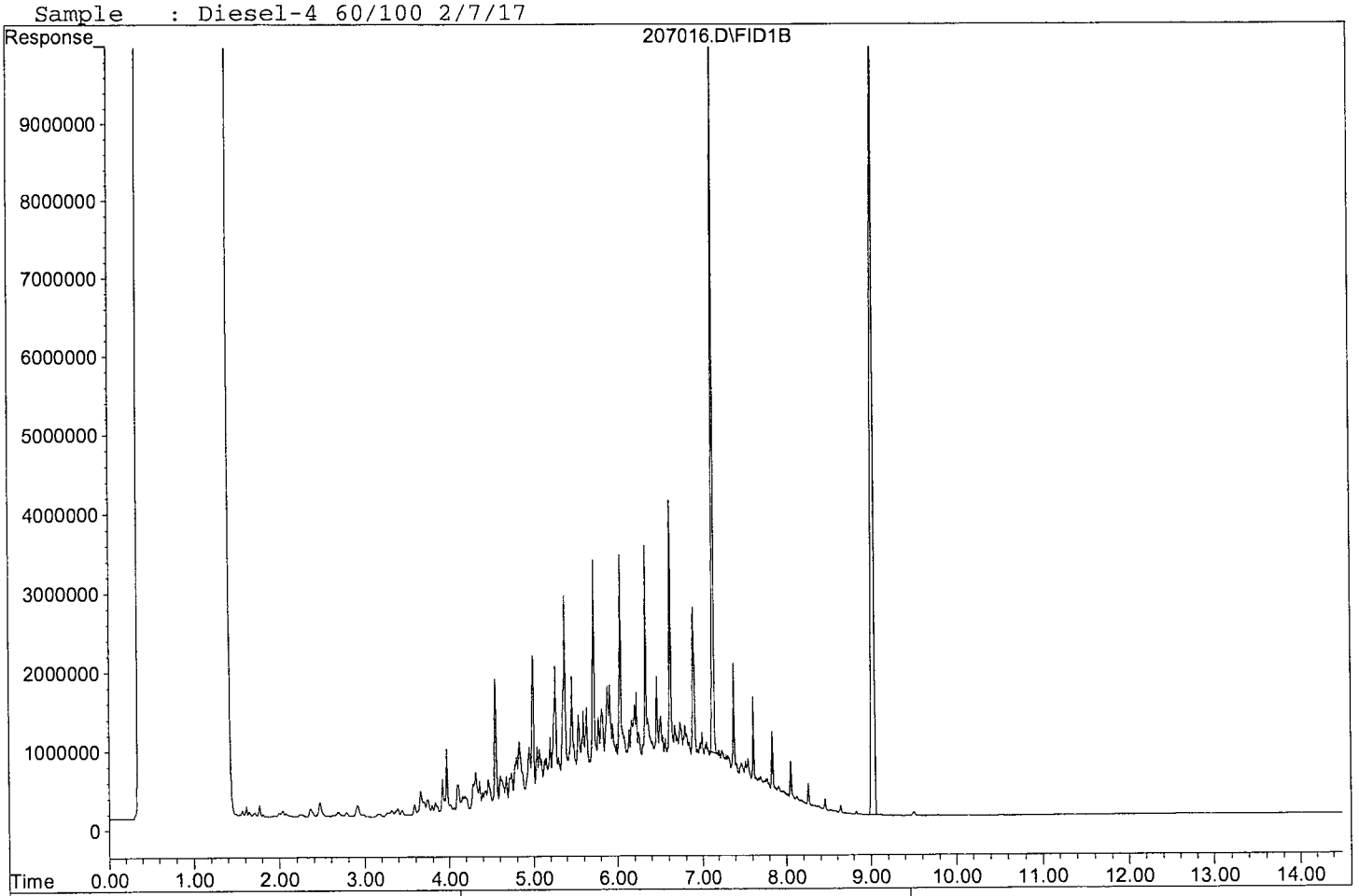
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

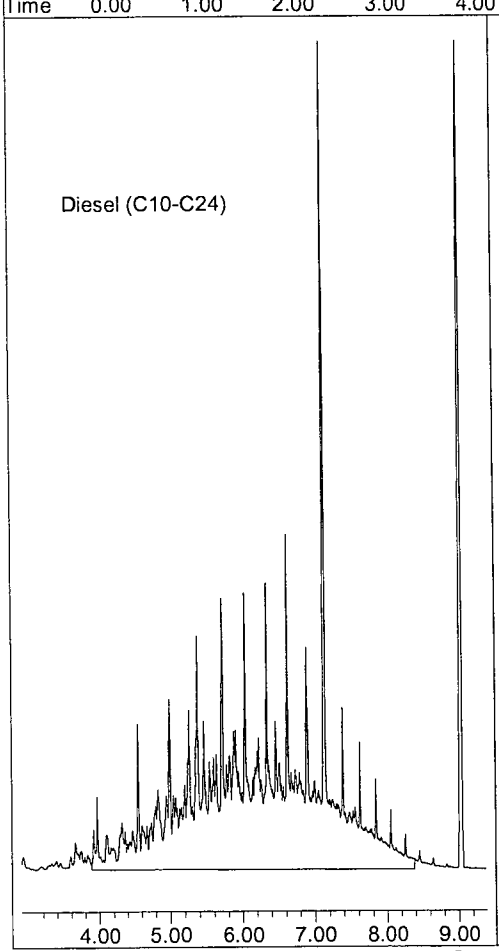
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	30.666 ppb
Surrogate Spike 30.000		Recovery =	102.22%
5) SA Octacosane(S)	9.04	190706691	30.368 ppb
Surrogate Spike 30.000		Recovery =	101.23%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

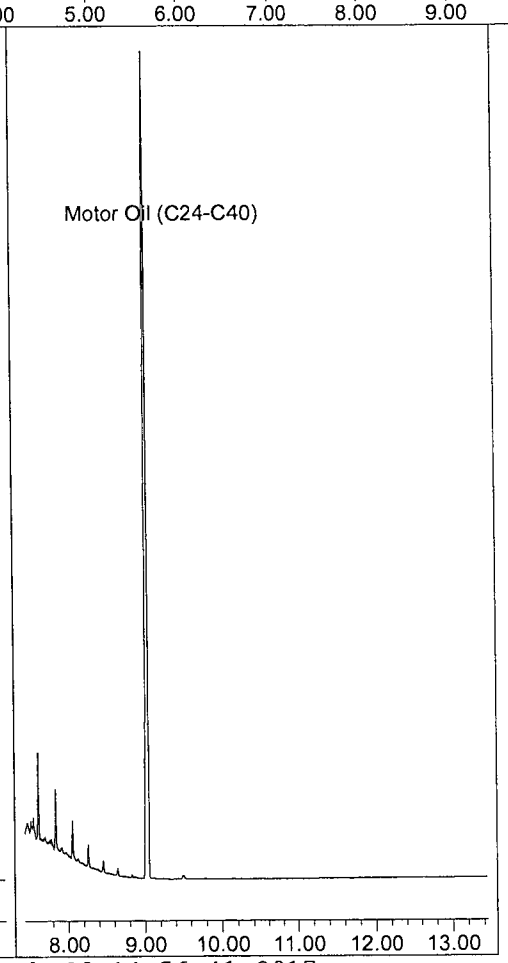
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D Vial: 17
Acq On : 2-7-17 15:16:16 Operator: DP
Sample : Diesel-5 80/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

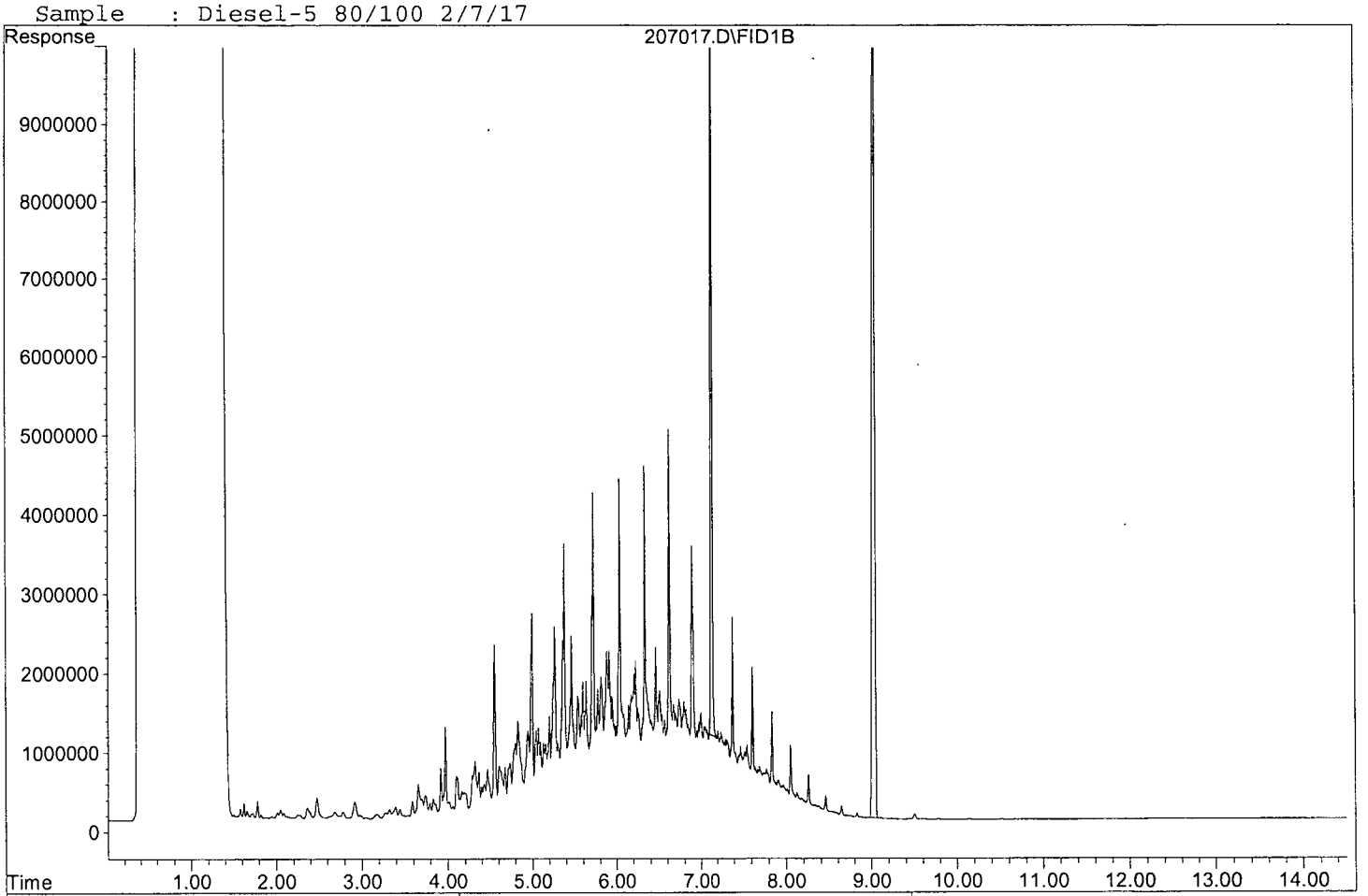
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

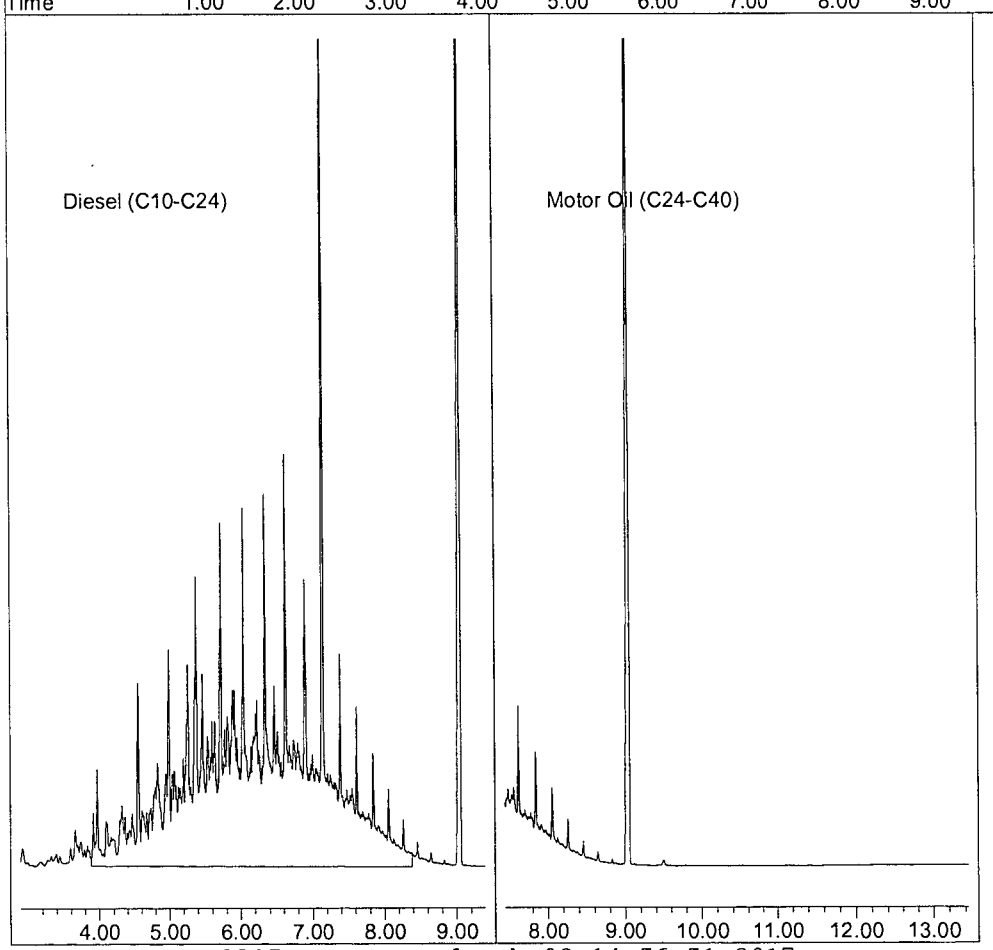
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D Vial: 18
Acq On : 2-7-17 15:36:59 Operator: DP
Sample : Diesel-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

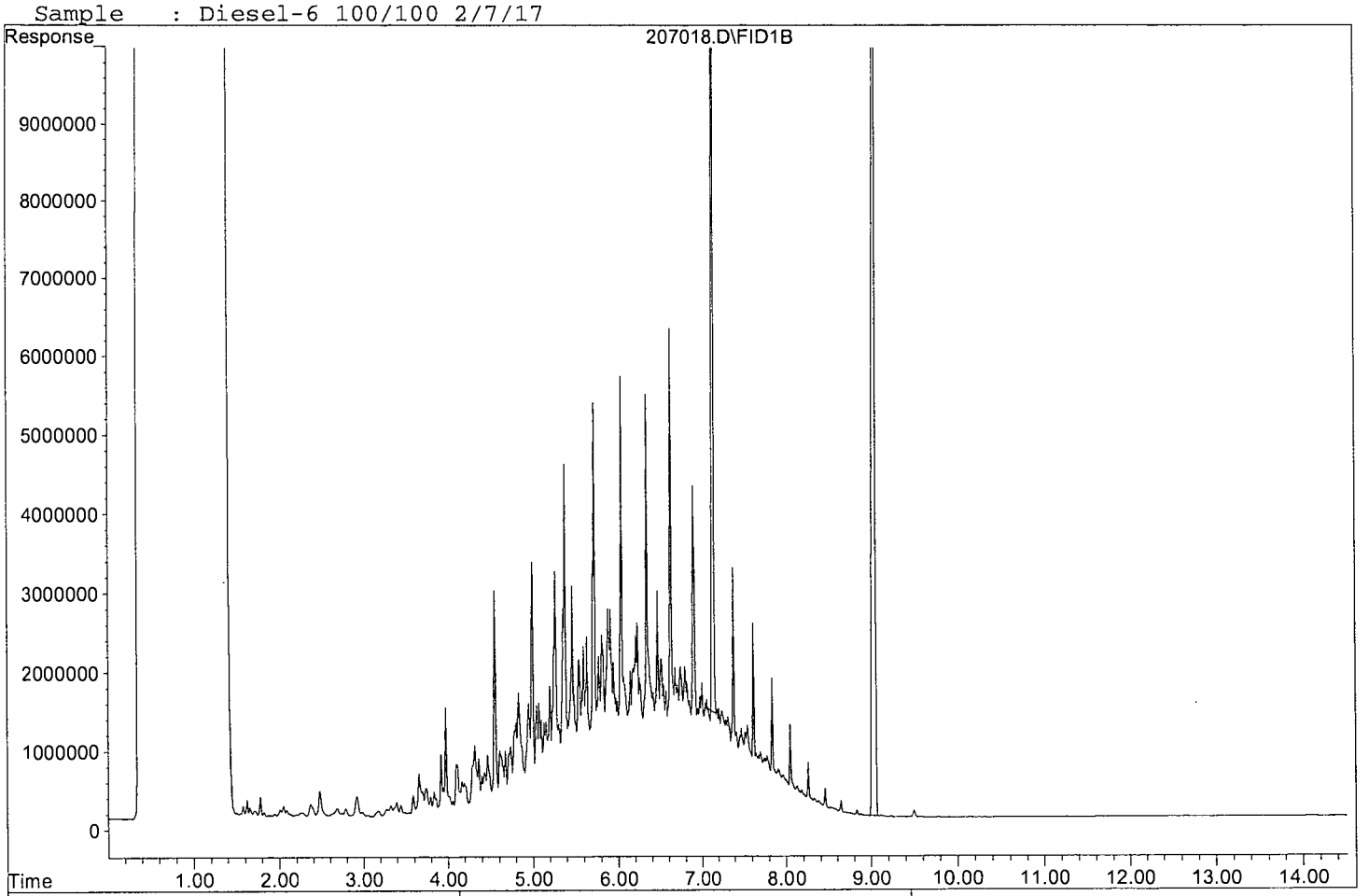
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

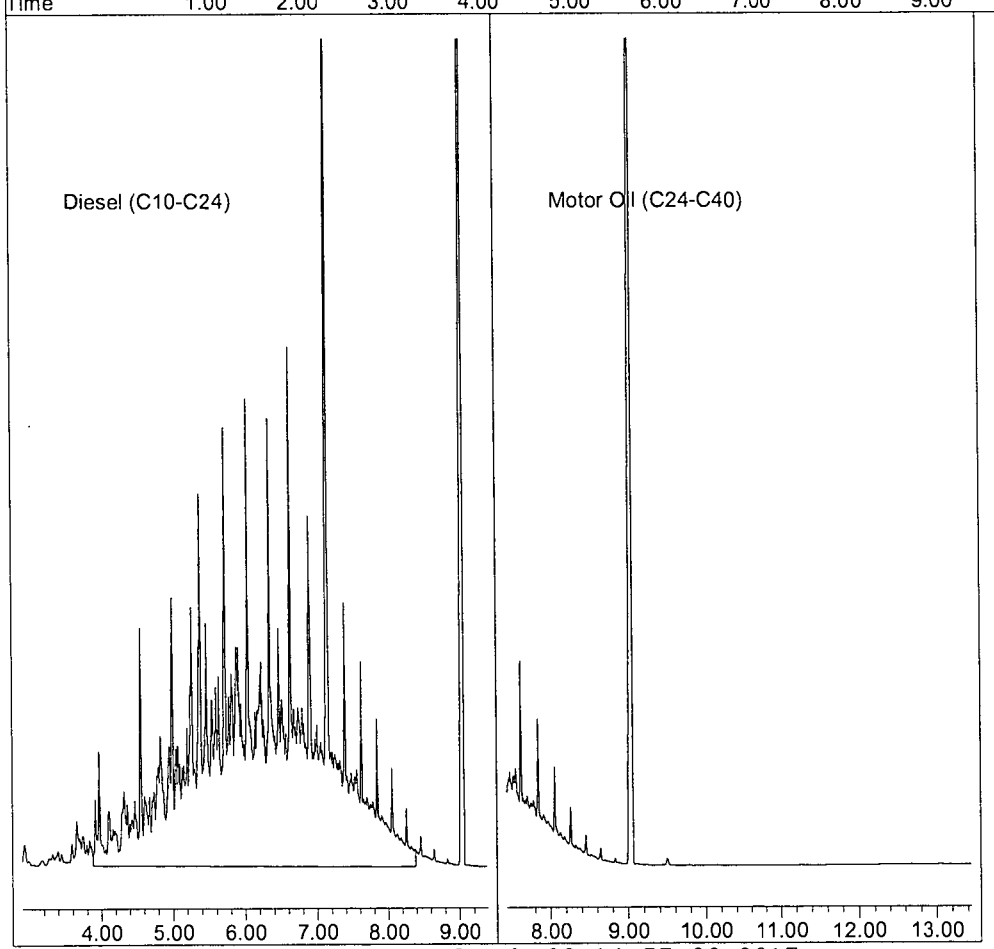
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

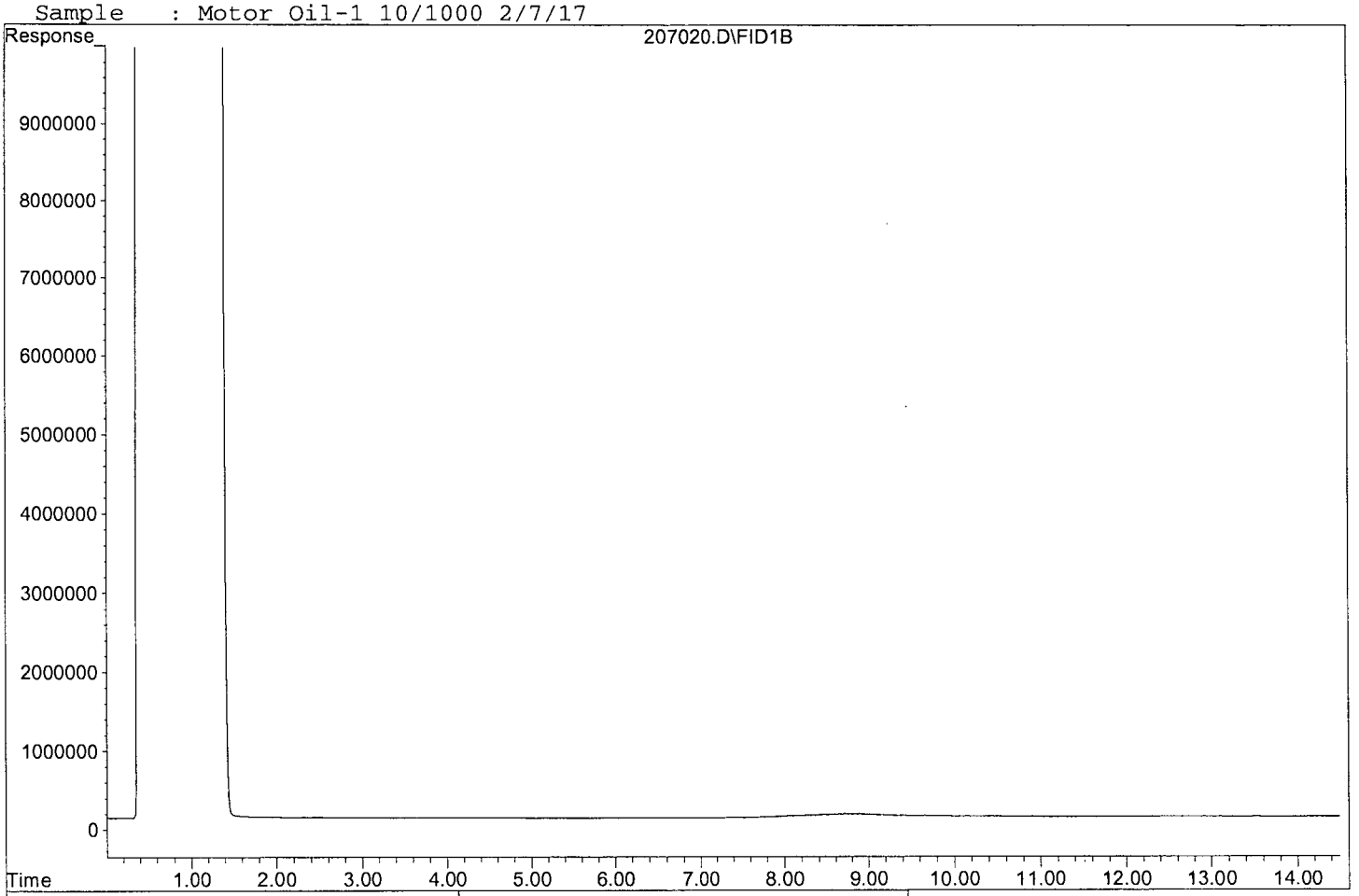
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

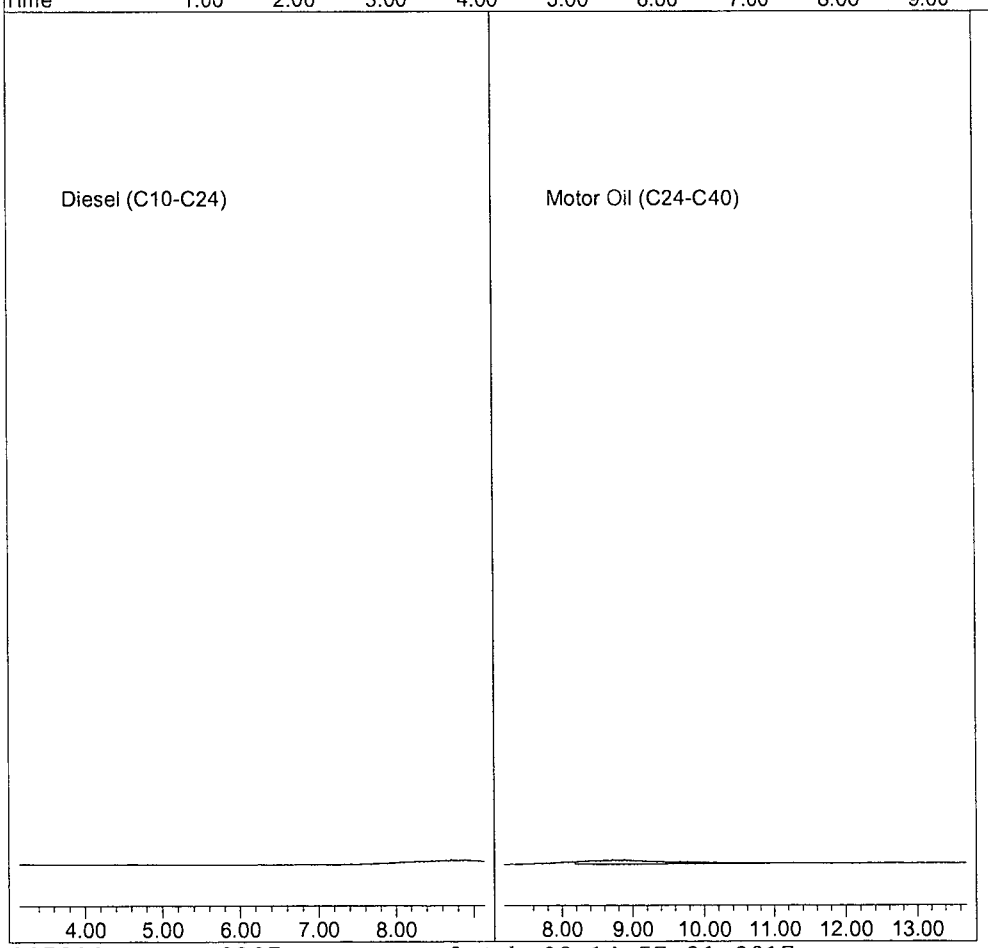
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

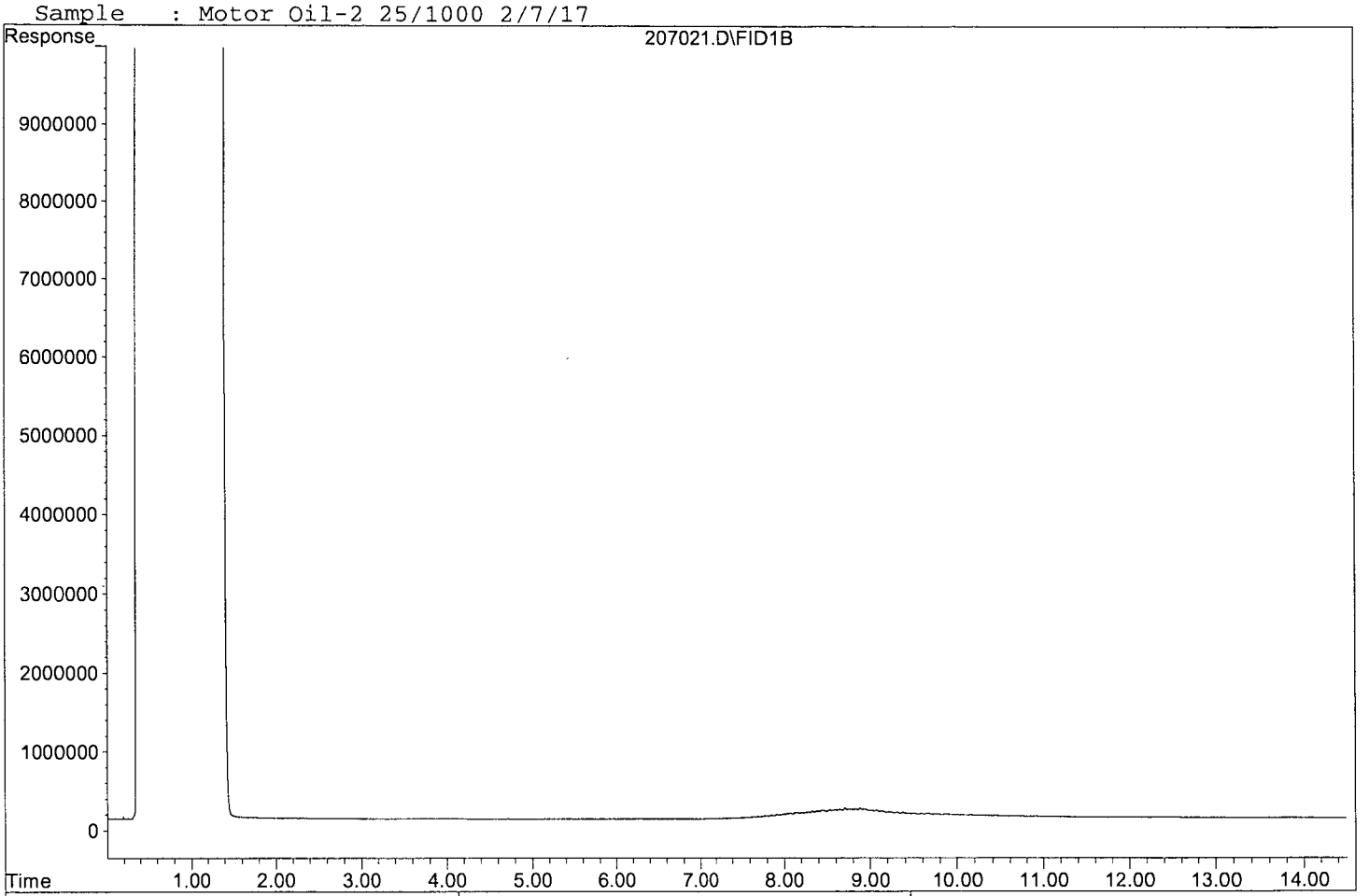
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

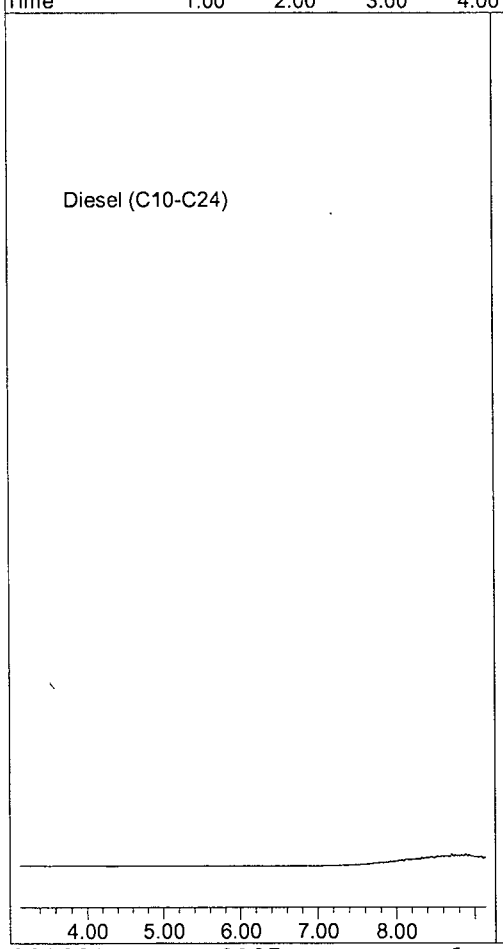
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

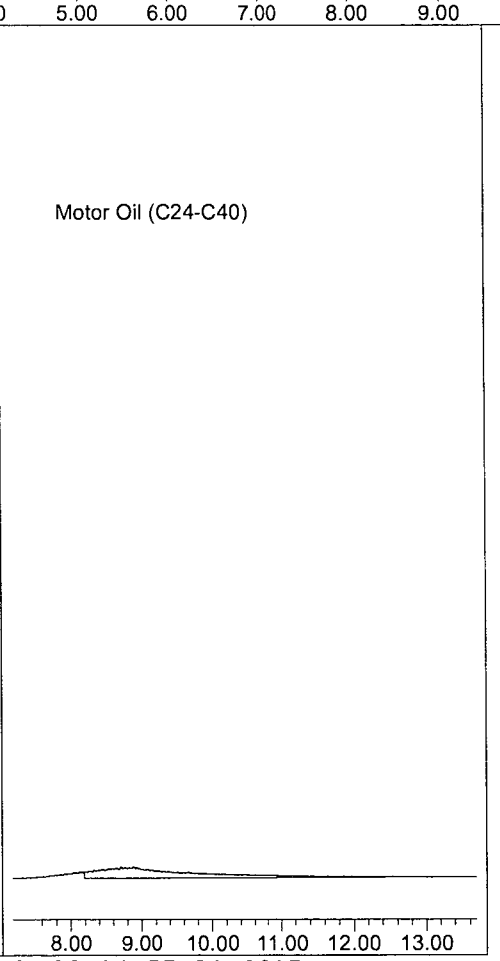
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

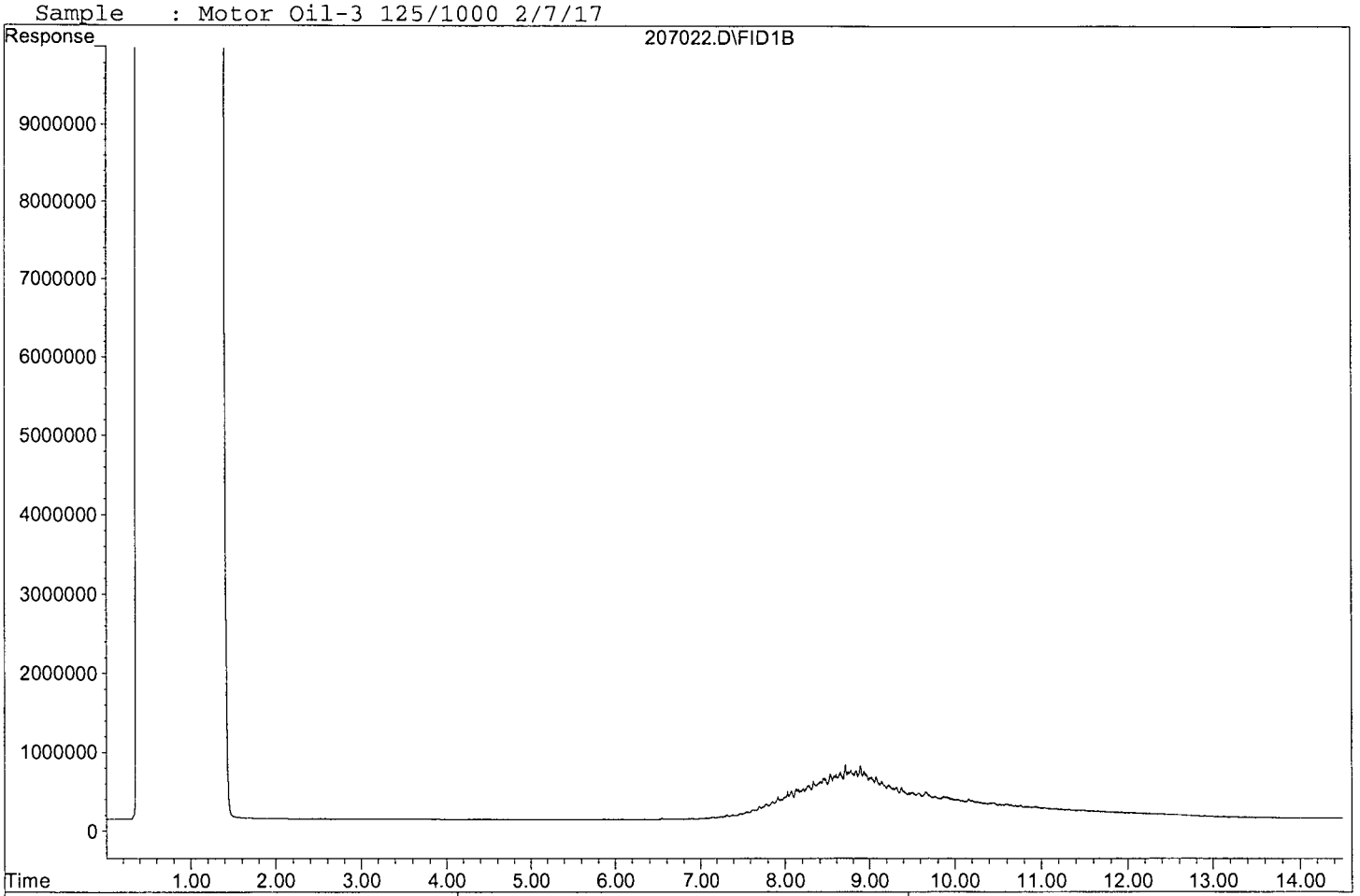
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

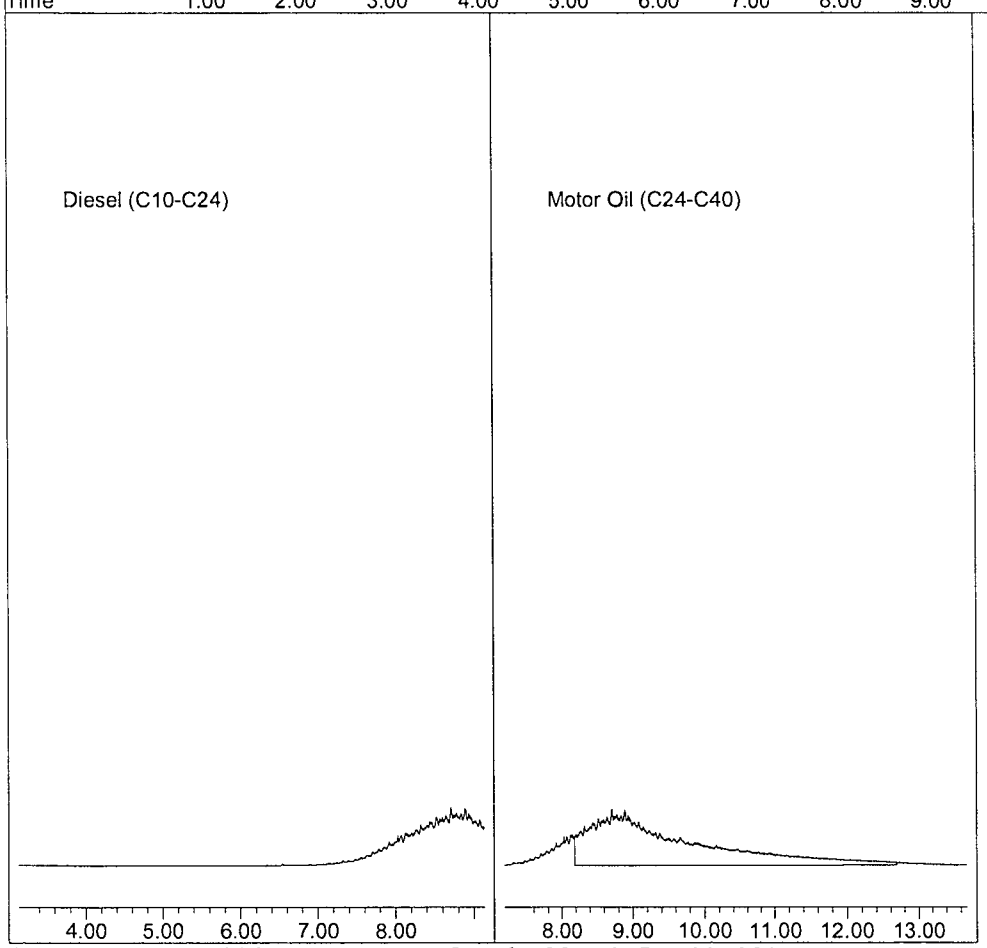
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

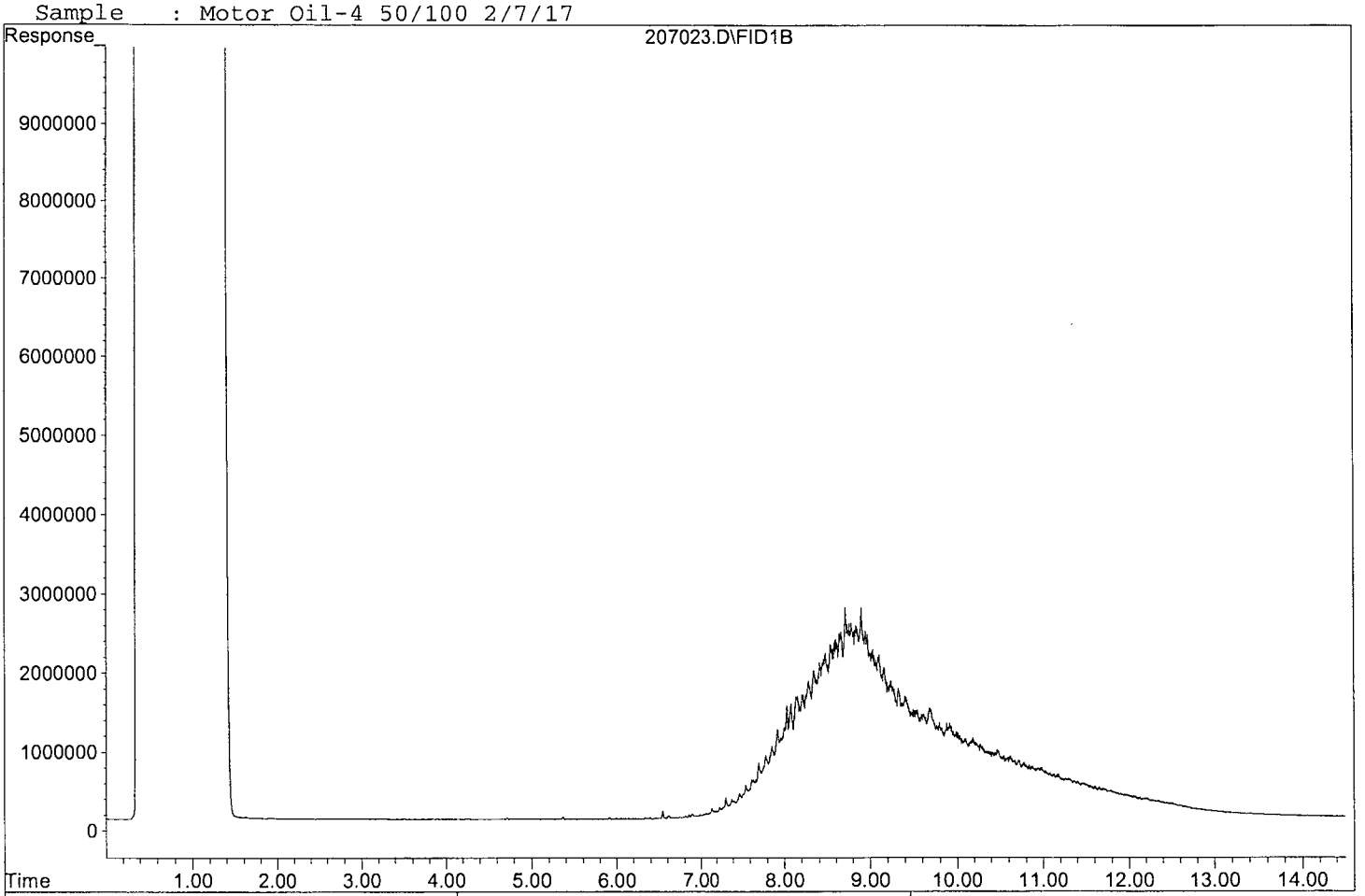
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

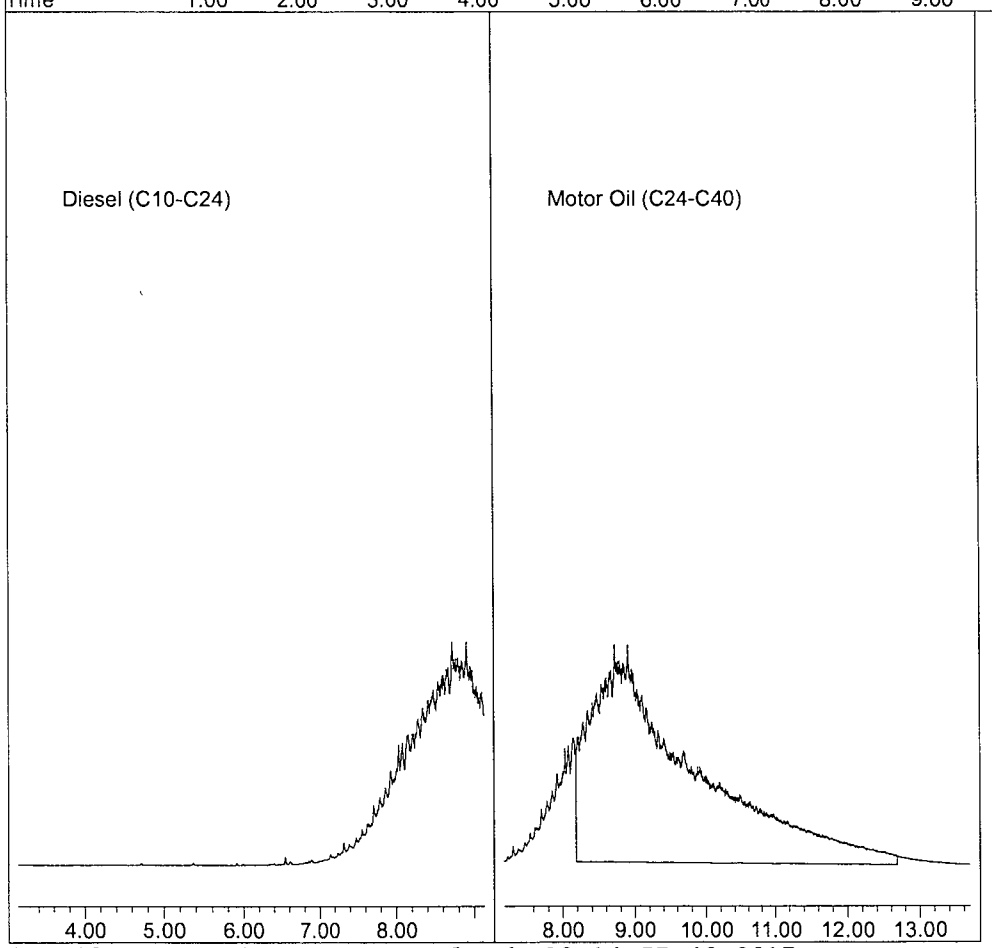
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

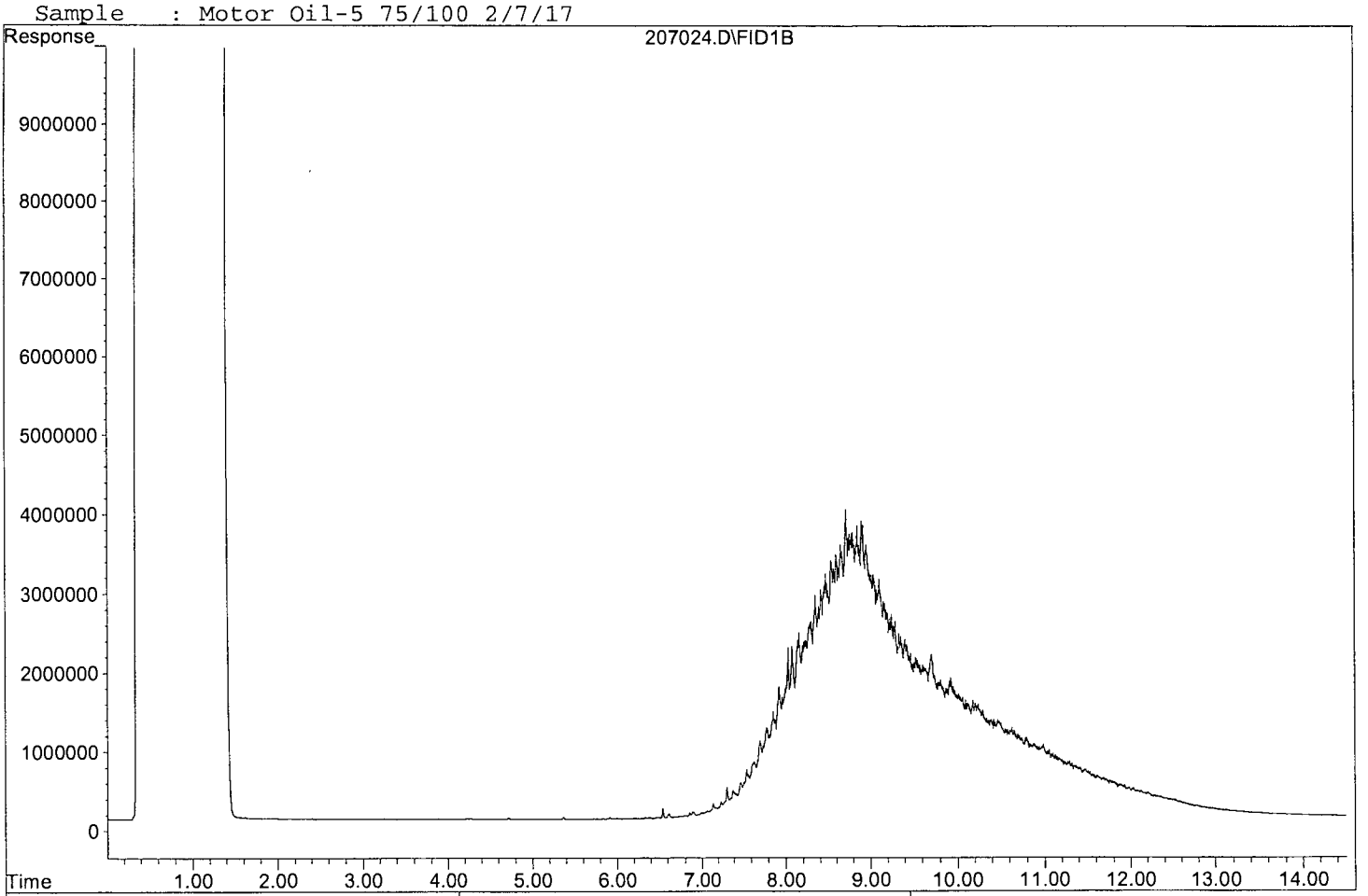
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

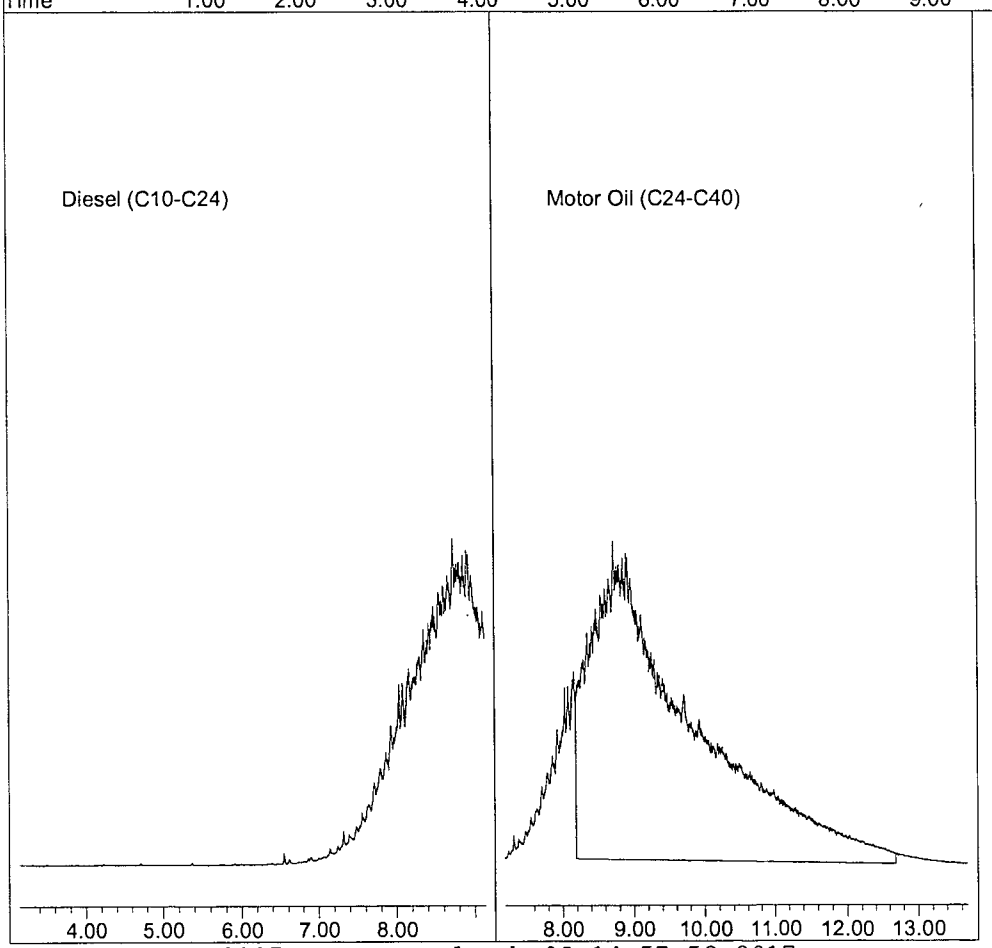
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D Vial: 25
Acq On : 2-7-17 18:01:11 Operator: DP
Sample : Motor Oil-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

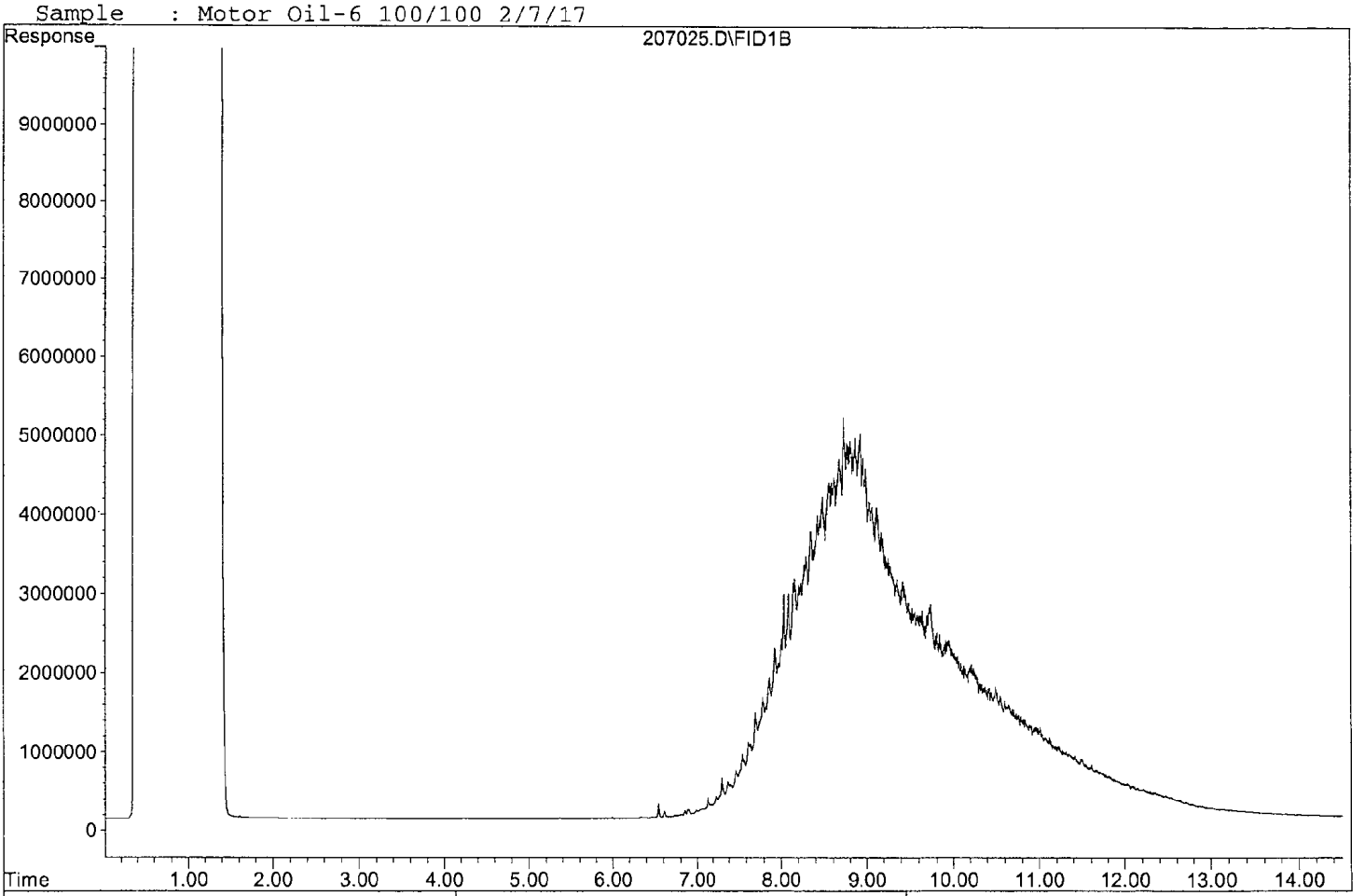
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

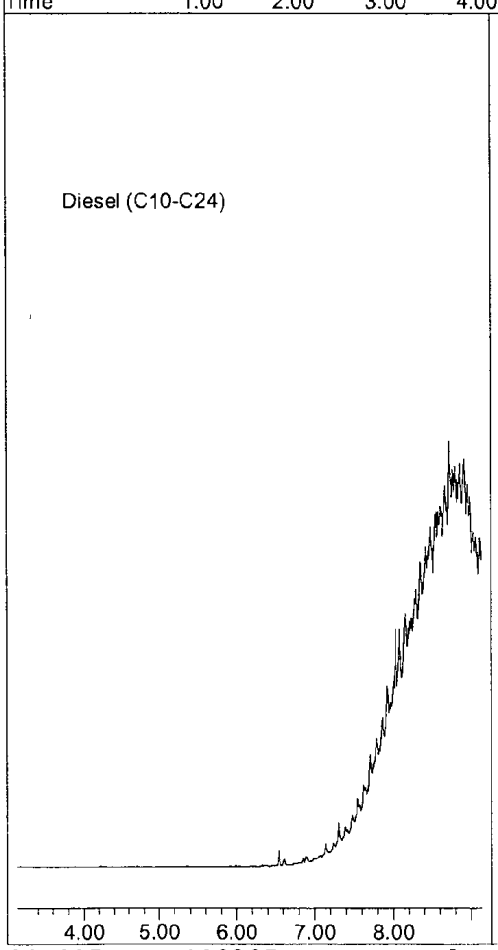
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

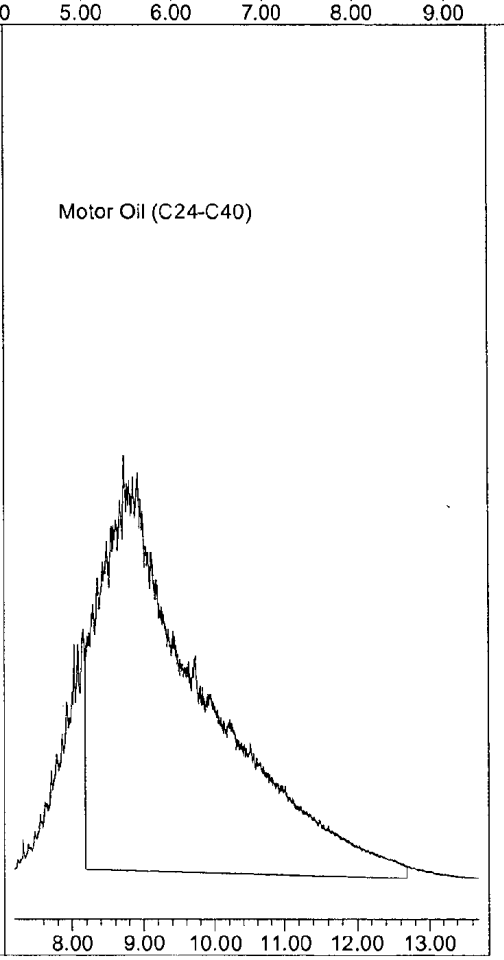
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







TPH Extractables
DOC0207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 207019.D (Diesel) 207026.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
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38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:53 2017 Quant Results File: DOC0207.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.591 ppb
Surrogate Spike 30.000		Recovery =	8.64%
5) SA Octacosane(S)	9.01	2024928	0.322 ppb
Surrogate Spike 30.000		Recovery =	1.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

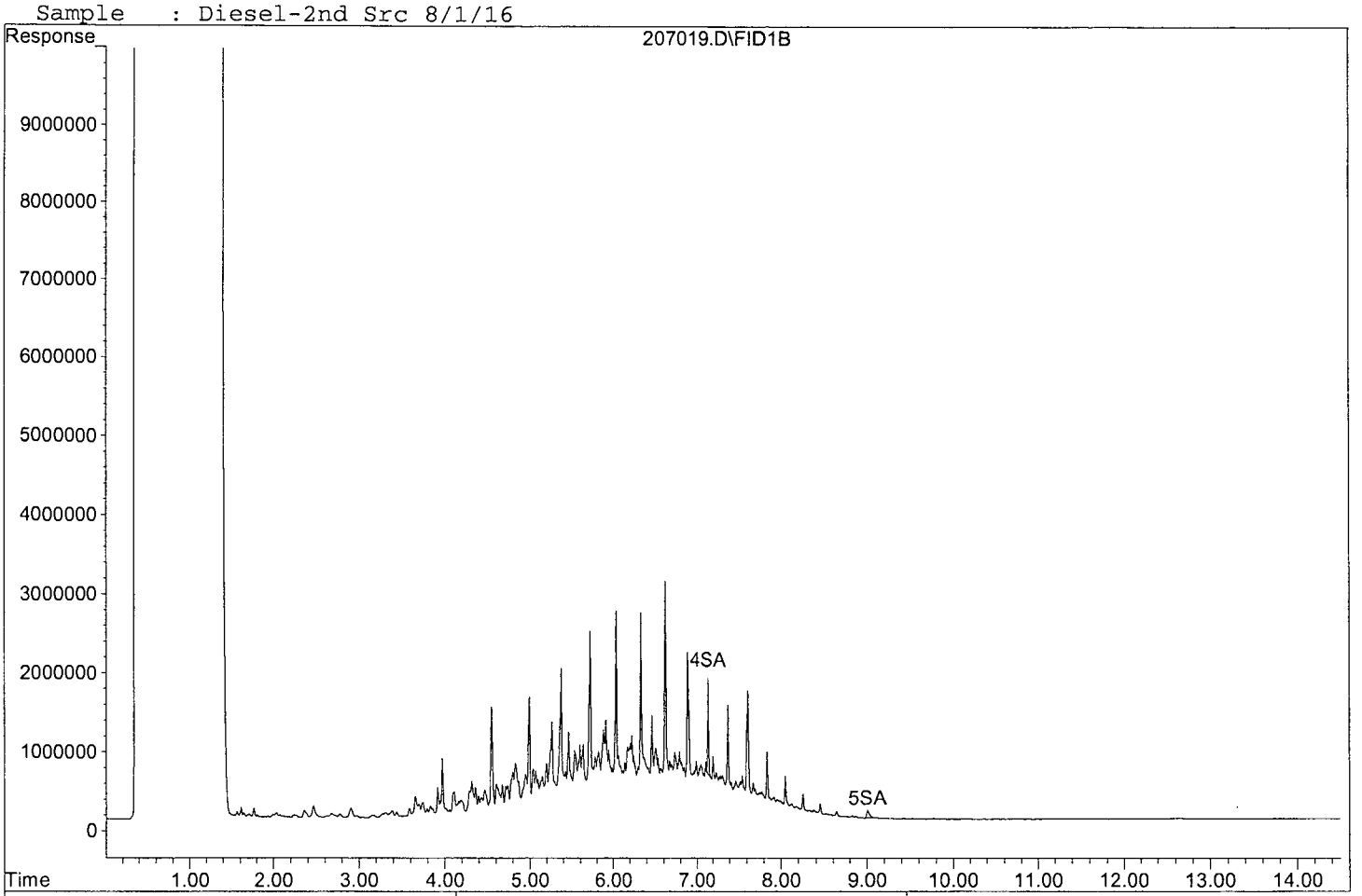
algorithm check: $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

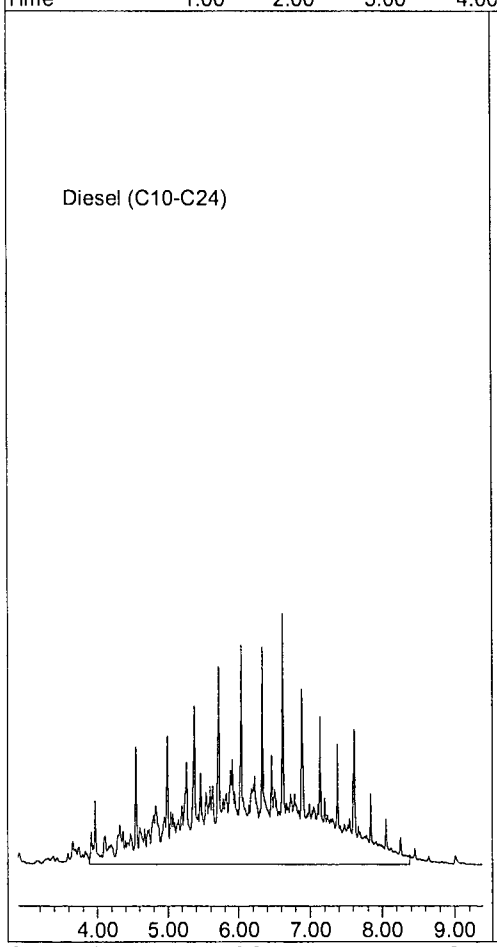
D.P. 2/9/17

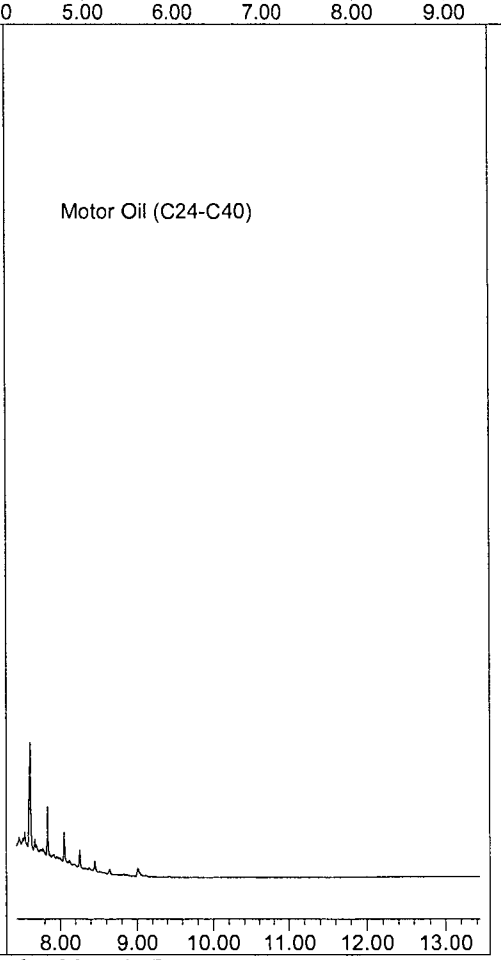
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

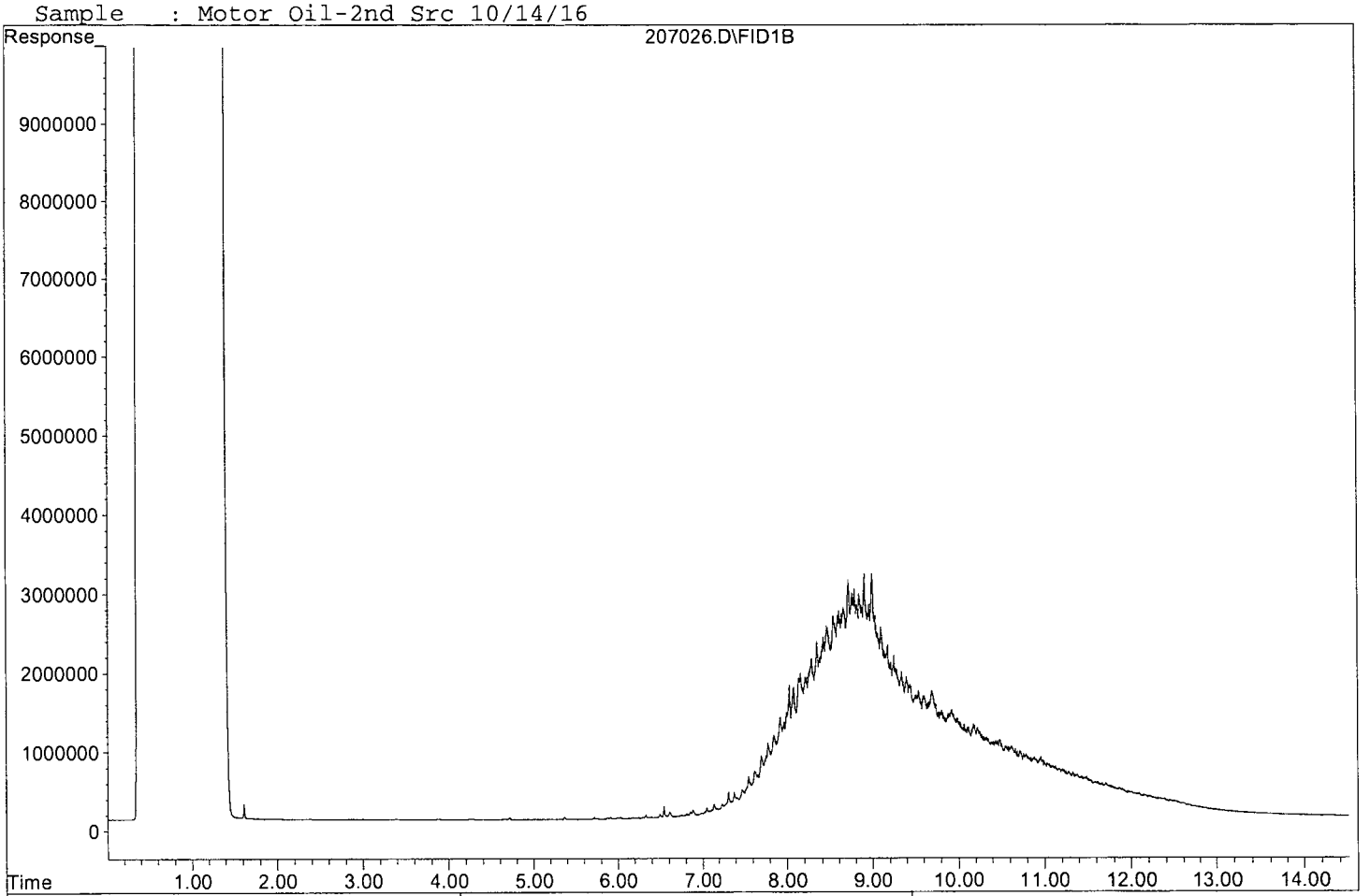
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

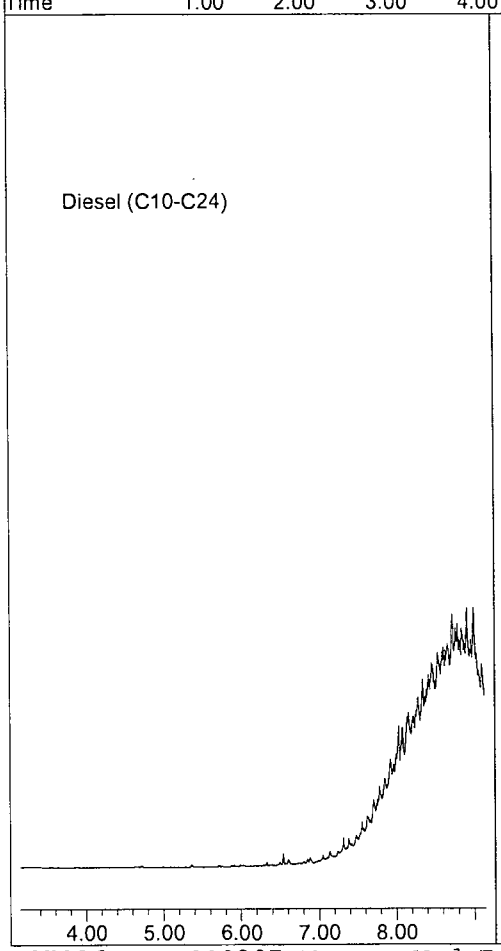
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

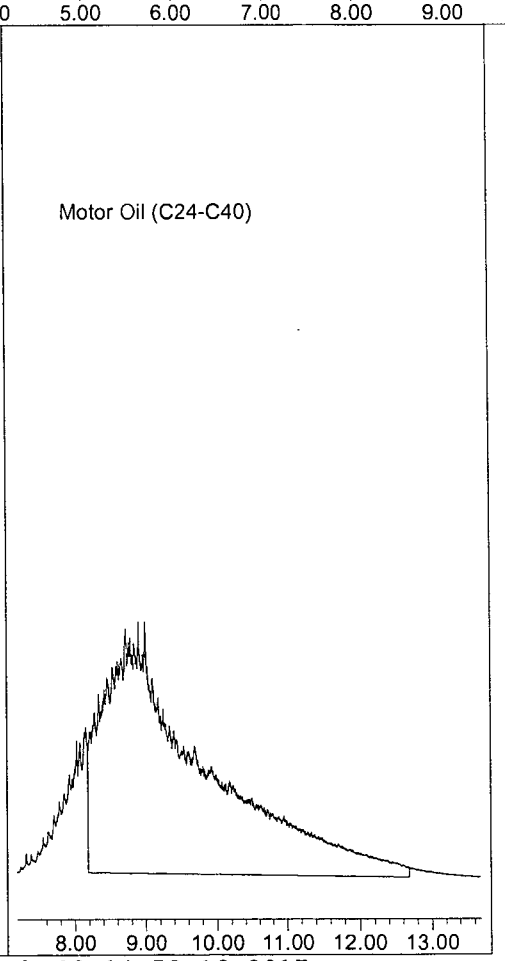
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216002,4.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1647860	0.88	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1301900	5.9	HBTM	
3							
4							
5							
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35							
36							
37							
38							
39							
40							
		Average			3.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216002.D Vial: 2
Acq On : 2-16-17 10:40:21 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:06 2017 Quant Results File: DOC0207.RES

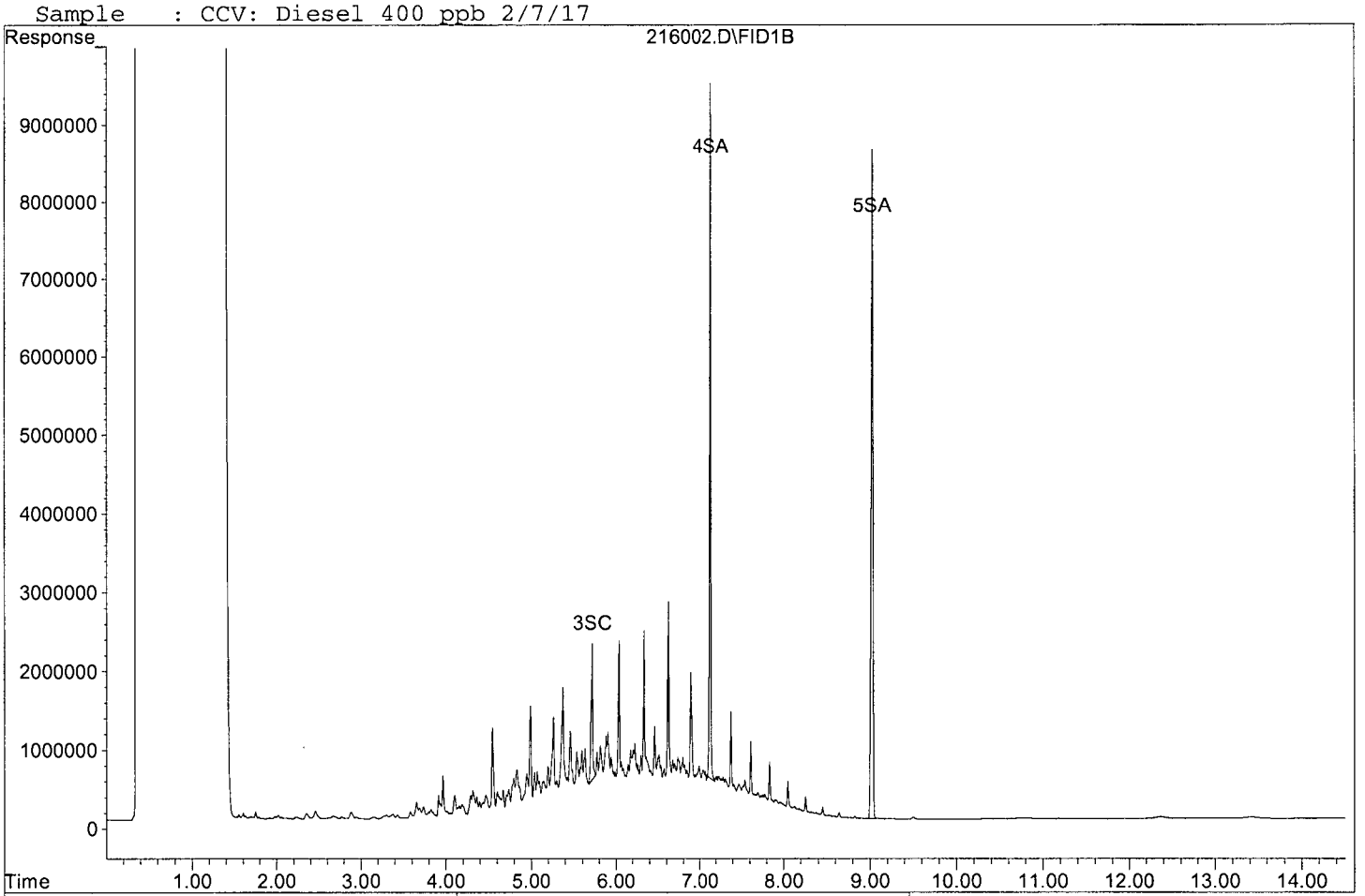
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

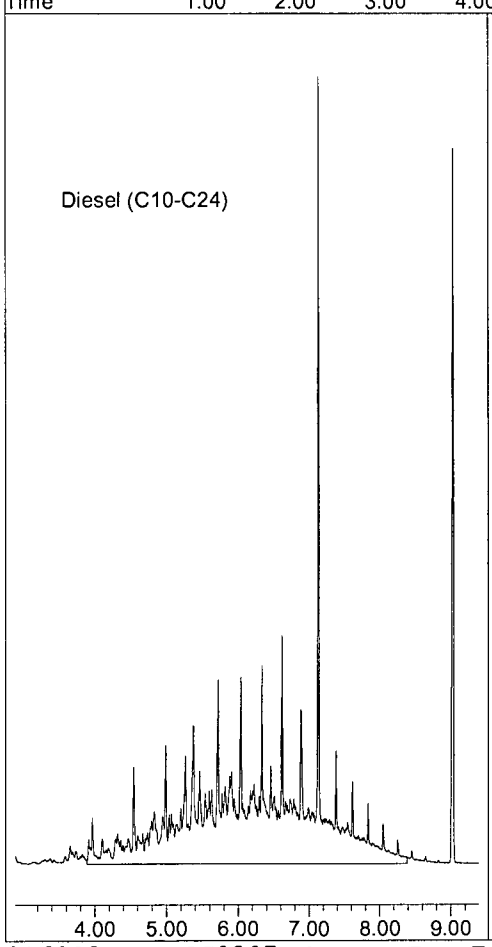
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

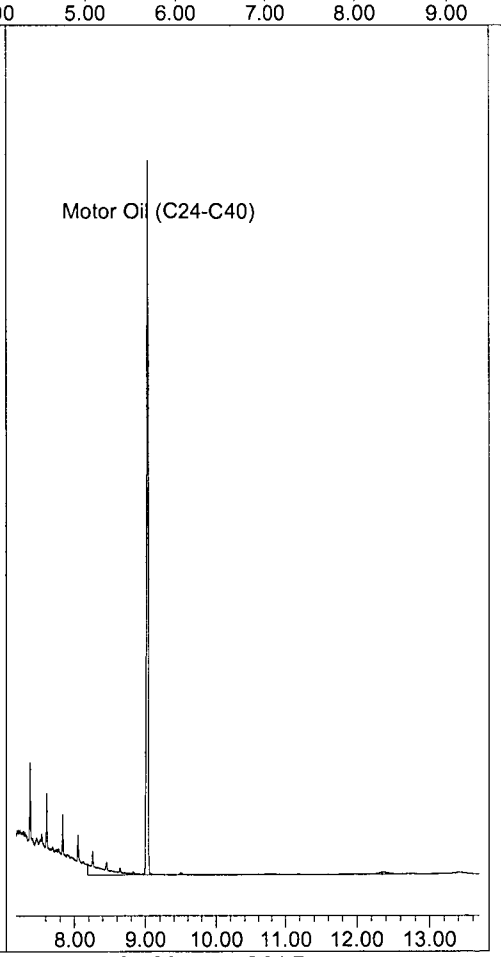
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22462013	18.364 ppb
Surrogate Spike 48.000		Recovery =	38.26%
4) SA Ortho-Terphenyl(S)	7.13	87261949	20.417 ppb
Surrogate Spike 30.000		Recovery =	68.06%
5) SA Octacosane(S)	9.03	124093987	19.761 ppb
Surrogate Spike 30.000		Recovery =	65.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1318285777	403.509 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36852242	14.989 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216002.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216004.D Vial: 4
Acq On : 2-16-17 11:21:15 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:37 2017 Quant Results File: DOC0207.RES

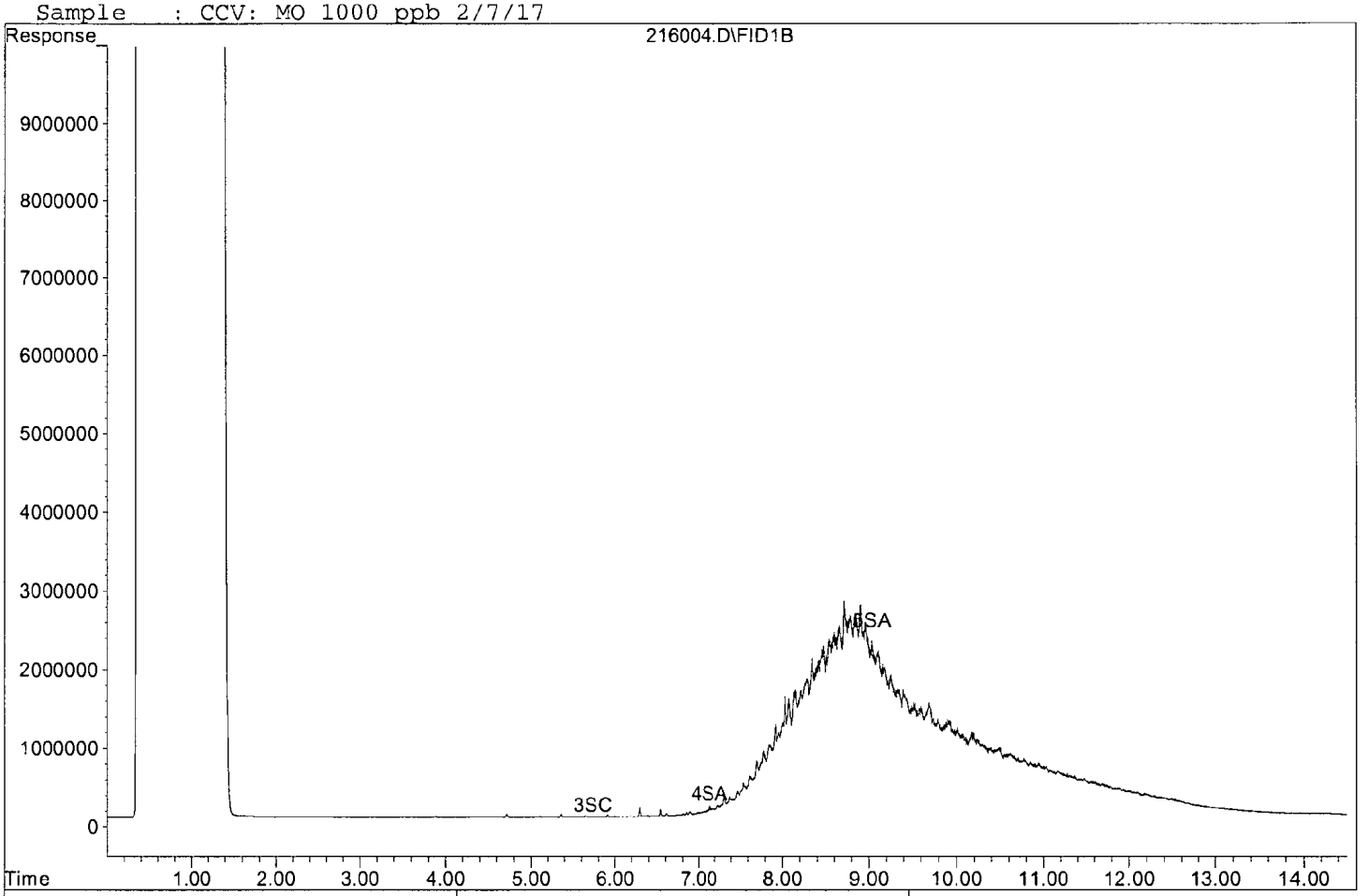
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

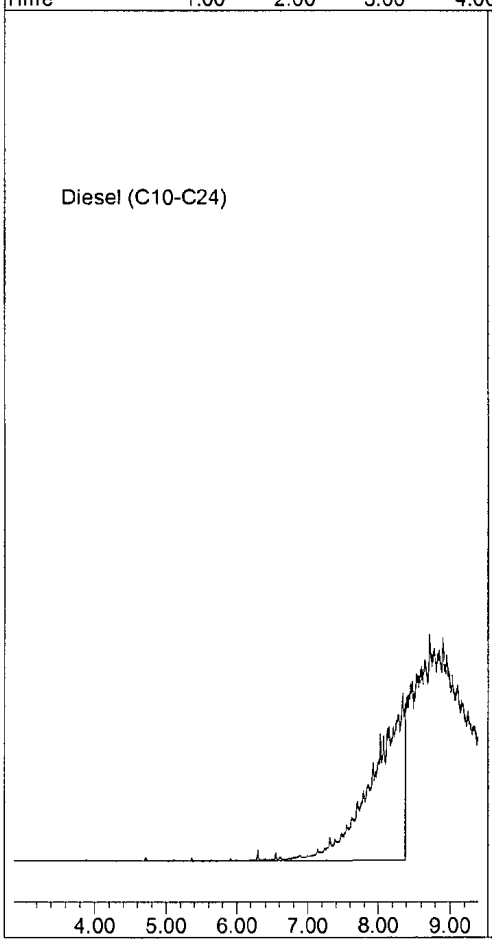
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

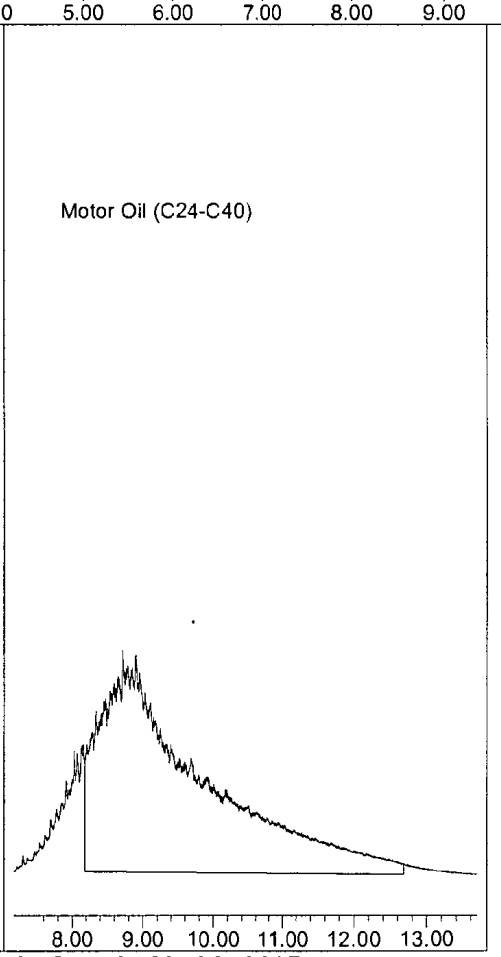
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	12881	0.011 ppb
Surrogate Spike 48.000		Recovery =	0.02%
4) SA Ortho-Terphenyl(S)	7.14	180189	0.042 ppb
Surrogate Spike 30.000		Recovery =	0.14%
5) SA Octacosane(S)	9.03	1595814	0.254 ppb
Surrogate Spike 30.000		Recovery =	0.85%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	620821202	190.025 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2603806075	1059.057 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216004.D
Sample : CCV: MO 1000 ppb 2/7/17







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216022-23.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1643380	0.60	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1258130	2.3	HBTM	
3							
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39							
40							
		Average			1.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216022.D Vial: 22
Acq On : 2-16-17 17:30:07 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:38 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

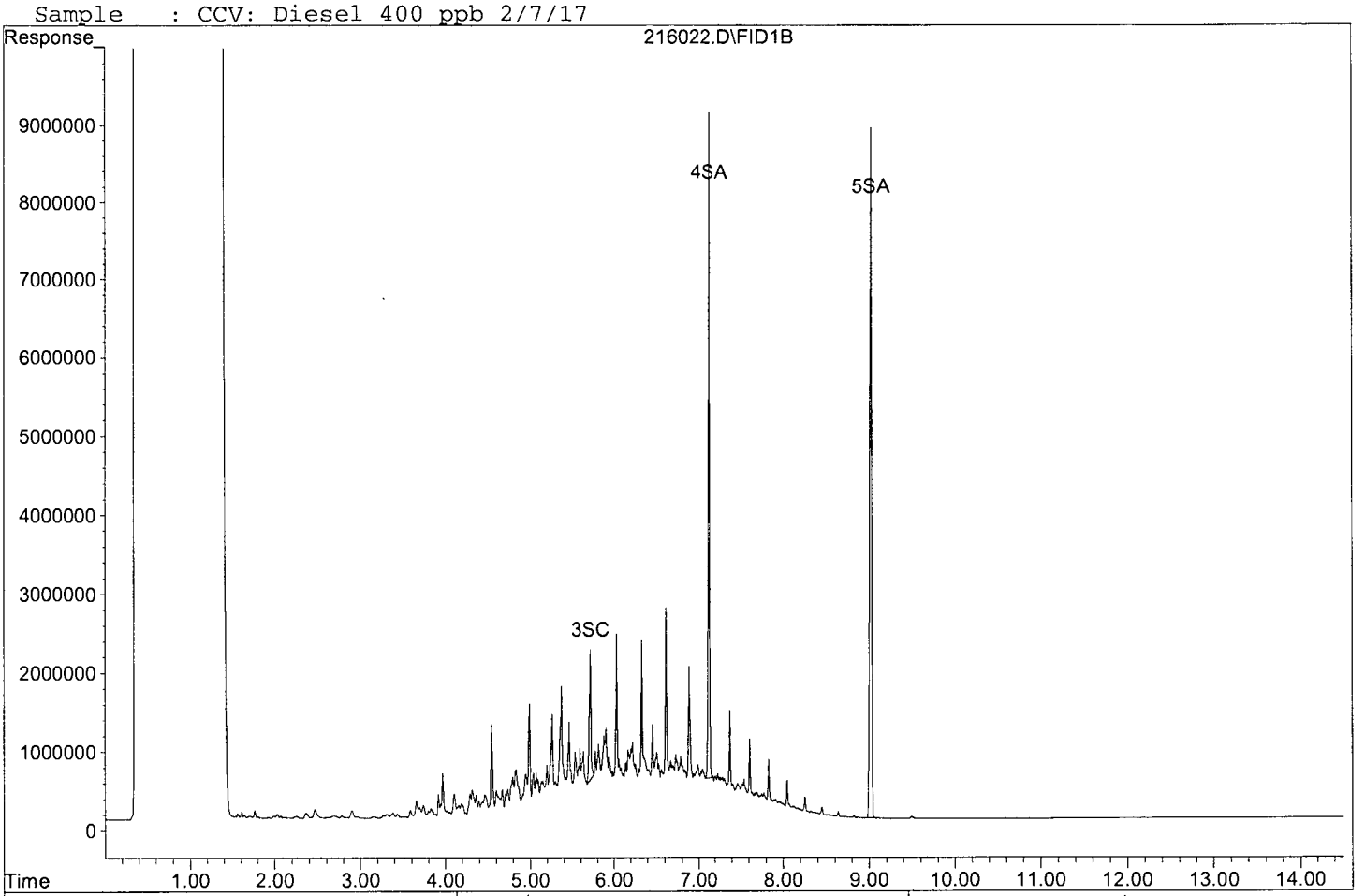
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

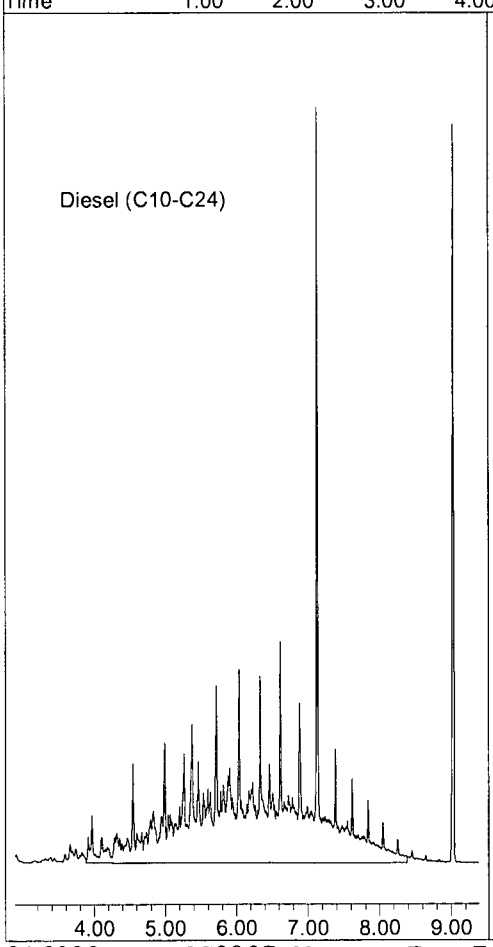
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22500276	18.395 ppb
Surrogate Spike 48.000		Recovery =	38.32%
4) SA Ortho-Terphenyl(S)	7.13	87697414	20.519 ppb
Surrogate Spike 30.000		Recovery =	68.40%
5) SA Octacosane(S)	9.03	125388623	19.967 ppb
Surrogate Spike 30.000		Recovery =	66.56%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1314706319	402.414 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36578514	14.878 ppb

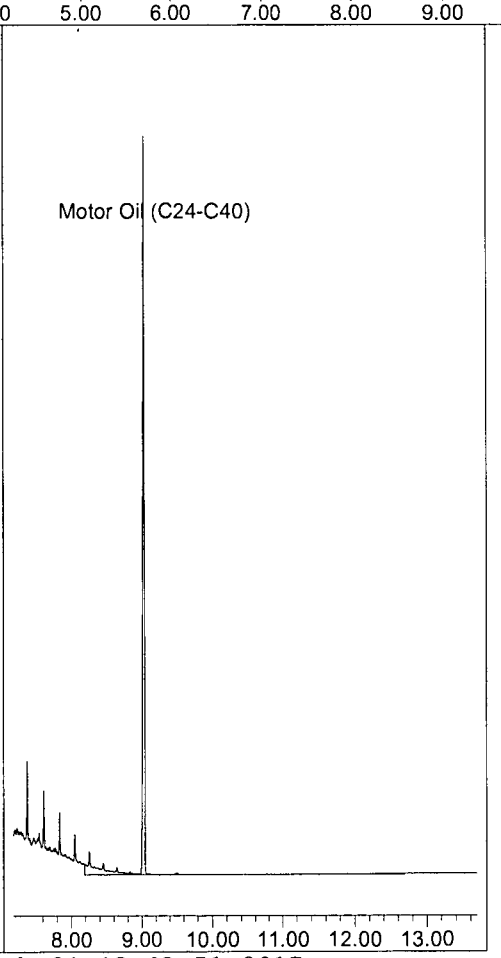
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170216\216022.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216023.D Vial: 23
Acq On : 2-16-17 17:50:31 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:39 2017 Quant Results File: DOC0207.RES

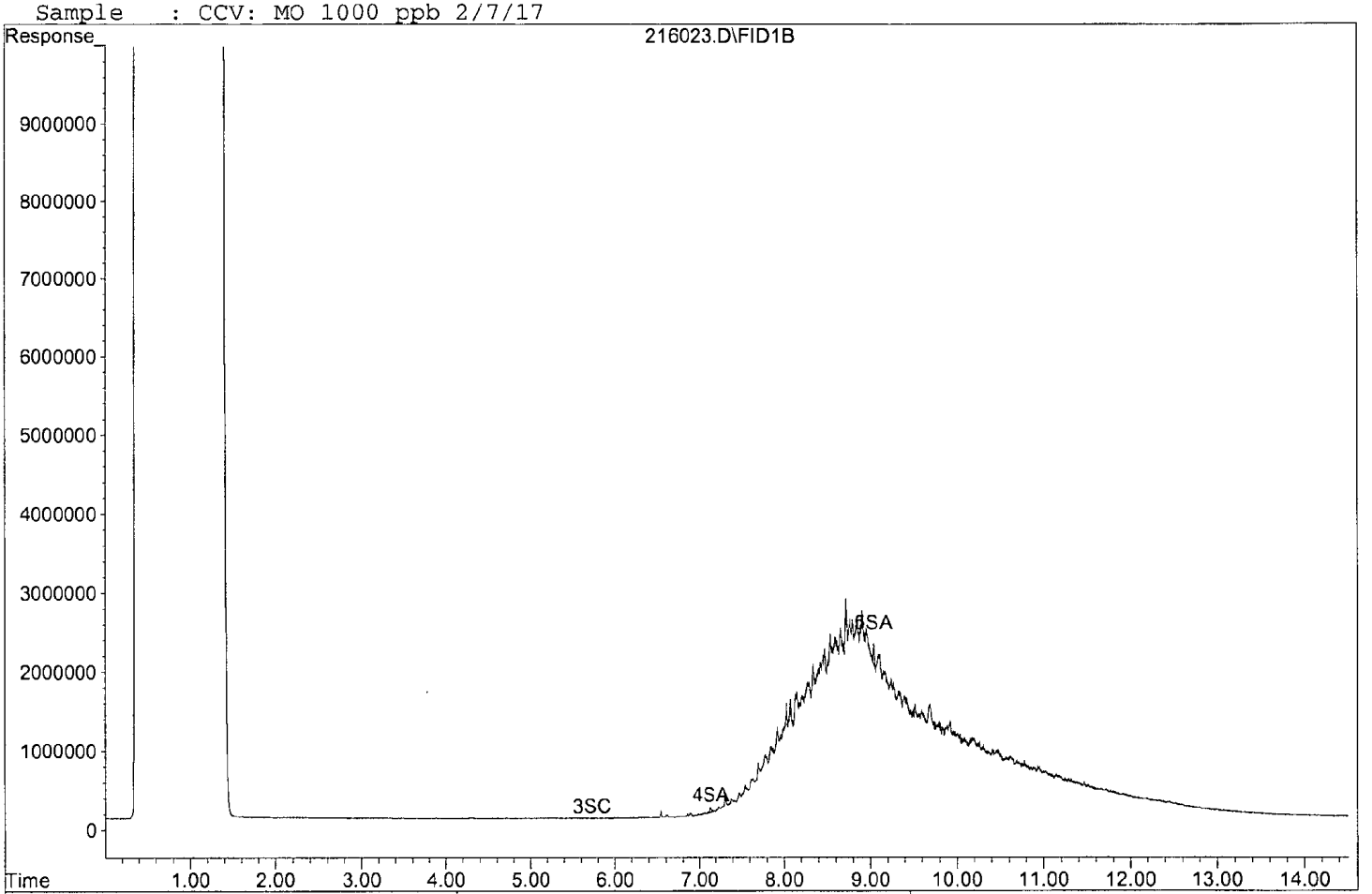
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

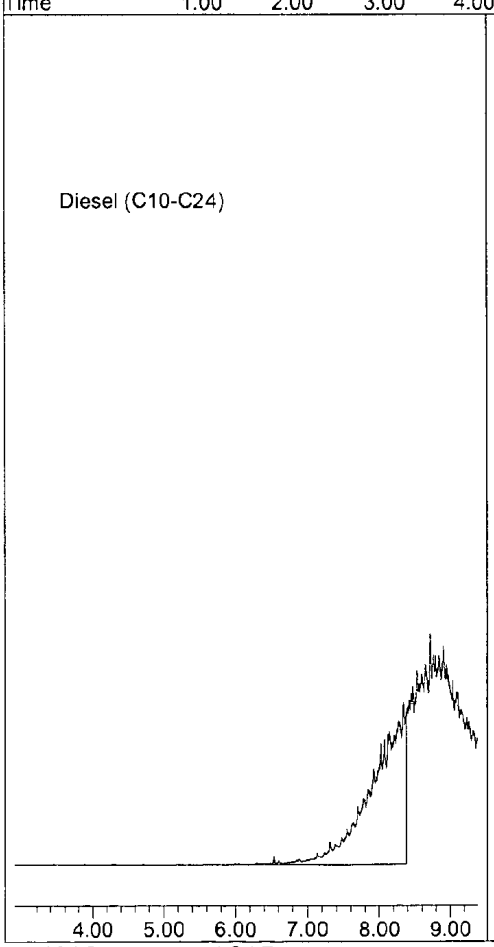
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

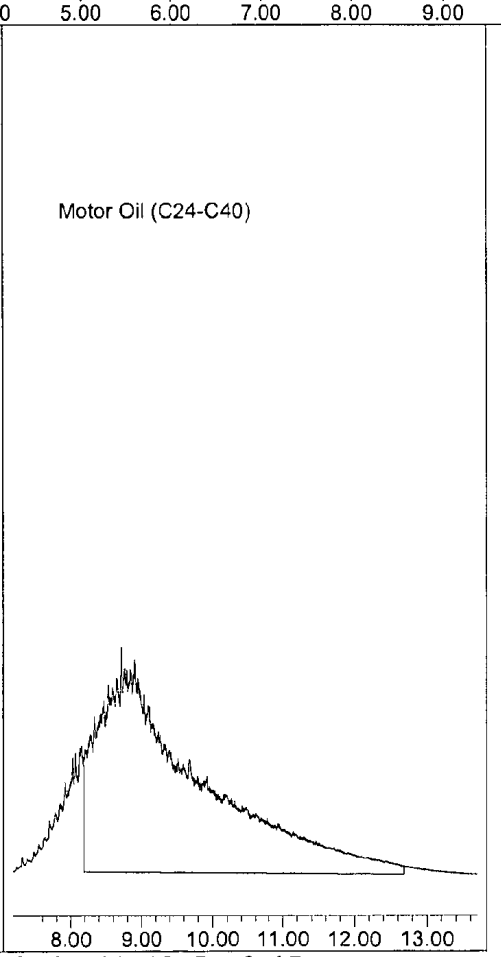
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	14683	0.012 ppb
Surrogate Spike 48.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.14	953097	0.223 ppb
Surrogate Spike 30.000		Recovery =	0.74%
5) SA Octacosane(S)	9.04	2452984	0.391 ppb
Surrogate Spike 30.000		Recovery =	1.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	605408844	185.307 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2516267178	1023.452 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216023.D
Sample : CCV: MO 1000 ppb 2/7/17







ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49739 - 216225**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216005
Instrument: Apollo
Sequence: 170216
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 2:11:43 PM

Quantitation Report (QT Reviewed)

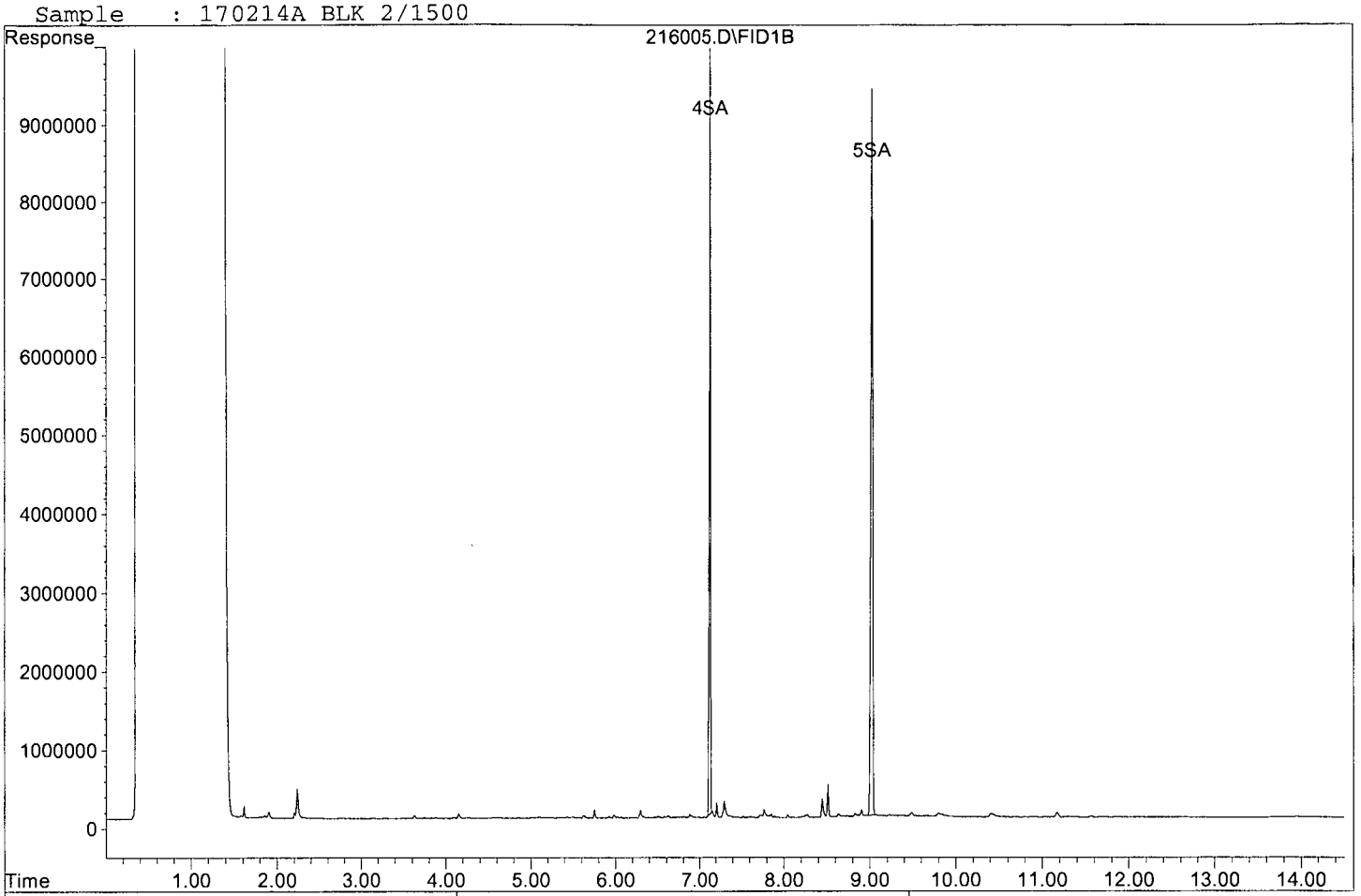
Data File : G:\APOLLO\DATA\170216\216005.D Vial: 5
Acq On : 2-16-17 11:41:39 Operator: DP
Sample : 170214A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 17:32 2017 Quant Results File: DOC0207.RES

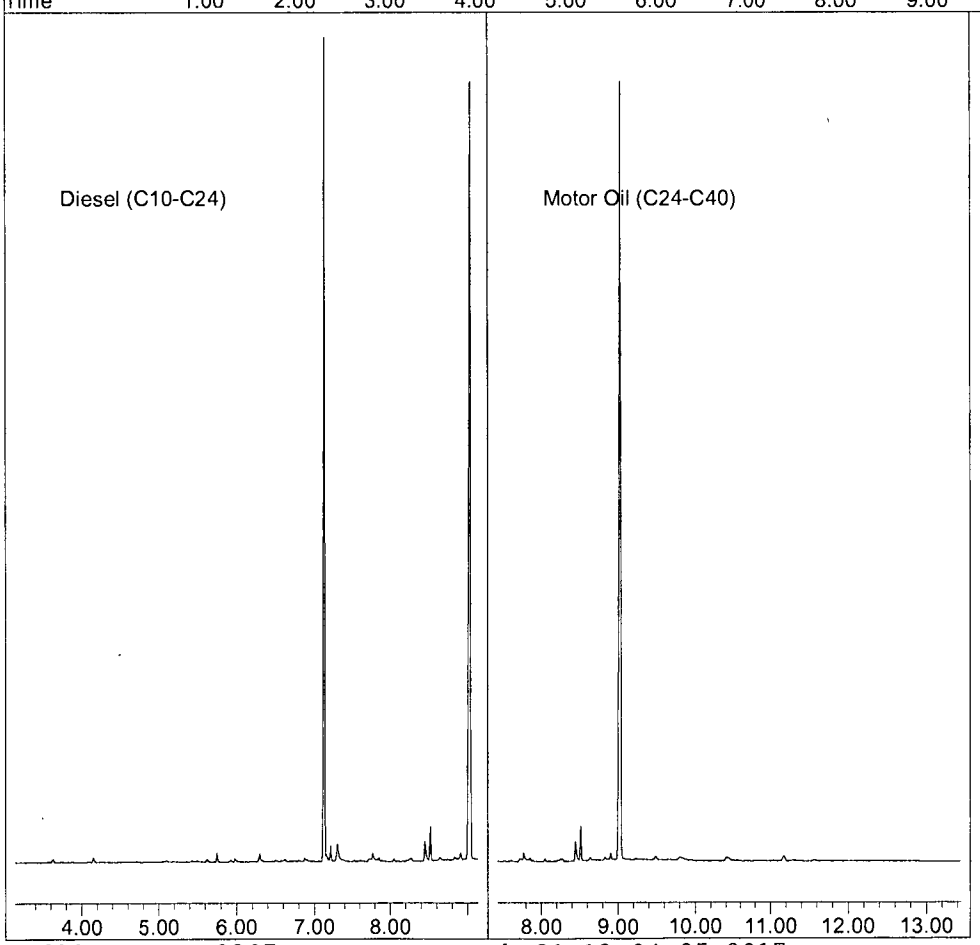
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97930880	30.551 ppb
Surrogate Spike 40.000		Recovery =	76.38%
5) SA Octacosane(S)	9.03	142544329	30.265 ppb
Surrogate Spike 40.000		Recovery =	75.66%
Target Compounds			

Data File: G:\APOLLO\DATA\170216\216005.D
Sample : 170214A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49739 LCS - 216225**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/16/17 2:11:37 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216006.D Vial: 6
Acq On : 2-16-17 12:02:04 Operator: DP
Sample : 170214A LCS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:58 2017 Quant Results File: DOC0207.RES

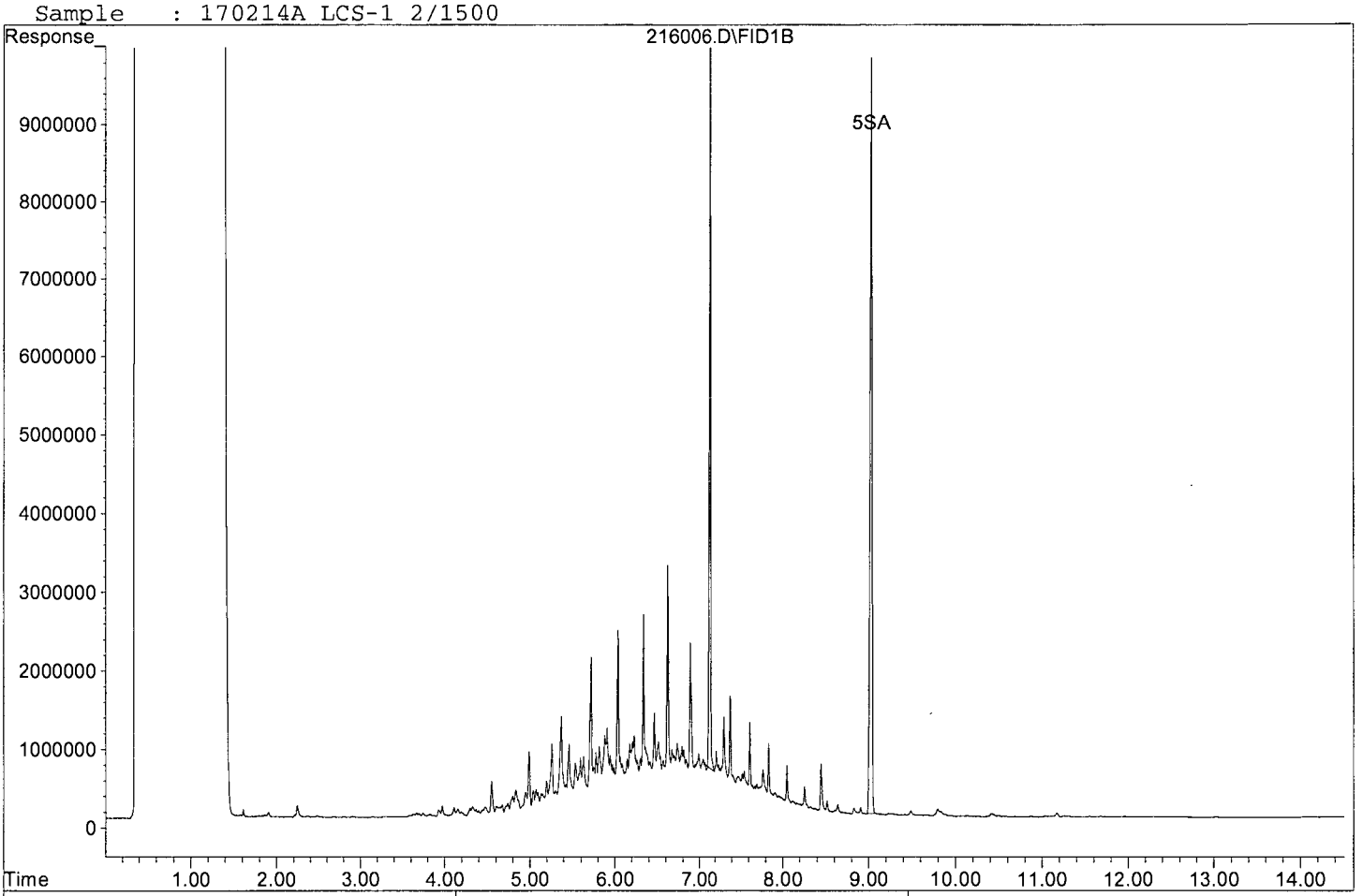
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

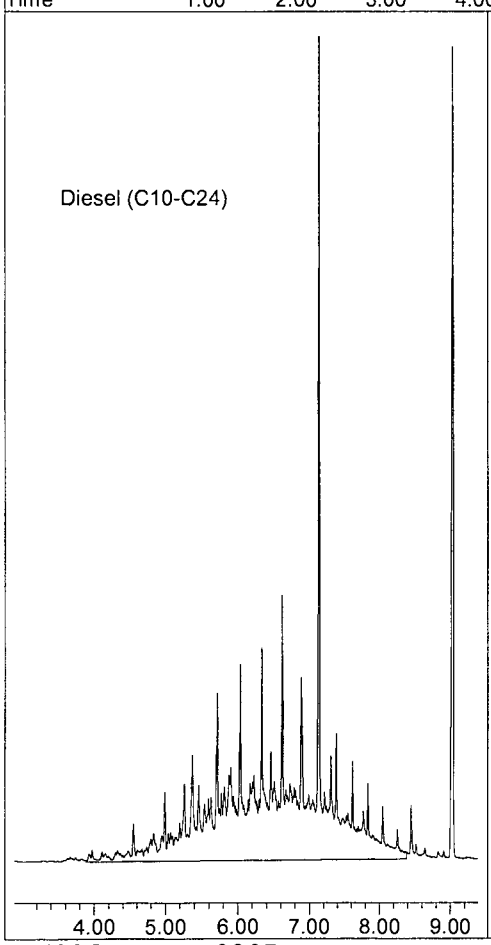
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

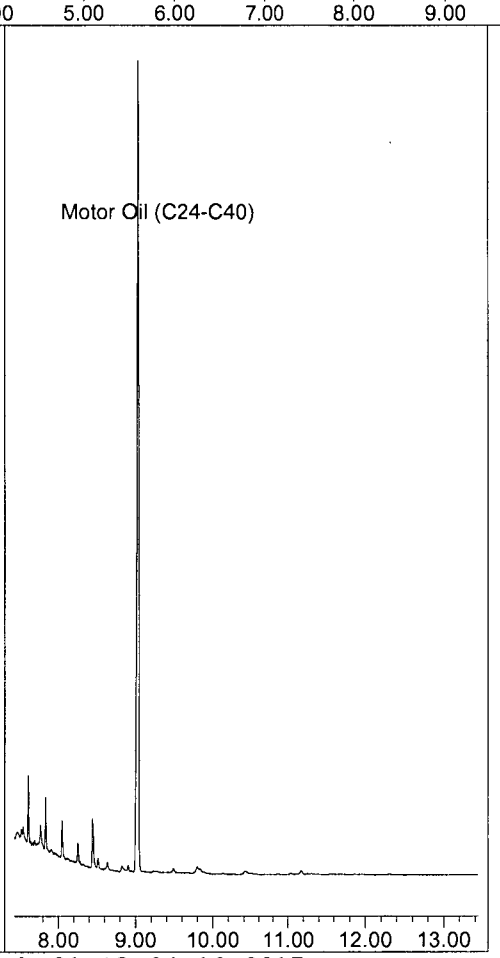
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	120559364	37.610 ppb
Surrogate Spike 40.000		Recovery =	94.03%
5) SA Octacosane(S)	9.03	151038021	32.068 ppb
Surrogate Spike 40.000		Recovery =	80.17%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1251062370	510.576 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216006.D
Sample : 170214A LCS-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216007.D Vial: 7
Acq On : 2-16-17 12:22:30 Operator: DP
Sample : 170214A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:59 2017 Quant Results File: DOC0207.RES

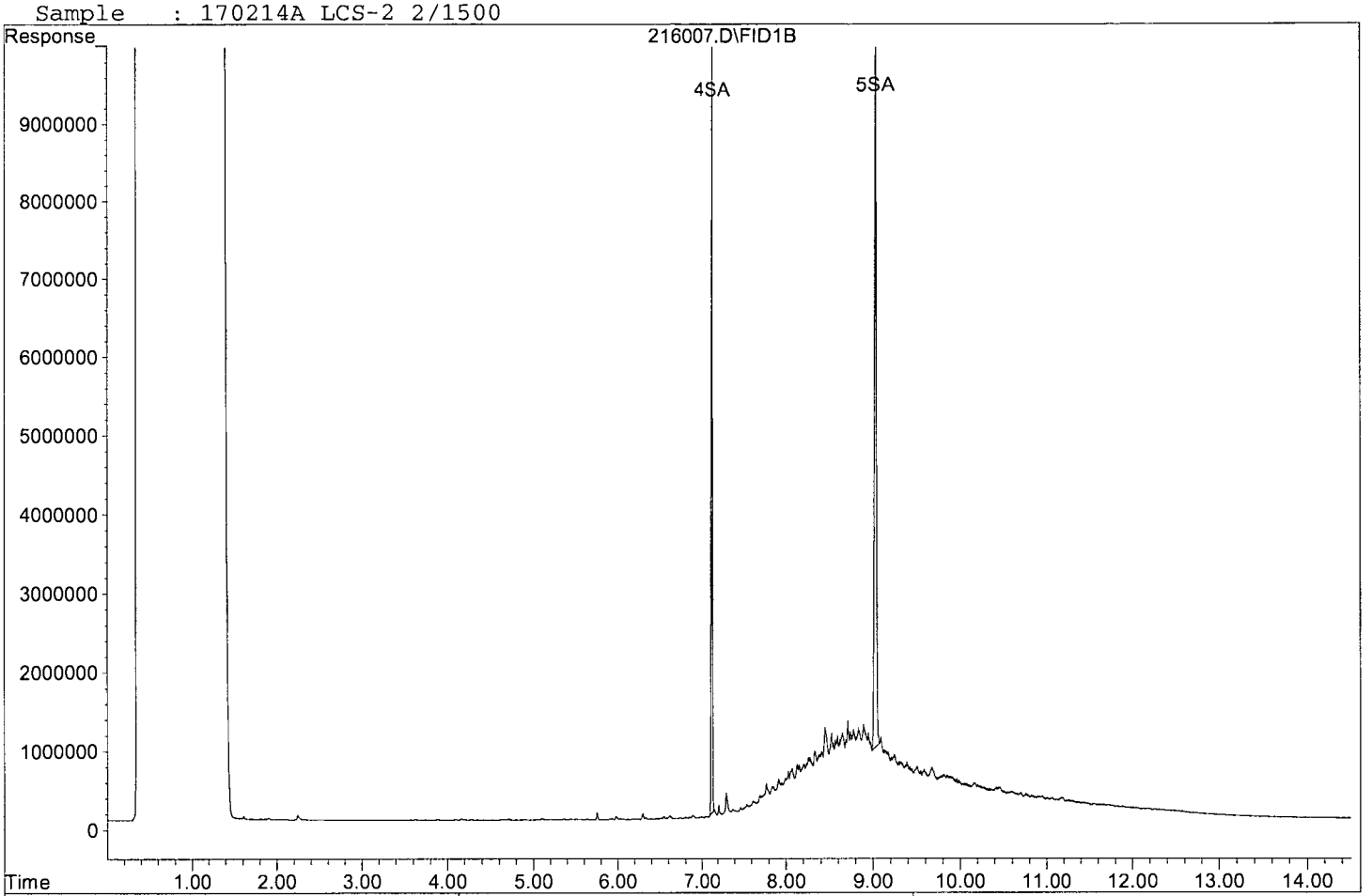
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

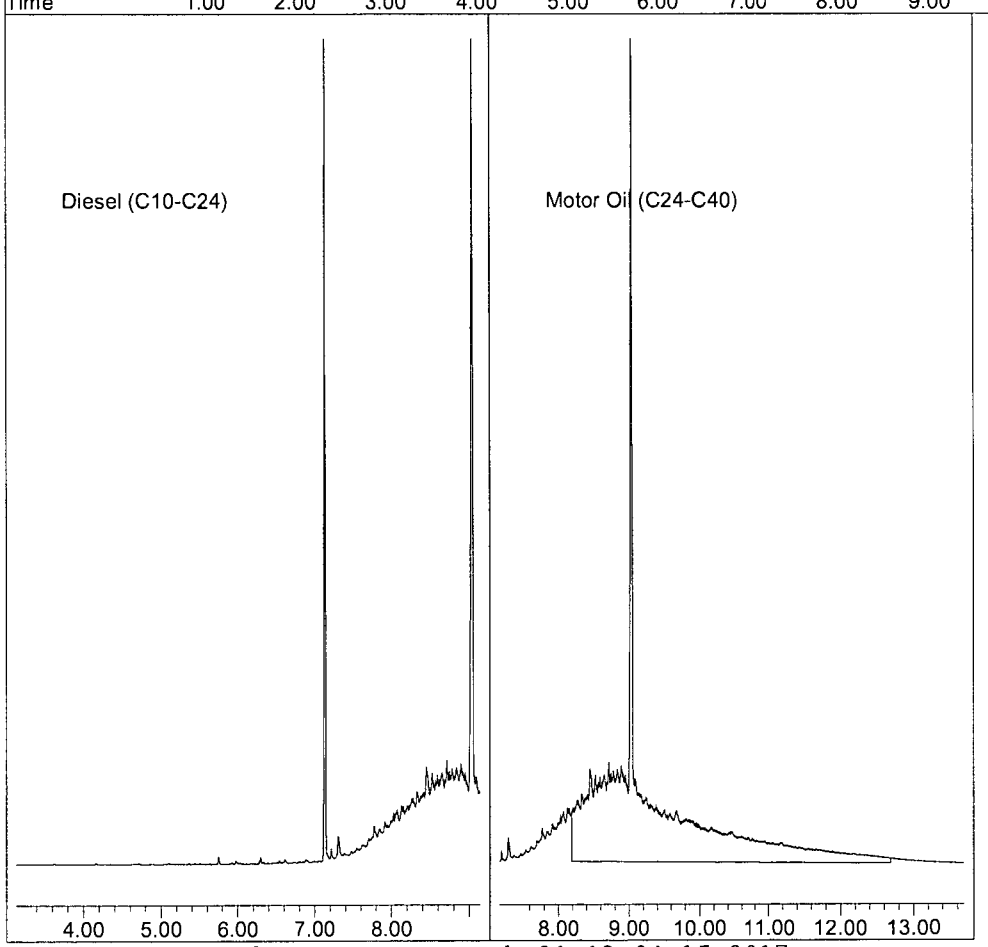
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	98040201	30.585 ppb
Surrogate Spike 40.000		Recovery =	76.46%
5) SA Octacosane(S)	9.04	139797812	29.682 ppb
Surrogate Spike 40.000		Recovery =	74.21%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1128080431	611.770 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216007.D
Sample : 170214A LCS-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	**[µg/mL]**	**LOT #**	**DATE**	**EXP. DATE**	**µL**	**µL**	**µL**	**µL**	**µL**	**µL**
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 02/07/17-D.P. Ex: 02/07/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	02/07/18				

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

Diesel Spike	
Cat:	011598-03
Lot:	280736-37352
Op:	01/19/17-D.P.
Exp:	01/19/18

THC Surrogate	
Cat:	110316-05
Lot:	295677-37411
Op:	02/07/17-D.P.
Exp:	02/07/18

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CCV 1000ppb						
Prep: 02/07/17-D.P. Ex: 11/09/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	2500µL	5mL	1000 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	11/09/17				

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34446
Op: 02/07/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/16/17 9:45	
			GC Requires Extract By:	02/16/17 0:00	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	
2	170214A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	
3	170214A LCS-2		0.020	2	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	
4	AZ49739	AZ49739W09			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W12			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W09			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W06			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
8	AZ49853 MS-1	AZ49853W39	0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
9	AZ49853 MSD-1	AZ49853W27	0.020	1	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
10	AZ49853 MS-2	AZ49853W36	0.020	2	0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
11	AZ49853 MSD-2	AZ49853W29	0.020	2	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
12	AZ49853	AZ49853W34			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
13	AZ49854	AZ49854W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
14	AZ49855	AZ49855W13			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
15	AZ49857	AZ49857W13			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
16	AZ49860	AZ49860W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82146 RUSH 1 WEEK

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/16/17
Time	10:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: [illegible] **Date** 2/16/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/16/17 9:45	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49862	AZ49862W11			0.1	1	1500	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB2				

pr 2/16/17

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: [illegible] **Date** 2/16/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	216002.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 10:40:21
16	4	216004.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 11:21:15
17	5	216005.D	1.33333	170214A BLK 2/1500	water	2-16-17 11:41:39
18	6	216006.D	1.33333	170214A LCS-1 2/1500	water	2-16-17 12:02:04
19	7	216007.D	1.33333	170214A LCS-2 2/1500	water	2-16-17 12:22:30
20	8	216008.D	1.33333	AZ49739W09 2/1500	water	2-16-17 12:42:55
21	9	216009.D	1.33333	AZ49741W12 2/1500	water	2-16-17 13:03:24
22	10	216010.D	1.33333	AZ49743W09 2/1500	water	2-16-17 13:23:50
23	11	216011.D	1.33333	AZ49744W06 2/1500	water	2-16-17 13:44:23
24	22	216022.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 17:30:07
25	23	216023.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 17:50:31

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49739 - 216249**
Batch ID: #SIMDO-170213A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:34:41 AM

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A-BLK	Blank	53-106	62.0		55-111	72.4	
170213A-LCS	Lab Control Spike	53-106	69.8		55-111	78.0	
AZ49739	ERH218	53-106	73.8		55-111	85.8	
AZ49741	ERH216	53-106	59.4		55-111	81.3	
AZ49743	ERH210	53-106	57.1		55-111	63.9	
AZ49744	ERH229	53-106	70.7		55-111	81.6	

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:34:39 AM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A-BLK	Blank	58-132	97.2				
170213A-LCS	Lab Control Spike	58-132	83.0				
AZ49739	ERH218	58-132	101				
AZ49741	ERH216	58-132	81.7				
AZ49743	ERH210	58-132	82.4				
AZ49744	ERH229	58-132	98.5				

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:34:39 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49739 LCS - 216249**
Batch ID: #SIMDO-170213A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
NAPHTHALENE	5.00	3.93	78.6	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Comments: _____

Printed: 02/17/17 9:34:32 AM
APPL Standard LCS

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER
Blank ID: 170213A-BLK

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 1938

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213A-BLK	Blank	0214L060	02/16/17 1938
170213A-LCS	Lab Control Spike	0214L061	02/16/17 2010
AZ49739	ERH218	0214L063	02/16/17 2116
AZ49741	ERH216	0214L064	02/16/17 2149
AZ49743	ERH210	0214L065	02/16/17 2221
AZ49744	ERH229	0214L066	02/16/17 2254

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:34:30 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82130
Date Analyzed: 02/14/17
Instrument: Linus
Time Analyzed: 18:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 02/14/17	0214L003.D	02/14/17 18:21
2		0.2 SIM 02/14/17	0214L004.D	02/14/17 18:53
3		0.5 SIM 02/14/17	0214L005.D	02/14/17 19:26
4		1.0 SIM 02/14/17	0214L006.D	02/14/17 19:59
5		5.0 SIM 02/14/17	0214L007.D	02/14/17 20:32
6		10 SIM 02/14/17	0214L008.D	02/14/17 21:04
7		50 SIM 02/14/17	0214L009.D	02/14/17 21:37
8		100 SIM 02/14/17	0214L010.D	02/14/17 22:10
9		SS SIM 02/14/17	0214L011.D	02/14/17 22:43
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	55.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	20.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	90.5
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	19.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82130
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 18:47

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L059.D	02/16/17 19:05
2	Blank	170213A BLK 1/1000	0214L060.D	02/16/17 19:38
3	Lab Control Spike	170213A LCS-1 1/1000	0214L061.D	02/16/17 20:10
4	ERH218	AZ49739W11 1/1020	0214L063.D	02/16/17 21:16
5	ERH216	AZ49741W14 1/1040	0214L064.D	02/16/17 21:49
6	ERH210	AZ49743W14 1/1030	0214L065.D	02/16/17 22:21
7	ERH229	AZ49744W09 1/980	0214L066.D	02/16/17 22:54
8		5.0 SIM 02/14/17	0214L080.D	02/17/17 6:00
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	54.0
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.5
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.9
442	40 - 150% of mass 198	56.9
443	17 - 23% of mass 442	19.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82130

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	23069	5.81	11695	7.86	22161	9.76
	UPPER LIMIT	46138	6.31	23390	8.36	44322	10.26
	LOWER LIMIT	11535	5.31	5848	7.36	11081	9.26
	SAMPLE NO.						
01	5.0 SIM 02/14/17	21152	5.81	10824	7.86	20561	9.76
02	170213A BLK 1/1000	23656	5.82	11886	7.86	22678	9.78
03	170213A LCS-1 1/1000	19357	5.82	10056	7.86	19690	9.76
04	AZ49739W11 1/1020	23197	5.82	11777	7.86	22458	9.78
05	AZ49741W14 1/1040	21597	5.79	10853	7.86	20473	9.76
06	AZ49743W14 1/1030	20590	5.82	10642	7.86	19840	9.78
07	AZ49744W09 1/980	23106	5.82	11937	7.86	22199	9.78
08	5.0 SIM 02/14/17	20943	5.81	10628	7.86	20527	9.76
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82130
Lab File ID (Standard): 0214L007.D
Date Analyzed: 02/14/17
Instrument ID: Linus
Time Analyzed: 20:32
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)					
		AREA #	RT #	AREA #	RT #	AREA #	RT #		
	12 HOUR STD	26224	16.68	21900	20.45				
	UPPER LIMIT	52448	17.18	43800	20.95				
	LOWER LIMIT	13112	16.18	10950	19.95				
	SAMPLE NO.								
01	5.0 SIM 02/14/17	24824	16.68	20815	20.45				
02	170213A BLK 1/1000	26424	16.70	22321	20.48				
03	170213A LCS-1 1/1000	23632	16.68	19968	20.45				
04	AZ49739W11 1/1020	26274	16.70	22648	20.48				
05	AZ49741W14 1/1040	25580	16.69	22557	20.46				
06	AZ49743W14 1/1030	23976	16.71	20518	20.48				
07	AZ49744W09 1/980	26508	16.71	22712	20.47				
08	5.0 SIM 02/14/17	24802	16.67	20655	20.45				
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	73.8	53-106			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	85.8	55-111			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	101	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L063
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:34:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L063.D Vial: 63
Acq On : 16 Feb 17 21:16 Operator: MA
Sample : AZ49739W11 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23197	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11777	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	22458	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	26274	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.48	264	22648	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	14105	4.20687 ppb	-0.02
Spiked Amount 4.902			Recovery	= 85.823%	
7) Surrogate Recovery (FBP)	7.07	172	27301	3.61834 ppb	-0.01
Spiked Amount 4.902			Recovery	= 73.807%	
17) Surrogate Recovery (TPH)	13.69	244	40160	4.96217 ppb	-0.02
Spiked Amount 4.902			Recovery	= 101.225%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

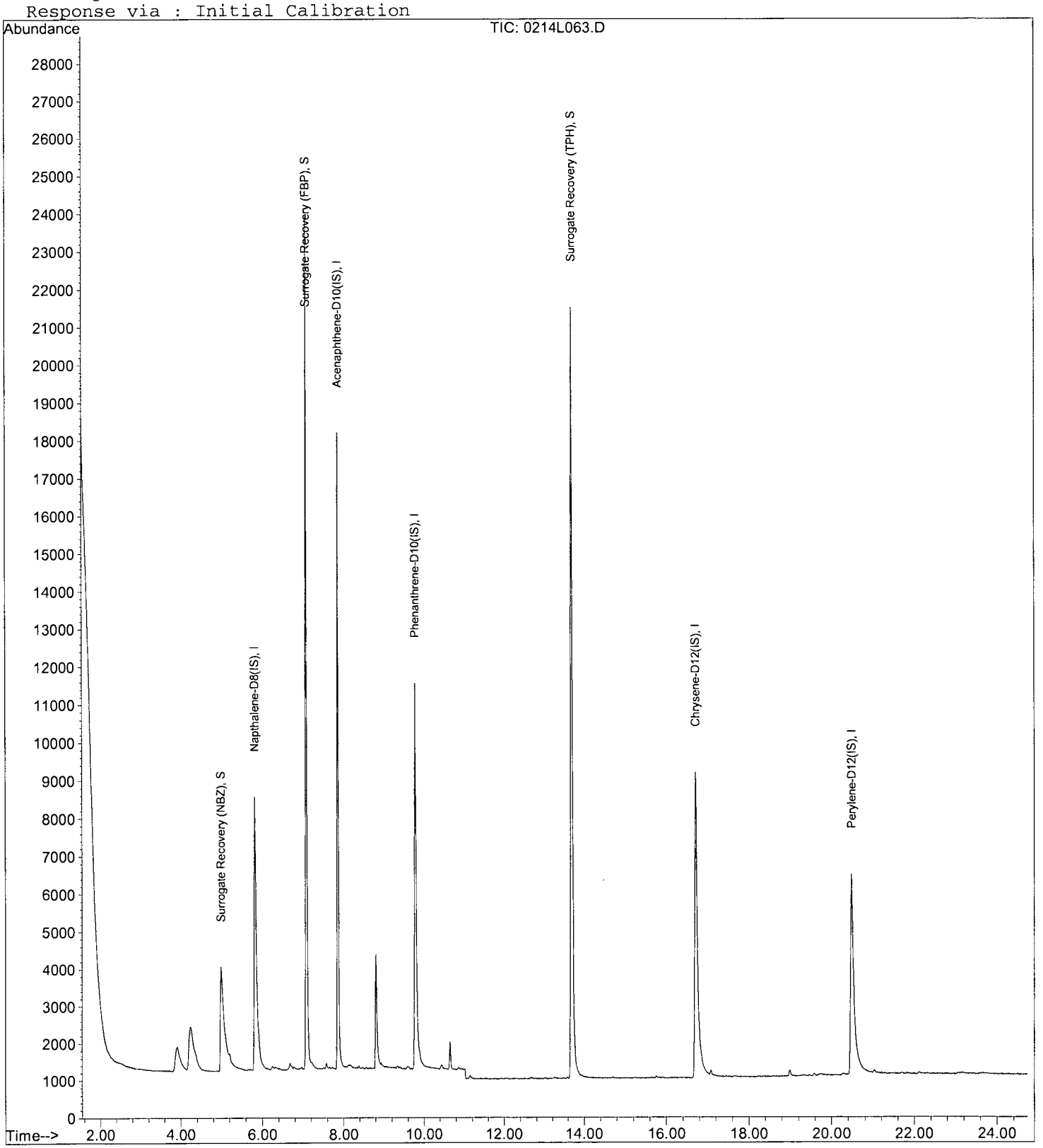
Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L063.D
Acq On : 16 Feb 17 21:16
Sample : AZ49739W11 1/1020
Misc : water

Vial: 63
Operator: MA
Inst : Linus
Multiplr: 0.98

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	22	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	16	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	NAPHTHALENE	57	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	59.4	53-106			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	81.3	55-111			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	81.7	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L064
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:34:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L064.D Vial: 64
Acq On : 16 Feb 17 21:49 Operator: MA
Sample : AZ49741W14 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 22 8:32 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	21597	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	10853	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20473	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25580	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22557	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	12385	3.91013 ppb	-0.02
Spiked Amount 4.808			Recovery	= 81.328%	
7) Surrogate Recovery (FBP)	7.07	172	20262	2.85803 ppb	-0.01
Spiked Amount 4.808			Recovery	= 59.446%	
17) Surrogate Recovery (TPH)	13.69	244	31569	3.92946 ppb	-0.02
Spiked Amount 4.808			Recovery	= 81.723%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	525367	56.98357 ppb	99
4) 2-Methylnaphthalene	6.64	142	85500	16.31125 ppb	93
5) 1-Methylnaphthalene	6.75	142	131622	22.29388 ppb	93

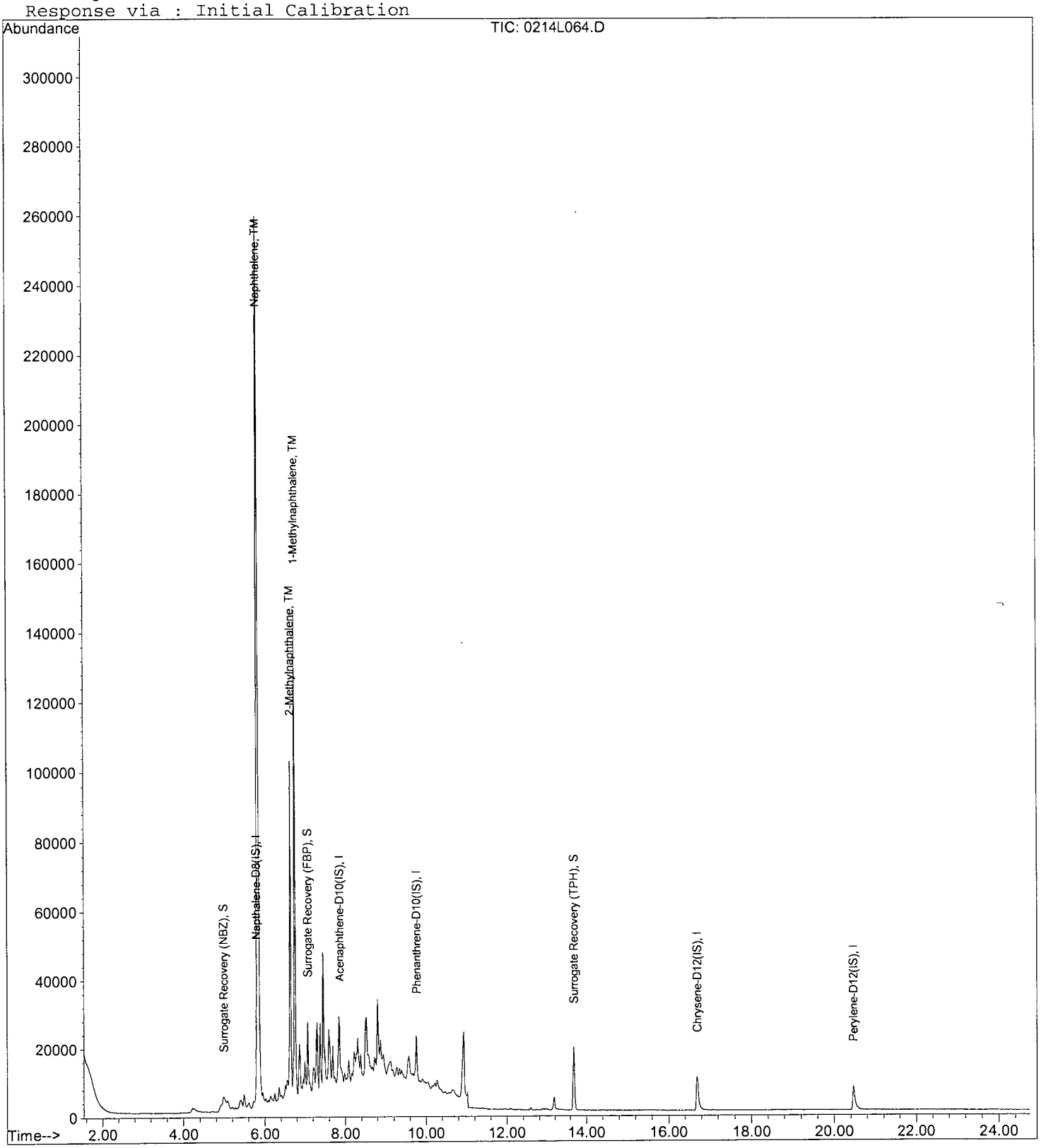
(#) = qualifier out of range (m) = manual integration

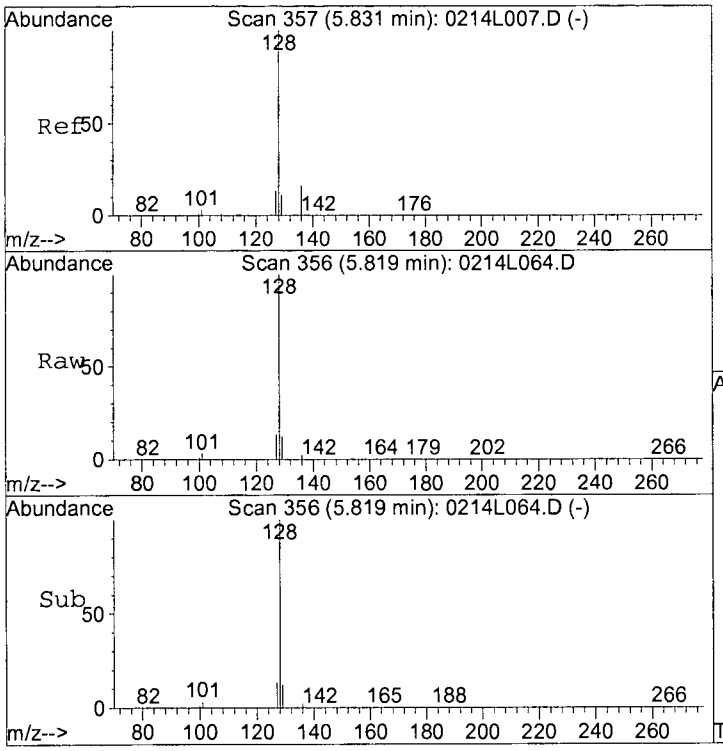
Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L064.D Vial: 64
Acq On : 16 Feb 17 21:49 Operator: MA
Sample : AZ49741W14 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 22 8:32 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration

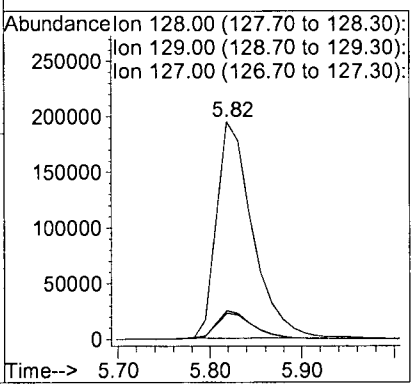


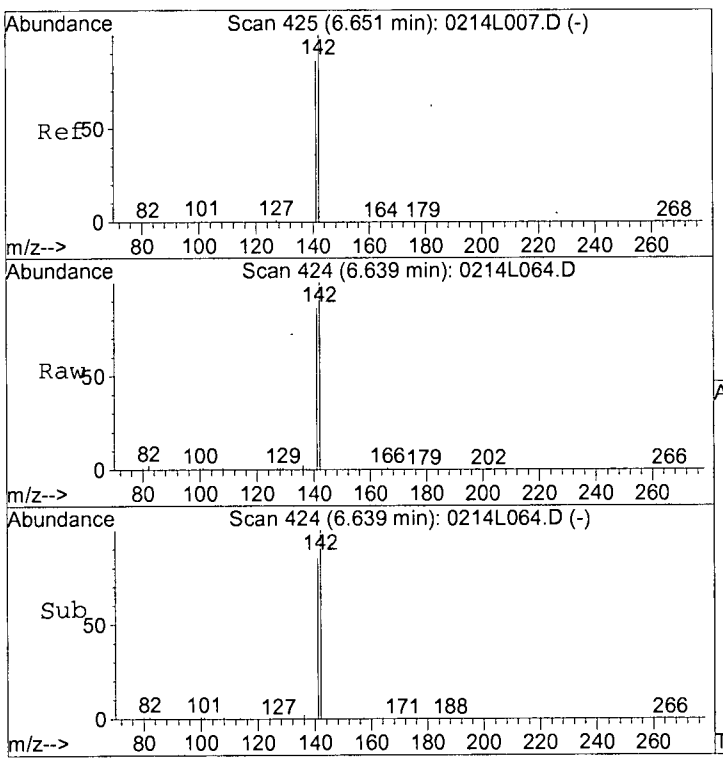


#3
Naphthalene
Concen: 56.98357 ppb
RT: 5.82 min Scan# 356
Delta R.T. -0.01 min
Lab File: 0214L064.D
Acq: 16 Feb 17 21:49

Tgt Ion:128 Resp: 525367

Ion	Ratio	Lower	Upper
128	100		
129	11.8	7.7	14.3
127	13.1	9.0	16.6

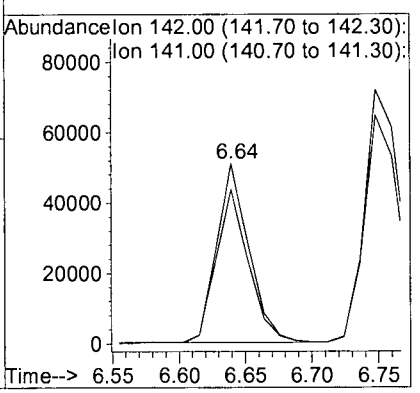


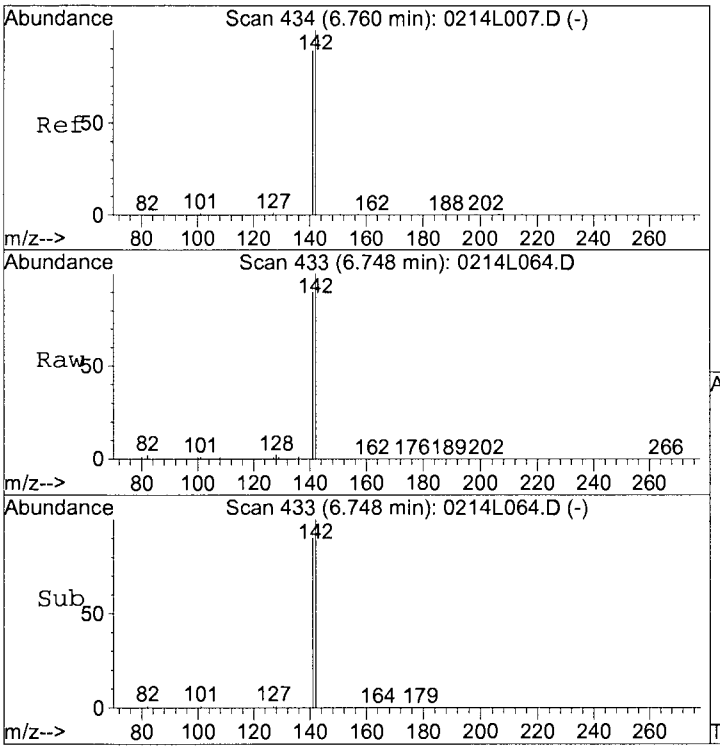


#4
2-Methylnaphthalene
Concen: 16.31125 ppb
RT: 6.64 min Scan# 424
Delta R.T. -0.01 min
Lab File: 0214L064.D
Acq: 16 Feb 17 21:49

Tgt Ion:142 Resp: 85500

Ion	Ratio	Lower	Upper
142	100		
141	85.3	64.3	119.5

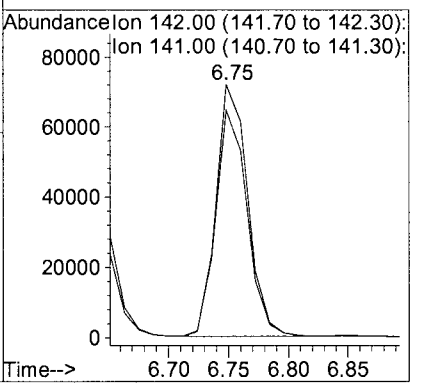




#5
1-Methylnaphthalene
Concen: 22.29388 ppb
RT: 6.75 min Scan# 433
Delta R.T. -0.07 min
Lab File: 0214L064.D
Acq: 16 Feb 17 21:49

Tgt Ion:142 Resp: 131622

Ion	Ratio	Lower	Upper
142	100		
141	89.7	58.3	108.3



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	57.1	53-106			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	63.9	55-111			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	82.4	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L065
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:34:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L065.D Vial: 65
Acq On : 16 Feb 17 22:21 Operator: MA
Sample : AZ49743W14 1/1030 Inst : Linus
Misc : water Multiplr: 0.97

Quant Time: Feb 17 8:23 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	20590	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	10642	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	19840	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23976	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	20518	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	9047	3.10337 ppb	-0.01
Spiked Amount 4.854			Recovery	= 63.922%	
7) Surrogate Recovery (FBP)	7.09	172	19085	2.77202 ppb	0.00
Spiked Amount 4.854			Recovery	= 57.103%	
17) Surrogate Recovery (TPH)	13.69	244	29841	4.00132 ppb	-0.02
Spiked Amount 4.854			Recovery	= 82.421%	

Target Compounds Qvalue

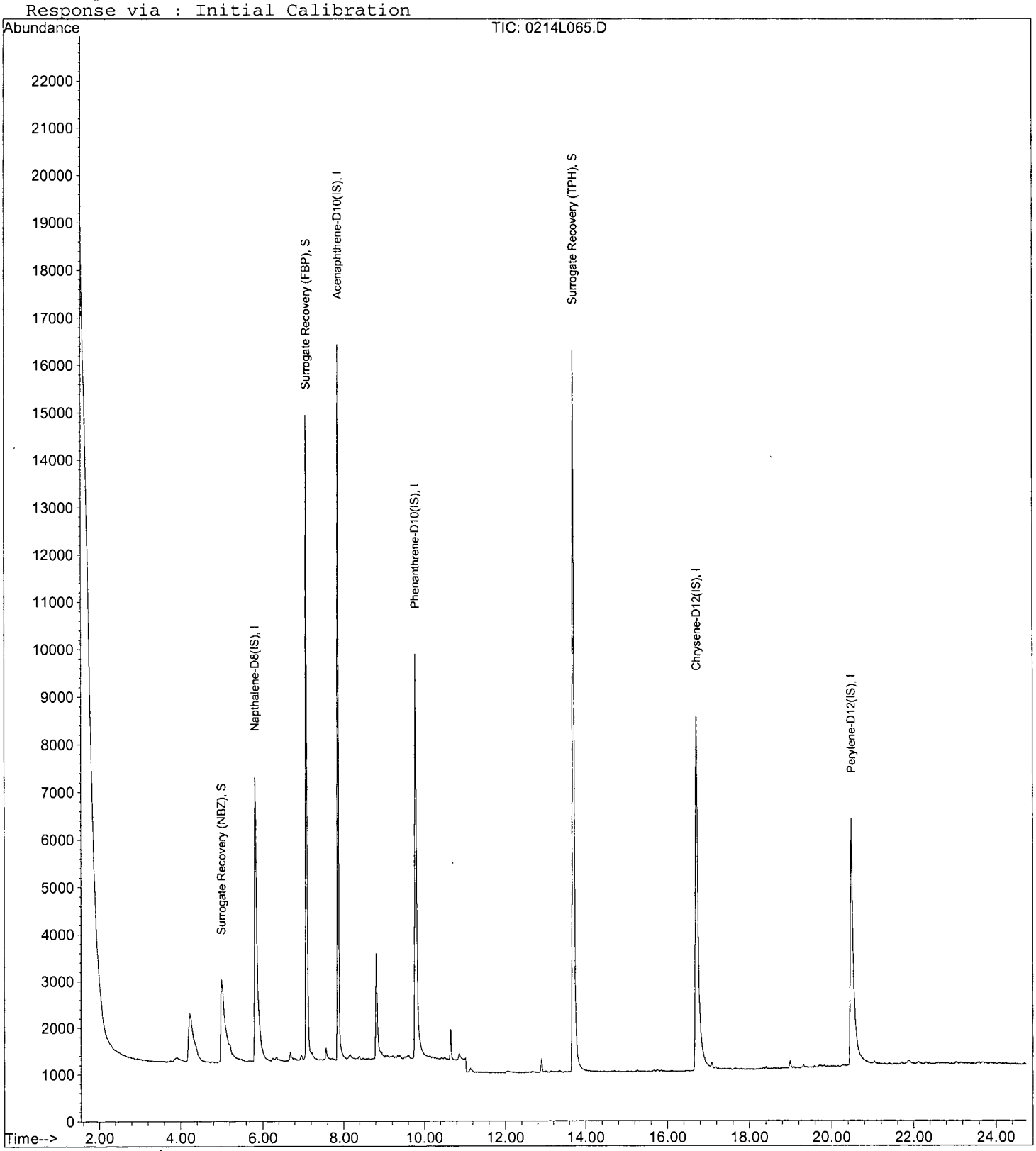
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L065.D Vial: 65
Acq On : 16 Feb 17 22:21 Operator: MA
Sample : AZ49743W14 1/1030 Inst : Linus
Misc : water Multiplr: 0.97

Quant Time: Feb 17 8:23 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	70.7	53-106			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	81.6	55-111			%	02/13/17	02/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	98.5	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L066
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:34:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L066.D Vial: 66
Acq On : 16 Feb 17 22:54 Operator: MA
Sample : AZ49744W09 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Feb 22 8:33 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23106	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11937	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	22199	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	26508	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.47	264	22712	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	13305	4.16518 ppb	-0.02
Spiked Amount 5.102			Recovery	= 81.634%	
7) Surrogate Recovery (FBP)	7.07	172	26487	3.60478 ppb	-0.01
Spiked Amount 5.102			Recovery	= 70.658%	
17) Surrogate Recovery (TPH)	13.69	244	39433	5.02647 ppb	-0.02
Spiked Amount 5.102			Recovery	= 98.510%	

Target Compounds Qvalue

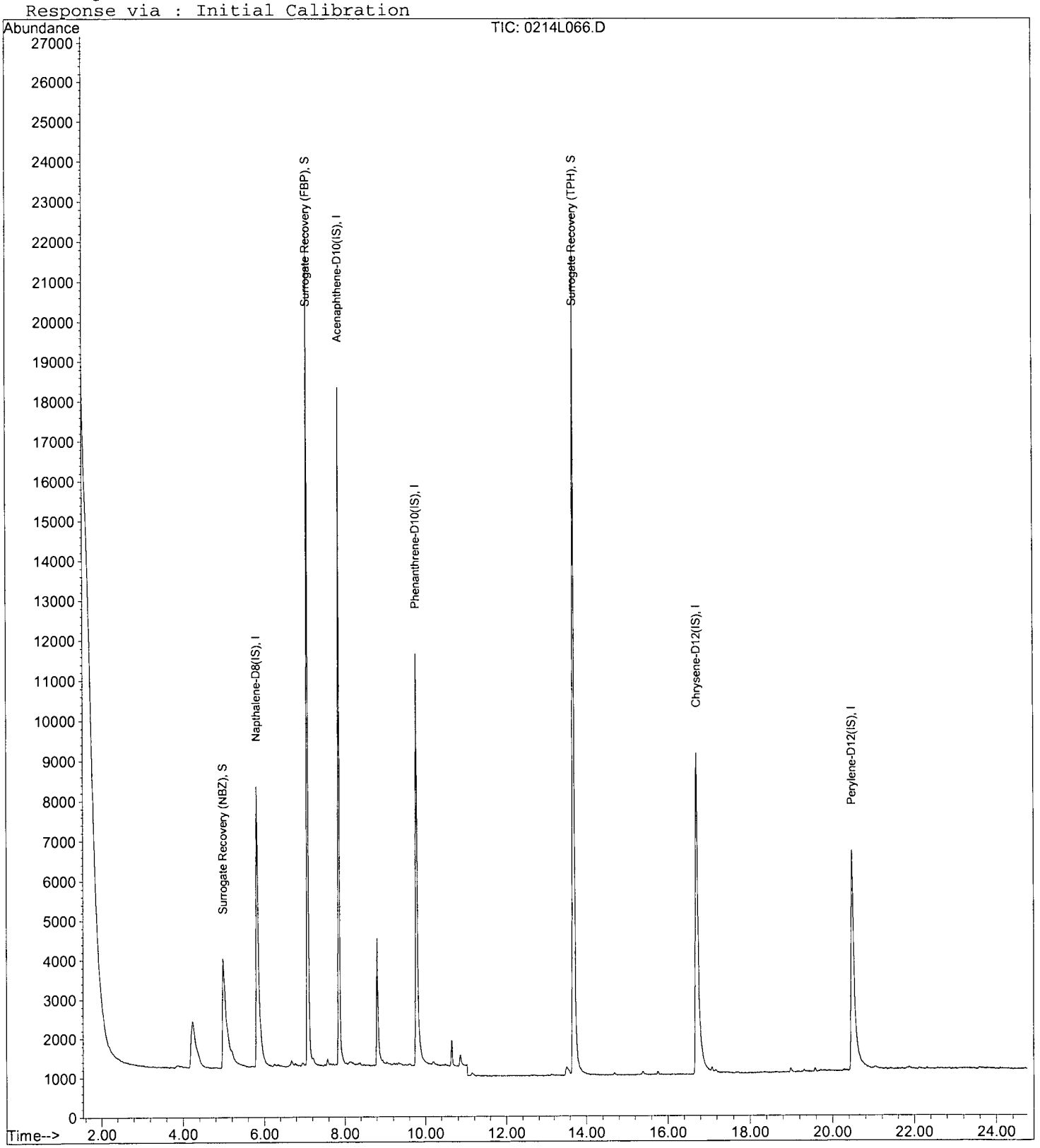
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L066.D Vial: 66
Acq On : 16 Feb 17 22:54 Operator: MA
Sample : AZ49744W09 1/980 Inst : Linus
Misc : water Multiplr: 1.02

Quant Time: Feb 22 8:33 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/14/17
Instrument: Linus

Initials:

		Compound	0214L003.D 0.1	0214L004.D 0.2	0214L005 D 0.5	0214L006.D 1	0214L007 D 5	0214L008.D 10	0214L009.D 50	0214L010.D 100			Avg	%RSD		
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1065	0.1124	0.3308	0.3451	0.3803	0.3826			0.28	47	SL	1.00
3	TM	Naphthalene	1.010	0.9921	1.051	1.049	1.145	1.023	0.9862	0.9552			1.0	5.6	TM	
4	TML	2-Methylnaphthalene	0.3818	0.3414	0.4333	0.4940	0.6571	0.6112	0.5897	0.5737			0.51	23	TML	1.000
5	TM	1-Methylnaphthalene	0.6460	0.7352	0.7366	0.7038	0.7151	0.6150	0.5591	0.5463			0.66	12	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.525	1.494	1.557	1.553	1.662	1.670	1.532	1.569			1.6	4.0	S	
8	TM	Acenaphthylene	1.854	1.724	1.848	1.857	2.240	2.044	1.955	1.990			1.9	8.1	TM	
9	*TM	Acenaphthene	1.348	1.229	1.242	1.174	1.337	1.184	1.114	0.9760			1.2	10	*TM	
10	TM	Fluorene	1.234	1.185	1.293	1.299	1.515	1.373	1.258	1.104			1.3	9.6	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	0.9312	0.8801	0.9506	0.9318	1.138	1.024	0.9566	0.8772			0.96	8.9	TM	
13	TML	Anthracene	0.6271	0.5685	0.7039	0.7224	1.053	0.9756	0.9420	0.8532			0.81	22	TML	0.998
14	*TM	Fluoranthene	1.214	1.140	1.272	1.339	1.734	1.522	1.584	1.620			1.4	15	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.165	1.145	1.316	1.320	1.529	1.408	1.373	1.336			1.3	9.4	TM	
17	S	Surrogate Recovery (TPH)	0.7005	0.7659	0.7652	0.7483	0.7646	0.7848	0.7431	0.7674			0.75	3.4	S	
18	TML	Benz (a) anthracene	0.6559	0.5630	0.6349	0.6981	0.9860	0.9808	1.134	1.151			0.85	28	TML	1.000
19	TM	Chrysene	0.8637	1.145	1.305	1.206	1.301	1.156	1.137	1.077			1.1	12	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.1599	0.1231	0.2623	0.3763	0.9521	0.8862	0.9905	0.9835			0.59	67	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.3826	0.3336	0.3580	0.5016	0.9666	1.008	1.232	1.129			0.74	51	TML	0.998
23	TML	Benzo (k) fluoranthene	0.5552	0.3119	0.3884	0.5739	0.5544	0.8217	1.000	0.9514			0.64	39	TML	0.999
24	*TML	Benzo (a) pyrene	0.4764	0.4873	0.5921	0.7416	1.181	1.178	1.160	1.087			0.86	37	*TML	0.999
25	TML	Dibenz (a,h) anthracene	0.1575	0.0332	0.0603	0.2698	0.8584	0.8479	0.9253	0.8745			0.50	81	TML	0.999
26	TML	Benzo (g,h,i) perylene	0.0675	0.0689	0.0747	0.2975	0.9588	0.8876	0.9566	0.8823			0.52	82	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L003.D
Acq On : 14 Feb 17 18:21
Sample : 0.1 SIM 02/14/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:12 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24883	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11407	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	20968	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22983	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19994	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.03	82	5	0.34644 ppb	0.02
Spiked Amount 5.000			Recovery	= 6.920%	
7) Surrogate Recovery (FBP)	7.13	172	348	0.04857 ppb	0.05
Spiked Amount 5.000			Recovery	= 0.980%	
17) Surrogate Recovery (TPH)	13.75	244	322	0.04639 ppb	0.04
Spiked Amount 5.000			Recovery	= 0.920%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	1005	0.09840 ppb		99
4) 2-Methylnaphthalene	6.75	142	380	-0.16530 ppb		92
5) 1-Methylnaphthalene	6.82	142	643	0.09831 ppb		90
8) Acenaphthylene	7.73	152	846	0.09562 ppb		97
9) Acenaphthene	7.91	154	615	0.11228 ppb		96
10) Fluorene	8.56	166	563	0.09620 ppb		96
12) Phenanthrene	9.82	178	781	0.09688 ppb		98
13) Anthracene	9.97	178	526	-0.56919 ppb		96
14) Fluoranthene	12.63	202	1018	0.08499 ppb		95
16) Pyrene	13.25	202	1071	0.08800 ppb		98
18) Benz (a) anthracene	16.70	228	603	0.56996 ppb	#	72
19) Chrysene	16.81	228	794	0.07518 ppb	#	78
20) Indeno (1,2,3-cd) pyrene	22.96	276	147	0.37977 ppb	#	95
22) Benzo (b) fluoranthene	19.65	252	306m	0.22445 ppb		51
23) Benzo (k) fluoranthene	19.72	252	444m	0.59738 ppb		51
24) Benzo (a) pyrene	20.37	252	381	-0.22318 ppb	#	83
25) Dibenz (a,h) anthracene	22.97	278	126	0.15329 ppb	#	38
26) Benzo (g,h,i) perylene	23.58	276	54	-0.07760 ppb	#	67

(#) = qualifier out of range (m) = manual integration

Quantitation Report

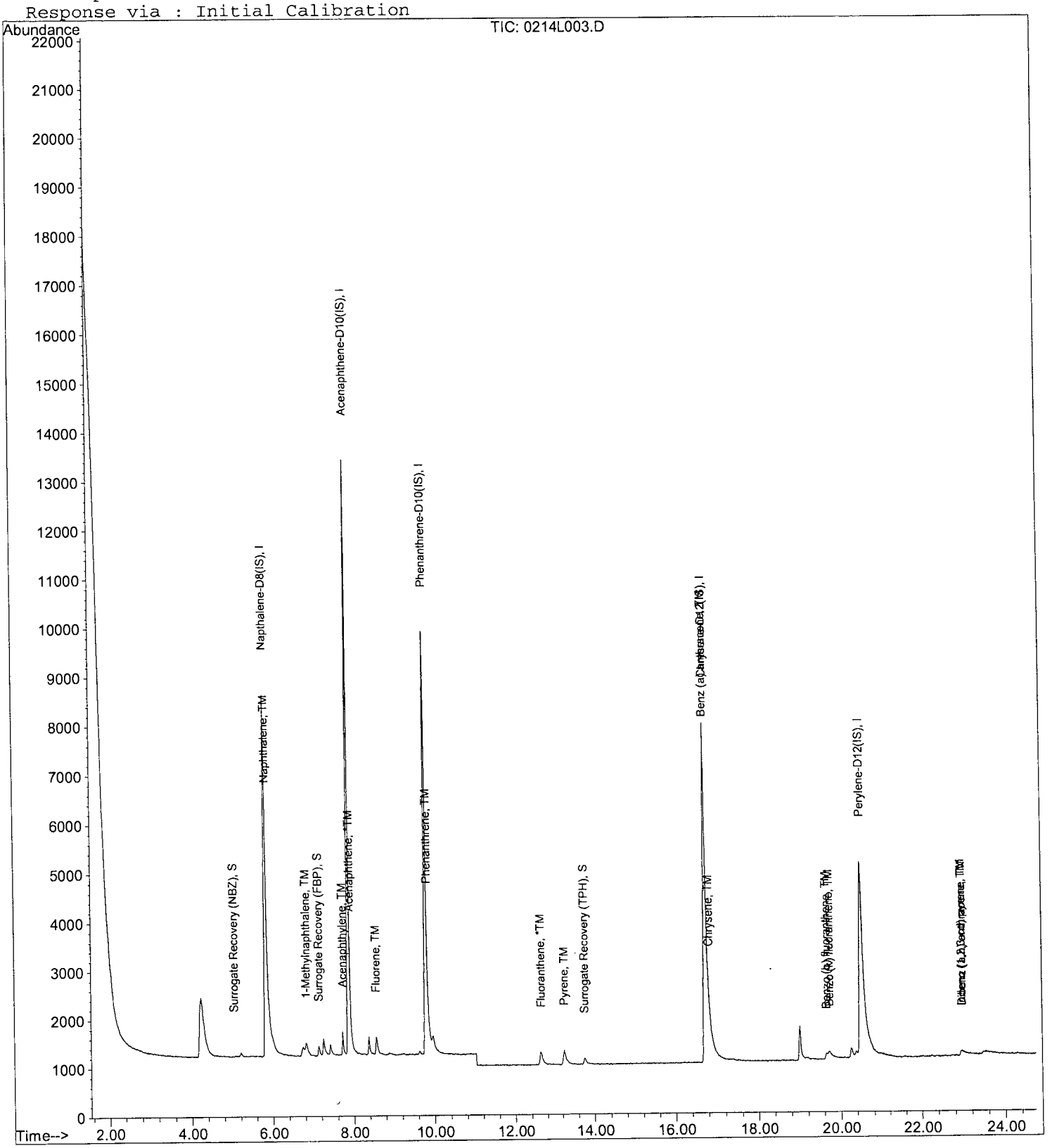
Data File : M:\LINUS\DATA\L170214\0214L003.D
Acq On : 14 Feb 17 18:21
Sample : 0.1 SIM 02/14/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:12 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L004.D
Acq On : 14 Feb 17 18:53
Sample : 0.2 SIM 02/14/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:18 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:48 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24569	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.87	164	12218	2.50000 ppb		0.01
11) Phenanthrene-D10(IS)	9.79	188	22470	2.50000 ppb		0.02
15) Chrysene-D12(IS)	16.71	240	22848	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.49	264	19597	2.50000 ppb		0.04
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	4.96	82	7	0.00241 ppb		-0.05
Spiked Amount 5.000			Recovery	= 0.040%		
7) Surrogate Recovery (FBP)	7.13	172	730	0.09551 ppb		0.05
Spiked Amount 5.000			Recovery	= 1.920%		
17) Surrogate Recovery (TPH)	13.76	244	700	0.09963 ppb		0.05
Spiked Amount 5.000			Recovery	= 2.000%		
Target Compounds						Qvalue
3) Naphthalene	5.84	128	1950	0.19441 ppb		99
4) 2-Methylnaphthalene	6.75	142	671	0.12650 ppb		95
5) 1-Methylnaphthalene	6.81	142	1445	0.21388 ppb		98
8) Acenaphthylene	7.73	152	1685	0.16798 ppb		98
9) Acenaphthene	7.91	154	1201	0.19341 ppb		97
10) Fluorene	8.57	166	1158	0.17200 ppb		97
12) Phenanthrene	9.82	178	1582	0.16914 ppb		98
13) Anthracene	9.97	178	1022	0.11718 ppb		94
14) Fluoranthene	12.61	202	2050	0.13728 ppb		99
16) Pyrene	13.24	202	2093	0.16238 ppb		99
18) Benz (a) anthracene	16.70	228	1029	0.11783 ppb		93
19) Chrysene	16.80	228	2093	0.15885 ppb		98
20) Indeno (1,2,3-cd) pyrene	22.93	276	225	0.02768 ppb	#	93
22) Benzo (b) fluoranthene	19.63	252	523	0.05979 ppb	#	93
23) Benzo (k) fluoranthene	19.70	252	489	0.05161 ppb	#	71
24) Benzo (a) pyrene	20.38	252	764	0.08906 ppb	#	65
25) Dibenz (a,h) anthracene	22.99	278	52	0.00723 ppb	#	65
26) Benzo (g,h,i) perylene	23.52	276	108	0.01500 ppb	#	35

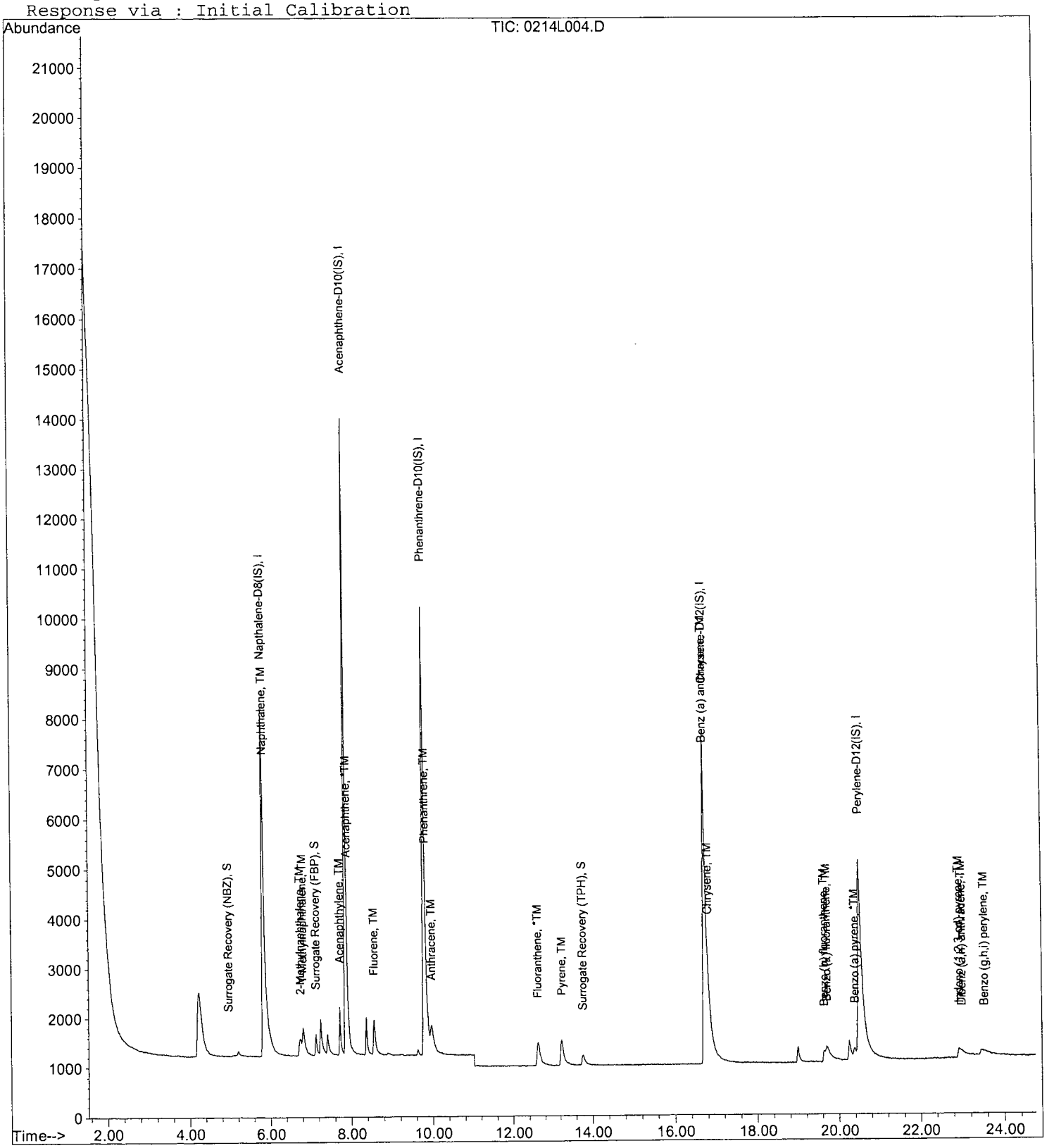
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L004.D Vial: 4
Acq On : 14 Feb 17 18:53 Operator: MA
Sample : 0.2 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:18 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L005.D
Acq On : 14 Feb 17 19:26
Sample : 0.5 SIM 02/14/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:17 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:01 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23655	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11847	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	21487	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	21327	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	19077	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.12	82	252	0.08995 ppb	0.11
Spiked Amount 5.000			Recovery	= 1.800%	
7) Surrogate Recovery (FBP)	7.12	172	1844	0.24883 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
17) Surrogate Recovery (TPH)	13.75	244	1632	0.24884 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
Target Compounds					Qvalue
3) Naphthalene	5.86	128	4970	0.51463 ppb	99
4) 2-Methylnaphthalene	6.71	142	2050	0.40141 ppb	99
5) 1-Methylnaphthalene	6.80	142	3485	0.53576 ppb	99
8) Acenaphthylene	7.73	152	4379	0.45023 ppb	99
9) Acenaphthene	7.91	154	2943	0.48880 ppb	98
10) Fluorene	8.55	166	3064	0.46935 ppb	95
12) Phenanthrene	9.82	178	4085	0.45673 ppb	98
13) Anthracene	9.96	178	3025	0.36270 ppb	97
14) Fluoranthene	12.59	202	5465	0.38272 ppb	100
16) Pyrene	13.21	202	5612	0.46646 ppb	98
18) Benz (a) anthracene	16.71	228	2708	0.33221 ppb	98
19) Chrysene	16.80	228	5565	0.45249 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.88	276	1119	0.14748 ppb #	94
22) Benzo (b) fluoranthene	19.61	252	1366	0.16041 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1482	0.16066 ppb	93
24) Benzo (a) pyrene	20.36	252	2259	0.27050 ppb #	84
25) Dibenz (a,h) anthracene	22.94	278	230	0.03287 ppb #	54
26) Benzo (g,h,i) perylene	23.48	276	285	0.04066 ppb #	69

(#) = qualifier out of range (m) = manual integration

Quantitation Report

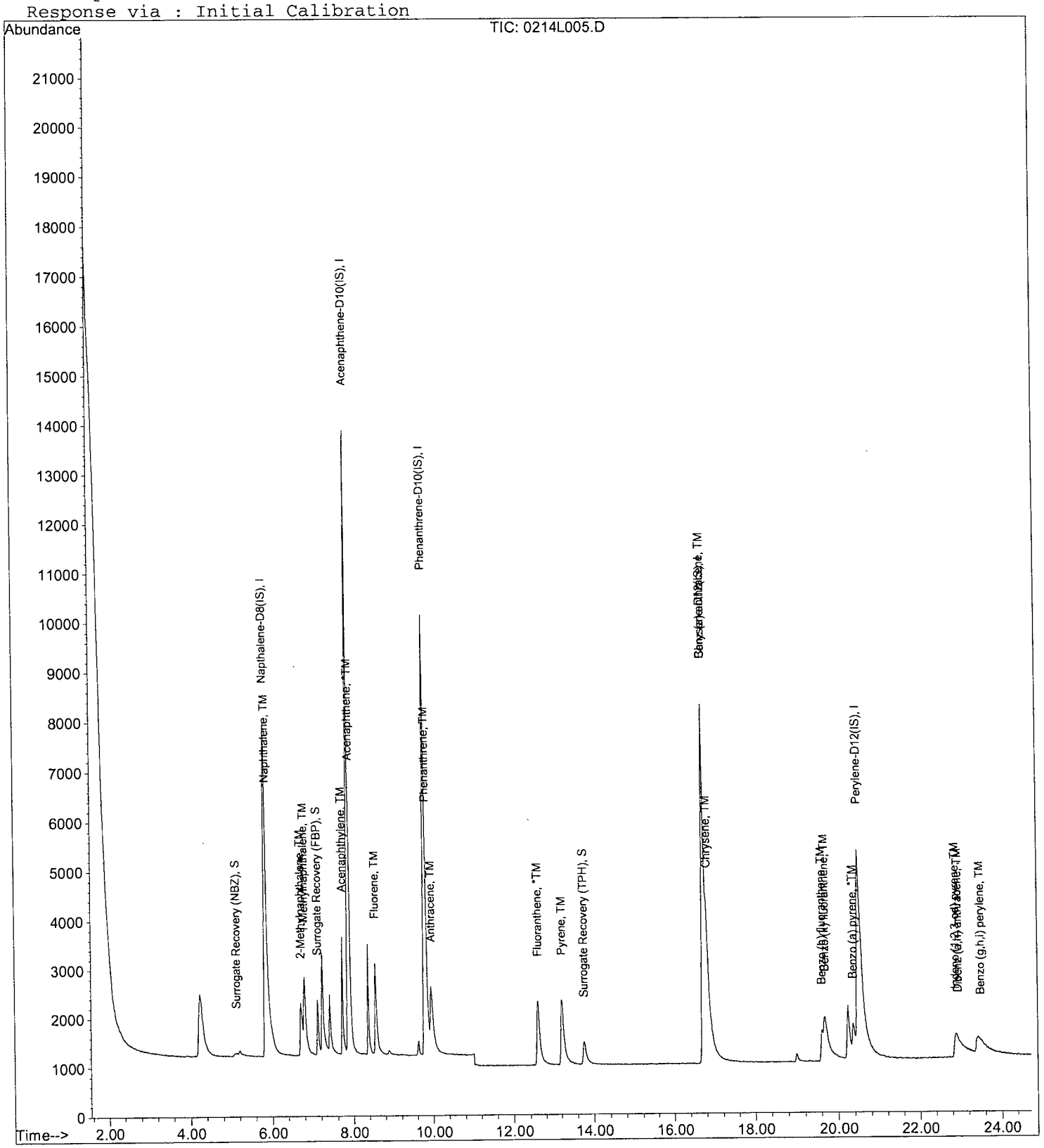
Data File : M:\LINUS\DATA\L170214\0214L005.D
Acq On : 14 Feb 17 19:26
Sample : 0.5 SIM 02/14/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:17 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:10:08 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22641	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11561	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.78	188	21533	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23167	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.47	264	19846	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.07	82	509	0.18983 ppb	0.06
Spiked Amount 5.000			Recovery	= 3.800%	
7) Surrogate Recovery (FBP)	7.11	172	3592	0.49669 ppb	0.02
Spiked Amount 5.000			Recovery	= 9.940%	
17) Surrogate Recovery (TPH)	13.74	244	3467	0.48664 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.740%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	9496	1.02733 ppb	100
4) 2-Methylnaphthalene	6.69	142	4474	0.91529 ppb	99
5) 1-Methylnaphthalene	6.78	142	6374	1.02378 ppb	98
8) Acenaphthylene	7.71	152	8586	0.90461 ppb	99
9) Acenaphthene	7.91	154	5428	0.92382 ppb	99
10) Fluorene	8.53	166	6009	0.94323 ppb	99
12) Phenanthrene	9.82	178	8026	0.89544 ppb	100
13) Anthracene	9.95	178	6222	0.74442 ppb	100
14) Fluoranthene	12.56	202	11537	0.80622 ppb	99
16) Pyrene	13.19	202	12230	0.93579 ppb	99
18) Benz (a) anthracene	16.70	228	6469	0.73057 ppb	99
19) Chrysene	16.78	228	11177	0.83663 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.86	276	3487	0.42307 ppb #	91
22) Benzo (b) fluoranthene	19.59	252	3982	0.44948 ppb	99
23) Benzo (k) fluoranthene	19.67	252	4556	0.47478 ppb	93
24) Benzo (a) pyrene	20.36	252	5887	0.67760 ppb	100
25) Dibenz (a,h) anthracene	22.87	278	2142	0.29428 ppb	96
26) Benzo (g,h,i) perylene	23.38	276	2362	0.32389 ppb	89

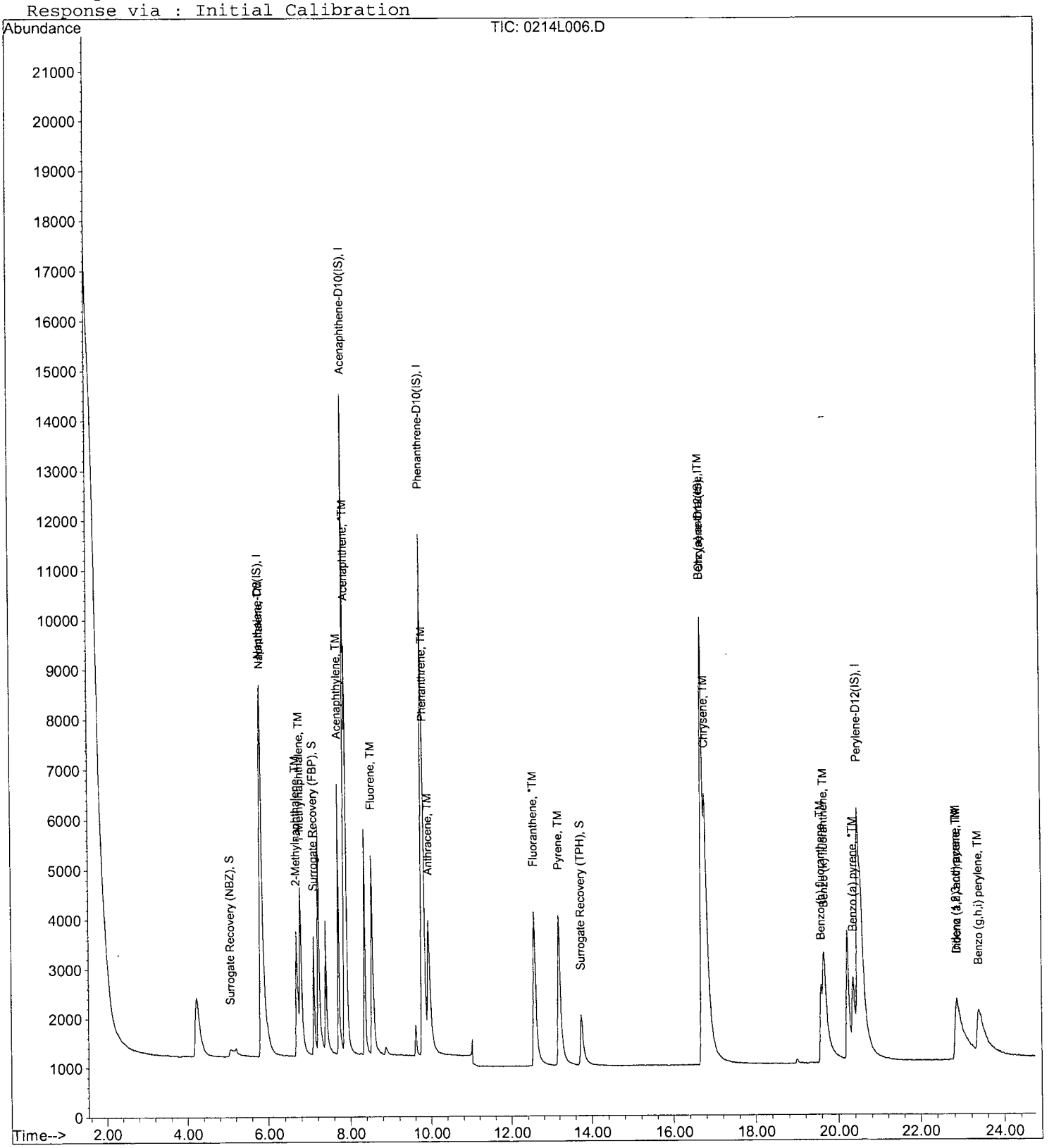
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	23069	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11695	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22161	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26224	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	21900	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7632	2.16155 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.240%	
7) Surrogate Recovery (FBP)	7.09	172	19441	2.30557 ppb	0.01
Spiked Amount 5.000			Recovery	= 46.120%	
17) Surrogate Recovery (TPH)	13.71	244	20051	2.15776 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.160%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	52807	5.55542 ppb	100
4) 2-Methylnaphthalene	6.65	142	30318	5.82670 ppb	99
5) 1-Methylnaphthalene	6.76	142	32993	5.07935 ppb	90
8) Acenaphthylene	7.70	152	52392	5.39398 ppb	99
9) Acenaphthene	7.89	154	31274	5.23130 ppb	98
10) Fluorene	8.51	166	35429	5.42550 ppb	99
12) Phenanthrene	9.80	178	50432	5.42620 ppb	99
13) Anthracene	9.90	178	46660	5.36380 ppb	99
14) Fluoranthene	12.52	202	76875	5.17089 ppb	99
16) Pyrene	13.15	202	80173	5.38905 ppb	99
18) Benz (a) anthracene	16.66	228	51714	4.99837 ppb	99
19) Chrysene	16.76	228	68220	4.49857 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.78	276	49937	5.25941 ppb	92
22) Benzo (b) fluoranthene	19.55	252	42337	4.20558 ppb	100
23) Benzo (k) fluoranthene	19.61	252	24283	2.20116 ppb	99
24) Benzo (a) pyrene	20.32	252	51711	5.30494 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	37598	4.57609 ppb	96
26) Benzo (g,h,i) perylene	23.30	276	41994	5.16288 ppb #	77

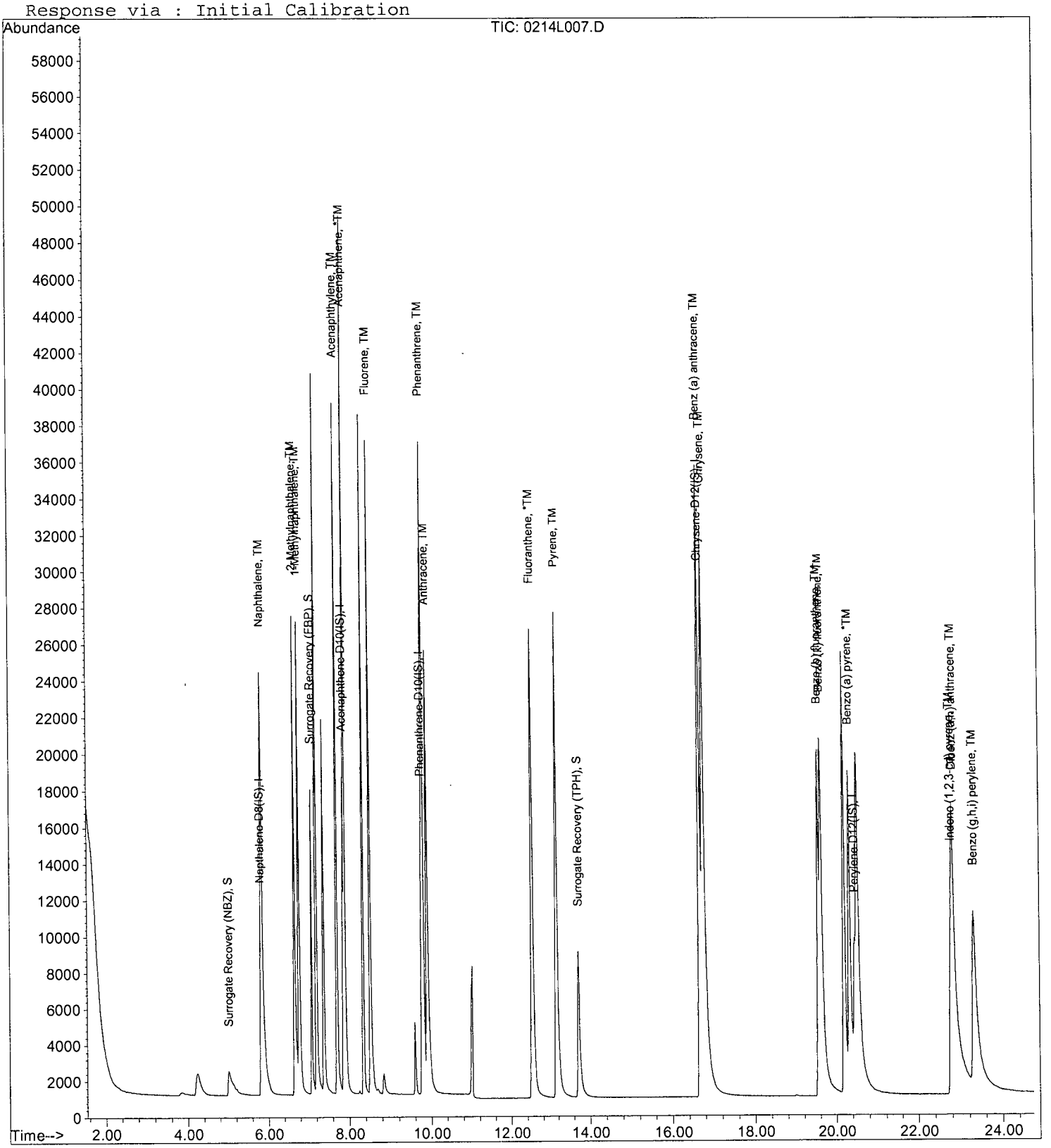
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L007.D Vial: 7
Acq On : 14 Feb 17 20:32 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L008.D
Acq On : 14 Feb 17 21:04
Sample : 10 SIM 02/14/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25521	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	13054	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25109	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27862	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	22643	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	17613	5.82737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 116.540%	
7) Surrogate Recovery (FBP)	7.07	172	43593	5.33847 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.760%	
17) Surrogate Recovery (TPH)	13.70	244	43734	5.10427 ppb	-0.01
Spiked Amount 5.000			Recovery	= 102.080%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	104393	10.01930 ppb		100
4) 2-Methylnaphthalene	6.65	142	62394	11.32415 ppb		98
5) 1-Methylnaphthalene	6.76	142	62777	8.94524 ppb		98
8) Acenaphthylene	7.70	152	106739	9.95971 ppb		100
9) Acenaphthene	7.89	154	61799	9.31500 ppb		98
10) Fluorene	8.51	166	71715	9.96963 ppb		98
12) Phenanthrene	9.80	178	102855	9.84092 ppb		100
13) Anthracene	9.89	178	97984	10.05354 ppb		100
14) Fluoranthene	12.51	202	152895	9.16281 ppb		100
16) Pyrene	13.14	202	156870	9.98048 ppb		99
18) Benz (a) anthracene	16.65	228	109307	10.26431 ppb		100
19) Chrysene	16.75	228	128791	8.01587 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.75	276	98762	9.96348 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	91272	9.02992 ppb		98
23) Benzo (k) fluoranthene	19.60	252	74425	6.79771 ppb		99
24) Benzo (a) pyrene	20.31	252	106652	10.75944 ppb		100
25) Dibenz (a,h) anthracene	22.80	278	76794	9.24705 ppb		98
26) Benzo (g,h,i) perylene	23.27	276	80392	9.66204 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

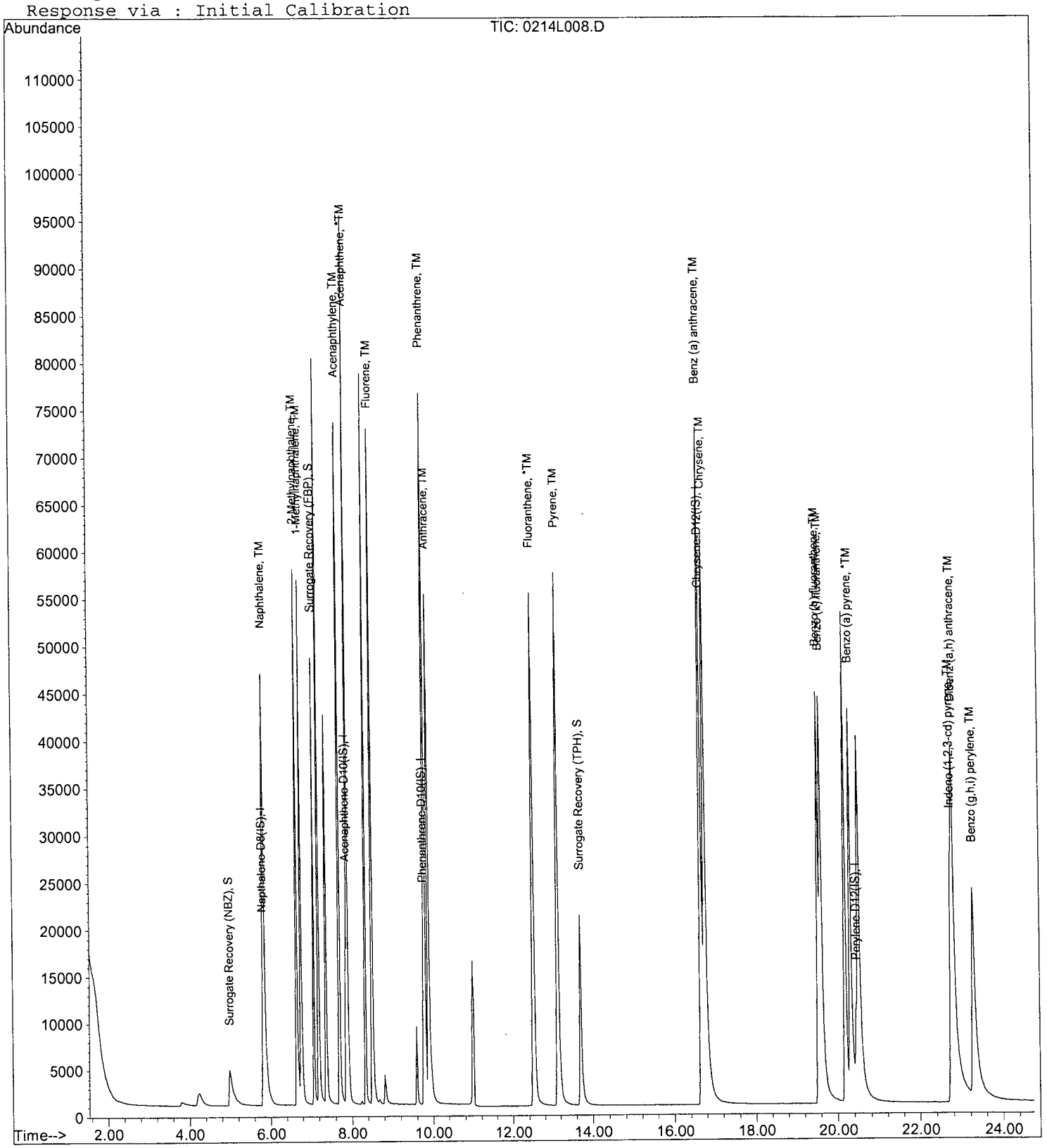
Data File : M:\LINUS\DATA\L170214\0214L008.D
Acq On : 14 Feb 17 21:04
Sample : 10 SIM 02/14/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L009.D
Acq On : 14 Feb 17 21:37
Sample : 50 SIM 02/14/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24268	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11807	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	23286	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	27820	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23474	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	92288	32.11060 ppb	-0.06
Spiked Amount 5.000			Recovery	= 642.220%	
7) Surrogate Recovery (FBP)	7.07	172	180923	24.49615 ppb	-0.01
Spiked Amount 5.000			Recovery	= 489.920%	
17) Surrogate Recovery (TPH)	13.69	244	206717	24.16271 ppb	-0.02
Spiked Amount 5.000			Recovery	= 483.260%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	478672	48.31342 ppb		100
4) 2-Methylnaphthalene	6.64	142	286232	54.63167 ppb		97
5) 1-Methylnaphthalene	6.75	142	271379	40.66601 ppb		100
8) Acenaphthylene	7.69	152	461582	47.61857 ppb		99
9) Acenaphthene	7.89	154	263095	43.84480 ppb		98
10) Fluorene	8.50	166	296983	45.64619 ppb		100
12) Phenanthrene	9.80	178	445520	45.96339 ppb		100
13) Anthracene	9.89	178	438700	48.53621 ppb		100
14) Fluoranthene	12.51	202	737558	47.66133 ppb		100
16) Pyrene	13.14	202	763990	48.68040 ppb		100
18) Benz (a) anthracene	16.65	228	630780	59.32187 ppb		99
19) Chrysene	16.75	228	632756	39.44178 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	551119	55.68287 ppb	#	97
22) Benzo (b) fluoranthene	19.54	252	578169	55.17574 ppb		99
23) Benzo (k) fluoranthene	19.61	252	469577	41.37111 ppb		100
24) Benzo (a) pyrene	20.32	252	544492	52.98576 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	434416	50.45783 ppb		96
26) Benzo (g,h,i) perylene	23.28	276	449102	52.06524 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

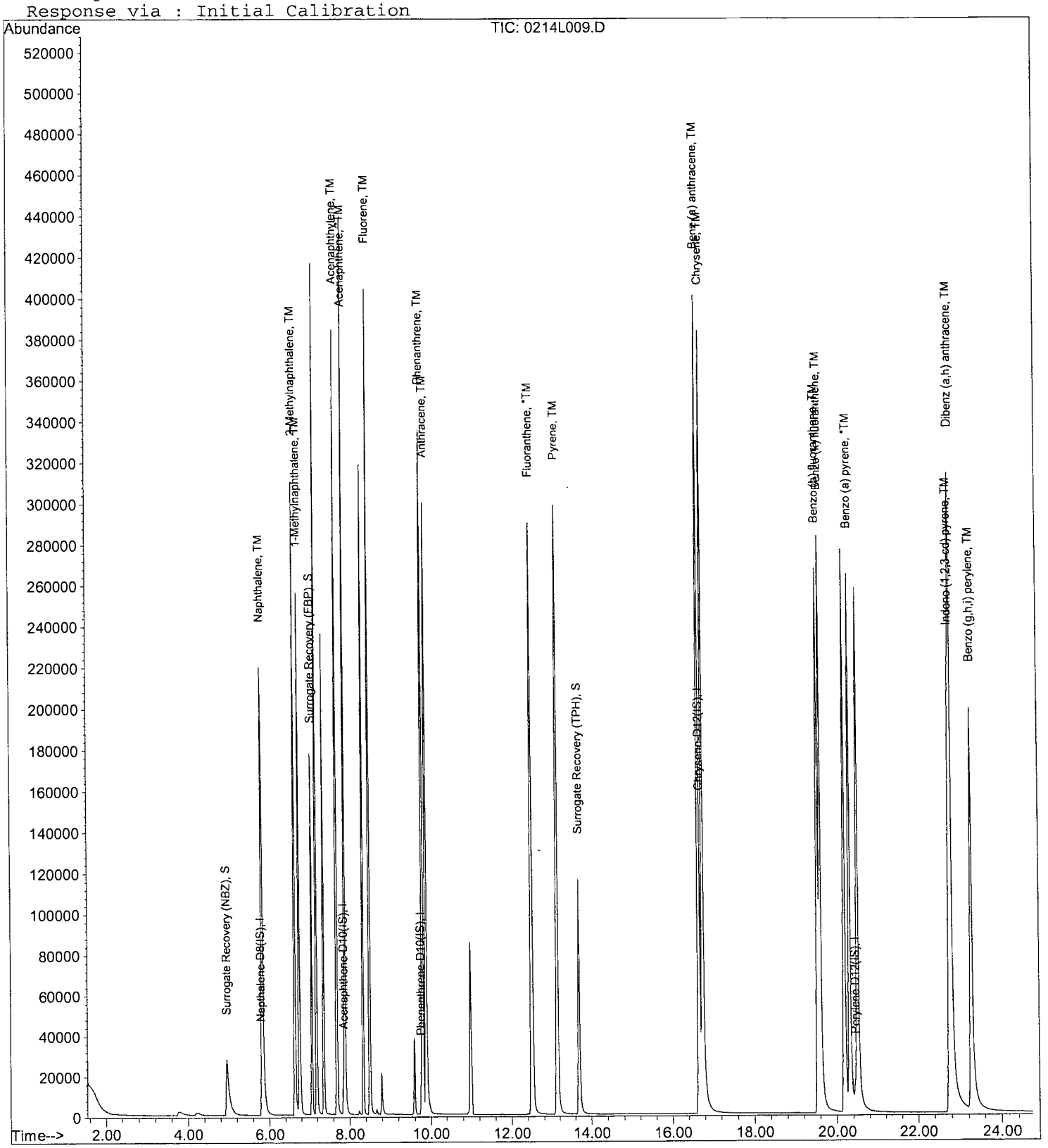
Data File : M:\LINUS\DATA\L170214\0214L009.D
Acq On : 14 Feb 17 21:37
Sample : 50 SIM 02/14/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L010.D Vial: 10
Acq On : 14 Feb 17 22:10 Operator: MA
Sample : 100 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24826	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11795	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23221	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25126	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22273	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	189983	64.61675 ppb	-0.06
Spiked Amount 5.000			Recovery	= 1292.340%	
7) Surrogate Recovery (FBP)	7.06	172	370044	50.15324 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1003.060%	
17) Surrogate Recovery (TPH)	13.69	244	385634	49.90897 ppb	-0.02
Spiked Amount 5.000			Recovery	= 998.180%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	948587	93.59101 ppb	100
4) 2-Methylnaphthalene	6.64	142	569721	106.29572 ppb	98
5) 1-Methylnaphthalene	6.76	142	542487	79.46428 ppb	97
8) Acenaphthylene	7.69	152	938988	96.96815 ppb	98
9) Acenaphthene	7.89	154	460489	76.81860 ppb	98
10) Fluorene	8.51	166	520677	80.10930 ppb	98
12) Phenanthrene	9.80	178	814732	84.28951 ppb	99
13) Anthracene	9.90	178	792530	87.92814 ppb	99
14) Fluoranthene	12.52	202	1504305	97.48097 ppb	100
16) Pyrene	13.16	202	1342341	94.70286 ppb	100
18) Benz (a) anthracene	16.67	228	1157282	120.50634 ppb	99
19) Chrysene	16.78	228	1082847	74.73450 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	988467	110.57887 ppb #	97
22) Benzo (b) fluoranthene	19.56	252	1005475	101.12837 ppb	99
23) Benzo (k) fluoranthene	19.64	252	847638	78.70624 ppb	99
24) Benzo (a) pyrene	20.35	252	968264	99.30470 ppb	100
25) Dibenz (a,h) anthracene	22.84	278	779082	95.37056 ppb	99
26) Benzo (g,h,i) perylene	23.32	276	786063	96.04365 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

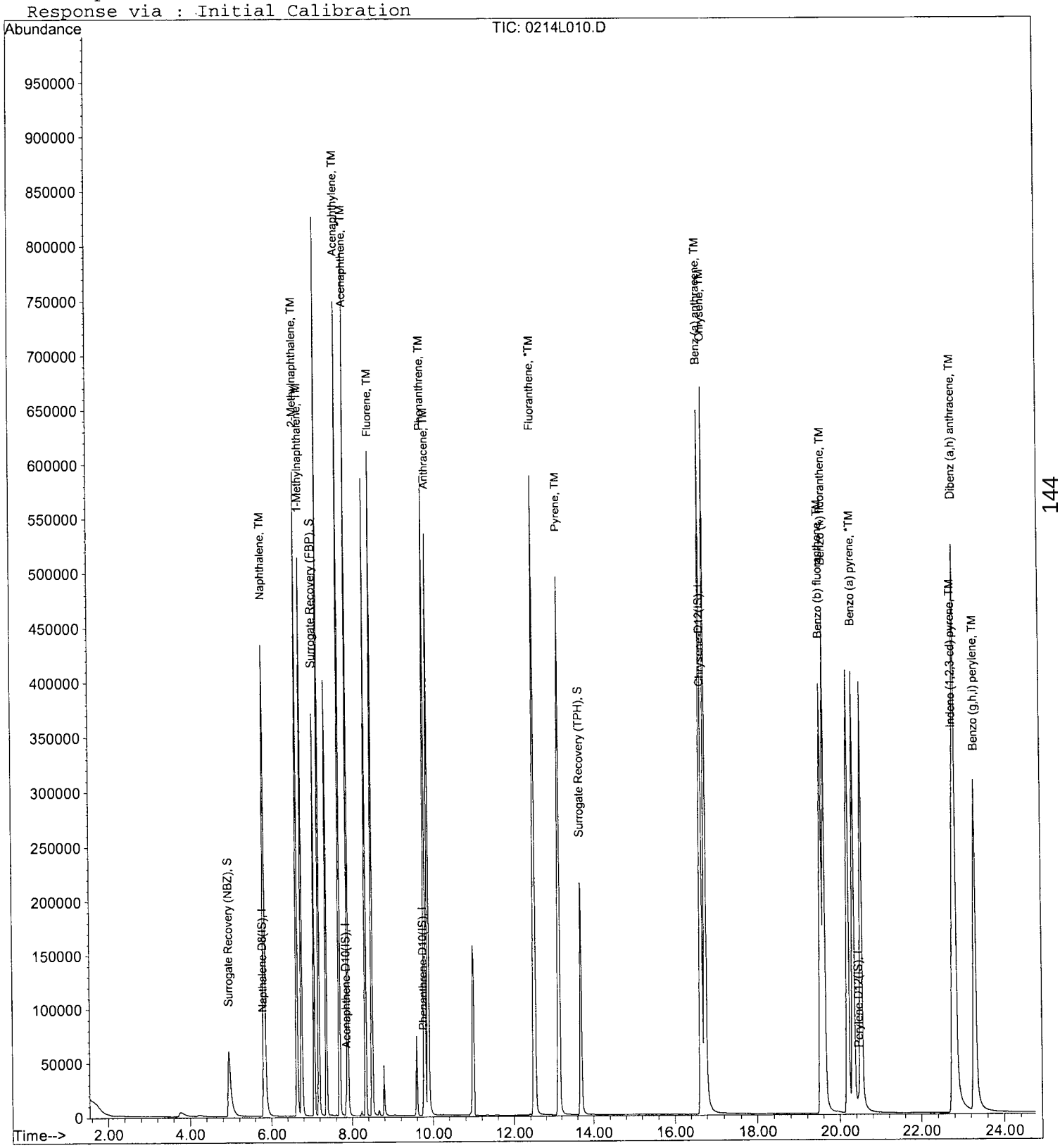
Data File : M:\LINUS\DATA\L170214\0214L010.D
Acq On : 14 Feb 17 22:10
Sample : 100 SIM 02/14/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



144

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L011.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Naphthalene	1.026	1.159	13	TM		
2	TML	2-Methylnaphthalene	0.5103	0.6494	27	TML	8.2	
3	TM	1-Methylnaphthalene	0.6571	0.7339	12	TM		
4	TM	Acenaphthylene	1.939	2.256	16	TM		
5	*TM	Acenaphthene	1.200	1.348	12	*TM		
6	TM	Fluorene	1.283	1.547	21	TM		*NT
7	TM	Phenanthrene	0.9612	1.134	18	TM		
8	TML	Anthracene	0.8057	1.063	32	TML	10	
9	*TM	Fluoranthene	1.428	1.772	24	*TM		*NT
10	TM	Pyrene	1.324	1.538	16	TM		
11	TML	Benz (a) anthracene	0.8505	1.046	23	TML	0.88	
12	TM	Chrysene	1.149	1.392	21	TM		*NT
13	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9918	68	TML	7.6	
14	TML	Benzo (b) fluoranthene	0.7388	1.064	44	TML	3.7	
15	TML	Benzo (k) fluoranthene	0.6446	0.6659	3.3	TML	20	
16	*TML	Benzo (a) pyrene	0.8628	1.252	45	*TML	8.7	
17	TML	Dibenz (a,h) anthracene	0.5034	0.9061	80	TML	5.0	
18	TML	Benzo (g,h,i) perylene	0.5242	0.9296	77	TML	2.0	
19								
20								
21								
22								
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36								
37								
38								
39								
40								
		Average			30.7			

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L011.D
Acq On : 14 Feb 17 22:43
Sample : SS SIM 02/14/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:16 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20882	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10460	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19847	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23438	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19617	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.28394 ppb	
Spiked Amount 5.000			Recovery	= 5.680%	
7) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
17) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	48416	5.64846 ppb	99
4) 2-Methylnaphthalene	6.65	142	27123	5.40997 ppb	95
5) 1-Methylnaphthalene	6.76	142	30652	5.58432 ppb	93
8) Acenaphthylene	7.70	152	47203	5.81840 ppb	99
9) Acenaphthene	7.89	154	28207	5.61615 ppb	99
10) Fluorene	8.51	166	32360	6.03025 ppb	99
12) Phenanthrene	9.80	178	45008	5.89841 ppb	99
13) Anthracene	9.90	178	42197	5.50431 ppb	100
14) Fluoranthene	12.52	202	70335	6.20351 ppb	99
16) Pyrene	13.15	202	72113	5.81045 ppb	100
18) Benz (a) anthracene	16.66	228	49030	5.04402 ppb #	76
19) Chrysene	16.76	228	65269	6.06003 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.77	276	46492	5.37908 ppb	97
22) Benzo (b) fluoranthene	19.54	252	41743	4.81744 ppb	99
23) Benzo (k) fluoranthene	19.61	252	26124	3.97701 ppb	99
24) Benzo (a) pyrene	20.32	252	49136	5.43512 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	35550	5.24777 ppb #	39
26) Benzo (g,h,i) perylene	23.30	276	36472	5.10160 ppb #	49

Algorithum check = $\frac{48416 * 1 * 2.5}{1 * 20882 * 1.026} = \frac{121040}{21424.932} = 5.649$

RH 2/20/17

(#) = qualifier out of range (m) = manual integration
0214L011.D L0214PR.M Wed Feb 15 12:19:19 2017

Quantitation Report

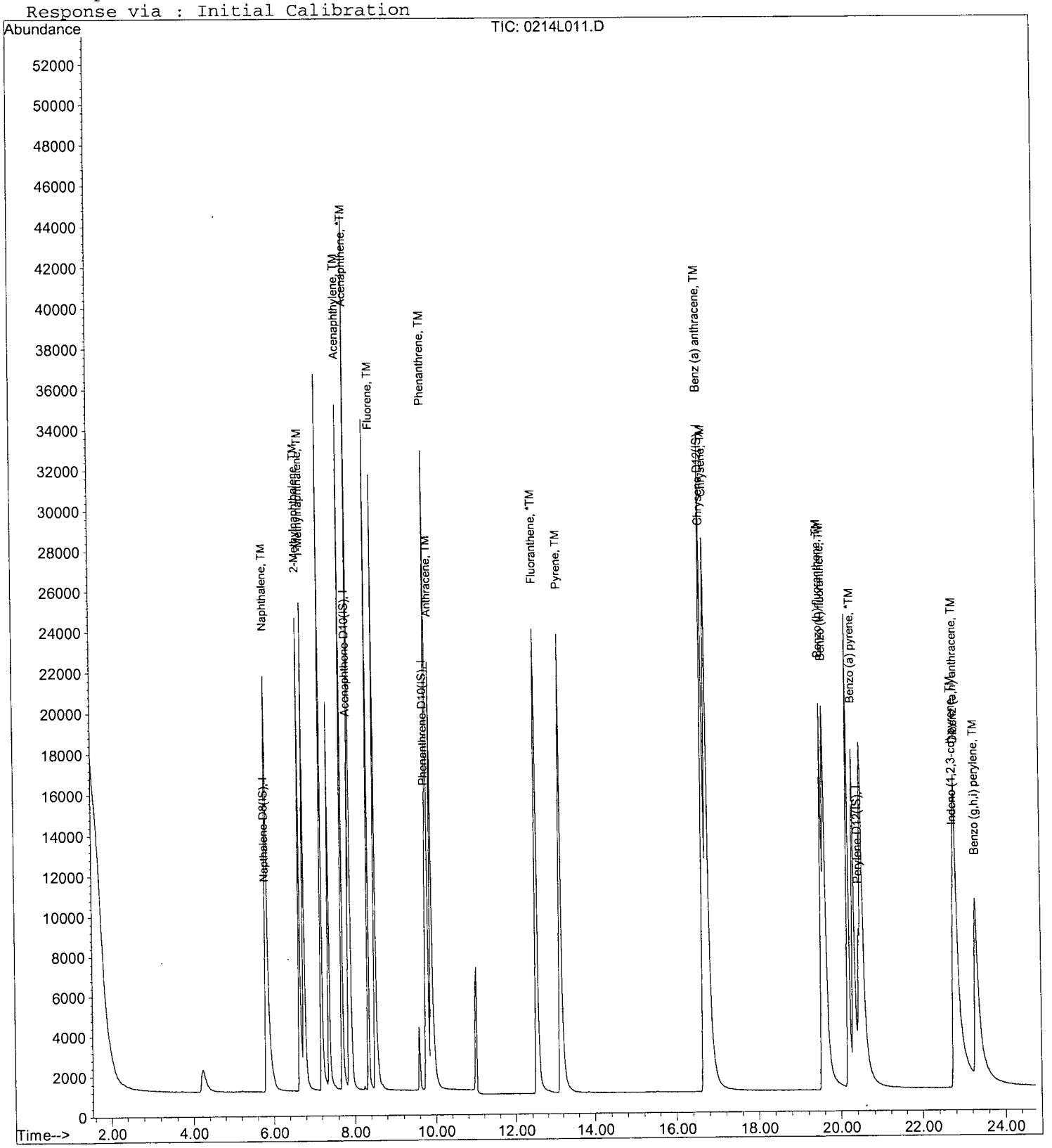
Data File : M:\LINUS\DATA\L170214\0214L011.D
Acq On : 14 Feb 17 22:43
Sample : SS SIM 02/14/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 12:16 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L059.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3364	22	SL	1.1
3	TM	Naphthalene	1.026	1.126	9.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6485	27	TML	8.0
5	TM	1-Methylnaphthalene	0.6571	0.7065	7.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.627	3.6	S	
8	TM	Acenaphthylene	1.939	2.173	12	TM	
9	*TM	Acenaphthene	1.200	1.307	8.9	*TM	
10	TM	Fluorene	1.283	1.469	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.110	15	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.716	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.484	12	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7576	0.34	S	
18	TML	Benz (a) anthracene	0.8505	1.106	30	TML	6.1
19	TM	Chrysene	1.149	1.322	15	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.018	72	TML	10
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.096	48	TML	0.90
23	TML	Benzo (k) fluoranthene	0.6446	0.8797	36	TML	1.7
24	*TML	Benzo (a) pyrene	0.8628	1.245	44	*TML	8.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9561	90	TML	11
26	TML	Benzo (g,h,i) perylene	0.5242	0.8564	63	TML	6.1
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			27.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21152	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10824	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20561	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	24824	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	20815	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7115	2.52799 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.560%	
7) Surrogate Recovery (FBP)	7.07	172	17616	2.59111 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.820%	
17) Surrogate Recovery (TPH)	13.71	244	18806	2.50859 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.180%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	47620	5.48467 ppb		99
4) 2-Methylnaphthalene	6.65	142	27435	5.40203 ppb		93
5) 1-Methylnaphthalene	6.76	142	29887	5.37544 ppb		93
8) Acenaphthylene	7.70	152	47031	5.60225 ppb		100
9) Acenaphthene	7.89	154	28287	5.44268 ppb		100
10) Fluorene	8.51	166	31810	5.72841 ppb		100
12) Phenanthrene	9.80	178	45642	5.77378 ppb		99
13) Anthracene	9.90	178	42498	5.33320 ppb		100
14) Fluoranthene	12.52	202	70573	6.00835 ppb		100
16) Pyrene	13.15	202	73697	5.60654 ppb		99
18) Benz (a) anthracene	16.65	228	54901	5.30335 ppb	#	76
19) Chrysene	16.75	228	65616	5.75210 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50540	5.51136 ppb		94
22) Benzo (b) fluoranthene	19.54	252	45612	4.95521 ppb		98
23) Benzo (k) fluoranthene	19.61	252	36620	5.08366 ppb		99
24) Benzo (a) pyrene	20.31	252	51826	5.40114 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	39802	5.52993 ppb	#	39
26) Benzo (g,h,i) perylene	23.29	276	35651	4.69305 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

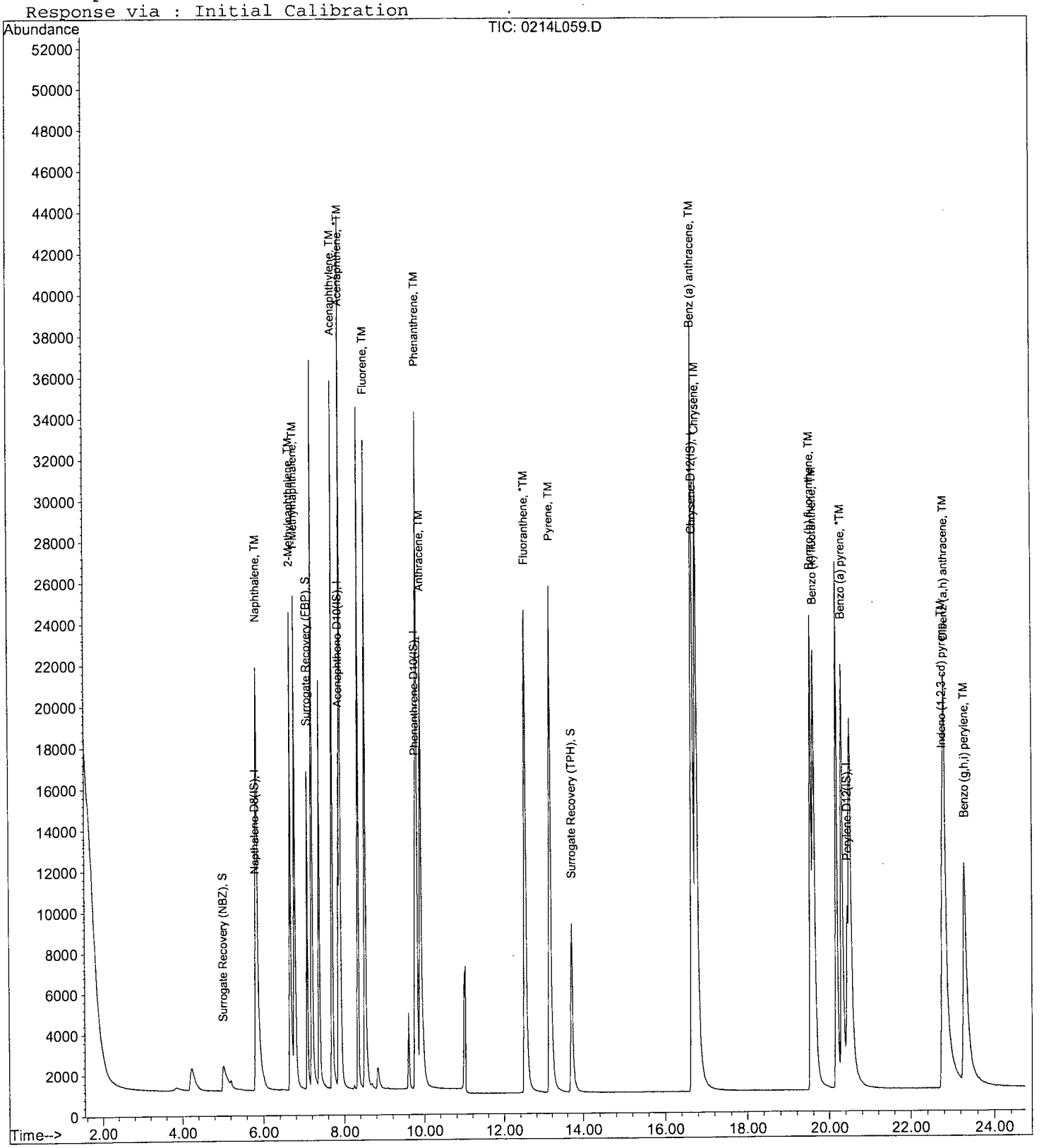
Data File : M:\LINUS\DATA\L170214\0214L059.D
Acq On : 16 Feb 17 19:05
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 59
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 16 19:30 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/17/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L080.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3400	23	SL	2.1
3	TM	Naphthalene	1.026	1.115	8.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6475	27	TML	7.9
5	TM	1-Methylnaphthalene	0.6571	0.6950	5.8	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.611	2.6	S	
8	TM	Acenaphthylene	1.939	2.208	14	TM	
9	*TM	Acenaphthene	1.200	1.316	9.6	*TM	
10	TM	Fluorene	1.283	1.477	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.092	14	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.713	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.467	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7638	1.2	S	
18	TML	Benz (a) anthracene	0.8505	1.124	32	TML	7.6
19	TM	Chrysene	1.149	1.309	14	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.014	71	TML	9.8
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.139	54	TML	2.9
23	TML	Benzo (k) fluoranthene	0.6446	0.8878	38	TML	2.5
24	*TML	Benzo (a) pyrene	0.8628	1.267	47	*TML	10
25	TML	Dibenz (a,h) anthracene	0.5034	0.9954	98	TML	15
26	TML	Benzo (g,h,i) perylene	0.5242	0.9030	72	TML	0.94
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			28.9		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L080.D Vial: 80
Acq On : 17 Feb 17 6:00 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20943	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10628	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20527	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	24802	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	20655	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7121	2.55164 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.040%	
7) Surrogate Recovery (FBP)	7.07	172	17119	2.56445 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.280%	
17) Surrogate Recovery (TPH)	13.70	244	18944	2.52924 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.580%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	46713	5.43390 ppb		99
4) 2-Methylnaphthalene	6.65	142	27120	5.39292 ppb		92
5) 1-Methylnaphthalene	6.76	142	29112	5.28830 ppb		93
8) Acenaphthylene	7.70	152	46933	5.69367 ppb		100
9) Acenaphthene	7.89	154	27970	5.48094 ppb		99
10) Fluorene	8.51	166	31404	5.75959 ppb		100
12) Phenanthrene	9.80	178	44837	5.68134 ppb		100
13) Anthracene	9.90	178	42424	5.33267 ppb		99
14) Fluoranthene	12.51	202	70330	5.99758 ppb		99
16) Pyrene	13.15	202	72786	5.54215 ppb		99
18) Benz (a) anthracene	16.65	228	55733	5.38027 ppb	#	76
19) Chrysene	16.75	228	64918	5.69596 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50296	5.49105 ppb	#	93
22) Benzo (b) fluoranthene	19.54	252	47045	5.14285 ppb		99
23) Benzo (k) fluoranthene	19.61	252	36677	5.12607 ppb		100
24) Benzo (a) pyrene	20.31	252	52330	5.50059 ppb		99
25) Dibenz (a,h) anthracene	22.81	278	41118	5.75156 ppb	#	38
26) Benzo (g,h,i) perylene	23.29	276	37301	4.95291 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

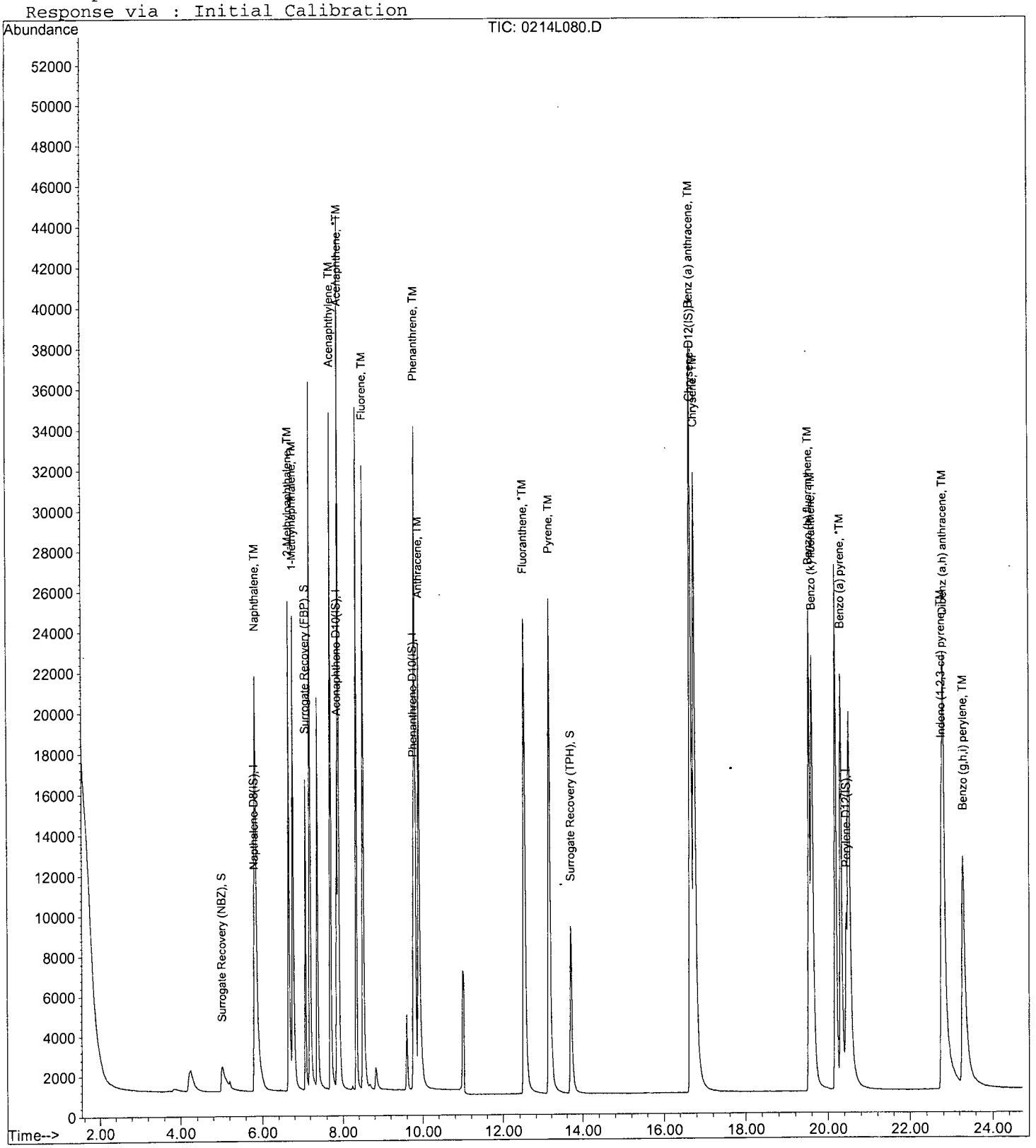
Data File : M:\LINUS\DATA\L170214\0214L080.D
Acq On : 17 Feb 17 6:00
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 80
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:12 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49739 - 216249**
Batch ID: #SIMDO-170213A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:34:41 AM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L060.D Vial: 60
Acq On : 16 Feb 17 19:38 Operator: MA
Sample : 170213A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23656	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11886	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	22678	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	26424	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.48	264	22321	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11947	3.62246 ppb	-0.02
Spiked Amount 5.000			Recovery	= 72.440%	
7) Surrogate Recovery (FBP)	7.07	172	23147	3.10046 ppb	-0.01
Spiked Amount 5.000			Recovery	= 62.000%	
17) Surrogate Recovery (TPH)	13.69	244	38776	4.85926 ppb	-0.02
Spiked Amount 5.000			Recovery	= 97.180%	

Target Compounds Qvalue

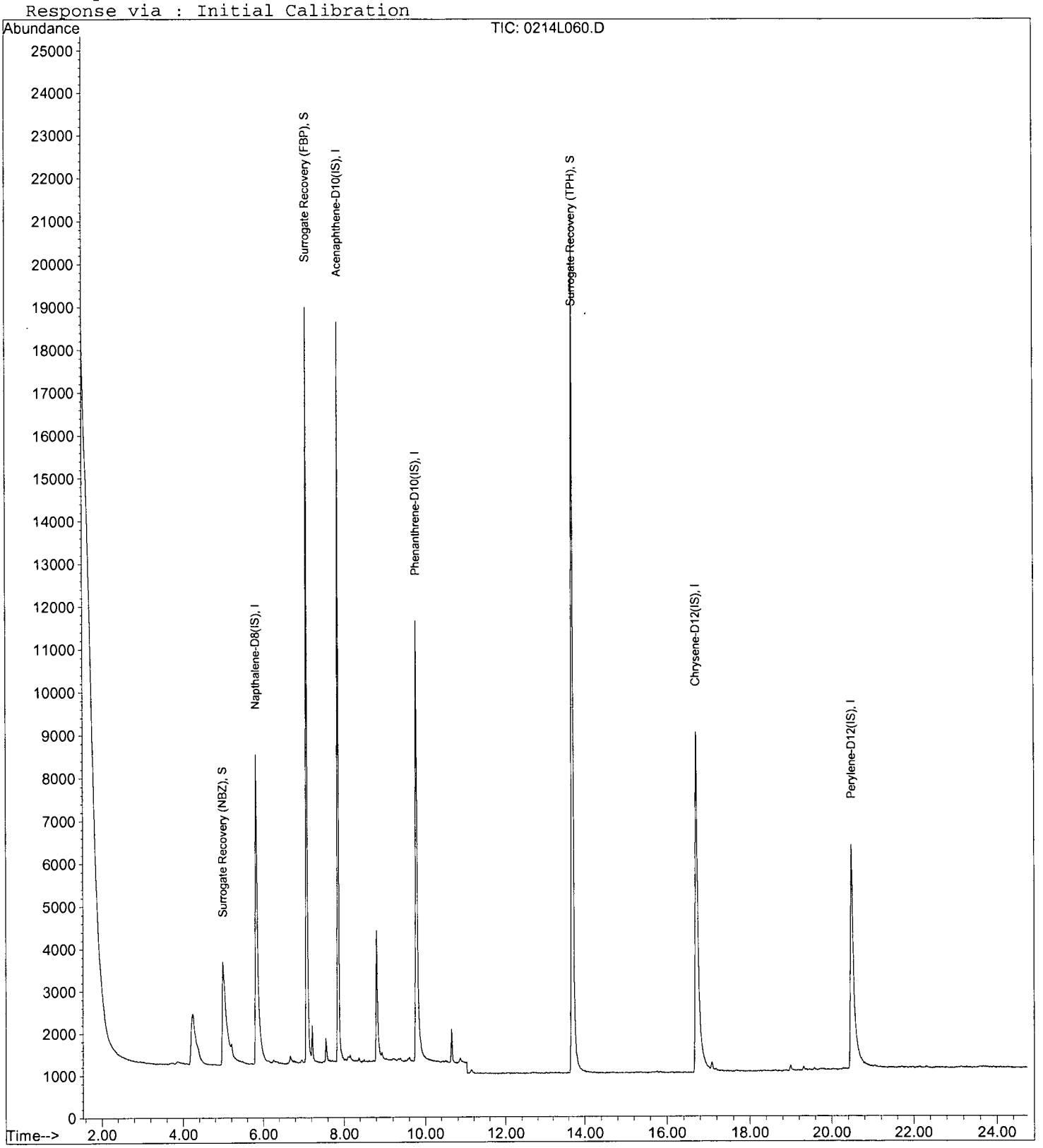
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L060.D Vial: 60
Acq On : 16 Feb 17 19:38 Operator: MA
Sample : 170213A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49739 LCS - 216249**
Batch ID: #SIMDO-170213A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
NAPHTHALENE	5.00	3.93	78.6	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Printed: 02/17/17 9:34:32 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L061.D Vial: 61
Acq On : 16 Feb 17 20:10 Operator: MA
Sample : 170213A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	19357	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	10056	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19690	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23632	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19968	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10592	3.89607 ppb	-0.01
Spiked Amount 5.000			Recovery	= 77.920%	
7) Surrogate Recovery (FBP)	7.07	172	22049	3.49084 ppb	-0.01
Spiked Amount 5.000			Recovery	= 69.820%	
17) Surrogate Recovery (TPH)	13.69	244	29603	4.14802 ppb	-0.02
Spiked Amount 5.000			Recovery	= 82.960%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	31217	3.92886 ppb		99
4) 2-Methylnaphthalene	6.65	142	19589	4.16390 ppb		93
5) 1-Methylnaphthalene	6.76	142	22195	4.36215 ppb		94
8) Acenaphthylene	7.70	152	32977	4.22816 ppb		100
9) Acenaphthene	7.89	154	19471	4.03252 ppb		99
10) Fluorene	8.51	166	23564	4.56754 ppb		100
12) Phenanthrene	9.80	178	34959	4.61799 ppb		100
13) Anthracene	9.90	178	31708	4.01340 ppb		100
14) Fluoranthene	12.52	202	56959	5.06381 ppb		99
16) Pyrene	13.15	202	58874	4.70479 ppb		99
18) Benz (a) anthracene	16.66	228	43056	4.45920 ppb	#	77
19) Chrysene	16.76	228	54656	5.03299 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	38518	4.48474 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	39947	4.54073 ppb		99
23) Benzo (k) fluoranthene	19.61	252	26217	3.92848 ppb		100
24) Benzo (a) pyrene	20.32	252	41373	4.44992 ppb		99
25) Dibenz (a,h) anthracene	22.82	278	32429	4.71673 ppb	#	38
26) Benzo (g,h,i) perylene	23.30	276	32603	4.46988 ppb	#	50

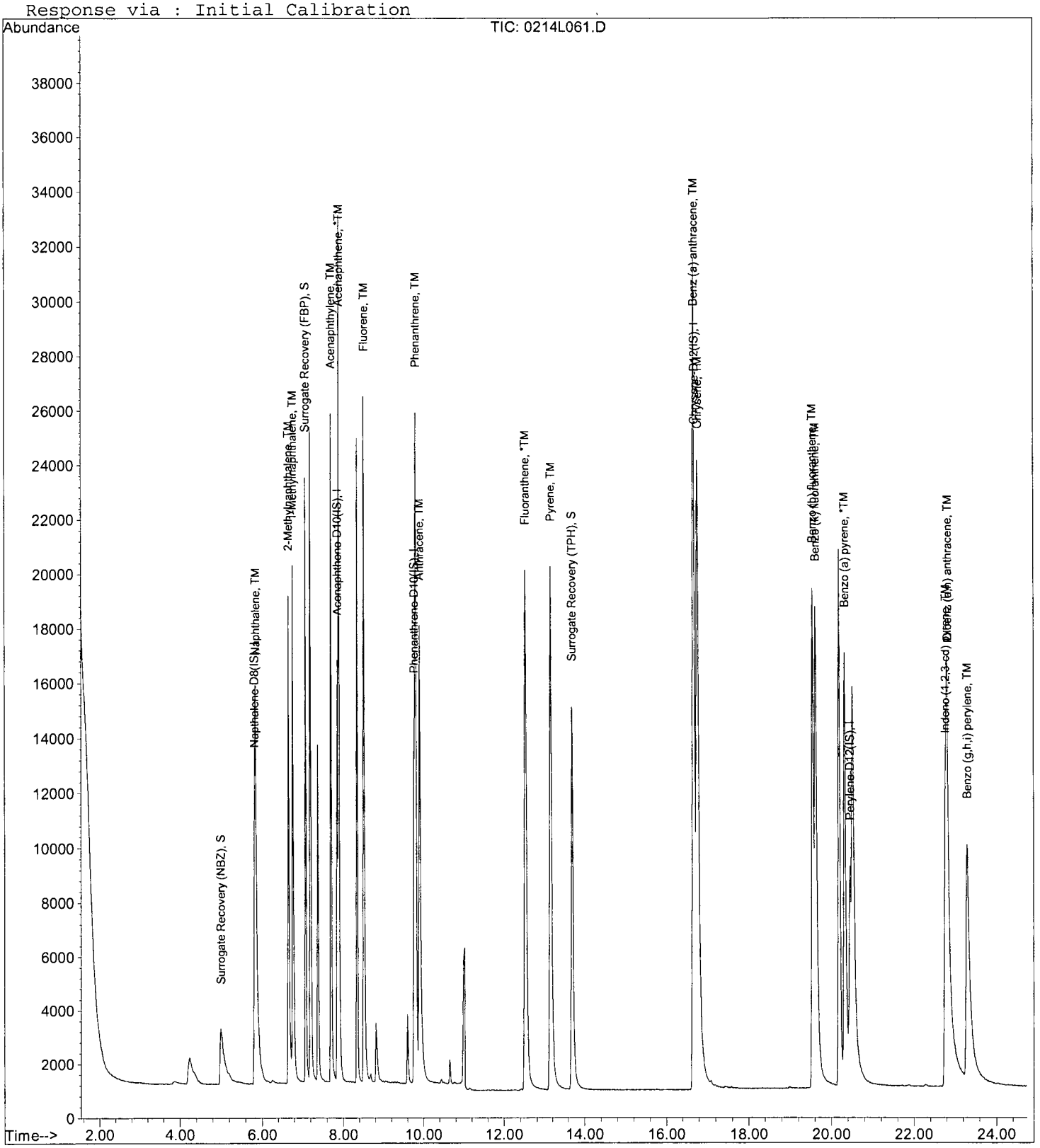
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L061.D Vial: 61
Acq On : 16 Feb 17 20:10 Operator: MA
Sample : 170213A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

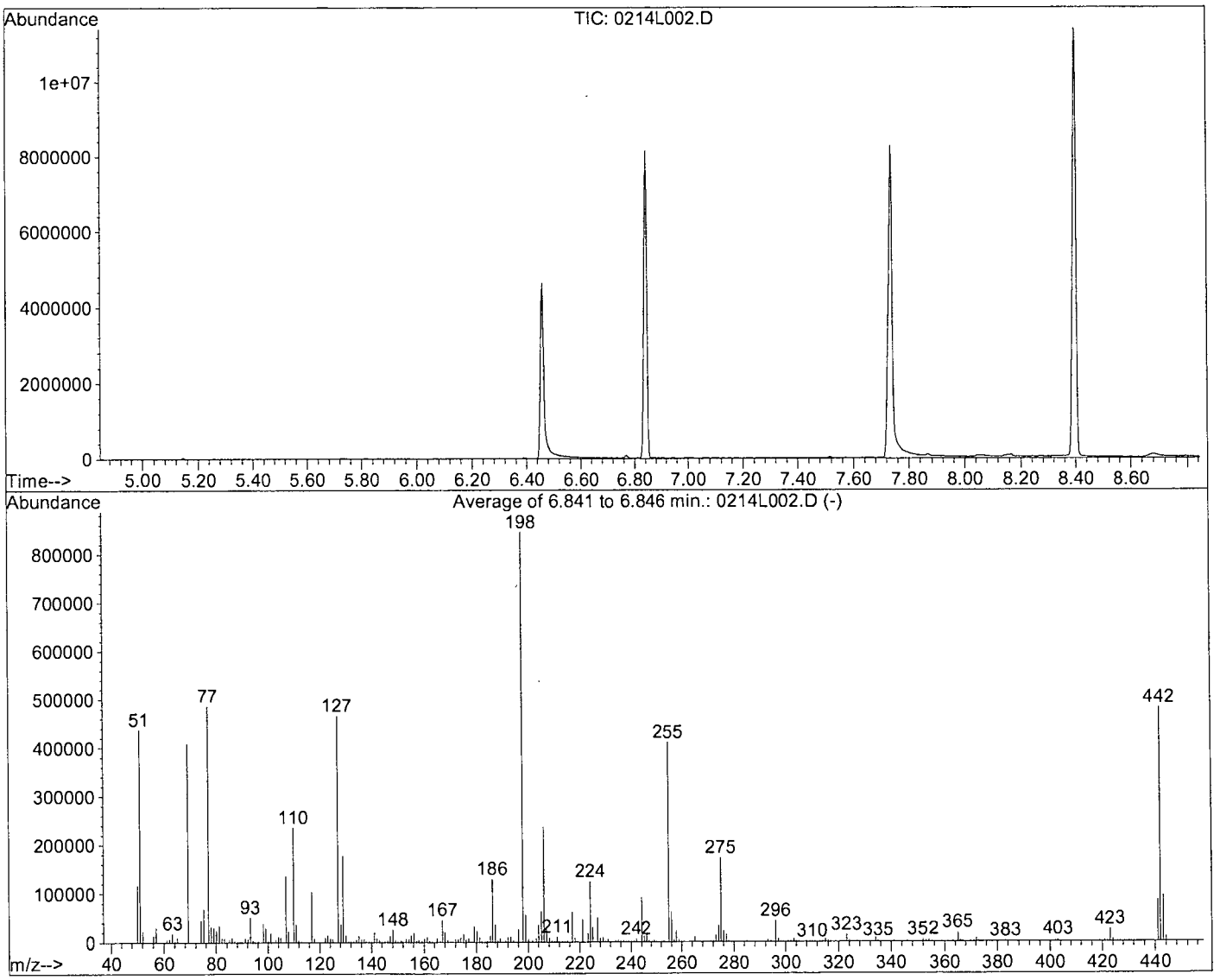
Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L170214\0214L002.D Vial: 2
Acq On : 14 Feb 17 18:03 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1699

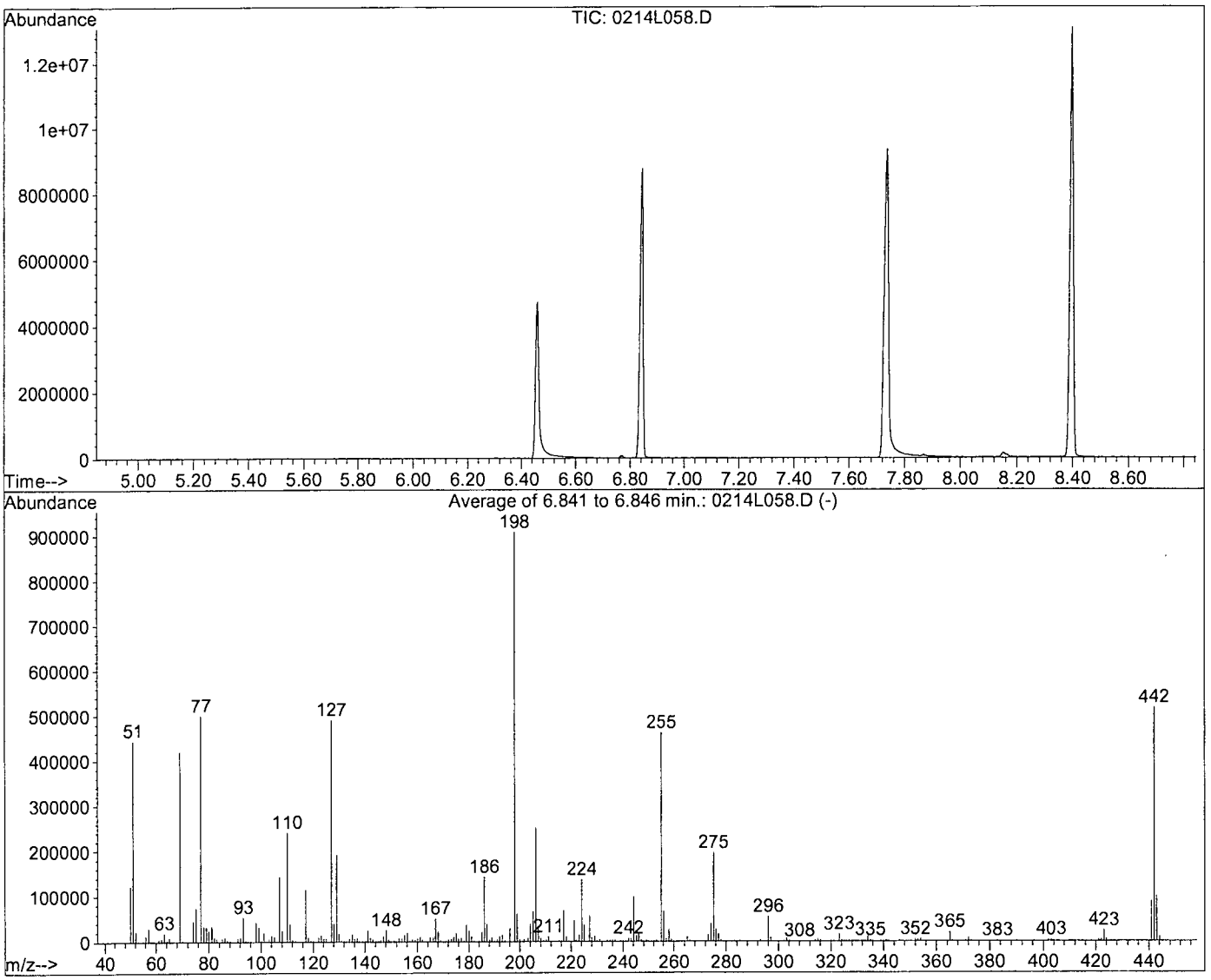
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.7	437381	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1543	PASS
127	198	40	60	55.2	466752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	846059	PASS
199	198	5	9	6.6	55539	PASS
275	198	10	30	20.4	172288	PASS
365	198	1	100	2.2	18390	PASS
441	443	0.01	100	90.5	85072	PASS
442	198	50	150	56.8	480725	PASS
443	442	17	23	19.5	93955	PASS

0214L002.D L0214PR.M Wed Feb 15 12:19:54 2017

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L058.D Vial: 58
Acq On : 16 Feb 17 18:47 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.841 to 6.846 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	443973	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	2754	PASS
127	198	40	60	54.0	490667	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	909205	PASS
199	198	5	9	6.7	60792	PASS
275	198	10	30	21.5	195840	PASS
365	198	1	100	2.2	20133	PASS
441	443	0.01	100	88.9	87784	PASS
442	198	50	150	56.9	516928	PASS
443	442	17	23	19.1	98693	PASS

8270 PAH SIM Standard Curve

PREP DATE:	2/14/16 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**6/14/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		9/12/16	7/29/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		9/12/16	7/29/17	10	20	0	0	0	0	0	0
O2SI	BNA SURR.	100/200		1/12/17	7/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56153			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM 2ND SRC			Prep: 02/14/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	VARIOUS	01/24/17	06/24/17	5
	Methylene Chloride				195
o2si	SV Internal Standar	2000	10/10/16	10/10/17	4
LOT#	XA10079V-35507			Final Vol.	204

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/03/17					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	6/3/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	6/22/16	6/22/17	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 12/22/16 -R.H.	
EX: 12/22/17	

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170213A Blk				0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
2	170213A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
3	170213A LCSD-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
4	AZ49739	AZ49739W11			0.050	1 equip	1020 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W14			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W14			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W09			0.050	1 equip	980 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
8	AZ49783	AZ49783W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
9	AZ49796	AZ49796W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
10	AZ49803	AZ49803W01			0.050	1 equip	1050 E-WB6	1	2/1	02/13/17 11:55	82136
11	AZ49853 MS-1	AZ49853W33	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
12	AZ49853 MSD-1	AZ49853W31	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
13	AZ49853	AZ49853W26			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
14	AZ49854	AZ49854W15			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
15	AZ49855	AZ49855W12			0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
16	AZ49857	AZ49857W12			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	RH
Date	2/14/17
Time	4100
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR
Modified	02/14/17 2:17:45 PM

Reviewed By: [illegible] **Date** 2/14/17

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49860	AZ49860W12			0.050	1	1020	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				
18	AZ49862	AZ49862W10			0.050	1	990	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				

KG 2/14/17

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR

Modified	02/14/17 2:17:45 PM

Reviewed By: KG **Date** 2/14/17

Injection Log

Directory: M:\LINUS\DATA\L170214\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0214L002.D	1	SV Tune 02/09/17	water	14 Feb 17 18:03
2	3	0214L003.D	1	0.1 SIM 02/14/17	water	14 Feb 17 18:21
3	4	0214L004.D	1	0.2 SIM 02/14/17	water	14 Feb 17 18:53
4	5	0214L005.D	1	0.5 SIM 02/14/17	water	14 Feb 17 19:26
5	6	0214L006.D	1	1.0 SIM 02/14/17	water	14 Feb 17 19:59
6	7	0214L007.D	1	5.0 SIM 02/14/17	water	14 Feb 17 20:32
7	8	0214L008.D	1	10 SIM 02/14/17	water	14 Feb 17 21:04
8	9	0214L009.D	1	50 SIM 02/14/17	water	14 Feb 17 21:37
9	10	0214L010.D	1	100 SIM 02/14/17	water	14 Feb 17 22:10
10	11	0214L011.D	1	SS SIM 02/14/17	water	14 Feb 17 22:43
11	58	0214L058.D	1	SV Tune 2/9/17	water	16 Feb 17 18:47
12	59	0214L059.D	1	5.0 SIM 02/14/17	water	16 Feb 17 19:05
13	60	0214L060.D	1	170213A BLK 1/1000	water	16 Feb 17 19:38
14	61	0214L061.D	1	170213A LCS-1 1/1000	water	16 Feb 17 20:10
15	63	0214L063.D	0.98039	AZ49739W11 1/1020	water	16 Feb 17 21:16
16	64	0214L064.D	0.96154	AZ49741W14 1/1040	water	16 Feb 17 21:49
17	65	0214L065.D	0.97087	AZ49743W14 1/1030	water	16 Feb 17 22:21
18	66	0214L066.D	1.02041	AZ49744W09 1/980	water	16 Feb 17 22:54
19	80	0214L080.D	1	5.0 SIM 02/14/17	water	17 Feb 17 6:00

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:33:01 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	43-140	72.6		44-119	60.6	
170214A-LCS	Lab Control Spike	43-140	64.0		44-119	49.9	
AZ49739	ERH218	43-140	62.0		44-119	54.0	
AZ49741	ERH216	43-140	60.8		44-119	51.6	
AZ49743	ERH210	43-140	64.5		44-119	57.7	
AZ49744	ERH229	43-140	70.9		44-119	63.2	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:31:18 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	19-119	43.1		44-120	67.6	
170214A-LCS	Lab Control Spike	19-119	36.9		44-120	60.7	
AZ49739	ERH218	19-119	34.1		44-120	55.5	
AZ49741	ERH216	19-119	36.3		44-120	56.9	
AZ49743	ERH210	19-119	34.8		44-120	59.3	
AZ49744	ERH229	19-119	42.1		44-120	69.0	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:31:18 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER

SDG No: 82130
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	10-115	25.2		50-134	70.4	
170214A-LCS	Lab Control Spike	10-115	23.1		50-134	65.6	
AZ49739	ERH218	10-115	20.2		50-134	63.4	
AZ49741	ERH216	10-115	22.7		50-134	57.2	
AZ49743	ERH210	10-115	20.2		50-134	65.2	
AZ49744	ERH229	10-115	24.6		50-134	69.9	

Comments: Batch: #87DC5-170214A

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:31:20 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82130
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 1151

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	0123Y164	02/15/17 1151
170214A-LCS	Lab Control Spike	0123Y165	02/15/17 1222
AZ49739	ERH218	0123Y166	02/15/17 1303
AZ49741	ERH216	0123Y167	02/15/17 1334
AZ49743	ERH210	0123Y168	02/15/17 1404
AZ49744	ERH229	0123Y169	02/15/17 1435

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:31:43 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: SV Tune 12/15/16

SDG No: 82130
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 10:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 1/19/17	0123Y163.D	02/15/17 11:07
2	Blank	170214A BLK 1/1000	0123Y164.D	02/15/17 11:51
3	Lab Control Spike	170214A LCS-1 1/1000	0123Y165.D	02/15/17 12:22
4	ERH218	AZ49739W14 1/1040	0123Y166.D	02/15/17 13:03
5	ERH216	AZ49741W13 1/980	0123Y167.D	02/15/17 13:34
6	ERH210	AZ49743W12 1/1020	0123Y168.D	02/15/17 14:04
7	ERH229	AZ49744W07 1/990	0123Y169.D	02/15/17 14:35
8		50ug/ml SVOC 1/19/17	0123Y179.D	02/15/17 19:39
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	42.6
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	52.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.3
365	1 - 100% of mass 198	3.8
441	0.01.- 100% of mass 443	83.7
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	18.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82130
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	192352	4.82	769021	6.26	463296	8.26
02	170214A BLK 1/1000	177998	4.82	760130	6.25	439380	8.26
03	170214A LCS-1 1/1000	165304	4.83	697704	6.26	437339	8.26
04	AZ49739W14 1/1040	171067	4.82	769628	6.26	452875	8.26
05	AZ49741W13 1/980	171434	4.82	757673	6.25	453942	8.26
06	AZ49743W12 1/1020	181130	4.83	777411	6.26	448404	8.26
07	AZ49744W07 1/990	163821	4.83	755543	6.26	445618	8.26
08	50ug/ml SVOC 1/19/17	139757	4.82	579971	6.25	359597	8.27
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82130

Lab File ID (Standard): 0123Y007.D Date Analyzed: 01/23/17

Instrument ID: Yoda Time Analyzed: 12:32

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	892159	9.99	829083	13.06	874527	14.70
02	170214A BLK 1/1000	813182	9.99	830149	13.06	667730	14.69
03	170214A LCS-1 1/1000	789191	9.99	824282	13.07	701851	14.69
04	AZ49739W14 1/1040	843631	9.99	851283	13.06	837045	14.70
05	AZ49741W13 1/980	858697	9.99	884176	13.06	873572	14.69
06	AZ49743W12 1/1020	845276	9.99	825271	13.06	838316	14.70
07	AZ49744W07 1/990	825732	9.98	826058	13.06	837715	14.70
08	50ug/ml SVOC 1/19/17	677259	9.99	663679	13.07	665007	14.70
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.0	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.0	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.1	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	55.5	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	20.2	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	63.4	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y166
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:33:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y166.D Vial: 66
Acq On : 15 Feb 17 13:03 Operator: MA
Sample : AZ49739W14 1/1040 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:37 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	171067	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	769628	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	452875	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	843631	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	851283	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	837045	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	367798	68.15951 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.080%	
5) Phenol-D6 (S)	4.47	99	289358	40.30445 ppb	0.01
Spiked Amount 200.000			Recovery	= 20.152%	
21) Nitrobenzene-D5(S)	5.46	82	433269	55.51038 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.510%	
45) 2-Fluorobiphenyl(S)	7.49	172	784269	53.98236 ppb	0.00
Spiked Amount 100.000			Recovery	= 53.982%	
63) 2,4,6-Tribromophenol(S)	9.19	330	259869	123.97084 ppb	0.00
Spiked Amount 200.000			Recovery	= 61.986%	
81) Terphenyl-D14(S)	11.85	244	1160745	63.39349 ppb	0.00
Spiked Amount 100.000			Recovery	= 63.393%	

Target Compounds Qvalue

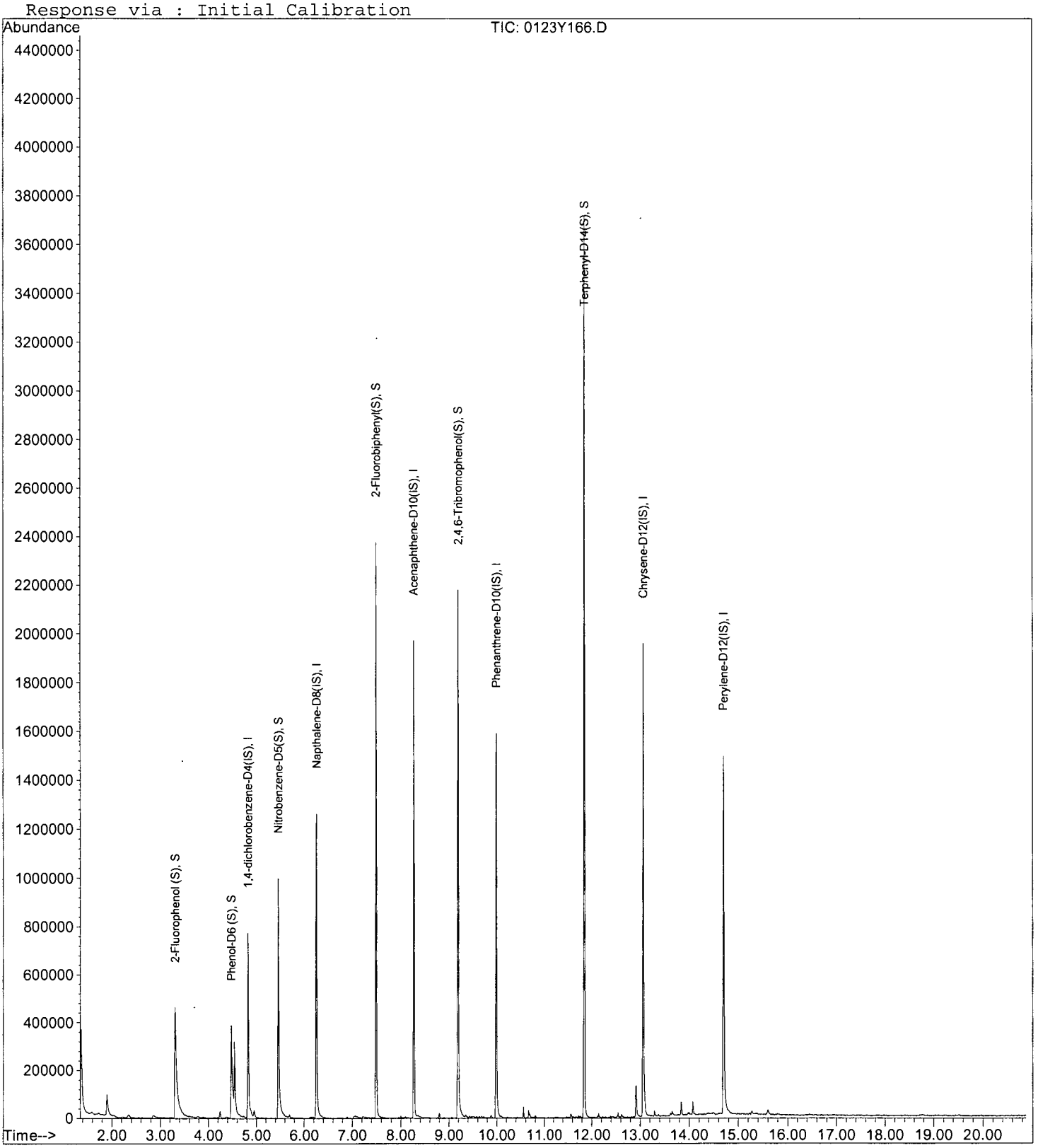
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y166.D Vial: 66
Acq On : 15 Feb 17 13:03 Operator: MA
Sample : AZ49739W14 1/1040 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:37 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	60.8	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	51.6	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	36.3	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	56.9	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.7	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	57.2	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y167
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:33:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y167.D Vial: 67
Acq On : 15 Feb 17 13:34 Operator: MA
Sample : AZ49741W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Feb 16 16:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	171434	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	757673	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	453942	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	858697	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	884176	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	873572	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	392711	74.10272 ppb	0.00
Spiked Amount 204.082			Recovery	= 36.310%	
5) Phenol-D6 (S)	4.47	99	326009	46.23715 ppb	0.00
Spiked Amount 204.082			Recovery	= 22.656%	
21) Nitrobenzene-D5(S)	5.46	82	437503	58.09937 ppb	0.00
Spiked Amount 102.041			Recovery	= 56.937%	
45) 2-Fluorobiphenyl(S)	7.50	172	751011	52.62423 ppb	0.00
Spiked Amount 102.041			Recovery	= 51.572%	
63) 2,4,6-Tribromophenol(S)	9.19	330	255609	124.13490 ppb	0.00
Spiked Amount 204.082			Recovery	= 60.826%	
81) Terphenyl-D14(S)	11.84	244	1087939	58.37439 ppb	0.00
Spiked Amount 102.041			Recovery	= 57.207%	

Target Compounds Qvalue

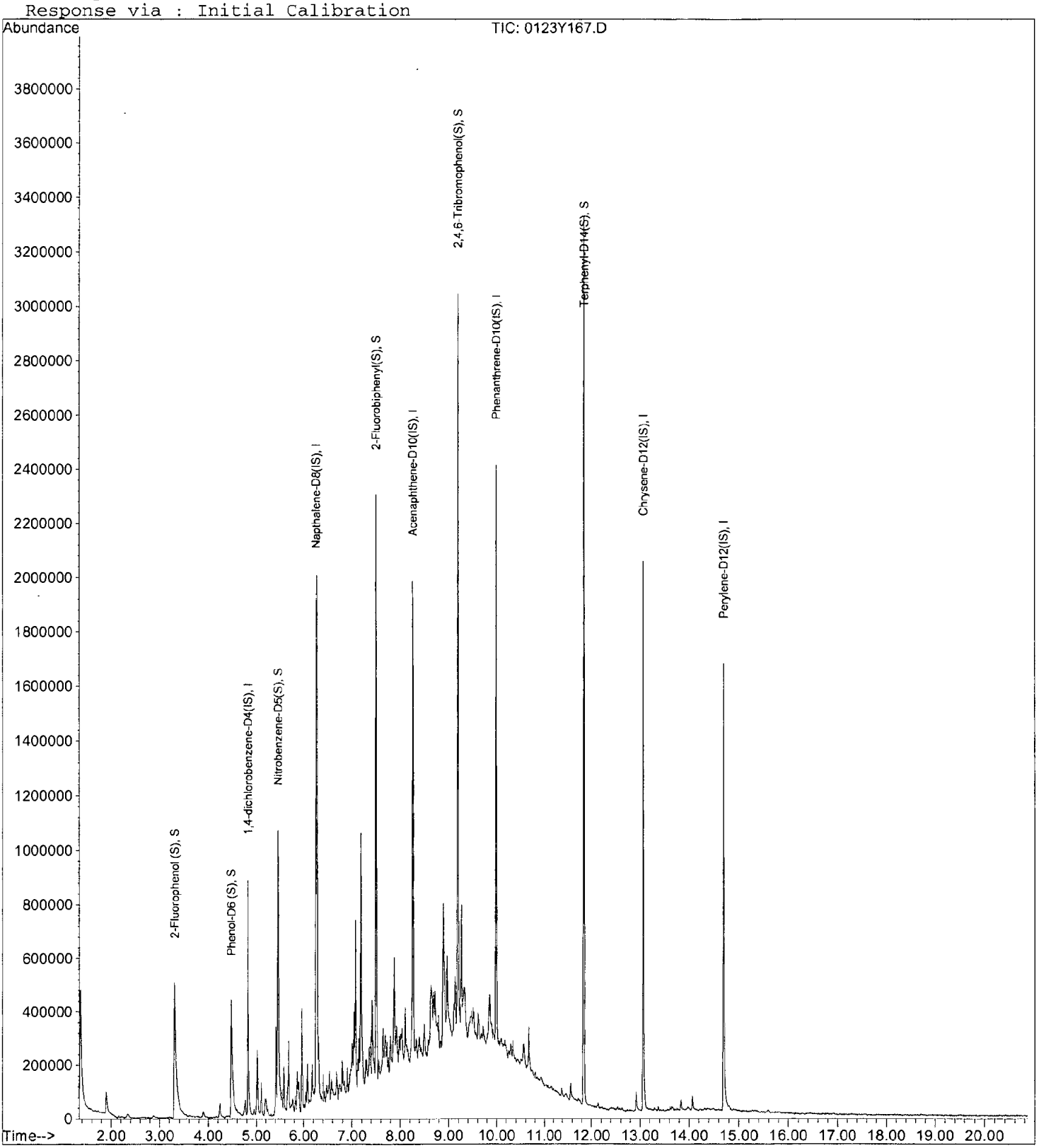
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y167.D Vial: 67
Acq On : 15 Feb 17 13:34 Operator: MA
Sample : AZ49741W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Feb 16 16:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	64.5	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.7	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.8	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	59.3	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	20.2	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	65.2	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y168
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:33:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y168.D Vial: 68
Acq On : 15 Feb 17 14:04 Operator: MA
Sample : AZ49743W12 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Feb 15 15:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	181130	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	777411	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	448404	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	845276	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	825271	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	838316	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	397490	68.20542 ppb	0.00
Spiked Amount 196.078			Recovery	= 34.785%	
5) Phenol-D6 (S)	4.47	99	307555	39.66577 ppb	0.01
Spiked Amount 196.078			Recovery	= 20.230%	
21) Nitrobenzene-D5(S)	5.46	82	467283	58.10674 ppb	0.00
Spiked Amount 98.039			Recovery	= 59.269%	
45) 2-Fluorobiphenyl(S)	7.49	172	830132	56.57734 ppb	0.00
Spiked Amount 98.039			Recovery	= 57.709%	
63) 2,4,6-Tribromophenol(S)	9.19	330	267801	126.49865 ppb	0.00
Spiked Amount 196.078			Recovery	= 64.514%	
81) Terphenyl-D14(S)	11.85	244	1157688	63.94057 ppb	0.00
Spiked Amount 98.039			Recovery	= 65.220%	

Target Compounds Qvalue

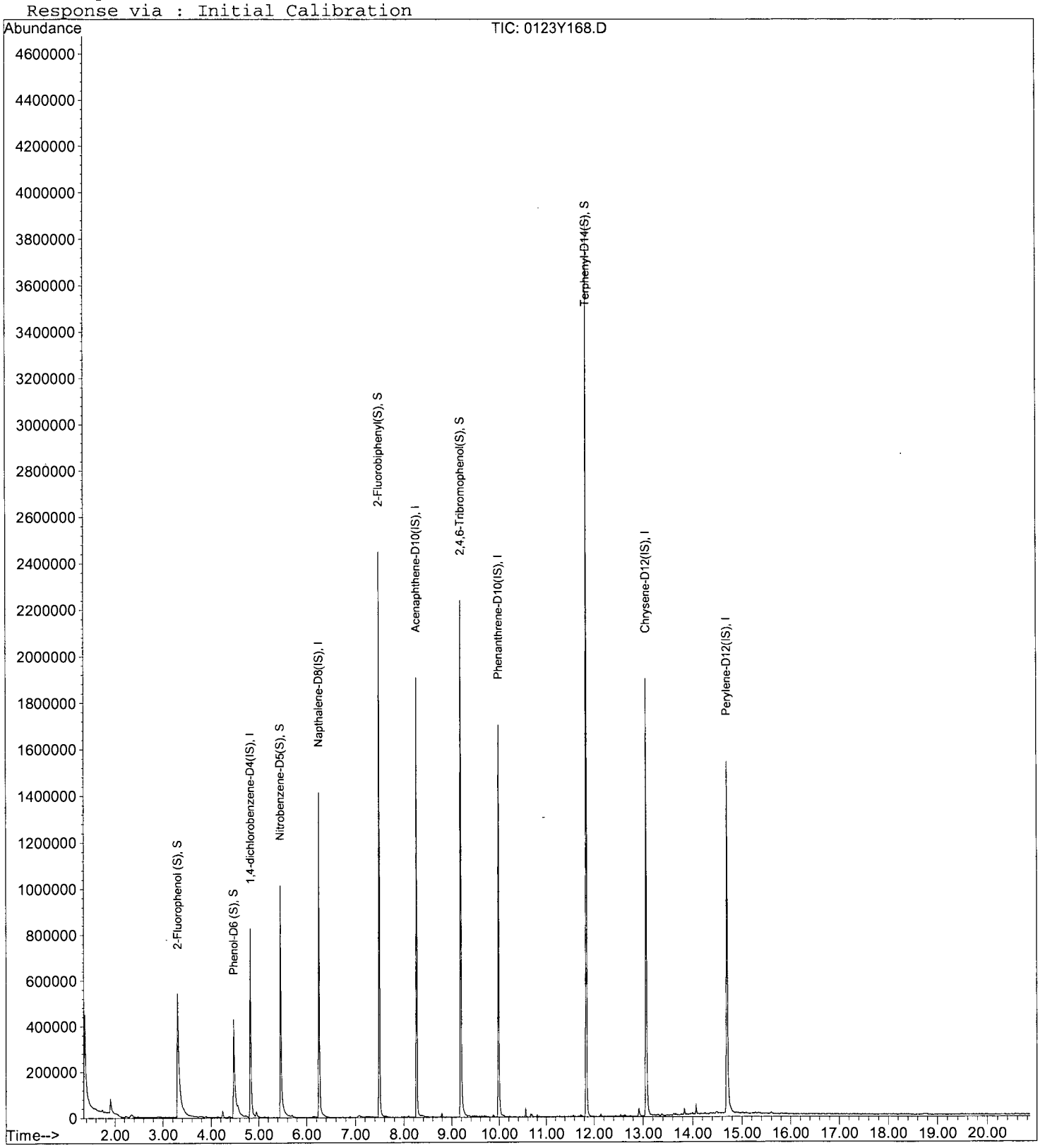
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y168.D Vial: 68
Acq On : 15 Feb 17 14:04 Operator: MA
Sample : AZ49743W12 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Feb 15 15:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	70.9	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.2	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.1	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	69.0	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	24.6	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	69.9	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y169
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:33:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y169.D Vial: 69
Acq On : 15 Feb 17 14:35 Operator: MA
Sample : AZ49744W07 1/990 Inst : Yoda
Misc : water Multiplr: 1.01

Quant Time: Feb 16 16:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163821	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	755543	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	445618	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	825732	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	826058	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	837715	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	434611	84.95303 ppb	0.00
Spiked Amount 202.020			Recovery	= 42.052%	
5) Phenol-D6 (S)	4.47	99	338428	49.72157 ppb	0.01
Spiked Amount 202.020			Recovery	= 24.612%	
21) Nitrobenzene-D5(S)	5.46	82	528601	69.68361 ppb	0.00
Spiked Amount 101.010			Recovery	= 68.987%	
45) 2-Fluorobiphenyl(S)	7.49	172	904021	63.87711 ppb	0.00
Spiked Amount 101.010			Recovery	= 63.238%	
63) 2,4,6-Tribromophenol(S)	9.19	330	292435	143.21035 ppb	0.00
Spiked Amount 202.020			Recovery	= 70.889%	
81) Terphenyl-D14(S)	11.85	244	1242276	70.62423 ppb	0.00
Spiked Amount 101.010			Recovery	= 69.918%	

Target Compounds Qvalue

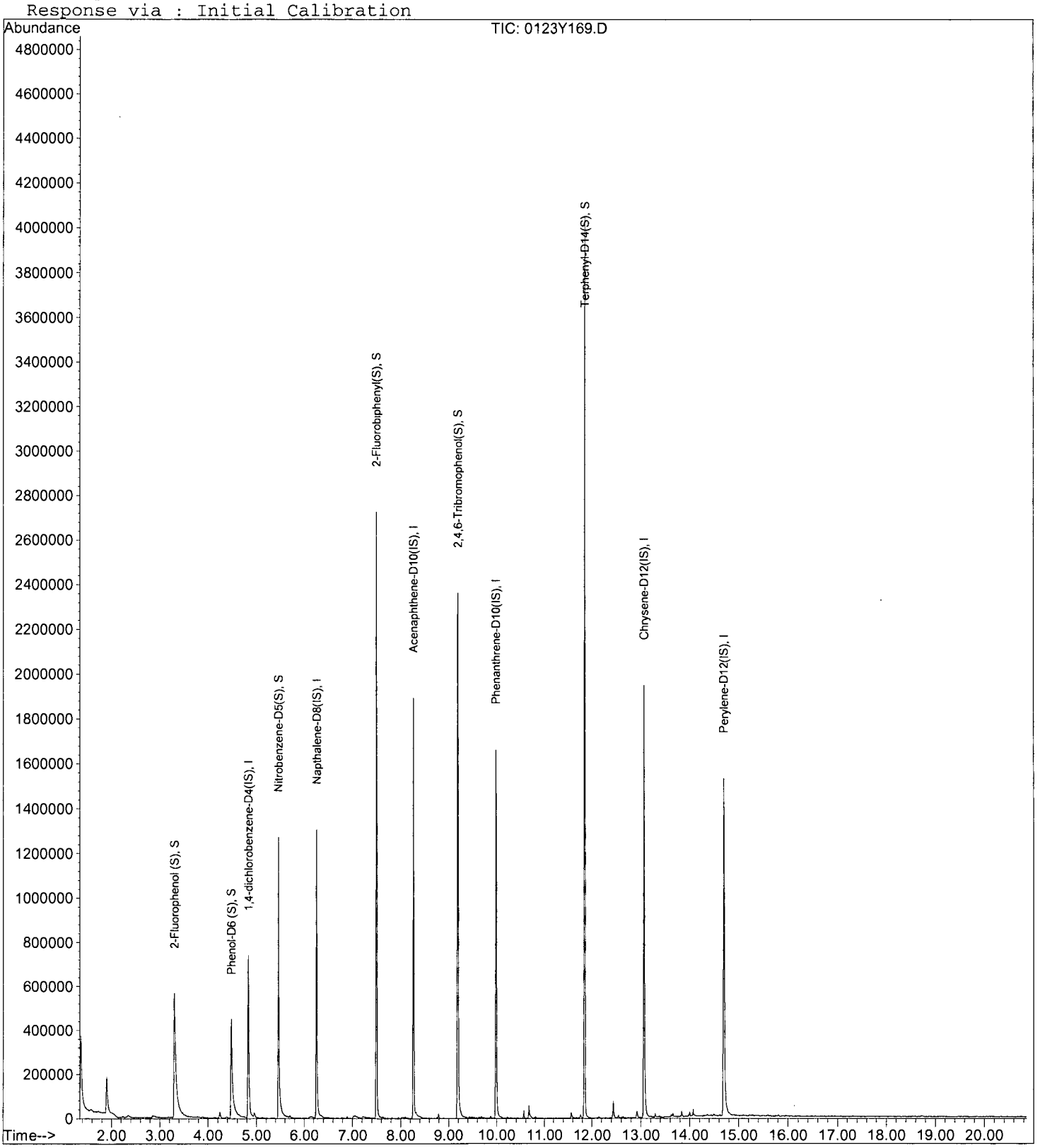
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y169.D Vial: 69
Acq On : 15 Feb 17 14:35 Operator: MA
Sample : AZ49744W07 1/990 Inst : Yoda
Misc : water Multiplr: 1.01

Quant Time: Feb 16 16:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003.D	0123Y004 D	0123Y005.D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41)	Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43)	2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44)	2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46)	1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47)	2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48)	2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49)	Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50)	2,6-DNT	8.07	165	13516	4.34276	ppb		98
51)	Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52)	3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53)	Acenaphthene	8.30	154	61118	5.27635	ppb		98
54)	2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55)	4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56)	Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57)	2,4-DNT	8.55	165	18690	4.26757	ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59)	Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60)	4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61)	Fluorene	8.90	166	69616	5.27556	ppb		96
62)	4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65)	4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66)	Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67)	n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69)	4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70)	Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71)	Atrazine	9.68	200	7883	2.10443	ppb		92
72)	Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73)	Phenanthrene	10.02	178	99531	5.00174	ppb		99
74)	Anthracene	10.08	178	104078	5.06633	ppb		99
75)	Carbazol	10.29	167	87488	4.74701	ppb		100
76)	Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77)	Fluoranthene	11.40	202	106801	4.84818	ppb		99
79)	Benzidine	11.59	184	41695	5.01562	ppb		98
80)	Pyrene	11.66	202	111459	4.57558	ppb		97
82)	Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83)	3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84)	Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85)	Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86)	Chrysene	13.10	228	115566	5.28777	ppb		99
87)	Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89)	Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91)	Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94)	Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

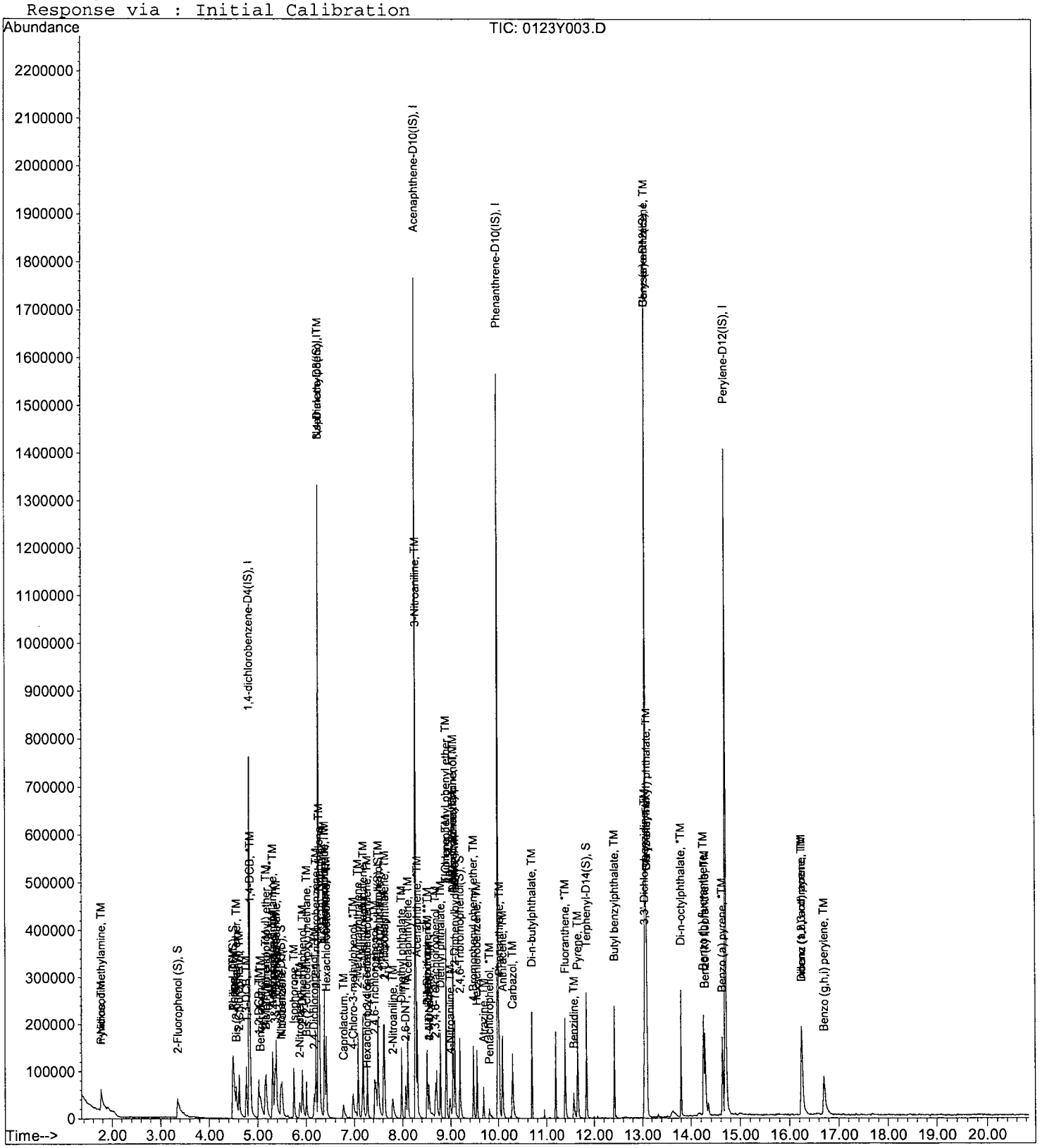
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933	ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860	ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861	ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944	ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646	ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318	ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796	ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690	ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723	ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118	ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937	ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420	ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425	ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231	ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926	ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904	ppb		86
61) Fluorene	8.90	166	136880	10.19080	ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103	ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238	ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238	ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736	ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230	ppb		89
71) Atrazine	9.69	200	17574	4.54512	ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148	ppb		93
73) Phenanthrene	10.01	178	207115	10.08340	ppb		100
74) Anthracene	10.08	178	215698	10.17215	ppb		99
75) Carbazol	10.28	167	186612	9.80942	ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533	ppb		100
77) Fluoranthene	11.40	202	215194	9.46381	ppb		99
79) Benzidine	11.58	184	88604	10.34478	ppb		98
80) Pyrene	11.66	202	225558	8.98704	ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716	ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727	ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157	ppb		98
86) Chrysene	13.10	228	218169	9.68864	ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023	ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764	ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396	ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464	ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986	ppb		97

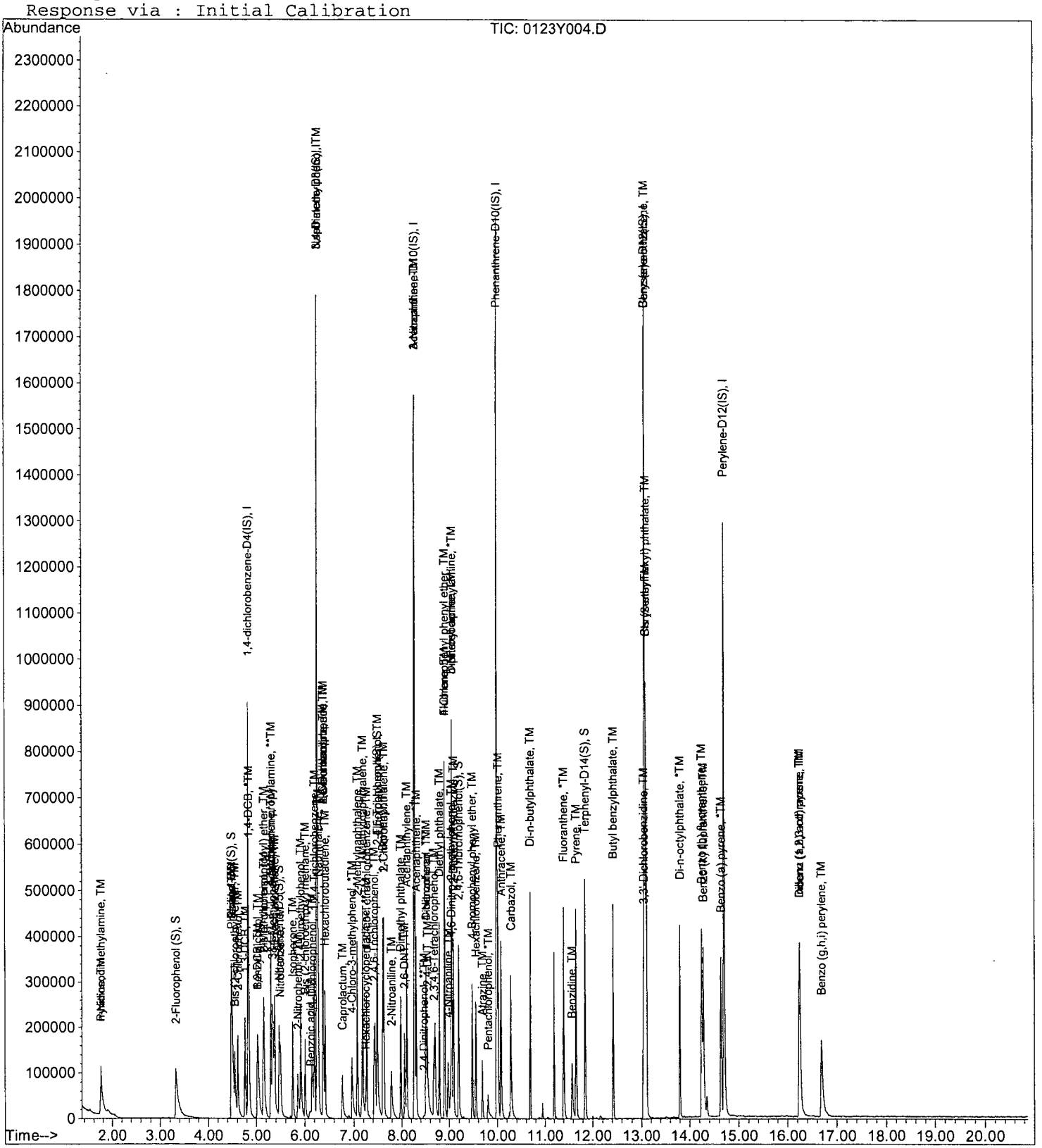
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery = 19.524%		
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery = 20.517%		
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery = 20.165%		
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery = 21.167%		
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery = 18.758%		
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery = 19.925%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

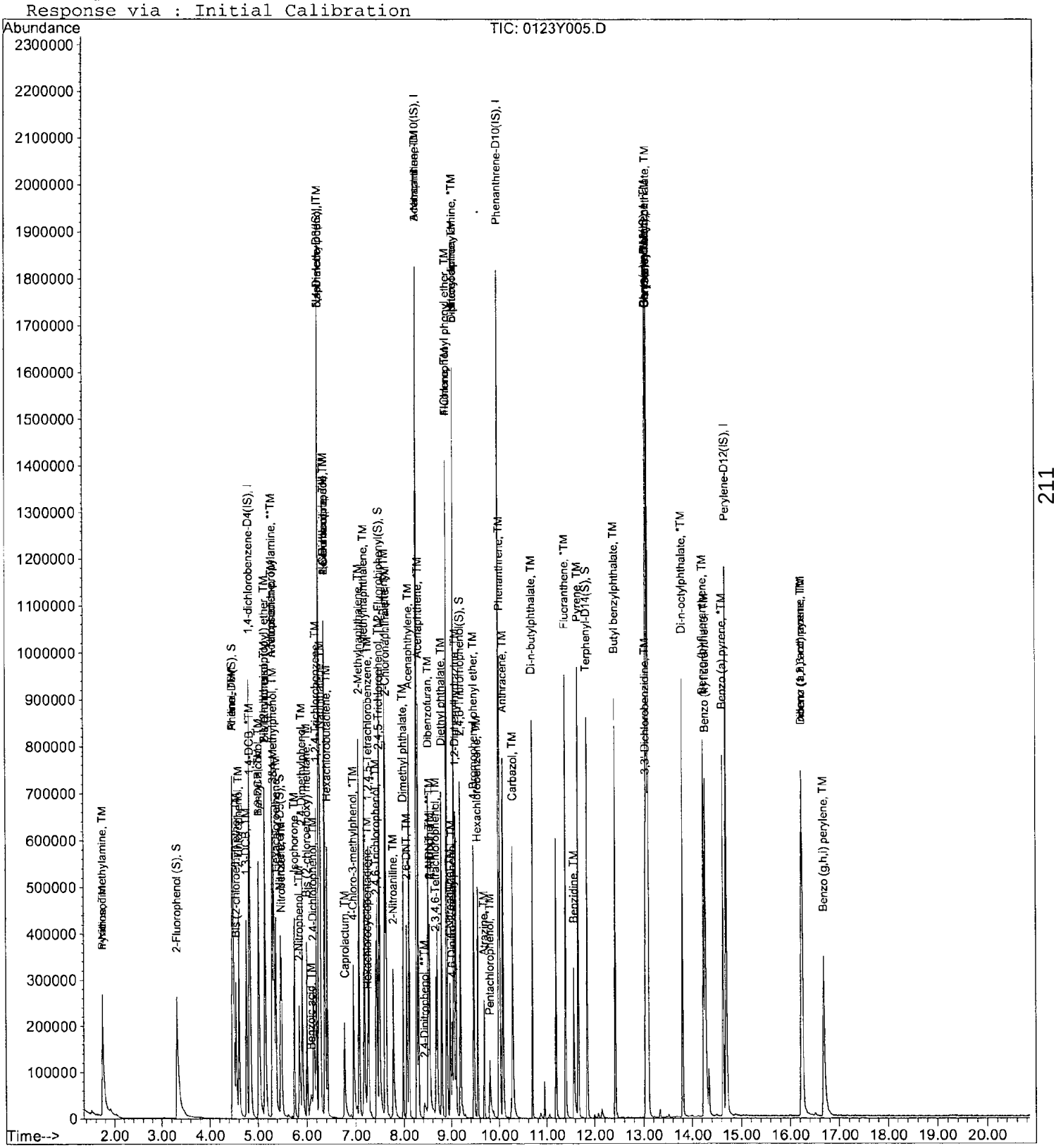
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



211

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39)	1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46)	1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47)	2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48)	2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49)	Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50)	2,6-DNT	8.06	165	123834	40.03121	ppb		78
51)	Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52)	3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53)	Acenaphthene	8.31	154	448599	38.96400	ppb		97
54)	2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55)	4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56)	Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57)	2,4-DNT	8.53	165	175188	40.24547	ppb		83
58)	2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59)	Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61)	Fluorene	8.90	166	515360	39.29261	ppb		97
62)	4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65)	4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66)	Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67)	n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69)	4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70)	Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71)	Atrazine	9.69	200	75092	20.23603	ppb		96
72)	Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73)	Phenanthrene	10.02	178	797163	40.43889	ppb		99
74)	Anthracene	10.08	178	837248	41.14126	ppb		99
75)	Carbazol	10.28	167	750665	41.11558	ppb		97
76)	Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77)	Fluoranthene	11.40	202	872131	39.96448	ppb		97
79)	Benzidine	11.58	184	358107	43.08926	ppb		99
80)	Pyrene	11.66	202	926965	38.06361	ppb		99
82)	Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83)	3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84)	Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86)	Chrysene	13.10	228	847601	38.79268	ppb		97
87)	Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89)	Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91)	Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92)	Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93)	Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94)	Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

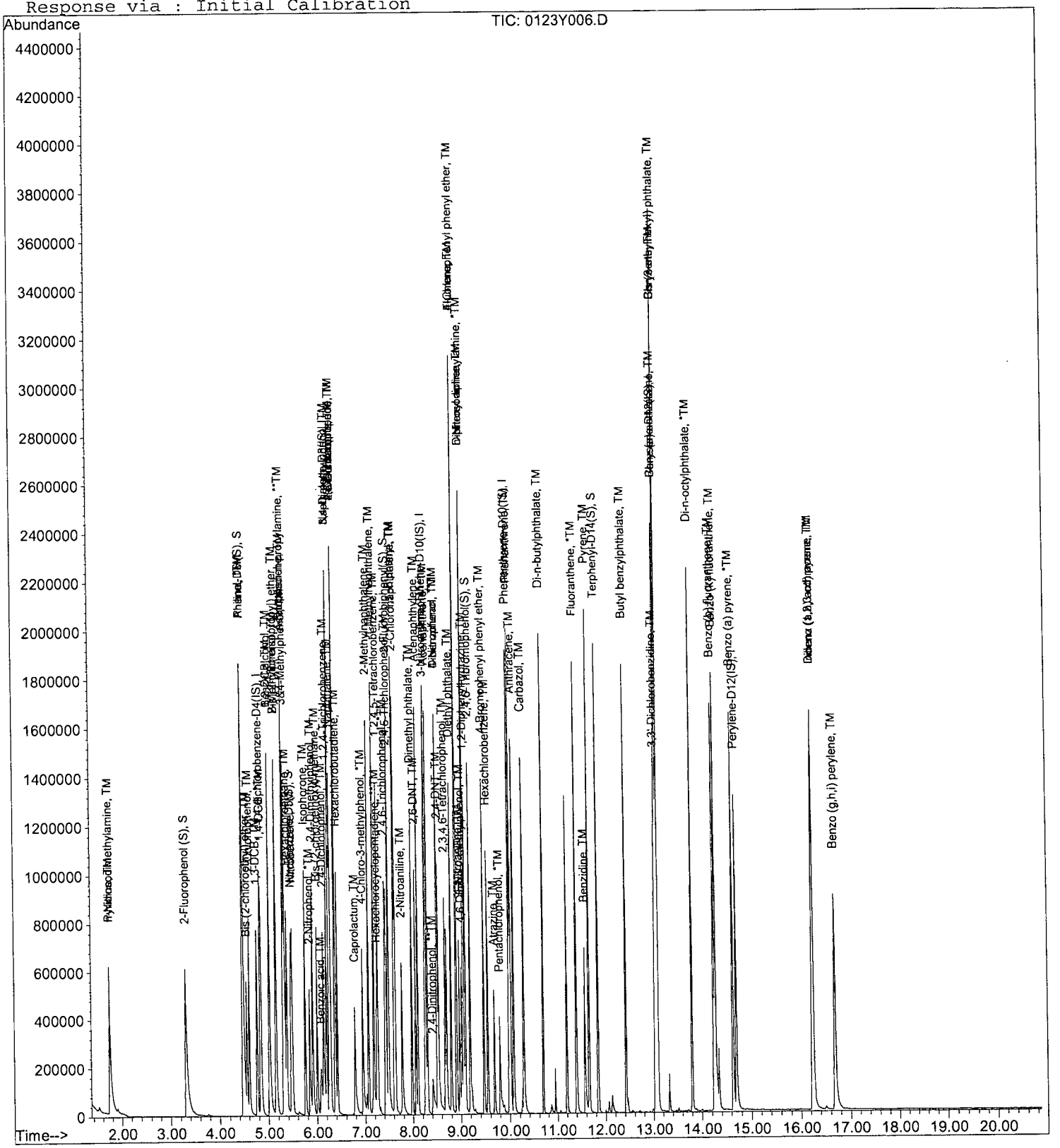
Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

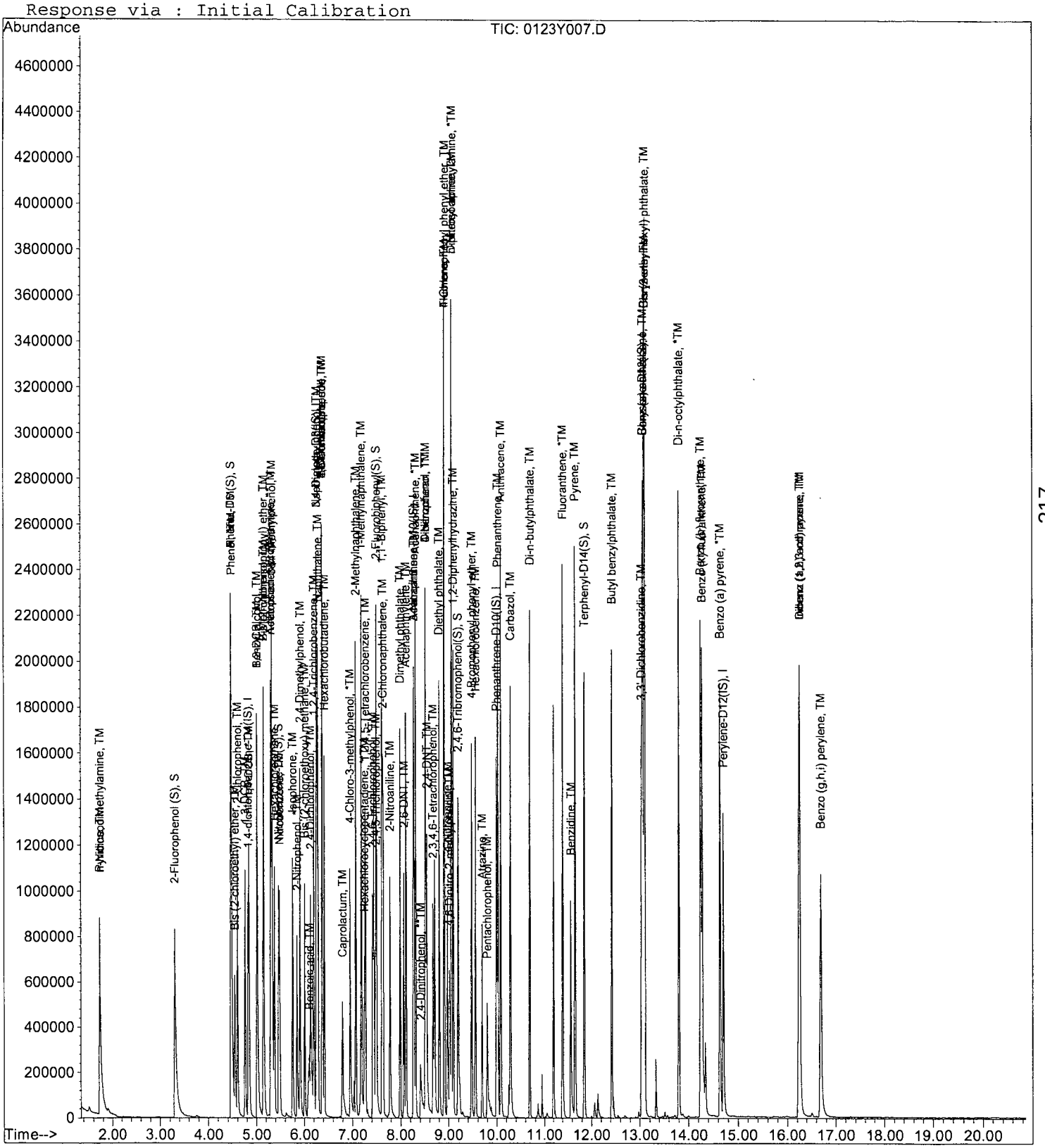
Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



217

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery	= 59.291%	
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.295%	
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.529%	
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.203%	
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.820%	
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.189%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750	ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588	ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920	ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008	ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161	ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869	ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920	ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675	ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844	ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818	ppb		99
53) Acenaphthene	8.31	154	660528	56.10991	ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470	ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087	ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197	ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227	ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298	ppb		98
61) Fluorene	8.90	166	723357	53.93814	ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356	ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272	ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420	ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533	ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941	ppb		96
71) Atrazine	9.69	200	113418	29.34015	ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528	ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905	ppb		99
74) Anthracene	10.08	178	1251780	59.04733	ppb		100
75) Carbazol	10.28	167	1130326	59.43097	ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811	ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928	ppb		99
79) Benzidine	11.57	184	543076	64.22768	ppb		98
80) Pyrene	11.66	202	1386950	55.97742	ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935	ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200	ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820	ppb		98
86) Chrysene	13.10	228	1217719	54.77858	ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777	ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932	ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798	ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

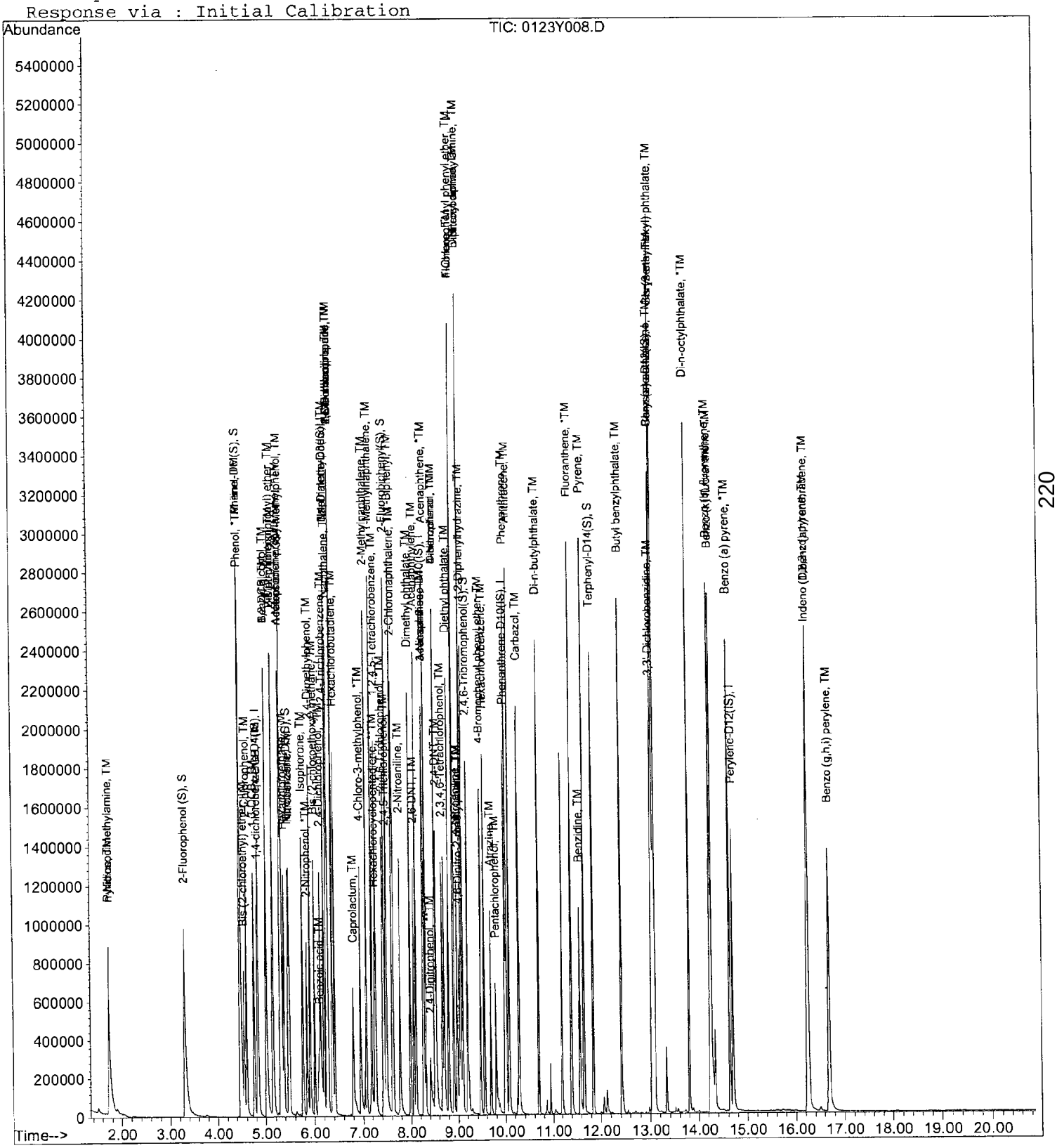
Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



220

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb		98
3) Pyridine	1.73	79	634454	83.90277 ppb		100
6) Phenol	4.48	94	642315	77.49542 ppb		98
7) Aniline	4.48	66	611004	77.80712 ppb	#	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb		91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb		99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb		99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb		96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb		93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb		99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb		98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb		96
16) Acetophenone	5.30	105	658013	77.62630 ppb		95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb		93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb		89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb		97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb		92
23) Isophorone	5.76	82	966459	84.20922 ppb		98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb		98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb		98
26) Benzoic acid	6.12	105	344797	79.06975 ppb		99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb		99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb		97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb		99
31) Naphthalene	6.28	128	1406137	78.62073 ppb		99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb		96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb		98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb		98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb		98
36) Caprolactum	6.82	55	245801	92.00545 ppb		98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

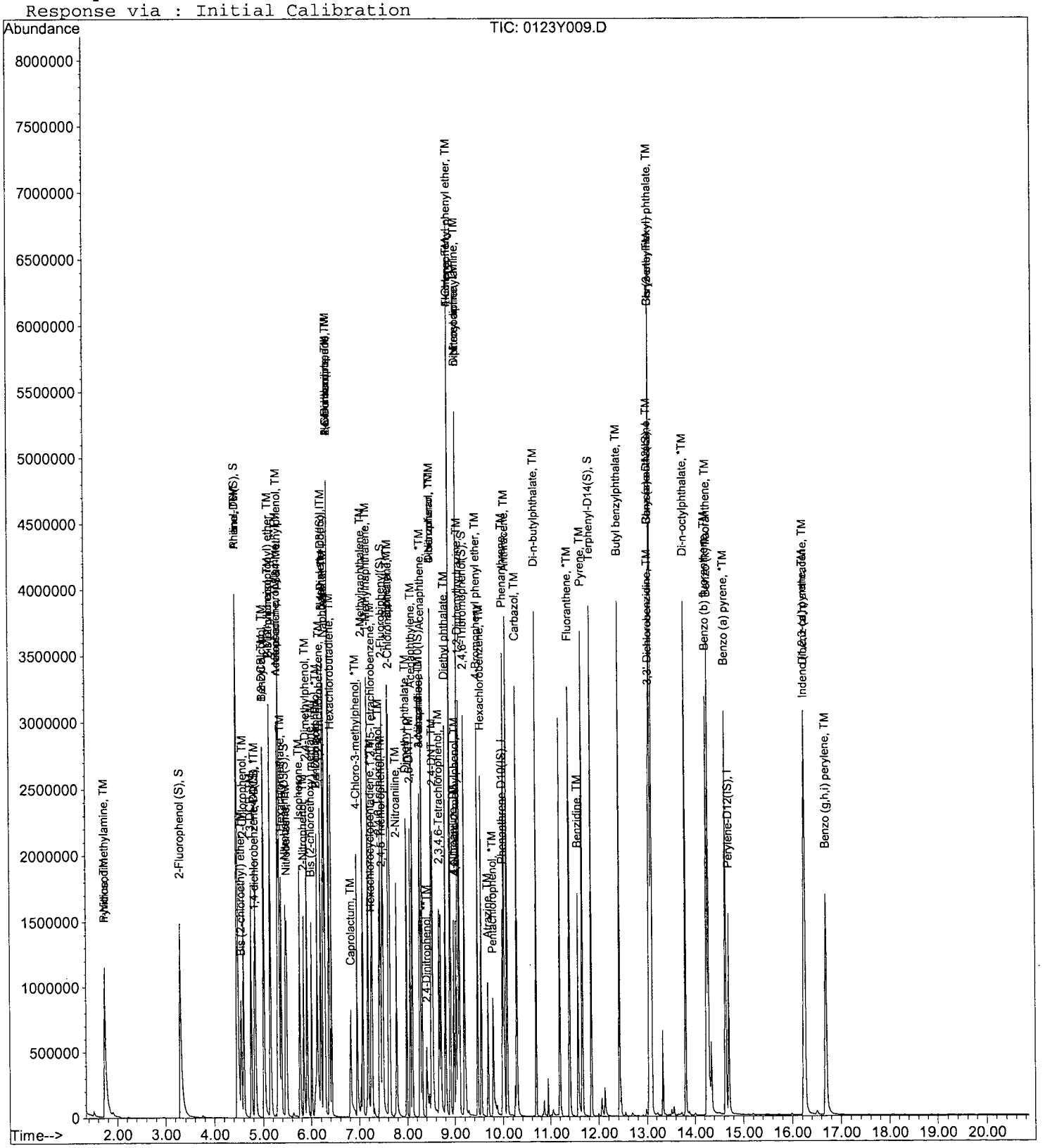
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000				Recovery = 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000				Recovery = 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000				Recovery = 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000				Recovery = 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000				Recovery = 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000				Recovery = 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562	ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946	ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351	ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756	ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843	ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130	ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964	ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747	ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681	ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230	ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232	ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576	ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521	ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657	ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139	ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091	ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456	ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458	ppb		86
61) Fluorene	8.91	166	1259262	98.30180	ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084	ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202	ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801	ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107	ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343	ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365	ppb	#	85
71) Atrazine	9.70	200	186402	51.29770	ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807	ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577	ppb		99
74) Anthracene	10.08	178	1948772	97.79130	ppb		100
75) Carbazol	10.29	167	1735219	97.05778	ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443	ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594	ppb	#	95
79) Benzidine	11.58	184	881021	112.09512	ppb		99
80) Pyrene	11.67	202	2238167	97.18146	ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181	ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441	ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548	ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876	ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644	ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142	ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131	ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324	ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950	ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985	ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647	ppb		95

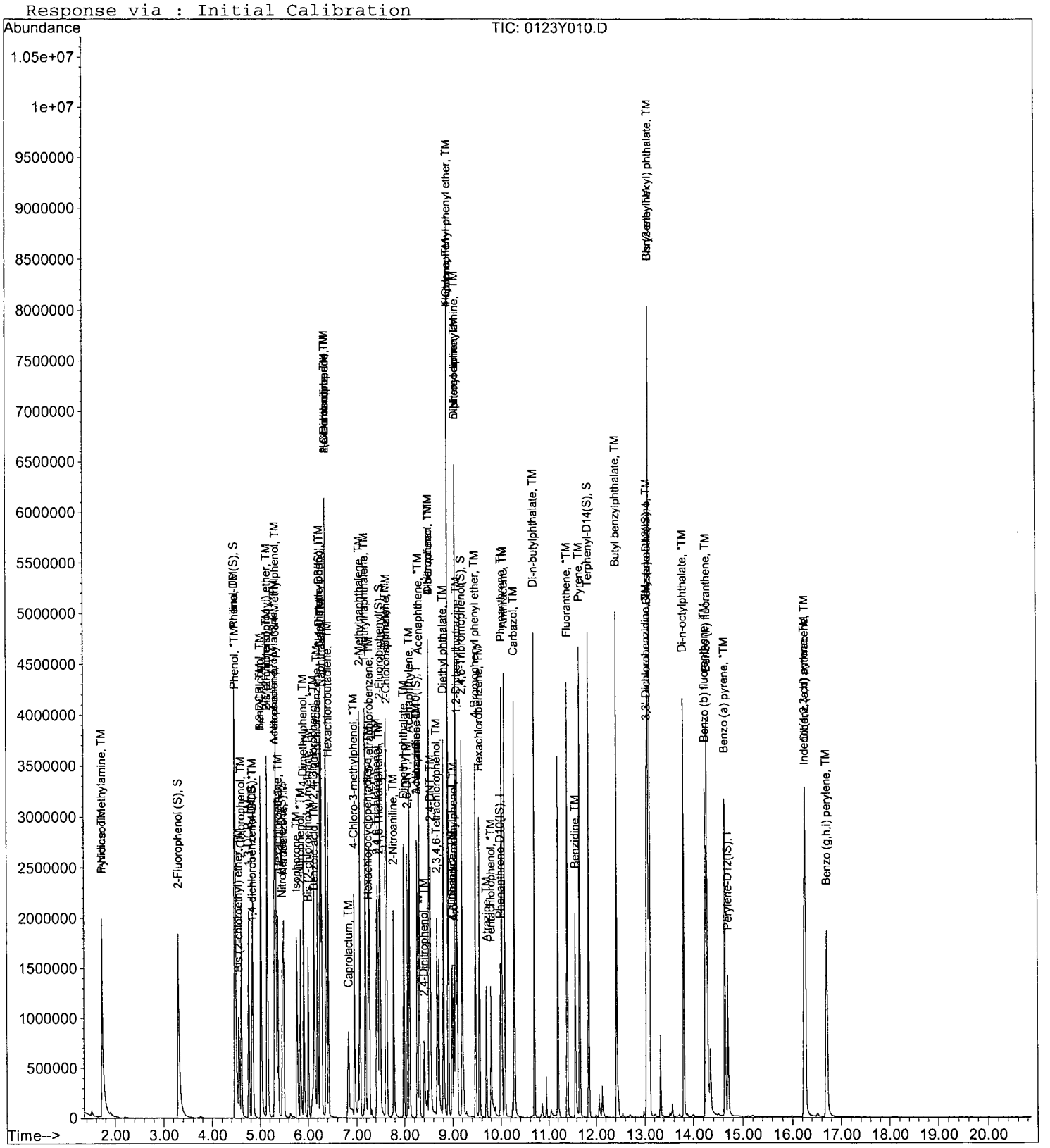
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
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117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.456}$ = 56.38 MA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	646439	48.57137	ppb		100
39)	1-Methylnaphthalene	7.19	142	602666	45.97150	ppb		100
41)	Hexachlorocyclopentadiene	7.25	237	121681	52.65785	ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	193346	48.88713	ppb		97
44)	2,4,5-Trichlorophenol	7.47	196	209742	48.34739	ppb		97
46)	1,1'-Biphenyl	7.61	154	822806	47.07970	ppb		99
47)	2-Chloronaphthalene	7.63	162	692861	51.88332	ppb		96
48)	2-Nitroaniline	7.77	65	233738	49.08526	ppb		85
49)	Dimethyl phthalate	7.98	163	766645	47.87741	ppb		99
50)	2,6-DNT	8.06	165	178567	49.95212	ppb	#	72
51)	Acenaphthylene	8.10	152	982221	45.67988	ppb		99
52)	3-Nitroaniline	8.25	138	193766	49.56328	ppb		85
53)	Acenaphthene	8.31	154	608874	45.93545	ppb		100
54)	2,4-Dinitrophenol	8.41	184	82560	48.59465	ppb		95
55)	4-Nitrophenol	8.50	65	144946	48.19129	ppb		77
56)	Dibenzofuran	8.50	168	875323	46.77048	ppb		98
57)	2,4-DNT	8.54	165	249063	49.96847	ppb		89
58)	2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501	ppb	#	90
59)	Diethyl phthalate	8.80	149	774517	47.76643	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651	ppb		86
61)	Fluorene	8.90	166	658029	43.43306	ppb		96
62)	4-Nitroaniline	8.98	138	188537	50.69450	ppb		89
65)	4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398	ppb	#	80
66)	Diphenyl amine	9.06	169	1101615	100.68261	ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	1101615	100.68261	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1107522	57.98015	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	213301	49.74664	ppb		85
70)	Hexachlorobenzene	9.55	284	235108	52.56424	ppb		90
71)	Atrazine	9.69	200	93523	22.08154	ppb		99
72)	Pentachlorophenol	9.79	266	86715	45.18058	ppb		95
73)	Phenanthrene	10.02	178	1072837	46.33434	ppb		100
74)	Anthracene	10.08	178	1080433	44.73670	ppb		99
75)	Carbazol	10.28	167	987284	46.17731	ppb		96
76)	Di-n-butylphthalate	10.69	149	1336738	49.47728	ppb		99
77)	Fluoranthene	11.40	202	1187541	47.24409	ppb		97
79)	Benzidine	11.58	184	466479	44.95376	ppb		97
80)	Pyrene	11.66	202	1231903	46.08479	ppb		98
82)	Butyl benzylphthalate	12.42	149	620712	50.22071	ppb	#	78
83)	3,3'-Dichlorobenzidine	13.03	252	451989	53.92761	ppb		94
84)	Benz (a) anthracene	13.05	228	1187024	47.21512	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640	ppb		99
86)	Chrysene	13.10	228	1055130	42.79043	ppb		100
87)	Di-n-octylphthalate	13.81	149	1488607	49.98751	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1145100	44.79514	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1223330	51.92467	ppb		98
91)	Benzo (a) pyrene	14.64	252	1142371	48.92994	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771	ppb		99
93)	Dibenz (a,h) anthracene	16.26	278	1059706	47.56225	ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1051918	47.90166	ppb		97

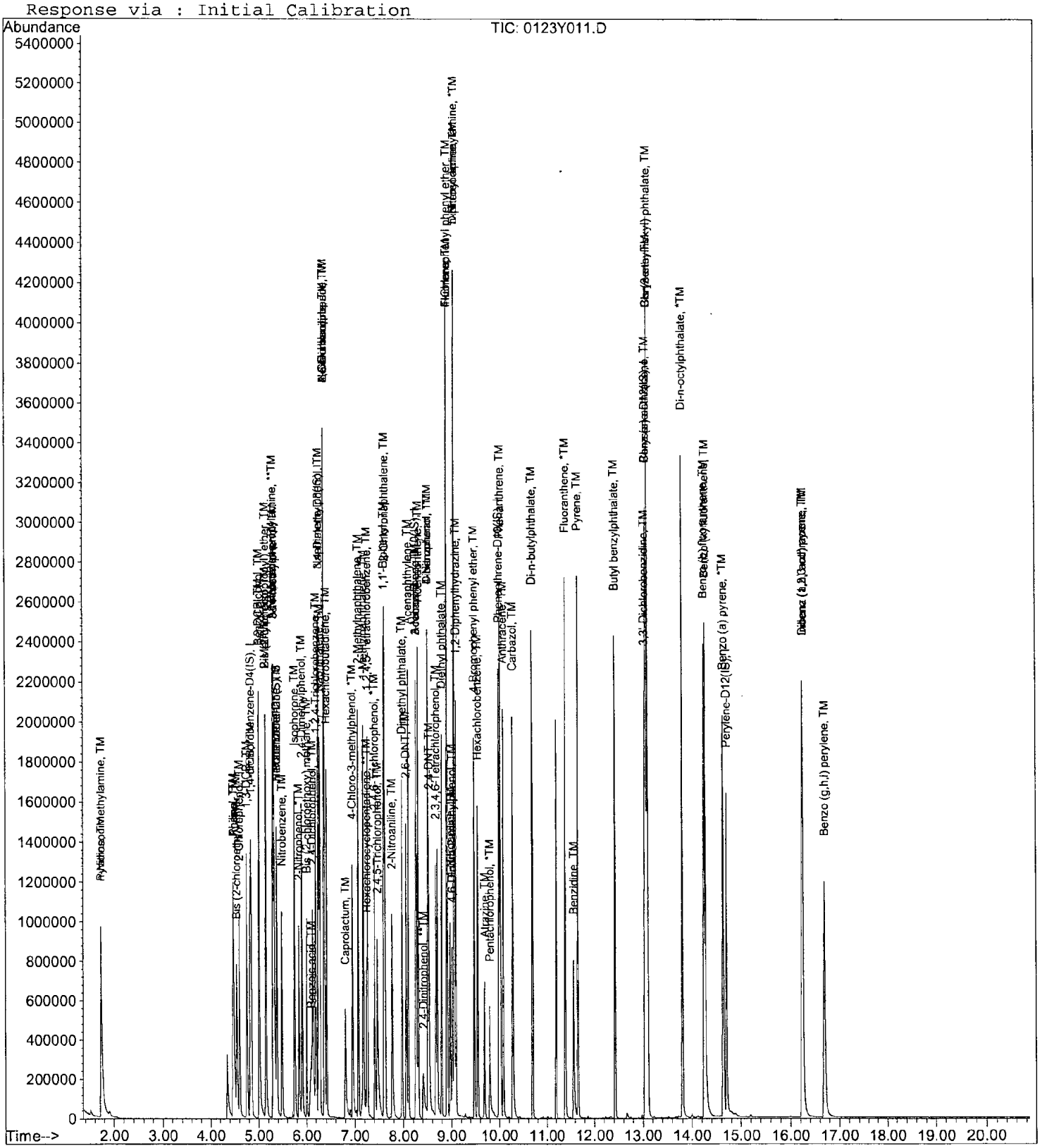
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2	TM	n-Nitrosodimethylamine	0.9560	1.222	28	TM		*NT
3	TM	Pyridine	1.902	2.393	26	TM		*NT
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S		
5	S	Phenol-D6 (S)	1.679	1.610	4.1	S		
6	*TM	Phenol	1.927	2.016	4.6	*TM		
7	TM	Aniline	1.829	1.898	3.8	TM		
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9765	3.5	TM		
9	TM	2-Chlorophenol	1.490	1.519	1.9	TM		
10	TM	1,3-DCB	1.572	1.625	3.4	TM		
11	*TM	1,4-DCB	1.615	1.660	2.7	*TM		
12	TM	Benzyl alcohol	0.8487	0.9273	9.3	TM		
13	TM	1,2-DCB	1.472	1.521	3.3	TM		
14	TM	2-Methylphenol	1.114	1.216	9.1	TM		
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.117	2.3	TM		
16	TM	Acetophenone	1.985	2.097	5.7	TM		
17	TM	3&4-Methylphenol	1.446	1.532	5.9	TM		
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.145	4.0	**TM		
19	TM	Hexachloroethane	0.6642	0.6965	4.9	TM		
20	I	Napthalene-D8(IS)	ISTD			I		
21	S	Nitrobenzene-D5(S)	0.4057	0.4227	4.2	S		
22	TM	Nitrobenzene	0.4049	0.4457	10	TM		
23	TM	Isophorone	0.6723	0.7458	11	TM		
24	*TM	2-Nitrophenol	0.1899	0.2206	16	*TM		
25	TM	2,4-Dimethylphenol	0.3070	0.3407	11	TM		
26	TML	Benzoic acid	0.1823	0.2934	61	TML	24	*NT
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4294	10	TM		
28	*TM	2,4-Dichlorophenol	0.2922	0.3280	12	*TM		
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3408	5.6	TM		
30	TM	3,4-Dimethylphenol	0.4623	0.4951	7.1	TM		
31	TM	Naphthalene	1.046	1.104	5.6	TM		
32	TM	4-Chloroaniline	0.3674	0.3917	6.6	TM		
33	TM	2,6-Dichlorophenol	0.2704	0.2729	0.91	TM		
34	TM	Hexachloropropene	0.2347	0.2580	9.9	TM		
35	*TM	Hexachlorobutadiene	0.1914	0.2017	5.3	*TM		
36	TM	Caprolactum	0.1663	0.1934	16	TM		
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3556	12	*TM		
38	TM	2-Methylnaphthalene	0.6794	0.7347	8.1	TM		
39	TM	1-Methylnaphthalene	0.6692	0.7263	8.5	TM		
40	I	Acenaphthene-D10(IS)	ISTD			I		
		Average			9.4			

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2022	27	**TMQ	2.9
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5554	2.6	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3776	11	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3950	6.0	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.220	4.9	S	
46	TM	1,1'-Biphenyl	1.501	1.550	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.192	4.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4328	5.8	TM	
49	TM	Dimethyl phthalate	1.375	1.453	5.6	TM	
50	TM	2,6-DNT	0.3070	0.3344	9.0	TM	
51	TM	Acenaphthylene	1.846	1.969	6.6	TM	
52	TM	3-Nitroaniline	0.3357	0.3560	6.0	TM	
53	*TM	Acenaphthene	1.138	1.161	2.0	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1782	36	**TMQ	15
55	**TML	4-Nitrophenol	0.2262	0.2742	21	**TML	4.7
56	TM	Dibenzofuran	1.607	1.682	4.7	TM	
57	TM	2,4-DNT	0.4280	0.4832	13	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3279	12	TM	
59	TM	Diethyl phthalate	1.392	1.478	6.1	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6205	0.88	TM	
61	TM	Fluorene	1.301	1.268	2.6	TM	
62	TM	4-Nitroaniline	0.3194	0.3417	7.0	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1770	4.4	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1505	14	TML	4.6
66	TM	Diphenyl amine	0.5157	0.4997	3.1	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.4997	3.1	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.9656	7.2	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2079	2.9	TM	
70	TM	Hexachlorobenzene	0.2108	0.2066	2.0	TM	
71	TM	Atrazine	0.1996	0.2038	2.1	TM	
72	*TML	Pentachlorophenol	0.0838	0.1115	33	*TML	18
73	TM	Phenanthrene	1.091	1.079	1.2	TM	
74	TM	Anthracene	1.138	1.114	2.1	TM	
75	TM	Carbazol	1.008	1.021	1.3	TM	
76	TM	Di-n-butylphthalate	1.273	1.333	4.7	TM	
77	*TM	Fluoranthene	1.185	1.197	0.99	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.5113	2.7	TM	
80	TM	Pyrene	1.283	1.365	6.4	TM	
		Average			7.6		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8649	0.52	S	
82	TM	Butyl benzylphthalate	0.5931	0.6664	12	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4631	15	TM	
84	TM	Benz (a) anthracene	1.206	1.275	5.7	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8925	7.0	TM	
86	TM	Chrysene	1.183	1.238	4.6	TM	
87	*TM	Di-n-octylphthalate	1.429	1.630	14	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.212	2.6	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.170	1.9	TM	
91	*TM	Benzo (a) pyrene	1.137	1.179	3.6	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.314	3.1	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.103	1.6	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.132	5.9	TM	
95							
96							
97							
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112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	192352	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	769021	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	463296	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	892159	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	829083	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	874527	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	639602	105.41355 ppb	0.00
Spiked Amount 200.000			Recovery	= 52.707%	
5) Phenol-D6 (S)	4.47	99	774255	95.91158 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.956%	
21) Nitrobenzene-D5(S)	5.46	82	406316	52.09826 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.098%	
45) 2-Fluorobiphenyl(S)	7.49	172	706426	47.53059 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.531%	
63) 2,4,6-Tribromophenol(S)	9.19	330	205006	95.59858 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.800%	
81) Terphenyl-D14(S)	11.85	244	896310	50.26227 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.262%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	293872	63.92089 ppb		85
3) Pyridine	1.73	79	575387	62.91705 ppb		90
6) Phenol	4.47	94	484792	52.31782 ppb		90
7) Aniline	4.47	66	456400	51.88484 ppb	#	73
8) Bis (2-chloroethyl) ether	4.54	63	234785	51.76794 ppb		95
9) 2-Chlorophenol	4.60	128	365124	50.95328 ppb		97
10) 1,3-DCB	4.75	146	390730	51.68829 ppb		99
11) 1,4-DCB	4.84	146	399070	51.37325 ppb		98
12) Benzyl alcohol	5.01	108	222959	54.62765 ppb		93
13) 1,2-DCB	5.00	146	365761	51.65942 ppb		98
14) 2-Methylphenol	5.15	107	292261	54.57384 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	509032	51.15323 ppb		85
16) Acetophenone	5.29	105	504233	52.83740 ppb		99
17) 3&4-Methylphenol	5.33	107	736477	105.90247 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	275369	51.97945 ppb		93
19) Hexachloroethane	5.38	117	167478	52.43204 ppb		98
22) Nitrobenzene	5.48	77	428397	55.03043 ppb		99
23) Isophorone	5.76	82	716920	55.46778 ppb		95
24) 2-Nitrophenol	5.84	139	212079	58.08649 ppb		99
25) 2,4-Dimethylphenol	5.90	122	327517	55.48270 ppb		96
26) Benzoic acid	6.11	105	281990	61.99410 ppb		95
27) Bis (2-chloroethoxy) metha	6.00	93	412733	55.15651 ppb		99
28) 2,4-Dichlorophenol	6.13	162	315339	56.13722 ppb		92
29) 1,2,4-Trichlorobenzene	6.19	180	327629	52.78488 ppb		99
30) 3,4-Dimethylphenol	6.25	107	475976	53.55682 ppb		96
31) Naphthalene	6.28	128	1061465	52.79294 ppb		99
32) 4-Chloroaniline	6.36	127	376523	53.31100 ppb		97
33) 2,6-Dichlorophenol	6.37	162	262296	50.45418 ppb		98
34) Hexachloropropene	6.37	213	247988	54.96230 ppb		98
35) Hexachlorobutadiene	6.41	225	193850	52.66917 ppb		98
36) Caprolactum	6.80	55	185940	58.15832 ppb		96
37) 4-Chloro-3-methylphenol	6.95	107	341841	56.16032 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D
Acq On : 15 Feb 17 11:07
Sample : 50ug/ml SVOC 1/19/17
Misc : water

Vial: 63
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 11:34 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	706233	54.06918 ppb		98
39) 1-Methylnaphthalene	7.18	142	698168	54.26514 ppb		98
41) Hexachlorocyclopentadiene	7.24	237	117117	51.45507 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	321623	51.30381 ppb		100
43) 2,4,6-Trichlorophenol	7.42	196	218656	55.58743 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	228781	53.02290 ppb		98
46) 1,1'-Biphenyl	7.60	154	897792	51.64970 ppb		98
47) 2-Chloronaphthalene	7.63	162	690477	51.98604 ppb		96
48) 2-Nitroaniline	7.77	65	250644	52.92184 ppb		87
49) Dimethyl phthalate	7.97	163	841222	52.82054 ppb		100
50) 2,6-DNT	8.06	165	193682	54.47508 ppb		77
51) Acenaphthylene	8.10	152	1140206	53.31567 ppb		99
52) 3-Nitroaniline	8.25	138	206140	53.01522 ppb		89
53) Acenaphthene	8.30	154	672500	51.01157 ppb		99
54) 2,4-Dinitrophenol	8.40	184	103202	57.70155 ppb		89
55) 4-Nitrophenol	8.52	65	158798	52.34454 ppb		81
56) Dibenzofuran	8.50	168	974308	52.34263 ppb		95
57) 2,4-DNT	8.53	165	279827	56.44589 ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	189893	55.87552 ppb		93
59) Diethyl phthalate	8.80	149	855660	53.05776 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.90	204	359323	49.56221 ppb		91
61) Fluorene	8.90	166	734051	48.71442 ppb		98
62) 4-Nitroaniline	8.98	138	197875	53.49474 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.01	198	167889	52.27712 ppb	#	76
66) Diphenyl amine	9.06	169	1114628	96.90097 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1114628	96.90097 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	1076845	53.62333 ppb		94
69) 4-Bromophenyl phenyl ether	9.47	248	231845	51.43303 ppb		96
70) Hexachlorobenzene	9.54	284	230414	49.00106 ppb		86
71) Atrazine	9.69	200	113624	25.51846 ppb		92
72) Pentachlorophenol	9.79	266	124291	58.86731 ppb		96
73) Phenanthrene	10.02	178	1202953	49.41871 ppb		99
74) Anthracene	10.07	178	1242411	48.93336 ppb		100
75) Carbazol	10.28	167	1138989	50.67335 ppb		95
76) Di-n-butylphthalate	10.69	149	1486318	52.32929 ppb		99
77) Fluoranthene	11.40	202	1334397	50.49606 ppb	#	96
79) Benzidine	11.57	184	529889	51.34095 ppb		97
80) Pyrene	11.66	202	1414992	53.22066 ppb		100
82) Butyl benzylphthalate	12.42	149	690615	56.17898 ppb		92
83) 3,3'-Dichlorobenzidine	13.03	252	479899	57.56762 ppb	#	94
84) Benz (a) anthracene	13.05	228	1320978	52.82778 ppb		98
85) Bis (2-ethylhexyl) phthala	13.08	149	924993	53.49757 ppb		100
86) Chrysene	13.10	228	1283001	52.31338 ppb		99
87) Di-n-octylphthalate	13.80	149	1689653	57.04585 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1325445	48.68644 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1278585	50.95872 ppb		97
91) Benzo (a) pyrene	14.63	252	1288352	51.81563 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1436385	51.53118 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1205709	50.81341 ppb		100
94) Benzo (g,h,i) perylene	16.69	276	1237901	52.93140 ppb		95

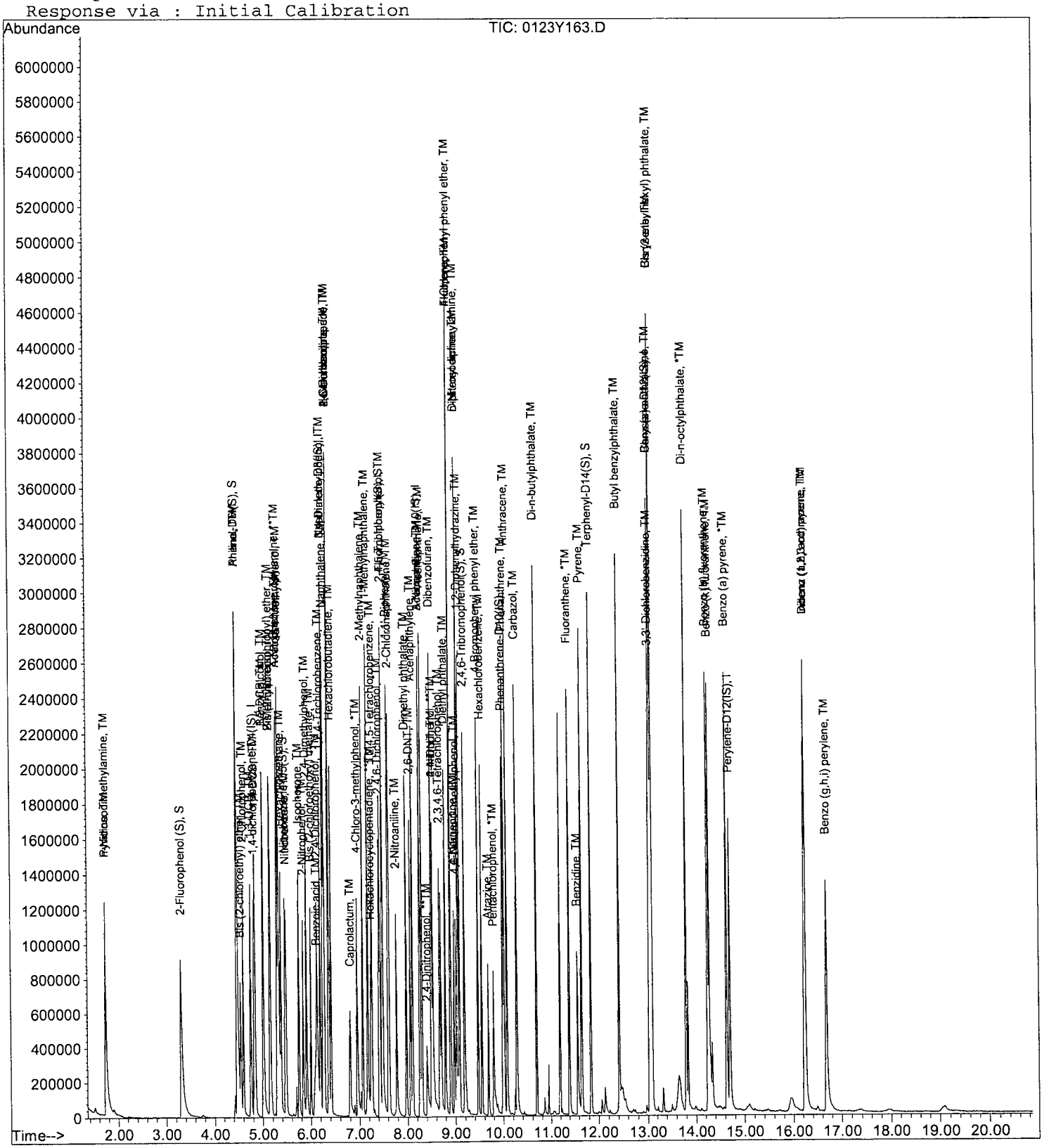
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.195	25	TM	
3	TM	Pyridine	1.902	2.355	24	TM	
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S	
5	S	Phenol-D6 (S)	1.679	1.688	0.58	S	
6	*TM	Phenol	1.927	2.069	7.4	*TM	
7	TM	Aniline	1.829	2.003	9.5	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9674	2.6	TM	
9	TM	2-Chlorophenol	1.490	1.585	6.4	TM	
10	TM	1,3-DCB	1.572	1.660	5.6	TM	
11	*TM	1,4-DCB	1.615	1.650	2.1	*TM	
12	TM	Benzyl alcohol	0.8487	0.9029	6.4	TM	
13	TM	1,2-DCB	1.472	1.469	0.21	TM	
14	TM	2-Methylphenol	1.114	1.167	4.8	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.079	0.47	TM	
16	TM	Acetophenone	1.985	2.044	3.0	TM	
17	TM	3&4-Methylphenol	1.446	1.492	3.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.105	0.29	**TM	
19	TM	Hexachloroethane	0.6642	0.6736	1.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3965	2.2	S	
22	TM	Nitrobenzene	0.4049	0.4248	4.9	TM	
23	TM	Isophorone	0.6723	0.7341	9.2	TM	
24	*TM	2-Nitrophenol	0.1899	0.2163	14	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3479	13	TM	
26	TML	Benzoic acid	0.1823	0.2707	49	TML	15
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4470	15	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3324	14	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3498	8.3	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4918	6.4	TM	
31	TM	Naphthalene	1.046	1.102	5.3	TM	
32	TM	4-Chloroaniline	0.3674	0.3918	6.6	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2826	4.5	TM	
34	TM	Hexachloropropene	0.2347	0.2621	12	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.2040	6.5	*TM	
36	TM	Caprolactum	0.1663	0.1821	9.5	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3501	11	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7559	11	TM	
39	TM	1-Methylnaphthalene	0.6692	0.7327	9.5	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			8.7		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1632	2.1	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5444	0.59	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3661	7.8	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3854	3.5	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.222	4.8	S	
46	TM	1,1'-Biphenyl	1.501	1.551	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.227	7.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4470	9.3	TM	
49	TM	Dimethyl phthalate	1.375	1.451	5.5	TM	
50	TM	2,6-DNT	0.3070	0.3280	6.8	TM	
51	TM	Acenaphthylene	1.846	1.903	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3608	7.5	TM	
53	*TM	Acenaphthene	1.138	1.171	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1650	26	**TMQ	8.9
55	**TML	4-Nitrophenol	0.2262	0.2418	6.9	**TML	6.0
56	TM	Dibenzofuran	1.607	1.673	4.1	TM	
57	TM	2,4-DNT	0.4280	0.4600	7.5	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3018	2.8	TM	
59	TM	Diethyl phthalate	1.392	1.567	13	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6544	4.6	TM	
61	TM	Fluorene	1.301	1.339	3.0	TM	
62	TM	4-Nitroaniline	0.3194	0.3586	12	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1845	0.33	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1508	14	TML	4.7
66	TM	Diphenyl amine	0.5157	0.5340	3.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5340	3.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	1.040	16	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2064	2.1	TM	
70	TM	Hexachlorobenzene	0.2108	0.2180	3.4	TM	
71	TM	Atrazine	0.1996	0.2062	3.3	TM	
72	*TML	Pentachlorophenol	0.0838	0.0916	9.4	*TML	0.52
73	TM	Phenanthrene	1.091	1.128	3.3	TM	
74	TM	Anthracene	1.138	1.187	4.2	TM	
75	TM	Carbazol	1.008	1.062	5.4	TM	
76	TM	Di-n-butylphthalate	1.273	1.322	3.8	TM	
77	*TM	Fluoranthene	1.185	1.172	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4921	1.2	TM	
80	TM	Pyrene	1.283	1.452	13	TM	
		Average			6.1		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8935	3.8	S	
82	TM	Butyl benzylphthalate	0.5931	0.6507	9.7	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4656	16	TM	
84	TM	Benz (a) anthracene	1.206	1.274	5.6	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8726	4.6	TM	
86	TM	Chrysene	1.183	1.195	0.96	TM	
87	*TM	Di-n-octylphthalate	1.429	1.612	13	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.264	1.5	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.338	17	TM	
91	*TM	Benzo (a) pyrene	1.137	1.189	4.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.374	7.8	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.171	7.9	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.154	7.9	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
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109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	139757	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	579971	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	359597	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	677259	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	663679	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	665007	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	464811	105.43533 ppb	0.00
Spiked Amount 200.000			Recovery	= 52.718%	
5) Phenol-D6 (S)	4.46	99	589911	100.57653 ppb	0.00
Spiked Amount 200.000			Recovery	= 50.289%	
21) Nitrobenzene-D5(S)	5.46	82	287484	48.87704 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.877%	
45) 2-Fluorobiphenyl(S)	7.50	172	549330	47.61923 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.619%	
63) 2,4,6-Tribromophenol(S)	9.20	330	165895	99.66913 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.835%	
81) Terphenyl-D14(S)	11.84	244	741209	51.92356 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.924%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	208841	62.52065 ppb	92
3) Pyridine	1.73	79	411385	61.91272 ppb	96
6) Phenol	4.48	94	361391	53.67779 ppb	99
7) Aniline	4.47	66	349901	54.74736 ppb	95
8) Bis (2-chloroethyl) ether	4.55	63	169009	51.28891 ppb	97
9) 2-Chlorophenol	4.60	128	276919	53.18727 ppb	97
10) 1,3-DCB	4.76	146	290001	52.80050 ppb	97
11) 1,4-DCB	4.84	146	288195	51.06196 ppb	97
12) Benzyl alcohol	5.01	108	157736	53.19141 ppb	98
13) 1,2-DCB	5.01	146	256671	49.89443 ppb	99
14) 2-Methylphenol	5.15	107	203833	52.38552 ppb	99
15) Bis (2-chloroisopropyl) et	5.14	45	363197	50.23349 ppb #	64
16) Acetophenone	5.30	105	357063	51.49655 ppb	97
17) 3&4-Methylphenol	5.33	107	521143	103.13996 ppb	98
18) n-Nitrosodi-n-propylamine	5.30	70	193008	50.14355 ppb	86
19) Hexachloroethane	5.37	117	117669	50.70189 ppb	84
22) Nitrobenzene	5.48	77	307988	52.45926 ppb	96
23) Isophorone	5.75	82	532232	54.60130 ppb	98
24) 2-Nitrophenol	5.85	139	156822	56.95297 ppb	96
25) 2,4-Dimethylphenol	5.91	122	252225	56.65573 ppb	97
26) Benzoic acid	6.11	105	196273	57.68087 ppb	93
27) Bis (2-chloroethoxy) metha	6.00	93	324068	57.42430 ppb	98
28) 2,4-Dichlorophenol	6.13	162	240945	56.87522 ppb	92
29) 1,2,4-Trichlorobenzene	6.20	180	253585	54.17298 ppb	98
30) 3,4-Dimethylphenol	6.25	107	356506	53.18982 ppb	97
31) Naphthalene	6.28	128	798697	52.67252 ppb	99
32) 4-Chloroaniline	6.37	127	284022	53.32235 ppb	97
33) 2,6-Dichlorophenol	6.37	162	204852	52.24895 ppb	99
34) Hexachloropropene	6.37	213	190012	55.84022 ppb	99
35) Hexachlorobutadiene	6.42	225	147872	53.27317 ppb	96
36) Caprolactum	6.79	55	131994	54.74257 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	253810	55.28993 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	547984	55.62905	ppb		99
39) 1-Methylnaphthalene	7.18	142	531154	54.74108	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	73344	44.22127	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	244726	50.29504	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	164563	53.90014	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	173227	51.72513	ppb		94
46) 1,1'-Biphenyl	7.61	154	697025	51.66340	ppb		99
47) 2-Chloronaphthalene	7.63	162	551720	53.51786	ppb		95
48) 2-Nitroaniline	7.78	65	200935	54.66076	ppb		97
49) Dimethyl phthalate	7.98	163	652101	52.75329	ppb		100
50) 2,6-DNT	8.06	165	147432	53.42479	ppb		91
51) Acenaphthylene	8.10	152	855214	51.52154	ppb		98
52) 3-Nitroaniline	8.26	138	162192	53.74156	ppb		100
53) Acenaphthene	8.31	154	526157	51.42025	ppb		98
54) 2,4-Dinitrophenol	8.41	184	74153	54.43868	ppb		96
55) 4-Nitrophenol	8.53	65	108682	47.01688	ppb	#	67
56) Dibenzofuran	8.51	168	751822	52.03755	ppb		87
57) 2,4-DNT	8.54	165	206763	53.73509	ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135644	51.42280	ppb	#	86
59) Diethyl phthalate	8.80	149	704371	56.27191	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	294163	52.27526	ppb		90
61) Fluorene	8.90	166	602044	51.47567	ppb		96
62) 4-Nitroaniline	8.97	138	161206	56.14923	ppb		98
65) 4,6-Dinitro-2-methylphenol	9.02	198	127664	52.35466	ppb		98
66) Diphenyl amine	9.06	169	904108	103.53948	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	904108	103.53948	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	880652	57.76867	ppb		92
69) 4-Bromophenyl phenyl ether	9.47	248	174721	51.05955	ppb	#	84
70) Hexachlorobenzene	9.55	284	184575	51.70790	ppb		89
71) Atrazine	9.69	200	87282	25.82240	ppb		97
72) Pentachlorophenol	9.80	266	77581	49.73958	ppb		97
73) Phenanthrene	10.01	178	954668	51.66336	ppb		100
74) Anthracene	10.08	178	1004628	52.12337	ppb		99
75) Carbazol	10.28	167	899039	52.68975	ppb		100
76) Di-n-butylphthalate	10.68	149	1119444	51.91860	ppb		98
77) Fluoranthene	11.40	202	991990	49.45010	ppb		97
79) Benzidine	11.57	184	408219	49.40970	ppb		99
80) Pyrene	11.66	202	1204757	56.60641	ppb		99
82) Butyl benzylphthalate	12.42	149	539855	54.85988	ppb		84
83) 3,3'-Dichlorobenzidine	13.03	252	386276	57.88500	ppb		96
84) Benz (a) anthracene	13.05	228	1056801	52.79586	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	723883	52.30027	ppb	#	97
86) Chrysene	13.10	228	991022	50.47880	ppb		100
87) Di-n-octylphthalate	13.80	149	1337281	56.40131	ppb		91
89) Benzo (b) fluoranthene	14.25	252	1050293	50.73454	ppb		99
90) Benzo (k) fluoranthene	14.27	252	1111899	58.27755	ppb		98
91) Benzo (a) pyrene	14.64	252	988257	52.26888	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1142146	53.88499	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	973598	53.95883	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	959216	53.93751	ppb		98

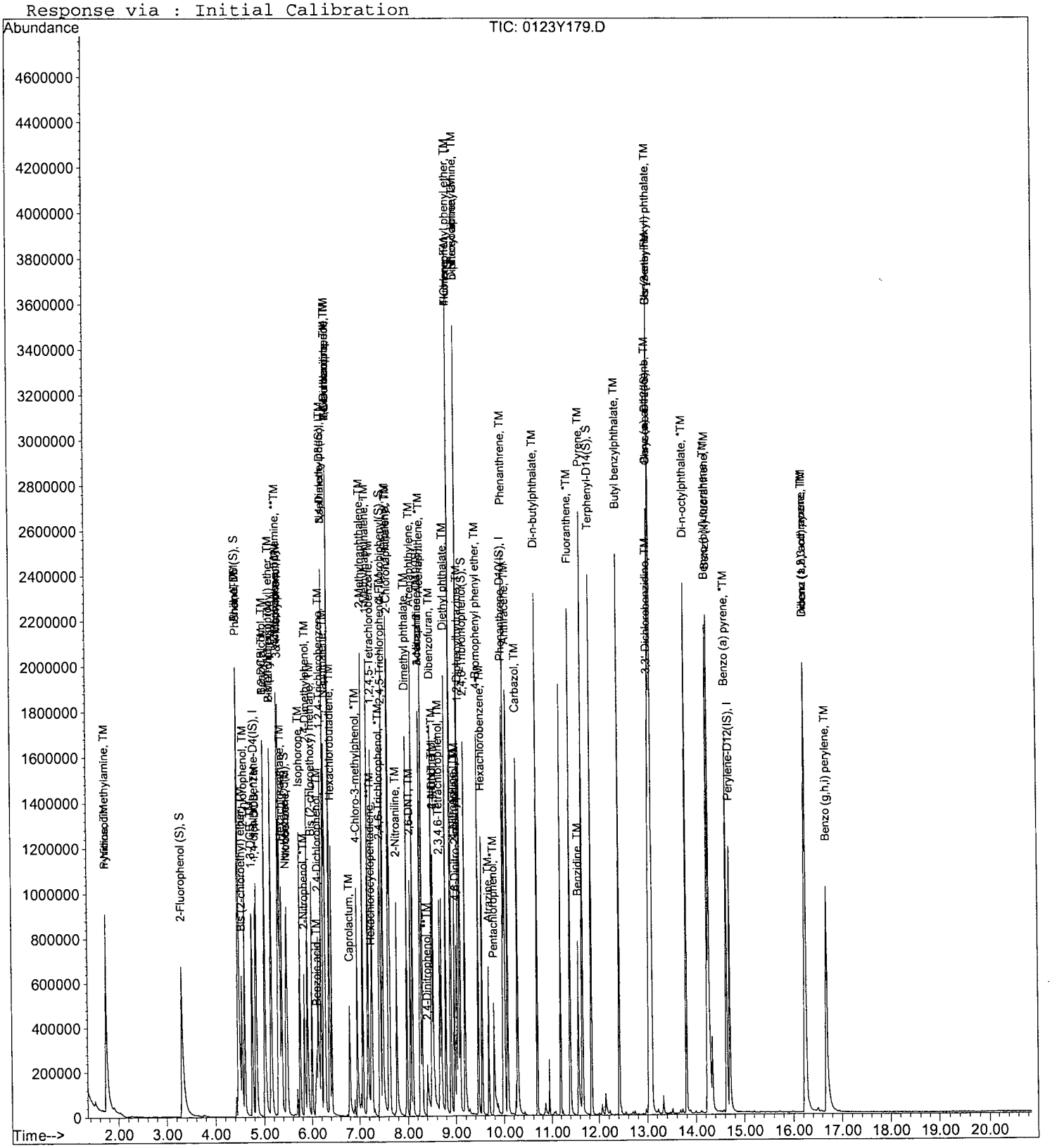
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:33:01 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y164.D Vial: 64
Acq On : 15 Feb 17 11:51 Operator: MA
Sample : 170214A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:15 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	177998	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	760130	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	439380	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	813182	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	830149	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	667730	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	484139	86.22601 ppb	-0.01
Spiked Amount 200.000			Recovery	= 43.113%	
5) Phenol-D6 (S)	4.47	99	376525	50.40370 ppb	0.00
Spiked Amount 200.000			Recovery	= 25.202%	
21) Nitrobenzene-D5(S)	5.46	82	521179	67.60776 ppb	0.00
Spiked Amount 100.000			Recovery	= 67.608%	
45) 2-Fluorobiphenyl(S)	7.50	172	854307	60.60924 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.609%	
63) 2,4,6-Tribromophenol(S)	9.19	330	295210	145.15573 ppb	0.00
Spiked Amount 200.000			Recovery	= 72.578%	
81) Terphenyl-D14(S)	11.85	244	1257589	70.43111 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.431%	

Target Compounds Qvalue

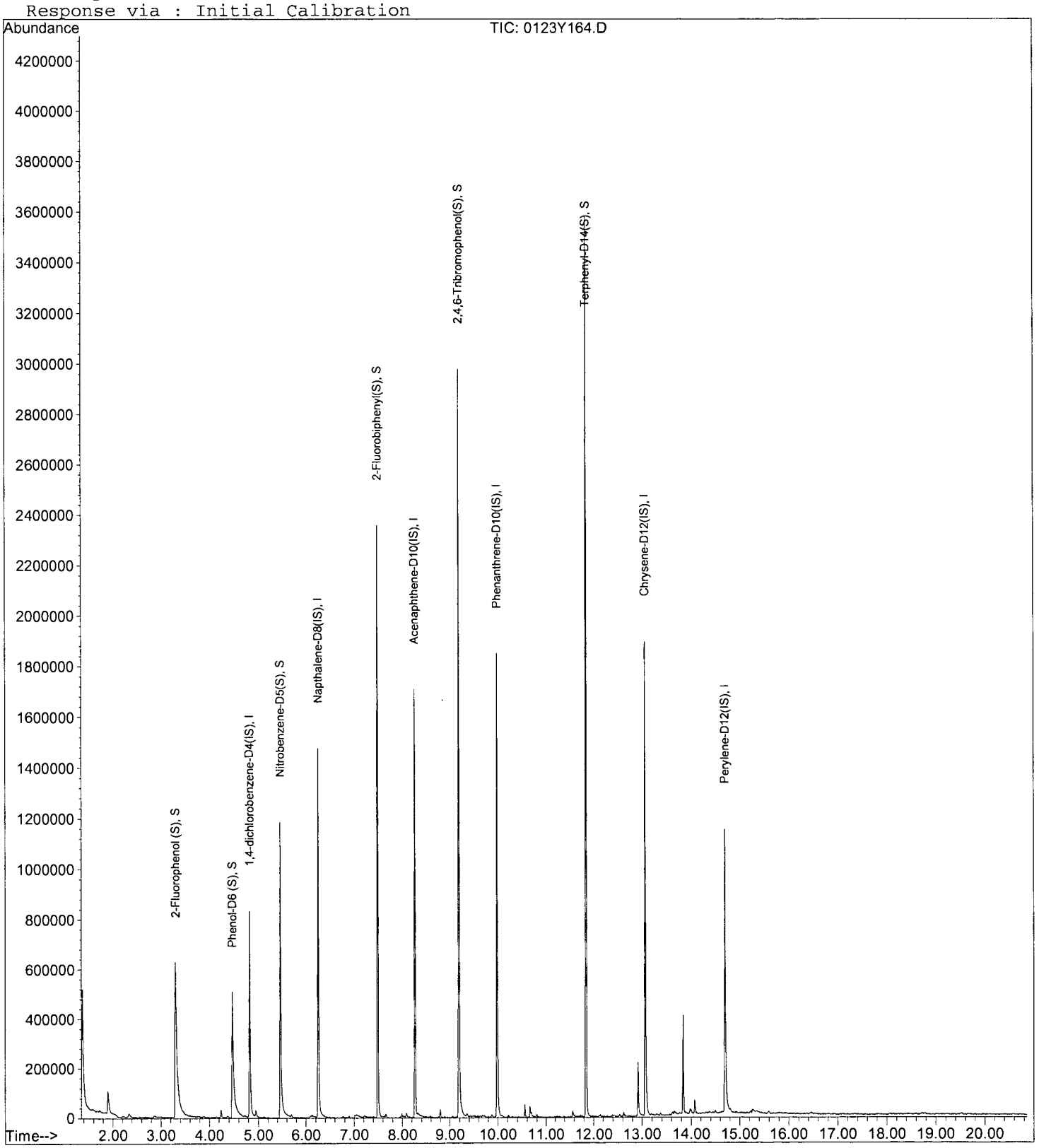
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y164.D Vial: 64
Acq On : 15 Feb 17 11:51 Operator: MA
Sample : 170214A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:15 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:31:50 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165304	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.26	136	697704	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.26	164	437339	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.99	188	789191	40.00000 ppb		0.00
78) Chrysene-D12(IS)	13.07	240	824282	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.69	264	701851	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.30	112	384643	73.76627 ppb		0.00
Spiked Amount 200.000			Recovery	= 36.883%		
5) Phenol-D6 (S)	4.47	99	320721	46.23041 ppb		0.01
Spiked Amount 200.000			Recovery	= 23.115%		
21) Nitrobenzene-D5(S)	5.46	82	429335	60.67679 ppb		0.00
Spiked Amount 100.000			Recovery	= 60.677%		
45) 2-Fluorobiphenyl(S)	7.50	172	699537	49.86061 ppb		0.00
Spiked Amount 100.000			Recovery	= 49.861%		
63) 2,4,6-Tribromophenol(S)	9.20	330	258281	127.59030 ppb		0.00
Spiked Amount 200.000			Recovery	= 63.795%		
81) Terphenyl-D14(S)	11.84	244	1162906	65.59196 ppb		0.00
Spiked Amount 100.000			Recovery	= 65.592%		
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	130144	32.93988 ppb		90
3) Pyridine	1.74	79	197646	25.14836 ppb		95
6) Phenol	4.48	94	143744	18.05083 ppb	#	45
7) Aniline	4.46	66	207886	27.50005 ppb	#	44
8) Bis (2-chloroethyl) ether	4.55	63	159531	40.93068 ppb		94
9) 2-Chlorophenol	4.60	128	247038	40.11519 ppb		98
10) 1,3-DCB	4.76	146	153700	23.65934 ppb		99
11) 1,4-DCB	4.84	146	165484	24.78890 ppb		97
12) Benzyl alcohol	5.01	108	141222	40.26273 ppb		96
13) 1,2-DCB	5.01	146	163472	26.86636 ppb		98
14) 2-Methylphenol	5.15	107	164224	35.68318 ppb		100
15) Bis (2-chloroisopropyl) et	5.14	45	347430	40.62642 ppb	#	66
16) Acetophenone	5.30	105	354912	43.27571 ppb		92
17) 3&4-Methylphenol	5.33	107	395660	66.20372 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	195574	42.95770 ppb		93
19) Hexachloroethane	5.37	117	52745	19.21470 ppb		90
22) Nitrobenzene	5.48	77	287029	40.63958 ppb		93
23) Isophorone	5.75	82	550248	46.92405 ppb		95
24) 2-Nitrophenol	5.85	139	155940	47.07626 ppb		93
25) 2,4-Dimethylphenol	5.91	122	224895	41.99239 ppb		97
26) Benzoic acid	6.07	105	57555	18.63116 ppb		92
27) Bis (2-chloroethoxy) metha	6.00	93	305158	44.94893 ppb		98
28) 2,4-Dichlorophenol	6.13	162	225207	44.18981 ppb		99
29) 1,2,4-Trichlorobenzene	6.20	180	161254	28.63549 ppb		99
30) 3,4-Dimethylphenol	6.25	107	334539	41.49000 ppb		94
31) Naphthalene	6.27	128	648843	35.56942 ppb		99
32) 4-Chloroaniline	6.37	127	323857	50.54121 ppb		96
33) 2,6-Dichlorophenol	6.37	162	204853	43.43249 ppb		96
34) Hexachloropropene	6.38	213	68213	16.66358 ppb		98
35) Hexachlorobutadiene	6.41	225	64371	19.27737 ppb		98
36) Caprolactum	6.78	55	40833	14.07723 ppb		96
37) 4-Chloro-3-methylphenol	6.94	107	246558	44.64692 ppb		86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D
Acq On : 15 Feb 17 12:22
Sample : 170214A LCS-1 1/1000
Misc : water

Vial: 65
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 12:44 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	434184	36.63892	ppb		99
39) 1-Methylnaphthalene	7.18	142	419820	35.96591	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	16099	14.45083	ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	176544	29.83293	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	157020	42.28735	ppb		94
44) 2,4,5-Trichlorophenol	7.47	196	170958	41.97331	ppb	#	90
46) 1,1'-Biphenyl	7.61	154	589694	35.93843	ppb		98
47) 2-Chloronaphthalene	7.63	162	439586	35.06079	ppb		97
48) 2-Nitroaniline	7.78	65	209162	46.78436	ppb		93
49) Dimethyl phthalate	7.98	163	716129	47.63474	ppb		99
50) 2,6-DNT	8.06	165	157056	46.79543	ppb		82
51) Acenaphthylene	8.10	152	779474	38.61122	ppb		99
52) 3-Nitroaniline	8.25	138	171889	46.83028	ppb		82
53) Acenaphthene	8.30	154	484825	38.95845	ppb		98
54) 2,4-Dinitrophenol	8.41	184	74690	47.26906	ppb		95
55) 4-Nitrophenol	8.53	65	15539	11.95411	ppb	#	3
56) Dibenzofuran	8.50	168	713990	40.63421	ppb		96
57) 2,4-DNT	8.54	165	220451	47.10805	ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.67	232	143960	44.87400	ppb	#	88
59) Diethyl phthalate	8.79	149	700790	46.03370	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	266829	38.98872	ppb		89
61) Fluorene	8.90	166	542948	38.17068	ppb		98
62) 4-Nitroaniline	8.98	138	166026	47.54847	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.01	198	128999	46.25153	ppb	#	66
66) Diphenyl amine	9.06	169	930530	91.45105	ppb		99
67) n-Nitrosodiphenylamine	9.06	169	930530	91.45105	ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	692088	38.96028	ppb		92
69) 4-Bromophenyl phenyl ether	9.47	248	170711	42.81205	ppb		89
70) Hexachlorobenzene	9.55	284	182577	43.89376	ppb	#	85
71) Atrazine	9.69	200	94605	24.01921	ppb		96
72) Pentachlorophenol	9.79	266	94520	51.66247	ppb		97
73) Phenanthrene	10.01	178	933159	43.33697	ppb		99
74) Anthracene	10.07	178	996839	44.38384	ppb		99
75) Carbazol	10.27	167	931977	46.87329	ppb		97
76) Di-n-butylphthalate	10.68	149	1241037	49.39443	ppb		99
77) Fluoranthene	11.40	202	1143304	48.90962	ppb		97
79) Benzidine	11.57	184	221230	21.55983	ppb		98
80) Pyrene	11.66	202	1221413	46.20734	ppb		99
82) Butyl benzylphthalate	12.42	149	603571	49.38424	ppb		86
83) 3,3'-Dichlorobenzidine	13.03	252	384590	46.40327	ppb		98
84) Benz (a) anthracene	13.05	228	1122881	45.16715	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	824745	47.97749	ppb	#	98
86) Chrysene	13.10	228	1098118	45.03571	ppb		99
87) Di-n-octylphthalate	13.80	149	1535631	52.14776	ppb	#	88
89) Benzo (b) fluoranthene	14.25	252	1182079	54.10297	ppb		98
90) Benzo (k) fluoranthene	14.28	252	1227773	60.97268	ppb		98
91) Benzo (a) pyrene	14.63	252	1127976	56.52680	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1238327	55.35576	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1071656	56.27552	ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1088597	57.99932	ppb		97

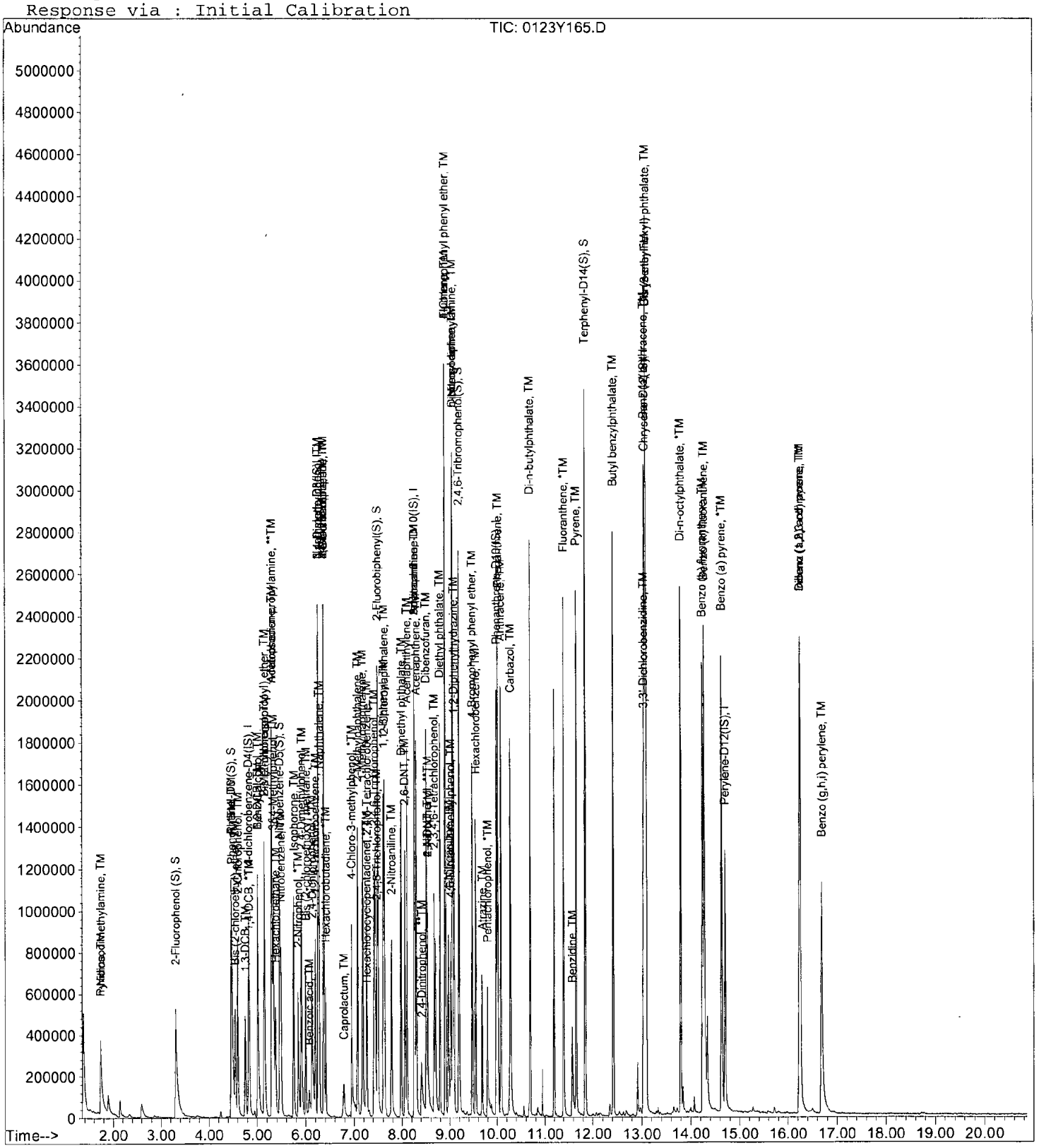
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

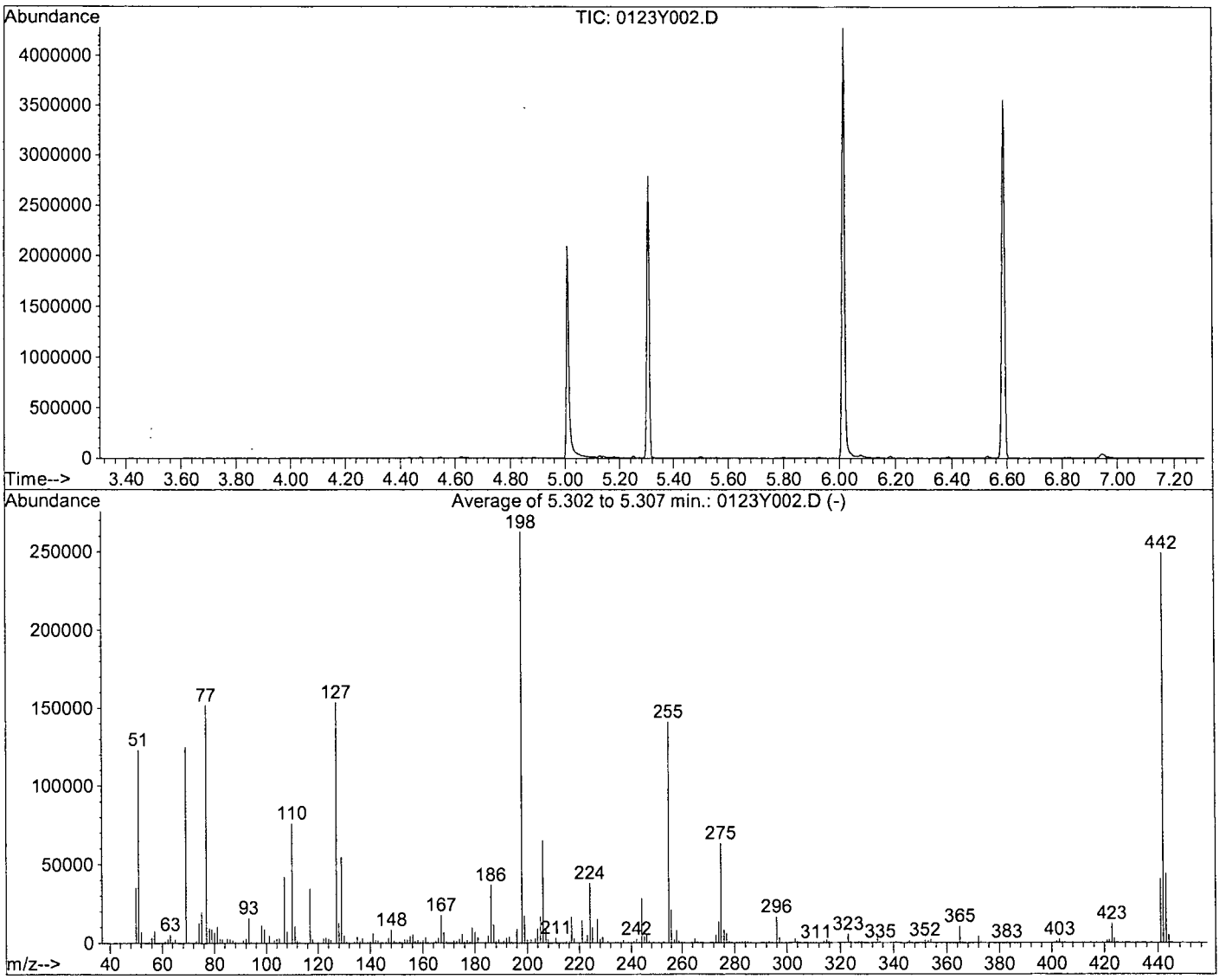
Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D Vial: 2
Acq On : 23 Jan 17 10:12 Operator: MA
Sample : SV Tune 10/19/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

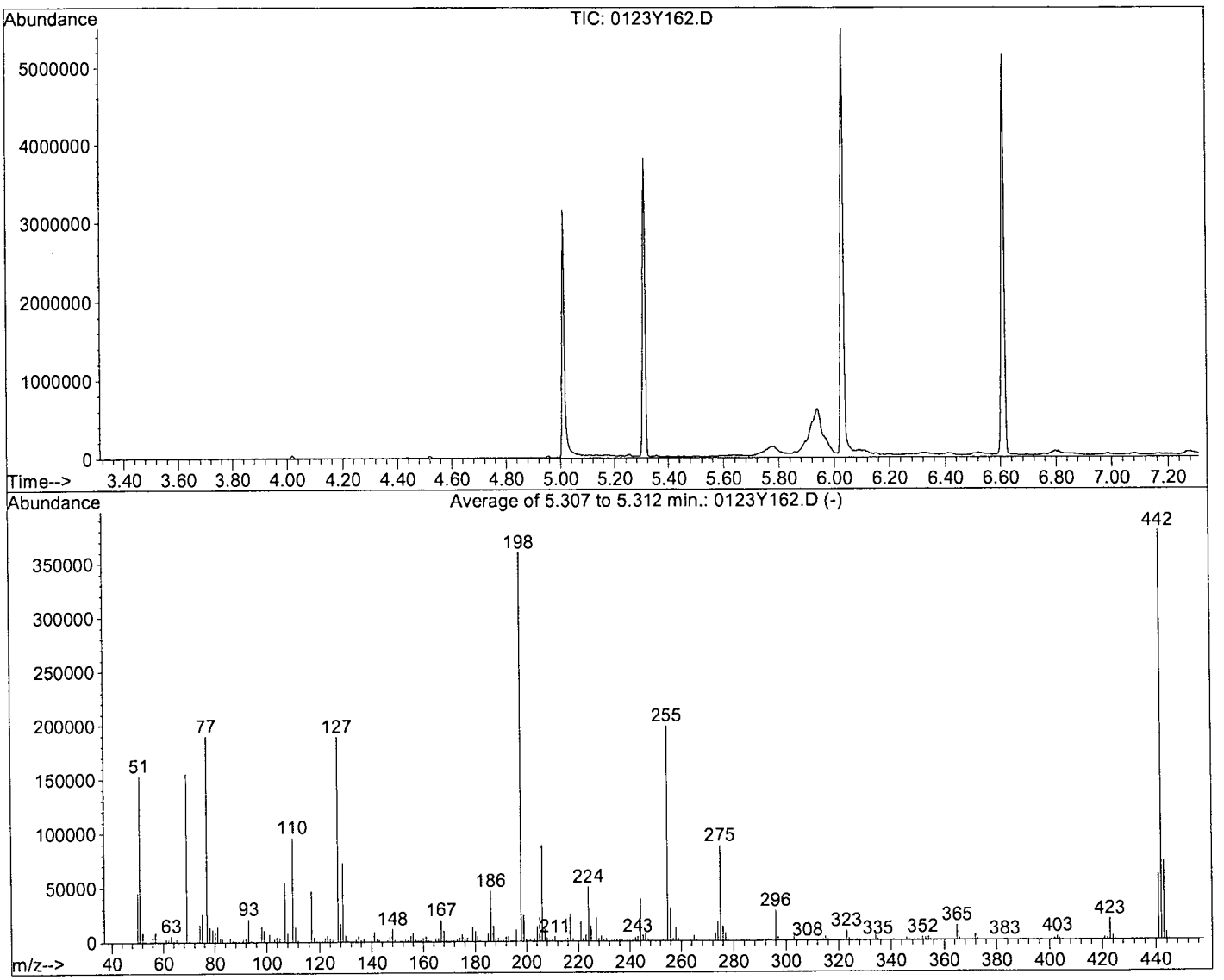
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

0123Y002.D Y0123.M Tue Jan 24 10:34:11 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y162.D Vial: 62
Acq On : 15 Feb 17 10:50 Operator: MA
Sample : SV Tune 12/15/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 680

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.6	153336	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1219	PASS
127	198	40	60	52.5	189141	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	360000	PASS
199	198	5	9	6.6	23725	PASS
275	198	10	30	24.3	87381	PASS
365	198	1	100	3.8	13516	PASS
441	443	0.01	100	83.7	60045	PASS
442	198	50	150	105.4	379264	PASS
443	442	17	23	18.9	71768	PASS

0123Y162.D Y0123.M Wed Feb 15 10:59:22 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	12/08/16 RH					
Exp:	12/08/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-36838	12/08/16	12/08/17	1000
Absolute	10002	2000	062216-37257	12/08/16	12/08/17	1000
Absolute	10004	2000	012516-37148	12/08/16	12/08/17	1000
Absolute	10005	2000	110314-37138	12/08/16	12/08/17	1000
Absolute	10006	2000	081216-37078	12/08/16	12/08/17	1000
Absolute	10007	2000	020515-37140	12/08/16	12/08/17	1000
Absolute	10018	2000	090216-37152	12/08/16	12/08/17	1000
Absolute	70023	1000	042716-37304	12/08/16	12/08/17	1000
Absolute	82705	2000	012516-37142	12/08/16	12/08/17	1000
Absolute	94552	2000	042016-37259	12/08/16	12/08/17	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Full Scan Second Source Stock						
	7/8/16 GA					
8270 Second Source Stock						
Exp:	07/08/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	234696-35233	07/08/16	07/08/17	1000
o2si	110391-01	2000	252133-35880	07/08/16	07/08/17	1000
o2si	010337-01	1000	259144-35881	07/08/16	07/08/17	1000
o2si	110396-01	2000	252136-35882	07/08/16	07/08/17	1000
o2si	110397-01	2000	263077-35835	07/08/16	01/08/17	1000
o2si	110393-01	2000	252141-35248	07/08/16	07/08/17	1000
o2si	110394-01	2000	252143-35884	07/08/16	07/08/17	1000
o2si	**110395-01**	2000	252146-35885	07/08/16	07/08/17	1000
o2si	110392-01	2000	243259-35886	07/08/16	07/08/17	1000
Absolute	10006	2000	091115-35856	07/08/16	07/08/17	1000
				Final Vol.		10000

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	01/19/2018					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37137	01/19/17	01/19/18	1000
Absolute	10002	2000	062216-37146	01/19/17	01/19/18	1000
Absolute	10004	2000	012516-37149	01/19/17	01/19/18	1000
Absolute	10005	2000	110314-37139	01/19/17	01/19/18	1000
Absolute	10006	2000	081216-37077	01/19/17	01/19/18	1000
Absolute	10007	2000	020515-37141	01/19/17	01/19/18	1000
Absolute	10018	2000	090216-37153	01/19/17	01/19/18	1000
Absolute	70023	1000	083121-37151	01/19/17	01/19/18	1000
Absolute	82705	2000	012516-37143	01/19/17	01/19/18	1000
Absolute	94552	2000	042016-36864	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170214A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 1-19-17 EXP 1-19-18		Surrogate ID 1	8270 Surrogate 1-24-17 EXP 4-24-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/14/17 8:40
Spiked ID 8			Ext. End Time:	02/14/17 16:50
			GC Requires Extract By:	**02/16/17 0:00**

pH1	2	02/14/17 9:00:00 AM	Water Bath Temp Criteria	72 °C
pH2	14	2/14/17 10:20:00 AM		
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				1	1	1000	1	2/1	02/14/17 8:40	
						equip	E-WB6				
2	170214A LCS-1		0.250	1	1	1	1000	1	2/1	02/14/17 8:40	
						equip	E-WB6				
3	AZ49739	AZ49739W14			1	1	1040	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
						equip	E-WB6				
4	AZ49741	AZ49741W13			1	1	980	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
						equip	E-WB6				
5	AZ49743	AZ49743W12			1	1	1020	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
						equip	E-WB6				
6	AZ49744	AZ49744W07			1	1	990	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
						equip	E-WB6				
7	AZ49853 MS-1	AZ49853W30	0.250	1	1	1	1030	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
						equip	E-WB6				
8	AZ49853 MSD-1	AZ49853W43	0.250	1	1	1	1030	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
						equip	E-WB6				
9	AZ49853	AZ49853W42			1	1	1070	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
						equip	E-WB6				
10	AZ49854	AZ49854W11			1	1	1000	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
						equip	E-WB6				
11	AZ49855	AZ49855W15			1	1	1040	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
						equip	E-WB7				
12	AZ49857	AZ49857W09			1	1	1000	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB7				
13	AZ49860	AZ49860W13			1	1	980	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB7				
14	AZ49862	AZ49862W09			1	1	1000	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB7				

KY 2/14/17

Solvent and Lot#	
MC	56153
1+1 Sulfuric Acid	12-5-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16c255214
10N NaOH	2-14-17
ph strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	PH
Date	2/14/17
Time	5:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	JR

Modified	02/14/17 4:51:15 PM

Reviewed By: KY **Date** 2/14/17

02/16/17 2:45:21 PM Ext_ID 53975 Page 1 of 1

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	62	0123Y162.D	1	SV Tune 12/15/16	water	15 Feb 17 10:50
12	63	0123Y163.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 11:07
13	64	0123Y164.D	1	170214A BLK 1/1000	water	15 Feb 17 11:51
14	65	0123Y165.D	1	170214A LCS-1 1/1000	water	15 Feb 17 12:22
15	66	0123Y166.D	1	AZ49739W14 1/1040	water	15 Feb 17 13:03
16	67	0123Y167.D	1.02041	AZ49741W13 1/980	water	15 Feb 17 13:34
17	68	0123Y168.D	0.980392	AZ49743W12 1/1020	water	15 Feb 17 14:04
18	69	0123Y169.D	1.0101	AZ49744W07 1/990	water	15 Feb 17 14:35
19	79	0123Y179.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 19:39

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method:Y0GLYCOL.
Run #:1220Y094
Instrument:Yoda
Sequence:Y161220G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 3:29:28 PM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Printed: 02/15/17 3:29:29 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER
Blank ID: 170209A-BLK

SDG No: 82130
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 1105

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209A-BLK	Blank	1220Y094	02/14/17 1105
170209A-LCS	Lab Control Spike	1220Y095	02/14/17 1135
AZ49739	ERH218	1220Y108	02/14/17 1808
AZ49741	ERH216	1220Y109	02/14/17 1838
AZ49743	ERH210	1220Y110	02/14/17 1908
AZ49744	ERH229	1220Y111	02/14/17 1938

Comments: Batch: #87DME-170209A

Printed: 02/15/17 3:29:31 PM
Form 4, Blank Summary

Form 5
Tune Summary

np 2-23-17

Lab Name: APPL Inc.
Case No: ~~1220Y002.D~~ 82130
Matrix: Water np 2-23-17
ID: SV Tune 11/15/16

SDG No: ~~Yoda~~ 82130
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82130
Date Analyzed: 02/14/17
Instrument: Yoda
Time Analyzed: 10:14

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y093.D	02/14/17 10:31
2	Blank	170209A BLK 2/500	1220Y094.D	02/14/17 11:05
3	Lab Control Spike	170209A LCS-1 2/500	1220Y095.D	02/14/17 11:35
4	ERH218	AZ49739W10 2/500	1220Y108.D	02/14/17 18:08
5	ERH216	AZ49741W09 2/500	1220Y109.D	02/14/17 18:38
6	ERH210	AZ49743W13 2/500	1220Y110.D	02/14/17 19:08
7	ERH229	AZ49744W05 2/500	1220Y111.D	02/14/17 19:38
8		500ug/ml DEG 02/14/1	1220Y115.D	02/14/17 21:37
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	54.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	84.4
442	50 - 150% of mass 198	108.5
443	17 - 23% of mass 442	18.8

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82130
Lab File ID (Standard): 1220Y007.D
Date Analyzed: 12/20/16
Instrument ID: Yoda
Time Analyzed: 12:27
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	209455	4.83	932530	6.25	528957	8.26
02	170209A BLK 2/500	188520	4.84	817432	6.25	460025	8.26
03	170209A LCS-1 2/500	161275	4.83	700038	6.25	404665	8.26
04	AZ49739W10 2/500	158562	4.84	683842	6.26	396624	8.26
05	AZ49741W09 2/500	164648	4.84	733754	6.26	434768	8.26
06	AZ49743W13 2/500	141043	4.83	629857	6.25	360504	8.26
07	AZ49744W05 2/500	130747	4.85	620793	6.26	367735	8.26
08	500ug/ml DEG 02/14/17	146880	4.84	639153	6.25	366952	8.26
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82130

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	954627	9.99	871378	13.06	617446	14.69
02	170209A BLK 2/500	853633	9.99	804727	13.06	727567	14.69
03	170209A LCS-1 2/500	747111	9.99	722289	13.06	646708	14.69
04	AZ49739W10 2/500	746071	9.99	679276	13.06	862315	14.69
05	AZ49741W09 2/500	781561	9.99	736815	13.06	1356230	14.70
06	AZ49743W13 2/500	674036	9.99	628885	13.06	1112330	14.69
07	AZ49744W05 2/500	685460	9.99	646488	13.06	550089	14.69
08	500ug/ml DEG 02/14/17	672733	9.99	636852	13.06	NA 428168 *	14.69
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/10/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y108
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:29:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y108.D Vial: 8
Acq On : 14 Feb 17 18:08 Operator: MA
Sample : AZ49739W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	158562	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.26	136	683842	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	396624	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	746071	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	679276	40.00000 ppb	-0.04
7) Perylene-D12(IS)	14.69	264	862315	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

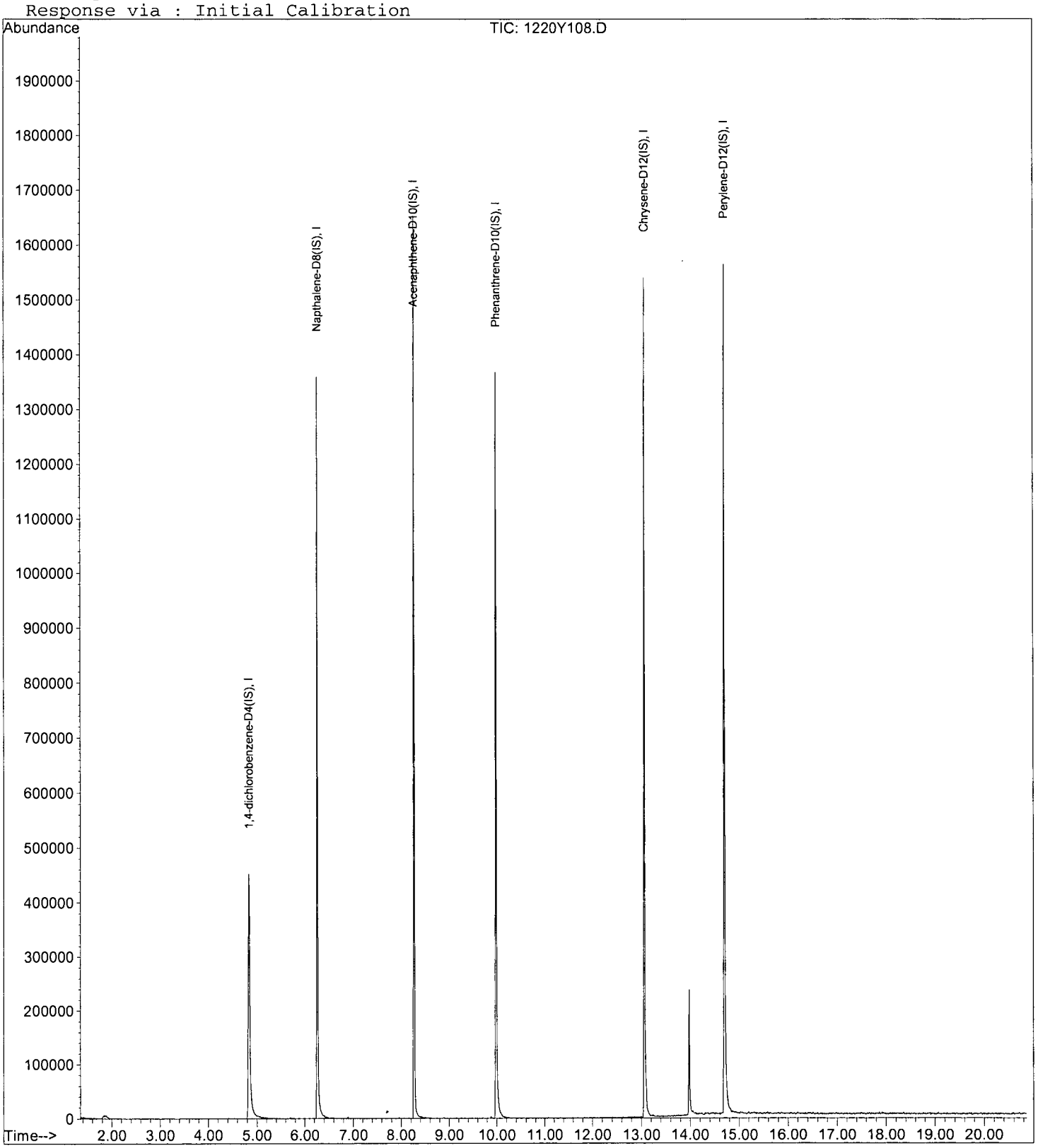
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y108.D Vial: 8
Acq On : 14 Feb 17 18:08 Operator: MA
Sample : AZ49739W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/10/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y109
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:29:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y109.D Vial: 9
Acq On : 14 Feb 17 18:38 Operator: MA
Sample : AZ49741W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	164648	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	733754	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	434768	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	781561	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	736815	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.70	264	1356228	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

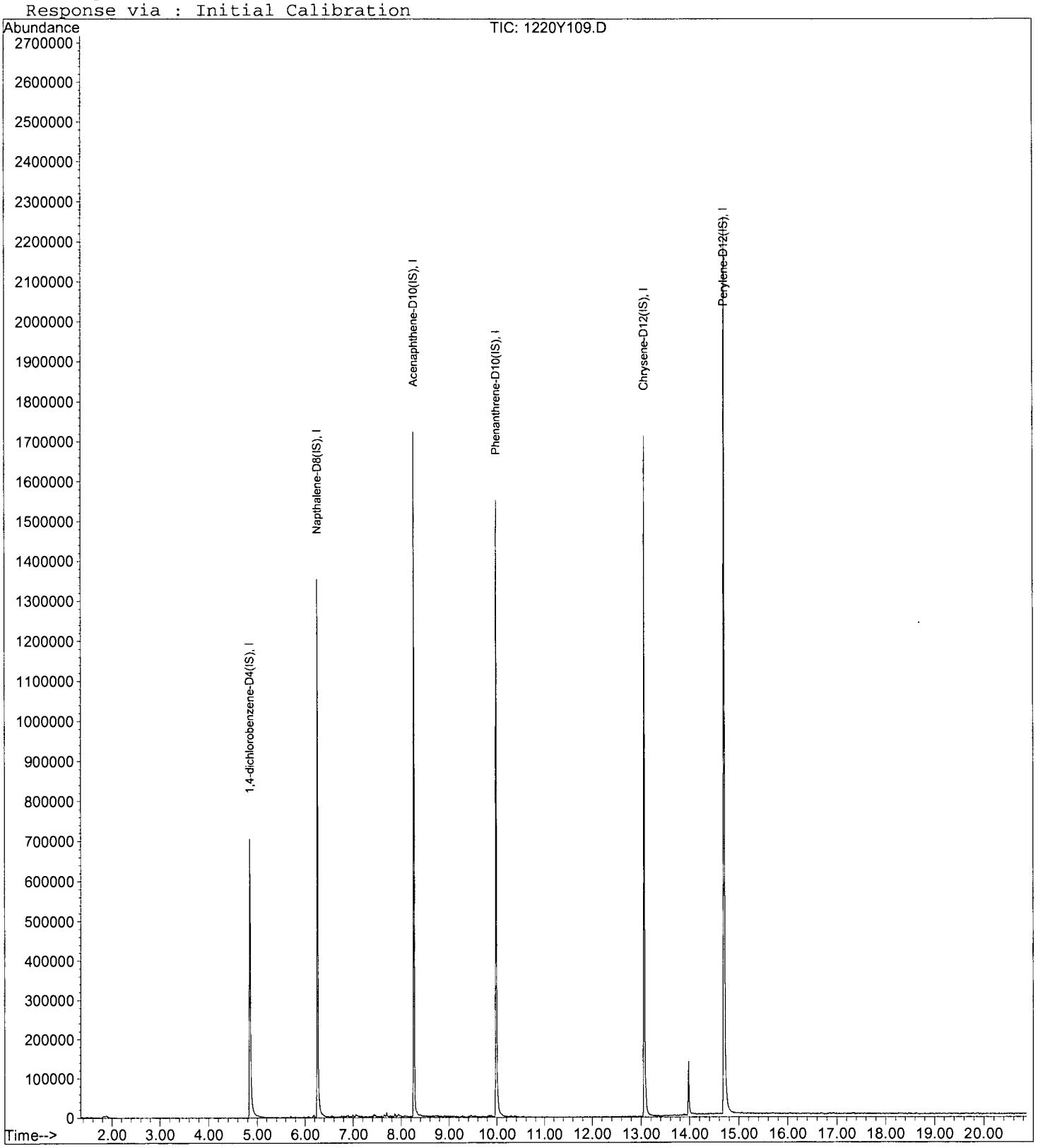
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y109.D Vial: 9
Acq On : 14 Feb 17 18:38 Operator: MA
Sample : AZ49741W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/10/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y110
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:29:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y110.D Vial: 10
Acq On : 14 Feb 17 19:08 Operator: MA
Sample : AZ49743W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	141043	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	629857	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	360504	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	674036	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	628885	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	1112327	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

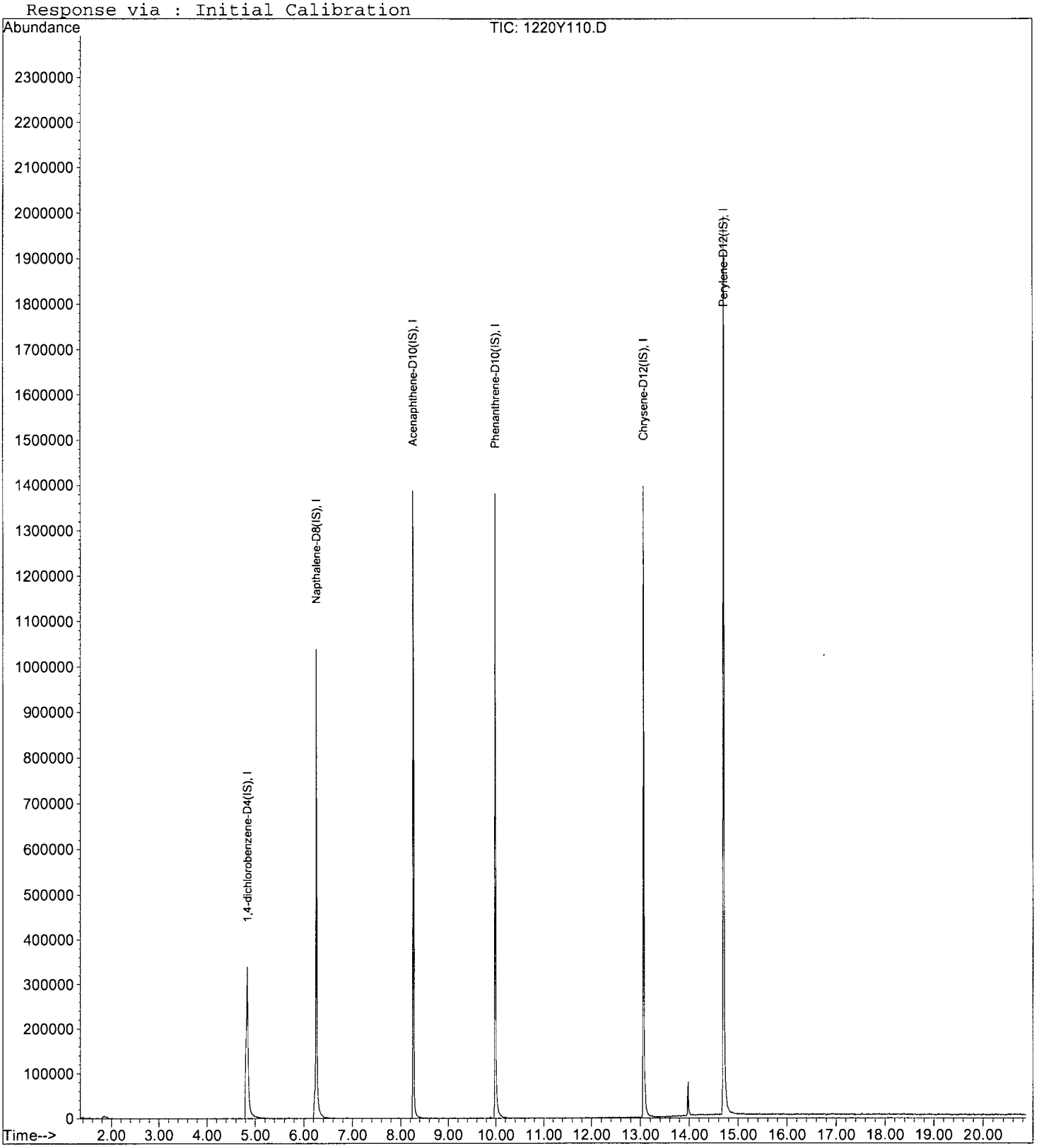
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y110.D Vial: 10
Acq On : 14 Feb 17 19:08 Operator: MA
Sample : AZ49743W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #87DME-170209A-216164

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/10/17	02/14/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y111
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/15/17 3:29:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y111.D Vial: 11
Acq On : 14 Feb 17 19:38 Operator: MA
Sample : AZ49744W05 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	130747	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.26	136	620793	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	367735	40.00000 ppb	-0.04
5) Phenanthrene-D10(IS)	9.99	188	685460	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	646488	40.00000 ppb	-0.04
7) Perylene-D12(IS)	14.69	264	550089	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

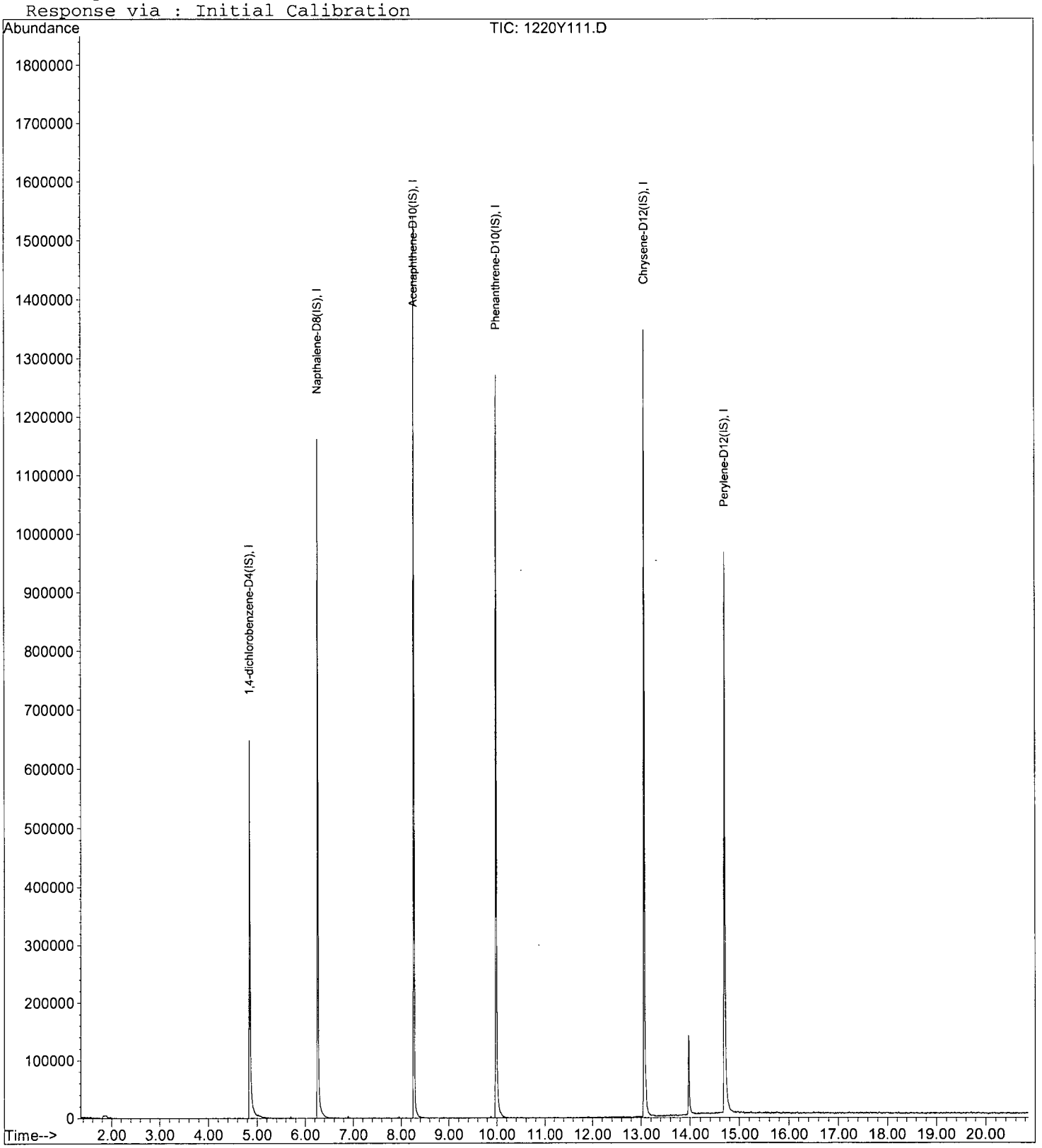
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y111.D Vial: 11
Acq On : 14 Feb 17 19:38 Operator: MA
Sample : AZ49744W05 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:06 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

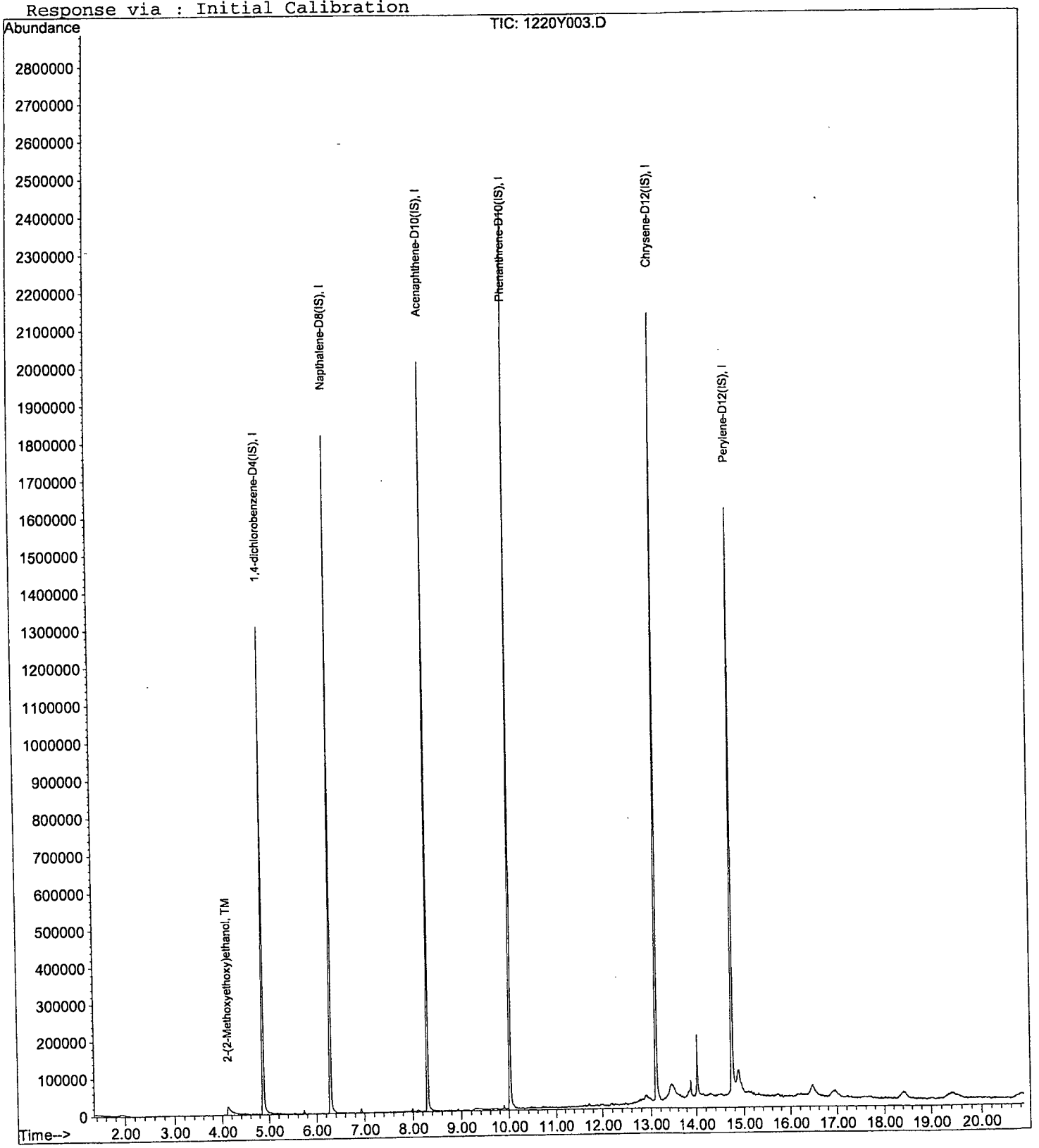
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

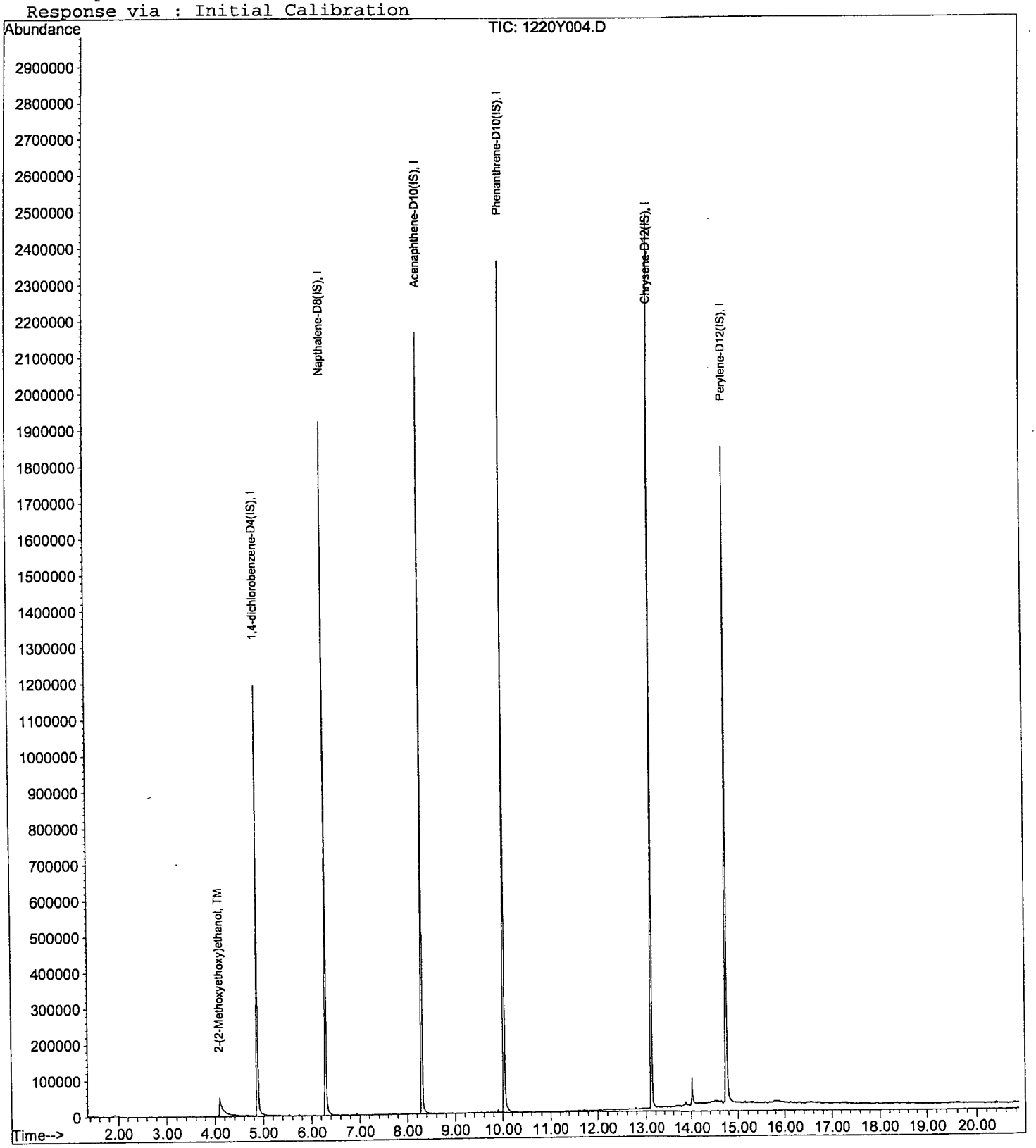
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

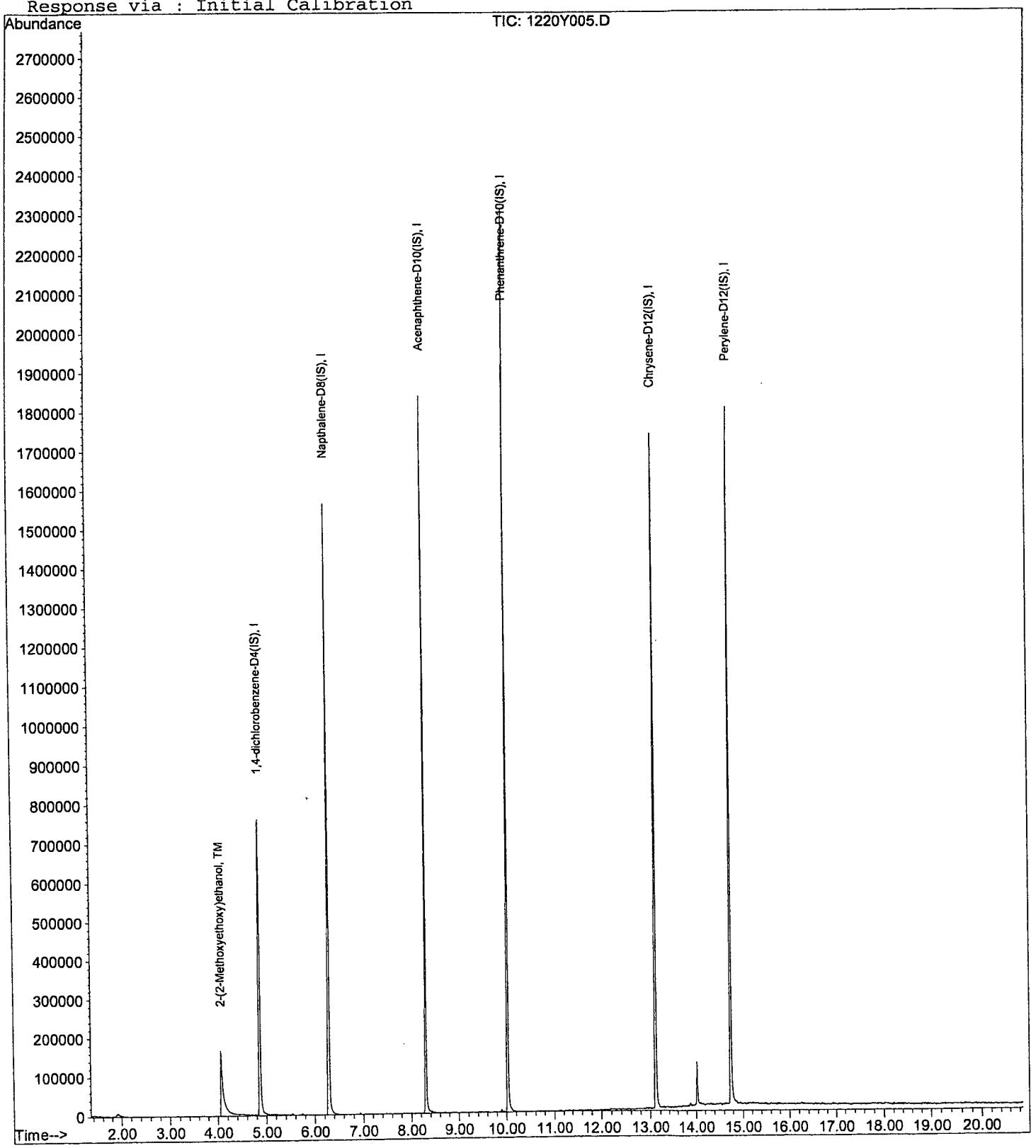
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D Vial: 6
Acq On : 20 Dec 16 11:57 Operator: MA
Sample : 400ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

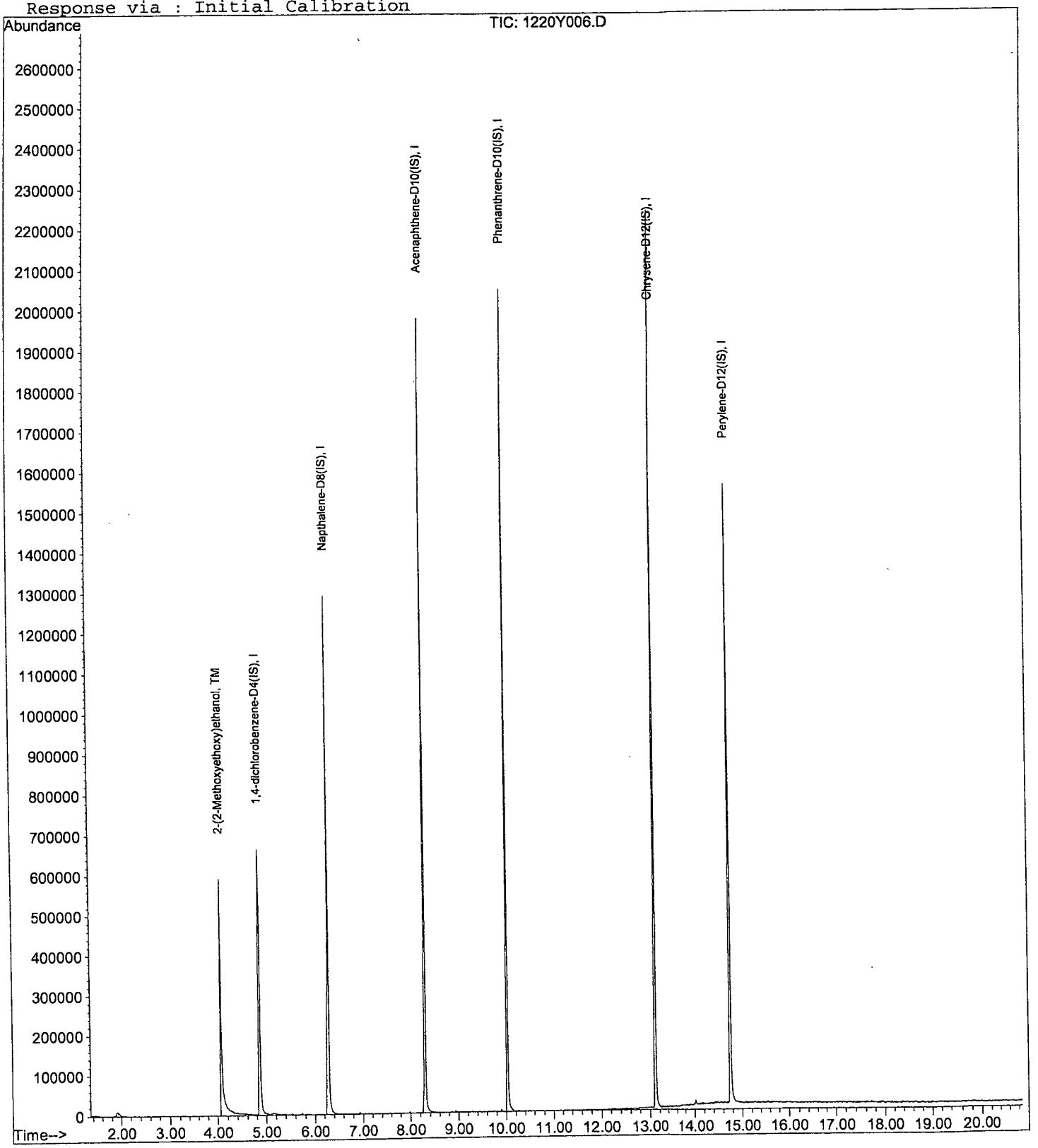
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

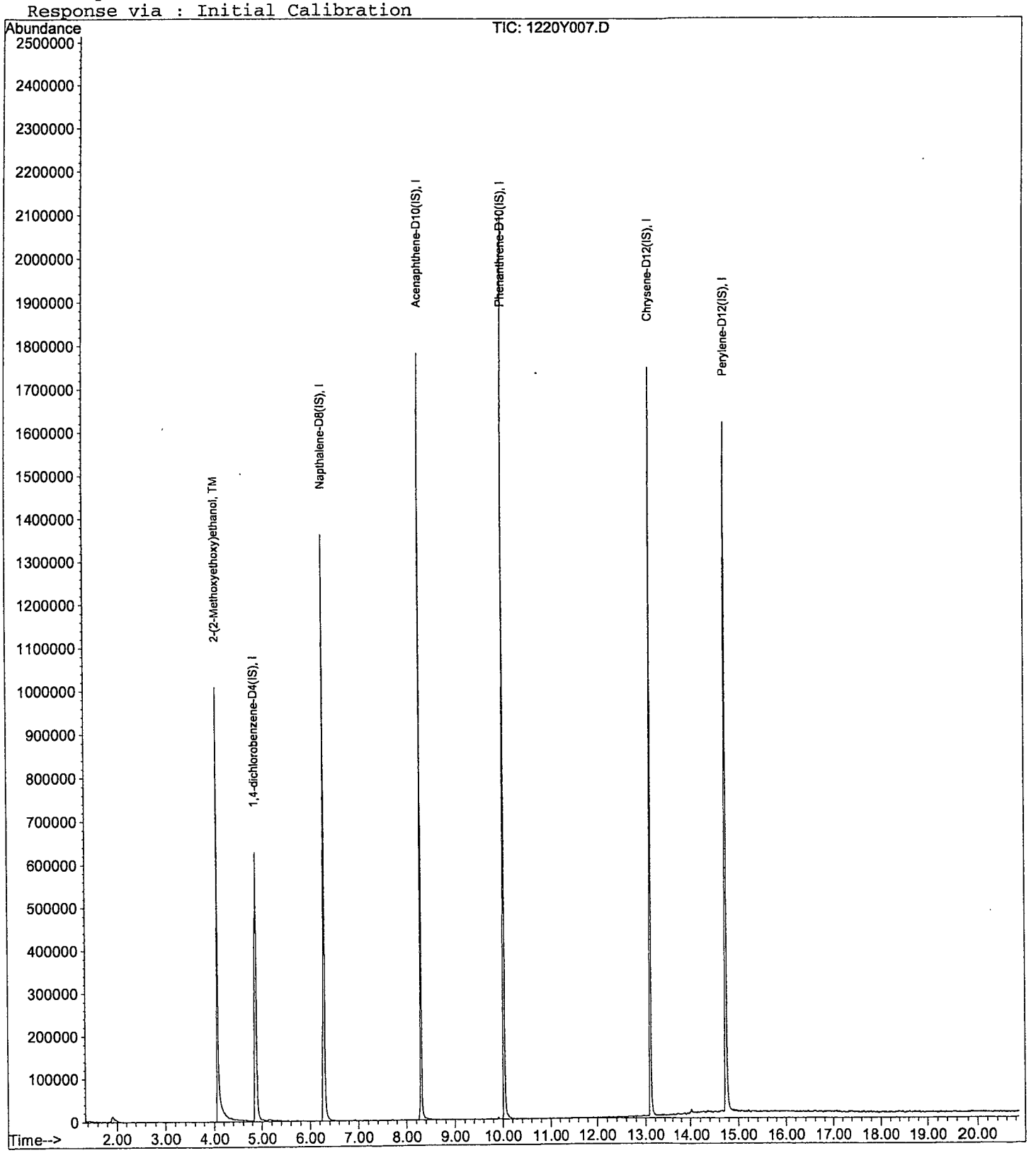
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y007.D Vial: 7
Acq On : 20 Dec 16 12:27 Operator: MA
Sample : 500ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:34 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

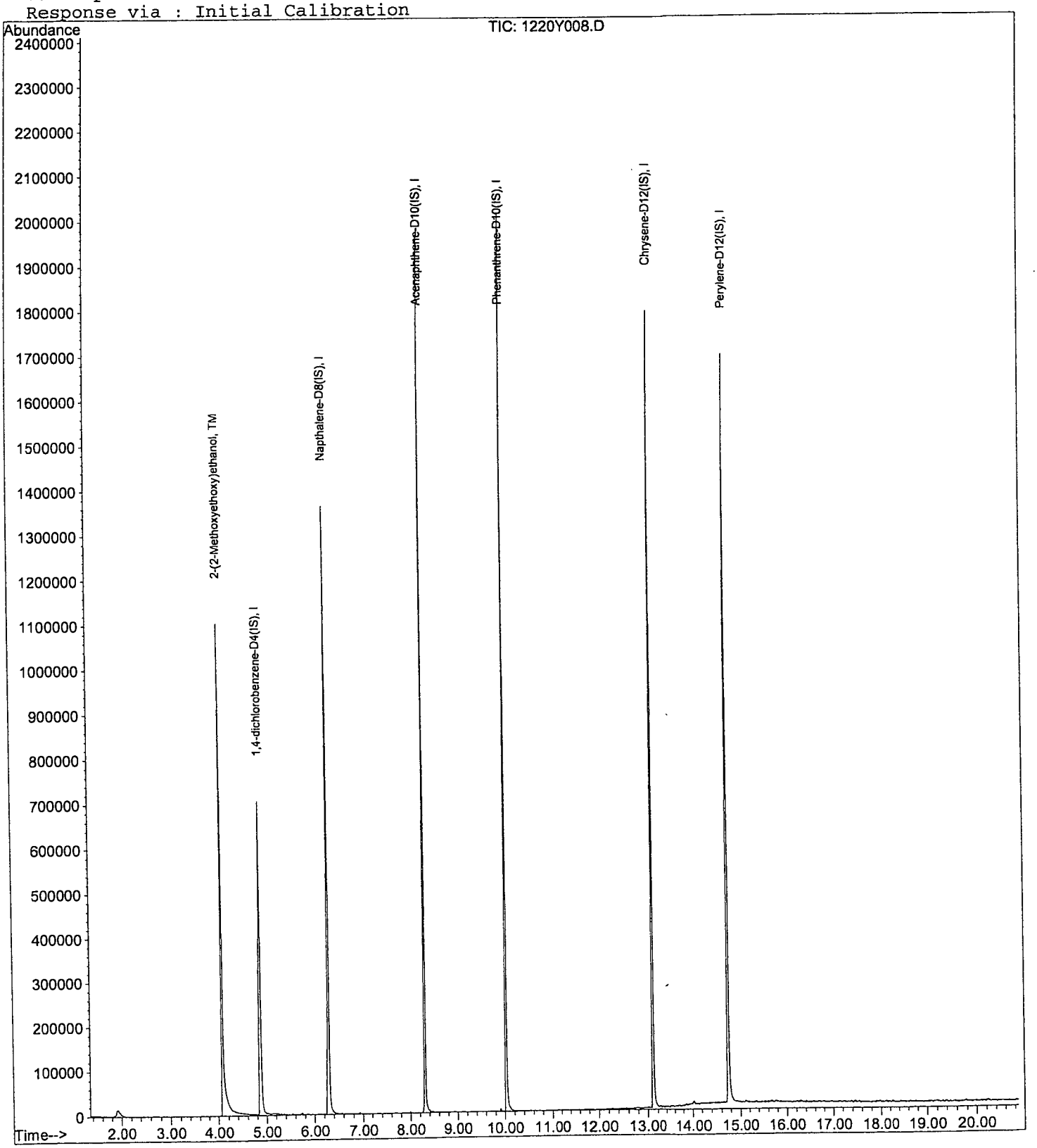
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D Vial: 9
Acq On : 20 Dec 16 13:28 Operator: MA
Sample : 800ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

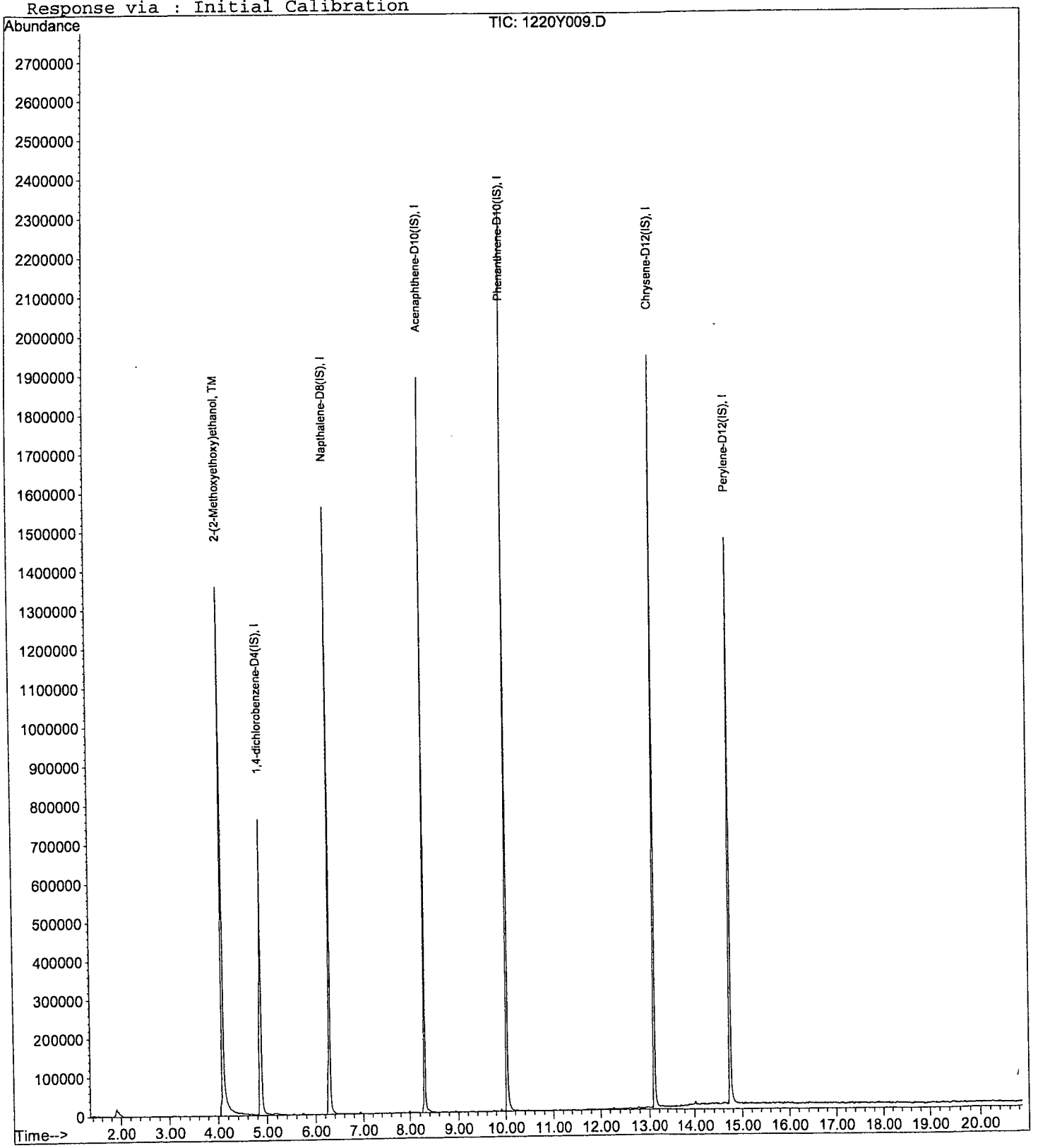
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

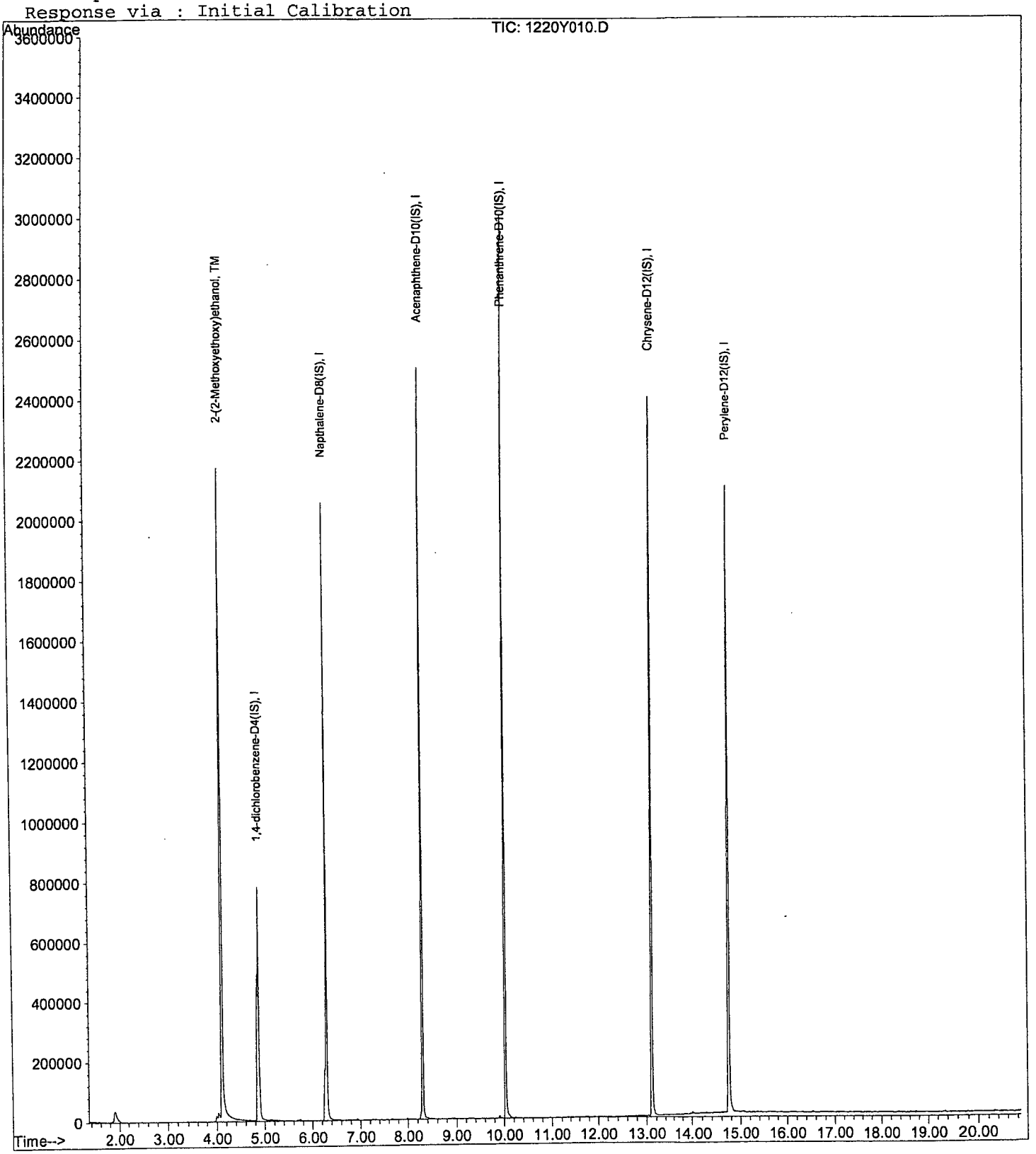
Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

HA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

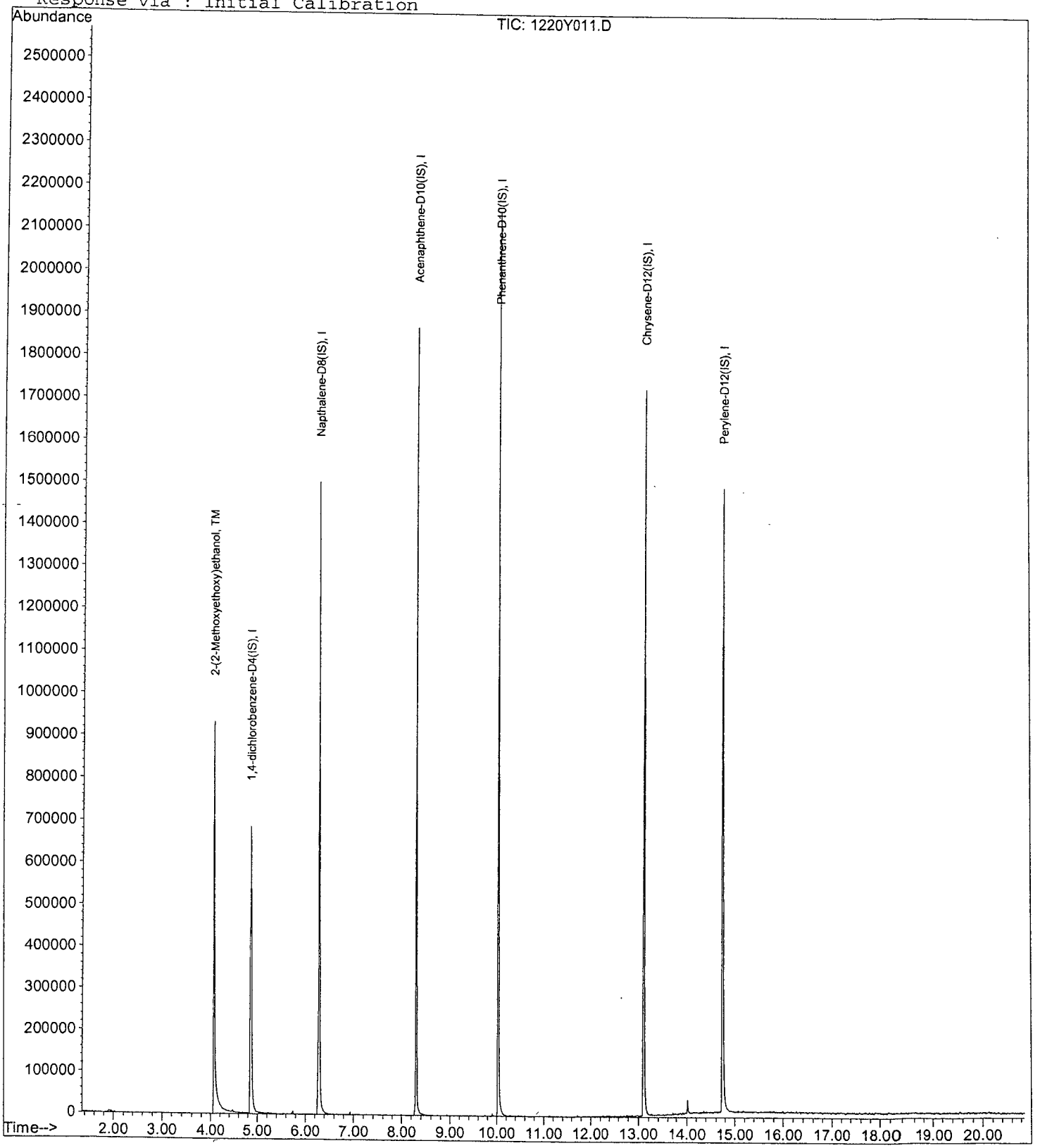
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y093.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2536	18	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y093.D
Acq On : 14 Feb 17 10:31
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 10:49 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	209455	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	932530	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	528957	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	954627	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	871378	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	617446	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	664045	591.40938 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

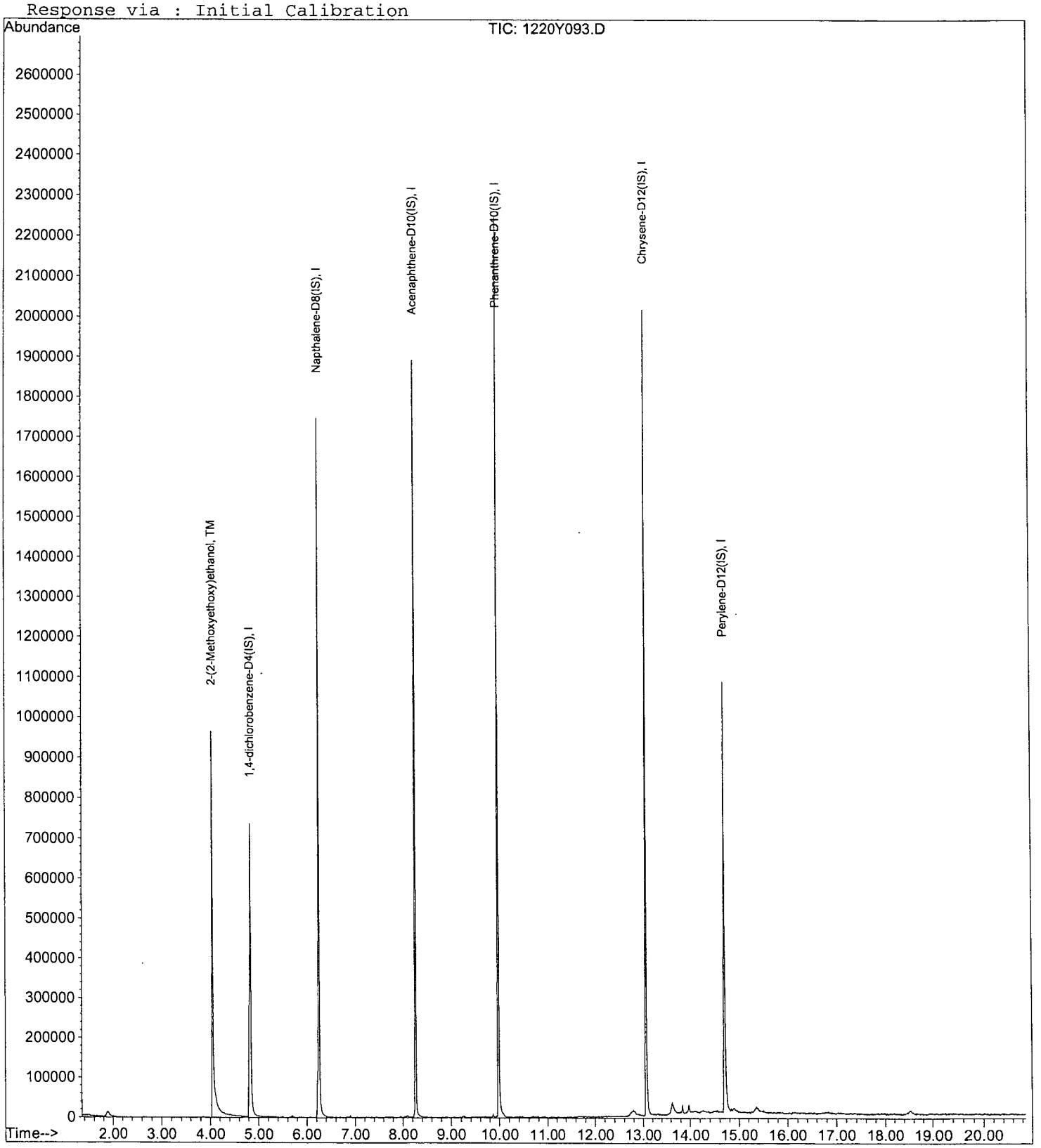
Data File : M:\YODA\DATA\Y161220G\1220Y093.D
Acq On : 14 Feb 17 10:31
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 10:49 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/14/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y115.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2843	33	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			33.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y115.D Vial: 15
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	146880	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	639153	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	366952	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	672733	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636852	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	428168	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	522063	663.04298 ppb	97

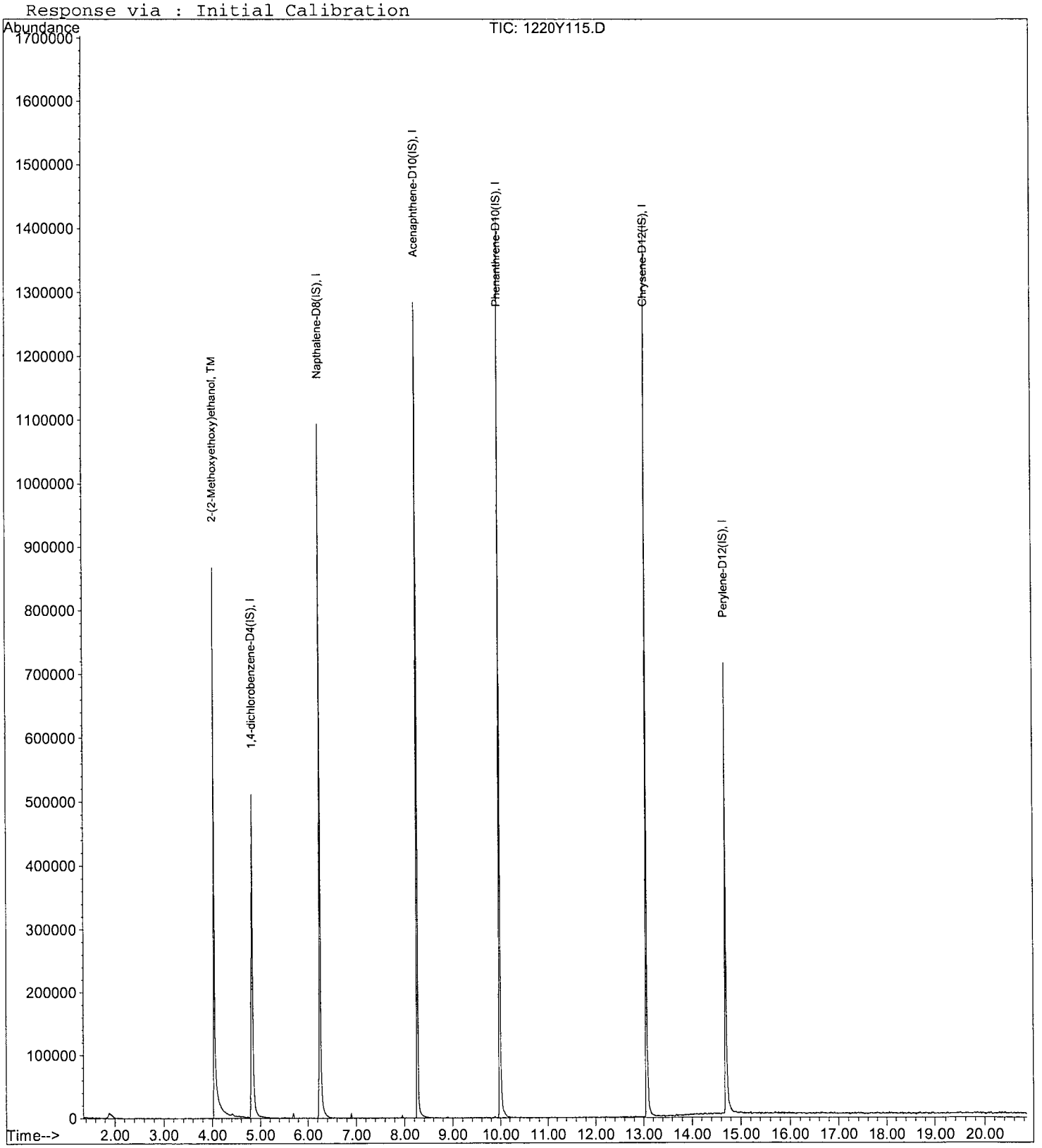
(#) = qualifier out of range (m) = manual integration
1220Y115.D Y0GLYCOL.M Tue Feb 21 13:30:26 2017

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y115.D Vial: 15
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 9:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49674 - 216164**
Batch ID: #87DME-170209A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/09/17	02/14/17

Quant Method: Y0GLYCOL.
Run #: 1220Y094
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/15/17 3:29:32 PM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y094.D Vial: 94
Acq On : 14 Feb 17 11:05 Operator: MA
Sample : 170209A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 11:53 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 16:17:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	188520	40.00000 ppb	-0.03
3) Napthalene-D8(IS)	6.25	136	817432	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	460025	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	853633	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	804727	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	727567	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

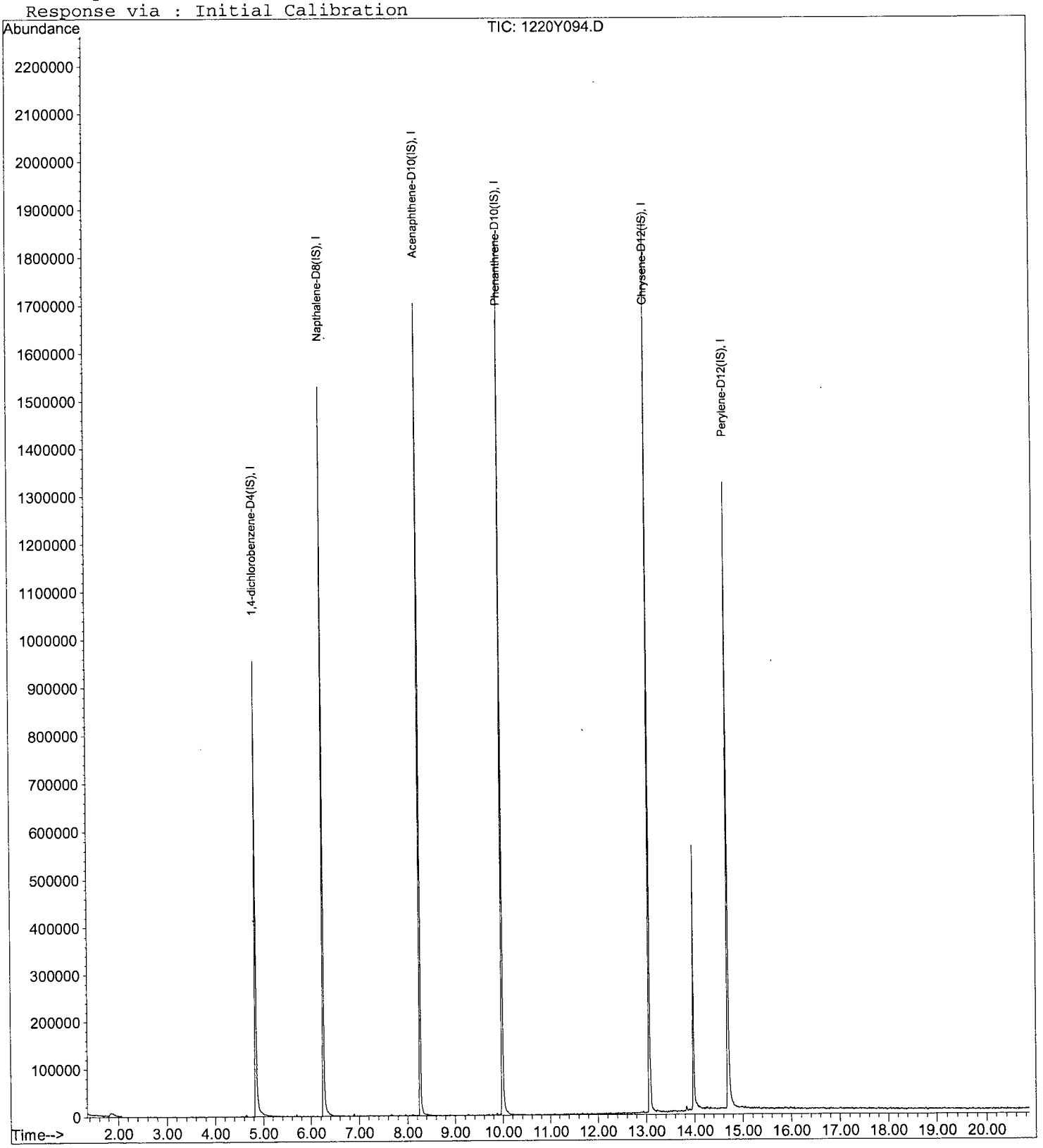
Data File : M:\YODA\DATA\Y161220G\1220Y094.D
Acq On : 14 Feb 17 11:05
Sample : 170209A BLK 2/500
Misc : water

Vial: 94
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 11:53 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170209W-49674 LCS - 216164**
Batch ID: #87DME-170209A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	86.8	109	30-130

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/09/17
Analysis Date :	02/14/17
Instrument :	Yoda
Run :	1220Y095
Initials :	MA

Comments: _____

Printed: 02/15/17 3:29:33 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 14 12:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	161275	40.00000 ppb	-0.04
3) Napthalene-D8(IS)	6.25	136	700038	40.00000 ppb	-0.04
4) Acenaphthene-D10(IS)	8.26	164	404665	40.00000 ppb	-0.05
5) Phenanthrene-D10(IS)	9.99	188	747111	40.00000 ppb	-0.04
6) Chrysene-D12(IS)	13.06	240	722289	40.00000 ppb	-0.05
7) Perylene-D12(IS)	14.69	264	646708	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	75065m	86.82641 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

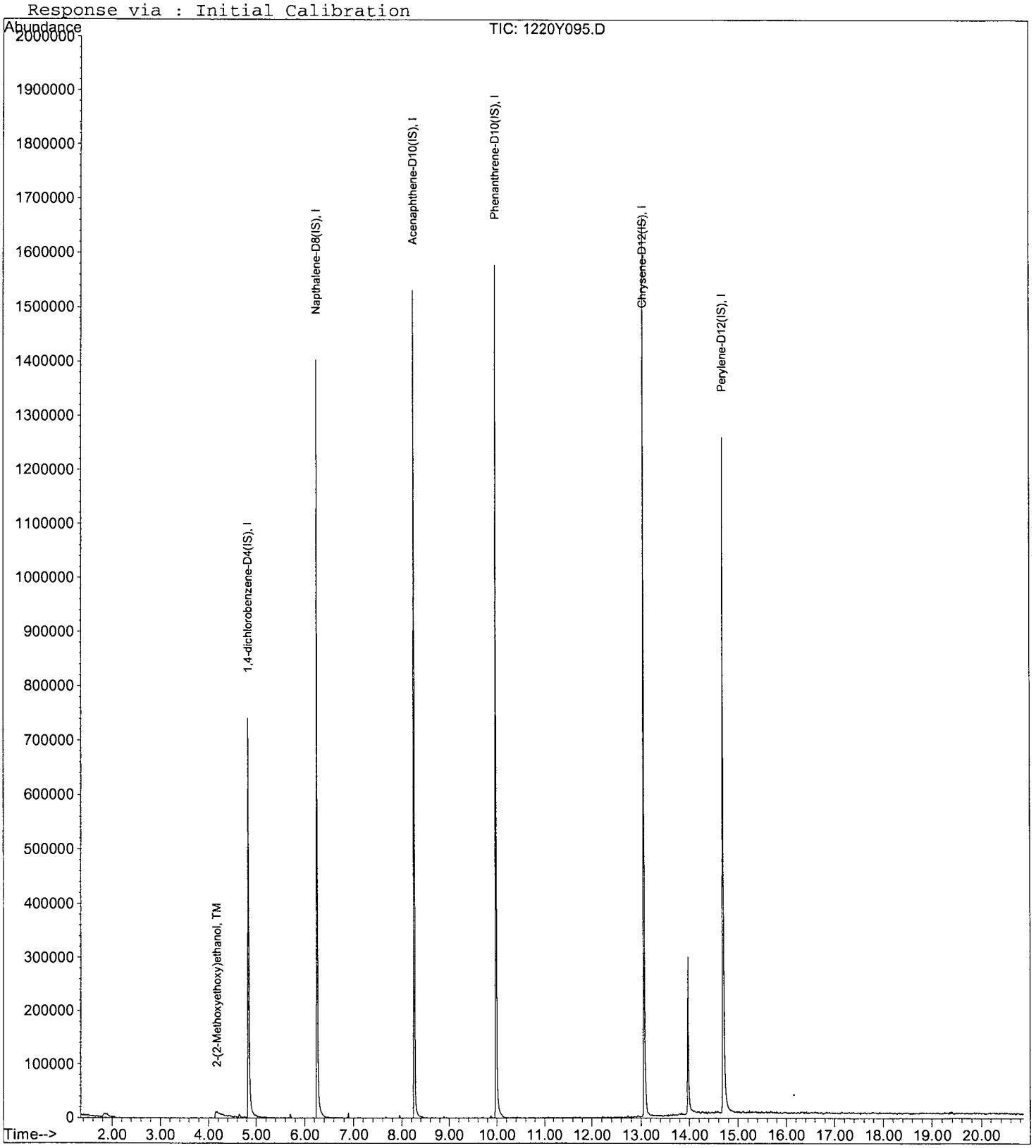
Data File : M:\YODA\DATA\Y161220G\1220Y095.D
Acq On : 14 Feb 17 11:35
Sample : 170209A LCS-1 2/500
Misc : water

Vial: 95
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 14 12:10 2017

Quant Results File: Y0GLYCOL.RES

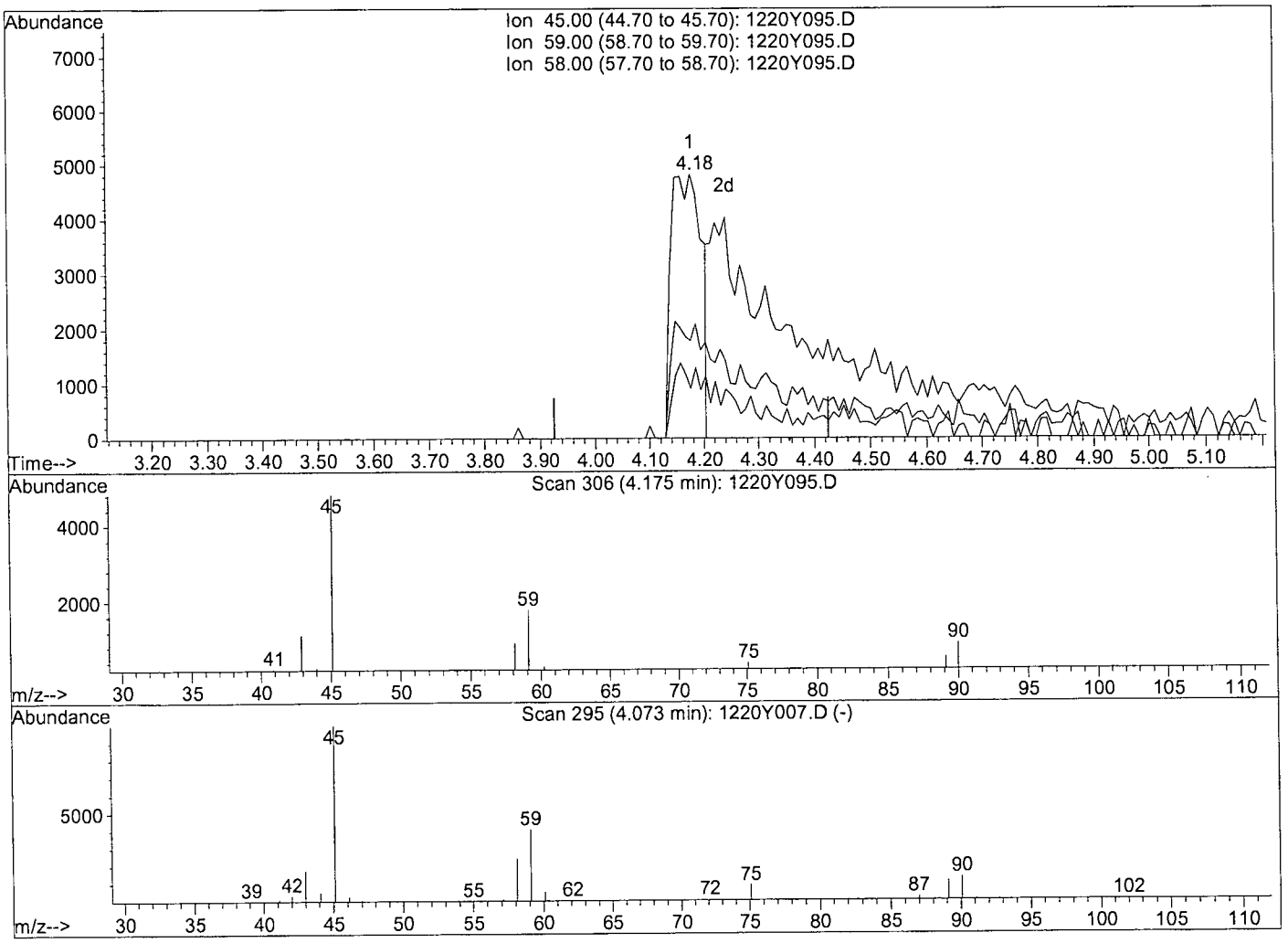
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 14 11:53 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration



TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 21.5363ppb

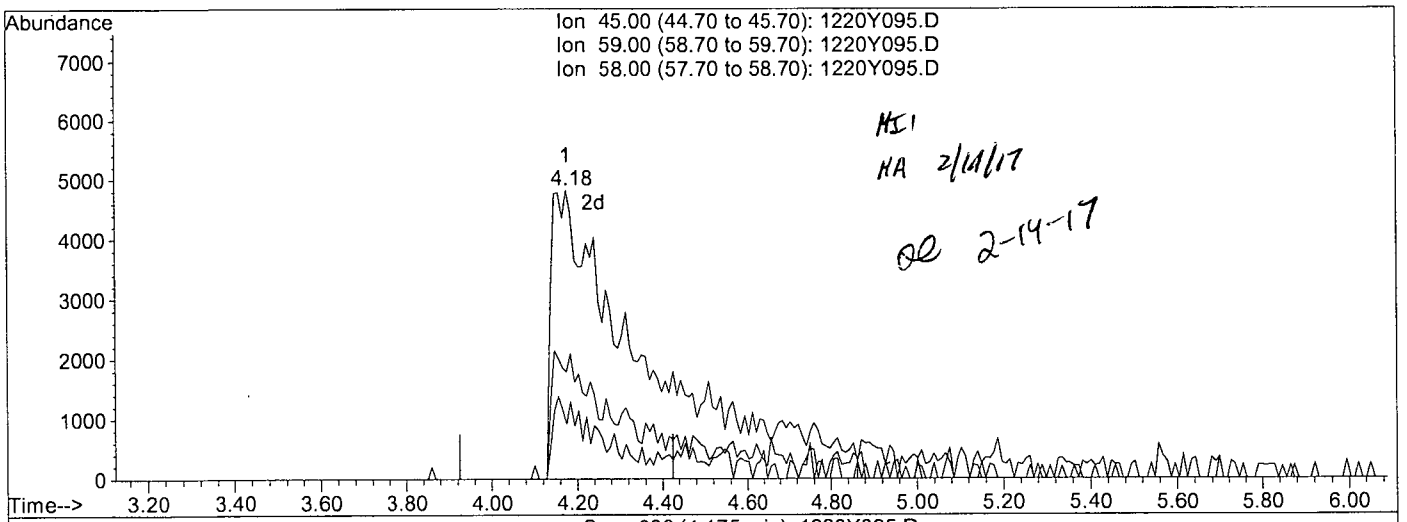
response 18619

Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

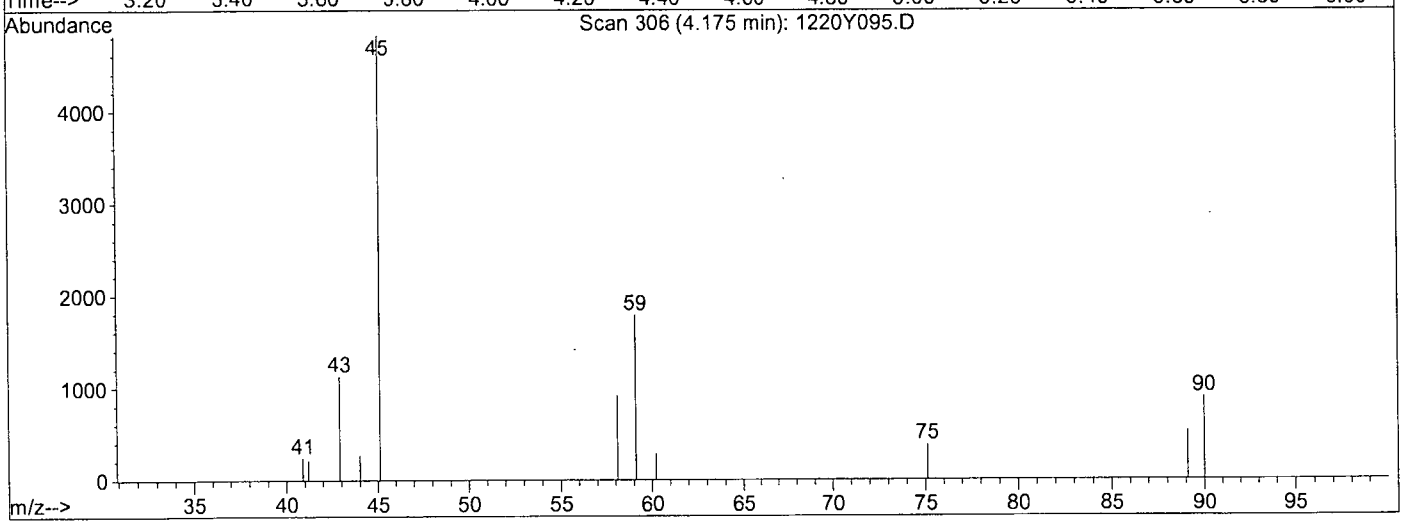
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y095.D Vial: 95
Acq On : 14 Feb 17 11:35 Operator: MA
Sample : 170209A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 14 12:10 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Feb 14 11:53:35 2017
Response via : Multiple Level Calibration



MI
MA 2/14/17
QC 2-14-17



TIC: 1220Y095.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.18min 86.8264ppb m

response 75065

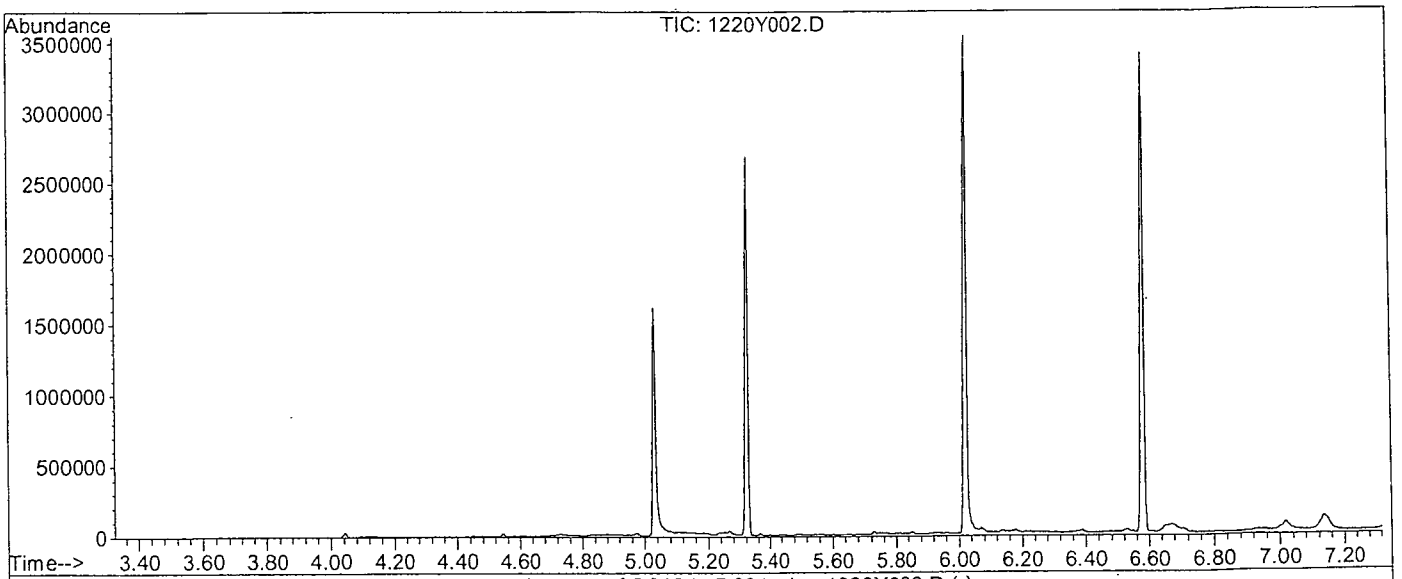
Ion	Exp%	Act%
45.00	100	100
59.00	37.00	37.01
58.00	18.90	18.88
0.00	0.00	0.00

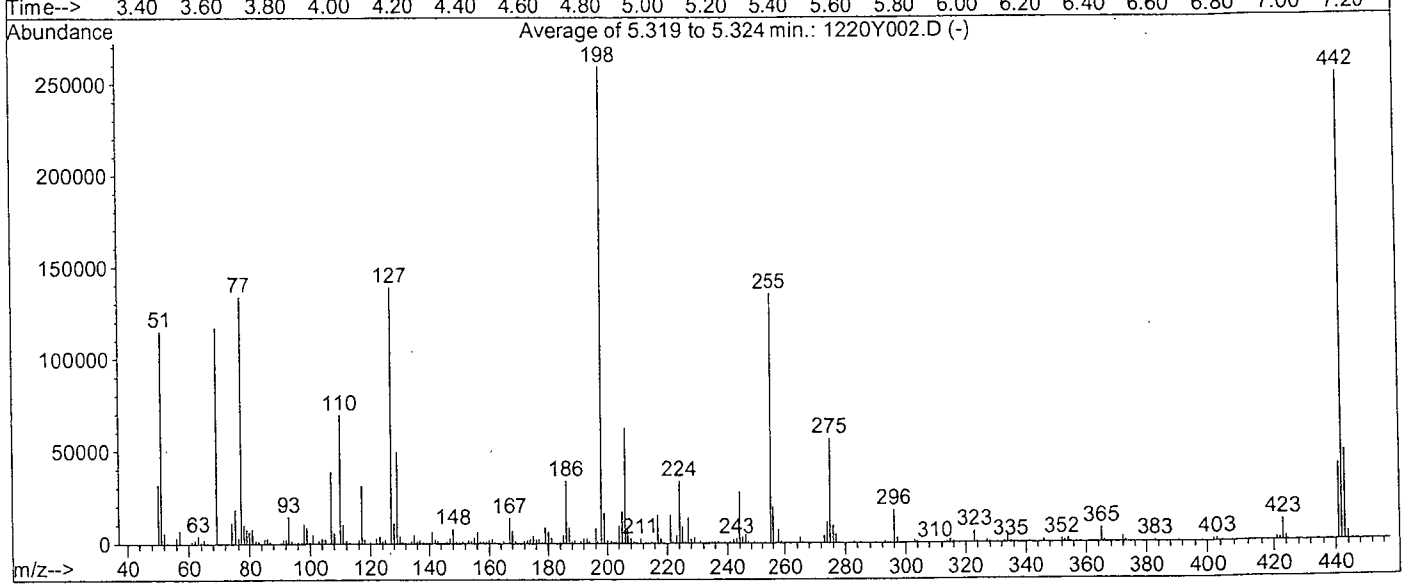
DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D
Acq On : 20 Dec 16 9:12
Sample : SV Tune 11/15/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

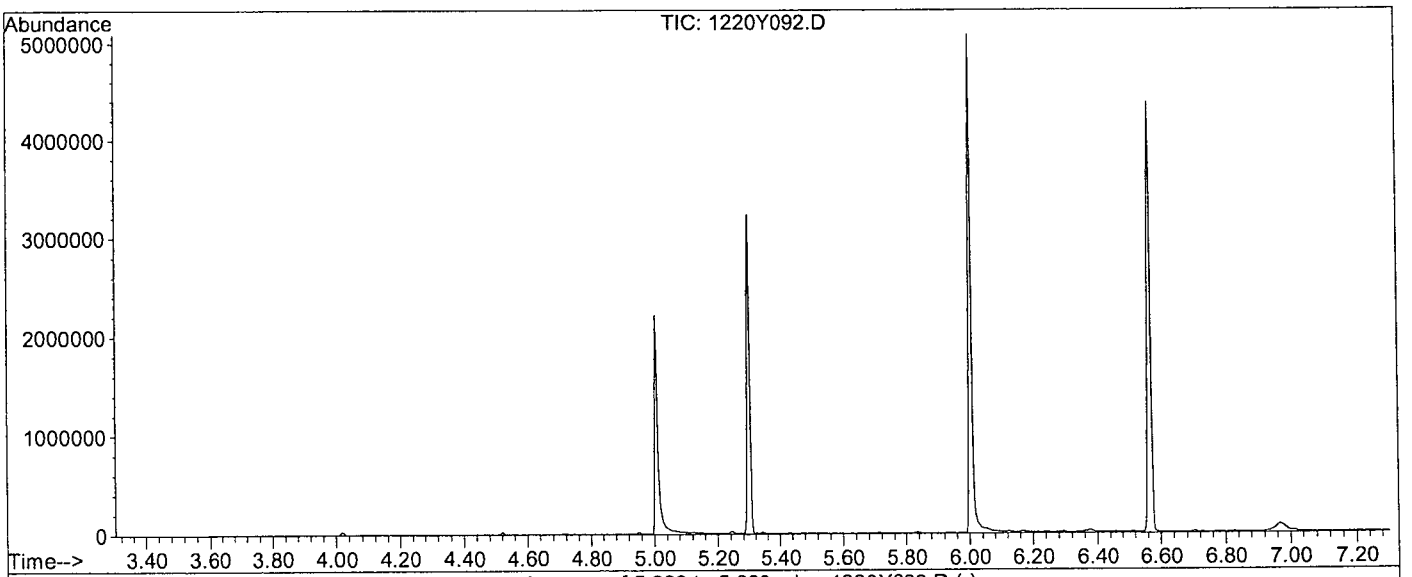
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

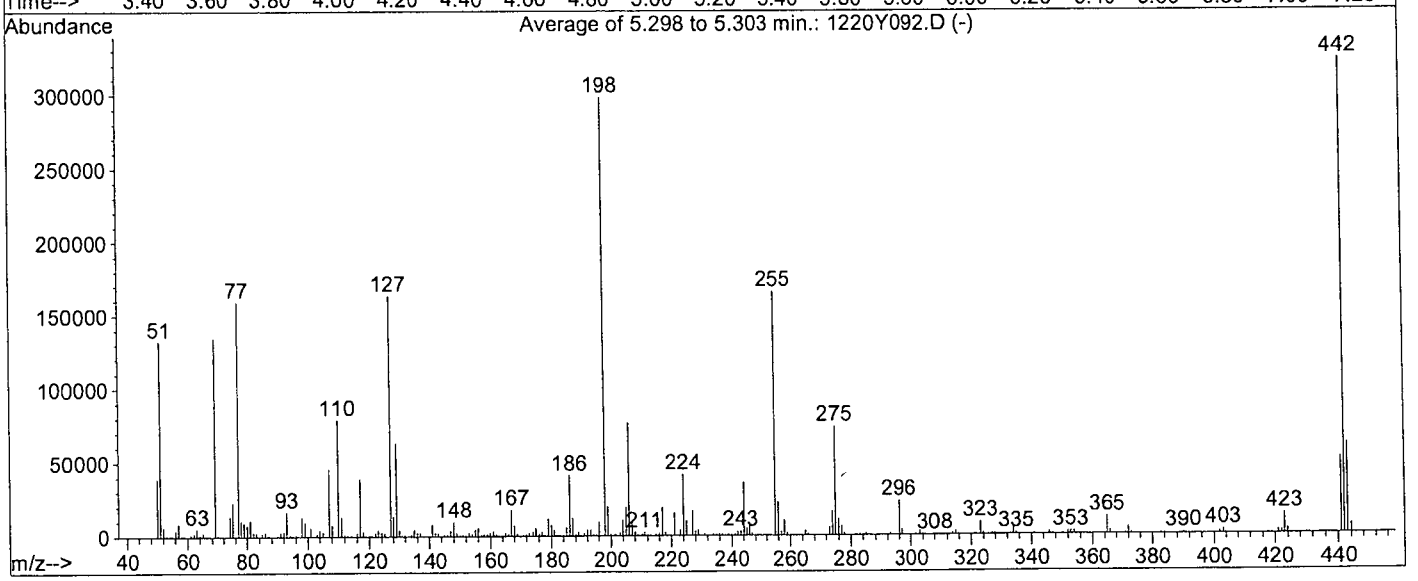
DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y092.D
Acq On : 14 Feb 17 10:14
Sample : SV Tune 11/15/16
Misc : water

Vial: 92
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 685, 686, 687; Background Corrected with Scan 676

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	132576	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	488	PASS
127	198	40	60	54.8	163382	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	298112	PASS
199	198	5	9	6.6	19780	PASS
275	198	10	30	24.7	73645	PASS
365	198	1	100	4.0	11948	PASS
441	443	0.01	100	84.4	51451	PASS
442	198	50	150	108.5	323541	PASS
443	442	17	23	18.8	60976	PASS

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170209A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-8-18	Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17	Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	YES	
Spiked ID 7		Ext. Start Time:	02/09/17 13:00	
Spiked ID 8		Ext. End Time:	02/10/17 16:40	
		GC Requires Extract By:	02/14/17 0:00	
		pH1		Water Bath Temp Criteria
		pH2		
		pH3		

Spiked By: KY **Date** 02/09/17 **Witnessed By:** CFM **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170209A Blk				NA	NA equip	500	2	7	02/09/17 13:00	
2	170209A LCS-1		0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	
3	AZ49656	AZ49656W11			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
4	AZ49657	AZ49657W08			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
5	AZ49658	AZ49658W07			NA	NA equip	500	2	7	02/09/17 13:00	82117 RUSH 1 WEEK
6	AZ49674 MS-1	AZ49674W26	0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
7	AZ49674 MSD-1	AZ49674W31	0.040	1	NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
8	AZ49674	AZ49674W26			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
9	AZ49676	AZ49676W05			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
10	AZ49679	AZ49679W09			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
11	AZ49682	AZ49682W10			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
12	AZ49683	AZ49683W06			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
13	AZ49685	AZ49685W17			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
14	AZ49686	AZ49686W12			NA	NA equip	500	2	7	02/09/17 13:00	82121 RUSH 1 WEEK
15	AZ49739	AZ49739W10			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
16	AZ49741	AZ49741W09			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-9-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/13/17
Time	8:40
Refrigerator	Hobart

	Technician's Initials
Scanned By	CFM,JR
Sample Preparation	KY,CFM
Extraction	KY,CFM
Concentration	KY

Modified	02/10/17 4:45:25 PM

Reviewed By: KY **Date** 2/10/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170209A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-8-18		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/09/17 13:00	
Spiked ID 8			Ext. End Time:	02/10/17 16:40	
			GC Requires Extract By:	**02/14/17 0:00**	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 02/09/17 **Witnessed By:** CFM **Date** 02/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49743	AZ49743W13			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
18	AZ49744	AZ49744W05			NA	NA equip	500	2	7	02/10/17 10:00	82130 RUSH 1 WEEK
19	M STD		1	1	NA	NA equip	500	2	7	02/09/17 13:00	
20	SS		0.0870	2	NA	NA equip	500	2	7	02/09/17 13:00	

KY 2/10/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-9-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	CFM,JR
Sample Preparation	KY,CFM
Extraction	KY,CFM
Concentration	KY

Modified	02/10/17 4:45:25 PM

Reviewed By: KY 332 **Date** 2/10/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	92	1220Y092.D	1	SV Tune 11/15/16	water	14 Feb 17 10:14
12	93	1220Y093.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 10:31
13	94	1220Y094.D	1	170209A BLK 2/500	water	14 Feb 17 11:05
14	95	1220Y095.D	1	170209A LCS-1 2/500	water	14 Feb 17 11:35
15	8	1220Y108.D	1	AZ49739W10 2/500	water	14 Feb 17 18:08
16	9	1220Y109.D	1	AZ49741W09 2/500	water	14 Feb 17 18:38
17	10	1220Y110.D	1	AZ49743W13 2/500	water	14 Feb 17 19:08
18	11	1220Y111.D	1	AZ49744W05 2/500	water	14 Feb 17 19:38
19	15	1220Y115.D	1	500ug/ml DEG 02/14/17	water	14 Feb 17 21:37

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216077**
Batch ID: #86BTO-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
BLANK	SURROGATE: 1,2-DICHLOROET	106	81-118			%	02/09/17	02/09/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.7	85-114			%	02/09/17	02/09/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	02/09/17	02/09/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/10/17 10:51:48 AM

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49741 - 216161**
Batch ID: #86BTO-170213AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/13/17	2/13/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/13/17	2/13/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/13/17	2/13/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/13/17	2/13/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	2/13/17	2/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	99.1	85-114			%	2/13/17	2/13/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	2/13/17	2/13/17
BLANK	SURROGATE: TOLUENE-D8 (S)	95.8	89-112			%	2/13/17	2/13/17

Quant Method: MALLW.M
Run #: 0213M11
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 3:02:24 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130
Case No: 82130 Date Analyzed: 02/09/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	81-118	108		85-114	103	
170209AM-BLK	Blank	81-118	106		85-114	98.7	
AZ49738	ERH209	81-118	106		85-114	98.7	
AZ49739	ERH218	81-118	108		85-114	101	
AZ49740	ERH215	81-118	110		85-114	100	

Comments: Batch: #86BTO-170209AM

Printed: 02/10/17 10:51:45 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130

Case No: 82130 Date Analyzed: 02/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	80-119	101		89-112	98.0	
170209AM-BLK	Blank	80-119	103		89-112	97.5	
AZ49738	ERH209	80-119	106		89-112	98.6	
AZ49739	ERH218	80-119	105		89-112	102	
AZ49740	ERH215	80-119	103		89-112	99.3	

Comments: Batch: #86BTO-170209AM

Printed: 02/10/17 10:51:46 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130

Case No: 82130 Date Analyzed: 2/13/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213AM-LCS	Lab Control Spike	81-118	98.4		85-114	102	
170213AM-BLK	Blank	81-118	103		85-114	99.1	
AZ49742	ERH217	81-118	107		85-114	99.9	
AZ49743	ERH210	81-118	106		85-114	99.5	
AZ49744	ERH229	81-118	107		85-114	101	
AZ49741	ERH216	81-118	101		85-114	102	

Comments: Batch: #86BTO-170213AM

Printed: 2/14/17 3:02:28 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130

Case No: 82130 Date Analyzed: 2/13/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213AM-LCS	Lab Control Spike	80-119	103		89-112	102	
170213AM-BLK	Blank	80-119	102		89-112	95.8	
AZ49742	ERH217	80-119	104		89-112	99.0	
AZ49743	ERH210	80-119	106		89-112	97.7	
AZ49744	ERH229	80-119	105		89-112	101	
AZ49741	ERH216	80-119	105		89-112	97.2	

Comments: Batch: #86BTO-170213AM

Printed: 2/14/17 3:02:28 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170209W-49675 LCS - 216077**
Batch ID: #86BTO-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.4	104	79-120
ETHYLBENZENE	10.00	10.4	104	79-121
TOLUENE	10.00	10.4	104	80-121
XYLENES (TOTAL)	30.0	31.6	105	79-121
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	26.9	108	81-118
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.8	103	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.5	98.0	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	02/09/17
Analysis Date :	02/09/17
Instrument :	Max
Run :	0209M06
Initials :	ARO

Printed: 02/10/17 10:51:42 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170213W-49741 LCS - 216161**
Batch ID: #86BTO-170213AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.9	109	79-120
ETHYLBENZENE	10.00	11.4	114	79-121
TOLUENE	10.00	11.2	112	80-121
XYLENES (TOTAL)	30.0	34.0	113	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.6	98.4	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.7	103	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.4	102	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M02
Initials :	SV

Printed: 2/14/17 3:02:32 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82130
Matrix: WATER
Blank ID: 170209AM-BLK

SDG No: 82130
Date Analyzed: 02/09/17
Instrument: Max
Time Analyzed: 1219

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209AM-LCS	Lab Control Spike	0209M06	02/09/17 0831
170209AM-BLK	Blank	0209M14	02/09/17 1219
AZ49738	ERH209	0209M27	02/09/17 1828
AZ49739	ERH218	0209M28	02/09/17 1857
AZ49740	ERH215	0209M29	02/09/17 1925

Comments: Batch: #86BTO-170209AM

Printed: 02/10/17 10:51:39 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82130

Case No: 82130 Date Analyzed: 2/13/17

Matrix: WATER Instrument: Max

Blank ID: 170213AM-BLK Time Analyzed: 1412

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213AM-LCS	Lab Control Spike	0213M02	2/13/17 0957
170213AM-BLK	Blank	0213M11	2/13/17 1412
AZ49742	ERH217	0213M15	2/13/17 1605
AZ49743	ERH210	0213M16	2/13/17 1634
AZ49744	ERH229	0213M17	2/13/17 1702
AZ49741	ERH216	0213M18	2/13/17 1731

Comments: Batch: #86BTO-170213AM

Printed: 2/14/17 3:02:36 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 0127M00.D 82130
Matrix: Water np 2-22-17
ID: 5ng BFB STD 12/15/16

SDG No: np 2-22-17 ~~Max~~ 82130
Date Analyzed: 01/27/17
Instrument: Max
Time Analyzed: 9:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 01/2	0127M04.D	01/27/17 11:24
2		0.5ug/L VOC STD 01/2	0127M05.D	01/27/17 11:53
3		1.0ug/L VOC STD 01/2	0127M06.D	01/27/17 12:21
4		2.0ug/L VOC STD 01/2	0127M07.D	01/27/17 12:49
5		5.0ug/L VOC STD 01/2	0127M08.D	01/27/17 13:17
6		10ug/L VOC STD 01/27	0127M09.D	01/27/17 13:45
7		20ug/L VOC STD 01/27	0127M10.D	01/27/17 14:14
8		40ug/L VOC STD 01/27	0127M11.D	01/27/17 14:42
9		100ug/L VOC STD 01/2	0127M12.D	01/27/17 15:10
10		(SS) 10ug/L VOC STD	0127M16.D	01/27/17 17:03
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.8
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	100.0
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	97.4
177	5 - 9% of mass 176	5.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82130
Date Analyzed: 02/09/17
Instrument: Max
Time Analyzed: 7:39

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170209A CCV/LCS 10ug	0209M06.D	02/09/17 8:31
2	Blank	170209A BLK-1WM	0209M14.D	02/09/17 12:19
3	ERH209	AZ49738W01	0209M27.D	02/09/17 18:28
4	ERH218	AZ49739W01	0209M28.D	02/09/17 18:57
5	ERH215	AZ49740W01	0209M29.D	02/09/17 19:25
6		Ending CCV 8260 10ug	0209M30.D	02/09/17 19:53
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.6
75	30 - 60% of mass 95	44.4
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	99.3
175	5 - 9% of mass 174	8.1
176	95.06 - 101% of mass 174	98.5
177	5 - 9% of mass 176	7.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82130
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82130
Date Analyzed: 2/13/17
Instrument: Max
Time Analyzed: 9:00

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170213A CCV/LCS 10ug	0213M02.D	2/13/17 9:57
2	Blank	170213A BLK1WM	0213M11.D	2/13/17 14:12
3	ERH217	AZ49742W02	0213M15.D	2/13/17 16:05
4	ERH210	AZ49743W02	0213M16.D	2/13/17 16:34
5	ERH229	AZ49744W02	0213M17.D	2/13/17 17:02
6	ERH216	AZ49741W02	0213M18.D	2/13/17 17:31
7		Ending CCV 8260 10ug	0213M26.D	2/13/17 21:17
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.3
75	30 - 60% of mass 95	46.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2% of mass 174	0.2
174	50 - 100% of mass 95	97.3
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	98.3
177	5 - 9% of mass 176	7.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82130

Lab File ID (Standard): 0127M09.D Date Analyzed: 01/27/17

Instrument ID: Max Time Analyzed: 13:45

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	330920	5.51	236599	9.15	123244	12.35
	UPPER LIMIT	661840	6.01	473198	9.65	246488	12.85
	LOWER LIMIT	165460	5.01	118300	8.65	61622	11.85
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	313129	5.51	223395	9.15	119323	12.35
02	170209A CCV/LCS 10u	292687	5.51	215613	9.15	116060	12.35
03	170209A BLK-1WM	305671	5.51	221943	9.15	112083	12.35
04	AZ49738W01	282797	5.52	205846	9.15	103909	12.35
05	AZ49739W01	284518	5.52	205195	9.15	103158	12.35
06	AZ49740W01	285656	5.52	207761	9.15	104913	12.35
07	Ending CCV 8260 10ug/	288346	5.52	212438	9.15	114547	12.35
08	170213A CCV/LCS 10u	273090	5.51	196079	9.15	102531	12.35
09	170213A BLK1WM	278798	5.51	204179	9.15	103805	12.35
10	AZ49742W02	254811	5.51	187159	9.15	95233	12.35
11	AZ49743W02	257104	5.52	189379	9.16	95566	12.35
12	AZ49744W02	265089	5.52	193076	9.15	96704	12.35
13	AZ49741W02	254320	5.52	184887	9.15	102834	12.35
14	Ending CCV 8260 10ug/	268420	5.52	186988	9.15	100852	12.35
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS
Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH209
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49738
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.7	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.6	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M27
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M27.D
Acq On : 9 Feb 17 18:28
Sample : AZ49738W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	282797	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	205846	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103909	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64368	26.54 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.160%	
36) 1,2-DCA-D4(S)	5.13	65	50926	26.50 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.996%	
56) Toluene-D8(S)	7.35	98	245426	24.65 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	88404	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.664%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

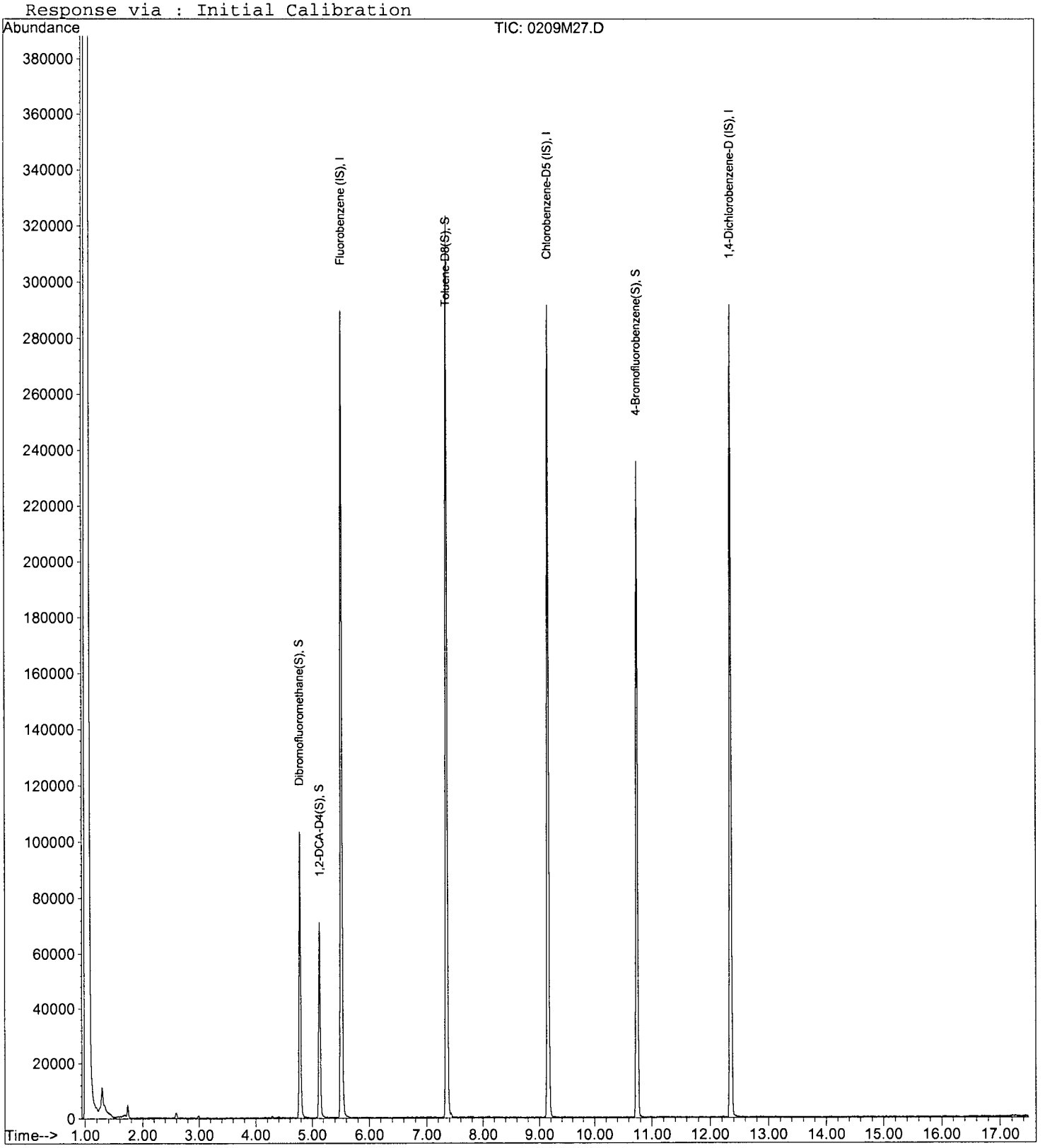
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M27.D
Acq On : 9 Feb 17 18:28
Sample : AZ49738W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:47 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	108	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M28
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M28.D
Acq On : 9 Feb 17 18:57
Sample : AZ49739W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:48 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	284518	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	205195	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103158	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64091	26.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.060%	
36) 1,2-DCA-D4(S)	5.13	65	52202	27.00 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.992%	
56) Toluene-D8(S)	7.35	98	252091	25.40 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.580%	
64) 4-Bromofluorobenzene(S)	10.74	95	90029	25.20 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.796%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

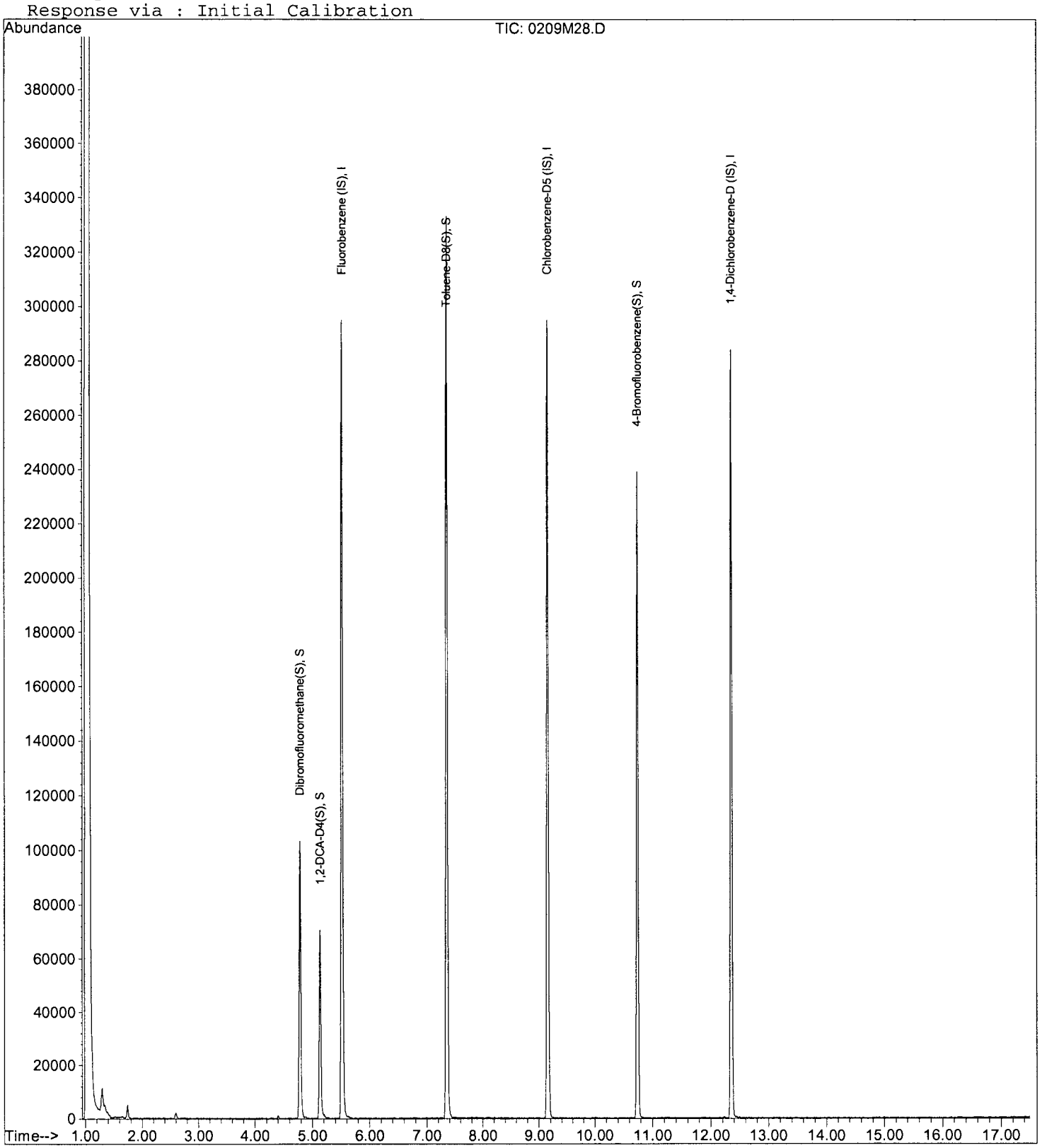
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M28.D
Acq On : 9 Feb 17 18:57
Sample : AZ49739W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:48 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH215
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49740
QCG: #86BTO-170209AM-216077

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	110	81-118			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/09/17	02/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.3	89-112			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M29
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M29.D
Acq On : 9 Feb 17 19:25
Sample : AZ49740W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:49 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	285656	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	207761	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	104913	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63334	25.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.408%	
36) 1,2-DCA-D4(S)	5.13	65	53266	27.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.756%	
56) Toluene-D8(S)	7.35	98	249564	24.83 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.320%	
64) 4-Bromofluorobenzene(S)	10.74	95	90498	25.02 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.072%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

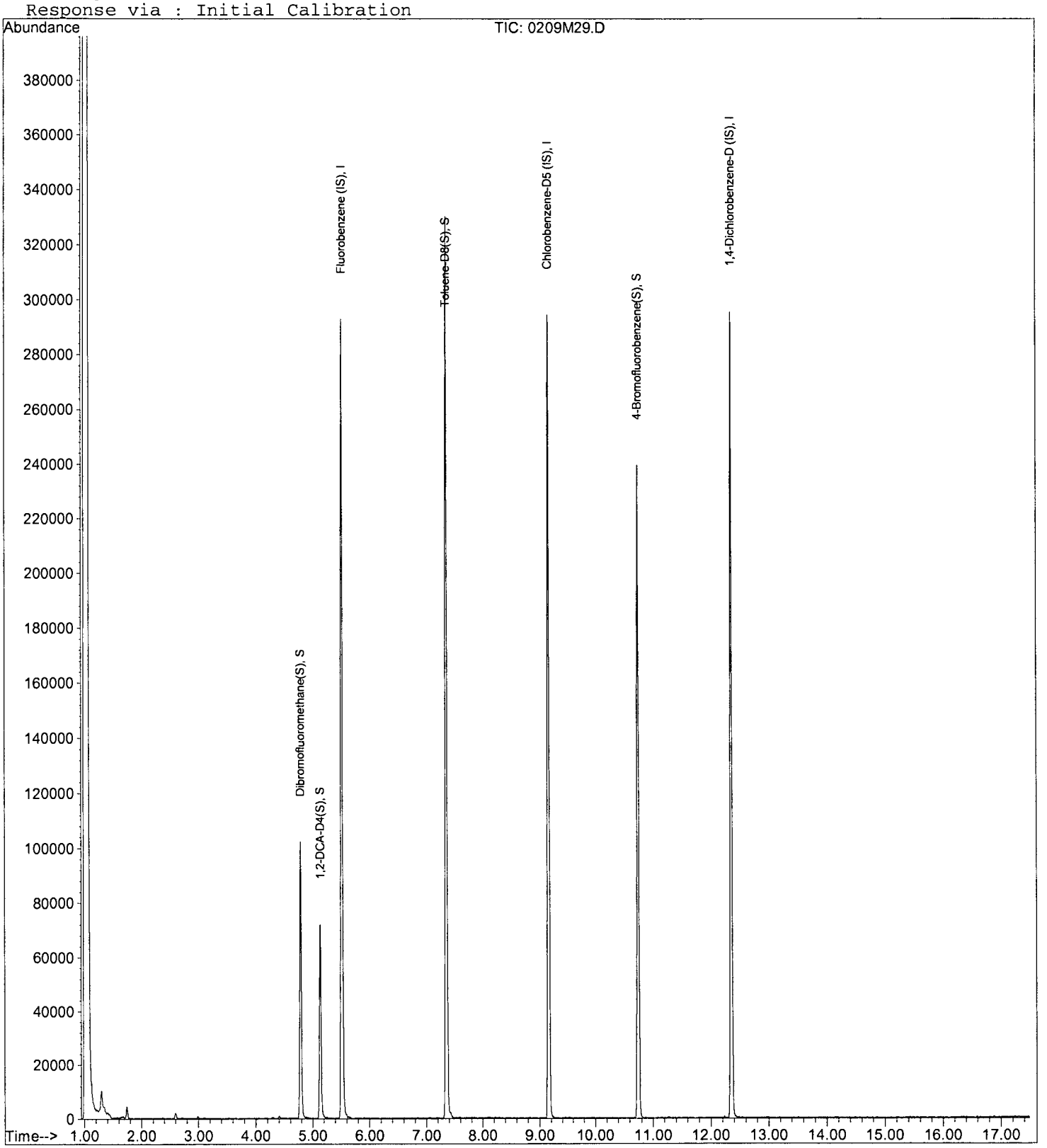
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M29.D
Acq On : 9 Feb 17 19:25
Sample : AZ49740W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:49 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82130

Sample ID: ERH216

APPL ID: AZ49741

Sample Collection Date: 02/07/17

QCG: #86BTO-170213AM-216161

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/13/17	02/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/13/17	02/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/13/17	02/13/17
EPA 8260B	XYLENES (TOTAL)	0.23 J	2.0	0.30	0.19	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.2	89-112			%	02/13/17	02/13/17

J = Estimated value.

Quant Method: MALLW.M
Run #: 0213M18
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 3:02:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M18.D Vial: 18
Acq On : 13 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49741W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 8:00 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	254320	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	184887	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	102834	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	57215	26.23174 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.928%	
36) 1,2-DCA-D4(S)	5.13	65	43694	25.28125 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.124%	
56) Toluene-D8(S)	7.35	98	217343	24.29974 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.200%	
64) 4-Bromofluorobenzene(S)	10.74	95	82186	25.53074 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.124%	
Target Compounds					Qvalue
62) o-Xylene	10.04	106	2376	0.23429 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

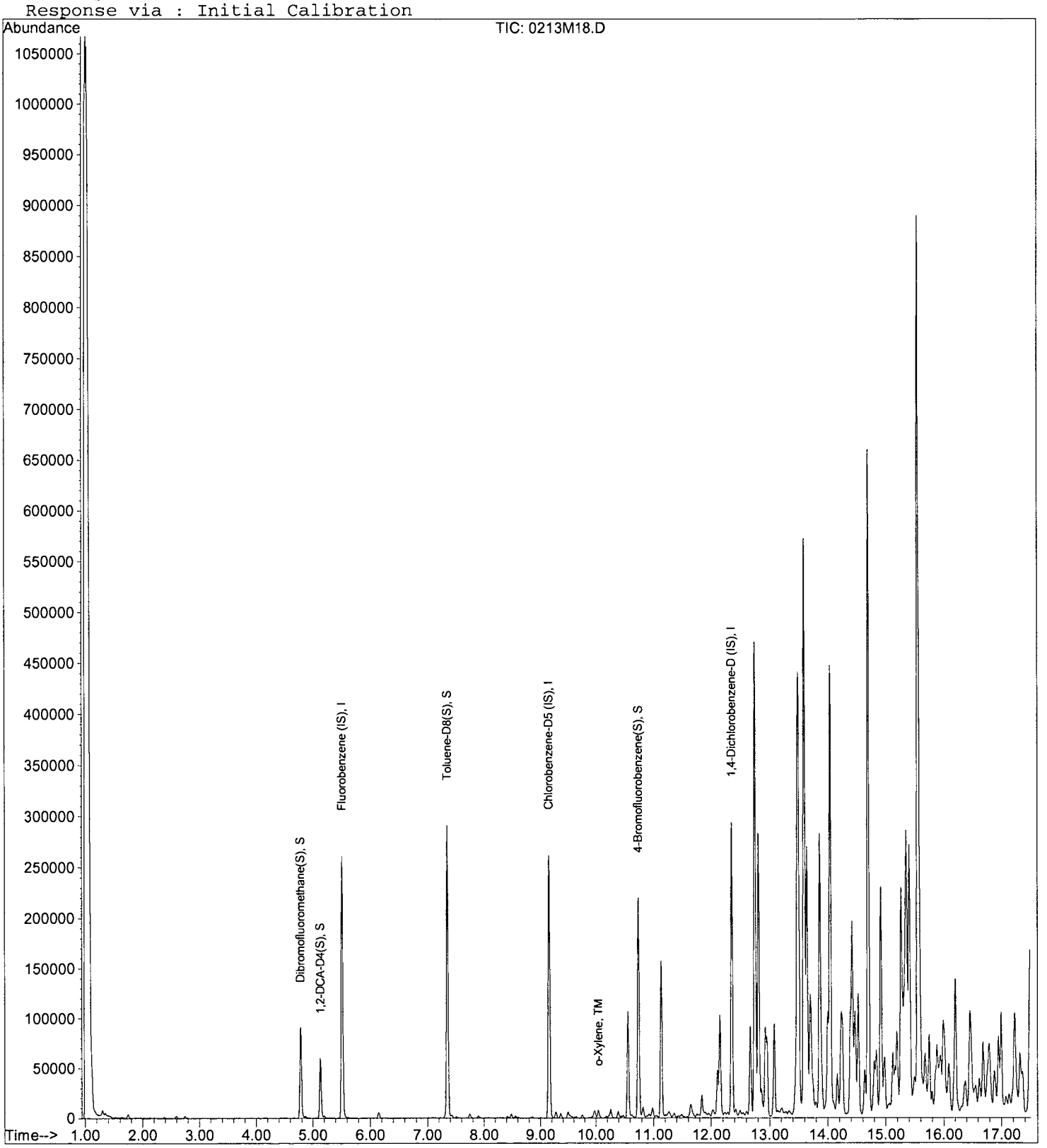
Data File : M:\MAX\DATA\M170127\0213M18.D
Acq On : 13 Feb 17 17:31
Sample : AZ49741W02
Misc : IS&S 10/20/16

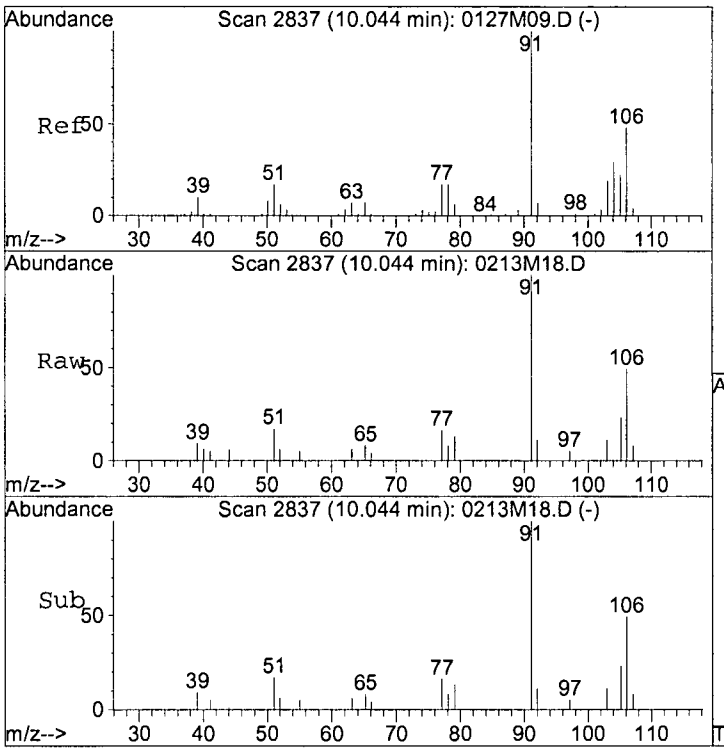
Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 8:00 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration

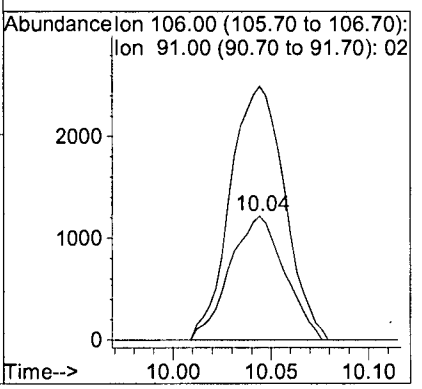




#62
o-Xylene
Concen: 0.23429 ppb
RT: 10.04 min Scan# 2837
Delta R.T. 0.00 min
Lab File: 0213M18.D
Acq: 13 Feb 17 17:31

Tgt Ion:106 Resp: 2376

Ion	Ratio	Lower	Upper
106	100		
91	204.9	147.0	273.0



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH217
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49742
QCG: #86BTO-170213AM-216161

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/13/17	02/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/13/17	02/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/13/17	02/13/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.9	85-114			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.0	89-112			%	02/13/17	02/13/17

Quant Method: MGAS6211.M
Run #: 0213M15
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 3:02:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M15.D Vial: 15
Acq On : 13 Feb 17 16:05 Operator: PM,DG,SV,CMM
Sample : AZ49742W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:57 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	254811	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	187159	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	95233	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	56752	25.96933 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.876%	
36) 1,2-DCA-D4(S)	5.13	65	46135	26.64217 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.568%	
56) Toluene-D8(S)	7.35	98	224175	24.75933 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.036%	
64) 4-Bromofluorobenzene(S)	10.74	95	81420	24.98575 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.944%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

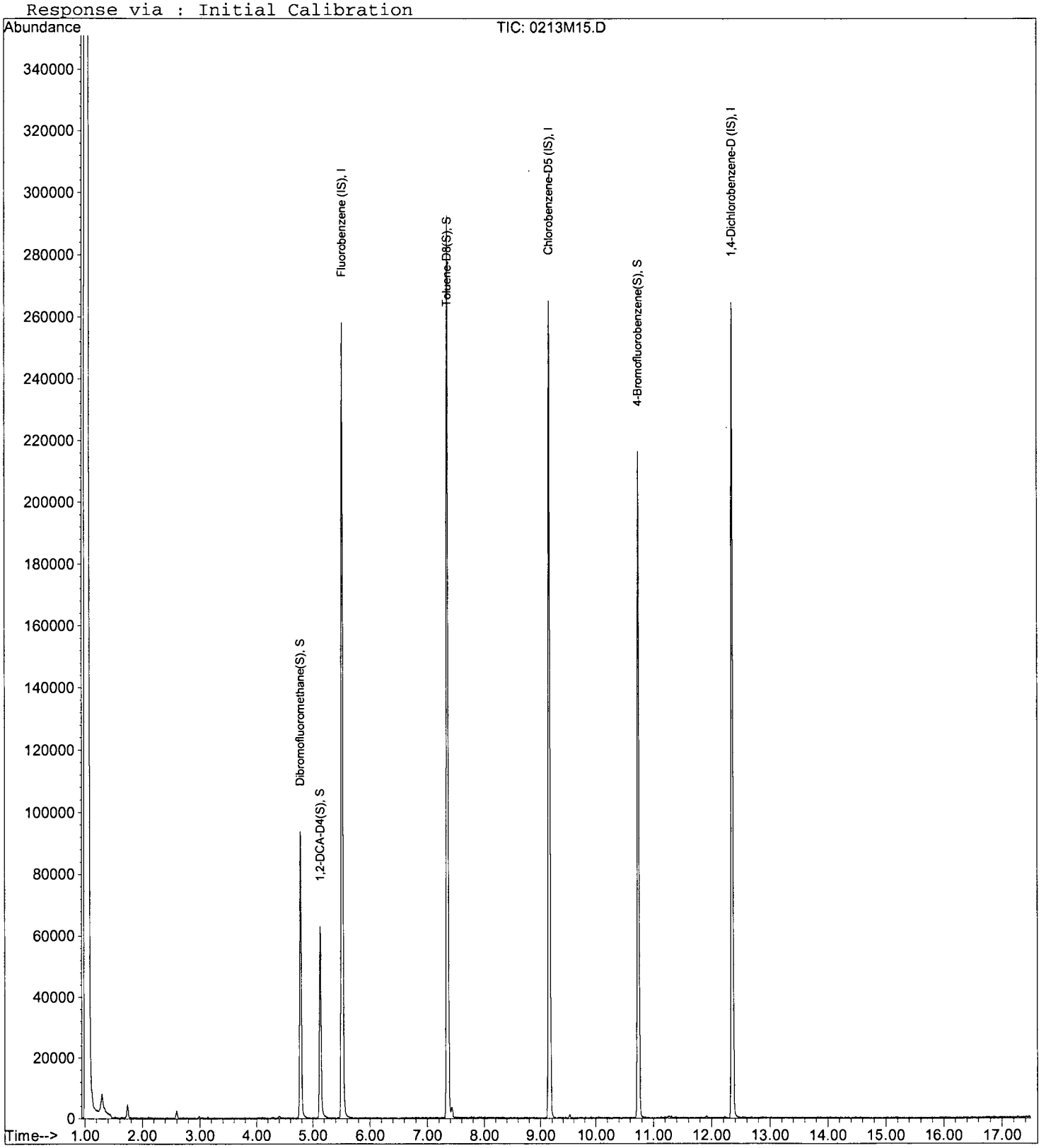
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M15.D
Acq On : 13 Feb 17 16:05
Sample : AZ49742W02
Misc : IS&S 10/20/16

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:57 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #86BTO-170213AM-216161

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/13/17	02/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/13/17	02/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/13/17	02/13/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.5	85-114			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.7	89-112			%	02/13/17	02/13/17

Quant Method: MGAS6211.M
Run #: 0213M16
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 3:02:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M16.D Vial: 16
Acq On : 13 Feb 17 16:34 Operator: PM,DG,SV,CMM
Sample : AZ49743W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:58 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	257104	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	189379	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	95566	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	58372	26.47241 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.888%	
36) 1,2-DCA-D4(S)	5.13	65	46358	26.53219 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.128%	
56) Toluene-D8(S)	7.35	98	223804	24.42859 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.716%	
64) 4-Bromofluorobenzene(S)	10.74	95	82020	24.87482 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.500%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

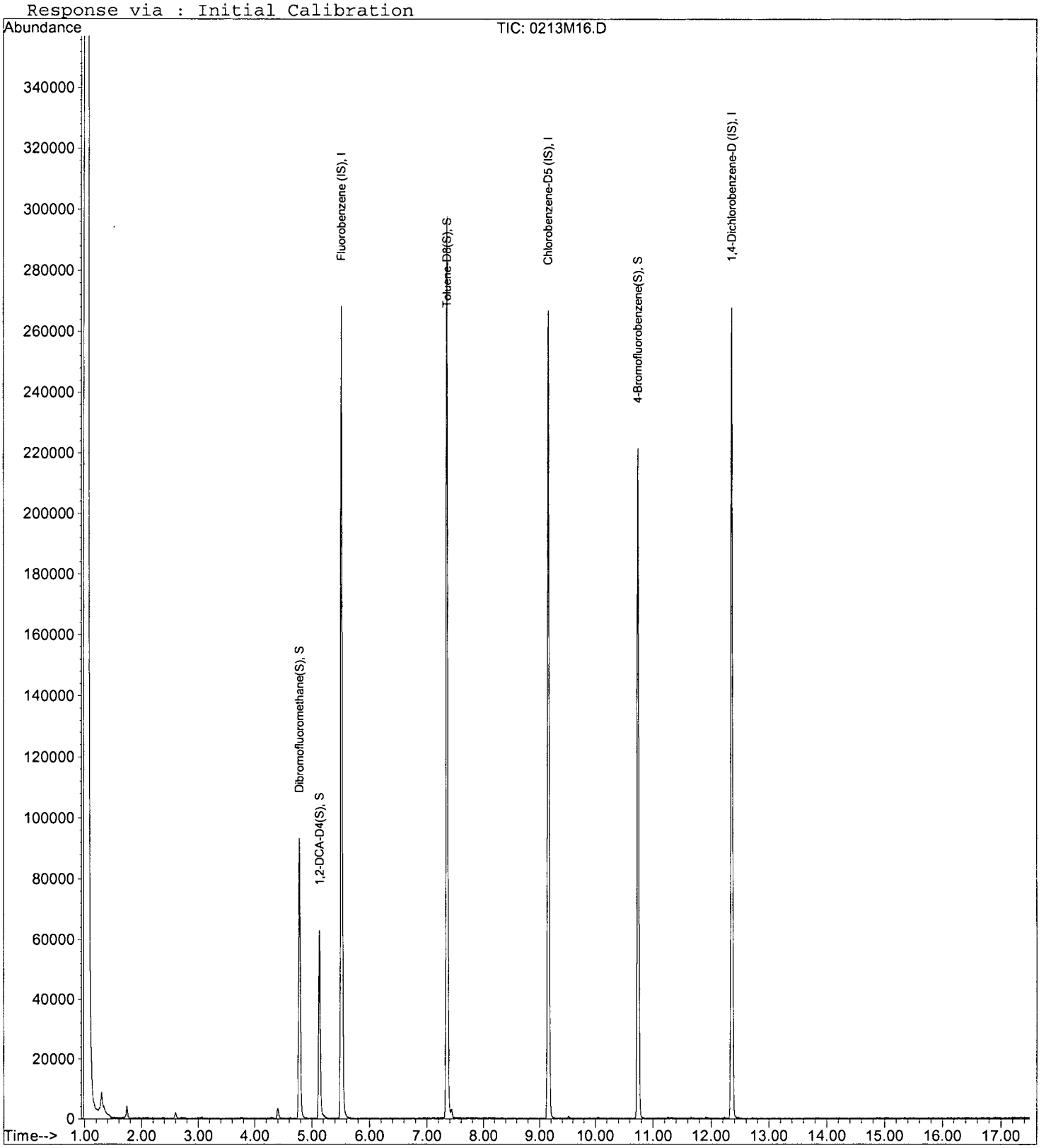
Data File : M:\MAX\DATA\M170127\0213M16.D
Acq On : 13 Feb 17 16:34
Sample : AZ49743W02
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:58 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #86BTO-170213AM-216161

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/13/17	02/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/13/17	02/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/13/17	02/13/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/13/17	02/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/13/17	02/13/17

Quant Method: MALLW.M
Run #: 0213M17
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 3:02:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M17.D
Acq On : 13 Feb 17 17:02
Sample : AZ49744W02
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:59 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	265089	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	193076	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	96704	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	59599	26.21471 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.860%	
36) 1,2-DCA-D4(S)	5.13	65	48342	26.83429 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.336%	
56) Toluene-D8(S)	7.35	98	235012	25.16078 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.644%	
64) 4-Bromofluorobenzene(S)	10.74	95	84986	25.28082 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

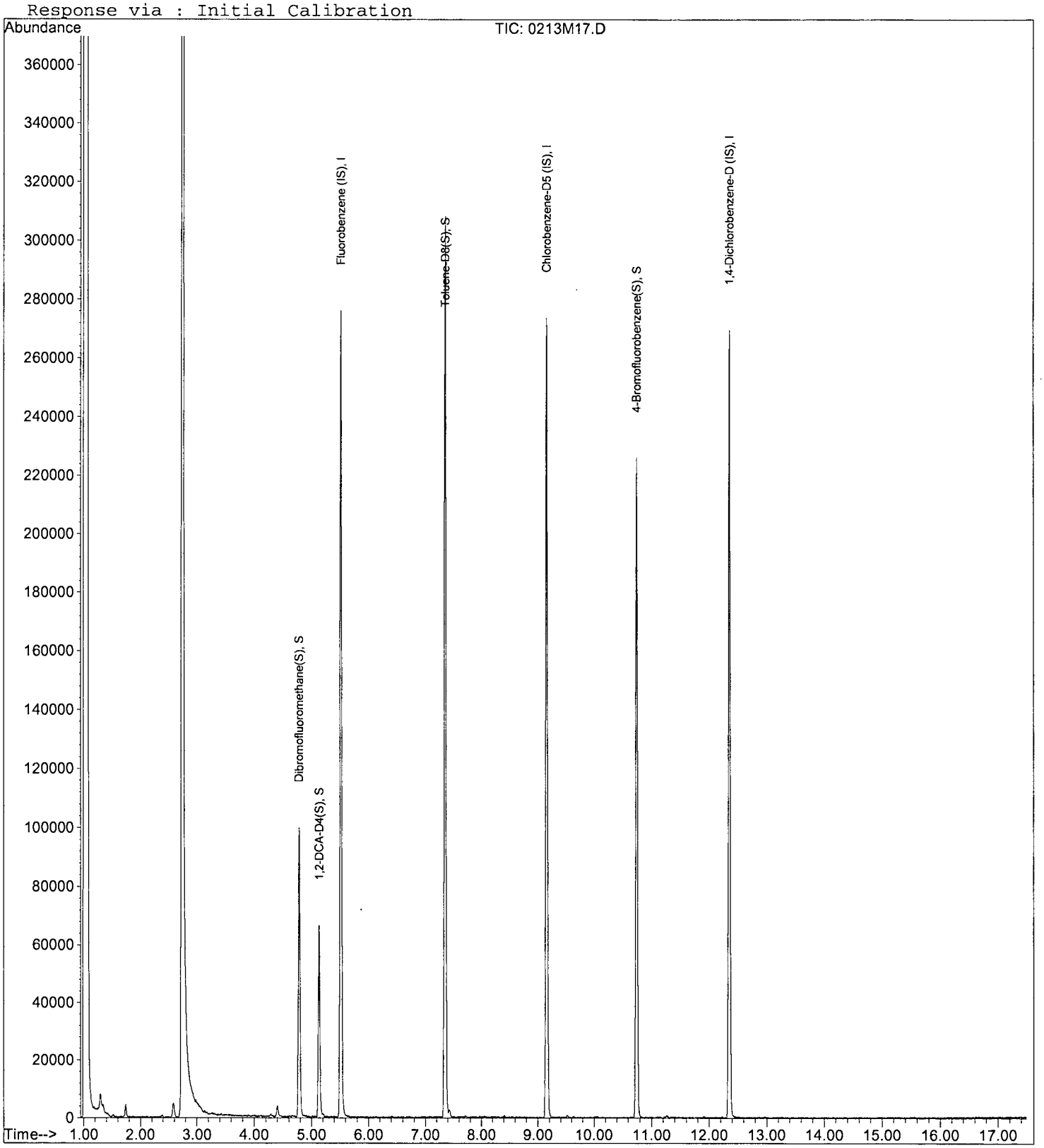
Data File : M:\MAX\DATA\M170127\0213M17.D
Acq On : 13 Feb 17 17:02
Sample : AZ49744W02
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:59 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	0127M04 D	0127M05 D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10 D	0127M11.D	0127M12.D		Avg	%RSD		
			1	2	3	4	5	6	7	8	9					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2389	0.2502	0.2467	0.2270	0.2577	0.2512	0.2523	0.2547		0.25	4.0	TM	
3	TM	Freon 114		0.4371	0.3708	0.4129	0.3440	0.3916	0.3651	0.3776	0.3846		0.39	7.5	TM	
4	TM**	Chloromethane		0.5322	0.4562	0.4212	0.4361	0.4089	0.3805	0.3985	0.4121		0.43	11	TM**	
5	TM*	Vinyl chloride	0.6017	0.6231	0.5712	0.6041	0.5783	0.5965	0.5953	0.5871	0.6200		0.60	2.9	TM*	
6	TM	Bromomethane	0.4210	0.3988	0.3480	0.3346	0.3238	0.2727					0.35	15	TM	
7	TM	Chloroethane		0.4018	0.3267	0.3045	0.3231	0.3282	0.3196	0.3179			0.33	9.6	TM	
8	TM	Dichlorofluoromethane		0.9421	0.8705	0.8795	1.020	0.8947	0.8799	0.8934	0.8728		0.91	5.6	TM	
9	TM	Trichlorofluoromethane		0.6574	0.6021	0.6139	0.6325	0.6575	0.6351	0.6219	0.6246		0.63	3.1	TM	
10	TM	Acrolein	0.0221	0.0224	0.0209	0.0217	0.0215	0.0196	0.0218	0.0214	0.0205		0.02	4.0	TM	
11	TML	Acetone		0.1074	0.0946	0.0799	0.0694	0.0585	0.0589	0.0544	0.0512		0.07	28	TML	0.999
12	TM	Freon-113		0.4482	0.4215	0.4072	0.4180	0.4250	0.4032	0.4067	0.4093		0.42	3.5	TM	
13	TM*	1,1-DCE		0.6934	0.6988	0.6813	0.7560	0.6827	0.6557	0.6602	0.6469		0.68	5.0	TM*	
14	TM	t-Butanol	0.0102	0.0096	0.0099	0.0098	0.0103	0.0098	0.0109	0.0109	0.0115		0.01	6.4	TM	
15	TM	Methyl Acetate		0.1448	0.1772	0.1728	0.1817	0.1632	0.1614	0.1609	0.1615		0.17	7.0	TM	
16	TML	Iodomethane		0.2400	0.2533	0.3130	0.5299	0.5563	0.5570	0.5781	0.5790		0.45	34	TML	1.00
17	TML	Acrylonitrile		0.0339	0.0573	0.0595	0.0850	0.0793	0.0775	0.0742	0.0734		0.07	25	TML	1.000
18	TML	Methylene chloride		0.8435	0.6471	0.5541	0.5471	0.4416	0.4233	0.4235	0.4059		0.54	28	TML	1.000
19	TM	Carbon disulfide		1.448	1.423	1.314	1.512	1.354	1.283	1.291	1.272		1.4	6.5	TM	
20	TM	Methyl t-butyl ether (MtBE)		0.7248	0.6682	0.7029	0.8398	0.7264	0.7162	0.7104	0.6946		0.72	7.0	TM	
21	TM	Trans-1,2-DCE		0.4638	0.4872	0.4607	0.5704	0.5038	0.4877	0.4827	0.4695		0.49	7.2	TM	
22	TM	Diisopropyl Ether		1.323	1.349	1.315	1.638	1.384	1.381	1.362	1.311		1.4	7.7	TM	
23	TM**	1,1-DCA		0.8328	0.8592	0.8322	1.018	0.8720	0.8500	0.8485	0.8306		0.87	7.2	TM**	
24	TM	Vinyl Acetate		0.2662	0.2382	0.2259	0.3166	0.2565	0.3103	0.3003	0.2995		0.28	13	TM	
25	TM	Ethyl tert Butyl Ether		0.8982	0.8389	0.8009	1.051	0.9041	0.9042	0.9333	0.9098		0.91	8.1	TM	
26	TM	MEK (2-Butanone)			0.0963	0.0737	0.1152	0.1023	0.0950	0.0912	0.0853		0.09	14	TM	
27	TM	Cis-1,2-DCE		0.5195	0.5457	0.5490	0.6220	0.5303	0.5217	0.5205	0.4982		0.54	6.9	TM	
28	TM	2,2-Dichloropropane		0.5191	0.5335	0.5380	0.6527	0.5991	0.5938	0.6136	0.6333		0.59	8.5	TM	
29	TM*	Chloroform		0.8166	0.8536	0.7808	0.9802	0.8365	0.8162	0.8140	0.7929		0.84	7.5	TM*	
30	TM	Bromochloromethane		0.2089	0.1962	0.2011	0.2444	0.2040	0.2028	0.1998	0.1961		0.21	7.6	TM	
31	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
32	TM	1,1,1-TCA		0.7566	0.7060	0.7454	0.8620	0.7904	0.7575	0.7702	0.7723		0.77	5.8	TM	
33	TM	Cyclohexane	0.4380	0.4501	0.4062	0.4477	0.4651	0.4609	0.4307	0.4337	0.4358		0.44	4.0	TM	
34	TM	1,1-Dichloropropene	0.7193	0.6325	0.6951	0.6889	0.7756	0.7218	0.6778	0.6777	0.6632		0.69	5.9	TM	
35	TM	2,2,4-Trimethylpentane	1.318	1.321	1.241	1.266	1.227	1.268	1.193	1.247	1.232		1.3	3.3	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
37	TM	Carbon Tetrachloride	0.6686	0.6854	0.6062	0.6219	0.7013	0.6698	0.6594	0.6723	0.6739		0.66	4.5	TM	
38	TM	Tert Amyl Methyl Ether		0.6980	0.6866	0.6885	0.8779	0.7482	0.7749	0.7860	0.7759		0.75	8.6	TM	
39	TM	1,2-DCA		0.4278	0.4501	0.4406	0.5275	0.4537	0.4573	0.4483	0.4288		0.45	6.9	TM	
40	TM	Benzene		2.072	1.997	1.969	2.380	2.063	2.005	2.006	1.931		2.1	6.8	TM	
41	TM	TCE		0.5668	0.5447	0.5554	0.6157	0.5535	0.5343	0.5393	0.5153		0.55	5.4	TM	
42	TM	2-Pentanone		0.1242	0.1300	0.1341	0.1371	0.1326	0.1408	0.1446	0.1555		0.14	7.0	TM	
43	TM*	1,2-Dichloropropane		0.5084	0.4434	0.4432	0.5312	0.4695	0.4520	0.4508	0.4260		0.47	7.8	TM*	
44	TM	Bromodichloromethane		0.5321	0.5069	0.4962	0.6455	0.5360	0.5353	0.5356	0.5252		0.54	8.4	TM	
45	TM	Methyl Cyclohexane	0.7249	0.7092	0.7050	0.6884	0.7306	0.7472	0.6940	0.7128	0.7070		0.71	2.6	TM	
46	TM	Dibromomethane	0.1712	0.1757	0.1786	0.1631	0.2034	0.1690	0.1701	0.1698	0.1644		0.17	6.9	TM	
47	TML	MIBK (methyl isobutyl ketone)		0.3055	0.2692	0.2461	0.2463	0.2027	0.2052	0.1925	0.1823		0.23	18	TML	0.999
48	TM	1-Bromo-2-chloroethane		0.4146	0.4453	0.4332	0.5105	0.4364	0.4464	0.4475	0.4445		0.45	6.2	TM	
49	TM	2-Chloroethyl vinyl ether				0.0076	0.0102	0.0090	0.0091	0.0103			0.01	12	TM	
50	TM	Cis-1,3-Dichloropropene		0.5370	0.5411	0.5378	0.6853	0.5995	0.6034	0.6248	0.6174		0.59	8.8	TM	
51	TM*	Toluene		2.416	2.316	2.267	2.720	2.386	2.332	2.325	2.268		2.4	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene		0.3548	0.3508	0.3548	0.4477	0.4003	0.4234	0.4432	0.4539		0.40	11	TM	
53	TM	1,1,2-TCA		0.2307	0.1974	0.2094	0.2534	0.2148	0.2124	0.2098	0.2040		0.22	8.2	TM	
54	TM	2-Hexanone			0.1112	0.1044	0.1235	0.1089	0.1145	0.1201	0.1175		0.11	5.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
57	TM	1,2-EDB		0.3223	0.2898	0.3006	0.3915	0.3273	0.3383	0.3292	0.3149		0.33	9.4	TM	
58	TM	Tetrachloroethene		0.8281	0.8142	0.8213	0.9442	0.8079	0.7705	0.7452	0.6933		0.80	9.1	TM	
59	TM	1-Chlorohexane		0.8711	0.8667	0.8760	1.057	0.9862	0.9420	0.9434	0.9197		0.93	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane		0.6232	0.6950	0.6573	0.7786	0.6877	0.6701	0.6644	0.6616		0.68	6.7	TM	
61	TM	m&p-Xylene		1.455	1.402	1.439	1.746	1.489	1.471	1.426	1.331		1.5	8.3	TM	
62	TM	o-Xylene		1.199	1.412	1.284	1.669	1.406	1.396	1.337	1.269		1.4	10	TM	
63	TM	Styrene		1.973	1.999	1.956	2.515	2.151	2.177	2.104	2.003		2.1	8.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
65	TM	1,3-Dichloropropane		0.6557	0.6431	0.6168	0.7717	0.6417	0.6573	0.6241	0.5777		0.65	8.6	TM	
66	TM	Dibromochloromethane		0.5058	0.4645	0.4718	0.5895	0.5028	0.5045	0.4904	0.4624		0.50	8.2	TM	
67	TM**	Chlorobenzene		2.158	2.082	2.053	2.439	2.061	2.025	1.981	1.858		2.1	8.1	TM**	
68	TM*	Ethylbenzene		3.700	3.496	3.583	4.440	3.857	3.742	3.677	3.519		3.8	8.1	TM*	
69	TM**	Bromoform		0.2642	0.3027	0.2738	0.3453	0.2949	0.3024	0.2971	0.2900		0.30	8.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM	Isopropylbenzene		7.059	6.765	6.751	8.190	7.264	6.794	6.789	6.510		7.0	7.5	TM	
72	TM**	1,1,2,2-Tetrachloroethane		0.6919	0.6552	0.6275	0.7785	0.6556	0.6469	0.6345	0.6116		0.66	7.9	TM**	
73	TM	1,2,3-Trichloropropane		0.1856	0.2342	0.2409	0.2590	0.2284	0.2075	0.2047	0.1997		0.22	11	TM	
74	TML	t-1,4-Dichloro-2-Butene			0.0766	0.1035	0.1514	0.1369	0.1435	0.1405			0.13	23	TML	0.999
75	TM	Bromobenzene		1.712	1.544	1.554	1.870	1.618	1.567	1.555	1.541		1.6	7.2	TM	
76	TM	n-Propylbenzene		7.665	7.091	7.488	9.040	8.042	7.608	7.605	7.432		7.7	7.6	TM	
77	TM	4-Ethyltoluene	6.522	6.773	6.559	6.436	7.961	7.158	6.751	6.713	6.554		6.8	7.0	TM	
78	TM	2-Chlorotoluene		4.763	4.759	4.381	5.434	4.624	4.480	4.390	4.240		4.6	8.1	TM	
79	TM	1,3,5-Trimethylbenzene		5.301	5.630	5.751	6.688	5.850	5.533	5.486	5.288		5.7	7.9	TM	
80	TM	4-Chlorotoluene	5.136	5.338	5.112	5.012	6.204	5.303	5.048	5.018	4.829		5.2	7.6	TM	
81	TM	Tert-Butylbenzene	5.141	5.367	4.866	4.962	5.830	5.231	4.874	4.877	4.695		5.1	6.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.590	5.589	5.145	5.281	6.394	5.742	5.476	5.460	5.295		5.6	6.6	TM	
83	TM	Sec-Butylbenzene	6.828	6.837	6.335	6.601	7.819	7.113	6.643	6.538	6.383		6.8	6.7	TM	
84	TM	p-Isopropyltoluene	6.052	5.776	5.551	5.781	6.846	6.126	5.828	5.791	5.615		5.9	6.6	TM	
85	TM	Benzyl Chloride		0.3752	0.3984	0.3994	0.4460	0.4487	0.5581				0.44	15	TM	
86	TM	1,3-DCB	3.337	3.392	3.073	3.106	3.809	3.235	3.119	3.101	2.985		3.2	7.7	TM	
87	TM	1,4-DCB	3.662	3.246	3.127	3.021	3.581	3.169	2.999	2.959	2.807		3.2	8.9	TM	
88	TM	n-Butylbenzene	4.525	4.197	4.323	4.331	5.430	4.968	4.751	4.741	4.634		4.7	8.2	TM	
89	TM	1,2-DCB	2.746	2.654	2.511	2.515	3.104	2.679	2.603	2.560	2.484		2.7	7.2	TM	
90	TM	Hexachloroethane	0.7874	0.6768	0.6890	0.6923	0.8126	0.8046	0.8394	0.8927	0.8980		0.79	11	TM	
91	TM	1,2-Dibromo-3-chloropropane			0.0878	0.0830	0.0969	0.0880	0.0941	0.0915	0.0965		0.09	5.6	TM	
92	TML	1,2,4-Trichlorobenzene		0.5081	0.8288	0.9593	1.497	1.499	1.540				1.1	38	TML	0.999
93	TM	Hexachlorobutadiene		1.217	1.189	1.203	1.367	1.272	1.171	1.167	1.145		1.2	5.9	TM	
94	TML	Naphthalene		0.1544	0.3780	0.5168	0.9242	1.231	1.432				0.77	65	TML	0.994
95	TML	1,2,3-Trichlorobenzene		0.2039	0.3376	0.5517	0.8645	1.010	1.091				0.68	54	TML	0.999
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	14557	5.30855 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.236%	
36) 1,2-DCA-D4(S)	5.13	65	11763	5.20370 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.816%	
56) Toluene-D8(S)	7.35	98	57915	5.29894 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	20580	5.25859 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.036%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	979	0.26825 ppb		98
3) Freon 114	1.29	85	1579	0.33070 ppb		89
4) Chloromethane	1.34	50	2268	0.41495 ppb		95
5) Vinyl chloride	1.43	62	2257	0.31029 ppb	#	78
6) Bromomethane	1.70	94	1579	0.41187 ppb		95
7) Chloroethane	1.79	64	1408	0.34824 ppb		100
8) Dichlorofluoromethane	1.99	67	3728	0.36341 ppb		96
9) Trichlorofluoromethane	2.03	101	2598	0.30593 ppb		90
10) Acrolein	2.42	56	2758	17.27864 ppb		100
11) Acetone	2.56	43	558	-0.29199 ppb	#	48
12) Freon-113	2.53	101	1641	0.33748 ppb		97
13) 1,1-DCE	2.51	61	2908	0.35651 ppb		96
14) t-Butanol	3.14	59	1274	9.42179 ppb		91
15) Methyl Acetate	2.90	43	806	0.40640 ppb	#	57
16) Iodomethane	2.64	142	798	0.98728 ppb	#	81
17) Acrylonitrile	3.22	53	159	0.18576 ppb	#	22
18) Methylene chloride	2.98	84	4307	0.85010 ppb		84
19) Carbon disulfide	2.70	76	6027	0.36668 ppb		96
20) Methyl t-butyl ether (MtBE	3.28	73	2941	0.33757 ppb		97
21) Trans-1,2-DCE	3.25	96	1841	0.31022 ppb		97
22) Diisopropyl Ether	3.79	45	5019	0.31700 ppb	#	89
23) 1,1-DCA	3.67	63	3224	0.31870 ppb	#	91
24) Vinyl Acetate	3.76	43	1195	0.36212 ppb	#	73
25) Ethyl tert Butyl Ether	4.17	59	3616	0.33861 ppb		91
26) MEK (2-Butanone)	4.32	43	371	0.32964 ppb	#	56
27) Cis-1,2-DCE	4.27	96	1964	0.30491 ppb		87
28) 2,2-Dichloropropane	4.27	77	2454	0.33390 ppb		97
29) Chloroform	4.61	83	3749	0.38464 ppb		83
30) Bromochloromethane	4.51	128	705	0.28916 ppb		85
32) 1,1,1-TCA	4.80	97	2984	0.32429 ppb		96
33) Cyclohexane	4.87	41	1643	0.32519 ppb		82
34) 1,1-Dichloropropene	4.98	75	2698	0.32599 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	4943	0.33618 ppb		96
37) Carbon Tetrachloride	4.98	117	2508	0.32319 ppb		100
38) Tert Amyl Methyl Ether	5.36	73	2810	0.31353 ppb	#	97
39) 1,2-DCA	5.21	62	1918	0.35407 ppb		100
40) Benzene	5.20	78	8601	0.35839 ppb		95
41) TCE	5.93	95	2212	0.33392 ppb		89
42) 2-Pentanone	6.15	43	17738	10.20026 ppb		90

(#) = qualifier out of range (m) = manual integration
0127M04.D MALLW.M Mon Jan 30 08:04:47 2017

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	1533	0.28703 ppb	#	84
44) Bromodichloromethane	6.49	83	1978	0.31473 ppb		89
45) Methyl Cyclohexane	6.15	83	2719	0.34352 ppb		98
46) Dibromomethane	6.30	93	642	0.31732 ppb		88
47) MIBK (methyl isobutyl ket	7.25	43	829	0.31351 ppb	#	87
48) 1-Bromo-2-chloroethane	6.84	63	1485	0.28723 ppb	#	81
50) Cis-1,3-Dichloropropene	7.03	75	1855	0.26333 ppb	#	82
51) Toluene	7.43	91	9528	0.34926 ppb		93
52) Trans-1,3-Dichloropropene	7.71	75	1181	0.24172 ppb		93
53) 1,1,2-TCA	7.92	83	714	0.28047 ppb		81
54) 2-Hexanone	8.30	43	235	0.27422 ppb	#	75
57) 1,2-EDB	8.53	107	865	0.32061 ppb		90
58) Tetrachloroethene	8.10	164	2378	0.37321 ppb		92
59) 1-Chlorohexane	9.21	91	2592	0.36718 ppb		87
60) 1,1,1,2-Tetrachloroethane	9.31	131	1791	0.32805 ppb		99
61) m&p-Xylene	9.53	106	7895	0.67837 ppb		92
62) o-Xylene	10.04	106	3468	0.31955 ppb		75
63) Styrene	10.06	104	4704	0.28124 ppb		100
65) 1,3-Dichloropropane	8.13	76	1975	0.37502 ppb		98
66) Dibromochloromethane	8.40	129	1301	0.32426 ppb		83
67) Chlorobenzene	9.19	112	6081	0.37121 ppb		97
68) Ethylbenzene	9.36	91	9979	0.34040 ppb		97
69) Bromoform	10.27	173	832	0.33873 ppb		94
71) Isopropylbenzene	10.56	105	9690	0.37439 ppb		95
72) 1,1,2,2-Tetrachloroethane	10.97	83	894	0.34160 ppb	#	60
73) 1,2,3-Trichloropropane	11.00	110	180	0.19910 ppb		88
74) t-1,4-Dichloro-2-Butene	11.05	53	72	0.13263 ppb	#	38
75) Bromobenzene	10.93	156	2132	0.33843 ppb		97
76) n-Propylbenzene	11.13	91	10523	0.36727 ppb		98
77) 4-Ethyltoluene	11.30	105	8424	0.33402 ppb		94
78) 2-Chlorotoluene	11.22	91	6546	0.37834 ppb		94
79) 1,3,5-Trimethylbenzene	11.40	105	7150	0.34065 ppb		100
80) 4-Chlorotoluene	11.37	91	6634	0.33811 ppb		88
81) Tert-Butylbenzene	11.84	119	6640	0.35866 ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	7220	0.34937 ppb		88
83) Sec-Butylbenzene	12.15	105	8819	0.35352 ppb		98
84) p-Isopropyltoluene	12.38	119	7817	0.34940 ppb		95
85) Benzyl Chloride	12.59	91	530	0.24318 ppb	#	89
86) 1,3-DCB	12.26	146	4310	0.35813 ppb		95
87) 1,4-DCB	12.39	146	4730	0.40401 ppb		90
88) n-Butylbenzene	12.96	91	5844	0.32803 ppb		94
89) 1,2-DCB	12.90	146	3547	0.35438 ppb		95
90) Hexachloroethane	13.27	117	1017	0.34202 ppb		81
92) 1,2,4-Trichlorobenzene	15.22	180	538	0.51380 ppb	#	91
93) Hexachlorobutadiene	15.52	225	2104	0.45128 ppb		83
94) Naphthalene	15.55	128	177	0.96119 ppb	#	76
95) 1,2,3-Trichlorobenzene	15.93	180	245	0.81156 ppb	#	66

(#) = qualifier out of range (m) = manual integration

Quantitation Report

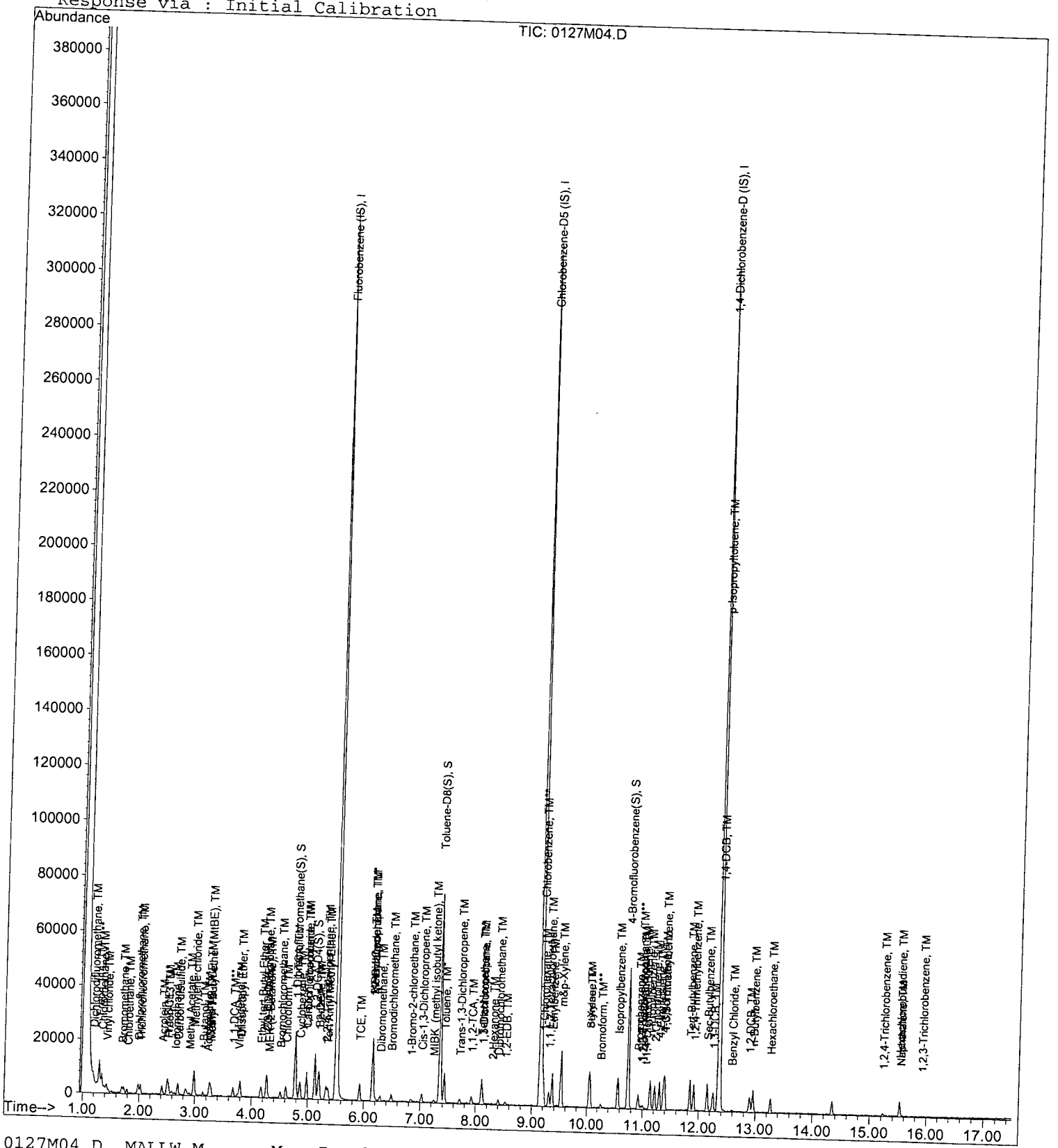
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



0127M04.D MALLW.M Mon Jan 30 08:04:51 2017

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	13937	5.01048 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.040%	
36) 1,2-DCA-D4(S)	5.13	65	10688	4.66119 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.644%	
56) Toluene-D8(S)	7.35	98	52662	4.66182 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.648%	
64) 4-Bromofluorobenzene(S)	10.74	95	18960	4.68730 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.748%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	1515	0.40923 ppb		96
3) Freon 114	1.29	85	2772	0.57233 ppb		93
4) Chloromethane	1.34	50	3375	0.60873 ppb		96
5) Vinyl chloride	1.42	62	3951	0.53548 ppb		98
6) Bromomethane	1.70	94	2529	0.65033 ppb		89
7) Chloroethane	1.79	64	2548	0.62127 ppb		94
8) Dichlorofluoromethane	1.98	67	5974	0.57410 ppb		97
9) Trichlorofluoromethane	2.02	101	4169	0.48397 ppb		89
10) Acrolein	2.41	56	7093	43.80776 ppb		93
11) Acetone	2.57	43	681	-0.13069 ppb	#	48
12) Freon-113	2.53	101	2842	0.57620 ppb		84
13) 1,1-DCE	2.51	61	4397	0.53143 ppb	#	94
14) t-Butanol	3.14	59	3029	22.08357 ppb		97
15) Methyl Acetate	2.91	43	918	0.45632 ppb	#	57
16) Iodomethane	2.65	142	1522	1.08361 ppb	#	74
17) Acrylonitrile	3.22	53	215	0.24763 ppb	#	57
18) Methylene chloride	2.98	84	5349	1.04081 ppb		94
19) Carbon disulfide	2.70	76	9182	0.55071 ppb		98
20) Methyl t-butyl ether (MtBE	3.28	73	4596	0.52007 ppb		96
21) Trans-1,2-DCE	3.25	96	2941	0.48856 ppb		96
22) Diisopropyl Ether	3.79	45	8389	0.52235 ppb		99
23) 1,1-DCA	3.67	63	5281	0.51465 ppb		97
24) Vinyl Acetate	3.76	43	1688	0.50427 ppb	#	73
25) Ethyl tert Butyl Ether	4.16	59	5696	0.52583 ppb		94
26) MEK (2-Butanone)	4.30	43	400	0.35037 ppb	#	56
27) Cis-1,2-DCE	4.27	96	3294	0.50415 ppb		97
28) 2,2-Dichloropropane	4.26	77	3292	0.44158 ppb		99
29) Chloroform	4.61	83	5178	0.52372 ppb		97
30) Bromochloromethane	4.52	128	1325	0.53576 ppb		78
32) 1,1,1-TCA	4.80	97	4798	0.51405 ppb		96
33) Cyclohexane	4.86	41	2854	0.55689 ppb		82
34) 1,1-Dichloropropene	4.98	75	4011	0.47777 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	8376	0.56160 ppb		99
37) Carbon Tetrachloride	4.97	117	4346	0.55211 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	4426	0.48684 ppb		95
39) 1,2-DCA	5.21	62	2713	0.49374 ppb	#	89
40) Benzene	5.20	78	13139	0.53972 ppb		92
41) TCE	5.92	95	3594	0.53486 ppb		93
42) 2-Pentanone	6.15	43	39367	22.31746 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	3224	0.59509	ppb	#	84
44) Bromodichloromethane	6.48	83	3374	0.52925	ppb		88
45) Methyl Cyclohexane	6.15	83	4497	0.56011	ppb		97
46) Dibromomethane	6.29	93	1114	0.54282	ppb		98
47) MIBK (methyl isobutyl ket	7.25	43	1937	0.72217	ppb	#	91
48) 1-Bromo-2-chloroethane	6.84	63	2629	0.50130	ppb		88
50) Cis-1,3-Dichloropropene	7.03	75	3405	0.47652	ppb		91
51) Toluene	7.43	91	15318	0.55355	ppb		96
52) Trans-1,3-Dichloropropene	7.71	75	2250	0.45399	ppb	#	73
53) 1,1,2-TCA	7.92	83	1463	0.56655	ppb		84
54) 2-Hexanone	8.29	43	440	0.50616	ppb	#	78
57) 1,2-EDB	8.54	107	1447	0.51890	ppb	#	71
58) Tetrachloroethene	8.10	164	3718	0.56456	ppb		88
59) 1-Chlorohexane	9.21	91	3911	0.53603	ppb		87
60) 1,1,1,2-Tetrachloroethane	9.31	131	2798	0.49585	ppb		88
61) m&p-Xylene	9.52	106	13068	1.08638	ppb		94
62) o-Xylene	10.04	106	5381	0.47971	ppb		87
63) Styrene	10.06	104	8858	0.51240	ppb		98
65) 1,3-Dichloropropane	8.13	76	2944	0.54086	ppb		92
66) Dibromochloromethane	8.40	129	2271	0.54763	ppb		87
67) Chlorobenzene	9.19	112	9687	0.57213	ppb		99
68) Ethylbenzene	9.36	91	16612	0.54825	ppb		97
69) Bromoform	10.27	173	1186	0.46716	ppb		96
71) Isopropylbenzene	10.56	105	15823	0.58709	ppb		92
72) 1,1,2,2-Tetrachloroethane	10.96	83	1551	0.56913	ppb	#	77
73) 1,2,3-Trichloropropane	11.00	110	416	0.44188	ppb	#	20
74) t-1,4-Dichloro-2-Butene	11.06	53	213	0.37679	ppb	#	38
75) Bromobenzene	10.92	156	3837	0.58491	ppb		89
76) n-Propylbenzene	11.13	91	17181	0.57585	ppb		98
77) 4-Ethyltoluene	11.30	105	15181	0.57805	ppb		95
78) 2-Chlorotoluene	11.21	91	10676	0.59256	ppb		85
79) 1,3,5-Trimethylbenzene	11.39	105	11882	0.54364	ppb		97
80) 4-Chlorotoluene	11.37	91	11966	0.58566	ppb		97
81) Tert-Butylbenzene	11.84	119	12031	0.62407	ppb		95
82) 1,2,4-Trimethylbenzene	11.91	105	12528	0.58217	ppb		94
83) Sec-Butylbenzene	12.15	105	15325	0.58995	ppb		98
84) p-Isopropyltoluene	12.37	119	12948	0.55577	ppb		96
85) Benzyl Chloride	12.58	91	841	0.37057	ppb	#	79
86) 1,3-DCB	12.26	146	7604	0.60677	ppb		84
87) 1,4-DCB	12.39	146	7275	0.59674	ppb		95
88) n-Butylbenzene	12.95	91	9408	0.50713	ppb		95
89) 1,2-DCB	12.90	146	5949	0.57079	ppb		95
90) Hexachloroethane	13.27	117	1517	0.48993	ppb		93
92) 1,2,4-Trichlorobenzene	15.23	180	1139	0.60234	ppb		82
93) Hexachlorobutadiene	15.53	225	2728	0.56191	ppb	#	80
94) Naphthalene	15.56	128	346	0.98858	ppb	#	76
95) 1,2,3-Trichlorobenzene	15.92	180	457	0.85367	ppb	#	87

(#) = qualifier out of range (m) = manual integration

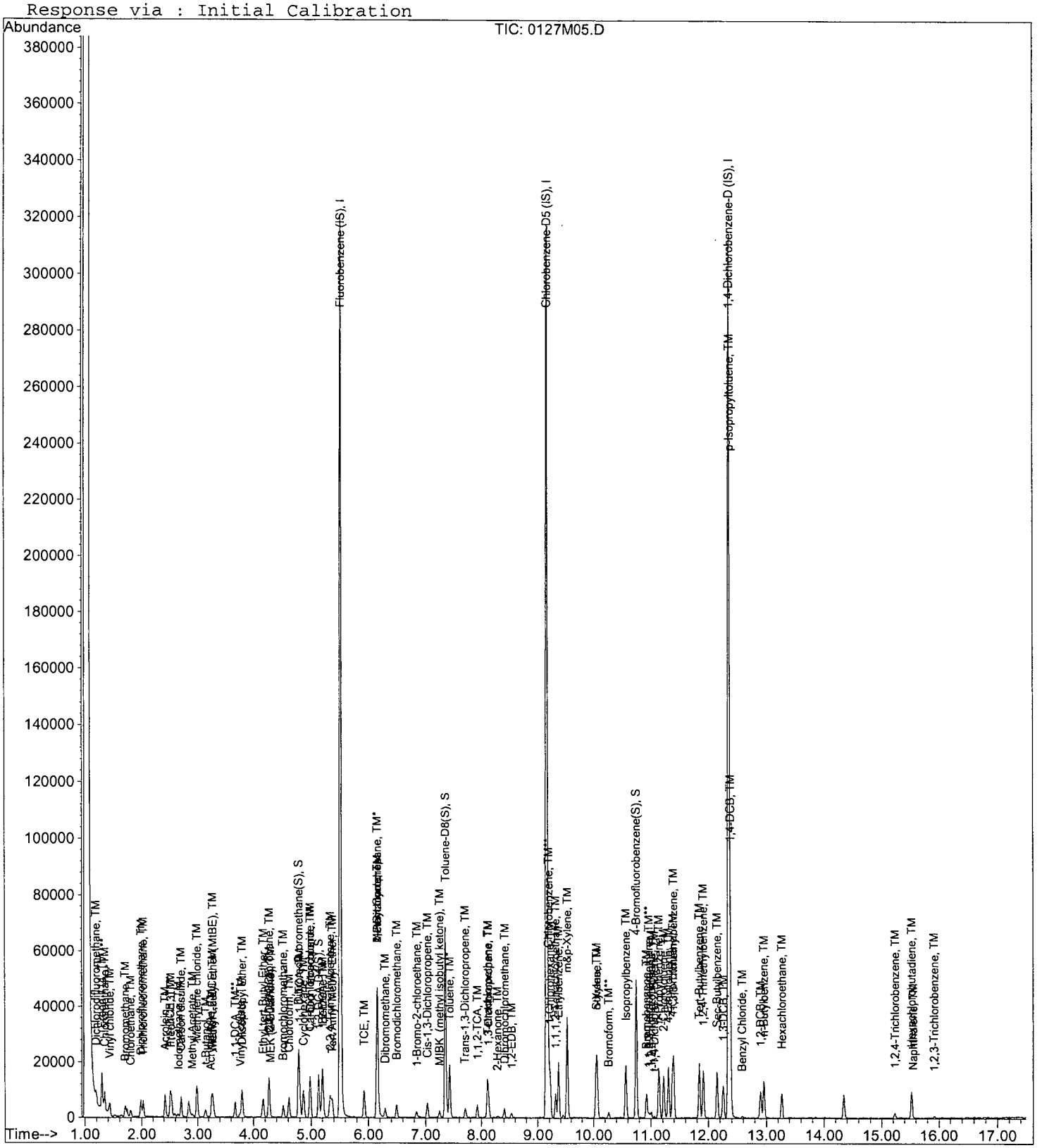
Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	24009	8.68572 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.744%	
36) 1,2-DCA-D4(S)	5.13	65	19787	8.68364 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.736%	
56) Toluene-D8(S)	7.35	98	96515	8.67446 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.696%	
64) 4-Bromofluorobenzene(S)	10.74	95	34814	8.73830 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.952%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	3153	0.85705 ppb		97
3) Freon 114	1.29	85	4673	0.97089 ppb		96
4) Chloromethane	1.34	50	5749	1.04344 ppb		96
5) Vinyl chloride	1.43	62	7199	0.98182 ppb		97
6) Bromomethane	1.69	94	4386	1.13495 ppb		95
7) Chloroethane	1.80	64	4118	1.01039 ppb		95
8) Dichlorofluoromethane	1.98	67	10971	1.06094 ppb		96
9) Trichlorofluoromethane	2.03	101	7588	0.88641 ppb		98
10) Acrolein	2.41	56	13194	82.00108 ppb		94
11) Acetone	2.57	43	1192	0.59663 ppb		92
12) Freon-113	2.53	101	5312	1.08374 ppb		96
13) 1,1-DCE	2.51	61	8807	1.07112 ppb		97
14) t-Butanol	3.14	59	6211	45.56733 ppb		92
15) Methyl Acetate	2.91	43	2233	1.11696 ppb		95
16) Iodomethane	2.64	142	3193	1.31248 ppb		95
17) Acrylonitrile	3.23	53	722	0.83680 ppb	#	85
18) Methylene chloride	2.98	84	8156	1.59698 ppb		91
19) Carbon disulfide	2.70	76	17937	1.08258 ppb		100
20) Methyl t-butyl ether (MtBE	3.28	73	8421	0.95888 ppb		92
21) Trans-1,2-DCE	3.26	96	6140	1.02640 ppb		87
22) Diisopropyl Ether	3.79	45	16999	1.06511 ppb		98
23) 1,1-DCA	3.67	63	10829	1.06195 ppb		92
24) Vinyl Acetate	3.76	43	3002	0.90245 ppb		96
25) Ethyl tert Butyl Ether	4.17	59	10573	0.98219 ppb		95
26) MEK (2-Butanone)	4.31	43	1214	1.07006 ppb	#	82
27) Cis-1,2-DCE	4.27	96	6877	1.05915 ppb		90
28) 2,2-Dichloropropane	4.27	77	6724	0.90761 ppb		100
29) Chloroform	4.62	83	10758	1.09495 ppb		92
30) Bromochloromethane	4.51	128	2473	1.00623 ppb		91
32) 1,1,1-TCA	4.80	97	8898	0.95931 ppb		93
33) Cyclohexane	4.87	41	5120	1.00532 ppb		95
34) 1,1-Dichloropropene	4.98	75	8761	1.05012 ppb		96
35) 2,2,4-Trimethylpentane	5.33	57	15645	1.05557 ppb		100
37) Carbon Tetrachloride	4.98	117	7640	0.97668 ppb		96
38) Tert Amyl Methyl Ether	5.37	73	8654	0.95788 ppb		98
39) 1,2-DCA	5.21	62	5673	1.03893 ppb		99
40) Benzene	5.20	78	25174	1.04060 ppb		98
41) TCE	5.92	95	6865	1.02808 ppb		95
42) 2-Pentanone	6.15	43	81903	46.72338 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	5588	1.03793 ppb	#	88
44) Bromodichloromethane	6.49	83	6389	1.00848 ppb		93
45) Methyl Cyclohexane	6.15	83	8885	1.11360 ppb		97
46) Dibromomethane	6.29	93	2251	1.10375 ppb		96
47) MIBK (methyl isobutyl ket	7.24	43	3393	1.27295 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	5612	1.07683 ppb		90
49) 2-Chloroethyl vinyl ether	6.89	106	43	1.76524 ppb	#	100
50) Cis-1,3-Dichloropropene	7.03	75	6820	0.96045 ppb		97
51) Toluene	7.43	91	29189	1.06145 ppb		96
52) Trans-1,3-Dichloropropene	7.71	75	4421	0.89765 ppb		99
53) 1,1,2-TCA	7.92	83	2488	0.96954 ppb		85
54) 2-Hexanone	8.28	43	1401	1.62179 ppb	#	72
57) 1,2-EDB	8.53	107	2563	0.93316 ppb		91
58) Tetrachloroethene	8.10	164	7201	1.11015 ppb		94
59) 1-Chlorohexane	9.21	91	7665	1.06660 ppb		84
60) 1,1,1,2-Tetrachloroethane	9.31	131	6147	1.10601 ppb		94
61) m&p-Xylene	9.52	106	24798	2.09305 ppb		100
62) o-Xylene	10.04	106	12485	1.13005 ppb		80
63) Styrene	10.06	104	17677	1.03818 ppb		88
65) 1,3-Dichloropropane	8.13	76	5688	1.06095 ppb		95
66) Dibromochloromethane	8.40	129	4108	1.00575 ppb		86
67) Chlorobenzene	9.19	112	18413	1.10413 ppb		94
68) Ethylbenzene	9.36	91	30917	1.03596 ppb		95
69) Bromoform	10.27	173	2677	1.07059 ppb		83
71) Isopropylbenzene	10.56	105	30821	1.12530 ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	2985	1.07783 ppb	#	93
73) 1,2,3-Trichloropropane	11.00	110	1067	1.11527 ppb	#	73
74) t-1,4-Dichloro-2-Butene	11.06	53	349	0.60751 ppb	#	46
75) Bromobenzene	10.92	156	7034	1.05513 ppb		98
76) n-Propylbenzene	11.13	91	32304	1.06544 ppb		96
77) 4-Ethyltoluene	11.30	105	29880	1.11958 ppb		93
78) 2-Chlorotoluene	11.22	91	21682	1.18422 ppb		93
79) 1,3,5-Trimethylbenzene	11.39	105	25649	1.15478 ppb		100
80) 4-Chlorotoluene	11.37	91	23291	1.12174 ppb		92
81) Tert-Butylbenzene	11.84	119	22167	1.13147 ppb		96
82) 1,2,4-Trimethylbenzene	11.91	105	23438	1.07176 ppb		91
83) Sec-Butylbenzene	12.15	105	28862	1.09332 ppb		97
84) p-Isopropyltoluene	12.37	119	25289	1.06815 ppb		97
85) Benzyl Chloride	12.58	91	1815	0.78698 ppb	#	91
86) 1,3-DCB	12.25	146	14001	1.09938 ppb		99
87) 1,4-DCB	12.38	146	14244	1.14972 ppb		98
88) n-Butylbenzene	12.95	91	19695	1.04468 ppb		95
89) 1,2-DCB	12.90	146	11438	1.07991 ppb		99
90) Hexachloroethane	13.26	117	3139	0.99758 ppb		92
91) 1,2-Dibromo-3-chloropropan	14.02	75	400	1.06917 ppb	#	60
92) 1,2,4-Trichlorobenzene	15.23	180	3776	0.99655 ppb		90
93) Hexachlorobutadiene	15.53	225	5416	1.09776 ppb		90
94) Naphthalene	15.57	128	1722	1.21664 ppb	#	76
95) 1,2,3-Trichlorobenzene	15.92	180	1538	1.07403 ppb		83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

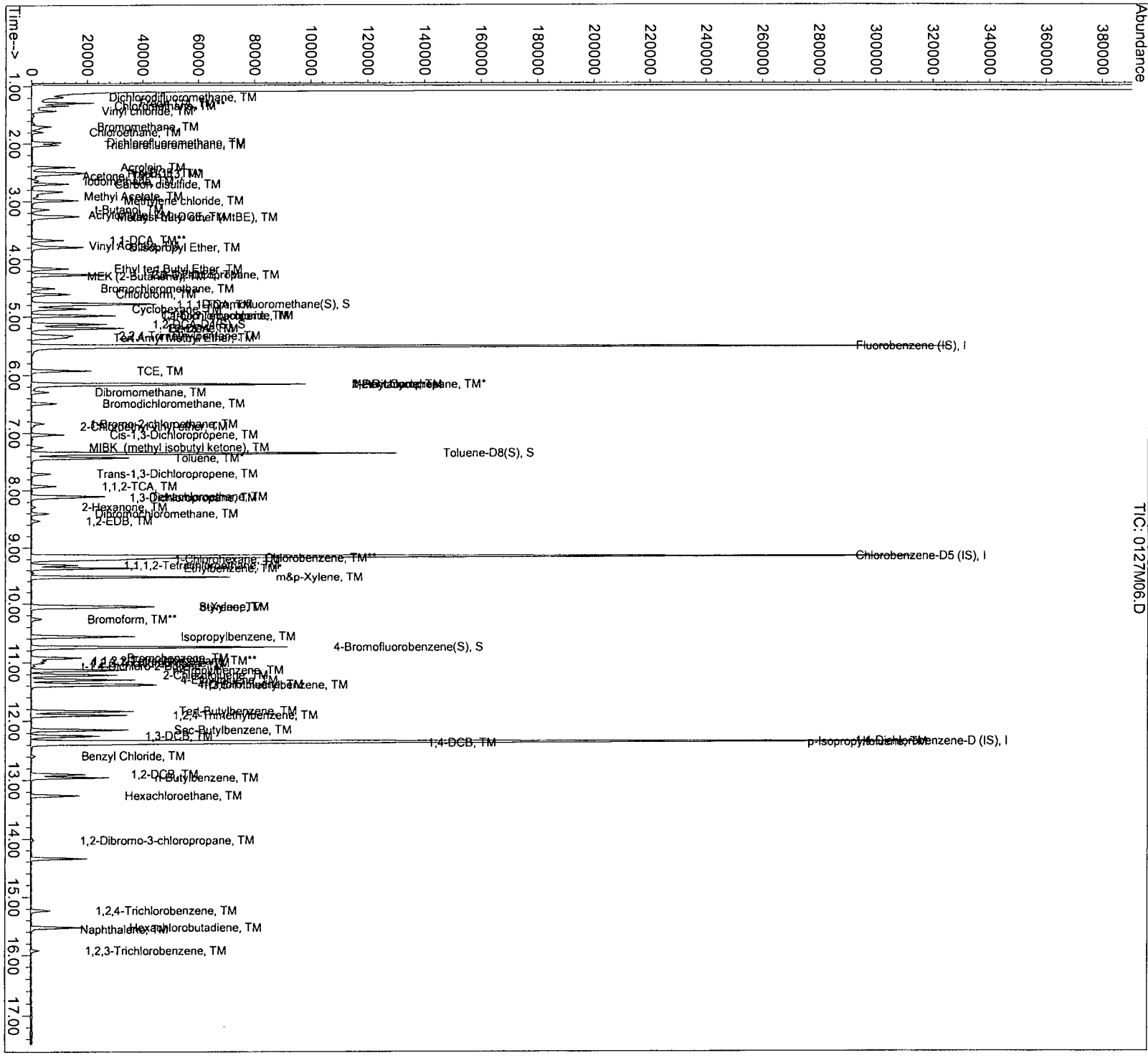
Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D Vial: 7
Acq On : 27 Jan 17 12:49 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 01/27/16D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
36) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
56) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	6197	1.99502 ppb		93
3) Freon 114	1.29	85	10371	2.14247 ppb		89
4) Chloromethane	1.34	50	10580	1.95594 ppb		99
5) Vinyl chloride	1.43	62	15174	2.02230 ppb		98
6) Bromomethane	1.70	94	8404	1.91300 ppb		97
7) Chloroethane	1.79	64	7649	1.83623 ppb		100
8) Dichlorofluoromethane	1.98	67	22090	1.94023 ppb		93
9) Trichlorofluoromethane	2.03	101	15419	1.94690 ppb		82
10) Acrolein	2.41	56	20463	76.40895 ppb		95
11) Acetone	2.57	43	2007	1.55884 ppb		86
12) Freon-113	2.53	101	10227	1.95105 ppb		97
13) 1,1-DCE	2.51	61	17113	1.99112 ppb		99
14) t-Butanol	3.14	59	9253	71.35111 ppb		99
15) Methyl Acetate	2.90	43	4341	2.08942 ppb		95
16) Iodomethane	2.64	142	7861	1.63338 ppb		99
17) Acrylonitrile	3.22	53	1494	1.34108 ppb	#	91
18) Methylene chloride	2.98	84	13918	1.71522 ppb		92
19) Carbon disulfide	2.70	76	33003	1.92940 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	17654	1.94458 ppb		98
21) Trans-1,2-DCE	3.26	96	11571	1.87754 ppb		96
22) Diisopropyl Ether	3.79	45	33028	1.90175 ppb		99
23) 1,1-DCA	3.67	63	20902	1.91759 ppb		96
24) Vinyl Acetate	3.76	43	5674	1.63290 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	20117	1.76999 ppb		100
26) MEK (2-Butanone)	4.31	43	1852	1.56634 ppb		98
27) Cis-1,2-DCE	4.27	96	13790	2.03965 ppb		95
28) 2,2-Dichloropropane	4.27	77	13512	1.83793 ppb		97
29) Chloroform	4.61	83	19612	1.86720 ppb		99
30) Bromochloromethane	4.51	128	5051	1.94614 ppb		89
32) 1,1,1-TCA	4.80	97	18722	1.93593 ppb		96
33) Cyclohexane	4.87	41	11246	2.03101 ppb		93
34) 1,1-Dichloropropene	4.98	75	17304	1.98346 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	31807	2.01499 ppb		98
37) Carbon Tetrachloride	4.98	117	15621	1.87868 ppb		85
38) Tert Amyl Methyl Ether	5.37	73	17294	1.82512 ppb		99
39) 1,2-DCA	5.21	62	11066	1.93975 ppb		100
40) Benzene	5.20	78	49465	1.91841 ppb		96
41) TCE	5.92	95	13950	2.00820 ppb		96
42) 2-Pentanone	6.15	43	126309	73.22545 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	11133	1.90409 ppb		100
44)	Bromodichloromethane	6.49	83	12462	1.84068 ppb		95
45)	Methyl Cyclohexane	6.15	83	17291	1.93043 ppb		88
46)	Dibromomethane	6.29	93	4096	1.87537 ppb		87
47)	MIBK (methyl isobutyl ket	7.24	43	6182	1.44991 ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	10881	1.93701 ppb		99
49)	2-Chloroethyl vinyl ether	6.89	106	190	1.55527 ppb	#	100
50)	Cis-1,3-Dichloropropene	7.03	75	13507	1.81281 ppb		98
51)	Toluene	7.43	91	56943	1.90606 ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	8912	1.75820 ppb		93
53)	1,1,2-TCA	7.92	83	5259	1.93436 ppb		83
54)	2-Hexanone	8.28	43	2622	1.82672 ppb	#	84
57)	1,2-EDB	8.53	107	5308	1.83996 ppb		97
58)	Tetrachloroethene	8.10	164	14503	2.04540 ppb		94
59)	1-Chlorohexane	9.21	91	15468	1.87831 ppb		94
60)	1,1,1,2-Tetrachloroethane	9.31	131	11607	1.93401 ppb		99
61)	m&p-Xylene	9.52	106	50808	3.91477 ppb		100
62)	o-Xylene	10.04	106	22679	1.87317 ppb		95
63)	Styrene	10.06	104	34536	1.85408 ppb		97
65)	1,3-Dichloropropane	8.13	76	10891	1.90204 ppb		91
66)	Dibromochloromethane	8.40	129	8332	1.89126 ppb		96
67)	Chlorobenzene	9.19	112	36247	1.97190 ppb		97
68)	Ethylbenzene	9.36	91	63277	1.91022 ppb		97
69)	Bromoform	10.27	173	4834	1.84790 ppb		98
71)	Isopropylbenzene	10.56	105	61554	1.92480 ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	5721	1.89372 ppb		90
73)	1,2,3-Trichloropropane	11.01	110	2196	2.18994 ppb		85
74)	t-1,4-Dichloro-2-Butene	11.05	53	944	1.66410 ppb		95
75)	Bromobenzene	10.92	156	14166	1.91822 ppb		93
76)	n-Propylbenzene	11.13	91	68266	1.93324 ppb		98
77)	4-Ethyltoluene	11.30	105	58682	1.88606 ppb		99
78)	2-Chlorotoluene	11.21	91	39938	1.89068 ppb		96
79)	1,3,5-Trimethylbenzene	11.40	105	52435	2.02126 ppb		96
80)	4-Chlorotoluene	11.37	91	45694	1.91942 ppb		100
81)	Tert-Butylbenzene	11.84	119	45242	1.94844 ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	48143	1.90206 ppb		92
83)	Sec-Butylbenzene	12.15	105	60178	1.94462 ppb		94
84)	p-Isopropyltoluene	12.37	119	52706	1.94992 ppb		98
85)	Benzyl Chloride	12.59	91	3641	1.82517 ppb		95
86)	1,3-DCB	12.26	146	28321	1.91772 ppb		93
87)	1,4-DCB	12.38	146	27546	1.90344 ppb		98
88)	n-Butylbenzene	12.96	91	39482	1.86039 ppb		92
89)	1,2-DCB	12.90	146	22934	1.89801 ppb		96
90)	Hexachloroethane	13.27	117	6312	1.75695 ppb		95
91)	1,2-Dibromo-3-chloropropan	14.01	75	757	1.82255 ppb		90
92)	1,2,4-Trichlorobenzene	15.23	180	8746	1.68979 ppb		95
93)	Hexachlorobutadiene	15.53	225	10964	1.97756 ppb		93
94)	Naphthalene	15.56	128	4712	1.81981 ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	5030	1.80787 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

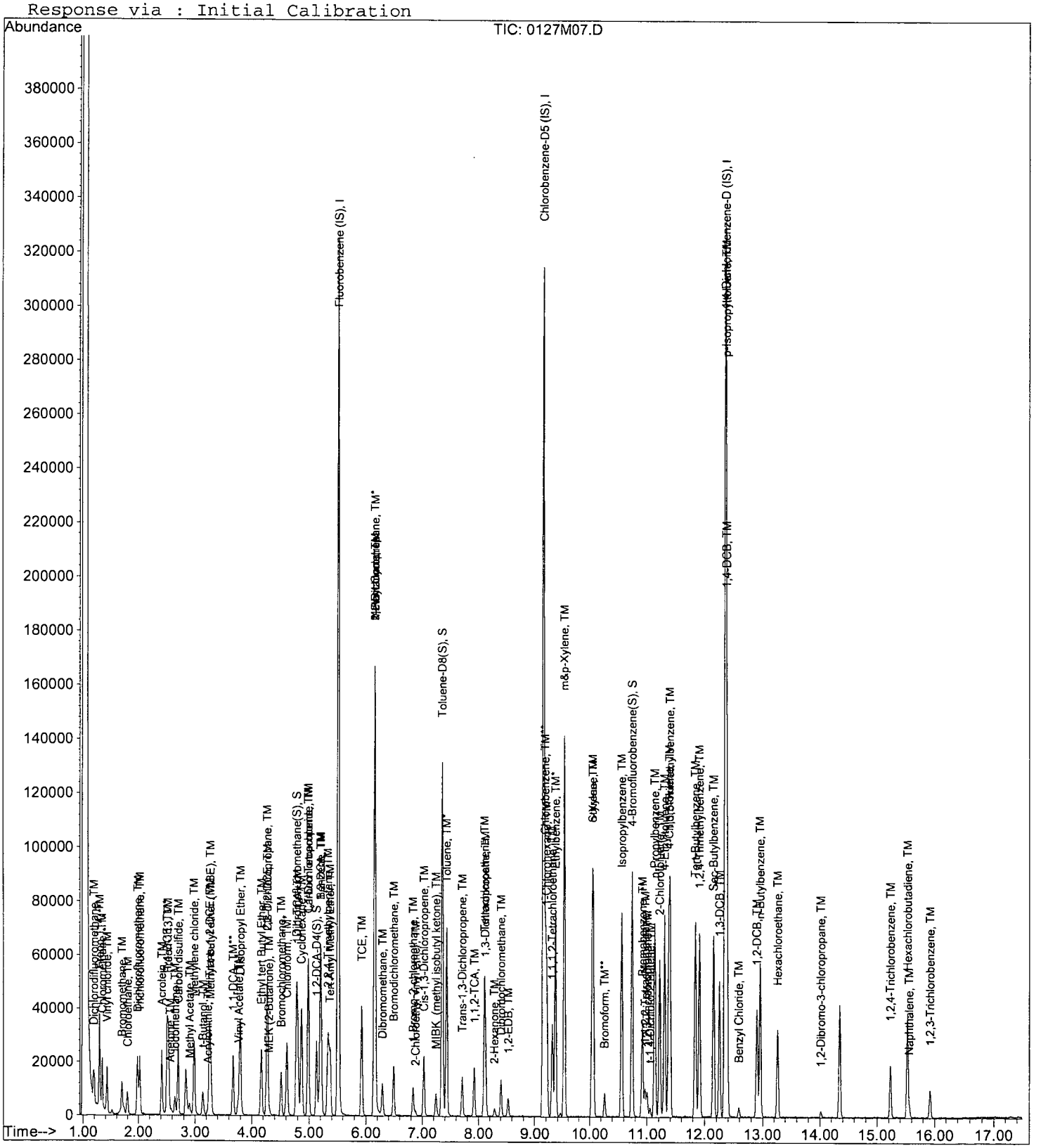
Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



388

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
56) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
64) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	14186	4.58932 ppb		96
3) Freon 114	1.29	85	21494	4.46204 ppb		91
4) Chloromethane	1.34	50	27248	5.06204 ppb		100
5) Vinyl chloride	1.43	62	36137	4.83971 ppb		98
6) Bromomethane	1.70	94	20231	4.62772 ppb		95
7) Chloroethane	1.80	64	20189	4.87034 ppb		92
8) Dichlorofluoromethane	1.98	67	63712	5.62342 ppb		97
9) Trichlorofluoromethane	2.03	101	39524	5.01499 ppb		93
10) Acrolein	2.41	56	26814	100.61392 ppb		100
11) Acetone	2.57	43	4339	5.24630 ppb		95
12) Freon-113	2.53	101	26118	5.00704 ppb		97
13) 1,1-DCE	2.51	61	47239	5.52323 ppb		95
14) t-Butanol	3.14	59	12878	99.79026 ppb		95
15) Methyl Acetate	2.90	43	11356	5.49267 ppb		100
16) Iodomethane	2.64	142	33114	5.10758 ppb		98
17) Acrylonitrile	3.22	53	5313	5.51150 ppb	#	87
18) Methylene chloride	2.98	84	34185	5.74966 ppb		95
19) Carbon disulfide	2.70	76	94462	5.54941 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	52475	5.80840 ppb		98
21) Trans-1,2-DCE	3.25	96	35644	5.81202 ppb		98
22) Diisopropyl Ether	3.80	45	102358	5.92262 ppb		99
23) 1,1-DCA	3.67	63	63619	5.86512 ppb		99
24) Vinyl Acetate	3.76	43	19782	5.72086 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	65645	5.80404 ppb		99
26) MEK (2-Butanone)	4.31	43	7200	6.11925 ppb		89
27) Cis-1,2-DCE	4.27	96	38868	5.77703 ppb		97
28) 2,2-Dichloropropane	4.27	77	40785	5.57481 ppb		99
29) Chloroform	4.61	83	61253	5.86027 ppb		92
30) Bromochloromethane	4.51	128	15270	5.91231 ppb		96
32) 1,1,1-TCA	4.80	97	53865	5.59712 ppb		94
33) Cyclohexane	4.87	41	29060	5.27389 ppb		93
34) 1,1-Dichloropropene	4.98	75	48467	5.58269 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	76675	4.88118 ppb		98
37) Carbon Tetrachloride	4.98	117	43823	5.29624 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	54859	5.81789 ppb		97
39) 1,2-DCA	5.21	62	32962	5.80619 ppb		98
40) Benzene	5.20	78	148728	5.79640 ppb		98
41) TCE	5.92	95	38475	5.56586 ppb		91
42) 2-Pentanone	6.15	43	171330	99.81199 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

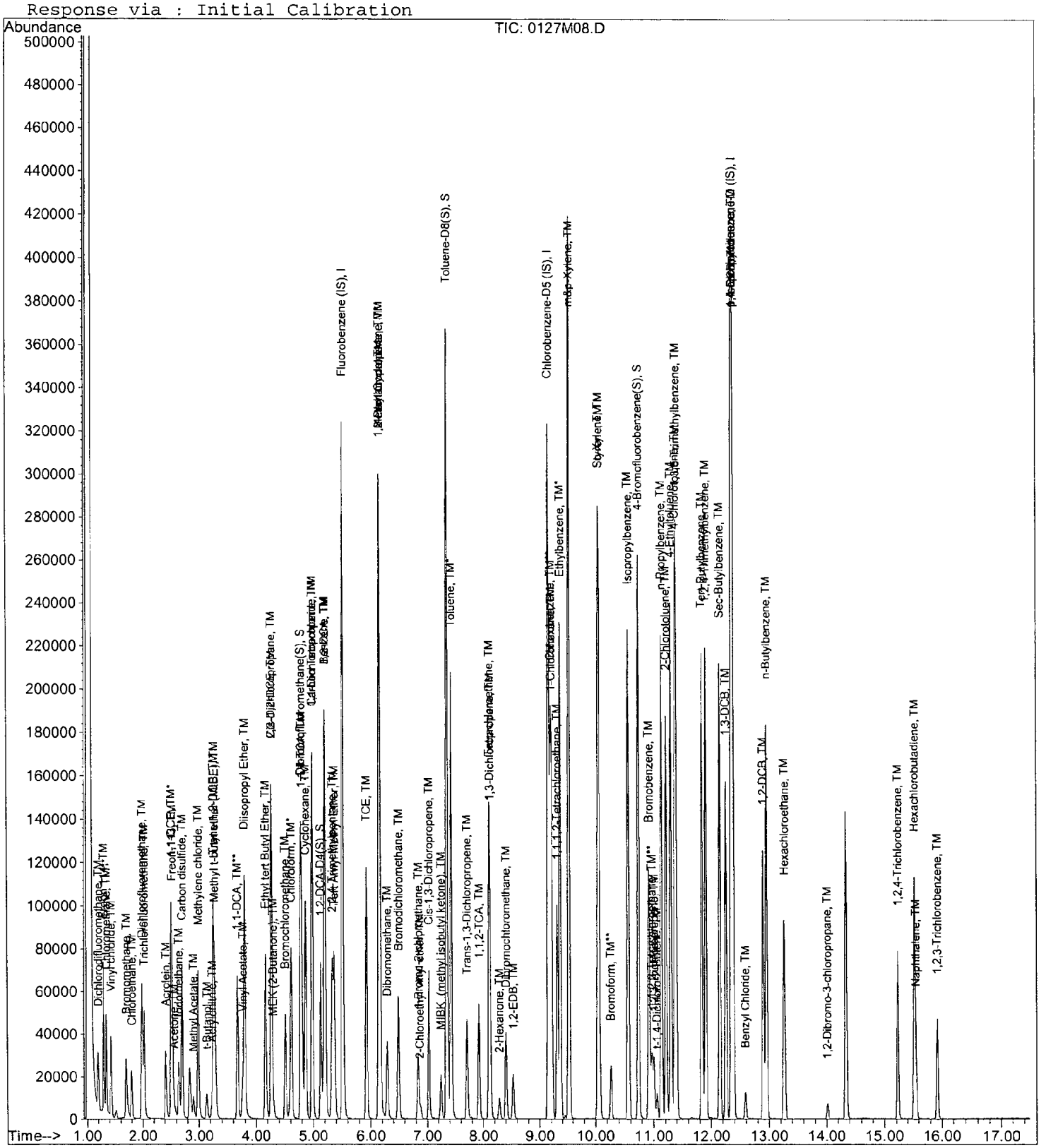
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	33196	5.70537 ppb		97
44) Bromodichloromethane	6.49	83	40333	5.98648 ppb		87
45) Methyl Cyclohexane	6.15	83	45650	5.12149 ppb		99
46) Dibromomethane	6.29	93	12707	5.84643 ppb		76
47) MIBK (methyl isobutyl ket	7.24	43	15391	5.52607 ppb		93
48) 1-Bromo-2-chloroethane	6.84	63	31900	5.70656 ppb		98
49) 2-Chloroethyl vinyl ether	6.87	106	637m	4.75437 ppb		0
50) Cis-1,3-Dichloropropene	7.03	75	42825	5.77580 ppb		98
51) Toluene	7.43	91	169990	5.71795 ppb		95
52) Trans-1,3-Dichloropropene	7.71	75	27973	5.54565 ppb		92
53) 1,1,2-TCA	7.92	83	15832	5.85184 ppb		92
54) 2-Hexanone	8.28	43	7720	5.40478 ppb	#	94
57) 1,2-EDB	8.53	107	17157	5.99063 ppb		97
58) Tetrachloroethene	8.10	164	41381	5.87860 ppb		94
59) 1-Chlorohexane	9.21	91	46310	5.66450 ppb		97
60) 1,1,1,2-Tetrachloroethane	9.31	131	34121	5.72683 ppb		98
61) m&p-Xylene	9.52	106	153047	11.87824 ppb		100
62) o-Xylene	10.04	106	73128	6.08402 ppb		93
63) Styrene	10.06	104	110225	5.96060 ppb		99
65) 1,3-Dichloropropane	8.13	76	33822	5.94985 ppb		99
66) Dibromochloromethane	8.40	129	25834	5.90673 ppb		98
67) Chlorobenzene	9.19	112	106910	5.85847 ppb		99
68) Ethylbenzene	9.36	91	194581	5.91687 ppb		99
69) Bromoform	10.27	173	15132	5.82669 ppb		95
71) Isopropylbenzene	10.56	105	190220	5.83704 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	18082	5.87352 ppb		95
73) 1,2,3-Trichloropropane	11.00	110	6015	5.88632 ppb		96
74) t-1,4-Dichloro-2-Butene	11.05	53	3517	5.53849 ppb		85
75) Bromobenzene	10.92	156	43441	5.77245 ppb		98
76) n-Propylbenzene	11.13	91	209960	5.83481 ppb		99
77) 4-Ethyltoluene	11.30	105	184909	5.83201 ppb		98
78) 2-Chlorotoluene	11.21	91	126223	5.86378 ppb		94
79) 1,3,5-Trimethylbenzene	11.39	105	155345	5.87633 ppb		98
80) 4-Chlorotoluene	11.37	91	144088	5.93945 ppb		98
81) Tert-Butylbenzene	11.84	119	135405	5.72253 ppb		96
82) 1,2,4-Trimethylbenzene	11.91	105	148522	5.75825 ppb		99
83) Sec-Butylbenzene	12.15	105	181604	5.75877 ppb		98
84) p-Isopropyltoluene	12.37	119	159016	5.77304 ppb		99
85) Benzyl Chloride	12.59	91	10359	5.09575 ppb		92
86) 1,3-DCB	12.26	146	88469	5.87863 ppb		98
87) 1,4-DCB	12.38	146	83174	5.63995 ppb		98
88) n-Butylbenzene	12.95	91	126124	5.83191 ppb		94
89) 1,2-DCB	12.90	146	72088	5.85450 ppb		95
90) Hexachloroethane	13.27	117	18873	5.15517 ppb		97
91) 1,2-Dibromo-3-chloropropan	14.00	75	2251	5.31823 ppb	#	77
92) 1,2,4-Trichlorobenzene	15.23	180	34761	5.21598 ppb		98
93) Hexachlorobutadiene	15.53	225	31747	5.61915 ppb		97
94) Naphthalene	15.56	128	21467	4.24164 ppb		98
95) 1,2,3-Trichlorobenzene	15.92	180	20080	4.66473 ppb		91

(#) = qualifier out of range (m) = manual integration

Data File : M:\MAX\DATA\M170127\0127M08.D Vial: 8
Acq On : 27 Jan 17 13:17 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 01/27/16E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
36) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
56) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
64) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	34112	10.41917 ppb	100
3) Freon 114	1.29	85	51835	10.15961 ppb	100
4) Chloromethane	1.34	50	54128	9.49403 ppb	100
5) Vinyl chloride	1.43	62	78953	9.98330 ppb	100
6) Bromomethane	1.69	94	36097	7.79577 ppb	100
7) Chloroethane	1.79	64	43444	9.89491 ppb	100
8) Dichlorofluoromethane	1.98	67	118435	9.86955 ppb	100
9) Trichlorofluoromethane	2.03	101	87038	10.42693 ppb	100
10) Acrolein	2.41	56	32459	114.99253 ppb	100
11) Acetone	2.57	43	7747	9.93129 ppb	100
12) Freon-113	2.53	101	56262	10.18344 ppb	100
13) 1,1-DCE	2.51	61	90361	9.97497 ppb	100
14) t-Butanol	3.14	59	16249	118.87880 ppb	100
15) Methyl Acetate	2.90	43	21601	9.86438 ppb	100
16) Iodomethane	2.64	142	73634	10.10872 ppb	100
17) Acrylonitrile	3.22	53	10491	10.51652 ppb	100
18) Methylene chloride	2.98	84	58449	9.91591 ppb	100
19) Carbon disulfide	2.70	76	179219	9.94059 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	96158	10.04911 ppb	100
21) Trans-1,2-DCE	3.25	96	66688	10.26660 ppb	100
22) Diisopropyl Ether	3.80	45	183205	10.00846 ppb	100
23) 1,1-DCA	3.67	63	115429	10.04715 ppb	100
24) Vinyl Acetate	3.75	43	33950	9.26977 ppb	100
25) Ethyl tert Butyl Ether	4.17	59	119668	9.98953 ppb	100
26) MEK (2-Butanone)	4.31	43	13542	10.86642 ppb	100
27) Cis-1,2-DCE	4.27	96	70191	9.84989 ppb	100
28) 2,2-Dichloropropane	4.27	77	79307	10.23480 ppb	100
29) Chloroform	4.61	83	110730	10.00215 ppb	100
30) Bromochloromethane	4.51	128	27002	9.87080 ppb	100
32) 1,1,1-TCA	4.80	97	104626	10.26445 ppb	100
33) Cyclohexane	4.87	41	61008	10.45346 ppb	100
34) 1,1-Dichloropropene	4.98	75	95546	10.39078 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	167786	10.08474 ppb	100
37) Carbon Tetrachloride	4.98	117	88656	10.11606 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	99041	9.91678 ppb	100
39) 1,2-DCA	5.21	62	60052	9.98719 ppb	100
40) Benzene	5.20	78	273120	10.04979 ppb	100
41) TCE	5.92	95	73263	10.00637 ppb	100
42) 2-Pentanone	6.15	43	219407	120.68071 ppb	100

(#) = qualifier out of range (m) = manual integration
0127M09.D MALLW.M Mon Jan 30 08:05:21 2017

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	62149	10.08487	ppb	100
44) Bromodichloromethane	6.49	83	70951	9.94278	ppb	100
45) Methyl Cyclohexane	6.15	83	98908	10.47672	ppb	100
46) Dibromomethane	6.29	93	22370	9.71744	ppb	100
47) MIBK (methyl isobutyl ket	7.24	43	26828	9.91077	ppb	100
48) 1-Bromo-2-chloroethane	6.84	63	57768	9.75684	ppb	100
49) 2-Chloroethyl vinyl ether	6.88	106	1196m	8.49827	ppb	0
50) Cis-1,3-Dichloropropene	7.02	75	79354	10.10466	ppb	100
51) Toluene	7.43	91	315888	10.03202	ppb	100
52) Trans-1,3-Dichloropropene	7.71	75	52987	9.91793	ppb	100
53) 1,1,2-TCA	7.92	83	28434	9.92276	ppb	100
54) 2-Hexanone	8.28	43	14409	9.52428	ppb	100
57) 1,2-EDB	8.53	107	30974	10.01658	ppb	100
58) Tetrachloroethene	8.10	164	76460	10.06001	ppb	100
59) 1-Chlorohexane	9.21	91	93336	10.57371	ppb	100
60) 1,1,1,2-Tetrachloroethane	9.31	131	65080	10.11652	ppb	100
61) m&p-Xylene	9.52	106	281914	20.26445	ppb	100
62) o-Xylene	10.04	106	133065	10.25326	ppb	100
63) Styrene	10.06	104	203560	10.19514	ppb	100
65) 1,3-Dichloropropane	8.13	76	60734	9.89531	ppb	100
66) Dibromochloromethane	8.40	129	47586	10.07688	ppb	100
67) Chlorobenzene	9.19	112	195049	9.89921	ppb	100
68) Ethylbenzene	9.36	91	365049	10.28096	ppb	100
69) Bromoform	10.27	173	27908	9.95281	ppb	100
71) Isopropylbenzene	10.56	105	358076	10.35393	ppb	100
72) 1,1,2,2-Tetrachloroethane	10.97	83	32319	9.89245	ppb	100
73) 1,2,3-Trichloropropane	11.00	110	11258	10.38157	ppb	100
74) t-1,4-Dichloro-2-Butene	11.05	53	6748	9.84760	ppb	100
75) Bromobenzene	10.92	156	79749	9.98571	ppb	100
76) n-Propylbenzene	11.13	91	396471	10.38234	ppb	100
77) 4-Ethyltoluene	11.30	105	352883	10.48780	ppb	100
78) 2-Chlorotoluene	11.21	91	227930	9.97779	ppb	100
79) 1,3,5-Trimethylbenzene	11.39	105	288368	10.27896	ppb	100
80) 4-Chlorotoluene	11.37	91	261434	10.15487	ppb	100
81) Tert-Butylbenzene	11.84	119	257862	10.26915	ppb	100
82) 1,2,4-Trimethylbenzene	11.91	105	283055	10.34104	ppb	100
83) Sec-Butylbenzene	12.15	105	350673	10.47853	ppb	100
84) p-Isopropyltoluene	12.37	119	301976	10.33071	ppb	100
85) Benzyl Chloride	12.59	91	22118	10.25250	ppb	100
86) 1,3-DCB	12.26	146	159472	9.98535	ppb	100
87) 1,4-DCB	12.38	146	156235	9.98297	ppb	100
88) n-Butylbenzene	12.95	91	244919	10.67160	ppb	100
89) 1,2-DCB	12.90	146	132092	10.10873	ppb	100
90) Hexachloroethane	13.27	117	39667	10.20997	ppb	100
91) 1,2-Dibromo-3-chloropropan	14.01	75	4337	9.65550	ppb	100
92) 1,2,4-Trichlorobenzene	15.23	180	73893	9.97275	ppb	100
93) Hexachlorobutadiene	15.53	225	62712	10.45954	ppb	100
94) Naphthalene	15.56	128	60675	9.43074	ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	49768	9.78784	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

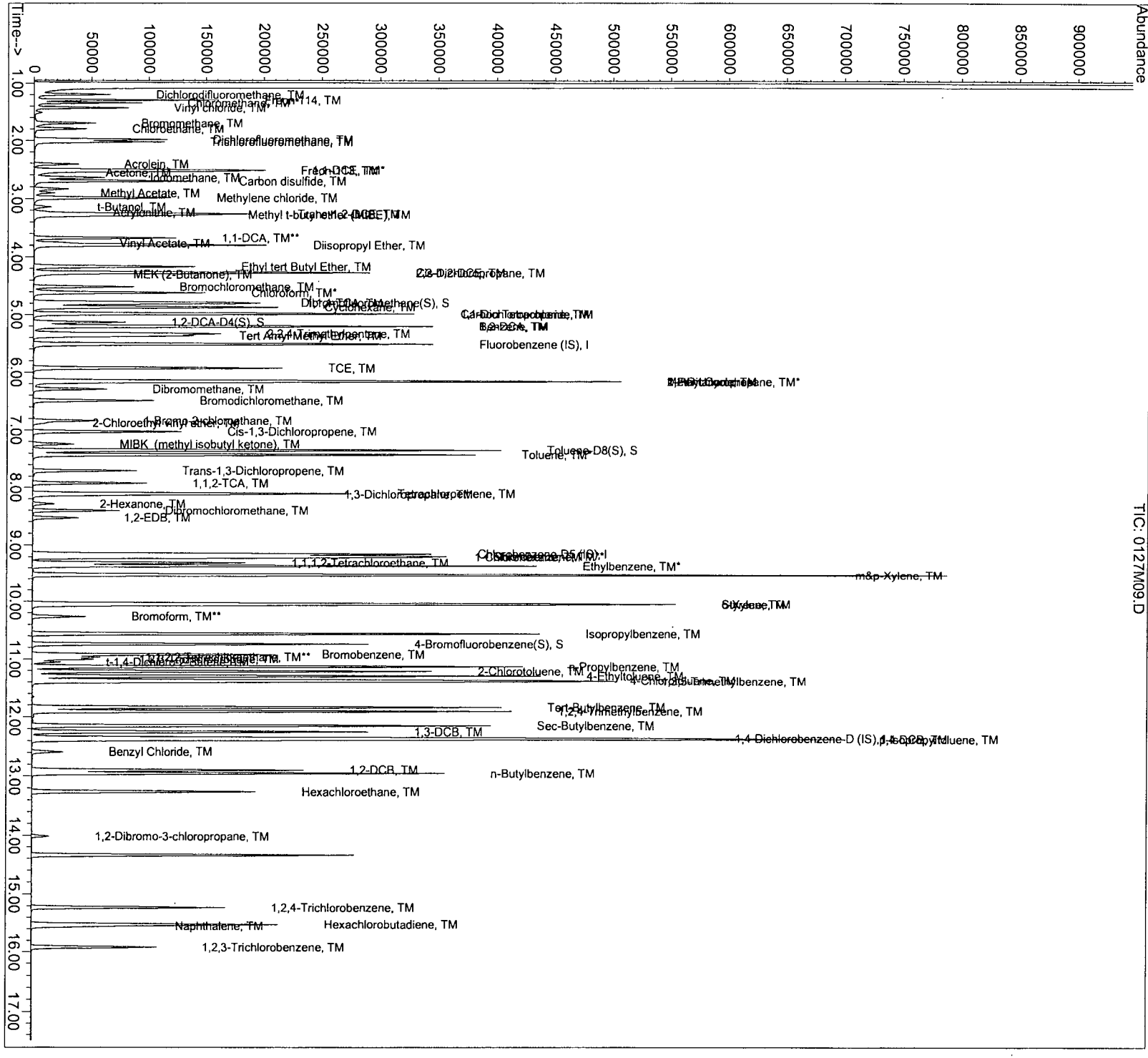
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
36) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
56) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	65256	20.31180 ppb		99
3) Freon 114	1.29	85	94834	18.94174 ppb		96
4) Chloromethane	1.34	50	98848	17.66845 ppb		97
5) Vinyl chloride	1.43	62	154639	19.92629 ppb		96
6) Bromomethane	1.69	94	63257	13.92190 ppb		100
7) Chloroethane	1.79	64	83028	19.27120 ppb		99
8) Dichlorofluoromethane	1.98	67	228593	19.41252 ppb		100
9) Trichlorofluoromethane	2.02	101	164977	20.14061 ppb		98
10) Acrolein	2.41	56	42431	153.18623 ppb		99
11) Acetone	2.57	43	15295	21.58632 ppb		90
12) Freon-113	2.53	101	104748	19.32089 ppb		97
13) 1,1-DCE	2.51	61	170333	19.16159 ppb		99
14) t-Butanol	3.14	59	21326	158.99707 ppb		93
15) Methyl Acetate	2.90	43	41931	19.51341 ppb		90
16) Iodomethane	2.64	142	144705	19.68404 ppb		99
17) Acrylonitrile	3.22	53	20123	20.82322 ppb	#	92
18) Methylene chloride	2.98	84	109978	19.96100 ppb		98
19) Carbon disulfide	2.70	76	333201	18.83372 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	186051	19.81418 ppb		98
21) Trans-1,2-DCE	3.25	96	126691	19.87590 ppb		97
22) Diisopropyl Ether	3.80	45	358853	19.97784 ppb		99
23) 1,1-DCA	3.67	63	220814	19.58648 ppb		98
24) Vinyl Acetate	3.75	43	80612	22.43007 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	234902	19.98276 ppb		98
26) MEK (2-Butanone)	4.30	43	24667	20.17075 ppb	#	84
27) Cis-1,2-DCE	4.27	96	135535	19.38222 ppb		98
28) 2,2-Dichloropropane	4.27	77	154252	20.28619 ppb		99
29) Chloroform	4.61	83	212028	19.51746 ppb		99
30) Bromochloromethane	4.51	128	52686	19.62699 ppb		95
32) 1,1,1-TCA	4.80	97	196786	19.67399 ppb		95
33) Cyclohexane	4.87	41	111882	19.53599 ppb		98
34) 1,1-Dichloropropene	4.98	75	176090	19.51516 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	309857	18.97896 ppb		100
37) Carbon Tetrachloride	4.98	117	171296	19.91831 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	201296	20.53963 ppb		93
39) 1,2-DCA	5.21	62	118786	20.13182 ppb		97
40) Benzene	5.20	78	520866	19.53132 ppb		99
41) TCE	5.92	95	138808	19.32005 ppb		95
42) 2-Pentanone	6.15	43	274360	153.78363 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	117421	19.41707 ppb		99
44) Bromodichloromethane	6.49	83	139071	19.86039 ppb		94
45) Methyl Cyclohexane	6.15	83	180292	19.46131 ppb		99
46) Dibromomethane	6.29	93	44191	19.56238 ppb		93
47) MIBK (methyl isobutyl ket	7.24	43	53313	21.36624 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	115975	19.96127 ppb		97
49) 2-Chloroethyl vinyl ether	6.88	106	2355m	19.01059 ppb		0
50) Cis-1,3-Dichloropropene	7.02	75	156748	20.34027 ppb		98
51) Toluene	7.43	91	605872	19.60822 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	110003	20.98254 ppb		98
53) 1,1,2-TCA	7.92	83	55178	19.62286 ppb		98
54) 2-Hexanone	8.28	43	29744	20.03548 ppb		92
57) 1,2-EDB	8.53	107	62965	20.70855 ppb		96
58) Tetrachloroethene	8.11	164	143390	19.18719 ppb		96
59) 1-Chlorohexane	9.21	91	175311	20.19834 ppb		97
60) 1,1,1,2-Tetrachloroethane	9.31	131	124720	19.71733 ppb		99
61) m&p-Xylene	9.52	106	547470	40.02276 ppb		99
62) o-Xylene	10.04	106	259725	20.35356 ppb		99
63) Styrene	10.06	104	405114	20.63509 ppb		99
65) 1,3-Dichloropropane	8.13	76	122326	20.26958 ppb		99
66) Dibromochloromethane	8.40	129	93899	20.22256 ppb		98
67) Chlorobenzene	9.19	112	376808	19.44937 ppb		98
68) Ethylbenzene	9.36	91	696358	19.94543 ppb		99
69) Bromoform	10.27	173	56276	20.41120 ppb		98
71) Isopropylbenzene	10.56	105	687769	19.36855 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	65494	19.52413 ppb		95
73) 1,2,3-Trichloropropane	11.00	110	21002	18.86195 ppb		89
74) t-1,4-Dichloro-2-Butene	11.05	53	14527	20.42170 ppb	#	77
75) Bromobenzene	10.92	156	158664	19.34891 ppb		100
76) n-Propylbenzene	11.13	91	770212	19.64347 ppb		100
77) 4-Ethyltoluene	11.30	105	683460	19.78295 ppb		97
78) 2-Chlorotoluene	11.21	91	453557	19.33700 ppb		98
79) 1,3,5-Trimethylbenzene	11.39	105	560103	19.44439 ppb		99
80) 4-Chlorotoluene	11.37	91	510997	19.33102 ppb		98
81) Tert-Butylbenzene	11.84	119	493464	19.13934 ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	554402	19.72615 ppb		99
83) Sec-Butylbenzene	12.15	105	672523	19.57173 ppb		98
84) p-Isopropyltoluene	12.37	119	589954	19.65622 ppb		99
85) Benzyl Chloride	12.59	91	56498	25.50592 ppb		97
86) 1,3-DCB	12.26	146	315723	19.25348 ppb		98
87) 1,4-DCB	12.38	146	303653	18.89659 ppb		98
88) n-Butylbenzene	12.95	91	481019	20.41237 ppb		98
89) 1,2-DCB	12.90	146	263479	19.63769 ppb		99
90) Hexachloroethane	13.26	117	84976	21.30178 ppb		96
91) 1,2-Dibromo-3-chloropropan	14.02	75	9525	20.65259 ppb	#	84
92) 1,2,4-Trichlorobenzene	15.23	180	155863	19.98732 ppb		97
93) Hexachlorobutadiene	15.53	225	118497	19.24835 ppb		97
94) Naphthalene	15.56	128	144972	20.45653 ppb		96
95) 1,2,3-Trichlorobenzene	15.92	180	110444	20.19222 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

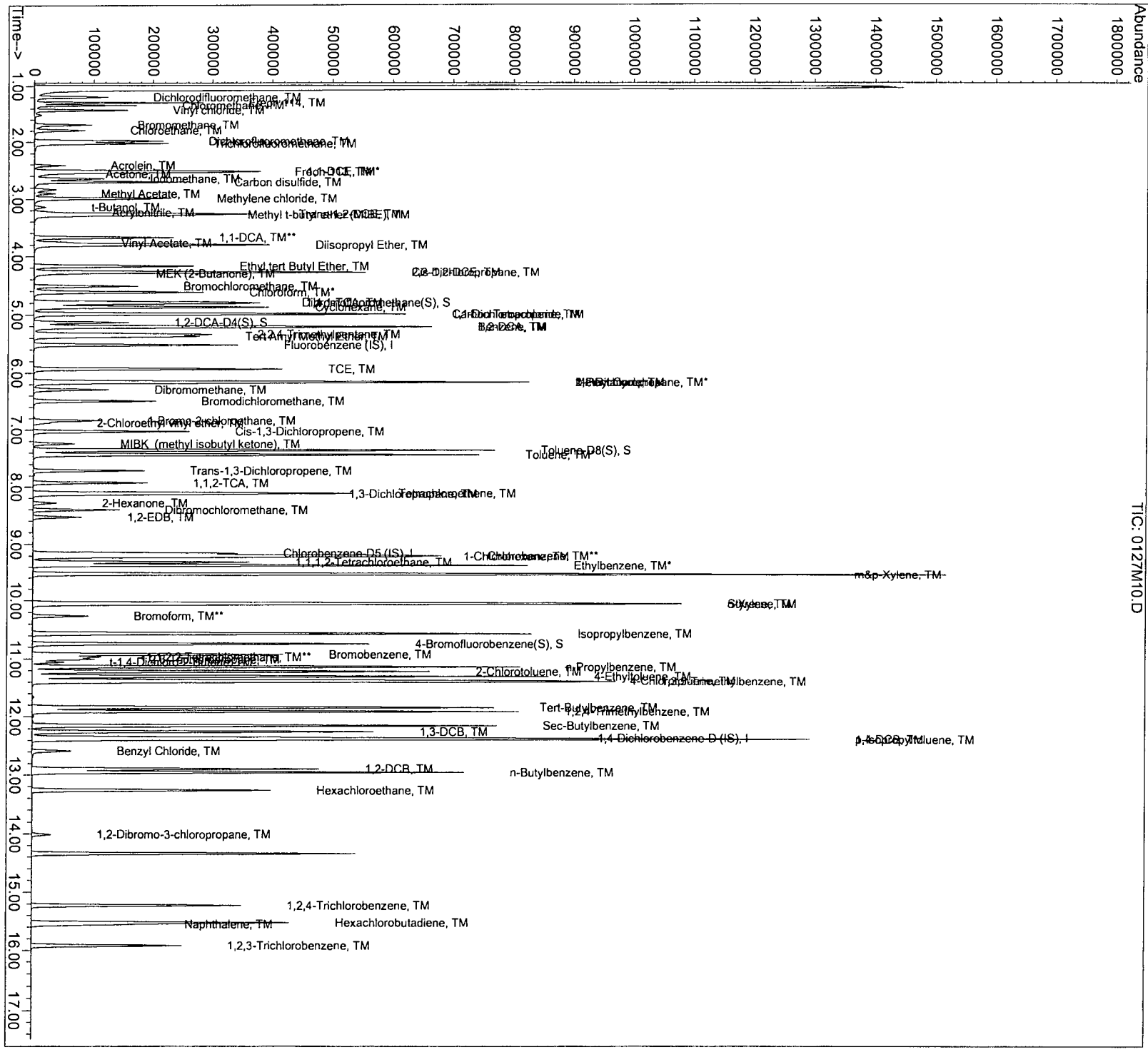
Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
36) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
56) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	133312	40.80107 ppb	99
3) Freon 114	1.29	85	199509	39.18254 ppb	99
4) Chloromethane	1.34	50	210573	37.00901 ppb	98
5) Vinyl chloride	1.43	62	310207	39.30370 ppb	97
6) Bromomethane	1.69	94	96551	20.89398 ppb	98
7) Chloroethane	1.78	64	167957	38.33157 ppb	99
8) Dichlorofluoromethane	1.98	67	472074	39.41881 ppb	98
9) Trichlorofluoromethane	2.02	101	328623	39.44769 ppb	96
10) Acrolein	2.41	56	49549	175.89182 ppb	99
11) Acetone	2.57	43	28736	41.22164 ppb	100
12) Freon-113	2.53	101	214899	38.97535 ppb	97
13) 1,1-DCE	2.51	61	348870	38.58963 ppb	98
14) t-Butanol	3.14	59	25278	185.30910 ppb	100
15) Methyl Acetate	2.90	43	85015	38.90164 ppb	98
16) Iodomethane	2.64	142	305480	40.25788 ppb	99
17) Acrylonitrile	3.22	53	39186	40.12683 ppb #	86
18) Methylene chloride	2.98	84	223780	40.97010 ppb	97
19) Carbon disulfide	2.70	76	682194	37.91509 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	375369	39.30762 ppb	99
21) Trans-1,2-DCE	3.25	96	255063	39.34620 ppb	98
22) Diisopropyl Ether	3.80	45	719561	39.38891 ppb	99
23) 1,1-DCA	3.67	63	448373	39.10601 ppb	100
24) Vinyl Acetate	3.75	43	158690	43.41650 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	493183	41.25259 ppb	100
26) MEK (2-Butanone)	4.30	43	48188	38.74529 ppb	95
27) Cis-1,2-DCE	4.27	96	275009	38.66992 ppb	99
28) 2,2-Dichloropropane	4.27	77	324237	41.92823 ppb	99
29) Chloroform	4.61	83	430109	38.92988 ppb	96
30) Bromochloromethane	4.51	128	105560	38.66625 ppb	96
32) 1,1,1-TCA	4.80	97	406952	40.00513 ppb	96
33) Cyclohexane	4.86	41	229146	39.34249 ppb	95
34) 1,1-Dichloropropene	4.98	75	358097	39.02226 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	658725	39.67250 ppb	99
37) Carbon Tetrachloride	4.98	117	355267	40.61948 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	415330	41.67015 ppb	92
39) 1,2-DCA	5.21	62	236874	39.47384 ppb	96
40) Benzene	5.20	78	1060118	39.08715 ppb	99
41) TCE	5.92	95	284986	39.00242 ppb	97
42) 2-Pentanone	6.15	43	334177	184.17903 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloropropane	6.16	63	238187	38.72847	ppb	99
44)	Bromodichloromethane	6.49	83	283017	39.74092	ppb	94
45)	Methyl Cyclohexane	6.15	83	376632	39.97488	ppb	98
46)	Dibromomethane	6.29	93	89746	39.06405	ppb	94
47)	MIBK (methyl isobutyl ket	7.24	43	101724	41.19361	ppb	98
48)	1-Bromo-2-chloroethane	6.84	63	236435	40.01381	ppb	98
49)	2-Chloroethyl vinyl ether	6.88	106	5417m	41.46331	ppb	0
50)	Cis-1,3-Dichloropropene	7.02	75	330146	42.12453	ppb	99
51)	Toluene	7.43	91	1228380	39.08988	ppb	99
52)	Trans-1,3-Dichloropropene	7.71	75	234193	43.92398	ppb	96
53)	1,1,2-TCA	7.92	83	110877	38.77146	ppb	99
54)	2-Hexanone	8.28	43	63446	42.02222	ppb	94
57)	1,2-EDB	8.53	107	127741	40.30615	ppb	99
58)	Tetrachloroethene	8.10	164	289113	37.11511	ppb	97
59)	1-Chlorohexane	9.21	91	366030	40.45888	ppb	99
60)	1,1,1,2-Tetrachloroethane	9.31	131	257761	39.09488	ppb	98
61)	m&p-Xylene	9.52	106	1106907	77.63336	ppb	100
62)	o-Xylene	10.04	106	518680	38.99569	ppb	99
63)	Styrene	10.06	104	816498	39.90018	ppb	97
65)	1,3-Dichloropropane	8.13	76	242159	38.49613	ppb	96
66)	Dibromochloromethane	8.40	129	190275	39.31403	ppb	100
67)	Chlorobenzene	9.19	112	768461	38.05378	ppb	97
68)	Ethylbenzene	9.36	91	1426753	39.20579	ppb	98
69)	Bromoform	10.27	173	115272	40.11065	ppb	95
71)	Isopropylbenzene	10.56	105	1402869	38.71140	ppb	99
72)	1,1,2,2-Tetrachloroethane	10.97	83	131105	38.29629	ppb	97
73)	1,2,3-Trichloropropane	11.00	110	42294	37.21962	ppb	92
74)	t-1,4-Dichloro-2-Butene	11.05	53	29024	39.78311	ppb	85
75)	Bromobenzene	10.92	156	321269	38.38966	ppb	100
76)	n-Propylbenzene	11.13	91	1571394	39.26996	ppb	100
77)	4-Ethyltoluene	11.30	105	1387171	39.34370	ppb	99
78)	2-Chlorotoluene	11.22	91	907052	37.89280	ppb	96
79)	1,3,5-Trimethylbenzene	11.40	105	1133478	38.55733	ppb	100
80)	4-Chlorotoluene	11.37	91	1036876	38.43533	ppb	98
81)	Tert-Butylbenzene	11.84	119	1007701	38.29750	ppb	98
82)	1,2,4-Trimethylbenzene	11.91	105	1128163	39.33297	ppb	98
83)	Sec-Butylbenzene	12.15	105	1350867	38.52140	ppb	100
84)	p-Isopropyltoluene	12.37	119	1196507	39.06290	ppb	99
85)	Benzyl Chloride	12.59	91	126401	55.91468	ppb	94
86)	1,3-DCB	12.26	146	640664	38.28253	ppb	97
87)	1,4-DCB	12.38	146	611409	37.28249	ppb	98
88)	n-Butylbenzene	12.95	91	979534	40.73034	ppb	98
89)	1,2-DCB	12.90	146	529009	38.63445	ppb	99
90)	Hexachloroethane	13.27	117	184461	45.30973	ppb	99
91)	1,2-Dibromo-3-chloropropan	14.01	75	18907	40.16978	ppb	91
92)	1,2,4-Trichlorobenzene	15.23	180	339884	42.16925	ppb	97
93)	Hexachlorobutadiene	15.52	225	241129	38.37981	ppb	95
94)	Naphthalene	15.56	128	344732	46.17235	ppb	96
95)	1,2,3-Trichlorobenzene	15.92	180	247669	43.37697	ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

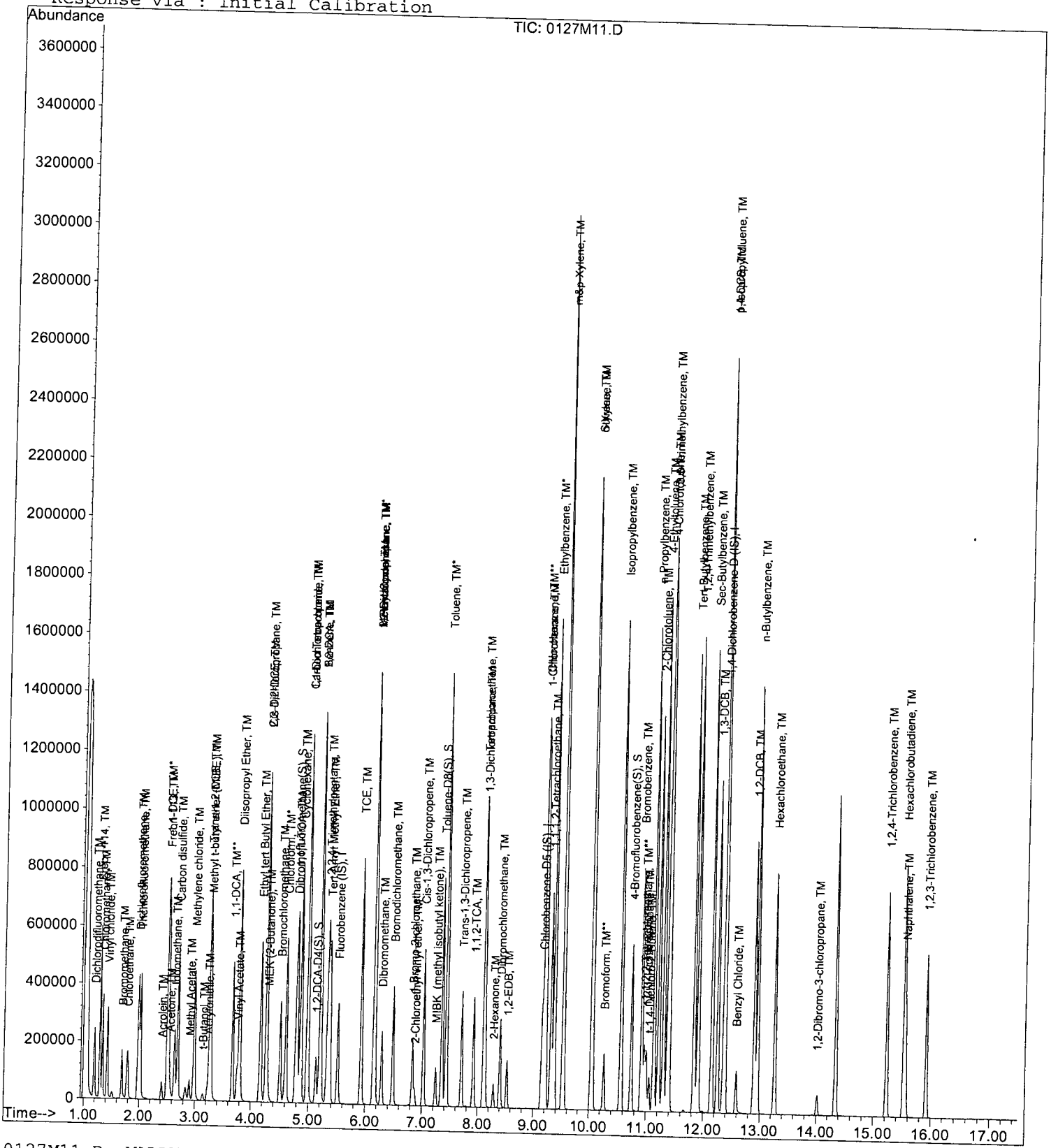
Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



400

Data File : M:\MAX\DATA\M170127\0127M12.D Vial: 12
Acq On : 27 Jan 17 15:10 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 01/27/16I Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
36) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
56) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	343872	102.96990 ppb	100
3) Freon 114	1.29	85	519226	99.76950 ppb	97
4) Chloromethane	1.34	50	556437	95.68240 ppb	98
5) Vinyl chloride	1.43	62	837060	103.76469 ppb	98
6) Bromomethane	1.69	94	232713	49.27154 ppb	98
7) Chloroethane	1.77	64	300669	67.13645 ppb	99
8) Dichlorofluoromethane	1.98	67	1178469	96.27705 ppb	98
9) Trichlorofluoromethane	2.01	101	843283	99.03944 ppb	97
10) Acrolein	2.41	56	55481	192.69315 ppb	93
11) Acetone	2.57	43	69157	99.20986 ppb	96
12) Freon-113	2.53	101	552687	98.07225 ppb	98
13) 1,1-DCE	2.50	61	873386	94.52015 ppb	99
14) t-Butanol	3.15	59	31075	222.88272 ppb	96
15) Methyl Acetate	2.90	43	218014	97.60408 ppb	94
16) Iodomethane	2.64	142	781697	99.94986 ppb	99
17) Acrylonitrile	3.22	53	99130	99.72831 ppb #	91
18) Methylene chloride	2.98	84	548005	99.60310 ppb	94
19) Carbon disulfide	2.69	76	1717258	93.37938 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	937758	96.07720 ppb	100
21) Trans-1,2-DCE	3.25	96	633975	95.68385 ppb	98
22) Diisopropyl Ether	3.80	45	1770389	94.81701 ppb	99
23) 1,1-DCA	3.67	63	1121521	95.70236 ppb	99
24) Vinyl Acetate	3.75	43	375424	100.49362 ppb	98
25) Ethyl tert Butyl Ether	4.17	59	1228395	100.52924 ppb	100
26) MEK (2-Butanone)	4.30	43	115177	90.60602 ppb #	87
27) Cis-1,2-DCE	4.27	96	672693	92.54533 ppb	99
28) 2,2-Dichloropropane	4.27	77	855122	108.18905 ppb	97
29) Chloroform	4.61	83	1070594	94.80703 ppb	94
30) Bromochloromethane	4.51	128	264760	94.88473 ppb	98
32) 1,1,1-TCA	4.80	97	1042776	100.29395 ppb	98
33) Cyclohexane	4.87	41	588370	98.83512 ppb	96
34) 1,1-Dichloropropene	4.98	75	895453	95.46975 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	1663299	98.00923 ppb	99
37) Carbon Tetrachloride	4.98	117	909832	101.77755 ppb	98
38) Tert Amyl Methyl Ether	5.37	73	1047571	102.83158 ppb #	90
39) 1,2-DCA	5.21	62	578988	94.40018 ppb	95
40) Benzene	5.20	78	2607792	94.07279 ppb	100
41) TCE	5.92	95	695754	93.16118 ppb	93
42) 2-Pentanone	6.15	43	419920	226.43388 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	575139	91.49477	ppb		98
44) Bromodichloromethane	6.49	83	709142	97.42487	ppb		93
45) Methyl Cyclohexane	6.15	83	954555	99.12477	ppb		99
46) Dibromomethane	6.29	93	221967	94.52829	ppb		94
47) MIBK (methyl isobutyl ket	7.24	43	246153	99.25534	ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	600146	99.37251	ppb		99
49) 2-Chloroethyl vinyl ether	6.87	106	18780	128.53504	ppb	#	100
50) Cis-1,3-Dichloropropene	7.02	75	833650	104.06962	ppb		98
51) Toluene	7.43	91	3062417	95.34702	ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	612826	112.45433	ppb		96
53) 1,1,2-TCA	7.92	83	275376	94.21239	ppb		98
54) 2-Hexanone	8.29	43	158688	102.83241	ppb		99
57) 1,2-EDB	8.53	107	323484	96.38165	ppb		98
58) Tetrachloroethene	8.10	164	712157	86.32953	ppb		96
59) 1-Chlorohexane	9.22	91	944682	98.60145	ppb		99
60) 1,1,1,2-Tetrachloroethane	9.31	131	679642	97.33821	ppb		99
61) m&p-Xylene	9.53	106	2734472	181.09699	ppb		98
62) o-Xylene	10.04	106	1303262	92.52293	ppb		98
63) Styrene	10.07	104	2057630	94.94836	ppb		96
65) 1,3-Dichloropropane	8.13	76	593413	89.07874	ppb		98
66) Dibromochloromethane	8.40	129	474989	92.67228	ppb		99
67) Chlorobenzene	9.19	112	1908155	89.22573	ppb		99
68) Ethylbenzene	9.36	91	3615105	93.80431	ppb		100
69) Bromoform	10.27	173	297921	97.88982	ppb		94
71) Isopropylbenzene	10.56	105	3535619	92.80069	ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	332138	92.28265	ppb		98
73) 1,2,3-Trichloropropane	11.00	110	108434	90.76589	ppb		96
74) t-1,4-Dichloro-2-Butene	11.06	53	82901	107.73234	ppb	#	78
75) Bromobenzene	10.92	156	836667	95.09597	ppb		100
76) n-Propylbenzene	11.14	91	4036079	95.93984	ppb		99
77) 4-Ethyltoluene	11.30	105	3559289	96.02237	ppb		99
78) 2-Chlorotoluene	11.22	91	2302880	91.50816	ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	2872021	92.92775	ppb		100
80) 4-Chlorotoluene	11.37	91	2622800	92.47685	ppb		97
81) Tert-Butylbenzene	11.84	119	2549618	92.16751	ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	2875638	95.36371	ppb		95
83) Sec-Butylbenzene	12.16	105	3466671	94.02992	ppb		98
84) p-Isopropyltoluene	12.38	119	3049296	94.69191	ppb		99
85) Benzyl Chloride	12.59	91	408642	171.94214	ppb		94
86) 1,3-DCB	12.26	146	1620967	92.13157	ppb		97
87) 1,4-DCB	12.39	146	1524655	88.43184	ppb		98
88) n-Butylbenzene	12.96	91	2516599	99.53516	ppb		98
89) 1,2-DCB	12.90	146	1348819	93.69780	ppb		98
90) Hexachloroethane	13.27	117	487718	113.95140	ppb		98
91) 1,2-Dibromo-3-chloropropan	14.01	75	52405	105.90429	ppb		94
92) 1,2,4-Trichlorobenzene	15.23	180	911146	106.79232	ppb		99
93) Hexachlorobutadiene	15.53	225	621815	94.14096	ppb		96
94) Naphthalene	15.56	128	912952	114.60440	ppb		97
95) 1,2,3-Trichlorobenzene	15.92	180	628361	103.50823	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

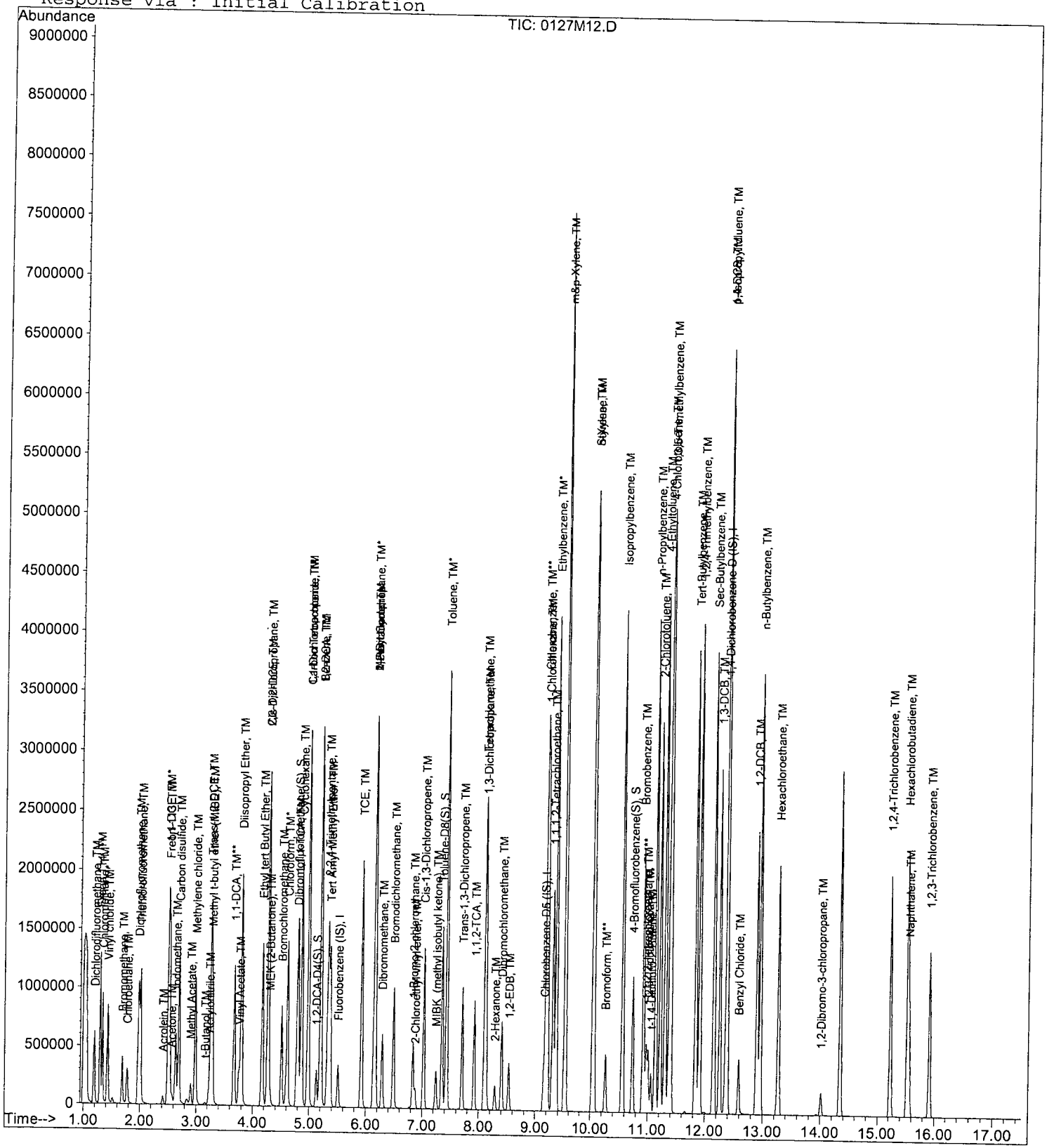
Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

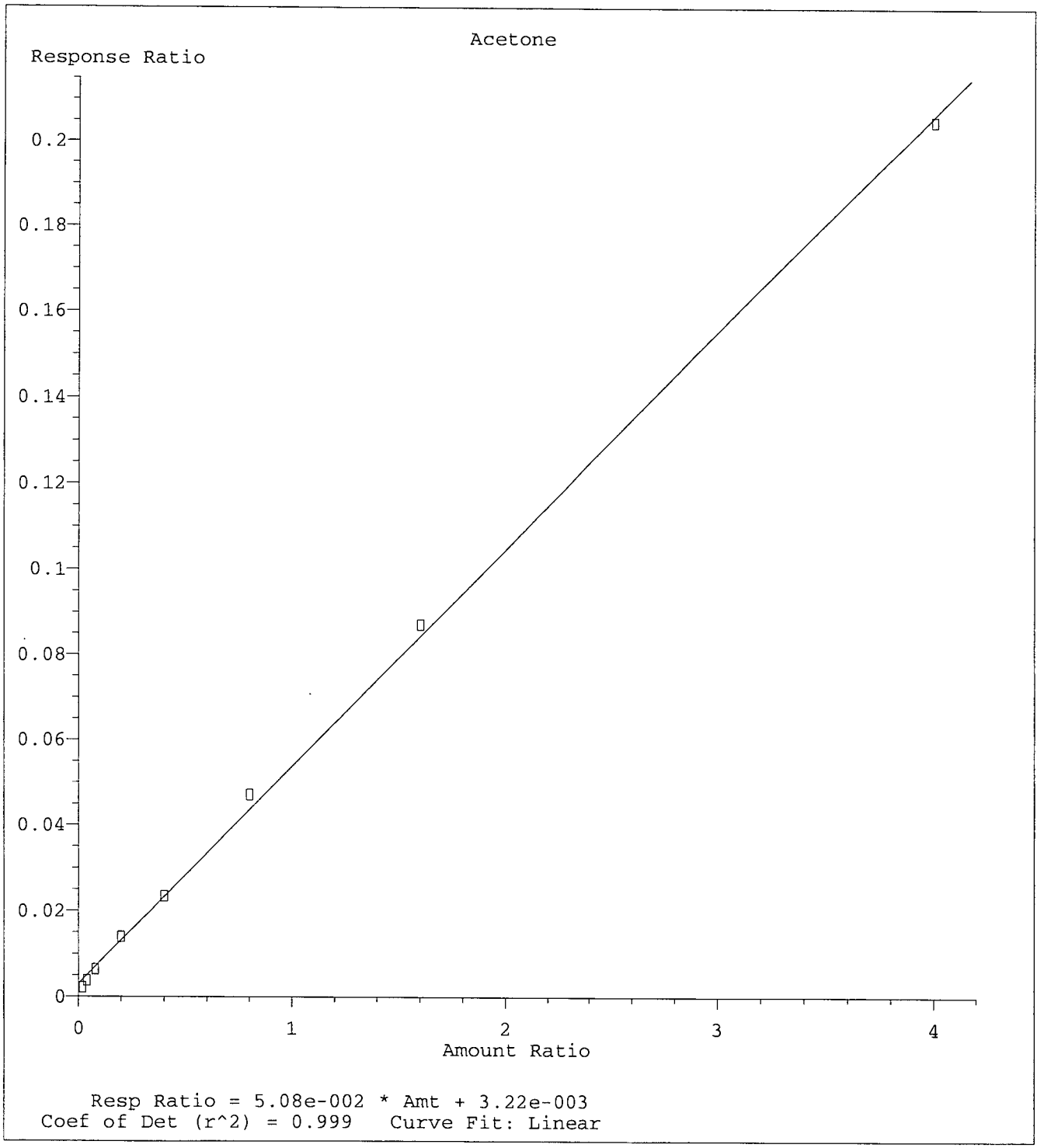
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017

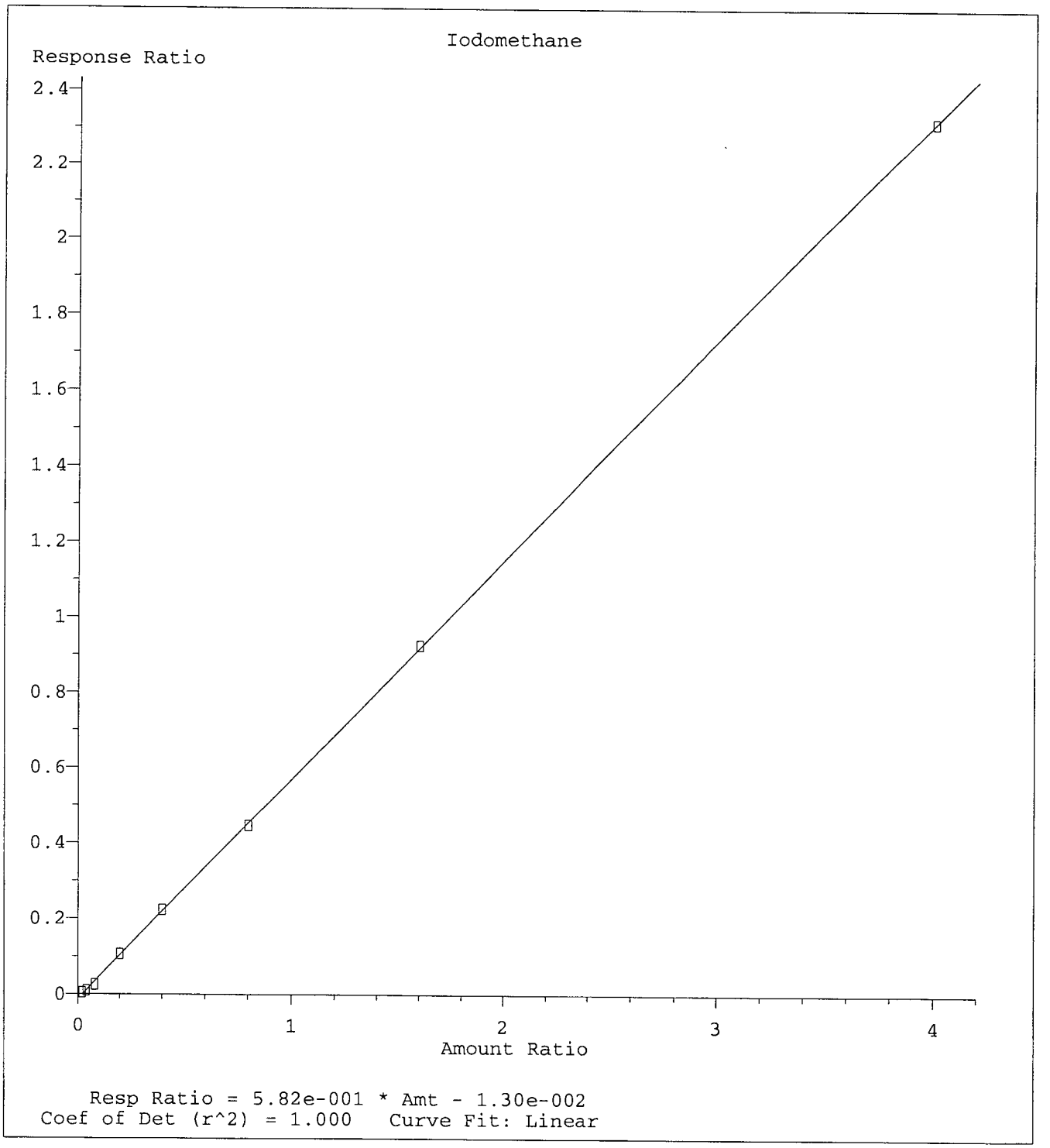
Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration

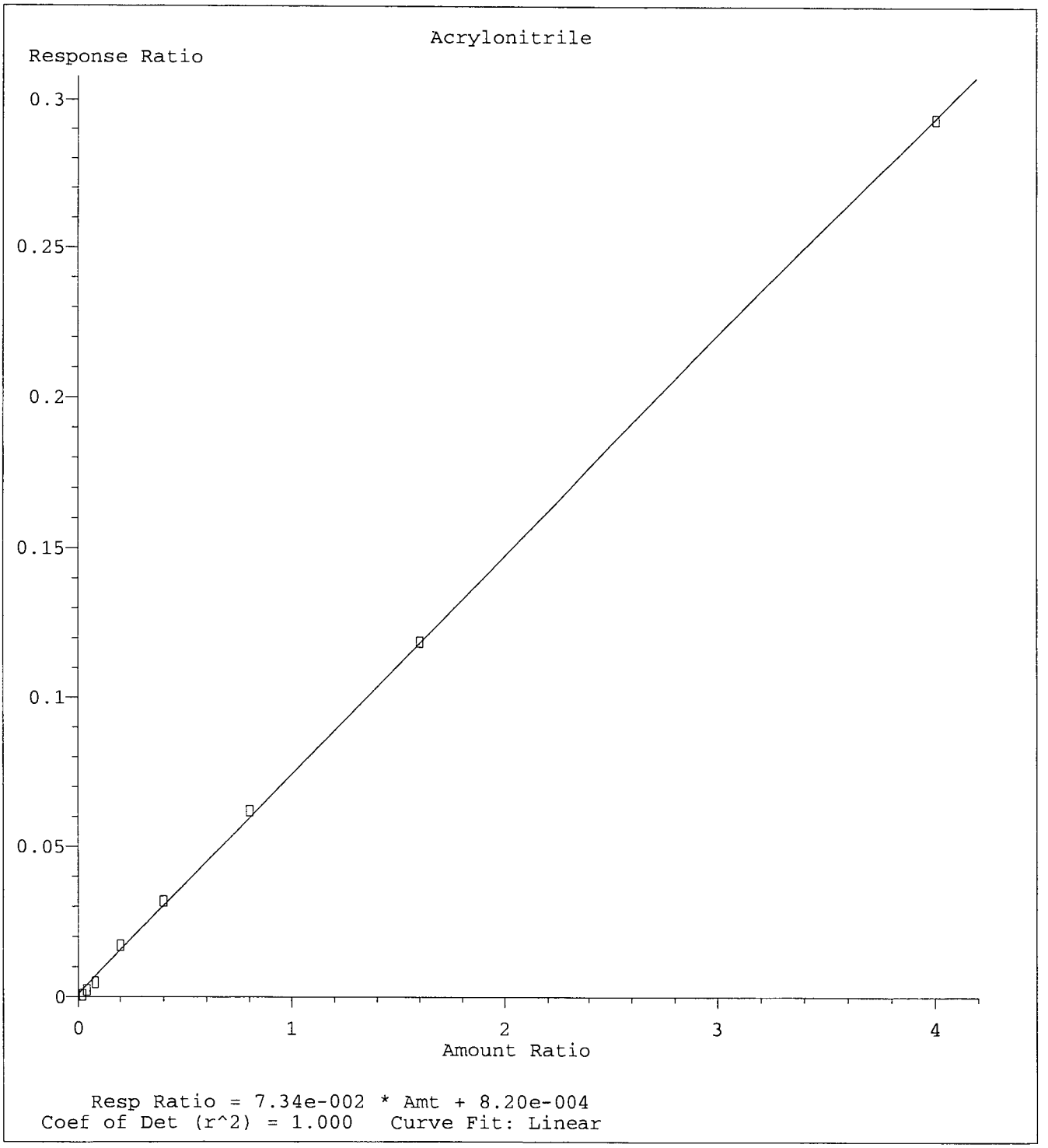




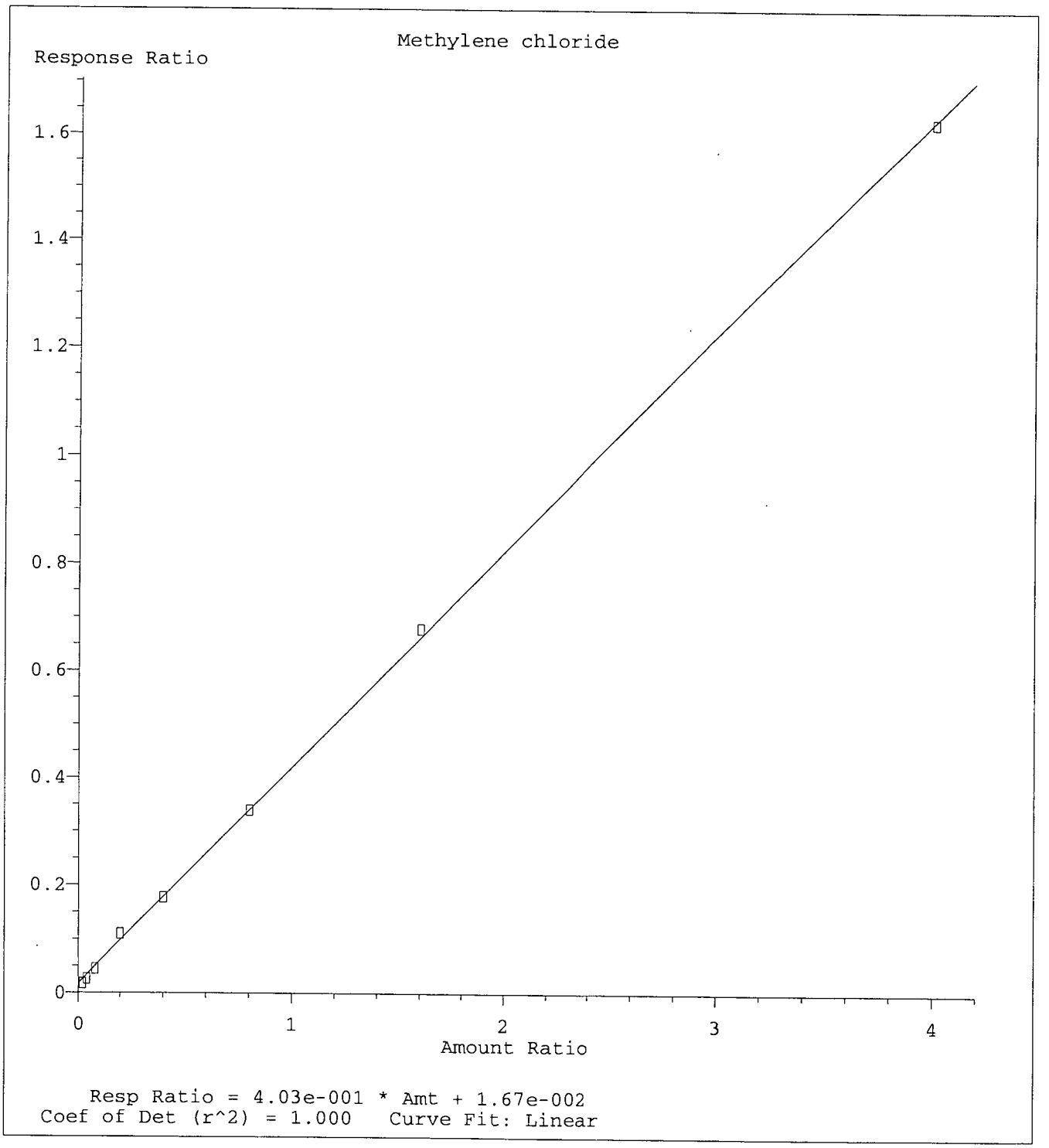
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



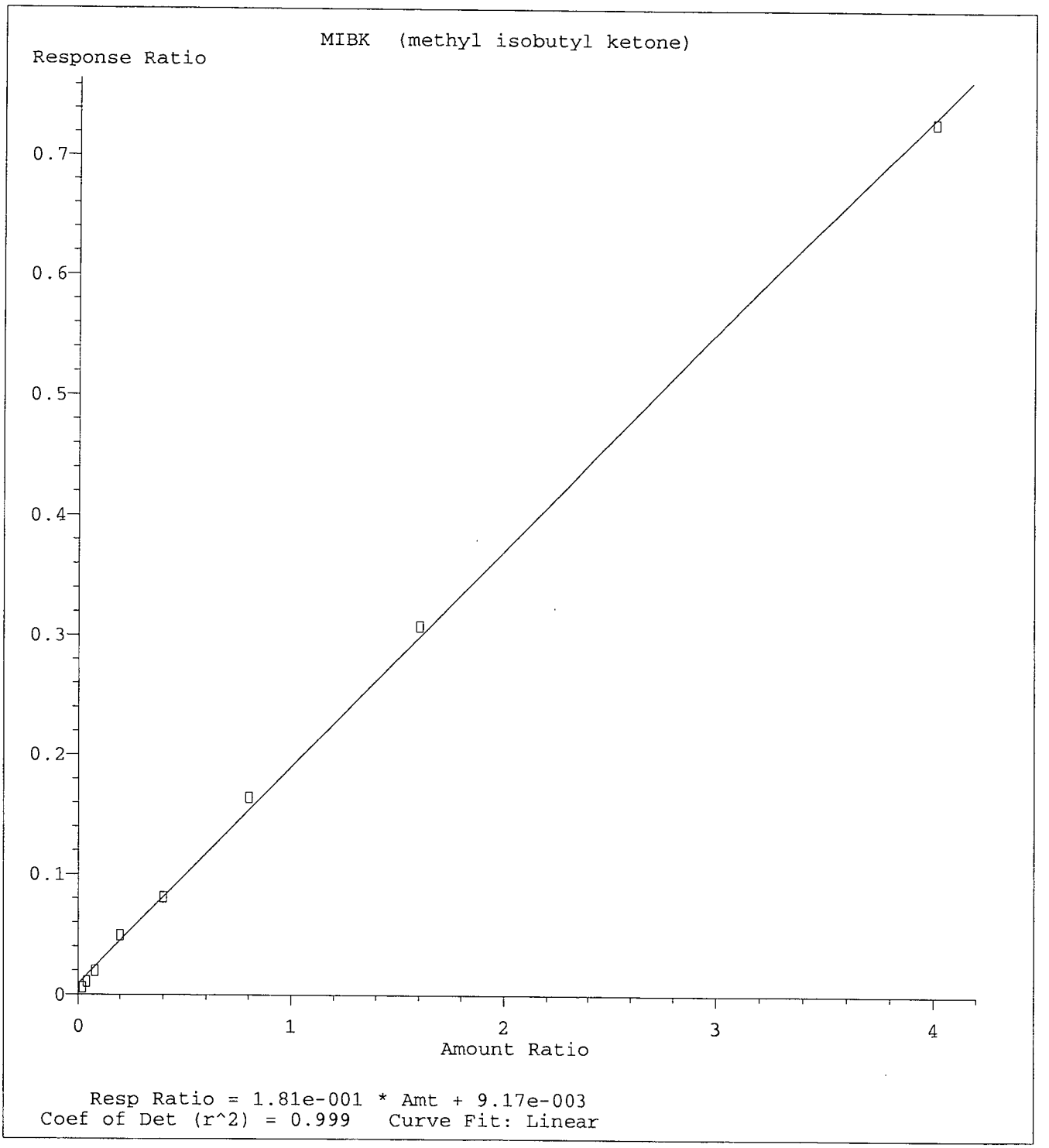
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



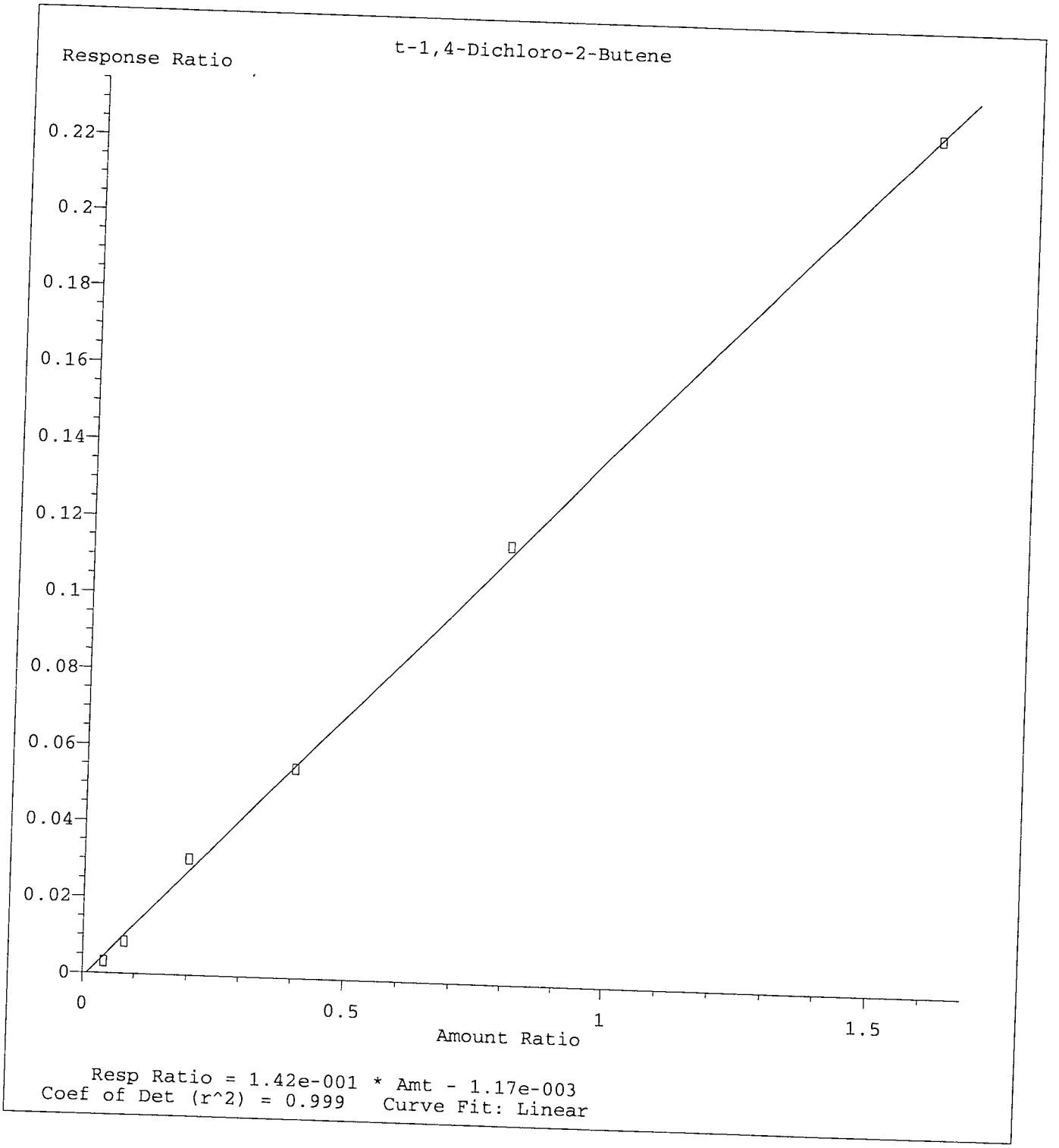
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



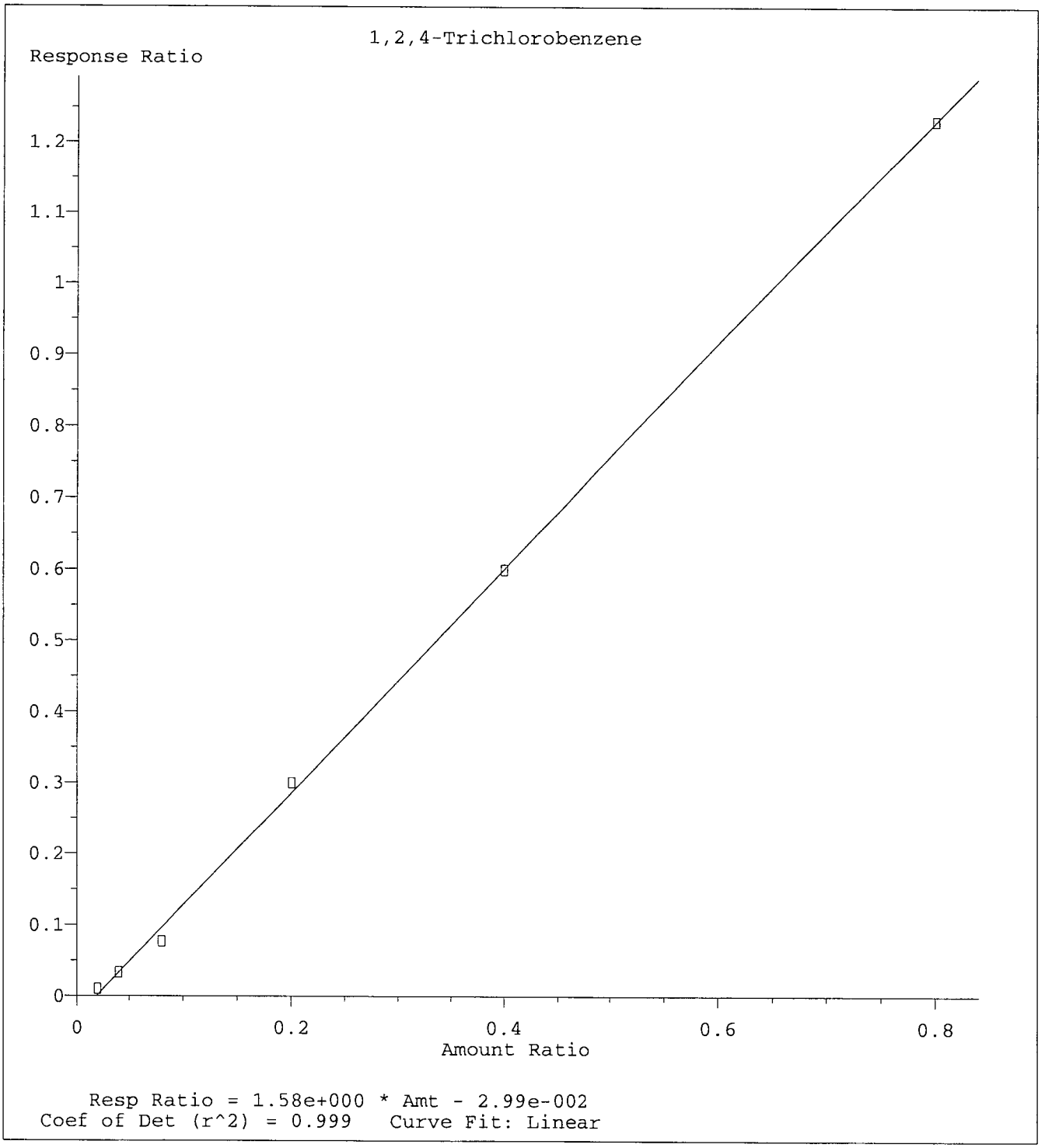
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



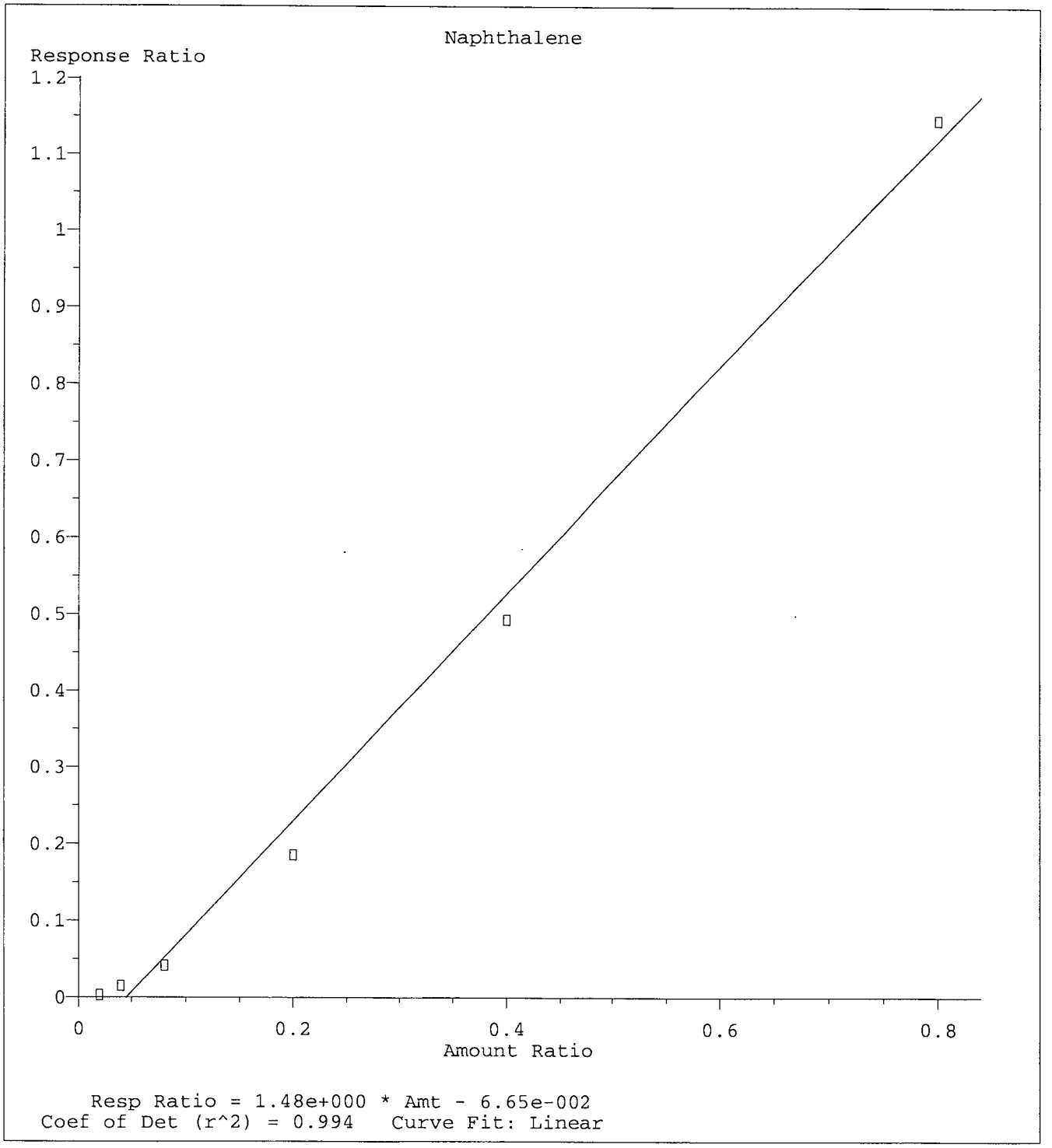
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



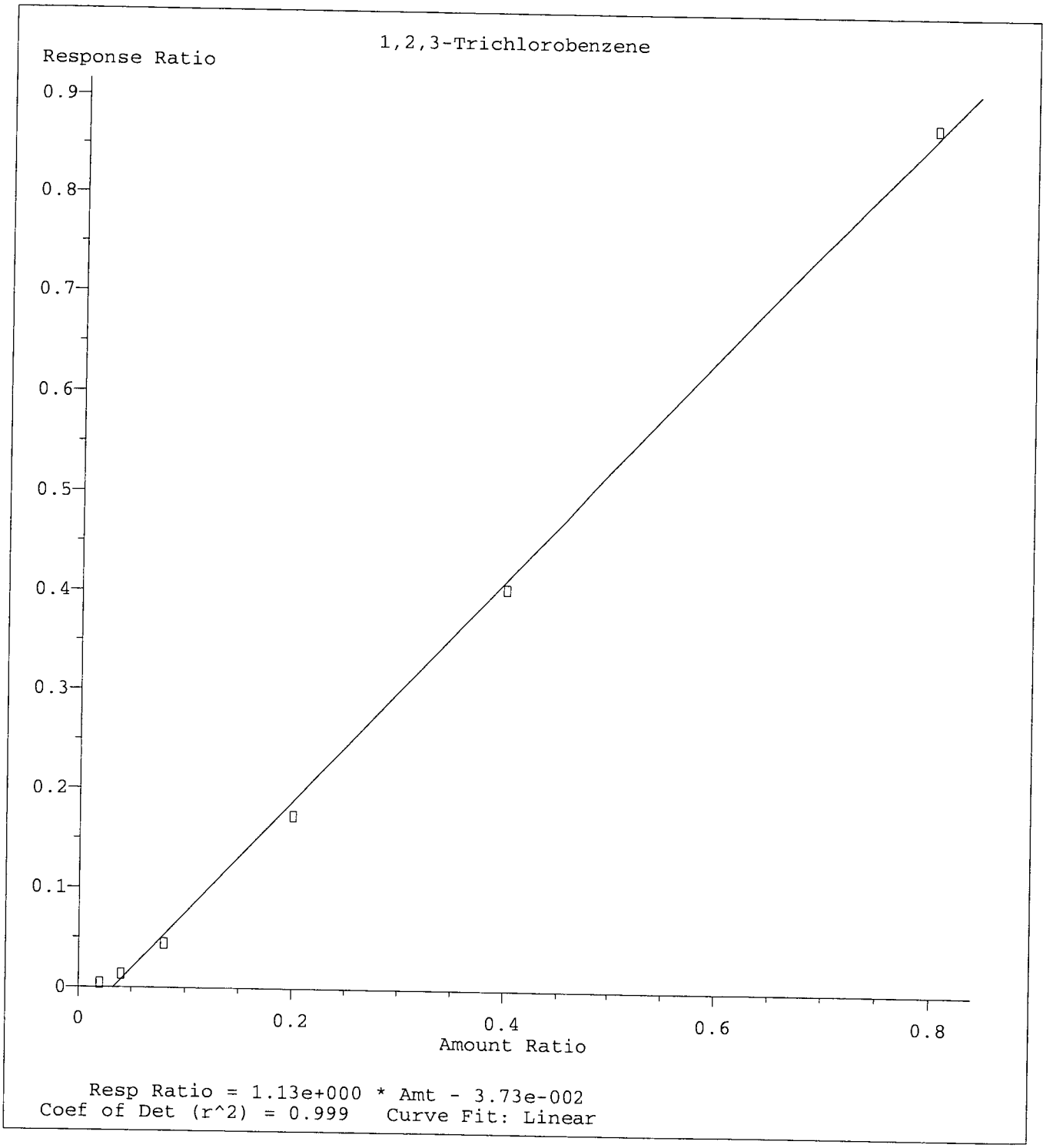
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2473	0.2429	1.8	TM		
2	TM	Freon 114	0.3854	0.3684	4.4	TM		
3	TM**	Chloromethane	0.4307	0.3945	8.4	TM**		
4	TM*	Vinyl chloride	0.5975	0.5851	2.1	TM*		
5	TM	Bromomethane	0.3498	0.3057	13	TM		
6	TM	Chloroethane	0.3317	0.3201	3.5	TM		
7	TM	Dichlorofluoromethane	0.9066	0.8969	1.1	TM		
8	TM	Trichlorofluoromethane	0.6306	0.6213	1.5	TM		
9	TM	Acrolein	0.0213	0.0202	5.4	TM		
10	TML	Acetone	0.0718	0.0610	15	TML	4.3	
11	TM	Freon-113	0.4174	0.4133	0.98	TM		
12	TM*	1,1-DCE	0.6844	0.6673	2.5	TM*		
13	TM	t-Butanol	0.0103	0.0103	0.14	TM		
14	TM	Methyl Acetate	0.1654	0.1703	3.0	TM		
15	TML	Iodomethane	0.4508	0.3541	21	TML	34	nt
16	TML	Acrylonitrile	0.0675	0.0740	9.7	TML	1.9	
17	TML	Methylene chloride	0.5358	0.4445	17	TML	0.12	
18	TM	Carbon disulfide	1.362	1.327	2.5	TM		
19	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7178	0.71	TM		
20	TM	Trans-1,2-DCE	0.4907	0.4848	1.2	TM		
21	TM	Diisopropyl Ether	1.383	1.366	1.2	TM		
22	TM**	1,1-DCA	0.8679	0.8523	1.8	TM**		
23	TM	Vinyl Acetate	0.2767	0.2522	8.8	TM		
24	TM	Ethyl tert Butyl Ether	0.9050	0.8972	0.87	TM		
25	TM	MEK (2-Butanone)	0.0941	0.0881	6.5	TM		
26	TM	Cis-1,2-DCE	0.5384	0.5253	2.4	TM		
27	TM	2,2-Dichloropropane	0.5854	0.5590	4.5	TM		
28	TM*	Chloroform	0.8364	0.8335	0.34	TM*		
29	TM	Bromochloromethane	0.2067	0.2018	2.4	TM		
30	TM	1,1,1-TCA	0.7701	0.7756	0.73	TM		
31	TM	Cyclohexane	0.4409	0.4403	0.14	TM		
32	TM	1,1-Dichloropropene	0.6947	0.6930	0.25	TM		
33	TM	2,2,4-Trimethylpentane	1.257	1.168	7.1	TM		
34	TM	Carbon Tetrachloride	0.6621	0.6617	0.06	TM		
35	TM	Tert Amyl Methyl Ether	0.7545	0.7481	0.84	TM		
36	TM	1,2-DCA	0.4543	0.4527	0.33	TM		
37	TM	Benzene	2.053	2.042	0.52	TM		
38	TM	TCE	0.5531	0.5502	0.53	TM		
39	TM	2-Pentanone	0.1374	0.1351	1.7	TM		
40	TM*	1,2-Dichloropropane	0.4656	0.4605	1.1	TM*		
		Average			3.9			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Bromodichloromethane	0.5391	0.5268	2.3	TM	
42	TM	Methyl Cyclohexane	0.7132	0.7045	1.2	TM	
43	TM	Dibromomethane	0.1739	0.1719	1.2	TM	
44	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2071	10	TML	1.6
45	TM	1-Bromo-2-chloroethane	0.4473	0.4444	0.64	TM	
46	TM	2-Chloroethyl vinyl ether	0.0092	0.0107	16	TM	
47	TM	Cis-1,3-Dichloropropene	0.5933	0.5855	1.3	TM	
48	TM*	Toluene	2.379	2.342	1.5	TM*	
49	TM	Trans-1,3-Dichloropropene	0.4036	0.4074	0.95	TM	
50	TM	1,1,2-TCA	0.2165	0.2138	1.3	TM	
51	TM	2-Hexanone	0.1143	0.1106	3.2	TM	
52	TM	1,2-EDB	0.3267	0.3257	0.30	TM	
53	TM	Tetrachloroethene	0.8031	0.7968	0.78	TM	
54	TM	1-Chlorohexane	0.9327	0.9382	0.59	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6728	1.0	TM	
56	TM	m&p-Xylene	1.470	1.484	0.94	TM	
57	TM	o-Xylene	1.371	1.429	4.2	TM	
58	TM	Styrene	2.110	2.174	3.0	TM	
59	TM	1,3-Dichloropropane	0.6485	0.6441	0.68	TM	
60	TM	Dibromochloromethane	0.4990	0.5018	0.57	TM	
61	TM**	Chlorobenzene	2.082	2.043	1.9	TM**	
62	TM*	Ethylbenzene	3.752	3.761	0.25	TM*	
63	TM**	Bromoform	0.2963	0.3019	1.9	TM**	
64	TM	Isopropylbenzene	7.015	6.921	1.3	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6369	3.9	TM**	
66	TM	1,2,3-Trichloropropane	0.2200	0.2262	2.8	TM	
67	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1247	0.59	TML	10
68	TM	Bromobenzene	1.620	1.591	1.8	TM	
69	TM	n-Propylbenzene	7.746	7.764	0.23	TM	
70	TM	4-Ethyltoluene	6.825	6.855	0.43	TM	
71	TM	2-Chlorotoluene	4.634	4.589	0.96	TM	
72	TM	1,3,5-Trimethylbenzene	5.691	5.657	0.59	TM	
73	TM	4-Chlorotoluene	5.222	5.134	1.7	TM	
74	TM	Tert-Butylbenzene	5.094	5.008	1.7	TM	
75	TM	1,2,4-Trimethylbenzene	5.552	5.573	0.38	TM	
76	TM	Sec-Butylbenzene	6.789	6.675	1.7	TM	
77	TM	p-Isopropyltoluene	5.929	5.993	1.1	TM	
78	TM	Benzyl Chloride	0.4376	0.4170	4.7	TM	
79	TM	1,3-DCB	3.240	3.138	3.1	TM	
80	TM	1,4-DCB	3.175	3.002	5.4	TM	
		Average			2.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	4.656	4.706	1.1	TM	
82	TM	1,2-DCB	2.651	2.608	1.6	TM	
83	TM	Hexachloroethane	0.7881	0.7961	1.0	TM	
84	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0914	0.35	TM	
85	TML	1,2,4-Trichlorobenzene	1.139	1.392	22	TML	7.0
86	TM	Hexachlorobutadiene	1.216	1.197	1.6	TM	
87	TML	Naphthalene	0.7727	1.076	39	TML	16
88	TML	1,2,3-Trichlorobenzene	0.6764	0.9023	33	TML	12
89							
90							
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113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.5		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313129	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	223395	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	119323	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	70380	26.20738 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.828%	
36) 1,2-DCA-D4(S)	5.13	65	56191	26.40589 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.624%	
56) Toluene-D8(S)	7.35	98	285707	26.43686 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
64) 4-Bromofluorobenzene(S)	10.74	95	100338	25.79669 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.188%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30424	9.82069 ppb		99
3) Freon 114	1.29	85	46141	9.55742 ppb		98
4) Chloromethane	1.34	50	49408	9.15853 ppb		98
5) Vinyl chloride	1.43	62	73290	9.79377 ppb		99
6) Bromomethane	1.69	94	38284	8.73786 ppb		96
7) Chloroethane	1.79	64	40089	9.64955 ppb		96
8) Dichlorofluoromethane	1.98	67	112342	9.89371 ppb		98
9) Trichlorofluoromethane	2.03	101	77814	9.85156 ppb		94
10) Acrolein	2.41	56	31571	118.20139 ppb		97
11) Acetone	2.57	43	7645	10.42542 ppb		99
12) Freon-113	2.53	101	51764	9.90164 ppb		97
13) 1,1-DCE	2.51	61	83577	9.75028 ppb		99
14) t-Butanol	3.14	59	16144	124.82129 ppb		90
15) Methyl Acetate	2.90	43	21333	10.29551 ppb		98
16) Iodomethane	2.64	142	44348	6.63728 ppb		96
17) Acrylonitrile	3.22	53	9274	9.80638 ppb	#	88
18) Methylene chloride	2.98	84	55671	9.98804 ppb		92
19) Carbon disulfide	2.70	76	166265	9.74605 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	89901	9.92902 ppb		98
21) Trans-1,2-DCE	3.25	96	60718	9.87862 ppb		98
22) Diisopropyl Ether	3.80	45	171145	9.88084 ppb		99
23) 1,1-DCA	3.67	63	106753	9.81991 ppb		99
24) Vinyl Acetate	3.76	43	31590	9.11546 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	112371	9.91336 ppb		99
26) MEK (2-Butanone)	4.31	43	11030	9.35361 ppb		94
27) Cis-1,2-DCE	4.27	96	65791	9.75700 ppb		94
28) 2,2-Dichloropropane	4.27	77	70019	9.54956 ppb		98
29) Chloroform	4.61	83	104403	9.96646 ppb		97
30) Bromochloromethane	4.51	128	25270	9.76251 ppb		94
32) 1,1,1-TCA	4.80	97	97151	10.07264 ppb		98
33) Cyclohexane	4.87	41	55149	9.98644 ppb		98
34) 1,1-Dichloropropene	4.98	75	86794	9.97528 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	146264	9.29066 ppb		99
37) Carbon Tetrachloride	4.98	117	82878	9.99407 ppb		95
38) Tert Amyl Methyl Ether	5.37	73	93706	9.91568 ppb		94
39) 1,2-DCA	5.21	62	56707	9.96672 ppb		96
40) Benzene	5.20	78	255824	9.94820 ppb		98
41) TCE	5.92	95	68914	9.94716 ppb		97
42) 2-Pentanone	6.15	43	211483	122.93132 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	57677	9.89096	ppb		97
44) Bromodichloromethane	6.49	83	65983	9.77194	ppb		96
45) Methyl Cyclohexane	6.15	83	88237	9.87744	ppb		97
46) Dibromomethane	6.29	93	21526	9.88209	ppb		97
47) MIBK (methyl isobutyl ket	7.24	43	25941	10.15523	ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	55668	9.93636	ppb		96
49) 2-Chloroethyl vinyl ether	6.87	106	1343m	11.62678	ppb		0
50) Cis-1,3-Dichloropropene	7.02	75	73335	9.86879	ppb		100
51) Toluene	7.43	91	293390	9.84692	ppb		100
52) Trans-1,3-Dichloropropene	7.70	75	51032	10.09471	ppb		94
53) 1,1,2-TCA	7.92	83	26775	9.87469	ppb		99
54) 2-Hexanone	8.28	43	13856	9.67912	ppb		99
57) 1,2-EDB	8.53	107	29108	9.96951	ppb		88
58) Tetrachloroethene	8.10	164	71201	9.92178	ppb		97
59) 1-Chlorohexane	9.21	91	83836	10.05884	ppb		96
60) 1,1,1,2-Tetrachloroethane	9.31	131	60123	9.89837	ppb		97
61) m&p-Xylene	9.52	106	265176	20.18793	ppb		100
62) o-Xylene	10.04	106	127658	10.41803	ppb		94
63) Styrene	10.06	104	194229	10.30277	ppb		96
65) 1,3-Dichloropropane	8.13	76	57555	9.93162	ppb		96
66) Dibromochloromethane	8.40	129	44841	10.05684	ppb		97
67) Chlorobenzene	9.19	112	182591	9.81467	ppb		98
68) Ethylbenzene	9.36	91	336090	10.02484	ppb		99
69) Bromoform	10.27	173	26981	10.19094	ppb		99
71) Isopropylbenzene	10.56	105	330344	9.86593	ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	30398	9.61020	ppb		99
73) 1,2,3-Trichloropropane	11.00	110	10798	10.28458	ppb		99
74) t-1,4-Dichloro-2-Butene	11.05	53	5950	8.98672	ppb	#	71
75) Bromobenzene	10.92	156	75956	9.82330	ppb		97
76) n-Propylbenzene	11.13	91	370554	10.02252	ppb		98
77) 4-Ethyltoluene	11.30	105	327171	10.04315	ppb		100
78) 2-Chlorotoluene	11.21	91	219043	9.90385	ppb		98
79) 1,3,5-Trimethylbenzene	11.39	105	270007	9.94074	ppb		99
80) 4-Chlorotoluene	11.37	91	245033	9.83056	ppb		99
81) Tert-Butylbenzene	11.84	119	239012	9.83124	ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	266015	10.03786	ppb		99
83) Sec-Butylbenzene	12.15	105	318604	9.83311	ppb		99
84) p-Isopropyltoluene	12.37	119	286035	10.10691	ppb		98
85) Benzyl Chloride	12.59	91	19903	9.52893	ppb		94
86) 1,3-DCB	12.26	146	149796	9.68770	ppb		98
87) 1,4-DCB	12.38	146	143291	9.45675	ppb		100
88) n-Butylbenzene	12.95	91	224620	10.10874	ppb		98
89) 1,2-DCB	12.90	146	124460	9.83765	ppb		98
90) Hexachloroethane	13.27	117	37998	10.10177	ppb		98
91) 1,2-Dibromo-3-chloropropan	14.02	75	4364	10.03487	ppb	#	78
92) 1,2,4-Trichlorobenzene	15.23	180	66438	9.29506	ppb		96
93) Hexachlorobutadiene	15.53	225	57145	9.84423	ppb		96
94) Naphthalene	15.56	128	51355	8.38557	ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	43065	8.83592	ppb		95

(#) = qualifier out of range (m) = manual integration

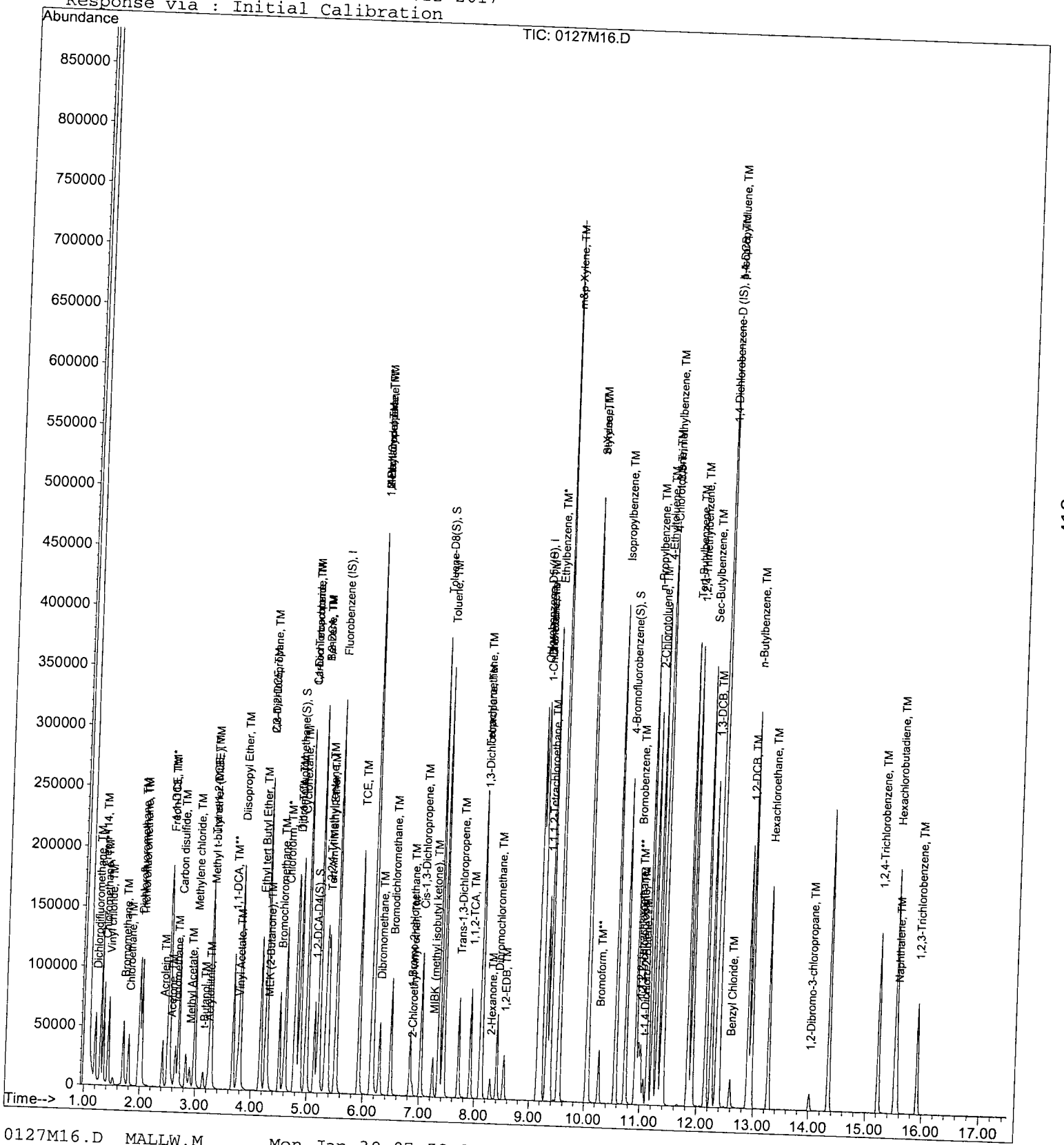
Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



418

0127M16.D MALLW.M Mon Jan 30 07:58:20 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2473	0.2282	7.7	TM		
3	TM	Freon 114	0.3854	0.3907	1.4	TM		
4	TM**	Chloromethane	0.4307	0.3879	9.9	TM**		
5	TM*	Vinyl chloride	0.5975	0.5991	0.28	TM*		
6	TM	Bromomethane	0.3498	0.2971	15	TM		
7	TM	Chloroethane	0.3317	0.3389	2.2	TM		
8	TM	Dichlorofluoromethane	0.9066	0.9457	4.3	TM		
9	TM	Trichlorofluoromethane	0.6306	0.6758	7.2	TM		
10	TM	Acrolein	0.0213	0.0231	8.2	TM		
11	TML	Acetone	0.0718	0.0090	87	TML	98	* NT
12	TM	Freon-113	0.4174	0.4672	12	TM		
13	TM*	1,1-DCE	0.6844	0.6973	1.9	TM*		
14	TM	t-Butanol	0.0103	0.0117	13	TM		
15	TM	Methyl Acetate	0.1654	0.1778	7.5	TM		
16	TML	Iodomethane	0.4508	0.4536	0.62	TML	17	
17	TML	Acrylonitrile	0.0675	0.0885	31	TML	18	
18	TML	Methylene chloride	0.5358	0.4502	16	TML	1.3	
19	TM	Carbon disulfide	1.362	1.275	6.4	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7999	11	TM		
21	TM	Trans-1,2-DCE	0.4907	0.5089	3.7	TM		
22	TM	Diisopropyl Ether	1.383	1.479	7.0	TM		
23	TM**	1,1-DCA	0.8679	0.9148	5.4	TM**		
24	TM	Vinyl Acetate	0.2767	0.2833	2.4	TM		
25	TM	Ethyl tert Butyl Ether	0.9050	0.9991	10	TM		
26	TM	MEK (2-Butanone)	0.0941	0.0231	75	TM		*NT
27	TM	Cis-1,2-DCE	0.5384	0.5703	5.9	TM		
28	TM	2,2-Dichloropropane	0.5854	0.6566	12	TM		
29	TM*	Chloroform	0.8364	0.8954	7.1	TM*		
30	TM	Bromochloromethane	0.2067	0.2184	5.7	TM		
31	S	Dibromofluoromethane(S)	0.2144	0.2159	0.72	S		
32	TM	1,1,1-TCA	0.7701	0.8352	8.5	TM		
33	TM	Cyclohexane	0.4409	0.4562	3.5	TM		
34	TM	1,1-Dichloropropene	0.6947	0.7214	3.8	TM		
35	TM	2,2,4-Trimethylpentane	1.257	1.369	8.9	TM		
36	S	1,2-DCA-D4(S)	0.1699	0.1829	7.7	S		
37	TM	Carbon Tetrachloride	0.6621	0.6978	5.4	TM		
38	TM	Tert Amyl Methyl Ether	0.7545	0.8312	10	TM		
39	TM	1,2-DCA	0.4543	0.4848	6.7	TM		
40	TM	Benzene	2.053	2.126	3.6	TM		
		Average			11.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	TCE	0.5531	0.5794	4.8	TM		
42	TM	2-Pentanone	0.1374	0.1681	22	TM		*NT
43	TM*	1,2-Dichloropropane	0.4656	0.4954	6.4	TM*		
44	TM	Bromodichloromethane	0.5391	0.5810	7.8	TM		
45	TM	Methyl Cyclohexane	0.7132	0.7762	8.8	TM		
46	TM	Dibromomethane	0.1739	0.1852	6.5	TM		
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.0304	87	TML	96	*NT
48	TM	1-Bromo-2-chloroethane	0.4473	0.4295	4.0	TM		
49	TM	Cis-1,3-Dichloropropene	0.5933	0.6344	6.9	TM		
50	TM*	Toluene	2.379	2.482	4.3	TM*		
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4398	9.0	TM		
52	TM	1,1,2-TCA	0.2165	0.2404	11	TM		
53	TM	2-Hexanone	0.1143	0.0002	100	TM		*NT
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	1.209	1.184	2.1	S		
56	TM	1,2-EDB	0.3267	0.3538	8.3	TM		
57	TM	Tetrachloroethene	0.8031	0.8365	4.2	TM		
58	TM	1-Chlorohexane	0.9327	1.002	7.4	TM		
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6877	1.2	TM		
60	TM	m&p-Xylene	1.470	1.559	6.1	TM		
61	TM	o-Xylene	1.371	1.432	4.4	TM		
62	TM	Styrene	2.110	2.242	6.3	TM		
63	S	4-Bromofluorobenzene(S)	0.4353	0.4500	3.4	S		
64	TM	1,3-Dichloropropane	0.6485	0.6800	4.9	TM		
65	TM	Dibromochloromethane	0.4990	0.5336	6.9	TM		
66	TM**	Chlorobenzene	2.082	2.109	1.3	TM**		
67	TM*	Ethylbenzene	3.752	3.889	3.7	TM*		
68	TM**	Bromoform	0.2963	0.3287	11	TM**		
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TM	Isopropylbenzene	7.015	7.276	3.7	TM		
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6998	5.6	TM**		
72	TM	1,2,3-Trichloropropane	0.2200	0.2407	9.4	TM		
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1398	11	TML	0.53	
74	TM	Bromobenzene	1.620	1.662	2.6	TM		
75	TM	n-Propylbenzene	7.746	8.095	4.5	TM		
76	TM	4-Ethyltoluene	6.825	7.160	4.9	TM		
77	TM	2-Chlorotoluene	4.634	4.696	1.3	TM		
78	TM	1,3,5-Trimethylbenzene	5.691	5.991	5.3	TM		
79	TM	4-Chlorotoluene	5.222	5.371	2.8	TM		
80	TM	Tert-Butylbenzene	5.094	5.210	2.3	TM		
		Average			10.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 8:31
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M06.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.764	3.8	TM	
82	TM	Sec-Butylbenzene	6.789	7.087	4.4	TM	
83	TM	p-Isopropyltoluene	5.929	6.313	6.5	TM	
84	TM	Benzyl Chloride	0.4376	0.5963	36	TM	*NT
85	TM	1,3-DCB	3.240	3.332	2.8	TM	
86	TM	1,4-DCB	3.175	3.192	0.55	TM	
87	TM	n-Butylbenzene	4.656	5.087	9.3	TM	
88	TM	1,2-DCB	2.651	2.717	2.5	TM	
89	TM	Hexachloroethane	0.7881	0.8355	6.0	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0999	9.6	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.489	31	TML	0.93
92	TM	Hexachlorobutadiene	1.216	1.259	3.5	TM	
93	TML	Naphthalene	0.7727	1.162	50	TML	10
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9859	46	TML	4.2
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			15.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	292687	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215613	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116060	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	63205	25.18 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.716%	
36) 1,2-DCA-D4(S)	5.13	65	53531	26.91 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.652%	
56) Toluene-D8(S)	7.35	98	255311	24.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.908%	
64) 4-Bromofluorobenzene(S)	10.74	95	97031	25.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.388%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.23 ppb		99
3) Freon 114	1.29	85	45744	10.14 ppb		99
4) Chloromethane	1.34	50	45416	9.01 ppb		100
5) Vinyl chloride	1.43	62	70143	10.03 ppb		94
6) Bromomethane	1.70	94	34781	8.49 ppb		99
7) Chloroethane	1.80	64	39681	10.22 ppb		99
8) Dichlorofluoromethane	1.98	67	110715	10.43 ppb		100
9) Trichlorofluoromethane	2.03	101	79122	10.72 ppb		98
10) Acrolein	2.41	56	33779	135.30 ppb		98
11) Acetone	2.57	43	1053	0.18 ppb		96
12) Freon-113	2.53	101	54698	11.19 ppb		97
13) 1,1-DCE	2.51	61	81634	10.19 ppb		99
14) t-Butanol	3.14	59	17088	141.35 ppb		96
15) Methyl Acetate	2.90	43	20820	10.75 ppb		98
16) Iodomethane	2.64	142	53110	8.35 ppb		97
17) Acrylonitrile	3.23	53	10364	11.78 ppb	#	95
18) Methylene chloride	2.98	84	52711	10.13 ppb		96
19) Carbon disulfide	2.70	76	149224	9.36 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	93653	11.07 ppb		97
21) Trans-1,2-DCE	3.26	96	59583	10.37 ppb		98
22) Diisopropyl Ether	3.80	45	173205	10.70 ppb		99
23) 1,1-DCA	3.67	63	107104	10.54 ppb		97
24) Vinyl Acetate	3.76	43	33167	10.24 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	116967	11.04 ppb		98
26) MEK (2-Butanone)	4.27	43	2703	2.45 ppb	#	83
27) Cis-1,2-DCE	4.27	96	66767	10.59 ppb		99
28) 2,2-Dichloropropane	4.27	77	76871	11.22 ppb		100
29) Chloroform	4.61	83	104830	10.71 ppb		93
30) Bromochloromethane	4.52	128	25566	10.57 ppb		98
32) 1,1,1-TCA	4.80	97	97776	10.85 ppb		96
33) Cyclohexane	4.87	41	53408	10.35 ppb		95
34) 1,1-Dichloropropene	4.99	75	84452	10.38 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	160221	10.89 ppb		99
37) Carbon Tetrachloride	4.98	117	81698	10.54 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	97318	11.02 ppb		96
39) 1,2-DCA	5.21	62	56758	10.67 ppb		96
40) Benzene	5.20	78	248938	10.36 ppb		98
41) TCE	5.92	95	67835	10.48 ppb		96
42) 2-Pentanone	6.15	43	246075	153.03 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D
Acq On : 9 Feb 17 8:31
Sample : 170209A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	58001	10.64	ppb		99
44)	Bromodichloromethane	6.49	83	68015	10.78	ppb		95
45)	Methyl Cyclohexane	6.15	83	90875	10.88	ppb		100
46)	Dibromomethane	6.29	93	21679	10.65	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	3556	0.41	ppb	#	83
48)	1-Bromo-2-chloroethane	6.84	63	50287	9.60	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	74269	10.69	ppb		98
51)	Toluene	7.43	91	290614	10.43	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	51485	10.90	ppb		97
53)	1,1,2-TCA	7.92	83	28142	11.10	ppb		98
57)	1,2-EDB	8.53	107	30510	10.83	ppb		97
58)	Tetrachloroethene	8.10	164	72148	10.42	ppb		93
59)	1-Chlorohexane	9.21	91	86415	10.74	ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	59314	10.12	ppb		98
61)	m&p-Xylene	9.52	106	268928	21.21	ppb		98
62)	o-Xylene	10.04	106	123525	10.44	ppb		97
63)	Styrene	10.06	104	193369	10.63	ppb		98
65)	1,3-Dichloropropane	8.13	76	58651	10.49	ppb		100
66)	Dibromochloromethane	8.40	129	46024	10.69	ppb		99
67)	Chlorobenzene	9.19	112	181884	10.13	ppb		99
68)	Ethylbenzene	9.36	91	335431	10.37	ppb		99
69)	Bromoform	10.27	173	28345	11.09	ppb		98
71)	Isopropylbenzene	10.56	105	337799	10.37	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	32488	10.56	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	11175	10.94	ppb		100
74)	t-1,4-Dichloro-2-Butene	11.05	53	6490	10.05	ppb		93
75)	Bromobenzene	10.92	156	77153	10.26	ppb		98
76)	n-Propylbenzene	11.13	91	375802	10.45	ppb		99
77)	4-Ethyltoluene	11.30	105	332415	10.49	ppb		98
78)	2-Chlorotoluene	11.21	91	218018	10.13	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	278145	10.53	ppb		96
80)	4-Chlorotoluene	11.37	91	249347	10.28	ppb		96
81)	Tert-Butylbenzene	11.84	119	241870	10.23	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	267579	10.38	ppb		98
83)	Sec-Butylbenzene	12.15	105	329023	10.44	ppb		98
84)	p-Isopropyltoluene	12.37	119	293096	10.65	ppb		98
85)	Benzyl Chloride	12.59	91	27684	13.63	ppb		90
86)	1,3-DCB	12.26	146	154663	10.28	ppb		98
87)	1,4-DCB	12.38	146	148187	10.05	ppb		99
88)	n-Butylbenzene	12.95	91	236180	10.93	ppb		98
89)	1,2-DCB	12.90	146	126112	10.25	ppb		97
90)	Hexachloroethane	13.27	117	38785	10.60	ppb		100
91)	1,2-Dibromo-3-chloropropan	14.01	75	4638	10.96	ppb	#	83
92)	1,2,4-Trichlorobenzene	15.23	180	69103	9.91	ppb		97
93)	Hexachlorobutadiene	15.52	225	58452	10.35	ppb		96
94)	Naphthalene	15.56	128	53930	8.96	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	45769	9.58	ppb		97

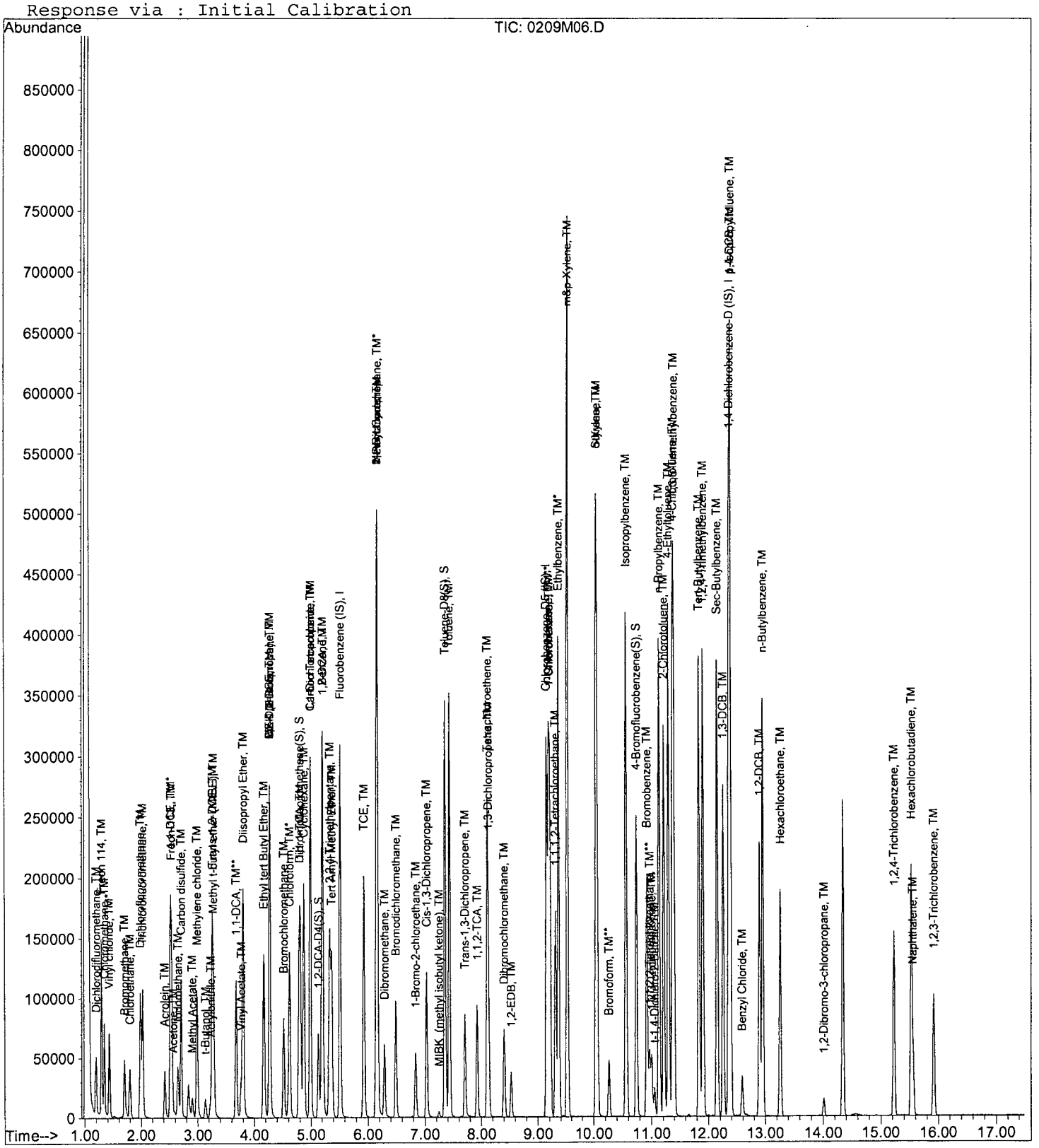
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M06.D Vial: 2
Acq On : 9 Feb 17 8:31 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2187	12	TM	
3	TM	Freon 114	0.3854	0.3263	15	TM	
4	TM**	Chloromethane	0.4307	0.3695	14	TM**	
5	TM*	Vinyl chloride	0.5975	0.5562	6.9	TM*	
6	TM	Bromomethane	0.3498	0.2856	18	TM	
7	TM	Chloroethane	0.3317	0.3094	6.7	TM	
8	TM	Dichlorofluoromethane	0.9066	0.8869	2.2	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6276	0.47	TM	
10	TM	Acrolein	0.0213	0.0201	5.8	TM	
11	TML	Acetone	0.0718	0.0139	81	TML	89 nt
12	TM	Freon-113	0.4174	0.4087	2.1	TM	
13	TM*	1,1-DCE	0.6844	0.6470	5.5	TM*	
14	TM	t-Butanol	0.0103	0.0117	13	TM	
15	TM	Methyl Acetate	0.1654	0.1759	6.3	TM	
16	TML	Iodomethane	0.4508	0.3475	23	TML	35
17	TML	Acrylonitrile	0.0675	0.0839	24	TML	11
18	TML	Methylene chloride	0.5358	0.4419	18	TML	0.76
19	TM	Carbon disulfide	1.362	1.164	15	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7607	5.2	TM	
21	TM	Trans-1,2-DCE	0.4907	0.4805	2.1	TM	
22	TM	Diisopropyl Ether	1.383	1.407	1.7	TM	
23	TM**	1,1-DCA	0.8679	0.8563	1.3	TM**	
24	TM	Vinyl Acetate	0.2767	0.1513	45	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9685	7.0	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0210	78	TM	nt
27	TM	Cis-1,2-DCE	0.5384	0.5388	0.09	TM	
28	TM	2,2-Dichloropropane	0.5854	0.4568	22	TM	
29	TM*	Chloroform	0.8364	0.8714	4.2	TM*	
30	TM	Bromochloromethane	0.2067	0.2131	3.1	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2228	3.9	S	
32	TM	1,1,1-TCA	0.7701	0.7726	0.33	TM	
33	TM	Cyclohexane	0.4409	0.4124	6.5	TM	
34	TM	1,1-Dichloropropene	0.6947	0.6635	4.5	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.057	16	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1872	10	S	
37	TM	Carbon Tetrachloride	0.6621	0.6375	3.7	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.8080	7.1	TM	
39	TM	1,2-DCA	0.4543	0.4754	4.7	TM	
40	TM	Benzene	2.053	2.050	0.18	TM	
		Average			12.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	TCE	0.5531	0.5928	7.2	TM		
42	TM	2-Pentanone	0.1374	0.1627	18	TM		
43	TM*	1,2-Dichloropropane	0.4656	0.4806	3.2	TM*		
44	TM	Bromodichloromethane	0.5391	0.5778	7.2	TM		
45	TM	Methyl Cyclohexane	0.7132	0.6629	7.1	TM		
46	TM	Dibromomethane	0.1739	0.1842	5.9	TM		
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.0281	88	TML	97	nt
48	TM	1-Bromo-2-chloroethane	0.4473	0.4268	4.6	TM		
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5956	0.40	TM		
50	TM*	Toluene	2.379	2.367	0.50	TM*		
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4122	2.1	TM		
52	TM	1,1,2-TCA	0.2165	0.2321	7.2	TM		
53	I	Chlorobenzene-D5 (IS)	ISTD			I		
54	S	Toluene-D8(S)	1.209	1.213	0.33	S		
55	TM	1,2-EDB	0.3267	0.3461	5.9	TM		
56	TM	Tetrachloroethene	0.8031	0.7783	3.1	TM		
57	TM	1-Chlorohexane	0.9327	0.8787	5.8	TM		
58	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6849	0.76	TM		
59	TM	m&p-Xylene	1.470	1.441	2.0	TM		
60	TM	o-Xylene	1.371	1.397	1.9	TM		
61	TM	Styrene	2.110	2.154	2.1	TM		
62	S	4-Bromofluorobenzene(S)	0.4353	0.4578	5.2	S		
63	TM	1,3-Dichloropropane	0.6485	0.6978	7.6	TM		
64	TM	Dibromochloromethane	0.4990	0.5280	5.8	TM		
65	TM**	Chlorobenzene	2.082	2.023	2.8	TM**		
66	TM*	Ethylbenzene	3.752	3.681	1.9	TM*		
67	TM**	Bromoform	0.2963	0.3234	9.2	TM**		
68	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
69	TM	Isopropylbenzene	7.015	6.679	4.8	TM		
70	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6250	5.7	TM**		
71	TM	1,2,3-Trichloropropane	0.2200	0.2365	7.5	TM		
72	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1271	1.4	TML	8.4	
73	TM	Bromobenzene	1.620	1.595	1.6	TM		
74	TM	n-Propylbenzene	7.746	7.444	3.9	TM		
75	TM	4-Ethyltoluene	6.825	6.666	2.3	TM		
76	TM	2-Chlorotoluene	4.634	4.547	1.9	TM		
77	TM	1,3,5-Trimethylbenzene	5.691	5.508	3.2	TM		
78	TM	4-Chlorotoluene	5.222	5.016	4.0	TM		
79	TM	Tert-Butylbenzene	5.094	4.878	4.2	TM		
80	TM	1,2,4-Trimethylbenzene	5.552	5.410	2.6	TM		
		Average			6.5			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Feb 17 19:53
Instrument: Max
Cal. Date: 01/27/17
Data File: 0209M30.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Sec-Butylbenzene	6.789	6.542	3.6	TM	
82	TM	p-Isopropyltoluene	5.929	5.742	3.2	TM	
83	TM	Benzyl Chloride	0.4376	0.3937	10	TM	
84	TM	1,3-DCB	3.240	3.158	2.5	TM	
85	TM	1,4-DCB	3.175	3.036	4.4	TM	
86	TM	n-Butylbenzene	4.656	4.457	4.3	TM	
87	TM	1,2-DCB	2.651	2.689	1.4	TM	
88	TM	Hexachloroethane	0.7881	0.7910	0.37	TM	
89	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0897	1.5	TM	
90	TML	1,2,4-Trichlorobenzene	1.139	1.422	25	TML	5.2
91	TM	Hexachlorobutadiene	1.216	1.113	8.5	TM	
92	TML	Naphthalene	0.7727	1.165	51	TML	10
93	TML	1,2,3-Trichlorobenzene	0.6764	1.017	50	TML	1.5
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
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107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M30.D Vial: 26
Acq On : 9 Feb 17 19:53 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	288346	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	212438	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	114547	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	64242	25.98 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.912%	
36) 1,2-DCA-D4(S)	5.13	65	53967	27.54 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.160%	
56) Toluene-D8(S)	7.35	98	257763	25.08 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.324%	
64) 4-Bromofluorobenzene(S)	10.74	95	97256	26.29 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.176%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	25224	8.84 ppb	98
3) Freon 114	1.29	85	37634	8.47 ppb	99
4) Chloromethane	1.34	50	42616	8.58 ppb	98
5) Vinyl chloride	1.43	62	64155	9.31 ppb	96
6) Bromomethane	1.70	94	32942	8.16 ppb	98
7) Chloroethane	1.80	64	35684	9.33 ppb	98
8) Dichlorofluoromethane	1.99	67	102288	9.78 ppb	100
9) Trichlorofluoromethane	2.03	101	72391	9.95 ppb	95
10) Acrolein	2.42	56	28955	117.72 ppb	95
11) Acetone	2.57	43	1603	1.15 ppb	93
12) Freon-113	2.54	101	47136	9.79 ppb	99
13) 1,1-DCE	2.51	61	74621	9.45 ppb	98
14) t-Butanol	3.14	59	16809	141.13 ppb	95
15) Methyl Acetate	2.91	43	20290	10.63 ppb	98
16) Iodomethane	2.64	142	40084	6.53 ppb	98
17) Acrylonitrile	3.23	53	9675	11.15 ppb	97
18) Methylene chloride	2.99	84	50968	9.92 ppb	95
19) Carbon disulfide	2.70	76	134217	8.54 ppb	99
20) Methyl t-butyl ether (MtBE	3.29	73	87743	10.52 ppb	99
21) Trans-1,2-DCE	3.26	96	55425	9.79 ppb	97
22) Diisopropyl Ether	3.80	45	162249	10.17 ppb	98
23) 1,1-DCA	3.68	63	98768	9.87 ppb	99
24) Vinyl Acetate	3.76	43	17455	5.47 ppb	95
25) Ethyl tert Butyl Ether	4.17	59	111701	10.70 ppb	98
26) MEK (2-Butanone)	4.27	43	2417	2.23 ppb	90
27) Cis-1,2-DCE	4.27	96	62150	10.01 ppb	99
28) 2,2-Dichloropropane	4.27	77	52686	7.80 ppb	100
29) Chloroform	4.62	83	100509	10.42 ppb	91
30) Bromochloromethane	4.52	128	24580	10.31 ppb	99
32) 1,1,1-TCA	4.80	97	89108	10.03 ppb	97
33) Cyclohexane	4.87	41	47568	9.35 ppb	98
34) 1,1-Dichloropropene	4.99	75	76526	9.55 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	121931	8.41 ppb	97
37) Carbon Tetrachloride	4.99	117	73526	9.63 ppb	95
38) Tert Amyl Methyl Ether	5.37	73	93199	10.71 ppb	99
39) 1,2-DCA	5.21	62	54833	10.47 ppb	95
40) Benzene	5.20	78	236387	9.98 ppb	100
41) TCE	5.93	95	68377	10.72 ppb	96
42) 2-Pentanone	6.15	43	234633	148.11 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M30.D
Acq On : 9 Feb 17 19:53
Sample : Ending CCV 8260 10ug/L 02/09/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.17	63	55436	10.32 ppb	99
44) Bromodichloromethane	6.49	83	66648	10.72 ppb	92
45) Methyl Cyclohexane	6.15	83	76459	9.29 ppb	99
46) Dibromomethane	6.29	93	21248	10.59 ppb	94
47) MIBK (methyl isobutyl ket	7.24	43	3246	0.29 ppb	92
48) 1-Bromo-2-chloroethane	6.84	63	49224	9.54 ppb	99
50) Cis-1,3-Dichloropropene	7.03	75	68700	10.04 ppb	96
51) Toluene	7.43	91	273001	9.95 ppb	97
52) Trans-1,3-Dichloropropene	7.71	75	47538	10.21 ppb	99
53) 1,1,2-TCA	7.92	83	26766	10.72 ppb	99
57) 1,2-EDB	8.53	107	29409	10.59 ppb	96
58) Tetrachloroethene	8.11	164	66139	9.69 ppb	93
59) 1-Chlorohexane	9.21	91	74670	9.42 ppb	95
60) 1,1,1,2-Tetrachloroethane	9.31	131	58203	10.08 ppb	98
61) m&p-Xylene	9.52	106	244878	19.60 ppb	98
62) o-Xylene	10.04	106	118750	10.19 ppb	96
63) Styrene	10.06	104	183055	10.21 ppb	100
65) 1,3-Dichloropropane	8.13	76	59298	10.76 ppb	99
66) Dibromochloromethane	8.40	129	44869	10.58 ppb	100
67) Chlorobenzene	9.19	112	171879	9.72 ppb	100
68) Ethylbenzene	9.36	91	312818	9.81 ppb	99
69) Bromoform	10.27	173	27484	10.92 ppb	96
71) Isopropylbenzene	10.56	105	306009	9.52 ppb	98
72) 1,1,2,2-Tetrachloroethane	10.97	83	28638	9.43 ppb	96
73) 1,2,3-Trichloropropane	11.00	110	10836	10.75 ppb	98
74) t-1,4-Dichloro-2-Butene	11.05	53	5824	9.16 ppb	99
75) Bromobenzene	10.92	156	73074	9.84 ppb	99
76) n-Propylbenzene	11.13	91	341084	9.61 ppb	99
77) 4-Ethyltoluene	11.30	105	305407	9.77 ppb	100
78) 2-Chlorotoluene	11.21	91	208321	9.81 ppb	92
79) 1,3,5-Trimethylbenzene	11.39	105	252369	9.68 ppb	100
80) 4-Chlorotoluene	11.37	91	229810	9.60 ppb	97
81) Tert-Butylbenzene	11.84	119	223488	9.58 ppb	98
82) 1,2,4-Trimethylbenzene	11.91	105	247864	9.74 ppb	98
83) Sec-Butylbenzene	12.15	105	299766	9.64 ppb	98
84) p-Isopropyltoluene	12.37	119	263114	9.68 ppb	98
85) Benzyl Chloride	12.59	91	18038	9.00 ppb	99
86) 1,3-DCB	12.25	146	144712	9.75 ppb	98
87) 1,4-DCB	12.38	146	139124	9.56 ppb	99
88) n-Butylbenzene	12.95	91	204237	9.57 ppb	96
89) 1,2-DCB	12.90	146	123202	10.14 ppb	99
90) Hexachloroethane	13.27	117	36244	10.04 ppb	99
91) 1,2-Dibromo-3-chloropropan	14.01	75	4111	9.85 ppb	84
92) 1,2,4-Trichlorobenzene	15.23	180	65141	9.48 ppb	95
93) Hexachlorobutadiene	15.52	225	50985	9.15 ppb	98
94) Naphthalene	15.56	128	53375	8.99 ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	46582	9.85 ppb	97

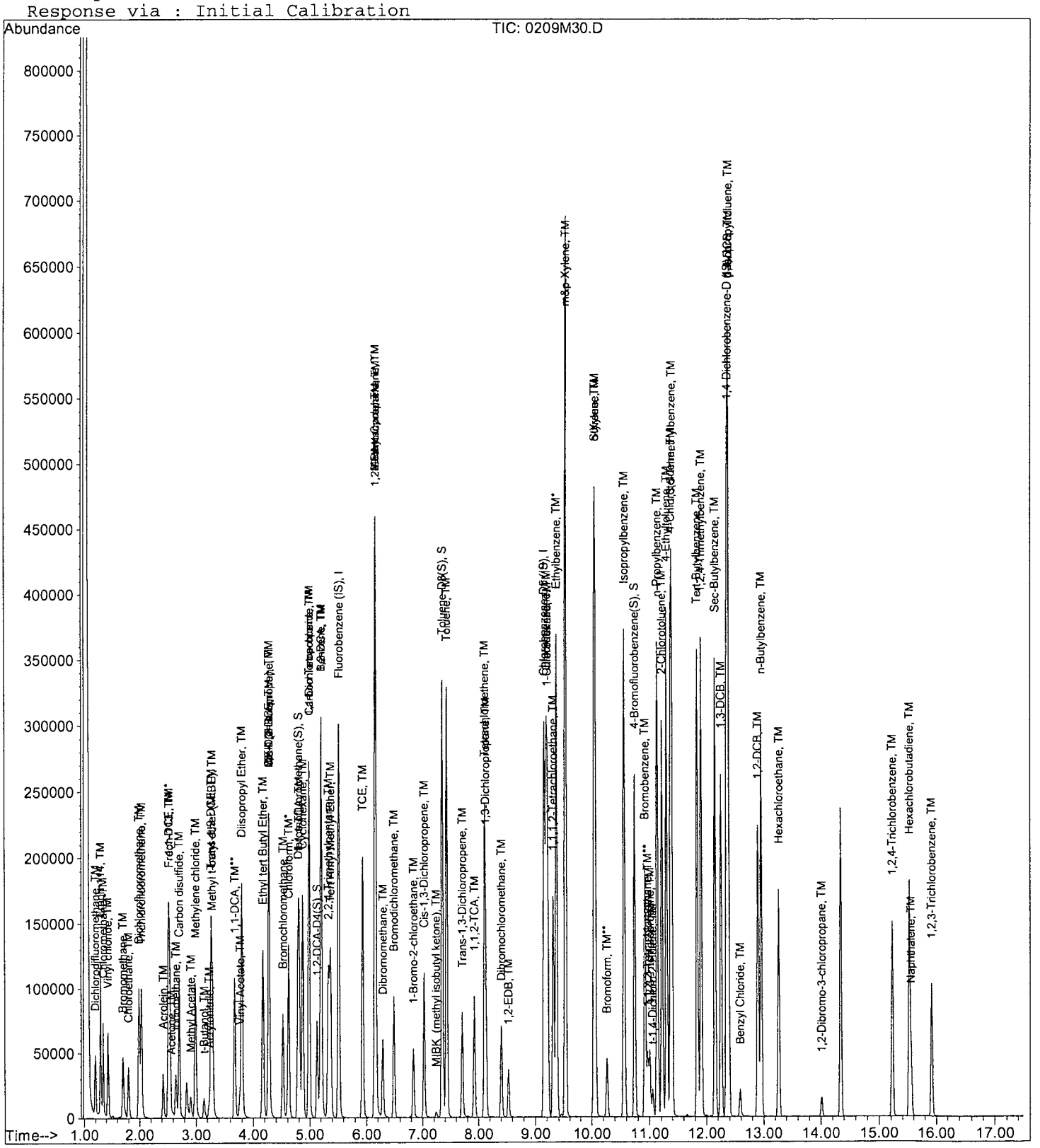
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M30.D Vial: 26
Acq On : 9 Feb 17 19:53 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M02.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2605	5.3	TM	
3	TM	Freon 114	0.3854	0.4224	9.6	TM	
4	TM**	Chloromethane	0.4307	0.4415	2.5	TM**	
5	TM*	Vinyl chloride	0.5975	0.7098	19	TM*	
6	TM	Bromomethane	0.3498	0.3541	1.2	TM	
7	TM	Chloroethane	0.3317	0.3899	18	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9971	10.0	TM	
9	TM	Trichlorofluoromethane	0.6306	0.7523	19	TM	
10	TM	Acrolein	0.0213	0.0197	7.5	TM	
11	TML	Acetone	0.0718	0.0529	26	TML	12
12	TM	Freon-113	0.4174	0.4650	11	TM	
13	TM*	1,1-DCE	0.6844	0.7666	12	TM*	
14	TM	t-Butanol	0.0103	0.0097	6.4	TM	
15	TM	Methyl Acetate	0.1654	0.1602	3.2	TM	
16	TML	Iodomethane	0.4508	0.5237	16	TML	4.5
17	TML	Acrylonitrile	0.0675	0.0753	12	TML	0.17
18	TML	Methylene chloride	0.5358	0.4547	15	TML	2.4
19	TM	Carbon disulfide	1.362	1.441	5.8	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.6996	3.2	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5630	15	TM	
22	TM	Diisopropyl Ether	1.383	1.365	1.3	TM	
23	TM**	1,1-DCA	0.8679	0.9564	10	TM**	
24	TM	Vinyl Acetate	0.2767	0.2673	3.4	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9304	2.8	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0757	20	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5843	8.5	TM	
28	TM	2,2-Dichloropropane	0.5854	0.7040	20	TM	
29	TM*	Chloroform	0.8364	0.9030	8.0	TM*	
30	TM	Bromochloromethane	0.2067	0.2172	5.1	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2201	2.7	S	
32	TM	1,1,1-TCA	0.7701	0.8565	11	TM	
33	TM	Cyclohexane	0.4409	0.4936	12	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7926	14	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.499	19	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1673	1.5	S	
37	TM	Carbon Tetrachloride	0.6621	0.7495	13	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7620	0.99	TM	
39	TM	1,2-DCA	0.4543	0.4831	6.3	TM	
40	TM	Benzene	2.053	2.241	9.1	TM	
		Average			9.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M02.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	TCE	0.5531	0.5980	8.1	TM	
42	TM	2-Pentanone	0.1374	0.1344	2.1	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4937	6.0	TM*	
44	TM	Bromodichloromethane	0.5391	0.5736	6.4	TM	
45	TM	Methyl Cyclohexane	0.7132	0.8442	18	TM	
46	TM	Dibromomethane	0.1739	0.1775	2.0	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1967	15	TML	4.2
48	TM	1-Bromo-2-chloroethane	0.4473	0.4386	1.9	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.6332	6.7	TM	
50	TM*	Toluene	2.379	2.672	12	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4192	3.9	TM	
52	TM	1,1,2-TCA	0.2165	0.2183	0.84	TM	
53	TM	2-Hexanone	0.1143	0.1093	4.4	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.229	1.6	S	
56	TM	1,2-EDB	0.3267	0.3450	5.6	TM	
57	TM	Tetrachloroethene	0.8031	0.9233	15	TM	
58	TM	1-Chlorohexane	0.9327	1.062	14	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7036	3.5	TM	
60	TM	m&p-Xylene	1.470	1.670	14	TM	
61	TM	o-Xylene	1.371	1.547	13	TM	
62	TM	Styrene	2.110	2.321	10.0	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4445	2.1	S	
64	TM	1,3-Dichloropropane	0.6485	0.6456	0.44	TM	
65	TM	Dibromochloromethane	0.4990	0.5177	3.8	TM	
66	TM**	Chlorobenzene	2.082	2.184	4.9	TM**	
67	TM*	Ethylbenzene	3.752	4.268	14	TM*	
68	TM**	Bromoform	0.2963	0.3112	5.0	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	8.024	14	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6738	1.7	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2094	4.8	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1253	0.06	TML	9.7
74	TM	Bromobenzene	1.620	1.702	5.0	TM	
75	TM	n-Propylbenzene	7.746	9.172	18	TM	
76	TM	4-Ethyltoluene	6.825	7.626	12	TM	
77	TM	2-Chlorotoluene	4.634	5.117	10	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	6.617	16	TM	
79	TM	4-Chlorotoluene	5.222	5.769	10	TM	
80	TM	Tert-Butylbenzene	5.094	5.800	14	TM	
		Average			7.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M02.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,2,4-Trimethylbenzene	5.552	6.264	13	TM		
82	TM	Sec-Butylbenzene	6.789	7.819	15	TM		
83	TM	p-Isopropyltoluene	5.929	6.823	15	TM		
84	TM	Benzyl Chloride	0.4376	0.5566	27	TM		nt
85	TM	1,3-DCB	3.240	3.549	9.5	TM		
86	TM	1,4-DCB	3.175	3.309	4.2	TM		
87	TM	n-Butylbenzene	4.656	5.697	22	TM		nt
88	TM	1,2-DCB	2.651	2.796	5.5	TM		
89	TM	Hexachloroethane	0.7881	0.9433	20	TM		
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0801	12	TM		
91	TML	1,2,4-Trichlorobenzene	1.139	1.503	32	TML	0.04	
92	TM	Hexachlorobutadiene	1.216	1.437	18	TM		
93	TML	Naphthalene	0.7727	1.020	32	TML	20	
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9328	38	TML	8.9	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			18.8			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M02.D Vial: 2
Acq On : 13 Feb 17 9:57 Operator: PM,DG,SV,CMM
Sample : 170213A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	273090	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	196079	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	102531	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	60113	25.66613 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.664%	
36) 1,2-DCA-D4(S)	5.13	65	45695	24.62182 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.488%	
56) Toluene-D8(S)	7.35	98	241004	25.40713 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.628%	
64) 4-Bromofluorobenzene(S)	10.74	95	87161	25.53072 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.124%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.18	85	28456	10.53215 ppb	99
3) Freon 114	1.29	85	46136	10.95749 ppb	96
4) Chloromethane	1.34	50	48232	10.25135 ppb	97
5) Vinyl chloride	1.43	62	77541	11.88103 ppb	100
6) Bromomethane	1.69	94	38678	10.12207 ppb	96
7) Chloroethane	1.79	64	42593	11.75541 ppb	98
8) Dichlorofluoromethane	1.98	67	108922	10.99892 ppb	95
9) Trichlorofluoromethane	2.03	101	82177	11.92930 ppb	98
10) Acrolein	2.41	56	26930	115.60805 ppb	98
11) Acetone	2.57	43	5775	8.81765 ppb	87
12) Freon-113	2.53	101	50792	11.14017 ppb	95
13) 1,1-DCE	2.51	61	83745	11.20229 ppb	98
14) t-Butanol	3.14	59	13202	117.04011 ppb	94
15) Methyl Acetate	2.90	43	17497	9.68226 ppb	96
16) Iodomethane	2.64	142	57202	9.54859 ppb	99
17) Acrylonitrile	3.23	53	8230	9.98326 ppb #	85
18) Methylene chloride	2.98	84	49671	10.24193 ppb	98
19) Carbon disulfide	2.70	76	157426	10.58088 ppb	98
20) Methyl t-butyl ether (MtBE	3.28	73	76422	9.67782 ppb	99
21) Trans-1,2-DCE	3.26	96	61500	11.47285 ppb	95
22) Diisopropyl Ether	3.80	45	149063	9.86773 ppb	98
23) 1,1-DCA	3.67	63	104468	11.01865 ppb	97
24) Vinyl Acetate	3.76	43	29195	9.65950 ppb	98
25) Ethyl tert Butyl Ether	4.17	59	101635	10.28081 ppb	99
26) MEK (2-Butanone)	4.31	43	8272	8.04325 ppb #	78
27) Cis-1,2-DCE	4.27	96	63823	10.85287 ppb	99
28) 2,2-Dichloropropane	4.27	77	76899	12.02557 ppb	98
29) Chloroform	4.61	83	98645	10.79743 ppb	94
30) Bromochloromethane	4.52	128	23725	10.50945 ppb	99
32) 1,1,1-TCA	4.80	97	93563	11.12289 ppb	98
33) Cyclohexane	4.87	41	53921	11.19563 ppb	93
34) 1,1-Dichloropropene	4.98	75	86578	11.40933 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	163795	11.92963 ppb	98
37) Carbon Tetrachloride	4.98	117	81868	11.31969 ppb	98
38) Tert Amyl Methyl Ether	5.37	73	83238	10.09937 ppb	94
39) 1,2-DCA	5.21	62	52769	10.63437 ppb	93
40) Benzene	5.20	78	244754	10.91316 ppb	99
41) TCE	5.92	95	65321	10.81090 ppb	96
42) 2-Pentanone	6.15	43	183584	122.35999 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M02.D
Acq On : 13 Feb 17 9:57
Sample : 170213A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	53929	10.60414	ppb		97
44)	Bromodichloromethane	6.49	83	62657	10.63986	ppb		93
45)	Methyl Cyclohexane	6.15	83	92212	11.83582	ppb		99
46)	Dibromomethane	6.29	93	19384	10.20344	ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	21482	9.57881	ppb		100
48)	1-Bromo-2-chloroethane	6.84	63	47915	9.80642	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	69172	10.67334	ppb		98
51)	Toluene	7.43	91	291914	11.23382	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	45793	10.38647	ppb		95
53)	1,1,2-TCA	7.92	83	23846	10.08387	ppb		96
54)	2-Hexanone	8.28	43	11935	9.55956	ppb		90
57)	1,2-EDB	8.53	107	27060	10.55921	ppb		91
58)	Tetrachloroethene	8.11	164	72419	11.49737	ppb		97
59)	1-Chlorohexane	9.21	91	83318	11.38934	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	55188	10.35166	ppb		99
61)	m&p-Xylene	9.52	106	261944	22.72001	ppb		99
62)	o-Xylene	10.04	106	121332	11.28120	ppb		95
63)	Styrene	10.06	104	182011	10.99968	ppb		99
65)	1,3-Dichloropropane	8.13	76	50639	9.95553	ppb		97
66)	Dibromochloromethane	8.40	129	40604	10.37522	ppb		94
67)	Chlorobenzene	9.19	112	171314	10.49135	ppb		98
68)	Ethylbenzene	9.36	91	334726	11.37506	ppb		99
69)	Bromoform	10.27	173	24409	10.50385	ppb		98
71)	Isopropylbenzene	10.56	105	329085	11.43797	ppb		97
72)	1,1,2,2-Tetrachloroethane	10.97	83	27633	10.16681	ppb		95
73)	1,2,3-Trichloropropane	11.01	110	8586	9.51707	ppb		91
74)	t-1,4-Dichloro-2-Butene	11.05	53	5140	9.03365	ppb		88
75)	Bromobenzene	10.92	156	69791	10.50422	ppb		99
76)	n-Propylbenzene	11.13	91	376178	11.84098	ppb		98
77)	4-Ethyltoluene	11.30	105	312748	11.17272	ppb		99
78)	2-Chlorotoluene	11.21	91	209844	11.04181	ppb		99
79)	1,3,5-Trimethylbenzene	11.40	105	271390	11.62804	ppb		99
80)	4-Chlorotoluene	11.37	91	236582	11.04599	ppb		97
81)	Tert-Butylbenzene	11.84	119	237891	11.38769	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	256893	11.28122	ppb		99
83)	Sec-Butylbenzene	12.15	105	320671	11.51776	ppb		100
84)	p-Isopropyltoluene	12.37	119	279820	11.50660	ppb		99
85)	Benzyl Chloride	12.59	91	22827	12.71871	ppb		93
86)	1,3-DCB	12.26	146	145547	10.95450	ppb		98
87)	1,4-DCB	12.39	146	135708	10.42312	ppb		99
88)	n-Butylbenzene	12.95	91	233637	12.23655	ppb		99
89)	1,2-DCB	12.90	146	114660	10.54733	ppb		95
90)	Hexachloroethane	13.27	117	38688	11.96967	ppb		96
91)	1,2-Dibromo-3-chloropropan	14.02	75	3287	8.79621	ppb	#	85
92)	1,2,4-Trichlorobenzene	15.23	180	61624	9.99590	ppb		99
93)	Hexachlorobutadiene	15.53	225	58922	11.81272	ppb		98
94)	Naphthalene	15.56	128	41834	8.00798	ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	38258	9.10715	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

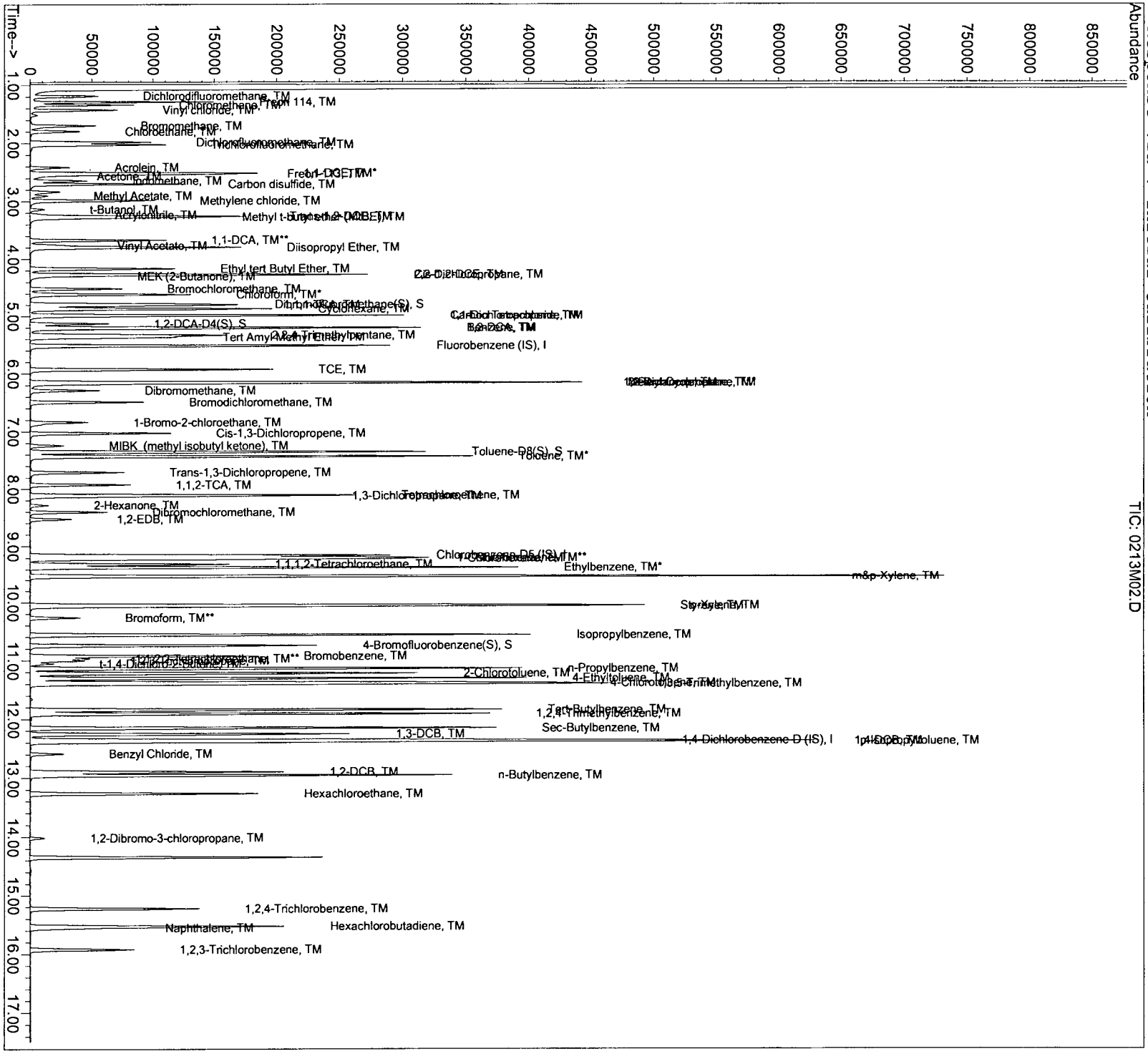
Data File : M:\MAX\DATA\M170127\0213M02.D
Acq On : 13 Feb 17 9:57
Sample : 170213A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:24 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M26.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2824	14	TM	
3	TM	Freon 114	0.3854	0.3740	3.0	TM	
4	TM**	Chloromethane	0.4307	0.4450	3.3	TM**	
5	TM*	Vinyl chloride	0.5975	0.6441	7.8	TM*	
6	TM	Bromomethane	0.3498	0.3150	10.0	TM	
7	TM	Chloroethane	0.3317	0.3618	9.1	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9153	0.96	TM	
9	TM	Trichlorofluoromethane	0.6306	0.7146	13	TM	
10	TM	Acrolein	0.0213	0.0182	14	TM	
11	TML	Acetone	0.0718	0.0588	18	TML	0.06
12	TM	Freon-113	0.4174	0.4442	6.4	TM	
13	TM*	1,1-DCE	0.6844	0.7083	3.5	TM*	
14	TM	t-Butanol	0.0103	0.0090	13	TM	
15	TM	Methyl Acetate	0.1654	0.1603	3.1	TM	
16	TML	Iodomethane	0.4508	0.5391	20	TML	1.9
17	TML	Acrylonitrile	0.0675	0.0673	0.32	TML	11
18	TML	Methylene chloride	0.5358	0.4400	18	TML	1.2
19	TM	Carbon disulfide	1.362	1.339	1.7	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7076	2.1	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5231	6.6	TM	
22	TM	Diisopropyl Ether	1.383	1.333	3.6	TM	
23	TM**	1,1-DCA	0.8679	0.9031	4.1	TM**	
24	TM	Vinyl Acetate	0.2767	0.2443	12	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.8714	3.7	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0884	6.2	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5587	3.8	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5242	10	TM	
29	TM*	Chloroform	0.8364	0.8857	5.9	TM*	
30	TM	Bromochloromethane	0.2067	0.2077	0.51	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2102	2.0	S	
32	TM	1,1,1-TCA	0.7701	0.8208	6.6	TM	
33	TM	Cyclohexane	0.4409	0.4651	5.5	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7261	4.5	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.215	3.4	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1636	3.7	S	
37	TM	Carbon Tetrachloride	0.6621	0.6976	5.4	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7483	0.83	TM	
39	TM	1,2-DCA	0.4543	0.4767	4.9	TM	
40	TM	Benzene	2.053	2.130	3.7	TM	
		Average			6.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M26.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5817	5.2	TM	
42	TM	2-Pentanone	0.1374	0.1296	5.6	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4748	2.0	TM*	
44	TM	Bromodichloromethane	0.5391	0.5651	4.8	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7475	4.8	TM	
46	TM	Dibromomethane	0.1739	0.1690	2.8	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1917	17	TML	7.0
48	TM	1-Bromo-2-chloroethane	0.4473	0.4217	5.7	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5937	0.08	TM	
50	TM*	Toluene	2.379	2.452	3.1	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.3817	5.4	TM	
52	TM	1,1,2-TCA	0.2165	0.2081	3.9	TM	
53	TM	2-Hexanone	0.1143	0.1060	7.3	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.228	1.6	S	
56	TM	1,2-EDB	0.3267	0.3375	3.3	TM	
57	TM	Tetrachloroethene	0.8031	0.8628	7.4	TM	
58	TM	1-Chlorohexane	0.9327	0.9828	5.4	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7081	4.2	TM	
60	TM	m&p-Xylene	1.470	1.596	8.6	TM	
61	TM	o-Xylene	1.371	1.514	10	TM	
62	TM	Styrene	2.110	2.296	8.8	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4466	2.6	S	
64	TM	1,3-Dichloropropane	0.6485	0.6646	2.5	TM	
65	TM	Dibromochloromethane	0.4990	0.5157	3.3	TM	
66	TM**	Chlorobenzene	2.082	2.157	3.6	TM**	
67	TM*	Ethylbenzene	3.752	4.057	8.1	TM*	
68	TM**	Bromoform	0.2963	0.3158	6.6	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	7.435	6.0	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6426	3.0	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2118	3.7	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1167	6.9	TML	16
74	TM	Bromobenzene	1.620	1.623	0.18	TM	
75	TM	n-Propylbenzene	7.746	8.363	8.0	TM	
76	TM	4-Ethyltoluene	6.825	7.044	3.2	TM	
77	TM	2-Chlorotoluene	4.634	4.888	5.5	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	6.103	7.2	TM	
79	TM	4-Chlorotoluene	5.222	5.376	2.9	TM	
80	TM	Tert-Butylbenzene	5.094	5.460	7.2	TM	
		Average			5.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M26.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.552	5.940	7.0	TM	
82	TM	Sec-Butylbenzene	6.789	7.176	5.7	TM	
83	TM	p-Isopropyltoluene	5.929	6.325	6.7	TM	
84	TM	Benzyl Chloride	0.4376	0.3450	21	TM	
85	TM	1,3-DCB	3.240	3.371	4.0	TM	
86	TM	1,4-DCB	3.175	3.128	1.5	TM	
87	TM	n-Butylbenzene	4.656	4.913	5.5	TM	
88	TM	1,2-DCB	2.651	2.772	4.6	TM	
89	TM	Hexachloroethane	0.7881	0.8310	5.4	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0851	6.5	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.462	28	TML	2.6
92	TM	Hexachlorobutadiene	1.216	1.290	6.1	TM	
93	TML	Naphthalene	0.7727	1.035	34	TML	19
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9190	36	TML	10
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M26.D Vial: 26
Acq On : 13 Feb 17 21:17 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 2/13/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	268420	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	186988	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	100852	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	56410	24.50411 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.016%	
36) 1,2-DCA-D4(S)	5.13	65	43926	24.08042 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.320%	
56) Toluene-D8(S)	7.35	98	229709	25.39374 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.576%	
64) 4-Bromofluorobenzene(S)	10.74	95	83514	25.65178 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.608%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	30320	11.41730 ppb		96
3) Freon 114	1.29	85	40157	9.70339 ppb		99
4) Chloromethane	1.34	50	47784	10.33283 ppb		98
5) Vinyl chloride	1.43	62	69156	10.78062 ppb		98
6) Bromomethane	1.70	94	33818	9.00418 ppb		95
7) Chloroethane	1.80	64	38842	10.90667 ppb		100
8) Dichlorofluoromethane	1.99	67	98273	10.09624 ppb		98
9) Trichlorofluoromethane	2.03	101	76722	11.33119 ppb		97
10) Acrolein	2.42	56	24488	106.95374 ppb		99
11) Acetone	2.58	43	6318	9.99390 ppb		93
12) Freon-113	2.54	101	47689	10.64157 ppb		97
13) 1,1-DCE	2.51	61	76054	10.35049 ppb		99
14) t-Butanol	3.14	59	12101	109.14584 ppb		93
15) Methyl Acetate	2.91	43	17209	9.68857 ppb		94
16) Iodomethane	2.65	142	57877	9.81293 ppb		98
17) Acrylonitrile	3.22	53	7224	8.88552 ppb	#	73
18) Methylene chloride	2.99	84	47243	9.87737 ppb		91
19) Carbon disulfide	2.70	76	143733	9.82862 ppb		99
20) Methyl t-butyl ether (MtBE	3.29	73	75971	9.78809 ppb		99
21) Trans-1,2-DCE	3.26	96	56163	10.65952 ppb		94
22) Diisopropyl Ether	3.80	45	143175	9.64285 ppb		99
23) 1,1-DCA	3.68	63	96968	10.40553 ppb		97
24) Vinyl Acetate	3.76	43	26235	8.83117 ppb		100
25) Ethyl tert Butyl Ether	4.17	59	93563	9.62896 ppb		98
26) MEK (2-Butanone)	4.31	43	9486	9.38415 ppb		90
27) Cis-1,2-DCE	4.27	96	59982	10.37718 ppb		98
28) 2,2-Dichloropropane	4.27	77	56280	8.95427 ppb		95
29) Chloroform	4.62	83	95099	10.59040 ppb		94
30) Bromochloromethane	4.52	128	22301	10.05053 ppb		96
32) 1,1,1-TCA	4.80	97	88130	10.65929 ppb		96
33) Cyclohexane	4.87	41	49936	10.54861 ppb		97
34) 1,1-Dichloropropene	4.99	75	77965	10.45306 ppb		97
35) 2,2,4-Trimethylpentane	5.33	57	130410	9.66336 ppb		99
37) Carbon Tetrachloride	4.99	117	74899	10.53628 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	80339	9.91722 ppb		96
39) 1,2-DCA	5.21	62	51184	10.49441 ppb		96
40) Benzene	5.20	78	228683	10.37399 ppb		99
41) TCE	5.93	95	62460	10.51724 ppb		97
42) 2-Pentanone	6.15	43	173977	117.97429 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M26.D Vial: 26
Acq On : 13 Feb 17 21:17 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 2/13/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	50976	10.19788 ppb		100
44)	Bromodichloromethane	6.49	83	60674	10.48238 ppb		91
45)	Methyl Cyclohexane	6.15	83	80262	10.48122 ppb		98
46)	Dibromomethane	6.29	93	18150	9.72010 ppb		92
47)	MIBK (methyl isobutyl ket	7.24	43	20580	9.30425 ppb		97
48)	1-Bromo-2-chloroethane	6.84	63	45281	9.42857 ppb		98
50)	Cis-1,3-Dichloropropene	7.03	75	63749	10.00770 ppb		97
51)	Toluene	7.43	91	263253	10.30711 ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	40984	9.45745 ppb		92
53)	1,1,2-TCA	7.92	83	22343	9.61267 ppb		98
54)	2-Hexanone	8.28	43	11380	9.27361 ppb	#	90
57)	1,2-EDB	8.53	107	25247	10.33073 ppb		97
58)	Tetrachloroethene	8.11	164	64535	10.74382 ppb		99
59)	1-Chlorohexane	9.21	91	73508	10.53688 ppb		99
60)	1,1,1,2-Tetrachloroethane	9.31	131	52966	10.41789 ppb		100
61)	m&p-Xylene	9.52	106	238773	21.71714 ppb		99
62)	o-Xylene	10.04	106	113224	11.03915 ppb		94
63)	Styrene	10.06	104	171747	10.88401 ppb		98
65)	1,3-Dichloropropane	8.13	76	49712	10.24844 ppb		95
66)	Dibromochloromethane	8.40	129	38571	10.33491 ppb		99
67)	Chlorobenzene	9.19	112	161298	10.35822 ppb		97
68)	Ethylbenzene	9.36	91	303410	10.81213 ppb		100
69)	Bromoform	10.27	173	23620	10.65850 ppb		93
71)	Isopropylbenzene	10.56	105	299924	10.59797 ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	25923	9.69644 ppb		97
73)	1,2,3-Trichloropropane	11.00	110	8543	9.62705 ppb		96
74)	t-1,4-Dichloro-2-Butene	11.05	53	4708	8.42629 ppb		93
75)	Bromobenzene	10.92	156	65469	10.01777 ppb		99
76)	n-Propylbenzene	11.13	91	337369	10.79618 ppb		100
77)	4-Ethyltoluene	11.30	105	284157	10.32032 ppb		100
78)	2-Chlorotoluene	11.21	91	197202	10.54935 ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	246192	10.72402 ppb		99
80)	4-Chlorotoluene	11.37	91	216861	10.29378 ppb		96
81)	Tert-Butylbenzene	11.84	119	220260	10.71924 ppb		100
82)	1,2,4-Trimethylbenzene	11.91	105	239636	10.69859 ppb		97
83)	Sec-Butylbenzene	12.15	105	289486	10.57077 ppb		99
84)	p-Isopropyltoluene	12.37	119	255138	10.66631 ppb		99
85)	Benzyl Chloride	12.59	91	13917	7.88335 ppb	#	90
86)	1,3-DCB	12.26	146	135970	10.40407 ppb		93
87)	1,4-DCB	12.39	146	126202	9.85437 ppb		96
88)	n-Butylbenzene	12.95	91	198190	10.55285 ppb		97
89)	1,2-DCB	12.90	146	111843	10.45948 ppb		98
90)	Hexachloroethane	13.27	117	33524	10.54466 ppb		96
91)	1,2-Dibromo-3-chloropropan	14.01	75	3435	9.34530 ppb		90
92)	1,2,4-Trichlorobenzene	15.23	180	58978	9.73876 ppb		96
93)	Hexachlorobutadiene	15.53	225	52046	10.60793 ppb		97
94)	Naphthalene	15.56	128	41772	8.11224 ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	37074	8.98450 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

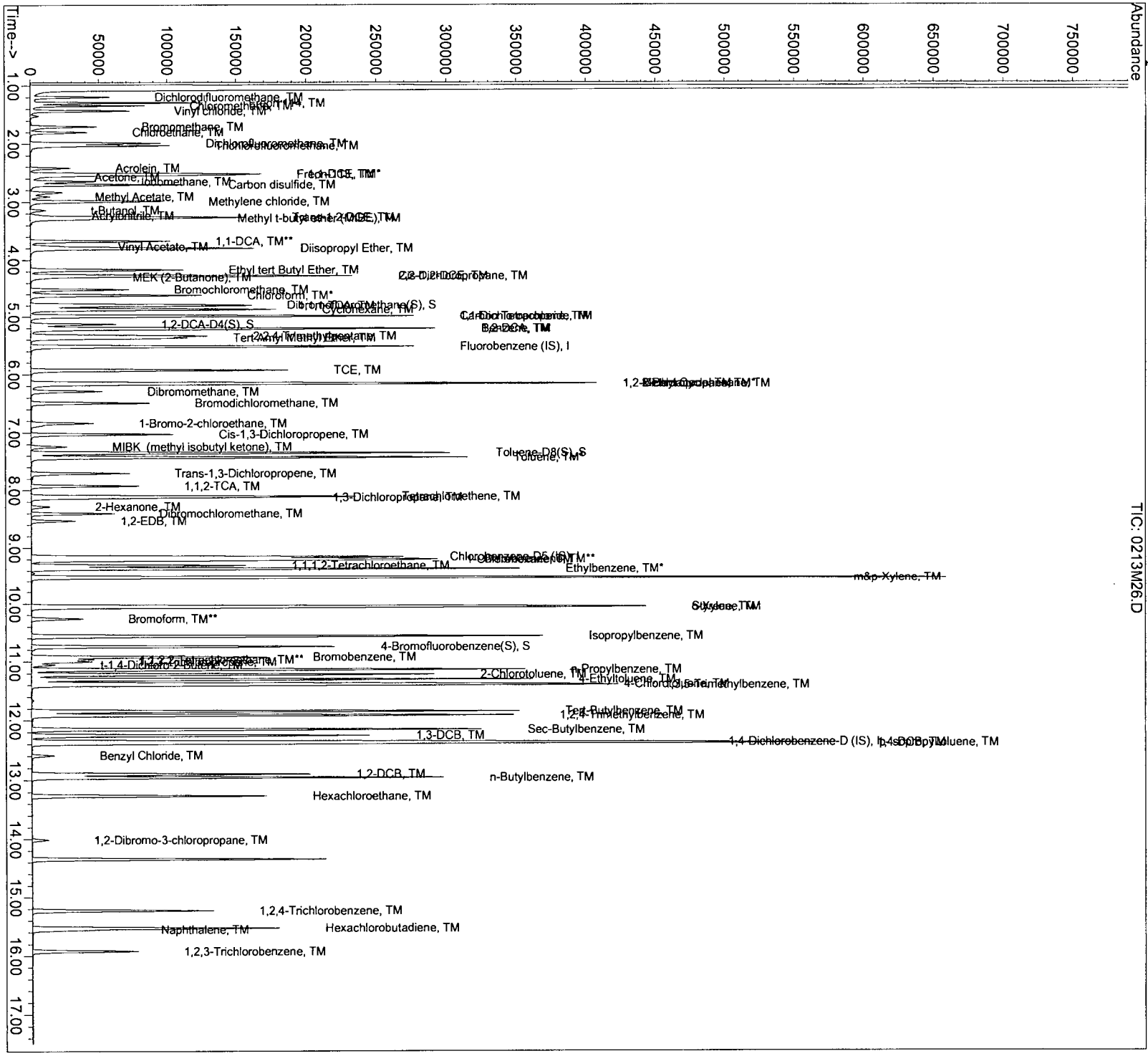
Data File : M:\MAX\DATA\M170127\0213M26.D
Acq On : 13 Feb 17 21:17
Sample : Ending CCV 8260 10ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:25 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



ORGANICS
Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216077**
Batch ID: #86BTO-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/09/17	02/09/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/09/17	02/09/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/09/17	02/09/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/09/17	02/09/17
BLANK	SURROGATE: 1,2-DICHLOROET	106	81-118			%	02/09/17	02/09/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.7	85-114			%	02/09/17	02/09/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	02/09/17	02/09/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	02/09/17	02/09/17

Quant Method: MALLW.M
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/10/17 10:51:48 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D Vial: 10
Acq On : 9 Feb 17 12:19 Operator: PM,DG,SV,CMM
Sample : 170209A BLK-1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 14:52 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305671	25.00 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221943	25.00 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112083	25.00 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67658	25.81 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
36) 1,2-DCA-D4(S)	5.13	65	54917	26.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
56) Toluene-D8(S)	7.35	98	261668	24.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.484%	
64) 4-Bromofluorobenzene(S)	10.74	95	95330	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.676%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

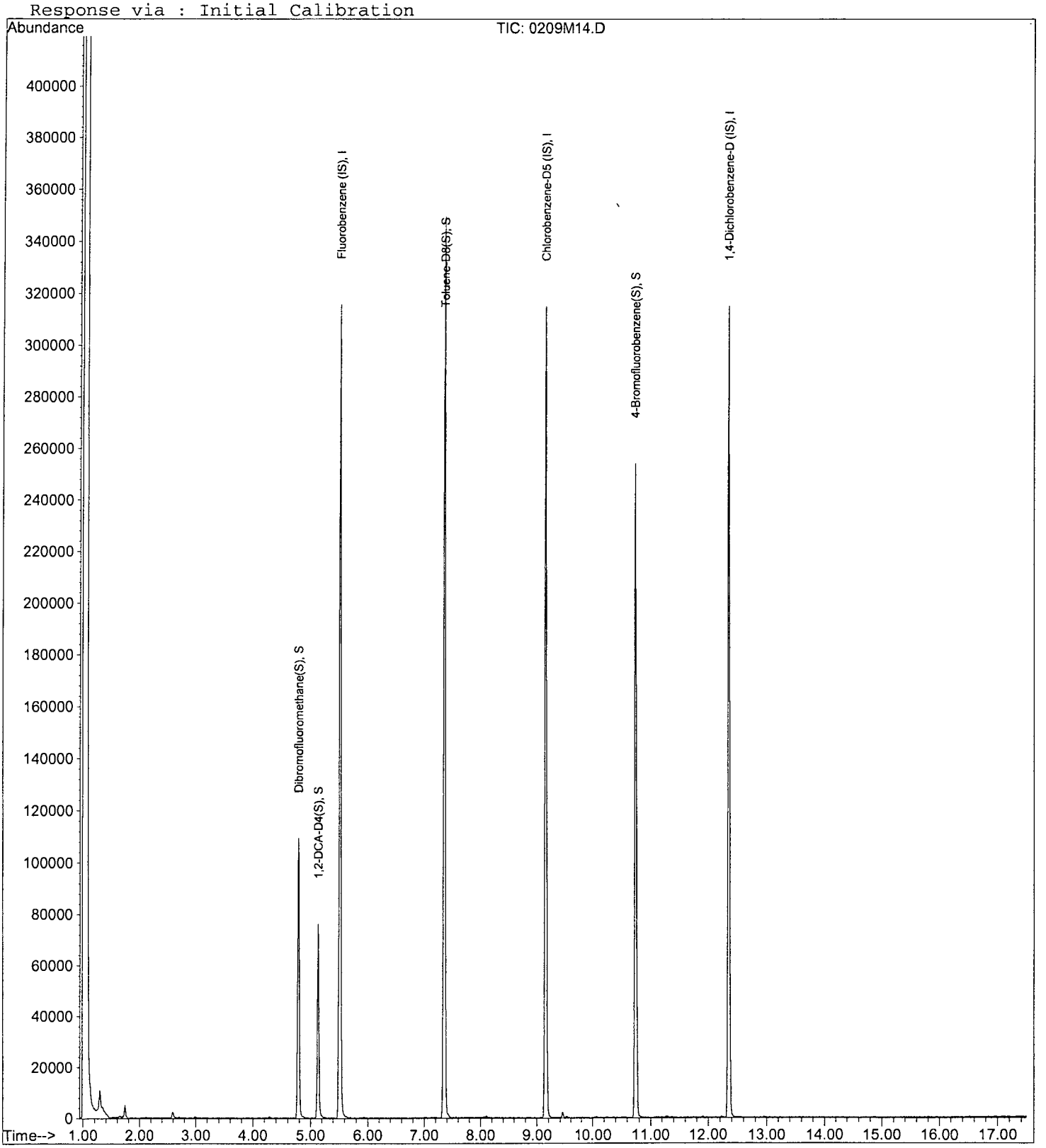
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 14:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49741 - 216161**
Batch ID: #86BTO-170213AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/13/17	2/13/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/13/17	2/13/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/13/17	2/13/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/13/17	2/13/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	2/13/17	2/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	99.1	85-114			%	2/13/17	2/13/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	2/13/17	2/13/17
BLANK	SURROGATE: TOLUENE-D8 (S)	95.8	89-112			%	2/13/17	2/13/17

Quant Method: MALLW.M
Run #: 0213M11
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 3:02:43 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M11.D Vial: 11
Acq On : 13 Feb 17 14:12 Operator: PM,DG,SV,CMM
Sample : 170213A BLK1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278798	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	204179	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103805	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	60700	25.38614 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.544%	
36) 1,2-DCA-D4(S)	5.13	65	48787	25.74967 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.000%	
56) Toluene-D8(S)	7.35	98	236566	23.94990 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.800%	
64) 4-Bromofluorobenzene(S)	10.74	95	88033	24.76318 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.052%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

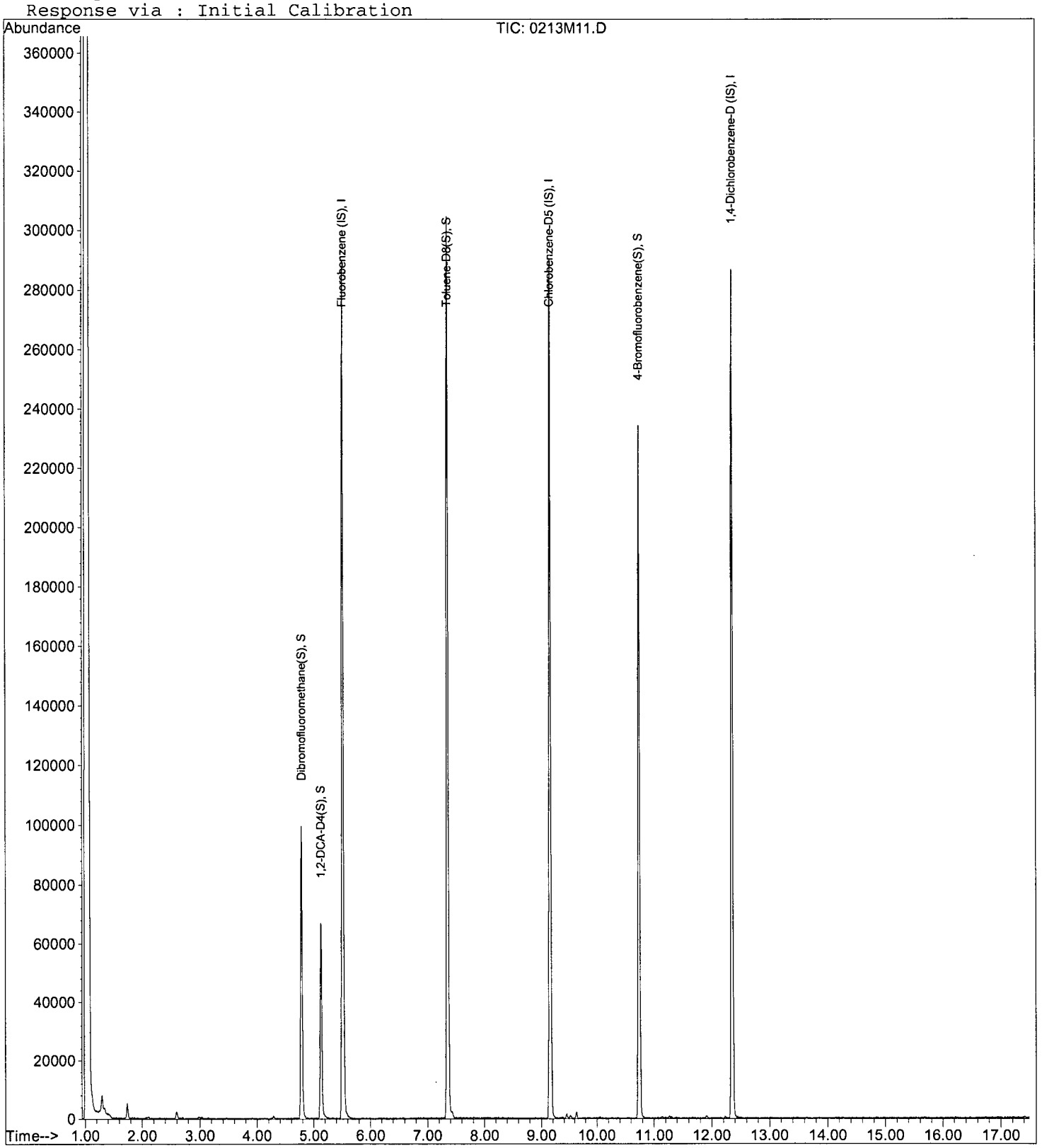
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M11.D
Acq On : 13 Feb 17 14:12
Sample : 170213A BLK1WM
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170209W-49675 LCS - 216077**
Batch ID: #86BTO-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.4	104	79-120
ETHYLBENZENE	10.00	10.4	104	79-121
TOLUENE	10.00	10.4	104	80-121
XYLENES (TOTAL)	30.0	31.6	105	79-121
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	26.9	108	81-118
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.8	103	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.5	98.0	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	02/09/17
Analysis Date :	02/09/17
Instrument :	Max
Run :	0209M06
Initials :	ARO

Printed: 02/10/17 10:51:42 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D Vial: 2
Acq On : 9 Feb 17 8:31 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.51	96	292687	25.00	ppb		0.00
55) Chlorobenzene-D5 (IS)	9.15	117	215613	25.00	ppb		0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116060	25.00	ppb		0.00
System Monitoring Compounds							
31) Dibromofluoromethane(S)	4.78	111	63205	25.18	ppb		0.00
Spiked Amount 25.000			Recovery	=	100.716%		
36) 1,2-DCA-D4(S)	5.13	65	53531	26.91	ppb		0.00
Spiked Amount 25.000			Recovery	=	107.652%		
56) Toluene-D8(S)	7.35	98	255311	24.48	ppb		0.00
Spiked Amount 25.000			Recovery	=	97.908%		
64) 4-Bromofluorobenzene(S)	10.74	95	97031	25.85	ppb		0.00
Spiked Amount 25.000			Recovery	=	103.388%		
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.23	ppb		99
3) Freon 114	1.29	85	45744	10.14	ppb		99
4) Chloromethane	1.34	50	45416	9.01	ppb		100
5) Vinyl chloride	1.43	62	70143	10.03	ppb		94
6) Bromomethane	1.70	94	34781	8.49	ppb		99
7) Chloroethane	1.80	64	39681	10.22	ppb		99
8) Dichlorofluoromethane	1.98	67	110715	10.43	ppb		100
9) Trichlorofluoromethane	2.03	101	79122	10.72	ppb		98
10) Acrolein	2.41	56	33779	135.30	ppb		98
11) Acetone	2.57	43	1053	0.18	ppb		96
12) Freon-113	2.53	101	54698	11.19	ppb		97
13) 1,1-DCE	2.51	61	81634	10.19	ppb		99
14) t-Butanol	3.14	59	17088	141.35	ppb		96
15) Methyl Acetate	2.90	43	20820	10.75	ppb		98
16) Iodomethane	2.64	142	53110	8.35	ppb		97
17) Acrylonitrile	3.23	53	10364	11.78	ppb	#	95
18) Methylene chloride	2.98	84	52711	10.13	ppb		96
19) Carbon disulfide	2.70	76	149224	9.36	ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	93653	11.07	ppb		97
21) Trans-1,2-DCE	3.26	96	59583	10.37	ppb		98
22) Diisopropyl Ether	3.80	45	173205	10.70	ppb		99
23) 1,1-DCA	3.67	63	107104	10.54	ppb		97
24) Vinyl Acetate	3.76	43	33167	10.24	ppb		99
25) Ethyl tert Butyl Ether	4.17	59	116967	11.04	ppb		98
26) MEK (2-Butanone)	4.27	43	2703	2.45	ppb	#	83
27) Cis-1,2-DCE	4.27	96	66767	10.59	ppb		99
28) 2,2-Dichloropropane	4.27	77	76871	11.22	ppb		100
29) Chloroform	4.61	83	104830	10.71	ppb		93
30) Bromochloromethane	4.52	128	25566	10.57	ppb		98
32) 1,1,1-TCA	4.80	97	97776	10.85	ppb		96
33) Cyclohexane	4.87	41	53408	10.35	ppb		95
34) 1,1-Dichloropropene	4.99	75	84452	10.38	ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	160221	10.89	ppb		99
37) Carbon Tetrachloride	4.98	117	81698	10.54	ppb		98
38) Tert Amyl Methyl Ether	5.37	73	97318	11.02	ppb		96
39) 1,2-DCA	5.21	62	56758	10.67	ppb		96
40) Benzene	5.20	78	248938	10.36	ppb		98
41) TCE	5.92	95	67835	10.48	ppb		96
42) 2-Pentanone	6.15	43	246075	153.03	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M06.D Vial: 2
Acq On : 9 Feb 17 8:31 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	58001	10.64	ppb		99
44)	Bromodichloromethane	6.49	83	68015	10.78	ppb		95
45)	Methyl Cyclohexane	6.15	83	90875	10.88	ppb		100
46)	Dibromomethane	6.29	93	21679	10.65	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	3556	0.41	ppb	#	83
48)	1-Bromo-2-chloroethane	6.84	63	50287	9.60	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	74269	10.69	ppb		98
51)	Toluene	7.43	91	290614	10.43	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	51485	10.90	ppb		97
53)	1,1,2-TCA	7.92	83	28142	11.10	ppb		98
57)	1,2-EDB	8.53	107	30510	10.83	ppb		97
58)	Tetrachloroethene	8.10	164	72148	10.42	ppb		93
59)	1-Chlorohexane	9.21	91	86415	10.74	ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	59314	10.12	ppb		98
61)	m&p-Xylene	9.52	106	268928	21.21	ppb		98
62)	o-Xylene	10.04	106	123525	10.44	ppb		97
63)	Styrene	10.06	104	193369	10.63	ppb		98
65)	1,3-Dichloropropane	8.13	76	58651	10.49	ppb		100
66)	Dibromochloromethane	8.40	129	46024	10.69	ppb		99
67)	Chlorobenzene	9.19	112	181884	10.13	ppb		99
68)	Ethylbenzene	9.36	91	335431	10.37	ppb		99
69)	Bromoform	10.27	173	28345	11.09	ppb		98
71)	Isopropylbenzene	10.56	105	337799	10.37	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	32488	10.56	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	11175	10.94	ppb		100
74)	t-1,4-Dichloro-2-Butene	11.05	53	6490	10.05	ppb		93
75)	Bromobenzene	10.92	156	77153	10.26	ppb		98
76)	n-Propylbenzene	11.13	91	375802	10.45	ppb		99
77)	4-Ethyltoluene	11.30	105	332415	10.49	ppb		98
78)	2-Chlorotoluene	11.21	91	218018	10.13	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	278145	10.53	ppb		96
80)	4-Chlorotoluene	11.37	91	249347	10.28	ppb		96
81)	Tert-Butylbenzene	11.84	119	241870	10.23	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	267579	10.38	ppb		98
83)	Sec-Butylbenzene	12.15	105	329023	10.44	ppb		98
84)	p-Isopropyltoluene	12.37	119	293096	10.65	ppb		98
85)	Benzyl Chloride	12.59	91	27684	13.63	ppb		90
86)	1,3-DCB	12.26	146	154663	10.28	ppb		98
87)	1,4-DCB	12.38	146	148187	10.05	ppb		99
88)	n-Butylbenzene	12.95	91	236180	10.93	ppb		98
89)	1,2-DCB	12.90	146	126112	10.25	ppb		97
90)	Hexachloroethane	13.27	117	38785	10.60	ppb		100
91)	1,2-Dibromo-3-chloropropan	14.01	75	4638	10.96	ppb	#	83
92)	1,2,4-Trichlorobenzene	15.23	180	69103	9.91	ppb		97
93)	Hexachlorobutadiene	15.52	225	58452	10.35	ppb		96
94)	Naphthalene	15.56	128	53930	8.96	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	45769	9.58	ppb		97

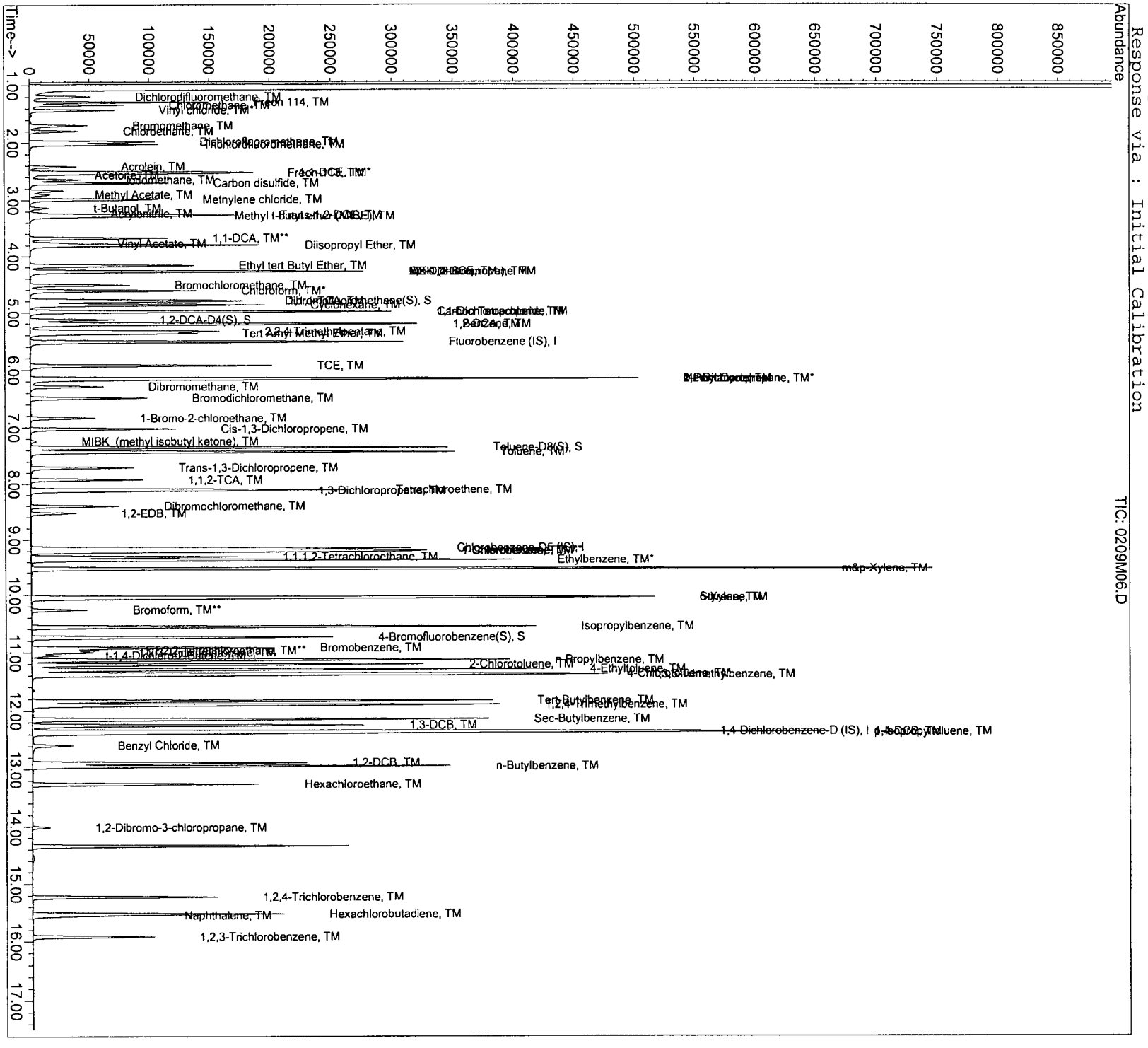
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M06.D Vial: 2
Acq On : 9 Feb 17 8:31 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 9:18 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170213W-49741 LCS - 216161**
Batch ID: #86BTO-170213AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.9	109	79-120
ETHYLBENZENE	10.00	11.4	114	79-121
TOLUENE	10.00	11.2	112	80-121
XYLENES (TOTAL)	30.0	34.0	113	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.6	98.4	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.7	103	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.4	102	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M02
Initials :	SV

Printed: 2/14/17 3:02:47 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M02.D
Acq On : 13 Feb 17 9:57
Sample : 170213A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	273090	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	196079	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	102531	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	60113	25.66613 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.664%	
36) 1,2-DCA-D4(S)	5.13	65	45695	24.62182 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.488%	
56) Toluene-D8(S)	7.35	98	241004	25.40713 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.628%	
64) 4-Bromofluorobenzene(S)	10.74	95	87161	25.53072 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.124%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.18	85	28456	10.53215 ppb	99
3) Freon 114	1.29	85	46136	10.95749 ppb	96
4) Chloromethane	1.34	50	48232	10.25135 ppb	97
5) Vinyl chloride	1.43	62	77541	11.88103 ppb	100
6) Bromomethane	1.69	94	38678	10.12207 ppb	96
7) Chloroethane	1.79	64	42593	11.75541 ppb	98
8) Dichlorofluoromethane	1.98	67	108922	10.99892 ppb	95
9) Trichlorofluoromethane	2.03	101	82177	11.92930 ppb	98
10) Acrolein	2.41	56	26930	115.60805 ppb	98
11) Acetone	2.57	43	5775	8.81765 ppb	87
12) Freon-113	2.53	101	50792	11.14017 ppb	95
13) 1,1-DCE	2.51	61	83745	11.20229 ppb	98
14) t-Butanol	3.14	59	13202	117.04011 ppb	94
15) Methyl Acetate	2.90	43	17497	9.68226 ppb	96
16) Iodomethane	2.64	142	57202	9.54859 ppb	99
17) Acrylonitrile	3.23	53	8230	9.98326 ppb #	85
18) Methylene chloride	2.98	84	49671	10.24193 ppb	98
19) Carbon disulfide	2.70	76	157426	10.58088 ppb	98
20) Methyl t-butyl ether (MtBE	3.28	73	76422	9.67782 ppb	99
21) Trans-1,2-DCE	3.26	96	61500	11.47285 ppb	95
22) Diisopropyl Ether	3.80	45	149063	9.86773 ppb	98
23) 1,1-DCA	3.67	63	104468	11.01865 ppb	97
24) Vinyl Acetate	3.76	43	29195	9.65950 ppb	98
25) Ethyl tert Butyl Ether	4.17	59	101635	10.28081 ppb	99
26) MEK (2-Butanone)	4.31	43	8272	8.04325 ppb #	78
27) Cis-1,2-DCE	4.27	96	63823	10.85287 ppb	99
28) 2,2-Dichloropropane	4.27	77	76899	12.02557 ppb	98
29) Chloroform	4.61	83	98645	10.79743 ppb	94
30) Bromochloromethane	4.52	128	23725	10.50945 ppb	99
32) 1,1,1-TCA	4.80	97	93563	11.12289 ppb	98
33) Cyclohexane	4.87	41	53921	11.19563 ppb	93
34) 1,1-Dichloropropene	4.98	75	86578	11.40933 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	163795	11.92963 ppb	98
37) Carbon Tetrachloride	4.98	117	81868	11.31969 ppb	98
38) Tert Amyl Methyl Ether	5.37	73	83238	10.09937 ppb	94
39) 1,2-DCA	5.21	62	52769	10.63437 ppb	93
40) Benzene	5.20	78	244754	10.91316 ppb	99
41) TCE	5.92	95	65321	10.81090 ppb	96
42) 2-Pentanone	6.15	43	183584	122.35999 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M02.D
Acq On : 13 Feb 17 9:57
Sample : 170213A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	53929	10.60414	ppb		97
44)	Bromodichloromethane	6.49	83	62657	10.63986	ppb		93
45)	Methyl Cyclohexane	6.15	83	92212	11.83582	ppb		99
46)	Dibromomethane	6.29	93	19384	10.20344	ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	21482	9.57881	ppb		100
48)	1-Bromo-2-chloroethane	6.84	63	47915	9.80642	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	69172	10.67334	ppb		98
51)	Toluene	7.43	91	291914	11.23382	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	45793	10.38647	ppb		95
53)	1,1,2-TCA	7.92	83	23846	10.08387	ppb		96
54)	2-Hexanone	8.28	43	11935	9.55956	ppb		90
57)	1,2-EDB	8.53	107	27060	10.55921	ppb		91
58)	Tetrachloroethene	8.11	164	72419	11.49737	ppb		97
59)	1-Chlorohexane	9.21	91	83318	11.38934	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	55188	10.35166	ppb		99
61)	m&p-Xylene	9.52	106	261944	22.72001	ppb		99
62)	o-Xylene	10.04	106	121332	11.28120	ppb		95
63)	Styrene	10.06	104	182011	10.99968	ppb		99
65)	1,3-Dichloropropane	8.13	76	50639	9.95553	ppb		97
66)	Dibromochloromethane	8.40	129	40604	10.37522	ppb		94
67)	Chlorobenzene	9.19	112	171314	10.49135	ppb		98
68)	Ethylbenzene	9.36	91	334726	11.37506	ppb		99
69)	Bromoform	10.27	173	24409	10.50385	ppb		98
71)	Isopropylbenzene	10.56	105	329085	11.43797	ppb		97
72)	1,1,2,2-Tetrachloroethane	10.97	83	27633	10.16681	ppb		95
73)	1,2,3-Trichloropropane	11.01	110	8586	9.51707	ppb		91
74)	t-1,4-Dichloro-2-Butene	11.05	53	5140	9.03365	ppb		88
75)	Bromobenzene	10.92	156	69791	10.50422	ppb		99
76)	n-Propylbenzene	11.13	91	376178	11.84098	ppb		98
77)	4-Ethyltoluene	11.30	105	312748	11.17272	ppb		99
78)	2-Chlorotoluene	11.21	91	209844	11.04181	ppb		99
79)	1,3,5-Trimethylbenzene	11.40	105	271390	11.62804	ppb		99
80)	4-Chlorotoluene	11.37	91	236582	11.04599	ppb		97
81)	Tert-Butylbenzene	11.84	119	237891	11.38769	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	256893	11.28122	ppb		99
83)	Sec-Butylbenzene	12.15	105	320671	11.51776	ppb		100
84)	p-Isopropyltoluene	12.37	119	279820	11.50660	ppb		99
85)	Benzyl Chloride	12.59	91	22827	12.71871	ppb		93
86)	1,3-DCB	12.26	146	145547	10.95450	ppb		98
87)	1,4-DCB	12.39	146	135708	10.42312	ppb		99
88)	n-Butylbenzene	12.95	91	233637	12.23655	ppb		99
89)	1,2-DCB	12.90	146	114660	10.54733	ppb		95
90)	Hexachloroethane	13.27	117	38688	11.96967	ppb		96
91)	1,2-Dibromo-3-chloropropan	14.02	75	3287	8.79621	ppb	#	85
92)	1,2,4-Trichlorobenzene	15.23	180	61624	9.99590	ppb		99
93)	Hexachlorobutadiene	15.53	225	58922	11.81272	ppb		98
94)	Naphthalene	15.56	128	41834	8.00798	ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	38258	9.10715	ppb		96

(#) = qualifier out of range (m) = manual integration

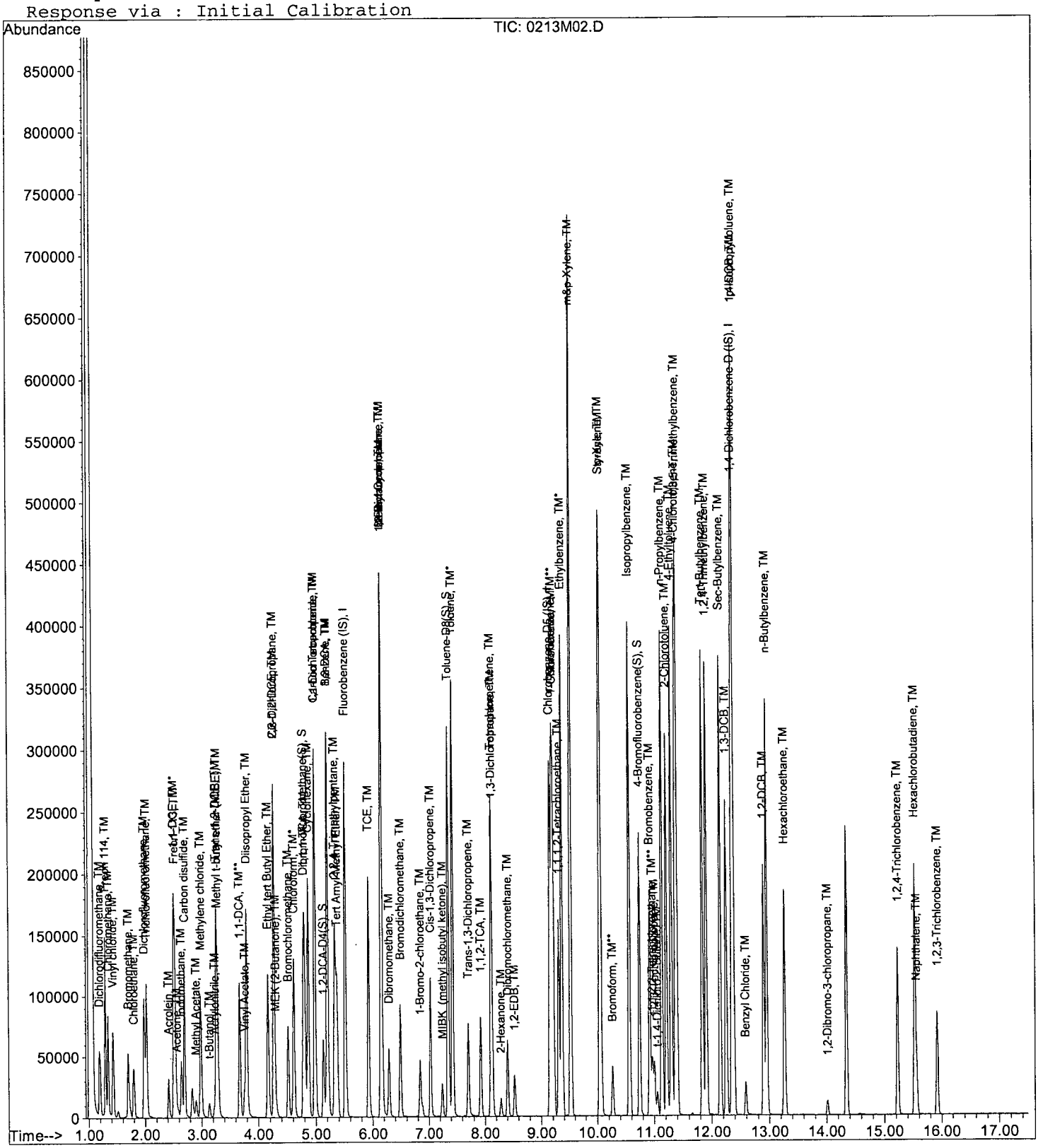
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M02.D
Acq On : 13 Feb 17 9:57
Sample : 170213A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 7:24 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



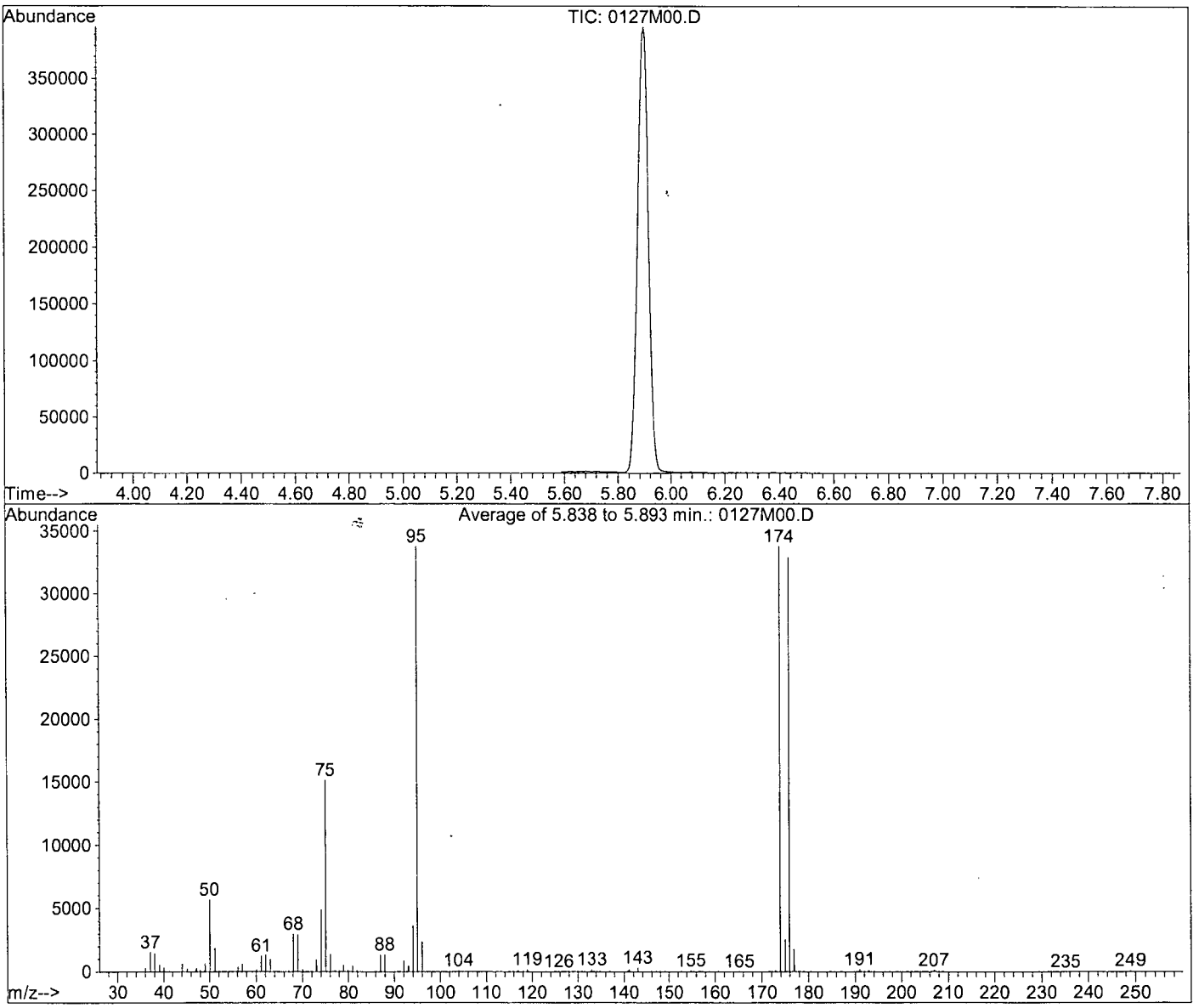
457

BFB

Data File : M:\MAX\DATA\M170127\0127M00.D
Acq On : 27 Jan 17 9:35
Sample : 5ng BFB STD 12/15/16
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	5692	PASS
75	95	30	60	44.8	15149	PASS
95	95	100	100	100.0	33790	PASS
96	95	5	9	7.1	2415	PASS
173	174	0.00	2	0.4	137	PASS
174	95	50	100	100.0	33786	PASS
175	174	5	9	7.5	2532	PASS
176	174	95	101	97.4	32900	PASS
177	176	5	9	5.4	1780	PASS

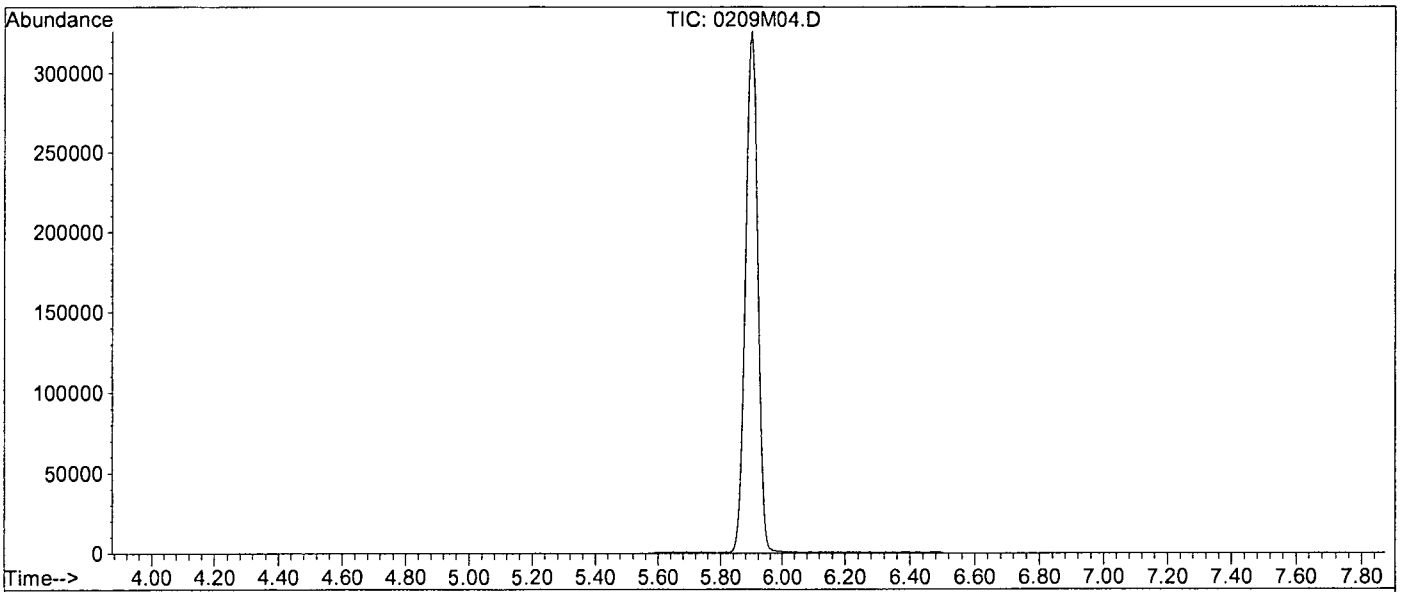
0127M00.D MALLW.M Mon Jan 30 08:03:23 2017

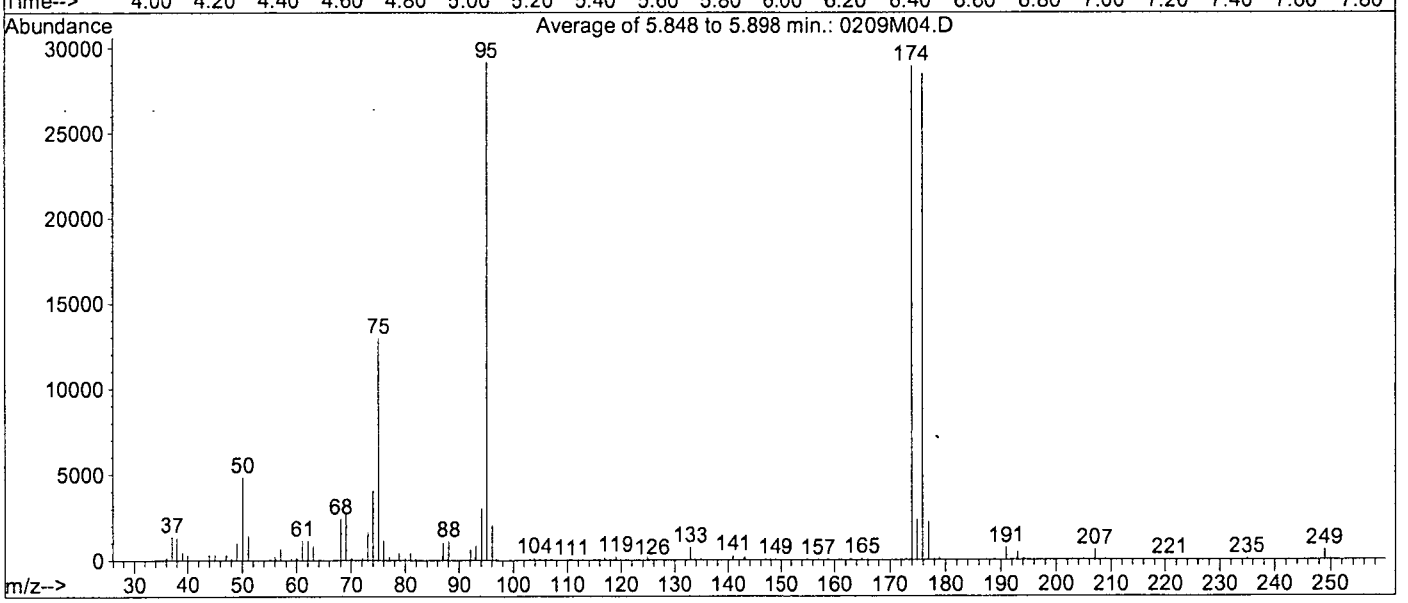
BFB

Data File : M:\MAX\DATA\M170127\0209M04.D
Acq On : 9 Feb 17 7:39
Sample : 5ng BFB STD 1/22/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.848 to 5.898 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	4853	PASS
75	95	30	60	44.4	12958	PASS
95	95	100	100	100.0	29159	PASS
96	95	5	9	7.1	2063	PASS
173	174	0.00	2	0.3	91	PASS
174	95	50	100	99.3	28954	PASS
175	174	5	9	8.1	2350	PASS
176	174	95	101	98.5	28510	PASS
177	176	5	9	7.8	2227	PASS

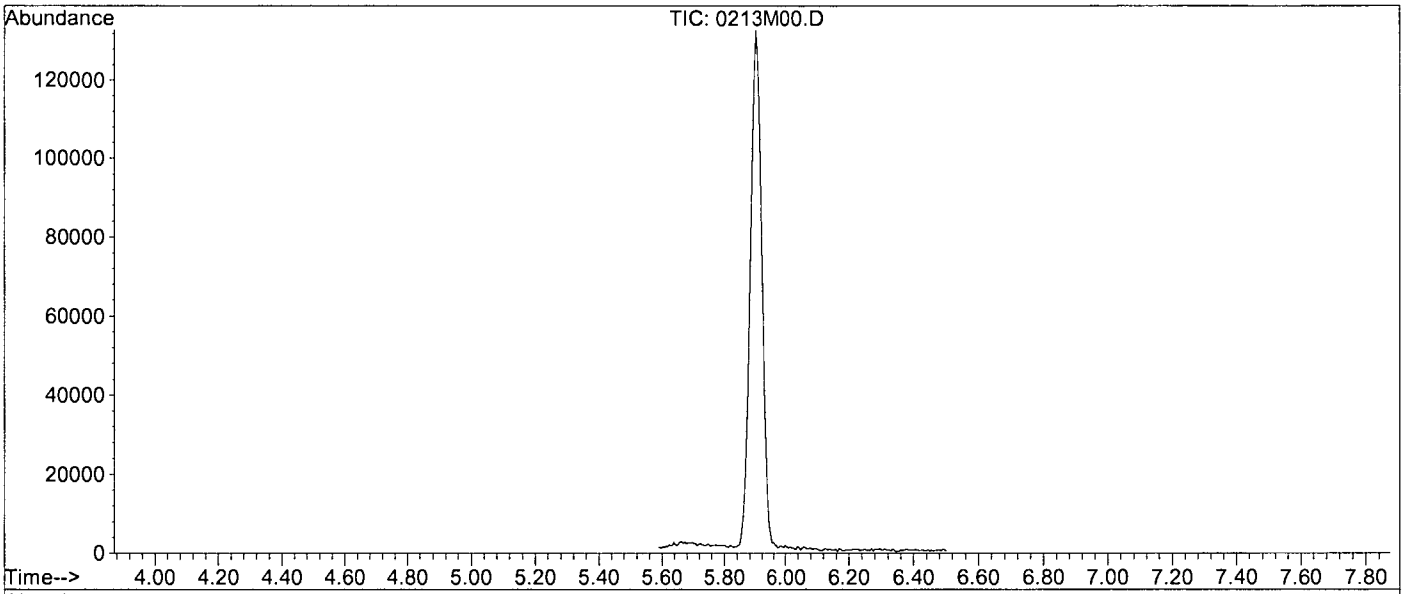
0209M04.D MALLW.M Thu Feb 09 14:41:28 2017

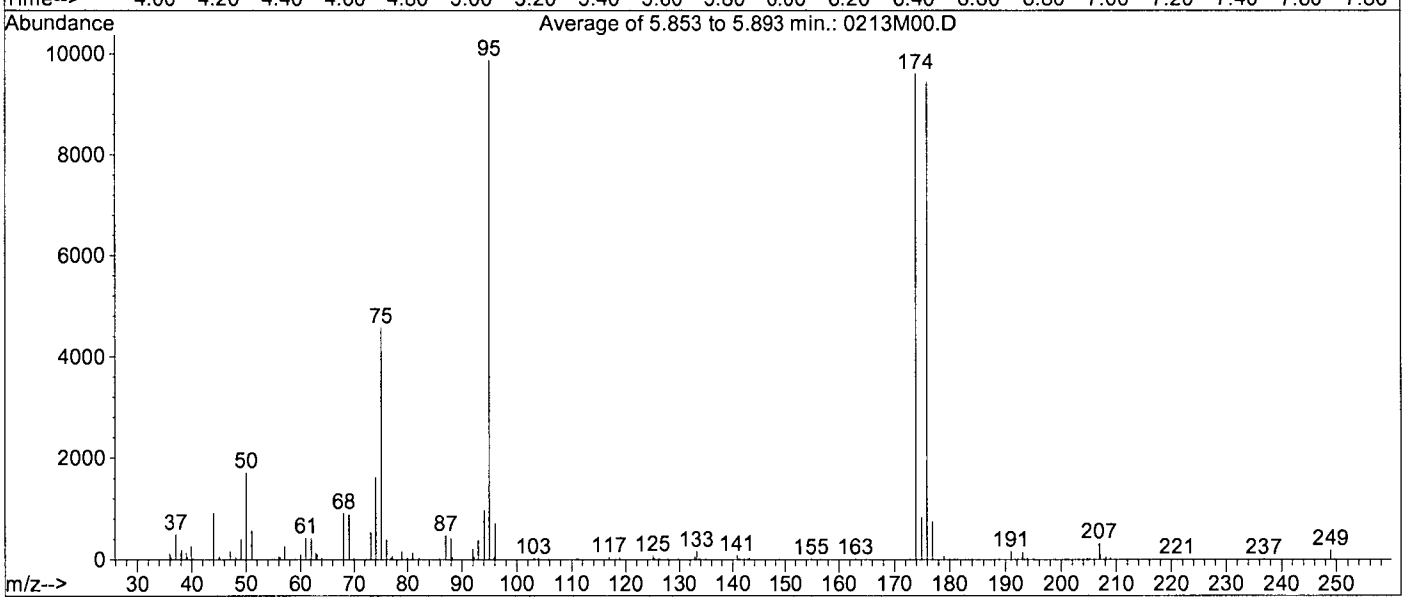
BFB

Data File : M:\MAX\DATA\M170127\0213M00.D
Acq On : 13 Feb 17 9:00
Sample : 5ng BFB STD 1/22/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.853 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	1711	PASS
75	95	30	60	46.2	4561	PASS
95	95	100	100	100.0	9873	PASS
96	95	5	9	7.2	712	PASS
173	174	0.00	2	0.2	15	PASS
174	95	50	100	97.3	9604	PASS
175	174	5	9	8.6	825	PASS
176	174	95	101	98.3	9440	PASS
177	176	5	9	7.9	743	PASS

0213M00.D MALLW.M Tue Feb 14 15:08:08 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0127M00.D	1	5ng BFB STD 12/15/16	2ul	27 Jan 17 9:35
2	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
3	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
4	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
5	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
6	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
7	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
8	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
9	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
10	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
11	16	0127M16.D	1	(SS) 10ug/L VOC STD 01/27/16	IS&S 10/20/16	27 Jan 17 17:03
12	1	0209M04.D	1	5ng BFB STD 1/22/17	2ul	9 Feb 17 7:39
13	2	0209M06.D	1	170209A CCV/LCS 10ug/L	IS&S 10/20/16	9 Feb 17 8:31
14	10	0209M14.D	1	170209A BLK-1WM	IS&S 10/20/16	9 Feb 17 12:19
15	23	0209M27.D	1	AZ49738W01	IS&S 10/20/16	9 Feb 17 18:28
16	24	0209M28.D	1	AZ49739W01	IS&S 10/20/16	9 Feb 17 18:57
17	25	0209M29.D	1	AZ49740W01	IS&S 10/20/16	9 Feb 17 19:25
18	26	0209M30.D	1	Ending CCV 8260 10ug/L 02/09/17	IS&S 10/20/16	9 Feb 17 19:53
19	1	0213M00.D	1	5ng BFB STD 1/22/17	2ul	13 Feb 17 9:00
20	2	0213M02.D	1	170213A CCV/LCS 10ug/L	IS&S 10/20/16	13 Feb 17 9:57
21	11	0213M11.D	1	170213A BLK1WM	IS&S 10/20/16	13 Feb 17 14:12
22	15	0213M15.D	1	AZ49742W02	IS&S 10/20/16	13 Feb 17 16:05
23	16	0213M16.D	1	AZ49743W02	IS&S 10/20/16	13 Feb 17 16:34
24	17	0213M17.D	1	AZ49744W02	IS&S 10/20/16	13 Feb 17 17:02
25	18	0213M18.D	1	AZ49741W02	IS&S 10/20/16	13 Feb 17 17:31
26	26	0213M26.D	1	Ending CCV 8260 10ug/L 2/13/17	IS&S 10/20/16	13 Feb 17 21:17

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216080**
Batch ID: #GRO86-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.7	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/10/17 10:51:49 AM

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49741 - 216157**
Batch ID: #GRO86-170213AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/13/17	2/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	99.1	85-114			%	2/13/17	2/13/17

Quant Method: MGAS6211.
Run #: 0213M11
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 2:19:29 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130

Case No: 82130 Date Analyzed: 02/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170209AM-LCS	Lab Control Spike	85-114	102				
170209AM-BLK	Blank	85-114	98.7				
AZ49738	ERH209	85-114	98.7				
AZ49739	ERH218	85-114	101				
AZ49740	ERH215	85-114	100				

Comments: Batch: #GRO86-170209AM

Printed: 02/10/17 10:51:46 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82130
Case No: 82130 Date Analyzed: 2/13/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213AM-LCS	Lab Control Spike	85-114	102				
170213AM-BLK	Blank	85-114	99.1				
AZ49742	ERH217	85-114	99.9				
AZ49743	ERH210	85-114	99.5				
AZ49744	ERH229	85-114	101				
AZ49741	ERH216	85-114	102				

Comments: Batch: #GRO86-170213A

Printed: 2/14/17 2:19:16 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170209W-49675 LCS - 216080**
Batch ID: #GRO86-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	295	98.3	78-122
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.6	102	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	02/09/17
Analysis Date :	02/09/17
Instrument :	Max
Run :	0209M09
Initials :	ARO

Printed: 02/10/17 10:51:42 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170213W-49741 LCS - 216157**
Batch ID: #GRO86-170213AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	312	104	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.6	102	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M05
Initials :	SV

Printed: 2/14/17 2:19:34 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82130
Case No: 82130
Date Analyzed: 02/09/17
Matrix: WATER
Instrument: Max
Blank ID: 170209AM-BLK
Time Analyzed: 1219

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170209AM-LCS	Lab Control Spike	0209M09	02/09/17 0957
170209AM-BLK	Blank	0209M14	02/09/17 1219
AZ49738	ERH209	0209M27	02/09/17 1828
AZ49739	ERH218	0209M28	02/09/17 1857
AZ49740	ERH215	0209M29	02/09/17 1925

Comments: Batch: #GRO86-170209AM

Printed: 02/10/17 10:51:39 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82130
Case No: 82130
Date Analyzed: 2/13/17
Matrix: WATER
Instrument: Max
Blank ID: 170213AM-BLK
Time Analyzed: 1412

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213AM-LCS	Lab Control Spike	0213M05	2/13/17 1122
170213AM-BLK	Blank	0213M11	2/13/17 1412
AZ49742	ERH217	0213M15	2/13/17 1605
AZ49743	ERH210	0213M16	2/13/17 1634
AZ49744	ERH229	0213M17	2/13/17 1702
AZ49741	ERH216	0213M18	2/13/17 1731

Comments: Batch: #GRO86-170213A

Printed: 2/14/17 2:19:21 PM
Form 4, Blank Summary

ORGANICS
Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH209
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49738
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.7	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M27
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M27.D Vial: 23
Acq On : 9 Feb 17 18:28 Operator: PM,DG,SV,CMM
Sample : AZ49738W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:58 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	289670	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

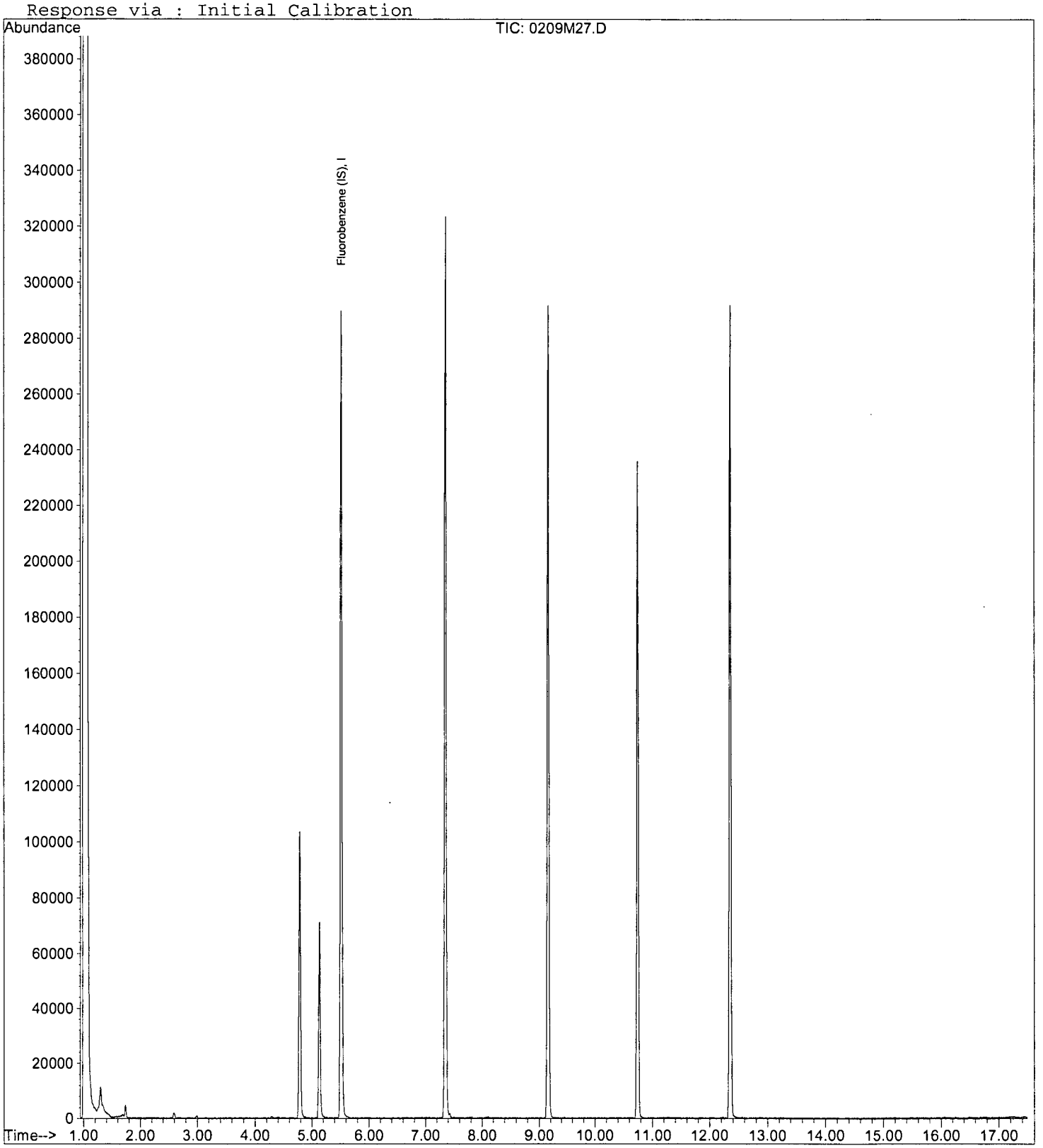
Data File : M:\MAX\DATA\M170127\0209M27.D
Acq On : 9 Feb 17 18:28
Sample : AZ49738W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M27.D Vial: 23
Acq On : 9 Feb 17 18:28 Operator: PM,DG,SV,CMM
Sample : AZ49738W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	282797	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	205846	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	103909	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64368	26.54 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.160%	
3) 1,2-DCA-D4(S)	5.13	65	50926	26.50 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.996%	
5) Toluene-D8(S)	7.35	98	245426	24.65 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	88404	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.664%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M28
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M28.D
Acq On : 9 Feb 17 18:57
Sample : AZ49739W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294935	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

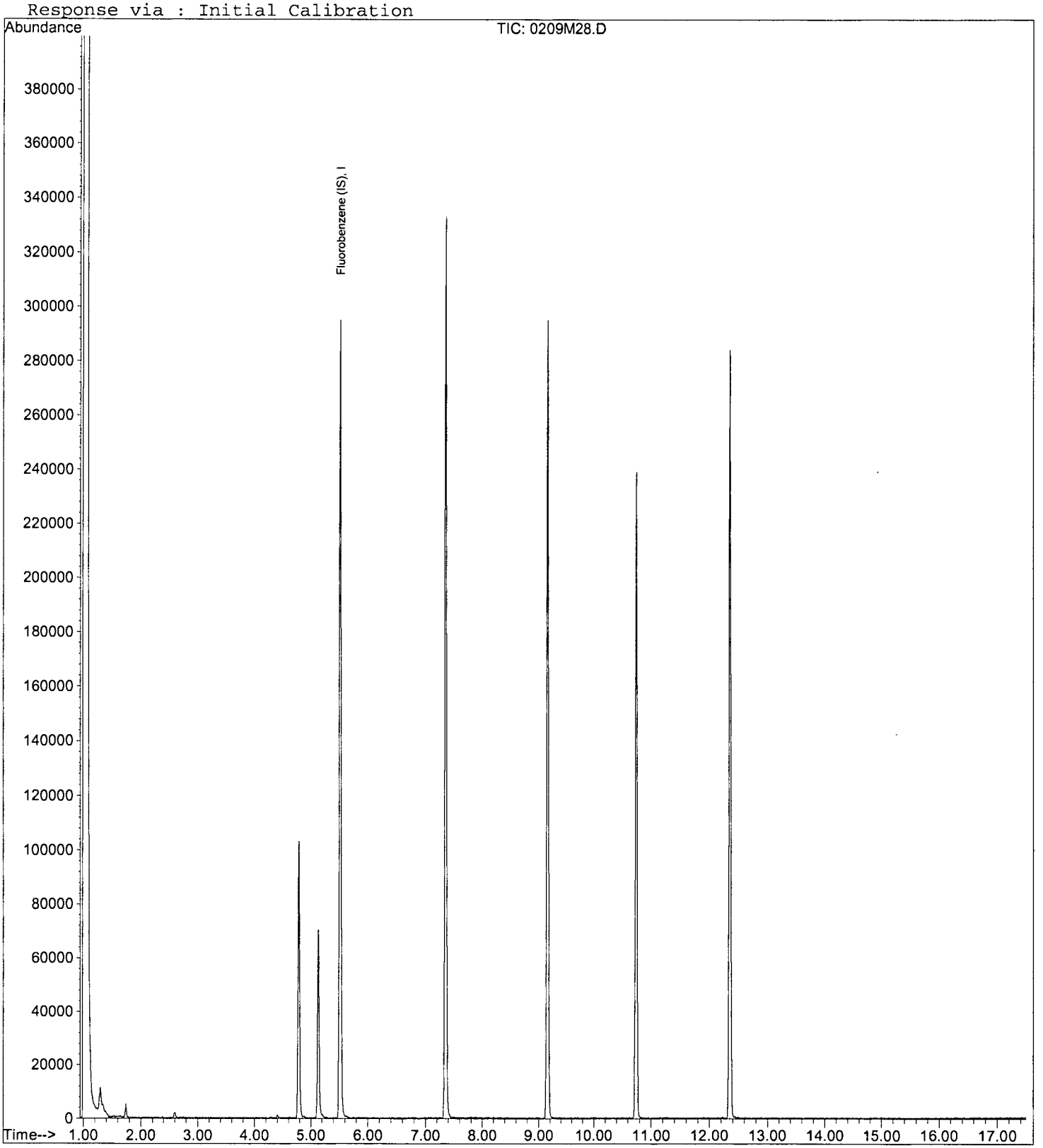
Data File : M:\MAX\DATA\M170127\0209M28.D
Acq On : 9 Feb 17 18:57
Sample : AZ49739W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M28.D Vial: 24
Acq On : 9 Feb 17 18:57 Operator: PM,DG,SV,CMM
Sample : AZ49739W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	284518	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	205195	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	103158	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64091	26.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.060%	
3) 1,2-DCA-D4(S)	5.13	65	52202	27.00 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.992%	
5) Toluene-D8(S)	7.35	98	252091	25.40 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.580%	
6) 4-Bromofluorobenzene(S)	10.74	95	90029	25.20 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.796%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH215
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49740
QCG: #GRO86-170209AM-216080

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.M
Run #: 0209M29
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: ARO

Printed: 02/10/17 10:51:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M29.D
Acq On : 9 Feb 17 19:25
Sample : AZ49740W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	292705	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

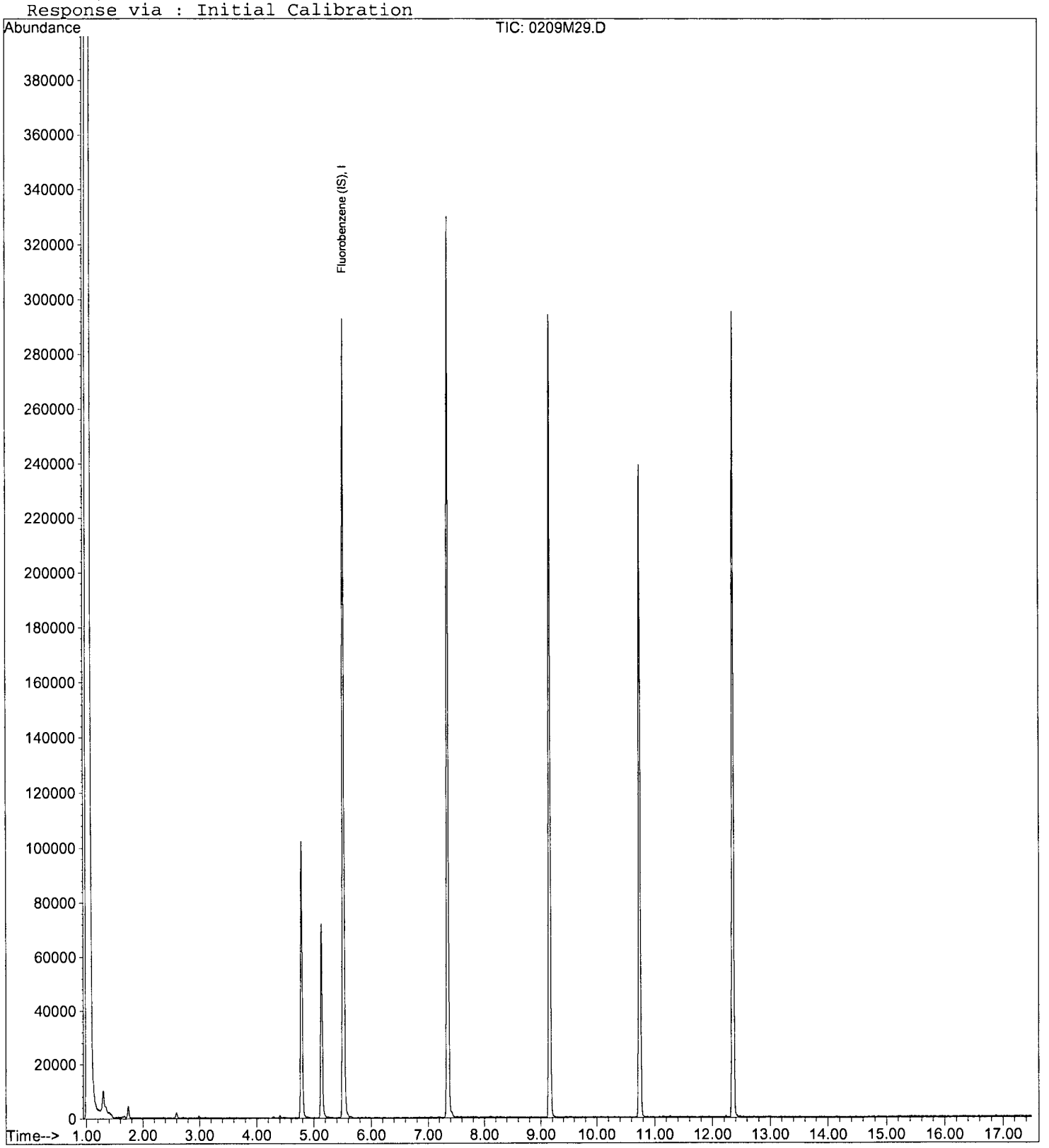
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M29.D
Acq On : 9 Feb 17 19:25
Sample : AZ49740W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:58 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M29.D Vial: 25
Acq On : 9 Feb 17 19:25 Operator: PM,DG,SV,CMM
Sample : AZ49740W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	285656	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	207761	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104913	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	63334	25.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.408%	
3) 1,2-DCA-D4(S)	5.13	65	53266	27.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 109.756%	
5) Toluene-D8(S)	7.35	98	249564	24.83 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.320%	
6) 4-Bromofluorobenzene(S)	10.74	95	90498	25.02 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.072%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #GRO86-170213AM-216157

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	65 ++	20	18.0	8.6	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	102	85-114			%	02/13/17	02/13/17

++(G3) The analyst has noted that the chromatogram of this sample includes higher boiling hydrocarbons.

Quant Method:	MGAS6211.M
Run #:	0213M18
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	SV

Printed: 2/14/17 2:22:24 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M18.D Vial: 18
Acq On : 13 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49741W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 13:22 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	260980	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	3296930m	64.74381 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

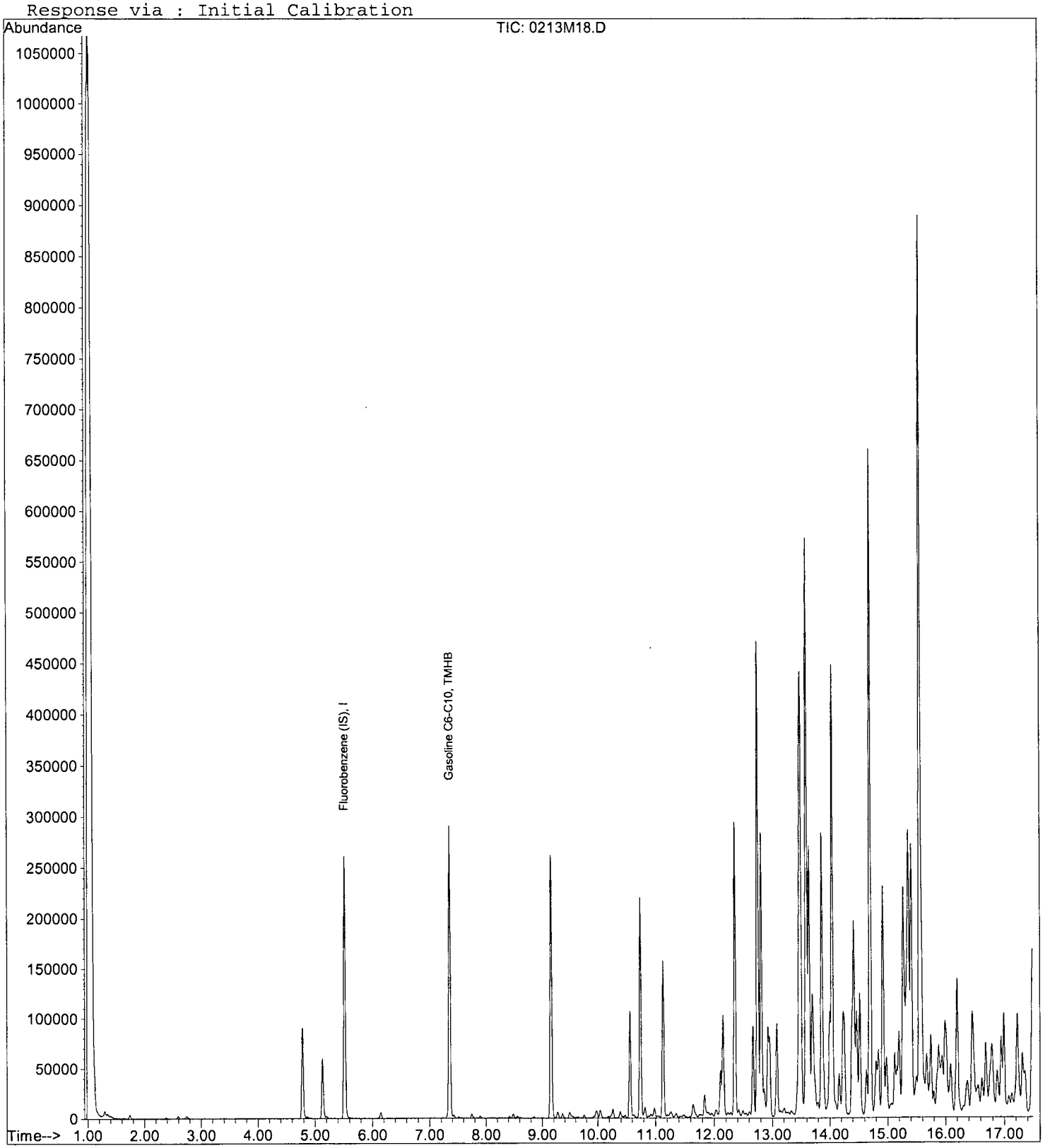
Data File : M:\MAX\DATA\M170127\0213M18.D
Acq On : 13 Feb 17 17:31
Sample : AZ49741W02
Misc : IS&S 10/20/16

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 13:22 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M18.D Vial: 18
Acq On : 13 Feb 17 17:31 Operator: PM,DG,SV,CMM
Sample : AZ49741W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	254320	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	184887	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	102834	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	57215	26.23174 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.928%	
3) 1,2-DCA-D4(S)	5.13	65	43694	25.28125 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.124%	
5) Toluene-D8(S)	7.35	98	217343	24.29974 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.200%	
6) 4-Bromofluorobenzene(S)	10.74	95	82186	25.53074 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.124%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M18.D MSUR127.M Tue Feb 14 13:32:04 2017

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH217
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49742
QCG: #GRO86-170213AM-216157

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.9	85-114			%	02/13/17	02/13/17

Quant Method: MGAS6211.M
Run #: 0213M15
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 2:19:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M15.D Vial: 15
Acq On : 13 Feb 17 16:05 Operator: PM,DG,SV,CMM
Sample : AZ49742W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 13:23 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	257843	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0213M15.D MGAS6211.M Tue Feb 14 13:26:03 2017

Quantitation Report

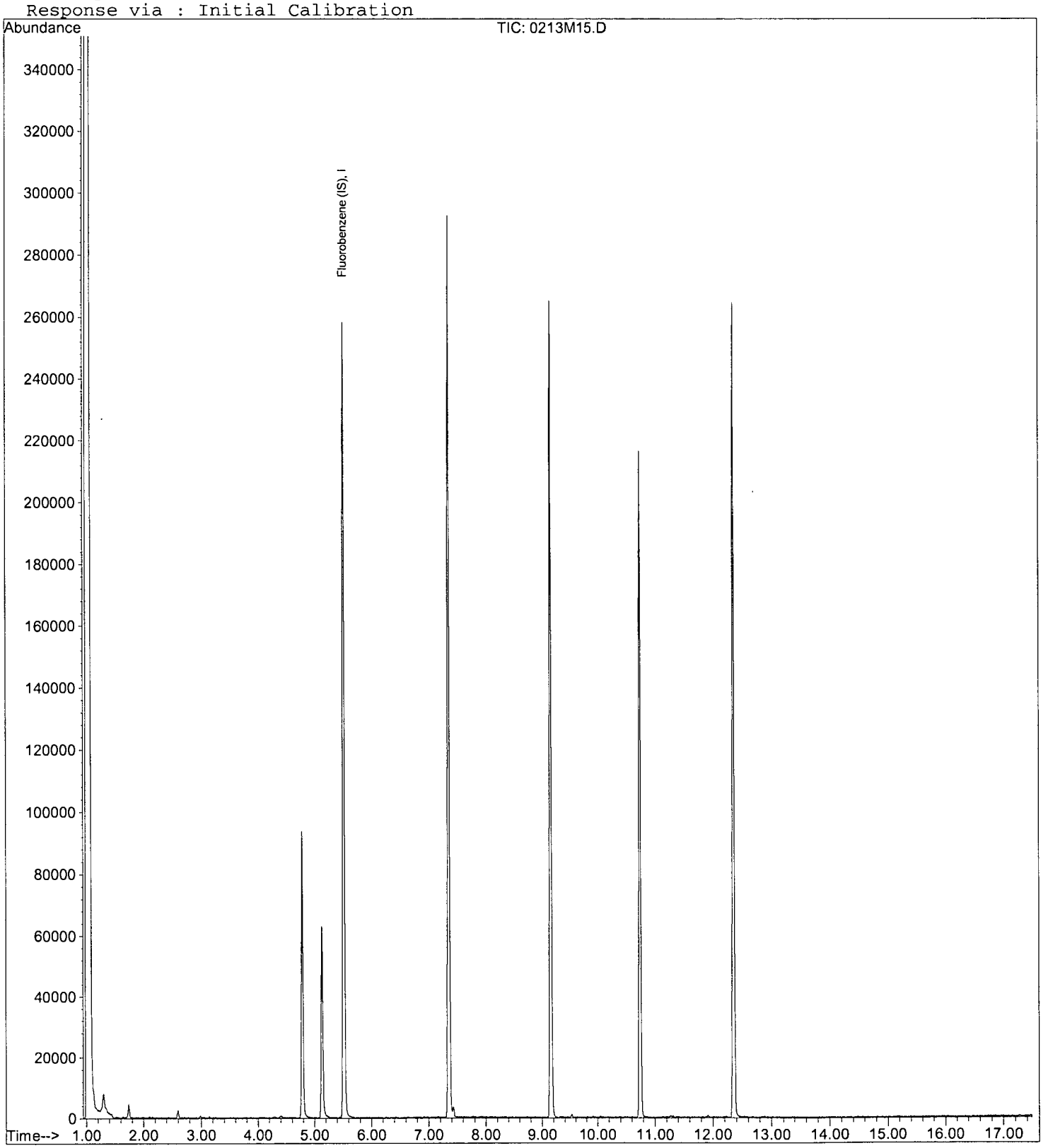
Data File : M:\MAX\DATA\M170127\0213M15.D
Acq On : 13 Feb 17 16:05
Sample : AZ49742W02
Misc : IS&S 10/20/16

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 13:23 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M15.D Vial: 15
Acq On : 13 Feb 17 16:05 Operator: PM,DG,SV,CMM
Sample : AZ49742W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 13:30 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	254811	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	187159	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	95233	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	56752	25.96933 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.876%	
3) 1,2-DCA-D4(S)	5.13	65	46135	26.64217 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.568%	
5) Toluene-D8(S)	7.35	98	224175	24.75933 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.036%	
6) 4-Bromofluorobenzene(S)	10.74	95	81420	24.98575 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.944%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0213M15.D MSUR127.M Tue Feb 14 13:30:50 2017

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82130

Sample ID: ERH210

APPL ID: AZ49743

Sample Collection Date: 02/07/17

QCG: #GRO86-170213AM-216157

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.5	85-114			%	02/13/17	02/13/17

Quant Method:	MGAS6211.M
Run #:	0213M16
Instrument:	Max
Sequence:	M170127
Dilution Factor:	1
Initials:	SV

Printed: 2/14/17 2:19:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M16.D Vial: 16
Acq On : 13 Feb 17 16:34 Operator: PM,DG,SV,CMM
Sample : AZ49743W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 13:24 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	268040	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

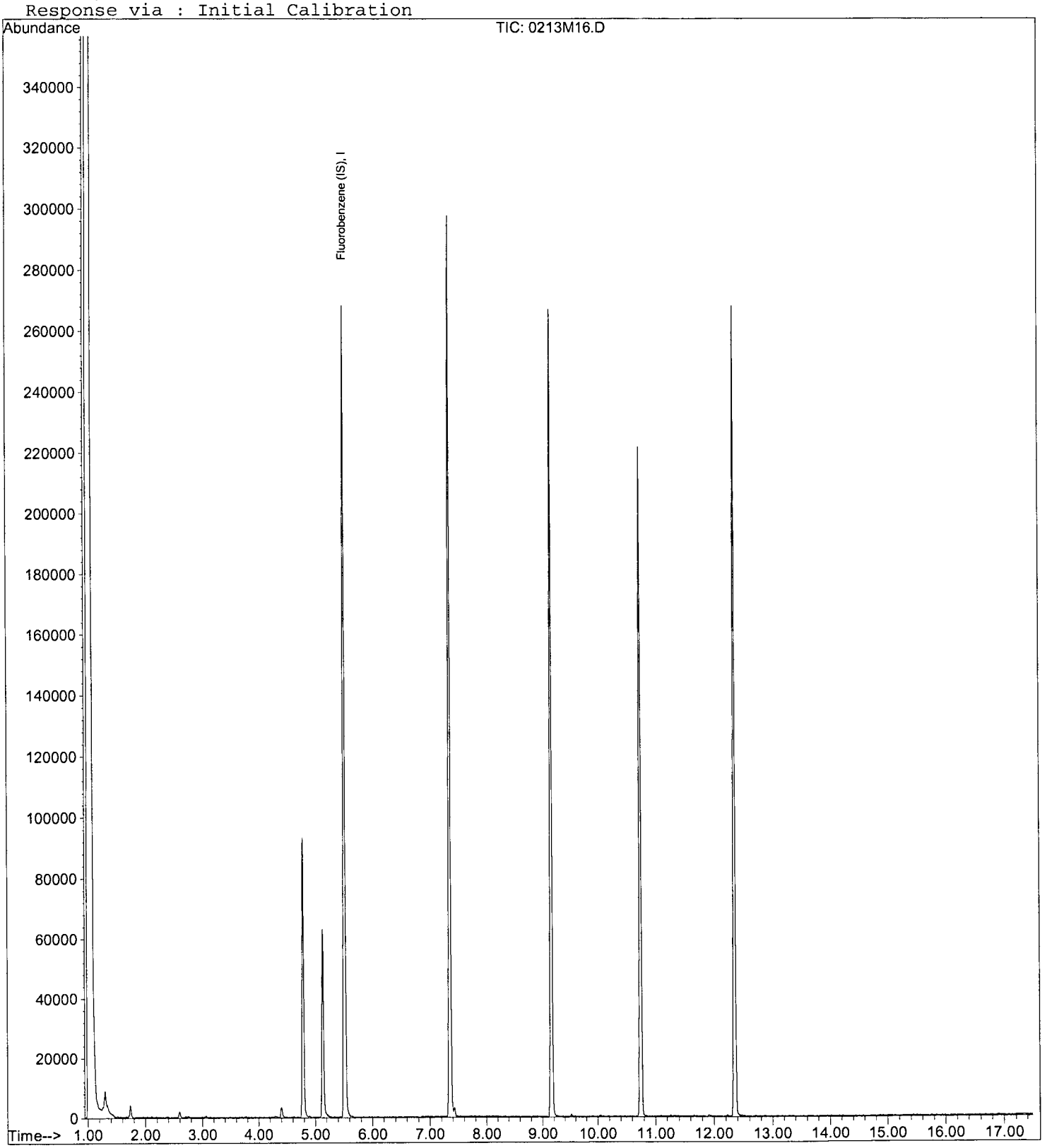
Data File : M:\MAX\DATA\M170127\0213M16.D
Acq On : 13 Feb 17 16:34
Sample : AZ49743W02
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 13:24 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M16.D Vial: 16
Acq On : 13 Feb 17 16:34 Operator: PM,DG,SV,CMM
Sample : AZ49743W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	257104	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	189379	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	95566	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58372	26.47241 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.888%	
3) 1,2-DCA-D4(S)	5.13	65	46358	26.53219 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.128%	
5) Toluene-D8(S)	7.35	98	223804	24.42859 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.716%	
6) 4-Bromofluorobenzene(S)	10.74	95	82020	24.87482 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.500%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M16.D MSUR127.M Tue Feb 14 13:31:22 2017

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH229
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49744
QCG: #GRO86-170213AM-216157

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/13/17	02/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	02/13/17	02/13/17

Quant Method: MGAS6211.M
Run #: 0213M17
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 2:19:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M17.D Vial: 17
Acq On : 13 Feb 17 17:02 Operator: PM,DG,SV,CMM
Sample : AZ49744W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 13:25 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	276196	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0213M17.D MGAS6211.M Tue Feb 14 13:26:10 2017

Quantitation Report

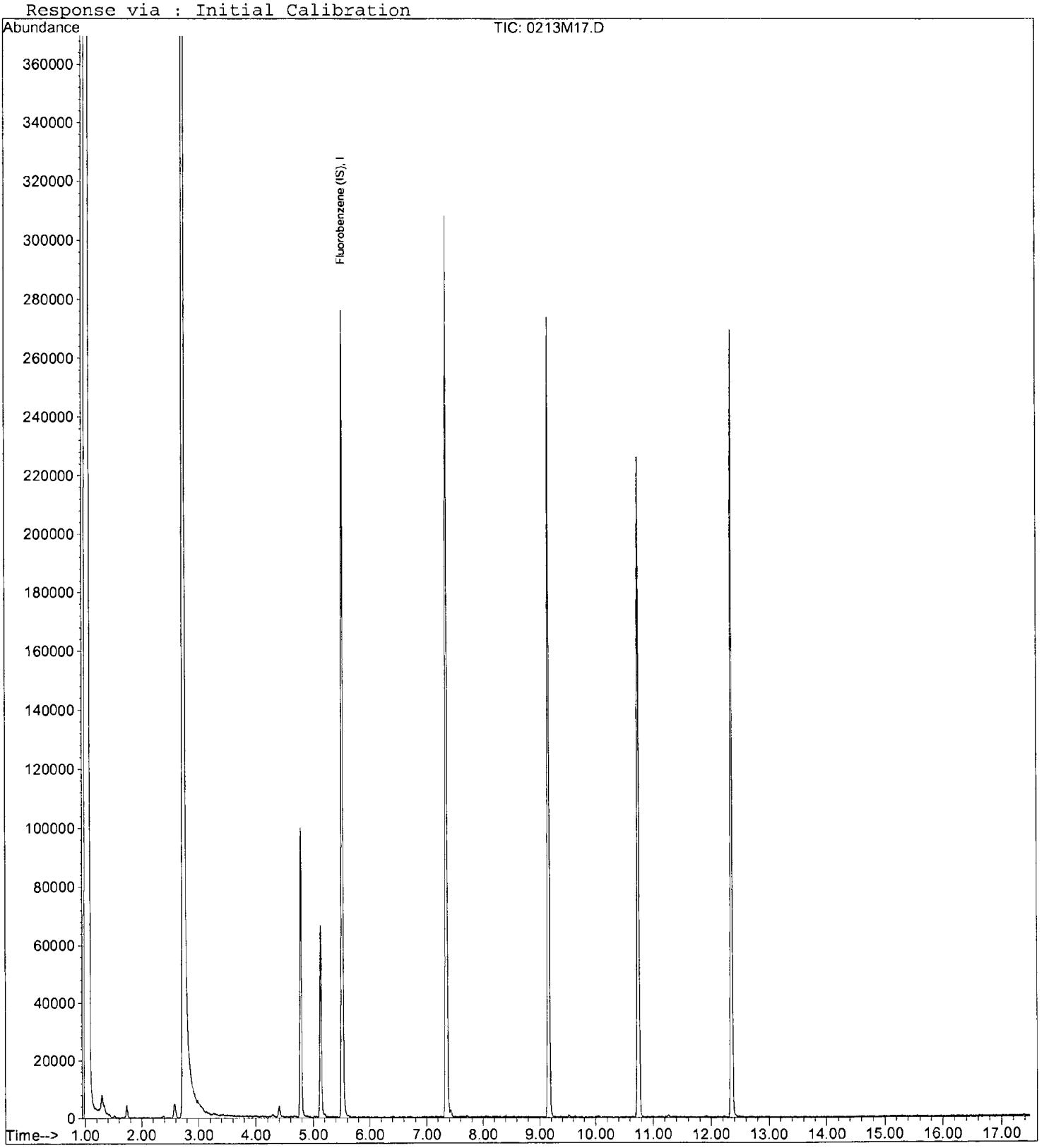
Data File : M:\MAX\DATA\M170127\0213M17.D
Acq On : 13 Feb 17 17:02
Sample : AZ49744W02
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 13:25 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M17.D Vial: 17
Acq On : 13 Feb 17 17:02 Operator: PM,DG,SV,CMM
Sample : AZ49744W02 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	265089	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	193076	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	96704	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59599	26.21471 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.860%	
3) 1,2-DCA-D4(S)	5.13	65	48342	26.83429 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.336%	
5) Toluene-D8(S)	7.35	98	235012	25.16078 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.644%	
6) 4-Bromofluorobenzene(S)	10.74	95	84986	25.28082 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.124%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M17.D MSUR127.M Tue Feb 14 13:31:38 2017

ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/11/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0111M22.D	0111M23.D	0111M24.D	0111M25.D	0111M26.D	0111M27.D	0111M28.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	13.1	6.078	3.845	2.432	1.824	1.760	1.753				4.4	94	TMHBL	0.998
3																
4																
5																
6																
7																
8																
9																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M22.D
Acq On : 11 Jan 17 18:56
Sample : 20ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:35 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	347960	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.35	TIC	3655169m	21.64320	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

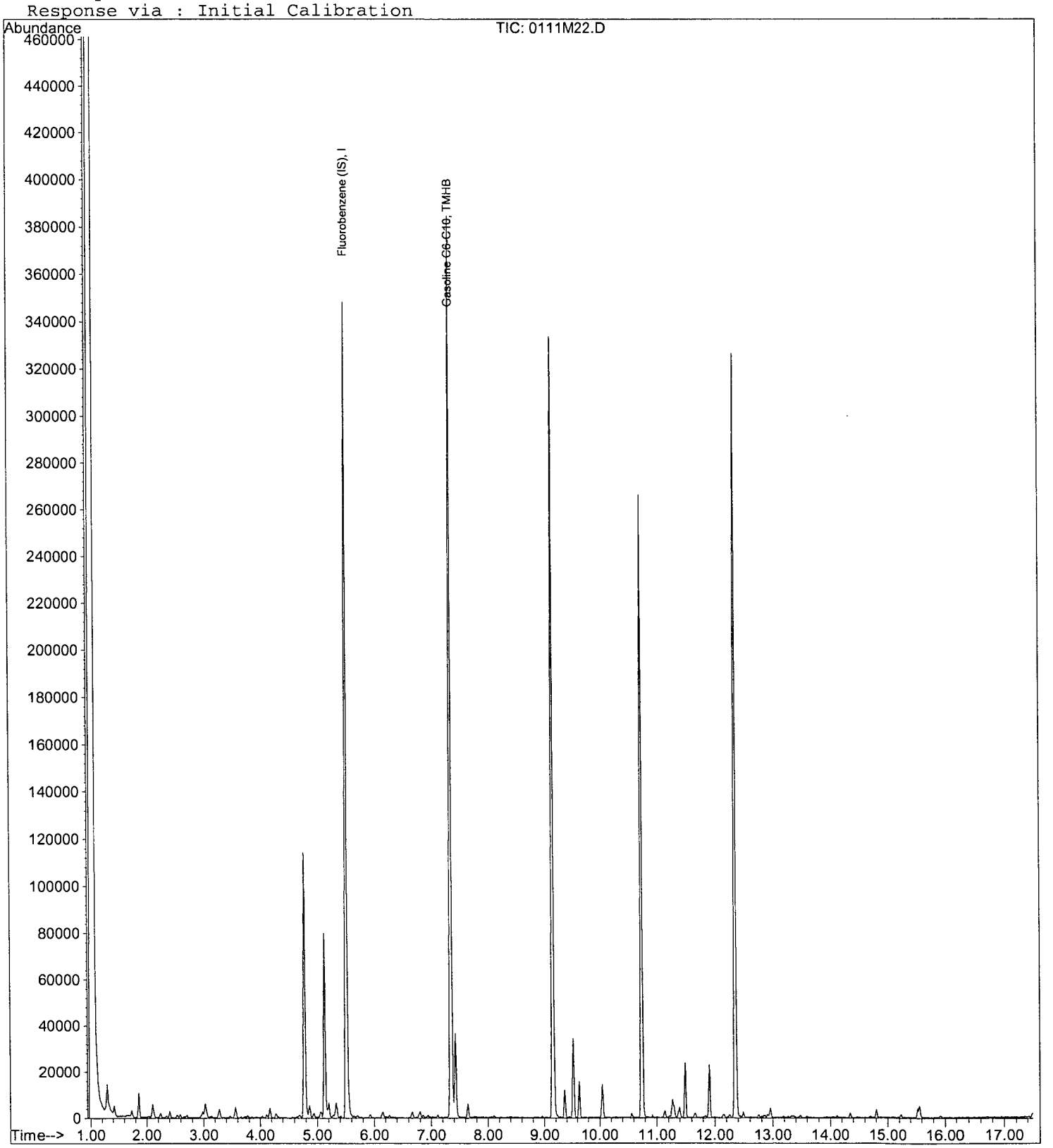
Data File : M:\MAX\DATA\M170111\0111M22.D
Acq On : 11 Jan 17 18:56
Sample : 20ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:35 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	356222	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.35	TIC	4329888m	50.44105	ppb	100

(#) = qualifier out of range (m) = manual integration
0111M23.D MGAS6111.M Thu Jan 12 13:25:35 2017

Quantitation Report

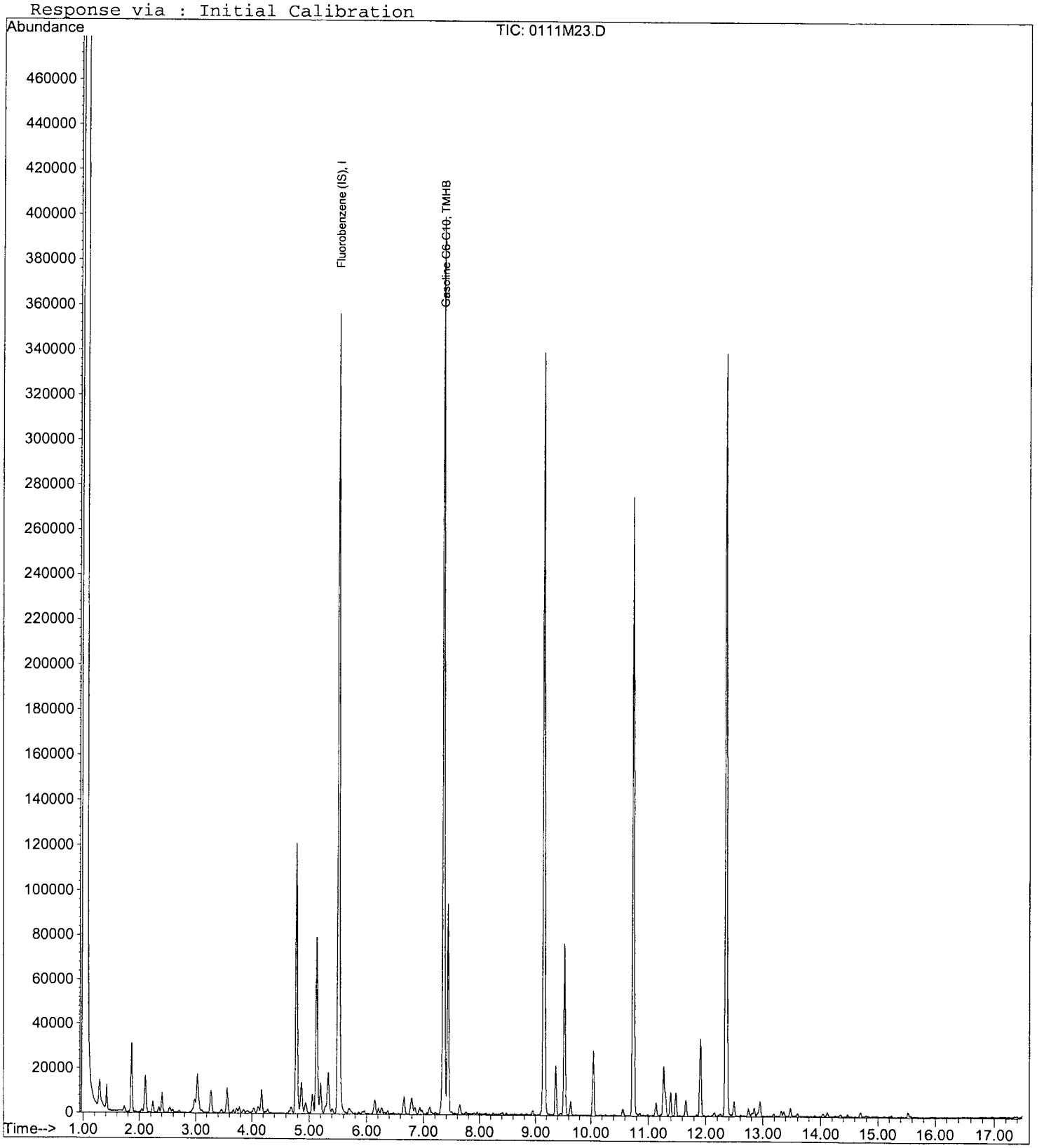
Data File : M:\MAX\DATA\M170111\0111M23.D
Acq On : 11 Jan 17 19:24
Sample : 50ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M24.D
Acq On : 11 Jan 17 19:53
Sample : 100ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348169	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	5338460m	105.89075 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

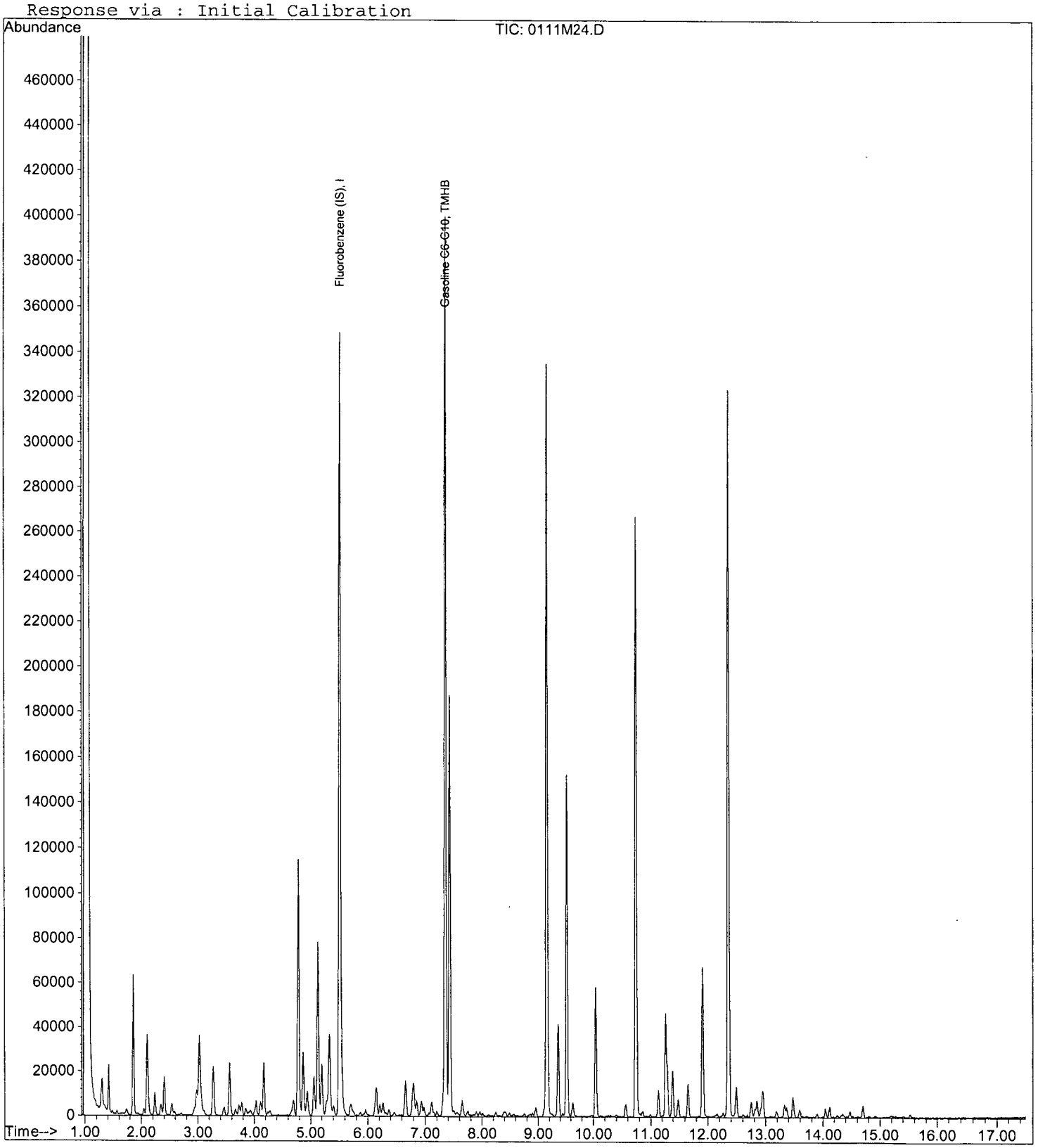
Data File : M:\MAX\DATA\M170111\0111M24.D
Acq On : 11 Jan 17 19:53
Sample : 100ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:37 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M25.D Vial: 23
Acq On : 11 Jan 17 20:21 Operator: PM,DG,SV,CMM
Sample : 300ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 12:38 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	335759	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8964309m	304.20348 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

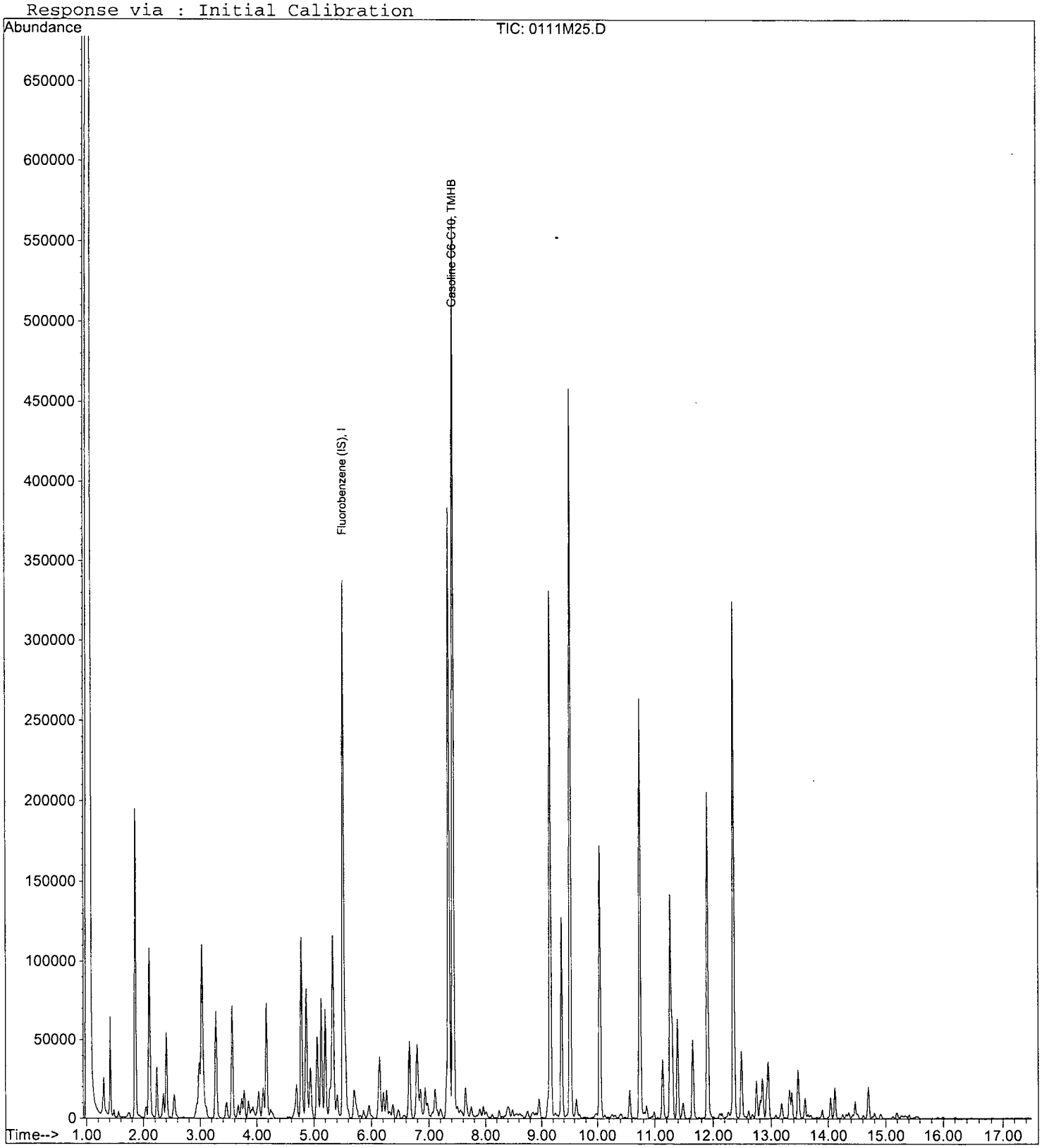
Data File : M:\MAX\DATA\M170111\0111M25.D
Acq On : 11 Jan 17 20:21
Sample : 300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:38 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	344780	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	15091213m	602.08069 ppb	100

(#) = qualifier out of range (m) = manual integration
0111M26.D MGAS6111.M Thu Jan 12 13:25:46 2017

Quantitation Report

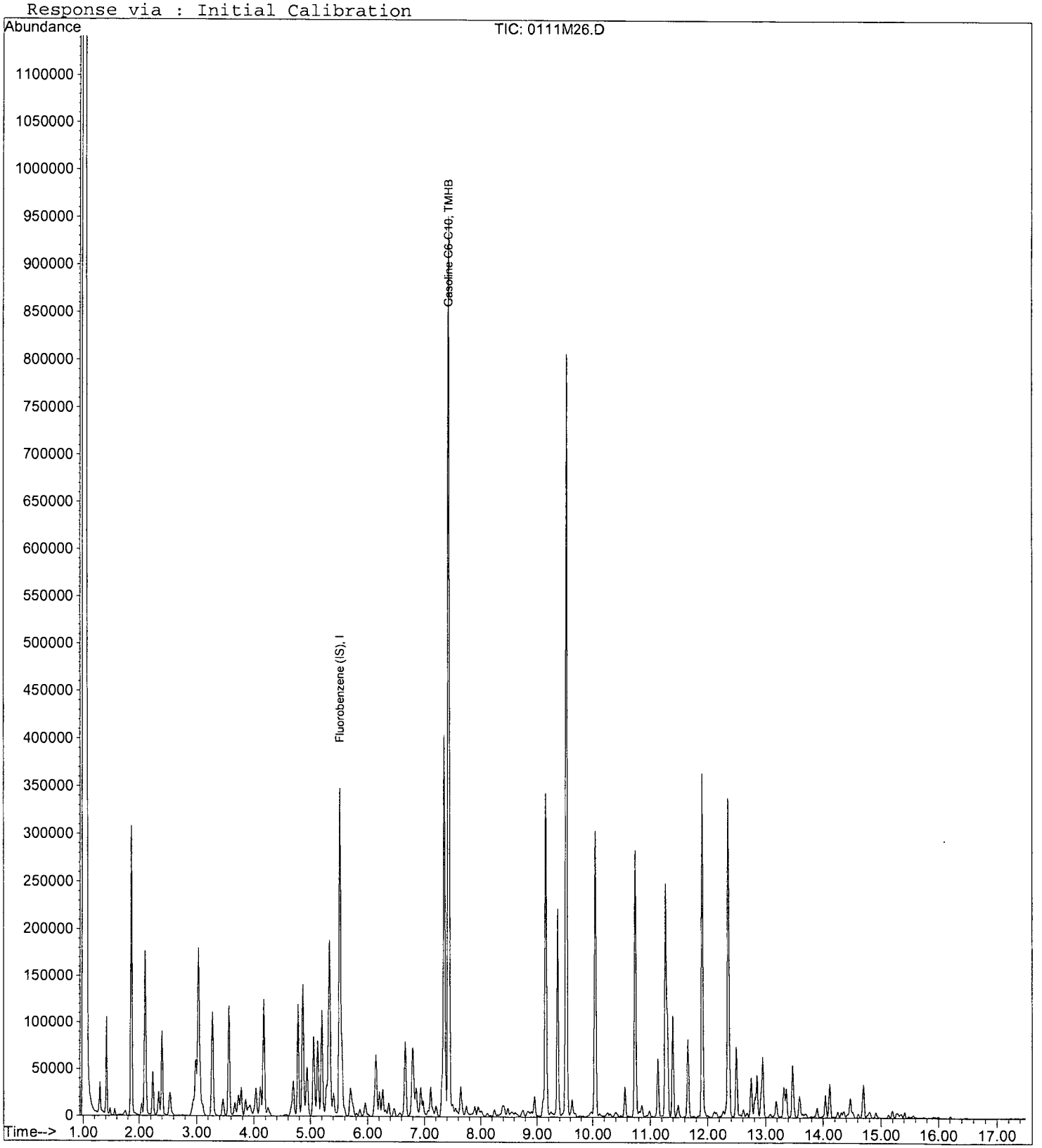
Data File : M:\MAX\DATA\M170111\0111M26.D
Acq On : 11 Jan 17 20:49
Sample : 600ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 12:39 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	348982	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	19651549m	820.89221 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

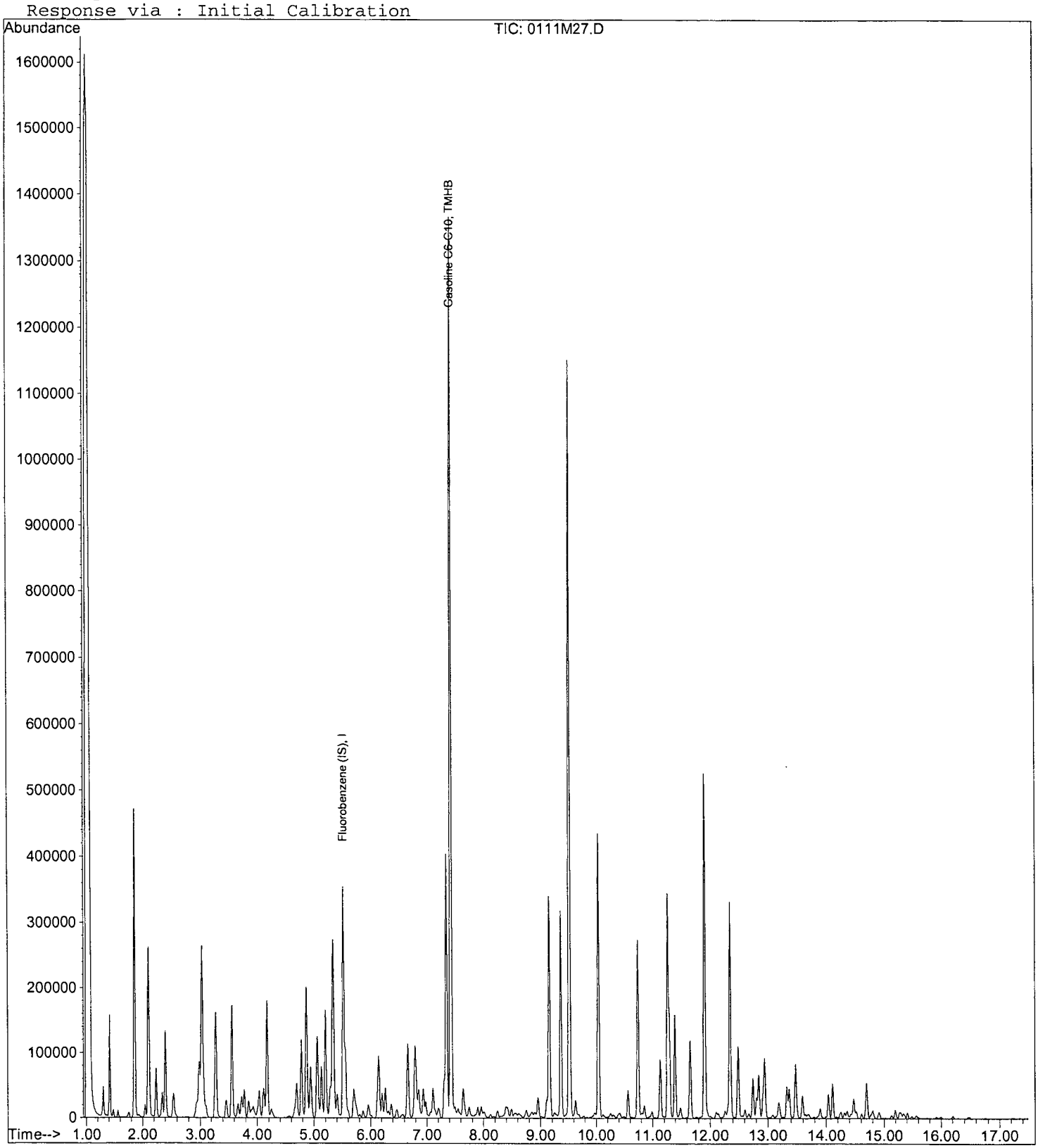
Data File : M:\MAX\DATA\M170111\0111M27.D
Acq On : 11 Jan 17 21:17
Sample : 800ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:08 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M28.D Vial: 26
Acq On : 11 Jan 17 21:46 Operator: PM,DG,SV,CMM
Sample : 1000ug/L GAS STD 1/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 12 13:09 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 12:28:10 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	369516	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	25906480m	1061.64762	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

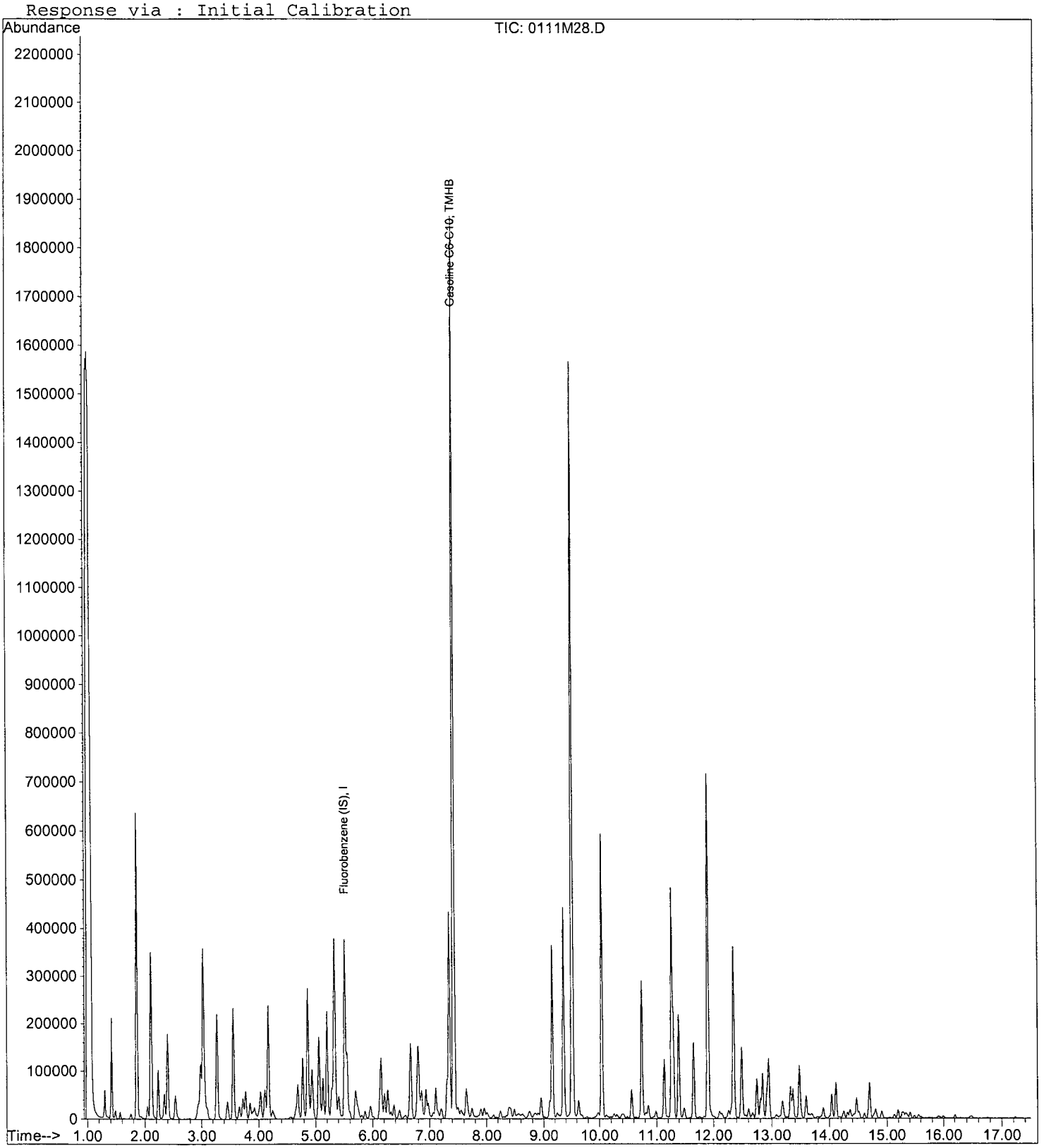
Data File : M:\MAX\DATA\M170111\0111M28.D
Acq On : 11 Jan 17 21:46
Sample : 1000ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

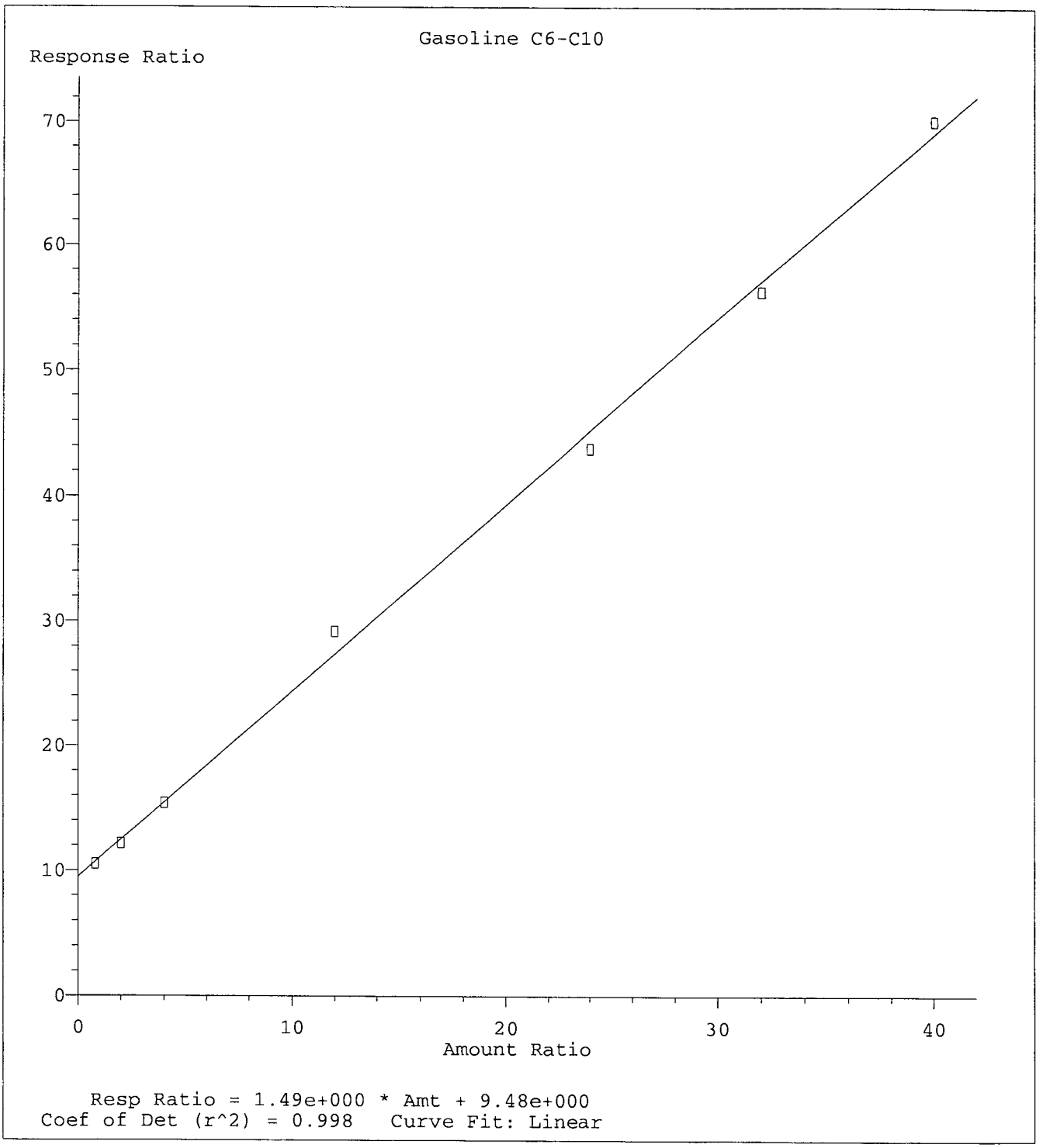
Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:09 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170111\MGAS6111.M
Calibration Table Last Updated: Thu Jan 12 13:09:40 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/11/17
Instrument: Max
Initial Cal. Date: 1/11/17
Data File: 0111M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.403	2.526	43	TMHBL	16
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			43.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017

Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	337548	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	10230204m	349.43485 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

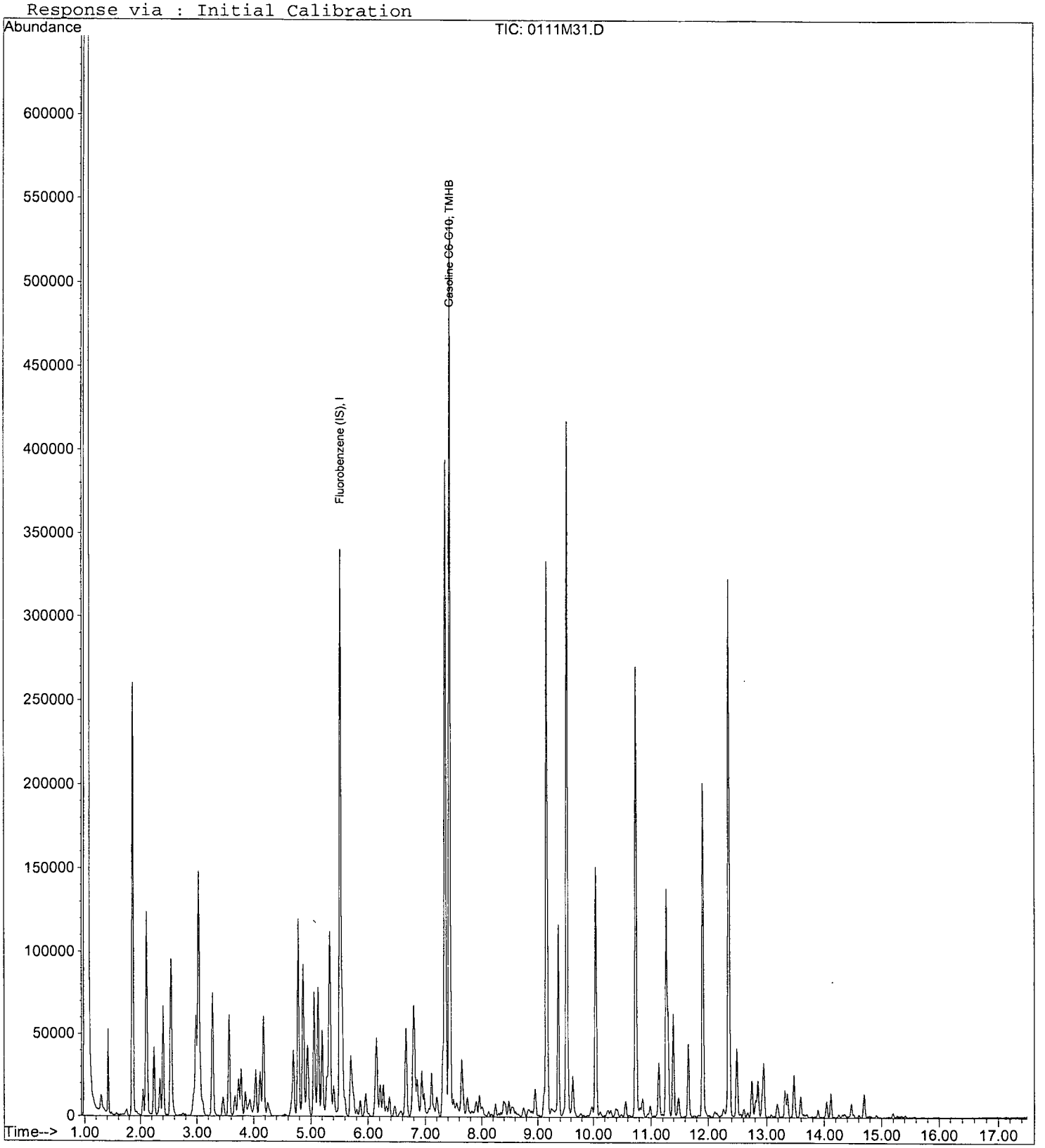
Data File : M:\MAX\DATA\M170111\0111M31.D
Acq On : 11 Jan 17 23:11
Sample : (SS)300ug/L GAS STD 1/11/17
Misc : IS&S 10/20/16

Vial: 29
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 12 13:21 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170111\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
3	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
13																
14																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D Vial: 4
Acq On : 27 Jan 17 11:24 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 01/27/16A Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	14557	5.43023 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
3) 1,2-DCA-D4(S)	5.13	65	11763	5.53763 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.152%	
5) Toluene-D8(S)	7.35	98	57915	5.51206 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.048%	
6) 4-Bromofluorobenzene(S)	10.74	95	20580	5.44224 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.768%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

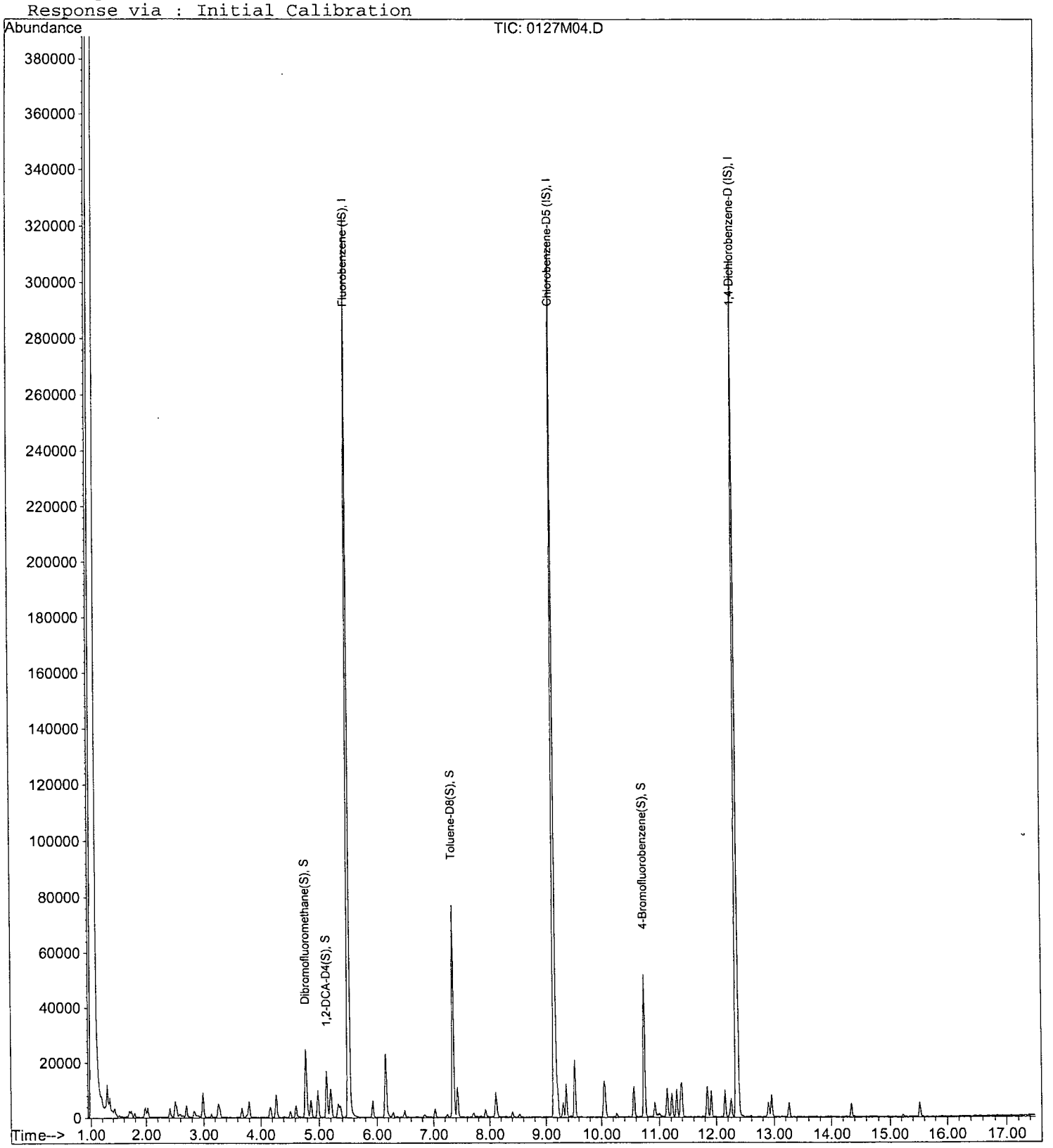
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D Vial: 5
Acq On : 27 Jan 17 11:53 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 01/27/16B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13937	5.12533 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.500%	
3) 1,2-DCA-D4(S)	5.13	65	10688	4.96030 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.840%	
5) Toluene-D8(S)	7.35	98	52662	4.84931 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	18960	4.85099 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.404%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

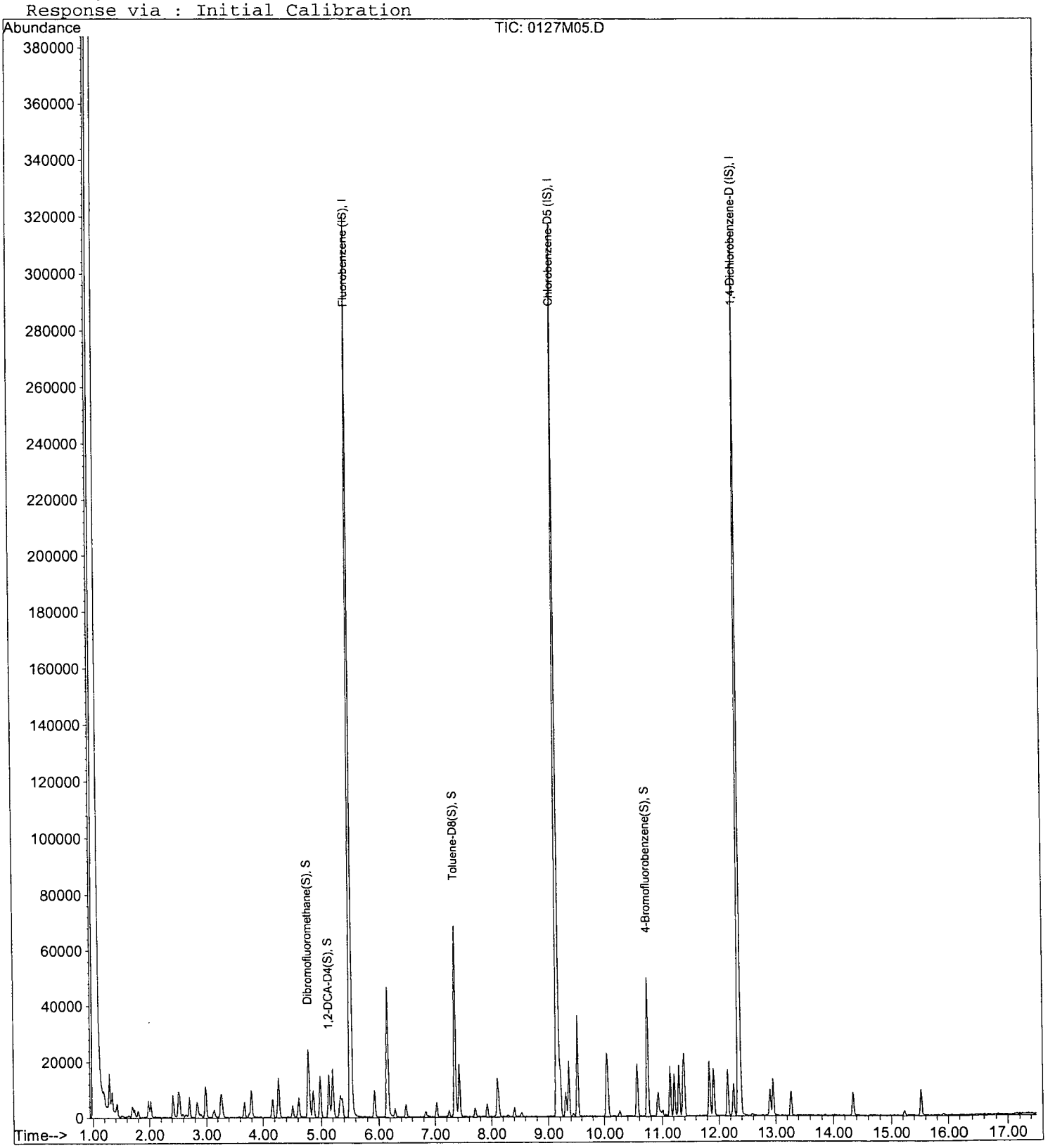
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D Vial: 6
Acq On : 27 Jan 17 12:21 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 01/27/16C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	24009	8.88481 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.540%	
3) 1,2-DCA-D4(S)	5.13	65	19787	9.24089 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.964%	
5) Toluene-D8(S)	7.35	98	96515	9.02332 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.092%	
6) 4-Bromofluorobenzene(S)	10.74	95	34814	9.04347 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

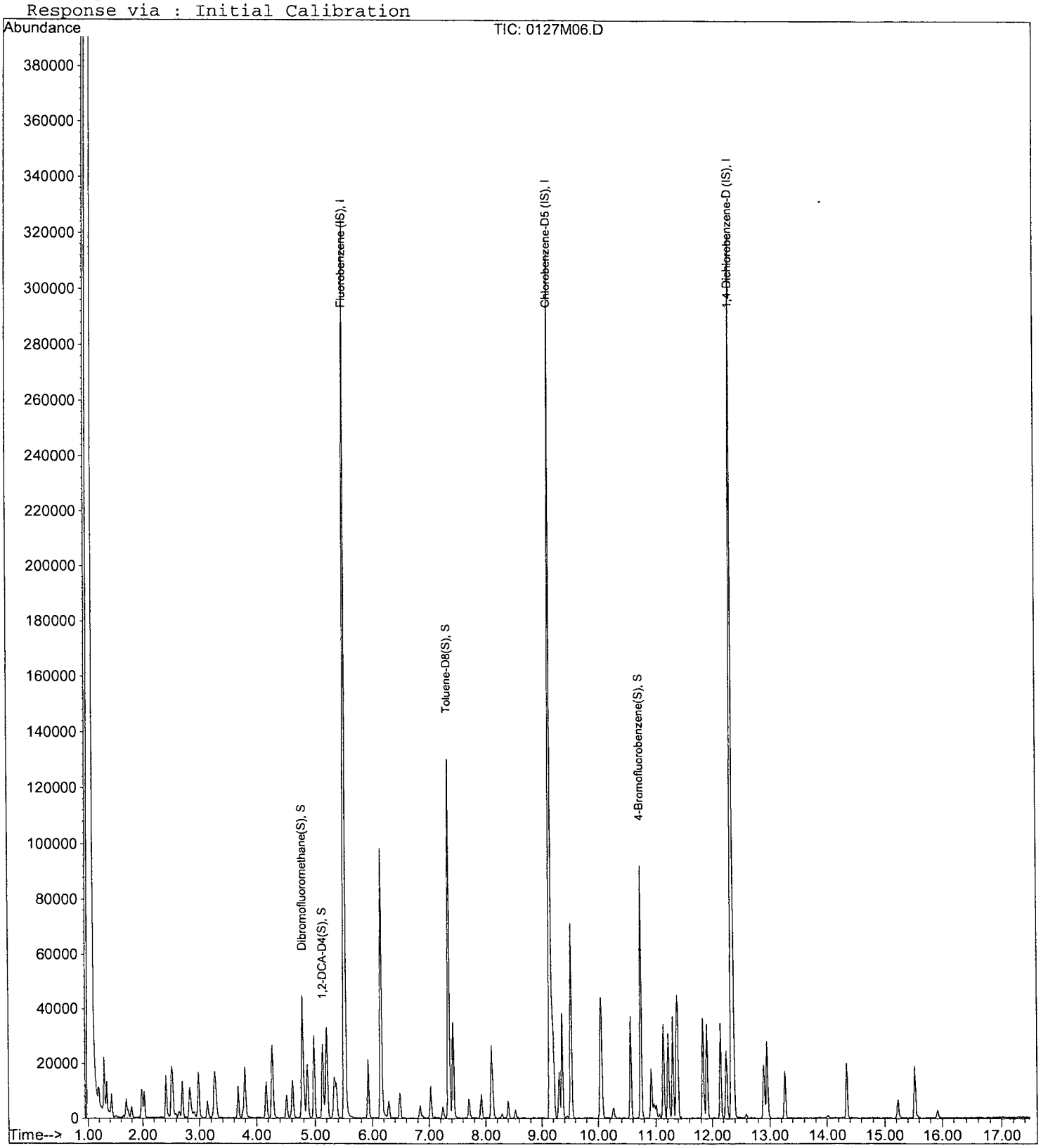
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
3) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
5) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

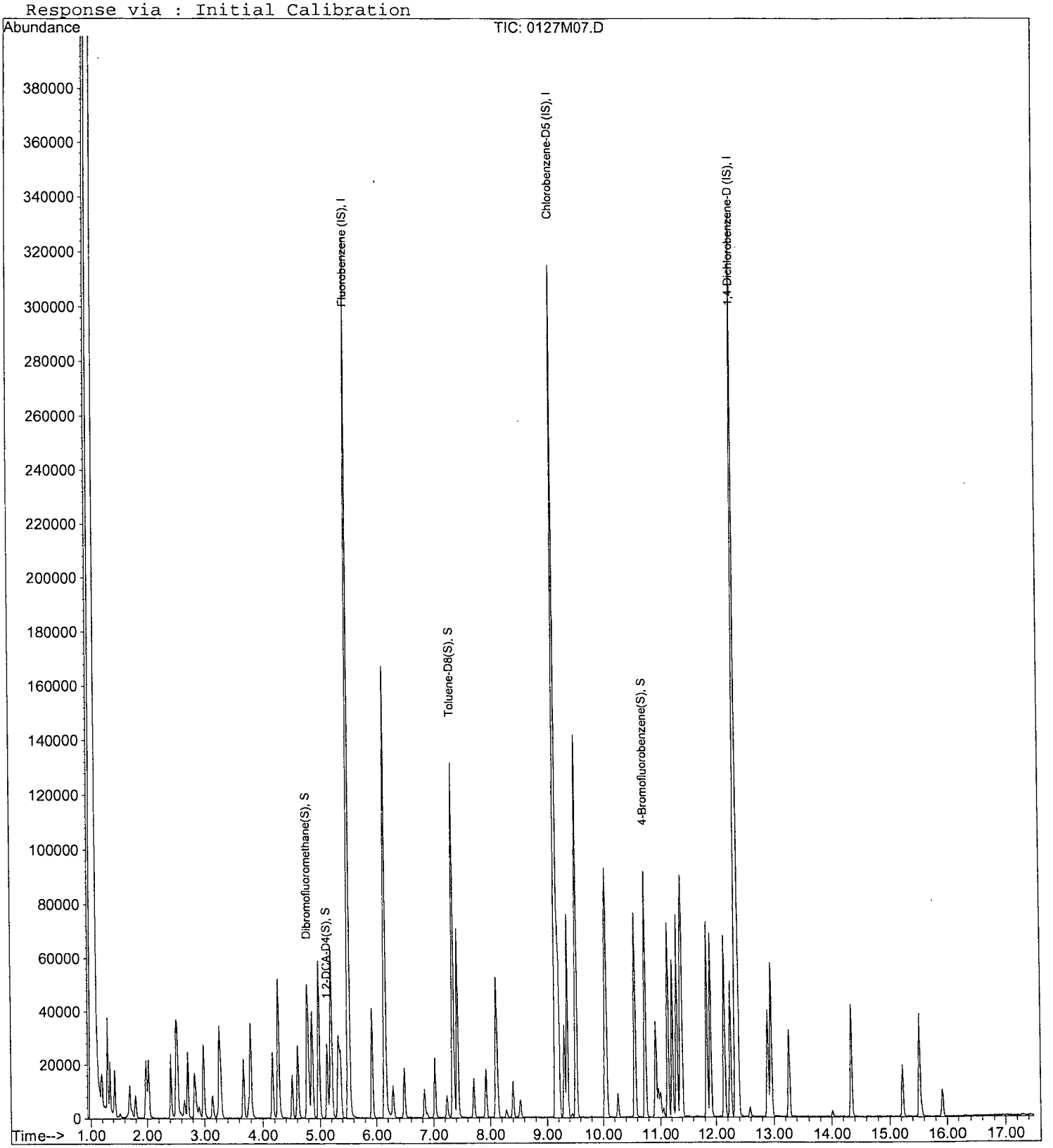
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
3) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
5) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
6) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

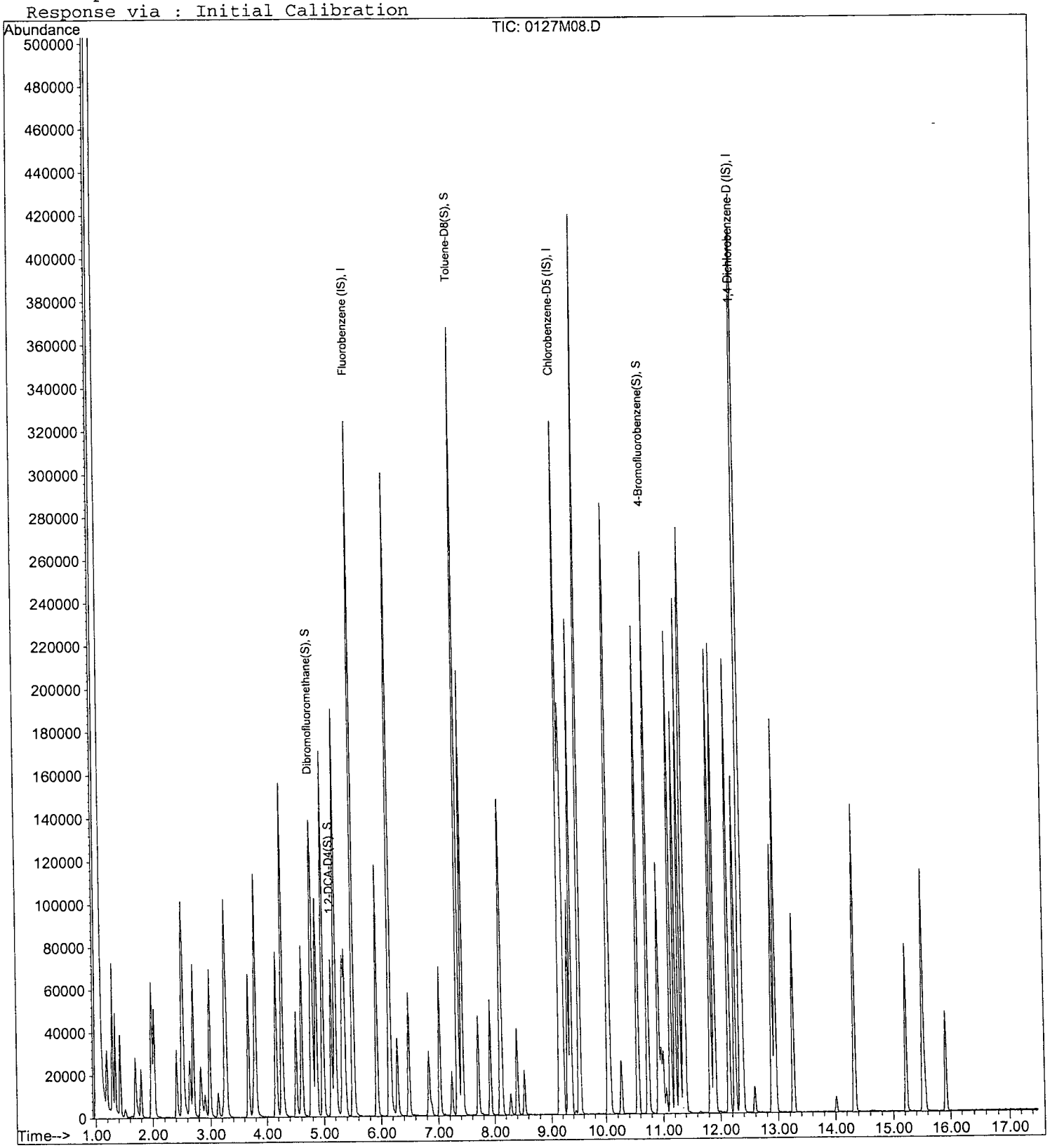
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
3) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
5) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
6) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

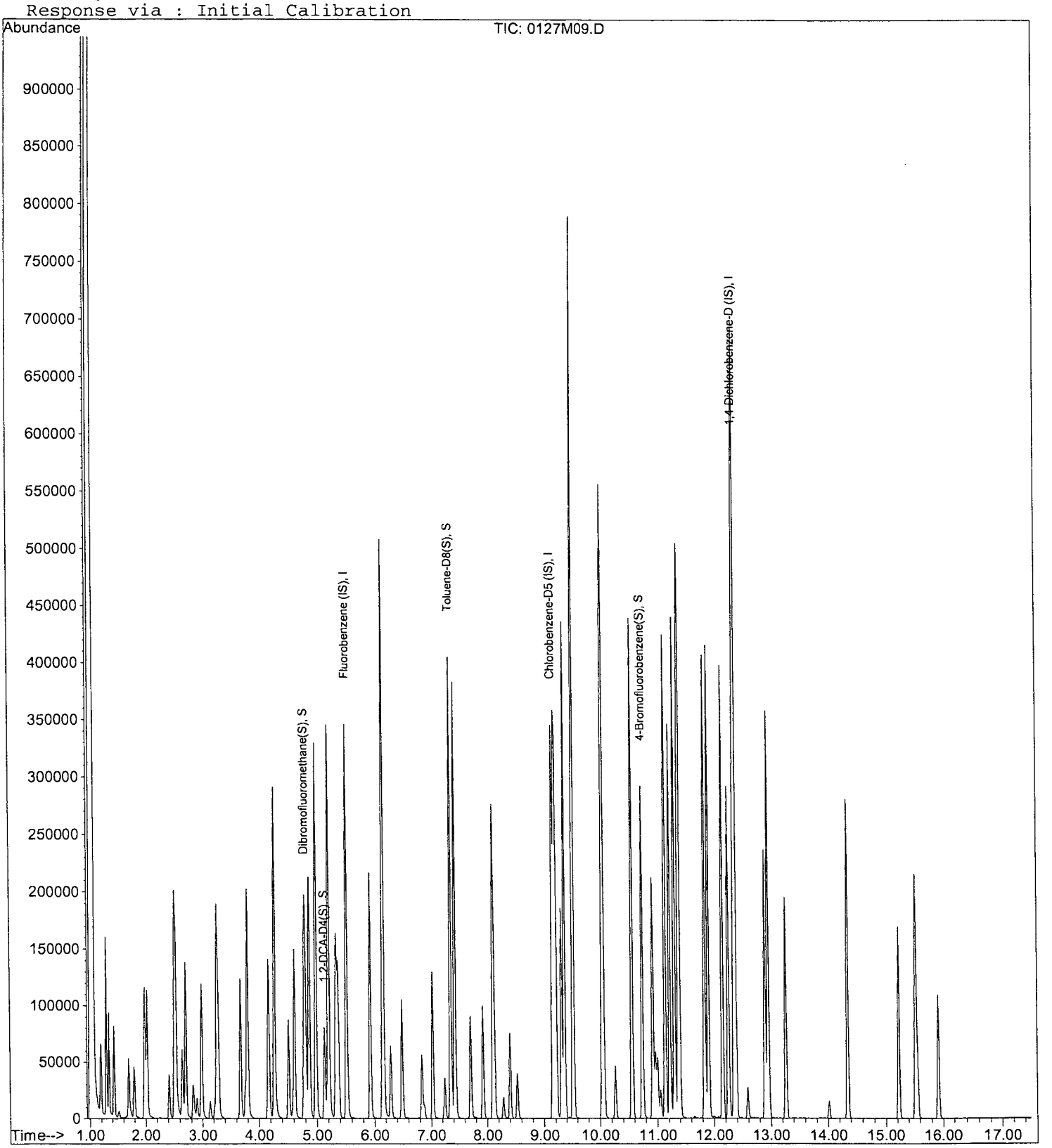
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
3) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
5) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

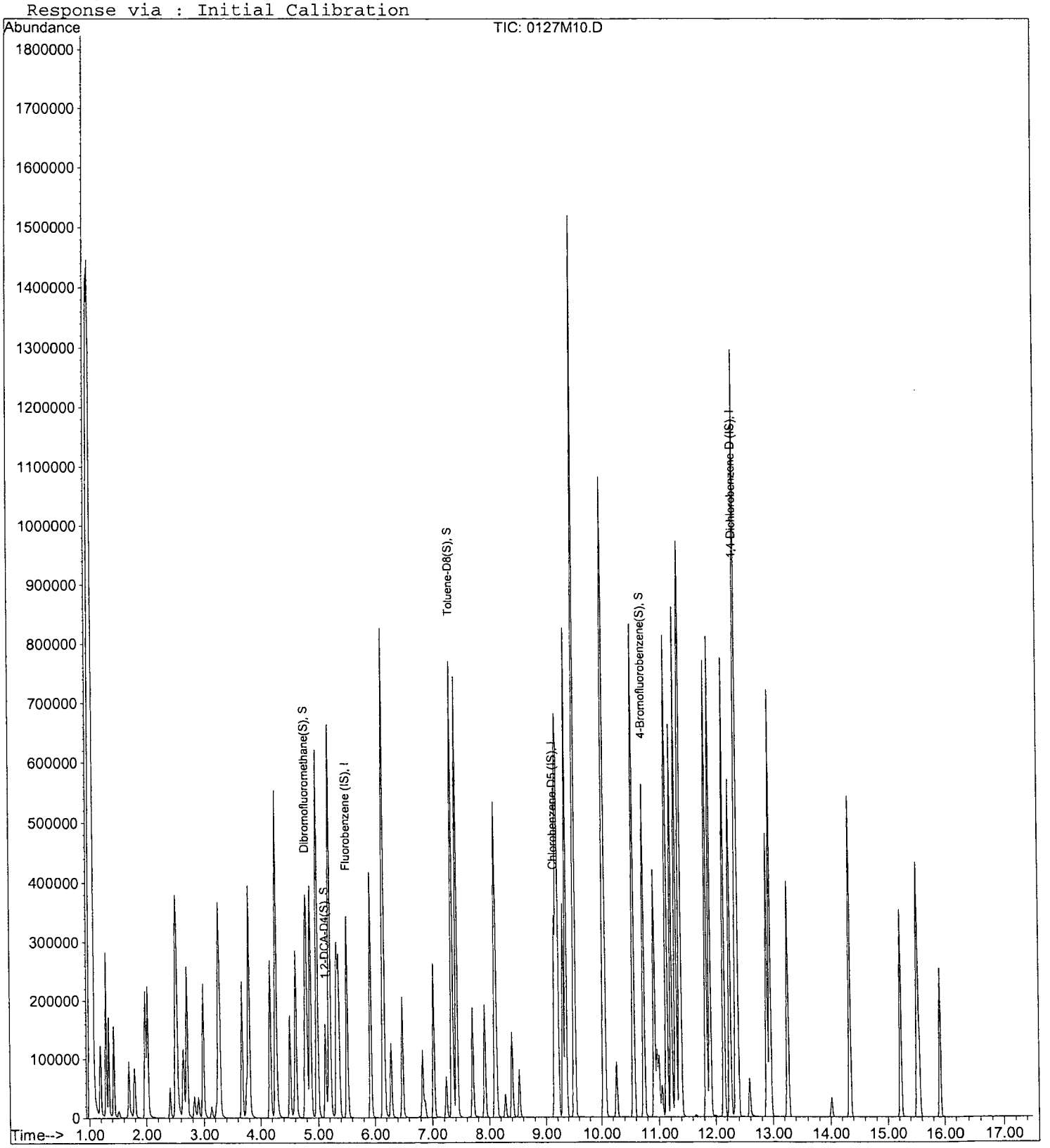
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
3) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
5) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

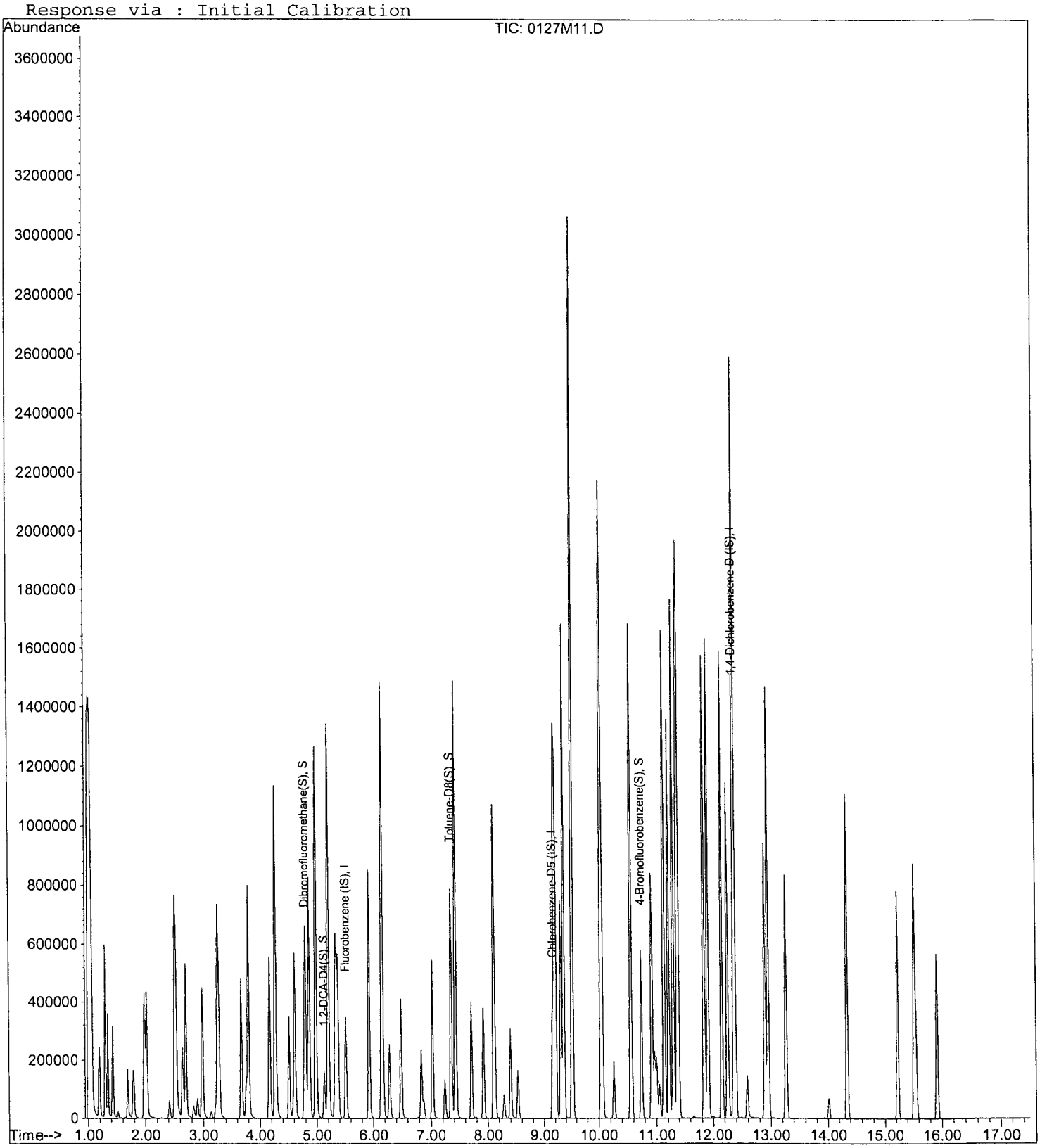
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D Vial: 12
Acq On : 27 Jan 17 15:10 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 01/27/16I Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 31 8:34 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
3) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
5) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M12.D MSUR127.M Tue Jan 31 08:36:16 2017

Quantitation Report

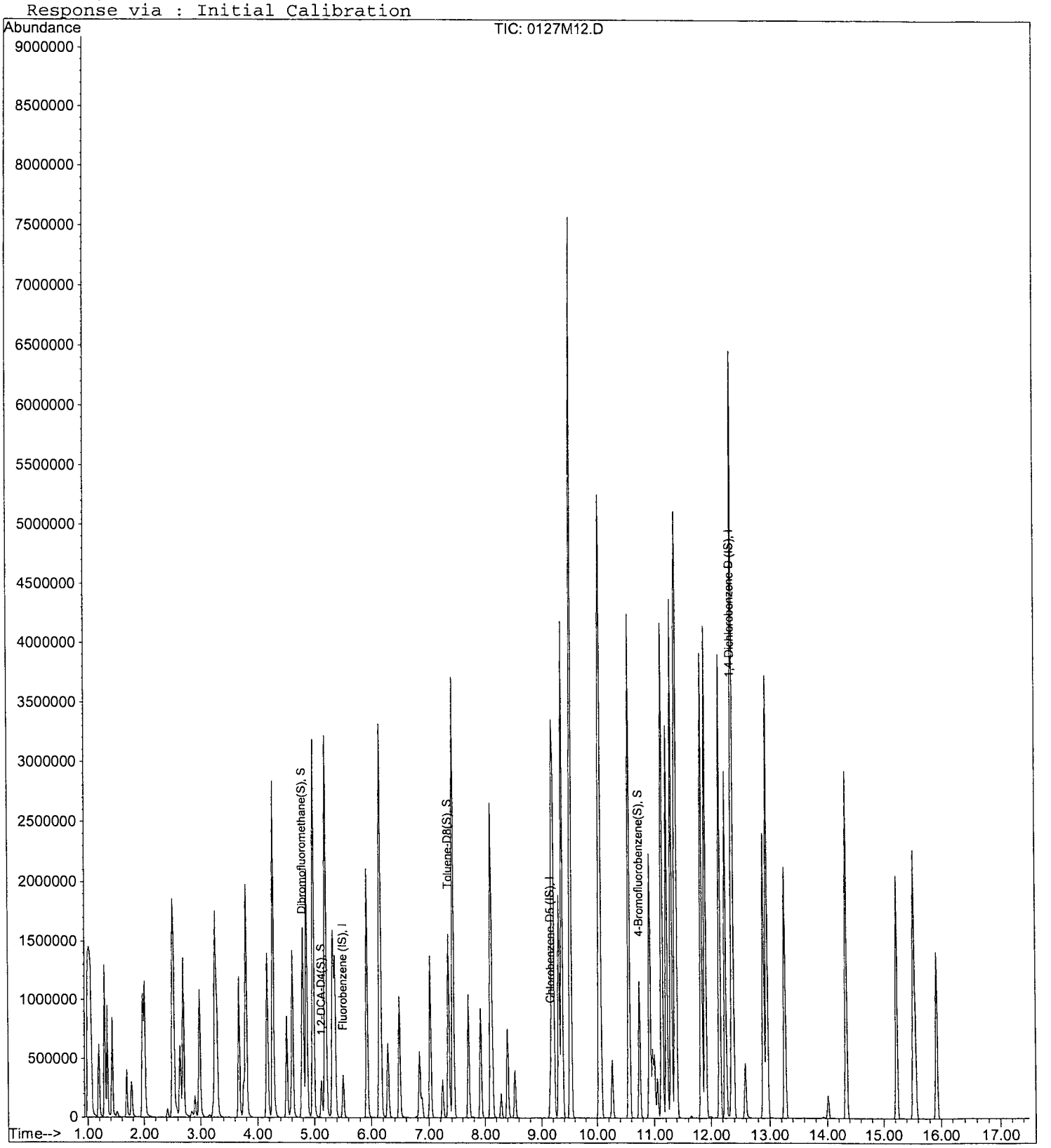
Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 9:57
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M09.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.255	49	TMHBL	1.7
3							
4							
5							
6							
7							
8							
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35							
36							
37							
38							
39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D Vial: 5
Acq On : 9 Feb 17 9:57 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 9 11:25 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	309319	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8369339m	294.89 ppb	100

(#) = qualifier out of range (m) = manual integration

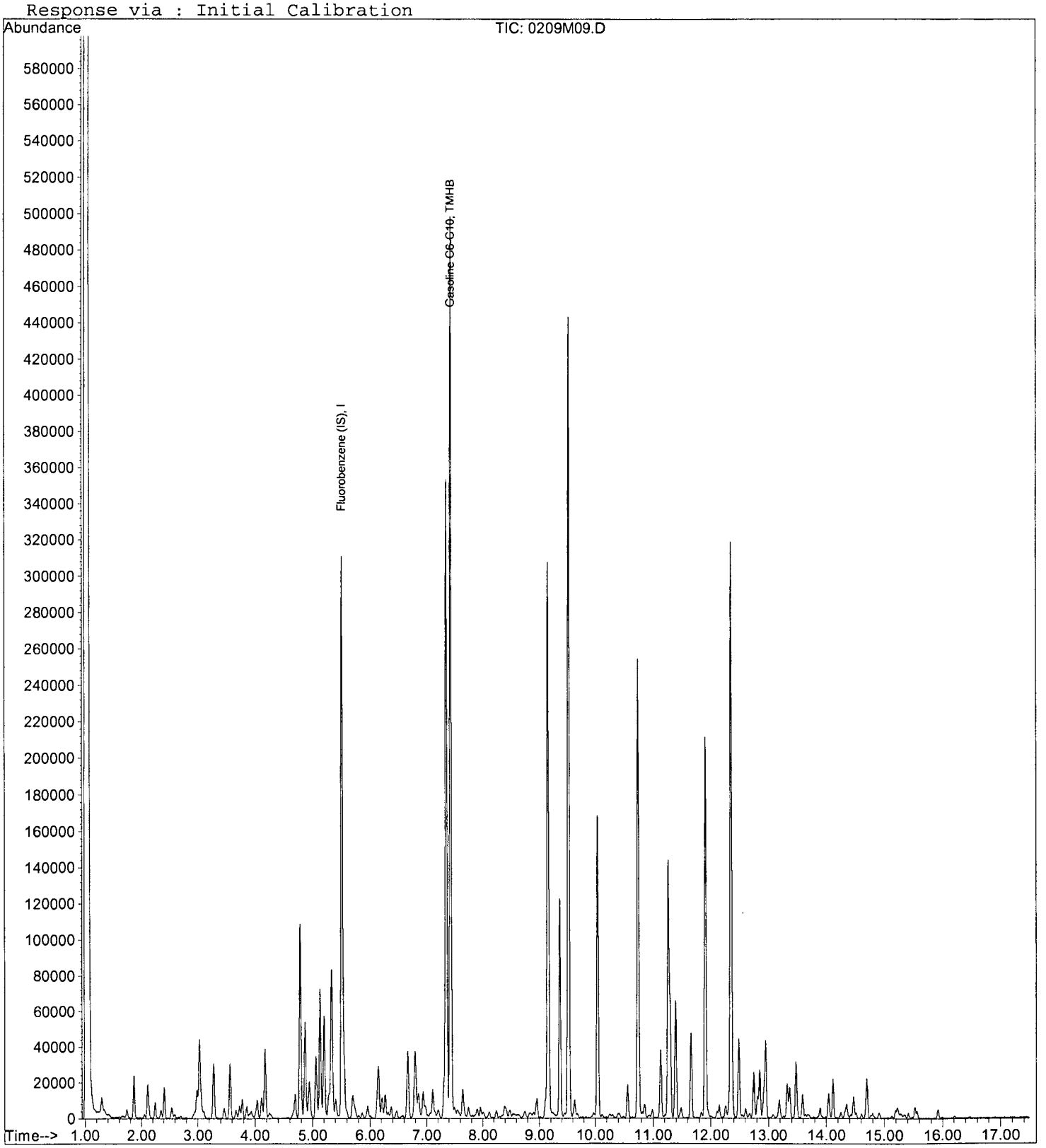
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 9:57
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M09.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2193	2.3	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1737	2.3	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.212	0.20	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4464	2.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D Vial: 5
Acq On : 9 Feb 17 9:57 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	297773	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	215467	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	114414	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65288	25.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
3) 1,2-DCA-D4(S)	5.13	65	51734	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
5) Toluene-D8(S)	7.35	98	261120	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.204%	
6) 4-Bromofluorobenzene(S)	10.74	95	96177	25.64 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.548%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 20:22
Instrument: Max
Initial Cal. Date: 01/11/17
Data File: 0209M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.403	2.246	49	TMHBL	2.3
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M31.D Vial: 27
Acq On : 9 Feb 17 20:22 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:53 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295564	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7964789m	293.05 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

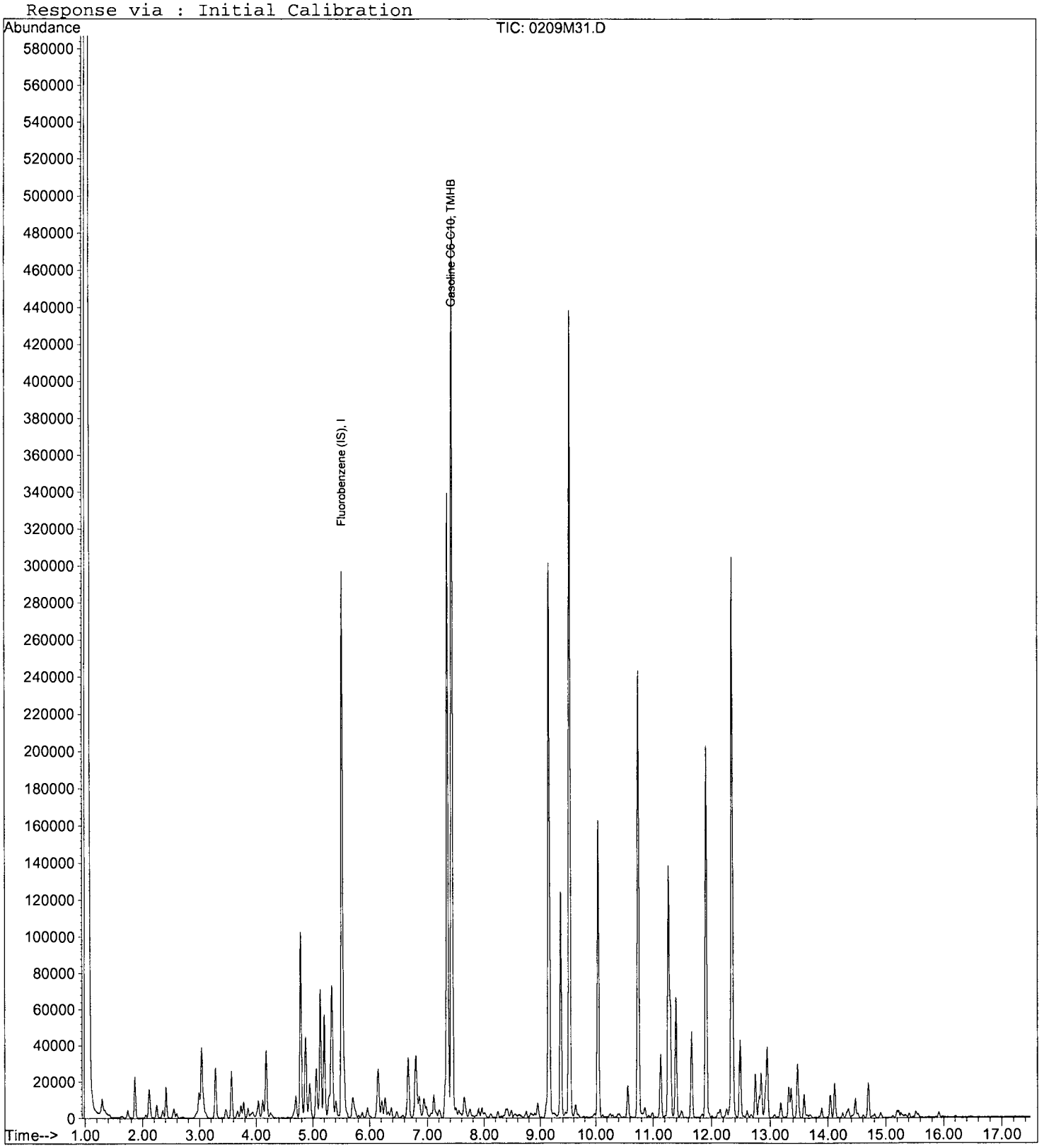
Data File : M:\MAX\DATA\M170127\0209M31.D
Acq On : 9 Feb 17 20:22
Sample : Ending CCV 8260 300ug/L 02/09/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:53 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Feb 17 20:22
Instrument: Max
Initial Cal. Date: 01/27/17
Data File: 0209M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2159	0.67	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1741	2.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.212	0.25	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4395	0.98	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M31.D Vial: 27
Acq On : 9 Feb 17 20:22 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 02/09/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:32 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	289416	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	210245	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	106798	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62471	25.17 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.672%	
3) 1,2-DCA-D4(S)	5.13	65	50380	25.61 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.460%	
5) Toluene-D8(S)	7.35	98	254902	25.06 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.248%	
6) 4-Bromofluorobenzene(S)	10.74	95	92408	25.24 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.976%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0211M08.D	0211M09.D	0211M10.D	0211M11.D	0211M12.D	0211M13.D	0211M14.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	11.5	5.746	4.005	2.663	2.410	2.364	2.332				4.4	76	TMHBL	1.000
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
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31																
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33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M08.D Vial: 8
Acq On : 11 Feb 17 12:52 Operator: PM,DG,SV,CMM
Sample : 20ppb GAS STD 02/11/17A Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	293113	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	2692304m	22.09310 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

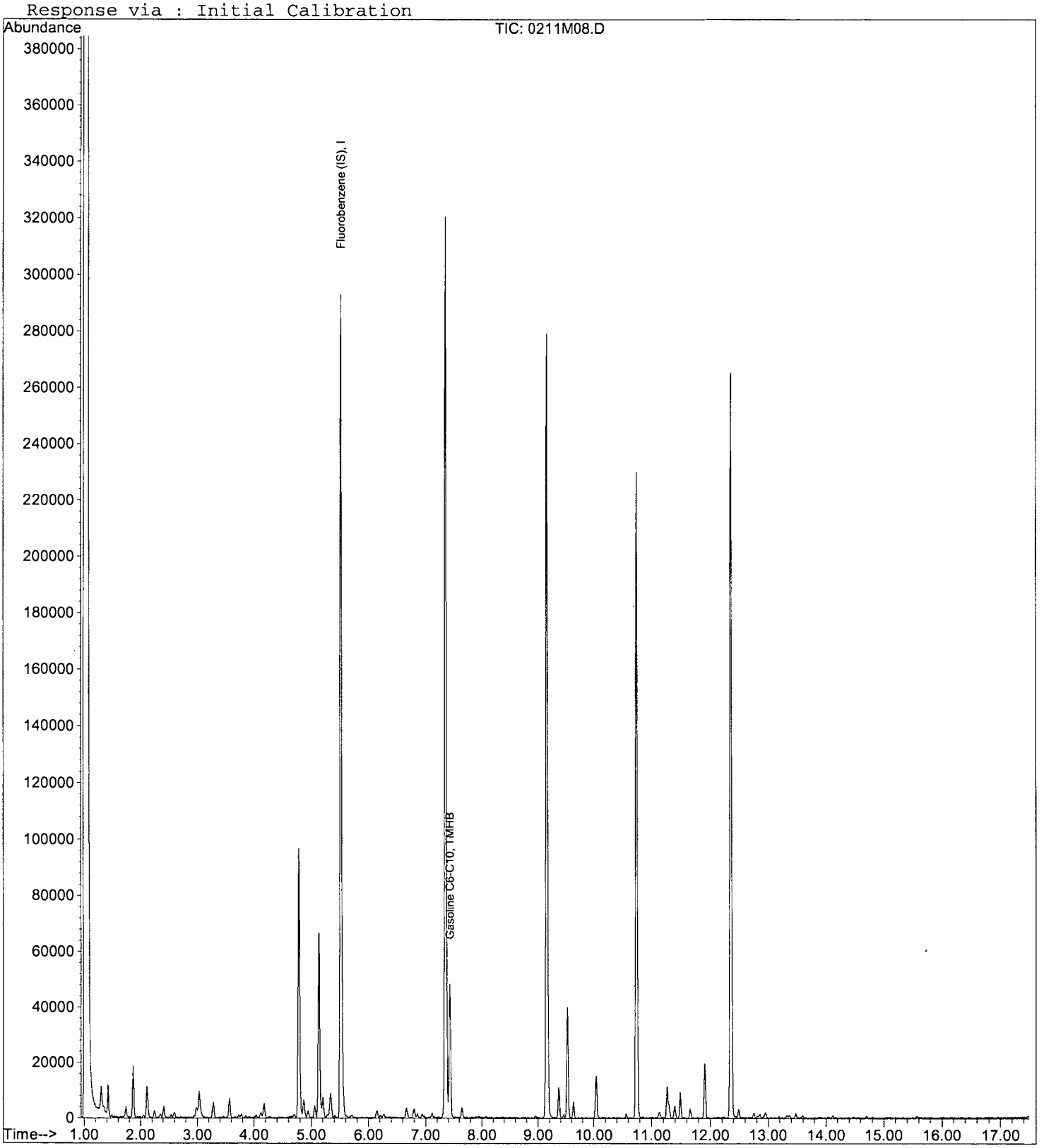
Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M09.D Vial: 9
Acq On : 11 Feb 17 13:20 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 02/11/17B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290206	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	3335070m	50.30162 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

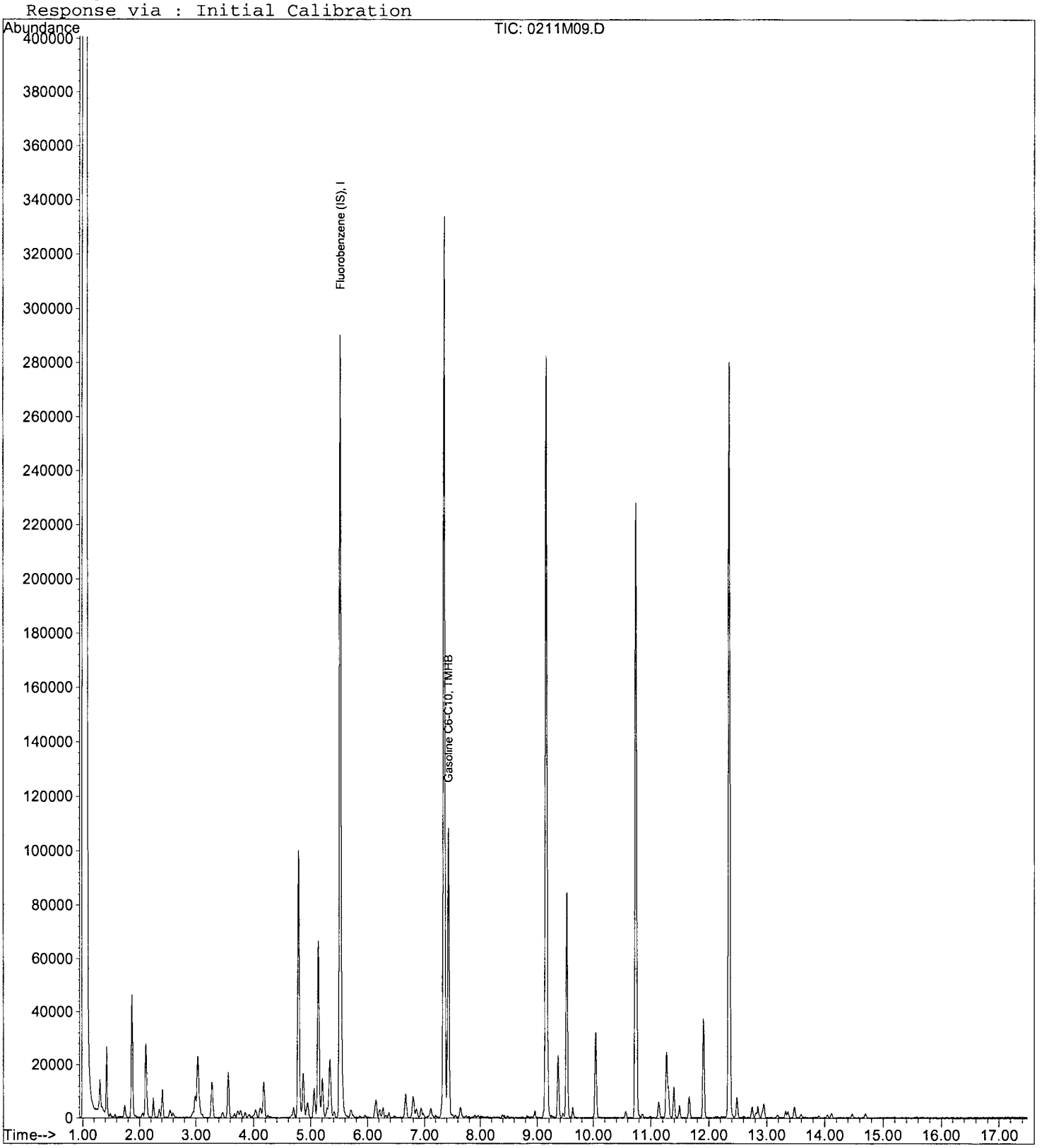
Data File : M:\MAX\DATA\M170127\0211M09.D
Acq On : 11 Feb 17 13:20
Sample : 50ppb GAS STD 02/11/17B
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	305473	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.35	TIC	4893597m	105.66606	ppb	100

(#) = qualifier out of range (m) = manual integration

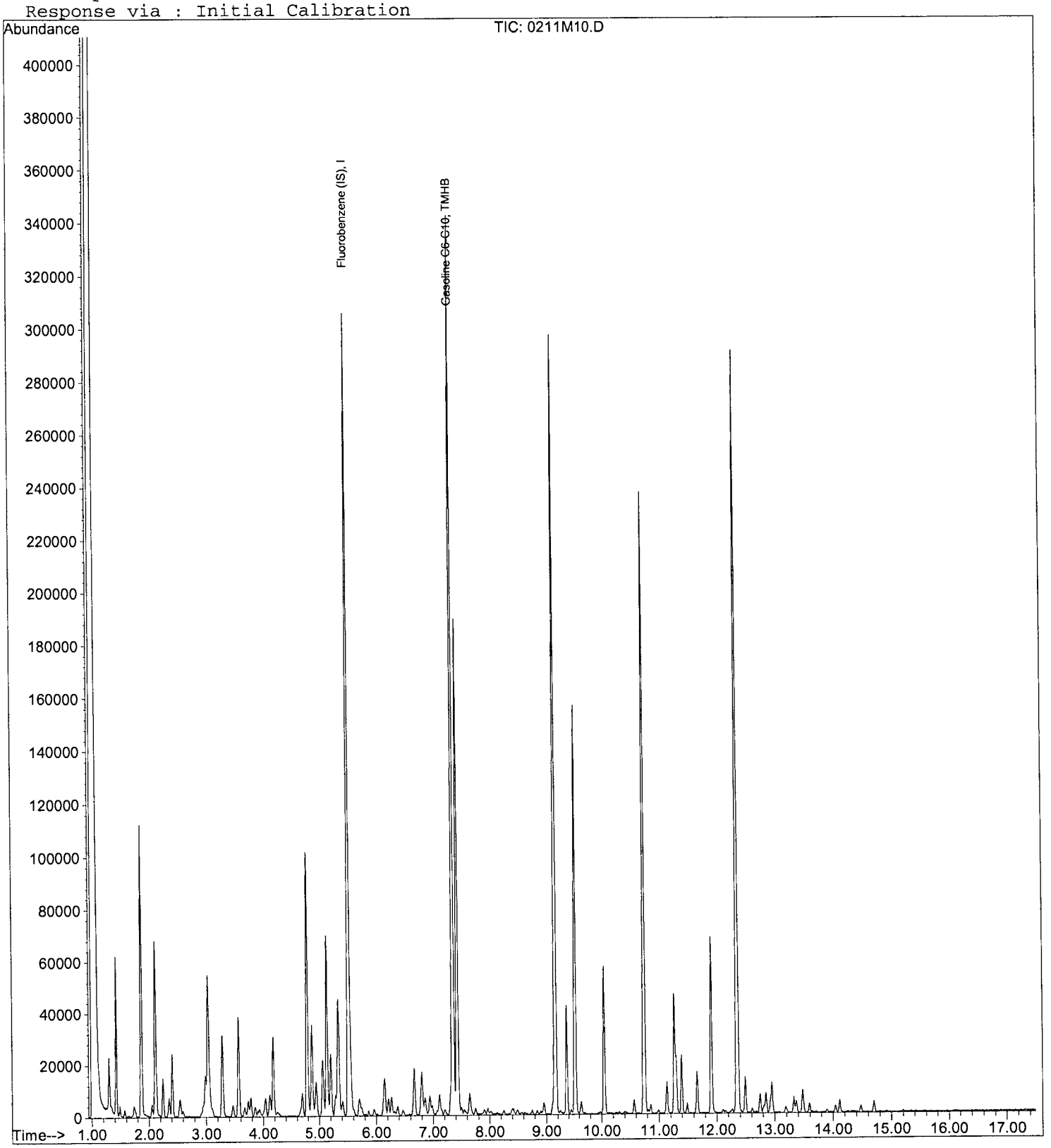
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M11.D Vial: 11
Acq On : 11 Feb 17 14:16 Operator: PM,DG,SV,CMM
Sample : 300ppb GAS STD 02/11/17D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:07 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	304946	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	9745877m	300.57649	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

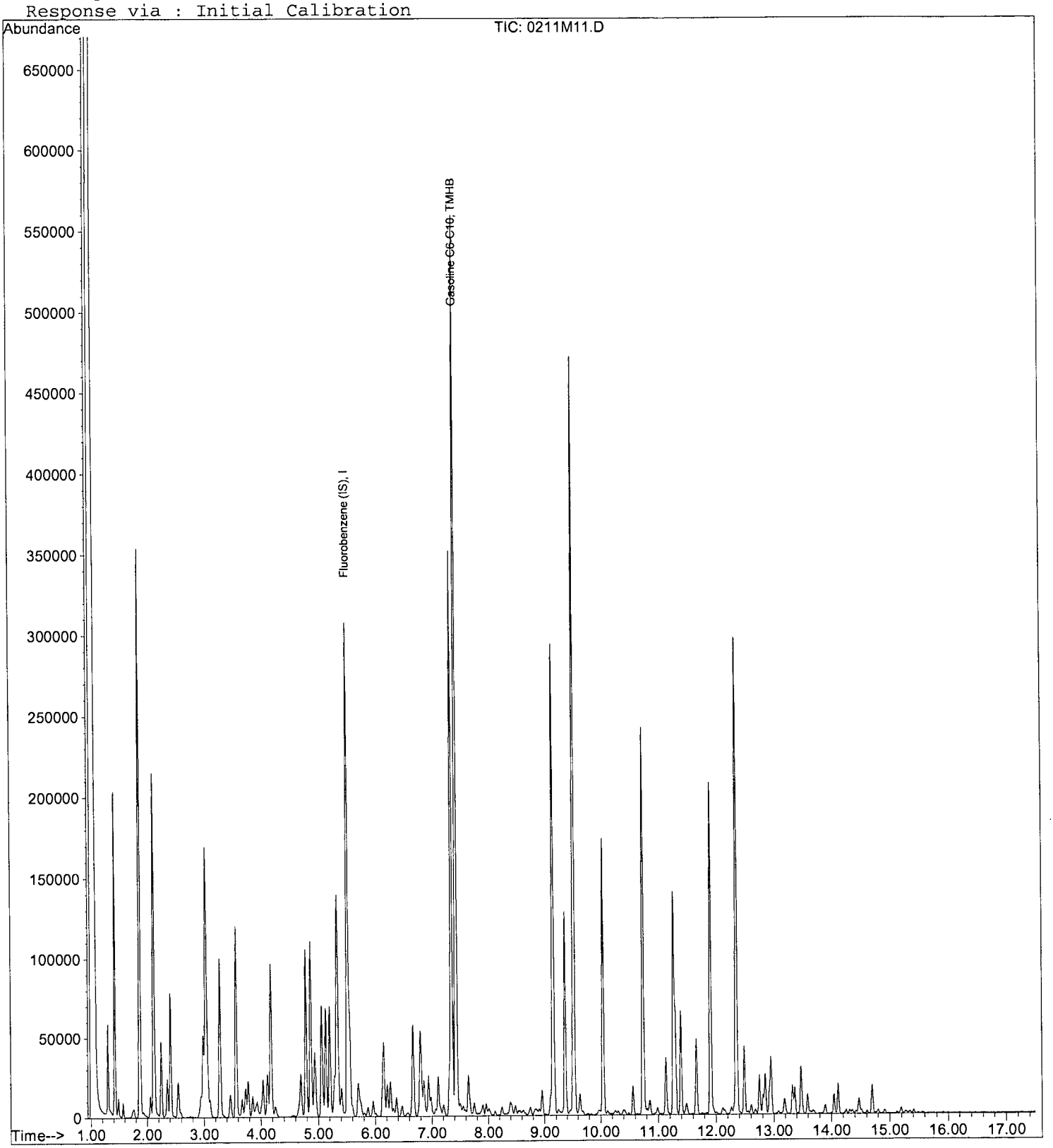
Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295633	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	17097428m	616.96425 ppb	100

(#) = qualifier out of range (m) = manual integration
0211M12.D MGAS6211.M Tue Feb 14 14:36:01 2017

Quantitation Report

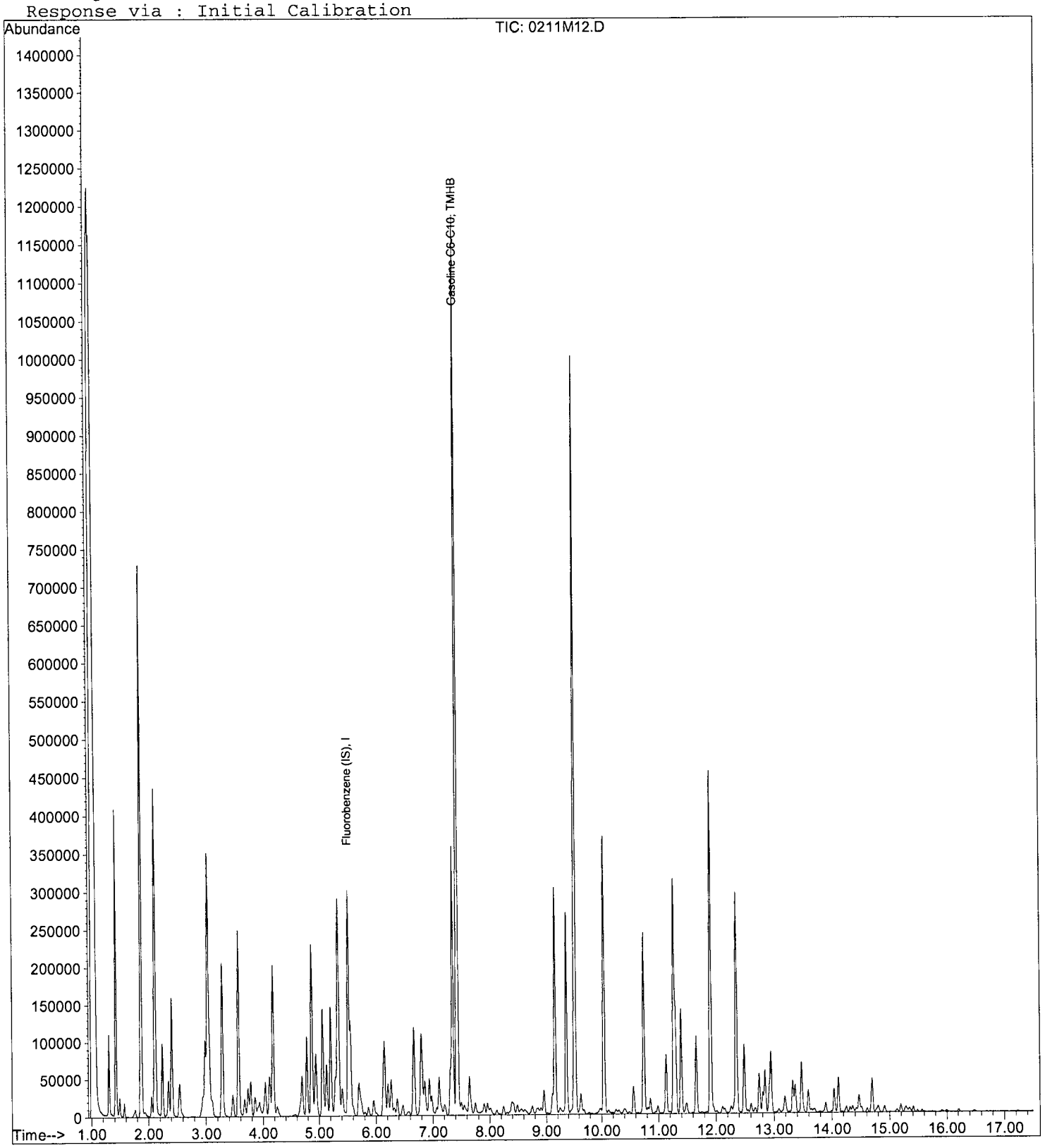
Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:12:24 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	303025	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	22923559m	812.12410 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

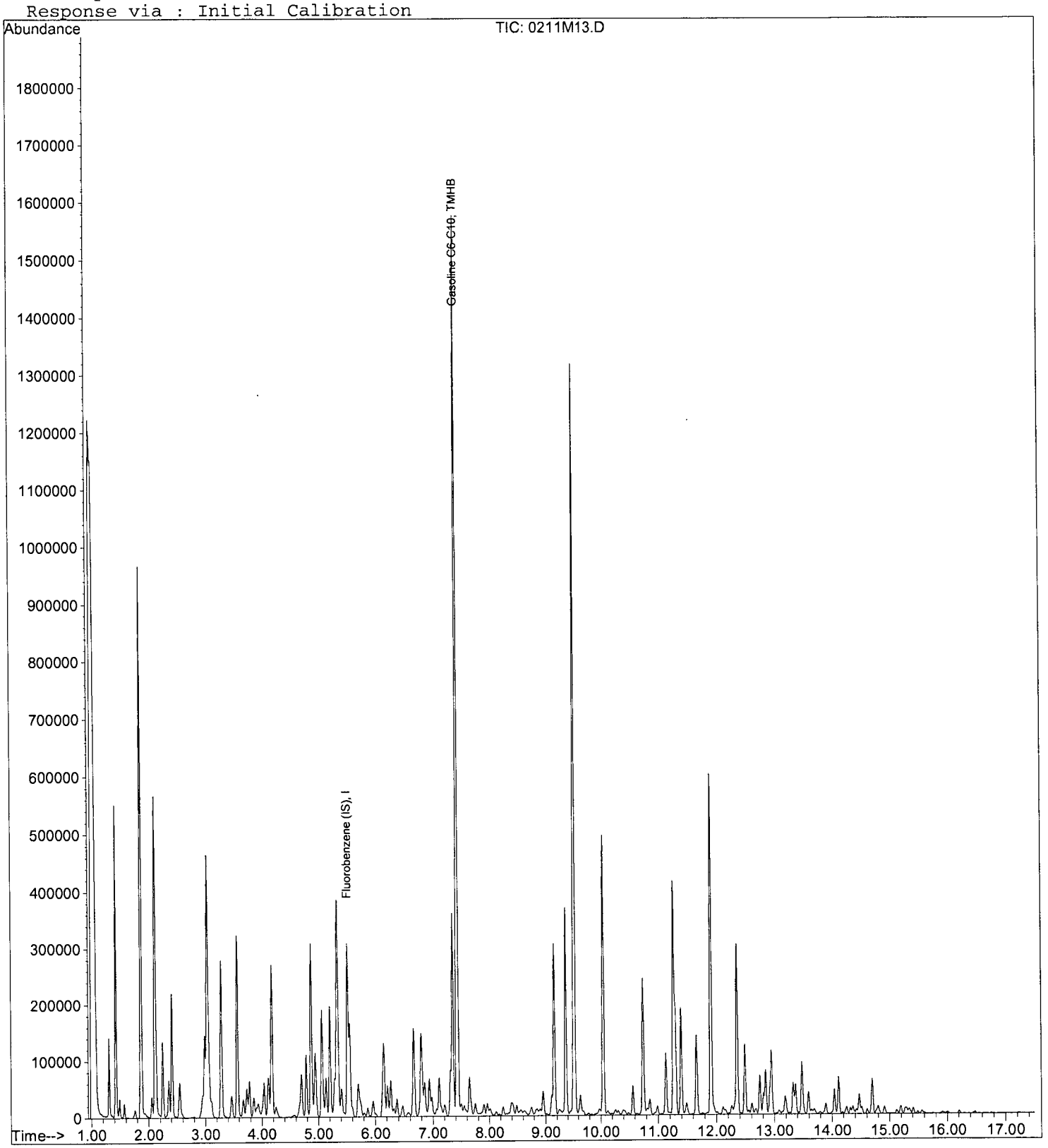
Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:10:45 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294463	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	27466994m	1011.16091	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

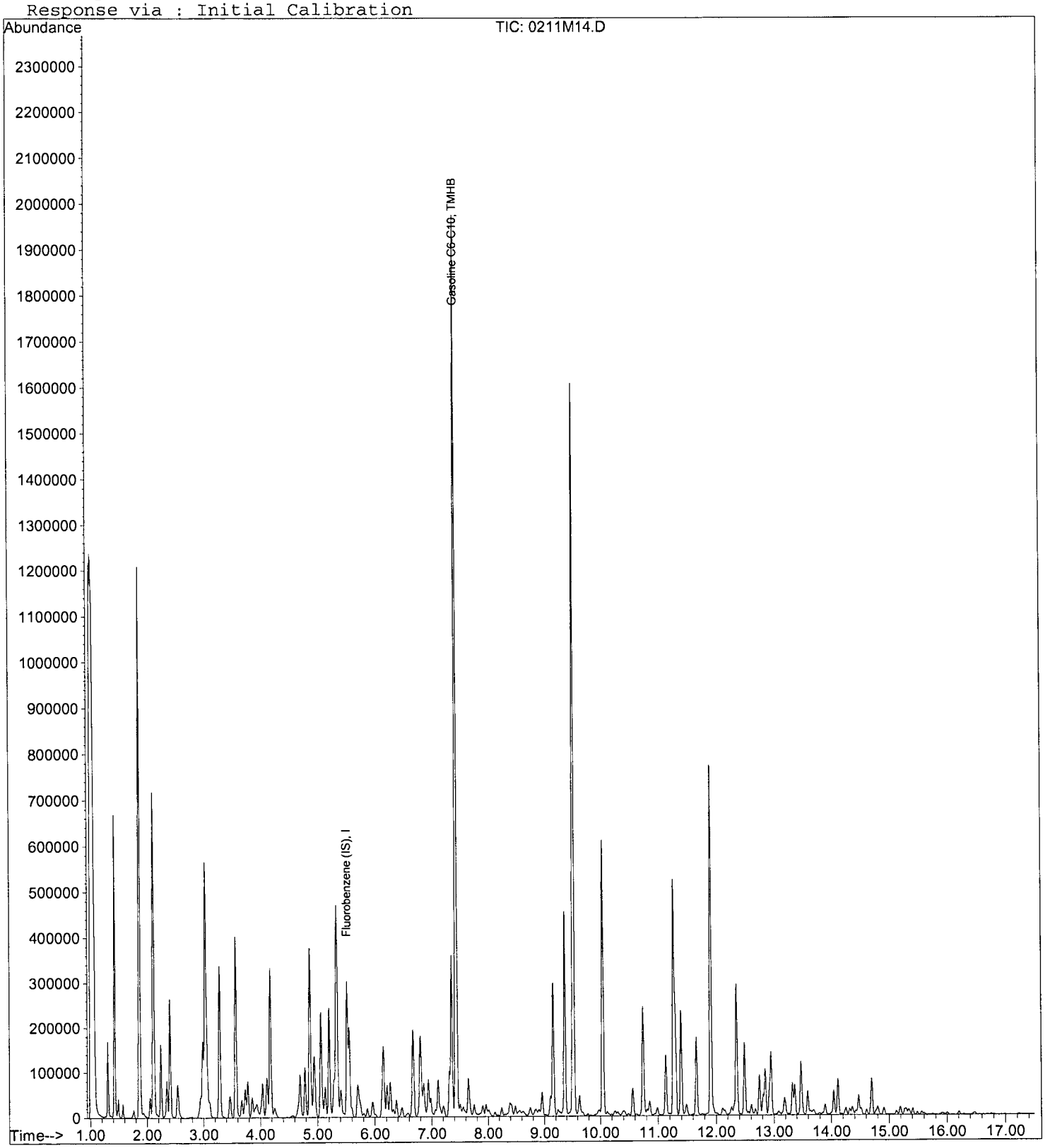
Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

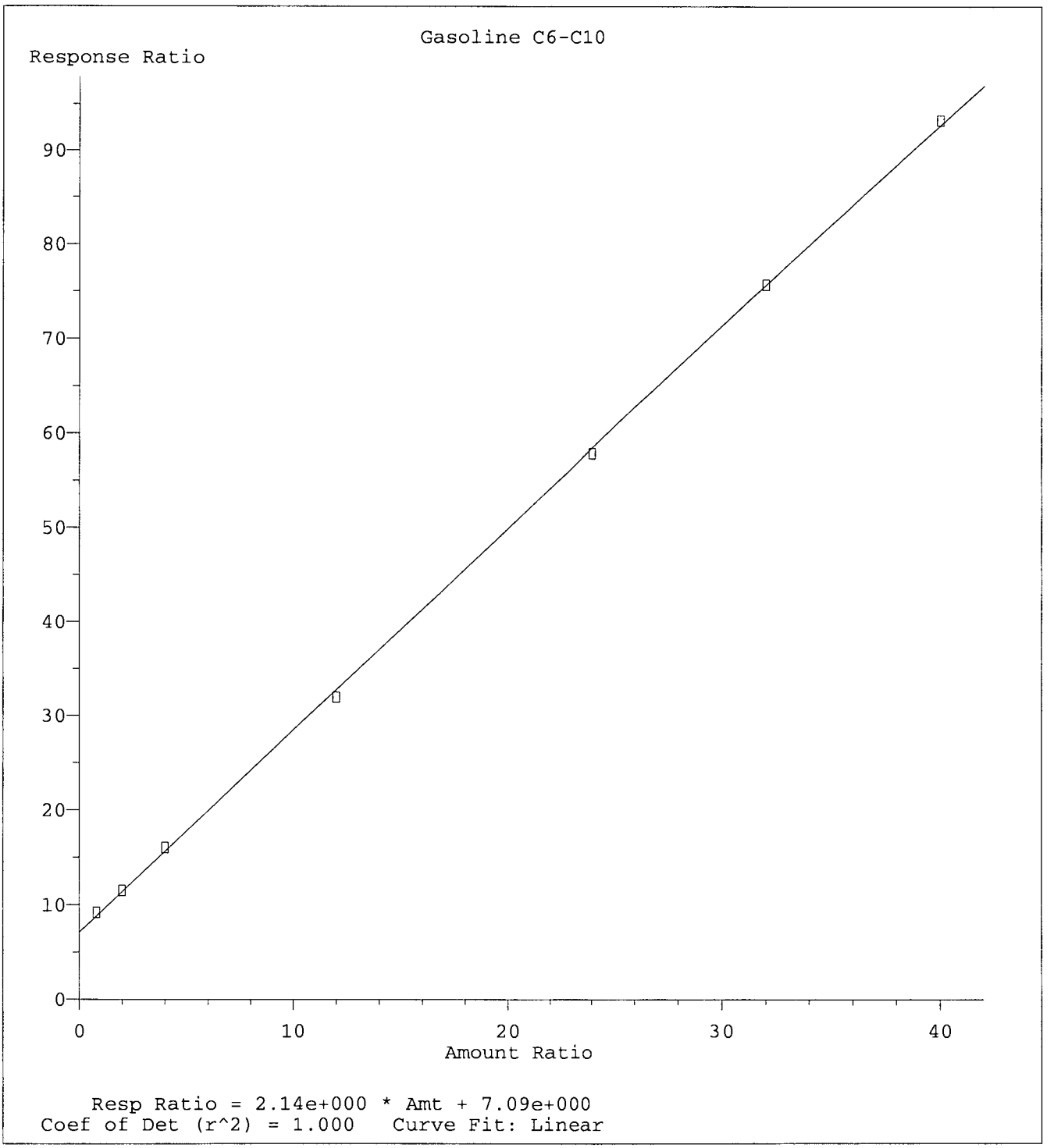
Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170127\MGAS6211.M
Calibration Table Last Updated: Mon Feb 13 08:19:08 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0211M17.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.429	2.610	41	TMHBL	5.7
2							
3							
4							
5							
6							
7							
8							
9							
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11							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M17.D Vial: 17
Acq On : 11 Feb 17 17:06 Operator: PM,DG,SV,CMM
Sample : (SS) 300ppb GAS STD 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:21 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	302898	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9487242m	282.95435 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

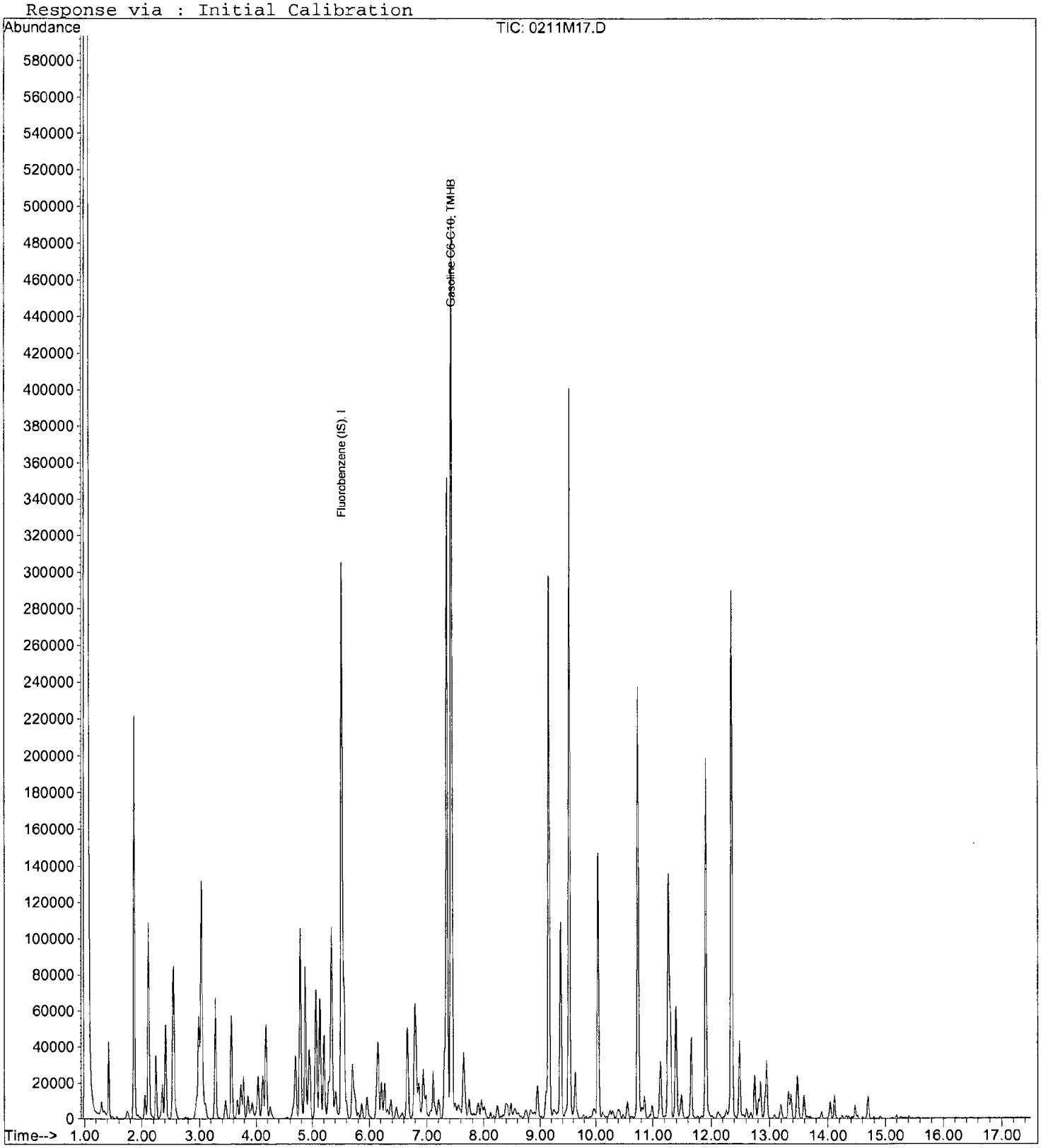
Data File : M:\MAX\DATA\M170127\0211M17.D
Acq On : 11 Feb 17 17:06
Sample : (SS) 300ppb GAS STD 02/11/17
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:21 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.815	36	TMHBL	3.9
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			36.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M05.D
Acq On : 13 Feb 17 11:22
Sample : 170213A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 11:47 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	297803	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	10061320m	311.71929 ppb	100

(#) = qualifier out of range (m) = manual integration

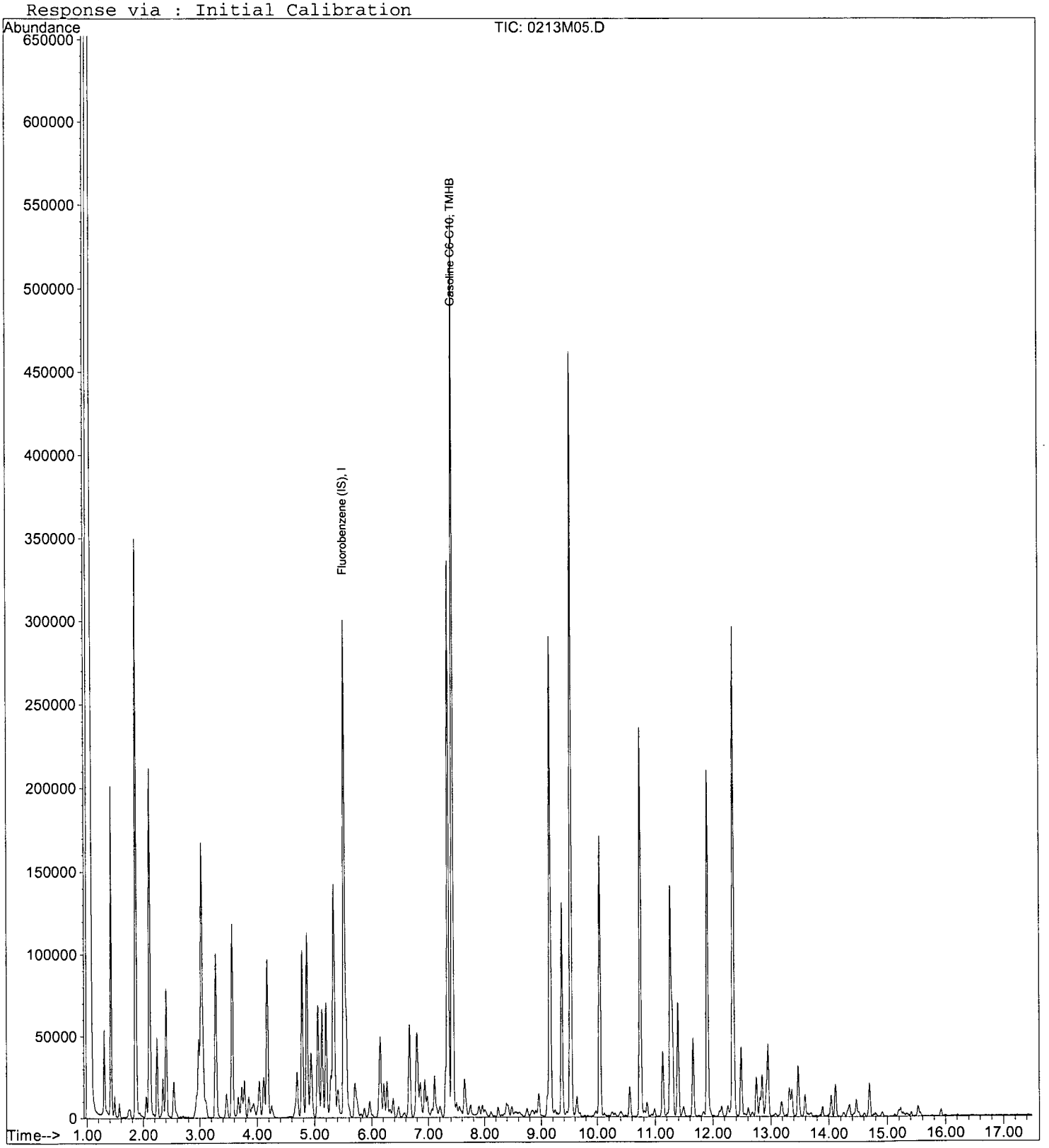
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M05.D
Acq On : 13 Feb 17 11:22
Sample : 170213A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 11:47 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2140	0.21	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1679	1.2	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.230	1.7	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4466	2.6	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.4		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M05.D Vial: 5
Acq On : 13 Feb 17 11:22 Operator: PM,DG,SV,CMM
Sample : 170213A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 9:18 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	287910	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	202741	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105645	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61601	24.94760 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.792%	
3) 1,2-DCA-D4(S)	5.13	65	48349	24.71087 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.844%	
5) Toluene-D8(S)	7.35	98	249431	25.43146 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.724%	
6) 4-Bromofluorobenzene(S)	10.74	95	90535	25.64761 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.592%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0213M05.D MSUR127.M Tue Feb 14 13:29:58 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M27.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.656	40	TMHBL	3.5
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			40.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M27.D Vial: 27
Acq On : 13 Feb 17 21:45 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 2/13/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:01 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	276592	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	8816595m	289.42570	ppb	100

(#) = qualifier out of range (m) = manual integration
0213M27.D MGAS6211.M Tue Feb 14 13:27:14 2017

Quantitation Report

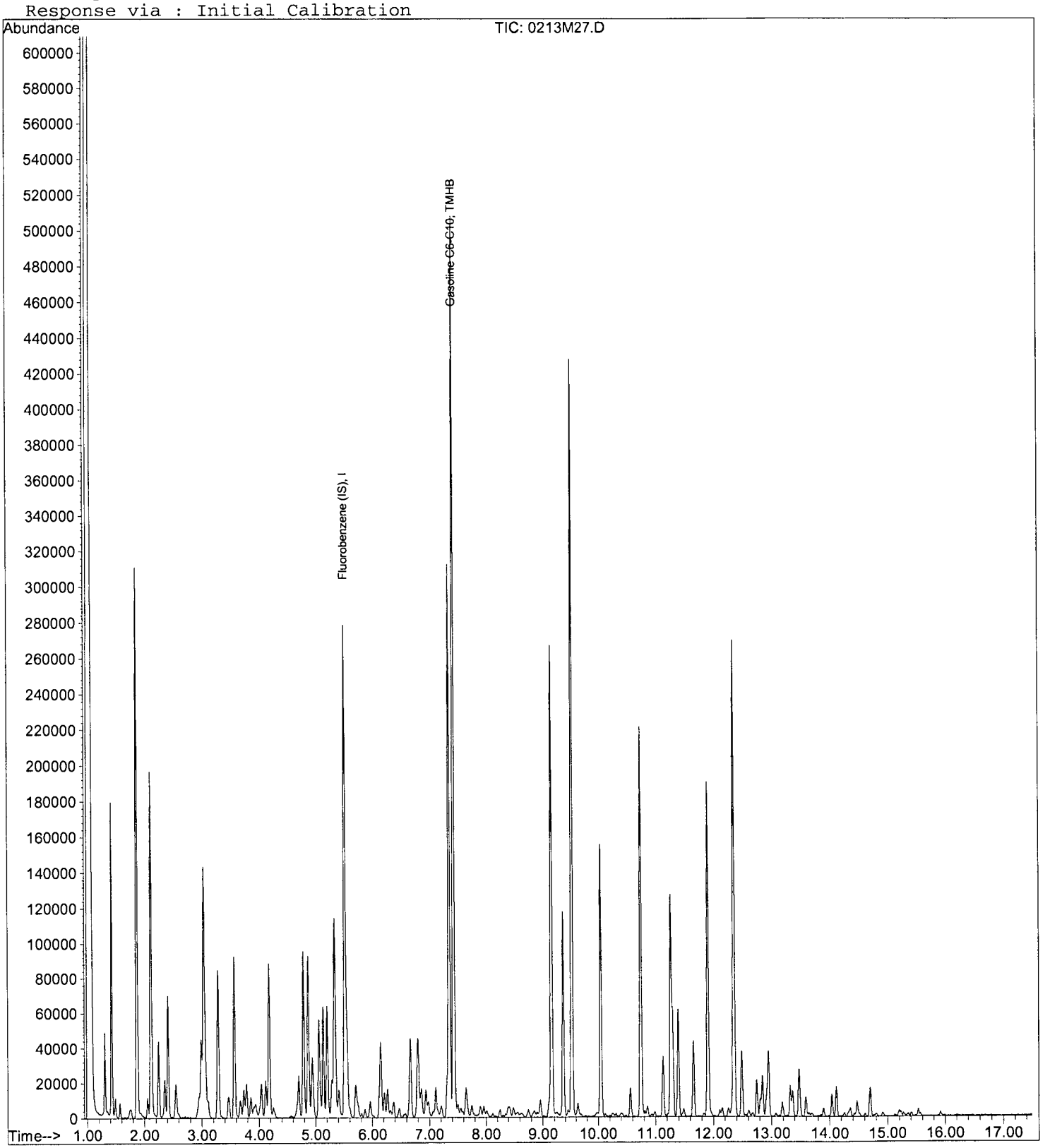
Data File : M:\MAX\DATA\M170127\0213M27.D
Acq On : 13 Feb 17 21:45
Sample : Ending CCV GAS 300ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:01 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M27.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2107	1.7	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1685	0.83	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.227	1.4	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4416	1.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.4		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M27.D Vial: 27
Acq On : 13 Feb 17 21:45 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 2/13/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 9:18 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	268578	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	189475	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	97365	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	56601	24.57262 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.292%	
3) 1,2-DCA-D4(S)	5.13	65	45250	24.79165 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.168%	
5) Toluene-D8(S)	7.35	98	232447	25.35913 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.436%	
6) 4-Bromofluorobenzene(S)	10.74	95	83681	25.36570 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.464%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M27.D MSUR127.M Tue Feb 14 13:32:39 2017

ORGANICS
Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170209W-49675 - 216080**
Batch ID: #GRO86-170209AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/09/17	02/09/17
BLANK	SURROGATE: 4-BROMOFLUORO	98.7	85-114			%	02/09/17	02/09/17

Quant Method: MGAS6111.
Run #: 0209M14
Instrument: Max
Sequence: M170127
Initials: ARO

GC SC-Blank-REG MDLs-DOD
Printed: 02/10/17 10:51:49 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D Vial: 10
Acq On : 9 Feb 17 12:19 Operator: PM,DG,SV,CMM
Sample : 170209A BLK-1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 8:56 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315671	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

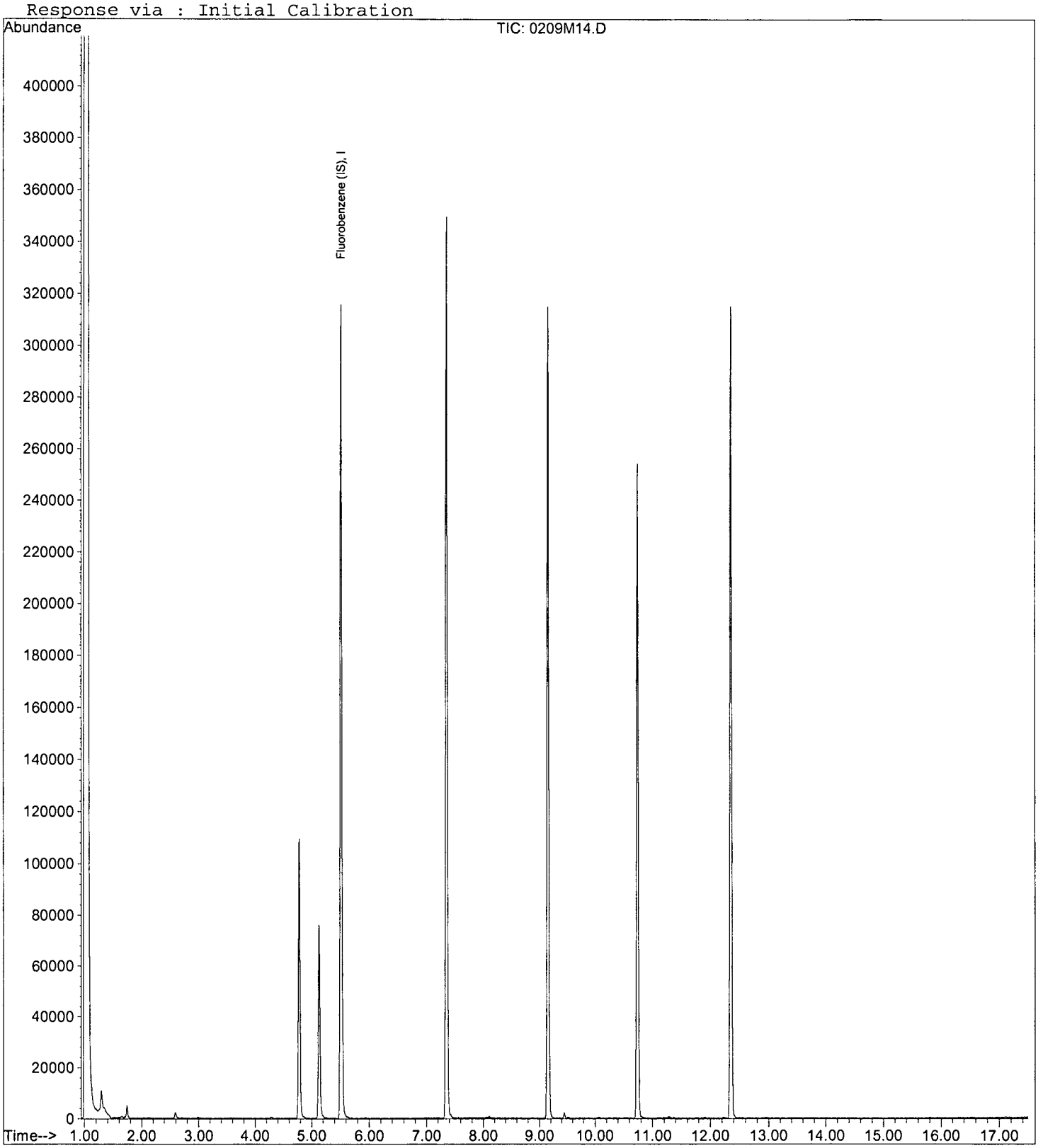
Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 8:56 2017

Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M14.D
Acq On : 9 Feb 17 12:19
Sample : 170209A BLK-1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 10 13:31 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305671	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221943	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112083	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67658	25.81 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
3) 1,2-DCA-D4(S)	5.13	65	54917	26.44 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
5) Toluene-D8(S)	7.35	98	261668	24.37 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.484%	
6) 4-Bromofluorobenzene(S)	10.74	95	95330	24.67 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.676%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49741 - 216157**
Batch ID: #GRO86-170213AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/13/17	2/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	99.1	85-114			%	2/13/17	2/13/17

Quant Method: MGAS6211.
Run #: 0213M11
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 2:19:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M11.D
Acq On : 13 Feb 17 14:12
Sample : 170213A BLK1WM
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 8:58 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	289718	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

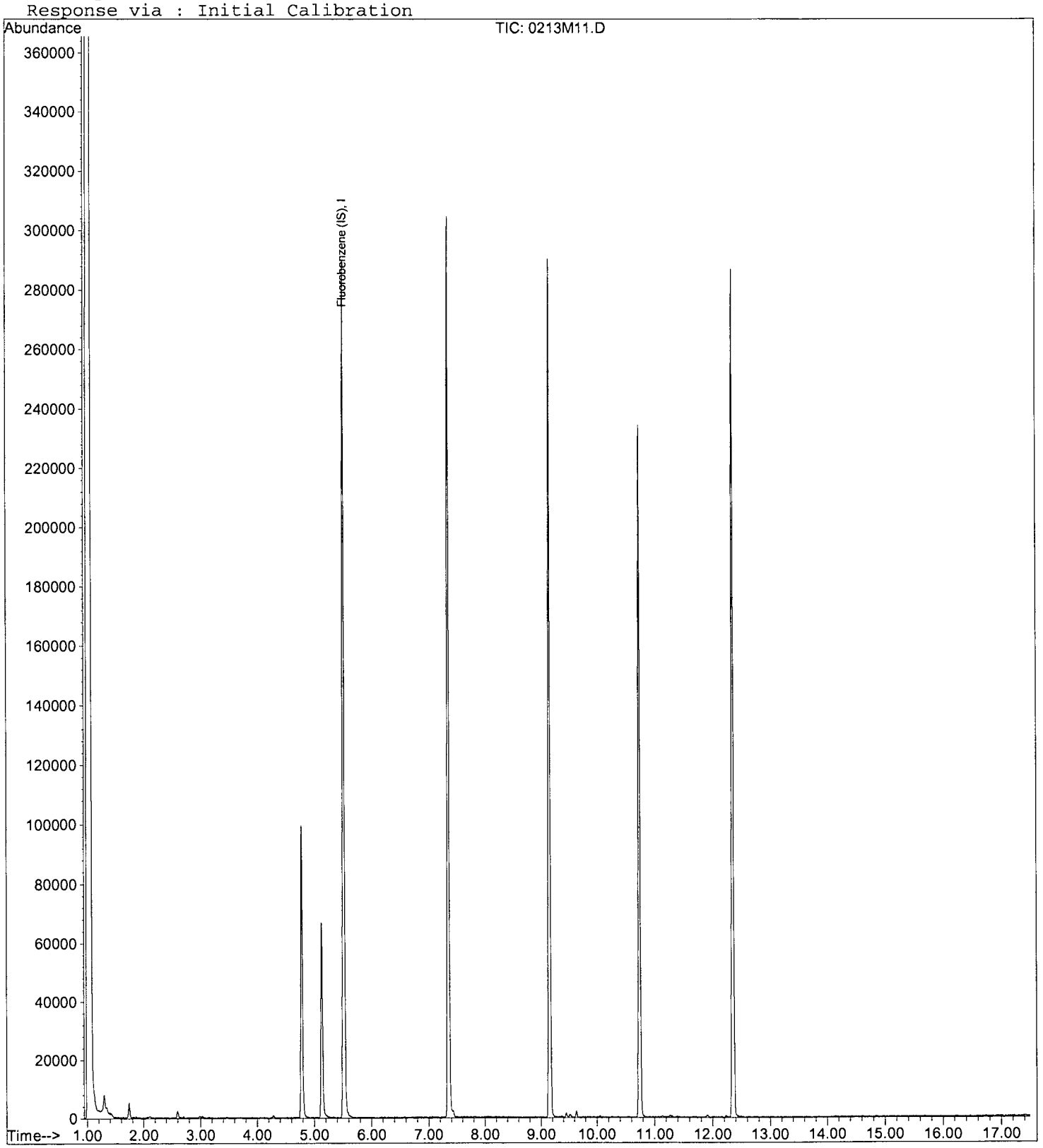
Data File : M:\MAX\DATA\M170127\0213M11.D
Acq On : 13 Feb 17 14:12
Sample : 170213A BLK1WM
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 8:58 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M11.D Vial: 11
Acq On : 13 Feb 17 14:12 Operator: PM,DG,SV,CMM
Sample : 170213A BLK1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Feb 14 9:18 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278798	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	204179	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	103805	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	60700	25.38614 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.544%	
3) 1,2-DCA-D4(S)	5.13	65	48787	25.74967 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.000%	
5) Toluene-D8(S)	7.35	98	236566	23.94990 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.800%	
6) 4-Bromofluorobenzene(S)	10.74	95	88033	24.76318 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.052%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M11.D MSUR127.M Tue Feb 14 13:30:23 2017

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170209W-49675 LCS - 216080**
Batch ID: #GRO86-170209AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	295	98.3	78-122
SURROGATE: 4-BROMOFLUOROBENZE	25.0	25.6	102	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6111.M
Extraction Date :	02/09/17
Analysis Date :	02/09/17
Instrument :	Max
Run :	0209M09
Initials :	ARO

Printed: 02/10/17 10:51:42 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017 Quant Results File: MGAS6111.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	309319	25.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8369339m	294.89 ppb	100

(#) = qualifier out of range (m) = manual integration

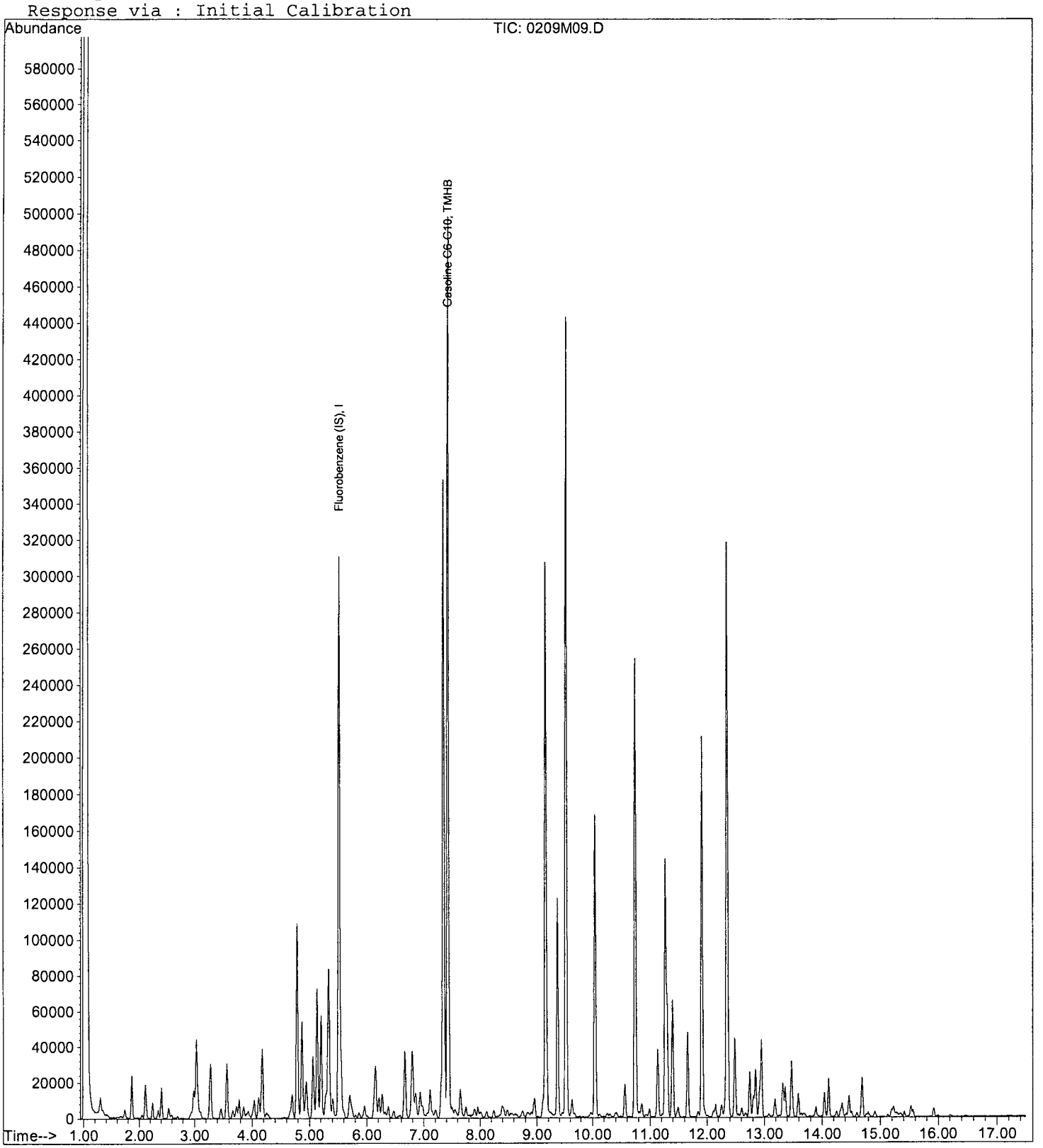
Quantitation Report

Data File : M:\MAX\DATA\M170127\0209M09.D
Acq On : 9 Feb 17 9:57
Sample : 170209A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 9 11:25 2017 Quant Results File: MGAS6111.RES

Method : M:\MAX\DATA\M170127\MGAS6111.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Jan 12 13:09:40 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0209M09.D Vial: 5
Acq On : 9 Feb 17 9:57 Operator: PM,DG,SV,CMM
Sample : 170209A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 10 13:31 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	297773	25.00 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	215467	25.00 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	114414	25.00 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	65288	25.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
3) 1,2-DCA-D4(S)	5.13	65	51734	25.57 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
5) Toluene-D8(S)	7.35	98	261120	25.05 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.204%	
6) 4-Bromofluorobenzene(S)	10.74	95	96177	25.64 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.548%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170213W-49741 LCS - 216157**
Batch ID: #GRO86-170213AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	312	104	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.6	102	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M05
Initials :	SV

Printed: 2/14/17 2:19:25 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M05.D Vial: 5
Acq On : 13 Feb 17 11:22 Operator: PM,DG,SV,CMM
Sample : 170213A CCV/LCS 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 11:47 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	297803	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	10061320m	311.71929	ppb	100

(#) = qualifier out of range (m) = manual integration

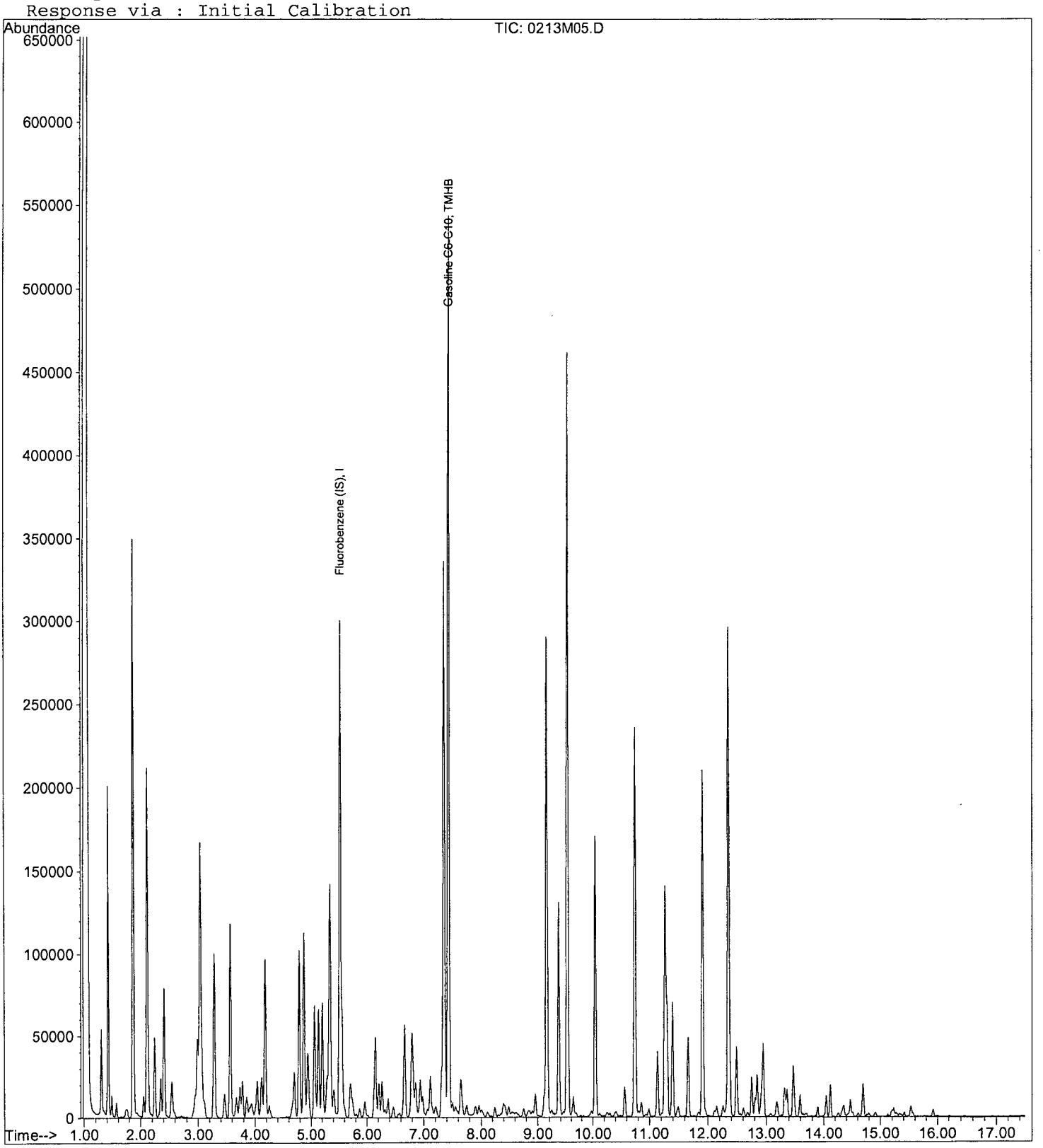
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M05.D
Acq On : 13 Feb 17 11:22
Sample : 170213A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 11:47 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M05.D
Acq On : 13 Feb 17 11:22
Sample : 170213A CCV/LCS 300ug/L
Misc : IS&S 10/20/16
MS Integration Params: LSCINT.P
Quant Time: Feb 14 9:18 2017

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00000
Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	287910	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	202741	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105645	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61601	24.94760 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.792%	
3) 1,2-DCA-D4(S)	5.13	65	48349	24.71087 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.844%	
5) Toluene-D8(S)	7.35	98	249431	25.43146 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.724%	
6) 4-Bromofluorobenzene(S)	10.74	95	90535	25.64761 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.592%	

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0213M05.D MSUR127.M Tue Feb 14 13:29:58 2017

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/4/16A	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17V-DG	20	1	100
01/11/17W-DG	50	2.5	100
01/11/17X-DG	100	5	100
01/11/17Y-DG	300	15	100
01/11/17Z-DG	600	30	100
01/11/17AA-DG	800	40	100
01/11/17AB-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	01/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
01/11/17	300	15	100

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	02/12/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17A-DG	20	1	100
02/11/17B-DG	50	2.5	100
02/11/17C-DG	100	5	100
02/11/17D-DG	300	15	100
02/11/17E-DG	600	30	100
02/11/17F-DG	800	40	100
02/11/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	20	0111M22.D	1	20ug/L GAS STD 1/11/17V	IS&S 10/20/16	11 Jan 17 18:56
2	21	0111M23.D	1	50ug/L GAS STD 1/11/17W	IS&S 10/20/16	11 Jan 17 19:24
3	22	0111M24.D	1	100ug/L GAS STD 1/11/17X	IS&S 10/20/16	11 Jan 17 19:53
4	23	0111M25.D	1	300ug/L GAS STD 1/11/17Y	IS&S 10/20/16	11 Jan 17 20:21
5	24	0111M26.D	1	600ug/L GAS STD 1/11/17Z	IS&S 10/20/16	11 Jan 17 20:49
6	25	0111M27.D	1	800ug/L GAS STD 1/11/17AA	IS&S 10/20/16	11 Jan 17 21:17
7	26	0111M28.D	1	1000ug/L GAS STD 1/11/17AB	IS&S 10/20/16	11 Jan 17 21:46
8	29	0111M31.D	1	(SS)300ug/L GAS STD 1/11/17	IS&S 10/20/16	11 Jan 17 23:11
9	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
10	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
11	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
12	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
13	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
14	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
15	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
16	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
17	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
18	5	0209M09.D	1	170209A CCV/LCS 300ug/L	IS&S 10/20/16	9 Feb 17 9:57
19	10	0209M14.D	1	170209A BLK-1WM	IS&S 10/20/16	9 Feb 17 12:19
20	23	0209M27.D	1	AZ49738W01	IS&S 10/20/16	9 Feb 17 18:28
21	24	0209M28.D	1	AZ49739W01	IS&S 10/20/16	9 Feb 17 18:57
22	25	0209M29.D	1	AZ49740W01	IS&S 10/20/16	9 Feb 17 19:25
23	27	0209M31.D	1	Ending CCV 8260 300ug/L 02/09/1	IS&S 10/20/16	9 Feb 17 20:22
24	8	0211M08.D	1	20ppb GAS STD 02/11/17A	IS&S 10/20/16	11 Feb 17 12:52
25	9	0211M09.D	1	50ppb GAS STD 02/11/17B	IS&S 10/20/16	11 Feb 17 13:20
26	10	0211M10.D	1	100ppb GAS STD 02/11/17C	IS&S 10/20/16	11 Feb 17 13:48
27	11	0211M11.D	1	300ppb GAS STD 02/11/17D	IS&S 10/20/16	11 Feb 17 14:16
28	12	0211M12.D	1	600ppb GAS STD 02/11/17E	IS&S 10/20/16	11 Feb 17 14:45
29	13	0211M13.D	1	800ppb GAS STD 02/11/17F	IS&S 10/20/16	11 Feb 17 15:13
30	14	0211M14.D	1	1000ppb GAS STD 02/11/17G	IS&S 10/20/16	11 Feb 17 15:41
31	17	0211M17.D	1	(SS) 300ppb GAS STD 02/11/17	IS&S 10/20/16	11 Feb 17 17:06
32	5	0213M05.D	1	170213A CCV/LCS 300ug/L	IS&S 10/20/16	13 Feb 17 11:22
33	11	0213M11.D	1	170213A BLK1WM	IS&S 10/20/16	13 Feb 17 14:12
34	15	0213M15.D	1	AZ49742W02	IS&S 10/20/16	13 Feb 17 16:05
35	16	0213M16.D	1	AZ49743W02	IS&S 10/20/16	13 Feb 17 16:34
36	17	0213M17.D	1	AZ49744W02	IS&S 10/20/16	13 Feb 17 17:02
37	18	0213M18.D	1	AZ49741W02	IS&S 10/20/16	13 Feb 17 17:31
38	27	0213M27.D	1	Ending CCV GAS 300ug/L 2/13/17	IS&S 10/20/16	13 Feb 17 21:45

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:04:38 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments:

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:04:15 PM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH209
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49738
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021202
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021202.D Vial: 3
Acq On : 12 Feb 17 10:29 Operator: lac
Sample : AZ49738W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:33 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

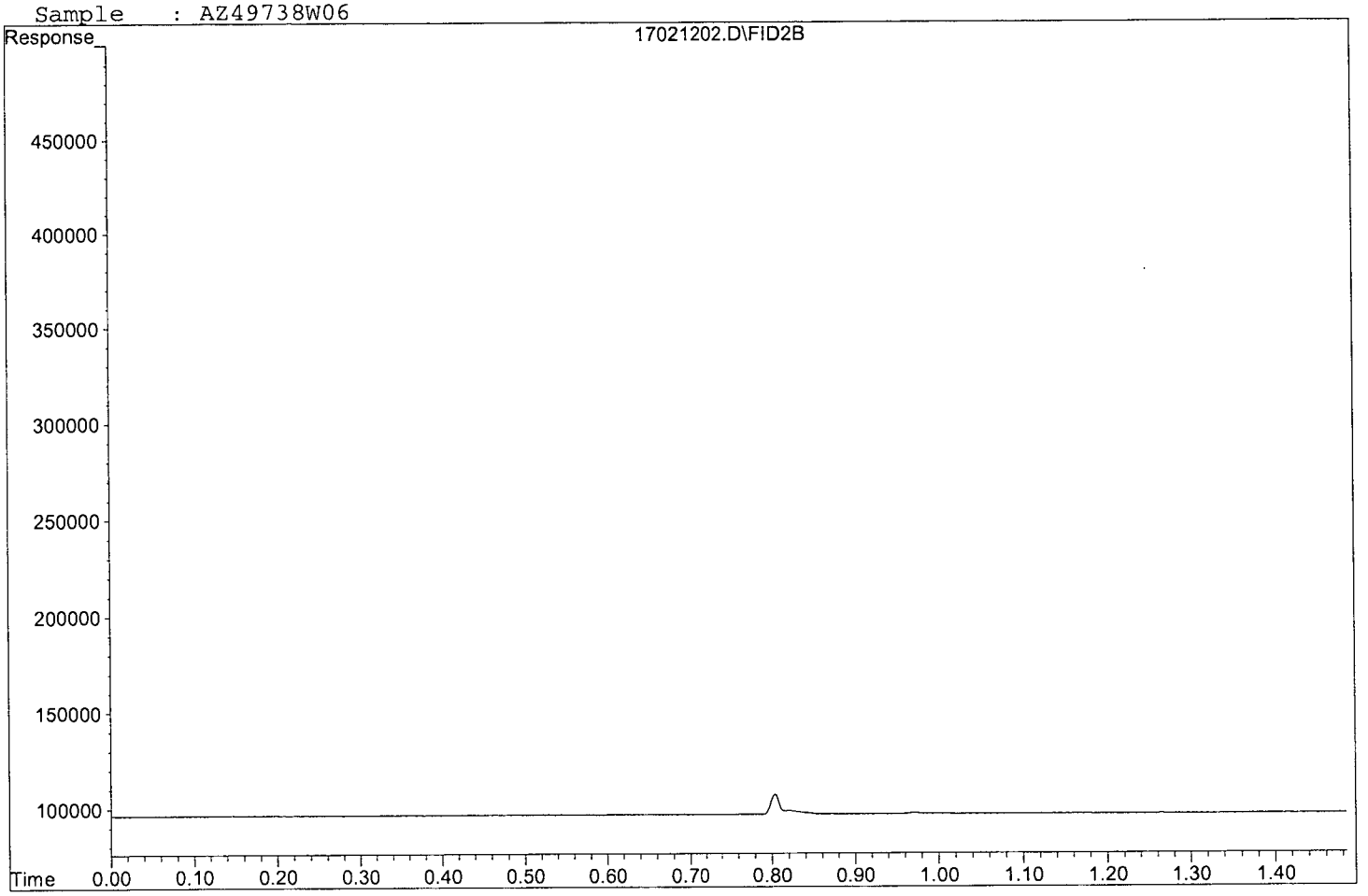
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	1094	N.D.	ppb
2) ATM Ethane	1.00	425	N.D.	ppb
3) ATM Ethene	1.08	346	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021202.D
Sample : AZ49738W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH218
Sample Collection Date: 02/08/17

ARF: 82130
APPL ID: AZ49739
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021203
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021203.D Vial: 4
Acq On : 12 Feb 17 10:35 Operator: lac
Sample : AZ49739W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:37 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

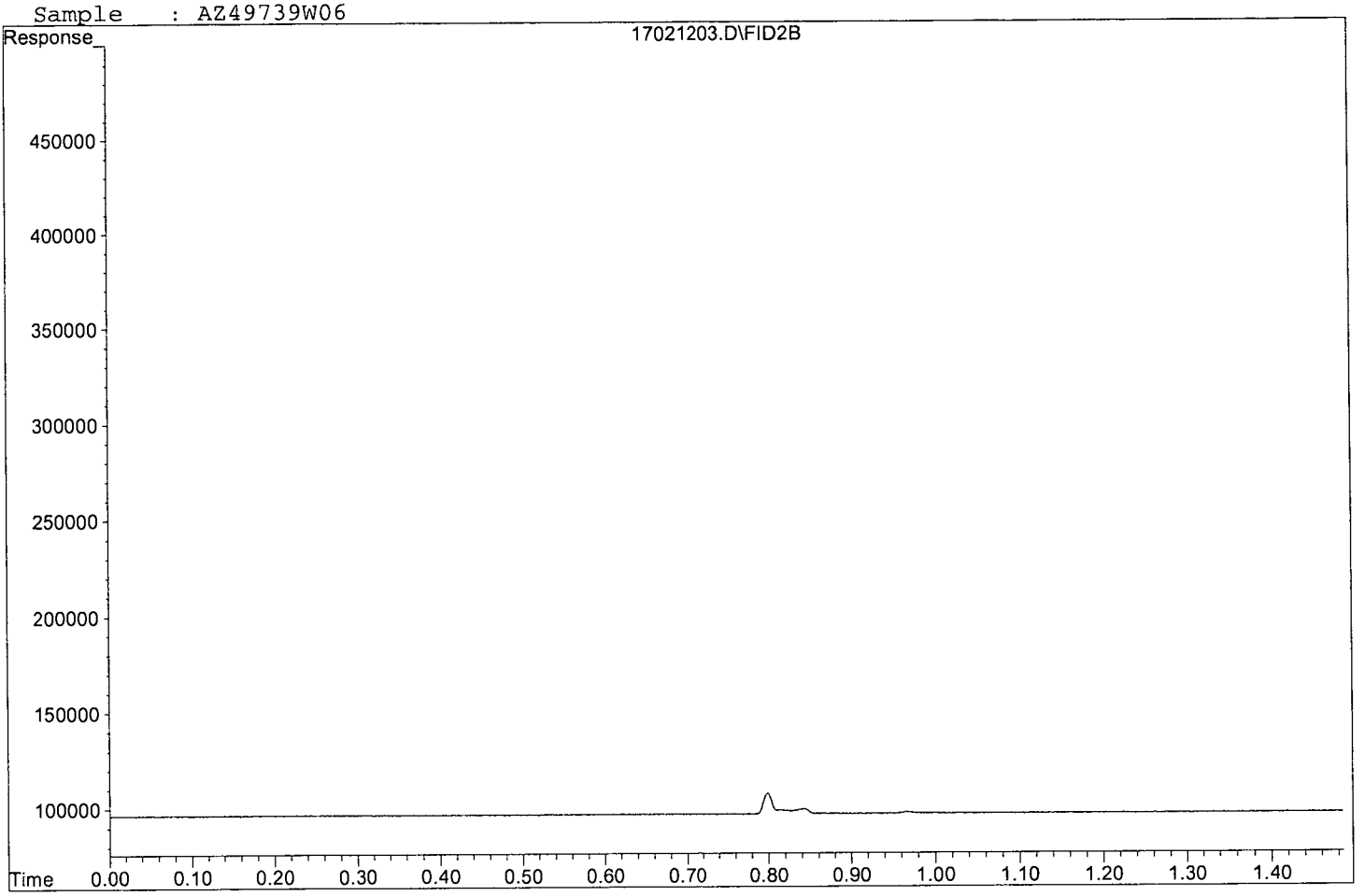
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	2628	N.D.	ppb
2) ATM Ethane	1.01	71	N.D.	ppb
3) ATM Ethene	1.08	193	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021203.D
Sample : AZ49739W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH215
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49740
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021204
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021204.D
Acq On : 12 Feb 17 10:39
Sample : AZ49740W06
Misc :
IntFile : autoint1.e
Quant Time: Feb 12 10:42 2017 Quant Results File: RSK0901.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:42:47 2017
Response via : Multiple Level Calibration

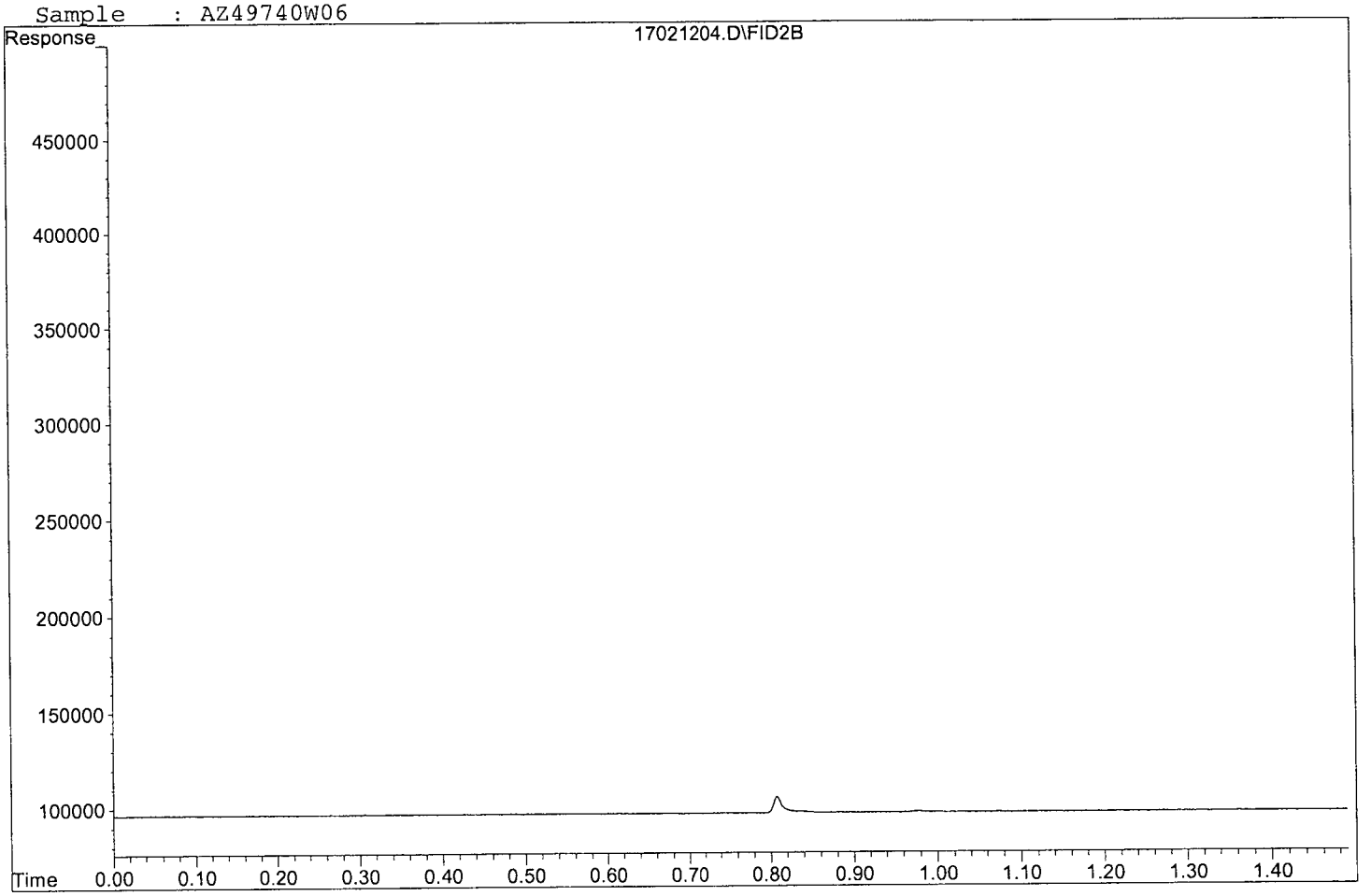
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.81	8562	N.D.	ppb
2) ATM Ethane	0.98	690	N.D.	ppb
3) ATM Ethene	1.12	314	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021204.D
Sample : AZ49740W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH216
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49741
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	16000	250.0	50.00	12.50	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021206
Instrument: Rocky
Sequence: 160901
Dilution Factor: 50
Initials: CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021206.D Vial: 7
Acq On : 12 Feb 17 10:49 Operator: lac
Sample : AZ49741W06 DF50 Inst : 7890
Misc : Multiplr: 50.00
IntFile : autoint1.e
Quant Time: Feb 12 10:52 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

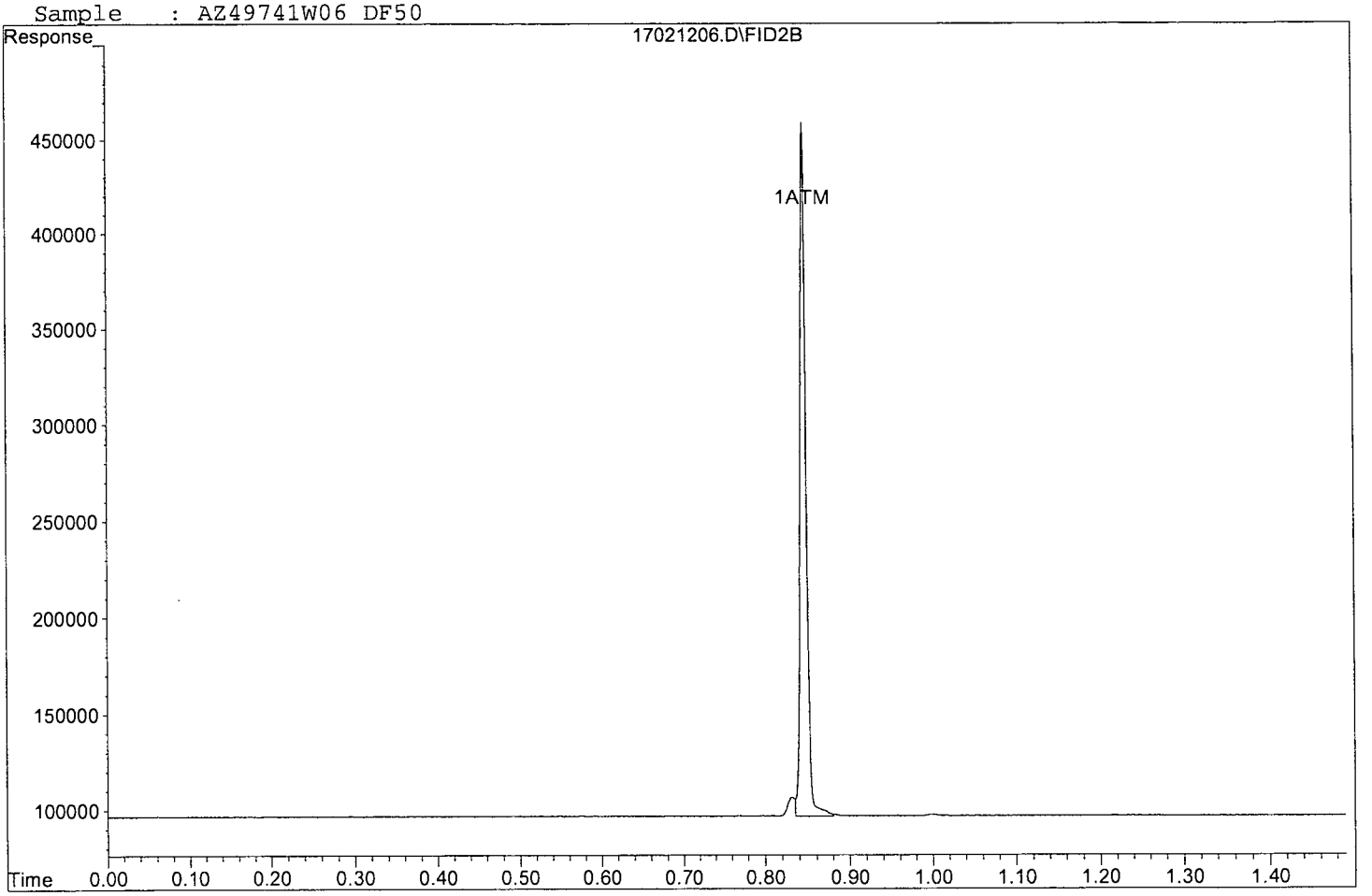
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	361558	16026.443	ppb
Target Compounds				
2) ATM Ethane	0.97	339	N.D.	ppb
3) ATM Ethene	1.11	291	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021206.D
Sample : AZ49741W06 DF50



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH217
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49742
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021207
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021207.D Vial: 8
Acq On : 12 Feb 17 10:54 Operator: lac
Sample : AZ49742W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:57 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

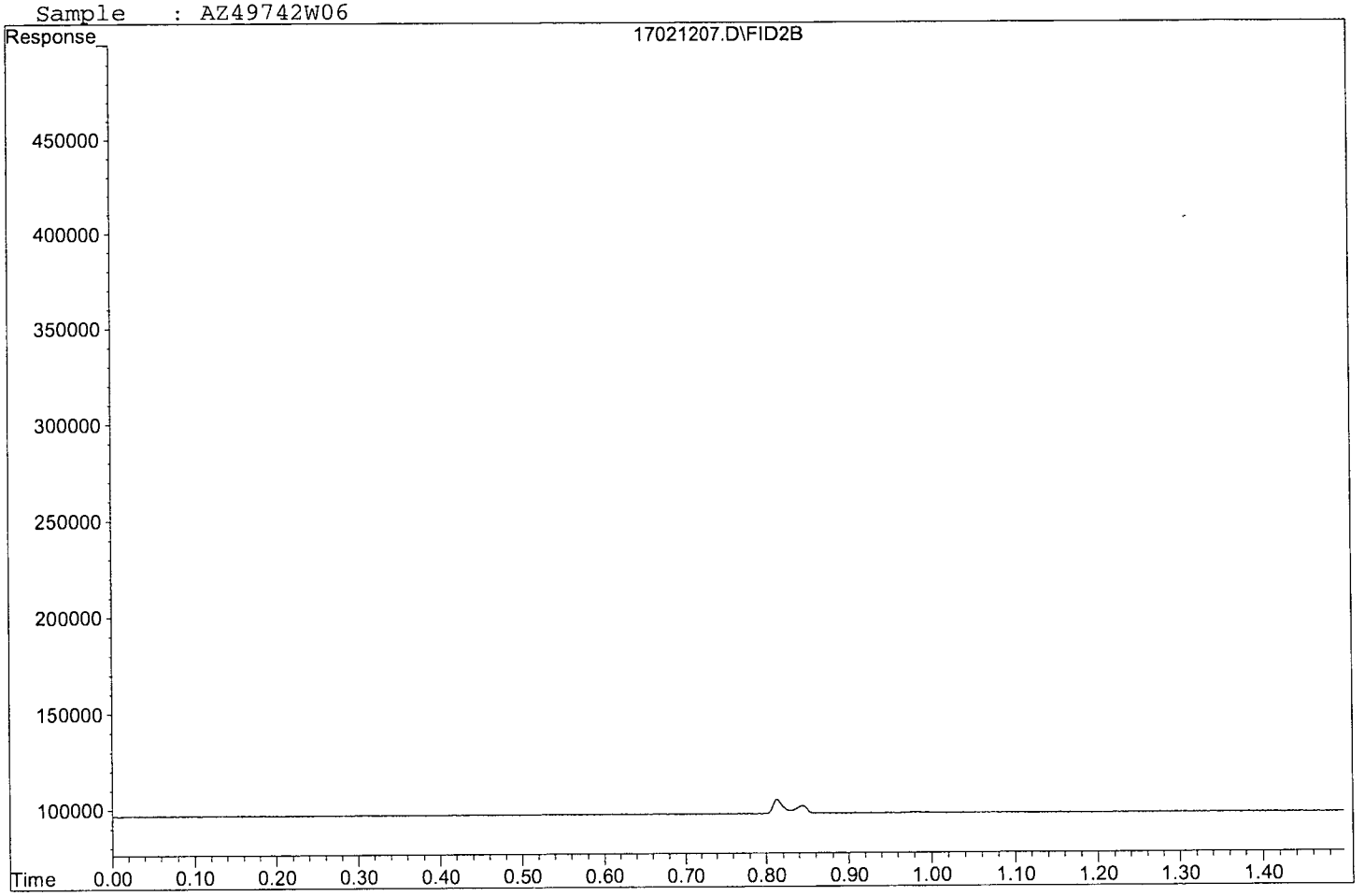
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	4137	N.D.	ppb
2) ATM Ethane	0.98	638	N.D.	ppb
3) ATM Ethene	1.10	280	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021207.D
Sample : AZ49742W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH210
Sample Collection Date: 02/07/17

ARF: 82130
APPL ID: AZ49743
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021208
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:04:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021208.D Vial: 9
Acq On : 12 Feb 17 10:59 Operator: lac
Sample : AZ49743W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:01 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

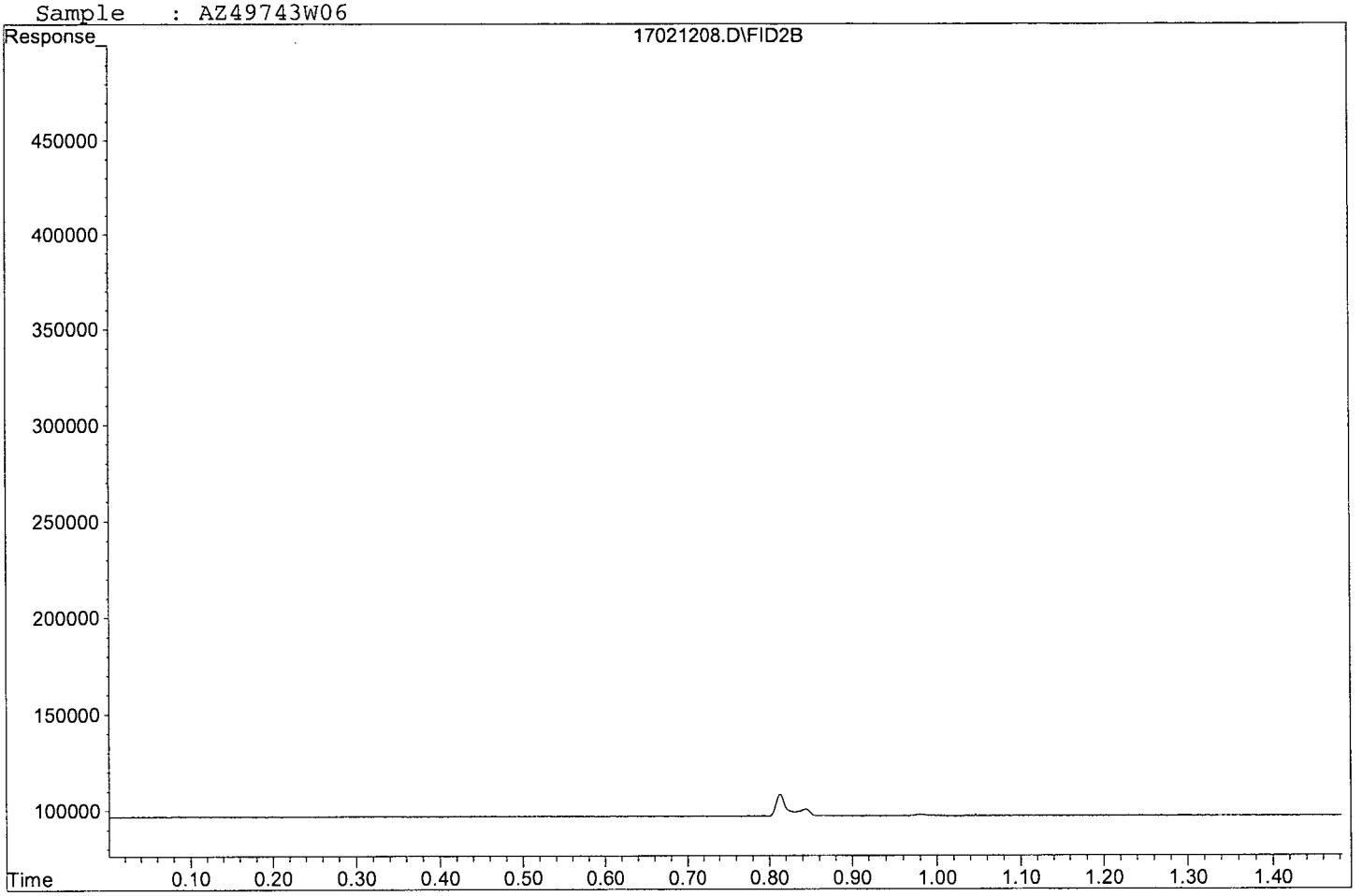
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	3726	N.D.	ppb
2) ATM Ethane	0.98	794	N.D.	ppb
3) ATM Ethene	1.12	255	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021208.D
Sample : AZ49743W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 09/01/16
Instrument: 7890

Initials:

		Compound	0901000.D	0901001.D	0901002.D	0901003.D	0901004.D	0901005.D	0901006.D	0901007.D	0901008.D	0901009.D				
			1	2	3	4	5	6	7	8	9	10	Avg	%RSD		
1	ATM	Methane	7448	5672	3042	3435	1074	1006	1184	1314	1084	1089	2635	87	ATM	
2	ATM	Ethane	1509	1521	1416	2554	478	657	816	933	791	798	1147	54	ATM	
3	ATM	Ethene	1826	1525	1280	2301	444	570	693	733	628	626	1063	60	ATM	
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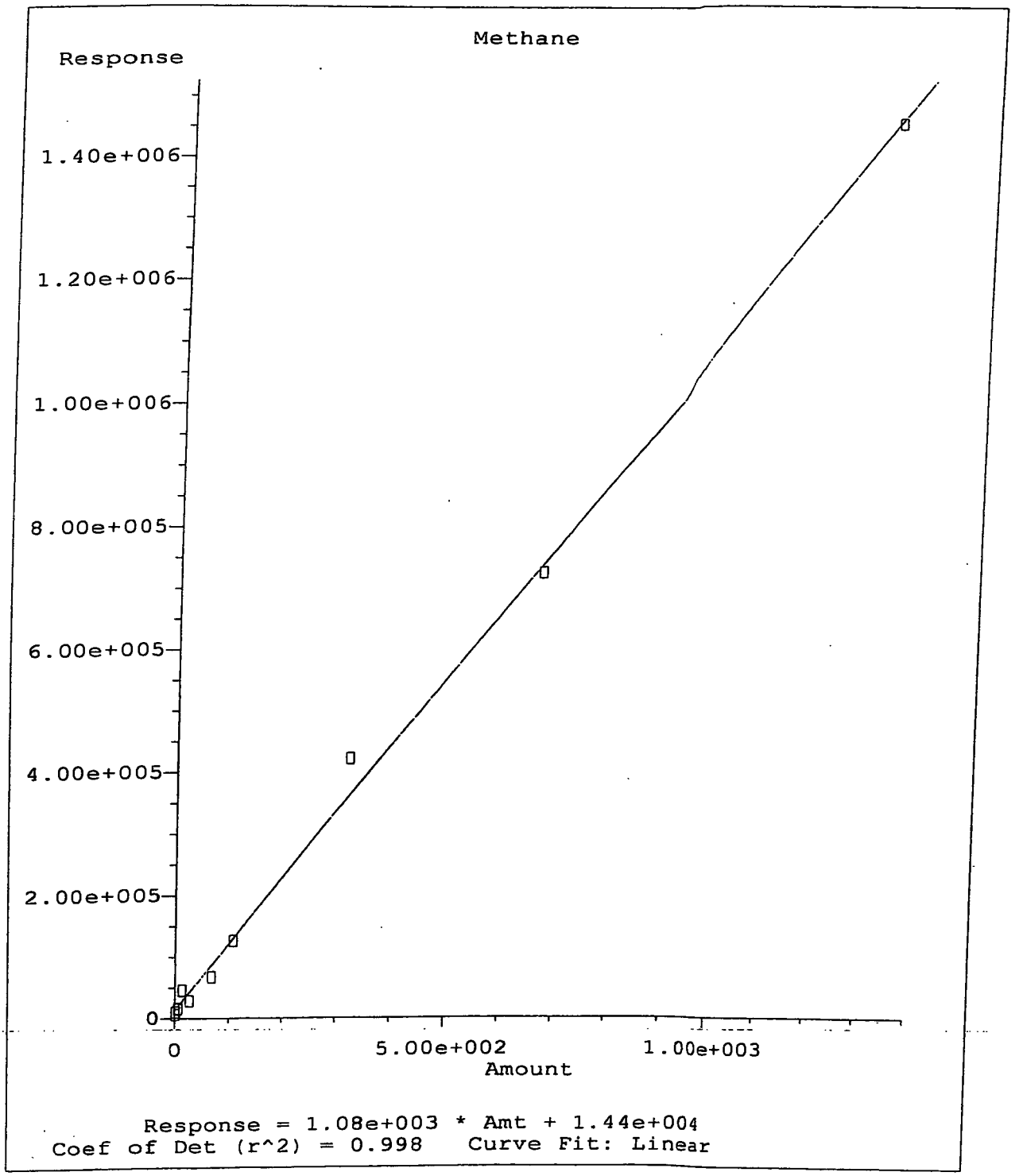
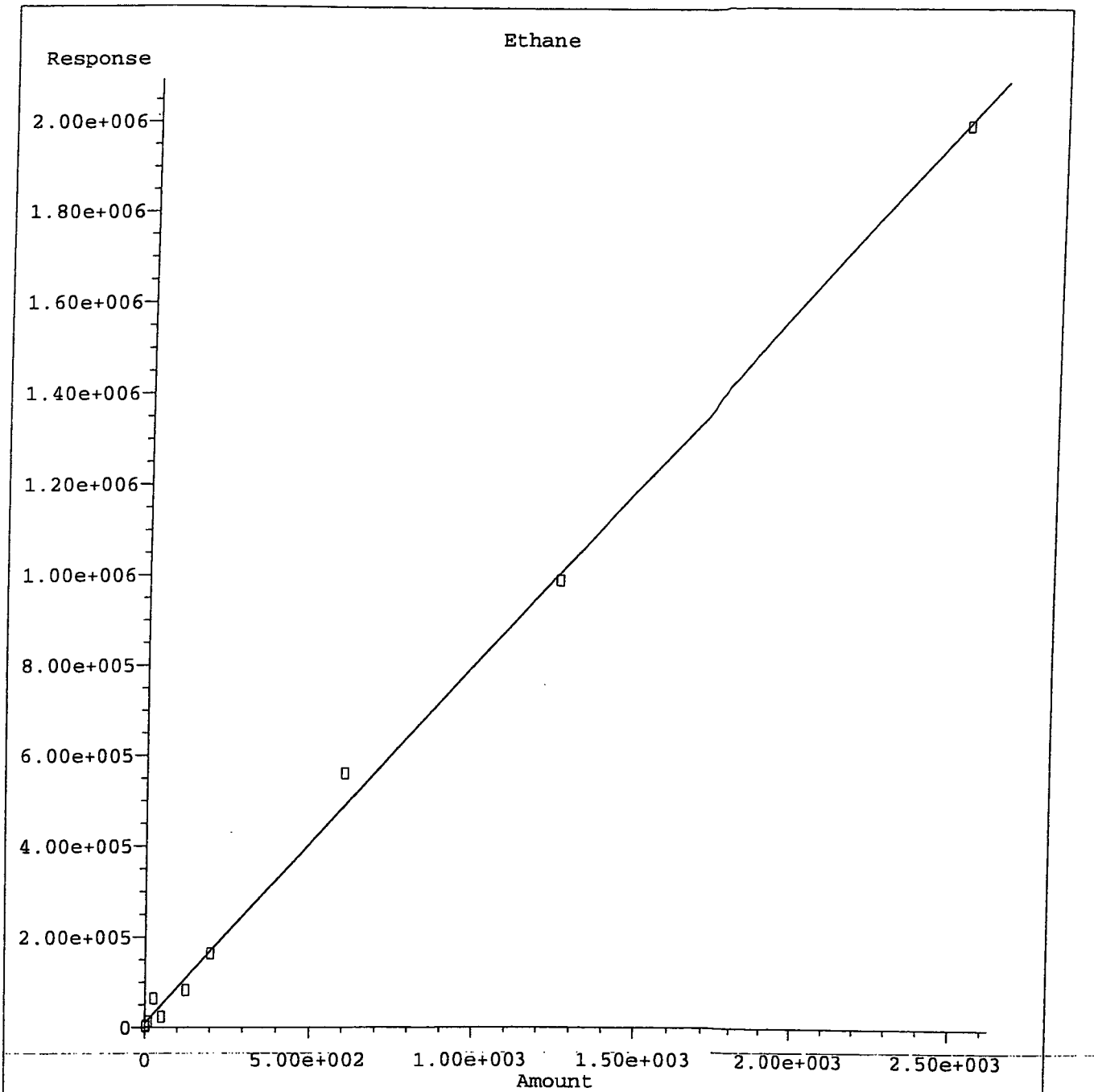
FORM61

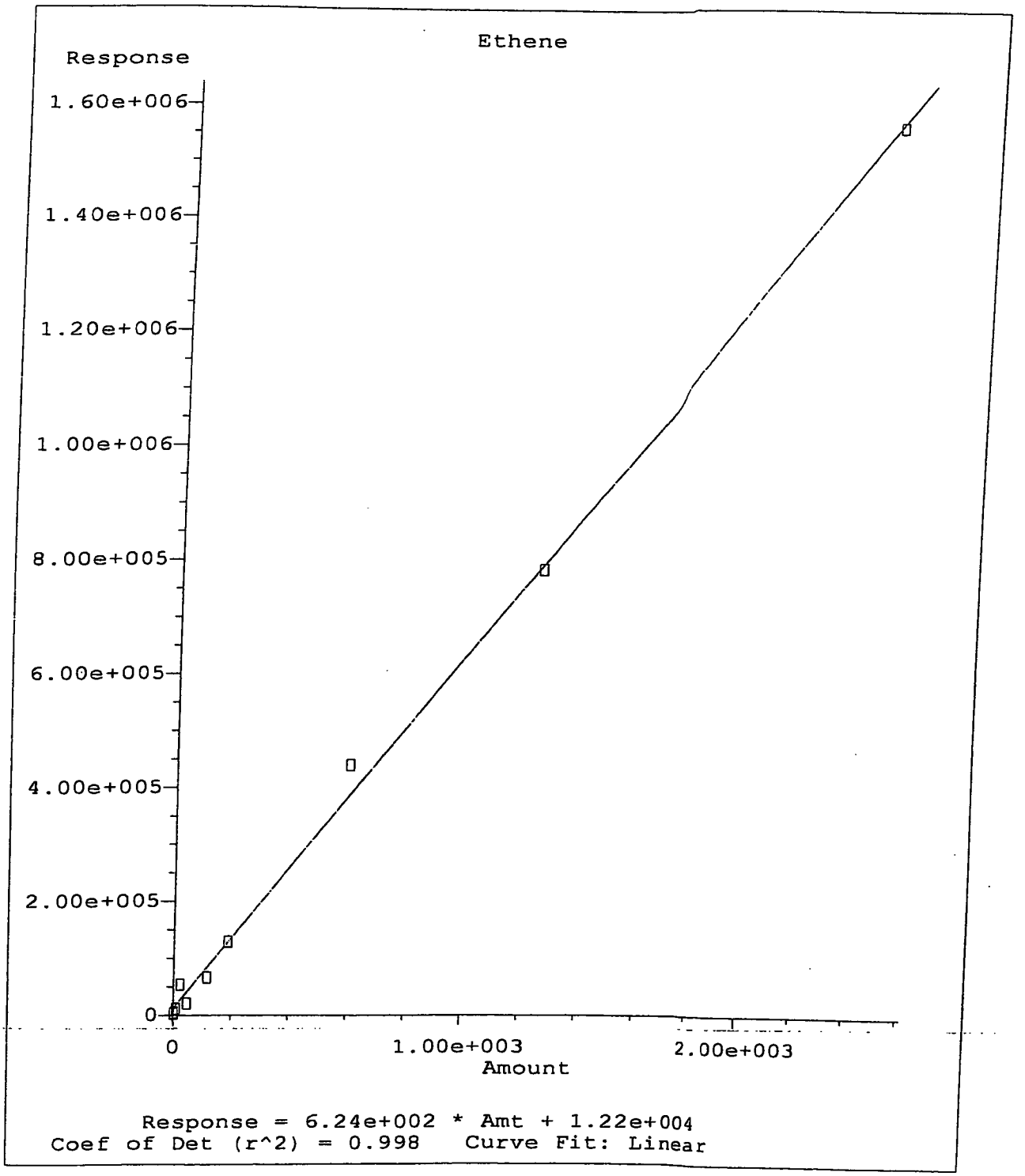


Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016



Response = 7.96e+002 * Amt + 1.03e+004
Coef of Det (r^2) = 0.998 Curve Fit: Linear

Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Thu Nov 10 08:49:51 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901000.D Vial: 1
Acq On : 1 Sep 16 11:38 Operator: lac
Sample : RSK Level 1 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

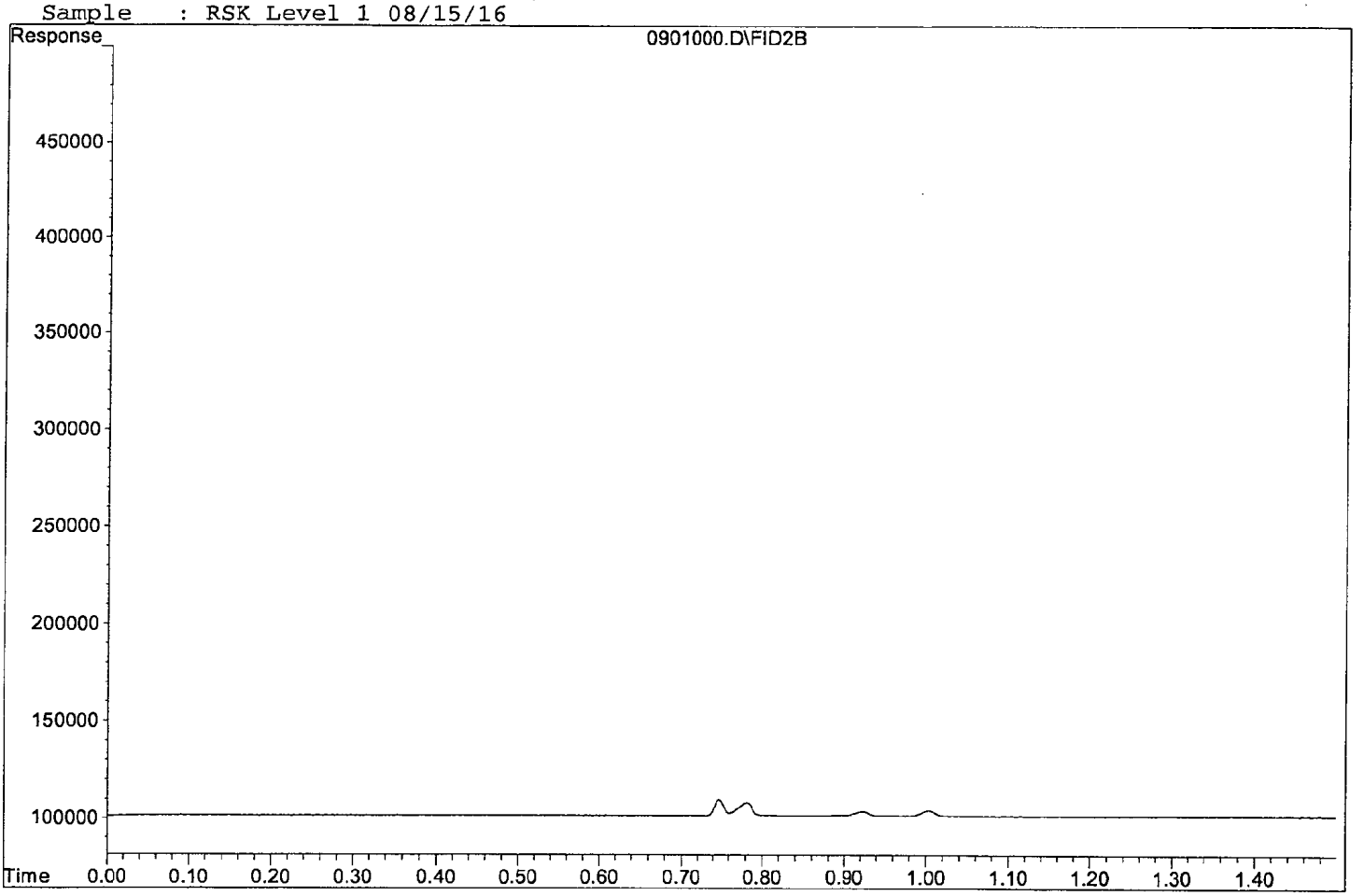
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	6703	N.D.	ppb
2) ATM Ethane	0.92	2566	N.D.	ppb
3) ATM Ethene	1.00	2922	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901000.D
Sample : RSK Level 1 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901001.D
Acq On : 1 Sep 16 11:41
Sample : RSK Level 2 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Jan 26 12:10 2017 Quant Results File: RSK0901.RES

Vial: 2
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 26 12:11:56 2017
Response via : Multiple Level Calibration

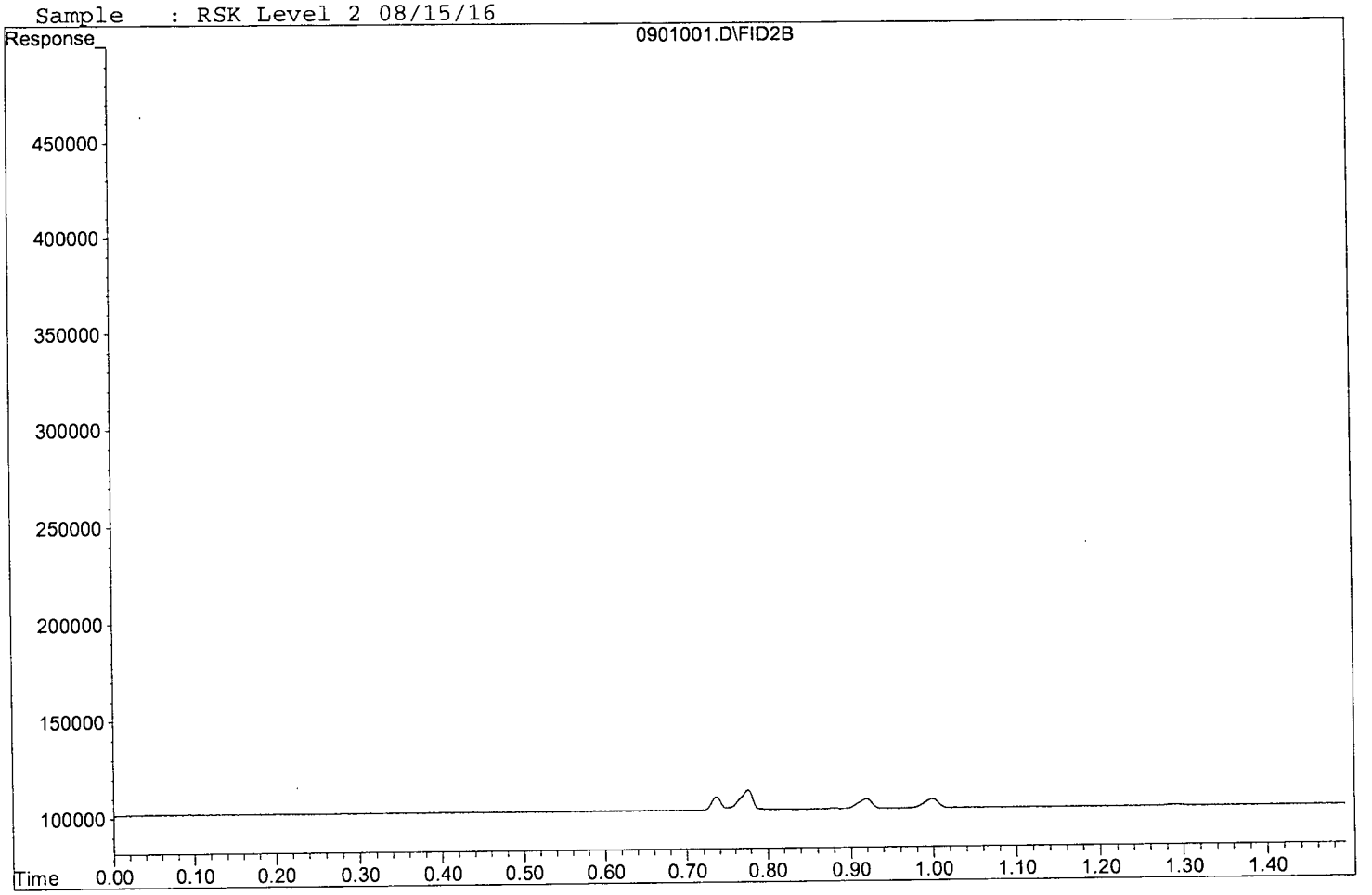
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	10209	N.D.	ppb
2) ATM Ethane	0.92	5171	N.D.	ppb
3) ATM Ethene	1.00	4881	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901001.D
Sample : RSK Level 2 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901002.D Vial: 3
Acq On : 1 Sep 16 11:44 Operator: lac
Sample : RSK Level 3 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 14 13:31 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

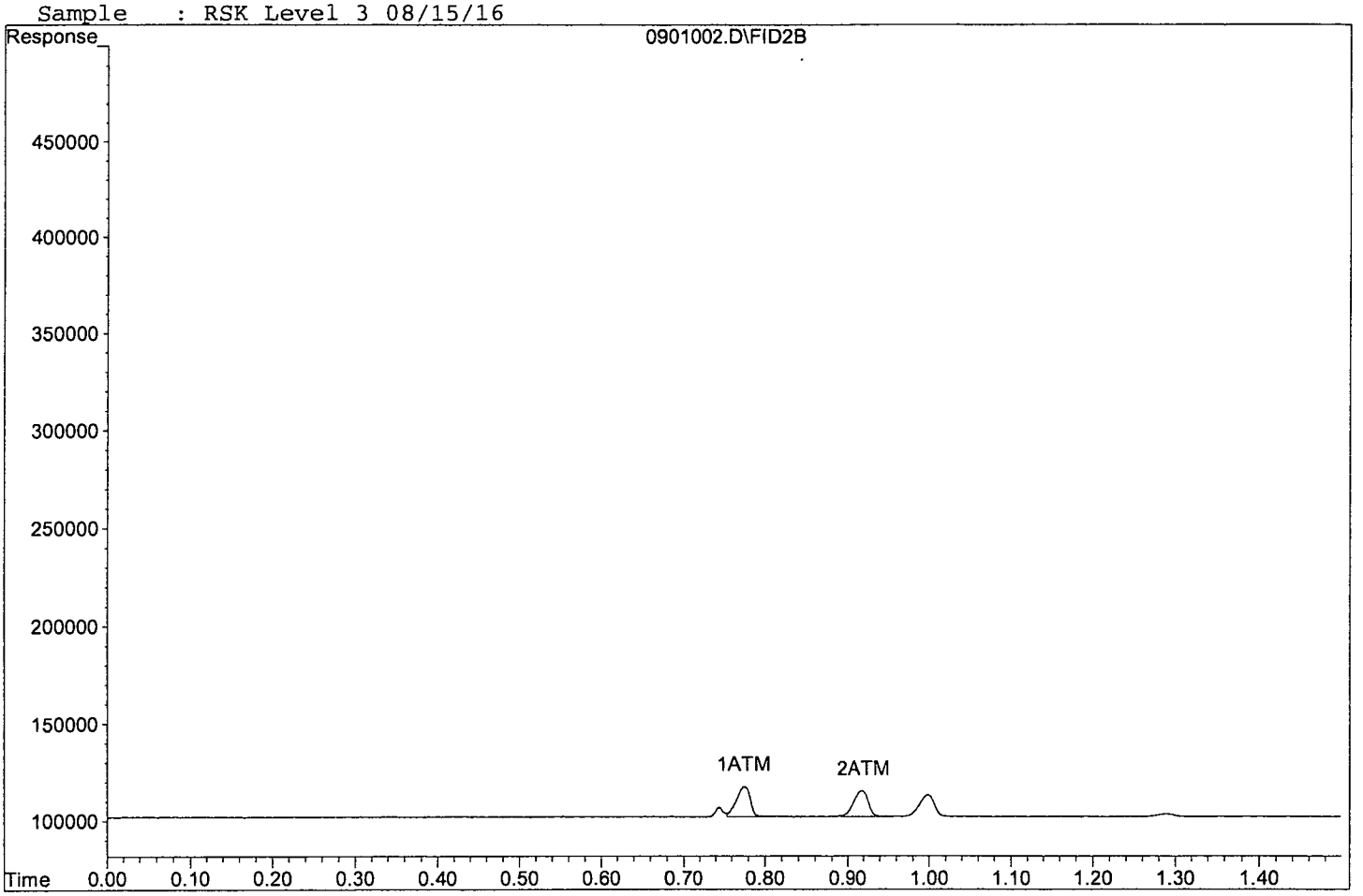
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	15515	1.054 ppb
2) ATM Ethane	0.92	13452	3.912 ppb
Target Compounds			
3) ATM Ethene	1.00	11390	N.D. ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901002.D
Sample : RSK Level 3 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901003.D Vial: 4
Acq On : 1 Sep 16 11:46 Operator: lac
Sample : RSK Level 4 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

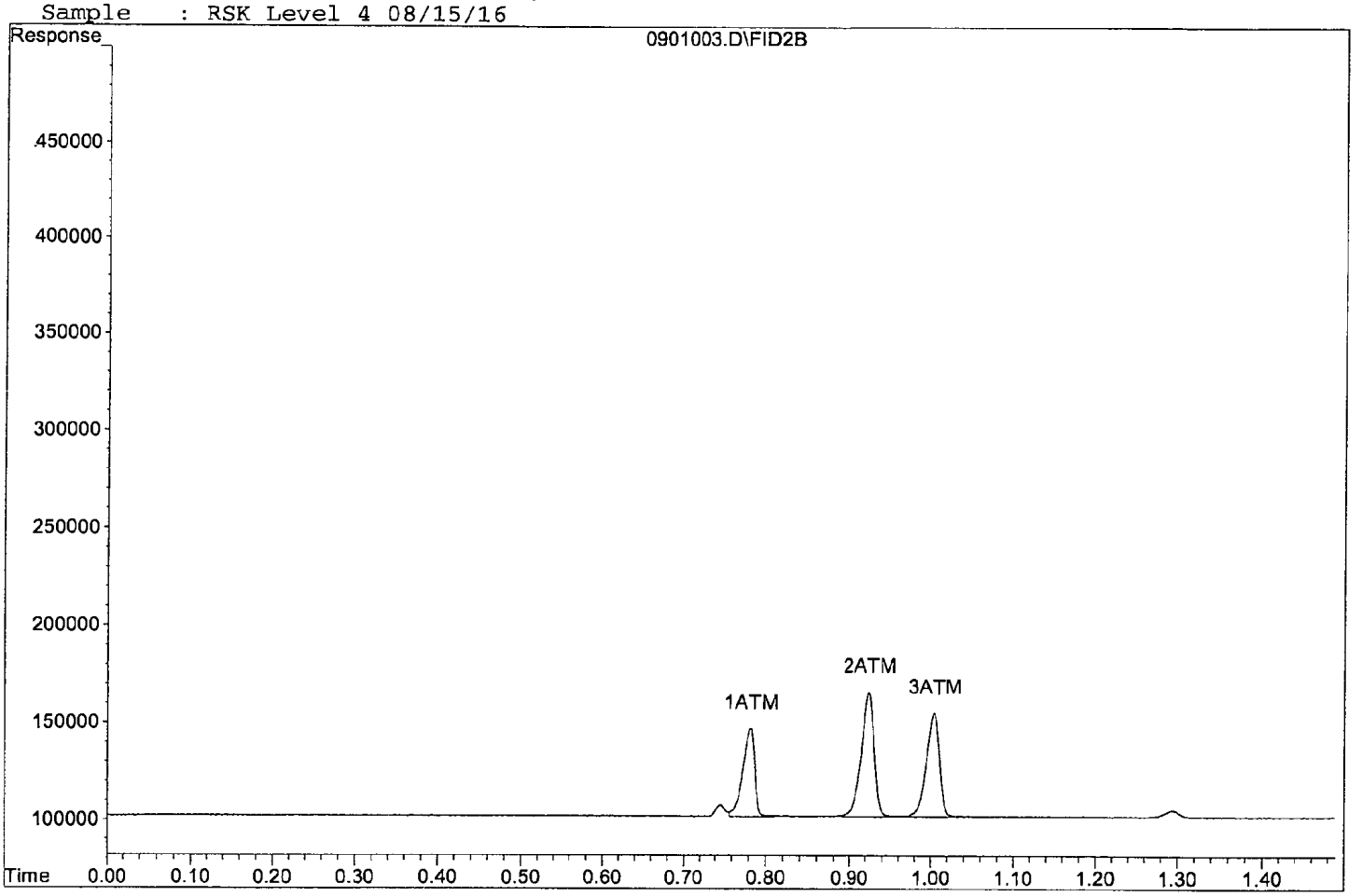
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	45792	29.006 ppb
2) ATM Ethane	0.92	63853	67.197 ppb
3) ATM Ethene	1.00	53608	66.354 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901003.D
Sample : RSK Level 4 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901004.D Vial: 5
Acq On : 1 Sep 16 11:48 Operator: lac
Sample : RSK Level 5 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

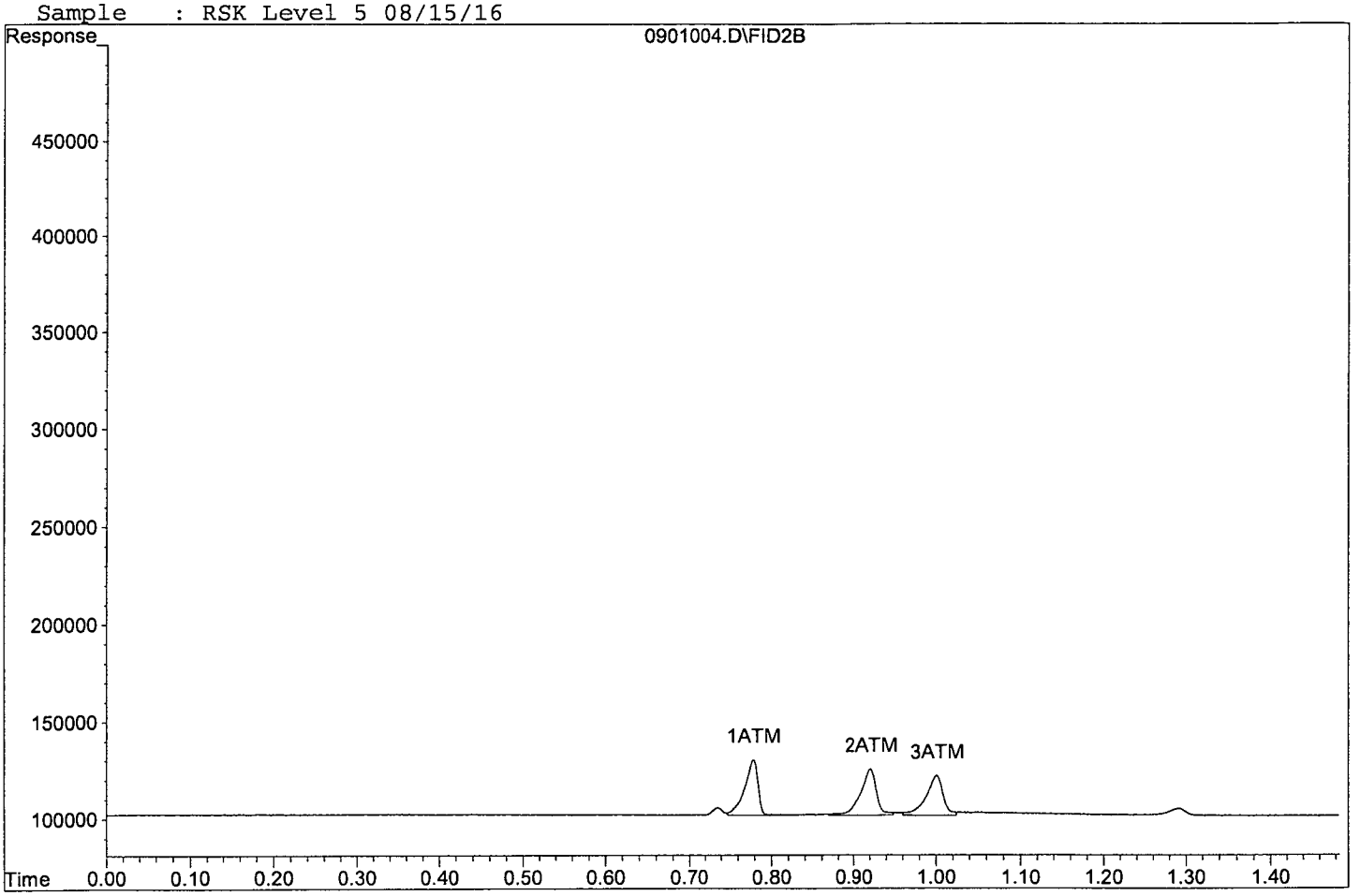
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	28664	13.193 ppb
2) ATM Ethane	0.92	23891	17.020 ppb
3) ATM Ethene	1.00	20700	13.631 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901004.D
Sample : RSK Level 5 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901005.D Vial: 6
Acq On : 1 Sep 16 11:50 Operator: lac
Sample : RSK Level 6 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

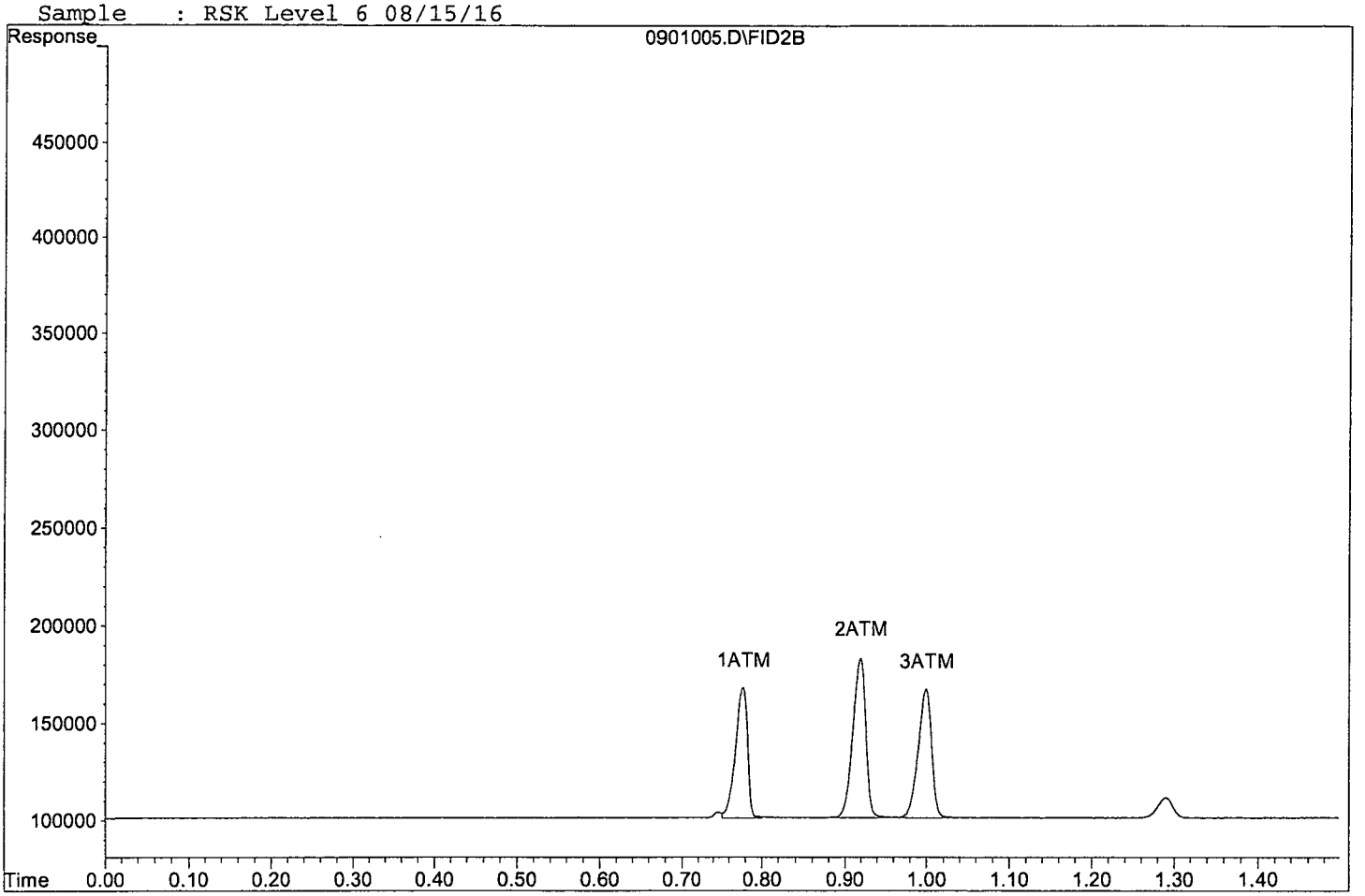
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	67137	48.712 ppb
2) ATM Ethane	0.92	82167	90.193 ppb
3) ATM Ethene	1.00	66348	86.764 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901005.D
Sample : RSK Level 6 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901006.D Vial: 7
Acq On : 1 Sep 16 11:52 Operator: lac
Sample : RSK Level 7 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

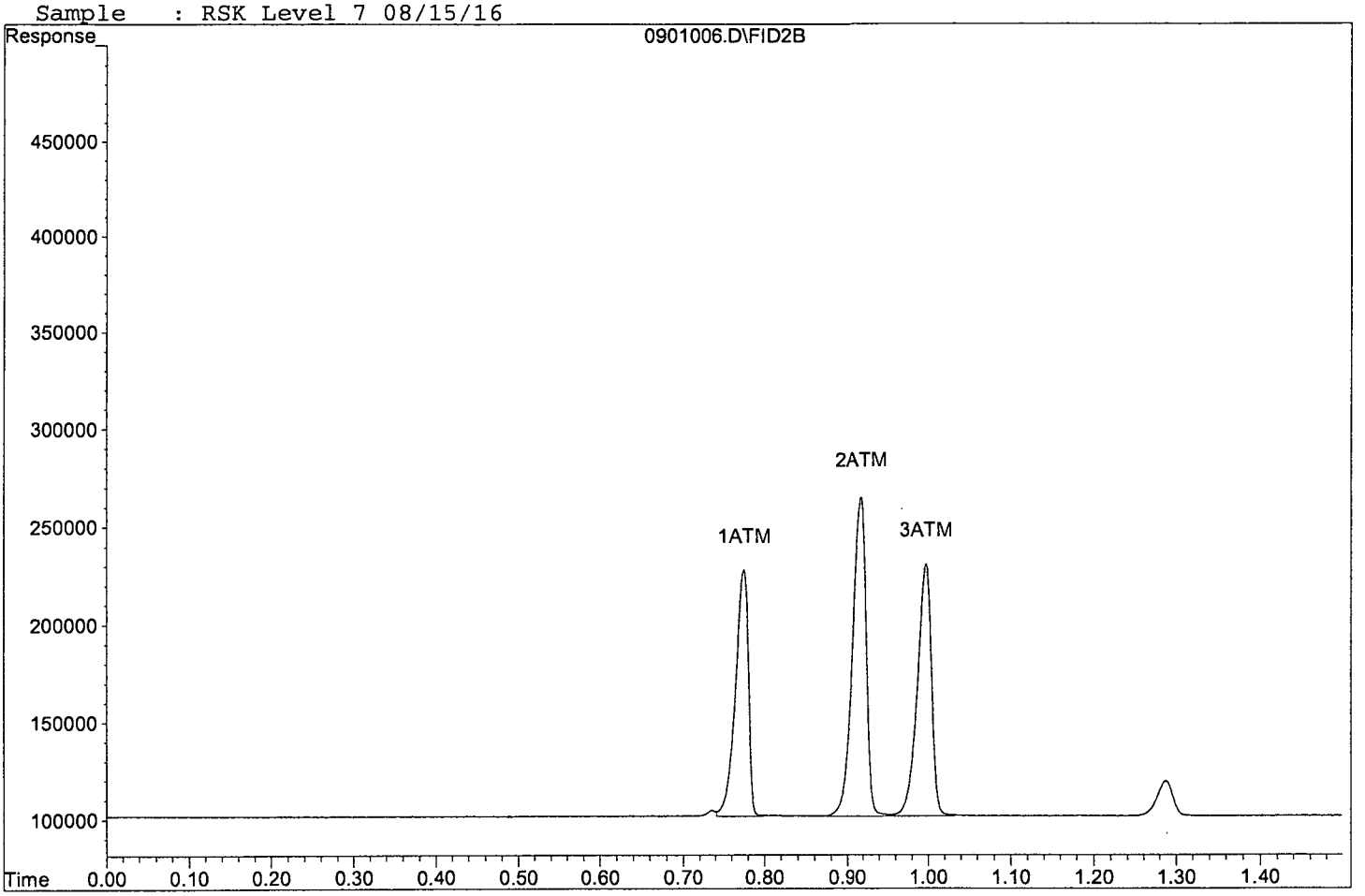
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	126422	103.446 ppb
2) ATM Ethane	0.92	163281	192.041 ppb
3) ATM Ethene	1.00	129200	187.460 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901006.D
Sample : RSK Level 7 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901007.D Vial: 8
Acq On : 1 Sep 16 11:55 Operator: lac
Sample : RSK Level 8 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

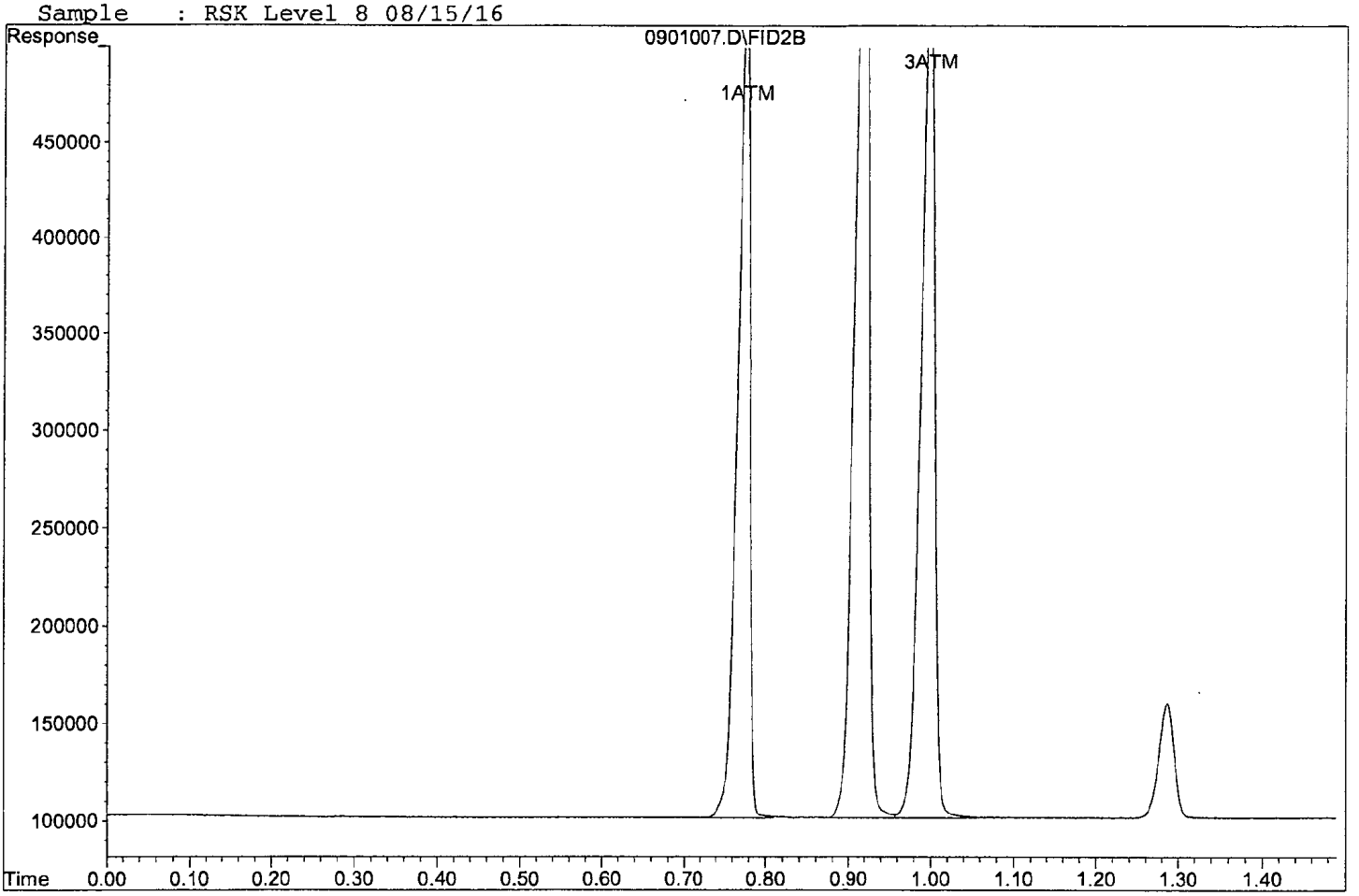
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	421052	375.455 ppb
2) ATM Ethane	0.92	559640	689.720 ppb
3) ATM Ethene	1.00	439383	684.403 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\0901007.D
Sample : RSK Level 8 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901008.D Vial: 9
Acq On : 1 Sep 16 11:57 Operator: lac
Sample : RSK Level 9 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

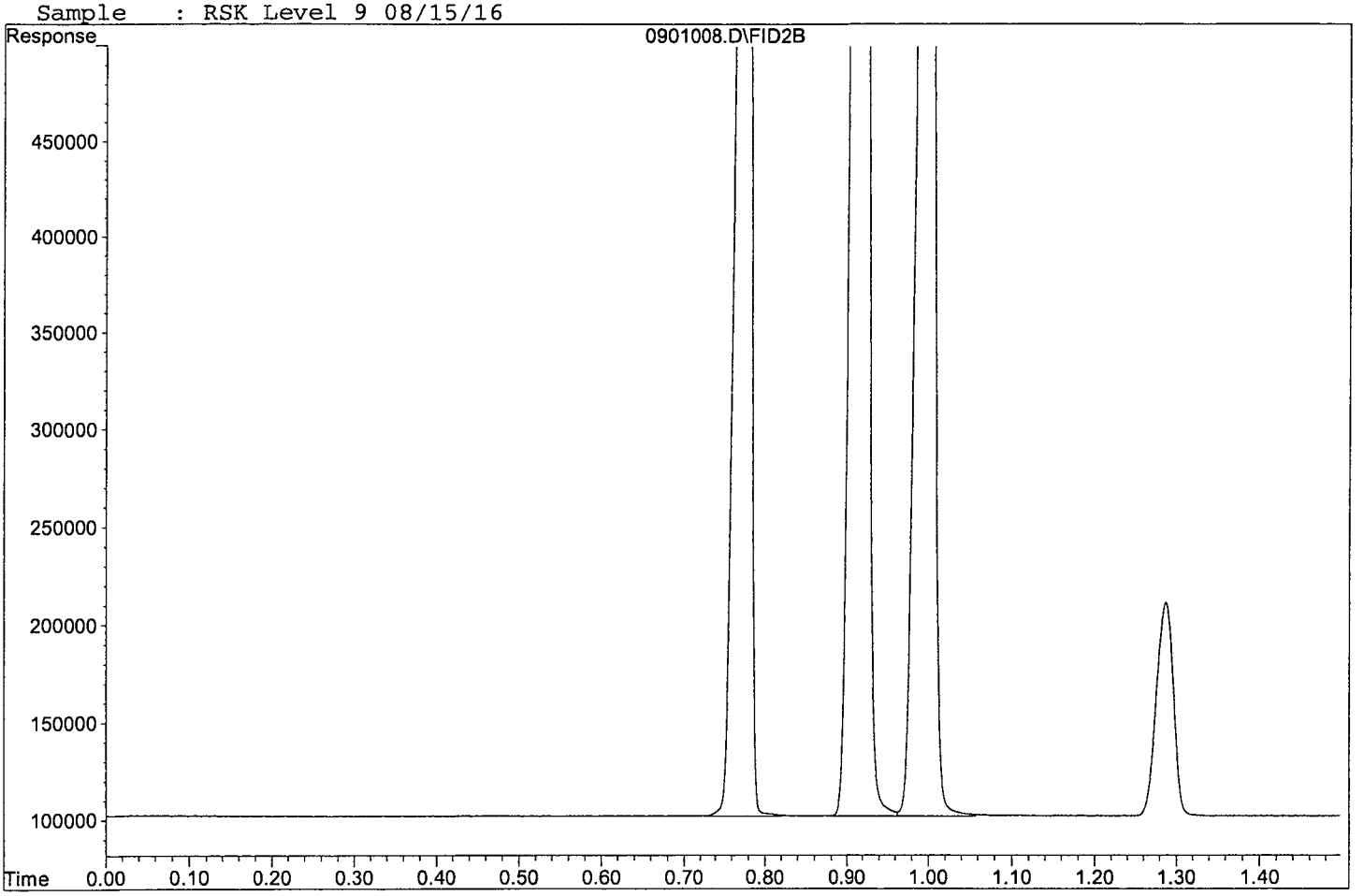
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	723824	654.982	ppb
2) ATM Ethane	0.92	989344	1229.268	ppb
3) ATM Ethene	1.00	783615	1235.897	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901008.D
Sample : RSK Level 9 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901009.D Vial: 10
Acq On : 1 Sep 16 11:59 Operator: lac
Sample : RSK Level 10 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

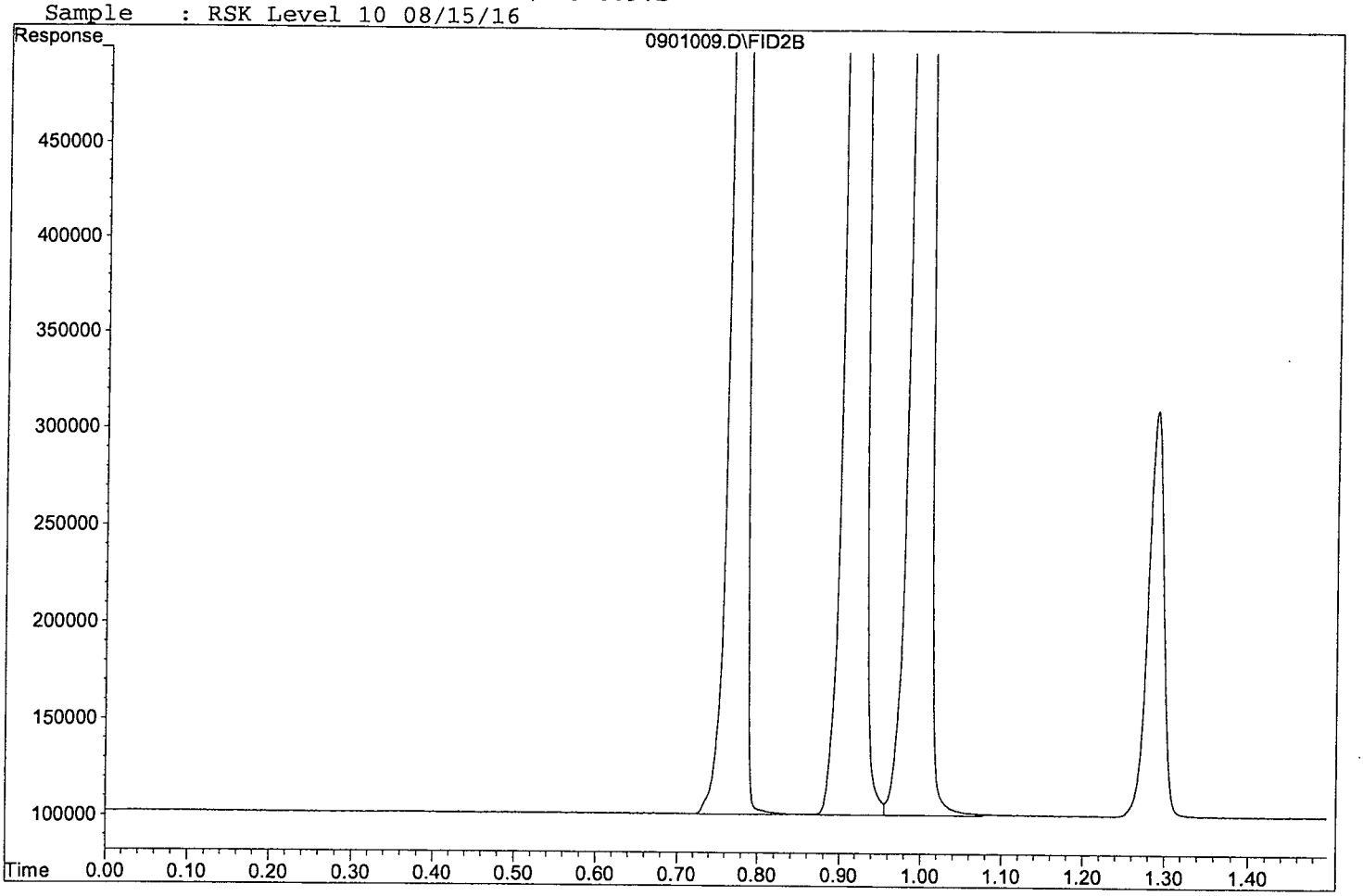
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	1454283	1329.358	ppb
2) ATM Ethane	0.92	1994598	2491.490	ppb
3) ATM Ethene	1.00	1562244	2483.337	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901009.D
Sample : RSK Level 10 08/15/16



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Sep 16 13:11
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 0901018.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	2635	1090	59	ATML	19
2	ATML	Ethane	1147	964	16	ATML	11
3	ATML	Ethene	1063	853	20	ATML	20
4							
5							
6							
7							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			31.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901018.D
Acq On : 1 Sep 16 13:11
Sample : (SS/LCS) RSK Level 6 09/01/16
Misc :
IntFile : autoint1.e
Quant Time: Sep 1 13:16 2016 Quant Results File: RSK0901.RES

Vial: 19
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Sep 01 14:40:19 2016
Response via : Multiple Level Calibration

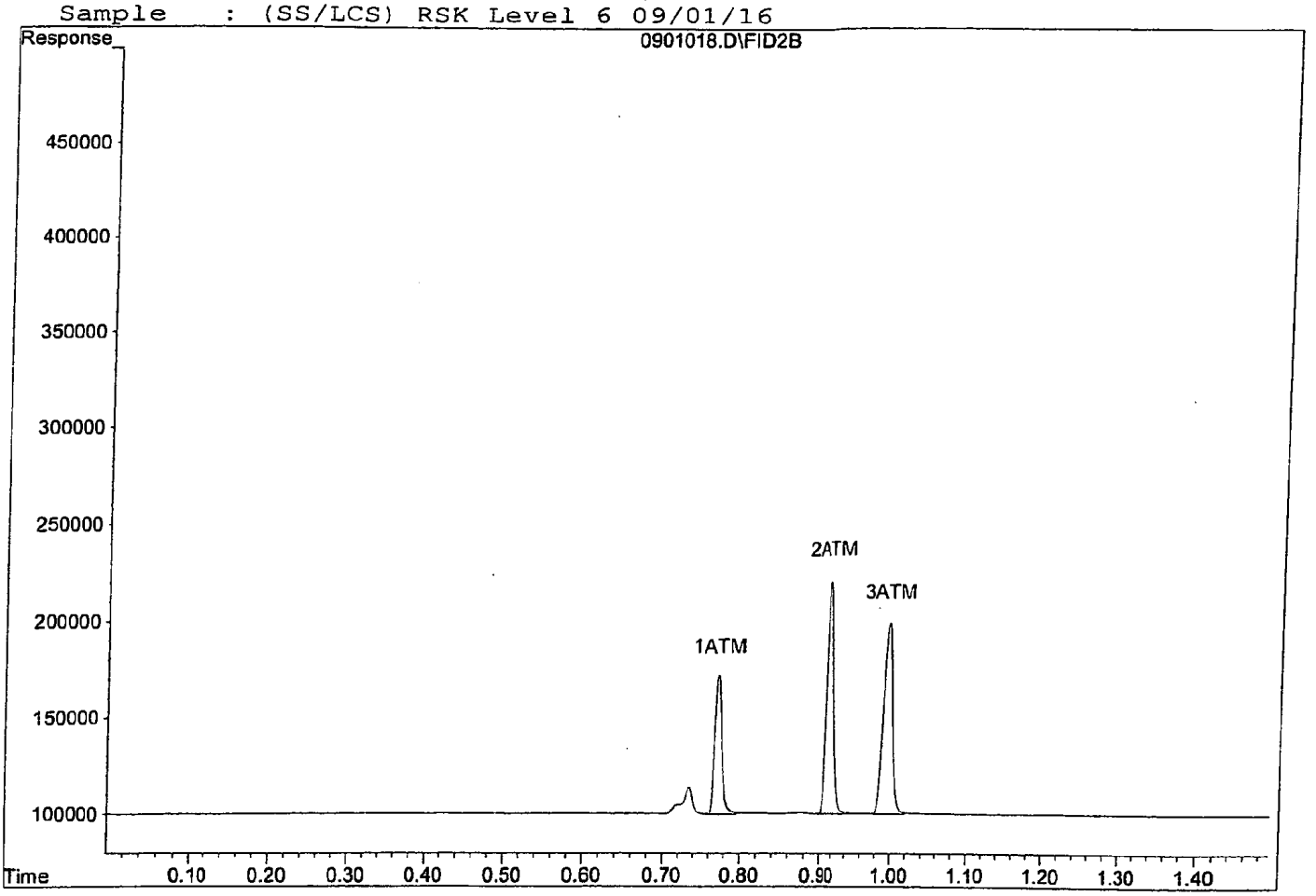
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	72750	53.894 ppb
2) ATM Ethane	0.91	120545	138.382 ppb
3) ATM Ethene	0.99	99349	139.636 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901018.D
Sample : (SS/LCS) RSK Level 6 09/01/16



0901018.D RSK0901.M Fri Sep 02 08:47:46 2016 Page 2

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021200.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1043	60	ATML	4.7
2	ATML	Ethane	1147	877	24	ATML	9.7
3	ATML	Ethene	1063	628	41	ATML	0.20
4							
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36							
37							
38							
39							
40							
		Average			41.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

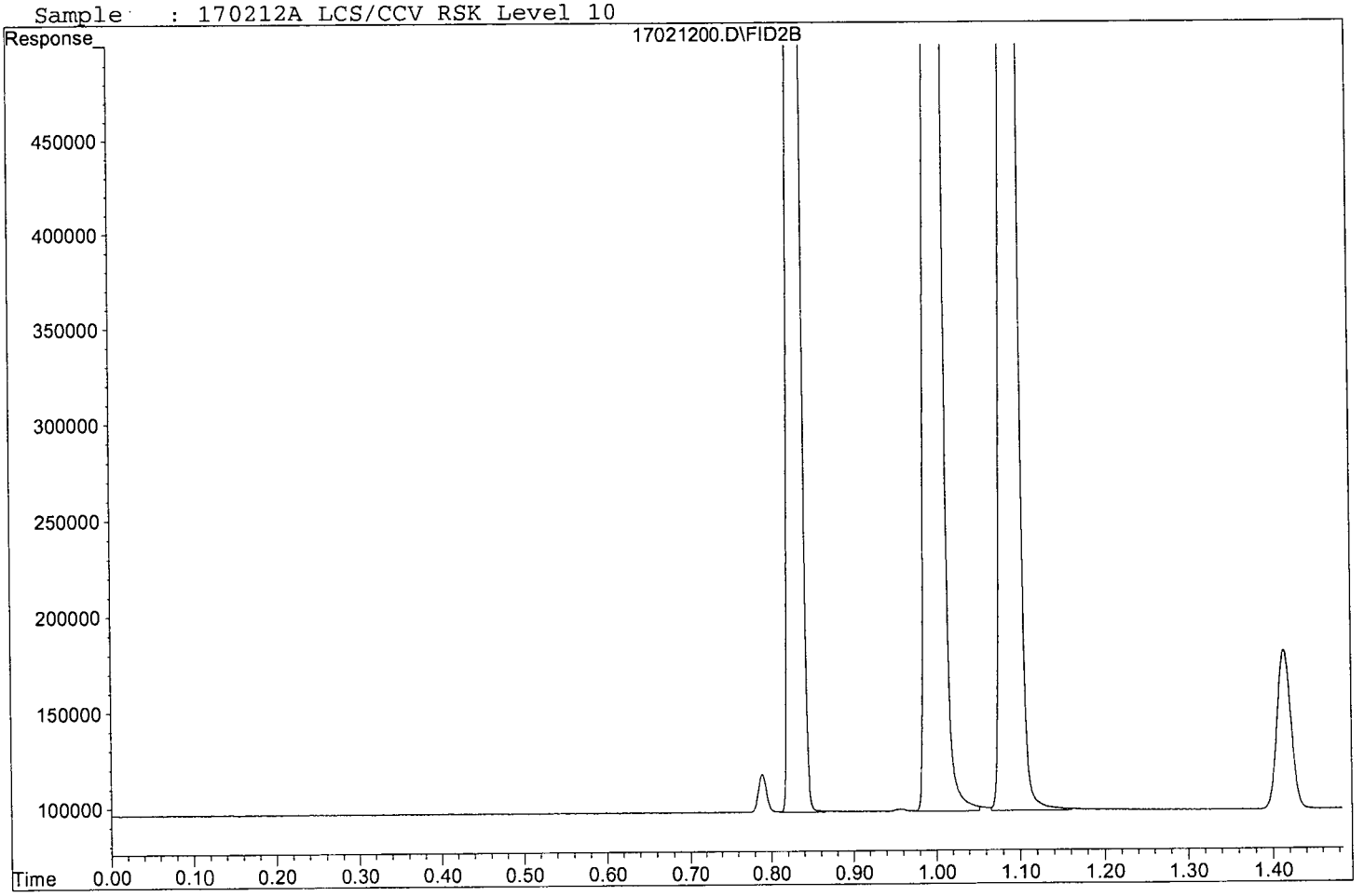
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021223.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	929	65	ATML	15
2	ATML	Ethane	1147	811	29	ATML	1.4
3	ATML	Ethene	1063	581	45	ATML	7.7
4							
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37							
38							
39							
40							
		Average			46.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021223.D Vial: 24
Acq On : 12 Feb 17 12:22 Operator: lac
Sample : Ending CCV RSK Level 10 02/12/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 12:24 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

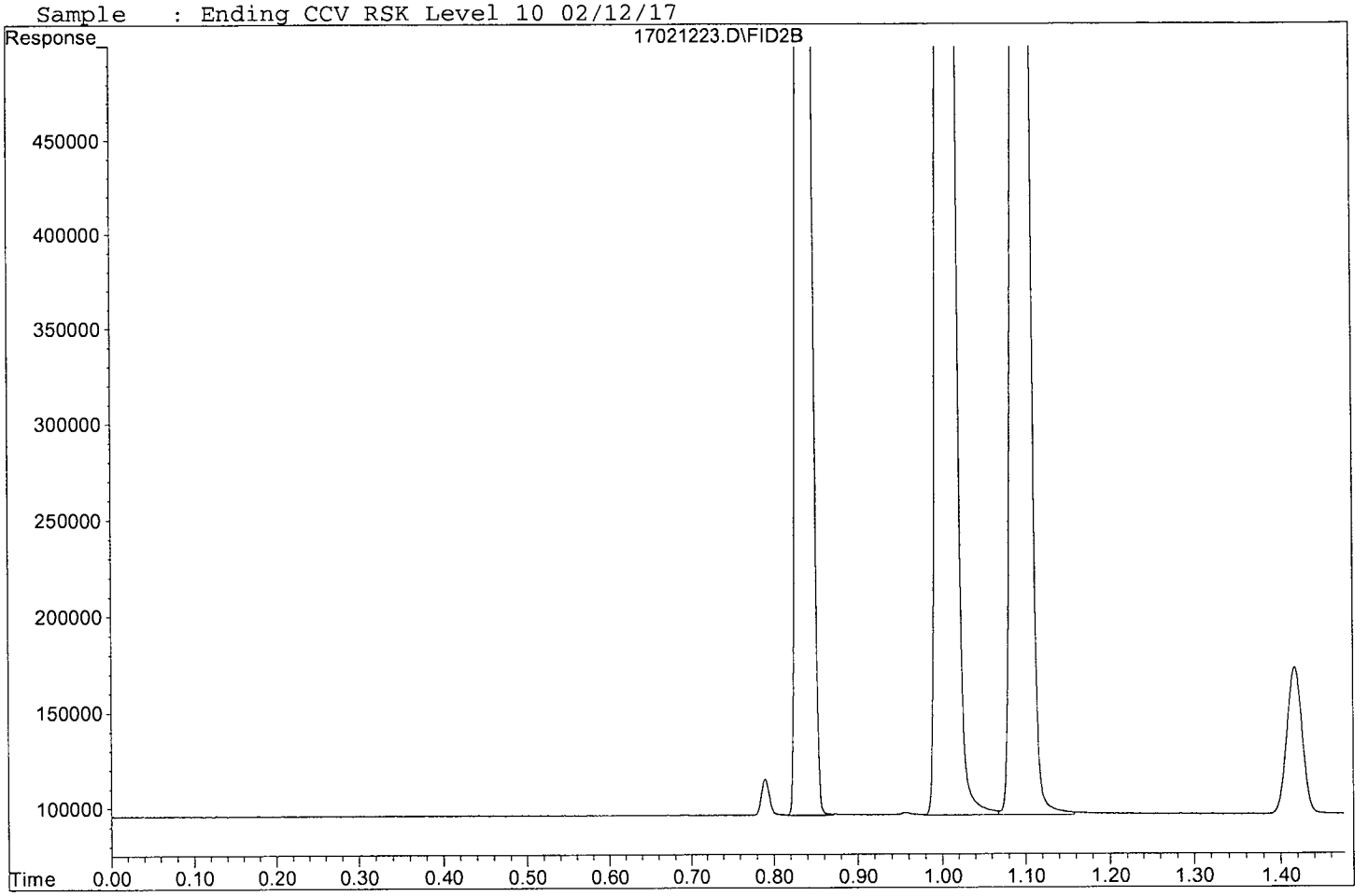
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1239911	1131.445	ppb
2) ATM Ethane	1.01	2028310	2533.819	ppb
3) ATM Ethene	1.10	1450140	2303.736	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021223.D
Sample : Ending CCV RSK Level 10 02/12/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:04:36 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021201.D Vial: 2
Acq On : 12 Feb 17 10:26 Operator: lac
Sample : 170212A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:29 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

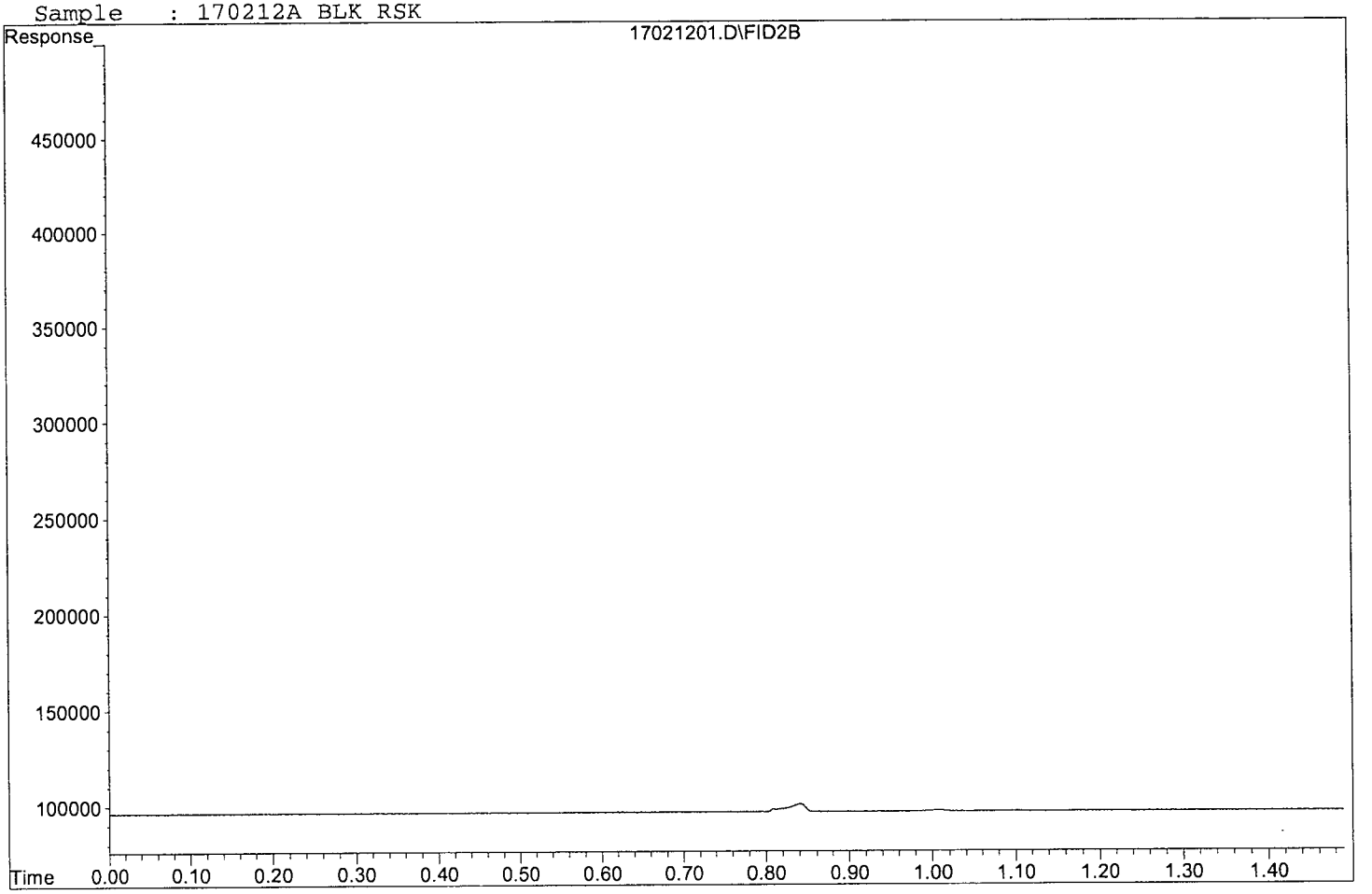
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	4189	N.D.	ppb
2) ATM Ethane	0.99	532	N.D.	ppb
3) ATM Ethene	1.08	354	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021201.D
Sample : 170212A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:04:15 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

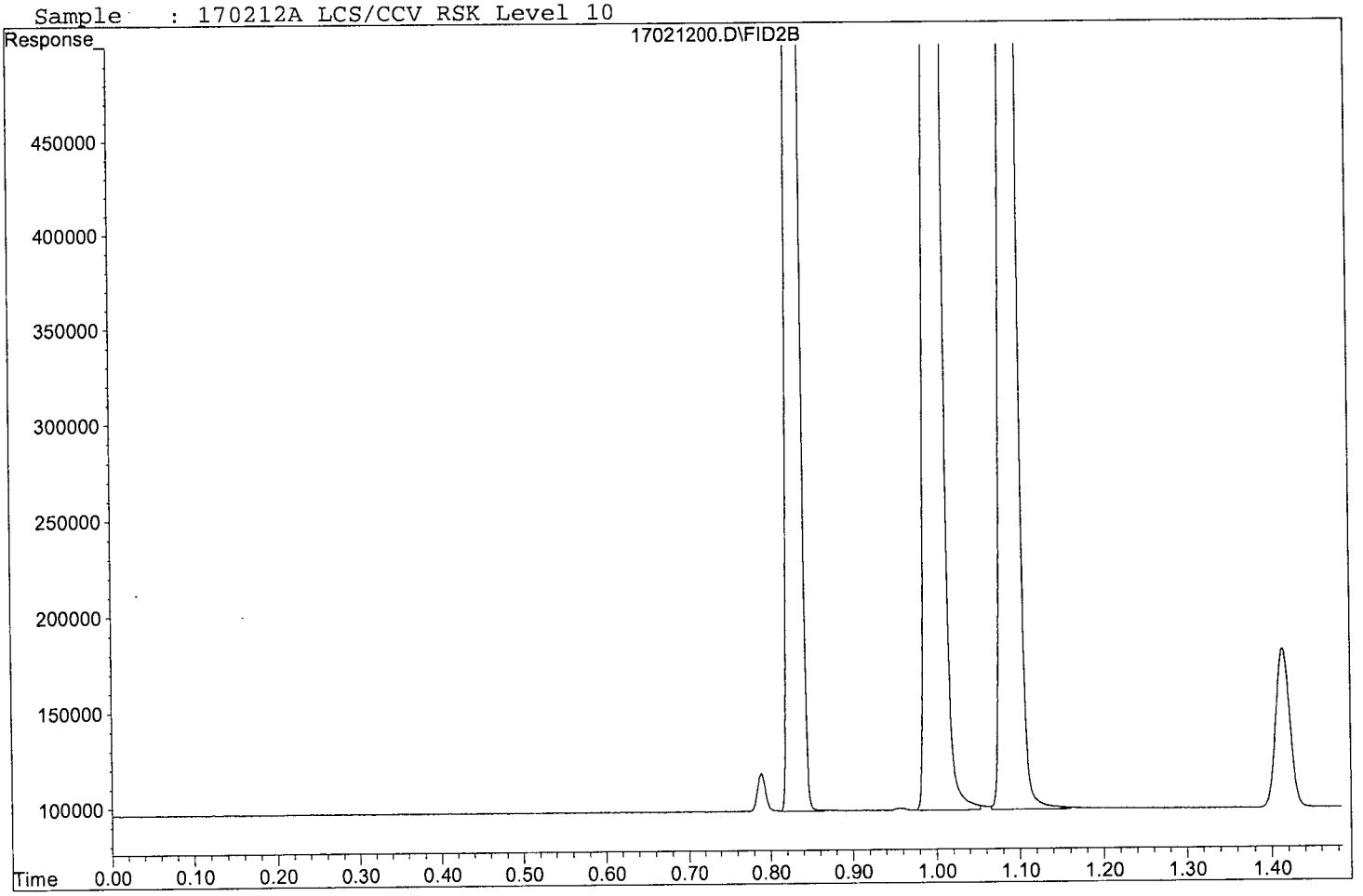
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CM 8/15/16

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 8/15/17** CM 8/15/16

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 9/28/16** CM 9/1/16

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CM 8/15/16

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 8/15/17** CM 8/15/16

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 10/1/16** CM 9/1/16

10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water

final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 03/12/17** CMM 02/12/17

2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\160901R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0901000.D	1	RSK Level 1 08/15/16	Methane 0.9, Ethane, 1.7 Etl	1 Sep 16 11:38
2	2	0901001.D	1	RSK Level 2 08/15/16		1 Sep 16 11:41
3	3	0901002.D	1	RSK Level 3 08/15/16	Methane 5.1, Ethane, 9.5 Etl	1 Sep 16 11:44
4	4	0901003.D	1	RSK Level 4 08/15/16		1 Sep 16 11:46
5	5	0901004.D	1	RSK Level 5 08/15/16		1 Sep 16 11:48
6	6	0901005.D	1	RSK Level 6 08/15/16		1 Sep 16 11:50
7	7	0901006.D	1	RSK Level 7 08/15/16		1 Sep 16 11:52
8	8	0901007.D	1	RSK Level 8 08/15/16		1 Sep 16 11:55
9	9	0901008.D	1	RSK Level 9 08/15/16		1 Sep 16 11:57
10	10	0901009.D	1	RSK Level 10 08/15/16		1 Sep 16 11:59
11	19	0901018.D	1	(SS/LCS) RSK Level 6 09/01/16		1 Sep 16 13:11
12	1	17021200.D	1	170212A LCS/CCV RSK Level 10		12 Feb 17 10:22
13	2	17021201.D	1	170212A BLK RSK		12 Feb 17 10:26
14	3	17021202.D	1	AZ49738W06		12 Feb 17 10:29
15	4	17021203.D	1	AZ49739W06		12 Feb 17 10:35
16	5	17021204.D	1	AZ49740W06		12 Feb 17 10:39
17	7	17021206.D	50	AZ49741W06 DF50		12 Feb 17 10:49
18	8	17021207.D	1	AZ49742W06		12 Feb 17 10:54
19	9	17021208.D	1	AZ49743W06		12 Feb 17 10:59
20	24	17021223.D	1	Ending CCV RSK Level 10 02/12/17		12 Feb 17 12:22

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/10/17	02/10/17	#300WD-170210A-AZ49739
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/09/17	02/09/17	#35FE-170209A-AZ49743

Wetlab SC-Blank-REG MDLs
Printed: 02/16/17 4:47:32 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/10/17	02/10/17	#300WD-170210A-AZ49739
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	3.02	101	80-120	02/09/17	02/09/17	#35FE-170209A-AZ49743

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH218

APPL ID: AZ49739

Sample Collection Date: 02/08/17

ARF: 82130

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	408	10.0	2.00	0.80	mg/L	10	02/10/17	02/10/17
EPA 300.0	NITRATE	3.7	1.0	0.36	0.08	mg/L	2	02/09/17	02/09/17
EPA 300.0	SULFATE	63.0	2.0	0.40	0.18	mg/L	2	02/09/17	02/09/17
SM 2320B	BICARBONATE AS CACO3	113	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	113	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/09/17	02/09/17

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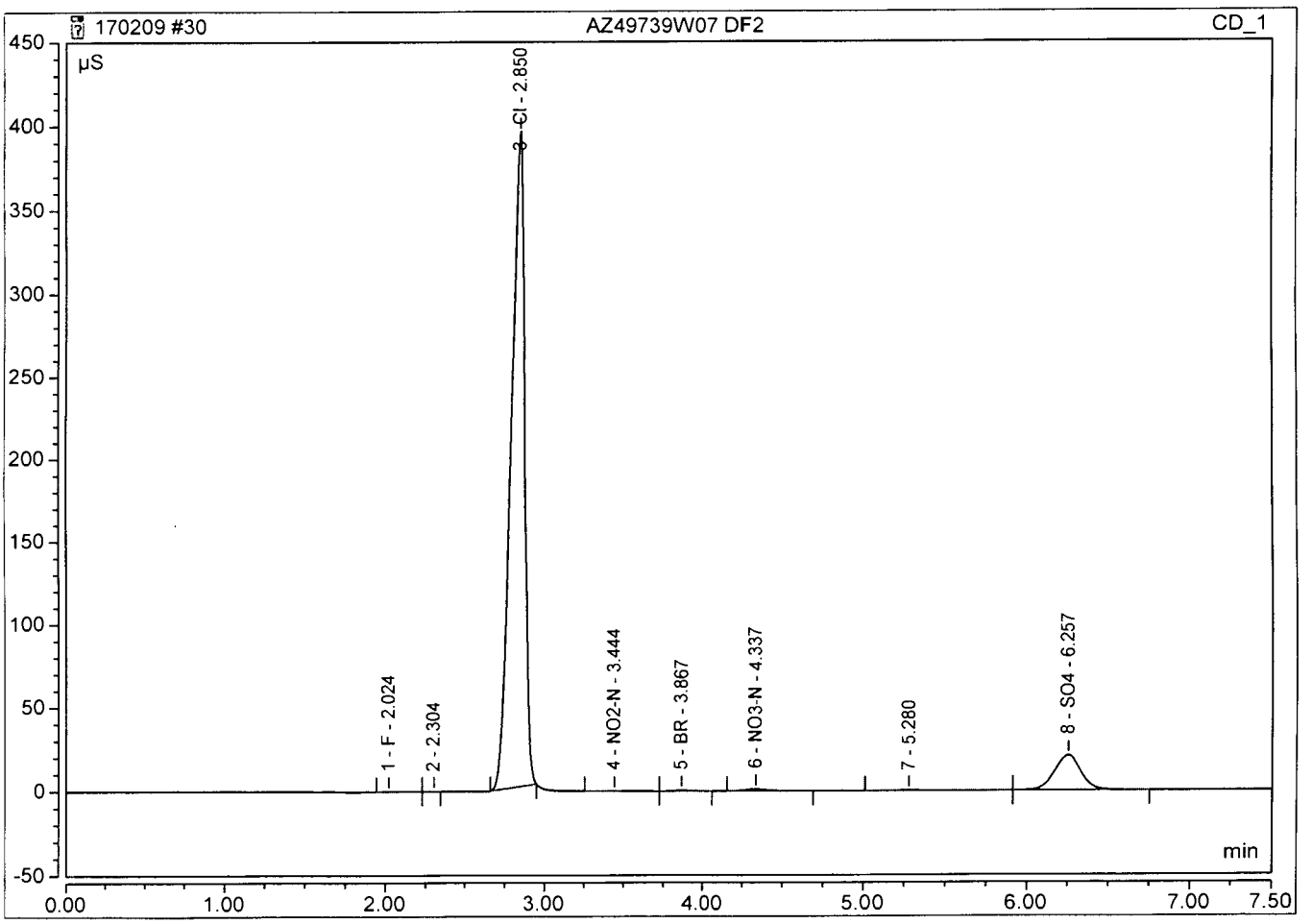
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49739W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 17:02**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.012	0.111	0.1859
3	2.85	Cl	BMB	38.032	393.325	419.8815
4	3.44	NO2-N	BMB	0.006	0.024	0.0856
5	3.87	BR	BMB	0.034	0.309	1.3365
6	4.34	NO3-N	BMB	0.134	1.021	0.8419
8	6.26	SO4	BMB	3.785	20.768	62.9751
TOTAL:				42.00	415.56	485.31

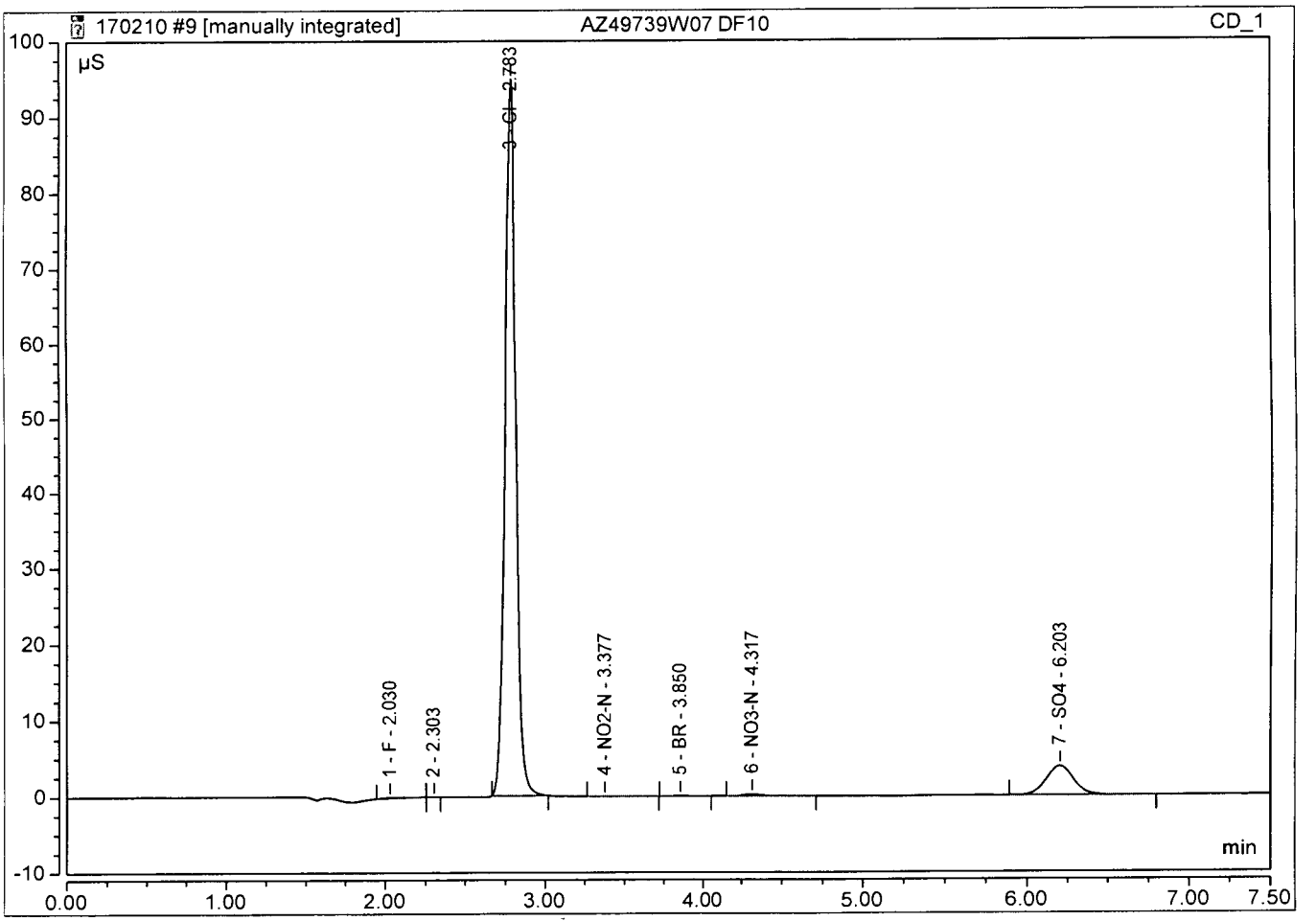


M1 2/16/17

Peak Integration Report

Sample Name:	**AZ49739W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 10:39**	*Run Time:*	**7.50**

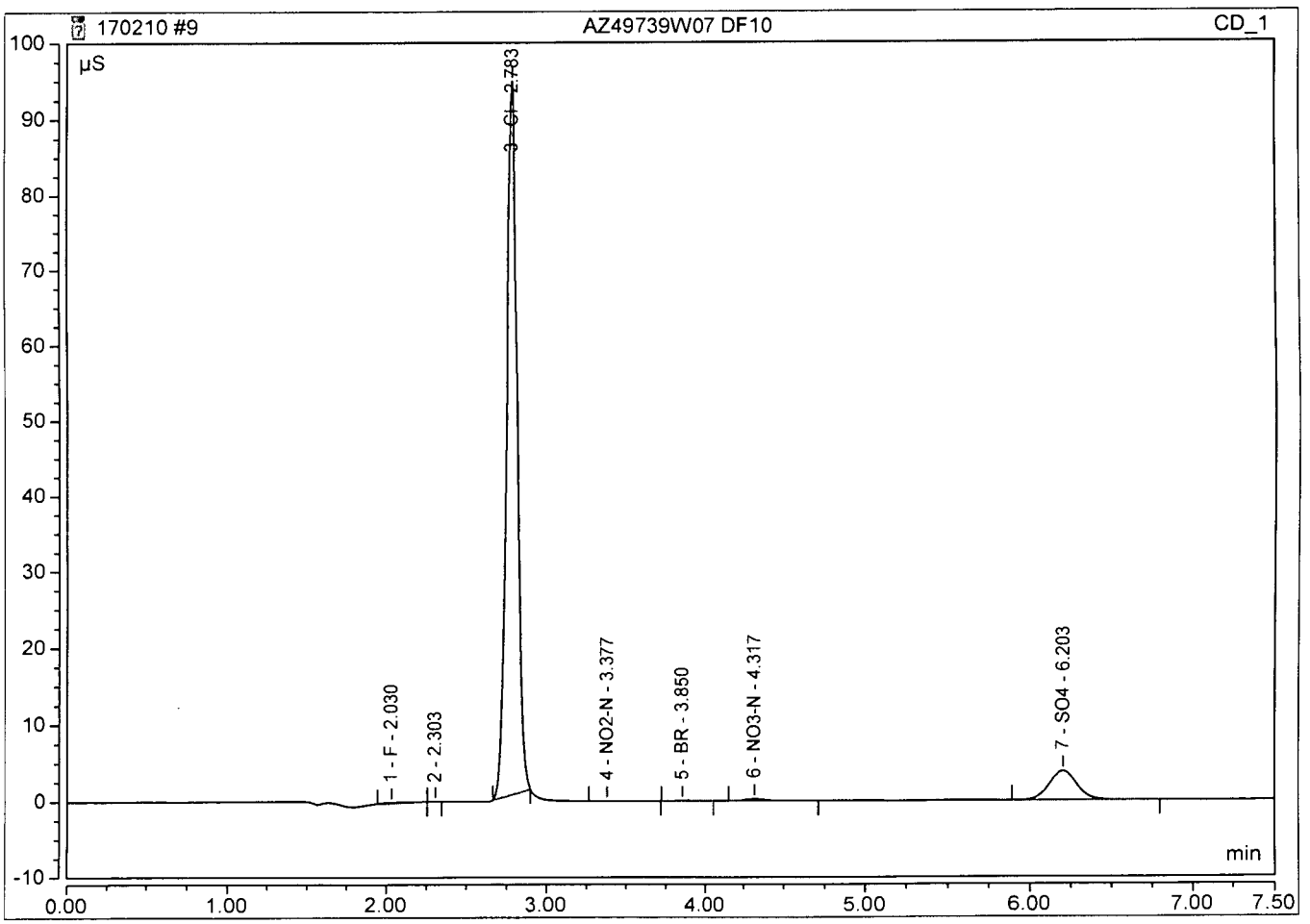
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.016	0.088	1.1070
3	2.78	Cl	BMB*	7.320	94.813	408.2541
4	3.38	NO2-N	BMB	0.001	0.004	0.2532
5	3.85	BR	BMB	0.007	0.068	2.4262
6	4.32	NO3-N	BMB	0.029	0.226	1.6596
7	6.20	SO4	BMB	0.735	3.767	65.1245
TOTAL:				8.11	98.97	478.82



Peak Integration Report

Sample Name:	**AZ49739W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 10:39**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.016	0.088	1.1070
3	2.78	Cl	BMB	7.115	94.109	397.0039
4	3.38	NO2-N	BMB	0.001	0.004	0.2532
5	3.85	BR	BMB	0.007	0.068	2.4262
6	4.32	NO3-N	BMB	0.029	0.226	1.6596
7	6.20	SO4	BMB	0.735	3.767	65.1245
TOTAL:				7.90	98.26	467.57



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH216

APPL ID: AZ49741

Sample Collection Date: 02/07/17

ARF: 82130

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.9	1.0	0.20	0.08	mg/L	1	02/09/17	02/09/17
EPA 300.0	NITRATE	0.44 J	0.5	0.18	0.04	mg/L	1	02/09/17	02/09/17
EPA 300.0	SULFATE	1.0	1.0	0.20	0.09	mg/L	1	02/09/17	02/09/17
SM 2320B	BICARBONATE AS CACO3	193	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	193	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	2.9	1.0	0.32	0.16	mg/L	1	02/09/17	02/09/17

J = Estimated value.

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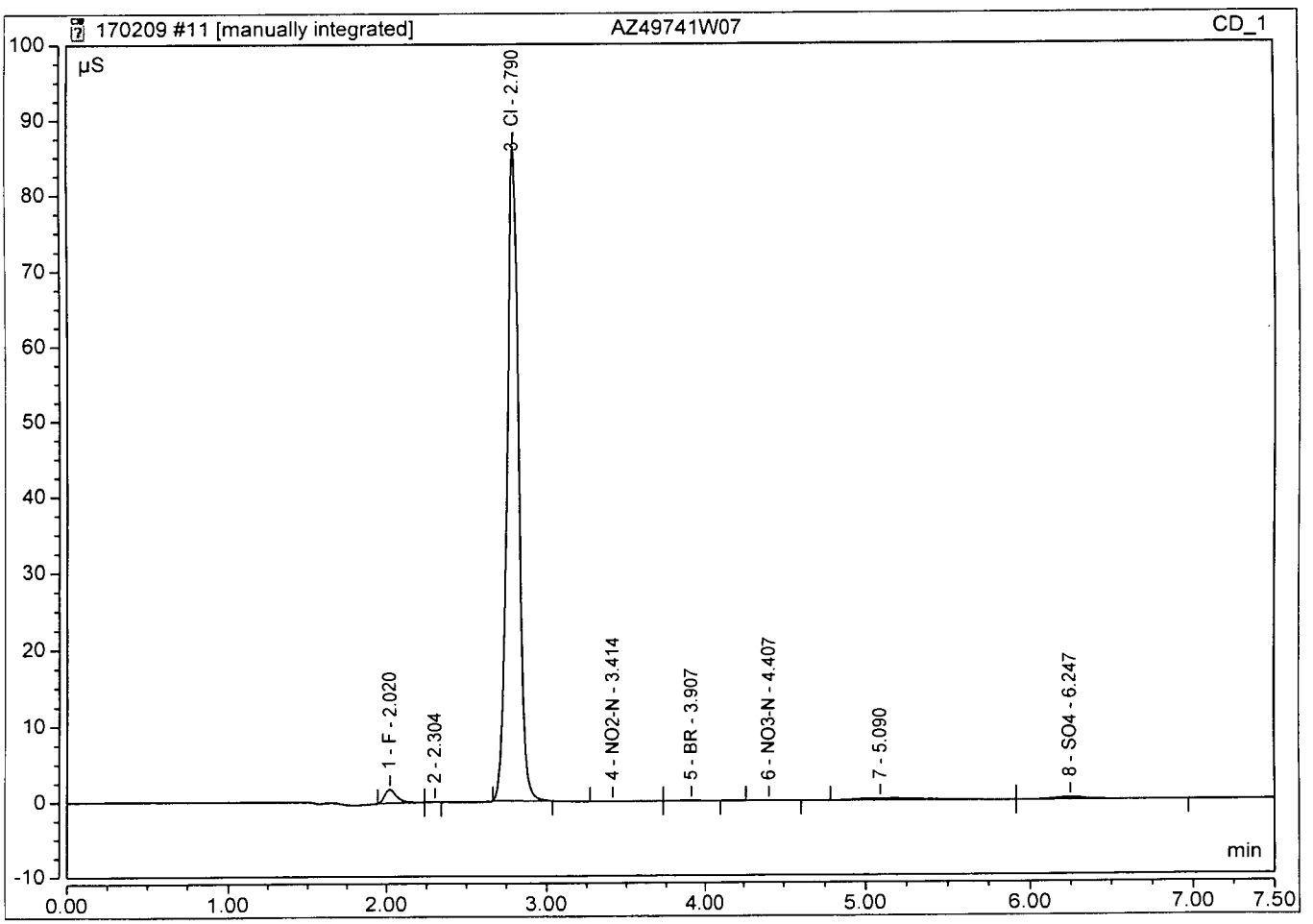
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

MI MM 2/16/17 PW

Sample Name:	**AZ49741W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 12:45**	*Run Time:*	**7.50**

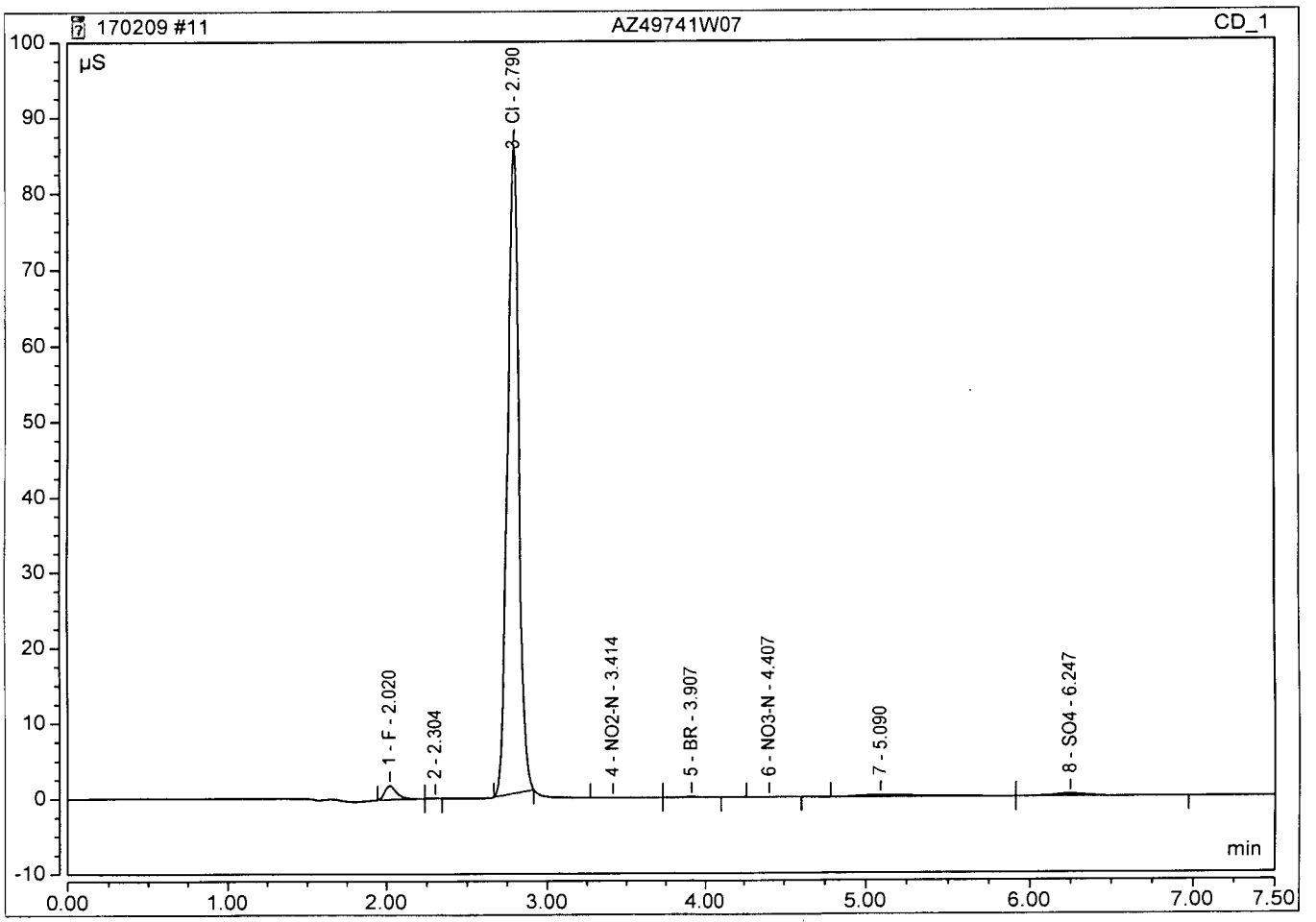
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.157	1.836	0.7342
3	2.79	Cl	BMB*	7.152	86.199	39.9036
4	3.41	NO2-N	BMB	0.002	0.007	0.0273
5	3.91	BR	BMB	0.009	0.073	0.2672
6	4.41	NO3-N	BMB	0.002	0.015	0.1004
8	6.25	SO4	BMB	0.062	0.302	0.9989
		TOTAL:		7.38	88.43	42.03



Peak Integration Report

Sample Name:	**AZ49741W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 12:45**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.157	1.836	0.7342
3	2.79	Cl	BMB	7.001	85.709	39.0702
4	3.41	NO2-N	BMB	0.002	0.007	0.0273
5	3.91	BR	BMB	0.009	0.073	0.2672
6	4.41	NO3-N	BMB	0.002	0.015	0.1004
8	6.25	SO4	BMB	0.062	0.302	0.9989
		TOTAL:		7.23	87.94	41.20



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH210

Sample Collection Date: 02/07/17

APPL ID: AZ49743

ARF: 82130

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	468	10.0	2.00	0.80	mg/L	10	02/10/17	02/10/17
EPA 300.0	NITRATE	3.0	1.0	0.36	0.08	mg/L	2	02/09/17	02/09/17
EPA 300.0	SULFATE	95.2	2.0	0.40	0.18	mg/L	2	02/09/17	02/09/17
SM 2320B	BICARBONATE AS CACO3	113	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	113	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/09/17	02/09/17

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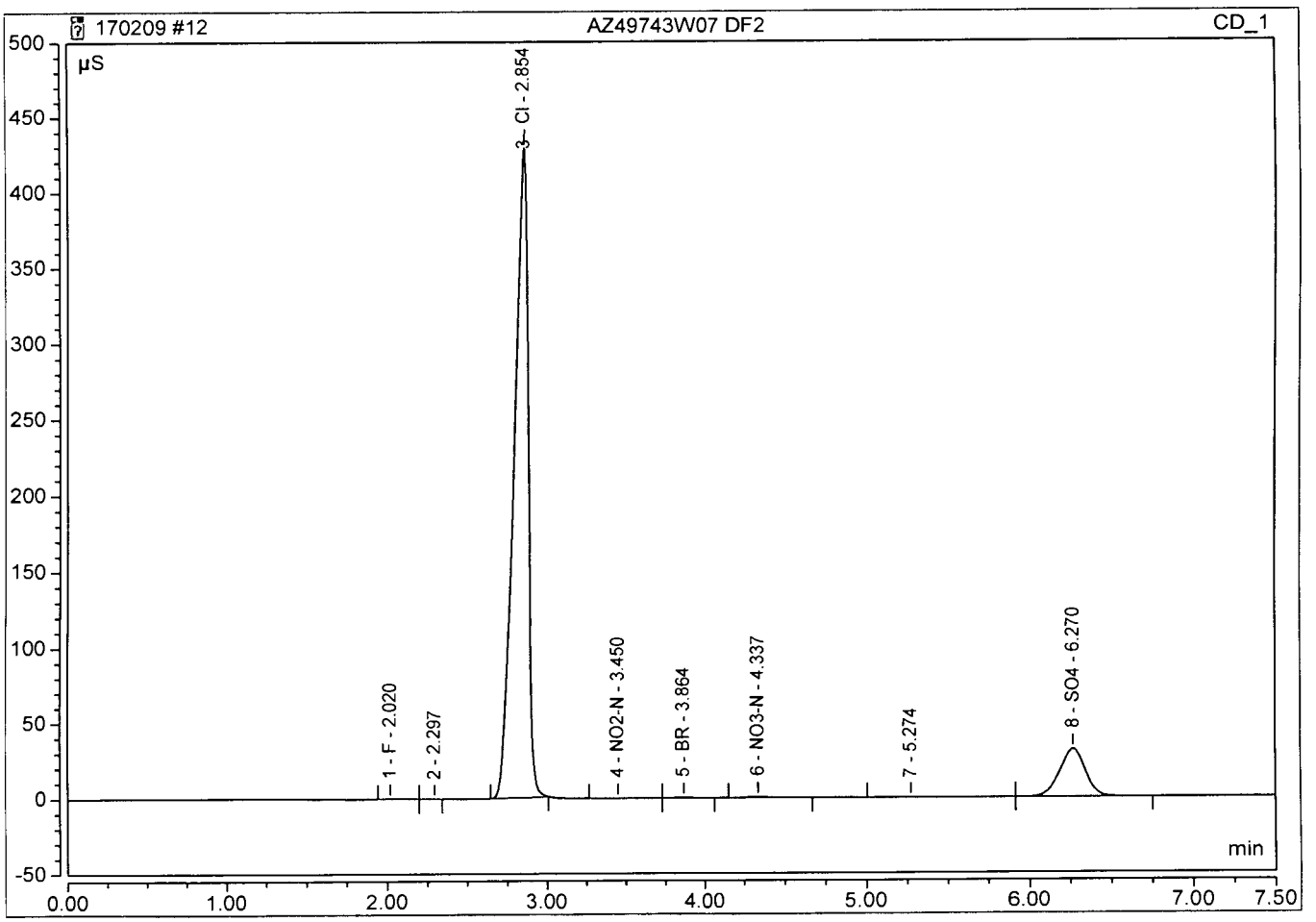
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49743W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 12:58**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.012	0.121	0.1840
3	2.85	Cl	BMB	43.591	428.274	481.1008
4	3.45	NO2-N	BMB	0.009	0.033	0.1006
5	3.86	BR	BMB	0.038	0.343	1.4620
6	4.34	NO3-N	BMB	0.100	0.759	0.6764
8	6.27	SO4	BMB	5.755	31.659	95.2388
TOTAL:				49.50	461.19	578.76



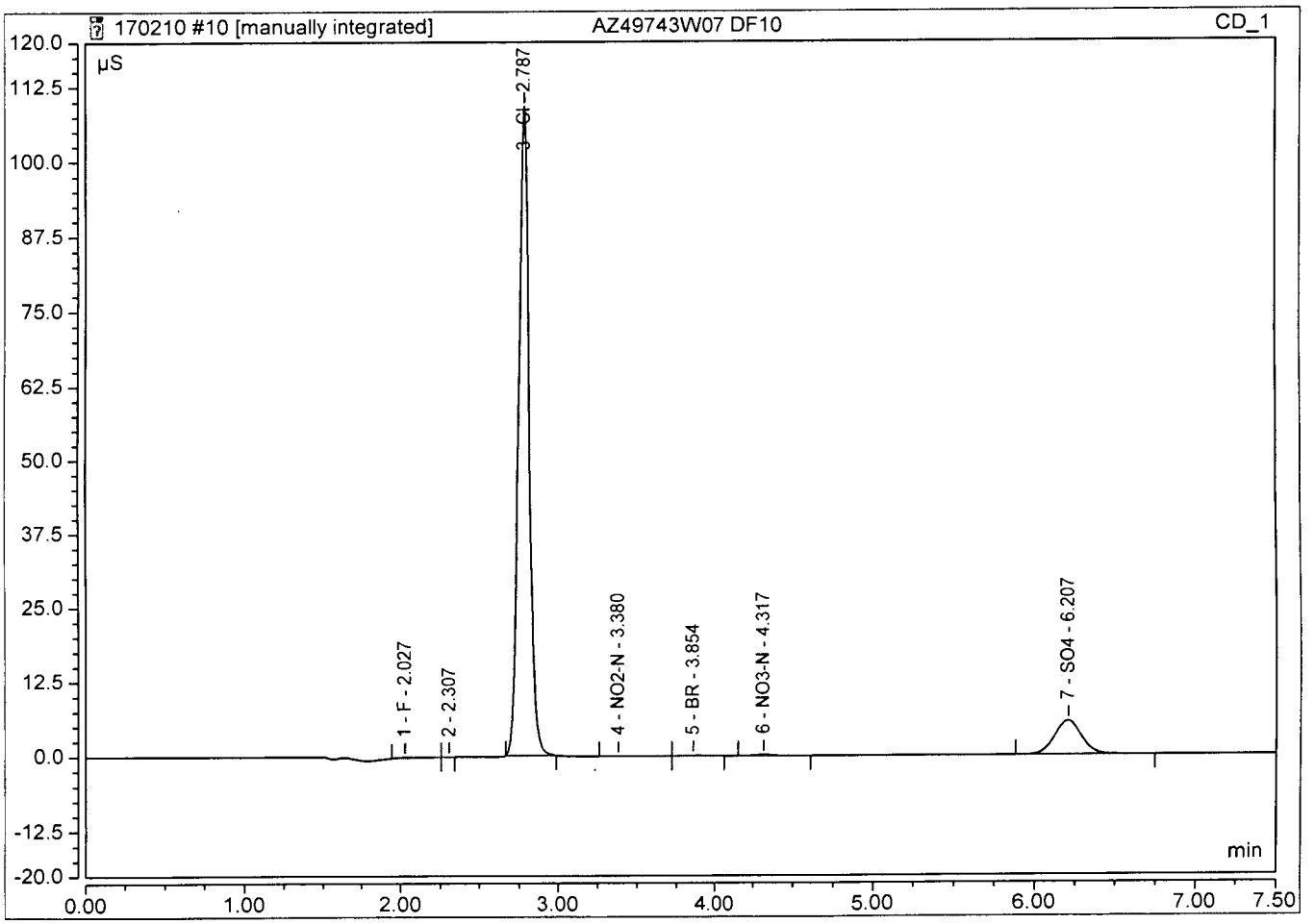
m1 mm 2/16/17 ~~2/17/17~~ 0mm

Peak Integration Report

PW

Sample Name:	**AZ49743W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 10:53**	*Run Time:*	**7.50**

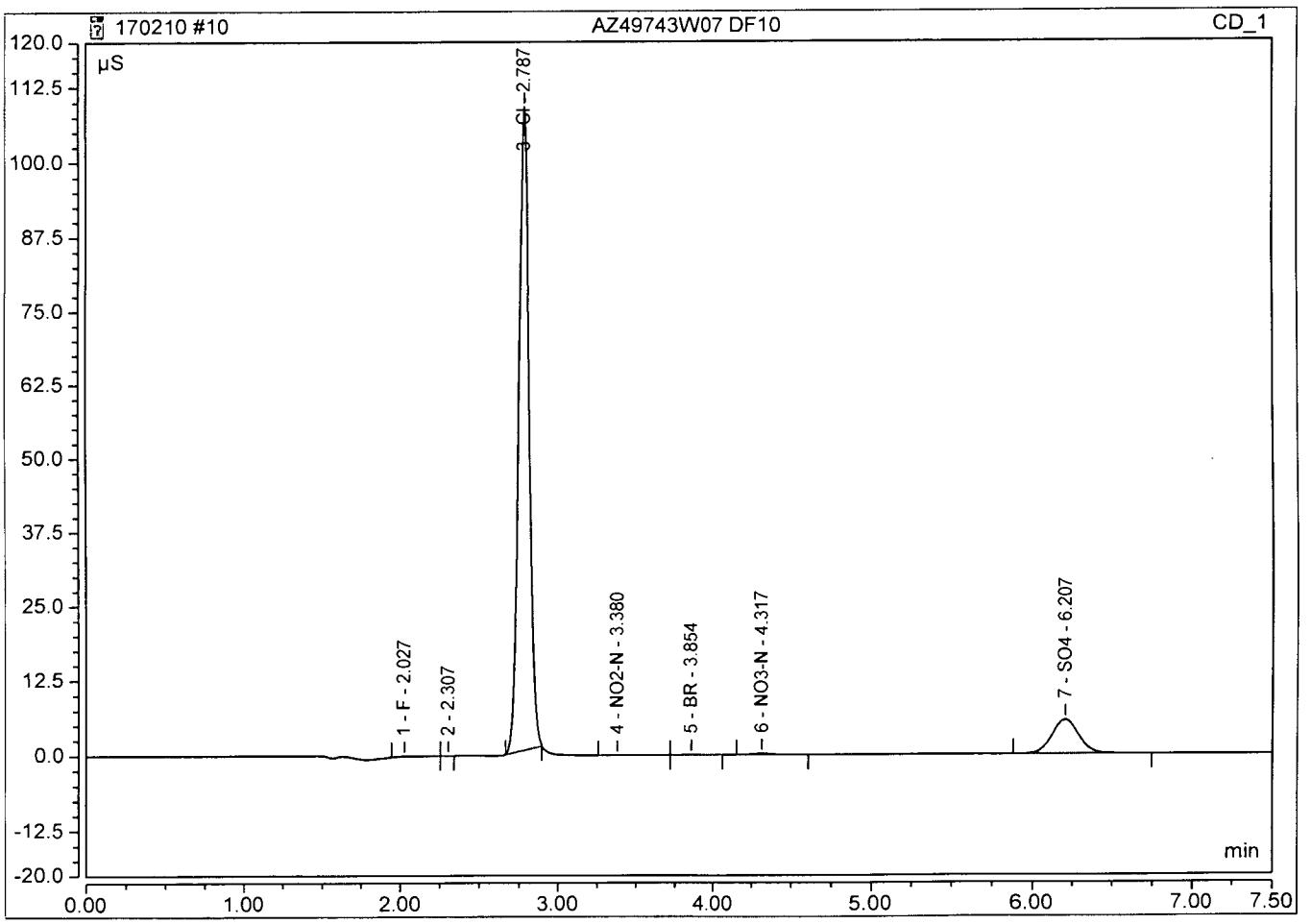
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.017	0.092	1.1227
3	2.79	Cl	BMB*	8.406	108.968	468.0648
4	3.38	NO2-N	BMB	0.002	0.006	0.2682
5	3.85	BR	BMB	0.009	0.078	2.6016
6	4.32	NO3-N	BMB	0.022	0.171	1.4822
7	6.21	SO4	BMB	1.089	5.642	94.1178
TOTAL:				9.54	114.96	567.66



Peak Integration Report

Sample Name:	**AZ49743W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 10:53**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.017	0.092	1.1227
3	2.79	Cl	BMB	8.217	108.268	457.6630
4	3.38	NO2-N	BMB	0.002	0.006	0.2682
5	3.85	BR	BMB	0.009	0.078	2.6016
6	4.32	NO3-N	BMB	0.022	0.171	1.4822
7	6.21	SO4	BMB	1.089	5.642	94.1178
TOTAL:				9.35	114.26	557.26



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82130 SDG: 82130
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 14:16	%R(1)	True CCV1	Found 14:25	%R(1)	
Ferrous Iron	3	3.01396	100	4	4.03297	101	4	4.04296	101	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82130 SDG: 82130

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 02/09/17 14:17	C	CCB 02/09/17 14:26	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 10/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:37	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.8422	94.7							
chloride	20	18.2183	91.1							
fluoride	2.5	2.55939	102							
Nitrate(NO3)	22.1	20.0573	90.8							
Nitrate(NO3)-N	5	4.52905	90.6							
Nitrite(NO2)	9.98	9.81221	98.3							
Nitrite(NO2)-N	3.04	2.98733	98.3							
phosphate	15.3225	14.7130	96.0							
phosphate-p	5	4.80111	96.0							
sulfate	20	18.4058	92.0							

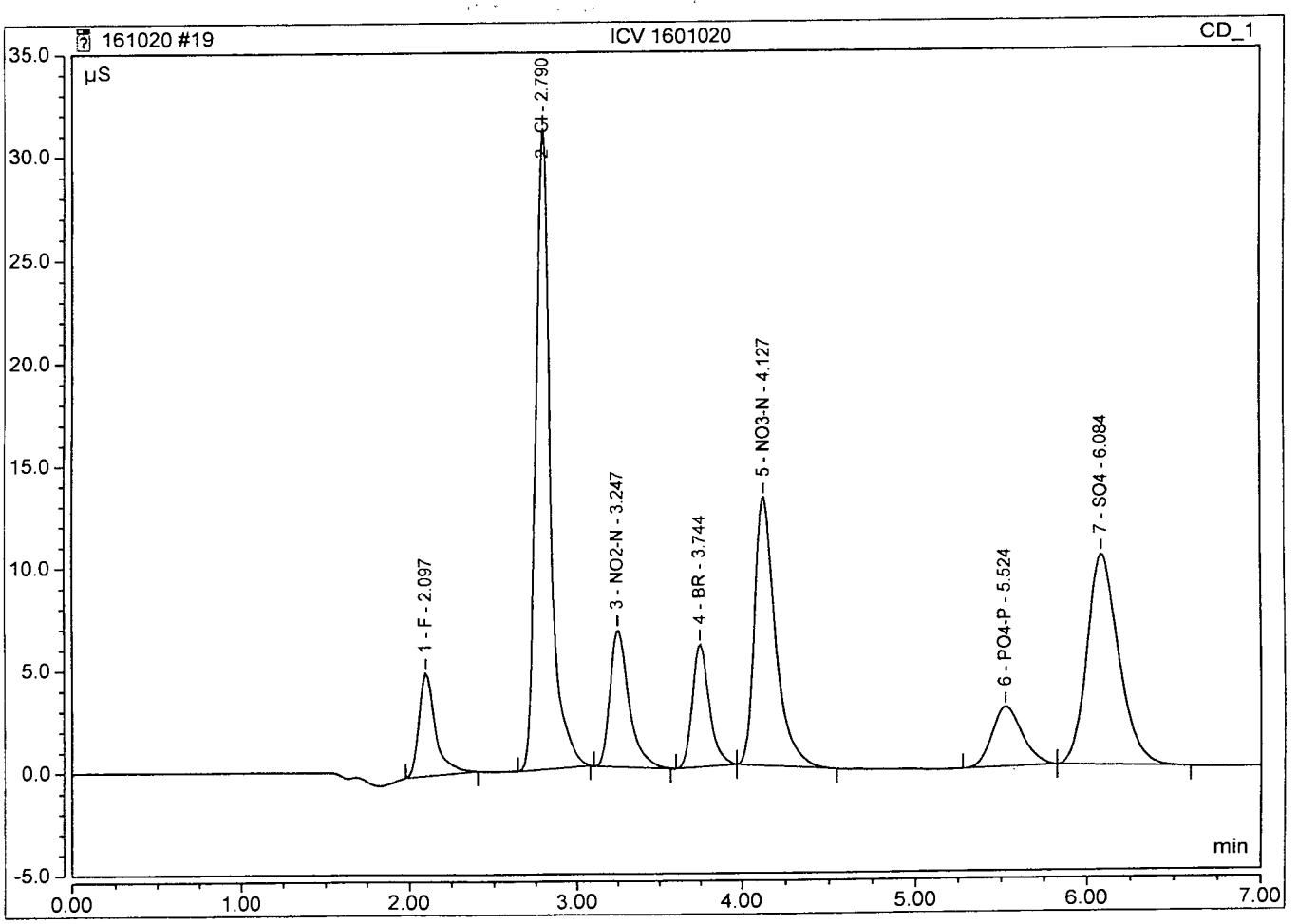
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 1601020**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:37**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.568	5.018	2.5594
2	2.79	Cl	BMB	3.214	31.139	18.2184
3	3.25	NO2-N	BMB	0.894	6.653	2.9873
4	3.74	BR	BMB	0.739	5.970	11.8423
5	4.13	NO3-N	BMB	1.827	13.075	4.5291
6	5.52	PO4-P	BMB	0.590	2.913	4.8011
7	6.08	SO4	BMB	2.187	10.255	18.4058
		TOTAL:		10.02	75.02	63.34



Algorithm Check (Charlie)

SEQUENCE:	161020			CALIBRATION: 161020			
RUN #:	19	AMPLE ID:	161020 ICV				
ANALYTE	SLOPE	INTERCEP	AREA	RESULT (	SPIKE (mg/L)	% R	Pass?
Flouride	0.225	-0.009	0.568	2.56	2.50	102.4%	Pass
Chloride	0.182	-0.094	3.214	18.22	20.00	91.1%	Pass
NO2-N	0.301	-0.007	0.894	2.99	3.04	98.3%	Pass
Bromide	0.063	-0.008	0.739	11.84	12.50	94.7%	Pass
NO3-N	0.412	-0.039	1.827	4.53	5.00	90.6%	Pass
PO4-P	0.125	-0.008	0.59	4.80	5.00	96.0%	Pass
Sulfate	0.122	-0.060	2.187	18.40	20.00	92.0%	Pass

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

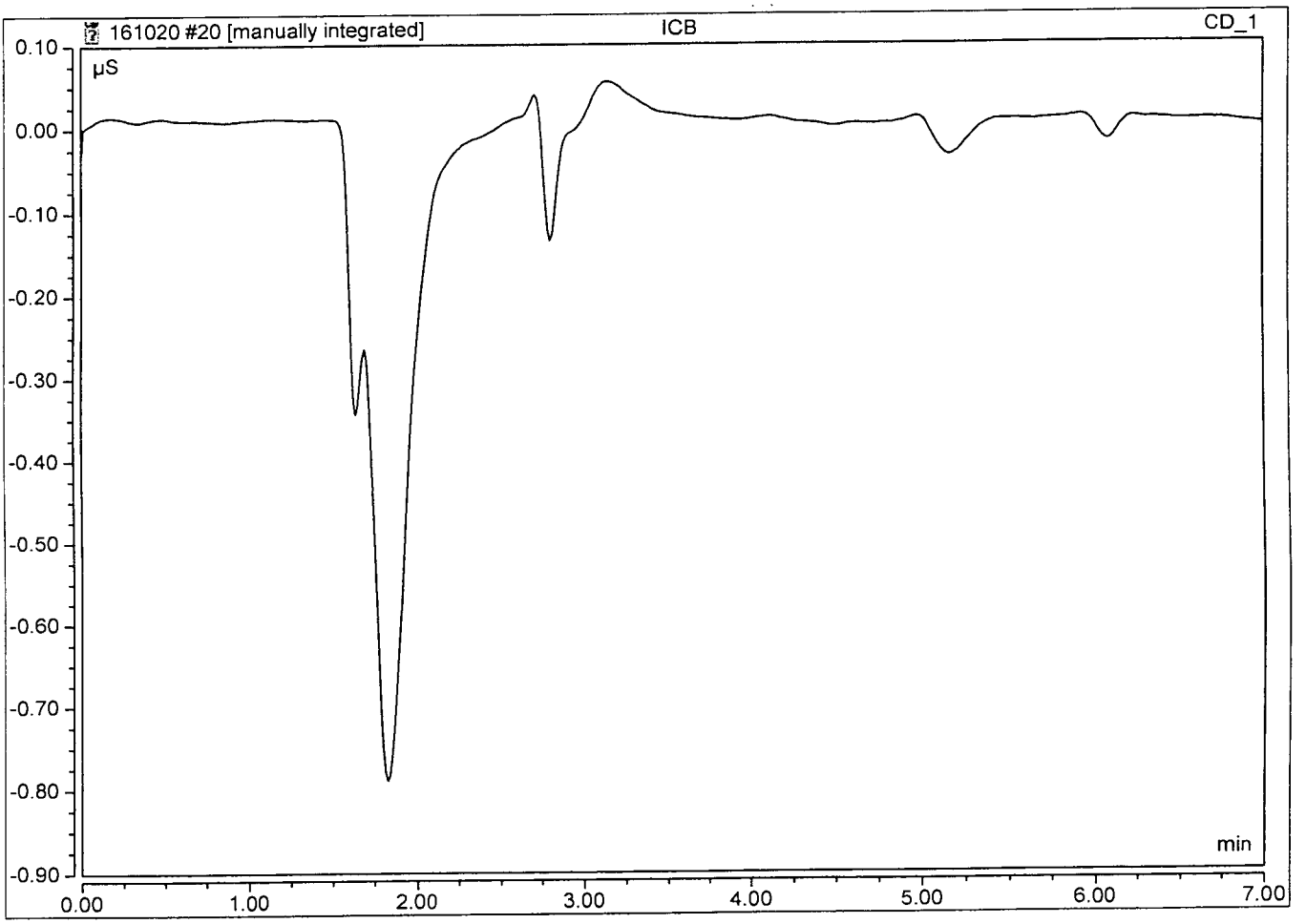
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 10/20/16 12:50	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:50**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82130 SDG: 82130
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/09/17

Analyte	Calibration Verification									M
	True CCV1	Found 10:11	%R(1)	True CCV1	Found 14:33	%R(1)	True CCV1	Found 17:16	%R(1)	
chloride	25	24.98	99.9	25	25.0286	100	25	25.0519	100	
Nitrate(NO3)	22.1	22.2838	101	22.1	22.3507	101	22.1	22.3520	101	
sulfate	25	24.3019	97.2	25	24.3898	97.6	25	24.3679	97.5	

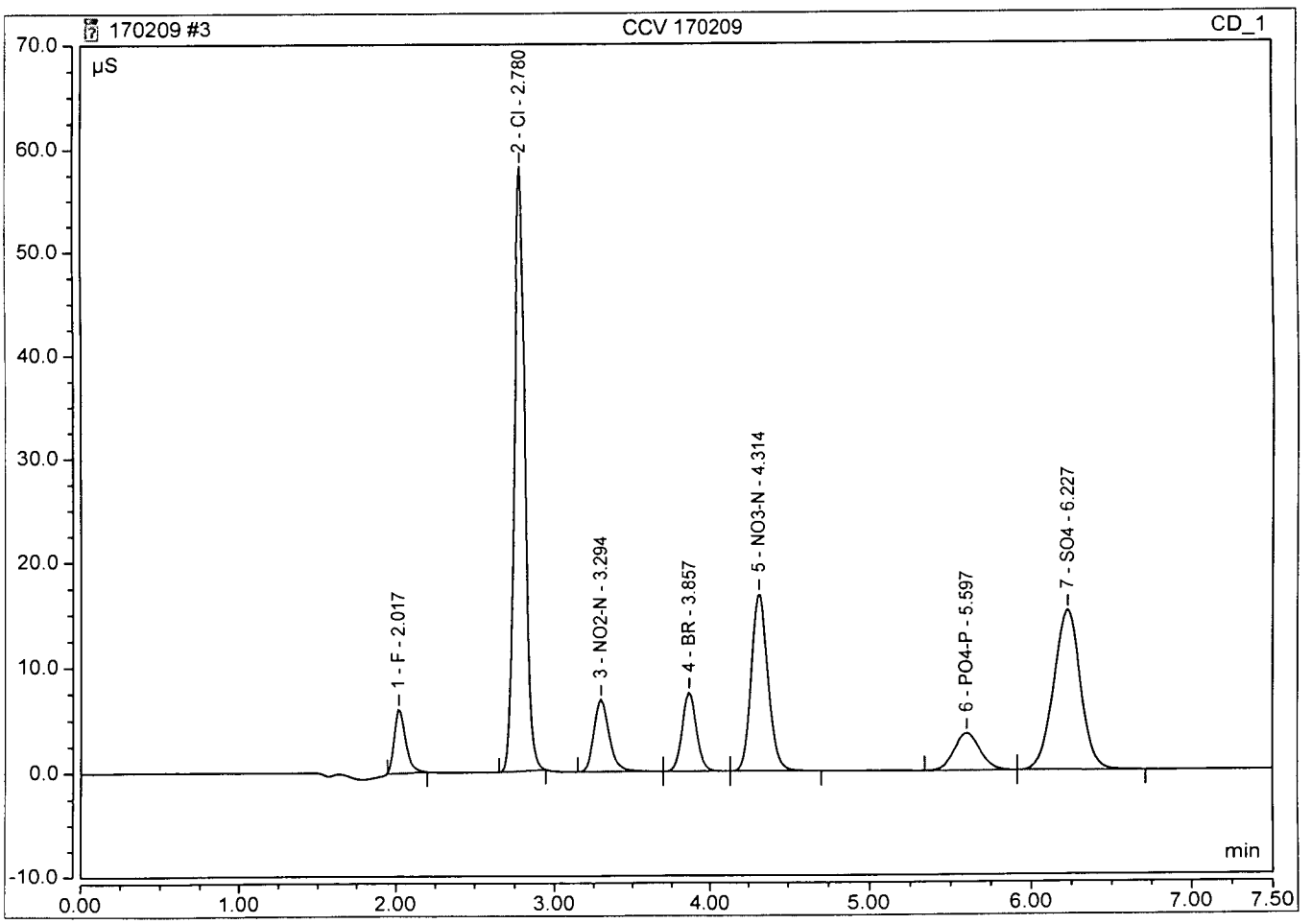
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170209**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 10:11**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.507	6.054	2.2880
2	2.78	Cl	BMB	4.442	58.169	24.9800
3	3.29	NO2-N	BMB	0.775	6.821	2.5924
4	3.86	BR	BMB	0.799	7.435	12.7943
5	4.31	NO3-N	BMB	2.034	16.789	5.0318
6	5.60	PO4-P	BMB	0.649	3.500	5.2707
7	6.23	SO4	BMB	2.907	15.108	24.3019
		TOTAL:		12.11	113.88	77.26



Algorithm Check

y = .1221x - .06

x = 24.30 ✓

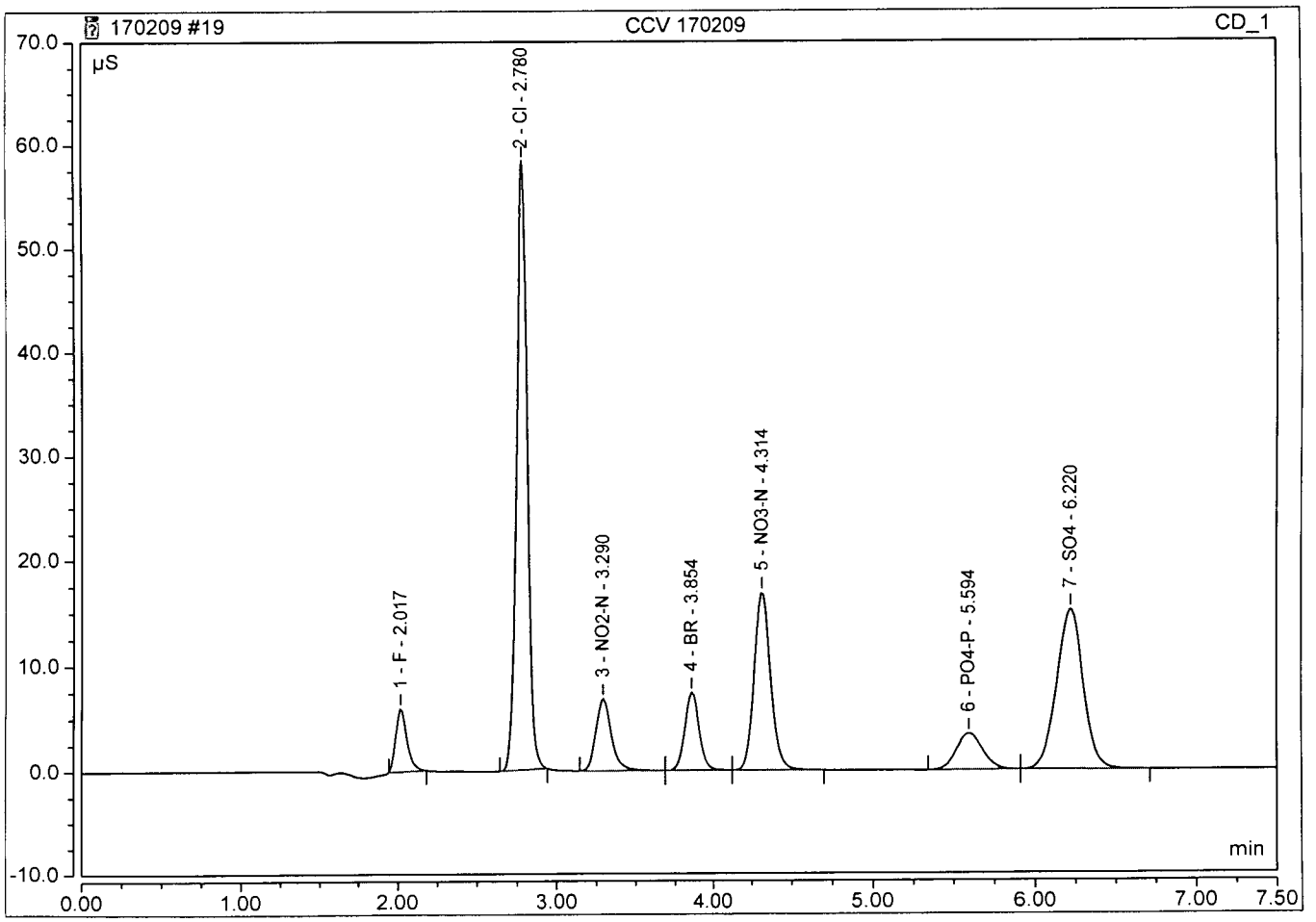
y = Peak Area
x = Amount

MM 2/17/17

Peak Integration Report

Sample Name:	**CCV 170209**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 14:33**	*Run Time:*	**7.50**

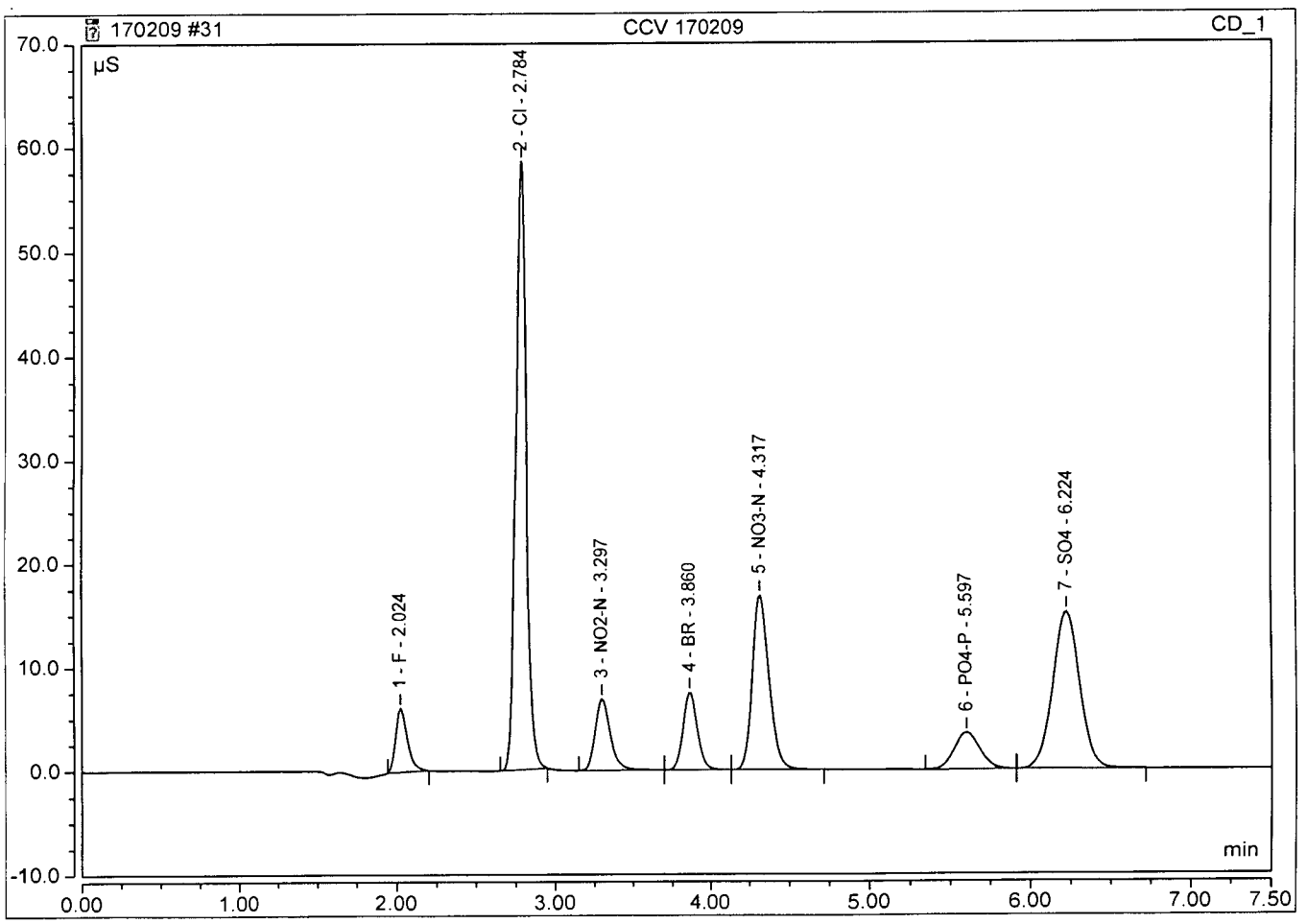
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.502	6.049	2.2672
2	2.78	Cl	BMB	4.451	58.325	25.0286
3	3.29	NO2-N	BMB	0.782	6.866	2.6164
4	3.85	BR	BMB	0.801	7.451	12.8254
5	4.31	NO3-N	BMB	2.040	16.846	5.0469
6	5.59	PO4-P	BMB	0.651	3.517	5.2931
7	6.22	SO4	BMB	2.918	15.155	24.3898
		TOTAL:		12.15	114.21	77.47



Peak Integration Report

Sample Name:	**CCV 170209**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 17:16**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.518	6.166	2.3386
2	2.78	Cl	BMB	4.455	58.491	25.0519
3	3.30	NO2-N	BMB	0.783	6.885	2.6191
4	3.86	BR	BMB	0.801	7.463	12.8192
5	4.32	NO3-N	BMB	2.040	16.862	5.0472
6	5.60	PO4-P	BMB	0.652	3.521	5.2953
7	6.22	SO4	BMB	2.915	15.151	24.3679
		TOTAL:		12.16	114.54	77.54



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82130 SDG: 82130

Preparation Blank Matrix (soil/water): water

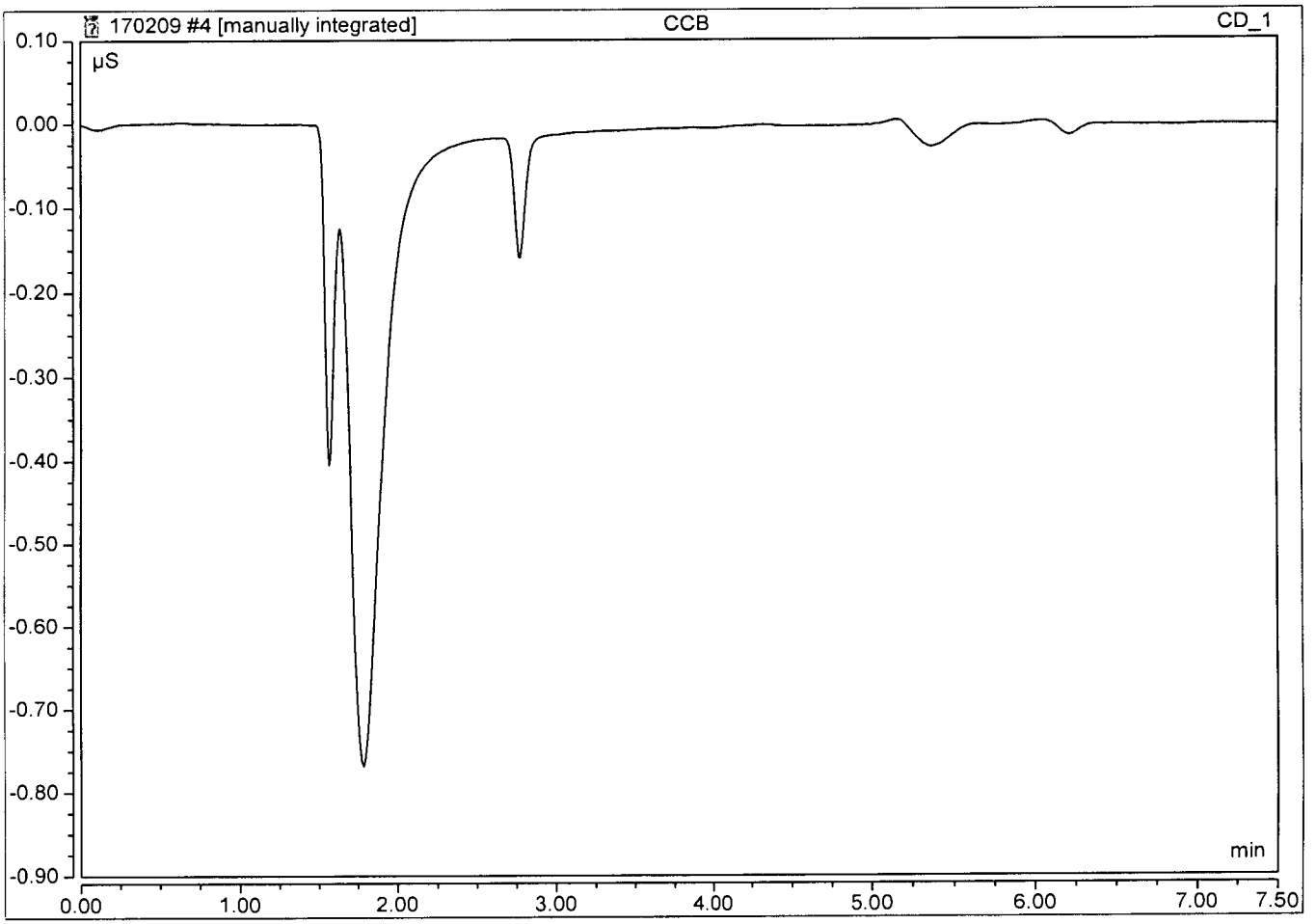
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/09/17 10:25	C	CCB 02/09/17 14:47	C	CCB 02/09/17 17:29	C		C		C	
chloride	1.000	U	1.000	U	1.000	U					
Nitrate(NO3)	.500	U	.500	U	.500	U					
sulfate	1.000	U	1.000	U	1.000	U					

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 10:25**	*Run Time:*	**7.50**

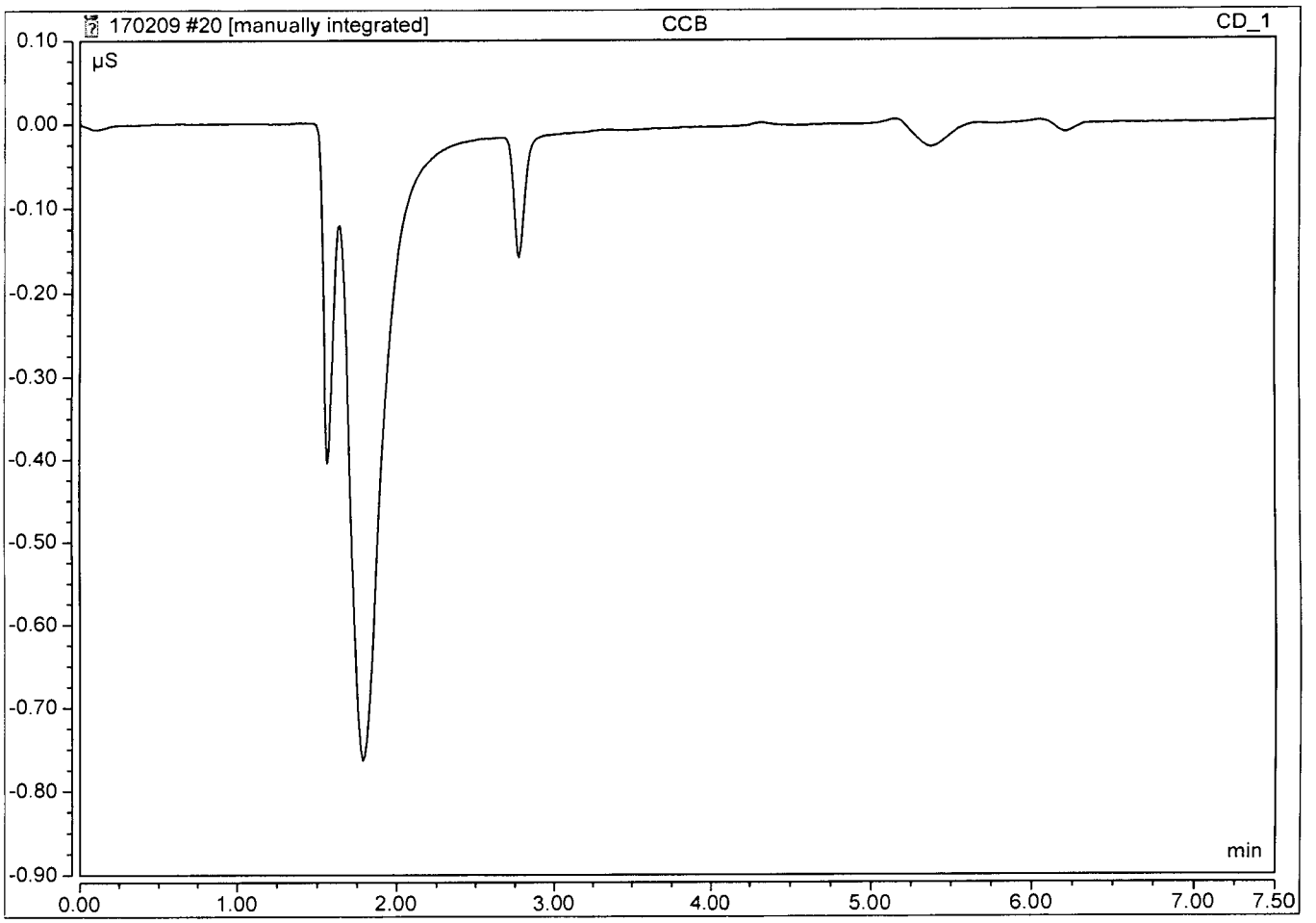
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 14:47**	*Run Time:*	**7.50**

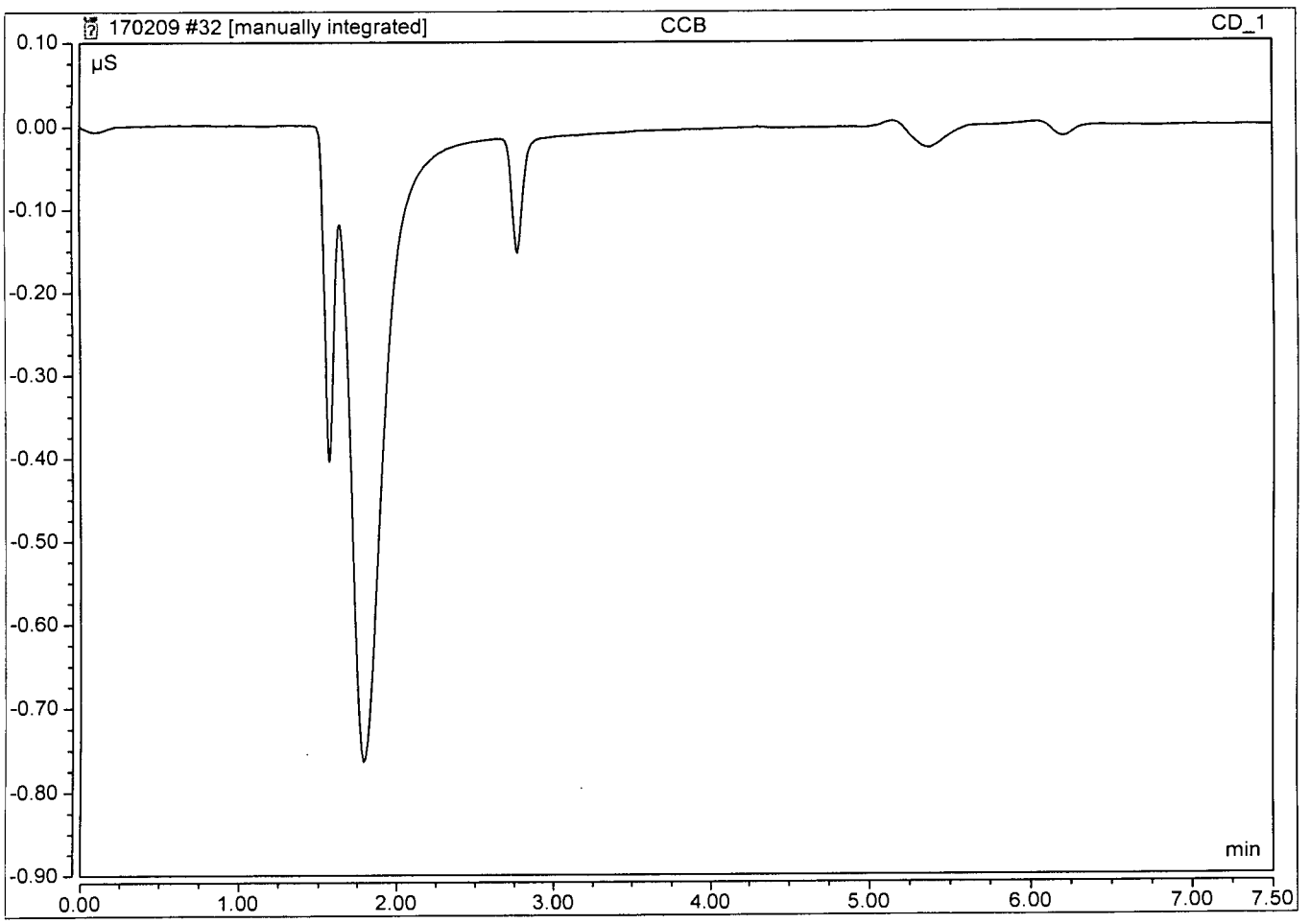
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 17:29**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82130 SDG: 82130
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/10/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:18	%R(1)	True CCV1	Found 15:01	%R(1)	True	Found	%R(1)	
chloride	25	24.897	99.6	25	24.9168	99.7				

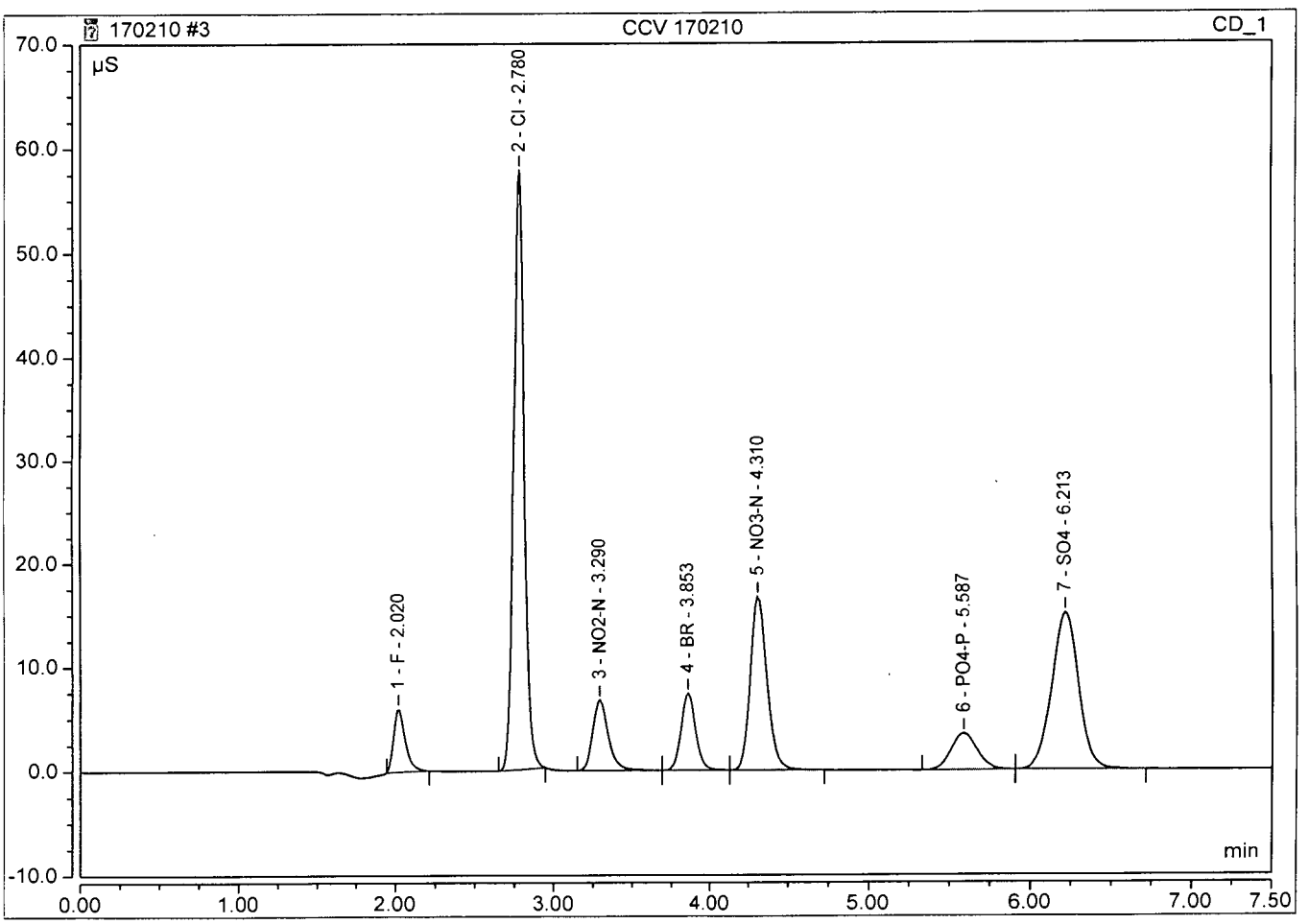
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:18**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.513	6.060	2.3160
2	2.78	Cl	BMB	4.427	57.761	24.8970
3	3.29	NO2-N	BMB	0.778	6.799	2.6017
4	3.85	BR	BMB	0.799	7.392	12.7863
5	4.31	NO3-N	BMB	2.035	16.703	5.0355
6	5.59	PO4-P	BMB	0.645	3.477	5.2445
7	6.21	SO4	BMB	2.912	15.085	24.3399
		TOTAL:		12.11	113.28	77.22

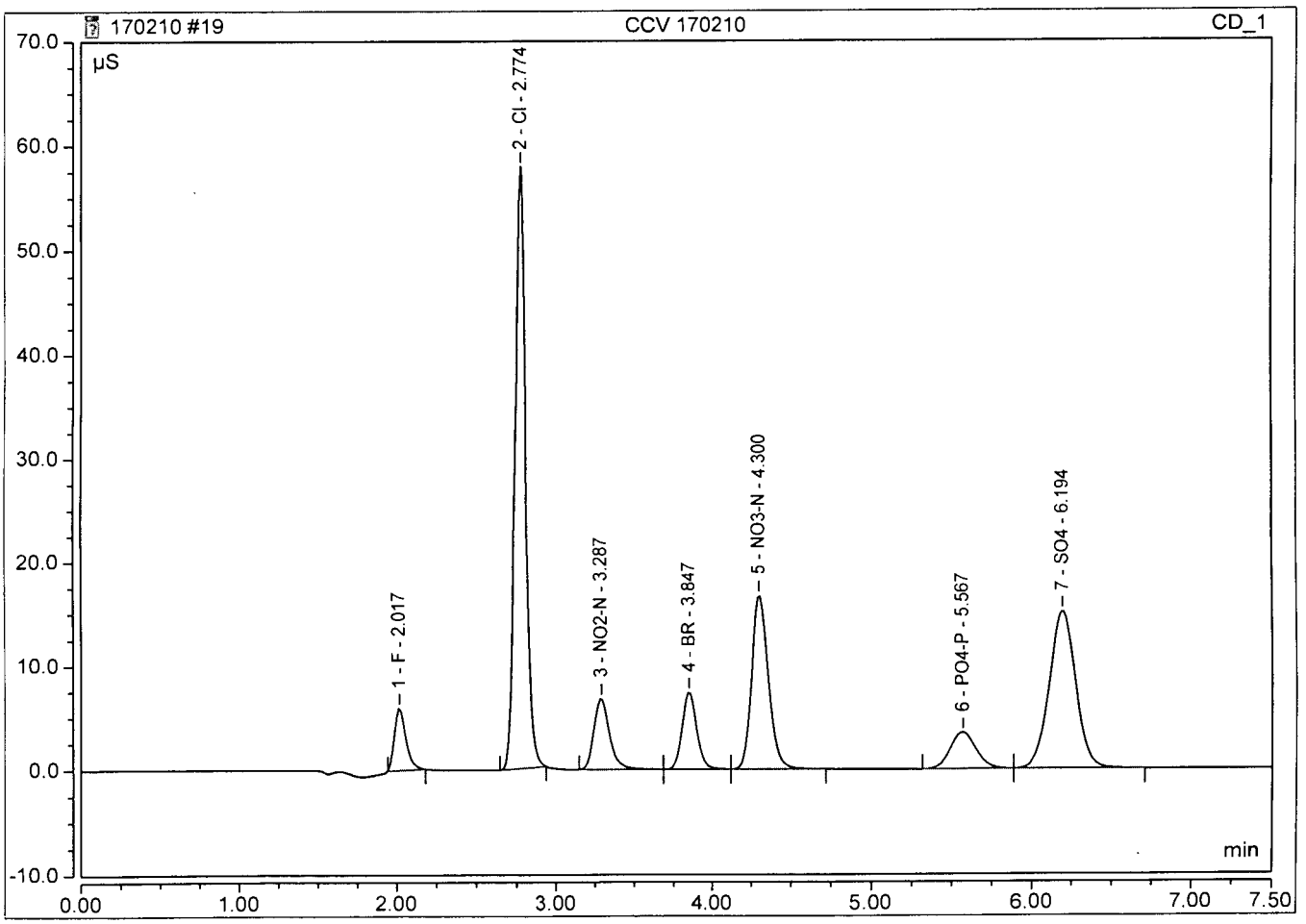


Algorithm Check
y = .1221x - .06
x = 24.34
y = Peak Area
x = Amnt
MM 2/17/17

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:01**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.496	5.999	2.2415
2	2.77	Cl	BMB	4.431	57.841	24.9168
3	3.29	NO2-N	BMB	0.783	6.830	2.6188
4	3.85	BR	BMB	0.800	7.405	12.8016
5	4.30	NO3-N	BMB	2.039	16.739	5.0455
6	5.57	PO4-P	BMB	0.646	3.503	5.2498
7	6.19	SO4	BMB	2.918	15.137	24.3904
		TOTAL:		12.11	113.45	77.26



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82130 SDG: 82130

Preparation Blank Matrix (soil/water): water

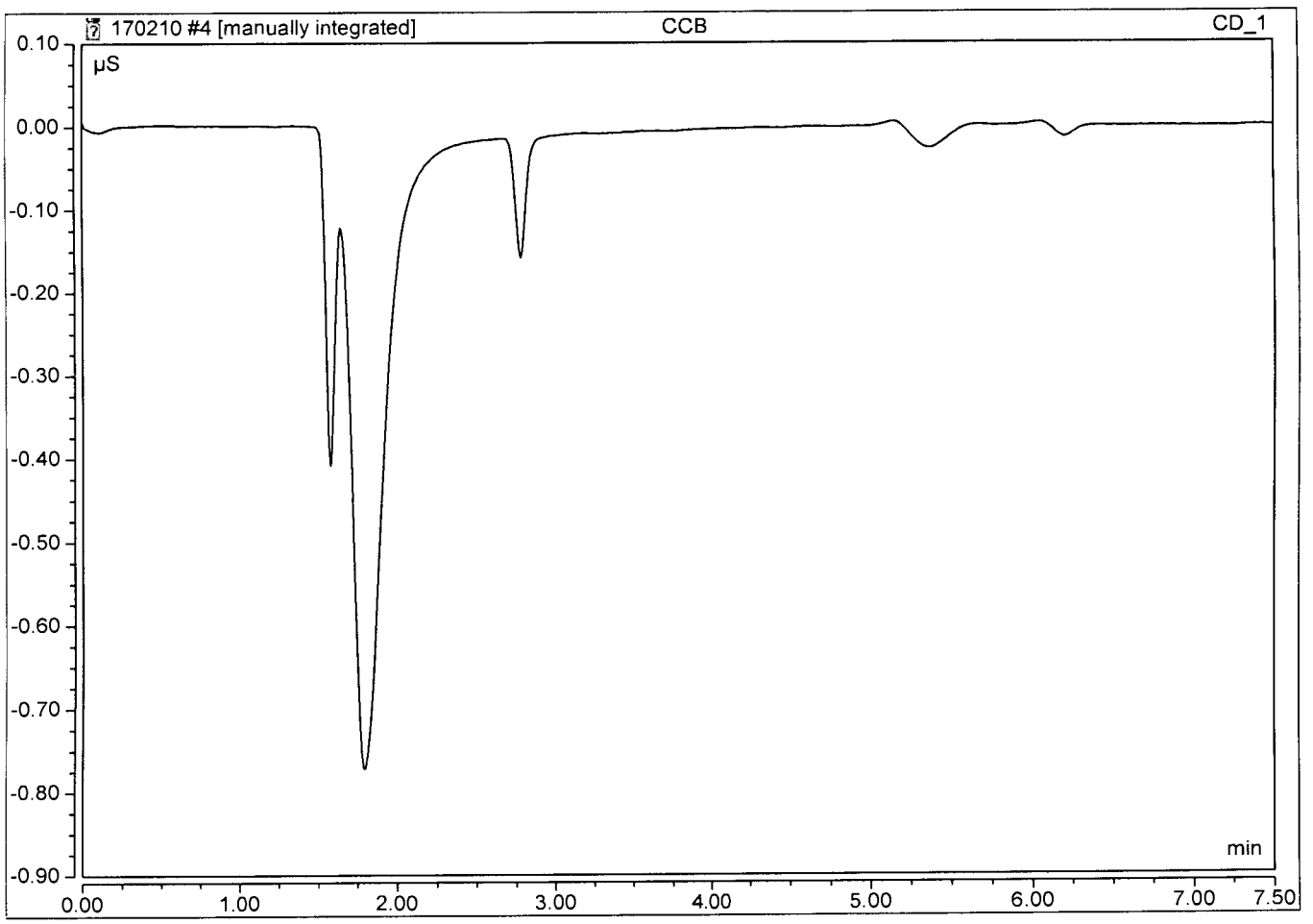
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/10/17 09:31	C	CCB 02/10/17 15:15	C		C		C		C	
chloride	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:31**	*Run Time:*	**7.50**

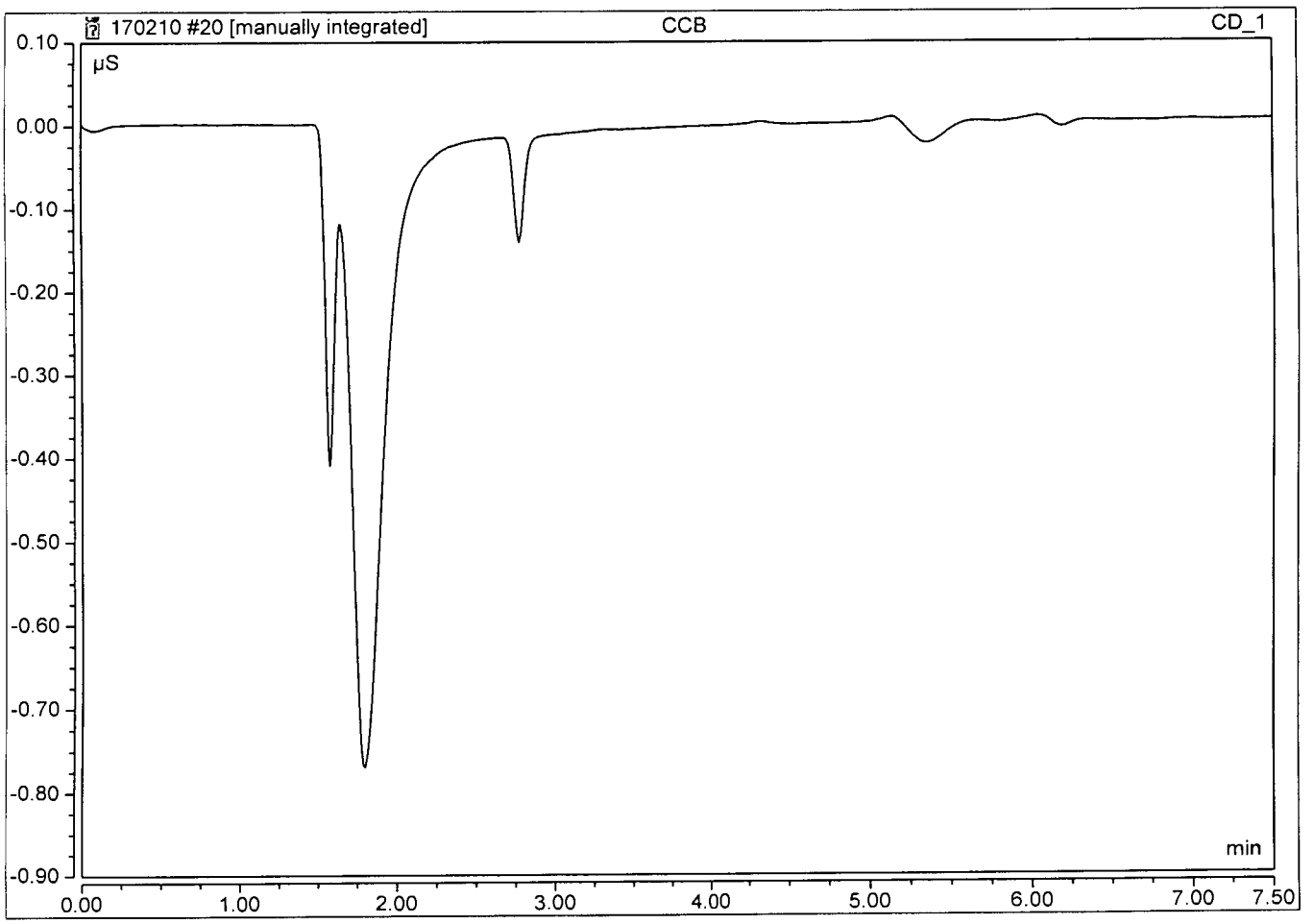
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



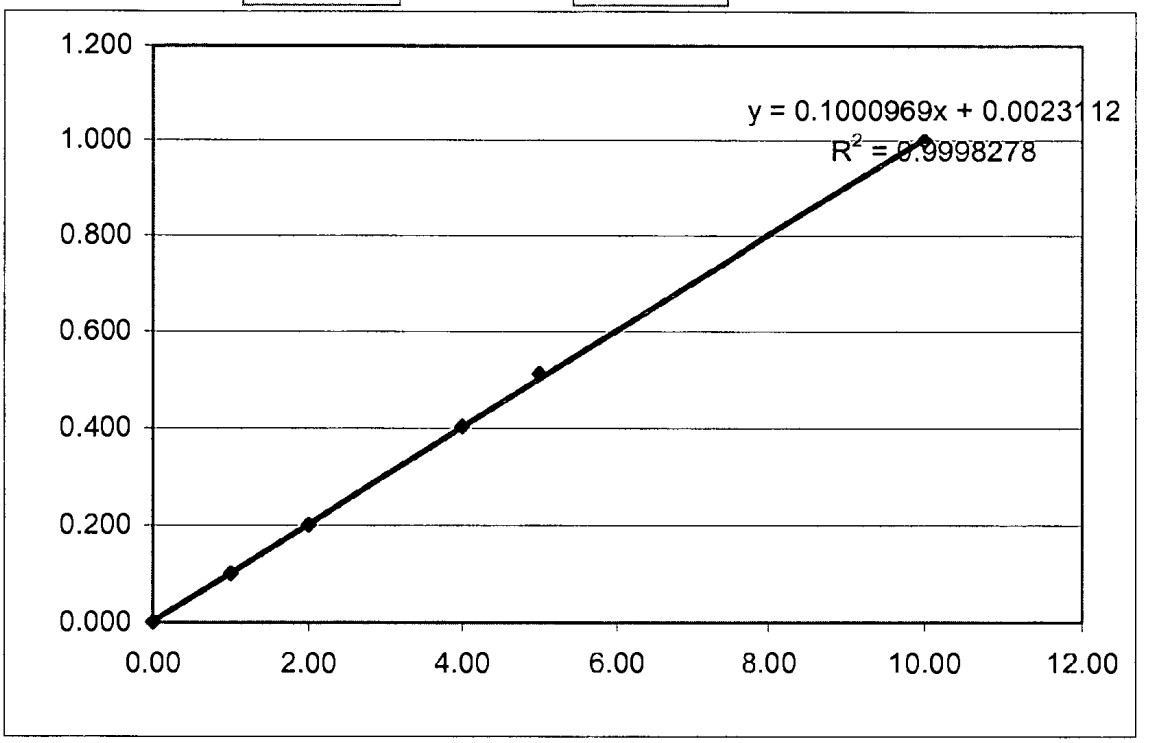
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:15**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170209A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.305	02/09/17	14:18
dilution=	1		
result (x)=	3.02 ✓		

MM 2/17/17

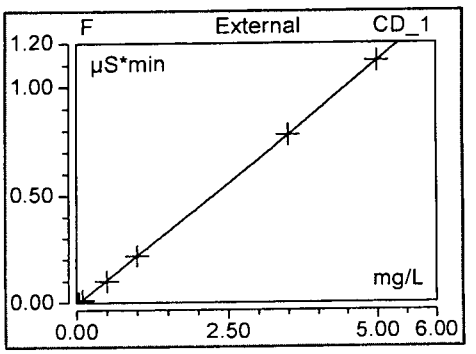
Calibration Batch Report

Sequence:	**161020**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7**

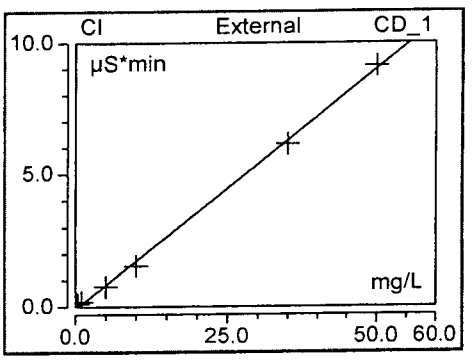
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.225	0.000	99.9840
Cl	Area	in, WithOffse	6.000	-0.094	0.182	0.000	99.8613
NO2-N	Area	in, WithOffse	6.000	-0.007	0.301	0.000	99.9917
BR	Area	in, WithOffse	6.000	-0.008	0.063	0.000	99.9802
NO3-N	Area	in, WithOffse	6.000	-0.039	0.412	0.000	99.9329
PO4-P	Area	in, WithOffse	6.000	-0.008	0.125	0.000	99.9563
SO4	Area	in, WithOffse	6.000	-0.060	0.122	0.000	99.9400
		AVERAGE:		-0.0322	0.2043	0.0000	99.9495

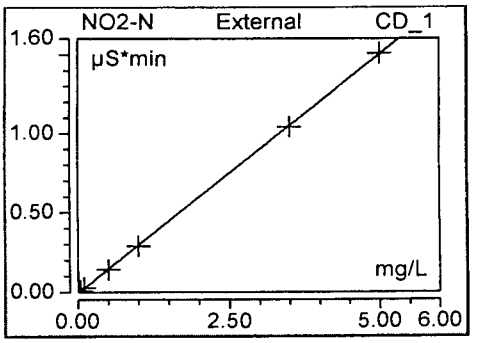
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 10/20/16	2.123	0.0012	0.022	0.044
ICAL 2 10/20/16	2.107	0.0123	0.139	0.093
ICAL 3 10/20/16	2.100	0.1000	0.922	0.483
ICAL 4 10/20/16	2.104	0.2174	1.958	1.004
ICAL 5 10/20/16	2.097	0.7826	6.953	3.513
ICAL 6 10/20/16	2.103	1.1183	9.996	5.004
Average	2.106			
Rel. Std. Dev.	0.443 %			



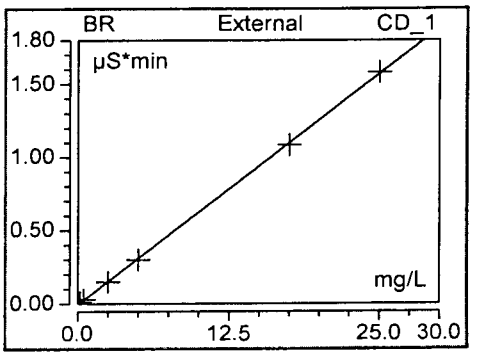
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 10/20/16	2.793	0.1132	1.052	1.143
ICAL 2 10/20/16	2.790	0.1861	1.743	1.544
ICAL 3 10/20/16	2.790	0.7617	7.117	4.714
ICAL 4 10/20/16	2.797	1.5419	14.708	9.010
ICAL 5 10/20/16	2.793	6.1288	59.398	34.268
ICAL 6 10/20/16	2.803	9.1171	87.978	50.723
Average	2.795			
Rel. Std. Dev.	0.179 %			



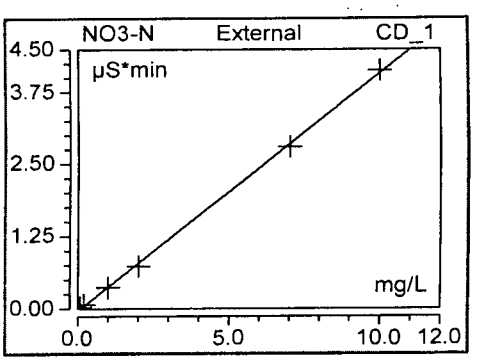
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 10/20/16	3.250	0.0095	0.073	0.053
ICAL 2 10/20/16	3.247	0.0276	0.209	0.113
ICAL 3 10/20/16	3.250	0.1420	1.072	0.493
ICAL 4 10/20/16	3.254	0.2907	2.188	0.986
ICAL 5 10/20/16	3.250	1.0405	7.775	3.473
ICAL 6 10/20/16	3.257	1.5072	11.205	5.022
Average	3.251			
Rel. Std. Dev.	0.106 %			



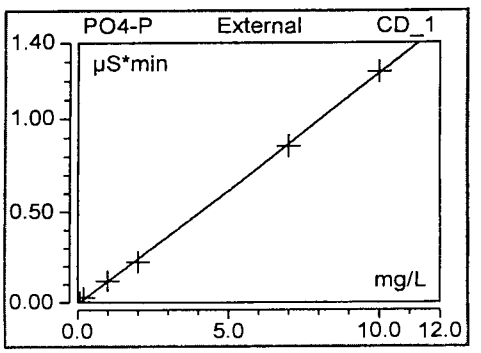
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 10/20/16	3.757	0.0109	0.087	0.299
ICAL 2 10/20/16	3.753	0.0293	0.232	0.589
ICAL 3 10/20/16	3.750	0.1485	1.179	2.478
ICAL 4 10/20/16	3.754	0.2993	2.389	4.870
ICAL 5 10/20/16	3.743	1.0832	8.801	17.295
ICAL 6 10/20/16	3.747	1.5800	13.023	25.169
Average	3.751			
Rel. Std. Dev.	0.131 %			



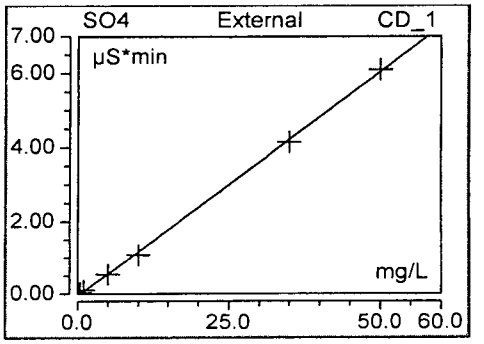
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 10/20/16	4.143	0.0290	0.196	0.166
ICAL 2 10/20/16	4.140	0.0717	0.496	0.270
ICAL 3 10/20/16	4.137	0.3656	2.533	0.983
ICAL 4 10/20/16	4.140	0.7330	5.168	1.875
ICAL 5 10/20/16	4.123	2.7923	20.144	6.873
ICAL 6 10/20/16	4.123	4.1278	30.098	10.114
Average	4.135			
Rel. Std. Dev.	0.215 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 10/20/16	5.540	0.0032	0.021	0.092
ICAL 2 10/20/16	5.540	0.0284	0.107	0.295
ICAL 3 10/20/16	5.537	0.1191	0.557	1.022
ICAL 4 10/20/16	5.537	0.2251	1.103	1.873
ICAL 5 10/20/16	5.520	0.8544	4.243	6.922
ICAL 6 10/20/16	5.523	1.2473	6.244	10.075
Average	5.533			
Rel. Std. Dev.	0.160 %			



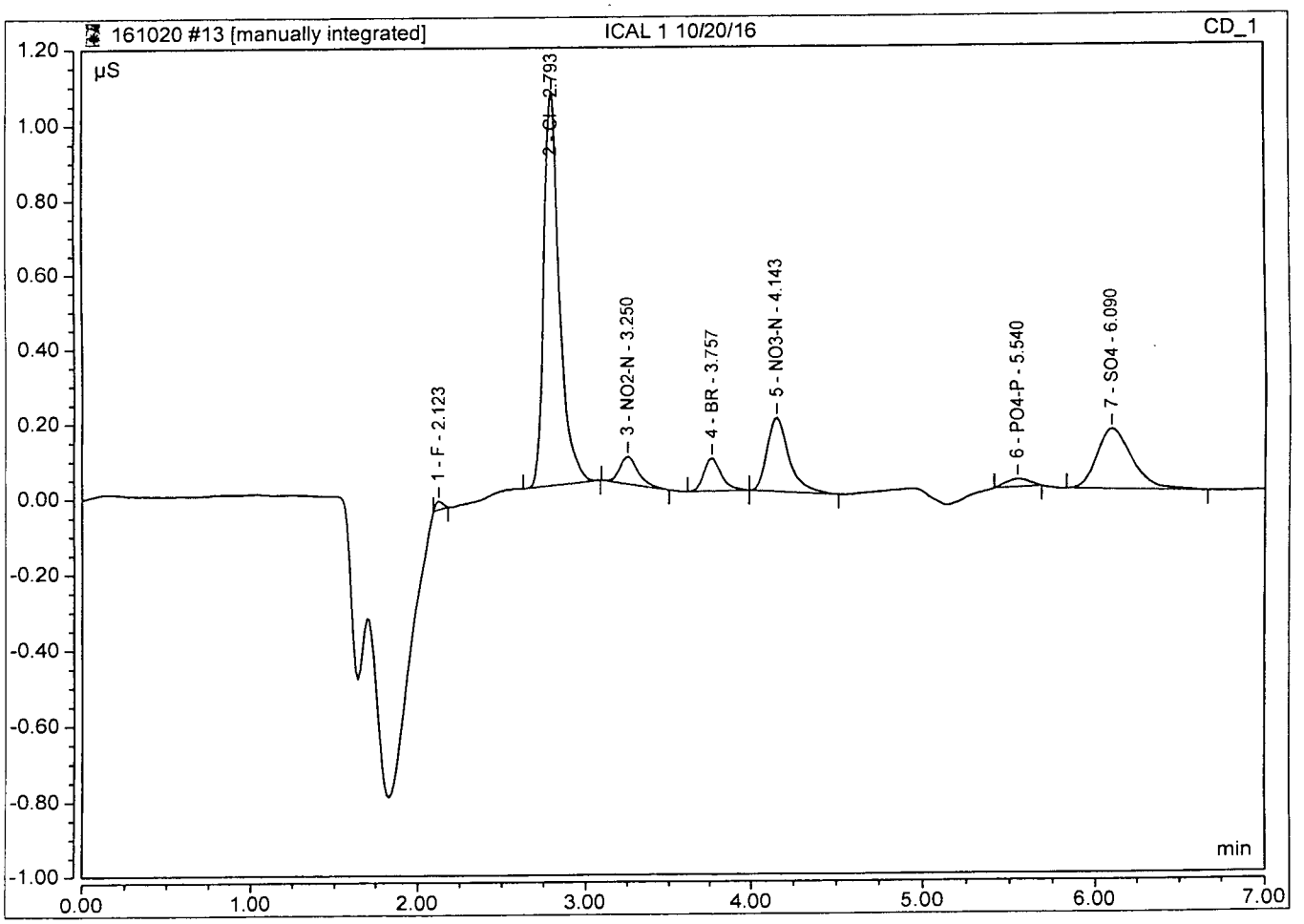
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 10/20/16	6.090	0.0385	0.159	0.808
ICAL 2 10/20/16	6.093	0.1046	0.455	1.350
ICAL 3 10/20/16	6.097	0.5456	2.464	4.961
ICAL 4 10/20/16	6.100	1.0756	4.975	9.302
ICAL 5 10/20/16	6.097	4.1512	19.714	34.487
ICAL 6 10/20/16	6.110	6.1057	29.270	50.492
Average	6.098			
Rel. Std. Dev.	0.113 %			



Peak Integration Report

Sample Name:	**ICAL 1 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:19**	*Run Time:*	**7.00**

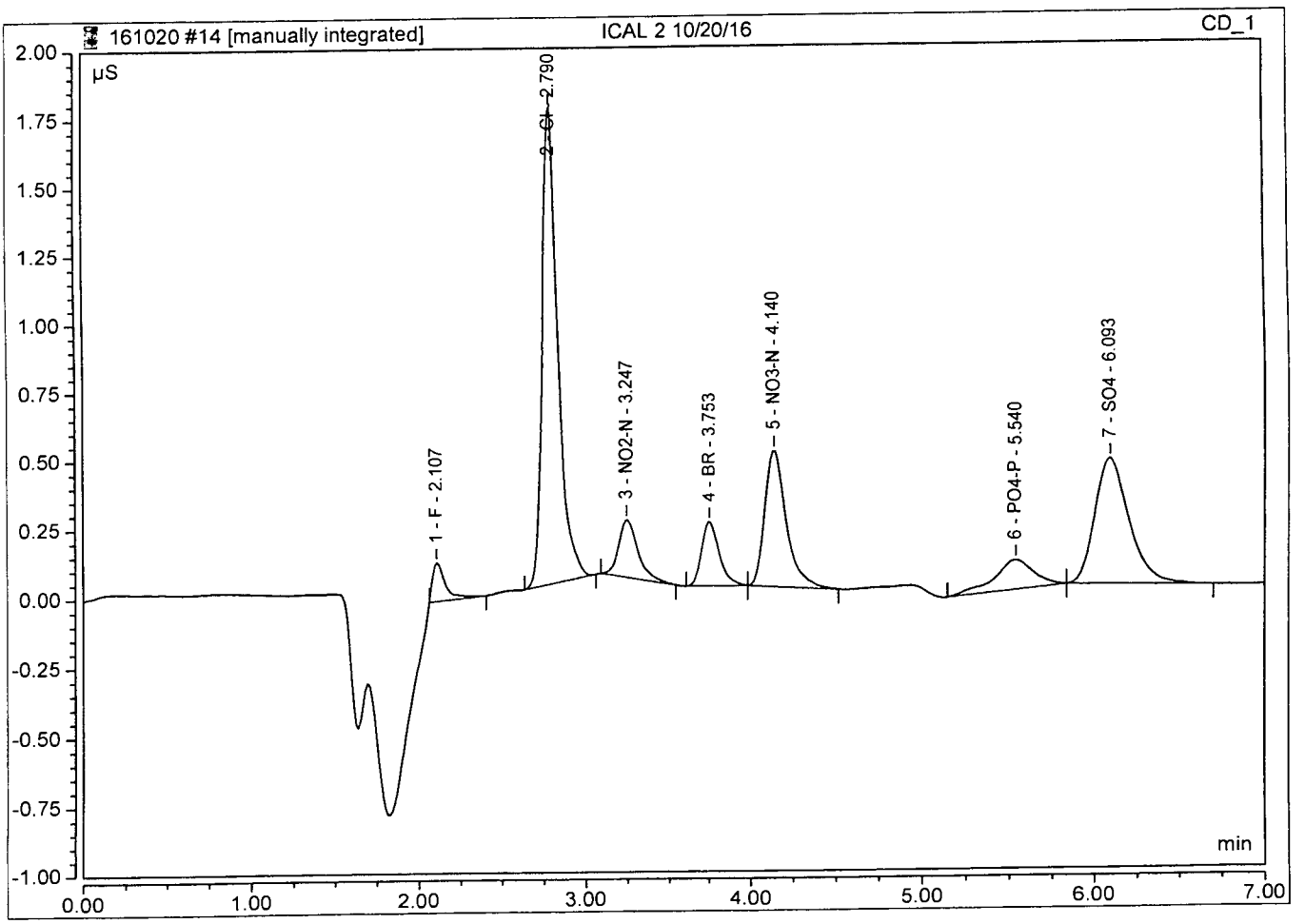
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB*	0.001	0.022	0.0438
2	2.79	Cl	BMB	0.113	1.052	1.1427
3	3.25	NO2-N	BMB	0.009	0.073	0.0531
4	3.76	BR	BMB	0.011	0.087	0.2985
5	4.14	NO3-N	BMB	0.029	0.196	0.1660
6	5.54	PO4-P	BMB*	0.003	0.021	0.0923
7	6.09	SO4	BMB	0.038	0.159	0.8084
		TOTAL:		0.21	1.61	2.60



Peak Integration Report

Sample Name:	**ICAL 2 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:32**	*Run Time:*	**7.00**

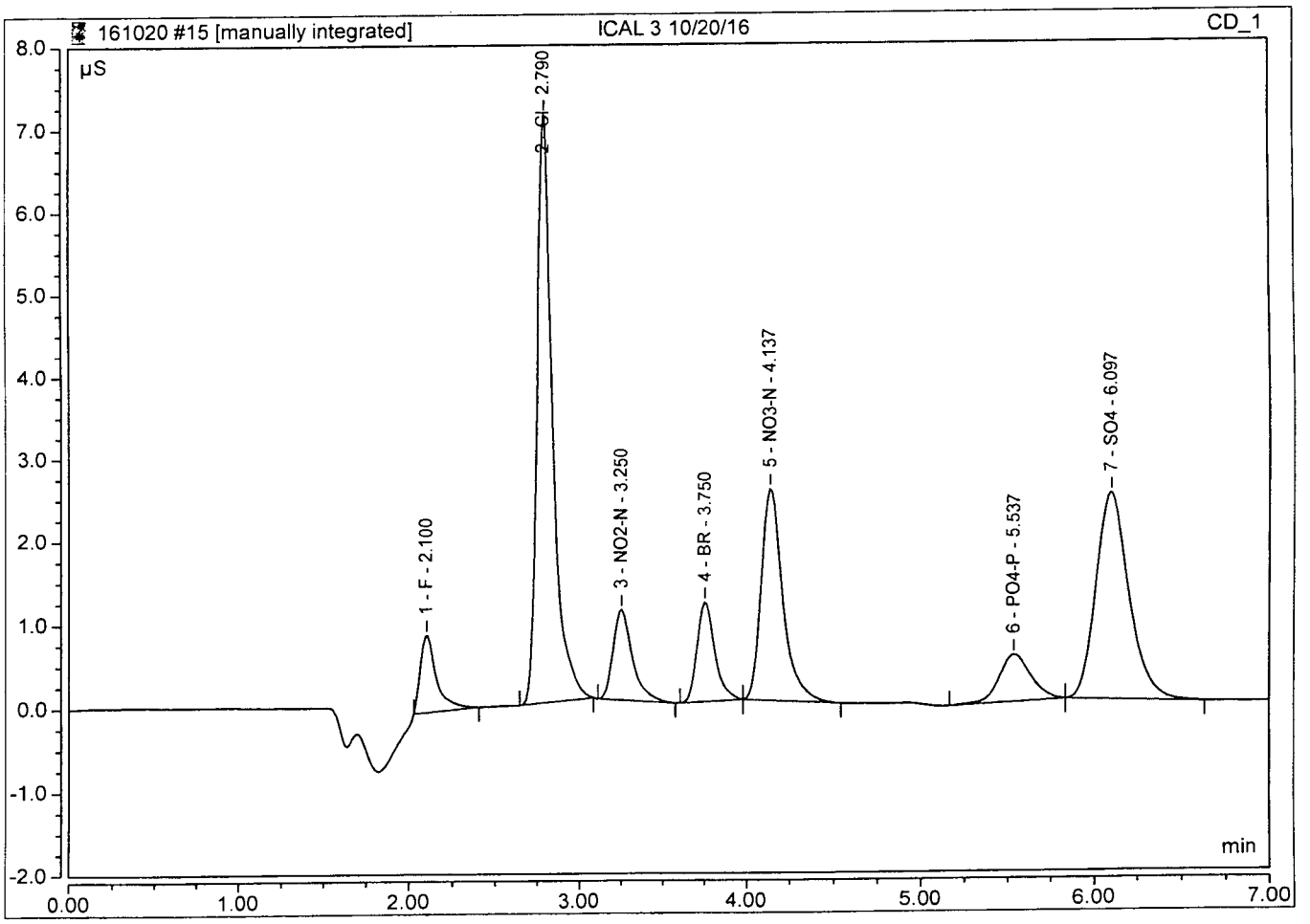
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB*	0.012	0.139	0.0933
2	2.79	Cl	BMB	0.186	1.743	1.5439
3	3.25	NO2-N	BMB	0.028	0.209	0.1132
4	3.75	BR	BMB	0.029	0.232	0.5894
5	4.14	NO3-N	BMB	0.072	0.496	0.2699
6	5.54	PO4-P	BMB	0.028	0.107	0.2946
7	6.09	SO4	BMB	0.105	0.455	1.3496
		TOTAL:		0.46	3.38	4.25



Peak Integration Report

Sample Name:	ICAL 3 10/20/16	*Inj. Vol.:*	25.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 161020 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	20-Oct-2016 / 11:45	*Run Time:*	7.00

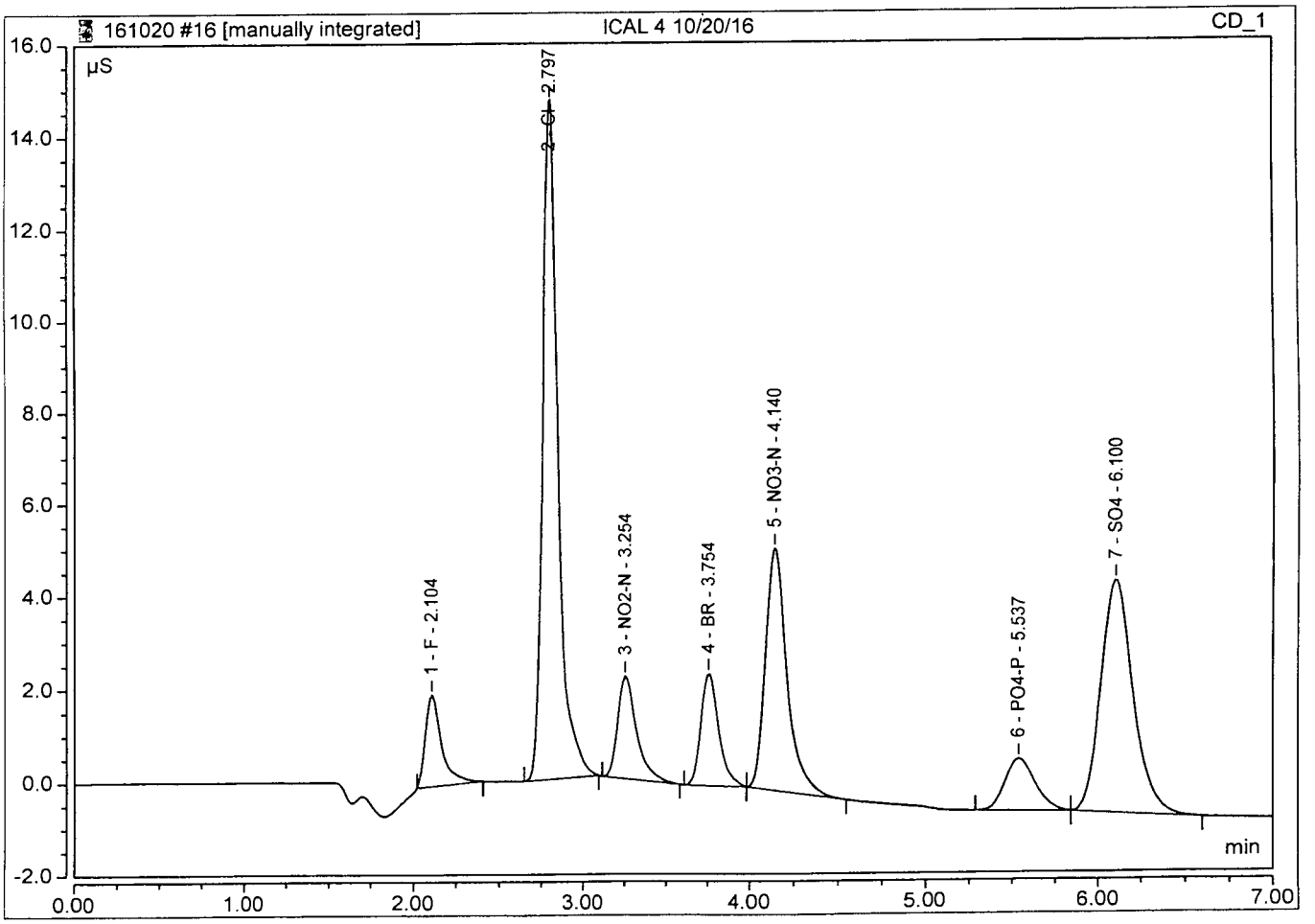
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.100	0.922	0.4827
2	2.79	Cl	BMB	0.762	7.117	4.7137
3	3.25	NO2-N	BMB	0.142	1.072	0.4926
4	3.75	BR	BMB	0.148	1.179	2.4784
5	4.14	NO3-N	BMB	0.366	2.533	0.9830
6	5.54	PO4-P	BMB	0.119	0.557	1.0221
7	6.10	SO4	BMB	0.546	2.464	4.9609
		TOTAL:		2.18	15.84	15.13



Peak Integration Report

Sample Name:	**ICAL 4 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:58**	*Run Time:*	**7.00**

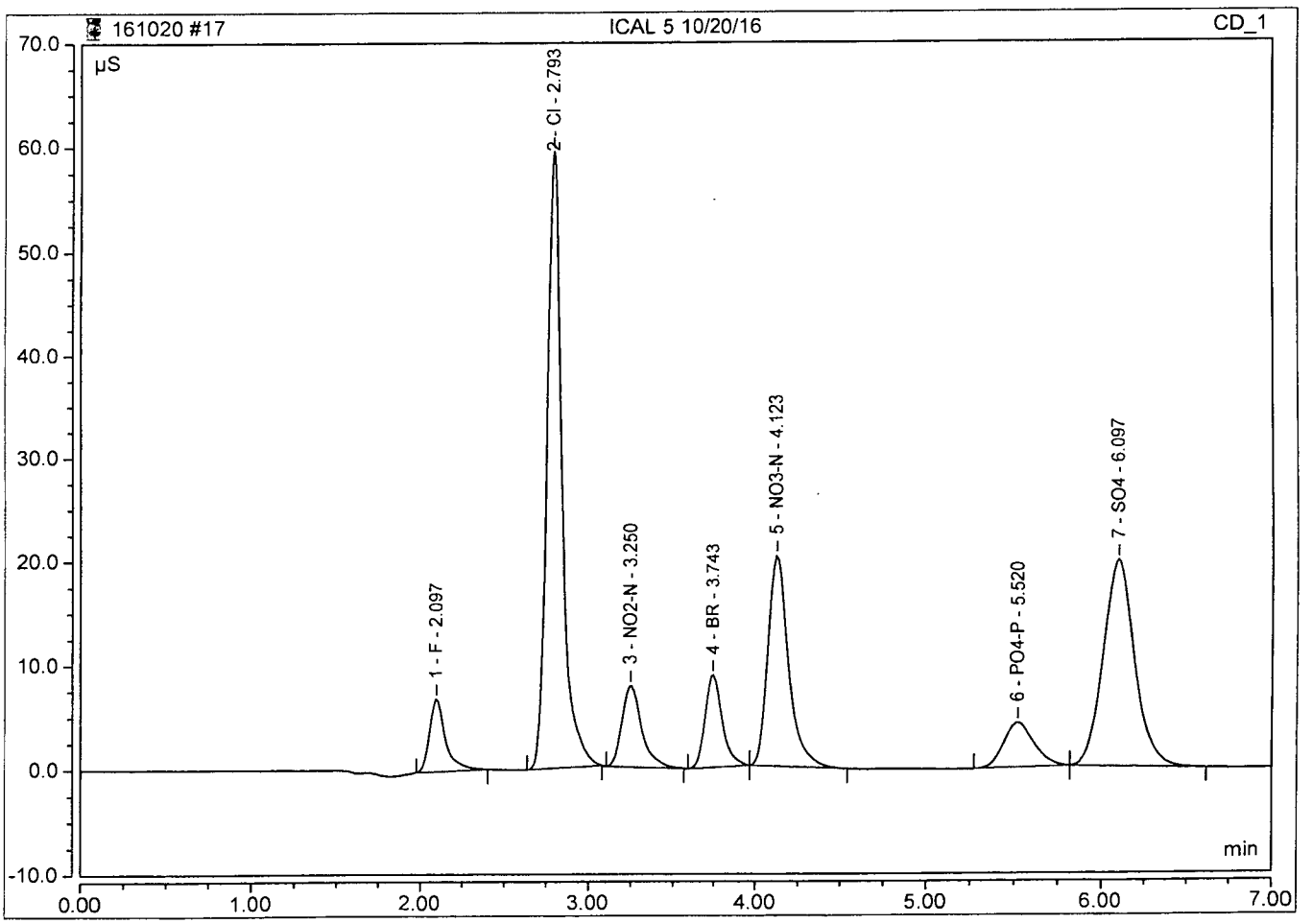
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.217	1.958	1.0036
2	2.80	Cl	BMB	1.542	14.708	9.0096
3	3.25	NO2-N	BMB	0.291	2.188	0.9859
4	3.75	BR	BMB	0.299	2.389	4.8695
5	4.14	NO3-N	BMB	0.733	5.168	1.8746
6	5.54	PO4-P	BMB	0.225	1.103	1.8731
7	6.10	SO4	BMB	1.076	4.975	9.3015
TOTAL:				4.38	32.49	28.92



Peak Integration Report

Sample Name:	**ICAL 5 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:11**	*Run Time:*	**7.00**

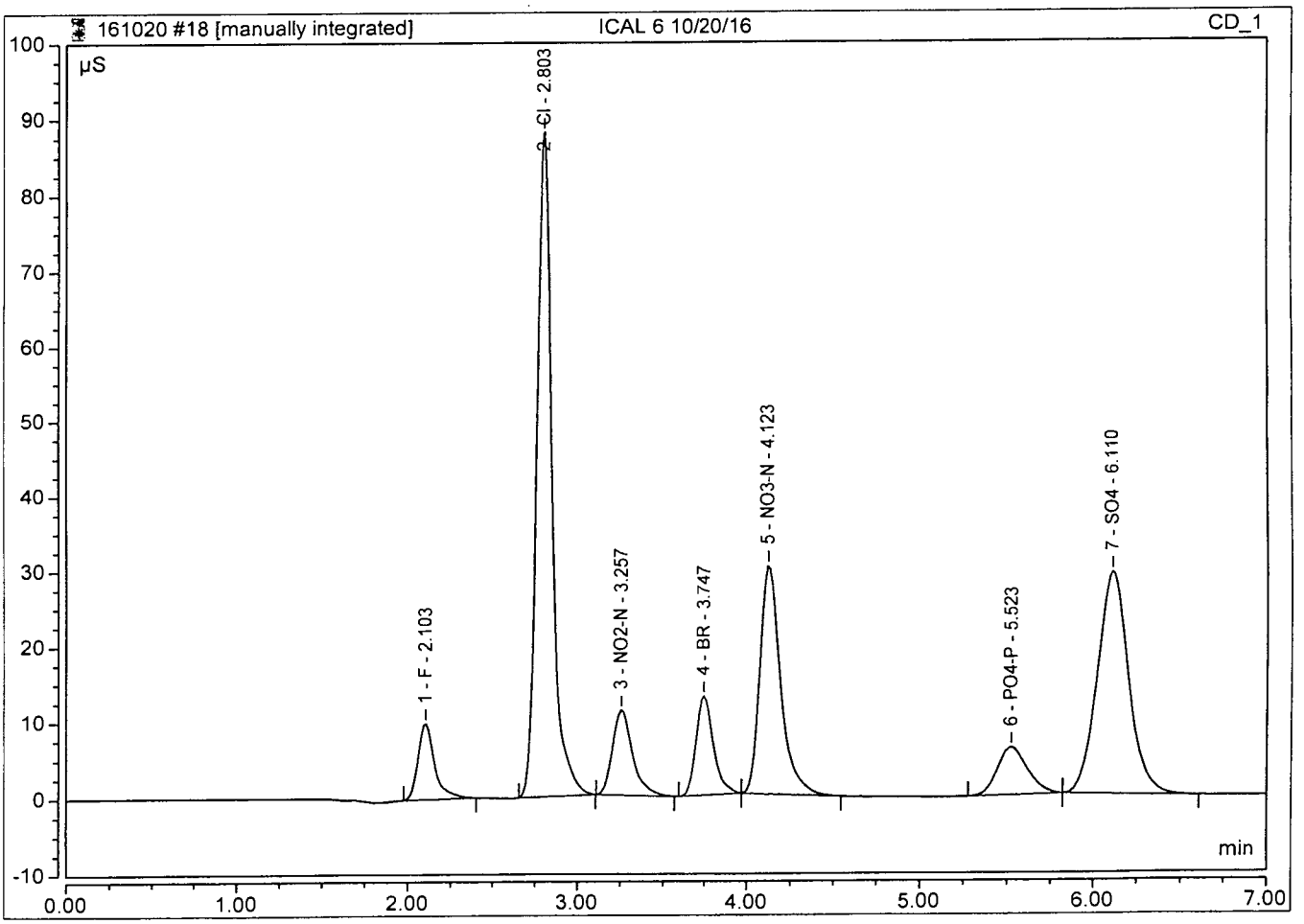
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.783	6.953	3.5131
2	2.79	Cl	BMB	6.129	59.398	34.2675
3	3.25	NO2-N	BMB	1.040	7.775	3.4734
4	3.74	BR	BMB	1.083	8.801	17.2948
5	4.12	NO3-N	BMB	2.792	20.144	6.8727
6	5.52	PO4-P	BMB	0.854	4.243	6.9225
7	6.10	SO4	BMB	4.151	19.714	34.4871
TOTAL:				16.83	127.03	106.83



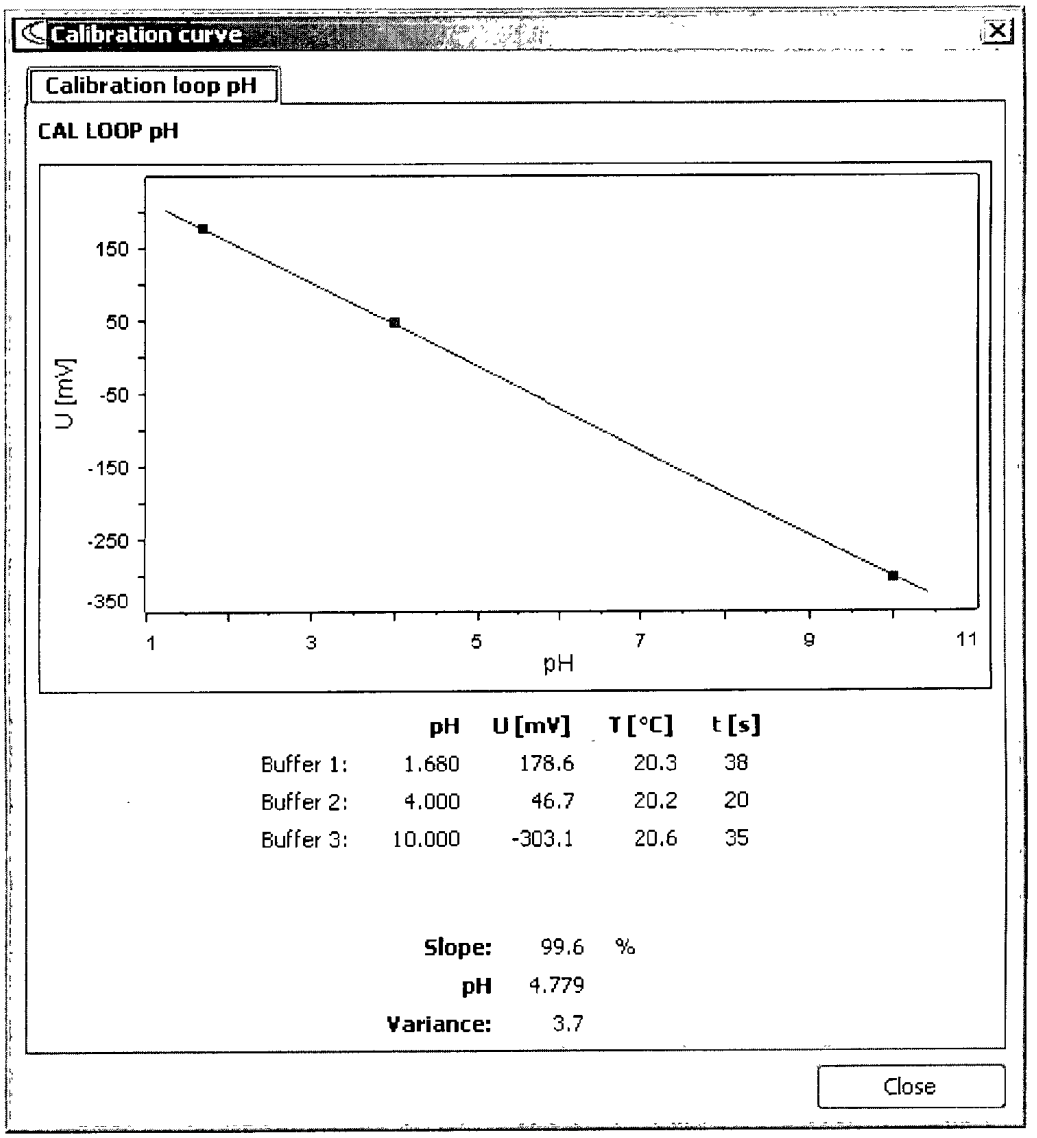
Peak Integration Report

Sample Name:	**ICAL 6 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	1.118	9.996	5.0036
2	2.80	Cl	BMB*	9.117	87.978	50.7226
3	3.26	NO2-N	BMB	1.507	11.205	5.0218
4	3.75	BR	BMB	1.580	13.023	25.1693
5	4.12	NO3-N	BMB	4.128	30.098	10.1138
6	5.52	PO4-P	BMB	1.247	6.244	10.0755
7	6.11	SO4	BMB	6.106	29.270	50.4924
		TOTAL:		24.80	187.81	156.60



Tiamo Calibration Curve
02/15/17



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	178.6	20.3	38
Buffer 2:	4.000	46.7	20.2	20
Buffer 3:	10.000	-303.1	20.6	35

Slope:	99.6	%
pH	4.779	
Variance:	3.7	

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/10/17	02/10/17	#300WD-170210A-AZ49739
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/09/17	02/09/17	#300W-170209A-AZ49741
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/09/17	02/09/17	#35FE-170209A-AZ49743

Wetlab SC-Blank-REG MDLs
Printed: 02/16/17 4:47:32 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	3.02	101	80-120	02/09/17	02/09/17	#35FE-170209A-AZ49743

Comments:

Laboratory Control Spike Recovery
WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

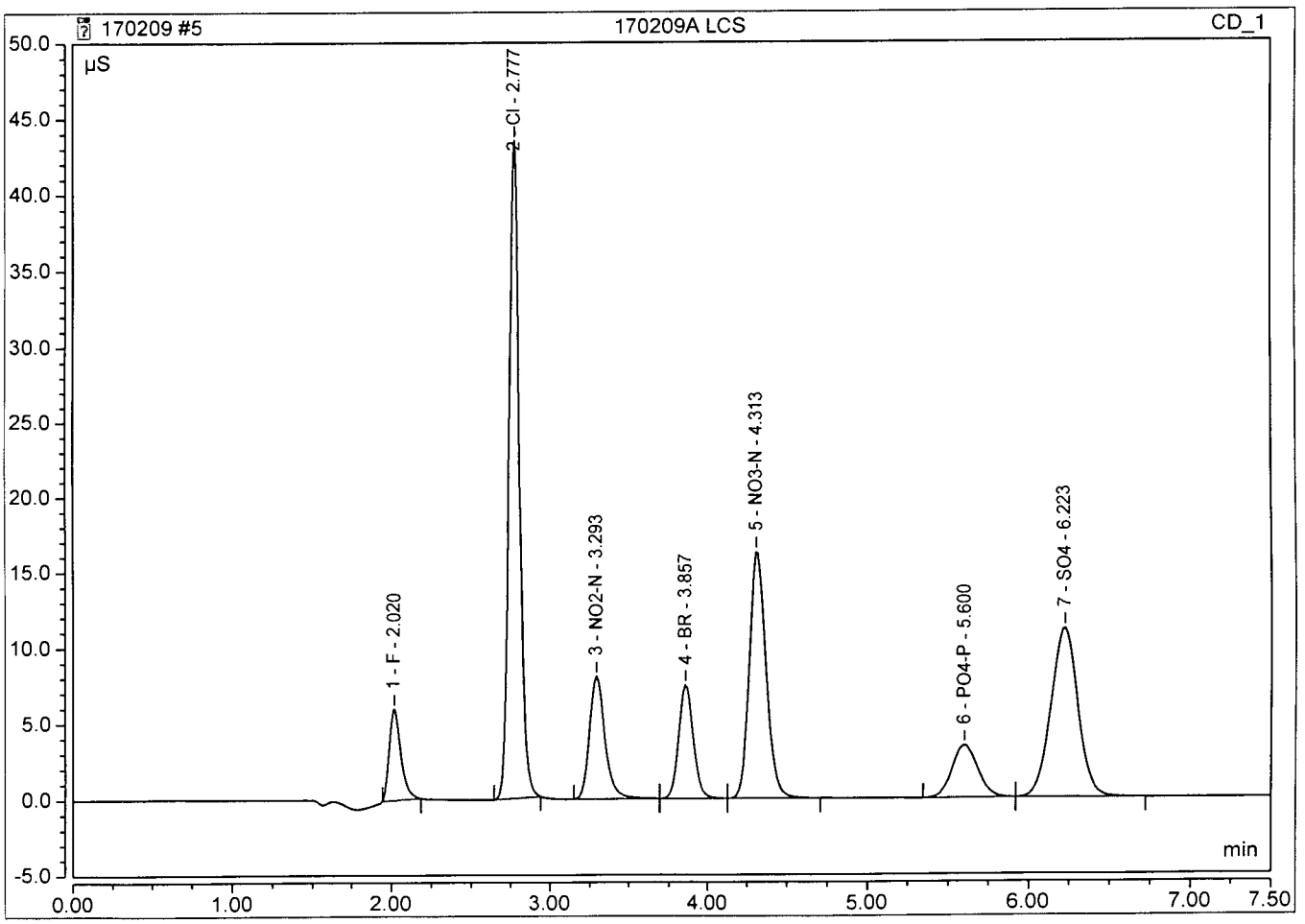
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/09/17	02/09/17	#300W-170209A-AZ49741

Comments: _____

Peak Integration Report

Sample Name:	**170209A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Feb-2017 / 10:38**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.503	6.022	2.2707
2	2.78	Cl	BMB	3.321	43.444	18.8039
3	3.29	NO2-N	BMB	0.921	8.069	3.0778
4	3.86	BR	BMB	0.804	7.478	12.8663
5	4.31	NO3-N	BMB	1.968	16.230	4.8726
6	5.60	PO4-P	BMB	0.642	3.465	5.2214
7	6.22	SO4	BMB	2.149	11.131	18.0944
		TOTAL:		10.31	95.84	65.21



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

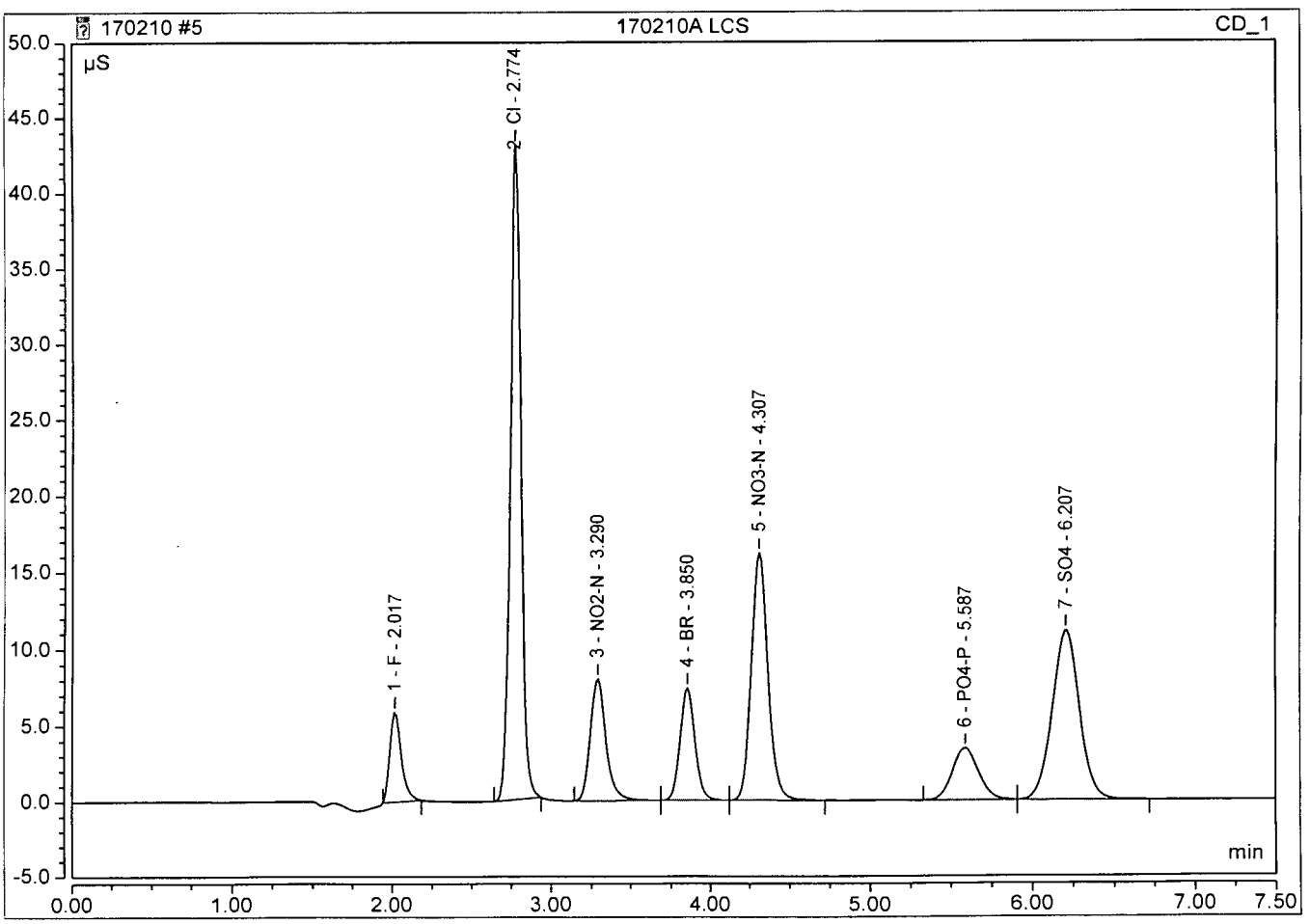
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/10/17	02/10/17	#300WD-170210A-AZ49739
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853

Comments:

Peak Integration Report

Sample Name:	**170210A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:45**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.500	5.990	2.2567
2	2.77	Cl	BMB	3.307	43.063	18.7291
3	3.29	NO2-N	BMB	0.926	8.044	3.0938
4	3.85	BR	BMB	0.803	7.434	12.8600
5	4.31	NO3-N	BMB	1.968	16.146	4.8731
6	5.59	PO4-P	BMB	0.641	3.456	5.2120
7	6.21	SO4	BMB	2.153	11.116	18.1217
		TOTAL:		10.30	95.25	65.15



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170209A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	25mL	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
02/09/17	14:16	CCV 4.0 170209	1	0.406	25mL		4.03	4.033	4.000	*100.82*
02/09/17	14:17	CCB 170209	1	0.000	25mL		-0.02	-0.023		
02/09/17	14:18	170209A LCS 3.0	1	0.305	25mL		3.02	3.024	3.000	*100.80*
02/09/17	14:19	170209A LCSD 3.0	1	0.301	25mL		2.98	2.984	3.000	*99.47*
02/09/17	14:20	AZ49739W08	1	0.005	25mL		0.03	0.027		
02/09/17	14:21	AZ49741W08	1	0.296	25mL		2.93	2.934		
02/09/17	14:22	AZ49743W08	1	0.008	25mL		0.06	0.057		
02/09/17	14:23	AZ49743W08 MS	1	0.311	25mL		3.08	3.084	3.00	*102.80*
02/09/17	14:24	AZ49743W08 MSD	1	0.307	25mL		3.04	3.044	3.00	*101.46*
02/09/17	14:25	CCV 4.0 170209	1	0.407	25mL		4.04	4.043	4.00	*101.07*
02/09/17	14:26	CCB 170209	1	0.001	25mL		-0.01	-0.013		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ49743W07	2017-02-15 11:06:26 UTC-8	Alkalinity	0.000	2.712	0.00	0.00	112.82	112.82	mg/L	25 mL	0.0208	170215A	AH
AZ49741W07	2017-02-15 10:55:02 UTC-8	Alkalinity	0.000	4.648	0.00	0.00	193.36	193.36	mg/L	25 mL	0.0208	170215A	AH
AZ49739W07	2017-02-15 10:48:06 UTC-8	Alkalinity	0.000	2.722	0.00	0.00	113.24	113.24	mg/L	25 mL	0.0208	170215A	AH
170215A LCS	2017-02-15 10:36:02 UTC-8	Alkalinity	0.000	5.872	0.00	0.00	244.28	244.28	mg/L	25 mL	0.0208	170215A	AH
170215A Blk	2017-02-15 10:08:30 UTC-8	Alkalinity	0.000	0.046	0.00	0.00	1.91	1.91	mg/L	25 mL	0.0208	170215A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 02/09/17
Exp Date: 02/10/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

PW 10/20/16

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.25	5
O2SI*	Cl-	5,000	1069557-34558	01/08/17	0.5	50
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.25	5
Ultra Scientific	Br-	1,000	CL-3274-36926	08/31/20	1.25	25
O2SI	NO3-N	1,000	1078397-35587	01/30/17	0.5	10
O2SI	PO4-P	1,000	1072004-34911	09/03/16	0.5	10
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.125	2.50
CPI	Cl-	1,000	16E065-36694	12/06/17	1.00	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.50	3.04
CPI	Br-	1,000	15L093-36101	07/21/17	0.625	12.50
CPI	NO3-N	1,000	16E022-36783	12/30/17	0.25	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.25	5.00
CPI	SO4	1,000	16E104-36693	12/06/17	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100	08/19/16	08/21/16	0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170209 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

170210 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

0.02N H2SO4 Titrant for Alkalinity

Dilute 600 mL 0.1N H2SO4 (prep 1/6/17)
To final volume 3L w/ DI water
Prep 1/6/17
Exp 1/6/18
AH 1/6/17

Inorganic Spiking Solution

7.0001g $NaHCO_3$ BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	09 Feb 2017	14:16	CCV 4.0 170209		170209A	1.
2	09 Feb 2017	14:17	CCB 170209		170209A	1.
3	09 Feb 2017	14:18	170209A LCS 3.0		170209A	1.
5	09 Feb 2017	14:20	AZ49739W08		170209A	1.
6	09 Feb 2017	14:21	AZ49741W08		170209A	1.
7	09 Feb 2017	14:22	AZ49743W08		170209A	1.
10	09 Feb 2017	14:25	CCV 4.0 170209		170209A	1.
11	09 Feb 2017	14:26	CCB 170209		170209A	1.
12	20 May 2016	12:37	0 BB 5/20/16		170209A	1.
13	20 May 2016	12:38	1		170209A	1.
14	20 May 2016	12:39	2		170209A	1.
15	20 May 2016	12:39	4		170209A	1.
16	20 May 2016	12:40	10		170209A	1.
17	20 May 2016	12:40	5		170209A	1.
18	20 May 2016	12:41	160520A ICV 3.0		170209A	1.
19	20 May 2016	12:42	160520A ICB		170209A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	20 Oct 2016	11:19	ICAL 1 10/20/16		161020	1.
15	20 Oct 2016	11:32	ICAL 2 10/20/16		161020	1.
16	20 Oct 2016	11:45	ICAL 3 10/20/16		161020	1.
17	20 Oct 2016	11:58	ICAL 4 10/20/16		161020	1.
18	20 Oct 2016	12:11	ICAL 5 10/20/16		161020	1.
19	20 Oct 2016	12:24	ICAL 6 10/20/16		161020	1.
20	20 Oct 2016	12:37	ICV 1601020		161020	1.
21	20 Oct 2016	12:50	ICB		161020	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	09 Feb 2017	10:11	CCV 170209		170209	1.
4	09 Feb 2017	10:25	CCB		170209	1.
5	09 Feb 2017	10:38	170209A LCS		170209	1.
11	09 Feb 2017	12:45	AZ49741W07		170209	1.
12	09 Feb 2017	12:58	AZ49743W07 DF2		170209	2.
19	09 Feb 2017	14:33	CCV 170209		170209	1.
20	09 Feb 2017	14:47	CCB		170209	1.
30	09 Feb 2017	17:02	AZ49739W07 DF2		170209	2.
31	09 Feb 2017	17:16	CCV 170209		170209	1.
32	09 Feb 2017	17:29	CCB		170209	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	10 Feb 2017	09:18	CCV 170210		170210	1.
4	10 Feb 2017	09:31	CCB		170210	1.
5	10 Feb 2017	09:45	170210A LCS		170210	1.
9	10 Feb 2017	10:39	AZ49739W07 DF10		170210	10.
10	10 Feb 2017	10:53	AZ49743W07 DF10		170210	10.
19	10 Feb 2017	15:01	CCV 170210		170210	1.
20	10 Feb 2017	15:15	CCB		170210	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 24, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82146

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Eight water samples were received February 10, 2017. Written results for the requested analyses are being provided on this February 24, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 651

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82146

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Method 8015B TPH-E	17
QC Summary	18
Sample Data	23
Calibration Data	33
Raw Data	74
Method 8270D SIM	97
QC Summary	98
Sample Data	109
Calibration Data	119
Raw Data	146
Method 8270D SVOCs	167
QC Summary	168
Sample Data	179
Calibration Data	189
Raw Data	235

Method 8270D SVOCs (MEE) 257
QC Summary 258
Sample Data 266
Calibration Data 276
Raw Data 303
Method 8260B VOCs 320
QC Summary 321
Sample Data 330
Calibration Data 355
Raw Data 413
Method 8260B Gasoline 427
QC Summary 428
Sample Data 433
Calibration Data 458
Raw Data 507
Method RSK-175 Methane 519
QC Summary 520
Sample Data 523
Calibration Data 542
Raw Data 576
Inorganic Analyses 585
QC Summary 586
Sample Data 590
Calibration Data 600
Raw Data 631

CASE NARRATIVE

Case Narrative

ARF: 82146

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Eight water samples were received February 10, 2017, at 1.0°C, 1.0°C, 1.0°C, 1.5°C, 2.0°C, 2.0°C, 4.0°C, and 2.5°C. The sample group was assigned Analytical Request Form (ARF) number 82146. The following discrepancies were noted and reported to the client: a metals bottle was received for three samples ERH223, ERH227, ERH231 though metals analysis was not requested; samples ERH223 and ERH231 were received more than 24 hours after collection; and a collection time discrepancy was noted for sample ERH240. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

APPL SOP ANA2MEE: Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS. Chromatograms of before and after manual integration are enclosed.

Inorganic Analyses: Two samples were received more than 24 hours after collection. All samples were analyzed for ferrous iron and nitrate as soon as possible on the day received. Manual integrations for chloride were performed in accordance with APPL's SOP. Before and after chromatograms are included in the package. In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82146	02/10/17	ERH230	AZ49856	02/08/17	02:10 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH230	AZ49856	02/08/17	02:10 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH230	AZ49856	02/08/17	02:10 PM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	8270D-SIM	EPA 8270D SIM
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	EPA 8270D	EPA 8270D WATER
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	SM 2320B	Wetlab 2320B - Water
82146	02/10/17	ERH231	AZ49857	02/08/17	02:40 PM	WATER	SM3500FeB	Ferrous Iron
82146	02/10/17	ERH243	AZ49858	02/08/17	03:10 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH226	AZ49859	02/09/17	08:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH226	AZ49859	02/09/17	08:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH226	AZ49859	02/09/17	08:15 AM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	SM 2320B	Wetlab 2320B - Water
82146	02/10/17	ERH227	AZ49860	02/09/17	09:50 AM	WATER	SM3500FeB	Ferrous Iron
82146	02/10/17	ERH222	AZ49861	02/08/17	08:45 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH222	AZ49861	02/08/17	08:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH222	AZ49861	02/08/17	08:45 AM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	8270D-SIM	EPA 8270D SIM
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	EPA 8270D	EPA 8270D WATER
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	RSK 175	METHANE BY RSK 175
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	SM 2320B	Wetlab 2320B - Water
82146	02/10/17	ERH223	AZ49862	02/08/17	10:10 AM	WATER	SM3500FeB	Ferrous Iron
82146	02/10/17	ERH240	AZ49863	02/08/17	09:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82146

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 020917a,b,c
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 02/10/17 Time: 10:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): SEE CRF
Color: VOA/L-PURBRN/P-ORGGN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/17/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 3-$87DC53W5, 3-$87DMEEW5, 3-$DOC53W5, 3-$SIMDOD5W
Extractions: 3-_MWE2MEE, 3-_SEP004, 3-_SEP004S, 3-_SEP011LL
VOA: 8-$86BTOTXDOD5W, 6-$GASBL, 6-$GRO86BW, 6-$RSKMETH
Wetlab: 3-$232W(HCO3,CO3,ALK), 3-$300W(NO3,CL,SO4), 3-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH230	AZ49856W	02/08/17 14:10	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- 3 unpreserved vials
2.	ERH231	AZ49857W	02/08/17 14:40	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
3.	ERH243	AZ49858W	02/08/17 15:10	$86BTOTXDOD5W

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH226	AZ49859W	02/09/17 08:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- 3 unpreserved vials
5.	ERH227	AZ49860W	02/09/17 09:50	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
6.	ERH222	AZ49861W	02/08/17 08:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- 3 unpreserved vials
7.	ERH223	AZ49862W	02/08/17 10:10	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
8.	ERH240	AZ49863W	02/08/17 09:15	$86BTOTXDOD5W

APPL Sample Receipt Form

ARF# **82146**

Sample	Container Type	Count	pH
AZ49856	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49857	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49858	13 VOAs - HCL	5	NA
AZ49859	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49860	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49861	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49862	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ49863	13 VOAs - HCL	5	NA

Sample	Container Type	Count	pH

RECEIVING APPL

From: RECEIVING APPL <receiving@applinc.com>
Sent: Friday, February 10, 2017 4:11 PM
To: libby@applinc.com
Cc: cmoua@applinc.com; danderson@applinc.com; rpatterson@applinc.com; pyoung@applinc.com
Subject: ARF 82146 Receiving Notes Revised
Attachments: COC82146_20170210_1605.pdf

Libby,

Client: AECOM
Job: 60481245 CIV0053 Red Hill Fuel Storage

- Sample ERH240 - 1 of 5 voa vials has collection time of 09:05, while COC has time at 09:15. Received Ferrous iron greater than 24 hours.

Thanks,

Yang Lor

82146
1.5 4.0
2x2.0
2.5
3x8.0

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TR, MH
Sampler (Signature): MT for CB, AM, TR, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 230	Trip Blank	02/08/17	1410	HST	6	✓				X								X				
ERH 231	RHMW03	02/08/17	1440	HST	15	/				X			X		X	X	X	X	X	X	X	
ERH 243	Ambient Blank	02/08/17	1510	HST	5	/				X												BTEX only, no TPH-g
MT	02/09/17																					

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. b

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TR, MH
Sampler (Signature): MT for CB, AM, TR, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 226	Trip Blank	02/09/17	0815	HST	6	✓				X								X			
ERH 227	OWOFMW01	02/09/17	0950	HST	15	/				X			X		X	X	X	X	X	X	X

MT 02/09/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. c

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, AM, TQ, MH
Purchase Order Number: 77265
Sampler (Signature): MT for CB, AM, TQ, MH
Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 222	Trip Blank	02/08/17	0845	HST		✓				X								X				
ERH 223	RHMW01	02/08/17	1010	HST		/				X			X		X	X	X	X	X	X	X	
ERH 240	Ambient Blank	02/08/17	0915	HST		/				X												BTEX only, no TPH-g

MT 02/09/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1600					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82146**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 02/10/17

2) Coolers: Number of Coolers: 8

3) YES Were custody seals present and intact?
How many? 16 Name/Date on seal? See below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __popcorn __foam X plastic bags
X wet ice __dry ice __no ice __other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 1.0	2: 1.0	3: 1.0	4: 1.5	5: 2.0	6: 2.0
7: 2.5	8: 4.0	9:	10:	11:	12:

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials PB
Date 2/9/17

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ49856W01-W06,AZ49858W05,AZ49861W01-W06

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) YL 2/10/17 YES NO Were unpreserved VOA Vials received?

23) YL 2/10/17 YES NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

Sample ERH240 - 1 of 5 voa vials has collection time of 09:05, while COC has time at 09:15. Received Ferrous iron greater than 24 hours.

Metals bottles w/ HNO_3 were received for samples ERH231, ERH227 + ERH223; however metals analysis was not requested. np 2-10-17

Personnel receiving samples: YL Second reviewer: SM
Personnel labeling samples:
Project manager notified: YL Date/Time of notification 2/10/17 16:11
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216247**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method:DOC0207.M
Run #:216005
Instrument:Apollo
Sequence:170216
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:22:50 AM

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	60-142	75.7		56-125	76.4	
170214A-LCS	Lab Control Spike	60-142	80.3		56-125	94.0	
AZ49857	ERH231	60-142	79.0		56-125	77.7	
AZ49860	ERH227	60-142	81.5		56-125	81.3	
AZ49862	ERH223	60-142	76.9		56-125	77.9	

Comments: Batch: #DOC53-170214A

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49853 LCS - 216247**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/17/17 9:22:44 AM
APPL Standard LCS

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Apollo
Time Analyzed: 1141

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	216005	02/16/17 1141
170214A-LCS	Lab Control Spike	216006	02/16/17 1202
AZ49857	ERH231	216019	02/16/17 1628
AZ49860	ERH227	216020	02/16/17 1649
AZ49862	ERH223	216021	02/16/17 1709

Comments: Batch: #DOC53-170214A

Printed: 02/17/17 9:22:41 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	67 ++	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	71	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	79.0	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.7	56-125			%	02/14/17	02/16/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0207.M
Run #: 216019
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:22:39 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216019.D Vial: 19
Acq On : 2-16-17 16:28:29 Operator: DP
Sample : AZ49857W13 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 16:43 2017 Quant Results File: DOC0207.RES

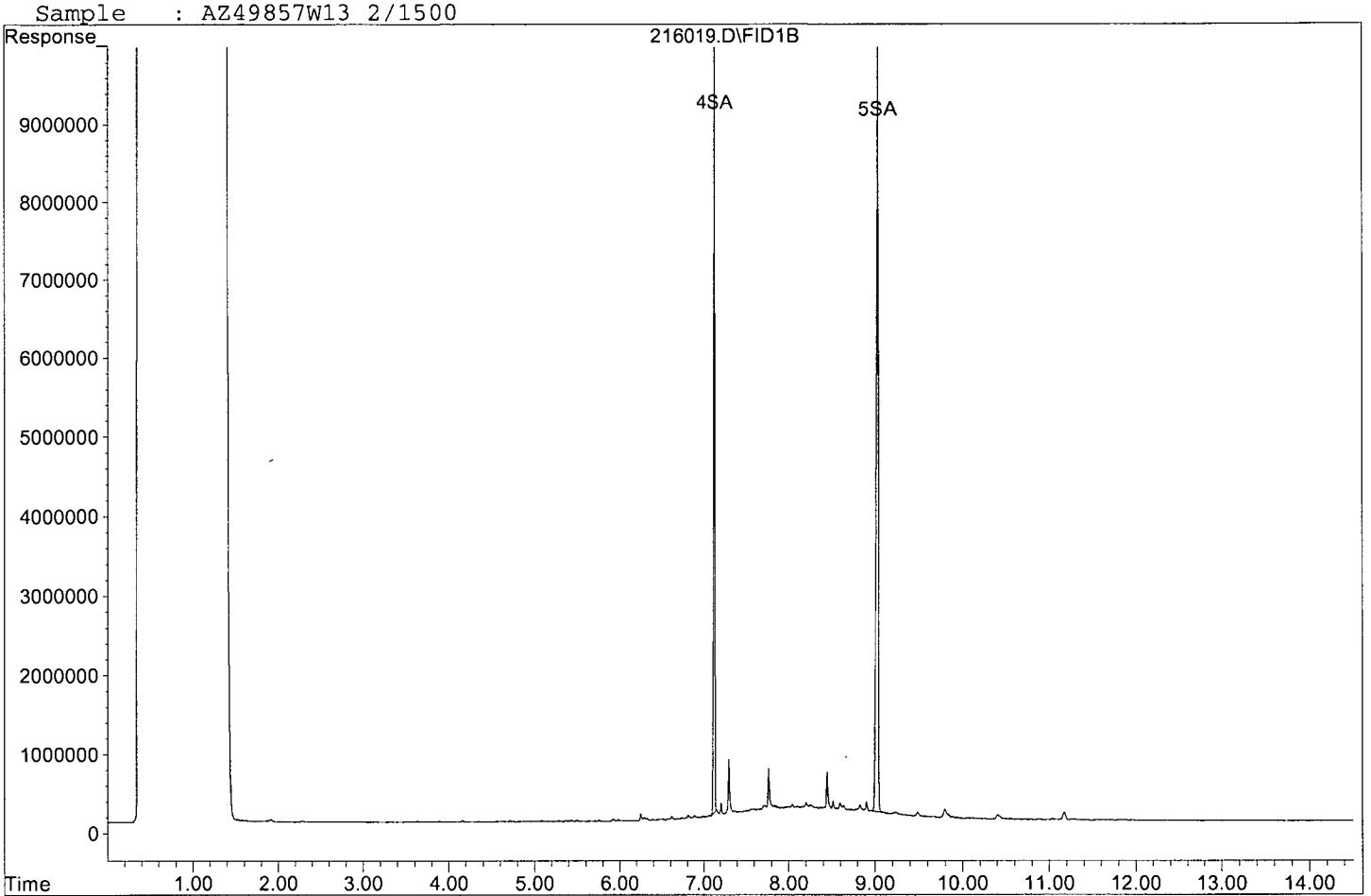
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

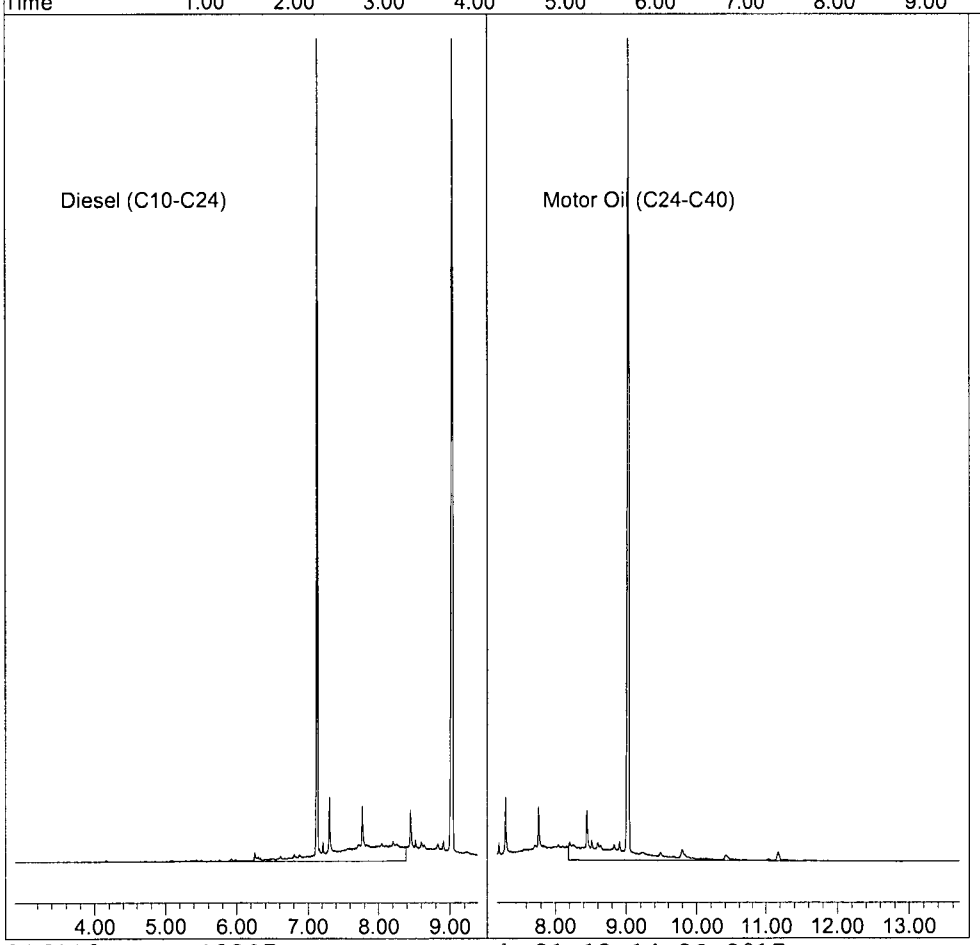
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99646743	31.086 ppb
Surrogate Spike 40.000		Recovery =	77.72%
5) SA Octacosane(S)	9.03	148808628	31.595 ppb
Surrogate Spike 40.000		Recovery =	78.99%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	163448440	66.706 ppb
2) HBTM Motor Oil (C24-C40)	10.44	131664730	71.403 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216019.D
Sample : AZ49857W13 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	23 ++J	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	44	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	81.5	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	81.3	56-125			%	02/14/17	02/16/17

J = Estimated value.
++(T4M) The analyst has noted that the chromatogram of this sample does not contain a petroleum hydrocarbon pattern, however the presence of a dominant peak(s) were noted.

Quant Method: DOC0207.M
Run #: 216020
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:22:39 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216020.D Vial: 20
Acq On : 2-16-17 16:49:02 Operator: DP
Sample : AZ49860W14 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 17:33 2017 Quant Results File: DOC0207.RES

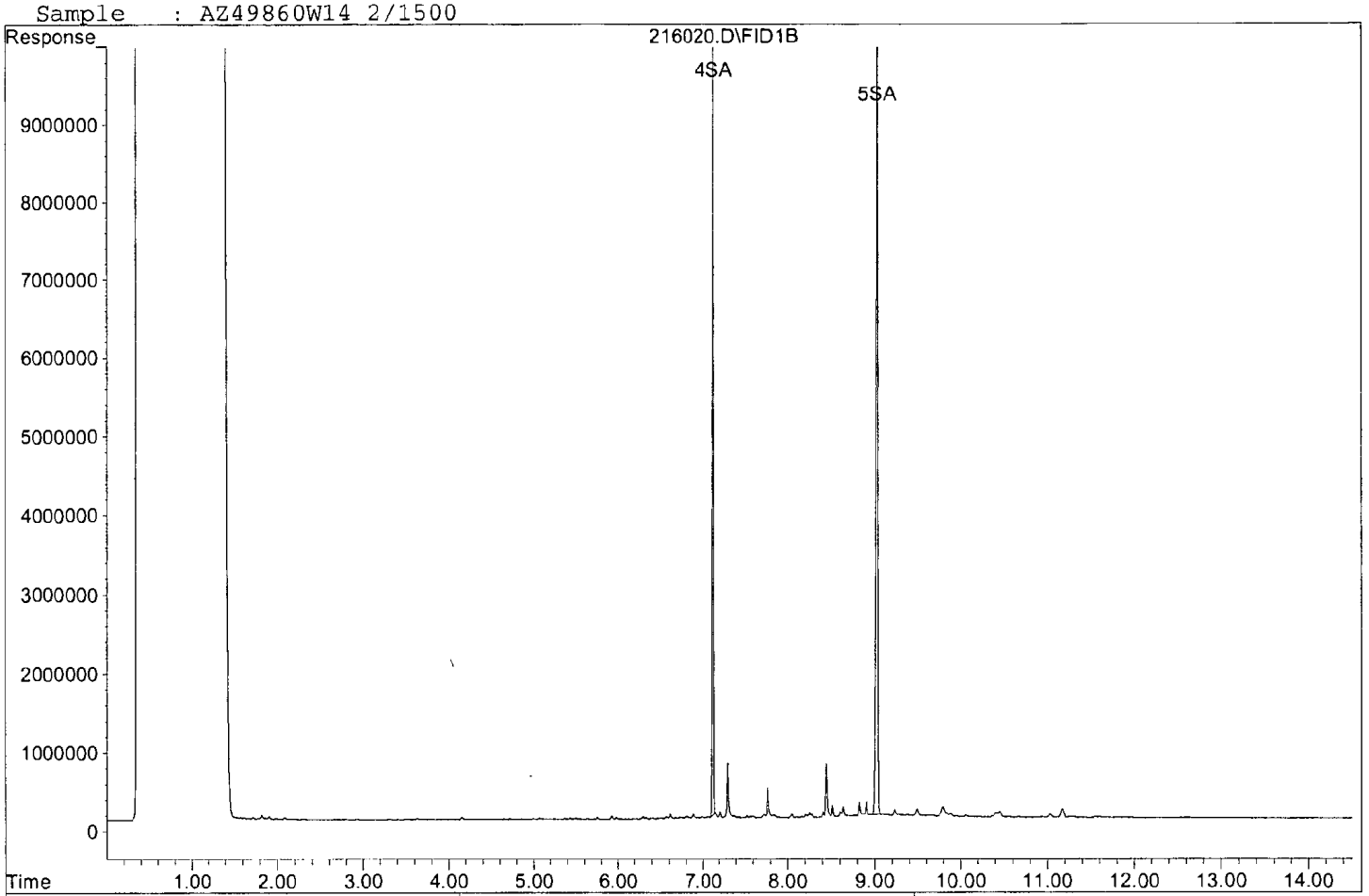
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

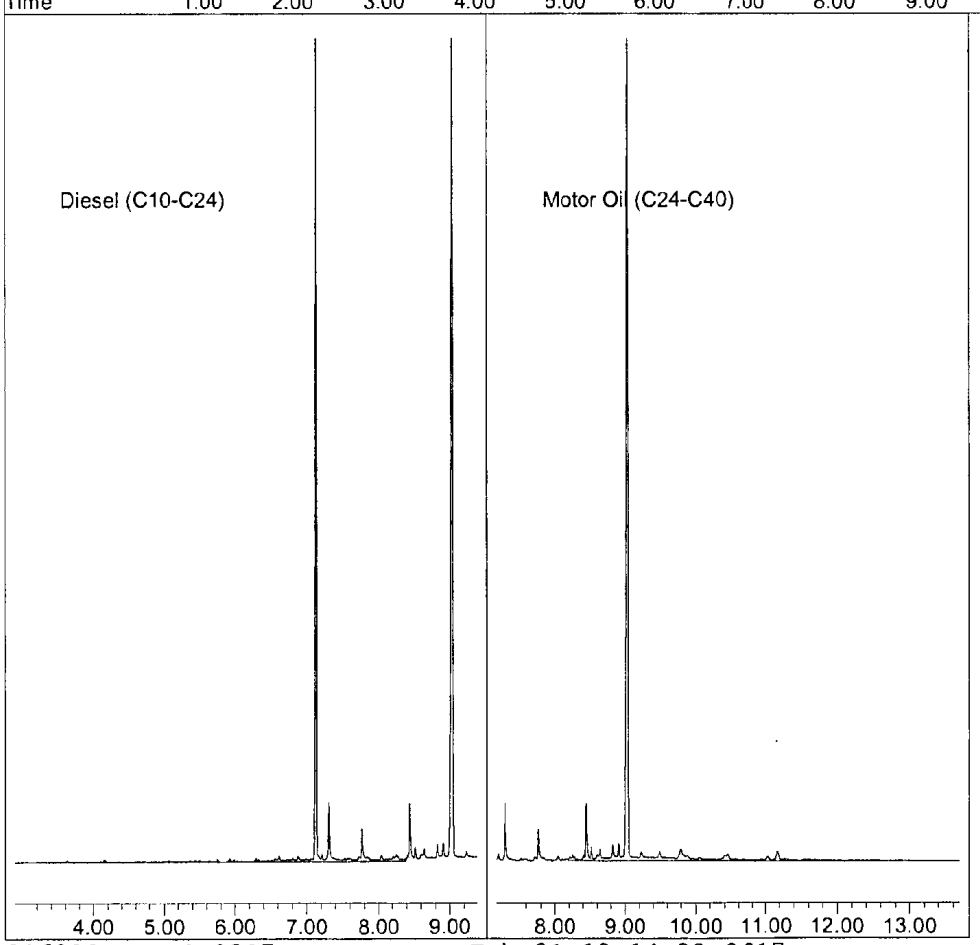
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	104173818	32.499 ppb
Surrogate Spike 40.000		Recovery =	81.25%
5) SA Octacosane(S)	9.03	153444628	32.579 ppb
Surrogate Spike 40.000		Recovery =	81.45%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	56910510	23.226 ppb
2) HBTM Motor Oil (C24-C40)	10.44	81171581	44.020 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216020.D
Sample : AZ49860W14 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	150 ++	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	76.9	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.9	56-125			%	02/14/17	02/16/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0207.M
Run #: 216021
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:22:39 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216021.D Vial: 21
Acq On : 2-16-17 17:09:35 Operator: DP
Sample : AZ49862W11 2/1000 Inst : Apollo
Misc : water Multiplr: 2.00
IntFile : events.e
Quant Time: Feb 17 9:15 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

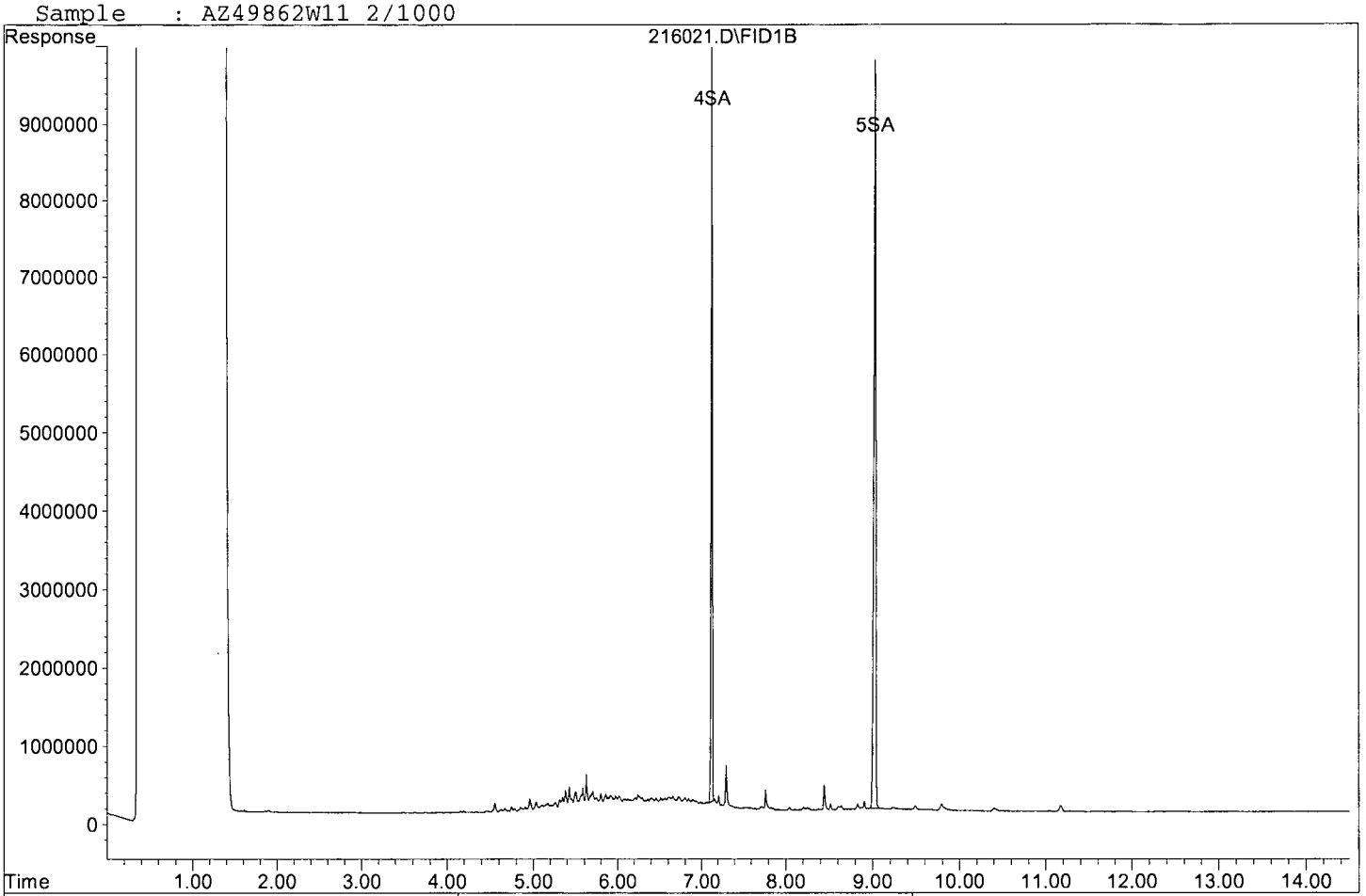
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

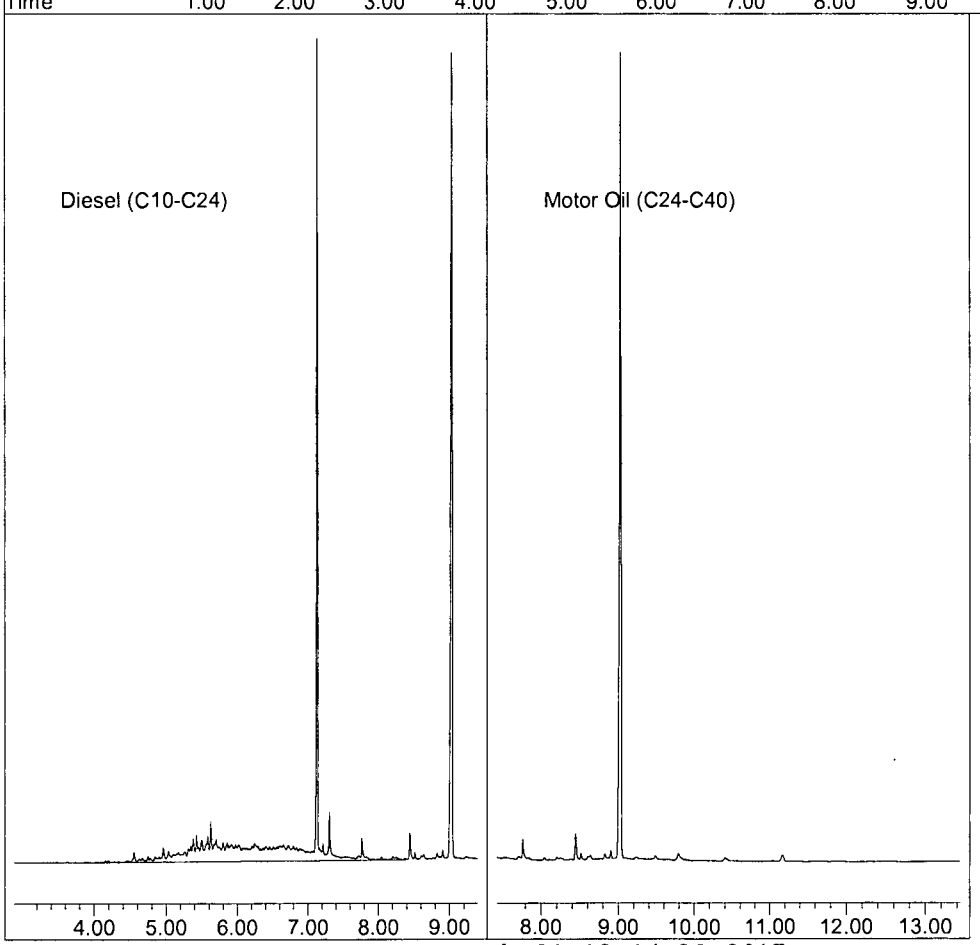
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99878818	46.738 ppb
Surrogate Spike 60.000		Recovery =	77.90%
5) SA Octacosane(S)	9.03	144865211	46.137 ppb
Surrogate Spike 60.000		Recovery =	76.90%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	242604251	148.516 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170216\216021.D
Sample : AZ49862W11 2/1000





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0207

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 02/07/17
Matrix: Instrument: Apollo Initials:

Diesel: 207013.D 207014 D 207015.D 207016 D 207017 D 207018 D
Motor Oil: 207020.D 207021.D 207022 D 207023 D 207024 D 207025.D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2112818	2160204	2135806	2184447	2121052	2107568					2136982	1.4	SA	
5	SA	Octacosane(S)	3130783	3214870	3136696	3178445	3091400	3087353					3139925	1.6	SA	
6																
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9																
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0.9606591

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

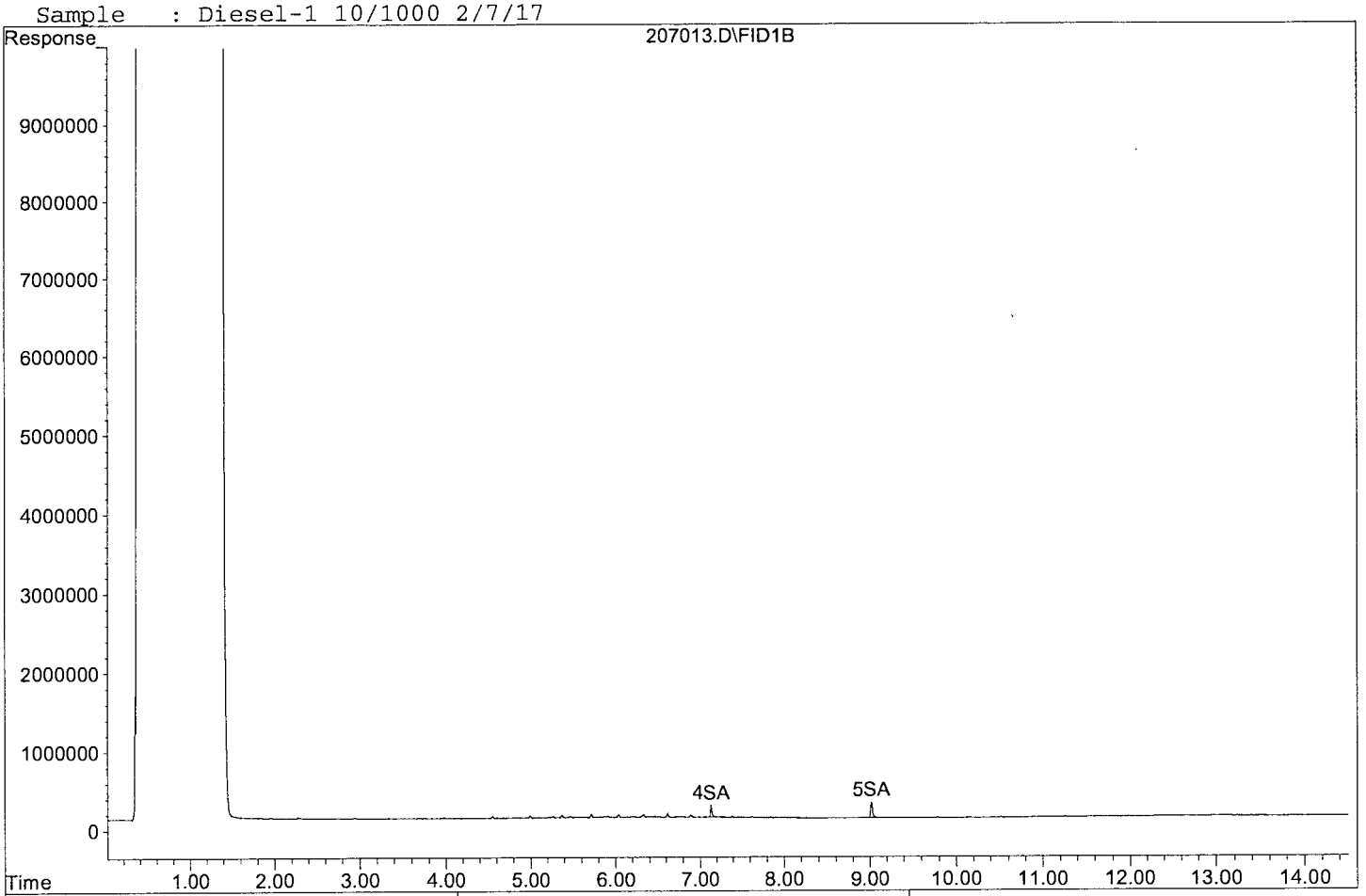
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

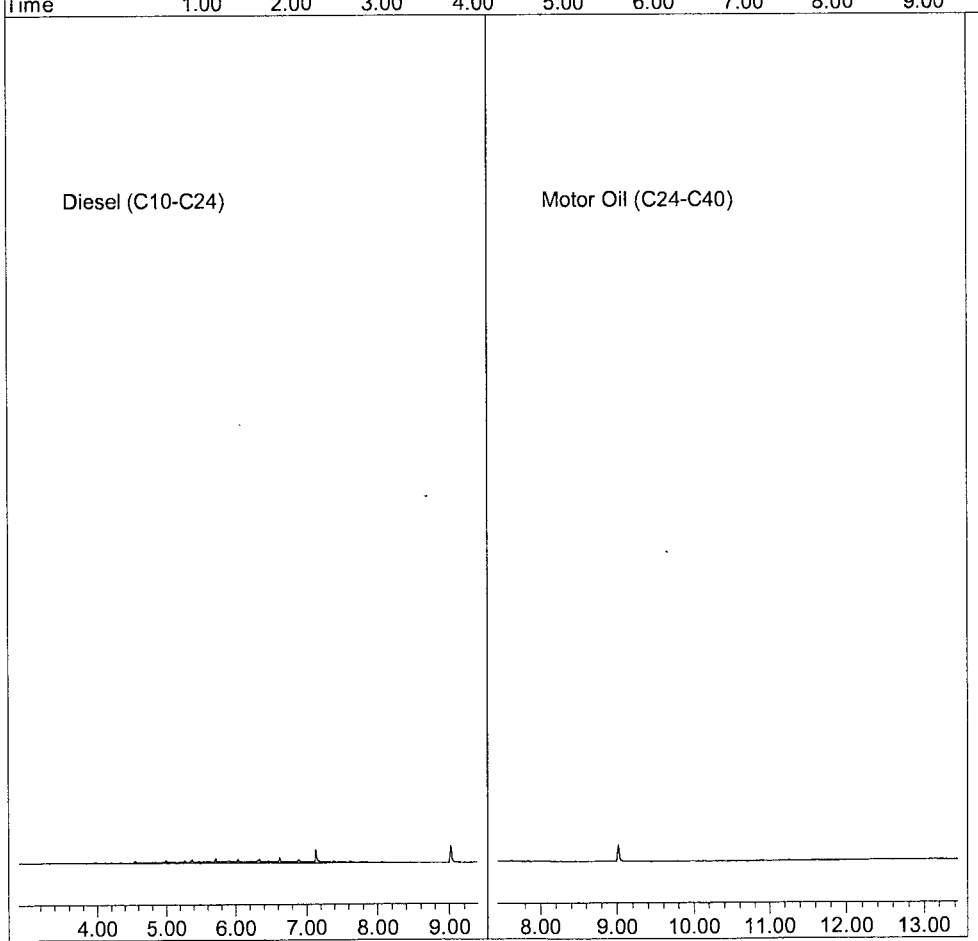
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

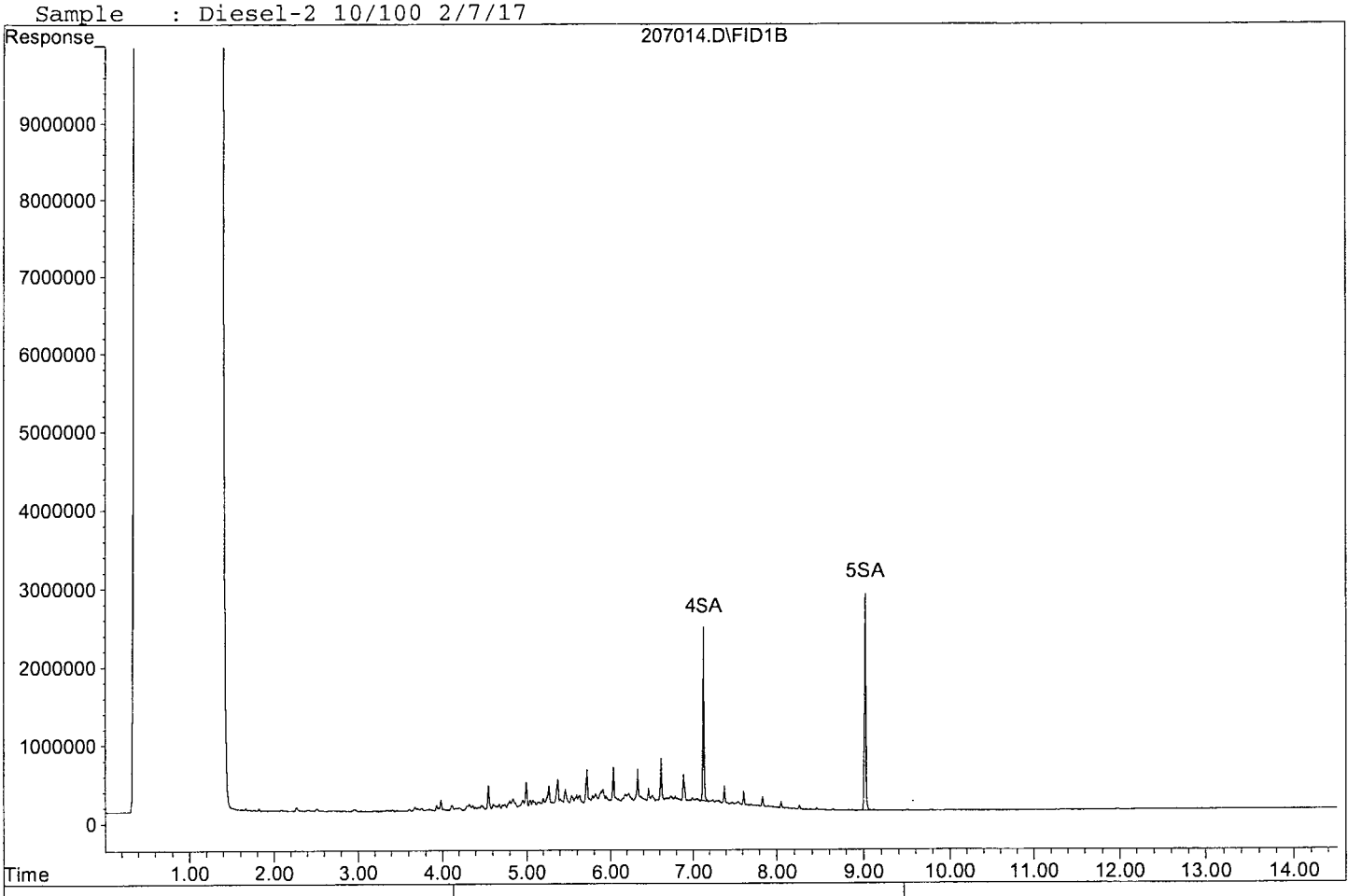
Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

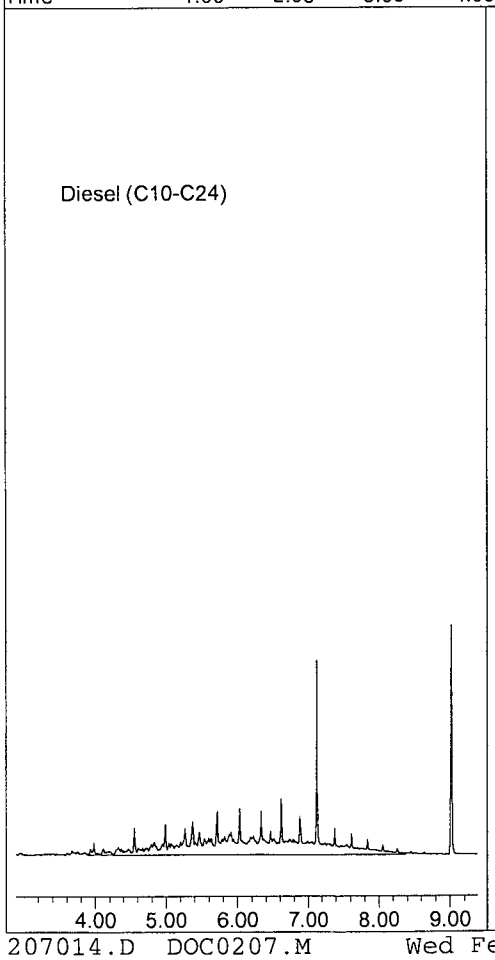
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

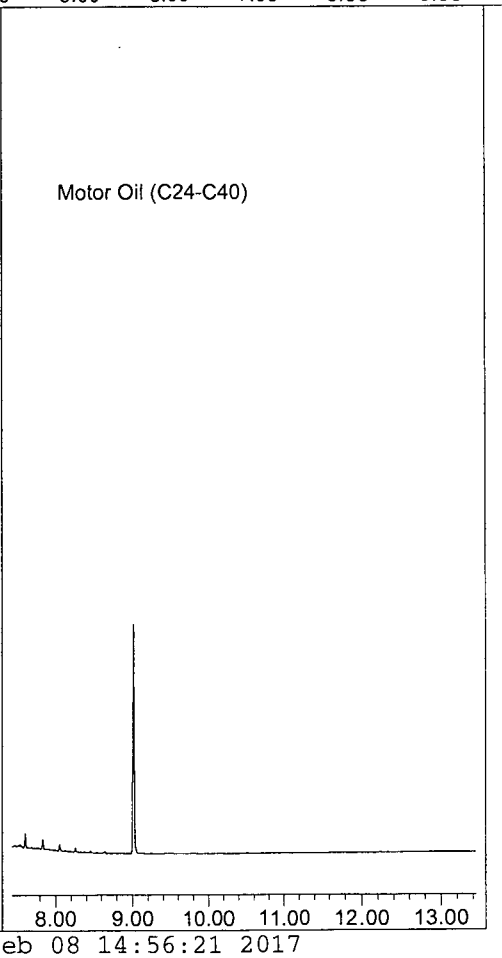
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

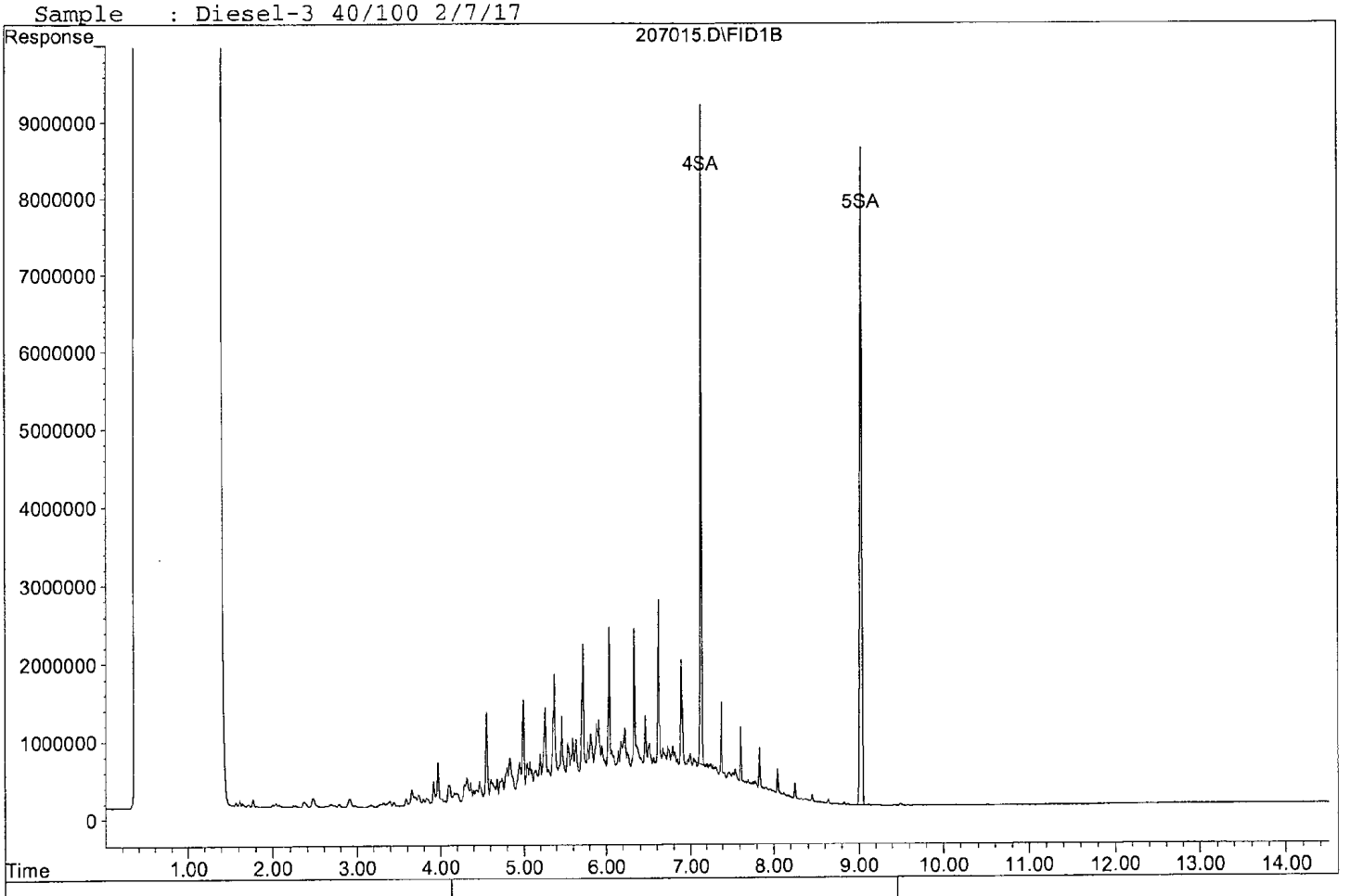
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

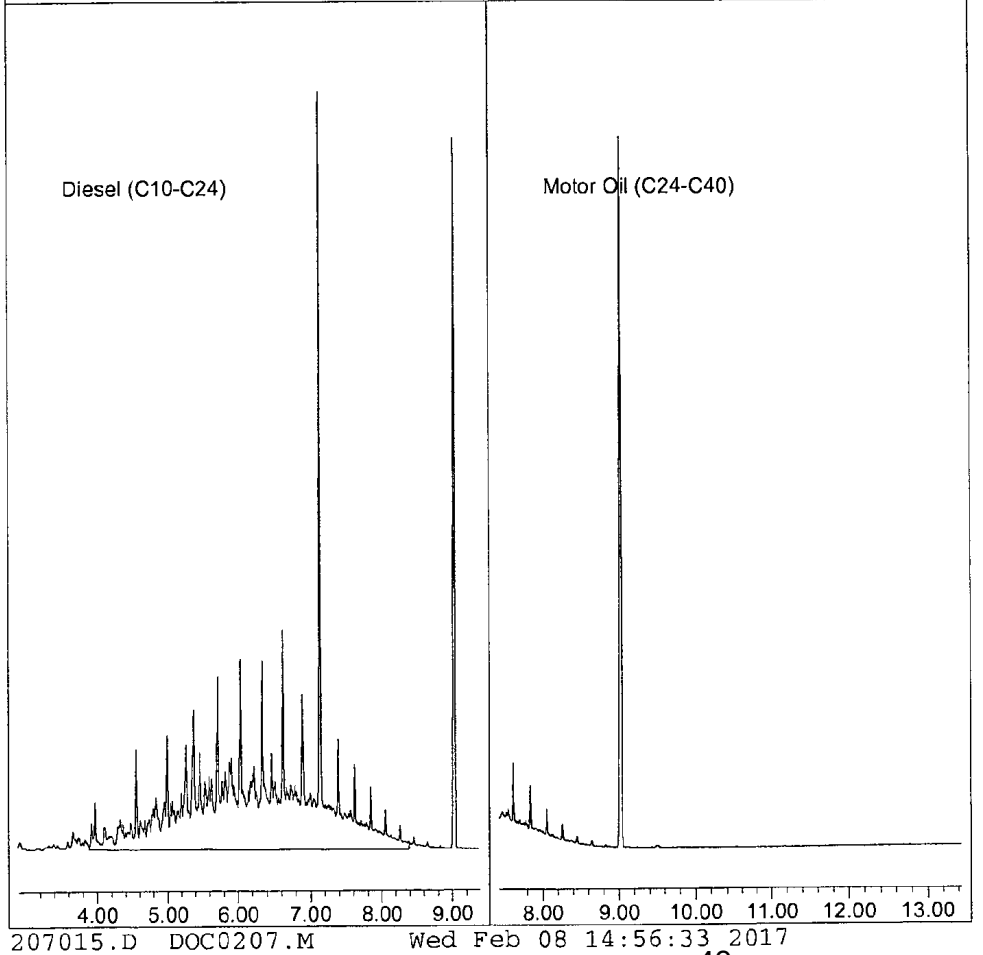
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D
Acq On : 2-7-17 14:55:35
Sample : Diesel-4 60/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

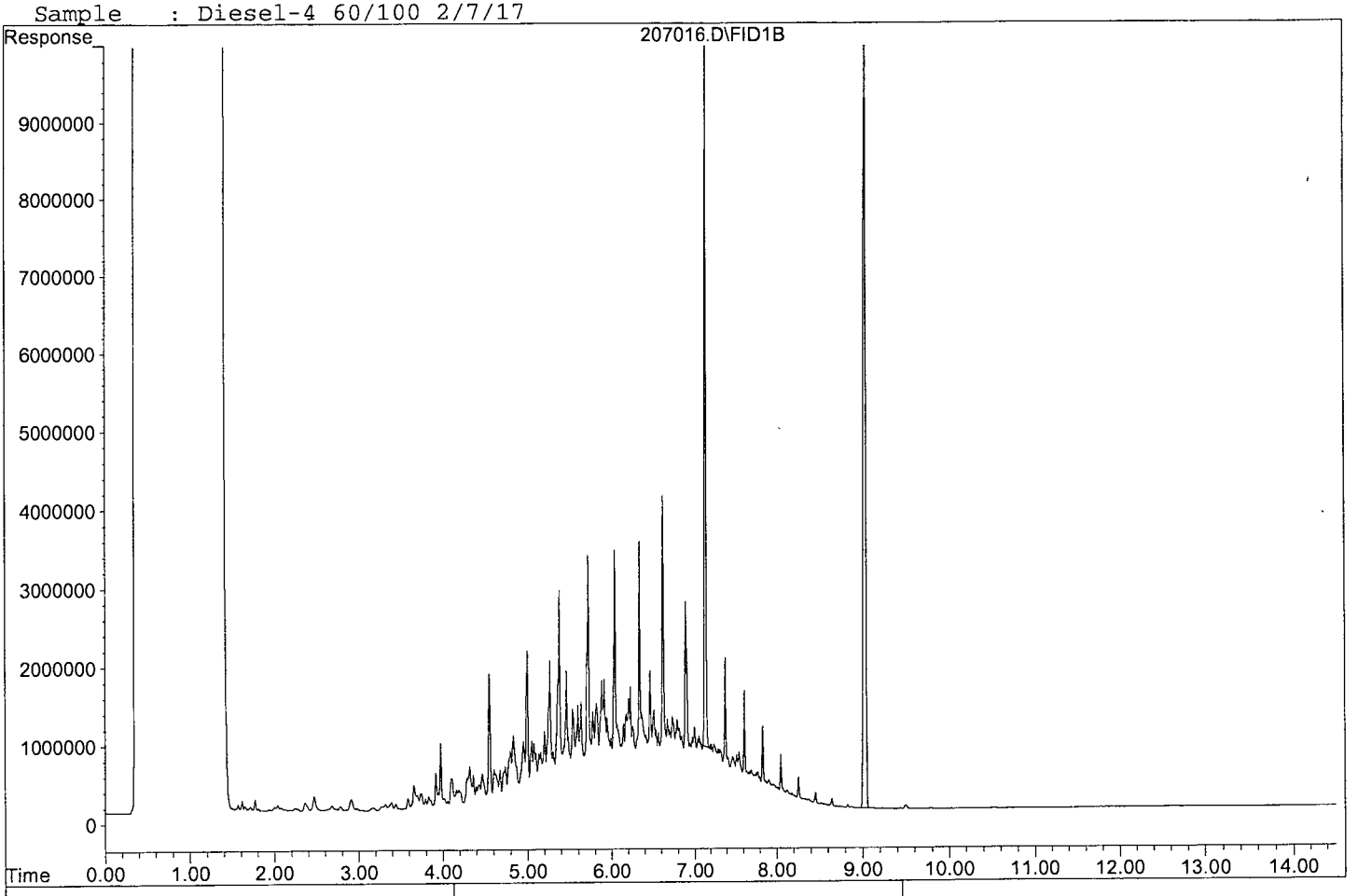
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

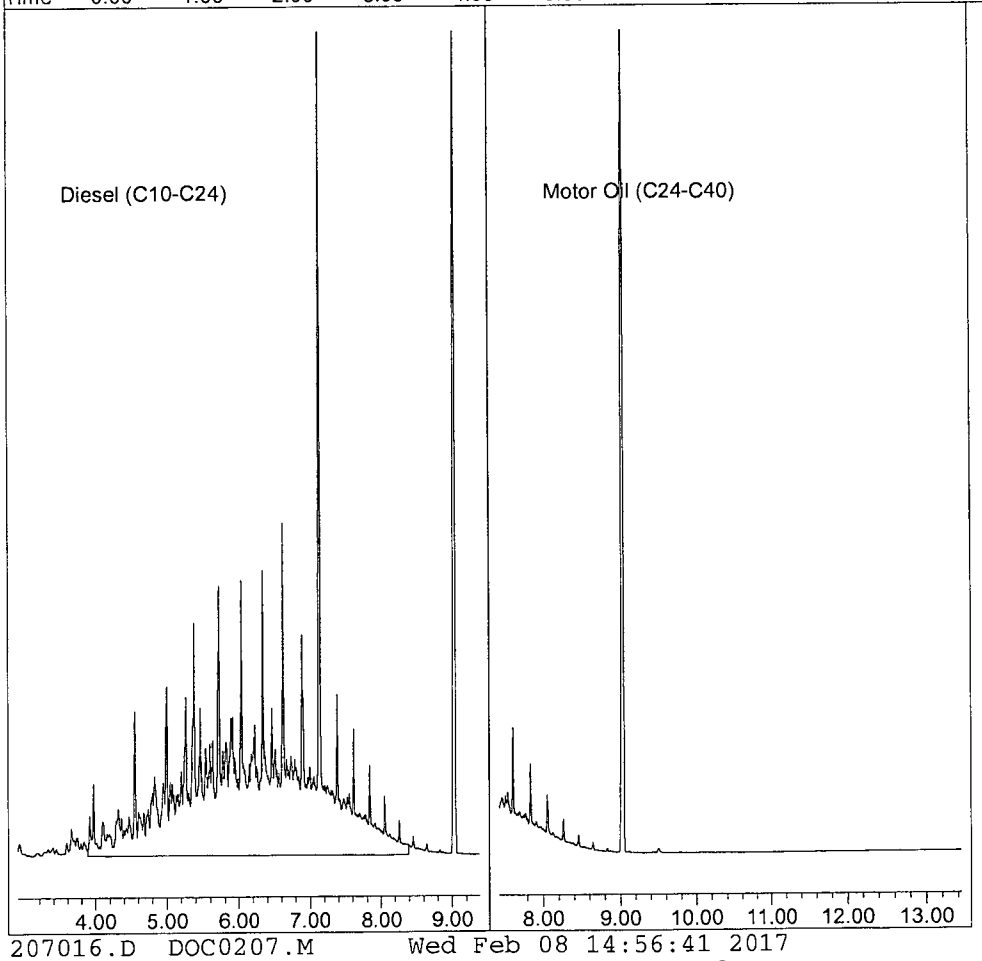
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	30.666 ppb
Surrogate Spike 30.000		Recovery =	102.22%
5) SA Octacosane(S)	9.04	190706691	30.368 ppb
Surrogate Spike 30.000		Recovery =	101.23%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D
Acq On : 2-7-17 15:16:16
Sample : Diesel-5 80/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

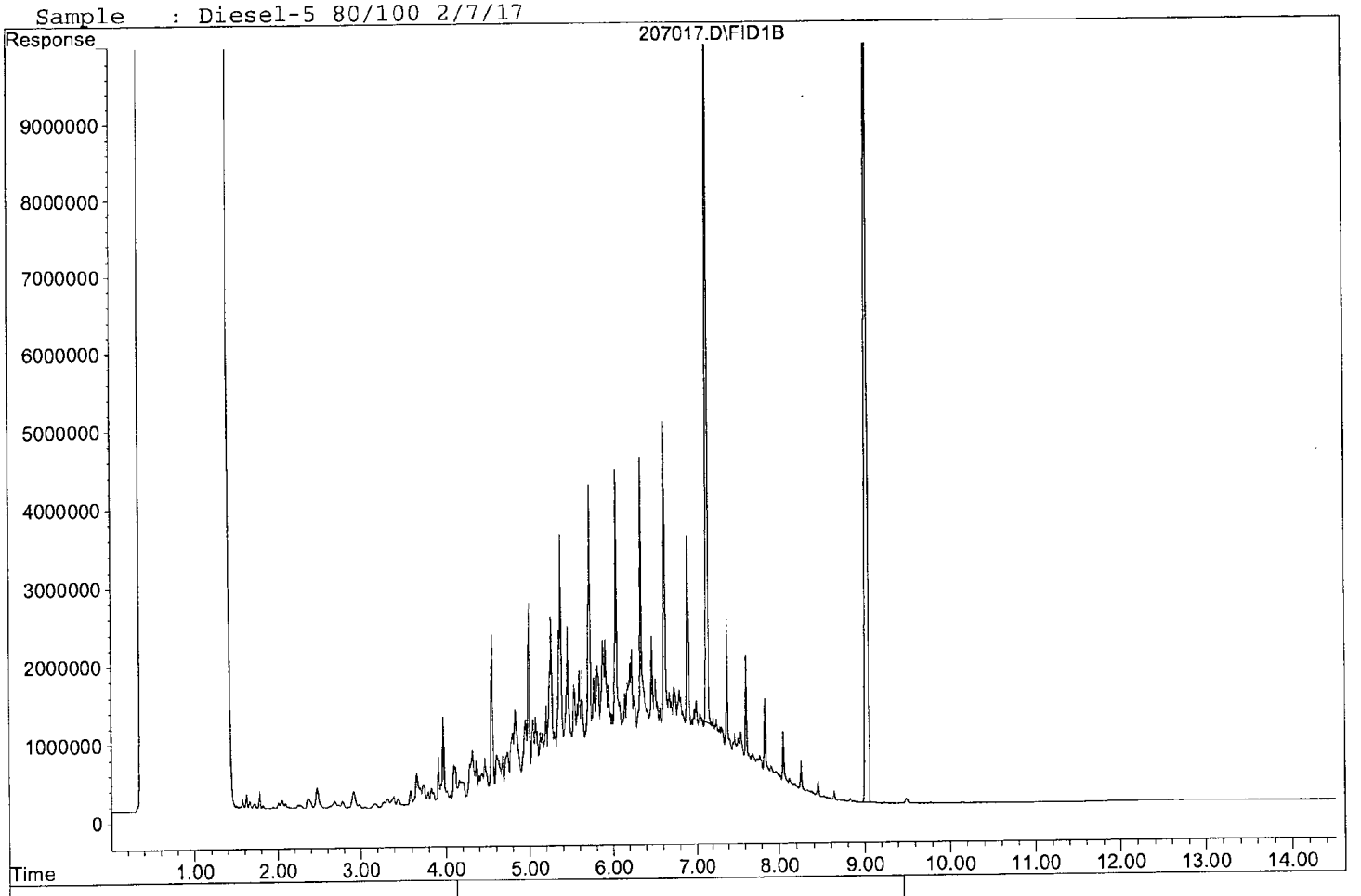
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

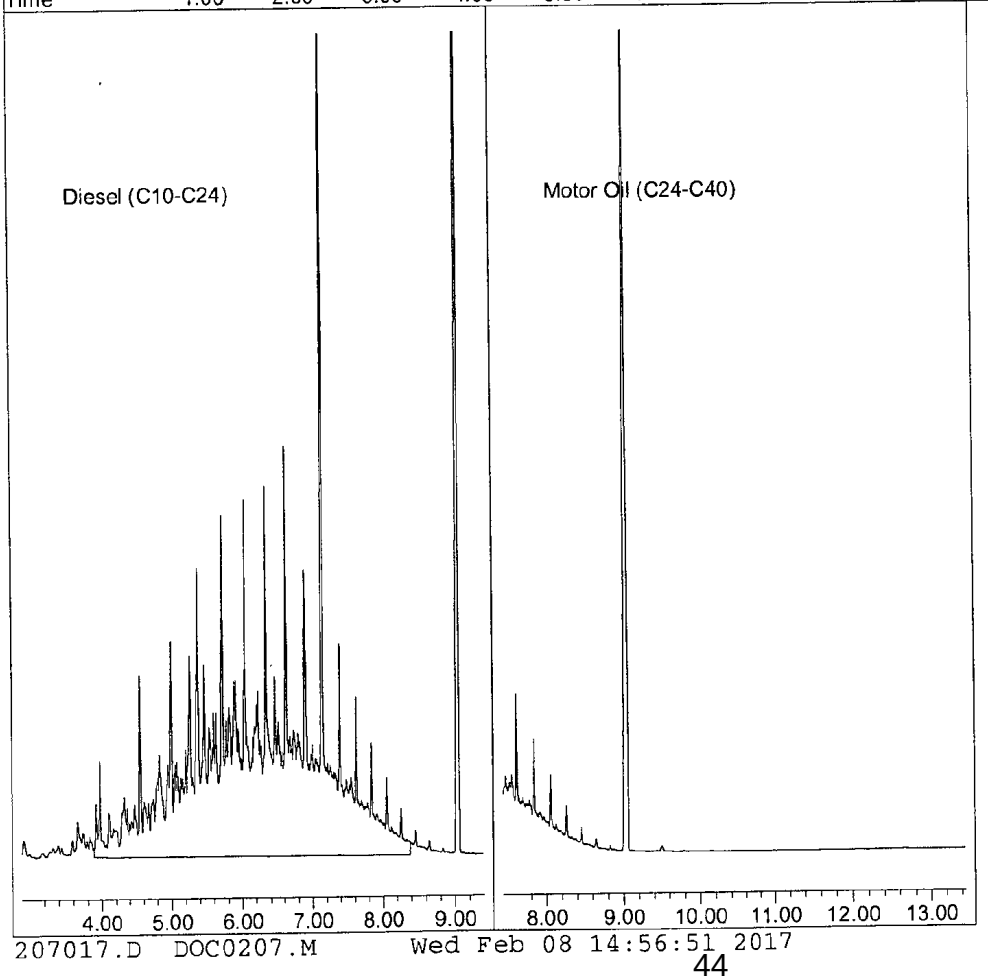
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D
Acq On : 2-7-17 15:36:59
Sample : Diesel-6 100/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

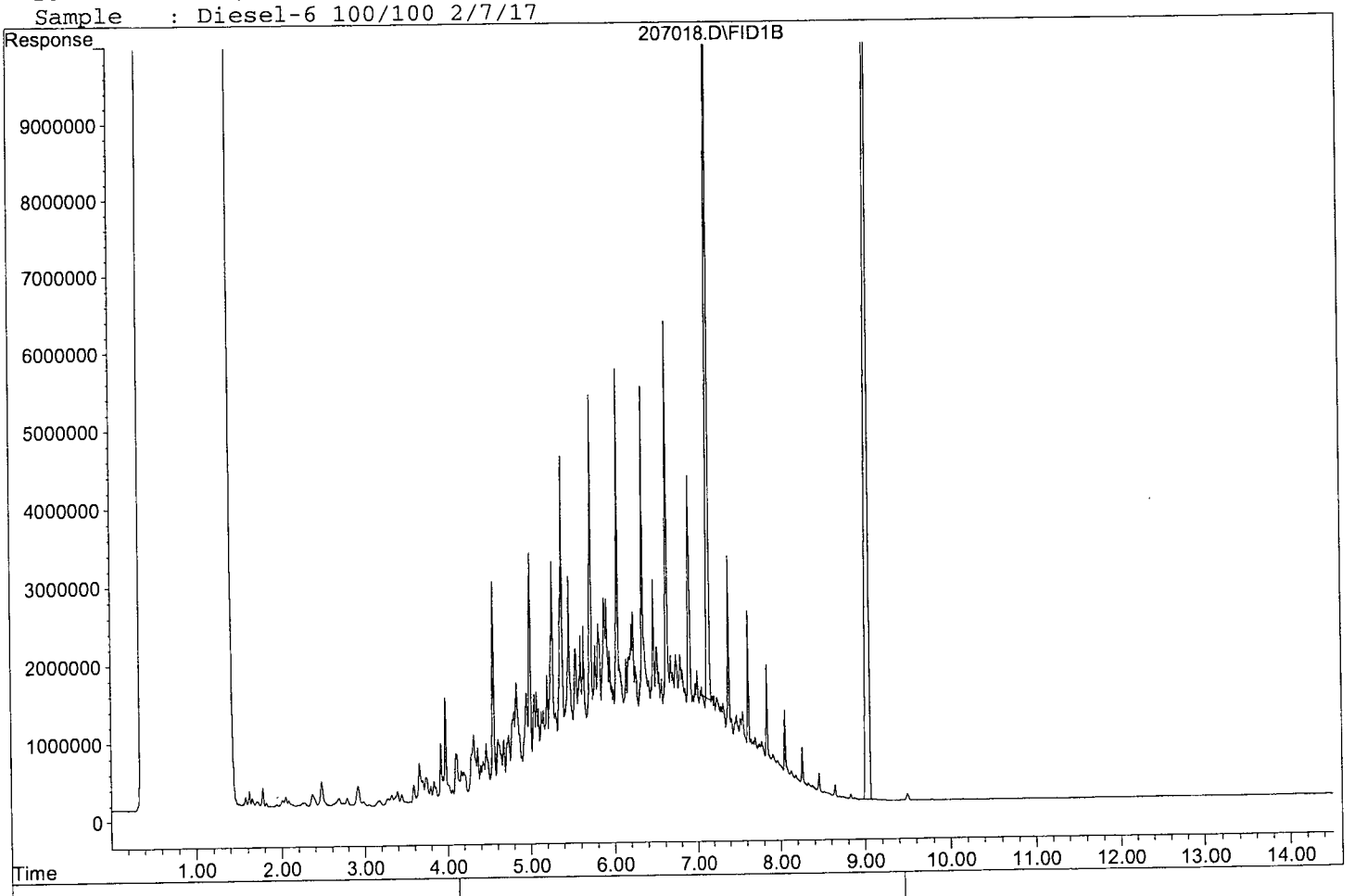
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

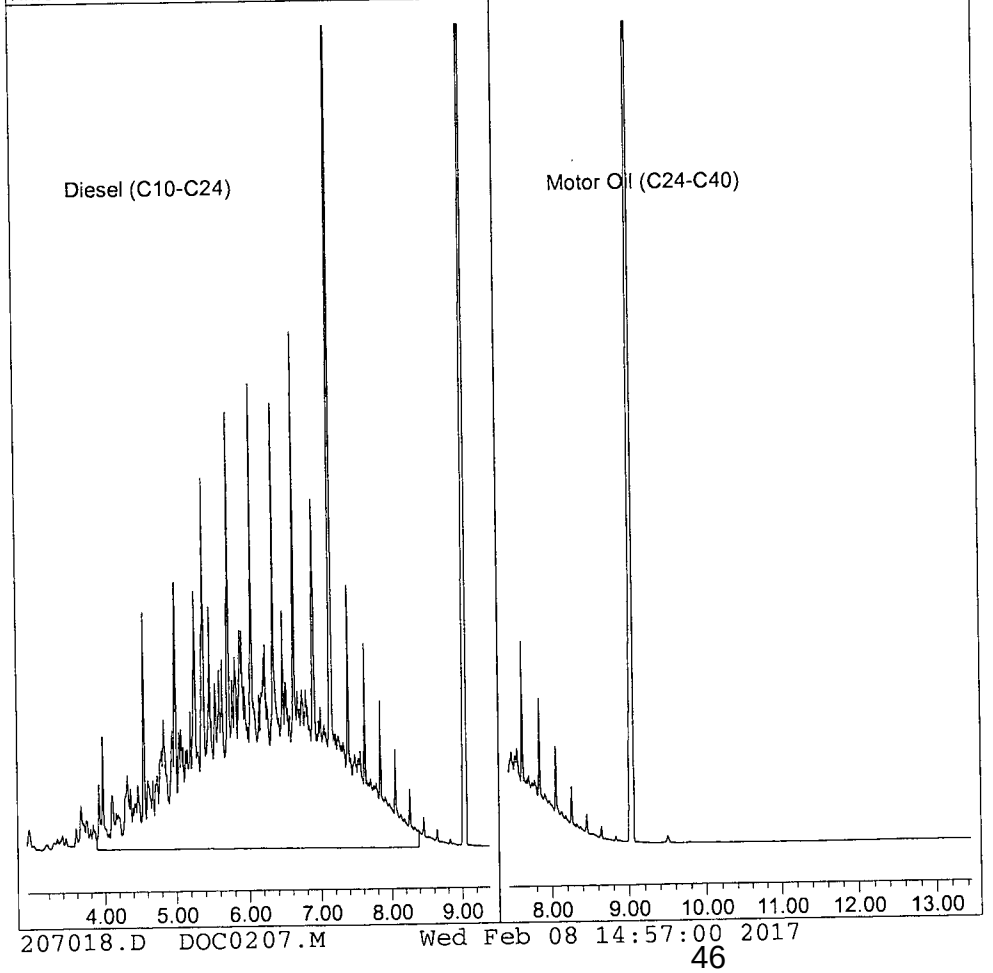
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D
Acq On : 2-7-17 16:18:18
Sample : Motor Oil-1 10/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 20
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

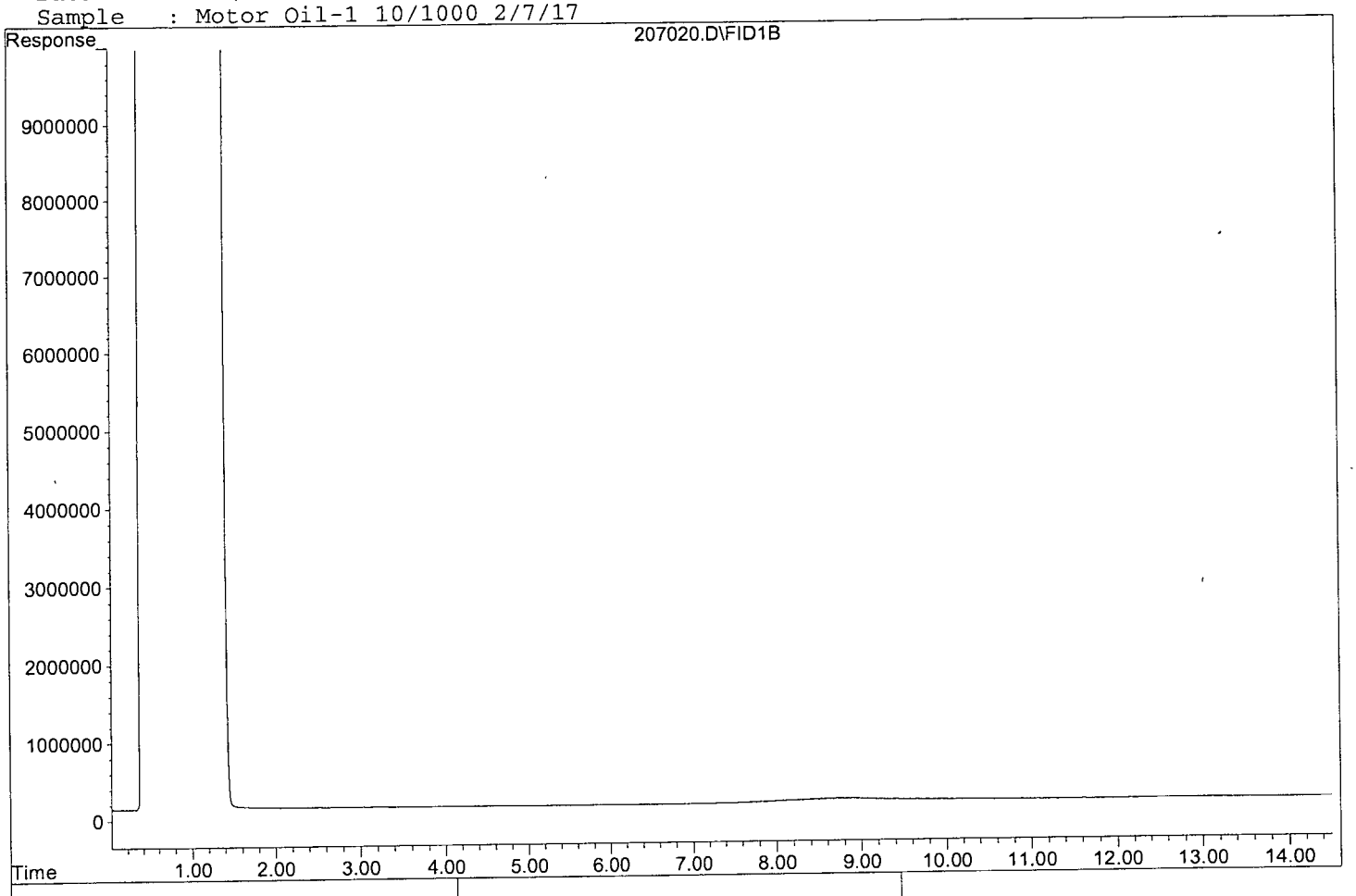
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

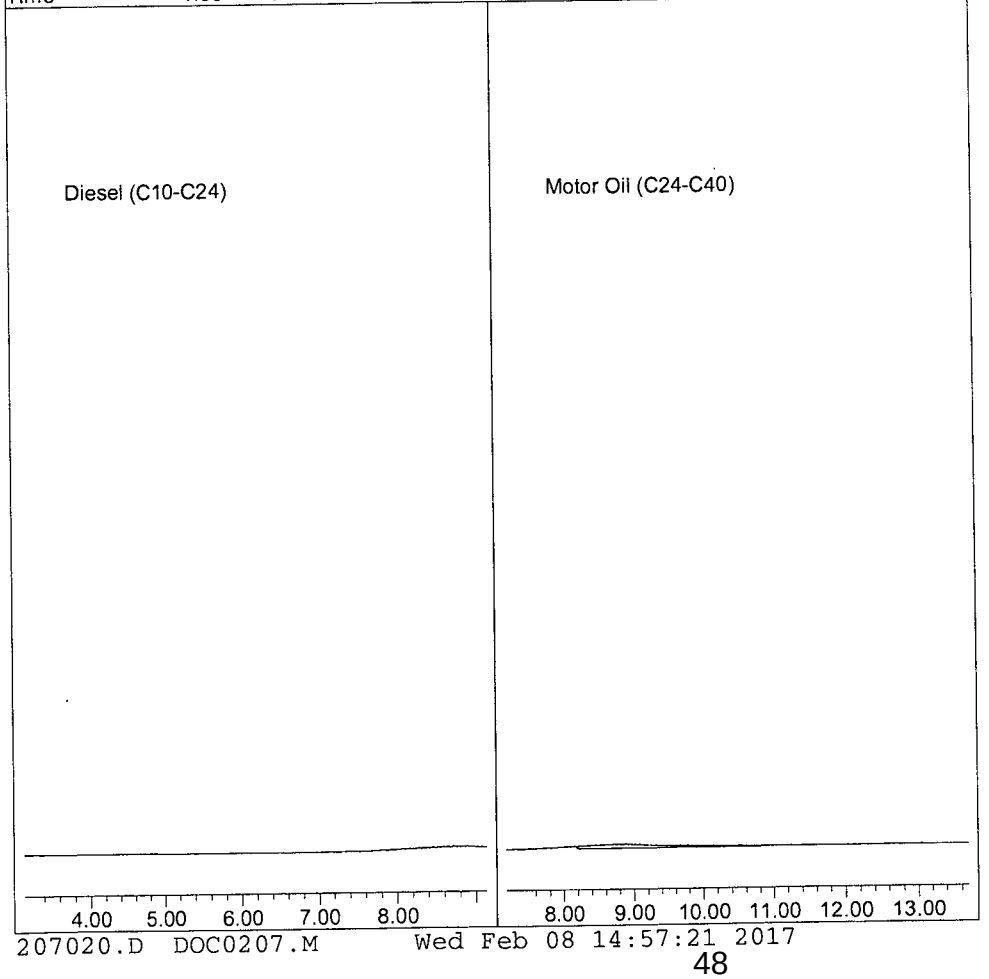
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D
Acq On : 2-7-17 16:39:03
Sample : Motor Oil-2 25/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 21
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

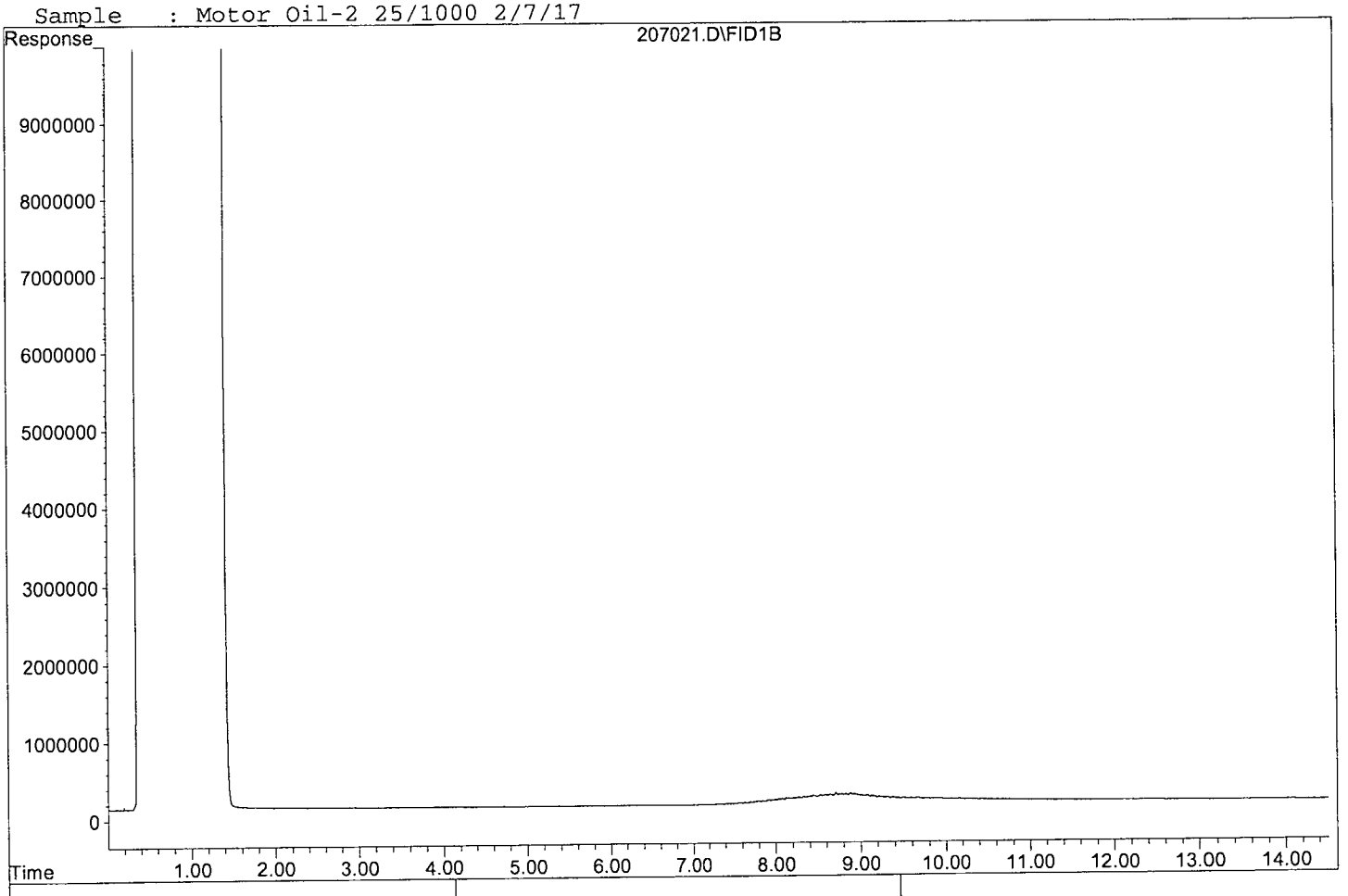
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

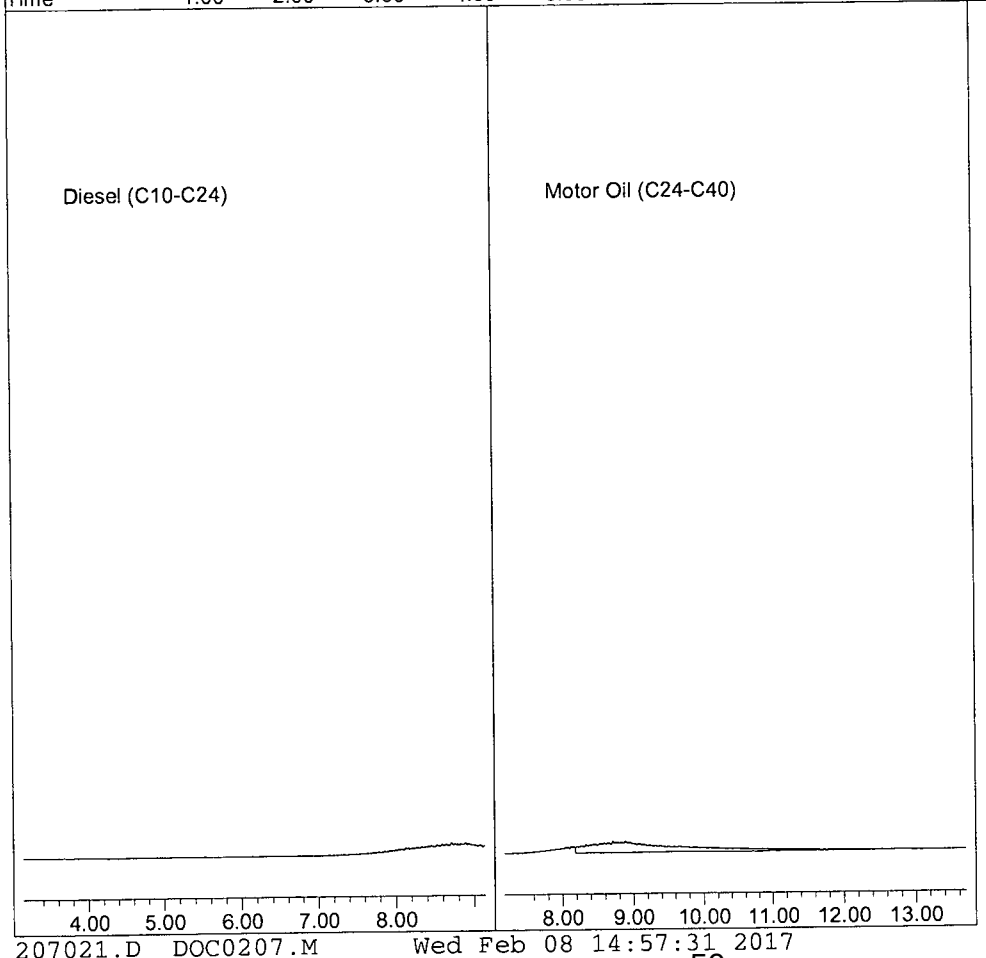
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D
Acq On : 2-7-17 16:59:39
Sample : Motor Oil-3 125/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

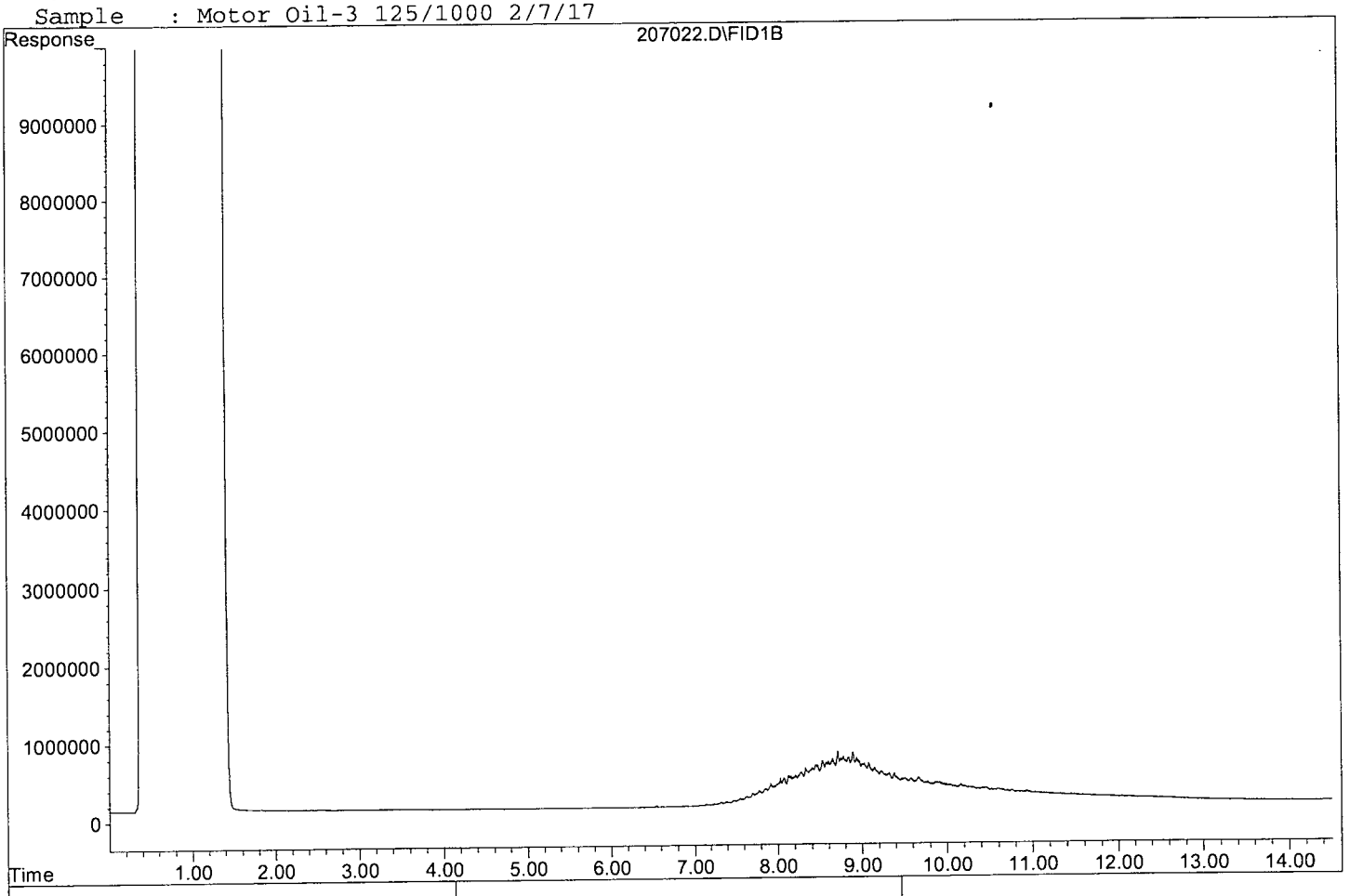
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

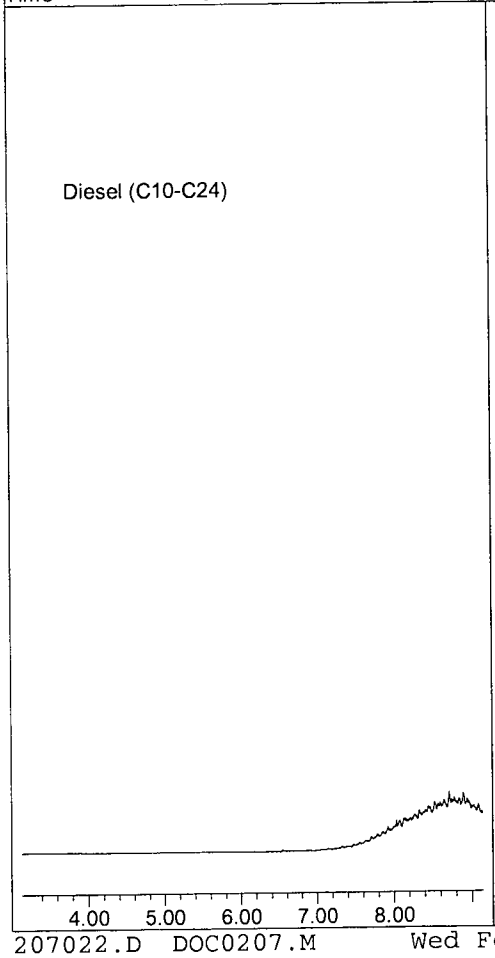
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

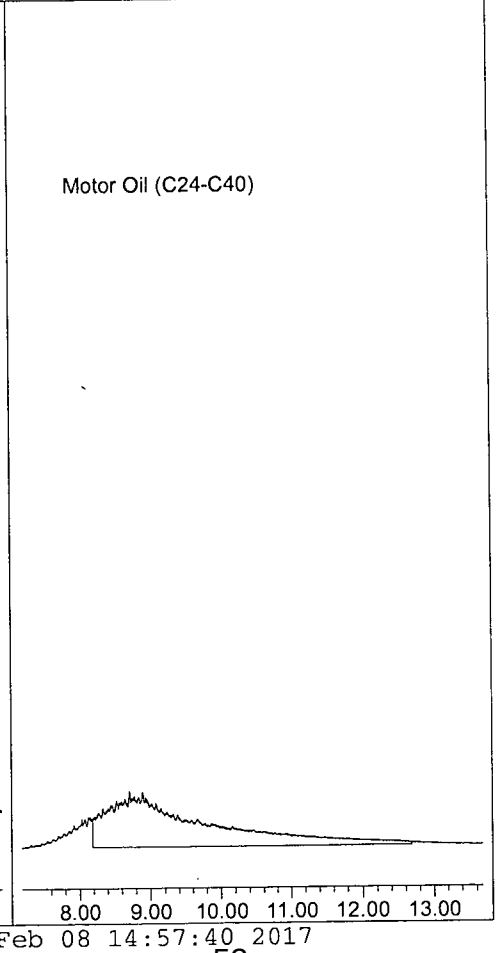
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D
Acq On : 2-7-17 17:20:17
Sample : Motor Oil-4 50/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 23
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

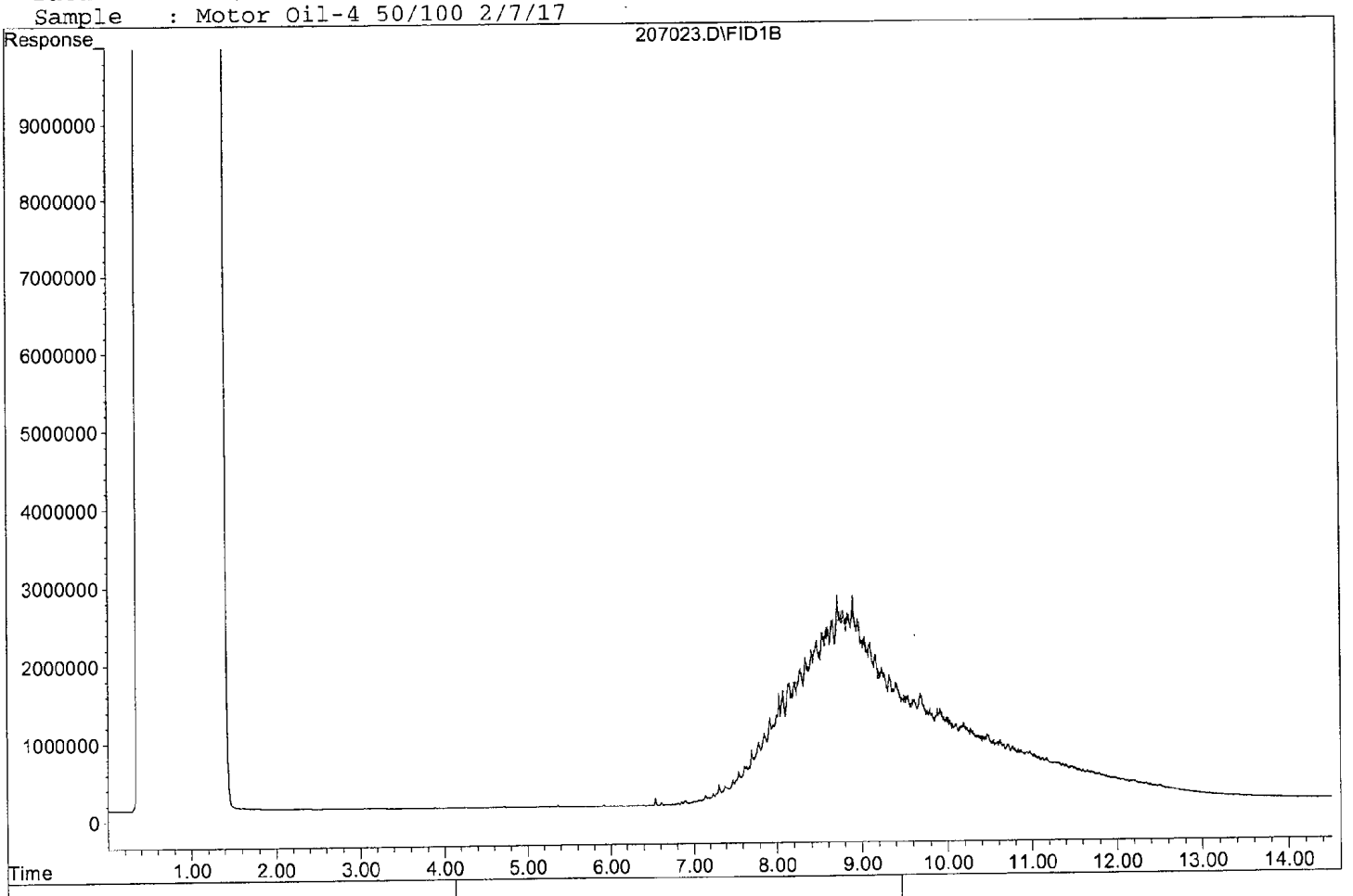
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

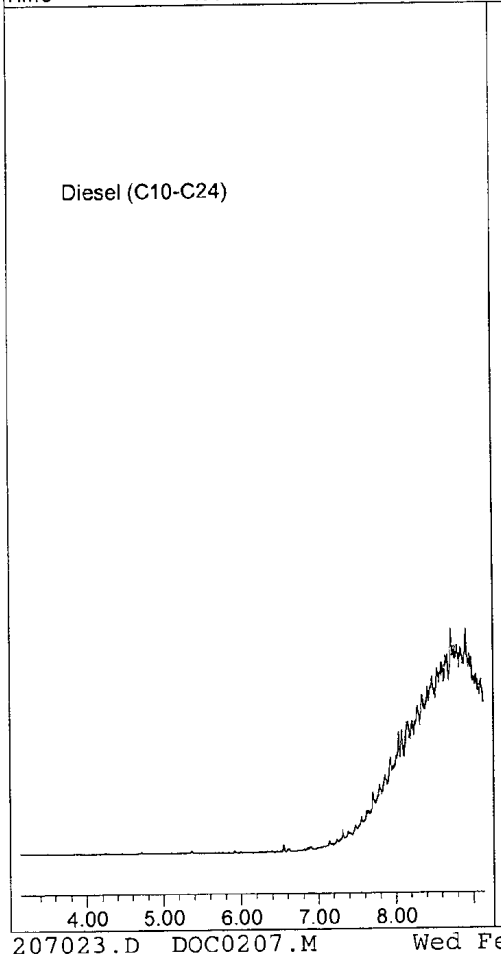
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382 ppb

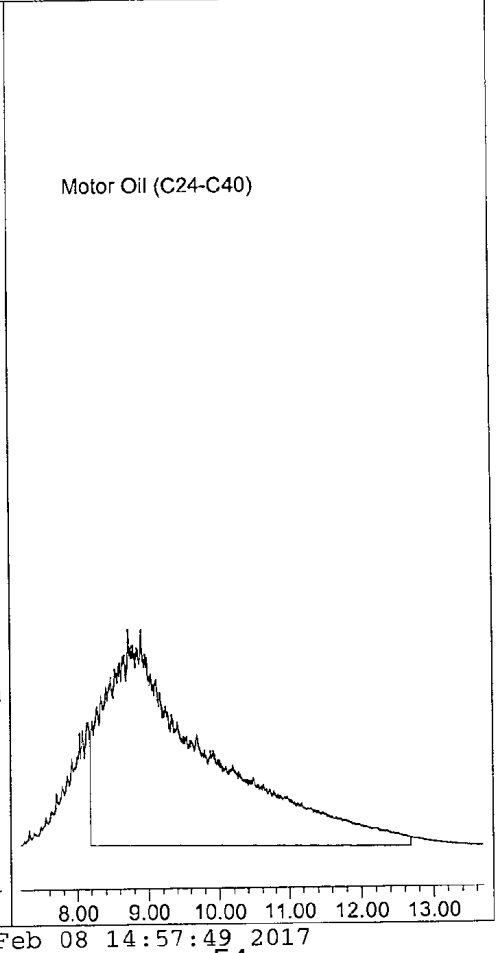
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D
Acq On : 2-7-17 17:40:44
Sample : Motor Oil-5 75/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 24
Operator: DP
Inst : Apollo
Multiplr: 1.00

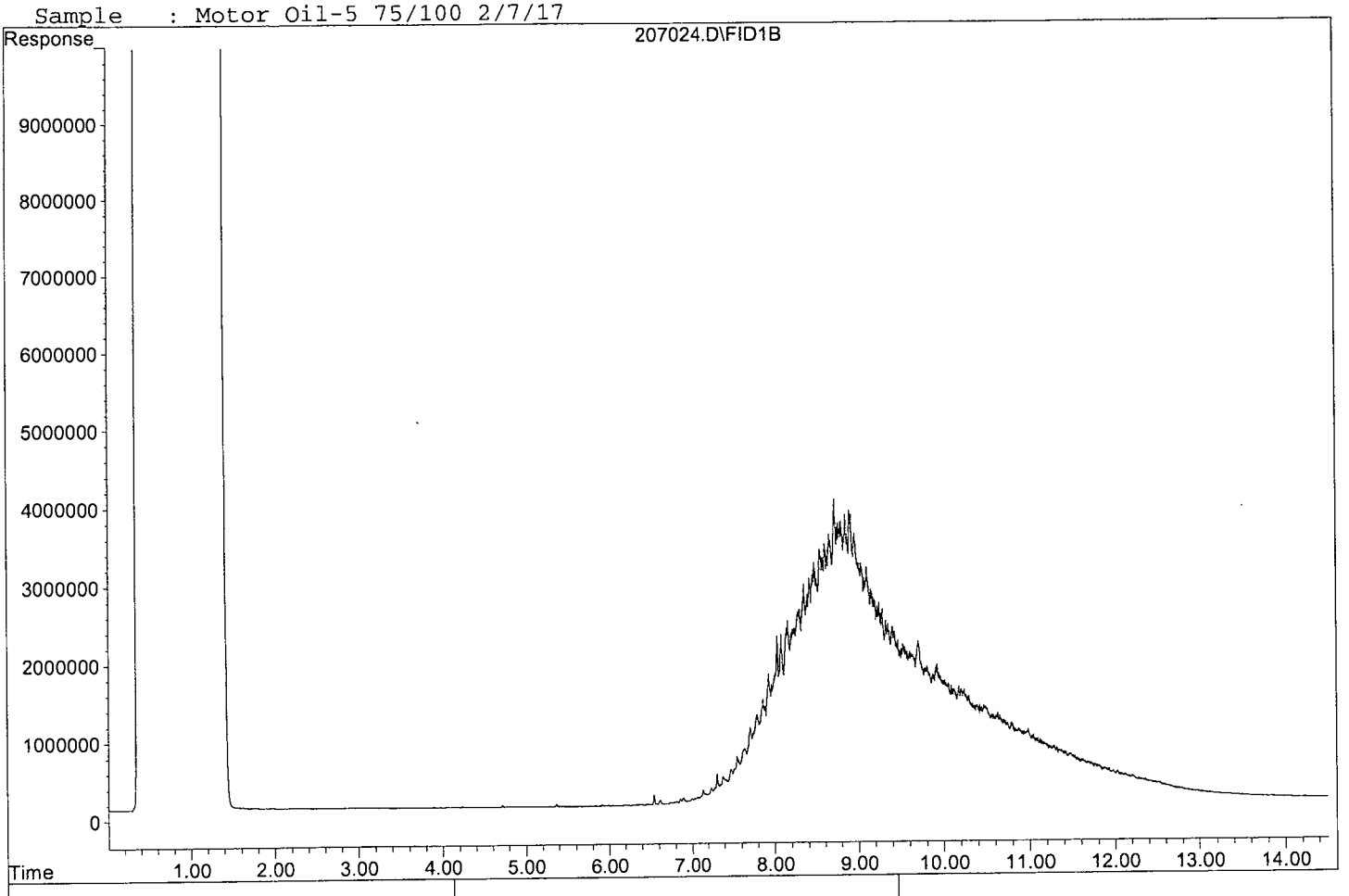
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

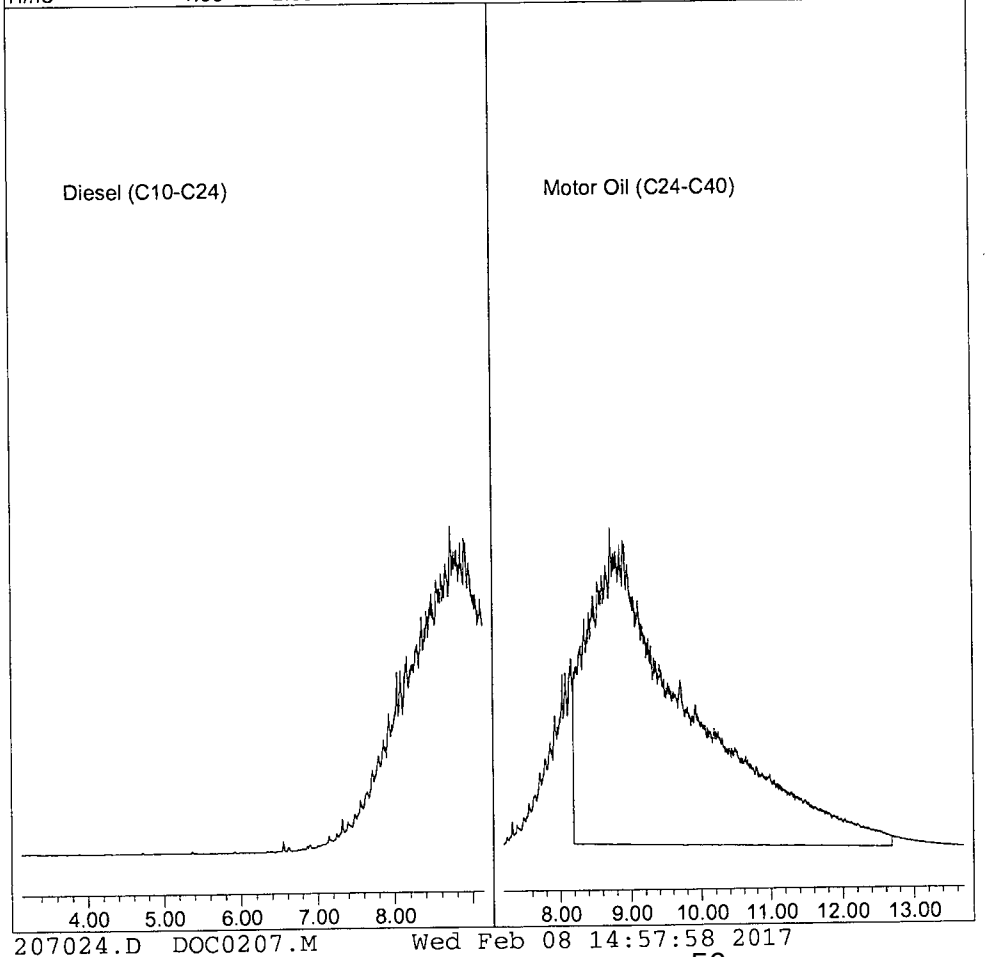
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





207024.D DOC0207.M Wed Feb 08 14:57:58 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D
Acq On : 2-7-17 18:01:11
Sample : Motor Oil-6 100/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

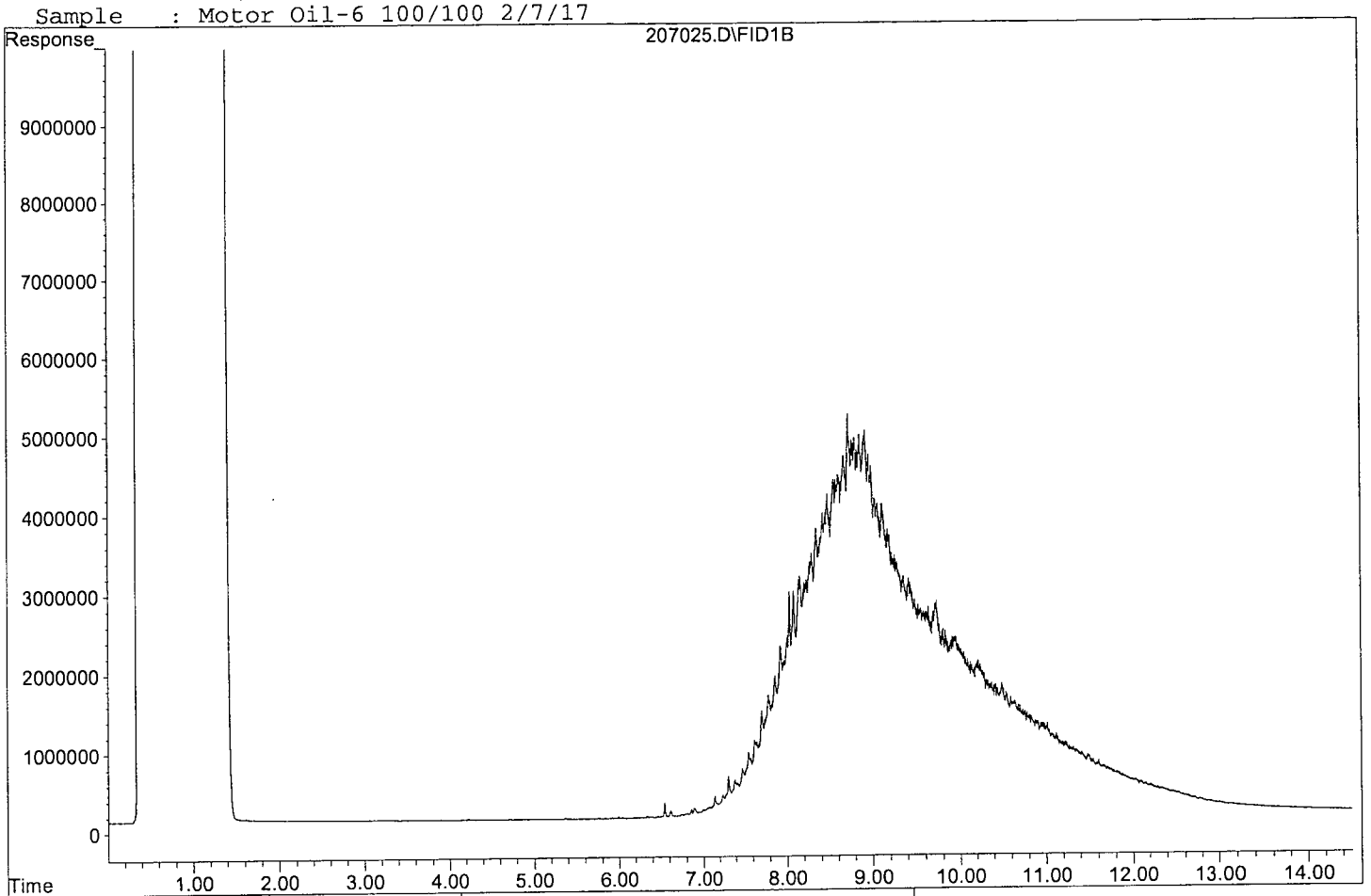
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

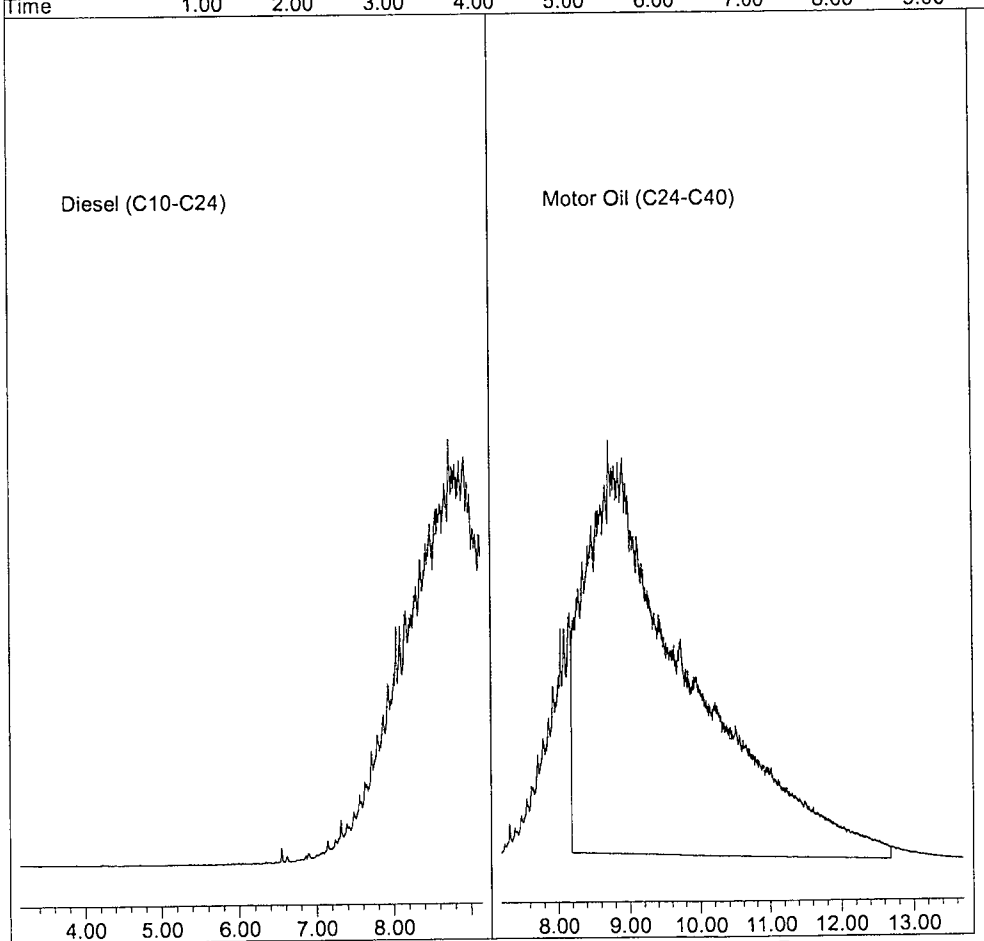
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17





TPH Extractables
DOC0207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 207019.D (Diesel) 207026.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
4							
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38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:53 2017 Quant Results File: DOC0207.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

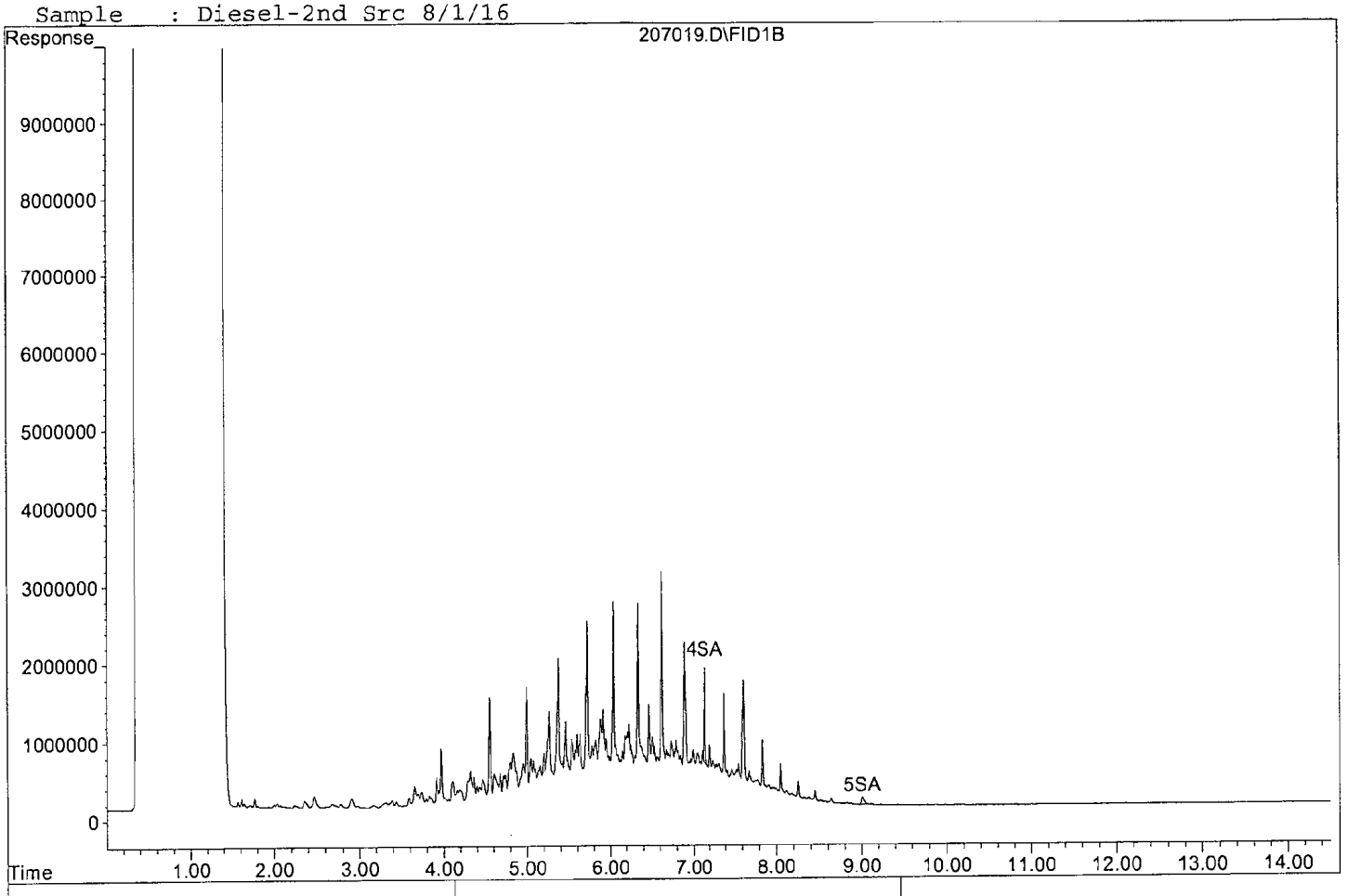
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.591 ppb
Surrogate Spike 30.000	Recovery	=	8.64%
5) SA Octacosane(S)	9.01	2024928	0.322 ppb
Surrogate Spike 30.000	Recovery	=	1.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

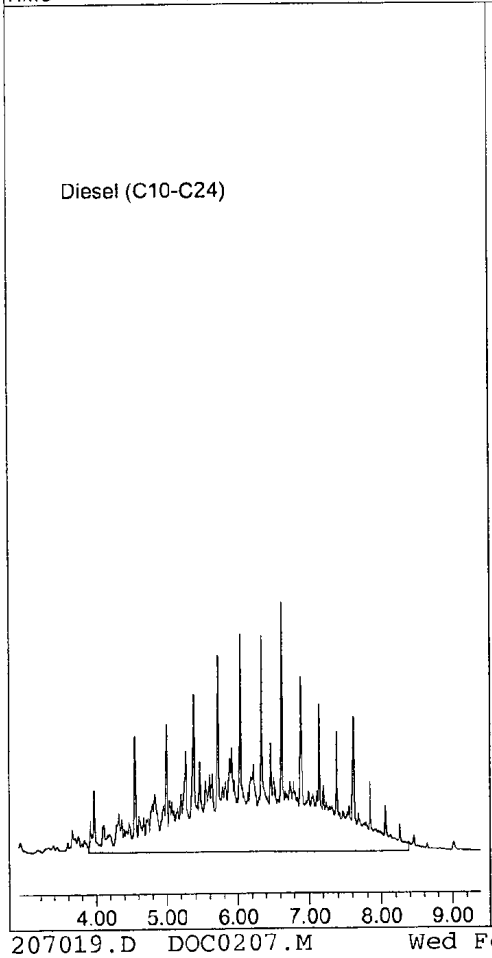
algorithm check: $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

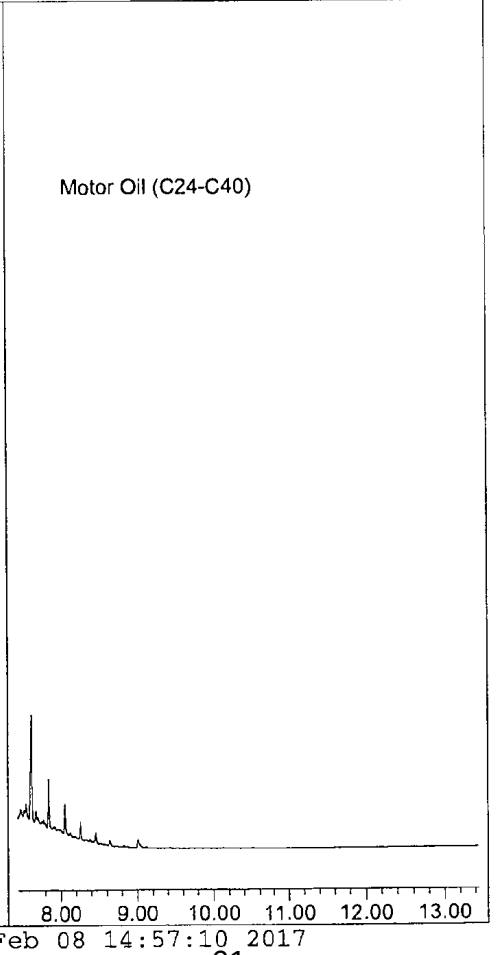
D.P. 2/9/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

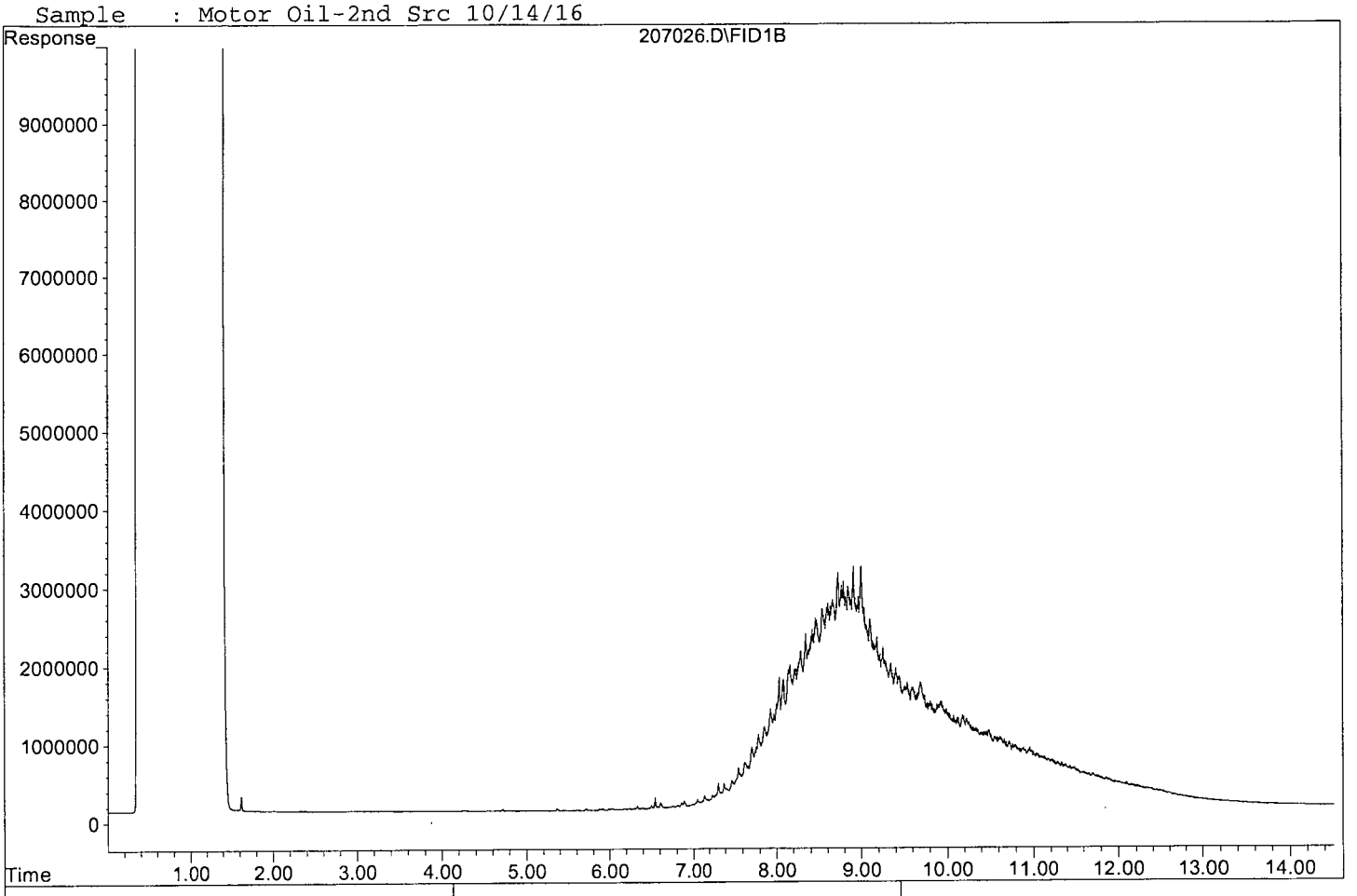
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

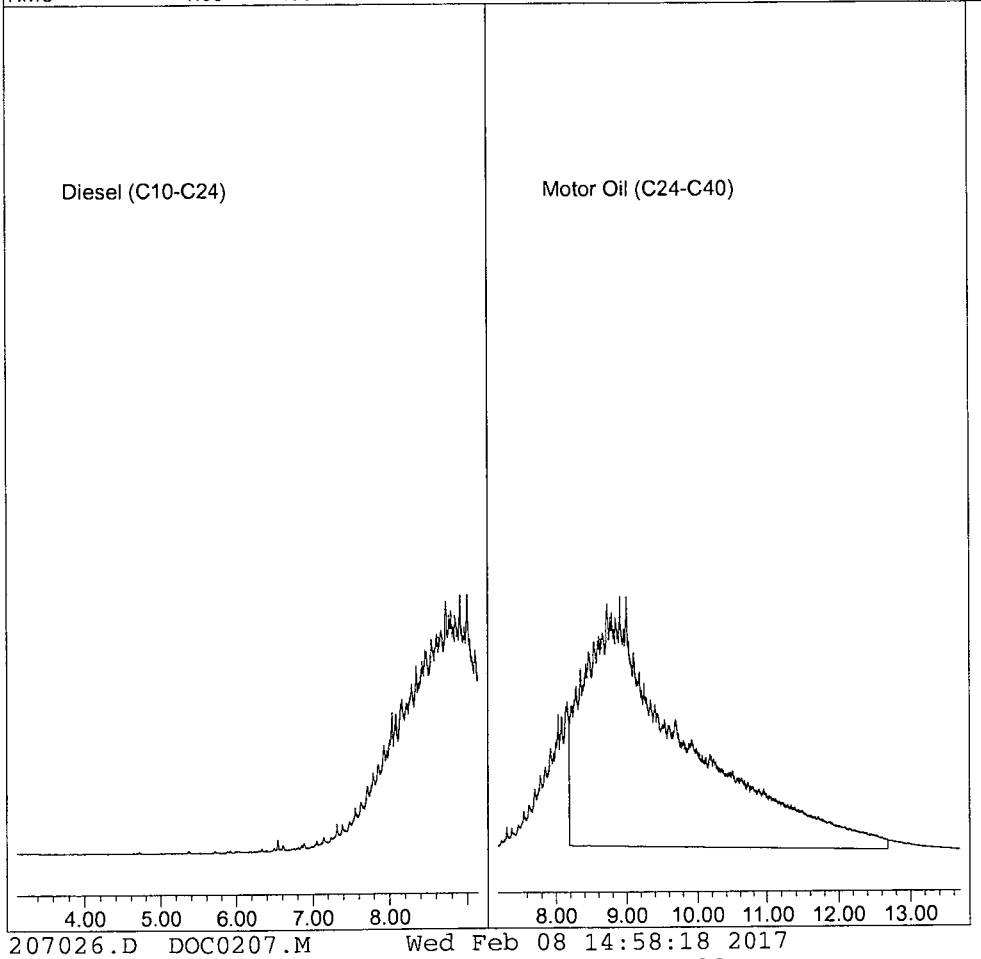
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216002,4.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1647860	0.88	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1301900	5.9	HBTM	
3							
4							
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35							
36							
37							
38							
39							
40							
		Average			3.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216002.D Vial: 2
Acq On : 2-16-17 10:40:21 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:06 2017 Quant Results File: DOC0207.RES

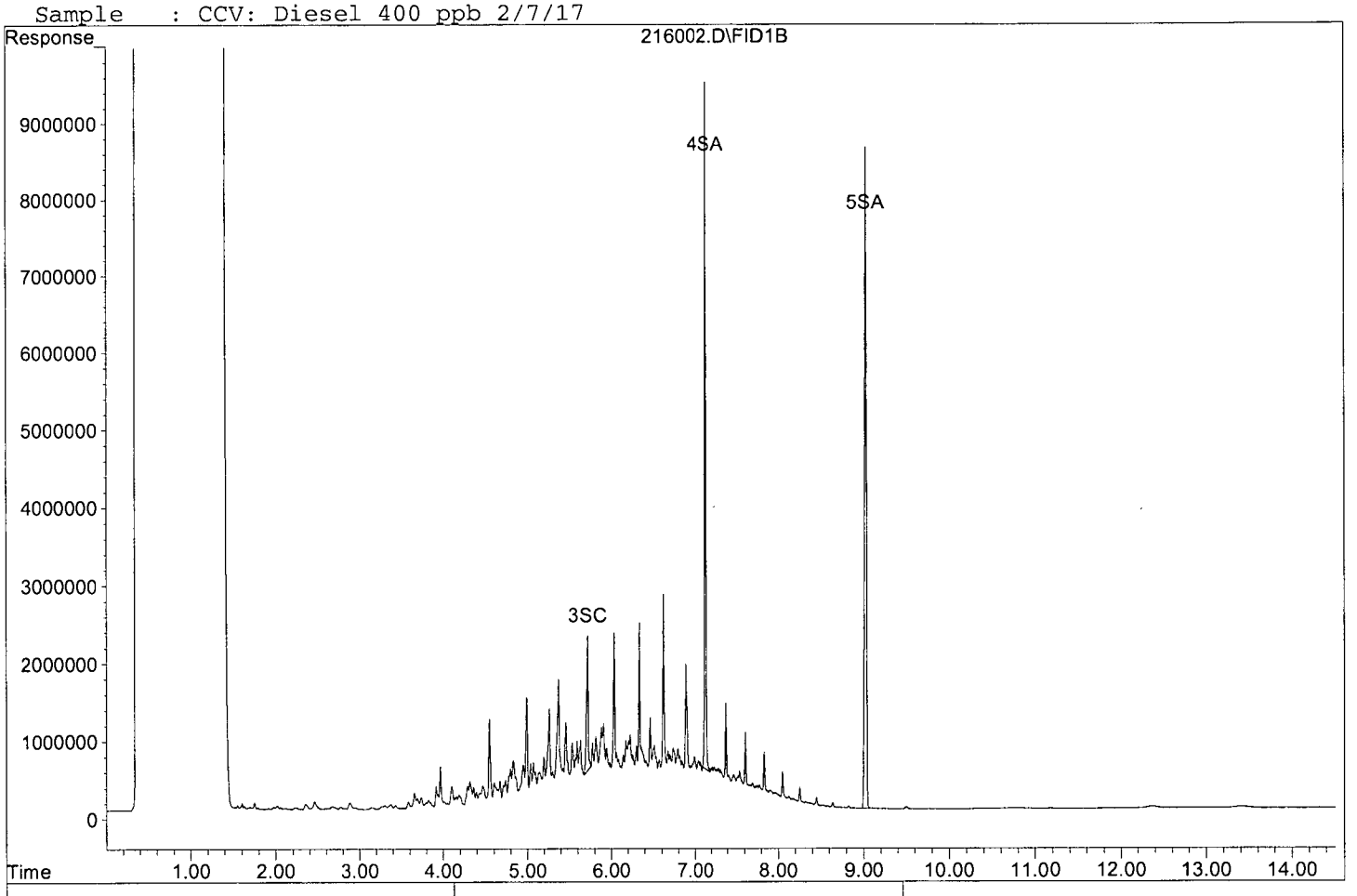
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

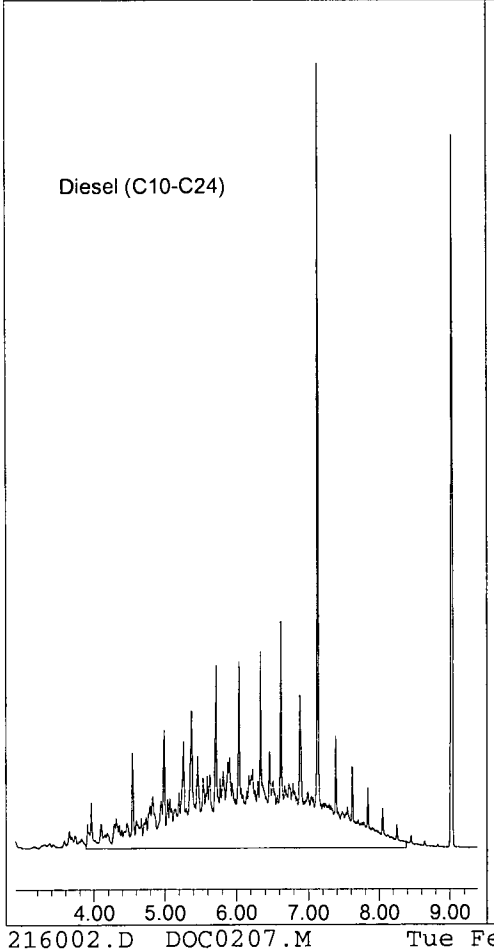
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

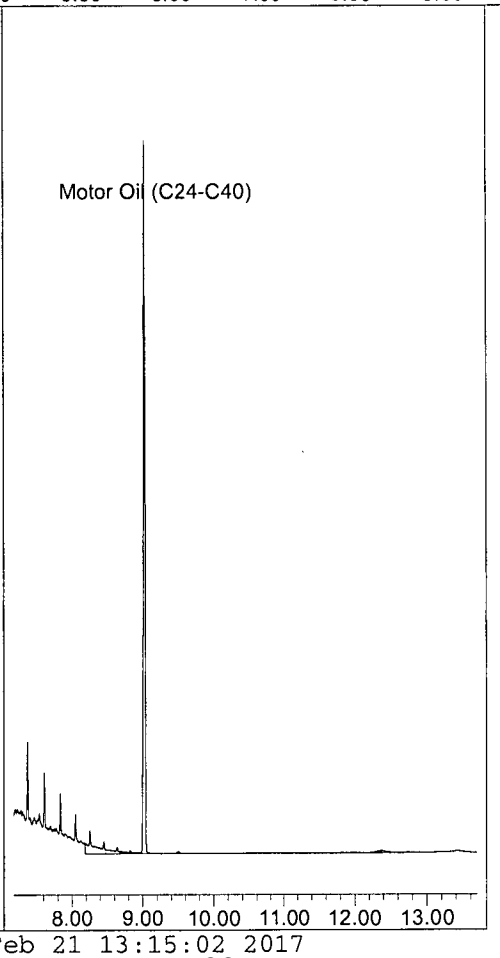
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22462013	18.364 ppb
Surrogate Spike 48.000		Recovery =	38.26%
4) SA Ortho-Terphenyl(S)	7.13	87261949	20.417 ppb
Surrogate Spike 30.000		Recovery =	68.06%
5) SA Octacosane(S)	9.03	124093987	19.761 ppb
Surrogate Spike 30.000		Recovery =	65.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1318285777	403.509 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36852242	14.989 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216002.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216004.D Vial: 4
Acq On : 2-16-17 11:21:15 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:37 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

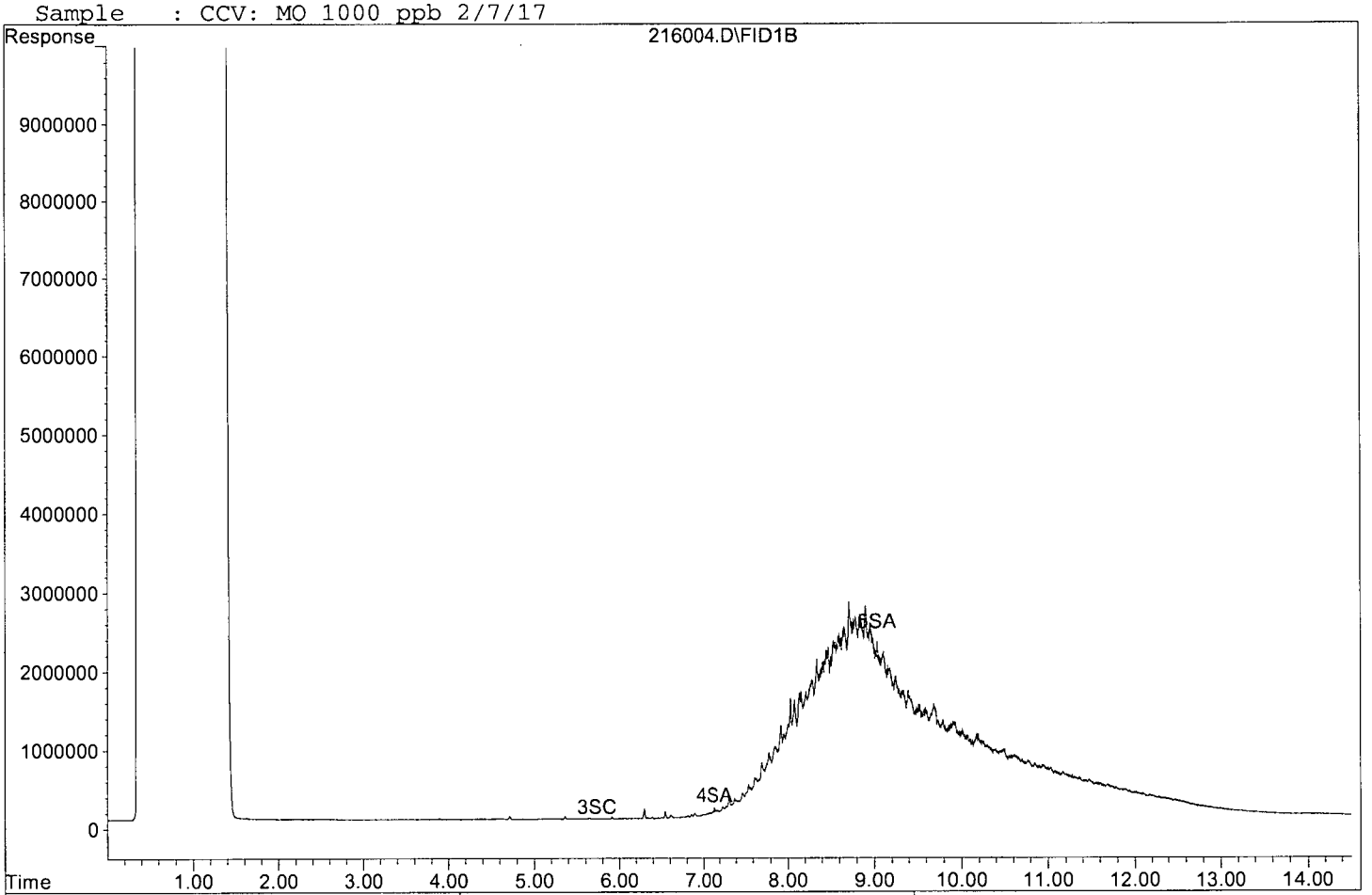
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

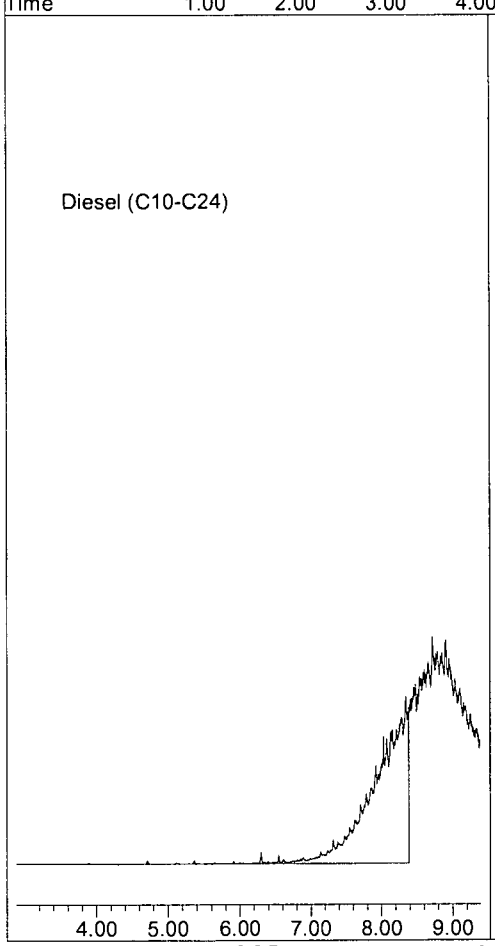
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	12881	0.011 ppb
Surrogate Spike 48.000		Recovery =	0.02%
4) SA Ortho-Terphenyl(S)	7.14	180189	0.042 ppb
Surrogate Spike 30.000		Recovery =	0.14%
5) SA Octacosane(S)	9.03	1595814	0.254 ppb
Surrogate Spike 30.000		Recovery =	0.85%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	620821202	190.025 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2603806075	1059.057 ppb

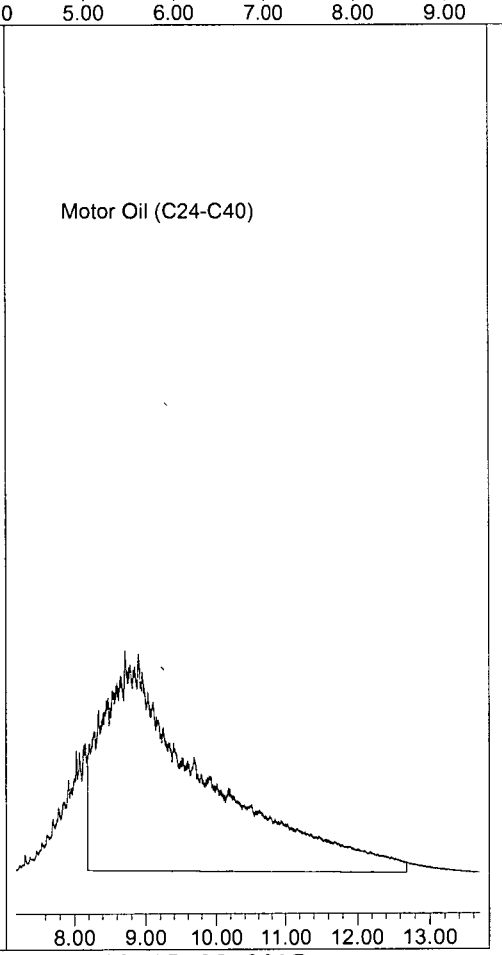
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170216\216004.D
Sample : CCV: MO 1000 ppb 2/7/17







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216022-23.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1643380	0.60	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1258130	2.3	HBTM	
3							
4							
5							
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35							
36							
37							
38							
39							
40							
		Average			1.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216022.D Vial: 22
Acq On : 2-16-17 17:30:07 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:38 2017 Quant Results File: DOC0207.RES

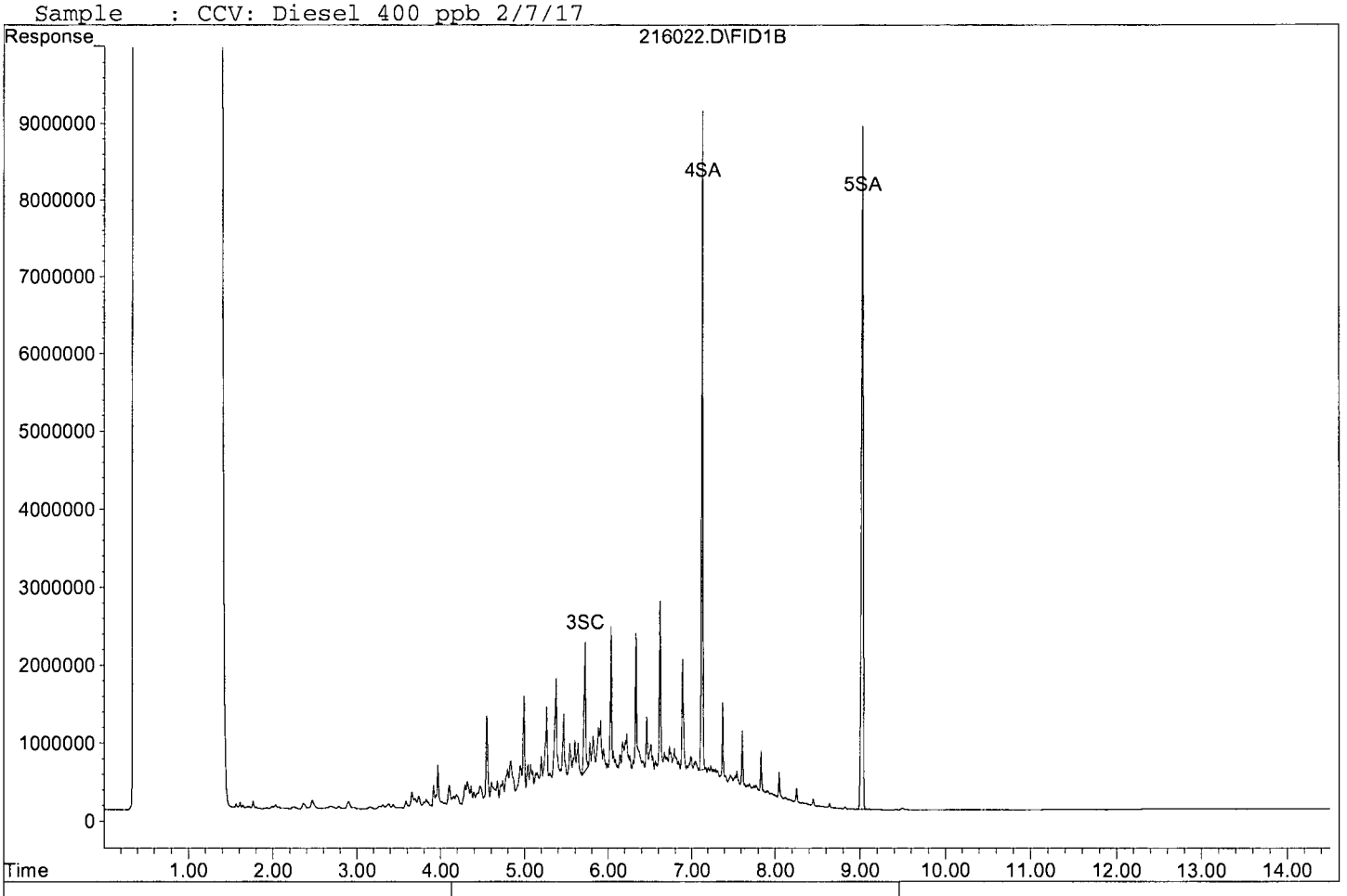
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

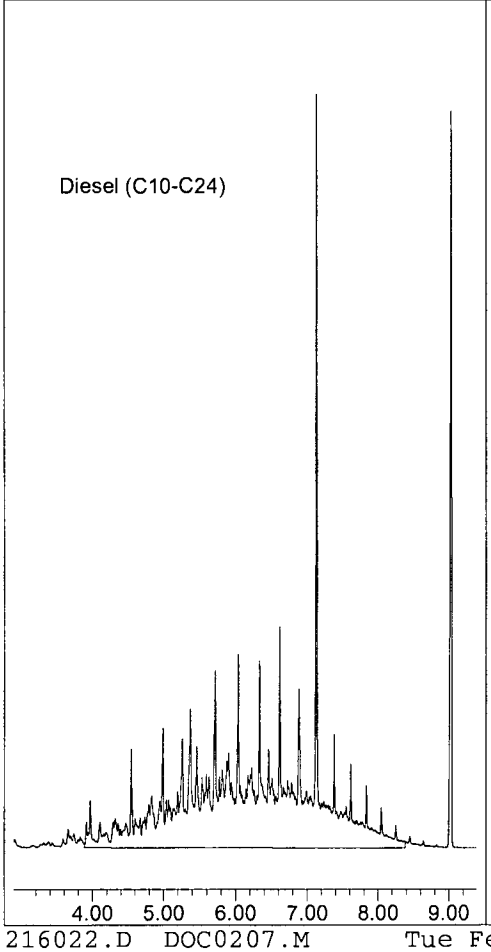
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

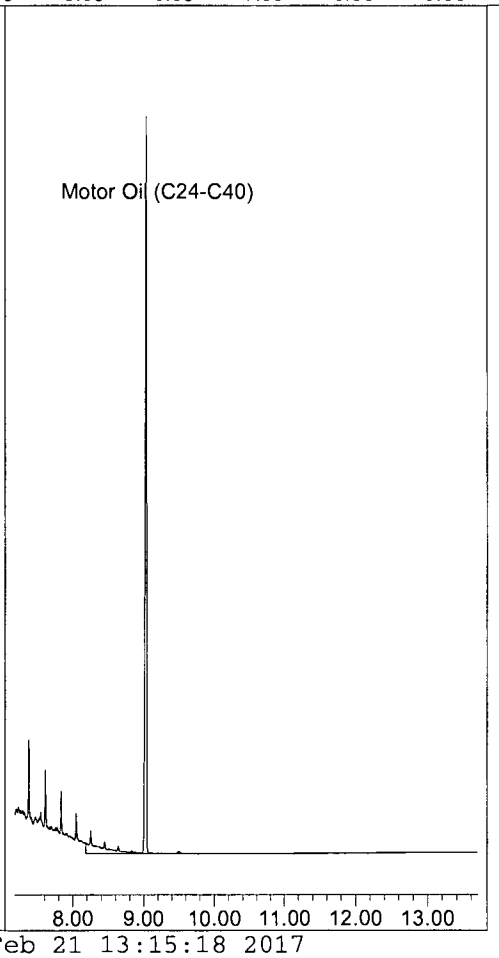
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22500276	18.395 ppb
Surrogate Spike 48.000		Recovery =	38.32%
4) SA Ortho-Terphenyl(S)	7.13	87697414	20.519 ppb
Surrogate Spike 30.000		Recovery =	68.40%
5) SA Octacosane(S)	9.03	125388623	19.967 ppb
Surrogate Spike 30.000		Recovery =	66.56%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1314706319	402.414 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36578514	14.878 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216022.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216023.D Vial: 23
Acq On : 2-16-17 17:50:31 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:39 2017 Quant Results File: DOC0207.RES

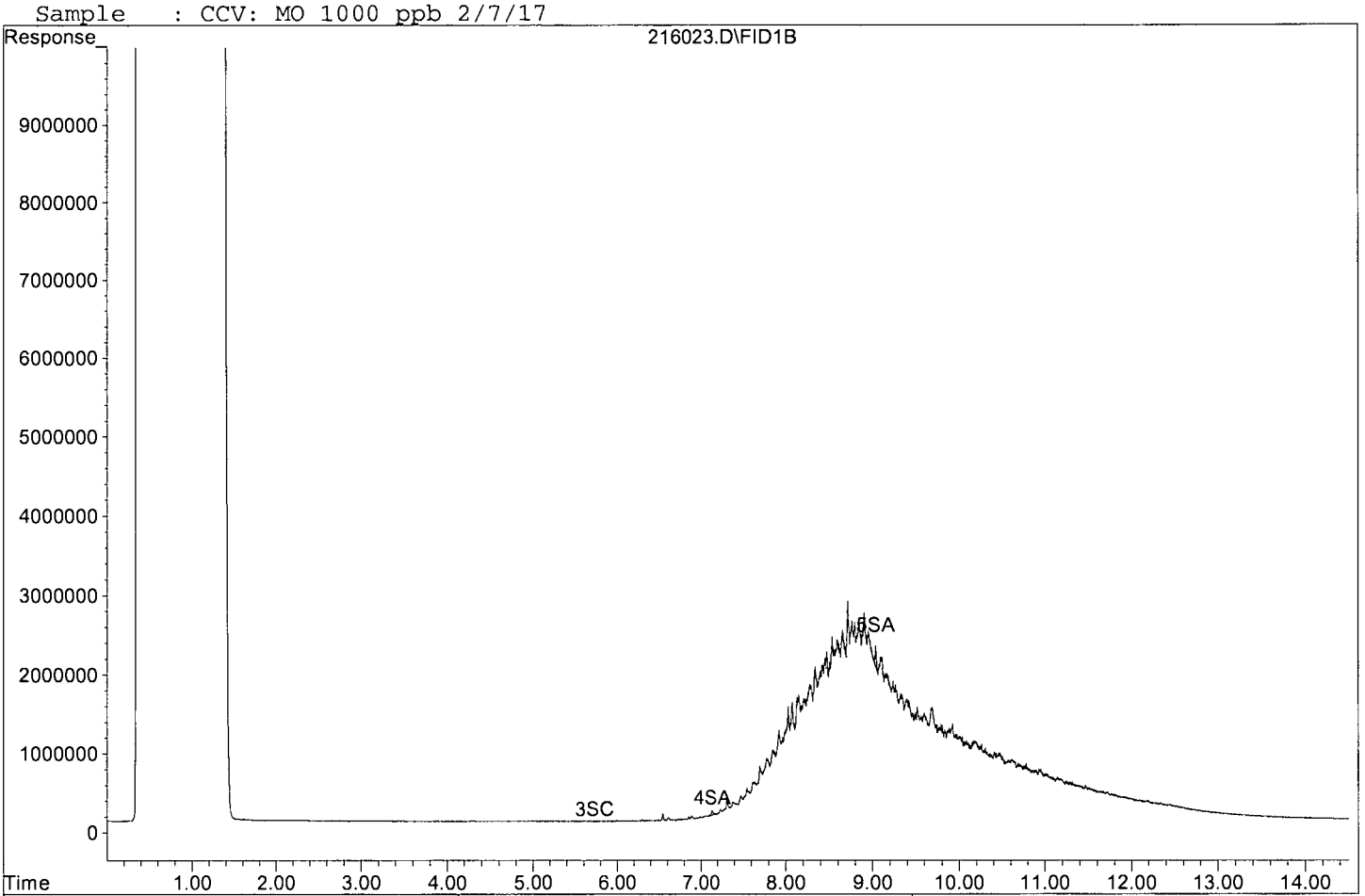
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

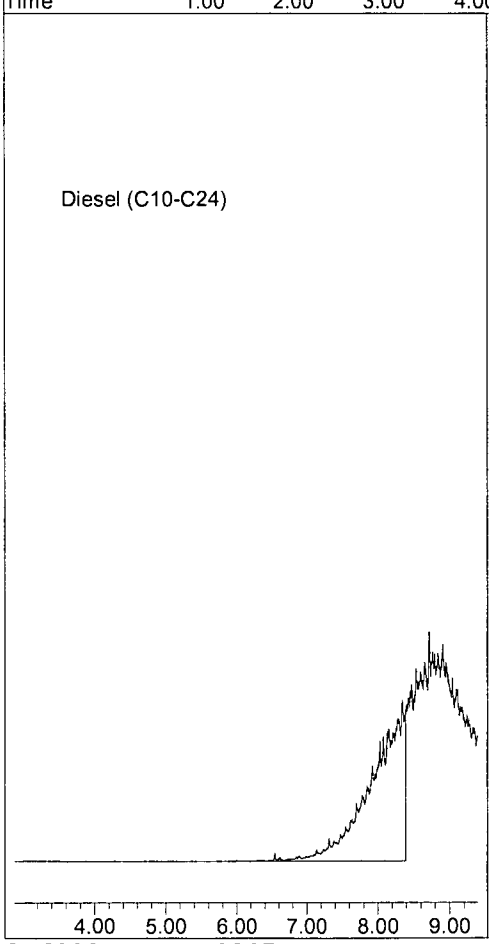
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

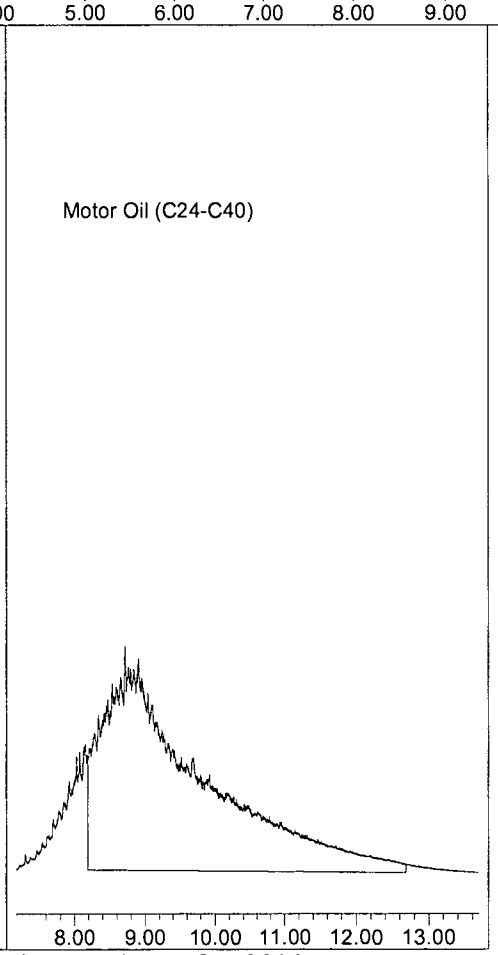
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	14683	0.012 ppb
Surrogate Spike 48.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.14	953097	0.223 ppb
Surrogate Spike 30.000		Recovery =	0.74%
5) SA Octacosane(S)	9.04	2452984	0.391 ppb
Surrogate Spike 30.000		Recovery =	1.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	605408844	185.307 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2516267178	1023.452 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216023.D
Sample : CCV: MO 1000 ppb 2/7/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216247**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216005
Instrument: Apollo
Sequence: 170216
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:22:50 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216005.D Vial: 5
Acq On : 2-16-17 11:41:39 Operator: DP
Sample : 170214A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 17:32 2017 Quant Results File: DOC0207.RES

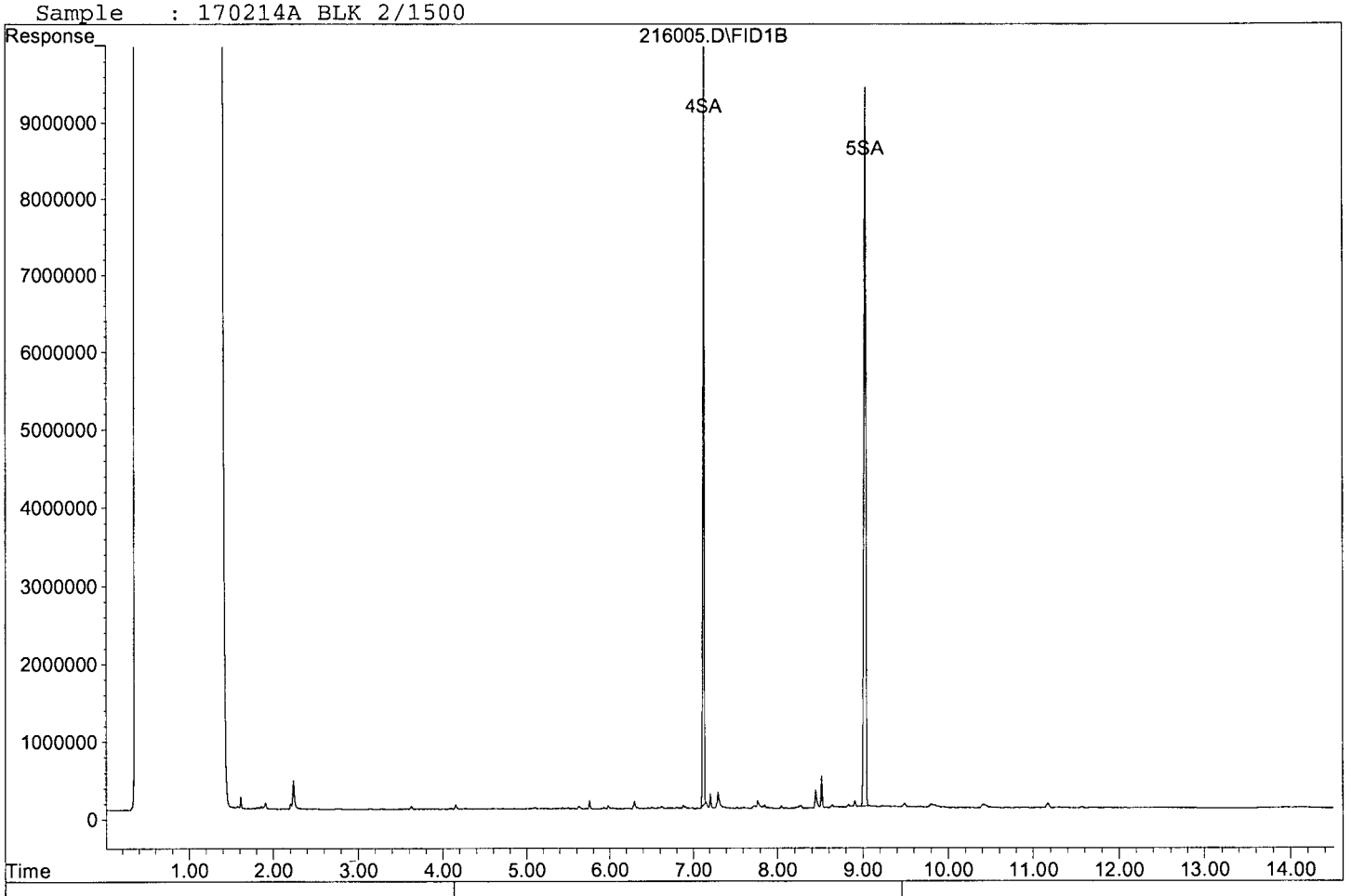
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

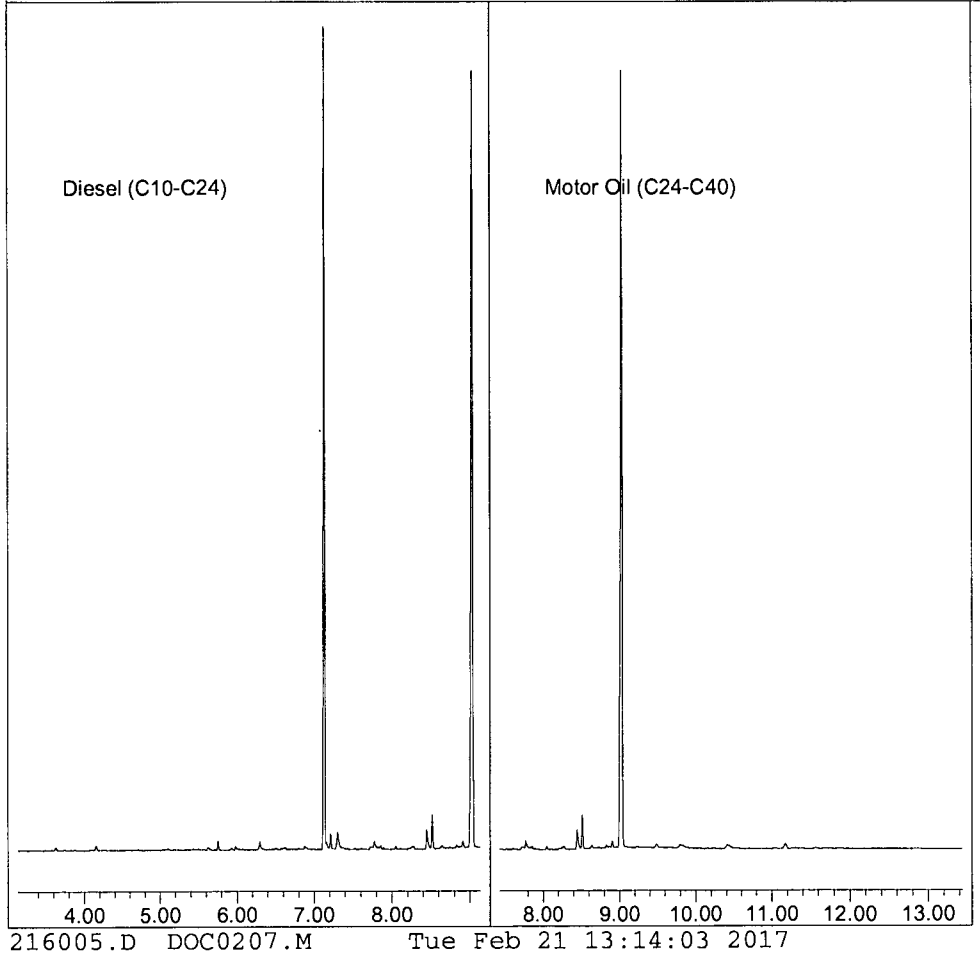
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97930880	30.551 ppb
Surrogate Spike 40.000		Recovery =	76.38%
5) SA Octacosane(S)	9.03	142544329	30.265 ppb
Surrogate Spike 40.000		Recovery =	75.66%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216005.D
Sample : 170214A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49853 LCS - 216247**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/17/17 9:22:44 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216006.D Vial: 6
Acq On : 2-16-17 12:02:04 Operator: DP
Sample : 170214A LCS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:58 2017 Quant Results File: DOC0207.RES

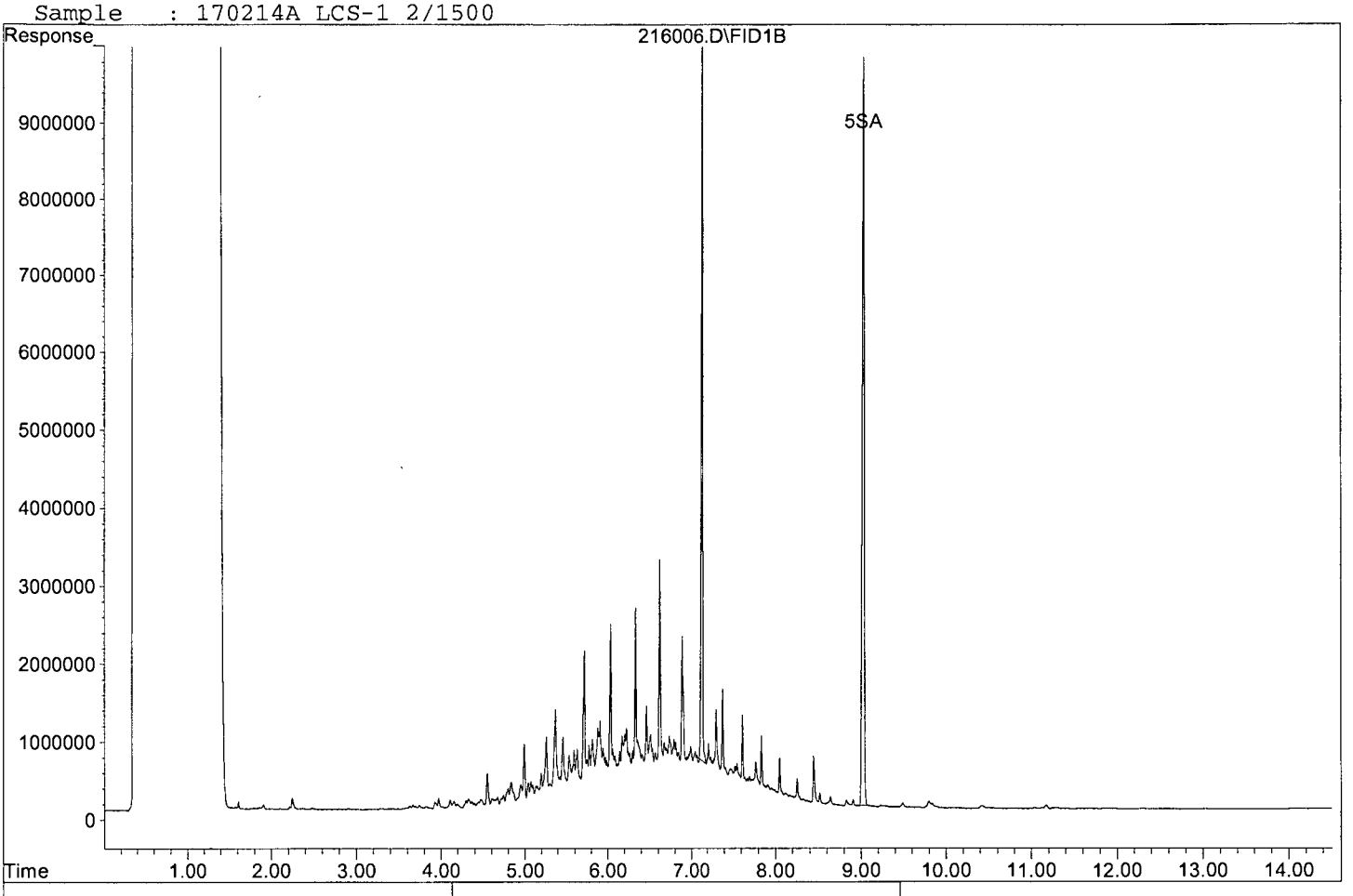
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

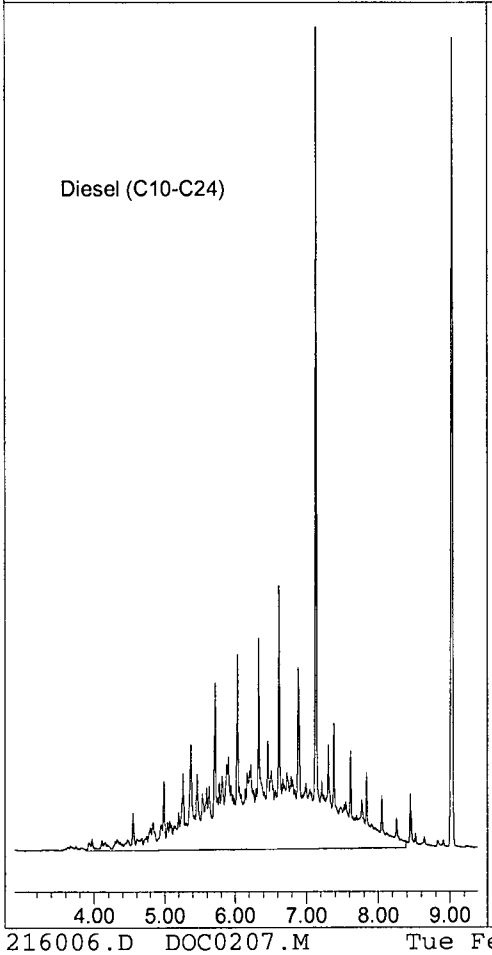
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

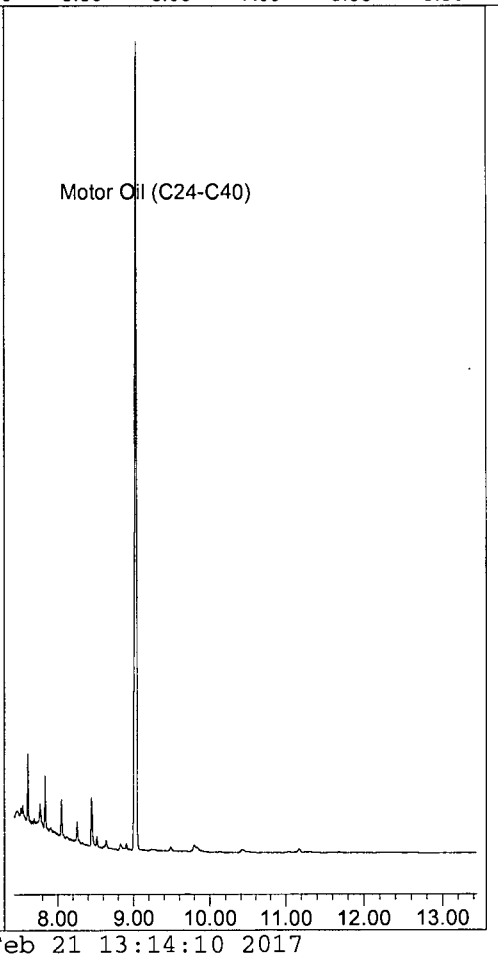
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	120559364	37.610 ppb
Surrogate Spike 40.000		Recovery =	94.03%
5) SA Octacosane(S)	9.03	151038021	32.068 ppb
Surrogate Spike 40.000		Recovery =	80.17%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1251062370	510.576 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216006.D
Sample : 170214A LCS-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216007.D Vial: 7
Acq On : 2-16-17 12:22:30 Operator: DP
Sample : 170214A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:59 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

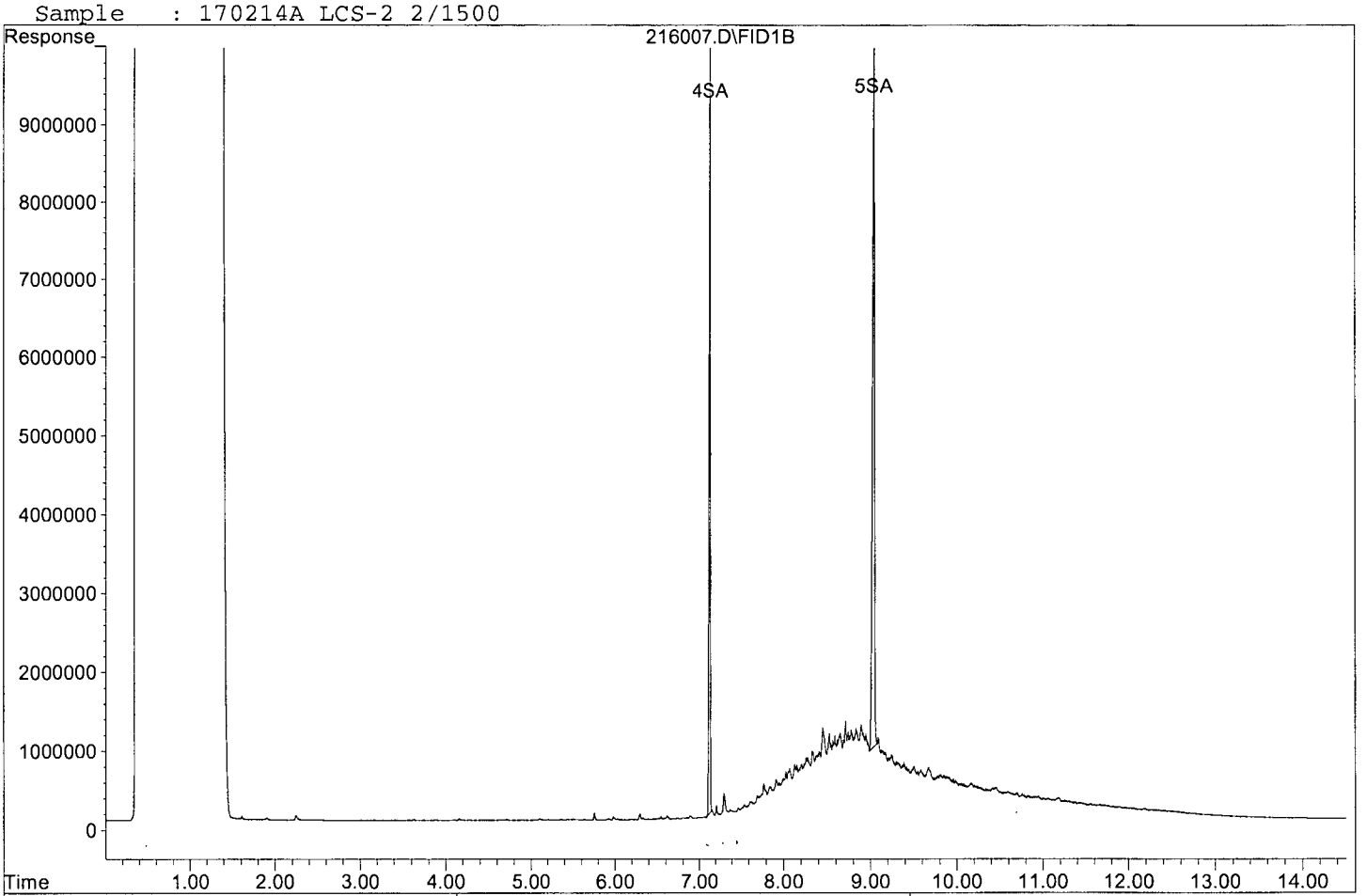
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

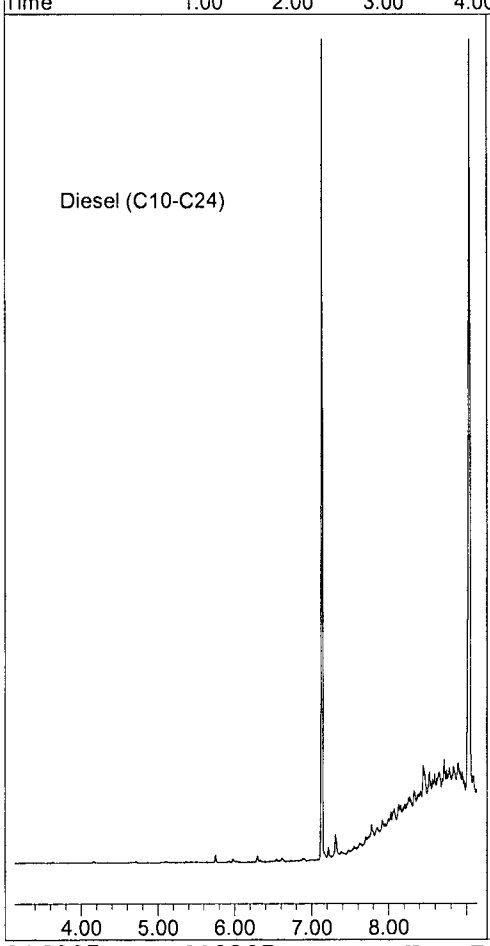
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	98040201	30.585 ppb
Surrogate Spike 40.000		Recovery =	76.46%
5) SA Octacosane(S)	9.04	139797812	29.682 ppb
Surrogate Spike 40.000		Recovery =	74.21%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1128080431	611.770 ppb

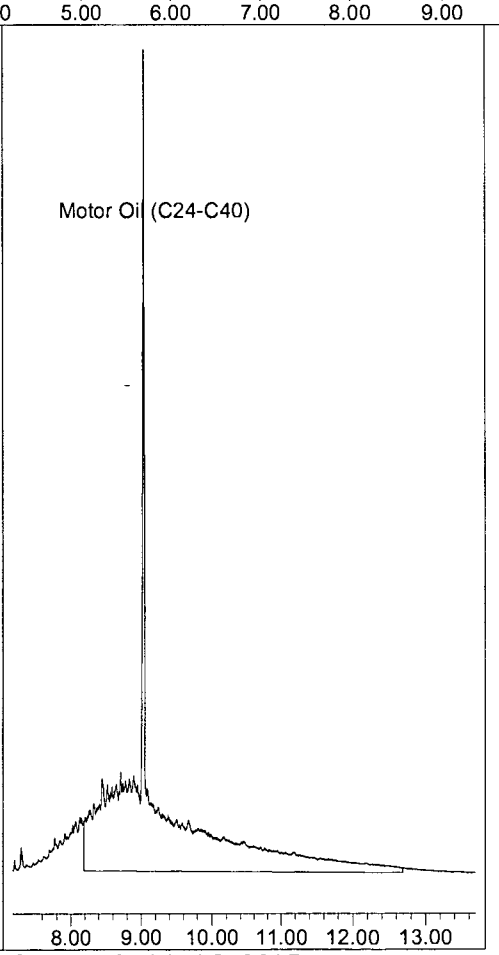
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170216\216007.D
Sample : 170214A LCS-2 2/1500







DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	**[µg/mL]**	**LOT #**	**DATE**	**EXP. DATE**	**µL**	**µL**	**µL**	**µL**	**µL**	**µL**
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 02/07/17-D.P. Ex: 02/07/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	02/07/18				

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

Diesel Spike
Cat: 011598-03
Lot: 280736-37352
Op: 01/19/17-D.P.
Exp: 01/19/18

THC Surrogate	
Cat:	110316-05
Lot:	295677-37411
Op:	02/07/17-D.P.
Exp:	02/07/18

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CCV 1000ppb						
Prep: 02/07/17-D.P. Ex: 11/09/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	2500µL	5mL	1000 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	11/09/17				

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34446
Op: 02/07/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/16/17 9:45	
			GC Requires Extract By:	02/16/17 0:00	
			pH1		Water Bath Temp Criteria 35,35,35 °
			pH2		
			pH3		

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	
2	170214A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	
3	170214A LCS-2		0.020	2	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	
4	AZ49739	AZ49739W09			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W12			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W09			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W06			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
8	AZ49853 MS-1	AZ49853W39	0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
9	AZ49853 MSD-1	AZ49853W27	0.020	1	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
10	AZ49853 MS-2	AZ49853W36	0.020	2	0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
11	AZ49853 MSD-2	AZ49853W29	0.020	2	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
12	AZ49853	AZ49853W34			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
13	AZ49854	AZ49854W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
14	AZ49855	AZ49855W13			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
15	AZ49857	AZ49857W13			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
16	AZ49860	AZ49860W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82146 RUSH 1 WEEK

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/16/17
Time	10:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: [illegible] 94 **Date** 2/16/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/16/17 9:45	
			GC Requires Extract By:	02/16/17 0:00	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49862	AZ49862W11			0.1	1	1500	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB2				

for 2/16/17

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: 95 **Date** 2/16/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	216002.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 10:40:21
16	4	216004.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 11:21:15
17	5	216005.D	1.33333	170214A BLK 2/1500	water	2-16-17 11:41:39
18	6	216006.D	1.33333	170214A LCS-1 2/1500	water	2-16-17 12:02:04
19	7	216007.D	1.33333	170214A LCS-2 2/1500	water	2-16-17 12:22:30
20	19	216019.D	1.33333	AZ49857W13 2/1500	water	2-16-17 16:28:29
21	20	216020.D	1.33333	AZ49860W14 2/1500	water	2-16-17 16:49:02
22	21	216021.D	2	AZ49862W11 2/1000	water	2-16-17 17:09:35
23	22	216022.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 17:30:07
24	23	216023.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 17:50:31

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49739 - 216249**
Batch ID: #SIMDO-170213A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:44:41 AM

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A-BLK	Blank	53-106	62.0		55-111	72.4	
170213A-LCS	Lab Control Spike	53-106	69.8		55-111	78.0	
AZ49857	ERH231	53-106	58.7		55-111	68.1	
AZ49860	ERH227	53-106	60.7		55-111	70.3	
AZ49862	ERH223	53-106	56.8		55-111	73.4	

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:44:38 AM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A-BLK	Blank	58-132	97.2				
170213A-LCS	Lab Control Spike	58-132	83.0				
AZ49857	ERH231	58-132	82.1				
AZ49860	ERH227	58-132	90.6				
AZ49862	ERH223	58-132	88.7				

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:44:38 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49739 LCS - 216249**
Batch ID: #SIMDO-170213A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
NAPHTHALENE	5.00	3.93	78.6	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Printed: 02/17/17 9:44:35 AM
APPL Standard LCS

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER
Blank ID: 170213A-BLK

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 1938

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213A-BLK	Blank	0214L060	02/16/17 1938
170213A-LCS	Lab Control Spike	0214L061	02/16/17 2010
AZ49857	ERH231	0214L075	02/17/17 0349
AZ49860	ERH227	0214L076	02/17/17 0422
AZ49862	ERH223	0214L077	02/17/17 0455

Comments: Batch: #SIMDO-170213A

Printed: 02/17/17 9:44:31 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82146
Date Analyzed: 02/14/17
Instrument: Linus
Time Analyzed: 18:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 02/14/17	0214L003.D	02/14/17 18:21
2		0.2 SIM 02/14/17	0214L004.D	02/14/17 18:53
3		0.5 SIM 02/14/17	0214L005.D	02/14/17 19:26
4		1.0 SIM 02/14/17	0214L006.D	02/14/17 19:59
5		5.0 SIM 02/14/17	0214L007.D	02/14/17 20:32
6		10 SIM 02/14/17	0214L008.D	02/14/17 21:04
7		50 SIM 02/14/17	0214L009.D	02/14/17 21:37
8		100 SIM 02/14/17	0214L010.D	02/14/17 22:10
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	55.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	20.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	90.5
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	19.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 9:23

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SIM SS 02/14/17	0214L050.D	02/16/17 14:39
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.0
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	53.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	86.2
442	40 - 150% of mass 198	55.2
443	17 - 23% of mass 442	19.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 18:47

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L059.D	02/16/17 19:05
2	Blank	170213A BLK 1/1000	0214L060.D	02/16/17 19:38
3	Lab Control Spike	170213A LCS-1 1/1000	0214L061.D	02/16/17 20:10
4	ERH231	AZ49857W12 1/1040	0214L075.D	02/17/17 3:49
5	ERH227	AZ49860W12 1/1020	0214L076.D	02/17/17 4:22
6	ERH223	AZ49862W10 1/990	0214L077.D	02/17/17 4:55
7		5.0 SIM 02/14/17	0214L080.D	02/17/17 6:00
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	54.0
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.5
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.9
442	40 - 150% of mass 198	56.9
443	17 - 23% of mass 442	19.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82146
Lab File ID (Standard): 0214L007.D
Date Analyzed: 02/14/17
Instrument ID: Linus
Time Analyzed: 20:32
GC Column:
ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	23069	5.81	11695	7.86	22161	9.76
	UPPER LIMIT	46138	6.31	23390	8.36	44322	10.26
	LOWER LIMIT	11535	5.31	5848	7.36	11081	9.26
	SAMPLE NO.						
01	5.0 SIM 02/14/17	21152	5.81	10824	7.86	20561	9.76
02	170213A BLK 1/1000	23656	5.82	11886	7.86	22678	9.78
03	170213A LCS-1 1/1000	19357	5.82	10056	7.86	19690	9.76
04	AZ49857W12 1/1040	21539	5.82	11242	7.86	21093	9.78
05	AZ49860W12 1/1020	23929	5.82	12257	7.86	23027	9.78
06	AZ49862W10 1/990	22439	5.82	11422	7.86	21647	9.76
07	5.0 SIM 02/14/17	20943	5.81	10628	7.86	20527	9.76
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82146
Lab File ID (Standard): 0214L007.D
Date Analyzed: 02/14/17
Instrument ID: Linus
Time Analyzed: 20:32
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26224	16.68	21900	20.45		
	UPPER LIMIT	52448	17.18	43800	20.95		
	LOWER LIMIT	13112	16.18	10950	19.95		
	SAMPLE NO.						
01	5.0 SIM 02/14/17	24824	16.68	20815	20.45		
02	170213A BLK 1/1000	26424	16.70	22321	20.48		
03	170213A LCS-1 1/1000	23632	16.68	19968	20.45		
04	AZ49857W12 1/1040	25328	16.70	20799	20.47		
05	AZ49860W12 1/1020	27699	16.70	23947	20.47		
06	AZ49862W10 1/990	26263	16.70	22560	20.47		
07	5.0 SIM 02/14/17	24802	16.67	20655	20.45		
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.7	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	68.1	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	82.1	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L075
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:44:29 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L075.D Vial: 75
Acq On : 17 Feb 17 3:49 Operator: MA
Sample : AZ49857W12 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:27 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	21539	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11242	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21093	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	25328	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	20799	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10163	3.27605 ppb	-0.01
Spiked Amount 4.808			Recovery	= 68.141%	
7) Surrogate Recovery (FBP)	7.09	172	20727	2.82246 ppb	0.00
Spiked Amount 4.808			Recovery	= 58.698%	
17) Surrogate Recovery (TPH)	13.69	244	31410	3.94857 ppb	-0.02
Spiked Amount 4.808			Recovery	= 82.139%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

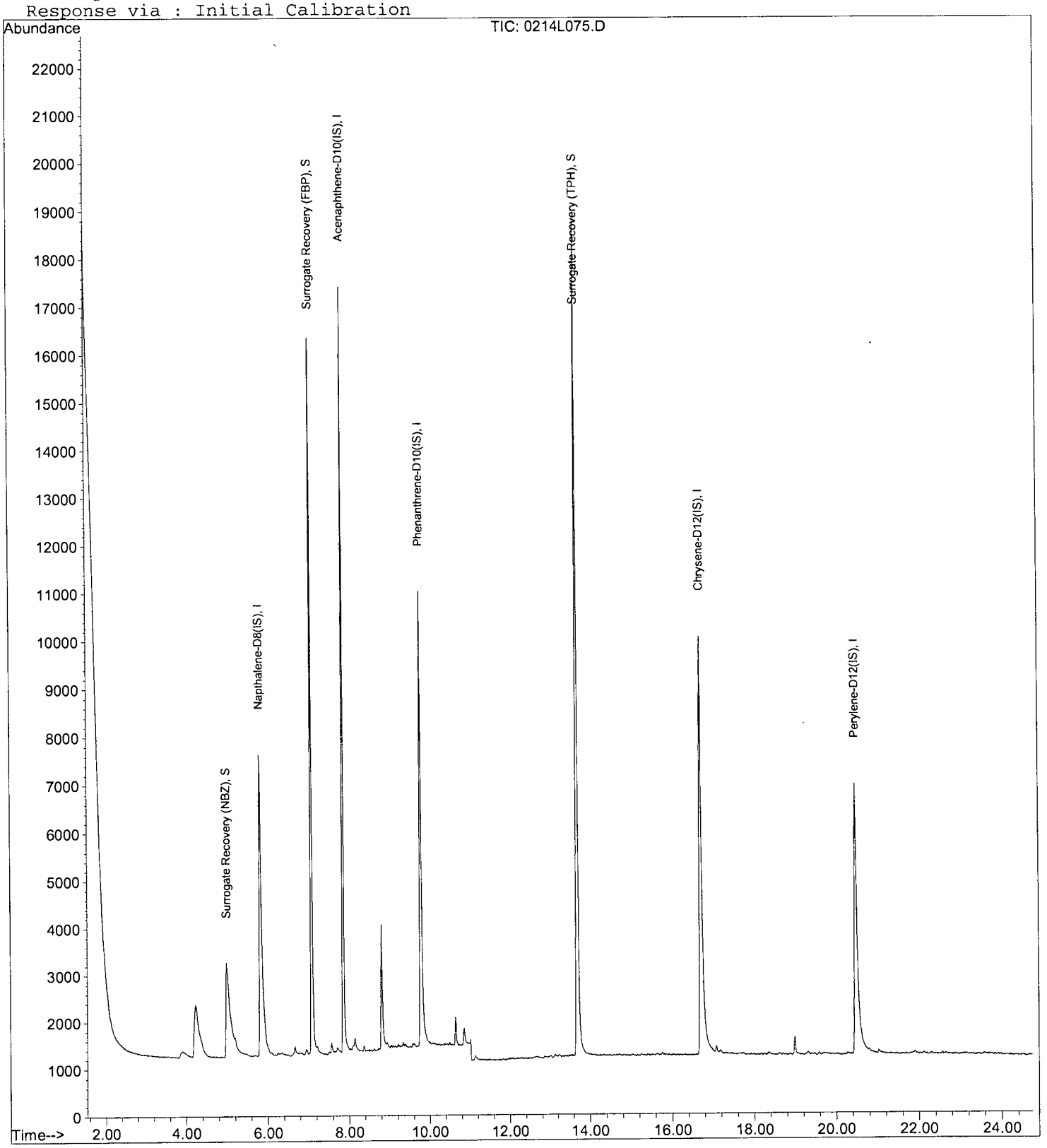
Data File : M:\LINUS\DATA\L170214\0214L075.D
Acq On : 17 Feb 17 3:49
Sample : AZ49857W12 1/1040
Misc : water

Vial: 75
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Feb 17 8:27 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	60.7	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	70.3	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	90.6	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L076
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:44:29 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L076.D Vial: 76
Acq On : 17 Feb 17 4:22 Operator: MA
Sample : AZ49860W12 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Feb 17 8:28 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23929	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12257	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	23027	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	27699	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	23947	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	11684	3.44485 ppb	-0.01
Spiked Amount 4.902			Recovery	= 70.278%	
7) Surrogate Recovery (FBP)	7.07	172	23374	2.97656 ppb	-0.01
Spiked Amount 4.902			Recovery	= 60.731%	
17) Surrogate Recovery (TPH)	13.69	244	37908	4.44295 ppb	-0.02
Spiked Amount 4.902			Recovery	= 90.637%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

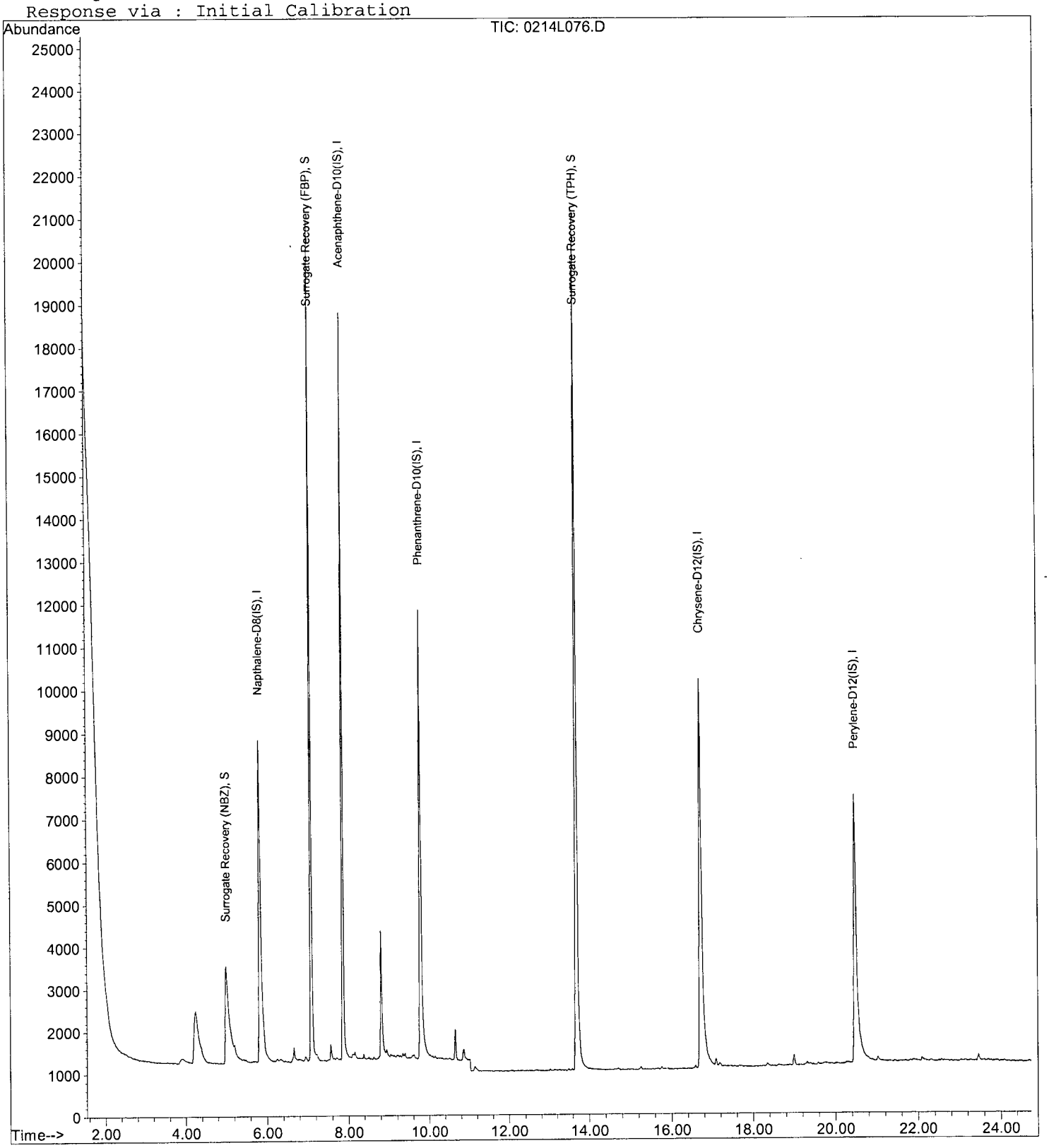
Data File : M:\LINUS\DATA\L170214\0214L076.D
Acq On : 17 Feb 17 4:22
Sample : AZ49860W12 1/1020
Misc : water

Vial: 76
Operator: MA
Inst : Linus
Multiplr: 0.98

Quant Time: Feb 17 8:28 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #SIMDO-170213A-216249

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	56.8	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	73.4	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	88.7	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L077
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:44:29 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L077.D Vial: 77
Acq On : 17 Feb 17 4:55 Operator: MA
Sample : AZ49862W10 1/990 Inst : Linus
Misc : water Multiplr: 1.01

Quant Time: Feb 17 8:29 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22439	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11422	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21647	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.70	240	26263	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	22560	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11492	3.70568 ppb	-0.02
Spiked Amount 5.051			Recovery	= 73.379%	
7) Surrogate Recovery (FBP)	7.07	172	20393	2.87124 ppb	-0.01
Spiked Amount 5.051			Recovery	= 56.846%	
17) Surrogate Recovery (TPH)	13.69	244	35183	4.48083 ppb	-0.02
Spiked Amount 5.051			Recovery	= 88.724%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

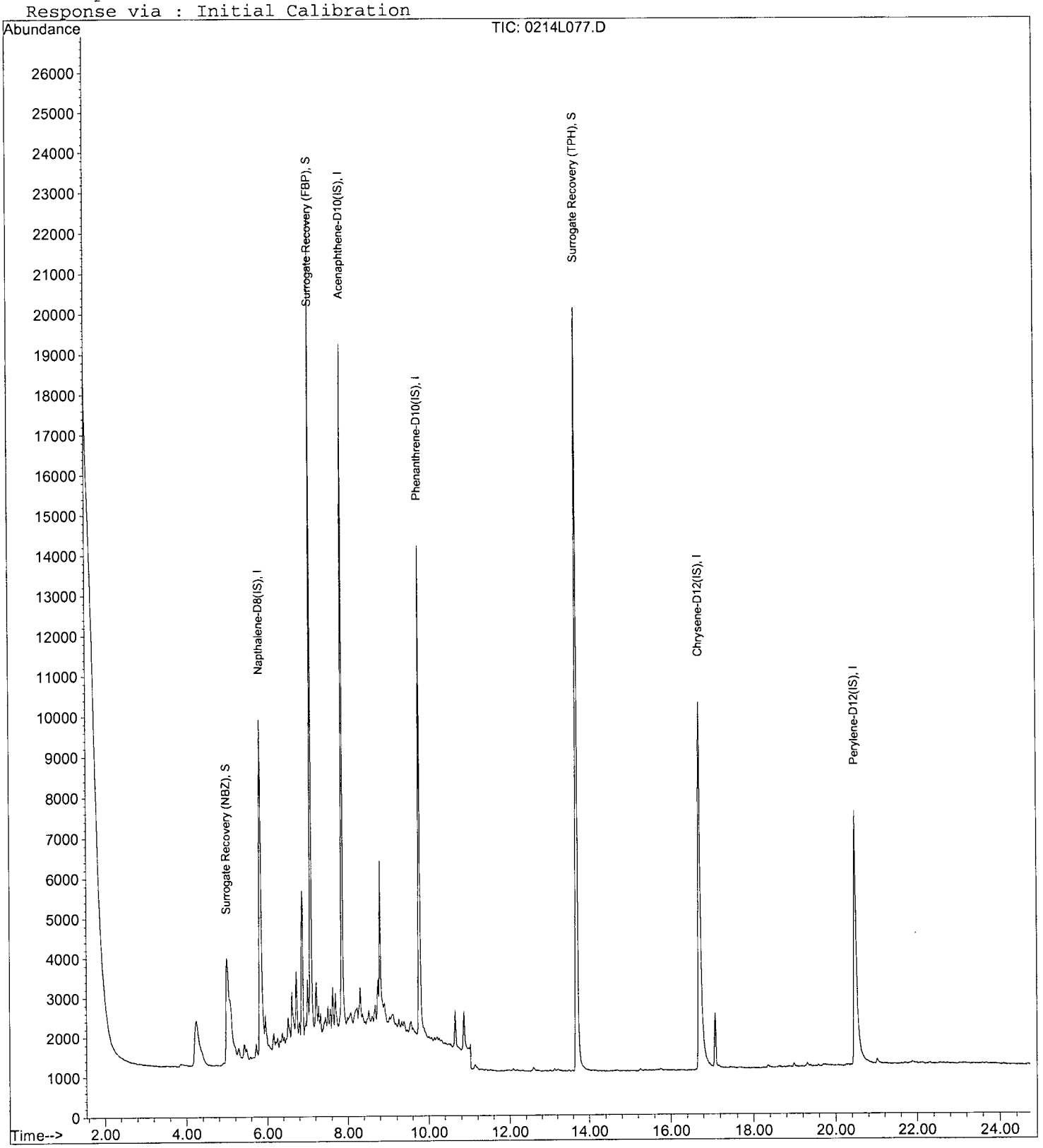
Data File : M:\LINUS\DATA\L170214\0214L077.D
Acq On : 17 Feb 17 4:55
Sample : AZ49862W10 1/990
Misc : water

Vial: 77
Operator: MA
Inst : Linus
Multiplr: 1.01

Quant Time: Feb 17 8:29 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/14/17
Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0214L003 D	0214L004.D	0214L005 D	0214L006 D	0214L007.D	0214L008.D	0214L009.D	0214L010.D						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1065	0.1124	0.3308	0.3451	0.3803	0.3826			0.28	47	SL	1.00
3	TM	Naphthalene	1.010	0.9921	1.051	1.049	1.145	1.023	0.9862	0.9552			1.0	5.6	TM	
4	TML	2-Methylnaphthalene	0.3818	0.3414	0.4333	0.4940	0.6571	0.6112	0.5897	0.5737			0.51	23	TML	1.000
5	TM	1-Methylnaphthalene	0.6460	0.7352	0.7366	0.7038	0.7151	0.6150	0.5591	0.5463			0.66	12	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.525	1.494	1.557	1.553	1.662	1.670	1.532	1.569			1.6	4.0	S	
8	TM	Acenaphthylene	1.854	1.724	1.848	1.857	2.240	2.044	1.955	1.990			1.9	8.1	TM	
9	*TM	Acenaphthene	1.348	1.229	1.242	1.174	1.337	1.184	1.114	0.9760			1.2	10	*TM	
10	TM	Fluorene	1.234	1.185	1.293	1.299	1.515	1.373	1.258	1.104			1.3	9.6	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	0.9312	0.8801	0.9506	0.9318	1.138	1.024	0.9566	0.8772			0.96	8.9	TM	
13	TML	Anthracene	0.6271	0.5685	0.7039	0.7224	1.053	0.9756	0.9420	0.8532			0.81	22	TML	0.998
14	*TM	Fluoranthene	1.214	1.140	1.272	1.339	1.734	1.522	1.584	1.620			1.4	15	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.165	1.145	1.316	1.320	1.529	1.408	1.373	1.336			1.3	9.4	TM	
17	S	Surrogate Recovery (TPH)	0.7005	0.7659	0.7652	0.7483	0.7646	0.7848	0.7431	0.7674			0.75	3.4	S	
18	TML	Benz (a) anthracene	0.6559	0.5630	0.6349	0.6981	0.9860	0.9808	1.134	1.151			0.85	28	TML	1.000
19	TM	Chrysene	0.8637	1.145	1.305	1.206	1.301	1.156	1.137	1.077			1.1	12	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.1599	0.1231	0.2623	0.3763	0.9521	0.8862	0.9905	0.9835			0.59	67	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.3826	0.3336	0.3580	0.5016	0.9666	1.008	1.232	1.129			0.74	51	TML	0.998
23	TML	Benzo (k) fluoranthene	0.5552	0.3119	0.3884	0.5739	0.5544	0.8217	1.000	0.9514			0.64	39	TML	0.999
24	*TML	Benzo (a) pyrene	0.4764	0.4873	0.5921	0.7416	1.181	1.178	1.160	1.087			0.86	37	*TML	0.999
25	TML	Dibenz (a,h) anthracene	0.1575	0.0332	0.0603	0.2698	0.8584	0.8479	0.9253	0.8745			0.50	81	TML	0.999
26	TML	Benzo (g,h,i) perylene	0.0675	0.0689	0.0747	0.2975	0.9588	0.8876	0.9566	0.8823			0.52	82	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24883	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11407	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	20968	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22983	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19994	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.03	82	5	0.34644 ppb	0.02
Spiked Amount 5.000			Recovery	= 6.920%	
7) Surrogate Recovery (FBP)	7.13	172	348	0.04857 ppb	0.05
Spiked Amount 5.000			Recovery	= 0.980%	
17) Surrogate Recovery (TPH)	13.75	244	322	0.04639 ppb	0.04
Spiked Amount 5.000			Recovery	= 0.920%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	1005	0.09840 ppb	99
4) 2-Methylnaphthalene	6.75	142	380	-0.16530 ppb	92
5) 1-Methylnaphthalene	6.82	142	643	0.09831 ppb	90
8) Acenaphthylene	7.73	152	846	0.09562 ppb	97
9) Acenaphthene	7.91	154	615	0.11228 ppb	96
10) Fluorene	8.56	166	563	0.09620 ppb	96
12) Phenanthrene	9.82	178	781	0.09688 ppb	98
13) Anthracene	9.97	178	526	-0.56919 ppb	96
14) Fluoranthene	12.63	202	1018	0.08499 ppb	95
16) Pyrene	13.25	202	1071	0.08800 ppb	98
18) Benz (a) anthracene	16.70	228	603	0.56996 ppb #	72
19) Chrysene	16.81	228	794	0.07518 ppb #	78
20) Indeno (1,2,3-cd) pyrene	22.96	276	147	0.37977 ppb #	95
22) Benzo (b) fluoranthene	19.65	252	306m	0.22445 ppb	51
23) Benzo (k) fluoranthene	19.72	252	444m	0.59738 ppb	51
24) Benzo (a) pyrene	20.37	252	381	-0.22318 ppb #	83
25) Dibenz (a,h) anthracene	22.97	278	126	0.15329 ppb #	38
26) Benzo (g,h,i) perylene	23.58	276	54	-0.07760 ppb #	67

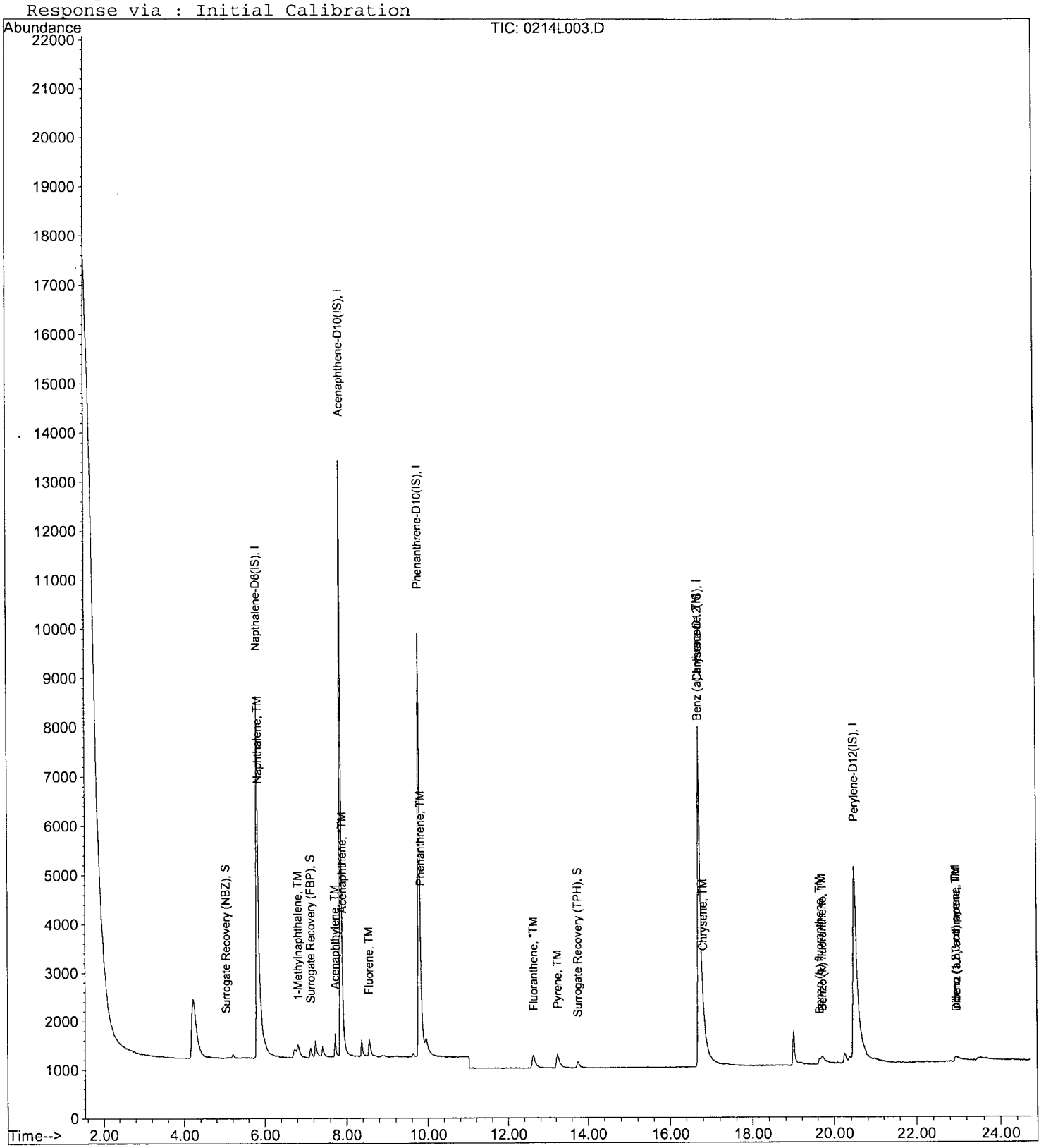
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L004.D Vial: 4
Acq On : 14 Feb 17 18:53 Operator: MA
Sample : 0.2 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:18 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:48 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24569	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	12218	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	22470	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22848	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19597	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	7	0.00241 ppb	-0.05
Spiked Amount 5.000			Recovery	= 0.040%	
7) Surrogate Recovery (FBP)	7.13	172	730	0.09551 ppb	0.05
Spiked Amount 5.000			Recovery	= 1.920%	
17) Surrogate Recovery (TPH)	13.76	244	700	0.09963 ppb	0.05
Spiked Amount 5.000			Recovery	= 2.000%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	1950	0.19441 ppb	99
4) 2-Methylnaphthalene	6.75	142	671	0.12650 ppb	95
5) 1-Methylnaphthalene	6.81	142	1445	0.21388 ppb	98
8) Acenaphthylene	7.73	152	1685	0.16798 ppb	98
9) Acenaphthene	7.91	154	1201	0.19341 ppb	97
10) Fluorene	8.57	166	1158	0.17200 ppb	97
12) Phenanthrene	9.82	178	1582	0.16914 ppb	98
13) Anthracene	9.97	178	1022	0.11718 ppb	94
14) Fluoranthene	12.61	202	2050	0.13728 ppb	99
16) Pyrene	13.24	202	2093	0.16238 ppb	99
18) Benz (a) anthracene	16.70	228	1029	0.11783 ppb	93
19) Chrysene	16.80	228	2093	0.15885 ppb	98
20) Indeno (1,2,3-cd) pyrene	22.93	276	225	0.02768 ppb #	93
22) Benzo (b) fluoranthene	19.63	252	523	0.05979 ppb #	93
23) Benzo (k) fluoranthene	19.70	252	489	0.05161 ppb #	71
24) Benzo (a) pyrene	20.38	252	764	0.08906 ppb #	65
25) Dibenz (a,h) anthracene	22.99	278	52	0.00723 ppb #	65
26) Benzo (g,h,i) perylene	23.52	276	108	0.01500 ppb #	35

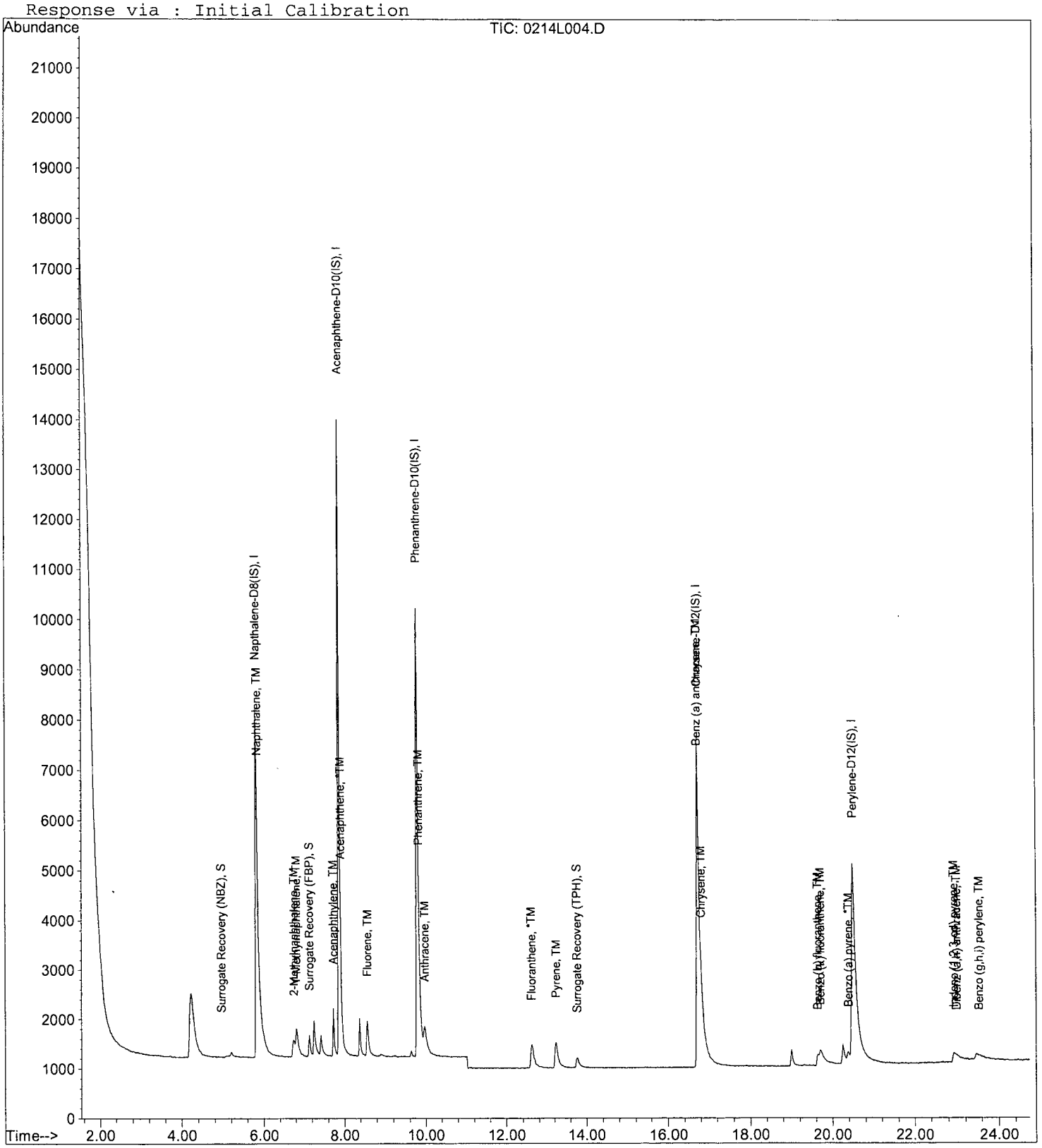
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L004.D Vial: 4
Acq On : 14 Feb 17 18:53 Operator: MA
Sample : 0.2 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:18 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:01 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23655	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.87	164	11847	2.50000 ppb		0.01
11) Phenanthrene-D10(IS)	9.79	188	21487	2.50000 ppb		0.02
15) Chrysene-D12(IS)	16.71	240	21327	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.48	264	19077	2.50000 ppb		0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.12	82	252	0.08995 ppb		0.11
Spiked Amount 5.000			Recovery	= 1.800%		
7) Surrogate Recovery (FBP)	7.12	172	1844	0.24883 ppb		0.04
Spiked Amount 5.000			Recovery	= 4.980%		
17) Surrogate Recovery (TPH)	13.75	244	1632	0.24884 ppb		0.04
Spiked Amount 5.000			Recovery	= 4.980%		
Target Compounds						Qvalue
3) Naphthalene	5.86	128	4970	0.51463 ppb		99
4) 2-Methylnaphthalene	6.71	142	2050	0.40141 ppb		99
5) 1-Methylnaphthalene	6.80	142	3485	0.53576 ppb		99
8) Acenaphthylene	7.73	152	4379	0.45023 ppb		99
9) Acenaphthene	7.91	154	2943	0.48880 ppb		98
10) Fluorene	8.55	166	3064	0.46935 ppb		95
12) Phenanthrene	9.82	178	4085	0.45673 ppb		98
13) Anthracene	9.96	178	3025	0.36270 ppb		97
14) Fluoranthene	12.59	202	5465	0.38272 ppb		100
16) Pyrene	13.21	202	5612	0.46646 ppb		98
18) Benz (a) anthracene	16.71	228	2708	0.33221 ppb		98
19) Chrysene	16.80	228	5565	0.45249 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.88	276	1119	0.14748 ppb	#	94
22) Benzo (b) fluoranthene	19.61	252	1366	0.16041 ppb		99
23) Benzo (k) fluoranthene	19.68	252	1482	0.16066 ppb		93
24) Benzo (a) pyrene	20.36	252	2259	0.27050 ppb	#	84
25) Dibenz (a,h) anthracene	22.94	278	230	0.03287 ppb	#	54
26) Benzo (g,h,i) perylene	23.48	276	285	0.04066 ppb	#	69

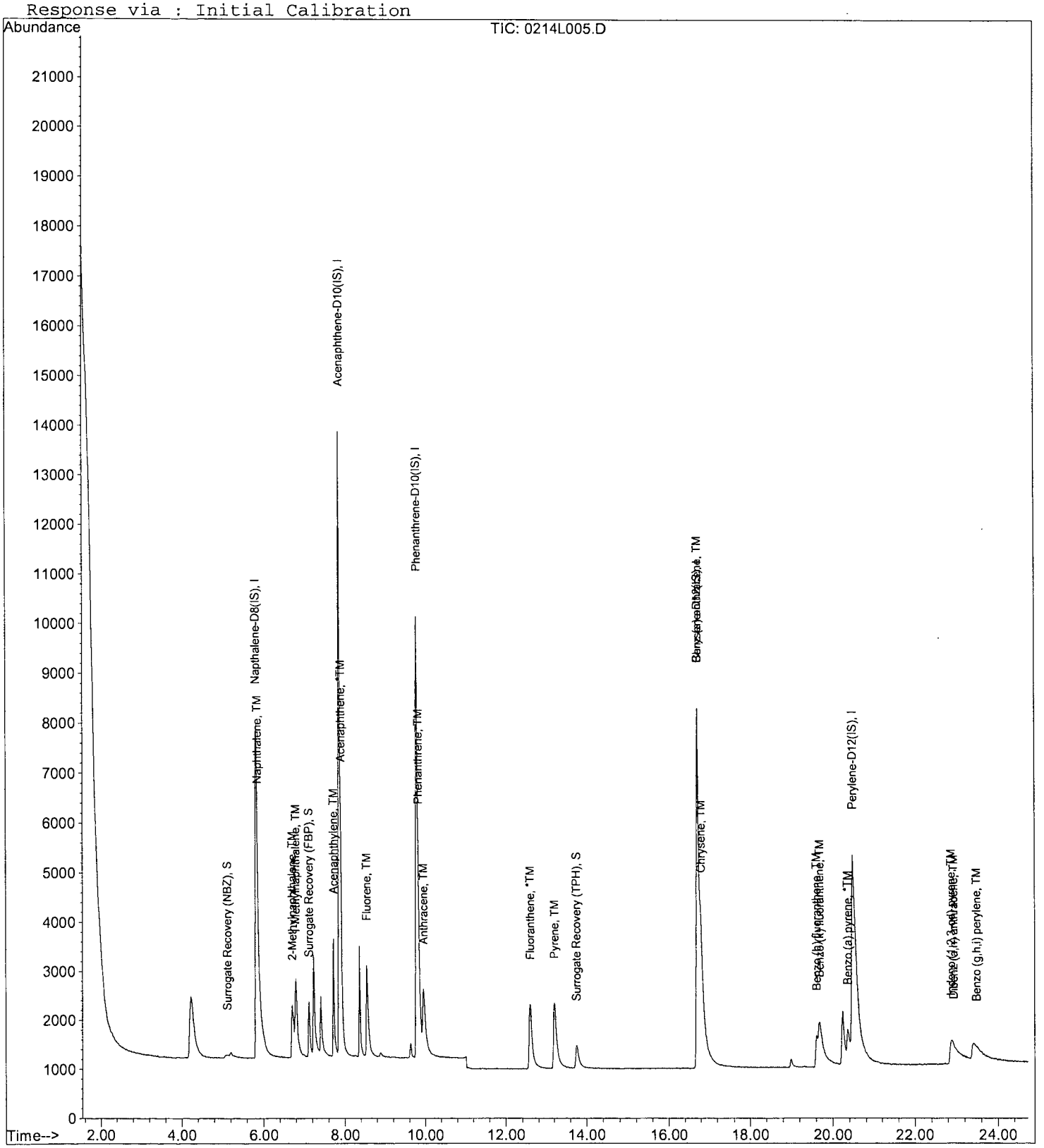
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L006.D
Acq On : 14 Feb 17 19:59
Sample : 1.0 SIM 02/14/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:10 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:10:08 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22641	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.87	164	11561	2.50000 ppb		0.01
11) Phenanthrene-D10(IS)	9.78	188	21533	2.50000 ppb		0.01
15) Chrysene-D12(IS)	16.71	240	23167	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.47	264	19846	2.50000 ppb		0.02
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.07	82	509	0.18983 ppb		0.06
Spiked Amount 5.000			Recovery	= 3.800%		
7) Surrogate Recovery (FBP)	7.11	172	3592	0.49669 ppb		0.02
Spiked Amount 5.000			Recovery	= 9.940%		
17) Surrogate Recovery (TPH)	13.74	244	3467	0.48664 ppb		0.03
Spiked Amount 5.000			Recovery	= 9.740%		
Target Compounds						Qvalue
3) Naphthalene	5.84	128	9496	1.02733 ppb		100
4) 2-Methylnaphthalene	6.69	142	4474	0.91529 ppb		99
5) 1-Methylnaphthalene	6.78	142	6374	1.02378 ppb		98
8) Acenaphthylene	7.71	152	8586	0.90461 ppb		99
9) Acenaphthene	7.91	154	5428	0.92382 ppb		99
10) Fluorene	8.53	166	6009	0.94323 ppb		99
12) Phenanthrene	9.82	178	8026	0.89544 ppb		100
13) Anthracene	9.95	178	6222	0.74442 ppb		100
14) Fluoranthene	12.56	202	11537	0.80622 ppb		99
16) Pyrene	13.19	202	12230	0.93579 ppb		99
18) Benz (a) anthracene	16.70	228	6469	0.73057 ppb		99
19) Chrysene	16.78	228	11177	0.83663 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.86	276	3487	0.42307 ppb	#	91
22) Benzo (b) fluoranthene	19.59	252	3982	0.44948 ppb		99
23) Benzo (k) fluoranthene	19.67	252	4556	0.47478 ppb		93
24) Benzo (a) pyrene	20.36	252	5887	0.67760 ppb		100
25) Dibenz (a,h) anthracene	22.87	278	2142	0.29428 ppb		96
26) Benzo (g,h,i) perylene	23.38	276	2362	0.32389 ppb		89

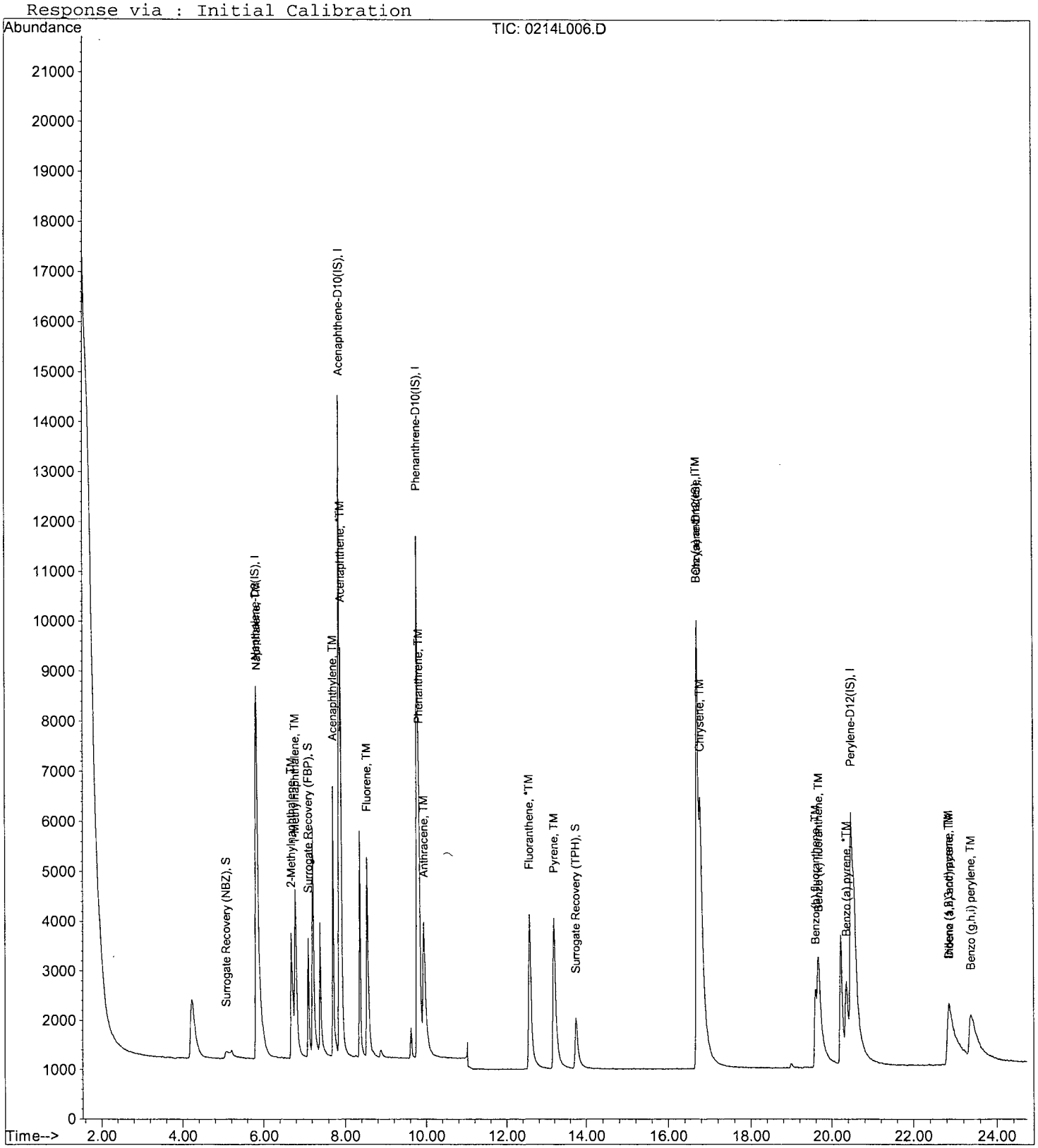
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L007.D Vial: 7
Acq On : 14 Feb 17 20:32 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	23069	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11695	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22161	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26224	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	21900	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7632	2.16155 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.240%	
7) Surrogate Recovery (FBP)	7.09	172	19441	2.30557 ppb	0.01
Spiked Amount 5.000			Recovery	= 46.120%	
17) Surrogate Recovery (TPH)	13.71	244	20051	2.15776 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.160%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	52807	5.55542 ppb	100
4) 2-Methylnaphthalene	6.65	142	30318	5.82670 ppb	99
5) 1-Methylnaphthalene	6.76	142	32993	5.07935 ppb	90
8) Acenaphthylene	7.70	152	52392	5.39398 ppb	99
9) Acenaphthene	7.89	154	31274	5.23130 ppb	98
10) Fluorene	8.51	166	35429	5.42550 ppb	99
12) Phenanthrene	9.80	178	50432	5.42620 ppb	99
13) Anthracene	9.90	178	46660	5.36380 ppb	99
14) Fluoranthene	12.52	202	76875	5.17089 ppb	99
16) Pyrene	13.15	202	80173	5.38905 ppb	99
18) Benz (a) anthracene	16.66	228	51714	4.99837 ppb	99
19) Chrysene	16.76	228	68220	4.49857 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.78	276	49937	5.25941 ppb	92
22) Benzo (b) fluoranthene	19.55	252	42337	4.20558 ppb	100
23) Benzo (k) fluoranthene	19.61	252	24283	2.20116 ppb	99
24) Benzo (a) pyrene	20.32	252	51711	5.30494 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	37598	4.57609 ppb	96
26) Benzo (g,h,i) perylene	23.30	276	41994	5.16288 ppb #	77

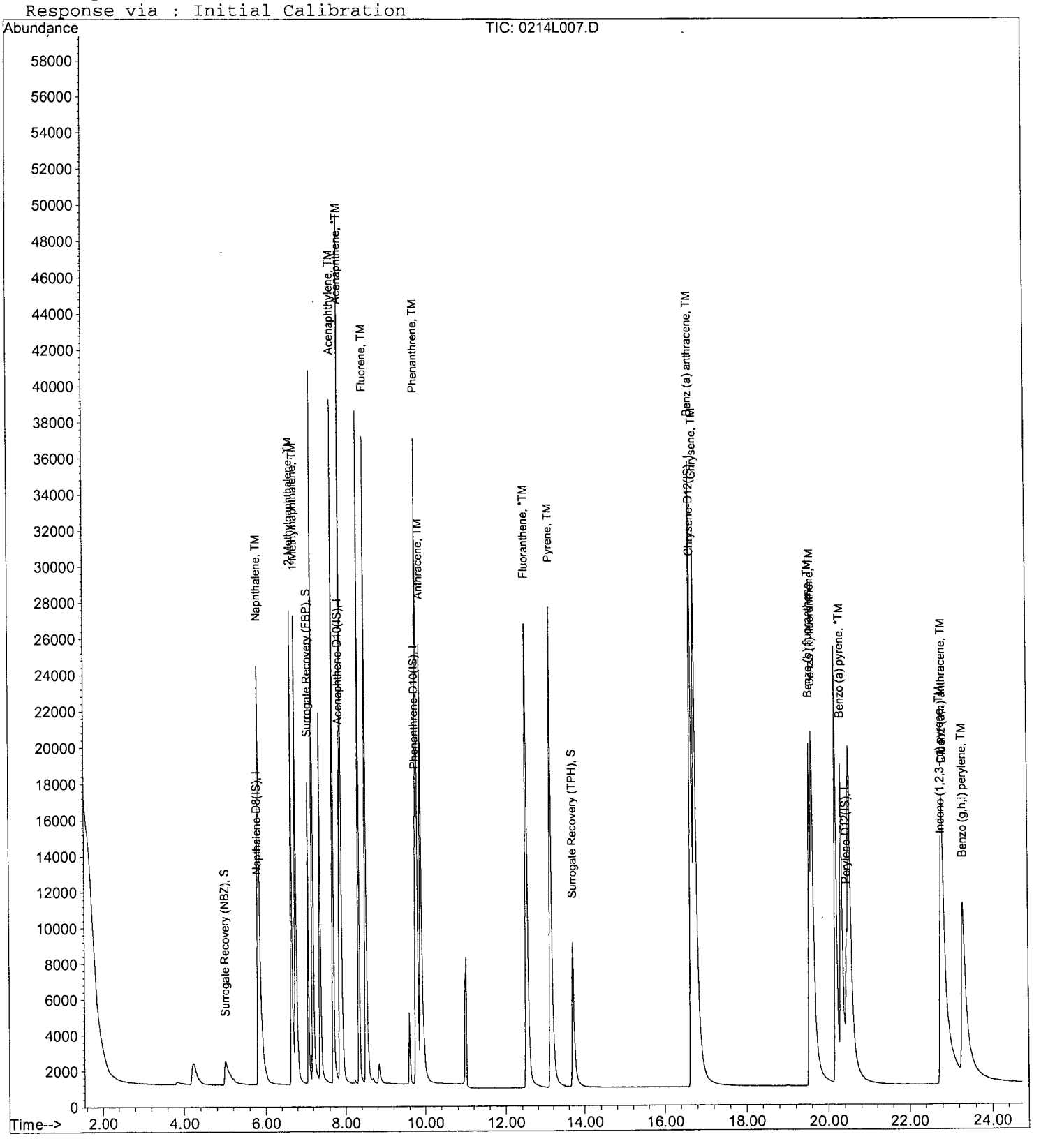
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L007.D Vial: 7
Acq On : 14 Feb 17 20:32 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:55 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L008.D Vial: 8
Acq On : 14 Feb 17 21:04 Operator: MA
Sample : 10 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25521	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	13054	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25109	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27862	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	22643	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	17613	5.82737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 116.540%	
7) Surrogate Recovery (FBP)	7.07	172	43593	5.33847 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.760%	
17) Surrogate Recovery (TPH)	13.70	244	43734	5.10427 ppb	-0.01
Spiked Amount 5.000			Recovery	= 102.080%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	104393	10.01930 ppb		100
4) 2-Methylnaphthalene	6.65	142	62394	11.32415 ppb		98
5) 1-Methylnaphthalene	6.76	142	62777	8.94524 ppb		98
8) Acenaphthylene	7.70	152	106739	9.95971 ppb		100
9) Acenaphthene	7.89	154	61799	9.31500 ppb		98
10) Fluorene	8.51	166	71715	9.96963 ppb		98
12) Phenanthrene	9.80	178	102855	9.84092 ppb		100
13) Anthracene	9.89	178	97984	10.05354 ppb		100
14) Fluoranthene	12.51	202	152895	9.16281 ppb		100
16) Pyrene	13.14	202	156870	9.98048 ppb		99
18) Benz (a) anthracene	16.65	228	109307	10.26431 ppb		100
19) Chrysene	16.75	228	128791	8.01587 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.75	276	98762	9.96348 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	91272	9.02992 ppb		98
23) Benzo (k) fluoranthene	19.60	252	74425	6.79771 ppb		99
24) Benzo (a) pyrene	20.31	252	106652	10.75944 ppb		100
25) Dibenz (a,h) anthracene	22.80	278	76794	9.24705 ppb		98
26) Benzo (g,h,i) perylene	23.27	276	80392	9.66204 ppb		99

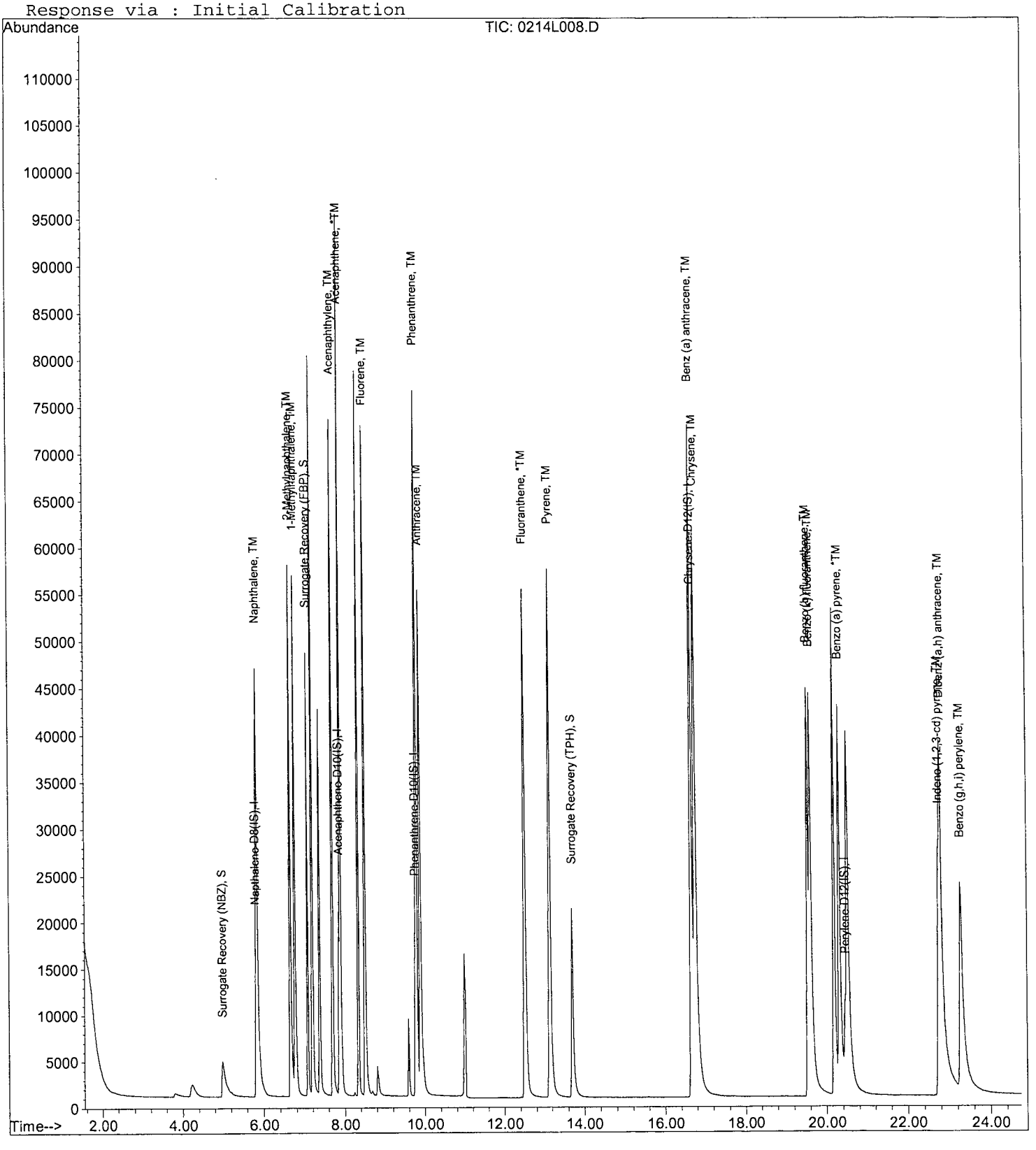
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L008.D Vial: 8
Acq On : 14 Feb 17 21:04 Operator: MA
Sample : 10 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L009.D Vial: 9
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 50 SIM,02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24268	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11807	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	23286	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	27820	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23474	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	92288	32.11060 ppb	-0.06
Spiked Amount 5.000			Recovery	= 642.220%	
7) Surrogate Recovery (FBP)	7.07	172	180923	24.49615 ppb	-0.01
Spiked Amount 5.000			Recovery	= 489.920%	
17) Surrogate Recovery (TPH)	13.69	244	206717	24.16271 ppb	-0.02
Spiked Amount 5.000			Recovery	= 483.260%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	478672	48.31342 ppb	100
4) 2-Methylnaphthalene	6.64	142	286232	54.63167 ppb	97
5) 1-Methylnaphthalene	6.75	142	271379	40.66601 ppb	100
8) Acenaphthylene	7.69	152	461582	47.61857 ppb	99
9) Acenaphthene	7.89	154	263095	43.84480 ppb	98
10) Fluorene	8.50	166	296983	45.64619 ppb	100
12) Phenanthrene	9.80	178	445520	45.96339 ppb	100
13) Anthracene	9.89	178	438700	48.53621 ppb	100
14) Fluoranthene	12.51	202	737558	47.66133 ppb	100
16) Pyrene	13.14	202	763990	48.68040 ppb	100
18) Benz (a) anthracene	16.65	228	630780	59.32187 ppb	99
19) Chrysene	16.75	228	632756	39.44178 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.76	276	551119	55.68287 ppb #	97
22) Benzo (b) fluoranthene	19.54	252	578169	55.17574 ppb	99
23) Benzo (k) fluoranthene	19.61	252	469577	41.37111 ppb	100
24) Benzo (a) pyrene	20.32	252	544492	52.98576 ppb	100
25) Dibenz (a,h) anthracene	22.81	278	434416	50.45783 ppb	96
26) Benzo (g,h,i) perylene	23.28	276	449102	52.06524 ppb	98

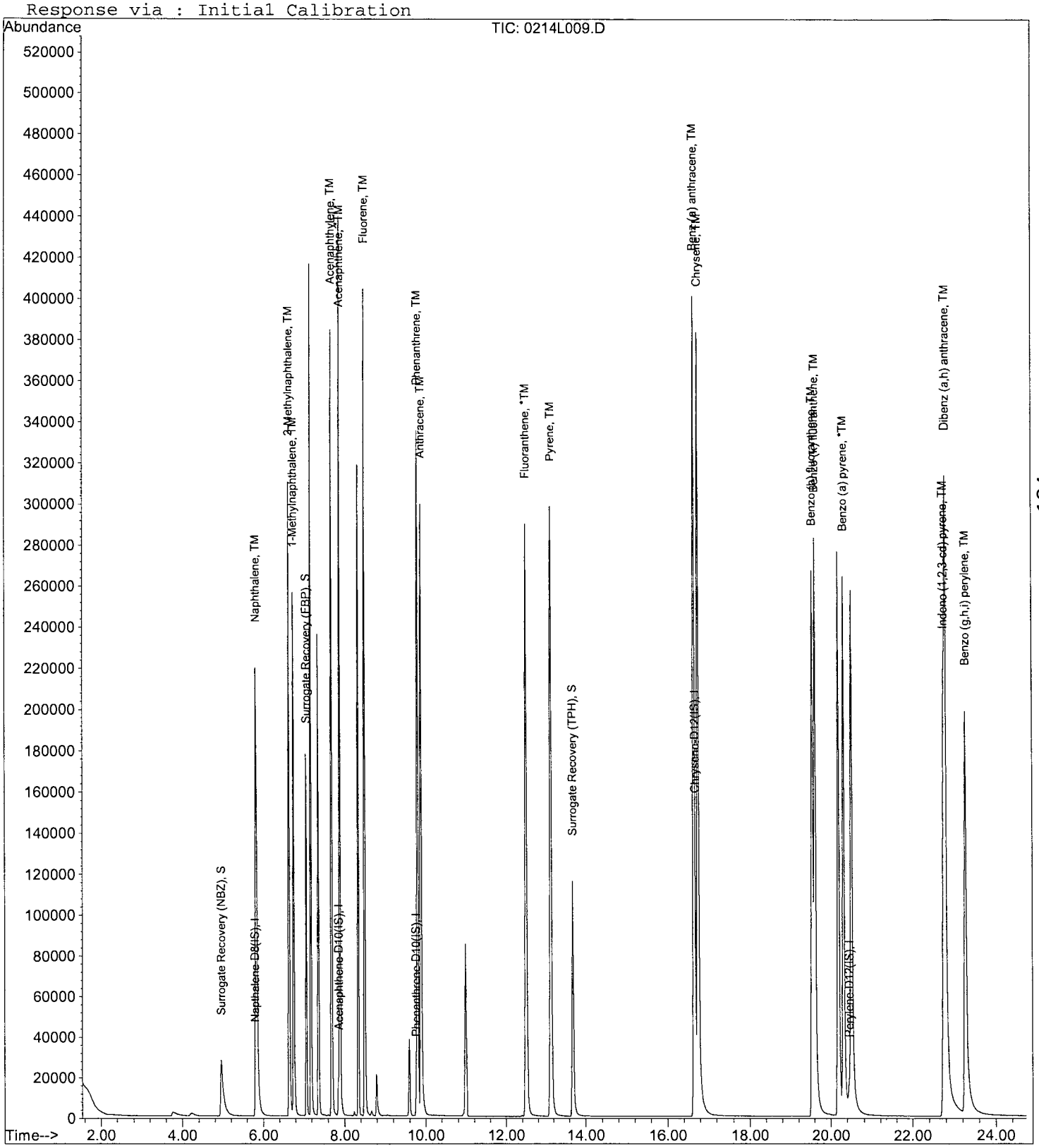
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L009.D Vial: 9
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 50 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L010.D Vial: 10
Acq On : 14 Feb 17 22:10 Operator: MA
Sample : 100 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24826	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11795	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23221	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25126	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22273	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	189983	64.61675 ppb	-0.06
Spiked Amount 5.000			Recovery	= 1292.340%	
7) Surrogate Recovery (FBP)	7.06	172	370044	50.15324 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1003.060%	
17) Surrogate Recovery (TPH)	13.69	244	385634	49.90897 ppb	-0.02
Spiked Amount 5.000			Recovery	= 998.180%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	948587	93.59101 ppb		100
4) 2-Methylnaphthalene	6.64	142	569721	106.29572 ppb		98
5) 1-Methylnaphthalene	6.76	142	542487	79.46428 ppb		97
8) Acenaphthylene	7.69	152	938988	96.96815 ppb		98
9) Acenaphthene	7.89	154	460489	76.81860 ppb		98
10) Fluorene	8.51	166	520677	80.10930 ppb		98
12) Phenanthrene	9.80	178	814732	84.28951 ppb		99
13) Anthracene	9.90	178	792530	87.92814 ppb		99
14) Fluoranthene	12.52	202	1504305	97.48097 ppb		100
16) Pyrene	13.16	202	1342341	94.70286 ppb		100
18) Benz (a) anthracene	16.67	228	1157282	120.50634 ppb		99
19) Chrysene	16.78	228	1082847	74.73450 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.79	276	988467	110.57887 ppb	#	97
22) Benzo (b) fluoranthene	19.56	252	1005475	101.12837 ppb		99
23) Benzo (k) fluoranthene	19.64	252	847638	78.70624 ppb		99
24) Benzo (a) pyrene	20.35	252	968264	99.30470 ppb		100
25) Dibenz (a,h) anthracene	22.84	278	779082	95.37056 ppb		99
26) Benzo (g,h,i) perylene	23.32	276	786063	96.04365 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

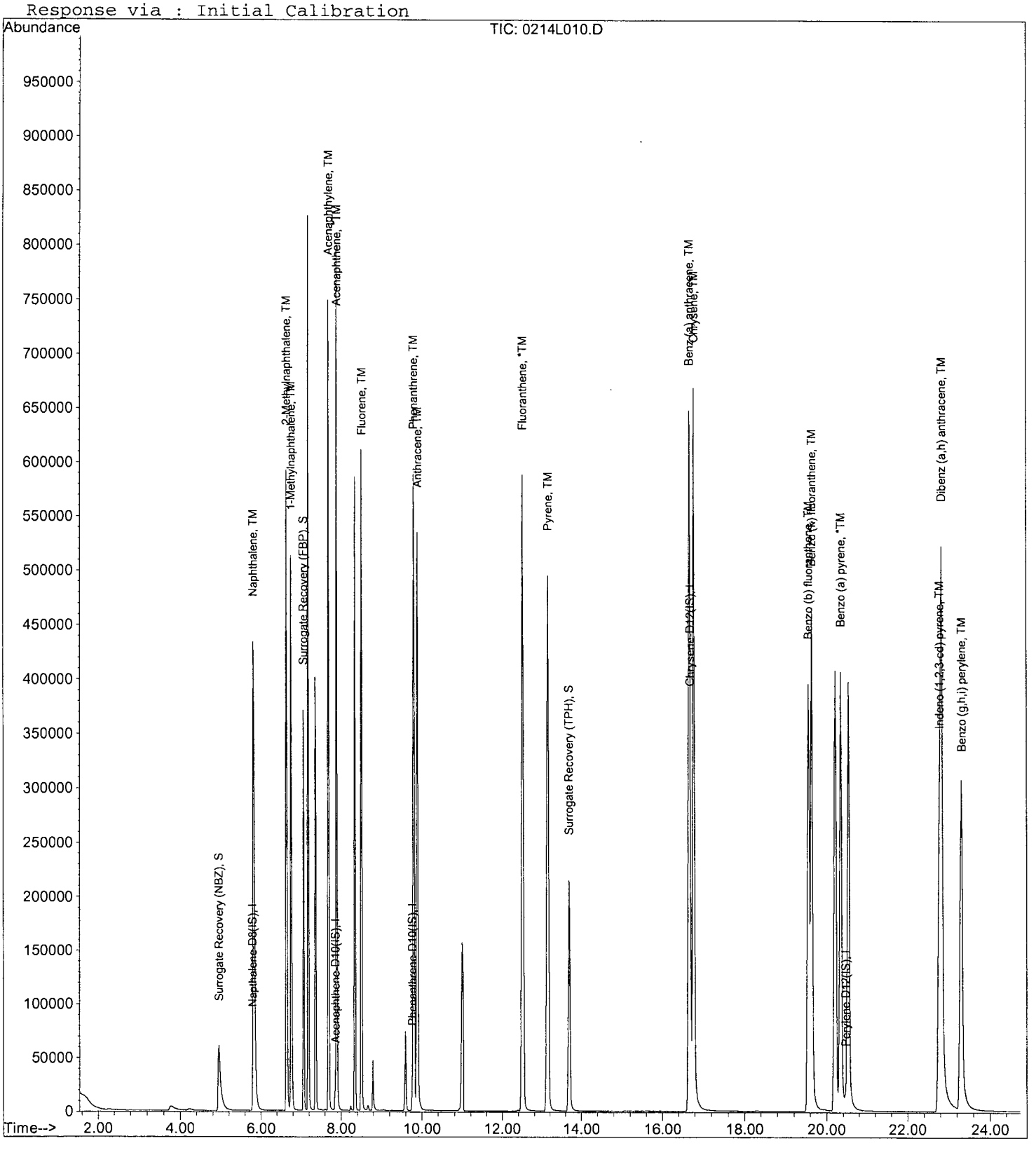
Data File : M:\LINUS\DATA\L170214\0214L010.D
Acq On : 14 Feb 17 22:10
Sample : 100 SIM 02/14/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L050.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.026	1.077	4.9	TM	
2	TML	2-Methylnaphthalene	0.5103	0.6080	19	TML	1.0
3	TM	1-Methylnaphthalene	0.6571	0.6979	6.2	TM	
4	TM	Acenaphthylene	1.939	2.054	5.9	TM	
5	*TM	Acenaphthene	1.200	1.244	3.6	*TM	
6	TM	Fluorene	1.283	1.397	8.9	TM	
7	TM	Phenanthrene	0.9612	1.029	7.1	TM	
8	TML	Anthracene	0.8057	0.9619	19	TML	1.6
9	*TM	Fluoranthene	1.428	1.627	14	*TM	
10	TM	Pyrene	1.324	1.353	2.2	TM	
11	TML	Benz (a) anthracene	0.8505	1.049	23	TML	1.1
12	TM	Chrysene	1.149	1.216	5.8	TM	
13	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9496	60	TML	3.3
14	TML	Benzo (b) fluoranthene	0.7388	1.135	54	TML	2.5
15	TML	Benzo (k) fluoranthene	0.6446	0.7319	14	TML	14
16	*TML	Benzo (a) pyrene	0.8628	1.147	33	*TML	0.85
17	TML	Dibenz (a,h) anthracene	0.5034	0.8883	76	TML	2.9
18	TML	Benzo (g,h,i) perylene	0.5242	0.8426	61	TML	7.7
19							
20							
21							
22							
23							
24							
25							
26							
27							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			23.2		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L050.D Vial: 50
Acq On : 16 Feb 17 14:39 Operator: MA
Sample : SIM SS 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:05 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22112	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11424	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21972	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26989	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	22801	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.34513 ppb	
Spiked Amount 5.000			Recovery	= 6.900%	
7) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
17) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	47615	5.24600 ppb	100
4) 2-Methylnaphthalene	6.65	142	26890	5.05038 ppb	94
5) 1-Methylnaphthalene	6.76	142	30862	5.30981 ppb	95
8) Acenaphthylene	7.70	152	46927	5.29627 ppb	100
9) Acenaphthene	7.89	154	28413	5.17980 ppb	99
10) Fluorene	8.51	166	31912	5.44495 ppb	99
12) Phenanthrene	9.80	178	45233	5.35458 ppb	100
13) Anthracene	9.90	178	42271	4.91964 ppb	100
14) Fluoranthene	12.52	202	71479	5.69468 ppb	99
16) Pyrene	13.15	202	73050	5.11153 ppb	99
18) Benz (a) anthracene	16.65	228	56599	5.05531 ppb #	76
19) Chrysene	16.75	228	65625	5.29141 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	51260	5.16587 ppb #	93
22) Benzo (b) fluoranthene	19.54	252	51763	5.12666 ppb	98
23) Benzo (k) fluoranthene	19.61	252	33374	4.31864 ppb	99
24) Benzo (a) pyrene	20.32	252	52327	4.95749 ppb	99
25) Dibenz (a,h) anthracene	22.81	278	40508	5.14725 ppb #	39
26) Benzo (g,h,i) perylene	23.29	276	38425	4.61626 ppb #	50

Algorithum check = $\frac{47615 * 1 * 2.5}{1 * 22112 * 1.026} = 5.246$

RH 2/20/17

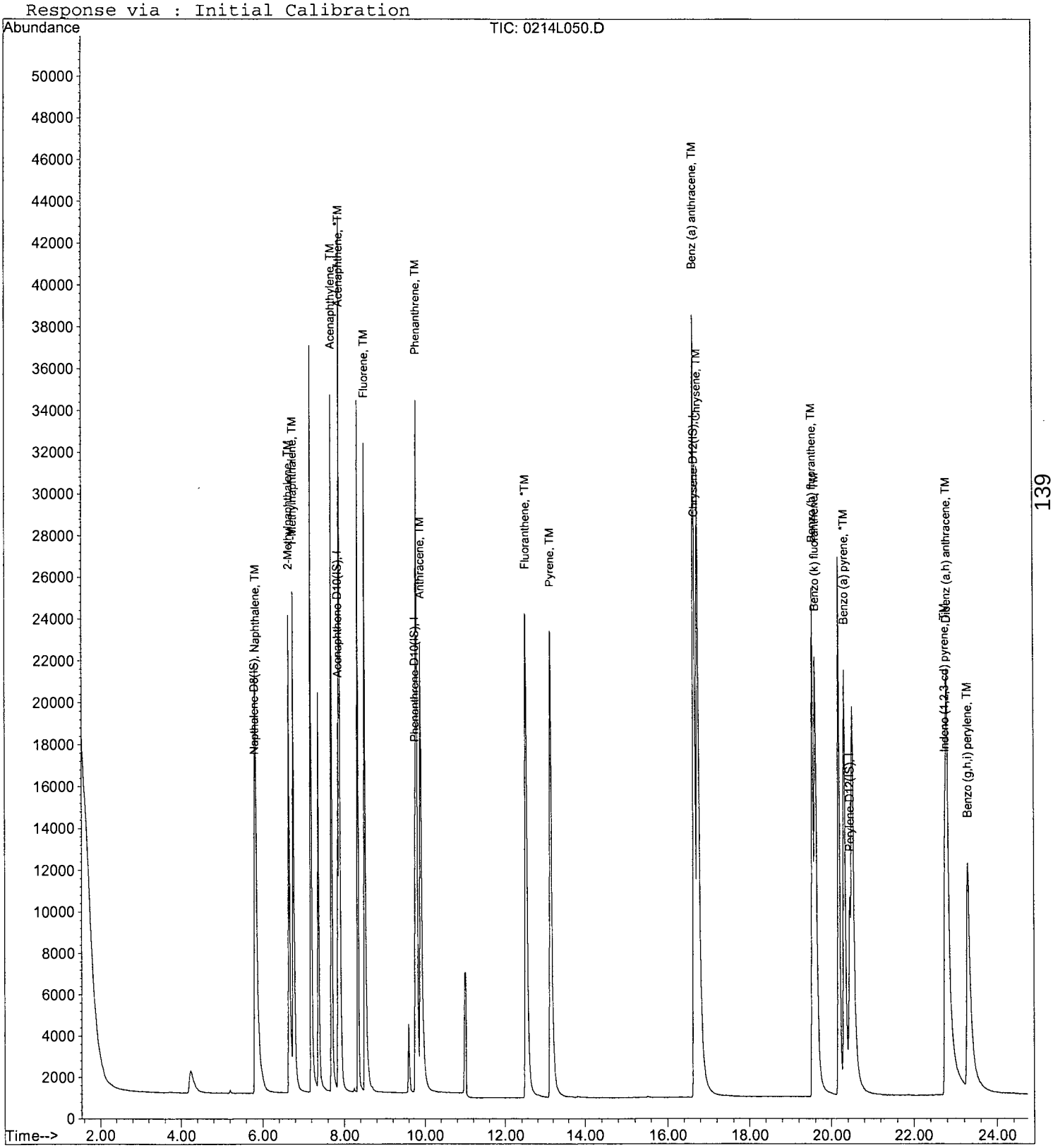
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L050.D Vial: 50
Acq On : 16 Feb 17 14:39 Operator: MA
Sample : SIM SS 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:05 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L059.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3364	22	SL	1.1
3	TM	Naphthalene	1.026	1.126	9.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6485	27	TML	8.0
5	TM	1-Methylnaphthalene	0.6571	0.7065	7.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.627	3.6	S	
8	TM	Acenaphthylene	1.939	2.173	12	TM	
9	*TM	Acenaphthene	1.200	1.307	8.9	*TM	
10	TM	Fluorene	1.283	1.469	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.110	15	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.716	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.484	12	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7576	0.34	S	
18	TML	Benz (a) anthracene	0.8505	1.106	30	TML	6.1
19	TM	Chrysene	1.149	1.322	15	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.018	72	TML	10
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.096	48	TML	0.90
23	TML	Benzo (k) fluoranthene	0.6446	0.8797	36	TML	1.7
24	*TML	Benzo (a) pyrene	0.8628	1.245	44	*TML	8.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9561	90	TML	11
26	TML	Benzo (g,h,i) perylene	0.5242	0.8564	63	TML	6.1
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			27.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21152	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10824	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20561	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	24824	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	20815	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7115	2.52799 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.560%	
7) Surrogate Recovery (FBP)	7.07	172	17616	2.59111 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.820%	
17) Surrogate Recovery (TPH)	13.71	244	18806	2.50859 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.180%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	47620	5.48467 ppb		99
4) 2-Methylnaphthalene	6.65	142	27435	5.40203 ppb		93
5) 1-Methylnaphthalene	6.76	142	29887	5.37544 ppb		93
8) Acenaphthylene	7.70	152	47031	5.60225 ppb		100
9) Acenaphthene	7.89	154	28287	5.44268 ppb		100
10) Fluorene	8.51	166	31810	5.72841 ppb		100
12) Phenanthrene	9.80	178	45642	5.77378 ppb		99
13) Anthracene	9.90	178	42498	5.33320 ppb		100
14) Fluoranthene	12.52	202	70573	6.00835 ppb		100
16) Pyrene	13.15	202	73697	5.60654 ppb		99
18) Benz (a) anthracene	16.65	228	54901	5.30335 ppb	#	76
19) Chrysene	16.75	228	65616	5.75210 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50540	5.51136 ppb		94
22) Benzo (b) fluoranthene	19.54	252	45612	4.95521 ppb		98
23) Benzo (k) fluoranthene	19.61	252	36620	5.08366 ppb		99
24) Benzo (a) pyrene	20.31	252	51826	5.40114 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	39802	5.52993 ppb	#	39
26) Benzo (g,h,i) perylene	23.29	276	35651	4.69305 ppb	#	50

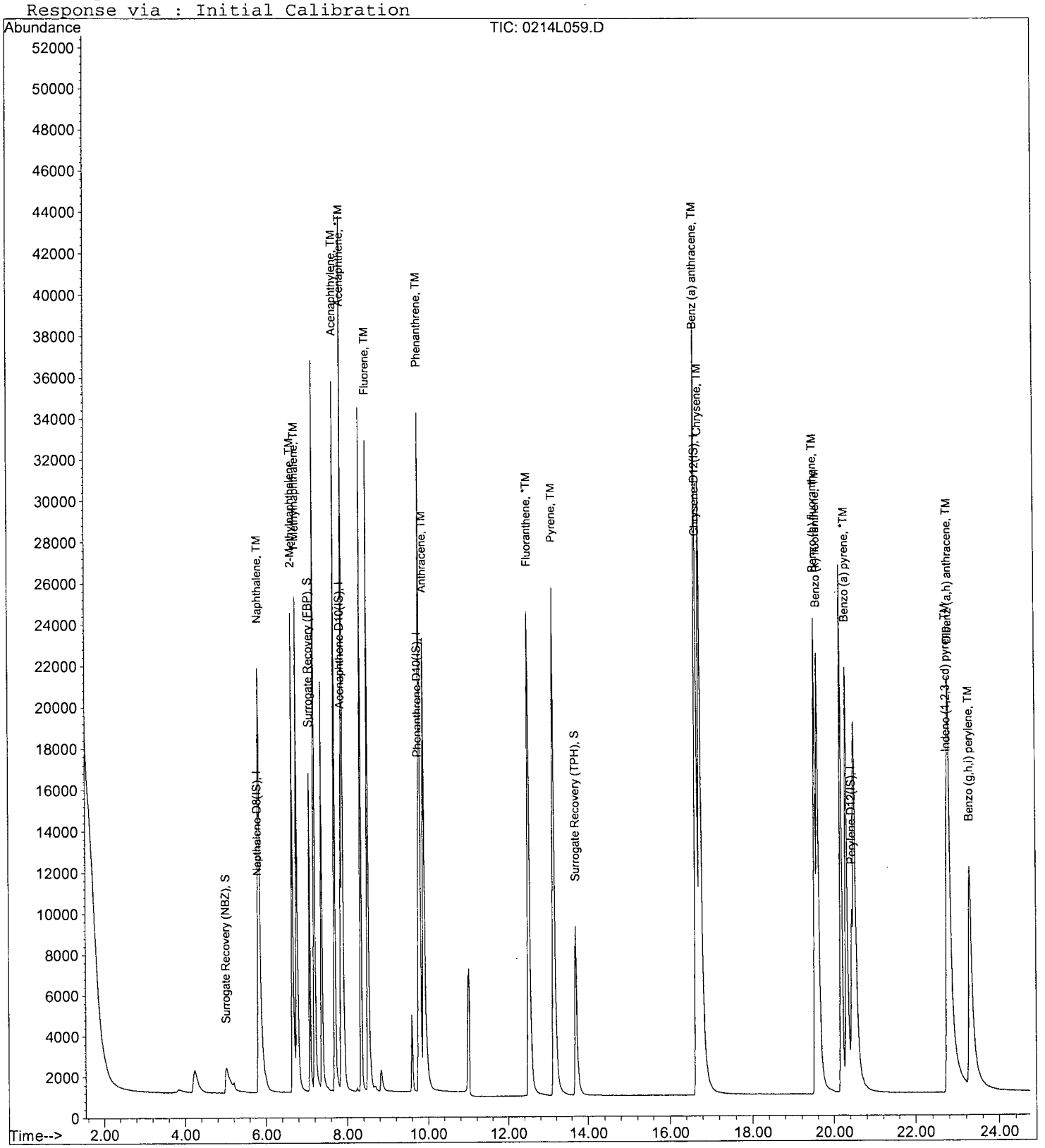
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/17/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L080.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3400	23	SL	2.1
3	TM	Naphthalene	1.026	1.115	8.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6475	27	TML	7.9
5	TM	1-Methylnaphthalene	0.6571	0.6950	5.8	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.611	2.6	S	
8	TM	Acenaphthylene	1.939	2.208	14	TM	
9	*TM	Acenaphthene	1.200	1.316	9.6	*TM	
10	TM	Fluorene	1.283	1.477	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.092	14	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.713	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.467	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7638	1.2	S	
18	TML	Benz (a) anthracene	0.8505	1.124	32	TML	7.6
19	TM	Chrysene	1.149	1.309	14	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.014	71	TML	9.8
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.139	54	TML	2.9
23	TML	Benzo (k) fluoranthene	0.6446	0.8878	38	TML	2.5
24	*TML	Benzo (a) pyrene	0.8628	1.267	47	*TML	10
25	TML	Dibenz (a,h) anthracene	0.5034	0.9954	98	TML	15
26	TML	Benzo (g,h,i) perylene	0.5242	0.9030	72	TML	0.94
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			28.9		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L080.D Vial: 80
Acq On : 17 Feb 17 6:00 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20943	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10628	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20527	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	24802	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	20655	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7121	2.55164 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.040%	
7) Surrogate Recovery (FBP)	7.07	172	17119	2.56445 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.280%	
17) Surrogate Recovery (TPH)	13.70	244	18944	2.52924 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.580%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	46713	5.43390 ppb	99
4) 2-Methylnaphthalene	6.65	142	27120	5.39292 ppb	92
5) 1-Methylnaphthalene	6.76	142	29112	5.28830 ppb	93
8) Acenaphthylene	7.70	152	46933	5.69367 ppb	100
9) Acenaphthene	7.89	154	27970	5.48094 ppb	99
10) Fluorene	8.51	166	31404	5.75959 ppb	100
12) Phenanthrene	9.80	178	44837	5.68134 ppb	100
13) Anthracene	9.90	178	42424	5.33267 ppb	99
14) Fluoranthene	12.51	202	70330	5.99758 ppb	99
16) Pyrene	13.15	202	72786	5.54215 ppb	99
18) Benz (a) anthracene	16.65	228	55733	5.38027 ppb #	76
19) Chrysene	16.75	228	64918	5.69596 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50296	5.49105 ppb #	93
22) Benzo (b) fluoranthene	19.54	252	47045	5.14285 ppb	99
23) Benzo (k) fluoranthene	19.61	252	36677	5.12607 ppb	100
24) Benzo (a) pyrene	20.31	252	52330	5.50059 ppb	99
25) Dibenz (a,h) anthracene	22.81	278	41118	5.75156 ppb #	38
26) Benzo (g,h,i) perylene	23.29	276	37301	4.95291 ppb #	50

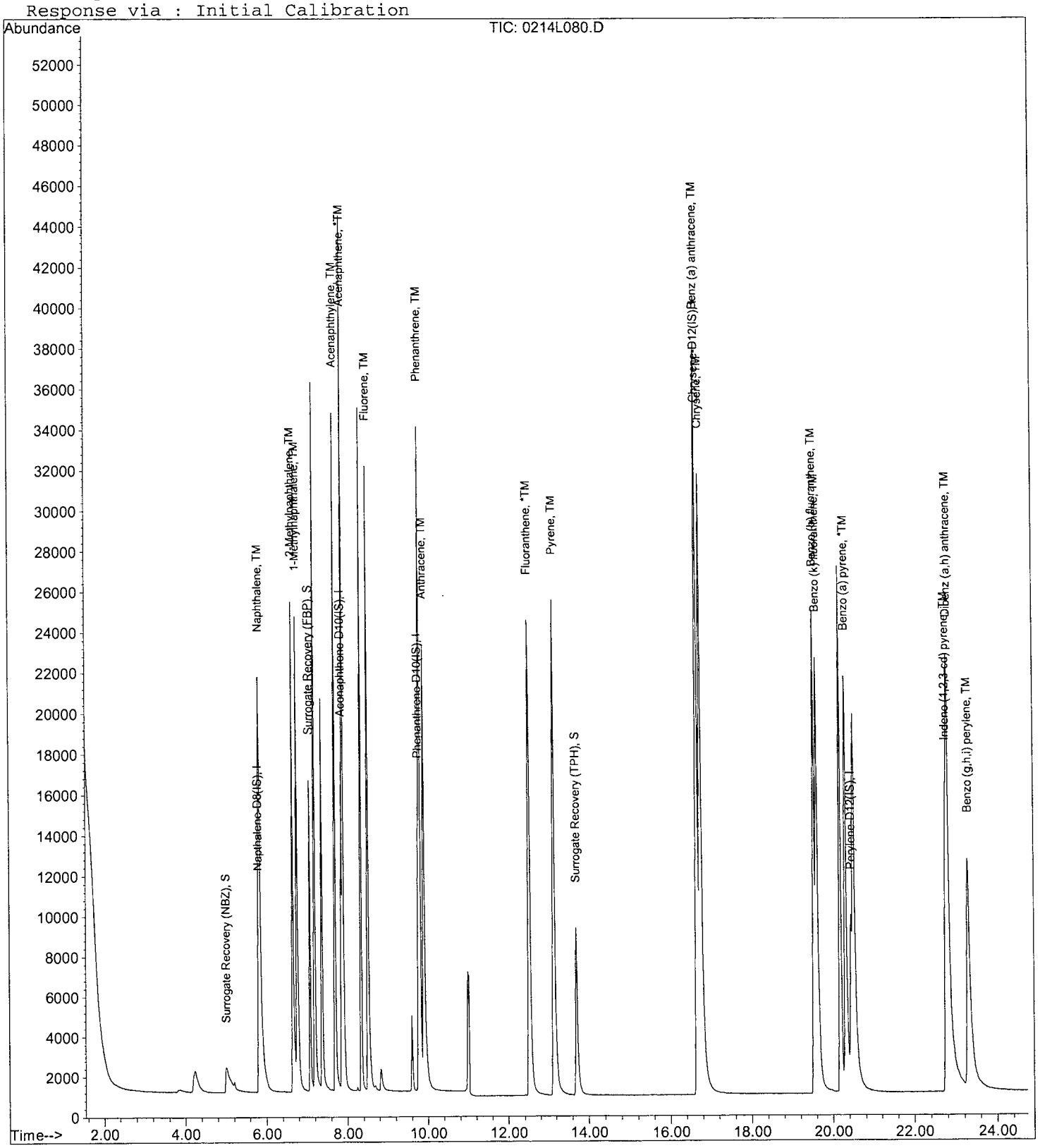
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L080.D Vial: 80
Acq On : 17 Feb 17 6:00 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49739 - 216249**
Batch ID: #SIMDO-170213A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:44:41 AM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L060.D
Acq On : 16 Feb 17 19:38
Sample : 170213A BLK 1/1000
Misc : water

Vial: 60
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:20 2017
Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23656	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11886	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	22678	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	26424	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.48	264	22321	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11947	3.62246 ppb	-0.02
Spiked Amount 5.000			Recovery	= 72.440%	
7) Surrogate Recovery (FBP)	7.07	172	23147	3.10046 ppb	-0.01
Spiked Amount 5.000			Recovery	= 62.000%	
17) Surrogate Recovery (TPH)	13.69	244	38776	4.85926 ppb	-0.02
Spiked Amount 5.000			Recovery	= 97.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

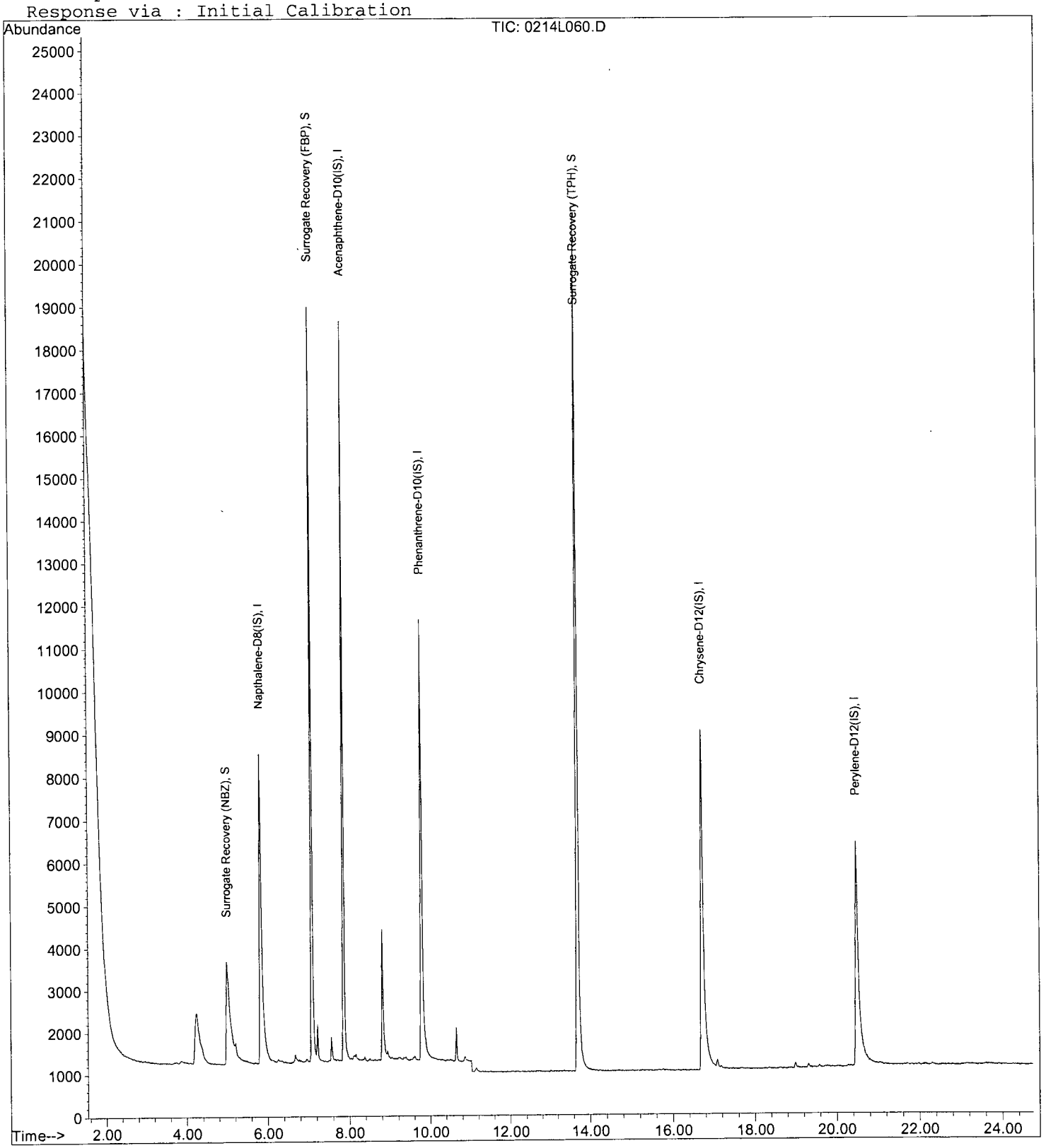
Data File : M:\LINUS\DATA\L170214\0214L060.D
Acq On : 16 Feb 17 19:38
Sample : 170213A BLK 1/1000
Misc : water

Vial: 60
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:20 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49739 LCS - 216249**
Batch ID: #SIMDO-170213A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
NAPHTHALENE	5.00	3.93	78.6	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Printed: 02/17/17 9:44:35 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L061.D Vial: 61
Acq On : 16 Feb 17 20:10 Operator: MA
Sample : 170213A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	19357	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	10056	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	19690	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23632	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	19968	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10592	3.89607 ppb	-0.01
Spiked Amount 5.000			Recovery	= 77.920%	
7) Surrogate Recovery (FBP)	7.07	172	22049	3.49084 ppb	-0.01
Spiked Amount 5.000			Recovery	= 69.820%	
17) Surrogate Recovery (TPH)	13.69	244	29603	4.14802 ppb	-0.02
Spiked Amount 5.000			Recovery	= 82.960%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	31217	3.92886 ppb		99
4) 2-Methylnaphthalene	6.65	142	19589	4.16390 ppb		93
5) 1-Methylnaphthalene	6.76	142	22195	4.36215 ppb		94
8) Acenaphthylene	7.70	152	32977	4.22816 ppb		100
9) Acenaphthene	7.89	154	19471	4.03252 ppb		99
10) Fluorene	8.51	166	23564	4.56754 ppb		100
12) Phenanthrene	9.80	178	34959	4.61799 ppb		100
13) Anthracene	9.90	178	31708	4.01340 ppb		100
14) Fluoranthene	12.52	202	56959	5.06381 ppb		99
16) Pyrene	13.15	202	58874	4.70479 ppb		99
18) Benz (a) anthracene	16.66	228	43056	4.45920 ppb	#	77
19) Chrysene	16.76	228	54656	5.03299 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	38518	4.48474 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	39947	4.54073 ppb		99
23) Benzo (k) fluoranthene	19.61	252	26217	3.92848 ppb		100
24) Benzo (a) pyrene	20.32	252	41373	4.44992 ppb		99
25) Dibenz (a,h) anthracene	22.82	278	32429	4.71673 ppb	#	38
26) Benzo (g,h,i) perylene	23.30	276	32603	4.46988 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

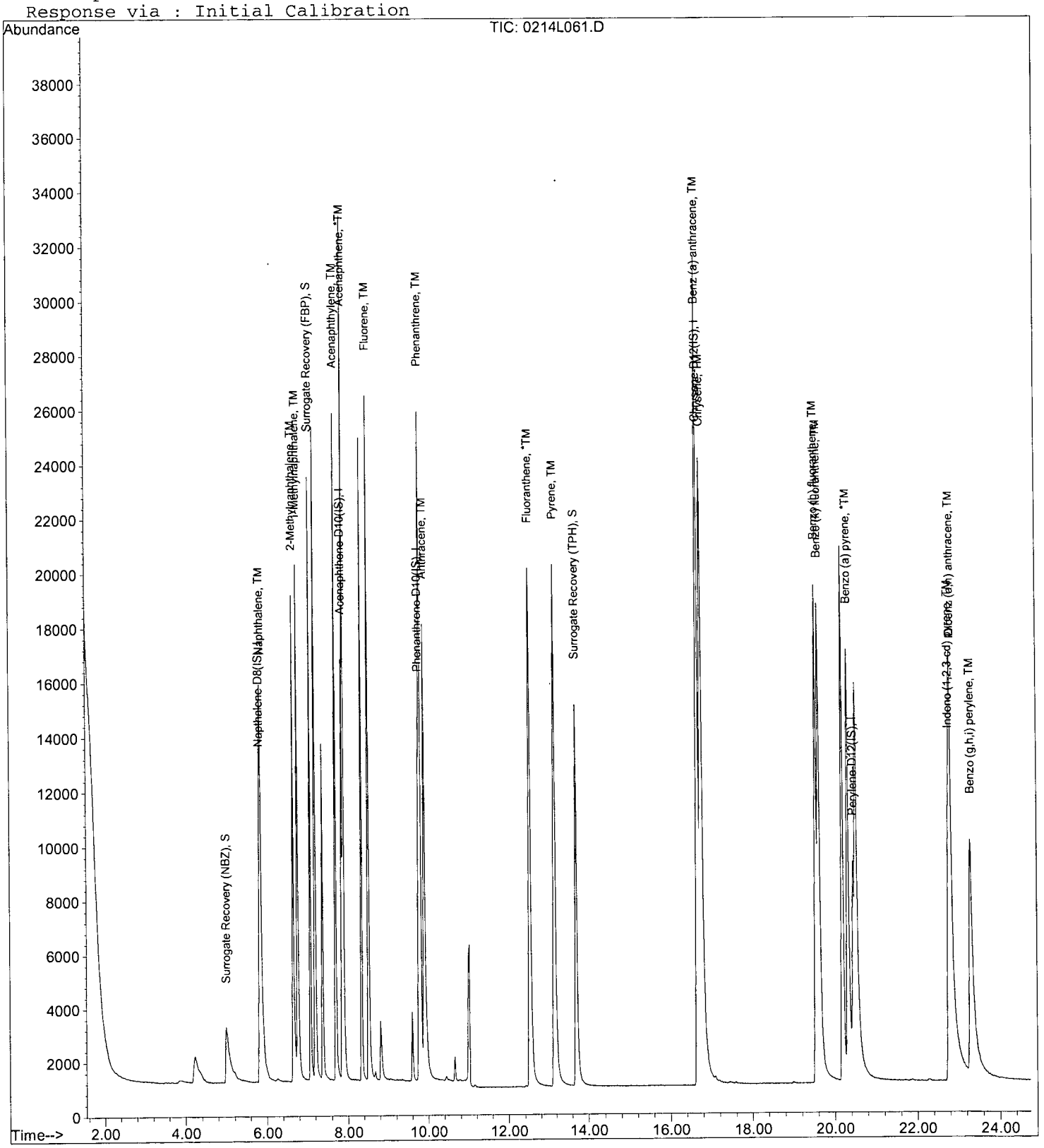
Data File : M:\LINUS\DATA\L170214\0214L061.D
Acq On : 16 Feb 17 20:10
Sample : 170213A LCS-1 1/1000
Misc : water

Vial: 61
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:14 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration

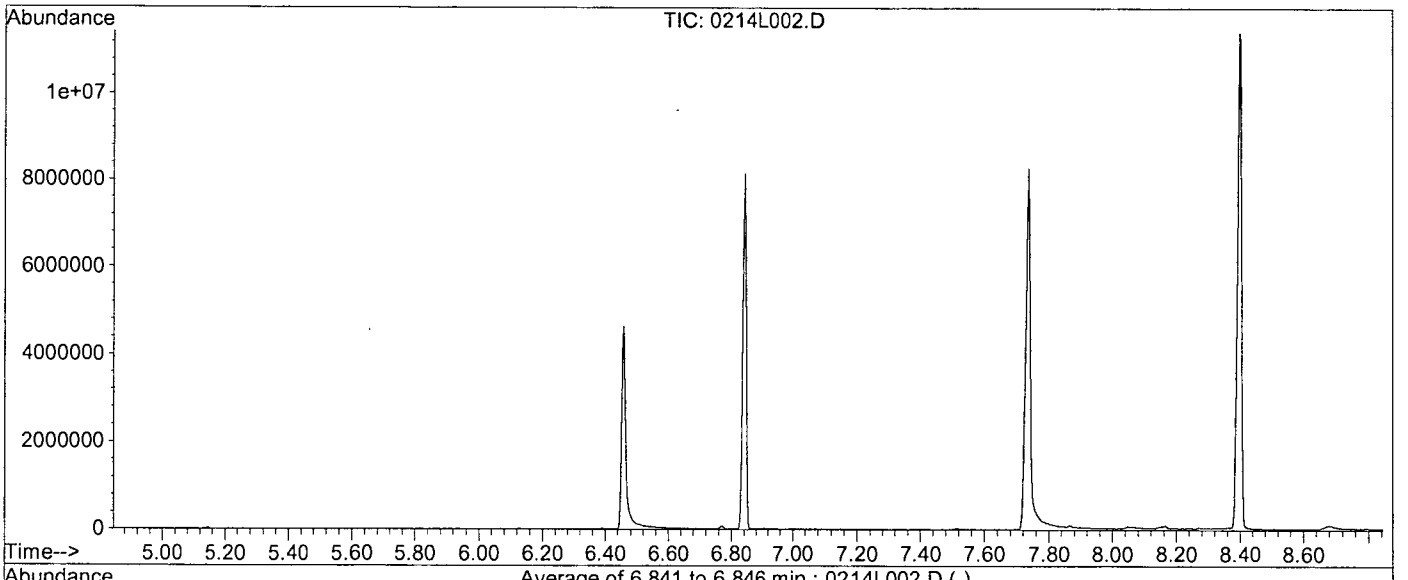


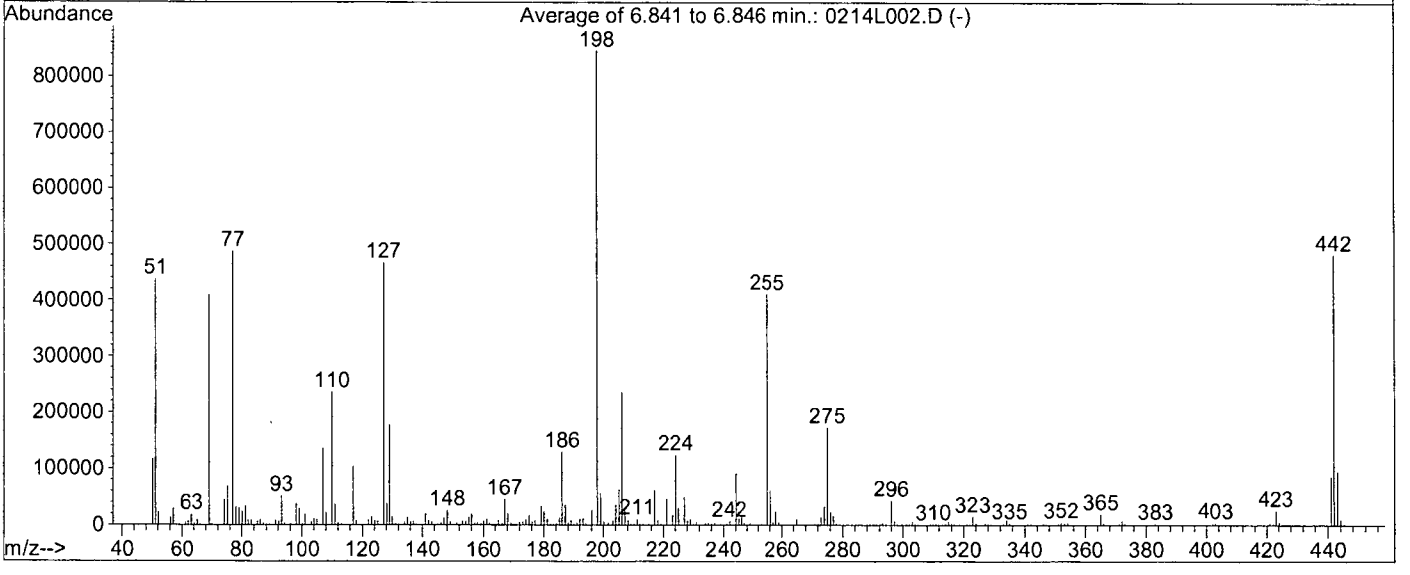
DFTPP

Data File : M:\LINUS\DATA\L170214\0214L002.D
Acq On : 14 Feb 17 18:03
Sample : SV Tune 02/09/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270





AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.7	437381	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1543	PASS
127	198	40	60	55.2	466752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	846059	PASS
199	198	5	9	6.6	55539	PASS
275	198	10	30	20.4	172288	PASS
365	198	1	100	2.2	18390	PASS
441	443	0.01	100	90.5	85072	PASS
442	198	50	150	56.8	480725	PASS
443	442	17	23	19.5	93955	PASS

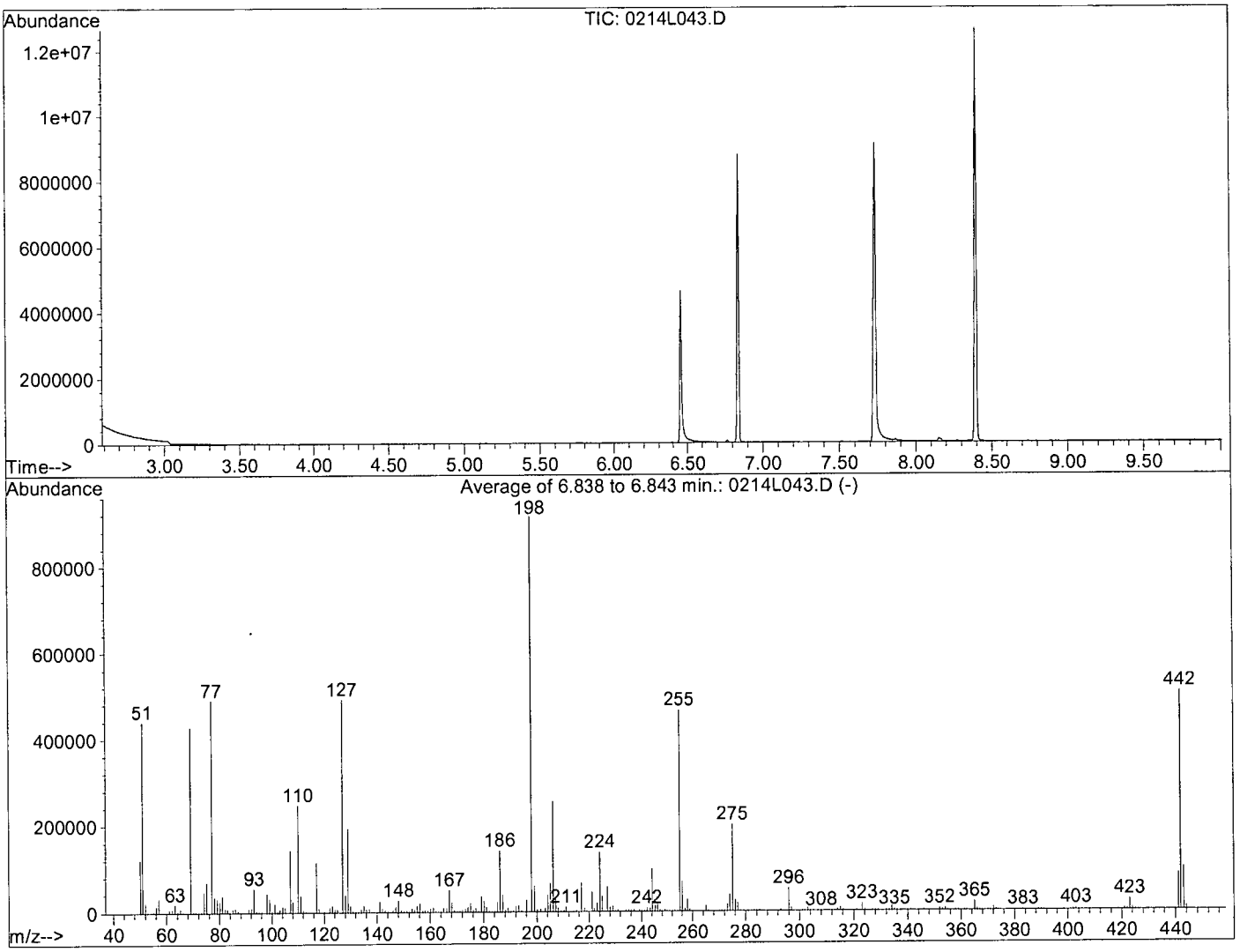
0214L002.D L0214PR.M Wed Feb 15 12:19:54 2017

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L043.D
Acq On : 16 Feb 17 9:23
Sample : SV Tune 2/9/17
Misc : water

Vial: 43
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



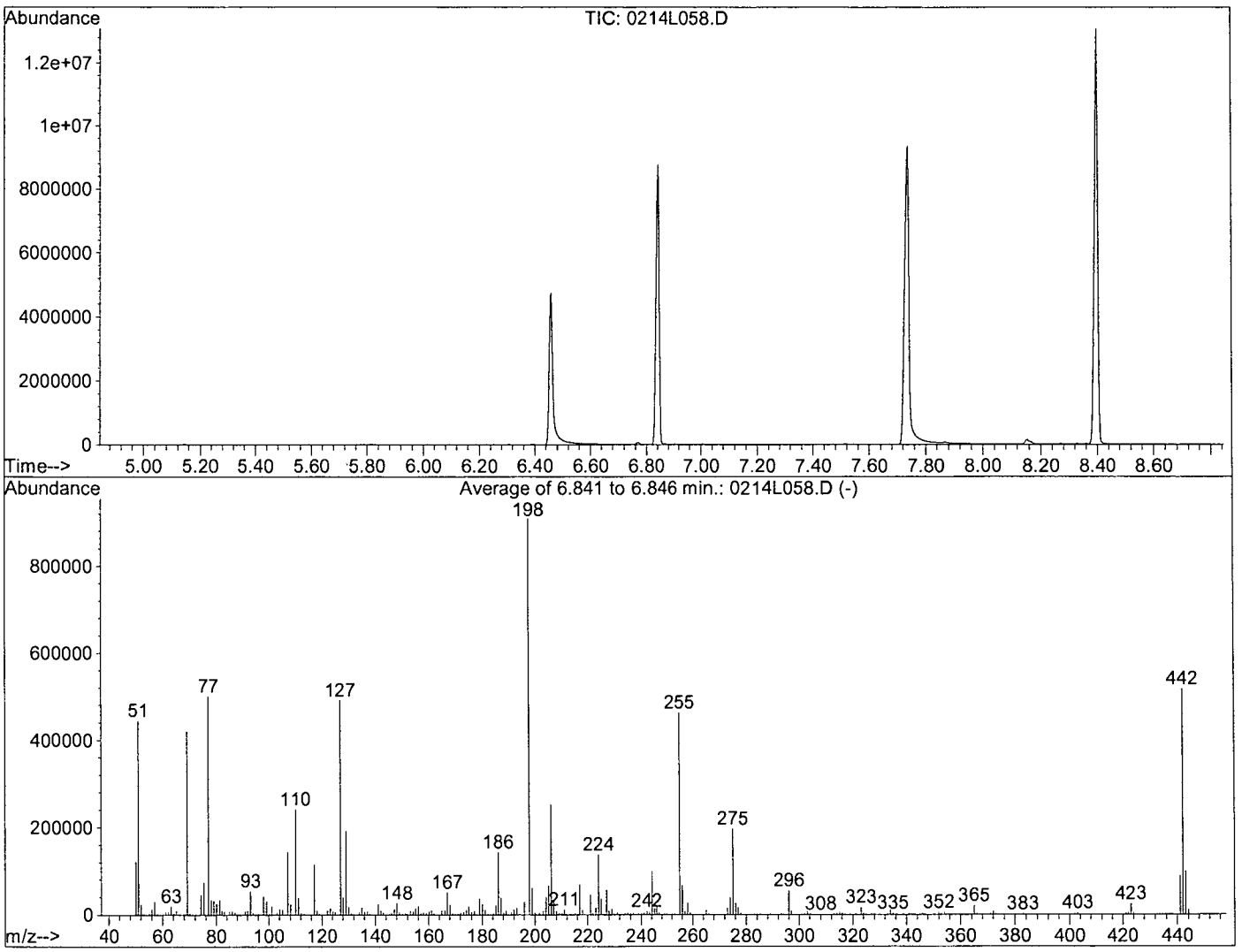
Spectrum Information: Average of 6.838 to 6.843 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.0	440056	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	427947	PASS
70	69	0.00	2	0.5	2291	PASS
127	198	40	60	53.7	491605	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	915904	PASS
199	198	5	9	6.4	59035	PASS
275	198	10	30	21.8	199573	PASS
365	198	1	100	2.2	20008	PASS
441	443	0.01	100	86.2	84077	PASS
442	198	40	150	55.2	505941	PASS
443	442	17	23	19.3	97531	PASS

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L058.D Vial: 58
Acq On : 16 Feb 17 18:47 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1698

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	443840	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	420395	PASS
70	69	0.00	2	0.7	2754	PASS
127	198	40	60	54.0	490667	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	909205	PASS
199	198	5	9	6.7	60792	PASS
275	198	10	30	21.5	195840	PASS
365	198	1	100	2.2	20133	PASS
441	443	0.01	100	88.9	87784	PASS
442	198	40	150	56.9	516928	PASS
443	442	17	23	19.1	98693	PASS

0214L058.D DFTPP2.M Wed Feb 22 08:58:00 2017

8270 PAH SIM Standard Curve

PREP DATE:	2/14/16 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**6/14/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		9/12/16	7/29/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		9/12/16	7/29/17	10	20	0	0	0	0	0	0
O2SI	BNA SURR.	100/200		1/12/17	7/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56153			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM 2ND SRC			Prep: 02/14/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	3270 2ND SRC	VARIOUS	01/24/17	06/24/17	5
	Methylene Chloride				195
o2si	V Internal Standar	2000	10/10/16	10/10/17	4
LOT#	XA10079V-35507			Final Vol.	204

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/03/17					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	6/3/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	6/22/16	6/22/17	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 12/22/16 -R.H.	
EX: 12/22/17	

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	**02/16/17** 0:00	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170213A Blk				0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
2	170213A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
3	170213A LCSD-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
4	AZ49739	AZ49739W11			0.050	1 equip	1020 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W14			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W14			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W09			0.050	1 equip	980 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
8	AZ49783	AZ49783W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
9	AZ49796	AZ49796W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
10	AZ49803	AZ49803W01			0.050	1 equip	1050 E-WB6	1	2/1	02/13/17 11:55	82136
11	AZ49853 MS-1	AZ49853W33	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
12	AZ49853 MSD-1	AZ49853W31	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
13	AZ49853	AZ49853W26			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
14	AZ49854	AZ49854W15			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
15	AZ49855	AZ49855W12			0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
16	AZ49857	AZ49857W12			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	RH
Date	2/14/17
Time	4100
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR

Modified	02/14/17 2:17:45 PM

Reviewed By: RH 164 **Date** 2/14/17

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	02/16/17 0:00	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49860	AZ49860W12			0.050	1	1020	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				
18	AZ49862	AZ49862W10			0.050	1	990	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				

KY 2/14/17

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR

Modified	02/14/17 2:17:45 PM

Reviewed By: KY 165 **Date** 2/14/17

Injection Log

Directory: M:\LINUS\DATA\L170214\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0214L002.D	1	SV Tune 02/09/17	water	14 Feb 17 18:03
2	3	0214L003.D	1	0.1 SIM 02/14/17	water	14 Feb 17 18:21
3	4	0214L004.D	1	0.2 SIM 02/14/17	water	14 Feb 17 18:53
4	5	0214L005.D	1	0.5 SIM 02/14/17	water	14 Feb 17 19:26
5	6	0214L006.D	1	1.0 SIM 02/14/17	water	14 Feb 17 19:59
6	7	0214L007.D	1	5.0 SIM 02/14/17	water	14 Feb 17 20:32
7	8	0214L008.D	1	10 SIM 02/14/17	water	14 Feb 17 21:04
8	9	0214L009.D	1	50 SIM 02/14/17	water	14 Feb 17 21:37
9	10	0214L010.D	1	100 SIM 02/14/17	water	14 Feb 17 22:10
10	43	0214L043.D	1	SV Tune 2/9/17	water	16 Feb 17 9:23
11	50	0214L050.D	1	SIM SS 02/14/17	water	16 Feb 17 14:39
12	58	0214L058.D	1	SV Tune 2/9/17	water	16 Feb 17 18:47
13	59	0214L059.D	1	5.0 SIM 02/14/17	water	16 Feb 17 19:05
14	60	0214L060.D	1	170213A BLK 1/1000	water	16 Feb 17 19:38
15	61	0214L061.D	1	170213A LCS-1 1/1000	water	16 Feb 17 20:10
16	75	0214L075.D	0.96154	AZ49857W12 1/1040	water	17 Feb 17 3:49
17	76	0214L076.D	0.98039	AZ49860W12 1/1020	water	17 Feb 17 4:22
18	77	0214L077.D	1.0101	AZ49862W10 1/990	water	17 Feb 17 4:55
19	80	0214L080.D	1	5.0 SIM 02/14/17	water	17 Feb 17 6:00

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:35:01 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER

SDG No: 82146
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	43-140	72.6		44-119	60.6	
170214A-LCS	Lab Control Spike	43-140	64.0		44-119	49.9	
AZ49857	ERH231	43-140	64.0		44-119	52.2	
AZ49860	ERH227	43-140	67.2		44-119	59.2	
AZ49862	ERH223	43-140	62.4		44-119	49.1	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:35:02 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER

SDG No: 82146
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	19-119	43.1		44-120	67.6	
170214A-LCS	Lab Control Spike	19-119	36.9		44-120	60.7	
AZ49857	ERH231	19-119	29.8		44-120	51.6	
AZ49860	ERH227	19-119	38.7		44-120	66.3	
AZ49862	ERH223	19-119	31.1		44-120	51.8	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:35:02 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 02/15/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	10-115	25.2		50-134	70.4	
170214A-LCS	Lab Control Spike	10-115	23.1		50-134	65.6	
AZ49857	ERH231	10-115	19.8		50-134	63.7	
AZ49860	ERH227	10-115	23.9		50-134	72.0	
AZ49862	ERH223	10-115	19.5		50-134	61.0	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:35:02 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:35:04 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82146
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 1151

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	0123Y164	02/15/17 1151
170214A-LCS	Lab Control Spike	0123Y165	02/15/17 1222
AZ49857	ERH231	0123Y175	02/15/17 1738
AZ49860	ERH227	0123Y176	02/15/17 1809
AZ49862	ERH223	0123Y177	02/15/17 1839

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:35:27 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: SV Tune 12/15/16

SDG No: 82146
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 10:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 1/19/17	0123Y163.D	02/15/17 11:07
2	Blank	170214A BLK 1/1000	0123Y164.D	02/15/17 11:51
3	Lab Control Spike	170214A LCS-1 1/1000	0123Y165.D	02/15/17 12:22
4	ERH231	AZ49857W09 1/1000	0123Y175.D	02/15/17 17:38
5	ERH227	AZ49860W13 1/980	0123Y176.D	02/15/17 18:09
6	ERH223	AZ49862W09 1/1000	0123Y177.D	02/15/17 18:39
7		50ug/ml SVOC 1/19/17	0123Y179.D	02/15/17 19:39
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	42.6
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	52.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.3
365	1 - 100% of mass 198	3.8
441	0.01 - 100% of mass 443	83.7
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	18.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82146
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	192352	4.82	769021	6.26	463296	8.26
02	AZ49857W09 1/1000	168164	4.82	729123	6.25	398671	8.26
03	AZ49860W13 1/980	167612	4.82	731008	6.25	443377	8.27
04	AZ49862W09 1/1000	159129	4.83	717107	6.26	408974	8.26
05	50ug/ml SVOC 1/19/17	139757	4.82	579971	6.25	359597	8.27
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82146
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	892159	9.99	829083	13.06	874527	14.70
02	AZ49857W09 1/1000	719035	9.99	729254	13.06	754174	14.69
03	AZ49860W13 1/980	820361	9.99	754468	13.06	774292	14.69
04	AZ49862W09 1/1000	780704	9.99	757650	13.06	765048	14.69
05	50ug/ml SVOC 1/19/17	677259	9.99	663679	13.07	665007	14.70
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	64.0	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	52.2	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	29.8	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	51.6	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	19.8	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	63.7	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y175
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:35:27 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y175.D Vial: 75
Acq On : 15 Feb 17 17:38 Operator: MA
Sample : AZ49857W09 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:09 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	168164	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	729123	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	398671	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	719035	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	729254	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	754174	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	316385	59.64392 ppb	0.00
Spiked Amount 200.000			Recovery	= 29.822%	
5) Phenol-D6 (S)	4.47	99	279188	39.55920 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.780%	
21) Nitrobenzene-D5(S)	5.47	82	381673	51.61645 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.616%	
45) 2-Fluorobiphenyl(S)	7.50	172	667326	52.17813 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.178%	
63) 2,4,6-Tribromophenol(S)	9.19	330	236277	128.04134 ppb	0.00
Spiked Amount 200.000			Recovery	= 64.021%	
81) Terphenyl-D14(S)	11.84	244	998878	63.68182 ppb	0.00
Spiked Amount 100.000			Recovery	= 63.682%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

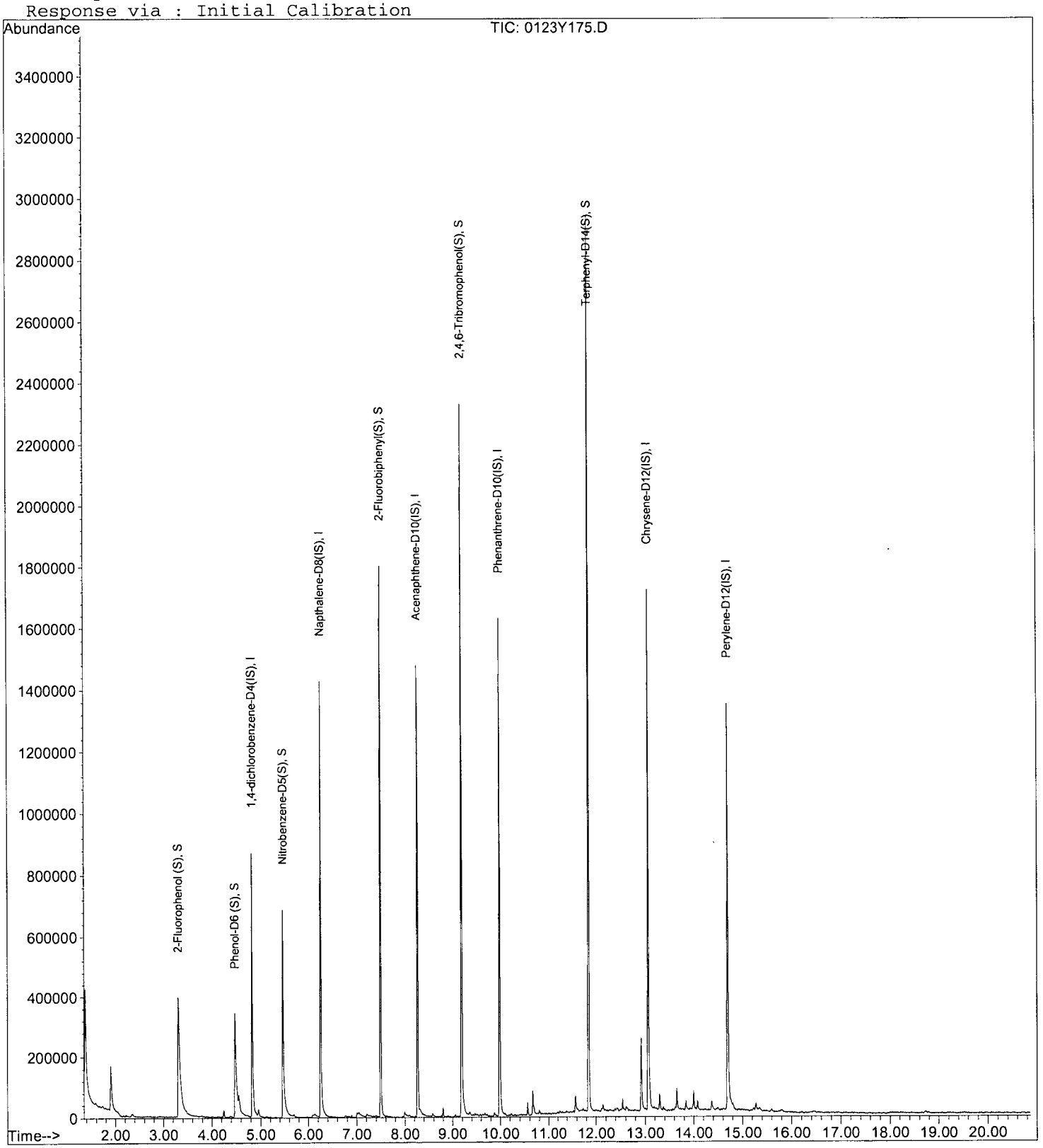
Data File : M:\YODA\DATA\Y170123\0123Y175.D
Acq On : 15 Feb 17 17:38
Sample : AZ49857W09 1/1000
Misc : water

Vial: 75
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 12:09 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	67.2	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	59.2	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	38.7	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	66.3	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	23.9	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	72.0	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y176
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:35:28 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y176.D Vial: 76
Acq On : 15 Feb 17 18:09 Operator: MA
Sample : AZ49860W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Feb 16 12:11 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	167612	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	731008	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	443377	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	820361	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	754468	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	774292	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	409246	78.98368 ppb	0.00
Spiked Amount 204.082			Recovery	= 38.702%	
5) Phenol-D6 (S)	4.47	99	336123	48.75864 ppb	0.00
Spiked Amount 204.082			Recovery	= 23.892%	
21) Nitrobenzene-D5(S)	5.46	82	491188	67.60796 ppb	0.00
Spiked Amount 102.041			Recovery	= 66.256%	
45) 2-Fluorobiphenyl(S)	7.50	172	842241	60.42311 ppb	0.00
Spiked Amount 102.041			Recovery	= 59.215%	
63) 2,4,6-Tribromophenol(S)	9.19	330	275738	137.10130 ppb	0.00
Spiked Amount 204.082			Recovery	= 67.179%	
81) Terphenyl-D14(S)	11.84	244	1168142	73.45331 ppb	0.00
Spiked Amount 102.041			Recovery	= 71.984%	

Target Compounds Qvalue

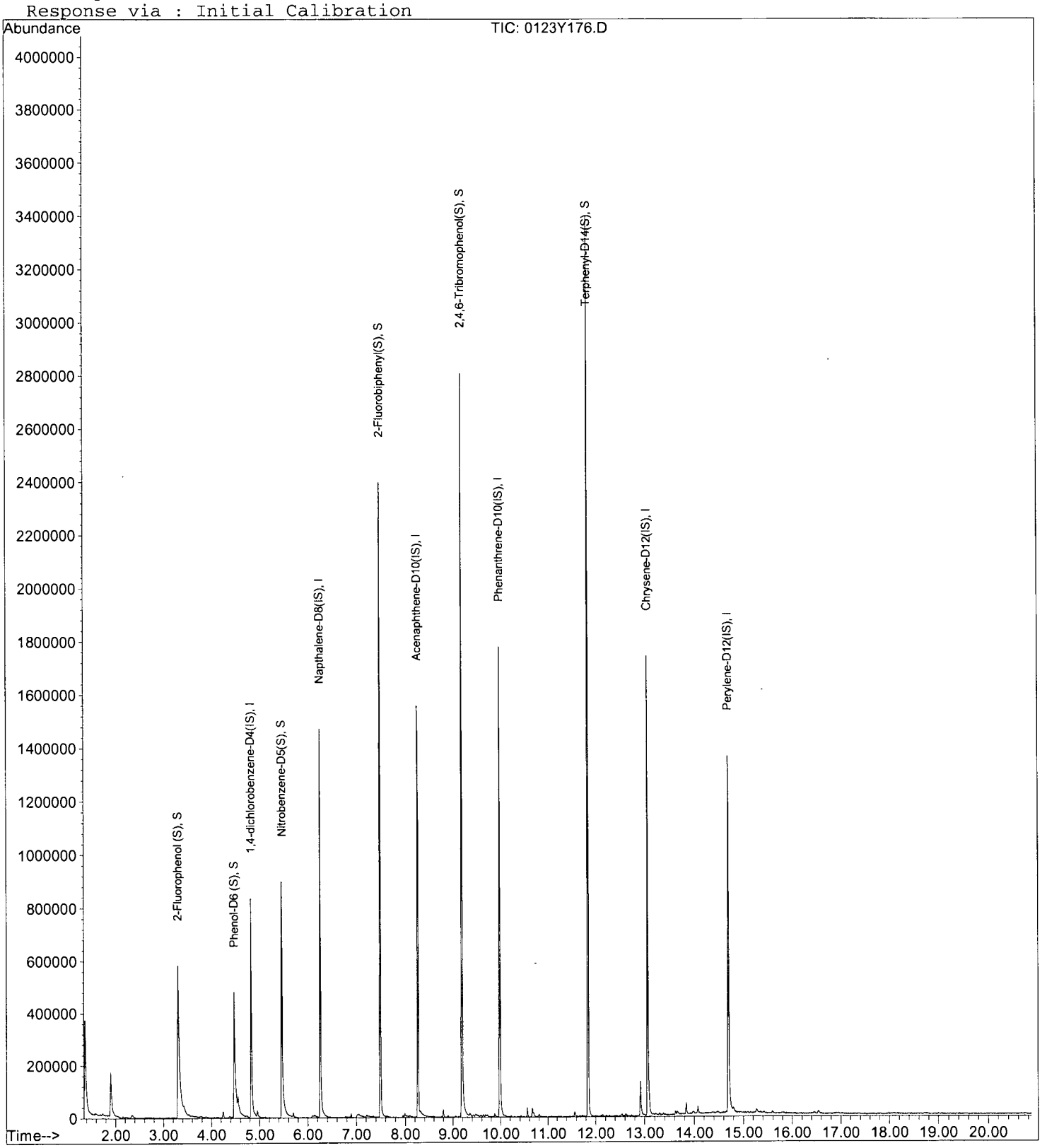
(#) = qualifier out of range (m) = manual integration
0123Y176.D Y0123.M Thu Feb 16 16:31:35 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y176.D Vial: 76
Acq On : 15 Feb 17 18:09 Operator: MA
Sample : AZ49860W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Feb 16 12:11 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



EPA 8270D WATER

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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.4	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	49.1	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	31.1	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	51.8	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	19.5	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	61.0	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y177
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:35:28 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y177.D Vial: 77
Acq On : 15 Feb 17 18:39 Operator: MA
Sample : AZ49862W09 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:21 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	159129	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	717107	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	408974	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	780704	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	757650	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	765048	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	312377	62.23190 ppb	0.00
Spiked Amount 200.000			Recovery	= 31.116%	
5) Phenol-D6 (S)	4.47	99	260451	38.99963 ppb	0.01
Spiked Amount 200.000			Recovery	= 19.500%	
21) Nitrobenzene-D5(S)	5.46	82	376780	51.80854 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.809%	
45) 2-Fluorobiphenyl(S)	7.49	172	644458	49.12064 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.121%	
63) 2,4,6-Tribromophenol(S)	9.19	330	236425	124.89387 ppb	0.00
Spiked Amount 200.000			Recovery	= 62.447%	
81) Terphenyl-D14(S)	11.84	244	994452	61.02349 ppb	0.00
Spiked Amount 100.000			Recovery	= 61.023%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y177.D Y0123.M Thu Feb 16 16:31:40 2017

Quantitation Report

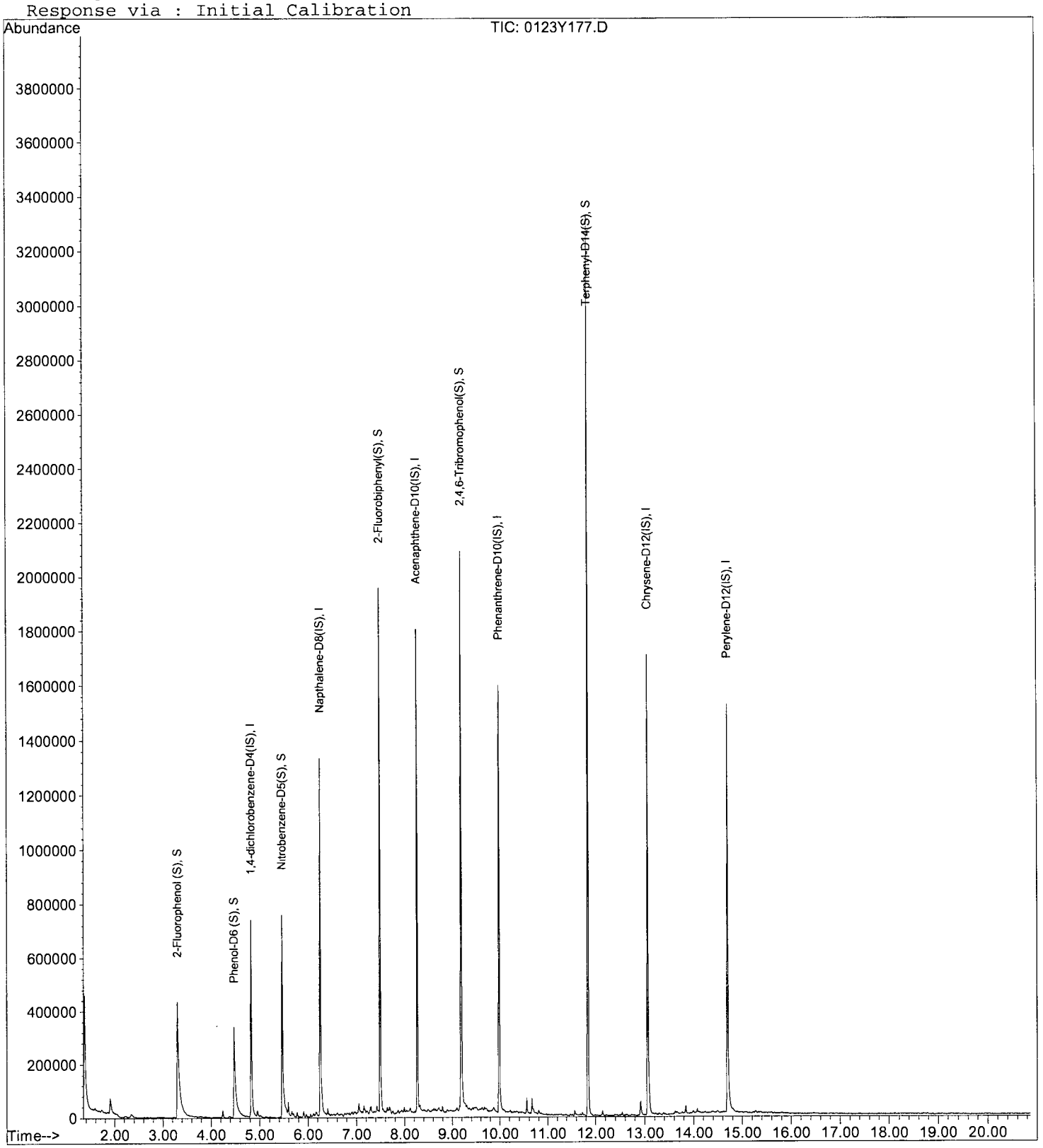
Data File : M:\YODA\DATA\Y170123\0123Y177.D
Acq On : 15 Feb 17 18:39
Sample : AZ49862W09 1/1000
Misc : water

Vial: 77
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 12:21 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003.D	0123Y004.D	0123Y005 D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	1-Methylnaphthalene	7.19	142	59013	4.85644 ppb		96
41)	Hexachlorocyclopentadiene	7.25	237	1405	6.22737 ppb	#	75
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981 ppb		91
43)	2,4,6-Trichlorophenol	7.43	196	15908	4.54471 ppb		92
44)	2,4,5-Trichlorophenol	7.51	196	17938	4.67865 ppb		87
46)	1,1'-Biphenyl	7.61	154	77069	5.11687 ppb		97
47)	2-Chloronaphthalene	7.63	162	56714	4.90886 ppb		93
48)	2-Nitroaniline	7.80	65	17559	4.42395 ppb		96
49)	Dimethyl phthalate	7.97	163	68080	4.95956 ppb		97
50)	2,6-DNT	8.07	165	13516	4.34276 ppb		98
51)	Acenaphthylene	8.10	152	90270	4.94109 ppb		98
52)	3-Nitroaniline	8.28	138	15220	4.43288 ppb		85
53)	Acenaphthene	8.30	154	61118	5.27635 ppb		98
54)	2,4-Dinitrophenol	8.50	184	169	4.37820 ppb	#	30
55)	4-Nitrophenol	8.55	65	1469	5.72682 ppb	#	1
56)	Dibenzofuran	8.51	168	83980	5.14943 ppb		89
57)	2,4-DNT	8.55	165	18690	4.26757 ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109 ppb	#	89
59)	Diethyl phthalate	8.79	149	71558	4.99459 ppb		95
60)	4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558 ppb		97
61)	Fluorene	8.90	166	69616	5.27556 ppb		96
62)	4-Nitroaniline	8.99	138	14747	4.54180 ppb		92
65)	4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540 ppb	#	1
66)	Diphenyl amine	9.05	169	98605	9.56739 ppb		98
67)	n-Nitrosodiphenylamine	9.05	169	98605	9.56739 ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	74355	4.80104 ppb		99
69)	4-Bromophenyl phenyl ether	9.47	248	17941	4.71699 ppb		89
70)	Hexachlorobenzene	9.54	284	18706	4.75015 ppb	#	85
71)	Atrazine	9.68	200	7883	2.10443 ppb		92
72)	Pentachlorophenol	9.80	266	5220	8.60768 ppb		93
73)	Phenanthrene	10.02	178	99531	5.00174 ppb		99
74)	Anthracene	10.08	178	104078	5.06633 ppb		99
75)	Carbazol	10.29	167	87488	4.74701 ppb		100
76)	Di-n-butylphthalate	10.69	149	107331	4.48729 ppb		99
77)	Fluoranthene	11.40	202	106801	4.84818 ppb		99
79)	Benzidine	11.59	184	41695	5.01562 ppb		98
80)	Pyrene	11.66	202	111459	4.57558 ppb		97
82)	Butyl benzylphthalate	12.42	149	49664	4.27180 ppb		94
83)	3,3'-Dichlorobenzidine	13.03	252	33450	4.34312 ppb		91
84)	Benz (a) anthracene	13.05	228	110458	4.89311 ppb		98
85)	Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077 ppb	#	95
86)	Chrysene	13.10	228	115566	5.28777 ppb		99
87)	Di-n-octylphthalate	13.80	149	116268	4.07565 ppb		100
89)	Benzo (b) fluoranthene	14.25	252	112128	4.89068 ppb		98
90)	Benzo (k) fluoranthene	14.28	252	99670	4.67454 ppb		97
91)	Benzo (a) pyrene	14.64	252	95844	4.56113 ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128 ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	99827	5.06969 ppb		96
94)	Benzo (g,h,i) perylene	16.71	276	98040	4.76623 ppb		94

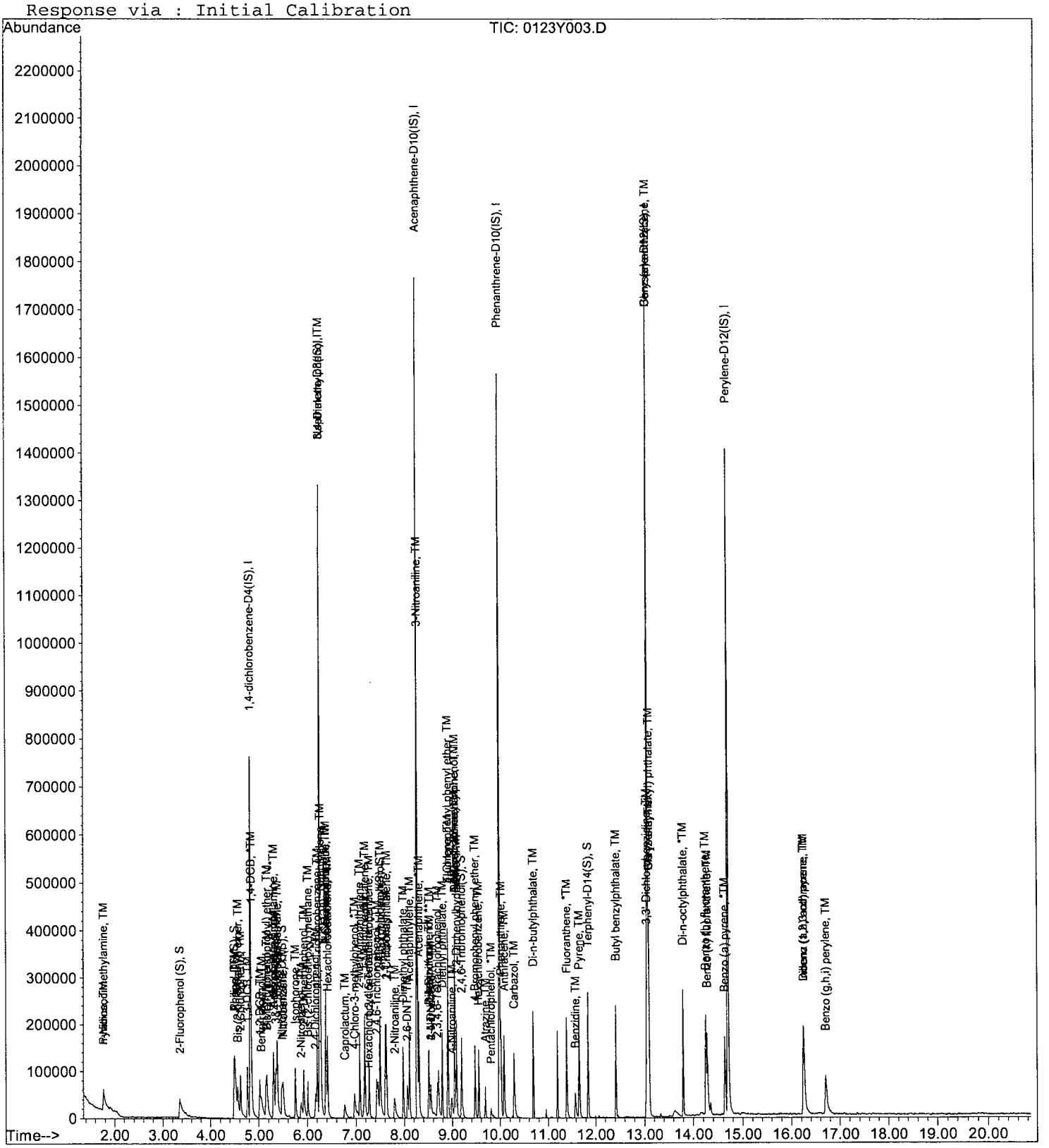
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb	93
3) Pyridine	1.75	79	66022	8.72336 ppb	92
6) Phenol	4.49	94	75248	9.07073 ppb	87
7) Aniline	4.48	66	72483	9.22212 ppb	99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb	98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb	93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb	99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb	95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb	97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb	96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb	96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb #	62
16) Acetophenone	5.30	105	82386	9.71062 ppb	97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb	96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb	98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb	88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb	99
23) Isophorone	5.74	82	111515	9.11028 ppb	95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb	97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb	95
26) Benzoic acid	6.11	105	18107	8.27766 ppb	91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb	99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb	93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb	94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb	88
31) Naphthalene	6.28	128	181219	9.50026 ppb	99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb	94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb	93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb	94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb	98
36) Caprolactum	6.77	55	26053	9.14345 ppb	99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933	ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860	ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861	ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944	ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646	ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318	ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796	ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690	ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723	ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118	ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937	ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420	ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425	ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231	ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926	ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904	ppb		86
61) Fluorene	8.90	166	136880	10.19080	ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103	ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238	ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238	ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736	ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230	ppb		89
71) Atrazine	9.69	200	17574	4.54512	ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148	ppb		93
73) Phenanthrene	10.01	178	207115	10.08340	ppb		100
74) Anthracene	10.08	178	215698	10.17215	ppb		99
75) Carbazol	10.28	167	186612	9.80942	ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533	ppb		100
77) Fluoranthene	11.40	202	215194	9.46381	ppb		99
79) Benzidine	11.58	184	88604	10.34478	ppb		98
80) Pyrene	11.66	202	225558	8.98704	ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716	ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727	ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157	ppb		98
86) Chrysene	13.10	228	218169	9.68864	ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023	ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764	ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396	ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464	ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986	ppb		97

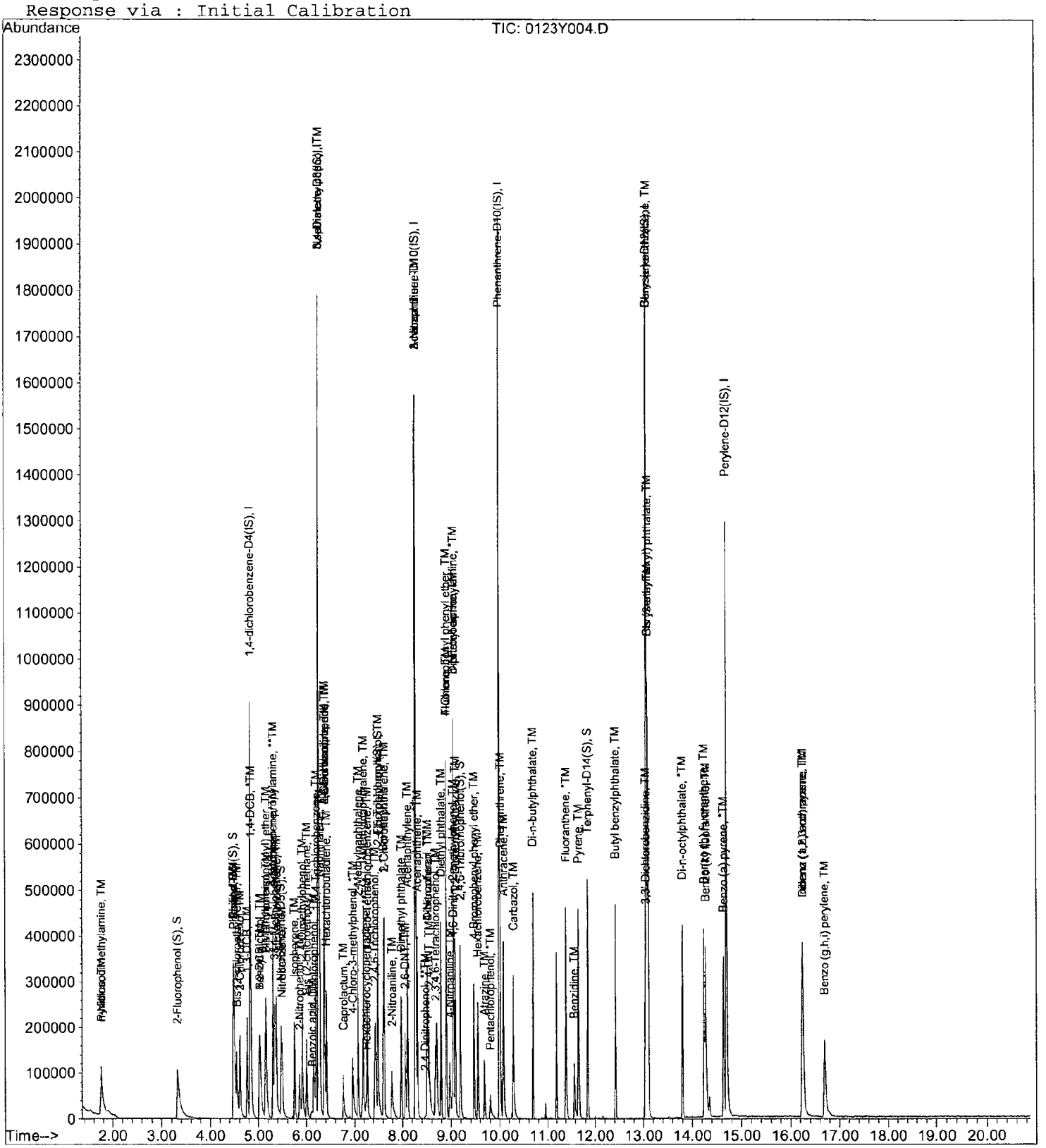
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

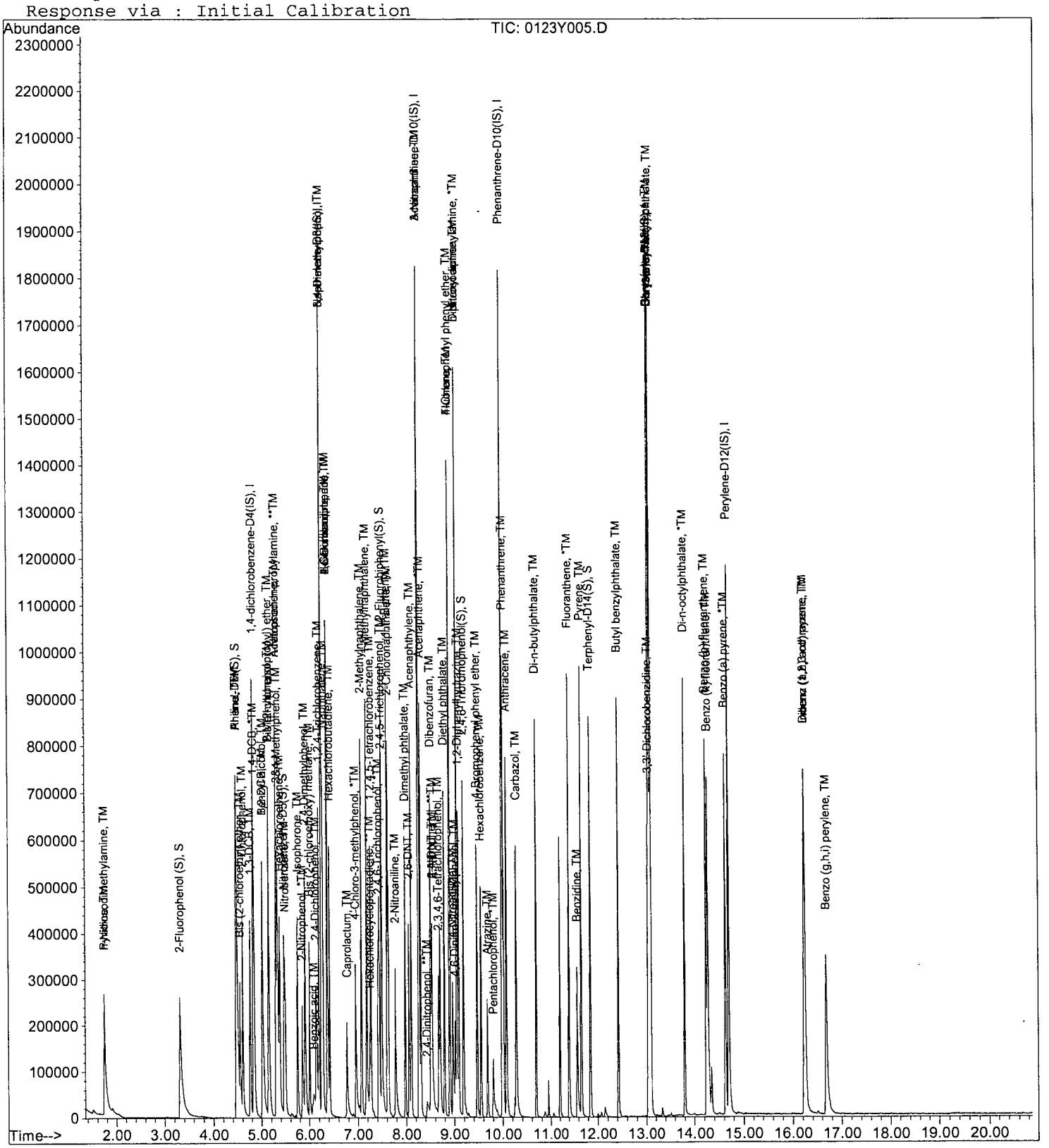
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39)	1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46)	1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47)	2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48)	2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49)	Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50)	2,6-DNT	8.06	165	123834	40.03121	ppb		78
51)	Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52)	3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53)	Acenaphthene	8.31	154	448599	38.96400	ppb		97
54)	2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55)	4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56)	Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57)	2,4-DNT	8.53	165	175188	40.24547	ppb		83
58)	2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59)	Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61)	Fluorene	8.90	166	515360	39.29261	ppb		97
62)	4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65)	4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66)	Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67)	n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69)	4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70)	Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71)	Atrazine	9.69	200	75092	20.23603	ppb		96
72)	Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73)	Phenanthrene	10.02	178	797163	40.43889	ppb		99
74)	Anthracene	10.08	178	837248	41.14126	ppb		99
75)	Carbazol	10.28	167	750665	41.11558	ppb		97
76)	Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77)	Fluoranthene	11.40	202	872131	39.96448	ppb		97
79)	Benzidine	11.58	184	358107	43.08926	ppb		99
80)	Pyrene	11.66	202	926965	38.06361	ppb		99
82)	Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83)	3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84)	Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86)	Chrysene	13.10	228	847601	38.79268	ppb		97
87)	Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89)	Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91)	Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92)	Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93)	Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94)	Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

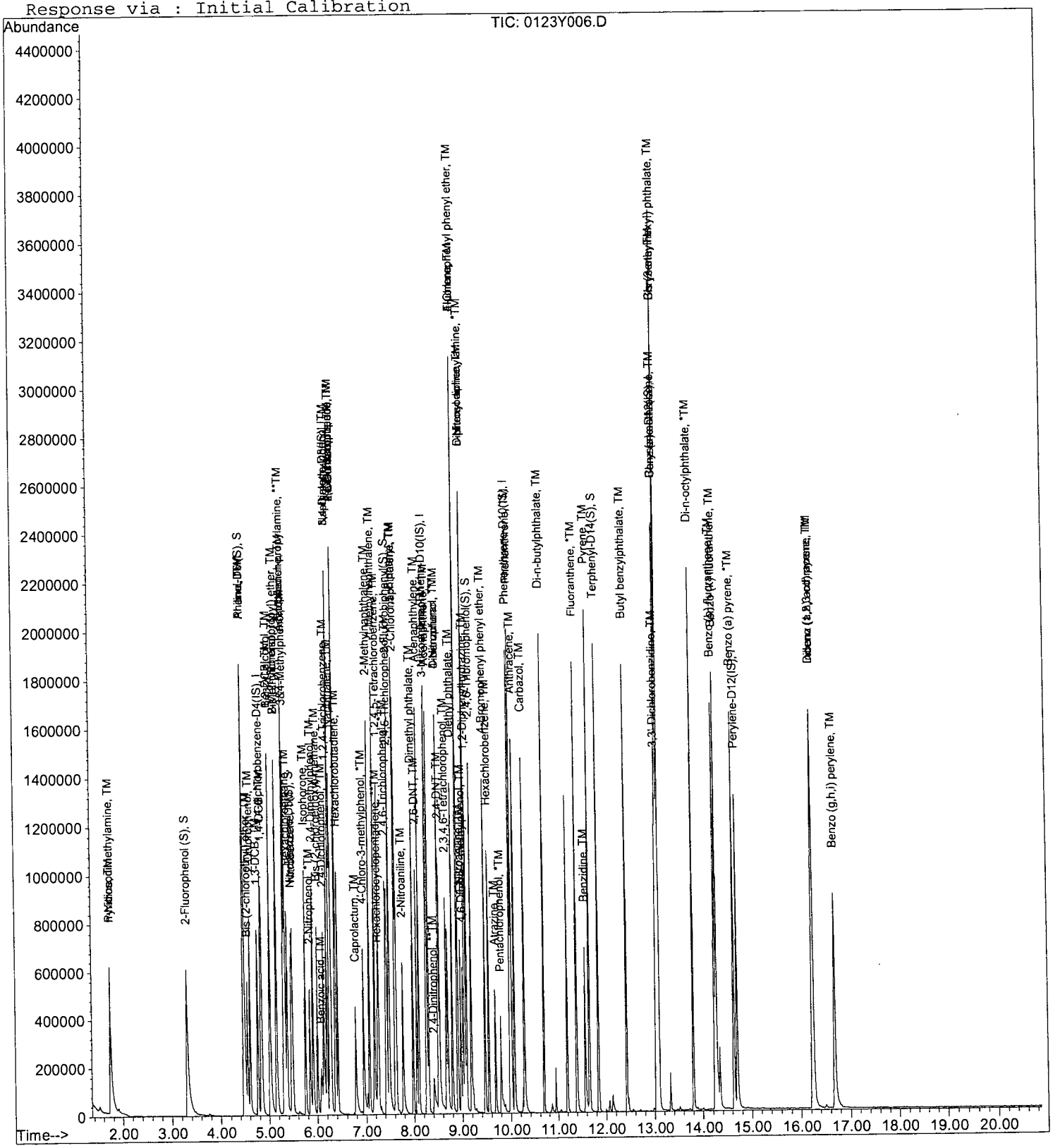
Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery	= 53.334%	
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.999%	
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.350%	
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.791%	
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.033%	
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.829%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782	ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257	ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233	ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718	ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002	ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292	ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712	ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461	ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509	ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223	ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745	ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018	ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517	ppb	100
53) Acenaphthene	8.31	154	531832	50.55517	ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563	ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921	ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608	ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039	ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489	ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208	ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330	ppb	100
61) Fluorene	8.91	166	607907	50.72514	ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677	ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772	ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418	ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418	ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983	ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976	ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867	ppb	100
71) Atrazine	9.69	200	93292	25.41109	ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123	ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940	ppb	100
74) Anthracene	10.08	178	1072822	53.28421	ppb	100
75) Carbazol	10.28	167	961347	53.22159	ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166	ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006	ppb	100
79) Benzidine	11.57	184	449897	58.05903	ppb	100
80) Pyrene	11.66	202	1160046	51.08841	ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356	ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714	ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271	ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915	ppb	100
86) Chrysene	13.10	228	1002337	49.20084	ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316	ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771	ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665	ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837	ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785	ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432	ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546	ppb	100

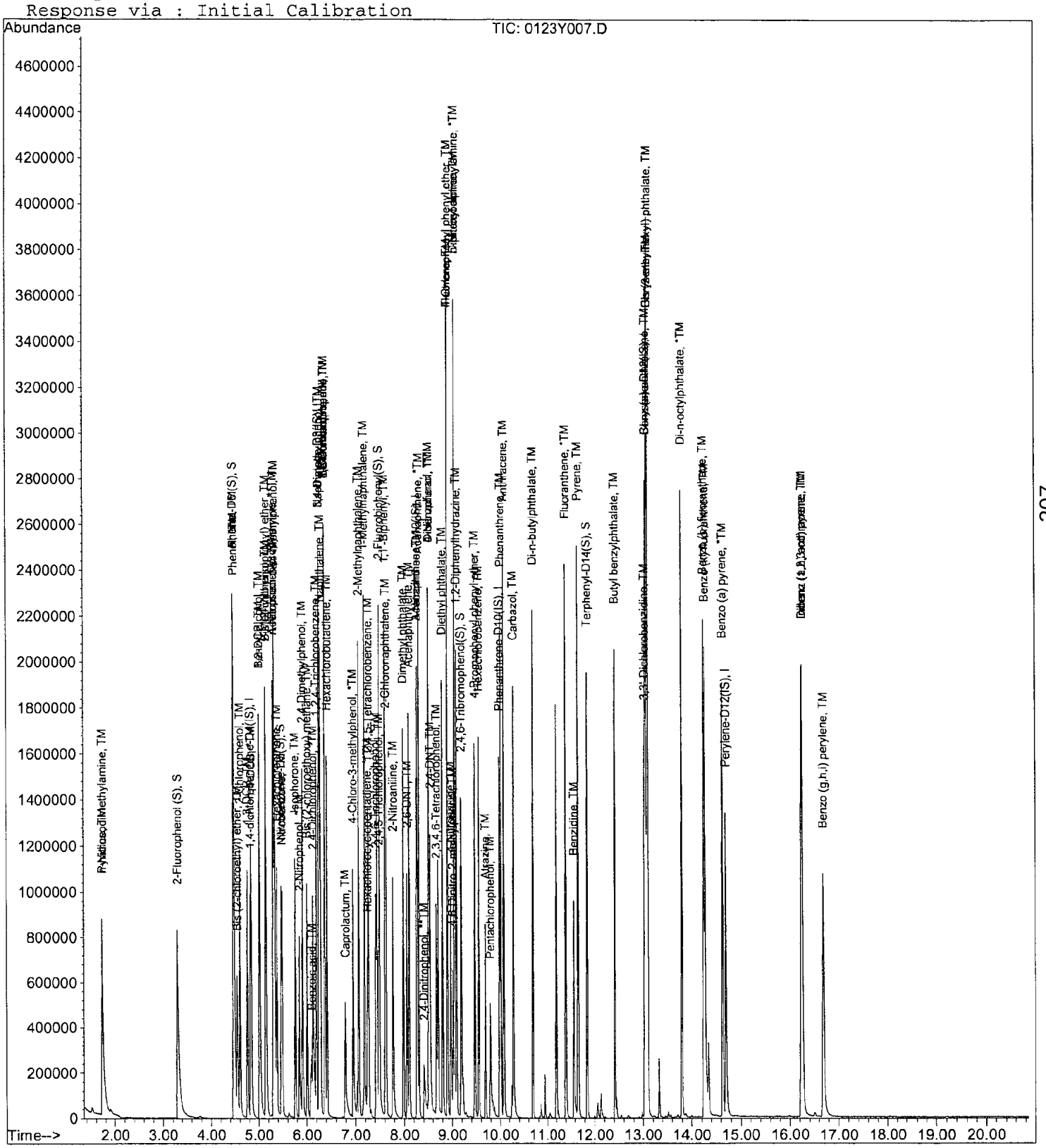
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



207

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery	= 59.291%	
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.295%	
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.529%	
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.203%	
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.820%	
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.189%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750 ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920 ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008 ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161 ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869 ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920 ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675 ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844 ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818 ppb		99
53) Acenaphthene	8.31	154	660528	56.10991 ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470 ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087 ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197 ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227 ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298 ppb		98
61) Fluorene	8.90	166	723357	53.93814 ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356 ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272 ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420 ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533 ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941 ppb		96
71) Atrazine	9.69	200	113418	29.34015 ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528 ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905 ppb		99
74) Anthracene	10.08	178	1251780	59.04733 ppb		100
75) Carbazol	10.28	167	1130326	59.43097 ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811 ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928 ppb		99
79) Benzidine	11.57	184	543076	64.22768 ppb		98
80) Pyrene	11.66	202	1386950	55.97742 ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935 ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200 ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820 ppb		98
86) Chrysene	13.10	228	1217719	54.77858 ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777 ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932 ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798 ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

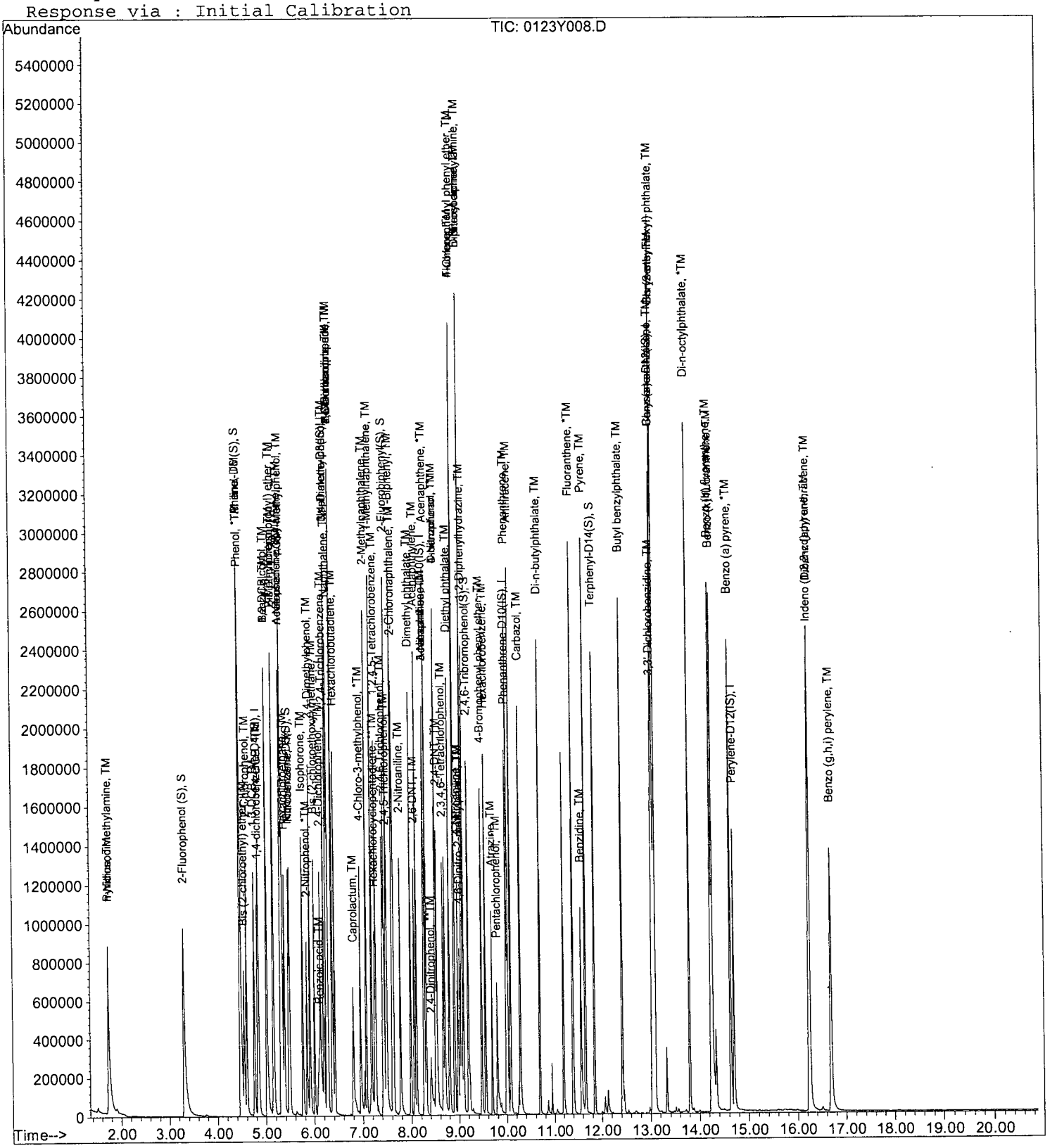
Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb		98
3) Pyridine	1.73	79	634454	83.90277 ppb		100
6) Phenol	4.48	94	642315	77.49542 ppb		98
7) Aniline	4.48	66	611004	77.80712 ppb	#	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb		91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb		99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb		99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb		96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb		93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb		99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb		98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb		96
16) Acetophenone	5.30	105	658013	77.62630 ppb		95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb		93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb		89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb		97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb		92
23) Isophorone	5.76	82	966459	84.20922 ppb		98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb		98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb		98
26) Benzoic acid	6.12	105	344797	79.06975 ppb		99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb		99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb		97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb		99
31) Naphthalene	6.28	128	1406137	78.62073 ppb		99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb		96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb		98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb		98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb		98
36) Caprolactum	6.82	55	245801	92.00545 ppb		98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

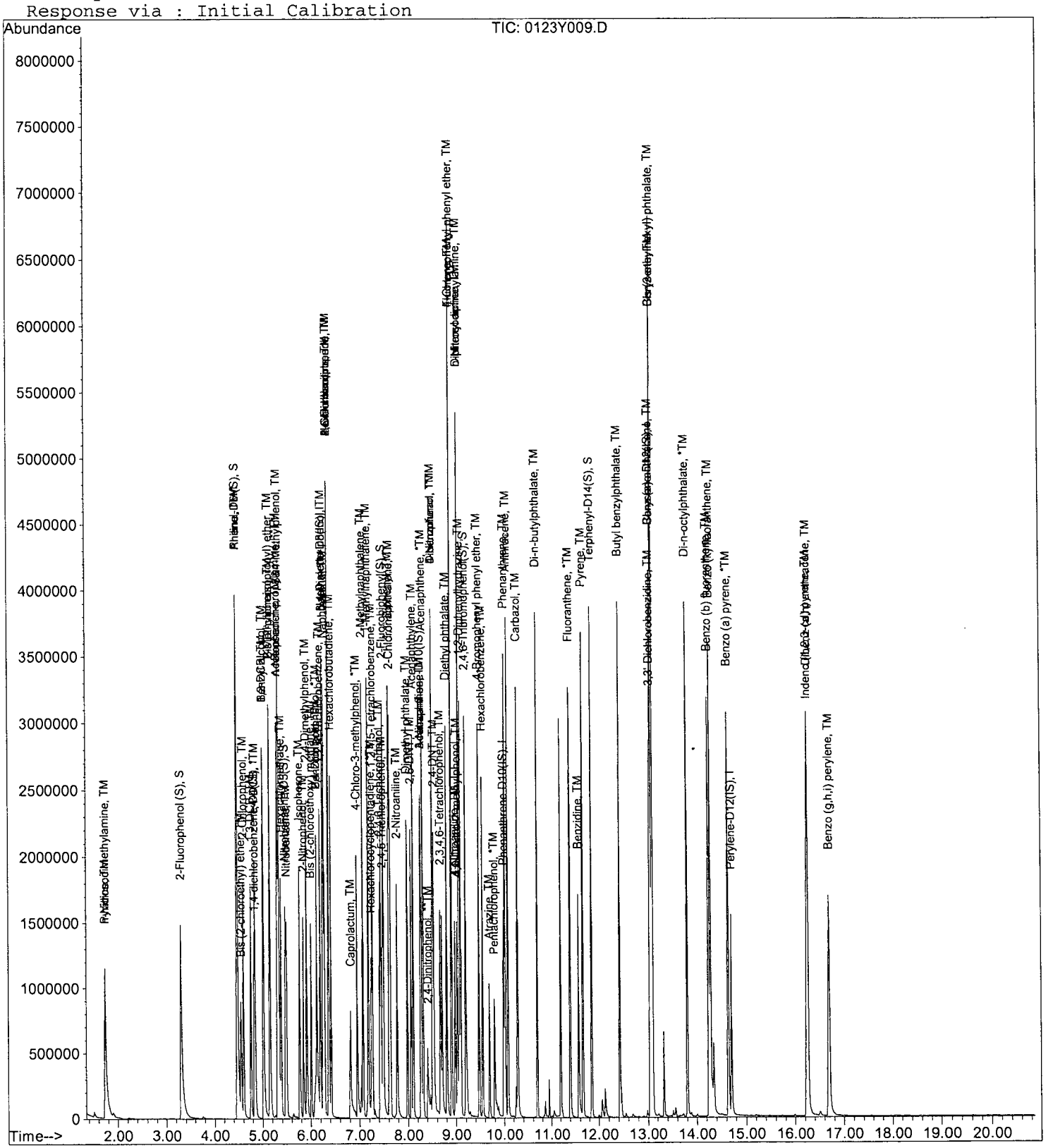
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562	ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946	ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351	ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756	ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843	ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130	ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964	ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747	ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681	ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230	ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232	ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576	ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521	ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657	ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139	ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091	ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456	ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458	ppb		86
61) Fluorene	8.91	166	1259262	98.30180	ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084	ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202	ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801	ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107	ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343	ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365	ppb	#	85
71) Atrazine	9.70	200	186402	51.29770	ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807	ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577	ppb		99
74) Anthracene	10.08	178	1948772	97.79130	ppb		100
75) Carbazol	10.29	167	1735219	97.05778	ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443	ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594	ppb	#	95
79) Benzidine	11.58	184	881021	112.09512	ppb		99
80) Pyrene	11.67	202	2238167	97.18146	ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181	ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441	ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548	ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876	ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644	ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142	ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131	ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324	ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950	ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985	ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647	ppb		95

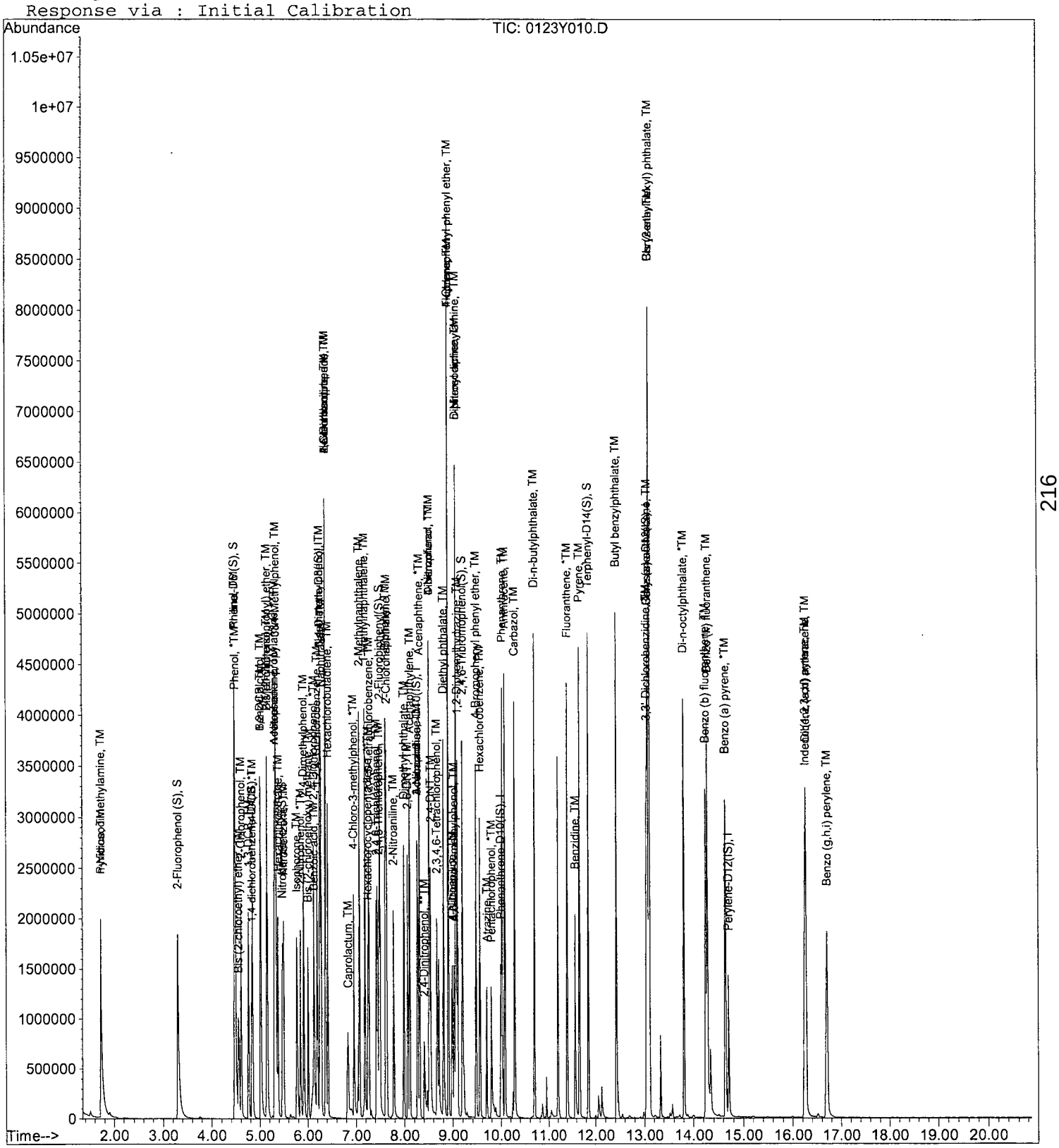
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
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116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

$A_{\text{Nitrosamine}} = \frac{247372 \times 40 \times 1}{183587 \times 0.956} = 56.38$ HA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	646439	48.57137	ppb		100
39)	1-Methylnaphthalene	7.19	142	602666	45.97150	ppb		100
41)	Hexachlorocyclopentadiene	7.25	237	121681	52.65785	ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	193346	48.88713	ppb		97
44)	2,4,5-Trichlorophenol	7.47	196	209742	48.34739	ppb		97
46)	1,1'-Biphenyl	7.61	154	822806	47.07970	ppb		99
47)	2-Chloronaphthalene	7.63	162	692861	51.88332	ppb		96
48)	2-Nitroaniline	7.77	65	233738	49.08526	ppb		85
49)	Dimethyl phthalate	7.98	163	766645	47.87741	ppb		99
50)	2,6-DNT	8.06	165	178567	49.95212	ppb	#	72
51)	Acenaphthylene	8.10	152	982221	45.67988	ppb		99
52)	3-Nitroaniline	8.25	138	193766	49.56328	ppb		85
53)	Acenaphthene	8.31	154	608874	45.93545	ppb		100
54)	2,4-Dinitrophenol	8.41	184	82560	48.59465	ppb		95
55)	4-Nitrophenol	8.50	65	144946	48.19129	ppb		77
56)	Dibenzofuran	8.50	168	875323	46.77048	ppb		98
57)	2,4-DNT	8.54	165	249063	49.96847	ppb		89
58)	2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501	ppb	#	90
59)	Diethyl phthalate	8.80	149	774517	47.76643	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651	ppb		86
61)	Fluorene	8.90	166	658029	43.43306	ppb		96
62)	4-Nitroaniline	8.98	138	188537	50.69450	ppb		89
65)	4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398	ppb	#	80
66)	Diphenyl amine	9.06	169	1101615	100.68261	ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	1101615	100.68261	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1107522	57.98015	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	213301	49.74664	ppb		85
70)	Hexachlorobenzene	9.55	284	235108	52.56424	ppb		90
71)	Atrazine	9.69	200	93523	22.08154	ppb		99
72)	Pentachlorophenol	9.79	266	86715	45.18058	ppb		95
73)	Phenanthrene	10.02	178	1072837	46.33434	ppb		100
74)	Anthracene	10.08	178	1080433	44.73670	ppb		99
75)	Carbazol	10.28	167	987284	46.17731	ppb		96
76)	Di-n-butylphthalate	10.69	149	1336738	49.47728	ppb		99
77)	Fluoranthene	11.40	202	1187541	47.24409	ppb		97
79)	Benzidine	11.58	184	466479	44.95376	ppb		97
80)	Pyrene	11.66	202	1231903	46.08479	ppb		98
82)	Butyl benzylphthalate	12.42	149	620712	50.22071	ppb	#	78
83)	3,3'-Dichlorobenzidine	13.03	252	451989	53.92761	ppb		94
84)	Benz (a) anthracene	13.05	228	1187024	47.21512	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640	ppb		99
86)	Chrysene	13.10	228	1055130	42.79043	ppb		100
87)	Di-n-octylphthalate	13.81	149	1488607	49.98751	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1145100	44.79514	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1223330	51.92467	ppb		98
91)	Benzo (a) pyrene	14.64	252	1142371	48.92994	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771	ppb		99
93)	Dibenz (a,h) anthracene	16.26	278	1059706	47.56225	ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1051918	47.90166	ppb		97

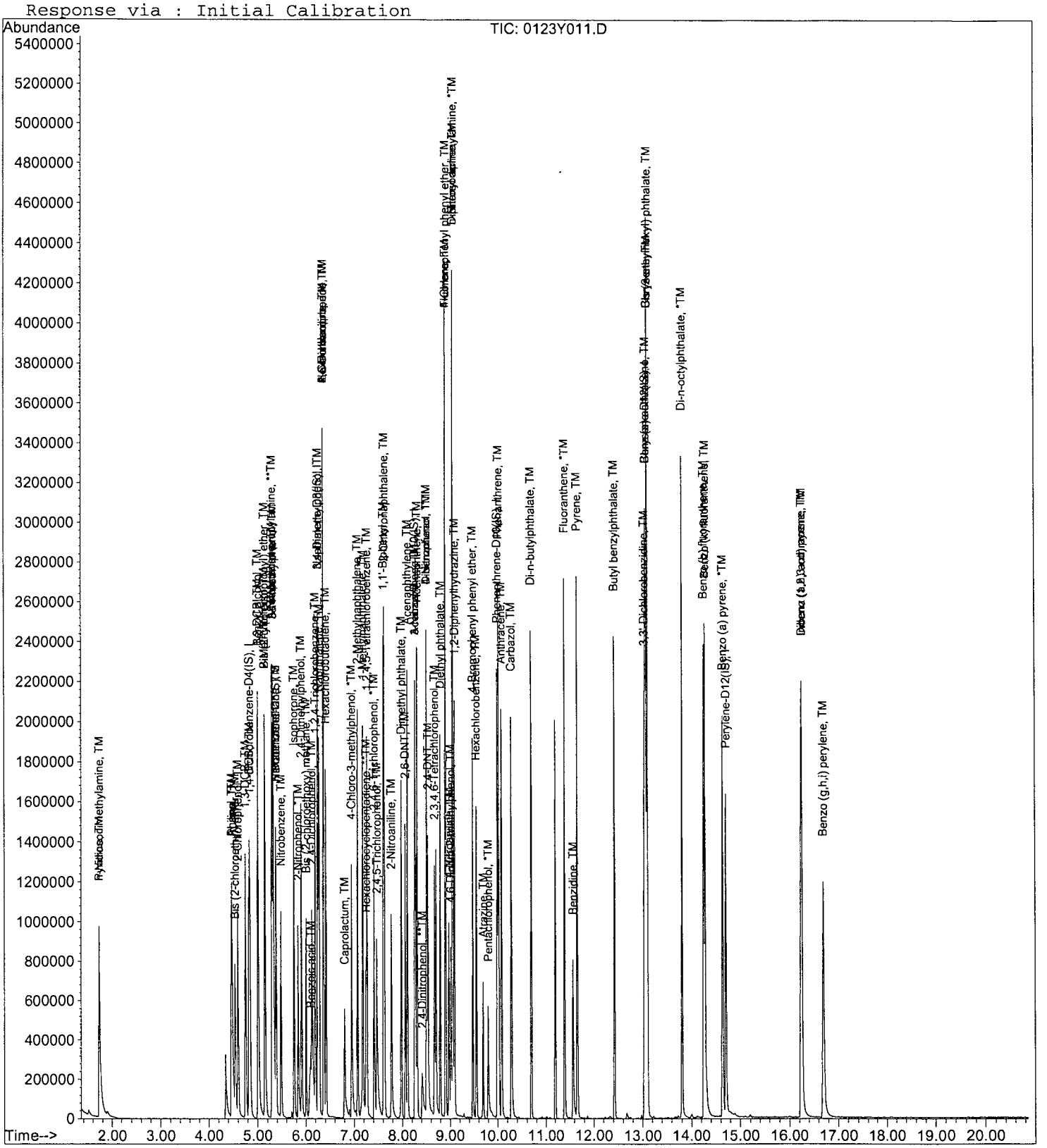
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2	TM	n-Nitrosodimethylamine	0.9560	1.222	28	TM		*NT
3	TM	Pyridine	1.902	2.393	26	TM		*NT
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S		
5	S	Phenol-D6 (S)	1.679	1.610	4.1	S		
6	*TM	Phenol	1.927	2.016	4.6	*TM		
7	TM	Aniline	1.829	1.898	3.8	TM		
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9765	3.5	TM		
9	TM	2-Chlorophenol	1.490	1.519	1.9	TM		
10	TM	1,3-DCB	1.572	1.625	3.4	TM		
11	*TM	1,4-DCB	1.615	1.660	2.7	*TM		
12	TM	Benzyl alcohol	0.8487	0.9273	9.3	TM		
13	TM	1,2-DCB	1.472	1.521	3.3	TM		
14	TM	2-Methylphenol	1.114	1.216	9.1	TM		
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.117	2.3	TM		
16	TM	Acetophenone	1.985	2.097	5.7	TM		
17	TM	3&4-Methylphenol	1.446	1.532	5.9	TM		
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.145	4.0	**TM		
19	TM	Hexachloroethane	0.6642	0.6965	4.9	TM		
20	I	Napthalene-D8(IS)	ISTD			I		
21	S	Nitrobenzene-D5(S)	0.4057	0.4227	4.2	S		
22	TM	Nitrobenzene	0.4049	0.4457	10	TM		
23	TM	Isophorone	0.6723	0.7458	11	TM		
24	*TM	2-Nitrophenol	0.1899	0.2206	16	*TM		
25	TM	2,4-Dimethylphenol	0.3070	0.3407	11	TM		
26	TML	Benzoic acid	0.1823	0.2934	61	TML	24	*NT
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4294	10	TM		
28	*TM	2,4-Dichlorophenol	0.2922	0.3280	12	*TM		
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3408	5.6	TM		
30	TM	3,4-Dimethylphenol	0.4623	0.4951	7.1	TM		
31	TM	Naphthalene	1.046	1.104	5.6	TM		
32	TM	4-Chloroaniline	0.3674	0.3917	6.6	TM		
33	TM	2,6-Dichlorophenol	0.2704	0.2729	0.91	TM		
34	TM	Hexachloropropene	0.2347	0.2580	9.9	TM		
35	*TM	Hexachlorobutadiene	0.1914	0.2017	5.3	*TM		
36	TM	Caprolactum	0.1663	0.1934	16	TM		
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3556	12	*TM		
38	TM	2-Methylnaphthalene	0.6794	0.7347	8.1	TM		
39	TM	1-Methylnaphthalene	0.6692	0.7263	8.5	TM		
40	I	Acenaphthene-D10(IS)	ISTD			I		
		Average			9.4			

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2022	27	**TMQ	2.9
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5554	2.6	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3776	11	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3950	6.0	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.220	4.9	S	
46	TM	1,1'-Biphenyl	1.501	1.550	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.192	4.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4328	5.8	TM	
49	TM	Dimethyl phthalate	1.375	1.453	5.6	TM	
50	TM	2,6-DNT	0.3070	0.3344	9.0	TM	
51	TM	Acenaphthylene	1.846	1.969	6.6	TM	
52	TM	3-Nitroaniline	0.3357	0.3560	6.0	TM	
53	*TM	Acenaphthene	1.138	1.161	2.0	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1782	36	**TMQ	15
55	**TML	4-Nitrophenol	0.2262	0.2742	21	**TML	4.7
56	TM	Dibenzofuran	1.607	1.682	4.7	TM	
57	TM	2,4-DNT	0.4280	0.4832	13	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3279	12	TM	
59	TM	Diethyl phthalate	1.392	1.478	6.1	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6205	0.88	TM	
61	TM	Fluorene	1.301	1.268	2.6	TM	
62	TM	4-Nitroaniline	0.3194	0.3417	7.0	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1770	4.4	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1505	14	TML	4.6
66	TM	Diphenyl amine	0.5157	0.4997	3.1	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.4997	3.1	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.9656	7.2	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2079	2.9	TM	
70	TM	Hexachlorobenzene	0.2108	0.2066	2.0	TM	
71	TM	Atrazine	0.1996	0.2038	2.1	TM	
72	*TML	Pentachlorophenol	0.0838	0.1115	33	*TML	18
73	TM	Phenanthrene	1.091	1.079	1.2	TM	
74	TM	Anthracene	1.138	1.114	2.1	TM	
75	TM	Carbazol	1.008	1.021	1.3	TM	
76	TM	Di-n-butylphthalate	1.273	1.333	4.7	TM	
77	*TM	Fluoranthene	1.185	1.197	0.99	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.5113	2.7	TM	
80	TM	Pyrene	1.283	1.365	6.4	TM	
		Average			7.6		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8649	0.52	S	
82	TM	Butyl benzylphthalate	0.5931	0.6664	12	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4631	15	TM	
84	TM	Benz (a) anthracene	1.206	1.275	5.7	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8925	7.0	TM	
86	TM	Chrysene	1.183	1.238	4.6	TM	
87	*TM	Di-n-octylphthalate	1.429	1.630	14	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.212	2.6	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.170	1.9	TM	
91	*TM	Benzo (a) pyrene	1.137	1.179	3.6	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.314	3.1	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.103	1.6	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.132	5.9	TM	
95							
96							
97							
98							
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112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	192352	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	769021	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	463296	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	892159	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	829083	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	874527	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	639602	105.41355 ppb	0.00
Spiked Amount 200.000			Recovery	= 52.707%	
5) Phenol-D6 (S)	4.47	99	774255	95.91158 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.956%	
21) Nitrobenzene-D5(S)	5.46	82	406316	52.09826 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.098%	
45) 2-Fluorobiphenyl(S)	7.49	172	706426	47.53059 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.531%	
63) 2,4,6-Tribromophenol(S)	9.19	330	205006	95.59858 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.800%	
81) Terphenyl-D14(S)	11.85	244	896310	50.26227 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.262%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	293872	63.92089 ppb		85
3) Pyridine	1.73	79	575387	62.91705 ppb		90
6) Phenol	4.47	94	484792	52.31782 ppb		90
7) Aniline	4.47	66	456400	51.88484 ppb	#	73
8) Bis (2-chloroethyl) ether	4.54	63	234785	51.76794 ppb		95
9) 2-Chlorophenol	4.60	128	365124	50.95328 ppb		97
10) 1,3-DCB	4.75	146	390730	51.68829 ppb		99
11) 1,4-DCB	4.84	146	399070	51.37325 ppb		98
12) Benzyl alcohol	5.01	108	222959	54.62765 ppb		93
13) 1,2-DCB	5.00	146	365761	51.65942 ppb		98
14) 2-Methylphenol	5.15	107	292261	54.57384 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	509032	51.15323 ppb		85
16) Acetophenone	5.29	105	504233	52.83740 ppb		99
17) 3&4-Methylphenol	5.33	107	736477	105.90247 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	275369	51.97945 ppb		93
19) Hexachloroethane	5.38	117	167478	52.43204 ppb		98
22) Nitrobenzene	5.48	77	428397	55.03043 ppb		99
23) Isophorone	5.76	82	716920	55.46778 ppb		95
24) 2-Nitrophenol	5.84	139	212079	58.08649 ppb		99
25) 2,4-Dimethylphenol	5.90	122	327517	55.48270 ppb		96
26) Benzoic acid	6.11	105	281990	61.99410 ppb		95
27) Bis (2-chloroethoxy) metha	6.00	93	412733	55.15651 ppb		99
28) 2,4-Dichlorophenol	6.13	162	315339	56.13722 ppb		92
29) 1,2,4-Trichlorobenzene	6.19	180	327629	52.78488 ppb		99
30) 3,4-Dimethylphenol	6.25	107	475976	53.55682 ppb		96
31) Naphthalene	6.28	128	1061465	52.79294 ppb		99
32) 4-Chloroaniline	6.36	127	376523	53.31100 ppb		97
33) 2,6-Dichlorophenol	6.37	162	262296	50.45418 ppb		98
34) Hexachloropropene	6.37	213	247988	54.96230 ppb		98
35) Hexachlorobutadiene	6.41	225	193850	52.66917 ppb		98
36) Caprolactum	6.80	55	185940	58.15832 ppb		96
37) 4-Chloro-3-methylphenol	6.95	107	341841	56.16032 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D
Acq On : 15 Feb 17 11:07
Sample : 50ug/ml SVOC 1/19/17
Misc : water

Vial: 63
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 11:34 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	706233	54.06918 ppb		98
39) 1-Methylnaphthalene	7.18	142	698168	54.26514 ppb		98
41) Hexachlorocyclopentadiene	7.24	237	117117	51.45507 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	321623	51.30381 ppb		100
43) 2,4,6-Trichlorophenol	7.42	196	218656	55.58743 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	228781	53.02290 ppb		98
46) 1,1'-Biphenyl	7.60	154	897792	51.64970 ppb		98
47) 2-Chloronaphthalene	7.63	162	690477	51.98604 ppb		96
48) 2-Nitroaniline	7.77	65	250644	52.92184 ppb		87
49) Dimethyl phthalate	7.97	163	841222	52.82054 ppb		100
50) 2,6-DNT	8.06	165	193682	54.47508 ppb		77
51) Acenaphthylene	8.10	152	1140206	53.31567 ppb		99
52) 3-Nitroaniline	8.25	138	206140	53.01522 ppb		89
53) Acenaphthene	8.30	154	672500	51.01157 ppb		99
54) 2,4-Dinitrophenol	8.40	184	103202	57.70155 ppb		89
55) 4-Nitrophenol	8.52	65	158798	52.34454 ppb		81
56) Dibenzofuran	8.50	168	974308	52.34263 ppb		95
57) 2,4-DNT	8.53	165	279827	56.44589 ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	189893	55.87552 ppb		93
59) Diethyl phthalate	8.80	149	855660	53.05776 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.90	204	359323	49.56221 ppb		91
61) Fluorene	8.90	166	734051	48.71442 ppb		98
62) 4-Nitroaniline	8.98	138	197875	53.49474 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.01	198	167889	52.27712 ppb	#	76
66) Diphenyl amine	9.06	169	1114628	96.90097 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1114628	96.90097 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	1076845	53.62333 ppb		94
69) 4-Bromophenyl phenyl ether	9.47	248	231845	51.43303 ppb		96
70) Hexachlorobenzene	9.54	284	230414	49.00106 ppb		86
71) Atrazine	9.69	200	113624	25.51846 ppb		92
72) Pentachlorophenol	9.79	266	124291	58.86731 ppb		96
73) Phenanthrene	10.02	178	1202953	49.41871 ppb		99
74) Anthracene	10.07	178	1242411	48.93336 ppb		100
75) Carbazol	10.28	167	1138989	50.67335 ppb		95
76) Di-n-butylphthalate	10.69	149	1486318	52.32929 ppb		99
77) Fluoranthene	11.40	202	1334397	50.49606 ppb	#	96
79) Benzidine	11.57	184	529889	51.34095 ppb		97
80) Pyrene	11.66	202	1414992	53.22066 ppb		100
82) Butyl benzylphthalate	12.42	149	690615	56.17898 ppb		92
83) 3,3'-Dichlorobenzidine	13.03	252	479899	57.56762 ppb	#	94
84) Benz (a) anthracene	13.05	228	1320978	52.82778 ppb		98
85) Bis (2-ethylhexyl) phthala	13.08	149	924993	53.49757 ppb		100
86) Chrysene	13.10	228	1283001	52.31338 ppb		99
87) Di-n-octylphthalate	13.80	149	1689653	57.04585 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1325445	48.68644 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1278585	50.95872 ppb		97
91) Benzo (a) pyrene	14.63	252	1288352	51.81563 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1436385	51.53118 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1205709	50.81341 ppb		100
94) Benzo (g,h,i) perylene	16.69	276	1237901	52.93140 ppb		95

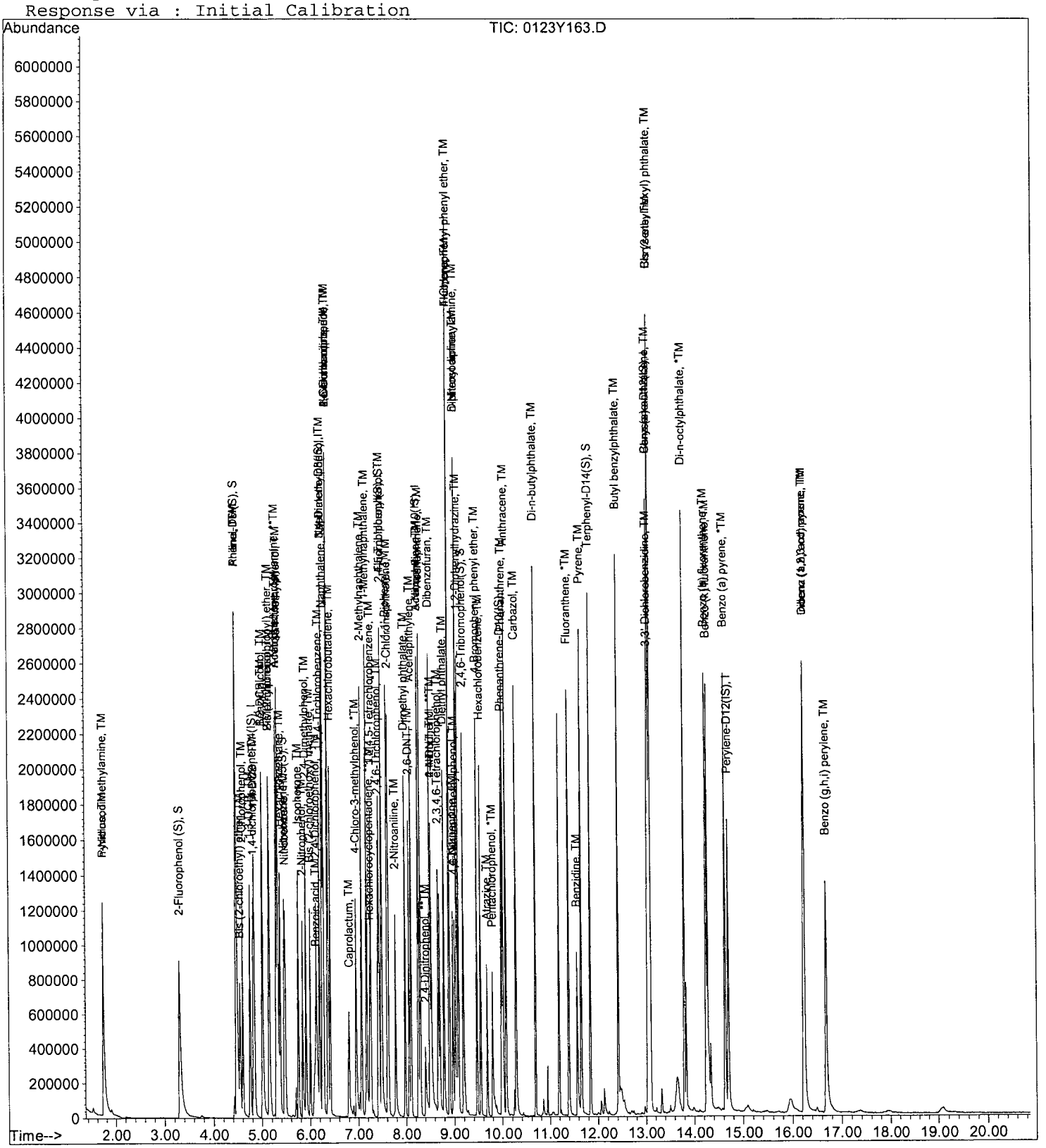
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.195	25	TM	
3	TM	Pyridine	1.902	2.355	24	TM	
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S	
5	S	Phenol-D6 (S)	1.679	1.688	0.58	S	
6	*TM	Phenol	1.927	2.069	7.4	*TM	
7	TM	Aniline	1.829	2.003	9.5	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9674	2.6	TM	
9	TM	2-Chlorophenol	1.490	1.585	6.4	TM	
10	TM	1,3-DCB	1.572	1.660	5.6	TM	
11	*TM	1,4-DCB	1.615	1.650	2.1	*TM	
12	TM	Benzyl alcohol	0.8487	0.9029	6.4	TM	
13	TM	1,2-DCB	1.472	1.469	0.21	TM	
14	TM	2-Methylphenol	1.114	1.167	4.8	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.079	0.47	TM	
16	TM	Acetophenone	1.985	2.044	3.0	TM	
17	TM	3&4-Methylphenol	1.446	1.492	3.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.105	0.29	**TM	
19	TM	Hexachloroethane	0.6642	0.6736	1.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3965	2.2	S	
22	TM	Nitrobenzene	0.4049	0.4248	4.9	TM	
23	TM	Isophorone	0.6723	0.7341	9.2	TM	
24	*TM	2-Nitrophenol	0.1899	0.2163	14	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3479	13	TM	
26	TML	Benzoic acid	0.1823	0.2707	49	TML	15
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4470	15	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3324	14	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3498	8.3	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4918	6.4	TM	
31	TM	Naphthalene	1.046	1.102	5.3	TM	
32	TM	4-Chloroaniline	0.3674	0.3918	6.6	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2826	4.5	TM	
34	TM	Hexachloropropene	0.2347	0.2621	12	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.2040	6.5	*TM	
36	TM	Caprolactum	0.1663	0.1821	9.5	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3501	11	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7559	11	TM	
39	TM	1-Methylnaphthalene	0.6692	0.7327	9.5	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			8.7		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1632	2.1	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5444	0.59	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3661	7.8	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3854	3.5	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.222	4.8	S	
46	TM	1,1'-Biphenyl	1.501	1.551	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.227	7.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4470	9.3	TM	
49	TM	Dimethyl phthalate	1.375	1.451	5.5	TM	
50	TM	2,6-DNT	0.3070	0.3280	6.8	TM	
51	TM	Acenaphthylene	1.846	1.903	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3608	7.5	TM	
53	*TM	Acenaphthene	1.138	1.171	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1650	26	**TMQ	8.9
55	**TML	4-Nitrophenol	0.2262	0.2418	6.9	**TML	6.0
56	TM	Dibenzofuran	1.607	1.673	4.1	TM	
57	TM	2,4-DNT	0.4280	0.4600	7.5	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3018	2.8	TM	
59	TM	Diethyl phthalate	1.392	1.567	13	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6544	4.6	TM	
61	TM	Fluorene	1.301	1.339	3.0	TM	
62	TM	4-Nitroaniline	0.3194	0.3586	12	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1845	0.33	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1508	14	TML	4.7
66	TM	Diphenyl amine	0.5157	0.5340	3.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5340	3.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	1.040	16	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2064	2.1	TM	
70	TM	Hexachlorobenzene	0.2108	0.2180	3.4	TM	
71	TM	Atrazine	0.1996	0.2062	3.3	TM	
72	*TML	Pentachlorophenol	0.0838	0.0916	9.4	*TML	0.52
73	TM	Phenanthrene	1.091	1.128	3.3	TM	
74	TM	Anthracene	1.138	1.187	4.2	TM	
75	TM	Carbazol	1.008	1.062	5.4	TM	
76	TM	Di-n-butylphthalate	1.273	1.322	3.8	TM	
77	*TM	Fluoranthene	1.185	1.172	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4921	1.2	TM	
80	TM	Pyrene	1.283	1.452	13	TM	
		Average			6.1		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8935	3.8	S	
82	TM	Butyl benzylphthalate	0.5931	0.6507	9.7	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4656	16	TM	
84	TM	Benz (a) anthracene	1.206	1.274	5.6	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8726	4.6	TM	
86	TM	Chrysene	1.183	1.195	0.96	TM	
87	*TM	Di-n-octylphthalate	1.429	1.612	13	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.264	1.5	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.338	17	TM	
91	*TM	Benzo (a) pyrene	1.137	1.189	4.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.374	7.8	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.171	7.9	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.154	7.9	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	139757	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	579971	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	359597	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	677259	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	663679	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	665007	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	464811	105.43533 ppb	0.00
Spiked Amount 200.000			Recovery	= 52.718%	
5) Phenol-D6 (S)	4.46	99	589911	100.57653 ppb	0.00
Spiked Amount 200.000			Recovery	= 50.289%	
21) Nitrobenzene-D5(S)	5.46	82	287484	48.87704 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.877%	
45) 2-Fluorobiphenyl(S)	7.50	172	549330	47.61923 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.619%	
63) 2,4,6-Tribromophenol(S)	9.20	330	165895	99.66913 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.835%	
81) Terphenyl-D14(S)	11.84	244	741209	51.92356 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.924%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	208841	62.52065 ppb	92
3) Pyridine	1.73	79	411385	61.91272 ppb	96
6) Phenol	4.48	94	361391	53.67779 ppb	99
7) Aniline	4.47	66	349901	54.74736 ppb	95
8) Bis (2-chloroethyl) ether	4.55	63	169009	51.28891 ppb	97
9) 2-Chlorophenol	4.60	128	276919	53.18727 ppb	97
10) 1,3-DCB	4.76	146	290001	52.80050 ppb	97
11) 1,4-DCB	4.84	146	288195	51.06196 ppb	97
12) Benzyl alcohol	5.01	108	157736	53.19141 ppb	98
13) 1,2-DCB	5.01	146	256671	49.89443 ppb	99
14) 2-Methylphenol	5.15	107	203833	52.38552 ppb	99
15) Bis (2-chloroisopropyl) et	5.14	45	363197	50.23349 ppb #	64
16) Acetophenone	5.30	105	357063	51.49655 ppb	97
17) 3&4-Methylphenol	5.33	107	521143	103.13996 ppb	98
18) n-Nitrosodi-n-propylamine	5.30	70	193008	50.14355 ppb	86
19) Hexachloroethane	5.37	117	117669	50.70189 ppb	84
22) Nitrobenzene	5.48	77	307988	52.45926 ppb	96
23) Isophorone	5.75	82	532232	54.60130 ppb	98
24) 2-Nitrophenol	5.85	139	156822	56.95297 ppb	96
25) 2,4-Dimethylphenol	5.91	122	252225	56.65573 ppb	97
26) Benzoic acid	6.11	105	196273	57.68087 ppb	93
27) Bis (2-chloroethoxy) metha	6.00	93	324068	57.42430 ppb	98
28) 2,4-Dichlorophenol	6.13	162	240945	56.87522 ppb	92
29) 1,2,4-Trichlorobenzene	6.20	180	253585	54.17298 ppb	98
30) 3,4-Dimethylphenol	6.25	107	356506	53.18982 ppb	97
31) Naphthalene	6.28	128	798697	52.67252 ppb	99
32) 4-Chloroaniline	6.37	127	284022	53.32235 ppb	97
33) 2,6-Dichlorophenol	6.37	162	204852	52.24895 ppb	99
34) Hexachloropropene	6.37	213	190012	55.84022 ppb	99
35) Hexachlorobutadiene	6.42	225	147872	53.27317 ppb	96
36) Caprolactum	6.79	55	131994	54.74257 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	253810	55.28993 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	547984	55.62905	ppb		99
39) 1-Methylnaphthalene	7.18	142	531154	54.74108	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	73344	44.22127	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	244726	50.29504	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	164563	53.90014	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	173227	51.72513	ppb		94
46) 1,1'-Biphenyl	7.61	154	697025	51.66340	ppb		99
47) 2-Chloronaphthalene	7.63	162	551720	53.51786	ppb		95
48) 2-Nitroaniline	7.78	65	200935	54.66076	ppb		97
49) Dimethyl phthalate	7.98	163	652101	52.75329	ppb		100
50) 2,6-DNT	8.06	165	147432	53.42479	ppb		91
51) Acenaphthylene	8.10	152	855214	51.52154	ppb		98
52) 3-Nitroaniline	8.26	138	162192	53.74156	ppb		100
53) Acenaphthene	8.31	154	526157	51.42025	ppb		98
54) 2,4-Dinitrophenol	8.41	184	74153	54.43868	ppb		96
55) 4-Nitrophenol	8.53	65	108682	47.01688	ppb	#	67
56) Dibenzofuran	8.51	168	751822	52.03755	ppb		87
57) 2,4-DNT	8.54	165	206763	53.73509	ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135644	51.42280	ppb	#	86
59) Diethyl phthalate	8.80	149	704371	56.27191	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	294163	52.27526	ppb		90
61) Fluorene	8.90	166	602044	51.47567	ppb		96
62) 4-Nitroaniline	8.97	138	161206	56.14923	ppb		98
65) 4,6-Dinitro-2-methylphenol	9.02	198	127664	52.35466	ppb		98
66) Diphenyl amine	9.06	169	904108	103.53948	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	904108	103.53948	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	880652	57.76867	ppb		92
69) 4-Bromophenyl phenyl ether	9.47	248	174721	51.05955	ppb	#	84
70) Hexachlorobenzene	9.55	284	184575	51.70790	ppb		89
71) Atrazine	9.69	200	87282	25.82240	ppb		97
72) Pentachlorophenol	9.80	266	77581	49.73958	ppb		97
73) Phenanthrene	10.01	178	954668	51.66336	ppb		100
74) Anthracene	10.08	178	1004628	52.12337	ppb		99
75) Carbazol	10.28	167	899039	52.68975	ppb		100
76) Di-n-butylphthalate	10.68	149	1119444	51.91860	ppb		98
77) Fluoranthene	11.40	202	991990	49.45010	ppb		97
79) Benzidine	11.57	184	408219	49.40970	ppb		99
80) Pyrene	11.66	202	1204757	56.60641	ppb		99
82) Butyl benzylphthalate	12.42	149	539855	54.85988	ppb		84
83) 3,3'-Dichlorobenzidine	13.03	252	386276	57.88500	ppb		96
84) Benz (a) anthracene	13.05	228	1056801	52.79586	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	723883	52.30027	ppb	#	97
86) Chrysene	13.10	228	991022	50.47880	ppb		100
87) Di-n-octylphthalate	13.80	149	1337281	56.40131	ppb		91
89) Benzo (b) fluoranthene	14.25	252	1050293	50.73454	ppb		99
90) Benzo (k) fluoranthene	14.27	252	1111899	58.27755	ppb		98
91) Benzo (a) pyrene	14.64	252	988257	52.26888	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1142146	53.88499	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	973598	53.95883	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	959216	53.93751	ppb		98

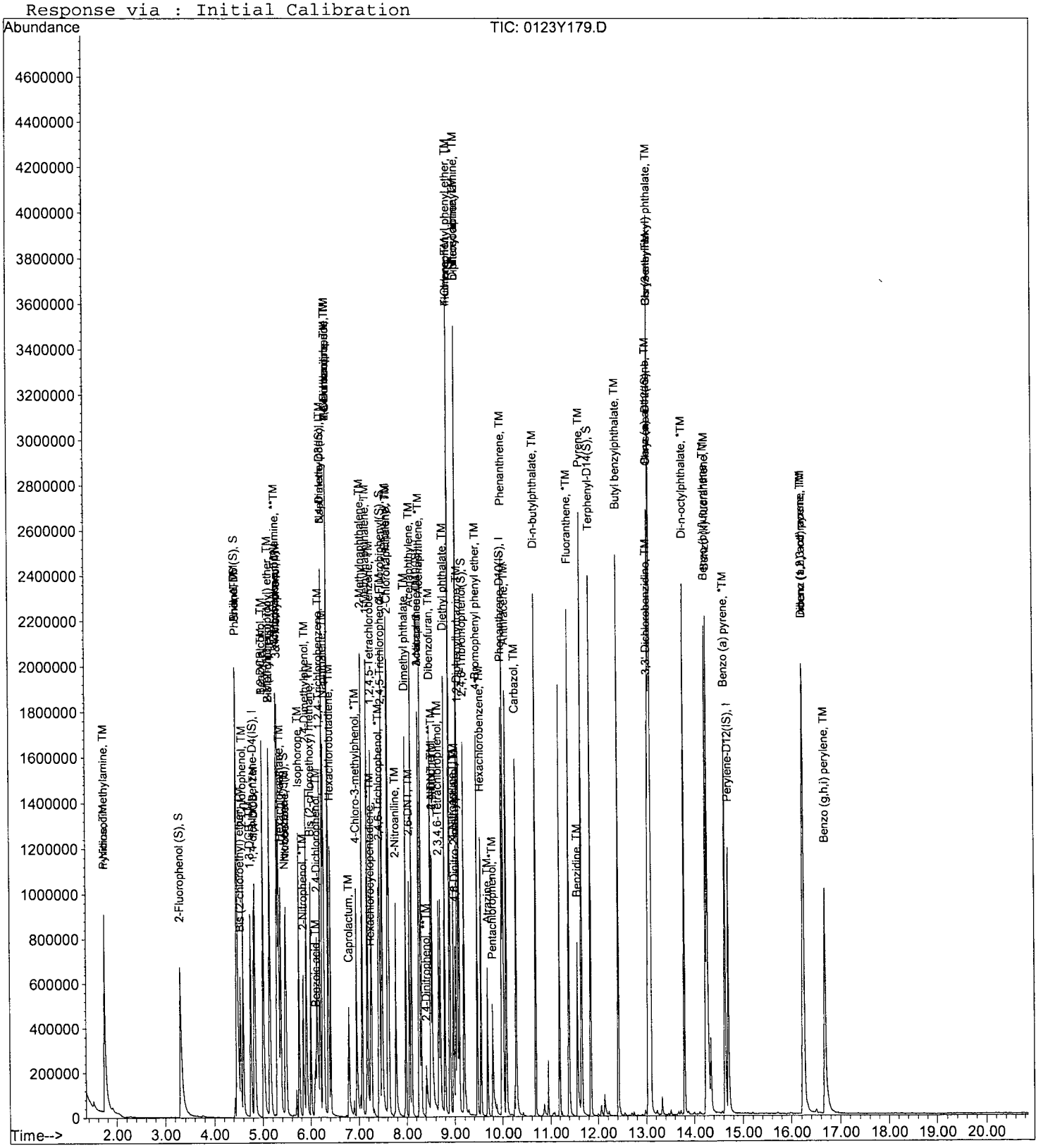
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:35:33 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y164.D Vial: 64
Acq On : 15 Feb 17 11:51 Operator: MA
Sample : 170214A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:15 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	177998	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	760130	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	439380	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	813182	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	830149	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	667730	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	484139	86.22601 ppb	-0.01
Spiked Amount 200.000			Recovery = 43.113%		
5) Phenol-D6 (S)	4.47	99	376525	50.40370 ppb	0.00
Spiked Amount 200.000			Recovery = 25.202%		
21) Nitrobenzene-D5(S)	5.46	82	521179	67.60776 ppb	0.00
Spiked Amount 100.000			Recovery = 67.608%		
45) 2-Fluorobiphenyl(S)	7.50	172	854307	60.60924 ppb	0.00
Spiked Amount 100.000			Recovery = 60.609%		
63) 2,4,6-Tribromophenol(S)	9.19	330	295210	145.15573 ppb	0.00
Spiked Amount 200.000			Recovery = 72.578%		
81) Terphenyl-D14(S)	11.85	244	1257589	70.43111 ppb	0.00
Spiked Amount 100.000			Recovery = 70.431%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

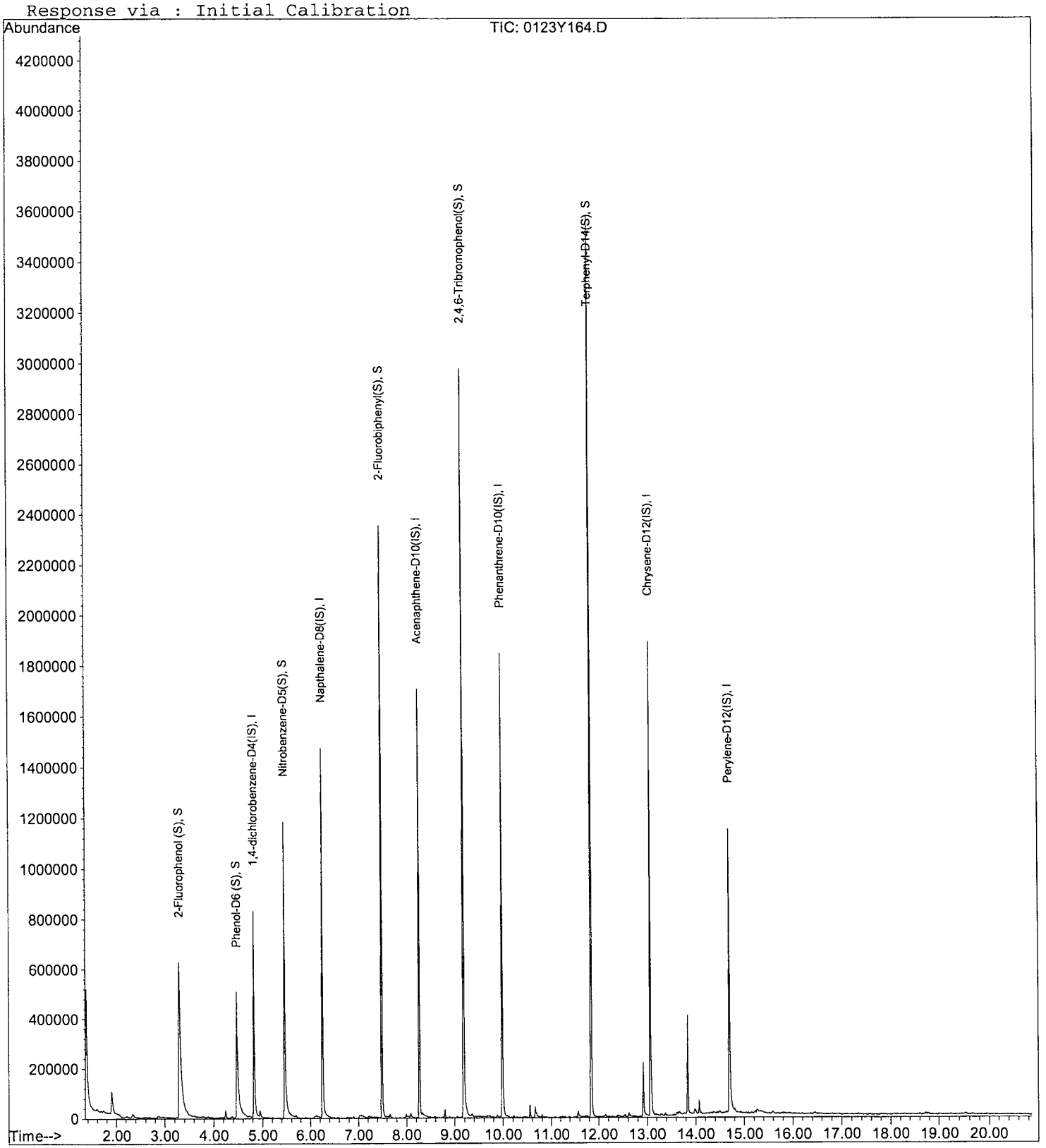
Data File : M:\YODA\DATA\Y170123\0123Y164.D
Acq On : 15 Feb 17 11:51
Sample : 170214A BLK 1/1000
Misc : water

Vial: 64
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 16:15 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:35:34 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165304	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	697704	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	437339	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	789191	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	824282	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	701851	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	384643	73.76627 ppb	0.00
Spiked Amount 200.000			Recovery	= 36.883%	
5) Phenol-D6 (S)	4.47	99	320721	46.23041 ppb	0.01
Spiked Amount 200.000			Recovery	= 23.115%	
21) Nitrobenzene-D5(S)	5.46	82	429335	60.67679 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.677%	
45) 2-Fluorobiphenyl(S)	7.50	172	699537	49.86061 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.861%	
63) 2,4,6-Tribromophenol(S)	9.20	330	258281	127.59030 ppb	0.00
Spiked Amount 200.000			Recovery	= 63.795%	
81) Terphenyl-D14(S)	11.84	244	1162906	65.59196 ppb	0.00
Spiked Amount 100.000			Recovery	= 65.592%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	130144	32.93988 ppb		90
3) Pyridine	1.74	79	197646	25.14836 ppb		95
6) Phenol	4.48	94	143744	18.05083 ppb	#	45
7) Aniline	4.46	66	207886	27.50005 ppb	#	44
8) Bis (2-chloroethyl) ether	4.55	63	159531	40.93068 ppb		94
9) 2-Chlorophenol	4.60	128	247038	40.11519 ppb		98
10) 1,3-DCB	4.76	146	153700	23.65934 ppb		99
11) 1,4-DCB	4.84	146	165484	24.78890 ppb		97
12) Benzyl alcohol	5.01	108	141222	40.26273 ppb		96
13) 1,2-DCB	5.01	146	163472	26.86636 ppb		98
14) 2-Methylphenol	5.15	107	164224	35.68318 ppb		100
15) Bis (2-chloroisopropyl) et	5.14	45	347430	40.62642 ppb	#	66
16) Acetophenone	5.30	105	354912	43.27571 ppb		92
17) 3&4-Methylphenol	5.33	107	395660	66.20372 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	195574	42.95770 ppb		93
19) Hexachloroethane	5.37	117	52745	19.21470 ppb		90
22) Nitrobenzene	5.48	77	287029	40.63958 ppb		93
23) Isophorone	5.75	82	550248	46.92405 ppb		95
24) 2-Nitrophenol	5.85	139	155940	47.07626 ppb		93
25) 2,4-Dimethylphenol	5.91	122	224895	41.99239 ppb		97
26) Benzoic acid	6.07	105	57555	18.63116 ppb		92
27) Bis (2-chloroethoxy) metha	6.00	93	305158	44.94893 ppb		98
28) 2,4-Dichlorophenol	6.13	162	225207	44.18981 ppb		99
29) 1,2,4-Trichlorobenzene	6.20	180	161254	28.63549 ppb		99
30) 3,4-Dimethylphenol	6.25	107	334539	41.49000 ppb		94
31) Naphthalene	6.27	128	648843	35.56942 ppb		99
32) 4-Chloroaniline	6.37	127	323857	50.54121 ppb		96
33) 2,6-Dichlorophenol	6.37	162	204853	43.43249 ppb		96
34) Hexachloropropene	6.38	213	68213	16.66358 ppb		98
35) Hexachlorobutadiene	6.41	225	64371	19.27737 ppb		98
36) Caprolactum	6.78	55	40833	14.07723 ppb		96
37) 4-Chloro-3-methylphenol	6.94	107	246558	44.64692 ppb		86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	434184	36.63892	ppb		99
39)	1-Methylnaphthalene	7.18	142	419820	35.96591	ppb		100
41)	Hexachlorocyclopentadiene	7.25	237	16099	14.45083	ppb		93
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	176544	29.83293	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	157020	42.28735	ppb		94
44)	2,4,5-Trichlorophenol	7.47	196	170958	41.97331	ppb	#	90
46)	1,1'-Biphenyl	7.61	154	589694	35.93843	ppb		98
47)	2-Chloronaphthalene	7.63	162	439586	35.06079	ppb		97
48)	2-Nitroaniline	7.78	65	209162	46.78436	ppb		93
49)	Dimethyl phthalate	7.98	163	716129	47.63474	ppb		99
50)	2,6-DNT	8.06	165	157056	46.79543	ppb		82
51)	Acenaphthylene	8.10	152	779474	38.61122	ppb		99
52)	3-Nitroaniline	8.25	138	171889	46.83028	ppb		82
53)	Acenaphthene	8.30	154	484825	38.95845	ppb		98
54)	2,4-Dinitrophenol	8.41	184	74690	47.26906	ppb		95
55)	4-Nitrophenol	8.53	65	15539	11.95411	ppb	#	3
56)	Dibenzofuran	8.50	168	713990	40.63421	ppb		96
57)	2,4-DNT	8.54	165	220451	47.10805	ppb		92
58)	2,3,4,6-Tetrachlorophenol	8.67	232	143960	44.87400	ppb	#	88
59)	Diethyl phthalate	8.79	149	700790	46.03370	ppb		99
60)	4-Chlorophenyl phenyl ethe	8.90	204	266829	38.98872	ppb		89
61)	Fluorene	8.90	166	542948	38.17068	ppb		98
62)	4-Nitroaniline	8.98	138	166026	47.54847	ppb		95
65)	4,6-Dinitro-2-methylphenol	9.01	198	128999	46.25153	ppb	#	66
66)	Diphenyl amine	9.06	169	930530	91.45105	ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	930530	91.45105	ppb		99
68)	1,2-Diphenylhydrazine	9.09	77	692088	38.96028	ppb		92
69)	4-Bromophenyl phenyl ether	9.47	248	170711	42.81205	ppb		89
70)	Hexachlorobenzene	9.55	284	182577	43.89376	ppb	#	85
71)	Atrazine	9.69	200	94605	24.01921	ppb		96
72)	Pentachlorophenol	9.79	266	94520	51.66247	ppb		97
73)	Phenanthrene	10.01	178	933159	43.33697	ppb		99
74)	Anthracene	10.07	178	996839	44.38384	ppb		99
75)	Carbazol	10.27	167	931977	46.87329	ppb		97
76)	Di-n-butylphthalate	10.68	149	1241037	49.39443	ppb		99
77)	Fluoranthene	11.40	202	1143304	48.90962	ppb		97
79)	Benzidine	11.57	184	221230	21.55983	ppb		98
80)	Pyrene	11.66	202	1221413	46.20734	ppb		99
82)	Butyl benzylphthalate	12.42	149	603571	49.38424	ppb		86
83)	3,3'-Dichlorobenzidine	13.03	252	384590	46.40327	ppb		98
84)	Benz (a) anthracene	13.05	228	1122881	45.16715	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	824745	47.97749	ppb	#	98
86)	Chrysene	13.10	228	1098118	45.03571	ppb		99
87)	Di-n-octylphthalate	13.80	149	1535631	52.14776	ppb	#	88
89)	Benzo (b) fluoranthene	14.25	252	1182079	54.10297	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	1227773	60.97268	ppb		98
91)	Benzo (a) pyrene	14.63	252	1127976	56.52680	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.23	276	1238327	55.35576	ppb		99
93)	Dibenz (a,h) anthracene	16.25	278	1071656	56.27552	ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1088597	57.99932	ppb		97

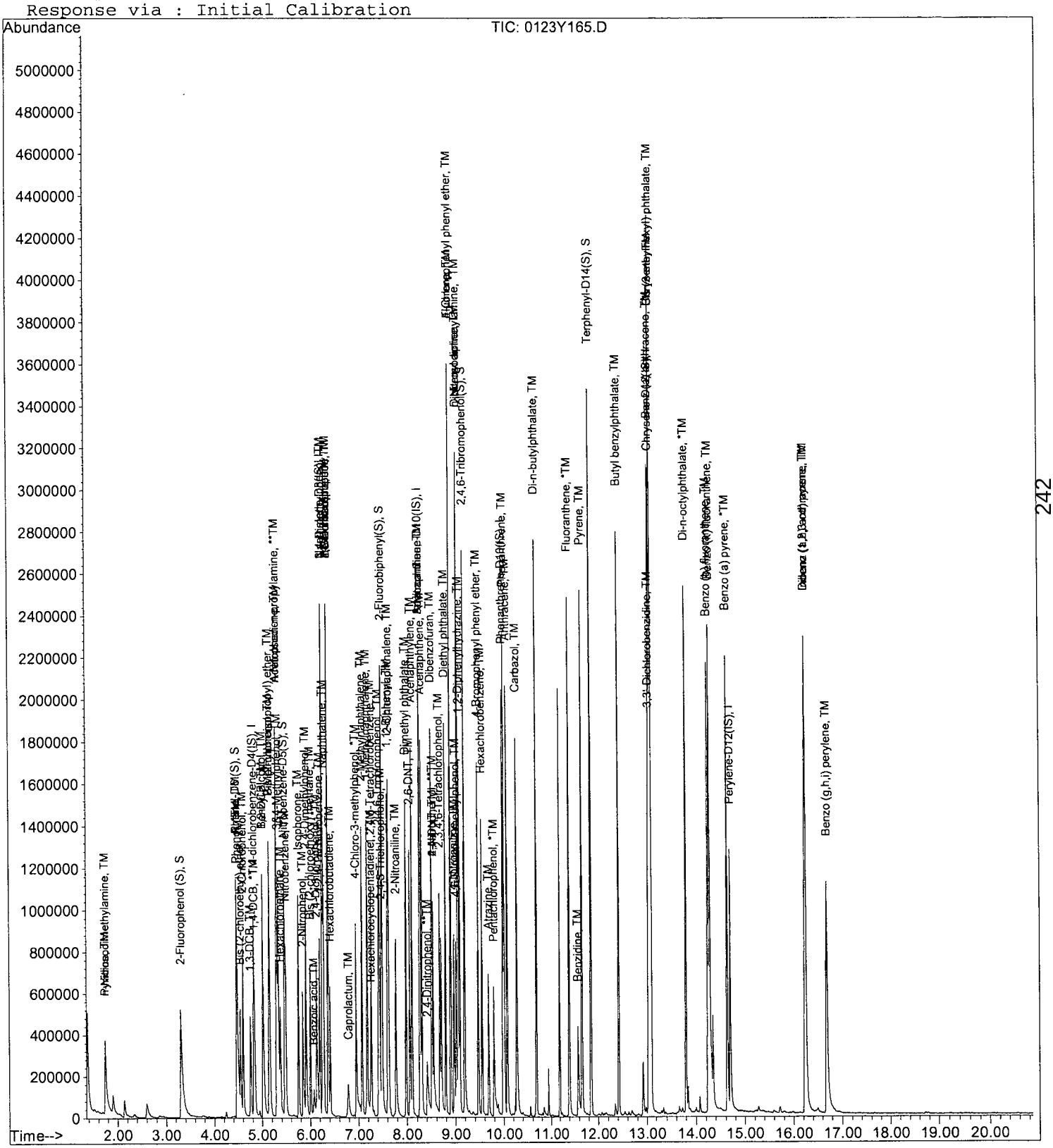
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

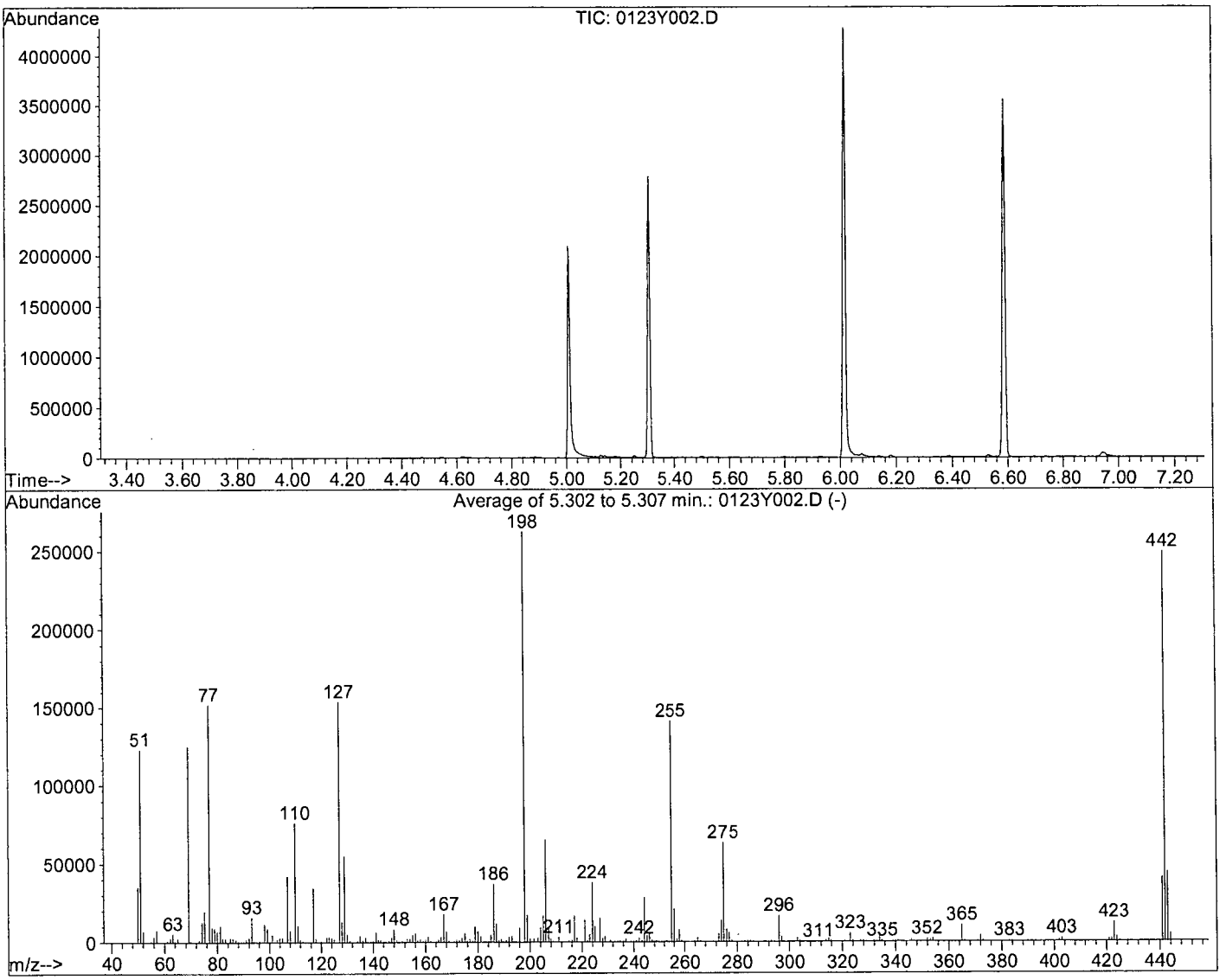
Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D Vial: 2
Acq On : 23 Jan 17 10:12 Operator: MA
Sample : SV Tune 10/19/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

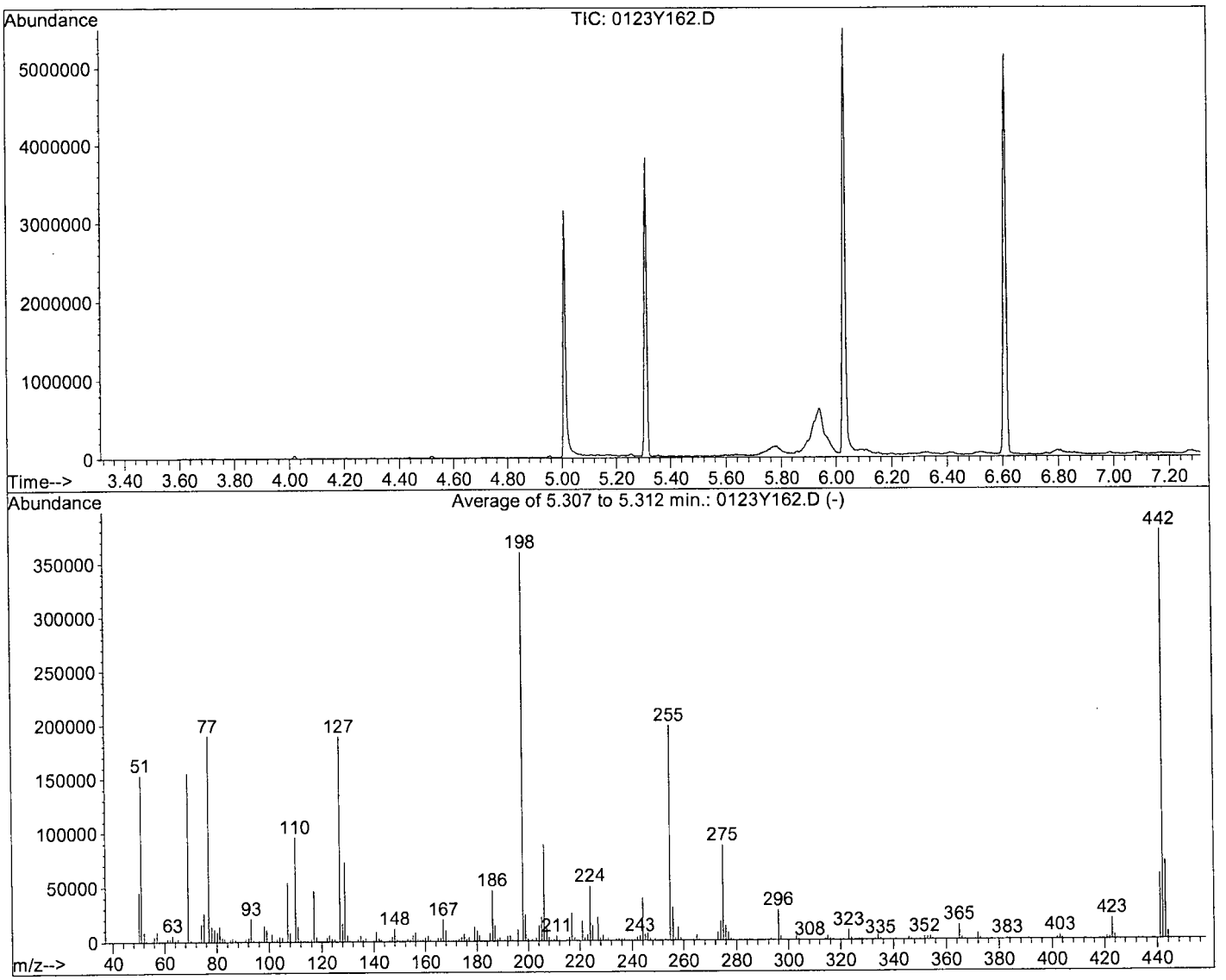
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

0123Y002.D Y0123.M Tue Jan 24 10:34:11 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y162.D Vial: 62
Acq On : 15 Feb 17 10:50 Operator: MA
Sample : SV Tune 12/15/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 680

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.6	153336	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1219	PASS
127	198	40	60	52.5	189141	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	360000	PASS
199	198	5	9	6.6	23725	PASS
275	198	10	30	24.3	87381	PASS
365	198	1	100	3.8	13516	PASS
441	443	0.01	100	83.7	60045	PASS
442	198	50	150	105.4	379264	PASS
443	442	17	23	18.9	71768	PASS

0123Y162.D Y0123.M Wed Feb 15 10:59:22 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	12/08/16 RH					
Exp:	12/08/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-36838	12/08/16	12/08/17	1000
Absolute	10002	2000	062216-37257	12/08/16	12/08/17	1000
Absolute	10004	2000	012516-37148	12/08/16	12/08/17	1000
Absolute	10005	2000	110314-37138	12/08/16	12/08/17	1000
Absolute	10006	2000	081216-37078	12/08/16	12/08/17	1000
Absolute	10007	2000	020515-37140	12/08/16	12/08/17	1000
Absolute	10018	2000	090216-37152	12/08/16	12/08/17	1000
Absolute	70023	1000	042716-37304	12/08/16	12/08/17	1000
Absolute	82705	2000	012516-37142	12/08/16	12/08/17	1000
Absolute	94552	2000	042016-37259	12/08/16	12/08/17	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Full Scan Second Source Stock						
	7/8/16 GA					
8270 Second Source Stock						
Exp:	07/08/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	234696-35233	07/08/16	07/08/17	1000
o2si	110391-01	2000	252133-35880	07/08/16	07/08/17	1000
o2si	010337-01	1000	259144-35881	07/08/16	07/08/17	1000
o2si	110396-01	2000	252136-35882	07/08/16	07/08/17	1000
o2si	110397-01	2000	263077-35835	07/08/16	01/08/17	1000
o2si	110393-01	2000	252141-35248	07/08/16	07/08/17	1000
o2si	110394-01	2000	252143-35884	07/08/16	07/08/17	1000
o2si	**110395-01**	2000	252146-35885	07/08/16	07/08/17	1000
o2si	110392-01	2000	243259-35886	07/08/16	07/08/17	1000
Absolute	10006	2000	091115-35856	07/08/16	07/08/17	1000
				Final Vol.		10000

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	01/19/2018					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37137	01/19/17	01/19/18	1000
Absolute	10002	2000	062216-37146	01/19/17	01/19/18	1000
Absolute	10004	2000	012516-37149	01/19/17	01/19/18	1000
Absolute	10005	2000	110314-37139	01/19/17	01/19/18	1000
Absolute	10006	2000	081216-37077	01/19/17	01/19/18	1000
Absolute	10007	2000	020515-37141	01/19/17	01/19/18	1000
Absolute	10018	2000	090216-37153	01/19/17	01/19/18	1000
Absolute	70023	1000	083121-37151	01/19/17	01/19/18	1000
Absolute	82705	2000	012516-37143	01/19/17	01/19/18	1000
Absolute	94552	2000	042016-36864	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170214A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 1-19-17 EXP 1-19-18		Surrogate ID 1	8270 Surrogate 1-24-17 EXP 4-24-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/14/17 8:40
Spiked ID 8			Ext. End Time:	02/14/17 16:50
			GC Requires Extract By:	**02/16/17 0:00**

pH1	2	02/14/17 9:00:00 AM	Water Bath Temp Criteria	72 °C
pH2	14	2/14/17 10:20:00 AM		
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	
2	170214A LCS-1		0.250	1	1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	
3	AZ49739	AZ49739W14			1	1 equip	1040 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
4	AZ49741	AZ49741W13			1	1 equip	980 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
5	AZ49743	AZ49743W12			1	1 equip	1020 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
6	AZ49744	AZ49744W07			1	1 equip	990 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
7	AZ49853 MS-1	AZ49853W30	0.250	1	1	1 equip	1030 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
8	AZ49853 MSD-1	AZ49853W43	0.250	1	1	1 equip	1030 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
9	AZ49853	AZ49853W42			1	1 equip	1070 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
10	AZ49854	AZ49854W11			1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
11	AZ49855	AZ49855W15			1	1 equip	1040 E-WB7	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
12	AZ49857	AZ49857W09			1	1 equip	1000 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
13	AZ49860	AZ49860W13			1	1 equip	980 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
14	AZ49862	AZ49862W09			1	1 equip	1000 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK

KY 2/14/17

Solvent and Lot#	
MC	56153
1+1 Sulfuric Acid	12-5-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16c255214
10N NaOH	2-14-17
ph strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	PH
Date	2/14/17
Time	5:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	JR

Modified	02/14/17 4:51:15 PM

Reviewed By: KY 255 **Date** 2/14/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
62	0123Y162.D	1	SV Tune 12/15/16	water	15 Feb 17 10:50
63	0123Y163.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 11:07
64	0123Y164.D	1	170214A BLK 1/1000	water	15 Feb 17 11:51
65	0123Y165.D	1	170214A LCS-1 1/1000	water	15 Feb 17 12:22
75	0123Y175.D	1	AZ49857W09 1/1000	water	15 Feb 17 17:38
76	0123Y176.D	1.02041	AZ49860W13 1/980	water	15 Feb 17 18:09
77	0123Y177.D	1	AZ49862W09 1/1000	water	15 Feb 17 18:39
79	0123Y179.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 19:39

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216264**
Batch ID: #87DME-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.
Run #: 1220Y119
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:31:31 PM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 LCS - 216264**
Batch ID: #87DME-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	64.6	80.8	30-130

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Yoda
Run :	1220Y120
Initials :	MA

Comments: _____

Printed: 02/17/17 3:31:33 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 02/16/17

Matrix: WATER Instrument: Yoda

Blank ID: 170214A-BLK Time Analyzed: 1225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	1220Y119	02/16/17 1225
170214A-LCS	Lab Control Spike	1220Y120	02/16/17 1255
AZ49857	ERH231	1220Y126	02/16/17 1555
AZ49860	ERH227	1220Y127	02/16/17 1625
AZ49862	ERH223	1220Y128	02/16/17 1655

Comments: Batch: #87DME-170214A

Printed: 02/17/17 3:31:51 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1220Y002.D~~ 82146
Matrix: Water np2-24-17
ID: SV Tune 11/15/16

np2-24-17
SDG No: ~~Yoda~~ 82146
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82146
Date Analyzed: 02/16/17
Instrument: Yoda
Time Analyzed: 10:56

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y118.D	02/16/17 11:50
2	Blank	170214A BLK 2/500	1220Y119.D	02/16/17 12:25
3	Lab Control Spike	170214A LCS-1 2/500	1220Y120.D	02/16/17 12:55
4	ERH231	AZ49857W11 2/500	1220Y126.D	02/16/17 15:55
5	ERH227	AZ49860W10 2/500	1220Y127.D	02/16/17 16:25
6	ERH223	AZ49862W13 2/500	1220Y128.D	02/16/17 16:55
7		500ug/ml DEG 02/14/1	1220Y130.D	02/16/17 17:39
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 30% of mass 198	23.4
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.6
442	50 - 150% of mass 198	102.5
443	17 - 23% of mass 442	18.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82146

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	170214A BLK 2/500	129773	4.83	566584	6.25	327872	8.26
02	170214A LCS-1 2/500	133267	4.83	573905	6.25	325827	8.26
03	AZ49857W11 2/500	132694	4.83	607031	6.25	360214	8.26
04	AZ49860W10 2/500	133775	4.84	619508	6.26	350706	8.26
05	AZ49862W13 2/500	124099	4.83	582571	6.25	365454	8.26
06	500ug/ml DEG 02/14/17	149145	4.83	651996	6.25	382109	8.26
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82146

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	170214A BLK 2/500	590882	9.99	546932	13.06	563566	14.69
02	170214A LCS-1 2/500	588079	9.99	562008	13.06	590543	14.69
03	AZ49857W11 2/500	638828	9.99	580806	13.06	541020	14.69
04	AZ49860W10 2/500	652094	9.99	593973	13.06	534309	14.70
05	AZ49862W13 2/500	679698	9.99	623077	13.06	546902	14.69
06	500ug/ml DEG 02/14/17	692253	9.99	655155	13.06	622313	14.70
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y126
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:31:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y126.D Vial: 26
Acq On : 16 Feb 17 15:55 Operator: MA
Sample : AZ49857W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	132694	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	607031	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	360214	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	638828	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	580806	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	541020	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

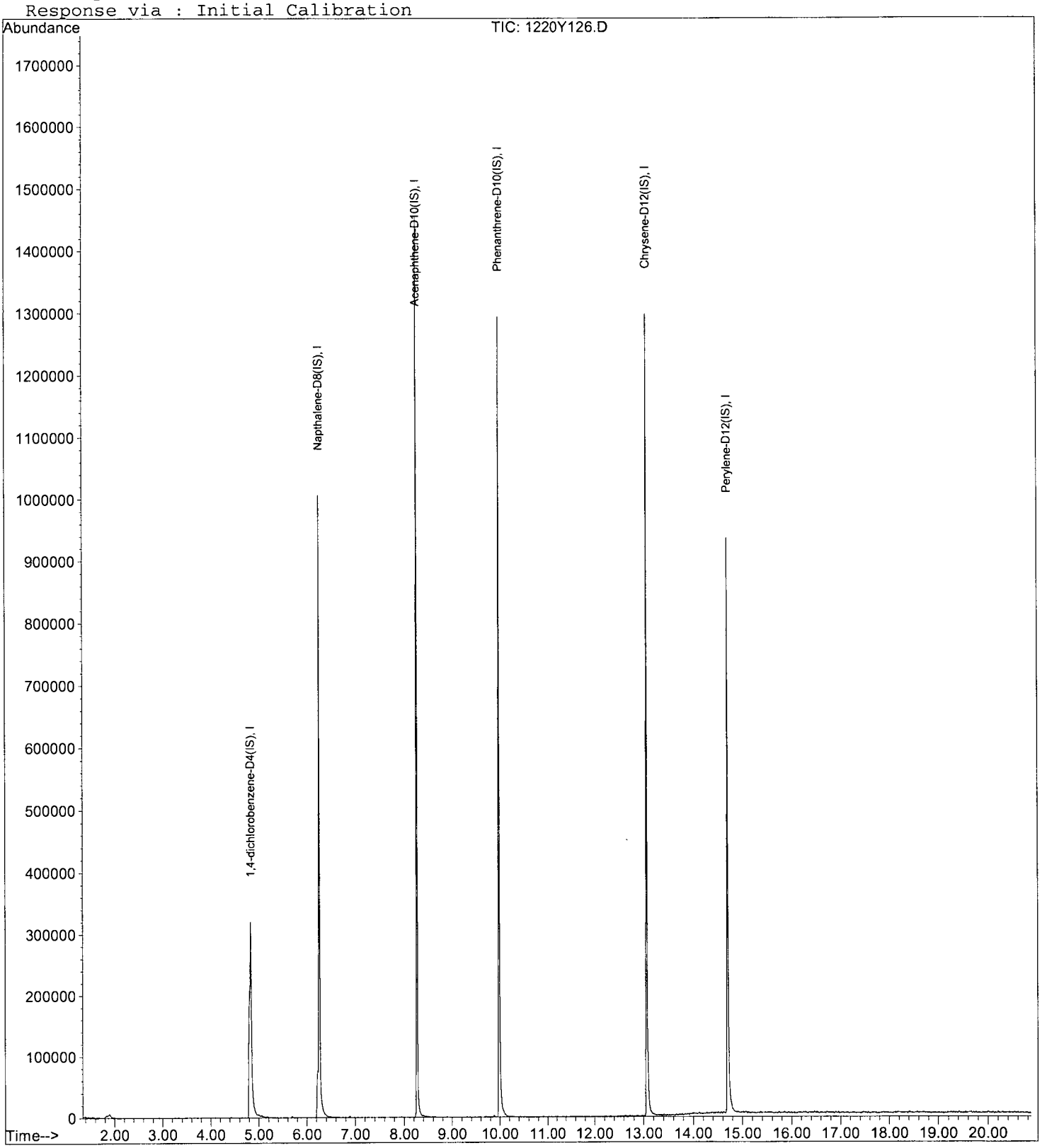
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y126.D Vial: 26
Acq On : 16 Feb 17 15:55 Operator: MA
Sample : AZ49857W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y127
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:31:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y127.D Vial: 27
Acq On : 16 Feb 17 16:25 Operator: MA
Sample : AZ49860W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	133775	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	619508	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	350706	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	652094	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	593973	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	534309	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

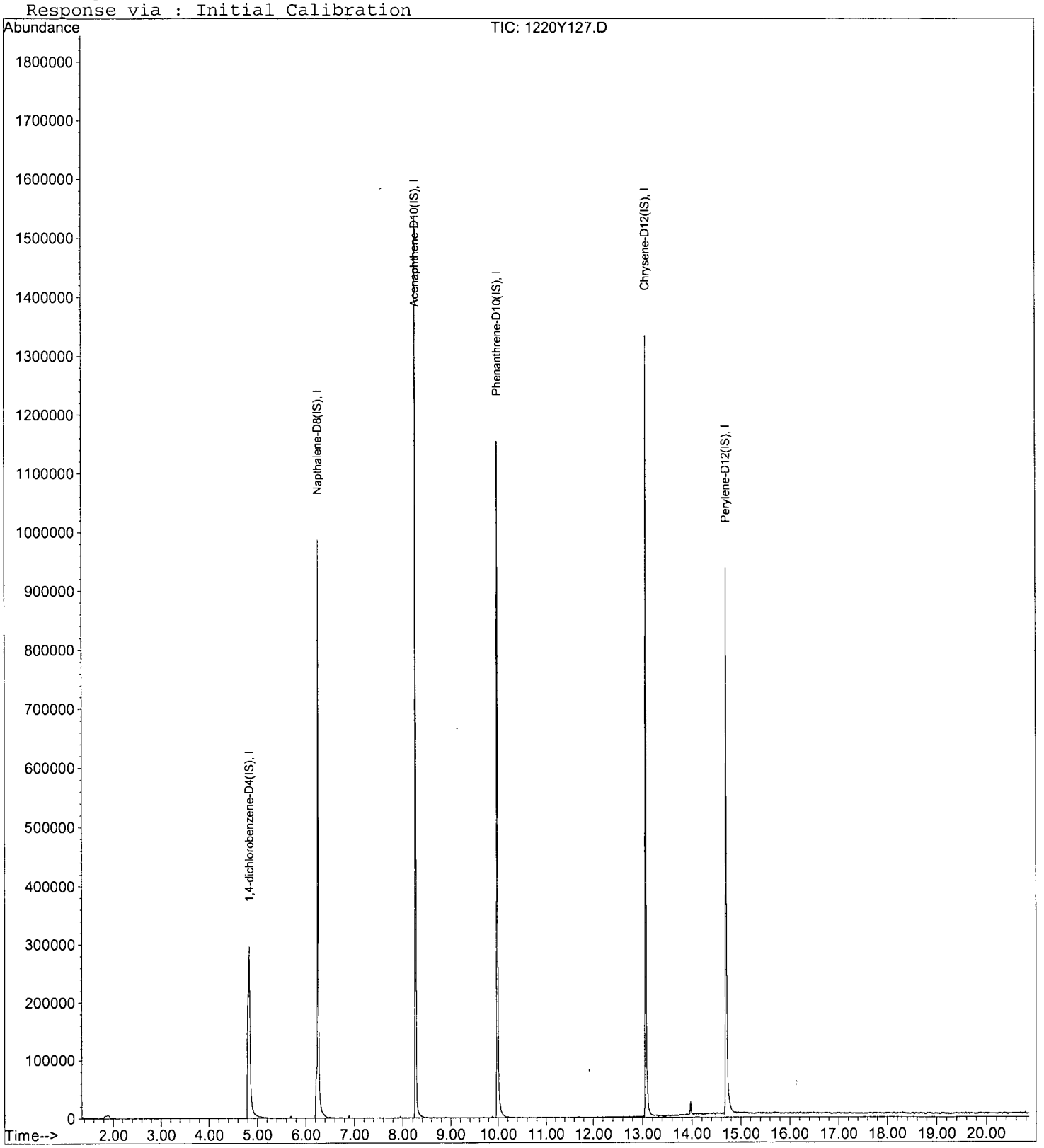
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y127.D Vial: 27
Acq On : 16 Feb 17 16:25 Operator: MA
Sample : AZ49860W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y128
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:31:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y128.D Vial: 28
Acq On : 16 Feb 17 16:55 Operator: MA
Sample : AZ49862W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	124099	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	582571	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	365454	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	679698	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	623077	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	546902	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

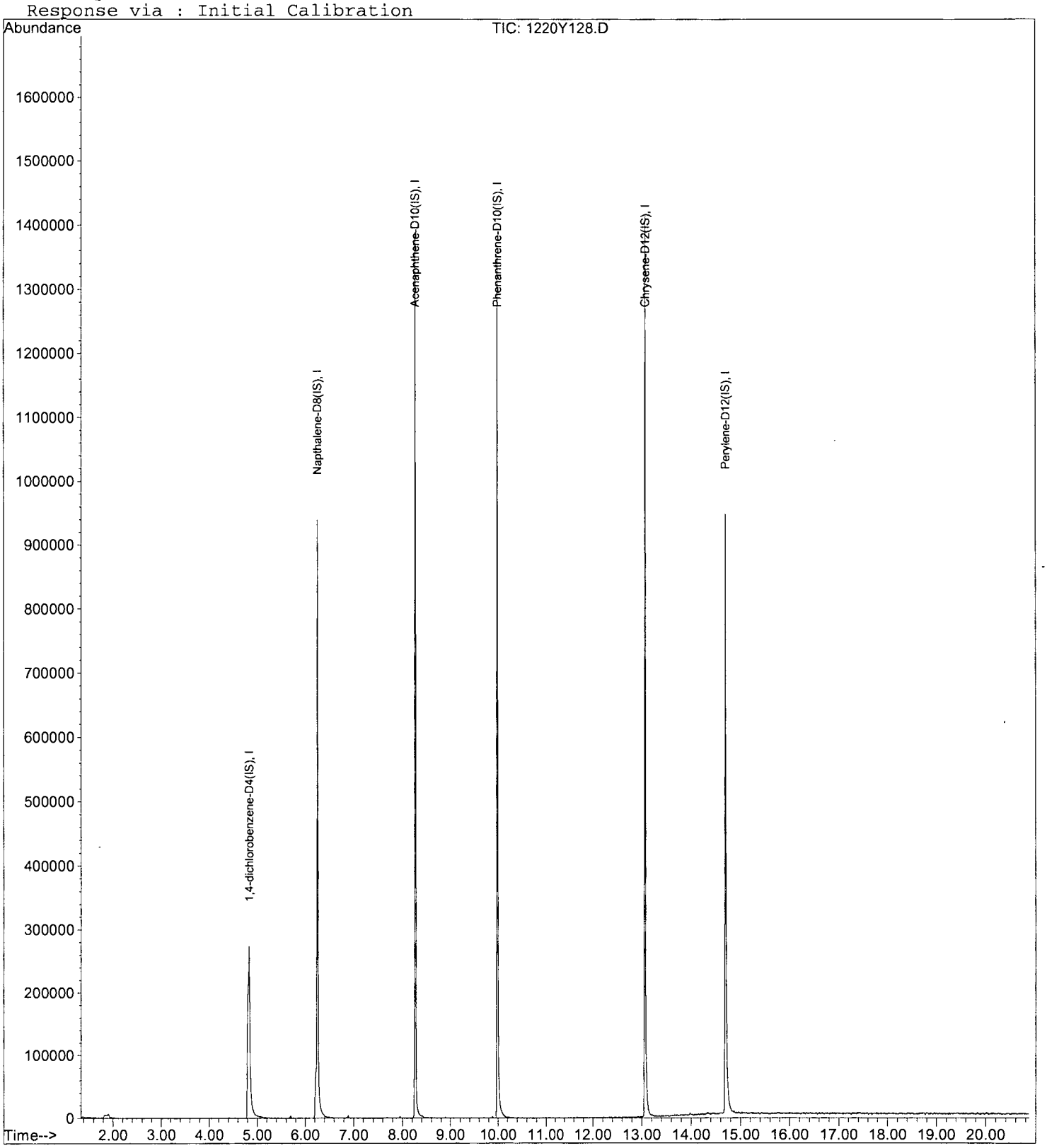
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y128.D Vial: 28
Acq On : 16 Feb 17 16:55 Operator: MA
Sample : AZ49862W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
12																
13																
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

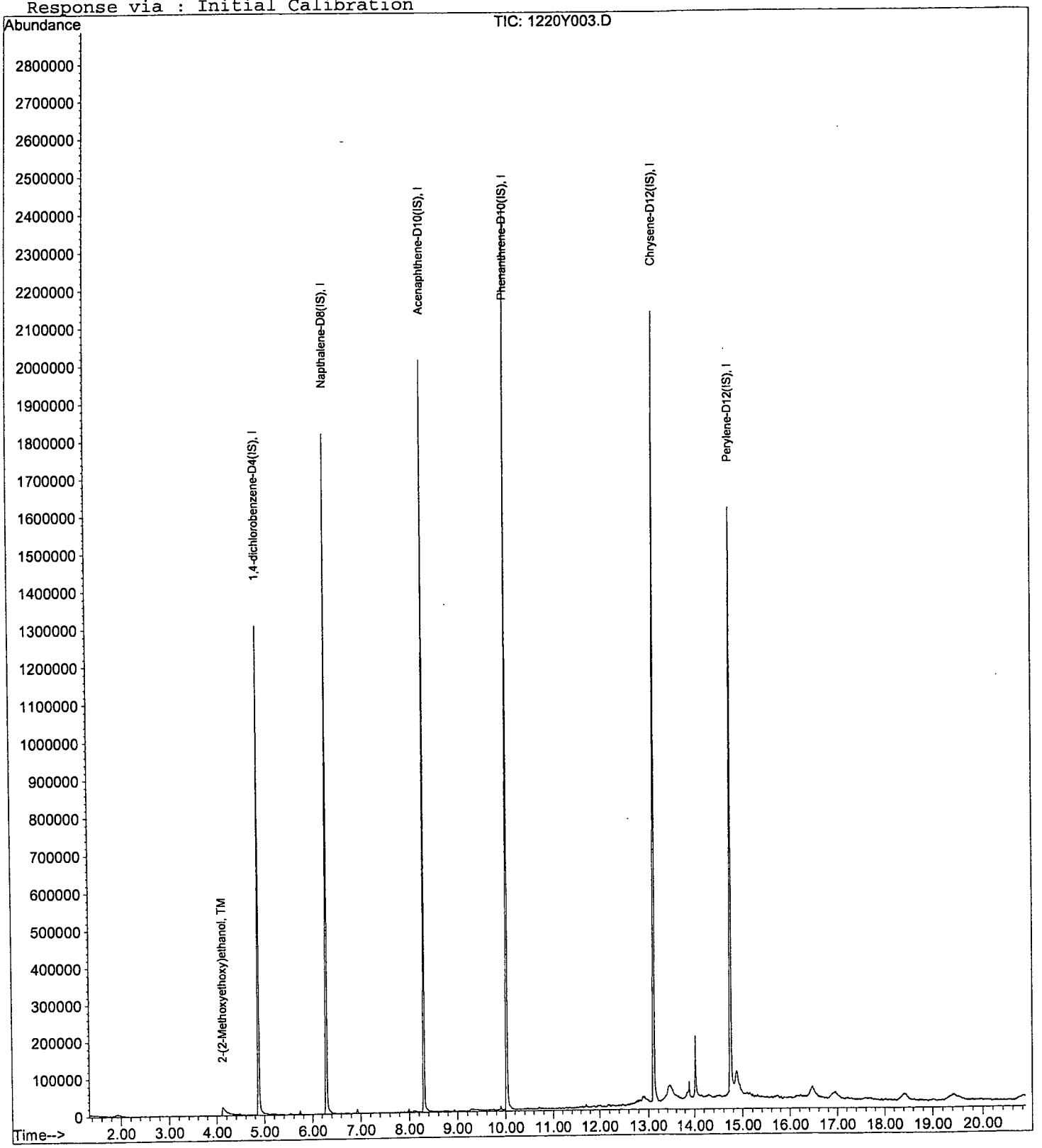
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

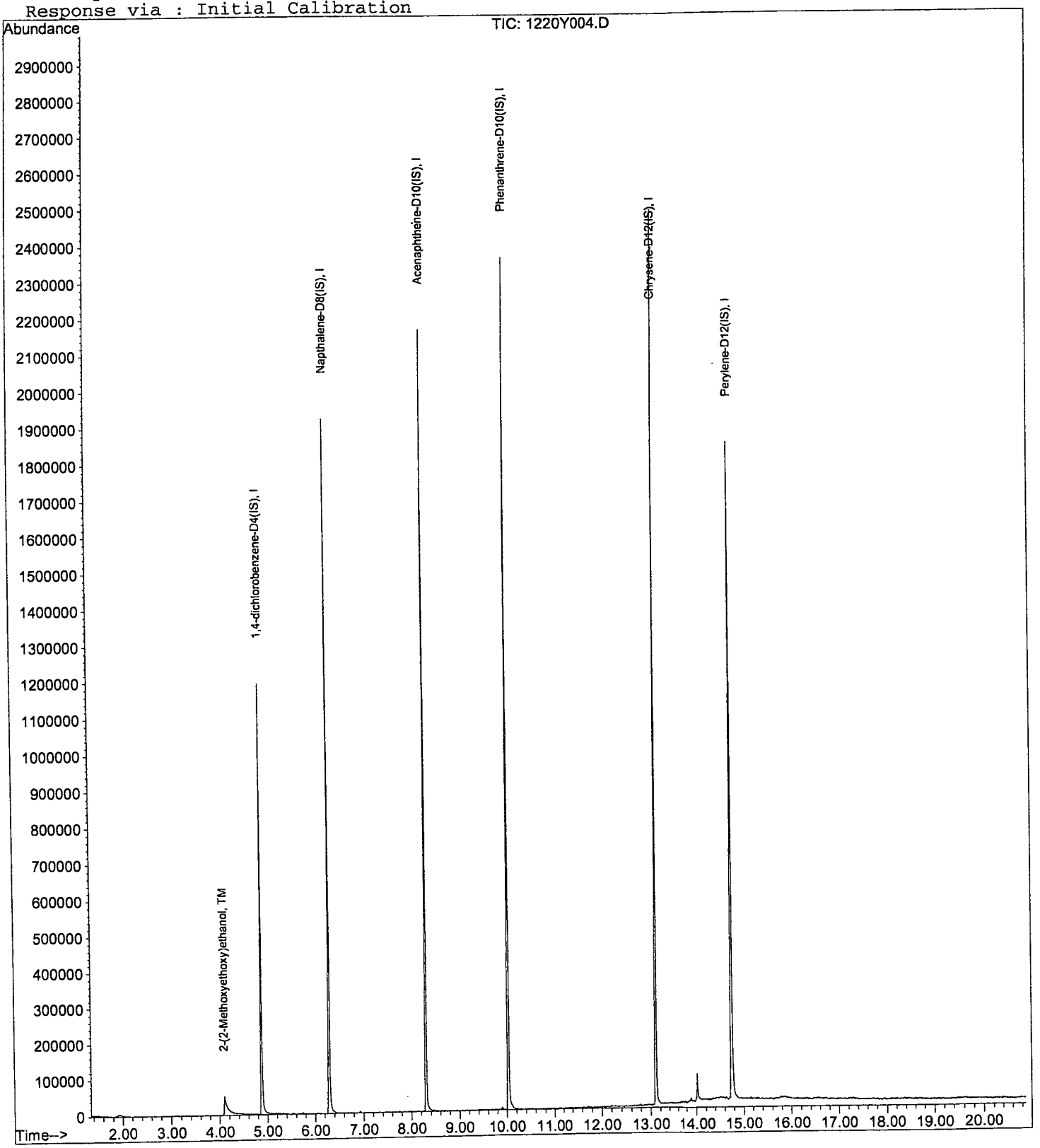
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

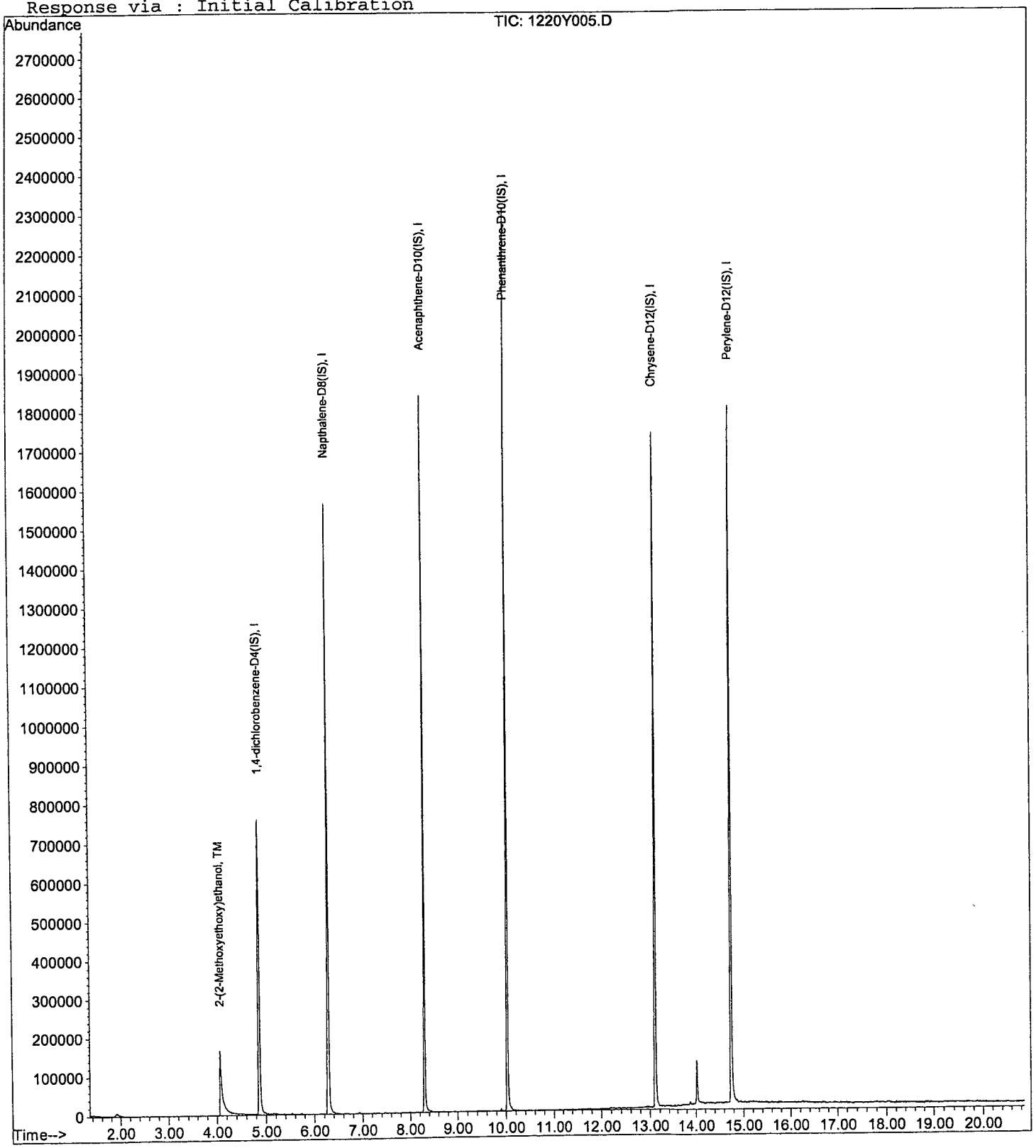
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration
1220Y006.D Y0GLYCOL.M Thu Jan 19 15:32:08 2017

Quantitation Report

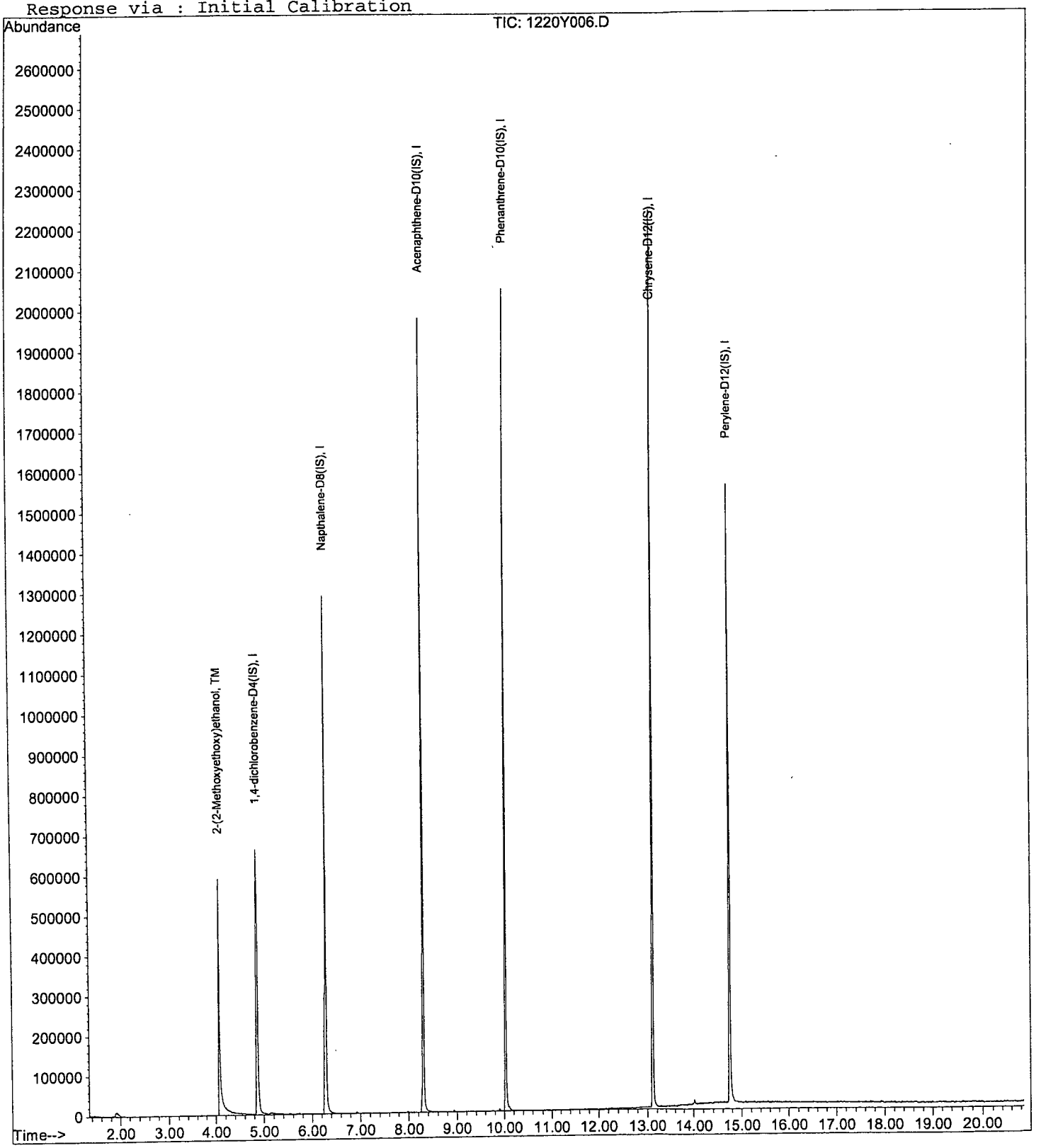
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration

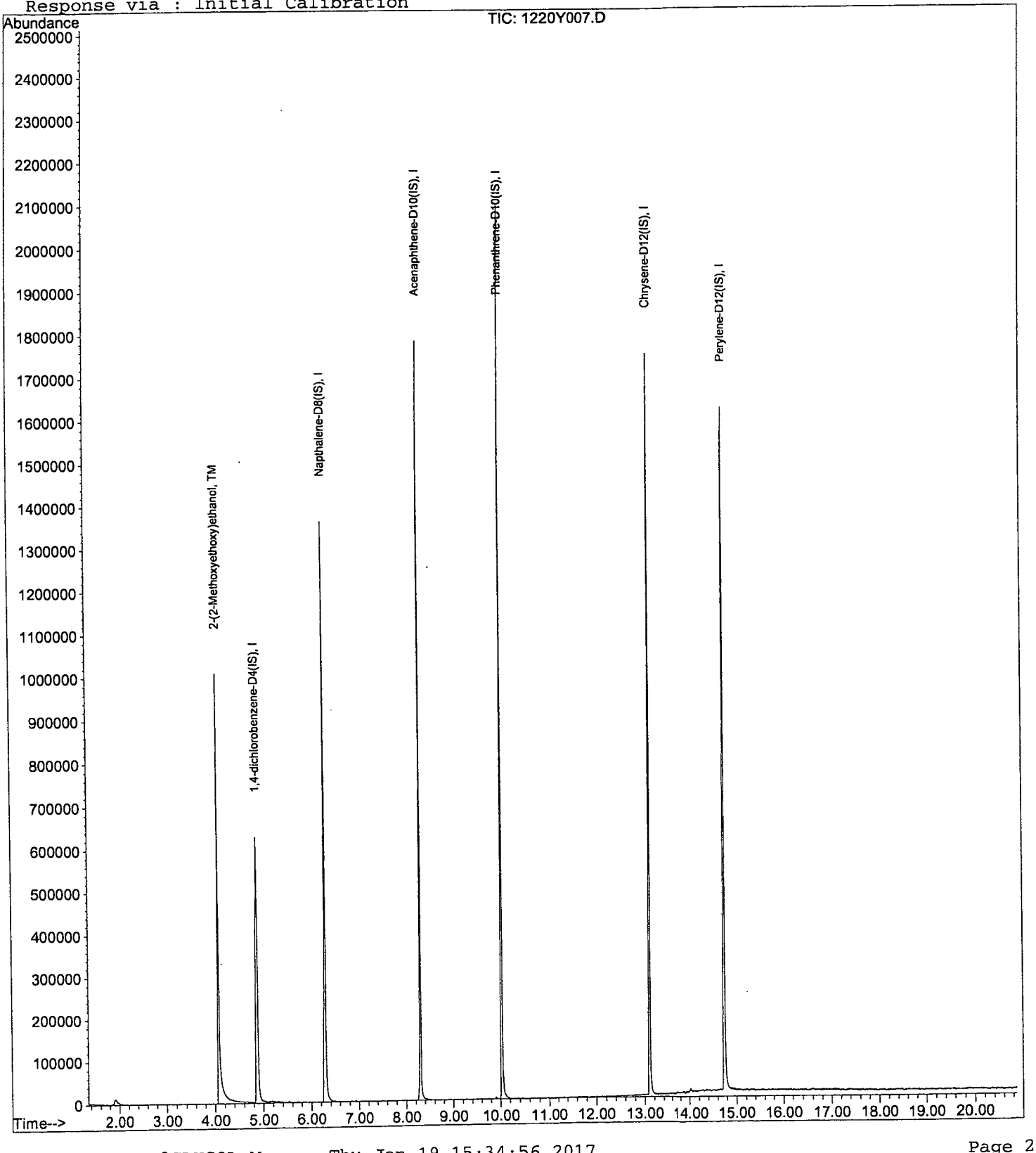
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

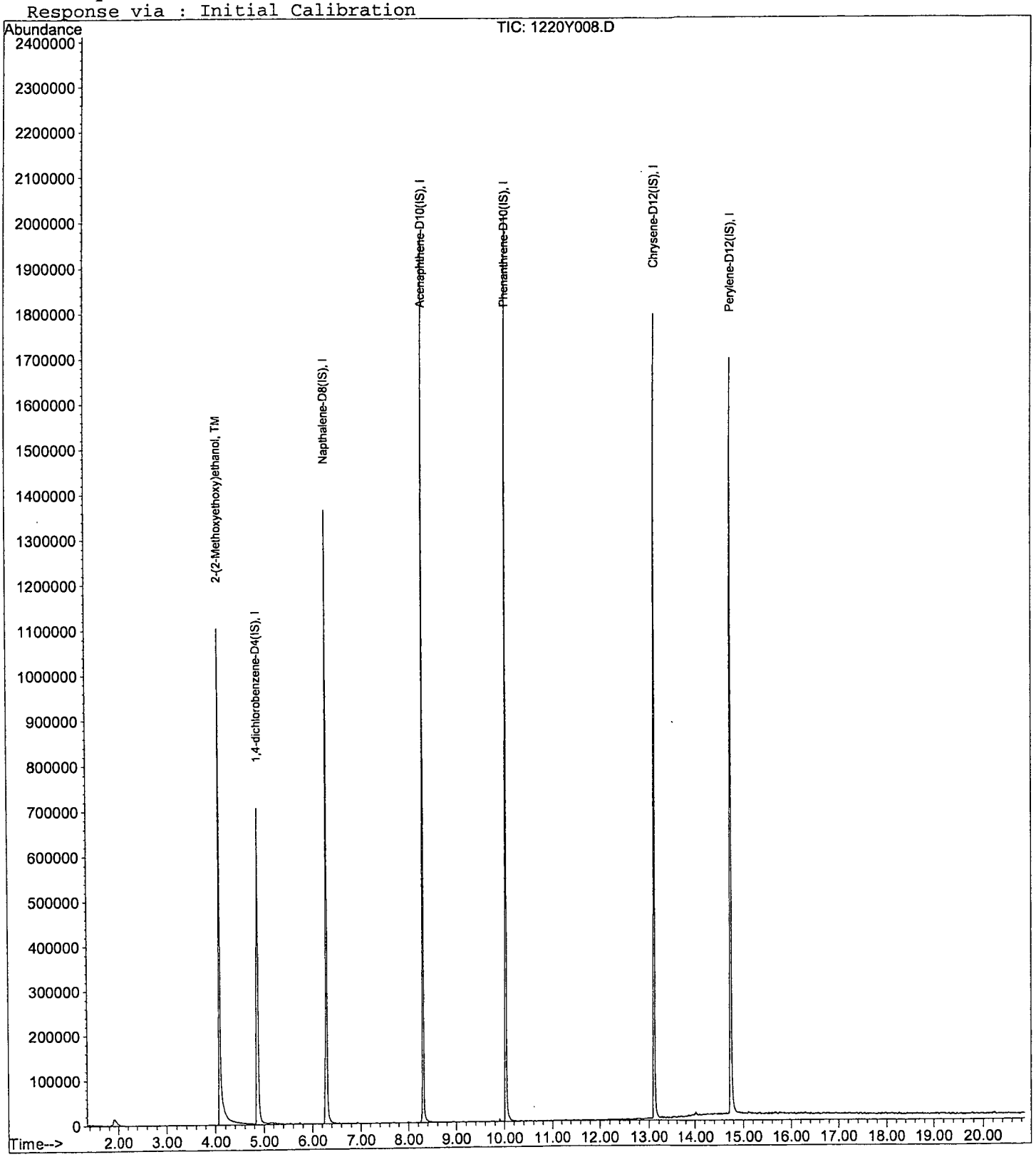
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D Vial: 9
Acq On : 20 Dec 16 13:28 Operator: MA
Sample : 800ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

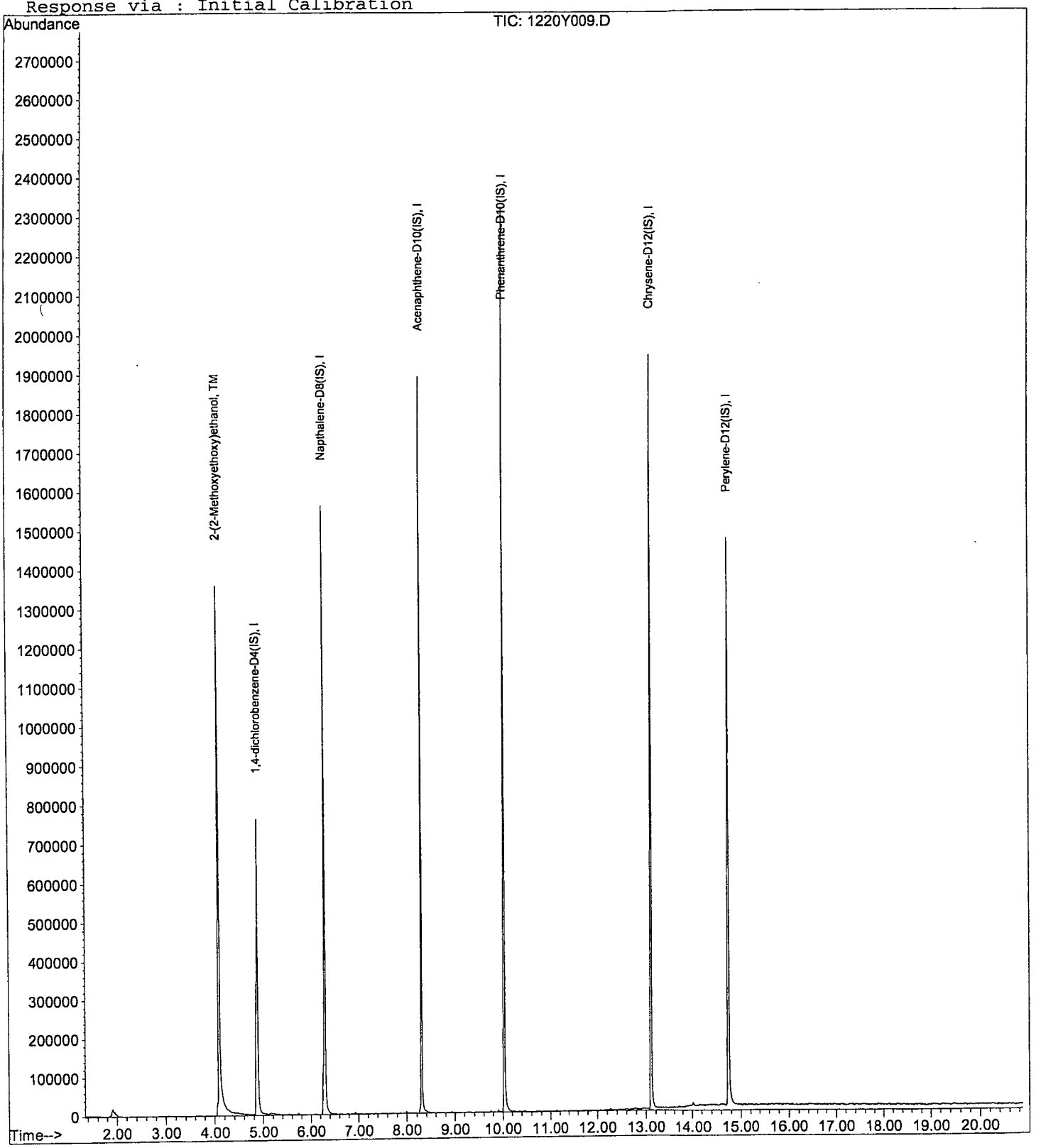
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

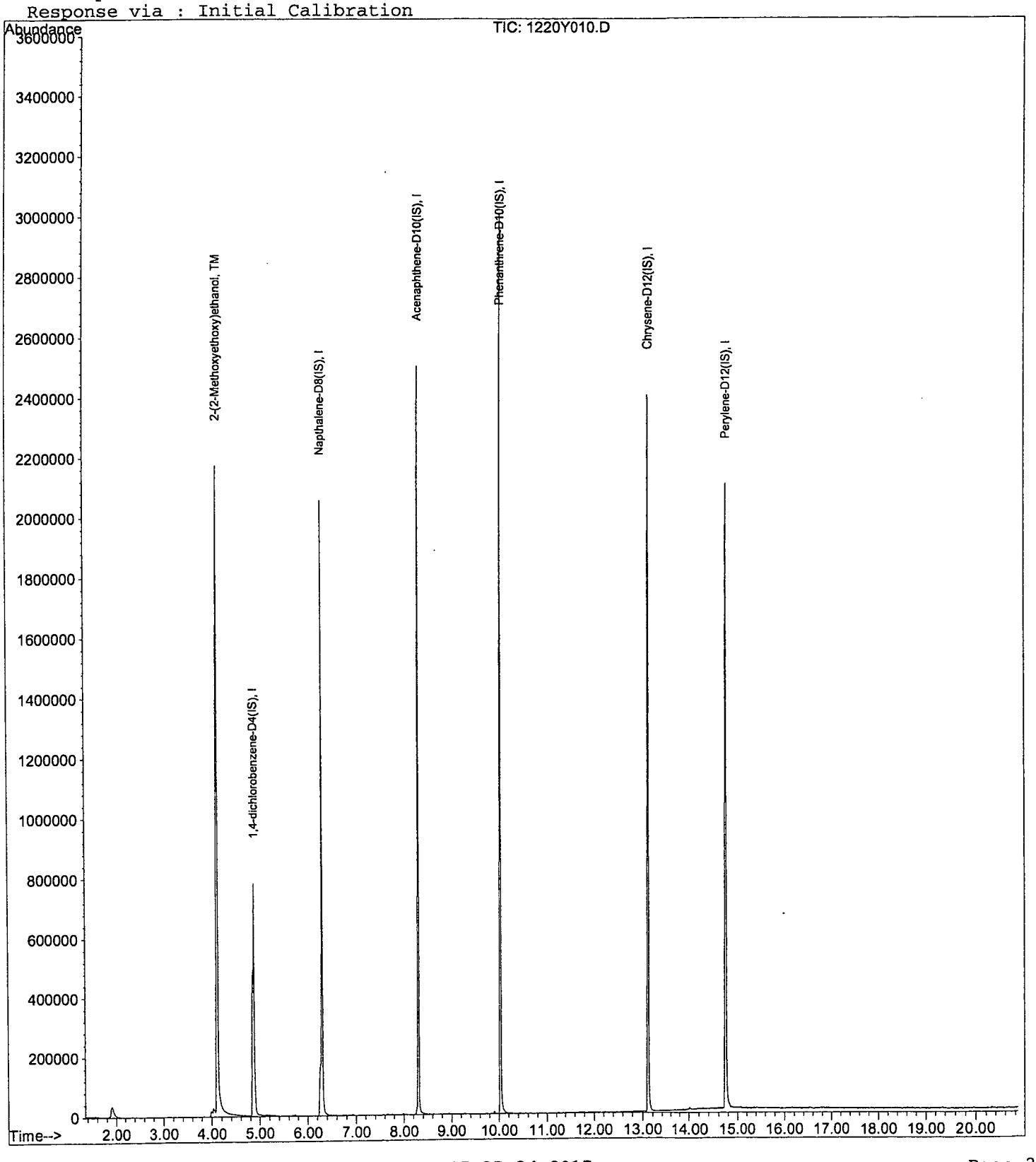
Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D Vial: 11
Acq On : 20 Dec 16 15:01 Operator: MA
Sample : SS2 DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 15:16 2016 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D YOGLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

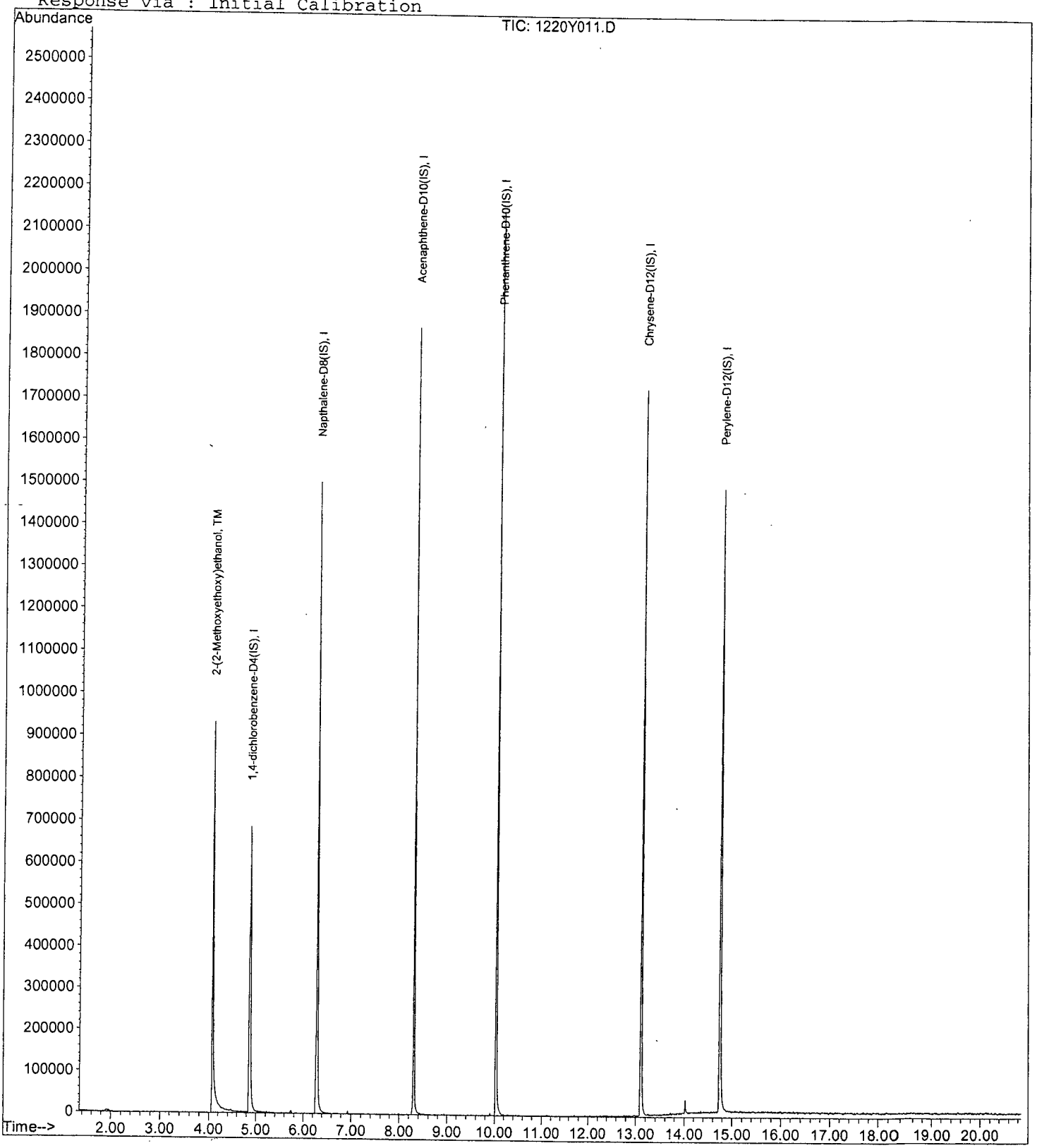
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y118.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2524	18	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y118.D Vial: 18
Acq On : 16 Feb 17 11:50 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165522	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	694701	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	401276	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	747457	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	703793	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671515	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.03	45	522302	588.63678 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y118.D Y0GLYCOL.M Thu Feb 16 12:18:22 2017

Quantitation Report

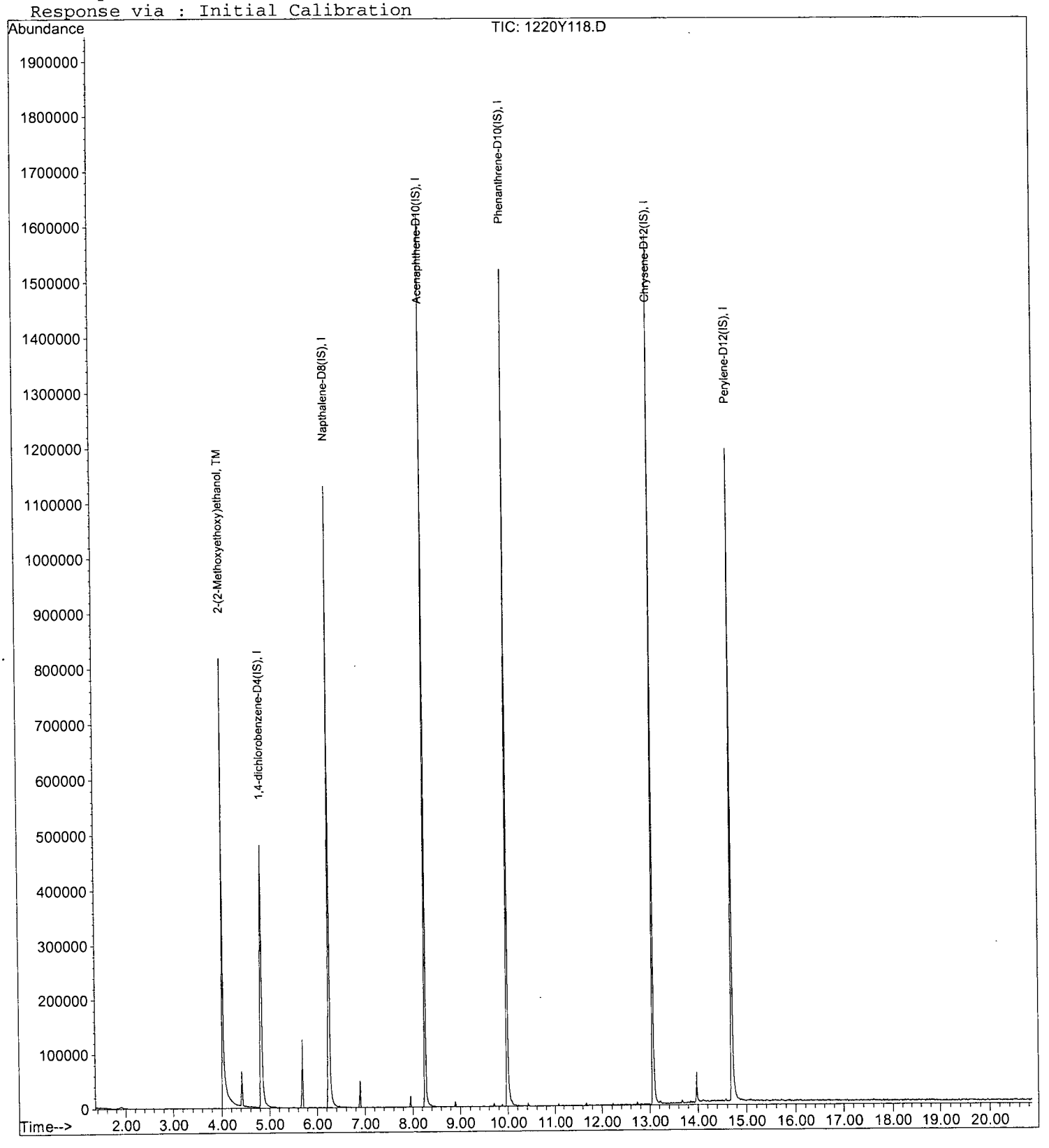
Data File : M:\YODA\DATA\Y161220G\1220Y118.D
Acq On : 16 Feb 17 11:50
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 18
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 12:11 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y130.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2354	9.8	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
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38							
39							
40							
		Average			9.8		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y130.D Vial: 30
Acq On : 16 Feb 17 17:39 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	149145	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	651996	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	382109	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	692253	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	655155	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	622313	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	438792	548.82190 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

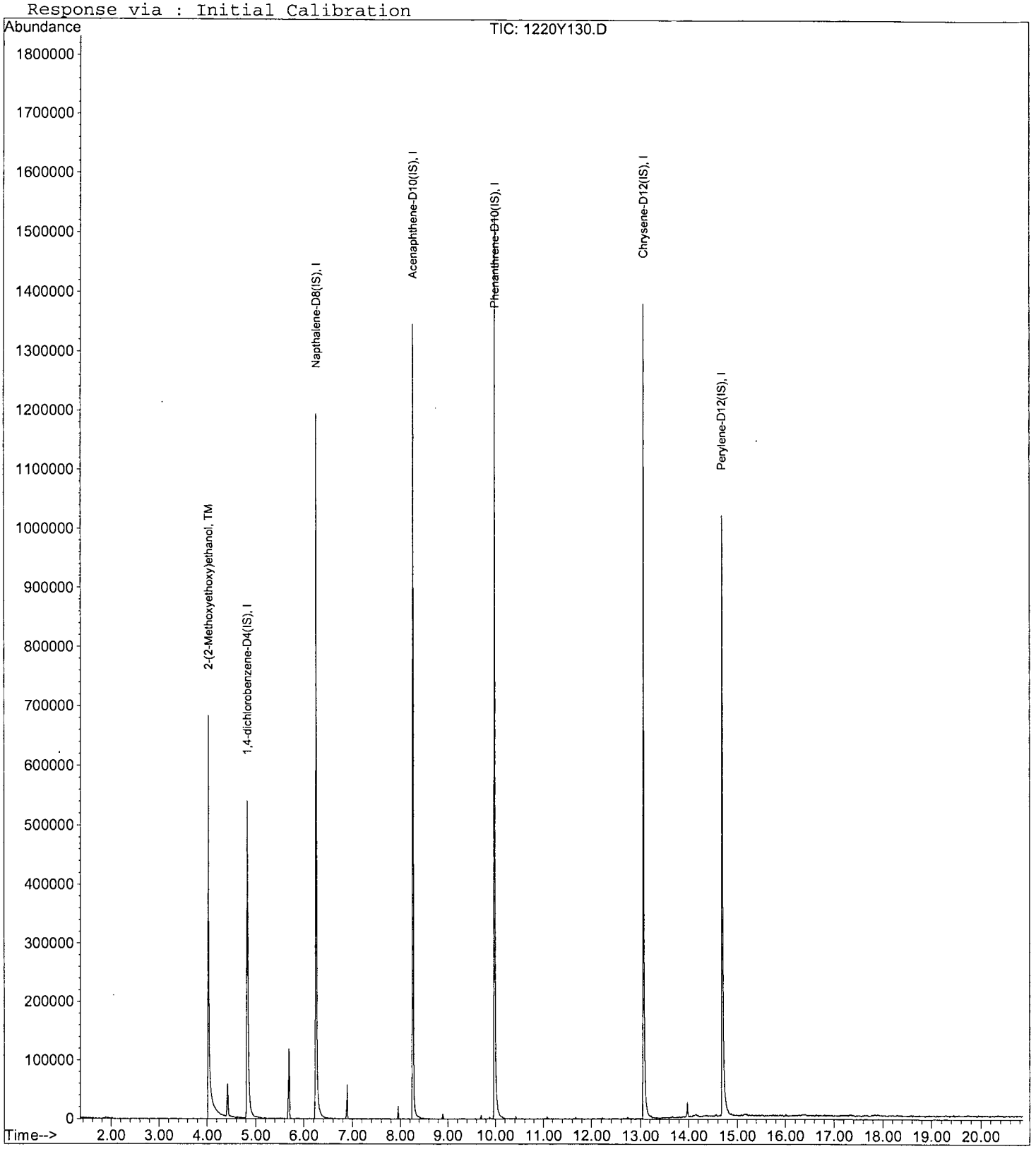
Data File : M:\YODA\DATA\Y161220G\1220Y130.D
Acq On : 16 Feb 17 17:39
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 30
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 17:58 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216264**
Batch ID: #87DME-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.
Run #: 1220Y119
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:31:57 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y119.D Vial: 19
Acq On : 16 Feb 17 12:25 Operator: MA
Sample : 170214A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	129773	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	566584	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	327872	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	590882	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	546932	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	563566	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

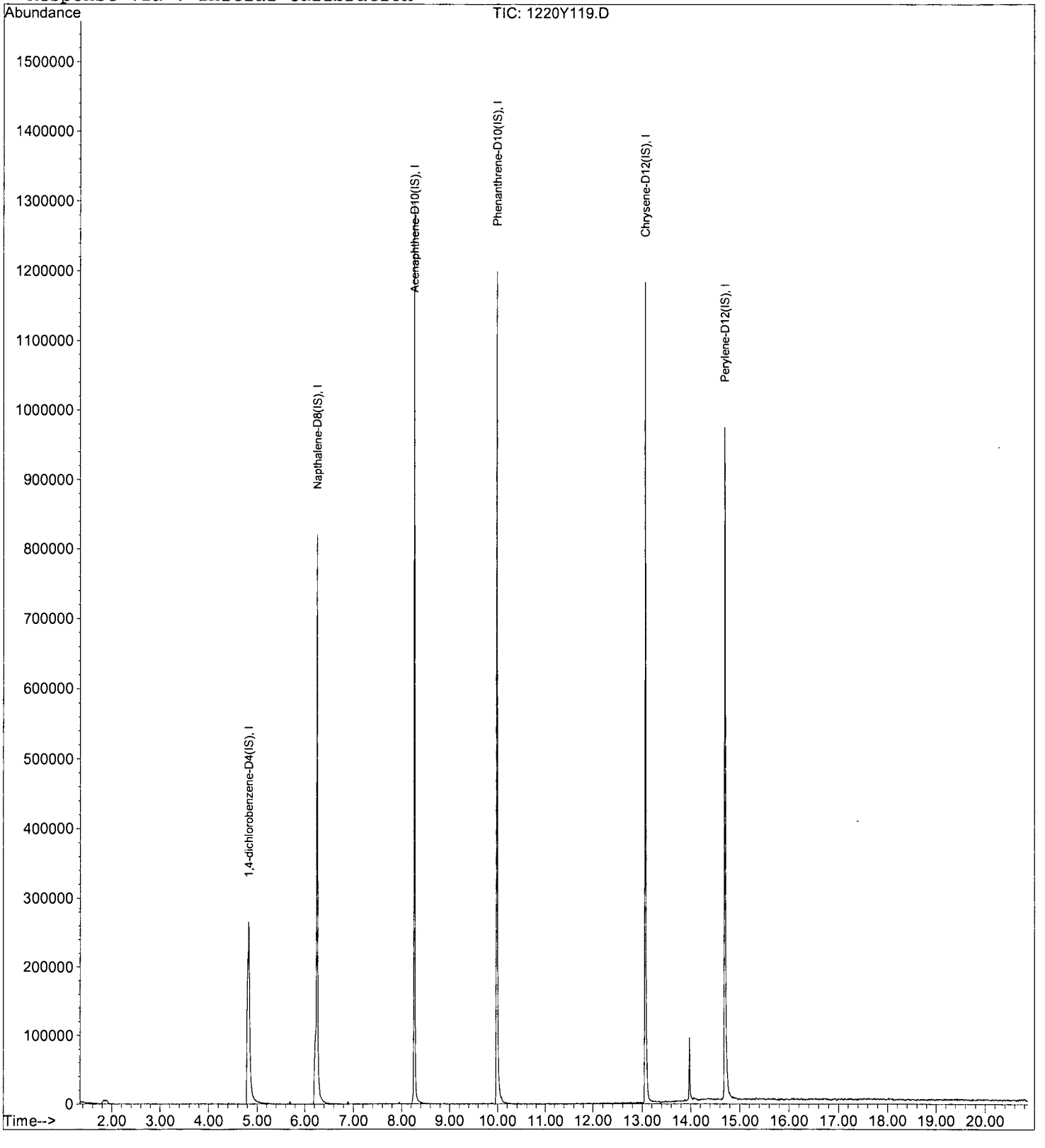
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y119.D Vial: 19
Acq On : 16 Feb 17 12:25 Operator: MA
Sample : 170214A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 LCS - 216264**
Batch ID: #87DME-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	64.6	80.8	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Yoda
Run :	1220Y120
Initials :	MA

Printed: 02/17/17 3:31:58 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:26 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	133267	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	573905	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	325827	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	588079	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	562008	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	590543	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.20	45	46172m	64.63050 ppb	100

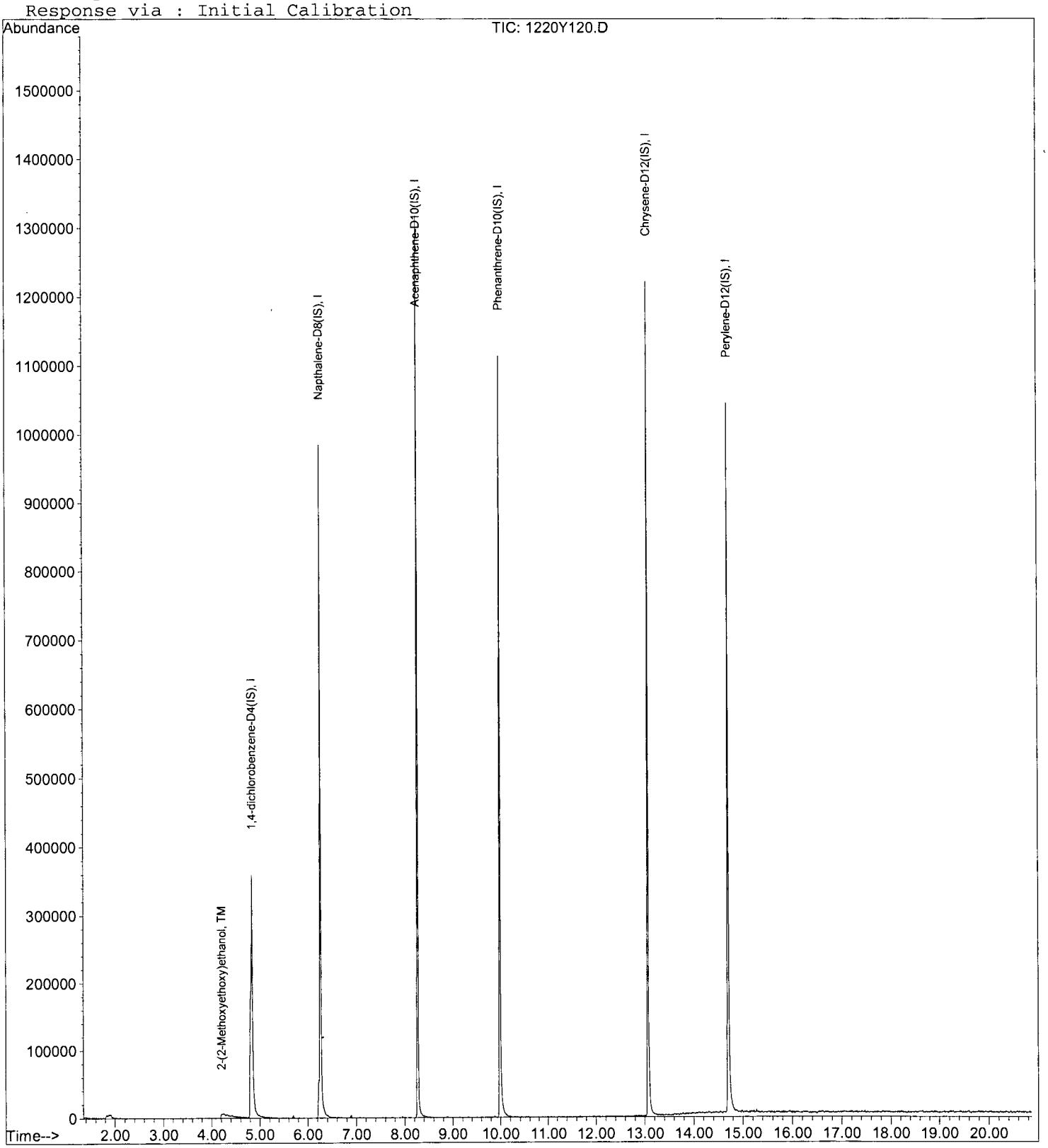
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:26 2017 Quant Results File: Y0GLYCOL.RES

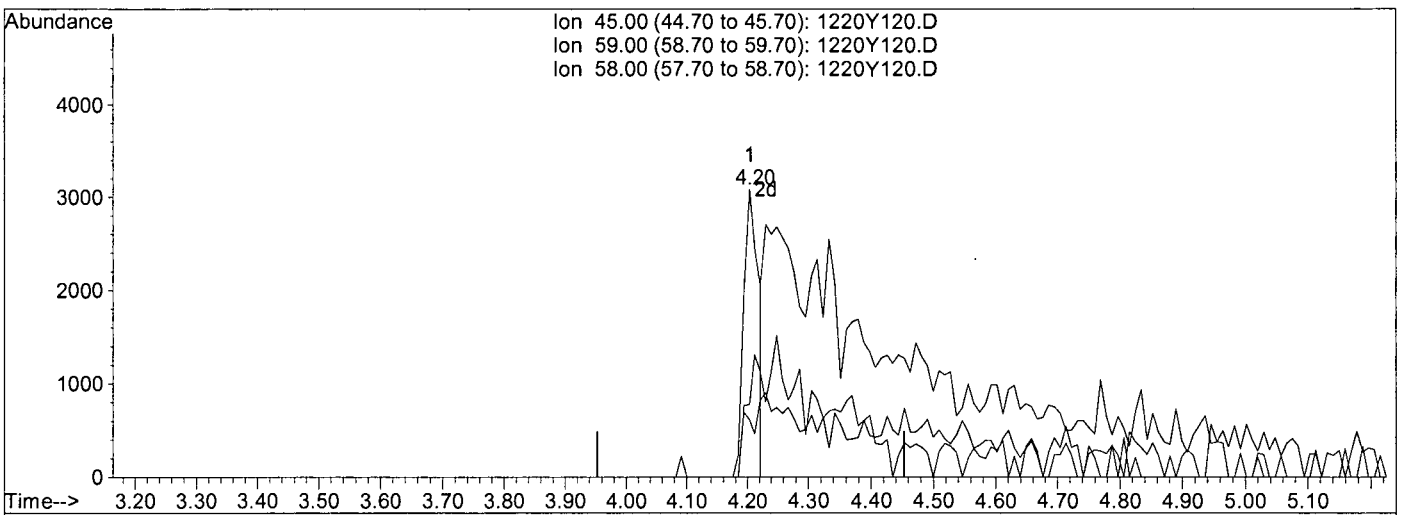
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

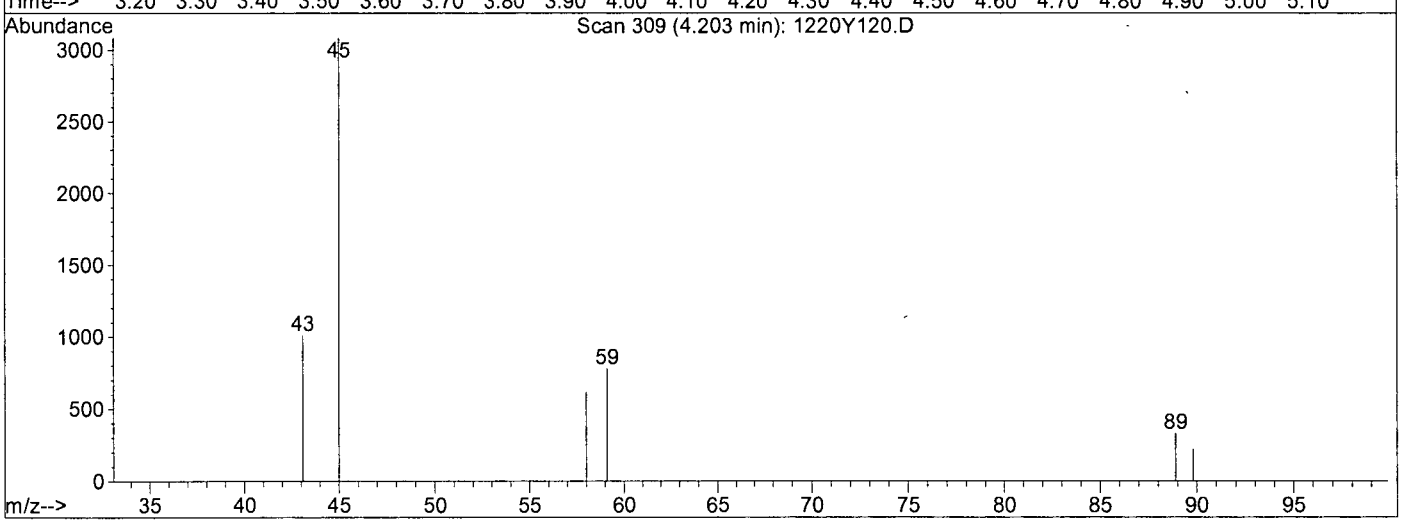


Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:24 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration





TIC: 1220Y120.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.20min 7.6484ppb

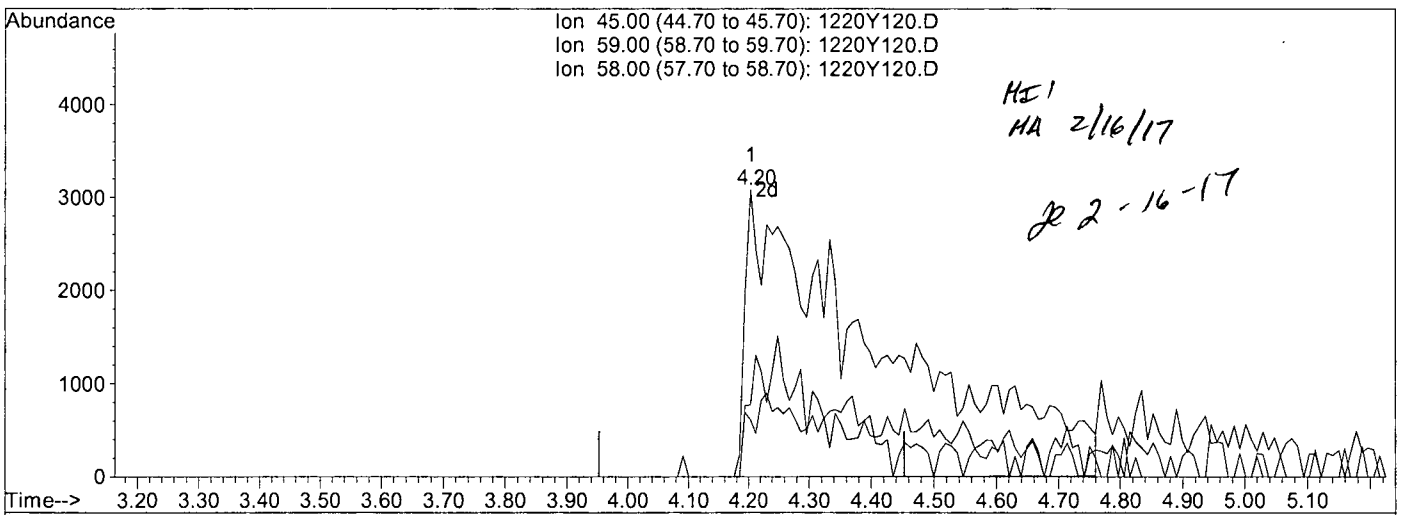
response 5464

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	25.19
58.00	19.90	19.90
0.00	0.00	0.00

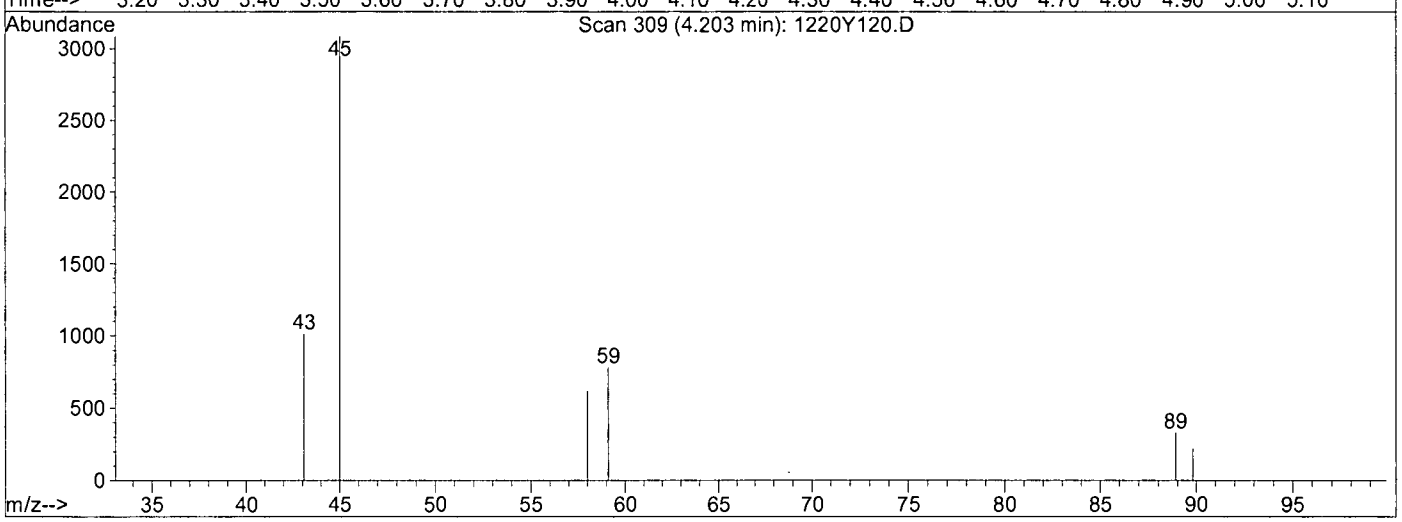
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:26 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration



HI
MA 2/16/17
JR 2-16-17



TIC: 1220Y120.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.20min 64.6305ppb m

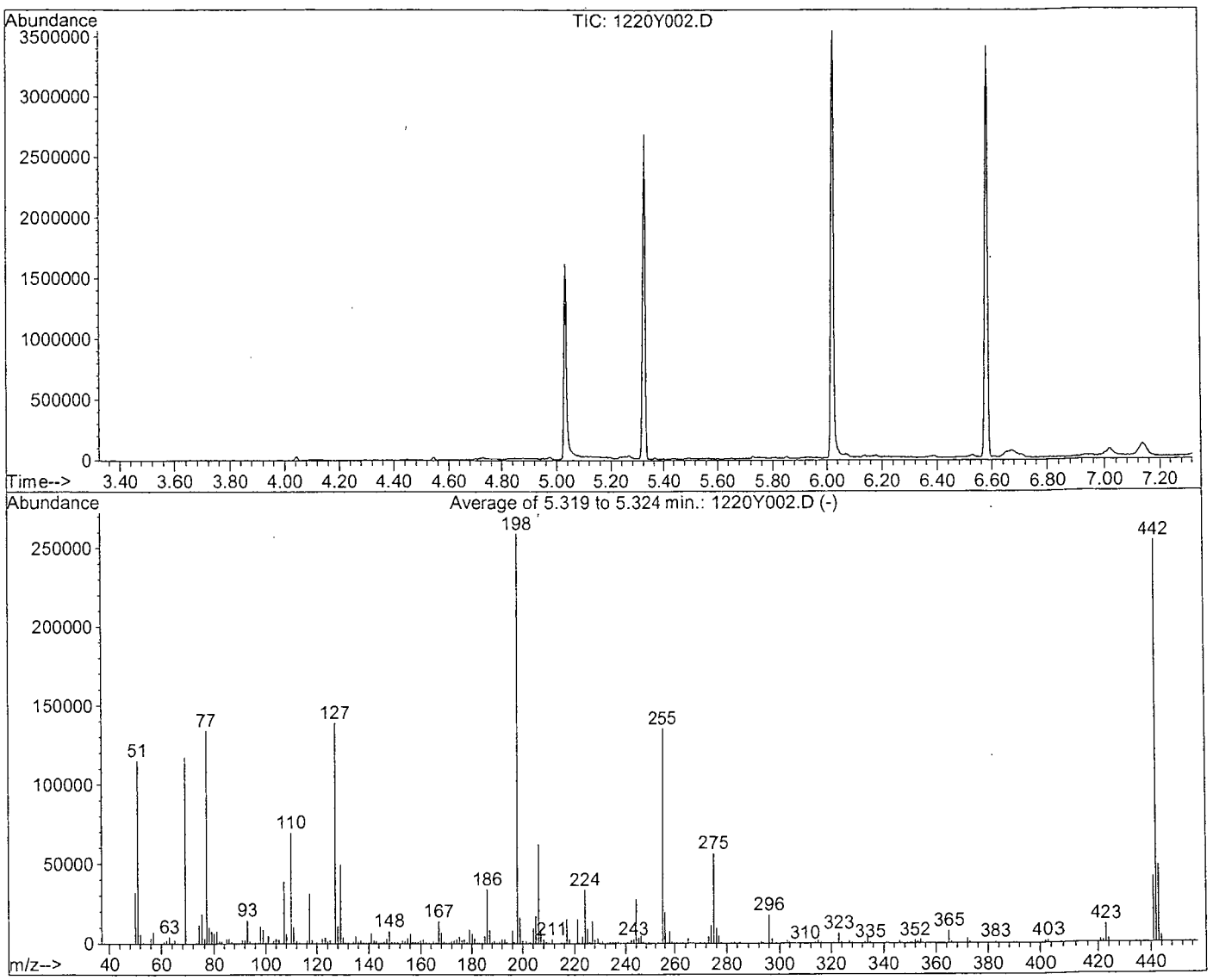
response 46172

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	25.19
58.00	19.90	19.90
0.00	0.00	0.00

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D Vial: 2
Acq On : 20 Dec 16 9:12 Operator: MA
Sample : SV Tune 11/15/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

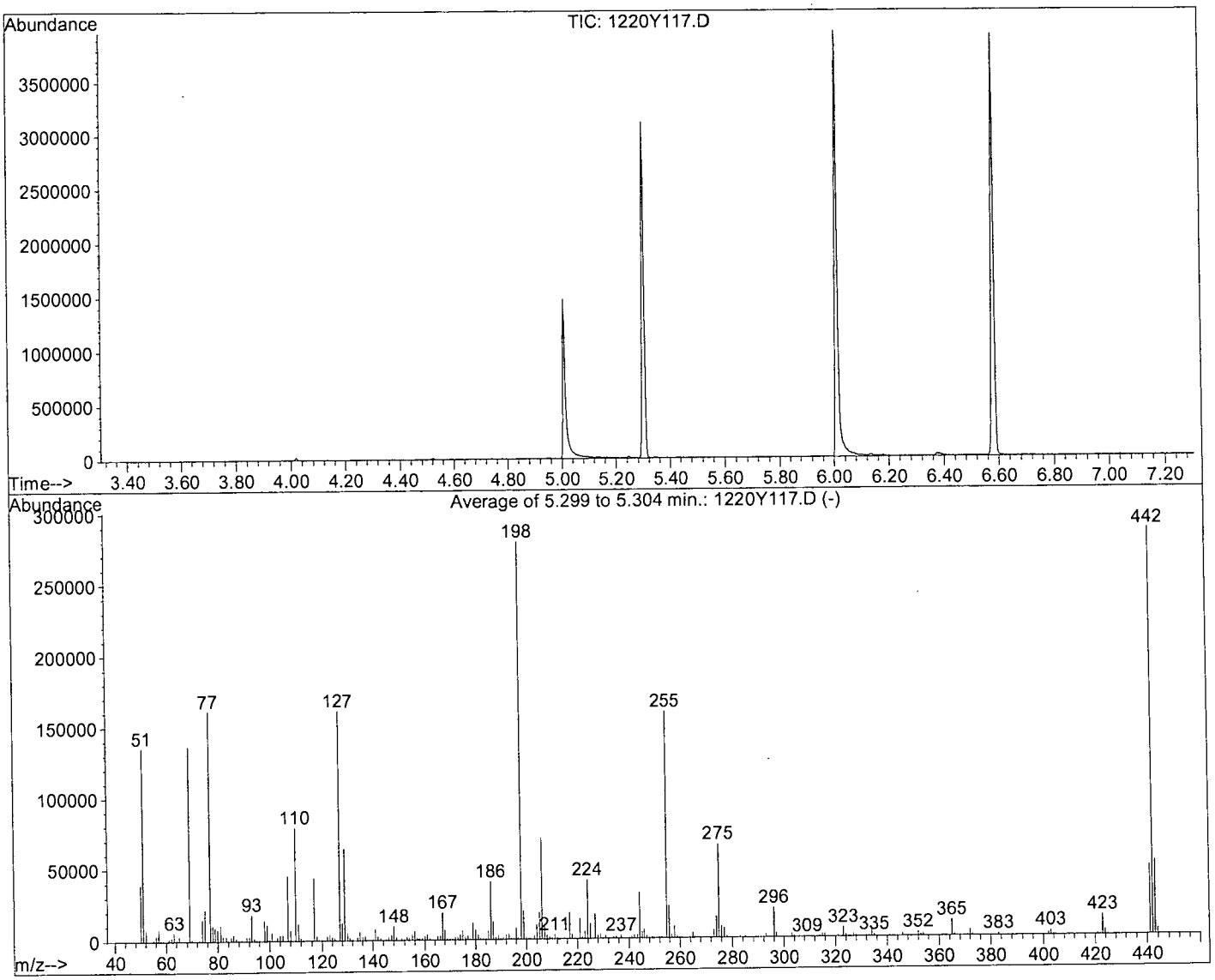
1220Y002.D Y0GLYCOL.M Tue Dec 20 09:18:08 2016

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y117.D
Acq On : 16 Feb 17 10:56
Sample : SV Tune 11/15/16
Misc : water

Vial: 17
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.4	135362	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	819	PASS
127	198	40	60	57.6	161195	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	279787	PASS
199	198	5	9	7.1	19883	PASS
275	198	10	30	23.4	65507	PASS
365	198	1	100	4.0	11206	PASS
441	443	0.01	100	92.6	48384	PASS
442	198	50	150	102.5	286869	PASS
443	442	17	23	18.2	52277	PASS

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-366	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-366	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Stc	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170214A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/14/17 11:00
Spiked ID 8			Ext. End Time:	02/14/17 17:00
			GC Requires Extract By:	**02/24/17 0:00**

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 02/14/17 **Witnessed By:** CFM **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				NA	NA equip	500	2	7	02/14/17 11:00	
2	170214A LCS-1		0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	
3	AZ49853 MS-1	AZ49853W28	0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
4	AZ49853 MSD-1	AZ49853W28	0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
5	AZ49853	AZ49853W35			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
6	AZ49854	AZ49854W13			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
7	AZ49855	AZ49855W14			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
8	AZ49857	AZ49857W11			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
9	AZ49860	AZ49860W10			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
10	AZ49862	AZ49862W13			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
11	SS		0.0870	2	NA	NA equip	500	2	7	02/14/17 11:00	

RH 2/14/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-14-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	2/14/17
Time	5:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	CFM,KY
Extraction	CFM,KY
Concentration	KY

Modified	02/14/17 11:55:16 AM

Reviewed By: RH **Date** 2/14/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	17	1220Y117.D	1	SV Tune 11/15/16	water	16 Feb 17 10:56
12	18	1220Y118.D	1	500ug/ml DEG 02/14/17	water	16 Feb 17 11:50
13	19	1220Y119.D	1	170214A BLK 2/500	water	16 Feb 17 12:25
14	20	1220Y120.D	1	170214A LCS-1 2/500	water	16 Feb 17 12:55
15	26	1220Y126.D	1	AZ49857W11 2/500	water	16 Feb 17 15:55
16	27	1220Y127.D	1	AZ49860W10 2/500	water	16 Feb 17 16:25
17	28	1220Y128.D	1	AZ49862W13 2/500	water	16 Feb 17 16:55
18	30	1220Y130.D	1	500ug/ml DEG 02/14/17	water	16 Feb 17 17:39

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49856 - 216145**
Batch ID: #86BTO-170213BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/14/17	2/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	2/14/17	2/14/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	2/14/17	2/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0213M39
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 11:36:10 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 2/13/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213BM-LCS	Lab Control Spike	81-118	104		85-114	104	
170213BM-BLK	Blank	81-118	102		85-114	100	
AZ49856	ERH230	81-118	103		85-114	97.0	
AZ49857	ERH231	81-118	100		85-114	98.2	
AZ49858	ERH243	81-118	99.1		85-114	96.7	
AZ49859	ERH226	81-118	99.5		85-114	98.9	
AZ49860	ERH227	81-118	103		85-114	99.7	
AZ49861	ERH222	81-118	99.4		85-114	96.9	
AZ49862	ERH223	81-118	98.5		85-114	97.0	
AZ49863	ERH240	81-118	101		85-114	98.8	

Comments: Batch: #86BTO-170213BM

Printed: 2/14/17 11:36:17 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 2/13/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213BM-LCS	Lab Control Spike	80-119	100		89-112	103	
170213BM-BLK	Blank	80-119	102		89-112	102	
AZ49856	ERH230	80-119	103		89-112	99.4	
AZ49857	ERH231	80-119	102		89-112	99.6	
AZ49858	ERH243	80-119	101		89-112	99.8	
AZ49859	ERH226	80-119	101		89-112	101	
AZ49860	ERH227	80-119	102		89-112	101	
AZ49861	ERH222	80-119	98.7		89-112	98.4	
AZ49862	ERH223	80-119	100		89-112	97.2	
AZ49863	ERH240	80-119	103		89-112	102	

Comments: Batch: #86BTO-170213BM

Printed: 2/14/17 11:36:17 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170213W-49856 LCS - 216145**
Batch ID: #86BTO-170213BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.3	103	79-120
ETHYLBENZENE	10.00	10.6	106	79-121
TOLUENE	10.00	10.2	102	80-121
XYLENES (TOTAL)	30.0	31.3	104	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.9	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	26.0	104	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.1	100	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.7	103	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M31
Initials :	SV

Printed: 2/14/17 11:36:23 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 2/14/17

Matrix: WATER Instrument: Max

Blank ID: 170213BM-BLK Time Analyzed: 0325

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213BM-LCS	Lab Control Spike	0213M31	2/13/17 2339
170213BM-BLK	Blank	0213M39	2/14/17 0325
AZ49856	ERH230	0213M42	2/14/17 0449
AZ49857	ERH231	0213M43	2/14/17 0518
AZ49858	ERH243	0213M44	2/14/17 0546
AZ49859	ERH226	0213M45	2/14/17 0614
AZ49860	ERH227	0213M46	2/14/17 0642
AZ49861	ERH222	0213M47	2/14/17 0711
AZ49862	ERH223	0213M48	2/14/17 0739
AZ49863	ERH240	0213M49	2/14/17 0807

Comments: Batch: #86BTO-170213BM

Printed: 2/14/17 11:36:27 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: 5ng BFB STD 12/15/16

SDG No: 82146
Date Analyzed: 1/27/17
Instrument: Max
Time Analyzed: 9:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 01/2	0127M04.D	1/27/17 11:24
2		0.5ug/L VOC STD 01/2	0127M05.D	1/27/17 11:53
3		1.0ug/L VOC STD 01/2	0127M06.D	1/27/17 12:21
4		2.0ug/L VOC STD 01/2	0127M07.D	1/27/17 12:49
5		5.0ug/L VOC STD 01/2	0127M08.D	1/27/17 13:17
6		10ug/L VOC STD 01/27	0127M09.D	1/27/17 13:45
7		20ug/L VOC STD 01/27	0127M10.D	1/27/17 14:14
8		40ug/L VOC STD 01/27	0127M11.D	1/27/17 14:42
9		100ug/L VOC STD 01/2	0127M12.D	1/27/17 15:10
10		(SS) 10ug/L VOC STD	0127M16.D	1/27/17 17:03
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.8
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	100.0
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	97.4
177	5 - 9% of mass 176	5.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82146
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82146
Date Analyzed: 2/13/17
Instrument: Max
Time Analyzed: 23:10

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170213B CCV/LCS 10ug	0213M31.D	2/13/17 23:39
2	Blank	170213B BLK1WM	0213M39.D	2/14/17 3:25
3	ERH230	AZ49856W01	0213M42.D	2/14/17 4:49
4	ERH231	AZ49857W01	0213M43.D	2/14/17 5:18
5	ERH243	AZ49858W01	0213M44.D	2/14/17 5:46
6	ERH226	AZ49859W01	0213M45.D	2/14/17 6:14
7	ERH227	AZ49860W01	0213M46.D	2/14/17 6:42
8	ERH222	AZ49861W01	0213M47.D	2/14/17 7:11
9	ERH223	AZ49862W01	0213M48.D	2/14/17 7:39
10	ERH240	AZ49863W01	0213M49.D	2/14/17 8:07
11		Ending CCV 8260 10ug	0213M50.D	2/14/17 8:35
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.6
75	30 - 60% of mass 95	46.4
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.2
174	50 - 100% of mass 95	99.9
175	5 - 9% of mass 174	8.2
176	95.06 - 101% of mass 174	97.2
177	5 - 9% of mass 176	6.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82146

Lab File ID (Standard): 0127M09.D Date Analyzed: 01/27/17

Instrument ID: Max Time Analyzed: 13:45

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	330920	5.51	236599	9.15	123244	12.35
	UPPER LIMIT	661840	6.01	473198	9.65	246488	12.85
	LOWER LIMIT	165460	5.01	118300	8.65	61622	11.85
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	313129	5.51	223395	9.15	119323	12.35
02	170213B CCV/LCS 10ug	290341	5.52	202124	9.15	108168	12.35
03	170213B BLK1WM	263518	5.52	186776	9.16	91254	12.35
04	AZ49856W01	261464	5.52	189248	9.16	90832	12.35
05	AZ49857W01	249945	5.52	177958	9.16	84506	12.35
06	AZ49858W01	278509	5.52	194131	9.15	94063	12.35
07	AZ49859W01	274317	5.52	191166	9.16	91136	12.35
08	AZ49860W01	275404	5.52	191941	9.16	91679	12.35
09	AZ49861W01	270965	5.52	189376	9.16	90809	12.35
10	AZ49862W01	269140	5.52	191085	9.16	93147	12.35
11	AZ49863W01	263521	5.52	184859	9.16	90078	12.35
12	Ending CCV 8260 10ug/	273900	5.52	195405	9.15	103888	12.35
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS
Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH230
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49856
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.4	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M42
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M42.D Vial: 42
Acq On : 14 Feb 17 4:49 Operator: PM,DG,SV,CMM
Sample : AZ49856W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:50 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	261464	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	189248	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	90832	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	57765	25.76028 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.040%	
36) 1,2-DCA-D4(S)	5.14	65	45887	25.82468 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.300%	
56) Toluene-D8(S)	7.35	98	227493	24.84844 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.392%	
64) 4-Bromofluorobenzene(S)	10.74	95	79869	24.23924 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

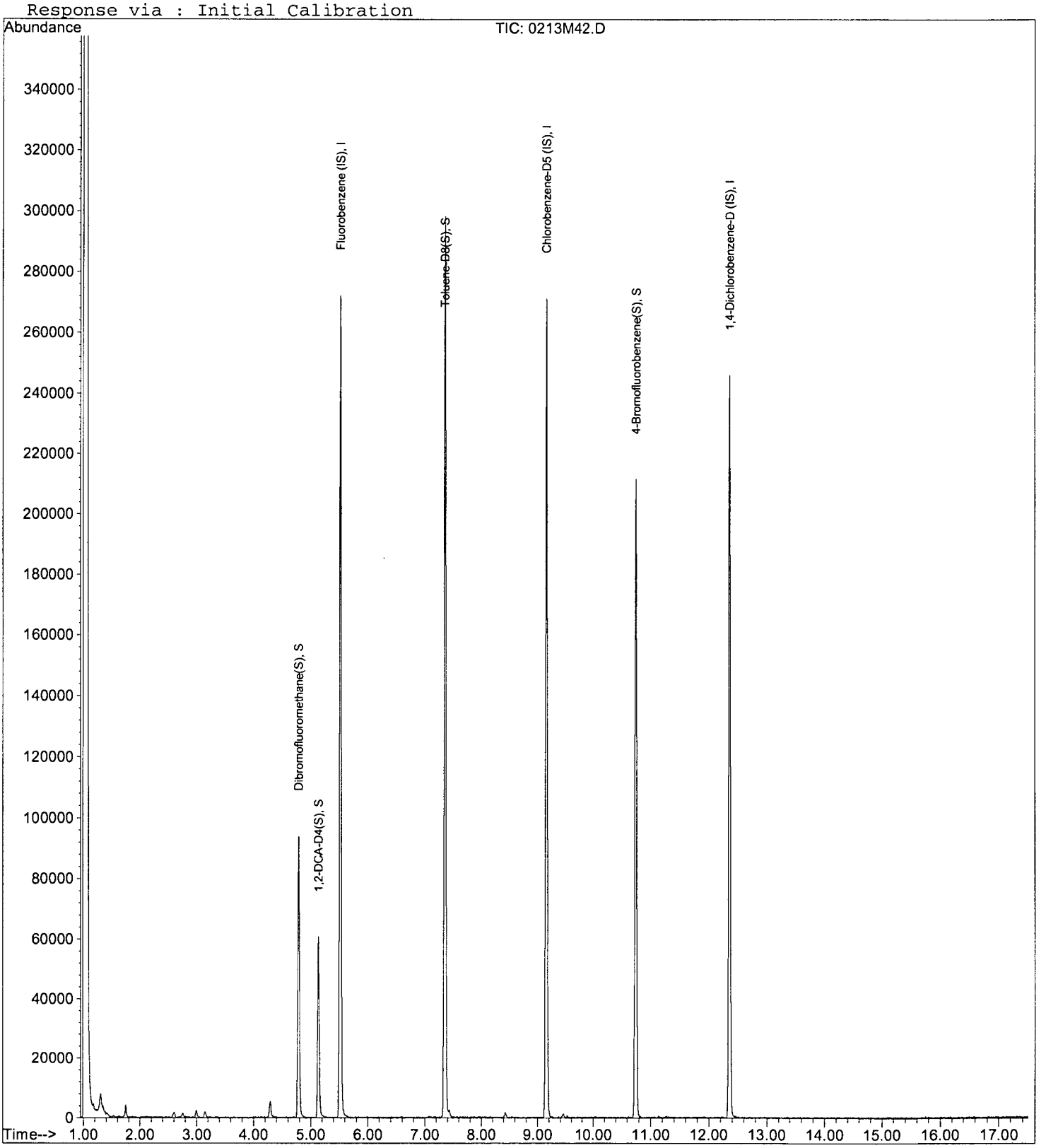
Data File : M:\MAX\DATA\M170127\0213M42.D
Acq On : 14 Feb 17 4:49
Sample : AZ49856W01
Misc : IS&S 10/20/16

Vial: 42
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:50 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.6	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M43
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M43.D Vial: 43
Acq On : 14 Feb 17 5:18 Operator: PM,DG,SV,CMM
Sample : AZ49857W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:51 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	249945	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	177958	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	84506	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	54563	25.45373 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.816%	
36) 1,2-DCA-D4(S)	5.14	65	42639	25.10266 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.412%	
56) Toluene-D8(S)	7.35	98	214318	24.89451 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.580%	
64) 4-Bromofluorobenzene(S)	10.74	95	76052	24.54512 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

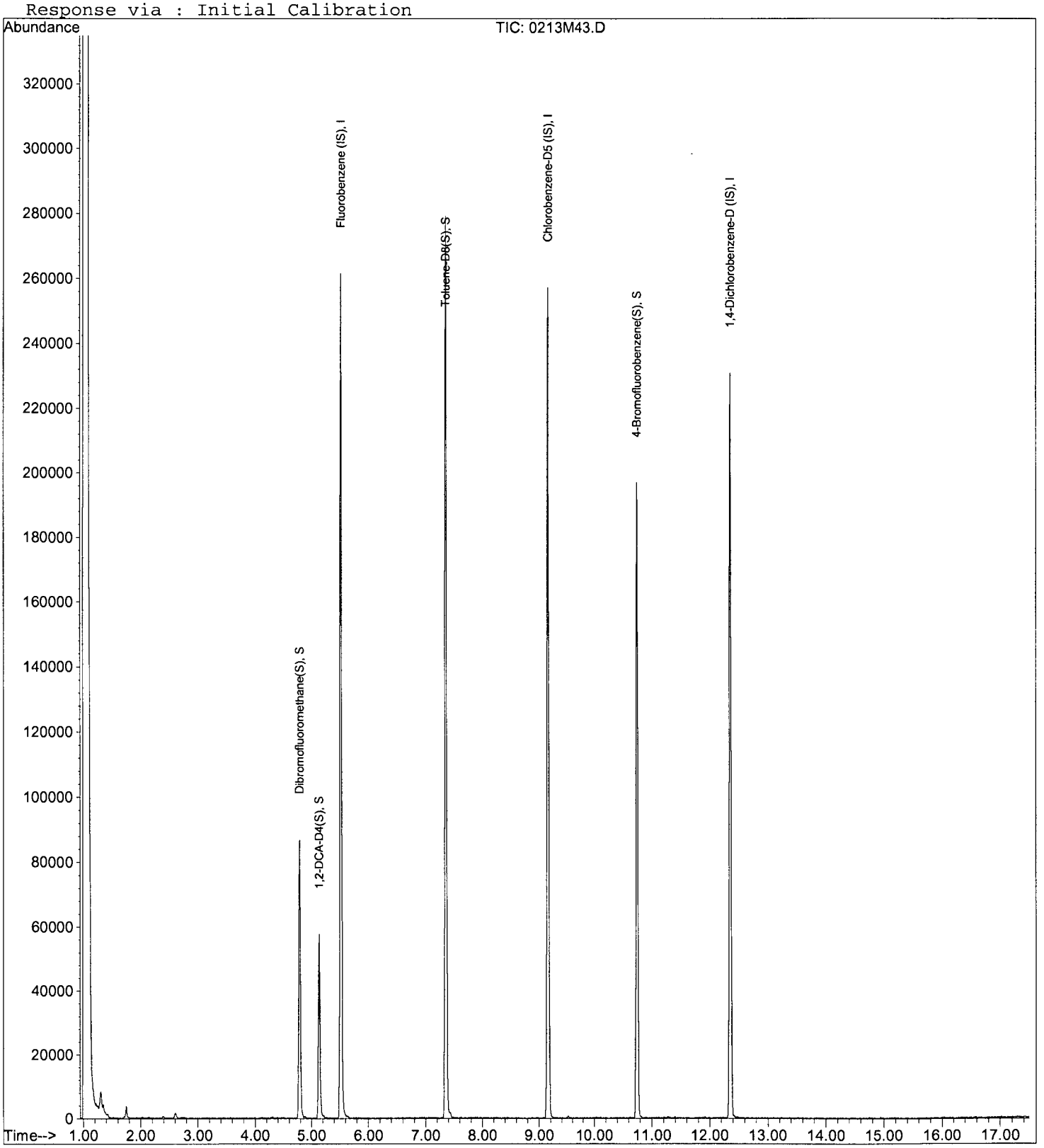
Data File : M:\MAX\DATA\M170127\0213M43.D
Acq On : 14 Feb 17 5:18
Sample : AZ49857W01
Misc : IS&S 10/20/16

Vial: 43
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:51 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH243
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49858
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.1	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.7	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.8	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M44
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M44.D Vial: 44
Acq On : 14 Feb 17 5:46 Operator: PM,DG,SV,CMM
Sample : AZ49858W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:51 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	278509	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	194131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	94063	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	60093	25.15836 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.632%	
36) 1,2-DCA-D4(S)	5.13	65	46893	24.77571 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.104%	
56) Toluene-D8(S)	7.35	98	234276	24.94568 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.784%	
64) 4-Bromofluorobenzene(S)	10.74	95	81721	24.17747 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.708%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

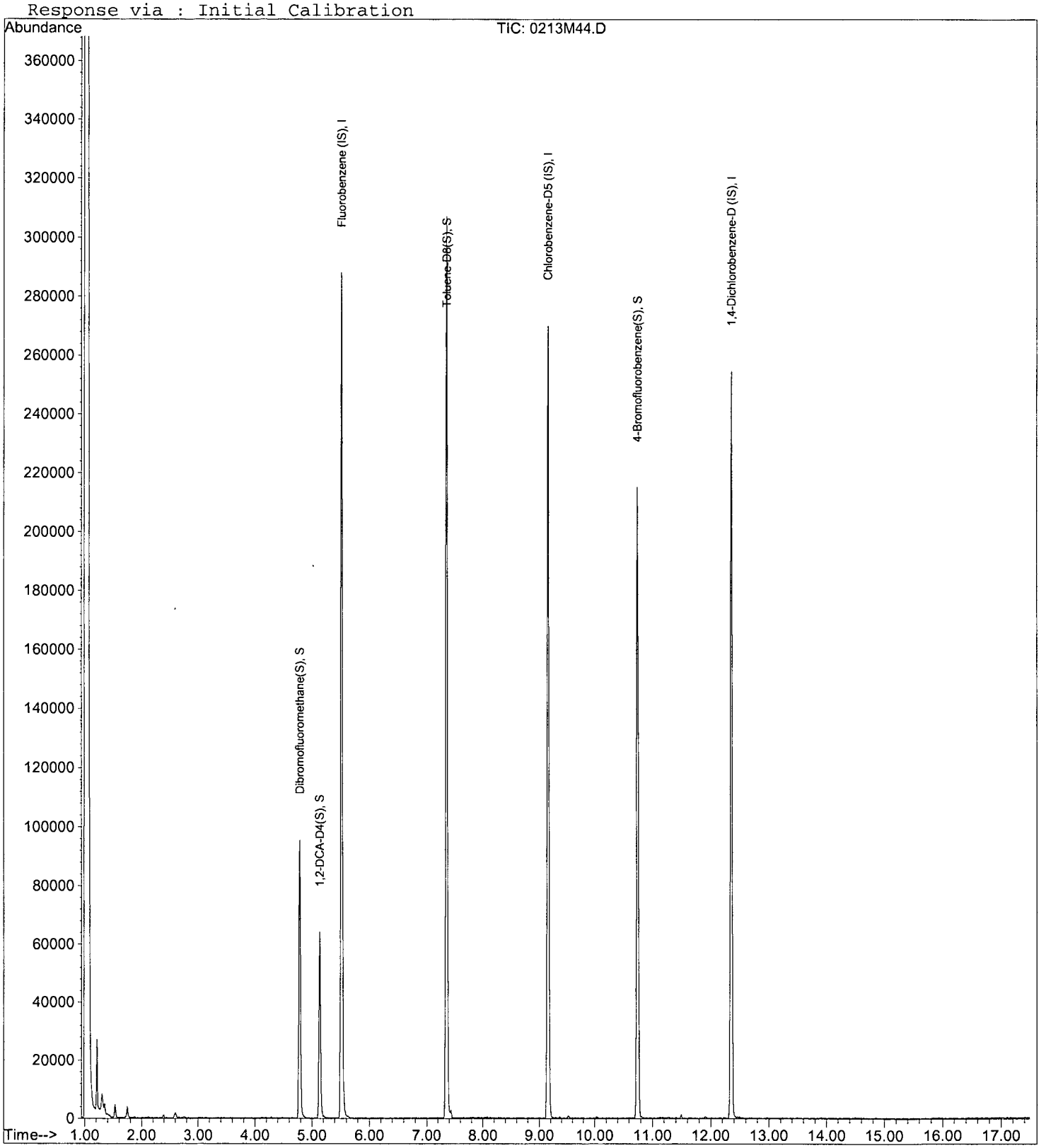
Data File : M:\MAX\DATA\M170127\0213M44.D
Acq On : 14 Feb 17 5:46
Sample : AZ49858W01
Misc : IS&S 10/20/16

Vial: 44
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:51 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH226
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49859
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.5	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.9	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M45
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M45.D
Acq On : 14 Feb 17 6:14
Sample : AZ49859W01
Misc : IS&S 10/20/16

Vial: 45
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	274317	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	191166	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	91136	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	59332	25.21936 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.876%	
36) 1,2-DCA-D4(S)	5.14	65	46382	24.88021 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.520%	
56) Toluene-D8(S)	7.35	98	232852	25.17861 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.716%	
64) 4-Bromofluorobenzene(S)	10.74	95	82311	24.72972 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.920%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

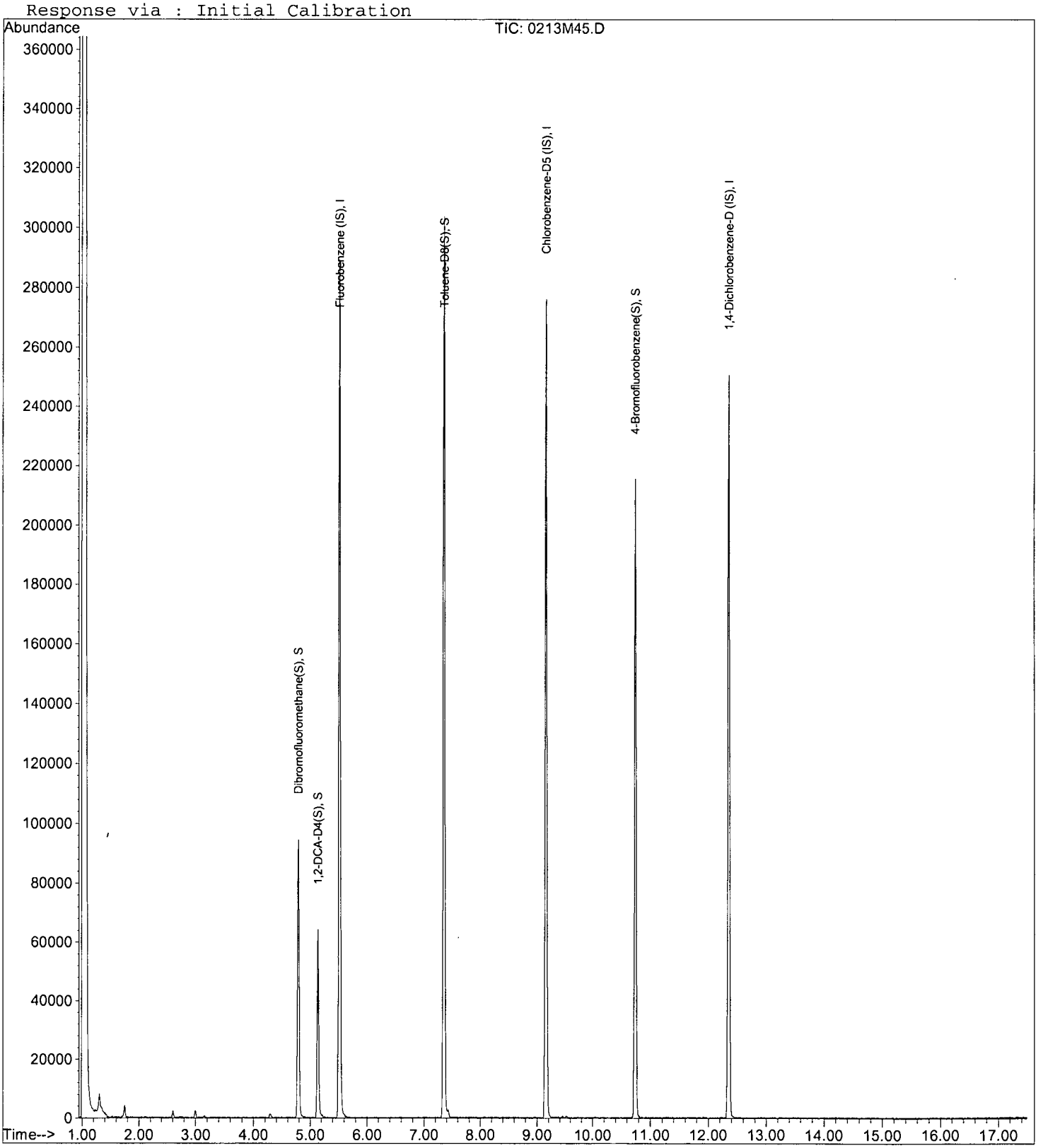
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M45.D
Acq On : 14 Feb 17 6:14
Sample : AZ49859W01
Misc : IS&S 10/20/16

Vial: 45
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82146

Sample ID: ERH227

APPL ID: AZ49860

Sample Collection Date: 02/09/17

QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.7	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M46
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M46.D Vial: 46
Acq On : 14 Feb 17 6:42 Operator: PM,DG,SV,CMM
Sample : AZ49860W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:52 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	275404	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	191941	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	91679	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	59960	25.38570 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.544%	
36) 1,2-DCA-D4(S)	5.13	65	48059	25.67803 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.712%	
56) Toluene-D8(S)	7.35	98	234438	25.24775 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.992%	
64) 4-Bromofluorobenzene(S)	10.74	95	83294	24.92401 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.696%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

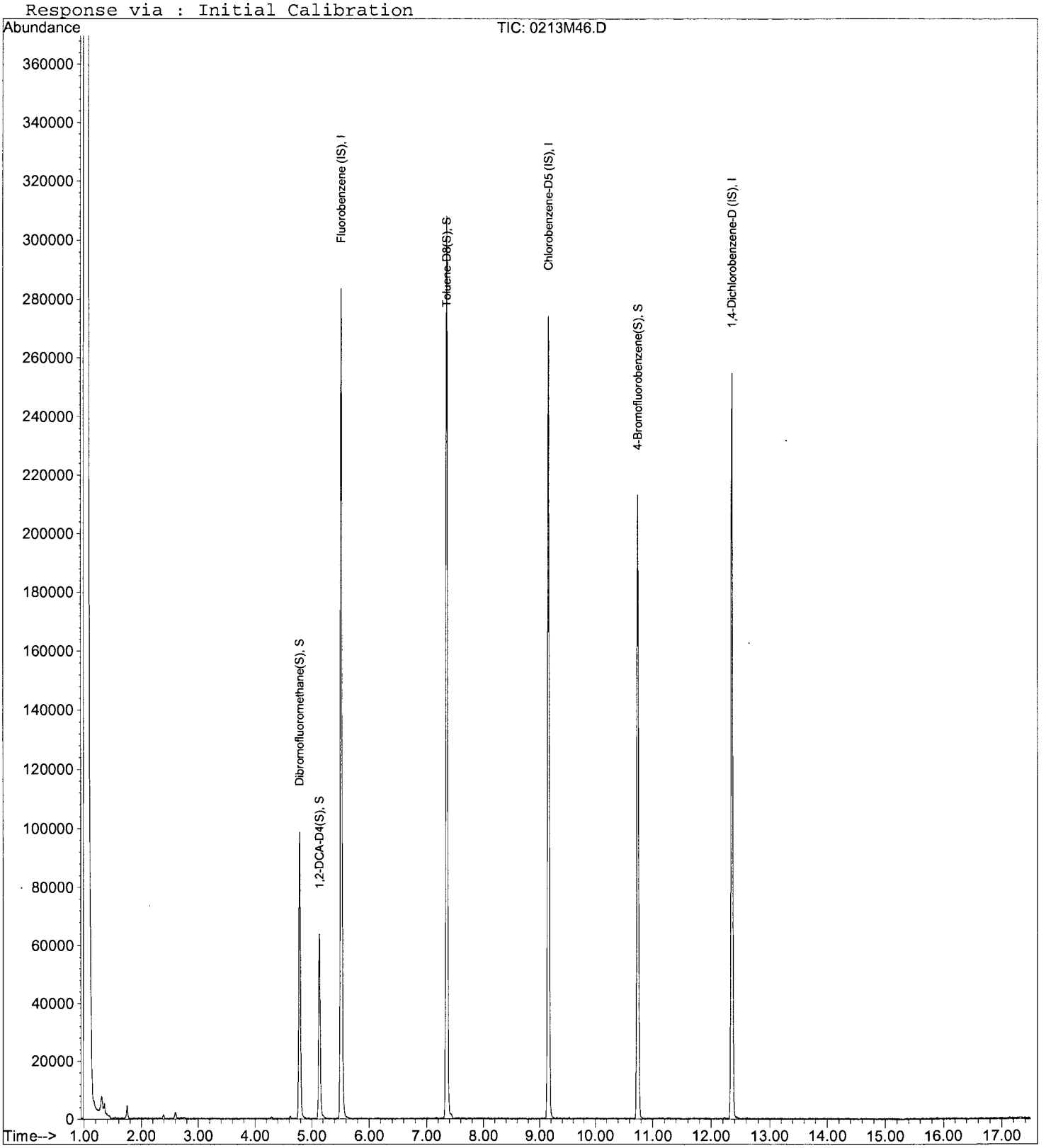
Data File : M:\MAX\DATA\M170127\0213M46.D
Acq On : 14 Feb 17 6:42
Sample : AZ49860W01
Misc : IS&S 10/20/16

Vial: 46
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:52 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH222
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49861
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.4	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.9	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	98.7	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.4	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M47
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M47.D Vial: 47
Acq On : 14 Feb 17 7:11 Operator: PM,DG,SV,CMM
Sample : AZ49861W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:53 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	270965	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	189376	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	90809	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	57369	24.68663 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.748%	
36) 1,2-DCA-D4(S)	5.13	65	45737	24.83772 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.352%	
56) Toluene-D8(S)	7.35	98	225371	24.60002 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.400%	
64) 4-Bromofluorobenzene(S)	10.74	95	79850	24.21709 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.868%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

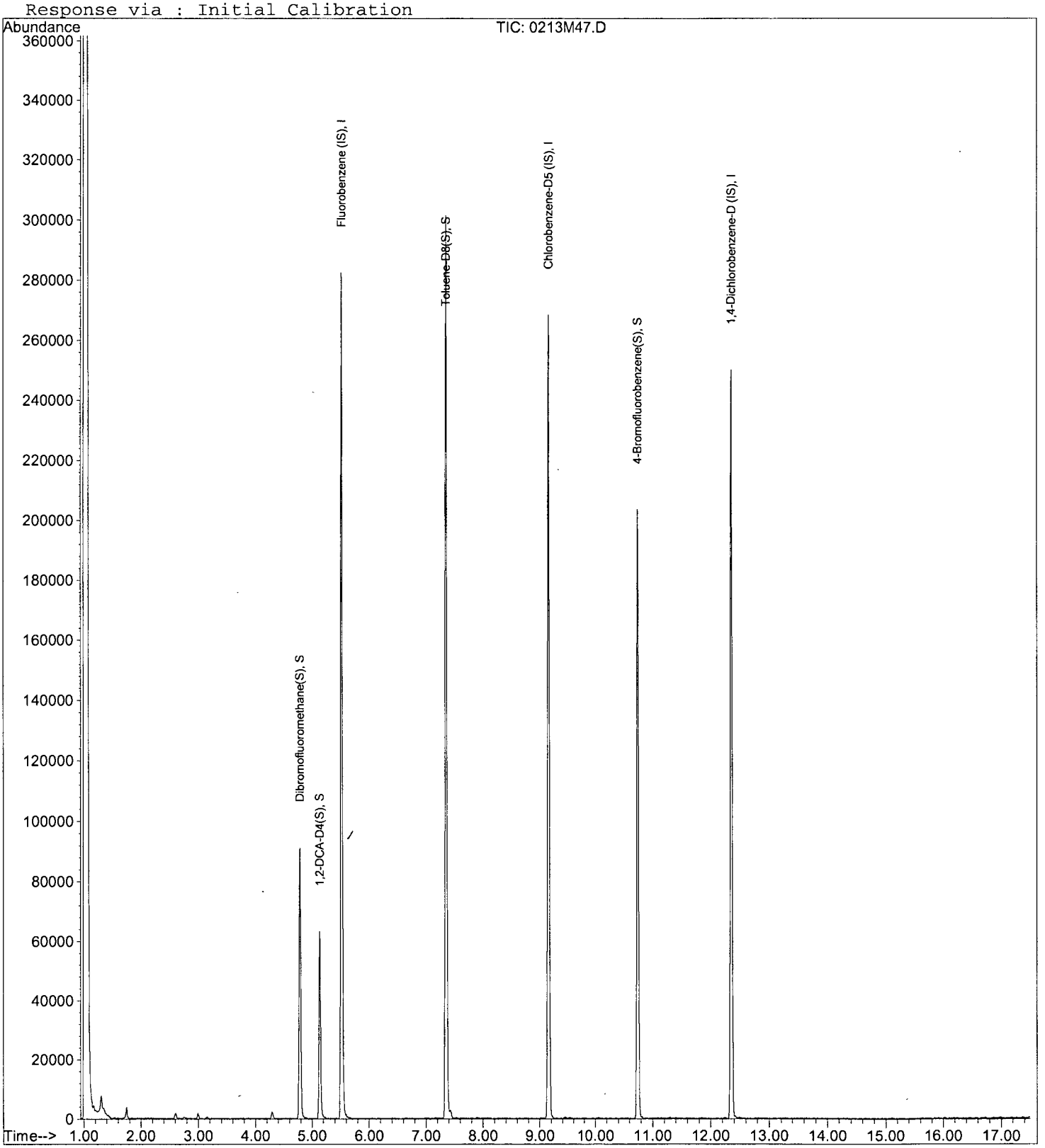
Data File : M:\MAX\DATA\M170127\0213M47.D
Acq On : 14 Feb 17 7:11
Sample : AZ49861W01
Misc : IS&S 10/20/16

Vial: 47
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:53 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.5	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	100	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.2	89-112			%	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0213M48
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M48.D Vial: 48
Acq On : 14 Feb 17 7:39 Operator: PM,DG,SV,CMM
Sample : AZ49862W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:53 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	269140	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	191085	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	93147	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	57863	25.06804 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.272%	
36) 1,2-DCA-D4(S)	5.14	65	45051	24.63108 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.524%	
56) Toluene-D8(S)	7.35	98	224517	24.28762 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.152%	
64) 4-Bromofluorobenzene(S)	10.74	95	80676	24.24877 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.996%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

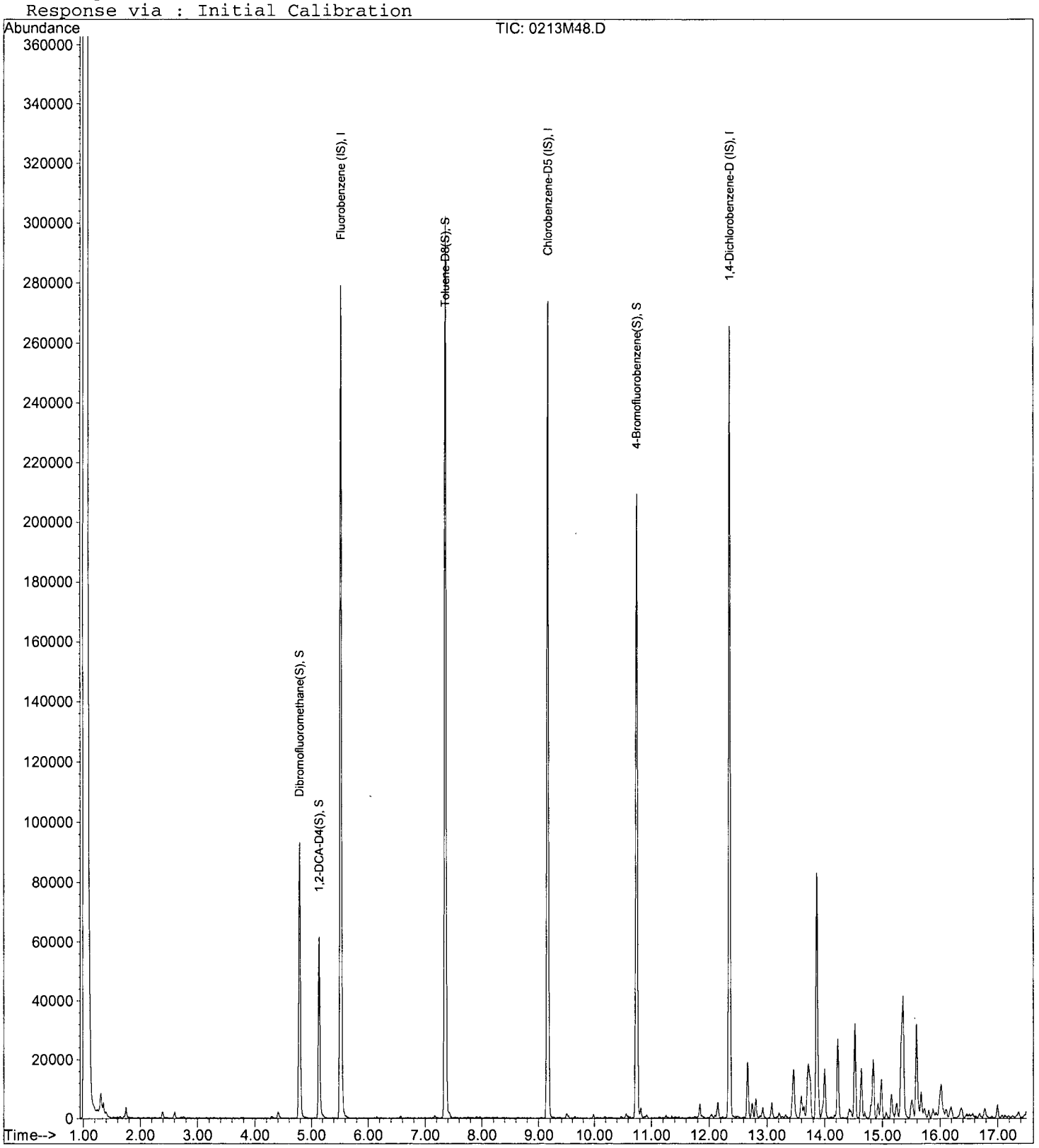
Data File : M:\MAX\DATA\M170127\0213M48.D
Acq On : 14 Feb 17 7:39
Sample : AZ49862W01
Misc : IS&S 10/20/16

Vial: 48
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:53 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH240
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49863
QCG: #86BTO-170213BM-216145

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.8	85-114			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/14/17	02/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M49
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:36:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M49.D
Acq On : 14 Feb 17 8:07
Sample : AZ49863W01
Misc : IS&S 10/20/16

Vial: 49
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:54 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	263521	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	184859	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	90078	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	58043	25.68221 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.728%	
36) 1,2-DCA-D4(S)	5.14	65	45044	25.15237 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.608%	
56) Toluene-D8(S)	7.36	98	227657	25.45674 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.828%	
64) 4-Bromofluorobenzene(S)	10.74	95	79511	24.70351 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.816%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

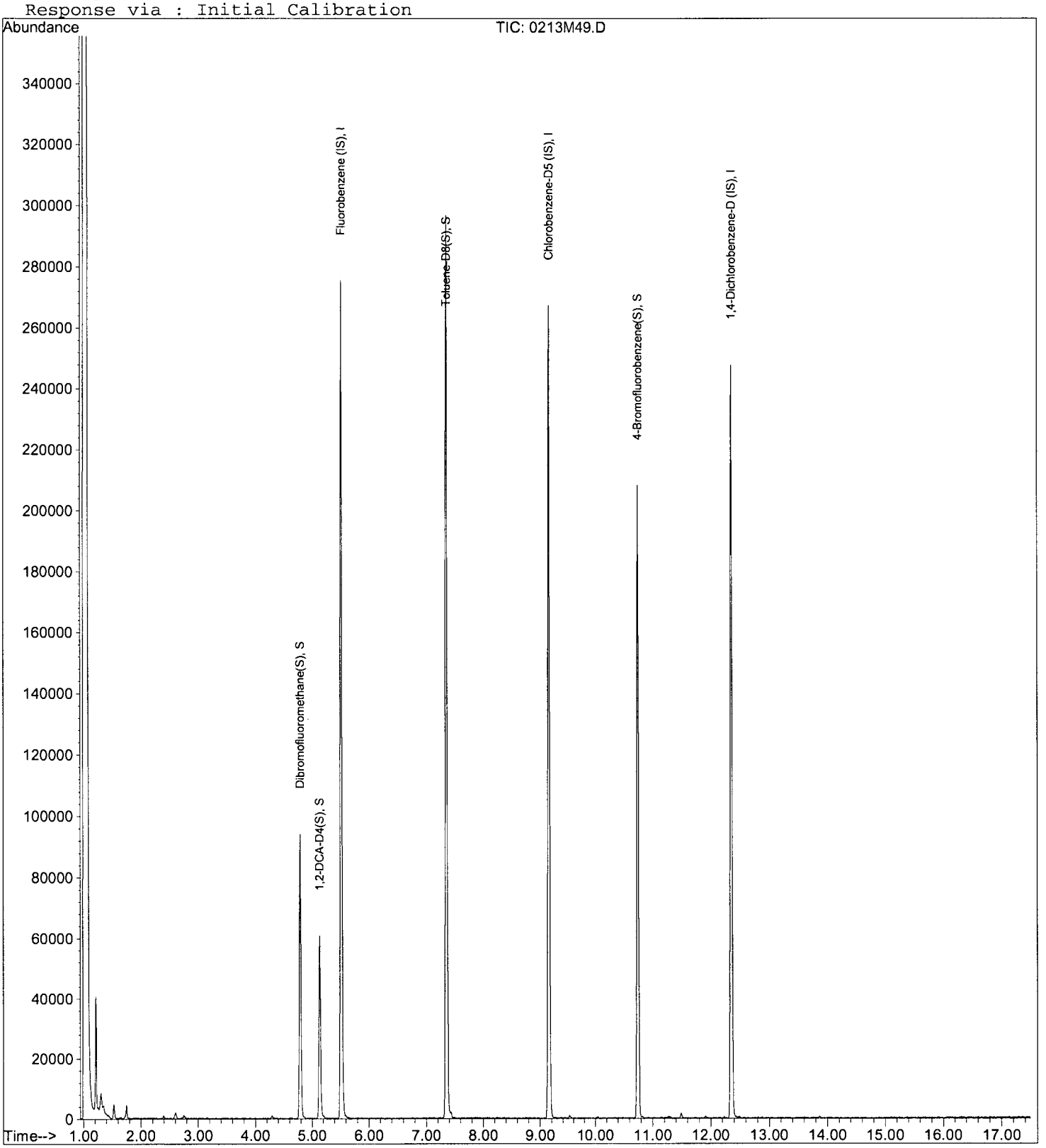
Data File : M:\MAX\DATA\M170127\0213M49.D
Acq On : 14 Feb 17 8:07
Sample : AZ49863W01
Misc : IS&S 10/20/16

Vial: 49
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09 D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2389	0.2502	0.2467	0.2270	0.2577	0.2512	0.2523	0.2547		0.25	4.0	TM	
3	TM	Freon 114		0.4371	0.3708	0.4129	0.3440	0.3916	0.3651	0.3776	0.3846		0.39	7.5	TM	
4	TM**	Chloromethane		0.5322	0.4562	0.4212	0.4361	0.4089	0.3805	0.3985	0.4121		0.43	11	TM**	
5	TM*	Vinyl chloride	0.6017	0.6231	0.5712	0.6041	0.5783	0.5965	0.5953	0.5871	0.6200		0.60	2.9	TM*	
6	TM	Bromomethane	0.4210	0.3988	0.3480	0.3346	0.3238	0.2727					0.35	15	TM	
7	TM	Chloroethane		0.4018	0.3267	0.3045	0.3231	0.3282	0.3196	0.3179			0.33	9.6	TM	
8	TM	Dichlorofluoromethane		0.9421	0.8705	0.8795	1.020	0.8947	0.8799	0.8934	0.8728		0.91	5.6	TM	
9	TM	Trichlorofluoromethane		0.6574	0.6021	0.6139	0.6325	0.6575	0.6351	0.6219	0.6246		0.63	3.1	TM	
10	TM	Acrolein	0.0221	0.0224	0.0209	0.0217	0.0215	0.0196	0.0218	0.0214	0.0205		0.02	4.0	TM	
11	TML	Acetone		0.1074	0.0946	0.0799	0.0694	0.0585	0.0589	0.0544	0.0512		0.07	28	TML	0.999
12	TM	Freon-113		0.4482	0.4215	0.4072	0.4180	0.4250	0.4032	0.4067	0.4093		0.42	3.5	TM	
13	TM*	1,1-DCE		0.6934	0.6988	0.6813	0.7560	0.6827	0.6557	0.6602	0.6469		0.68	5.0	TM*	
14	TM	t-Butanol	0.0102	0.0096	0.0099	0.0098	0.0103	0.0098	0.0109	0.0109	0.0115		0.01	6.4	TM	
15	TM	Methyl Acetate		0.1448	0.1772	0.1728	0.1817	0.1632	0.1614	0.1609	0.1615		0.17	7.0	TM	
16	TML	Iodomethane		0.2400	0.2533	0.3130	0.5299	0.5563	0.5570	0.5781	0.5790		0.45	34	TML	1.00
17	TML	Acrylonitrile		0.0339	0.0573	0.0595	0.0850	0.0793	0.0775	0.0742	0.0734		0.07	25	TML	1.000
18	TML	Methylene chloride		0.8435	0.6471	0.5541	0.5471	0.4416	0.4233	0.4235	0.4059		0.54	28	TML	1.000
19	TM	Carbon disulfide		1.448	1.423	1.314	1.512	1.354	1.283	1.291	1.272		1.4	6.5	TM	
20	TM	Methyl t-butyl ether (MtBE)		0.7248	0.6682	0.7029	0.8398	0.7264	0.7162	0.7104	0.6946		0.72	7.0	TM	
21	TM	Trans-1,2-DCE		0.4638	0.4872	0.4607	0.5704	0.5038	0.4877	0.4827	0.4695		0.49	7.2	TM	
22	TM	Diisopropyl Ether		1.323	1.349	1.315	1.638	1.384	1.381	1.362	1.311		1.4	7.7	TM	
23	TM**	1,1-DCA		0.8328	0.8592	0.8322	1.018	0.8720	0.8500	0.8485	0.8306		0.87	7.2	TM**	
24	TM	Vinyl Acetate		0.2662	0.2382	0.2259	0.3166	0.2565	0.3103	0.3003	0.2995		0.28	13	TM	
25	TM	Ethyl tert Butyl Ether		0.8982	0.8389	0.8009	1.051	0.9041	0.9042	0.9333	0.9098		0.91	8.1	TM	
26	TM	MEK (2-Butanone)			0.0963	0.0737	0.1152	0.1023	0.0950	0.0912	0.0853		0.09	14	TM	
27	TM	Cis-1,2-DCE		0.5195	0.5457	0.5490	0.6220	0.5303	0.5217	0.5205	0.4982		0.54	6.9	TM	
28	TM	2,2-Dichloropropane		0.5191	0.5335	0.5380	0.6527	0.5991	0.5938	0.6136	0.6333		0.59	8.5	TM	
29	TM*	Chloroform		0.8166	0.8536	0.7808	0.9802	0.8365	0.8162	0.8140	0.7929		0.84	7.5	TM*	
30	TM	Bromochloromethane		0.2089	0.1962	0.2011	0.2444	0.2040	0.2028	0.1998	0.1961		0.21	7.6	TM	
31	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
32	TM	1,1,1-TCA		0.7566	0.7060	0.7454	0.8620	0.7904	0.7575	0.7702	0.7723		0.77	5.8	TM	
33	TM	Cyclohexane	0.4380	0.4501	0.4062	0.4477	0.4651	0.4609	0.4307	0.4337	0.4358		0.44	4.0	TM	
34	TM	1,1-Dichloropropene	0.7193	0.6325	0.6951	0.6889	0.7756	0.7218	0.6778	0.6777	0.6632		0.69	5.9	TM	
35	TM	2,2,4-Trimethylpentane	1.318	1.321	1.241	1.266	1.227	1.268	1.193	1.247	1.232		1.3	3.3	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 1/27/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
37	TM	Carbon Tetrachloride	0.6686	0.6854	0.6062	0.6219	0.7013	0.6698	0.6594	0.6723	0.6739		0.66	4.5	TM	
38	TM	Tert Amyl Methyl Ether		0.6980	0.6866	0.6885	0.8779	0.7482	0.7749	0.7860	0.7759		0.75	8.6	TM	
39	TM	1,2-DCA		0.4278	0.4501	0.4406	0.5275	0.4537	0.4573	0.4483	0.4288		0.45	6.9	TM	
40	TM	Benzene		2.072	1.997	1.969	2.380	2.063	2.005	2.006	1.931		2.1	6.8	TM	
41	TM	TCE		0.5668	0.5447	0.5554	0.6157	0.5535	0.5343	0.5393	0.5153		0.55	5.4	TM	
42	TM	2-Pentanone		0.1242	0.1300	0.1341	0.1371	0.1326	0.1408	0.1446	0.1555		0.14	7.0	TM	
43	TM*	1,2-Dichloropropane		0.5084	0.4434	0.4432	0.5312	0.4695	0.4520	0.4508	0.4260		0.47	7.8	TM*	
44	TM	Bromodichloromethane		0.5321	0.5069	0.4962	0.6455	0.5360	0.5353	0.5356	0.5252		0.54	8.4	TM	
45	TM	Methyl Cyclohexane	0.7249	0.7092	0.7050	0.6884	0.7306	0.7472	0.6940	0.7128	0.7070		0.71	2.6	TM	
46	TM	Dibromomethane	0.1712	0.1757	0.1786	0.1631	0.2034	0.1690	0.1701	0.1698	0.1644		0.17	6.9	TM	
47	TML	MIBK (methyl isobutyl ketone)		0.3055	0.2692	0.2461	0.2463	0.2027	0.2052	0.1925	0.1823		0.23	18	TML	0.999
48	TM	1-Bromo-2-chloroethane		0.4146	0.4453	0.4332	0.5105	0.4364	0.4464	0.4475	0.4445		0.45	6.2	TM	
49	TM	2-Chloroethyl vinyl ether				0.0076	0.0102	0.0090	0.0091	0.0103			0.01	12	TM	
50	TM	Cis-1,3-Dichloropropene		0.5370	0.5411	0.5378	0.6853	0.5995	0.6034	0.6248	0.6174		0.59	8.8	TM	
51	TM*	Toluene		2.416	2.316	2.267	2.720	2.386	2.332	2.325	2.268		2.4	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene		0.3548	0.3508	0.3548	0.4477	0.4003	0.4234	0.4432	0.4539		0.40	11	TM	
53	TM	1,1,2-TCA		0.2307	0.1974	0.2094	0.2534	0.2148	0.2124	0.2098	0.2040		0.22	8.2	TM	
54	TM	2-Hexanone			0.1112	0.1044	0.1235	0.1089	0.1145	0.1201	0.1175		0.11	5.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
57	TM	1,2-EDB		0.3223	0.2898	0.3006	0.3915	0.3273	0.3383	0.3292	0.3149		0.33	9.4	TM	
58	TM	Tetrachloroethene		0.8281	0.8142	0.8213	0.9442	0.8079	0.7705	0.7452	0.6933		0.80	9.1	TM	
59	TM	1-Chlorohexane		0.8711	0.8667	0.8760	1.057	0.9862	0.9420	0.9434	0.9197		0.93	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane		0.6232	0.6950	0.6573	0.7786	0.6877	0.6701	0.6644	0.6616		0.68	6.7	TM	
61	TM	m&p-Xylene		1.455	1.402	1.439	1.746	1.489	1.471	1.426	1.331		1.5	8.3	TM	
62	TM	o-Xylene		1.199	1.412	1.284	1.669	1.406	1.396	1.337	1.269		1.4	10	TM	
63	TM	Styrene		1.973	1.999	1.956	2.515	2.151	2.177	2.104	2.003		2.1	8.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
65	TM	1,3-Dichloropropane		0.6557	0.6431	0.6168	0.7717	0.6417	0.6573	0.6241	0.5777		0.65	8.6	TM	
66	TM	Dibromochloromethane		0.5058	0.4645	0.4718	0.5895	0.5028	0.5045	0.4904	0.4624		0.50	8.2	TM	
67	TM**	Chlorobenzene		2.158	2.082	2.053	2.439	2.061	2.025	1.981	1.858		2.1	8.1	TM**	
68	TM*	Ethylbenzene		3.700	3.496	3.583	4.440	3.857	3.742	3.677	3.519		3.8	8.1	TM*	
69	TM**	Bromoform		0.2642	0.3027	0.2738	0.3453	0.2949	0.3024	0.2971	0.2900		0.30	8.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM	Isopropylbenzene		7.059	6.765	6.751	8.190	7.264	6.794	6.789	6.510		7.0	7.5	TM	
72	TM**	1,1,2,2-Tetrachloroethane		0.6919	0.6552	0.6275	0.7785	0.6556	0.6469	0.6345	0.6116		0.66	7.9	TM**	
73	TM	1,2,3-Trichloropropane		0.1856	0.2342	0.2409	0.2590	0.2284	0.2075	0.2047	0.1997		0.22	11	TM	
74	TML	t-1,4-Dichloro-2-Butene			0.0766	0.1035	0.1514	0.1369	0.1435	0.1405			0.13	23	TML	0.999
75	TM	Bromobenzene		1.712	1.544	1.554	1.870	1.618	1.567	1.555	1.541		1.6	7.2	TM	
76	TM	n-Propylbenzene		7.665	7.091	7.488	9.040	8.042	7.608	7.605	7.432		7.7	7.6	TM	
77	TM	4-Ethyltoluene	6.522	6.773	6.559	6.436	7.961	7.158	6.751	6.713	6.554		6.8	7.0	TM	
78	TM	2-Chlorotoluene		4.763	4.759	4.381	5.434	4.624	4.480	4.390	4.240		4.6	8.1	TM	
79	TM	1,3,5-Trimethylbenzene		5.301	5.630	5.751	6.688	5.850	5.533	5.486	5.288		5.7	7.9	TM	
80	TM	4-Chlorotoluene	5.136	5.338	5.112	5.012	6.204	5.303	5.048	5.018	4.829		5.2	7.6	TM	
81	TM	Tert-Butylbenzene	5.141	5.367	4.866	4.962	5.830	5.231	4.874	4.877	4.695		5.1	6.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.590	5.589	5.145	5.281	6.394	5.742	5.476	5.460	5.295		5.6	6.6	TM	
83	TM	Sec-Butylbenzene	6.828	6.837	6.335	6.601	7.819	7.113	6.643	6.538	6.383		6.8	6.7	TM	
84	TM	p-Isopropyltoluene	6.052	5.776	5.551	5.781	6.846	6.126	5.828	5.791	5.615		5.9	6.6	TM	
85	TM	Benzyl Chloride		0.3752	0.3984	0.3994	0.4460	0.4487	0.5581				0.44	15	TM	
86	TM	1,3-DCB	3.337	3.392	3.073	3.106	3.809	3.235	3.119	3.101	2.985		3.2	7.7	TM	
87	TM	1,4-DCB	3.662	3.246	3.127	3.021	3.581	3.169	2.999	2.959	2.807		3.2	8.9	TM	
88	TM	n-Butylbenzene	4.525	4.197	4.323	4.331	5.430	4.968	4.751	4.741	4.634		4.7	8.2	TM	
89	TM	1,2-DCB	2.746	2.654	2.511	2.515	3.104	2.679	2.603	2.560	2.484		2.7	7.2	TM	
90	TM	Hexachloroethane	0.7874	0.6768	0.6890	0.6923	0.8126	0.8046	0.8394	0.8927	0.8980		0.79	11	TM	
91	TM	1,2-Dibromo-3-chloropropane			0.0878	0.0830	0.0969	0.0880	0.0941	0.0915	0.0965		0.09	5.6	TM	
92	TML	1,2,4-Trichlorobenzene		0.5081	0.8288	0.9593	1.497	1.499	1.540				1.1	38	TML	0.999
93	TM	Hexachlorobutadiene		1.217	1.189	1.203	1.367	1.272	1.171	1.167	1.145		1.2	5.9	TM	
94	TML	Naphthalene		0.1544	0.3780	0.5168	0.9242	1.231	1.432				0.77	65	TML	0.994
95	TML	1,2,3-Trichlorobenzene		0.2039	0.3376	0.5517	0.8645	1.010	1.091				0.68	54	TML	0.999
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	14557	5.30855 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.236%	
36) 1,2-DCA-D4(S)	5.13	65	11763	5.20370 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.816%	
56) Toluene-D8(S)	7.35	98	57915	5.29894 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	20580	5.25859 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.036%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	979	0.26825 ppb		98
3) Freon 114	1.29	85	1579	0.33070 ppb		89
4) Chloromethane	1.34	50	2268	0.41495 ppb		95
5) Vinyl chloride	1.43	62	2257	0.31029 ppb	#	78
6) Bromomethane	1.70	94	1579	0.41187 ppb		95
7) Chloroethane	1.79	64	1408	0.34824 ppb		100
8) Dichlorofluoromethane	1.99	67	3728	0.36341 ppb		96
9) Trichlorofluoromethane	2.03	101	2598	0.30593 ppb		90
10) Acrolein	2.42	56	2758	17.27864 ppb		100
11) Acetone	2.56	43	558	-0.29199 ppb	#	48
12) Freon-113	2.53	101	1641	0.33748 ppb		97
13) 1,1-DCE	2.51	61	2908	0.35651 ppb		96
14) t-Butanol	3.14	59	1274	9.42179 ppb		91
15) Methyl Acetate	2.90	43	806	0.40640 ppb	#	57
16) Iodomethane	2.64	142	798	0.98728 ppb	#	81
17) Acrylonitrile	3.22	53	159	0.18576 ppb	#	22
18) Methylene chloride	2.98	84	4307	0.85010 ppb		84
19) Carbon disulfide	2.70	76	6027	0.36668 ppb		96
20) Methyl t-butyl ether (MtBE	3.28	73	2941	0.33757 ppb		97
21) Trans-1,2-DCE	3.25	96	1841	0.31022 ppb		97
22) Diisopropyl Ether	3.79	45	5019	0.31700 ppb	#	89
23) 1,1-DCA	3.67	63	3224	0.31870 ppb	#	91
24) Vinyl Acetate	3.76	43	1195	0.36212 ppb	#	73
25) Ethyl tert Butyl Ether	4.17	59	3616	0.33861 ppb		91
26) MEK (2-Butanone)	4.32	43	371	0.32964 ppb	#	56
27) Cis-1,2-DCE	4.27	96	1964	0.30491 ppb		87
28) 2,2-Dichloropropane	4.27	77	2454	0.33390 ppb		97
29) Chloroform	4.61	83	3749	0.38464 ppb		83
30) Bromochloromethane	4.51	128	705	0.28916 ppb		85
32) 1,1,1-TCA	4.80	97	2984	0.32429 ppb		96
33) Cyclohexane	4.87	41	1643	0.32519 ppb		82
34) 1,1-Dichloropropene	4.98	75	2698	0.32599 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	4943	0.33618 ppb		96
37) Carbon Tetrachloride	4.98	117	2508	0.32319 ppb		100
38) Tert Amyl Methyl Ether	5.36	73	2810	0.31353 ppb	#	97
39) 1,2-DCA	5.21	62	1918	0.35407 ppb		100
40) Benzene	5.20	78	8601	0.35839 ppb		95
41) TCE	5.93	95	2212	0.33392 ppb		89
42) 2-Pentanone	6.15	43	17738	10.20026 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	1533	0.28703 ppb	#	84
44)	Bromodichloromethane	6.49	83	1978	0.31473 ppb		89
45)	Methyl Cyclohexane	6.15	83	2719	0.34352 ppb		98
46)	Dibromomethane	6.30	93	642	0.31732 ppb		88
47)	MIBK (methyl isobutyl ket	7.25	43	829	0.31351 ppb	#	87
48)	1-Bromo-2-chloroethane	6.84	63	1485	0.28723 ppb	#	81
50)	Cis-1,3-Dichloropropene	7.03	75	1855	0.26333 ppb	#	82
51)	Toluene	7.43	91	9528	0.34926 ppb		93
52)	Trans-1,3-Dichloropropene	7.71	75	1181	0.24172 ppb		93
53)	1,1,2-TCA	7.92	83	714	0.28047 ppb		81
54)	2-Hexanone	8.30	43	235	0.27422 ppb	#	75
57)	1,2-EDB	8.53	107	865	0.32061 ppb		90
58)	Tetrachloroethene	8.10	164	2378	0.37321 ppb		92
59)	1-Chlorohexane	9.21	91	2592	0.36718 ppb		87
60)	1,1,1,2-Tetrachloroethane	9.31	131	1791	0.32805 ppb		99
61)	m&p-Xylene	9.53	106	7895	0.67837 ppb		92
62)	o-Xylene	10.04	106	3468	0.31955 ppb		75
63)	Styrene	10.06	104	4704	0.28124 ppb		100
65)	1,3-Dichloropropane	8.13	76	1975	0.37502 ppb		98
66)	Dibromochloromethane	8.40	129	1301	0.32426 ppb		83
67)	Chlorobenzene	9.19	112	6081	0.37121 ppb		97
68)	Ethylbenzene	9.36	91	9979	0.34040 ppb		97
69)	Bromoform	10.27	173	832	0.33873 ppb		94
71)	Isopropylbenzene	10.56	105	9690	0.37439 ppb		95
72)	1,1,2,2-Tetrachloroethane	10.97	83	894	0.34160 ppb	#	60
73)	1,2,3-Trichloropropane	11.00	110	180	0.19910 ppb		88
74)	t-1,4-Dichloro-2-Butene	11.05	53	72	0.13263 ppb	#	38
75)	Bromobenzene	10.93	156	2132	0.33843 ppb		97
76)	n-Propylbenzene	11.13	91	10523	0.36727 ppb		98
77)	4-Ethyltoluene	11.30	105	8424	0.33402 ppb		94
78)	2-Chlorotoluene	11.22	91	6546	0.37834 ppb		94
79)	1,3,5-Trimethylbenzene	11.40	105	7150	0.34065 ppb		100
80)	4-Chlorotoluene	11.37	91	6634	0.33811 ppb		88
81)	Tert-Butylbenzene	11.84	119	6640	0.35866 ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	7220	0.34937 ppb		88
83)	Sec-Butylbenzene	12.15	105	8819	0.35352 ppb		98
84)	p-Isopropyltoluene	12.38	119	7817	0.34940 ppb		95
85)	Benzyl Chloride	12.59	91	530	0.24318 ppb	#	89
86)	1,3-DCB	12.26	146	4310	0.35813 ppb		95
87)	1,4-DCB	12.39	146	4730	0.40401 ppb		90
88)	n-Butylbenzene	12.96	91	5844	0.32803 ppb		94
89)	1,2-DCB	12.90	146	3547	0.35438 ppb		95
90)	Hexachloroethane	13.27	117	1017	0.34202 ppb		81
92)	1,2,4-Trichlorobenzene	15.22	180	538	0.51380 ppb	#	91
93)	Hexachlorobutadiene	15.52	225	2104	0.45128 ppb		83
94)	Naphthalene	15.55	128	177	0.96119 ppb	#	76
95)	1,2,3-Trichlorobenzene	15.93	180	245	0.81156 ppb	#	66

(#) = qualifier out of range (m) = manual integration

Quantitation Report

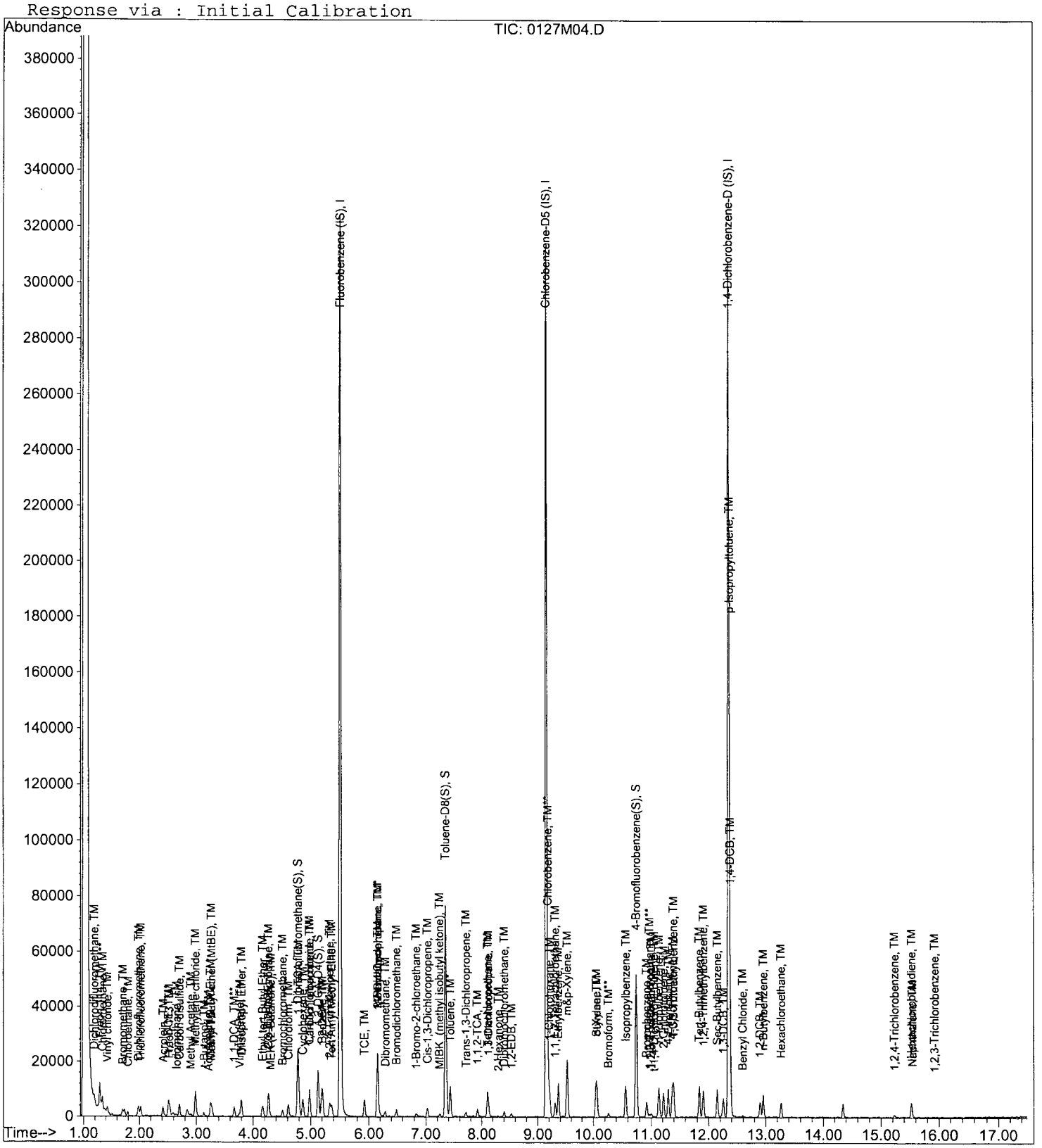
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



361

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	13937	5.01048 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.040%	
36) 1,2-DCA-D4(S)	5.13	65	10688	4.66119 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.644%	
56) Toluene-D8(S)	7.35	98	52662	4.66182 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.648%	
64) 4-Bromofluorobenzene(S)	10.74	95	18960	4.68730 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.748%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	1515	0.40923 ppb		96
3) Freon 114	1.29	85	2772	0.57233 ppb		93
4) Chloromethane	1.34	50	3375	0.60873 ppb		96
5) Vinyl chloride	1.42	62	3951	0.53548 ppb		98
6) Bromomethane	1.70	94	2529	0.65033 ppb		89
7) Chloroethane	1.79	64	2548	0.62127 ppb		94
8) Dichlorofluoromethane	1.98	67	5974	0.57410 ppb		97
9) Trichlorofluoromethane	2.02	101	4169	0.48397 ppb		89
10) Acrolein	2.41	56	7093	43.80776 ppb		93
11) Acetone	2.57	43	681	-0.13069 ppb	#	48
12) Freon-113	2.53	101	2842	0.57620 ppb		84
13) 1,1-DCE	2.51	61	4397	0.53143 ppb	#	94
14) t-Butanol	3.14	59	3029	22.08357 ppb		97
15) Methyl Acetate	2.91	43	918	0.45632 ppb	#	57
16) Iodomethane	2.65	142	1522	1.08361 ppb	#	74
17) Acrylonitrile	3.22	53	215	0.24763 ppb	#	57
18) Methylene chloride	2.98	84	5349	1.04081 ppb		94
19) Carbon disulfide	2.70	76	9182	0.55071 ppb		98
20) Methyl t-butyl ether (MtBE	3.28	73	4596	0.52007 ppb		96
21) Trans-1,2-DCE	3.25	96	2941	0.48856 ppb		96
22) Diisopropyl Ether	3.79	45	8389	0.52235 ppb		99
23) 1,1-DCA	3.67	63	5281	0.51465 ppb		97
24) Vinyl Acetate	3.76	43	1688	0.50427 ppb	#	73
25) Ethyl tert Butyl Ether	4.16	59	5696	0.52583 ppb		94
26) MEK (2-Butanone)	4.30	43	400	0.35037 ppb	#	56
27) Cis-1,2-DCE	4.27	96	3294	0.50415 ppb		97
28) 2,2-Dichloropropane	4.26	77	3292	0.44158 ppb		99
29) Chloroform	4.61	83	5178	0.52372 ppb		97
30) Bromochloromethane	4.52	128	1325	0.53576 ppb		78
32) 1,1,1-TCA	4.80	97	4798	0.51405 ppb		96
33) Cyclohexane	4.86	41	2854	0.55689 ppb		82
34) 1,1-Dichloropropene	4.98	75	4011	0.47777 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	8376	0.56160 ppb		99
37) Carbon Tetrachloride	4.97	117	4346	0.55211 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	4426	0.48684 ppb		95
39) 1,2-DCA	5.21	62	2713	0.49374 ppb	#	89
40) Benzene	5.20	78	13139	0.53972 ppb		92
41) TCE	5.92	95	3594	0.53486 ppb		93
42) 2-Pentanone	6.15	43	39367	22.31746 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43)	1,2-Dichloropropane	6.16	63	3224	0.59509	ppb	#	84
44)	Bromodichloromethane	6.48	83	3374	0.52925	ppb		88
45)	Methyl Cyclohexane	6.15	83	4497	0.56011	ppb		97
46)	Dibromomethane	6.29	93	1114	0.54282	ppb		98
47)	MIBK (methyl isobutyl ket	7.25	43	1937	0.72217	ppb	#	91
48)	1-Bromo-2-chloroethane	6.84	63	2629	0.50130	ppb		88
50)	Cis-1,3-Dichloropropene	7.03	75	3405	0.47652	ppb		91
51)	Toluene	7.43	91	15318	0.55355	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	2250	0.45399	ppb	#	73
53)	1,1,2-TCA	7.92	83	1463	0.56655	ppb		84
54)	2-Hexanone	8.29	43	440	0.50616	ppb	#	78
57)	1,2-EDB	8.54	107	1447	0.51890	ppb	#	71
58)	Tetrachloroethene	8.10	164	3718	0.56456	ppb		88
59)	1-Chlorohexane	9.21	91	3911	0.53603	ppb		87
60)	1,1,1,2-Tetrachloroethane	9.31	131	2798	0.49585	ppb		88
61)	m&p-Xylene	9.52	106	13068	1.08638	ppb		94
62)	o-Xylene	10.04	106	5381	0.47971	ppb		87
63)	Styrene	10.06	104	8858	0.51240	ppb		98
65)	1,3-Dichloropropane	8.13	76	2944	0.54086	ppb		92
66)	Dibromochloromethane	8.40	129	2271	0.54763	ppb		87
67)	Chlorobenzene	9.19	112	9687	0.57213	ppb		99
68)	Ethylbenzene	9.36	91	16612	0.54825	ppb		97
69)	Bromoform	10.27	173	1186	0.46716	ppb		96
71)	Isopropylbenzene	10.56	105	15823	0.58709	ppb		92
72)	1,1,2,2-Tetrachloroethane	10.96	83	1551	0.56913	ppb	#	77
73)	1,2,3-Trichloropropane	11.00	110	416	0.44188	ppb	#	20
74)	t-1,4-Dichloro-2-Butene	11.06	53	213	0.37679	ppb	#	38
75)	Bromobenzene	10.92	156	3837	0.58491	ppb		89
76)	n-Propylbenzene	11.13	91	17181	0.57585	ppb		98
77)	4-Ethyltoluene	11.30	105	15181	0.57805	ppb		95
78)	2-Chlorotoluene	11.21	91	10676	0.59256	ppb		85
79)	1,3,5-Trimethylbenzene	11.39	105	11882	0.54364	ppb		97
80)	4-Chlorotoluene	11.37	91	11966	0.58566	ppb		97
81)	Tert-Butylbenzene	11.84	119	12031	0.62407	ppb		95
82)	1,2,4-Trimethylbenzene	11.91	105	12528	0.58217	ppb		94
83)	Sec-Butylbenzene	12.15	105	15325	0.58995	ppb		98
84)	p-Isopropyltoluene	12.37	119	12948	0.55577	ppb		96
85)	Benzyl Chloride	12.58	91	841	0.37057	ppb	#	79
86)	1,3-DCB	12.26	146	7604	0.60677	ppb		84
87)	1,4-DCB	12.39	146	7275	0.59674	ppb		95
88)	n-Butylbenzene	12.95	91	9408	0.50713	ppb		95
89)	1,2-DCB	12.90	146	5949	0.57079	ppb		95
90)	Hexachloroethane	13.27	117	1517	0.48993	ppb		93
92)	1,2,4-Trichlorobenzene	15.23	180	1139	0.60234	ppb		82
93)	Hexachlorobutadiene	15.53	225	2728	0.56191	ppb	#	80
94)	Naphthalene	15.56	128	346	0.98858	ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	457	0.85367	ppb	#	87

(#) = qualifier out of range (m) = manual integration

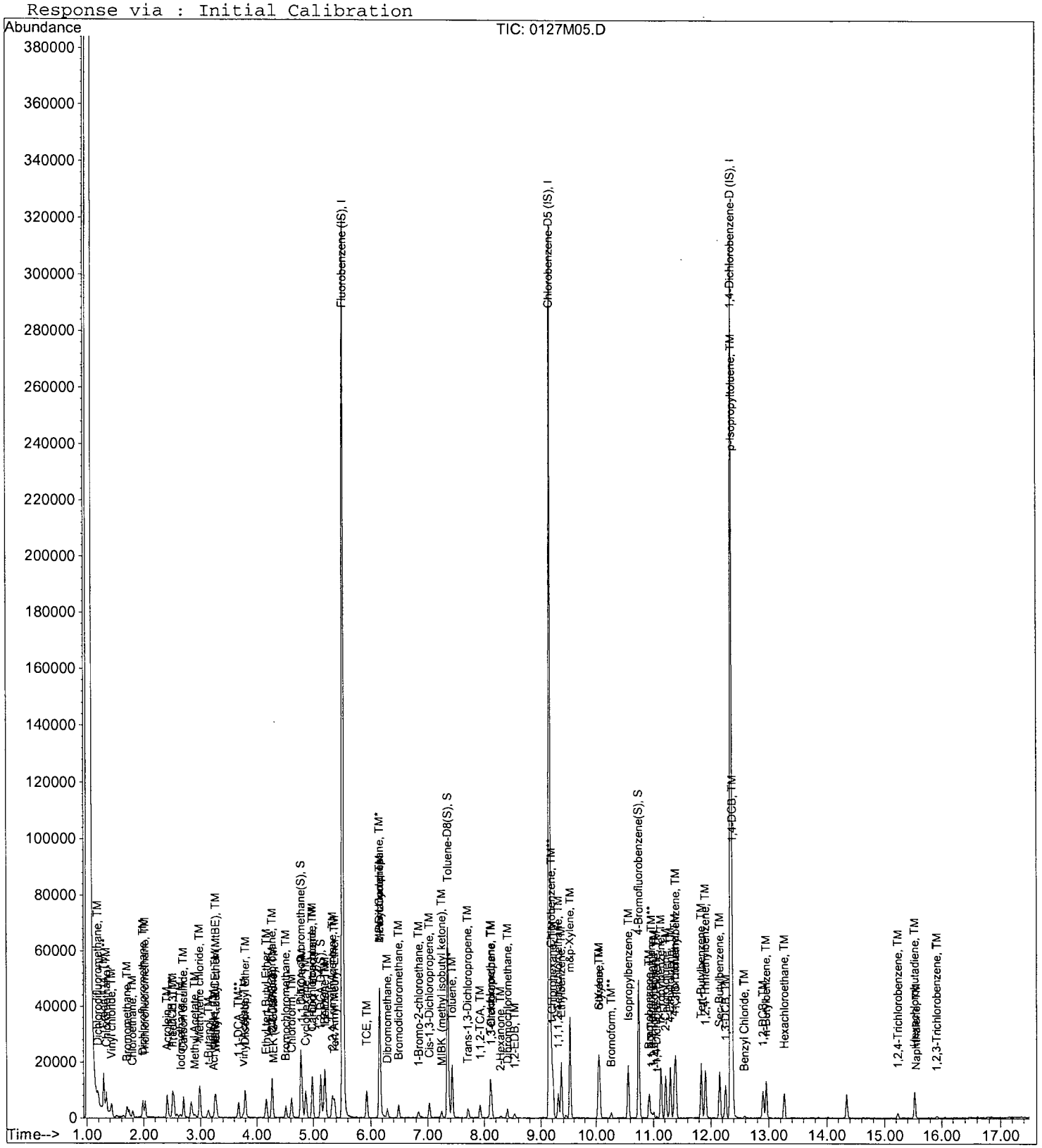
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



364

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D Vial: 6
Acq On : 27 Jan 17 12:21 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 01/27/16C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	24009	8.68572 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.744%	
36) 1,2-DCA-D4(S)	5.13	65	19787	8.68364 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.736%	
56) Toluene-D8(S)	7.35	98	96515	8.67446 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.696%	
64) 4-Bromofluorobenzene(S)	10.74	95	34814	8.73830 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.952%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	3153	0.85705 ppb		97
3) Freon 114	1.29	85	4673	0.97089 ppb		96
4) Chloromethane	1.34	50	5749	1.04344 ppb		96
5) Vinyl chloride	1.43	62	7199	0.98182 ppb		97
6) Bromomethane	1.69	94	4386	1.13495 ppb		95
7) Chloroethane	1.80	64	4118	1.01039 ppb		95
8) Dichlorofluoromethane	1.98	67	10971	1.06094 ppb		96
9) Trichlorofluoromethane	2.03	101	7588	0.88641 ppb		98
10) Acrolein	2.41	56	13194	82.00108 ppb		94
11) Acetone	2.57	43	1192	0.59663 ppb		92
12) Freon-113	2.53	101	5312	1.08374 ppb		96
13) 1,1-DCE	2.51	61	8807	1.07112 ppb		97
14) t-Butanol	3.14	59	6211	45.56733 ppb		92
15) Methyl Acetate	2.91	43	2233	1.11696 ppb		95
16) Iodomethane	2.64	142	3193	1.31248 ppb		95
17) Acrylonitrile	3.23	53	722	0.83680 ppb	#	85
18) Methylene chloride	2.98	84	8156	1.59698 ppb		91
19) Carbon disulfide	2.70	76	17937	1.08258 ppb		100
20) Methyl t-butyl ether (MtBE	3.28	73	8421	0.95888 ppb		92
21) Trans-1,2-DCE	3.26	96	6140	1.02640 ppb		87
22) Diisopropyl Ether	3.79	45	16999	1.06511 ppb		98
23) 1,1-DCA	3.67	63	10829	1.06195 ppb		92
24) Vinyl Acetate	3.76	43	3002	0.90245 ppb		96
25) Ethyl tert Butyl Ether	4.17	59	10573	0.98219 ppb		95
26) MEK (2-Butanone)	4.31	43	1214	1.07006 ppb	#	82
27) Cis-1,2-DCE	4.27	96	6877	1.05915 ppb		90
28) 2,2-Dichloropropane	4.27	77	6724	0.90761 ppb		100
29) Chloroform	4.62	83	10758	1.09495 ppb		92
30) Bromochloromethane	4.51	128	2473	1.00623 ppb		91
32) 1,1,1-TCA	4.80	97	8898	0.95931 ppb		93
33) Cyclohexane	4.87	41	5120	1.00532 ppb		95
34) 1,1-Dichloropropene	4.98	75	8761	1.05012 ppb		96
35) 2,2,4-Trimethylpentane	5.33	57	15645	1.05557 ppb		100
37) Carbon Tetrachloride	4.98	117	7640	0.97668 ppb		96
38) Tert Amyl Methyl Ether	5.37	73	8654	0.95788 ppb		98
39) 1,2-DCA	5.21	62	5673	1.03893 ppb		99
40) Benzene	5.20	78	25174	1.04060 ppb		98
41) TCE	5.92	95	6865	1.02808 ppb		95
42) 2-Pentanone	6.15	43	81903	46.72338 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D Vial: 6
Acq On : 27 Jan 17 12:21 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 01/27/16C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	5588	1.03793	ppb	#	88
44)	Bromodichloromethane	6.49	83	6389	1.00848	ppb		93
45)	Methyl Cyclohexane	6.15	83	8885	1.11360	ppb		97
46)	Dibromomethane	6.29	93	2251	1.10375	ppb		96
47)	MIBK (methyl isobutyl ket	7.24	43	3393	1.27295	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	5612	1.07683	ppb		90
49)	2-Chloroethyl vinyl ether	6.89	106	43	1.76524	ppb	#	100
50)	Cis-1,3-Dichloropropene	7.03	75	6820	0.96045	ppb		97
51)	Toluene	7.43	91	29189	1.06145	ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	4421	0.89765	ppb		99
53)	1,1,2-TCA	7.92	83	2488	0.96954	ppb		85
54)	2-Hexanone	8.28	43	1401	1.62179	ppb	#	72
57)	1,2-EDB	8.53	107	2563	0.93316	ppb		91
58)	Tetrachloroethene	8.10	164	7201	1.11015	ppb		94
59)	1-Chlorohexane	9.21	91	7665	1.06660	ppb		84
60)	1,1,1,2-Tetrachloroethane	9.31	131	6147	1.10601	ppb		94
61)	m&p-Xylene	9.52	106	24798	2.09305	ppb		100
62)	o-Xylene	10.04	106	12485	1.13005	ppb		80
63)	Styrene	10.06	104	17677	1.03818	ppb		88
65)	1,3-Dichloropropane	8.13	76	5688	1.06095	ppb		95
66)	Dibromochloromethane	8.40	129	4108	1.00575	ppb		86
67)	Chlorobenzene	9.19	112	18413	1.10413	ppb		94
68)	Ethylbenzene	9.36	91	30917	1.03596	ppb		95
69)	Bromoform	10.27	173	2677	1.07059	ppb		83
71)	Isopropylbenzene	10.56	105	30821	1.12530	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	2985	1.07783	ppb	#	93
73)	1,2,3-Trichloropropane	11.00	110	1067	1.11527	ppb	#	73
74)	t-1,4-Dichloro-2-Butene	11.06	53	349	0.60751	ppb	#	46
75)	Bromobenzene	10.92	156	7034	1.05513	ppb		98
76)	n-Propylbenzene	11.13	91	32304	1.06544	ppb		96
77)	4-Ethyltoluene	11.30	105	29880	1.11958	ppb		93
78)	2-Chlorotoluene	11.22	91	21682	1.18422	ppb		93
79)	1,3,5-Trimethylbenzene	11.39	105	25649	1.15478	ppb		100
80)	4-Chlorotoluene	11.37	91	23291	1.12174	ppb		92
81)	Tert-Butylbenzene	11.84	119	22167	1.13147	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	23438	1.07176	ppb		91
83)	Sec-Butylbenzene	12.15	105	28862	1.09332	ppb		97
84)	p-Isopropyltoluene	12.37	119	25289	1.06815	ppb		97
85)	Benzyl Chloride	12.58	91	1815	0.78698	ppb	#	91
86)	1,3-DCB	12.25	146	14001	1.09938	ppb		99
87)	1,4-DCB	12.38	146	14244	1.14972	ppb		98
88)	n-Butylbenzene	12.95	91	19695	1.04468	ppb		95
89)	1,2-DCB	12.90	146	11438	1.07991	ppb		99
90)	Hexachloroethane	13.26	117	3139	0.99758	ppb		92
91)	1,2-Dibromo-3-chloropropan	14.02	75	400	1.06917	ppb	#	60
92)	1,2,4-Trichlorobenzene	15.23	180	3776	0.99655	ppb		90
93)	Hexachlorobutadiene	15.53	225	5416	1.09776	ppb		90
94)	Naphthalene	15.57	128	1722	1.21664	ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	1538	1.07403	ppb		83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

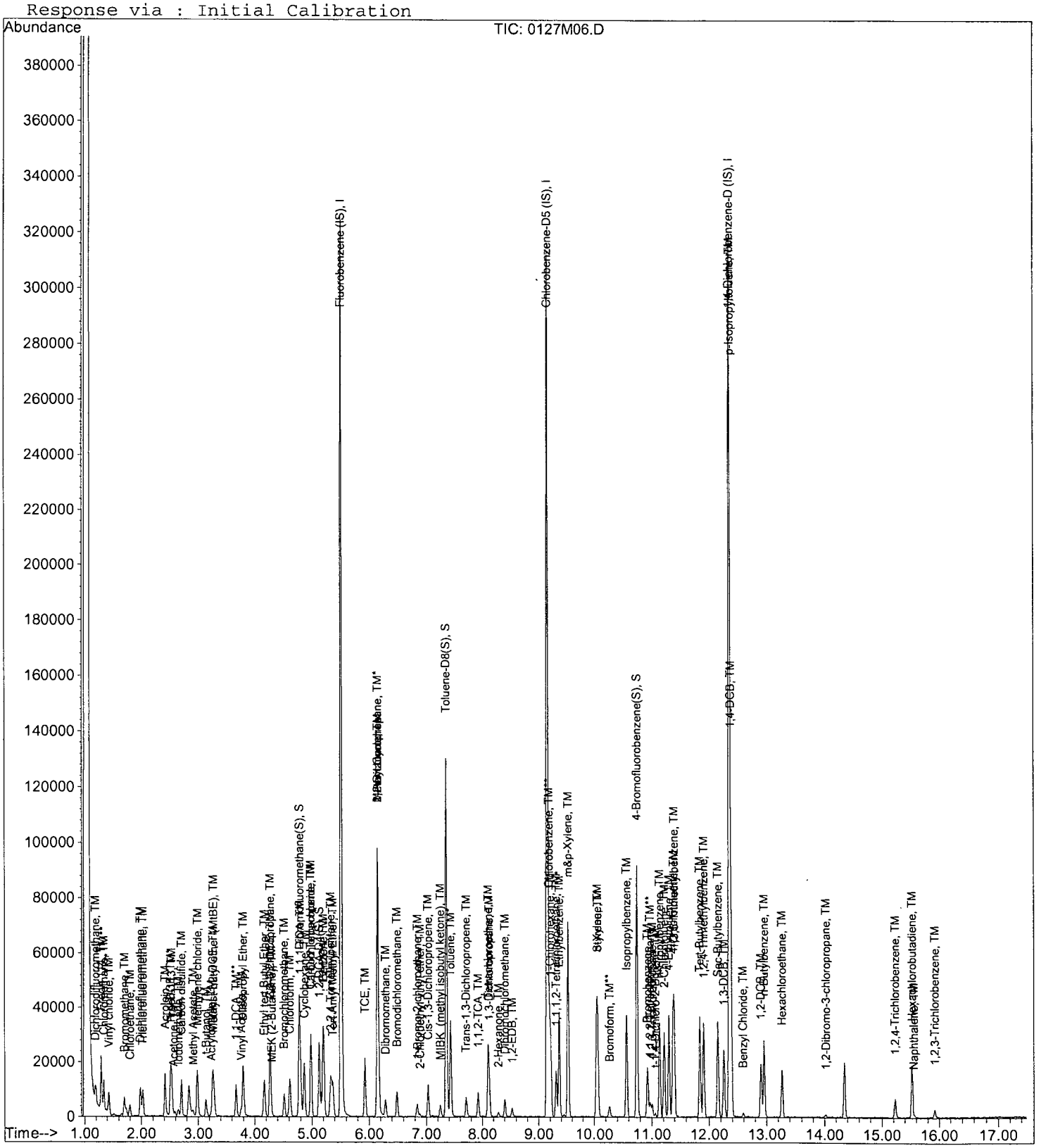
Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



367

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
36) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
56) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	6197	1.99502 ppb		93
3) Freon 114	1.29	85	10371	2.14247 ppb		89
4) Chloromethane	1.34	50	10580	1.95594 ppb		99
5) Vinyl chloride	1.43	62	15174	2.02230 ppb		98
6) Bromomethane	1.70	94	8404	1.91300 ppb		97
7) Chloroethane	1.79	64	7649	1.83623 ppb		100
8) Dichlorofluoromethane	1.98	67	22090	1.94023 ppb		93
9) Trichlorofluoromethane	2.03	101	15419	1.94690 ppb		82
10) Acrolein	2.41	56	20463	76.40895 ppb		95
11) Acetone	2.57	43	2007	1.55884 ppb		86
12) Freon-113	2.53	101	10227	1.95105 ppb		97
13) 1,1-DCE	2.51	61	17113	1.99112 ppb		99
14) t-Butanol	3.14	59	9253	71.35111 ppb		99
15) Methyl Acetate	2.90	43	4341	2.08942 ppb		95
16) Iodomethane	2.64	142	7861	1.63338 ppb		99
17) Acrylonitrile	3.22	53	1494	1.34108 ppb	#	91
18) Methylene chloride	2.98	84	13918	1.71522 ppb		92
19) Carbon disulfide	2.70	76	33003	1.92940 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	17654	1.94458 ppb		98
21) Trans-1,2-DCE	3.26	96	11571	1.87754 ppb		96
22) Diisopropyl Ether	3.79	45	33028	1.90175 ppb		99
23) 1,1-DCA	3.67	63	20902	1.91759 ppb		96
24) Vinyl Acetate	3.76	43	5674	1.63290 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	20117	1.76999 ppb		100
26) MEK (2-Butanone)	4.31	43	1852	1.56634 ppb		98
27) Cis-1,2-DCE	4.27	96	13790	2.03965 ppb		95
28) 2,2-Dichloropropane	4.27	77	13512	1.83793 ppb		97
29) Chloroform	4.61	83	19612	1.86720 ppb		99
30) Bromochloromethane	4.51	128	5051	1.94614 ppb		89
32) 1,1,1-TCA	4.80	97	18722	1.93593 ppb		96
33) Cyclohexane	4.87	41	11246	2.03101 ppb		93
34) 1,1-Dichloropropene	4.98	75	17304	1.98346 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	31807	2.01499 ppb		98
37) Carbon Tetrachloride	4.98	117	15621	1.87868 ppb		85
38) Tert Amyl Methyl Ether	5.37	73	17294	1.82512 ppb		99
39) 1,2-DCA	5.21	62	11066	1.93975 ppb		100
40) Benzene	5.20	78	49465	1.91841 ppb		96
41) TCE	5.92	95	13950	2.00820 ppb		96
42) 2-Pentanone	6.15	43	126309	73.22545 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D Vial: 7
Acq On : 27 Jan 17 12:49 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 01/27/16D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	11133	1.90409 ppb		100
44) Bromodichloromethane	6.49	83	12462	1.84068 ppb		95
45) Methyl Cyclohexane	6.15	83	17291	1.93043 ppb		88
46) Dibromomethane	6.29	93	4096	1.87537 ppb		87
47) MIBK (methyl isobutyl ket	7.24	43	6182	1.44991 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	10881	1.93701 ppb		99
49) 2-Chloroethyl vinyl ether	6.89	106	190	1.55527 ppb	#	100
50) Cis-1,3-Dichloropropene	7.03	75	13507	1.81281 ppb		98
51) Toluene	7.43	91	56943	1.90606 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	8912	1.75820 ppb		93
53) 1,1,2-TCA	7.92	83	5259	1.93436 ppb		83
54) 2-Hexanone	8.28	43	2622	1.82672 ppb	#	84
57) 1,2-EDB	8.53	107	5308	1.83996 ppb		97
58) Tetrachloroethene	8.10	164	14503	2.04540 ppb		94
59) 1-Chlorohexane	9.21	91	15468	1.87831 ppb		94
60) 1,1,1,2-Tetrachloroethane	9.31	131	11607	1.93401 ppb		99
61) m&p-Xylene	9.52	106	50808	3.91477 ppb		100
62) o-Xylene	10.04	106	22679	1.87317 ppb		95
63) Styrene	10.06	104	34536	1.85408 ppb		97
65) 1,3-Dichloropropane	8.13	76	10891	1.90204 ppb		91
66) Dibromochloromethane	8.40	129	8332	1.89126 ppb		96
67) Chlorobenzene	9.19	112	36247	1.97190 ppb		97
68) Ethylbenzene	9.36	91	63277	1.91022 ppb		97
69) Bromoform	10.27	173	4834	1.84790 ppb		98
71) Isopropylbenzene	10.56	105	61554	1.92480 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	5721	1.89372 ppb		90
73) 1,2,3-Trichloropropane	11.01	110	2196	2.18994 ppb		85
74) t-1,4-Dichloro-2-Butene	11.05	53	944	1.66410 ppb		95
75) Bromobenzene	10.92	156	14166	1.91822 ppb		93
76) n-Propylbenzene	11.13	91	68266	1.93324 ppb		98
77) 4-Ethyltoluene	11.30	105	58682	1.88606 ppb		99
78) 2-Chlorotoluene	11.21	91	39938	1.89068 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	52435	2.02126 ppb		96
80) 4-Chlorotoluene	11.37	91	45694	1.91942 ppb		100
81) Tert-Butylbenzene	11.84	119	45242	1.94844 ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	48143	1.90206 ppb		92
83) Sec-Butylbenzene	12.15	105	60178	1.94462 ppb		94
84) p-Isopropyltoluene	12.37	119	52706	1.94992 ppb		98
85) Benzyl Chloride	12.59	91	3641	1.82517 ppb		95
86) 1,3-DCB	12.26	146	28321	1.91772 ppb		93
87) 1,4-DCB	12.38	146	27546	1.90344 ppb		98
88) n-Butylbenzene	12.96	91	39482	1.86039 ppb		92
89) 1,2-DCB	12.90	146	22934	1.89801 ppb		96
90) Hexachloroethane	13.27	117	6312	1.75695 ppb		95
91) 1,2-Dibromo-3-chloropropan	14.01	75	757	1.82255 ppb		90
92) 1,2,4-Trichlorobenzene	15.23	180	8746	1.68979 ppb		95
93) Hexachlorobutadiene	15.53	225	10964	1.97756 ppb		93
94) Naphthalene	15.56	128	4712	1.81981 ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	5030	1.80787 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

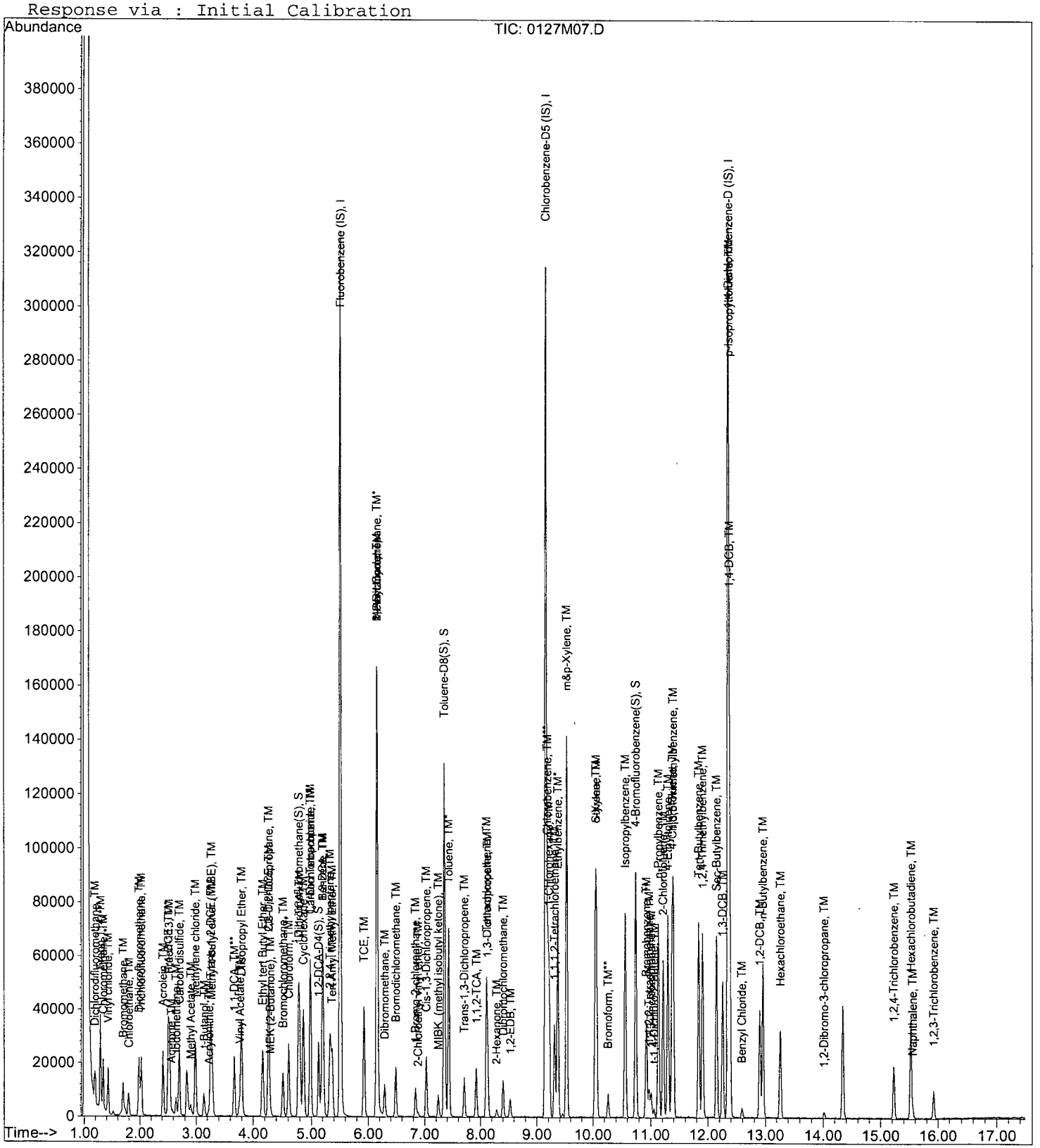
Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



370

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D Vial: 8
Acq On : 27 Jan 17 13:17 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 01/27/16E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
56) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
64) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	14186	4.58932 ppb	96
3) Freon 114	1.29	85	21494	4.46204 ppb	91
4) Chloromethane	1.34	50	27248	5.06204 ppb	100
5) Vinyl chloride	1.43	62	36137	4.83971 ppb	98
6) Bromomethane	1.70	94	20231	4.62772 ppb	95
7) Chloroethane	1.80	64	20189	4.87034 ppb	92
8) Dichlorofluoromethane	1.98	67	63712	5.62342 ppb	97
9) Trichlorofluoromethane	2.03	101	39524	5.01499 ppb	93
10) Acrolein	2.41	56	26814	100.61392 ppb	100
11) Acetone	2.57	43	4339	5.24630 ppb	95
12) Freon-113	2.53	101	26118	5.00704 ppb	97
13) 1,1-DCE	2.51	61	47239	5.52323 ppb	95
14) t-Butanol	3.14	59	12878	99.79026 ppb	95
15) Methyl Acetate	2.90	43	11356	5.49267 ppb	100
16) Iodomethane	2.64	142	33114	5.10758 ppb	98
17) Acrylonitrile	3.22	53	5313	5.51150 ppb #	87
18) Methylene chloride	2.98	84	34185	5.74966 ppb	95
19) Carbon disulfide	2.70	76	94462	5.54941 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	52475	5.80840 ppb	98
21) Trans-1,2-DCE	3.25	96	35644	5.81202 ppb	98
22) Diisopropyl Ether	3.80	45	102358	5.92262 ppb	99
23) 1,1-DCA	3.67	63	63619	5.86512 ppb	99
24) Vinyl Acetate	3.76	43	19782	5.72086 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	65645	5.80404 ppb	99
26) MEK (2-Butanone)	4.31	43	7200	6.11925 ppb	89
27) Cis-1,2-DCE	4.27	96	38868	5.77703 ppb	97
28) 2,2-Dichloropropane	4.27	77	40785	5.57481 ppb	99
29) Chloroform	4.61	83	61253	5.86027 ppb	92
30) Bromochloromethane	4.51	128	15270	5.91231 ppb	96
32) 1,1,1-TCA	4.80	97	53865	5.59712 ppb	94
33) Cyclohexane	4.87	41	29060	5.27389 ppb	93
34) 1,1-Dichloropropene	4.98	75	48467	5.58269 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	76675	4.88118 ppb	98
37) Carbon Tetrachloride	4.98	117	43823	5.29624 ppb	99
38) Tert Amyl Methyl Ether	5.37	73	54859	5.81789 ppb	97
39) 1,2-DCA	5.21	62	32962	5.80619 ppb	98
40) Benzene	5.20	78	148728	5.79640 ppb	98
41) TCE	5.92	95	38475	5.56586 ppb	91
42) 2-Pentanone	6.15	43	171330	99.81199 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	33196	5.70537 ppb		97
44)	Bromodichloromethane	6.49	83	40333	5.98648 ppb		87
45)	Methyl Cyclohexane	6.15	83	45650	5.12149 ppb		99
46)	Dibromomethane	6.29	93	12707	5.84643 ppb		76
47)	MIBK (methyl isobutyl ket	7.24	43	15391	5.52607 ppb		93
48)	1-Bromo-2-chloroethane	6.84	63	31900	5.70656 ppb		98
49)	2-Chloroethyl vinyl ether	6.87	106	637m	4.75437 ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	42825	5.77580 ppb		98
51)	Toluene	7.43	91	169990	5.71795 ppb		95
52)	Trans-1,3-Dichloropropene	7.71	75	27973	5.54565 ppb		92
53)	1,1,2-TCA	7.92	83	15832	5.85184 ppb		92
54)	2-Hexanone	8.28	43	7720	5.40478 ppb	#	94
57)	1,2-EDB	8.53	107	17157	5.99063 ppb		97
58)	Tetrachloroethene	8.10	164	41381	5.87860 ppb		94
59)	1-Chlorohexane	9.21	91	46310	5.66450 ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	34121	5.72683 ppb		98
61)	m&p-Xylene	9.52	106	153047	11.87824 ppb		100
62)	o-Xylene	10.04	106	73128	6.08402 ppb		93
63)	Styrene	10.06	104	110225	5.96060 ppb		99
65)	1,3-Dichloropropane	8.13	76	33822	5.94985 ppb		99
66)	Dibromochloromethane	8.40	129	25834	5.90673 ppb		98
67)	Chlorobenzene	9.19	112	106910	5.85847 ppb		99
68)	Ethylbenzene	9.36	91	194581	5.91687 ppb		99
69)	Bromoform	10.27	173	15132	5.82669 ppb		95
71)	Isopropylbenzene	10.56	105	190220	5.83704 ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	18082	5.87352 ppb		95
73)	1,2,3-Trichloropropane	11.00	110	6015	5.88632 ppb		96
74)	t-1,4-Dichloro-2-Butene	11.05	53	3517	5.53849 ppb		85
75)	Bromobenzene	10.92	156	43441	5.77245 ppb		98
76)	n-Propylbenzene	11.13	91	209960	5.83481 ppb		99
77)	4-Ethyltoluene	11.30	105	184909	5.83201 ppb		98
78)	2-Chlorotoluene	11.21	91	126223	5.86378 ppb		94
79)	1,3,5-Trimethylbenzene	11.39	105	155345	5.87633 ppb		98
80)	4-Chlorotoluene	11.37	91	144088	5.93945 ppb		98
81)	Tert-Butylbenzene	11.84	119	135405	5.72253 ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	148522	5.75825 ppb		99
83)	Sec-Butylbenzene	12.15	105	181604	5.75877 ppb		98
84)	p-Isopropyltoluene	12.37	119	159016	5.77304 ppb		99
85)	Benzyl Chloride	12.59	91	10359	5.09575 ppb		92
86)	1,3-DCB	12.26	146	88469	5.87863 ppb		98
87)	1,4-DCB	12.38	146	83174	5.63995 ppb		98
88)	n-Butylbenzene	12.95	91	126124	5.83191 ppb		94
89)	1,2-DCB	12.90	146	72088	5.85450 ppb		95
90)	Hexachloroethane	13.27	117	18873	5.15517 ppb		97
91)	1,2-Dibromo-3-chloropropan	14.00	75	2251	5.31823 ppb	#	77
92)	1,2,4-Trichlorobenzene	15.23	180	34761	5.21598 ppb		98
93)	Hexachlorobutadiene	15.53	225	31747	5.61915 ppb		97
94)	Naphthalene	15.56	128	21467	4.24164 ppb		98
95)	1,2,3-Trichlorobenzene	15.92	180	20080	4.66473 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

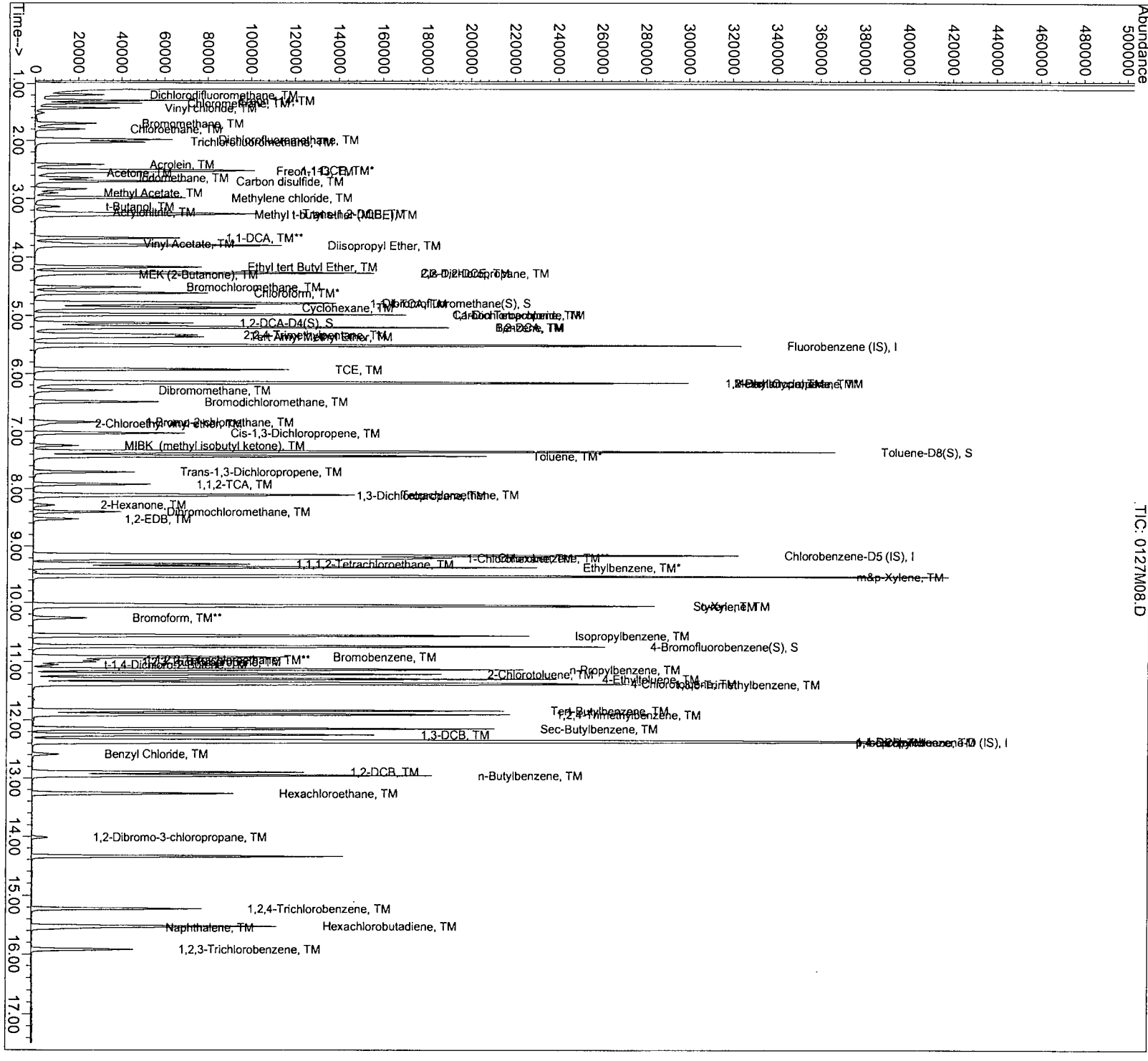
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
36) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
56) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
64) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	34112	10.41917 ppb	100
3) Freon 114	1.29	85	51835	10.15961 ppb	100
4) Chloromethane	1.34	50	54128	9.49403 ppb	100
5) Vinyl chloride	1.43	62	78953	9.98330 ppb	100
6) Bromomethane	1.69	94	36097	7.79577 ppb	100
7) Chloroethane	1.79	64	43444	9.89491 ppb	100
8) Dichlorofluoromethane	1.98	67	118435	9.86955 ppb	100
9) Trichlorofluoromethane	2.03	101	87038	10.42693 ppb	100
10) Acrolein	2.41	56	32459	114.99253 ppb	100
11) Acetone	2.57	43	7747	9.93129 ppb	100
12) Freon-113	2.53	101	56262	10.18344 ppb	100
13) 1,1-DCE	2.51	61	90361	9.97497 ppb	100
14) t-Butanol	3.14	59	16249	118.87880 ppb	100
15) Methyl Acetate	2.90	43	21601	9.86438 ppb	100
16) Iodomethane	2.64	142	73634	10.10872 ppb	100
17) Acrylonitrile	3.22	53	10491	10.51652 ppb	100
18) Methylene chloride	2.98	84	58449	9.91591 ppb	100
19) Carbon disulfide	2.70	76	179219	9.94059 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	96158	10.04911 ppb	100
21) Trans-1,2-DCE	3.25	96	66688	10.26660 ppb	100
22) Diisopropyl Ether	3.80	45	183205	10.00846 ppb	100
23) 1,1-DCA	3.67	63	115429	10.04715 ppb	100
24) Vinyl Acetate	3.75	43	33950	9.26977 ppb	100
25) Ethyl tert Butyl Ether	4.17	59	119668	9.98953 ppb	100
26) MEK (2-Butanone)	4.31	43	13542	10.86642 ppb	100
27) Cis-1,2-DCE	4.27	96	70191	9.84989 ppb	100
28) 2,2-Dichloropropane	4.27	77	79307	10.23480 ppb	100
29) Chloroform	4.61	83	110730	10.00215 ppb	100
30) Bromochloromethane	4.51	128	27002	9.87080 ppb	100
32) 1,1,1-TCA	4.80	97	104626	10.26445 ppb	100
33) Cyclohexane	4.87	41	61008	10.45346 ppb	100
34) 1,1-Dichloropropene	4.98	75	95546	10.39078 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	167786	10.08474 ppb	100
37) Carbon Tetrachloride	4.98	117	88656	10.11606 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	99041	9.91678 ppb	100
39) 1,2-DCA	5.21	62	60052	9.98719 ppb	100
40) Benzene	5.20	78	273120	10.04979 ppb	100
41) TCE	5.92	95	73263	10.00637 ppb	100
42) 2-Pentanone	6.15	43	219407	120.68071 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloropropane	6.16	63	62149	10.08487	ppb	100
44)	Bromodichloromethane	6.49	83	70951	9.94278	ppb	100
45)	Methyl Cyclohexane	6.15	83	98908	10.47672	ppb	100
46)	Dibromomethane	6.29	93	22370	9.71744	ppb	100
47)	MIBK (methyl isobutyl ket	7.24	43	26828	9.91077	ppb	100
48)	1-Bromo-2-chloroethane	6.84	63	57768	9.75684	ppb	100
49)	2-Chloroethyl vinyl ether	6.88	106	1196m	8.49827	ppb	0
50)	Cis-1,3-Dichloropropene	7.02	75	79354	10.10466	ppb	100
51)	Toluene	7.43	91	315888	10.03202	ppb	100
52)	Trans-1,3-Dichloropropene	7.71	75	52987	9.91793	ppb	100
53)	1,1,2-TCA	7.92	83	28434	9.92276	ppb	100
54)	2-Hexanone	8.28	43	14409	9.52428	ppb	100
57)	1,2-EDB	8.53	107	30974	10.01658	ppb	100
58)	Tetrachloroethene	8.10	164	76460	10.06001	ppb	100
59)	1-Chlorohexane	9.21	91	93336	10.57371	ppb	100
60)	1,1,1,2-Tetrachloroethane	9.31	131	65080	10.11652	ppb	100
61)	m&p-Xylene	9.52	106	281914	20.26445	ppb	100
62)	o-Xylene	10.04	106	133065	10.25326	ppb	100
63)	Styrene	10.06	104	203560	10.19514	ppb	100
65)	1,3-Dichloropropane	8.13	76	60734	9.89531	ppb	100
66)	Dibromochloromethane	8.40	129	47586	10.07688	ppb	100
67)	Chlorobenzene	9.19	112	195049	9.89921	ppb	100
68)	Ethylbenzene	9.36	91	365049	10.28096	ppb	100
69)	Bromoform	10.27	173	27908	9.95281	ppb	100
71)	Isopropylbenzene	10.56	105	358076	10.35393	ppb	100
72)	1,1,2,2-Tetrachloroethane	10.97	83	32319	9.89245	ppb	100
73)	1,2,3-Trichloropropane	11.00	110	11258	10.38157	ppb	100
74)	t-1,4-Dichloro-2-Butene	11.05	53	6748	9.84760	ppb	100
75)	Bromobenzene	10.92	156	79749	9.98571	ppb	100
76)	n-Propylbenzene	11.13	91	396471	10.38234	ppb	100
77)	4-Ethyltoluene	11.30	105	352883	10.48780	ppb	100
78)	2-Chlorotoluene	11.21	91	227930	9.97779	ppb	100
79)	1,3,5-Trimethylbenzene	11.39	105	288368	10.27896	ppb	100
80)	4-Chlorotoluene	11.37	91	261434	10.15487	ppb	100
81)	Tert-Butylbenzene	11.84	119	257862	10.26915	ppb	100
82)	1,2,4-Trimethylbenzene	11.91	105	283055	10.34104	ppb	100
83)	Sec-Butylbenzene	12.15	105	350673	10.47853	ppb	100
84)	p-Isopropyltoluene	12.37	119	301976	10.33071	ppb	100
85)	Benzyl Chloride	12.59	91	22118	10.25250	ppb	100
86)	1,3-DCB	12.26	146	159472	9.98535	ppb	100
87)	1,4-DCB	12.38	146	156235	9.98297	ppb	100
88)	n-Butylbenzene	12.95	91	244919	10.67160	ppb	100
89)	1,2-DCB	12.90	146	132092	10.10873	ppb	100
90)	Hexachloroethane	13.27	117	39667	10.20997	ppb	100
91)	1,2-Dibromo-3-chloropropan	14.01	75	4337	9.65550	ppb	100
92)	1,2,4-Trichlorobenzene	15.23	180	73893	9.97275	ppb	100
93)	Hexachlorobutadiene	15.53	225	62712	10.45954	ppb	100
94)	Naphthalene	15.56	128	60675	9.43074	ppb	100
95)	1,2,3-Trichlorobenzene	15.92	180	49768	9.78784	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

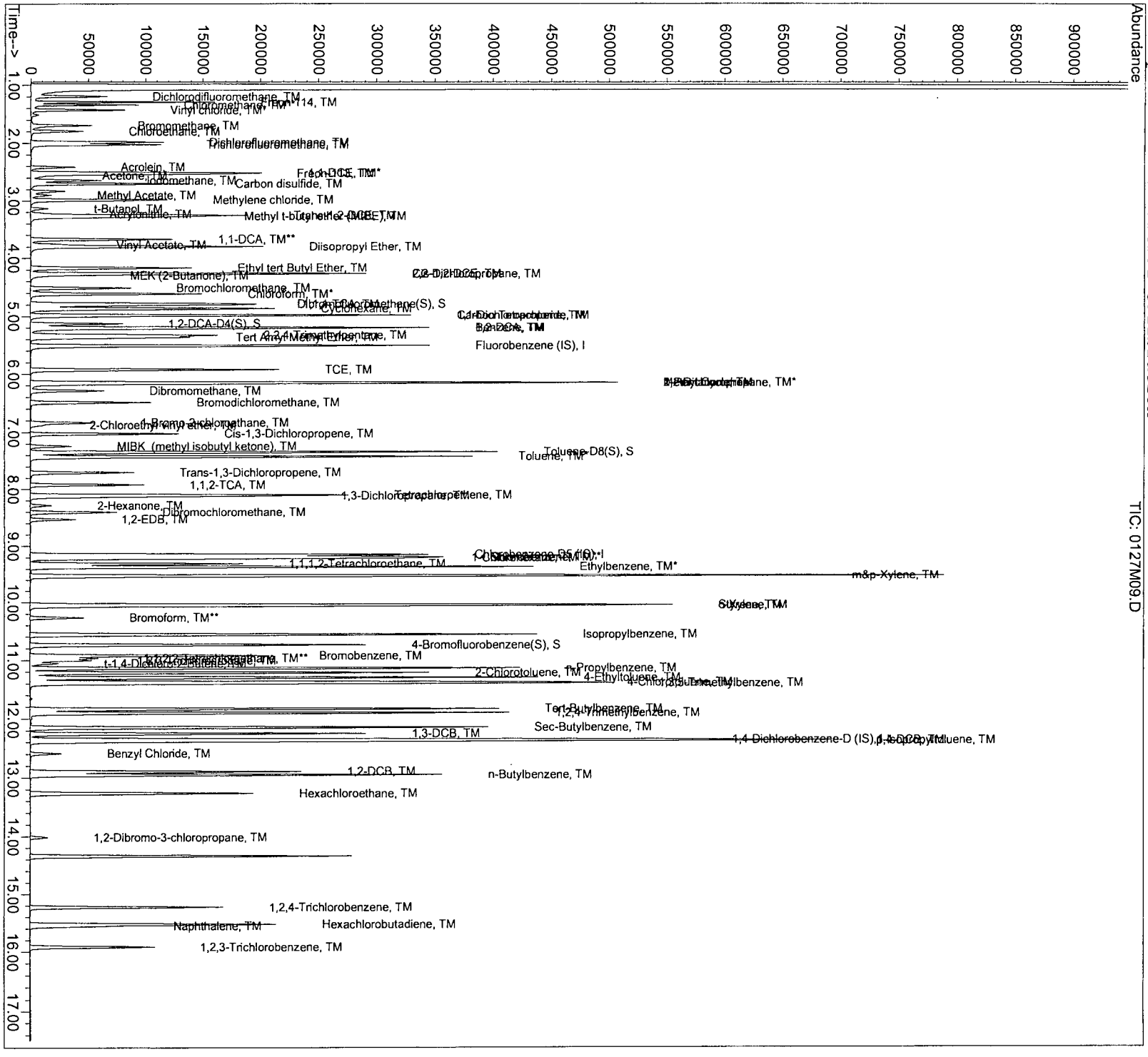
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
36) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
56) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	65256	20.31180 ppb		99
3) Freon 114	1.29	85	94834	18.94174 ppb		96
4) Chloromethane	1.34	50	98848	17.66845 ppb		97
5) Vinyl chloride	1.43	62	154639	19.92629 ppb		96
6) Bromomethane	1.69	94	63257	13.92190 ppb		100
7) Chloroethane	1.79	64	83028	19.27120 ppb		99
8) Dichlorofluoromethane	1.98	67	228593	19.41252 ppb		100
9) Trichlorofluoromethane	2.02	101	164977	20.14061 ppb		98
10) Acrolein	2.41	56	42431	153.18623 ppb		99
11) Acetone	2.57	43	15295	21.58632 ppb		90
12) Freon-113	2.53	101	104748	19.32089 ppb		97
13) 1,1-DCE	2.51	61	170333	19.16159 ppb		99
14) t-Butanol	3.14	59	21326	158.99707 ppb		93
15) Methyl Acetate	2.90	43	41931	19.51341 ppb		90
16) Iodomethane	2.64	142	144705	19.68404 ppb		99
17) Acrylonitrile	3.22	53	20123	20.82322 ppb	#	92
18) Methylene chloride	2.98	84	109978	19.96100 ppb		98
19) Carbon disulfide	2.70	76	333201	18.83372 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	186051	19.81418 ppb		98
21) Trans-1,2-DCE	3.25	96	126691	19.87590 ppb		97
22) Diisopropyl Ether	3.80	45	358853	19.97784 ppb		99
23) 1,1-DCA	3.67	63	220814	19.58648 ppb		98
24) Vinyl Acetate	3.75	43	80612	22.43007 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	234902	19.98276 ppb		98
26) MEK (2-Butanone)	4.30	43	24667	20.17075 ppb	#	84
27) Cis-1,2-DCE	4.27	96	135535	19.38222 ppb		98
28) 2,2-Dichloropropane	4.27	77	154252	20.28619 ppb		99
29) Chloroform	4.61	83	212028	19.51746 ppb		99
30) Bromochloromethane	4.51	128	52686	19.62699 ppb		95
32) 1,1,1-TCA	4.80	97	196786	19.67399 ppb		95
33) Cyclohexane	4.87	41	111882	19.53599 ppb		98
34) 1,1-Dichloropropene	4.98	75	176090	19.51516 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	309857	18.97896 ppb		100
37) Carbon Tetrachloride	4.98	117	171296	19.91831 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	201296	20.53963 ppb		93
39) 1,2-DCA	5.21	62	118786	20.13182 ppb		97
40) Benzene	5.20	78	520866	19.53132 ppb		99
41) TCE	5.92	95	138808	19.32005 ppb		95
42) 2-Pentanone	6.15	43	274360	153.78363 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	117421	19.41707	ppb		99
44)	Bromodichloromethane	6.49	83	139071	19.86039	ppb		94
45)	Methyl Cyclohexane	6.15	83	180292	19.46131	ppb		99
46)	Dibromomethane	6.29	93	44191	19.56238	ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	53313	21.36624	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	115975	19.96127	ppb		97
49)	2-Chloroethyl vinyl ether	6.88	106	2355m	19.01059	ppb		0
50)	Cis-1,3-Dichloropropene	7.02	75	156748	20.34027	ppb		98
51)	Toluene	7.43	91	605872	19.60822	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	110003	20.98254	ppb		98
53)	1,1,2-TCA	7.92	83	55178	19.62286	ppb		98
54)	2-Hexanone	8.28	43	29744	20.03548	ppb		92
57)	1,2-EDB	8.53	107	62965	20.70855	ppb		96
58)	Tetrachloroethene	8.11	164	143390	19.18719	ppb		96
59)	1-Chlorohexane	9.21	91	175311	20.19834	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	124720	19.71733	ppb		99
61)	m&p-Xylene	9.52	106	547470	40.02276	ppb		99
62)	o-Xylene	10.04	106	259725	20.35356	ppb		99
63)	Styrene	10.06	104	405114	20.63509	ppb		99
65)	1,3-Dichloropropane	8.13	76	122326	20.26958	ppb		99
66)	Dibromochloromethane	8.40	129	93899	20.22256	ppb		98
67)	Chlorobenzene	9.19	112	376808	19.44937	ppb		98
68)	Ethylbenzene	9.36	91	696358	19.94543	ppb		99
69)	Bromoform	10.27	173	56276	20.41120	ppb		98
71)	Isopropylbenzene	10.56	105	687769	19.36855	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	65494	19.52413	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	21002	18.86195	ppb		89
74)	t-1,4-Dichloro-2-Butene	11.05	53	14527	20.42170	ppb	#	77
75)	Bromobenzene	10.92	156	158664	19.34891	ppb		100
76)	n-Propylbenzene	11.13	91	770212	19.64347	ppb		100
77)	4-Ethyltoluene	11.30	105	683460	19.78295	ppb		97
78)	2-Chlorotoluene	11.21	91	453557	19.33700	ppb		98
79)	1,3,5-Trimethylbenzene	11.39	105	560103	19.44439	ppb		99
80)	4-Chlorotoluene	11.37	91	510997	19.33102	ppb		98
81)	Tert-Butylbenzene	11.84	119	493464	19.13934	ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	554402	19.72615	ppb		99
83)	Sec-Butylbenzene	12.15	105	672523	19.57173	ppb		98
84)	p-Isopropyltoluene	12.37	119	589954	19.65622	ppb		99
85)	Benzyl Chloride	12.59	91	56498	25.50592	ppb		97
86)	1,3-DCB	12.26	146	315723	19.25348	ppb		98
87)	1,4-DCB	12.38	146	303653	18.89659	ppb		98
88)	n-Butylbenzene	12.95	91	481019	20.41237	ppb		98
89)	1,2-DCB	12.90	146	263479	19.63769	ppb		99
90)	Hexachloroethane	13.26	117	84976	21.30178	ppb		96
91)	1,2-Dibromo-3-chloropropan	14.02	75	9525	20.65259	ppb	#	84
92)	1,2,4-Trichlorobenzene	15.23	180	155863	19.98732	ppb		97
93)	Hexachlorobutadiene	15.53	225	118497	19.24835	ppb		97
94)	Naphthalene	15.56	128	144972	20.45653	ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	110444	20.19222	ppb		98

(#) = qualifier out of range (m) = manual integration

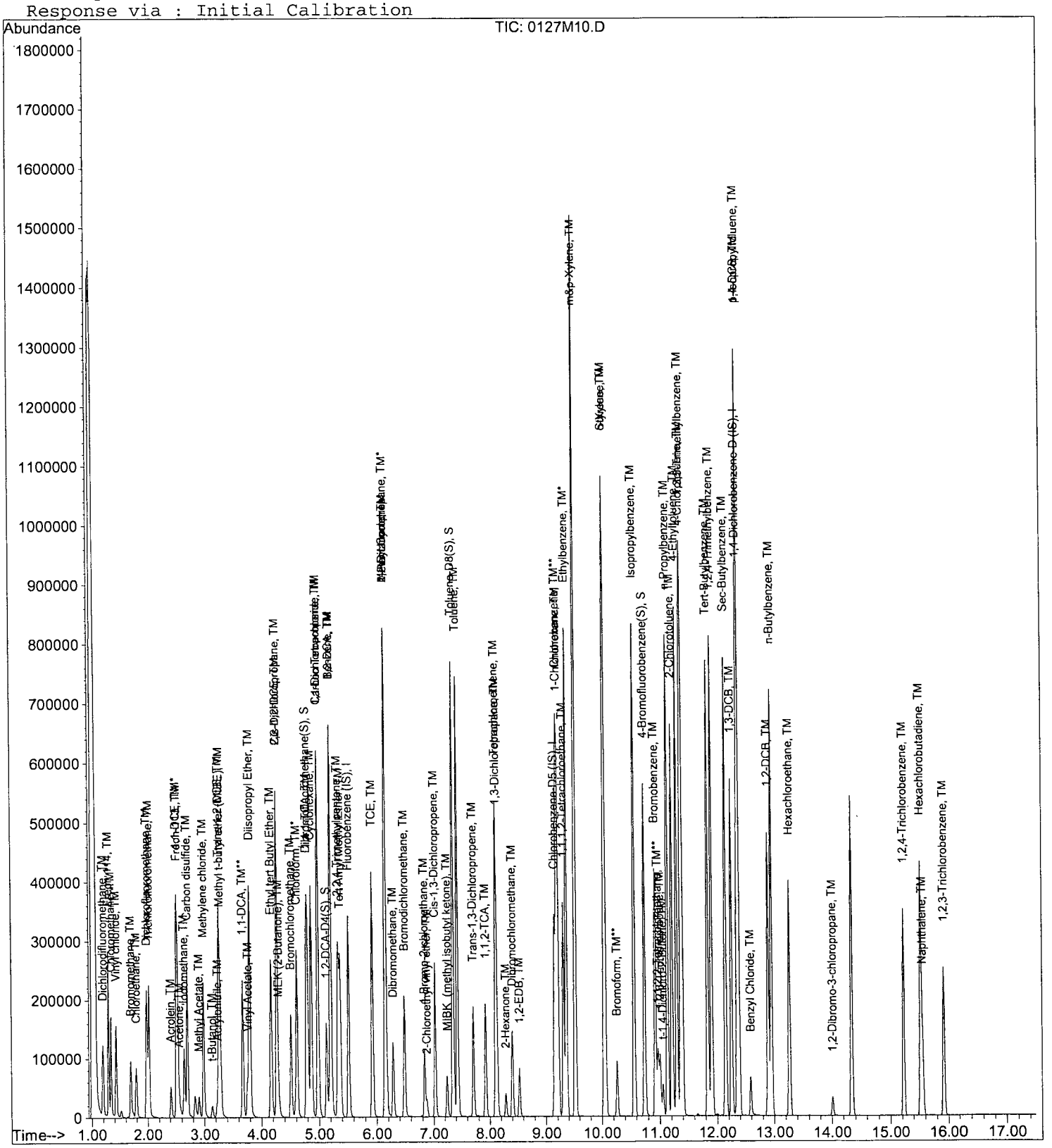
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



379

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D Vial: 11
Acq On : 27 Jan 17 14:42 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 01/27/16H Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:47 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
36) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
56) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	133312	40.80107 ppb	99
3) Freon 114	1.29	85	199509	39.18254 ppb	99
4) Chloromethane	1.34	50	210573	37.00901 ppb	98
5) Vinyl chloride	1.43	62	310207	39.30370 ppb	97
6) Bromomethane	1.69	94	96551	20.89398 ppb	98
7) Chloroethane	1.78	64	167957	38.33157 ppb	99
8) Dichlorofluoromethane	1.98	67	472074	39.41881 ppb	98
9) Trichlorofluoromethane	2.02	101	328623	39.44769 ppb	96
10) Acrolein	2.41	56	49549	175.89182 ppb	99
11) Acetone	2.57	43	28736	41.22164 ppb	100
12) Freon-113	2.53	101	214899	38.97535 ppb	97
13) 1,1-DCE	2.51	61	348870	38.58963 ppb	98
14) t-Butanol	3.14	59	25278	185.30910 ppb	100
15) Methyl Acetate	2.90	43	85015	38.90164 ppb	98
16) Iodomethane	2.64	142	305480	40.25788 ppb	99
17) Acrylonitrile	3.22	53	39186	40.12683 ppb #	86
18) Methylene chloride	2.98	84	223780	40.97010 ppb	97
19) Carbon disulfide	2.70	76	682194	37.91509 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	375369	39.30762 ppb	99
21) Trans-1,2-DCE	3.25	96	255063	39.34620 ppb	98
22) Diisopropyl Ether	3.80	45	719561	39.38891 ppb	99
23) 1,1-DCA	3.67	63	448373	39.10601 ppb	100
24) Vinyl Acetate	3.75	43	158690	43.41650 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	493183	41.25259 ppb	100
26) MEK (2-Butanone)	4.30	43	48188	38.74529 ppb	95
27) Cis-1,2-DCE	4.27	96	275009	38.66992 ppb	99
28) 2,2-Dichloropropane	4.27	77	324237	41.92823 ppb	99
29) Chloroform	4.61	83	430109	38.92988 ppb	96
30) Bromochloromethane	4.51	128	105560	38.66625 ppb	96
32) 1,1,1-TCA	4.80	97	406952	40.00513 ppb	96
33) Cyclohexane	4.86	41	229146	39.34249 ppb	95
34) 1,1-Dichloropropene	4.98	75	358097	39.02226 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	658725	39.67250 ppb	99
37) Carbon Tetrachloride	4.98	117	355267	40.61948 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	415330	41.67015 ppb	92
39) 1,2-DCA	5.21	62	236874	39.47384 ppb	96
40) Benzene	5.20	78	1060118	39.08715 ppb	99
41) TCE	5.92	95	284986	39.00242 ppb	97
42) 2-Pentanone	6.15	43	334177	184.17903 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	1,2-Dichloropropane	6.16	63	238187	38.72847	ppb	99
44)	Bromodichloromethane	6.49	83	283017	39.74092	ppb	94
45)	Methyl Cyclohexane	6.15	83	376632	39.97488	ppb	98
46)	Dibromomethane	6.29	93	89746	39.06405	ppb	94
47)	MIBK (methyl isobutyl ket	7.24	43	101724	41.19361	ppb	98
48)	1-Bromo-2-chloroethane	6.84	63	236435	40.01381	ppb	98
49)	2-Chloroethyl vinyl ether	6.88	106	5417m	41.46331	ppb	0
50)	Cis-1,3-Dichloropropene	7.02	75	330146	42.12453	ppb	99
51)	Toluene	7.43	91	1228380	39.08988	ppb	99
52)	Trans-1,3-Dichloropropene	7.71	75	234193	43.92398	ppb	96
53)	1,1,2-TCA	7.92	83	110877	38.77146	ppb	99
54)	2-Hexanone	8.28	43	63446	42.02222	ppb	94
57)	1,2-EDB	8.53	107	127741	40.30615	ppb	99
58)	Tetrachloroethene	8.10	164	289113	37.11511	ppb	97
59)	1-Chlorohexane	9.21	91	366030	40.45888	ppb	99
60)	1,1,1,2-Tetrachloroethane	9.31	131	257761	39.09488	ppb	98
61)	m&p-Xylene	9.52	106	1106907	77.63336	ppb	100
62)	o-Xylene	10.04	106	518680	38.99569	ppb	99
63)	Styrene	10.06	104	816498	39.90018	ppb	97
65)	1,3-Dichloropropane	8.13	76	242159	38.49613	ppb	96
66)	Dibromochloromethane	8.40	129	190275	39.31403	ppb	100
67)	Chlorobenzene	9.19	112	768461	38.05378	ppb	97
68)	Ethylbenzene	9.36	91	1426753	39.20579	ppb	98
69)	Bromoform	10.27	173	115272	40.11065	ppb	95
71)	Isopropylbenzene	10.56	105	1402869	38.71140	ppb	99
72)	1,1,2,2-Tetrachloroethane	10.97	83	131105	38.29629	ppb	97
73)	1,2,3-Trichloropropane	11.00	110	42294	37.21962	ppb	92
74)	t-1,4-Dichloro-2-Butene	11.05	53	29024	39.78311	ppb	85
75)	Bromobenzene	10.92	156	321269	38.38966	ppb	100
76)	n-Propylbenzene	11.13	91	1571394	39.26996	ppb	100
77)	4-Ethyltoluene	11.30	105	1387171	39.34370	ppb	99
78)	2-Chlorotoluene	11.22	91	907052	37.89280	ppb	96
79)	1,3,5-Trimethylbenzene	11.40	105	1133478	38.55733	ppb	100
80)	4-Chlorotoluene	11.37	91	1036876	38.43533	ppb	98
81)	Tert-Butylbenzene	11.84	119	1007701	38.29750	ppb	98
82)	1,2,4-Trimethylbenzene	11.91	105	1128163	39.33297	ppb	98
83)	Sec-Butylbenzene	12.15	105	1350867	38.52140	ppb	100
84)	p-Isopropyltoluene	12.37	119	1196507	39.06290	ppb	99
85)	Benzyl Chloride	12.59	91	126401	55.91468	ppb	94
86)	1,3-DCB	12.26	146	640664	38.28253	ppb	97
87)	1,4-DCB	12.38	146	611409	37.28249	ppb	98
88)	n-Butylbenzene	12.95	91	979534	40.73034	ppb	98
89)	1,2-DCB	12.90	146	529009	38.63445	ppb	99
90)	Hexachloroethane	13.27	117	184461	45.30973	ppb	99
91)	1,2-Dibromo-3-chloropropan	14.01	75	18907	40.16978	ppb	91
92)	1,2,4-Trichlorobenzene	15.23	180	339884	42.16925	ppb	97
93)	Hexachlorobutadiene	15.52	225	241129	38.37981	ppb	95
94)	Naphthalene	15.56	128	344732	46.17235	ppb	96
95)	1,2,3-Trichlorobenzene	15.92	180	247669	43.37697	ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

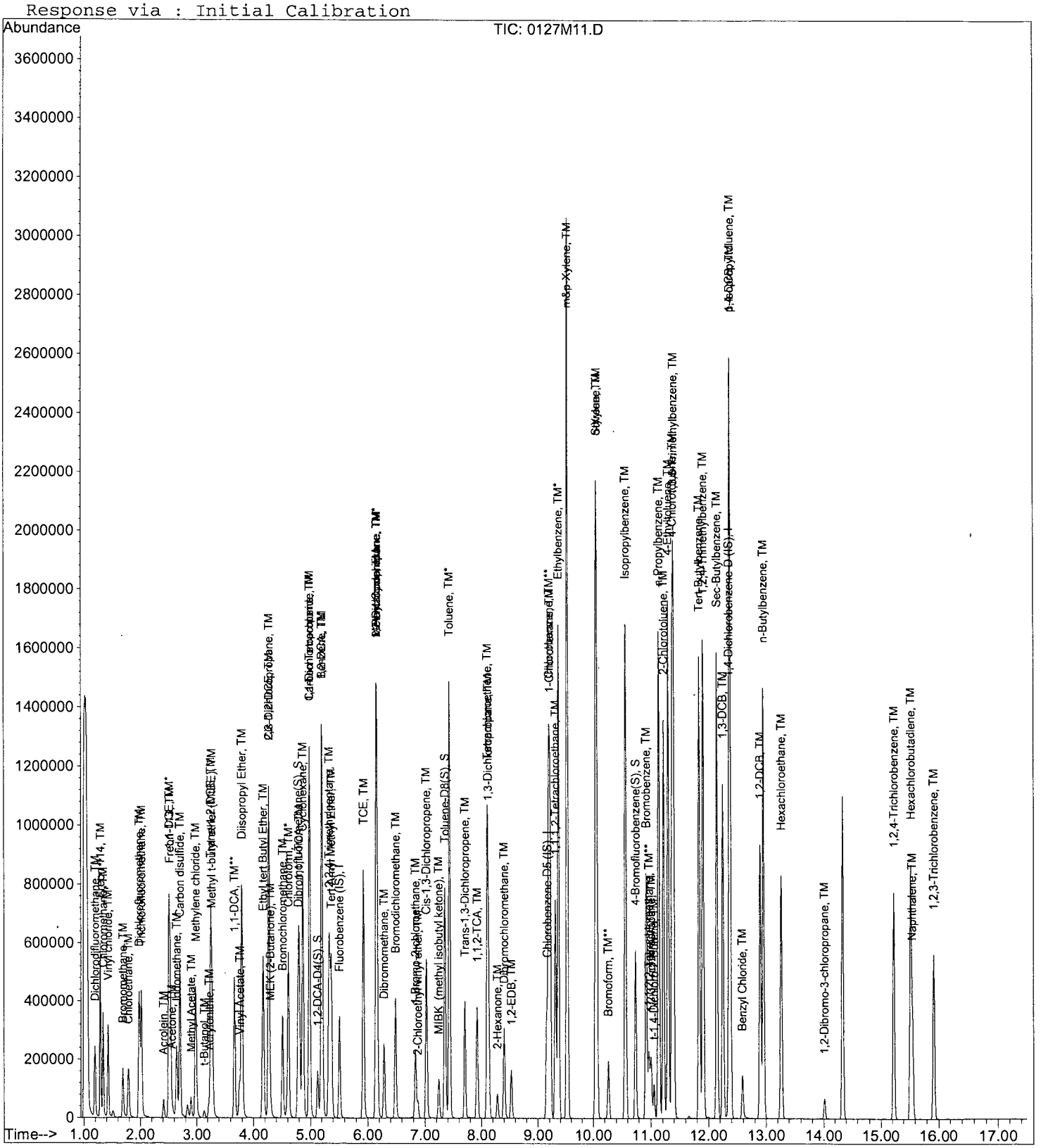
Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
36) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
56) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	343872	102.96990 ppb		100
3) Freon 114	1.29	85	519226	99.76950 ppb		97
4) Chloromethane	1.34	50	556437	95.68240 ppb		98
5) Vinyl chloride	1.43	62	837060	103.76469 ppb		98
6) Bromomethane	1.69	94	232713	49.27154 ppb		98
7) Chloroethane	1.77	64	300669	67.13645 ppb		99
8) Dichlorofluoromethane	1.98	67	1178469	96.27705 ppb		98
9) Trichlorofluoromethane	2.01	101	843283	99.03944 ppb		97
10) Acrolein	2.41	56	55481	192.69315 ppb		93
11) Acetone	2.57	43	69157	99.20986 ppb		96
12) Freon-113	2.53	101	552687	98.07225 ppb		98
13) 1,1-DCE	2.50	61	873386	94.52015 ppb		99
14) t-Butanol	3.15	59	31075	222.88272 ppb		96
15) Methyl Acetate	2.90	43	218014	97.60408 ppb		94
16) Iodomethane	2.64	142	781697	99.94986 ppb		99
17) Acrylonitrile	3.22	53	99130	99.72831 ppb	#	91
18) Methylene chloride	2.98	84	548005	99.60310 ppb		94
19) Carbon disulfide	2.69	76	1717258	93.37938 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	937758	96.07720 ppb		100
21) Trans-1,2-DCE	3.25	96	633975	95.68385 ppb		98
22) Diisopropyl Ether	3.80	45	1770389	94.81701 ppb		99
23) 1,1-DCA	3.67	63	1121521	95.70236 ppb		99
24) Vinyl Acetate	3.75	43	375424	100.49362 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	1228395	100.52924 ppb		100
26) MEK (2-Butanone)	4.30	43	115177	90.60602 ppb	#	87
27) Cis-1,2-DCE	4.27	96	672693	92.54533 ppb		99
28) 2,2-Dichloropropane	4.27	77	855122	108.18905 ppb		97
29) Chloroform	4.61	83	1070594	94.80703 ppb		94
30) Bromochloromethane	4.51	128	264760	94.88473 ppb		98
32) 1,1,1-TCA	4.80	97	1042776	100.29395 ppb		98
33) Cyclohexane	4.87	41	588370	98.83512 ppb		96
34) 1,1-Dichloropropene	4.98	75	895453	95.46975 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	1663299	98.00923 ppb		99
37) Carbon Tetrachloride	4.98	117	909832	101.77755 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	1047571	102.83158 ppb	#	90
39) 1,2-DCA	5.21	62	578988	94.40018 ppb		95
40) Benzene	5.20	78	2607792	94.07279 ppb		100
41) TCE	5.92	95	695754	93.16118 ppb		93
42) 2-Pentanone	6.15	43	419920	226.43388 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	575139	91.49477 ppb		98
44) Bromodichloromethane	6.49	83	709142	97.42487 ppb		93
45) Methyl Cyclohexane	6.15	83	954555	99.12477 ppb		99
46) Dibromomethane	6.29	93	221967	94.52829 ppb		94
47) MIBK (methyl isobutyl ket	7.24	43	246153	99.25534 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	600146	99.37251 ppb		99
49) 2-Chloroethyl vinyl ether	6.87	106	18780	128.53504 ppb	#	100
50) Cis-1,3-Dichloropropene	7.02	75	833650	104.06962 ppb		98
51) Toluene	7.43	91	3062417	95.34702 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	612826	112.45433 ppb		96
53) 1,1,2-TCA	7.92	83	275376	94.21239 ppb		98
54) 2-Hexanone	8.29	43	158688	102.83241 ppb		99
57) 1,2-EDB	8.53	107	323484	96.38165 ppb		98
58) Tetrachloroethene	8.10	164	712157	86.32953 ppb		96
59) 1-Chlorohexane	9.22	91	944682	98.60145 ppb		99
60) 1,1,1,2-Tetrachloroethane	9.31	131	679642	97.33821 ppb		99
61) m&p-Xylene	9.53	106	2734472	181.09699 ppb		98
62) o-Xylene	10.04	106	1303262	92.52293 ppb		98
63) Styrene	10.07	104	2057630	94.94836 ppb		96
65) 1,3-Dichloropropane	8.13	76	593413	89.07874 ppb		98
66) Dibromochloromethane	8.40	129	474989	92.67228 ppb		99
67) Chlorobenzene	9.19	112	1908155	89.22573 ppb		99
68) Ethylbenzene	9.36	91	3615105	93.80431 ppb		100
69) Bromoform	10.27	173	297921	97.88982 ppb		94
71) Isopropylbenzene	10.56	105	3535619	92.80069 ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	332138	92.28265 ppb		98
73) 1,2,3-Trichloropropane	11.00	110	108434	90.76589 ppb		96
74) t-1,4-Dichloro-2-Butene	11.06	53	82901	107.73234 ppb	#	78
75) Bromobenzene	10.92	156	836667	95.09597 ppb		100
76) n-Propylbenzene	11.14	91	4036079	95.93984 ppb		99
77) 4-Ethyltoluene	11.30	105	3559289	96.02237 ppb		99
78) 2-Chlorotoluene	11.22	91	2302880	91.50816 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	2872021	92.92775 ppb		100
80) 4-Chlorotoluene	11.37	91	2622800	92.47685 ppb		97
81) Tert-Butylbenzene	11.84	119	2549618	92.16751 ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	2875638	95.36371 ppb		95
83) Sec-Butylbenzene	12.16	105	3466671	94.02992 ppb		98
84) p-Isopropyltoluene	12.38	119	3049296	94.69191 ppb		99
85) Benzyl Chloride	12.59	91	408642	171.94214 ppb		94
86) 1,3-DCB	12.26	146	1620967	92.13157 ppb		97
87) 1,4-DCB	12.39	146	1524655	88.43184 ppb		98
88) n-Butylbenzene	12.96	91	2516599	99.53516 ppb		98
89) 1,2-DCB	12.90	146	1348819	93.69780 ppb		98
90) Hexachloroethane	13.27	117	487718	113.95140 ppb		98
91) 1,2-Dibromo-3-chloropropan	14.01	75	52405	105.90429 ppb		94
92) 1,2,4-Trichlorobenzene	15.23	180	911146	106.79232 ppb		99
93) Hexachlorobutadiene	15.53	225	621815	94.14096 ppb		96
94) Naphthalene	15.56	128	912952	114.60440 ppb		97
95) 1,2,3-Trichlorobenzene	15.92	180	628361	103.50823 ppb		97

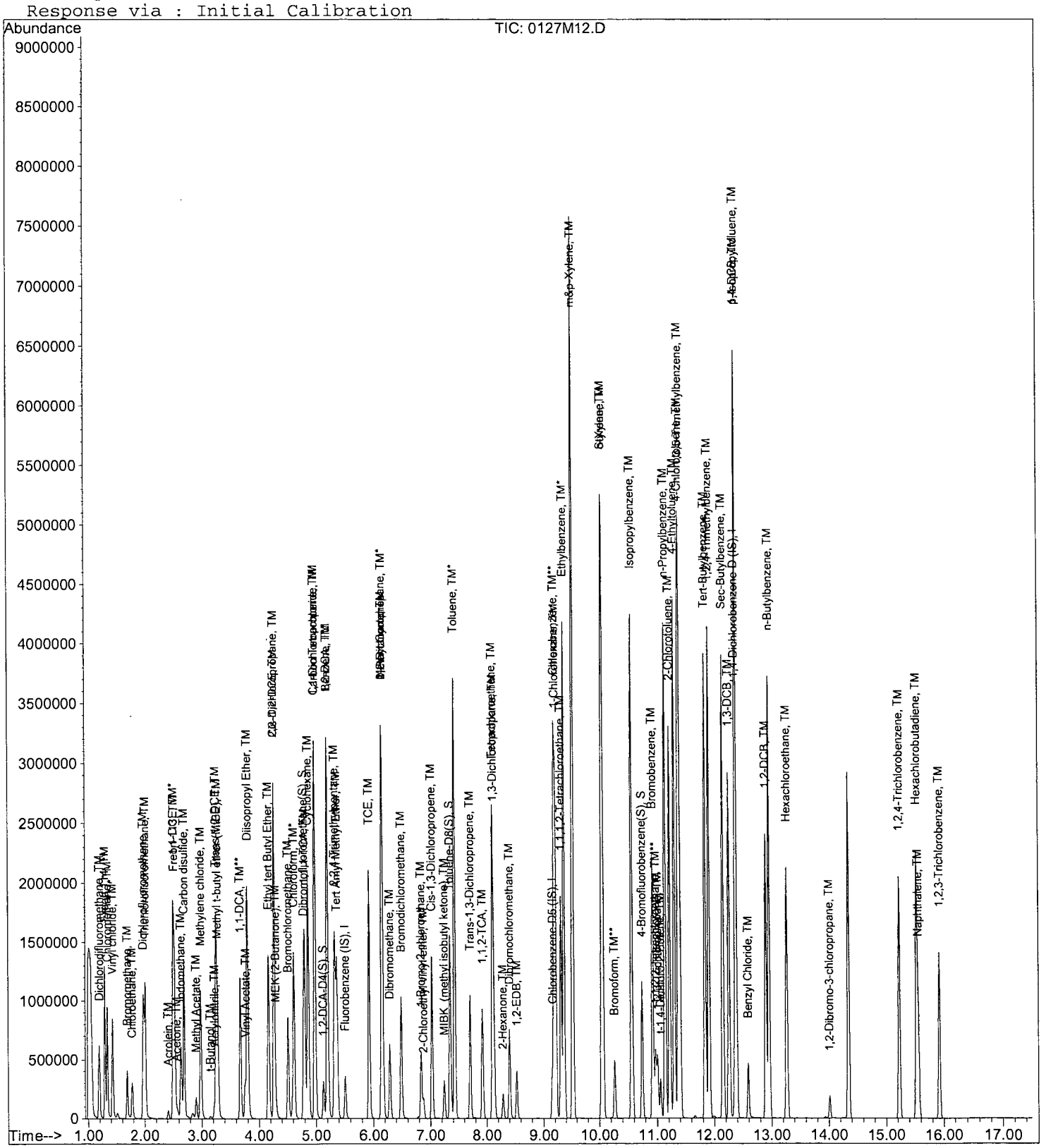
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M12.D Vial: 12
Acq On : 27 Jan 17 15:10 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 01/27/16I Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



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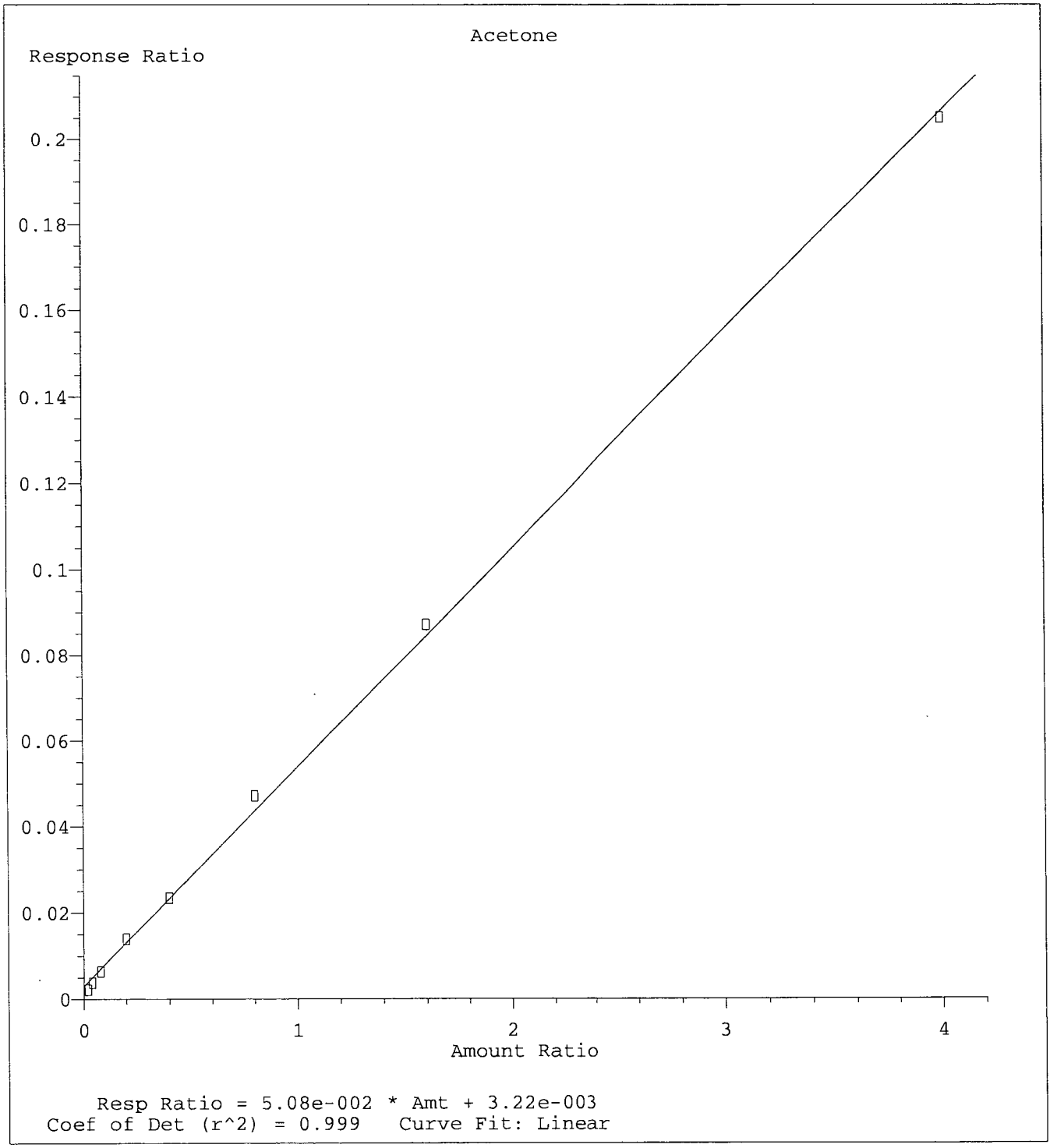
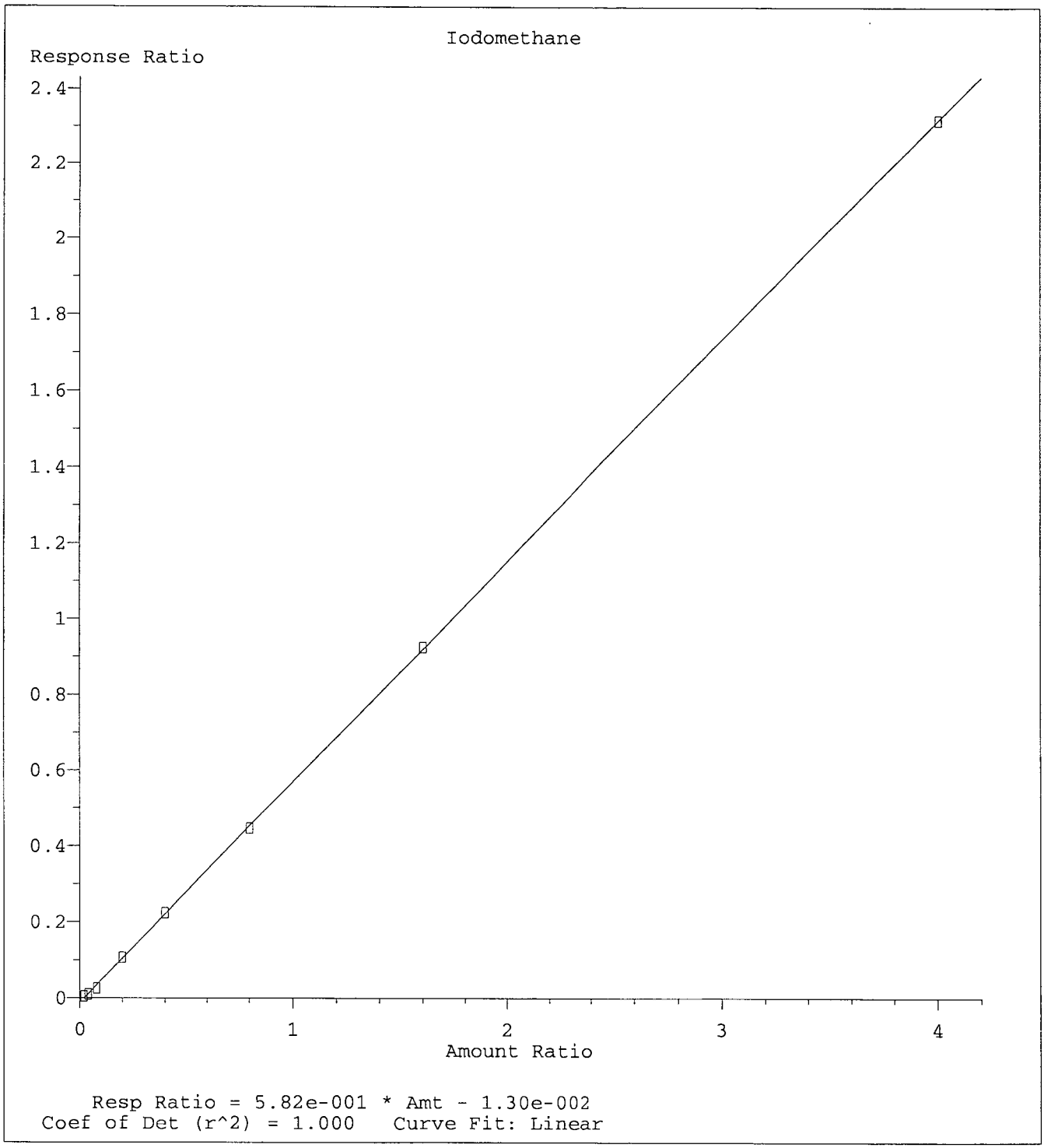
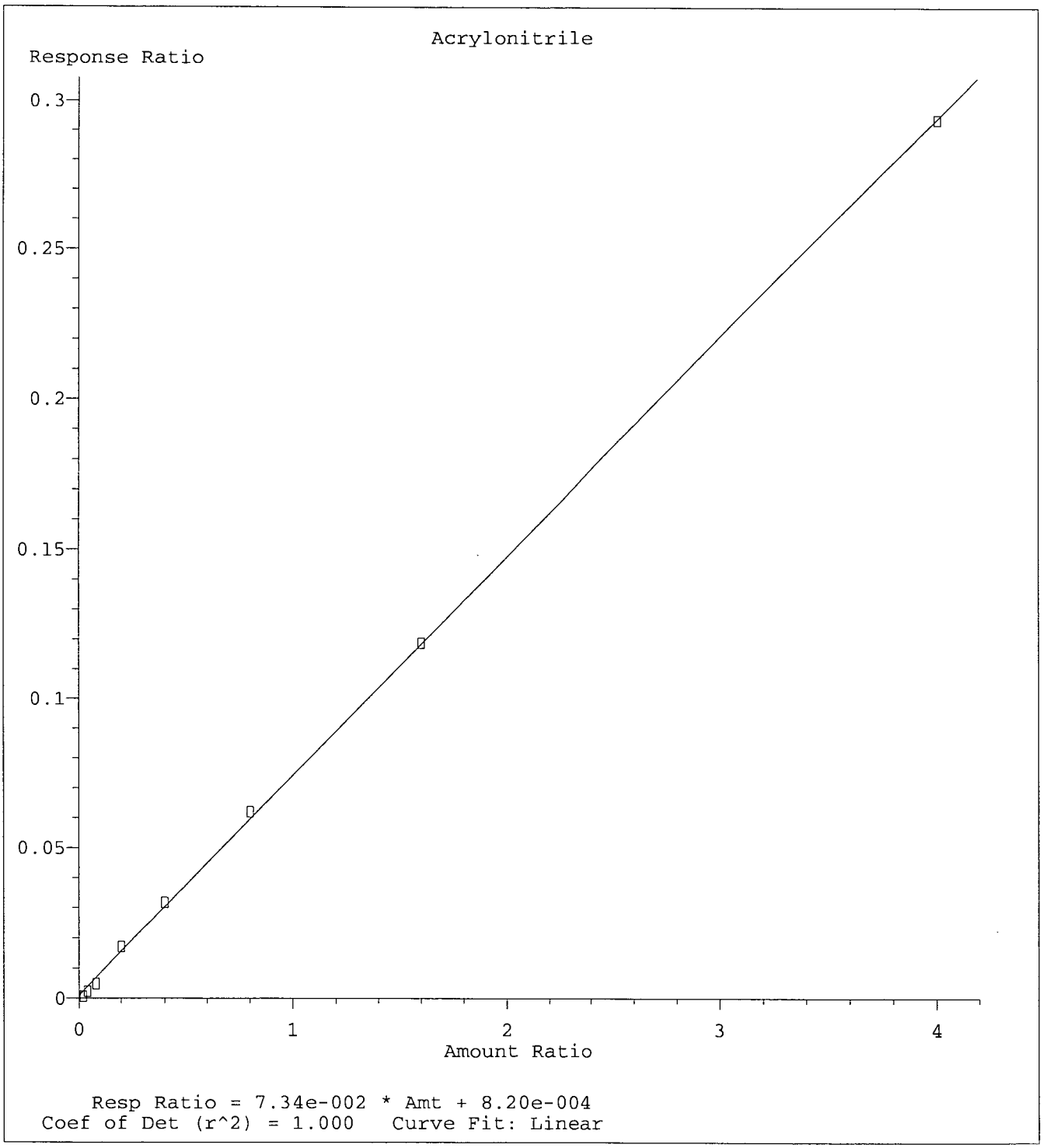


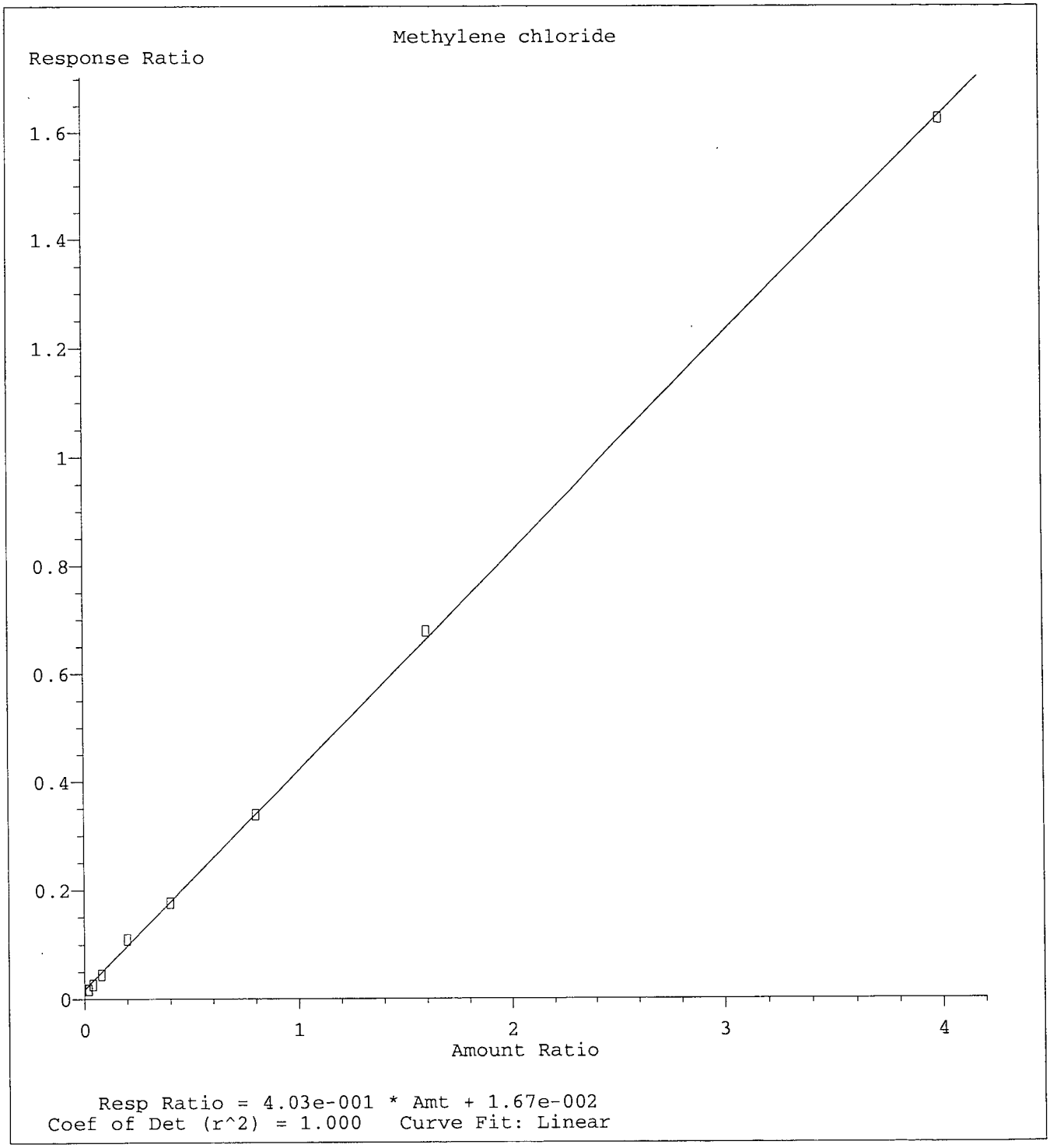
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



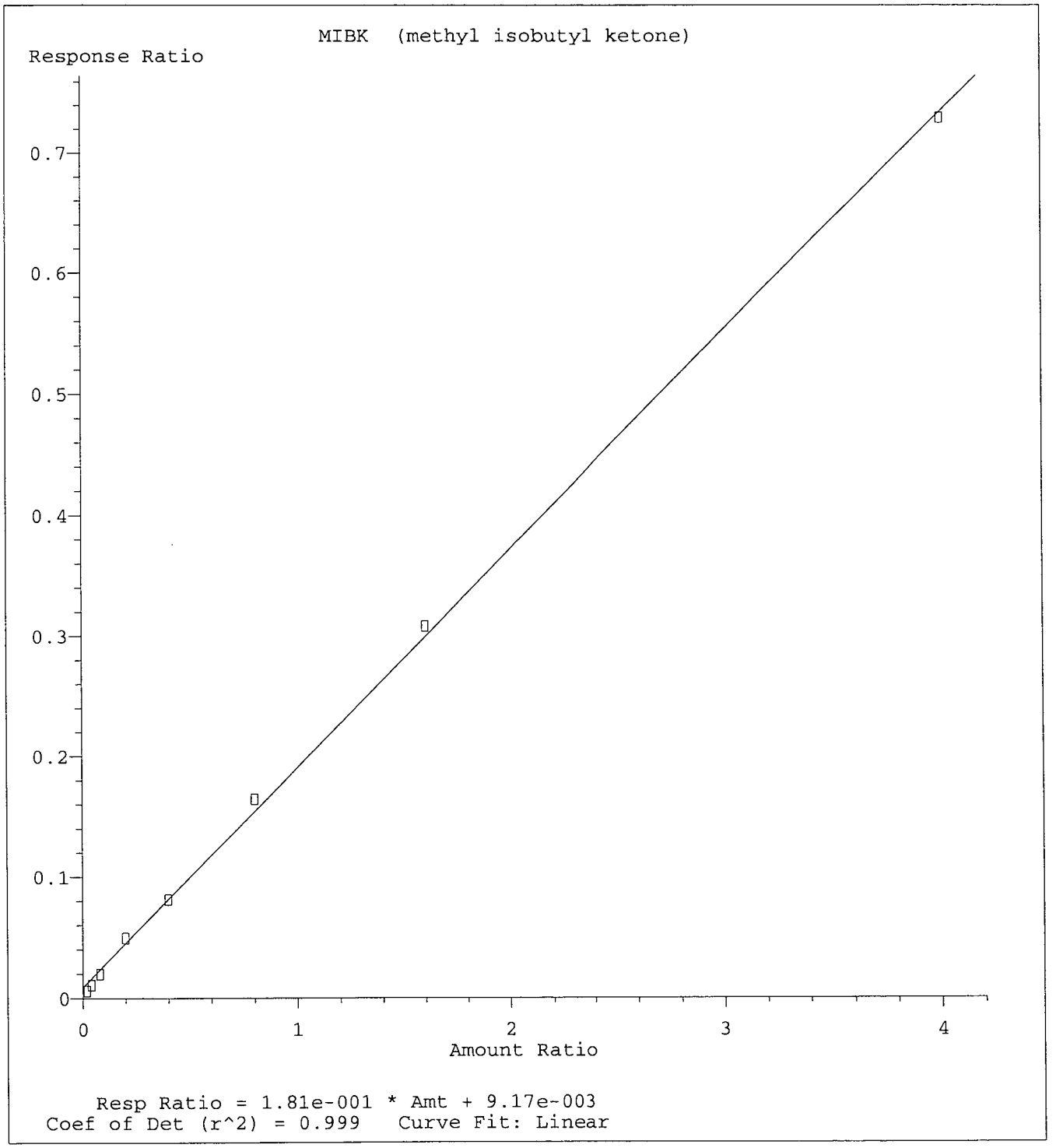
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



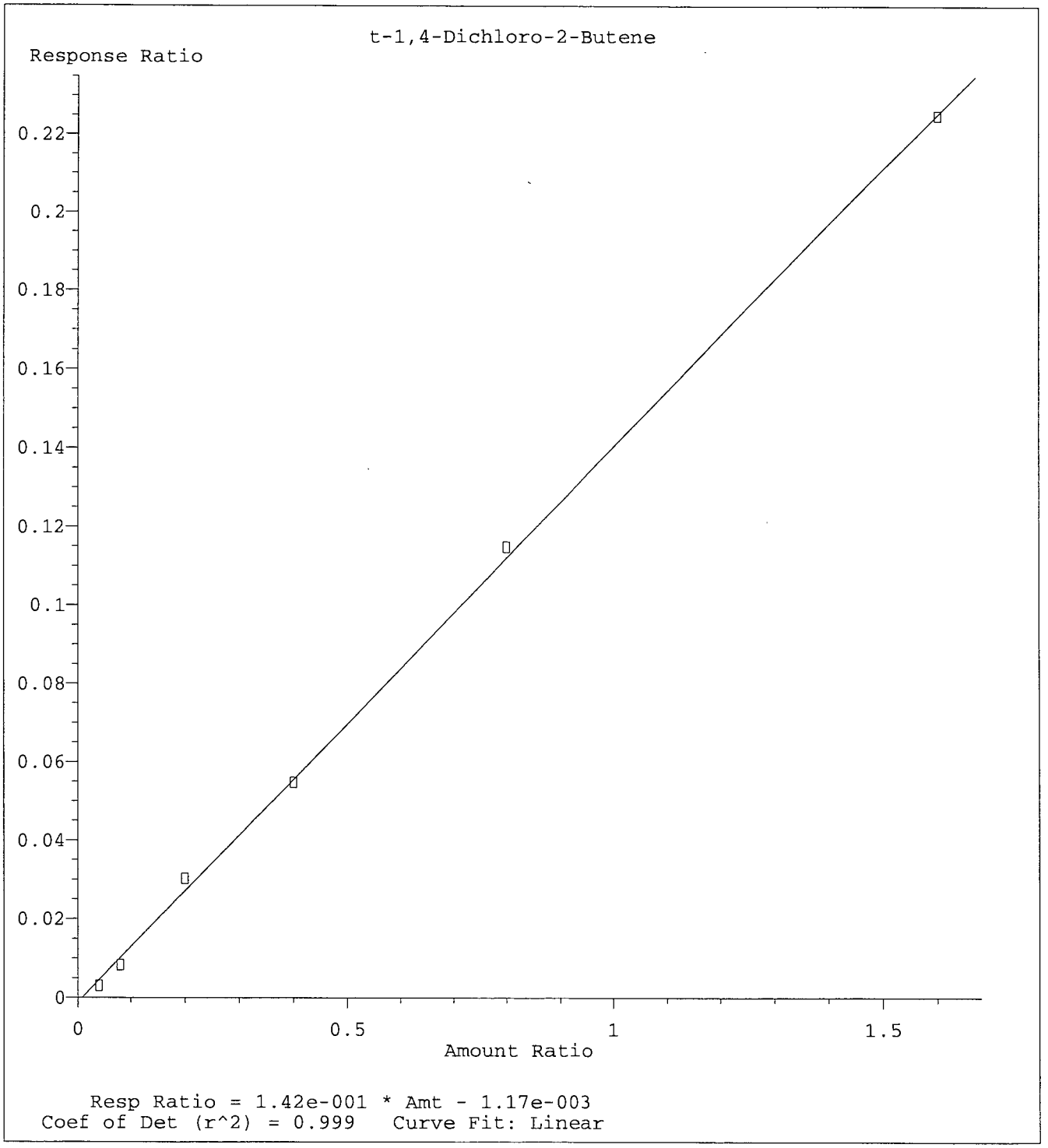
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



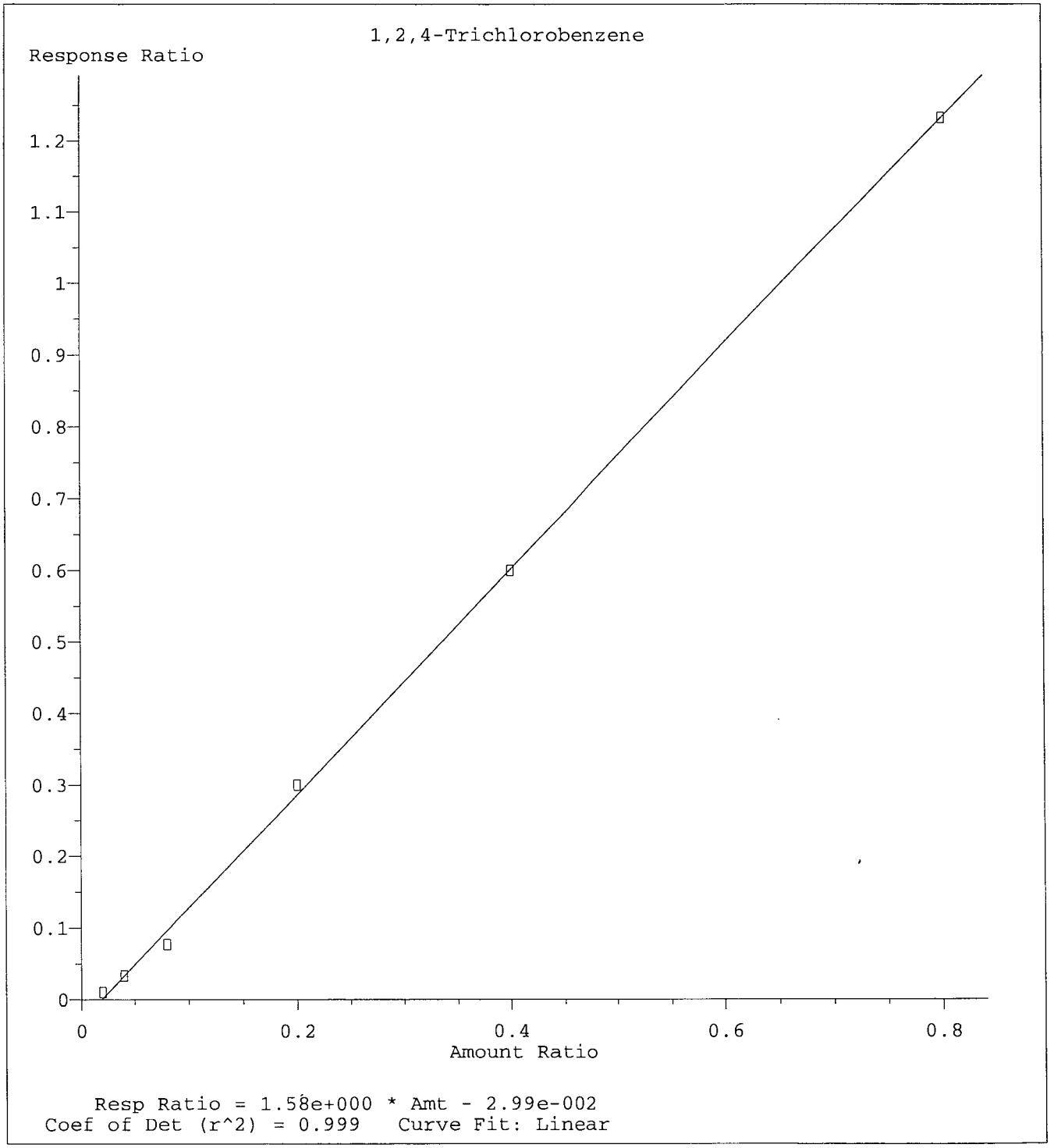
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



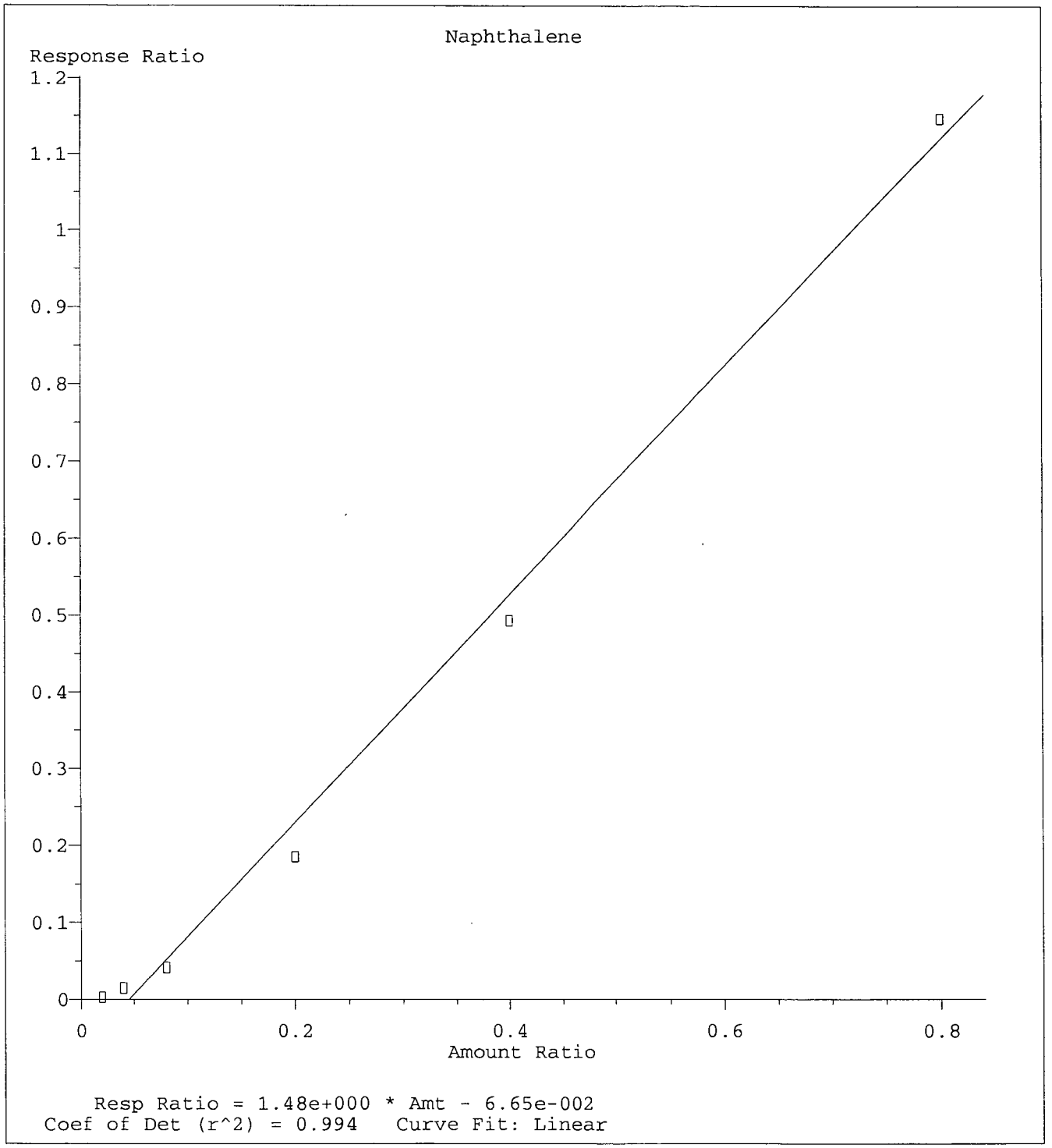
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



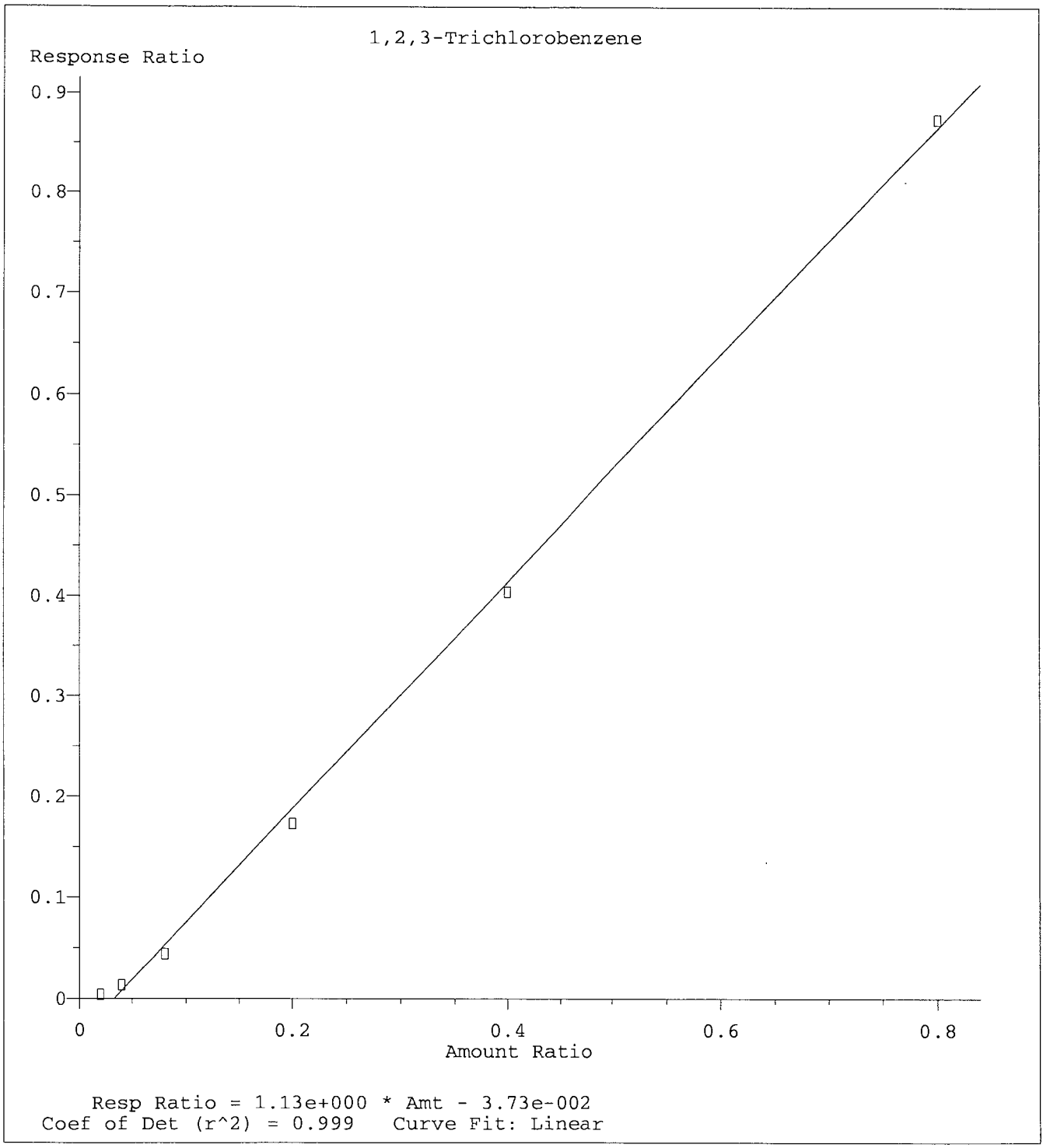
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Dichlorodifluoromethane	0.2473	0.2429	1.8	TM	
2	TM	Freon 114	0.3854	0.3684	4.4	TM	
3	TM**	Chloromethane	0.4307	0.3945	8.4	TM**	
4	TM*	Vinyl chloride	0.5975	0.5851	2.1	TM*	
5	TM	Bromomethane	0.3498	0.3057	13	TM	
6	TM	Chloroethane	0.3317	0.3201	3.5	TM	
7	TM	Dichlorofluoromethane	0.9066	0.8969	1.1	TM	
8	TM	Trichlorofluoromethane	0.6306	0.6213	1.5	TM	
9	TM	Acrolein	0.0213	0.0202	5.4	TM	
10	TML	Acetone	0.0718	0.0610	15	TML	4.3
11	TM	Freon-113	0.4174	0.4133	0.98	TM	
12	TM*	1,1-DCE	0.6844	0.6673	2.5	TM*	
13	TM	t-Butanol	0.0103	0.0103	0.14	TM	
14	TM	Methyl Acetate	0.1654	0.1703	3.0	TM	
15	TML	Iodomethane	0.4508	0.3541	21	TML	34 nt
16	TML	Acrylonitrile	0.0675	0.0740	9.7	TML	1.9
17	TML	Methylene chloride	0.5358	0.4445	17	TML	0.12
18	TM	Carbon disulfide	1.362	1.327	2.5	TM	
19	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7178	0.71	TM	
20	TM	Trans-1,2-DCE	0.4907	0.4848	1.2	TM	
21	TM	Diisopropyl Ether	1.383	1.366	1.2	TM	
22	TM**	1,1-DCA	0.8679	0.8523	1.8	TM**	
23	TM	Vinyl Acetate	0.2767	0.2522	8.8	TM	
24	TM	Ethyl tert Butyl Ether	0.9050	0.8972	0.87	TM	
25	TM	MEK (2-Butanone)	0.0941	0.0881	6.5	TM	
26	TM	Cis-1,2-DCE	0.5384	0.5253	2.4	TM	
27	TM	2,2-Dichloropropane	0.5854	0.5590	4.5	TM	
28	TM*	Chloroform	0.8364	0.8335	0.34	TM*	
29	TM	Bromochloromethane	0.2067	0.2018	2.4	TM	
30	TM	1,1,1-TCA	0.7701	0.7756	0.73	TM	
31	TM	Cyclohexane	0.4409	0.4403	0.14	TM	
32	TM	1,1-Dichloropropene	0.6947	0.6930	0.25	TM	
33	TM	2,2,4-Trimethylpentane	1.257	1.168	7.1	TM	
34	TM	Carbon Tetrachloride	0.6621	0.6617	0.06	TM	
35	TM	Tert Amyl Methyl Ether	0.7545	0.7481	0.84	TM	
36	TM	1,2-DCA	0.4543	0.4527	0.33	TM	
37	TM	Benzene	2.053	2.042	0.52	TM	
38	TM	TCE	0.5531	0.5502	0.53	TM	
39	TM	2-Pentanone	0.1374	0.1351	1.7	TM	
40	TM*	1,2-Dichloropropane	0.4656	0.4605	1.1	TM*	
		Average			3.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Bromodichloromethane	0.5391	0.5268	2.3	TM	
42	TM	Methyl Cyclohexane	0.7132	0.7045	1.2	TM	
43	TM	Dibromomethane	0.1739	0.1719	1.2	TM	
44	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2071	10	TML	1.6
45	TM	1-Bromo-2-chloroethane	0.4473	0.4444	0.64	TM	
46	TM	2-Chloroethyl vinyl ether	0.0092	0.0107	16	TM	
47	TM	Cis-1,3-Dichloropropene	0.5933	0.5855	1.3	TM	
48	TM*	Toluene	2.379	2.342	1.5	TM*	
49	TM	Trans-1,3-Dichloropropene	0.4036	0.4074	0.95	TM	
50	TM	1,1,2-TCA	0.2165	0.2138	1.3	TM	
51	TM	2-Hexanone	0.1143	0.1106	3.2	TM	
52	TM	1,2-EDB	0.3267	0.3257	0.30	TM	
53	TM	Tetrachloroethene	0.8031	0.7968	0.78	TM	
54	TM	1-Chlorohexane	0.9327	0.9382	0.59	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6728	1.0	TM	
56	TM	m&p-Xylene	1.470	1.484	0.94	TM	
57	TM	o-Xylene	1.371	1.429	4.2	TM	
58	TM	Styrene	2.110	2.174	3.0	TM	
59	TM	1,3-Dichloropropane	0.6485	0.6441	0.68	TM	
60	TM	Dibromochloromethane	0.4990	0.5018	0.57	TM	
61	TM**	Chlorobenzene	2.082	2.043	1.9	TM**	
62	TM*	Ethylbenzene	3.752	3.761	0.25	TM*	
63	TM**	Bromoform	0.2963	0.3019	1.9	TM**	
64	TM	Isopropylbenzene	7.015	6.921	1.3	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6369	3.9	TM**	
66	TM	1,2,3-Trichloropropane	0.2200	0.2262	2.8	TM	
67	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1247	0.59	TML	10
68	TM	Bromobenzene	1.620	1.591	1.8	TM	
69	TM	n-Propylbenzene	7.746	7.764	0.23	TM	
70	TM	4-Ethyltoluene	6.825	6.855	0.43	TM	
71	TM	2-Chlorotoluene	4.634	4.589	0.96	TM	
72	TM	1,3,5-Trimethylbenzene	5.691	5.657	0.59	TM	
73	TM	4-Chlorotoluene	5.222	5.134	1.7	TM	
74	TM	Tert-Butylbenzene	5.094	5.008	1.7	TM	
75	TM	1,2,4-Trimethylbenzene	5.552	5.573	0.38	TM	
76	TM	Sec-Butylbenzene	6.789	6.675	1.7	TM	
77	TM	p-Isopropyltoluene	5.929	5.993	1.1	TM	
78	TM	Benzyl Chloride	0.4376	0.4170	4.7	TM	
79	TM	1,3-DCB	3.240	3.138	3.1	TM	
80	TM	1,4-DCB	3.175	3.002	5.4	TM	
		Average			2.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	4.656	4.706	1.1	TM	
82	TM	1,2-DCB	2.651	2.608	1.6	TM	
83	TM	Hexachloroethane	0.7881	0.7961	1.0	TM	
84	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0914	0.35	TM	
85	TML	1,2,4-Trichlorobenzene	1.139	1.392	22	TML	7.0
86	TM	Hexachlorobutadiene	1.216	1.197	1.6	TM	
87	TML	Naphthalene	0.7727	1.076	39	TML	16
88	TML	1,2,3-Trichlorobenzene	0.6764	0.9023	33	TML	12
89							
90							
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116							
117							
118							
119							
120							
		Average			12.5		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D Vial: 16
Acq On : 27 Jan 17 17:03 Operator: PM,DG,SV,CMM
Sample : (SS) 10ug/L VOC STD 01/27/16 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313129	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	223395	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	119323	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	70380	26.20738 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.828%	
36) 1,2-DCA-D4(S)	5.13	65	56191	26.40589 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.624%	
56) Toluene-D8(S)	7.35	98	285707	26.43686 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
64) 4-Bromofluorobenzene(S)	10.74	95	100338	25.79669 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.188%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30424	9.82069 ppb		99
3) Freon 114	1.29	85	46141	9.55742 ppb		98
4) Chloromethane	1.34	50	49408	9.15853 ppb		98
5) Vinyl chloride	1.43	62	73290	9.79377 ppb		99
6) Bromomethane	1.69	94	38284	8.73786 ppb		96
7) Chloroethane	1.79	64	40089	9.64955 ppb		96
8) Dichlorofluoromethane	1.98	67	112342	9.89371 ppb		98
9) Trichlorofluoromethane	2.03	101	77814	9.85156 ppb		94
10) Acrolein	2.41	56	31571	118.20139 ppb		97
11) Acetone	2.57	43	7645	10.42542 ppb		99
12) Freon-113	2.53	101	51764	9.90164 ppb		97
13) 1,1-DCE	2.51	61	83577	9.75028 ppb		99
14) t-Butanol	3.14	59	16144	124.82129 ppb		90
15) Methyl Acetate	2.90	43	21333	10.29551 ppb		98
16) Iodomethane	2.64	142	44348	6.63728 ppb		96
17) Acrylonitrile	3.22	53	9274	9.80638 ppb	#	88
18) Methylene chloride	2.98	84	55671	9.98804 ppb		92
19) Carbon disulfide	2.70	76	166265	9.74605 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	89901	9.92902 ppb		98
21) Trans-1,2-DCE	3.25	96	60718	9.87862 ppb		98
22) Diisopropyl Ether	3.80	45	171145	9.88084 ppb		99
23) 1,1-DCA	3.67	63	106753	9.81991 ppb		99
24) Vinyl Acetate	3.76	43	31590	9.11546 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	112371	9.91336 ppb		99
26) MEK (2-Butanone)	4.31	43	11030	9.35361 ppb		94
27) Cis-1,2-DCE	4.27	96	65791	9.75700 ppb		94
28) 2,2-Dichloropropane	4.27	77	70019	9.54956 ppb		98
29) Chloroform	4.61	83	104403	9.96646 ppb		97
30) Bromochloromethane	4.51	128	25270	9.76251 ppb		94
32) 1,1,1-TCA	4.80	97	97151	10.07264 ppb		98
33) Cyclohexane	4.87	41	55149	9.98644 ppb		98
34) 1,1-Dichloropropene	4.98	75	86794	9.97528 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	146264	9.29066 ppb		99
37) Carbon Tetrachloride	4.98	117	82878	9.99407 ppb		95
38) Tert Amyl Methyl Ether	5.37	73	93706	9.91568 ppb		94
39) 1,2-DCA	5.21	62	56707	9.96672 ppb		96
40) Benzene	5.20	78	255824	9.94820 ppb		98
41) TCE	5.92	95	68914	9.94716 ppb		97
42) 2-Pentanone	6.15	43	211483	122.93132 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	57677	9.89096	ppb		97
44)	Bromodichloromethane	6.49	83	65983	9.77194	ppb		96
45)	Methyl Cyclohexane	6.15	83	88237	9.87744	ppb		97
46)	Dibromomethane	6.29	93	21526	9.88209	ppb		97
47)	MIBK (methyl isobutyl ket	7.24	43	25941	10.15523	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	55668	9.93636	ppb		96
49)	2-Chloroethyl vinyl ether	6.87	106	1343m	11.62678	ppb		0
50)	Cis-1,3-Dichloropropene	7.02	75	73335	9.86879	ppb		100
51)	Toluene	7.43	91	293390	9.84692	ppb		100
52)	Trans-1,3-Dichloropropene	7.70	75	51032	10.09471	ppb		94
53)	1,1,2-TCA	7.92	83	26775	9.87469	ppb		99
54)	2-Hexanone	8.28	43	13856	9.67912	ppb		99
57)	1,2-EDB	8.53	107	29108	9.96951	ppb		88
58)	Tetrachloroethene	8.10	164	71201	9.92178	ppb		97
59)	1-Chlorohexane	9.21	91	83836	10.05884	ppb		96
60)	1,1,1,2-Tetrachloroethane	9.31	131	60123	9.89837	ppb		97
61)	m&p-Xylene	9.52	106	265176	20.18793	ppb		100
62)	o-Xylene	10.04	106	127658	10.41803	ppb		94
63)	Styrene	10.06	104	194229	10.30277	ppb		96
65)	1,3-Dichloropropane	8.13	76	57555	9.93162	ppb		96
66)	Dibromochloromethane	8.40	129	44841	10.05684	ppb		97
67)	Chlorobenzene	9.19	112	182591	9.81467	ppb		98
68)	Ethylbenzene	9.36	91	336090	10.02484	ppb		99
69)	Bromoform	10.27	173	26981	10.19094	ppb		99
71)	Isopropylbenzene	10.56	105	330344	9.86593	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	30398	9.61020	ppb		99
73)	1,2,3-Trichloropropane	11.00	110	10798	10.28458	ppb		99
74)	t-1,4-Dichloro-2-Butene	11.05	53	5950	8.98672	ppb	#	71
75)	Bromobenzene	10.92	156	75956	9.82330	ppb		97
76)	n-Propylbenzene	11.13	91	370554	10.02252	ppb		98
77)	4-Ethyltoluene	11.30	105	327171	10.04315	ppb		100
78)	2-Chlorotoluene	11.21	91	219043	9.90385	ppb		98
79)	1,3,5-Trimethylbenzene	11.39	105	270007	9.94074	ppb		99
80)	4-Chlorotoluene	11.37	91	245033	9.83056	ppb		99
81)	Tert-Butylbenzene	11.84	119	239012	9.83124	ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	266015	10.03786	ppb		99
83)	Sec-Butylbenzene	12.15	105	318604	9.83311	ppb		99
84)	p-Isopropyltoluene	12.37	119	286035	10.10691	ppb		98
85)	Benzyl Chloride	12.59	91	19903	9.52893	ppb		94
86)	1,3-DCB	12.26	146	149796	9.68770	ppb		98
87)	1,4-DCB	12.38	146	143291	9.45675	ppb		100
88)	n-Butylbenzene	12.95	91	224620	10.10874	ppb		98
89)	1,2-DCB	12.90	146	124460	9.83765	ppb		98
90)	Hexachloroethane	13.27	117	37998	10.10177	ppb		98
91)	1,2-Dibromo-3-chloropropan	14.02	75	4364	10.03487	ppb	#	78
92)	1,2,4-Trichlorobenzene	15.23	180	66438	9.29506	ppb		96
93)	Hexachlorobutadiene	15.53	225	57145	9.84423	ppb		96
94)	Naphthalene	15.56	128	51355	8.38557	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	43065	8.83592	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

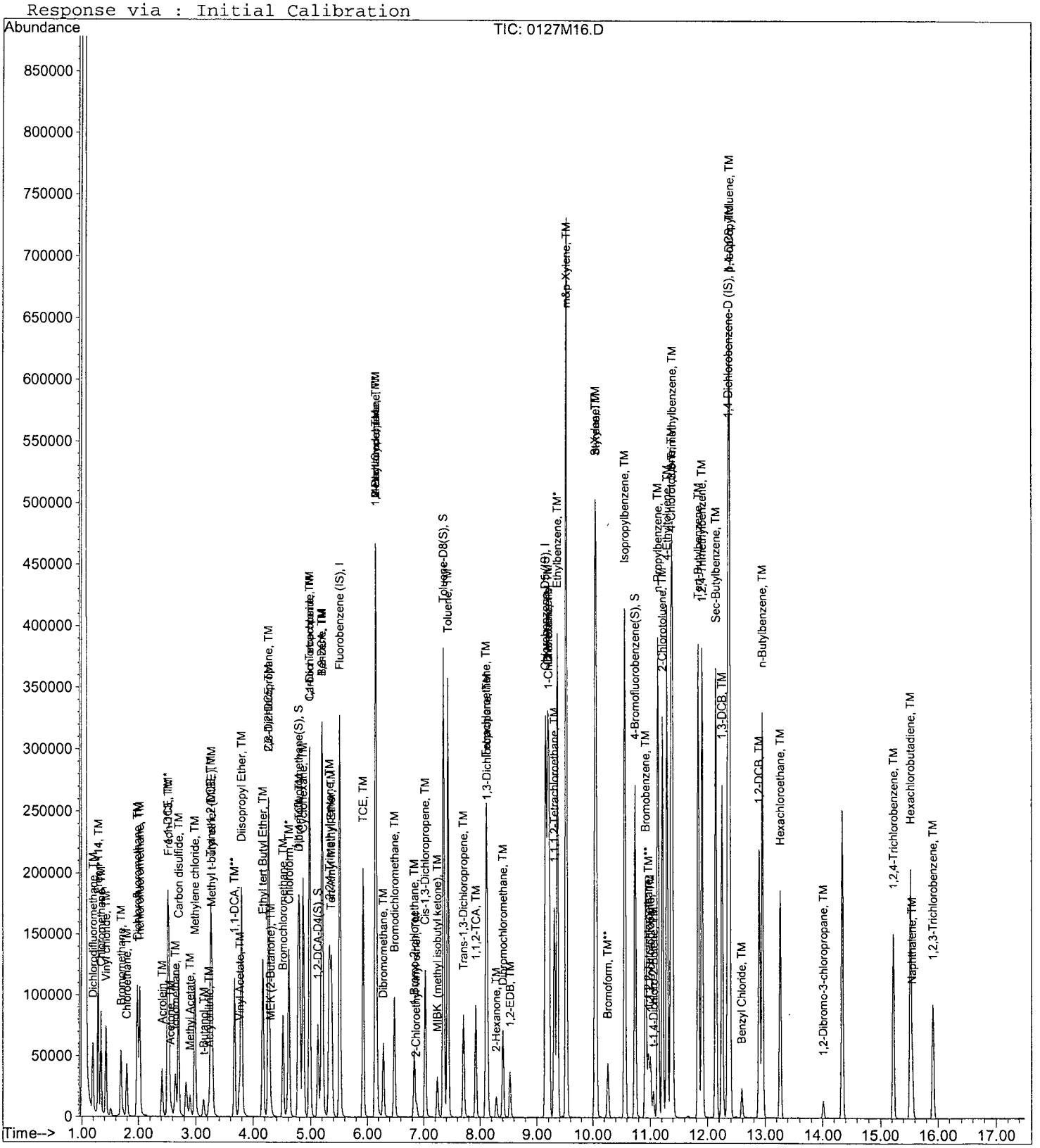
Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



400

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M31.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2473	0.3086	25	TM		nt
3	TM	Freon 114	0.3854	0.3673	4.7	TM		
4	TM**	Chloromethane	0.4307	0.4493	4.3	TM**		
5	TM*	Vinyl chloride	0.5975	0.6194	3.7	TM*		
6	TM	Bromomethane	0.3498	0.2998	14	TM		
7	TM	Chloroethane	0.3317	0.3428	3.3	TM		
8	TM	Dichlorofluoromethane	0.9066	0.8950	1.3	TM		
9	TM	Trichlorofluoromethane	0.6306	0.6824	8.2	TM		
10	TM	Acrolein	0.0213	0.0171	20	TM		
11	TML	Acetone	0.0718	0.0557	22	TML	6.2	
12	TM	Freon-113	0.4174	0.4292	2.8	TM		
13	TM*	1,1-DCE	0.6844	0.6980	2.0	TM*		
14	TM	t-Butanol	0.0103	0.0091	12	TM		
15	TM	Methyl Acetate	0.1654	0.1497	9.5	TM		
16	TML	Iodomethane	0.4508	0.5052	12	TML	7.7	
17	TML	Acrylonitrile	0.0675	0.0671	0.60	TML	11	
18	TML	Methylene chloride	0.5358	0.4238	21	TML	5.3	
19	TM	Carbon disulfide	1.362	1.288	5.5	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.6619	8.4	TM		
21	TM	Trans-1,2-DCE	0.4907	0.5111	4.1	TM		
22	TM	Diisopropyl Ether	1.383	1.279	7.5	TM		
23	TM**	1,1-DCA	0.8679	0.8733	0.62	TM**		
24	TM	Vinyl Acetate	0.2767	0.1750	37	TM		nt
25	TM	Ethyl tert Butyl Ether	0.9050	0.8708	3.8	TM		
26	TM	MEK (2-Butanone)	0.0941	0.0657	30	TM		nt
27	TM	Cis-1,2-DCE	0.5384	0.5405	0.40	TM		
28	TM	2,2-Dichloropropane	0.5854	0.5345	8.7	TM		
29	TM*	Chloroform	0.8364	0.8498	1.6	TM*		
30	TM	Bromochloromethane	0.2067	0.1999	3.3	TM		
31	S	Dibromofluoromethane(S)	0.2144	0.2153	0.42	S		
32	TM	1,1,1-TCA	0.7701	0.8051	4.6	TM		
33	TM	Cyclohexane	0.4409	0.4554	3.3	TM		
34	TM	1,1-Dichloropropene	0.6947	0.7287	4.9	TM		
35	TM	2,2,4-Trimethylpentane	1.257	1.171	6.9	TM		
36	S	1,2-DCA-D4(S)	0.1699	0.1762	3.7	S		
37	TM	Carbon Tetrachloride	0.6621	0.6889	4.0	TM		
38	TM	Tert Amyl Methyl Ether	0.7545	0.7206	4.5	TM		
39	TM	1,2-DCA	0.4543	0.4604	1.3	TM		
40	TM	Benzene	2.053	2.114	3.0	TM		
		Average			8.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M31.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	TCE	0.5531	0.5793	4.7	TM		
42	TM	2-Pentanone	0.1374	0.1236	10	TM		
43	TM*	1,2-Dichloropropane	0.4656	0.4565	2.0	TM*		
44	TM	Bromodichloromethane	0.5391	0.5586	3.6	TM		
45	TM	Methyl Cyclohexane	0.7132	0.7194	0.87	TM		
46	TM	Dibromomethane	0.1739	0.1721	1.0	TM		
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1772	23	TML	15	
48	TM	1-Bromo-2-chloroethane	0.4473	0.4116	8.0	TM		
49	TM	Cis-1,3-Dichloropropene	0.5933	0.5598	5.6	TM		
50	TM*	Toluene	2.379	2.417	1.6	TM*		
51	TM	Trans-1,3-Dichloropropene	0.4036	0.3766	6.7	TM		
52	TM	1,1,2-TCA	0.2165	0.2105	2.8	TM		
53	TM	2-Hexanone	0.1143	0.0886	22	TM		nt
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	1.209	1.244	2.9	S		
56	TM	1,2-EDB	0.3267	0.3356	2.7	TM		
57	TM	Tetrachloroethene	0.8031	0.8550	6.5	TM		
58	TM	1-Chlorohexane	0.9327	0.9559	2.5	TM		
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6955	2.3	TM		
60	TM	m&p-Xylene	1.470	1.530	4.1	TM		
61	TM	o-Xylene	1.371	1.436	4.7	TM		
62	TM	Styrene	2.110	2.190	3.8	TM		
63	S	4-Bromofluorobenzene(S)	0.4353	0.4527	4.0	S		
64	TM	1,3-Dichloropropane	0.6485	0.6392	1.4	TM		
65	TM	Dibromochloromethane	0.4990	0.4994	0.09	TM		
66	TM**	Chlorobenzene	2.082	2.084	0.12	TM**		
67	TM*	Ethylbenzene	3.752	3.961	5.6	TM*		
68	TM**	Bromoform	0.2963	0.2986	0.77	TM**		
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TM	Isopropylbenzene	7.015	7.293	4.0	TM		
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6213	6.2	TM**		
72	TM	1,2,3-Trichloropropane	0.2200	0.2028	7.8	TM		
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1084	14	TML	22	nt
74	TM	Bromobenzene	1.620	1.611	0.57	TM		
75	TM	n-Propylbenzene	7.746	8.114	4.7	TM		
76	TM	4-Ethyltoluene	6.825	6.919	1.4	TM		
77	TM	2-Chlorotoluene	4.634	4.665	0.68	TM		
78	TM	1,3,5-Trimethylbenzene	5.691	5.980	5.1	TM		
79	TM	4-Chlorotoluene	5.222	5.366	2.8	TM		
80	TM	Tert-Butylbenzene	5.094	5.271	3.5	TM		
		Average			4.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/13/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M31.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,2,4-Trimethylbenzene	5.552	5.853	5.4	TM		
82	TM	Sec-Butylbenzene	6.789	7.137	5.1	TM		
83	TM	p-Isopropyltoluene	5.929	6.238	5.2	TM		
84	TM	Benzyl Chloride	0.4376	0.3297	25	TM		nt
85	TM	1,3-DCB	3.240	3.225	0.46	TM		
86	TM	1,4-DCB	3.175	3.031	4.5	TM		
87	TM	n-Butylbenzene	4.656	4.793	2.9	TM		
88	TM	1,2-DCB	2.651	2.631	0.74	TM		
89	TM	Hexachloroethane	0.7881	0.8094	2.7	TM		
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0802	12	TM		
91	TML	1,2,4-Trichlorobenzene	1.139	1.295	14	TML	13	
92	TM	Hexachlorobutadiene	1.216	1.228	0.96	TM		
93	TML	Naphthalene	0.7727	0.9502	23	TML	25	nt
94	TML	1,2,3-Trichlorobenzene	0.6764	0.8607	27	TML	15	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			9.2			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	290341	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	202124	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	108168	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	62514	25.10537 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.420%	
36) 1,2-DCA-D4(S)	5.14	65	51154	25.92558 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.704%	
56) Toluene-D8(S)	7.35	98	251512	25.72191 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.888%	
64) 4-Bromofluorobenzene(S)	10.74	95	91494	25.99841 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.992%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	35840	12.47696 ppb		98
3) Freon 114	1.30	85	42654	9.52858 ppb		98
4) Chloromethane	1.35	50	52176	10.43071 ppb		98
5) Vinyl chloride	1.44	62	71932	10.36674 ppb		97
6) Bromomethane	1.70	94	34820	8.57100 ppb		100
7) Chloroethane	1.80	64	39806	10.33345 ppb		96
8) Dichlorofluoromethane	1.99	67	103939	9.87212 ppb		98
9) Trichlorofluoromethane	2.04	101	79247	10.82044 ppb		97
10) Acrolein	2.42	56	24776	100.04154 ppb		97
11) Acetone	2.58	43	6471	9.37885 ppb		99
12) Freon-113	2.54	101	49848	10.28352 ppb		99
13) 1,1-DCE	2.52	61	81060	10.19887 ppb		99
14) t-Butanol	3.14	59	13146	109.61906 ppb		98
15) Methyl Acetate	2.91	43	17380	9.04608 ppb		91
16) Iodomethane	2.65	142	58672	9.23175 ppb		99
17) Acrylonitrile	3.23	53	7792	8.85977 ppb	#	86
18) Methylene chloride	2.99	84	49214	9.47446 ppb		96
19) Carbon disulfide	2.71	76	149527	9.45284 ppb		100
20) Methyl t-butyl ether (MtBE	3.29	73	76872	9.15640 ppb		98
21) Trans-1,2-DCE	3.27	96	59355	10.41480 ppb		94
22) Diisopropyl Ether	3.80	45	148583	9.25154 ppb		99
23) 1,1-DCA	3.68	63	101427	10.06227 ppb		98
24) Vinyl Acetate	3.76	43	20326	6.32551 ppb		98
25) Ethyl tert Butyl Ether	4.18	59	101131	9.62201 ppb		99
26) MEK (2-Butanone)	4.31	43	7629	6.97728 ppb		96
27) Cis-1,2-DCE	4.28	96	62773	10.04009 ppb		97
28) 2,2-Dichloropropane	4.28	77	62073	9.13030 ppb		99
29) Chloroform	4.62	83	98687	10.16021 ppb		95
30) Bromochloromethane	4.52	128	23214	9.67211 ppb		97
32) 1,1,1-TCA	4.81	97	93501	10.45508 ppb		98
33) Cyclohexane	4.87	41	52883	10.32771 ppb		98
34) 1,1-Dichloropropene	4.99	75	84626	10.48948 ppb		97
35) 2,2,4-Trimethylpentane	5.34	57	135941	9.31267 ppb		99
37) Carbon Tetrachloride	4.99	117	80005	10.40483 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	83690	9.55089 ppb		96
39) 1,2-DCA	5.22	62	53464	10.13426 ppb		96
40) Benzene	5.21	78	245482	10.29527 ppb		98
41) TCE	5.93	95	67276	10.47289 ppb		97
42) 2-Pentanone	6.15	43	179377	112.45241 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	53013	9.80467	ppb		100
44)	Bromodichloromethane	6.49	83	64877	10.36226	ppb		92
45)	Methyl Cyclohexane	6.15	83	83551	10.08695	ppb		96
46)	Dibromomethane	6.29	93	19990	9.89722	ppb		95
47)	MIBK (methyl isobutyl ket	7.25	43	20579	8.50585	ppb		91
48)	1-Bromo-2-chloroethane	6.84	63	47799	9.20143	ppb		100
50)	Cis-1,3-Dichloropropene	7.03	75	65017	9.43614	ppb		99
51)	Toluene	7.43	91	280759	10.16257	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	43739	9.33115	ppb		95
53)	1,1,2-TCA	7.92	83	24445	9.72297	ppb		98
54)	2-Hexanone	8.29	43	10289	7.75151	ppb		93
57)	1,2-EDB	8.53	107	27131	10.27029	ppb		98
58)	Tetrachloroethene	8.11	164	69129	10.64681	ppb		98
59)	1-Chlorohexane	9.21	91	77285	10.24869	ppb		99
60)	1,1,1,2-Tetrachloroethane	9.31	131	56234	10.23240	ppb		97
61)	m&p-Xylene	9.52	106	247334	20.81119	ppb		98
62)	o-Xylene	10.04	106	116073	10.46946	ppb		98
63)	Styrene	10.06	104	177079	10.38156	ppb		97
65)	1,3-Dichloropropane	8.13	76	51679	9.85613	ppb		97
66)	Dibromochloromethane	8.40	129	40377	10.00866	ppb		99
67)	Chlorobenzene	9.19	112	168520	10.01160	ppb		99
68)	Ethylbenzene	9.36	91	320268	10.55822	ppb		100
69)	Bromoform	10.27	173	24138	10.07658	ppb		97
71)	Isopropylbenzene	10.56	105	315552	10.39604	ppb		98
72)	1,1,2,2-Tetrachloroethane	10.97	83	26883	9.37542	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	8774	9.21863	ppb	#	80
74)	t-1,4-Dichloro-2-Butene	11.05	53	4688	7.83770	ppb		85
75)	Bromobenzene	10.92	156	69694	9.94297	ppb		99
76)	n-Propylbenzene	11.13	91	351061	10.47450	ppb		99
77)	4-Ethyltoluene	11.30	105	299351	10.13681	ppb		99
78)	2-Chlorotoluene	11.21	91	201852	10.06776	ppb		97
79)	1,3,5-Trimethylbenzene	11.39	105	258744	10.50847	ppb		99
80)	4-Chlorotoluene	11.37	91	232190	10.27597	ppb		95
81)	Tert-Butylbenzene	11.84	119	228060	10.34816	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	253246	10.54151	ppb		94
83)	Sec-Butylbenzene	12.15	105	308814	10.51385	ppb		99
84)	p-Isopropyltoluene	12.37	119	269893	10.52001	ppb		98
85)	Benzyl Chloride	12.59	91	14265	7.53395	ppb		99
86)	1,3-DCB	12.26	146	139530	9.95436	ppb		99
87)	1,4-DCB	12.38	146	131149	9.54802	ppb		98
88)	n-Butylbenzene	12.96	91	207364	10.29455	ppb		98
89)	1,2-DCB	12.90	146	113834	9.92565	ppb		99
90)	Hexachloroethane	13.27	117	35019	10.26990	ppb		96
91)	1,2-Dibromo-3-chloropropan	14.01	75	3471	8.80454	ppb		95
92)	1,2,4-Trichlorobenzene	15.23	180	56046	8.68270	ppb		99
93)	Hexachlorobutadiene	15.53	225	53130	10.09645	ppb		96
94)	Naphthalene	15.56	128	41114	7.53679	ppb		94
95)	1,2,3-Trichlorobenzene	15.92	180	37240	8.46692	ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

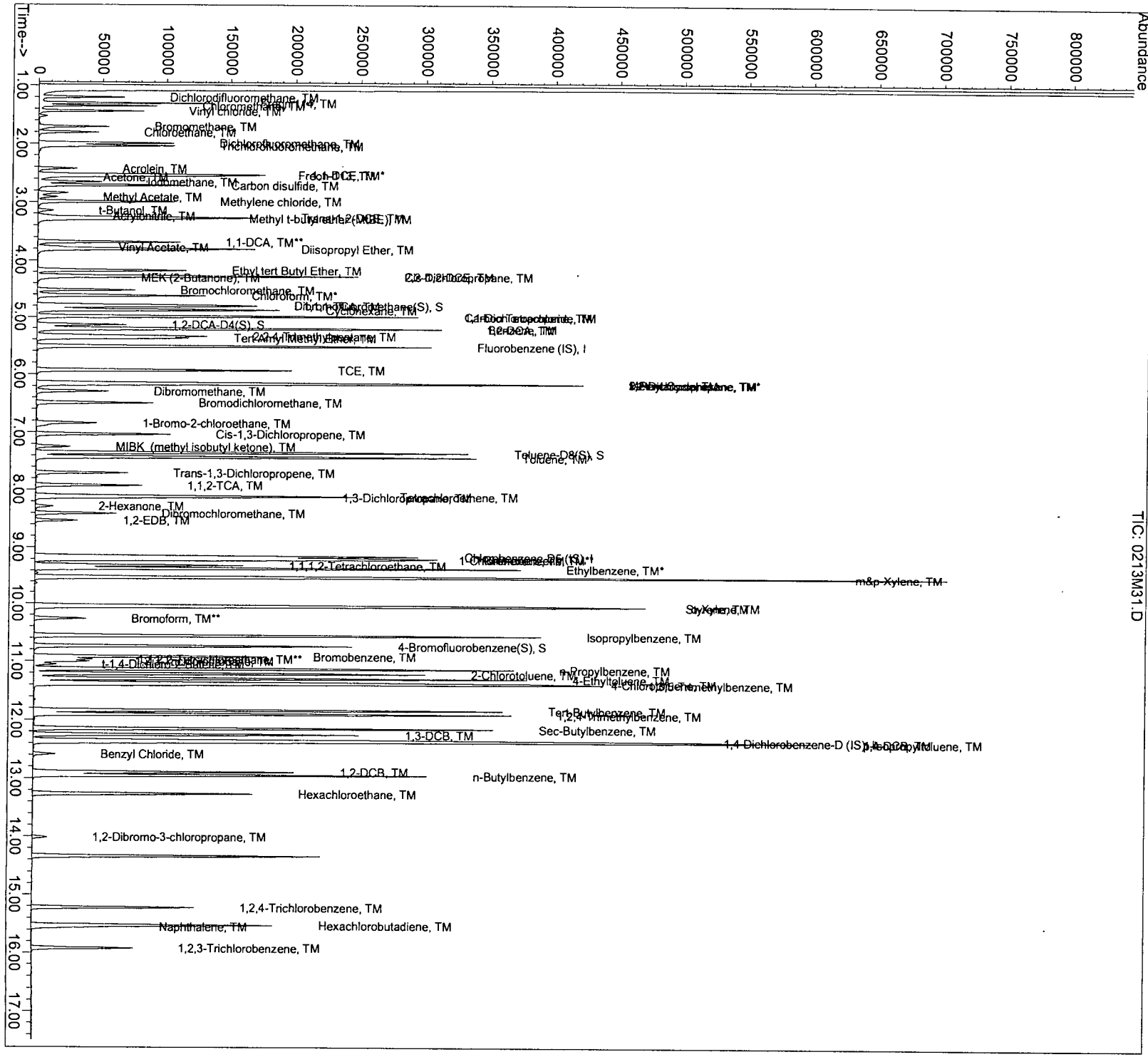
Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW..RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M50.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.3336	35	TM	
3	TM	Freon 114	0.3854	0.3707	3.8	TM	
4	TM**	Chloromethane	0.4307	0.4510	4.7	TM**	
5	TM*	Vinyl chloride	0.5975	0.6464	8.2	TM*	
6	TM	Bromomethane	0.3498	0.3196	8.6	TM	
7	TM	Chloroethane	0.3317	0.3574	7.8	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9040	0.28	TM	
9	TM	Trichlorofluoromethane	0.6306	0.7155	13	TM	
10	TM	Acrolein	0.0213	0.0174	19	TM	
11	TML	Acetone	0.0718	0.0568	21	TML	4.1
12	TM	Freon-113	0.4174	0.4397	5.3	TM	
13	TM*	1,1-DCE	0.6844	0.7201	5.2	TM*	
14	TM	t-Butanol	0.0103	0.0101	1.8	TM	
15	TM	Methyl Acetate	0.1654	0.1568	5.2	TM	
16	TML	Iodomethane	0.4508	0.4401	2.4	TML	19
17	TML	Acrylonitrile	0.0675	0.0691	2.4	TML	8.7
18	TML	Methylene chloride	0.5358	0.4547	15	TML	2.4
19	TM	Carbon disulfide	1.362	1.335	2.0	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7132	1.3	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5270	7.4	TM	
22	TM	Diisopropyl Ether	1.383	1.323	4.4	TM	
23	TM**	1,1-DCA	0.8679	0.8930	2.9	TM**	
24	TM	Ethyl tert Butyl Ether	0.9050	0.8788	2.9	TM	
25	TM	MEK (2-Butanone)	0.0941	0.0925	1.7	TM	
26	TM	Cis-1,2-DCE	0.5384	0.5597	4.0	TM	
27	TM	2,2-Dichloropropane	0.5854	0.4532	23	TM	
28	TM*	Chloroform	0.8364	0.8845	5.8	TM*	
29	TM	Bromochloromethane	0.2067	0.2103	1.8	TM	
30	S	Dibromofluoromethane(S)	0.2144	0.2205	2.9	S	
31	TM	1,1,1-TCA	0.7701	0.8135	5.6	TM	
32	TM	Cyclohexane	0.4409	0.4587	4.0	TM	
33	TM	1,1-Dichloropropene	0.6947	0.7344	5.7	TM	
34	TM	2,2,4-Trimethylpentane	1.257	1.141	9.2	TM	
35	S	1,2-DCA-D4(S)	0.1699	0.1730	1.8	S	
36	TM	Carbon Tetrachloride	0.6621	0.7114	7.5	TM	
37	TM	Tert Amyl Methyl Ether	0.7545	0.7457	1.2	TM	
38	TM	1,2-DCA	0.4543	0.4914	8.2	TM	
39	TM	Benzene	2.053	2.159	5.2	TM	
40	TM	TCE	0.5531	0.6413	16	TM	
		Average			7.3		

VOLATILE ORGANIC ANALYSIS BY EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M50.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Pentanone	0.1374	0.1323	3.7	TM	
42	TM*	1,2-Dichloropropane	0.4656	0.4708	1.1	TM*	
43	TM	Bromodichloromethane	0.5391	0.5711	5.9	TM	
44	TM	Methyl Cyclohexane	0.7132	0.7404	3.8	TM	
45	TM	Dibromomethane	0.1739	0.1804	3.7	TM	
46	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1963	15	TML	4.4
47	TM	1-Bromo-2-chloroethane	0.4473	0.4250	5.0	TM	
48	TM	Cis-1,3-Dichloropropene	0.5933	0.5781	2.6	TM	
49	TM*	Toluene	2.379	2.469	3.8	TM*	
50	TM	Trans-1,3-Dichloropropene	0.4036	0.3802	5.8	TM	
51	TM	1,1,2-TCA	0.2165	0.2170	0.22	TM	
52	TM	2-Hexanone	0.1143	0.1040	9.0	TM	
53	I	Chlorobenzene-D5 (IS)	ISTD			I	
54	S	Toluene-D8(S)	1.209	1.220	0.90	S	
55	TM	1,2-EDB	0.3267	0.3404	4.2	TM	
56	TM	Tetrachloroethene	0.8031	0.8422	4.9	TM	
57	TM	1-Chlorohexane	0.9327	0.9357	0.32	TM	
58	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6942	2.1	TM	
59	TM	m&p-Xylene	1.470	1.545	5.1	TM	
60	TM	o-Xylene	1.371	1.468	7.0	TM	
61	TM	Styrene	2.110	2.202	4.4	TM	
62	S	4-Bromofluorobenzene(S)	0.4353	0.4491	3.2	S	
63	TM	1,3-Dichloropropane	0.6485	0.6591	1.6	TM	
64	TM	Dibromochloromethane	0.4990	0.5180	3.8	TM	
65	TM**	Chlorobenzene	2.082	2.107	1.2	TM**	
66	TM*	Ethylbenzene	3.752	3.906	4.1	TM*	
67	TM**	Bromoform	0.2963	0.2922	1.4	TM**	
68	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
69	TM	Isopropylbenzene	7.015	7.414	5.7	TM	
70	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.5644	15	TM**	
71	TM	1,2,3-Trichloropropane	0.2200	0.2207	0.34	TM	
72	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1170	6.7	TML	15
73	TM	Bromobenzene	1.620	1.640	1.2	TM	
74	TM	n-Propylbenzene	7.746	8.114	4.7	TM	
75	TM	4-Ethyltoluene	6.825	6.941	1.7	TM	
76	TM	2-Chlorotoluene	4.634	4.770	2.9	TM	
77	TM	1,3,5-Trimethylbenzene	5.691	6.039	6.1	TM	
78	TM	4-Chlorotoluene	5.222	5.328	2.0	TM	
79	TM	Tert-Butylbenzene	5.094	5.307	4.2	TM	
80	TM	1,2,4-Trimethylbenzene	5.552	5.819	4.8	TM	
		Average			4.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0213M50.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Sec-Butylbenzene	6.789	7.061	4.0	TM	
82	TM	p-Isopropyltoluene	5.929	6.268	5.7	TM	
83	TM	Benzyl Chloride	0.4376	0.2899	34	TM	
84	TM	1,3-DCB	3.240	3.267	0.84	TM	
85	TM	1,4-DCB	3.175	3.112	2.0	TM	
86	TM	n-Butylbenzene	4.656	4.812	3.4	TM	
87	TM	1,2-DCB	2.651	2.680	1.1	TM	
88	TM	Hexachloroethane	0.7881	0.8224	4.4	TM	
89	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0823	9.7	TM	
90	TML	1,2,4-Trichlorobenzene	1.139	1.336	17	TML	11
91	TM	Hexachlorobutadiene	1.216	1.191	2.1	TM	
92	TML	Naphthalene	0.7727	0.9825	27	TML	22
93	TML	1,2,3-Trichlorobenzene	0.6764	0.8699	29	TML	15
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			10.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M50.D
Acq On : 14 Feb 17 8:35
Sample : Ending CCV 8260 10ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:40 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	273900	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	195405	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103888	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	60408	25.71581 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.864%	
36) 1,2-DCA-D4(S)	5.14	65	47383	25.45586 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.824%	
56) Toluene-D8(S)	7.35	98	238446	25.22416 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.896%	
64) 4-Bromofluorobenzene(S)	10.74	95	87747	25.79102 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.164%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	36552	13.48864 ppb	96
3) Freon 114	1.30	85	40617	9.61818 ppb	97
4) Chloromethane	1.35	50	49416	10.47194 ppb	97
5) Vinyl chloride	1.44	62	70825	10.81990 ppb	96
6) Bromomethane	1.71	94	35019	9.13740 ppb	99
7) Chloroethane	1.81	64	39162	10.77651 ppb	96
8) Dichlorofluoromethane	2.00	67	99045	9.97196 ppb	99
9) Trichlorofluoromethane	2.04	101	78389	11.34576 ppb	98
10) Acrolein	2.43	56	23794	101.84341 ppb	98
11) Acetone	2.58	43	6223	9.59157 ppb	99
12) Freon-113	2.54	101	48173	10.53450 ppb	96
13) 1,1-DCE	2.52	61	78890	10.52165 ppb	99
14) t-Butanol	3.15	59	13890	122.77530 ppb	97
15) Methyl Acetate	2.91	43	17177	9.47708 ppb	90
16) Iodomethane	2.65	142	48217	8.11411 ppb	98
17) Acrylonitrile	3.23	53	7572	9.13482 ppb	98
18) Methylene chloride	2.99	84	49816	10.24140 ppb	94
19) Carbon disulfide	2.71	76	146273	9.80219 ppb	99
20) Methyl t-butyl ether (MtBE	3.29	73	78136	9.86562 ppb	98
21) Trans-1,2-DCE	3.27	96	57740	10.73957 ppb	94
22) Diisopropyl Ether	3.81	45	144893	9.56332 ppb	100
23) 1,1-DCA	3.68	63	97839	10.28894 ppb	100
25) Ethyl tert Butyl Ether	4.18	59	96285	9.71083 ppb	100
26) MEK (2-Butanone)	4.31	43	10135	9.82559 ppb	90
27) Cis-1,2-DCE	4.28	96	61324	10.39708 ppb	95
28) 2,2-Dichloropropane	4.28	77	49652	7.74168 ppb	100
29) Chloroform	4.62	83	96908	10.57594 ppb	95
30) Bromochloromethane	4.52	128	23041	10.17627 ppb	94
32) 1,1,1-TCA	4.81	97	89123	10.56372 ppb	97
33) Cyclohexane	4.87	41	50260	10.40463 ppb	94
34) 1,1-Dichloropropene	4.99	75	80456	10.57122 ppb	99
35) 2,2,4-Trimethylpentane	5.34	57	125041	9.08014 ppb	99
37) Carbon Tetrachloride	4.99	117	77944	10.74526 ppb	95
38) Tert Amyl Methyl Ether	5.38	73	81704	9.88393 ppb	97
39) 1,2-DCA	5.22	62	53840	10.81812 ppb	97
40) Benzene	5.21	78	236592	10.51804 ppb	99
41) TCE	5.93	95	70260	11.59394 ppb	93
42) 2-Pentanone	6.15	43	181155	120.38398 ppb	99
43) 1,2-Dichloropropane	6.17	63	51584	10.11305 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M50.D
Acq On : 14 Feb 17 8:35
Sample : Ending CCV 8260 10ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:40 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) Bromodichloromethane	6.50	83	62569	10.59350 ppb		92
45) Methyl Cyclohexane	6.15	83	81119	10.38119 ppb		97
46) Dibromomethane	6.30	93	19762	10.37165 ppb		95
47) MIBK (methyl isobutyl ket	7.25	43	21503	9.55731 ppb		97
48) 1-Bromo-2-chloroethane	6.84	63	46565	9.50194 ppb		96
50) Cis-1,3-Dichloropropene	7.03	75	63342	9.74486 ppb		99
51) Toluene	7.43	91	270546	10.38072 ppb		96
52) Trans-1,3-Dichloropropene	7.71	75	41657	9.42043 ppb		96
53) 1,1,2-TCA	7.92	83	23769	10.02158 ppb		98
54) 2-Hexanone	8.28	43	11389	9.09526 ppb	#	93
57) 1,2-EDB	8.53	107	26604	10.41708 ppb		93
58) Tetrachloroethene	8.11	164	65831	10.48749 ppb		98
59) 1-Chlorohexane	9.21	91	73137	10.03211 ppb		98
60) 1,1,1,2-Tetrachloroethane	9.31	131	54260	10.21270 ppb		98
61) m&p-Xylene	9.52	106	241460	21.01554 ppb		99
62) o-Xylene	10.04	106	114717	10.70294 ppb		96
63) Styrene	10.06	104	172115	10.43750 ppb		99
65) 1,3-Dichloropropane	8.13	76	51515	10.16268 ppb		99
66) Dibromochloromethane	8.40	129	40484	10.38024 ppb		99
67) Chlorobenzene	9.19	112	164720	10.12233 ppb		99
68) Ethylbenzene	9.36	91	305276	10.41004 ppb		96
69) Bromoform	10.27	173	22835	9.86041 ppb		90
71) Isopropylbenzene	10.56	105	308087	10.56827 ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	23453	8.51618 ppb		97
73) 1,2,3-Trichloropropane	11.00	110	9172	10.03381 ppb		90
74) t-1,4-Dichloro-2-Butene	11.05	53	4864	8.45048 ppb		97
75) Bromobenzene	10.92	156	68157	10.12429 ppb		98
76) n-Propylbenzene	11.13	91	337184	10.47493 ppb		100
77) 4-Ethyltoluene	11.30	105	288451	10.17012 ppb		99
78) 2-Chlorotoluene	11.21	91	198219	10.29387 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	250951	10.61186 ppb		100
80) 4-Chlorotoluene	11.37	91	221411	10.20262 ppb		95
81) Tert-Butylbenzene	11.84	119	220547	10.41954 ppb		97
82) 1,2,4-Trimethylbenzene	11.91	105	241822	10.48068 ppb		98
83) Sec-Butylbenzene	12.15	105	293413	10.40106 ppb		99
84) p-Isopropyltoluene	12.37	119	260477	10.57128 ppb		98
85) Benzyl Chloride	12.59	91	12046	6.62410 ppb		95
86) 1,3-DCB	12.26	146	135748	10.08353 ppb		97
87) 1,4-DCB	12.39	146	129302	9.80138 ppb		100
88) n-Butylbenzene	12.95	91	199972	10.33657 ppb		99
89) 1,2-DCB	12.90	146	111384	10.11215 ppb		97
90) Hexachloroethane	13.27	117	34175	10.43528 ppb		97
91) 1,2-Dibromo-3-chloropropan	14.01	75	3420	9.03258 ppb		95
92) 1,2,4-Trichlorobenzene	15.23	180	55518	8.94036 ppb		96
93) Hexachlorobutadiene	15.52	225	49497	9.79357 ppb		95
94) Naphthalene	15.56	128	40828	7.75461 ppb		94
95) 1,2,3-Trichlorobenzene	15.92	180	36149	8.54861 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

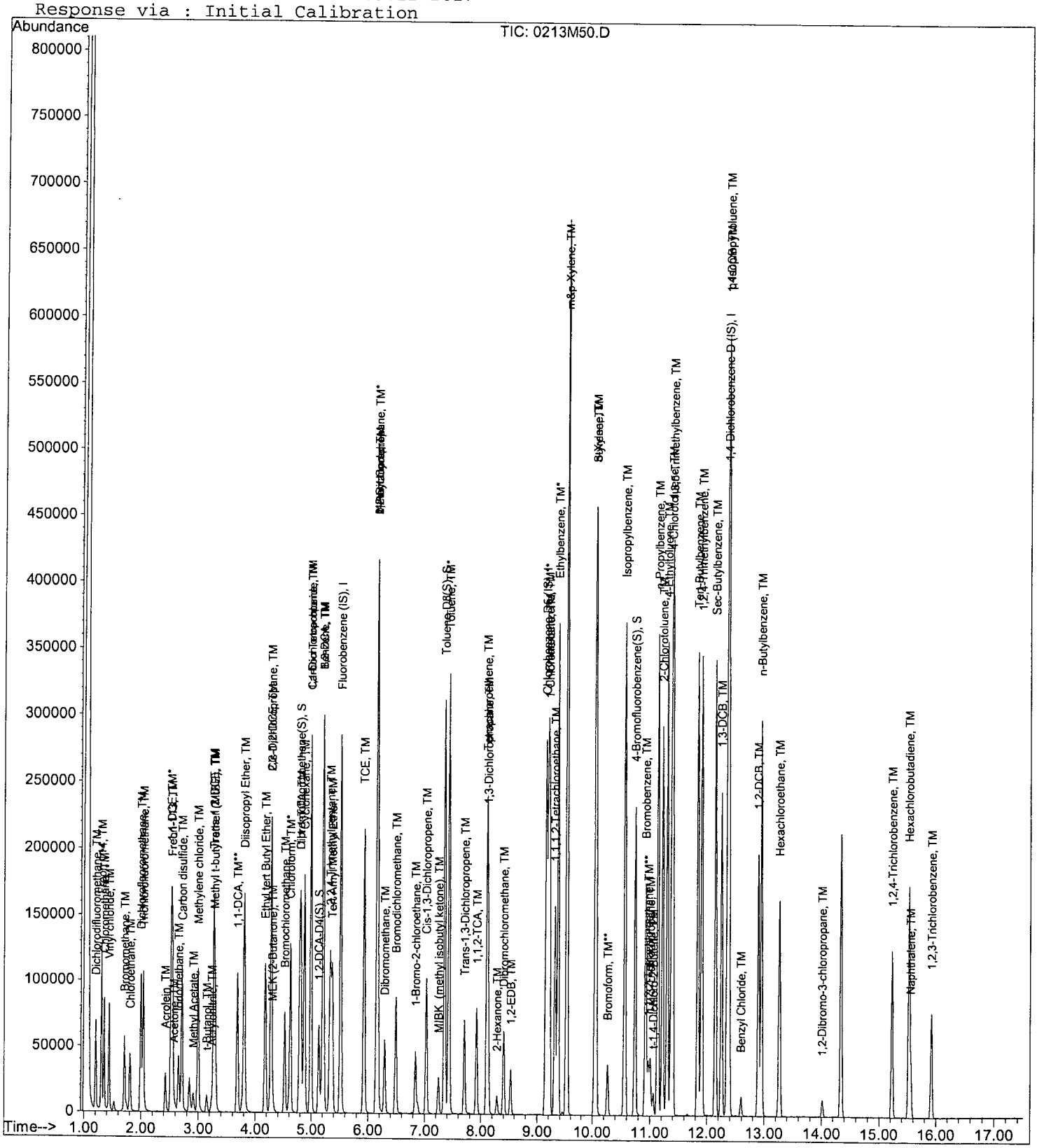
Data File : M:\MAX\DATA\M170127\0213M50.D
Acq On : 14 Feb 17 8:35
Sample : Ending CCV 8260 10ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:40 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



412

ORGANICS
Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49856 - 216145**
Batch ID: #86BTO-170213BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/14/17	2/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	2/14/17	2/14/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	2/14/17	2/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0213M39
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 11:36:35 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M39.D
Acq On : 14 Feb 17 3:25
Sample : 170213B BLK1WM
Misc : IS&S 10/20/16

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:46 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	263518	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	186776	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	91254	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	57778	25.56524 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
36) 1,2-DCA-D4(S)	5.14	65	45835	25.59436 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.376%	
56) Toluene-D8(S)	7.35	98	230329	25.49118 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	81421	25.03729 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.148%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

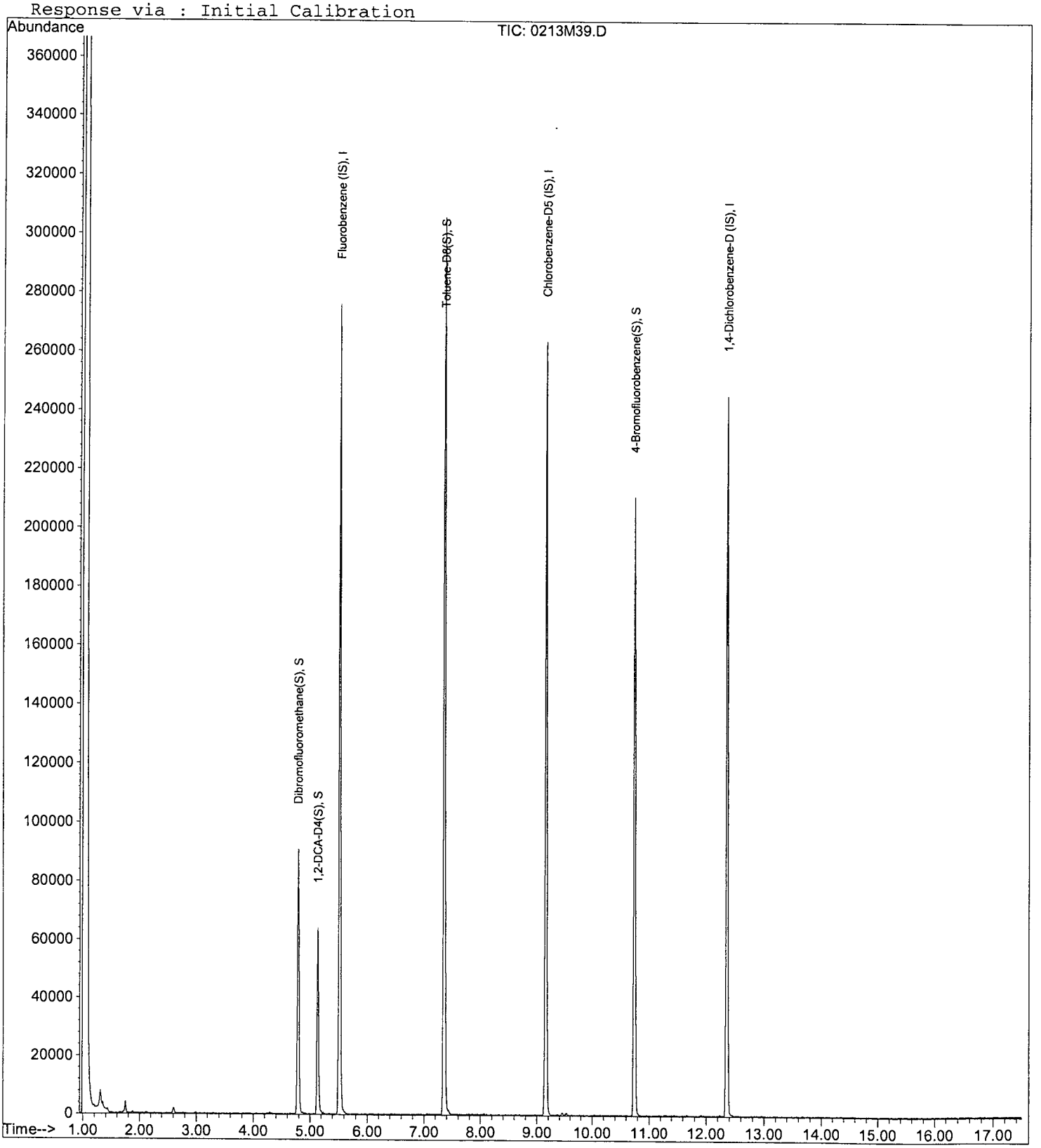
Data File : M:\MAX\DATA\M170127\0213M39.D
Acq On : 14 Feb 17 3:25
Sample : 170213B BLK1WM
Misc : IS&S 10/20/16

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:46 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170213W-49856 LCS - 216145**
Batch ID: #86BTO-170213BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.3	103	79-120
ETHYLBENZENE	10.00	10.6	106	79-121
TOLUENE	10.00	10.2	102	80-121
XYLENES (TOTAL)	30.0	31.3	104	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.9	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	26.0	104	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.1	100	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.7	103	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/13/17
Analysis Date :	2/13/17
Instrument :	Max
Run :	0213M31
Initials :	SV

Printed: 2/14/17 11:36:39 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	290341	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	202124	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	108168	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	62514	25.10537 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.420%	
36) 1,2-DCA-D4(S)	5.14	65	51154	25.92558 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.704%	
56) Toluene-D8(S)	7.35	98	251512	25.72191 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.888%	
64) 4-Bromofluorobenzene(S)	10.74	95	91494	25.99841 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.992%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	35840	12.47696 ppb	98
3) Freon 114	1.30	85	42654	9.52858 ppb	98
4) Chloromethane	1.35	50	52176	10.43071 ppb	98
5) Vinyl chloride	1.44	62	71932	10.36674 ppb	97
6) Bromomethane	1.70	94	34820	8.57100 ppb	100
7) Chloroethane	1.80	64	39806	10.33345 ppb	96
8) Dichlorofluoromethane	1.99	67	103939	9.87212 ppb	98
9) Trichlorofluoromethane	2.04	101	79247	10.82044 ppb	97
10) Acrolein	2.42	56	24776	100.04154 ppb	97
11) Acetone	2.58	43	6471	9.37885 ppb	99
12) Freon-113	2.54	101	49848	10.28352 ppb	99
13) 1,1-DCE	2.52	61	81060	10.19887 ppb	99
14) t-Butanol	3.14	59	13146	109.61906 ppb	98
15) Methyl Acetate	2.91	43	17380	9.04608 ppb	91
16) Iodomethane	2.65	142	58672	9.23175 ppb	99
17) Acrylonitrile	3.23	53	7792	8.85977 ppb #	86
18) Methylene chloride	2.99	84	49214	9.47446 ppb	96
19) Carbon disulfide	2.71	76	149527	9.45284 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	76872	9.15640 ppb	98
21) Trans-1,2-DCE	3.27	96	59355	10.41480 ppb	94
22) Diisopropyl Ether	3.80	45	148583	9.25154 ppb	99
23) 1,1-DCA	3.68	63	101427	10.06227 ppb	98
24) Vinyl Acetate	3.76	43	20326	6.32551 ppb	98
25) Ethyl tert Butyl Ether	4.18	59	101131	9.62201 ppb	99
26) MEK (2-Butanone)	4.31	43	7629	6.97728 ppb	96
27) Cis-1,2-DCE	4.28	96	62773	10.04009 ppb	97
28) 2,2-Dichloropropane	4.28	77	62073	9.13030 ppb	99
29) Chloroform	4.62	83	98687	10.16021 ppb	95
30) Bromochloromethane	4.52	128	23214	9.67211 ppb	97
32) 1,1,1-TCA	4.81	97	93501	10.45508 ppb	98
33) Cyclohexane	4.87	41	52883	10.32771 ppb	98
34) 1,1-Dichloropropene	4.99	75	84626	10.48948 ppb	97
35) 2,2,4-Trimethylpentane	5.34	57	135941	9.31267 ppb	99
37) Carbon Tetrachloride	4.99	117	80005	10.40483 ppb	99
38) Tert Amyl Methyl Ether	5.37	73	83690	9.55089 ppb	96
39) 1,2-DCA	5.22	62	53464	10.13426 ppb	96
40) Benzene	5.21	78	245482	10.29527 ppb	98
41) TCE	5.93	95	67276	10.47289 ppb	97
42) 2-Pentanone	6.15	43	179377	112.45241 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	53013	9.80467	ppb		100
44) Bromodichloromethane	6.49	83	64877	10.36226	ppb		92
45) Methyl Cyclohexane	6.15	83	83551	10.08695	ppb		96
46) Dibromomethane	6.29	93	19990	9.89722	ppb		95
47) MIBK (methyl isobutyl ket	7.25	43	20579	8.50585	ppb		91
48) 1-Bromo-2-chloroethane	6.84	63	47799	9.20143	ppb		100
50) Cis-1,3-Dichloropropene	7.03	75	65017	9.43614	ppb		99
51) Toluene	7.43	91	280759	10.16257	ppb		99
52) Trans-1,3-Dichloropropene	7.71	75	43739	9.33115	ppb		95
53) 1,1,2-TCA	7.92	83	24445	9.72297	ppb		98
54) 2-Hexanone	8.29	43	10289	7.75151	ppb		93
57) 1,2-EDB	8.53	107	27131	10.27029	ppb		98
58) Tetrachloroethene	8.11	164	69129	10.64681	ppb		98
59) 1-Chlorohexane	9.21	91	77285	10.24869	ppb		99
60) 1,1,1,2-Tetrachloroethane	9.31	131	56234	10.23240	ppb		97
61) m&p-Xylene	9.52	106	247334	20.81119	ppb		98
62) o-Xylene	10.04	106	116073	10.46946	ppb		98
63) Styrene	10.06	104	177079	10.38156	ppb		97
65) 1,3-Dichloropropane	8.13	76	51679	9.85613	ppb		97
66) Dibromochloromethane	8.40	129	40377	10.00866	ppb		99
67) Chlorobenzene	9.19	112	168520	10.01160	ppb		99
68) Ethylbenzene	9.36	91	320268	10.55822	ppb		100
69) Bromoform	10.27	173	24138	10.07658	ppb		97
71) Isopropylbenzene	10.56	105	315552	10.39604	ppb		98
72) 1,1,2,2-Tetrachloroethane	10.97	83	26883	9.37542	ppb		95
73) 1,2,3-Trichloropropane	11.00	110	8774	9.21863	ppb	#	80
74) t-1,4-Dichloro-2-Butene	11.05	53	4688	7.83770	ppb		85
75) Bromobenzene	10.92	156	69694	9.94297	ppb		99
76) n-Propylbenzene	11.13	91	351061	10.47450	ppb		99
77) 4-Ethyltoluene	11.30	105	299351	10.13681	ppb		99
78) 2-Chlorotoluene	11.21	91	201852	10.06776	ppb		97
79) 1,3,5-Trimethylbenzene	11.39	105	258744	10.50847	ppb		99
80) 4-Chlorotoluene	11.37	91	232190	10.27597	ppb		95
81) Tert-Butylbenzene	11.84	119	228060	10.34816	ppb		96
82) 1,2,4-Trimethylbenzene	11.91	105	253246	10.54151	ppb		94
83) Sec-Butylbenzene	12.15	105	308814	10.51385	ppb		99
84) p-Isopropyltoluene	12.37	119	269893	10.52001	ppb		98
85) Benzyl Chloride	12.59	91	14265	7.53395	ppb		99
86) 1,3-DCB	12.26	146	139530	9.95436	ppb		99
87) 1,4-DCB	12.38	146	131149	9.54802	ppb		98
88) n-Butylbenzene	12.96	91	207364	10.29455	ppb		98
89) 1,2-DCB	12.90	146	113834	9.92565	ppb		99
90) Hexachloroethane	13.27	117	35019	10.26990	ppb		96
91) 1,2-Dibromo-3-chloropropan	14.01	75	3471	8.80454	ppb		95
92) 1,2,4-Trichlorobenzene	15.23	180	56046	8.68270	ppb		99
93) Hexachlorobutadiene	15.53	225	53130	10.09645	ppb		96
94) Naphthalene	15.56	128	41114	7.53679	ppb		94
95) 1,2,3-Trichlorobenzene	15.92	180	37240	8.46692	ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

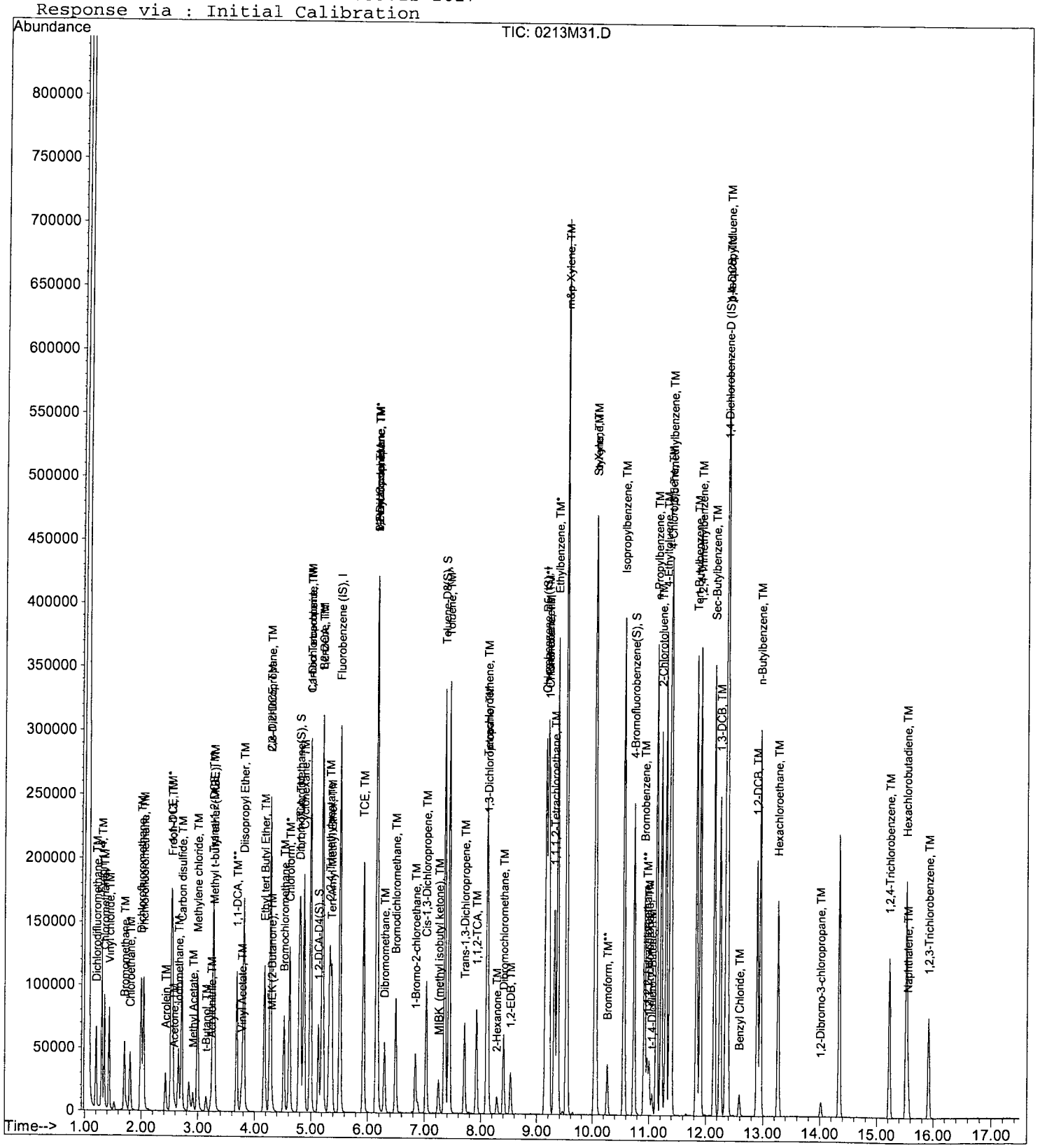
Data File : M:\MAX\DATA\M170127\0213M31.D
Acq On : 13 Feb 17 23:39
Sample : 170213B CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:39 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



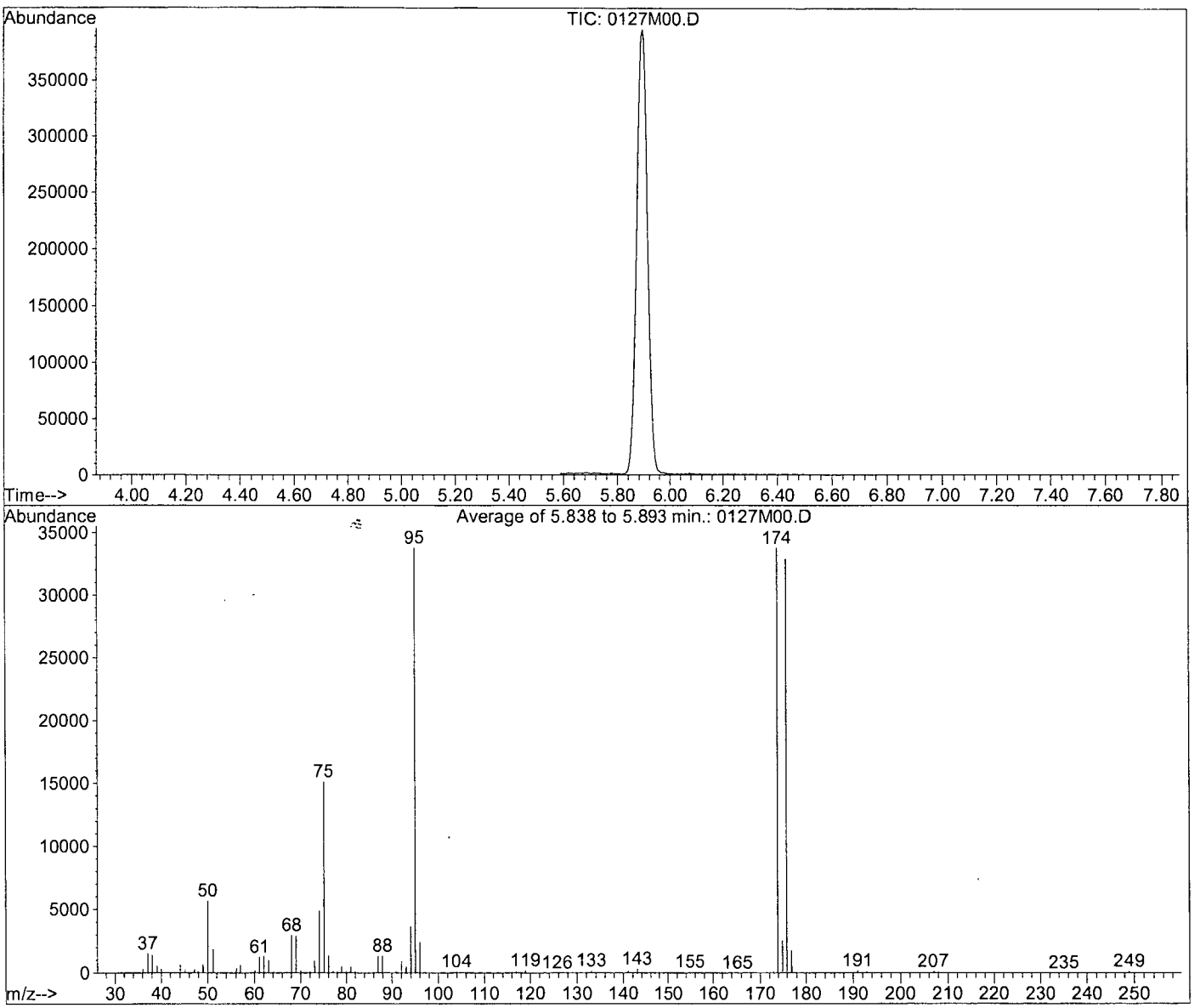
420

BFB

Data File : M:\MAX\DATA\M170127\0127M00.D
Acq On : 27 Jan 17 9:35
Sample : 5ng BFB STD 12/15/16
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	5692	PASS
75	95	30	60	44.8	15149	PASS
95	95	100	100	100.0	33790	PASS
96	95	5	9	7.1	2415	PASS
173	174	0.00	2	0.4	137	PASS
174	95	50	100	100.0	33786	PASS
175	174	5	9	7.5	2532	PASS
176	174	95	101	97.4	32900	PASS
177	176	5	9	5.4	1780	PASS

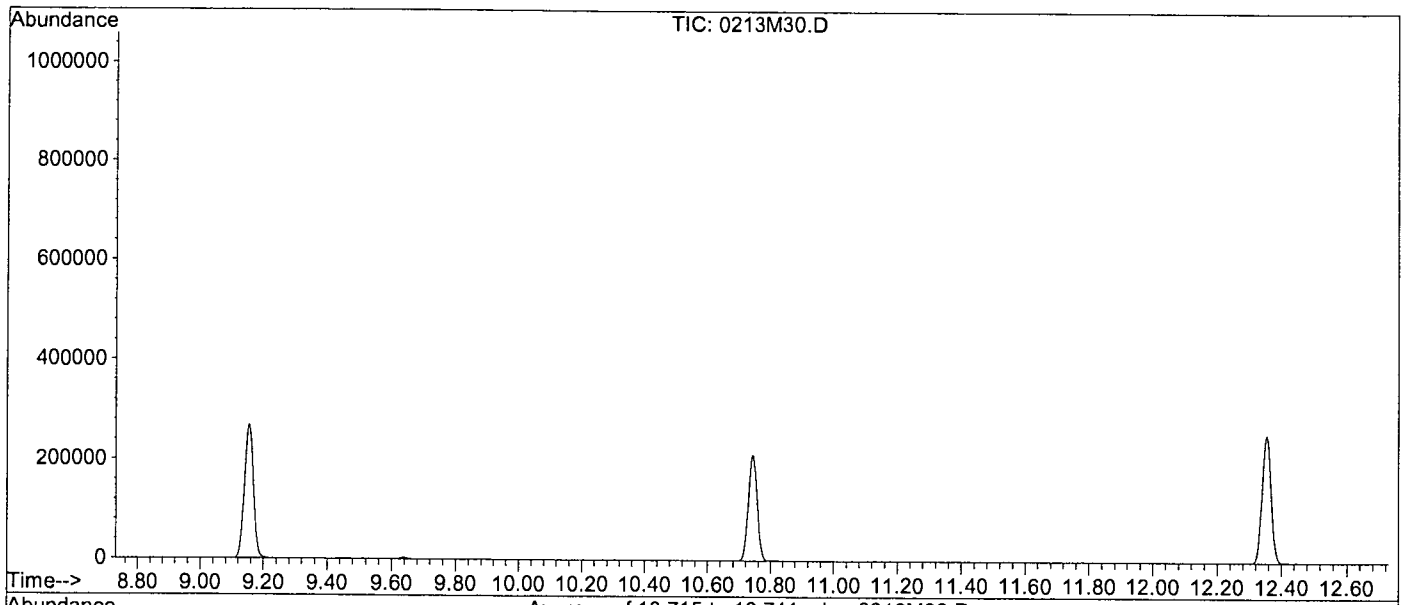
0127M00.D MALLW.M Mon Jan 30 08:03:23 2017

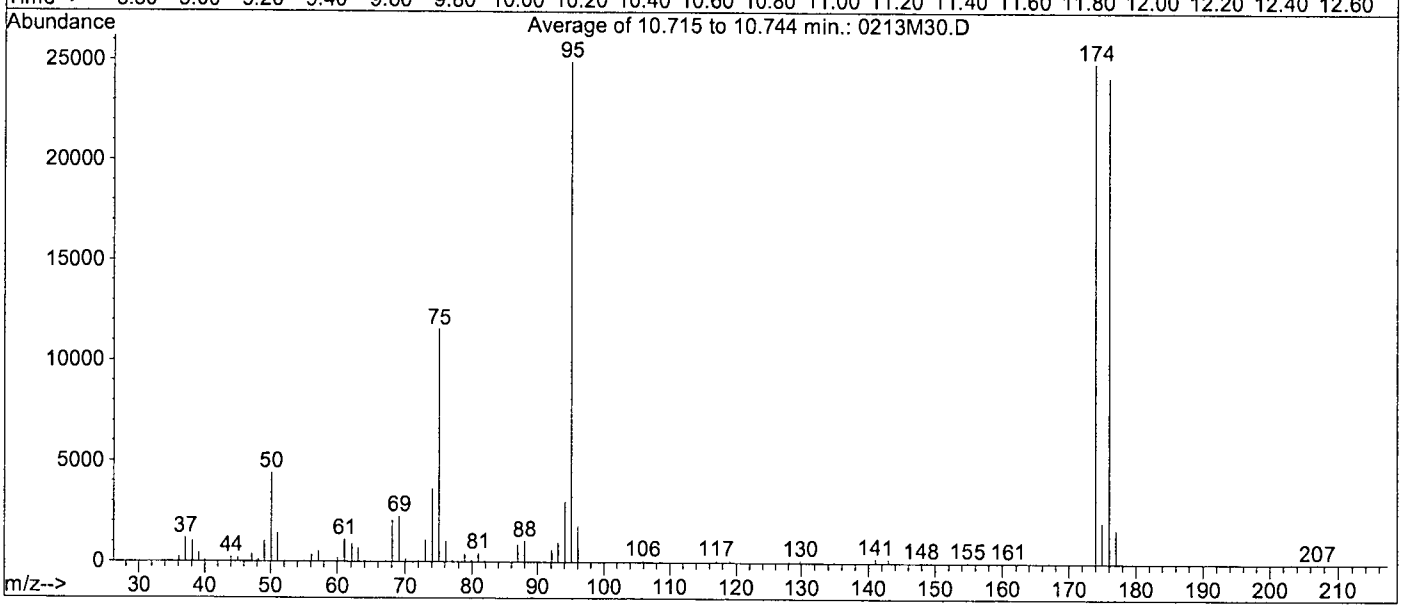
BFB

Data File : M:\MAX\DATA\M170127\0213M30.D
Acq On : 13 Feb 17 23:10
Sample : 5ng BFB STD 1/22/17
Misc : IS&S 10/20/16

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 10.715 to 10.744 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	4387	PASS
75	95	30	60	46.4	11566	PASS
95	95	100	100	100.0	24930	PASS
96	95	5	9	7.1	1774	PASS
173	174	0.00	2	0.2	39	PASS
174	95	50	100	99.9	24901	PASS
175	174	5	9	8.2	2040	PASS
176	174	95	101	97.2	24194	PASS
177	176	5	9	6.9	1662	PASS

0213M30.D MALLW.M Tue Feb 14 09:44:24 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0127M00.D	1	5ng BFB STD 12/15/16	2ul	27 Jan 17 9:35
2	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
3	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
4	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
5	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
6	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
7	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
8	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
9	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
10	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
11	16	0127M16.D	1	(SS) 10ug/L VOC STD 01/27/16	IS&S 10/20/16	27 Jan 17 17:03
12	30	0213M30.D	1	5ng BFB STD 1/22/17	IS&S 10/20/16	13 Feb 17 23:10
13	31	0213M31.D	1	170213B CCV/LCS 10ug/L	IS&S 10/20/16	13 Feb 17 23:39
14	39	0213M39.D	1	170213B BLK1WM	IS&S 10/20/16	14 Feb 17 3:25
15	42	0213M42.D	1	AZ49856W01	IS&S 10/20/16	14 Feb 17 4:49
16	43	0213M43.D	1	AZ49857W01	IS&S 10/20/16	14 Feb 17 5:18
17	44	0213M44.D	1	AZ49858W01	IS&S 10/20/16	14 Feb 17 5:46
18	45	0213M45.D	1	AZ49859W01	IS&S 10/20/16	14 Feb 17 6:14
19	46	0213M46.D	1	AZ49860W01	IS&S 10/20/16	14 Feb 17 6:42
20	47	0213M47.D	1	AZ49861W01	IS&S 10/20/16	14 Feb 17 7:11
21	48	0213M48.D	1	AZ49862W01	IS&S 10/20/16	14 Feb 17 7:39
22	49	0213M49.D	1	AZ49863W01	IS&S 10/20/16	14 Feb 17 8:07
23	50	0213M50.D	1	Ending CCV 8260 10ug/L 2/13/1	IS&S 10/20/16	14 Feb 17 8:35

EPA METHOD 8260
Gasoline Range Organics (GRO)

APPL, INC.

EPA METHOD 8260
Gasoline Range Organics (GRO)

QC Summary

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49856 - 216143**
Batch ID: #GRO86-170213BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	2/14/17	2/14/17

Quant Method: MGAS6211.
Run #: 0213M39
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 11:37:31 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82146

Case No: 82146 Date Analyzed: 2/14/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213BM-LCS	Lab Control Spike	85-114	99.6				
170213BM-BLK	Blank	85-114	100				
AZ49856	ERH230	85-114	97.0				
AZ49857	ERH231	85-114	98.2				
AZ49859	ERH226	85-114	98.9				
AZ49860	ERH227	85-114	99.7				
AZ49861	ERH222	85-114	96.9				
AZ49862	ERH223	85-114	97.0				

Comments: Batch: #GRO86-170213B

Printed: 2/14/17 11:37:35 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170214W-49856 LCS - 216143**
Batch ID: #GRO86-170213BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	272	90.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0213M34
Initials :	SV

Printed: 2/14/17 11:37:40 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82146
Matrix: WATER
Blank ID: 170213BM-BLK

SDG No: 82146
Date Analyzed: 2/14/17
Instrument: Max
Time Analyzed: 0325

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213BM-LCS	Lab Control Spike	0213M34	2/14/17 0103
170213BM-BLK	Blank	0213M39	2/14/17 0325
AZ49856	ERH230	0213M42	2/14/17 0449
AZ49857	ERH231	0213M43	2/14/17 0518
AZ49859	ERH226	0213M45	2/14/17 0614
AZ49860	ERH227	0213M46	2/14/17 0642
AZ49861	ERH222	0213M47	2/14/17 0711
AZ49862	ERH223	0213M48	2/14/17 0739

Comments: Batch: #GRO86-170213B

Printed: 2/14/17 11:37:44 AM
Form 4, Blank Summary

EPA METHOD 8260
Gasoline Range Organics (GRO)

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH230
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49856
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M42
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M42.D Vial: 42
Acq On : 14 Feb 17 4:49 Operator: PM,DG,SV,CMM
Sample : AZ49856W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:58 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	272093	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

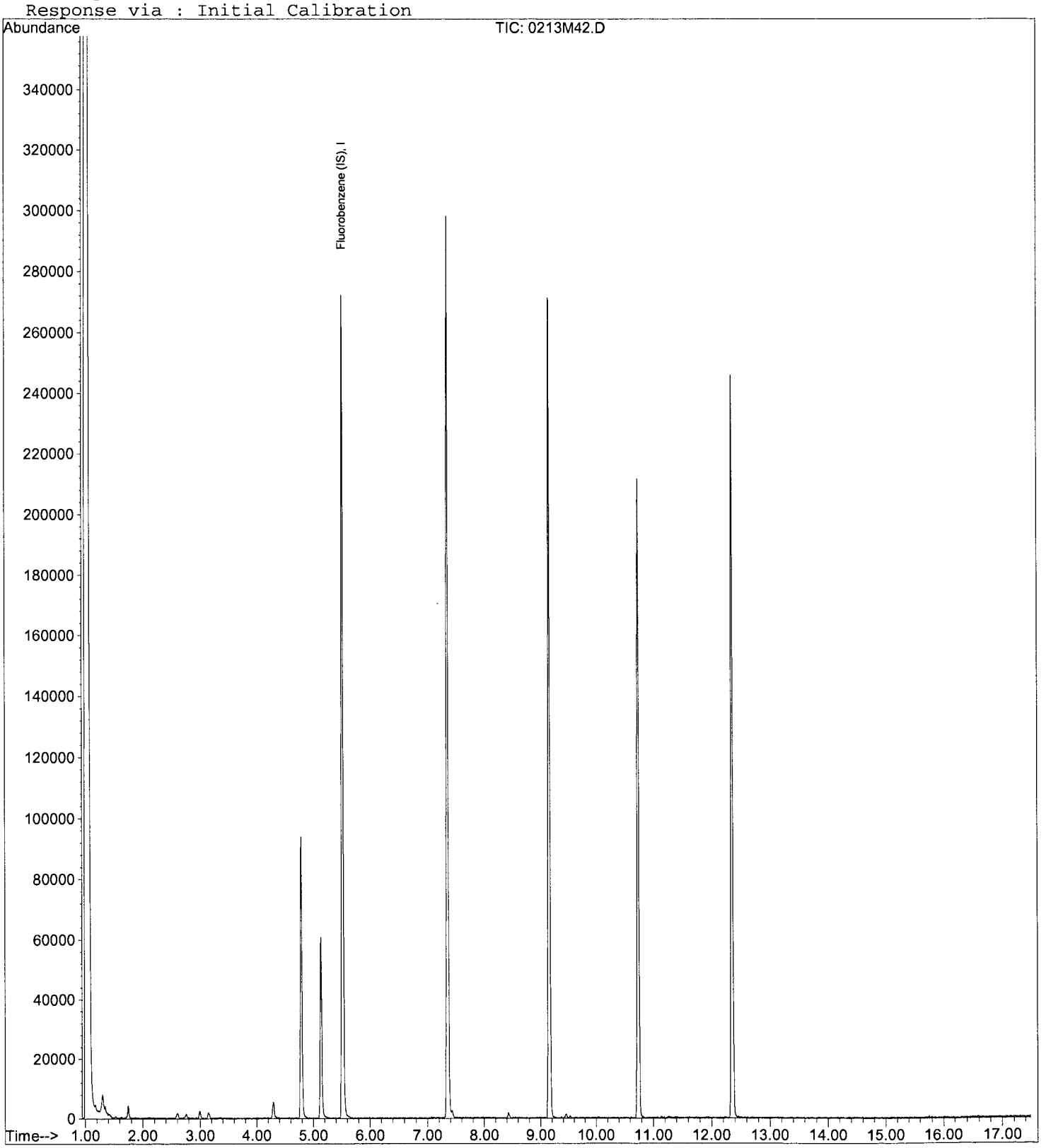
Quantitation Report

Data File : M:\MAX\DATA\M170127\0213M42.D
Acq On : 14 Feb 17 4:49
Sample : AZ49856W01
Misc : IS&S 10/20/16

Vial: 42
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:58 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M42.D Vial: 42
Acq On : 14 Feb 17 4:49 Operator: PM,DG,SV,CMM
Sample : AZ49856W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	261464	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	189248	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	90832	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	57765	25.76028 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.040%	
3) 1,2-DCA-D4(S)	5.14	65	45887	25.82468 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.300%	
5) Toluene-D8(S)	7.35	98	227493	24.84844 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.392%	
6) 4-Bromofluorobenzene(S)	10.74	95	79869	24.23924 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M43
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M43.D Vial: 43
Acq On : 14 Feb 17 5:18 Operator: PM,DG,SV,CMM
Sample : AZ49857W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:58 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	261397	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

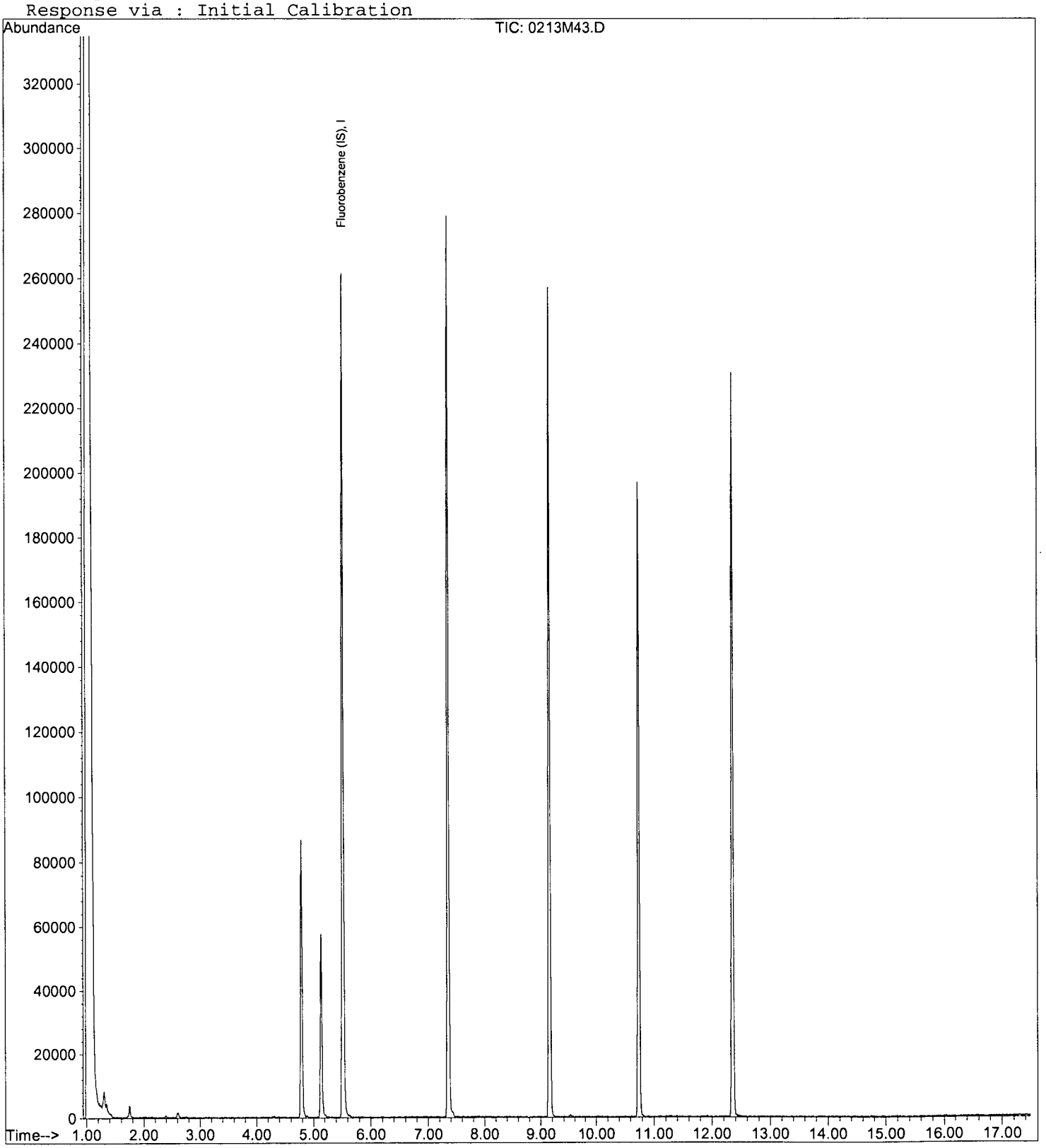
Data File : M:\MAX\DATA\M170127\0213M43.D
Acq On : 14 Feb 17 5:18
Sample : AZ49857W01
Misc : IS&S 10/20/16

Vial: 43
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:58 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M43.D Vial: 43
Acq On : 14 Feb 17 5:18 Operator: PM,DG,SV,CMM
Sample : AZ49857W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	249945	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	177958	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	84506	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	54563	25.45373 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.816%	
3) 1,2-DCA-D4(S)	5.14	65	42639	25.10266 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.412%	
5) Toluene-D8(S)	7.35	98	214318	24.89451 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.580%	
6) 4-Bromofluorobenzene(S)	10.74	95	76052	24.54512 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH226
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49859
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.9	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M45
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M45.D Vial: 45
Acq On : 14 Feb 17 6:14 Operator: PM,DG,SV,CMM
Sample : AZ49859W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:58 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	289331	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

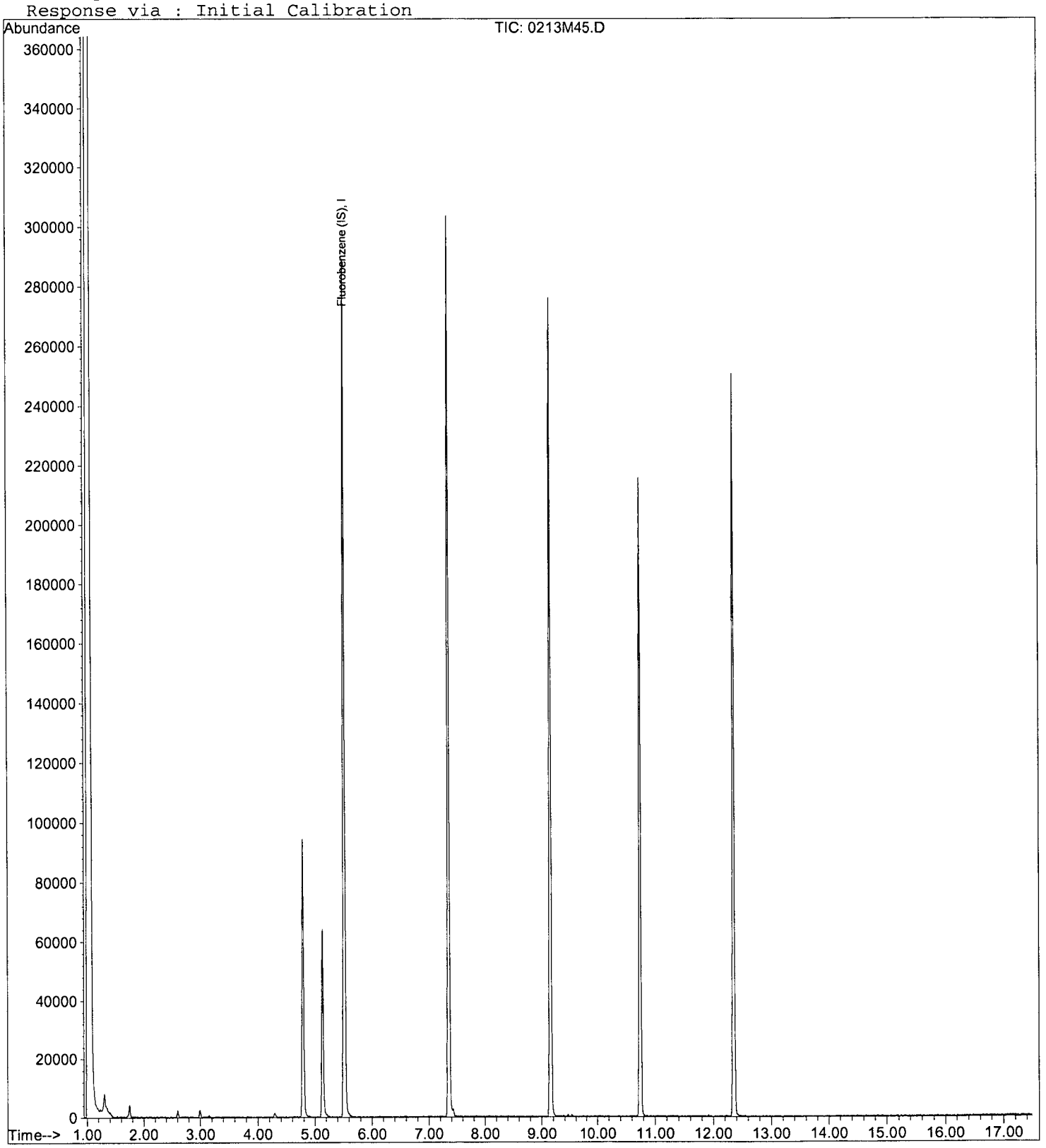
Data File : M:\MAX\DATA\M170127\0213M45.D
Acq On : 14 Feb 17 6:14
Sample : AZ49859W01
Misc : IS&S 10/20/16

Vial: 45
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:58 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M45.D Vial: 45
Acq On : 14 Feb 17 6:14 Operator: PM,DG,SV,CMM
Sample : AZ49859W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	274317	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	191166	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	91136	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59332	25.21936 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.876%	
3) 1,2-DCA-D4(S)	5.14	65	46382	24.88021 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.520%	
5) Toluene-D8(S)	7.35	98	232852	25.17861 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.716%	
6) 4-Bromofluorobenzene(S)	10.74	95	82311	24.72972 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.920%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.7	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M46
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M46.D Vial: 46
Acq On : 14 Feb 17 6:42 Operator: PM,DG,SV,CMM
Sample : AZ49860W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:59 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	283453	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

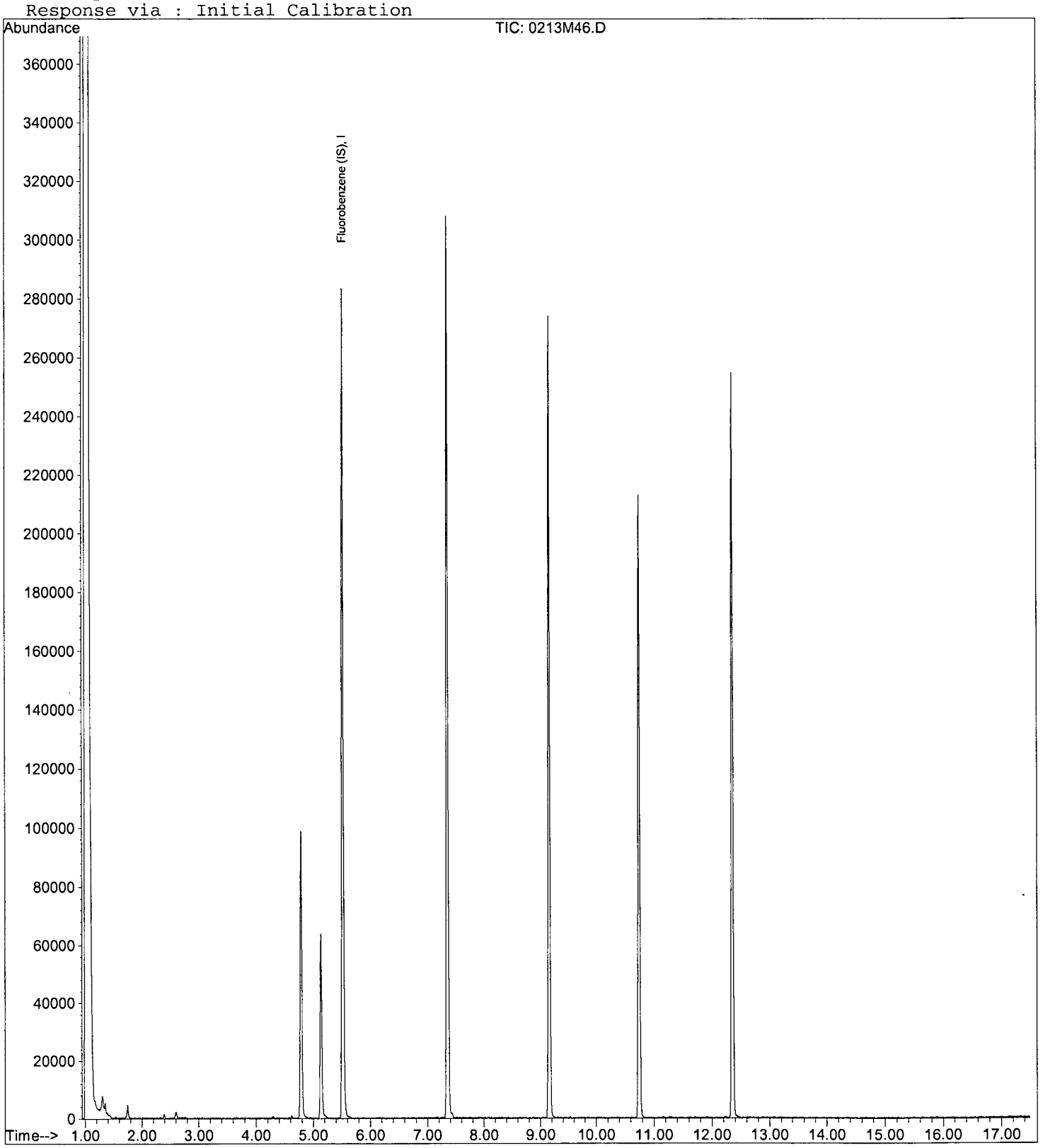
Data File : M:\MAX\DATA\M170127\0213M46.D
Acq On : 14 Feb 17 6:42
Sample : AZ49860W01
Misc : IS&S 10/20/16

Vial: 46
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:59 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M46.D
Acq On : 14 Feb 17 6:42
Sample : AZ49860W01
Misc : IS&S 10/20/16

Vial: 46
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 10:05 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	275404	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	191941	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	91679	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	59960	25.38570 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.544%	
3) 1,2-DCA-D4(S)	5.13	65	48059	25.67803 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.712%	
5) Toluene-D8(S)	7.35	98	234438	25.24775 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.992%	
6) 4-Bromofluorobenzene(S)	10.74	95	83294	24.92401 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.696%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH222
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49861
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.9	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M47
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M47.D Vial: 47
Acq On : 14 Feb 17 7:11 Operator: PM,DG,SV,CMM
Sample : AZ49861W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:59 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	282398	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

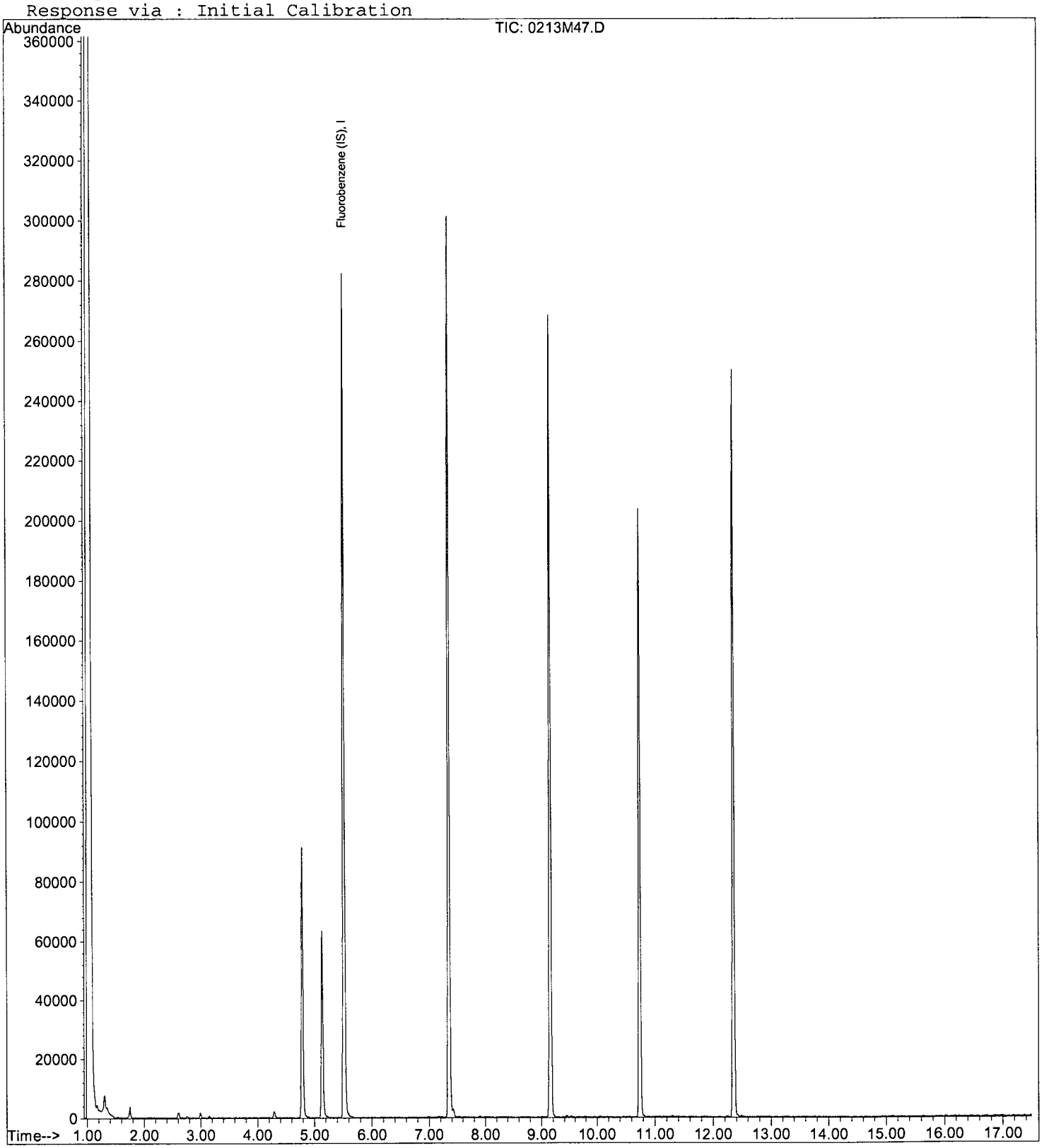
Data File : M:\MAX\DATA\M170127\0213M47.D
Acq On : 14 Feb 17 7:11
Sample : AZ49861W01
Misc : IS&S 10/20/16

Vial: 47
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:59 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M47.D Vial: 47
Acq On : 14 Feb 17 7:11 Operator: PM,DG,SV,CMM
Sample : AZ49861W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	270965	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	189376	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	90809	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57369	24.68663 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.748%	
3) 1,2-DCA-D4(S)	5.13	65	45737	24.83772 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.352%	
5) Toluene-D8(S)	7.35	98	225371	24.60002 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.400%	
6) 4-Bromofluorobenzene(S)	10.74	95	79850	24.21709 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.868%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #GRO86-170213BM-216143

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0213M48
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/14/17 11:37:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M48.D Vial: 48
Acq On : 14 Feb 17 7:39 Operator: PM,DG,SV,CMM
Sample : AZ49862W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 9:59 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	279265	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0213M48.D MGAS6211.M Tue Feb 14 10:02:04 2017 Page 1

Quantitation Report

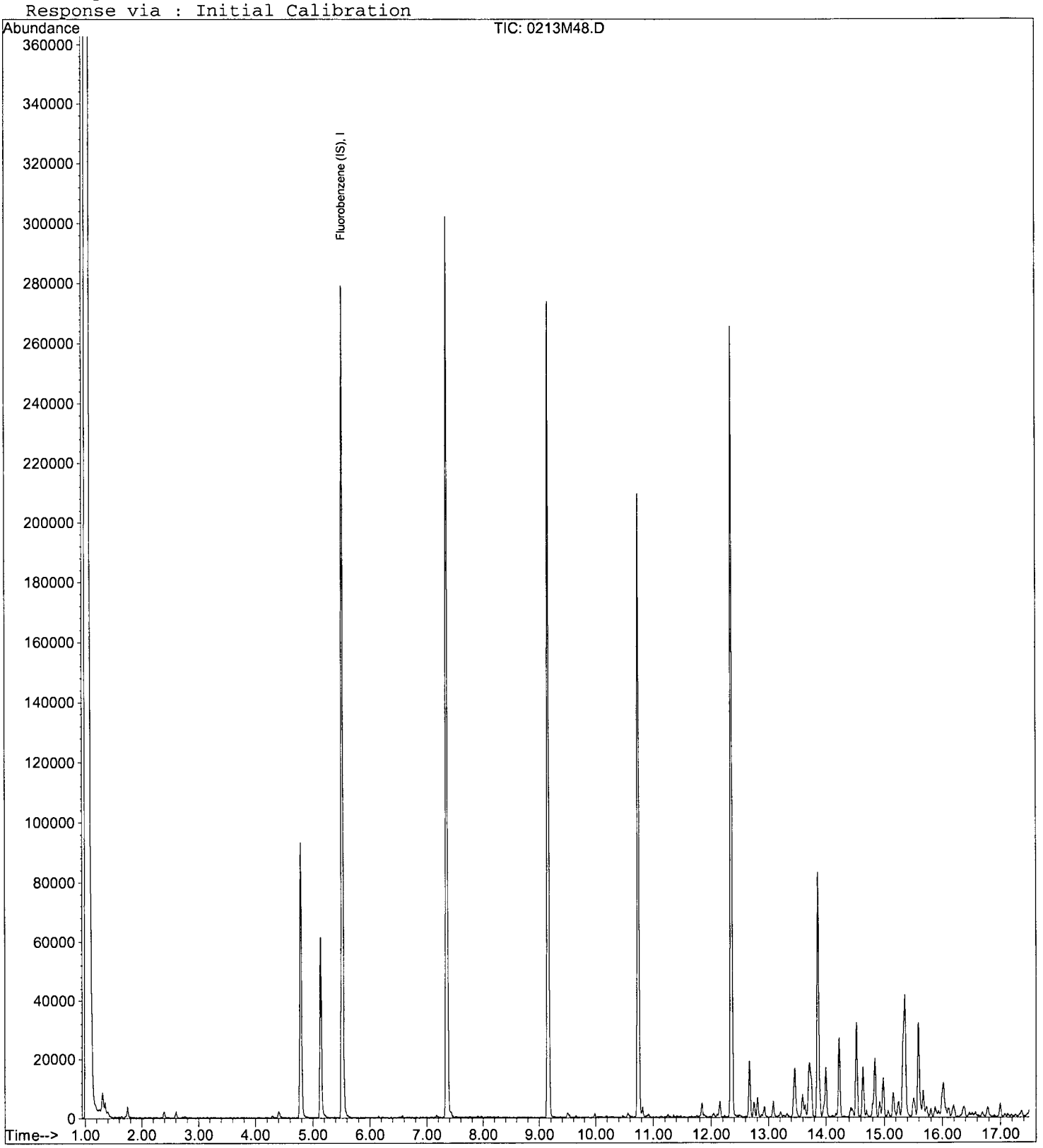
Data File : M:\MAX\DATA\M170127\0213M48.D
Acq On : 14 Feb 17 7:39
Sample : AZ49862W01
Misc : IS&S 10/20/16

Vial: 48
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:59 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M48.D Vial: 48
Acq On : 14 Feb 17 7:39 Operator: PM,DG,SV,CMM
Sample : AZ49862W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	269140	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	191085	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	93147	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57863	25.06804 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.272%	
3) 1,2-DCA-D4(S)	5.14	65	45051	24.63108 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.524%	
5) Toluene-D8(S)	7.35	98	224517	24.28762 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.152%	
6) 4-Bromofluorobenzene(S)	10.74	95	80676	24.24877 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.996%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA METHOD 8260
Gasoline Range Organics (GRO)

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
3	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	14557	5.43023 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
3) 1,2-DCA-D4(S)	5.13	65	11763	5.53763 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.152%	
5) Toluene-D8(S)	7.35	98	57915	5.51206 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.048%	
6) 4-Bromofluorobenzene(S)	10.74	95	20580	5.44224 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.768%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

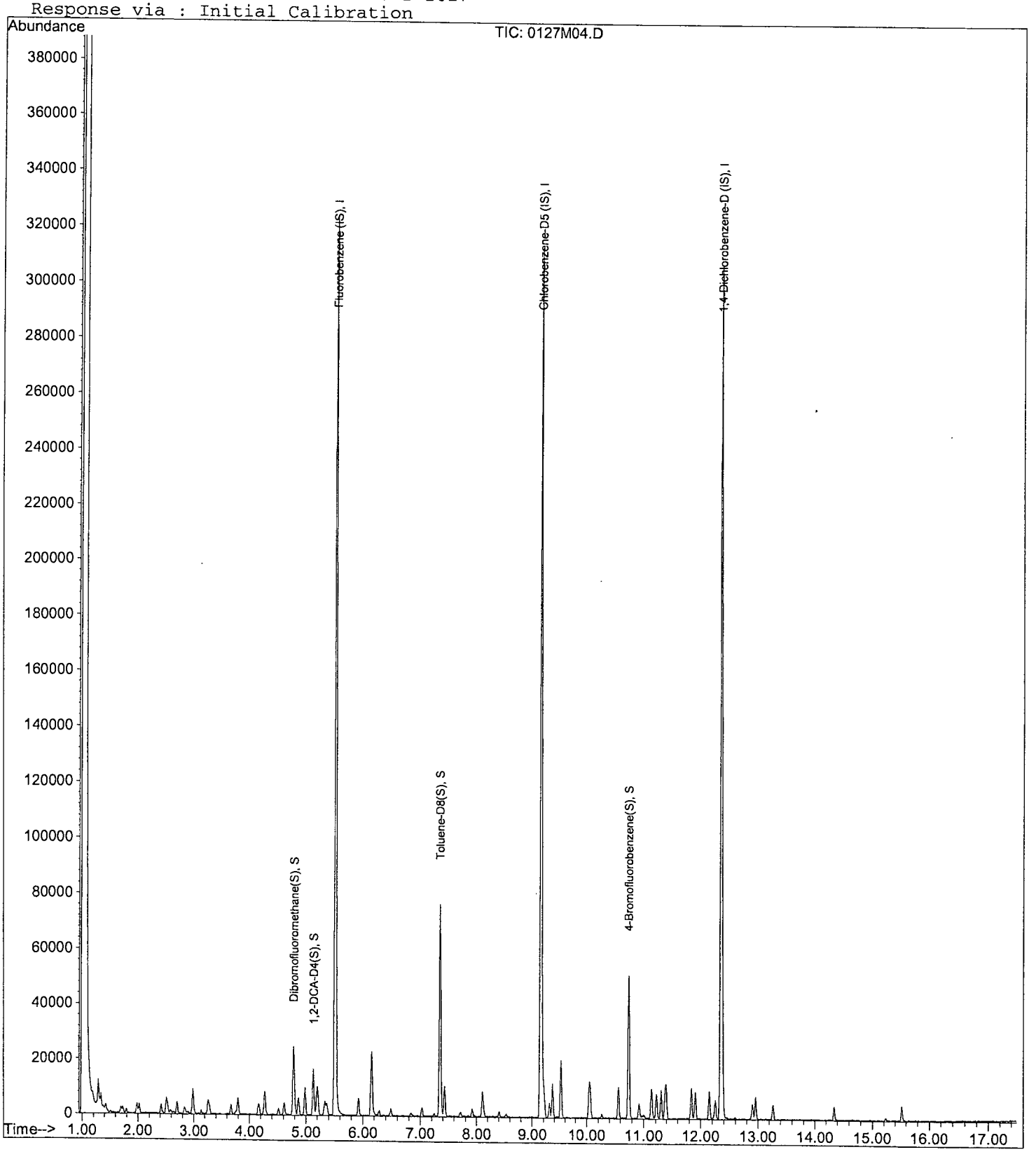
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13937	5.12533 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.500%	
3) 1,2-DCA-D4(S)	5.13	65	10688	4.96030 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.840%	
5) Toluene-D8(S)	7.35	98	52662	4.84931 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	18960	4.85099 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.404%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

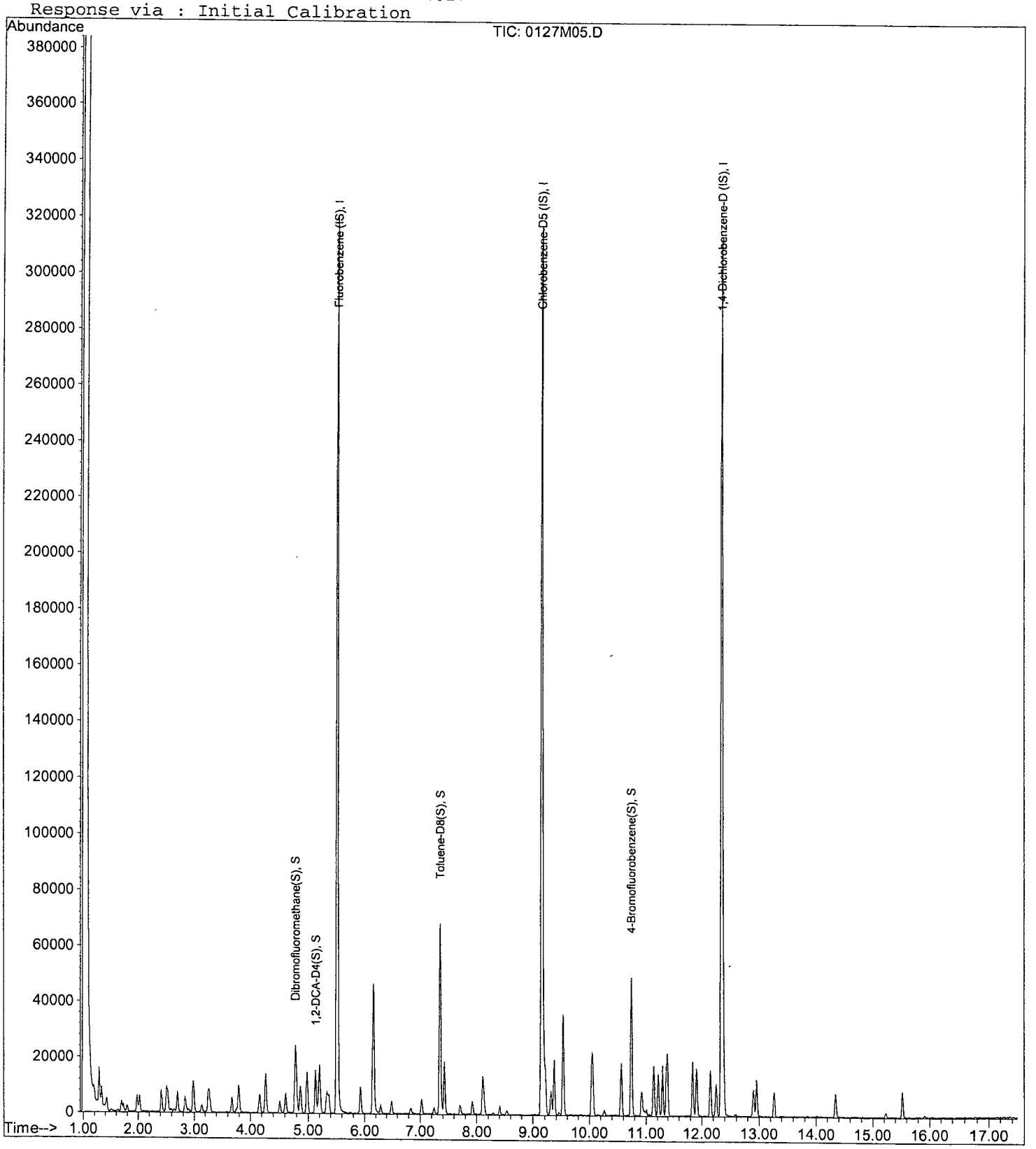
Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	24009	8.88481 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.540%	
3) 1,2-DCA-D4(S)	5.13	65	19787	9.24089 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.964%	
5) Toluene-D8(S)	7.35	98	96515	9.02332 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.092%	
6) 4-Bromofluorobenzene(S)	10.74	95	34814	9.04347 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M06.D MSUR127.M Tue Feb 14 09:22:14 2017

Quantitation Report

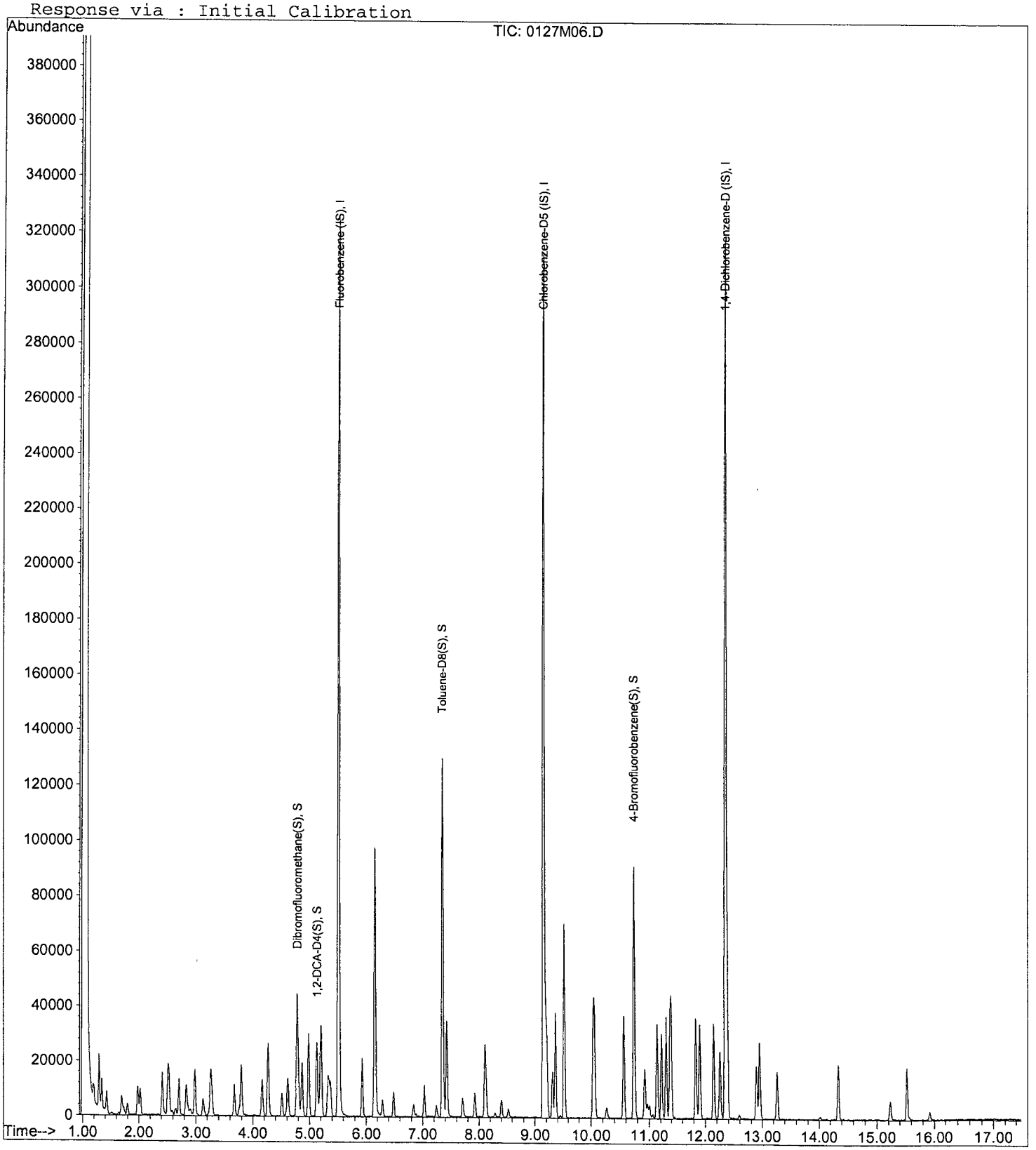
Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
3) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
5) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

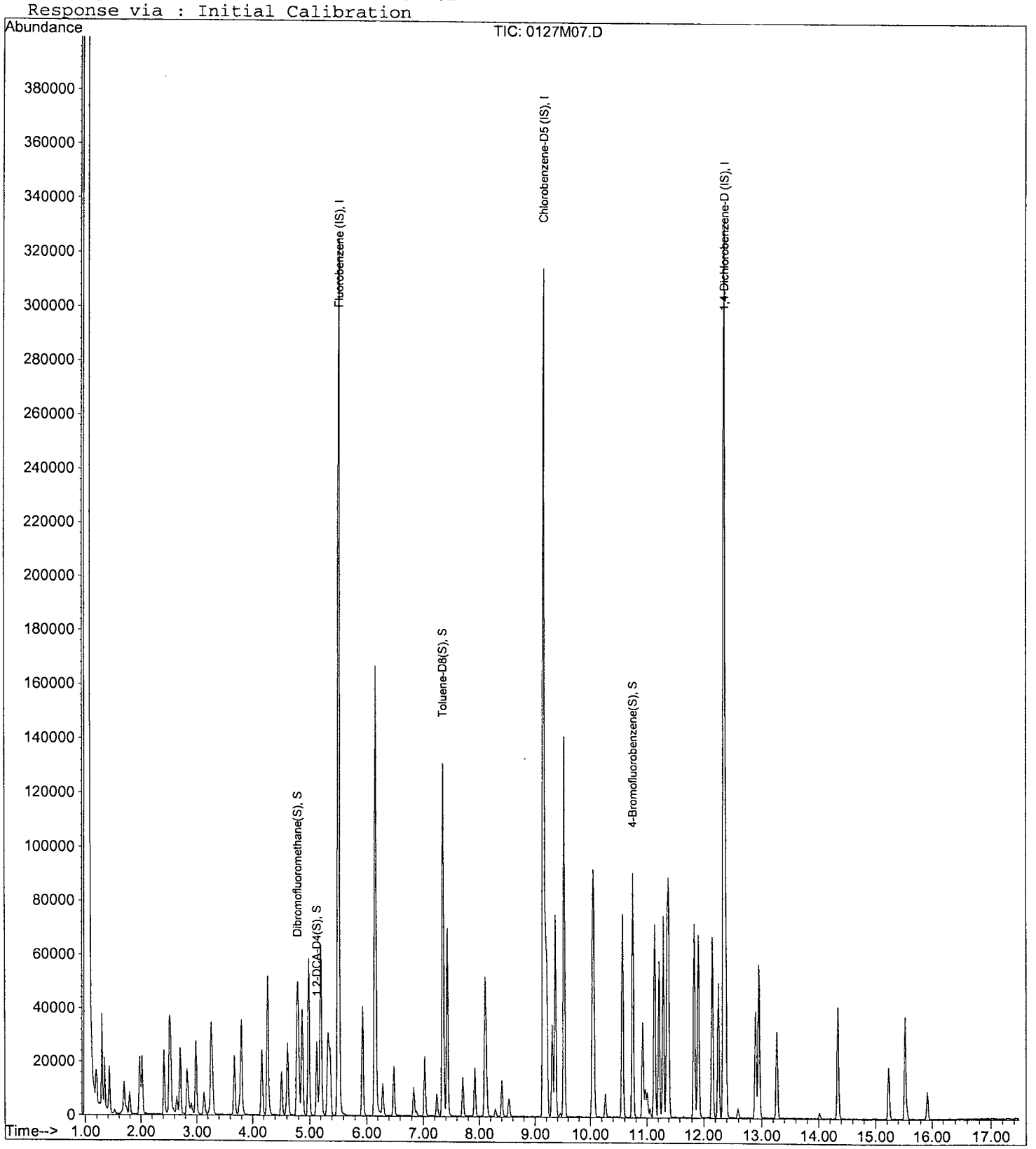
Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
3) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
5) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
6) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

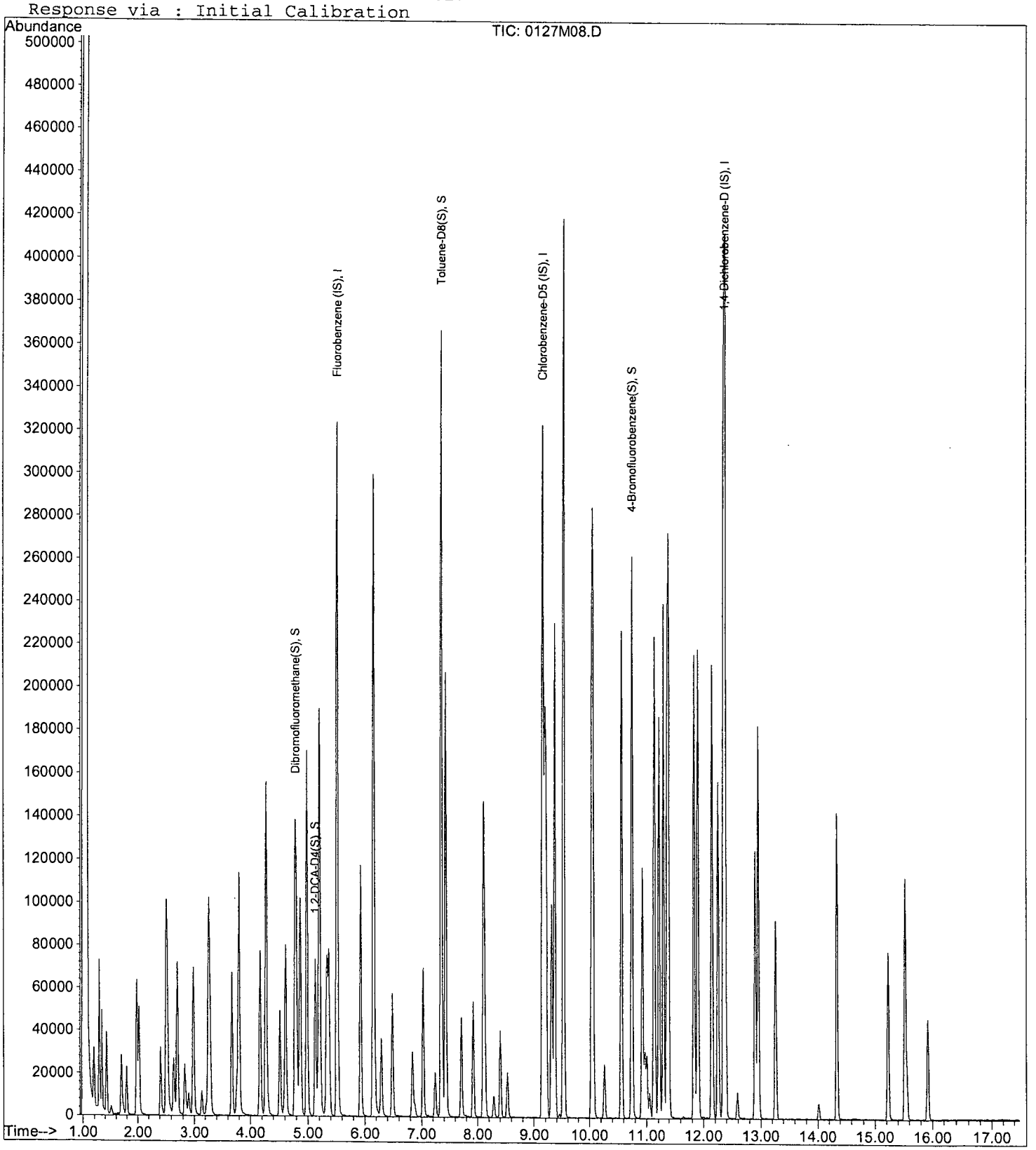
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
3) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
5) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
6) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M09.D MSUR127.M Tue Feb 14 09:22:25 2017

Quantitation Report

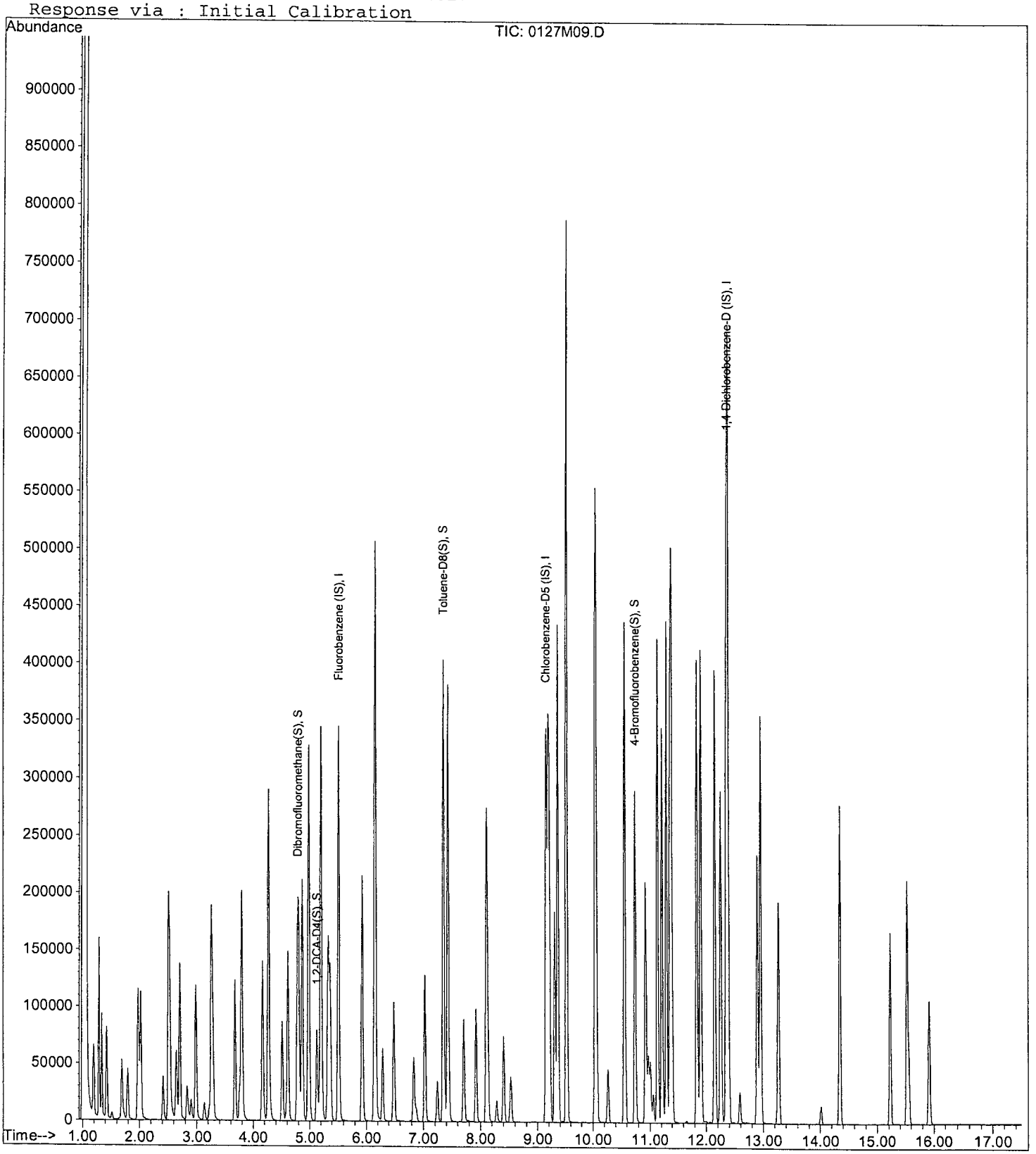
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
3) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
5) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

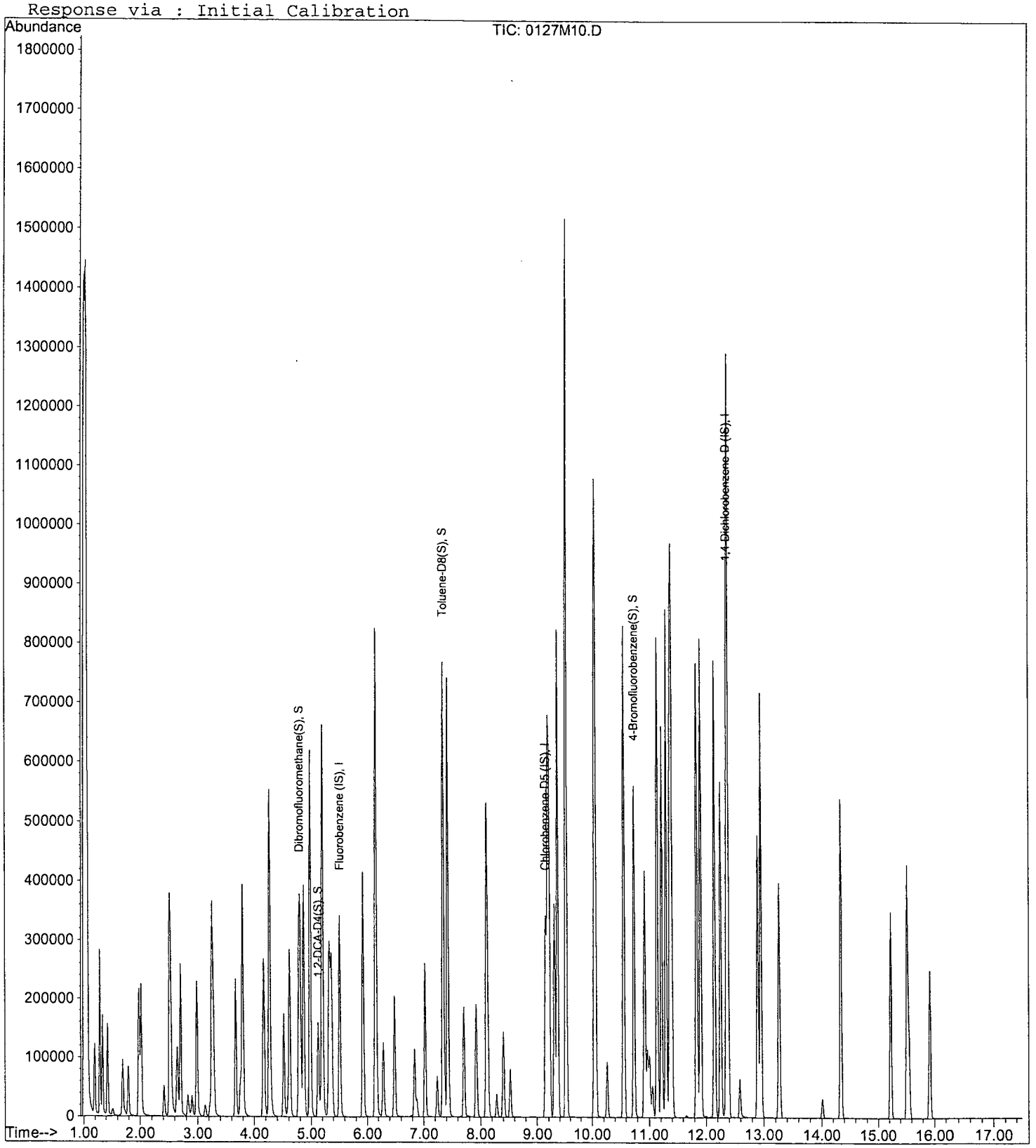
Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
3) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
5) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

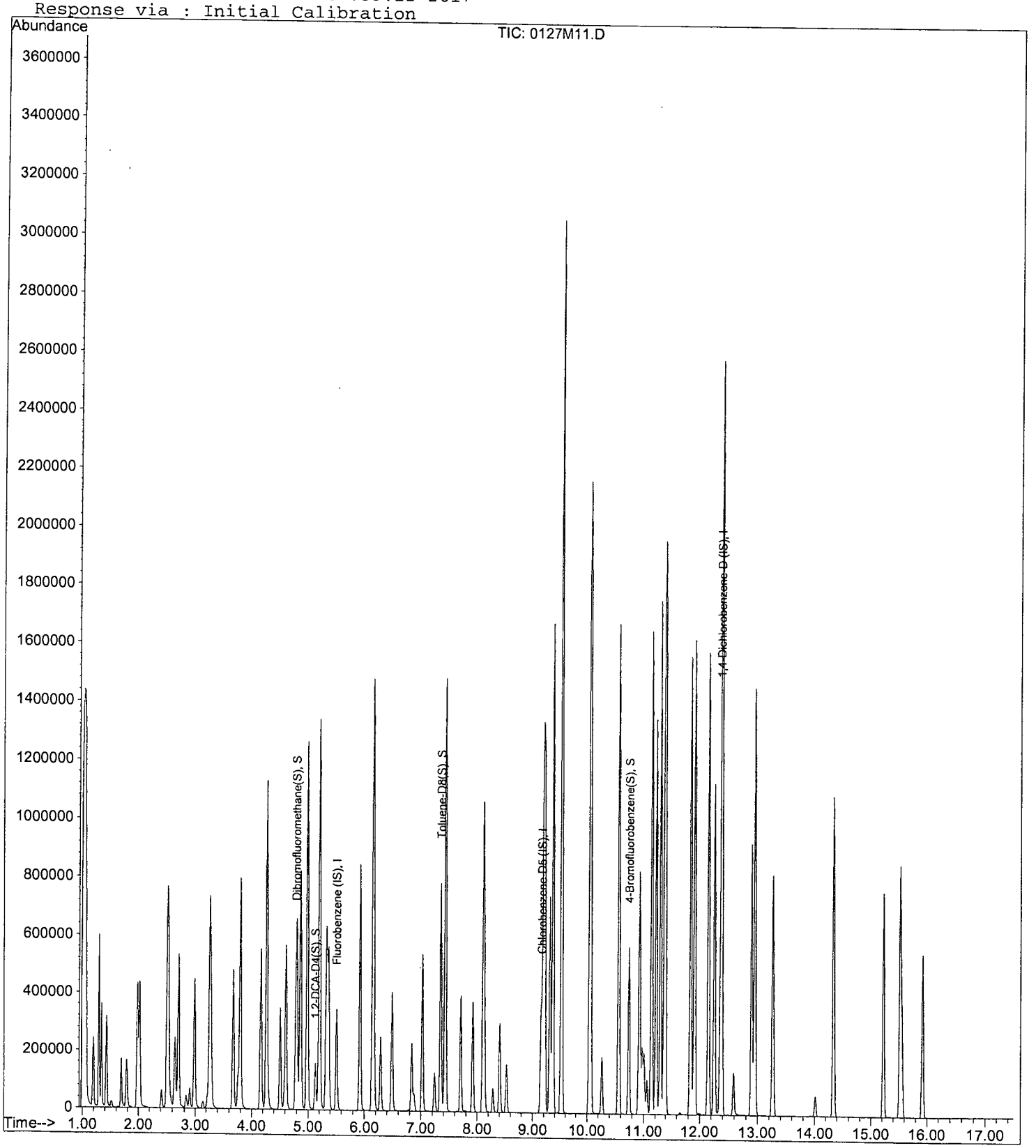
Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
3) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
5) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0127M12.D MSUR127.M Tue Feb 14 09:22:37 2017

Quantitation Report

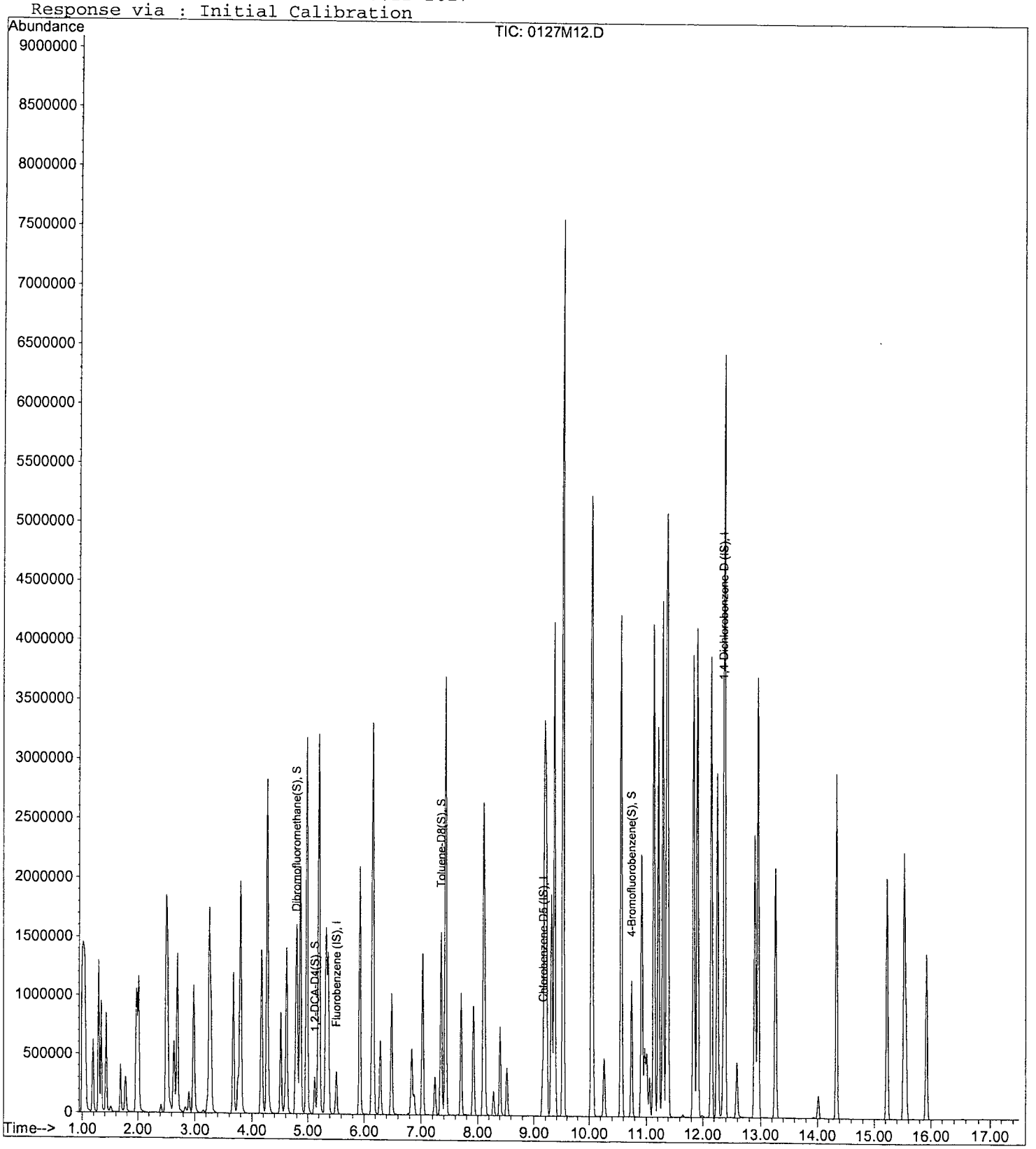
Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 2/11/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0211M08.D	0211M09.D	0211M10.D	0211M11.D	0211M12.D	0211M13.D	0211M14.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	11.5	5.746	4.005	2.663	2.410	2.364	2.332				4.4	76	TMHBL	1.000
3																
4																
5																
6																
7																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	293113	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	2692304m	22.09310	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

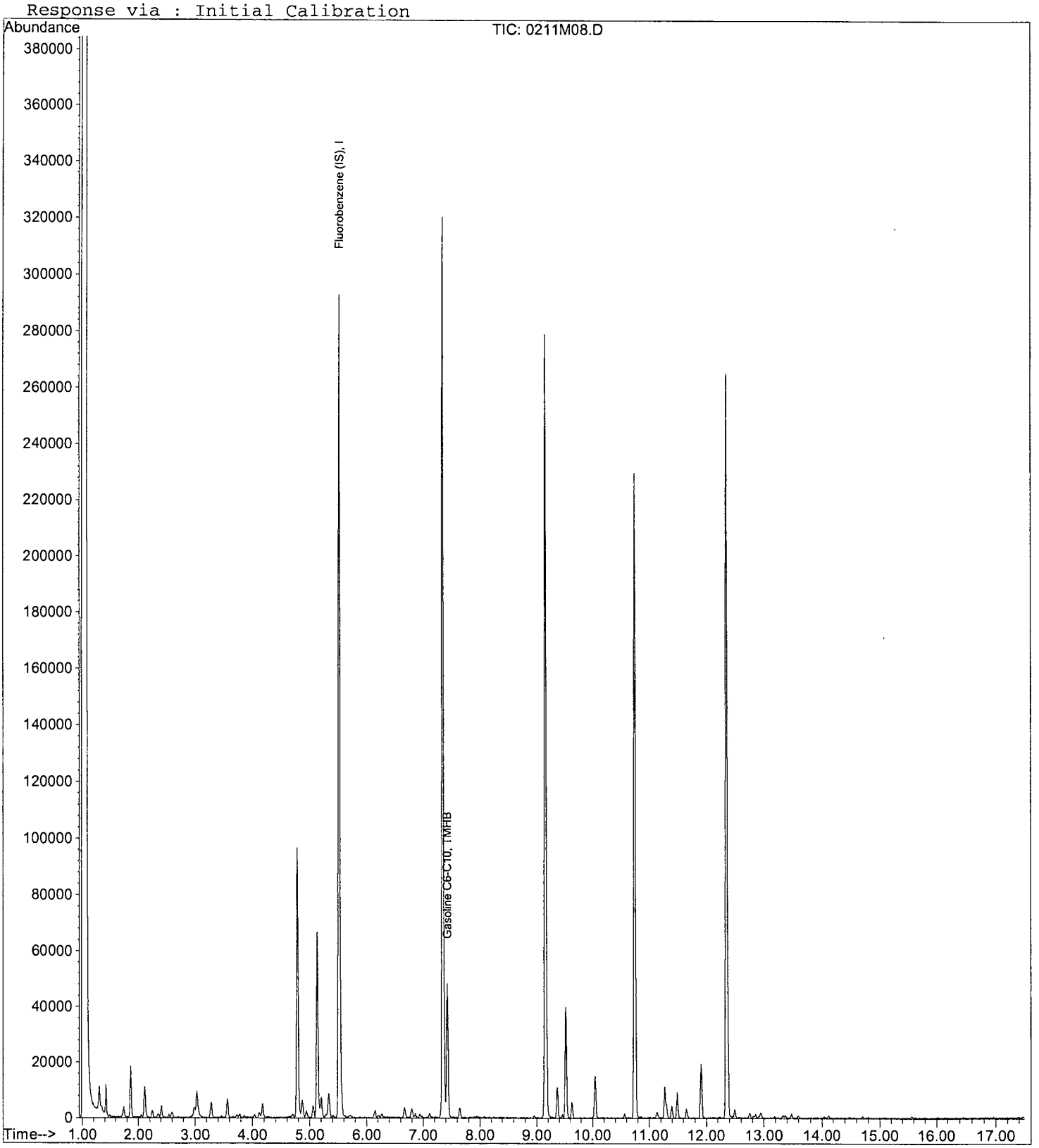
Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M09.D
Acq On : 11 Feb 17 13:20
Sample : 50ppb GAS STD 02/11/17B
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290206	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	3335070m	50.30162 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

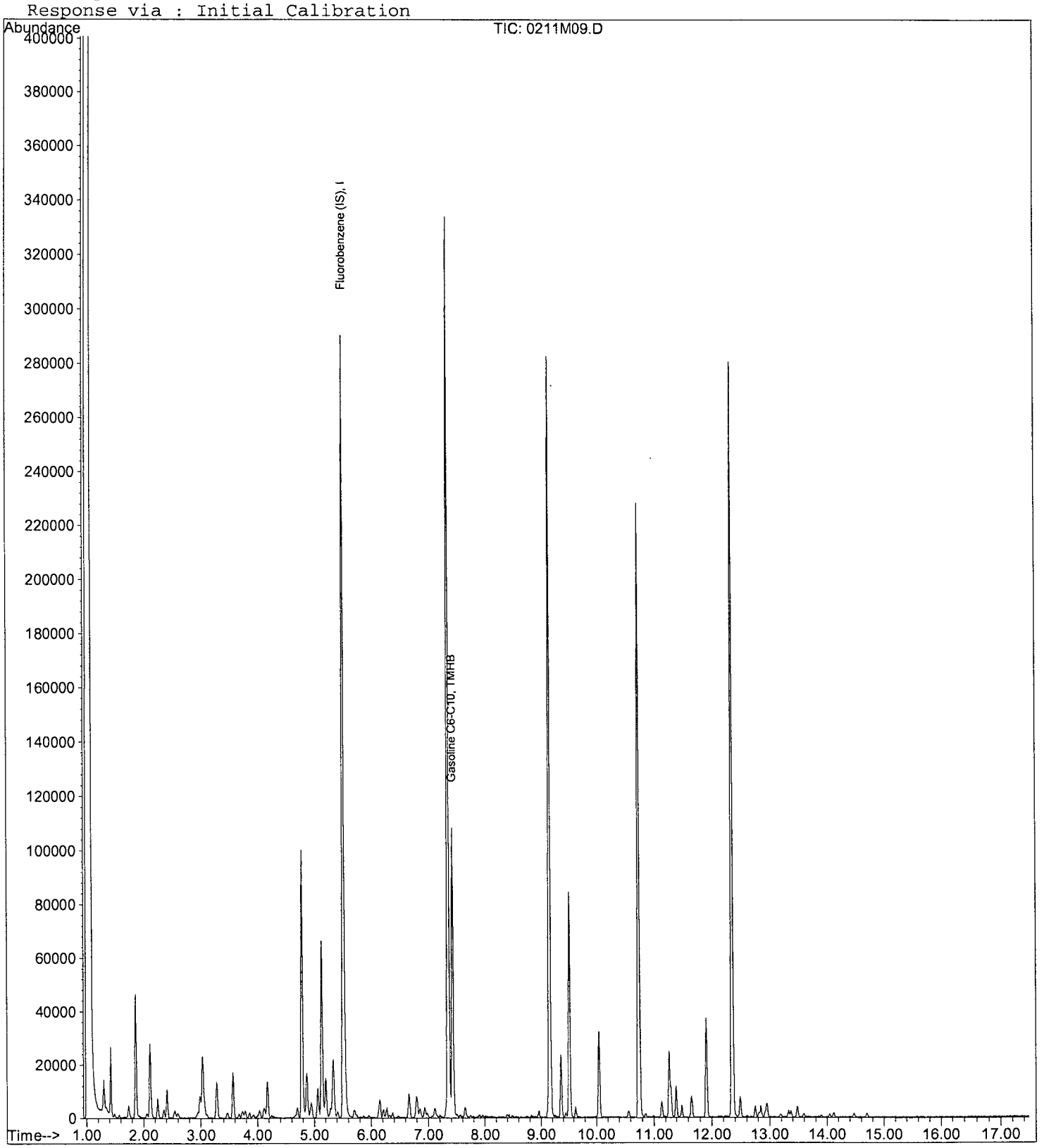
Data File : M:\MAX\DATA\M170127\0211M09.D
Acq On : 11 Feb 17 13:20
Sample : 50ppb GAS STD 02/11/17B
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M10.D Vial: 10
Acq On : 11 Feb 17 13:48 Operator: PM,DG,SV,CMM
Sample : 100ppb GAS STD 02/11/17C Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	305473	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	4893597m	105.66606 ppb	100

(#) = qualifier out of range (m) = manual integration

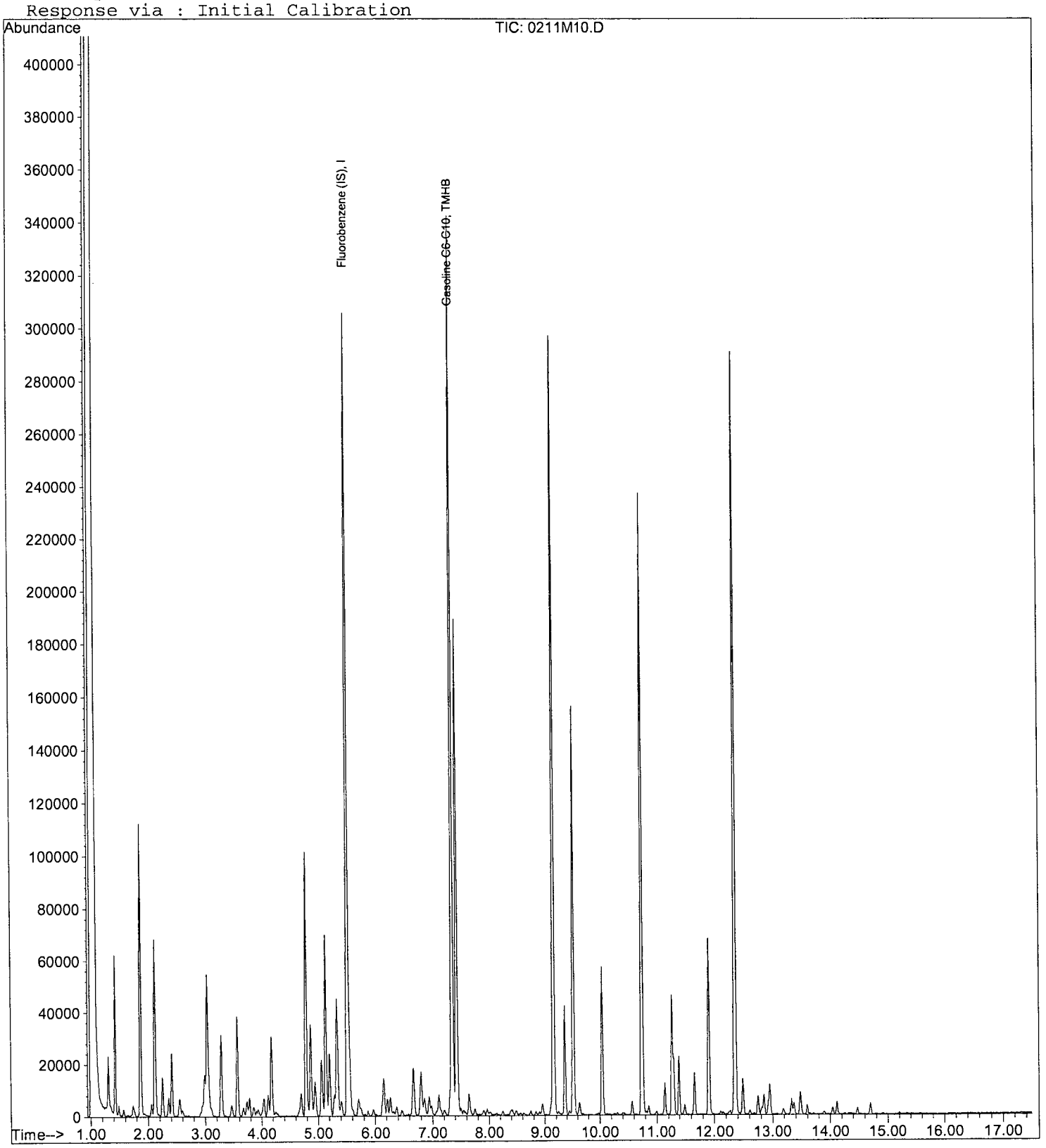
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	304946	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9745877m	300.57649 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

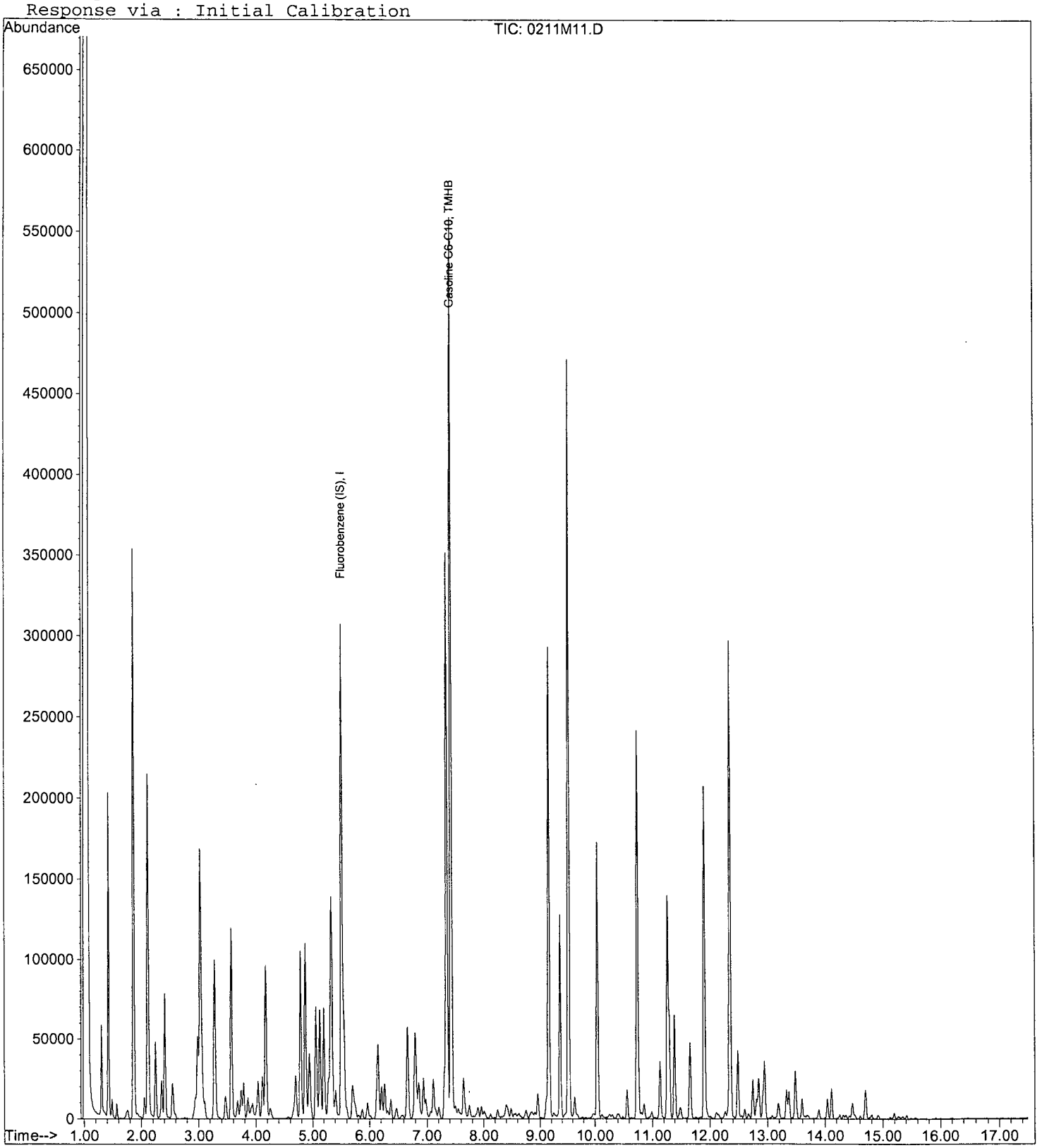
Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295633	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	17097428m	616.96425 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

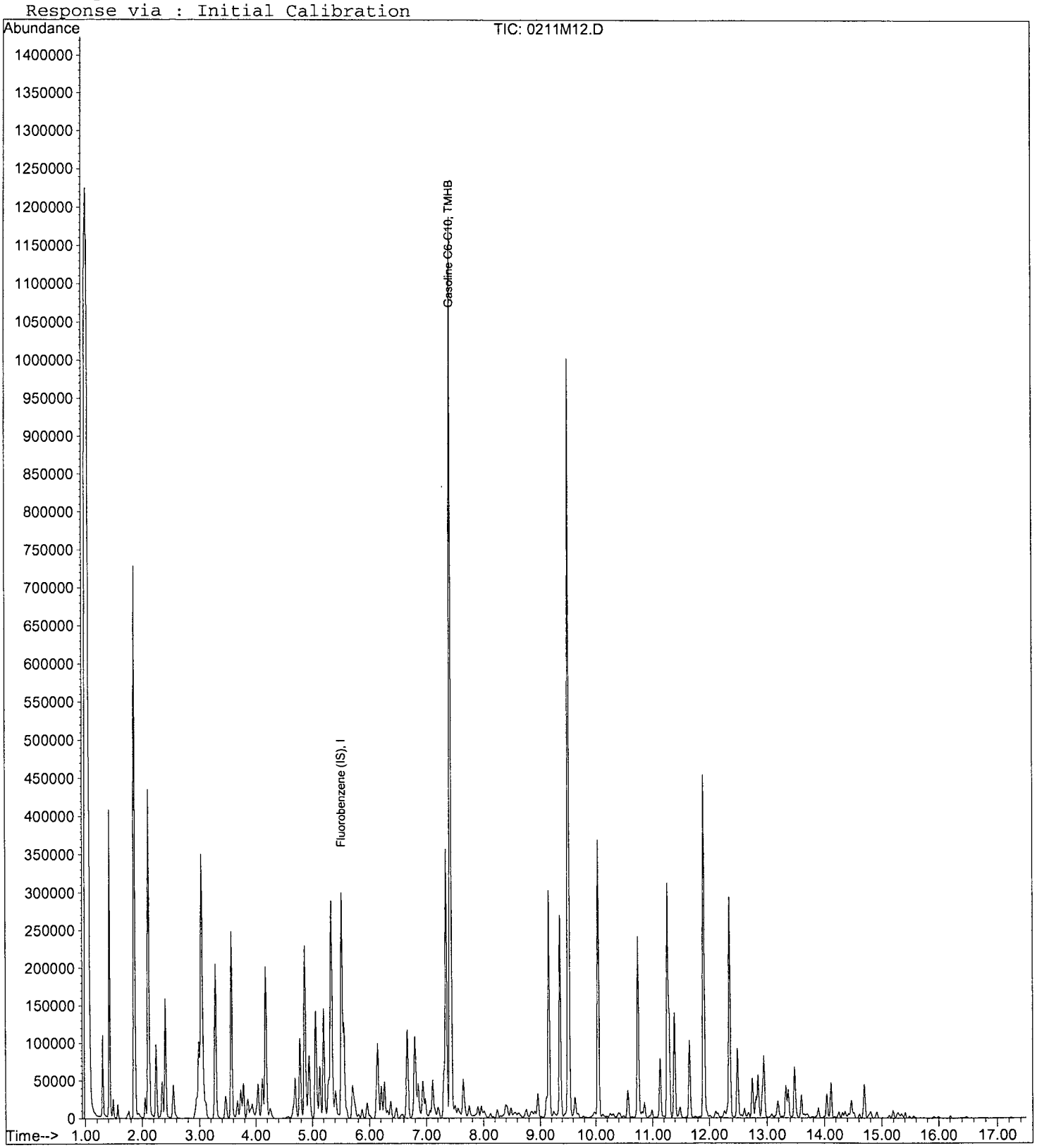
Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M13.D Vial: 13
Acq On : 11 Feb 17 15:13 Operator: PM,DG,SV,CMM
Sample : 800ppb GAS STD 02/11/17F Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:13 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:12:24 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	303025	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	22923559m	812.12410 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

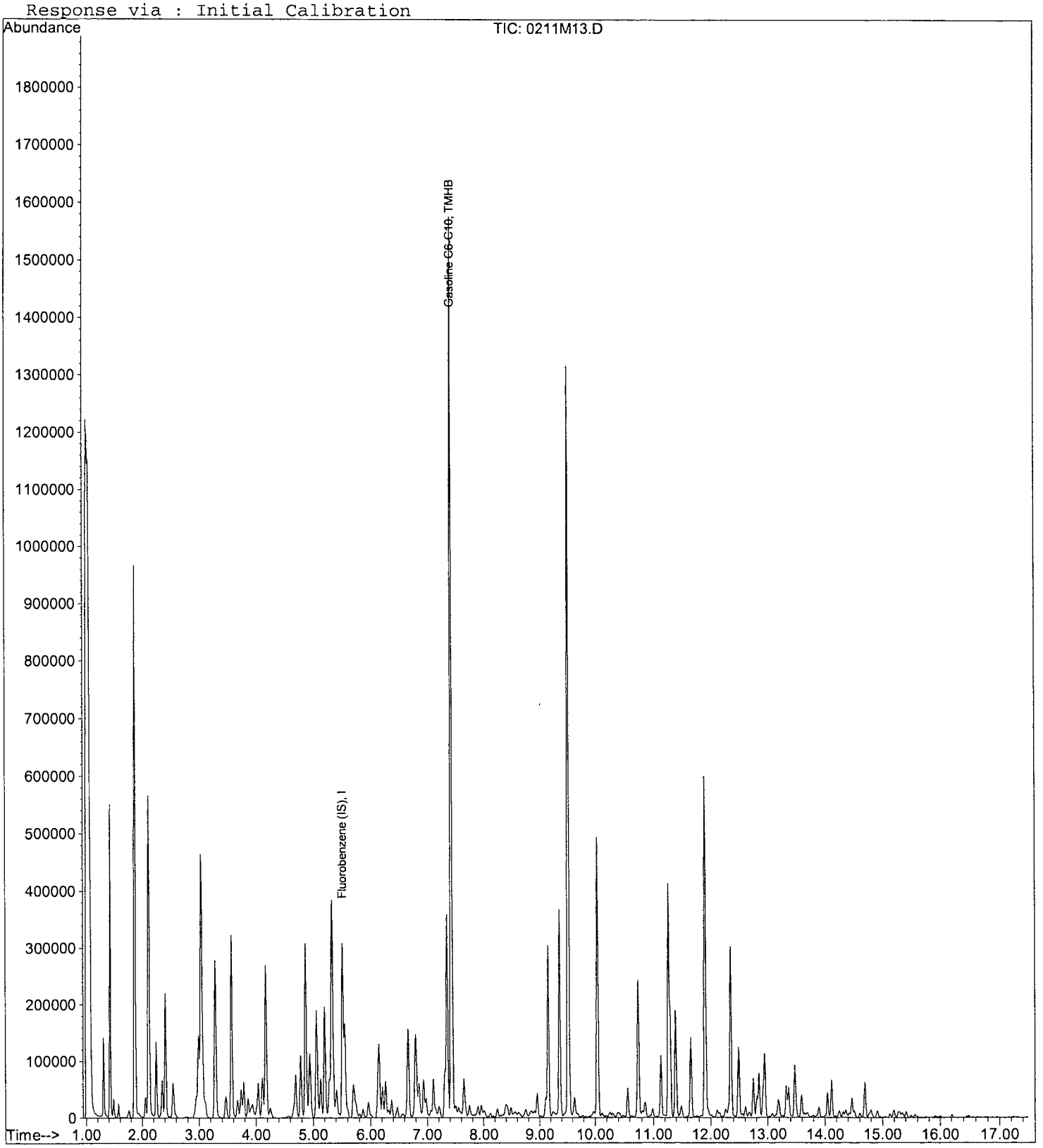
Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:10:45 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294463	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	27466994m	1011.16091	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

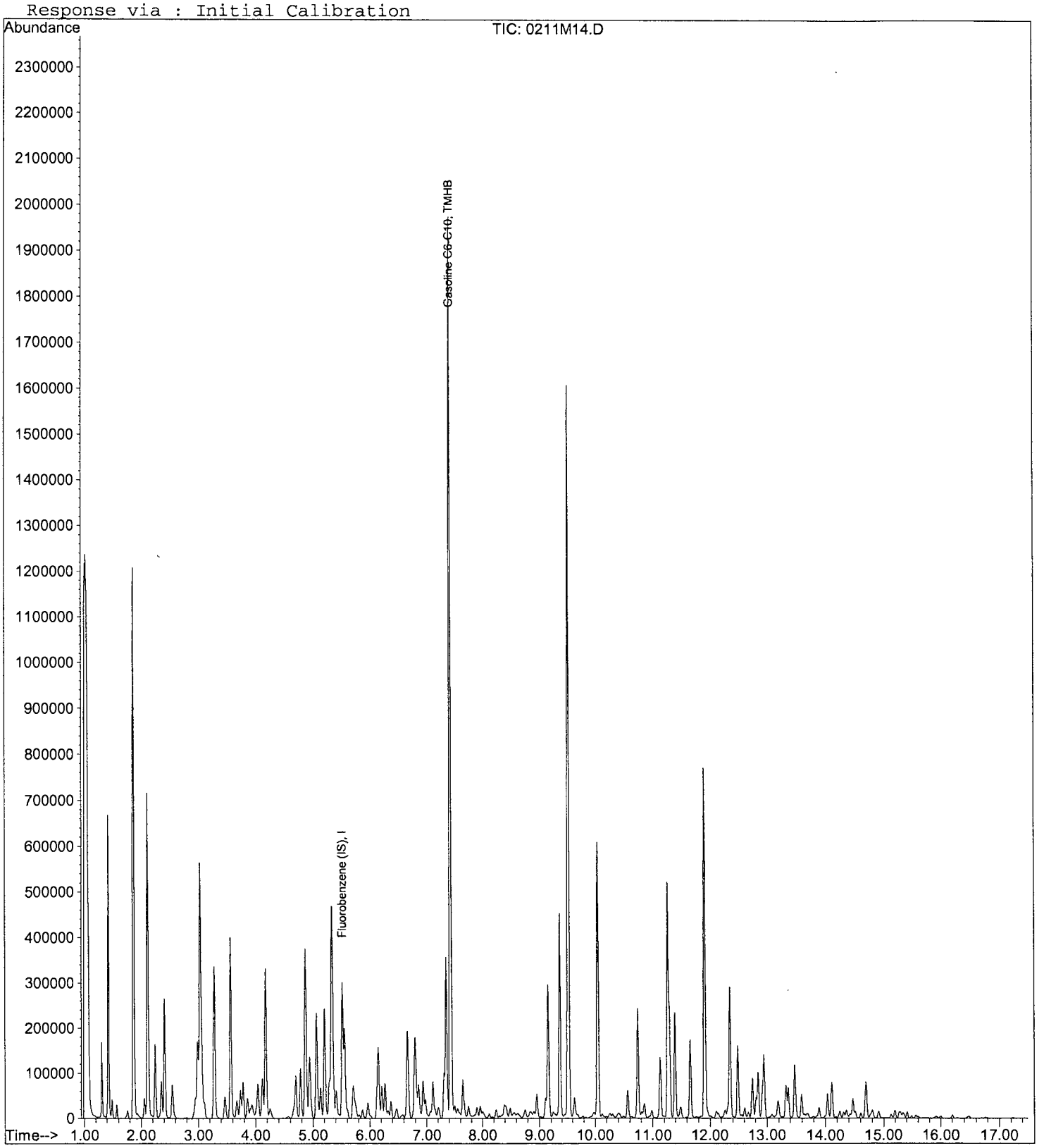
Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

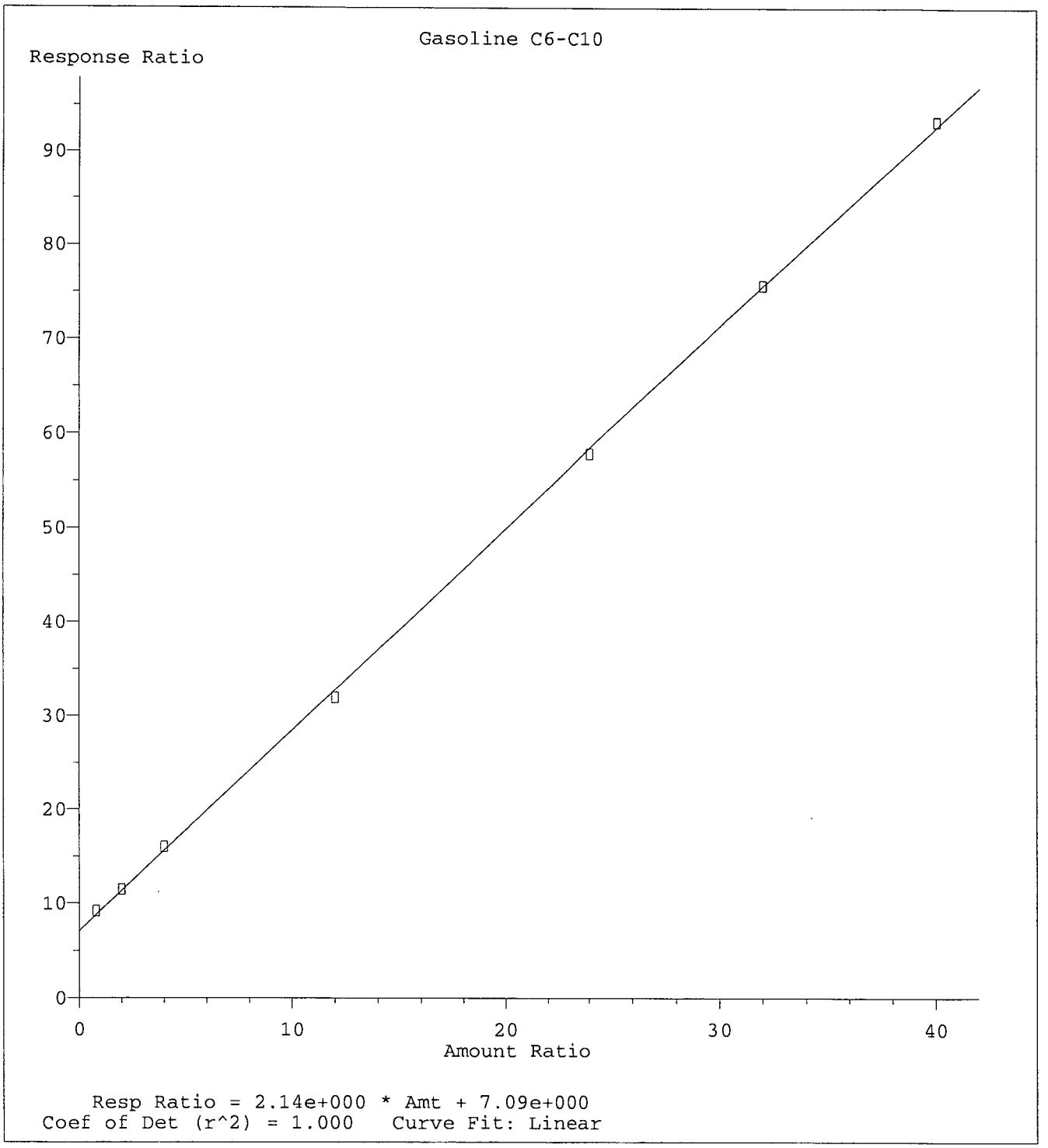
Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170127\MGAS6211.M
Calibration Table Last Updated: Mon Feb 13 08:19:08 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0211M17.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.429	2.610	41	TMHBL	5.7
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M17.D Vial: 17
Acq On : 11 Feb 17 17:06 Operator: PM,DG,SV,CMM
Sample : (SS) 300ppb GAS STD 02/11/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:21 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	302898	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9487242m	282.95435 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

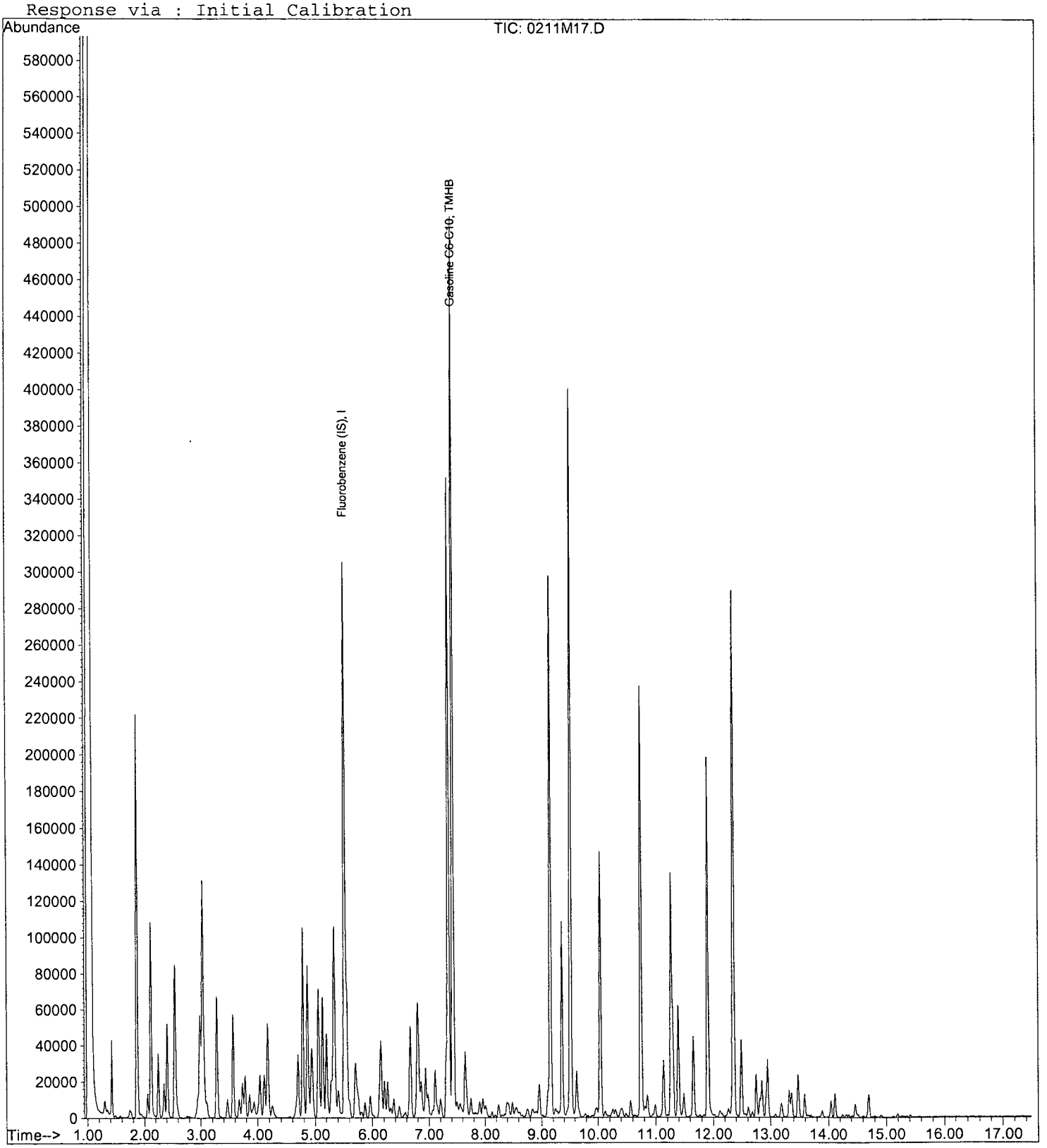
Data File : M:\MAX\DATA\M170127\0211M17.D
Acq On : 11 Feb 17 17:06
Sample : (SS) 300ppb GAS STD 02/11/17
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:21 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0213M34.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.532	43	TMHBL	9.3
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			43.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:56 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	298429	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	9066424m	271.96637	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

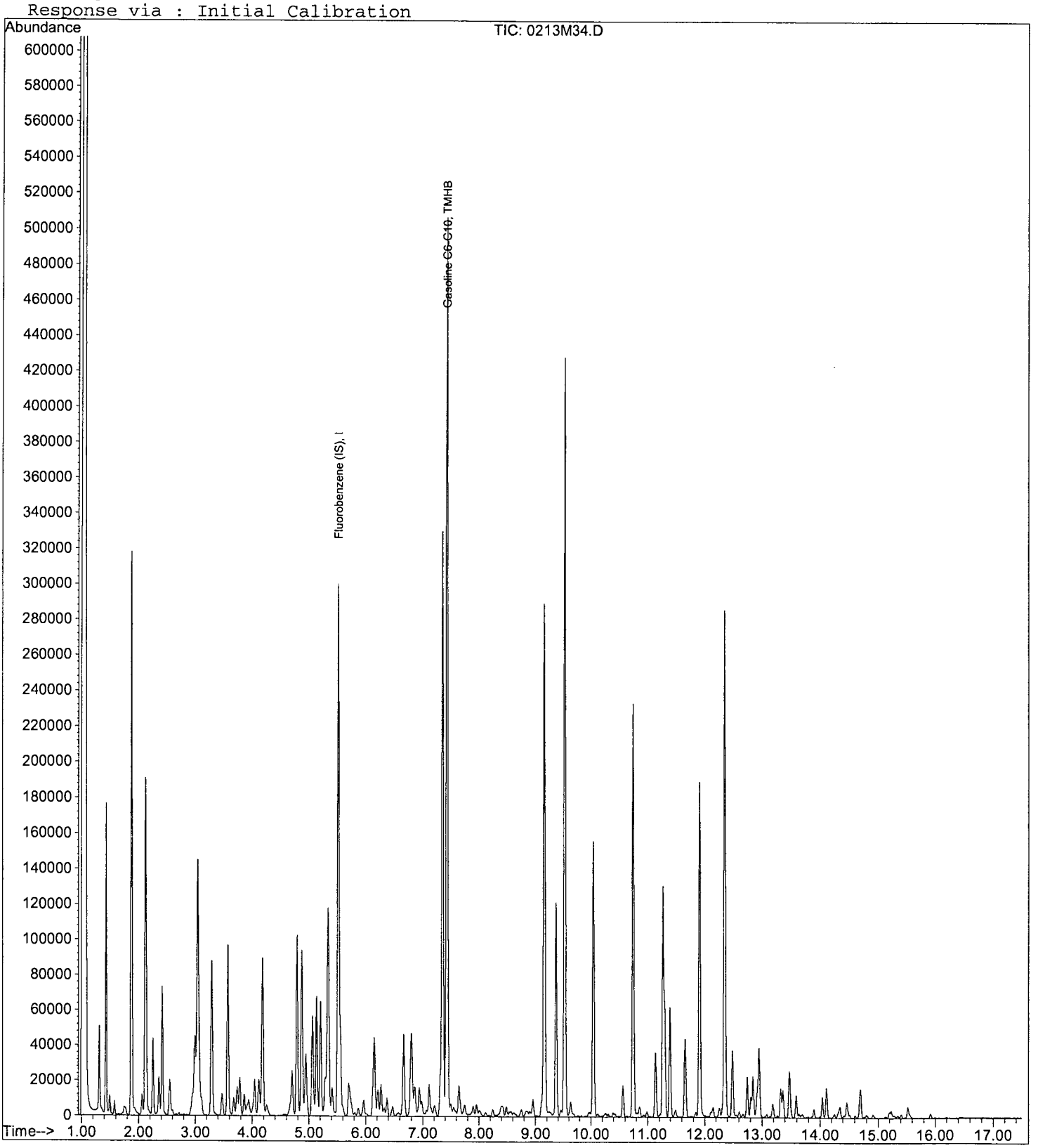
Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:56 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M34.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2109	1.6	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1674	1.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.201	0.68	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4332	0.47	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 10:05 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	287937	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	201685	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	101820	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	60730	24.59255 ppb	0.00
Spiked Amount 25.000			Recovery = 98.372%		
3) 1,2-DCA-D4(S)	5.14	65	48196	24.63036 ppb	0.00
Spiked Amount 25.000			Recovery = 98.520%		
5) Toluene-D8(S)	7.35	98	242274	24.83108 ppb	0.00
Spiked Amount 25.000			Recovery = 99.324%		
6) 4-Bromofluorobenzene(S)	10.74	95	87373	24.88145 ppb	0.00
Spiked Amount 25.000			Recovery = 99.524%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0213M51.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.415	45	TMHBL	15
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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35							
36							
37							
38							
39							
40							
		Average			45.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M51.D
Acq On : 14 Feb 17 9:04
Sample : Ending CCV GAS 300ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 51
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:55 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	277741	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8049187m	255.62459 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

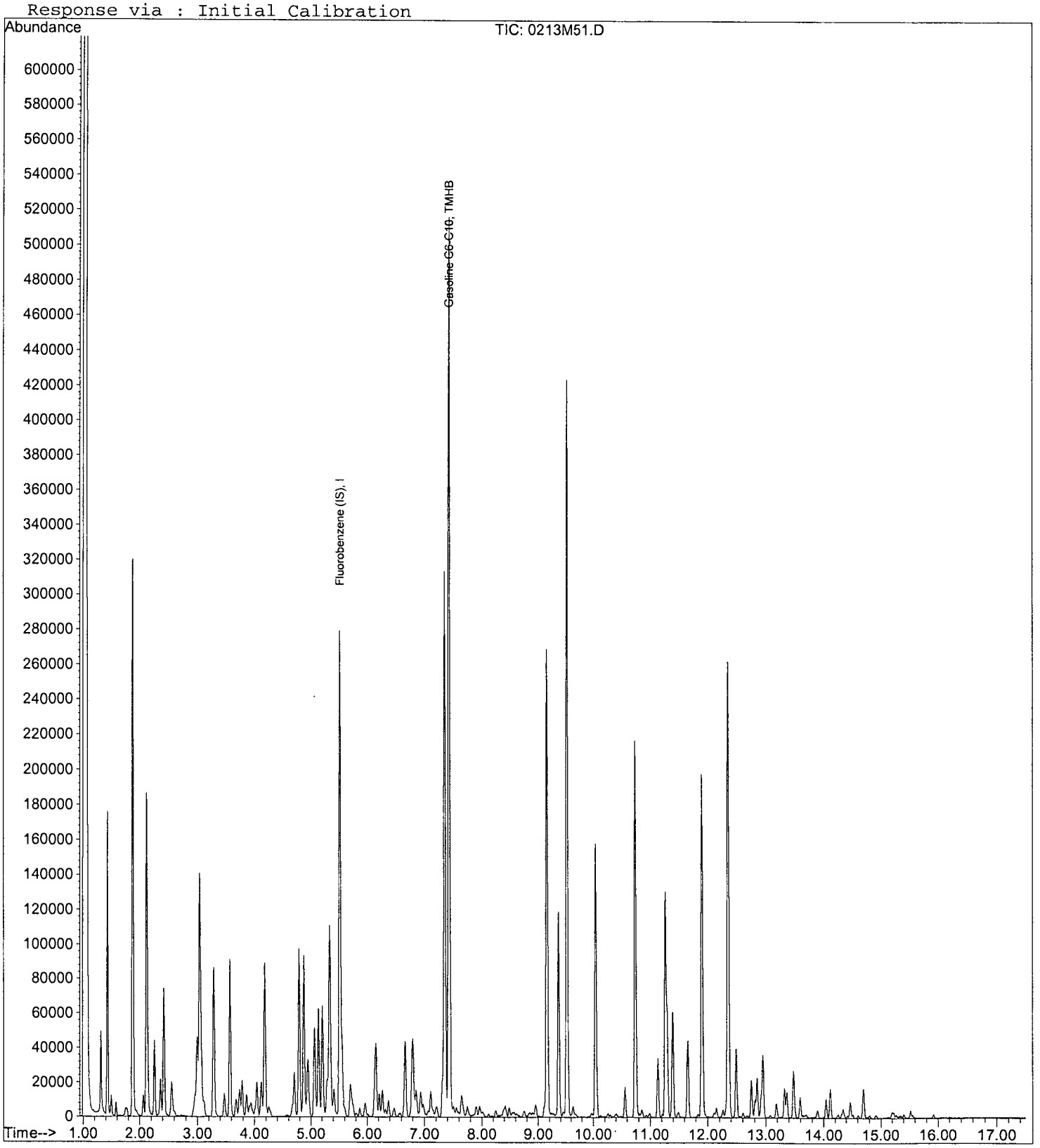
Data File : M:\MAX\DATA\M170127\0213M51.D
Acq On : 14 Feb 17 9:04
Sample : Ending CCV GAS 300ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 51
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:55 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0213M51.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2152	0.36	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1674	1.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.222	1.0	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4443	2.1	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M51.D
Acq On : 14 Feb 17 9:04
Sample : Ending CCV GAS 300ug/L 2/13/17
Misc : IS&S 10/20/16

Vial: 51
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 10:05 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	270489	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	190751	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	95300	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58204	25.09002 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.360%	
3) 1,2-DCA-D4(S)	5.14	65	45268	24.62629 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.504%	
5) Toluene-D8(S)	7.36	98	233087	25.25885 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.036%	
6) 4-Bromofluorobenzene(S)	10.74	95	84743	25.51579 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.064%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA METHOD 8260
Gasoline Range Organics (GRO)

Raw Data

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49856 - 216143**
Batch ID: #GRO86-170213BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	2/14/17	2/14/17

Quant Method: MGAS6211.
Run #: 0213M39
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/14/17 11:37:52 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M39.D
Acq On : 14 Feb 17 3:25
Sample : 170213B BLK1WM
Misc : IS&S 10/20/16

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:57 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	276004	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

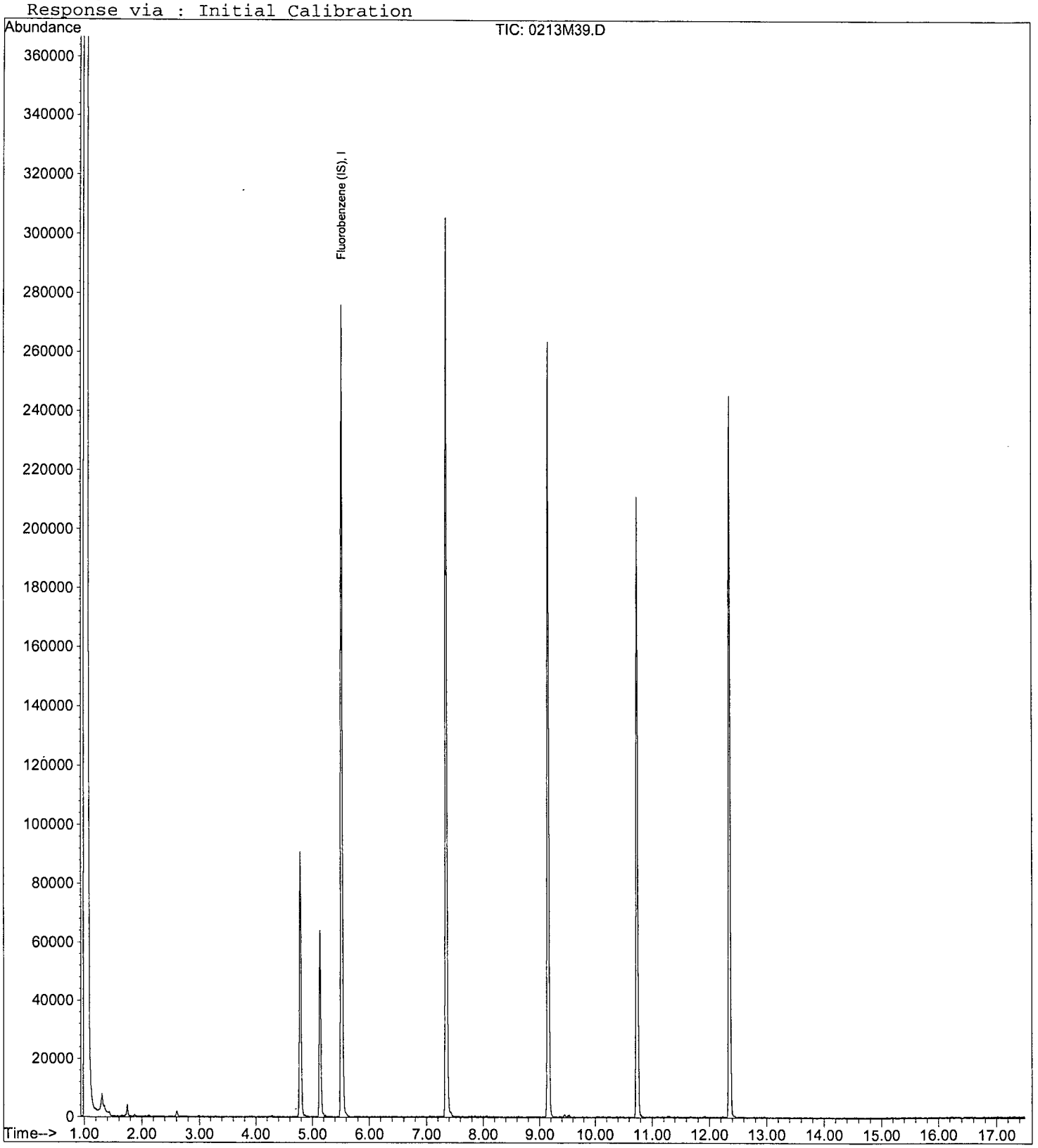
Data File : M:\MAX\DATA\M170127\0213M39.D
Acq On : 14 Feb 17 3:25
Sample : 170213B BLK1WM
Misc : IS&S 10/20/16

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:57 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0213M39.D
Acq On : 14 Feb 17 3:25
Sample : 170213B BLK1WM
Misc : IS&S 10/20/16

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 10:05 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	263518	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	186776	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	91254	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57778	25.56524 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.260%	
3) 1,2-DCA-D4(S)	5.14	65	45835	25.59436 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.376%	
5) Toluene-D8(S)	7.35	98	230329	25.49118 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	81421	25.03729 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.148%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery

EPA 8260B GRO WATER

APPL ID: **170214W-49856 LCS - 216143**
Batch ID: #GRO86-170213BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	272	90.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0213M34
Initials :	SV

Printed: 2/14/17 11:37:54 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:56 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	298429	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9066424m	271.96637 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

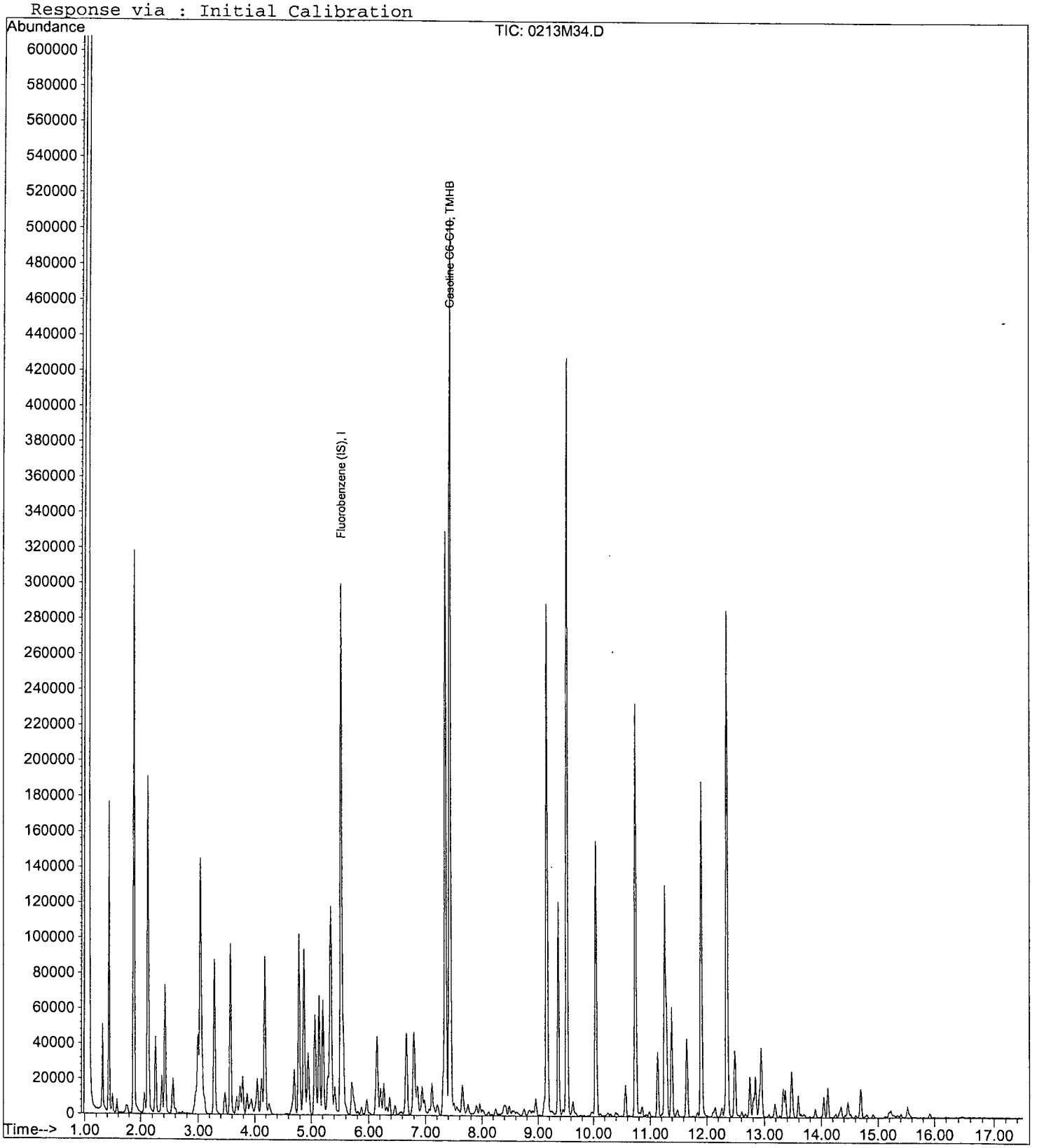
Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:56 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0213M34.D
Acq On : 14 Feb 17 1:03
Sample : 170213B CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 9:56 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	298429	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9066424m	271.96637 ppb	100

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	02/12/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17A-DG	20	1	100
02/11/17B-DG	50	2.5	100
02/11/17C-DG	100	5	100
02/11/17D-DG	300	15	100
02/11/17E-DG	600	30	100
02/11/17F-DG	800	40	100
02/11/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
2	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
3	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
4	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
5	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
6	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
7	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
8	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
9	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
10	8	0211M08.D	1	20ppb GAS STD 02/11/17A	IS&S 10/20/16	11 Feb 17 12:52
11	9	0211M09.D	1	50ppb GAS STD 02/11/17B	IS&S 10/20/16	11 Feb 17 13:20
12	10	0211M10.D	1	100ppb GAS STD 02/11/17C	IS&S 10/20/16	11 Feb 17 13:48
13	11	0211M11.D	1	300ppb GAS STD 02/11/17D	IS&S 10/20/16	11 Feb 17 14:16
14	12	0211M12.D	1	600ppb GAS STD 02/11/17E	IS&S 10/20/16	11 Feb 17 14:45
15	13	0211M13.D	1	800ppb GAS STD 02/11/17F	IS&S 10/20/16	11 Feb 17 15:13
16	14	0211M14.D	1	1000ppb GAS STD 02/11/17G	IS&S 10/20/16	11 Feb 17 15:41
17	17	0211M17.D	1	(SS) 300ppb GAS STD 02/11/17	IS&S 10/20/16	11 Feb 17 17:06
18	34	0213M34.D	1	170213B CCV/LCS 300ug/L	IS&S 10/20/16	14 Feb 17 1:03
19	39	0213M39.D	1	170213B BLK1WM	IS&S 10/20/16	14 Feb 17 3:25
20	42	0213M42.D	1	AZ49856W01	IS&S 10/20/16	14 Feb 17 4:49
21	43	0213M43.D	1	AZ49857W01	IS&S 10/20/16	14 Feb 17 5:18
22	45	0213M45.D	1	AZ49859W01	IS&S 10/20/16	14 Feb 17 6:14
23	46	0213M46.D	1	AZ49860W01	IS&S 10/20/16	14 Feb 17 6:42
24	47	0213M47.D	1	AZ49861W01	IS&S 10/20/16	14 Feb 17 7:11
25	48	0213M48.D	1	AZ49862W01	IS&S 10/20/16	14 Feb 17 7:39
26	51	0213M51.D	1	Ending CCV GAS 300ug/L 2/13/1	IS&S 10/20/16	14 Feb 17 9:04

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:33:51 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:33:40 PM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH230
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49856
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021209
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021209.D Vial: 10
Acq On : 12 Feb 17 11:02 Operator: lac
Sample : AZ49856W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:04 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

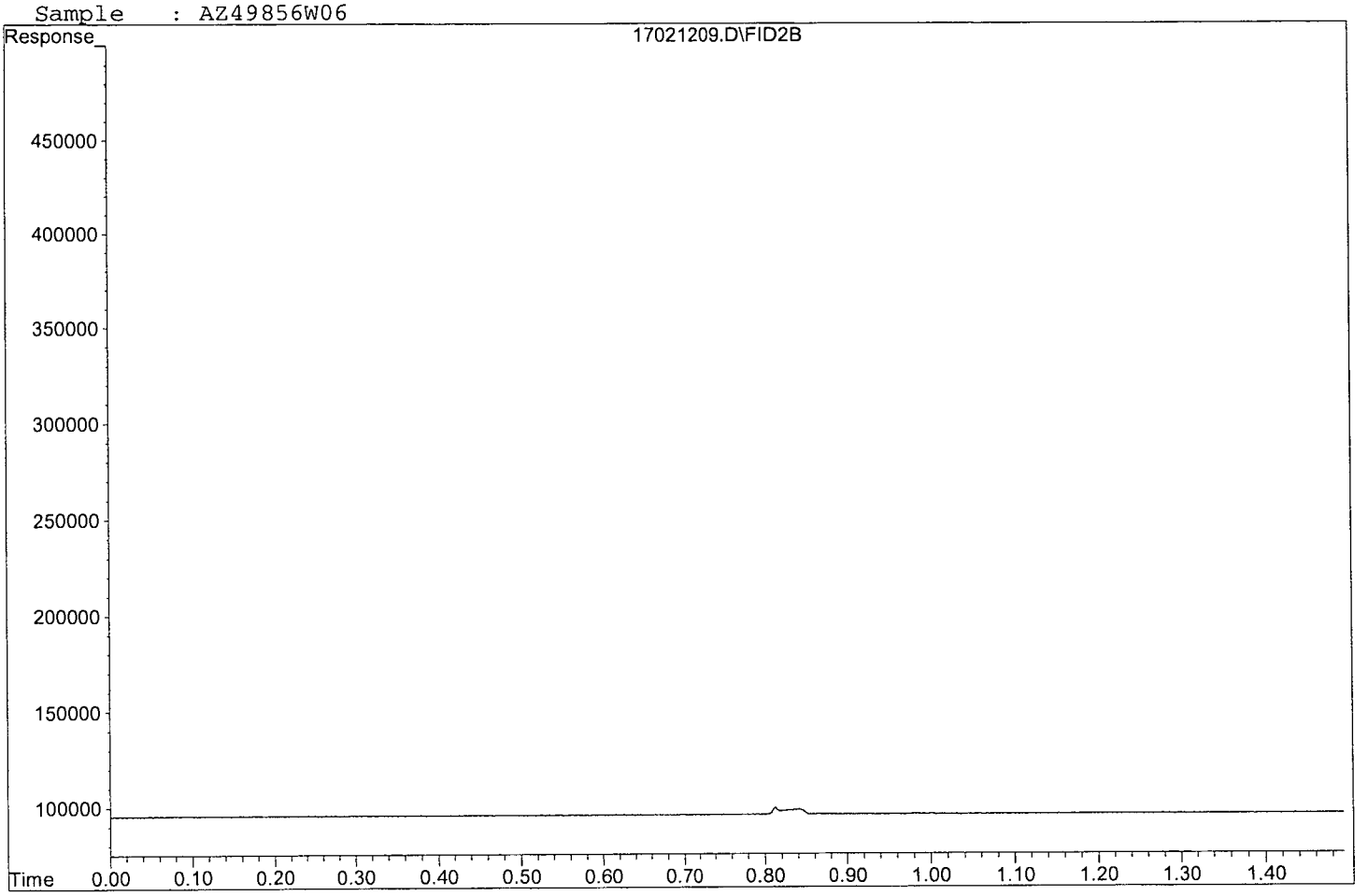
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	3001	N.D.	ppb
2) ATM Ethane	0.97	250	N.D.	ppb
3) ATM Ethene	1.12	283	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021209.D
Sample : AZ49856W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH231
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49857
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021210
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021210.D Vial: 11
Acq On : 12 Feb 17 11:06 Operator: lac
Sample : AZ49857W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:08 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

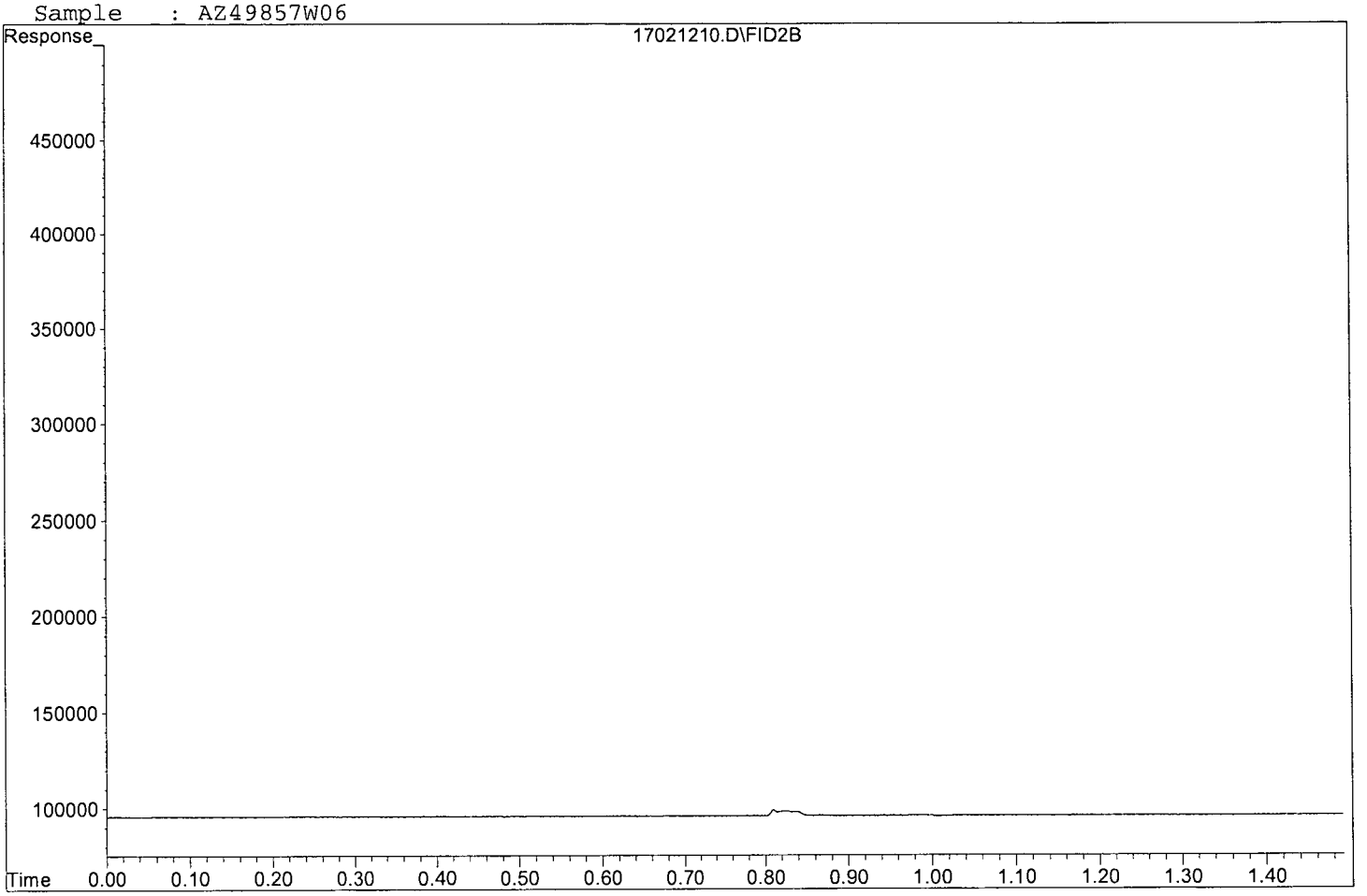
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.83	2453	N.D.	ppb
2) ATM Ethane	0.98	576	N.D.	ppb
3) ATM Ethene	1.11	393	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021210.D
Sample : AZ49857W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH226
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49859
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021211
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021211.D Vial: 12
Acq On : 12 Feb 17 11:11 Operator: lac
Sample : AZ49859W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:13 2017 Quant Results File: RSK0901.RES

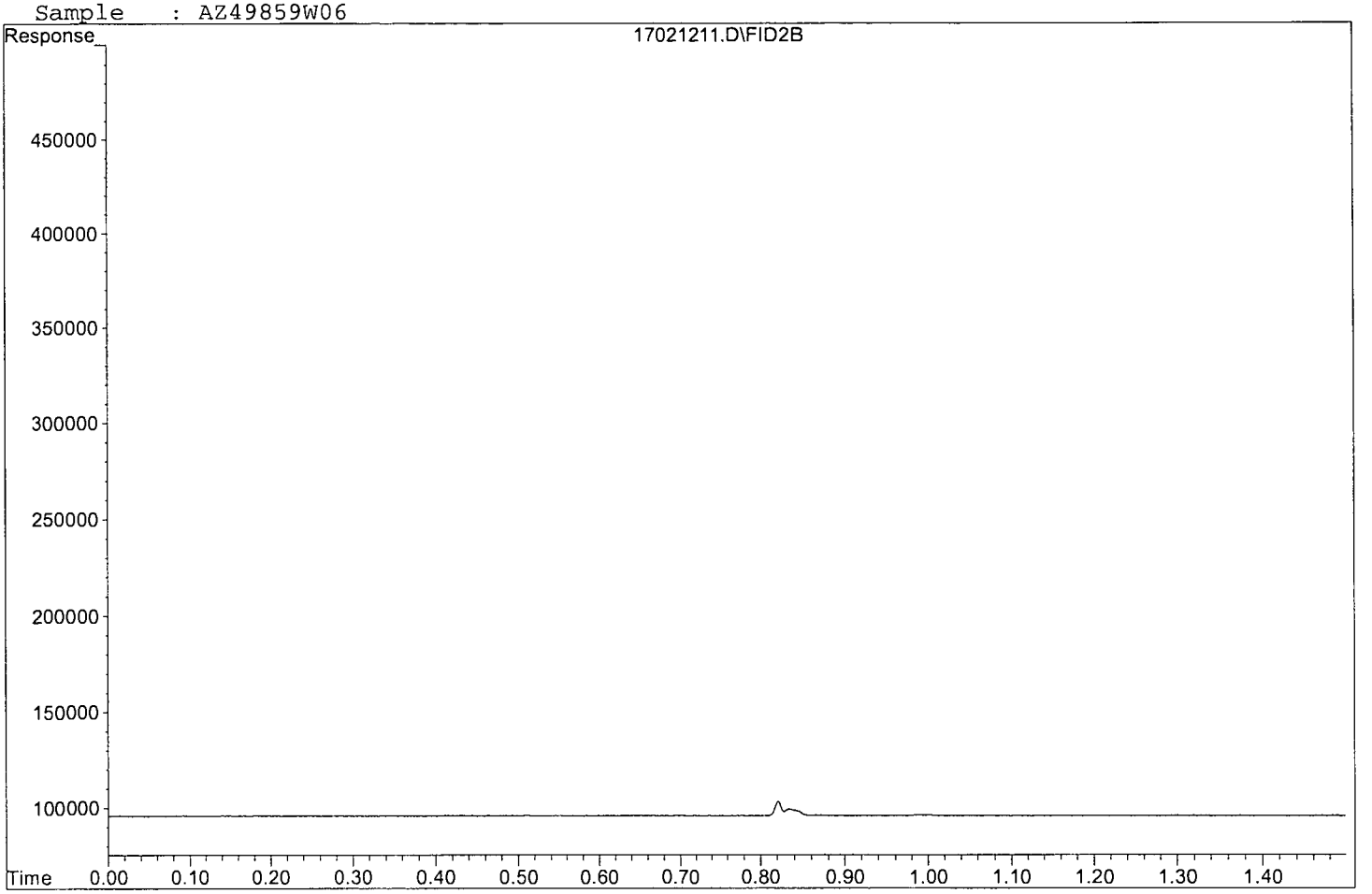
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.83	3817	N.D.	ppb
2) ATM Ethane	0.97	374	N.D.	ppb
3) ATM Ethene	1.12	300	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021211.D
Sample : AZ49859W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH227
Sample Collection Date: 02/09/17

ARF: 82146
APPL ID: AZ49860
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021212
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021212.D Vial: 13
Acq On : 12 Feb 17 11:14 Operator: lac
Sample : AZ49860W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:17 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

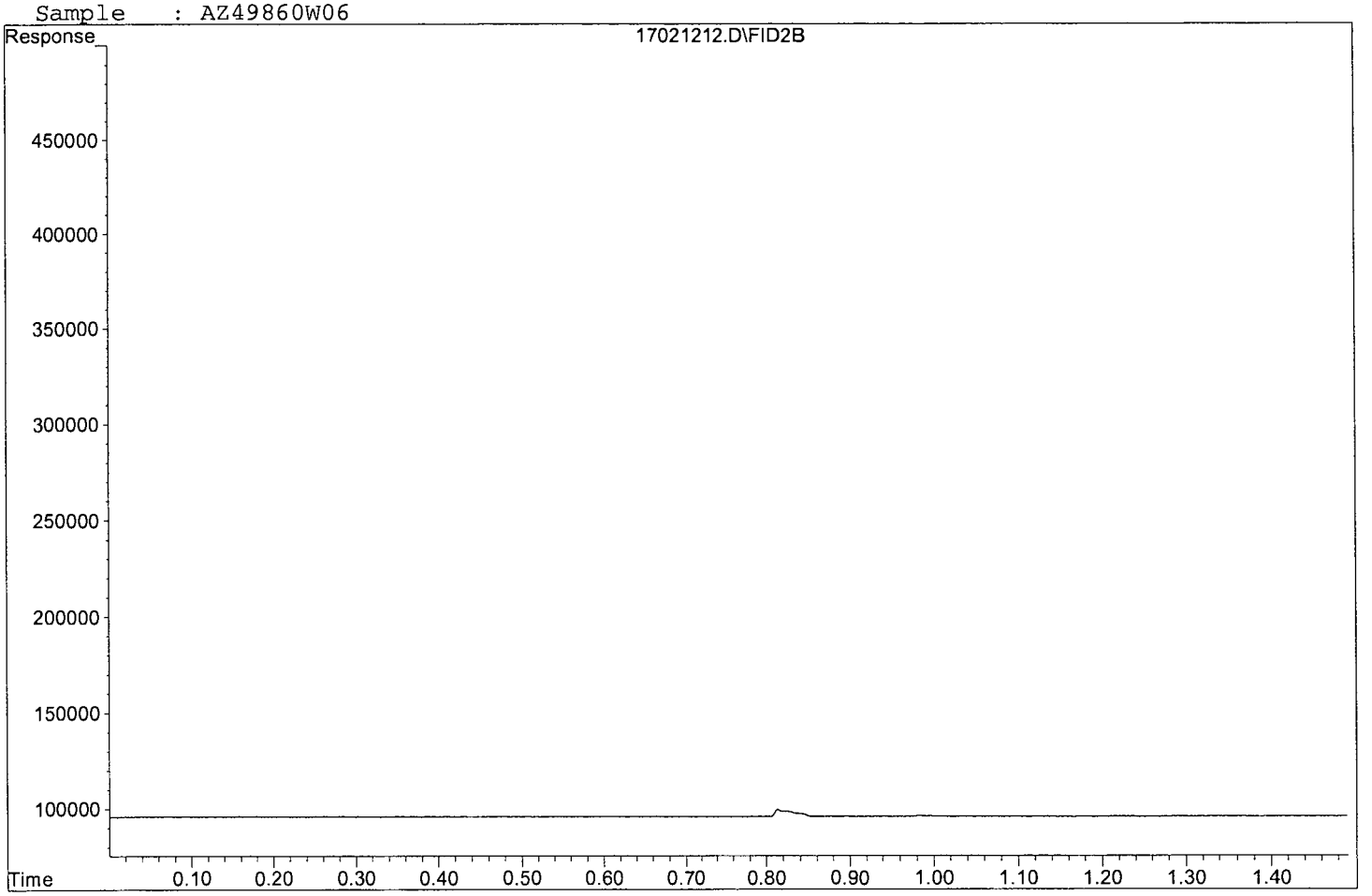
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	1675	N.D.	ppb
2) ATM Ethane	0.97	292	N.D.	ppb
3) ATM Ethene	1.11	216	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021212.D
Sample : AZ49860W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH222
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49861
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021213
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021213.D Vial: 14
Acq On : 12 Feb 17 11:19 Operator: lac
Sample : AZ49861W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:21 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

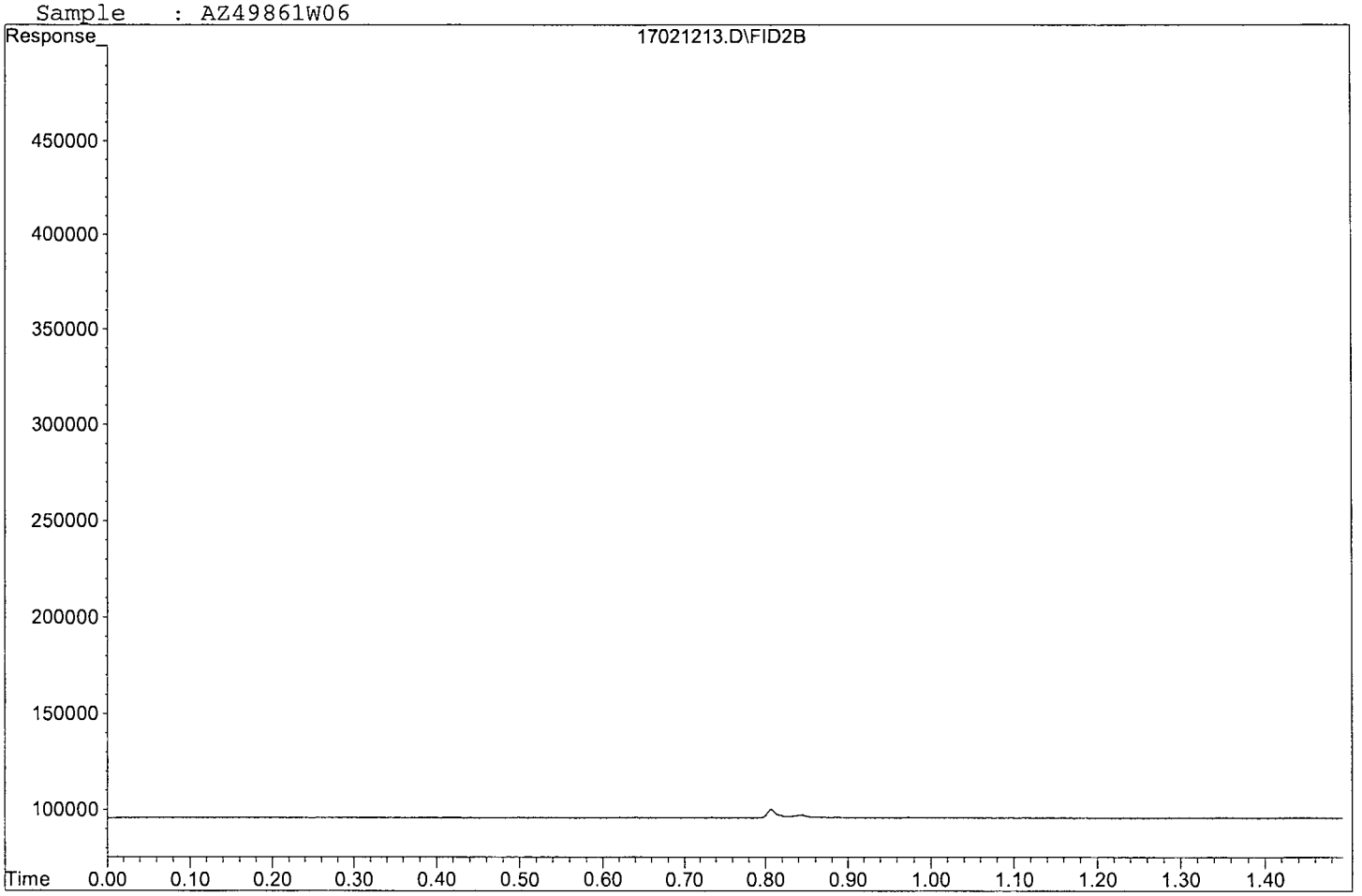
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	1654	N.D.	ppb
2) ATM Ethane	0.97	540	N.D.	ppb
3) ATM Ethene	1.11	243	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021213.D
Sample : AZ49861W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH223
Sample Collection Date: 02/08/17

ARF: 82146
APPL ID: AZ49862
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1300	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021214
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:33:45 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021214.D Vial: 15
Acq On : 12 Feb 17 11:23 Operator: lac
Sample : AZ49862W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:26 2017 Quant Results File: RSK0901.RES

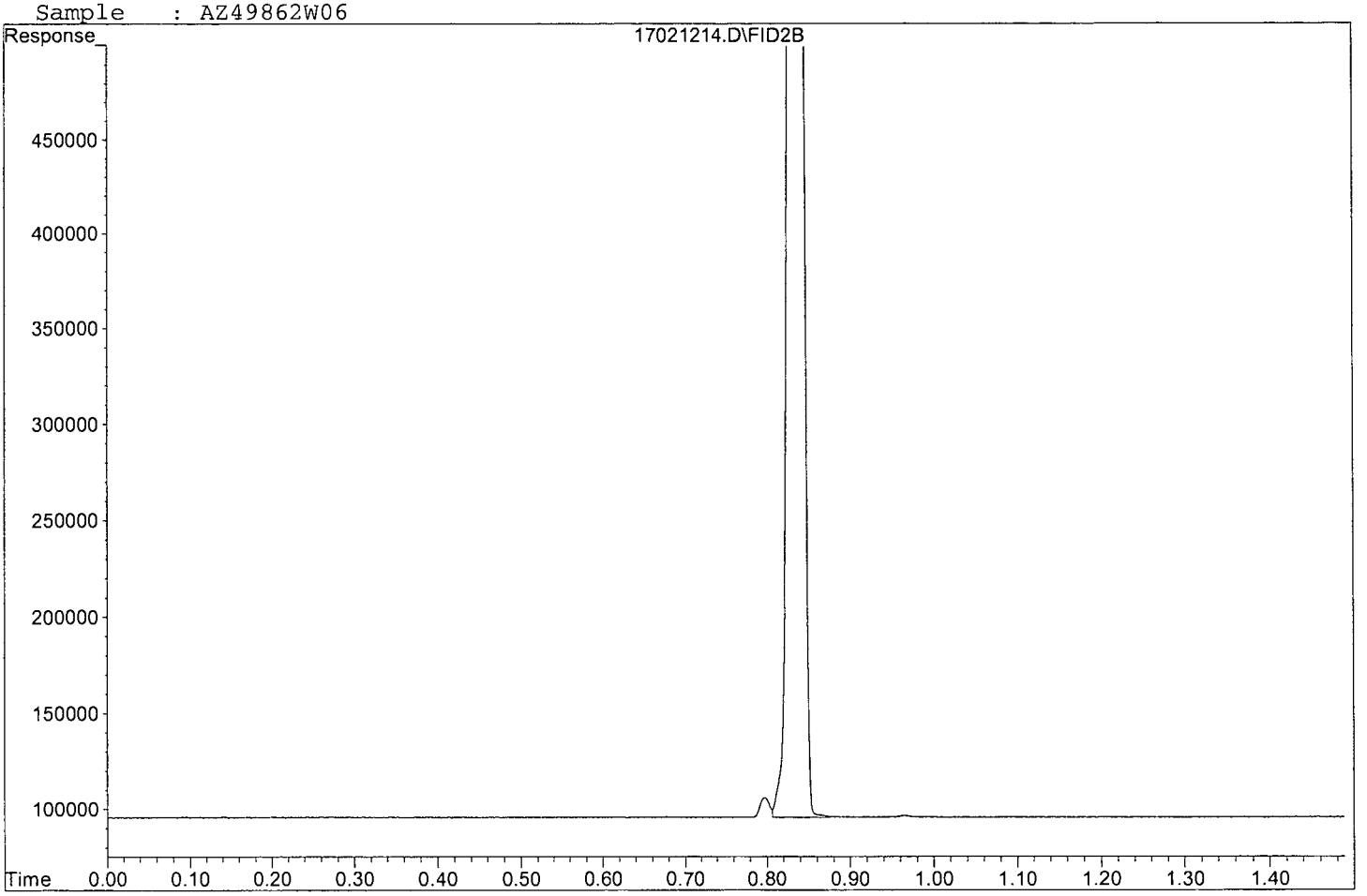
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1410424	1288.867	ppb
Target Compounds				
2) ATM Ethane	0.98	494	N.D.	ppb
3) ATM Ethene	1.12	220	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021214.D
Sample : AZ49862W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 09/01/16
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		
			0901000.D	0901001.D	0901002.D	0901003.D	0901004.D	0901005.D	0901006.D	0901007.D	0901008.D	0901009.D				
1	ATM	Methane	7448	5672	3042	3435	1074	1006	1184	1314	1084	1089	2635	87	ATM	
2	ATM	Ethane	1509	1521	1416	2554	478	657	816	933	791	798	1147	54	ATM	
3	ATM	Ethene	1828	1525	1280	2301	444	570	693	733	628	626	1063	60	ATM	
4																
5																
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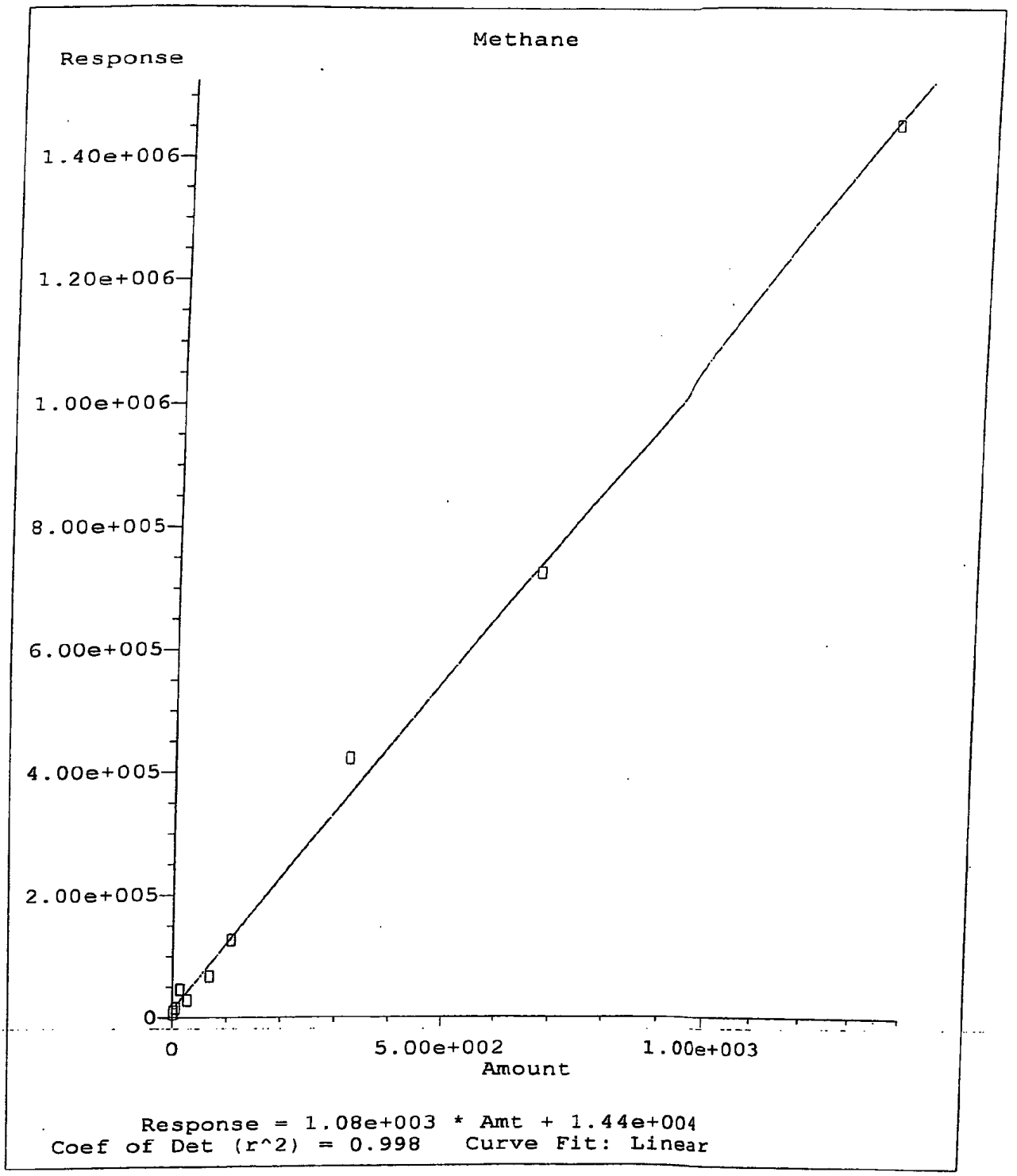
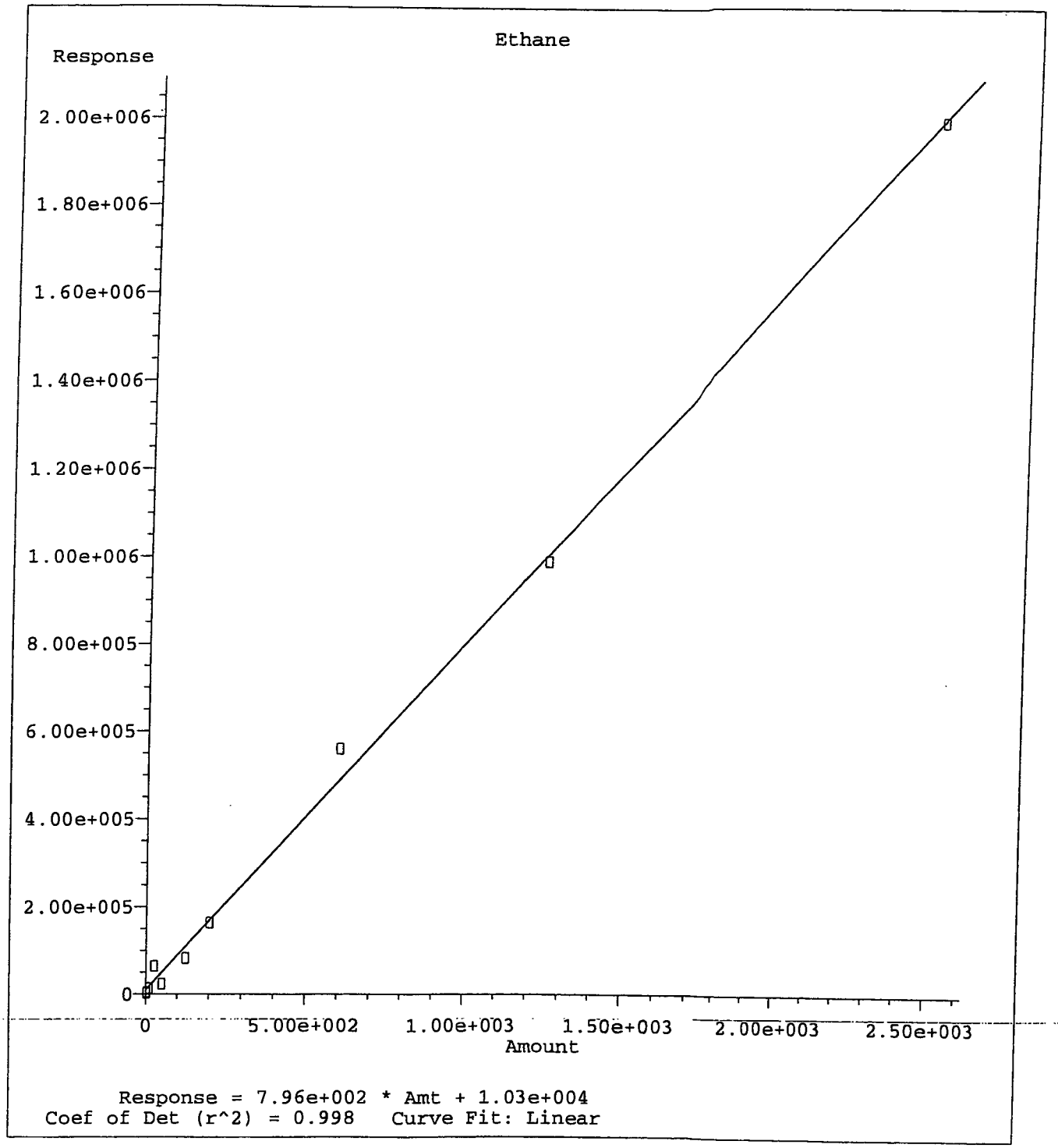
35																

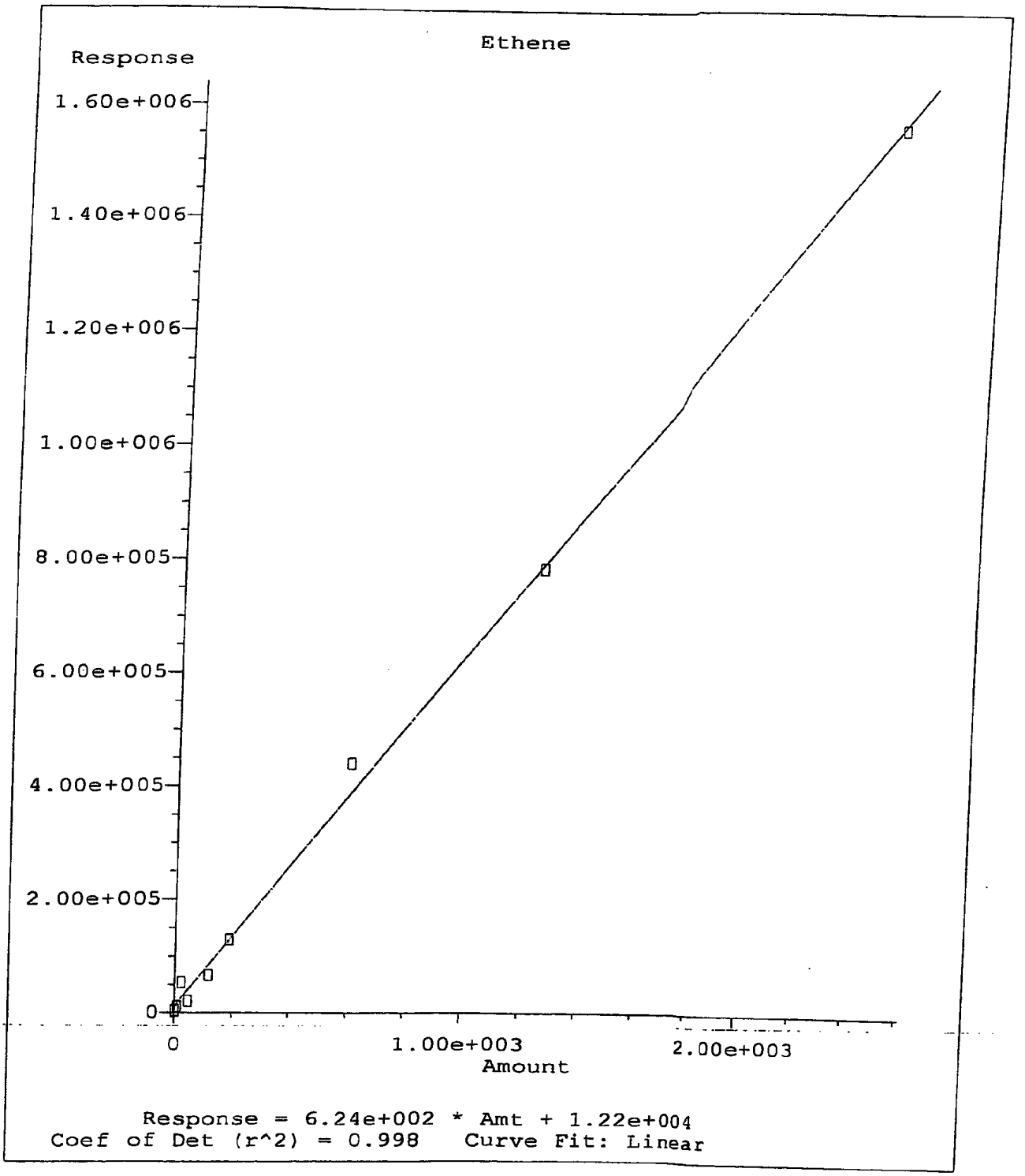
5.7170224



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Thu Nov 10 08:49:51 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901000.D Vial: 1
Acq On : 1 Sep 16 11:38 Operator: lac
Sample : RSK Level 1 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

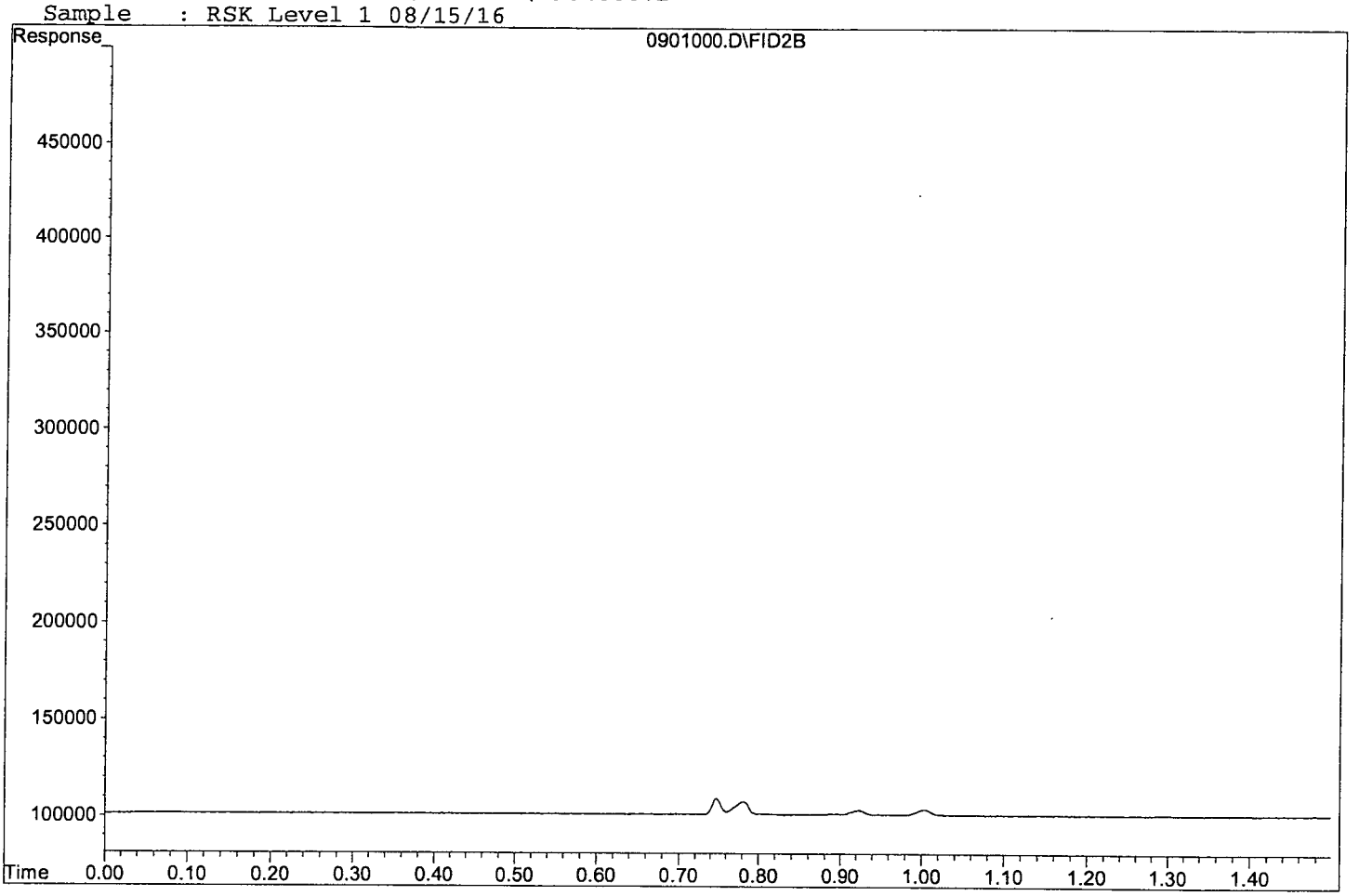
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	6703	N.D.	ppb
2) ATM Ethane	0.92	2566	N.D.	ppb
3) ATM Ethene	1.00	2922	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901000.D
Sample : RSK Level 1 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901001.D
Acq On : 1 Sep 16 11:41
Sample : RSK Level 2 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Jan 26 12:10 2017 Quant Results File: RSK0901.RES

Vial: 2
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 26 12:11:56 2017
Response via : Multiple Level Calibration

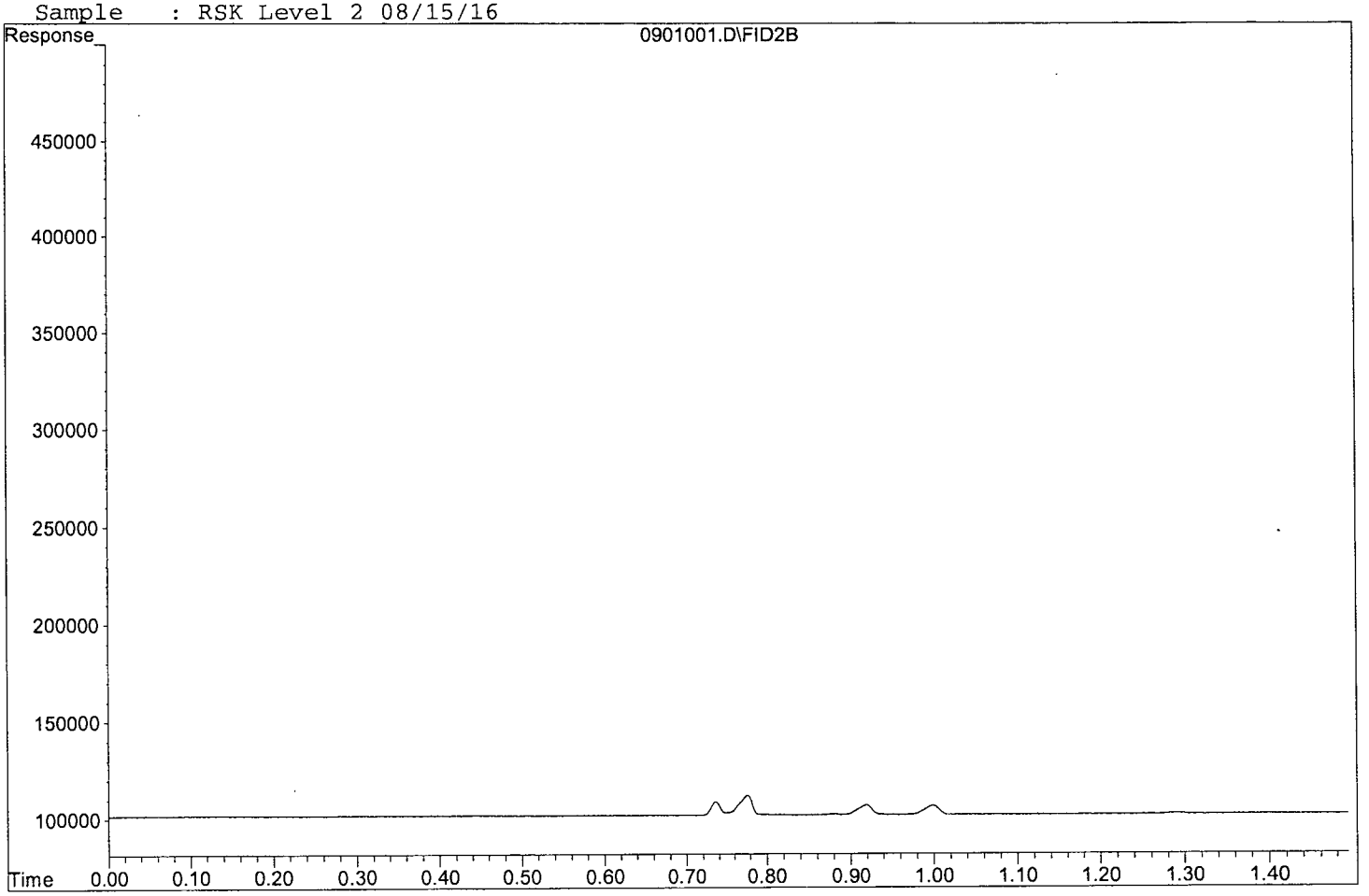
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	10209	N.D.	ppb
2) ATM Ethane	0.92	5171	N.D.	ppb
3) ATM Ethene	1.00	4881	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901001.D
Sample : RSK Level 2 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901002.D Vial: 3
Acq On : 1 Sep 16 11:44 Operator: lac
Sample : RSK Level 3 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 14 13:31 2016 Quant Results File: RSK0901.RES

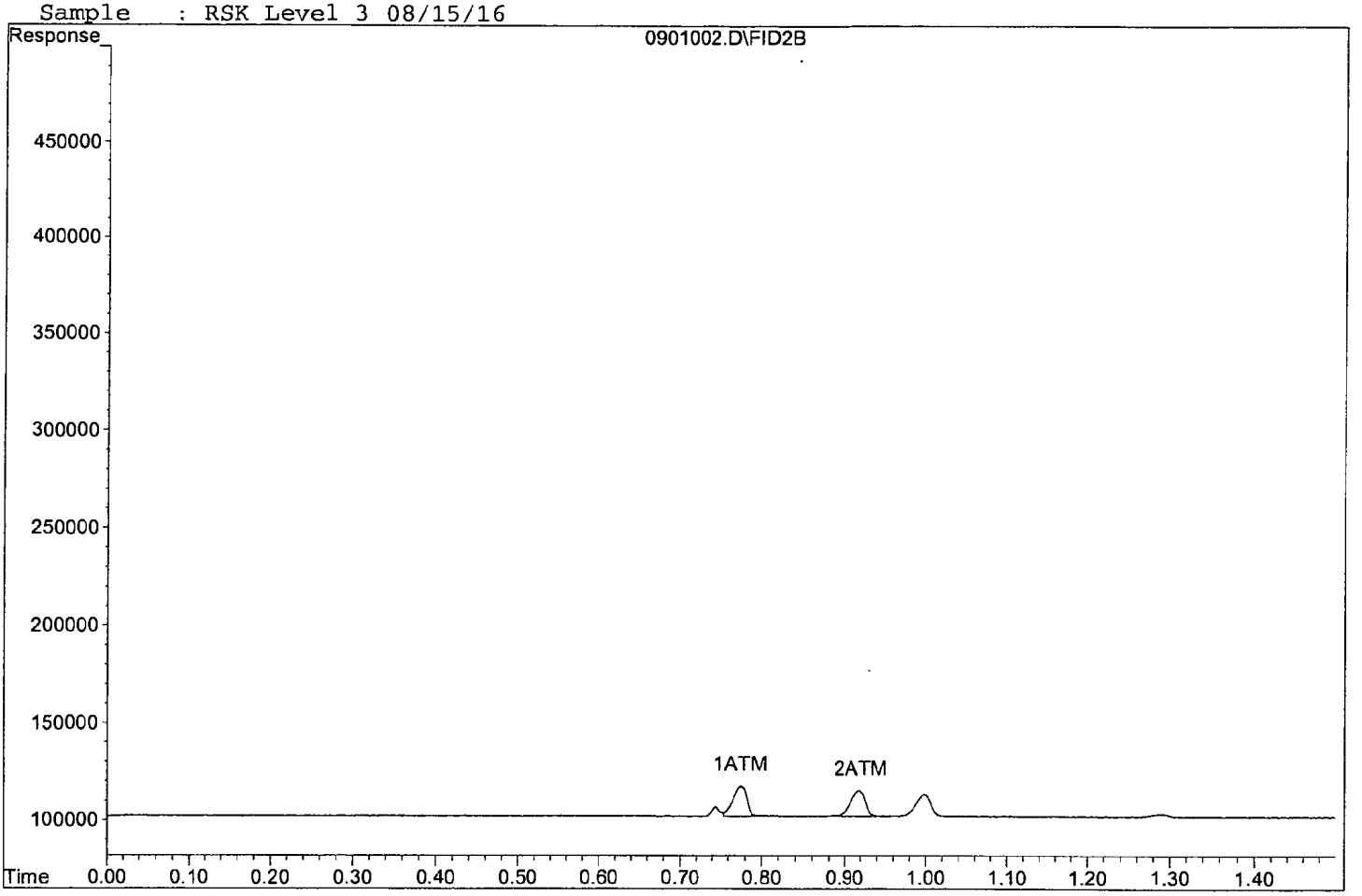
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	15515	1.054 ppb
2) ATM Ethane	0.92	13452	3.912 ppb
Target Compounds			
3) ATM Ethene	1.00	11390	N.D. ppb

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901002.D
Sample : RSK Level 3 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901003.D Vial: 4
Acq On : 1 Sep 16 11:46 Operator: lac
Sample : RSK Level 4 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

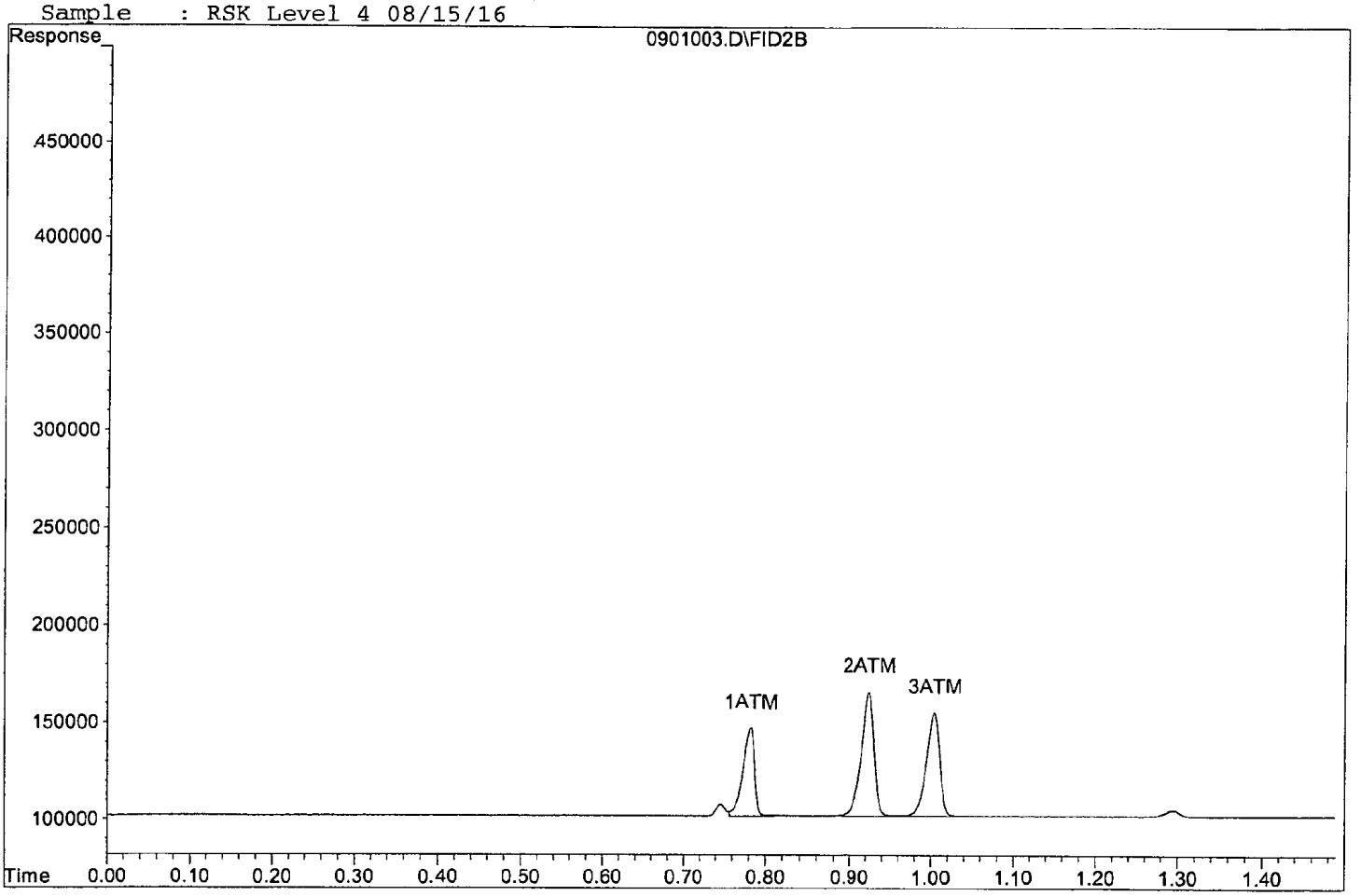
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	45792	29.006 ppb
2) ATM Ethane	0.92	63853	67.197 ppb
3) ATM Ethene	1.00	53608	66.354 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901003.D
Sample : RSK Level 4 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901004.D Vial: 5
Acq On : 1 Sep 16 11:48 Operator: lac
Sample : RSK Level 5 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

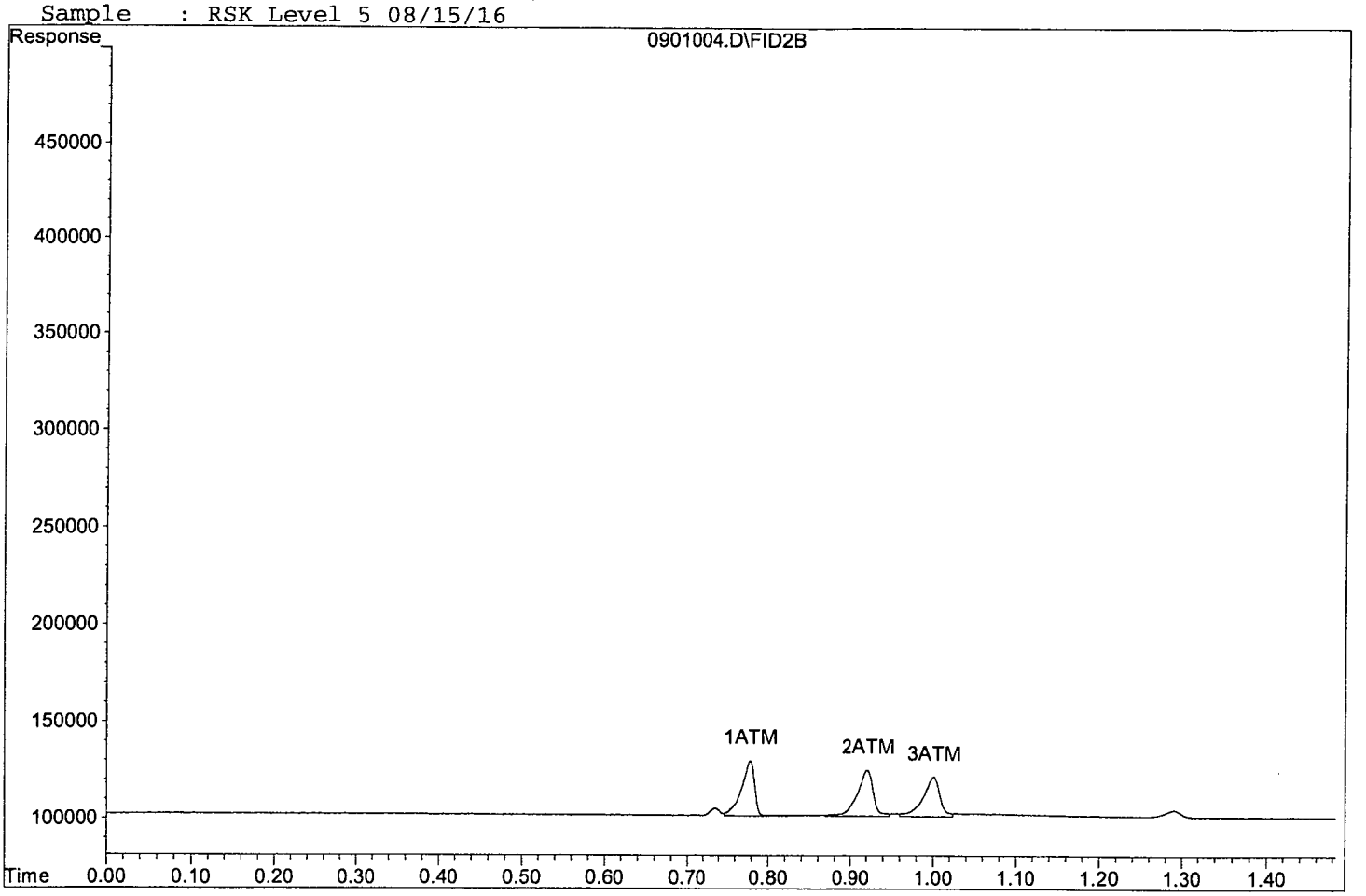
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	28664	13.193 ppb
2) ATM Ethane	0.92	23891	17.020 ppb
3) ATM Ethene	1.00	20700	13.631 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901004.D
Sample : RSK Level 5 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901005.D
Acq On : 1 Sep 16 11:50
Sample : RSK Level 6 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 6
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

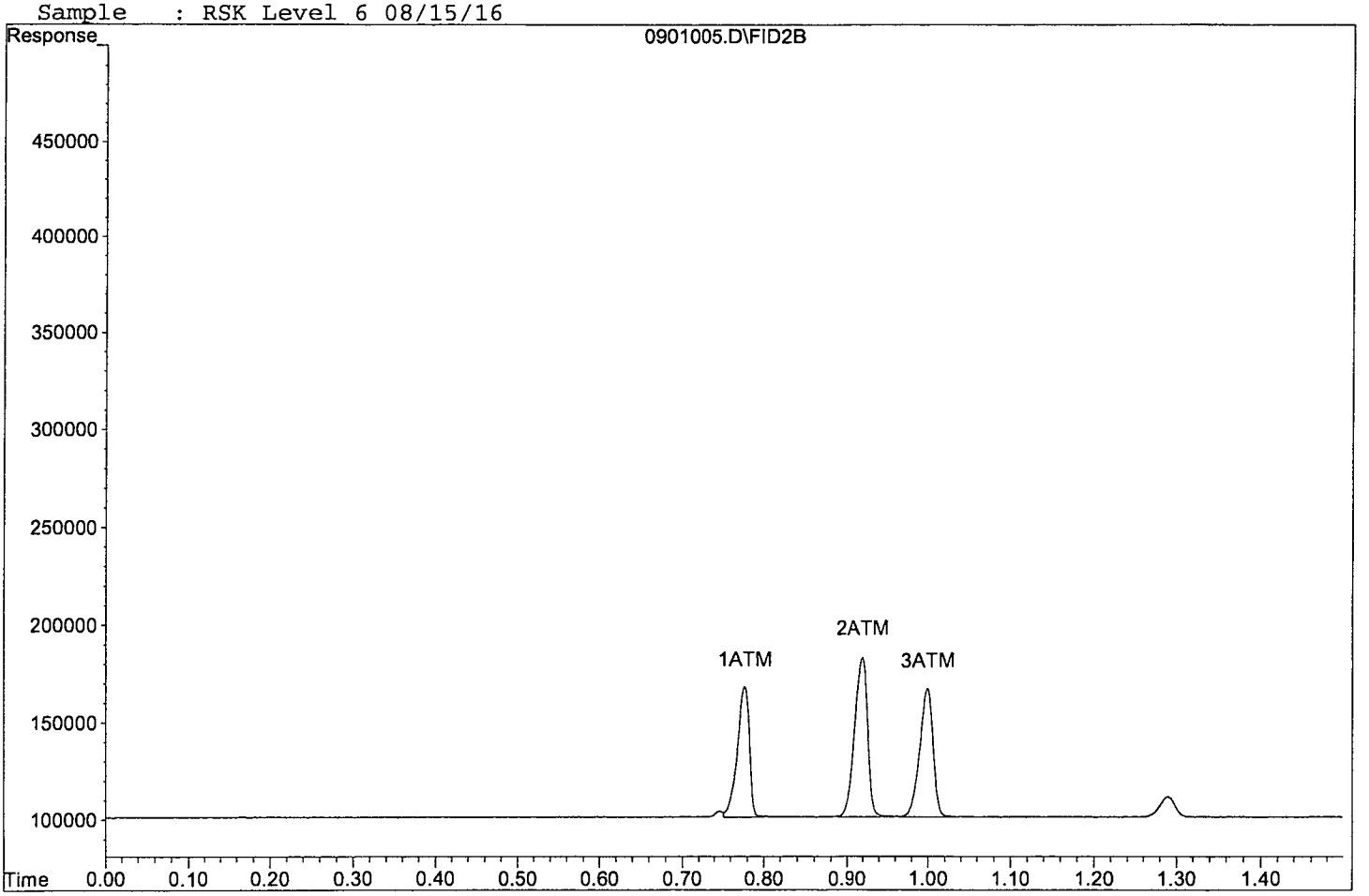
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	67137	48.712 ppb
2) ATM Ethane	0.92	82167	90.193 ppb
3) ATM Ethene	1.00	66348	86.764 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901005.D
Sample : RSK Level 6 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901006.D Vial: 7
Acq On : 1 Sep 16 11:52 Operator: lac
Sample : RSK Level 7 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

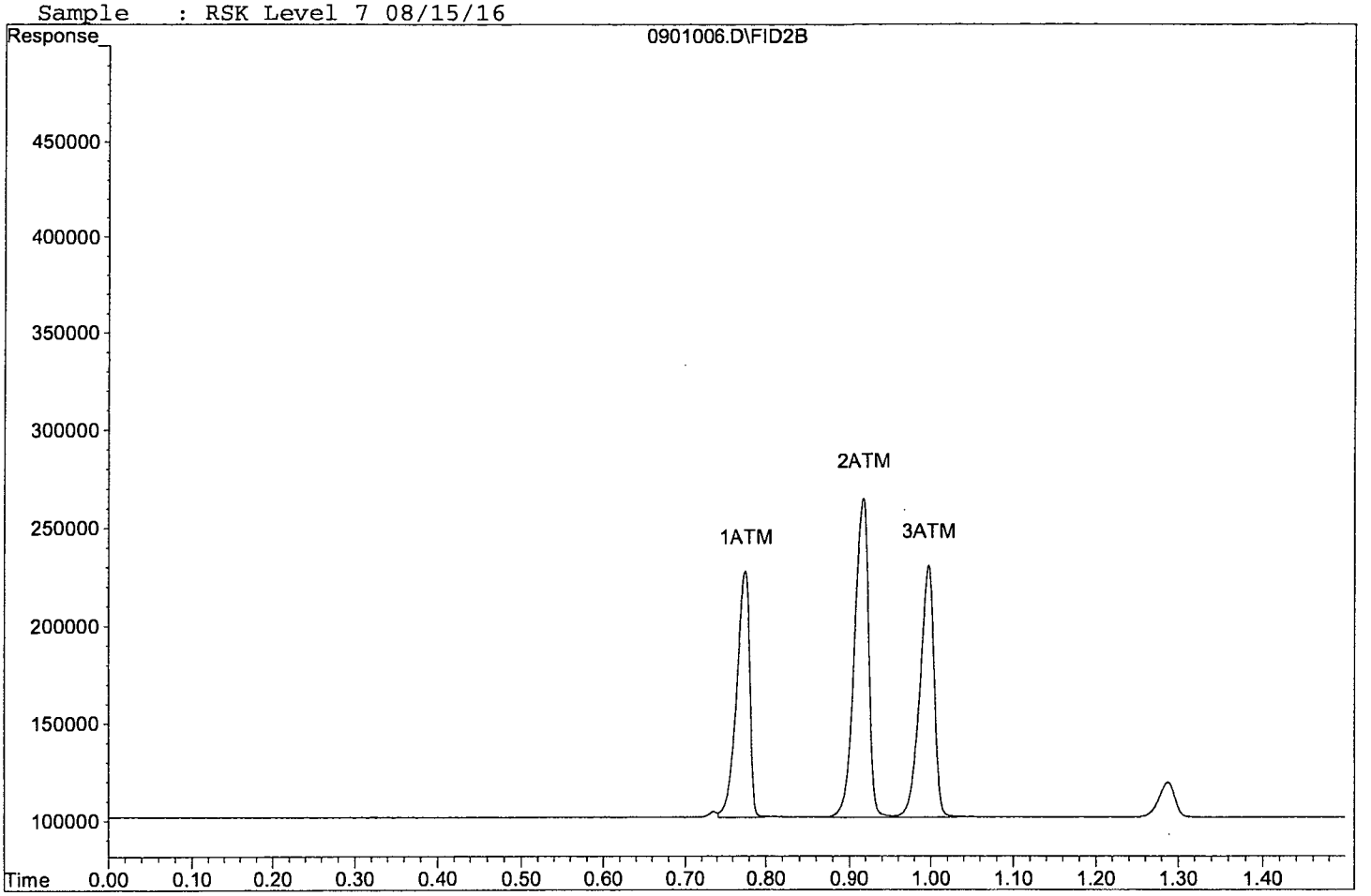
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	126422	103.446 ppb
2) ATM Ethane	0.92	163281	192.041 ppb
3) ATM Ethene	1.00	129200	187.460 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901006.D
Sample : RSK Level 7 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901007.D Vial: 8
Acq On : 1 Sep 16 11:55 Operator: lac
Sample : RSK Level 8 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

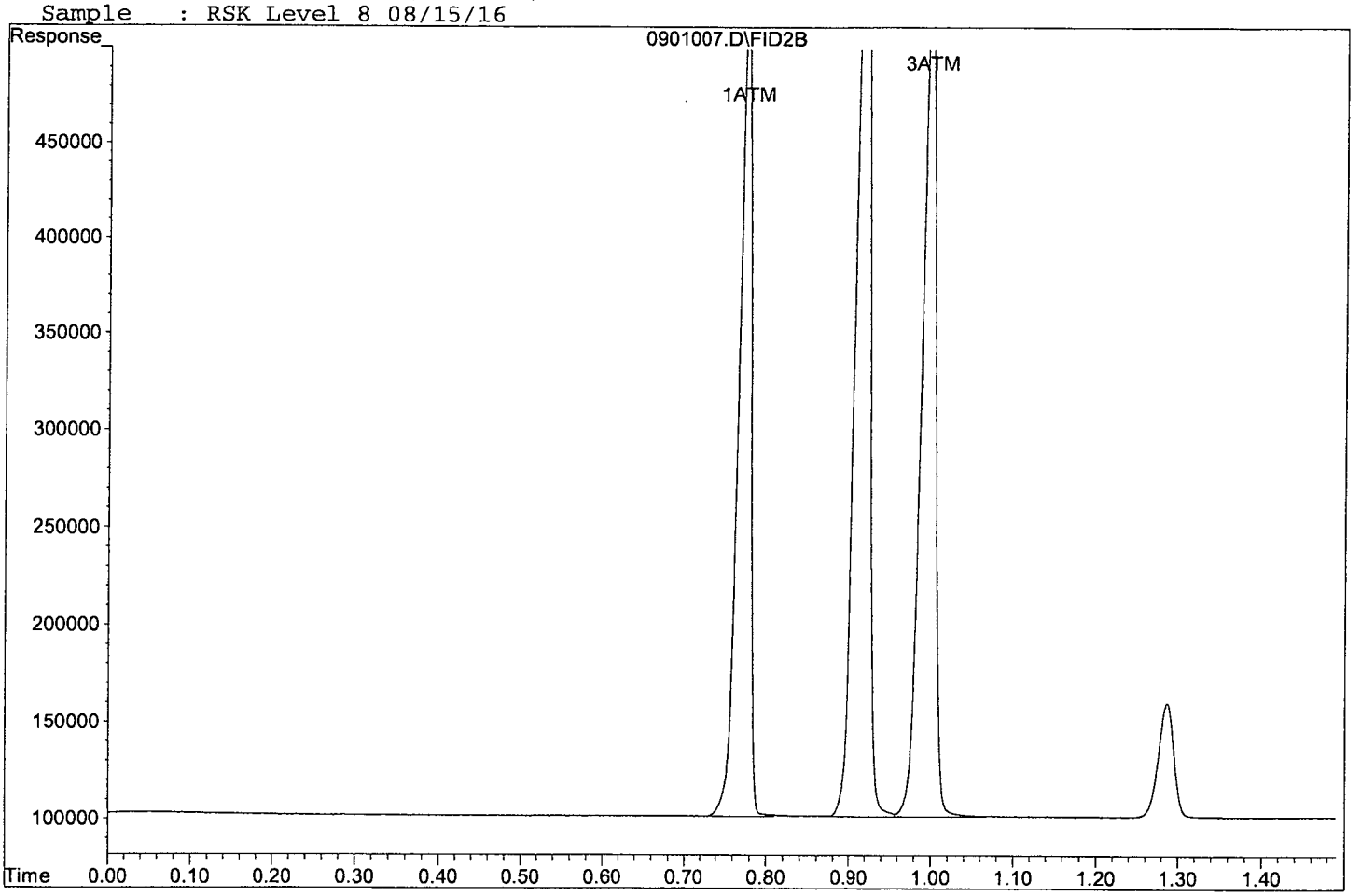
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	421052	375.455 ppb
2) ATM Ethane	0.92	559640	689.720 ppb
3) ATM Ethene	1.00	439383	684.403 ppb

Target Compounds

Data File: G:\ROCKY\DATA\160901R\0901007.D
Sample : RSK Level 8 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901008.D Vial: 9
Acq On : 1 Sep 16 11:57 Operator: lac
Sample : RSK Level 9 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

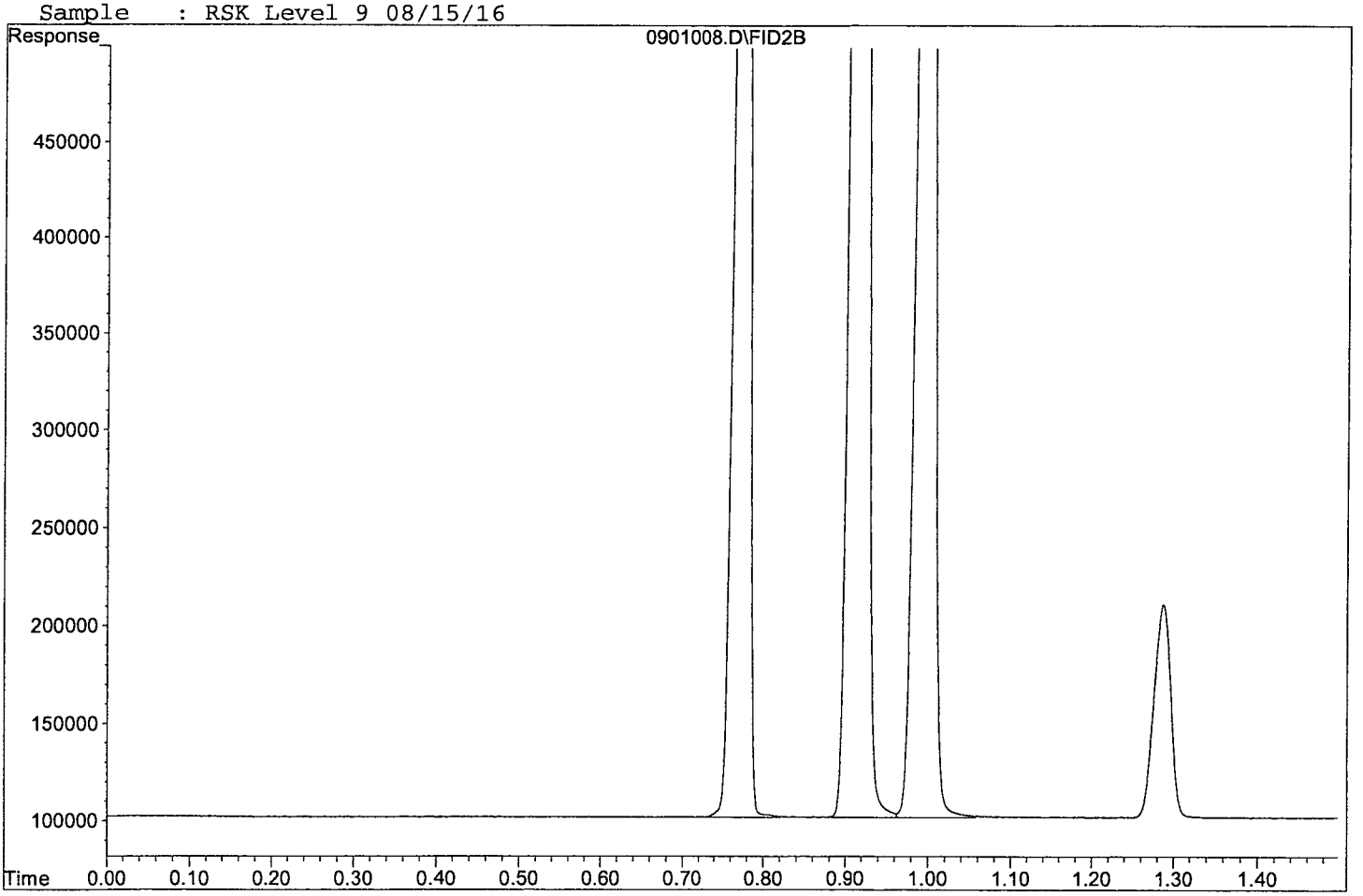
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	723824	654.982	ppb
2) ATM Ethane	0.92	989344	1229.268	ppb
3) ATM Ethene	1.00	783615	1235.897	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901008.D
Sample : RSK Level 9 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901009.D Vial: 10
Acq On : 1 Sep 16 11:59 Operator: lac
Sample : RSK Level 10 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

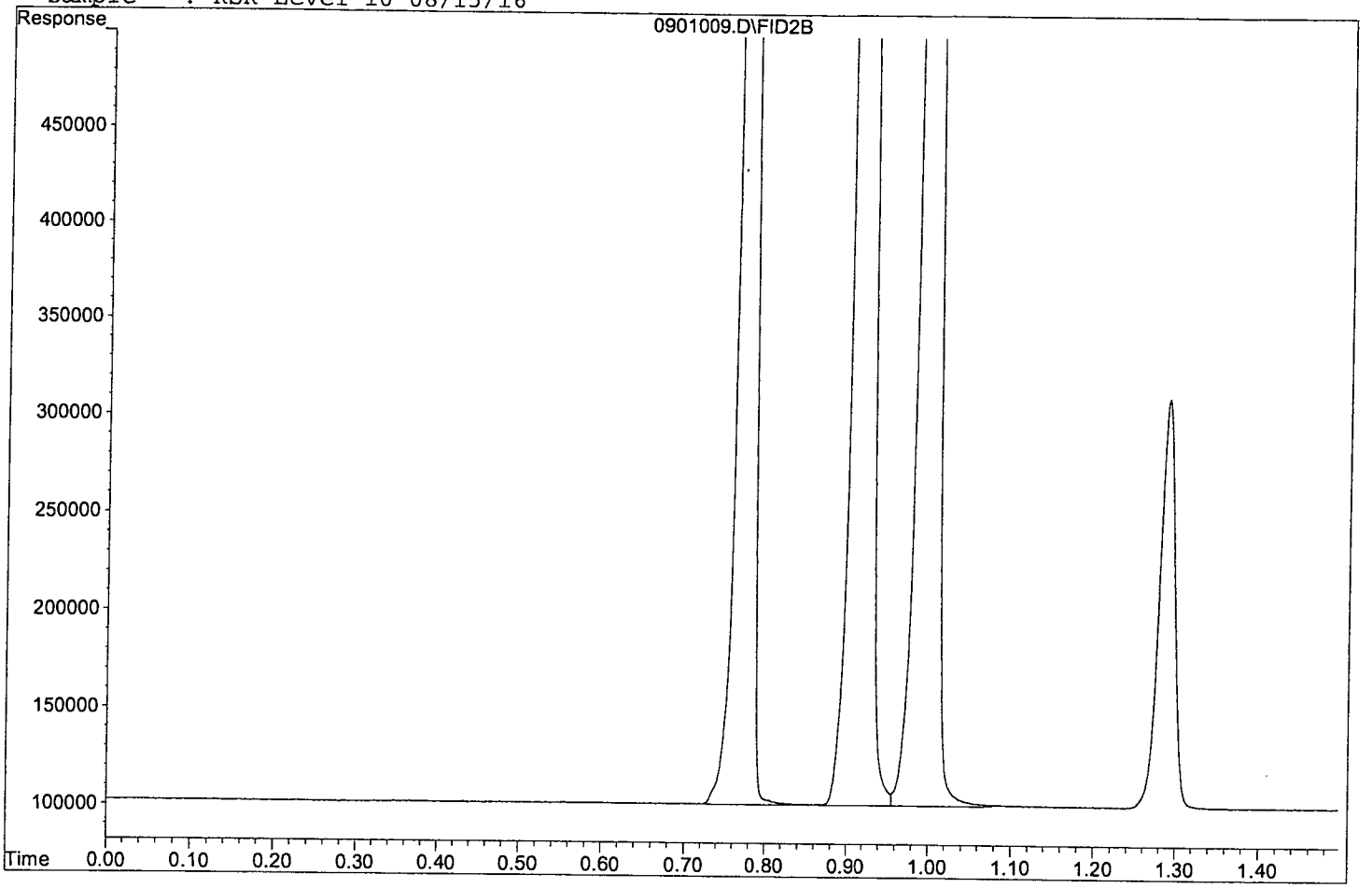
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	1454283	1329.358	ppb
2) ATM Ethane	0.92	1994598	2491.490	ppb
3) ATM Ethene	1.00	1562244	2483.337	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901009.D
Sample : RSK Level 10 08/15/16



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Sep 16 13:11
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 0901018.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1090	59	ATML	19
2	ATML	Ethane	1147	964	16	ATML	11
3	ATML	Ethene	1063	853	20	ATML	20
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			31.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901018.D
Acq On : 1 Sep 16 13:11
Sample : (SS/LCS) RSK Level 6 09/01/16
Misc :
IntFile : autoint1.e
Quant Time: Sep 1 13:16 2016 Quant Results File: RSK0901.RES

Vial: 19
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Sep 01 14:40:19 2016
Response via : Multiple Level Calibration

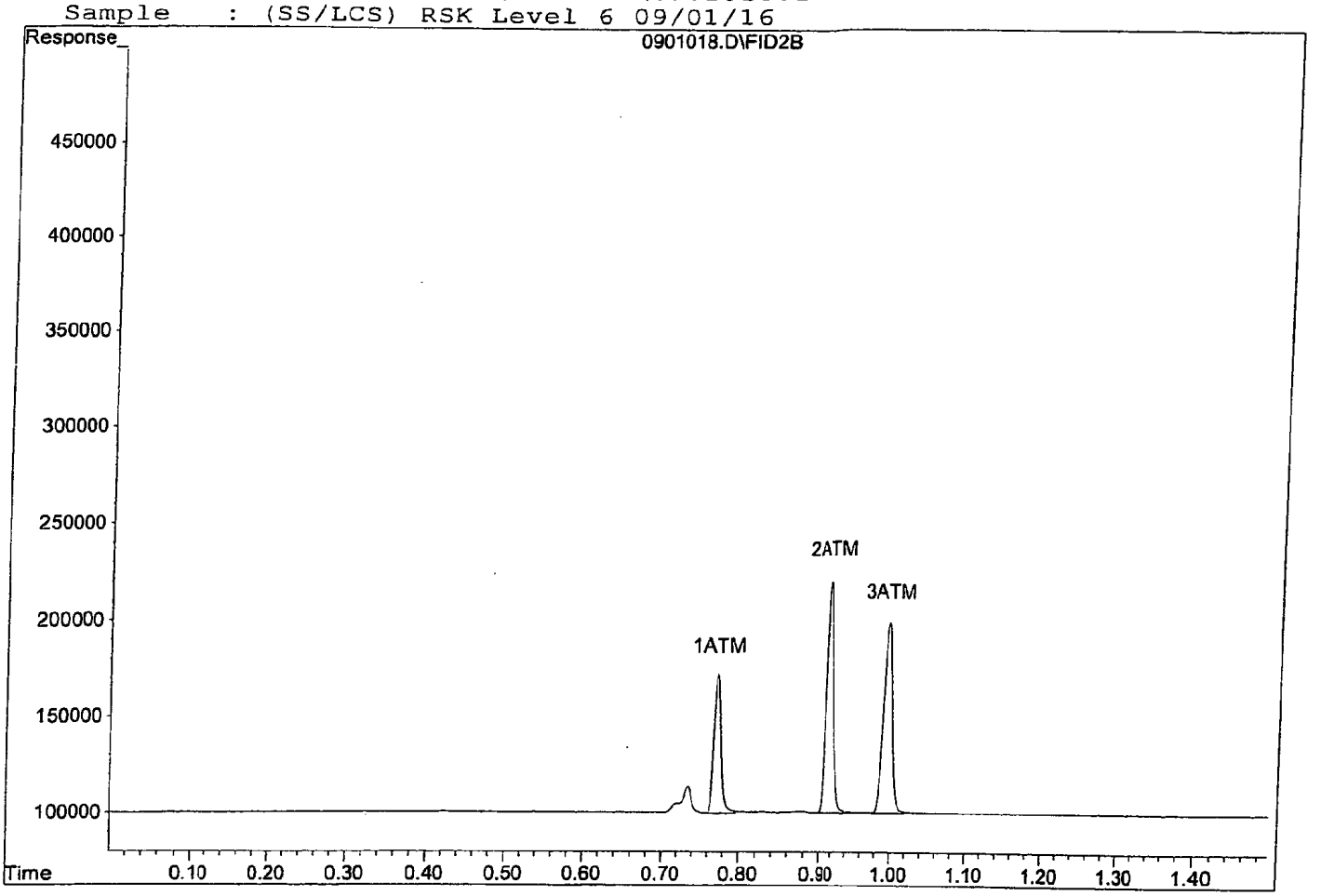
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	72750	53.894 ppb
2) ATM Ethane	0.91	120545	138.382 ppb
3) ATM Ethene	0.99	99349	139.636 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901018.D
Sample : (SS/LCS) RSK Level 6 09/01/16



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021200.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1043	60	ATML	4.7
2	ATML	Ethane	1147	877	24	ATML	9.7
3	ATML	Ethene	1063	628	41	ATML	0.20
4							
5							
6							
7							
8							
9							
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11							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

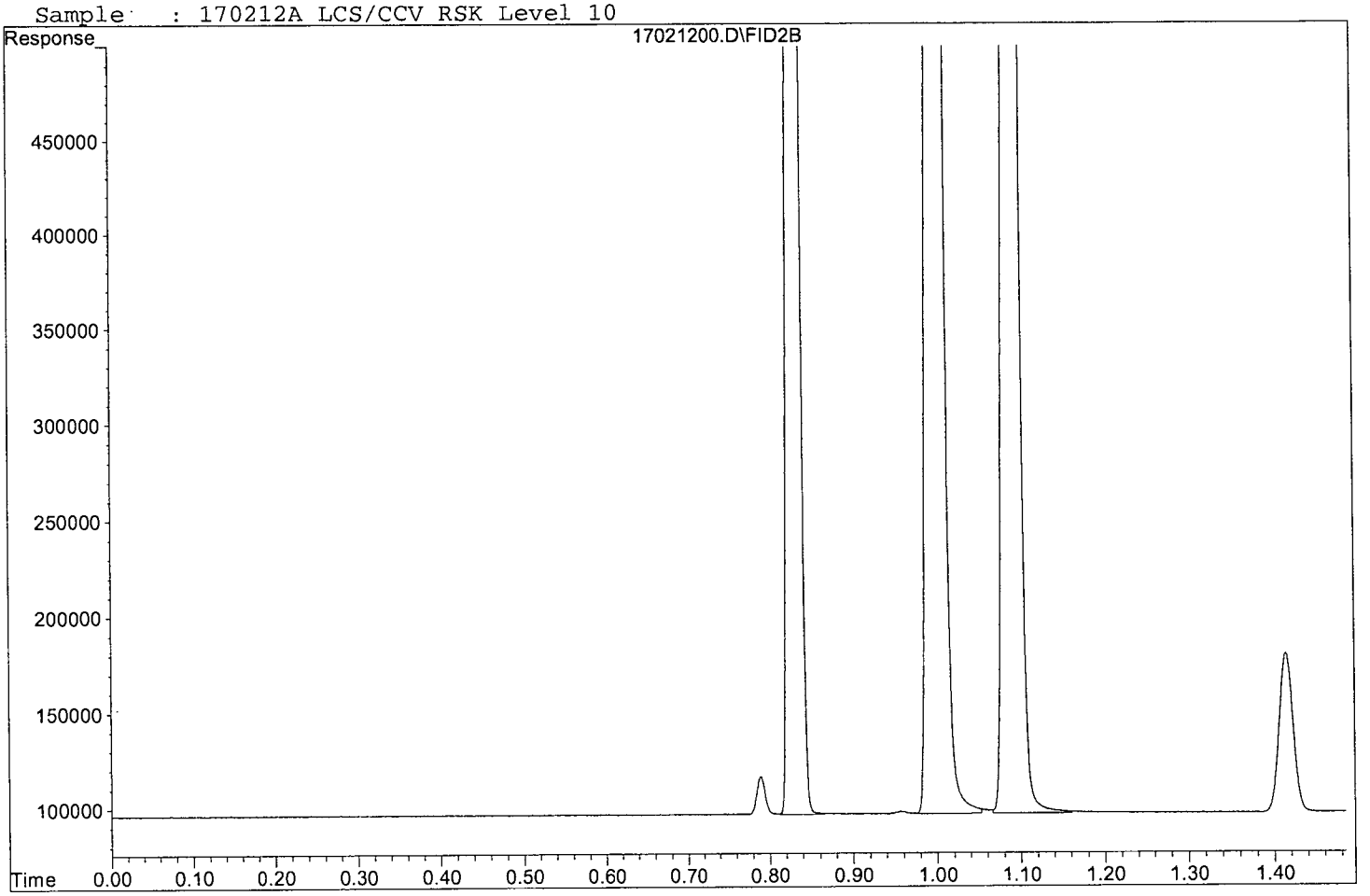
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021223.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	929	65	ATML	15
2	ATML	Ethane	1147	811	29	ATML	1.4
3	ATML	Ethene	1063	581	45	ATML	7.7
4							
5							
6							
7							
8							
9							
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12							
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35							
36							
37							
38							
39							
40							
		Average			46.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021223.D Vial: 24
Acq On : 12 Feb 17 12:22 Operator: lac
Sample : Ending CCV RSK Level 10 02/12/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 12:24 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

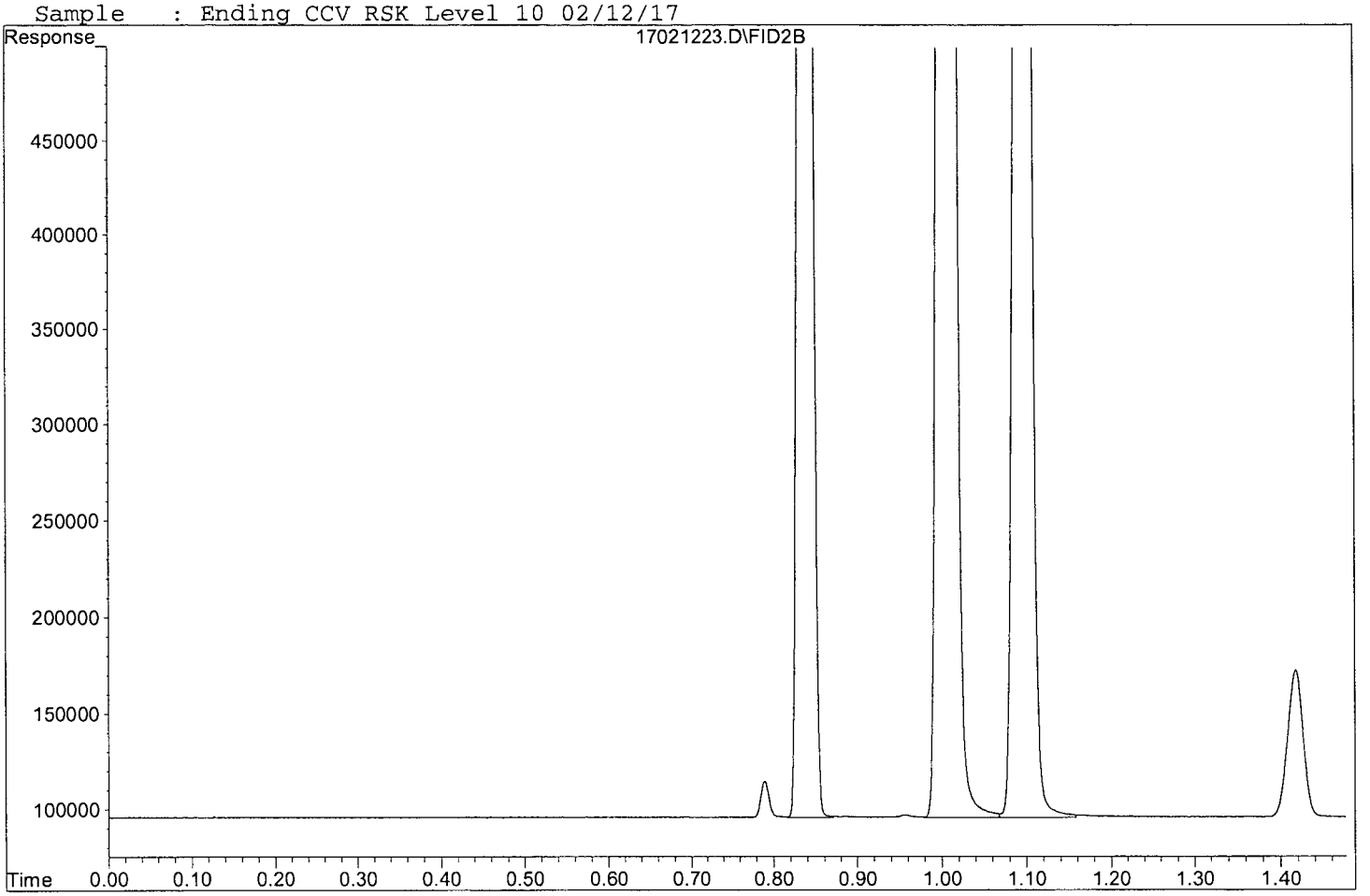
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1239911	1131.445	ppb
2) ATM Ethane	1.01	2028310	2533.819	ppb
3) ATM Ethene	1.10	1450140	2303.736	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021223.D
Sample : Ending CCV RSK Level 10 02/12/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:33:49 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021201.D Vial: 2
Acq On : 12 Feb 17 10:26 Operator: lac
Sample : 170212A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:29 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

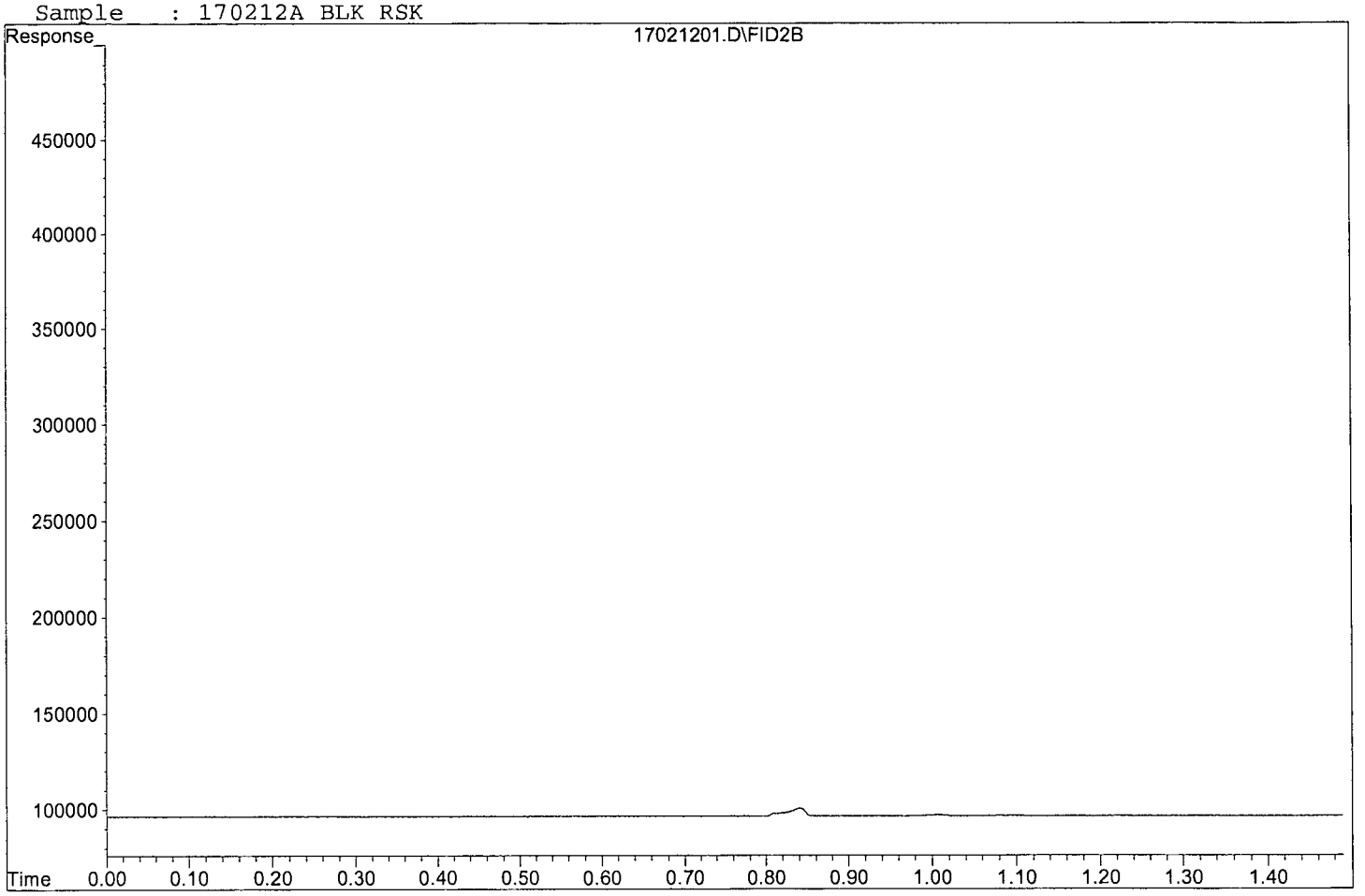
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	4189	N.D.	ppb
2) ATM Ethane	0.99	532	N.D.	ppb
3) ATM Ethene	1.08	354	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021201.D
Sample : 170212A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:33:37 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

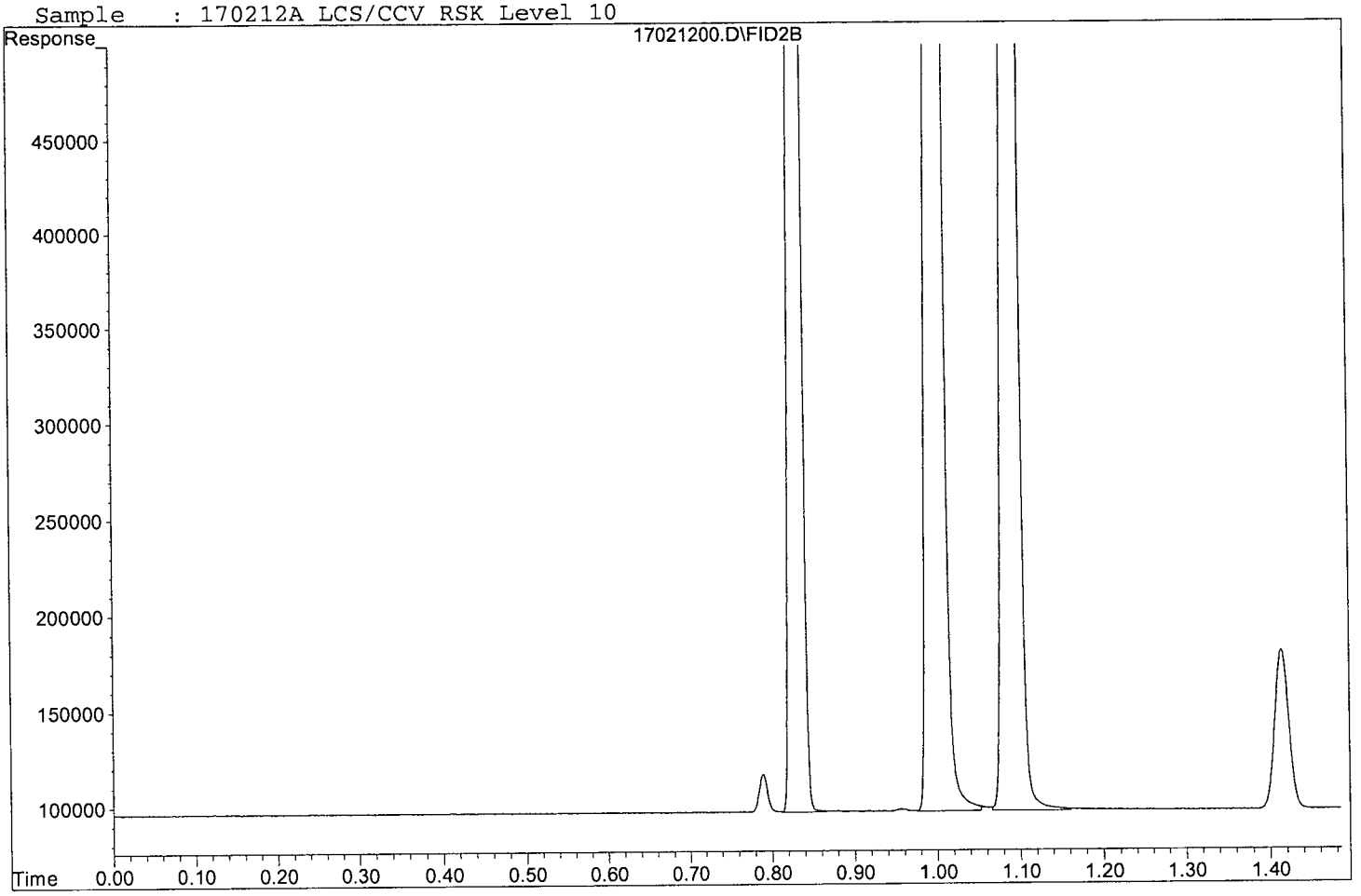
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** **CM 8/15/16**
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 8/15/17** **CM 8/15/16**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 9/28/16** **CM 9/1/16**

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4SP C05L-34436	Primary Source Std #164PLU4S PC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** **CM 8/15/16**
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 8/15/17** **CM 8/15/16**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 10/1/16** **CM 9/1/16**
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 03/12/17** **CMM 02/12/17**
2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\160901R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0901000.D	1	RSK Level 1 08/15/16	Methane 0.9, Ethane, 1.7 Etl	1 Sep 16 11:38
2	2	0901001.D	1	RSK Level 2 08/15/16		1 Sep 16 11:41
3	3	0901002.D	1	RSK Level 3 08/15/16	Methane 5.1, Ethane, 9.5 Etl	1 Sep 16 11:44
4	4	0901003.D	1	RSK Level 4 08/15/16		1 Sep 16 11:46
5	5	0901004.D	1	RSK Level 5 08/15/16		1 Sep 16 11:48
6	6	0901005.D	1	RSK Level 6 08/15/16		1 Sep 16 11:50
7	7	0901006.D	1	RSK Level 7 08/15/16		1 Sep 16 11:52
8	8	0901007.D	1	RSK Level 8 08/15/16		1 Sep 16 11:55
9	9	0901008.D	1	RSK Level 9 08/15/16		1 Sep 16 11:57
10	10	0901009.D	1	RSK Level 10 08/15/16		1 Sep 16 11:59
11	19	0901018.D	1	(SS/LCS) RSK Level 6 09/01/16		1 Sep 16 13:11
12	1	17021200.D	1	170212A LCS/CCV RSK Level 10		12 Feb 17 10:22
13	2	17021201.D	1	170212A BLK RSK		12 Feb 17 10:26
14	10	17021209.D	1	AZ49856W06		12 Feb 17 11:02
15	11	17021210.D	1	AZ49857W06		12 Feb 17 11:06
16	12	17021211.D	1	AZ49859W06		12 Feb 17 11:11
17	13	17021212.D	1	AZ49860W06		12 Feb 17 11:14
18	14	17021213.D	1	AZ49861W06		12 Feb 17 11:19
19	15	17021214.D	1	AZ49862W06		12 Feb 17 11:23
20	24	17021223.D	1	Ending CCV RSK Level 10 02/12/17		12 Feb 17 12:22

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/10/17	02/10/17	#35FE-170210A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/16/17	02/16/17	#300WD-170216A-AZ49860
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/16/17	02/16/17	#300WD-170216A-AZ49860

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM3500Fe	FERROUS IRON	3.00	2.97	99.0	80-120	02/10/17	02/10/17	#35FE-170210A-AZ49853

Comments: _____

Printed: 02/17/17 3:10:13 PM
APPL Standard LCS

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.9	94.5	90-110	02/16/17	02/16/17	#300WD-170216A-AZ49860
EPA 300.0	SULFATE	20.0	18.2	91.0	90-110	02/16/17	02/16/17	#300WD-170216A-AZ49860

Comments: _____

Printed: 02/17/17 3:10:13 PM
APPL Standard LCS

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH231

Sample Collection Date: 02/08/17

APPL ID: AZ49857

ARF: 82146

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	47.5	1.0	0.20	0.08	mg/L	1	02/10/17	02/10/17
EPA 300.0	NITRATE	6.7	0.5	0.18	0.04	mg/L	1	02/10/17	02/10/17
EPA 300.0	SULFATE	45.4	1.0	0.20	0.09	mg/L	1	02/10/17	02/10/17
SM 2320B	BICARBONATE AS CACO3	281	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	281	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/10/17	02/10/17

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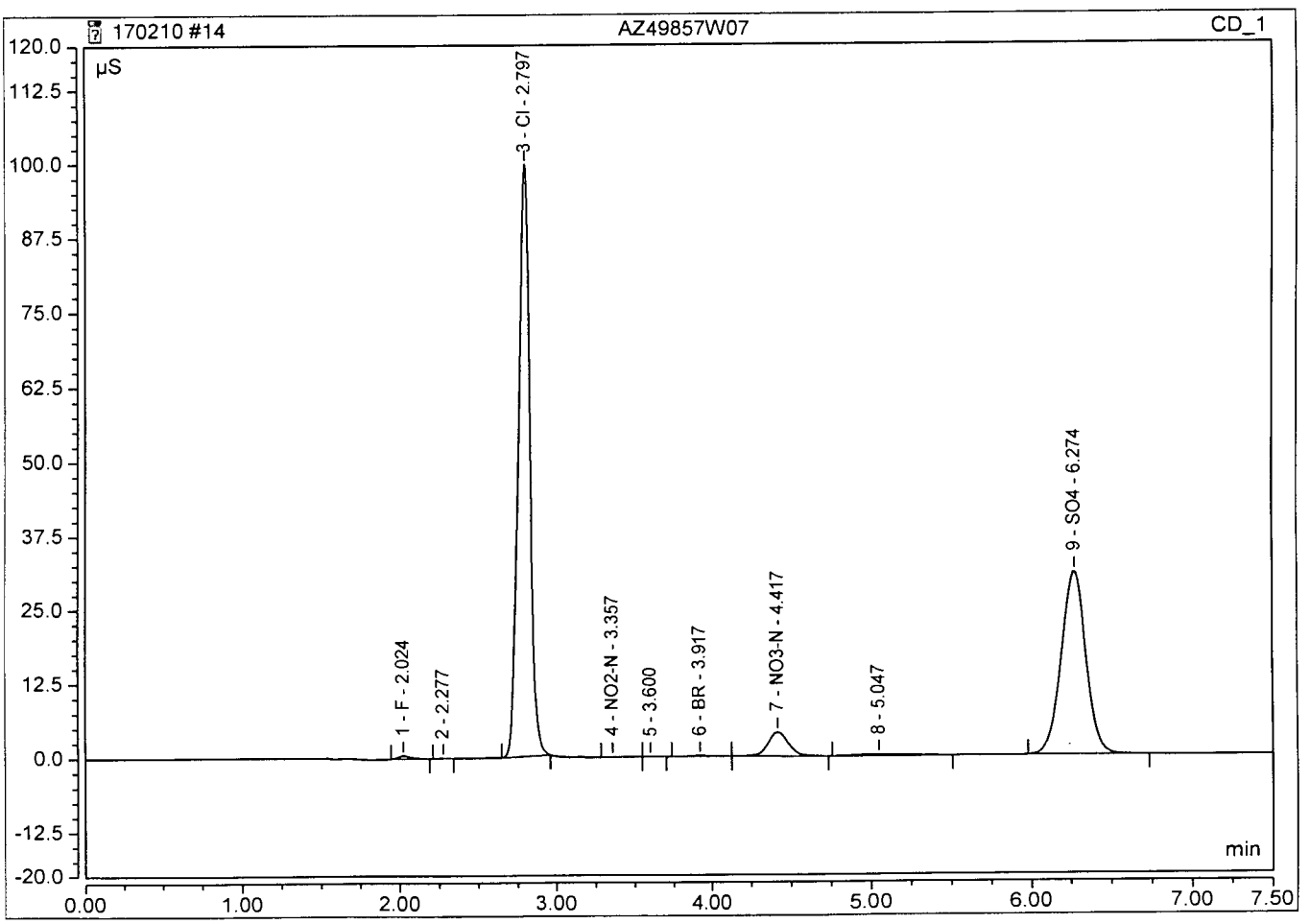
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49857W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 13:53**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	**F**	BMB	0.046	0.518	0.2409
3	2.80	**Cl**	BMB	8.539	99.619	47.5383
4	3.36	**NO2-N**	BMB	0.000	0.003	0.0231
6	3.92	**BR**	BMB	0.012	0.098	0.3121
7	4.42	**NO3-N**	BMB	0.588	4.037	1.5226
9	6.27	**SO4**	BMB	5.481	30.857	45.3792
		TOTAL:		14.67	135.13	95.02



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH227

APPL ID: AZ49860

Sample Collection Date: 02/09/17

ARF: 82146

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	SULFATE	337	10.0	2.00	0.90	mg/L	10	02/16/17	02/16/17
EPA 300.0	CHLORIDE	1040	50.0	10.00	4.00	mg/L	50	02/16/17	02/16/17
EPA 300.0	NITRATE	7.9	2.5	0.90	0.20	mg/L	5	02/10/17	02/10/17
SM 2320B	BICARBONATE AS CACO3	174	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	174	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/10/17	02/10/17

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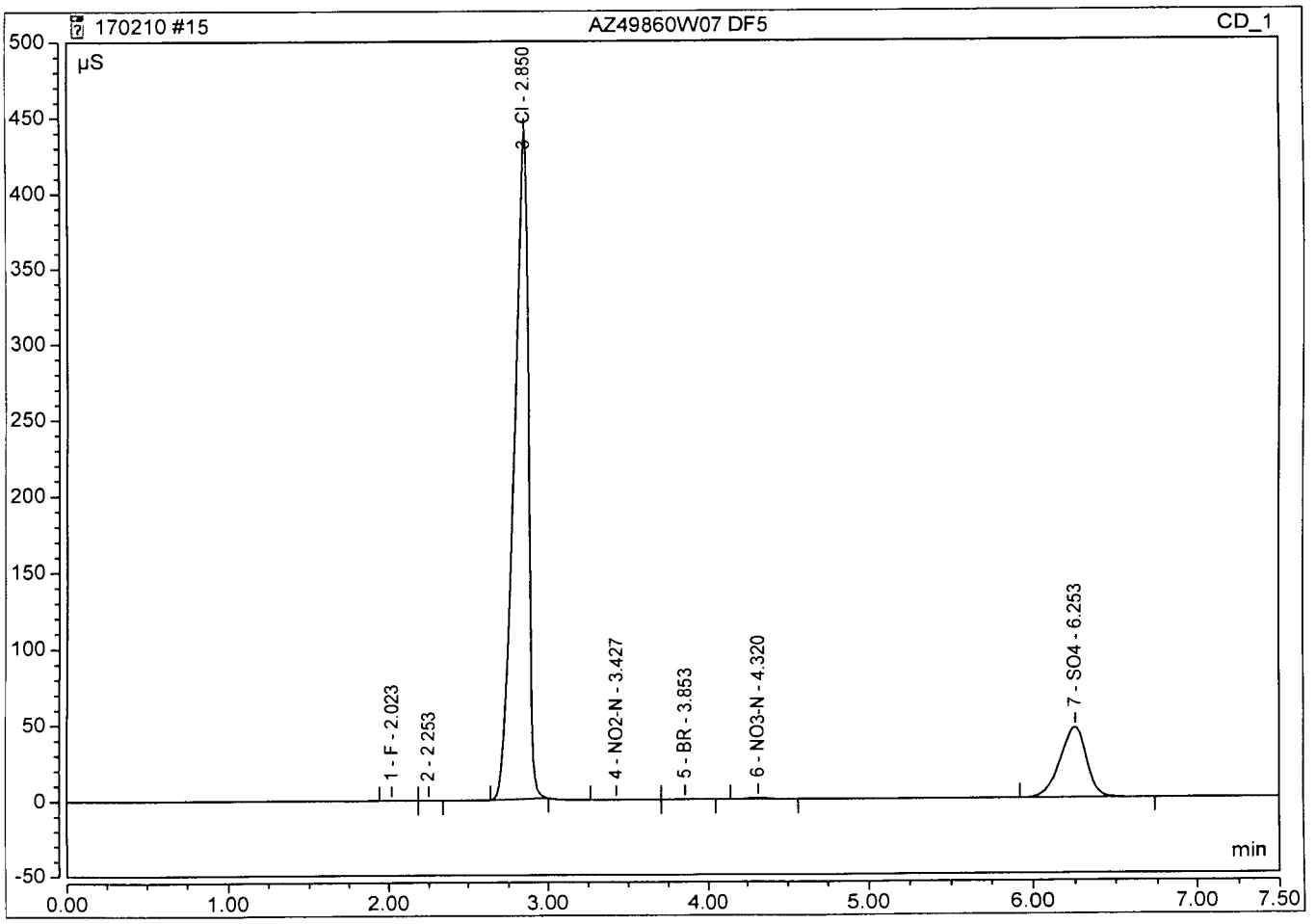
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49860W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 14:07**	*Run Time:*	**7.50**

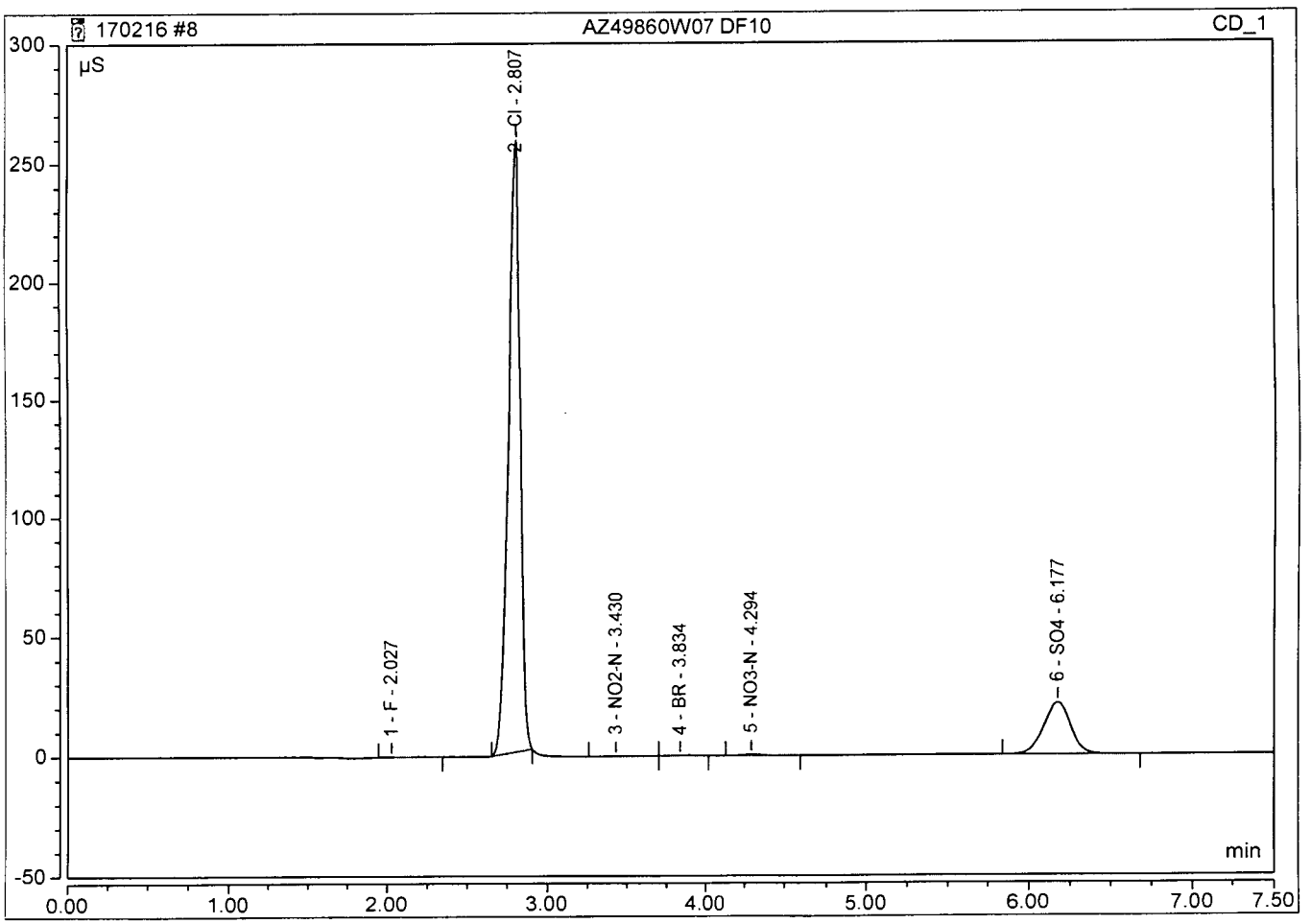
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.007	0.064	0.3567
3	2.85	Cl	BMB	44.856	438.866	1237.5989
4	3.43	NO2-N	BMB	0.006	0.025	0.2139
5	3.85	BR	BMB	0.035	0.323	3.4351
6	4.32	NO3-N	BMB	0.108	0.843	1.7915
7	6.25	SO4	BMB	8.603	46.504	354.7215
TOTAL:				53.62	486.62	1598.12



Peak Integration Report

Sample Name:	**AZ49860W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 12:46**	*Run Time:*	**7.50**

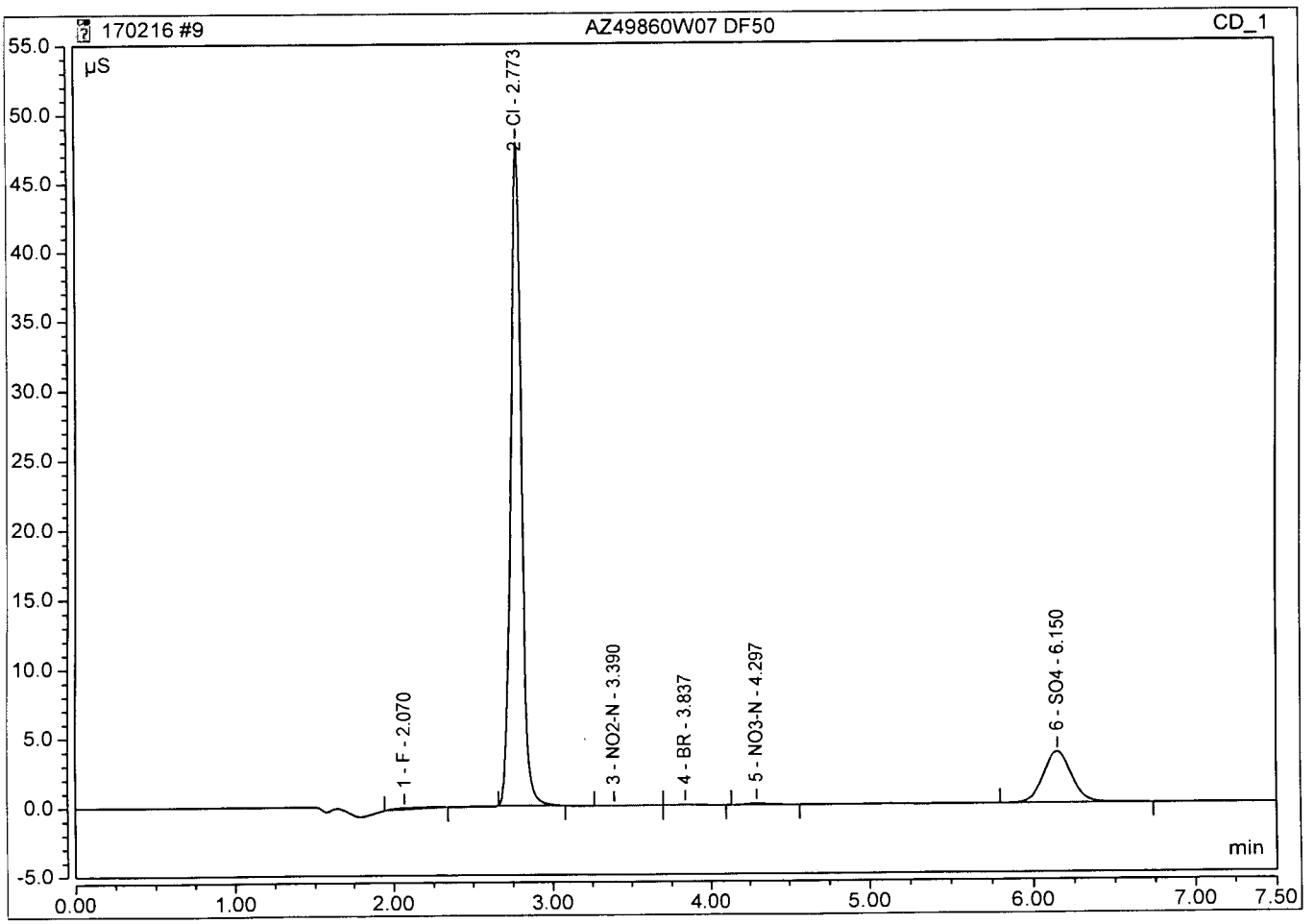
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.020	0.086	1.2709
2	2.81	Cl	BMB	21.644	257.517	1197.0019
3	3.43	NO2-N	BMB	0.004	0.015	0.3381
4	3.83	BR	BMB	0.018	0.167	4.0991
5	4.29	NO3-N	BMB	0.056	0.445	2.3179
6	6.18	SO4	BMB	4.060	21.477	337.3737
TOTAL:				25.80	279.71	1542.40



Peak Integration Report

Sample Name:	**AZ49860W07 DF50**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**50.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 12:59**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.07	F	BMB	0.028	0.112	8.1837
2	2.77	Cl	BMB	3.679	47.787	1038.8028
3	3.39	NO2-N	BMB	0.001	0.004	1.2439
4	3.84	BR	BMB	0.004	0.034	9.2350
5	4.30	NO3-N	BMB	0.011	0.089	6.1503
6	6.15	SO4	BMB	0.724	3.669	321.2340
TOTAL:				4.45	51.70	1384.85



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH223

Sample Collection Date: 02/08/17

APPL ID: AZ49862

ARF: 82146

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	40.9	1.0	0.20	0.08	mg/L	1	02/10/17	02/10/17
EPA 300.0	NITRATE	0.44 J	0.5	0.18	0.04	mg/L	1	02/10/17	02/10/17
EPA 300.0	SULFATE	4.6	1.0	0.20	0.09	mg/L	1	02/10/17	02/10/17
SM 2320B	BICARBONATE AS CACO3	92.0	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	92.0	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.50 J	1.0	0.32	0.16	mg/L	1	02/10/17	02/10/17

J = Estimated value.

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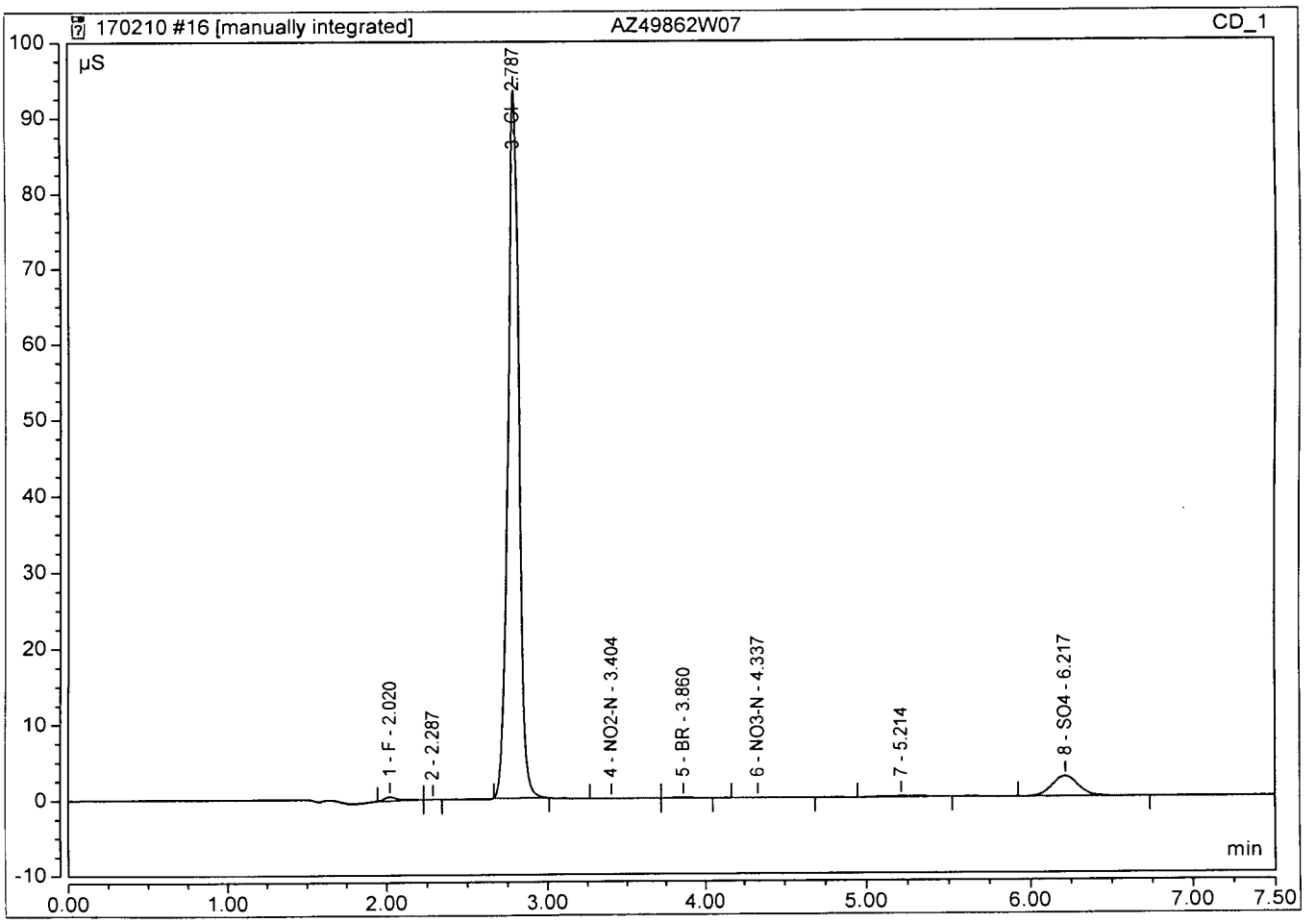
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

ml PW 2/20/17 mm 2/20/17

Sample Name:	**AZ49862W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 14:21**	*Run Time:*	**7.50**

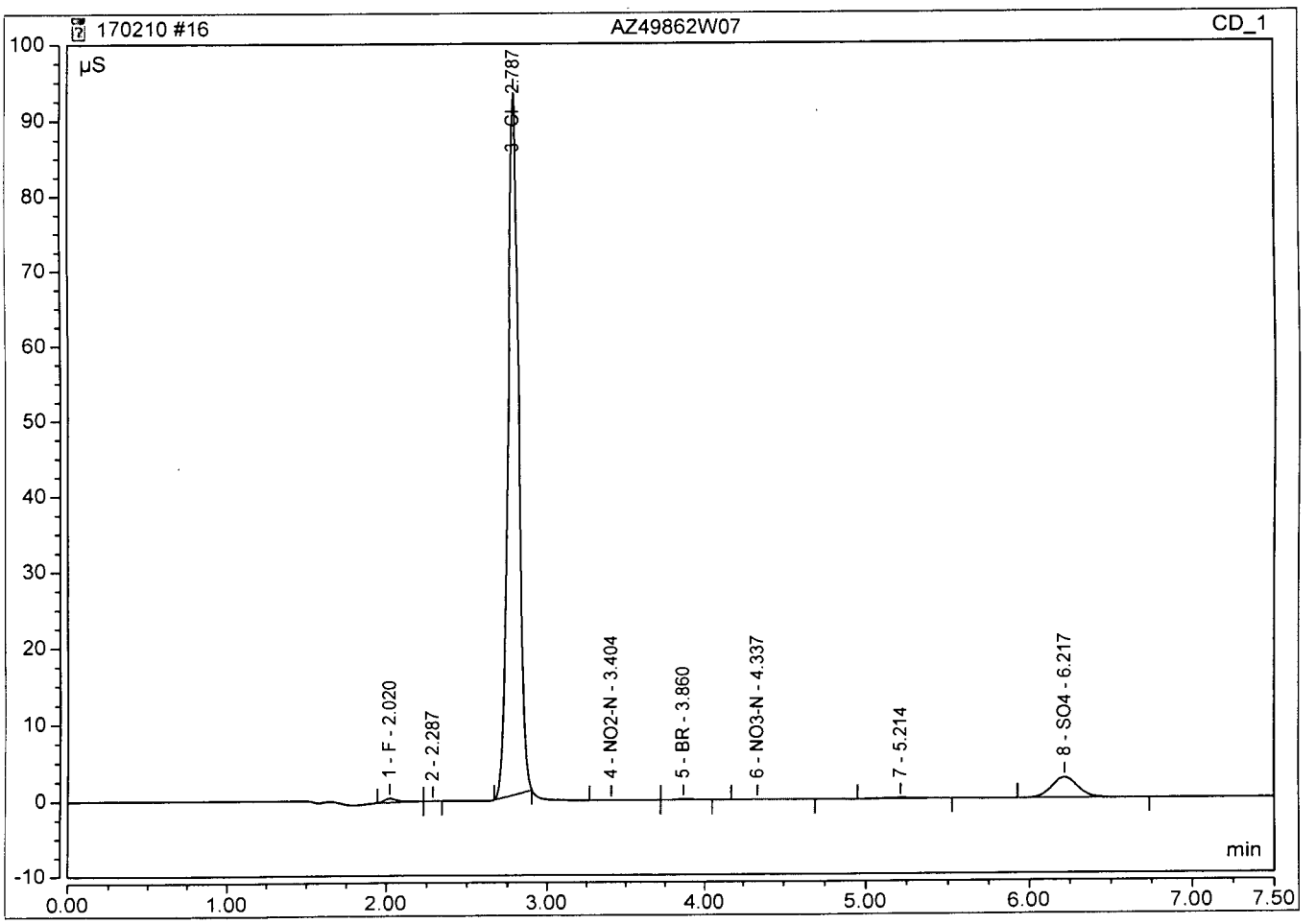
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.050	0.537	0.2597
3	2.79	Cl	BMB*	7.325	93.377	40.8533
4	3.40	NO2-N	BMB	0.001	0.006	0.0265
5	3.86	BR	BMB	0.009	0.078	0.2643
6	4.34	NO3-N	BMB	0.002	0.011	0.0996
8	6.22	SO4	BMB	0.496	2.645	4.5536
		TOTAL:		7.88	96.65	46.06



Peak Integration Report

Sample Name:	**AZ49862W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 14:21**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.050	0.537	0.2597
3	2.79	Cl	BMB	7.144	92.739	39.8602
4	3.40	NO2-N	BMB	0.001	0.006	0.0265
5	3.86	BR	BMB	0.009	0.078	0.2643
6	4.34	NO3-N	BMB	0.002	0.011	0.0996
8	6.22	SO4	BMB	0.496	2.645	4.5536
TOTAL:				7.70	96.02	45.06



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82146 SDG: 82146
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 14:00	%R(1)	True CCV1	Found 14:10	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.96304	99.1	4	3.94306	98.6	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82146 SDG: 82146

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 02/10/17 14:01	C	CCB 02/10/17 14:11	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 10/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:37	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.8422	94.7							
chloride	20	18.2183	91.1							
fluoride	2.5	2.55939	102							
Nitrate(NO3)	22.1	20.0573	90.8							
Nitrate(NO3)-N	5	4.52905	90.6							
Nitrite(NO2)	9.98	9.81221	98.3							
Nitrite(NO2)-N	3.04	2.98733	98.3							
phosphate	15.3225	14.7130	96.0							
phosphate-p	5	4.80111	96.0							
sulfate	20	18.4058	92.0							

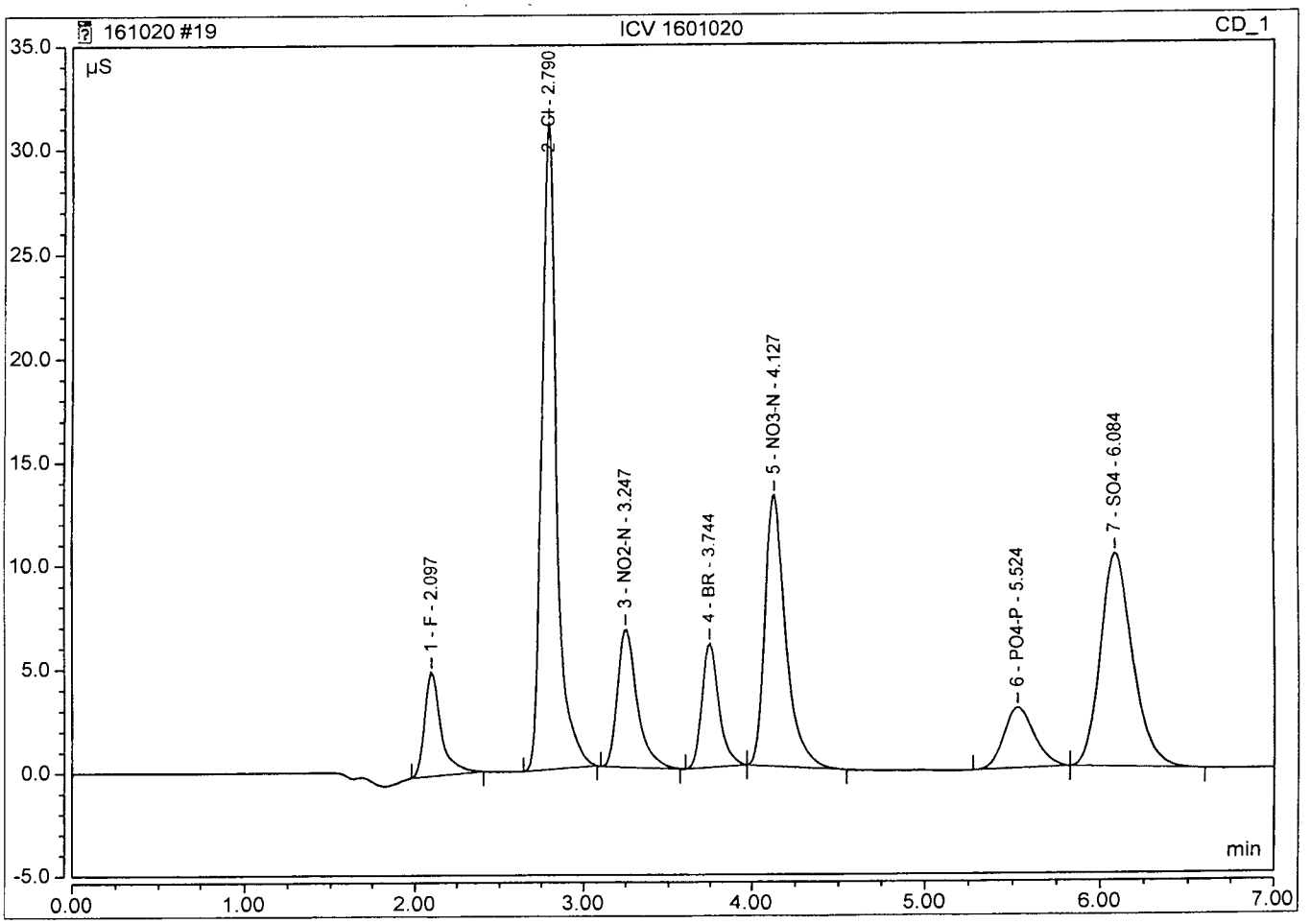
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 1601020**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:37**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.568	5.018	2.5594
2	2.79	Cl	BMB	3.214	31.139	18.2184
3	3.25	NO2-N	BMB	0.894	6.653	2.9873
4	3.74	BR	BMB	0.739	5.970	11.8423
5	4.13	NO3-N	BMB	1.827	13.075	4.5291
6	5.52	PO4-P	BMB	0.590	2.913	4.8011
7	6.08	SO4	BMB	2.187	10.255	18.4058
		TOTAL:		10.02	75.02	63.34



Algorithm Check (Charlie)

SEQUENCE: 161020 **CALIBRATION: 161020**

RUN #: 19 **AMPLE ID:** 161020 ICV

ANALYTE	SLOPE	INTERCEP	AREA	RESULT (	SPIKE (mg/L)	% R	Pass?
Flouride	0.225	-0.009	0.568	2.56	2.50	102.4%	Pass
Chloride	0.182	-0.094	3.214	18.22	20.00	91.1%	Pass
NO2-N	0.301	-0.007	0.894	2.99	3.04	98.3%	Pass
Bromide	0.063	-0.008	0.739	11.84	12.50	94.7%	Pass
NO3-N	0.412	-0.039	1.827	4.53	5.00	90.6%	Pass
PO4-P	0.125	-0.008	0.59	4.80	5.00	96.0%	Pass
Sulfate	0.122	-0.060	2.187	18.40	20.00	92.0%	Pass

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

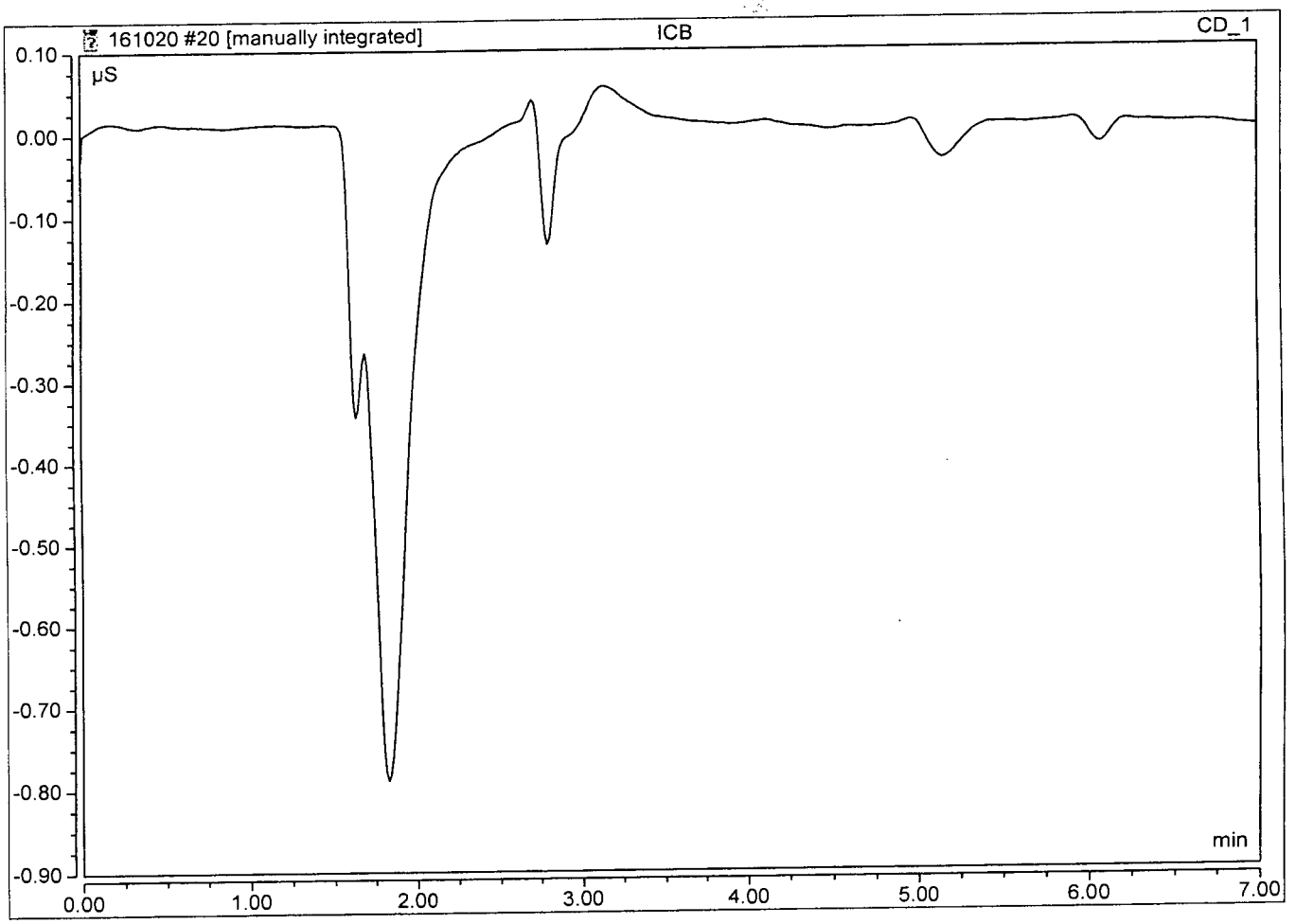
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 10/20/16 12:50	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 161020 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	20-Oct-2016 / 12:50	*Run Time:*	7.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82146 SDG: 82146
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/10/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:18	%R(1)	True CCV1	Found 15:01	%R(1)	True	Found	%R(1)	
chloride	25	24.897	99.6	25	24.9168	99.7				
Nitrate(NO3)	22.1	22.3002	101	22.1	22.3445	101				
sulfate	25	24.3399	97.4	25	24.3904	97.6				

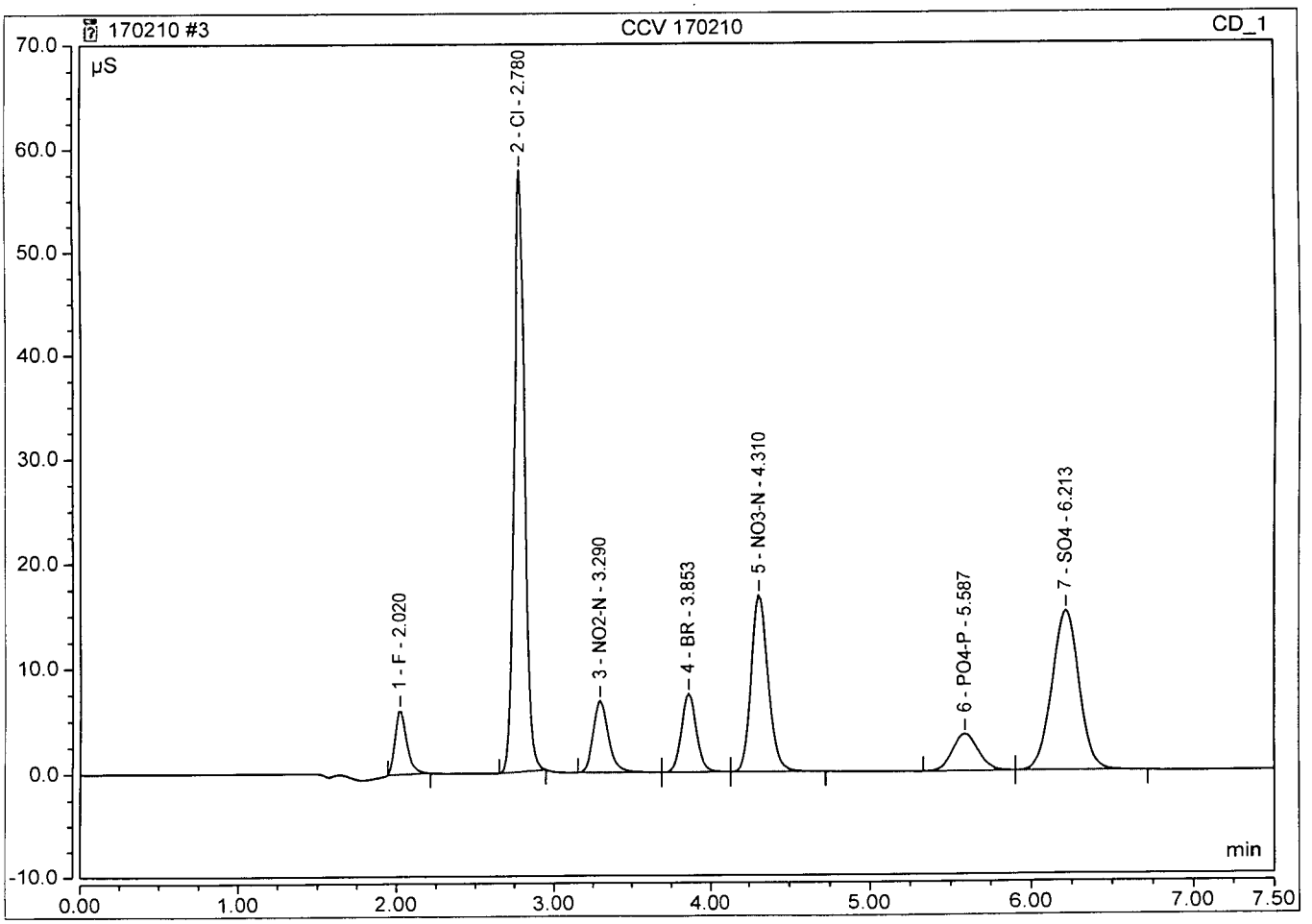
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:18**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.513	6.060	2.3160
2	2.78	Cl	BMB	4.427	57.761	24.8970
3	3.29	NO2-N	BMB	0.778	6.799	2.6017
4	3.85	BR	BMB	0.799	7.392	12.7863
5	4.31	NO3-N	BMB	2.035	16.703	5.0355
6	5.59	PO4-P	BMB	0.645	3.477	5.2445
7	6.21	SO4	BMB	2.912	15.085	24.3399
		TOTAL:		12.11	113.28	77.22



Algorithm Check

y: .1221x − .06 y=Peak Area X=Amnt

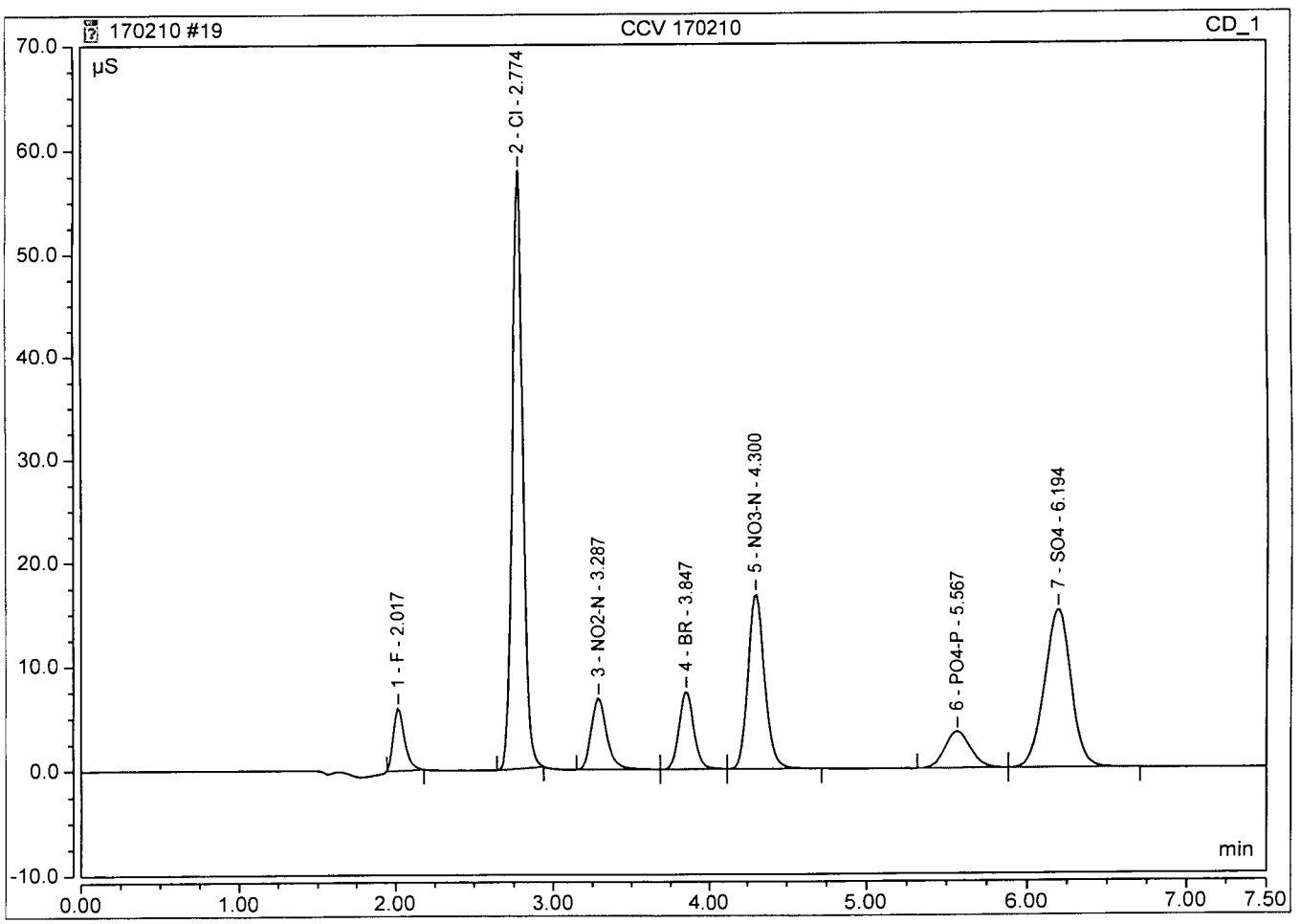
X= 24.34✓

mm 2/20/17

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:01**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.496	5.999	2.2415
2	2.77	Cl	BMB	4.431	57.841	24.9168
3	3.29	NO2-N	BMB	0.783	6.830	2.6188
4	3.85	BR	BMB	0.800	7.405	12.8016
5	4.30	NO3-N	BMB	2.039	16.739	5.0455
6	5.57	PO4-P	BMB	0.646	3.503	5.2498
7	6.19	SO4	BMB	2.918	15.137	24.3904
		TOTAL:		12.11	113.45	77.26



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82146 SDG: 82146

Preparation Blank Matrix (soil/water): water

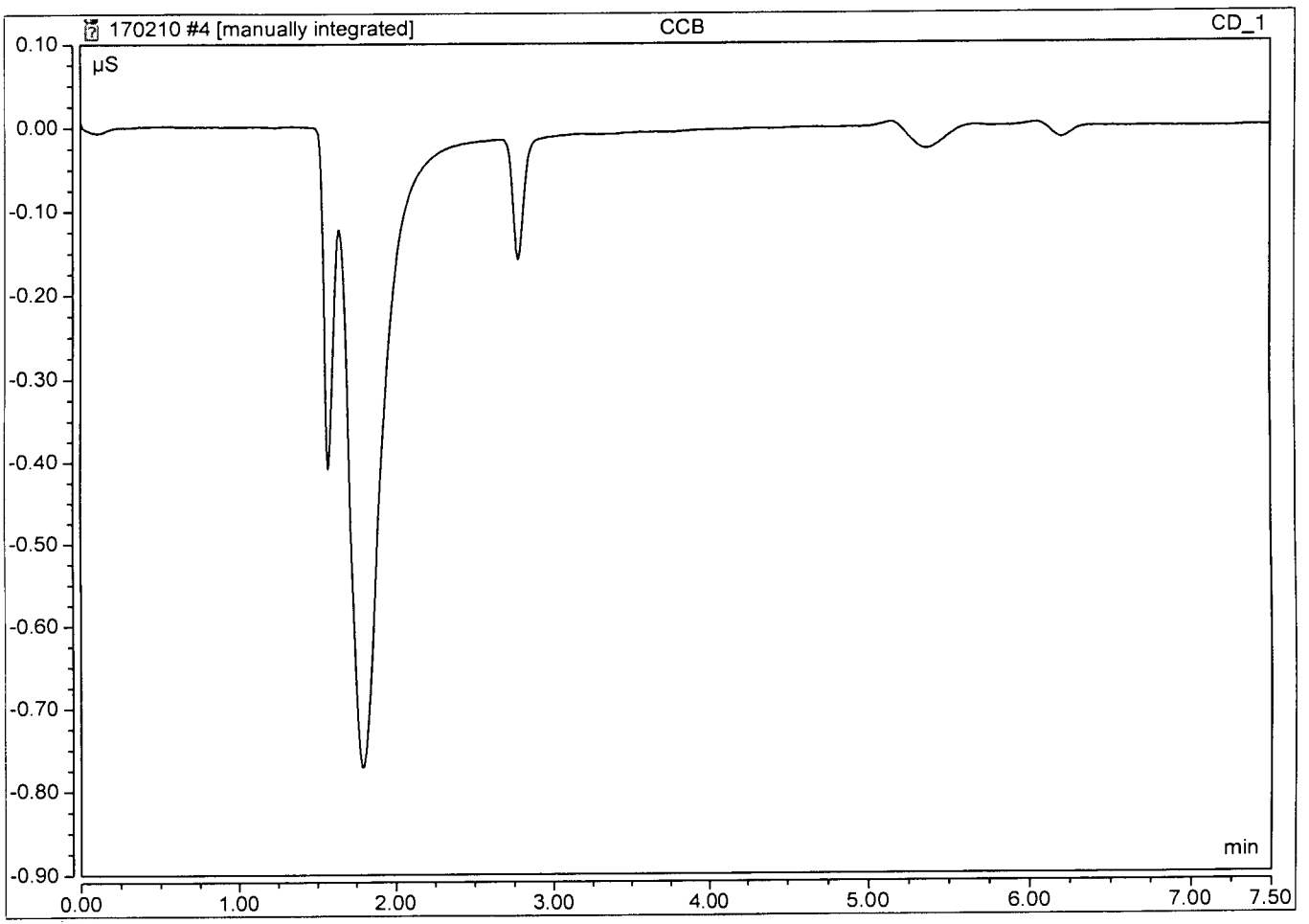
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/10/17 09:31	C	CCB 02/10/17 15:15	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:31**	*Run Time:*	**7.50**

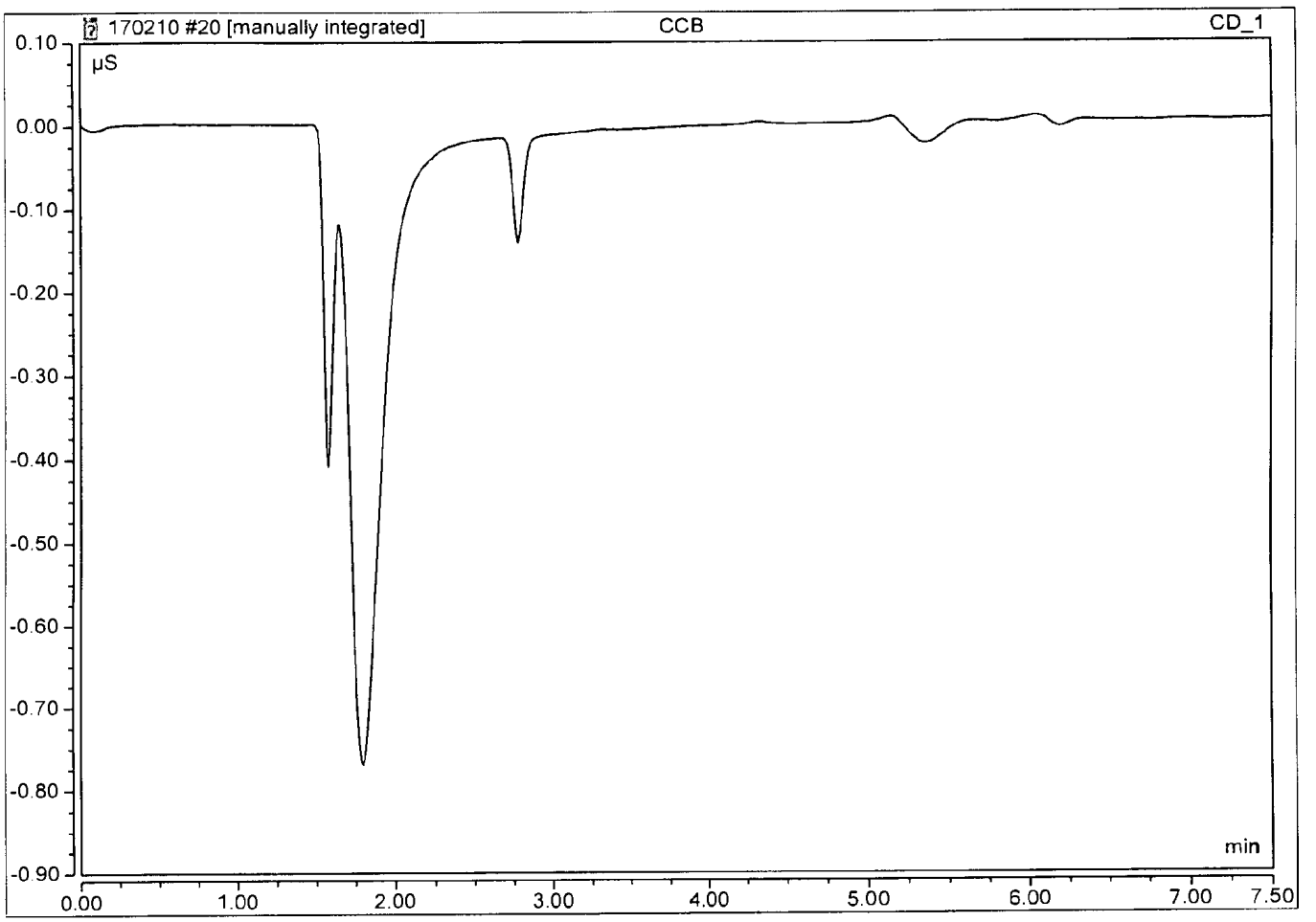
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:15**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82146 SDG: 82146
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/16/17

Analyte	Calibration Verification									M
	True CCV1	Found 11:38	%R(1)	True CCV1	Found 13:53	%R(1)	True	Found	%R(1)	
chloride	25	25.2225	101	25	25.2066	101				
sulfate	25	24.6147	98.5	25	24.6033	98.4				

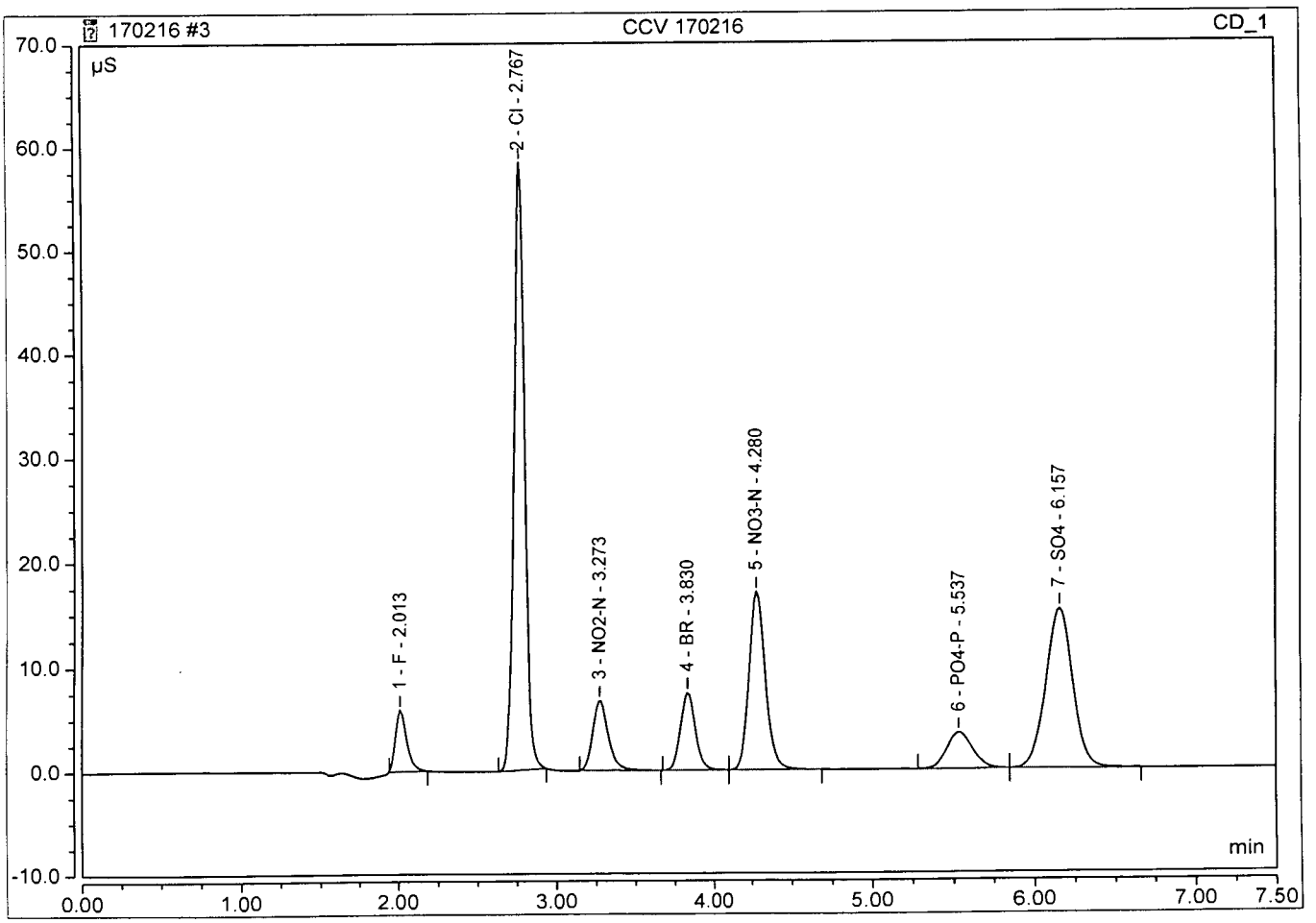
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170216**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 11:38**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.01	F	BMB	0.496	5.986	2.2401
2	2.77	Cl	BMB	4.486	58.358	25.2225
3	3.27	NO2-N	BMB	0.770	6.785	2.5768
4	3.83	BR	BMB	0.808	7.506	12.9290
5	4.28	NO3-N	BMB	2.061	16.998	5.0970
6	5.54	PO4-P	BMB	0.651	3.529	5.2914
7	6.16	SO4	BMB	2.946	15.234	24.6147
		TOTAL:		12.22	114.40	77.97



Algorithm Check

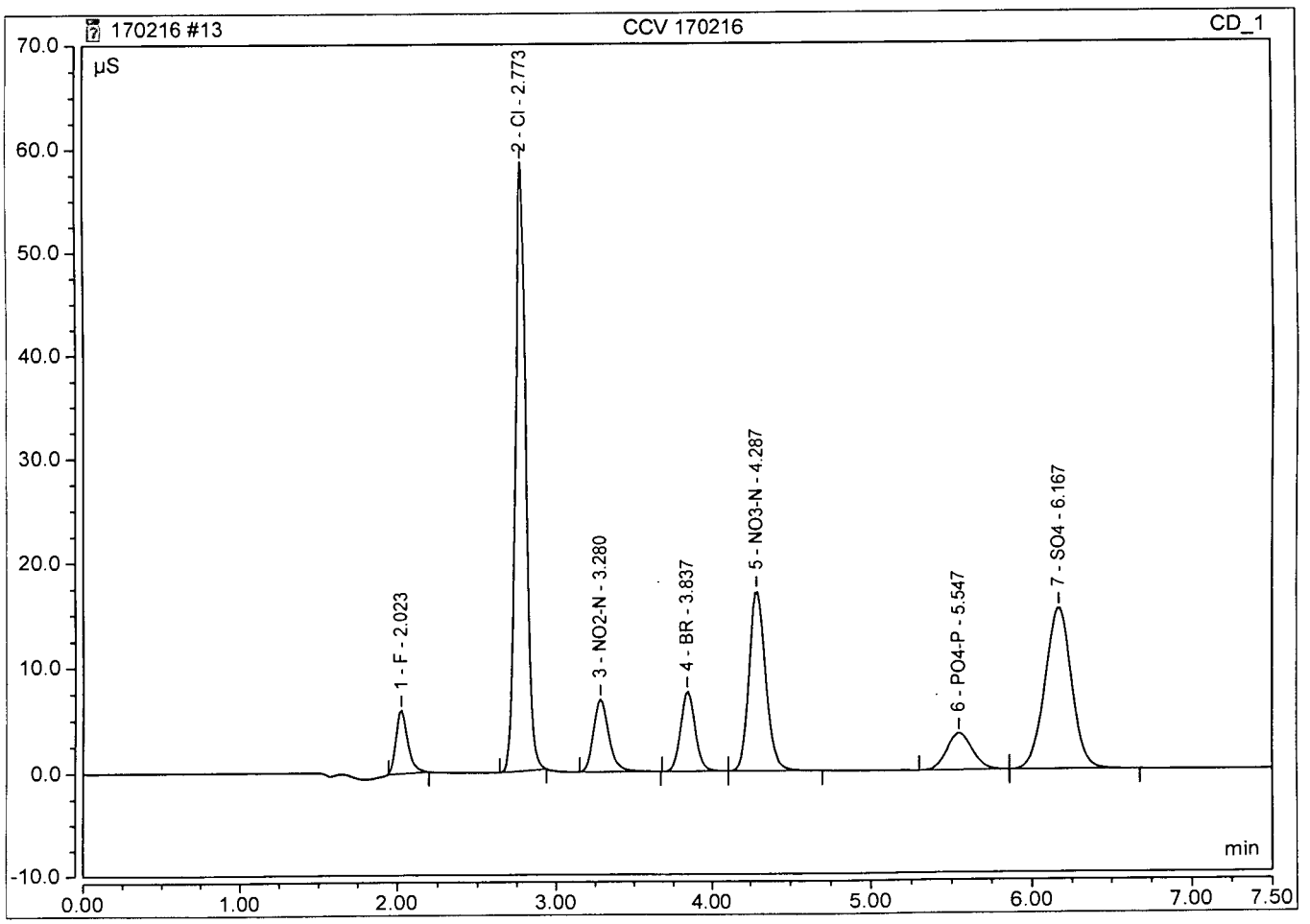
y = .1221x - .06 y = Peak Area
x = 24.62 ✓ x = Amount

MM 2/20/17

Peak Integration Report

Sample Name:	**CCV 170216**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 13:53**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.509	6.020	2.2986
2	2.77	Cl	BMB	4.483	58.480	25.2066
3	3.28	NO2-N	BMB	0.781	6.848	2.6122
4	3.84	BR	BMB	0.807	7.519	12.9159
5	4.29	NO3-N	BMB	2.060	17.028	5.0952
6	5.55	PO4-P	BMB	0.639	3.474	5.1901
7	6.17	SO4	BMB	2.944	15.242	24.6033
		TOTAL:		12.22	114.61	77.92



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82146 SDG: 82146

Preparation Blank Matrix (soil/water): water

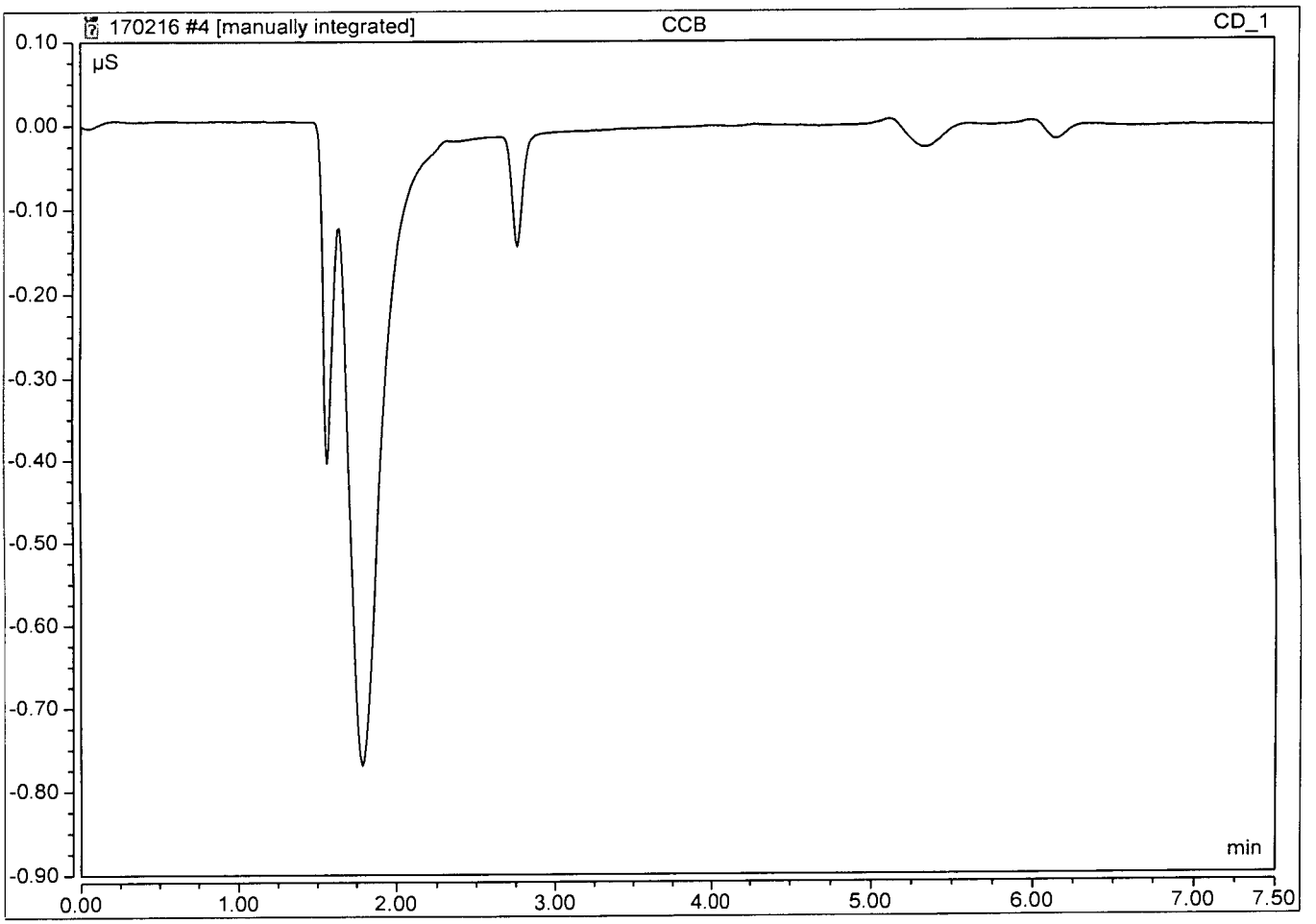
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/16/17 11:51	C	CCB 02/16/17 14:07	C		C		C		C	
chloride	1.000	U	1.000	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 11:51**	*Run Time:*	**7.50**

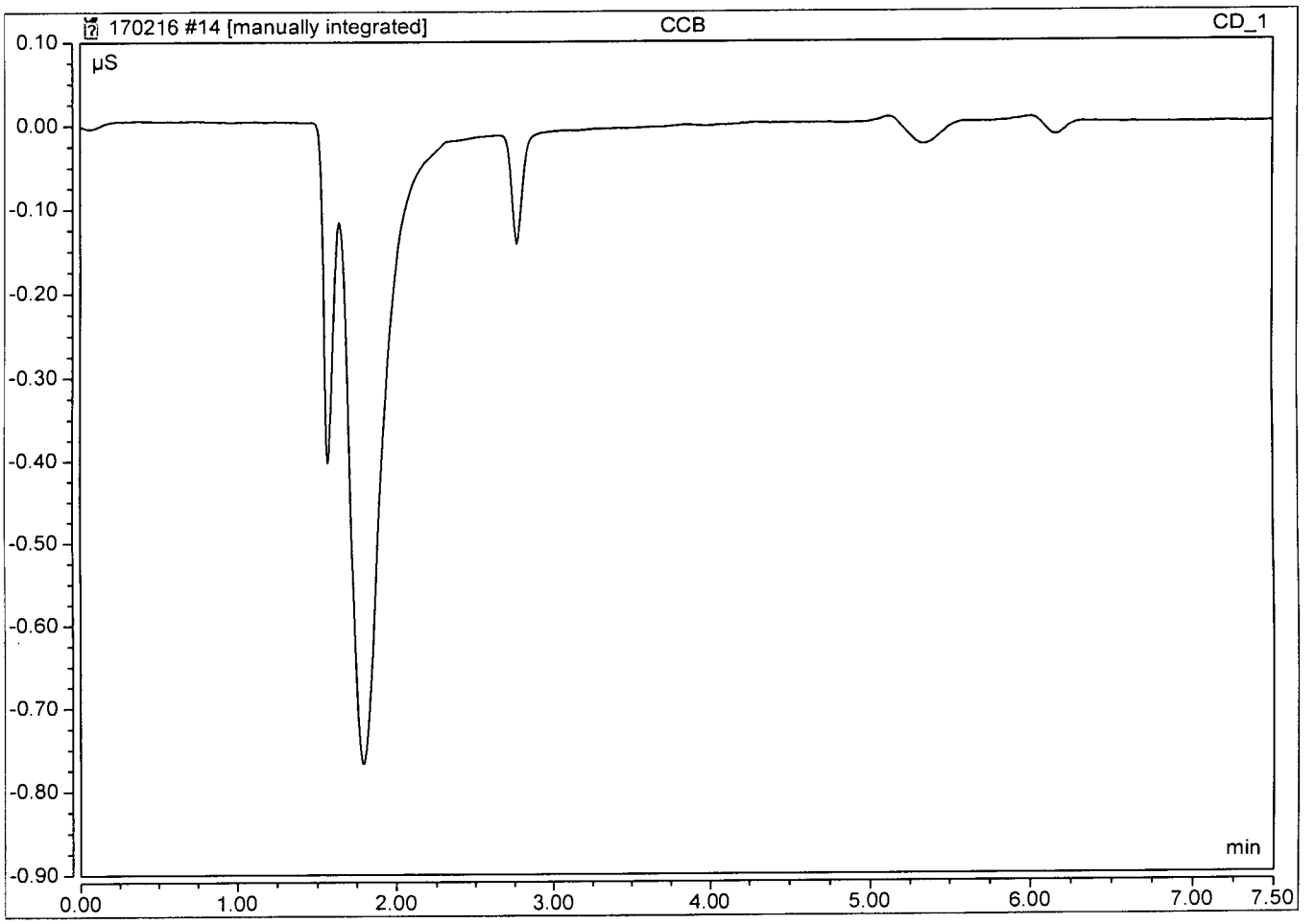
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



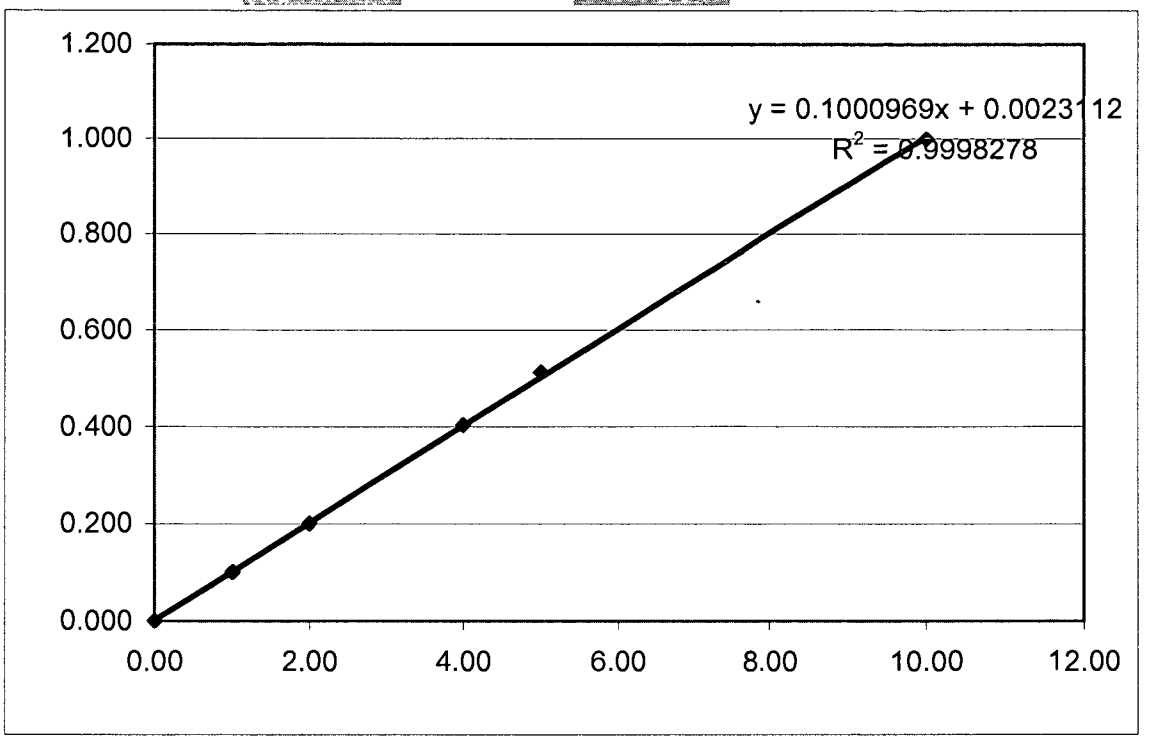
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 14:07**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170210A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.300	02/10/17	14:02
dilution=	1		
result (x)=	2.97 ✓		

MM 2/20/17

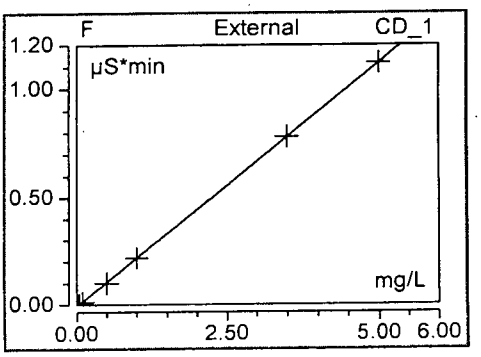
Calibration Batch Report

Sequence:	**161020**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7**

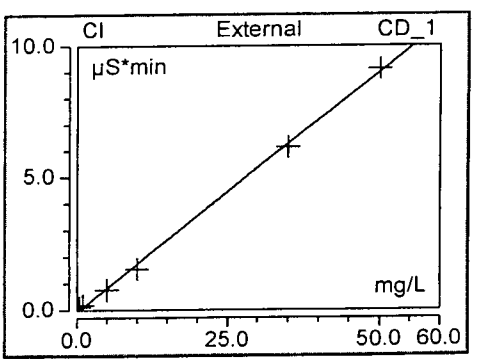
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.225	0.000	99.9840
Cl	Area	in, WithOffse	6.000	-0.094	0.182	0.000	99.8613
NO2-N	Area	in, WithOffse	6.000	-0.007	0.301	0.000	99.9917
BR	Area	in, WithOffse	6.000	-0.008	0.063	0.000	99.9802
NO3-N	Area	in, WithOffse	6.000	-0.039	0.412	0.000	99.9329
PO4-P	Area	in, WithOffse	6.000	-0.008	0.125	0.000	99.9563
SO4	Area	in, WithOffse	6.000	-0.060	0.122	0.000	99.9400
		AVERAGE:		-0.0322	0.2043	0.0000	99.9495

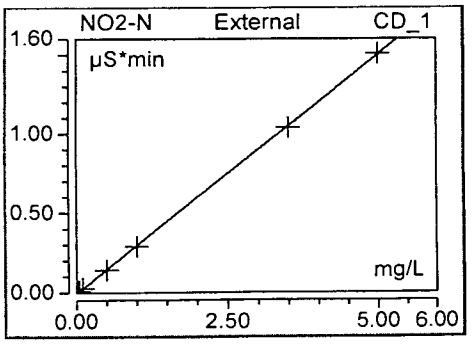
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 10/20/16	2.123	0.0012	0.022	0.044
ICAL 2 10/20/16	2.107	0.0123	0.139	0.093
ICAL 3 10/20/16	2.100	0.1000	0.922	0.483
ICAL 4 10/20/16	2.104	0.2174	1.958	1.004
ICAL 5 10/20/16	2.097	0.7826	6.953	3.513
ICAL 6 10/20/16	2.103	1.1183	9.996	5.004
Average	2.106			
Rel. Std. Dev.	0.443 %			



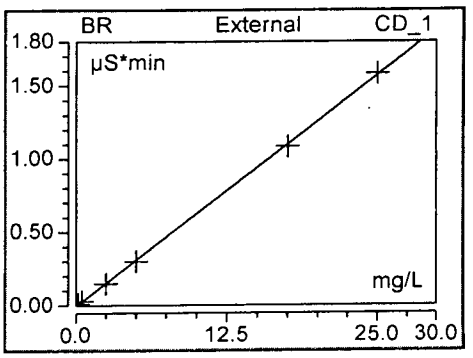
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 10/20/16	2.793	0.1132	1.052	1.143
ICAL 2 10/20/16	2.790	0.1861	1.743	1.544
ICAL 3 10/20/16	2.790	0.7617	7.117	4.714
ICAL 4 10/20/16	2.797	1.5419	14.708	9.010
ICAL 5 10/20/16	2.793	6.1288	59.398	34.268
ICAL 6 10/20/16	2.803	9.1171	87.978	50.723
Average	2.795			
Rel. Std. Dev.	0.179 %			



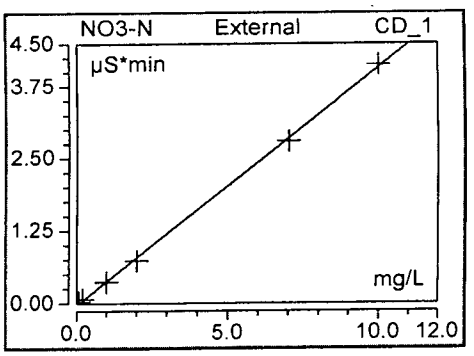
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 10/20/16	3.250	0.0095	0.073	0.053
ICAL 2 10/20/16	3.247	0.0276	0.209	0.113
ICAL 3 10/20/16	3.250	0.1420	1.072	0.493
ICAL 4 10/20/16	3.254	0.2907	2.188	0.986
ICAL 5 10/20/16	3.250	1.0405	7.775	3.473
ICAL 6 10/20/16	3.257	1.5072	11.205	5.022
Average	3.251			
Rel. Std. Dev.	0.106 %			



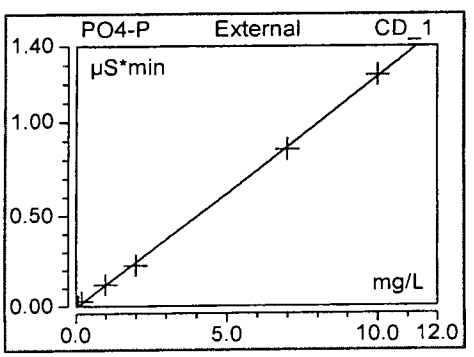
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 10/20/16	3.757	0.0109	0.087	0.299
ICAL 2 10/20/16	3.753	0.0293	0.232	0.589
ICAL 3 10/20/16	3.750	0.1485	1.179	2.478
ICAL 4 10/20/16	3.754	0.2993	2.389	4.870
ICAL 5 10/20/16	3.743	1.0832	8.801	17.295
ICAL 6 10/20/16	3.747	1.5800	13.023	25.169
Average	3.751			
Rel. Std. Dev.	0.131 %			



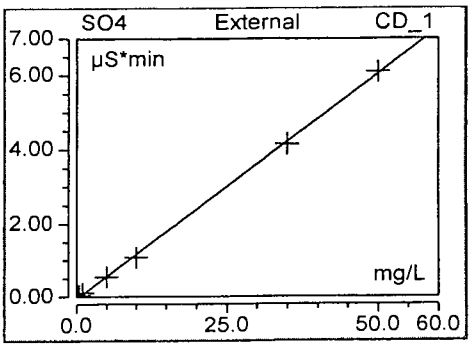
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 10/20/16	4.143	0.0290	0.196	0.166
ICAL 2 10/20/16	4.140	0.0717	0.496	0.270
ICAL 3 10/20/16	4.137	0.3656	2.533	0.983
ICAL 4 10/20/16	4.140	0.7330	5.168	1.875
ICAL 5 10/20/16	4.123	2.7923	20.144	6.873
ICAL 6 10/20/16	4.123	4.1278	30.098	10.114
Average	4.135			
Rel. Std. Dev.	0.215 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 10/20/16	5.540	0.0032	0.021	0.092
ICAL 2 10/20/16	5.540	0.0284	0.107	0.295
ICAL 3 10/20/16	5.537	0.1191	0.557	1.022
ICAL 4 10/20/16	5.537	0.2251	1.103	1.873
ICAL 5 10/20/16	5.520	0.8544	4.243	6.922
ICAL 6 10/20/16	5.523	1.2473	6.244	10.075
Average	5.533			
Rel. Std. Dev.	0.160 %			



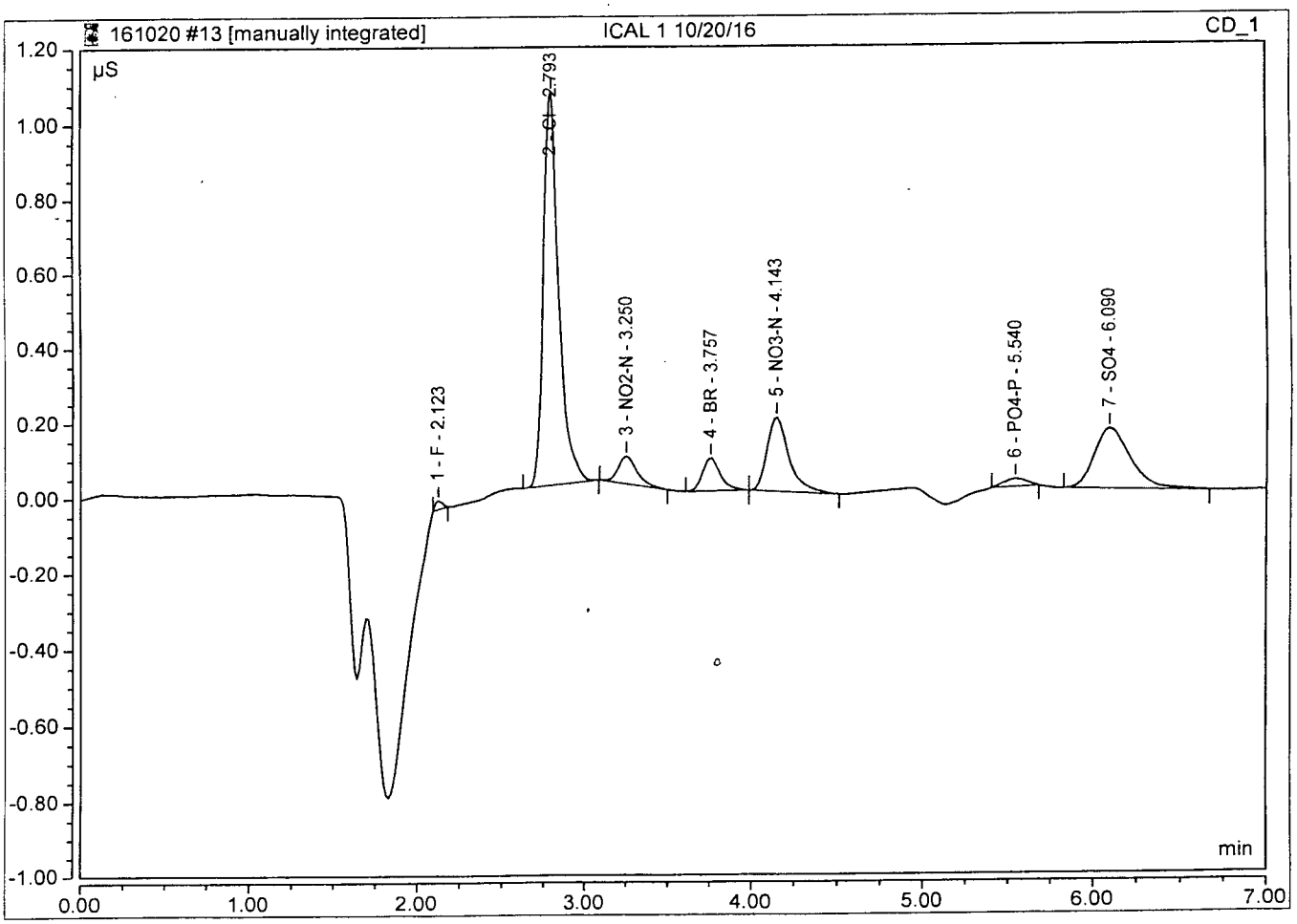
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 10/20/16	6.090	0.0385	0.159	0.808
ICAL 2 10/20/16	6.093	0.1046	0.455	1.350
ICAL 3 10/20/16	6.097	0.5456	2.464	4.961
ICAL 4 10/20/16	6.100	1.0756	4.975	9.302
ICAL 5 10/20/16	6.097	4.1512	19.714	34.487
ICAL 6 10/20/16	6.110	6.1057	29.270	50.492
Average	6.098			
Rel. Std. Dev.	0.113 %			



Peak Integration Report

Sample Name:	**ICAL 1 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:19**	*Run Time:*	**7.00**

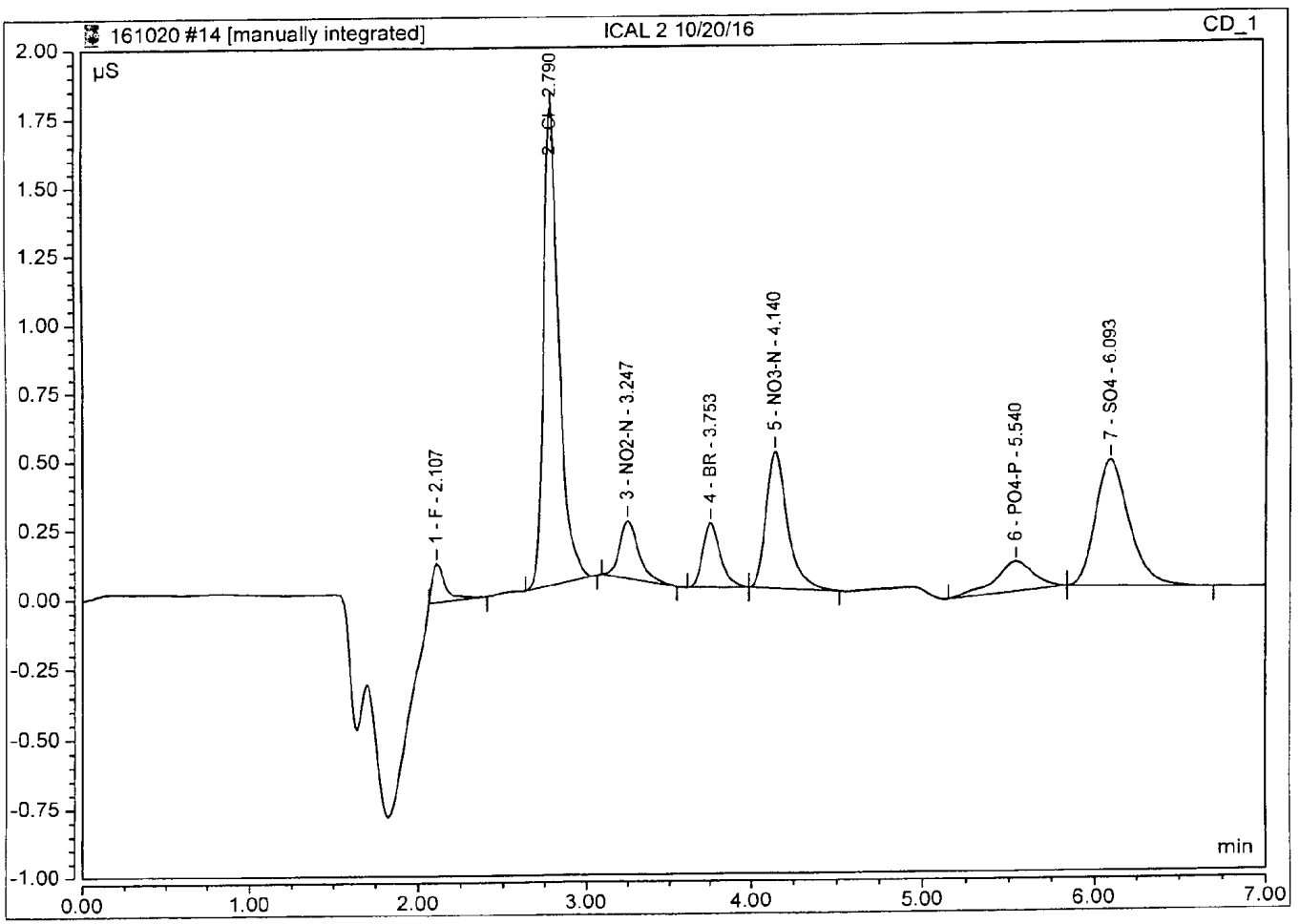
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB*	0.001	0.022	0.0438
2	2.79	Cl	BMB	0.113	1.052	1.1427
3	3.25	NO2-N	BMB	0.009	0.073	0.0531
4	3.76	BR	BMB	0.011	0.087	0.2985
5	4.14	NO3-N	BMB	0.029	0.196	0.1660
6	5.54	PO4-P	BMB*	0.003	0.021	0.0923
7	6.09	SO4	BMB	0.038	0.159	0.8084
		TOTAL:		0.21	1.61	2.60



Peak Integration Report

Sample Name:	**ICAL 2 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:32**	*Run Time:*	**7.00**

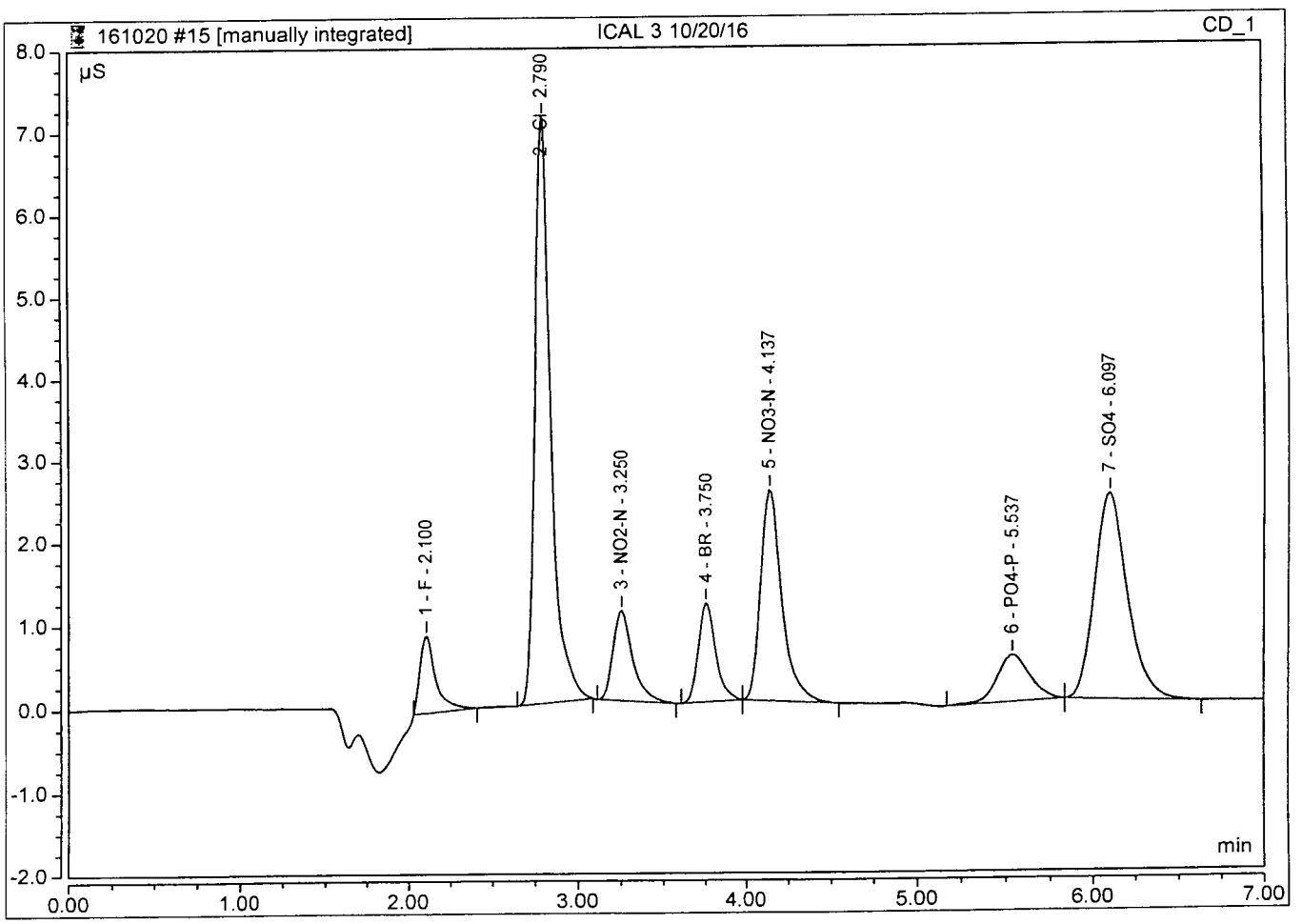
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB*	0.012	0.139	0.0933
2	2.79	Cl	BMB	0.186	1.743	1.5439
3	3.25	NO2-N	BMB	0.028	0.209	0.1132
4	3.75	BR	BMB	0.029	0.232	0.5894
5	4.14	NO3-N	BMB	0.072	0.496	0.2699
6	5.54	PO4-P	BMB	0.028	0.107	0.2946
7	6.09	SO4	BMB	0.105	0.455	1.3496
		TOTAL:		0.46	3.38	4.25



Peak Integration Report

Sample Name:	**ICAL 3 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:45**	*Run Time:*	**7.00**

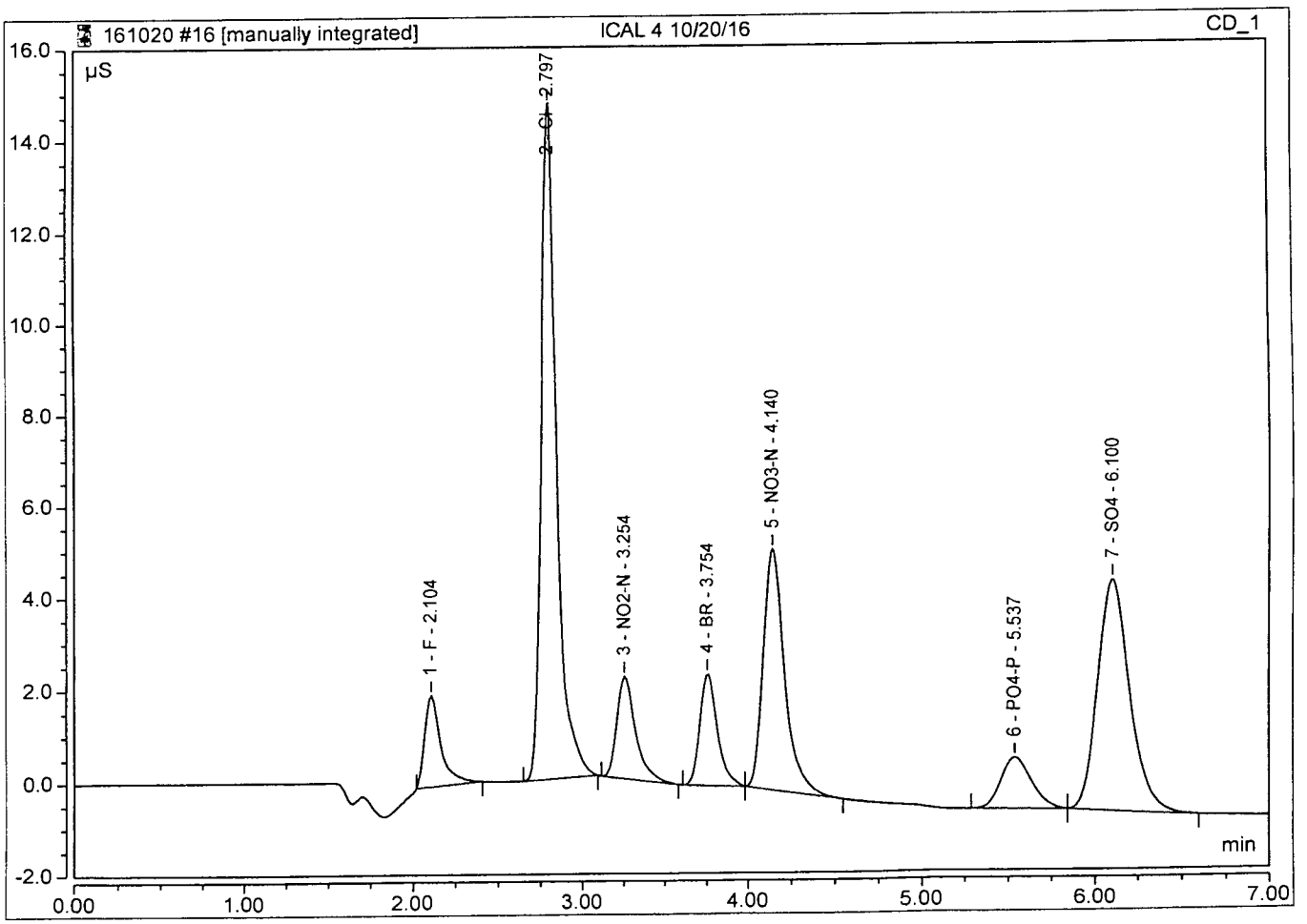
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.100	0.922	0.4827
2	2.79	Cl	BMB	0.762	7.117	4.7137
3	3.25	NO2-N	BMB	0.142	1.072	0.4926
4	3.75	BR	BMB	0.148	1.179	2.4784
5	4.14	NO3-N	BMB	0.366	2.533	0.9830
6	5.54	PO4-P	BMB	0.119	0.557	1.0221
7	6.10	SO4	BMB	0.546	2.464	4.9609
		TOTAL:		2.18	15.84	15.13



Peak Integration Report

Sample Name:	**ICAL 4 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:58**	*Run Time:*	**7.00**

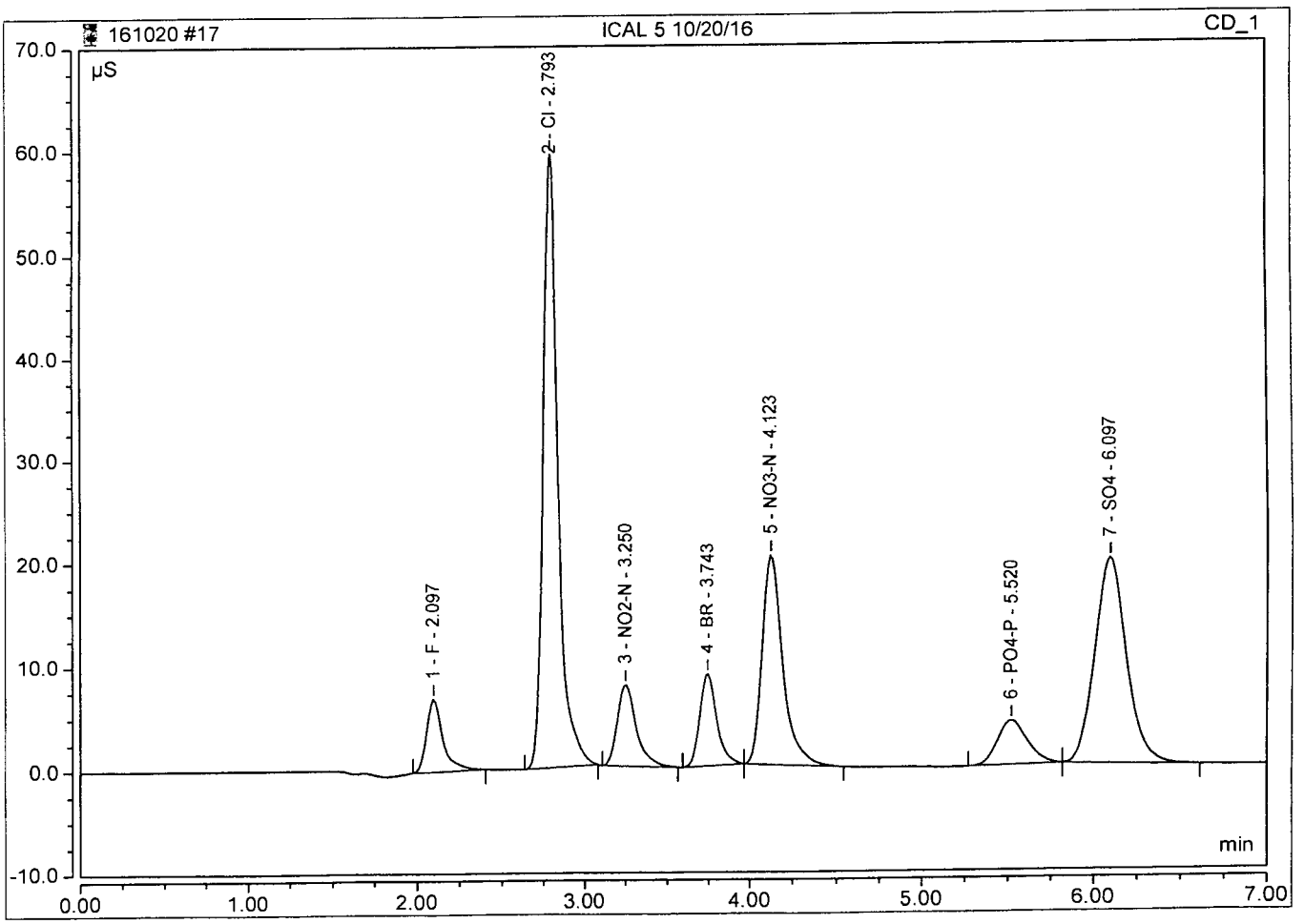
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.217	1.958	1.0036
2	2.80	Cl	BMB	1.542	14.708	9.0096
3	3.25	NO2-N	BMB	0.291	2.188	0.9859
4	3.75	BR	BMB	0.299	2.389	4.8695
5	4.14	NO3-N	BMB	0.733	5.168	1.8746
6	5.54	PO4-P	BMB	0.225	1.103	1.8731
7	6.10	SO4	BMB	1.076	4.975	9.3015
		TOTAL:		4.38	32.49	28.92



Peak Integration Report

Sample Name:	**ICAL 5 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:11**	*Run Time:*	**7.00**

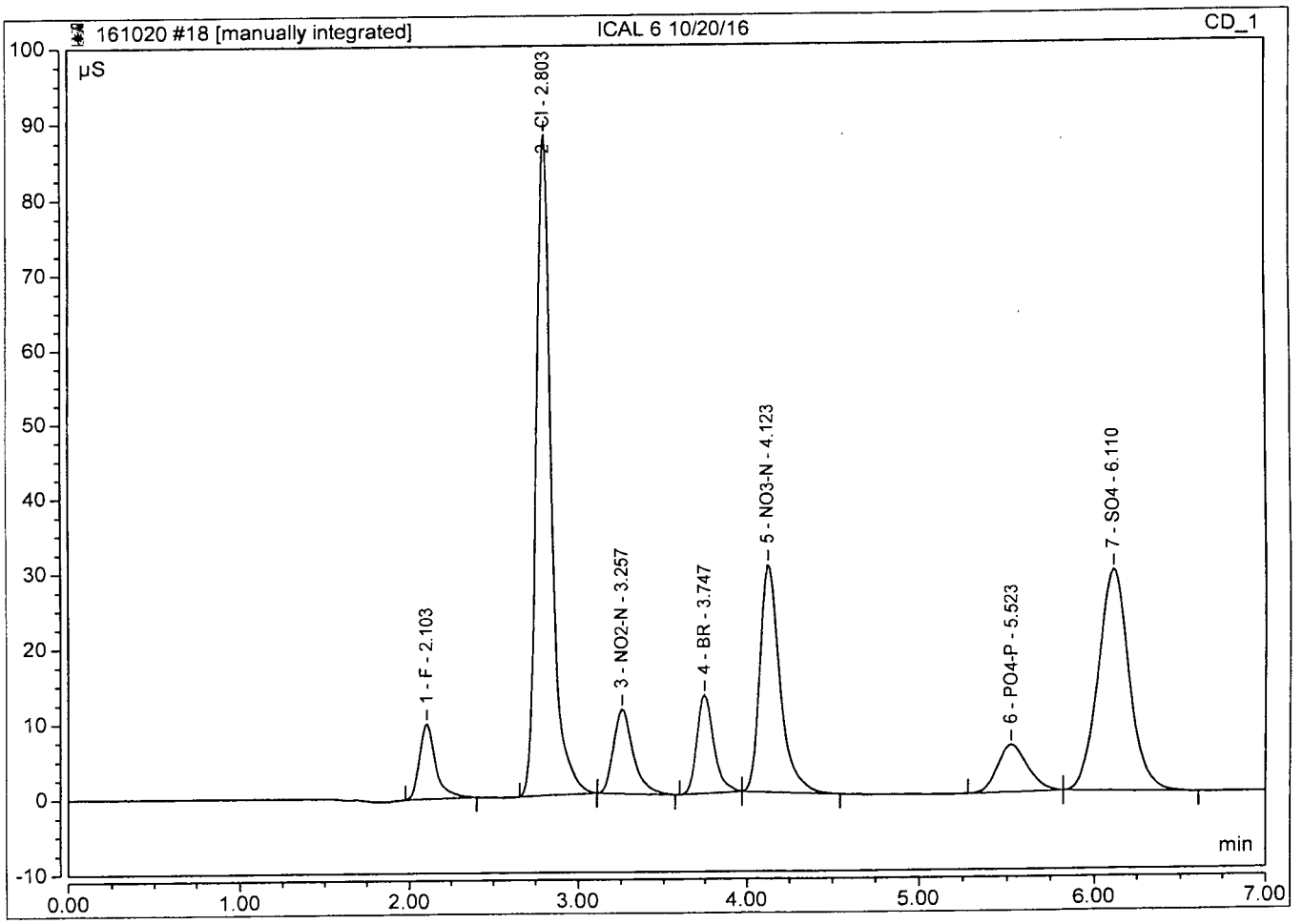
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.783	6.953	3.5131
2	2.79	Cl	BMB	6.129	59.398	34.2675
3	3.25	NO2-N	BMB	1.040	7.775	3.4734
4	3.74	BR	BMB	1.083	8.801	17.2948
5	4.12	NO3-N	BMB	2.792	20.144	6.8727
6	5.52	PO4-P	BMB	0.854	4.243	6.9225
7	6.10	SO4	BMB	4.151	19.714	34.4871
		TOTAL:		16.83	127.03	106.83



Peak Integration Report

Sample Name:	**ICAL 6 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	1.118	9.996	5.0036
2	2.80	Cl	BMB*	9.117	87.978	50.7226
3	3.26	NO2-N	BMB	1.507	11.205	5.0218
4	3.75	BR	BMB	1.580	13.023	25.1693
5	4.12	NO3-N	BMB	4.128	30.098	10.1138
6	5.52	PO4-P	BMB	1.247	6.244	10.0755
7	6.11	SO4	BMB	6.106	29.270	50.4924
		TOTAL:		24.80	187.81	156.60

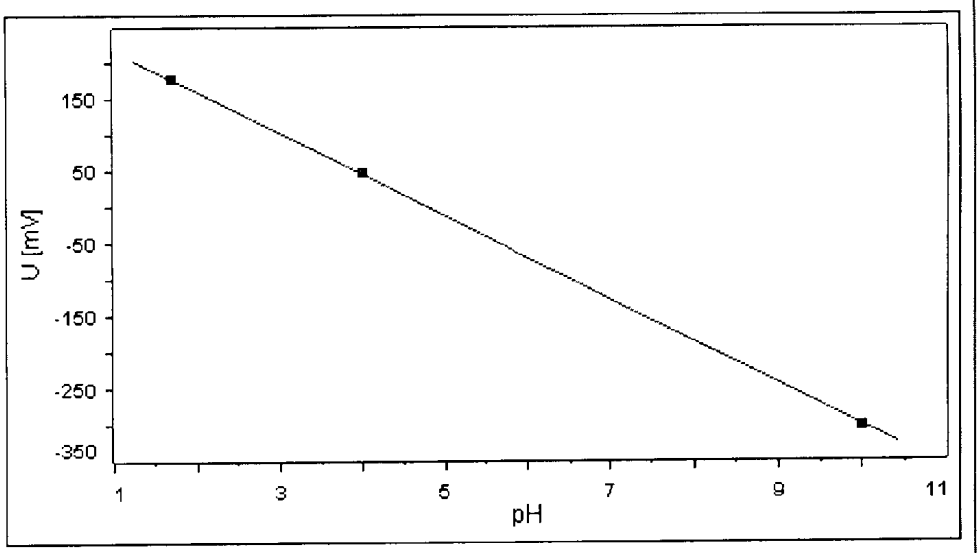


Tiamo Calibration Curve
02/15/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	178.6	20.3	38
Buffer 2:	4.000	46.7	20.2	20
Buffer 3:	10.000	-303.1	20.6	35

Slope:	99.6	%
pH	4.779	
Variance:	3.7	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/10/17	02/10/17	#300W-170210A-AZ49857
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/10/17	02/10/17	#35FE-170210A-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/16/17	02/16/17	#300WD-170216A-AZ49860
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/16/17	02/16/17	#300WD-170216A-AZ49860

Wetlab SC-Blank-REG MDLs
Printed: 02/17/17 3:10:07 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

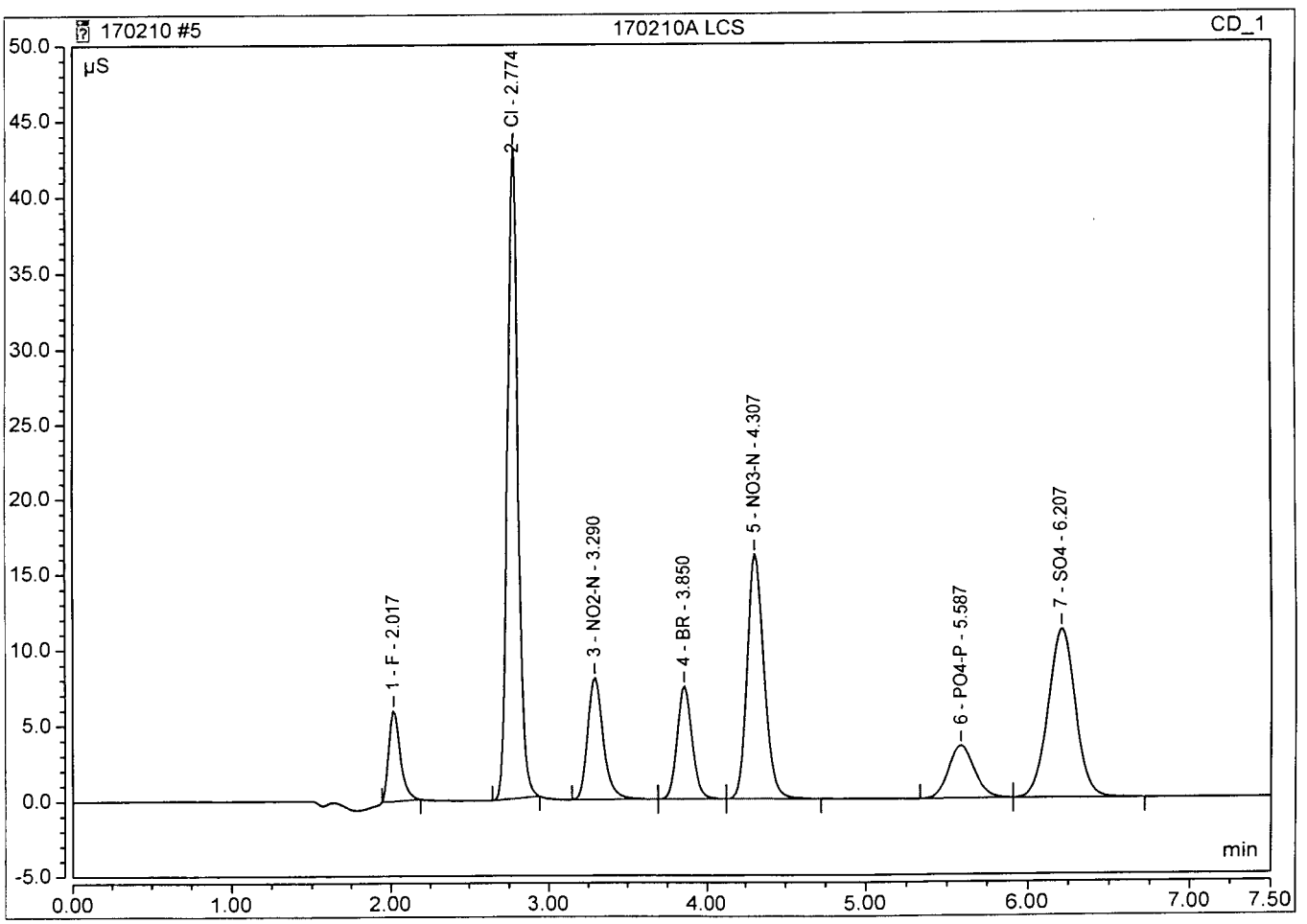
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/10/17	02/10/17	#300W-170210A-AZ49857
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM3500Fe	FERROUS IRON	3.00	2.97	99.0	80-120	02/10/17	02/10/17	#35FE-170210A-AZ49853

Comments: _____

Peak Integration Report

Sample Name:	**170210A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:45**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.500	5.990	2.2567
2	2.77	Cl	BMB	3.307	43.063	18.7291
3	3.29	NO2-N	BMB	0.926	8.044	3.0938
4	3.85	BR	BMB	0.803	7.434	12.8600
5	4.31	NO3-N	BMB	1.968	16.146	4.8731
6	5.59	PO4-P	BMB	0.641	3.456	5.2120
7	6.21	SO4	BMB	2.153	11.116	18.1217
		TOTAL:		10.30	95.25	65.15



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

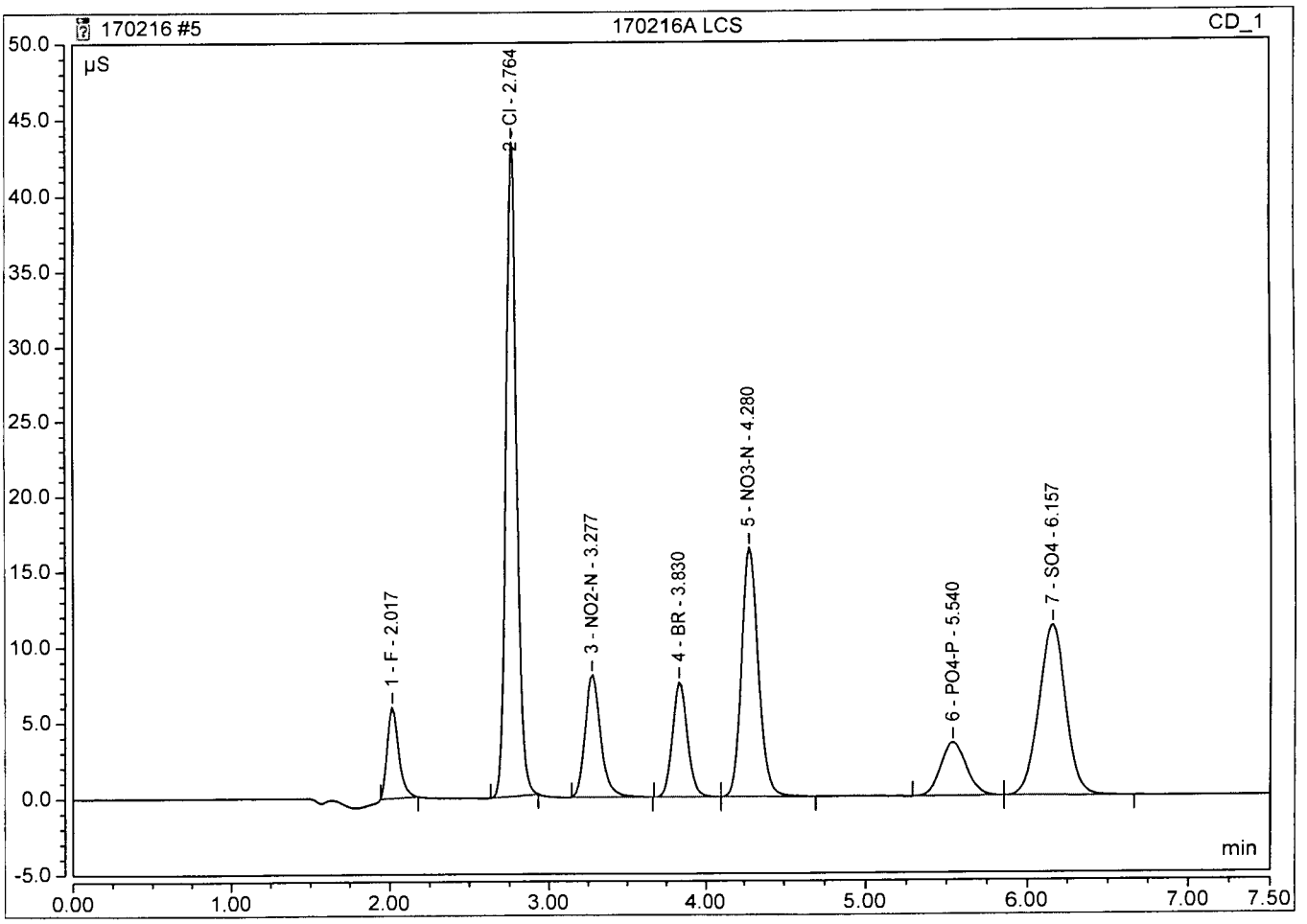
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.9	94.5	90-110	02/16/17	02/16/17	#300WD-170216A-AZ49860
EPA 300.0	SULFATE	20.0	18.2	91.0	90-110	02/16/17	02/16/17	#300WD-170216A-AZ49860

Comments: _____

Peak Integration Report

Sample Name:	**170216A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 12:05**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.494	5.988	2.2333
2	2.76	Cl	BMB	3.334	43.345	18.8767
3	3.28	NO2-N	BMB	0.919	8.031	3.0690
4	3.83	BR	BMB	0.810	7.531	12.9577
5	4.28	NO3-N	BMB	1.987	16.396	4.9188
6	5.54	PO4-P	BMB	0.646	3.506	5.2533
7	6.16	SO4	BMB	2.167	11.204	18.2420
		TOTAL:		10.36	96.00	65.55



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170210A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	25mL	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
02/10/17	14:00	CCV 4.0 170210	1	0.399	25mL		3.96	3.963	4.000	*99.08*
02/10/17	14:01	CCB 170210	1	0.001	25mL		-0.01	-0.013		
02/10/17	14:02	170210A LCS 3.0	1	0.300	25mL		2.97	2.974	3.000	*99.13*
02/10/17	14:03	170210A LCSD 3.0	1	0.298	25mL		2.95	2.954	3.000	*98.47*
02/10/17	14:04	AZ49853W25	1	0.004	25mL		0.02	0.017		
02/10/17	14:05	AZ49853W25 MS	1	0.305	25mL		3.02	3.019	3.000	*100.63*
02/10/17	14:06	AZ49853W25 MSD	1	0.305	25mL		3.02	3.024	3.00	*100.80*
02/10/17	14:07	AZ49857W08	1	0.007	25mL		0.05	0.047		
02/10/17	14:08	AZ49860W08	1	0.007	25mL		0.05	0.047		
02/10/17	14:09	AZ49862W08	1	0.052	25mL		0.50	0.496		
02/10/17	14:10	CCV 4.0 170210	1	0.397	25mL		3.94	3.943	4.000	*98.58*
02/10/17	14:11	CCB 170210	1	0.002	25mL		0.00	-0.003		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ49862W07	2017-02-15 13:09:46 UTC-8	Alkalinity	0.000	2.212	0.00	0.00	92.02	92.02	mg/L	25 mL	0.0208	170215A	AH
AZ49860W07	2017-02-15 13:00:11 UTC-8	Alkalinity	0.000	4.182	0.00	0.00	173.97	173.97	mg/L	25 mL	0.0208	170215A	AH
AZ49857W07	2017-02-15 12:44:49 UTC-8	Alkalinity	0.000	6.766	0.00	0.00	281.47	281.47	mg/L	25 mL	0.0208	170215A	AH
170215A LCS	2017-02-15 10:36:02 UTC-8	Alkalinity	0.000	5.872	0.00	0.00	244.28	244.28	mg/L	25 mL	0.0208	170215A	AH
170215A Blk	2017-02-15 10:08:30 UTC-8	Alkalinity	0.000	0.046	0.00	0.00	1.91	1.91	mg/L	25 mL	0.0208	170215A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 02/10/17
Exp Date: 02/11/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 10/20/16
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.25	5	
O2SI*	Cl-	5,000	1069557-34558	01/08/17	0.5	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.25	5	
Ultra Scientific	Br-	1,000	CL-3274-36926	08/31/20	1.25	25	
O2SI	NO3-N	1,000	1078397-35587	01/30/17	0.5	10	
O2SI	PO4-P	1,000	1072004-34911	09/03/16	0.5	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.5	50	
Brought up with milipore water to Final Volume of:						50	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.125	2.50
CPI	Cl-	1,000	16E065-36694	12/06/17	1.00	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.50	3.04
CPI	Br-	1,000	15L093-36101	07/21/17	0.625	12.50
CPI	NO3-N	1,000	16E022-36783	12/30/17	0.25	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.25	5.00
CPI	SO4	1,000	16E104-36693	12/06/17	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100	08/19/16	08/21/16	0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
			Final Conc F (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Cl (mg/L):	0.4	1	5	10	35	50
			Final Conc NO2-N (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Br (mg/L):	0.2	0.5	2.5	5	17.5	25
			Final Conc NO3-N (mg/L):	0.08	0.2	1	2	7	10
			Final Conc PO4-P (mg/L):	0.08	0.2	1	2	7	10
			Final Conc SO4 (mg/L):	0.4	1	5	10	35	50

170210PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

170216PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

0.02N H_2SO_4 Titrant for Alkalinity

Dilute 600 mL 0.1N H_2SO_4 (prep 1/6/17)
To final volume 3L w/ DI water
Prep 1/6/17
Exp 1/6/18
AH 1/6/17

Inorganic Spiking Solution

7.0001g NaHCO3 BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	10 Feb 2017	14:00	CCV 4.0 170210		170210A	1.
2	10 Feb 2017	14:01	CCB 170210		170210A	1.
3	10 Feb 2017	14:02	170210A LCS 3.0		170210A	1.
8	10 Feb 2017	14:07	AZ49857W08		170210A	1.
9	10 Feb 2017	14:08	AZ49860W08		170210A	1.
10	10 Feb 2017	14:09	AZ49862W08		170210A	1.
11	10 Feb 2017	14:10	CCV 4.0 170210		170210A	1.
12	10 Feb 2017	14:11	CCB 170210		170210A	1.
13	20 May 2016	12:37	0 BB 5/20/16		170210A	1.
14	20 May 2016	12:38	1		170210A	1.
15	20 May 2016	12:39	2		170210A	1.
16	20 May 2016	12:39	4		170210A	1.
17	20 May 2016	12:40	10		170210A	1.
18	20 May 2016	12:40	5		170210A	1.
19	20 May 2016	12:41	160520A ICV 3.0		170210A	1.
20	20 May 2016	12:42	160520A ICB		170210A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	20 Oct 2016	11:19	ICAL 1 10/20/16		161020	1.
15	20 Oct 2016	11:32	ICAL 2 10/20/16		161020	1.
16	20 Oct 2016	11:45	ICAL 3 10/20/16		161020	1.
17	20 Oct 2016	11:58	ICAL 4 10/20/16		161020	1.
18	20 Oct 2016	12:11	ICAL 5 10/20/16		161020	1.
19	20 Oct 2016	12:24	ICAL 6 10/20/16		161020	1.
20	20 Oct 2016	12:37	ICV 1601020		161020	1.
21	20 Oct 2016	12:50	ICB		161020	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	10 Feb 2017	09:18	CCV 170210		170210	1.
4	10 Feb 2017	09:31	CCB		170210	1.
5	10 Feb 2017	09:45	170210A LCS		170210	1.
14	10 Feb 2017	13:53	AZ49857W07		170210	1.
15	10 Feb 2017	14:07	AZ49860W07 DF5		170210	5.
16	10 Feb 2017	14:21	AZ49862W07		170210	1.
19	10 Feb 2017	15:01	CCV 170210		170210	1.
20	10 Feb 2017	15:15	CCB		170210	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	16 Feb 2017	11:38	CCV 170216		170216	1.
4	16 Feb 2017	11:51	CCB		170216	1.
5	16 Feb 2017	12:05	170216A LCS		170216	1.
8	16 Feb 2017	12:46	AZ49860W07 DF10		170216	10.
9	16 Feb 2017	12:59	AZ49860W07 DF50		170216	50.
13	16 Feb 2017	13:53	CCV 170216		170216	1.
14	16 Feb 2017	14:07	CCB		170216	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	15 Feb 2017	10:08	170215A Blk		170215A_AL	1.
2	15 Feb 2017	10:36	170215A LCS		170215A_AL	1.
12	15 Feb 2017	12:44	AZ49857W07		170215A_AL	1.
13	15 Feb 2017	13:00	AZ49860W07		170215A_AL	1.
14	15 Feb 2017	13:09	AZ49862W07		170215A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

February 28, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82150

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Four water samples were received February 10, 2017. Written results for the requested analyses are being provided on this February 28, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 894

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82150

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	5
Sample Management Records	10
Method 8011	24
QC Summary	25
Sample Data	31
Calibration Data	44
Raw Data	67
Method 8015B TPH-E	88
QC Summary	89
Sample Data	95
Calibration Data	105
Raw Data	146
Method 8270D SIM	178
QC Summary	179
Sample Data	191
Calibration Data	201
Raw Data	232

Method 8270D SVOCs 258
QC Summary 259
Sample Data 283
Calibration Data 305
Raw Data 351
Method 8270D SVOCs (MEE) 392
QC Summary 393
Sample Data 402
Calibration Data 412
Raw Data 439
Method 8260C VOCs 465
QC Summary 466
Sample Data 483
Calibration Data 510
Raw Data 580
Method 8260B Gasoline 608
QC Summary 609
Sample Data 615
Calibration Data 632
Raw Data 691
Method RSK-175 Methane 710
QC Summary 711
Sample Data 715
Calibration Data 722
Raw Data 756

Method 6010C 770

QC Summary 771

Sample Data 775

Calibration Data 785

Raw Data 821

Inorganic Analyses 834

QC Summary 835

Sample Data 839

Calibration Data 843

Raw Data 874

CASE NARRATIVE

Case Narrative

ARF: 82150

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Four water samples were received February 10, 2017, at 1.0°C, 1.0°C, 1.0°C, 1.5°C, 2.0°C, 2.0°C, 4.0°C, and 2.5°C. The sample group was assigned Analytical Request Form (ARF) number 82150. Sample ERH225 was received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to the method.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SVOC analysis, the samples were extracted according to EPA method 3510C. The samples were screened for Tentatively Identified Compounds (TICs).

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B VOC and GRO analysis, the samples were purged according to EPA method 5030B. The samples were screened for Tentatively Identified Compounds (TICs).

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 6010C analysis, the samples were digested according to EPA method 3010A.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the sample was prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8270D SIM:

Manual integrations were performed in accordance with APPL's SOP. Benzo (b) fluoranthene and Benzo (k) fluoranthene were manually integrated in one calibration standard. Before and after chromatograms are included in the package.

EPA 8270D:

In the MS/MSD, four RPDs exceeded the 20% limit.

APPL SOP ANA2MEE:

Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS, MS, and MSD. Chromatograms of before and after manual integration are enclosed.

EPA 8260B:

In MS/MSD, tert-Butyl alcohol recovered above the 129% upper control limit at 134% and one RPD exceeded the 20% limit.

Inorganic Analyses:

The sample was received more than 24 hours after collection. It was analyzed for ferrous iron as soon as possible on the day received. In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the sample exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82150	02/10/17	ERH224	AZ49852	02/08/17	11:00 AM	WATER	8011	EPA 8011
82150	02/10/17	ERH224	AZ49852	02/08/17	11:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82150	02/10/17	ERH224	AZ49852	02/08/17	11:00 AM	WATER	EPA 8260C	EPA 8260C WATER
82150	02/10/17	ERH224	AZ49852	02/08/17	11:00 AM	WATER	RSK 175	METHANE BY RSK 175
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	6010C/3010A	EPA 6010C TOTAL
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	8011	EPA 8011
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	8270D-SIM	EPA 8270D SIM
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8260C	EPA 8260C WATER
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8270D	EPA 8270D WATER
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	RSK 175	METHANE BY RSK 175
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	SM 2320B	Wetlab 2320B - Water
82150	02/10/17	ERH225	AZ49853	02/08/17	12:30 PM	WATER	SM3500FeB	Ferrous Iron
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	6010C/3010A	EPA 6010C TOTAL
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	8011	EPA 8011
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	8270D-SIM	EPA 8270D SIM
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8260C	EPA 8260C WATER
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8270D	EPA 8270D WATER
82150	02/10/17	ERH247	AZ49854	02/08/17	12:30 PM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	6010C/3010A	EPA 6010C TOTAL
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	8011	EPA 8011
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	8270D-SIM	EPA 8270D SIM
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8260C	EPA 8260C WATER
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8270D	EPA 8270D WATER
82150	02/10/17	ERH248	AZ49855	02/08/17	02:50 PM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82150

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 020917a,b,c,d,e
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 02/10/17 Time: 10:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): SEE CRF
Color: VOA/L-PURBRN/P-ORGGN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 02/17/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: full list (see attached) + TICs & TPH-G; 8270 SVOCs: full list (see attached) + TICs
8270 SIM: full list; TPH D & O. RSK: Methane only; 8011: EDB only;
$87DMEEW5: 2-MEE (LCS Spk 80ppb); $87DC53W5: report phenol only;

FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 4-$8011, 3-$14HP, 3-$87DC53W5, 3-$87DDOD5W, 3-$87DMEEW5, 3-$DOC53W5, 3-$SIMDOD5W
Extractions: 4-_MWE012, 3-_MWE2MEE, 3-_SEP004, 3-_SEP004S, 3-_SEP011LL
VOA: 4-$86CDOD5W, 4-$GASBL, 4-$GRO86BW, 2-$RSKMETH
Metals: 3-$61CDOD5W(Ca,Fe,Pb,Mg,Mn,K,Na), 3-$61CDOD5WD(Pb)
Wetlab: 1-$232W(HCO3,CO3,ALK), 1-$300W(NO3,BR,CL,F,SO4), 1-$35FE
Other: 3-_M3010, 3-_M3010F

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH224	AZ49852W	02/08/17 11:00	$8011, $86CDOD5W, $GASBL, $GRO86BW, $RSKMETH -- 3 unpreserved vials
2.	ERH225	AZ49853W MS/MSD	02/08/17 12:30	$14HP, $232W(HCO3,CO3,ALK), $300W(NO3,BR,CL,F,SO4), $35FE, $61CDOD5W(Ca,Fe,Pb,Mg,Mn,K,Na), $61CDOD5WD(Pb), $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spk; no RSK & WL MS/MSD

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH247	AZ49854W	02/08/17 12:30	$14HP, $61CDOD5W(Ca,Fe,Pb,Mg,Mn,K,Na), $61CDOD5WD(Pb), $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
4.	ERH248	AZ49855W	02/08/17 14:50	$14HP, $61CDOD5W(Ca,Fe,Pb,Mg,Mn,K,Na), $61CDOD5WD(Pb), $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82150**

Sample	Container Type	Count	pH
AZ49852	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ49853	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	4	1.7
	13 VOAs - HCL	14	NA
	15 VOAs - NP	9	NA
	17 Amber Liter	18	NA
	26 Other	1	NA
AZ49854	6 PL 500mL - HNO3	2	1.7
	13 VOAs - HCL	6	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
AZ49855	6 PL 500mL - HNO3	2	1.7
	13 VOAs - HCL	6	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	pH

ARF 82150
SVOC list

	Scratch	
$87DDOD5W	XXX	1,1'-BIPHENYL
$87DDOD5W	XXX	1,2,4,5-TETRACHLOROBENZENE
$87DDOD5W		1,2,4-TRICHLOROBENZENE
$87DDOD5W		1,2-DICHLOROBENZENE
$87DDOD5W		1,3-DICHLOROBENZENE
$87DDOD5W		1,4-DICHLOROBENZENE
$87DDOD5W	XXX	1-METHYLNAPHTHALENE
$87DDOD5W	XXX	2,3,4,6-TETRACHLOROPHENOL
$87DDOD5W		2,4,5-TRICHLOROPHENOL
$87DDOD5W		2,4,6-TRICHLOROPHENOL
$87DDOD5W		2,4-DICHLOROPHENOL
$87DDOD5W		2,4-DIMETHYLPHENOL
$87DDOD5W		2,4-DINITROPHENOL
$87DDOD5W		2,4-DINITROTOLUENE
$87DDOD5W	XXX	2,6-DICHLOROPHENOL
$87DDOD5W		2,6-DINITROTOLUENE
$87DDOD5W		2-CHLORONAPHTHALENE
$87DDOD5W		2-CHLOROPHENOL
$87DDOD5W		2-METHYLNAPHTHALENE
$87DDOD5W		2-METHYLPHENOL
$87DDOD5W		2-NITROANILINE
$87DDOD5W		2-NITROPHENOL
$87DDOD5W		3,3'-DICHLOROBENZIDINE
$87DDOD5W		3-NITROANILINE
$87DDOD5W		3/4-METHYLPHENOL
$87DDOD5W		4,6-DINITRO-2-METHYLPHENOL
$87DDOD5W		4-BROMOPHENYL PHENYL ETHER
$87DDOD5W		4-CHLORO-3-METHYLPHENOL
$87DDOD5W		4-CHLOROANILINE
$87DDOD5W		4-CHLOROPHENYL PHENYL ETHER
$87DDOD5W	XXX	4-METHYLPHENOL
$87DDOD5W		ACENAPHTHENE
$87DDOD5W		ACENAPHTHYLENE
$87DDOD5W	XXX	ACETOPHENONE
$87DDOD5W		ANTHRACENE
$87DDOD5W	XXX	ATRAZINE
$87DDOD5W		BENZ (A) ANTHRACENE
$87DDOD5W		BENZO (A) PYRENE
$87DDOD5W		BENZO (B) FLUORANTHENE
$87DDOD5W		BENZO (G,H,I) PERYLENE
$87DDOD5W		BENZO (K) FLUORANTHENE
$87DDOD5W		BENZYL ALCOHOL
$87DDOD5W		BIS (2-CHLORETHOXY) METHANE
$87DDOD5W		BIS (2-CHLOROETHYL) ETHER
$87DDOD5W	XXX	BIS (2-CHLOROISOPROPYL) ETHER
$87DDOD5W		BIS (2-ETHYLHEXYL) PHTHALATE
$87DDOD5W		BUTYL BENZYL PHTHALATE
$87DDOD5W		CARBAZOLE
$87DDOD5W		CHRYSENE
$87DDOD5W		DI-N-BUTYL PHTHALATE
$87DDOD5W		DI-N-OCTYL PHTHALATE
$87DDOD5W		DIBENZ (A,H) ANTHRACENE

Add TICs

Add:

4-Nitroaniline
4-Nitrophenol

Bis (2-chloro-1-methylethyl) ether

$87DDOD5W		DIBENZOFURAN
$87DDOD5W		DIETHYL PHTHALATE
$87DDOD5W		DIMETHYL PHTHALATE
$87DDOD5W		FLUORANTHENE
$87DDOD5W		FLUORENE
$87DDOD5W		HEXACHLOROBENZENE
$87DDOD5W		HEXACHLOROBUTADIENE
$87DDOD5W		HEXACHLOROETHANE
$87DDOD5W		INDENO (1,2,3-CD) PYRENE
$87DDOD5W		ISOPHORONE
$87DDOD5W		N-NITROSODI-N-PROPYLAMINE
$87DDOD5W	XXX	N-NITROSODIPHENYLAMINE
$87DDOD5W		NAPHTHALENE
$87DDOD5W		NITROBENZENE
$87DDOD5W		PENTACHLOROPHENOL
$87DDOD5W		PHENANTHRENE
$87DDOD5W		PYRENE
$87DDOD5W		SURROGATE: 2,4,6-TRIBROMOPHENOL
$87DDOD5W		SURROGATE: 2-FLUORBIPHENYL (S)
$87DDOD5W		SURROGATE: 2-FLUOROPHENOL (S)
$87DDOD5W		SURROGATE: NITROBENZENE-D5 (S)
$87DDOD5W		SURROGATE: TERPHENYL-D14 (S)
$87DDOD5W		SURROGATE: PHENOL (S)

Add

Diphenylamine

Hexachlorocyclopentadiene

ARF 82150
VOC list

Add TICs

	scratch	
$86CDOD5W		1,1,1,2-TETRACHLOROETHANE
$86CDOD5W		1,1,1-TRICHLOROETHANE
$86CDOD5W		1,1,2,2-TETRACHLOROETHANE
$86CDOD5W		1,1,2-TRICHLOROETHANE
$86CDOD5W		1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH/
$86CDOD5W		1,1-DICHLOROETHANE
$86CDOD5W		1,1-DICHLOROETHENE
$86CDOD5W		1,1-DICHLOROPROPENE
$86CDOD5W		1,2,3-TRICHLOROBENZENE
$86CDOD5W		1,2,3-TRICHLOROPROPANE
$86CDOD5W		1,2,4-TRICHLOROBENZENE
$86CDOD5W		1,2,4-TRIMETHYLBENZENE
$86CDOD5W		1,2-DIBROMO-3-CHLOROPROPANE
$86CDOD5W		1,2-DIBROMOETHANE
$86CDOD5W		1,2-DICHLOROBENZENE
$86CDOD5W		1,2-DICHLOROETHANE
$86CDOD5W	XXX	1,2-DICHLOROETHENE (TOTAL)
$86CDOD5W		1,2-DICHLOROPROPANE
$86CDOD5W		1,3,5-TRIMETHYLBENZENE
$86CDOD5W		1,3-DICHLOROBENZENE
$86CDOD5W		1,3-DICHLOROPROPANE
$86CDOD5W		1,3-DICHLOROPROPENE, TOTAL
$86CDOD5W		1,4-DICHLOROBENZENE
$86CDOD5W		2,2-DICHLOROPROPANE
$86CDOD5W		2-BUTANONE
$86CDOD5W	XXX	2-CHLOROETHYL VINYL ETHER
$86CDOD5W		2-CHLOROTOLUENE
$86CDOD5W		2-HEXANONE
$86CDOD5W		4-CHLOROTOLUENE
$86CDOD5W		4-METHYL-2-PENTANONE
$86CDOD5W		ACETONE
$86CDOD5W	XXX	ACROLEIN
$86CDOD5W	XXX	ACRYLONITRILE
$86CDOD5W		BENZENE
$86CDOD5W		BROMOBENZENE
$86CDOD5W		BROMOCHLOROMETHANE
$86CDOD5W		BROMODICHLOROMETHANE
$86CDOD5W		BROMOFORM
$86CDOD5W		BROMOMETHANE
$86CDOD5W		CARBON DISULFIDE
$86CDOD5W		CARBON TETRACHLORIDE
$86CDOD5W		CHLOROBENZENE
$86CDOD5W		CHLORODIBROMOMETHANE
$86CDOD5W		CHLOROETHANE
$86CDOD5W		CHLOROFORM
$86CDOD5W		CHLOROMETHANE
$86CDOD5W		CIS-1,2-DICHLOROETHENE
$86CDOD5W		CIS-1,3-DICHLOROPROPENE
$86CDOD5W		DIBROMOMETHANE
$86CDOD5W		DICHLORODIFLUOROMETHANE
$86CDOD5W		DI-ISOPROPYL ETHER
$86CDOD5W		ETHYL TERTIARY BUTYL ETHER

$86CDOD5W		ETHYLBENZENE
$86CDOD5W		HEXACHLOROBUTADIENE
$86CDOD5W	XXX	HEXACHLOROETHANE
$86CDOD5W	XXX	IODOMETHANE
$86CDOD5W		ISOPROPYLBENZENE
$86CDOD5W		M,P-XYLENE
$86CDOD5W		METHYL TERT-BUTYL ETHER
$86CDOD5W		METHYLENE CHLORIDE
$86CDOD5W		N-BUTYLBENZENE
$86CDOD5W		N-PROPYLBENZENE
$86CDOD5W		NAPHTHALENE
$86CDOD5W		O-XYLENE
$86CDOD5W		P-ISOPROPYLTOLUENE
$86CDOD5W		SEC-BUTYLBENZENE
$86CDOD5W		STYRENE
$86CDOD5W		TERT-AMYL METHYL ETHER
$86CDOD5W		TERT-BUTYL ALCOHOL
$86CDOD5W		TERT-BUTYLBENZENE
$86CDOD5W		TETRACHLOROETHENE
$86CDOD5W		TOLUENE
$86CDOD5W		TRANS-1,2-DICHLOROETHENE
$86CDOD5W		TRANS-1,3-DICHLOROPROPENE
$86CDOD5W		TRICHLOROETHENE
$86CDOD5W		TRICHLOROFLUOROMETHANE
$86CDOD5W	XXX	VINYL ACETATE
$86CDOD5W		VINYL CHLORIDE
$86CDOD5W		XYLENES (TOTAL)
$86CDOD5W		SURROGATE: 1,2-DICHLOROETHANE-D4
$86CDOD5W		SURROGATE: 4-BROMOFLUOROBENZEN
$86CDOD5W		SURROGATE: DIBROMOFLUOROMETHA
$86CDOD5W		SURROGATE: TOLUENE-D8 (S)

2.5°, 1.5, 4.0 3x1.0°, 2x2.0 82146 - VL 2/10/17

82150

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. a

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TR, MH
Sampler (Signature): MT for CB, AM, TR, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C ~~BTEX~~, TPH-g	8260C DCA, VOC full list	8011 EDB	8015C TPH-d/o	8015C/8015C TPH-d/o w/ SGT	8270D SIM PAHs, SVOC full list	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride, Bromide, Fluoride	SM2320 Alkalinity (total, carb, bicarb)	Total Cr	Total Pb	Total Cu	Comments
ERH224	Trip Blank	02/08/17	1100	HST	6	✓				X	X	X						X							
ERH 225	RHMW09	02/08/17	1230	HST	31	/				X	X	X	X		X	X	X	X	X	X	X	X	X		MS,MSD: 8260,8015,8270 see other cartons
ERH 247	RHMW09	02/08/17	1230	HST	9	/				X	X	X													
ERH 248	Field Blank	02/08/17	1450	HST	9	/				X	X	X													
																									~~*~~ total Ca, Fe, Pb, Mn, Mg K, Na

MT 02/09/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Clovis, CA 93611

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Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil	8260C-OPEX: TPH-g	8260C DCA, VOC, BM 60	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-do w/ SGT	8270D SIM PAHs	8270D-Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride, Bromide, Fluoride	SU223B Alkalinity (total, bicarb, carb)				
ERH225	RHMW09	02/08/17	1230	HST	8	✓						X		X	X	X								MS/MSD see other coolers
	MT 02/09/17																							~~Total~~ Ca, Fe Pb, Mg, Mn K, Na

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1580					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Honolulu, Hawaii 96813 Fax:
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Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TB, MH
Sampler (Signature): MT for CB, AM, TB, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C ~~BTEX~~, TPH-g	8260C DCA, ~~NO~~	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Pesticides, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, carb)				
ERH225	RHMW09	02/08/17	1230	HST	8	✓							X		X	X	X								MS/MSD see other coolers
																									* total Ca, Fe, Pb, Mg, Mn K, Na
MT 02/09/17																									

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					2/10/17	1020	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB/AM, TQ, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA, VOCs full list	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenols, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride, Fluoride	SM2320B Alkalinity (total, bicarb, carb)	Ca, Fe, Total	Ca, Fe, Dissolved	
ERH247	RHMW09	02/08/17	1230	HST	8	✓							X		X	X	X					X	X	see other order for vials

Analysis Requested/Method Number

MT 02/09/17

*Total Ca, Fe, Pb, Mg, Mn, K, Na

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1900					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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C.O.C. e

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Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, AM, TQ, MH
Sampler (Signature): MT for CB, AM, TQ, MH

Date Shipped: 02/09/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C ~~BTEX~~, TPH-g	8260C DCA, ~~VOC full list~~	8011 EDB	8015C TPH-d/o	8015C/8015C TPH-d/o w/ SGT	8270D SIM PAHs ~~full list~~	8270D ~~Phenols~~ SVOC full list TICs	2-(2-methoxyethoxy)-ethanol	RSK176M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride ~~Bromide, Fluoride~~	SM2320B Alkalinity (total, bicarb, carb)	~~Metals Total~~	~~Metals Diss~~	
ERH 248	Field Blank	02/08/17	1450	HST	8	✓							X		X	X	X					X	X	see other index for vials
																								* Total Ca, Fe, Mn, Mg, Mn, K, Na

MT 02/09/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☒ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	02/09/17	1900					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					2/10/17	1000	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82150**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 02/10/17

2) Coolers: Number of Coolers: 8

3) YES Were custody seals present and intact?
How many? 16 Name/Date on seal? See ARF 82146 CRF

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap ___ popcorn ___ foam X plastic bags
X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 1.0	2: 1.0	3: 1.0	4: 1.5	5: 2.0	6: 2.0
7: 2.5	8: 4.0	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ49852W01-W03,AZ49853W10-W014,AZ49855W01-W06

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:
Received Ferrous iron greater than 24 hours.

Personnel receiving samples: YL Second reviewer: SM
Personnel labeling samples:
Project manager notified: YL Date/Time of notification 2/10/17 16:23
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170216W-49853 - 216263**
Batch ID: #8011-170216A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	100	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111193
Instrument: Herbie
Sequence: 170111
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:31:22 PM

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82150

Case No: 82150 Date Analyzed: 02/17/17

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170216A-BLK	Blank	70-132	100				
170216A-LCS	Lab Control Spike	70-132	87.2				
AZ49852	ERH224	70-132	104				
AZ49853	ERH225	70-132	105				
AZ49853-MS	Matrix Spike	70-132	107				
AZ49853-MSD	Matrix SpikeD	70-132	111				
AZ49854	ERH247	70-132	101				
AZ49855	ERH248	70-132	101				

Comments: Batch: #8011-170216A

Printed: 02/17/17 3:53:42 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170216W-49853 LCS - 216263**
Batch ID: #8011-170216A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.202	80.8	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.218	87.2	70-132

Comments: _____

Primary	SPK
Quant Method :	80110216.M
Extraction Date :	02/16/17
Analysis Date :	02/17/17
Instrument :	Herbie
Run :	0111195
Initials :	RHA

Printed: 02/23/17 3:58:14 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8011

APPL ID: **170216W-49853 MS - 216263**
Batch ID: #8011-170216A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.249	0.257	99.6	103	60-140	3.2	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	NA	0.267	0.277	107	111	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110216.M	80110216.M
Extraction Date :	02/16/17	02/16/17
Analysis Date :	02/17/17	02/17/17
Instrument :	Herbie	Herbie
Run :	0111200	0111201
Initials :	RHA	

Printed: 02/23/17 3:58:19 PM
APPL MSD SCII

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER
Blank ID: 170216A-BLK

SDG No: 82150
Date Analyzed: 02/17/17
Instrument: Herbie
Time Analyzed: 1115

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170216A-BLK	Blank	0111193	02/17/17 1115
170216A-LCS	Lab Control Spike	0111195	02/17/17 1157
AZ49852	ERH224	0111196	02/17/17 1218
AZ49853	ERH225	0111197	02/17/17 1239
170216A-MS	Matrix Spike	0111200	02/17/17 1342
170216A-MSD	Matrix SpikeD	0111201	02/17/17 1402
AZ49854	ERH247	0111202	02/17/17 1423
AZ49855	ERH248	0111203	02/17/17 1444

Comments: Batch: #8011-170216A

Printed: 02/17/17 3:31:06 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #8011-170216A-216263

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	104	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111196
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 3:31:04 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111196.D\ECD1A.CH Vial: 96
Signal #2 : G:\HERBIE\DATA\170111\0111196.D\ECD2B.CH
Acq On : 02-17-17 12:18:28 Operator: RH
Sample : AZ49852W04 2/34.10g Inst : Herbie
Misc : Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 13:58 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

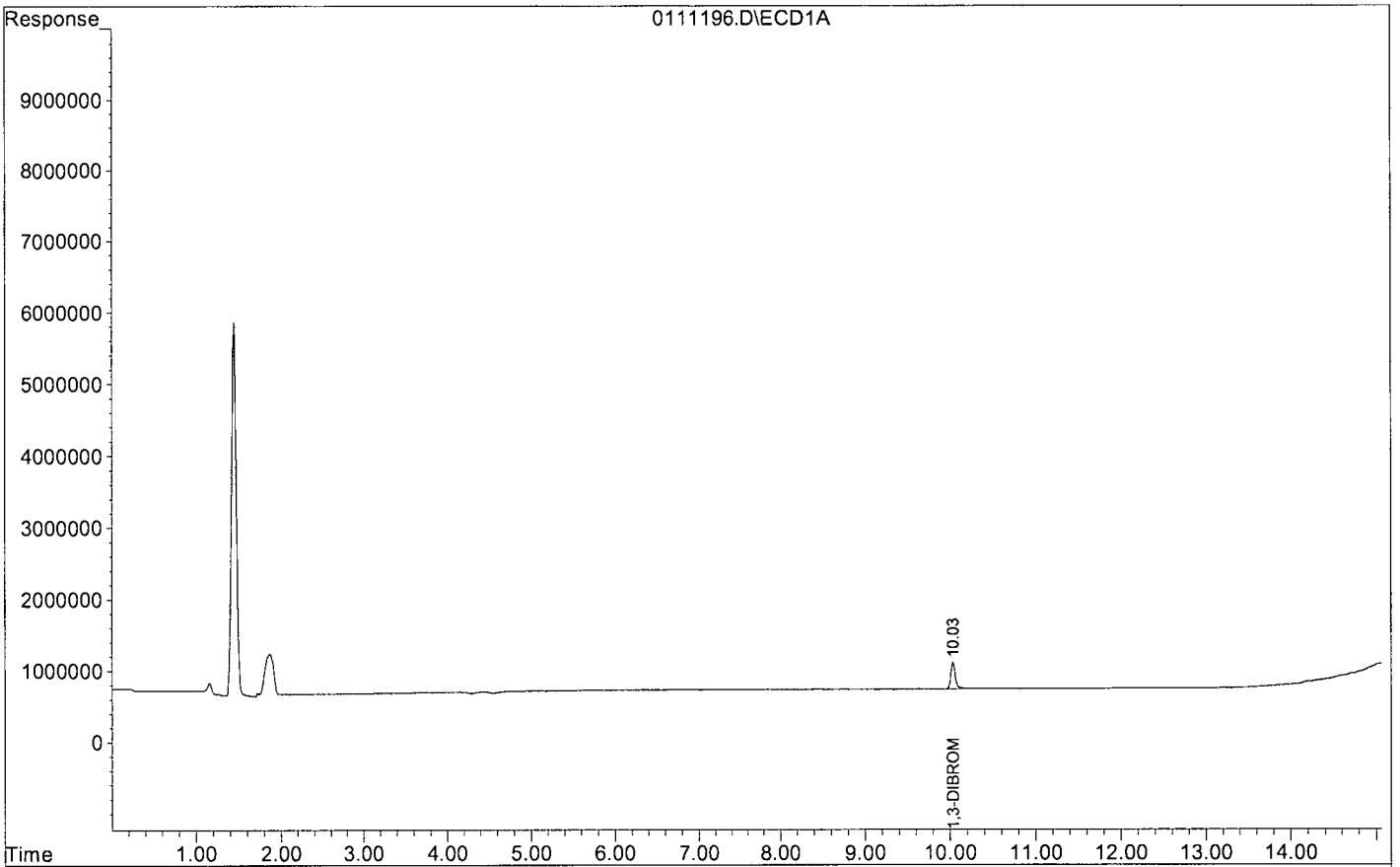
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	370977	643332	0.375	0.345
Spiked Amount 0.359			Recovery	=	104.39%	96.04%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

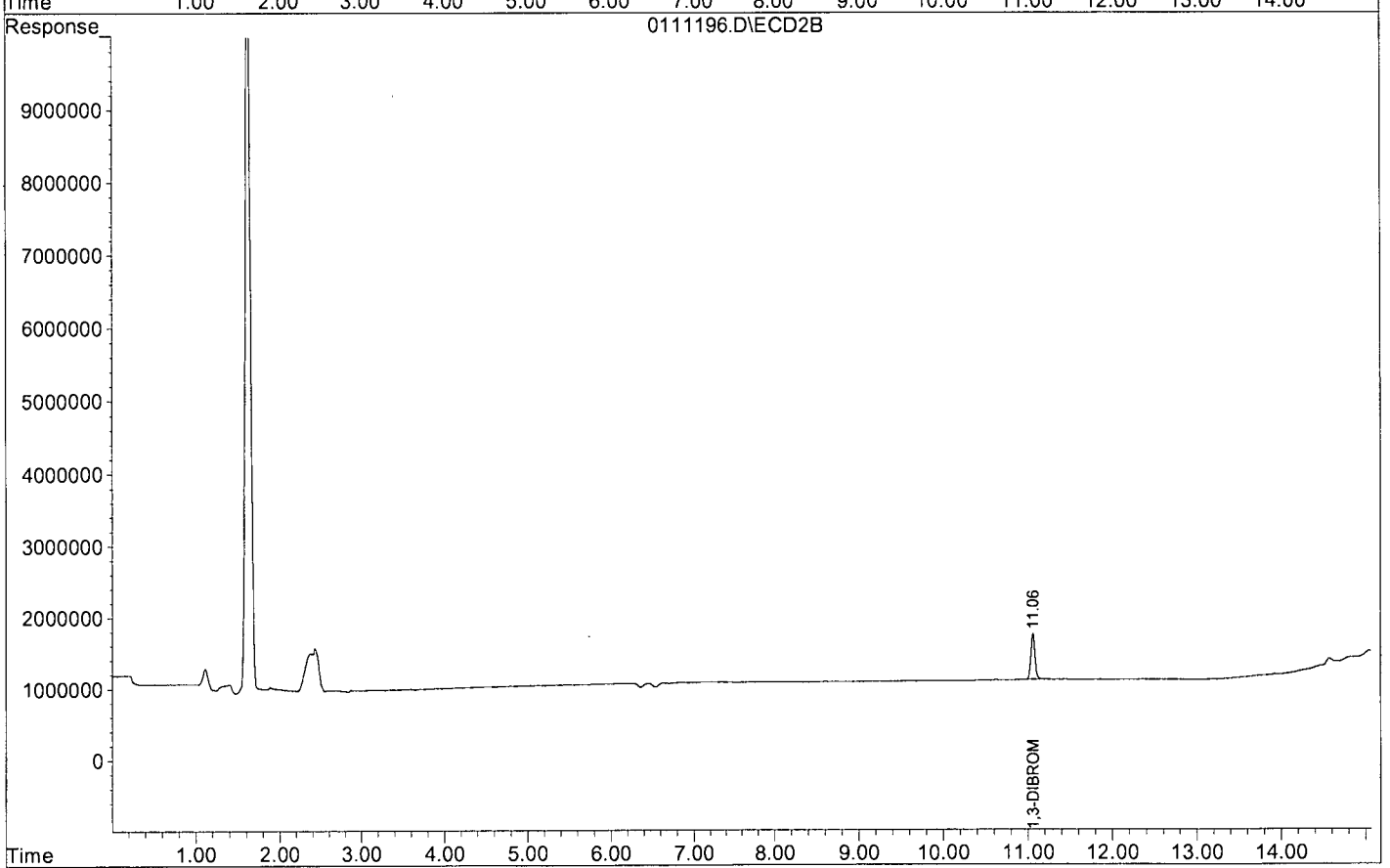
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111196.D
Acq On : 02-17-17 12:18:28
Sample : AZ49852W04 2/34.10g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 96
Operator: RH
Inst : Herbie
Multiplr: 1.03





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #8011-170216A-216263

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	105	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111197
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 3:31:04 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111197.D\ECD1A.CH Vial: 97
Signal #2 : G:\HERBIE\DATA\170111\0111197.D\ECD2B.CH
Acq On : 02-17-17 12:39:26 Operator: RH
Sample : AZ49853W15 2/34.22g Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 13:59 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

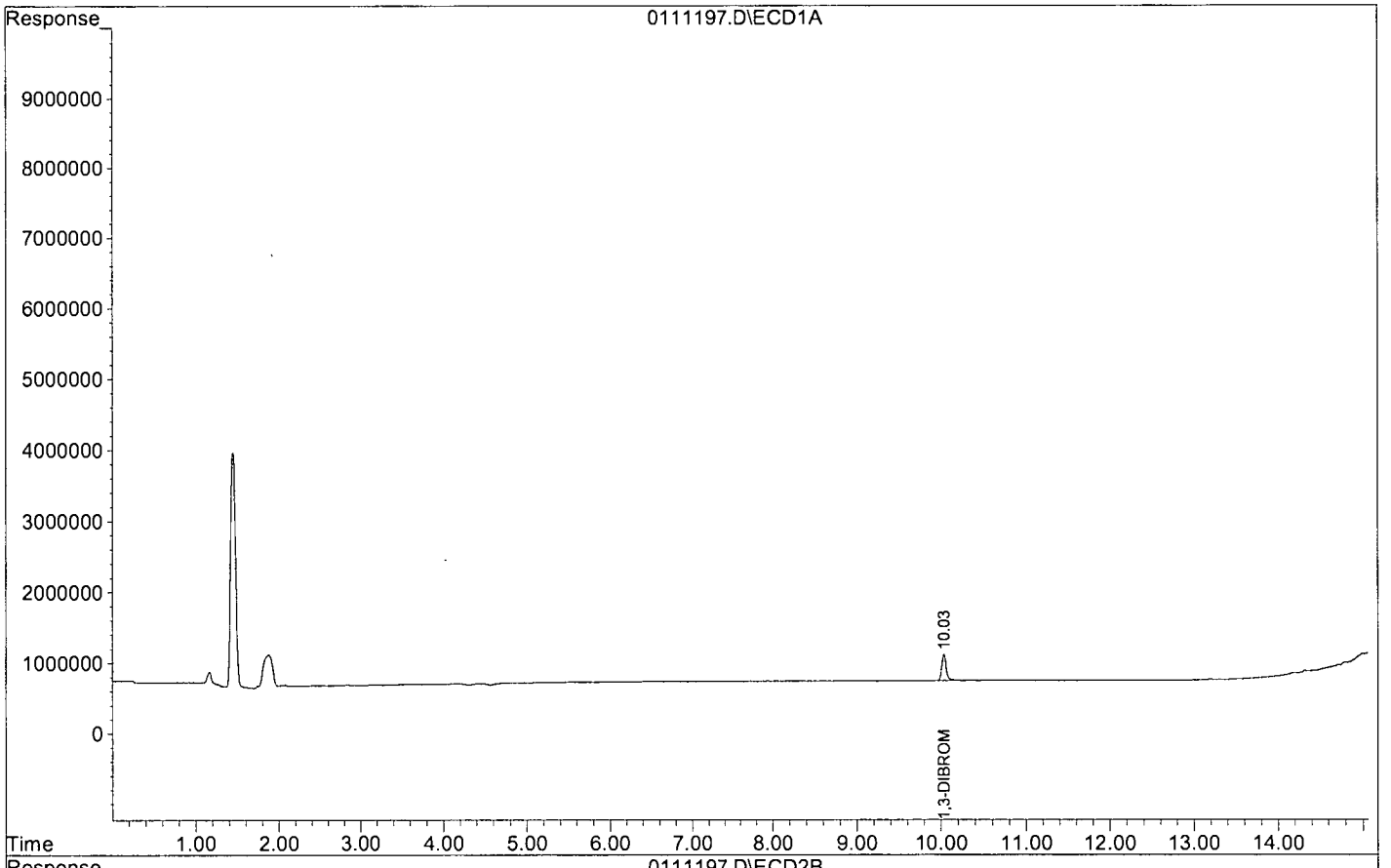
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	374008	670496	0.376	0.358
Spiked Amount 0.358			Recovery	=	105.03%	100.01%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

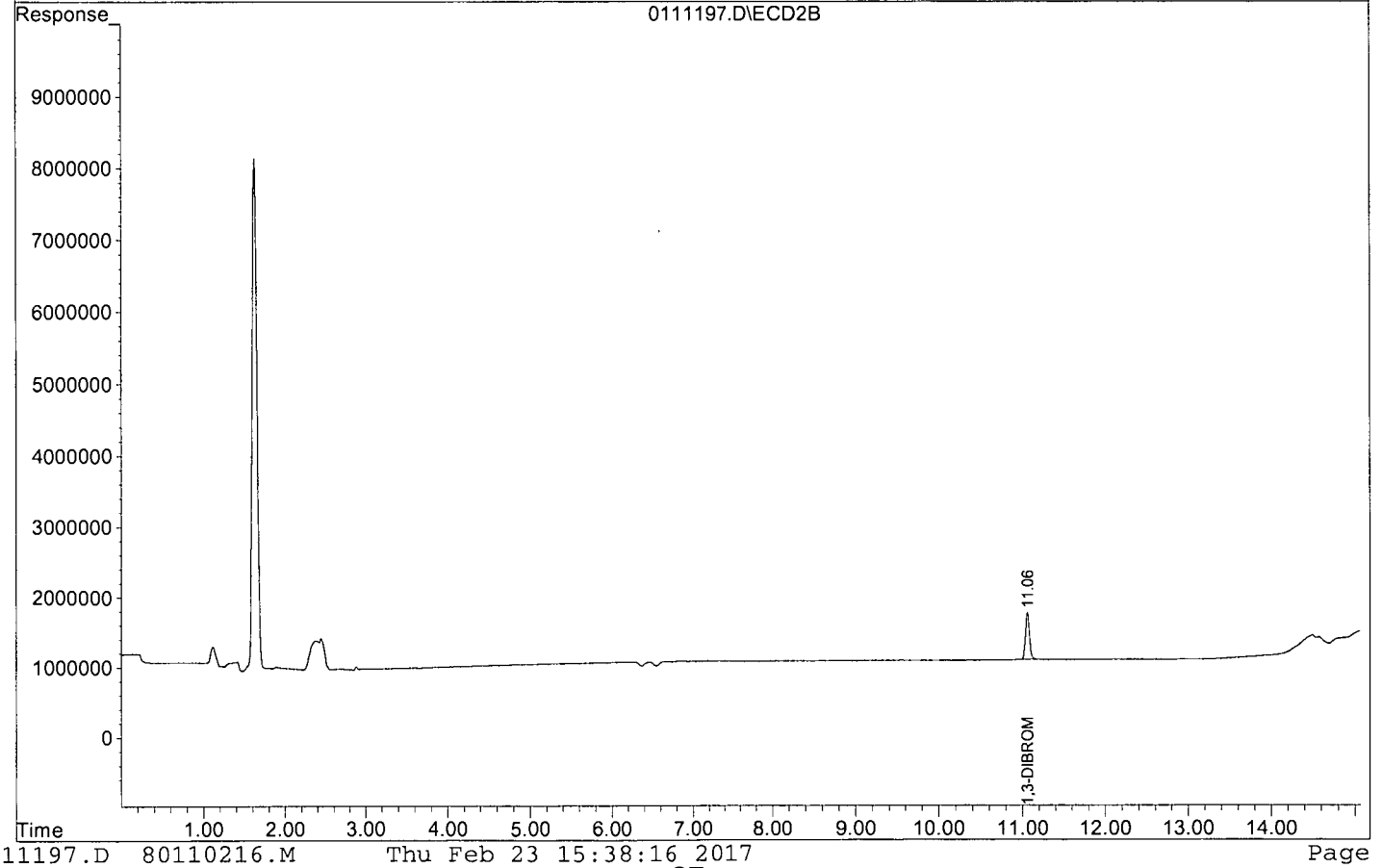
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111197.D
Acq On : 02-17-17 12:39:26
Sample : AZ49853W15 2/34.22g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 97
Operator: RH
Inst : Herbie
Multiplr: 1.02





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #8011-170216A-216263

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	101	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111202
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 3:31:04 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111202.D\ECD1A.CH Vial: 2
Signal #2 : G:\HERBIE\DATA\170111\0111202.D\ECD2B.CH
Acq On : 02-17-17 14:23:37 Operator: RH
Sample : AZ49854W07 2/34.94g Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 14:46 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

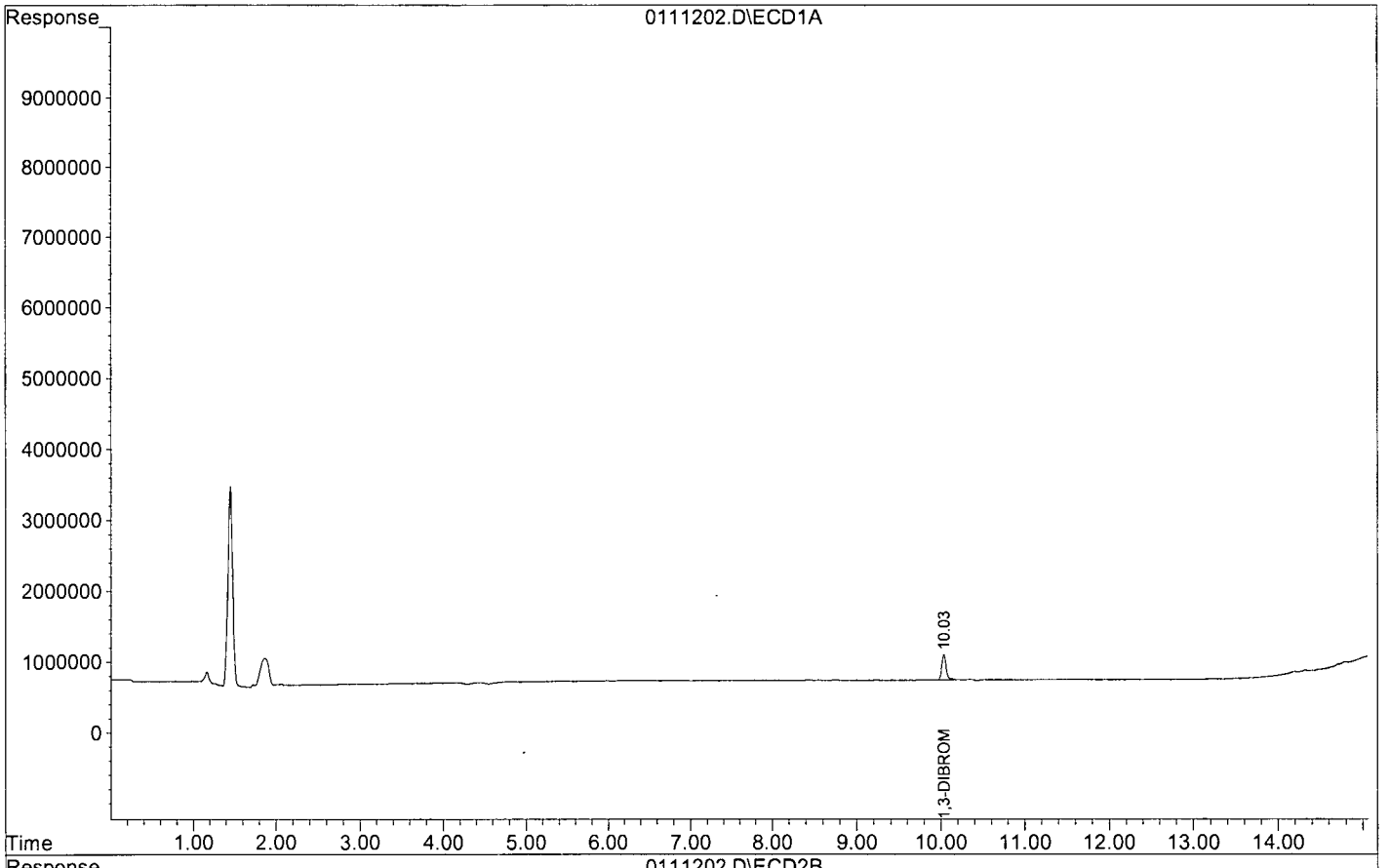
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	358406	643199	0.353	0.336
Spiked Amount 0.351			Recovery	=	100.68%	95.84%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

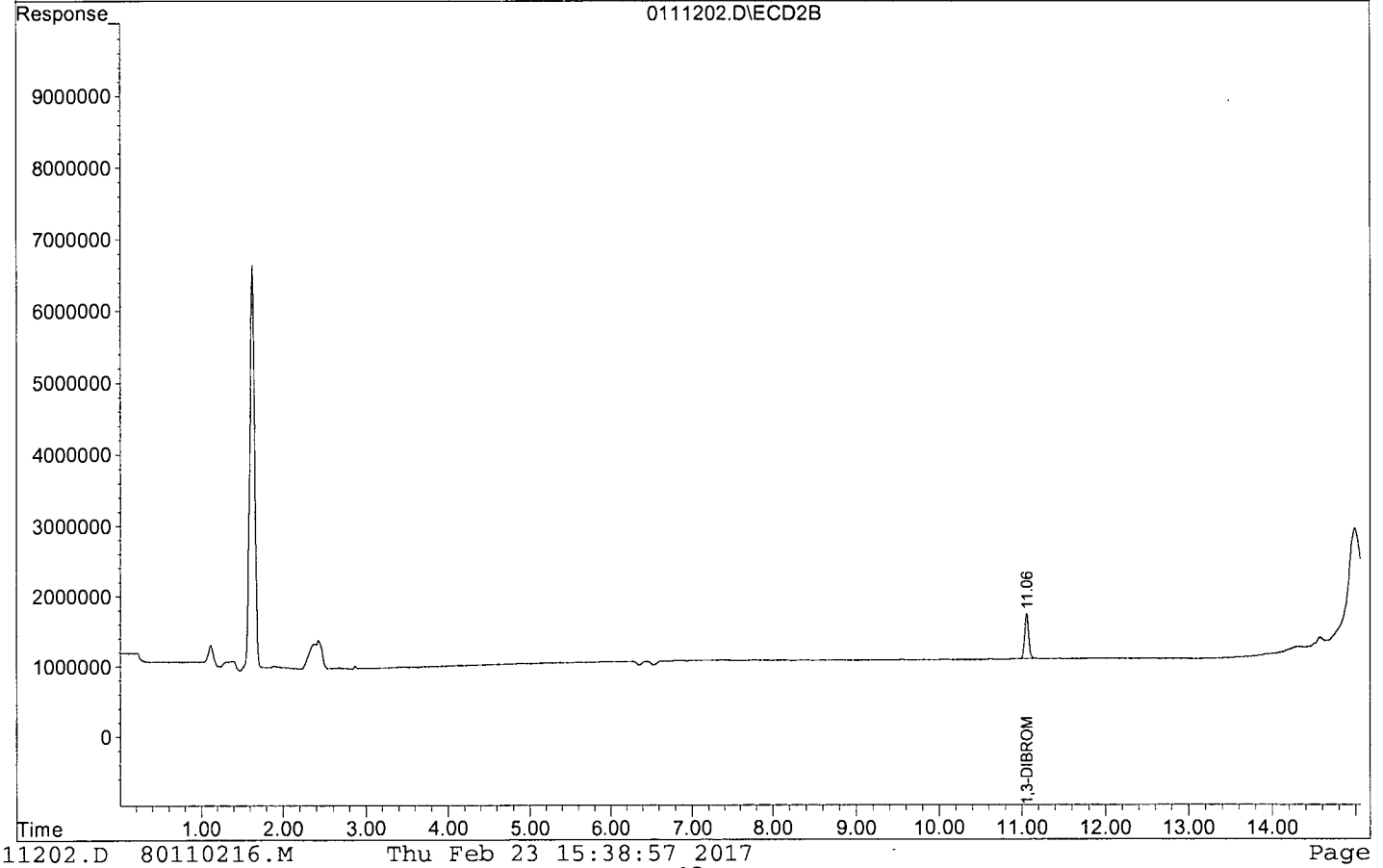
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111202.D
Acq On : 02-17-17 14:23:37
Sample : AZ49854W07 2/34.94g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 2
Operator: RH
Inst : Herbie
Multiplr: 1.00





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #8011-170216A-216263

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	101	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111203
Instrument: Herbie
Sequence: 170111
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 3:31:04 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111203.D\ECD1A.CH Vial: 3
Signal #2 : G:\HERBIE\DATA\170111\0111203.D\ECD2B.CH
Acq On : 02-17-17 14:44:32 Operator: RH
Sample : AZ49855W07 2/34.59g Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 15:08 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

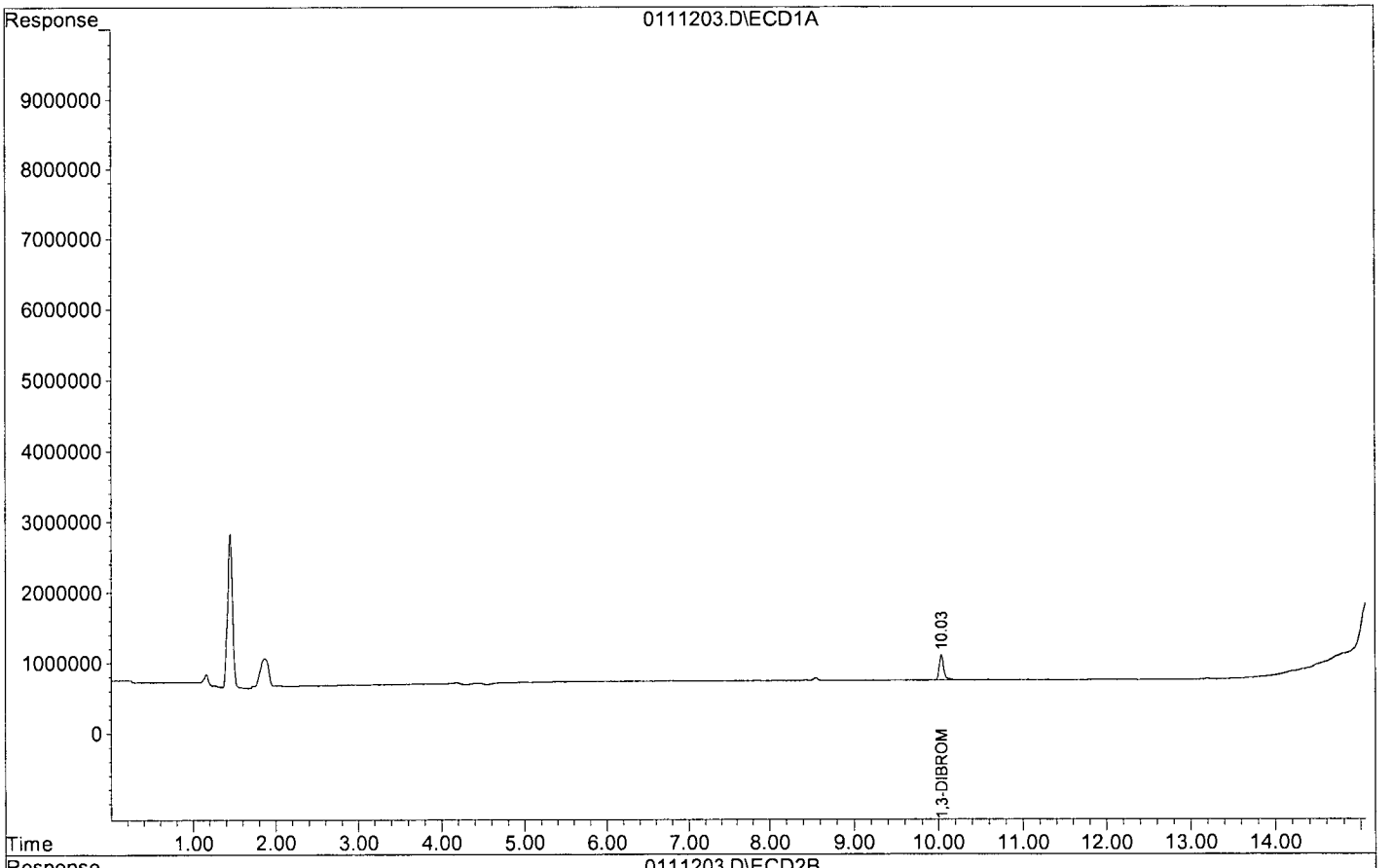
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	358010	649134	0.356	0.343
Spiked Amount 0.354			Recovery	=	100.52%	96.85%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

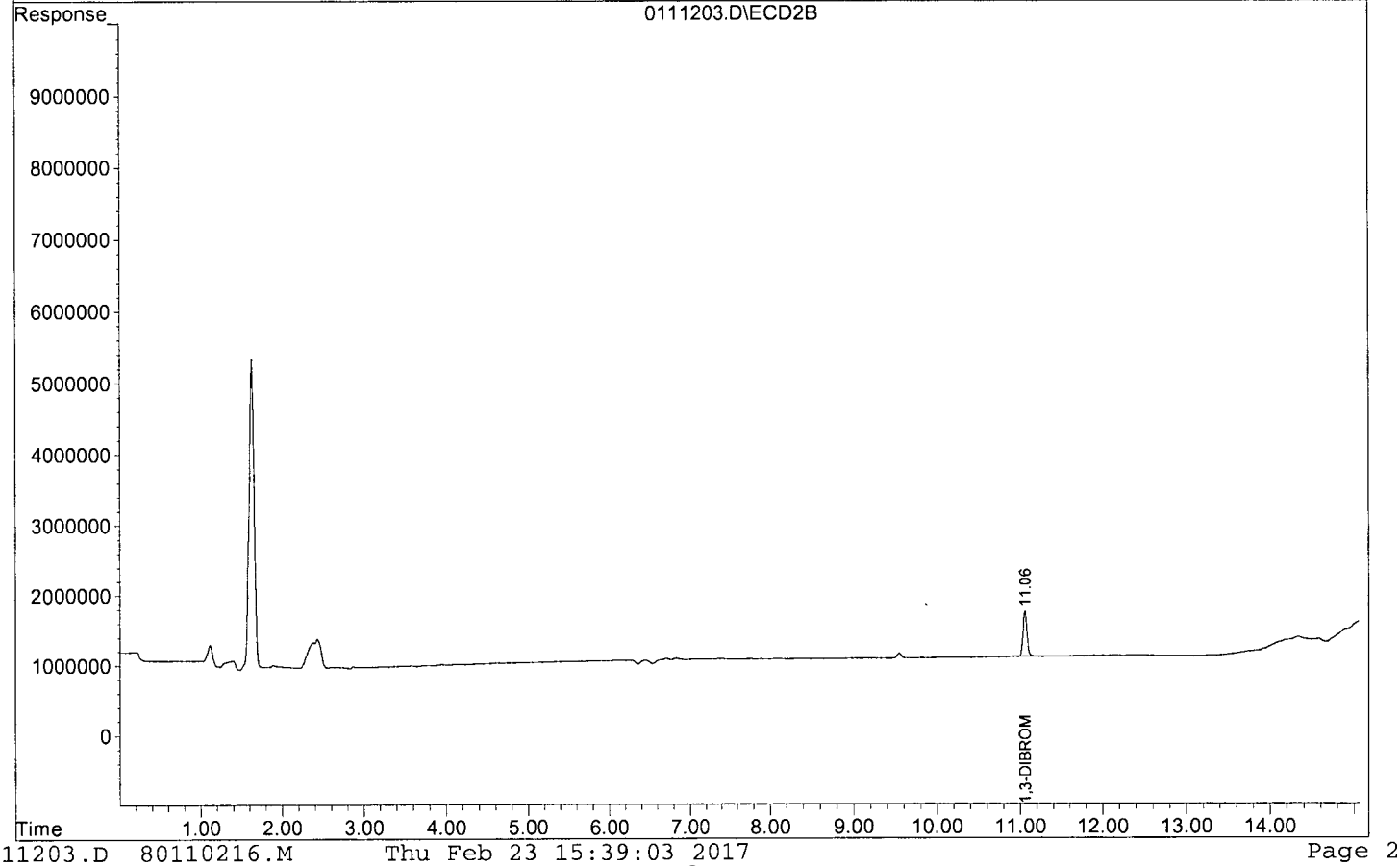
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111203.D
Acq On : 02-17-17 14:44:32
Sample : AZ49855W07 2/34.59g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 3
Operator: RH
Inst : Herbie
Multiplr: 1.01





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/17/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0111186.D	0111187.D	0111188 D	0111189.D	0111190.D	0111191 D								
1	TM	EDB	802925	764015	703310	600091	592919	609046					678718	13	TM	
2	TM	1,2,3-TCP	186575	165110	156750	139945	140223	139007					154602	12	TM	
3	S	1,3-DIBROMOPROPANE(S)	520500	558250	553672	476989	469617	469858					508148	8.2	S	
4	TM	DBCP	1978450	1906985	1793380	1642899	1670159	1664230					1776017	8.0	TM	
5		Signal #2											0	0		
6																
7																
8																
9																
10																
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1.1966161

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/17/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0111186.D	0111187.D	0111188 D	0111189.D	0111190.D	0111191.D								
36	TM	EDB #2	1790300	1677040	1649684	1482389	1452860	1510001					1593712	8.3	TM	
37	TM	1,2,3-TCP #2	313450	299265	284092	258882	255648	260137					278579	8.7	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	1082175	1037115	977942	903890	882071	861042					957373	9.4	S	
39	TM	DBCP #2	4180700	4484190	4320770	4153707	4205501	4291332					4272700	2.9	TM	
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0.8351119

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111186.D\ECD1A.CH Vial: 86
Signal #2 : G:\HERBIE\DATA\170111\0111186.D\ECD2B.CH
Acq On : 02-17-17 8:49:43 Operator: RH
Sample : 8011 1 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 10:22 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	20820	43287	0.021	0.024
Spiked Amount 0.350			Recovery	=	6.00%	6.86%
Target Compounds						
1) TM EDB	5.78	7.23	32117	71612	0.024	0.022
2) TM 1,2,3-TCP	9.26	10.46	7463	12538	0.025	0.023
4) TM DBCP	13.37	14.10	79138	167228	0.022	0.020

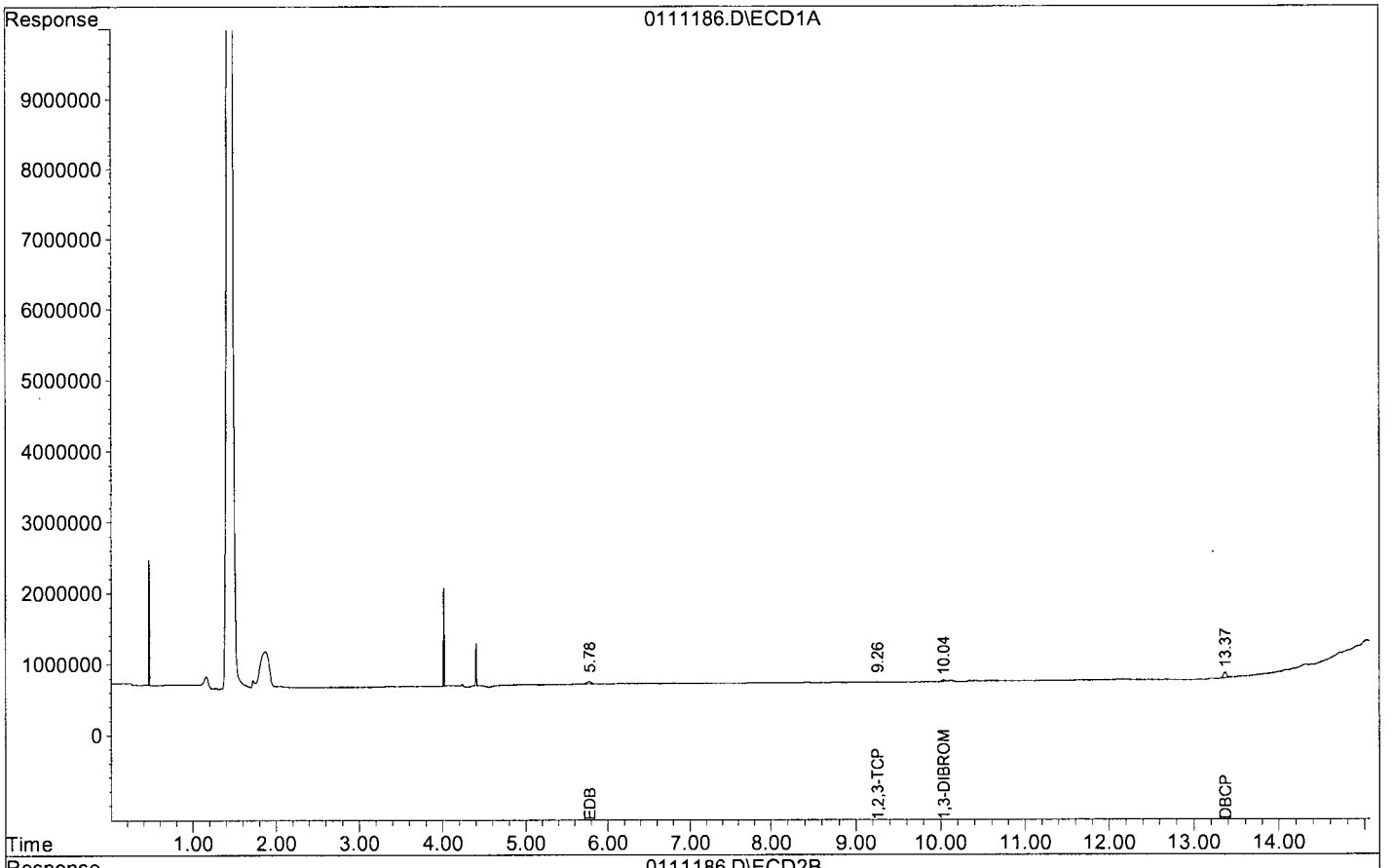
Target Compounds

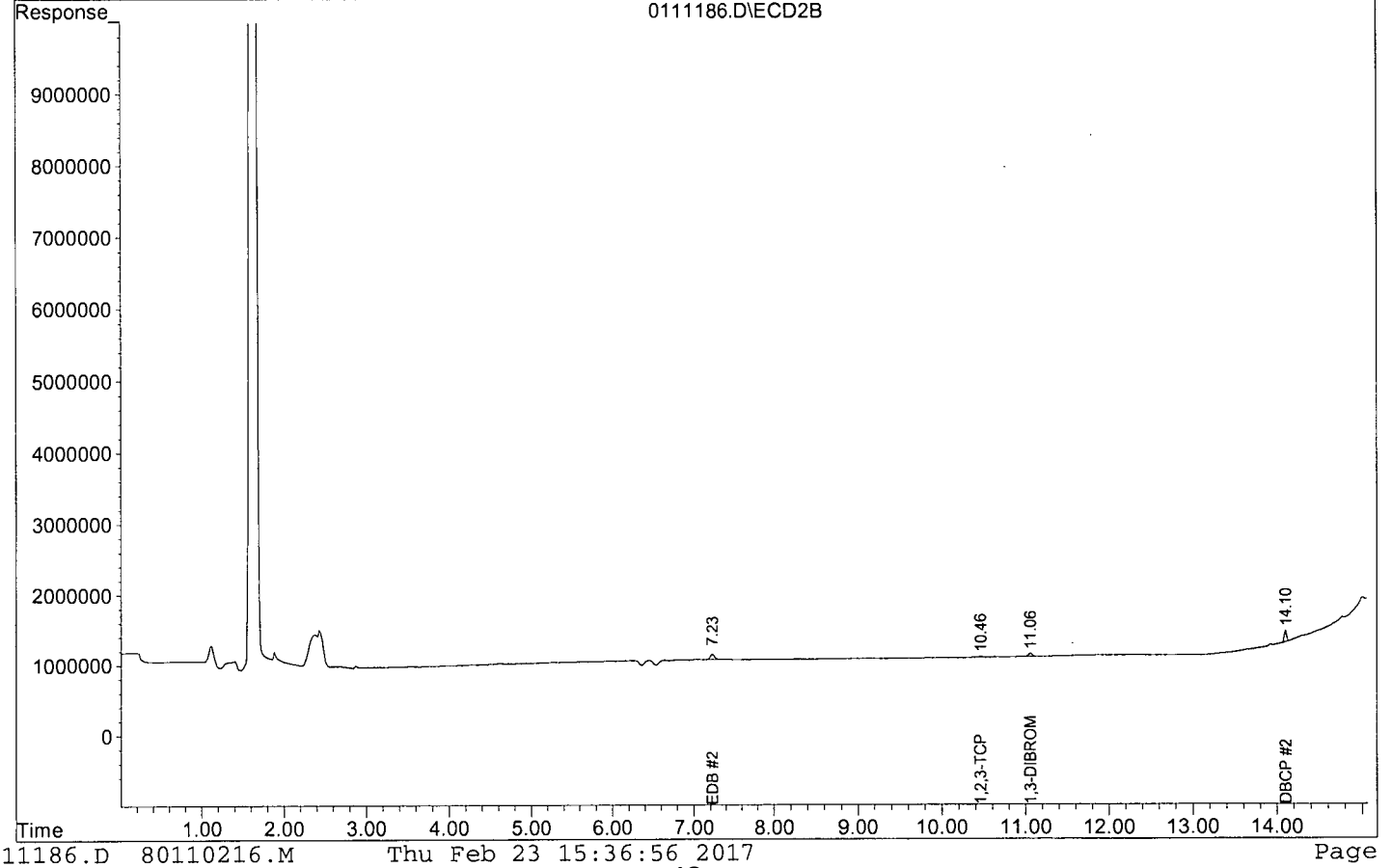
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111186.D
Acq On : 02-17-17 8:49:43
Sample : 8011 1 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 86
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111187.D\ECD1A.CH Vial: 87
Signal #2 : G:\HERBIE\DATA\170111\0111187.D\ECD2B.CH
Acq On : 02-17-17 9:10:33 Operator: RH
Sample : 8011 2 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 10:22 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

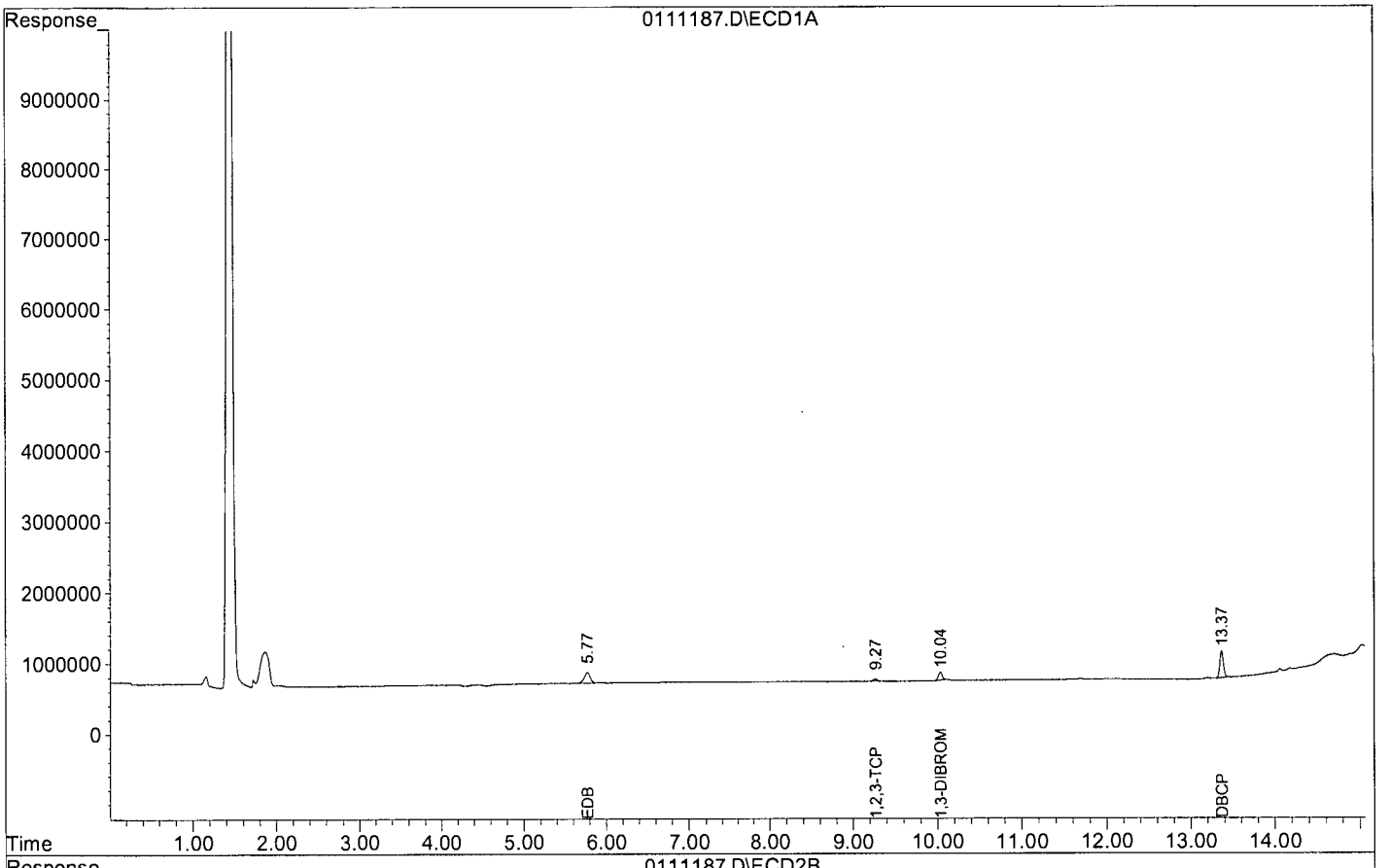
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	111650	207423	0.111	0.114
Spiked Amount 0.350			Recovery	=	31.71%	32.57%
Target Compounds						
1) TM EDB	5.77	7.23	152803	335408	0.113	0.103
2) TM 1,2,3-TCP	9.27	10.47	33022	59853	0.112	0.111
4) TM DBCP	13.37	14.10	381397	896838	0.108	0.106
Target Compounds						

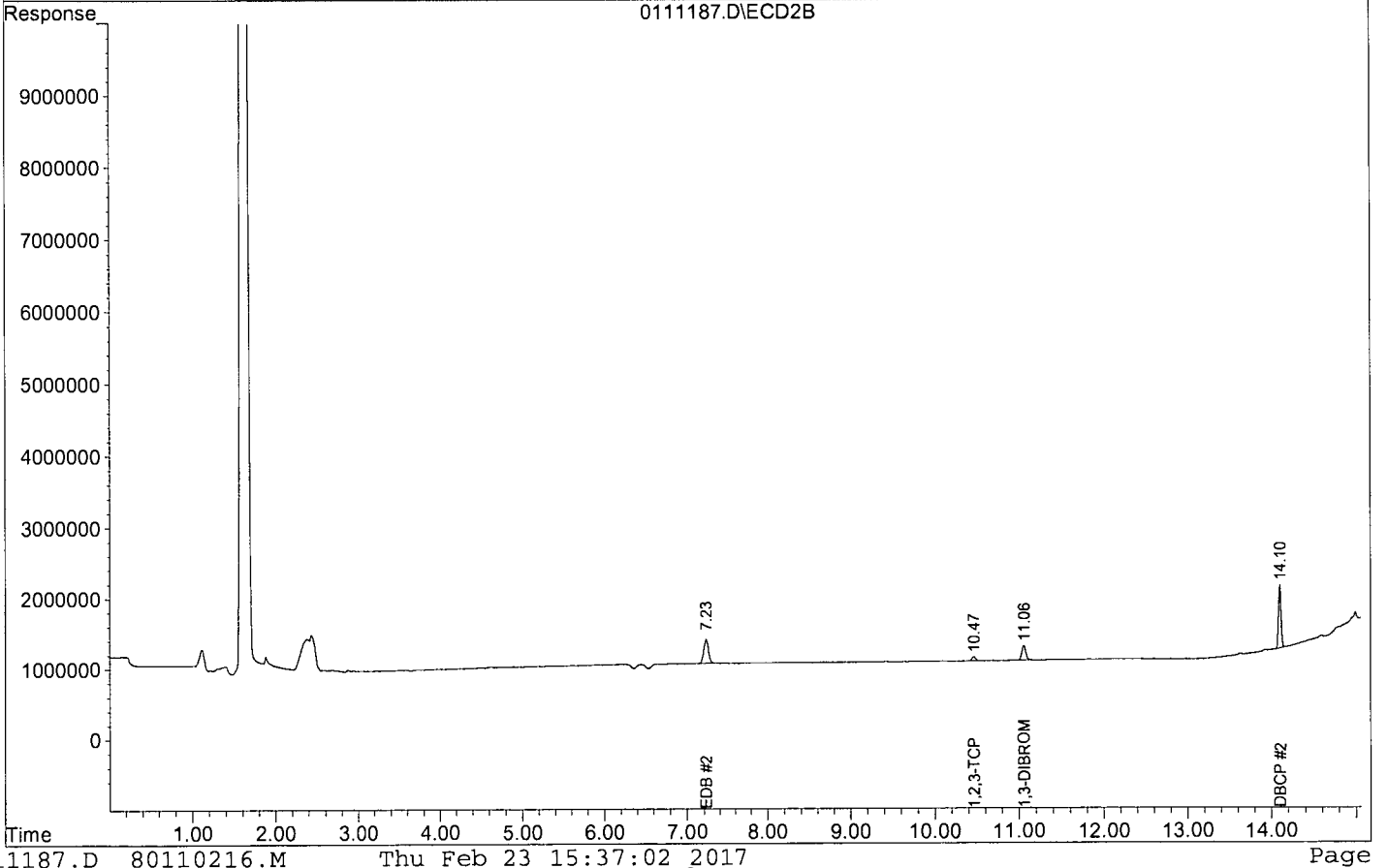
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111187.D
Acq On : 02-17-17 9:10:33
Sample : 8011 2 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 87
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111188.D\ECD1A.CH Vial: 88
Signal #2 : G:\HERBIE\DATA\170111\0111188.D\ECD2B.CH
Acq On : 02-17-17 9:31:36 Operator: RH
Sample : 8011 3 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 10:22 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

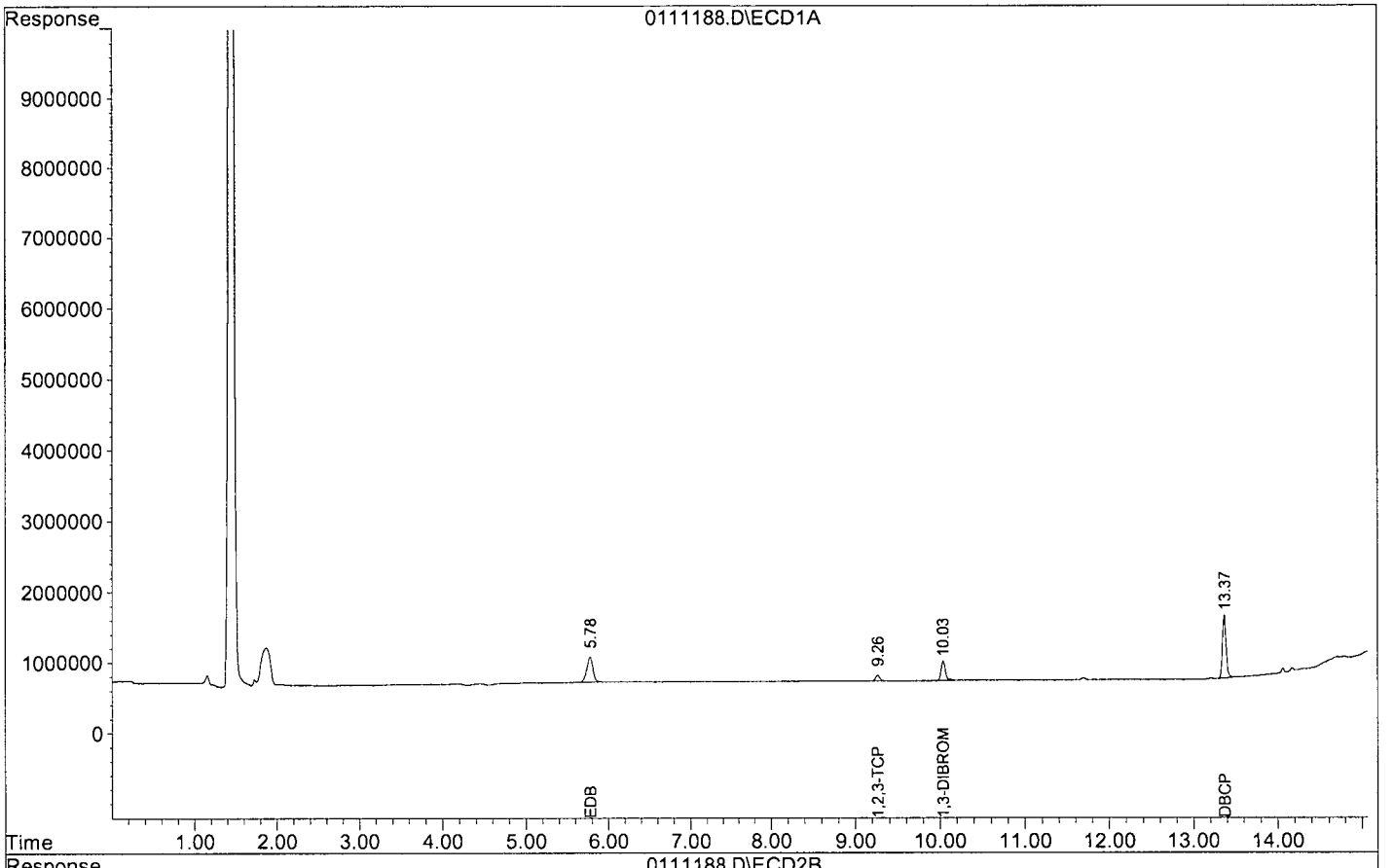
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	276836	488971	0.275	0.269
Spiked Amount 0.350			Recovery	=	78.57%	76.86%
Target Compounds						
1) TM EDB	5.78	7.23	351655	824842	0.261	0.254
2) TM 1,2,3-TCP	9.26	10.47	78375	142046	0.266	0.264
4) TM DBCP	13.37	14.10	896690	2160385	0.254	0.255
Target Compounds						

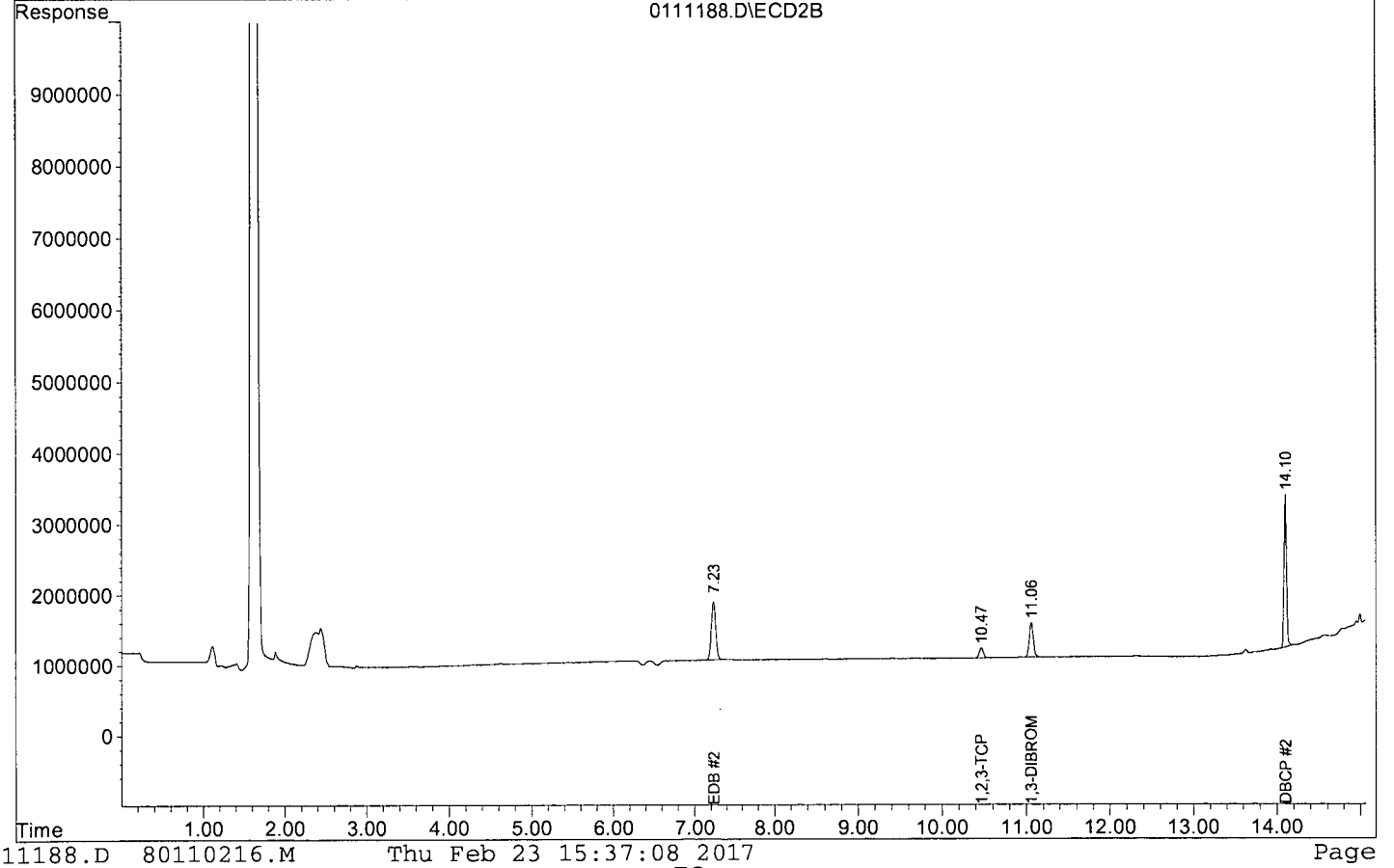
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111188.D
Acq On : 02-17-17 9:31:36
Sample : 8011 3 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 88
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111189.D\ECD1A.CH Vial: 89
Signal #2 : G:\HERBIE\DATA\170111\0111189.D\ECD2B.CH
Acq On : 02-17-17 9:52:21 Operator: RH
Sample : 8011 4 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 10:22 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

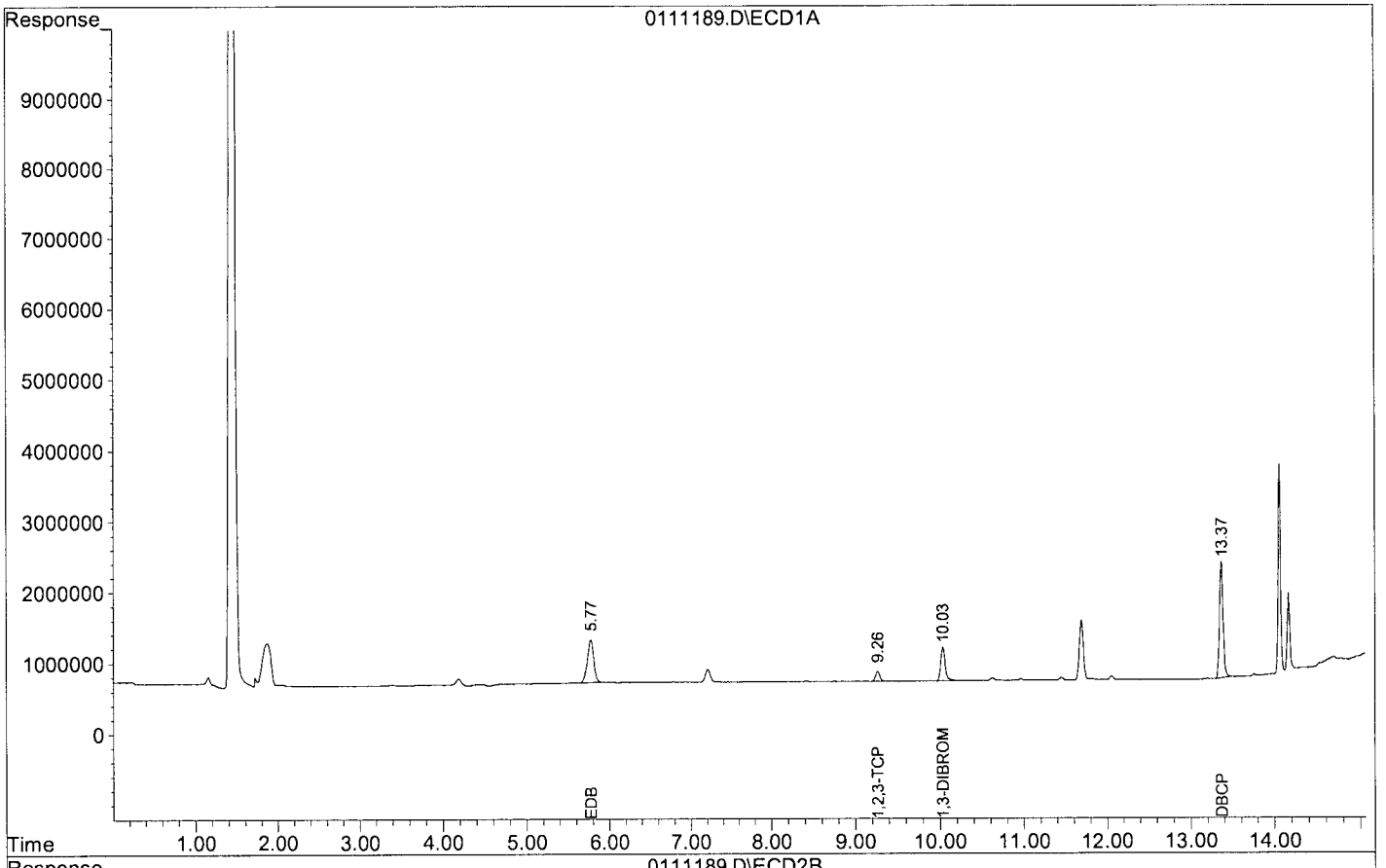
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	476989	903890	0.475	0.497
Spiked Amount 0.350			Recovery	=	135.71%	142.00%
Target Compounds						
1) TM EDB	5.77	7.23	600091	1482389	0.445	0.457
2) TM 1,2,3-TCP	9.26	10.47	139945	258882	0.475	0.481
4) TM DBCP	13.37	14.10	1642899	4153707	0.466	0.491
Target Compounds						

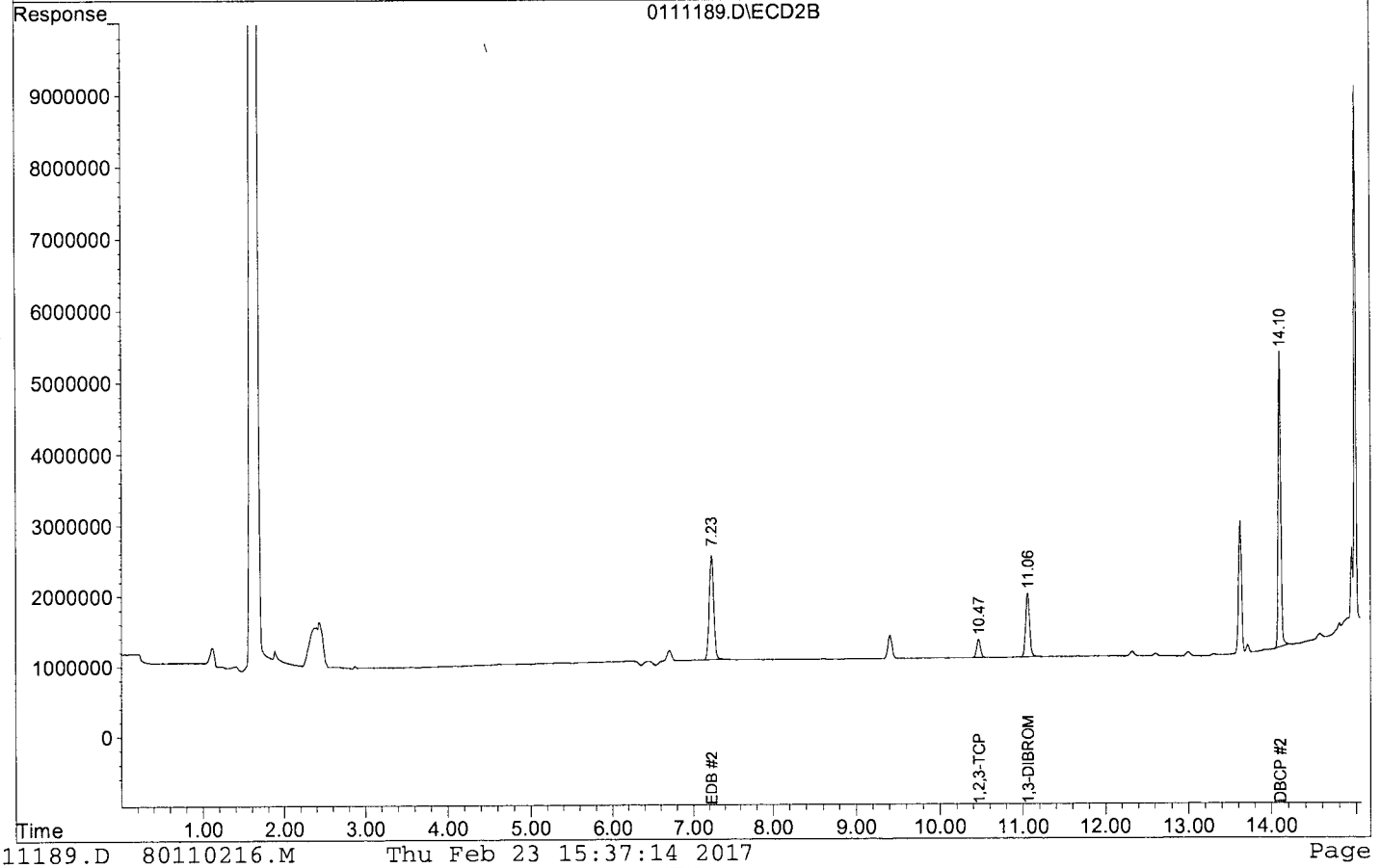
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111189.D
Acq On : 02-17-17 9:52:21
Sample : 8011 4 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 89
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111190.D\ECD1A.CH Vial: 90
Signal #2 : G:\HERBIE\DATA\170111\0111190.D\ECD2B.CH
Acq On : 02-17-17 10:13:08 Operator: RH
Sample : 8011 5 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 11:24 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

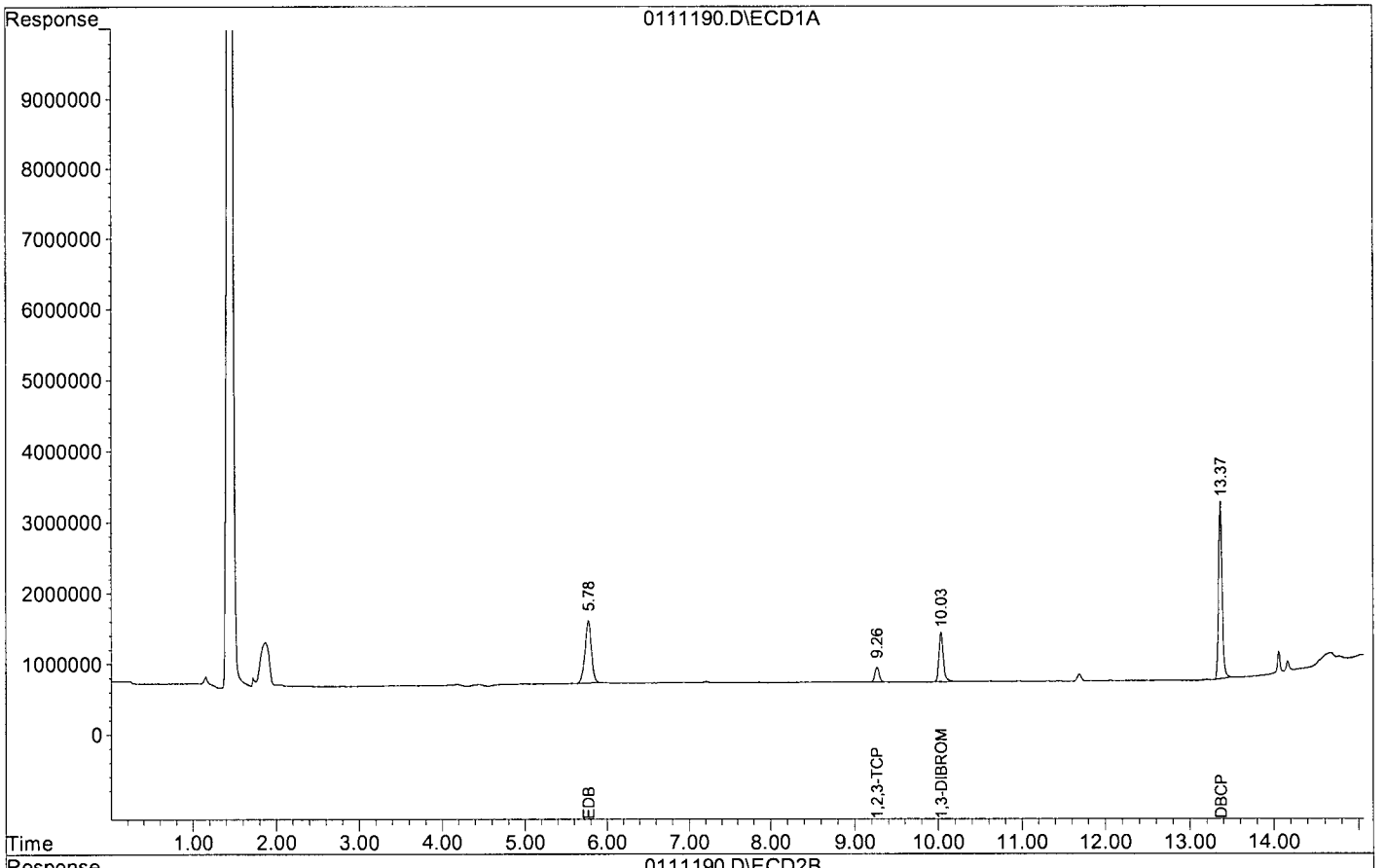
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	704426	1323107	0.701	0.728
Spiked Amount 0.350			Recovery	=	200.29%	208.00%
Target Compounds						
1) TM EDB	5.78	7.23	889378	2179290	0.659	0.671
2) TM 1,2,3-TCP	9.26	10.47	210335	383472	0.713	0.713
4) TM DBCP	13.37	14.10	2505239	6308251	0.710	0.745
Target Compounds						

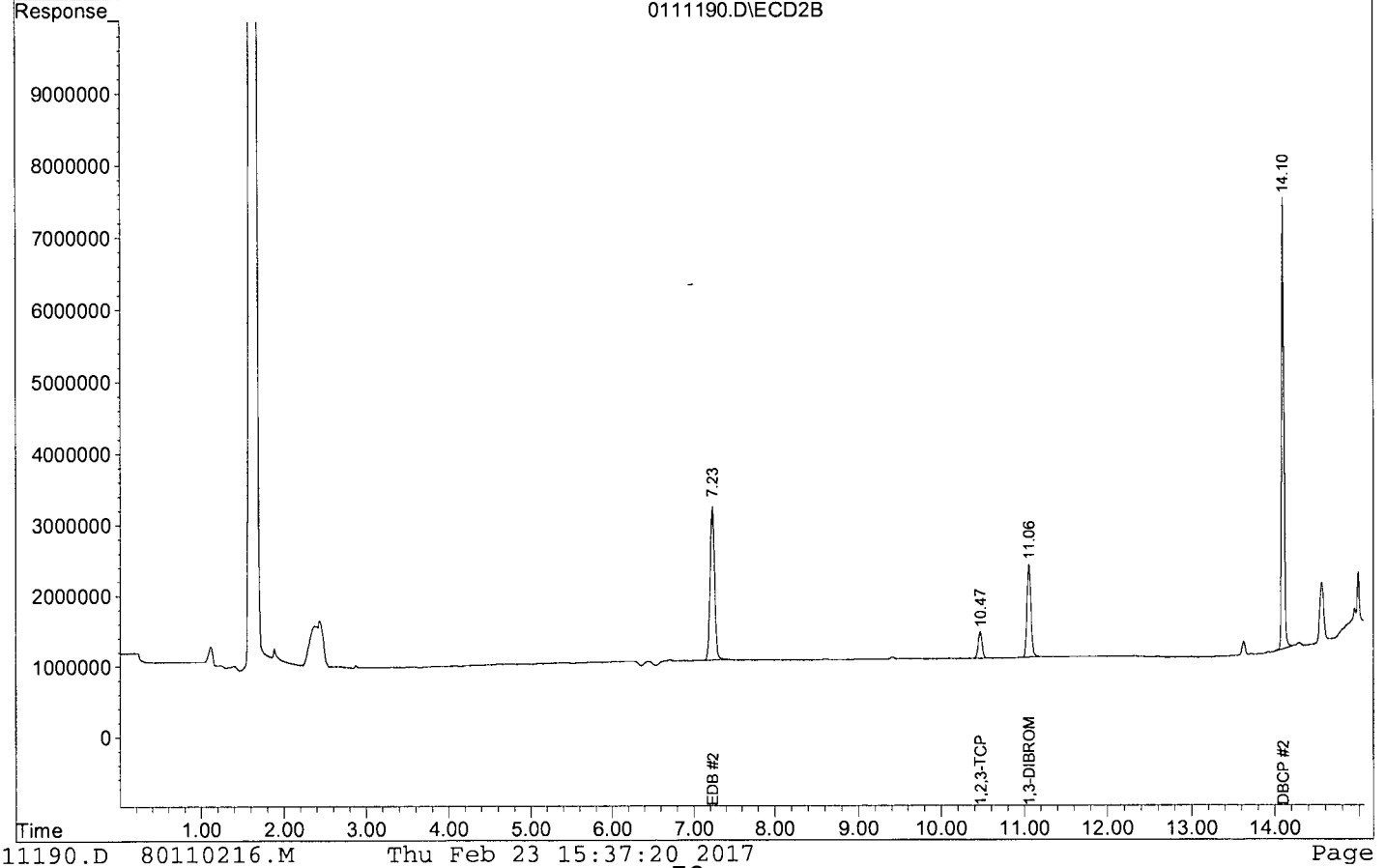
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111190.D
Acq On : 02-17-17 10:13:08
Sample : 8011 5 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 90
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111191.D\ECD1A.CH Vial: 91
Signal #2 : G:\HERBIE\DATA\170111\0111191.D\ECD2B.CH
Acq On : 02-17-17 10:34:12 Operator: RH
Sample : 8011 6 02/14/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 11:24 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

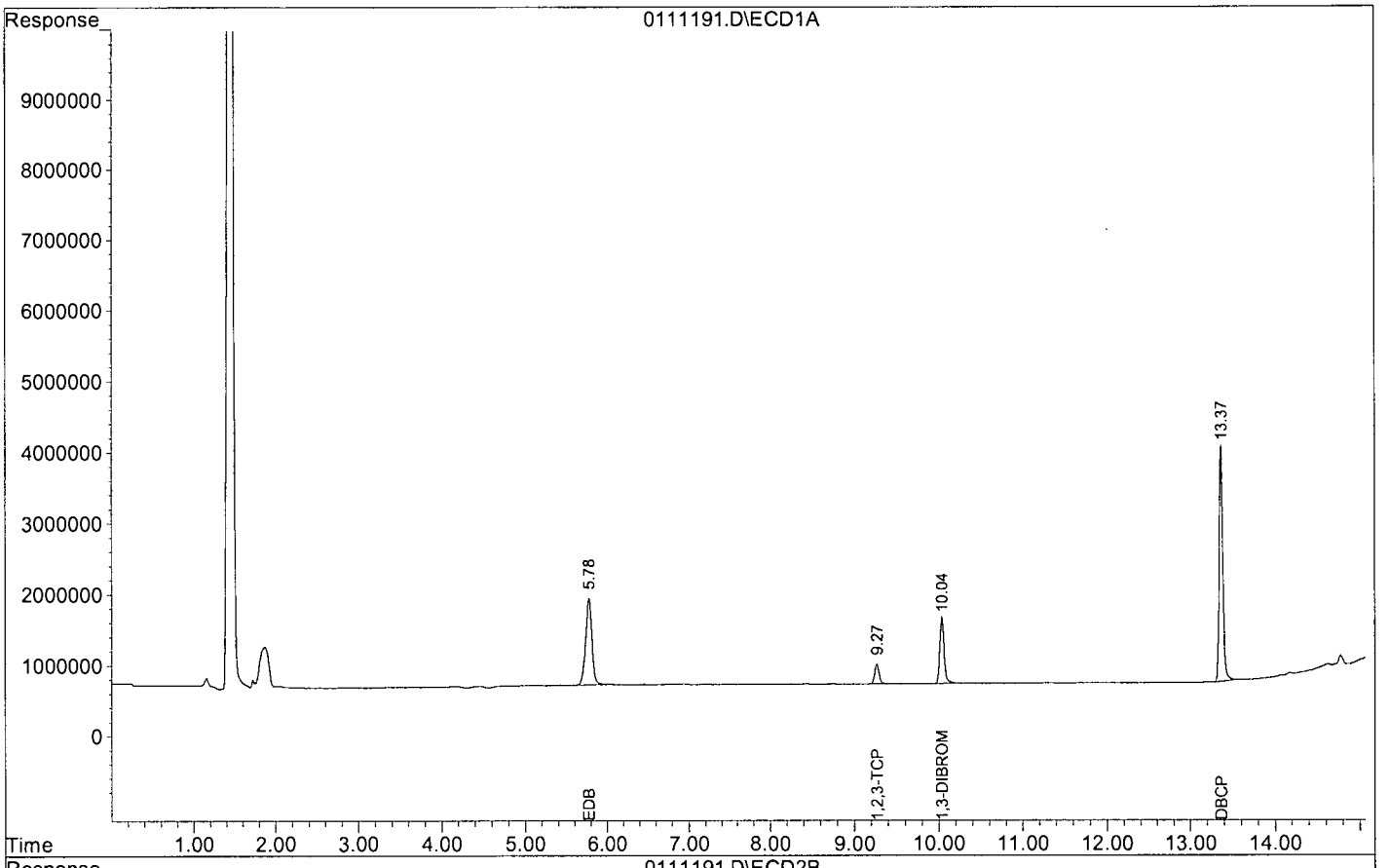
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	939715	1722084	0.935	0.947
Spiked Amount 0.350			Recovery	=	267.14%	270.57%
Target Compounds						
1) TM EDB	5.78	7.23	1218091	3020001	0.903	0.930
2) TM 1,2,3-TCP	9.27	10.47	278014	520274	0.943	0.968
4) TM DBCP	13.37	14.10	3328460	8582663	0.943	1.014
Target Compounds						

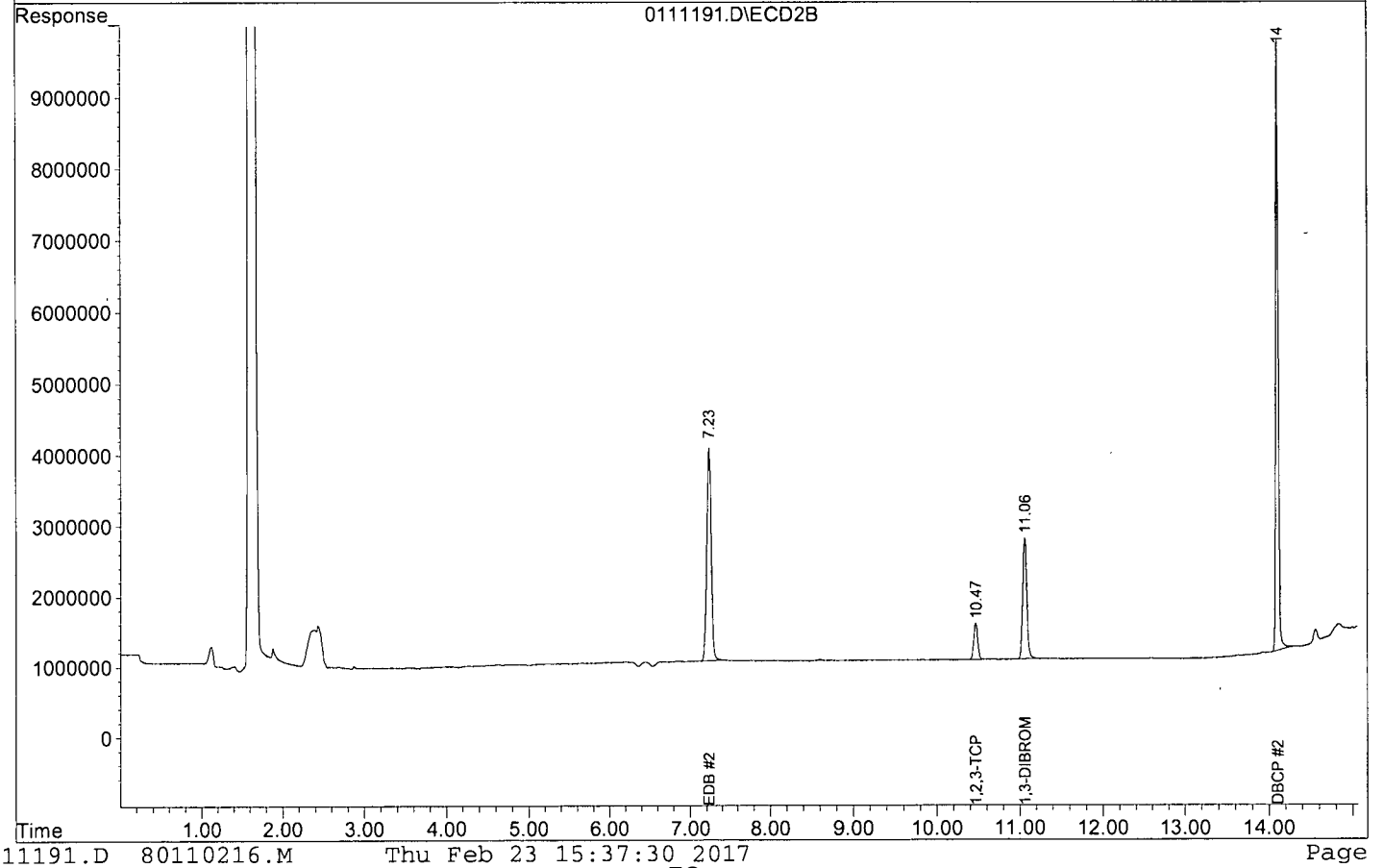
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111191.D
Acq On : 02-17-17 10:34:12
Sample : 8011 6 02/14/17
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 91
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/17/17
Instrument: Herbie
Initial Cal. Date: 02/17/17
Data File: 0111194.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	678718	654530	3.6	TM	
2	TM	1,2,3-TCP	154602	140790	8.9	TM	
3	TM	DBCP	1776020	1675500	5.7	TM	
4							
5							
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7							
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38							
39							
40							
		Average			6.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/17/17
Instrument: Herbie
Cal. Date: 02/17/17
Data File: 0111194.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1593710	1460770	8.3	TM	
42	TM	1,2,3-TCP	278579	262670	5.7	TM	
43	TM	DBCP	4272700	3964330	7.2	TM	
44							
45							
46							
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80							
		Average			7.1		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111194.D\ECD1A.CH Vial: 94
Signal #2 : G:\HERBIE\DATA\170111\0111194.D\ECD2B.CH
Acq On : 02-17-17 11:36:47 Operator: RH
Sample : 170216A LCS-1 2/42.22g Inst : Herbie
Misc : Multiplr: 0.83
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 13:55 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	349548	645803	0.285	0.280
Spiked Amount 0.290			Recovery	=	98.23%	96.50%
Target Compounds						
1) TM EDB	5.77	7.23	130906	292153	0.080	0.076
2) TM 1,2,3-TCP	9.26	10.47	28158	52534	0.075	0.078
4) TM DBCP	13.37	14.10	335099	792866	0.078	0.077
Target Compounds						

Algorithum check = $\frac{130906 * 0.83}{678718 * 2}$ = 0.08

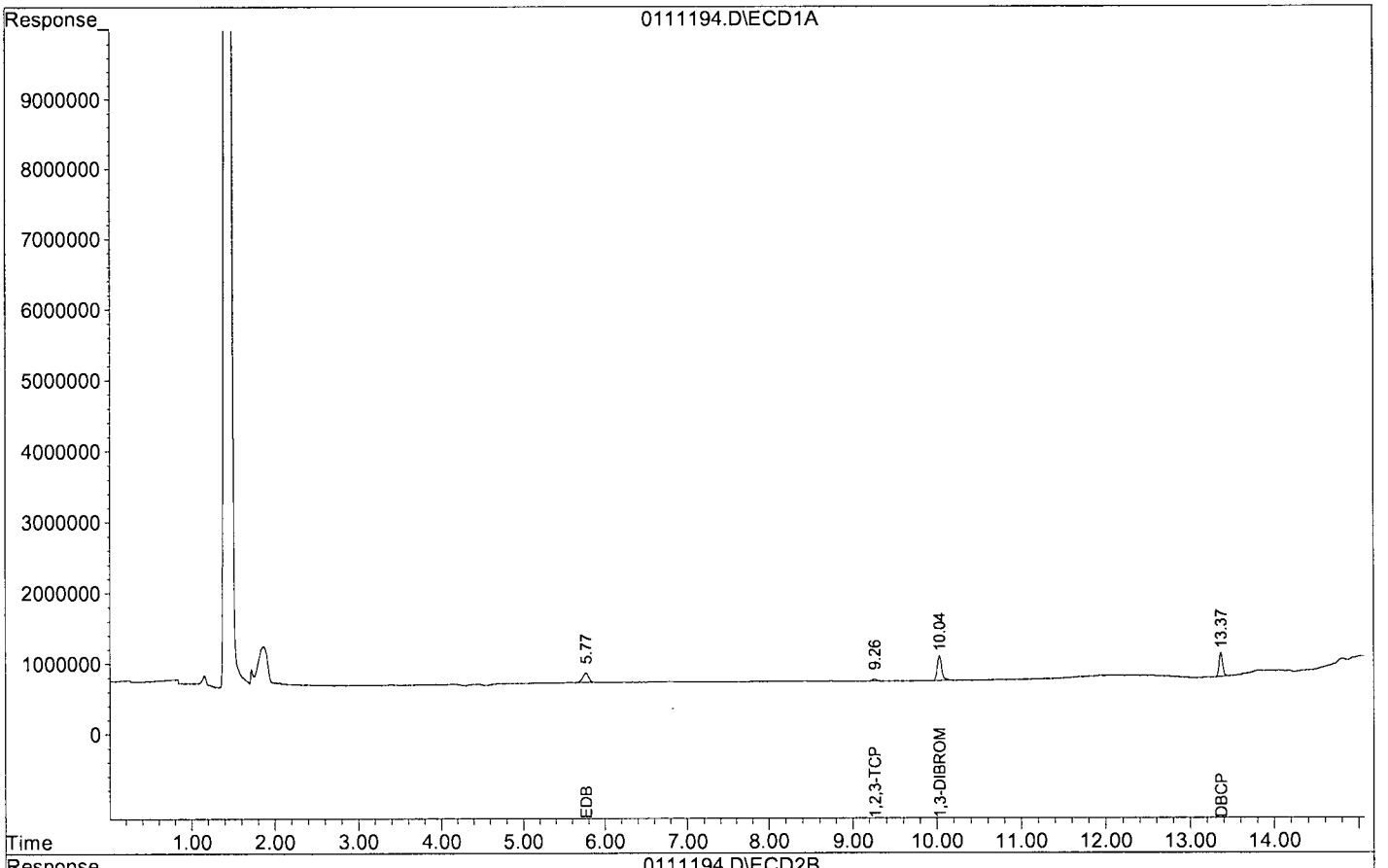
RH 2/23/17

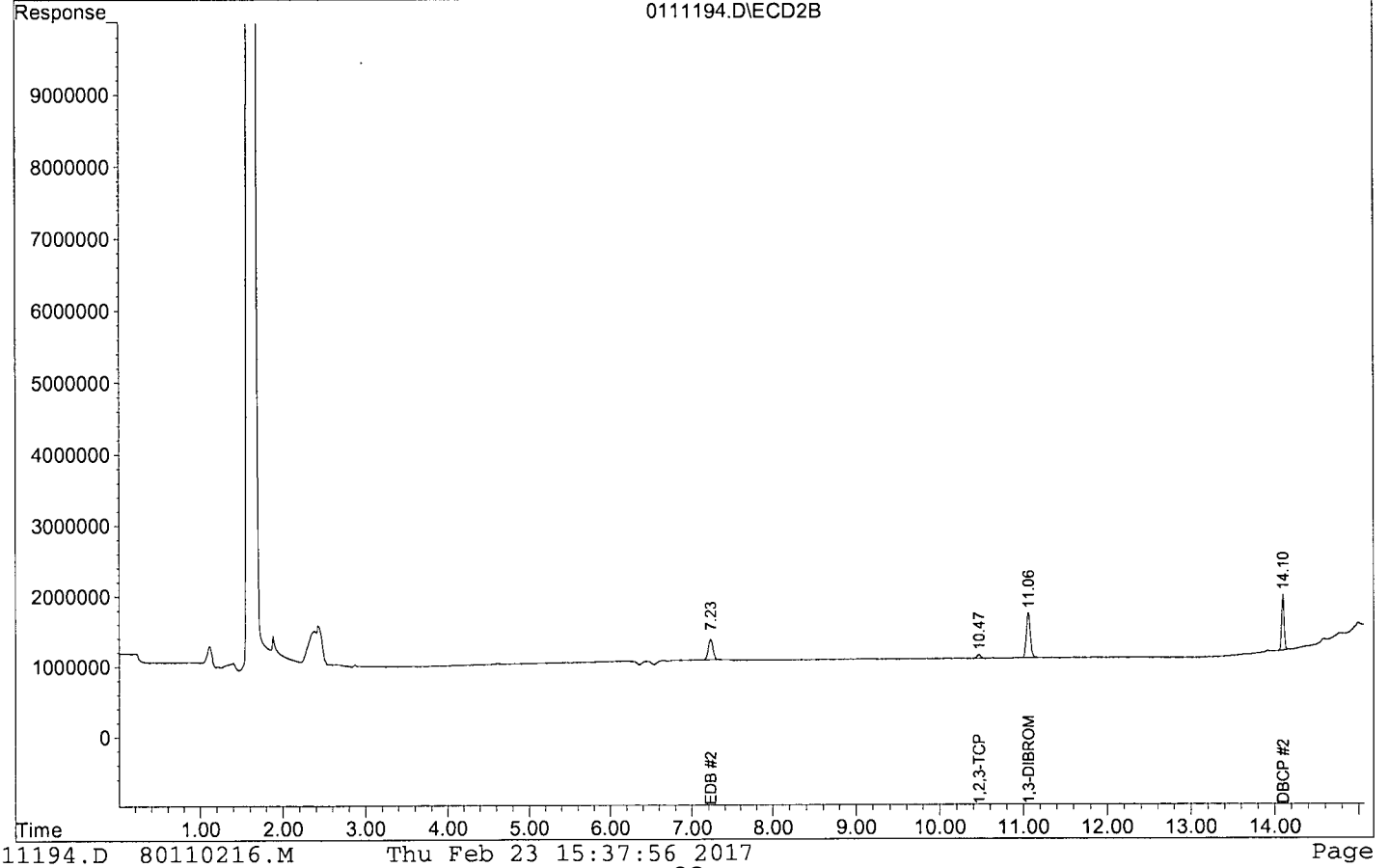
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111194.D
Acq On : 02-17-17 11:36:47
Sample : 170216A LCS-1 2/42.22g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 94
Operator: RH
Inst : Herbie
Multiplr: 0.83





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/17/17
Instrument: Herbie
Initial Cal. Date: 02/17/17
Data File: 0111206.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	678718	684028	0.78	TM	
2	TM	1,2,3-TCP	154602	157818	2.1	TM	
3	S	1,3-DIBROMOPROPANE(S)	508148	553446	8.9	S	
4	TM	DBCP	1776020	1792650	0.94	TM	
5							
6							
7							
8							
9							
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39							
40							
		Average			3.2		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/17/17
Instrument: Herbie
Cal. Date: 02/17/17
Data File: 0111206.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	EDB	1593710	1629300	2.2	TM	
42	TM	1,2,3-TCP	278579	283366	1.7	TM	
43	S	1,3-DIBROMOPROPANE(S)	957373	972128	1.5	S	
44	TM	DBCP	4272700	4449170	4.1	TM	
45							
46							
47							
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							
61							
62							
63							
64							
65							
66							
67							
68							
69							
70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			2.4		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111206.D\ECD1A.CH Vial: 6
Signal #2 : G:\HERBIE\DATA\170111\0111206.D\ECD2B.CH
Acq On : 02-17-17 15:47:02 Operator: RH
Sample : 8011 STD 3 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 16:06 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

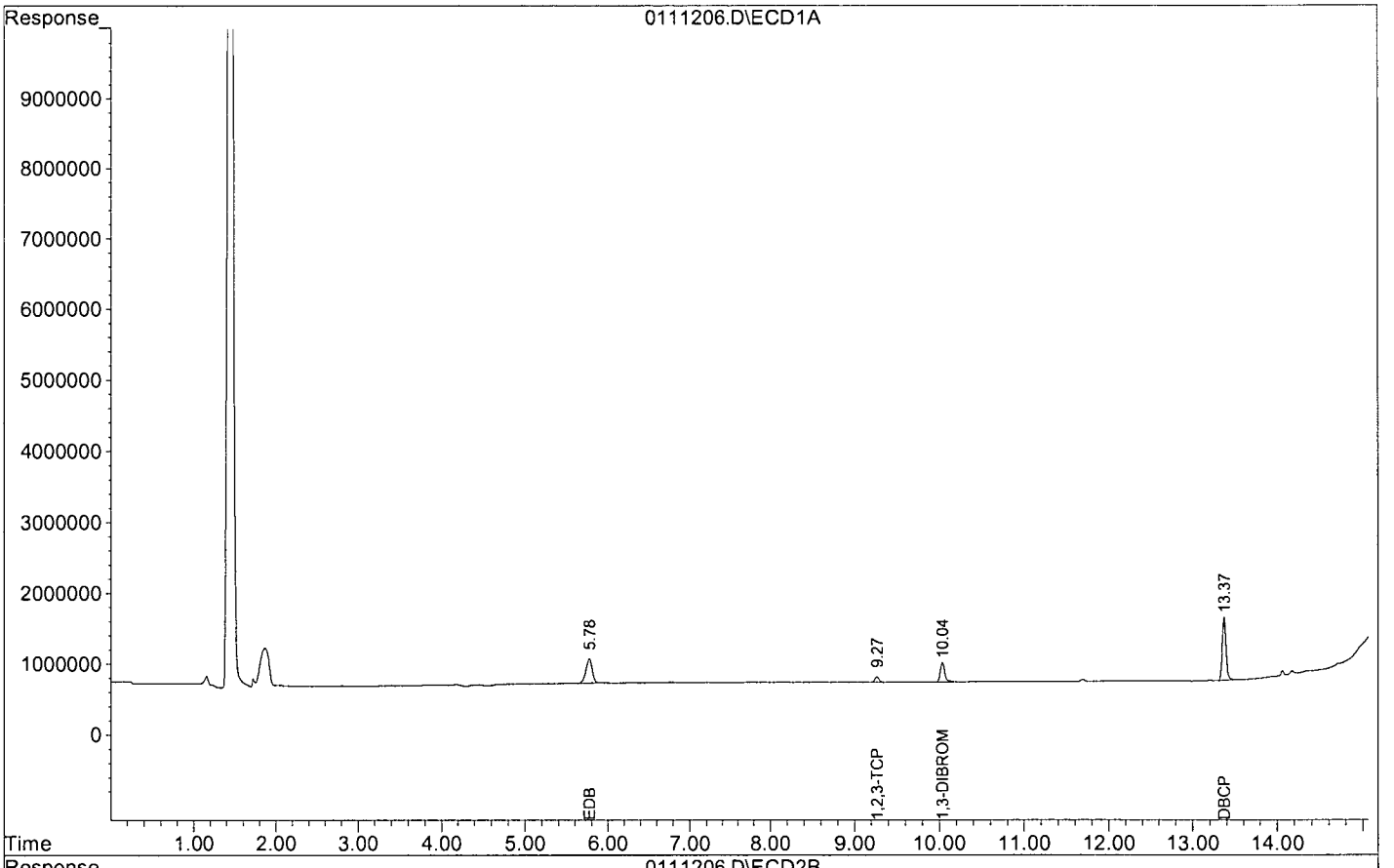
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	276723	486064	0.272	0.254
Spiked Amount 0.350			Recovery	=	77.71%	72.57%
Target Compounds						
1) TM EDB	5.78	7.23	342014	814650	0.252	0.256
2) TM 1,2,3-TCP	9.27	10.47	78909	141683	0.255	0.254
4) TM DBCP	13.37	14.10	896324	2224585	0.252	0.260
Target Compounds						

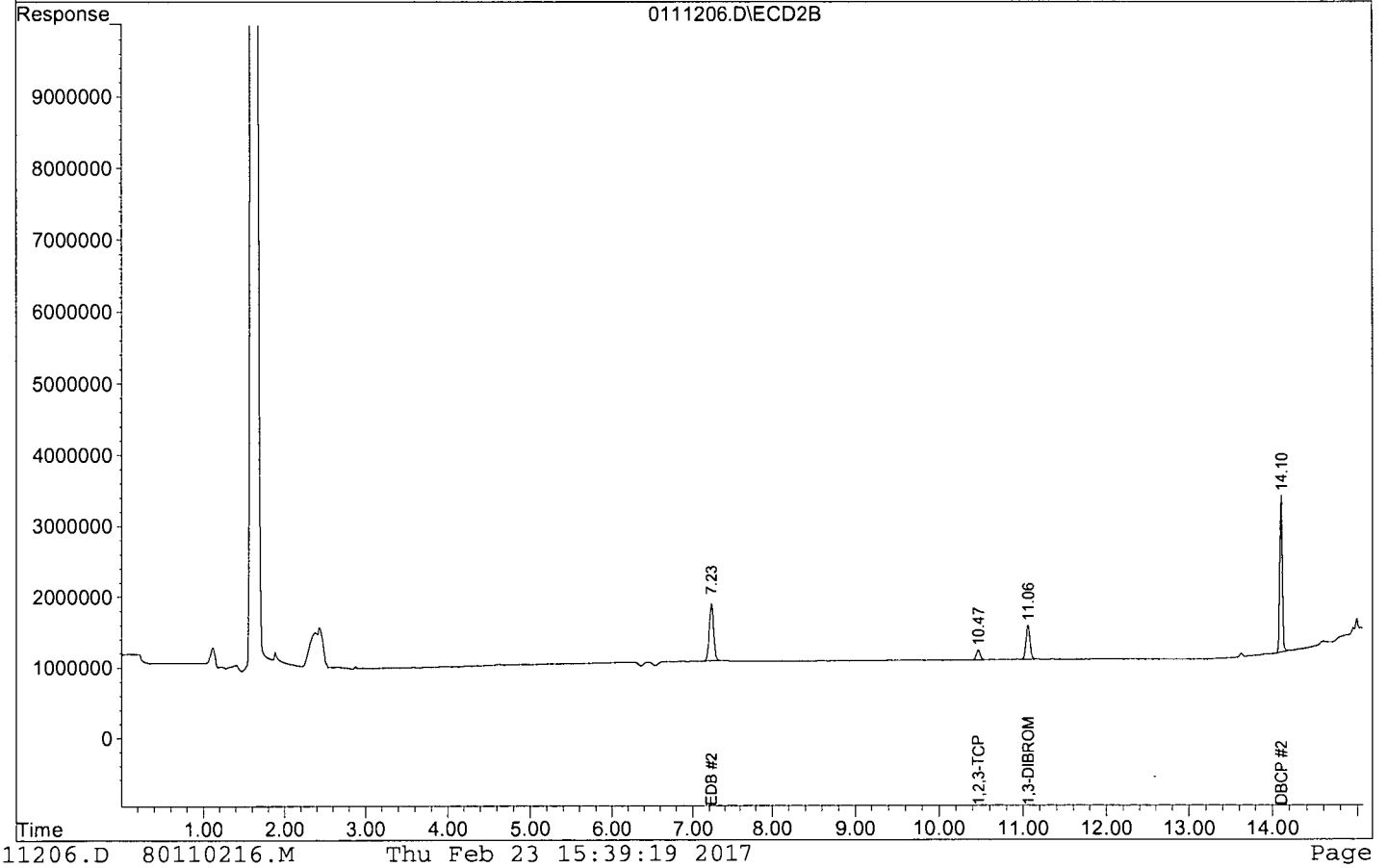
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111206.D
Acq On : 02-17-17 15:47:02
Sample : 8011 STD 3
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 6
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170216W-49853 - 216263**
Batch ID: #8011-170216A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	02/16/17	02/17/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	100	70-132			%	02/16/17	02/17/17

Quant Method: 80110216.M
Run #: 0111193
Instrument: Herbie
Sequence: 170111
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:31:22 PM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111193.D\ECD1A.CH Vial: 93
Signal #2 : G:\HERBIE\DATA\170111\0111193.D\ECD2B.CH
Acq On : 02-17-17 11:15:49 Operator: RH
Sample : 170216A BLK 2/42.28g Inst : Herbie
Misc : Multiplr: 0.83
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 13:58 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

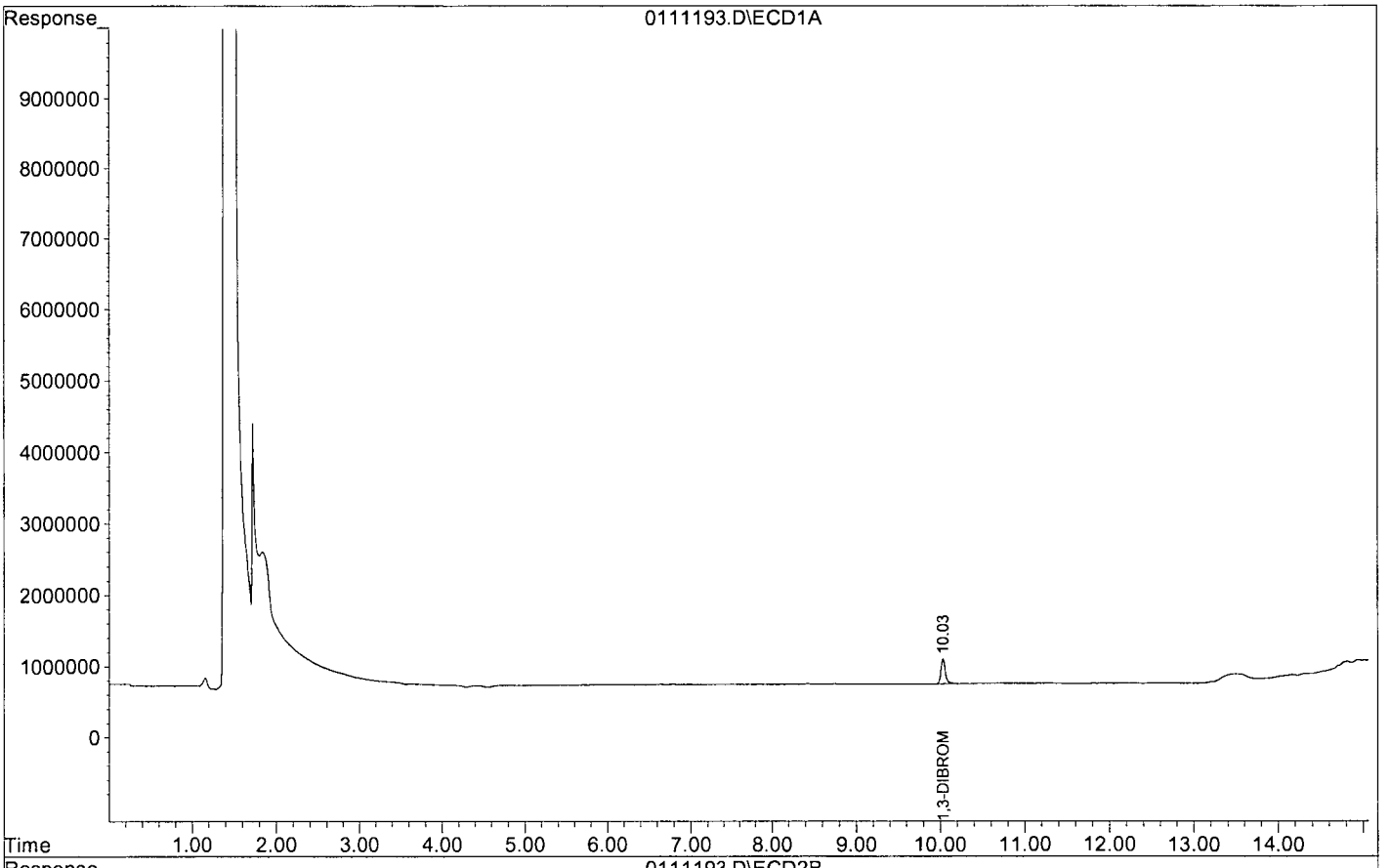
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	355860	637045	0.290	0.275
Spiked Amount 0.290			Recovery	=	100.09%	94.91%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

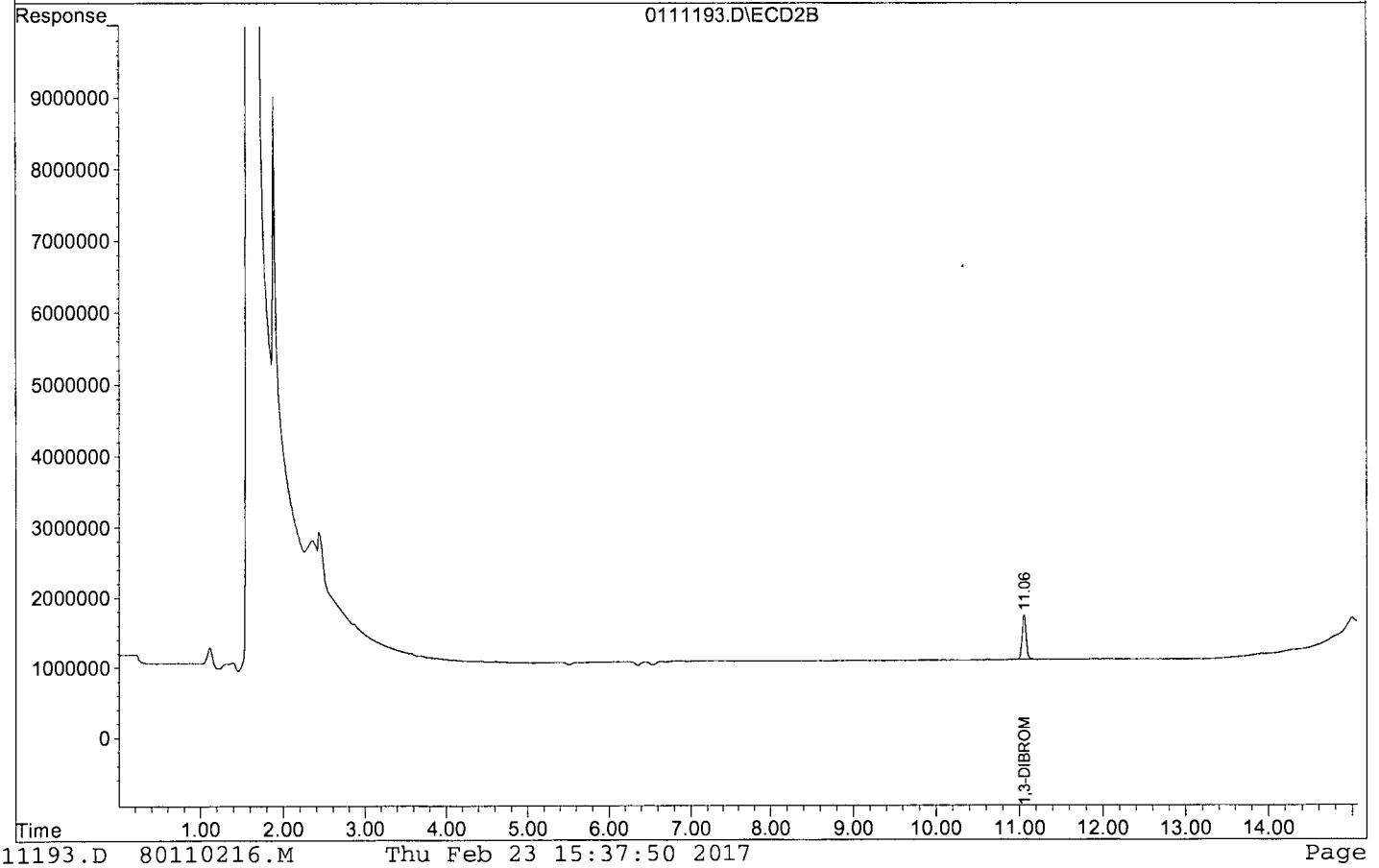
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170111\0111193.D
Acq On : 02-17-17 11:15:49
Sample : 170216A BLK 2/42.28g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 93
Operator: RH
Inst : Herbie
Multiplr: 0.83





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170216W-49853 LCS - 216263**
Batch ID: #8011-170216A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.202	80.8	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.218	87.2	70-132

Comments: _____

Primary	SPK
Quant Method :	80110216.M
Extraction Date :	02/16/17
Analysis Date :	02/17/17
Instrument :	Herbie
Run :	0111195
Initials :	RHA

Printed: 02/23/17 3:58:11 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111195.D\ECD1A.CH Vial: 95
Signal #2 : G:\HERBIE\DATA\170111\0111195.D\ECD2B.CH
Acq On : 02-17-17 11:57:38 Operator: RH
Sample : 170216A LCS-2 2/42.54g Inst : Herbie
Misc : Multiplr: 0.82
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 13:56 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

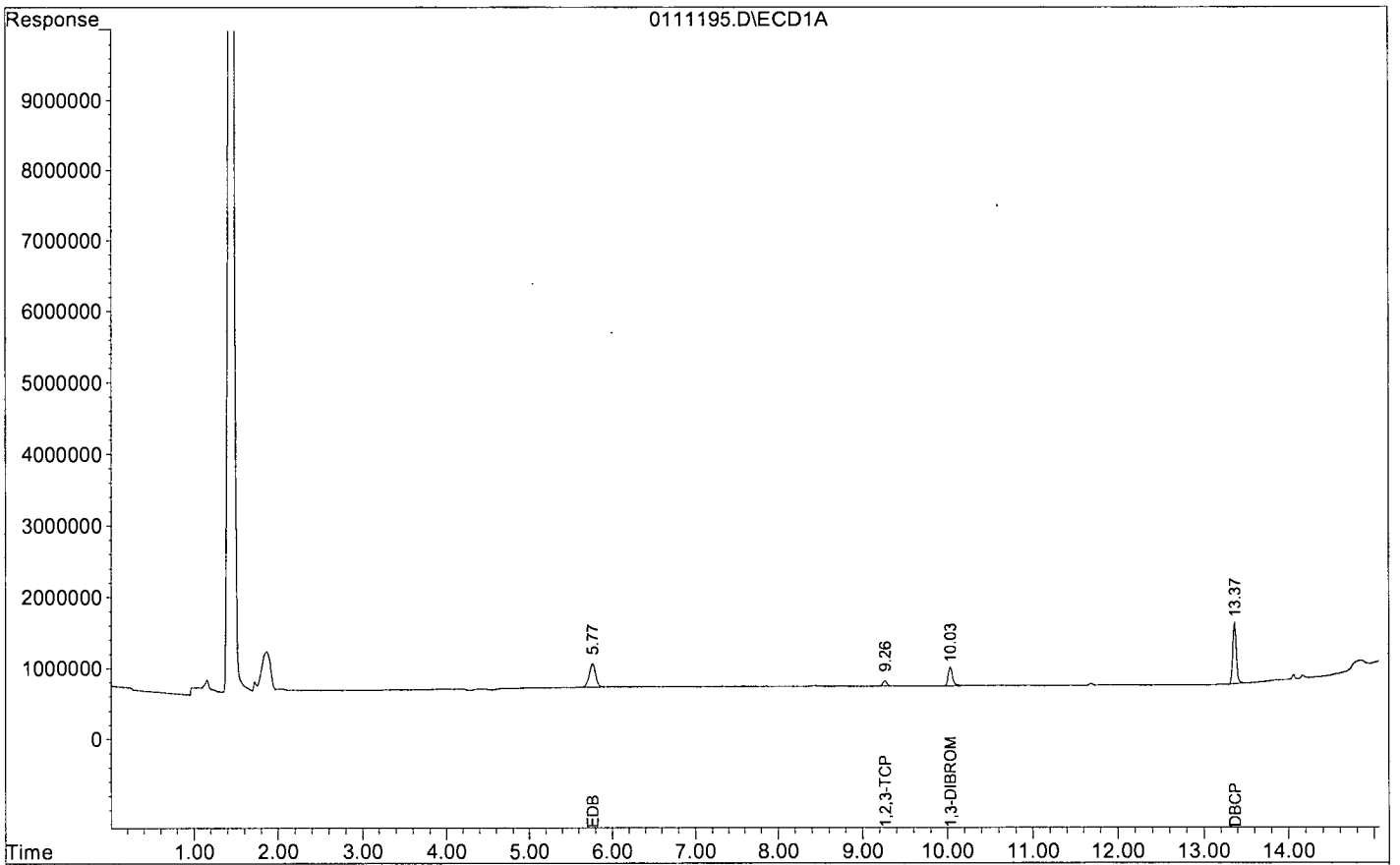
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	269106	467927	0.218	0.201
Spiked Amount 0.288			Recovery	=	75.70%	69.80%
Target Compounds						
1) TM EDB	5.77	7.22	328283	782844	0.199	0.202
2) TM 1,2,3-TCP	9.26	10.46	75999	136415	0.202	0.201
4) TM DBCP	13.37	14.10	869772	2075974	0.201	0.200
Target Compounds						

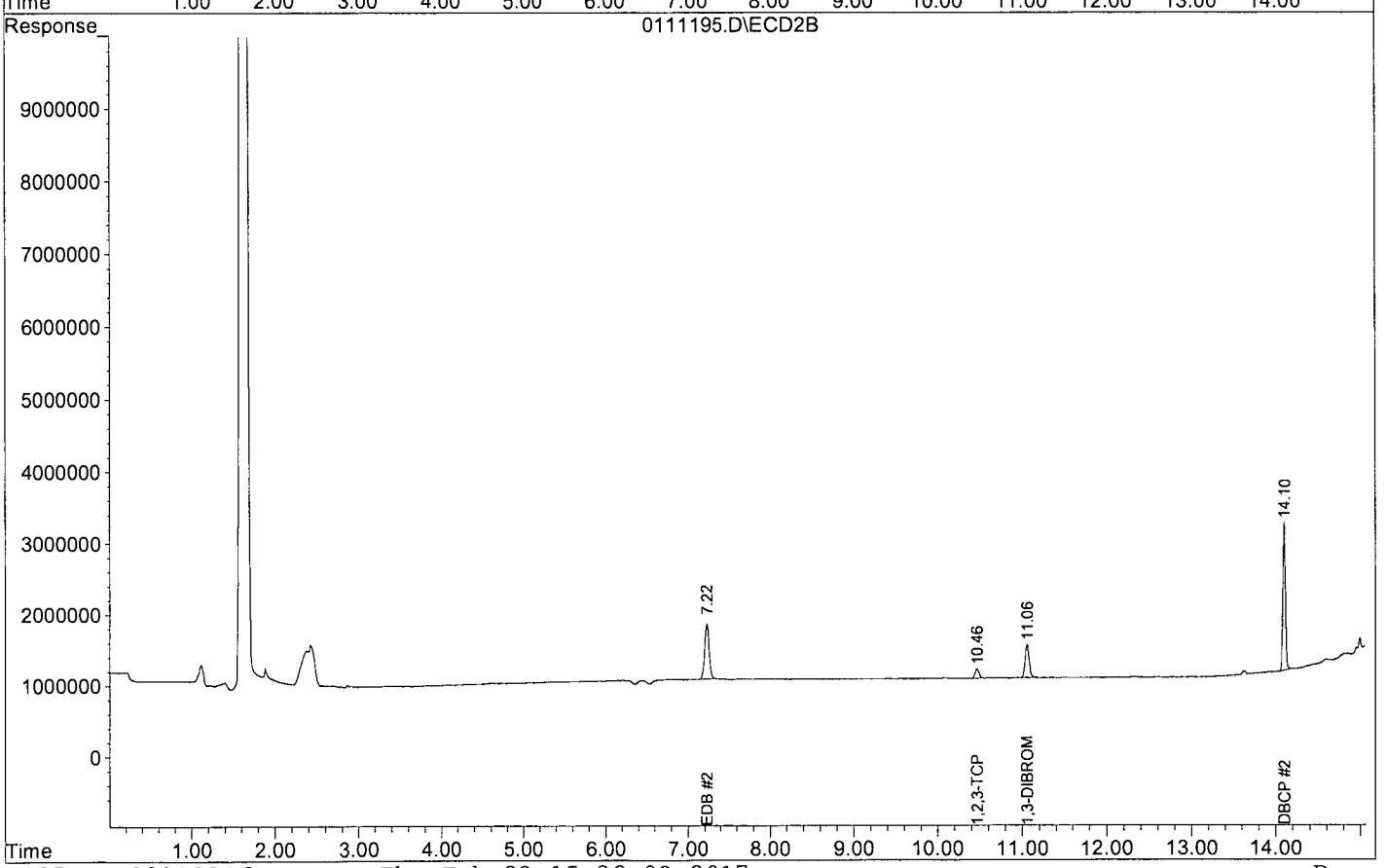
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111195.D
Acq On : 02-17-17 11:57:38
Sample : 170216A LCS-2 2/42.54g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 95
Operator: RH
Inst : Herbie
Multiplr: 0.82





Matrix Spike Recoveries

EPA 8011

APPL ID: **170216W-49853 MS - 216263**
Batch ID: #8011-170216A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.249	0.257	99.6	103	60-140	3.2	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	NA	0.267	0.277	107	111	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110216.M	80110216.M
Extraction Date :	02/16/17	02/16/17
Analysis Date :	02/17/17	02/17/17
Instrument :	Herbie	Herbie
Run :	0111200	0111201
Initials :	RHA	

Printed: 02/23/17 3:58:02 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111200.D\ECD1A.CH Vial: 100
Signal #2 : G:\HERBIE\DATA\170111\0111200.D\ECD2B.CH
Acq On : 02-17-17 13:42:03 Operator: RH
Sample : AZ49853W18 MS-2 2/34.72g Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 14:00 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	269415	480209	0.267	0.253
Spiked Amount 0.353			Recovery	=	75.68%	71.71%
Target Compounds						
1) TM EDB	5.77	7.22	331393	786824	0.246	0.249
2) TM 1,2,3-TCP	9.27	10.47	75638	136599	0.247	0.247
4) TM DBCP	13.37	14.10	857663	2064298	0.243	0.244

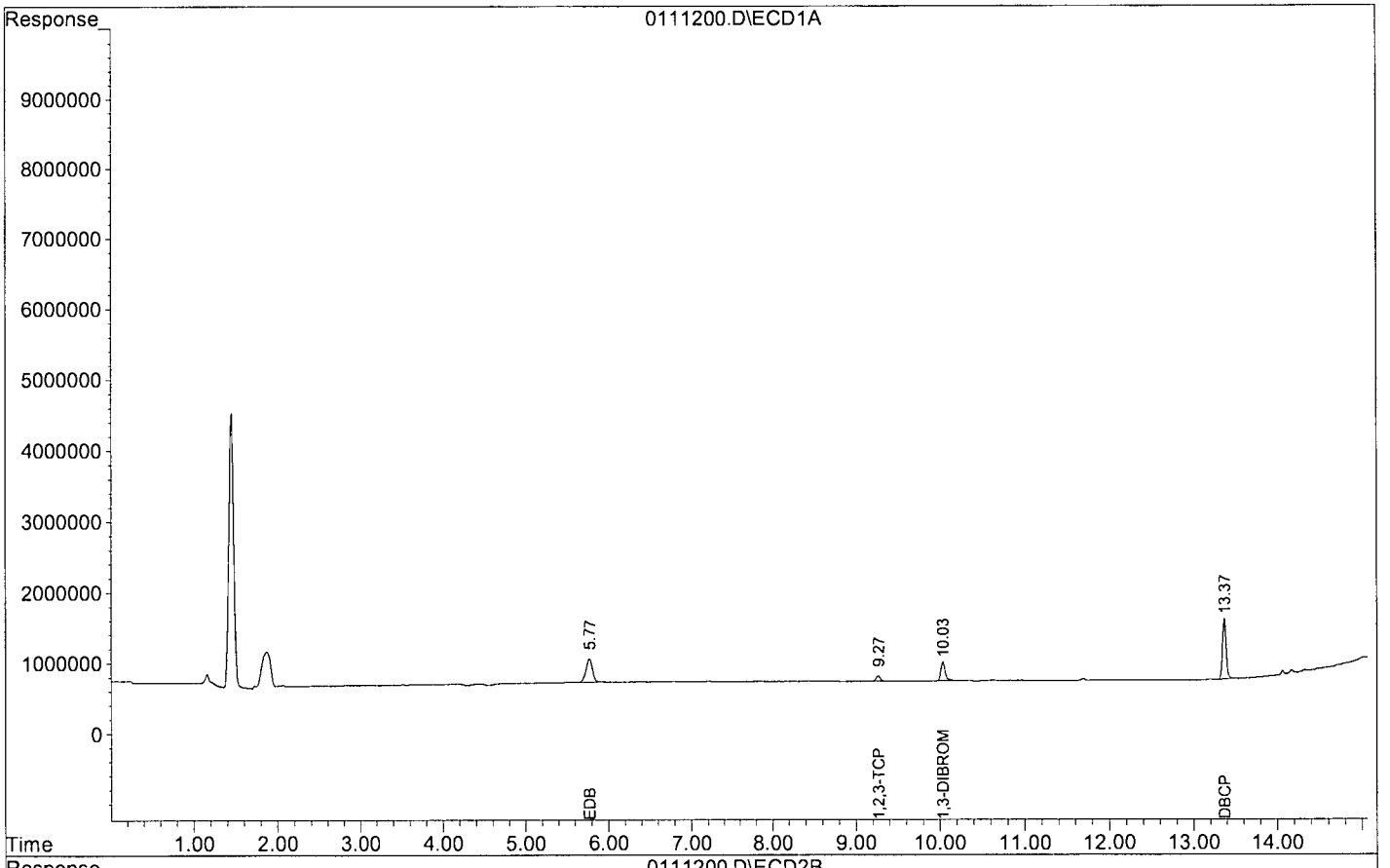
Target Compounds

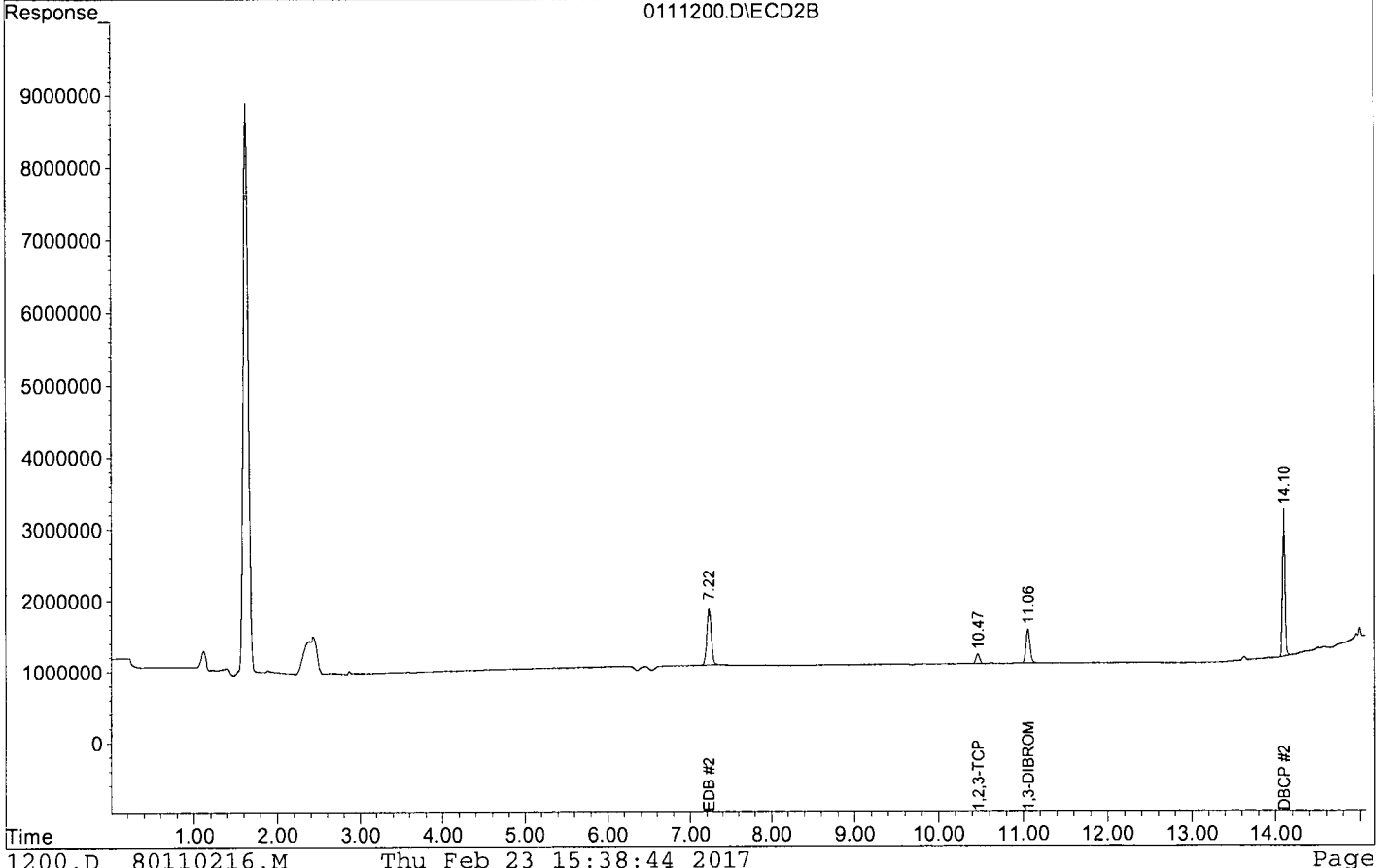
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111200.D
Acq On : 02-17-17 13:42:03
Sample : AZ49853W18 MS-2 2/34.72g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 100
Operator: RH
Inst : Herbie
Multiplr: 1.01





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170111\0111201.D\ECD1A.CH Vial: 1
Signal #2 : G:\HERBIE\DATA\170111\0111201.D\ECD2B.CH
Acq On : 02-17-17 14:02:50 Operator: RH
Sample : AZ49853W19 MSD-2 2/34.59g Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Feb 17 14:38 2017 Quant Results File: 80110216.RES

Quant Method : G:\HERBIE\DATA\170111\80110216.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Fri Feb 17 10:22:04 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

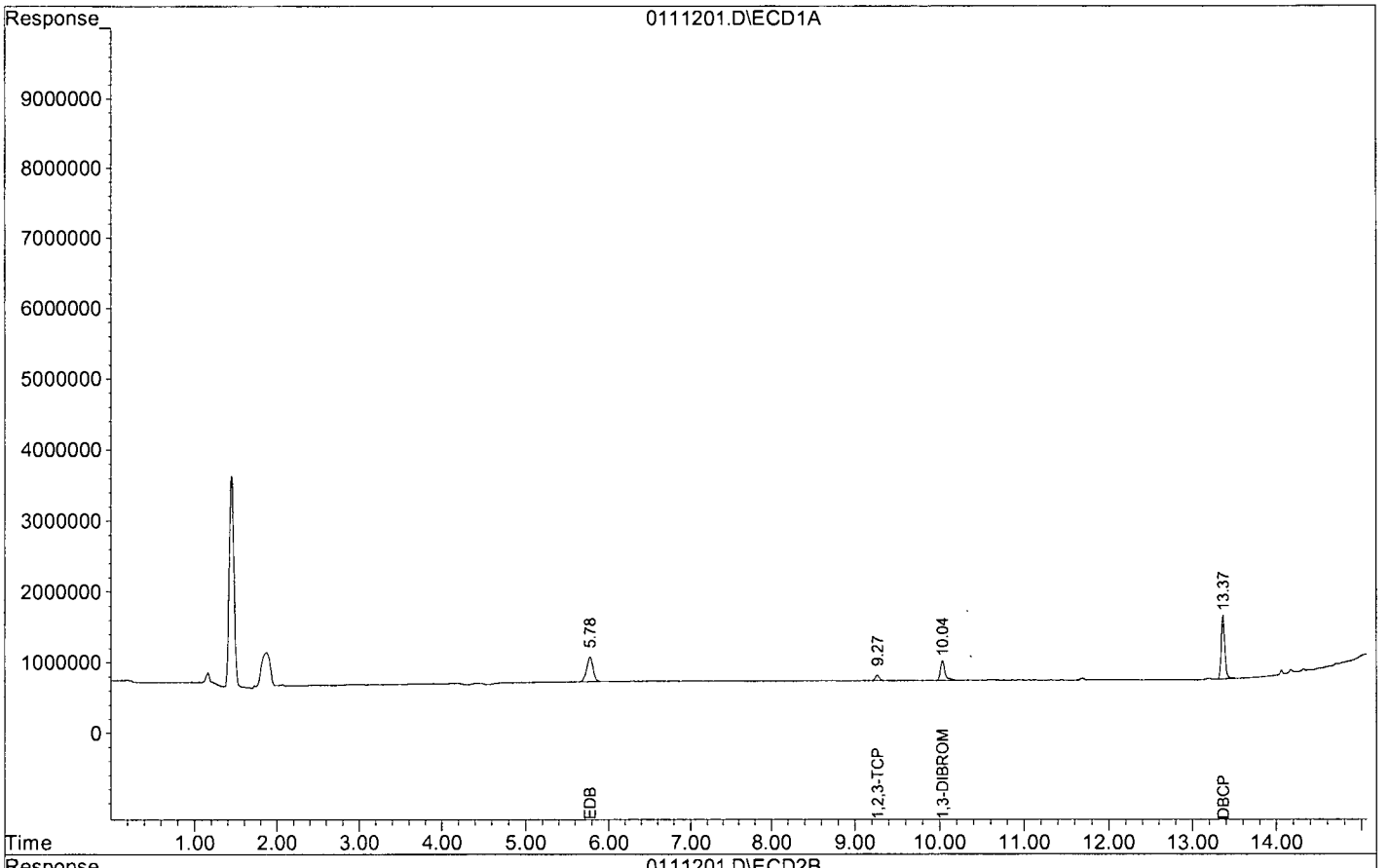
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	277988	490166	0.277	0.259
Spiked Amount 0.354			Recovery	=	78.22%	73.13%
Target Compounds						
1) TM EDB	5.78	7.23	347689	808916	0.259	0.257
2) TM 1,2,3-TCP	9.27	10.47	77603	137187	0.254	0.249
4) TM DBCP	13.37	14.10	902731	2167734	0.257	0.257
Target Compounds						

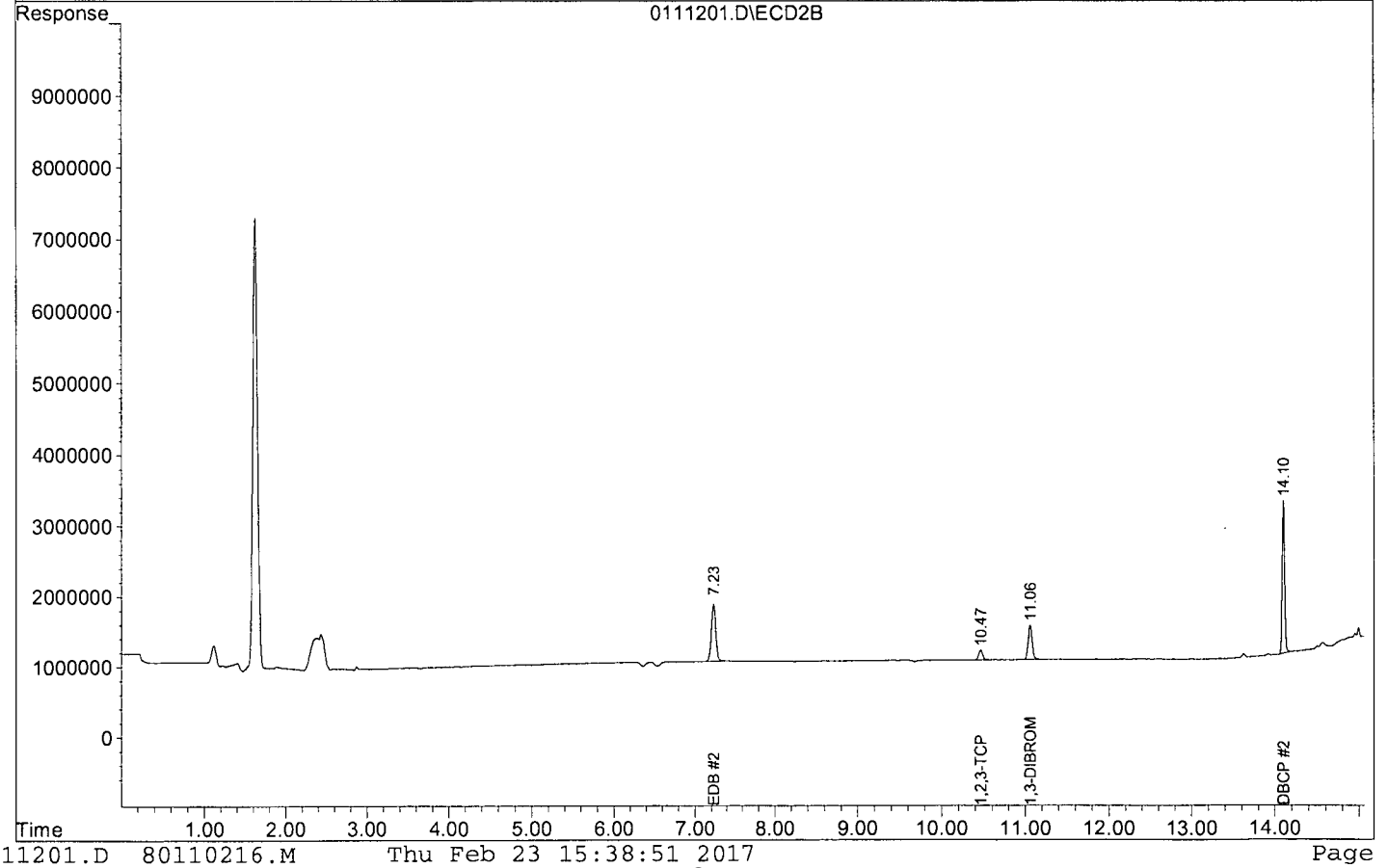
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170111\0111201.D
Acq On : 02-17-17 14:02:50
Sample : AZ49853W19 MSD-2 2/34.59g
Misc :
Quant Method : G:\HERBIE\DATA\170111\80110216.M

Vial: 1
Operator: RH
Inst : Herbie
Multiplr: 1.01





		504/8011 SS				
Prep: 02/10/17 RH Ex: 7/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 1/18/18				

		504/8011 M STD					
Prep: 02/02/17 Exp: 04/08/17 RH							
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**	
EDB	0.35ug/mL	504/8011 M STD STK	1000uL	10mL	0.035ug/mL	Methanol	
TCP		prep.12/08/16				BDH1135-4LG	
DBCP		exp: 04/08/17					
1,3 DBP							

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 1/18/18						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 6/7/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

504/8011 M STD STOCK						
Prep: 12/08/16-R.H.		Exp: 04/08/17				
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol
TCP		prep. 06/07/16				021915C
DBCP		exp: 06/07/17				
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL			
		prep.06/07/16				
		exp. 06/07/17				

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170216A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17
Spiked ID 2	504.1 M. STD 2-2-17 exp 4-8-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/16/17 15:00
Spiked ID 8			Ext. End Time:	02/16/17 16:35
			GC Requires Extract By:	02/24/17 0:00

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 02/16/17 **Witnessed By:** DL **Date** 02/16/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170216A Blk				0.035	1 equip	42.28g	2	7	02/16/17 15:00	
2	170216A LCS-1		0.1	1	0.035	1 equip	42.22g	2	7	02/16/17 15:00	
3	170216A LCS-2		0.250	2	NA	NA equip	42.54g	2	7	02/16/17 15:00	
4	AZ49852	AZ49852W04			0.035	1 equip	34.10g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
5	AZ49853 MS-1	AZ49853W16	0.1	1	0.035	1 equip	34.57g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
6	AZ49853 MSD-1	AZ49853W17	0.1	1	0.035	1 equip	34.35g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
7	AZ49853 MS-2	AZ49853W18	0.250	2	NA	NA equip	34.72g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
8	AZ49853 MSD-2	AZ49853W19	0.250	2	NA	NA equip	34.59g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
9	AZ49853	AZ49853W15			0.035	1 equip	34.22g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
10	AZ49854	AZ49854W07			0.035	1 equip	34.94g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
11	AZ49855	AZ49855W07			0.035	1 equip	34.59g	2	7	02/16/17 15:00	82150 RUSH 1 WEEK
12	M STD 1		0.020	2	NA	NA equip	42.48g	2	7	02/16/17 15:00	
13	M STD 2		0.1	2	NA	NA equip	41.97g	2	7	02/16/17 15:00	
14	M STD 3		0.250	2	NA	NA equip	42.20g	2	7	02/16/17 15:00	
15	M STD 4		0.5	2	NA	NA equip	42.63g	2	7	02/16/17 15:00	
16	M STD 5		0.750	2	NA	NA equip	42.78g	2	7	02/16/17 15:00	

Solvent and Lot#	
NaCL	16B100011
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	2/16/17
Time	8:30
Refrigerator	Hobert

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	----------

Modified	02/17/17 8:30:13 AM

Reviewed By: [illegible] **Date** 2/17/17

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170216A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17
Spiked ID 2	504.1 M. STD 2-2-17 exp 4-8-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/16/17 15:00
Spiked ID 8			Ext. End Time:	02/16/17 16:35
			GC Requires Extract By:	**02/24/17 0:00**
			pH1	Water Bath Temp Criteria
			pH2	
			pH3	

Spiked By: KY **Date** 02/16/17 **Witnessed By:** DL **Date** 02/16/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 6		1	2	NA	NA	43.22g	2	7	02/16/17 15:00	
						equip					

lg 2/17/17

Solvent and Lot#	
NaCL	16B100011
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL
Concentration	----------

Modified	02/17/17 8:30:13 AM

Reviewed By: lg **Date** 2/17/17

Injection Log

Directory: G:\HERBIE\DATA\170111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	86	0111186.D	1	8011 1 02/14/17		02-17-17 8:49:43
2	87	0111187.D	1	8011 2 02/14/17		02-17-17 9:10:33
3	88	0111188.D	1	8011 3 02/14/17		02-17-17 9:31:36
4	89	0111189.D	1	8011 4 02/14/17		02-17-17 9:52:21
5	90	0111190.D	1	8011 5 02/14/17		02-17-17 10:13:08
6	91	0111191.D	1	8011 6 02/14/17		02-17-17 10:34:12
7	93	0111193.D	0.827815	170216A BLK 2/42.28g		02-17-17 11:15:49
8	94	0111194.D	0.828991	170216A LCS-1 2/42.22g		02-17-17 11:36:47
9	95	0111195.D	0.822755	170216A LCS-2 2/42.54g		02-17-17 11:57:38
10	96	0111196.D	1.02639	AZ49852W04 2/34.10g		02-17-17 12:18:28
11	97	0111197.D	1.02279	AZ49853W15 2/34.22g		02-17-17 12:39:26
12	100	0111200.D	1.00806	AZ49853W18 MS-2 2/34.72g		02-17-17 13:42:03
13	1	0111201.D	1.01185	AZ49853W19 MSD-2 2/34.59g		02-17-17 14:02:50
14	2	0111202.D	1.00172	AZ49854W07 2/34.94g		02-17-17 14:23:37
15	3	0111203.D	1.01185	AZ49855W07 2/34.59g		02-17-17 14:44:32
16	6	0111206.D	1	8011 STD 3		02-17-17 15:47:02

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216247**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216005
Instrument: Apollo
Sequence: 170216
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:20:43 AM

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	60-142	75.7		56-125	76.4	
170214A-LCS	Lab Control Spike	60-142	80.3		56-125	94.0	
AZ49853	ERH225	60-142	75.2		56-125	75.3	
AZ49853-MSD	Matrix SpikeD	60-142	77.5		56-125	92.3	
AZ49853-MS	Matrix Spike	60-142	77.5		56-125	91.8	
AZ49854	ERH247	60-142	76.9		56-125	77.0	
AZ49855	ERH248	60-142	78.5		56-125	79.1	

Comments: Batch: #DOC53-170214A

Printed: 02/17/17 9:20:35 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49853 LCS - 216247**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/17/17 9:20:31 AM
APPL Standard LCS

Matrix Spike Recoveries
EPA 8015B TPH WATER

APPL ID: **170214W-49853 MS - 216247**
Batch ID: #DOC53-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	514	517	77.1	77.5	36-132	0.58	30
OIL (C24-C40)	667	ND	616	640	92.4	96.0	41-113	3.8	30
SURROGATE: OCTACOSANE (S)	40.0	NA	31.0	31.0	77.5	77.5	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	36.7	36.9	91.8	92.3	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0207.M	DOC0207.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/16/17	02/16/17
Instrument :	Apollo	Apollo
Run :	216015	216014
Initials :	DPO	

Printed: 02/17/17 9:20:27 AM
APPL MSD SCII

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Apollo
Time Analyzed: 1141

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	216005	02/16/17 1141
170214A-LCS	Lab Control Spike	216006	02/16/17 1202
AZ49853	ERH225	216012	02/16/17 1404
170214A-MSD	Matrix SpikeD	216014	02/16/17 1445
170214A-MS	Matrix Spike	216015	02/16/17 1506
AZ49854	ERH247	216017	02/16/17 1547
AZ49855	ERH248	216018	02/16/17 1607

Comments: Batch: #DOC53-170214A

Printed: 02/17/17 9:20:23 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	75.2	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	75.3	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216012
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:20:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216012.D Vial: 12
Acq On : 2-16-17 14:04:50 Operator: DP
Sample : AZ49853W34 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 14:22 2017 Quant Results File: DOC0207.RES

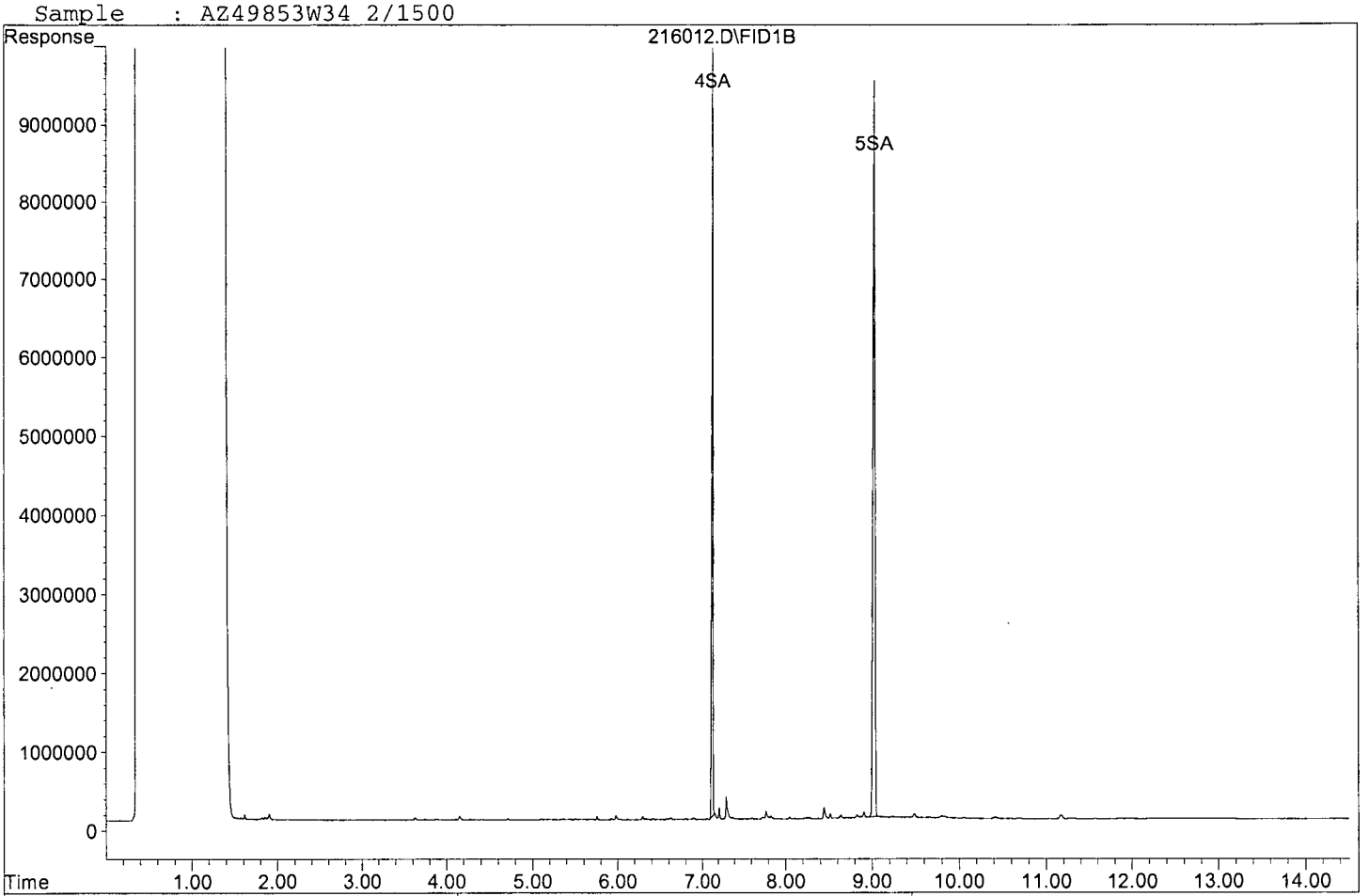
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

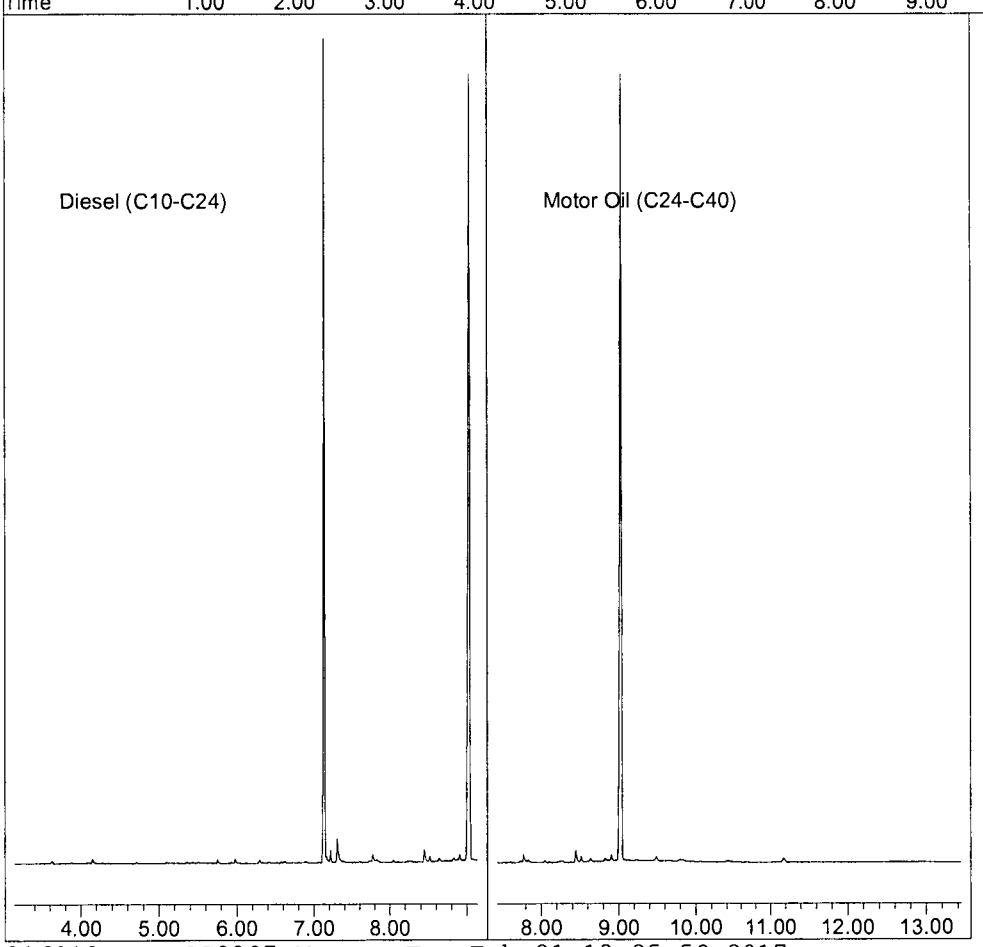
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	96517528	30.110 ppb
Surrogate Spike 40.000		Recovery =	75.28%
5) SA Octacosane(S)	9.03	141594593	30.063 ppb
Surrogate Spike 40.000		Recovery =	75.16%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216012.D
Sample : AZ49853W34 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	76.9	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.0	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216017
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:20:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216017.D Vial: 17
Acq On : 2-16-17 15:47:25 Operator: DP
Sample : AZ49854W14 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 16:09 2017 Quant Results File: DOC0207.RES

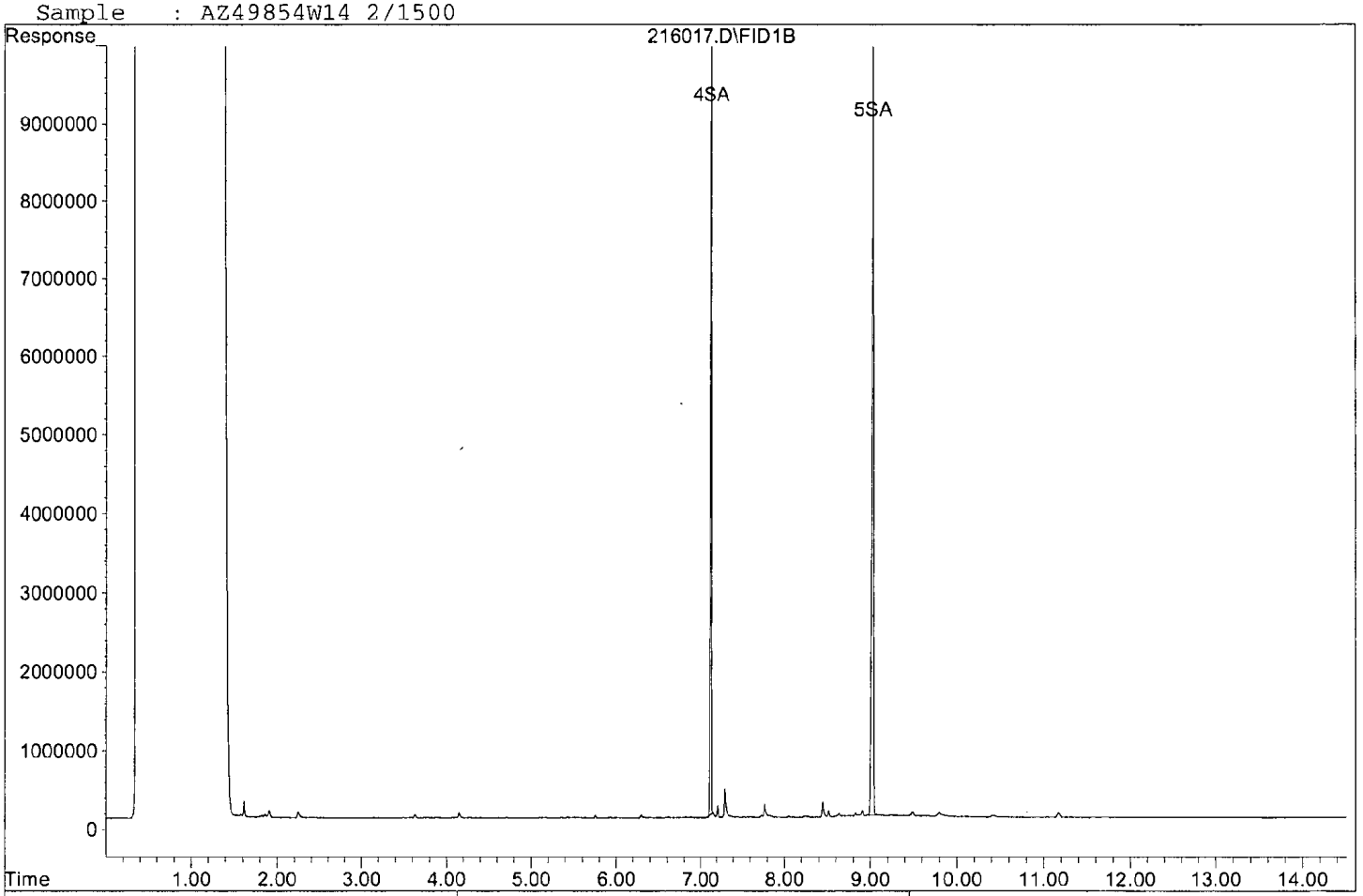
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

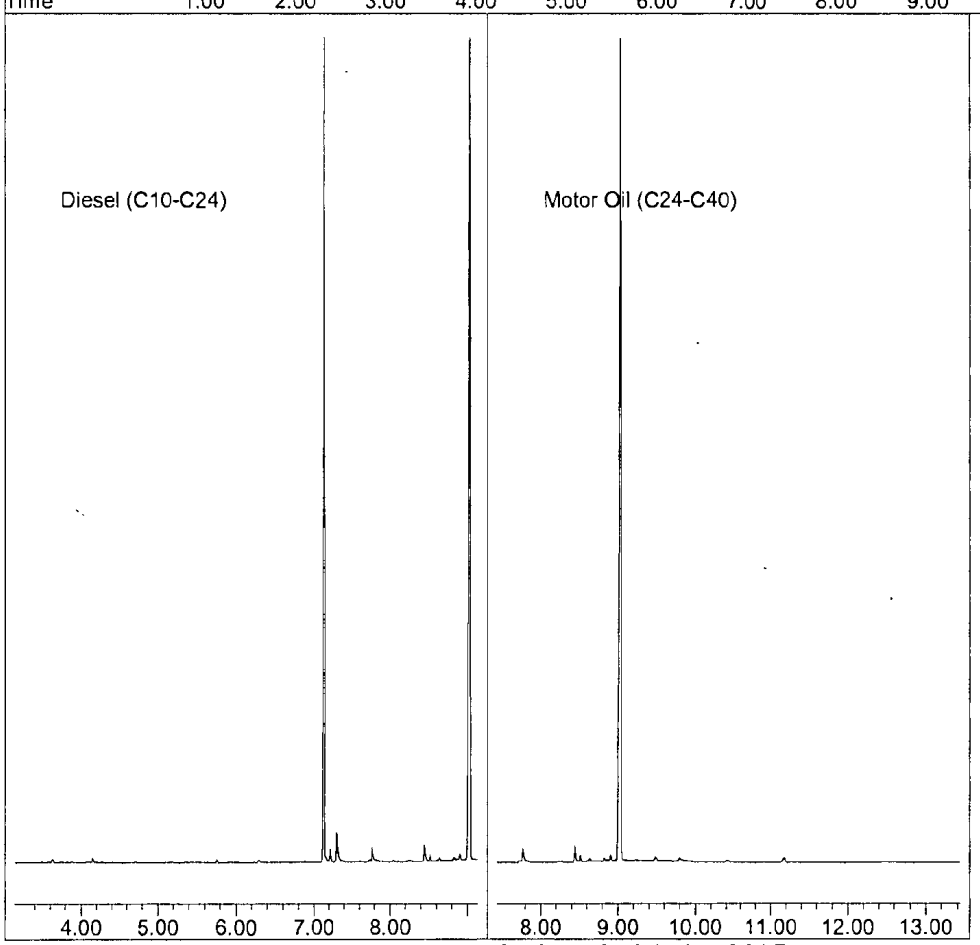
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	98707943	30.793 ppb
Surrogate Spike 40.000		Recovery =	76.98%
5) SA Octacosane(S)	9.03	144783555	30.740 ppb
Surrogate Spike 40.000		Recovery =	76.85%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216017.D
Sample : AZ49854W14 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #DOC53-170214A-216247

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	78.5	60-142			%	02/14/17	02/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	79.1	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216018
Instrument: Apollo
Sequence: 170216
Dilution Factor: 1
Initials: DPO

Printed: 02/17/17 9:20:19 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216018.D Vial: 18
Acq On : 2-16-17 16:07:58 Operator: DP
Sample : AZ49855W13 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 16:23 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

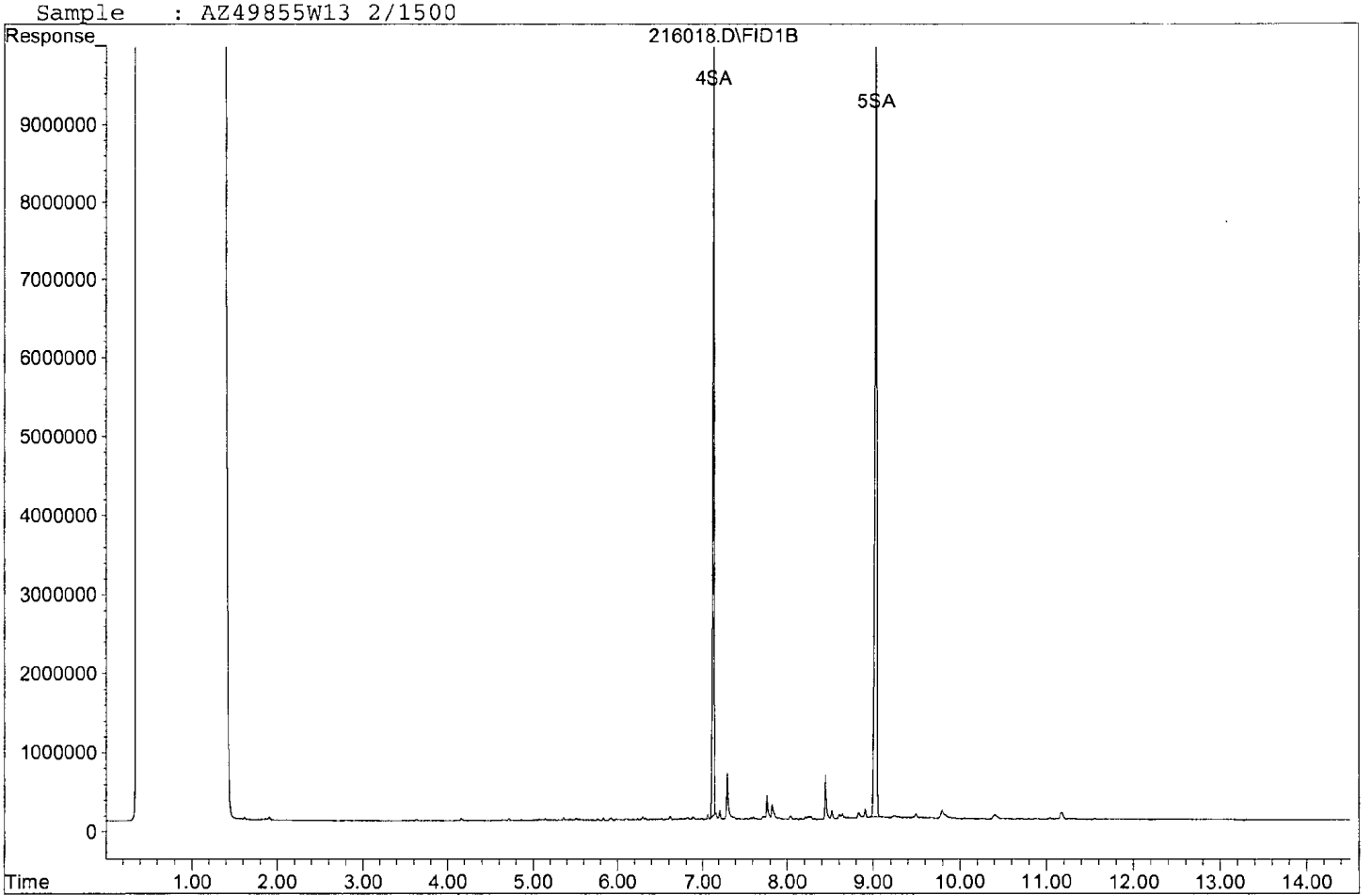
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

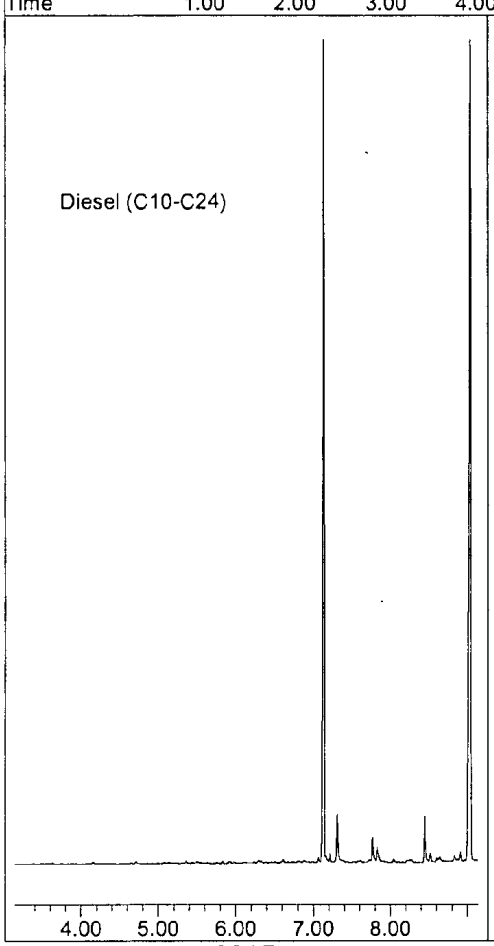
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	101475991	31.657 ppb
Surrogate Spike 40.000		Recovery =	79.14%
5) SA Octacosane(S)	9.03	147945826	31.412 ppb
Surrogate Spike 40.000		Recovery =	78.53%
Target Compounds			

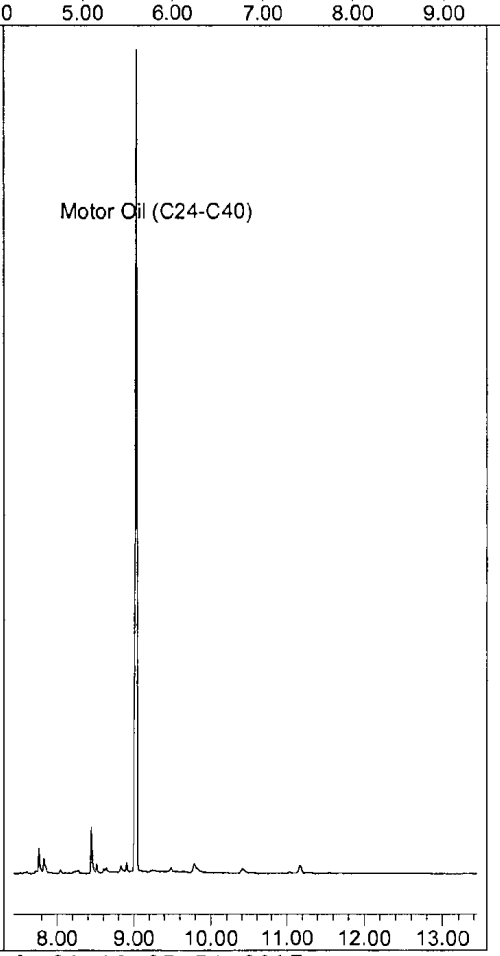
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170216\216018.D
Sample : AZ49855W13 2/1500







ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0207

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 02/07/17
Instrument: Apollo
Initials:

Diesel: 207013.D 207014.D 207015.D 207016.D 207017.D 207018.D
Motor Oil: 207020.D 207021.D 207022.D 207023.D 207024.D 207025.D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2112818	2160204	2135806	2184447	2121052	2107568					2136982	1.4	SA	
5	SA	Octacosane(S)	3130783	3214870	3136696	3178445	3091400	3087353					3139925	1.6	SA	
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0.9606591

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

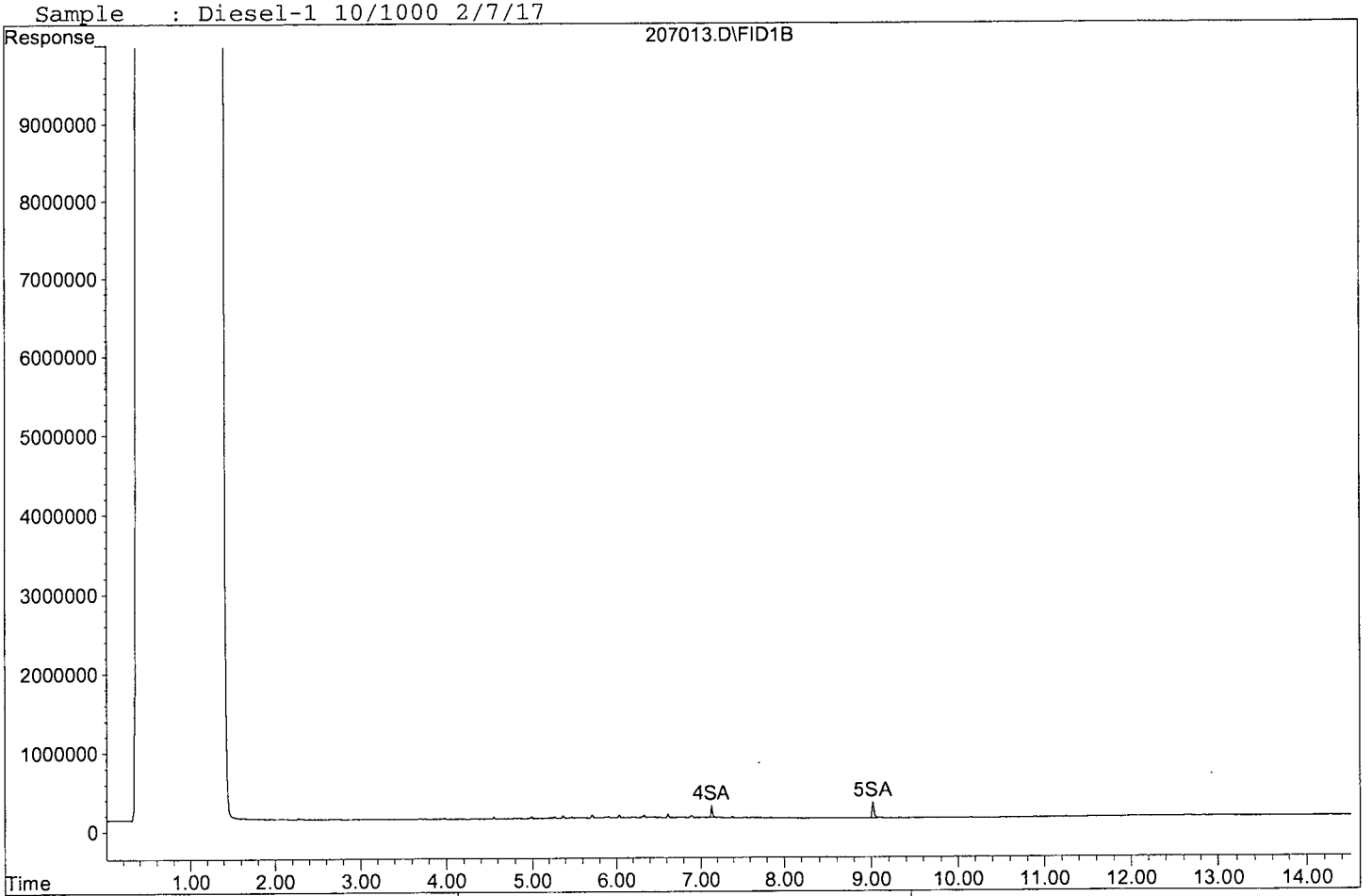
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

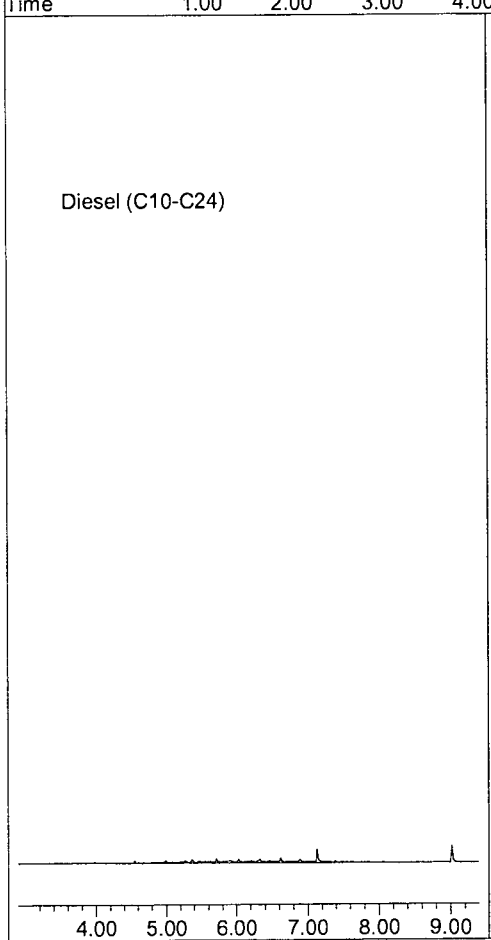
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

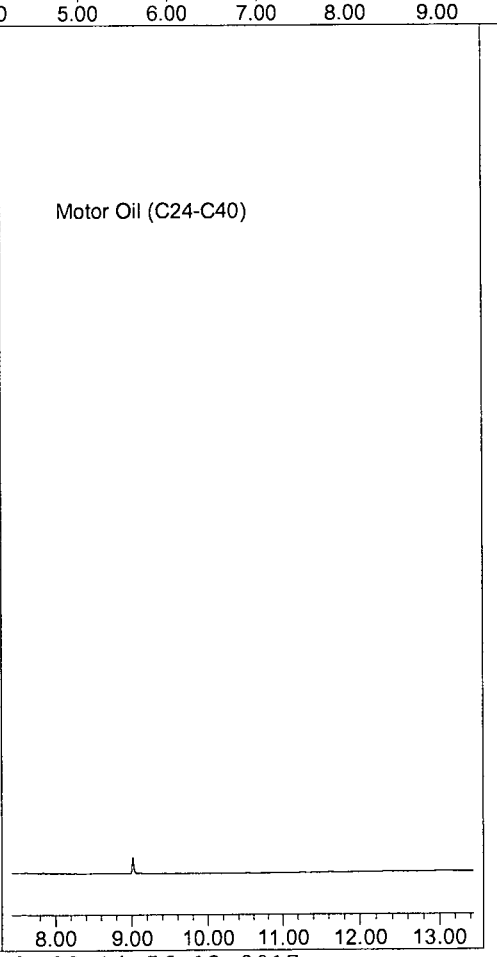
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D
Acq On : 2-7-17 14:14:13
Sample : Diesel-2 10/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 14
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

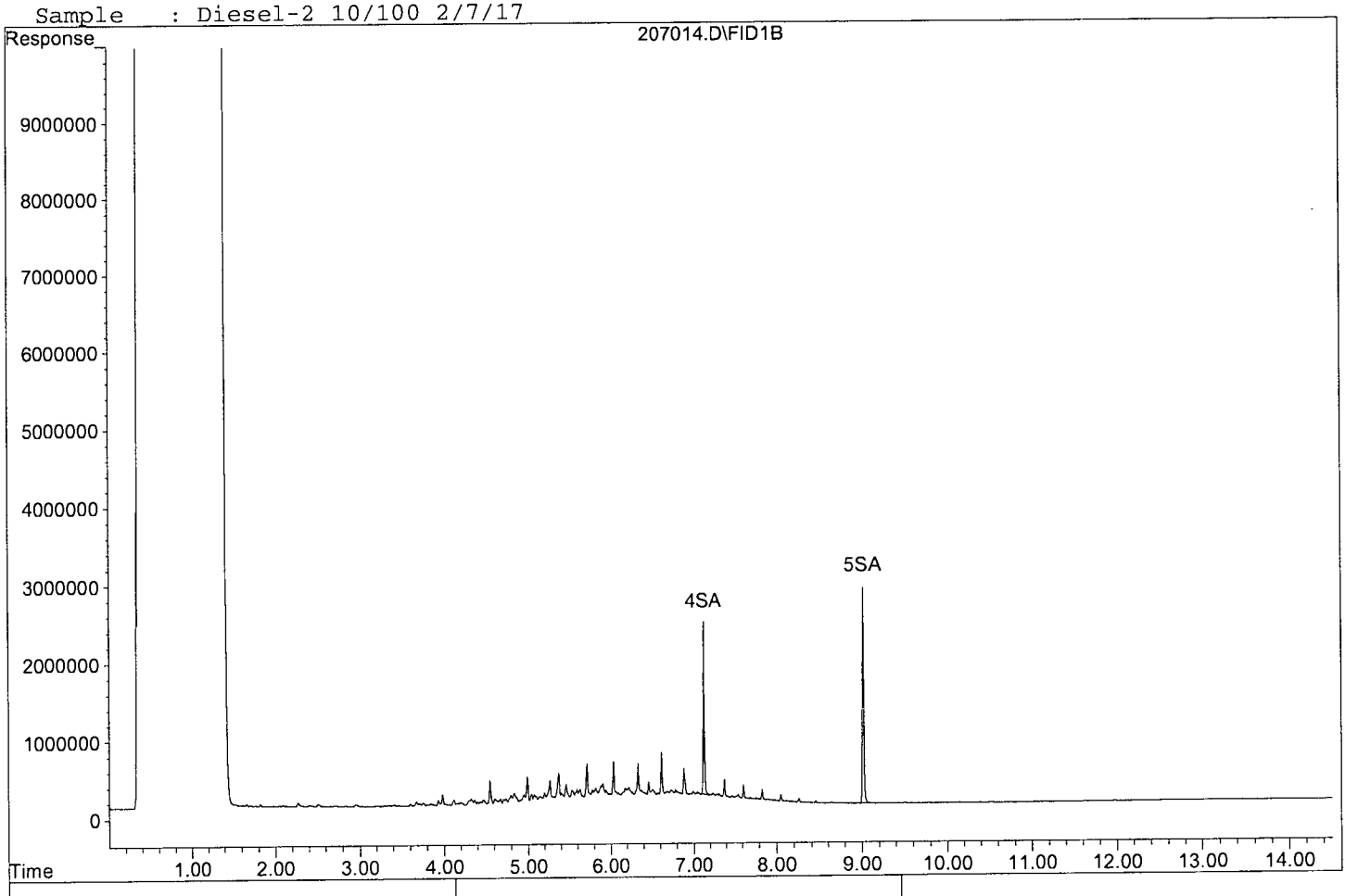
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

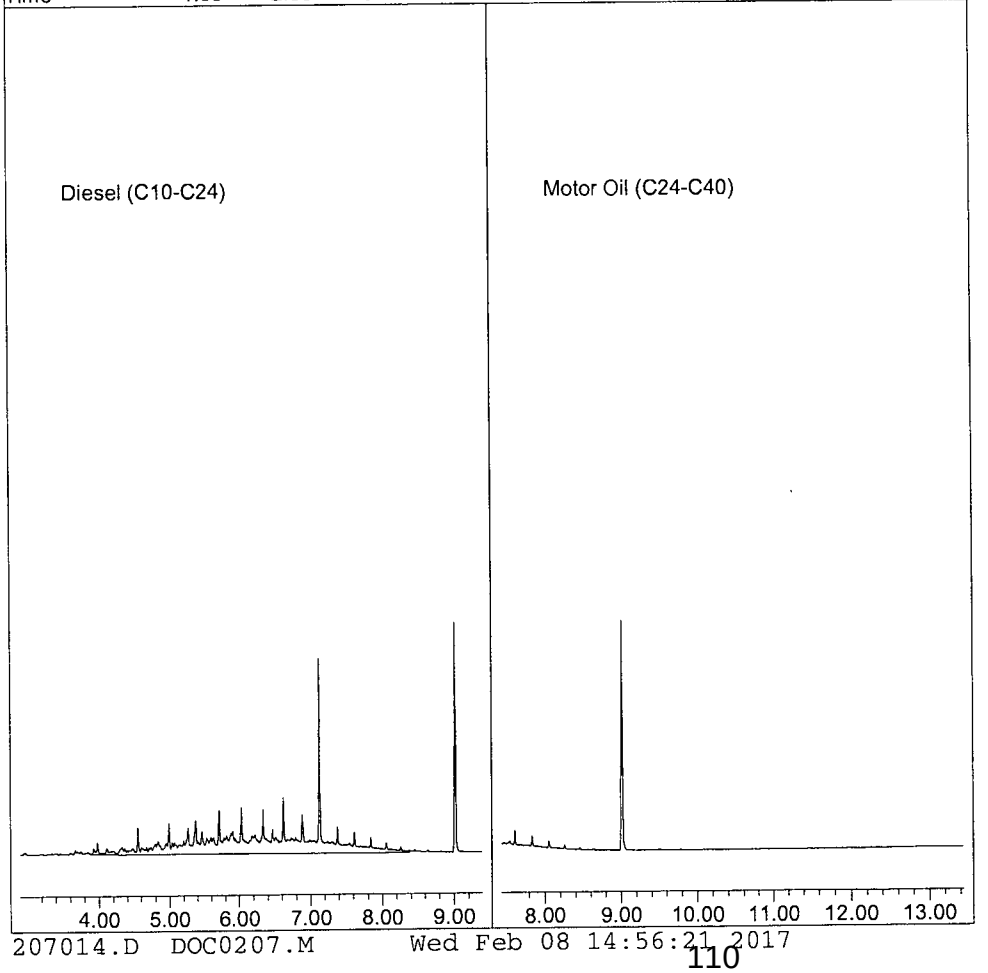
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D
Acq On : 2-7-17 14:34:48
Sample : Diesel-3 40/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 15
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

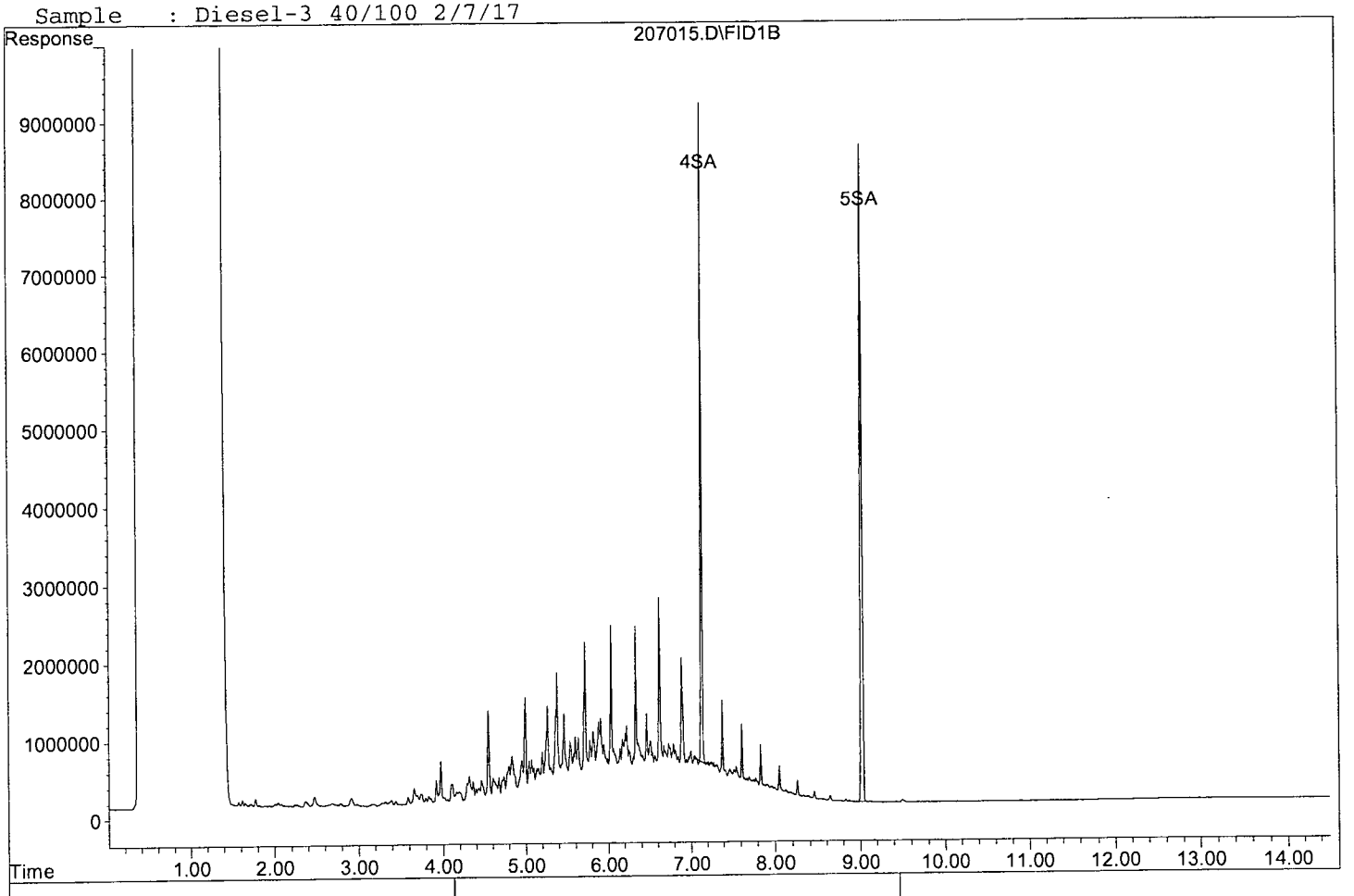
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

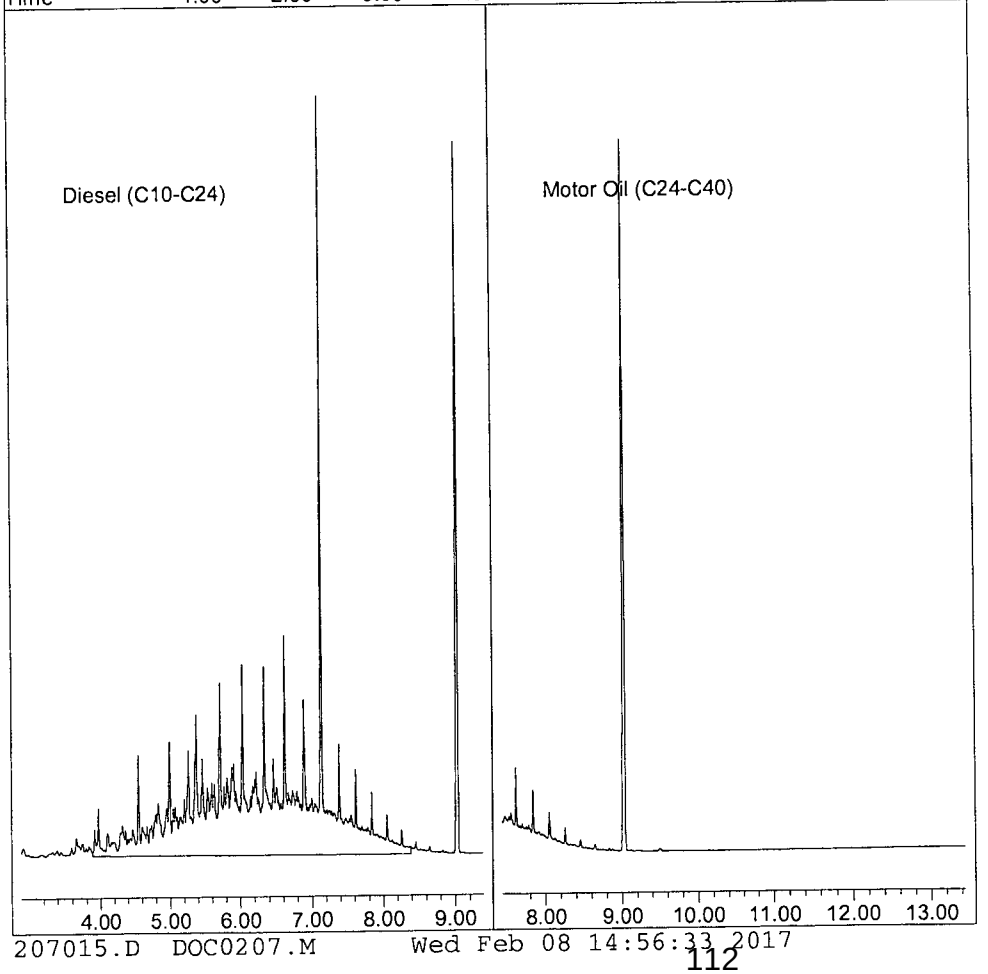
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D
Acq On : 2-7-17 14:55:35
Sample : Diesel-4 60/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

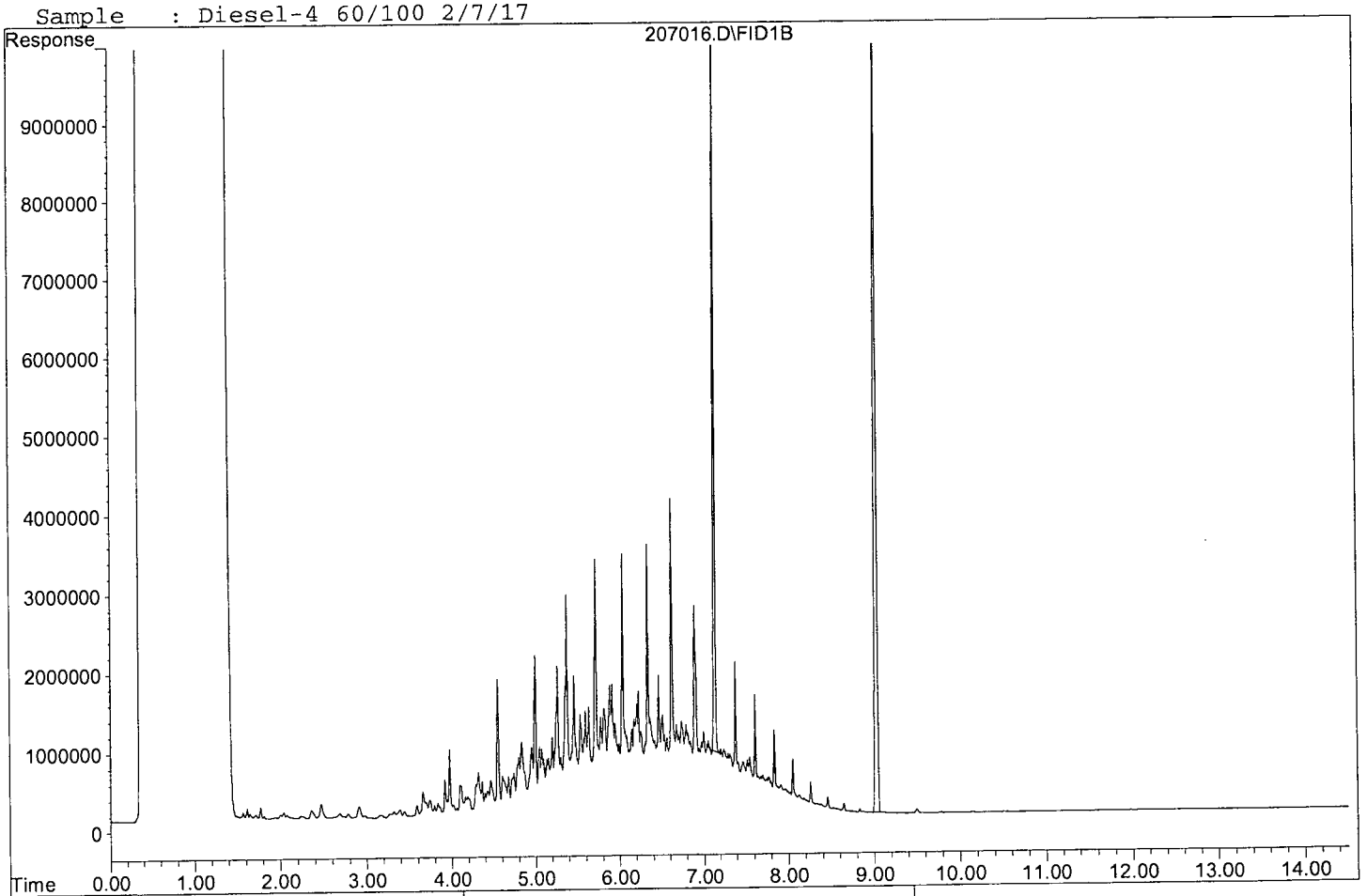
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

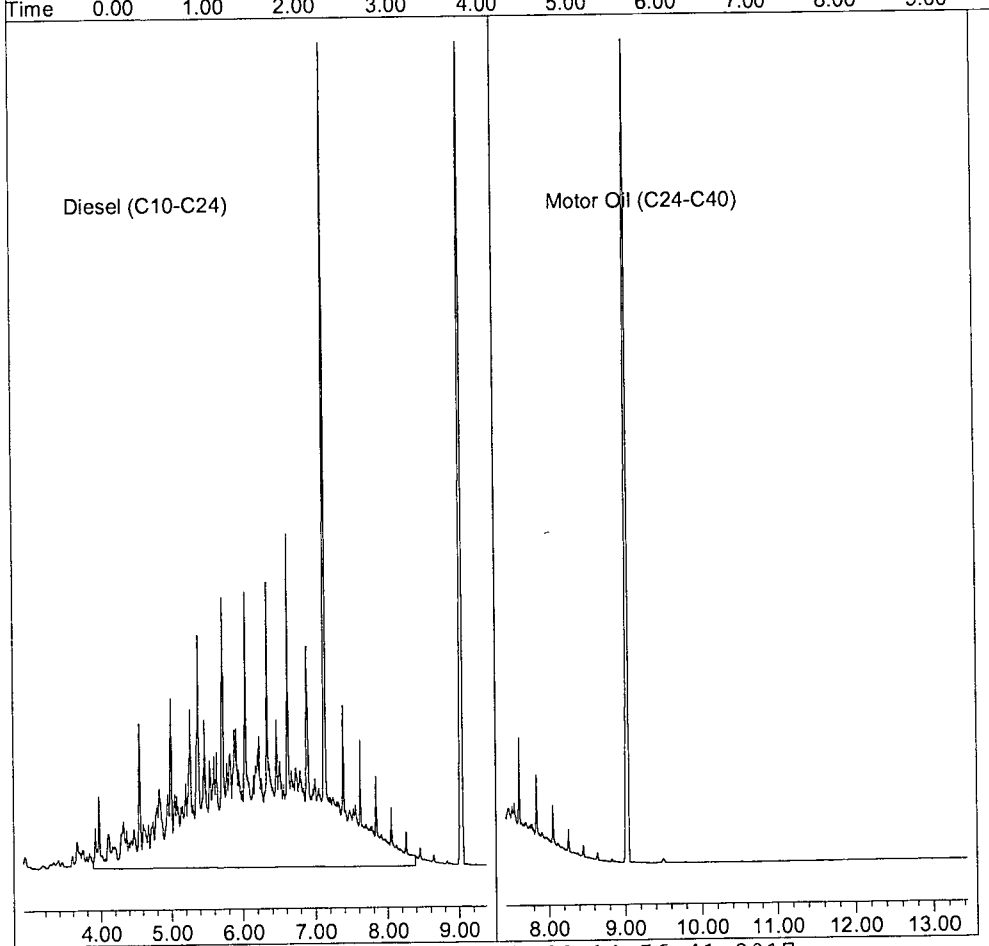
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	30.666 ppb
Surrogate Spike 30.000		Recovery =	102.22%
5) SA Octacosane(S)	9.04	190706691	30.368 ppb
Surrogate Spike 30.000		Recovery =	101.23%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D
Acq On : 2-7-17 15:16:16
Sample : Diesel-5 80/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

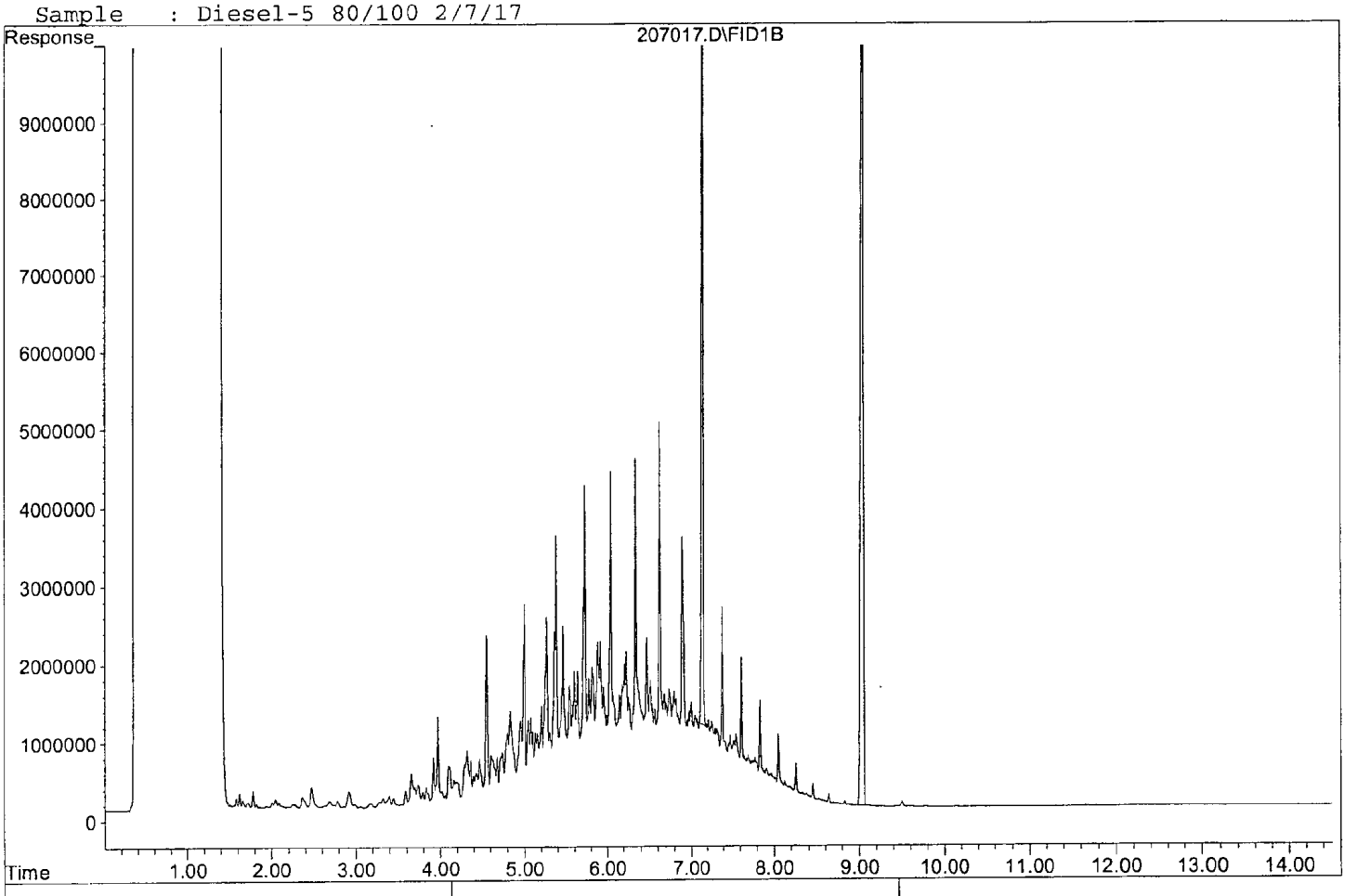
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

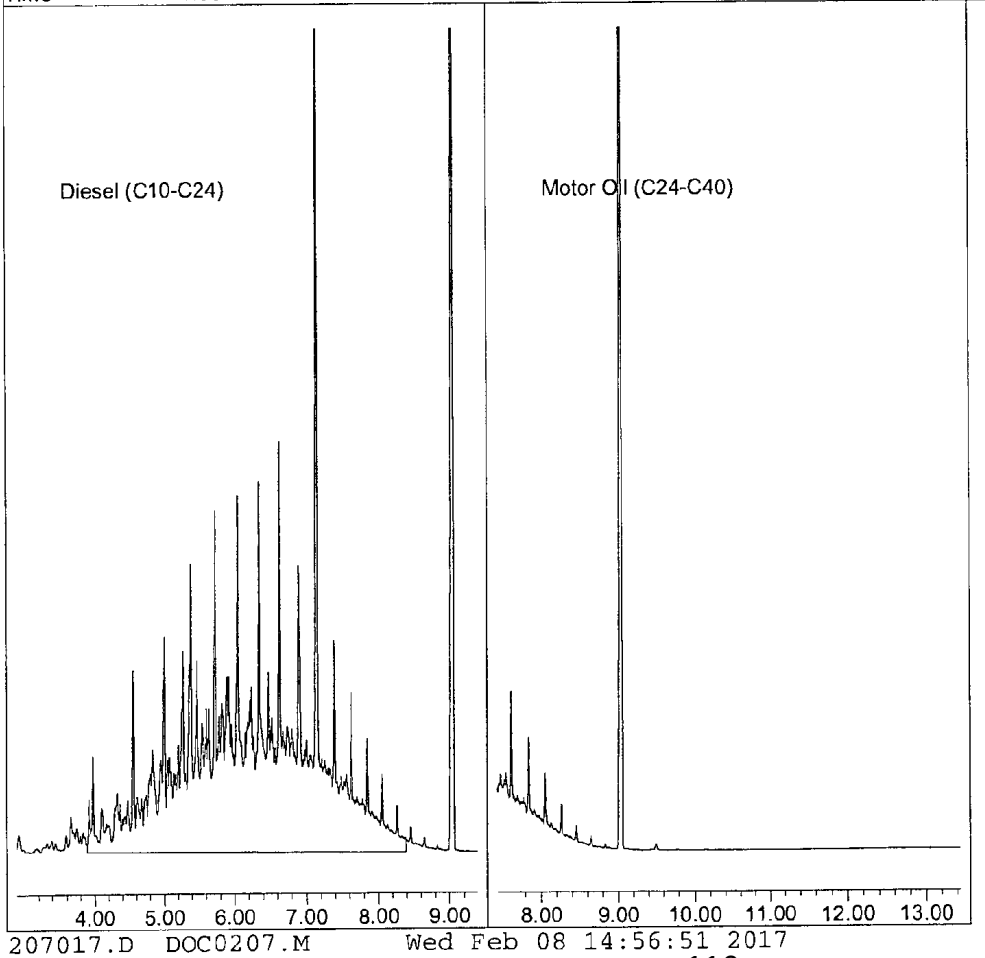
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D Vial: 18
Acq On : 2-7-17 15:36:59 Operator: DP
Sample : Diesel-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:56 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

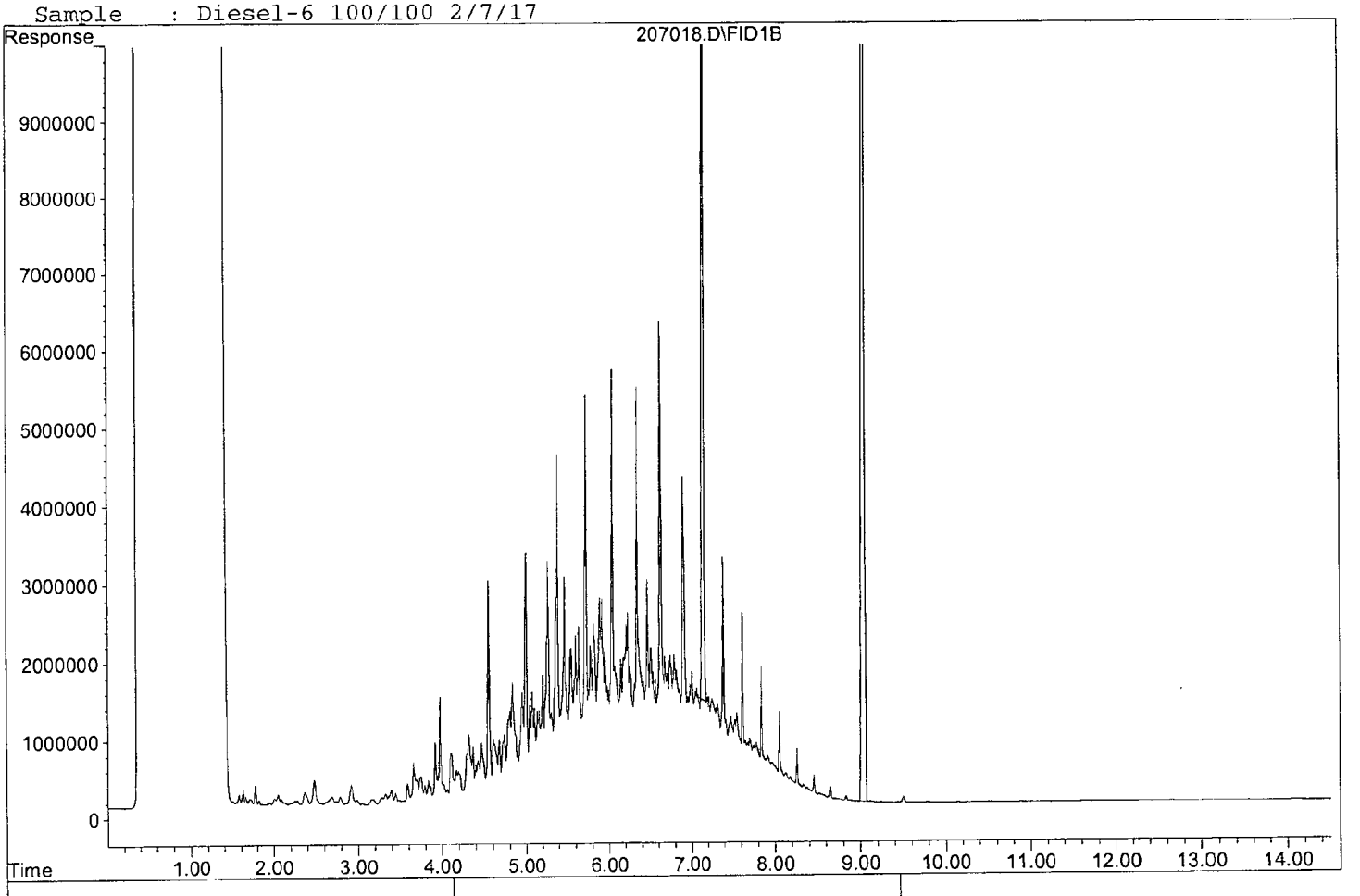
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

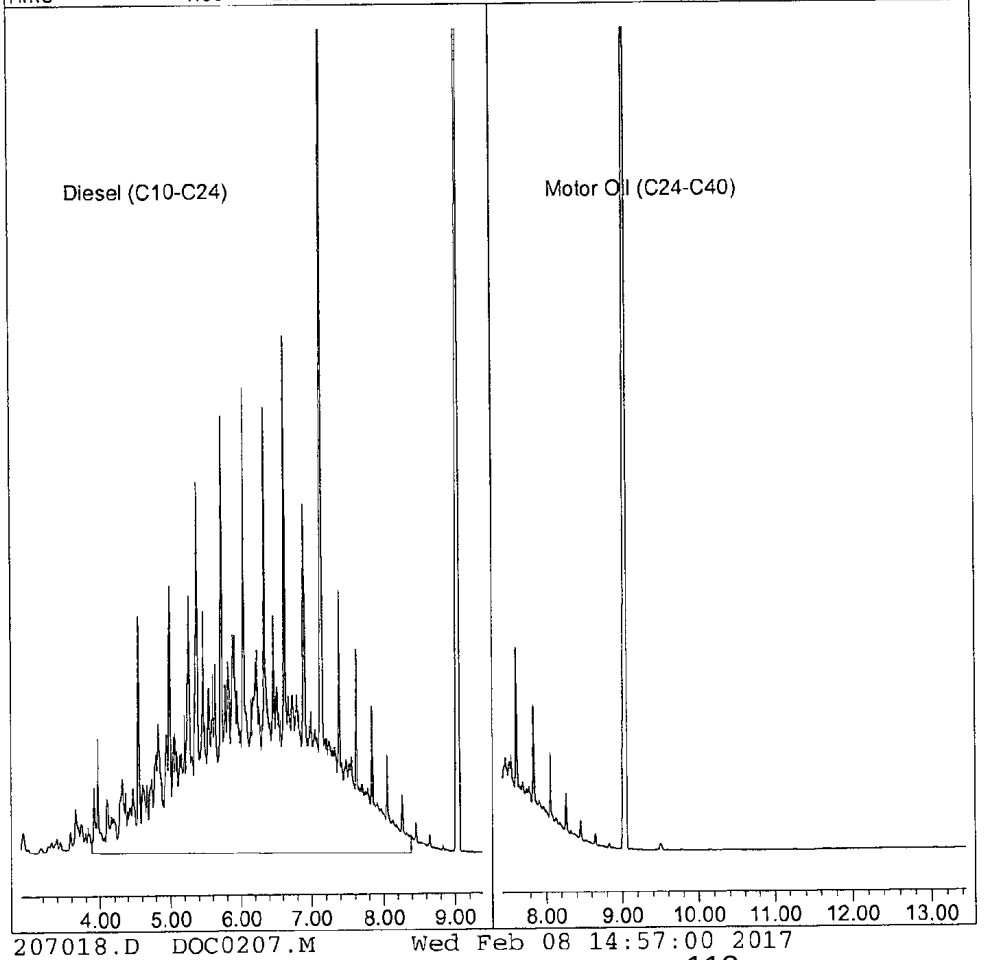
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

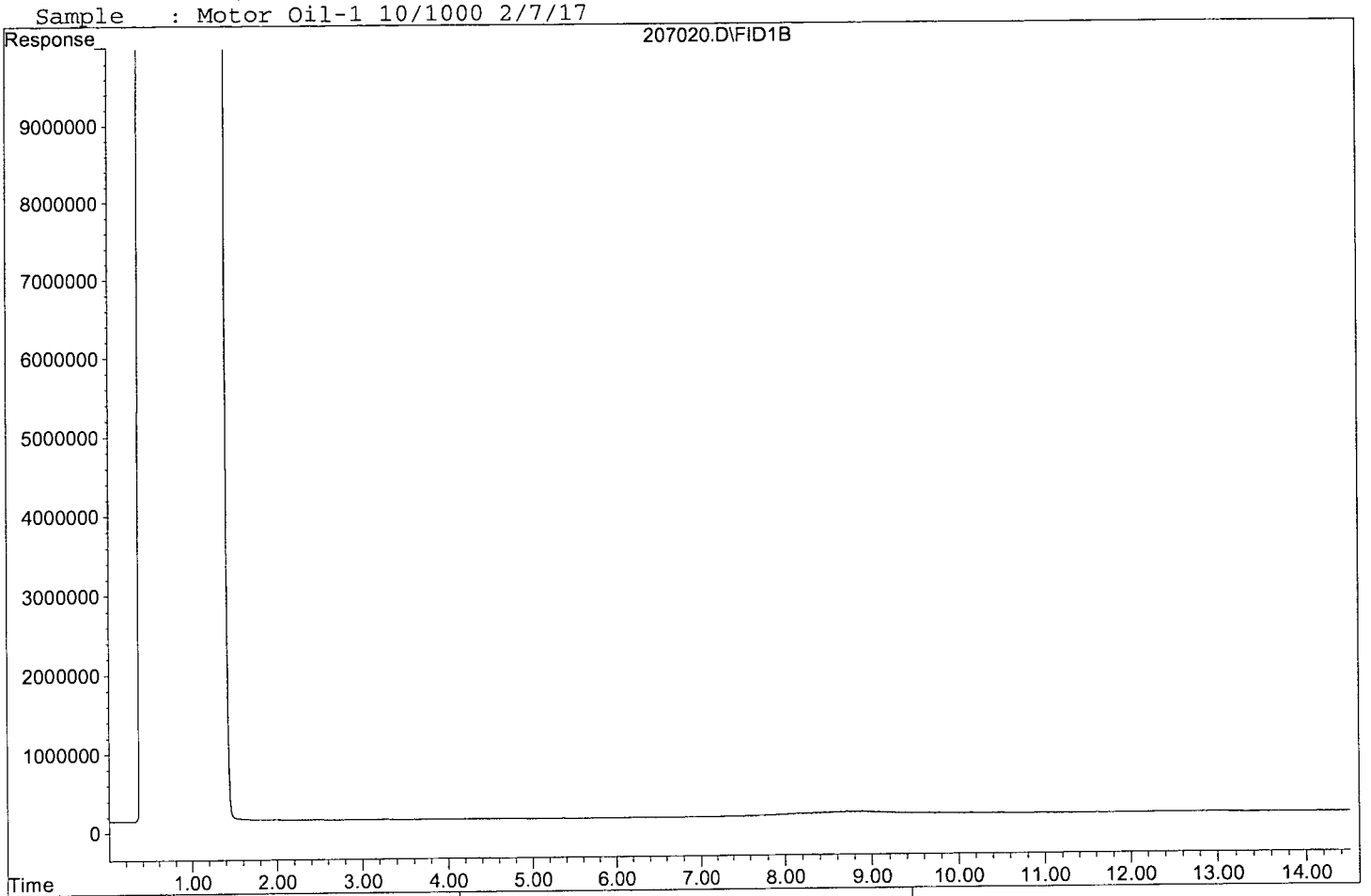
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

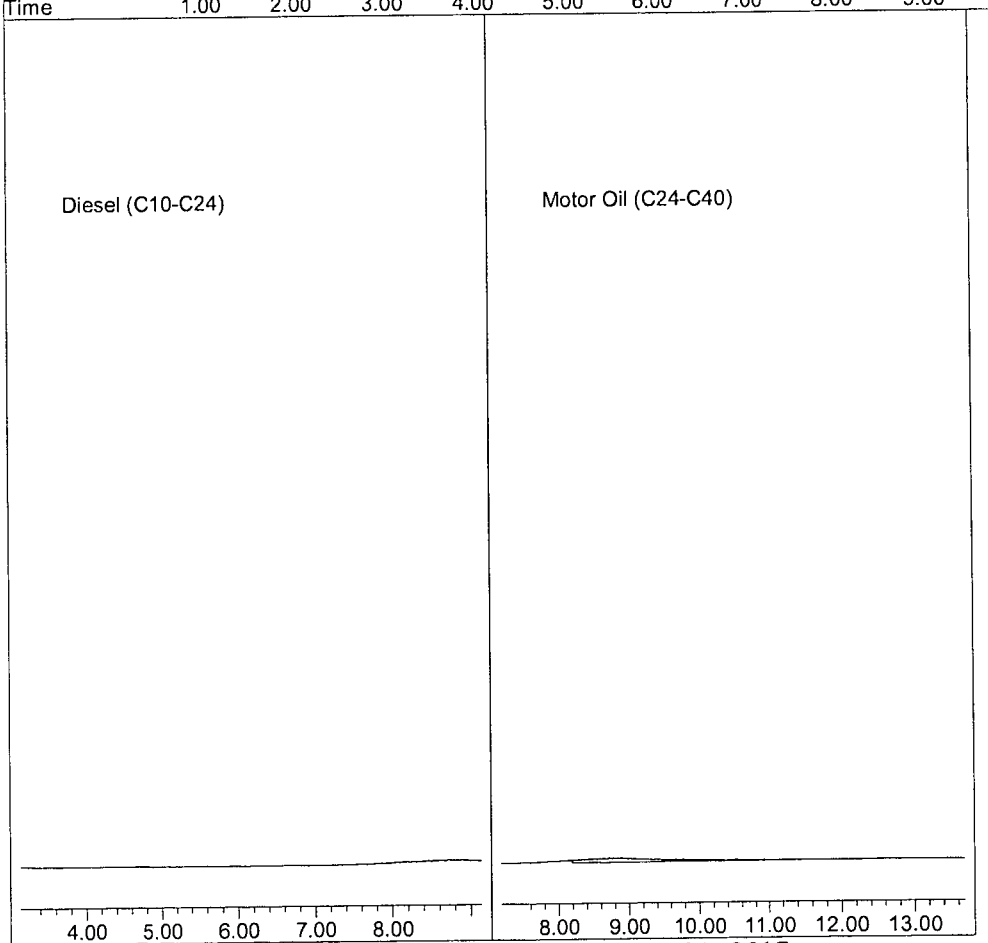
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D
Acq On : 2-7-17 16:39:03
Sample : Motor Oil-2 25/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 21
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

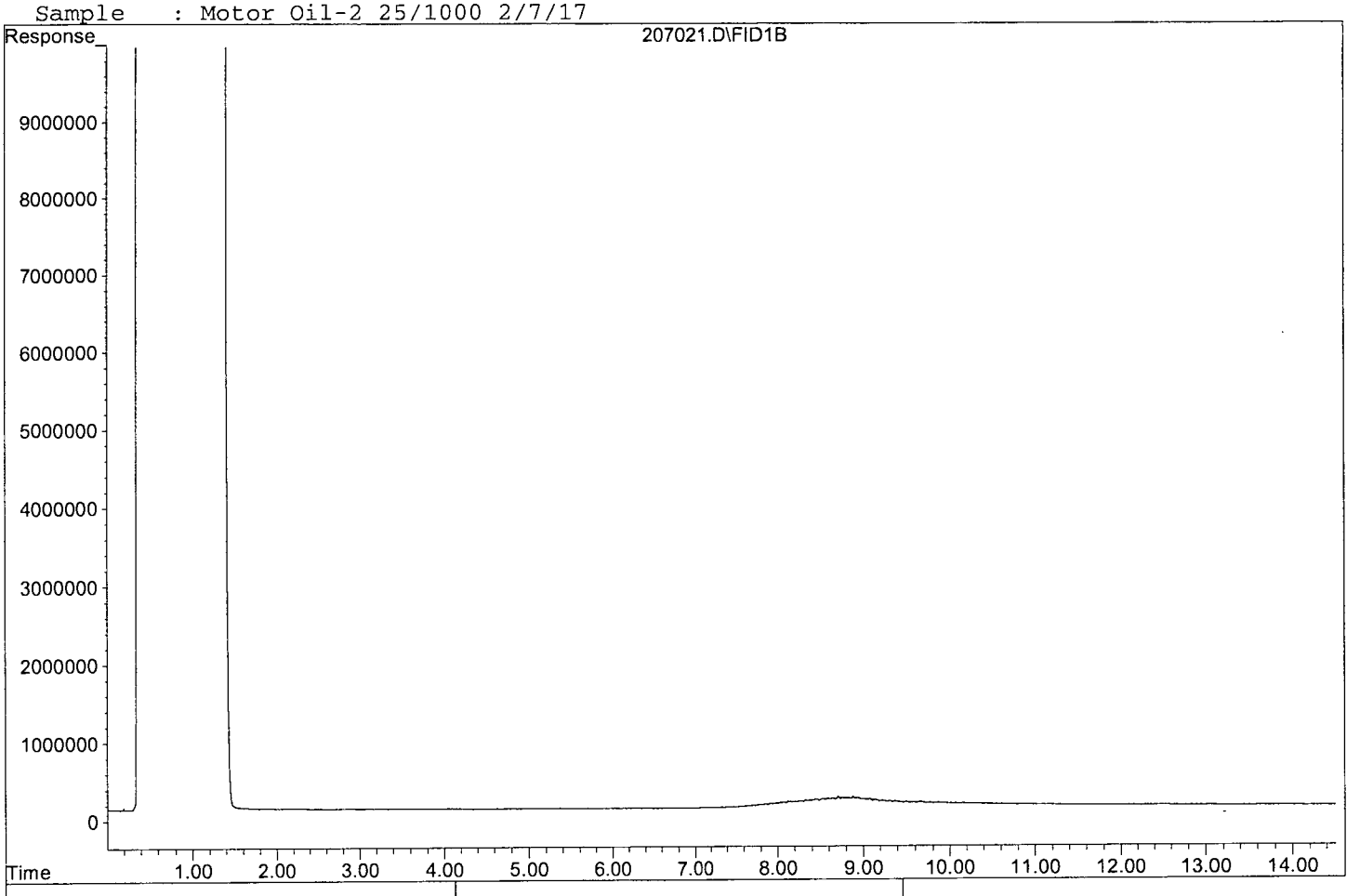
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

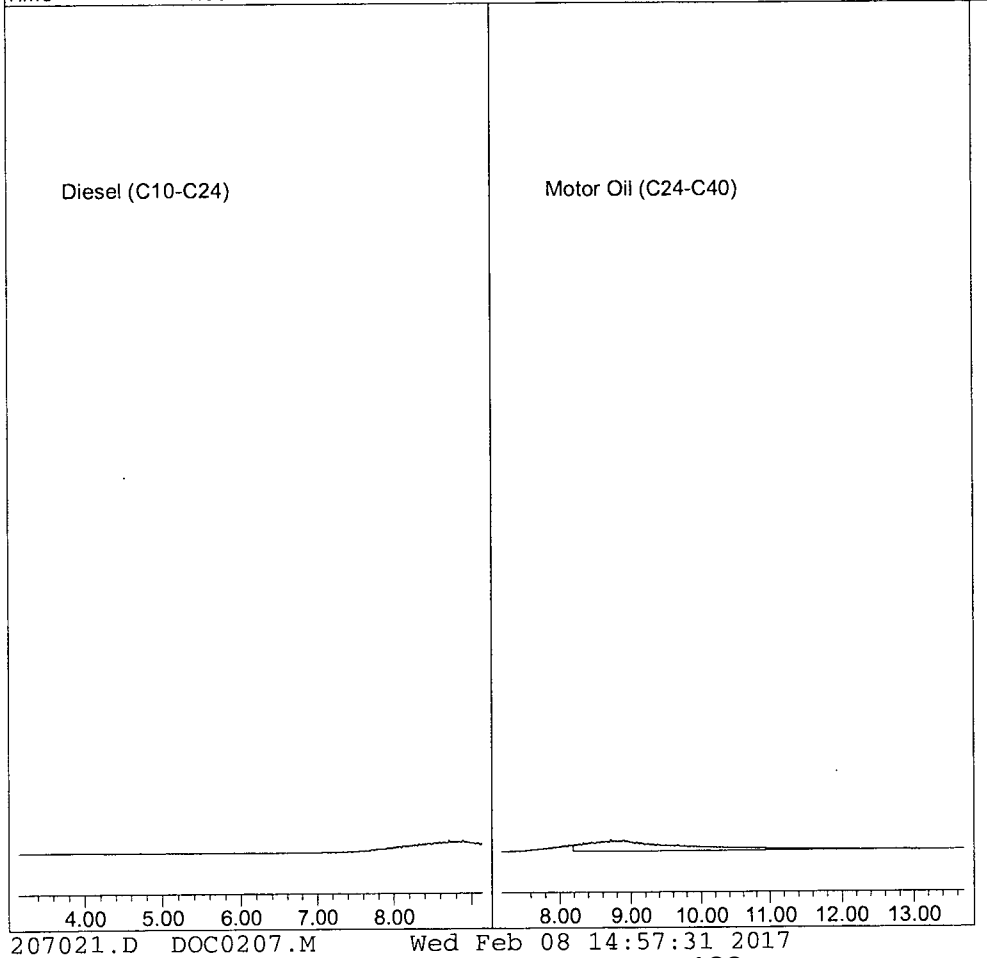
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D
Acq On : 2-7-17 16:59:39
Sample : Motor Oil-3 125/1000 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

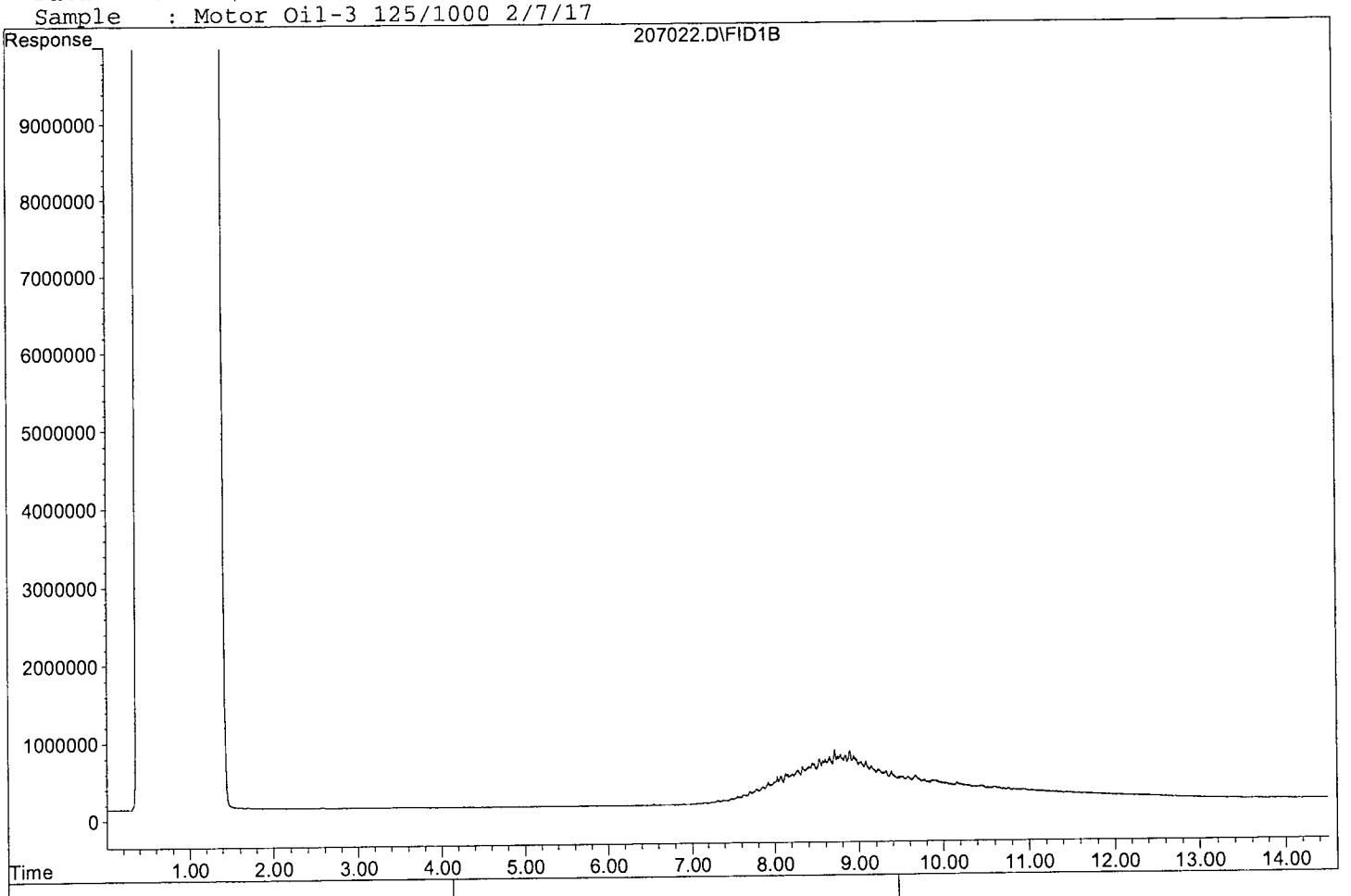
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

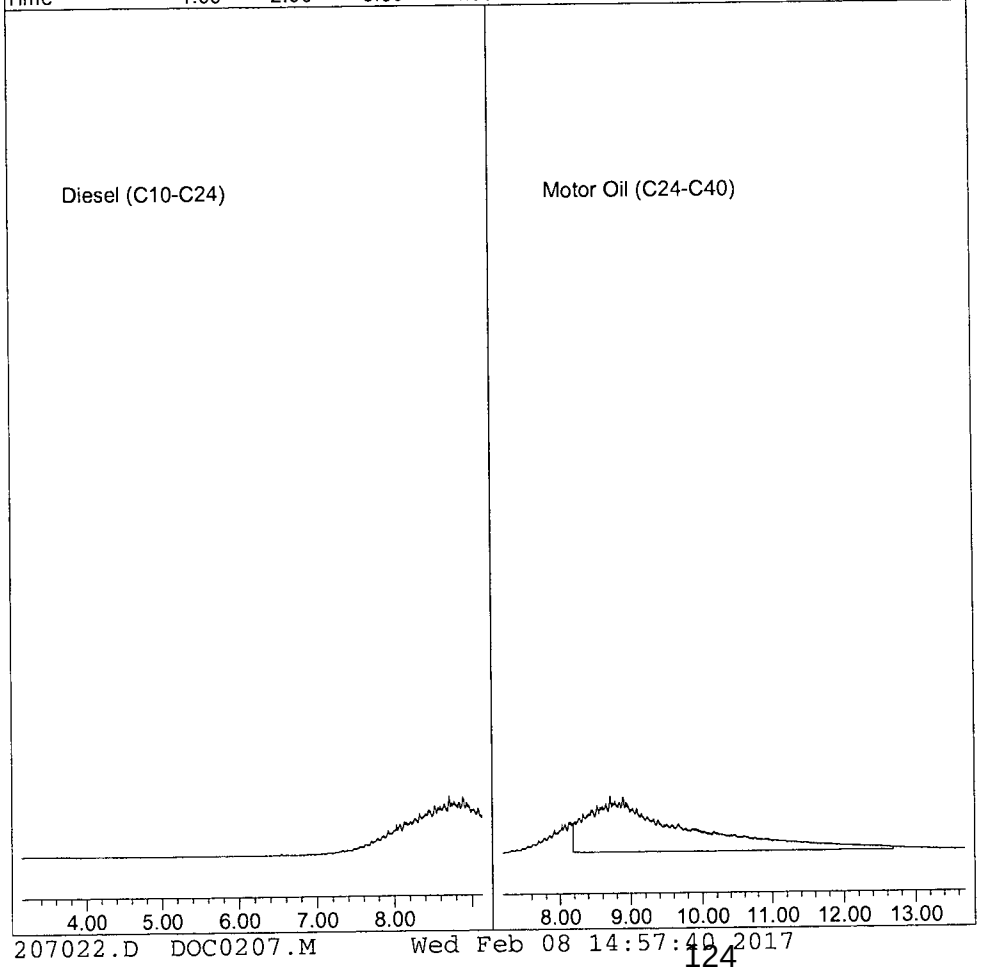
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D
Acq On : 2-7-17 17:20:17
Sample : Motor Oil-4 50/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 23
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

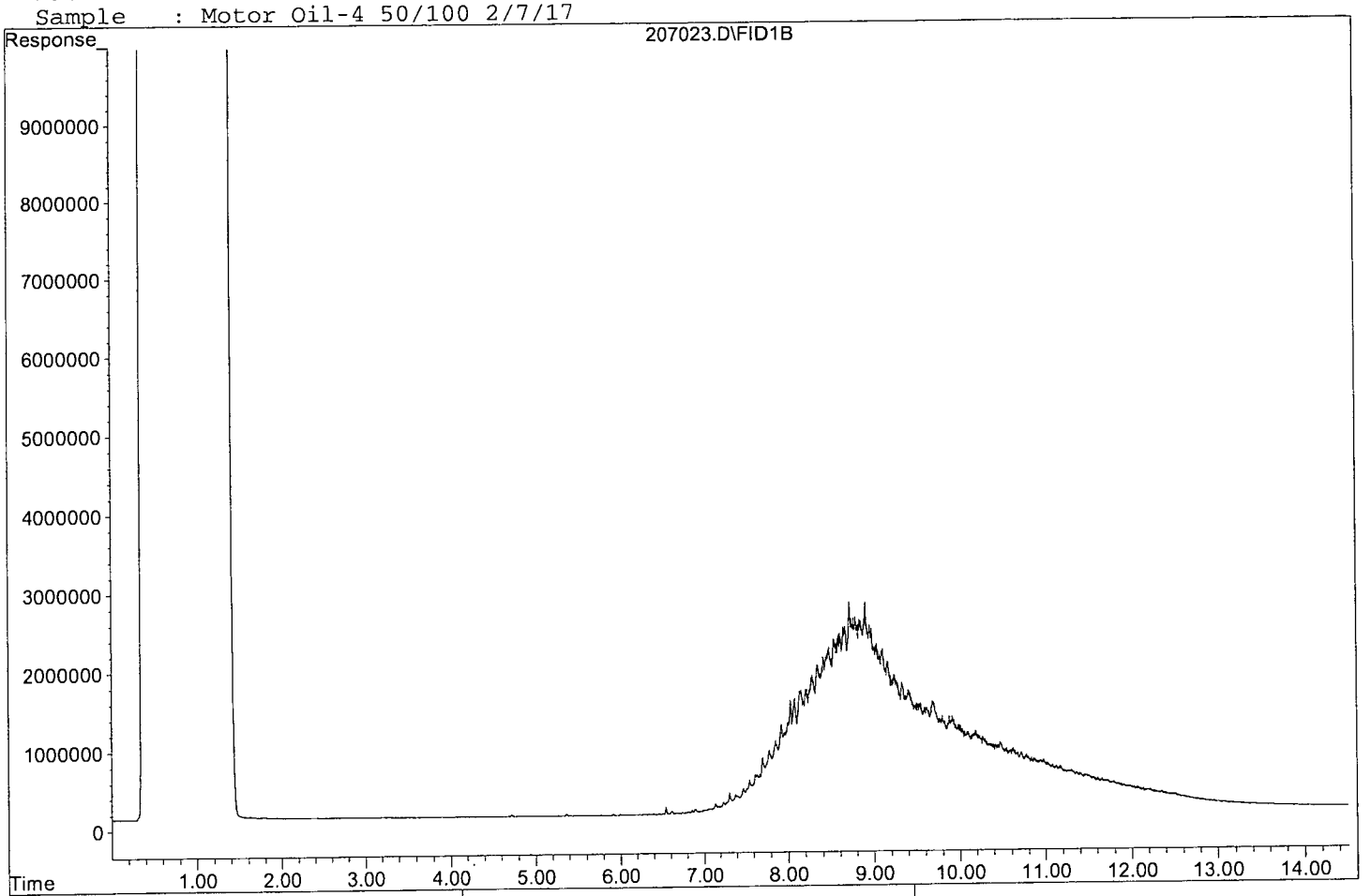
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

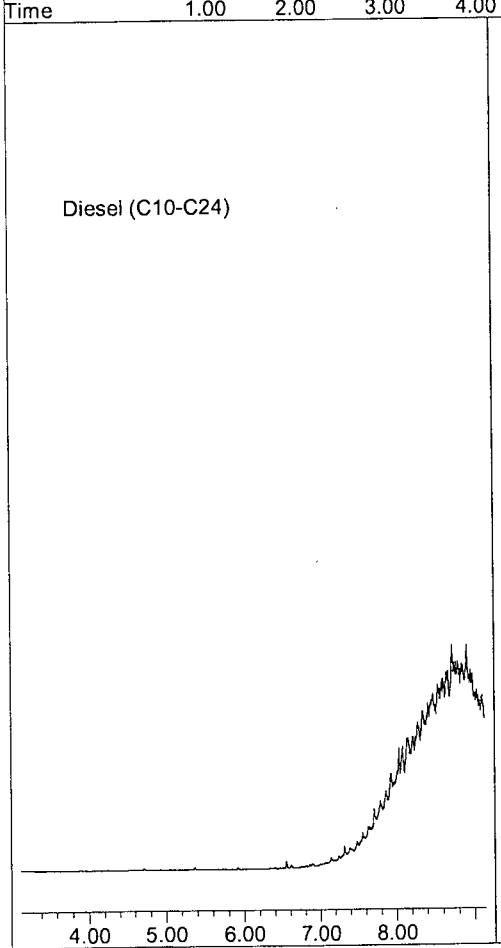
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382	ppb

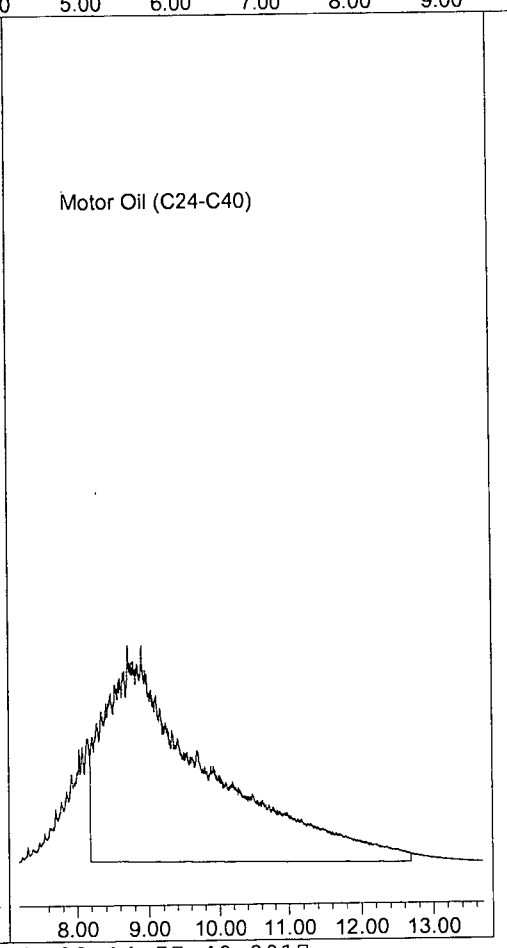
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17







207023.D DOC0207.M Wed Feb 08 14:57:49 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D
Acq On : 2-7-17 17:40:44
Sample : Motor Oil-5 75/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:57 2017 Quant Results File: DOC0207.RES

Vial: 24
Operator: DP
Inst : Apollo
Multiplr: 1.00

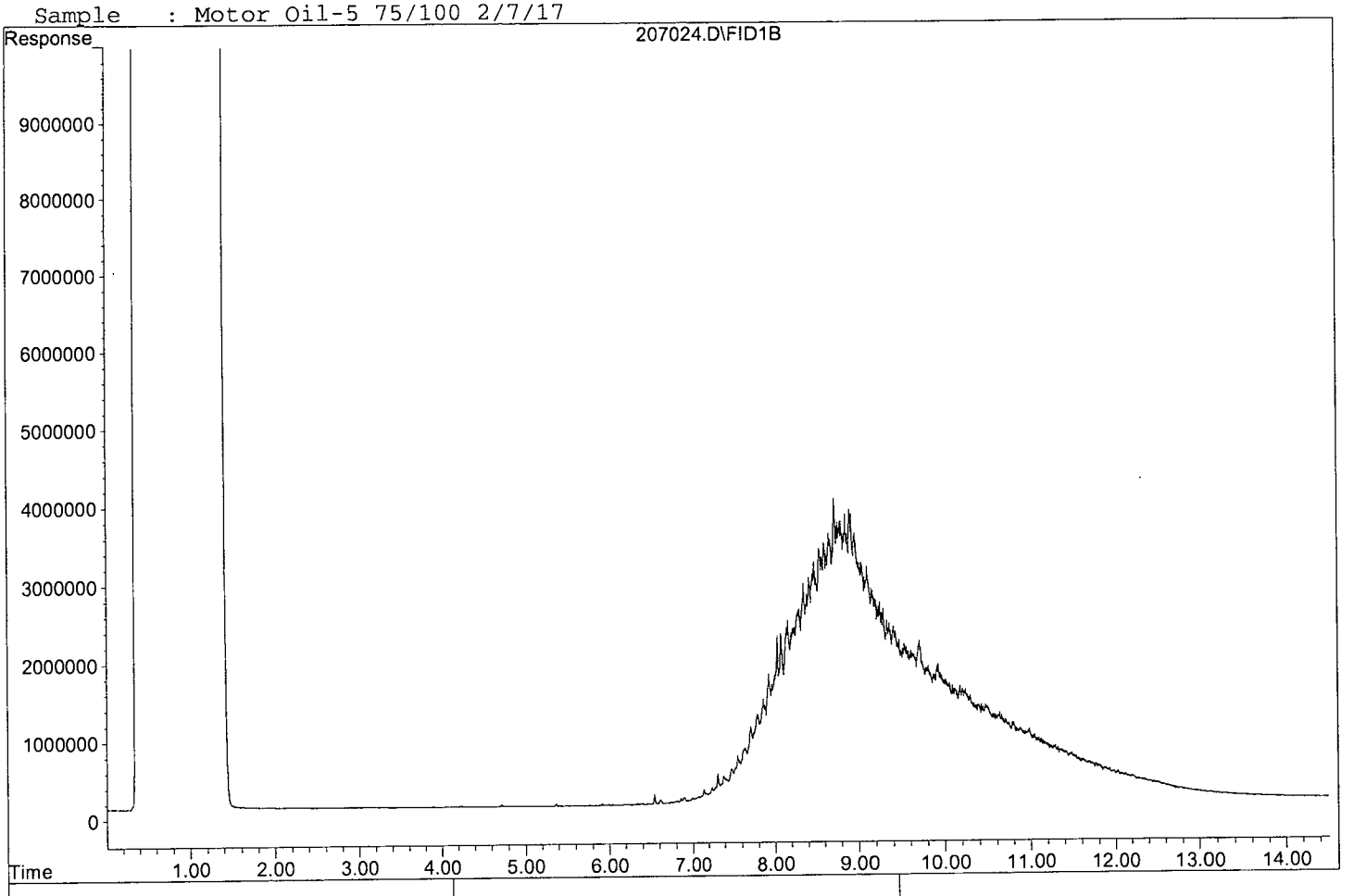
Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

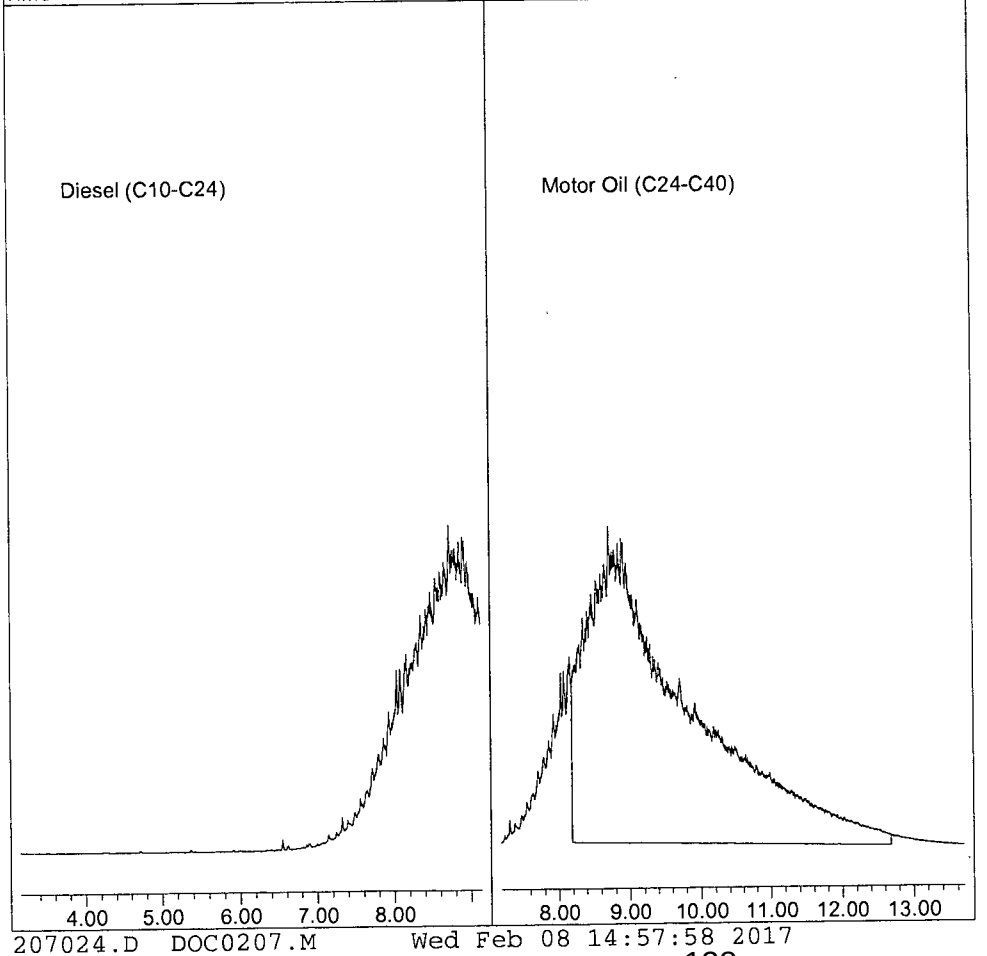
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D
Acq On : 2-7-17 18:01:11
Sample : Motor Oil-6 100/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

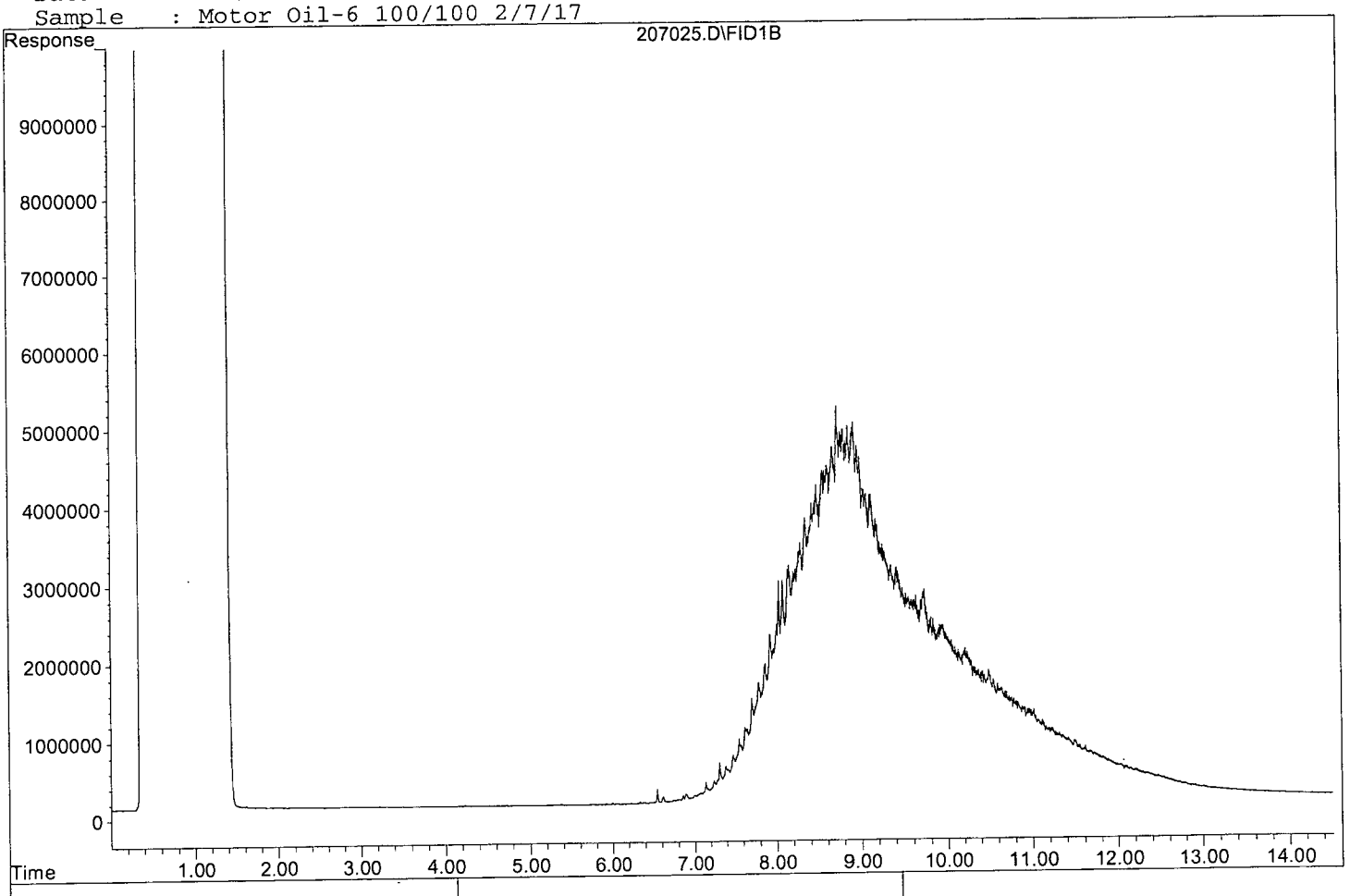
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

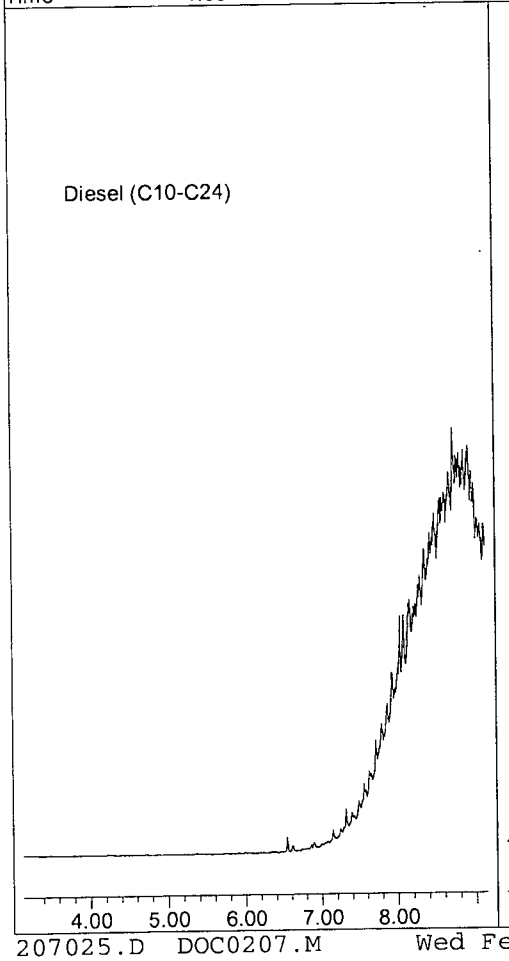
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961 ppb

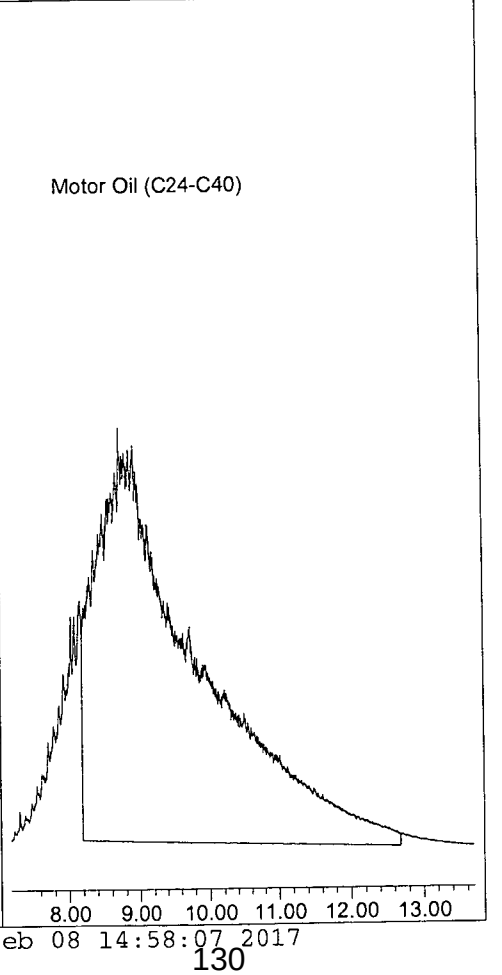
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







TPH Extractables
DOC0207

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 207019.D (Diesel) 207026.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
4							
5							
6							
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36							
37							
38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Feb 8 14:53 2017 Quant Results File: DOC0207.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

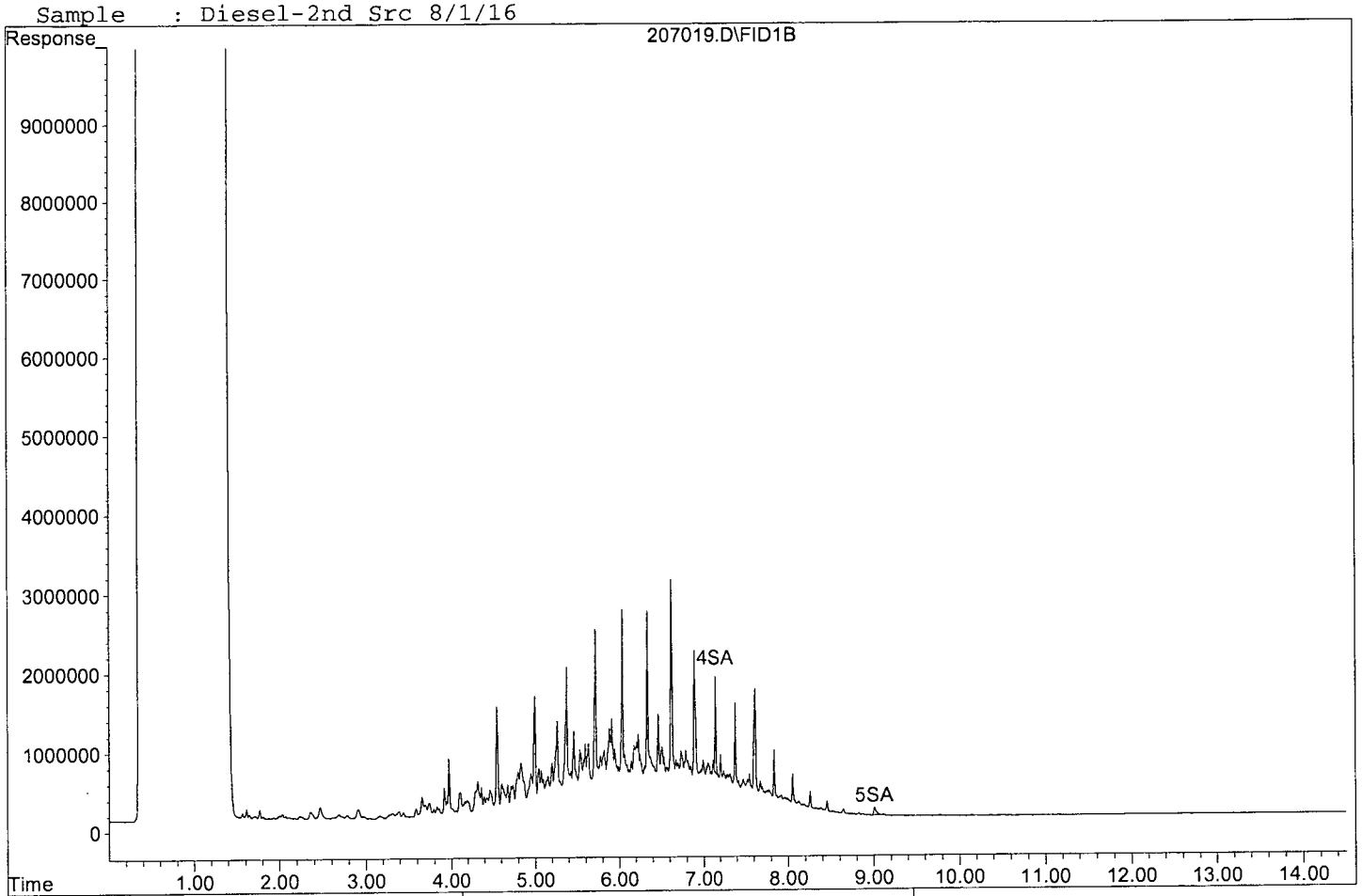
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.591 ppb
Surrogate Spike 30.000		Recovery =	8.64%
5) SA Octacosane(S)	9.01	2024928	0.322 ppb
Surrogate Spike 30.000		Recovery =	1.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

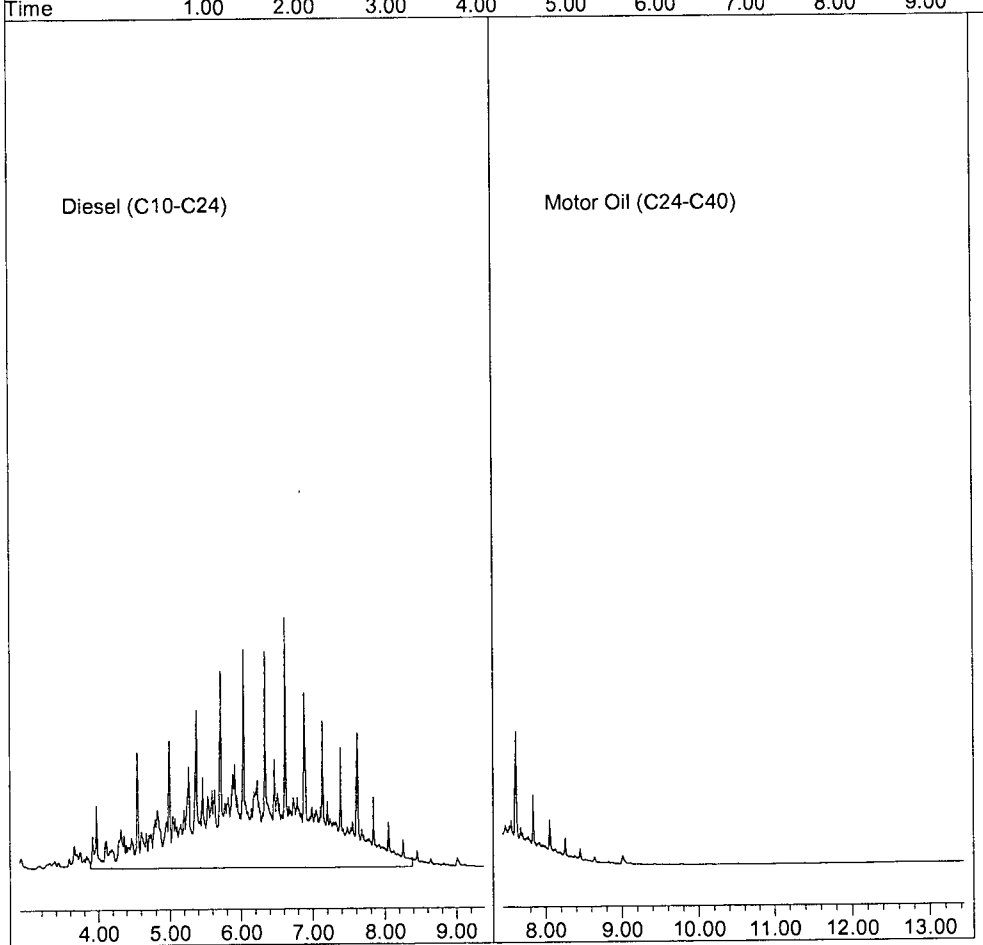
algorithm check: $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

D.P. 2/9/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D
Acq On : 2-7-17 18:21:35
Sample : Motor Oil-2nd Src 10/14/16
Misc : Mix(B)
IntFile : events.e
Quant Time: Feb 8 14:58 2017 Quant Results File: DOC0207.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170207\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Wed Feb 08 14:50:26 2017
Response via : Multiple Level Calibration

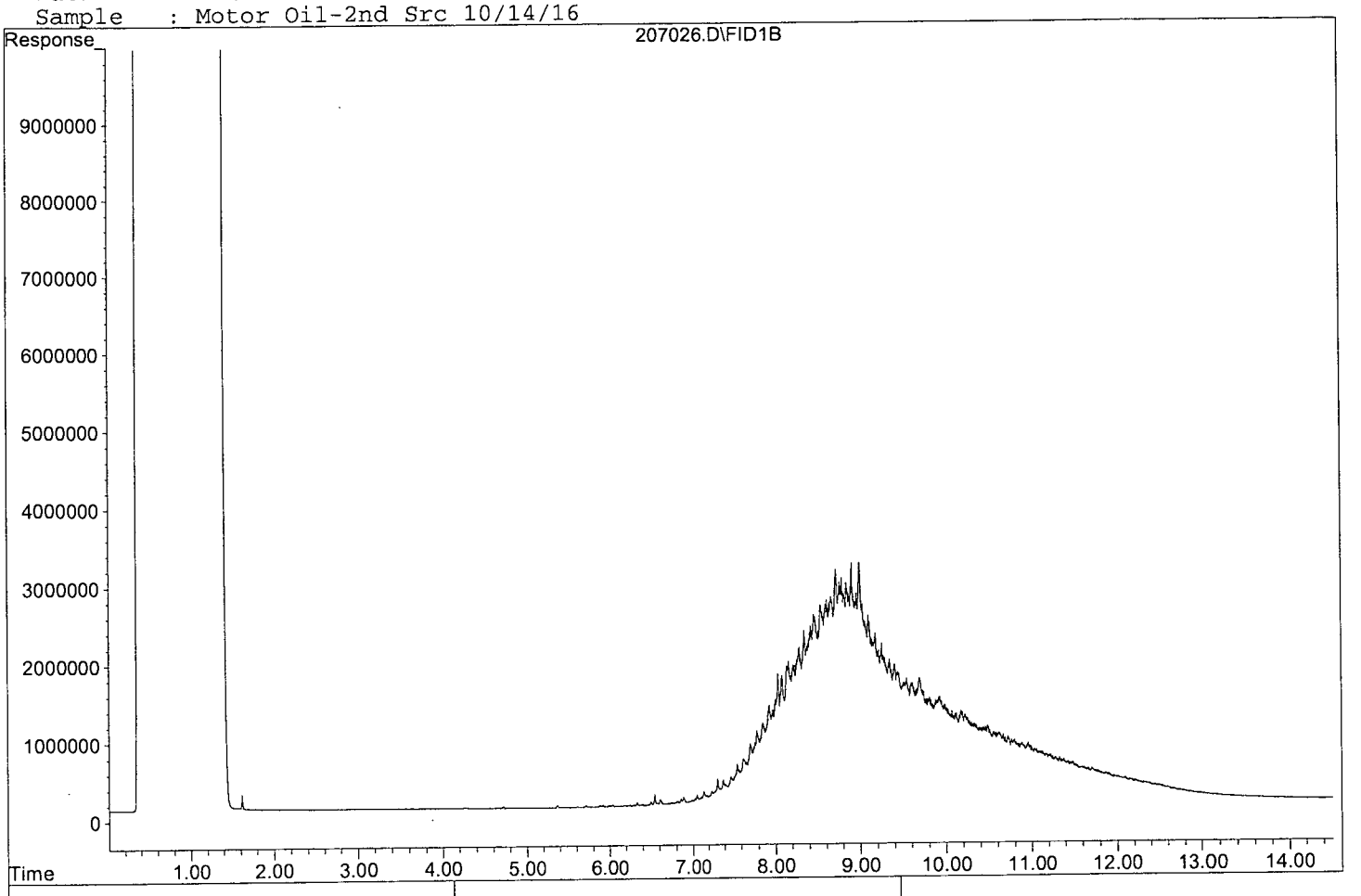
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

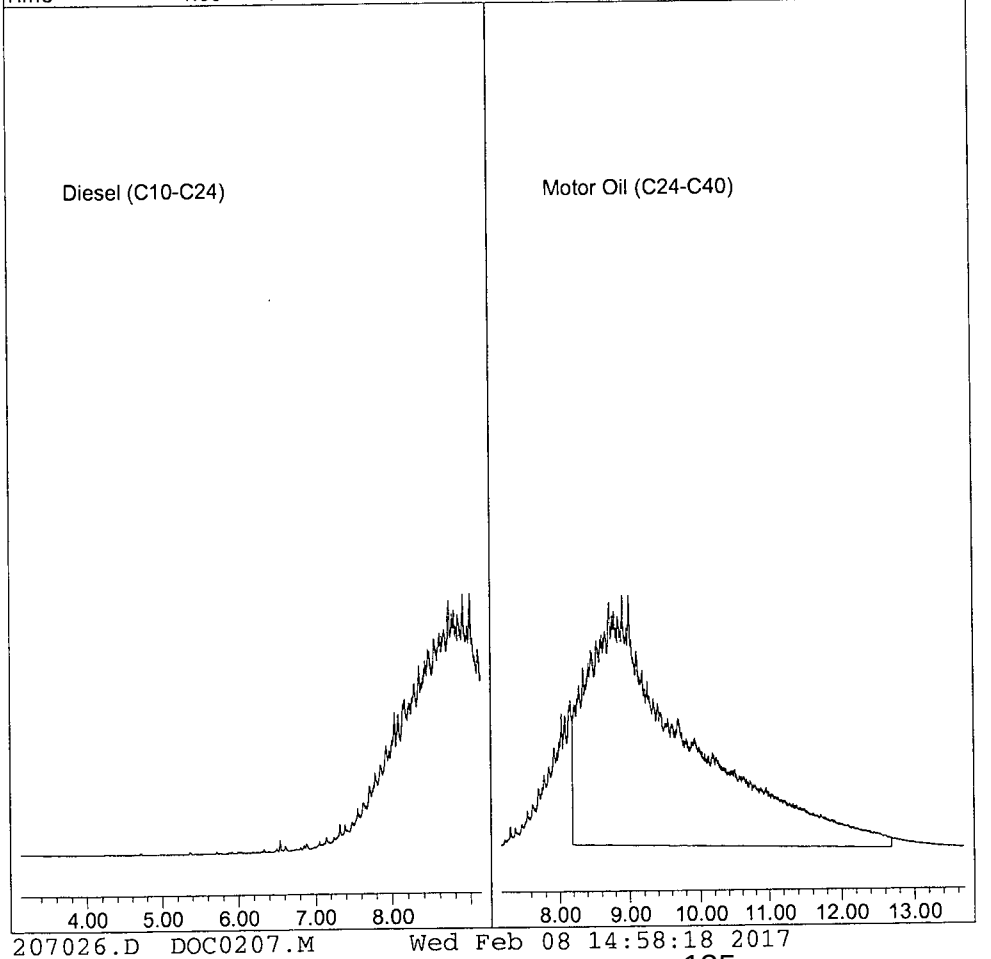
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216002,4.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1647860	0.88	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1301900	5.9	HBTM	
3							
4							
5							
6							
7							
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9							
10							
11							
12							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216002.D Vial: 2
Acq On : 2-16-17 10:40:21 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:06 2017 Quant Results File: DOC0207.RES

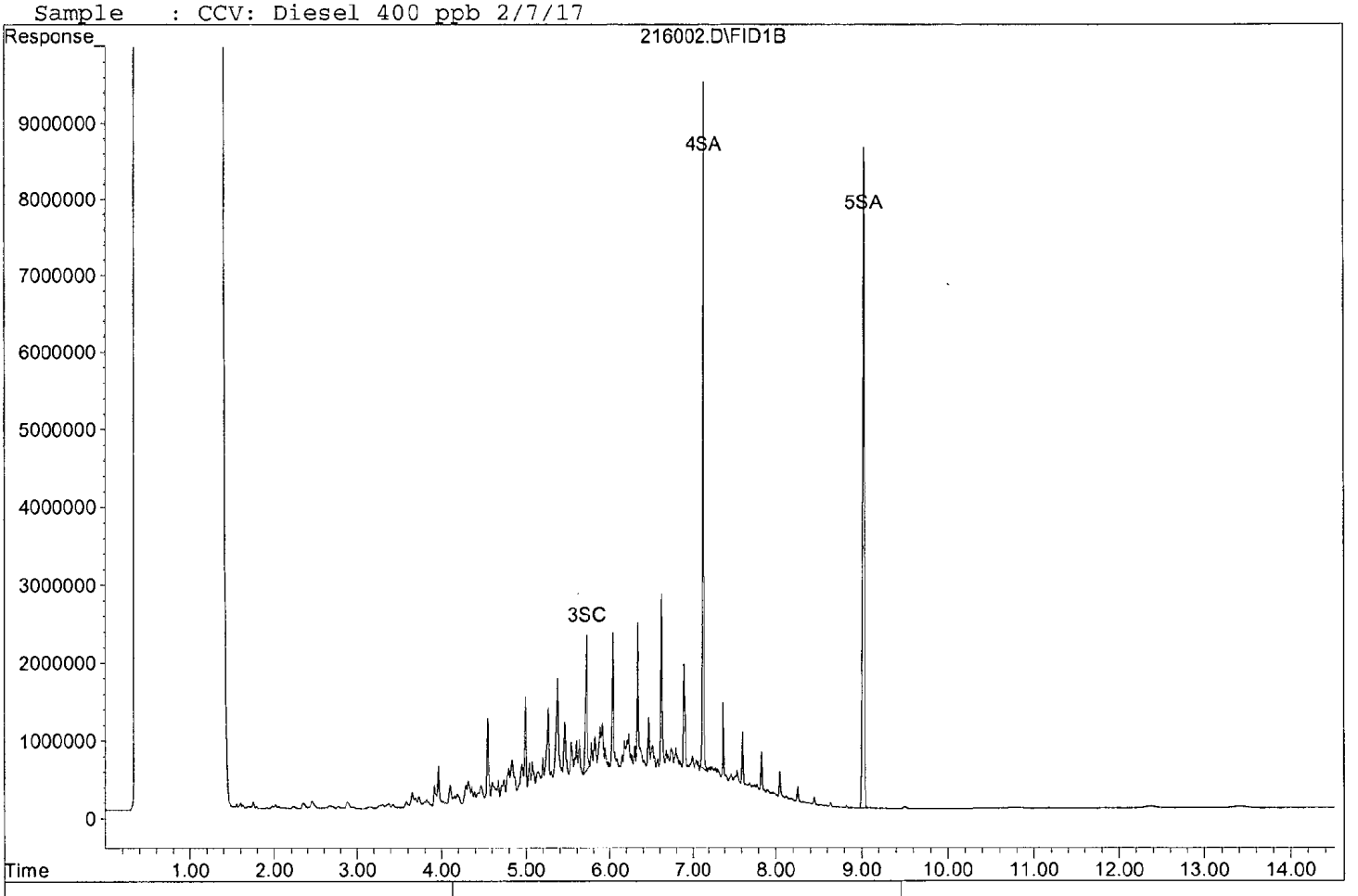
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

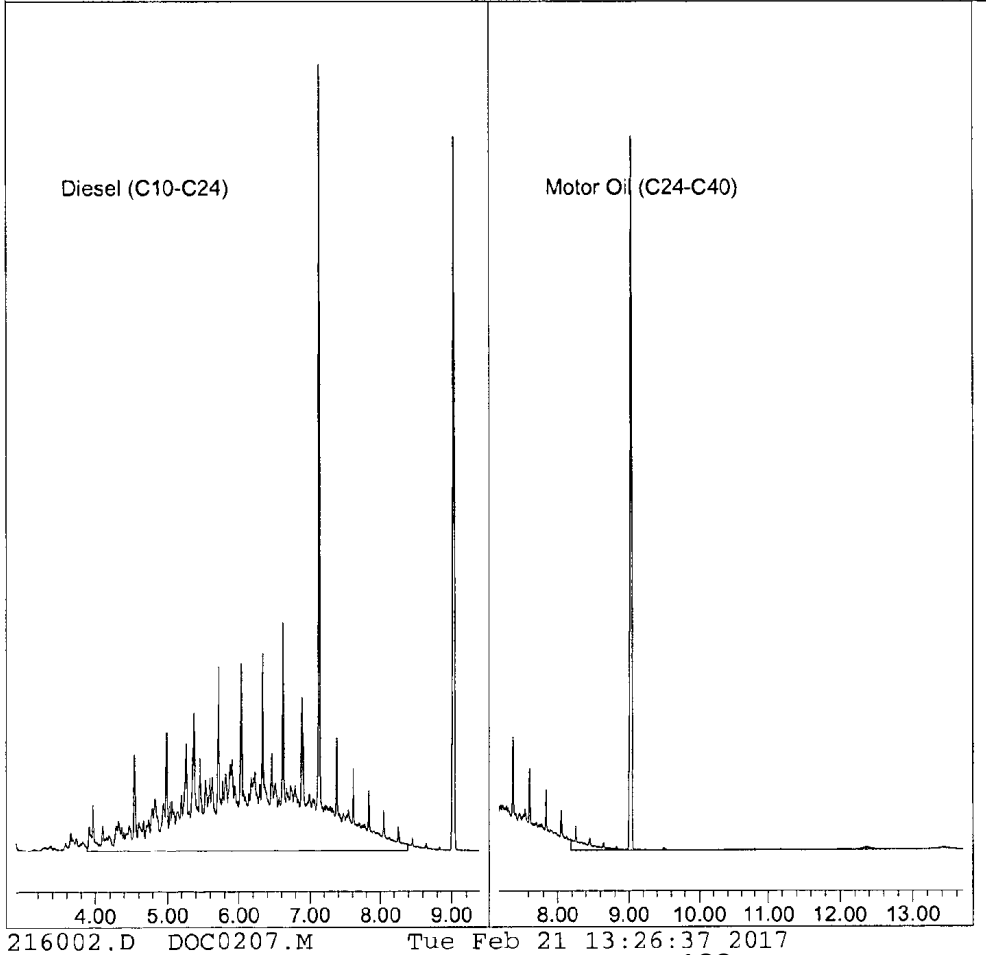
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22462013	18.364 ppb
Surrogate Spike 48.000		Recovery =	38.26%
4) SA Ortho-Terphenyl(S)	7.13	87261949	20.417 ppb
Surrogate Spike 30.000		Recovery =	68.06%
5) SA Octacosane(S)	9.03	124093987	19.761 ppb
Surrogate Spike 30.000		Recovery =	65.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1318285777	403.509 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36852242	14.989 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216002.D
Sample : CCV: Diesel 400 ppb 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216004.D Vial: 4
Acq On : 2-16-17 11:21:15 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 16 11:37 2017 Quant Results File: DOC0207.RES

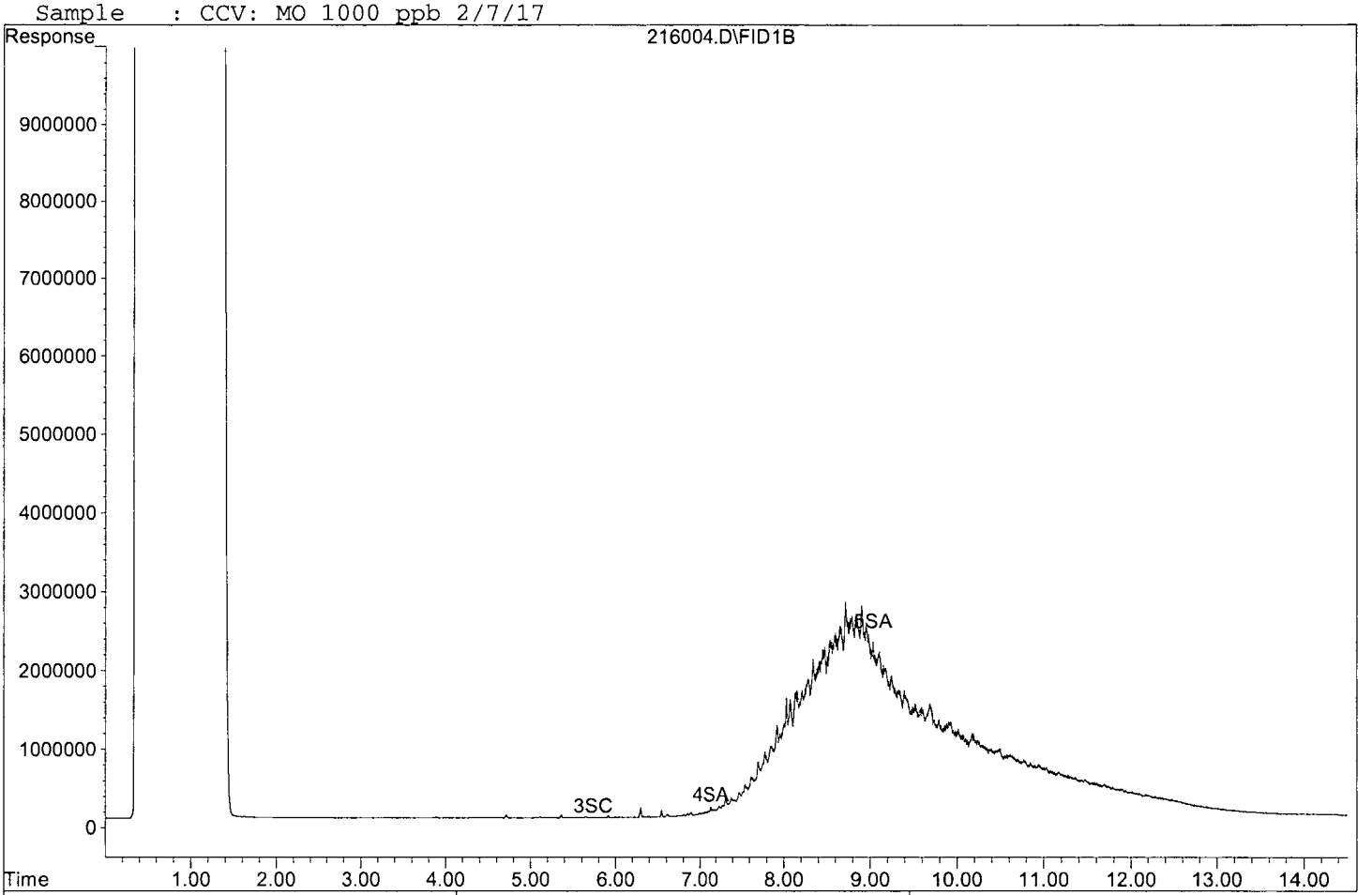
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

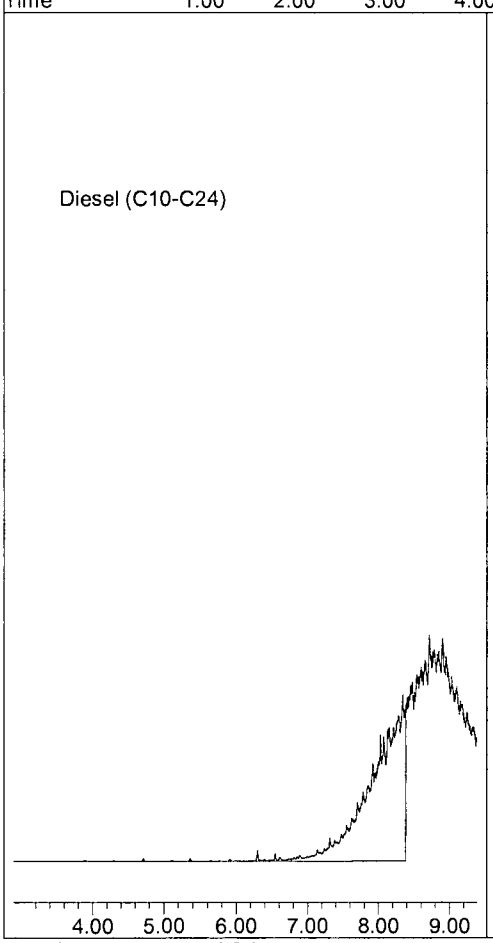
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

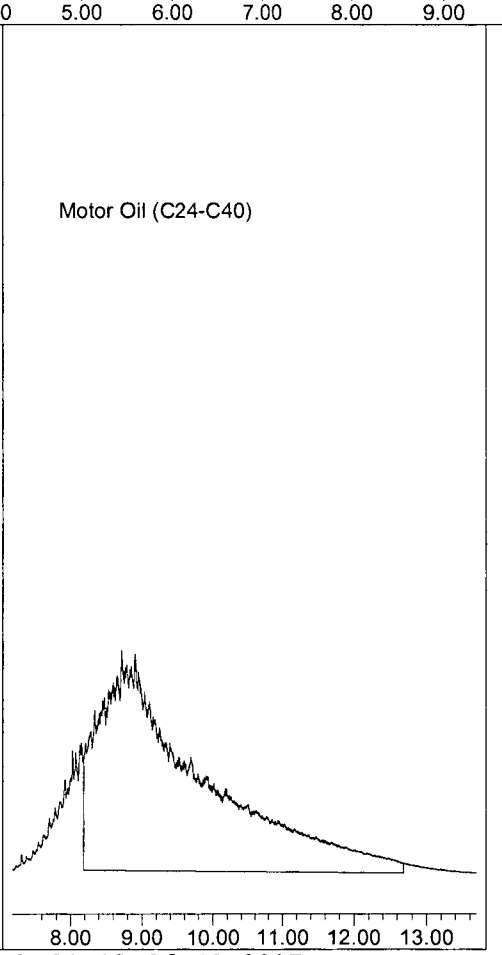
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	12881	0.011 ppb
Surrogate Spike 48.000		Recovery =	0.02%
4) SA Ortho-Terphenyl(S)	7.14	180189	0.042 ppb
Surrogate Spike 30.000		Recovery =	0.14%
5) SA Octacosane(S)	9.03	1595814	0.254 ppb
Surrogate Spike 30.000		Recovery =	0.85%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	620821202	190.025 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2603806075	1059.057 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216004.D
Sample : CCV: MO 1000 ppb 2/7/17







TPH Extractables
DOC0207

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Apollo
Initial Cal. Date: 02/07/17
Data File: 216022-23.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1643380	0.60	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1258130	2.3	HBTM	
3							
4							
5							
6							
7							
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35							
36							
37							
38							
39							
40							
		Average			1.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216022.D Vial: 22
Acq On : 2-16-17 17:30:07 Operator: DP
Sample : CCV: Diesel 400 ppb 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:38 2017 Quant Results File: DOC0207.RES

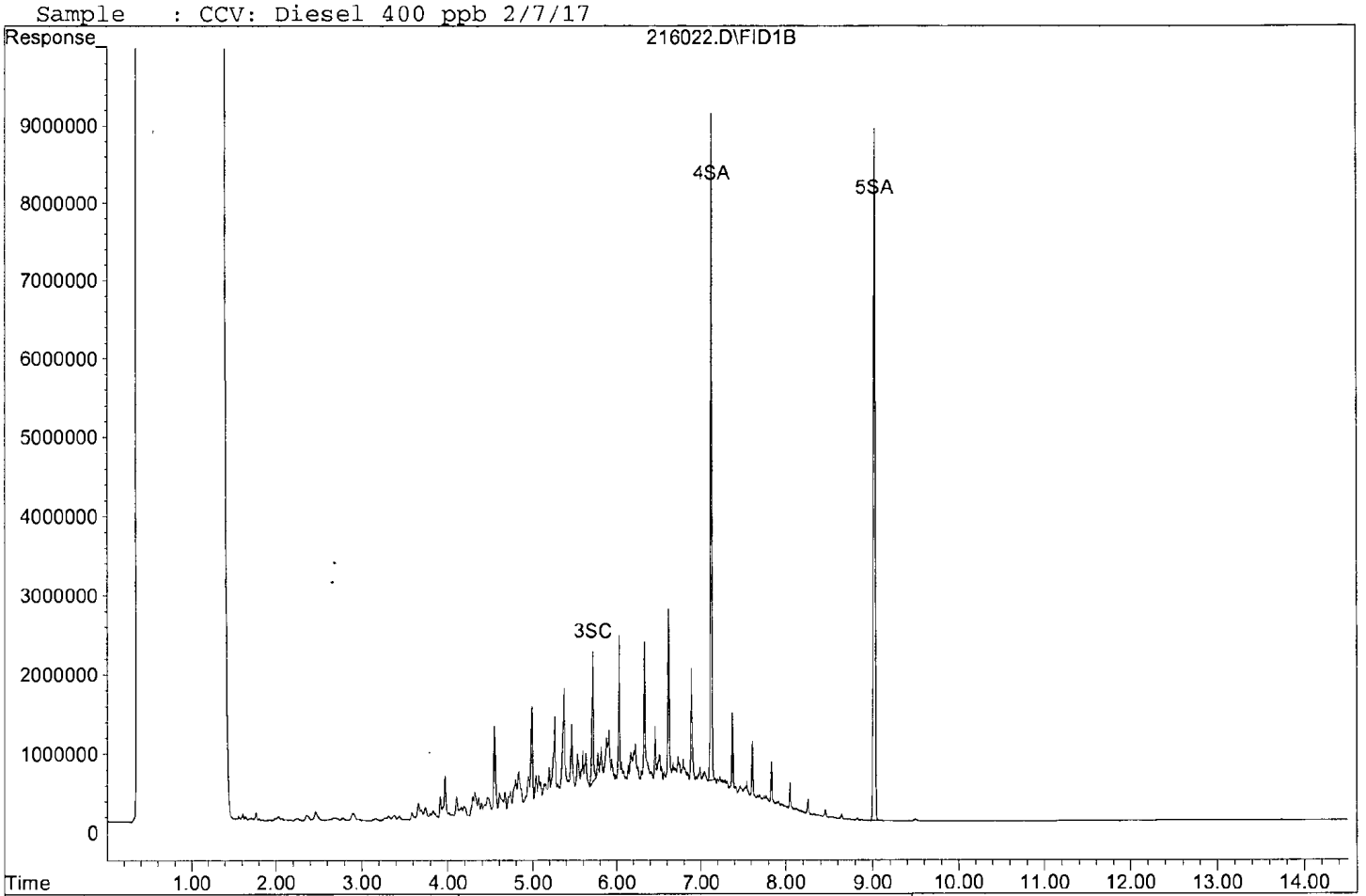
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

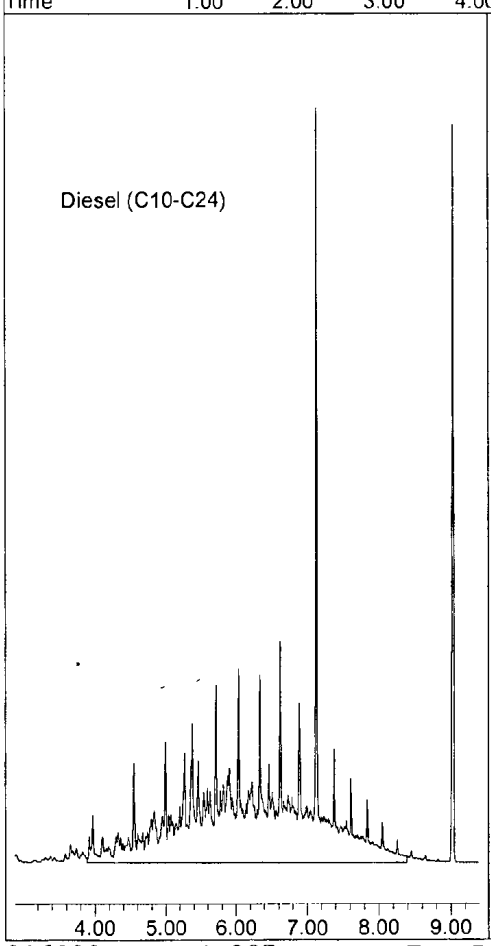
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

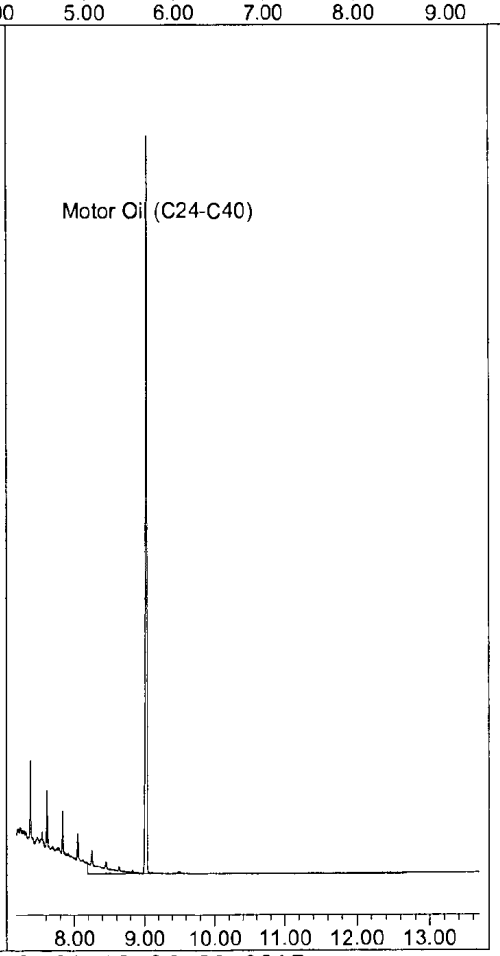
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.72	22500276	18.395 ppb
Surrogate Spike 48.000		Recovery =	38.32%
4) SA Ortho-Terphenyl(S)	7.13	87697414	20.519 ppb
Surrogate Spike 30.000		Recovery =	68.40%
5) SA Octacosane(S)	9.03	125388623	19.967 ppb
Surrogate Spike 30.000		Recovery =	66.56%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1314706319	402.414 ppb
2) HBTM Motor Oil (C24-C40)	10.44	36578514	14.878 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216022.D
Sample : CCV: Diesel 400 ppb 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170216\216023.D Vial: 23
Acq On : 2-16-17 17:50:31 Operator: DP
Sample : CCV: MO 1000 ppb 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Feb 17 8:39 2017 Quant Results File: DOC0207.RES

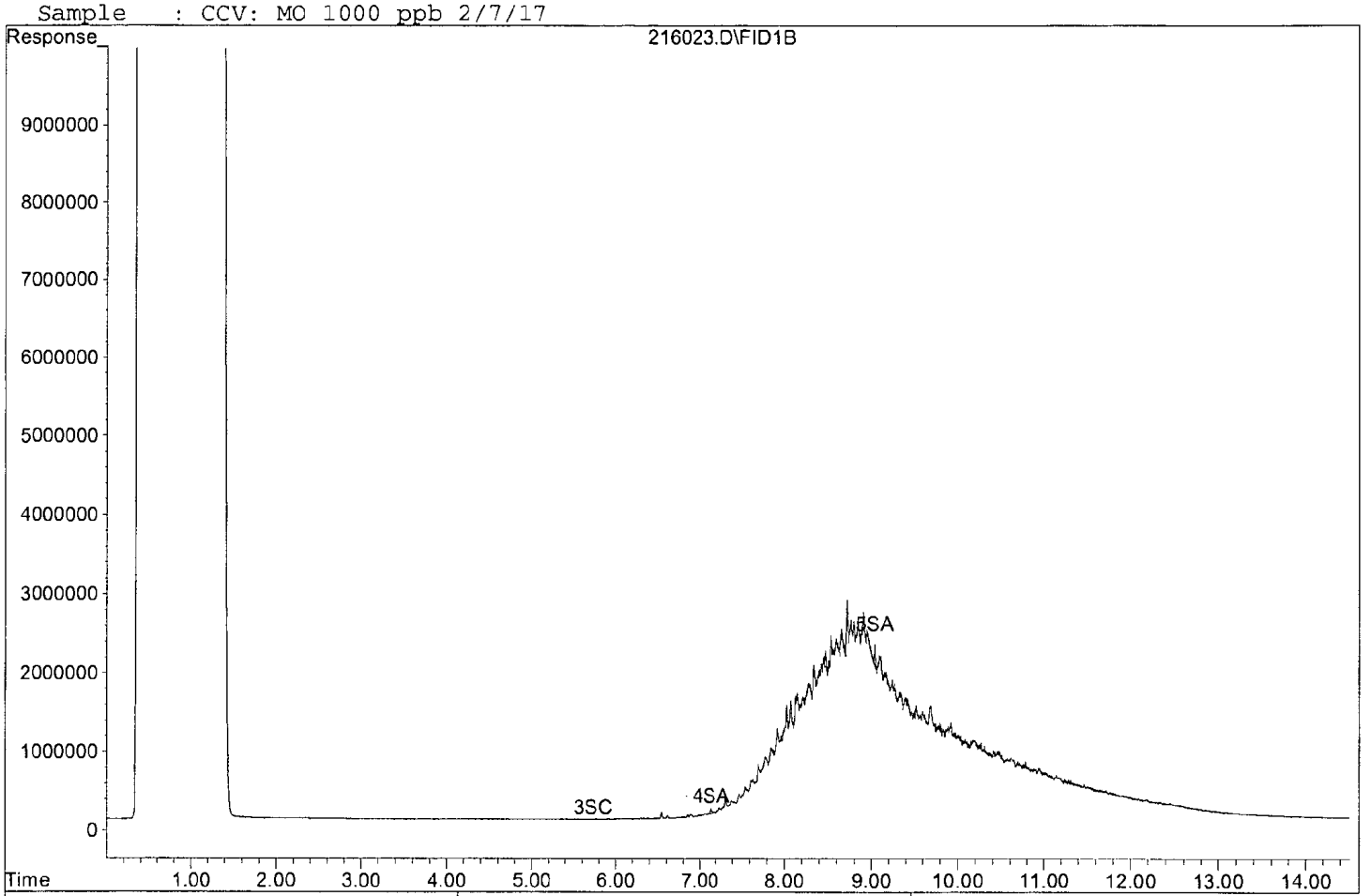
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

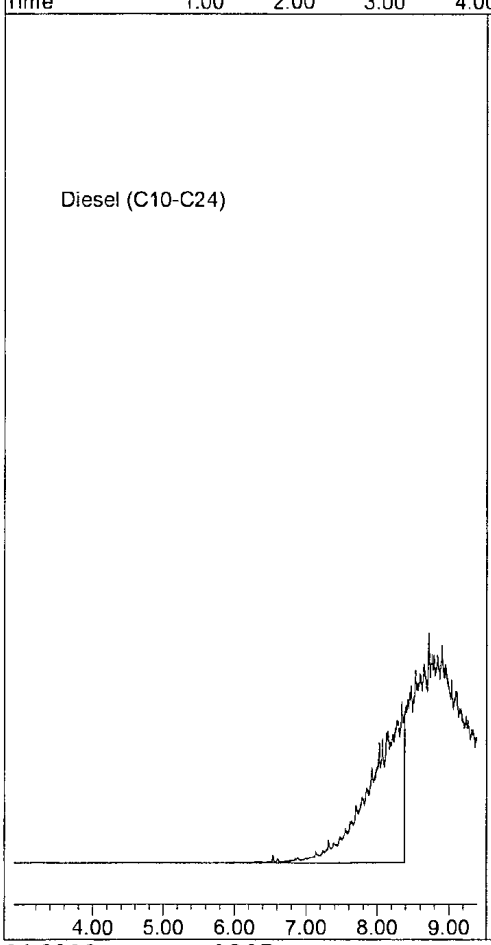
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

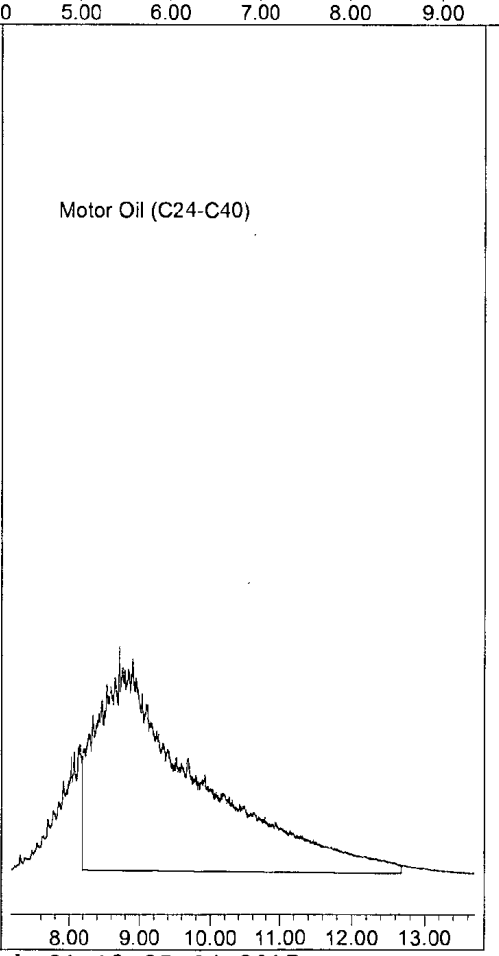
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	14683	0.012 ppb
Surrogate Spike 48.000		Recovery =	0.03%
4) SA Ortho-Terphenyl(S)	7.14	953097	0.223 ppb
Surrogate Spike 30.000		Recovery =	0.74%
5) SA Octacosane(S)	9.04	2452984	0.391 ppb
Surrogate Spike 30.000		Recovery =	1.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	605408844	185.307 ppb
2) HBTM Motor Oil (C24-C40)	10.44	2516267178	1023.452 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216023.D
Sample : CCV: MO 1000 ppb 2/7/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216247**
Batch ID: #DOC53-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	02/14/17	02/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	02/14/17	02/16/17
BLANK	SURROGATE: OCTACOSANE (S)	75.7	60-142			%	02/14/17	02/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	76.4	56-125			%	02/14/17	02/16/17

Quant Method: DOC0207.M
Run #: 216005
Instrument: Apollo
Sequence: 170216
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:20:43 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216005.D Vial: 5
Acq On : 2-16-17 11:41:39 Operator: DP
Sample : 170214A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 17:32 2017 Quant Results File: DOC0207.RES

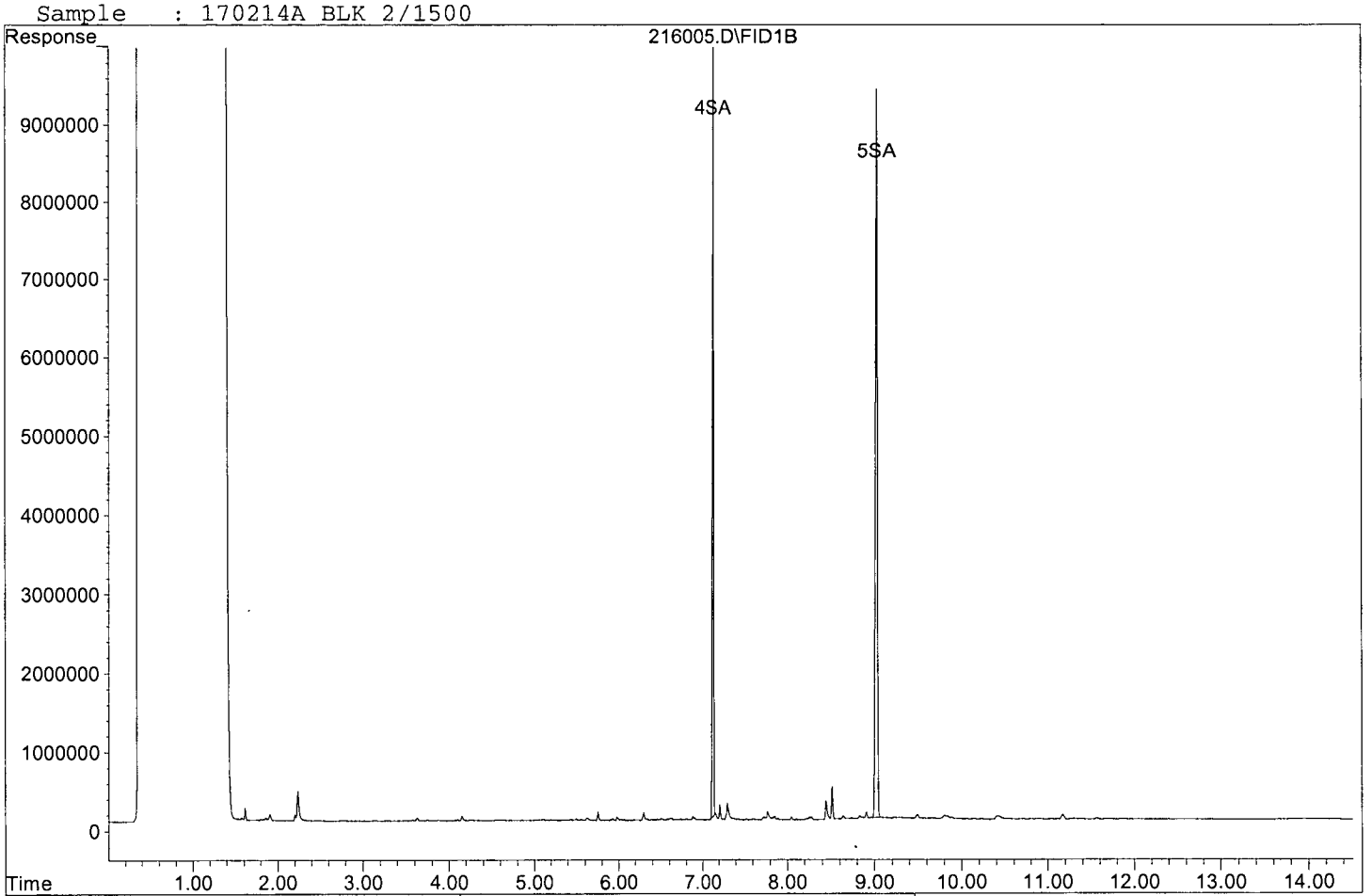
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

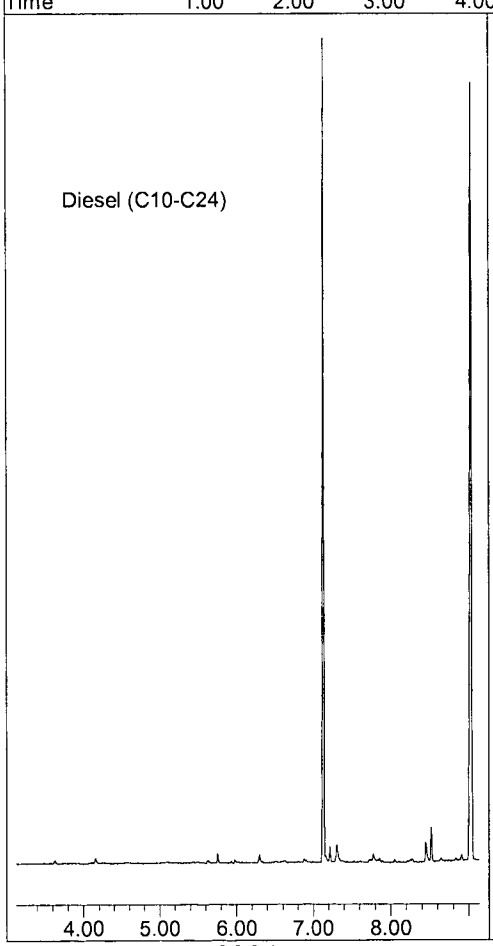
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

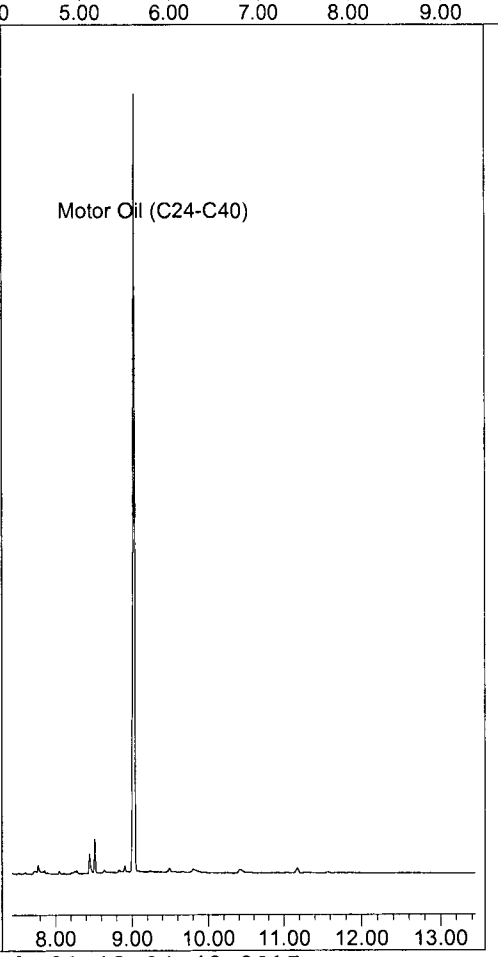
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97930880	30.551 ppb
Surrogate Spike 40.000		Recovery =	76.38%
5) SA Octacosane(S)	9.03	142544329	30.265 ppb
Surrogate Spike 40.000		Recovery =	75.66%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216005.D
Sample : 170214A BLK 2/1500







Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170214W-49853 LCS - 216247**
Batch ID: #DOC53-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	511	76.6	36-132
OIL (C24-C40)	667	612	91.8	41-113
SURROGATE: OCTACOSANE (S)	40.0	32.1	80.3	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.6	94.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0207.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Apollo
Run :	216006
Initials :	DPO

Printed: 02/17/17 9:20:31 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216006.D Vial: 6
Acq On : 2-16-17 12:02:04 Operator: DP
Sample : 170214A LCS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:58 2017 Quant Results File: DOC0207.RES

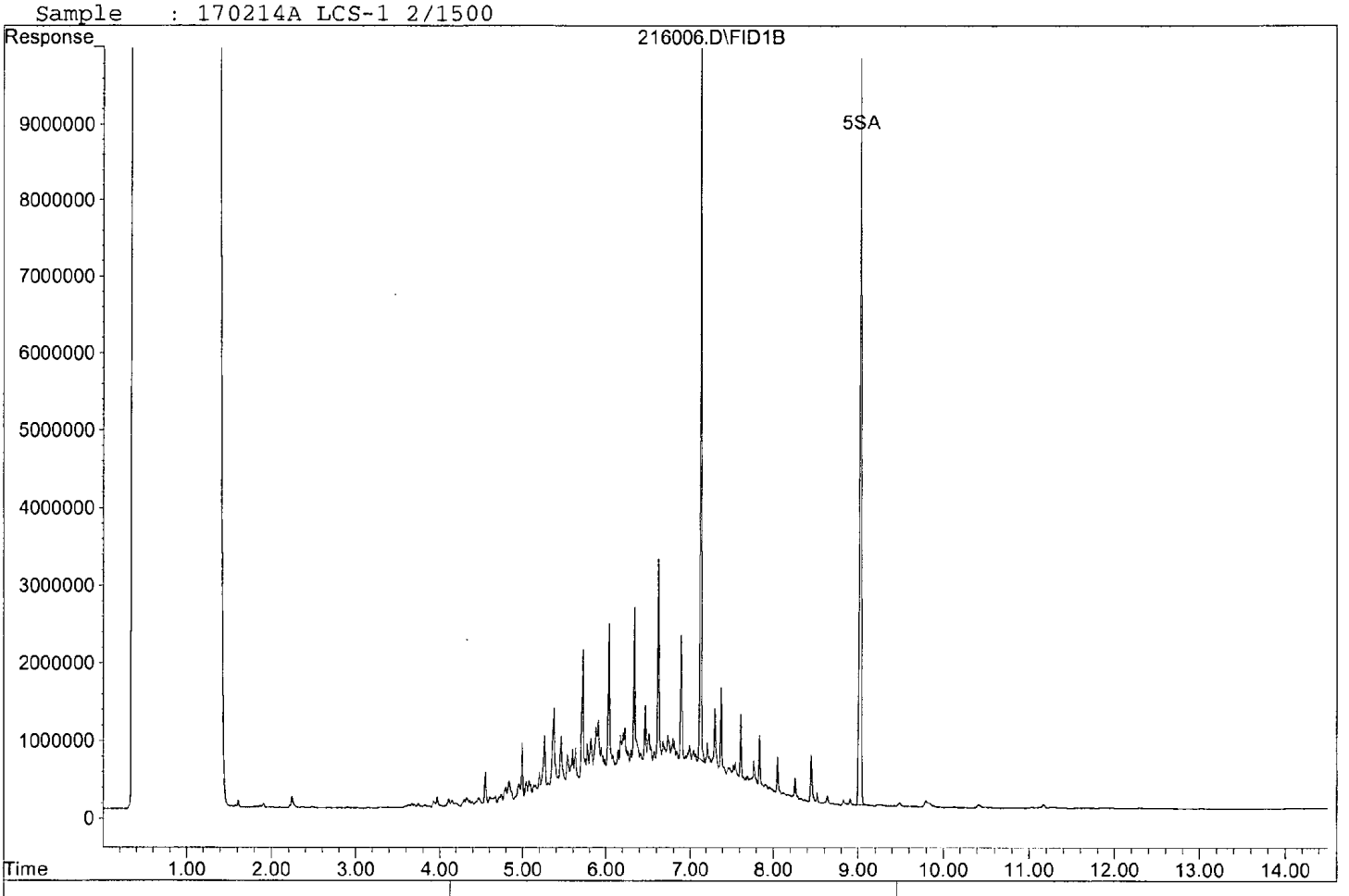
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

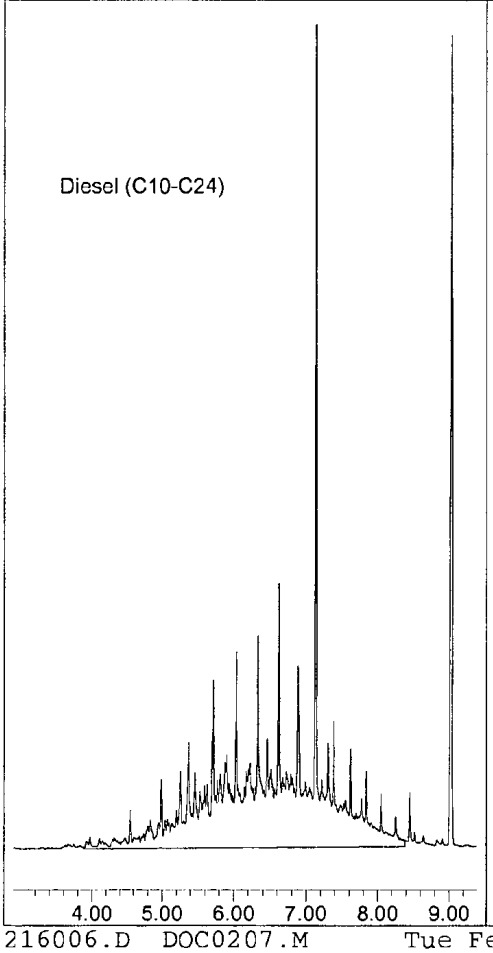
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

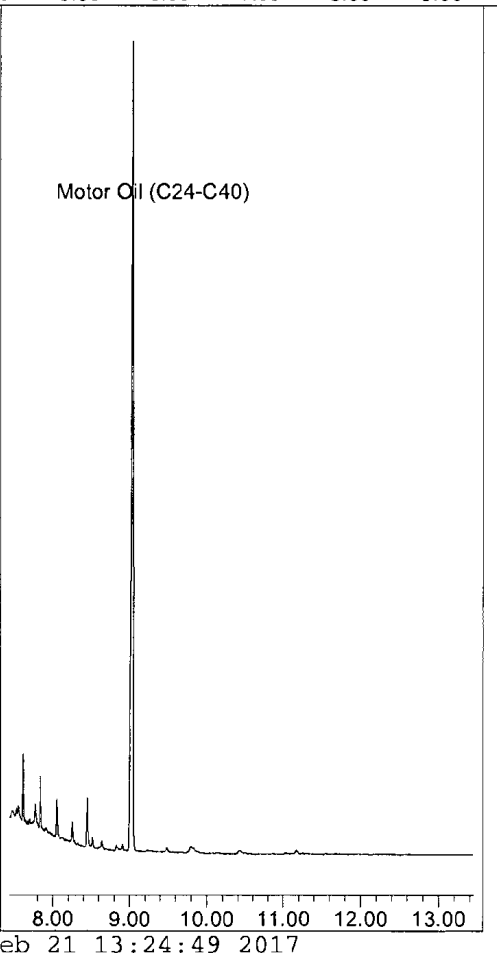
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	120559364	37.610 ppb
Surrogate Spike 40.000		Recovery =	94.03%
5) SA Octacosane(S)	9.03	151038021	32.068 ppb
Surrogate Spike 40.000		Recovery =	80.17%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1251062370	510.576 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216006.D
Sample : 170214A LCS-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216007.D Vial: 7
Acq On : 2-16-17 12:22:30 Operator: DP
Sample : 170214A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 12:59 2017 Quant Results File: DOC0207.RES

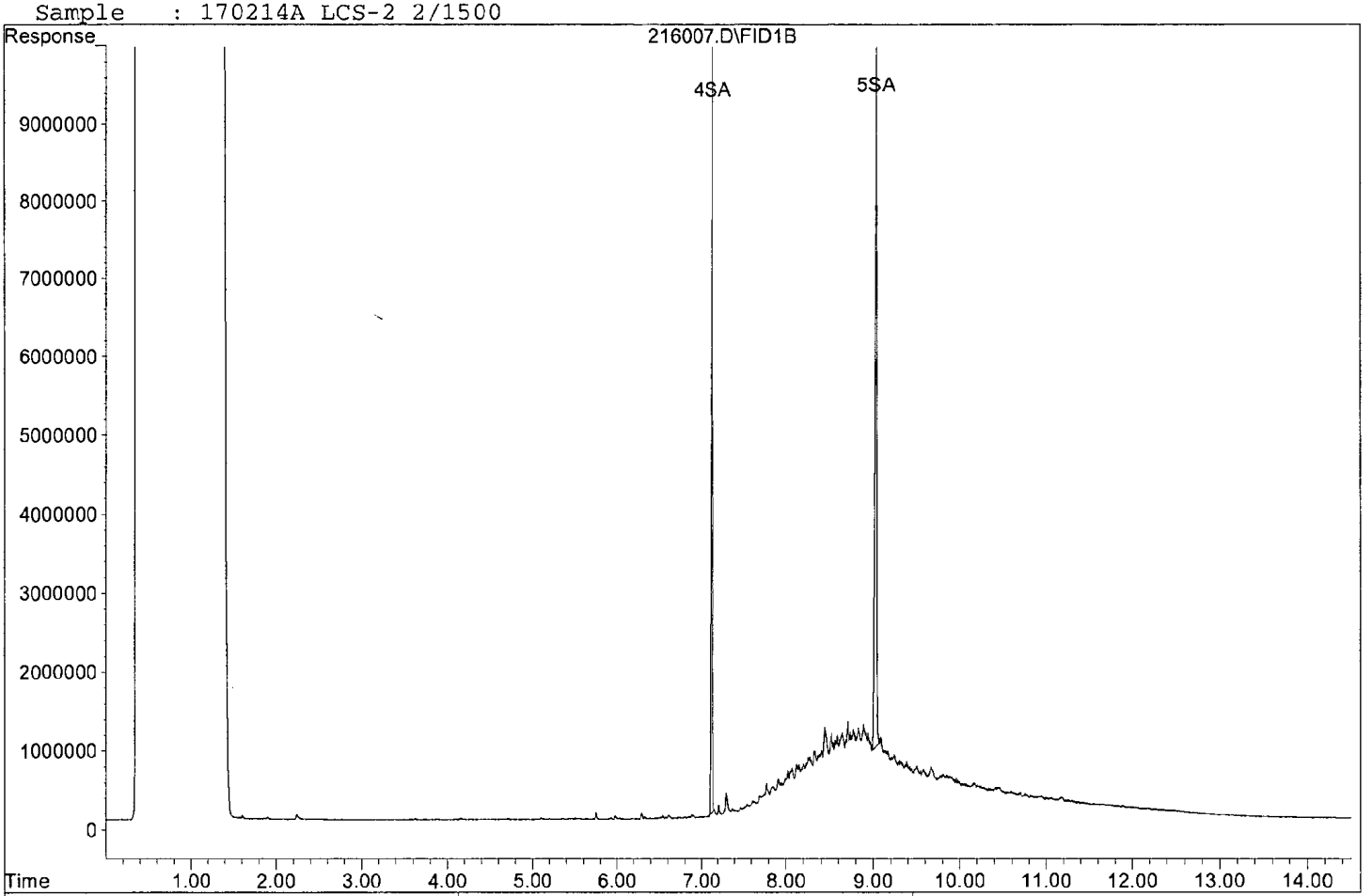
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

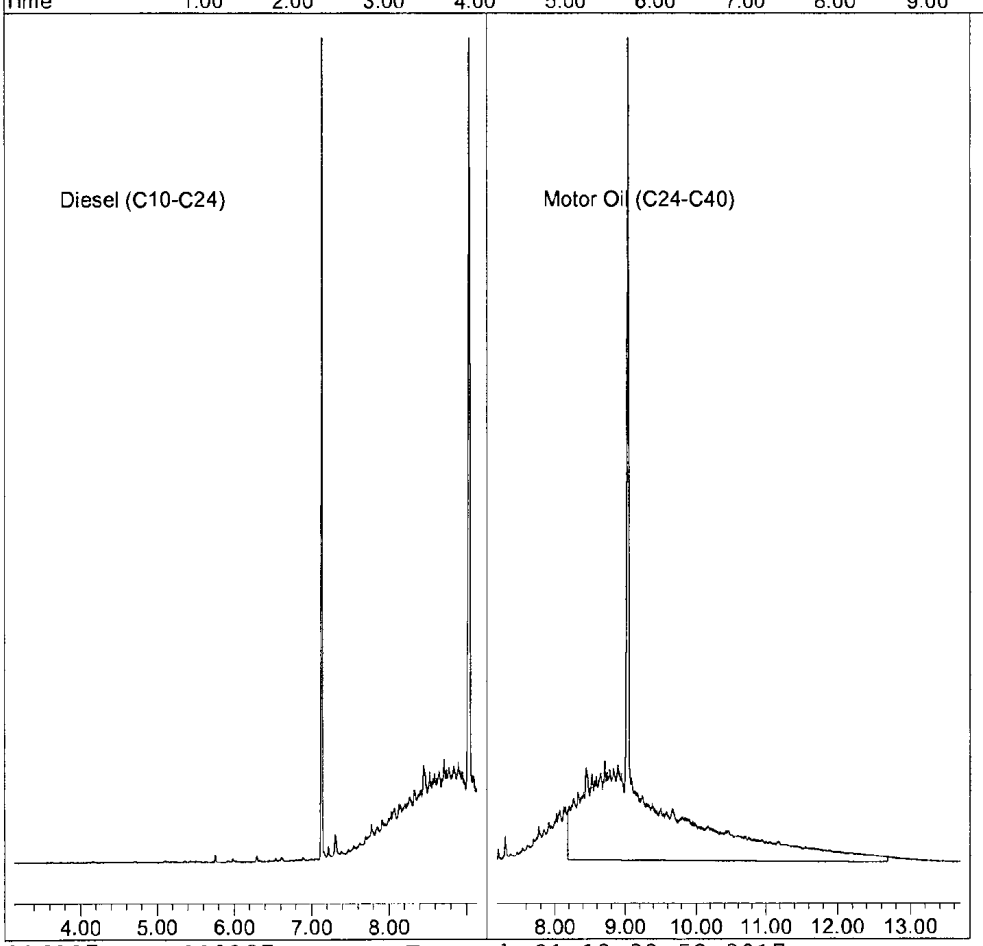
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	98040201	30.585 ppb
Surrogate Spike 40.000		Recovery =	76.46%
5) SA Octacosane(S)	9.04	139797812	29.682 ppb
Surrogate Spike 40.000		Recovery =	74.21%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1128080431	611.770 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216007.D
Sample : 170214A LCS-2 2/1500





Matrix Spike Recoveries
EPA 8015B TPH WATER

APPL ID: **170214W-49853 MS - 216247**
Batch ID: #DOC53-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	514	517	77.1	77.5	36-132	0.58	30
OIL (C24-C40)	667	ND	616	640	92.4	96.0	41-113	3.8	30
SURROGATE: OCTACOSANE (S)	40.0	NA	31.0	31.0	77.5	77.5	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	36.7	36.9	91.8	92.3	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0207.M	DOC0207.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/16/17	02/16/17
Instrument :	Apollo	Apollo
Run :	216015	216014
Initials :	DPO	

Printed: 02/17/17 9:20:27 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216013.D Vial: 13
Acq On : 2-16-17 14:25:14 Operator: DP
Sample : AZ49853W39 MS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 14:43 2017 Quant Results File: DOC0207.RES

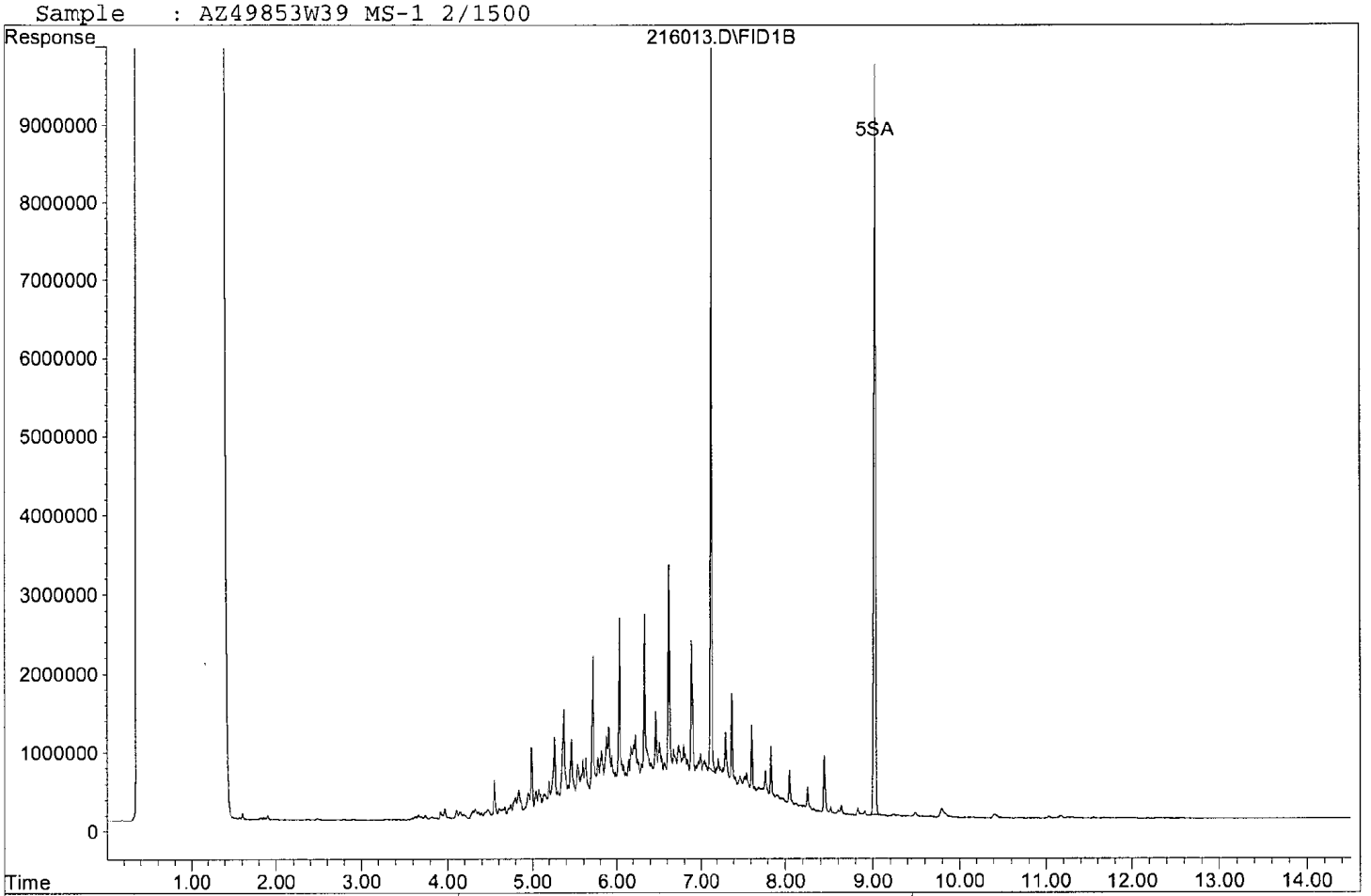
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

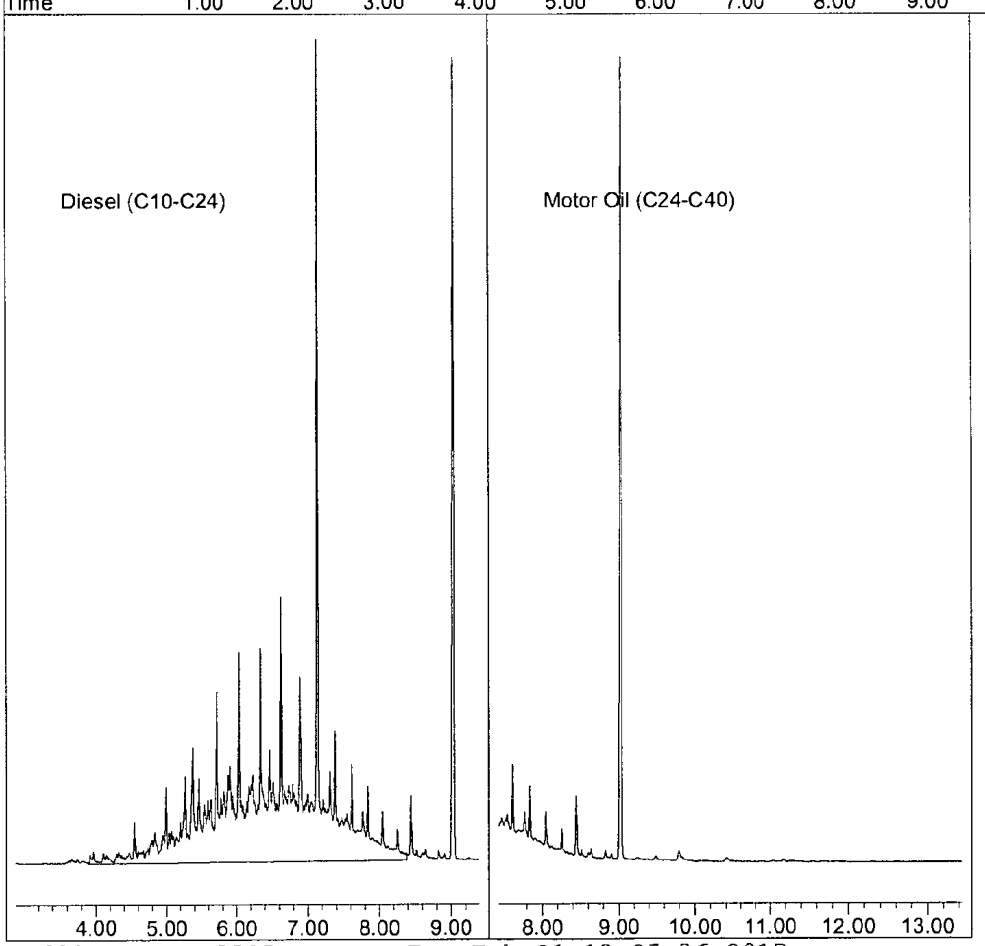
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	117494730	36.654 ppb
Surrogate Spike 40.000		Recovery =	91.64%
5) SA Octacosane(S)	9.03	146082923	31.016 ppb
Surrogate Spike 40.000		Recovery =	77.54%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1260284065	514.340 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216013.D
Sample : AZ49853W39 MS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216014.D Vial: 14
Acq On : 2-16-17 14:45:51 Operator: DP
Sample : AZ49853W27 MSD-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 15:05 2017 Quant Results File: DOC0207.RES

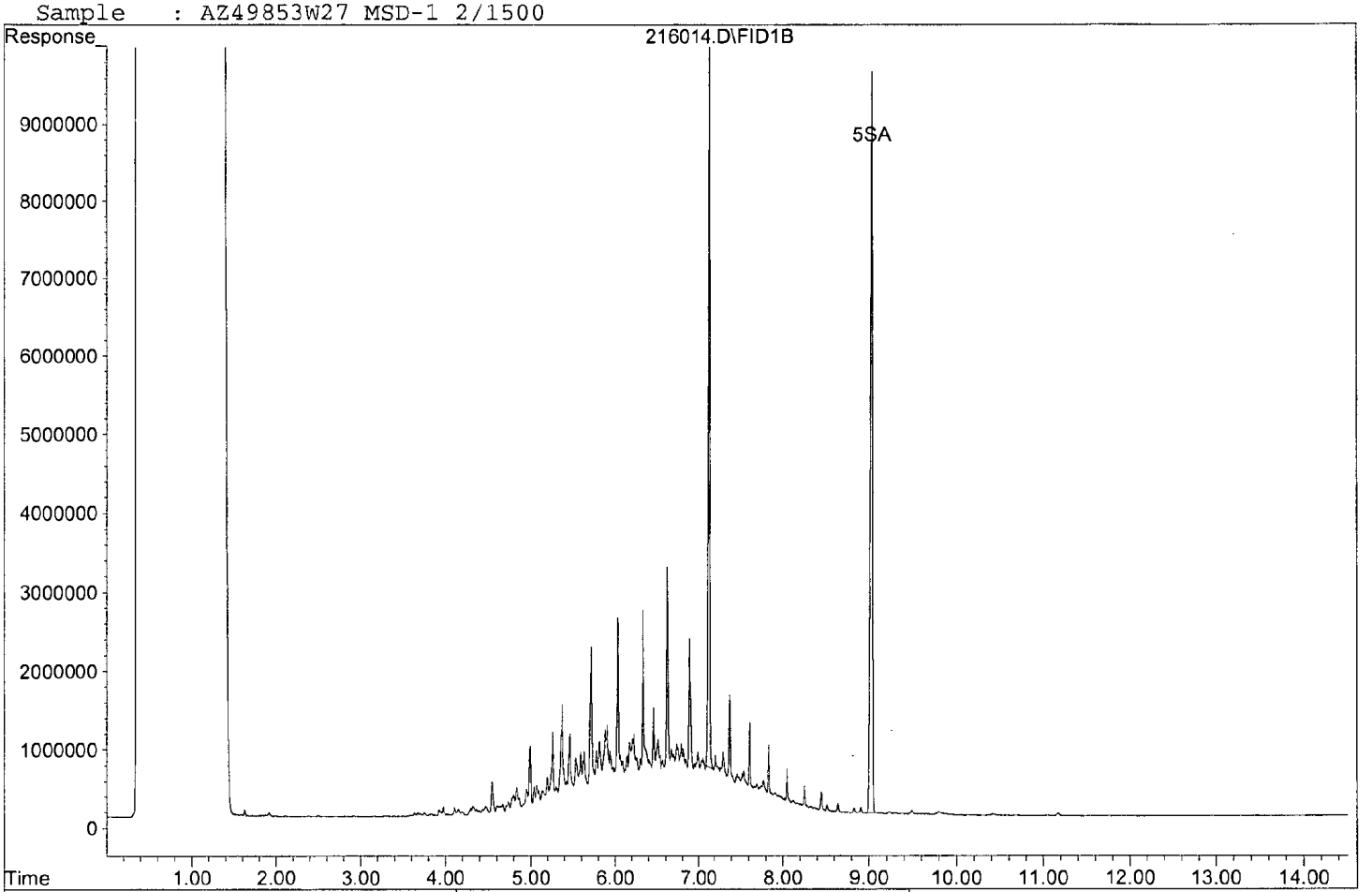
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

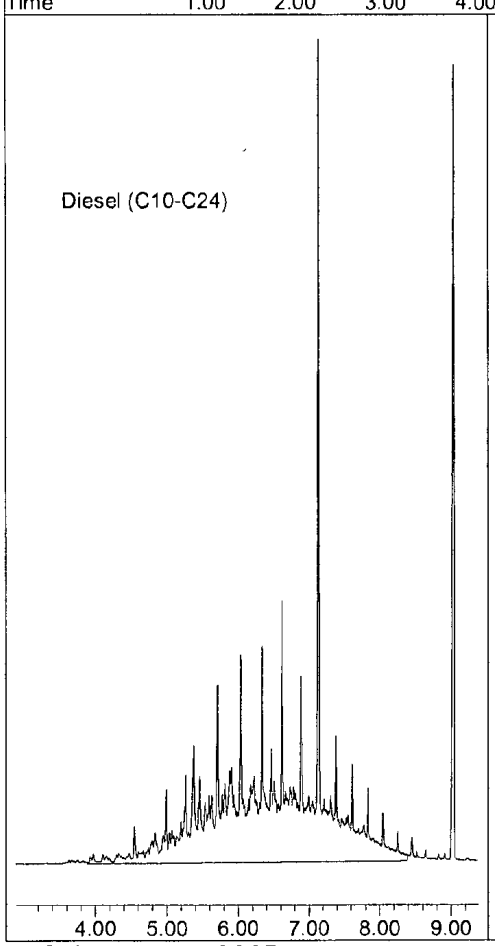
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

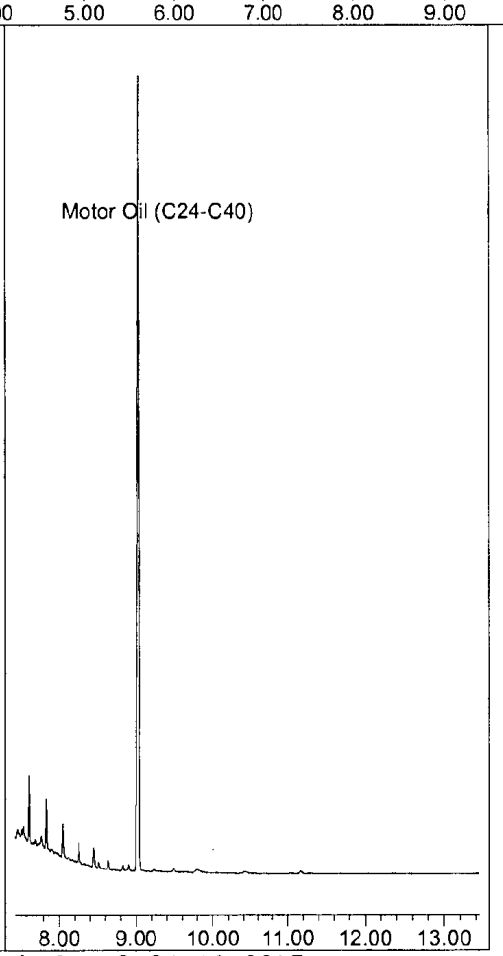
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	118336239	36.917 ppb
Surrogate Spike 40.000		Recovery =	92.29%
5) SA Octacosane(S)	9.03	146091471	31.018 ppb
Surrogate Spike 40.000		Recovery =	77.55%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1266764717	516.984 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216014.D
Sample : AZ49853W27 MSD-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216015.D Vial: 15
Acq On : 2-16-17 15:06:26 Operator: DP
Sample : AZ49853W36 MS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 15:25 2017 Quant Results File: DOC0207.RES

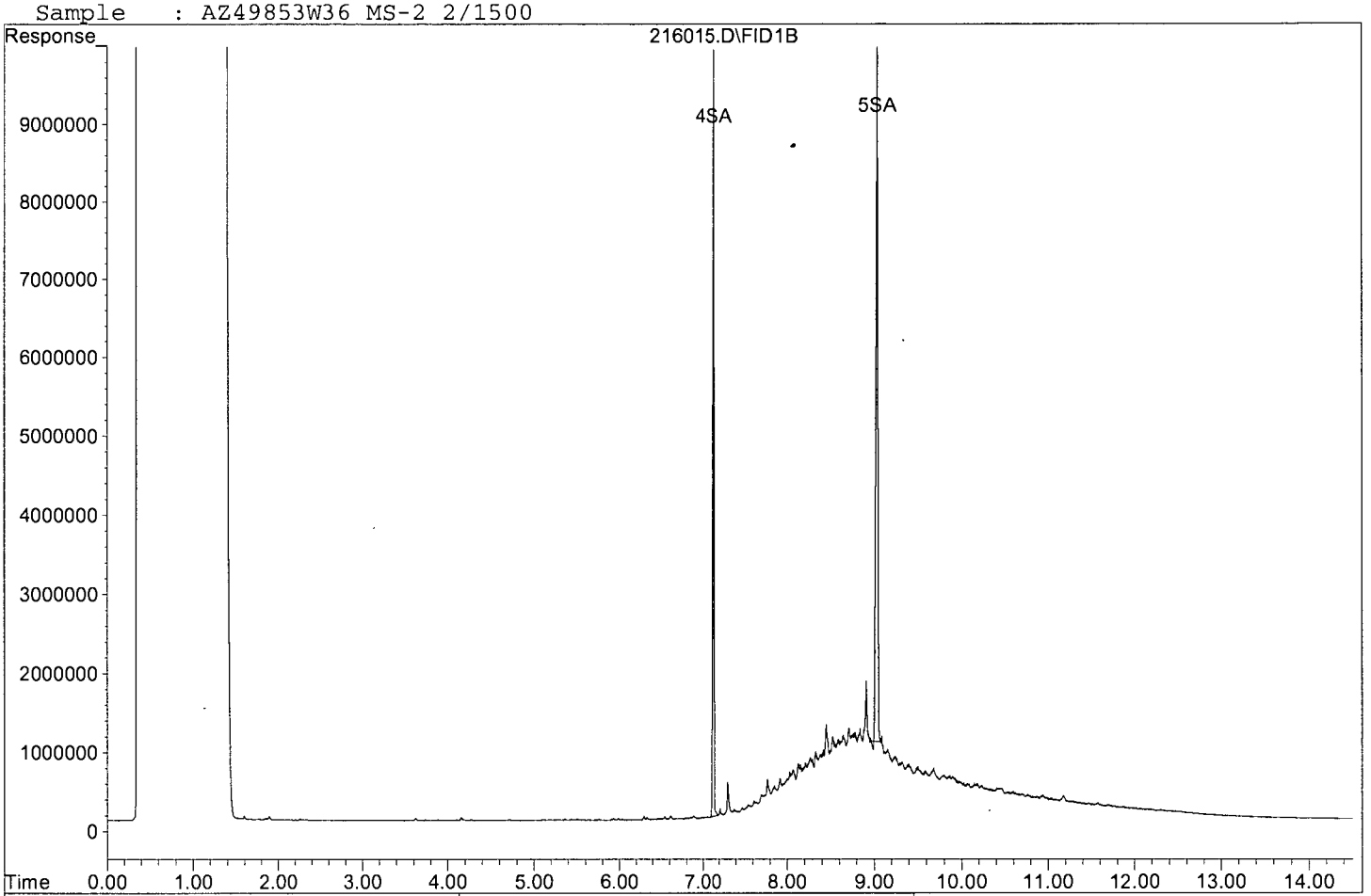
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

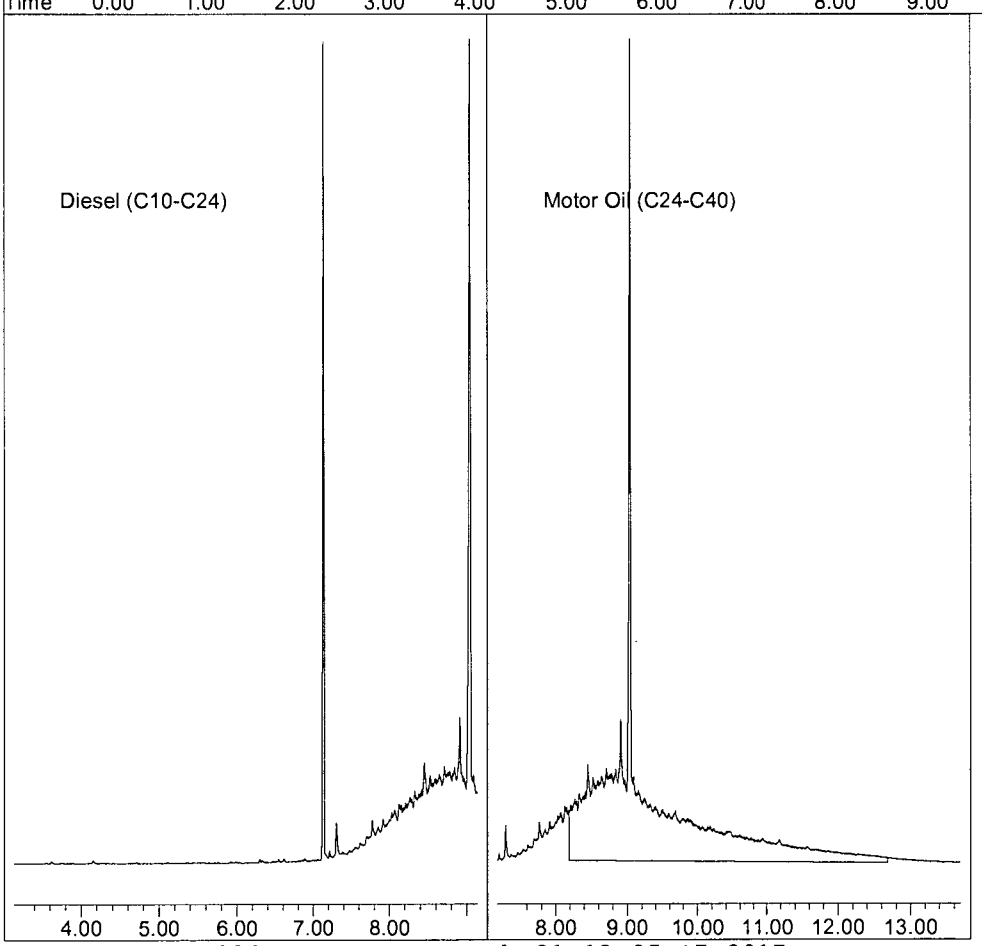
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	97201672	30.324 ppb
Surrogate Spike 40.000		Recovery =	75.81%
5) SA Octacosane(S)	9.04	130889618	27.790 ppb
Surrogate Spike 40.000		Recovery =	69.47%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1136389022	616.276 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216015.D
Sample : AZ49853W36 MS-2 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170216\216016.D Vial: 16
Acq On : 2-16-17 15:26:52 Operator: DP
Sample : AZ49853W29 MSD-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Feb 16 15:46 2017 Quant Results File: DOC0207.RES

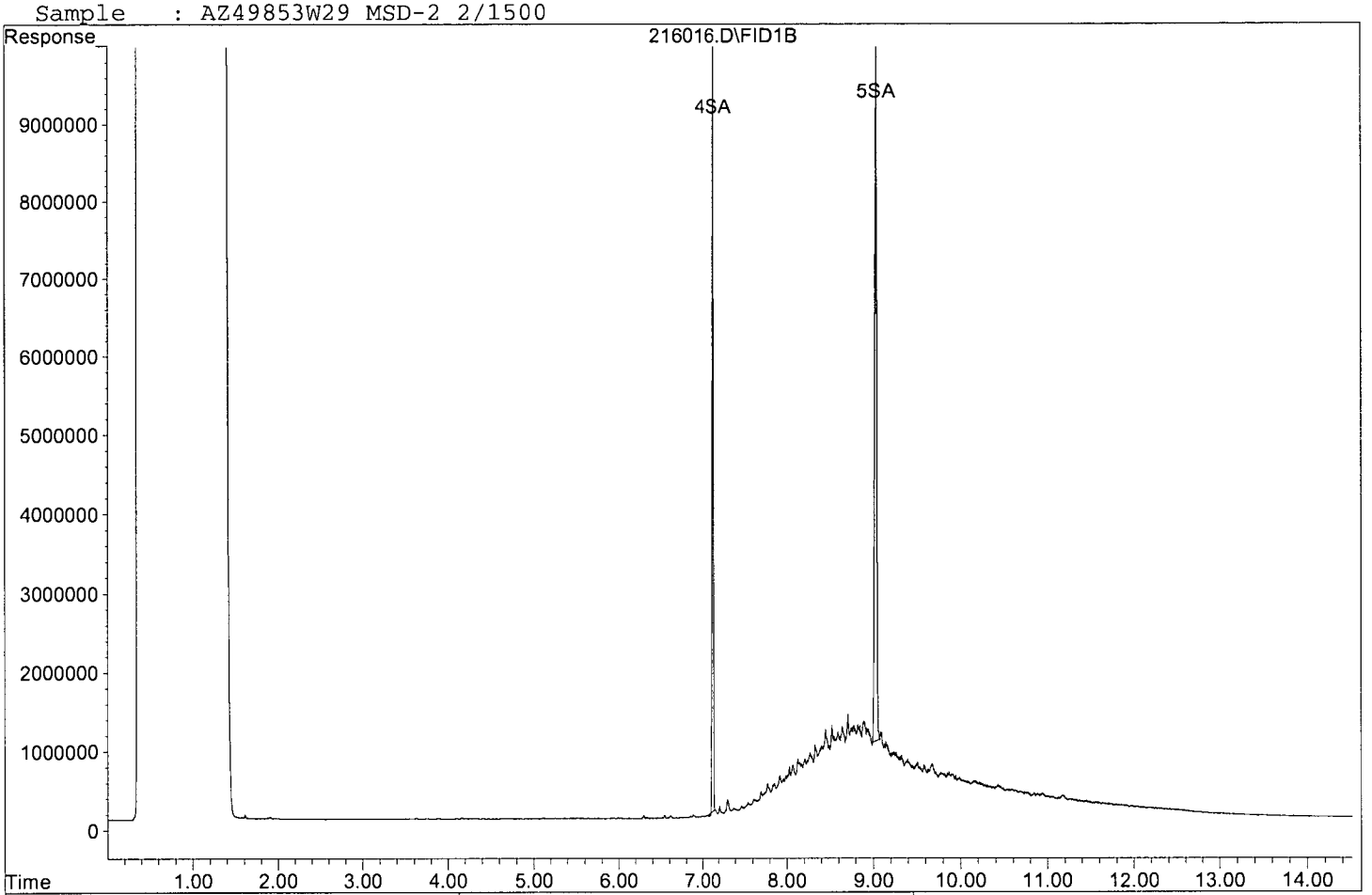
Method : G:\APOLLO\DATA\170216\DOC0207.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Feb 16 11:06:41 2017
Response via : Multiple Level Calibration

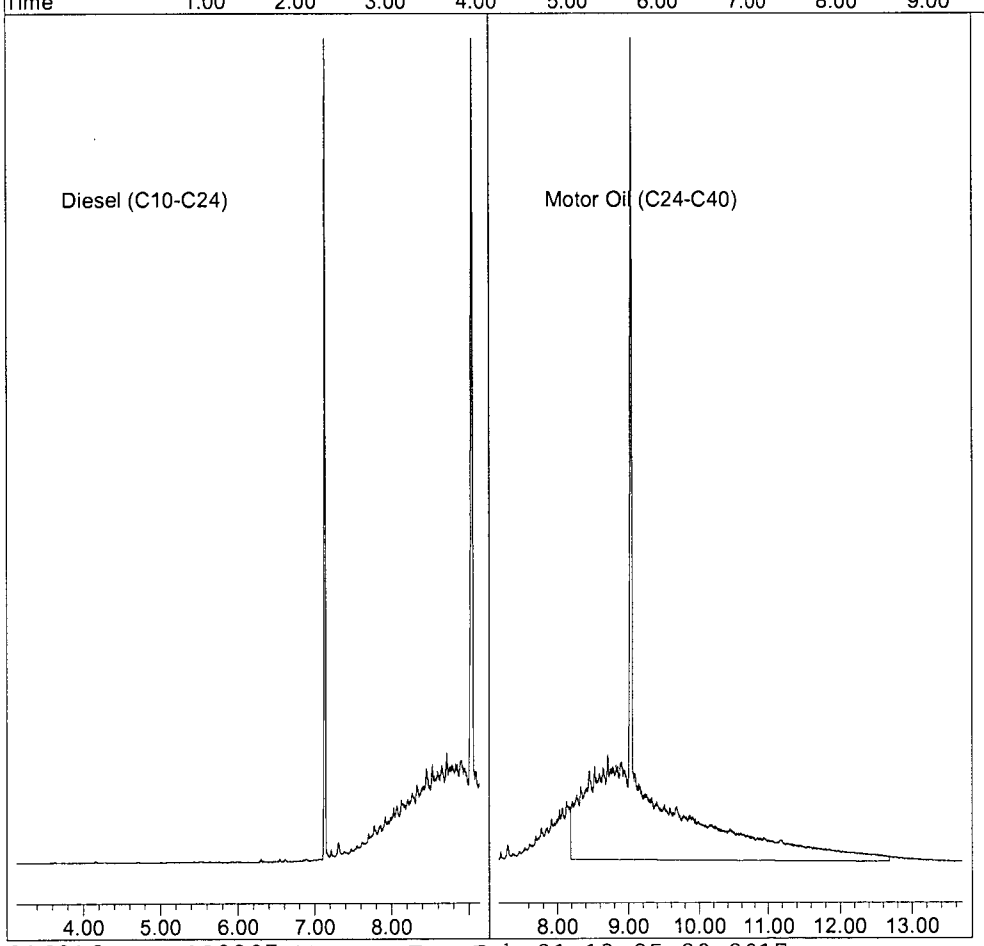
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	100256606	31.277 ppb
Surrogate Spike 40.000		Recovery =	78.19%
5) SA Octacosane(S)	9.04	141660497	30.077 ppb
Surrogate Spike 40.000		Recovery =	75.19%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1180145838	640.006 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170216\216016.D
Sample : AZ49853W29 MSD-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 02/07/17-D.P. Ex: 02/07/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	2000µL	5mL	400 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	02/07/18				

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

Diesel Spike
Cat: 011598-03
Lot: 280736-37352
Op: 01/19/17-D.P.
Exp: 01/19/18

THC Surrogate	
Cat:	110316-05
Lot:	295677-37411
Op:	02/07/17-D.P.
Exp:	02/07/18

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CCV 1000ppb						
Prep: 02/07/17-D.P. Ex: 11/09/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	2500µL	5mL	1000 µg/ml	MC
	Prep:	02/07/17				56098
	Exp:	11/09/17				

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34446
Op: 02/07/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/14/17 8:40
Spiked ID 8			Ext. End Time:	02/16/17 9:45
			GC Requires Extract By:	**02/16/17 0:00**

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	
2	170214A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	
3	170214A LCS-2		0.020	2	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	
4	AZ49739	AZ49739W09			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W12			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W09			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W06			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82130 RUSH 1 WEEK
8	AZ49853 MS-1	AZ49853W39	0.020	1	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
9	AZ49853 MSD-1	AZ49853W27	0.020	1	0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
10	AZ49853 MS-2	AZ49853W36	0.020	2	0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
11	AZ49853 MSD-2	AZ49853W29	0.020	2	0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
12	AZ49853	AZ49853W34			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
13	AZ49854	AZ49854W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
14	AZ49855	AZ49855W13			0.1	1 equip	1500 E-WB2	2	7	02/14/17 8:40	82150 RUSH 1 WEEK
15	AZ49857	AZ49857W13			0.1	1 equip	1500 E-WB4	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
16	AZ49860	AZ49860W14			0.1	1 equip	1500 E-WB1	2	7	02/14/17 8:40	82146 RUSH 1 WEEK

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	D.P.
Date	2/16/17
Time	10:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: [illegible] **Date** 2/16/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170214A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-2-17 exp 7-12-20		Surrogate ID 1	THC Surrogate 2-1-17 exp	
Spiked ID 2	Motor Oil Spike 2-7-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/16/17 9:45	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49862	AZ49862W11			0.1	1	1500	2	7	02/14/17 8:40	82146 RUSH 1 WEEK
						equip	E-WB2				

2/16/17

Solvent and Lot#	
MC	56153
Na2SO4	16C255214
ph-indicator strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	DL

Modified	02/16/17 10:21:40 AM

Reviewed By: **Date** 2/16/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	216002.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 10:40:21
16	4	216004.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 11:21:15
17	5	216005.D	1.33333	170214A BLK 2/1500	water	2-16-17 11:41:39
18	6	216006.D	1.33333	170214A LCS-1 2/1500	water	2-16-17 12:02:04
19	7	216007.D	1.33333	170214A LCS-2 2/1500	water	2-16-17 12:22:30
20	12	216012.D	1.33333	AZ49853W34 2/1500	water	2-16-17 14:04:50
21	13	216013.D	1.33333	AZ49853W39 MS-1 2/1500	water	2-16-17 14:25:14
22	14	216014.D	1.33333	AZ49853W27 MSD-1 2/1500	water	2-16-17 14:45:51
23	15	216015.D	1.33333	AZ49853W36 MS-2 2/1500	water	2-16-17 15:06:26
24	16	216016.D	1.33333	AZ49853W29 MSD-2 2/1500	water	2-16-17 15:26:52
25	17	216017.D	1.33333	AZ49854W14 2/1500	water	2-16-17 15:47:25
26	18	216018.D	1.33333	AZ49855W13 2/1500	water	2-16-17 16:07:58
27	22	216022.D	1	CCV: Diesel 400 ppb 2/7/17	Mix(A)	2-16-17 17:30:07
28	23	216023.D	1	CCV: MO 1000 ppb 2/7/17	Mix(B)	2-16-17 17:50:31

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49853 - 216252**
Batch ID: #SIMDO-170213A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:42:22 AM

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82150
Case No: 82150 Date Analyzed: 02/16/17
Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A1-BLK	Blank	53-106	62.0		55-111	72.4	
170213A1-LCS	Lab Control Spike	53-106	69.8		55-111	78.0	
AZ49853-MS	Matrix Spike	53-106	68.8		55-111	79.8	
AZ49853-MSD	Matrix SpikeD	53-106	62.6		55-111	71.4	
AZ49853	ERH225	53-106	75.4		55-111	83.8	
AZ49854	ERH247	53-106	79.1		55-111	87.3	
AZ49855	ERH248	53-106	62.4		55-111	69.7	

Comments: Batch: #SIMDO-170213A1

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170213A1-BLK	Blank	58-132	97.2				
170213A1-LCS	Lab Control Spike	58-132	83.0				
AZ49853-MS	Matrix Spike	58-132	84.8				
AZ49853-MSD	Matrix SpikeD	58-132	75.4				
AZ49853	ERH225	58-132	95.6				
AZ49854	ERH247	58-132	99.8				
AZ49855	ERH248	58-132	85.3				

Comments: Batch: #SIMDO-170213A1

Printed: 02/17/17 9:42:20 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49853 LCS - 216252**
Batch ID: #SIMDO-170213A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
ACENAPHTHENE	5.00	4.03	80.6	48-114
ACENAPHTHYLENE	5.00	4.23	84.6	35-121
ANTHRACENE	5.00	4.01	80.2	53-119
BENZO(A)ANTHRACENE	5.00	4.46	89.2	59-120
BENZO(A)PYRENE	5.00	4.45	89.0	53-120
BENZO(B)FLUORANTHENE	5.00	4.54	90.8	53-126
BENZO(GHI)PERYLENE	5.00	4.47	89.4	44-128
BENZO(K)FLUORANTHENE	5.00	3.93	78.6	54-125
CHRYSENE	5.00	5.03	101	57-120
DIBENZ(A,H)ANTHRACENE	5.00	4.72	94.4	44-131
FLUORANTHENE	5.00	5.06	101	58-120
FLUORENE	5.00	4.57	91.4	50-118
INDENO(1,2,3-CD)PYRENE	5.00	4.48	89.6	48-130
NAPHTHALENE	5.00	3.93	78.6	43-114
PHENANTHRENE	5.00	4.62	92.4	53-115
PYRENE	5.00	4.70	94.0	53-121
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Printed: 02/17/17 9:42:17 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170213W-49853 MS - 216252**
Batch ID: #SIMDO-170213A1
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	4.04	3.79	80.8	75.8	41-115	6.4	20
2-METHYLNAPHTHALENE	5.00	ND	4.25	3.85	85.0	77.0	39-114	9.9	20
ACENAPHTHENE	5.00	ND	4.02	3.64	80.4	72.8	48-114	9.9	20
ACENAPHTHYLENE	5.00	ND	4.29	3.91	85.8	78.2	35-121	9.3	20
ANTHRACENE	5.00	ND	4.29	3.79	85.8	75.8	53-119	12.4	20
BENZO(A)ANTHRACENE	5.00	ND	4.98	4.37	99.6	87.4	59-120	13.0	20
BENZO(A)PYRENE	5.00	ND	4.66	4.08	93.2	81.6	53-120	13.3	20
BENZO(B)FLUORANTHENE	5.00	ND	5.12	4.39	102	87.8	53-126	15.4	20
BENZO(GHI)PERYLENE	5.00	ND	4.53	4.20	90.6	84.0	44-128	7.6	20
BENZO(K)FLUORANTHENE	5.00	ND	4.57	3.87	91.4	77.4	54-125	16.6	20
CHRYSENE	5.00	ND	4.89	4.46	97.8	89.2	57-120	9.2	20
DIBENZ(A,H)ANTHRACENE	5.00	ND	5.09	4.54	102	90.8	44-131	11.4	20
FLUORANTHENE	5.00	ND	5.39	4.81	108	96.2	58-120	11.4	20
FLUORENE	5.00	ND	4.58	4.17	91.6	83.4	50-118	9.4	20
INDENO(1,2,3-CD)PYRENE	5.00	ND	4.68	4.30	93.6	86.0	48-130	8.5	20
NAPHTHALENE	5.00	ND	3.80	3.51	76.0	70.2	43-114	7.9	20
PHENANTHRENE	5.00	ND	4.74	4.28	94.8	85.6	53-115	10.2	20
PYRENE	5.00	ND	4.81	4.33	96.2	86.6	53-121	10.5	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.44	3.13	68.8	62.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.99	3.57	79.8	71.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.24	3.77	84.8	75.4	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0214PR.M	L0214PR.M
Extraction Date :	02/13/17	02/13/17
Analysis Date :	02/17/17	02/17/17
Instrument :	Linus	Linus
Run :	0214L070	0214L071
Initials :	RHA	

Printed: 02/17/17 9:42:08 AM
APPL MSD SCII

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER
Blank ID: 170213A1-BLK

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 1938

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170213A1-BLK	Blank	0214L060	02/16/17 1938
170213A1-LCS	Lab Control Spike	0214L061	02/16/17 2010
170213A1-MS	Matrix Spike	0214L070	02/17/17 0105
170213A1-MSD	Matrix SpikeD	0214L071	02/17/17 0138
AZ49853	ERH225	0214L072	02/17/17 0211
AZ49854	ERH247	0214L073	02/17/17 0244
AZ49855	ERH248	0214L074	02/17/17 0316

Comments: Batch: #SIMDO-170213A1

Printed: 02/17/17 9:41:58 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82150
Date Analyzed: 02/14/17
Instrument: Linus
Time Analyzed: 18:03

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 02/14/17	0214L003.D	02/14/17 18:21
2		0.2 SIM 02/14/17	0214L004.D	02/14/17 18:53
3		0.5 SIM 02/14/17	0214L005.D	02/14/17 19:26
4		1.0 SIM 02/14/17	0214L006.D	02/14/17 19:59
5		5.0 SIM 02/14/17	0214L007.D	02/14/17 20:32
6		10 SIM 02/14/17	0214L008.D	02/14/17 21:04
7		50 SIM 02/14/17	0214L009.D	02/14/17 21:37
8		100 SIM 02/14/17	0214L010.D	02/14/17 22:10
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	55.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	20.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	90.5
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	19.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 9:23

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SIM SS 02/14/17	0214L050.D	02/16/17 14:39
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.0
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	53.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	86.2
442	40 - 150% of mass 198	55.2
443	17 - 23% of mass 442	19.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Linus
Time Analyzed: 18:47

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 02/14/17	0214L059.D	02/16/17 19:05
2	Blank	170213A BLK 1/1000	0214L060.D	02/16/17 19:38
3	Lab Control Spike	170213A LCS-1 1/1000	0214L061.D	02/16/17 20:10
4		AZ49853W33 MS-1 1/10	0214L070.D	02/17/17 1:05
5		AZ49853W31 MSD-1 1/1	0214L071.D	02/17/17 1:38
6	ERH225	AZ49853W26 1/1030	0214L072.D	02/17/17 2:11
7	ERH247	AZ49854W15 1/1040	0214L073.D	02/17/17 2:44
8	ERH248	AZ49855W12 1/1000	0214L074.D	02/17/17 3:16
9		5.0 SIM 02/14/17	0214L080.D	02/17/17 6:00
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	54.0
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.5
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.9
442	40 - 150% of mass 198	56.9
443	17 - 23% of mass 442	19.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82150

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	23069	5.81	11695	7.86	22161	9.76
	UPPER LIMIT	46138	6.31	23390	8.36	44322	10.26
	LOWER LIMIT	11535	5.31	5848	7.36	11081	9.26
	SAMPLE NO.						
01	5.0 SIM 02/14/17	21152	5.81	10824	7.86	20561	9.76
02	170213A BLK 1/1000	23656	5.82	11886	7.86	22678	9.78
03	170213A LCS-1 1/1000	19357	5.82	10056	7.86	19690	9.76
04	AZ49853W33 MS-1 1/1(	29202	5.81	14712	7.86	28641	9.76
05	AZ49853W31 MSD-1 1/	28144	5.81	14192	7.86	27765	9.76
06	AZ49853W26 1/1030	22324	5.82	11479	7.86	21478	9.78
07	AZ49854W15 1/1040	22544	5.82	11361	7.86	21398	9.78
08	AZ49855W12 1/1000	21176	5.82	10959	7.86	20283	9.78
09	5.0 SIM 02/14/17	20943	5.81	10628	7.86	20527	9.76
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82150

Lab File ID (Standard): 0214L007.D Date Analyzed: 02/14/17

Instrument ID: Linus Time Analyzed: 20:32

GC Column: ID: Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26224	16.68	21900	20.45		
	UPPER LIMIT	52448	17.18	43800	20.95		
	LOWER LIMIT	13112	16.18	10950	19.95		
	SAMPLE NO.						
01	5.0 SIM 02/14/17	24824	16.68	20815	20.45		
02	170213A BLK 1/1000	26424	16.70	22321	20.48		
03	170213A LCS-1 1/1000	23632	16.68	19968	20.45		
04	AZ49853W33 MS-1 1/1(	35641	16.67	29469	20.44		
05	AZ49853W31 MSD-1 1/	34380	16.67	28786	20.44		
06	AZ49853W26 1/1030	25775	16.70	22065	20.48		
07	AZ49854W15 1/1040	25963	16.70	21976	20.47		
08	AZ49855W12 1/1000	23868	16.71	20566	20.48		
09	5.0 SIM 02/14/17	24802	16.67	20655	20.45		
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #SIMDO-170213A1-216252

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	75.4	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	83.8	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	95.6	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L072
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:41:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L072.D Vial: 72
Acq On : 17 Feb 17 2:11 Operator: MA
Sample : AZ49853W26 1/1030 Inst : Linus
Misc : water Multiplr: 0.97

Quant Time: Feb 17 8:26 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22324	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11479	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21478	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	25775	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.48	264	22065	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	13234	4.07001 ppb	-0.02
Spiked Amount 4.854			Recovery	= 83.842%	
7) Surrogate Recovery (FBP)	7.07	172	27162	3.65751 ppb	-0.01
Spiked Amount 4.854			Recovery	= 75.355%	
17) Surrogate Recovery (TPH)	13.69	244	37221	4.64254 ppb	-0.02
Spiked Amount 4.854			Recovery	= 95.646%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

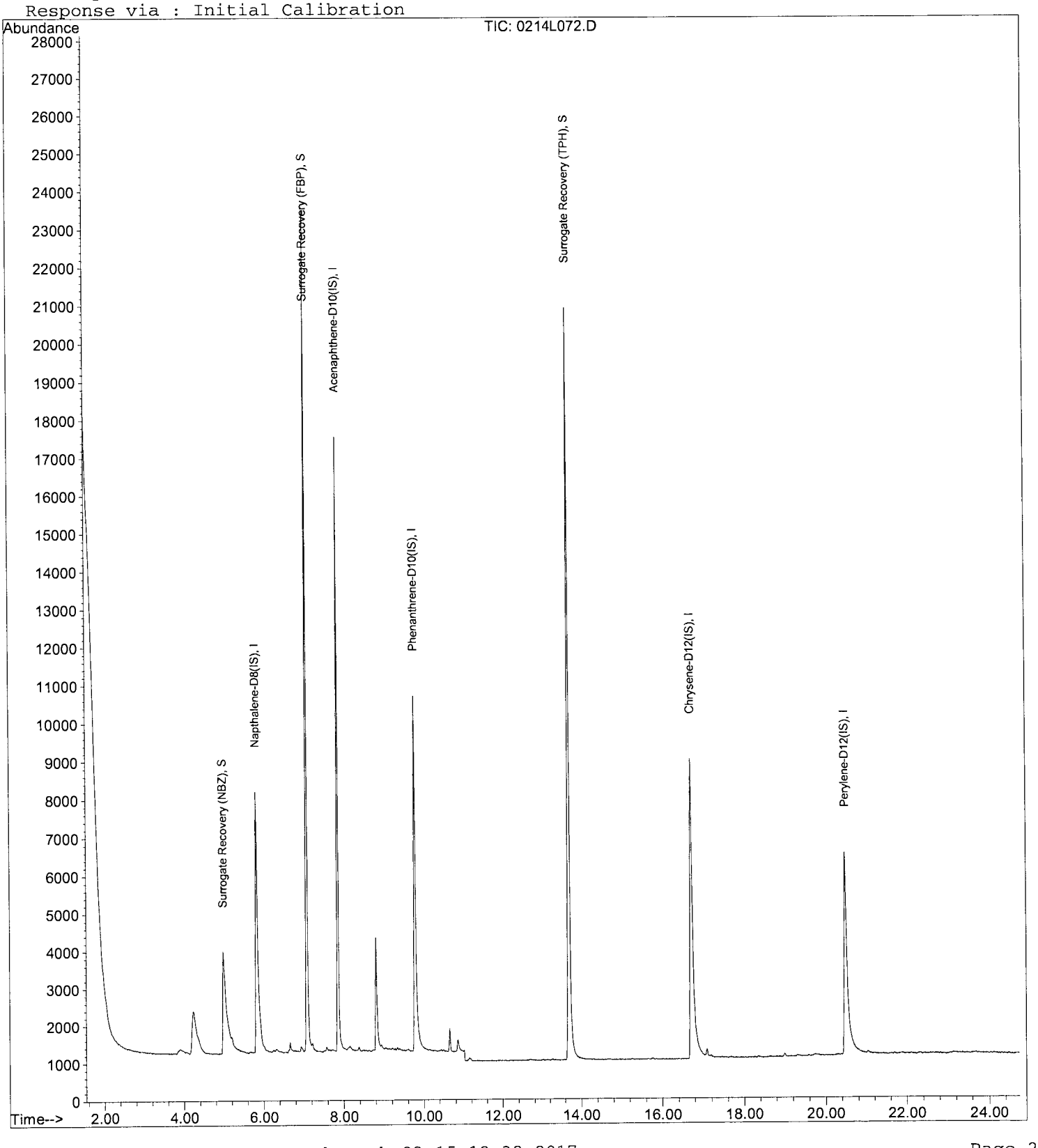
Data File : M:\LINUS\DATA\L170214\0214L072.D
Acq On : 17 Feb 17 2:11
Sample : AZ49853W26 1/1030
Misc : water

Vial: 72
Operator: MA
Inst : Linus
Multiplr: 0.97

Quant Time: Feb 17 8:26 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #SIMDO-170213A1-216252

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	79.1	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	87.3	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	99.8	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L073
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:41:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L073.D Vial: 73
Acq On : 17 Feb 17 2:44 Operator: MA
Sample : AZ49854W15 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:26 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22544	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11361	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	21398	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	25963	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.47	264	21976	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	13972	4.19907 ppb	-0.02
Spiked Amount 4.808			Recovery	= 87.339%	
7) Surrogate Recovery (FBP)	7.07	172	28207	3.80080 ppb	-0.01
Spiked Amount 4.808			Recovery	= 79.061%	
17) Surrogate Recovery (TPH)	13.69	244	39129	4.79862 ppb	-0.02
Spiked Amount 4.808			Recovery	= 99.819%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

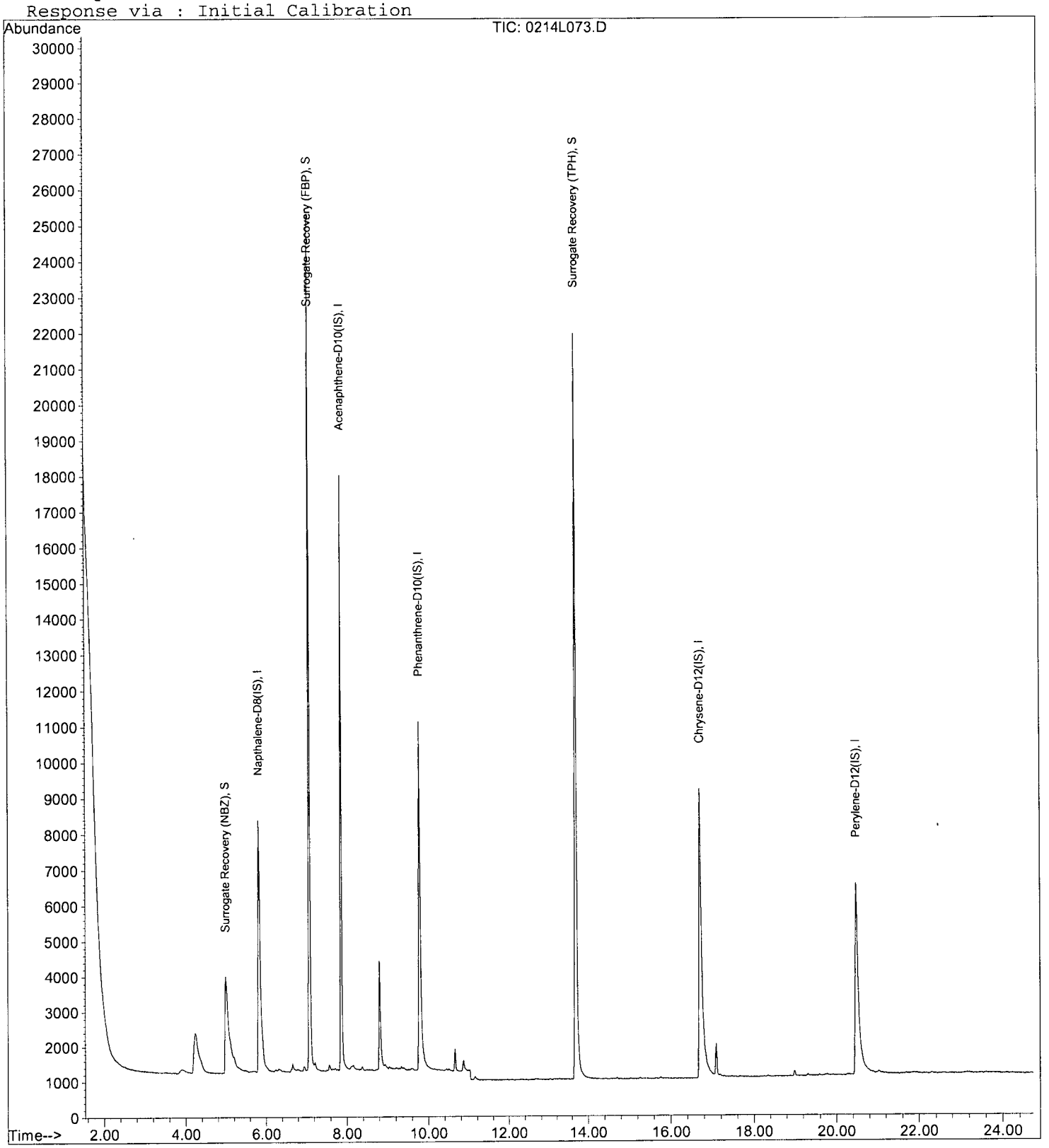
Data File : M:\LINUS\DATA\L170214\0214L073.D
Acq On : 17 Feb 17 2:44
Sample : AZ49854W15 1/1040
Misc : water

Vial: 73
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Feb 17 8:26 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #SIMDO-170213A1-216252

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/17/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/17/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/17/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	62.4	53-106			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	69.7	55-111			%	02/13/17	02/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	85.3	58-132			%	02/13/17	02/17/17

Quant Method: L0214PR.M
Run #: 0214L074
Instrument: Linus
Sequence: L170214
Dilution Factor: 1
Initials: RHA

Printed: 02/17/17 9:41:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L074.D Vial: 74
Acq On : 17 Feb 17 3:16 Operator: MA
Sample : AZ49855W12 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:27 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	21176	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	10959	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	20283	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23868	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	20566	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	10254	3.48747 ppb	-0.01
Spiked Amount 5.000			Recovery	= 69.740%	
7) Surrogate Recovery (FBP)	7.07	172	21474	3.11967 ppb	-0.01
Spiked Amount 5.000			Recovery	= 62.400%	
17) Surrogate Recovery (TPH)	13.69	244	30756	4.26697 ppb	-0.02
Spiked Amount 5.000			Recovery	= 85.340%	

Target Compounds Qvalue

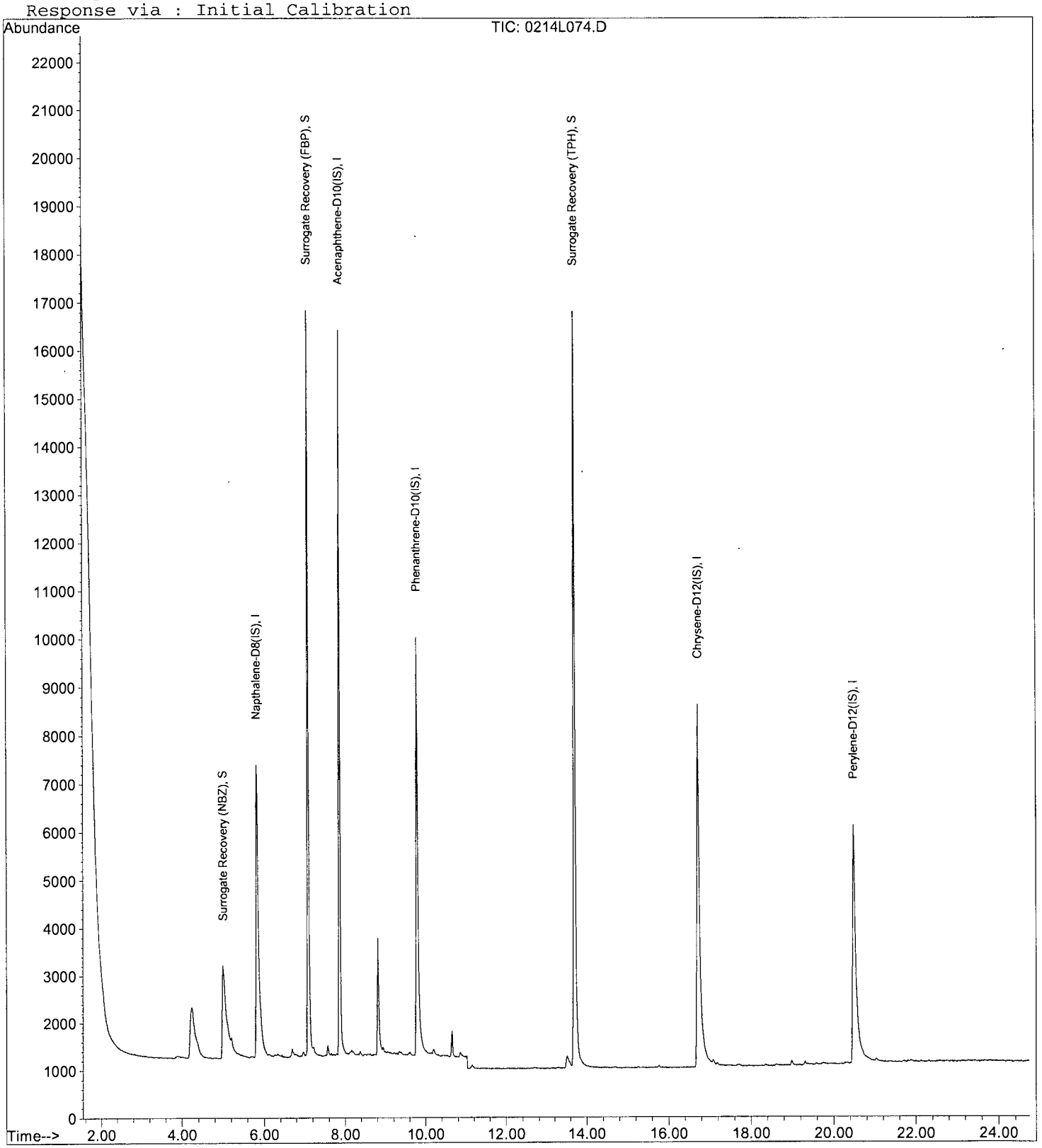
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L074.D Vial: 74
Acq On : 17 Feb 17 3:16 Operator: MA
Sample : AZ49855W12 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:27 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/14/17
Instrument: Linus

Initials:

		Compound	0214L003.D 0.1	0214L004.D 0.2	0214L005.D 0.5	0214L006.D 1	0214L007.D 5	0214L008.D 10	0214L009 D 50	0214L010 D 100			Avg	%RSD		
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1065	0.1124	0.3308	0.3451	0.3803	0.3826			0.28	47	SL	1.00
3	TM	Naphthalene	1.010	0.9921	1.051	1.049	1.145	1.023	0.9862	0.9552			1.0	5.6	TM	
4	TML	2-Methylnaphthalene	0.3818	0.3414	0.4333	0.4940	0.6571	0.6112	0.5897	0.5737			0.51	23	TML	1.000
5	TM	1-Methylnaphthalene	0.6460	0.7352	0.7366	0.7038	0.7151	0.6150	0.5591	0.5463			0.66	12	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.525	1.494	1.557	1.553	1.662	1.670	1.532	1.569			1.6	4.0	S	
8	TM	Acenaphthylene	1.854	1.724	1.848	1.857	2.240	2.044	1.955	1.990			1.9	8.1	TM	
9	*TM	Acenaphthene	1.348	1.229	1.242	1.174	1.337	1.184	1.114	0.9760			1.2	10	*TM	
10	TM	Fluorene	1.234	1.185	1.293	1.299	1.515	1.373	1.258	1.104			1.3	9.6	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	0.9312	0.8801	0.9506	0.9318	1.138	1.024	0.9566	0.8772			0.96	8.9	TM	
13	TML	Anthracene	0.6271	0.5685	0.7039	0.7224	1.053	0.9756	0.9420	0.8532			0.81	22	TML	0.998
14	*TM	Fluoranthene	1.214	1.140	1.272	1.339	1.734	1.522	1.584	1.620			1.4	15	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.165	1.145	1.316	1.320	1.529	1.408	1.373	1.336			1.3	9.4	TM	
17	S	Surrogate Recovery (TPH)	0.7005	0.7659	0.7652	0.7483	0.7646	0.7848	0.7431	0.7674			0.75	3.4	S	
18	TML	Benz (a) anthracene	0.6559	0.5630	0.6349	0.6981	0.9860	0.9808	1.134	1.151			0.85	28	TML	1.000
19	TM	Chrysene	0.8637	1.145	1.305	1.206	1.301	1.156	1.137	1.077			1.1	12	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.1599	0.1231	0.2623	0.3763	0.9521	0.8862	0.9905	0.9835			0.59	67	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.3826	0.3336	0.3580	0.5016	0.9666	1.008	1.232	1.129			0.74	51	TML	0.998
23	TML	Benzo (k) fluoranthene	0.5552	0.3119	0.3884	0.5739	0.5544	0.8217	1.000	0.9514			0.64	39	TML	0.999
24	*TML	Benzo (a) pyrene	0.4764	0.4873	0.5921	0.7416	1.181	1.178	1.160	1.087			0.86	37	*TML	0.999
25	TML	Dibenz (a,h) anthracene	0.1575	0.0332	0.0603	0.2698	0.8584	0.8479	0.9253	0.8745			0.50	81	TML	0.999
26	TML	Benzo (g,h,i) perylene	0.0675	0.0689	0.0747	0.2975	0.9588	0.8876	0.9566	0.8823			0.52	82	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24883	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11407	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	20968	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22983	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19994	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.03	82	5	0.34644 ppb	0.02
Spiked Amount 5.000			Recovery	= 6.920%	
7) Surrogate Recovery (FBP)	7.13	172	348	0.04857 ppb	0.05
Spiked Amount 5.000			Recovery	= 0.980%	
17) Surrogate Recovery (TPH)	13.75	244	322	0.04639 ppb	0.04
Spiked Amount 5.000			Recovery	= 0.920%	

Target Compounds						Qvalue
3) Naphthalene	5.84	128	1005	0.09840 ppb		99
4) 2-Methylnaphthalene	6.75	142	380	-0.16530 ppb		92
5) 1-Methylnaphthalene	6.82	142	643	0.09831 ppb		90
8) Acenaphthylene	7.73	152	846	0.09562 ppb		97
9) Acenaphthene	7.91	154	615	0.11228 ppb		96
10) Fluorene	8.56	166	563	0.09620 ppb		96
12) Phenanthrene	9.82	178	781	0.09688 ppb		98
13) Anthracene	9.97	178	526	-0.56919 ppb		96
14) Fluoranthene	12.63	202	1018	0.08499 ppb		95
16) Pyrene	13.25	202	1071	0.08800 ppb		98
18) Benz (a) anthracene	16.70	228	603	0.56996 ppb	#	72
19) Chrysene	16.81	228	794	0.07518 ppb	#	78
20) Indeno (1,2,3-cd) pyrene	22.96	276	147	0.37977 ppb	#	95
22) Benzo (b) fluoranthene	19.65	252	306m	0.22445 ppb		51
23) Benzo (k) fluoranthene	19.72	252	444m	0.59738 ppb		51
24) Benzo (a) pyrene	20.37	252	381	-0.22318 ppb	#	83
25) Dibenz (a,h) anthracene	22.97	278	126	0.15329 ppb	#	38
26) Benzo (g,h,i) perylene	23.58	276	54	-0.07760 ppb	#	67

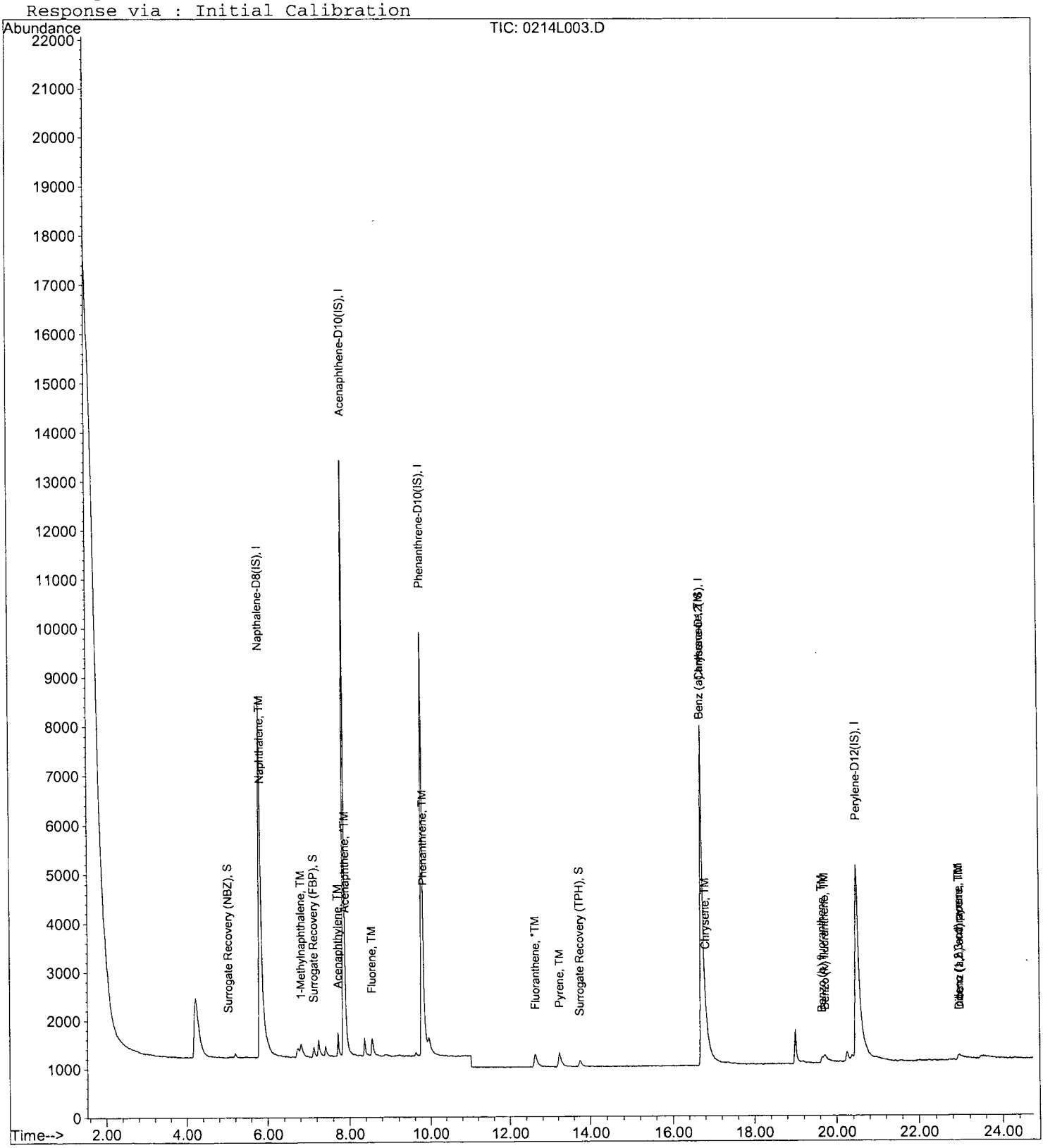
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:12 2017 Quant Results File: L0214PR.RES

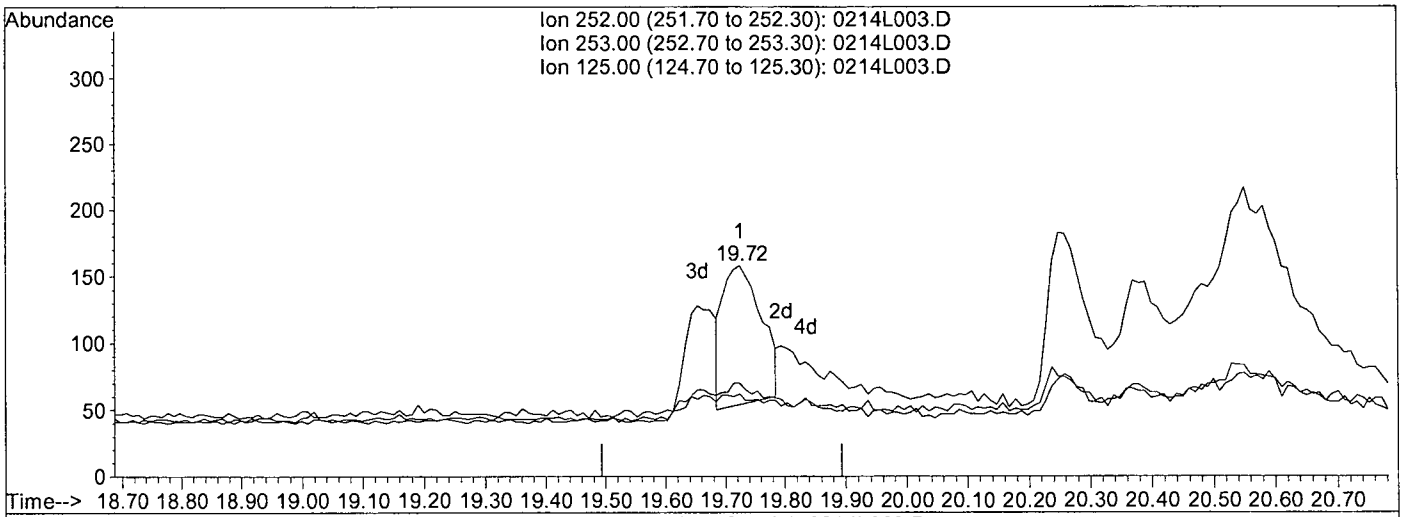
Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:14:10 2017
Response via : Initial Calibration

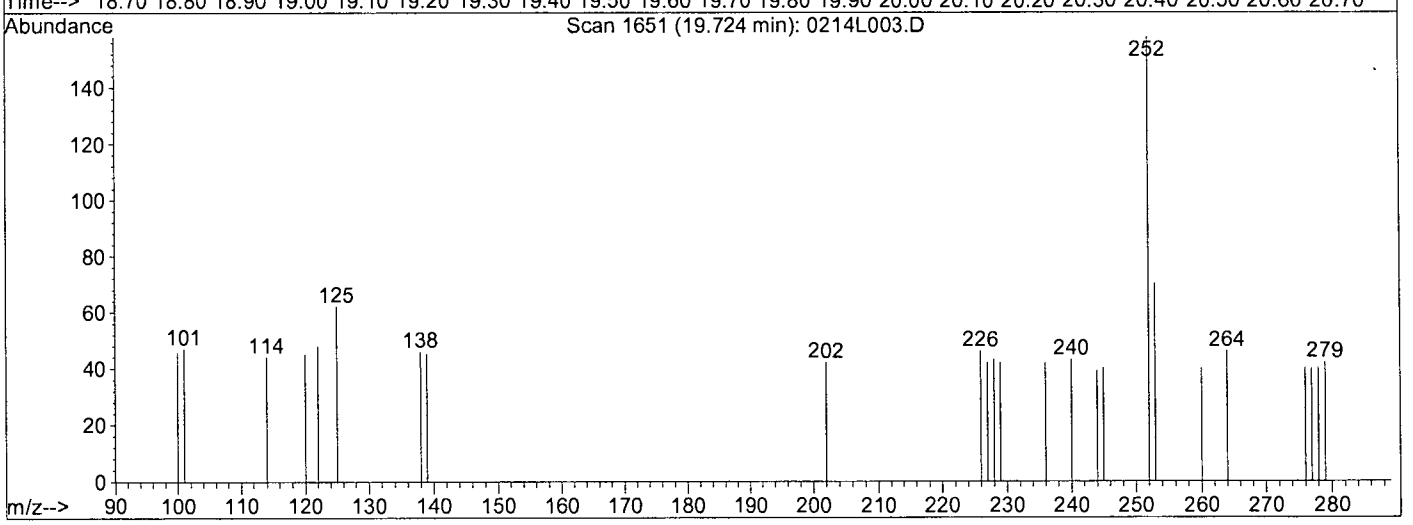


Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Feb 15 12:12 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Multiple Level Calibration





TIC: 0214L003.D

(22) Benzo (b) fluoranthene (TM)

19.72min 0.2427ppb

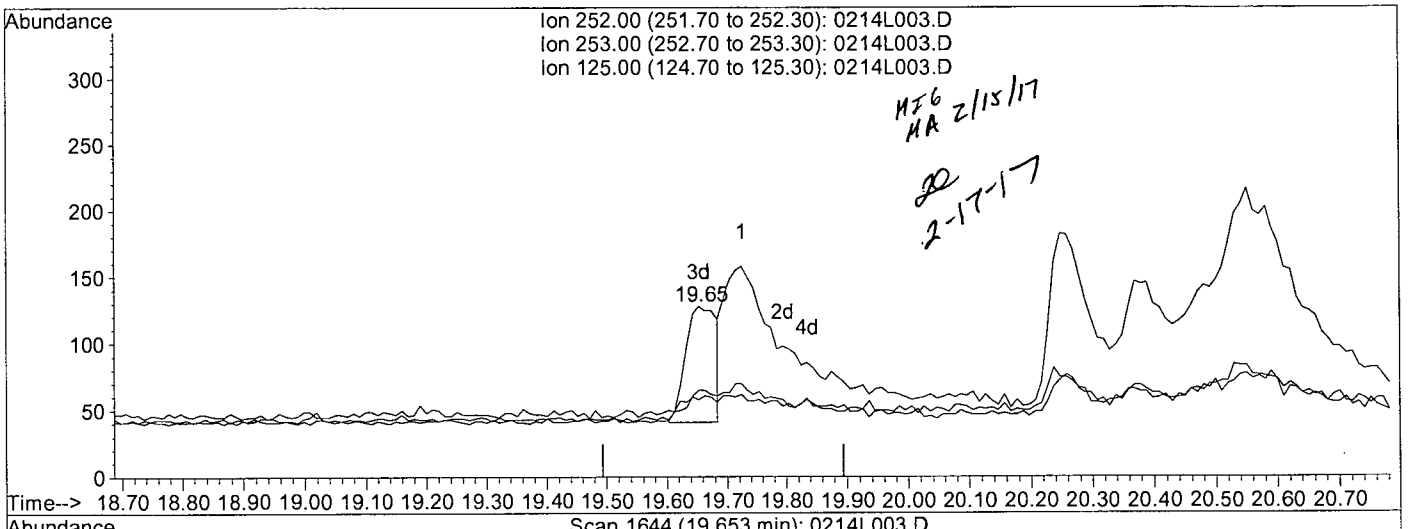
response 474

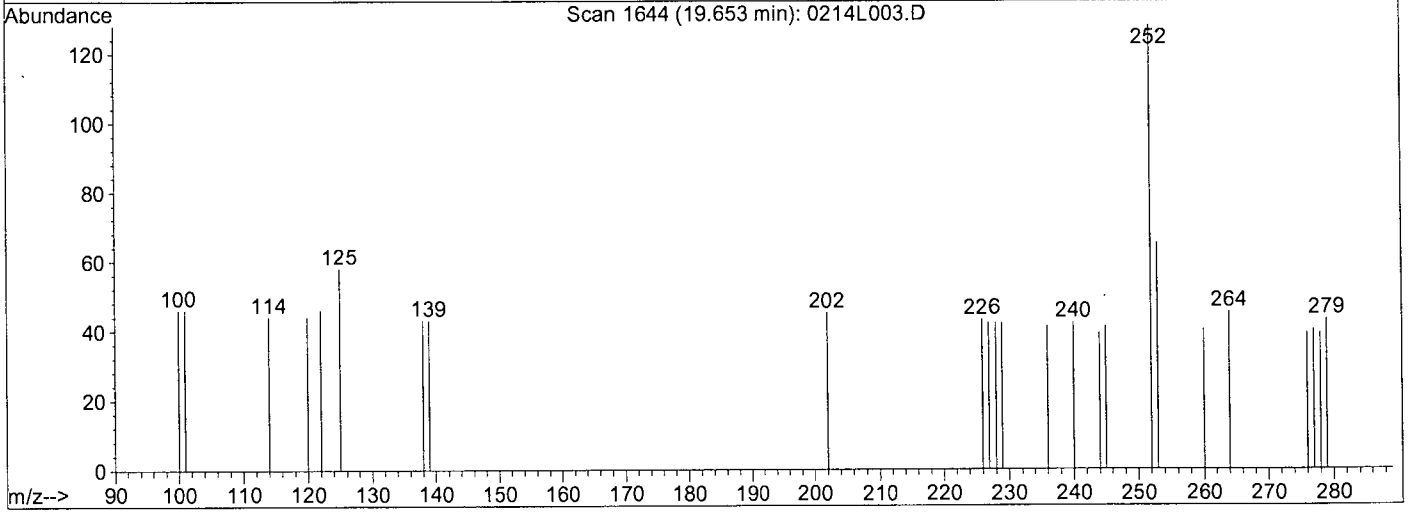
Ion	Exp%	Act%
252.00	100	100
253.00	47.40	17.74#
125.00	45.90	9.68#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Feb 15 12:12 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Multiple Level Calibration





TIC: 0214L003.D

(22) Benzo (b) fluoranthene (TM)

19.65min 0.2245ppb m

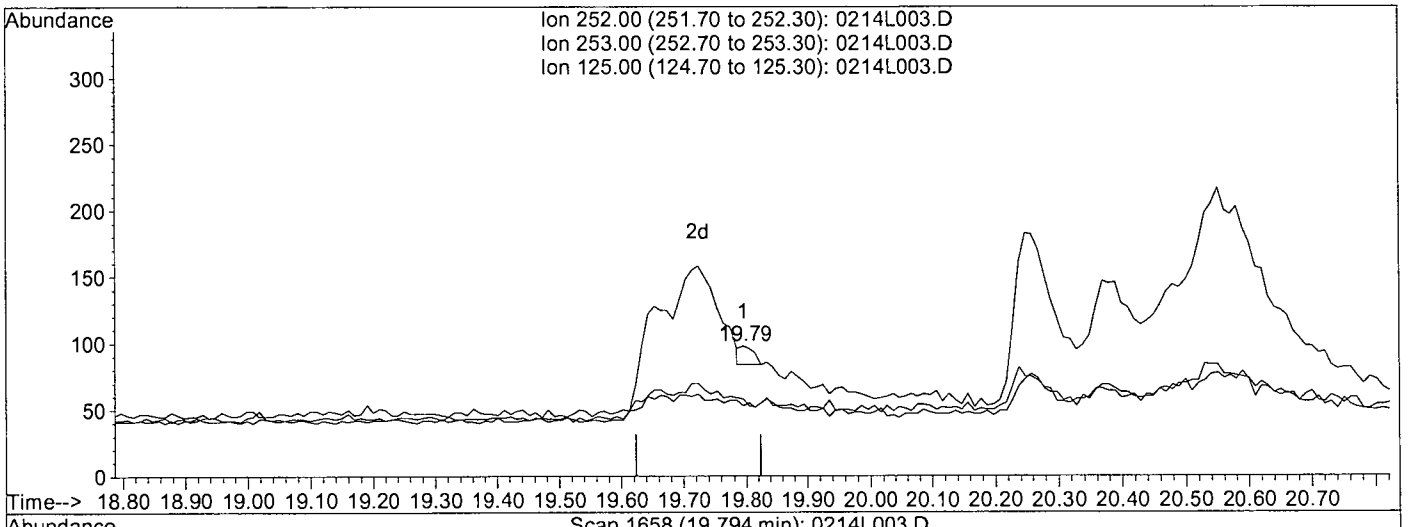
response 306

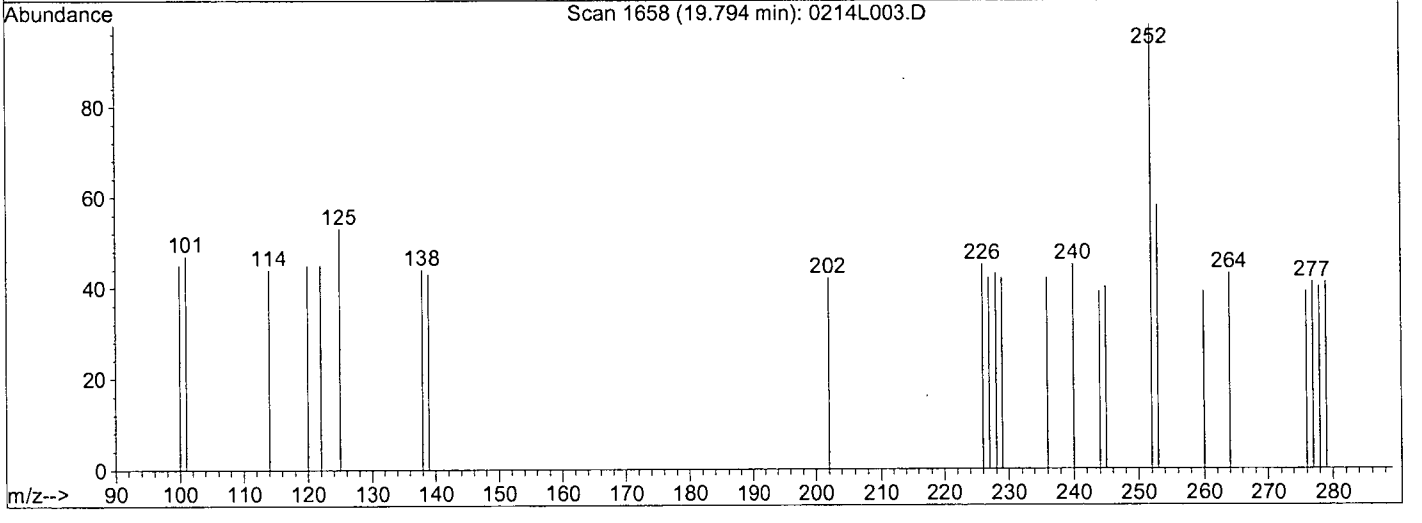
Ion	Exp%	Act%
252.00	100	100
253.00	47.40	50.78
125.00	45.90	45.31
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Feb 15 12:12 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Multiple Level Calibration





TIC: 0214L003.D

(23) Benzo (k) fluoranthene (TM)

19.79min 0.5426ppb

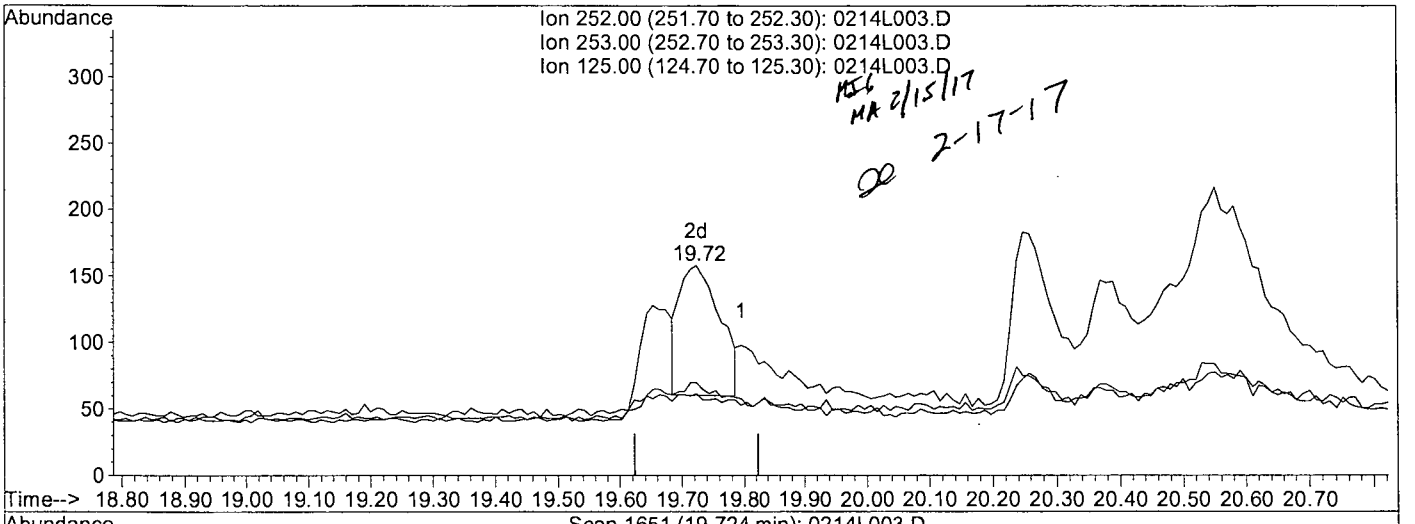
response 21

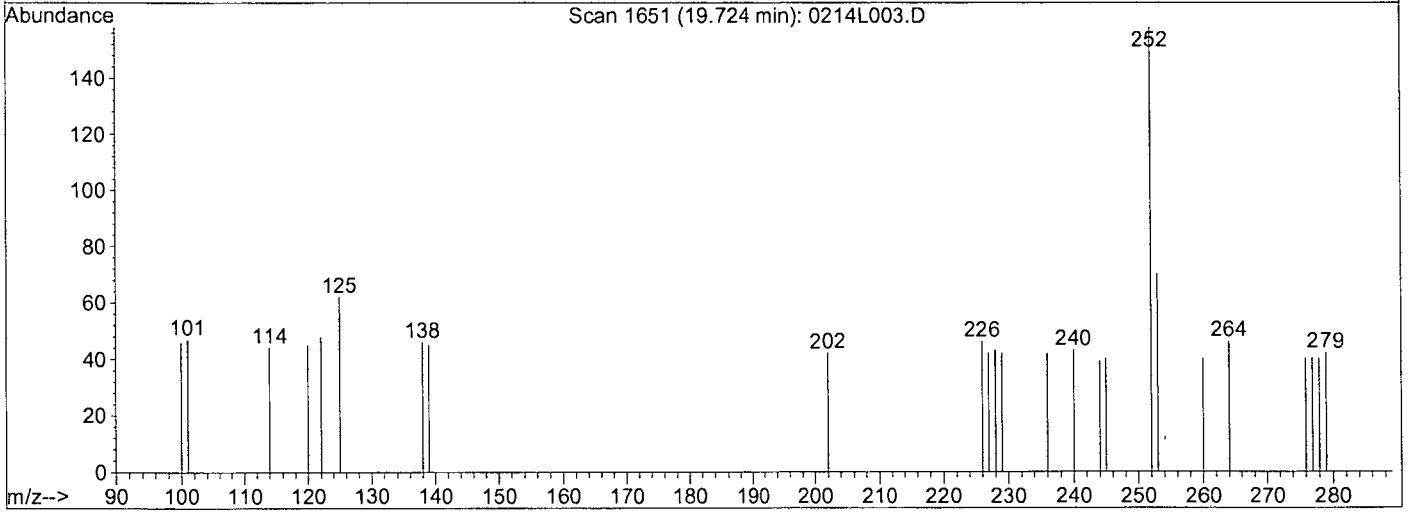
Ion	Exp%	Act%
252.00	100	100
253.00	44.30	21.43#
125.00	39.20	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L003.D Vial: 3
Acq On : 14 Feb 17 18:21 Operator: MA
Sample : 0.1 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Feb 15 12:12 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 12:11:55 2017
Response via : Multiple Level Calibration





TIC: 0214L003.D

(23) Benzo (k) fluoranthene (TM)

19.72min 0.5974ppb m

response 444

Ion	Exp%	Act%
252.00	100	100
253.00	44.30	44.30
125.00	39.20	39.24
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L004.D
Acq On : 14 Feb 17 18:53
Sample : 0.2 SIM 02/14/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:18 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:48 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	24569	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	12218	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	22470	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	22848	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.49	264	19597	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	7	0.00241 ppb	-0.05
Spiked Amount 5.000			Recovery	= 0.040%	
7) Surrogate Recovery (FBP)	7.13	172	730	0.09551 ppb	0.05
Spiked Amount 5.000			Recovery	= 1.920%	
17) Surrogate Recovery (TPH)	13.76	244	700	0.09963 ppb	0.05
Spiked Amount 5.000			Recovery	= 2.000%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	1950	0.19441 ppb	99
4) 2-Methylnaphthalene	6.75	142	671	0.12650 ppb	95
5) 1-Methylnaphthalene	6.81	142	1445	0.21388 ppb	98
8) Acenaphthylene	7.73	152	1685	0.16798 ppb	98
9) Acenaphthene	7.91	154	1201	0.19341 ppb	97
10) Fluorene	8.57	166	1158	0.17200 ppb	97
12) Phenanthrene	9.82	178	1582	0.16914 ppb	98
13) Anthracene	9.97	178	1022	0.11718 ppb	94
14) Fluoranthene	12.61	202	2050	0.13728 ppb	99
16) Pyrene	13.24	202	2093	0.16238 ppb	99
18) Benz (a) anthracene	16.70	228	1029	0.11783 ppb	93
19) Chrysene	16.80	228	2093	0.15885 ppb	98
20) Indeno (1,2,3-cd) pyrene	22.93	276	225	0.02768 ppb #	93
22) Benzo (b) fluoranthene	19.63	252	523	0.05979 ppb #	93
23) Benzo (k) fluoranthene	19.70	252	489	0.05161 ppb #	71
24) Benzo (a) pyrene	20.38	252	764	0.08906 ppb #	65
25) Dibenz (a,h) anthracene	22.99	278	52	0.00723 ppb #	65
26) Benzo (g,h,i) perylene	23.52	276	108	0.01500 ppb #	35

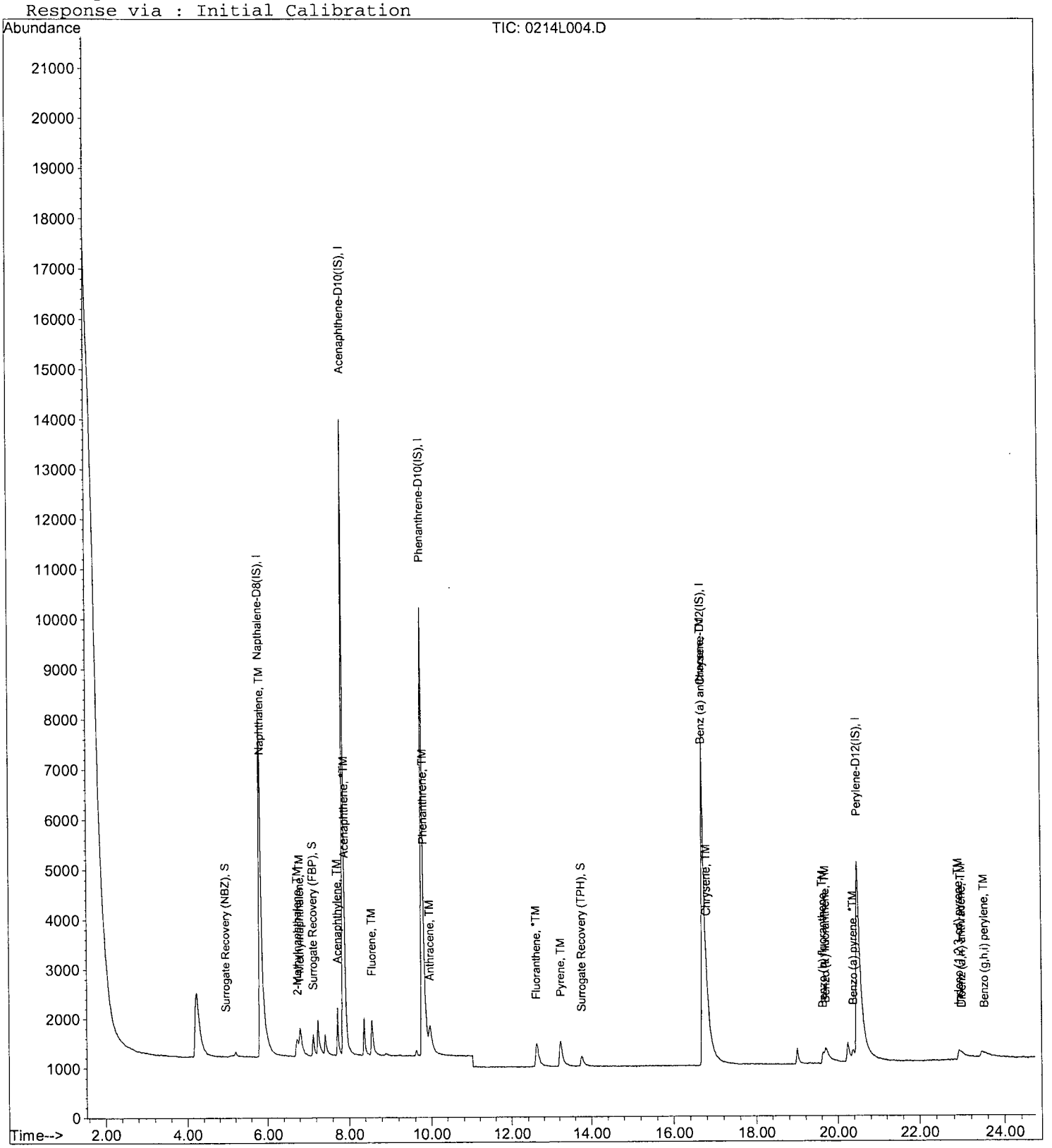
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L004.D Vial: 4
Acq On : 14 Feb 17 18:53 Operator: MA
Sample : 0.2 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:18 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L005.D Vial: 5
Acq On : 14 Feb 17 19:26 Operator: MA
Sample : 0.5 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:17 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:17:01 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23655	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11847	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.79	188	21487	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	21327	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.48	264	19077	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.12	82	252	0.08995 ppb	0.11
Spiked Amount 5.000			Recovery	= 1.800%	
7) Surrogate Recovery (FBP)	7.12	172	1844	0.24883 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
17) Surrogate Recovery (TPH)	13.75	244	1632	0.24884 ppb	0.04
Spiked Amount 5.000			Recovery	= 4.980%	
Target Compounds					Qvalue
3) Naphthalene	5.86	128	4970	0.51463 ppb	99
4) 2-Methylnaphthalene	6.71	142	2050	0.40141 ppb	99
5) 1-Methylnaphthalene	6.80	142	3485	0.53576 ppb	99
8) Acenaphthylene	7.73	152	4379	0.45023 ppb	99
9) Acenaphthene	7.91	154	2943	0.48880 ppb	98
10) Fluorene	8.55	166	3064	0.46935 ppb	95
12) Phenanthrene	9.82	178	4085	0.45673 ppb	98
13) Anthracene	9.96	178	3025	0.36270 ppb	97
14) Fluoranthene	12.59	202	5465	0.38272 ppb	100
16) Pyrene	13.21	202	5612	0.46646 ppb	98
18) Benz (a) anthracene	16.71	228	2708	0.33221 ppb	98
19) Chrysene	16.80	228	5565	0.45249 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.88	276	1119	0.14748 ppb #	94
22) Benzo (b) fluoranthene	19.61	252	1366	0.16041 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1482	0.16066 ppb	93
24) Benzo (a) pyrene	20.36	252	2259	0.27050 ppb #	84
25) Dibenz (a,h) anthracene	22.94	278	230	0.03287 ppb #	54
26) Benzo (g,h,i) perylene	23.48	276	285	0.04066 ppb #	69

(#) = qualifier out of range (m) = manual integration

Quantitation Report

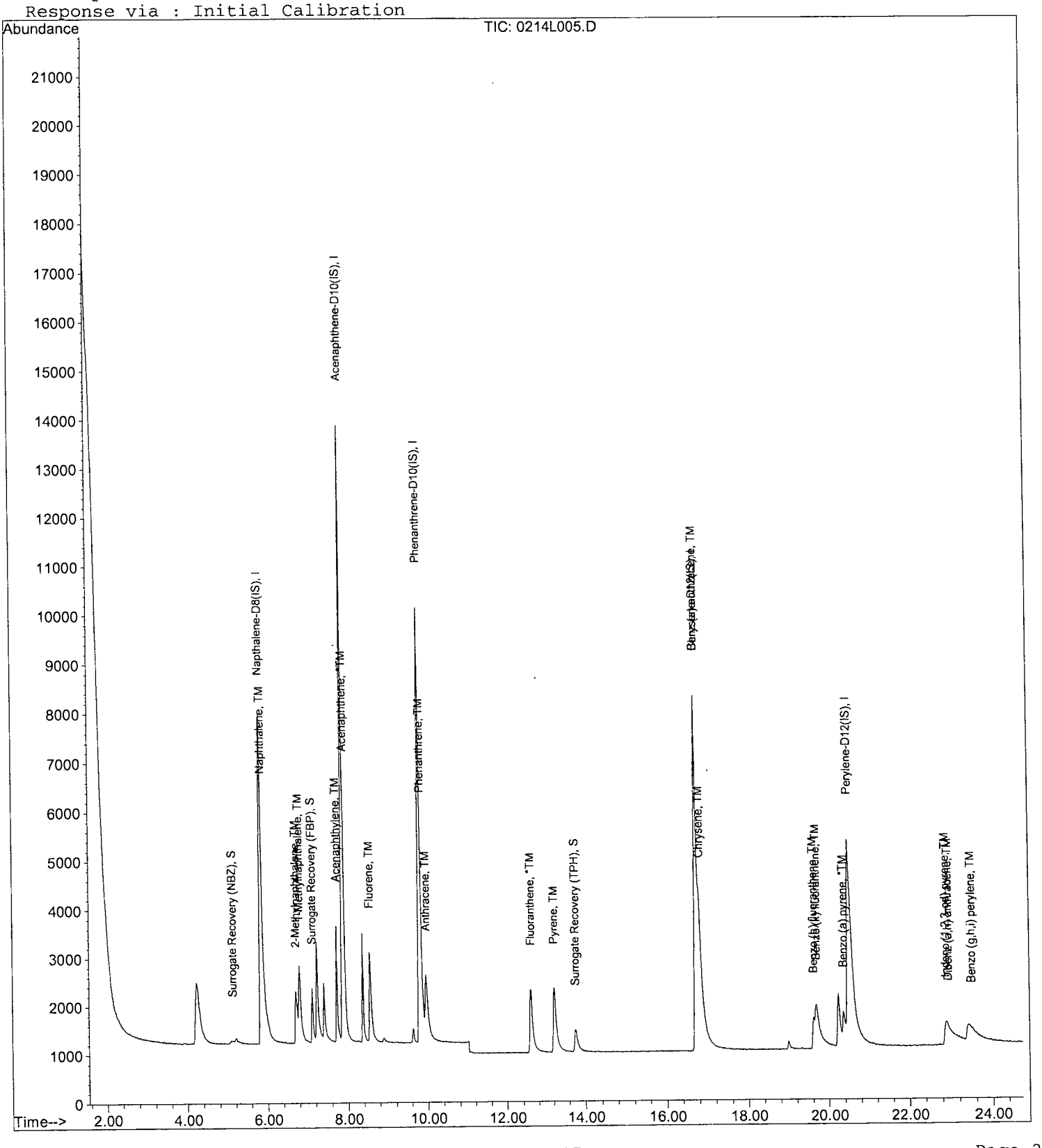
Data File : M:\LINUS\DATA\L170214\0214L005.D
Acq On : 14 Feb 17 19:26
Sample : 0.5 SIM 02/14/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:17 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L006.D Vial: 6
Acq On : 14 Feb 17 19:59 Operator: MA
Sample : 1.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:10 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:10:08 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22641	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.87	164	11561	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.78	188	21533	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.71	240	23167	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.47	264	19846	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.07	82	509	0.18983 ppb	0.06
Spiked Amount 5.000			Recovery	= 3.800%	
7) Surrogate Recovery (FBP)	7.11	172	3592	0.49669 ppb	0.02
Spiked Amount 5.000			Recovery	= 9.940%	
17) Surrogate Recovery (TPH)	13.74	244	3467	0.48664 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.740%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	9496	1.02733 ppb	100
4) 2-Methylnaphthalene	6.69	142	4474	0.91529 ppb	99
5) 1-Methylnaphthalene	6.78	142	6374	1.02378 ppb	98
8) Acenaphthylene	7.71	152	8586	0.90461 ppb	99
9) Acenaphthene	7.91	154	5428	0.92382 ppb	99
10) Fluorene	8.53	166	6009	0.94323 ppb	99
12) Phenanthrene	9.82	178	8026	0.89544 ppb	100
13) Anthracene	9.95	178	6222	0.74442 ppb	100
14) Fluoranthene	12.56	202	11537	0.80622 ppb	99
16) Pyrene	13.19	202	12230	0.93579 ppb	99
18) Benz (a) anthracene	16.70	228	6469	0.73057 ppb	99
19) Chrysene	16.78	228	11177	0.83663 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.86	276	3487	0.42307 ppb #	91
22) Benzo (b) fluoranthene	19.59	252	3982	0.44948 ppb	99
23) Benzo (k) fluoranthene	19.67	252	4556	0.47478 ppb	93
24) Benzo (a) pyrene	20.36	252	5887	0.67760 ppb	100
25) Dibenz (a,h) anthracene	22.87	278	2142	0.29428 ppb	96
26) Benzo (g,h,i) perylene	23.38	276	2362	0.32389 ppb	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

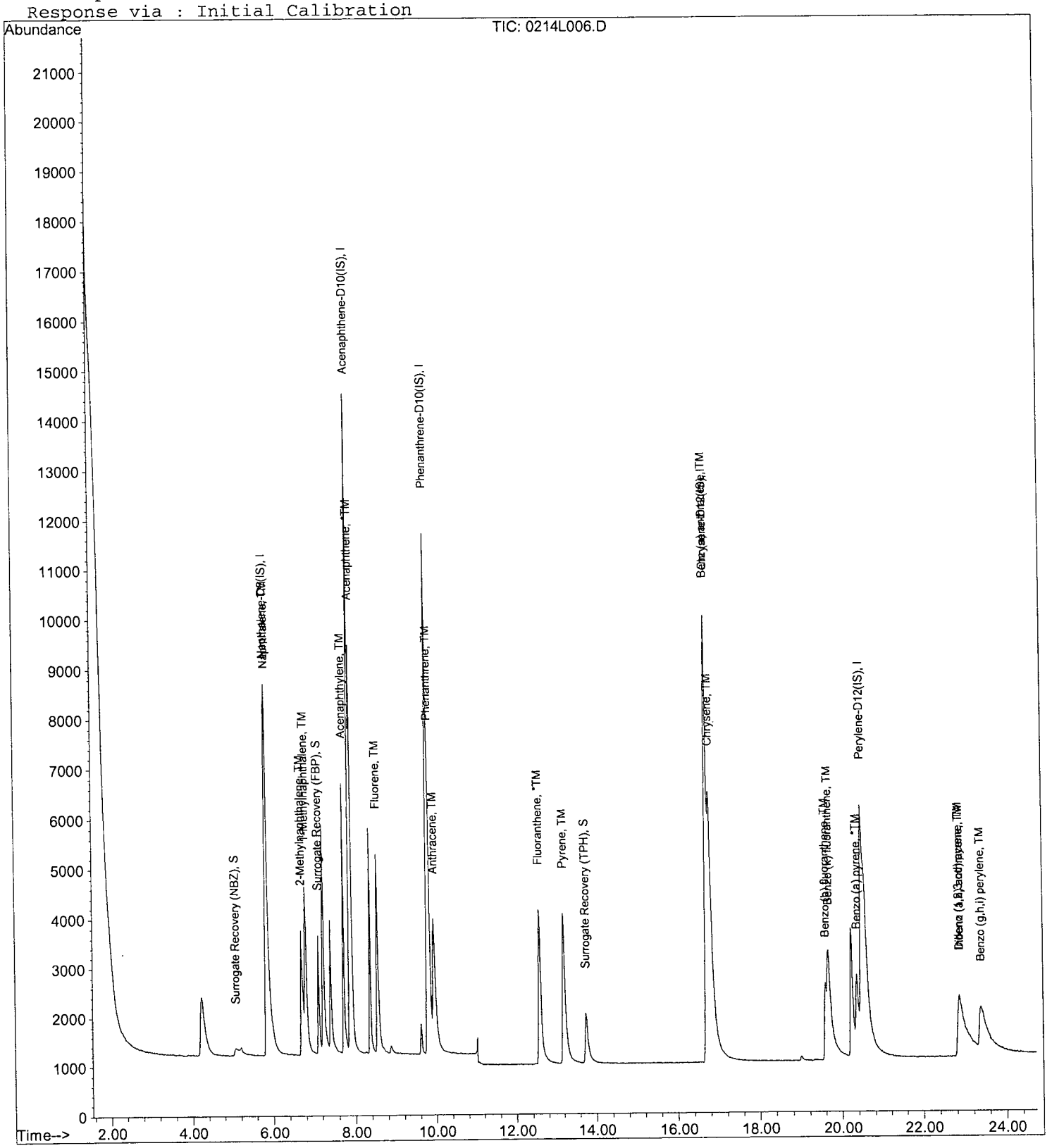
Data File : M:\LINUS\DATA\L170214\0214L006.D
Acq On : 14 Feb 17 19:59
Sample : 1.0 SIM 02/14/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 11:10 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	23069	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11695	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	22161	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26224	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	21900	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7632	2.16155 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.240%	
7) Surrogate Recovery (FBP)	7.09	172	19441	2.30557 ppb	0.01
Spiked Amount 5.000			Recovery	= 46.120%	
17) Surrogate Recovery (TPH)	13.71	244	20051	2.15776 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.160%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	52807	5.55542 ppb	100
4) 2-Methylnaphthalene	6.65	142	30318	5.82670 ppb	99
5) 1-Methylnaphthalene	6.76	142	32993	5.07935 ppb	90
8) Acenaphthylene	7.70	152	52392	5.39398 ppb	99
9) Acenaphthene	7.89	154	31274	5.23130 ppb	98
10) Fluorene	8.51	166	35429	5.42550 ppb	99
12) Phenanthrene	9.80	178	50432	5.42620 ppb	99
13) Anthracene	9.90	178	46660	5.36380 ppb	99
14) Fluoranthene	12.52	202	76875	5.17089 ppb	99
16) Pyrene	13.15	202	80173	5.38905 ppb	99
18) Benz (a) anthracene	16.66	228	51714	4.99837 ppb	99
19) Chrysene	16.76	228	68220	4.49857 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.78	276	49937	5.25941 ppb	92
22) Benzo (b) fluoranthene	19.55	252	42337	4.20558 ppb	100
23) Benzo (k) fluoranthene	19.61	252	24283	2.20116 ppb	99
24) Benzo (a) pyrene	20.32	252	51711	5.30494 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	37598	4.57609 ppb	96
26) Benzo (g,h,i) perylene	23.30	276	41994	5.16288 ppb #	77

(#) = qualifier out of range (m) = manual integration

Quantitation Report

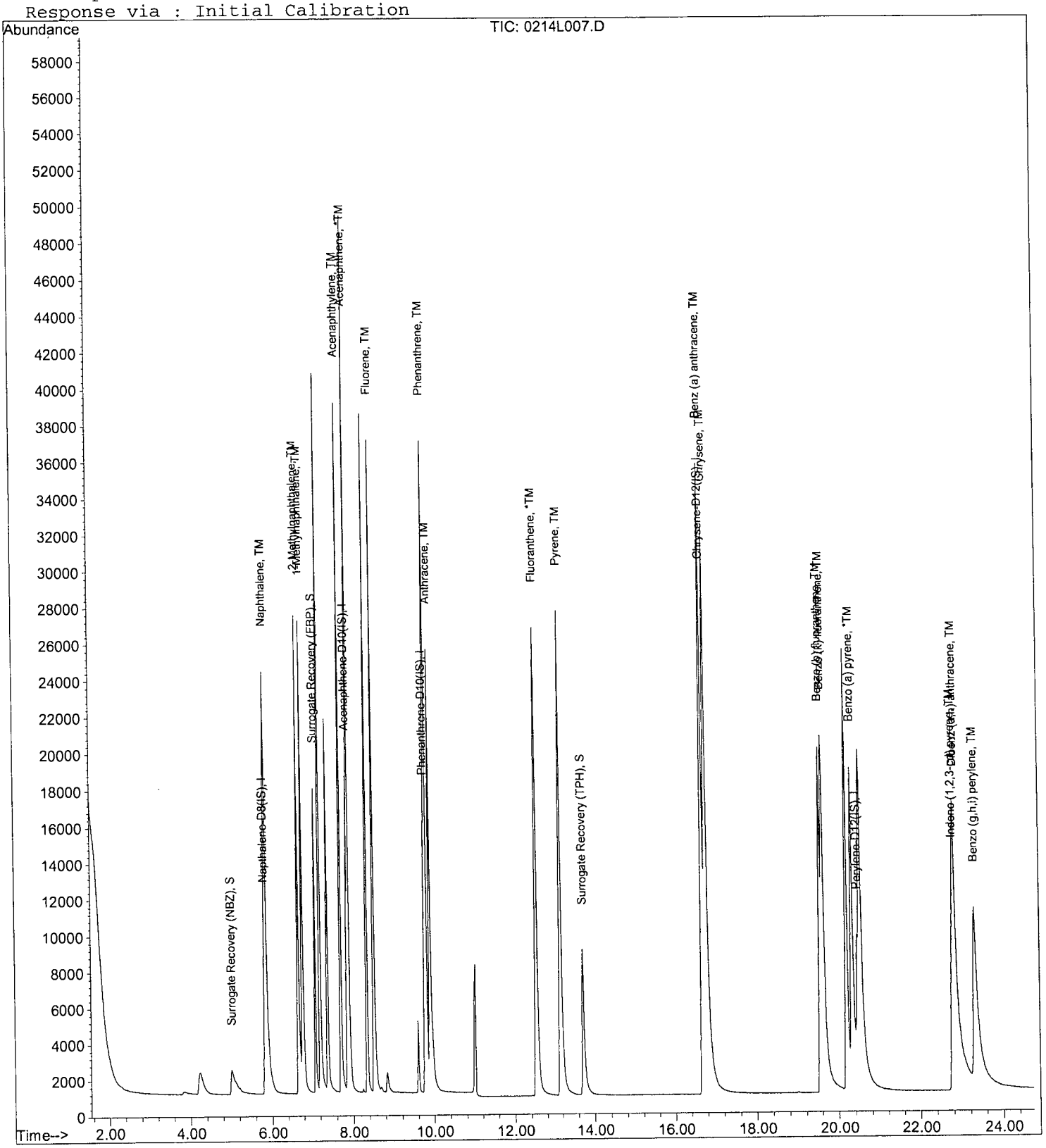
Data File : M:\LINUS\DATA\L170214\0214L007.D
Acq On : 14 Feb 17 20:32
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:55 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L008.D
Acq On : 14 Feb 17 21:04
Sample : 10 SIM 02/14/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25521	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	13054	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25109	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27862	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	22643	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	17613	5.82737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 116.540%	
7) Surrogate Recovery (FBP)	7.07	172	43593	5.33847 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.760%	
17) Surrogate Recovery (TPH)	13.70	244	43734	5.10427 ppb	-0.01
Spiked Amount 5.000			Recovery	= 102.080%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	104393	10.01930 ppb		100
4) 2-Methylnaphthalene	6.65	142	62394	11.32415 ppb		98
5) 1-Methylnaphthalene	6.76	142	62777	8.94524 ppb		98
8) Acenaphthylene	7.70	152	106739	9.95971 ppb		100
9) Acenaphthene	7.89	154	61799	9.31500 ppb		98
10) Fluorene	8.51	166	71715	9.96963 ppb		98
12) Phenanthrene	9.80	178	102855	9.84092 ppb		100
13) Anthracene	9.89	178	97984	10.05354 ppb		100
14) Fluoranthene	12.51	202	152895	9.16281 ppb		100
16) Pyrene	13.14	202	156870	9.98048 ppb		99
18) Benz (a) anthracene	16.65	228	109307	10.26431 ppb		100
19) Chrysene	16.75	228	128791	8.01587 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.75	276	98762	9.96348 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	91272	9.02992 ppb		98
23) Benzo (k) fluoranthene	19.60	252	74425	6.79771 ppb		99
24) Benzo (a) pyrene	20.31	252	106652	10.75944 ppb		100
25) Dibenz (a,h) anthracene	22.80	278	76794	9.24705 ppb		98
26) Benzo (g,h,i) perylene	23.27	276	80392	9.66204 ppb		99

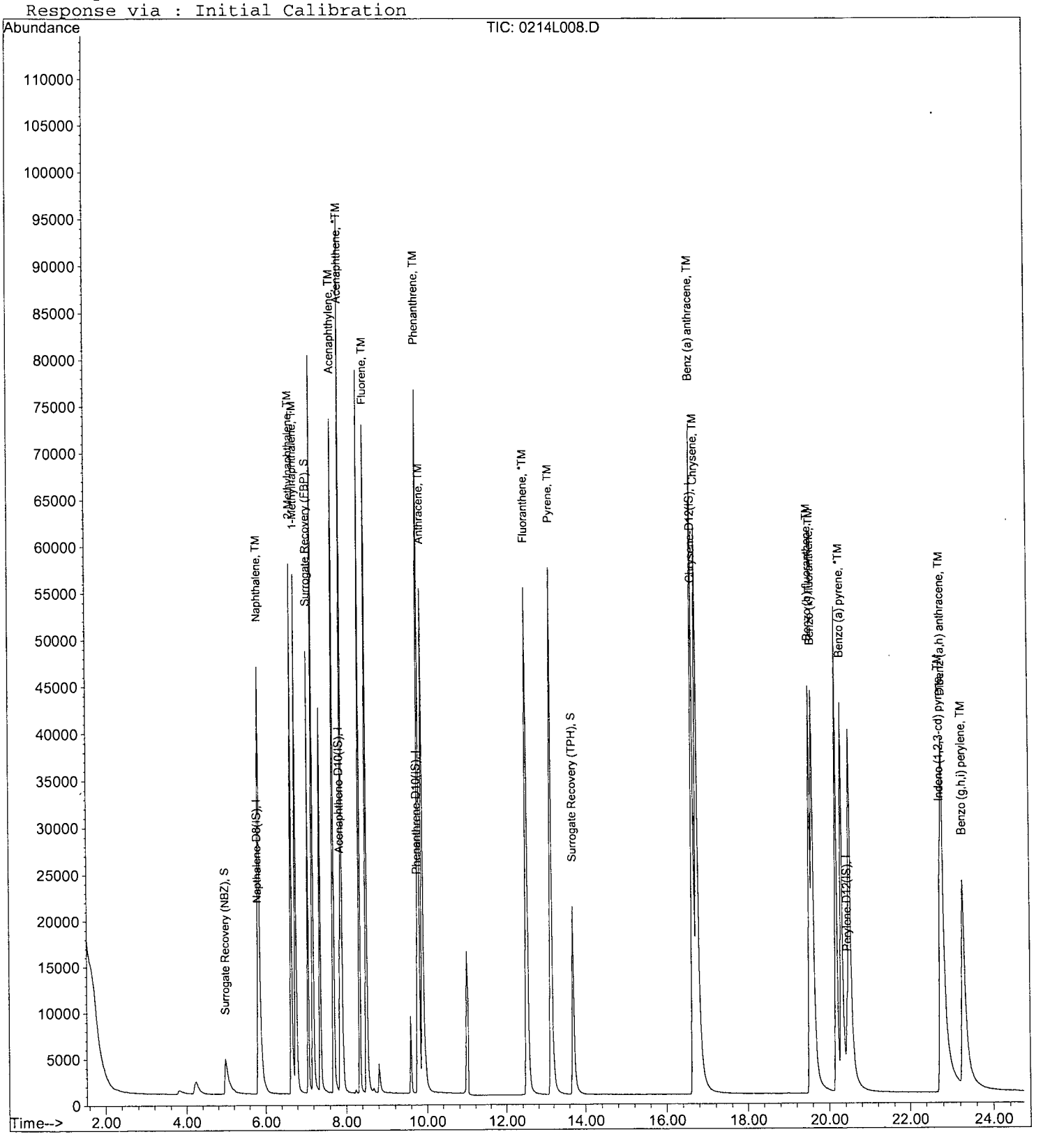
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L008.D Vial: 8
Acq On : 14 Feb 17 21:04 Operator: MA
Sample : 10 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L009.D Vial: 9
Acq On : 14 Feb 17 21:37 Operator: MA
Sample : 50 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24268	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11807	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	23286	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	27820	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	23474	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	92288	32.11060 ppb	-0.06
Spiked Amount 5.000			Recovery	= 642.220%	
7) Surrogate Recovery (FBP)	7.07	172	180923	24.49615 ppb	-0.01
Spiked Amount 5.000			Recovery	= 489.920%	
17) Surrogate Recovery (TPH)	13.69	244	206717	24.16271 ppb	-0.02
Spiked Amount 5.000			Recovery	= 483.260%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	478672	48.31342 ppb		100
4) 2-Methylnaphthalene	6.64	142	286232	54.63167 ppb		97
5) 1-Methylnaphthalene	6.75	142	271379	40.66601 ppb		100
8) Acenaphthylene	7.69	152	461582	47.61857 ppb		99
9) Acenaphthene	7.89	154	263095	43.84480 ppb		98
10) Fluorene	8.50	166	296983	45.64619 ppb		100
12) Phenanthrene	9.80	178	445520	45.96339 ppb		100
13) Anthracene	9.89	178	438700	48.53621 ppb		100
14) Fluoranthene	12.51	202	737558	47.66133 ppb		100
16) Pyrene	13.14	202	763990	48.68040 ppb		100
18) Benz (a) anthracene	16.65	228	630780	59.32187 ppb		99
19) Chrysene	16.75	228	632756	39.44178 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	551119	55.68287 ppb	#	97
22) Benzo (b) fluoranthene	19.54	252	578169	55.17574 ppb		99
23) Benzo (k) fluoranthene	19.61	252	469577	41.37111 ppb		100
24) Benzo (a) pyrene	20.32	252	544492	52.98576 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	434416	50.45783 ppb		96
26) Benzo (g,h,i) perylene	23.28	276	449102	52.06524 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

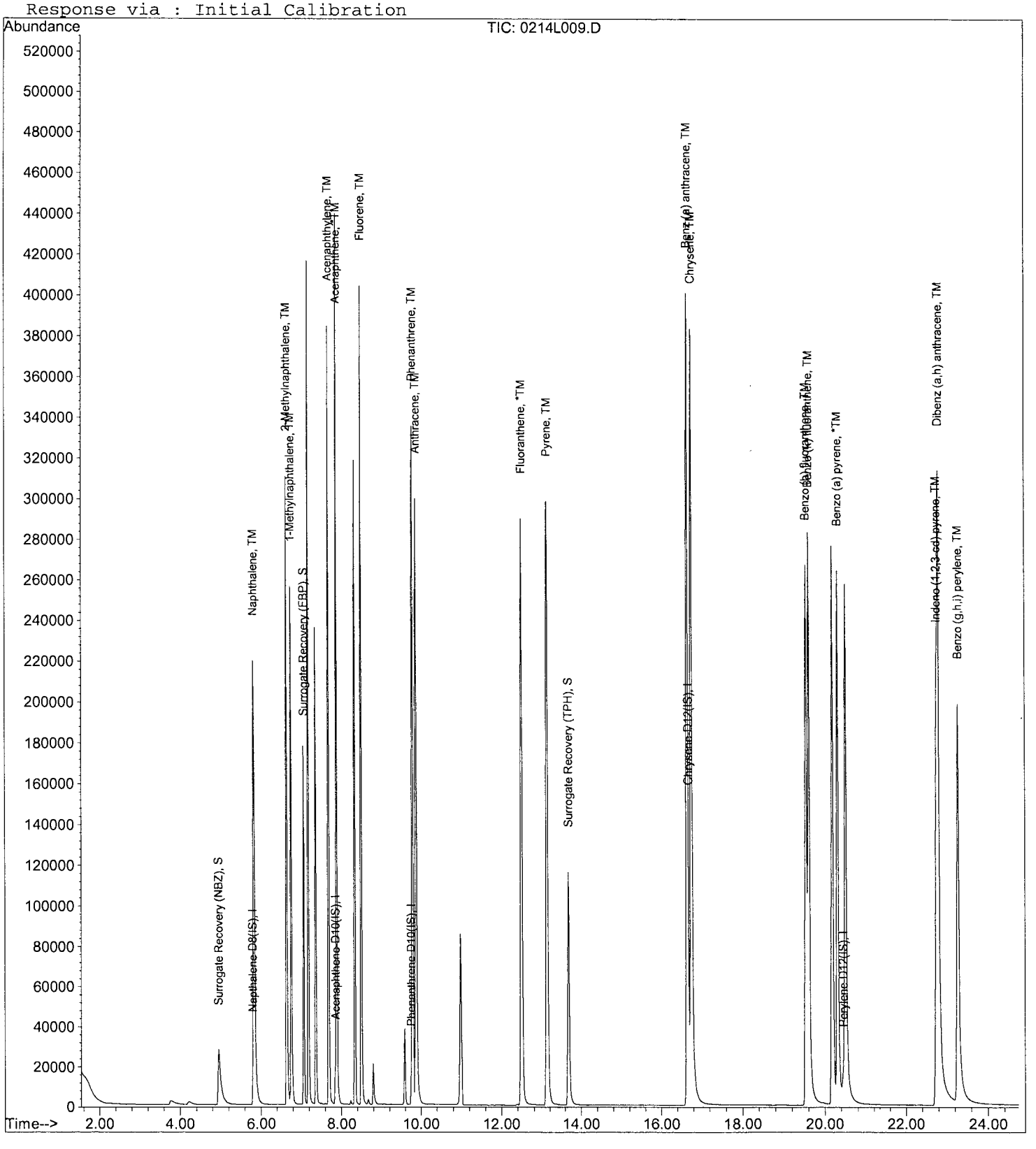
Data File : M:\LINUS\DATA\L170214\0214L009.D
Acq On : 14 Feb 17 21:37
Sample : 50 SIM 02/14/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L010.D Vial: 10
Acq On : 14 Feb 17 22:10 Operator: MA
Sample : 100 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 15 10:58 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 10:55:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	24826	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.86	164	11795	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	23221	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	25126	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	22273	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	189983	64.61675 ppb	-0.06
Spiked Amount 5.000			Recovery	= 1292.340%	
7) Surrogate Recovery (FBP)	7.06	172	370044	50.15324 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1003.060%	
17) Surrogate Recovery (TPH)	13.69	244	385634	49.90897 ppb	-0.02
Spiked Amount 5.000			Recovery	= 998.180%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	948587	93.59101 ppb	100
4) 2-Methylnaphthalene	6.64	142	569721	106.29572 ppb	98
5) 1-Methylnaphthalene	6.76	142	542487	79.46428 ppb	97
8) Acenaphthylene	7.69	152	938988	96.96815 ppb	98
9) Acenaphthene	7.89	154	460489	76.81860 ppb	98
10) Fluorene	8.51	166	520677	80.10930 ppb	98
12) Phenanthrene	9.80	178	814732	84.28951 ppb	99
13) Anthracene	9.90	178	792530	87.92814 ppb	99
14) Fluoranthene	12.52	202	1504305	97.48097 ppb	100
16) Pyrene	13.16	202	1342341	94.70286 ppb	100
18) Benz (a) anthracene	16.67	228	1157282	120.50634 ppb	99
19) Chrysene	16.78	228	1082847	74.73450 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	988467	110.57887 ppb #	97
22) Benzo (b) fluoranthene	19.56	252	1005475	101.12837 ppb	99
23) Benzo (k) fluoranthene	19.64	252	847638	78.70624 ppb	99
24) Benzo (a) pyrene	20.35	252	968264	99.30470 ppb	100
25) Dibenz (a,h) anthracene	22.84	278	779082	95.37056 ppb	99
26) Benzo (g,h,i) perylene	23.32	276	786063	96.04365 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

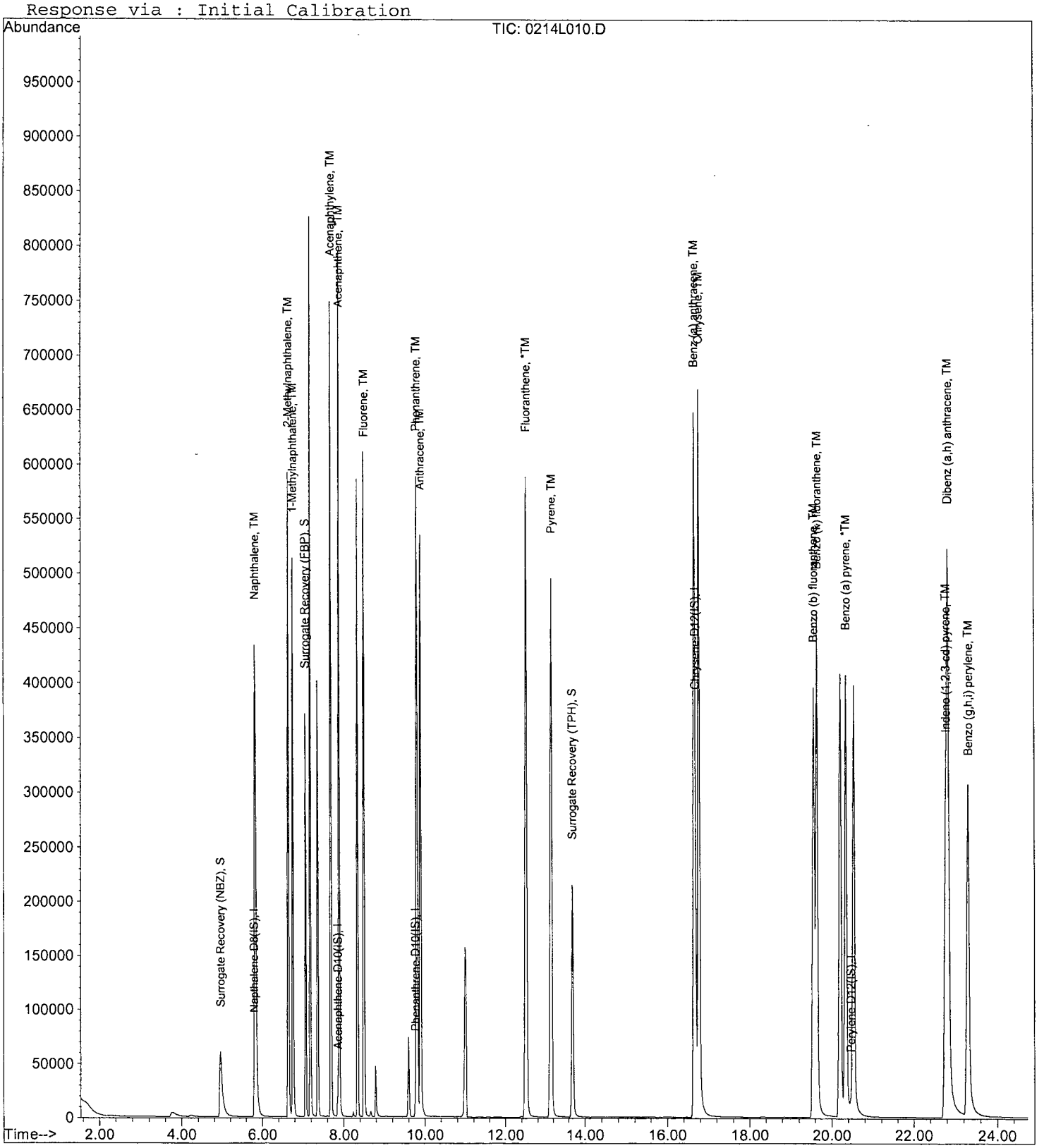
Data File : M:\LINUS\DATA\L170214\0214L010.D
Acq On : 14 Feb 17 22:10
Sample : 100 SIM 02/14/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 15 10:58 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 11:54:30 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L050.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.026	1.077	4.9	TM	
2	TML	2-Methylnaphthalene	0.5103	0.6080	19	TML	1.0
3	TM	1-Methylnaphthalene	0.6571	0.6979	6.2	TM	
4	TM	Acenaphthylene	1.939	2.054	5.9	TM	
5	*TM	Acenaphthene	1.200	1.244	3.6	*TM	
6	TM	Fluorene	1.283	1.397	8.9	TM	
7	TM	Phenanthrene	0.9612	1.029	7.1	TM	
8	TML	Anthracene	0.8057	0.9619	19	TML	1.6
9	*TM	Fluoranthene	1.428	1.627	14	*TM	
10	TM	Pyrene	1.324	1.353	2.2	TM	
11	TML	Benz (a) anthracene	0.8505	1.049	23	TML	1.1
12	TM	Chrysene	1.149	1.216	5.8	TM	
13	TML	Indeno (1,2,3-cd) pyrene	0.5917	0.9496	60	TML	3.3
14	TML	Benzo (b) fluoranthene	0.7388	1.135	54	TML	2.5
15	TML	Benzo (k) fluoranthene	0.6446	0.7319	14	TML	14
16	*TML	Benzo (a) pyrene	0.8628	1.147	33	*TML	0.85
17	TML	Dibenz (a,h) anthracene	0.5034	0.8883	76	TML	2.9
18	TML	Benzo (g,h,i) perylene	0.5242	0.8426	61	TML	7.7
19							
20							
21							
22							
23							
24							
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31							
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33							
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35							
36							
37							
38							
39							
40							
		Average			23.2		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L050.D Vial: 50
Acq On : 16 Feb 17 14:39 Operator: MA
Sample : SIM SS 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:05 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22112	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11424	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21972	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	26989	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	22801	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	0.00	82	0d	0.34513 ppb	
Spiked Amount 5.000			Recovery	= 6.900%	
7) Surrogate Recovery (FBP)	0.00	172	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
17) Surrogate Recovery (TPH)	0.00	244	0d	0.00000 ppb	
Spiked Amount 5.000			Recovery	= 0.000%	
Target Compounds					Qvalue
3) Naphthalene	5.84	128	47615	5.24600 ppb	100
4) 2-Methylnaphthalene	6.65	142	26890	5.05038 ppb	94
5) 1-Methylnaphthalene	6.76	142	30862	5.30981 ppb	95
8) Acenaphthylene	7.70	152	46927	5.29627 ppb	100
9) Acenaphthene	7.89	154	28413	5.17980 ppb	99
10) Fluorene	8.51	166	31912	5.44495 ppb	99
12) Phenanthrene	9.80	178	45233	5.35458 ppb	100
13) Anthracene	9.90	178	42271	4.91964 ppb	100
14) Fluoranthene	12.52	202	71479	5.69468 ppb	99
16) Pyrene	13.15	202	73050	5.11153 ppb	99
18) Benz (a) anthracene	16.65	228	56599	5.05531 ppb #	76
19) Chrysene	16.75	228	65625	5.29141 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	51260	5.16587 ppb #	93
22) Benzo (b) fluoranthene	19.54	252	51763	5.12666 ppb	98
23) Benzo (k) fluoranthene	19.61	252	33374	4.31864 ppb	99
24) Benzo (a) pyrene	20.32	252	52327	4.95749 ppb	99
25) Dibenz (a,h) anthracene	22.81	278	40508	5.14725 ppb #	39
26) Benzo (g,h,i) perylene	23.29	276	38425	4.61626 ppb #	50

Algorithum check = $\frac{47615 * 1 * 2.5}{1 * 22112 * 1.026} = 5.246$

RH 2/20/17

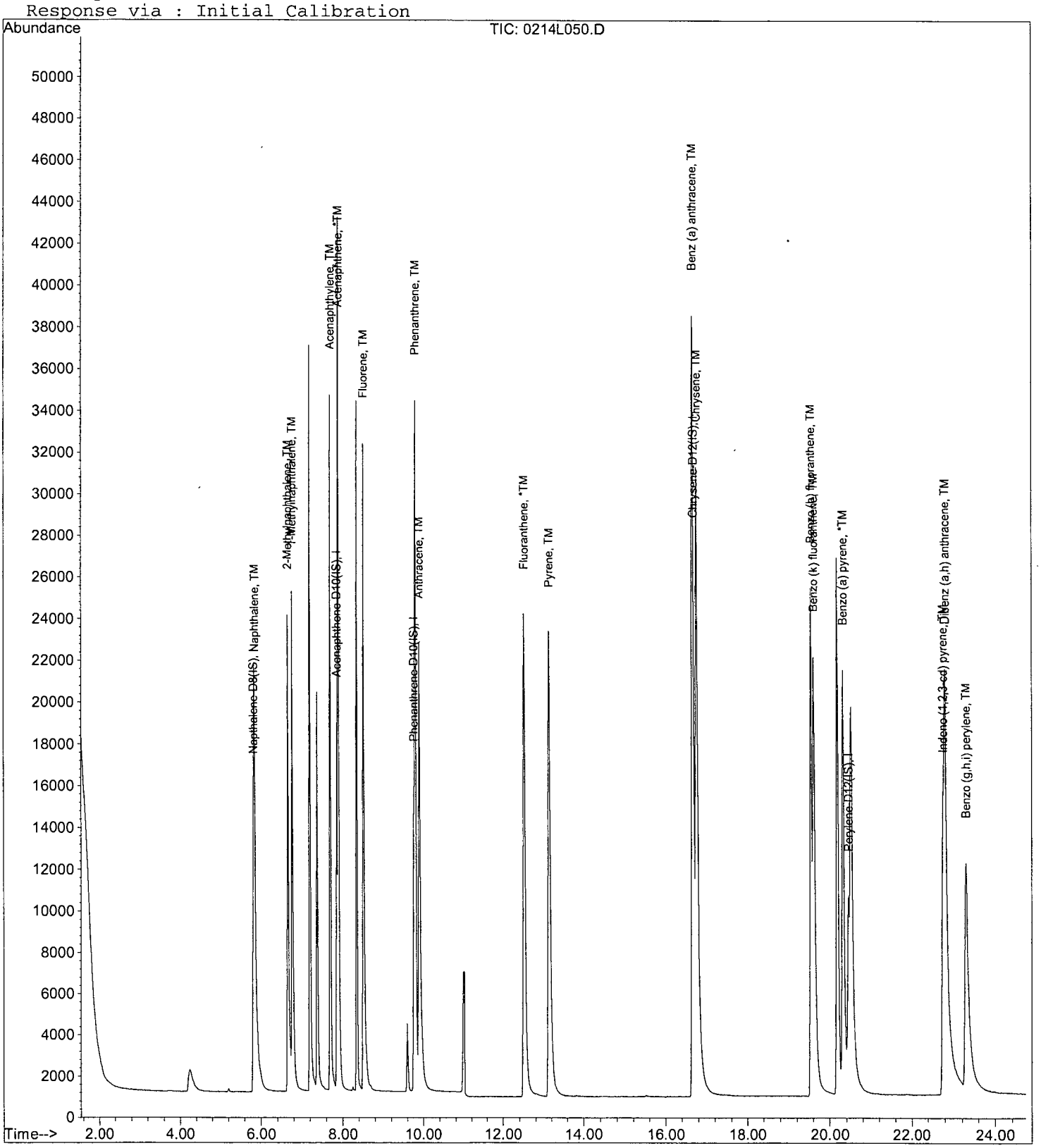
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L050.D Vial: 50
Acq On : 16 Feb 17 14:39 Operator: MA
Sample : SIM SS 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 15:05 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L059.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3364	22	SL	1.1
3	TM	Naphthalene	1.026	1.126	9.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6485	27	TML	8.0
5	TM	1-Methylnaphthalene	0.6571	0.7065	7.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.627	3.6	S	
8	TM	Acenaphthylene	1.939	2.173	12	TM	
9	*TM	Acenaphthene	1.200	1.307	8.9	*TM	
10	TM	Fluorene	1.283	1.469	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.110	15	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.716	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.484	12	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7576	0.34	S	
18	TML	Benz (a) anthracene	0.8505	1.106	30	TML	6.1
19	TM	Chrysene	1.149	1.322	15	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.018	72	TML	10
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.096	48	TML	0.90
23	TML	Benzo (k) fluoranthene	0.6446	0.8797	36	TML	1.7
24	*TML	Benzo (a) pyrene	0.8628	1.245	44	*TML	8.0
25	TML	Dibenz (a,h) anthracene	0.5034	0.9561	90	TML	11
26	TML	Benzo (g,h,i) perylene	0.5242	0.8564	63	TML	6.1
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			27.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21152	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10824	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20561	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	24824	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	20815	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7115	2.52799 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.560%	
7) Surrogate Recovery (FBP)	7.07	172	17616	2.59111 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.820%	
17) Surrogate Recovery (TPH)	13.71	244	18806	2.50859 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.180%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	47620	5.48467 ppb	99
4) 2-Methylnaphthalene	6.65	142	27435	5.40203 ppb	93
5) 1-Methylnaphthalene	6.76	142	29887	5.37544 ppb	93
8) Acenaphthylene	7.70	152	47031	5.60225 ppb	100
9) Acenaphthene	7.89	154	28287	5.44268 ppb	100
10) Fluorene	8.51	166	31810	5.72841 ppb	100
12) Phenanthrene	9.80	178	45642	5.77378 ppb	99
13) Anthracene	9.90	178	42498	5.33320 ppb	100
14) Fluoranthene	12.52	202	70573	6.00835 ppb	100
16) Pyrene	13.15	202	73697	5.60654 ppb	99
18) Benz (a) anthracene	16.65	228	54901	5.30335 ppb #	76
19) Chrysene	16.75	228	65616	5.75210 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50540	5.51136 ppb	94
22) Benzo (b) fluoranthene	19.54	252	45612	4.95521 ppb	98
23) Benzo (k) fluoranthene	19.61	252	36620	5.08366 ppb	99
24) Benzo (a) pyrene	20.31	252	51826	5.40114 ppb	100
25) Dibenz (a,h) anthracene	22.81	278	39802	5.52993 ppb #	39
26) Benzo (g,h,i) perylene	23.29	276	35651	4.69305 ppb #	50

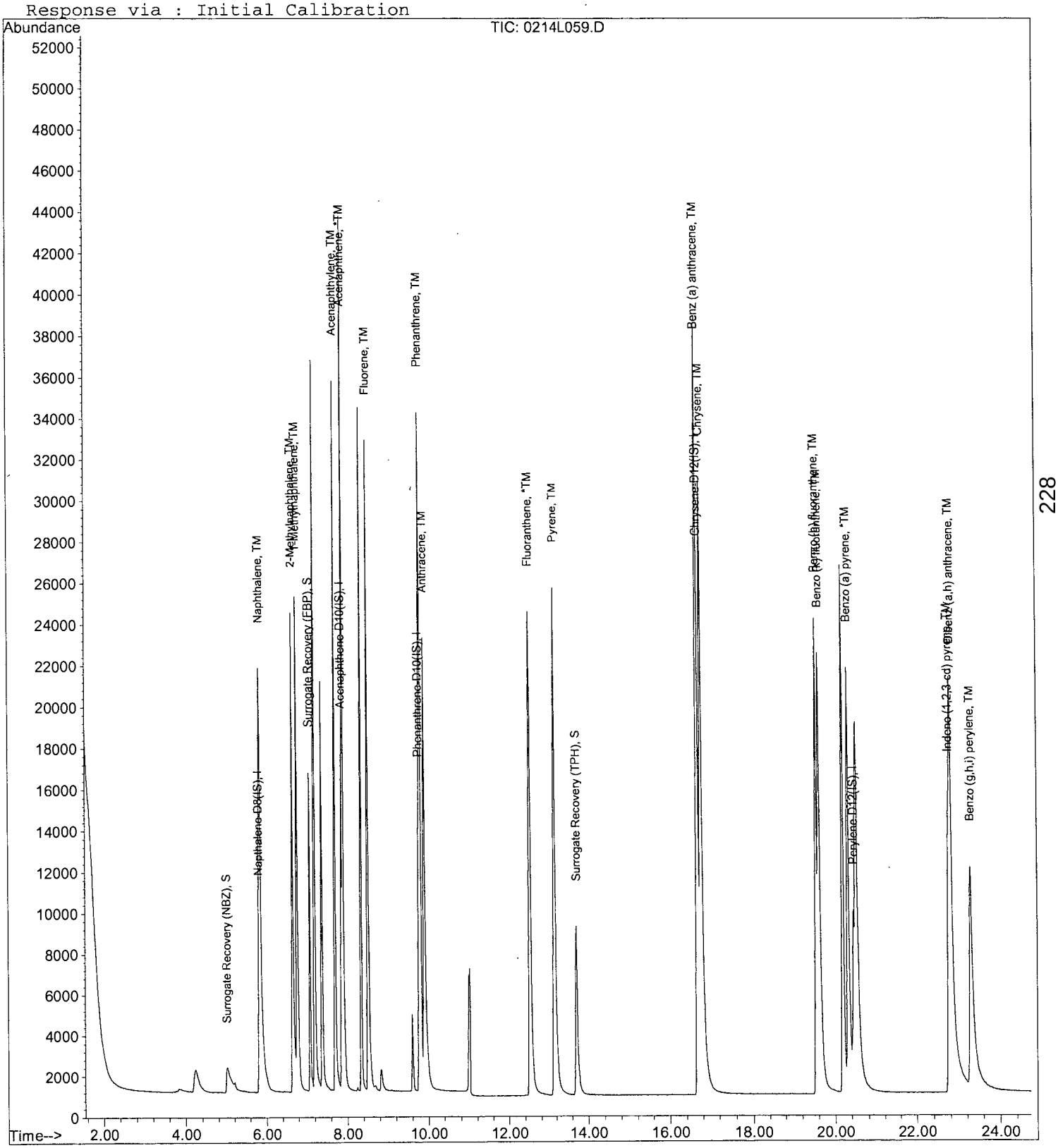
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L059.D Vial: 59
Acq On : 16 Feb 17 19:05 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 16 19:30 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



228

EPA 8270C SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/17/17
Instrument: Linus
Initial Cal. Date: 02/14/17
Data File: 0214L080.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2763	0.3400	23	SL	2.1
3	TM	Naphthalene	1.026	1.115	8.7	TM	
4	TML	2-Methylnaphthalene	0.5103	0.6475	27	TML	7.9
5	TM	1-Methylnaphthalene	0.6571	0.6950	5.8	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.570	1.611	2.6	S	
8	TM	Acenaphthylene	1.939	2.208	14	TM	
9	*TM	Acenaphthene	1.200	1.316	9.6	*TM	
10	TM	Fluorene	1.283	1.477	15	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	0.9612	1.092	14	TM	
13	TML	Anthracene	0.8057	1.033	28	TML	6.7
14	*TM	Fluoranthene	1.428	1.713	20	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.324	1.467	11	TM	
17	S	Surrogate Recovery (TPH)	0.7550	0.7638	1.2	S	
18	TML	Benz (a) anthracene	0.8505	1.124	32	TML	7.6
19	TM	Chrysene	1.149	1.309	14	TM	
20	TML	Indeno (1,2,3-cd) pyrene	0.5917	1.014	71	TML	9.8
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.7388	1.139	54	TML	2.9
23	TML	Benzo (k) fluoranthene	0.6446	0.8878	38	TML	2.5
24	*TML	Benzo (a) pyrene	0.8628	1.267	47	*TML	10
25	TML	Dibenz (a,h) anthracene	0.5034	0.9954	98	TML	15
26	TML	Benzo (g,h,i) perylene	0.5242	0.9030	72	TML	0.94
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			28.9		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L080.D
Acq On : 17 Feb 17 6:00
Sample : 5.0 SIM 02/14/17
Misc : water

Vial: 80
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:12 2017

Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20943	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	10628	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	20527	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	24802	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	20655	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	7121	2.55164 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.040%	
7) Surrogate Recovery (FBP)	7.07	172	17119	2.56445 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.280%	
17) Surrogate Recovery (TPH)	13.70	244	18944	2.52924 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.580%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	46713	5.43390 ppb	99
4) 2-Methylnaphthalene	6.65	142	27120	5.39292 ppb	92
5) 1-Methylnaphthalene	6.76	142	29112	5.28830 ppb	93
8) Acenaphthylene	7.70	152	46933	5.69367 ppb	100
9) Acenaphthene	7.89	154	27970	5.48094 ppb	99
10) Fluorene	8.51	166	31404	5.75959 ppb	100
12) Phenanthrene	9.80	178	44837	5.68134 ppb	100
13) Anthracene	9.90	178	42424	5.33267 ppb	99
14) Fluoranthene	12.51	202	70330	5.99758 ppb	99
16) Pyrene	13.15	202	72786	5.54215 ppb	99
18) Benz (a) anthracene	16.65	228	55733	5.38027 ppb #	76
19) Chrysene	16.75	228	64918	5.69596 ppb #	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	50296	5.49105 ppb #	93
22) Benzo (b) fluoranthene	19.54	252	47045	5.14285 ppb	99
23) Benzo (k) fluoranthene	19.61	252	36677	5.12607 ppb	100
24) Benzo (a) pyrene	20.31	252	52330	5.50059 ppb	99
25) Dibenz (a,h) anthracene	22.81	278	41118	5.75156 ppb #	38
26) Benzo (g,h,i) perylene	23.29	276	37301	4.95291 ppb #	50

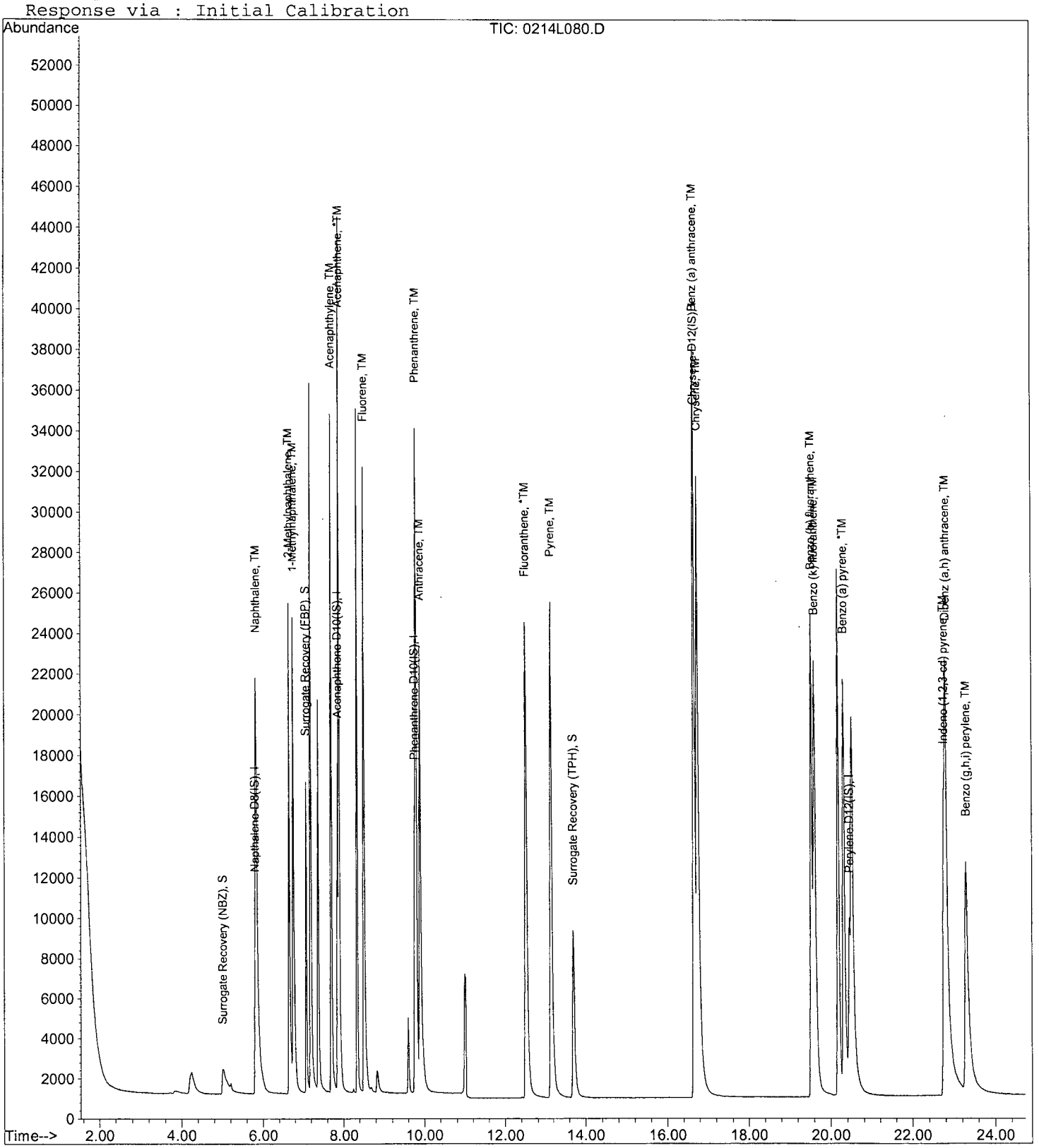
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L080.D Vial: 80
Acq On : 17 Feb 17 6:00 Operator: MA
Sample : 5.0 SIM 02/14/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:12 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170213W-49853 - 216252**
Batch ID: #SIMDO-170213A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	02/13/17	02/16/17
BLANK	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	02/13/17	02/16/17
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	02/13/17	02/16/17
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	02/13/17	02/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.0	53-106			%	02/13/17	02/16/17
BLANK	SURROGATE: NITROBENZENE-	72.4	55-111			%	02/13/17	02/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	97.2	58-132			%	02/13/17	02/16/17

Quant Method: L0214PR.M
Run #: 0214L060
Instrument: Linus
Sequence: L170214
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:42:22 AM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L060.D Vial: 60
Acq On : 16 Feb 17 19:38 Operator: MA
Sample : 170213A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	23656	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	11886	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.78	188	22678	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.70	240	26424	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.48	264	22321	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11947	3.62246 ppb	-0.02
Spiked Amount 5.000			Recovery	= 72.440%	
7) Surrogate Recovery (FBP)	7.07	172	23147	3.10046 ppb	-0.01
Spiked Amount 5.000			Recovery	= 62.000%	
17) Surrogate Recovery (TPH)	13.69	244	38776	4.85926 ppb	-0.02
Spiked Amount 5.000			Recovery	= 97.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

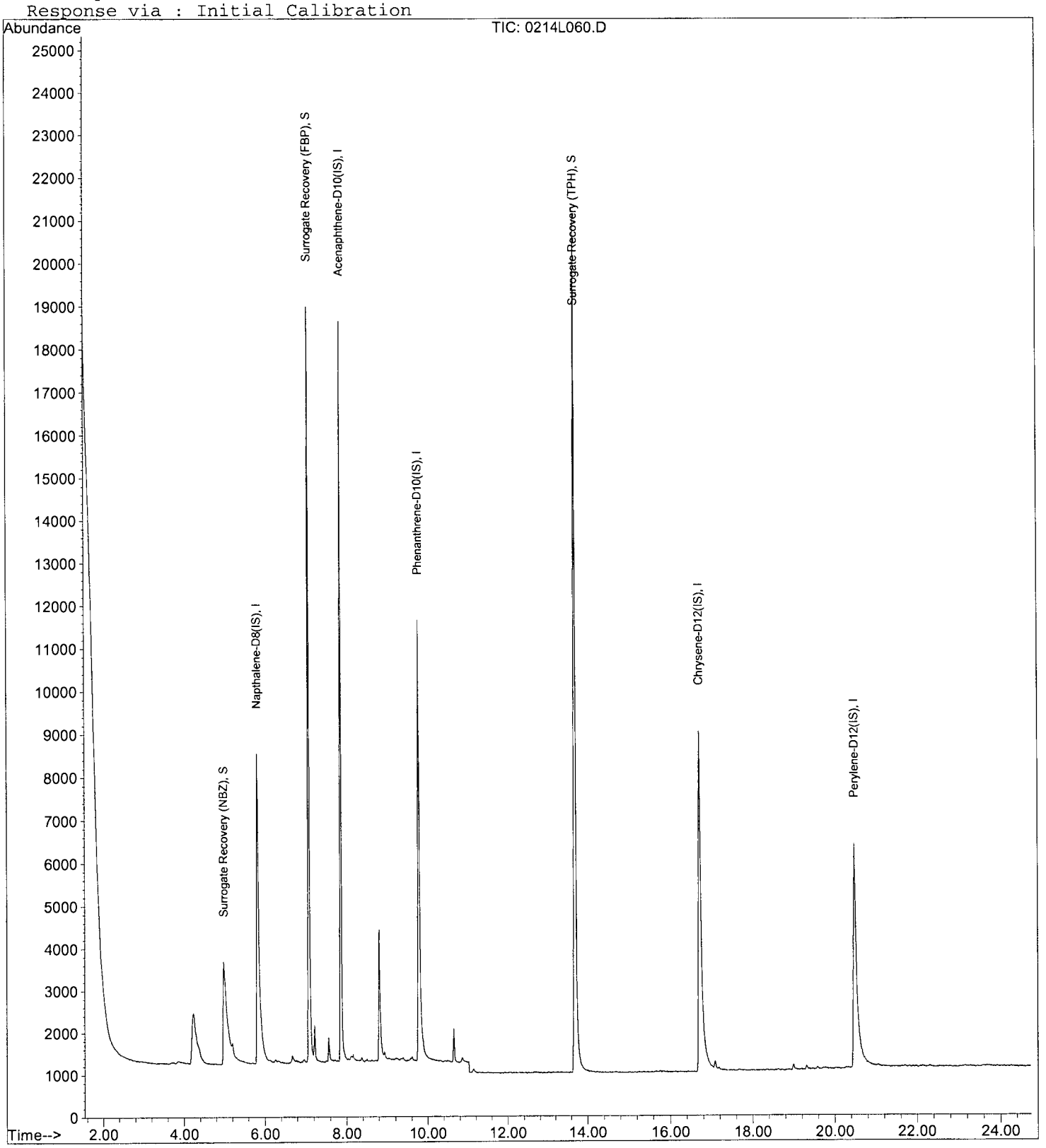
Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L060.D
Acq On : 16 Feb 17 19:38
Sample : 170213A BLK 1/1000
Misc : water

Vial: 60
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:20 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170213W-49853 LCS - 216252**
Batch ID: #SIMDO-170213A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	4.36	87.2	41-115
2-METHYLNAPHTHALENE	5.00	4.16	83.2	39-114
ACENAPHTHENE	5.00	4.03	80.6	48-114
ACENAPHTHYLENE	5.00	4.23	84.6	35-121
ANTHRACENE	5.00	4.01	80.2	53-119
BENZO(A)ANTHRACENE	5.00	4.46	89.2	59-120
BENZO(A)PYRENE	5.00	4.45	89.0	53-120
BENZO(B)FLUORANTHENE	5.00	4.54	90.8	53-126
BENZO(GHI)PERYLENE	5.00	4.47	89.4	44-128
BENZO(K)FLUORANTHENE	5.00	3.93	78.6	54-125
CHRYSENE	5.00	5.03	101	57-120
DIBENZ(A,H)ANTHRACENE	5.00	4.72	94.4	44-131
FLUORANTHENE	5.00	5.06	101	58-120
FLUORENE	5.00	4.57	91.4	50-118
INDENO(1,2,3-CD)PYRENE	5.00	4.48	89.6	48-130
NAPHTHALENE	5.00	3.93	78.6	43-114
PHENANTHRENE	5.00	4.62	92.4	53-115
PYRENE	5.00	4.70	94.0	53-121
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.49	69.8	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.90	78.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.15	83.0	58-132

Comments: _____

Primary	SPK
Quant Method :	L0214PR.M
Extraction Date :	02/13/17
Analysis Date :	02/16/17
Instrument :	Linus
Run :	0214L061
Initials :	RHA

Printed: 02/17/17 9:42:17 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L061.D Vial: 61
Acq On : 16 Feb 17 20:10 Operator: MA
Sample : 170213A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.82	136	19357	2.50000 ppb		0.01
6) Acenaphthene-D10(IS)	7.86	164	10056	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.76	188	19690	2.50000 ppb		0.00
15) Chrysene-D12(IS)	16.68	240	23632	2.50000 ppb		0.00
21) Perylene-D12(IS)	20.45	264	19968	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.00	82	10592	3.89607 ppb		-0.01
Spiked Amount 5.000			Recovery	= 77.920%		
7) Surrogate Recovery (FBP)	7.07	172	22049	3.49084 ppb		-0.01
Spiked Amount 5.000			Recovery	= 69.820%		
17) Surrogate Recovery (TPH)	13.69	244	29603	4.14802 ppb		-0.02
Spiked Amount 5.000			Recovery	= 82.960%		
Target Compounds						Qvalue
3) Naphthalene	5.84	128	31217	3.92886 ppb		99
4) 2-Methylnaphthalene	6.65	142	19589	4.16390 ppb		93
5) 1-Methylnaphthalene	6.76	142	22195	4.36215 ppb		94
8) Acenaphthylene	7.70	152	32977	4.22816 ppb		100
9) Acenaphthene	7.89	154	19471	4.03252 ppb		99
10) Fluorene	8.51	166	23564	4.56754 ppb		100
12) Phenanthrene	9.80	178	34959	4.61799 ppb		100
13) Anthracene	9.90	178	31708	4.01340 ppb		100
14) Fluoranthene	12.52	202	56959	5.06381 ppb		99
16) Pyrene	13.15	202	58874	4.70479 ppb		99
18) Benz (a) anthracene	16.66	228	43056	4.45920 ppb	#	77
19) Chrysene	16.76	228	54656	5.03299 ppb	#	72
20) Indeno (1,2,3-cd) pyrene	22.77	276	38518	4.48474 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	39947	4.54073 ppb		99
23) Benzo (k) fluoranthene	19.61	252	26217	3.92848 ppb		100
24) Benzo (a) pyrene	20.32	252	41373	4.44992 ppb		99
25) Dibenz (a,h) anthracene	22.82	278	32429	4.71673 ppb	#	38
26) Benzo (g,h,i) perylene	23.30	276	32603	4.46988 ppb	#	50

(#) = qualifier out of range (m) = manual integration

Quantitation Report

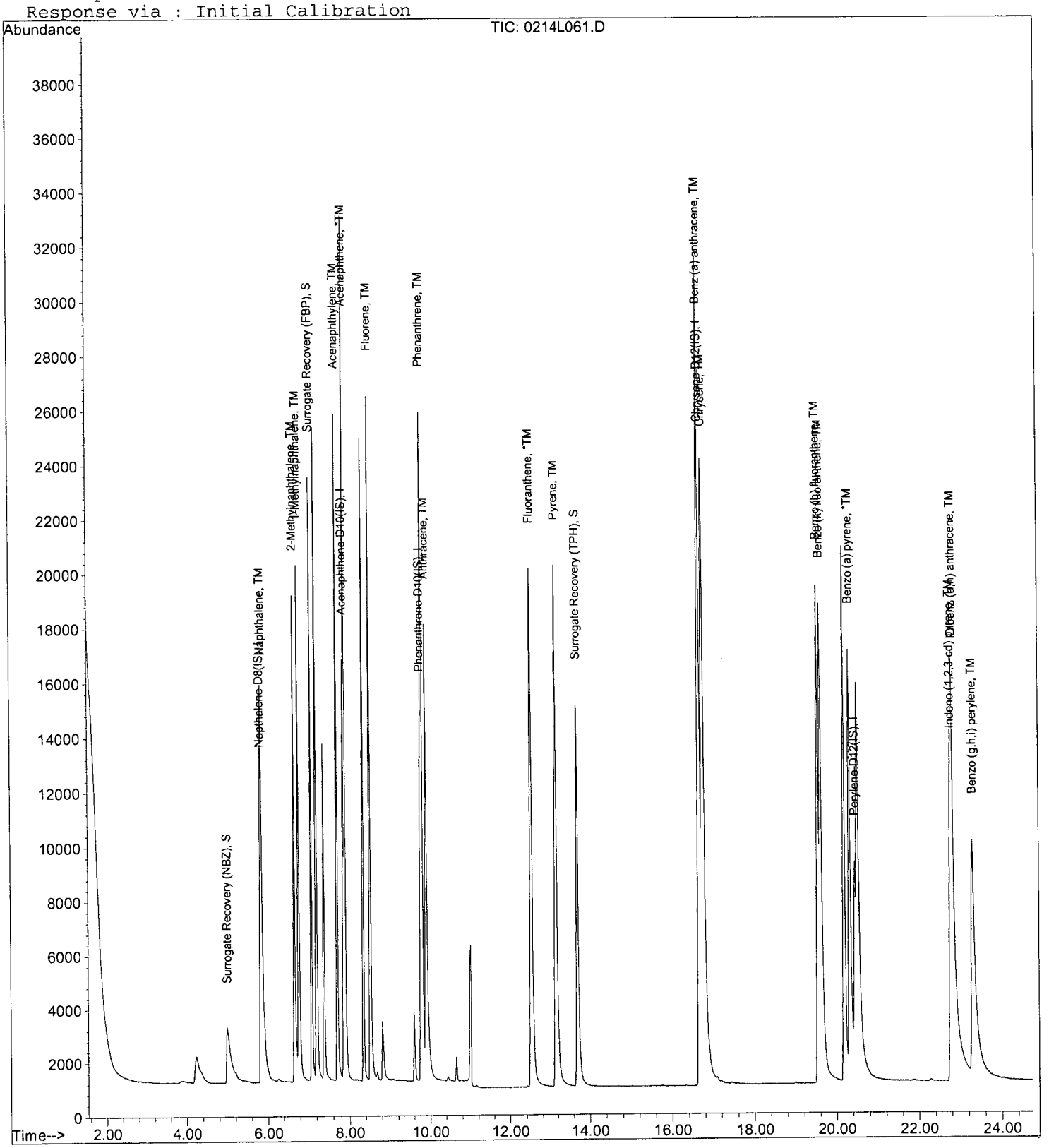
Data File : M:\LINUS\DATA\L170214\0214L061.D
Acq On : 16 Feb 17 20:10
Sample : 170213A LCS-1 1/1000
Misc : water

Vial: 61
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Feb 17 8:14 2017

Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170213W-49853 MS - 216252**
Batch ID: #SIMDO-170213A1
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	4.04	3.79	80.8	75.8	41-115	6.4	20
2-METHYLNAPHTHALENE	5.00	ND	4.25	3.85	85.0	77.0	39-114	9.9	20
ACENAPHTHENE	5.00	ND	4.02	3.64	80.4	72.8	48-114	9.9	20
ACENAPHTHYLENE	5.00	ND	4.29	3.91	85.8	78.2	35-121	9.3	20
ANTHRACENE	5.00	ND	4.29	3.79	85.8	75.8	53-119	12.4	20
BENZO(A)ANTHRACENE	5.00	ND	4.98	4.37	99.6	87.4	59-120	13.0	20
BENZO(A)PYRENE	5.00	ND	4.66	4.08	93.2	81.6	53-120	13.3	20
BENZO(B)FLUORANTHENE	5.00	ND	5.12	4.39	102	87.8	53-126	15.4	20
BENZO(GHI)PERYLENE	5.00	ND	4.53	4.20	90.6	84.0	44-128	7.6	20
BENZO(K)FLUORANTHENE	5.00	ND	4.57	3.87	91.4	77.4	54-125	16.6	20
CHRYSENE	5.00	ND	4.89	4.46	97.8	89.2	57-120	9.2	20
DIBENZ(A,H)ANTHRACENE	5.00	ND	5.09	4.54	102	90.8	44-131	11.4	20
FLUORANTHENE	5.00	ND	5.39	4.81	108	96.2	58-120	11.4	20
FLUORENE	5.00	ND	4.58	4.17	91.6	83.4	50-118	9.4	20
INDENO(1,2,3-CD)PYRENE	5.00	ND	4.68	4.30	93.6	86.0	48-130	8.5	20
NAPHTHALENE	5.00	ND	3.80	3.51	76.0	70.2	43-114	7.9	20
PHENANTHRENE	5.00	ND	4.74	4.28	94.8	85.6	53-115	10.2	20
PYRENE	5.00	ND	4.81	4.33	96.2	86.6	53-121	10.5	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.44	3.13	68.8	62.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.99	3.57	79.8	71.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.24	3.77	84.8	75.4	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0214PR.M	L0214PR.M
Extraction Date :	02/13/17	02/13/17
Analysis Date :	02/17/17	02/17/17
Instrument :	Linus	Linus
Run :	0214L070	0214L071
Initials :	RHA	

Printed: 02/17/17 9:42:08 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L070.D Vial: 70
Acq On : 17 Feb 17 1:05 Operator: MA
Sample : AZ49853W33 MS-1 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	29202	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	14712	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	28641	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	35641	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.44	264	29469	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	17105	3.98680 ppb	-0.04
Spiked Amount 4.808			Recovery	= 82.930%	
7) Surrogate Recovery (FBP)	7.07	172	33033	3.43725 ppb	-0.01
Spiked Amount 4.808			Recovery	= 71.490%	
17) Surrogate Recovery (TPH)	13.69	244	47434	4.23753 ppb	-0.02
Spiked Amount 4.808			Recovery	= 88.150%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	47358	3.79893 ppb		99
4) 2-Methylnaphthalene	6.64	142	31297	4.25332 ppb		95
5) 1-Methylnaphthalene	6.76	142	32271	4.04250 ppb		94
8) Acenaphthylene	7.69	152	50928	4.29159 ppb		99
9) Acenaphthene	7.89	154	29503	4.01583 ppb		97
10) Fluorene	8.50	166	35949	4.57974 ppb		98
12) Phenanthrene	9.80	178	54289	4.74057 ppb		99
13) Anthracene	9.89	178	50530	4.28680 ppb		100
14) Fluoranthene	12.51	202	91778	5.39360 ppb		99
16) Pyrene	13.14	202	94487	4.81401 ppb		99
18) Benz (a) anthracene	16.64	228	76830	4.98285 ppb	#	77
19) Chrysene	16.74	228	83209	4.88513 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.75	276	63505	4.68153 ppb	#	95
22) Benzo (b) fluoranthene	19.53	252	69613	5.12178 ppb		98
23) Benzo (k) fluoranthene	19.60	252	48069	4.56928 ppb		99
24) Benzo (a) pyrene	20.31	252	66220	4.66213 ppb		99
25) Dibenz (a,h) anthracene	22.80	278	53908	5.09237 ppb	#	38
26) Benzo (g,h,i) perylene	23.28	276	50713	4.53438 ppb	#	49

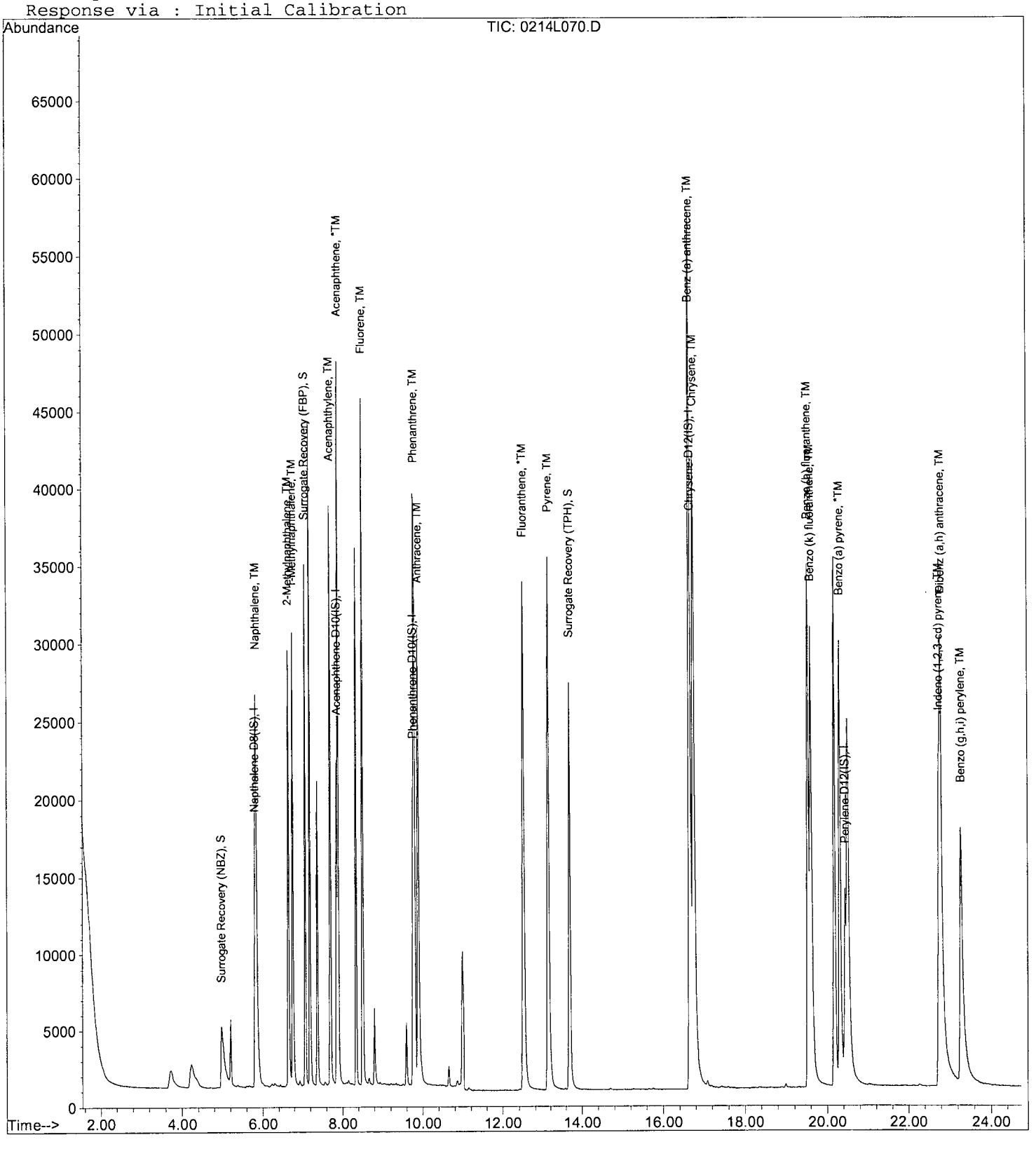
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L070.D Vial: 70
Acq On : 17 Feb 17 1:05 Operator: MA
Sample : AZ49853W33 MS-1 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170214\0214L071.D Vial: 71
Acq On : 17 Feb 17 1:38 Operator: MA
Sample : AZ49853W31 MSD-1 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

Quant Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	28144	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	14192	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	27765	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	34380	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.44	264	28786	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	14602	3.56926 ppb	-0.02
Spiked Amount 4.808			Recovery	= 74.235%	
7) Surrogate Recovery (FBP)	7.07	172	29022	3.13053 ppb	-0.01
Spiked Amount 4.808			Recovery	= 65.125%	
17) Surrogate Recovery (TPH)	13.69	244	40681	3.76755 ppb	-0.02
Spiked Amount 4.808			Recovery	= 78.374%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	42216	3.51376 ppb		99
4) 2-Methylnaphthalene	6.65	142	27464	3.85279 ppb		92
5) 1-Methylnaphthalene	6.76	142	29164	3.79063 ppb		96
8) Acenaphthylene	7.70	152	44735	3.90784 ppb		100
9) Acenaphthene	7.89	154	25823	3.64371 ppb		99
10) Fluorene	8.51	166	31569	4.16911 ppb		100
12) Phenanthrene	9.80	178	47499	4.27852 ppb		100
13) Anthracene	9.90	178	43975	3.78530 ppb		100
14) Fluoranthene	12.51	202	79334	4.80939 ppb		100
16) Pyrene	13.14	202	82019	4.33205 ppb		99
18) Benz (a) anthracene	16.65	228	64022	4.37154 ppb	#	77
19) Chrysene	16.75	228	73347	4.46408 ppb	#	73
20) Indeno (1,2,3-cd) pyrene	22.76	276	55833	4.29789 ppb	#	91
22) Benzo (b) fluoranthene	19.53	252	57956	4.39282 ppb		99
23) Benzo (k) fluoranthene	19.60	252	38910	3.87382 ppb		100
24) Benzo (a) pyrene	20.31	252	57030	4.08005 ppb		100
25) Dibenz (a,h) anthracene	22.80	278	46756	4.53590 ppb	#	39
26) Benzo (g,h,i) perylene	23.28	276	45949	4.19997 ppb	#	49

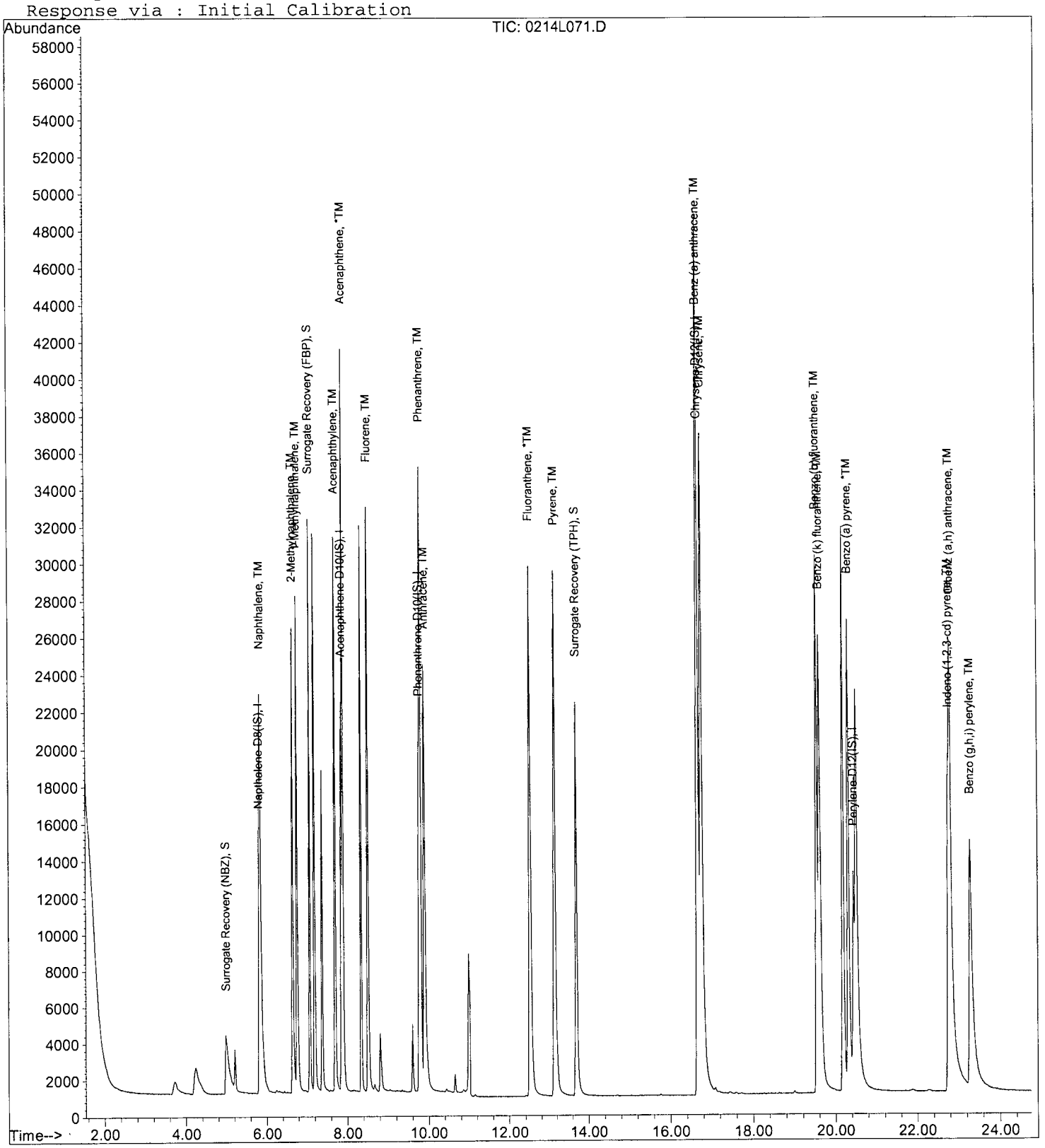
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170214\0214L071.D Vial: 71
Acq On : 17 Feb 17 1:38 Operator: MA
Sample : AZ49853W31 MSD-1 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Feb 17 8:14 2017 Quant Results File: L0214PR.RES

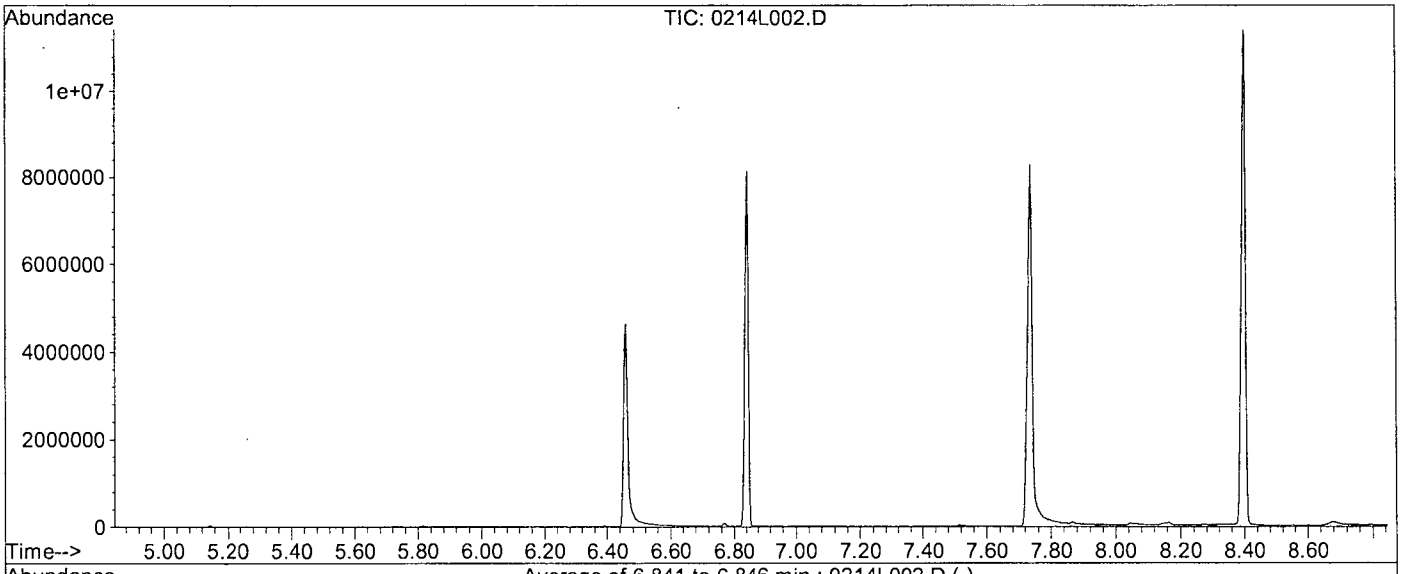
Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Feb 15 14:16:21 2017
Response via : Initial Calibration

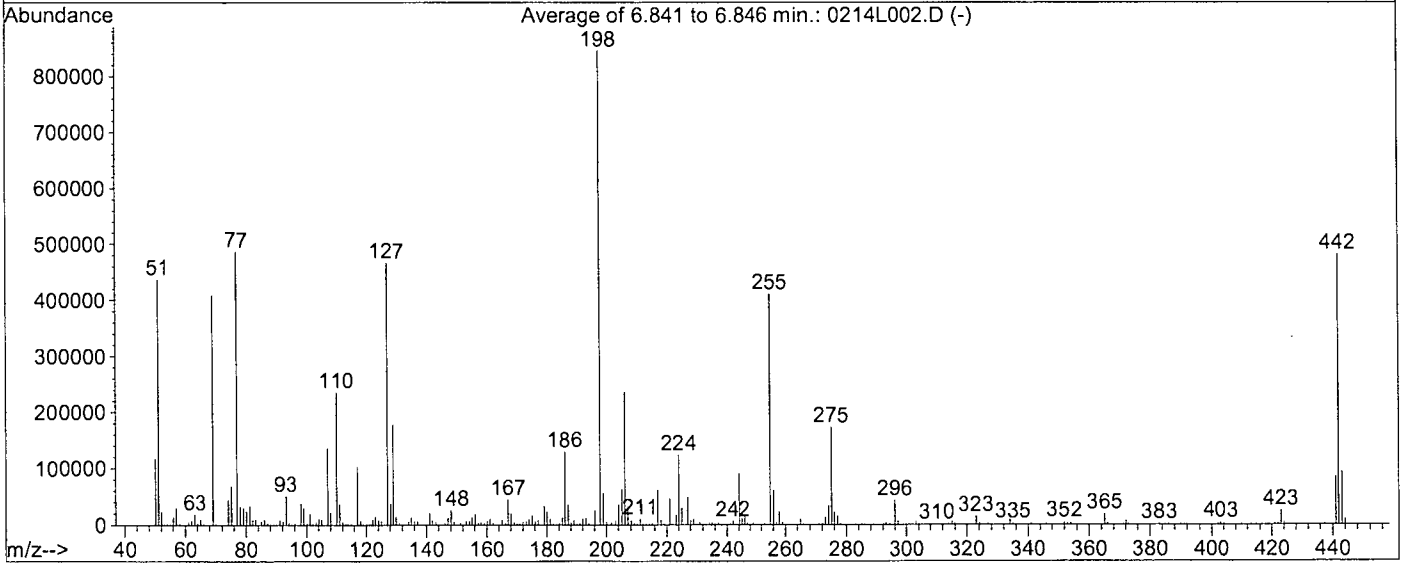


DFTPP

Data File : M:\LINUS\DATA\L170214\0214L002.D Vial: 2
Acq On : 14 Feb 17 18:03 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170214\L0214PR.M (RTE Integrator)
Title : EPA 8270





AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1699

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.7	437381	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1543	PASS
127	198	40	60	55.2	466752	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	846059	PASS
199	198	5	9	6.6	55539	PASS
275	198	10	30	20.4	172288	PASS
365	198	1	100	2.2	18390	PASS
441	443	0.01	100	90.5	85072	PASS
442	198	50	150	56.8	480725	PASS
443	442	17	23	19.5	93955	PASS

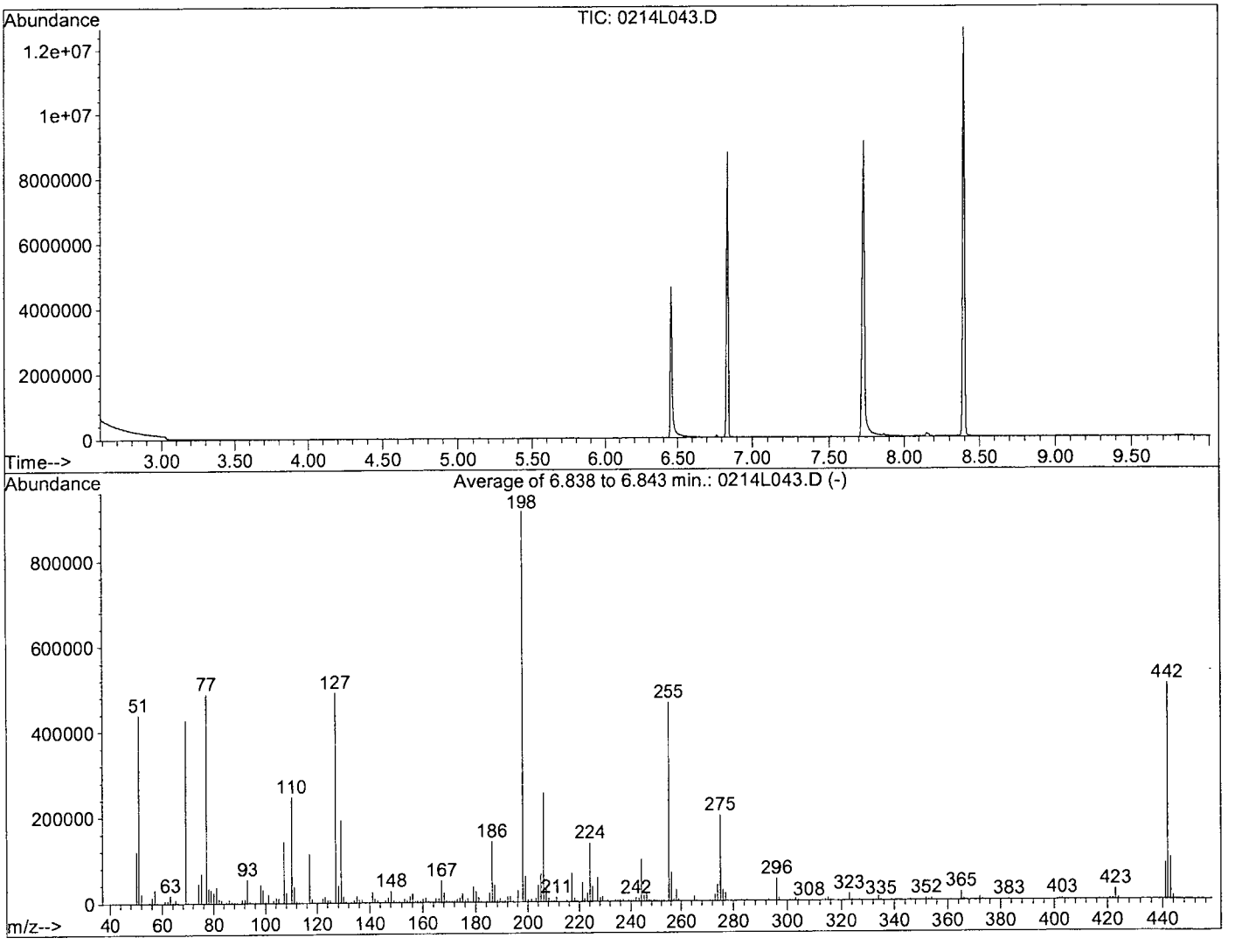
0214L002.D L0214PR.M Wed Feb 15 12:19:54 2017

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L043.D
Acq On : 16 Feb 17 9:23
Sample : SV Tune 2/9/17
Misc : water

Vial: 43
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



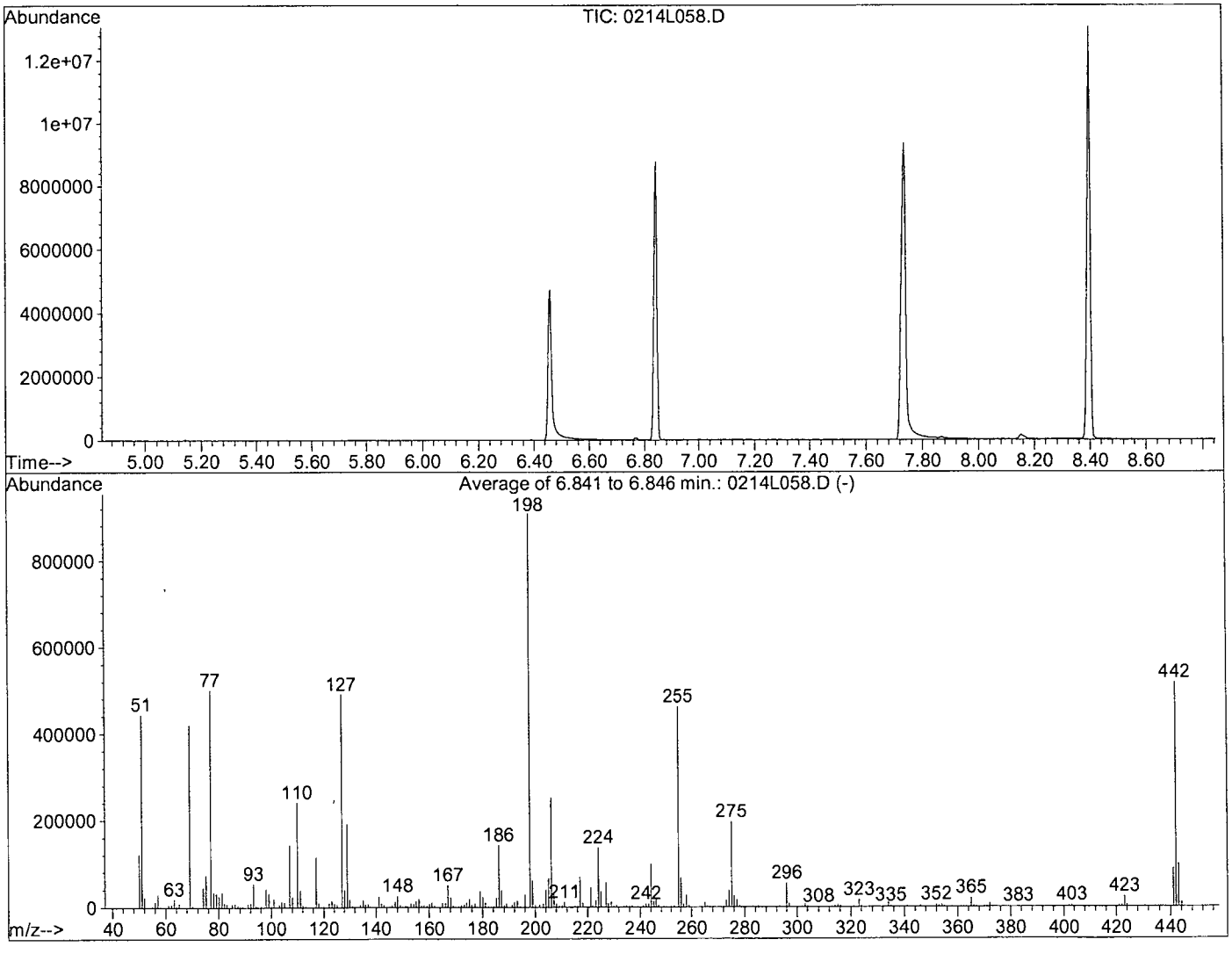
Spectrum Information: Average of 6.838 to 6.843 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.0	440056	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	427947	PASS
70	69	0.00	2	0.5	2291	PASS
127	198	40	60	53.7	491605	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	915904	PASS
199	198	5	9	6.4	59035	PASS
275	198	10	30	21.8	199573	PASS
365	198	1	100	2.2	20008	PASS
441	443	0.01	100	86.2	84077	PASS
442	198	40	150	55.2	505941	PASS
443	442	17	23	19.3	97531	PASS

DFTPP

Data File : M:\LINUS\DATA\L170214\0214L058.D Vial: 58
Acq On : 16 Feb 17 18:47 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :



AutoFind: Scans 1709, 1710, 1711; Background Corrected with Scan 1698

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	443840	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	420395	PASS
70	69	0.00	2	0.7	2754	PASS
127	198	40	60	54.0	490667	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	909205	PASS
199	198	5	9	6.7	60792	PASS
275	198	10	30	21.5	195840	PASS
365	198	1	100	2.2	20133	PASS
441	443	0.01	100	88.9	87784	PASS
442	198	40	150	56.9	516928	PASS
443	442	17	23	19.1	98693	PASS

0214L058.D DFTPP2.M Wed Feb 22 08:58:00 2017

8270 PAH SIM Standard Curve

PREP DATE:	2/14/16 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**6/14/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		9/12/16	7/29/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		9/12/16	7/29/17	10	20	0	0	0	0	0	0
O2SI	BNA SURR.	100/200		1/12/17	7/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56153			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM 2ND SRC			Prep: 02/14/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	VARIOUS	01/24/17	06/24/17	5
	Methylene Chloride				195
o2si	8V Internal Standar	2000	10/10/16	10/10/17	4
LOT#	XA10079V-35507			Final Vol.	204

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/03/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	6/3/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	6/22/16	6/22/17	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 12/22/16 -R.H.	
EX: 12/22/17	

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170213A Blk				0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
2	170213A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
3	170213A LCSD-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	
4	AZ49739	AZ49739W11			0.050	1 equip	1020 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
5	AZ49741	AZ49741W14			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
6	AZ49743	AZ49743W14			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
7	AZ49744	AZ49744W09			0.050	1 equip	980 E-WB6	1	2/1	02/13/17 11:55	82130 RUSH 1 WEEK
8	AZ49783	AZ49783W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
9	AZ49796	AZ49796W01			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82136
10	AZ49803	AZ49803W01			0.050	1 equip	1050 E-WB6	1	2/1	02/13/17 11:55	82136
11	AZ49853 MS-1	AZ49853W33	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
12	AZ49853 MSD-1	AZ49853W31	0.0250	1	0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
13	AZ49853	AZ49853W26			0.050	1 equip	1030 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
14	AZ49854	AZ49854W15			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
15	AZ49855	AZ49855W12			0.050	1 equip	1000 E-WB6	1	2/1	02/13/17 11:55	82150 RUSH 1 WEEK
16	AZ49857	AZ49857W12			0.050	1 equip	1040 E-WB6	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	RH
Date	2/14/17
Time	4100
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR

Modified	02/14/17 2:17:45 PM

Reviewed By: RH 255 **Date** 2/14/17

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170213A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 12-22-16 exp 12-22-17		Surrogate ID 1	8270 Surrogate 1-24-17 exp 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/13/17 11:55	
Spiked ID 8			Ext. End Time:	02/14/17 14:00	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1	2	02/13/17 12:10:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	02/13/17 2:30:00 PM		
pH3				

Spiked By: KY **Date** 02/13/17 **Witnessed By:** DL **Date** 02/13/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ49860	AZ49860W12			0.050	1	1020	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				
18	AZ49862	AZ49862W10			0.050	1	990	1	2/1	02/13/17 11:55	82146 RUSH 1 WEEK
						equip	E-WB6				

KY 2/14/17

Solvent and Lot#	
1+1 SULFURIC ACID	12-5-16
PH STRIP	HC 574756
MC	56153
A. Na2SO4	1-3-17
10N NaOH	1-5-17
B. Na2SO4	16c255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	JT
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY,JR
Extraction	DL,KY,JR
Concentration	JR

Modified	02/14/17 2:17:45 PM

Reviewed By: KY 256 **Date** 2/14/17

Injection Log

Directory: M:\LINUS\DATA\L170214\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0214L002.D	1	SV Tune 02/09/17	water	14 Feb 17 18:03
2	3	0214L003.D	1	0.1 SIM 02/14/17	water	14 Feb 17 18:21
3	4	0214L004.D	1	0.2 SIM 02/14/17	water	14 Feb 17 18:53
4	5	0214L005.D	1	0.5 SIM 02/14/17	water	14 Feb 17 19:26
5	6	0214L006.D	1	1.0 SIM 02/14/17	water	14 Feb 17 19:59
6	7	0214L007.D	1	5.0 SIM 02/14/17	water	14 Feb 17 20:32
7	8	0214L008.D	1	10 SIM 02/14/17	water	14 Feb 17 21:04
8	9	0214L009.D	1	50 SIM 02/14/17	water	14 Feb 17 21:37
9	10	0214L010.D	1	100 SIM 02/14/17	water	14 Feb 17 22:10
10	43	0214L043.D	1	SV Tune 2/9/17	water	16 Feb 17 9:23
11	50	0214L050.D	1	SIM SS 02/14/17	water	16 Feb 17 14:39
12	58	0214L058.D	1	SV Tune 2/9/17	water	16 Feb 17 18:47
13	59	0214L059.D	1	5.0 SIM 02/14/17	water	16 Feb 17 19:05
14	60	0214L060.D	1	170213A BLK 1/1000	water	16 Feb 17 19:38
15	61	0214L061.D	1	170213A LCS-1 1/1000	water	16 Feb 17 20:10
16	70	0214L070.D	0.96154	AZ49853W33 MS-1 1/1040	water	17 Feb 17 1:05
17	71	0214L071.D	0.96154	AZ49853W31 MSD-1 1/1040	water	17 Feb 17 1:38
18	72	0214L072.D	0.97087	AZ49853W26 1/1030	water	17 Feb 17 2:11
19	73	0214L073.D	0.96154	AZ49854W15 1/1040	water	17 Feb 17 2:44
20	74	0214L074.D	1	AZ49855W12 1/1000	water	17 Feb 17 3:16
21	80	0214L080.D	1	5.0 SIM 02/14/17	water	17 Feb 17 6:00

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:39:54 PM

Method Blank

EPA 8270D - 1,4-DIOXANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216250**
Batch ID: #14HP-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.5	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.3	50-134			%	02/14/17	02/15/17

Quant Method: DIX0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/28/17 10:14:15 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	02/14/17	02/15/17
BLANK	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	02/14/17	02/15/17
BLANK	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
BLANK	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
BLANK	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/15/17
BLANK	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
BLANK	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	02/14/17	02/15/17
BLANK	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	4-BROMOPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	4-CHLOROPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	02/14/17	02/15/17
BLANK	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:40:46 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLORETHOXY) METHAN	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLOROISOPROPYL) ET	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	02/14/17	02/15/17
BLANK	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	02/14/17	02/15/17
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROCYCLOPENTADIE	9.00 U	10.0	9.00	0.80	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	02/14/17	02/15/17
BLANK	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
BLANK	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:40:46 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: PHENOL (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:40:46 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER

SDG No: 82150
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	43-140	72.6		44-119	60.6	
170214A-LCS	Lab Control Spike	43-140	64.0		44-119	49.9	
AZ49853-MS	Matrix Spike	43-140	71.5		44-119	60.8	
AZ49853-MSD	Matrix SpikeD	43-140	61.0		44-119	52.0	
AZ49853	ERH225	43-140	71.8		44-119	65.4	
AZ49854	ERH247	43-140	51.9		44-119	47.0	
AZ49855	ERH248	43-140	61.6		44-119	54.7	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:39:55 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER

SDG No: 82150
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	19-119	43.1		44-120	67.6	
170214A-LCS	Lab Control Spike	19-119	36.9		44-120	60.7	
AZ49853-MS	Matrix Spike	19-119	35.7		44-120	70.3	
AZ49853-MSD	Matrix SpikeD	19-119	31.6		44-120	57.4	
AZ49853	ERH225	19-119	37.8		44-120	68.1	
AZ49854	ERH247	19-119	30.4		44-120	46.8	
AZ49855	ERH248	19-119	34.7		44-120	57.6	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:39:55 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER

SDG No: 82150
Date Analyzed: 02/15/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214A-BLK	Blank	10-115	25.2		50-134	70.4	
170214A-LCS	Lab Control Spike	10-115	23.1		50-134	65.6	
AZ49853-MS	Matrix Spike	10-115	21.8		50-134	71.8	
AZ49853-MSD	Matrix SpikeD	10-115	18.6		50-134	61.0	
AZ49853	ERH225	10-115	22.1		50-134	72.0	
AZ49854	ERH247	10-115	20.0		50-134	55.3	
AZ49855	ERH248	10-115	21.4		50-134	68.7	

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:39:55 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:39:57 PM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8270D - 1,4-DIOXANE

APPL ID: **170214W-49853 LCS - 216250**
Batch ID: #14HP-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,4-DIOXANE	5.00	3.00	60.0	40-129
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.6	60.6	44-120
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/28/17 10:14:07 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2,4-TRICHLOROBENZENE	50.0	28.6	57.2	29-116
1,2-DICHLOROBENZENE	50.0	26.9	53.8	32-111
1,3-DICHLOROBENZENE	50.0	23.7	47.4	28-110
1,4-DICHLOROBENZENE	50.0	24.8	49.6	29-112
2,4,5-TRICHLOROPHENOL	50.0	42.0	84.0	53-123
2,4,6-TRICHLOROPHENOL	50.0	42.3	84.6	50-125
2,4-DICHLOROPHENOL	50.0	44.2	88.4	47-121
2,4-DIMETHYLPHENOL	50.0	42.0	84.0	31-124
2,4-DINITROPHENOL	50.0	47.3	94.6	23-143
2,4-DINITROTOLUENE	50.0	47.1	94.2	57-128
2,6-DINITROTOLUENE	50.0	46.8	93.6	57-124
2-CHLORONAPHTHALENE	50.0	35.1	70.2	40-116
2-CHLOROPHENOL	50.0	40.1	80.2	38-117
2-METHYLNAPHTHALENE	50.0	36.6	73.2	40-121
2-METHYLPHENOL	50.0	35.7	71.4	30-117
2-NITROANILINE	50.0	46.8	93.6	55-127
2-NITROPHENOL	50.0	47.1	94.2	47-123
3,3'-DICHLOROBENZIDINE	50.0	46.4	92.8	27-129
3-NITROANILINE	50.0	46.8	93.6	41-128
3/4-METHYLPHENOL	100	66.2	66.2	29-110
4,6-DINITRO-2-METHYLPHENOL	50.0	46.3	92.6	44-137
4-BROMOPHENYL PHENYL ETHER	50.0	42.8	85.6	55-124
4-CHLORO-3-METHYLPHENOL	50.0	44.6	89.2	52-119
4-CHLOROANILINE	50.0	50.5	101	33-117
4-CHLOROPHENYL PHENYL ETHER	50.0	39.0	78.0	53-121
4-NITROANILINE	50.0	47.5	95.0	35-120
4-NITROPHENOL	50.0	12.0	24.0	10-125
ACENAPHTHENE	50.0	39.0	78.0	47-122
ACENAPHTHYLENE	50.0	38.6	77.2	41-130
ANTHRACENE	50.0	44.4	88.8	57-123
BENZ (A) ANTHRACENE	50.0	45.2	90.4	58-125

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Comments: _____

Printed: 02/17/17 9:40:49 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZO (A) PYRENE	50.0	56.5	113	54-128
BENZO (B) FLUORANTHENE	50.0	54.1	108	53-131
BENZO (G,H,I) PERYLENE	50.0	58.0	116	50-134
BENZO (K) FLUORANTHENE	50.0	61.0	122	57-129
BENZYL ALCOHOL	50.0	40.3	80.6	31-112
BIS (2-CHLORETHOXY) METHANE	50.0	44.9	89.8	48-120
BIS (2-CHLOROETHYL) ETHER	50.0	40.9	81.8	43-118
BIS (2-CHLOROISOPROPYL) ETHER	50.0	40.6	81.2	37-130
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	48.0	96.0	55-135
BUTYL BENZYL PHTHALATE	50.0	49.4	98.8	53-134
CARBAZOLE	50.0	46.9	93.8	60-122
CHRYSENE	50.0	45.0	90.0	59-123
DI-N-BUTYL PHTHALATE	50.0	49.4	98.8	59-127
DI-N-OCTYL PHTHALATE	50.0	52.1	104	51-140
DIBENZ (A,H) ANTHRACENE	50.0	56.3	113	51-134
DIBENZOFURAN	50.0	40.6	81.2	53-118
DIETHYL PHTHALATE	50.0	46.0	92.0	56-125
DIMETHYL PHTHALATE	50.0	47.6	95.2	45-127
DIPHENYLAMINE	100	91.5	91.5	55-111
FLUORANTHENE	50.0	48.9	97.8	57-128
FLUORENE	50.0	38.2	76.4	52-124
HEXACHLOROBENZENE	50.0	43.9	87.8	53-125
HEXACHLOROBUTADIENE	50.0	19.3	38.6	22-124
HEXACHLOROCYCLOPENTADIENE	50.0	14.5	29.0	10-110
HEXACHLOROETHANE	50.0	19.2	38.4	21-115
INDENO (1,2,3-CD) PYRENE	50.0	55.4	111	52-134
ISOPHORONE	50.0	46.9	93.8	42-124
N-NITROSODI-N-PROPYLAMINE	50.0	43.0	86.0	49-119
NAPHTHALENE	50.0	35.6	71.2	40-121
NITROBENZENE	50.0	40.6	81.2	45-121
PENTACHLOROPHENOL	50.0	51.7	103	35-138

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Comments: _____

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENANTHRENE	50.0	43.3	86.6	59-120
PYRENE	50.0	46.2	92.4	57-126
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/17/17 9:40:49 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216219**
Batch ID: #87DC5-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	15.7	13.6	31.4	27.2	10-115	14.3	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	143	122	71.5	61.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.4	63.1	35.7	31.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.3	57.4	70.3	57.4	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	43.6	37.2	21.8	18.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.8	61.0	71.8	61.0	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/16/17 12:40:13 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D - 1,4-DIOXANE

APPL ID: **170214W-49853 MS - 216250**
Batch ID: #14HP-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,4-DIOXANE	5.00	ND	2.94	2.46	58.8	49.2	40-129	17.8	30
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.1	57.3	70.1	57.3	44-120		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.6	60.9	71.6	60.9	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	DIX0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/28/17 10:14:04 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2,4-TRICHLOROBENZENE	50.0	ND	31.9	25.7	63.8	51.4	29-116	21.5 #	20
1,2-DICHLOROBENZENE	50.0	ND	29.0	25.1	58.0	50.2	32-111	14.4	20
1,3-DICHLOROBENZENE	50.0	ND	26.9	21.8	53.8	43.6	28-110	20.9 #	20
1,4-DICHLOROBENZENE	50.0	ND	27.4	23.0	54.8	46.0	29-112	17.5	20
2,4,5-TRICHLOROPHENOL	50.0	ND	41.6	36.6	83.2	73.2	53-123	12.8	20
2,4,6-TRICHLOROPHENOL	50.0	ND	43.2	39.0	86.4	78.0	50-125	10.2	20
2,4-DICHLOROPHENOL	50.0	ND	40.3	36.2	80.6	72.4	47-121	10.7	20
2,4-DIMETHYLPHENOL	50.0	ND	35.7	30.4	71.4	60.8	31-124	16.0	20
2,4-DINITROPHENOL	50.0	ND	44.6	41.0	89.2	82.0	23-143	8.4	20
2,4-DINITROTOLUENE	50.0	ND	45.2	40.0	90.4	80.0	57-128	12.2	20
2,6-DINITROTOLUENE	50.0	ND	43.5	39.8	87.0	79.6	57-124	8.9	20
2-CHLORONAPHTHALENE	50.0	ND	37.4	32.3	74.8	64.6	40-116	14.6	20
2-CHLOROPHENOL	50.0	ND	36.1	31.5	72.2	63.0	38-117	13.6	20
2-METHYLNAPHTHALENE	50.0	ND	37.1	31.3	74.2	62.6	40-121	17.0	20
2-METHYLPHENOL	50.0	ND	31.4	27.1	62.8	54.2	30-117	14.7	20
2-NITROANILINE	50.0	ND	42.8	37.7	85.6	75.4	55-127	12.7	20
2-NITROPHENOL	50.0	ND	41.7	37.7	83.4	75.4	47-123	10.1	20
3,3'-DICHLOROBENZIDINE	50.0	ND	45.0	40.2	90.0	80.4	27-129	11.3	20
3-NITROANILINE	50.0	ND	43.0	40.3	86.0	80.6	41-128	6.5	20
3/4-METHYLPHENOL	100	ND	57.6	50.3	57.6	50.3	29-110	13.5	20
4,6-DINITRO-2-METHYLPHENOL	50.0	ND	44.4	39.4	88.8	78.8	44-137	11.9	20
4-BROMOPHENYL PHENYL ETHER	50.0	ND	41.8	36.4	83.6	72.8	55-124	13.8	20
4-CHLORO-3-METHYLPHENOL	50.0	ND	42.4	36.4	84.8	72.8	52-119	15.2	20
4-CHLOROANILINE	50.0	ND	45.8	41.9	91.6	83.8	33-117	8.9	20
4-CHLOROPHENYL PHENYL ETHER	50.0	ND	40.3	33.3	80.6	66.6	53-121	19.0	20
4-NITROANILINE	50.0	ND	44.7	39.7	89.4	79.4	35-120	11.8	20
4-NITROPHENOL	50.0	ND	11.5	10.8	23.0	21.6	10-125	6.3	20
ACENAPHTHENE	50.0	ND	39.4	34.0	78.8	68.0	47-122	14.7	20
ACENAPHTHYLENE	50.0	ND	38.2	33.3	76.4	66.6	41-130	13.7	20
ANTHRACENE	50.0	ND	43.1	38.2	86.2	76.4	57-123	12.1	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Comments:

Printed: 02/17/17 9:41:03 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZ (A) ANTHRACENE	50.0	ND	44.7	38.3	89.4	76.6	58-125	15.4	20
BENZO (A) PYRENE	50.0	ND	42.7	37.8	85.4	75.6	54-128	12.2	20
BENZO (B) FLUORANTHENE	50.0	ND	40.1	37.0	80.2	74.0	53-131	8.0	20
BENZO (G,H,I) PERYLENE	50.0	ND	42.7	38.3	85.4	76.6	50-134	10.9	20
BENZO (K) FLUORANTHENE	50.0	ND	46.2	39.8	92.4	79.6	57-129	14.9	20
BENZYL ALCOHOL	50.0	ND	35.5	30.6	71.0	61.2	31-112	14.8	20
BIS (2-CHLORETHOXY) METHANE	50.0	ND	40.9	35.8	81.8	71.6	48-120	13.3	20
BIS (2-CHLOROETHYL) ETHER	50.0	ND	36.7	32.5	73.4	65.0	43-118	12.1	20
BIS (2-CHLOROISOPROPYL) ETHER	50.0	ND	38.3	33.6	76.6	67.2	37-130	13.1	20
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	ND	45.2	40.1	90.4	80.2	55-135	12.0	20
BUTYL BENZYL PHTHALATE	50.0	ND	45.9	41.9	91.8	83.8	53-134	9.1	20
CARBAZOLE	50.0	ND	44.2	39.5	88.4	79.0	60-122	11.2	20
CHRYSENE	50.0	ND	42.0	37.8	84.0	75.6	59-123	10.5	20
DI-N-BUTYL PHTHALATE	50.0	ND	45.5	42.0	91.0	84.0	59-127	8.0	20
DI-N-OCTYL PHTHALATE	50.0	ND	48.5	41.3	97.0	82.6	51-140	16.0	20
DIBENZ (A,H) ANTHRACENE	50.0	ND	42.8	37.5	85.6	75.0	51-134	13.2	20
DIBENZOFURAN	50.0	ND	41.1	35.4	82.2	70.8	53-118	14.9	20
DIETHYL PHTHALATE	50.0	ND	45.3	40.5	90.6	81.0	56-125	11.2	20
DIMETHYL PHTHALATE	50.0	ND	44.2	39.8	88.4	79.6	45-127	10.5	20
DIPHENYLAMINE	100	ND	86.2	79.3	86.2	79.3	55-111	8.3	20
FLUORANTHENE	50.0	ND	45.1	40.6	90.2	81.2	57-128	10.5	20
FLUORENE	50.0	ND	38.8	34.0	77.6	68.0	52-124	13.2	20
HEXACHLOROBENZENE	50.0	ND	42.8	37.4	85.6	74.8	53-125	13.5	20
HEXACHLOROBUTADIENE	50.0	ND	23.0	17.7	46.0	35.4	22-124	26.0 #	20
HEXACHLOROCYCLOPENTADIENE	50.0	ND	15.2	13.8	30.4	27.6	10-110	9.7	20
HEXACHLOROETHANE	50.0	ND	23.0	17.8	46.0	35.6	21-115	25.5 #	20
INDENO (1,2,3-CD) PYRENE	50.0	ND	42.2	38.2	84.4	76.4	52-134	10.0	20
ISOPHORONE	50.0	ND	42.6	36.9	85.2	73.8	42-124	14.3	20
N-NITROSODI-N-PROPYLAMINE	50.0	ND	39.8	35.3	79.6	70.6	49-119	12.0	20
NAPHTHALENE	50.0	ND	35.9	31.3	71.8	62.6	40-121	13.7	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Comments:

Printed: 02/17/17 9:41:03 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
NITROBENZENE	50.0	ND	38.1	34.1	76.2	68.2	45-121	11.1	20
PENTACHLOROPHENOL	50.0	ND	44.5	41.9	89.0	83.8	35-138	6.0	20
PHENANTHRENE	50.0	ND	41.4	37.2	82.8	74.4	59-120	10.7	20
PYRENE	50.0	ND	43.8	38.0	87.6	76.0	57-126	14.2	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	143	122	71.5	61.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.4	63.1	35.7	31.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.3	57.4	70.3	57.4	44-120		
SURROGATE: PHENOL (S)	200	NA	43.6	37.2	21.8	18.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.8	61.0	71.8	61.0	50-134		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/17/17 9:41:03 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82150
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 1151

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	0123Y164	02/15/17 1151
170214A-LCS	Lab Control Spike	0123Y165	02/15/17 1222
170214A-MS	Matrix Spike	0123Y170	02/15/17 1506
170214A-MSD	Matrix SpikeD	0123Y171	02/15/17 1536
AZ49853	ERH225	0123Y172	02/15/17 1607
AZ49854	ERH247	0123Y173	02/15/17 1638
AZ49855	ERH248	0123Y174	02/15/17 1708

Comments: Batch: #87DC5-170214A

Printed: 02/16/17 12:40:21 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: SV Tune 12/15/16

SDG No: 82150
Date Analyzed: 02/15/17
Instrument: Yoda
Time Analyzed: 10:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 1/19/17	0123Y163.D	02/15/17 11:07
2	Blank	170214A BLK 1/1000	0123Y164.D	02/15/17 11:51
3	Lab Control Spike	170214A LCS-1 1/1000	0123Y165.D	02/15/17 12:22
4		AZ49853W30 MS-1 1/10	0123Y170.D	02/15/17 15:06
5		AZ49853W43 MSD-1 1/1	0123Y171.D	02/15/17 15:36
6	ERH225	AZ49853W42 1/1070	0123Y172.D	02/15/17 16:07
7	ERH247	AZ49854W11 1/1000	0123Y173.D	02/15/17 16:38
8	ERH248	AZ49855W15 1/1040	0123Y174.D	02/15/17 17:08
9		50ug/ml SVOC 1/19/17	0123Y179.D	02/15/17 19:39
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	42.6
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	52.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.3
365	1 - 100% of mass 198	3.8
441	0.01 - 100% of mass 443	83.7
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	18.9

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82150
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	192352	4.82	769021	6.26	463296	8.26
02	170214A BLK 1/1000	177998	4.82	760130	6.25	439380	8.26
03	170214A LCS-1 1/1000	165304	4.83	697704	6.26	437339	8.26
04	AZ49853W30 MS-1 1/1(	174624	4.82	715946	6.25	426746	8.27
05	AZ49853W43 MSD-1 1/	184815	4.83	763690	6.26	444175	8.26
06	AZ49853W42 1/1070	175349	4.83	767989	6.26	438575	8.26
07	AZ49854W11 1/1000	169007	4.82	725445	6.25	399873	8.26
08	AZ49855W15 1/1040	146494	4.82	709855	6.25	418941	8.26
09	50ug/ml SVOC 1/19/17	139757	4.82	579971	6.25	359597	8.27
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82150
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 1/19/17	892159	9.99	829083	13.06	874527	14.70
02	170214A BLK 1/1000	813182	9.99	830149	13.06	667730	14.69
03	170214A LCS-1 1/1000	789191	9.99	824282	13.07	701851	14.69
04	AZ49853W30 MS-1 1/1(	800108	9.99	801732	13.07	859302	14.70
05	AZ49853W43 MSD-1 1/	833606	9.99	843490	13.06	889589	14.70
06	AZ49853W42 1/1070	810556	9.98	826043	13.06	865515	14.70
07	AZ49854W11 1/1000	758851	9.99	748992	13.06	743121	14.69
08	AZ49855W15 1/1040	726055	9.99	733143	13.06	801241	14.70
09	50ug/ml SVOC 1/19/17	677259	9.99	663679	13.07	665007	14.70
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	71.8	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	65.4	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	37.8	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	68.1	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.1	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	72.0	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y172
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:40:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #14HP-170214A-216250

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-1	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: 2-FLUORBIPHENYL (S)	65.4	44-119			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: NITROBENZENE-D5 (S)	68.0	44-120			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: TERPHENYL-D14 (S)	72.0	50-134			%	02/14/17	02/15/17

Quant Method: DIX0123.M
Run #: 0123Y172
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/28/17 10:14:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	02/14/17	02/15/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	02/14/17	02/15/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	02/14/17	02/15/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y172
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 9:41:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	02/14/17	02/15/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	71.8	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	65.4	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	37.8	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	68.1	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL (S)	22.1	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	72.0	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y172
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 9:41:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y172.D Vial: 72
Acq On : 15 Feb 17 16:07 Operator: MA
Sample : AZ49853W42 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Feb 16 12:05 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	175349	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	767989	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	438575	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	810556	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	826043	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	865515	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	418210	70.66274 ppb	0.00
Spiked Amount 186.916			Recovery	= 37.805%	
5) Phenol-D6 (S)	4.48	99	325297	41.31203 ppb	0.01
Spiked Amount 186.916			Recovery	= 22.102%	
21) Nitrobenzene-D5(S)	5.46	82	530017	63.59871 ppb	0.00
Spiked Amount 93.458			Recovery	= 68.051%	
45) 2-Fluorobiphenyl(S)	7.49	172	920793	61.16448 ppb	0.00
Spiked Amount 93.458			Recovery	= 65.445%	
63) 2,4,6-Tribromophenol(S)	9.19	330	291388	134.14893 ppb	0.00
Spiked Amount 186.916			Recovery	= 71.770%	
81) Terphenyl-D14(S)	11.85	244	1279108	67.28254 ppb	0.00
Spiked Amount 93.458			Recovery	= 71.993%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

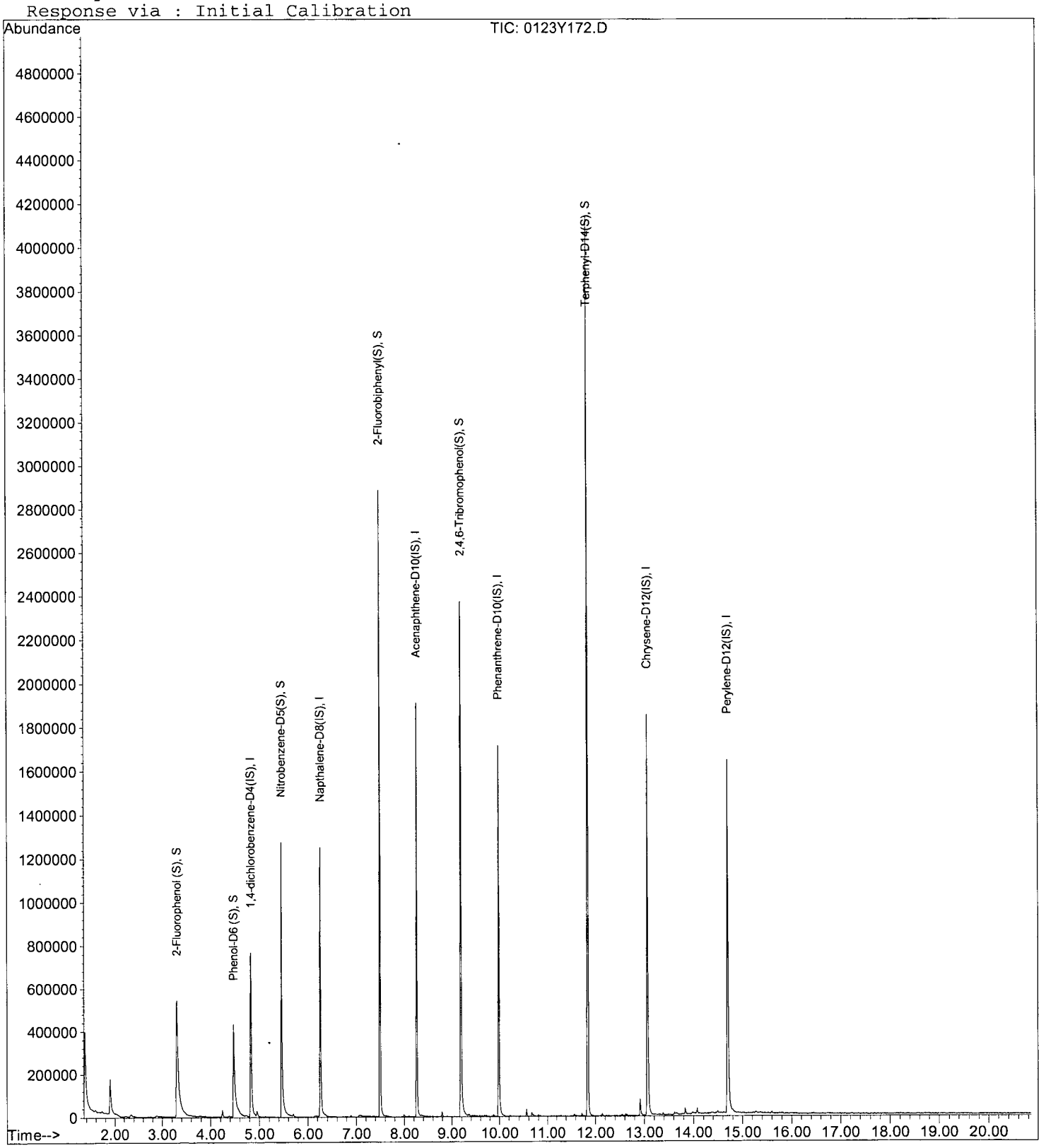
Data File : M:\YODA\DATA\Y170123\0123Y172.D
Acq On : 15 Feb 17 16:07
Sample : AZ49853W42 1/1070
Misc : water

Vial: 72
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Feb 16 12:05 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Library Search Compound Report

```
Data File : M:\YODA\DATA\Y170123\0123Y172.D              Vial: 72
Acq On    : 15 Feb 17  16:07                         Operator: MA
Sample    : AZ49853W42 1/1070                        Inst    : Yoda
Misc      : water                                    Multiplr: 0.93


Quant Method : M:\YODA\DATA\Y170123\DIX0123.M (RTE Integrator)
Title        : EPA 8270C
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
*********************************************************************
```

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	51.9	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	47.0	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	30.4	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	46.8	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	20.0	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	55.3	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y173
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:40:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #14HP-170214A-216250

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-1	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: 2-FLUORBIPHENYL (S)	46.9	44-119			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: NITROBENZENE-D5 (S)	46.8	44-120			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: TERPHENYL-D14 (S)	55.0	50-134			%	02/14/17	02/15/17

Quant Method: DIX0123.M
Run #: 0123Y173
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/28/17 10:14:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	02/14/17	02/15/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	02/14/17	02/15/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	02/14/17	02/15/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17

Amended Results.

Quant Method: Y0123.M
Run #: 0123Y173
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/17/17 10:44:33 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	02/14/17	02/15/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	51.9	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	47.0	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	30.4	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	46.8	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL (S)	20.0	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	55.3	50-134			%	02/14/17	02/15/17

Amended Results.

Quant Method: Y0123.M
Run #: 0123Y173
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/17/17 10:44:33 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y173.D Vial: 73
Acq On : 15 Feb 17 16:38 Operator: MA
Sample : AZ49854W11 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:06 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	169007	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	725445	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399873	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	758851	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	748992	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	743121	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	324514	60.87123 ppb	0.00
Spiked Amount 200.000			Recovery	= 30.436%	
5) Phenol-D6 (S)	4.47	99	284148	40.06117 ppb	0.01
Spiked Amount 200.000			Recovery	= 20.031%	
21) Nitrobenzene-D5(S)	5.47	82	344541	46.83105 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.831%	
45) 2-Fluorobiphenyl(S)	7.50	172	603240	47.02547 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.025%	
63) 2,4,6-Tribromophenol(S)	9.19	330	192068	103.77108 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.885%	
81) Terphenyl-D14(S)	11.84	244	890325	55.26539 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.265%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

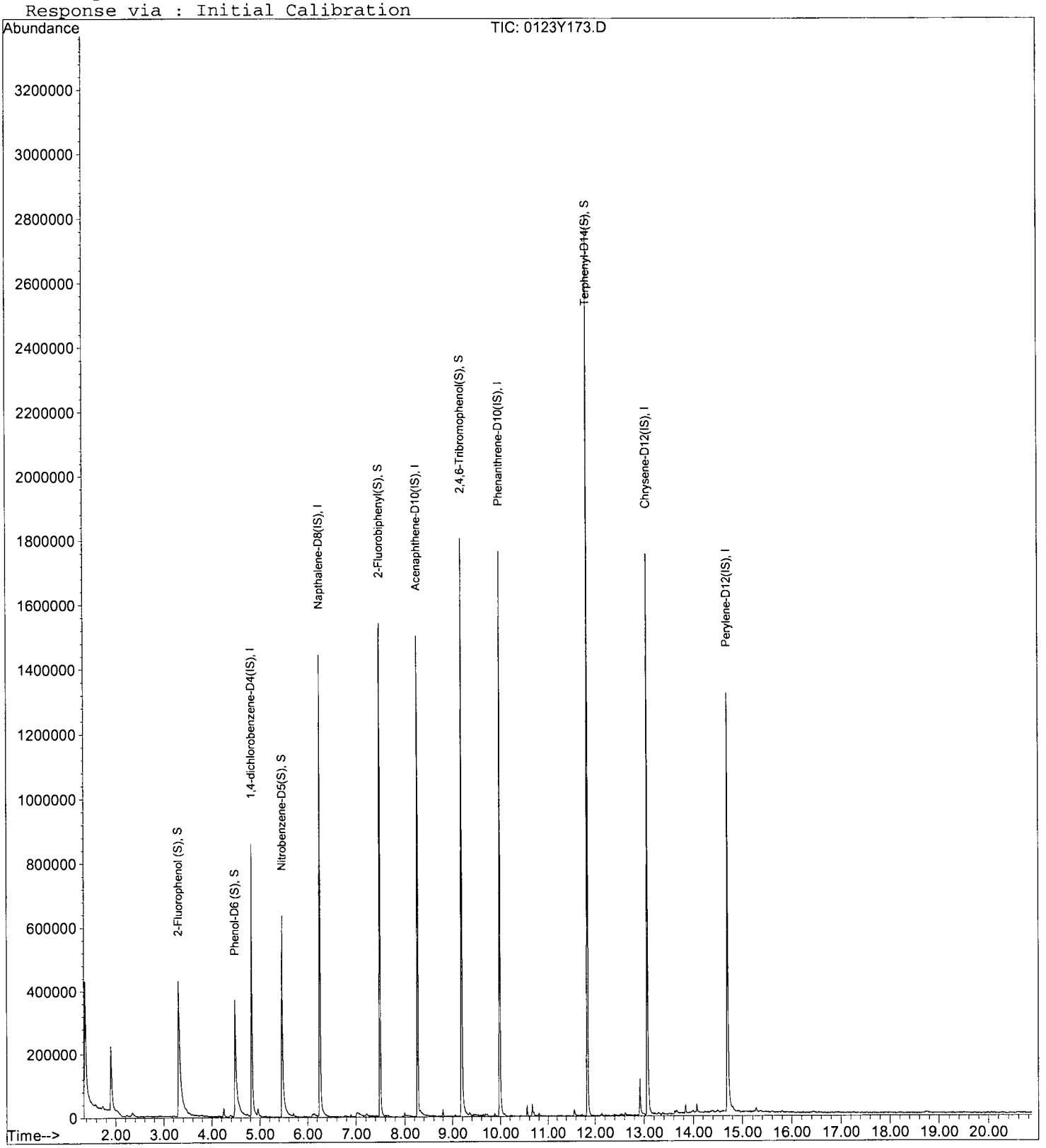
Data File : M:\YODA\DATA\Y170123\0123Y173.D
Acq On : 15 Feb 17 16:38
Sample : AZ49854W11 1/1000
Misc : water

Vial: 73
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 12:06 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Library Search Compound Report

```
Data File : M:\YODA\DATA\Y170123\0123Y173.D              Vial: 73
Acq On    : 15 Feb 17  16:38                         Operator: MA
Sample    : AZ49854W11 1/1000                        Inst    : Yoda
Misc      : water                                    Multiplr: 1.00


Quant Method : M:\YODA\DATA\Y170123\DIX0123.M (RTE Integrator)
Title        : EPA 8270C
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
*********************************************************************
```

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #87DC5-170214A-216219

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	61.6	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.7	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.7	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.6	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	21.4	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.7	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y174
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/16/17 12:40:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #14HP-170214A-216250

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-1	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: 2-FLUORBIPHENYL (S)	54.7	44-119			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: NITROBENZENE-D5 (S)	57.5	44-120			%	02/14/17	02/15/17
EPA 8270D-1	SURROGATE: TERPHENYL-D14 (S)	68.7	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y174
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/28/17 10:14:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	02/14/17	02/15/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	02/14/17	02/15/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	02/14/17	02/15/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y174
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 9:41:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #87DDO-170214A-216222

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	02/14/17	02/15/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	02/14/17	02/15/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
EPA 8270D	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	02/14/17	02/15/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	61.6	43-140			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.7	44-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.7	19-119			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	57.6	44-120			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: PHENOL (S)	21.4	10-115			%	02/14/17	02/15/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.7	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y174
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 9:41:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y174.D Vial: 74
Acq On : 15 Feb 17 17:08 Operator: MA
Sample : AZ49855W15 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Feb 16 12:07 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	146494	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	709855	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	418941	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	726055	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	733143	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	801241	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	320788	66.74965 ppb	-0.01
Spiked Amount 192.308			Recovery = 34.710%		
5) Phenol-D6 (S)	4.47	99	263572	41.22214 ppb	0.00
Spiked Amount 192.308			Recovery = 21.435%		
21) Nitrobenzene-D5(S)	5.46	82	414592	55.37530 ppb	0.00
Spiked Amount 96.154			Recovery = 57.590%		
45) 2-Fluorobiphenyl(S)	7.50	172	734676	52.56243 ppb	0.00
Spiked Amount 96.154			Recovery = 54.664%		
63) 2,4,6-Tribromophenol(S)	9.19	330	238866	118.44378 ppb	0.00
Spiked Amount 192.308			Recovery = 61.591%		
81) Terphenyl-D14(S)	11.85	244	1084084	66.10334 ppb	0.00
Spiked Amount 96.154			Recovery = 68.747%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y174.D Y0123.M Thu Feb 16 16:16:21 2017

Quantitation Report

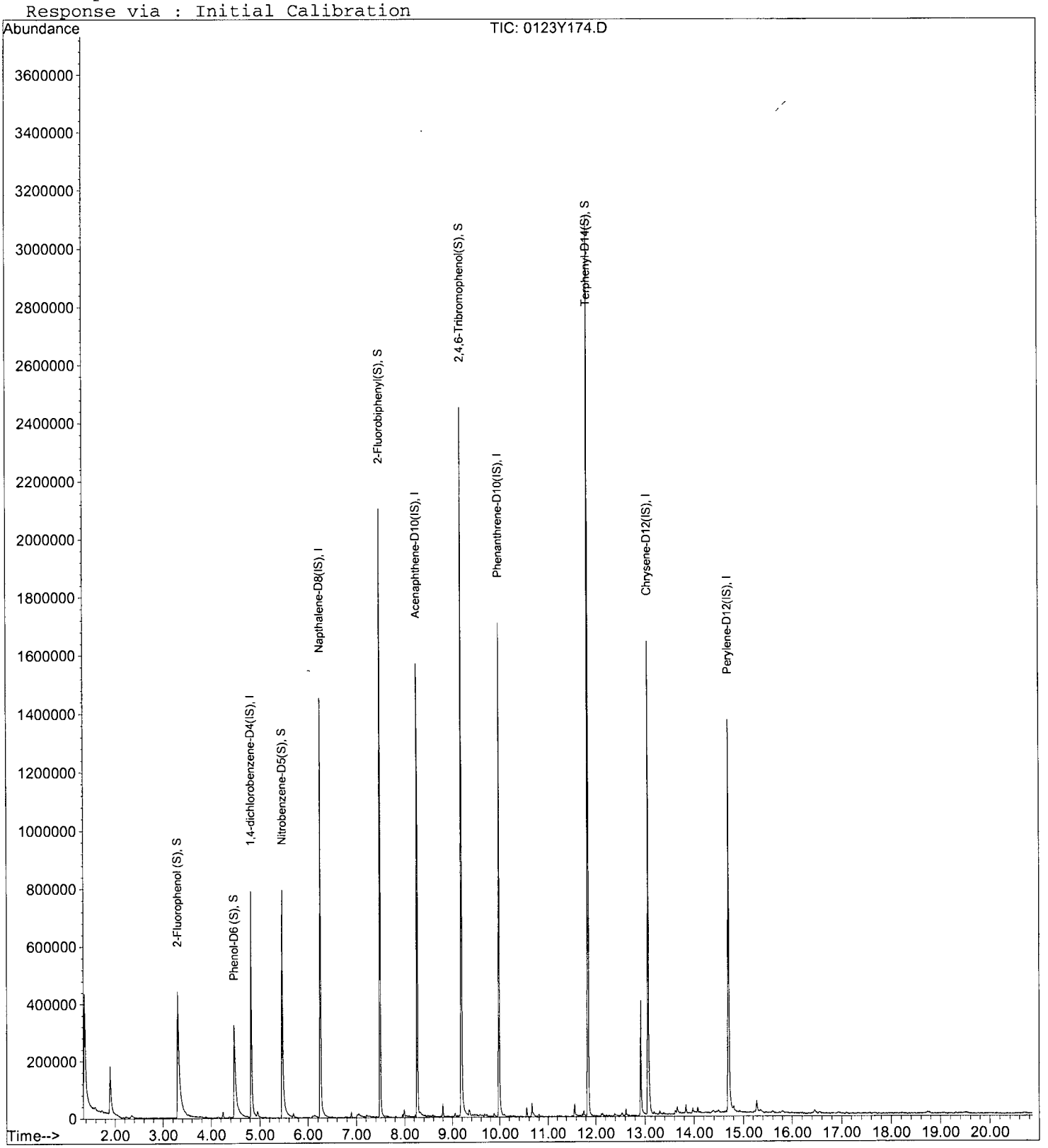
Data File : M:\YODA\DATA\Y170123\0123Y174.D
Acq On : 15 Feb 17 17:08
Sample : AZ49855W15 1/1040
Misc : water

Vial: 74
Operator: MA
Inst : Yoda
Multiplr: 0.96

Quant Time: Feb 16 12:07 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Library Search Compound Report

```
Data File : M:\YODA\DATA\Y170123\0123Y174.D            Vial: 74
Acq On    : 15 Feb 17  17:08                       Operator: MA
Sample    : AZ49855W15 1/1040                      Inst    : Yoda
Misc      : water                                  Multiplr: 0.96


Quant Method : M:\YODA\DATA\Y170123\DIX0123.M (RTE Integrator)
Title        : EPA 8270C
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
**********************************************************************
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ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003.D	0123Y004.D	0123Y005.D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41)	Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43)	2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44)	2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46)	1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47)	2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48)	2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49)	Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50)	2,6-DNT	8.07	165	13516	4.34276	ppb		98
51)	Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52)	3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53)	Acenaphthene	8.30	154	61118	5.27635	ppb		98
54)	2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55)	4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56)	Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57)	2,4-DNT	8.55	165	18690	4.26757	ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59)	Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60)	4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61)	Fluorene	8.90	166	69616	5.27556	ppb		96
62)	4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65)	4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66)	Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67)	n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69)	4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70)	Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71)	Atrazine	9.68	200	7883	2.10443	ppb		92
72)	Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73)	Phenanthrene	10.02	178	99531	5.00174	ppb		99
74)	Anthracene	10.08	178	104078	5.06633	ppb		99
75)	Carbazol	10.29	167	87488	4.74701	ppb		100
76)	Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77)	Fluoranthene	11.40	202	106801	4.84818	ppb		99
79)	Benzidine	11.59	184	41695	5.01562	ppb		98
80)	Pyrene	11.66	202	111459	4.57558	ppb		97
82)	Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83)	3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84)	Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85)	Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86)	Chrysene	13.10	228	115566	5.28777	ppb		99
87)	Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89)	Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91)	Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94)	Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

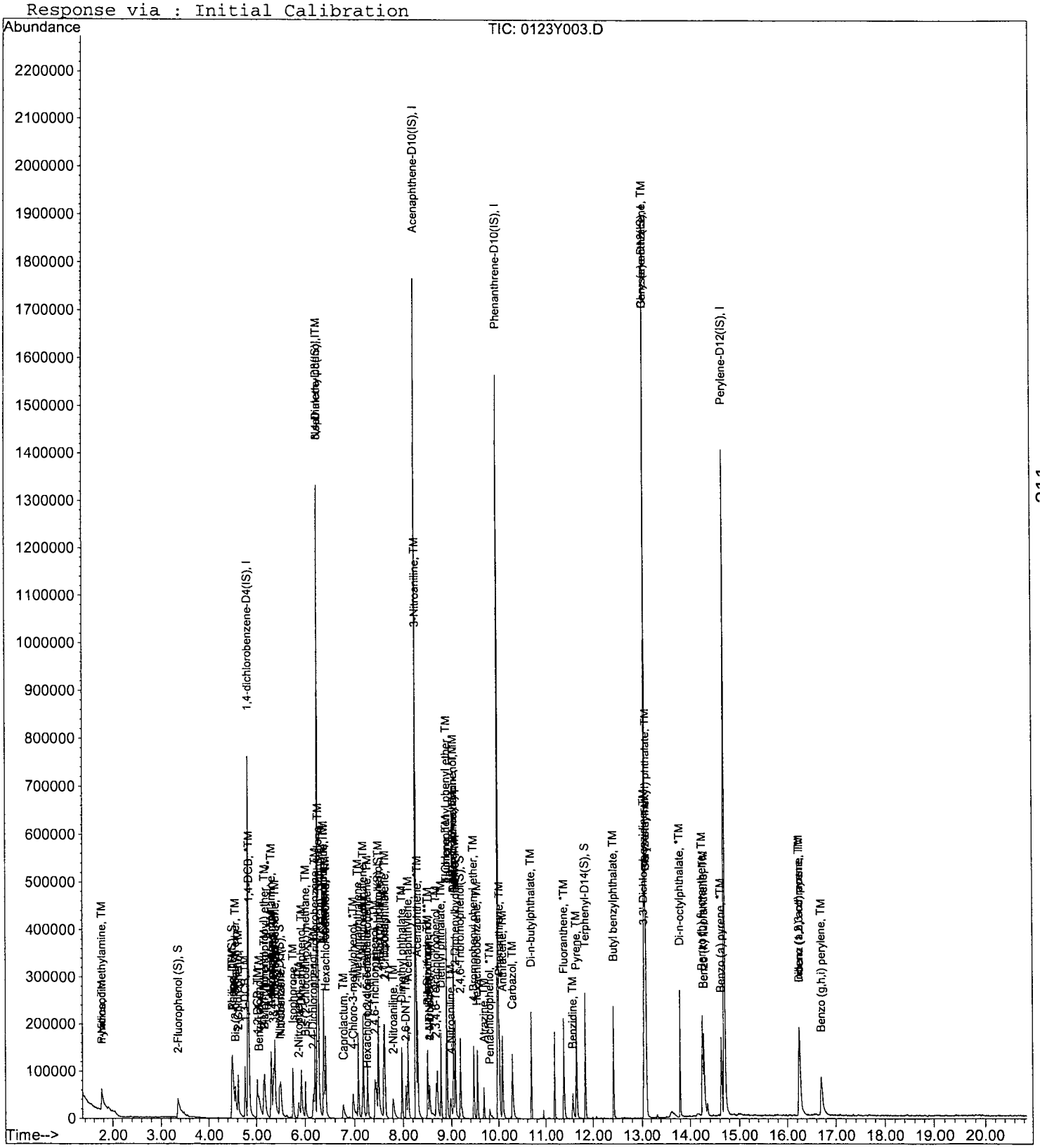
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



311

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933 ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860 ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861 ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944 ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646 ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318 ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796 ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690 ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723 ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118 ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937 ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420 ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425 ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231 ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926 ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904 ppb		86
61) Fluorene	8.90	166	136880	10.19080 ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103 ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238 ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238 ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657 ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736 ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230 ppb		89
71) Atrazine	9.69	200	17574	4.54512 ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148 ppb		93
73) Phenanthrene	10.01	178	207115	10.08340 ppb		100
74) Anthracene	10.08	178	215698	10.17215 ppb		99
75) Carbazol	10.28	167	186612	9.80942 ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533 ppb		100
77) Fluoranthene	11.40	202	215194	9.46381 ppb		99
79) Benzidine	11.58	184	88604	10.34478 ppb		98
80) Pyrene	11.66	202	225558	8.98704 ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716 ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727 ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157 ppb		98
86) Chrysene	13.10	228	218169	9.68864 ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023 ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764 ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396 ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464 ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986 ppb		97

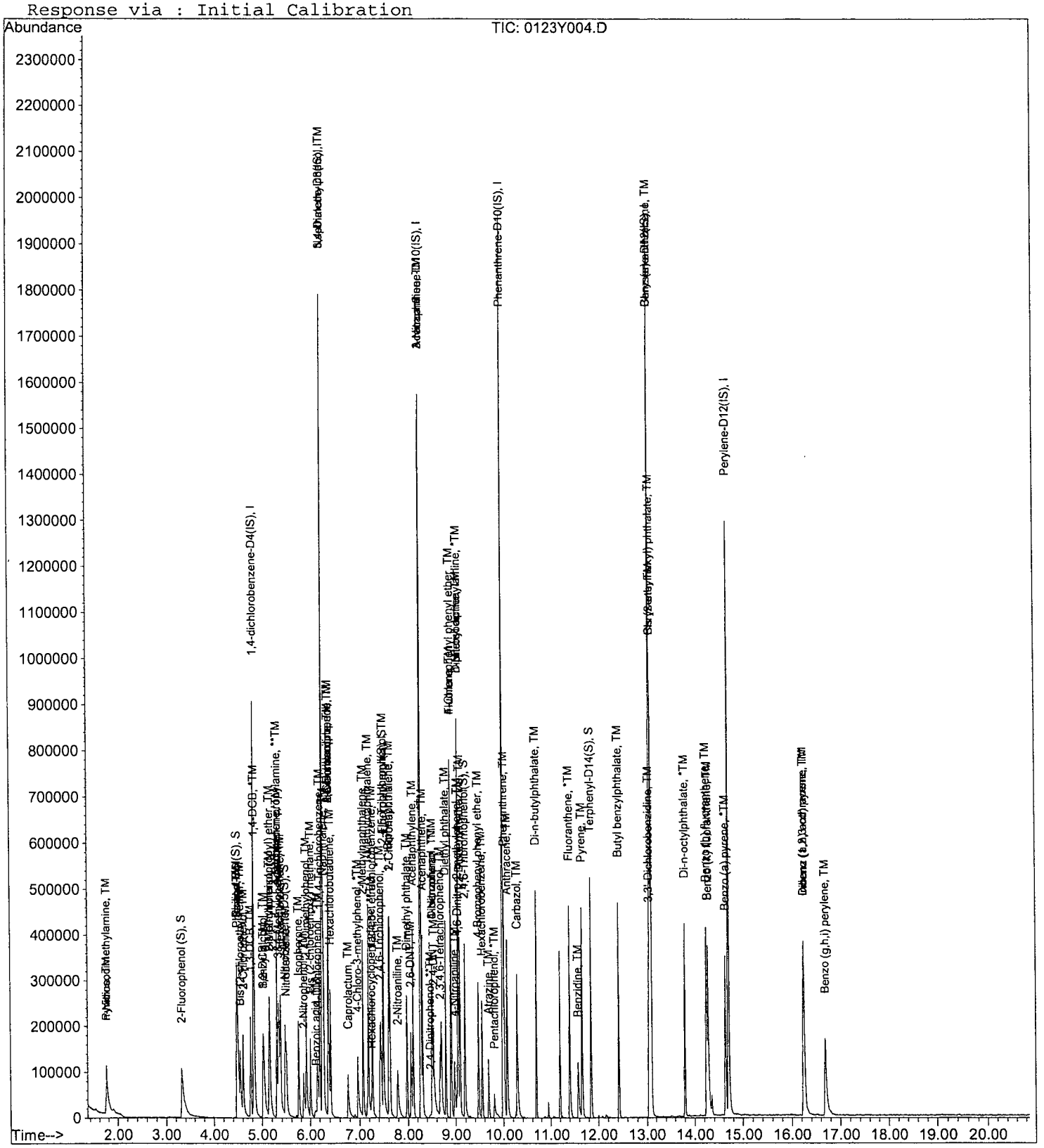
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery = 19.524%		
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery = 20.517%		
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery = 20.165%		
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery = 21.167%		
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery = 18.758%		
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery = 19.925%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

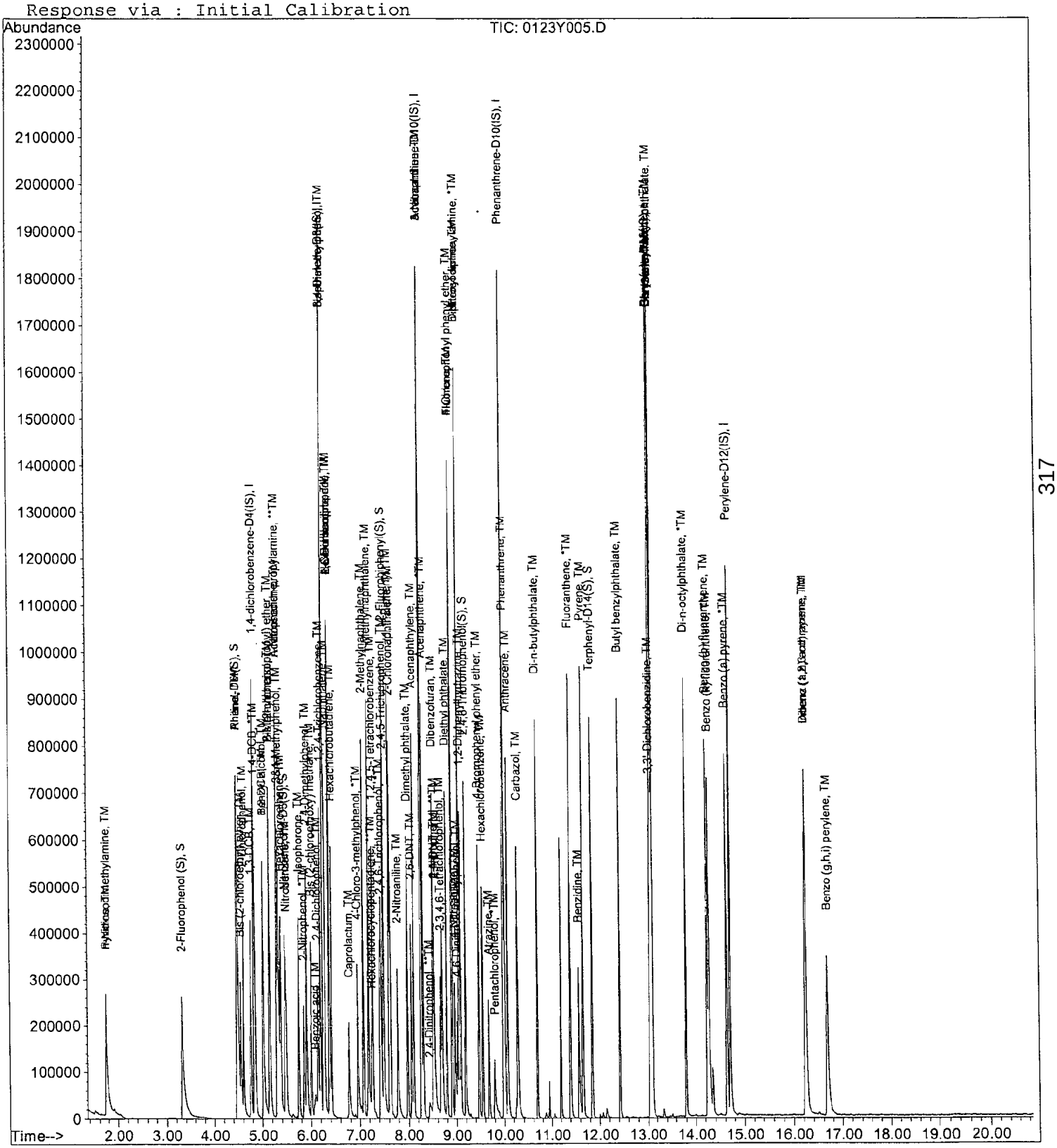
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



317

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121	ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53) Acenaphthene	8.31	154	448599	38.96400	ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547	ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61) Fluorene	8.90	166	515360	39.29261	ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71) Atrazine	9.69	200	75092	20.23603	ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73) Phenanthrene	10.02	178	797163	40.43889	ppb		99
74) Anthracene	10.08	178	837248	41.14126	ppb		99
75) Carbazol	10.28	167	750665	41.11558	ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77) Fluoranthene	11.40	202	872131	39.96448	ppb		97
79) Benzidine	11.58	184	358107	43.08926	ppb		99
80) Pyrene	11.66	202	926965	38.06361	ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86) Chrysene	13.10	228	847601	38.79268	ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

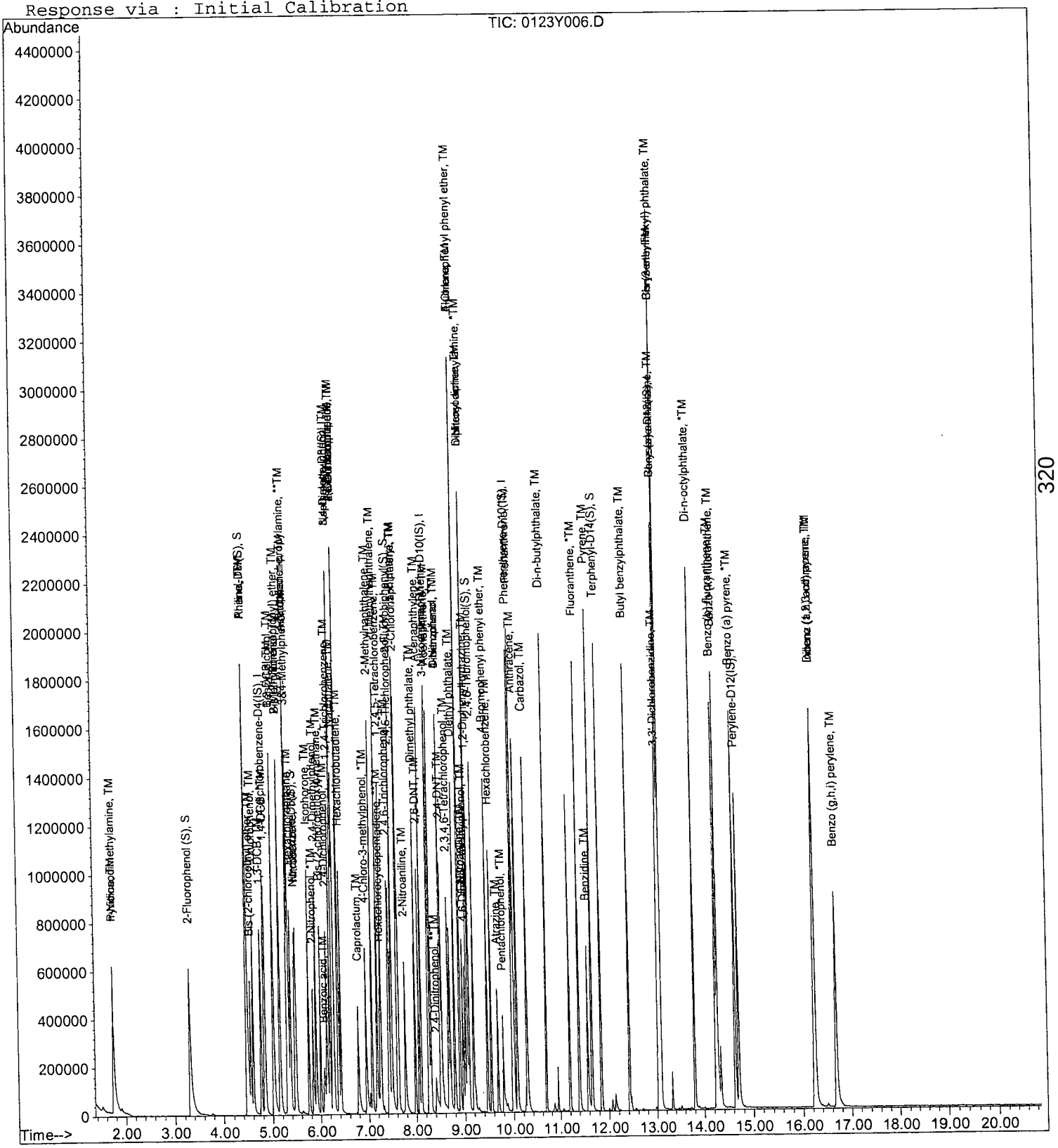
Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



320

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

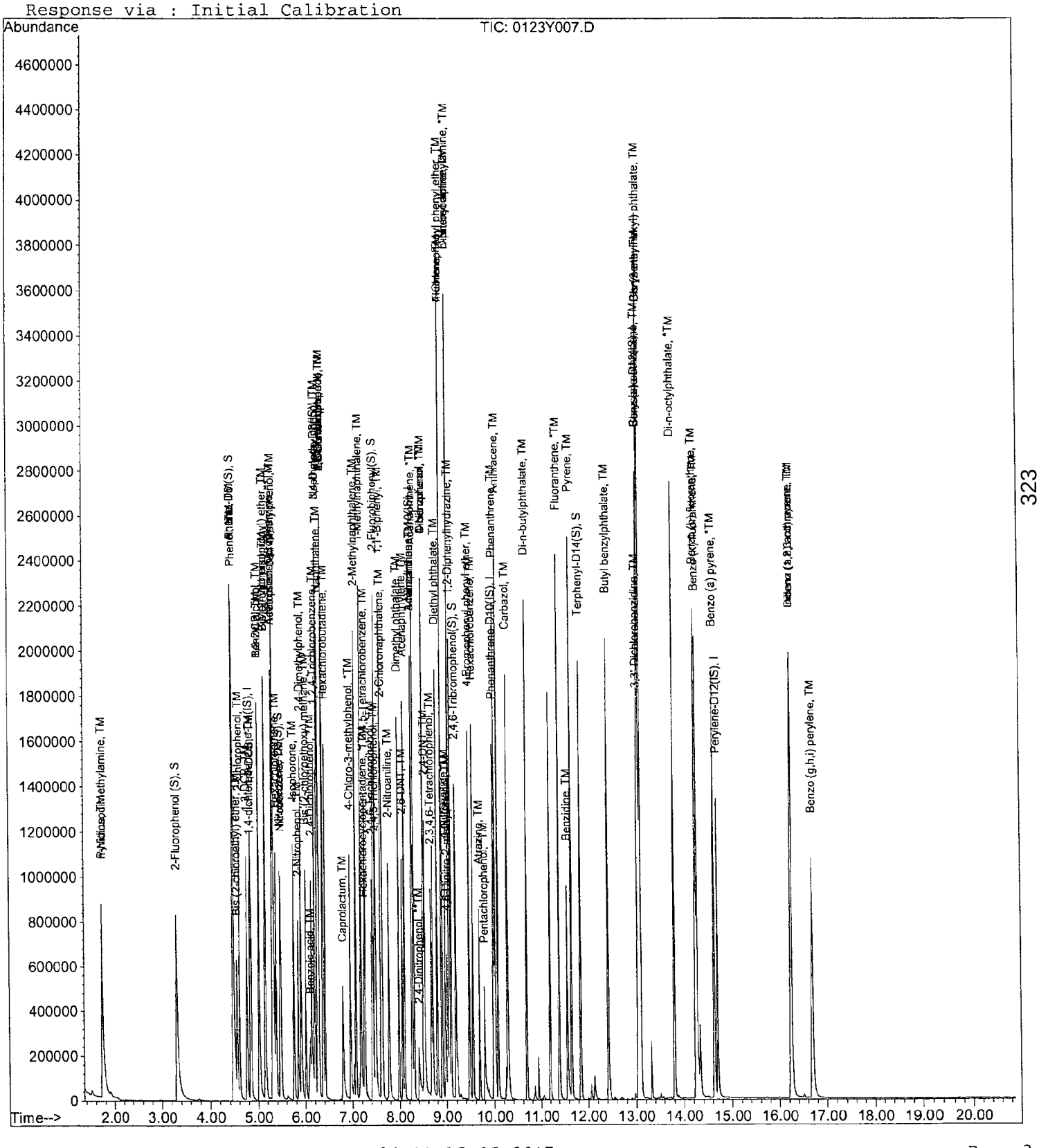
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



323

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery = 59.291%		
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery = 56.295%		
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery = 60.529%		
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery = 56.203%		
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery = 53.820%		
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery = 55.189%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750 ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920 ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008 ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161 ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869 ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920 ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675 ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844 ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818 ppb		99
53) Acenaphthene	8.31	154	660528	56.10991 ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470 ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087 ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197 ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227 ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298 ppb		98
61) Fluorene	8.90	166	723357	53.93814 ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356 ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272 ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420 ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533 ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941 ppb		96
71) Atrazine	9.69	200	113418	29.34015 ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528 ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905 ppb		99
74) Anthracene	10.08	178	1251780	59.04733 ppb		100
75) Carbazol	10.28	167	1130326	59.43097 ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811 ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928 ppb		99
79) Benzidine	11.57	184	543076	64.22768 ppb		98
80) Pyrene	11.66	202	1386950	55.97742 ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935 ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200 ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820 ppb		98
86) Chrysene	13.10	228	1217719	54.77858 ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777 ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932 ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798 ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

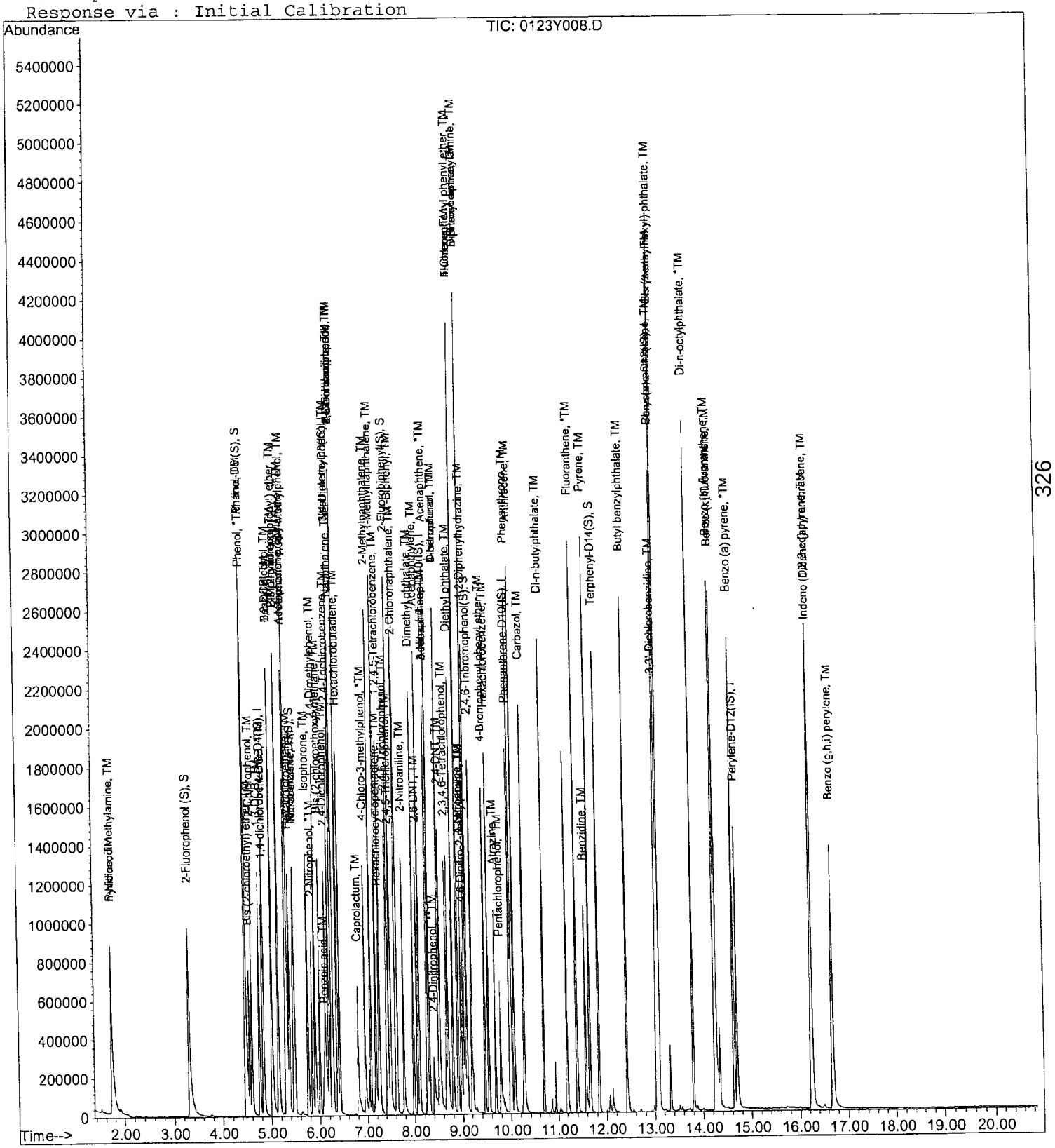
Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



326

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery = 81.237%		
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery = 71.975%		
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery = 82.366%		
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery = 73.843%		
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery = 69.908%		
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery = 69.813%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb		98
3) Pyridine	1.73	79	634454	83.90277 ppb		100
6) Phenol	4.48	94	642315	77.49542 ppb		98
7) Aniline	4.48	66	611004	77.80712 ppb	#	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb		91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb		99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb		99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb		96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb		93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb		99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb		98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb		96
16) Acetophenone	5.30	105	658013	77.62630 ppb		95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb		93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb		89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb		97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb		92
23) Isophorone	5.76	82	966459	84.20922 ppb		98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb		98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb		98
26) Benzoic acid	6.12	105	344797	79.06975 ppb		99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb		99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb		97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb		99
31) Naphthalene	6.28	128	1406137	78.62073 ppb		99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb		96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb		98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb		98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb		98
36) Caprolactum	6.82	55	245801	92.00545 ppb		98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

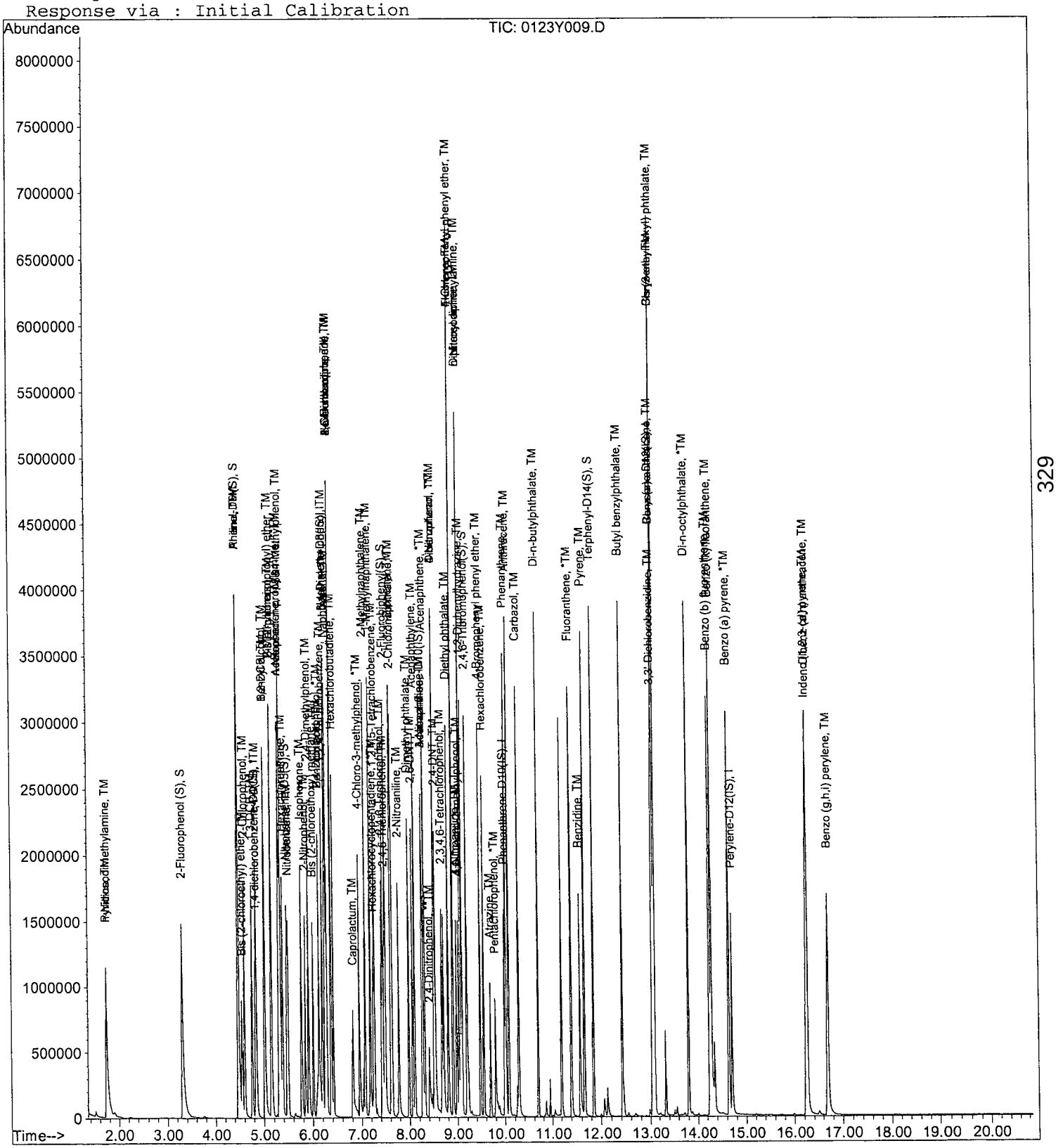
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



329

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	1069015	98.52562 ppb		100
39)	1-Methylnaphthalene	7.18	142	1086390	101.25946 ppb		97
41)	Hexachlorocyclopentadiene	7.25	237	258114	95.27329 ppb		100
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351 ppb		99
43)	2,4,6-Trichlorophenol	7.43	196	331996	97.70336 ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	355732	95.57756 ppb		98
46)	1,1'-Biphenyl	7.62	154	1386672	94.83843 ppb		97
47)	2-Chloronaphthalene	7.64	162	1055069	94.07130 ppb		95
48)	2-Nitroaniline	7.78	65	418092	108.50964 ppb		88
49)	Dimethyl phthalate	7.99	163	1356658	101.80747 ppb		98
50)	2,6-DNT	8.07	165	316171	104.64681 ppb	#	71
51)	Acenaphthylene	8.11	152	1797144	101.33230 ppb		99
52)	3-Nitroaniline	8.26	138	328647	98.60232 ppb		92
53)	Acenaphthene	8.31	154	1086532	96.62576 ppb		98
54)	2,4-Dinitrophenol	8.41	184	176811	90.93521 ppb		94
55)	4-Nitrophenol	8.50	65	278056	94.80657 ppb		85
56)	Dibenzofuran	8.51	168	1478712	93.40139 ppb		91
57)	2,4-DNT	8.54	165	432509	101.73091 ppb	#	76
58)	2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456 ppb		97
59)	Diethyl phthalate	8.81	149	1309719	94.16860 ppb		99
60)	4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458 ppb		86
61)	Fluorene	8.91	166	1259262	98.30180 ppb		98
62)	4-Nitroaniline	8.99	138	320532	101.69084 ppb		96
65)	4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202 ppb		97
66)	Diphenyl amine	9.07	169	1764977	176.53801 ppb		98
67)	n-Nitrosodiphenylamine	9.07	169	1764977	176.53801 ppb		98
68)	1,2-Diphenylhydrazine	9.10	77	1833929	122.07107 ppb		92
69)	4-Bromophenyl phenyl ether	9.48	248	362735	98.31343 ppb		89
70)	Hexachlorobenzene	9.55	284	374188	97.95365 ppb	#	85
71)	Atrazine	9.70	200	186402	51.29770 ppb		96
72)	Pentachlorophenol	9.80	266	184112	95.21807 ppb		98
73)	Phenanthrene	10.03	178	1872148	96.98577 ppb		99
74)	Anthracene	10.08	178	1948772	97.79130 ppb		100
75)	Carbazol	10.29	167	1735219	97.05778 ppb		94
76)	Di-n-butylphthalate	10.69	149	2308294	99.48443 ppb		98
77)	Fluoranthene	11.41	202	2101591	98.34594 ppb	#	95
79)	Benzidine	11.58	184	881021	112.09512 ppb		99
80)	Pyrene	11.67	202	2238167	97.18146 ppb		99
82)	Butyl benzylphthalate	12.43	149	1053918	95.88181 ppb		84
83)	3,3'-Dichlorobenzidine	13.04	252	620945	85.27441 ppb	#	97
84)	Benz (a) anthracene	13.06	228	1997166	93.57548 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876 ppb	#	98
86)	Chrysene	13.11	228	2048269	99.12644 ppb		99
87)	Di-n-octylphthalate	13.81	149	2523481	93.56142 ppb	#	90
89)	Benzo (b) fluoranthene	14.26	252	2021244	95.29131 ppb		98
90)	Benzo (k) fluoranthene	14.29	252	1924959	97.58324 ppb		98
91)	Benzo (a) pyrene	14.65	252	1933997	99.48149 ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950 ppb		98
93)	Dibenz (a,h) anthracene	16.27	278	1774923	97.42985 ppb		98
94)	Benzo (g,h,i) perylene	16.71	276	1733036	91.06647 ppb		95

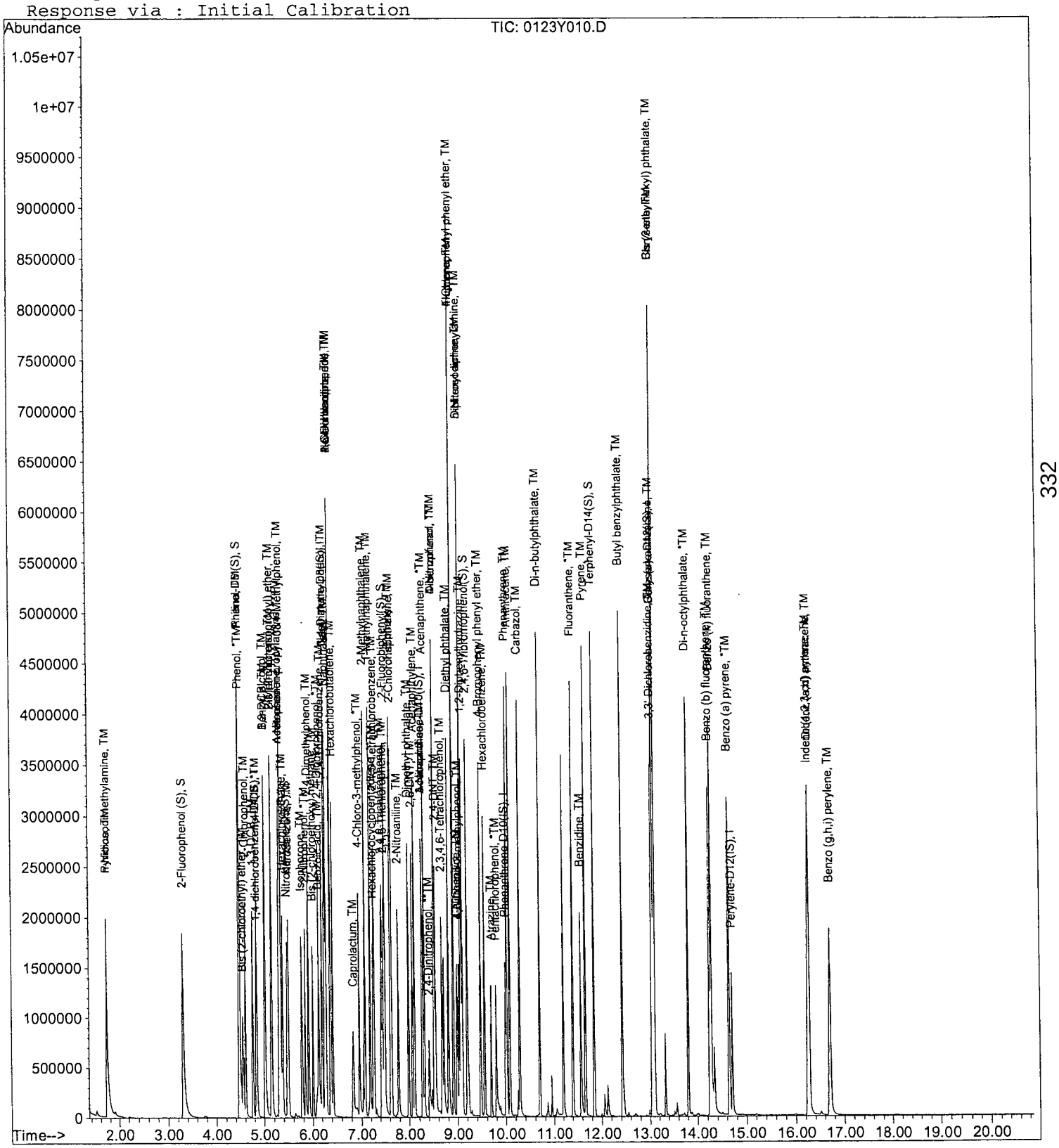
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



332

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
84							
85							
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112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

$$\text{Algorithm} = \frac{247372 \times 40 \times 1}{183587 \times 0.956} = 56.38$$ MA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	646439	48.57137 ppb		100
39)	1-Methylnaphthalene	7.19	142	602666	45.97150 ppb		100
41)	Hexachlorocyclopentadiene	7.25	237	121681	52.65785 ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775 ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	193346	48.88713 ppb		97
44)	2,4,5-Trichlorophenol	7.47	196	209742	48.34739 ppb		97
46)	1,1'-Biphenyl	7.61	154	822806	47.07970 ppb		99
47)	2-Chloronaphthalene	7.63	162	692861	51.88332 ppb		96
48)	2-Nitroaniline	7.77	65	233738	49.08526 ppb		85
49)	Dimethyl phthalate	7.98	163	766645	47.87741 ppb		99
50)	2,6-DNT	8.06	165	178567	49.95212 ppb	#	72
51)	Acenaphthylene	8.10	152	982221	45.67988 ppb		99
52)	3-Nitroaniline	8.25	138	193766	49.56328 ppb		85
53)	Acenaphthene	8.31	154	608874	45.93545 ppb		100
54)	2,4-Dinitrophenol	8.41	184	82560	48.59465 ppb		95
55)	4-Nitrophenol	8.50	65	144946	48.19129 ppb		77
56)	Dibenzofuran	8.50	168	875323	46.77048 ppb		98
57)	2,4-DNT	8.54	165	249063	49.96847 ppb		89
58)	2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501 ppb	#	90
59)	Diethyl phthalate	8.80	149	774517	47.76643 ppb		97
60)	4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651 ppb		86
61)	Fluorene	8.90	166	658029	43.43306 ppb		96
62)	4-Nitroaniline	8.98	138	188537	50.69450 ppb		89
65)	4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398 ppb	#	80
66)	Diphenyl amine	9.06	169	1101615	100.68261 ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	1101615	100.68261 ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1107522	57.98015 ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	213301	49.74664 ppb		85
70)	Hexachlorobenzene	9.55	284	235108	52.56424 ppb		90
71)	Atrazine	9.69	200	93523	22.08154 ppb		99
72)	Pentachlorophenol	9.79	266	86715	45.18058 ppb		95
73)	Phenanthrene	10.02	178	1072837	46.33434 ppb		100
74)	Anthracene	10.08	178	1080433	44.73670 ppb		99
75)	Carbazol	10.28	167	987284	46.17731 ppb		96
76)	Di-n-butylphthalate	10.69	149	1336738	49.47728 ppb		99
77)	Fluoranthene	11.40	202	1187541	47.24409 ppb		97
79)	Benzidine	11.58	184	466479	44.95376 ppb		97
80)	Pyrene	11.66	202	1231903	46.08479 ppb		98
82)	Butyl benzylphthalate	12.42	149	620712	50.22071 ppb	#	78
83)	3,3'-Dichlorobenzidine	13.03	252	451989	53.92761 ppb		94
84)	Benz (a) anthracene	13.05	228	1187024	47.21512 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640 ppb		99
86)	Chrysene	13.10	228	1055130	42.79043 ppb		100
87)	Di-n-octylphthalate	13.81	149	1488607	49.98751 ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1145100	44.79514 ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1223330	51.92467 ppb		98
91)	Benzo (a) pyrene	14.64	252	1142371	48.92994 ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771 ppb		99
93)	Dibenz (a,h) anthracene	16.26	278	1059706	47.56225 ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1051918	47.90166 ppb		97

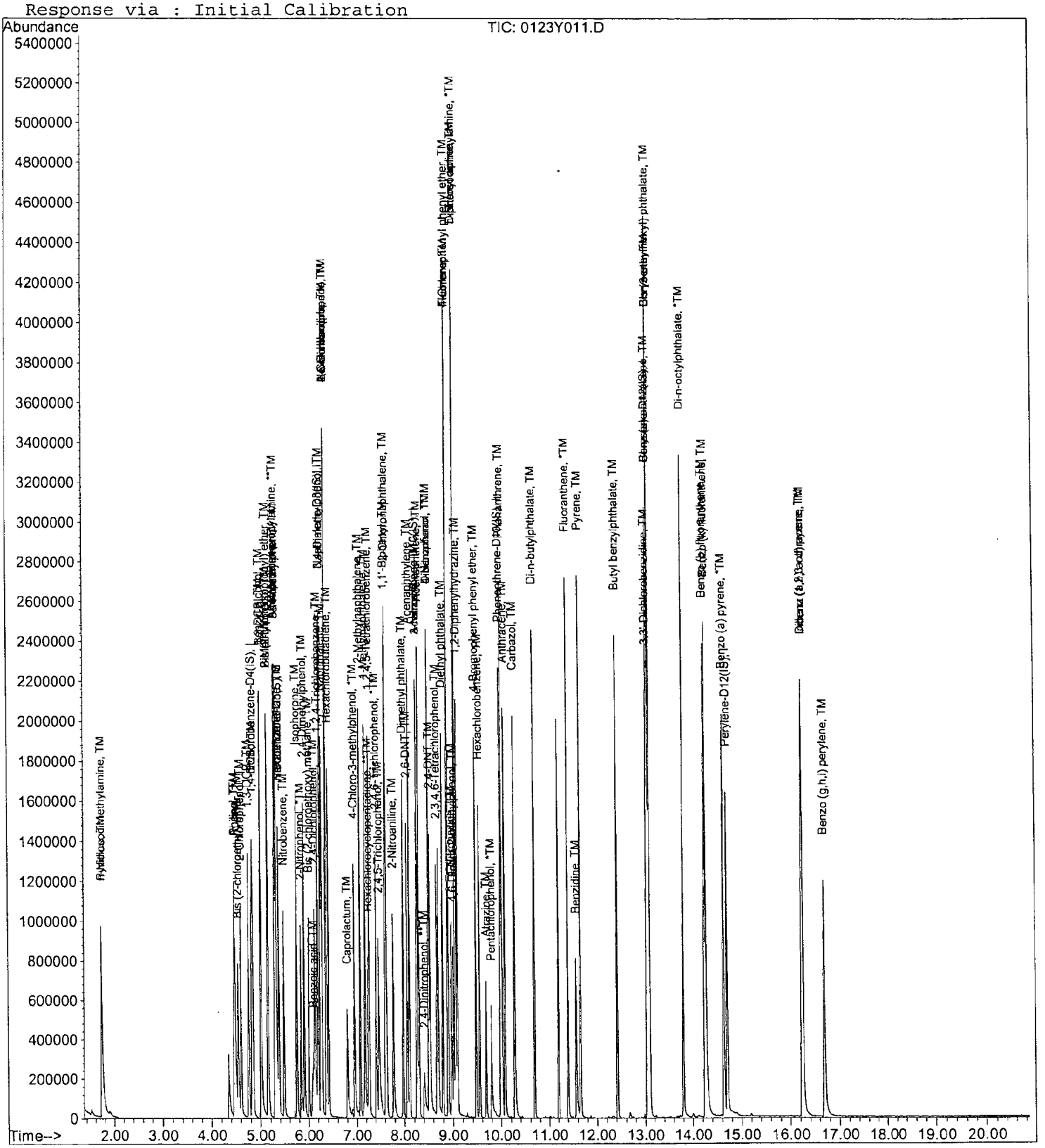
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



0123Y011.D Y0123.M Tue Jan 24 11:35:51 2017 Page 3

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I		
2	TM	n-Nitrosodimethylamine	0.9560	1.222	28	TM		*NT
3	TM	Pyridine	1.902	2.393	26	TM		*NT
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S		
5	S	Phenol-D6 (S)	1.679	1.610	4.1	S		
6	*TM	Phenol	1.927	2.016	4.6	*TM		
7	TM	Aniline	1.829	1.898	3.8	TM		
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9765	3.5	TM		
9	TM	2-Chlorophenol	1.490	1.519	1.9	TM		
10	TM	1,3-DCB	1.572	1.625	3.4	TM		
11	*TM	1,4-DCB	1.615	1.660	2.7	*TM		
12	TM	Benzyl alcohol	0.8487	0.9273	9.3	TM		
13	TM	1,2-DCB	1.472	1.521	3.3	TM		
14	TM	2-Methylphenol	1.114	1.216	9.1	TM		
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.117	2.3	TM		
16	TM	Acetophenone	1.985	2.097	5.7	TM		
17	TM	3&4-Methylphenol	1.446	1.532	5.9	TM		
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.145	4.0	**TM		
19	TM	Hexachloroethane	0.6642	0.6965	4.9	TM		
20	I	Napthalene-D8(IS)	ISTD			I		
21	S	Nitrobenzene-D5(S)	0.4057	0.4227	4.2	S		
22	TM	Nitrobenzene	0.4049	0.4457	10	TM		
23	TM	Isophorone	0.6723	0.7458	11	TM		
24	*TM	2-Nitrophenol	0.1899	0.2206	16	*TM		
25	TM	2,4-Dimethylphenol	0.3070	0.3407	11	TM		
26	TML	Benzoic acid	0.1823	0.2934	61	TML	24	*NT
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4294	10	TM		
28	*TM	2,4-Dichlorophenol	0.2922	0.3280	12	*TM		
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3408	5.6	TM		
30	TM	3,4-Dimethylphenol	0.4623	0.4951	7.1	TM		
31	TM	Naphthalene	1.046	1.104	5.6	TM		
32	TM	4-Chloroaniline	0.3674	0.3917	6.6	TM		
33	TM	2,6-Dichlorophenol	0.2704	0.2729	0.91	TM		
34	TM	Hexachloropropene	0.2347	0.2580	9.9	TM		
35	*TM	Hexachlorobutadiene	0.1914	0.2017	5.3	*TM		
36	TM	Caprolactum	0.1663	0.1934	16	TM		
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3556	12	*TM		
38	TM	2-Methylnaphthalene	0.6794	0.7347	8.1	TM		
39	TM	1-Methylnaphthalene	0.6692	0.7263	8.5	TM		
40	I	Acenaphthene-D10(IS)	ISTD			I		
		Average			9.4			

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2022	27	**TMQ	2.9
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5554	2.6	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3776	11	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3950	6.0	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.220	4.9	S	
46	TM	1,1'-Biphenyl	1.501	1.550	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.192	4.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4328	5.8	TM	
49	TM	Dimethyl phthalate	1.375	1.453	5.6	TM	
50	TM	2,6-DNT	0.3070	0.3344	9.0	TM	
51	TM	Acenaphthylene	1.846	1.969	6.6	TM	
52	TM	3-Nitroaniline	0.3357	0.3560	6.0	TM	
53	*TM	Acenaphthene	1.138	1.161	2.0	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1782	36	**TMQ	15
55	**TML	4-Nitrophenol	0.2262	0.2742	21	**TML	4.7
56	TM	Dibenzofuran	1.607	1.682	4.7	TM	
57	TM	2,4-DNT	0.4280	0.4832	13	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3279	12	TM	
59	TM	Diethyl phthalate	1.392	1.478	6.1	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6205	0.88	TM	
61	TM	Fluorene	1.301	1.268	2.6	TM	
62	TM	4-Nitroaniline	0.3194	0.3417	7.0	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1770	4.4	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1505	14	TML	4.6
66	TM	Diphenyl amine	0.5157	0.4997	3.1	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.4997	3.1	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.9656	7.2	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2079	2.9	TM	
70	TM	Hexachlorobenzene	0.2108	0.2066	2.0	TM	
71	TM	Atrazine	0.1996	0.2038	2.1	TM	
72	*TML	Pentachlorophenol	0.0838	0.1115	33	*TML	18
73	TM	Phenanthrene	1.091	1.079	1.2	TM	
74	TM	Anthracene	1.138	1.114	2.1	TM	
75	TM	Carbazol	1.008	1.021	1.3	TM	
76	TM	Di-n-butylphthalate	1.273	1.333	4.7	TM	
77	*TM	Fluoranthene	1.185	1.197	0.99	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.5113	2.7	TM	
80	TM	Pyrene	1.283	1.365	6.4	TM	
		Average			7.6		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y163.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8649	0.52	S	
82	TM	Butyl benzylphthalate	0.5931	0.6664	12	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4631	15	TM	
84	TM	Benz (a) anthracene	1.206	1.275	5.7	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8925	7.0	TM	
86	TM	Chrysene	1.183	1.238	4.6	TM	
87	*TM	Di-n-octylphthalate	1.429	1.630	14	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.212	2.6	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.170	1.9	TM	
91	*TM	Benzo (a) pyrene	1.137	1.179	3.6	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.314	3.1	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.103	1.6	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.132	5.9	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	192352	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	769021	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	463296	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	892159	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	829083	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	874527	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	639602	105.41355 ppb	0.00
Spiked Amount 200.000			Recovery = 52.707%		
5) Phenol-D6 (S)	4.47	99	774255	95.91158 ppb	0.00
Spiked Amount 200.000			Recovery = 47.956%		
21) Nitrobenzene-D5(S)	5.46	82	406316	52.09826 ppb	0.00
Spiked Amount 100.000			Recovery = 52.098%		
45) 2-Fluorobiphenyl(S)	7.49	172	706426	47.53059 ppb	0.00
Spiked Amount 100.000			Recovery = 47.531%		
63) 2,4,6-Tribromophenol(S)	9.19	330	205006	95.59858 ppb	0.00
Spiked Amount 200.000			Recovery = 47.800%		
81) Terphenyl-D14(S)	11.85	244	896310	50.26227 ppb	0.00
Spiked Amount 100.000			Recovery = 50.262%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	293872	63.92089 ppb		85
3) Pyridine	1.73	79	575387	62.91705 ppb		90
6) Phenol	4.47	94	484792	52.31782 ppb		90
7) Aniline	4.47	66	456400	51.88484 ppb	#	73
8) Bis (2-chloroethyl) ether	4.54	63	234785	51.76794 ppb		95
9) 2-Chlorophenol	4.60	128	365124	50.95328 ppb		97
10) 1,3-DCB	4.75	146	390730	51.68829 ppb		99
11) 1,4-DCB	4.84	146	399070	51.37325 ppb		98
12) Benzyl alcohol	5.01	108	222959	54.62765 ppb		93
13) 1,2-DCB	5.00	146	365761	51.65942 ppb		98
14) 2-Methylphenol	5.15	107	292261	54.57384 ppb		95
15) Bis (2-chloroisopropyl) et	5.14	45	509032	51.15323 ppb		85
16) Acetophenone	5.29	105	504233	52.83740 ppb		99
17) 3&4-Methylphenol	5.33	107	736477	105.90247 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	275369	51.97945 ppb		93
19) Hexachloroethane	5.38	117	167478	52.43204 ppb		98
22) Nitrobenzene	5.48	77	428397	55.03043 ppb		99
23) Isophorone	5.76	82	716920	55.46778 ppb		95
24) 2-Nitrophenol	5.84	139	212079	58.08649 ppb		99
25) 2,4-Dimethylphenol	5.90	122	327517	55.48270 ppb		96
26) Benzoic acid	6.11	105	281990	61.99410 ppb		95
27) Bis (2-chloroethoxy) metha	6.00	93	412733	55.15651 ppb		99
28) 2,4-Dichlorophenol	6.13	162	315339	56.13722 ppb		92
29) 1,2,4-Trichlorobenzene	6.19	180	327629	52.78488 ppb		99
30) 3,4-Dimethylphenol	6.25	107	475976	53.55682 ppb		96
31) Naphthalene	6.28	128	1061465	52.79294 ppb		99
32) 4-Chloroaniline	6.36	127	376523	53.31100 ppb		97
33) 2,6-Dichlorophenol	6.37	162	262296	50.45418 ppb		98
34) Hexachloropropene	6.37	213	247988	54.96230 ppb		98
35) Hexachlorobutadiene	6.41	225	193850	52.66917 ppb		98
36) Caprolactum	6.80	55	185940	58.15832 ppb		96
37) 4-Chloro-3-methylphenol	6.95	107	341841	56.16032 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y163.D
Acq On : 15 Feb 17 11:07
Sample : 50ug/ml SVOC 1/19/17
Misc : water

Vial: 63
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 11:34 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	706233	54.06918 ppb		98
39) 1-Methylnaphthalene	7.18	142	698168	54.26514 ppb		98
41) Hexachlorocyclopentadiene	7.24	237	117117	51.45507 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	321623	51.30381 ppb		100
43) 2,4,6-Trichlorophenol	7.42	196	218656	55.58743 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	228781	53.02290 ppb		98
46) 1,1'-Biphenyl	7.60	154	897792	51.64970 ppb		98
47) 2-Chloronaphthalene	7.63	162	690477	51.98604 ppb		96
48) 2-Nitroaniline	7.77	65	250644	52.92184 ppb		87
49) Dimethyl phthalate	7.97	163	841222	52.82054 ppb		100
50) 2,6-DNT	8.06	165	193682	54.47508 ppb		77
51) Acenaphthylene	8.10	152	1140206	53.31567 ppb		99
52) 3-Nitroaniline	8.25	138	206140	53.01522 ppb		89
53) Acenaphthene	8.30	154	672500	51.01157 ppb		99
54) 2,4-Dinitrophenol	8.40	184	103202	57.70155 ppb		89
55) 4-Nitrophenol	8.52	65	158798	52.34454 ppb		81
56) Dibenzofuran	8.50	168	974308	52.34263 ppb		95
57) 2,4-DNT	8.53	165	279827	56.44589 ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	189893	55.87552 ppb		93
59) Diethyl phthalate	8.80	149	855660	53.05776 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.90	204	359323	49.56221 ppb		91
61) Fluorene	8.90	166	734051	48.71442 ppb		98
62) 4-Nitroaniline	8.98	138	197875	53.49474 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.01	198	167889	52.27712 ppb	#	76
66) Diphenyl amine	9.06	169	1114628	96.90097 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1114628	96.90097 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	1076845	53.62333 ppb		94
69) 4-Bromophenyl phenyl ether	9.47	248	231845	51.43303 ppb		96
70) Hexachlorobenzene	9.54	284	230414	49.00106 ppb		86
71) Atrazine	9.69	200	113624	25.51846 ppb		92
72) Pentachlorophenol	9.79	266	124291	58.86731 ppb		96
73) Phenanthrene	10.02	178	1202953	49.41871 ppb		99
74) Anthracene	10.07	178	1242411	48.93336 ppb		100
75) Carbazol	10.28	167	1138989	50.67335 ppb		95
76) Di-n-butylphthalate	10.69	149	1486318	52.32929 ppb		99
77) Fluoranthene	11.40	202	1334397	50.49606 ppb	#	96
79) Benzidine	11.57	184	529889	51.34095 ppb		97
80) Pyrene	11.66	202	1414992	53.22066 ppb		100
82) Butyl benzylphthalate	12.42	149	690615	56.17898 ppb		92
83) 3,3'-Dichlorobenzidine	13.03	252	479899	57.56762 ppb	#	94
84) Benz (a) anthracene	13.05	228	1320978	52.82778 ppb		98
85) Bis (2-ethylhexyl) phthala	13.08	149	924993	53.49757 ppb		100
86) Chrysene	13.10	228	1283001	52.31338 ppb		99
87) Di-n-octylphthalate	13.80	149	1689653	57.04585 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1325445	48.68644 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1278585	50.95872 ppb		97
91) Benzo (a) pyrene	14.63	252	1288352	51.81563 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	1436385	51.53118 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1205709	50.81341 ppb		100
94) Benzo (g,h,i) perylene	16.69	276	1237901	52.93140 ppb		95

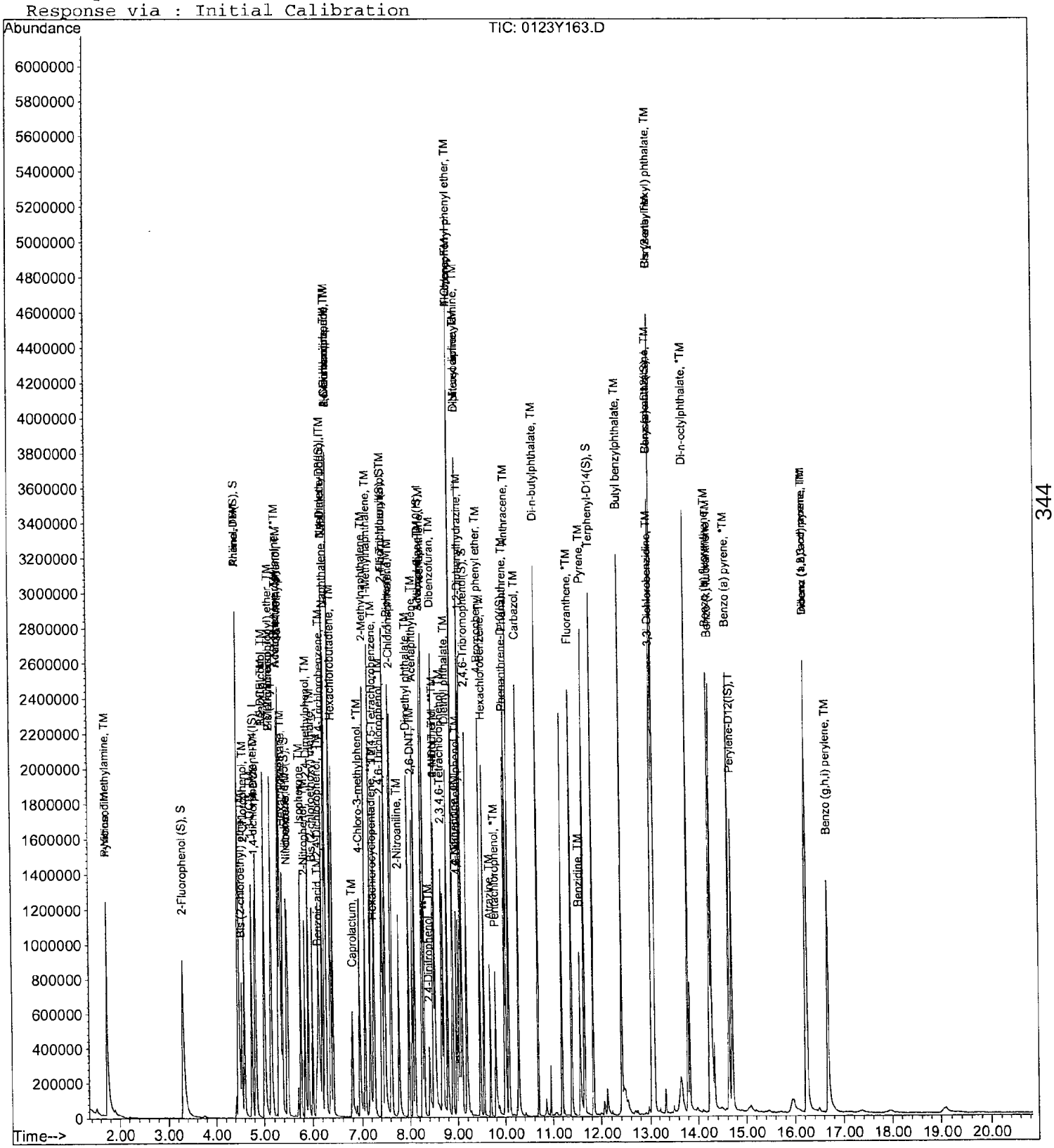
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y163.D Vial: 63
Acq On : 15 Feb 17 11:07 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 11:34 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



344

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.195	25	TM	
3	TM	Pyridine	1.902	2.355	24	TM	
4	S	2-Fluorophenol (S)	1.262	1.330	5.4	S	
5	S	Phenol-D6 (S)	1.679	1.688	0.58	S	
6	*TM	Phenol	1.927	2.069	7.4	*TM	
7	TM	Aniline	1.829	2.003	9.5	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9674	2.6	TM	
9	TM	2-Chlorophenol	1.490	1.585	6.4	TM	
10	TM	1,3-DCB	1.572	1.660	5.6	TM	
11	*TM	1,4-DCB	1.615	1.650	2.1	*TM	
12	TM	Benzyl alcohol	0.8487	0.9029	6.4	TM	
13	TM	1,2-DCB	1.472	1.469	0.21	TM	
14	TM	2-Methylphenol	1.114	1.167	4.8	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.079	0.47	TM	
16	TM	Acetophenone	1.985	2.044	3.0	TM	
17	TM	3&4-Methylphenol	1.446	1.492	3.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.105	0.29	**TM	
19	TM	Hexachloroethane	0.6642	0.6736	1.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3965	2.2	S	
22	TM	Nitrobenzene	0.4049	0.4248	4.9	TM	
23	TM	Isophorone	0.6723	0.7341	9.2	TM	
24	*TM	2-Nitrophenol	0.1899	0.2163	14	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3479	13	TM	
26	TML	Benzoic acid	0.1823	0.2707	49	TML	15
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4470	15	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3324	14	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3498	8.3	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4918	6.4	TM	
31	TM	Naphthalene	1.046	1.102	5.3	TM	
32	TM	4-Chloroaniline	0.3674	0.3918	6.6	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2826	4.5	TM	
34	TM	Hexachloropropene	0.2347	0.2621	12	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.2040	6.5	*TM	
36	TM	Caprolactum	0.1663	0.1821	9.5	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3501	11	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7559	11	TM	
39	TM	1-Methylnaphthalene	0.6692	0.7327	9.5	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			8.7		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1632	2.1	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5444	0.59	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3661	7.8	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3854	3.5	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.222	4.8	S	
46	TM	1,1'-Biphenyl	1.501	1.551	3.3	TM	
47	TM	2-Chloronaphthalene	1.147	1.227	7.0	TM	
48	TM	2-Nitroaniline	0.4089	0.4470	9.3	TM	
49	TM	Dimethyl phthalate	1.375	1.451	5.5	TM	
50	TM	2,6-DNT	0.3070	0.3280	6.8	TM	
51	TM	Acenaphthylene	1.846	1.903	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3608	7.5	TM	
53	*TM	Acenaphthene	1.138	1.171	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1650	26	**TMQ	8.9
55	**TML	4-Nitrophenol	0.2262	0.2418	6.9	**TML	6.0
56	TM	Dibenzofuran	1.607	1.673	4.1	TM	
57	TM	2,4-DNT	0.4280	0.4600	7.5	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3018	2.8	TM	
59	TM	Diethyl phthalate	1.392	1.567	13	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.6544	4.6	TM	
61	TM	Fluorene	1.301	1.339	3.0	TM	
62	TM	4-Nitroaniline	0.3194	0.3586	12	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1845	0.33	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1508	14	TML	4.7
66	TM	Diphenyl amine	0.5157	0.5340	3.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5340	3.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	1.040	16	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2064	2.1	TM	
70	TM	Hexachlorobenzene	0.2108	0.2180	3.4	TM	
71	TM	Atrazine	0.1996	0.2062	3.3	TM	
72	*TML	Pentachlorophenol	0.0838	0.0916	9.4	*TML	0.52
73	TM	Phenanthrene	1.091	1.128	3.3	TM	
74	TM	Anthracene	1.138	1.187	4.2	TM	
75	TM	Carbazol	1.008	1.062	5.4	TM	
76	TM	Di-n-butylphthalate	1.273	1.322	3.8	TM	
77	*TM	Fluoranthene	1.185	1.172	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4921	1.2	TM	
80	TM	Pyrene	1.283	1.452	13	TM	
		Average			6.1		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 02/15/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y179.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8935	3.8	S	
82	TM	Butyl benzylphthalate	0.5931	0.6507	9.7	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4656	16	TM	
84	TM	Benz (a) anthracene	1.206	1.274	5.6	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8726	4.6	TM	
86	TM	Chrysene	1.183	1.195	0.96	TM	
87	*TM	Di-n-octylphthalate	1.429	1.612	13	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.264	1.5	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.338	17	TM	
91	*TM	Benzo (a) pyrene	1.137	1.189	4.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.374	7.8	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.171	7.9	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.154	7.9	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
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108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	139757	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	579971	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	359597	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	677259	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	663679	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	665007	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	464811	105.43533 ppb	0.00
Spiked Amount 200.000			Recovery	= 52.718%	
5) Phenol-D6 (S)	4.46	99	589911	100.57653 ppb	0.00
Spiked Amount 200.000			Recovery	= 50.289%	
21) Nitrobenzene-D5(S)	5.46	82	287484	48.87704 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.877%	
45) 2-Fluorobiphenyl(S)	7.50	172	549330	47.61923 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.619%	
63) 2,4,6-Tribromophenol(S)	9.20	330	165895	99.66913 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.835%	
81) Terphenyl-D14(S)	11.84	244	741209	51.92356 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.924%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	208841	62.52065 ppb		92
3) Pyridine	1.73	79	411385	61.91272 ppb		96
6) Phenol	4.48	94	361391	53.67779 ppb		99
7) Aniline	4.47	66	349901	54.74736 ppb		95
8) Bis (2-chloroethyl) ether	4.55	63	169009	51.28891 ppb		97
9) 2-Chlorophenol	4.60	128	276919	53.18727 ppb		97
10) 1,3-DCB	4.76	146	290001	52.80050 ppb		97
11) 1,4-DCB	4.84	146	288195	51.06196 ppb		97
12) Benzyl alcohol	5.01	108	157736	53.19141 ppb		98
13) 1,2-DCB	5.01	146	256671	49.89443 ppb		99
14) 2-Methylphenol	5.15	107	203833	52.38552 ppb		99
15) Bis (2-chloroisopropyl) et	5.14	45	363197	50.23349 ppb	#	64
16) Acetophenone	5.30	105	357063	51.49655 ppb		97
17) 3&4-Methylphenol	5.33	107	521143	103.13996 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	193008	50.14355 ppb		86
19) Hexachloroethane	5.37	117	117669	50.70189 ppb		84
22) Nitrobenzene	5.48	77	307988	52.45926 ppb		96
23) Isophorone	5.75	82	532232	54.60130 ppb		98
24) 2-Nitrophenol	5.85	139	156822	56.95297 ppb		96
25) 2,4-Dimethylphenol	5.91	122	252225	56.65573 ppb		97
26) Benzoic acid	6.11	105	196273	57.68087 ppb		93
27) Bis (2-chloroethoxy) metha	6.00	93	324068	57.42430 ppb		98
28) 2,4-Dichlorophenol	6.13	162	240945	56.87522 ppb		92
29) 1,2,4-Trichlorobenzene	6.20	180	253585	54.17298 ppb		98
30) 3,4-Dimethylphenol	6.25	107	356506	53.18982 ppb		97
31) Naphthalene	6.28	128	798697	52.67252 ppb		99
32) 4-Chloroaniline	6.37	127	284022	53.32235 ppb		97
33) 2,6-Dichlorophenol	6.37	162	204852	52.24895 ppb		99
34) Hexachloropropene	6.37	213	190012	55.84022 ppb		99
35) Hexachlorobutadiene	6.42	225	147872	53.27317 ppb		96
36) Caprolactum	6.79	55	131994	54.74257 ppb		96
37) 4-Chloro-3-methylphenol	6.95	107	253810	55.28993 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y179.D Vial: 79
Acq On : 15 Feb 17 19:39 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 9:30 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	547984	55.62905 ppb		99
39) 1-Methylnaphthalene	7.18	142	531154	54.74108 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	73344	44.22127 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	244726	50.29504 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	164563	53.90014 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	173227	51.72513 ppb		94
46) 1,1'-Biphenyl	7.61	154	697025	51.66340 ppb		99
47) 2-Chloronaphthalene	7.63	162	551720	53.51786 ppb		95
48) 2-Nitroaniline	7.78	65	200935	54.66076 ppb		97
49) Dimethyl phthalate	7.98	163	652101	52.75329 ppb		100
50) 2,6-DNT	8.06	165	147432	53.42479 ppb		91
51) Acenaphthylene	8.10	152	855214	51.52154 ppb		98
52) 3-Nitroaniline	8.26	138	162192	53.74156 ppb		100
53) Acenaphthene	8.31	154	526157	51.42025 ppb		98
54) 2,4-Dinitrophenol	8.41	184	74153	54.43868 ppb		96
55) 4-Nitrophenol	8.53	65	108682	47.01688 ppb	#	67
56) Dibenzofuran	8.51	168	751822	52.03755 ppb		87
57) 2,4-DNT	8.54	165	206763	53.73509 ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135644	51.42280 ppb	#	86
59) Diethyl phthalate	8.80	149	704371	56.27191 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	294163	52.27526 ppb		90
61) Fluorene	8.90	166	602044	51.47567 ppb		96
62) 4-Nitroaniline	8.97	138	161206	56.14923 ppb		98
65) 4,6-Dinitro-2-methylphenol	9.02	198	127664	52.35466 ppb		98
66) Diphenyl amine	9.06	169	904108	103.53948 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	904108	103.53948 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	880652	57.76867 ppb		92
69) 4-Bromophenyl phenyl ether	9.47	248	174721	51.05955 ppb	#	84
70) Hexachlorobenzene	9.55	284	184575	51.70790 ppb		89
71) Atrazine	9.69	200	87282	25.82240 ppb		97
72) Pentachlorophenol	9.80	266	77581	49.73958 ppb		97
73) Phenanthrene	10.01	178	954668	51.66336 ppb		100
74) Anthracene	10.08	178	1004628	52.12337 ppb		99
75) Carbazol	10.28	167	899039	52.68975 ppb		100
76) Di-n-butylphthalate	10.68	149	1119444	51.91860 ppb		98
77) Fluoranthene	11.40	202	991990	49.45010 ppb		97
79) Benzidine	11.57	184	408219	49.40970 ppb		99
80) Pyrene	11.66	202	1204757	56.60641 ppb		99
82) Butyl benzylphthalate	12.42	149	539855	54.85988 ppb		84
83) 3,3'-Dichlorobenzidine	13.03	252	386276	57.88500 ppb		96
84) Benz (a) anthracene	13.05	228	1056801	52.79586 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	723883	52.30027 ppb	#	97
86) Chrysene	13.10	228	991022	50.47880 ppb		100
87) Di-n-octylphthalate	13.80	149	1337281	56.40131 ppb		91
89) Benzo (b) fluoranthene	14.25	252	1050293	50.73454 ppb		99
90) Benzo (k) fluoranthene	14.27	252	1111899	58.27755 ppb		98
91) Benzo (a) pyrene	14.64	252	988257	52.26888 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1142146	53.88499 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	973598	53.95883 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	959216	53.93751 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

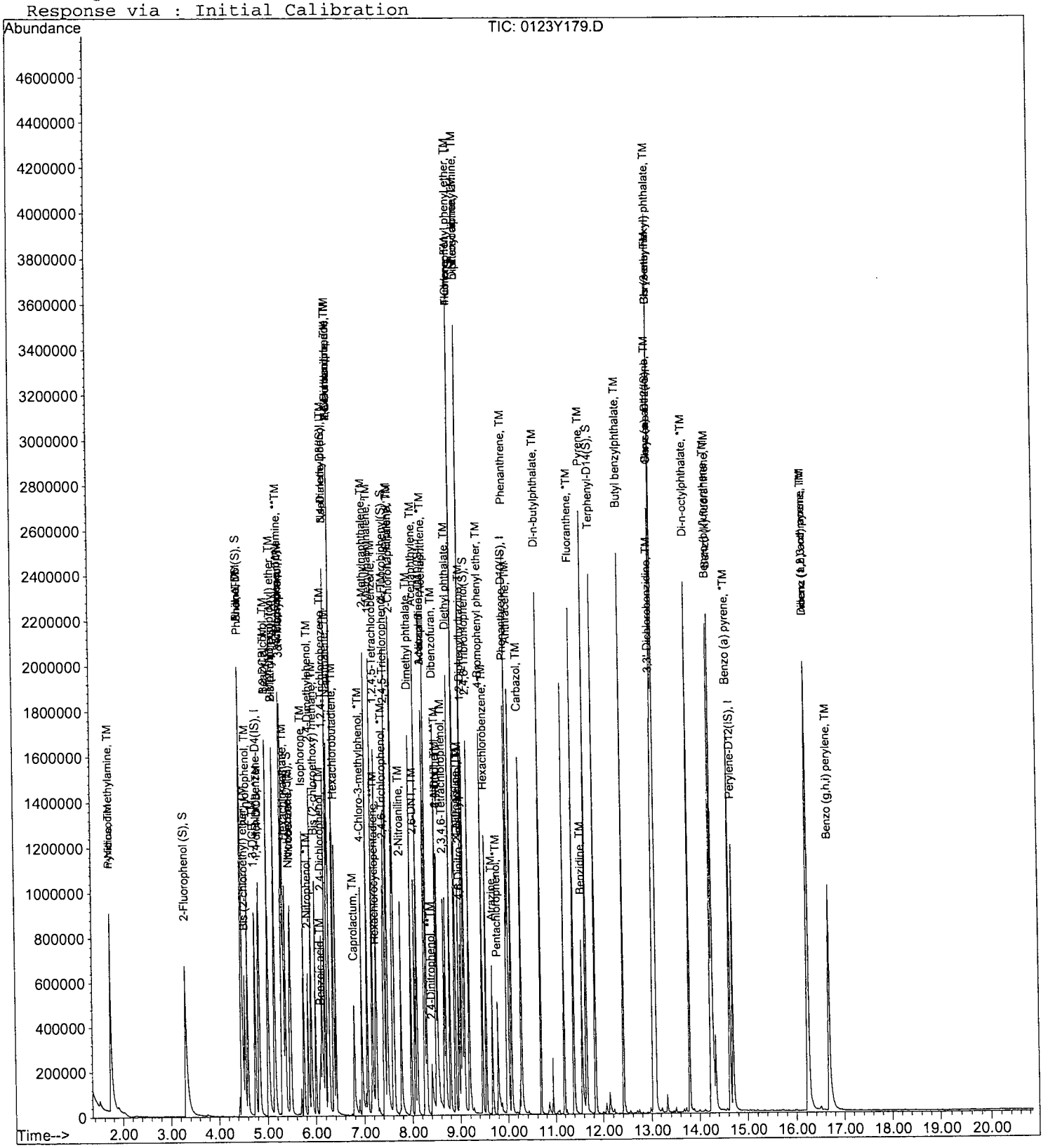
Data File : M:\YODA\DATA\Y170123\0123Y179.D
Acq On : 15 Feb 17 19:39
Sample : 50ug/ml SVOC 1/19/17
Misc : water

Vial: 79
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 9:30 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216219**
Batch ID: #87DC5-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: PHENOL-D6 (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/16/17 12:40:28 PM

Method Blank

EPA 8270D - 1,4-DIOXANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216250**
Batch ID: #14HP-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.5	44-120			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.3	50-134			%	02/14/17	02/15/17

Quant Method: DIX0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/28/17 10:14:14 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	02/14/17	02/15/17
BLANK	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	02/14/17	02/15/17
BLANK	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
BLANK	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	02/14/17	02/15/17
BLANK	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/15/17
BLANK	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
BLANK	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	02/14/17	02/15/17
BLANK	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	4-BROMOPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	4-CHLOROPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	02/14/17	02/15/17
BLANK	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	02/14/17	02/15/17
BLANK	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:41:16 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLORETHOXY) METHAN	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	BIS (2-CHLOROISOPROPYL) ET	5.00 U	10.0	5.00	2.00	ug/L	02/14/17	02/15/17
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	02/14/17	02/15/17
BLANK	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	02/14/17	02/15/17
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	02/14/17	02/15/17
BLANK	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	02/14/17	02/15/17
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	02/14/17	02/15/17
BLANK	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROCYCLOPENTADIE	9.00 U	10.0	9.00	0.80	ug/L	02/14/17	02/15/17
BLANK	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	02/14/17	02/15/17
BLANK	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	02/14/17	02/15/17
BLANK	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	02/14/17	02/15/17
BLANK	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	02/14/17	02/15/17
BLANK	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	02/14/17	02/15/17
BLANK	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	02/14/17	02/15/17
BLANK	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	02/14/17	02/15/17
BLANK	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	02/14/17	02/15/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	72.6	43-140			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUORBIPHENY	60.6	44-119			%	02/14/17	02/15/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.1	19-119			%	02/14/17	02/15/17
BLANK	SURROGATE: NITROBENZENE-	67.6	44-120			%	02/14/17	02/15/17

Quant Method:Y0123.M
Run #:0123Y164
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:41:16 AM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216222**
Batch ID: #87DDO-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: PHENOL (S)	25.2	10-115			%	02/14/17	02/15/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.4	50-134			%	02/14/17	02/15/17

Quant Method: Y0123.M
Run #: 0123Y164
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 9:41:16 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y164.D Vial: 64
Acq On : 15 Feb 17 11:51 Operator: MA
Sample : 170214A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:15 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	177998	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	760130	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	439380	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	813182	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	830149	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	667730	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	484139	86.22601 ppb	-0.01
Spiked Amount 200.000			Recovery	= 43.113%	
5) Phenol-D6 (S)	4.47	99	376525	50.40370 ppb	0.00
Spiked Amount 200.000			Recovery	= 25.202%	
21) Nitrobenzene-D5(S)	5.46	82	521179	67.60776 ppb	0.00
Spiked Amount 100.000			Recovery	= 67.608%	
45) 2-Fluorobiphenyl(S)	7.50	172	854307	60.60924 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.609%	
63) 2,4,6-Tribromophenol(S)	9.19	330	295210	145.15573 ppb	0.00
Spiked Amount 200.000			Recovery	= 72.578%	
81) Terphenyl-D14(S)	11.85	244	1257589	70.43111 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.431%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

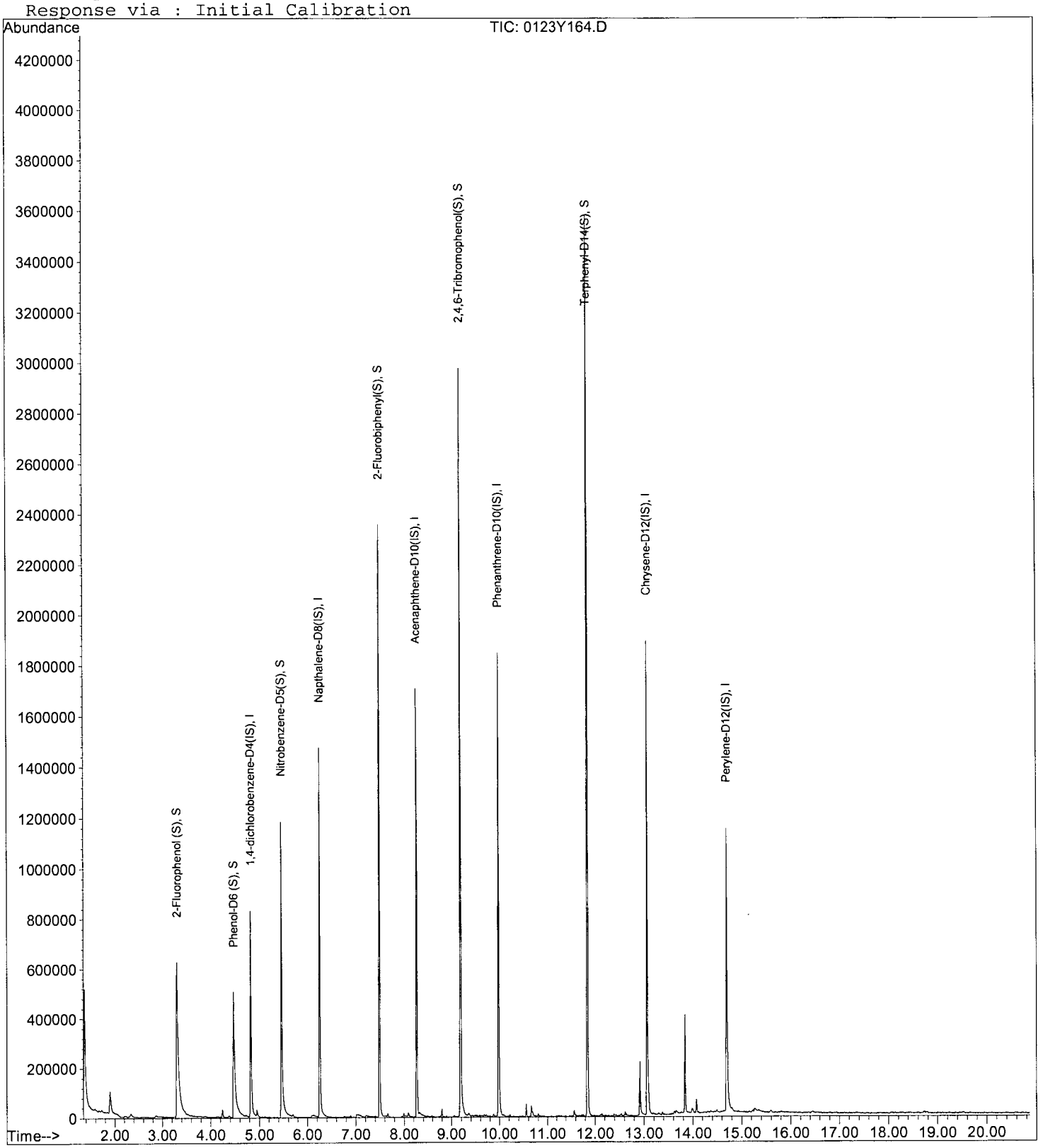
Data File : M:\YODA\DATA\Y170123\0123Y164.D
Acq On : 15 Feb 17 11:51
Sample : 170214A BLK 1/1000
Misc : water

Vial: 64
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 16:15 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216219**
Batch ID: #87DC5-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	18.1	36.2	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL-D6 (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/16/17 12:40:28 PM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8270D - 1,4-DIOXANE

APPL ID: **170214W-49853 LCS - 216250**
Batch ID: #14HP-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,4-DIOXANE	5.00	3.00	60.0	40-129
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.6	60.6	44-120
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/28/17 10:14:07 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2,4-TRICHLOROBENZENE	50.0	28.6	57.2	29-116
1,2-DICHLOROBENZENE	50.0	26.9	53.8	32-111
1,3-DICHLOROBENZENE	50.0	23.7	47.4	28-110
1,4-DICHLOROBENZENE	50.0	24.8	49.6	29-112
2,4,5-TRICHLOROPHENOL	50.0	42.0	84.0	53-123
2,4,6-TRICHLOROPHENOL	50.0	42.3	84.6	50-125
2,4-DICHLOROPHENOL	50.0	44.2	88.4	47-121
2,4-DIMETHYLPHENOL	50.0	42.0	84.0	31-124
2,4-DINITROPHENOL	50.0	47.3	94.6	23-143
2,4-DINITROTOLUENE	50.0	47.1	94.2	57-128
2,6-DINITROTOLUENE	50.0	46.8	93.6	57-124
2-CHLORONAPHTHALENE	50.0	35.1	70.2	40-116
2-CHLOROPHENOL	50.0	40.1	80.2	38-117
2-METHYLNAPHTHALENE	50.0	36.6	73.2	40-121
2-METHYLPHENOL	50.0	35.7	71.4	30-117
2-NITROANILINE	50.0	46.8	93.6	55-127
2-NITROPHENOL	50.0	47.1	94.2	47-123
3,3'-DICHLOROBENZIDINE	50.0	46.4	92.8	27-129
3-NITROANILINE	50.0	46.8	93.6	41-128
3/4-METHYLPHENOL	100	66.2	66.2	29-110
4,6-DINITRO-2-METHYLPHENOL	50.0	46.3	92.6	44-137
4-BROMOPHENYL PHENYL ETHER	50.0	42.8	85.6	55-124
4-CHLORO-3-METHYLPHENOL	50.0	44.6	89.2	52-119
4-CHLOROANILINE	50.0	50.5	101	33-117
4-CHLOROPHENYL PHENYL ETHER	50.0	39.0	78.0	53-121
4-NITROANILINE	50.0	47.5	95.0	35-120
4-NITROPHENOL	50.0	12.0	24.0	10-125
ACENAPHTHENE	50.0	39.0	78.0	47-122
ACENAPHTHYLENE	50.0	38.6	77.2	41-130
ANTHRACENE	50.0	44.4	88.8	57-123
BENZ (A) ANTHRACENE	50.0	45.2	90.4	58-125

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Comments: _____

Printed: 02/17/17 9:41:17 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZO (A) PYRENE	50.0	56.5	113	54-128
BENZO (B) FLUORANTHENE	50.0	54.1	108	53-131
BENZO (G,H,I) PERYLENE	50.0	58.0	116	50-134
BENZO (K) FLUORANTHENE	50.0	61.0	122	57-129
BENZYL ALCOHOL	50.0	40.3	80.6	31-112
BIS (2-CHLORETHOXY) METHANE	50.0	44.9	89.8	48-120
BIS (2-CHLOROETHYL) ETHER	50.0	40.9	81.8	43-118
BIS (2-CHLOROISOPROPYL) ETHER	50.0	40.6	81.2	37-130
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	48.0	96.0	55-135
BUTYL BENZYL PHTHALATE	50.0	49.4	98.8	53-134
CARBAZOLE	50.0	46.9	93.8	60-122
CHRYSENE	50.0	45.0	90.0	59-123
DI-N-BUTYL PHTHALATE	50.0	49.4	98.8	59-127
DI-N-OCTYL PHTHALATE	50.0	52.1	104	51-140
DIBENZ (A,H) ANTHRACENE	50.0	56.3	113	51-134
DIBENZOFURAN	50.0	40.6	81.2	53-118
DIETHYL PHTHALATE	50.0	46.0	92.0	56-125
DIMETHYL PHTHALATE	50.0	47.6	95.2	45-127
DIPHENYLAMINE	100	91.5	91.5	55-111
FLUORANTHENE	50.0	48.9	97.8	57-128
FLUORENE	50.0	38.2	76.4	52-124
HEXACHLOROBENZENE	50.0	43.9	87.8	53-125
HEXACHLOROBUTADIENE	50.0	19.3	38.6	22-124
HEXACHLOROCYCLOPENTADIENE	50.0	14.5	29.0	10-110
HEXACHLOROETHANE	50.0	19.2	38.4	21-115
INDENO (1,2,3-CD) PYRENE	50.0	55.4	111	52-134
ISOPHORONE	50.0	46.9	93.8	42-124
N-NITROSODI-N-PROPYLAMINE	50.0	43.0	86.0	49-119
NAPHTHALENE	50.0	35.6	71.2	40-121
NITROBENZENE	50.0	40.6	81.2	45-121
PENTACHLOROPHENOL	50.0	51.7	103	35-138

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Comments: _____

Printed: 02/17/17 9:41:17 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170214W-49853 LCS - 216222**
Batch ID: #87DDO-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENANTHRENE	50.0	43.3	86.6	59-120
PYRENE	50.0	46.2	92.4	57-126
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	128	64.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	49.9	49.9	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	73.8	36.9	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	60.7	60.7	44-120
SURROGATE: PHENOL (S)	200	46.2	23.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	65.6	65.6	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	02/14/17
Analysis Date :	02/15/17
Instrument :	Yoda
Run :	0123Y165
Initials :	MA

Printed: 02/17/17 9:41:17 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D
Acq On : 15 Feb 17 12:22
Sample : 170214A LCS-1 1/1000
Misc : water

Vial: 65
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 12:44 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165304	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.26	136	697704	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.26	164	437339	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.99	188	789191	40.00000 ppb		0.00
78) Chrysene-D12(IS)	13.07	240	824282	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.69	264	701851	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.30	112	384643	73.76627 ppb		0.00
Spiked Amount 200.000			Recovery	= 36.883%		
5) Phenol-D6 (S)	4.47	99	320721	46.23041 ppb		0.01
Spiked Amount 200.000			Recovery	= 23.115%		
21) Nitrobenzene-D5(S)	5.46	82	429335	60.67679 ppb		0.00
Spiked Amount 100.000			Recovery	= 60.677%		
45) 2-Fluorobiphenyl(S)	7.50	172	699537	49.86061 ppb		0.00
Spiked Amount 100.000			Recovery	= 49.861%		
63) 2,4,6-Tribromophenol(S)	9.20	330	258281	127.59030 ppb		0.00
Spiked Amount 200.000			Recovery	= 63.795%		
81) Terphenyl-D14(S)	11.84	244	1162906	65.59196 ppb		0.00
Spiked Amount 100.000			Recovery	= 65.592%		
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	130144	32.93988 ppb		90
3) Pyridine	1.74	79	197646	25.14836 ppb		95
6) Phenol	4.48	94	143744	18.05083 ppb	#	45
7) Aniline	4.46	66	207886	27.50005 ppb	#	44
8) Bis (2-chloroethyl) ether	4.55	63	159531	40.93068 ppb		94
9) 2-Chlorophenol	4.60	128	247038	40.11519 ppb		98
10) 1,3-DCB	4.76	146	153700	23.65934 ppb		99
11) 1,4-DCB	4.84	146	165484	24.78890 ppb		97
12) Benzyl alcohol	5.01	108	141222	40.26273 ppb		96
13) 1,2-DCB	5.01	146	163472	26.86636 ppb		98
14) 2-Methylphenol	5.15	107	164224	35.68318 ppb		100
15) Bis (2-chloroisopropyl) et	5.14	45	347430	40.62642 ppb	#	66
16) Acetophenone	5.30	105	354912	43.27571 ppb		92
17) 3&4-Methylphenol	5.33	107	395660	66.20372 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	195574	42.95770 ppb		93
19) Hexachloroethane	5.37	117	52745	19.21470 ppb		90
22) Nitrobenzene	5.48	77	287029	40.63958 ppb		93
23) Isophorone	5.75	82	550248	46.92405 ppb		95
24) 2-Nitrophenol	5.85	139	155940	47.07626 ppb		93
25) 2,4-Dimethylphenol	5.91	122	224895	41.99239 ppb		97
26) Benzoic acid	6.07	105	57555	18.63116 ppb		92
27) Bis (2-chloroethoxy) metha	6.00	93	305158	44.94893 ppb		98
28) 2,4-Dichlorophenol	6.13	162	225207	44.18981 ppb		99
29) 1,2,4-Trichlorobenzene	6.20	180	161254	28.63549 ppb		99
30) 3,4-Dimethylphenol	6.25	107	334539	41.49000 ppb		94
31) Naphthalene	6.27	128	648843	35.56942 ppb		99
32) 4-Chloroaniline	6.37	127	323857	50.54121 ppb		96
33) 2,6-Dichlorophenol	6.37	162	204853	43.43249 ppb		96
34) Hexachloropropene	6.38	213	68213	16.66358 ppb		98
35) Hexachlorobutadiene	6.41	225	64371	19.27737 ppb		98
36) Caprolactum	6.78	55	40833	14.07723 ppb		96
37) 4-Chloro-3-methylphenol	6.94	107	246558	44.64692 ppb		86

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y165.D
Acq On : 15 Feb 17 12:22
Sample : 170214A LCS-1 1/1000
Misc : water

Vial: 65
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	434184	36.63892 ppb		99
39) 1-Methylnaphthalene	7.18	142	419820	35.96591 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	16099	14.45083 ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	176544	29.83293 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	157020	42.28735 ppb		94
44) 2,4,5-Trichlorophenol	7.47	196	170958	41.97331 ppb	#	90
46) 1,1'-Biphenyl	7.61	154	589694	35.93843 ppb		98
47) 2-Chloronaphthalene	7.63	162	439586	35.06079 ppb		97
48) 2-Nitroaniline	7.78	65	209162	46.78436 ppb		93
49) Dimethyl phthalate	7.98	163	716129	47.63474 ppb		99
50) 2,6-DNT	8.06	165	157056	46.79543 ppb		82
51) Acenaphthylene	8.10	152	779474	38.61122 ppb		99
52) 3-Nitroaniline	8.25	138	171889	46.83028 ppb		82
53) Acenaphthene	8.30	154	484825	38.95845 ppb		98
54) 2,4-Dinitrophenol	8.41	184	74690	47.26906 ppb		95
55) 4-Nitrophenol	8.53	65	15539	11.95411 ppb	#	3
56) Dibenzofuran	8.50	168	713990	40.63421 ppb		96
57) 2,4-DNT	8.54	165	220451	47.10805 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.67	232	143960	44.87400 ppb	#	88
59) Diethyl phthalate	8.79	149	700790	46.03370 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	266829	38.98872 ppb		89
61) Fluorene	8.90	166	542948	38.17068 ppb		98
62) 4-Nitroaniline	8.98	138	166026	47.54847 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.01	198	128999	46.25153 ppb	#	66
66) Diphenyl amine	9.06	169	930530	91.45105 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	930530	91.45105 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	692088	38.96028 ppb		92
69) 4-Bromophenyl phenyl ether	9.47	248	170711	42.81205 ppb		89
70) Hexachlorobenzene	9.55	284	182577	43.89376 ppb	#	85
71) Atrazine	9.69	200	94605	24.01921 ppb		96
72) Pentachlorophenol	9.79	266	94520	51.66247 ppb		97
73) Phenanthrene	10.01	178	933159	43.33697 ppb		99
74) Anthracene	10.07	178	996839	44.38384 ppb		99
75) Carbazol	10.27	167	931977	46.87329 ppb		97
76) Di-n-butylphthalate	10.68	149	1241037	49.39443 ppb		99
77) Fluoranthene	11.40	202	1143304	48.90962 ppb		97
79) Benzidine	11.57	184	221230	21.55983 ppb		98
80) Pyrene	11.66	202	1221413	46.20734 ppb		99
82) Butyl benzylphthalate	12.42	149	603571	49.38424 ppb		86
83) 3,3'-Dichlorobenzidine	13.03	252	384590	46.40327 ppb		98
84) Benz (a) anthracene	13.05	228	1122881	45.16715 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	824745	47.97749 ppb	#	98
86) Chrysene	13.10	228	1098118	45.03571 ppb		99
87) Di-n-octylphthalate	13.80	149	1535631	52.14776 ppb	#	88
89) Benzo (b) fluoranthene	14.25	252	1182079	54.10297 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1227773	60.97268 ppb		98
91) Benzo (a) pyrene	14.63	252	1127976	56.52680 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1238327	55.35576 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1071656	56.27552 ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1088597	57.99932 ppb		97

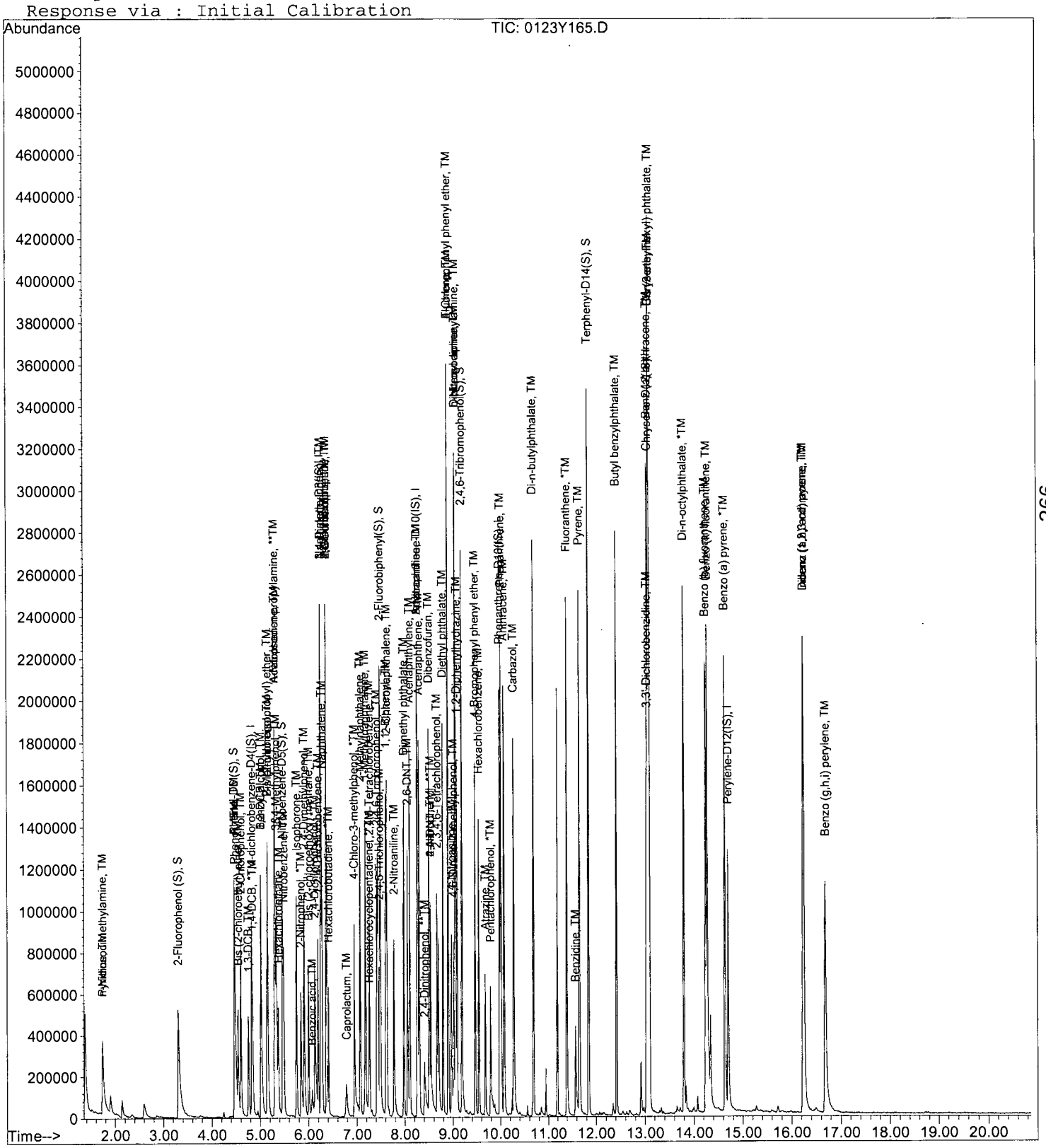
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y165.D Vial: 65
Acq On : 15 Feb 17 12:22 Operator: MA
Sample : 170214A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 15 12:44 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



366

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216219**
Batch ID: #87DC5-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	15.7	13.6	31.4	27.2	10-115	14.3	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	143	122	71.5	61.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.4	63.1	35.7	31.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.3	57.4	70.3	57.4	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	43.6	37.2	21.8	18.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.8	61.0	71.8	61.0	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/16/17 12:40:38 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D - 1,4-DIOXANE

APPL ID: **170214W-49853 MS - 216250**
Batch ID: #14HP-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,4-DIOXANE	5.00	ND	2.94	2.46	58.8	49.2	40-129	17.8	30
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.1	57.3	70.1	57.3	44-120		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.6	60.9	71.6	60.9	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	DIX0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/28/17 10:14:03 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2,4-TRICHLOROBENZENE	50.0	ND	31.9	25.7	63.8	51.4	29-116	21.5 #	20
1,2-DICHLOROBENZENE	50.0	ND	29.0	25.1	58.0	50.2	32-111	14.4	20
1,3-DICHLOROBENZENE	50.0	ND	26.9	21.8	53.8	43.6	28-110	20.9 #	20
1,4-DICHLOROBENZENE	50.0	ND	27.4	23.0	54.8	46.0	29-112	17.5	20
2,4,5-TRICHLOROPHENOL	50.0	ND	41.6	36.6	83.2	73.2	53-123	12.8	20
2,4,6-TRICHLOROPHENOL	50.0	ND	43.2	39.0	86.4	78.0	50-125	10.2	20
2,4-DICHLOROPHENOL	50.0	ND	40.3	36.2	80.6	72.4	47-121	10.7	20
2,4-DIMETHYLPHENOL	50.0	ND	35.7	30.4	71.4	60.8	31-124	16.0	20
2,4-DINITROPHENOL	50.0	ND	44.6	41.0	89.2	82.0	23-143	8.4	20
2,4-DINITROTOLUENE	50.0	ND	45.2	40.0	90.4	80.0	57-128	12.2	20
2,6-DINITROTOLUENE	50.0	ND	43.5	39.8	87.0	79.6	57-124	8.9	20
2-CHLORONAPHTHALENE	50.0	ND	37.4	32.3	74.8	64.6	40-116	14.6	20
2-CHLOROPHENOL	50.0	ND	36.1	31.5	72.2	63.0	38-117	13.6	20
2-METHYLNAPHTHALENE	50.0	ND	37.1	31.3	74.2	62.6	40-121	17.0	20
2-METHYLPHENOL	50.0	ND	31.4	27.1	62.8	54.2	30-117	14.7	20
2-NITROANILINE	50.0	ND	42.8	37.7	85.6	75.4	55-127	12.7	20
2-NITROPHENOL	50.0	ND	41.7	37.7	83.4	75.4	47-123	10.1	20
3,3'-DICHLOROBENZIDINE	50.0	ND	45.0	40.2	90.0	80.4	27-129	11.3	20
3-NITROANILINE	50.0	ND	43.0	40.3	86.0	80.6	41-128	6.5	20
3/4-METHYLPHENOL	100	ND	57.6	50.3	57.6	50.3	29-110	13.5	20
4,6-DINITRO-2-METHYLPHENOL	50.0	ND	44.4	39.4	88.8	78.8	44-137	11.9	20
4-BROMOPHENYL PHENYL ETHER	50.0	ND	41.8	36.4	83.6	72.8	55-124	13.8	20
4-CHLORO-3-METHYLPHENOL	50.0	ND	42.4	36.4	84.8	72.8	52-119	15.2	20
4-CHLOROANILINE	50.0	ND	45.8	41.9	91.6	83.8	33-117	8.9	20
4-CHLOROPHENYL PHENYL ETHER	50.0	ND	40.3	33.3	80.6	66.6	53-121	19.0	20
4-NITROANILINE	50.0	ND	44.7	39.7	89.4	79.4	35-120	11.8	20
4-NITROPHENOL	50.0	ND	11.5	10.8	23.0	21.6	10-125	6.3	20
ACENAPHTHENE	50.0	ND	39.4	34.0	78.8	68.0	47-122	14.7	20
ACENAPHTHYLENE	50.0	ND	38.2	33.3	76.4	66.6	41-130	13.7	20
ANTHRACENE	50.0	ND	43.1	38.2	86.2	76.4	57-123	12.1	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Comments:

Printed: 02/17/17 9:41:25 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZ (A) ANTHRACENE	50.0	ND	44.7	38.3	89.4	76.6	58-125	15.4	20
BENZO (A) PYRENE	50.0	ND	42.7	37.8	85.4	75.6	54-128	12.2	20
BENZO (B) FLUORANTHENE	50.0	ND	40.1	37.0	80.2	74.0	53-131	8.0	20
BENZO (G,H,I) PERYLENE	50.0	ND	42.7	38.3	85.4	76.6	50-134	10.9	20
BENZO (K) FLUORANTHENE	50.0	ND	46.2	39.8	92.4	79.6	57-129	14.9	20
BENZYL ALCOHOL	50.0	ND	35.5	30.6	71.0	61.2	31-112	14.8	20
BIS (2-CHLORETHOXY) METHANE	50.0	ND	40.9	35.8	81.8	71.6	48-120	13.3	20
BIS (2-CHLOROETHYL) ETHER	50.0	ND	36.7	32.5	73.4	65.0	43-118	12.1	20
BIS (2-CHLOROISOPROPYL) ETHER	50.0	ND	38.3	33.6	76.6	67.2	37-130	13.1	20
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	ND	45.2	40.1	90.4	80.2	55-135	12.0	20
BUTYL BENZYL PHTHALATE	50.0	ND	45.9	41.9	91.8	83.8	53-134	9.1	20
CARBAZOLE	50.0	ND	44.2	39.5	88.4	79.0	60-122	11.2	20
CHRYSENE	50.0	ND	42.0	37.8	84.0	75.6	59-123	10.5	20
DI-N-BUTYL PHTHALATE	50.0	ND	45.5	42.0	91.0	84.0	59-127	8.0	20
DI-N-OCTYL PHTHALATE	50.0	ND	48.5	41.3	97.0	82.6	51-140	16.0	20
DIBENZ (A,H) ANTHRACENE	50.0	ND	42.8	37.5	85.6	75.0	51-134	13.2	20
DIBENZOFURAN	50.0	ND	41.1	35.4	82.2	70.8	53-118	14.9	20
DIETHYL PHTHALATE	50.0	ND	45.3	40.5	90.6	81.0	56-125	11.2	20
DIMETHYL PHTHALATE	50.0	ND	44.2	39.8	88.4	79.6	45-127	10.5	20
DIPHENYLAMINE	100	ND	86.2	79.3	86.2	79.3	55-111	8.3	20
FLUORANTHENE	50.0	ND	45.1	40.6	90.2	81.2	57-128	10.5	20
FLUORENE	50.0	ND	38.8	34.0	77.6	68.0	52-124	13.2	20
HEXACHLOROBENZENE	50.0	ND	42.8	37.4	85.6	74.8	53-125	13.5	20
HEXACHLOROBUTADIENE	50.0	ND	23.0	17.7	46.0	35.4	22-124	26.0 #	20
HEXACHLOROCYCLOPENTADIENE	50.0	ND	15.2	13.8	30.4	27.6	10-110	9.7	20
HEXACHLOROETHANE	50.0	ND	23.0	17.8	46.0	35.6	21-115	25.5 #	20
INDENO (1,2,3-CD) PYRENE	50.0	ND	42.2	38.2	84.4	76.4	52-134	10.0	20
ISOPHORONE	50.0	ND	42.6	36.9	85.2	73.8	42-124	14.3	20
N-NITROSODI-N-PROPYLAMINE	50.0	ND	39.8	35.3	79.6	70.6	49-119	12.0	20
NAPHTHALENE	50.0	ND	35.9	31.3	71.8	62.6	40-121	13.7	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Comments:

Printed: 02/17/17 9:41:25 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170214W-49853 MS - 216222**
Batch ID: #87DDO-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
NITROBENZENE	50.0	ND	38.1	34.1	76.2	68.2	45-121	11.1	20
PENTACHLOROPHENOL	50.0	ND	44.5	41.9	89.0	83.8	35-138	6.0	20
PHENANTHRENE	50.0	ND	41.4	37.2	82.8	74.4	59-120	10.7	20
PYRENE	50.0	ND	43.8	38.0	87.6	76.0	57-126	14.2	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	143	122	71.5	61.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	60.8	52.0	60.8	52.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.4	63.1	35.7	31.6	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	70.3	57.4	70.3	57.4	44-120		
SURROGATE: PHENOL (S)	200	NA	43.6	37.2	21.8	18.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	71.8	61.0	71.8	61.0	50-134		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/15/17	02/15/17
Instrument :	Yoda	Yoda
Run :	0123Y170	0123Y171
Initials :	MA	

Printed: 02/17/17 9:41:25 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y170.D Vial: 70
Acq On : 15 Feb 17 15:06 Operator: MA
Sample : AZ49853W30 MS-1 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Feb 15 15:42 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	174624	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	715946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	426746	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	800108	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	801732	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	859302	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	405210	71.42042 ppb	0.00
Spiked Amount 194.175			Recovery	= 36.781%	
5) Phenol-D6 (S)	4.47	99	329180	43.60900 ppb	0.00
Spiked Amount 194.175			Recovery	= 22.459%	
21) Nitrobenzene-D5(S)	5.47	82	525427	70.25746 ppb	0.00
Spiked Amount 97.087			Recovery	= 72.365%	
45) 2-Fluorobiphenyl(S)	7.50	172	856748	60.75914 ppb	0.00
Spiked Amount 97.087			Recovery	= 62.582%	
63) 2,4,6-Tribromophenol(S)	9.20	330	290388	142.73008 ppb	0.00
Spiked Amount 194.175			Recovery	= 73.506%	
81) Terphenyl-D14(S)	11.85	244	1274550	71.75834 ppb	0.00
Spiked Amount 97.087			Recovery	= 73.911%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	123989	28.84187 ppb #	58
3) Pyridine	1.74	79	156946	18.35330 ppb	96
6) Phenol	4.49	94	135641	15.65456 ppb #	76
7) Aniline	4.46	66	195146	23.72522 ppb #	41
8) Bis (2-chloroethyl) ether	4.55	63	155590	36.68832 ppb	93
9) 2-Chlorophenol	4.60	128	241728	36.07567 ppb	98
10) 1,3-DCB	4.76	146	190291	26.92089 ppb	98
11) 1,4-DCB	4.84	146	198871	27.37884 ppb	97
12) Benzyl alcohol	5.01	108	135528	35.51176 ppb	95
13) 1,2-DCB	5.01	146	191669	28.95074 ppb	98
14) 2-Methylphenol	5.15	107	157180	31.38821 ppb	97
15) Bis (2-chloroisopropyl) et	5.14	45	356686	38.33272 ppb #	62
16) Acetophenone	5.30	105	348236	39.02469 ppb	94
17) 3&4-Methylphenol	5.33	107	374525	57.59481 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	197267	39.82233 ppb	93
19) Hexachloroethane	5.37	117	68594	22.96576 ppb	82
22) Nitrobenzene	5.48	77	284587	38.12346 ppb	94
23) Isophorone	5.75	82	527859	42.59011 ppb	95
24) 2-Nitrophenol	5.85	139	146064	41.71973 ppb	95
25) 2,4-Dimethylphenol	5.91	122	201822	35.65440 ppb	97
26) Benzoic acid	6.07	105	51956	16.61864 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	293779	40.94201 ppb	96
28) 2,4-Dichlorophenol	6.13	162	217144	40.31270 ppb	93
29) 1,2,4-Trichlorobenzene	6.20	180	189633	31.86118 ppb	97
30) 3,4-Dimethylphenol	6.25	107	314665	36.92317 ppb	99
31) Naphthalene	6.28	128	691231	35.85206 ppb	99
32) 4-Chloroaniline	6.37	127	310077	45.78421 ppb	97
33) 2,6-Dichlorophenol	6.37	162	204858	41.09407 ppb	97
34) Hexachloropropene	6.37	213	95931	22.17246 ppb	94
35) Hexachlorobutadiene	6.42	225	81088	22.97566 ppb	99
36) Caprolactum	6.78	55	38037	12.40698 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	247393	42.38514 ppb	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y170.D
Acq On : 15 Feb 17 15:06
Sample : AZ49853W30 MS-1 1/1030
Misc : water

Vial: 70
Operator: MA
Inst : Yoda
Multiplr: 0.97

Quant Time: Feb 15 15:42 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	464144	37.05744 ppb		99
39)	1-Methylnaphthalene	7.18	142	464814	37.67567 ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	18109	15.18243 ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	196095	32.97016 ppb		95
43)	2,4,6-Trichlorophenol	7.41	196	161326	43.22863 ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	170153	41.56570 ppb		96
46)	1,1'-Biphenyl	7.61	154	629373	38.16385 ppb		98
47)	2-Chloronaphthalene	7.63	162	470855	37.36600 ppb		95
48)	2-Nitroaniline	7.78	65	192305	42.79767 ppb		94
49)	Dimethyl phthalate	7.98	163	668044	44.21292 ppb		99
50)	2,6-DNT	8.06	165	146770	43.51088 ppb	#	72
51)	Acenaphthylene	8.10	152	775793	38.23573 ppb		99
52)	3-Nitroaniline	8.26	138	158644	43.00450 ppb	#	95
53)	Acenaphthene	8.31	154	492463	39.37331 ppb		99
54)	2,4-Dinitrophenol	8.41	184	70092	44.58030 ppb		92
55)	4-Nitrophenol	8.53	65	14736	11.47833 ppb	#	1
56)	Dibenzofuran	8.50	168	726662	41.14753 ppb		94
57)	2,4-DNT	8.54	165	212699	45.22308 ppb		91
58)	2,3,4,6-Tetrachlorophenol	8.67	232	147219	45.65922 ppb	#	89
59)	Diethyl phthalate	8.80	149	692561	45.26449 ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	277250	40.30780 ppb		86
61)	Fluorene	8.90	166	555271	38.84081 ppb		97
62)	4-Nitroaniline	8.97	138	157751	44.95150 ppb		94
65)	4,6-Dinitro-2-methylphenol	9.02	198	129143	44.41931 ppb		99
66)	Diphenyl amine	9.06	169	915890	86.19816 ppb		99
67)	n-Nitrosodiphenylamine	9.06	169	915890	86.19816 ppb		99
68)	1,2-Diphenylhydrazine	9.09	77	839365	45.24889 ppb		94
69)	4-Bromophenyl phenyl ether	9.47	248	174115	41.81548 ppb	#	86
70)	Hexachlorobenzene	9.55	284	185819	42.78024 ppb		89
71)	Atrazine	9.69	200	92487	22.48649 ppb		95
72)	Pentachlorophenol	9.79	266	83213	44.51570 ppb		96
73)	Phenanthrene	10.01	178	931422	41.42340 ppb		99
74)	Anthracene	10.08	178	1011914	43.14593 ppb		99
75)	Carbazol	10.28	167	916694	44.15105 ppb		98
76)	Di-n-butylphthalate	10.68	149	1193800	45.50103 ppb		98
77)	Fluoranthene	11.40	202	1100773	45.09482 ppb		98
79)	Benzidine	11.58	184	141151	13.73076 ppb		99
80)	Pyrene	11.66	202	1160200	43.81177 ppb		99
82)	Butyl benzylphthalate	12.42	149	561968	45.89666 ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	373412	44.97264 ppb		97
84)	Benz (a) anthracene	13.05	228	1113160	44.69470 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	777912	45.17080 ppb	#	98
86)	Chrysene	13.10	228	1027132	42.04784 ppb		99
87)	Di-n-octylphthalate	13.80	149	1431967	48.53905 ppb	#	91
89)	Benzo (b) fluoranthene	14.25	252	1104898	40.10133 ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1172544	46.17515 ppb		98
91)	Benzo (a) pyrene	14.63	252	1073561	42.66220 ppb		97
92)	Indeno (1,2,3-cd) pyrene	16.23	276	1190761	42.20987 ppb		99
93)	Dibenz (a,h) anthracene	16.25	278	1028539	42.82988 ppb		99
94)	Benzo (g,h,i) perylene	16.69	276	1010568	42.69561 ppb		99

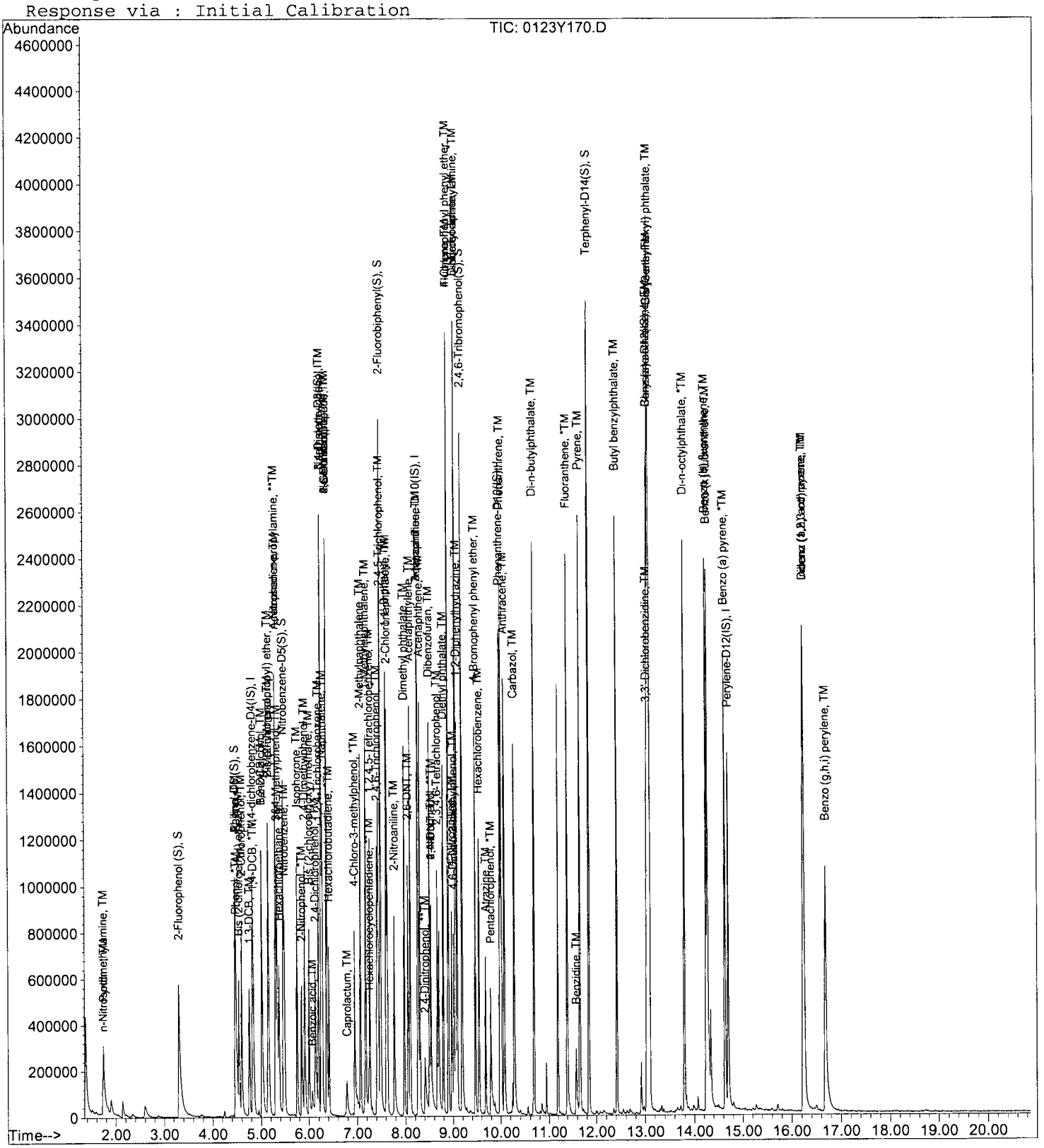
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y170.D Vial: 70
Acq On : 15 Feb 17 15:06 Operator: MA
Sample : AZ49853W30 MS-1 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Feb 15 15:42 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y171.D Vial: 71
Acq On : 15 Feb 17 15:36 Operator: MA
Sample : AZ49853W43 MSD-1 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Feb 15 16:48 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	184815	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.26	136	763690	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.26	164	444175	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.99	188	833606	40.00000 ppb		0.00
78) Chrysene-D12(IS)	13.06	240	843490	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.70	264	889589	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.31	112	378760	63.07730 ppb		0.00
Spiked Amount 194.175			Recovery	= 32.485%		
5) Phenol-D6 (S)	4.47	99	296898	37.16350 ppb		0.00
Spiked Amount 194.175			Recovery	= 19.139%		
21) Nitrobenzene-D5(S)	5.46	82	457889	57.39889 ppb		0.00
Spiked Amount 97.087			Recovery	= 59.121%		
45) 2-Fluorobiphenyl(S)	7.49	172	763162	51.99848 ppb		0.00
Spiked Amount 97.087			Recovery	= 53.558%		
63) 2,4,6-Tribromophenol(S)	9.19	330	257524	121.61017 ppb		0.00
Spiked Amount 194.175			Recovery	= 62.629%		
81) Terphenyl-D14(S)	11.85	244	1140079	61.00981 ppb		0.00
Spiked Amount 97.087			Recovery	= 62.840%		
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	113195	24.87907 ppb		91
3) Pyridine	1.75	79	144330	15.94730 ppb		99
6) Phenol	4.49	94	124624	13.58996 ppb	#	77
7) Aniline	4.47	66	180856	20.77544 ppb	#	36
8) Bis (2-chloroethyl) ether	4.54	63	145763	32.47582 ppb		96
9) 2-Chlorophenol	4.60	128	223662	31.53889 ppb		94
10) 1,3-DCB	4.75	146	162969	21.78426 ppb		99
11) 1,4-DCB	4.85	146	176700	22.98512 ppb		97
12) Benzyl alcohol	5.01	108	123708	30.62723 ppb		91
13) 1,2-DCB	5.01	146	175797	25.08915 ppb		95
14) 2-Methylphenol	5.15	107	143668	27.10791 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	330607	33.57085 ppb	#	66
16) Acetophenone	5.29	105	334541	35.42272 ppb		99
17) 3&4-Methylphenol	5.33	107	345904	50.26027 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	185125	35.31051 ppb		97
19) Hexachloroethane	5.38	117	56413	17.84599 ppb		93
22) Nitrobenzene	5.49	77	271393	34.08310 ppb		91
23) Isophorone	5.75	82	487692	36.88924 ppb		98
24) 2-Nitrophenol	5.84	139	140736	37.68483 ppb		93
25) 2,4-Dimethylphenol	5.91	122	183621	30.41096 ppb		92
26) Benzoic acid	6.07	105	46761	14.93886 ppb		94
27) Bis (2-chloroethoxy) metha	6.00	93	274305	35.83813 ppb		100
28) 2,4-Dichlorophenol	6.13	162	207918	36.18672 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	163296	25.72093 ppb		95
30) 3,4-Dimethylphenol	6.25	107	287099	31.58242 ppb		98
31) Naphthalene	6.28	128	644678	31.34707 ppb		100
32) 4-Chloroaniline	6.36	127	302782	41.91209 ppb		96
33) 2,6-Dichlorophenol	6.37	162	195774	36.81666 ppb		96
34) Hexachloropropene	6.38	213	78823	17.07934 ppb		98
35) Hexachlorobutadiene	6.42	225	66724	17.72379 ppb		97
36) Caprolactum	6.78	55	32869	10.05101 ppb		96
37) 4-Chloro-3-methylphenol	6.94	107	226599	36.39547 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y171.D Vial: 71
Acq On : 15 Feb 17 15:36 Operator: MA
Sample : AZ49853W43 MSD-1 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Feb 15 16:48 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	418084	31.29315	ppb		99
39) 1-Methylnaphthalene	7.18	142	416161	31.62324	ppb		99
41) Hexachlorocyclopentadiene	7.24	237	15851	13.79726	ppb		88
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	177027	28.59627	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	151323	38.95717	ppb		98
44) 2,4,5-Trichlorophenol	7.47	196	156153	36.64892	ppb		94
46) 1,1'-Biphenyl	7.60	154	572806	33.37083	ppb		99
47) 2-Chloronaphthalene	7.63	162	423540	32.29232	ppb		99
48) 2-Nitroaniline	7.77	65	176545	37.74855	ppb		92
49) Dimethyl phthalate	7.97	163	625934	39.80046	ppb		98
50) 2,6-DNT	8.06	165	139580	39.75567	ppb		92
51) Acenaphthylene	8.10	152	703897	33.33097	ppb		99
52) 3-Nitroaniline	8.25	138	154668	40.28154	ppb		89
53) Acenaphthene	8.30	154	442874	34.01918	ppb		98
54) 2,4-Dinitrophenol	8.41	184	65222	41.04001	ppb		97
55) 4-Nitrophenol	8.53	65	12840	10.76055	ppb	#	1
56) Dibenzofuran	8.50	168	651603	35.44947	ppb		91
57) 2,4-DNT	8.53	165	195906	40.01822	ppb		86
58) 2,3,4,6-Tetrachlorophenol	8.67	232	130388	38.85237	ppb		90
59) Diethyl phthalate	8.79	149	645095	40.50780	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	238573	33.32378	ppb		97
61) Fluorene	8.90	166	505272	33.95657	ppb		98
62) 4-Nitroaniline	8.97	138	144839	39.65272	ppb		92
65) 4,6-Dinitro-2-methylphenol	9.01	198	116807	39.38340	ppb		83
66) Diphenyl amine	9.05	169	878286	79.33749	ppb		99
67) n-Nitrosodiphenylamine	9.05	169	878286	79.33749	ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	648936	33.57737	ppb		98
69) 4-Bromophenyl phenyl ether	9.47	248	157979	36.41565	ppb		99
70) Hexachlorobenzene	9.54	284	169158	37.37949	ppb		92
71) Atrazine	9.68	200	87158	20.33930	ppb		97
72) Pentachlorophenol	9.79	266	80626	41.90951	ppb		95
73) Phenanthrene	10.02	178	871289	37.19198	ppb		99
74) Anthracene	10.07	178	934501	38.24404	ppb		99
75) Carbazol	10.28	167	853737	39.46649	ppb		99
76) Di-n-butylphthalate	10.69	149	1147672	41.98510	ppb		99
77) Fluoranthene	11.40	202	1031482	40.55817	ppb		96
79) Benzidine	11.58	184	145678	13.46958	ppb		97
80) Pyrene	11.66	202	1059407	38.02507	ppb		99
82) Butyl benzylphthalate	12.42	149	539974	41.91714	ppb		95
83) 3,3'-Dichlorobenzidine	13.03	252	351577	40.24666	ppb	#	96
84) Benz (a) anthracene	13.05	228	1003477	38.29615	ppb		100
85) Bis (2-ethylhexyl) phthala	13.08	149	727326	40.14262	ppb		99
86) Chrysene	13.10	228	971381	37.79692	ppb		99
87) Di-n-octylphthalate	13.80	149	1283336	41.34737	ppb		100
89) Benzo (b) fluoranthene	14.24	252	1056596	37.04264	ppb		98
90) Benzo (k) fluoranthene	14.28	252	1046857	39.82199	ppb		96
91) Benzo (a) pyrene	14.63	252	985640	37.83479	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	1114294	38.15449	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	931941	37.48616	ppb		98
94) Benzo (g,h,i) perylene	16.68	276	939695	38.34962	ppb		96

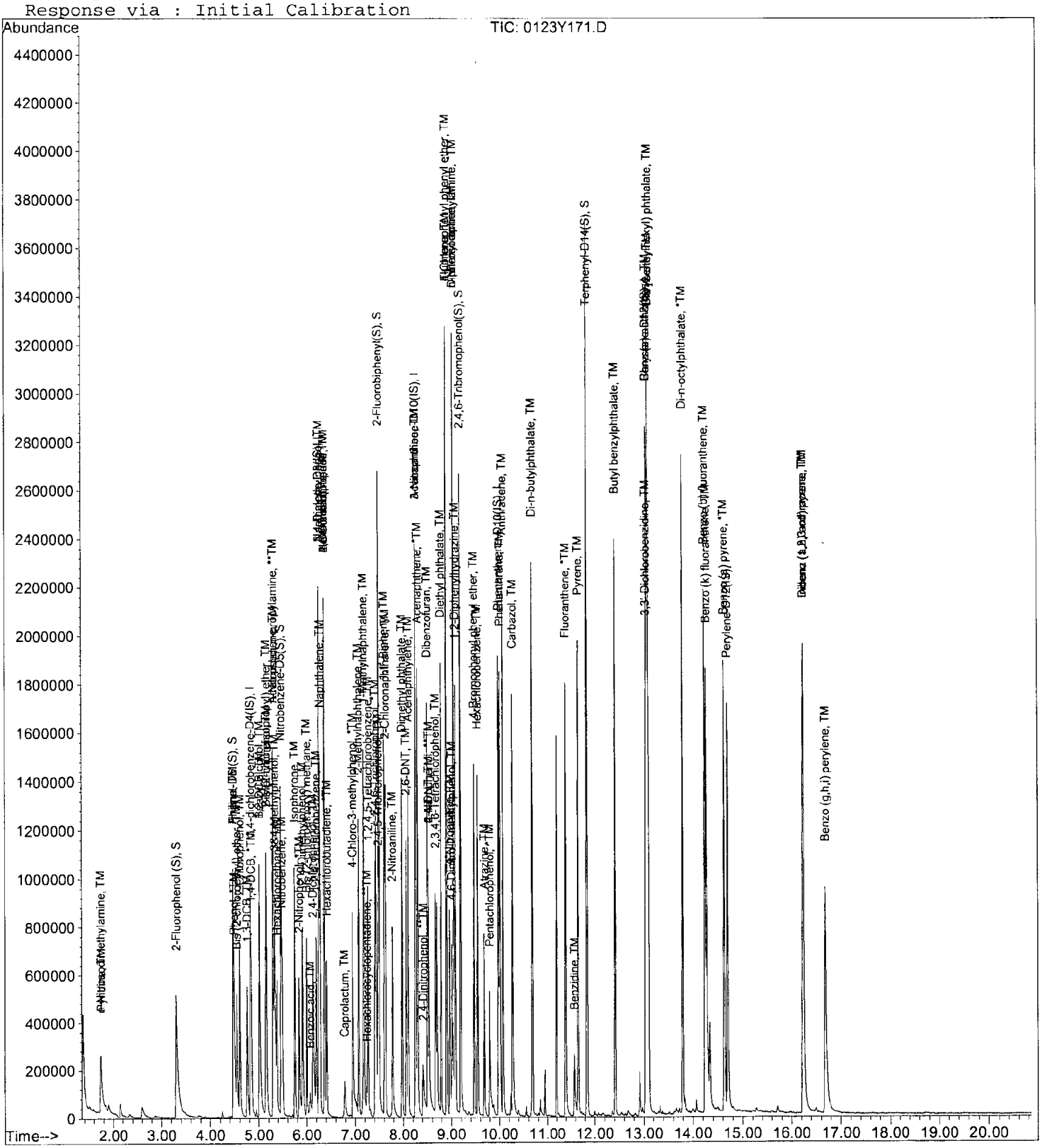
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y171.D Vial: 71
Acq On : 15 Feb 17 15:36 Operator: MA
Sample : AZ49853W43 MSD-1 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Feb 15 16:48 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 01 14:21:11 2017
Response via : Initial Calibration

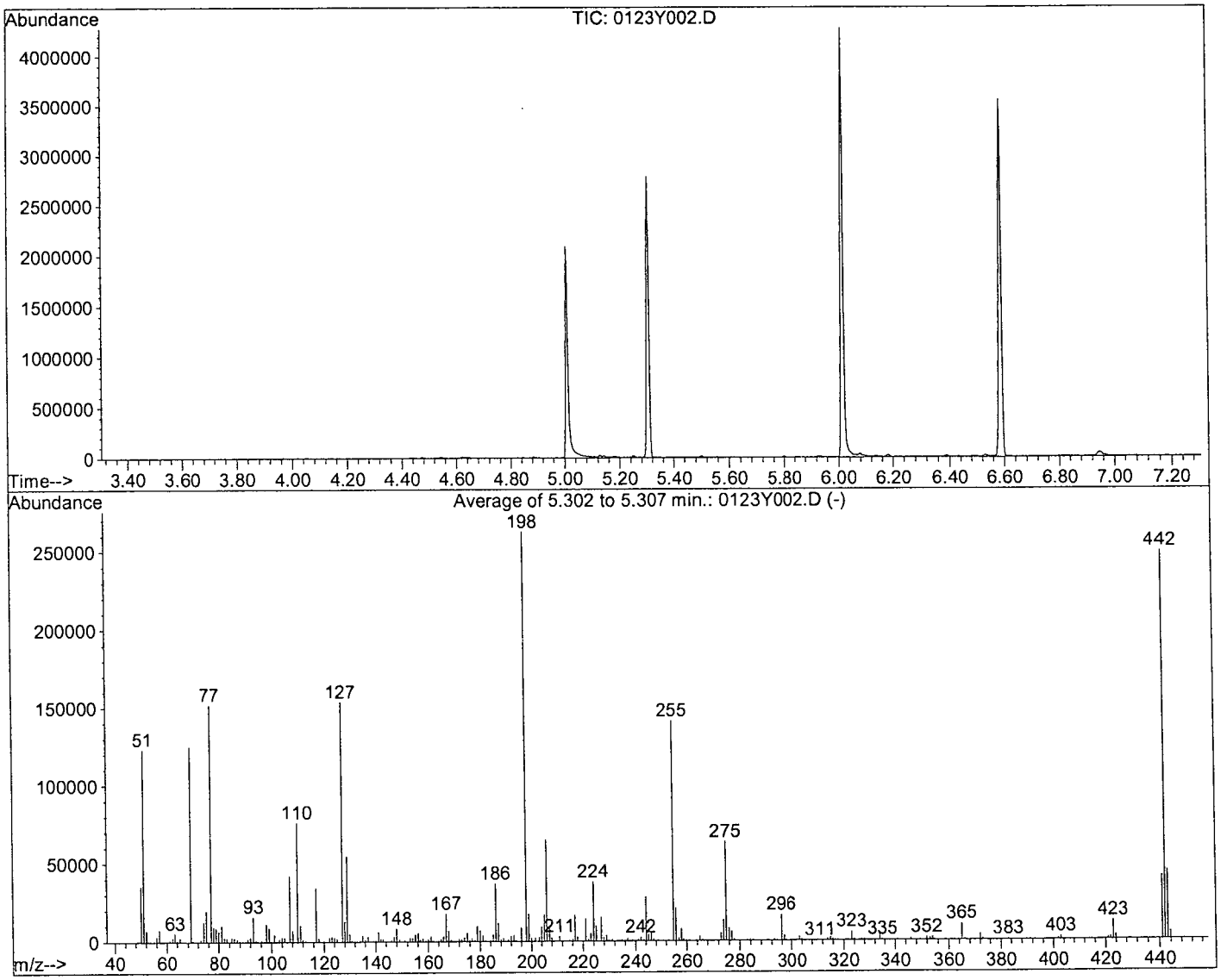


DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

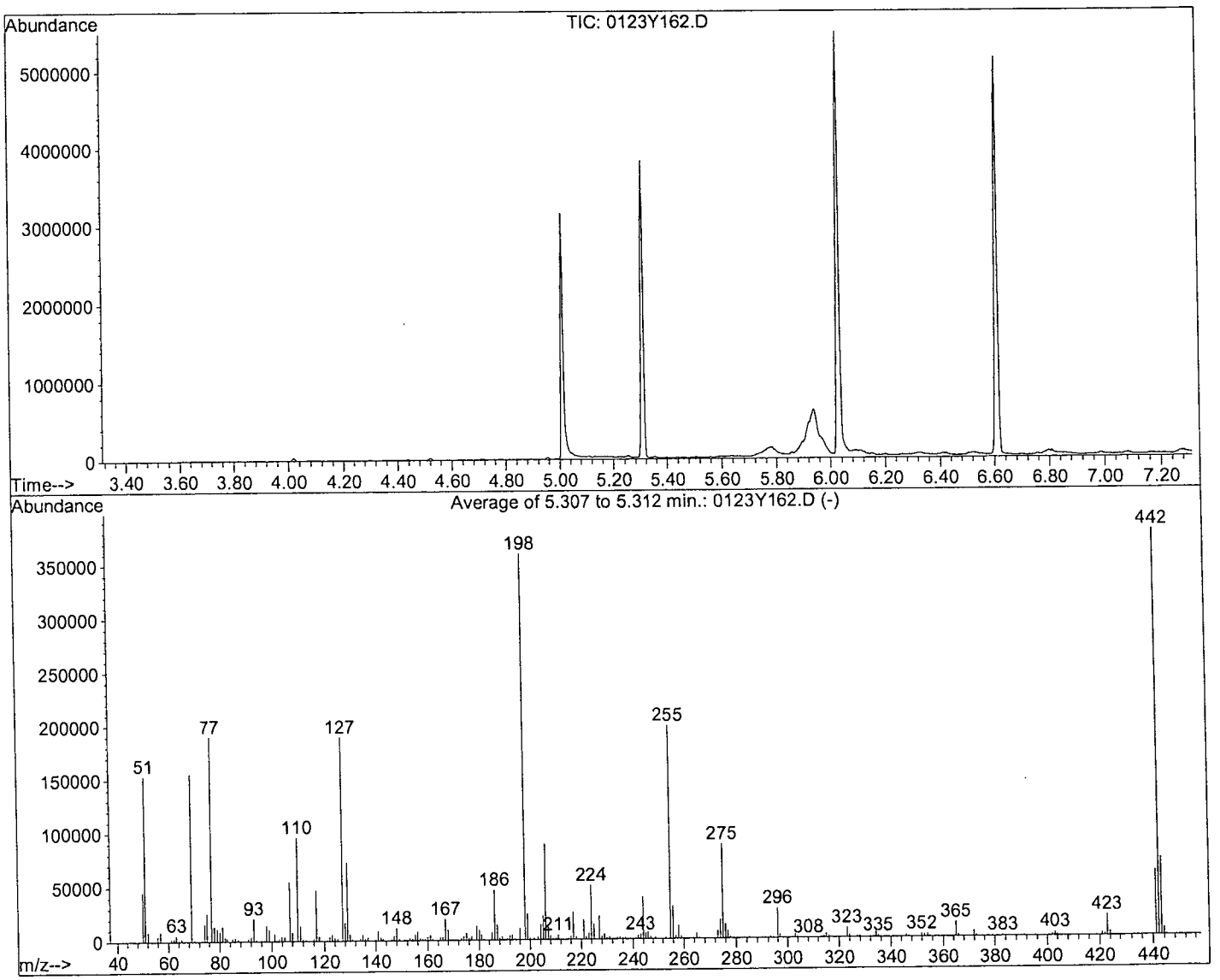
0123Y002.D Y0123.M Tue Jan 24 10:34:11 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y162.D
Acq On : 15 Feb 17 10:50
Sample : SV Tune 12/15/16
Misc : water

Vial: 62
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 680

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	42.6	153336	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1219	PASS
127	198	40	60	52.5	189141	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	360000	PASS
199	198	5	9	6.6	23725	PASS
275	198	10	30	24.3	87381	PASS
365	198	1	100	3.8	13516	PASS
441	443	0.01	100	83.7	60045	PASS
442	198	50	150	105.4	379264	PASS
443	442	17	23	18.9	71768	PASS

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	12/08/16 RH					
Exp:	12/08/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-36838	12/08/16	12/08/17	1000
Absolute	10002	2000	062216-37257	12/08/16	12/08/17	1000
Absolute	10004	2000	012516-37148	12/08/16	12/08/17	1000
Absolute	10005	2000	110314-37138	12/08/16	12/08/17	1000
Absolute	10006	2000	081216-37078	12/08/16	12/08/17	1000
Absolute	10007	2000	020515-37140	12/08/16	12/08/17	1000
Absolute	10018	2000	090216-37152	12/08/16	12/08/17	1000
Absolute	70023	1000	042716-37304	12/08/16	12/08/17	1000
Absolute	82705	2000	012516-37142	12/08/16	12/08/17	1000
Absolute	94552	2000	042016-37259	12/08/16	12/08/17	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Full Scan Second Source Stock						
	7/8/16 GA					
8270 Second Source Stock						
Exp:	07/08/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	116070-02	2000	234696-35233	07/08/16	07/08/17	1000
o2si	110391-01	2000	252133-35880	07/08/16	07/08/17	1000
o2si	010337-01	1000	259144-35881	07/08/16	07/08/17	1000
o2si	110396-01	2000	252136-35882	07/08/16	07/08/17	1000
o2si	110397-01	2000	263077-35835	07/08/16	01/08/17	1000
o2si	110393-01	2000	252141-35248	07/08/16	07/08/17	1000
o2si	110394-01	2000	252143-35884	07/08/16	07/08/17	1000
o2si	**110395-01**	2000	252146-35885	07/08/16	07/08/17	1000
o2si	110392-01	2000	243259-35886	07/08/16	07/08/17	1000
Absolute	10006	2000	091115-35856	07/08/16	07/08/17	1000
				Final Vol.		10000

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	01/19/2018					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37137	01/19/17	01/19/18	1000
Absolute	10002	2000	062216-37146	01/19/17	01/19/18	1000
Absolute	10004	2000	012516-37149	01/19/17	01/19/18	1000
Absolute	10005	2000	110314-37139	01/19/17	01/19/18	1000
Absolute	10006	2000	081216-37077	01/19/17	01/19/18	1000
Absolute	10007	2000	020515-37141	01/19/17	01/19/18	1000
Absolute	10018	2000	090216-37153	01/19/17	01/19/18	1000
Absolute	70023	1000	083121-37151	01/19/17	01/19/18	1000
Absolute	82705	2000	012516-37143	01/19/17	01/19/18	1000
Absolute	94552	2000	042016-36864	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170214A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 1-19-17 EXP 1-19-18		Surrogate ID 1	8270 Surrogate 1-24-17 EXP 4-24-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	02/14/17 8:40	
Spiked ID 8			Ext. End Time:	02/14/17 16:50	
			GC Requires Extract By:	**02/16/17 0:00**	

pH1	2	02/14/17 9:00:00 AM	Water Bath Temp Criteria	72 °C
pH2	14	2/14/17 10:20:00 AM		
pH3				

Spiked By: DL **Date** 02/14/17 **Witnessed By:** JR **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	
2	170214A LCS-1		0.250	1	1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	
3	AZ49739	AZ49739W14			1	1 equip	1040 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
4	AZ49741	AZ49741W13			1	1 equip	980 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
5	AZ49743	AZ49743W12			1	1 equip	1020 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
6	AZ49744	AZ49744W07			1	1 equip	990 E-WB6	1	2/1	02/14/17 8:40	82130 RUSH 1 WEEK
7	AZ49853 MS-1	AZ49853W30	0.250	1	1	1 equip	1030 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
8	AZ49853 MSD-1	AZ49853W43	0.250	1	1	1 equip	1030 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
9	AZ49853	AZ49853W42			1	1 equip	1070 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
10	AZ49854	AZ49854W11			1	1 equip	1000 E-WB6	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
11	AZ49855	AZ49855W15			1	1 equip	1040 E-WB7	1	2/1	02/14/17 8:40	82150 RUSH 1 WEEK
12	AZ49857	AZ49857W09			1	1 equip	1000 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
13	AZ49860	AZ49860W13			1	1 equip	980 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK
14	AZ49862	AZ49862W09			1	1 equip	1000 E-WB7	1	2/1	02/14/17 8:40	82146 RUSH 1 WEEK

KY 2/14/17

Solvent and Lot#	
MC	56153
1+1 Sulfuric Acid	12-5-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16c255214
10N NaOH	2-14-17
ph strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	PH
Date	2/14/17
Time	5:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL
Extraction	DL,JR
Concentration	JR

Modified	02/14/17 4:51:15 PM

Reviewed By: KY 390 **Date** 2/14/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	62	0123Y162.D	1	SV Tune 12/15/16	water	15 Feb 17 10:50
12	63	0123Y163.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 11:07
13	64	0123Y164.D	1	170214A BLK 1/1000	water	15 Feb 17 11:51
14	65	0123Y165.D	1	170214A LCS-1 1/1000	water	15 Feb 17 12:22
15	70	0123Y170.D	0.970874	AZ49853W30 MS-1 1/1030	water	15 Feb 17 15:06
16	71	0123Y171.D	0.970874	AZ49853W43 MSD-1 1/1030	water	15 Feb 17 15:36
17	72	0123Y172.D	0.934579	AZ49853W42 1/1070	water	15 Feb 17 16:07
18	73	0123Y173.D	1	AZ49854W11 1/1000	water	15 Feb 17 16:38
19	74	0123Y174.D	0.96154	AZ49855W15 1/1040	water	15 Feb 17 17:08
20	79	0123Y179.D	1	50ug/ml SVOC 1/19/17	water	15 Feb 17 19:39

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216264**
Batch ID: #87DME-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.
Run #: 1220Y119
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:35:45 PM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 LCS - 216264**
Batch ID: #87DME-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	64.6	80.8	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Yoda
Run :	1220Y120
Initials :	MA

Printed: 02/17/17 3:35:47 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 MS - 216264**
Batch ID: #87DME-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	72.1	81.0	90.1	101	30-130	11.6	20

Comments:

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/16/17	02/16/17
Instrument :	Yoda	Yoda
Run :	1220Y121	1220Y122
Initials :	MA	

Printed: 02/17/17 3:36:00 PM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82150
Matrix: WATER
Blank ID: 170214A-BLK

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Yoda
Time Analyzed: 1225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214A-BLK	Blank	1220Y119	02/16/17 1225
170214A-LCS	Lab Control Spike	1220Y120	02/16/17 1255
170214A-MS	Matrix Spike	1220Y121	02/16/17 1325
170214A-MSD	Matrix SpikeD	1220Y122	02/16/17 1355
AZ49853	ERH225	1220Y123	02/16/17 1425
AZ49854	ERH247	1220Y124	02/16/17 1455
AZ49855	ERH248	1220Y125	02/16/17 1525

Comments: Batch: #87DME-170214A

Printed: 02/17/17 3:36:07 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 1220~~Y002.D~~ 82150
Matrix: Water np 2-28-17
ID: SV Tune 11/15/16

SDG No: np 2-28-17 ~~Yoda~~ 82150
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82150
Date Analyzed: 02/16/17
Instrument: Yoda
Time Analyzed: 10:56

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y118.D	02/16/17 11:50
2	Blank	170214A BLK 2/500	1220Y119.D	02/16/17 12:25
3	Lab Control Spike	170214A LCS-1 2/500	1220Y120.D	02/16/17 12:55
4		AZ49853W28 MS-1 2/50	1220Y121.D	02/16/17 13:25
5		AZ49853W28 MSD-1 2/5	1220Y122.D	02/16/17 13:55
6	ERH225	AZ49853W35 2/500	1220Y123.D	02/16/17 14:25
7	ERH247	AZ49854W13 2/500	1220Y124.D	02/16/17 14:55
8	ERH248	AZ49855W14 2/500	1220Y125.D	02/16/17 15:25
9		500ug/ml DEG 02/14/1	1220Y130.D	02/16/17 17:39
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 30% of mass 198	23.4
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.6
442	50 - 150% of mass 198	102.5
443	17 - 23% of mass 442	18.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82150

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	165522	4.83	694701	6.25	401276	8.26
02	170214A BLK 2/500	129773	4.83	566584	6.25	327872	8.26
03	170214A LCS-1 2/500	133267	4.83	573905	6.25	325827	8.26
04	AZ49853W28 MS-1 2/5(	127930	4.85	576880	6.25	328856	8.26
05	AZ49853W28 MSD-1 2/	125913	4.85	564424	6.26	327094	8.26
06	AZ49853W35 2/500	120167	4.83	547361	6.26	306464	8.26
07	AZ49854W13 2/500	136735	4.85	613559	6.26	350731	8.26
08	AZ49855W14 2/500	132286	4.84	587235	6.26	372066	8.26
09	500ug/ml DEG 02/14/17	149145	4.83	651996	6.25	382109	8.26
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82150

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	747457	9.99	703793	13.06	671515	14.69
02	170214A BLK 2/500	590882	9.99	546932	13.06	563566	14.69
03	170214A LCS-1 2/500	588079	9.99	562008	13.06	590543	14.69
04	AZ49853W28 MS-1 2/50	581924	9.99	542383	13.06	548315	14.69
05	AZ49853W28 MSD-1 2/	611280	9.99	550197	13.06	756449	14.70
06	AZ49853W35 2/500	568049	9.99	505483	13.06	481855	14.69
07	AZ49854W13 2/500	640193	9.99	542999	13.06	641668	14.70
08	AZ49855W14 2/500	676111	9.99	589172	13.06	547396	14.69
09	500ug/ml DEG 02/14/17	692253	9.99	655155	13.06	622313	14.70
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y123
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:36:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y123.D Vial: 23
Acq On : 16 Feb 17 14:25 Operator: MA
Sample : AZ49853W35 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	120167	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	547361	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	306464	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	568049	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	505483	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	481855	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

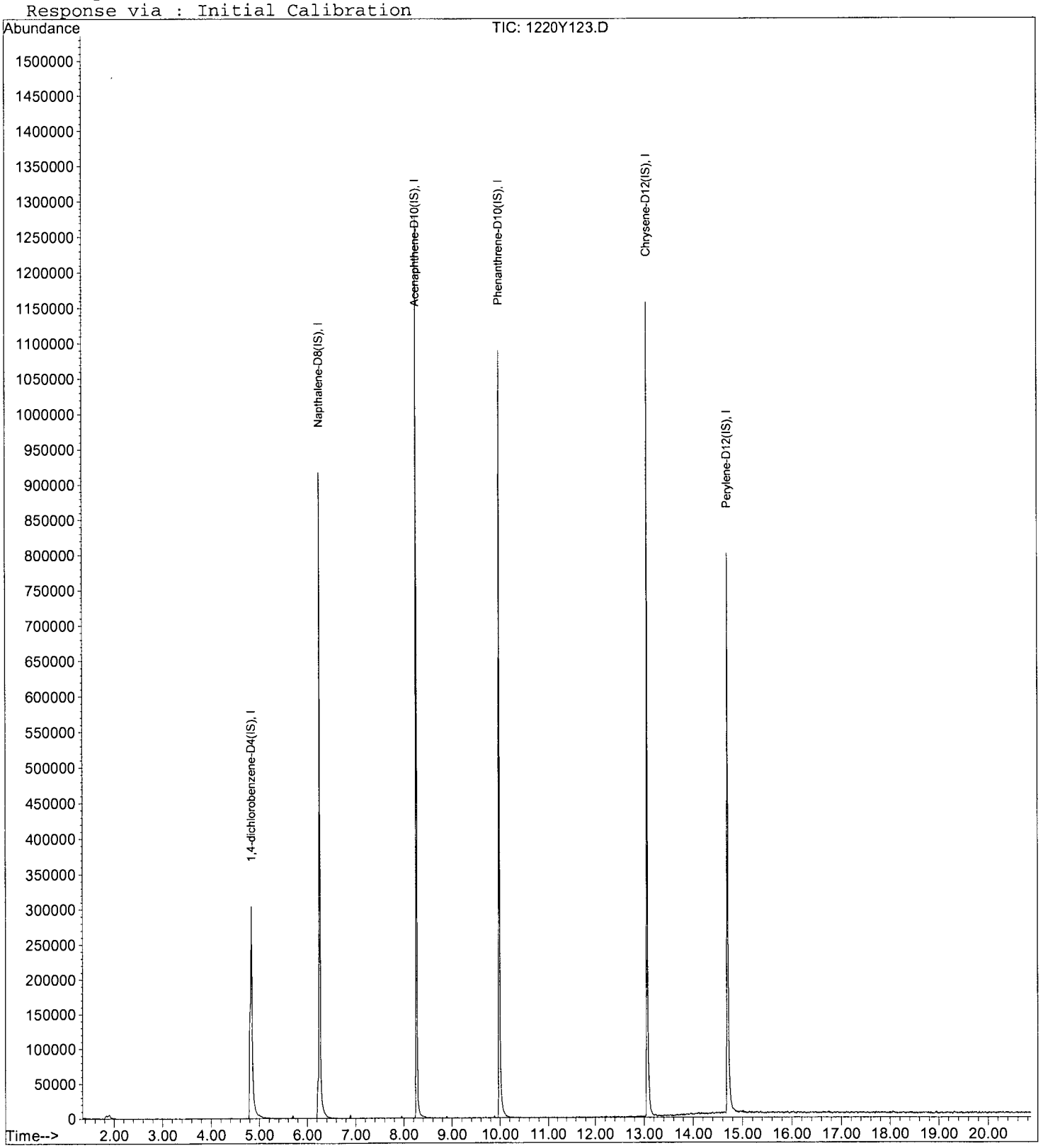
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y123.D Vial: 23
Acq On : 16 Feb 17 14:25 Operator: MA
Sample : AZ49853W35 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:28 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y124
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:36:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y124.D Vial: 24
Acq On : 16 Feb 17 14:55 Operator: MA
Sample : AZ49854W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	136735	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	613559	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	350731	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	640193	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	542999	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	641668	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

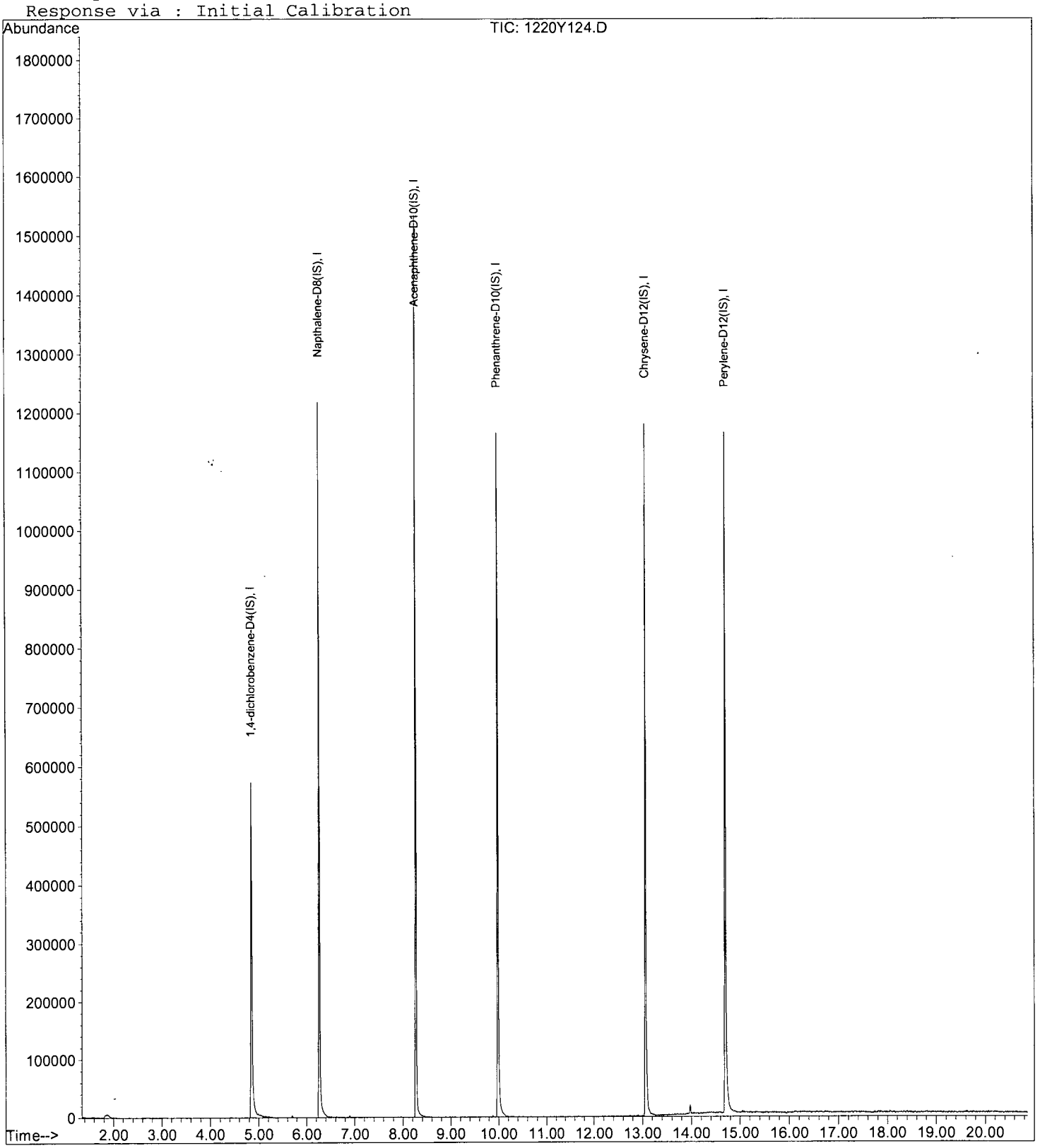
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y124.D Vial: 24
Acq On : 16 Feb 17 14:55 Operator: MA
Sample : AZ49854W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #87DME-170214A-216264

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y125
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 02/17/17 3:36:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y125.D Vial: 25
Acq On : 16 Feb 17 15:25 Operator: MA
Sample : AZ49855W14 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	132286	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	587235	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	372066	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	676111	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	589172	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	547396	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

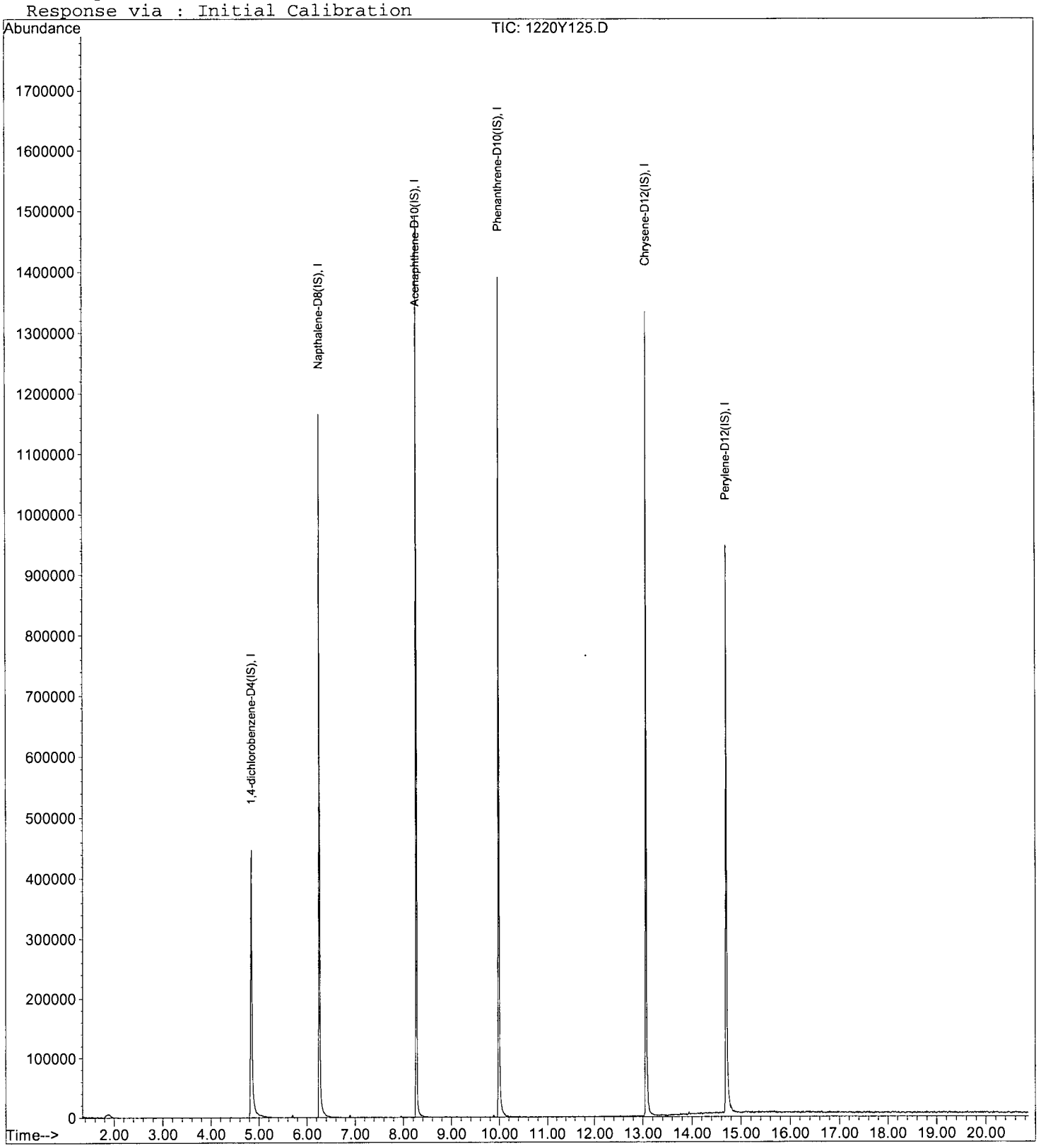
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y125.D Vial: 25
Acq On : 16 Feb 17 15:25 Operator: MA
Sample : AZ49855W14 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
12																
13																
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15																
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32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D Vial: 3
Acq On : 20 Dec 16 9:32 Operator: MA
Sample : 50ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration
1220Y003.D Y0GLYCOL.M Thu Jan 19 15:24:57 2017

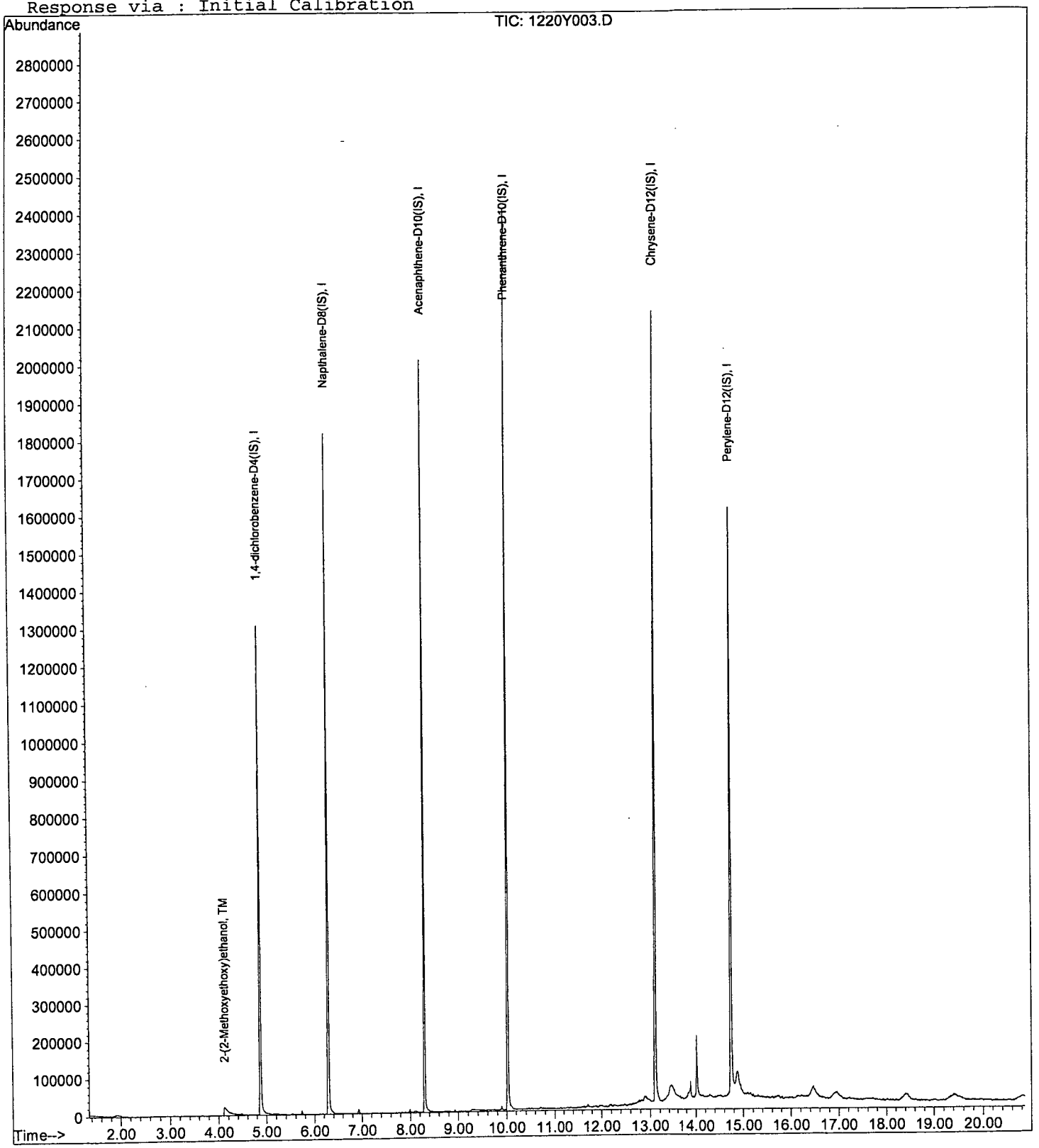
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

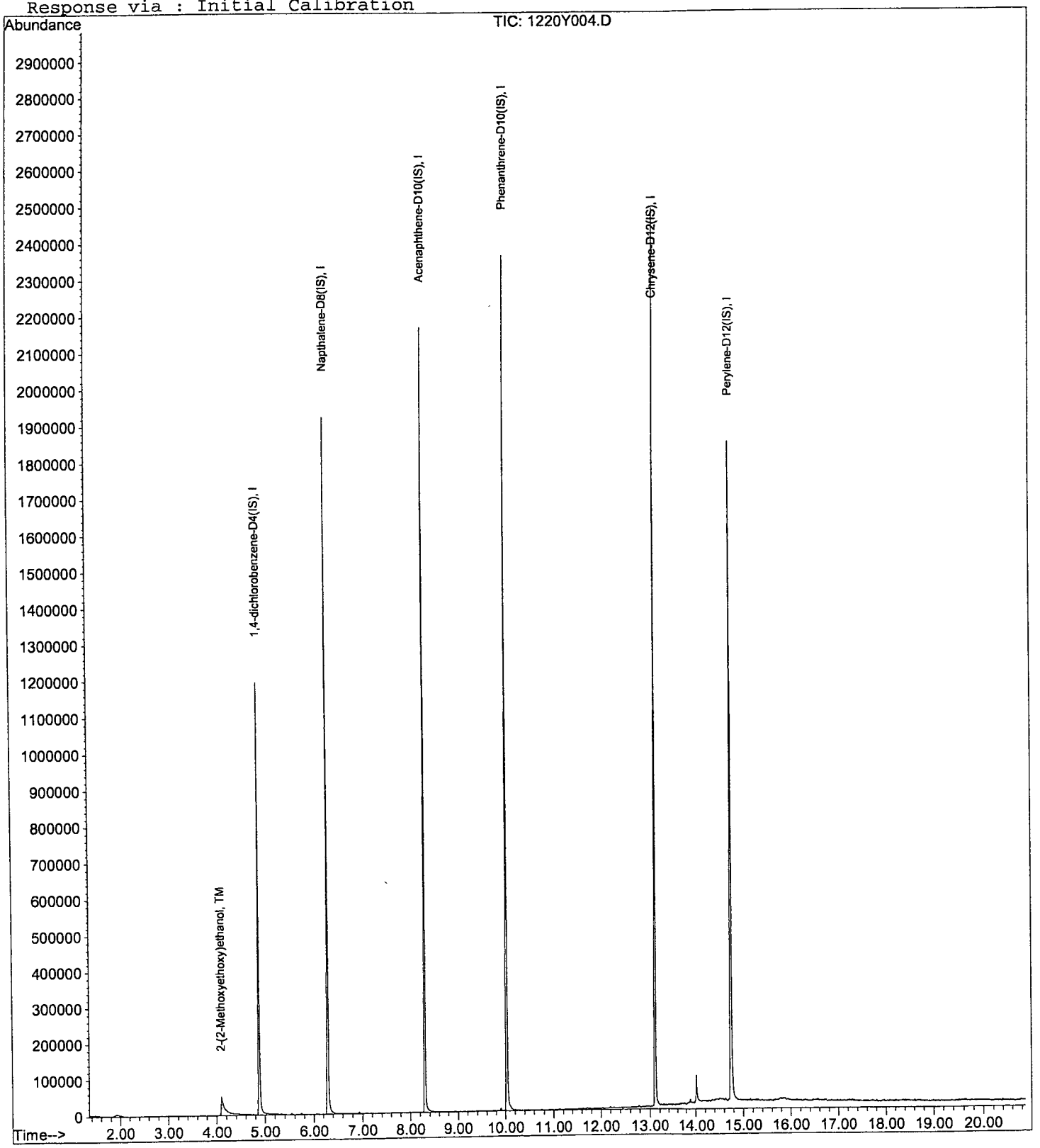
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

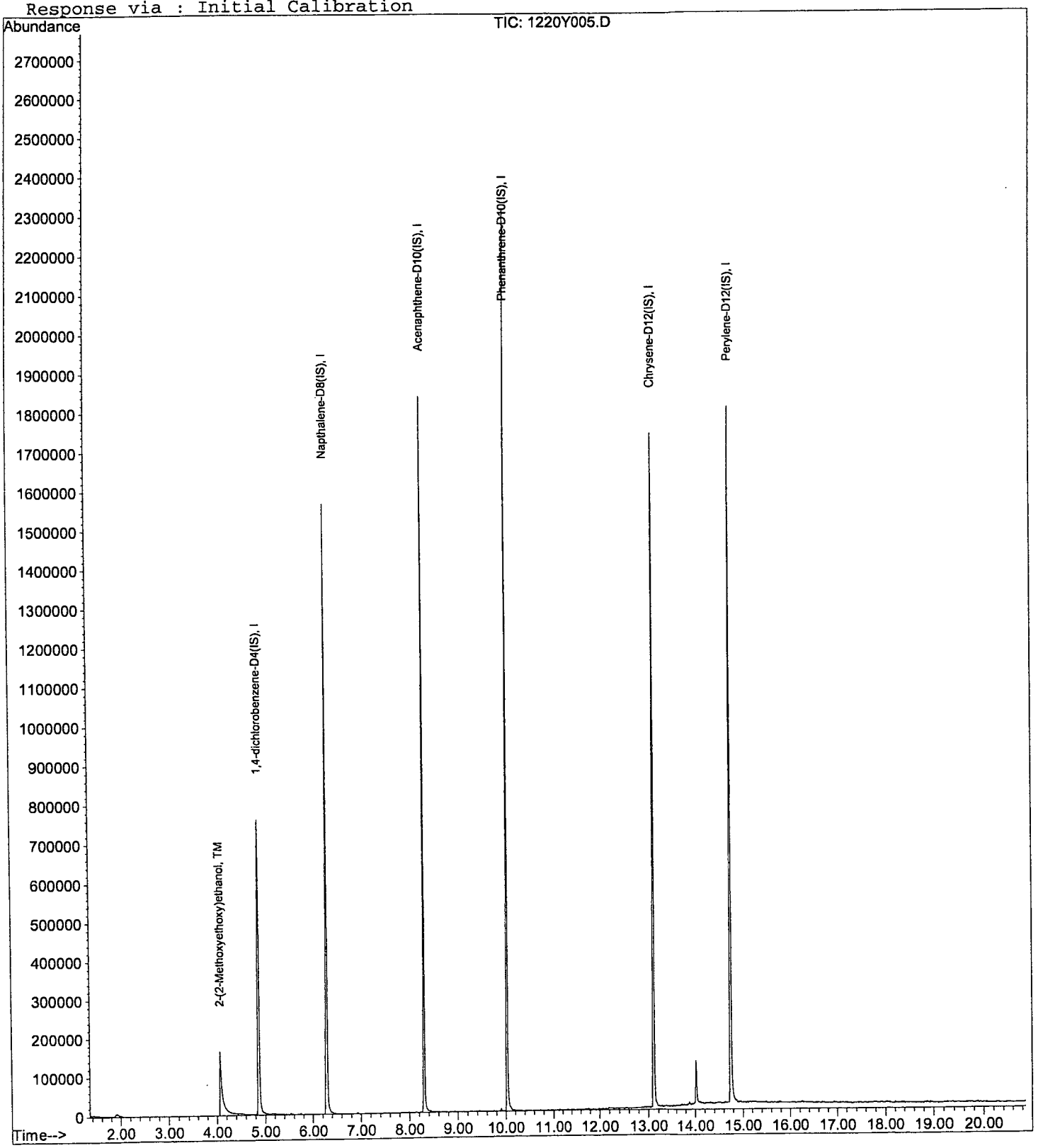
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration
1220Y006.D Y0GLYCOL.M Thu Jan 19 15:32:08 2017

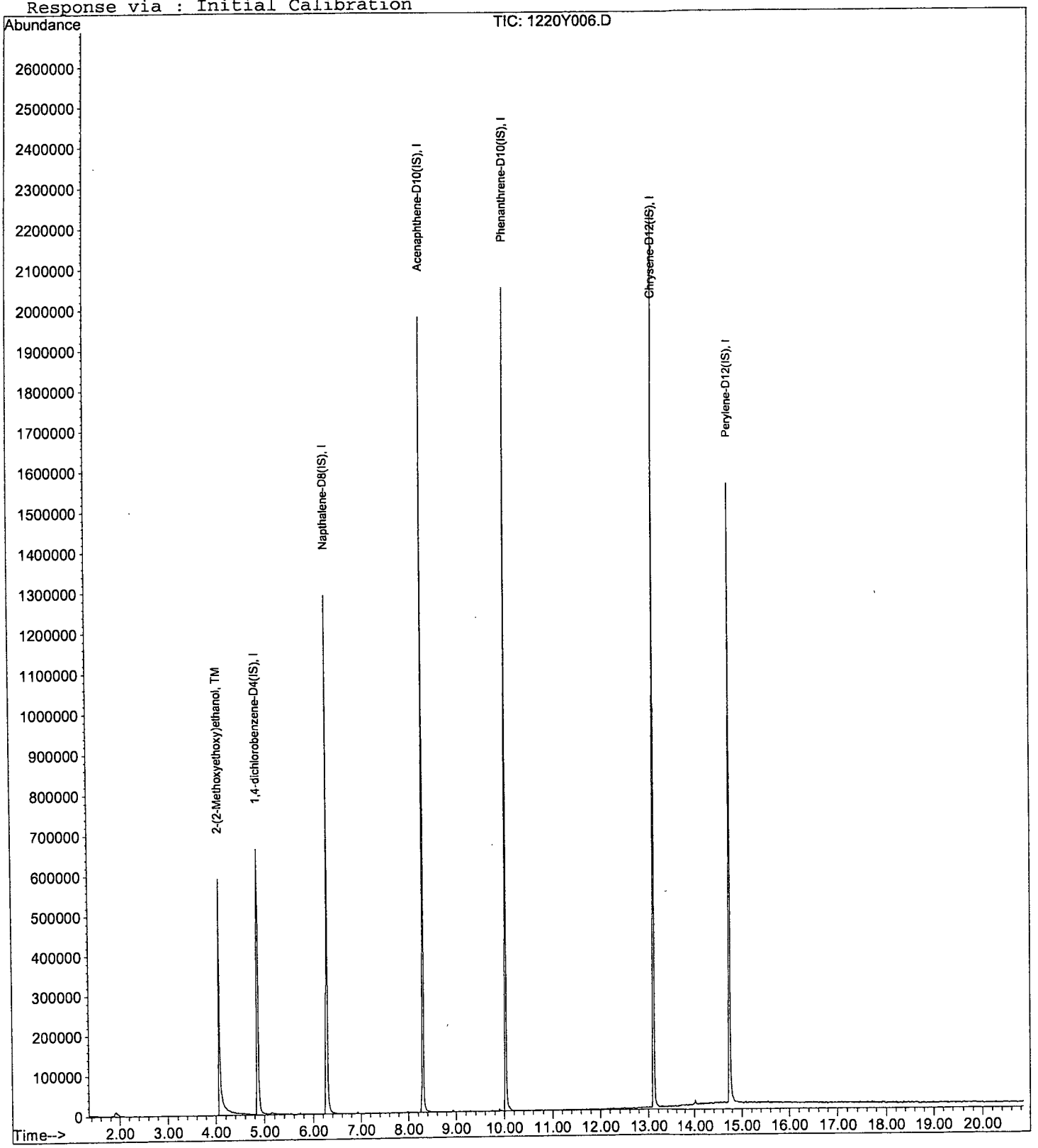
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

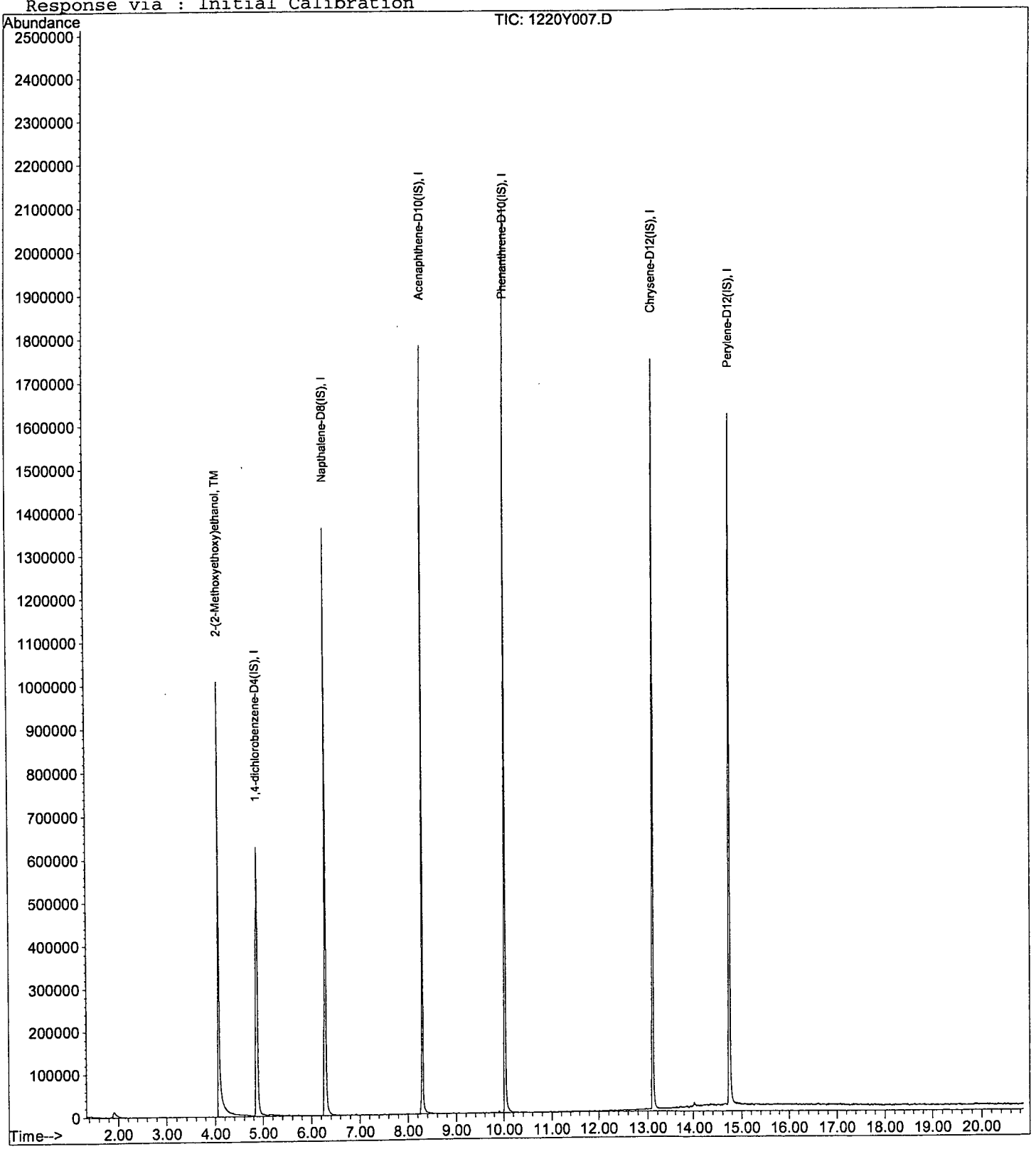
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

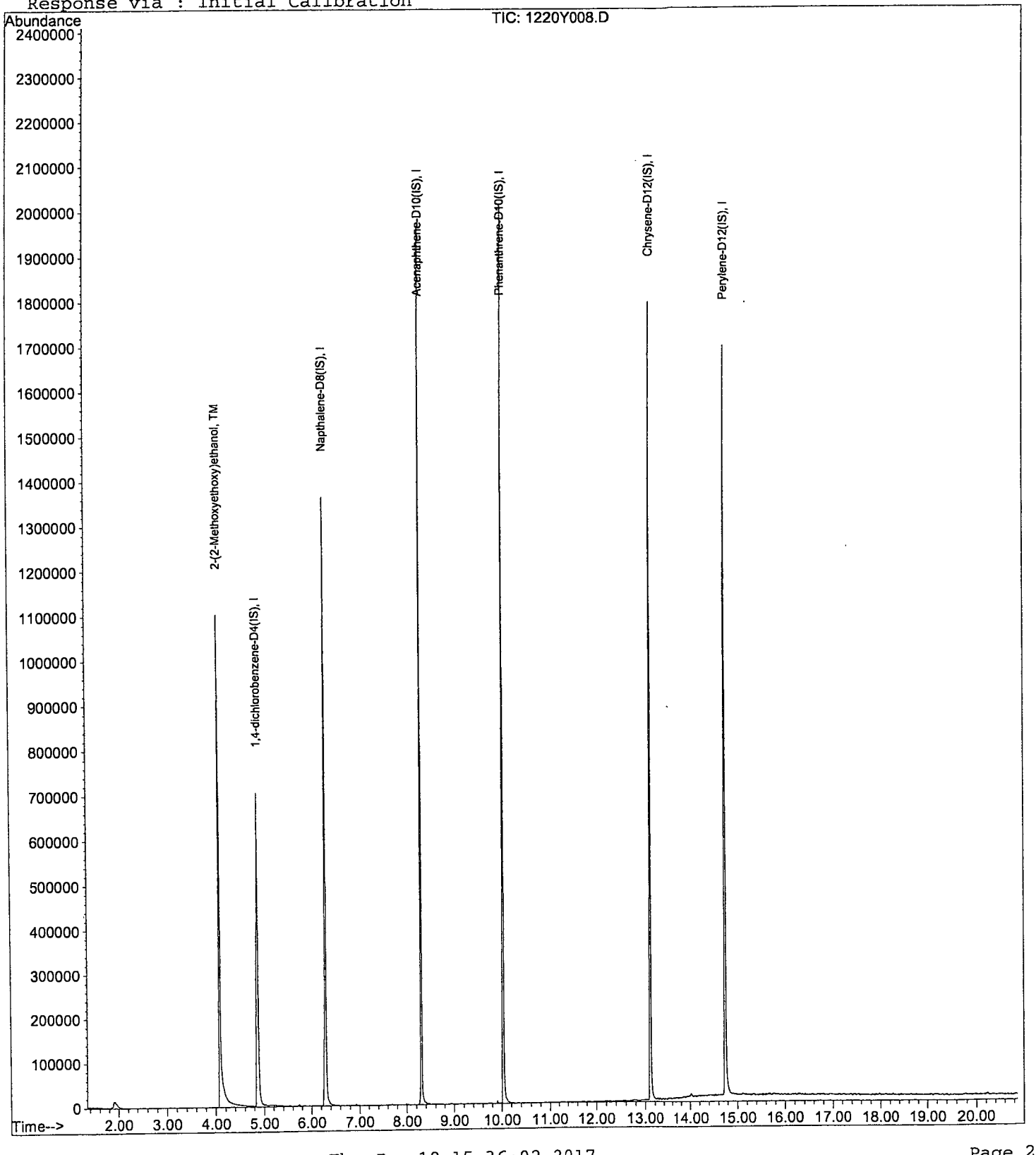
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D Vial: 9
Acq On : 20 Dec 16 13:28 Operator: MA
Sample : 800ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

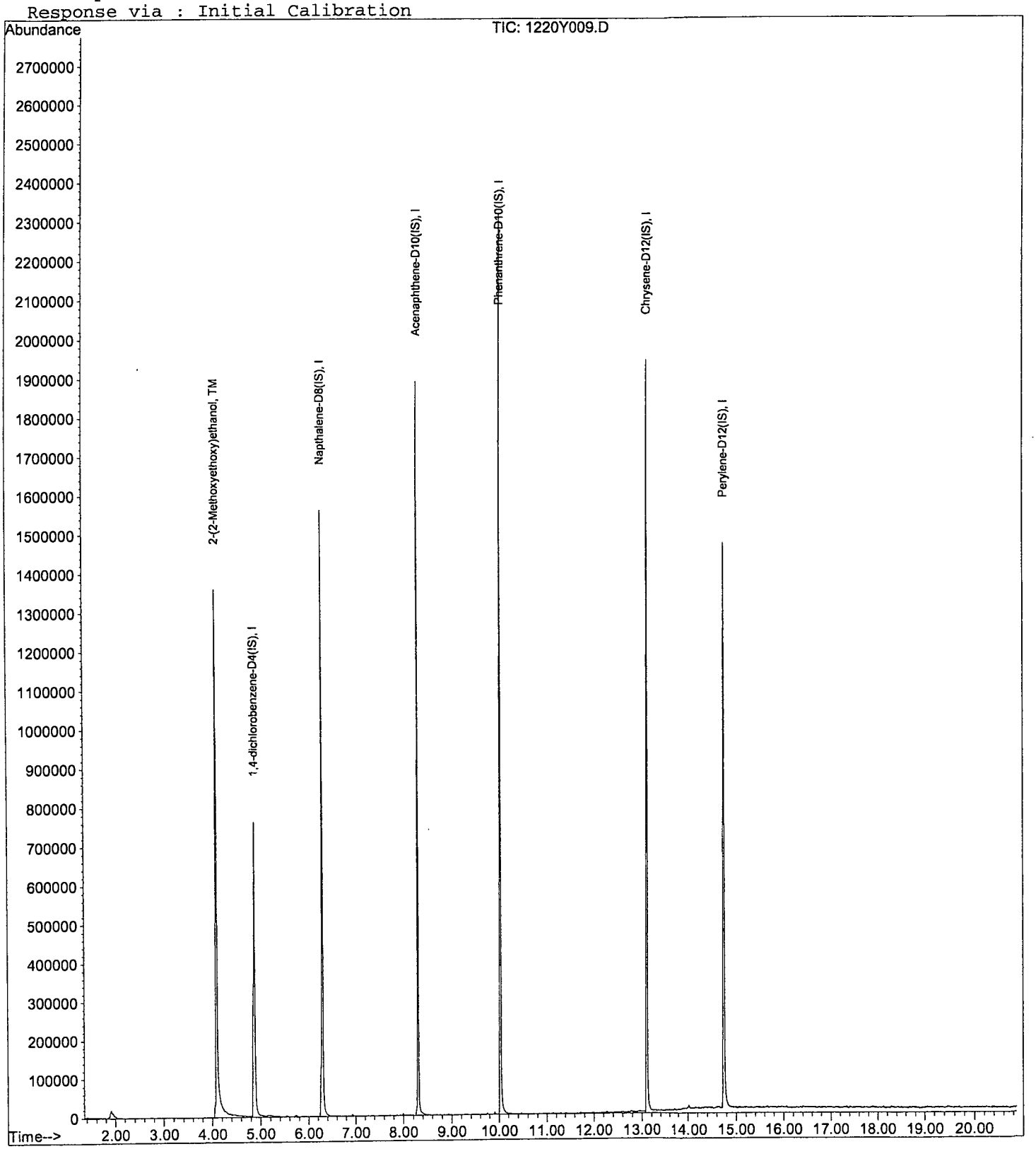
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

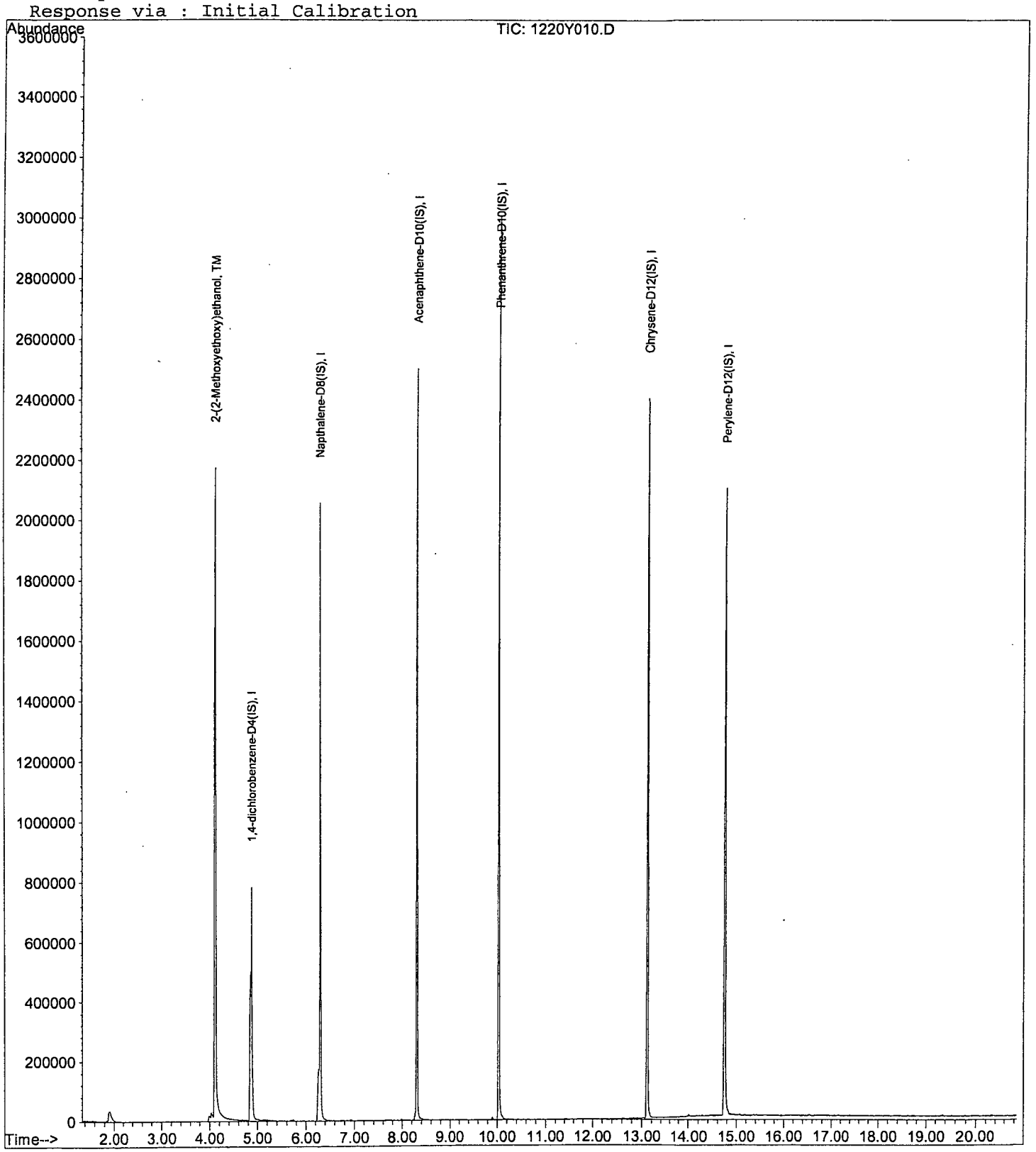
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y010.D Vial: 10
Acq On : 20 Dec 16 13:58 Operator: MA
Sample : 1000ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:37 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D Vial: 11
Acq On : 20 Dec 16 15:01 Operator: MA
Sample : SS2 DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Dec 20 15:16 2016 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

HA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

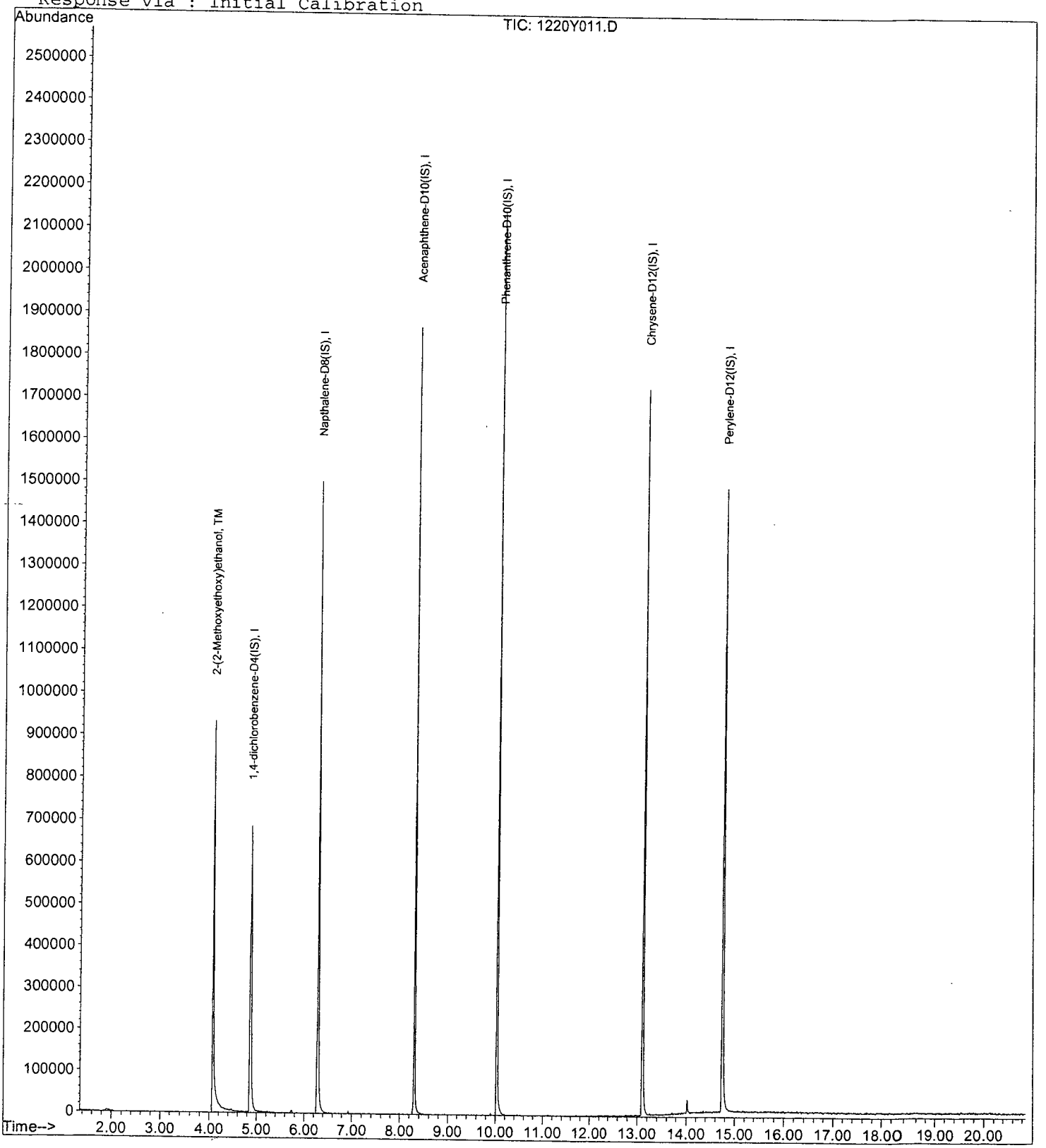
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y118.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2524	18	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y118.D Vial: 18
Acq On : 16 Feb 17 11:50 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165522	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	694701	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	401276	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	747457	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	703793	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671515	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.03	45	522302	588.63678 ppb	99

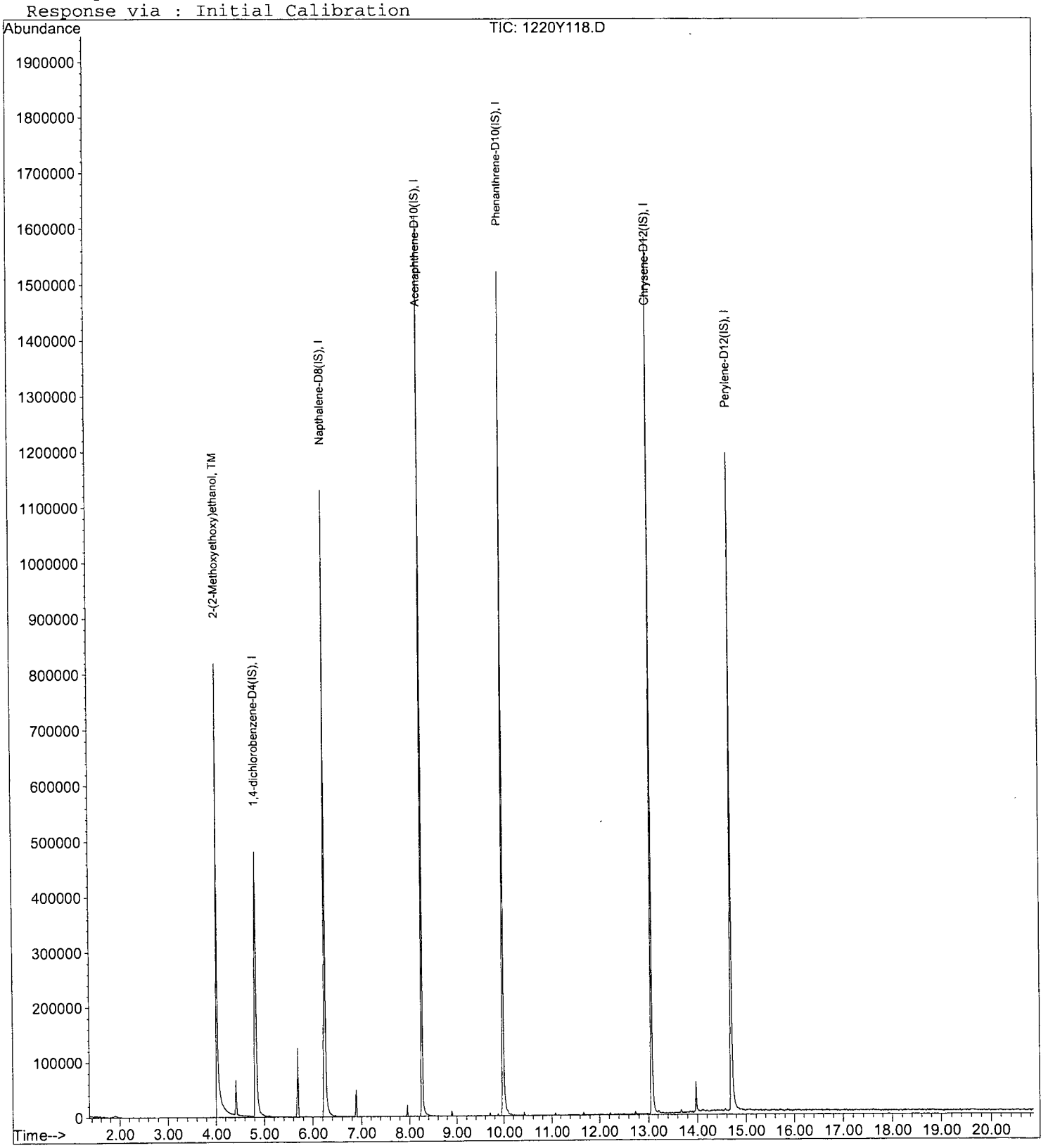
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y118.D Vial: 18
Acq On : 16 Feb 17 11:50 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 12:11 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/16/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y130.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2354	9.8	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.8		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y130.D
Acq On : 16 Feb 17 17:39
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 30
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 17:58 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	149145	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	651996	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	382109	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	692253	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	655155	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	622313	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.04	45	438792	548.82190 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

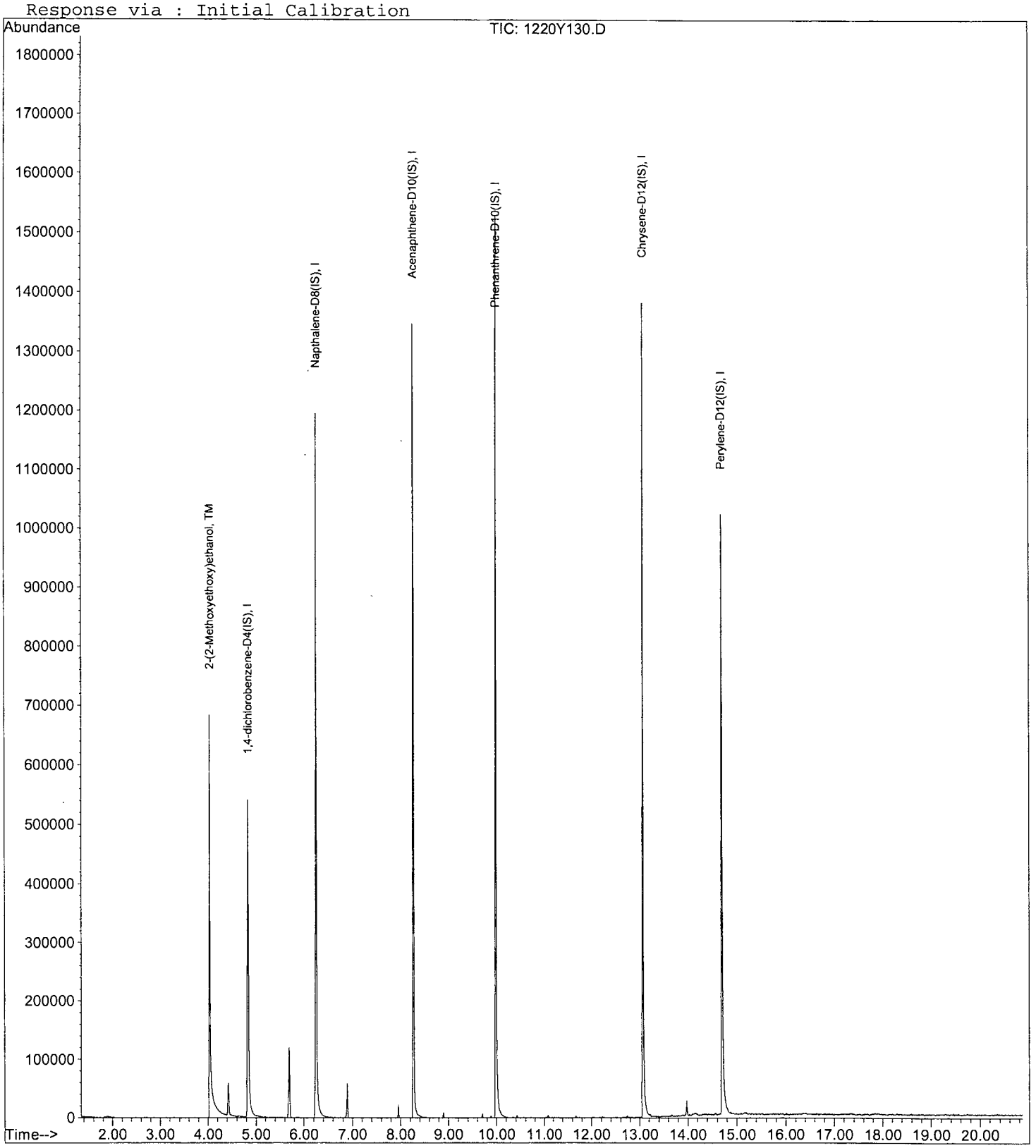
Data File : M:\YODA\DATA\Y161220G\1220Y130.D
Acq On : 16 Feb 17 17:39
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 30
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Feb 16 17:58 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216264**
Batch ID: #87DME-170214A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	02/14/17	02/16/17

Quant Method: Y0GLYCOL.
Run #: 1220Y119
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 02/17/17 3:36:12 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y119.D Vial: 19
Acq On : 16 Feb 17 12:25 Operator: MA
Sample : 170214A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Feb 15 09:10:22 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	129773	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	566584	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	327872	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	590882	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	546932	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	563566	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

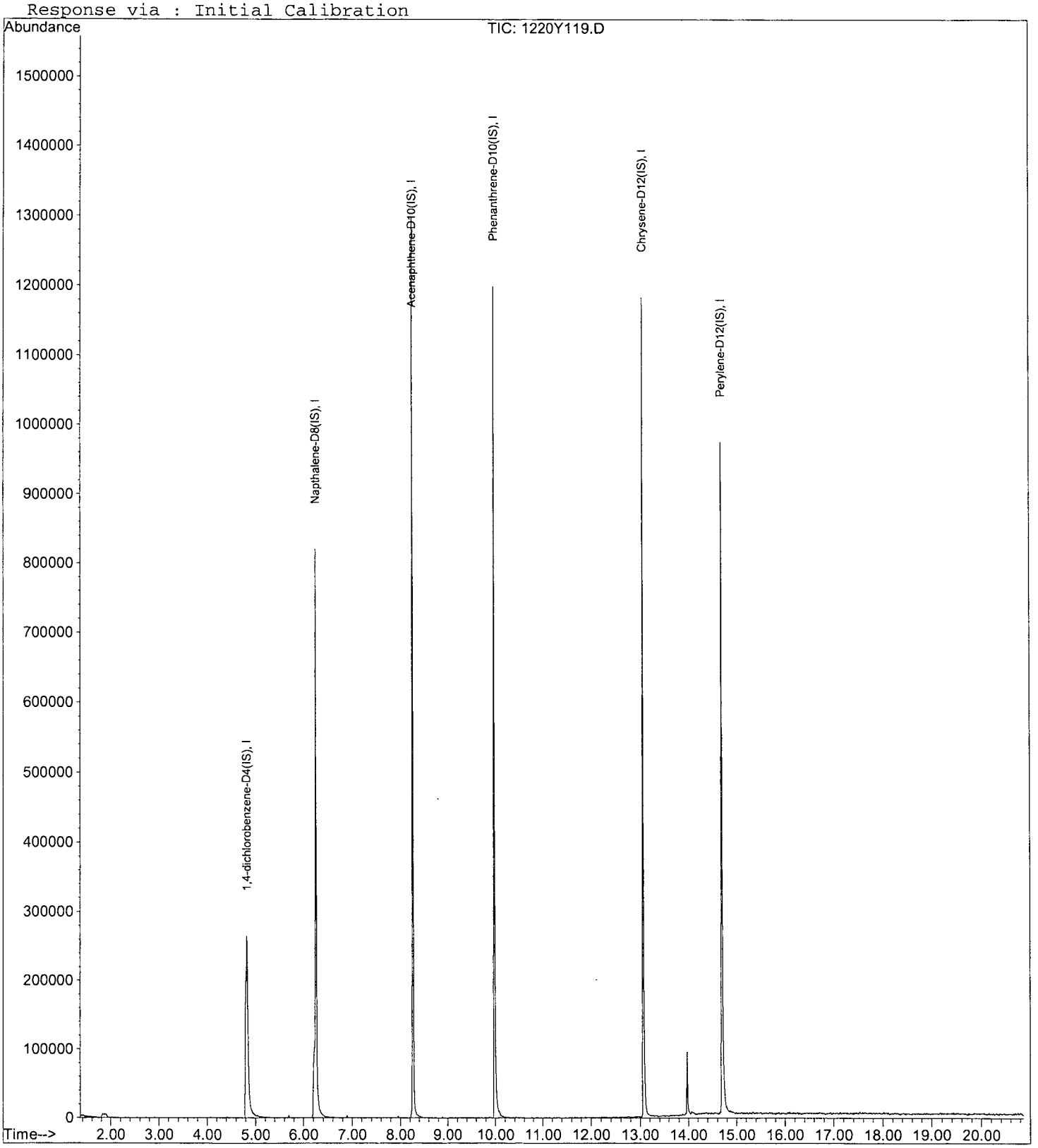
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y119.D Vial: 19
Acq On : 16 Feb 17 12:25 Operator: MA
Sample : 170214A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 LCS - 216264**
Batch ID: #87DME-170214A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	64.6	80.8	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	02/14/17
Analysis Date :	02/16/17
Instrument :	Yoda
Run :	1220Y120
Initials :	MA

Printed: 02/17/17 3:36:13 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:26 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	133267	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	573905	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	325827	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	588079	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	562008	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	590543	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.20	45	46172m	64.63050 ppb	100

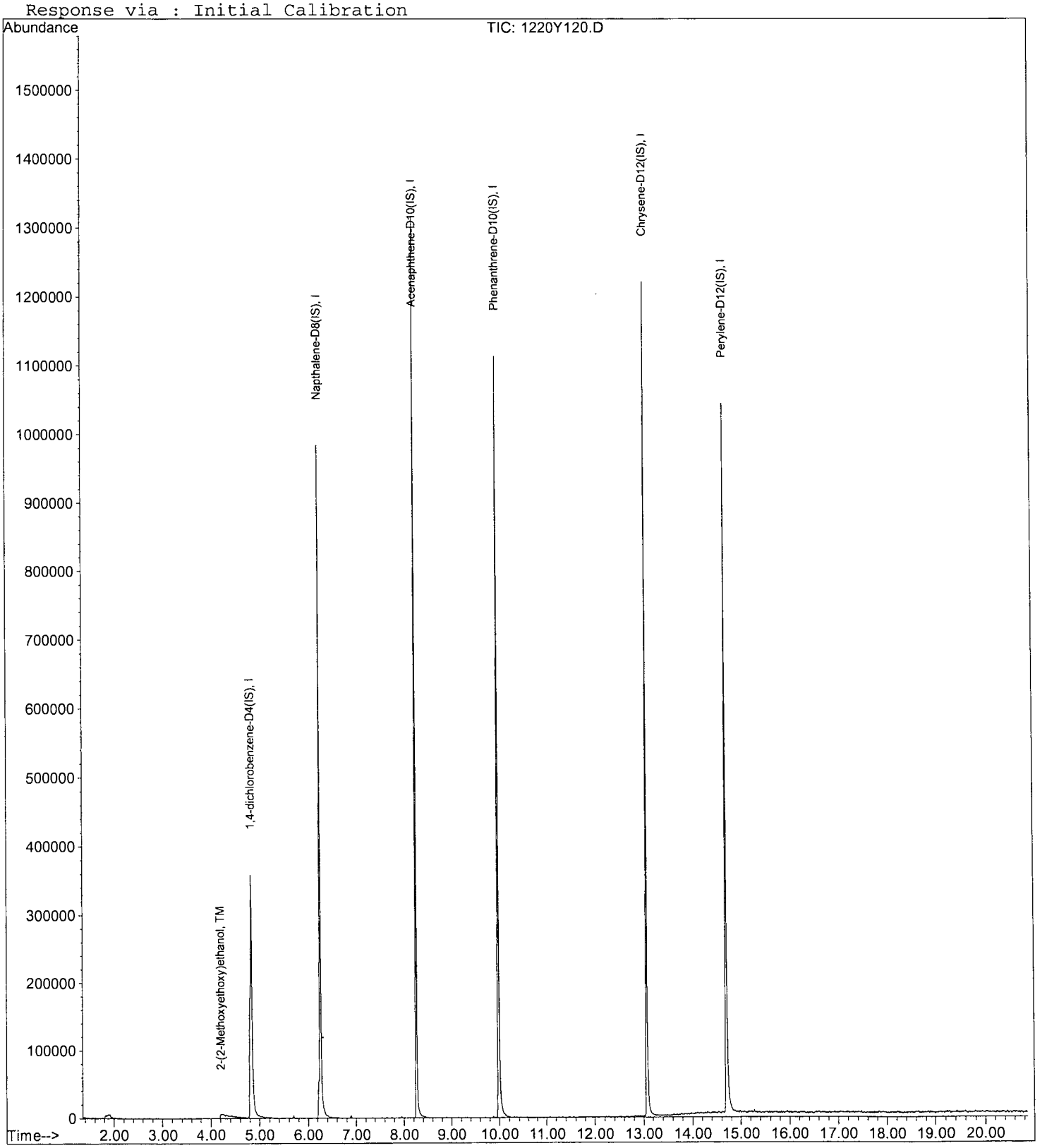
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:26 2017 Quant Results File: Y0GLYCOL.RES

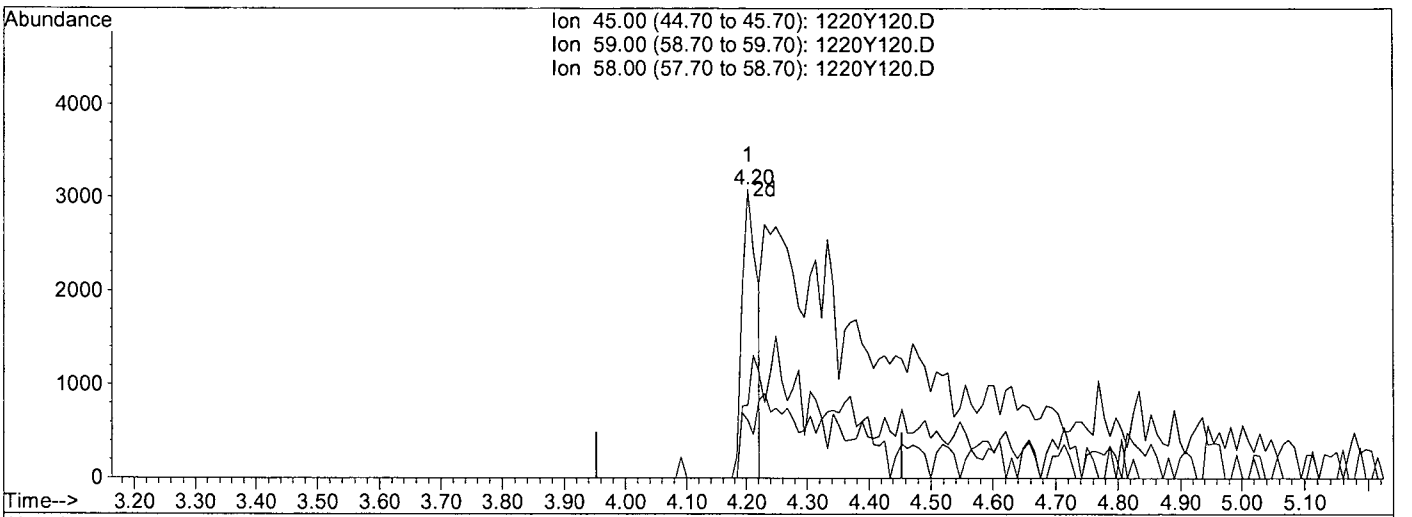
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

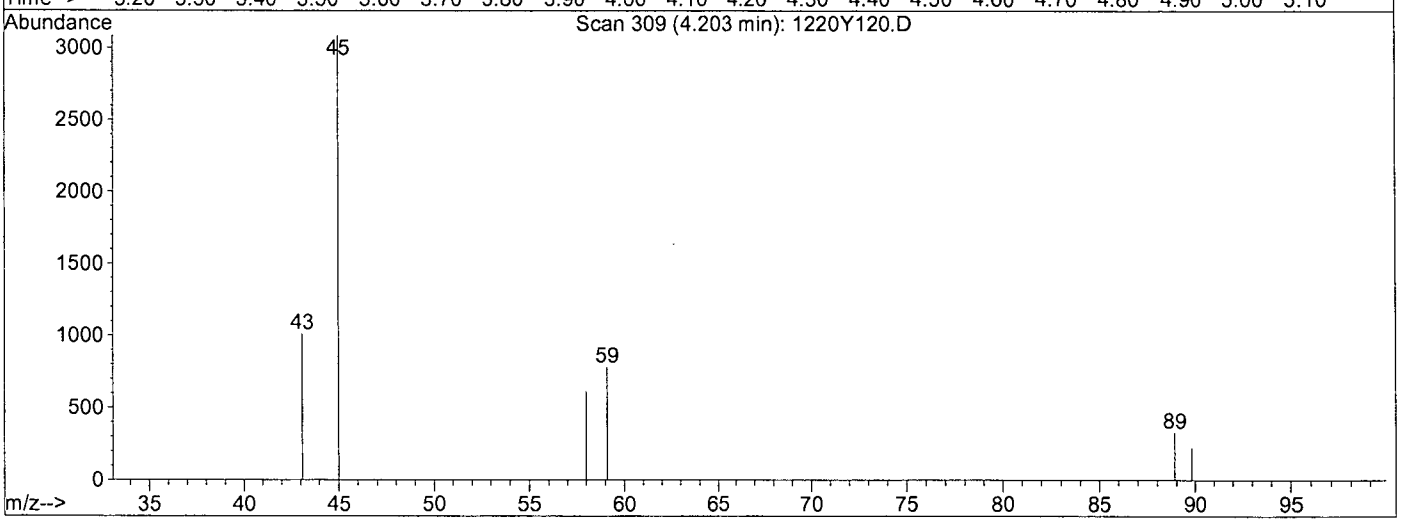


Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:24 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration





TIC: 1220Y120.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.20min 7.6484ppb

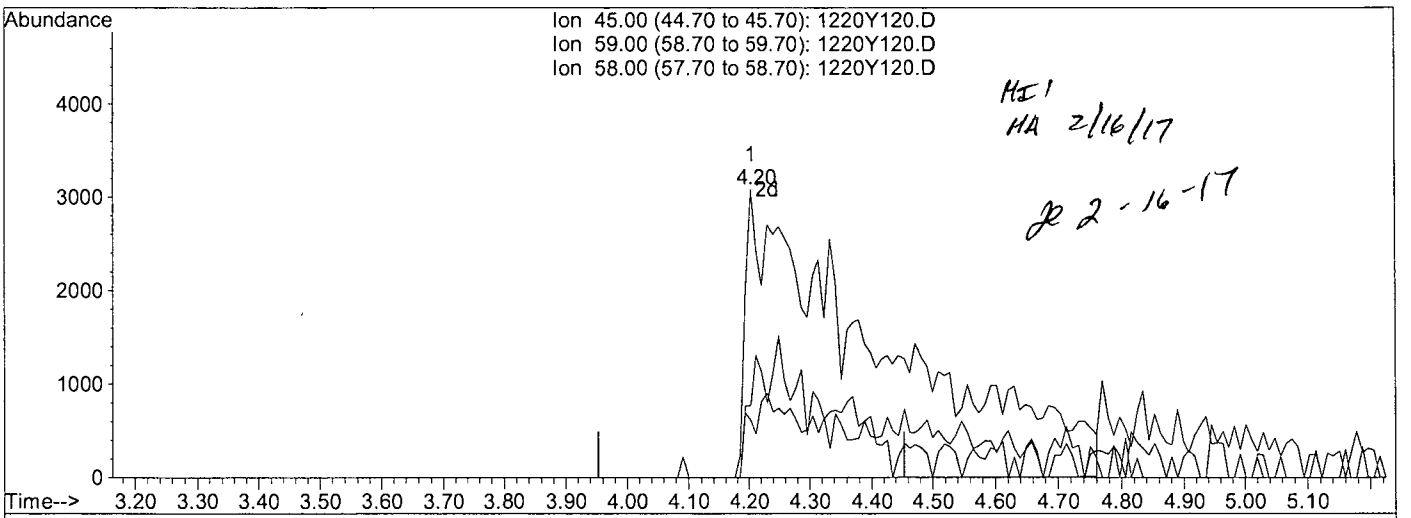
response 5464

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	25.19
58.00	19.90	19.90
0.00	0.00	0.00

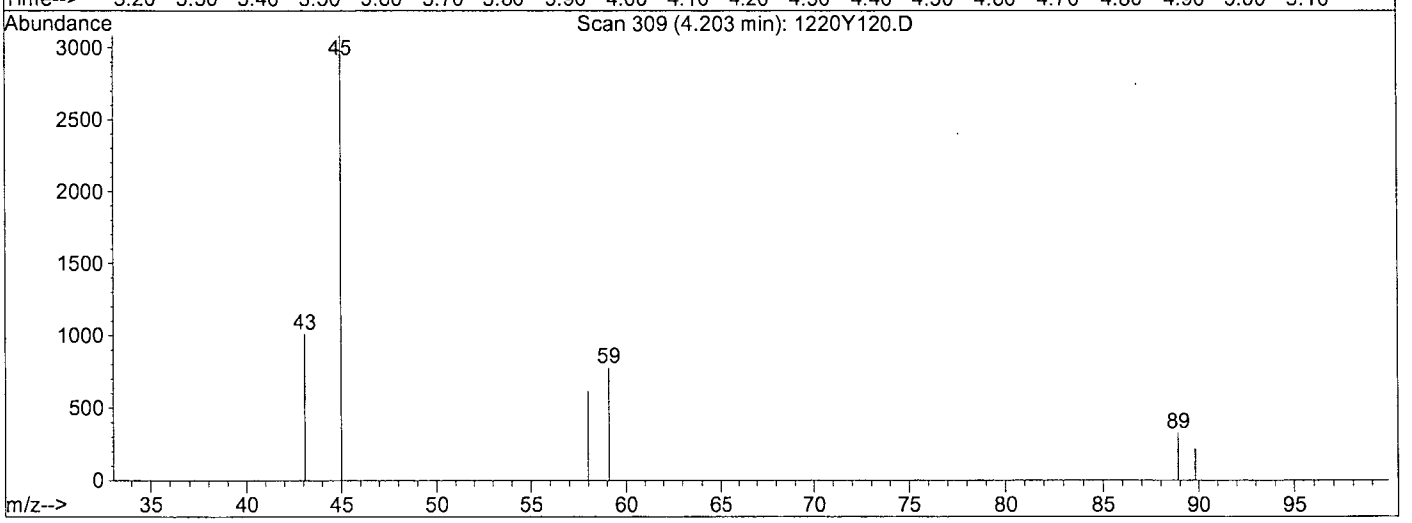
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y120.D Vial: 20
Acq On : 16 Feb 17 12:55 Operator: MA
Sample : 170214A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:26 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration



HI!
MA 2/16/17
JR 2-16-17



TIC: 1220Y120.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.20min 64.6305ppb m

response 46172

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	25.19
58.00	19.90	19.90
0.00	0.00	0.00

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170214W-49853 MS - 216264**
Batch ID: #87DME-170214A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	72.1	81.0	90.1	101	30-130	11.6	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	02/14/17	02/14/17
Analysis Date :	02/16/17	02/16/17
Instrument :	Yoda	Yoda
Run :	1220Y121	1220Y122
Initials :	MA	

Printed: 02/17/17 3:36:21 PM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y121.D Vial: 21
Acq On : 16 Feb 17 13:25 Operator: MA
Sample : AZ49853W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:27 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	127930	40.00000 ppb	0.01
3) Napthalene-D8(IS)	6.25	136	576880	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	328856	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	581924	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	542383	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	548315	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.24	45	49414m	72.05416 ppb	72

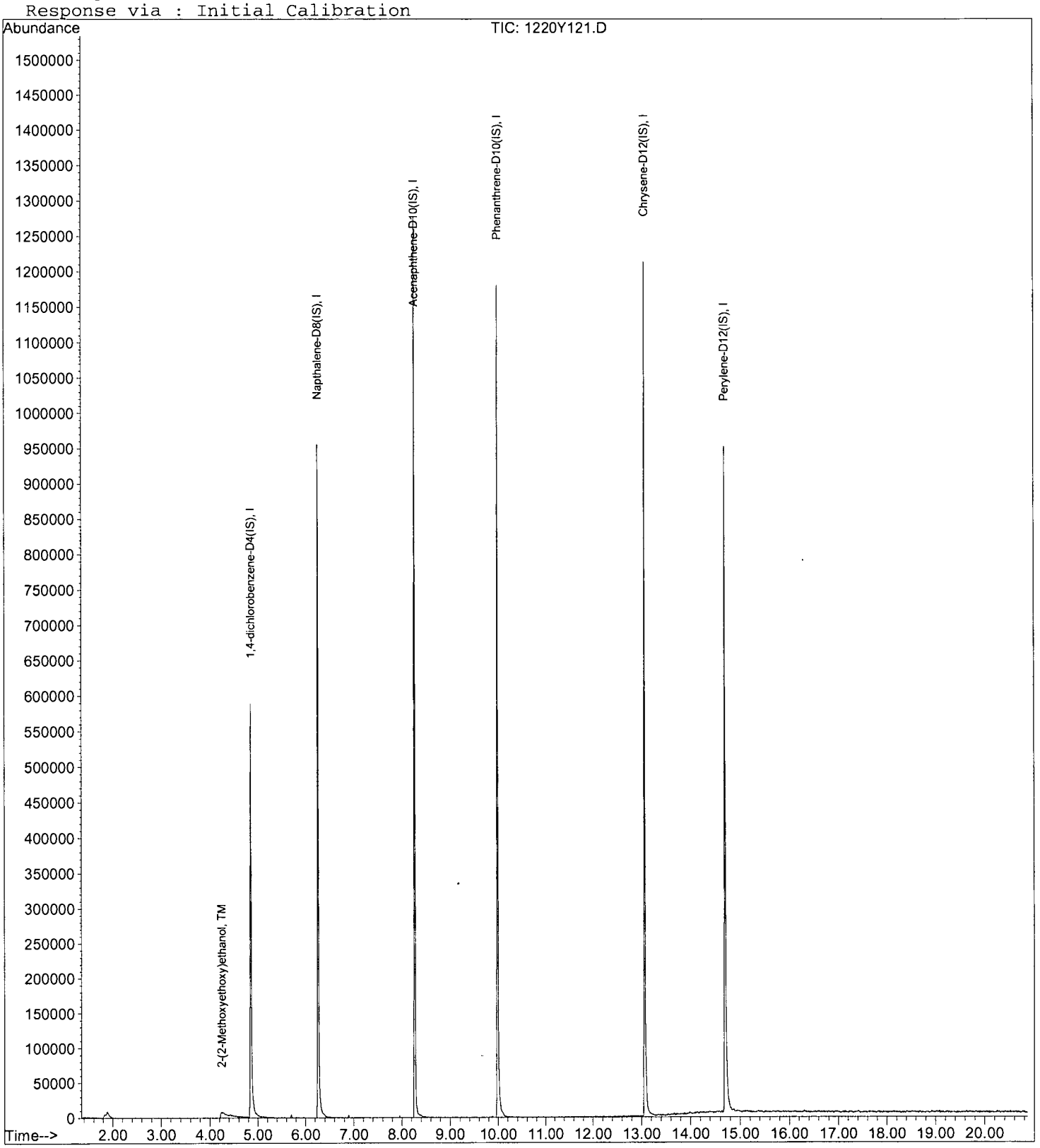
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y121.D Vial: 21
Acq On : 16 Feb 17 13:25 Operator: MA
Sample : AZ49853W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:27 2017 Quant Results File: Y0GLYCOL.RES

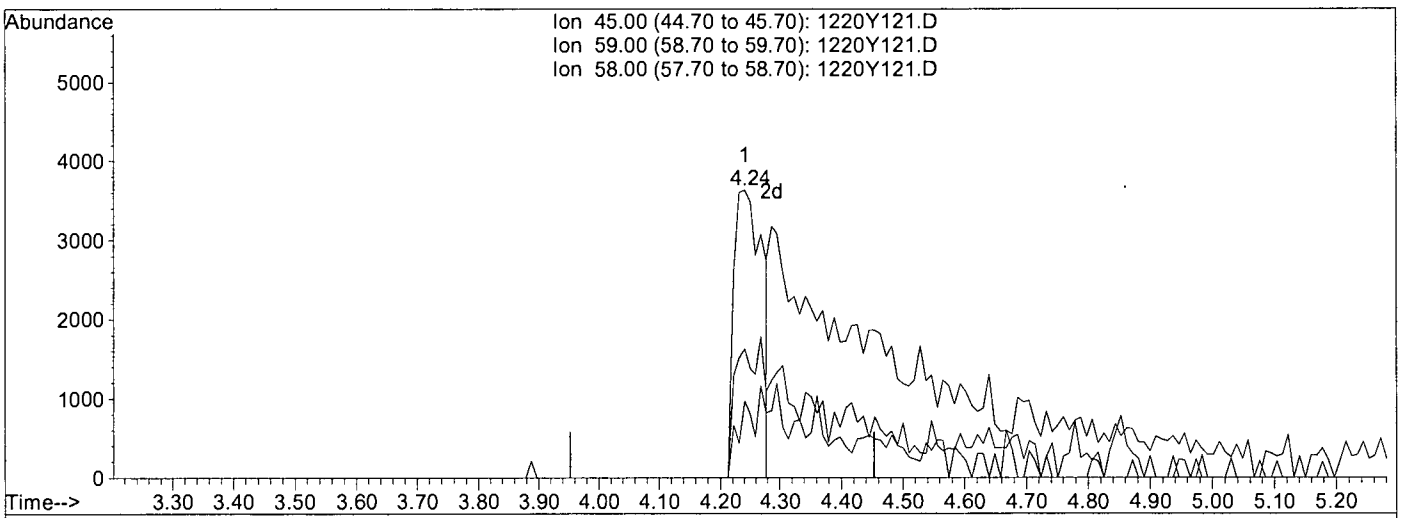
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

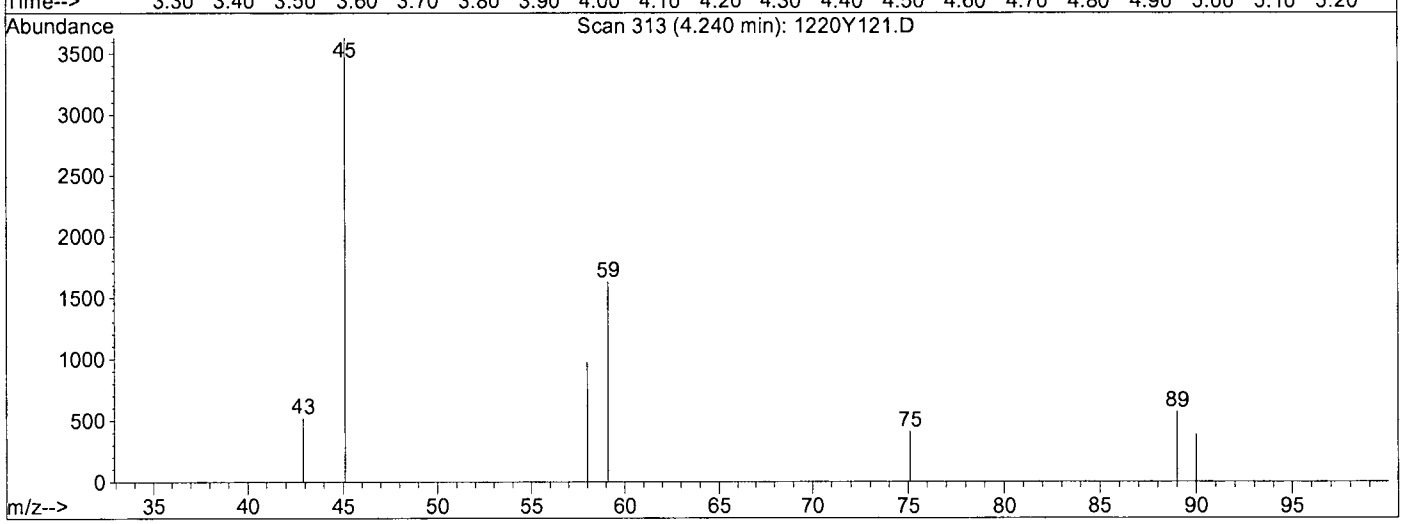


Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y121.D Vial: 21
Acq On : 16 Feb 17 13:25 Operator: MA
Sample : AZ49853W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:26 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration





TIC: 1220Y121.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.24min 17.8218ppb

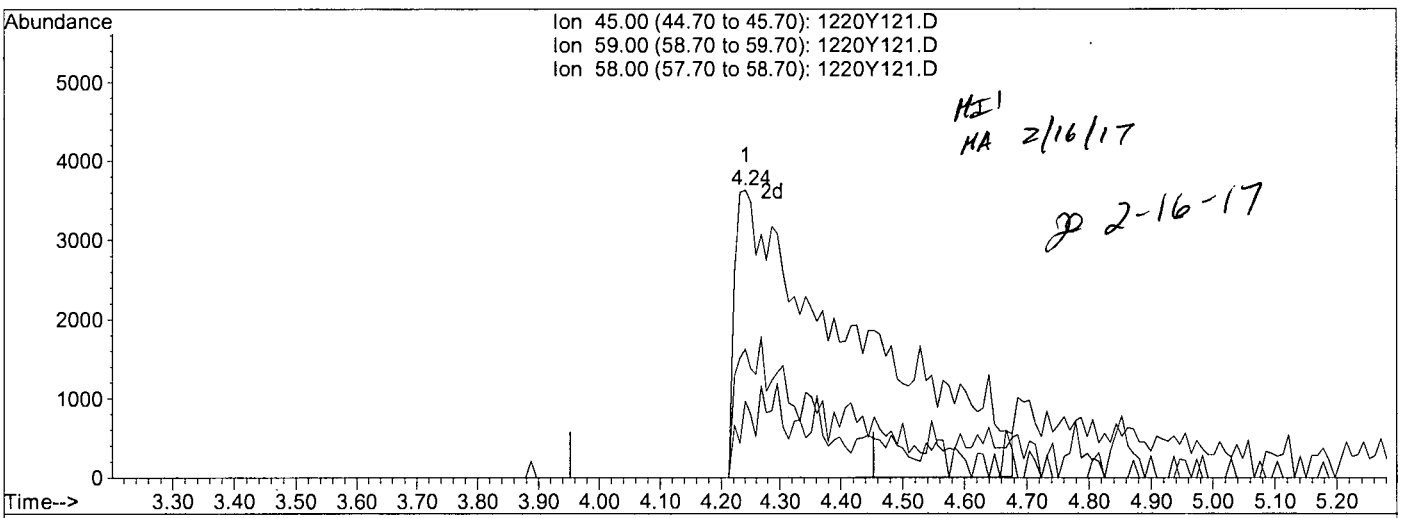
response 12222

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	44.77#
58.00	19.90	26.82#
0.00	0.00	0.00

Quantitation Report

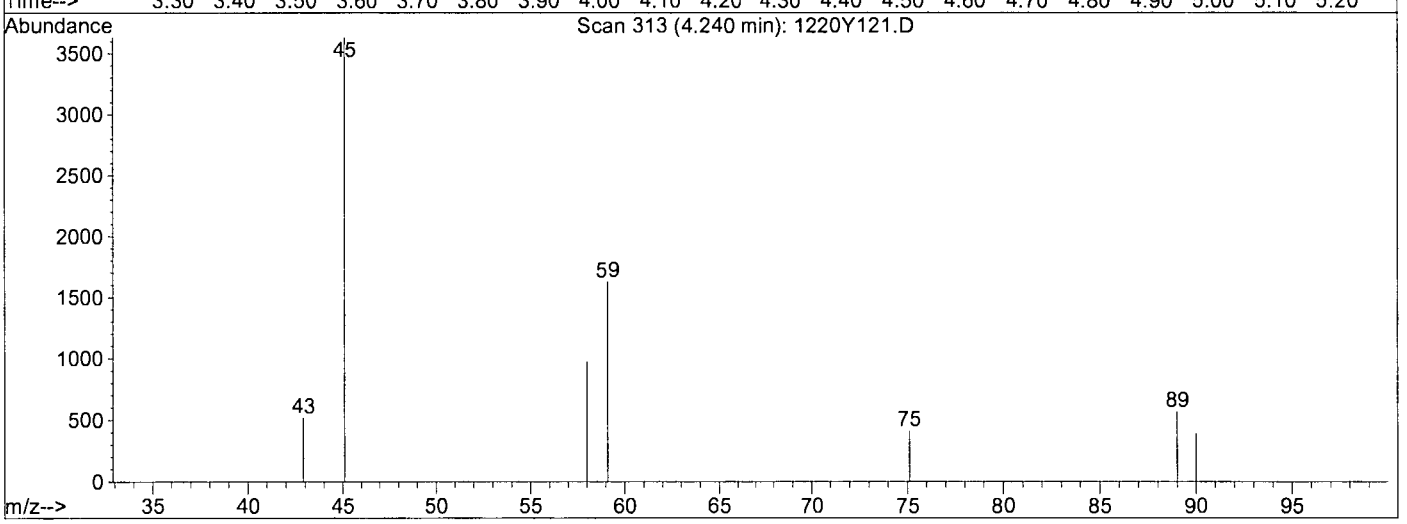
Data File : M:\YODA\DATA\Y161220G\1220Y121.D Vial: 21
Acq On : 16 Feb 17 13:25 Operator: MA
Sample : AZ49853W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:27 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration



HI
MA 2/16/17

JP 2-16-17



TIC: 1220Y121.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.24min 72.0542ppb m

response 49414

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	44.77#
58.00	19.90	26.82#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y122.D Vial: 22
Acq On : 16 Feb 17 13:55 Operator: MA
Sample : AZ49853W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:27 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.85	152	125913	40.00000 ppb	0.01
3) Napthalene-D8(IS)	6.26	136	564424	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	327094	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	611280	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	550197	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	756449	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.21	45	54672m	80.99828 ppb	68

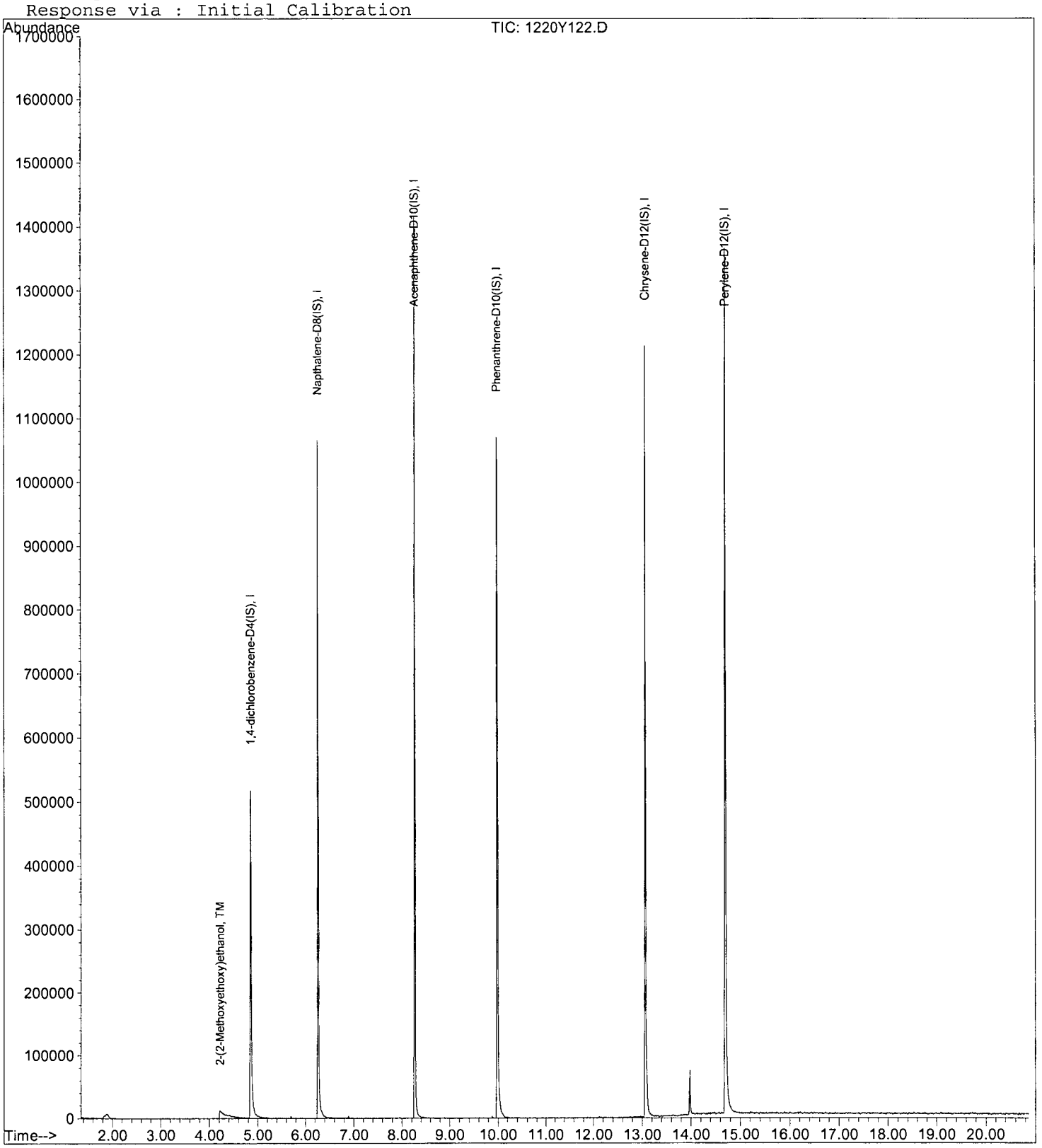
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y122.D Vial: 22
Acq On : 16 Feb 17 13:55 Operator: MA
Sample : AZ49853W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Feb 16 16:27 2017 Quant Results File: Y0GLYCOL.RES

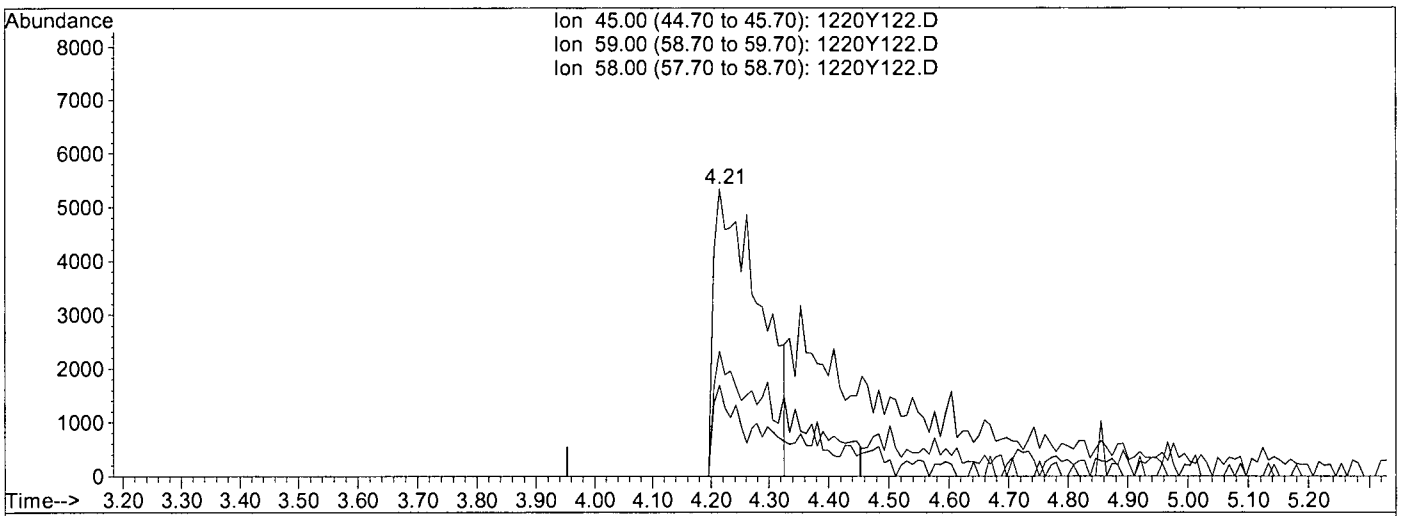
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration

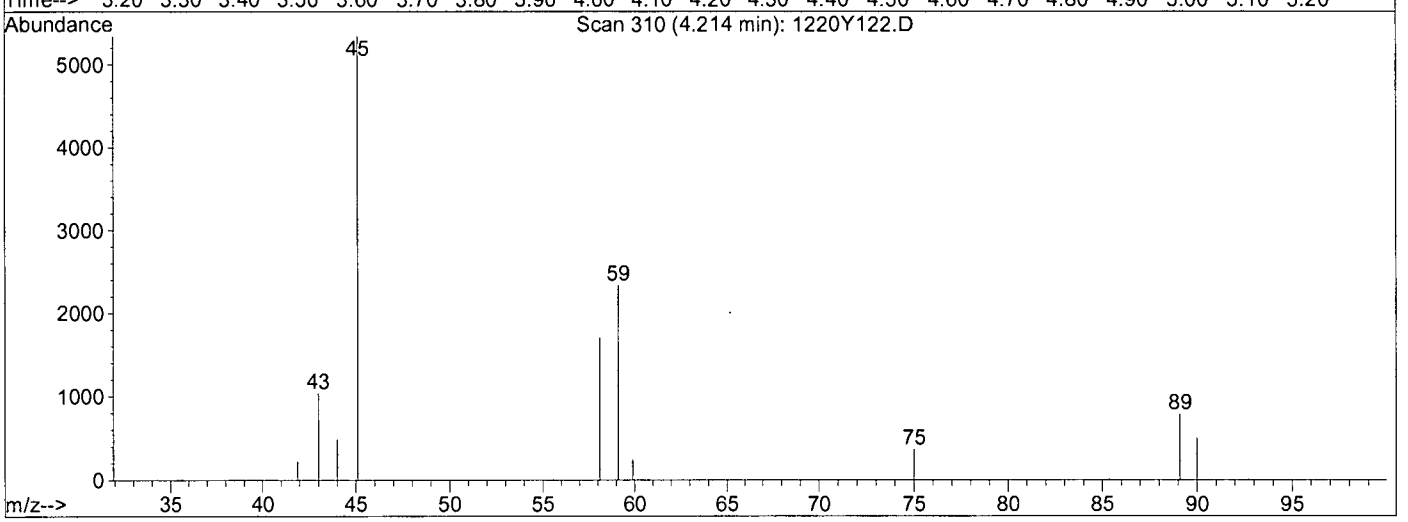


Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y122.D Vial: 22
Acq On : 16 Feb 17 13:55 Operator: MA
Sample : AZ49853W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:27 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration





TIC: 1220Y122.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.21min 43.2726ppb

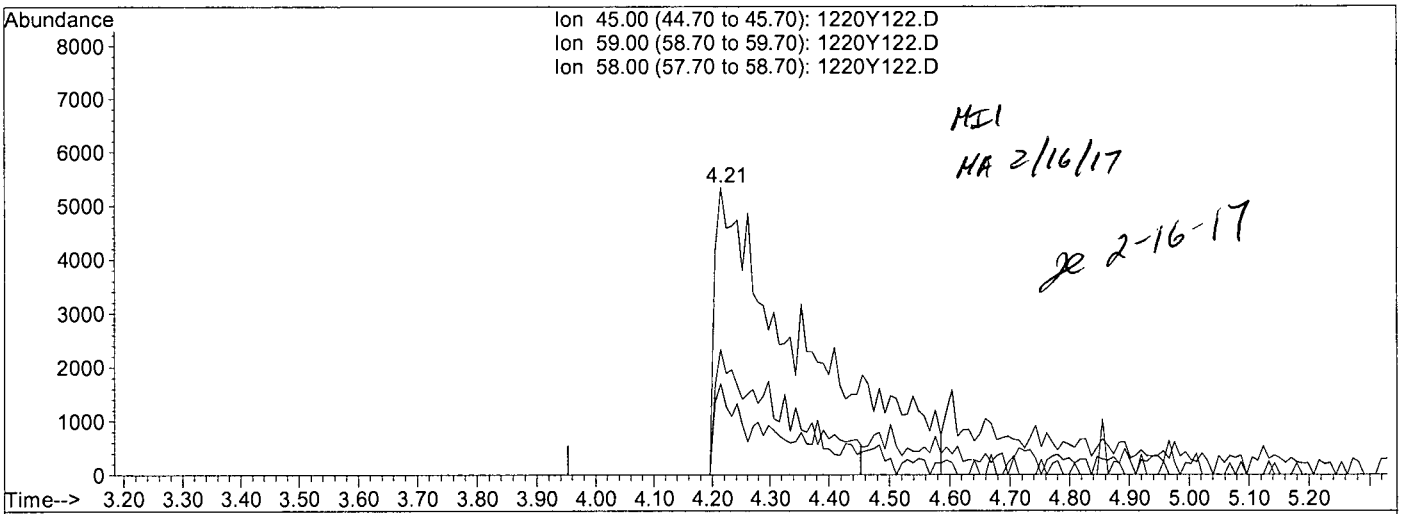
response 29208

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	43.68#
58.00	19.90	31.80#
0.00	0.00	0.00

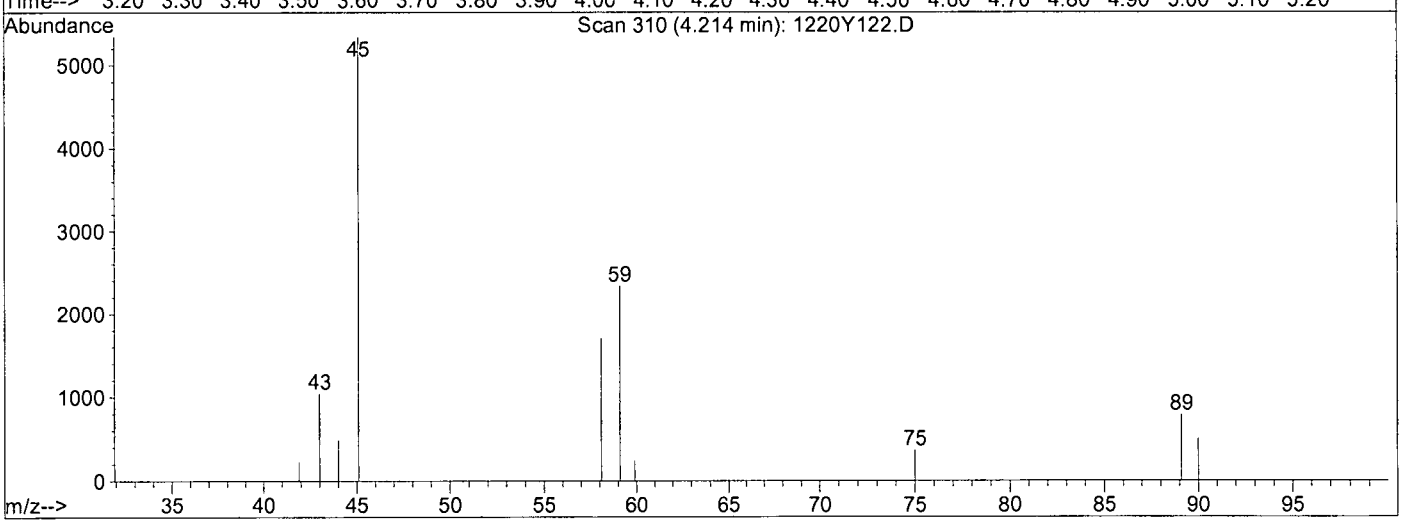
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y122.D Vial: 22
Acq On : 16 Feb 17 13:55 Operator: MA
Sample : AZ49853W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00
Quant Time: Feb 16 16:27 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 16:24:52 2017
Response via : Multiple Level Calibration



HI
HA 2/16/17
JR 2-16-17



TIC: 1220Y122.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.21min 80.9983ppb m

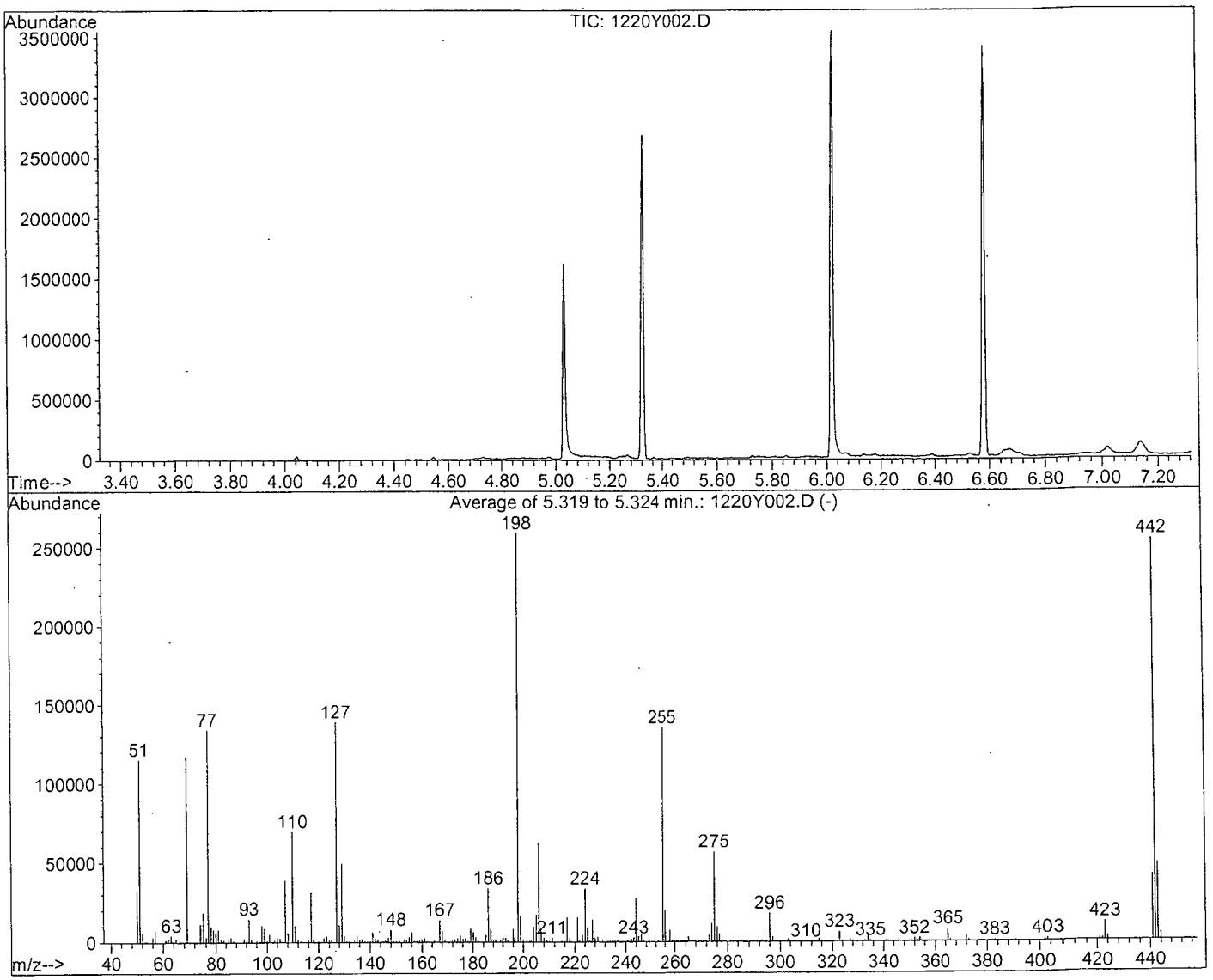
response 54672

Ion	Exp%	Act%
45.00	100	100
59.00	25.20	43.68#
58.00	19.90	31.80#
0.00	0.00	0.00

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D Vial: 2
Acq On : 20 Dec 16 9:12 Operator: MA
Sample : SV Tune 11/15/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

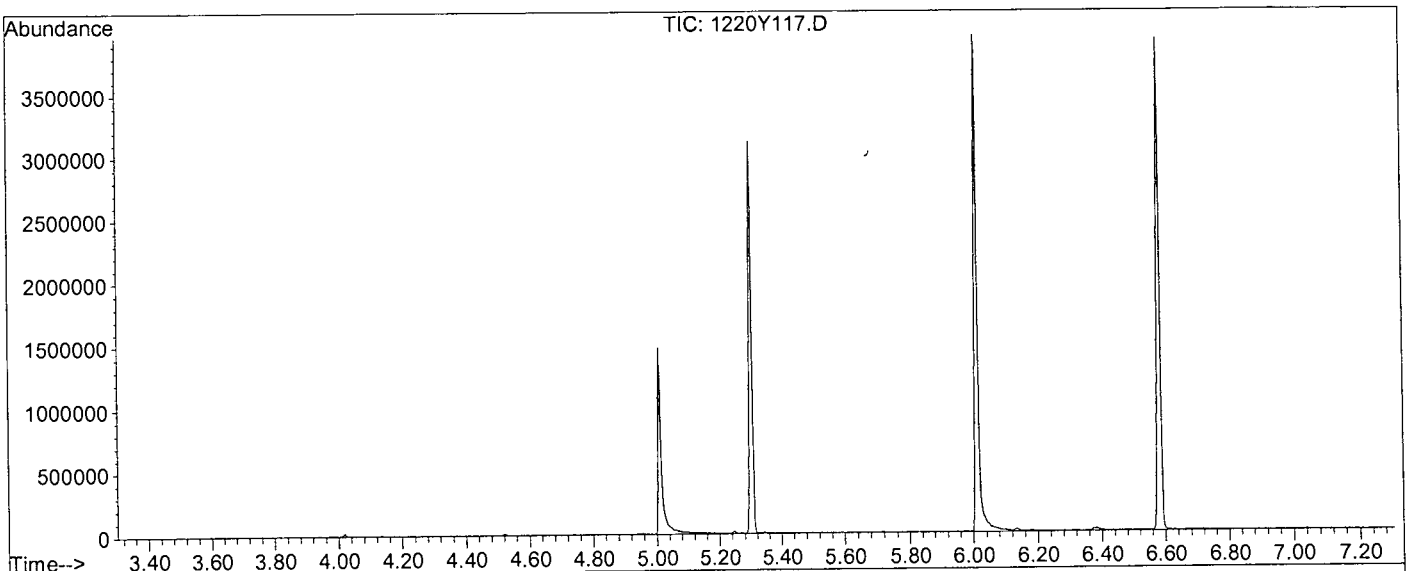
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

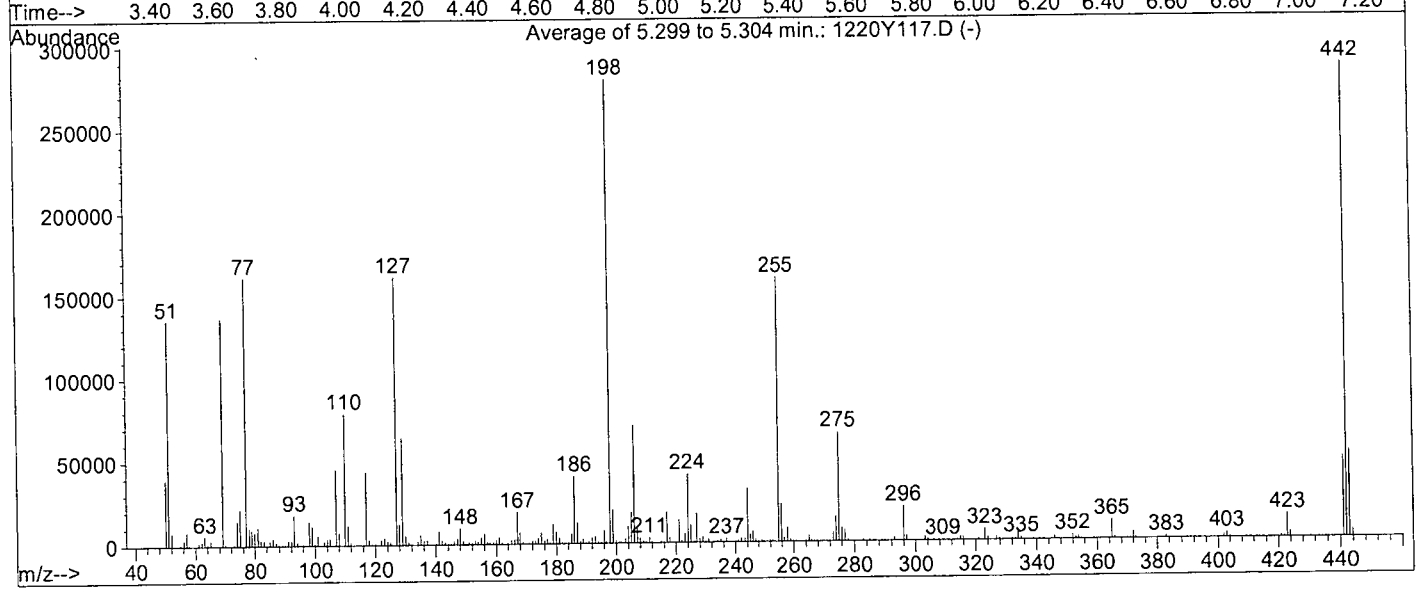
DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y117.D
Acq On : 16 Feb 17 10:56
Sample : SV Tune 11/15/16
Misc : water

Vial: 17
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.4	135362	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	819	PASS
127	198	40	60	57.6	161195	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	279787	PASS
199	198	5	9	7.1	19883	PASS
275	198	10	30	23.4	65507	PASS
365	198	1	100	4.0	11206	PASS
441	443	0.01	100	92.6	48384	PASS
442	198	50	150	102.5	286869	PASS
443	442	17	23	18.2	52277	PASS

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-366	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-366	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170214A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	02/14/17 11:00
Spiked ID 8			Ext. End Time:	02/14/17 17:00
			GC Requires Extract By:	02/24/17 0:00
			pH1	Water Bath Temp Criteria
			pH2	
			pH3	

Spiked By: KY **Date** 02/14/17 **Witnessed By:** CFM **Date** 02/14/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170214A Blk				NA	NA equip	500	2	7	02/14/17 11:00	
2	170214A LCS-1		0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	
3	AZ49853 MS-1	AZ49853W28	0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
4	AZ49853 MSD-1	AZ49853W28	0.040	1	NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
5	AZ49853	AZ49853W35			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
6	AZ49854	AZ49854W13			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
7	AZ49855	AZ49855W14			NA	NA equip	500	2	7	02/14/17 11:00	82150 RUSH 1 WEEK
8	AZ49857	AZ49857W11			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
9	AZ49860	AZ49860W10			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
10	AZ49862	AZ49862W13			NA	NA equip	500	2	7	02/14/17 11:00	82146 RUSH 1 WEEK
11	SS		0.0870	2	NA	NA equip	500	2	7	02/14/17 11:00	

RH 2/14/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	hc 574756
Di Water	2-14-17
Dichloromethane	56153
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	2/14/17
Time	5:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	DL
Sample Preparation	CFM,KY
Extraction	CFM,KY
Concentration	KY

Modified	02/14/17 11:55:16 AM

Reviewed By: RH **Date** 2/14/17

02/14/17 5:02:03 PM Ext_ID 53974

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	17	1220Y117.D	1	SV Tune 11/15/16	water	16 Feb 17 10:56
12	18	1220Y118.D	1	500ug/ml DEG 02/14/17	water	16 Feb 17 11:50
13	19	1220Y119.D	1	170214A BLK 2/500	water	16 Feb 17 12:25
14	20	1220Y120.D	1	170214A LCS-1 2/500	water	16 Feb 17 12:55
15	21	1220Y121.D	1	AZ49853W28 MS-1 2/500	water	16 Feb 17 13:25
16	22	1220Y122.D	1	AZ49853W28 MSD-1 2/500	water	16 Feb 17 13:55
17	23	1220Y123.D	1	AZ49853W35 2/500	water	16 Feb 17 14:25
18	24	1220Y124.D	1	AZ49854W13 2/500	water	16 Feb 17 14:55
19	25	1220Y125.D	1	AZ49855W14 2/500	water	16 Feb 17 15:25
20	30	1220Y130.D	1	500ug/ml DEG 02/14/17	water	16 Feb 17 17:39

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	2/14/17	2/14/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	2/14/17	2/14/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	2/14/17	2/14/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	2/14/17	2/14/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	2/14/17	2/14/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	2/14/17	2/14/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	2/14/17	2/14/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	2/14/17	2/14/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	2/14/17	2/14/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	2/14/17	2/14/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	2/14/17	2/14/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:22:34 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	2/14/17	2/14/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	2/14/17	2/14/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	2/14/17	2/14/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	2/14/17	2/14/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/14/17	2/14/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	2/14/17	2/14/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	2/14/17	2/14/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	2/14/17	2/14/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	2/14/17	2/14/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	2/14/17	2/14/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	2/14/17	2/14/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	2/14/17	2/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:22:34 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	2/14/17	2/14/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	2/14/17	2/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	107	81-118			%	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	2/14/17	2/14/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	2/14/17	2/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:22:34 AM

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82150

Case No: 82150 Date Analyzed: 2/14/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214AM-LCS	Lab Control Spike	81-118	105		85-114	106	
170214AM-BLK	Blank	81-118	107		85-114	101	
AZ49852	ERH224	81-118	103		85-114	99.8	
AZ49853	ERH225	81-118	102		85-114	98.3	
AZ49854	ERH247	81-118	101		85-114	100	
AZ49855	ERH248	81-118	103		85-114	97.7	
AZ49853-MS	Matrix Spike	81-118	109		85-114	104	
AZ49853-MSD	Matrix SpikeD	81-118	105		85-114	104	

Comments: Batch: #86CDO-170214A

Printed: 2/16/17 9:22:38 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82150

Case No: 82150 Date Analyzed: 2/14/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214AM-LCS	Lab Control Spike	80-119	102		89-112	100	
170214AM-BLK	Blank	80-119	104		89-112	97.5	
AZ49852	ERH224	80-119	103		89-112	99.6	
AZ49853	ERH225	80-119	105		89-112	101	
AZ49854	ERH247	80-119	103		89-112	101	
AZ49855	ERH248	80-119	104		89-112	101	
AZ49853-MS	Matrix Spike	80-119	104		89-112	99.6	
AZ49853-MSD	Matrix SpikeD	80-119	104		89-112	100	

Comments: Batch: #86CDO-170214A

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.5	105	78-124
1,1,1-TRICHLOROETHANE	10.00	10.9	109	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	9.94	99.4	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.9	109	70-136
1,1,2-TRICHLOROETHANE	10.00	10.4	104	80-119
1,1-DICHLOROETHANE	10.00	10.5	105	77-125
1,1-DICHLOROETHENE	10.00	10.4	104	71-131
1,1-DICHLOROPROPENE	10.00	10.9	109	79-125
1,2,3-TRICHLOROBENZENE	10.00	9.08	90.8	69-129
1,2,3-TRICHLOROPROPANE	10.00	9.64	96.4	73-122
1,2,4-TRICHLOROBENZENE	10.00	9.66	96.6	69-130
1,2,4-TRIMETHYLBENZENE	10.00	10.5	105	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	9.81	98.1	62-128
1,2-DIBROMOETHANE	10.00	10.7	107	77-121
1,2-DICHLOROBENZENE	10.00	10.1	101	80-119
1,2-DICHLOROETHANE	10.00	10.3	103	73-128
1,2-DICHLOROPROPANE	10.00	10.2	102	78-122
1,3,5-TRIMETHYLBENZENE	10.00	10.6	106	82-120
1,3-DICHLOROBENZENE	10.00	10.1	101	80-119
1,3-DICHLOROPROPANE	10.00	10.2	102	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	21.2	106	77-123
1,4-DICHLOROBENZENE	10.00	9.82	98.2	79-118
2,2-DICHLOROPROPANE	10.00	11.2	112	60-139
2-BUTANONE	10.00	10.5	105	56-143
2-CHLOROTOLUENE	10.00	10.1	101	79-122
2-HEXANONE	10.00	10.3	103	57-139
4-CHLOROTOLUENE	10.00	10.3	103	78-122
4-METHYL-2-PENTANONE	10.00	10.2	102	67-130
ACETONE	10.00	9.20	92.0	39-160
BENZENE	10.00	10.6	106	79-120
BROMOBENZENE	10.00	10.2	102	80-120

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Comments:

Printed: 2/16/17 9:22:45 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	10.2	102	78-123
BROMODICHLOROMETHANE	10.00	10.7	107	79-125
BROMOFORM	10.00	10.6	106	66-130
BROMOMETHANE	10.00	8.27	82.7	53-141
CARBON DISULFIDE	10.00	9.92	99.2	64-133
CARBON TETRACHLORIDE	10.00	10.8	108	72-136
CHLOROBENZENE	10.00	10.2	102	82-118
CHLOROETHANE	10.00	9.39	93.9	60-138
CHLOROFORM	10.00	10.5	105	79-124
CHLOROMETHANE	10.00	8.45	84.5	50-139
CIS-1,2-DICHLOROETHENE	10.00	10.5	105	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.5	105	75-124
DI-ISOPROPYL ETHER	10.00	9.81	98.1	67-128
DIBROMOCHLOROMETHANE	10.00	10.3	103	74-126
DIBROMOMETHANE	10.00	10.6	106	79-123
DICHLORODIFLUOROMETHANE	10.00	9.67	96.7	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	9.98	99.8	70-127
ETHYLBENZENE	10.00	10.6	106	79-121
HEXACHLOROBUTADIENE	10.00	10.7	107	66-134
ISOPROPYLBENZENE	10.00	10.4	104	72-131
M,P-XYLENE	20.0	21.5	108	80-121
METHYL TERT-BUTYL ETHER	10.00	10.1	101	71-124
METHYLENE CHLORIDE	10.00	10.1	101	74-124
N-BUTYLBENZENE	10.00	10.8	108	75-128
N-PROPYLBENZENE	10.00	10.5	105	76-126
NAPHTHALENE	10.00	8.39	83.9	61-128
O-XYLENE	10.00	10.9	109	78-122
P-ISOPROPYLTOLUENE	10.00	10.9	109	77-127
SEC-BUTYLBENZENE	10.00	10.5	105	77-126
STYRENE	10.00	10.8	108	78-123
TERT-AMYL METHYL ETHER	10.00	10.3	103	68-128

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Comments: _____

Printed: 2/16/17 9:22:45 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	135	108	68-129
TERT-BUTYLBENZENE	10.00	10.4	104	78-124
TETRACHLOROETHENE	10.00	11.1	111	74-129
TOLUENE	10.00	10.5	105	80-121
TRANS-1,2-DICHLOROETHENE	10.00	10.7	107	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	10.7	107	73-127
TRICHLOROETHENE	10.00	10.5	105	79-123
TRICHLOROFLUOROMETHANE	10.00	10.1	101	65-141
VINYL CHLORIDE	10.00	8.96	89.6	58-137
XYLENES (TOTAL)	30.0	32.3	108	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.2	105	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	26.4	106	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.1	100	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Printed: 2/16/17 9:22:45 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	9.43	9.22	94.3	92.2	78-124	2.3	20
1,1,1-TRICHLOROETHANE	10.00	ND	9.68	9.74	96.8	97.4	74-131	0.62	20
1,1,2,2-TETRACHLOROETHANE	10.00	ND	9.94	9.97	99.4	99.7	71-121	0.30	20
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	ND	9.60	9.75	96.0	97.5	70-136	1.6	20
1,1,2-TRICHLOROETHANE	10.00	ND	9.92	10.1	99.2	101	80-119	1.8	20
1,1-DICHLOROETHANE	10.00	ND	9.34	9.43	93.4	94.3	77-125	0.96	20
1,1-DICHLOROETHENE	10.00	ND	9.44	9.28	94.4	92.8	71-131	1.7	20
1,1-DICHLOROPROPENE	10.00	ND	9.58	9.44	95.8	94.4	79-125	1.5	20
1,2,3-TRICHLOROBENZENE	10.00	ND	10.3	9.78	103	97.8	69-129	5.2	20
1,2,3-TRICHLOROPROPANE	10.00	ND	9.29	9.50	92.9	95.0	73-122	2.2	20
1,2,4-TRICHLOROBENZENE	10.00	ND	10.1	9.71	101	97.1	69-130	3.9	20
1,2,4-TRIMETHYLBENZENE	10.00	ND	9.44	9.45	94.4	94.5	76-124	0.11	20
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	9.14	9.15	91.4	91.5	62-128	0.11	20
1,2-DIBROMOETHANE	10.00	ND	9.71	9.89	97.1	98.9	77-121	1.8	20
1,2-DICHLOROBENZENE	10.00	ND	9.53	9.51	95.3	95.1	80-119	0.21	20
1,2-DICHLOROETHANE	10.00	ND	9.81	10.1	98.1	101	73-128	2.9	20
1,2-DICHLOROPROPANE	10.00	ND	9.30	9.23	93.0	92.3	78-122	0.76	20
1,3,5-TRIMETHYLBENZENE	10.00	ND	9.56	9.27	95.6	92.7	82-120	3.1	20
1,3-DICHLOROBENZENE	10.00	ND	9.31	9.41	93.1	94.1	80-119	1.1	20
1,3-DICHLOROPROPANE	10.00	ND	9.52	9.48	95.2	94.8	80-119	0.42	20
1,3-DICHLOROPROPENE, TOTAL	20.0	ND	19.4	19.3	97.0	96.5	77-123	0.52	20
1,4-DICHLOROBENZENE	10.00	ND	9.14	9.03	91.4	90.3	79-118	1.2	20
2,2-DICHLOROPROPANE	10.00	ND	9.69	9.48	96.9	94.8	60-139	2.2	20
2-BUTANONE	10.00	ND	7.05	10.3	70.5	103	56-143	37.5 #	20
2-CHLOROTOLUENE	10.00	ND	9.26	9.24	92.6	92.4	79-122	0.22	20
2-HEXANONE	10.00	ND	9.91	9.98	99.1	99.8	57-139	0.70	20
4-CHLOROTOLUENE	10.00	ND	9.31	9.20	93.1	92.0	78-122	1.2	20
4-METHYL-2-PENTANONE	10.00	ND	10.3	10.8	103	108	67-130	4.7	20
ACETONE	10.00	ND	10.6	10.3	106	103	39-160	2.9	20
BENZENE	10.00	ND	9.47	9.43	94.7	94.3	79-120	0.42	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Comments:

Printed: 2/16/17 9:22:52 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BROMOBENZENE	10.00	ND	9.41	9.27	94.1	92.7	80-120	1.5	20
BROMOCHLOROMETHANE	10.00	ND	9.39	9.59	93.9	95.9	78-123	2.1	20
BROMODICHLOROMETHANE	10.00	ND	9.71	9.63	97.1	96.3	79-125	0.83	20
BROMOFORM	10.00	ND	9.45	9.55	94.5	95.5	66-130	1.1	20
BROMOMETHANE	10.00	ND	7.40	7.34	74.0	73.4	53-141	0.81	20
CARBON DISULFIDE	10.00	ND	8.63	8.51	86.3	85.1	64-133	1.4	20
CARBON TETRACHLORIDE	10.00	ND	9.63	9.87	96.3	98.7	72-136	2.5	20
CHLOROBENZENE	10.00	ND	9.23	9.12	92.3	91.2	82-118	1.2	20
CHLOROETHANE	10.00	ND	8.49	8.80	84.9	88.0	60-138	3.6	20
CHLOROFORM	10.00	ND	9.61	9.66	96.1	96.6	79-124	0.52	20
CHLOROMETHANE	10.00	ND	7.35	7.78	73.5	77.8	50-139	5.7	20
CIS-1,2-DICHLOROETHENE	10.00	ND	9.56	9.48	95.6	94.8	78-123	0.84	20
CIS-1,3-DICHLOROPROPENE	10.00	ND	9.45	9.45	94.5	94.5	75-124	0.0	20
DI-ISOPROPYL ETHER	10.00	ND	9.11	8.97	91.1	89.7	67-128	1.5	20
DIBROMOCHLOROMETHANE	10.00	ND	9.60	9.44	96.0	94.4	74-126	1.7	20
DIBROMOMETHANE	10.00	ND	9.34	9.68	93.4	96.8	79-123	3.6	20
DICHLORODIFLUOROMETHANE	10.00	ND	8.29	8.71	82.9	87.1	32-152	4.9	20
ETHYL TERTIARY BUTYL ETHER	10.00	ND	10.1	9.96	101	99.6	70-127	1.4	20
ETHYLBENZENE	10.00	ND	9.44	9.30	94.4	93.0	79-121	1.5	20
HEXACHLOROBUTADIENE	10.00	ND	9.60	9.44	96.0	94.4	66-134	1.7	20
ISOPROPYLBENZENE	10.00	ND	9.33	9.15	93.3	91.5	72-131	1.9	20
M,P-XYLENE	20.0	ND	18.8	18.8	94.0	94.0	80-121	0.0	20
METHYL TERT-BUTYL ETHER	10.00	ND	9.62	9.87	96.2	98.7	71-124	2.6	20
METHYLENE CHLORIDE	10.00	ND	8.97	9.17	89.7	91.7	74-124	2.2	20
N-BUTYLBENZENE	10.00	ND	9.63	9.63	96.3	96.3	75-128	0.0	20
N-PROPYLBENZENE	10.00	ND	9.32	9.40	93.2	94.0	76-126	0.85	20
NAPHTHALENE	10.00	ND	9.70	9.67	97.0	96.7	61-128	0.31	20
O-XYLENE	10.00	ND	9.51	9.60	95.1	96.0	78-122	0.94	20
P-ISOPROPYLTOLUENE	10.00	ND	9.65	9.61	96.5	96.1	77-127	0.42	20
SEC-BUTYLBENZENE	10.00	ND	9.46	9.39	94.6	93.9	77-126	0.74	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Comments:

Printed: 2/16/17 9:22:52 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
STYRENE	10.00	ND	9.59	9.62	95.9	96.2	78-123	0.31	20
TERT-AMYL METHYL ETHER	10.00	ND	10.3	10.1	103	101	68-128	2.0	20
TERT-BUTYL ALCOHOL	125	ND	167	168	134 #	134 #	68-129	0.60	20
TERT-BUTYLBENZENE	10.00	ND	9.26	9.30	92.6	93.0	78-124	0.43	20
TETRACHLOROETHENE	10.00	ND	9.41	9.54	94.1	95.4	74-129	1.4	20
TOLUENE	10.00	ND	9.47	9.48	94.7	94.8	80-121	0.11	20
TRANS-1,2-DICHLOROETHENE	10.00	ND	9.44	9.58	94.4	95.8	75-124	1.5	20
TRANS-1,3-DICHLOROPROPENE	10.00	ND	9.95	9.89	99.5	98.9	73-127	0.60	20
TRICHLOROETHENE	10.00	ND	9.24	9.05	92.4	90.5	79-123	2.1	20
TRICHLOROFLUOROMETHANE	10.00	ND	9.67	9.69	96.7	96.9	65-141	0.21	20
VINYL CHLORIDE	10.00	ND	8.10	8.33	81.0	83.3	58-137	2.8	20
XYLENES (TOTAL)	30.0	ND	28.3	28.4	94.3	94.7	79-121	0.35	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	27.2	26.2	109	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.0	26.0	104	104	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.9	26.1	104	104	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	24.9	25.0	99.6	100	89-112		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Printed: 2/16/17 9:22:52 AM
APPL MSD SCII

EPA 8260C

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82150
Case No: 82150
Date Analyzed: 2/14/17
Matrix: WATER
Instrument: Max
Blank ID: 170214AM-BLK
Time Analyzed: 1434

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214AM-LCS	Lab Control Spike	0214M02	2/14/17 1047
170214AM-BLK	Blank	0214M10	2/14/17 1434
AZ49852	ERH224	0214M22	2/14/17 2014
AZ49853	ERH225	0214M23	2/14/17 2043
AZ49854	ERH247	0214M24	2/14/17 2111
AZ49855	ERH248	0214M25	2/14/17 2139
170214AM-MS	Matrix Spike	0215M20	2/15/17 1815
170214AM-MSD	Matrix SpikeD	0215M21	2/15/17 1843

Comments: Batch: #86CDO-170214A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: 5ng BFB STD 12/15/16

SDG No: 82150
Date Analyzed: 1/27/17
Instrument: Max
Time Analyzed: 9:35

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 01/2	0127M04.D	1/27/17 11:24
2		0.5ug/L VOC STD 01/2	0127M05.D	1/27/17 11:53
3		1.0ug/L VOC STD 01/2	0127M06.D	1/27/17 12:21
4		2.0ug/L VOC STD 01/2	0127M07.D	1/27/17 12:49
5		5.0ug/L VOC STD 01/2	0127M08.D	1/27/17 13:17
6		10ug/L VOC STD 01/27	0127M09.D	1/27/17 13:45
7		20ug/L VOC STD 01/27	0127M10.D	1/27/17 14:14
8		40ug/L VOC STD 01/27	0127M11.D	1/27/17 14:42
9		100ug/L VOC STD 01/2	0127M12.D	1/27/17 15:10
10		(SS) 10ug/L VOC STD	0127M16.D	1/27/17 17:03
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.8
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.1
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	100.0
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	97.4
177	5 - 9% of mass 176	5.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82150
Matrix: Water
ID: 5ng BFB STD 1/22/17

SDG No: 82150
Date Analyzed: 2/14/17
Instrument: Max
Time Analyzed: 9:54

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170214A CCV/LCS 10ug	0214M02.D	2/14/17 10:47
2	Blank	170214A BLK1WM	0214M10.D	2/14/17 14:34
3	ERH224	AZ49852W01	0214M22.D	2/14/17 20:14
4	ERH225	AZ49853W01	0214M23.D	2/14/17 20:43
5	ERH247	AZ49854W01	0214M24.D	2/14/17 21:11
6	ERH248	AZ49855W01	0214M25.D	2/14/17 21:39
7		Ending CCV 8260 10ug	0214M26.D	2/14/17 22:07
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.1
75	30 - 60% of mass 95	45.5
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.7
174	50 - 100% of mass 95	98.8
175	5 - 9% of mass 174	8.2
176	95.06 - 101% of mass 174	99.6
177	5 - 9% of mass 176	7.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~0215M03.D~~ 82150
Matrix: Water np 2-28-17
ID: 5ng BFB STD 1/22/17

np 2-28-17
SDG No: ~~Max~~ 82150
Date Analyzed: 2/15/17
Instrument: Max
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	170215A CCV/LCS 10ug	0215M04.D	2/15/17 10:40
2		AZ49853W234 MS-1WM 1	0215M20.D	2/15/17 18:15
3		AZ49853W234 MSD-1WM	0215M21.D	2/15/17 18:43
4		Ending CCV 8260 10ug	0215M28.D	2/15/17 22:02
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.9
75	30 - 60% of mass 95	44.5
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.0
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	93.9
175	5 - 9% of mass 174	8.2
176	95.06 - 101% of mass 174	96.0
177	5 - 9% of mass 176	8.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82150

Lab File ID (Standard): 0127M09.D Date Analyzed: 01/27/17

Instrument ID: Max Time Analyzed: 13:45

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	330920	5.51	236599	9.15	123244	12.35
	UPPER LIMIT	661840	6.01	473198	9.65	246488	12.85
	LOWER LIMIT	165460	5.01	118300	8.65	61622	11.85
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	313129	5.51	223395	9.15	119323	12.35
02	170214A CCV/LCS 10u	279267	5.52	201905	9.15	110153	12.35
03	170214A BLK1WM	266209	5.52	195522	9.16	96726	12.35
04	AZ49852W01	266832	5.52	192580	9.15	96494	12.35
05	AZ49853W01	259728	5.52	186023	9.16	92410	12.35
06	AZ49854W01	258656	5.52	187595	9.16	89739	12.35
07	AZ49855W01	261669	5.52	191053	9.16	91173	12.35
08	Ending CCV 8260 10ug/	268369	5.52	197319	9.15	103036	12.35
09	170215A CCV/LCS 10u	272731	5.52	204236	9.15	107773	12.35
10	AZ49853W234 MS-1WM	263839	5.52	192255	9.15	103211	12.35
11	AZ49853W234 MSD-1W	257668	5.52	188388	9.15	101438	12.35
12	Ending CCV 8260 10ug/	261247	5.52	188921	9.15	101413	12.35
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS
Sample Data

APPL, INC.

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.22 J	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	02/14/17	02/14/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	02/14/17	02/14/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	02/14/17	02/14/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/14/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	02/14/17	02/14/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	02/14/17	02/14/17

J = Estimated value.

Quant Method: MALLW.M
Run #: 0214M22
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:00 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	M,P-XYLENE	0.31 J	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	02/14/17	02/14/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	02/14/17	02/14/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	02/14/17	02/14/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	TOLUENE	0.21 J	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	02/14/17	02/14/17

J = Estimated value.

Quant Method: MALLW.M
Run #: 0214M22
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:00 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.31 J	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	99.8	85-114			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	99.6	89-112			%	02/14/17	02/14/17

J = Estimated value.

Quant Method: MALLW.M
Run #: 0214M22
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M22.D Vial: 22
Acq On : 14 Feb 17 20:14 Operator: PM,DG,SV,CMM
Sample : AZ49852W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 10:51 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266832	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	192580	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	96494	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	58741	25.66854 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.676%	
36) 1,2-DCA-D4(S)	5.14	65	46880	25.85276 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.412%	
56) Toluene-D8(S)	7.35	98	231900	24.89155 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.568%	
64) 4-Bromofluorobenzene(S)	10.74	95	83635	24.94301 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.772%	
Target Compounds					Qvalue
51) Toluene	7.44	91	5235	0.20619 ppb	96
61) m&p-Xylene	9.53	106	3496	0.30874 ppb	94
82) 1,2,4-Trimethylbenzene	11.91	105	4814	0.22463 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

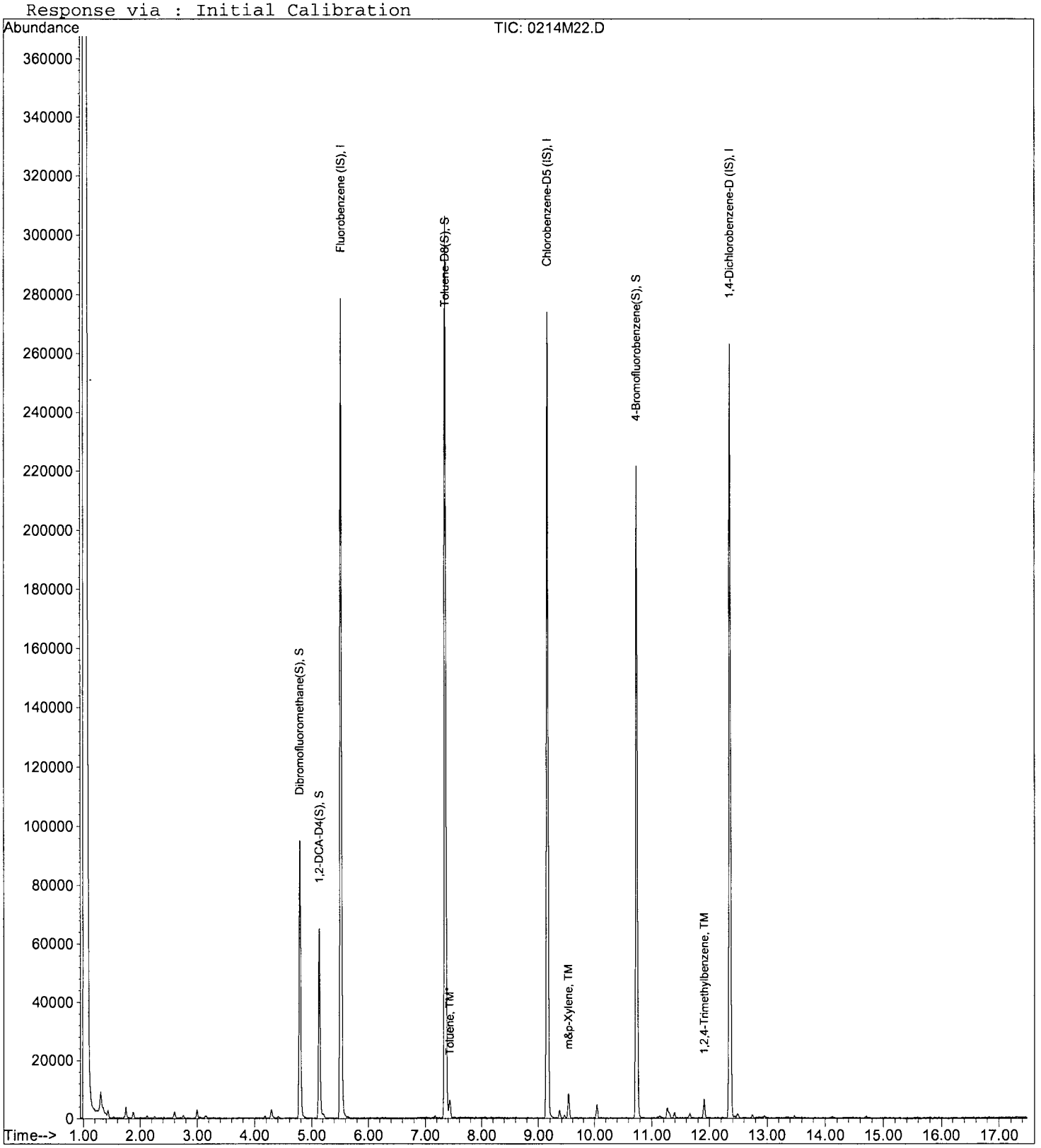
Data File : M:\MAX\DATA\M170127\0214M22.D
Acq On : 14 Feb 17 20:14
Sample : AZ49852W01
Misc : IS&S 10/20/16

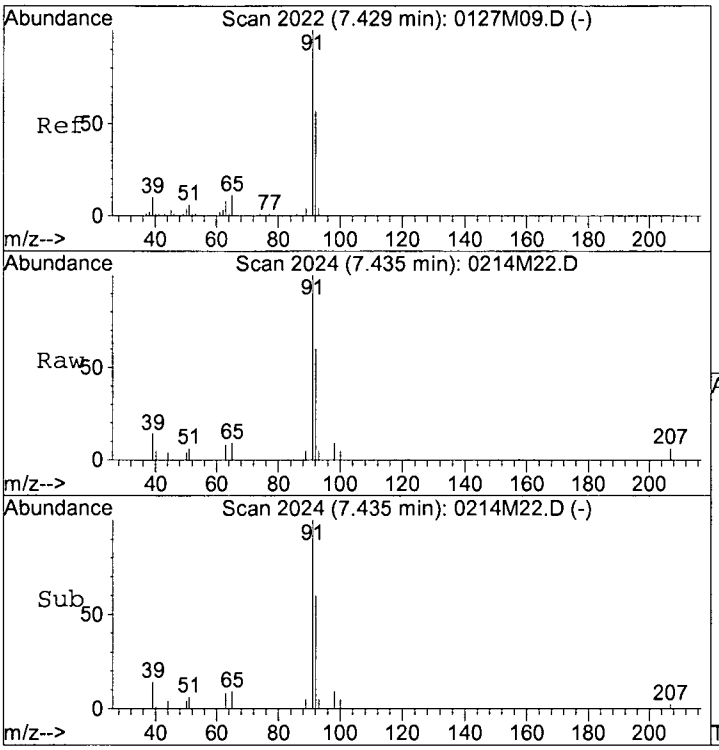
Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 10:51 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration

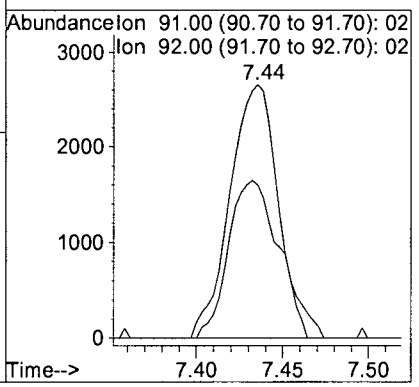


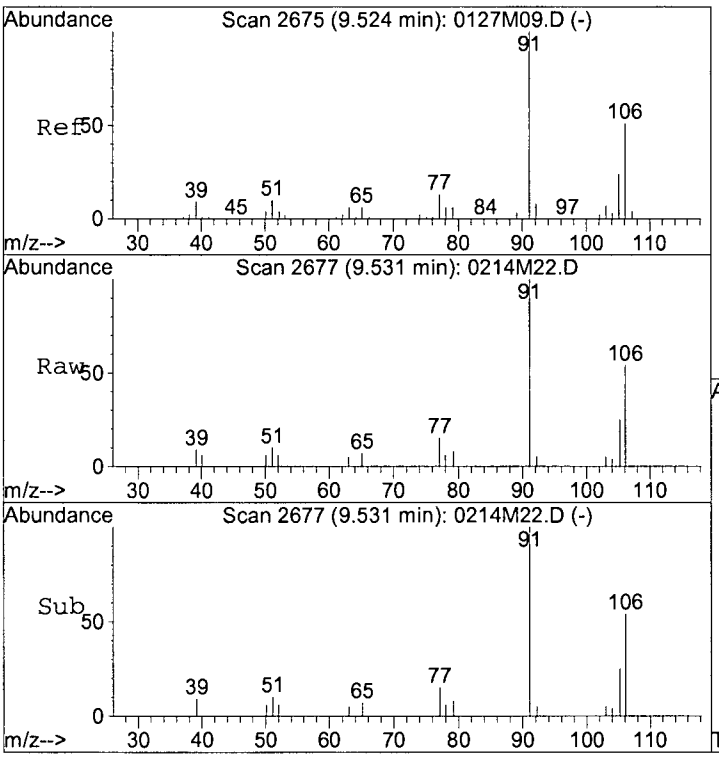


#51
Toluene
Concen: 0.20619 ppb
RT: 7.44 min Scan# 2024
Delta R.T. 0.01 min
Lab File: 0214M22.D
Acq: 14 Feb 17 20:14

Tgt Ion: 91 Resp: 5235

Ion	Ratio	Lower	Upper
91	100		
92	60.3	40.1	74.5

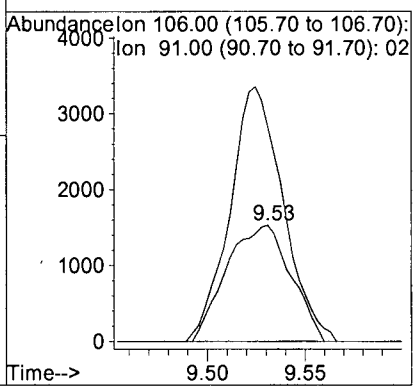


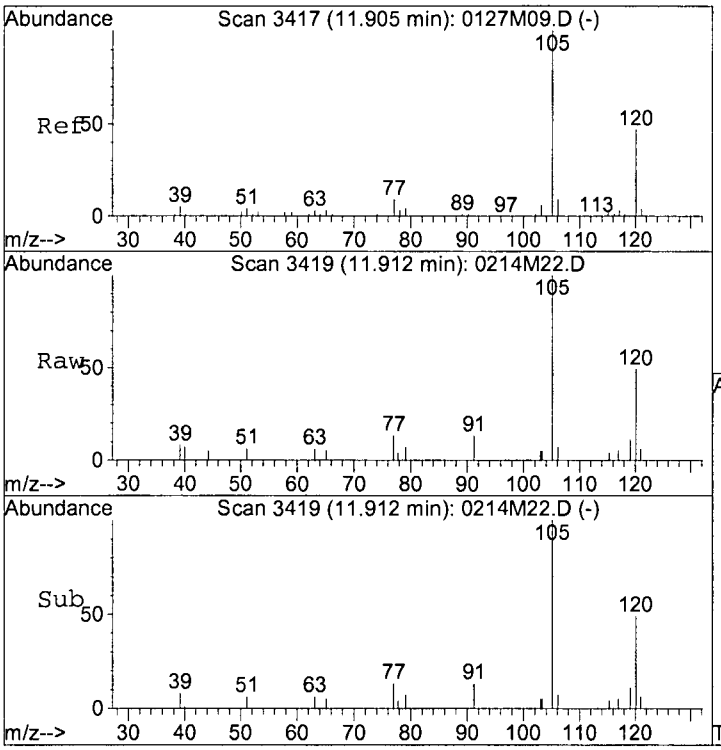


#61
m&p-Xylene
Concen: 0.30874 ppb
RT: 9.53 min Scan# 2677
Delta R.T. 0.01 min
Lab File: 0214M22.D
Acq: 14 Feb 17 20:14

Tgt Ion:106 Resp: 3496

Ion	Ratio	Lower	Upper
106	100		
91	185.2	136.2	253.0

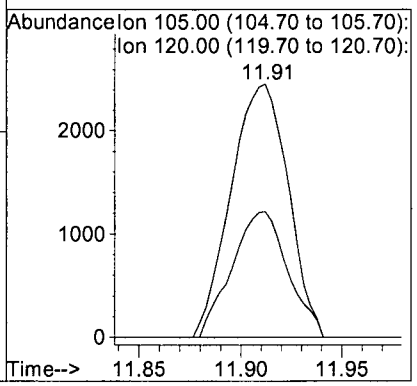




#82
1,2,4-Trimethylbenzene
Concen: 0.22463 ppb
RT: 11.91 min Scan# 3419
Delta R.T. 0.01 min
Lab File: 0214M22.D
Acq: 14 Feb 17 20:14

Tgt Ion:105 Resp: 4814

Ion	Ratio	Lower	Upper
105	100		
120	49.4	34.6	64.2



Library Search Compound Report

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Data File : M:\MAX\DATA\M170127\0214M22.D                Vial: 22
Acq On    : 14 Feb 17  20:14                          Operator: PM,DG,SV,CMM
Sample    : AZ49852W01                                Inst    : Max
Misc      : IS&S 10/20/16                             Multiplr: 1.00


Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
**********************************************************************
```

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	02/14/17	02/14/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	02/14/17	02/14/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	02/14/17	02/14/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/14/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	02/14/17	02/14/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M23
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	02/14/17	02/14/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	02/14/17	02/14/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	02/14/17	02/14/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M23
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	98.3	85-114			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M23
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M23.D
Acq On : 14 Feb 17 20:43
Sample : AZ49853W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 10:52 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259728	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	186023	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	92410	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	58435	26.23324 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.932%	
36) 1,2-DCA-D4(S)	5.14	65	44821	25.39335 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.572%	
56) Toluene-D8(S)	7.36	98	226381	25.15566 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
64) 4-Bromofluorobenzene(S)	10.74	95	79601	24.57672 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.308%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

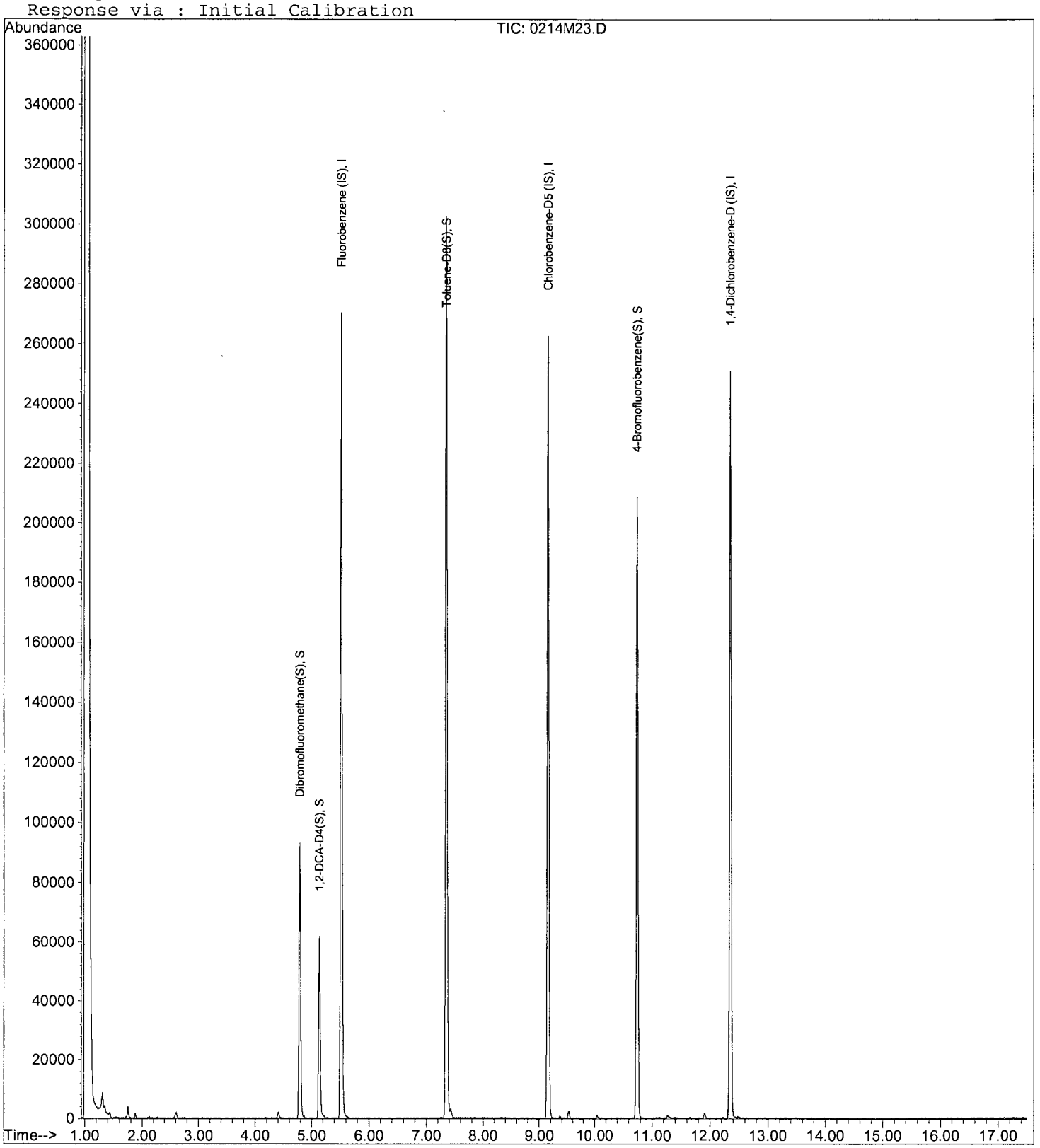
Data File : M:\MAX\DATA\M170127\0214M23.D
Acq On : 14 Feb 17 20:43
Sample : AZ49853W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 10:52 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Library Search Compound Report

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Data File : M:\MAX\DATA\M170127\0214M23.D                Vial: 23
Acq On    : 14 Feb 17  20:43                          Operator: PM,DG,SV,CMM
Sample    : AZ49853W01                                Inst    : Max
Misc      : IS&S 10/20/16                             Multiplr: 1.00


Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
**********************************************************************
```

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	02/14/17	02/14/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	02/14/17	02/14/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	02/14/17	02/14/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/14/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	02/14/17	02/14/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M24
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	02/14/17	02/14/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	02/14/17	02/14/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	02/14/17	02/14/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M24
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M24
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M24.D Vial: 24
Acq On : 14 Feb 17 21:11 Operator: PM,DG,SV,CMM
Sample : AZ49854W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 10:53 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	258656	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	187595	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	89739	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	57053	25.71897 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.876%	
36) 1,2-DCA-D4(S)	5.14	65	44551	25.34499 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.380%	
56) Toluene-D8(S)	7.35	98	229568	25.29604 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.184%	
64) 4-Bromofluorobenzene(S)	10.74	95	81983	25.10005 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.400%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

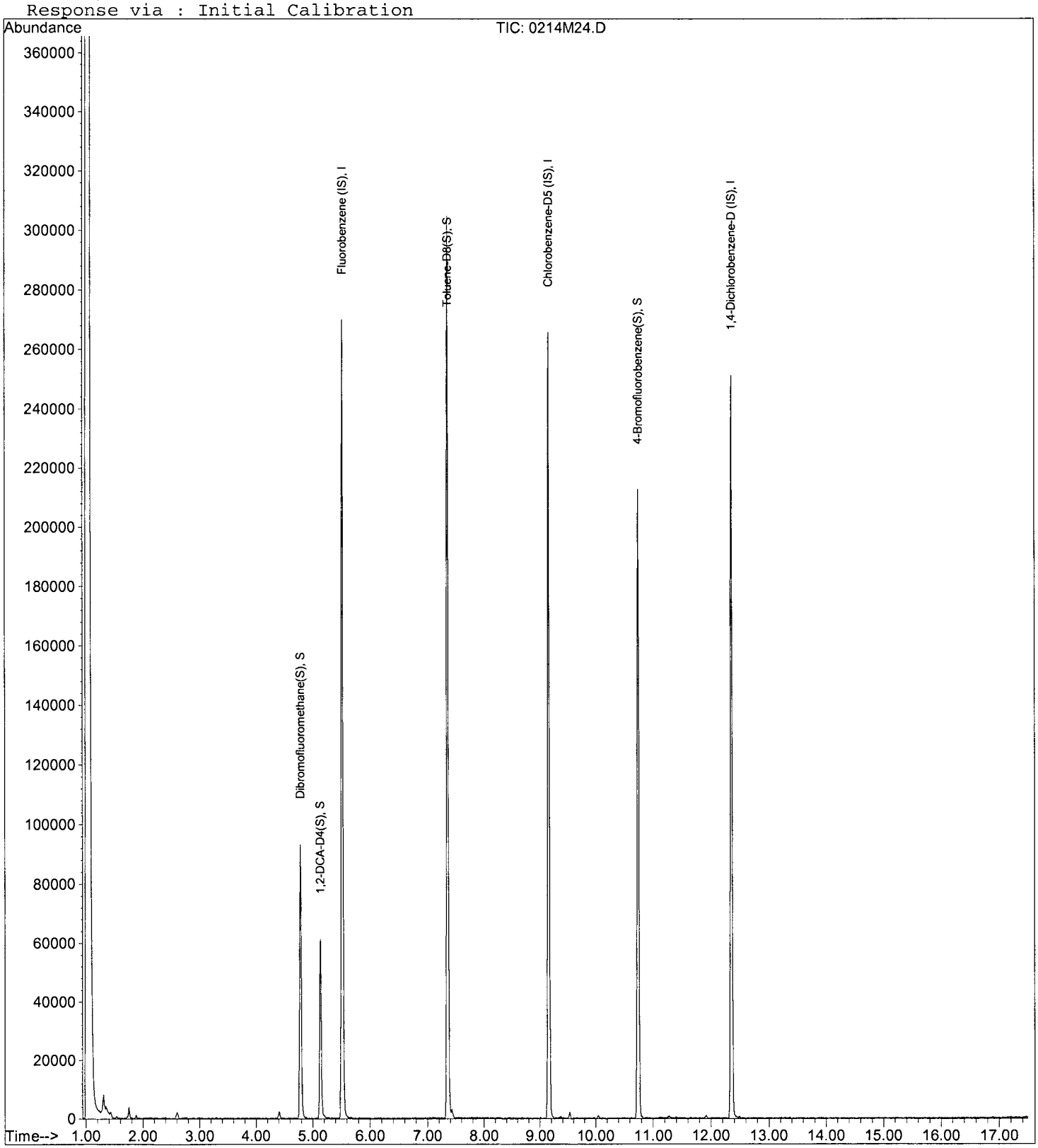
Quantitation Report

Data File : M:\MAX\DATA\M170127\0214M24.D
Acq On : 14 Feb 17 21:11
Sample : AZ49854W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 10:53 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Library Search Compound Report

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Data File : M:\MAX\DATA\M170127\0214M24.D              Vial: 24
Acq On    : 14 Feb 17  21:11                       Operator: PM,DG,SV,CMM
Sample    : AZ49854W01                             Inst    : Max
Misc      : IS&S 10/20/16                          Multiplr: 1.00


Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
*********************************************************************
```

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	02/14/17	02/14/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	02/14/17	02/14/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	02/14/17	02/14/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	02/14/17	02/14/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	02/14/17	02/14/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	02/14/17	02/14/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M25
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	02/14/17	02/14/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	02/14/17	02/14/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	02/14/17	02/14/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	02/14/17	02/14/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	02/14/17	02/14/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	02/14/17	02/14/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	02/14/17	02/14/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	02/14/17	02/14/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	02/14/17	02/14/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	02/14/17	02/14/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	02/14/17	02/14/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	02/14/17	02/14/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	02/14/17	02/14/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M25
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82150

Sample ID: ERH248

APPL ID: AZ49855

Sample Collection Date: 02/08/17

QCG: #86CDO-170214AM-216179

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	02/14/17	02/14/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	97.7	85-114			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	02/14/17	02/14/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	02/14/17	02/14/17

Quant Method: MALLW.M
Run #: 0214M25
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:23:01 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M25.D Vial: 25
Acq On : 14 Feb 17 21:39 Operator: PM,DG,SV,CMM
Sample : AZ49855W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 10:54 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	261669	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	191053	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	91173	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	58344	25.99810 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.992%	
36) 1,2-DCA-D4(S)	5.14	65	46010	25.87362 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.496%	
56) Toluene-D8(S)	7.35	98	234198	25.33913 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.356%	
64) 4-Bromofluorobenzene(S)	10.74	95	81267	24.43050 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.724%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

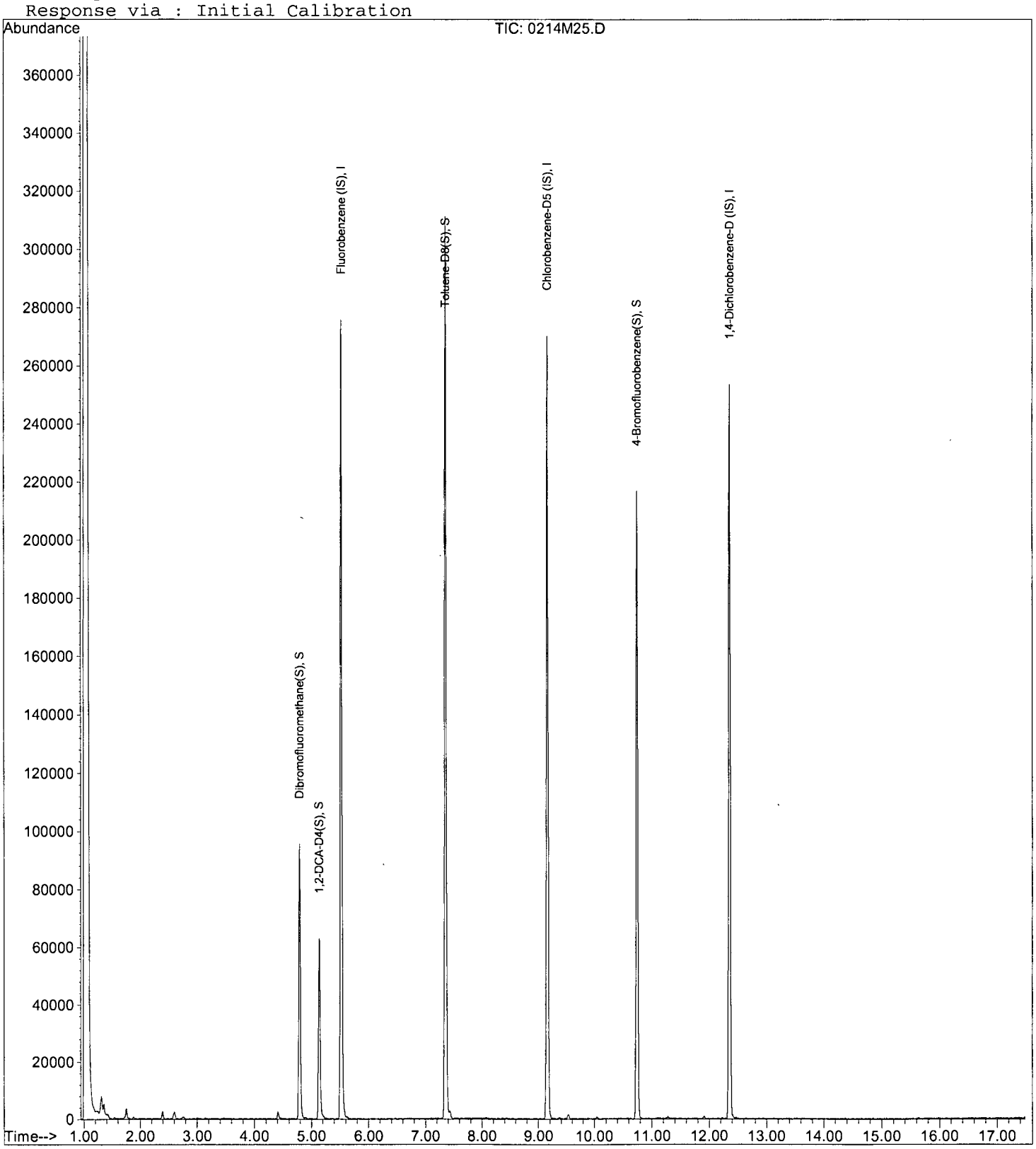
Quantitation Report

Data File : M:\MAX\DATA\M170127\0214M25.D
Acq On : 14 Feb 17 21:39
Sample : AZ49855W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 10:54 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Library Search Compound Report

```
Data File : M:\MAX\DATA\M170127\0214M25.D                Vial: 25
Acq On    : 14 Feb 17  21:39                          Operator: PM,DG,SV,CMM
Sample    : AZ49855W01                                Inst    : Max
Misc      : IS&S 10/20/16                             Multiplr: 1.00


Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
**********************************************************************
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ORGANICS
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05 D	0127M06.D	0127M07.D	0127M08.D	0127M09 D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2389	0.2502	0.2467	0.2270	0.2577	0.2512	0.2523	0.2547		0.25	4.0	TM	
3	TM	Freon 114		0.4371	0.3708	0.4129	0.3440	0.3916	0.3651	0.3776	0.3846		0.39	7.5	TM	
4	TM**	Chloromethane		0.5322	0.4562	0.4212	0.4361	0.4089	0.3805	0.3985	0.4121		0.43	11	TM**	
5	TM*	Vinyl chloride	0.6017	0.6231	0.5712	0.6041	0.5783	0.5965	0.5953	0.5871	0.6200		0.60	2.9	TM*	
6	TM	Bromomethane	0.4210	0.3988	0.3480	0.3346	0.3238	0.2727					0.35	15	TM	
7	TM	Chloroethane		0.4018	0.3267	0.3045	0.3231	0.3282	0.3196	0.3179			0.33	9.6	TM	
8	TM	Dichlorofluoromethane		0.9421	0.8705	0.8795	1.020	0.8947	0.8799	0.8934	0.8728		0.91	5.6	TM	
9	TM	Trichlorofluoromethane		0.6574	0.6021	0.6139	0.6325	0.6575	0.6351	0.6219	0.6246		0.63	3.1	TM	
10	TM	Acrolein	0.0221	0.0224	0.0209	0.0217	0.0215	0.0196	0.0218	0.0214	0.0205		0.02	4.0	TM	
11	TML	Acetone		0.1074	0.0946	0.0799	0.0694	0.0585	0.0589	0.0544	0.0512		0.07	28	TML	0.999
12	TM	Freon-113		0.4482	0.4215	0.4072	0.4180	0.4250	0.4032	0.4067	0.4093		0.42	3.5	TM	
13	TM*	1,1-DCE		0.6934	0.6988	0.6813	0.7560	0.6827	0.6557	0.6602	0.6469		0.68	5.0	TM*	
14	TM	t-Butanol	0.0102	0.0096	0.0099	0.0098	0.0103	0.0098	0.0109	0.0109	0.0115		0.01	6.4	TM	
15	TM	Methyl Acetate		0.1448	0.1772	0.1728	0.1817	0.1632	0.1614	0.1609	0.1615		0.17	7.0	TM	
16	TML	Iodomethane		0.2400	0.2533	0.3130	0.5299	0.5563	0.5570	0.5781	0.5790		0.45	34	TML	1.00
17	TML	Acrylonitrile		0.0339	0.0573	0.0595	0.0850	0.0793	0.0775	0.0742	0.0734		0.07	25	TML	1.000
18	TML	Methylene chloride		0.8435	0.6471	0.5541	0.5471	0.4416	0.4233	0.4235	0.4059		0.54	28	TML	1.000
19	TM	Carbon disulfide		1.448	1.423	1.314	1.512	1.354	1.283	1.291	1.272		1.4	6.5	TM	
20	TM	Methyl t-butyl ether (MtBE)		0.7248	0.6682	0.7029	0.8398	0.7264	0.7162	0.7104	0.6946		0.72	7.0	TM	
21	TM	Trans-1,2-DCE		0.4638	0.4872	0.4607	0.5704	0.5038	0.4877	0.4827	0.4695		0.49	7.2	TM	
22	TM	Diisopropyl Ether		1.323	1.349	1.315	1.638	1.384	1.381	1.362	1.311		1.4	7.7	TM	
23	TM**	1,1-DCA		0.8328	0.8592	0.8322	1.018	0.8720	0.8500	0.8485	0.8306		0.87	7.2	TM**	
24	TM	Vinyl Acetate		0.2662	0.2382	0.2259	0.3166	0.2565	0.3103	0.3003	0.2995		0.28	13	TM	
25	TM	Ethyl tert Butyl Ether		0.8982	0.8389	0.8009	1.051	0.9041	0.9042	0.9333	0.9098		0.91	8.1	TM	
26	TM	MEK (2-Butanone)			0.0963	0.0737	0.1152	0.1023	0.0950	0.0912	0.0853		0.09	14	TM	
27	TM	Cis-1,2-DCE		0.5195	0.5457	0.5490	0.6220	0.5303	0.5217	0.5205	0.4982		0.54	6.9	TM	
28	TM	2,2-Dichloropropane		0.5191	0.5335	0.5380	0.6527	0.5991	0.5938	0.6136	0.6333		0.59	8.5	TM	
29	TM*	Chloroform		0.8166	0.8536	0.7808	0.9802	0.8365	0.8162	0.8140	0.7929		0.84	7.5	TM*	
30	TM	Bromochloromethane		0.2089	0.1962	0.2011	0.2444	0.2040	0.2028	0.1998	0.1961		0.21	7.6	TM	
31	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
32	TM	1,1,1-TCA		0.7566	0.7060	0.7454	0.8620	0.7904	0.7575	0.7702	0.7723		0.77	5.8	TM	
33	TM	Cyclohexane	0.4380	0.4501	0.4062	0.4477	0.4651	0.4609	0.4307	0.4337	0.4358		0.44	4.0	TM	
34	TM	1,1-Dichloropropene	0.7193	0.6325	0.6951	0.6889	0.7756	0.7218	0.6778	0.6777	0.6632		0.69	5.9	TM	
35	TM	2,2,4-Trimethylpentane	1.318	1.321	1.241	1.266	1.227	1.268	1.193	1.247	1.232		1.3	3.3	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
37	TM	Carbon Tetrachloride	0.6686	0.6854	0.6062	0.6219	0.7013	0.6698	0.6594	0.6723	0.6739		0.66	4.5	TM	
38	TM	Tert Amyl Methyl Ether		0.6980	0.6866	0.6885	0.8779	0.7482	0.7749	0.7860	0.7759		0.75	8.6	TM	
39	TM	1,2-DCA		0.4278	0.4501	0.4406	0.5275	0.4537	0.4573	0.4483	0.4288		0.45	6.9	TM	
40	TM	Benzene		2.072	1.997	1.969	2.380	2.063	2.005	2.006	1.931		2.1	6.8	TM	
41	TM	TCE		0.5668	0.5447	0.5554	0.6157	0.5535	0.5343	0.5393	0.5153		0.55	5.4	TM	
42	TM	2-Pentanone		0.1242	0.1300	0.1341	0.1371	0.1326	0.1408	0.1446	0.1555		0.14	7.0	TM	
43	TM*	1,2-Dichloropropane		0.5084	0.4434	0.4432	0.5312	0.4695	0.4520	0.4508	0.4260		0.47	7.8	TM*	
44	TM	Bromodichloromethane		0.5321	0.5069	0.4962	0.6455	0.5360	0.5353	0.5356	0.5252		0.54	8.4	TM	
45	TM	Methyl Cyclohexane	0.7249	0.7092	0.7050	0.6884	0.7306	0.7472	0.6940	0.7128	0.7070		0.71	2.6	TM	
46	TM	Dibromomethane	0.1712	0.1757	0.1786	0.1631	0.2034	0.1690	0.1701	0.1698	0.1644		0.17	6.9	TM	
47	TML	MIBK (methyl isobutyl ketone)		0.3055	0.2692	0.2461	0.2463	0.2027	0.2052	0.1925	0.1823		0.23	18	TML	0.999
48	TM	1-Bromo-2-chloroethane		0.4146	0.4453	0.4332	0.5105	0.4364	0.4464	0.4475	0.4445		0.45	6.2	TM	
49	TM	2-Chloroethyl vinyl ether				0.0076	0.0102	0.0090	0.0091	0.0103			0.01	12	TM	
50	TM	Cis-1,3-Dichloropropene		0.5370	0.5411	0.5378	0.6853	0.5995	0.6034	0.6248	0.6174		0.59	8.8	TM	
51	TM*	Toluene		2.416	2.316	2.267	2.720	2.386	2.332	2.325	2.268		2.4	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene		0.3548	0.3508	0.3548	0.4477	0.4003	0.4234	0.4432	0.4539		0.40	11	TM	
53	TM	1,1,2-TCA		0.2307	0.1974	0.2094	0.2534	0.2148	0.2124	0.2098	0.2040		0.22	8.2	TM	
54	TM	2-Hexanone			0.1112	0.1044	0.1235	0.1089	0.1145	0.1201	0.1175		0.11	5.8	TM	
55	I	Chlorobenzene-D5 (IS)														
56	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
57	TM	1,2-EDB		0.3223	0.2898	0.3006	0.3915	0.3273	0.3383	0.3292	0.3149		0.33	9.4	TM	
58	TM	Tetrachloroethene		0.8281	0.8142	0.8213	0.9442	0.8079	0.7705	0.7452	0.6933		0.80	9.1	TM	
59	TM	1-Chlorohexane		0.8711	0.8667	0.8760	1.057	0.9862	0.9420	0.9434	0.9197		0.93	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane		0.6232	0.6950	0.6573	0.7786	0.6877	0.6701	0.6644	0.6616		0.68	6.7	TM	
61	TM	m&p-Xylene		1.455	1.402	1.439	1.746	1.489	1.471	1.426	1.331		1.5	8.3	TM	
62	TM	o-Xylene		1.199	1.412	1.284	1.669	1.406	1.396	1.337	1.269		1.4	10	TM	
63	TM	Styrene		1.973	1.999	1.956	2.515	2.151	2.177	2.104	2.003		2.1	8.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
65	TM	1,3-Dichloropropane		0.6557	0.6431	0.6168	0.7717	0.6417	0.6573	0.6241	0.5777		0.65	8.6	TM	
66	TM	Dibromochloromethane		0.5058	0.4645	0.4718	0.5895	0.5028	0.5045	0.4904	0.4624		0.50	8.2	TM	
67	TM**	Chlorobenzene		2.158	2.082	2.053	2.439	2.061	2.025	1.981	1.858		2.1	8.1	TM**	
68	TM*	Ethylbenzene		3.700	3.496	3.583	4.440	3.857	3.742	3.677	3.519		3.8	8.1	TM*	
69	TM**	Bromoform		0.2642	0.3027	0.2738	0.3453	0.2949	0.3024	0.2971	0.2900		0.30	8.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)														

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM	Isopropylbenzene		7.059	6.765	6.751	8.190	7.264	6.794	6.789	6.510		7.0	7.5	TM	
72	TM**	1,1,2,2-Tetrachloroethane		0.6919	0.6552	0.6275	0.7785	0.6556	0.6469	0.6345	0.6116		0.66	7.9	TM**	
73	TM	1,2,3-Trichloropropane		0.1856	0.2342	0.2409	0.2590	0.2284	0.2075	0.2047	0.1997		0.22	11	TM	
74	TML	t-1,4-Dichloro-2-Butene			0.0766	0.1035	0.1514	0.1369	0.1435	0.1405			0.13	23	TML	0.999
75	TM	Bromobenzene		1.712	1.544	1.554	1.870	1.618	1.567	1.555	1.541		1.6	7.2	TM	
76	TM	n-Propylbenzene		7.665	7.091	7.488	9.040	8.042	7.608	7.605	7.432		7.7	7.6	TM	
77	TM	4-Ethyltoluene	6.522	6.773	6.559	6.436	7.961	7.158	6.751	6.713	6.554		6.8	7.0	TM	
78	TM	2-Chlorotoluene		4.763	4.759	4.381	5.434	4.624	4.480	4.390	4.240		4.6	8.1	TM	
79	TM	1,3,5-Trimethylbenzene		5.301	5.630	5.751	6.688	5.850	5.533	5.486	5.288		5.7	7.9	TM	
80	TM	4-Chlorotoluene	5.136	5.338	5.112	5.012	6.204	5.303	5.048	5.018	4.829		5.2	7.6	TM	
81	TM	Tert-Butylbenzene	5.141	5.367	4.866	4.962	5.830	5.231	4.874	4.877	4.695		5.1	6.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.590	5.589	5.145	5.281	6.394	5.742	5.476	5.460	5.295		5.6	6.6	TM	
83	TM	Sec-Butylbenzene	6.828	6.837	6.335	6.601	7.819	7.113	6.643	6.538	6.383		6.8	6.7	TM	
84	TM	p-Isopropyltoluene	6.052	5.776	5.551	5.781	6.846	6.126	5.828	5.791	5.615		5.9	6.6	TM	
85	TM	Benzyl Chloride		0.3752	0.3984	0.3994	0.4460	0.4487	0.5581				0.44	15	TM	
86	TM	1,3-DCB	3.337	3.392	3.073	3.106	3.809	3.235	3.119	3.101	2.985		3.2	7.7	TM	
87	TM	1,4-DCB	3.662	3.246	3.127	3.021	3.581	3.169	2.999	2.959	2.807		3.2	8.9	TM	
88	TM	n-Butylbenzene	4.525	4.197	4.323	4.331	5.430	4.968	4.751	4.741	4.634		4.7	8.2	TM	
89	TM	1,2-DCB	2.746	2.654	2.511	2.515	3.104	2.679	2.603	2.560	2.484		2.7	7.2	TM	
90	TM	Hexachloroethane	0.7874	0.6768	0.6890	0.6923	0.8126	0.8046	0.8394	0.8927	0.8980		0.79	11	TM	
91	TM	1,2-Dibromo-3-chloropropane			0.0878	0.0830	0.0969	0.0880	0.0941	0.0915	0.0965		0.09	5.6	TM	
92	TML	1,2,4-Trichlorobenzene		0.5081	0.8288	0.9593	1.497	1.499	1.540				1.1	38	TML	0.999
93	TM	Hexachlorobutadiene		1.217	1.189	1.203	1.367	1.272	1.171	1.167	1.145		1.2	5.9	TM	
94	TML	Naphthalene		0.1544	0.3780	0.5168	0.9242	1.231	1.432				0.77	65	TML	0.994
95	TML	1,2,3-Trichlorobenzene		0.2039	0.3376	0.5517	0.8645	1.010	1.091				0.68	54	TML	0.999
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	14557	5.30855 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.236%	
36) 1,2-DCA-D4(S)	5.13	65	11763	5.20370 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.816%	
56) Toluene-D8(S)	7.35	98	57915	5.29894 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	20580	5.25859 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.036%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	979	0.26825 ppb		98
3) Freon 114	1.29	85	1579	0.33070 ppb		89
4) Chloromethane	1.34	50	2268	0.41495 ppb		95
5) Vinyl chloride	1.43	62	2257	0.31029 ppb	#	78
6) Bromomethane	1.70	94	1579	0.41187 ppb		95
7) Chloroethane	1.79	64	1408	0.34824 ppb		100
8) Dichlorofluoromethane	1.99	67	3728	0.36341 ppb		96
9) Trichlorofluoromethane	2.03	101	2598	0.30593 ppb		90
10) Acrolein	2.42	56	2758	17.27864 ppb		100
11) Acetone	2.56	43	558	-0.29199 ppb	#	48
12) Freon-113	2.53	101	1641	0.33748 ppb		97
13) 1,1-DCE	2.51	61	2908	0.35651 ppb		96
14) t-Butanol	3.14	59	1274	9.42179 ppb		91
15) Methyl Acetate	2.90	43	806	0.40640 ppb	#	57
16) Iodomethane	2.64	142	798	0.98728 ppb	#	81
17) Acrylonitrile	3.22	53	159	0.18576 ppb	#	22
18) Methylene chloride	2.98	84	4307	0.85010 ppb		84
19) Carbon disulfide	2.70	76	6027	0.36668 ppb		96
20) Methyl t-butyl ether (MtBE	3.28	73	2941	0.33757 ppb		97
21) Trans-1,2-DCE	3.25	96	1841	0.31022 ppb		97
22) Diisopropyl Ether	3.79	45	5019	0.31700 ppb	#	89
23) 1,1-DCA	3.67	63	3224	0.31870 ppb	#	91
24) Vinyl Acetate	3.76	43	1195	0.36212 ppb	#	73
25) Ethyl tert Butyl Ether	4.17	59	3616	0.33861 ppb		91
26) MEK (2-Butanone)	4.32	43	371	0.32964 ppb	#	56
27) Cis-1,2-DCE	4.27	96	1964	0.30491 ppb		87
28) 2,2-Dichloropropane	4.27	77	2454	0.33390 ppb		97
29) Chloroform	4.61	83	3749	0.38464 ppb		83
30) Bromochloromethane	4.51	128	705	0.28916 ppb		85
32) 1,1,1-TCA	4.80	97	2984	0.32429 ppb		96
33) Cyclohexane	4.87	41	1643	0.32519 ppb		82
34) 1,1-Dichloropropene	4.98	75	2698	0.32599 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	4943	0.33618 ppb		96
37) Carbon Tetrachloride	4.98	117	2508	0.32319 ppb		100
38) Tert Amyl Methyl Ether	5.36	73	2810	0.31353 ppb	#	97
39) 1,2-DCA	5.21	62	1918	0.35407 ppb		100
40) Benzene	5.20	78	8601	0.35839 ppb		95
41) TCE	5.93	95	2212	0.33392 ppb		89
42) 2-Pentanone	6.15	43	17738	10.20026 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	1533	0.28703	ppb	#	84
44)	Bromodichloromethane	6.49	83	1978	0.31473	ppb		89
45)	Methyl Cyclohexane	6.15	83	2719	0.34352	ppb		98
46)	Dibromomethane	6.30	93	642	0.31732	ppb		88
47)	MIBK (methyl isobutyl ket	7.25	43	829	0.31351	ppb	#	87
48)	1-Bromo-2-chloroethane	6.84	63	1485	0.28723	ppb	#	81
50)	Cis-1,3-Dichloropropene	7.03	75	1855	0.26333	ppb	#	82
51)	Toluene	7.43	91	9528	0.34926	ppb		93
52)	Trans-1,3-Dichloropropene	7.71	75	1181	0.24172	ppb		93
53)	1,1,2-TCA	7.92	83	714	0.28047	ppb		81
54)	2-Hexanone	8.30	43	235	0.27422	ppb	#	75
57)	1,2-EDB	8.53	107	865	0.32061	ppb		90
58)	Tetrachloroethene	8.10	164	2378	0.37321	ppb		92
59)	1-Chlorohexane	9.21	91	2592	0.36718	ppb		87
60)	1,1,1,2-Tetrachloroethane	9.31	131	1791	0.32805	ppb		99
61)	m&p-Xylene	9.53	106	7895	0.67837	ppb		92
62)	o-Xylene	10.04	106	3468	0.31955	ppb		75
63)	Styrene	10.06	104	4704	0.28124	ppb		100
65)	1,3-Dichloropropane	8.13	76	1975	0.37502	ppb		98
66)	Dibromochloromethane	8.40	129	1301	0.32426	ppb		83
67)	Chlorobenzene	9.19	112	6081	0.37121	ppb		97
68)	Ethylbenzene	9.36	91	9979	0.34040	ppb		97
69)	Bromoform	10.27	173	832	0.33873	ppb		94
71)	Isopropylbenzene	10.56	105	9690	0.37439	ppb		95
72)	1,1,2,2-Tetrachloroethane	10.97	83	894	0.34160	ppb	#	60
73)	1,2,3-Trichloropropane	11.00	110	180	0.19910	ppb		88
74)	t-1,4-Dichloro-2-Butene	11.05	53	72	0.13263	ppb	#	38
75)	Bromobenzene	10.93	156	2132	0.33843	ppb		97
76)	n-Propylbenzene	11.13	91	10523	0.36727	ppb		98
77)	4-Ethyltoluene	11.30	105	8424	0.33402	ppb		94
78)	2-Chlorotoluene	11.22	91	6546	0.37834	ppb		94
79)	1,3,5-Trimethylbenzene	11.40	105	7150	0.34065	ppb		100
80)	4-Chlorotoluene	11.37	91	6634	0.33811	ppb		88
81)	Tert-Butylbenzene	11.84	119	6640	0.35866	ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	7220	0.34937	ppb		88
83)	Sec-Butylbenzene	12.15	105	8819	0.35352	ppb		98
84)	p-Isopropyltoluene	12.38	119	7817	0.34940	ppb		95
85)	Benzyl Chloride	12.59	91	530	0.24318	ppb	#	89
86)	1,3-DCB	12.26	146	4310	0.35813	ppb		95
87)	1,4-DCB	12.39	146	4730	0.40401	ppb		90
88)	n-Butylbenzene	12.96	91	5844	0.32803	ppb		94
89)	1,2-DCB	12.90	146	3547	0.35438	ppb		95
90)	Hexachloroethane	13.27	117	1017	0.34202	ppb		81
92)	1,2,4-Trichlorobenzene	15.22	180	538	0.51380	ppb	#	91
93)	Hexachlorobutadiene	15.52	225	2104	0.45128	ppb		83
94)	Naphthalene	15.55	128	177	0.96119	ppb	#	76
95)	1,2,3-Trichlorobenzene	15.93	180	245	0.81156	ppb	#	66

(#) = qualifier out of range (m) = manual integration

Quantitation Report

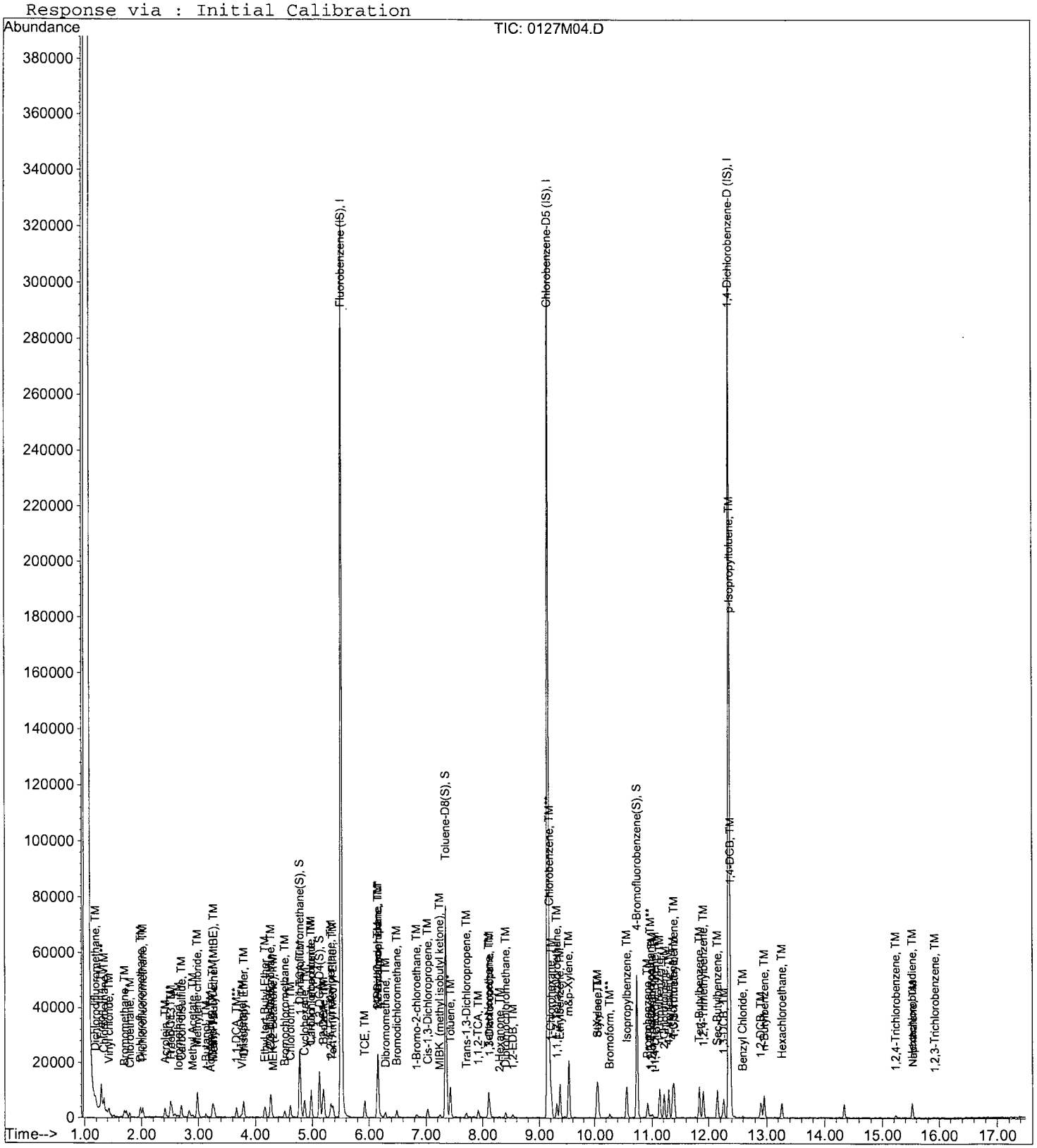
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



516

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	13937	5.01048 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.040%	
36) 1,2-DCA-D4(S)	5.13	65	10688	4.66119 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.644%	
56) Toluene-D8(S)	7.35	98	52662	4.66182 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.648%	
64) 4-Bromofluorobenzene(S)	10.74	95	18960	4.68730 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.748%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	1515	0.40923 ppb		96
3) Freon 114	1.29	85	2772	0.57233 ppb		93
4) Chloromethane	1.34	50	3375	0.60873 ppb		96
5) Vinyl chloride	1.42	62	3951	0.53548 ppb		98
6) Bromomethane	1.70	94	2529	0.65033 ppb		89
7) Chloroethane	1.79	64	2548	0.62127 ppb		94
8) Dichlorofluoromethane	1.98	67	5974	0.57410 ppb		97
9) Trichlorofluoromethane	2.02	101	4169	0.48397 ppb		89
10) Acrolein	2.41	56	7093	43.80776 ppb		93
11) Acetone	2.57	43	681	-0.13069 ppb	#	48
12) Freon-113	2.53	101	2842	0.57620 ppb		84
13) 1,1-DCE	2.51	61	4397	0.53143 ppb	#	94
14) t-Butanol	3.14	59	3029	22.08357 ppb		97
15) Methyl Acetate	2.91	43	918	0.45632 ppb	#	57
16) Iodomethane	2.65	142	1522	1.08361 ppb	#	74
17) Acrylonitrile	3.22	53	215	0.24763 ppb	#	57
18) Methylene chloride	2.98	84	5349	1.04081 ppb		94
19) Carbon disulfide	2.70	76	9182	0.55071 ppb		98
20) Methyl t-butyl ether (MtBE	3.28	73	4596	0.52007 ppb		96
21) Trans-1,2-DCE	3.25	96	2941	0.48856 ppb		96
22) Diisopropyl Ether	3.79	45	8389	0.52235 ppb		99
23) 1,1-DCA	3.67	63	5281	0.51465 ppb		97
24) Vinyl Acetate	3.76	43	1688	0.50427 ppb	#	73
25) Ethyl tert Butyl Ether	4.16	59	5696	0.52583 ppb		94
26) MEK (2-Butanone)	4.30	43	400	0.35037 ppb	#	56
27) Cis-1,2-DCE	4.27	96	3294	0.50415 ppb		97
28) 2,2-Dichloropropane	4.26	77	3292	0.44158 ppb		99
29) Chloroform	4.61	83	5178	0.52372 ppb		97
30) Bromochloromethane	4.52	128	1325	0.53576 ppb		78
32) 1,1,1-TCA	4.80	97	4798	0.51405 ppb		96
33) Cyclohexane	4.86	41	2854	0.55689 ppb		82
34) 1,1-Dichloropropene	4.98	75	4011	0.47777 ppb		89
35) 2,2,4-Trimethylpentane	5.33	57	8376	0.56160 ppb		99
37) Carbon Tetrachloride	4.97	117	4346	0.55211 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	4426	0.48684 ppb		95
39) 1,2-DCA	5.21	62	2713	0.49374 ppb	#	89
40) Benzene	5.20	78	13139	0.53972 ppb		92
41) TCE	5.92	95	3594	0.53486 ppb		93
42) 2-Pentanone	6.15	43	39367	22.31746 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	3224	0.59509 ppb	#	84
44)	Bromodichloromethane	6.48	83	3374	0.52925 ppb		88
45)	Methyl Cyclohexane	6.15	83	4497	0.56011 ppb		97
46)	Dibromomethane	6.29	93	1114	0.54282 ppb		98
47)	MIBK (methyl isobutyl ket	7.25	43	1937	0.72217 ppb	#	91
48)	1-Bromo-2-chloroethane	6.84	63	2629	0.50130 ppb		88
50)	Cis-1,3-Dichloropropene	7.03	75	3405	0.47652 ppb		91
51)	Toluene	7.43	91	15318	0.55355 ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	2250	0.45399 ppb	#	73
53)	1,1,2-TCA	7.92	83	1463	0.56655 ppb		84
54)	2-Hexanone	8.29	43	440	0.50616 ppb	#	78
57)	1,2-EDB	8.54	107	1447	0.51890 ppb	#	71
58)	Tetrachloroethene	8.10	164	3718	0.56456 ppb		88
59)	1-Chlorohexane	9.21	91	3911	0.53603 ppb		87
60)	1,1,1,2-Tetrachloroethane	9.31	131	2798	0.49585 ppb		88
61)	m&p-Xylene	9.52	106	13068	1.08638 ppb		94
62)	o-Xylene	10.04	106	5381	0.47971 ppb		87
63)	Styrene	10.06	104	8858	0.51240 ppb		98
65)	1,3-Dichloropropane	8.13	76	2944	0.54086 ppb		92
66)	Dibromochloromethane	8.40	129	2271	0.54763 ppb		87
67)	Chlorobenzene	9.19	112	9687	0.57213 ppb		99
68)	Ethylbenzene	9.36	91	16612	0.54825 ppb		97
69)	Bromoform	10.27	173	1186	0.46716 ppb		96
71)	Isopropylbenzene	10.56	105	15823	0.58709 ppb		92
72)	1,1,2,2-Tetrachloroethane	10.96	83	1551	0.56913 ppb	#	77
73)	1,2,3-Trichloropropane	11.00	110	416	0.44188 ppb	#	20
74)	t-1,4-Dichloro-2-Butene	11.06	53	213	0.37679 ppb	#	38
75)	Bromobenzene	10.92	156	3837	0.58491 ppb		89
76)	n-Propylbenzene	11.13	91	17181	0.57585 ppb		98
77)	4-Ethyltoluene	11.30	105	15181	0.57805 ppb		95
78)	2-Chlorotoluene	11.21	91	10676	0.59256 ppb		85
79)	1,3,5-Trimethylbenzene	11.39	105	11882	0.54364 ppb		97
80)	4-Chlorotoluene	11.37	91	11966	0.58566 ppb		97
81)	Tert-Butylbenzene	11.84	119	12031	0.62407 ppb		95
82)	1,2,4-Trimethylbenzene	11.91	105	12528	0.58217 ppb		94
83)	Sec-Butylbenzene	12.15	105	15325	0.58995 ppb		98
84)	p-Isopropyltoluene	12.37	119	12948	0.55577 ppb		96
85)	Benzyl Chloride	12.58	91	841	0.37057 ppb	#	79
86)	1,3-DCB	12.26	146	7604	0.60677 ppb		84
87)	1,4-DCB	12.39	146	7275	0.59674 ppb		95
88)	n-Butylbenzene	12.95	91	9408	0.50713 ppb		95
89)	1,2-DCB	12.90	146	5949	0.57079 ppb		95
90)	Hexachloroethane	13.27	117	1517	0.48993 ppb		93
92)	1,2,4-Trichlorobenzene	15.23	180	1139	0.60234 ppb		82
93)	Hexachlorobutadiene	15.53	225	2728	0.56191 ppb	#	80
94)	Naphthalene	15.56	128	346	0.98858 ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	457	0.85367 ppb	#	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report

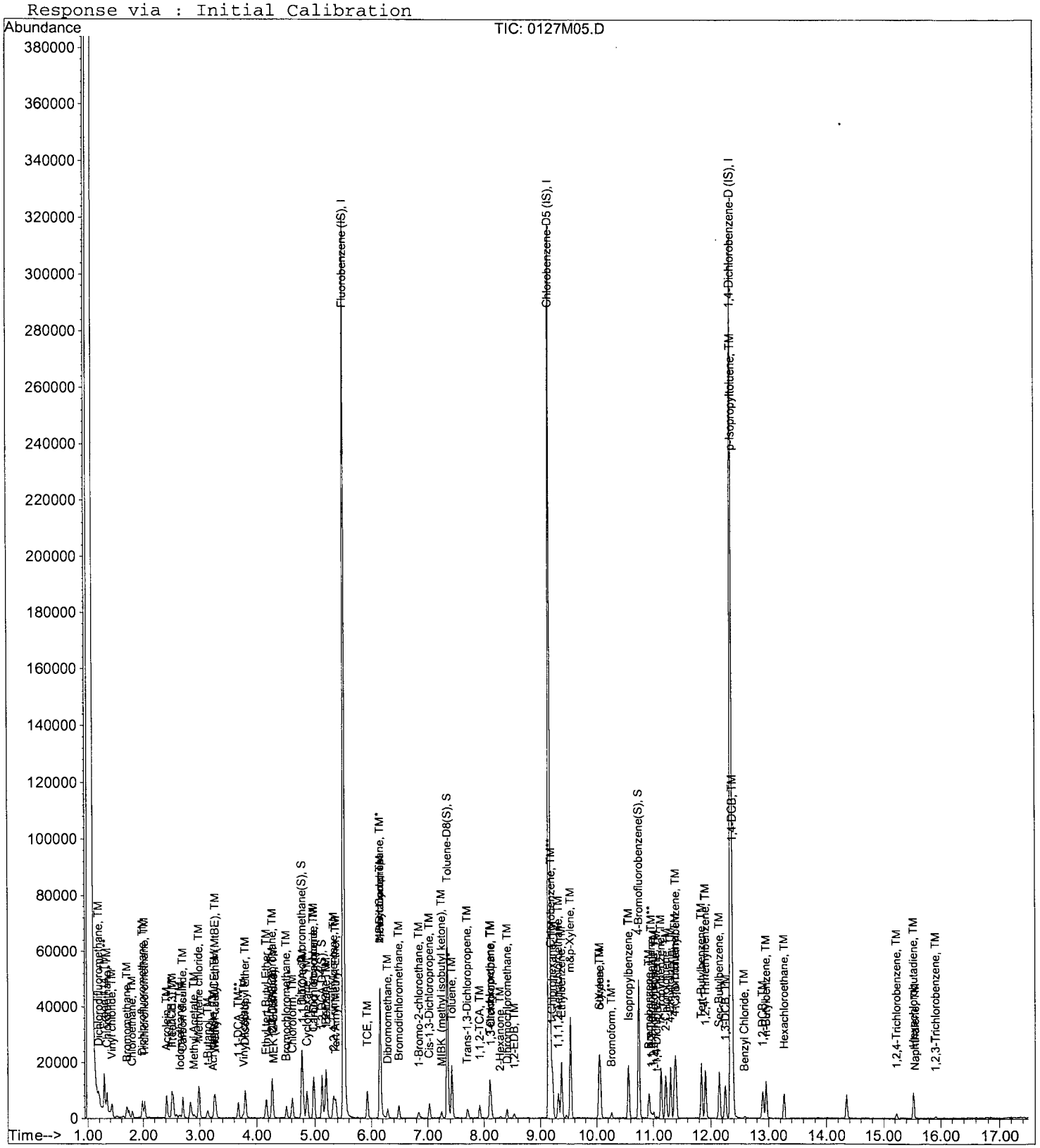
Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



519

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	24009	8.68572 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.744%	
36) 1,2-DCA-D4(S)	5.13	65	19787	8.68364 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.736%	
56) Toluene-D8(S)	7.35	98	96515	8.67446 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.696%	
64) 4-Bromofluorobenzene(S)	10.74	95	34814	8.73830 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.952%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	3153	0.85705 ppb	97
3) Freon 114	1.29	85	4673	0.97089 ppb	96
4) Chloromethane	1.34	50	5749	1.04344 ppb	96
5) Vinyl chloride	1.43	62	7199	0.98182 ppb	97
6) Bromomethane	1.69	94	4386	1.13495 ppb	95
7) Chloroethane	1.80	64	4118	1.01039 ppb	95
8) Dichlorofluoromethane	1.98	67	10971	1.06094 ppb	96
9) Trichlorofluoromethane	2.03	101	7588	0.88641 ppb	98
10) Acrolein	2.41	56	13194	82.00108 ppb	94
11) Acetone	2.57	43	1192	0.59663 ppb	92
12) Freon-113	2.53	101	5312	1.08374 ppb	96
13) 1,1-DCE	2.51	61	8807	1.07112 ppb	97
14) t-Butanol	3.14	59	6211	45.56733 ppb	92
15) Methyl Acetate	2.91	43	2233	1.11696 ppb	95
16) Iodomethane	2.64	142	3193	1.31248 ppb	95
17) Acrylonitrile	3.23	53	722	0.83680 ppb #	85
18) Methylene chloride	2.98	84	8156	1.59698 ppb	91
19) Carbon disulfide	2.70	76	17937	1.08258 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	8421	0.95888 ppb	92
21) Trans-1,2-DCE	3.26	96	6140	1.02640 ppb	87
22) Diisopropyl Ether	3.79	45	16999	1.06511 ppb	98
23) 1,1-DCA	3.67	63	10829	1.06195 ppb	92
24) Vinyl Acetate	3.76	43	3002	0.90245 ppb	96
25) Ethyl tert Butyl Ether	4.17	59	10573	0.98219 ppb	95
26) MEK (2-Butanone)	4.31	43	1214	1.07006 ppb #	82
27) Cis-1,2-DCE	4.27	96	6877	1.05915 ppb	90
28) 2,2-Dichloropropane	4.27	77	6724	0.90761 ppb	100
29) Chloroform	4.62	83	10758	1.09495 ppb	92
30) Bromochloromethane	4.51	128	2473	1.00623 ppb	91
32) 1,1,1-TCA	4.80	97	8898	0.95931 ppb	93
33) Cyclohexane	4.87	41	5120	1.00532 ppb	95
34) 1,1-Dichloropropene	4.98	75	8761	1.05012 ppb	96
35) 2,2,4-Trimethylpentane	5.33	57	15645	1.05557 ppb	100
37) Carbon Tetrachloride	4.98	117	7640	0.97668 ppb	96
38) Tert Amyl Methyl Ether	5.37	73	8654	0.95788 ppb	98
39) 1,2-DCA	5.21	62	5673	1.03893 ppb	99
40) Benzene	5.20	78	25174	1.04060 ppb	98
41) TCE	5.92	95	6865	1.02808 ppb	95
42) 2-Pentanone	6.15	43	81903	46.72338 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Fri Jan 27 14:40:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	5588	1.03793 ppb	#	88
44)	Bromodichloromethane	6.49	83	6389	1.00848 ppb		93
45)	Methyl Cyclohexane	6.15	83	8885	1.11360 ppb		97
46)	Dibromomethane	6.29	93	2251	1.10375 ppb		96
47)	MIBK (methyl isobutyl ket	7.24	43	3393	1.27295 ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	5612	1.07683 ppb		90
49)	2-Chloroethyl vinyl ether	6.89	106	43	1.76524 ppb	#	100
50)	Cis-1,3-Dichloropropene	7.03	75	6820	0.96045 ppb		97
51)	Toluene	7.43	91	29189	1.06145 ppb		96
52)	Trans-1,3-Dichloropropene	7.71	75	4421	0.89765 ppb		99
53)	1,1,2-TCA	7.92	83	2488	0.96954 ppb		85
54)	2-Hexanone	8.28	43	1401	1.62179 ppb	#	72
57)	1,2-EDB	8.53	107	2563	0.93316 ppb		91
58)	Tetrachloroethene	8.10	164	7201	1.11015 ppb		94
59)	1-Chlorohexane	9.21	91	7665	1.06660 ppb		84
60)	1,1,1,2-Tetrachloroethane	9.31	131	6147	1.10601 ppb		94
61)	m&p-Xylene	9.52	106	24798	2.09305 ppb		100
62)	o-Xylene	10.04	106	12485	1.13005 ppb		80
63)	Styrene	10.06	104	17677	1.03818 ppb		88
65)	1,3-Dichloropropane	8.13	76	5688	1.06095 ppb		95
66)	Dibromochloromethane	8.40	129	4108	1.00575 ppb		86
67)	Chlorobenzene	9.19	112	18413	1.10413 ppb		94
68)	Ethylbenzene	9.36	91	30917	1.03596 ppb		95
69)	Bromoform	10.27	173	2677	1.07059 ppb		83
71)	Isopropylbenzene	10.56	105	30821	1.12530 ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	2985	1.07783 ppb	#	93
73)	1,2,3-Trichloropropane	11.00	110	1067	1.11527 ppb	#	73
74)	t-1,4-Dichloro-2-Butene	11.06	53	349	0.60751 ppb	#	46
75)	Bromobenzene	10.92	156	7034	1.05513 ppb		98
76)	n-Propylbenzene	11.13	91	32304	1.06544 ppb		96
77)	4-Ethyltoluene	11.30	105	29880	1.11958 ppb		93
78)	2-Chlorotoluene	11.22	91	21682	1.18422 ppb		93
79)	1,3,5-Trimethylbenzene	11.39	105	25649	1.15478 ppb		100
80)	4-Chlorotoluene	11.37	91	23291	1.12174 ppb		92
81)	Tert-Butylbenzene	11.84	119	22167	1.13147 ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	23438	1.07176 ppb		91
83)	Sec-Butylbenzene	12.15	105	28862	1.09332 ppb		97
84)	p-Isopropyltoluene	12.37	119	25289	1.06815 ppb		97
85)	Benzyl Chloride	12.58	91	1815	0.78698 ppb	#	91
86)	1,3-DCB	12.25	146	14001	1.09938 ppb		99
87)	1,4-DCB	12.38	146	14244	1.14972 ppb		98
88)	n-Butylbenzene	12.95	91	19695	1.04468 ppb		95
89)	1,2-DCB	12.90	146	11438	1.07991 ppb		99
90)	Hexachloroethane	13.26	117	3139	0.99758 ppb		92
91)	1,2-Dibromo-3-chloropropan	14.02	75	400	1.06917 ppb	#	60
92)	1,2,4-Trichlorobenzene	15.23	180	3776	0.99655 ppb		90
93)	Hexachlorobutadiene	15.53	225	5416	1.09776 ppb		90
94)	Naphthalene	15.57	128	1722	1.21664 ppb	#	76
95)	1,2,3-Trichlorobenzene	15.92	180	1538	1.07403 ppb		83

(#) = qualifier out of range (m) = manual integration

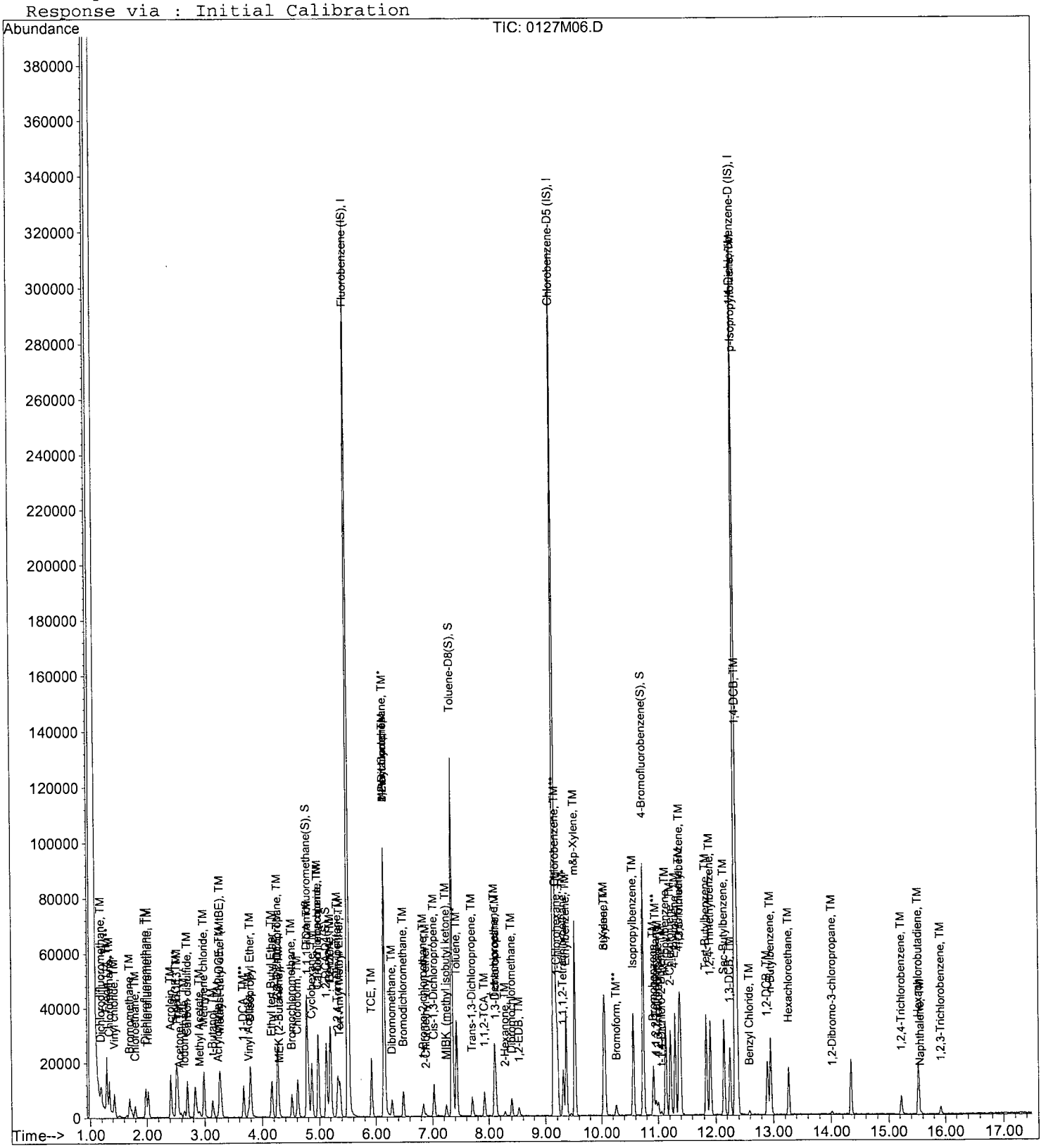
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 27 14:41 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration


Abundance
TIC: 0127M06.D
Time-->
Fluorobenzene (IS), I
Chlorobenzene-D5 (IS), I
Toluene-D8(S), S
4-Bromofluorobenzene(S), S
1,4-DCB, TM
Dichlorodifluoromethane, TM
Chloromethane, TM
Vinyl Chloride, TM
Bromomethane, TM
Chloroethane, TM
Methylene Chloride, TM
Acrolein, TM
Methyl Acetate, TM
Vinyl Acetate, TM
Acrylonitrile, TM
Methyl Ether, TM
Ethyl Ether, TM
Acetone, TM
Carbon Disulfide, TM
Methyl Iodide, TM
Allyl Chloride, TM
Tert-Butyl Alcohol, TM
Tert-Butyl Ether (MTBE), TM
Acrylonitrile, TM
Propionitrile, TM
Methacrylonitrile, TM
Isobutyl Alcohol, TM
Ethyl Methacrylate, TM
Chloroprene, TM
1,1-DCA, TM
Vinyl Acetate, TM
Methyl Acrylate, TM
Propionitrile, TM
Methacrylonitrile, TM
Isobutyl Alcohol, TM
Ethyl Methacrylate, TM
Ethyl Ether, TM
Ethyl Tert-Butyl Ether, TM
Tert-Amyl Methyl Ether, TM
Tert-Butyl Alcohol, TM
Tert-Amyl Alcohol, TM
Dibromomethane, TM
1,4-Dioxane, TM
Propionitrile, TM
Methacrylonitrile, TM
Isobutyl Alcohol, TM
Ethyl Methacrylate, TM
Chloroprene, TM
1,1-DCA, TM
Vinyl Acetate, TM
Methyl Acrylate

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D Vial: 7
Acq On : 27 Jan 17 12:49 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 01/27/16D Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
36) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
56) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
64) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	6197	1.99502 ppb		93
3) Freon 114	1.29	85	10371	2.14247 ppb		89
4) Chloromethane	1.34	50	10580	1.95594 ppb		99
5) Vinyl chloride	1.43	62	15174	2.02230 ppb		98
6) Bromomethane	1.70	94	8404	1.91300 ppb		97
7) Chloroethane	1.79	64	7649	1.83623 ppb		100
8) Dichlorofluoromethane	1.98	67	22090	1.94023 ppb		93
9) Trichlorofluoromethane	2.03	101	15419	1.94690 ppb		82
10) Acrolein	2.41	56	20463	76.40895 ppb		95
11) Acetone	2.57	43	2007	1.55884 ppb		86
12) Freon-113	2.53	101	10227	1.95105 ppb		97
13) 1,1-DCE	2.51	61	17113	1.99112 ppb		99
14) t-Butanol	3.14	59	9253	71.35111 ppb		99
15) Methyl Acetate	2.90	43	4341	2.08942 ppb		95
16) Iodomethane	2.64	142	7861	1.63338 ppb		99
17) Acrylonitrile	3.22	53	1494	1.34108 ppb	#	91
18) Methylene chloride	2.98	84	13918	1.71522 ppb		92
19) Carbon disulfide	2.70	76	33003	1.92940 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	17654	1.94458 ppb		98
21) Trans-1,2-DCE	3.26	96	11571	1.87754 ppb		96
22) Diisopropyl Ether	3.79	45	33028	1.90175 ppb		99
23) 1,1-DCA	3.67	63	20902	1.91759 ppb		96
24) Vinyl Acetate	3.76	43	5674	1.63290 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	20117	1.76999 ppb		100
26) MEK (2-Butanone)	4.31	43	1852	1.56634 ppb		98
27) Cis-1,2-DCE	4.27	96	13790	2.03965 ppb		95
28) 2,2-Dichloropropane	4.27	77	13512	1.83793 ppb		97
29) Chloroform	4.61	83	19612	1.86720 ppb		99
30) Bromochloromethane	4.51	128	5051	1.94614 ppb		89
32) 1,1,1-TCA	4.80	97	18722	1.93593 ppb		96
33) Cyclohexane	4.87	41	11246	2.03101 ppb		93
34) 1,1-Dichloropropene	4.98	75	17304	1.98346 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	31807	2.01499 ppb		98
37) Carbon Tetrachloride	4.98	117	15621	1.87868 ppb		85
38) Tert Amyl Methyl Ether	5.37	73	17294	1.82512 ppb		99
39) 1,2-DCA	5.21	62	11066	1.93975 ppb		100
40) Benzene	5.20	78	49465	1.91841 ppb		96
41) TCE	5.92	95	13950	2.00820 ppb		96
42) 2-Pentanone	6.15	43	126309	73.22545 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	11133	1.90409 ppb		100
44) Bromodichloromethane	6.49	83	12462	1.84068 ppb		95
45) Methyl Cyclohexane	6.15	83	17291	1.93043 ppb		88
46) Dibromomethane	6.29	93	4096	1.87537 ppb		87
47) MIBK (methyl isobutyl ket	7.24	43	6182	1.44991 ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	10881	1.93701 ppb		99
49) 2-Chloroethyl vinyl ether	6.89	106	190	1.55527 ppb	#	100
50) Cis-1,3-Dichloropropene	7.03	75	13507	1.81281 ppb		98
51) Toluene	7.43	91	56943	1.90606 ppb		98
52) Trans-1,3-Dichloropropene	7.71	75	8912	1.75820 ppb		93
53) 1,1,2-TCA	7.92	83	5259	1.93436 ppb		83
54) 2-Hexanone	8.28	43	2622	1.82672 ppb	#	84
57) 1,2-EDB	8.53	107	5308	1.83996 ppb		97
58) Tetrachloroethene	8.10	164	14503	2.04540 ppb		94
59) 1-Chlorohexane	9.21	91	15468	1.87831 ppb		94
60) 1,1,1,2-Tetrachloroethane	9.31	131	11607	1.93401 ppb		99
61) m&p-Xylene	9.52	106	50808	3.91477 ppb		100
62) o-Xylene	10.04	106	22679	1.87317 ppb		95
63) Styrene	10.06	104	34536	1.85408 ppb		97
65) 1,3-Dichloropropane	8.13	76	10891	1.90204 ppb		91
66) Dibromochloromethane	8.40	129	8332	1.89126 ppb		96
67) Chlorobenzene	9.19	112	36247	1.97190 ppb		97
68) Ethylbenzene	9.36	91	63277	1.91022 ppb		97
69) Bromoform	10.27	173	4834	1.84790 ppb		98
71) Isopropylbenzene	10.56	105	61554	1.92480 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	5721	1.89372 ppb		90
73) 1,2,3-Trichloropropane	11.01	110	2196	2.18994 ppb		85
74) t-1,4-Dichloro-2-Butene	11.05	53	944	1.66410 ppb		95
75) Bromobenzene	10.92	156	14166	1.91822 ppb		93
76) n-Propylbenzene	11.13	91	68266	1.93324 ppb		98
77) 4-Ethyltoluene	11.30	105	58682	1.88606 ppb		99
78) 2-Chlorotoluene	11.21	91	39938	1.89068 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	52435	2.02126 ppb		96
80) 4-Chlorotoluene	11.37	91	45694	1.91942 ppb		100
81) Tert-Butylbenzene	11.84	119	45242	1.94844 ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	48143	1.90206 ppb		92
83) Sec-Butylbenzene	12.15	105	60178	1.94462 ppb		94
84) p-Isopropyltoluene	12.37	119	52706	1.94992 ppb		98
85) Benzyl Chloride	12.59	91	3641	1.82517 ppb		95
86) 1,3-DCB	12.26	146	28321	1.91772 ppb		93
87) 1,4-DCB	12.38	146	27546	1.90344 ppb		98
88) n-Butylbenzene	12.96	91	39482	1.86039 ppb		92
89) 1,2-DCB	12.90	146	22934	1.89801 ppb		96
90) Hexachloroethane	13.27	117	6312	1.75695 ppb		95
91) 1,2-Dibromo-3-chloropropan	14.01	75	757	1.82255 ppb		90
92) 1,2,4-Trichlorobenzene	15.23	180	8746	1.68979 ppb		95
93) Hexachlorobutadiene	15.53	225	10964	1.97756 ppb		93
94) Naphthalene	15.56	128	4712	1.81981 ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	5030	1.80787 ppb		97

(#) = qualifier out of range (m) = manual integration

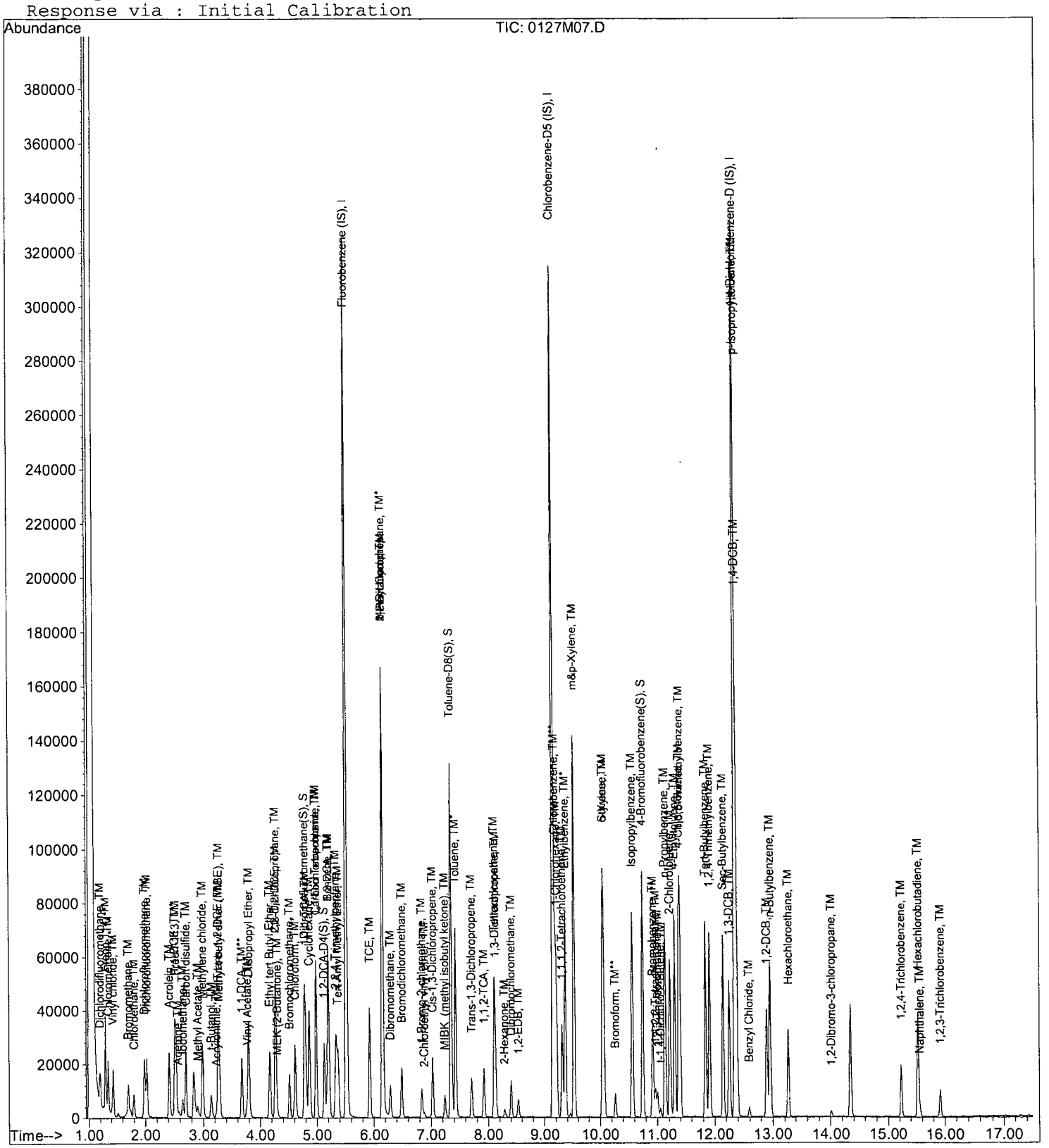
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:28 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



525

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
56) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
64) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	14186	4.58932 ppb		96
3) Freon 114	1.29	85	21494	4.46204 ppb		91
4) Chloromethane	1.34	50	27248	5.06204 ppb		100
5) Vinyl chloride	1.43	62	36137	4.83971 ppb		98
6) Bromomethane	1.70	94	20231	4.62772 ppb		95
7) Chloroethane	1.80	64	20189	4.87034 ppb		92
8) Dichlorofluoromethane	1.98	67	63712	5.62342 ppb		97
9) Trichlorofluoromethane	2.03	101	39524	5.01499 ppb		93
10) Acrolein	2.41	56	26814	100.61392 ppb		100
11) Acetone	2.57	43	4339	5.24630 ppb		95
12) Freon-113	2.53	101	26118	5.00704 ppb		97
13) 1,1-DCE	2.51	61	47239	5.52323 ppb		95
14) t-Butanol	3.14	59	12878	99.79026 ppb		95
15) Methyl Acetate	2.90	43	11356	5.49267 ppb		100
16) Iodomethane	2.64	142	33114	5.10758 ppb		98
17) Acrylonitrile	3.22	53	5313	5.51150 ppb	#	87
18) Methylene chloride	2.98	84	34185	5.74966 ppb		95
19) Carbon disulfide	2.70	76	94462	5.54941 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	52475	5.80840 ppb		98
21) Trans-1,2-DCE	3.25	96	35644	5.81202 ppb		98
22) Diisopropyl Ether	3.80	45	102358	5.92262 ppb		99
23) 1,1-DCA	3.67	63	63619	5.86512 ppb		99
24) Vinyl Acetate	3.76	43	19782	5.72086 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	65645	5.80404 ppb		99
26) MEK (2-Butanone)	4.31	43	7200	6.11925 ppb		89
27) Cis-1,2-DCE	4.27	96	38868	5.77703 ppb		97
28) 2,2-Dichloropropane	4.27	77	40785	5.57481 ppb		99
29) Chloroform	4.61	83	61253	5.86027 ppb		92
30) Bromochloromethane	4.51	128	15270	5.91231 ppb		96
32) 1,1,1-TCA	4.80	97	53865	5.59712 ppb		94
33) Cyclohexane	4.87	41	29060	5.27389 ppb		93
34) 1,1-Dichloropropene	4.98	75	48467	5.58269 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	76675	4.88118 ppb		98
37) Carbon Tetrachloride	4.98	117	43823	5.29624 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	54859	5.81789 ppb		97
39) 1,2-DCA	5.21	62	32962	5.80619 ppb		98
40) Benzene	5.20	78	148728	5.79640 ppb		98
41) TCE	5.92	95	38475	5.56586 ppb		91
42) 2-Pentanone	6.15	43	171330	99.81199 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:36:50 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	33196	5.70537	ppb		97
44)	Bromodichloromethane	6.49	83	40333	5.98648	ppb		87
45)	Methyl Cyclohexane	6.15	83	45650	5.12149	ppb		99
46)	Dibromomethane	6.29	93	12707	5.84643	ppb		76
47)	MIBK (methyl isobutyl ket	7.24	43	15391	5.52607	ppb		93
48)	1-Bromo-2-chloroethane	6.84	63	31900	5.70656	ppb		98
49)	2-Chloroethyl vinyl ether	6.87	106	637m	4.75437	ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	42825	5.77580	ppb		98
51)	Toluene	7.43	91	169990	5.71795	ppb		95
52)	Trans-1,3-Dichloropropene	7.71	75	27973	5.54565	ppb		92
53)	1,1,2-TCA	7.92	83	15832	5.85184	ppb		92
54)	2-Hexanone	8.28	43	7720	5.40478	ppb	#	94
57)	1,2-EDB	8.53	107	17157	5.99063	ppb		97
58)	Tetrachloroethene	8.10	164	41381	5.87860	ppb		94
59)	1-Chlorohexane	9.21	91	46310	5.66450	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	34121	5.72683	ppb		98
61)	m&p-Xylene	9.52	106	153047	11.87824	ppb		100
62)	o-Xylene	10.04	106	73128	6.08402	ppb		93
63)	Styrene	10.06	104	110225	5.96060	ppb		99
65)	1,3-Dichloropropane	8.13	76	33822	5.94985	ppb		99
66)	Dibromochloromethane	8.40	129	25834	5.90673	ppb		98
67)	Chlorobenzene	9.19	112	106910	5.85847	ppb		99
68)	Ethylbenzene	9.36	91	194581	5.91687	ppb		99
69)	Bromoform	10.27	173	15132	5.82669	ppb		95
71)	Isopropylbenzene	10.56	105	190220	5.83704	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	18082	5.87352	ppb		95
73)	1,2,3-Trichloropropane	11.00	110	6015	5.88632	ppb		96
74)	t-1,4-Dichloro-2-Butene	11.05	53	3517	5.53849	ppb		85
75)	Bromobenzene	10.92	156	43441	5.77245	ppb		98
76)	n-Propylbenzene	11.13	91	209960	5.83481	ppb		99
77)	4-Ethyltoluene	11.30	105	184909	5.83201	ppb		98
78)	2-Chlorotoluene	11.21	91	126223	5.86378	ppb		94
79)	1,3,5-Trimethylbenzene	11.39	105	155345	5.87633	ppb		98
80)	4-Chlorotoluene	11.37	91	144088	5.93945	ppb		98
81)	Tert-Butylbenzene	11.84	119	135405	5.72253	ppb		96
82)	1,2,4-Trimethylbenzene	11.91	105	148522	5.75825	ppb		99
83)	Sec-Butylbenzene	12.15	105	181604	5.75877	ppb		98
84)	p-Isopropyltoluene	12.37	119	159016	5.77304	ppb		99
85)	Benzyl Chloride	12.59	91	10359	5.09575	ppb		92
86)	1,3-DCB	12.26	146	88469	5.87863	ppb		98
87)	1,4-DCB	12.38	146	83174	5.63995	ppb		98
88)	n-Butylbenzene	12.95	91	126124	5.83191	ppb		94
89)	1,2-DCB	12.90	146	72088	5.85450	ppb		95
90)	Hexachloroethane	13.27	117	18873	5.15517	ppb		97
91)	1,2-Dibromo-3-chloropropan	14.00	75	2251	5.31823	ppb	#	77
92)	1,2,4-Trichlorobenzene	15.23	180	34761	5.21598	ppb		98
93)	Hexachlorobutadiene	15.53	225	31747	5.61915	ppb		97
94)	Naphthalene	15.56	128	21467	4.24164	ppb		98
95)	1,2,3-Trichlorobenzene	15.92	180	20080	4.66473	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

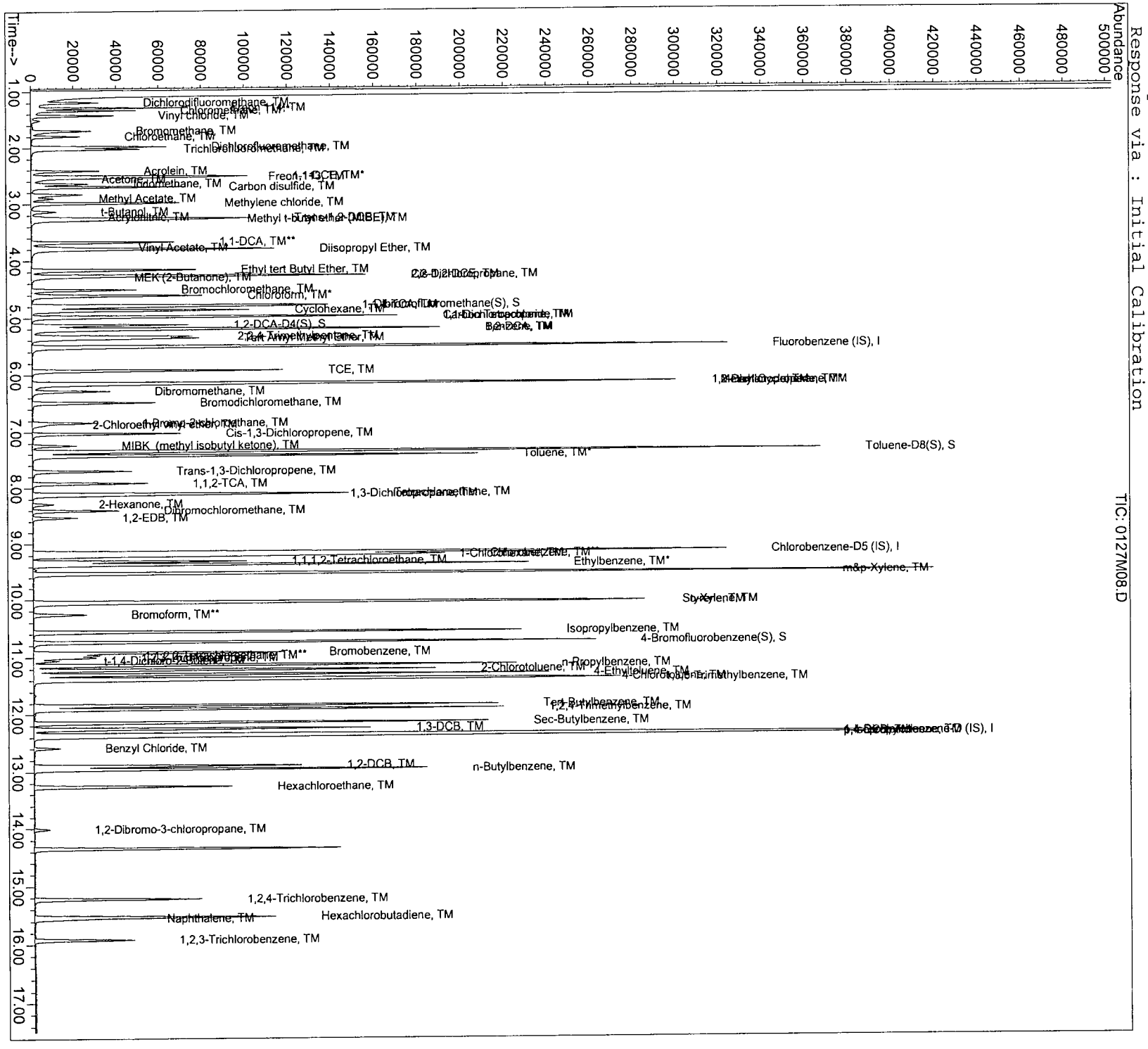
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:38 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D Vial: 9
Acq On : 27 Jan 17 13:45 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 01/27/16F Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
36) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
56) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
64) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	34112	10.41917 ppb	100
3) Freon 114	1.29	85	51835	10.15961 ppb	100
4) Chloromethane	1.34	50	54128	9.49403 ppb	100
5) Vinyl chloride	1.43	62	78953	9.98330 ppb	100
6) Bromomethane	1.69	94	36097	7.79577 ppb	100
7) Chloroethane	1.79	64	43444	9.89491 ppb	100
8) Dichlorofluoromethane	1.98	67	118435	9.86955 ppb	100
9) Trichlorofluoromethane	2.03	101	87038	10.42693 ppb	100
10) Acrolein	2.41	56	32459	114.99253 ppb	100
11) Acetone	2.57	43	7747	9.93129 ppb	100
12) Freon-113	2.53	101	56262	10.18344 ppb	100
13) 1,1-DCE	2.51	61	90361	9.97497 ppb	100
14) t-Butanol	3.14	59	16249	118.87880 ppb	100
15) Methyl Acetate	2.90	43	21601	9.86438 ppb	100
16) Iodomethane	2.64	142	73634	10.10872 ppb	100
17) Acrylonitrile	3.22	53	10491	10.51652 ppb	100
18) Methylene chloride	2.98	84	58449	9.91591 ppb	100
19) Carbon disulfide	2.70	76	179219	9.94059 ppb	100
20) Methyl t-butyl ether (MtBE	3.28	73	96158	10.04911 ppb	100
21) Trans-1,2-DCE	3.25	96	66688	10.26660 ppb	100
22) Diisopropyl Ether	3.80	45	183205	10.00846 ppb	100
23) 1,1-DCA	3.67	63	115429	10.04715 ppb	100
24) Vinyl Acetate	3.75	43	33950	9.26977 ppb	100
25) Ethyl tert Butyl Ether	4.17	59	119668	9.98953 ppb	100
26) MEK (2-Butanone)	4.31	43	13542	10.86642 ppb	100
27) Cis-1,2-DCE	4.27	96	70191	9.84989 ppb	100
28) 2,2-Dichloropropane	4.27	77	79307	10.23480 ppb	100
29) Chloroform	4.61	83	110730	10.00215 ppb	100
30) Bromochloromethane	4.51	128	27002	9.87080 ppb	100
32) 1,1,1-TCA	4.80	97	104626	10.26445 ppb	100
33) Cyclohexane	4.87	41	61008	10.45346 ppb	100
34) 1,1-Dichloropropene	4.98	75	95546	10.39078 ppb	100
35) 2,2,4-Trimethylpentane	5.33	57	167786	10.08474 ppb	100
37) Carbon Tetrachloride	4.98	117	88656	10.11606 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	99041	9.91678 ppb	100
39) 1,2-DCA	5.21	62	60052	9.98719 ppb	100
40) Benzene	5.20	78	273120	10.04979 ppb	100
41) TCE	5.92	95	73263	10.00637 ppb	100
42) 2-Pentanone	6.15	43	219407	120.68071 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 1,2-Dichloropropane	6.16	63	62149	10.08487	ppb	100
44) Bromodichloromethane	6.49	83	70951	9.94278	ppb	100
45) Methyl Cyclohexane	6.15	83	98908	10.47672	ppb	100
46) Dibromomethane	6.29	93	22370	9.71744	ppb	100
47) MIBK (methyl isobutyl ket	7.24	43	26828	9.91077	ppb	100
48) 1-Bromo-2-chloroethane	6.84	63	57768	9.75684	ppb	100
49) 2-Chloroethyl vinyl ether	6.88	106	1196m	8.49827	ppb	0
50) Cis-1,3-Dichloropropene	7.02	75	79354	10.10466	ppb	100
51) Toluene	7.43	91	315888	10.03202	ppb	100
52) Trans-1,3-Dichloropropene	7.71	75	52987	9.91793	ppb	100
53) 1,1,2-TCA	7.92	83	28434	9.92276	ppb	100
54) 2-Hexanone	8.28	43	14409	9.52428	ppb	100
57) 1,2-EDB	8.53	107	30974	10.01658	ppb	100
58) Tetrachloroethene	8.10	164	76460	10.06001	ppb	100
59) 1-Chlorohexane	9.21	91	93336	10.57371	ppb	100
60) 1,1,1,2-Tetrachloroethane	9.31	131	65080	10.11652	ppb	100
61) m&p-Xylene	9.52	106	281914	20.26445	ppb	100
62) o-Xylene	10.04	106	133065	10.25326	ppb	100
63) Styrene	10.06	104	203560	10.19514	ppb	100
65) 1,3-Dichloropropane	8.13	76	60734	9.89531	ppb	100
66) Dibromochloromethane	8.40	129	47586	10.07688	ppb	100
67) Chlorobenzene	9.19	112	195049	9.89921	ppb	100
68) Ethylbenzene	9.36	91	365049	10.28096	ppb	100
69) Bromoform	10.27	173	27908	9.95281	ppb	100
71) Isopropylbenzene	10.56	105	358076	10.35393	ppb	100
72) 1,1,2,2-Tetrachloroethane	10.97	83	32319	9.89245	ppb	100
73) 1,2,3-Trichloropropane	11.00	110	11258	10.38157	ppb	100
74) t-1,4-Dichloro-2-Butene	11.05	53	6748	9.84760	ppb	100
75) Bromobenzene	10.92	156	79749	9.98571	ppb	100
76) n-Propylbenzene	11.13	91	396471	10.38234	ppb	100
77) 4-Ethyltoluene	11.30	105	352883	10.48780	ppb	100
78) 2-Chlorotoluene	11.21	91	227930	9.97779	ppb	100
79) 1,3,5-Trimethylbenzene	11.39	105	288368	10.27896	ppb	100
80) 4-Chlorotoluene	11.37	91	261434	10.15487	ppb	100
81) Tert-Butylbenzene	11.84	119	257862	10.26915	ppb	100
82) 1,2,4-Trimethylbenzene	11.91	105	283055	10.34104	ppb	100
83) Sec-Butylbenzene	12.15	105	350673	10.47853	ppb	100
84) p-Isopropyltoluene	12.37	119	301976	10.33071	ppb	100
85) Benzyl Chloride	12.59	91	22118	10.25250	ppb	100
86) 1,3-DCB	12.26	146	159472	9.98535	ppb	100
87) 1,4-DCB	12.38	146	156235	9.98297	ppb	100
88) n-Butylbenzene	12.95	91	244919	10.67160	ppb	100
89) 1,2-DCB	12.90	146	132092	10.10873	ppb	100
90) Hexachloroethane	13.27	117	39667	10.20997	ppb	100
91) 1,2-Dibromo-3-chloropropan	14.01	75	4337	9.65550	ppb	100
92) 1,2,4-Trichlorobenzene	15.23	180	73893	9.97275	ppb	100
93) Hexachlorobutadiene	15.53	225	62712	10.45954	ppb	100
94) Naphthalene	15.56	128	60675	9.43074	ppb	100
95) 1,2,3-Trichlorobenzene	15.92	180	49768	9.78784	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

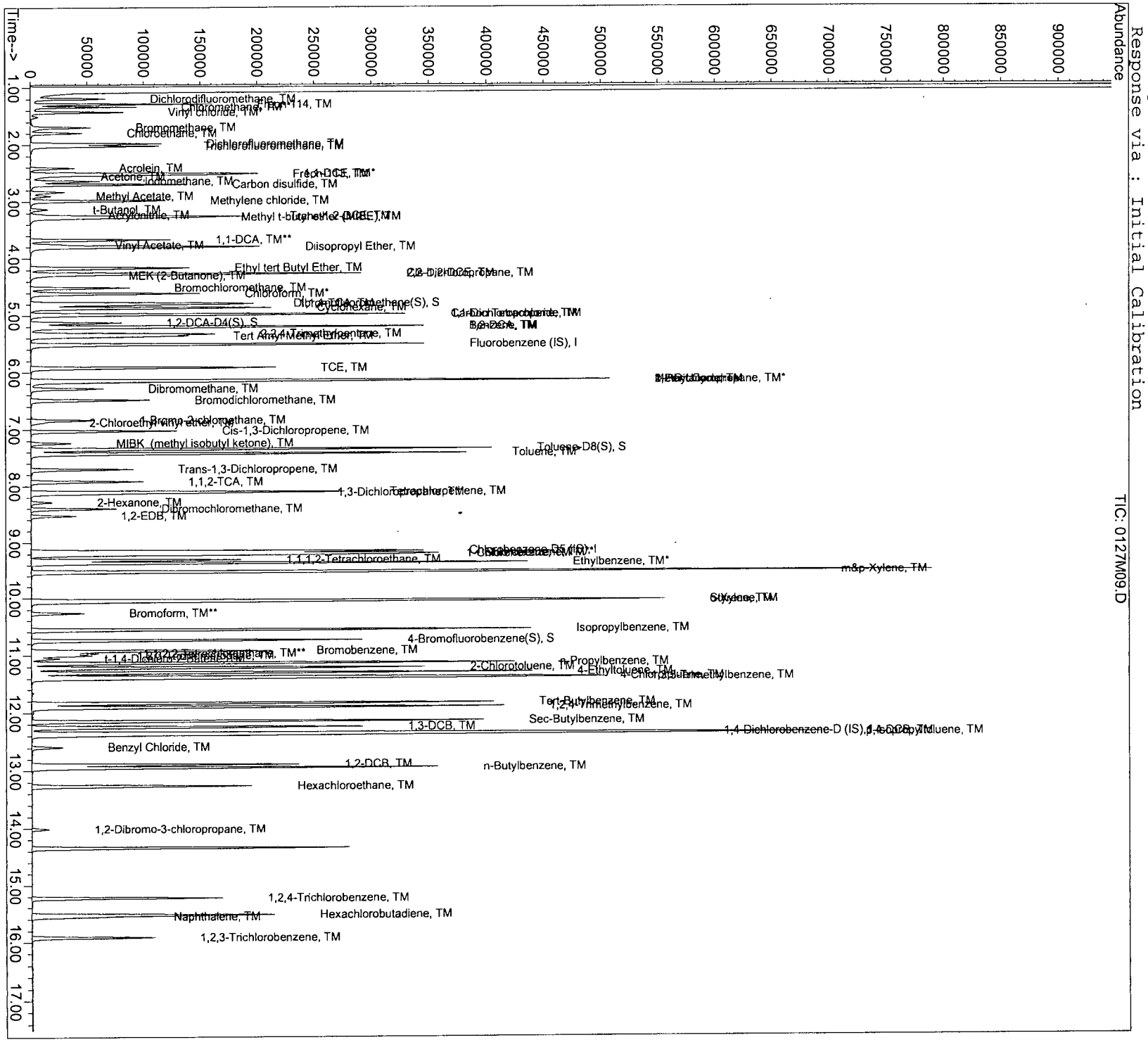
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:31 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
36) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
56) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
64) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	65256	20.31180 ppb		99
3) Freon 114	1.29	85	94834	18.94174 ppb		96
4) Chloromethane	1.34	50	98848	17.66845 ppb		97
5) Vinyl chloride	1.43	62	154639	19.92629 ppb		96
6) Bromomethane	1.69	94	63257	13.92190 ppb		100
7) Chloroethane	1.79	64	83028	19.27120 ppb		99
8) Dichlorofluoromethane	1.98	67	228593	19.41252 ppb		100
9) Trichlorofluoromethane	2.02	101	164977	20.14061 ppb		98
10) Acrolein	2.41	56	42431	153.18623 ppb		99
11) Acetone	2.57	43	15295	21.58632 ppb		90
12) Freon-113	2.53	101	104748	19.32089 ppb		97
13) 1,1-DCE	2.51	61	170333	19.16159 ppb		99
14) t-Butanol	3.14	59	21326	158.99707 ppb		93
15) Methyl Acetate	2.90	43	41931	19.51341 ppb		90
16) Iodomethane	2.64	142	144705	19.68404 ppb		99
17) Acrylonitrile	3.22	53	20123	20.82322 ppb	#	92
18) Methylene chloride	2.98	84	109978	19.96100 ppb		98
19) Carbon disulfide	2.70	76	333201	18.83372 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	186051	19.81418 ppb		98
21) Trans-1,2-DCE	3.25	96	126691	19.87590 ppb		97
22) Diisopropyl Ether	3.80	45	358853	19.97784 ppb		99
23) 1,1-DCA	3.67	63	220814	19.58648 ppb		98
24) Vinyl Acetate	3.75	43	80612	22.43007 ppb		99
25) Ethyl tert Butyl Ether	4.17	59	234902	19.98276 ppb		98
26) MEK (2-Butanone)	4.30	43	24667	20.17075 ppb	#	84
27) Cis-1,2-DCE	4.27	96	135535	19.38222 ppb		98
28) 2,2-Dichloropropane	4.27	77	154252	20.28619 ppb		99
29) Chloroform	4.61	83	212028	19.51746 ppb		99
30) Bromochloromethane	4.51	128	52686	19.62699 ppb		95
32) 1,1,1-TCA	4.80	97	196786	19.67399 ppb		95
33) Cyclohexane	4.87	41	111882	19.53599 ppb		98
34) 1,1-Dichloropropene	4.98	75	176090	19.51516 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	309857	18.97896 ppb		100
37) Carbon Tetrachloride	4.98	117	171296	19.91831 ppb		99
38) Tert Amyl Methyl Ether	5.37	73	201296	20.53963 ppb		93
39) 1,2-DCA	5.21	62	118786	20.13182 ppb		97
40) Benzene	5.20	78	520866	19.53132 ppb		99
41) TCE	5.92	95	138808	19.32005 ppb		95
42) 2-Pentanone	6.15	43	274360	153.78363 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:48:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	117421	19.41707 ppb		99
44)	Bromodichloromethane	6.49	83	139071	19.86039 ppb		94
45)	Methyl Cyclohexane	6.15	83	180292	19.46131 ppb		99
46)	Dibromomethane	6.29	93	44191	19.56238 ppb		93
47)	MIBK (methyl isobutyl ket	7.24	43	53313	21.36624 ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	115975	19.96127 ppb		97
49)	2-Chloroethyl vinyl ether	6.88	106	2355m	19.01059 ppb		0
50)	Cis-1,3-Dichloropropene	7.02	75	156748	20.34027 ppb		98
51)	Toluene	7.43	91	605872	19.60822 ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	110003	20.98254 ppb		98
53)	1,1,2-TCA	7.92	83	55178	19.62286 ppb		98
54)	2-Hexanone	8.28	43	29744	20.03548 ppb		92
57)	1,2-EDB	8.53	107	62965	20.70855 ppb		96
58)	Tetrachloroethene	8.11	164	143390	19.18719 ppb		96
59)	1-Chlorohexane	9.21	91	175311	20.19834 ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	124720	19.71733 ppb		99
61)	m&p-Xylene	9.52	106	547470	40.02276 ppb		99
62)	o-Xylene	10.04	106	259725	20.35356 ppb		99
63)	Styrene	10.06	104	405114	20.63509 ppb		99
65)	1,3-Dichloropropane	8.13	76	122326	20.26958 ppb		99
66)	Dibromochloromethane	8.40	129	93899	20.22256 ppb		98
67)	Chlorobenzene	9.19	112	376808	19.44937 ppb		98
68)	Ethylbenzene	9.36	91	696358	19.94543 ppb		99
69)	Bromoform	10.27	173	56276	20.41120 ppb		98
71)	Isopropylbenzene	10.56	105	687769	19.36855 ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	65494	19.52413 ppb		95
73)	1,2,3-Trichloropropane	11.00	110	21002	18.86195 ppb		89
74)	t-1,4-Dichloro-2-Butene	11.05	53	14527	20.42170 ppb	#	77
75)	Bromobenzene	10.92	156	158664	19.34891 ppb		100
76)	n-Propylbenzene	11.13	91	770212	19.64347 ppb		100
77)	4-Ethyltoluene	11.30	105	683460	19.78295 ppb		97
78)	2-Chlorotoluene	11.21	91	453557	19.33700 ppb		98
79)	1,3,5-Trimethylbenzene	11.39	105	560103	19.44439 ppb		99
80)	4-Chlorotoluene	11.37	91	510997	19.33102 ppb		98
81)	Tert-Butylbenzene	11.84	119	493464	19.13934 ppb		98
82)	1,2,4-Trimethylbenzene	11.91	105	554402	19.72615 ppb		99
83)	Sec-Butylbenzene	12.15	105	672523	19.57173 ppb		98
84)	p-Isopropyltoluene	12.37	119	589954	19.65622 ppb		99
85)	Benzyl Chloride	12.59	91	56498	25.50592 ppb		97
86)	1,3-DCB	12.26	146	315723	19.25348 ppb		98
87)	1,4-DCB	12.38	146	303653	18.89659 ppb		98
88)	n-Butylbenzene	12.95	91	481019	20.41237 ppb		98
89)	1,2-DCB	12.90	146	263479	19.63769 ppb		99
90)	Hexachloroethane	13.26	117	84976	21.30178 ppb		96
91)	1,2-Dibromo-3-chloropropan	14.02	75	9525	20.65259 ppb	#	84
92)	1,2,4-Trichlorobenzene	15.23	180	155863	19.98732 ppb		97
93)	Hexachlorobutadiene	15.53	225	118497	19.24835 ppb		97
94)	Naphthalene	15.56	128	144972	20.45653 ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	110444	20.19222 ppb		98

(#) = qualifier out of range (m) = manual integration

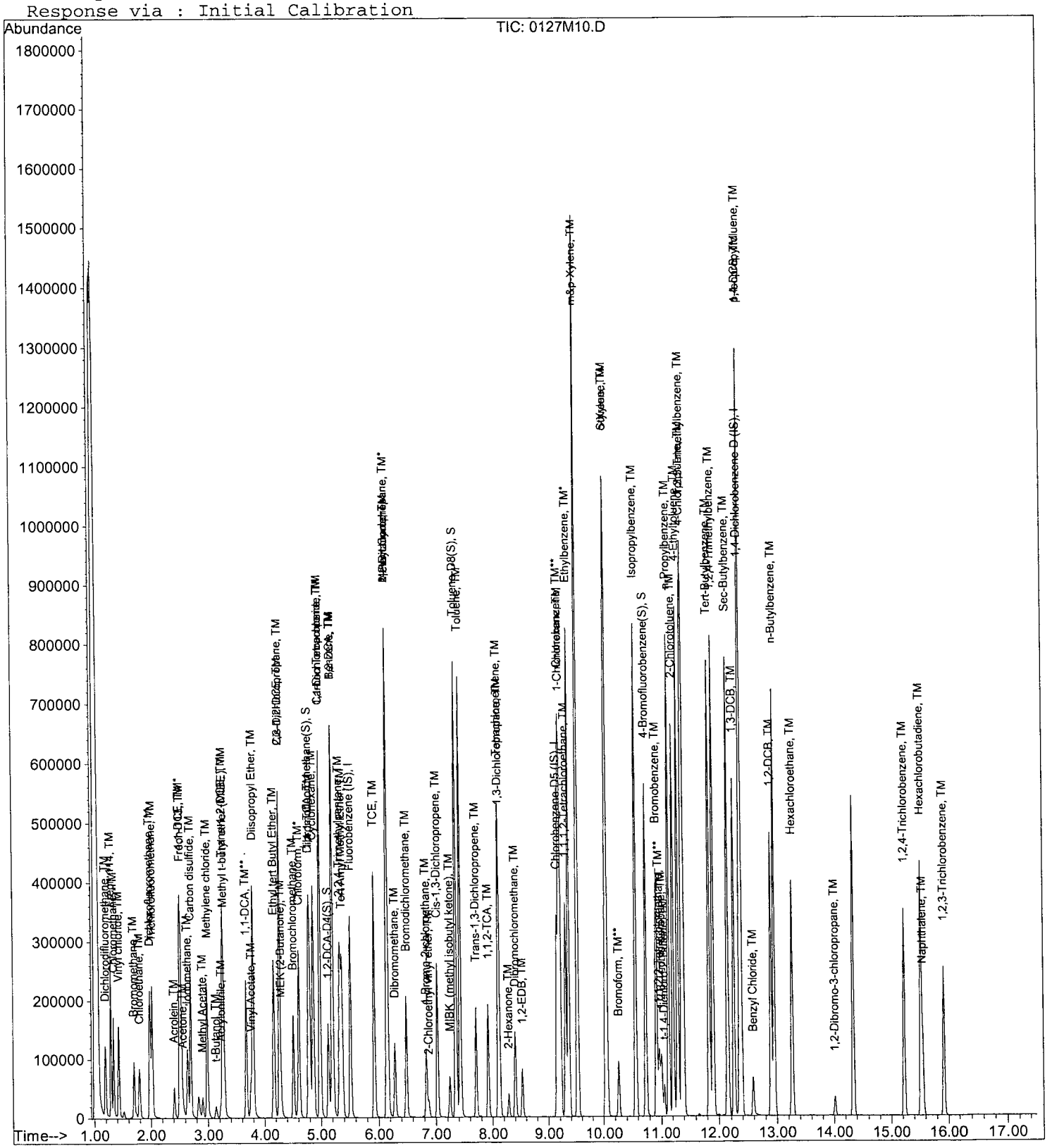
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:52 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



534

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
36) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
56) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
64) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	133312	40.80107 ppb	99
3) Freon 114	1.29	85	199509	39.18254 ppb	99
4) Chloromethane	1.34	50	210573	37.00901 ppb	98
5) Vinyl chloride	1.43	62	310207	39.30370 ppb	97
6) Bromomethane	1.69	94	96551	20.89398 ppb	98
7) Chloroethane	1.78	64	167957	38.33157 ppb	99
8) Dichlorofluoromethane	1.98	67	472074	39.41881 ppb	98
9) Trichlorofluoromethane	2.02	101	328623	39.44769 ppb	96
10) Acrolein	2.41	56	49549	175.89182 ppb	99
11) Acetone	2.57	43	28736	41.22164 ppb	100
12) Freon-113	2.53	101	214899	38.97535 ppb	97
13) 1,1-DCE	2.51	61	348870	38.58963 ppb	98
14) t-Butanol	3.14	59	25278	185.30910 ppb	100
15) Methyl Acetate	2.90	43	85015	38.90164 ppb	98
16) Iodomethane	2.64	142	305480	40.25788 ppb	99
17) Acrylonitrile	3.22	53	39186	40.12683 ppb #	86
18) Methylene chloride	2.98	84	223780	40.97010 ppb	97
19) Carbon disulfide	2.70	76	682194	37.91509 ppb	99
20) Methyl t-butyl ether (MtBE	3.28	73	375369	39.30762 ppb	99
21) Trans-1,2-DCE	3.25	96	255063	39.34620 ppb	98
22) Diisopropyl Ether	3.80	45	719561	39.38891 ppb	99
23) 1,1-DCA	3.67	63	448373	39.10601 ppb	100
24) Vinyl Acetate	3.75	43	158690	43.41650 ppb	99
25) Ethyl tert Butyl Ether	4.17	59	493183	41.25259 ppb	100
26) MEK (2-Butanone)	4.30	43	48188	38.74529 ppb	95
27) Cis-1,2-DCE	4.27	96	275009	38.66992 ppb	99
28) 2,2-Dichloropropane	4.27	77	324237	41.92823 ppb	99
29) Chloroform	4.61	83	430109	38.92988 ppb	96
30) Bromochloromethane	4.51	128	105560	38.66625 ppb	96
32) 1,1,1-TCA	4.80	97	406952	40.00513 ppb	96
33) Cyclohexane	4.86	41	229146	39.34249 ppb	95
34) 1,1-Dichloropropene	4.98	75	358097	39.02226 ppb	98
35) 2,2,4-Trimethylpentane	5.33	57	658725	39.67250 ppb	99
37) Carbon Tetrachloride	4.98	117	355267	40.61948 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	415330	41.67015 ppb	92
39) 1,2-DCA	5.21	62	236874	39.47384 ppb	96
40) Benzene	5.20	78	1060118	39.08715 ppb	99
41) TCE	5.92	95	284986	39.00242 ppb	97
42) 2-Pentanone	6.15	43	334177	184.17903 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:40:37 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	238187	38.72847	ppb	99
44)	Bromodichloromethane	6.49	83	283017	39.74092	ppb	94
45)	Methyl Cyclohexane	6.15	83	376632	39.97488	ppb	98
46)	Dibromomethane	6.29	93	89746	39.06405	ppb	94
47)	MIBK (methyl isobutyl ket	7.24	43	101724	41.19361	ppb	98
48)	1-Bromo-2-chloroethane	6.84	63	236435	40.01381	ppb	98
49)	2-Chloroethyl vinyl ether	6.88	106	5417m	41.46331	ppb	0
50)	Cis-1,3-Dichloropropene	7.02	75	330146	42.12453	ppb	99
51)	Toluene	7.43	91	1228380	39.08988	ppb	99
52)	Trans-1,3-Dichloropropene	7.71	75	234193	43.92398	ppb	96
53)	1,1,2-TCA	7.92	83	110877	38.77146	ppb	99
54)	2-Hexanone	8.28	43	63446	42.02222	ppb	94
57)	1,2-EDB	8.53	107	127741	40.30615	ppb	99
58)	Tetrachloroethene	8.10	164	289113	37.11511	ppb	97
59)	1-Chlorohexane	9.21	91	366030	40.45888	ppb	99
60)	1,1,1,2-Tetrachloroethane	9.31	131	257761	39.09488	ppb	98
61)	m&p-Xylene	9.52	106	1106907	77.63336	ppb	100
62)	o-Xylene	10.04	106	518680	38.99569	ppb	99
63)	Styrene	10.06	104	816498	39.90018	ppb	97
65)	1,3-Dichloropropane	8.13	76	242159	38.49613	ppb	96
66)	Dibromochloromethane	8.40	129	190275	39.31403	ppb	100
67)	Chlorobenzene	9.19	112	768461	38.05378	ppb	97
68)	Ethylbenzene	9.36	91	1426753	39.20579	ppb	98
69)	Bromoform	10.27	173	115272	40.11065	ppb	95
71)	Isopropylbenzene	10.56	105	1402869	38.71140	ppb	99
72)	1,1,2,2-Tetrachloroethane	10.97	83	131105	38.29629	ppb	97
73)	1,2,3-Trichloropropane	11.00	110	42294	37.21962	ppb	92
74)	t-1,4-Dichloro-2-Butene	11.05	53	29024	39.78311	ppb	85
75)	Bromobenzene	10.92	156	321269	38.38966	ppb	100
76)	n-Propylbenzene	11.13	91	1571394	39.26996	ppb	100
77)	4-Ethyltoluene	11.30	105	1387171	39.34370	ppb	99
78)	2-Chlorotoluene	11.22	91	907052	37.89280	ppb	96
79)	1,3,5-Trimethylbenzene	11.40	105	1133478	38.55733	ppb	100
80)	4-Chlorotoluene	11.37	91	1036876	38.43533	ppb	98
81)	Tert-Butylbenzene	11.84	119	1007701	38.29750	ppb	98
82)	1,2,4-Trimethylbenzene	11.91	105	1128163	39.33297	ppb	98
83)	Sec-Butylbenzene	12.15	105	1350867	38.52140	ppb	100
84)	p-Isopropyltoluene	12.37	119	1196507	39.06290	ppb	99
85)	Benzyl Chloride	12.59	91	126401	55.91468	ppb	94
86)	1,3-DCB	12.26	146	640664	38.28253	ppb	97
87)	1,4-DCB	12.38	146	611409	37.28249	ppb	98
88)	n-Butylbenzene	12.95	91	979534	40.73034	ppb	98
89)	1,2-DCB	12.90	146	529009	38.63445	ppb	99
90)	Hexachloroethane	13.27	117	184461	45.30973	ppb	99
91)	1,2-Dibromo-3-chloropropan	14.01	75	18907	40.16978	ppb	91
92)	1,2,4-Trichlorobenzene	15.23	180	339884	42.16925	ppb	97
93)	Hexachlorobutadiene	15.52	225	241129	38.37981	ppb	95
94)	Naphthalene	15.56	128	344732	46.17235	ppb	96
95)	1,2,3-Trichlorobenzene	15.92	180	247669	43.37697	ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

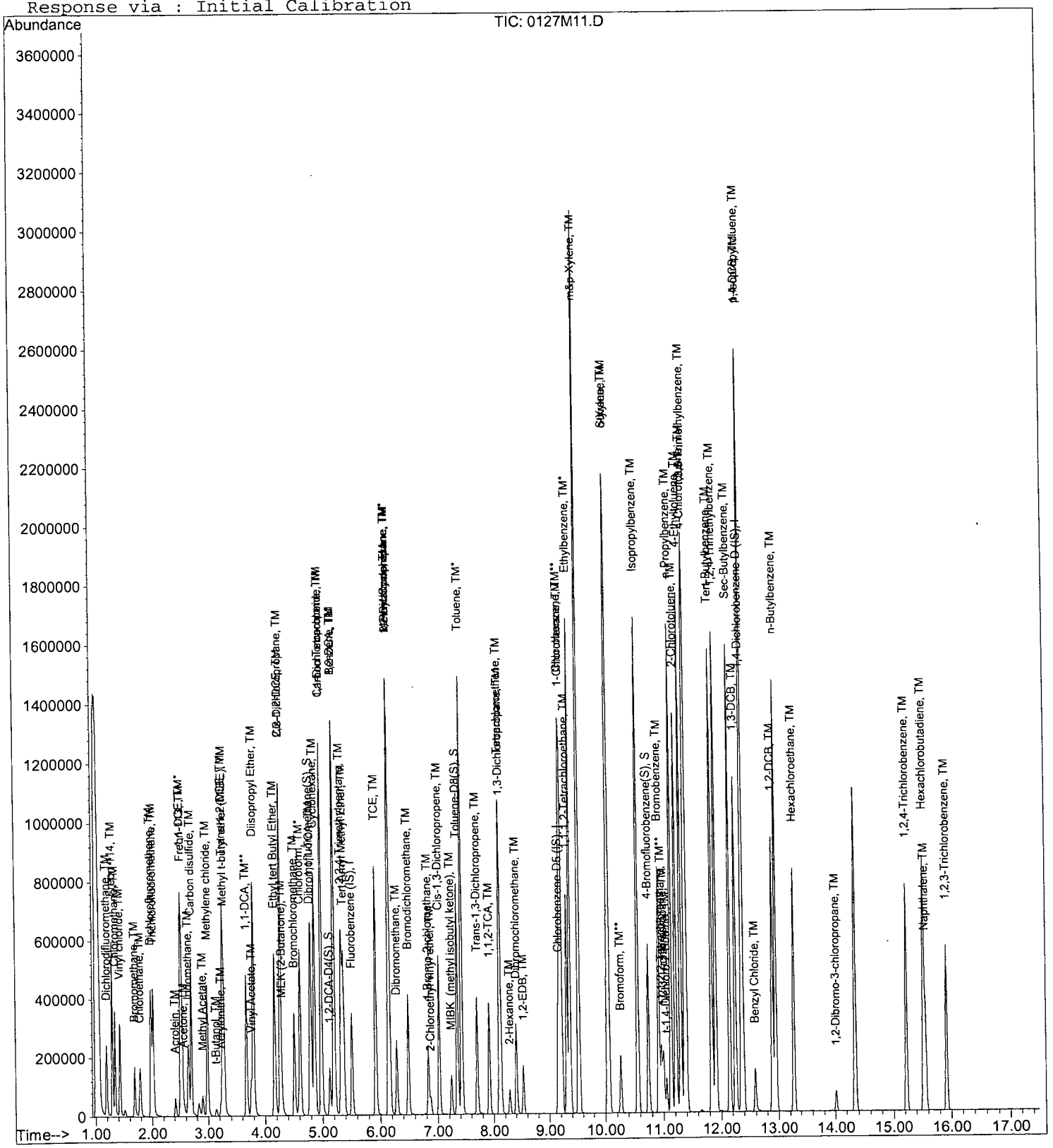
Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:47 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



537

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery = 394.456%		
36) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery = 384.948%		
56) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery = 383.496%		
64) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery = 391.064%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	343872	102.96990 ppb		100
3) Freon 114	1.29	85	519226	99.76950 ppb		97
4) Chloromethane	1.34	50	556437	95.68240 ppb		98
5) Vinyl chloride	1.43	62	837060	103.76469 ppb		98
6) Bromomethane	1.69	94	232713	49.27154 ppb		98
7) Chloroethane	1.77	64	300669	67.13645 ppb		99
8) Dichlorofluoromethane	1.98	67	1178469	96.27705 ppb		98
9) Trichlorofluoromethane	2.01	101	843283	99.03944 ppb		97
10) Acrolein	2.41	56	55481	192.69315 ppb		93
11) Acetone	2.57	43	69157	99.20986 ppb		96
12) Freon-113	2.53	101	552687	98.07225 ppb		98
13) 1,1-DCE	2.50	61	873386	94.52015 ppb		99
14) t-Butanol	3.15	59	31075	222.88272 ppb		96
15) Methyl Acetate	2.90	43	218014	97.60408 ppb		94
16) Iodomethane	2.64	142	781697	99.94986 ppb		99
17) Acrylonitrile	3.22	53	99130	99.72831 ppb	#	91
18) Methylene chloride	2.98	84	548005	99.60310 ppb		94
19) Carbon disulfide	2.69	76	1717258	93.37938 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	937758	96.07720 ppb		100
21) Trans-1,2-DCE	3.25	96	633975	95.68385 ppb		98
22) Diisopropyl Ether	3.80	45	1770389	94.81701 ppb		99
23) 1,1-DCA	3.67	63	1121521	95.70236 ppb		99
24) Vinyl Acetate	3.75	43	375424	100.49362 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	1228395	100.52924 ppb		100
26) MEK (2-Butanone)	4.30	43	115177	90.60602 ppb	#	87
27) Cis-1,2-DCE	4.27	96	672693	92.54533 ppb		99
28) 2,2-Dichloropropane	4.27	77	855122	108.18905 ppb		97
29) Chloroform	4.61	83	1070594	94.80703 ppb		94
30) Bromochloromethane	4.51	128	264760	94.88473 ppb		98
32) 1,1,1-TCA	4.80	97	1042776	100.29395 ppb		98
33) Cyclohexane	4.87	41	588370	98.83512 ppb		96
34) 1,1-Dichloropropene	4.98	75	895453	95.46975 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	1663299	98.00923 ppb		99
37) Carbon Tetrachloride	4.98	117	909832	101.77755 ppb		98
38) Tert Amyl Methyl Ether	5.37	73	1047571	102.83158 ppb	#	90
39) 1,2-DCA	5.21	62	578988	94.40018 ppb		95
40) Benzene	5.20	78	2607792	94.07279 ppb		100
41) TCE	5.92	95	695754	93.16118 ppb		93
42) 2-Pentanone	6.15	43	419920	226.43388 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:22:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	575139	91.49477	ppb		98
44)	Bromodichloromethane	6.49	83	709142	97.42487	ppb		93
45)	Methyl Cyclohexane	6.15	83	954555	99.12477	ppb		99
46)	Dibromomethane	6.29	93	221967	94.52829	ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	246153	99.25534	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	600146	99.37251	ppb		99
49)	2-Chloroethyl vinyl ether	6.87	106	18780	128.53504	ppb	#	100
50)	Cis-1,3-Dichloropropene	7.02	75	833650	104.06962	ppb		98
51)	Toluene	7.43	91	3062417	95.34702	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	612826	112.45433	ppb		96
53)	1,1,2-TCA	7.92	83	275376	94.21239	ppb		98
54)	2-Hexanone	8.29	43	158688	102.83241	ppb		99
57)	1,2-EDB	8.53	107	323484	96.38165	ppb		98
58)	Tetrachloroethene	8.10	164	712157	86.32953	ppb		96
59)	1-Chlorohexane	9.22	91	944682	98.60145	ppb		99
60)	1,1,1,2-Tetrachloroethane	9.31	131	679642	97.33821	ppb		99
61)	m&p-Xylene	9.53	106	2734472	181.09699	ppb		98
62)	o-Xylene	10.04	106	1303262	92.52293	ppb		98
63)	Styrene	10.07	104	2057630	94.94836	ppb		96
65)	1,3-Dichloropropane	8.13	76	593413	89.07874	ppb		98
66)	Dibromochloromethane	8.40	129	474989	92.67228	ppb		99
67)	Chlorobenzene	9.19	112	1908155	89.22573	ppb		99
68)	Ethylbenzene	9.36	91	3615105	93.80431	ppb		100
69)	Bromoform	10.27	173	297921	97.88982	ppb		94
71)	Isopropylbenzene	10.56	105	3535619	92.80069	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	332138	92.28265	ppb		98
73)	1,2,3-Trichloropropane	11.00	110	108434	90.76589	ppb		96
74)	t-1,4-Dichloro-2-Butene	11.06	53	82901	107.73234	ppb	#	78
75)	Bromobenzene	10.92	156	836667	95.09597	ppb		100
76)	n-Propylbenzene	11.14	91	4036079	95.93984	ppb		99
77)	4-Ethyltoluene	11.30	105	3559289	96.02237	ppb		99
78)	2-Chlorotoluene	11.22	91	2302880	91.50816	ppb		96
79)	1,3,5-Trimethylbenzene	11.40	105	2872021	92.92775	ppb		100
80)	4-Chlorotoluene	11.37	91	2622800	92.47685	ppb		97
81)	Tert-Butylbenzene	11.84	119	2549618	92.16751	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	2875638	95.36371	ppb		95
83)	Sec-Butylbenzene	12.16	105	3466671	94.02992	ppb		98
84)	p-Isopropyltoluene	12.38	119	3049296	94.69191	ppb		99
85)	Benzyl Chloride	12.59	91	408642	171.94214	ppb		94
86)	1,3-DCB	12.26	146	1620967	92.13157	ppb		97
87)	1,4-DCB	12.39	146	1524655	88.43184	ppb		98
88)	n-Butylbenzene	12.96	91	2516599	99.53516	ppb		98
89)	1,2-DCB	12.90	146	1348819	93.69780	ppb		98
90)	Hexachloroethane	13.27	117	487718	113.95140	ppb		98
91)	1,2-Dibromo-3-chloropropan	14.01	75	52405	105.90429	ppb		94
92)	1,2,4-Trichlorobenzene	15.23	180	911146	106.79232	ppb		99
93)	Hexachlorobutadiene	15.53	225	621815	94.14096	ppb		96
94)	Naphthalene	15.56	128	912952	114.60440	ppb		97
95)	1,2,3-Trichlorobenzene	15.92	180	628361	103.50823	ppb		97

(#) = qualifier out of range (m) = manual integration

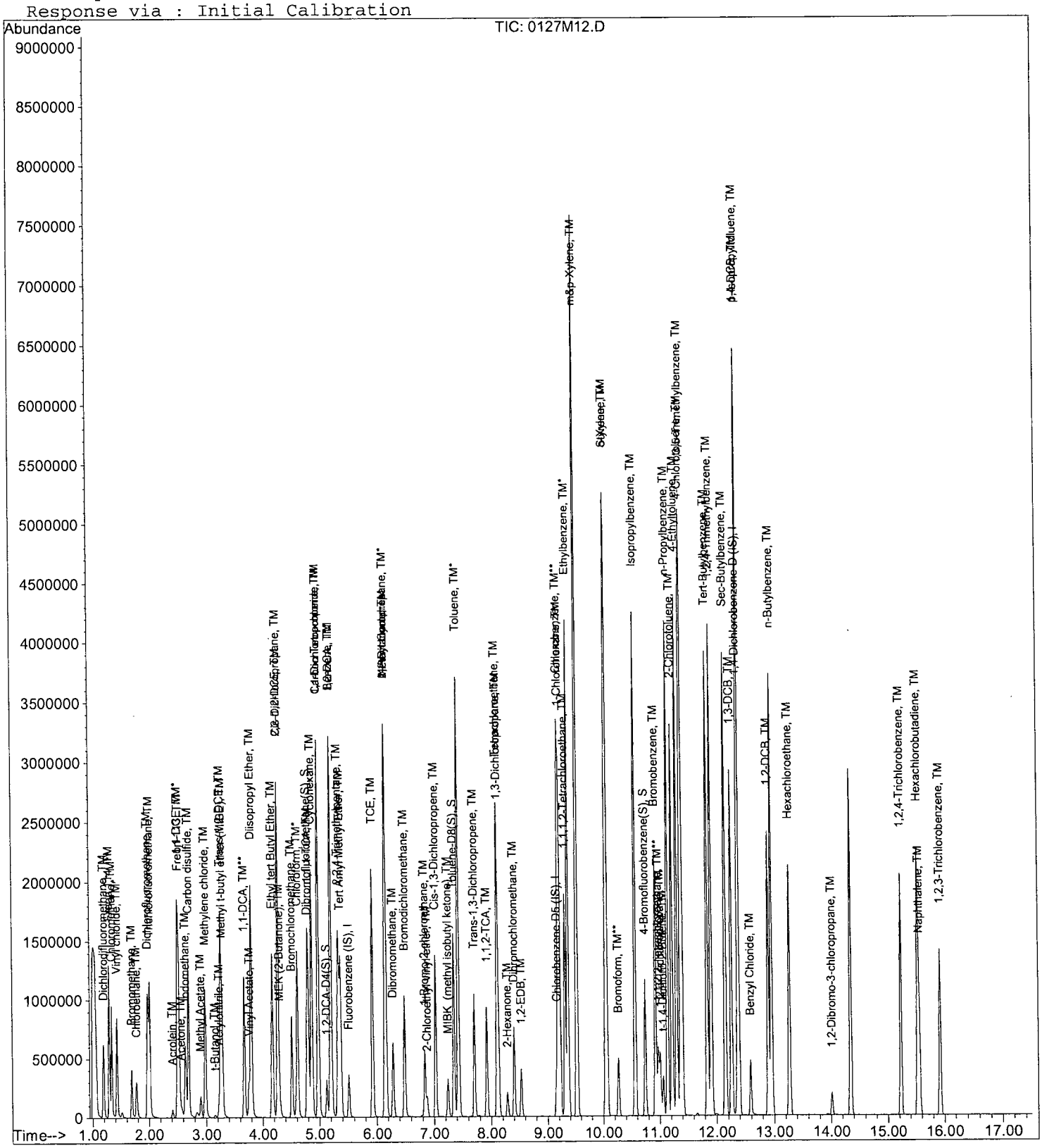
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

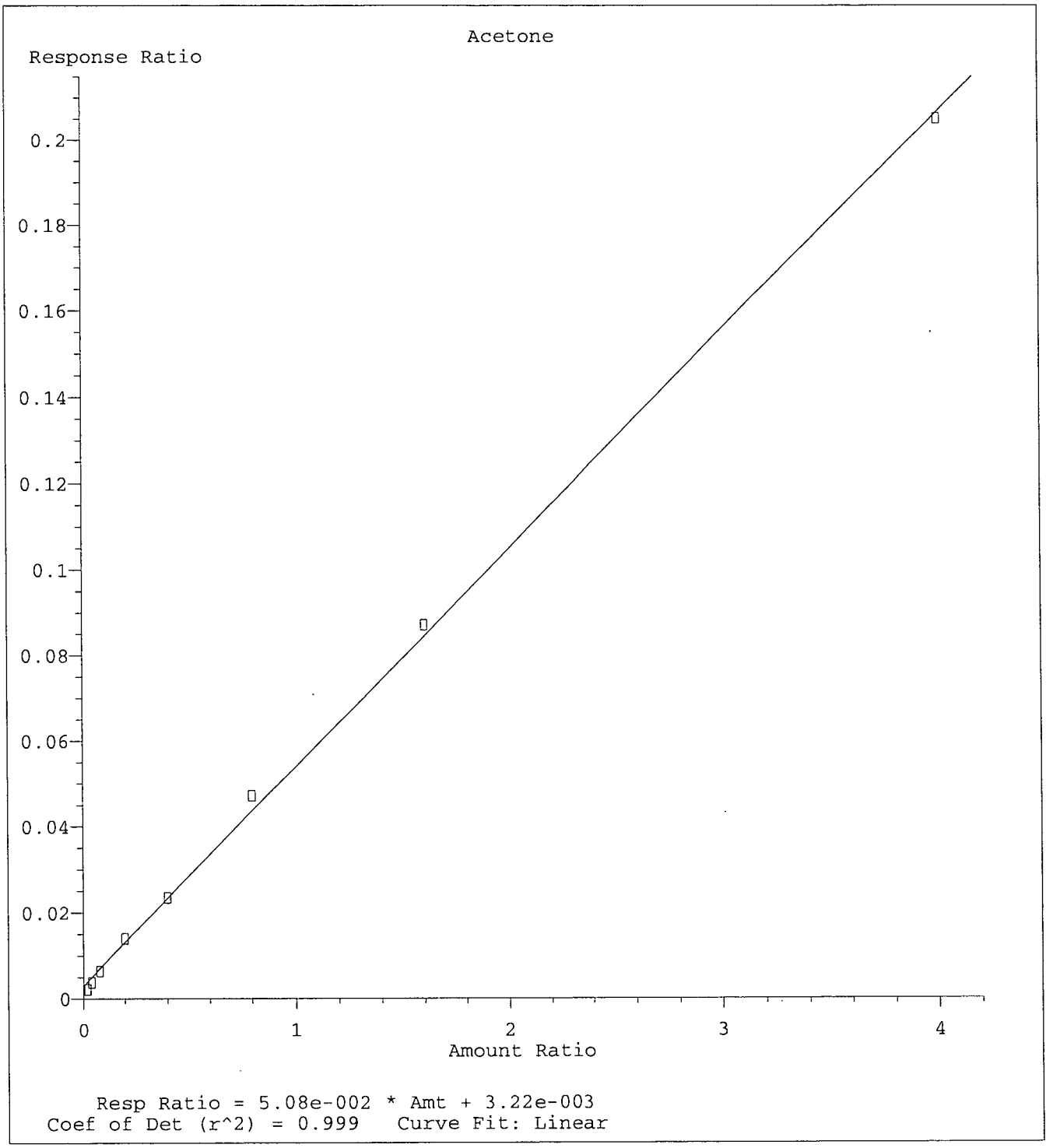
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:33 2017 Quant Results File: MALLW.RES

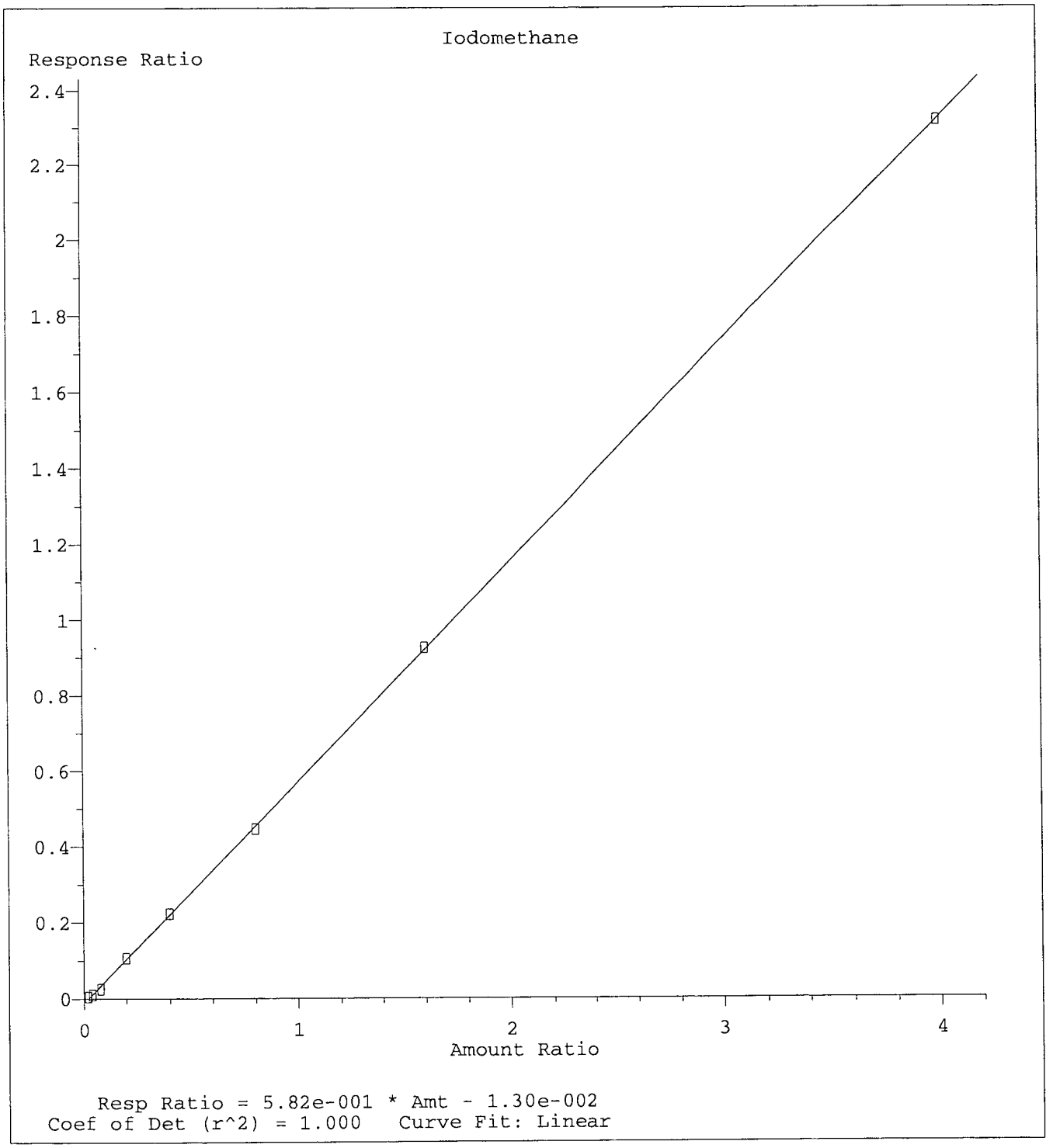
Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



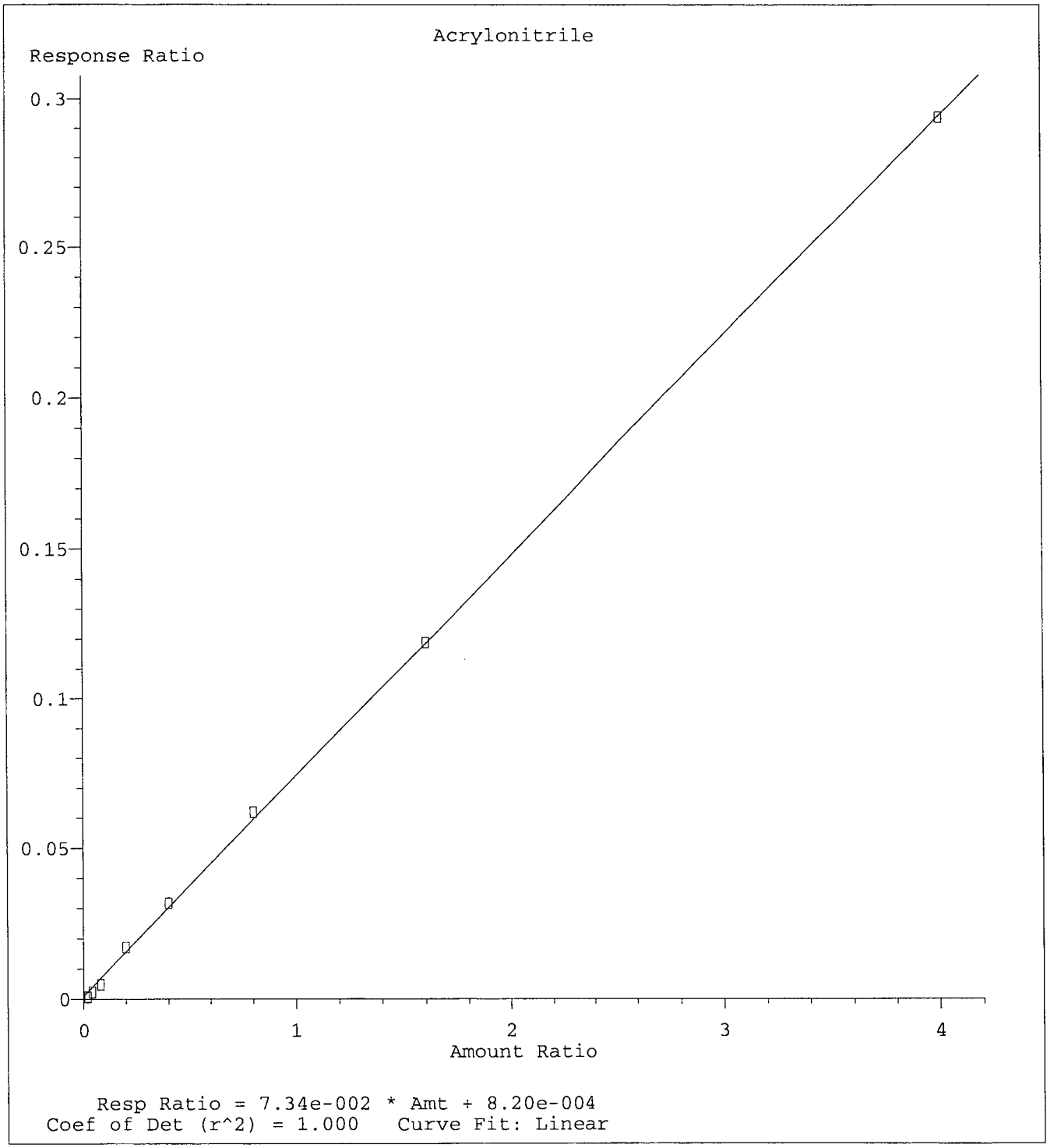
540



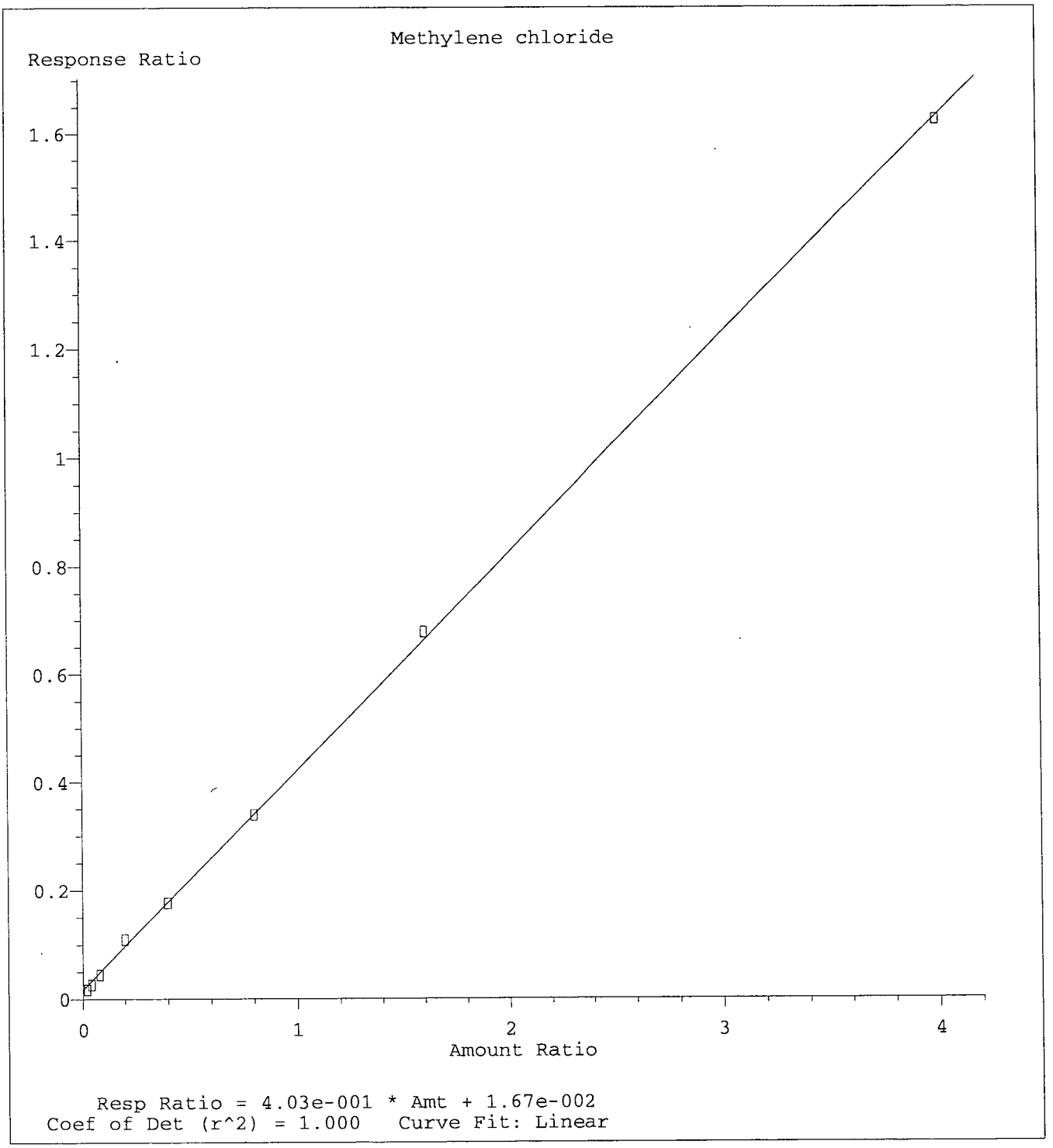
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



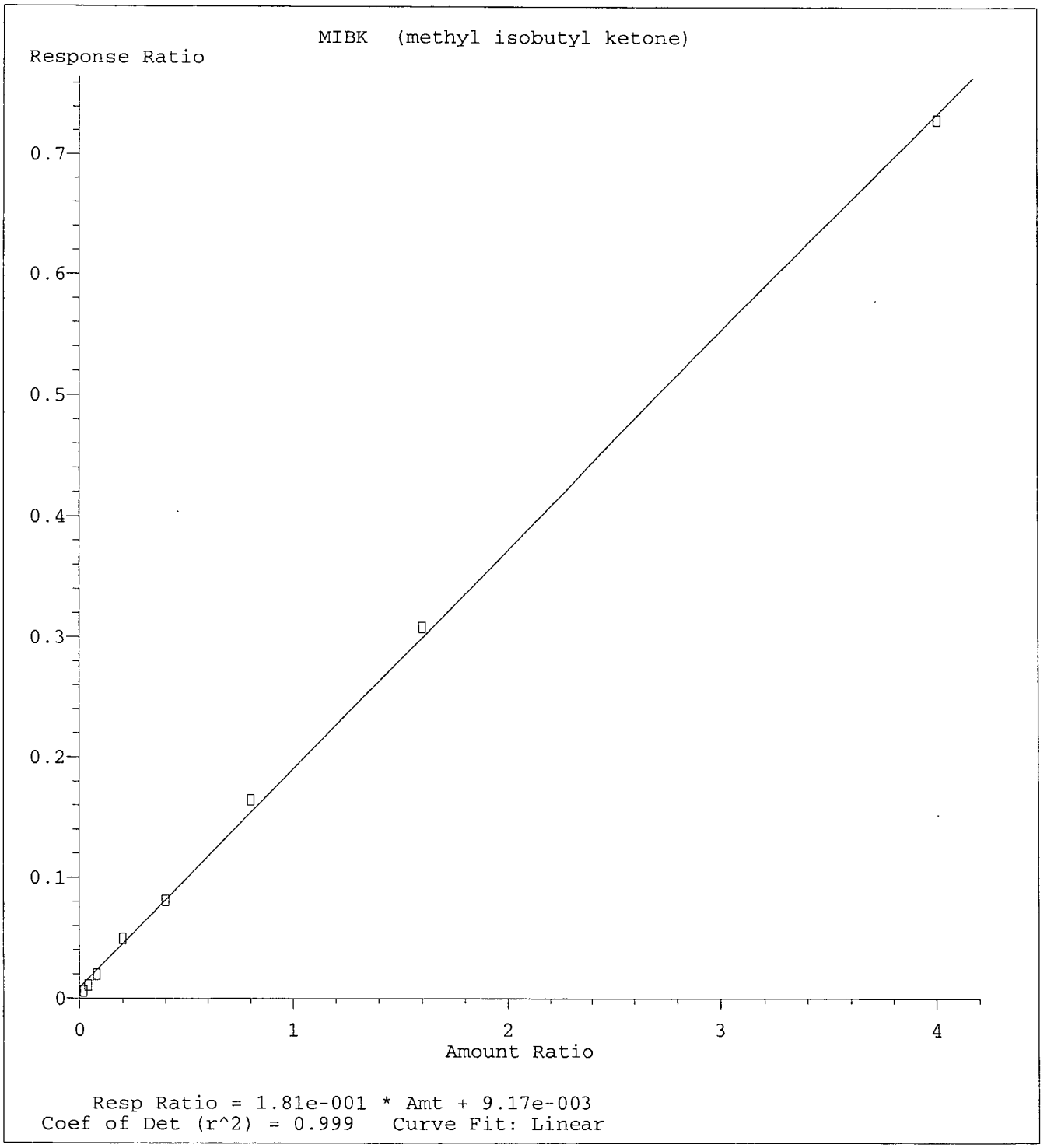
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



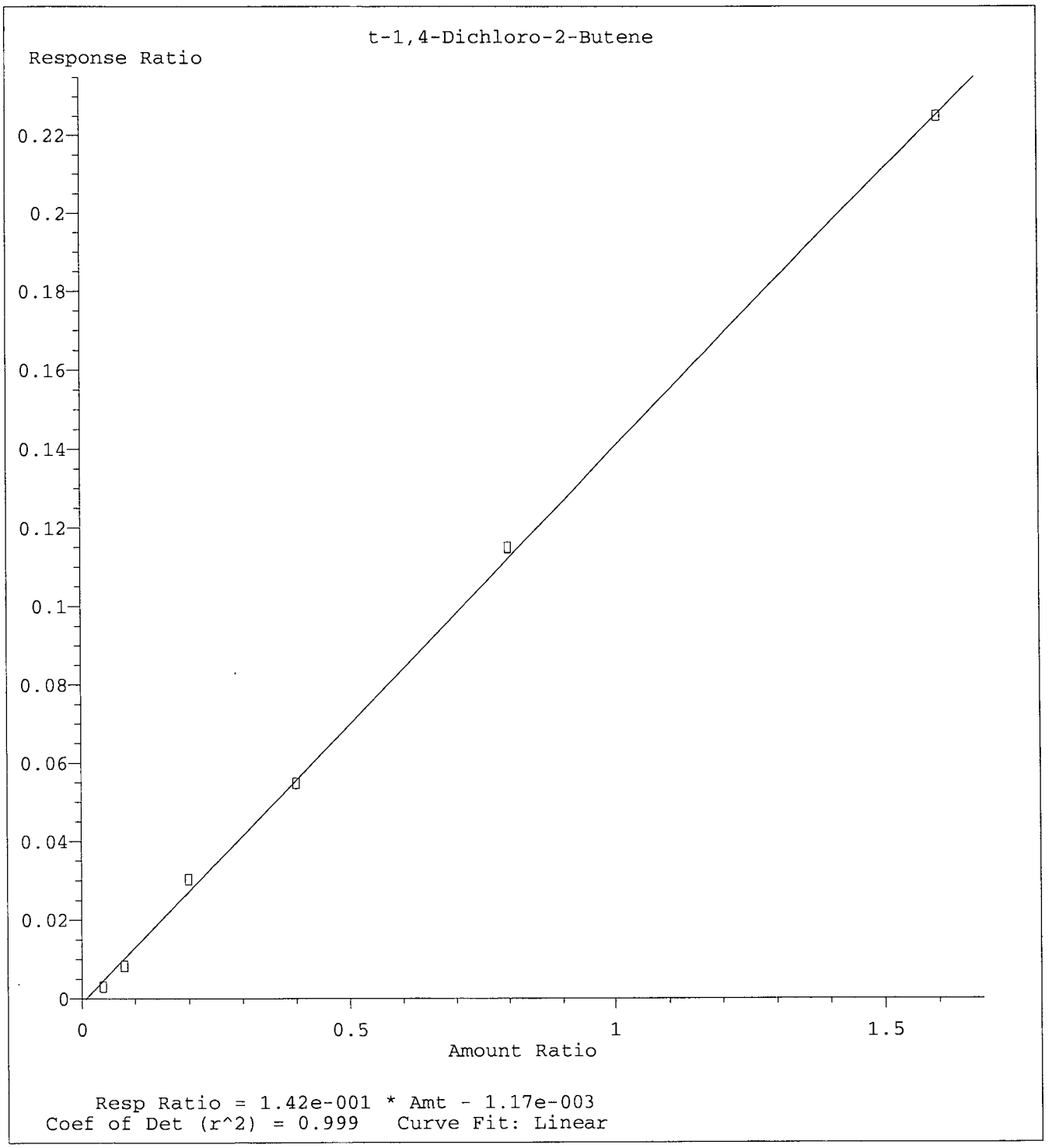
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



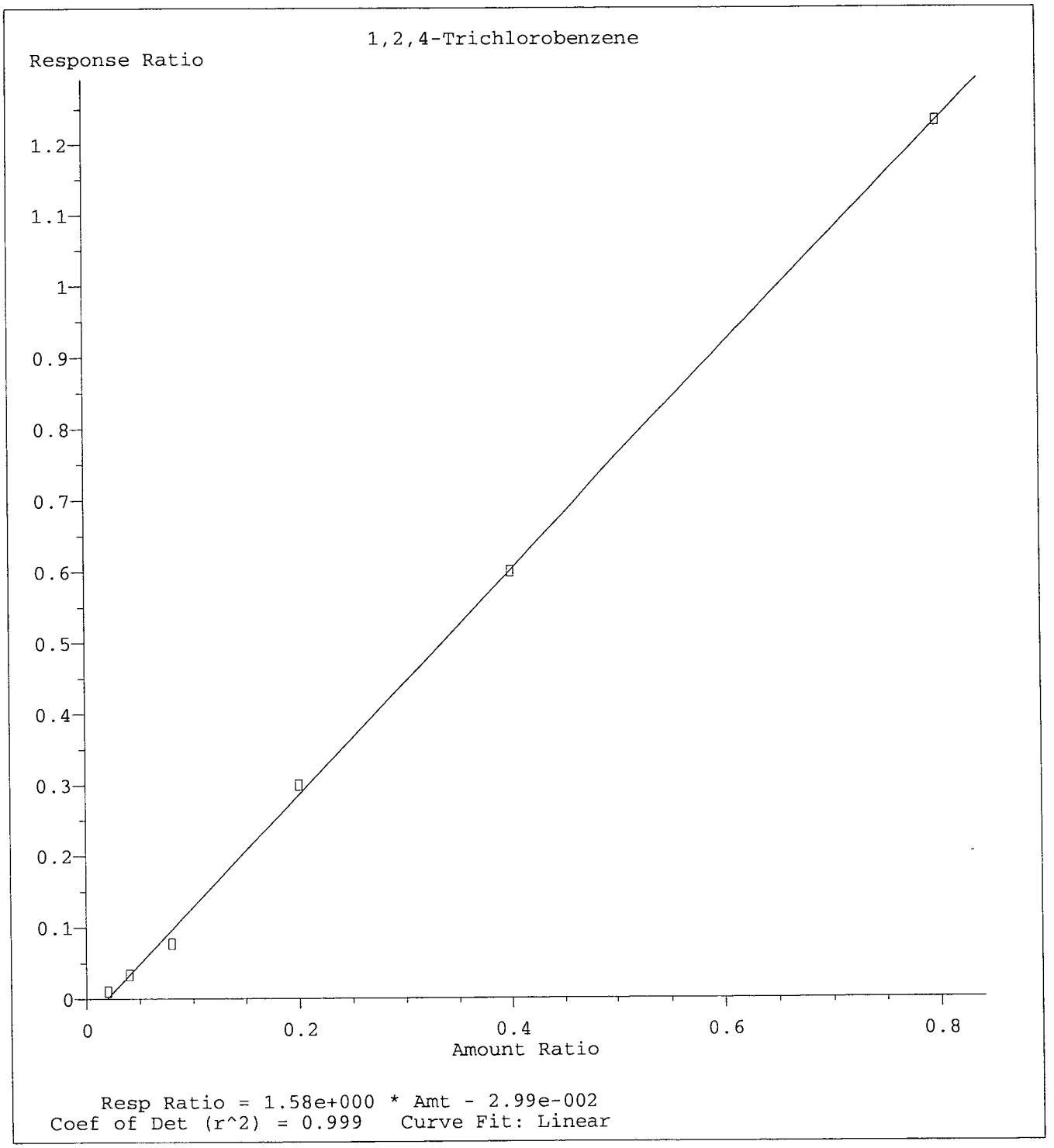
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



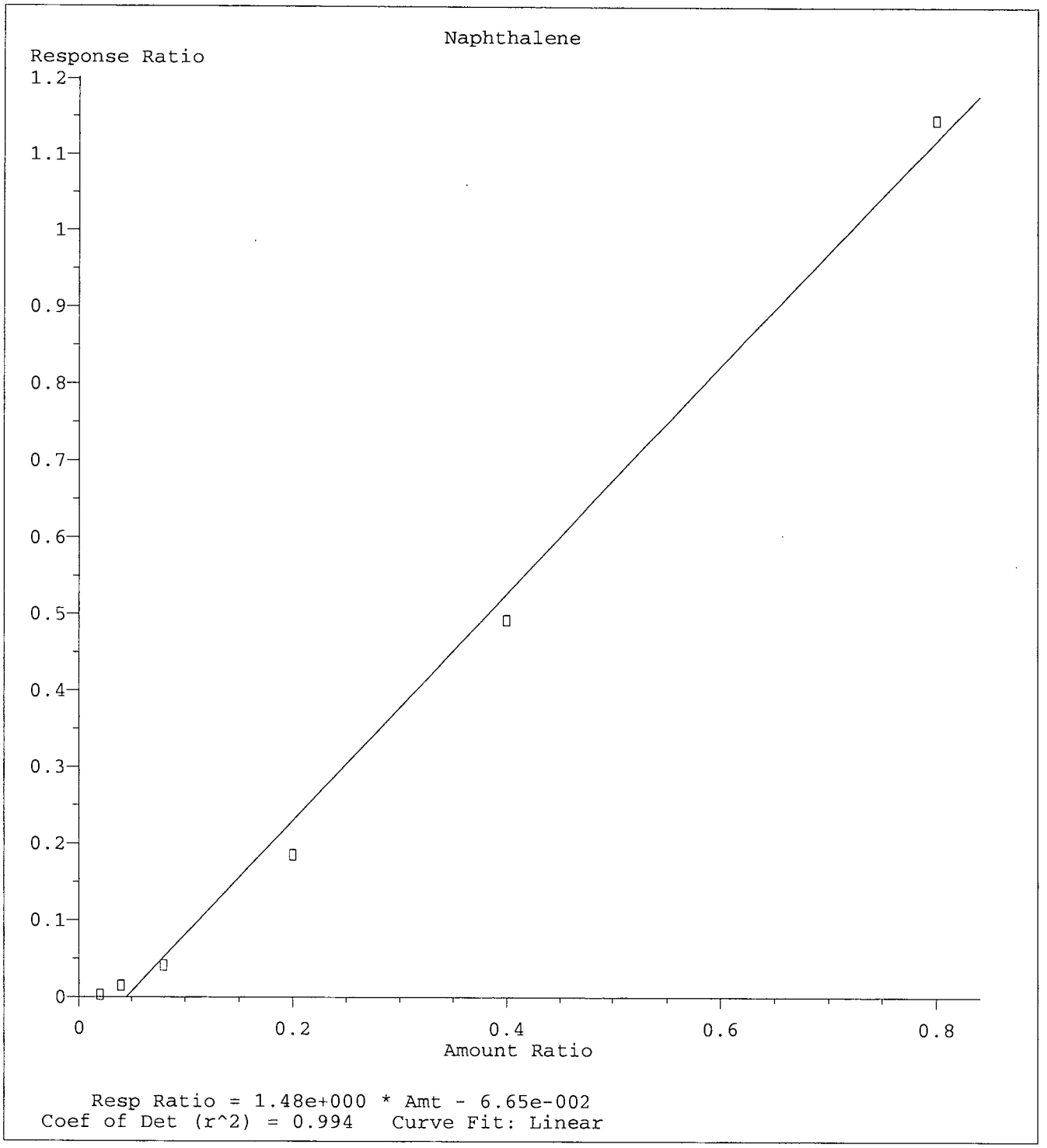
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



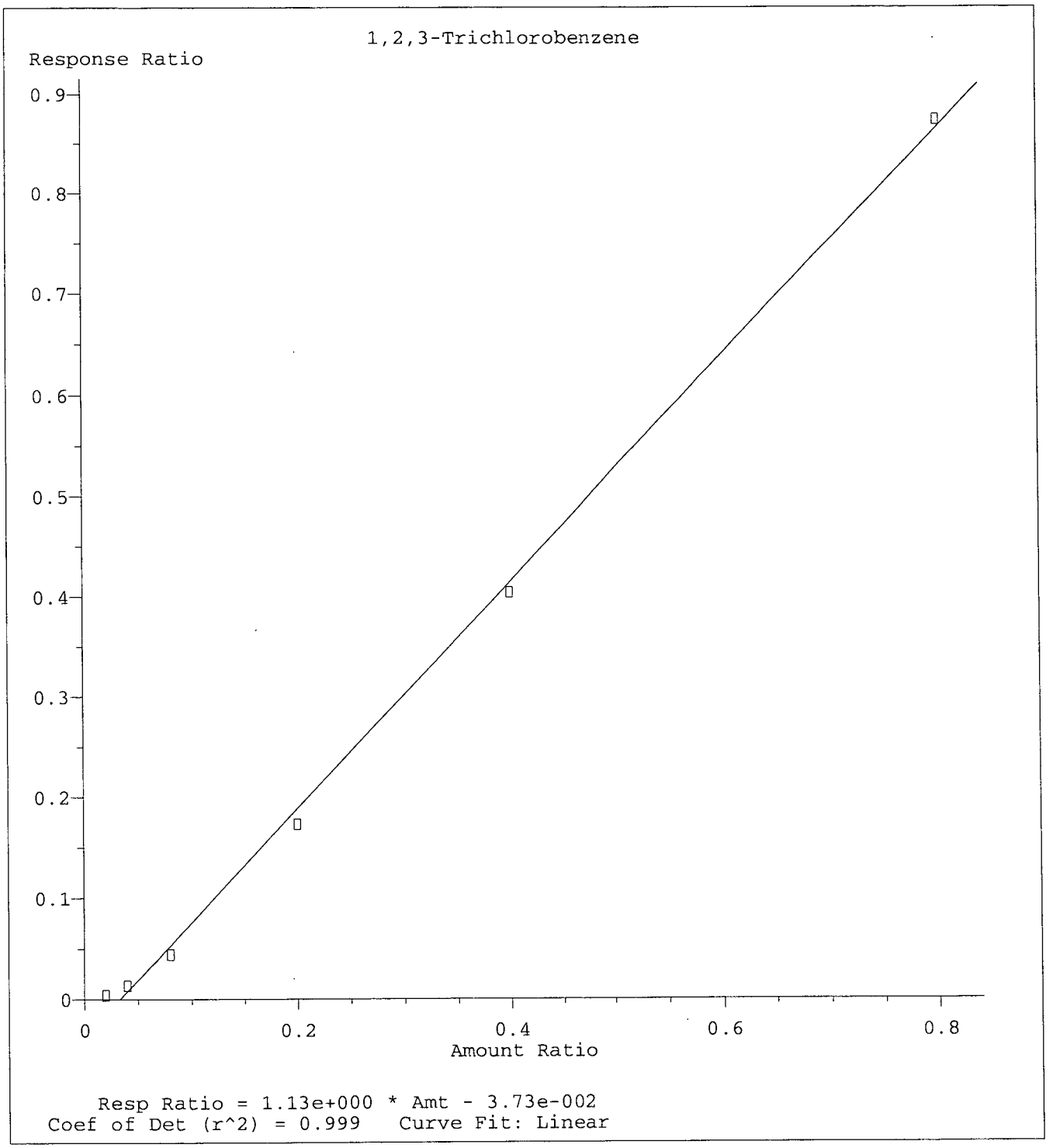
Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017



Method Name: M:\MAX\DATA\M170127\MALLW.M
Calibration Table Last Updated: Mon Jan 30 07:53:12 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Dichlorodifluoromethane	0.2473	0.2429	1.8	TM		
2	TM	Freon 114	0.3854	0.3684	4.4	TM		
3	TM**	Chloromethane	0.4307	0.3945	8.4	TM**		
4	TM*	Vinyl chloride	0.5975	0.5851	2.1	TM*		
5	TM	Bromomethane	0.3498	0.3057	13	TM		
6	TM	Chloroethane	0.3317	0.3201	3.5	TM		
7	TM	Dichlorofluoromethane	0.9066	0.8969	1.1	TM		
8	TM	Trichlorofluoromethane	0.6306	0.6213	1.5	TM		
9	TM	Acrolein	0.0213	0.0202	5.4	TM		
10	TML	Acetone	0.0718	0.0610	15	TML	4.3	
11	TM	Freon-113	0.4174	0.4133	0.98	TM		
12	TM*	1,1-DCE	0.6844	0.6673	2.5	TM*		
13	TM	t-Butanol	0.0103	0.0103	0.14	TM		
14	TM	Methyl Acetate	0.1654	0.1703	3.0	TM		
15	TML	Iodomethane	0.4508	0.3541	21	TML	34	nt
16	TML	Acrylonitrile	0.0675	0.0740	9.7	TML	1.9	
17	TML	Methylene chloride	0.5358	0.4445	17	TML	0.12	
18	TM	Carbon disulfide	1.362	1.327	2.5	TM		
19	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7178	0.71	TM		
20	TM	Trans-1,2-DCE	0.4907	0.4848	1.2	TM		
21	TM	Diisopropyl Ether	1.383	1.366	1.2	TM		
22	TM**	1,1-DCA	0.8679	0.8523	1.8	TM**		
23	TM	Vinyl Acetate	0.2767	0.2522	8.8	TM		
24	TM	Ethyl tert Butyl Ether	0.9050	0.8972	0.87	TM		
25	TM	MEK (2-Butanone)	0.0941	0.0881	6.5	TM		
26	TM	Cis-1,2-DCE	0.5384	0.5253	2.4	TM		
27	TM	2,2-Dichloropropane	0.5854	0.5590	4.5	TM		
28	TM*	Chloroform	0.8364	0.8335	0.34	TM*		
29	TM	Bromochloromethane	0.2067	0.2018	2.4	TM		
30	TM	1,1,1-TCA	0.7701	0.7756	0.73	TM		
31	TM	Cyclohexane	0.4409	0.4403	0.14	TM		
32	TM	1,1-Dichloropropene	0.6947	0.6930	0.25	TM		
33	TM	2,2,4-Trimethylpentane	1.257	1.168	7.1	TM		
34	TM	Carbon Tetrachloride	0.6621	0.6617	0.06	TM		
35	TM	Tert Amyl Methyl Ether	0.7545	0.7481	0.84	TM		
36	TM	1,2-DCA	0.4543	0.4527	0.33	TM		
37	TM	Benzene	2.053	2.042	0.52	TM		
38	TM	TCE	0.5531	0.5502	0.53	TM		
39	TM	2-Pentanone	0.1374	0.1351	1.7	TM		
40	TM*	1,2-Dichloropropane	0.4656	0.4605	1.1	TM*		
		Average			3.9			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Bromodichloromethane	0.5391	0.5268	2.3	TM	
42	TM	Methyl Cyclohexane	0.7132	0.7045	1.2	TM	
43	TM	Dibromomethane	0.1739	0.1719	1.2	TM	
44	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2071	10	TML	1.6
45	TM	1-Bromo-2-chloroethane	0.4473	0.4444	0.64	TM	
46	TM	2-Chloroethyl vinyl ether	0.0092	0.0107	16	TM	
47	TM	Cis-1,3-Dichloropropene	0.5933	0.5855	1.3	TM	
48	TM*	Toluene	2.379	2.342	1.5	TM*	
49	TM	Trans-1,3-Dichloropropene	0.4036	0.4074	0.95	TM	
50	TM	1,1,2-TCA	0.2165	0.2138	1.3	TM	
51	TM	2-Hexanone	0.1143	0.1106	3.2	TM	
52	TM	1,2-EDB	0.3267	0.3257	0.30	TM	
53	TM	Tetrachloroethene	0.8031	0.7968	0.78	TM	
54	TM	1-Chlorohexane	0.9327	0.9382	0.59	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6797	0.6728	1.0	TM	
56	TM	m&p-Xylene	1.470	1.484	0.94	TM	
57	TM	o-Xylene	1.371	1.429	4.2	TM	
58	TM	Styrene	2.110	2.174	3.0	TM	
59	TM	1,3-Dichloropropane	0.6485	0.6441	0.68	TM	
60	TM	Dibromochloromethane	0.4990	0.5018	0.57	TM	
61	TM**	Chlorobenzene	2.082	2.043	1.9	TM**	
62	TM*	Ethylbenzene	3.752	3.761	0.25	TM*	
63	TM**	Bromoform	0.2963	0.3019	1.9	TM**	
64	TM	Isopropylbenzene	7.015	6.921	1.3	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6369	3.9	TM**	
66	TM	1,2,3-Trichloropropane	0.2200	0.2262	2.8	TM	
67	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1247	0.59	TML	10
68	TM	Bromobenzene	1.620	1.591	1.8	TM	
69	TM	n-Propylbenzene	7.746	7.764	0.23	TM	
70	TM	4-Ethyltoluene	6.825	6.855	0.43	TM	
71	TM	2-Chlorotoluene	4.634	4.589	0.96	TM	
72	TM	1,3,5-Trimethylbenzene	5.691	5.657	0.59	TM	
73	TM	4-Chlorotoluene	5.222	5.134	1.7	TM	
74	TM	Tert-Butylbenzene	5.094	5.008	1.7	TM	
75	TM	1,2,4-Trimethylbenzene	5.552	5.573	0.38	TM	
76	TM	Sec-Butylbenzene	6.789	6.675	1.7	TM	
77	TM	p-Isopropyltoluene	5.929	5.993	1.1	TM	
78	TM	Benzyl Chloride	0.4376	0.4170	4.7	TM	
79	TM	1,3-DCB	3.240	3.138	3.1	TM	
80	TM	1,4-DCB	3.175	3.002	5.4	TM	
		Average			2.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 1/27/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0127M16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	4.656	4.706	1.1	TM	
82	TM	1,2-DCB	2.651	2.608	1.6	TM	
83	TM	Hexachloroethane	0.7881	0.7961	1.0	TM	
84	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0914	0.35	TM	
85	TML	1,2,4-Trichlorobenzene	1.139	1.392	22	TML	7.0
86	TM	Hexachlorobutadiene	1.216	1.197	1.6	TM	
87	TML	Naphthalene	0.7727	1.076	39	TML	16
88	TML	1,2,3-Trichlorobenzene	0.6764	0.9023	33	TML	12
89							
90							
91							
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116							
117							
118							
119							
120							
		Average			12.5		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D Vial: 16
Acq On : 27 Jan 17 17:03 Operator: PM,DG,SV,CMM
Sample : (SS) 10ug/L VOC STD 01/27/16 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313129	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	223395	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	119323	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	70380	26.20738 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.828%	
36) 1,2-DCA-D4(S)	5.13	65	56191	26.40589 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.624%	
56) Toluene-D8(S)	7.35	98	285707	26.43686 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.748%	
64) 4-Bromofluorobenzene(S)	10.74	95	100338	25.79669 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.188%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30424	9.82069 ppb		99
3) Freon 114	1.29	85	46141	9.55742 ppb		98
4) Chloromethane	1.34	50	49408	9.15853 ppb		98
5) Vinyl chloride	1.43	62	73290	9.79377 ppb		99
6) Bromomethane	1.69	94	38284	8.73786 ppb		96
7) Chloroethane	1.79	64	40089	9.64955 ppb		96
8) Dichlorofluoromethane	1.98	67	112342	9.89371 ppb		98
9) Trichlorofluoromethane	2.03	101	77814	9.85156 ppb		94
10) Acrolein	2.41	56	31571	118.20139 ppb		97
11) Acetone	2.57	43	7645	10.42542 ppb		99
12) Freon-113	2.53	101	51764	9.90164 ppb		97
13) 1,1-DCE	2.51	61	83577	9.75028 ppb		99
14) t-Butanol	3.14	59	16144	124.82129 ppb		90
15) Methyl Acetate	2.90	43	21333	10.29551 ppb		98
16) Iodomethane	2.64	142	44348	6.63728 ppb		96
17) Acrylonitrile	3.22	53	9274	9.80638 ppb	#	88
18) Methylene chloride	2.98	84	55671	9.98804 ppb		92
19) Carbon disulfide	2.70	76	166265	9.74605 ppb		99
20) Methyl t-butyl ether (MtBE	3.28	73	89901	9.92902 ppb		98
21) Trans-1,2-DCE	3.25	96	60718	9.87862 ppb		98
22) Diisopropyl Ether	3.80	45	171145	9.88084 ppb		99
23) 1,1-DCA	3.67	63	106753	9.81991 ppb		99
24) Vinyl Acetate	3.76	43	31590	9.11546 ppb		98
25) Ethyl tert Butyl Ether	4.17	59	112371	9.91336 ppb		99
26) MEK (2-Butanone)	4.31	43	11030	9.35361 ppb		94
27) Cis-1,2-DCE	4.27	96	65791	9.75700 ppb		94
28) 2,2-Dichloropropane	4.27	77	70019	9.54956 ppb		98
29) Chloroform	4.61	83	104403	9.96646 ppb		97
30) Bromochloromethane	4.51	128	25270	9.76251 ppb		94
32) 1,1,1-TCA	4.80	97	97151	10.07264 ppb		98
33) Cyclohexane	4.87	41	55149	9.98644 ppb		98
34) 1,1-Dichloropropene	4.98	75	86794	9.97528 ppb		99
35) 2,2,4-Trimethylpentane	5.33	57	146264	9.29066 ppb		99
37) Carbon Tetrachloride	4.98	117	82878	9.99407 ppb		95
38) Tert Amyl Methyl Ether	5.37	73	93706	9.91568 ppb		94
39) 1,2-DCA	5.21	62	56707	9.96672 ppb		96
40) Benzene	5.20	78	255824	9.94820 ppb		98
41) TCE	5.92	95	68914	9.94716 ppb		97
42) 2-Pentanone	6.15	43	211483	122.93132 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 1,2-Dichloropropane	6.16	63	57677	9.89096	ppb		97
44) Bromodichloromethane	6.49	83	65983	9.77194	ppb		96
45) Methyl Cyclohexane	6.15	83	88237	9.87744	ppb		97
46) Dibromomethane	6.29	93	21526	9.88209	ppb		97
47) MIBK (methyl isobutyl ket	7.24	43	25941	10.15523	ppb		98
48) 1-Bromo-2-chloroethane	6.84	63	55668	9.93636	ppb		96
49) 2-Chloroethyl vinyl ether	6.87	106	1343m	11.62678	ppb		0
50) Cis-1,3-Dichloropropene	7.02	75	73335	9.86879	ppb		100
51) Toluene	7.43	91	293390	9.84692	ppb		100
52) Trans-1,3-Dichloropropene	7.70	75	51032	10.09471	ppb		94
53) 1,1,2-TCA	7.92	83	26775	9.87469	ppb		99
54) 2-Hexanone	8.28	43	13856	9.67912	ppb		99
57) 1,2-EDB	8.53	107	29108	9.96951	ppb		88
58) Tetrachloroethene	8.10	164	71201	9.92178	ppb		97
59) 1-Chlorohexane	9.21	91	83836	10.05884	ppb		96
60) 1,1,1,2-Tetrachloroethane	9.31	131	60123	9.89837	ppb		97
61) m&p-Xylene	9.52	106	265176	20.18793	ppb		100
62) o-Xylene	10.04	106	127658	10.41803	ppb		94
63) Styrene	10.06	104	194229	10.30277	ppb		96
65) 1,3-Dichloropropane	8.13	76	57555	9.93162	ppb		96
66) Dibromochloromethane	8.40	129	44841	10.05684	ppb		97
67) Chlorobenzene	9.19	112	182591	9.81467	ppb		98
68) Ethylbenzene	9.36	91	336090	10.02484	ppb		99
69) Bromoform	10.27	173	26981	10.19094	ppb		99
71) Isopropylbenzene	10.56	105	330344	9.86593	ppb		99
72) 1,1,2,2-Tetrachloroethane	10.97	83	30398	9.61020	ppb		99
73) 1,2,3-Trichloropropane	11.00	110	10798	10.28458	ppb		99
74) t-1,4-Dichloro-2-Butene	11.05	53	5950	8.98672	ppb	#	71
75) Bromobenzene	10.92	156	75956	9.82330	ppb		97
76) n-Propylbenzene	11.13	91	370554	10.02252	ppb		98
77) 4-Ethyltoluene	11.30	105	327171	10.04315	ppb		100
78) 2-Chlorotoluene	11.21	91	219043	9.90385	ppb		98
79) 1,3,5-Trimethylbenzene	11.39	105	270007	9.94074	ppb		99
80) 4-Chlorotoluene	11.37	91	245033	9.83056	ppb		99
81) Tert-Butylbenzene	11.84	119	239012	9.83124	ppb		98
82) 1,2,4-Trimethylbenzene	11.91	105	266015	10.03786	ppb		99
83) Sec-Butylbenzene	12.15	105	318604	9.83311	ppb		99
84) p-Isopropyltoluene	12.37	119	286035	10.10691	ppb		98
85) Benzyl Chloride	12.59	91	19903	9.52893	ppb		94
86) 1,3-DCB	12.26	146	149796	9.68770	ppb		98
87) 1,4-DCB	12.38	146	143291	9.45675	ppb		100
88) n-Butylbenzene	12.95	91	224620	10.10874	ppb		98
89) 1,2-DCB	12.90	146	124460	9.83765	ppb		98
90) Hexachloroethane	13.27	117	37998	10.10177	ppb		98
91) 1,2-Dibromo-3-chloropropan	14.02	75	4364	10.03487	ppb	#	78
92) 1,2,4-Trichlorobenzene	15.23	180	66438	9.29506	ppb		96
93) Hexachlorobutadiene	15.53	225	57145	9.84423	ppb		96
94) Naphthalene	15.56	128	51355	8.38557	ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	43065	8.83592	ppb		95

(#) = qualifier out of range (m) = manual integration

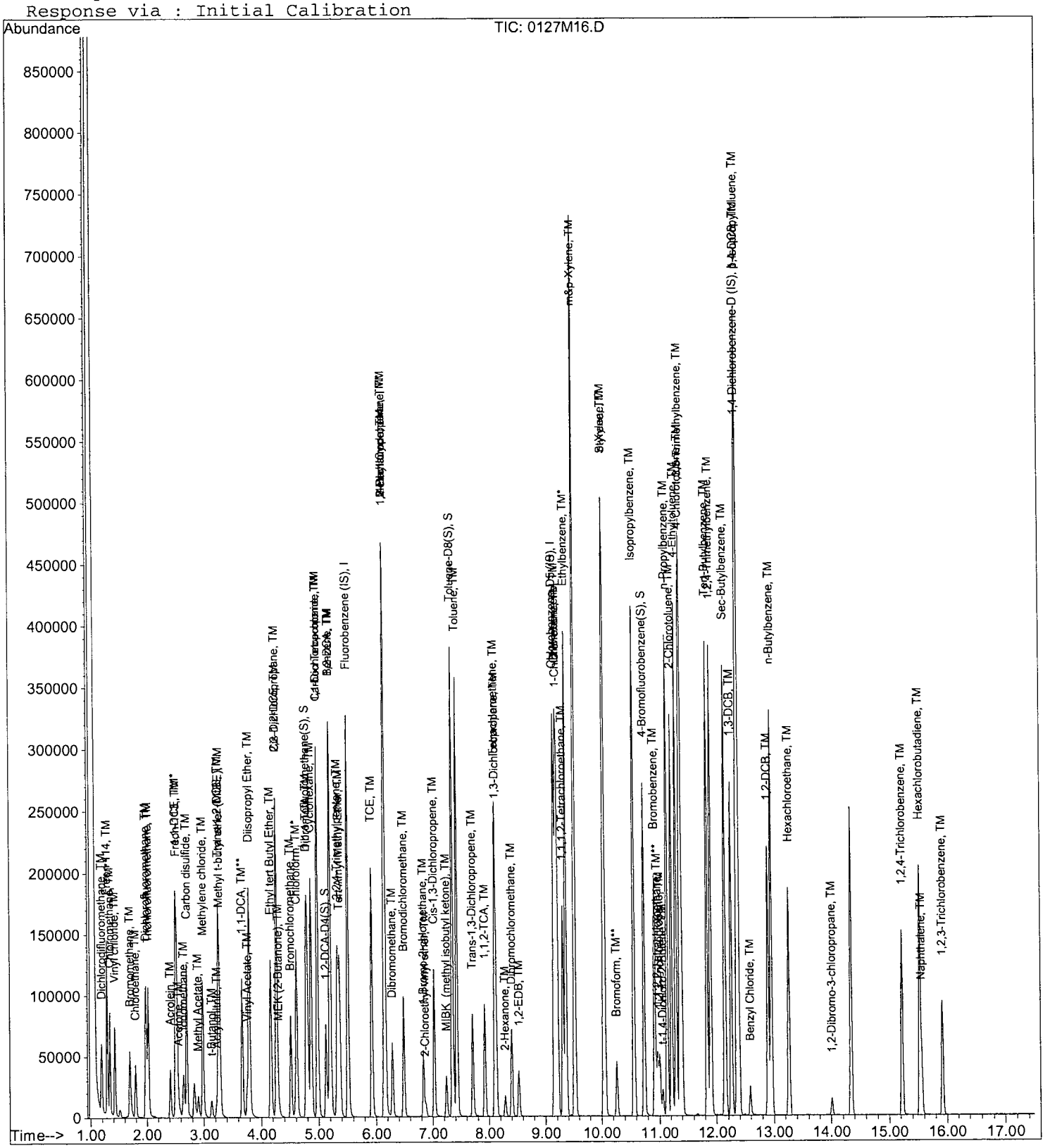
Quantitation Report

Data File : M:\MAX\DATA\M170127\0127M16.D
Acq On : 27 Jan 17 17:03
Sample : (SS) 10ug/L VOC STD 01/27/16
Misc : IS&S 10/20/16

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 30 7:55 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



555

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0214M02.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2392	3.3	TM	
3	TM	Freon 114	0.3854	0.4080	5.8	TM	
4	TM**	Chloromethane	0.4307	0.3639	16	TM**	
5	TM*	Vinyl chloride	0.5975	0.5351	10	TM*	
6	TM	Bromomethane	0.3498	0.2892	17	TM	
7	TM	Chloroethane	0.3317	0.3115	6.1	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9276	2.3	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6381	1.2	TM	
10	TM	Acrolein	0.0213	0.0190	11	TM	
11	TML	Acetone	0.0718	0.0548	24	TML	8.0
12	TM	Freon-113	0.4174	0.4568	9.4	TM	
13	TM*	1,1-DCE	0.6844	0.7121	4.1	TM*	
14	TM	t-Butanol	0.0103	0.0112	8.3	TM	
15	TM	Methyl Acetate	0.1654	0.1654	0.00	TM	
16	TML	Iodomethane	0.4508	0.4543	0.76	TML	16
17	TML	Acrylonitrile	0.0675	0.0725	7.4	TML	4.0
18	TML	Methylene chloride	0.5358	0.4505	16	TML	1.4
19	TM	Carbon disulfide	1.362	1.351	0.81	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7281	0.72	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5264	7.3	TM	
22	TM	Diisopropyl Ether	1.383	1.356	1.9	TM	
23	TM**	1,1-DCA	0.8679	0.9143	5.3	TM**	
24	TM	Vinyl Acetate	0.2767	0.2667	3.6	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9030	0.23	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0990	5.1	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5629	4.6	TM	
28	TM	2,2-Dichloropropane	0.5854	0.6579	12	TM	
29	TM*	Chloroform	0.8364	0.8786	5.0	TM*	
30	TM	Bromochloromethane	0.2067	0.2107	1.9	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2179	1.6	S	
32	TM	1,1,1-TCA	0.7701	0.8366	8.6	TM	
33	TM	Cyclohexane	0.4409	0.4486	1.7	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7572	9.0	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.388	10	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1781	4.8	S	
37	TM	Carbon Tetrachloride	0.6621	0.7155	8.1	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7758	2.8	TM	
39	TM	1,2-DCA	0.4543	0.4699	3.4	TM	
40	TM	Benzene	2.053	2.174	5.9	TM	
		Average			6.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0214M02.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5832	5.4	TM	
42	TM	2-Pentanone	0.1374	0.1405	2.3	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4740	1.8	TM*	
44	TM	Bromodichloromethane	0.5391	0.5763	6.9	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7731	8.4	TM	
46	TM	Dibromomethane	0.1739	0.1836	5.6	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2077	10	TML	1.9
48	TM	1-Bromo-2-chloroethane	0.4473	0.4405	1.5	TM	
49	TM	2-Chloroethyl vinyl ether	0.0092	0.0087	5.6	TM	
50	TM	Cis-1,3-Dichloropropene	0.5933	0.6253	5.4	TM	
51	TM*	Toluene	2.379	2.497	5.0	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4036	0.4314	6.9	TM	
53	TM	1,1,2-TCA	0.2165	0.2256	4.2	TM	
54	TM	2-Hexanone	0.1143	0.1176	2.9	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.209	1.212	0.20	S	
57	TM	1,2-EDB	0.3267	0.3487	6.7	TM	
58	TM	Tetrachloroethene	0.8031	0.8878	11	TM	
59	TM	1-Chlorohexane	0.9327	0.9984	7.0	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7105	4.5	TM	
61	TM	m&p-Xylene	1.470	1.579	7.4	TM	
62	TM	o-Xylene	1.371	1.490	8.7	TM	
63	TM	Styrene	2.110	2.280	8.1	TM	
64	S	4-Bromofluorobenzene(S)	0.4353	0.4592	5.5	S	
65	TM	1,3-Dichloropropane	0.6485	0.6629	2.2	TM	
66	TM	Dibromochloromethane	0.4990	0.5153	3.3	TM	
67	TM**	Chlorobenzene	2.082	2.119	1.8	TM**	
68	TM*	Ethylbenzene	3.752	3.972	5.9	TM*	
69	TM**	Bromoform	0.2963	0.3137	5.9	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.015	7.291	3.9	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6586	0.62	TM**	
73	TM	1,2,3-Trichloropropane	0.2200	0.2121	3.6	TM	
74	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1368	9.1	TML	1.6
75	TM	Bromobenzene	1.620	1.648	1.7	TM	
76	TM	n-Propylbenzene	7.746	8.172	5.5	TM	
77	TM	4-Ethyltoluene	6.825	7.006	2.6	TM	
78	TM	2-Chlorotoluene	4.634	4.659	0.55	TM	
79	TM	1,3,5-Trimethylbenzene	5.691	6.034	6.0	TM	
80	TM	4-Chlorotoluene	5.222	5.373	2.9	TM	
		Average			4.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0214M02.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.094	5.321	4.5	TM	
82	TM	1,2,4-Trimethylbenzene	5.552	5.844	5.3	TM	
83	TM	Sec-Butylbenzene	6.789	7.147	5.3	TM	
84	TM	p-Isopropyltoluene	5.929	6.453	8.8	TM	
85	TM	Benzyl Chloride	0.4376	0.5444	24	TM	
86	TM	1,3-DCB	3.240	3.288	1.5	TM	
87	TM	1,4-DCB	3.175	3.119	1.8	TM	
88	TM	n-Butylbenzene	4.656	5.048	8.4	TM	
89	TM	1,2-DCB	2.651	2.668	0.67	TM	
90	TM	Hexachloroethane	0.7881	0.7874	0.09	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0894	1.9	TM	
92	TML	1,2,4-Trichlorobenzene	1.139	1.449	27	TML	3.4
93	TM	Hexachlorobutadiene	1.216	1.302	7.0	TM	
94	TML	Naphthalene	0.7727	1.076	39	TML	16
95	TML	1,2,3-Trichlorobenzene	0.6764	0.9300	37	TML	9.2
96							
97							
98							
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119							
120							
		Average			11.5		

NT SW 2/15/17

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M02.D
Acq On : 14 Feb 17 10:47
Sample : 170214A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:15 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	279267	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	201905	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	110153	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	60850	25.40614 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.624%	
36) 1,2-DCA-D4(S)	5.13	65	49734	26.20541 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.820%	
56) Toluene-D8(S)	7.35	98	244679	25.05025 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.200%	
64) 4-Bromofluorobenzene(S)	10.74	95	92724	26.37649 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.504%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.67088 ppb	99
3) Freon 114	1.30	85	45571	10.58390 ppb	98
4) Chloromethane	1.35	50	40648	8.44834 ppb	99
5) Vinyl chloride	1.43	62	59773	8.95600 ppb	99
6) Bromomethane	1.70	94	32301	8.26623 ppb	99
7) Chloroethane	1.80	64	34793	9.39026 ppb	100
8) Dichlorofluoromethane	1.99	67	103620	10.23208 ppb	96
9) Trichlorofluoromethane	2.03	101	71283	10.11898 ppb	98
10) Acrolein	2.43	56	26500	111.24584 ppb	98
11) Acetone	2.58	43	6122	9.19883 ppb	94
12) Freon-113	2.54	101	51024	10.94353 ppb	97
13) 1,1-DCE	2.52	61	79546	10.40525 ppb	99
14) t-Butanol	3.15	59	15618	135.39624 ppb	100
15) Methyl Acetate	2.91	43	18480	10.00003 ppb #	86
16) Iodomethane	2.65	142	50746	8.35758 ppb	98
17) Acrylonitrile	3.23	53	8099	9.59652 ppb #	93
18) Methylene chloride	2.99	84	50325	10.13771 ppb	94
19) Carbon disulfide	2.71	76	150917	9.91904 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	81331	10.07167 ppb	99
21) Trans-1,2-DCE	3.26	96	58801	10.72673 ppb	98
22) Diisopropyl Ether	3.80	45	151470	9.80528 ppb	99
23) 1,1-DCA	3.68	63	102131	10.53389 ppb	99
24) Vinyl Acetate	3.76	43	29789	9.63803 ppb	99
25) Ethyl tert Butyl Ether	4.18	59	100867	9.97745 ppb	100
26) MEK (2-Butanone)	4.31	43	11055	10.51153 ppb #	86
27) Cis-1,2-DCE	4.28	96	62877	10.45551 ppb	99
28) 2,2-Dichloropropane	4.28	77	73496	11.23919 ppb	100
29) Chloroform	4.62	83	98141	10.50466 ppb	96
30) Bromochloromethane	4.52	128	23531	10.19296 ppb	96
32) 1,1,1-TCA	4.81	97	93451	10.86385 ppb	99
33) Cyclohexane	4.87	41	50110	10.17422 ppb	91
34) 1,1-Dichloropropene	4.99	75	84587	10.90040 ppb	99
35) 2,2,4-Trimethylpentane	5.33	57	155087	11.04557 ppb	100
37) Carbon Tetrachloride	4.99	117	79931	10.80742 ppb	97
38) Tert Amyl Methyl Ether	5.37	73	86665	10.28259 ppb	97
39) 1,2-DCA	5.22	62	52489	10.34398 ppb	99
40) Benzene	5.21	78	242879	10.59002 ppb	99
41) TCE	5.93	95	65148	10.54378 ppb	95
42) 2-Pentanone	6.16	43	196197	127.87426 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M02.D
Acq On : 14 Feb 17 10:47
Sample : 170214A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	52951	10.18154	ppb		99
44)	Bromodichloromethane	6.49	83	64381	10.69080	ppb		92
45)	Methyl Cyclohexane	6.15	83	86363	10.83989	ppb		99
46)	Dibromomethane	6.29	93	20514	10.55941	ppb		91
47)	MIBK (methyl isobutyl ket	7.24	43	23200	10.18696	ppb		95
48)	1-Bromo-2-chloroethane	6.84	63	49206	9.84789	ppb		97
49)	2-Chloroethyl vinyl ether	6.88	106	973m	9.44495	ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	69848	10.53926	ppb		96
51)	Toluene	7.43	91	278901	10.49564	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	48192	10.68882	ppb		94
53)	1,1,2-TCA	7.92	83	25199	10.42032	ppb		96
54)	2-Hexanone	8.28	43	13133	10.28646	ppb		92
57)	1,2-EDB	8.53	107	28159	10.67100	ppb		94
58)	Tetrachloroethene	8.11	164	71700	11.05475	ppb		93
59)	1-Chlorohexane	9.21	91	80632	10.70413	ppb		99
60)	1,1,1,2-Tetrachloroethane	9.31	131	57381	10.45244	ppb		100
61)	m&p-Xylene	9.52	106	255001	21.47958	ppb		99
62)	o-Xylene	10.04	106	120374	10.86918	ppb		96
63)	Styrene	10.06	104	184166	10.80876	ppb		99
65)	1,3-Dichloropropane	8.13	76	53535	10.22118	ppb		95
66)	Dibromochloromethane	8.40	129	41614	10.32647	ppb		99
67)	Chlorobenzene	9.19	112	171149	10.17881	ppb		97
68)	Ethylbenzene	9.36	91	320825	10.58806	ppb		97
69)	Bromoform	10.27	173	25333	10.58691	ppb		100
71)	Isopropylbenzene	10.56	105	321244	10.39285	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	29018	9.93763	ppb		96
73)	1,2,3-Trichloropropane	11.00	110	9345	9.64163	ppb		95
74)	t-1,4-Dichloro-2-Butene	11.06	53	6028	9.84244	ppb	#	72
75)	Bromobenzene	10.92	156	72611	10.17245	ppb		99
76)	n-Propylbenzene	11.13	91	360062	10.54947	ppb		99
77)	4-Ethyltoluene	11.30	105	308682	10.26442	ppb		99
78)	2-Chlorotoluene	11.21	91	205294	10.05492	ppb		96
79)	1,3,5-Trimethylbenzene	11.40	105	265847	10.60238	ppb		100
80)	4-Chlorotoluene	11.37	91	236728	10.28801	ppb		98
81)	Tert-Butylbenzene	11.84	119	234445	10.44618	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	257505	10.52564	ppb		100
83)	Sec-Butylbenzene	12.15	105	314922	10.52859	ppb		99
84)	p-Isopropyltoluene	12.37	119	284344	10.88357	ppb		99
85)	Benzyl Chloride	12.59	91	23985	12.43921	ppb		94
86)	1,3-DCB	12.26	146	144851	10.14775	ppb		97
87)	1,4-DCB	12.39	146	137411	9.82364	ppb		98
88)	n-Butylbenzene	12.95	91	222411	10.84258	ppb		96
89)	1,2-DCB	12.90	146	117574	10.06702	ppb		95
90)	Hexachloroethane	13.27	117	34693	9.99095	ppb		95
91)	1,2-Dibromo-3-chloropropan	14.01	75	3938	9.80913	ppb		88
92)	1,2,4-Trichlorobenzene	15.23	180	63857	9.65819	ppb		98
93)	Hexachlorobutadiene	15.53	225	57350	10.70199	ppb		93
94)	Naphthalene	15.56	128	47411	8.38597	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	40976	9.08176	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

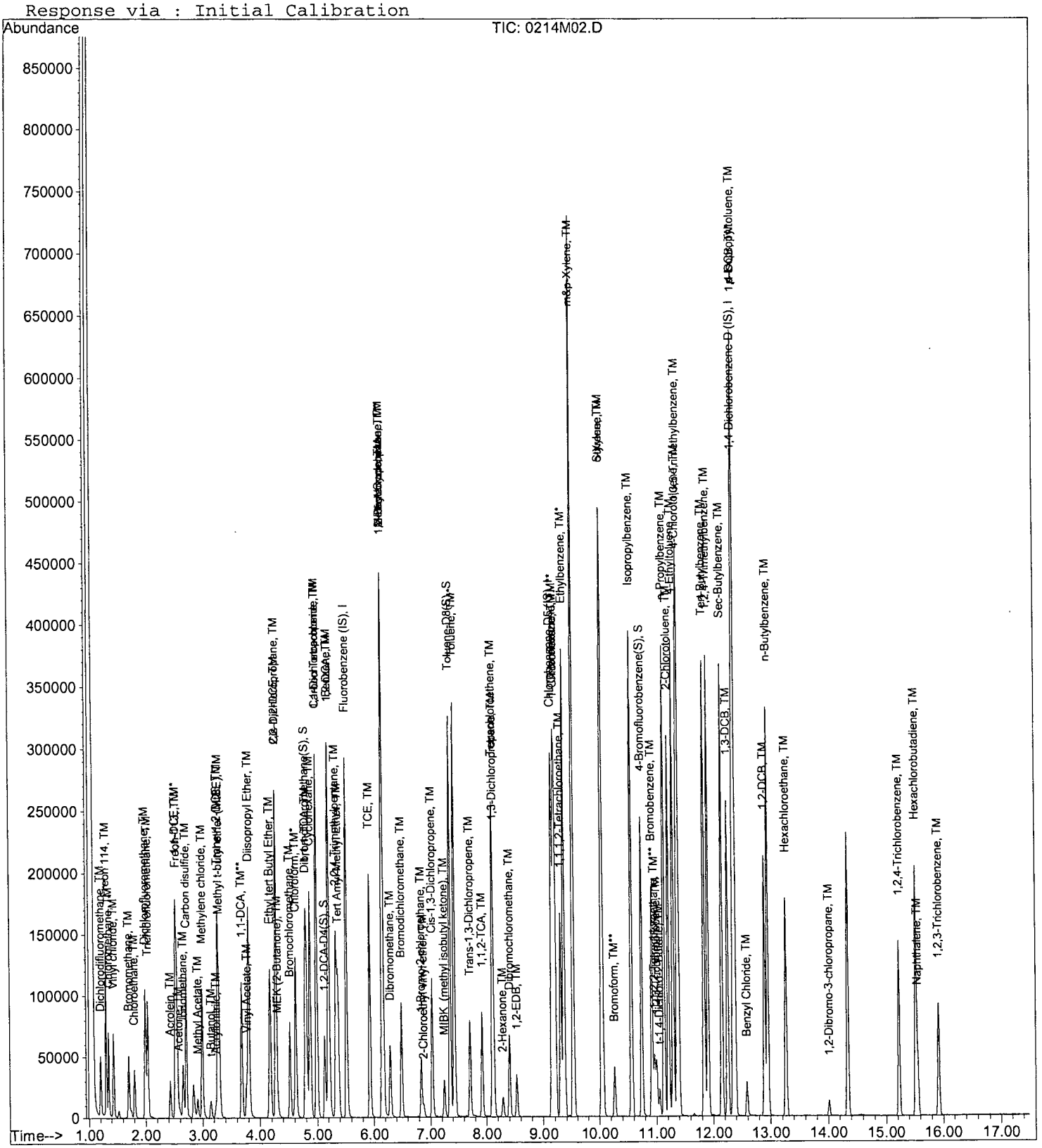
Data File : M:\MAX\DATA\M170127\0214M02.D
Acq On : 14 Feb 17 10:47
Sample : 170214A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:15 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



561

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0214M26.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2516	1.7	TM	
3	TM	Freon 114	0.3854	0.3731	3.2	TM	
4	TM**	Chloromethane	0.4307	0.3668	15	TM**	
5	TM*	Vinyl chloride	0.5975	0.5392	9.8	TM*	
6	TM	Bromomethane	0.3498	0.2905	17	TM	
7	TM	Chloroethane	0.3317	0.3091	6.8	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9408	3.8	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6466	2.5	TM	
10	TM	Acrolein	0.0213	0.0185	13	TM	
11	TML	Acetone	0.0718	0.0541	25	TML	9.5
12	TM	Freon-113	0.4174	0.4318	3.5	TM	
13	TM*	1,1-DCE	0.6844	0.7353	7.4	TM*	
14	TM	t-Butanol	0.0103	0.0099	3.8	TM	
15	TM	Methyl Acetate	0.1654	0.1615	2.4	TM	
16	TML	Iodomethane	0.4508	0.4341	3.7	TML	20
17	TML	Acrylonitrile	0.0675	0.0777	15	TML	3.0
18	TML	Methylene chloride	0.5358	0.4532	15	TML	2.1
19	TM	Carbon disulfide	1.362	1.350	0.90	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7210	0.26	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5385	9.7	TM	
22	TM	Diisopropyl Ether	1.383	1.370	0.93	TM	
23	TM**	1,1-DCA	0.8679	0.9398	8.3	TM**	
24	TM	Vinyl Acetate	0.2767	0.1522	45	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9014	0.39	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0977	3.8	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5812	8.0	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5202	11	TM	
29	TM*	Chloroform	0.8364	0.9185	9.8	TM*	
30	TM	Bromochloromethane	0.2067	0.2153	4.2	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2190	2.2	S	
32	TM	1,1,1-TCA	0.7701	0.8374	8.7	TM	
33	TM	Cyclohexane	0.4409	0.4704	6.7	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7441	7.1	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.187	5.6	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1810	6.5	S	
37	TM	Carbon Tetrachloride	0.6621	0.7235	9.3	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.7672	1.7	TM	
39	TM	1,2-DCA	0.4543	0.4913	8.2	TM	
40	TM	Benzene	2.053	2.188	6.6	TM	
		Average			8.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0214M26.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.6188	12	TM	
42	TM	2-Pentanone	0.1374	0.1315	4.3	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4899	5.2	TM*	
44	TM	Bromodichloromethane	0.5391	0.5915	9.7	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7670	7.5	TM	
46	TM	Dibromomethane	0.1739	0.1820	4.7	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.1890	18	TML	8.4
48	TM	1-Bromo-2-chloroethane	0.4473	0.4251	5.0	TM	
49	TM	2-Chloroethyl vinyl ether	0.0092	0.0071	23	TM	
50	TM	Cis-1,3-Dichloropropene	0.5933	0.6165	3.9	TM	
51	TM*	Toluene	2.379	2.521	6.0	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4036	0.4149	2.8	TM	
53	TM	1,1,2-TCA	0.2165	0.2212	2.2	TM	
54	TM	2-Hexanone	0.1143	0.1013	11	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.209	1.205	0.39	S	
57	TM	1,2-EDB	0.3267	0.3408	4.3	TM	
58	TM	Tetrachloroethene	0.8031	0.8614	7.3	TM	
59	TM	1-Chlorohexane	0.9327	0.9423	1.0	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7110	4.6	TM	
61	TM	m&p-Xylene	1.470	1.534	4.4	TM	
62	TM	o-Xylene	1.371	1.450	5.8	TM	
63	TM	Styrene	2.110	2.208	4.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4353	0.4470	2.7	S	
65	TM	1,3-Dichloropropane	0.6485	0.6396	1.4	TM	
66	TM	Dibromochloromethane	0.4990	0.5050	1.2	TM	
67	TM**	Chlorobenzene	2.082	2.072	0.48	TM**	
68	TM*	Ethylbenzene	3.752	3.936	4.9	TM*	
69	TM**	Bromoform	0.2963	0.2958	0.18	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.015	7.416	5.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6389	3.6	TM**	
73	TM	1,2,3-Trichloropropane	0.2200	0.2235	1.6	TM	
74	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1245	0.68	TML	10
75	TM	Bromobenzene	1.620	1.688	4.2	TM	
76	TM	n-Propylbenzene	7.746	8.291	7.0	TM	
77	TM	4-Ethyltoluene	6.825	7.155	4.8	TM	
78	TM	2-Chlorotoluene	4.634	4.827	4.2	TM	
79	TM	1,3,5-Trimethylbenzene	5.691	6.088	7.0	TM	
80	TM	4-Chlorotoluene	5.222	5.471	4.8	TM	
		Average			5.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0214M26.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.094	5.381	5.6	TM	
82	TM	1,2,4-Trimethylbenzene	5.552	5.960	7.3	TM	
83	TM	Sec-Butylbenzene	6.789	7.307	7.6	TM	
84	TM	p-Isopropyltoluene	5.929	6.371	7.4	TM	
85	TM	Benzyl Chloride	0.4376	0.3306	24	TM	
86	TM	1,3-DCB	3.240	3.363	3.8	TM	
87	TM	1,4-DCB	3.175	3.204	0.92	TM	
88	TM	n-Butylbenzene	4.656	4.916	5.6	TM	
89	TM	1,2-DCB	2.651	2.756	4.0	TM	
90	TM	Hexachloroethane	0.7881	0.7758	1.6	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0866	5.0	TM	
92	TML	1,2,4-Trichlorobenzene	1.139	1.365	20	TML	8.8
93	TM	Hexachlorobutadiene	1.216	1.221	0.42	TM	
94	TML	Naphthalene	0.7727	0.9358	21	TML	26
95	TML	1,2,3-Trichlorobenzene	0.6764	0.8424	25	TML	17
96							
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119							
120							
		Average			9.3		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M26.D Vial: 26
Acq On : 14 Feb 17 22:07 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 2/14/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	268369	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	197319	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103036	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	58783	25.53978 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.160%	
36) 1,2-DCA-D4(S)	5.14	65	48568	26.63024 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.520%	
56) Toluene-D8(S)	7.35	98	237710	24.90238 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.608%	
64) 4-Bromofluorobenzene(S)	10.74	95	88195	25.67125 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.684%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	27008	10.17206 ppb	99
3) Freon 114	1.30	85	40054	9.68034 ppb	98
4) Chloromethane	1.35	50	39376	8.51630 ppb	98
5) Vinyl chloride	1.44	62	57878	9.02422 ppb	95
6) Bromomethane	1.71	94	31188	8.30551 ppb	94
7) Chloroethane	1.81	64	33181	9.31885 ppb	98
8) Dichlorofluoromethane	2.00	67	100991	10.37745 ppb	99
9) Trichlorofluoromethane	2.04	101	69406	10.25262 ppb	99
10) Acrolein	2.43	56	24845	108.53359 ppb	100
11) Acetone	2.59	43	5804	9.05383 ppb	98
12) Freon-113	2.54	101	46358	10.34653 ppb	97
13) 1,1-DCE	2.52	61	78936	10.74475 ppb	99
14) t-Butanol	3.15	59	13331	120.26276 ppb	95
15) Methyl Acetate	2.91	43	17334	9.76080 ppb	91
16) Iodomethane	2.65	142	46603	8.01171 ppb	97
17) Acrylonitrile	3.23	53	8341	10.30464 ppb	97
18) Methylene chloride	2.99	84	48655	10.20559 ppb	93
19) Carbon disulfide	2.71	76	144894	9.90989 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	77403	9.97449 ppb	98
21) Trans-1,2-DCE	3.27	96	57802	10.97268 ppb	96
22) Diisopropyl Ether	3.81	45	147075	9.90740 ppb	99
23) 1,1-DCA	3.68	63	100883	10.82771 ppb	99
24) Vinyl Acetate	3.77	43	16336	5.50003 ppb	100
25) Ethyl tert Butyl Ether	4.18	59	96767	9.96059 ppb	100
26) MEK (2-Butanone)	4.31	43	10493	10.38231 ppb	96
27) Cis-1,2-DCE	4.28	96	62388	10.79548 ppb	98
28) 2,2-Dichloropropane	4.28	77	55846	8.88690 ppb	99
29) Chloroform	4.62	83	98602	10.98259 ppb	98
30) Bromochloromethane	4.52	128	23116	10.41981 ppb	97
32) 1,1,1-TCA	4.81	97	89890	10.87422 ppb	98
33) Cyclohexane	4.87	41	50494	10.66851 ppb	97
34) 1,1-Dichloropropene	4.99	75	79873	10.71091 ppb	100
35) 2,2,4-Trimethylpentane	5.34	57	127406	9.44256 ppb	100
37) Carbon Tetrachloride	4.99	117	77664	10.92732 ppb	100
38) Tert Amyl Methyl Ether	5.37	73	82359	10.16851 ppb	96
39) 1,2-DCA	5.22	62	52741	10.81570 ppb	94
40) Benzene	5.20	78	234866	10.65650 ppb	99
41) TCE	5.93	95	66428	11.18752 ppb	96
42) 2-Pentanone	6.15	43	176424	119.65634 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M26.D
Acq On : 14 Feb 17 22:07
Sample : Ending CCV 8260 10ug/L 2/14/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:26 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	52593	10.52336	ppb		99
44)	Bromodichloromethane	6.49	83	63494	10.97166	ppb		90
45)	Methyl Cyclohexane	6.15	83	82340	10.75463	ppb		99
46)	Dibromomethane	6.29	93	19541	10.46703	ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	20289	9.15680	ppb		98
48)	1-Bromo-2-chloroethane	6.84	63	45637	9.50451	ppb		97
49)	2-Chloroethyl vinyl ether	6.88	106	765m	7.72744	ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	66179	10.39115	ppb		97
51)	Toluene	7.43	91	270646	10.59858	ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	44542	10.28044	ppb		99
53)	1,1,2-TCA	7.93	83	23742	10.21651	ppb		95
54)	2-Hexanone	8.29	43	10878	8.86621	ppb		96
57)	1,2-EDB	8.53	107	26897	10.42965	ppb		100
58)	Tetrachloroethene	8.11	164	67988	10.72606	ppb		98
59)	1-Chlorohexane	9.21	91	74375	10.10297	ppb		97
60)	1,1,1,2-Tetrachloroethane	9.31	131	56117	10.45977	ppb		98
61)	m&p-Xylene	9.52	106	242143	20.87056	ppb		99
62)	o-Xylene	10.04	106	114474	10.57667	ppb		99
63)	Styrene	10.06	104	174273	10.46586	ppb		99
65)	1,3-Dichloropropane	8.13	76	50480	9.86190	ppb		94
66)	Dibromochloromethane	8.40	129	39861	10.12136	ppb		97
67)	Chlorobenzene	9.19	112	163529	9.95166	ppb		99
68)	Ethylbenzene	9.36	91	310651	10.49057	ppb		99
69)	Bromoform	10.27	173	23344	9.98243	ppb		92
71)	Isopropylbenzene	10.56	105	305664	10.57186	ppb		100
72)	1,1,2,2-Tetrachloroethane	10.97	83	26332	9.64066	ppb		96
73)	1,2,3-Trichloropropane	11.00	110	9210	10.15870	ppb		99
74)	t-1,4-Dichloro-2-Butene	11.05	53	5133	8.97842	ppb		93
75)	Bromobenzene	10.92	156	69567	10.41919	ppb		97
76)	n-Propylbenzene	11.13	91	341701	10.70303	ppb		100
77)	4-Ethyltoluene	11.30	105	294887	10.48301	ppb		99
78)	2-Chlorotoluene	11.22	91	198933	10.41637	ppb		99
79)	1,3,5-Trimethylbenzene	11.39	105	250905	10.69765	ppb		100
80)	4-Chlorotoluene	11.37	91	225481	10.47609	ppb		96
81)	Tert-Butylbenzene	11.84	119	221774	10.56415	ppb		97
82)	1,2,4-Trimethylbenzene	11.91	105	245650	10.73463	ppb		99
83)	Sec-Butylbenzene	12.15	105	301156	10.76381	ppb		98
84)	p-Isopropyltoluene	12.37	119	262568	10.74425	ppb		100
85)	Benzyl Chloride	12.59	91	13627	7.55546	ppb		96
86)	1,3-DCB	12.25	146	138619	10.38193	ppb		96
87)	1,4-DCB	12.38	146	132039	10.09161	ppb		98
88)	n-Butylbenzene	12.96	91	202611	10.55958	ppb		97
89)	1,2-DCB	12.90	146	113567	10.39559	ppb		99
90)	Hexachloroethane	13.27	117	31976	9.84456	ppb		97
91)	1,2-Dibromo-3-chloropropan	14.01	75	3568	9.50138	ppb	#	80
92)	1,2,4-Trichlorobenzene	15.23	180	56241	9.12154	ppb		97
93)	Hexachlorobutadiene	15.53	225	50334	10.04153	ppb		96
94)	Naphthalene	15.56	128	38568	7.43927	ppb		96
95)	1,2,3-Trichlorobenzene	15.92	180	34721	8.30497	ppb		99

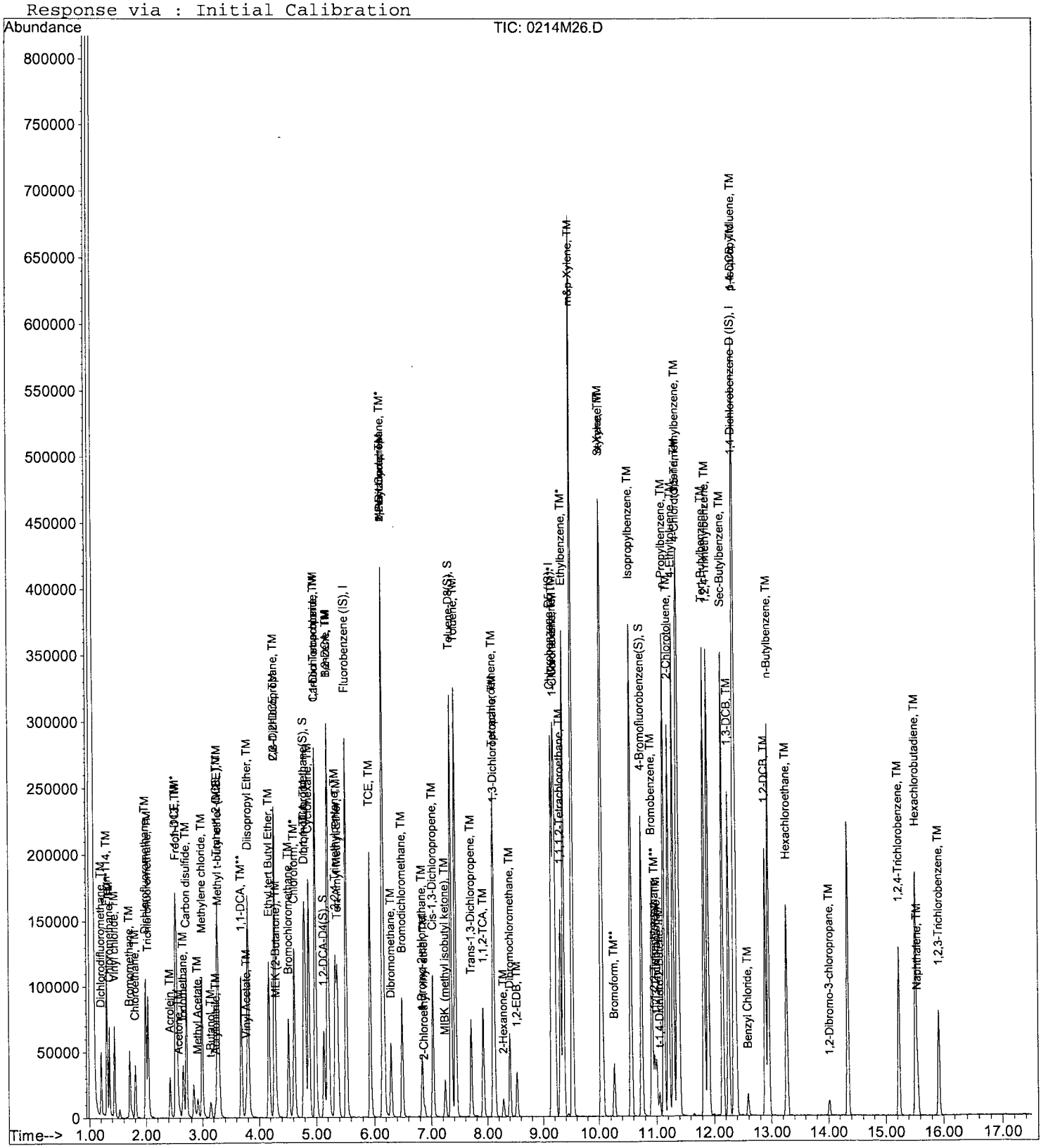
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0214M26.D Vial: 26
Acq On : 14 Feb 17 22:07 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 2/14/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 11:26 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



567

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0215M04.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2153	13	TM	
3	TM	Freon 114	0.3854	0.4139	7.4	TM	
4	TM**	Chloromethane	0.4307	0.3602	16	TM**	
5	TM*	Vinyl chloride	0.5975	0.5281	12	TM*	
6	TM	Bromomethane	0.3498	0.2973	15	TM	
7	TM	Chloroethane	0.3317	0.3102	6.5	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9610	6.0	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6513	3.3	TM	
10	TM	Acrolein	0.0213	0.0215	0.70	TM	
11	TML	Acetone	0.0718	0.0633	12	TML	8.7
12	TM	Freon-113	0.4174	0.4590	10.0	TM	
13	TM*	1,1-DCE	0.6844	0.7423	8.5	TM*	
14	TM	t-Butanol	0.0103	0.0118	14	TM	
15	TM	Methyl Acetate	0.1654	0.1907	15	TM	
16	TML	Iodomethane	0.4508	0.4747	5.3	TML	13
17	TML	Acrylonitrile	0.0675	0.0798	18	TML	5.9
18	TML	Methylene chloride	0.5358	0.4827	9.9	TML	9.4
19	TM	Carbon disulfide	1.362	1.376	1.00	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7574	4.8	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5133	4.6	TM	
22	TM	Diisopropyl Ether	1.383	1.405	1.6	TM	
23	TM**	1,1-DCA	0.8679	0.8960	3.2	TM**	
24	TM	Vinyl Acetate	0.2767	0.2924	5.7	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	0.9786	8.1	TM	
26	TM	MEK (2-Butanone)	0.0941	0.1124	19	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5633	4.6	TM	
28	TM	2,2-Dichloropropane	0.5854	0.6523	11	TM	
29	TM*	Chloroform	0.8364	0.8841	5.7	TM*	
30	TM	Bromochloromethane	0.2067	0.2259	9.3	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2171	1.2	S	
32	TM	1,1,1-TCA	0.7701	0.8263	7.3	TM	
33	TM	Cyclohexane	0.4409	0.4440	0.69	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7320	5.4	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.374	9.3	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1755	3.3	S	
37	TM	Carbon Tetrachloride	0.6621	0.6978	5.4	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.8281	9.8	TM	
39	TM	1,2-DCA	0.4543	0.4931	8.6	TM	
40	TM	Benzene	2.053	2.173	5.9	TM	
		Average			7.9		

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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0215M04.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.5790	4.7	TM	
42	TM	2-Pentanone	0.1374	0.1544	12	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4777	2.6	TM*	
44	TM	Bromodichloromethane	0.5391	0.5866	8.8	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7602	6.6	TM	
46	TM	Dibromomethane	0.1739	0.1872	7.6	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2219	4.0	TML	9.7
48	TM	1-Bromo-2-chloroethane	0.4473	0.4661	4.2	TM	
49	TM	2-Chloroethyl vinyl ether	0.0092	0.0094	1.6	TM	
50	TM	Cis-1,3-Dichloropropene	0.5933	0.6461	8.9	TM	
51	TM*	Toluene	2.379	2.526	6.2	TM*	
52	TM	Trans-1,3-Dichloropropene	0.4036	0.4549	13	TM	
53	TM	1,1,2-TCA	0.2165	0.2395	11	TM	
54	TM	2-Hexanone	0.1143	0.1309	15	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.209	1.168	3.4	S	
57	TM	1,2-EDB	0.3267	0.3508	7.4	TM	
58	TM	Tetrachloroethene	0.8031	0.8443	5.1	TM	
59	TM	1-Chlorohexane	0.9327	0.9662	3.6	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7028	3.4	TM	
61	TM	m&p-Xylene	1.470	1.524	3.7	TM	
62	TM	o-Xylene	1.371	1.437	4.8	TM	
63	TM	Styrene	2.110	2.203	4.4	TM	
64	S	4-Bromofluorobenzene(S)	0.4353	0.4355	0.05	S	
65	TM	1,3-Dichloropropane	0.6485	0.6638	2.4	TM	
66	TM	Dibromochloromethane	0.4990	0.5192	4.1	TM	
67	TM**	Chlorobenzene	2.082	2.095	0.63	TM**	
68	TM*	Ethylbenzene	3.752	3.851	2.6	TM*	
69	TM**	Bromoform	0.2963	0.3216	8.6	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.015	7.200	2.6	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.7057	6.5	TM**	
73	TM	1,2,3-Trichloropropane	0.2200	0.2266	3.0	TM	
74	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1297	3.4	TML	6.6
75	TM	Bromobenzene	1.620	1.680	3.7	TM	
76	TM	n-Propylbenzene	7.746	8.077	4.3	TM	
77	TM	4-Ethyltoluene	6.825	6.967	2.1	TM	
78	TM	2-Chlorotoluene	4.634	4.710	1.6	TM	
79	TM	1,3,5-Trimethylbenzene	5.691	5.911	3.9	TM	
80	TM	4-Chlorotoluene	5.222	5.387	3.2	TM	
		Average			5.1		

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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0215M04.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Tert-Butylbenzene	5.094	5.236	2.8	TM	
82	TM	1,2,4-Trimethylbenzene	5.552	5.885	6.0	TM	
83	TM	Sec-Butylbenzene	6.789	7.133	5.1	TM	
84	TM	p-Isopropyltoluene	5.929	6.289	6.1	TM	
85	TM	Benzyl Chloride	0.4376	0.5818	33	TM	*NT GN 3/15/17
86	TM	1,3-DCB	3.240	3.333	2.9	TM	
87	TM	1,4-DCB	3.175	3.210	1.1	TM	
88	TM	n-Butylbenzene	4.656	5.083	9.2	TM	
89	TM	1,2-DCB	2.651	2.759	4.1	TM	
90	TM	Hexachloroethane	0.7881	0.7768	1.4	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0955	4.8	TM	
92	TML	1,2,4-Trichlorobenzene	1.139	1.521	34	TML	1.1
93	TM	Hexachlorobutadiene	1.216	1.300	6.9	TM	
94	TML	Naphthalene	0.7727	1.208	56	TML	7.2
95	TML	1,2,3-Trichlorobenzene	0.6764	1.064	57	TML	2.7
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			15.4		

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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M04.D
Acq On : 15 Feb 17 10:40
Sample : 170215A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:24 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	272731	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	204236	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	107773	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	59202	25.31043 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.240%	
36) 1,2-DCA-D4(S)	5.13	65	47856	25.82017 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.280%	
56) Toluene-D8(S)	7.35	98	238564	24.14543 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.580%	
64) 4-Bromofluorobenzene(S)	10.74	95	88946	25.01302 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.052%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	23488	8.70484 ppb		97
3) Freon 114	1.30	85	45153	10.73814 ppb		92
4) Chloromethane	1.34	50	39296	8.36306 ppb		100
5) Vinyl chloride	1.43	62	57615	8.83954 ppb		98
6) Bromomethane	1.70	94	32430	8.49813 ppb		95
7) Chloroethane	1.80	64	33837	9.35110 ppb		100
8) Dichlorofluoromethane	1.99	67	104837	10.60035 ppb		99
9) Trichlorofluoromethane	2.03	101	71052	10.32790 ppb		96
10) Acrolein	2.42	56	29284	125.87904 ppb		97
11) Acetone	2.58	43	6907	10.87334 ppb		98
12) Freon-113	2.54	101	50070	10.99627 ppb		96
13) 1,1-DCE	2.52	61	80974	10.84588 ppb		98
14) t-Butanol	3.15	59	16111	143.01737 ppb		97
15) Methyl Acetate	2.91	43	20800	11.52519 ppb		100
16) Iodomethane	2.65	142	51782	8.70751 ppb		96
17) Acrylonitrile	3.23	53	8707	10.59235 ppb	#	83
18) Methylene chloride	2.99	84	52660	10.93612 ppb		97
19) Carbon disulfide	2.71	76	150067	10.09954 ppb		98
20) Methyl t-butyl ether (MtBE	3.29	73	82632	10.47801 ppb		98
21) Trans-1,2-DCE	3.26	96	56000	10.46058 ppb		94
22) Diisopropyl Ether	3.80	45	153308	10.16210 ppb		99
23) 1,1-DCA	3.68	63	97747	10.32333 ppb		100
24) Vinyl Acetate	3.76	43	31898	10.56771 ppb		96
25) Ethyl tert Butyl Ether	4.18	59	106762	10.81365 ppb		99
26) MEK (2-Butanone)	4.31	43	12266	11.94250 ppb		96
27) Cis-1,2-DCE	4.28	96	61450	10.46310 ppb		98
28) 2,2-Dichloropropane	4.27	77	71166	11.14369 ppb		99
29) Chloroform	4.62	83	96449	10.57096 ppb		96
30) Bromochloromethane	4.52	128	24642	10.93002 ppb		95
32) 1,1,1-TCA	4.80	97	90141	10.73018 ppb		98
33) Cyclohexane	4.87	41	48433	10.06939 ppb		93
34) 1,1-Dichloropropene	4.99	75	79851	10.53669 ppb		98
35) 2,2,4-Trimethylpentane	5.33	57	149895	10.93163 ppb		99
37) Carbon Tetrachloride	4.99	117	76130	10.54017 ppb		94
38) Tert Amyl Methyl Ether	5.37	73	90339	10.97537 ppb		95
39) 1,2-DCA	5.21	62	53796	10.85561 ppb		97
40) Benzene	5.20	78	237097	10.58567 ppb		100
41) TCE	5.93	95	63164	10.46767 ppb		92
42) 2-Pentanone	6.16	43	210500	140.48436 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M04.D
Acq On : 15 Feb 17 10:40
Sample : 170215A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.16	63	52111	10.26015 ppb		99
44)	Bromodichloromethane	6.49	83	63999	10.88205 ppb		93
45)	Methyl Cyclohexane	6.15	83	82928	10.65819 ppb		97
46)	Dibromomethane	6.29	93	20422	10.76398 ppb		94
47)	MIBK (methyl isobutyl ket	7.24	43	24207	10.97033 ppb		97
48)	1-Bromo-2-chloroethane	6.84	63	50844	10.41958 ppb		96
49)	2-Chloroethyl vinyl ether	6.88	106	1022m	10.15835 ppb		0
50)	Cis-1,3-Dichloropropene	7.03	75	70481	10.88963 ppb		99
51)	Toluene	7.43	91	275588	10.61950 ppb		99
52)	Trans-1,3-Dichloropropene	7.71	75	49623	11.26998 ppb		97
53)	1,1,2-TCA	7.92	83	26124	11.06172 ppb		95
54)	2-Hexanone	8.28	43	14277	11.45049 ppb	#	92
57)	1,2-EDB	8.53	107	28658	10.73615 ppb		99
58)	Tetrachloroethene	8.11	164	68974	10.51308 ppb		95
59)	1-Chlorohexane	9.21	91	78931	10.35872 ppb		98
60)	1,1,1,2-Tetrachloroethane	9.31	131	57414	10.33908 ppb		95
61)	m&p-Xylene	9.52	106	248985	20.73347 ppb		98
62)	o-Xylene	10.04	106	117412	10.48072 ppb		97
63)	Styrene	10.06	104	180011	10.44432 ppb		99
65)	1,3-Dichloropropane	8.13	76	54229	10.23551 ppb		100
66)	Dibromochloromethane	8.40	129	42416	10.40536 ppb		96
67)	Chlorobenzene	9.19	112	171156	10.06305 ppb		99
68)	Ethylbenzene	9.36	91	314598	10.26405 ppb		100
69)	Bromoform	10.27	173	26275	10.85526 ppb		99
71)	Isopropylbenzene	10.56	105	310394	10.26359 ppb		98
72)	1,1,2,2-Tetrachloroethane	10.97	83	30422	10.64853 ppb		93
73)	1,2,3-Trichloropropane	11.00	110	9767	10.29956 ppb		97
74)	t-1,4-Dichloro-2-Butene	11.05	53	5591	9.34120 ppb	#	79
75)	Bromobenzene	10.92	156	72424	10.37032 ppb		99
76)	n-Propylbenzene	11.13	91	348207	10.42743 ppb		100
77)	4-Ethyltoluene	11.30	105	300334	10.20737 ppb		98
78)	2-Chlorotoluene	11.21	91	203046	10.16443 ppb		100
79)	1,3,5-Trimethylbenzene	11.39	105	254823	10.38716 ppb		100
80)	4-Chlorotoluene	11.37	91	232247	10.31616 ppb		98
81)	Tert-Butylbenzene	11.84	119	225713	10.27921 ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	253700	10.59912 ppb		99
83)	Sec-Butylbenzene	12.15	105	307512	10.50790 ppb		99
84)	p-Isopropyltoluene	12.37	119	271092	10.60548 ppb		99
85)	Benzyl Chloride	12.59	91	25082	13.29541 ppb		95
86)	1,3-DCB	12.26	146	143671	10.28735 ppb		98
87)	1,4-DCB	12.38	146	138375	10.11102 ppb		97
88)	n-Butylbenzene	12.95	91	219120	10.91804 ppb		99
89)	1,2-DCB	12.90	146	118932	10.40818 ppb		98
90)	Hexachloroethane	13.27	117	33488	9.85690 ppb		96
91)	1,2-Dibromo-3-chloropropan	14.01	75	4118	10.48401 ppb	#	85
92)	1,2,4-Trichlorobenzene	15.23	180	65569	10.11268 ppb		96
93)	Hexachlorobutadiene	15.53	225	56023	10.68523 ppb		95
94)	Naphthalene	15.56	128	52071	9.27612 ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	45878	10.27315 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

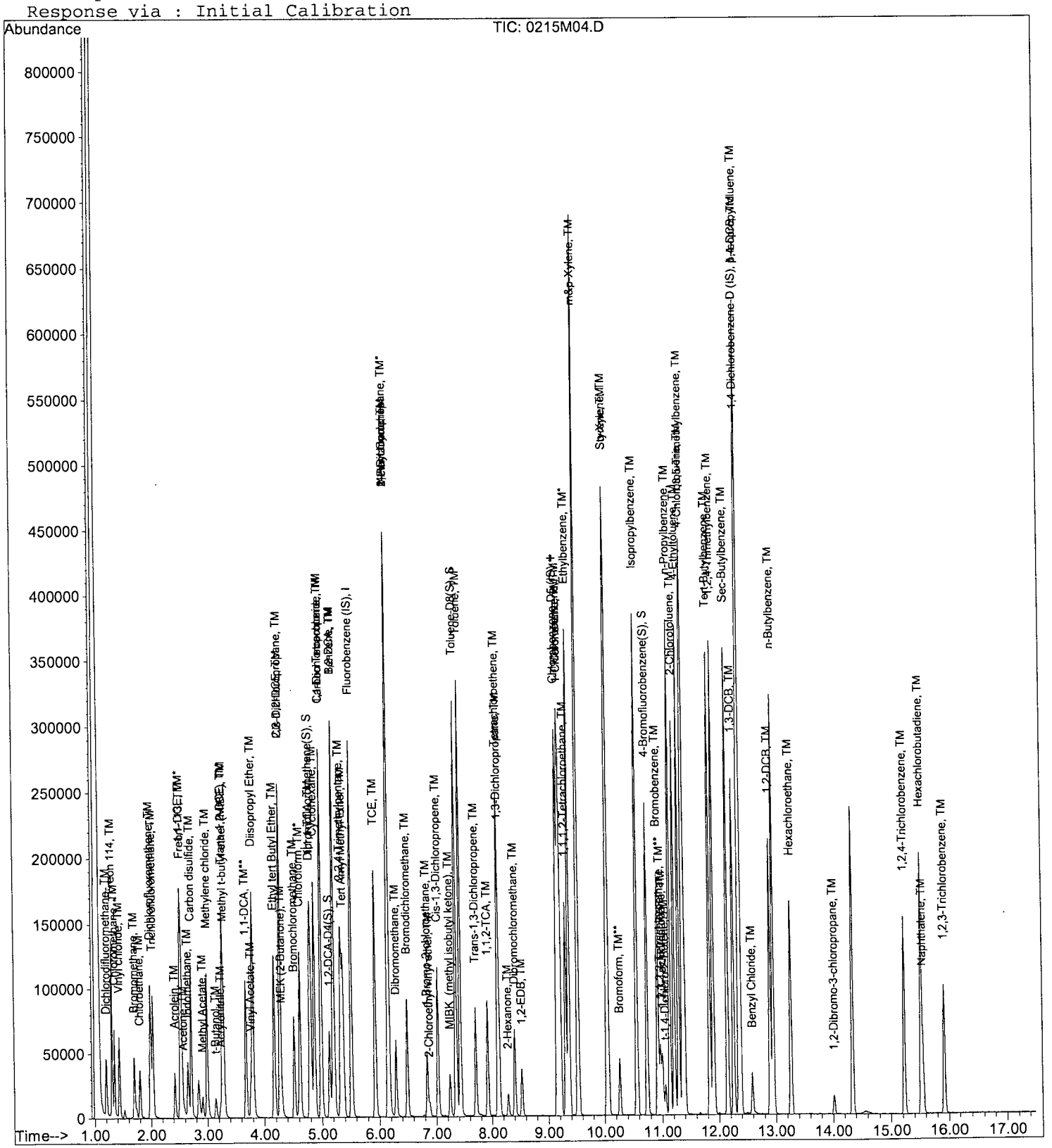
Data File : M:\MAX\DATA\M170127\0215M04.D
Acq On : 15 Feb 17 10:40
Sample : 170215A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:24 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



573

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0215M28.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2473	0.2487	0.56	TM	
3	TM	Freon 114	0.3854	0.3802	1.4	TM	
4	TM**	Chloromethane	0.4307	0.3736	13	TM**	
5	TM*	Vinyl chloride	0.5975	0.5479	8.3	TM*	
6	TM	Bromomethane	0.3498	0.2696	23	TM	
7	TM	Chloroethane	0.3317	0.3054	7.9	TM	
8	TM	Dichlorofluoromethane	0.9066	0.9509	4.9	TM	
9	TM	Trichlorofluoromethane	0.6306	0.6342	0.57	TM	
10	TM	Acrolein	0.0213	0.0180	16	TM	
11	TML	Acetone	0.0718	0.0668	7.0	TML	16
12	TM	Freon-113	0.4174	0.4533	8.6	TM	
13	TM*	1,1-DCE	0.6844	0.7424	8.5	TM*	
14	TM	t-Butanol	0.0103	0.0126	22	TM	
15	TM	Methyl Acetate	0.1654	0.1864	13	TM	
16	TML	Iodomethane	0.4508	0.5309	18	TML	3.3
17	TML	Acrylonitrile	0.0675	0.0758	12	TML	0.46
18	TML	Methylene chloride	0.5358	0.4628	14	TML	4.4
19	TM	Carbon disulfide	1.362	1.352	0.71	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.7229	0.7654	5.9	TM	
21	TM	Trans-1,2-DCE	0.4907	0.5445	11	TM	
22	TM	Diisopropyl Ether	1.383	1.415	2.3	TM	
23	TM**	1,1-DCA	0.8679	0.9446	8.8	TM**	
24	TM	Vinyl Acetate	0.2767	0.1682	39	TM	
25	TM	Ethyl tert Butyl Ether	0.9050	1.006	11	TM	
26	TM	MEK (2-Butanone)	0.0941	0.0891	5.3	TM	
27	TM	Cis-1,2-DCE	0.5384	0.5842	8.5	TM	
28	TM	2,2-Dichloropropane	0.5854	0.5861	0.12	TM	
29	TM*	Chloroform	0.8364	0.9204	10	TM*	
30	TM	Bromochloromethane	0.2067	0.2265	9.6	TM	
31	S	Dibromofluoromethane(S)	0.2144	0.2173	1.3	S	
32	TM	1,1,1-TCA	0.7701	0.8705	13	TM	
33	TM	Cyclohexane	0.4409	0.4643	5.3	TM	
34	TM	1,1-Dichloropropene	0.6947	0.7539	8.5	TM	
35	TM	2,2,4-Trimethylpentane	1.257	1.180	6.1	TM	
36	S	1,2-DCA-D4(S)	0.1699	0.1757	3.4	S	
37	TM	Carbon Tetrachloride	0.6621	0.7578	14	TM	
38	TM	Tert Amyl Methyl Ether	0.7545	0.8258	9.5	TM	
39	TM	1,2-DCA	0.4543	0.5067	12	TM	
40	TM	Benzene	2.053	2.233	8.8	TM	
		Average			9.6		

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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0215M28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5531	0.6227	13	TM	
42	TM	2-Pentanone	0.1374	0.1425	3.8	TM	
43	TM*	1,2-Dichloropropane	0.4656	0.4953	6.4	TM*	
44	TM	Bromodichloromethane	0.5391	0.6063	12	TM	
45	TM	Methyl Cyclohexane	0.7132	0.7608	6.7	TM	
46	TM	Dibromomethane	0.1739	0.1827	5.1	TM	
47	TML	MIBK (methyl isobutyl ketone)	0.2312	0.2113	8.6	TML	3.9
48	TM	1-Bromo-2-chloroethane	0.4473	0.4458	0.33	TM	
49	TM	Cis-1,3-Dichloropropene	0.5933	0.6315	6.4	TM	
50	TM*	Toluene	2.379	2.569	8.0	TM*	
51	TM	Trans-1,3-Dichloropropene	0.4036	0.4419	9.5	TM	
52	TM	1,1,2-TCA	0.2165	0.2265	4.6	TM	
53	TM	2-Hexanone	0.1143	0.1203	5.3	TM	
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.209	1.221	0.97	S	
56	TM	1,2-EDB	0.3267	0.3608	10	TM	
57	TM	Tetrachloroethene	0.8031	0.8677	8.0	TM	
58	TM	1-Chlorohexane	0.9327	0.9699	4.0	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6797	0.7372	8.5	TM	
60	TM	m&p-Xylene	1.470	1.597	8.7	TM	
61	TM	o-Xylene	1.371	1.480	7.9	TM	
62	TM	Styrene	2.110	2.294	8.7	TM	
63	S	4-Bromofluorobenzene(S)	0.4353	0.4332	0.48	S	
64	TM	1,3-Dichloropropane	0.6485	0.6866	5.9	TM	
65	TM	Dibromochloromethane	0.4990	0.5439	9.0	TM	
66	TM**	Chlorobenzene	2.082	2.168	4.1	TM**	
67	TM*	Ethylbenzene	3.752	4.023	7.2	TM*	
68	TM**	Bromoform	0.2963	0.3223	8.8	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.015	7.434	6.0	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.6627	0.6597	0.45	TM**	
72	TM	1,2,3-Trichloropropane	0.2200	0.2371	7.8	TM	
73	TML	t-1,4-Dichloro-2-Butene	0.1254	0.1223	2.5	TML	12
74	TM	Bromobenzene	1.620	1.724	6.4	TM	
75	TM	n-Propylbenzene	7.746	8.249	6.5	TM	
76	TM	4-Ethyltoluene	6.825	7.135	4.5	TM	
77	TM	2-Chlorotoluene	4.634	4.822	4.1	TM	
78	TM	1,3,5-Trimethylbenzene	5.691	6.134	7.8	TM	
79	TM	4-Chlorotoluene	5.222	5.579	6.8	TM	
80	TM	Tert-Butylbenzene	5.094	5.407	6.2	TM	
		Average			6.3		

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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Cal. Date: 1/27/17
Data File: 0215M28.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	1,2,4-Trimethylbenzene	5.552	6.041	8.8	TM	
82	TM	Sec-Butylbenzene	6.789	7.202	6.1	TM	
83	TM	p-Isopropyltoluene	5.929	6.409	8.1	TM	
84	TM	Benzyl Chloride	0.4376	0.4195	4.1	TM	
85	TM	1,3-DCB	3.240	3.373	4.1	TM	
86	TM	1,4-DCB	3.175	3.179	0.15	TM	
87	TM	n-Butylbenzene	4.656	5.017	7.8	TM	
88	TM	1,2-DCB	2.651	2.753	3.9	TM	
89	TM	Hexachloroethane	0.7881	0.8467	7.4	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0911	0.0934	2.5	TM	
91	TML	1,2,4-Trichlorobenzene	1.139	1.504	32	TML	0.05
92	TM	Hexachlorobutadiene	1.216	1.224	0.64	TM	
93	TML	Naphthalene	0.7727	1.139	47	TML	12
94	TML	1,2,3-Trichlorobenzene	0.6764	0.9889	46	TML	4.0
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.8		

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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M28.D
Acq On : 15 Feb 17 22:02
Sample : Ending CCV 8260 10ug/L 2/15/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	261247	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	188921	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	101413	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.79	111	56759	25.33268 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
36) 1,2-DCA-D4(S)	5.14	65	45888	25.84670 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.388%	
56) Toluene-D8(S)	7.35	98	230697	25.24202 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.968%	
64) 4-Bromofluorobenzene(S)	10.74	95	81839	24.88010 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.520%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	25992	10.05628 ppb		100
3) Freon 114	1.30	85	39732	9.86429 ppb		99
4) Chloromethane	1.35	50	39040	8.67381 ppb		98
5) Vinyl chloride	1.44	62	57255	9.17045 ppb		96
6) Bromomethane	1.71	94	28175	7.70768 ppb		97
7) Chloroethane	1.81	64	31913	9.20707 ppb		98
8) Dichlorofluoromethane	2.00	67	99372	10.48945 ppb		98
9) Trichlorofluoromethane	2.04	101	66272	10.05655 ppb		97
10) Acrolein	2.43	56	23497	105.44321 ppb		94
11) Acetone	2.58	43	6978	11.55474 ppb		90
12) Freon-113	2.54	101	47372	10.86108 ppb		98
13) 1,1-DCE	2.52	61	77582	10.84834 ppb		99
14) t-Butanol	3.15	59	16433	152.28823 ppb		100
15) Methyl Acetate	2.91	43	19482	11.26941 ppb		94
16) Iodomethane	2.65	142	55479	9.67306 ppb		98
17) Acrylonitrile	3.23	53	7921	10.04570 ppb	#	91
18) Methylene chloride	2.99	84	48367	10.44362 ppb		89
19) Carbon disulfide	2.71	76	141326	9.92937 ppb		97
20) Methyl t-butyl ether (MtBE	3.29	73	79980	10.58754 ppb		98
21) Trans-1,2-DCE	3.27	96	56904	11.09669 ppb		95
22) Diisopropyl Ether	3.81	45	147885	10.23354 ppb		99
23) 1,1-DCA	3.68	63	98708	10.88308 ppb		99
24) Vinyl Acetate	3.77	43	17575	6.07849 ppb		95
25) Ethyl tert Butyl Ether	4.18	59	105121	11.11548 ppb		97
26) MEK (2-Butanone)	4.32	43	9315	9.46800 ppb	#	80
27) Cis-1,2-DCE	4.28	96	61044	10.85088 ppb		100
28) 2,2-Dichloropropane	4.28	77	61248	10.01224 ppb		100
29) Chloroform	4.62	83	96176	11.00441 ppb		96
30) Bromochloromethane	4.52	128	23673	10.96179 ppb		97
32) 1,1,1-TCA	4.81	97	90968	11.30464 ppb		97
33) Cyclohexane	4.87	41	48524	10.53178 ppb		100
34) 1,1-Dichloropropene	4.99	75	78785	10.85302 ppb		97
35) 2,2,4-Trimethylpentane	5.34	57	123298	9.38722 ppb		99
37) Carbon Tetrachloride	4.99	117	79193	11.44621 ppb		100
38) Tert Amyl Methyl Ether	5.37	73	86300	10.94556 ppb		92
39) 1,2-DCA	5.22	62	52947	11.15395 ppb		95
40) Benzene	5.21	78	233341	10.87593 ppb		99
41) TCE	5.93	95	65071	11.25773 ppb		94
42) 2-Pentanone	6.15	43	186202	129.73090 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M28.D
Acq On : 15 Feb 17 22:02
Sample : Ending CCV 8260 10ug/L 2/15/17
Misc : IS&S 10/20/16

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:01 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	51753	10.63759	ppb		99
44)	Bromodichloromethane	6.50	83	63358	11.24663	ppb		94
45)	Methyl Cyclohexane	6.15	83	79507	10.66770	ppb		100
46)	Dibromomethane	6.29	93	19095	10.50697	ppb		92
47)	MIBK (methyl isobutyl ket	7.25	43	22083	10.38746	ppb		97
48)	1-Bromo-2-chloroethane	6.84	63	46588	9.96707	ppb		98
50)	Cis-1,3-Dichloropropene	7.03	75	65987	10.64346	ppb		98
51)	Toluene	7.43	91	268477	10.80026	ppb		98
52)	Trans-1,3-Dichloropropene	7.71	75	46173	10.94741	ppb		99
53)	1,1,2-TCA	7.93	83	23669	10.46276	ppb		92
54)	2-Hexanone	8.29	43	12574	10.52795	ppb		94
57)	1,2-EDB	8.53	107	27263	11.04151	ppb		99
58)	Tetrachloroethene	8.11	164	65573	10.80493	ppb		99
59)	1-Chlorohexane	9.21	91	73294	10.39870	ppb		96
60)	1,1,1,2-Tetrachloroethane	9.31	131	55709	10.84530	ppb		99
61)	m&p-Xylene	9.52	106	241403	21.73169	ppb		99
62)	o-Xylene	10.04	106	111812	10.78994	ppb		98
63)	Styrene	10.06	104	173368	10.87432	ppb		99
65)	1,3-Dichloropropane	8.13	76	51886	10.58718	ppb		95
66)	Dibromochloromethane	8.40	129	41104	10.90093	ppb		99
67)	Chlorobenzene	9.19	112	163796	10.41101	ppb		98
68)	Ethylbenzene	9.36	91	304014	10.72281	ppb		100
69)	Bromoform	10.27	173	24359	10.87950	ppb		97
71)	Isopropylbenzene	10.56	105	301577	10.59743	ppb		99
72)	1,1,2,2-Tetrachloroethane	10.97	83	26762	9.95489	ppb		92
73)	1,2,3-Trichloropropane	11.00	110	9619	10.77963	ppb		99
74)	t-1,4-Dichloro-2-Butene	11.05	53	4961	8.82014	ppb		82
75)	Bromobenzene	10.92	156	69950	10.64422	ppb		98
76)	n-Propylbenzene	11.13	91	334629	10.64926	ppb		99
77)	4-Ethyltoluene	11.30	105	289430	10.45368	ppb		99
78)	2-Chlorotoluene	11.21	91	195596	10.40555	ppb		96
79)	1,3,5-Trimethylbenzene	11.39	105	248836	10.77923	ppb		99
80)	4-Chlorotoluene	11.37	91	226296	10.68221	ppb		100
81)	Tert-Butylbenzene	11.84	119	219356	10.61619	ppb		99
82)	1,2,4-Trimethylbenzene	11.91	105	245044	10.87952	ppb		99
83)	Sec-Butylbenzene	12.15	105	292163	10.60951	ppb		100
84)	p-Isopropyltoluene	12.37	119	259999	10.80940	ppb		99
85)	Benzyl Chloride	12.59	91	17017	9.58603	ppb	#	94
86)	1,3-DCB	12.26	146	136839	10.41264	ppb		97
87)	1,4-DCB	12.38	146	128969	10.01472	ppb		99
88)	n-Butylbenzene	12.95	91	203500	10.77565	ppb		99
89)	1,2-DCB	12.90	146	111687	10.38712	ppb		98
90)	Hexachloroethane	13.27	117	34346	10.74345	ppb		97
91)	1,2-Dibromo-3-chloropropan	14.02	75	3787	10.24596	ppb		87
92)	1,2,4-Trichlorobenzene	15.23	180	61013	10.00542	ppb		97
93)	Hexachlorobutadiene	15.53	225	49653	10.06421	ppb		96
94)	Naphthalene	15.56	128	46195	8.80963	ppb		99
95)	1,2,3-Trichlorobenzene	15.92	180	40114	9.60445	ppb		98

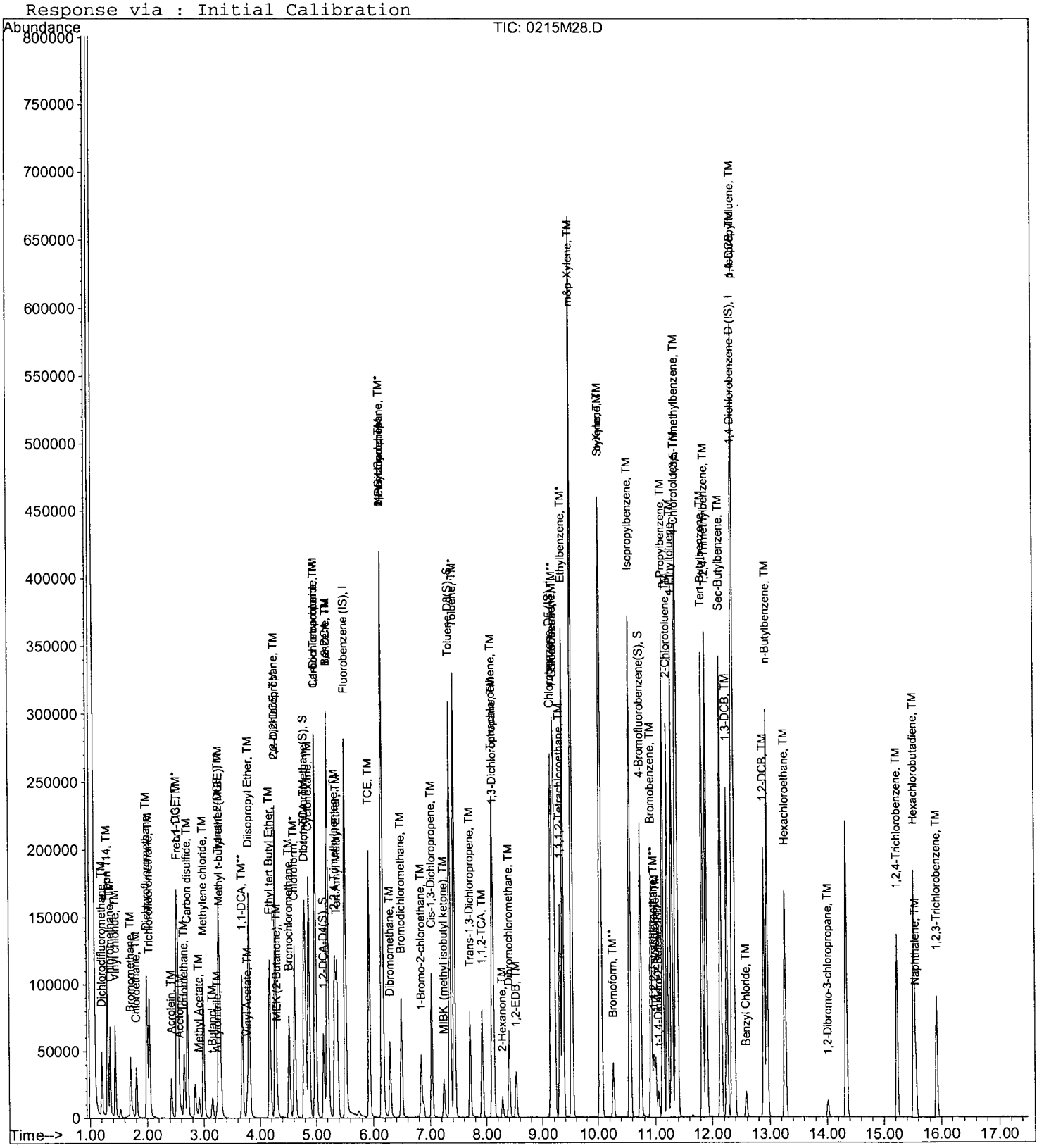
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170127\0215M28.D Vial: 26
Acq On : 15 Feb 17 22:02 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 2/15/17 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



579

ADDED PAGE

ORGANICS
Raw Data

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	2/14/17	2/14/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	2/14/17	2/14/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	2/14/17	2/14/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	2/14/17	2/14/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	2/14/17	2/14/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	2/14/17	2/14/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	2/14/17	2/14/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	2/14/17	2/14/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	2/14/17	2/14/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	2/14/17	2/14/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	2/14/17	2/14/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	2/14/17	2/14/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:23:06 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	2/14/17	2/14/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	2/14/17	2/14/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	2/14/17	2/14/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	2/14/17	2/14/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	2/14/17	2/14/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	2/14/17	2/14/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	2/14/17	2/14/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	2/14/17	2/14/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	2/14/17	2/14/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	2/14/17	2/14/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	2/14/17	2/14/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	2/14/17	2/14/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	2/14/17	2/14/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	2/14/17	2/14/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	2/14/17	2/14/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	2/14/17	2/14/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	2/14/17	2/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	2/14/17	2/14/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:23:06 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216179**
Batch ID: #86CDO-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	2/14/17	2/14/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	2/14/17	2/14/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	2/14/17	2/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	107	81-118			%	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	2/14/17	2/14/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	2/14/17	2/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	2/14/17	2/14/17

Quant Method: MALLW.M
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:23:06 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M10.D Vial: 10
Acq On : 14 Feb 17 14:34 Operator: PM,DG,SV,CMM
Sample : 170214A BLK1WM Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 9:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266209	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.16	117	195522	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	96726	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	59252	25.95243 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.808%	
36) 1,2-DCA-D4(S)	5.13	65	48289	26.69210 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.768%	
56) Toluene-D8(S)	7.35	98	230606	24.38021 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.520%	
64) 4-Bromofluorobenzene(S)	10.74	95	86085	25.28738 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.148%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

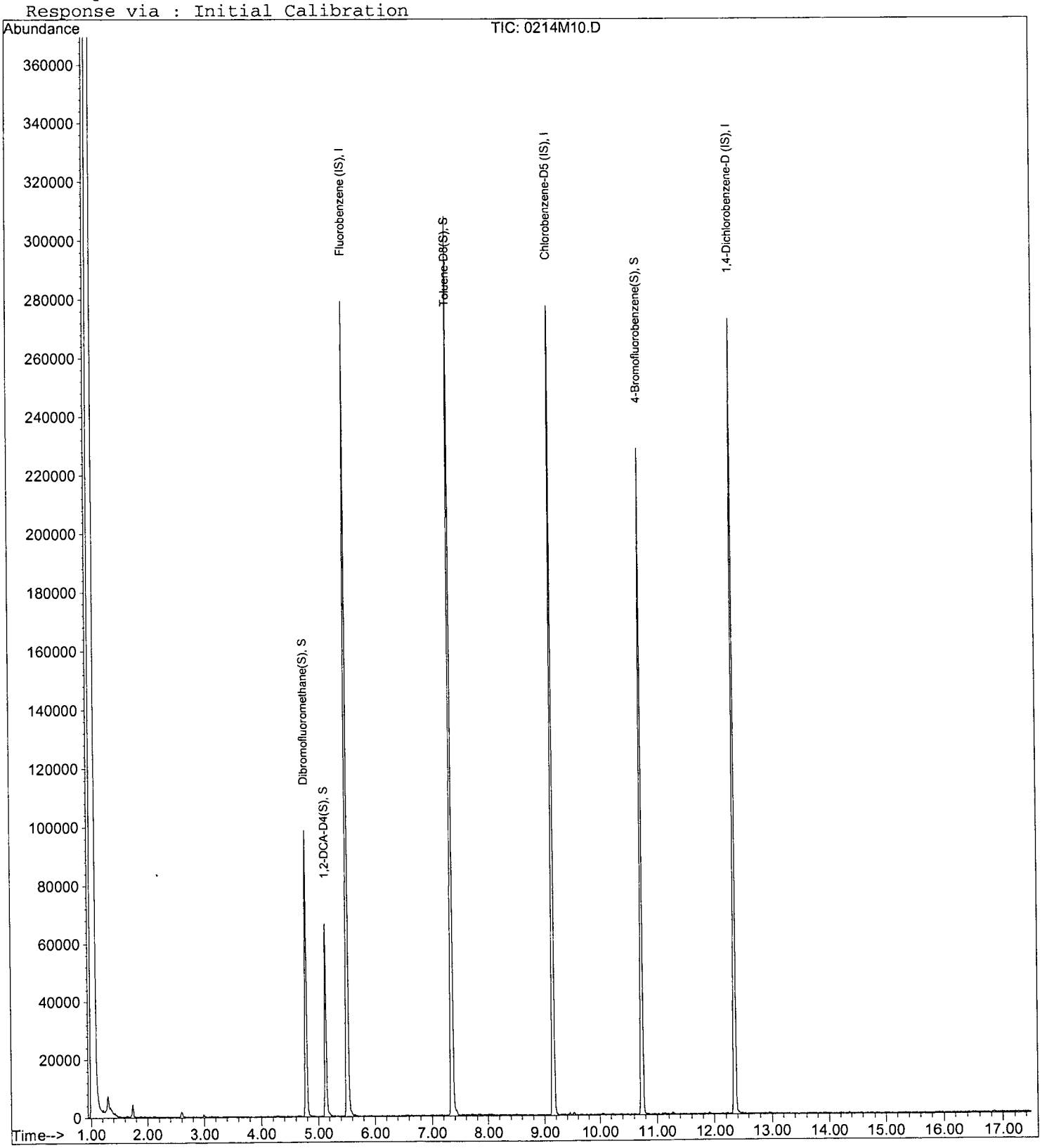
Quantitation Report

Data File : M:\MAX\DATA\M170127\0214M10.D
Acq On : 14 Feb 17 14:34
Sample : 170214A BLK1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 9:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.5	105	78-124
1,1,1-TRICHLOROETHANE	10.00	10.9	109	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	9.94	99.4	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.9	109	70-136
1,1,2-TRICHLOROETHANE	10.00	10.4	104	80-119
1,1-DICHLOROETHANE	10.00	10.5	105	77-125
1,1-DICHLOROETHENE	10.00	10.4	104	71-131
1,1-DICHLOROPROPENE	10.00	10.9	109	79-125
1,2,3-TRICHLOROBENZENE	10.00	9.08	90.8	69-129
1,2,3-TRICHLOROPROPANE	10.00	9.64	96.4	73-122
1,2,4-TRICHLOROBENZENE	10.00	9.66	96.6	69-130
1,2,4-TRIMETHYLBENZENE	10.00	10.5	105	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	9.81	98.1	62-128
1,2-DIBROMOETHANE	10.00	10.7	107	77-121
1,2-DICHLOROBENZENE	10.00	10.1	101	80-119
1,2-DICHLOROETHANE	10.00	10.3	103	73-128
1,2-DICHLOROPROPANE	10.00	10.2	102	78-122
1,3,5-TRIMETHYLBENZENE	10.00	10.6	106	82-120
1,3-DICHLOROBENZENE	10.00	10.1	101	80-119
1,3-DICHLOROPROPANE	10.00	10.2	102	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	21.2	106	77-123
1,4-DICHLOROBENZENE	10.00	9.82	98.2	79-118
2,2-DICHLOROPROPANE	10.00	11.2	112	60-139
2-BUTANONE	10.00	10.5	105	56-143
2-CHLOROTOLUENE	10.00	10.1	101	79-122
2-HEXANONE	10.00	10.3	103	57-139
4-CHLOROTOLUENE	10.00	10.3	103	78-122
4-METHYL-2-PENTANONE	10.00	10.2	102	67-130
ACETONE	10.00	9.20	92.0	39-160
BENZENE	10.00	10.6	106	79-120
BROMOBENZENE	10.00	10.2	102	80-120

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Comments:

Printed: 2/16/17 9:23:11 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	10.2	102	78-123
BROMODICHLOROMETHANE	10.00	10.7	107	79-125
BROMOFORM	10.00	10.6	106	66-130
BROMOMETHANE	10.00	8.27	82.7	53-141
CARBON DISULFIDE	10.00	9.92	99.2	64-133
CARBON TETRACHLORIDE	10.00	10.8	108	72-136
CHLOROBENZENE	10.00	10.2	102	82-118
CHLOROETHANE	10.00	9.39	93.9	60-138
CHLOROFORM	10.00	10.5	105	79-124
CHLOROMETHANE	10.00	8.45	84.5	50-139
CIS-1,2-DICHLOROETHENE	10.00	10.5	105	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.5	105	75-124
DI-ISOPROPYL ETHER	10.00	9.81	98.1	67-128
DIBROMOCHLOROMETHANE	10.00	10.3	103	74-126
DIBROMOMETHANE	10.00	10.6	106	79-123
DICHLORODIFLUOROMETHANE	10.00	9.67	96.7	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	9.98	99.8	70-127
ETHYLBENZENE	10.00	10.6	106	79-121
HEXACHLOROBUTADIENE	10.00	10.7	107	66-134
ISOPROPYLBENZENE	10.00	10.4	104	72-131
M,P-XYLENE	20.0	21.5	108	80-121
METHYL TERT-BUTYL ETHER	10.00	10.1	101	71-124
METHYLENE CHLORIDE	10.00	10.1	101	74-124
N-BUTYLBENZENE	10.00	10.8	108	75-128
N-PROPYLBENZENE	10.00	10.5	105	76-126
NAPHTHALENE	10.00	8.39	83.9	61-128
O-XYLENE	10.00	10.9	109	78-122
P-ISOPROPYLTOLUENE	10.00	10.9	109	77-127
SEC-BUTYLBENZENE	10.00	10.5	105	77-126
STYRENE	10.00	10.8	108	78-123
TERT-AMYL METHYL ETHER	10.00	10.3	103	68-128

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Comments:

Printed: 2/16/17 9:23:11 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170214W-49853 LCS - 216179**
Batch ID: #86CDO-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	135	108	68-129
TERT-BUTYLBENZENE	10.00	10.4	104	78-124
TETRACHLOROETHENE	10.00	11.1	111	74-129
TOLUENE	10.00	10.5	105	80-121
TRANS-1,2-DICHLOROETHENE	10.00	10.7	107	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	10.7	107	73-127
TRICHLOROETHENE	10.00	10.5	105	79-123
TRICHLOROFLUOROMETHANE	10.00	10.1	101	65-141
VINYL CHLORIDE	10.00	8.96	89.6	58-137
XYLENES (TOTAL)	30.0	32.3	108	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.2	105	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	26.4	106	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.1	100	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M02
Initials :	SV

Printed: 2/16/17 9:23:11 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M02.D Vial: 2
Acq On : 14 Feb 17 10:47 Operator: PM,DG,SV,CMM
Sample : 170214A CCV/LCS 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 11:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	279267	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	201905	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	110153	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	60850	25.40614 ppb	0.00
Spiked Amount 25.000			Recovery = 101.624%		
36) 1,2-DCA-D4(S)	5.13	65	49734	26.20541 ppb	0.00
Spiked Amount 25.000			Recovery = 104.820%		
56) Toluene-D8(S)	7.35	98	244679	25.05025 ppb	0.00
Spiked Amount 25.000			Recovery = 100.200%		
64) 4-Bromofluorobenzene(S)	10.74	95	92724	26.37649 ppb	0.00
Spiked Amount 25.000			Recovery = 105.504%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	26720	9.67088 ppb	99
3) Freon 114	1.30	85	45571	10.58390 ppb	98
4) Chloromethane	1.35	50	40648	8.44834 ppb	99
5) Vinyl chloride	1.43	62	59773	8.95600 ppb	99
6) Bromomethane	1.70	94	32301	8.26623 ppb	99
7) Chloroethane	1.80	64	34793	9.39026 ppb	100
8) Dichlorofluoromethane	1.99	67	103620	10.23208 ppb	96
9) Trichlorofluoromethane	2.03	101	71283	10.11898 ppb	98
10) Acrolein	2.43	56	26500	111.24584 ppb	98
11) Acetone	2.58	43	6122	9.19883 ppb	94
12) Freon-113	2.54	101	51024	10.94353 ppb	97
13) 1,1-DCE	2.52	61	79546	10.40525 ppb	99
14) t-Butanol	3.15	59	15618	135.39624 ppb	100
15) Methyl Acetate	2.91	43	18480	10.00003 ppb #	86
16) Iodomethane	2.65	142	50746	8.35758 ppb	98
17) Acrylonitrile	3.23	53	8099	9.59652 ppb #	93
18) Methylene chloride	2.99	84	50325	10.13771 ppb	94
19) Carbon disulfide	2.71	76	150917	9.91904 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	81331	10.07167 ppb	99
21) Trans-1,2-DCE	3.26	96	58801	10.72673 ppb	98
22) Diisopropyl Ether	3.80	45	151470	9.80528 ppb	99
23) 1,1-DCA	3.68	63	102131	10.53389 ppb	99
24) Vinyl Acetate	3.76	43	29789	9.63803 ppb	99
25) Ethyl tert Butyl Ether	4.18	59	100867	9.97745 ppb	100
26) MEK (2-Butanone)	4.31	43	11055	10.51153 ppb #	86
27) Cis-1,2-DCE	4.28	96	62877	10.45551 ppb	99
28) 2,2-Dichloropropane	4.28	77	73496	11.23919 ppb	100
29) Chloroform	4.62	83	98141	10.50466 ppb	96
30) Bromochloromethane	4.52	128	23531	10.19296 ppb	96
32) 1,1,1-TCA	4.81	97	93451	10.86385 ppb	99
33) Cyclohexane	4.87	41	50110	10.17422 ppb	91
34) 1,1-Dichloropropene	4.99	75	84587	10.90040 ppb	99
35) 2,2,4-Trimethylpentane	5.33	57	155087	11.04557 ppb	100
37) Carbon Tetrachloride	4.99	117	79931	10.80742 ppb	97
38) Tert Amyl Methyl Ether	5.37	73	86665	10.28259 ppb	97
39) 1,2-DCA	5.22	62	52489	10.34398 ppb	99
40) Benzene	5.21	78	242879	10.59002 ppb	99
41) TCE	5.93	95	65148	10.54378 ppb	95
42) 2-Pentanone	6.16	43	196197	127.87426 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M02.D
Acq On : 14 Feb 17 10:47
Sample : 170214A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 1,2-Dichloropropane	6.17	63	52951	10.18154 ppb		99
44) Bromodichloromethane	6.49	83	64381	10.69080 ppb		92
45) Methyl Cyclohexane	6.15	83	86363	10.83989 ppb		99
46) Dibromomethane	6.29	93	20514	10.55941 ppb		91
47) MIBK (methyl isobutyl ket	7.24	43	23200	10.18696 ppb		95
48) 1-Bromo-2-chloroethane	6.84	63	49206	9.84789 ppb		97
49) 2-Chloroethyl vinyl ether	6.88	106	973m	9.44495 ppb		0
50) Cis-1,3-Dichloropropene	7.03	75	69848	10.53926 ppb		96
51) Toluene	7.43	91	278901	10.49564 ppb		99
52) Trans-1,3-Dichloropropene	7.71	75	48192	10.68882 ppb		94
53) 1,1,2-TCA	7.92	83	25199	10.42032 ppb		96
54) 2-Hexanone	8.28	43	13133	10.28646 ppb		92
57) 1,2-EDB	8.53	107	28159	10.67100 ppb		94
58) Tetrachloroethene	8.11	164	71700	11.05475 ppb		93
59) 1-Chlorohexane	9.21	91	80632	10.70413 ppb		99
60) 1,1,1,2-Tetrachloroethane	9.31	131	57381	10.45244 ppb		100
61) m&p-Xylene	9.52	106	255001	21.47958 ppb		99
62) o-Xylene	10.04	106	120374	10.86918 ppb		96
63) Styrene	10.06	104	184166	10.80876 ppb		99
65) 1,3-Dichloropropane	8.13	76	53535	10.22118 ppb		95
66) Dibromochloromethane	8.40	129	41614	10.32647 ppb		99
67) Chlorobenzene	9.19	112	171149	10.17881 ppb		97
68) Ethylbenzene	9.36	91	320825	10.58806 ppb		97
69) Bromoform	10.27	173	25333	10.58691 ppb		100
71) Isopropylbenzene	10.56	105	321244	10.39285 ppb		100
72) 1,1,2,2-Tetrachloroethane	10.97	83	29018	9.93763 ppb		96
73) 1,2,3-Trichloropropane	11.00	110	9345	9.64163 ppb		95
74) t-1,4-Dichloro-2-Butene	11.06	53	6028	9.84244 ppb	#	72
75) Bromobenzene	10.92	156	72611	10.17245 ppb		99
76) n-Propylbenzene	11.13	91	360062	10.54947 ppb		99
77) 4-Ethyltoluene	11.30	105	308682	10.26442 ppb		99
78) 2-Chlorotoluene	11.21	91	205294	10.05492 ppb		96
79) 1,3,5-Trimethylbenzene	11.40	105	265847	10.60238 ppb		100
80) 4-Chlorotoluene	11.37	91	236728	10.28801 ppb		98
81) Tert-Butylbenzene	11.84	119	234445	10.44618 ppb		99
82) 1,2,4-Trimethylbenzene	11.91	105	257505	10.52564 ppb		100
83) Sec-Butylbenzene	12.15	105	314922	10.52859 ppb		99
84) p-Isopropyltoluene	12.37	119	284344	10.88357 ppb		99
85) Benzyl Chloride	12.59	91	23985	12.43921 ppb		94
86) 1,3-DCB	12.26	146	144851	10.14775 ppb		97
87) 1,4-DCB	12.39	146	137411	9.82364 ppb		98
88) n-Butylbenzene	12.95	91	222411	10.84258 ppb		96
89) 1,2-DCB	12.90	146	117574	10.06702 ppb		95
90) Hexachloroethane	13.27	117	34693	9.99095 ppb		95
91) 1,2-Dibromo-3-chloropropan	14.01	75	3938	9.80913 ppb		88
92) 1,2,4-Trichlorobenzene	15.23	180	63857	9.65819 ppb		98
93) Hexachlorobutadiene	15.53	225	57350	10.70199 ppb		93
94) Naphthalene	15.56	128	47411	8.38597 ppb		99
95) 1,2,3-Trichlorobenzene	15.92	180	40976	9.08176 ppb		96

(#) = qualifier out of range (m) = manual integration

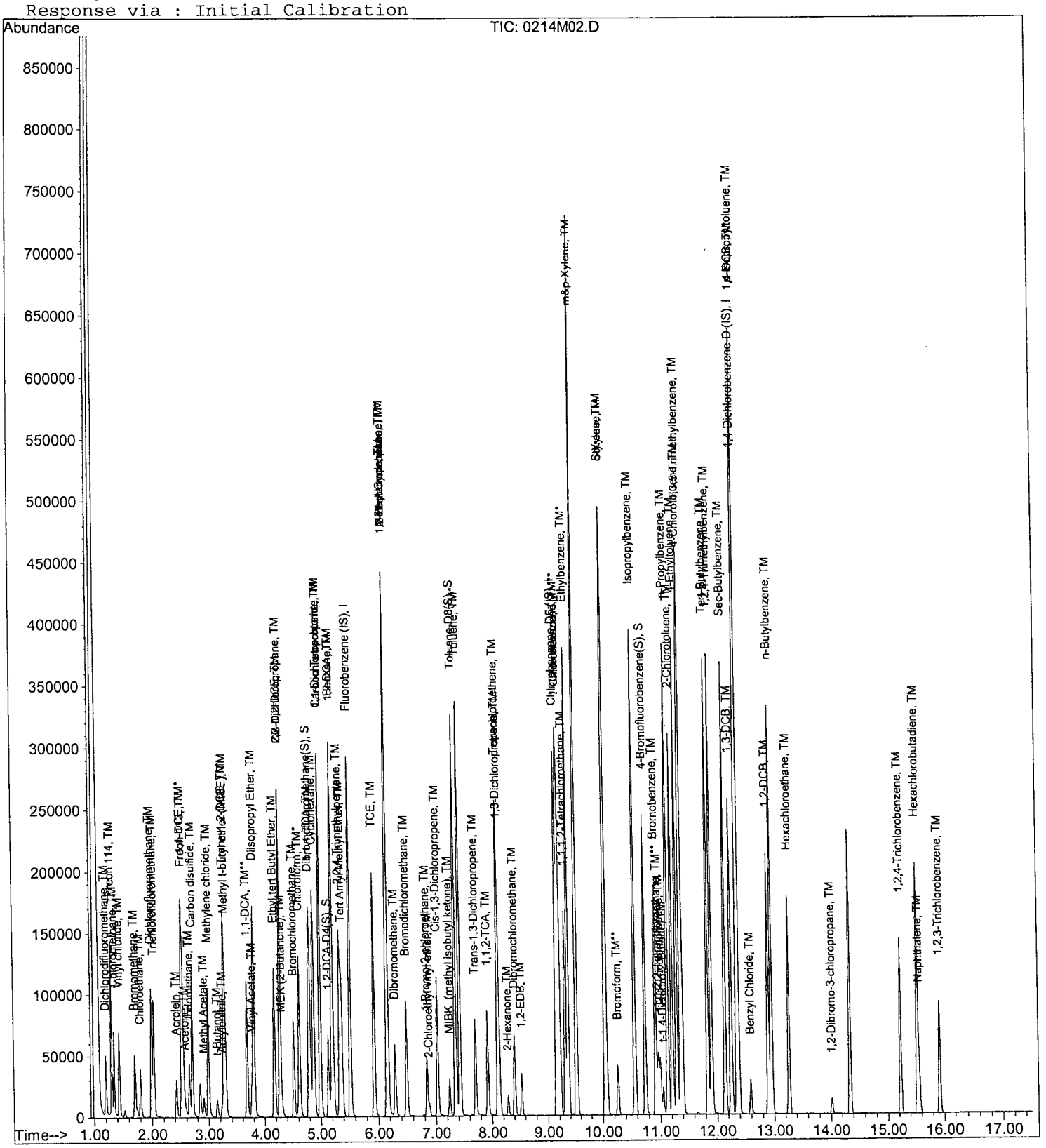
Quantitation Report

Data File : M:\MAX\DATA\M170127\0214M02.D
Acq On : 14 Feb 17 10:47
Sample : 170214A CCV/LCS 10ug/L
Misc : IS&S 10/20/16

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 11:15 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



591

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	9.43	9.22	94.3	92.2	78-124	2.3	20
1,1,1-TRICHLOROETHANE	10.00	ND	9.68	9.74	96.8	97.4	74-131	0.62	20
1,1,2,2-TETRACHLOROETHANE	10.00	ND	9.94	9.97	99.4	99.7	71-121	0.30	20
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	ND	9.60	9.75	96.0	97.5	70-136	1.6	20
1,1,2-TRICHLOROETHANE	10.00	ND	9.92	10.1	99.2	101	80-119	1.8	20
1,1-DICHLOROETHANE	10.00	ND	9.34	9.43	93.4	94.3	77-125	0.96	20
1,1-DICHLOROETHENE	10.00	ND	9.44	9.28	94.4	92.8	71-131	1.7	20
1,1-DICHLOROPROPENE	10.00	ND	9.58	9.44	95.8	94.4	79-125	1.5	20
1,2,3-TRICHLOROBENZENE	10.00	ND	10.3	9.78	103	97.8	69-129	5.2	20
1,2,3-TRICHLOROPROPANE	10.00	ND	9.29	9.50	92.9	95.0	73-122	2.2	20
1,2,4-TRICHLOROBENZENE	10.00	ND	10.1	9.71	101	97.1	69-130	3.9	20
1,2,4-TRIMETHYLBENZENE	10.00	ND	9.44	9.45	94.4	94.5	76-124	0.11	20
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	9.14	9.15	91.4	91.5	62-128	0.11	20
1,2-DIBROMOETHANE	10.00	ND	9.71	9.89	97.1	98.9	77-121	1.8	20
1,2-DICHLOROBENZENE	10.00	ND	9.53	9.51	95.3	95.1	80-119	0.21	20
1,2-DICHLOROETHANE	10.00	ND	9.81	10.1	98.1	101	73-128	2.9	20
1,2-DICHLOROPROPANE	10.00	ND	9.30	9.23	93.0	92.3	78-122	0.76	20
1,3,5-TRIMETHYLBENZENE	10.00	ND	9.56	9.27	95.6	92.7	82-120	3.1	20
1,3-DICHLOROBENZENE	10.00	ND	9.31	9.41	93.1	94.1	80-119	1.1	20
1,3-DICHLOROPROPANE	10.00	ND	9.52	9.48	95.2	94.8	80-119	0.42	20
1,3-DICHLOROPROPENE, TOTAL	20.0	ND	19.4	19.3	97.0	96.5	77-123	0.52	20
1,4-DICHLOROBENZENE	10.00	ND	9.14	9.03	91.4	90.3	79-118	1.2	20
2,2-DICHLOROPROPANE	10.00	ND	9.69	9.48	96.9	94.8	60-139	2.2	20
2-BUTANONE	10.00	ND	7.05	10.3	70.5	103	56-143	37.5 #	20
2-CHLOROTOLUENE	10.00	ND	9.26	9.24	92.6	92.4	79-122	0.22	20
2-HEXANONE	10.00	ND	9.91	9.98	99.1	99.8	57-139	0.70	20
4-CHLOROTOLUENE	10.00	ND	9.31	9.20	93.1	92.0	78-122	1.2	20
4-METHYL-2-PENTANONE	10.00	ND	10.3	10.8	103	108	67-130	4.7	20
ACETONE	10.00	ND	10.6	10.3	106	103	39-160	2.9	20
BENZENE	10.00	ND	9.47	9.43	94.7	94.3	79-120	0.42	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Comments:

Printed: 2/16/17 9:23:14 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BROMOBENZENE	10.00	ND	9.41	9.27	94.1	92.7	80-120	1.5	20
BROMOCHLOROMETHANE	10.00	ND	9.39	9.59	93.9	95.9	78-123	2.1	20
BROMODICHLOROMETHANE	10.00	ND	9.71	9.63	97.1	96.3	79-125	0.83	20
BROMOFORM	10.00	ND	9.45	9.55	94.5	95.5	66-130	1.1	20
BROMOMETHANE	10.00	ND	7.40	7.34	74.0	73.4	53-141	0.81	20
CARBON DISULFIDE	10.00	ND	8.63	8.51	86.3	85.1	64-133	1.4	20
CARBON TETRACHLORIDE	10.00	ND	9.63	9.87	96.3	98.7	72-136	2.5	20
CHLOROBENZENE	10.00	ND	9.23	9.12	92.3	91.2	82-118	1.2	20
CHLOROETHANE	10.00	ND	8.49	8.80	84.9	88.0	60-138	3.6	20
CHLOROFORM	10.00	ND	9.61	9.66	96.1	96.6	79-124	0.52	20
CHLOROMETHANE	10.00	ND	7.35	7.78	73.5	77.8	50-139	5.7	20
CIS-1,2-DICHLOROETHENE	10.00	ND	9.56	9.48	95.6	94.8	78-123	0.84	20
CIS-1,3-DICHLOROPROPENE	10.00	ND	9.45	9.45	94.5	94.5	75-124	0.0	20
DI-ISOPROPYL ETHER	10.00	ND	9.11	8.97	91.1	89.7	67-128	1.5	20
DIBROMOCHLOROMETHANE	10.00	ND	9.60	9.44	96.0	94.4	74-126	1.7	20
DIBROMOMETHANE	10.00	ND	9.34	9.68	93.4	96.8	79-123	3.6	20
DICHLORODIFLUOROMETHANE	10.00	ND	8.29	8.71	82.9	87.1	32-152	4.9	20
ETHYL TERTIARY BUTYL ETHER	10.00	ND	10.1	9.96	101	99.6	70-127	1.4	20
ETHYLBENZENE	10.00	ND	9.44	9.30	94.4	93.0	79-121	1.5	20
HEXACHLOROBUTADIENE	10.00	ND	9.60	9.44	96.0	94.4	66-134	1.7	20
ISOPROPYLBENZENE	10.00	ND	9.33	9.15	93.3	91.5	72-131	1.9	20
M,P-XYLENE	20.0	ND	18.8	18.8	94.0	94.0	80-121	0.0	20
METHYL TERT-BUTYL ETHER	10.00	ND	9.62	9.87	96.2	98.7	71-124	2.6	20
METHYLENE CHLORIDE	10.00	ND	8.97	9.17	89.7	91.7	74-124	2.2	20
N-BUTYLBENZENE	10.00	ND	9.63	9.63	96.3	96.3	75-128	0.0	20
N-PROPYLBENZENE	10.00	ND	9.32	9.40	93.2	94.0	76-126	0.85	20
NAPHTHALENE	10.00	ND	9.70	9.67	97.0	96.7	61-128	0.31	20
O-XYLENE	10.00	ND	9.51	9.60	95.1	96.0	78-122	0.94	20
P-ISOPROPYLTOLUENE	10.00	ND	9.65	9.61	96.5	96.1	77-127	0.42	20
SEC-BUTYLBENZENE	10.00	ND	9.46	9.39	94.6	93.9	77-126	0.74	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Comments:

Printed: 2/16/17 9:23:14 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170215W-49853 MS - 216179**
Batch ID: #86CDO-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
STYRENE	10.00	ND	9.59	9.62	95.9	96.2	78-123	0.31	20
TERT-AMYL METHYL ETHER	10.00	ND	10.3	10.1	103	101	68-128	2.0	20
TERT-BUTYL ALCOHOL	125	ND	167	168	134 #	134 #	68-129	0.60	20
TERT-BUTYLBENZENE	10.00	ND	9.26	9.30	92.6	93.0	78-124	0.43	20
TETRACHLOROETHENE	10.00	ND	9.41	9.54	94.1	95.4	74-129	1.4	20
TOLUENE	10.00	ND	9.47	9.48	94.7	94.8	80-121	0.11	20
TRANS-1,2-DICHLOROETHENE	10.00	ND	9.44	9.58	94.4	95.8	75-124	1.5	20
TRANS-1,3-DICHLOROPROPENE	10.00	ND	9.95	9.89	99.5	98.9	73-127	0.60	20
TRICHLOROETHENE	10.00	ND	9.24	9.05	92.4	90.5	79-123	2.1	20
TRICHLOROFLUOROMETHANE	10.00	ND	9.67	9.69	96.7	96.9	65-141	0.21	20
VINYL CHLORIDE	10.00	ND	8.10	8.33	81.0	83.3	58-137	2.8	20
XYLENES (TOTAL)	30.0	ND	28.3	28.4	94.3	94.7	79-121	0.35	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	27.2	26.2	109	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.0	26.0	104	104	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.9	26.1	104	104	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	24.9	25.0	99.6	100	89-112		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M20	0215M21
Initials :	SV	

Printed: 2/16/17 9:23:15 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M20.D Vial: 18
Acq On : 15 Feb 17 18:15 Operator: PM,DG,SV,CMM
Sample : AZ49853W234 MS-1WM 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	263839	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	192255	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	103211	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	58687	25.93586 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.744%	
36) 1,2-DCA-D4(S)	5.13	65	48787	27.20961 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.840%	
56) Toluene-D8(S)	7.35	98	231563	24.89739 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.588%	
64) 4-Bromofluorobenzene(S)	10.74	95	87099	26.02001 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.080%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	21648	8.29331 ppb		97
3) Freon 114	1.30	85	36755	9.03554 ppb		99
4) Chloromethane	1.34	50	33424	7.35311 ppb		94
5) Vinyl chloride	1.43	62	51087	8.10214 ppb		99
6) Bromomethane	1.70	94	27309	7.39738 ppb		97
7) Chloroethane	1.80	64	29702	8.48500 ppb		94
8) Dichlorofluoromethane	1.99	67	88181	9.21672 ppb		96
9) Trichlorofluoromethane	2.03	101	64330	9.66596 ppb		94
10) Acrolein	2.42	56	25985	115.46258 ppb		95
11) Acetone	2.58	43	6532	10.59400 ppb		92
12) Freon-113	2.54	101	42308	9.60475 ppb		96
13) 1,1-DCE	2.52	61	68181	9.44013 ppb		96
14) t-Butanol	3.15	59	18166	166.69444 ppb		97
15) Methyl Acetate	2.91	43	16542	9.47476 ppb	#	86
16) Iodomethane	2.65	142	47648	8.30966 ppb		99
17) Acrylonitrile	3.23	53	8015	10.06559 ppb		94
18) Methylene chloride	2.99	84	42559	8.96633 ppb		94
19) Carbon disulfide	2.71	76	124099	8.63337 ppb		99
20) Methyl t-butyl ether (MtBE	3.29	73	73409	9.62222 ppb		98
21) Trans-1,2-DCE	3.26	96	48870	9.43638 ppb		97
22) Diisopropyl Ether	3.80	45	132985	9.11206 ppb		100
23) 1,1-DCA	3.68	63	85515	9.33585 ppb		98
24) Vinyl Acetate	3.76	43	27327	9.35847 ppb		97
25) Ethyl tert Butyl Ether	4.18	59	96098	10.06156 ppb		98
26) MEK (2-Butanone)	4.31	43	7003	7.04810 ppb	#	84
27) Cis-1,2-DCE	4.28	96	54308	9.55868 ppb		98
28) 2,2-Dichloropropane	4.28	77	59846	9.68695 ppb		98
29) Chloroform	4.62	83	84838	9.61175 ppb		97
30) Bromochloromethane	4.52	128	20477	9.38873 ppb		95
32) 1,1,1-TCA	4.81	97	78706	9.68474 ppb		95
33) Cyclohexane	4.87	41	43085	9.25941 ppb		94
34) 1,1-Dichloropropene	4.99	75	70234	9.58003 ppb		97
35) 2,2,4-Trimethylpentane	5.33	57	119501	9.00875 ppb		99
37) Carbon Tetrachloride	4.99	117	67255	9.62525 ppb		91
38) Tert Amyl Methyl Ether	5.37	73	81728	10.26385 ppb		93
39) 1,2-DCA	5.21	62	47042	9.81263 ppb		96
40) Benzene	5.21	78	205128	9.46700 ppb		99
41) TCE	5.93	95	53928	9.23826 ppb		95
42) 2-Pentanone	6.15	43	196144	135.31515 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M20.D Vial: 18
Acq On : 15 Feb 17 18:15 Operator: PM,DG,SV,CMM
Sample : AZ49853W234 MS-1WM 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	1,2-Dichloropropane	6.17	63	45713	9.30379	ppb	99
44)	Bromodichloromethane	6.49	83	55272	9.71490	ppb	94
45)	Methyl Cyclohexane	6.15	83	70923	9.42247	ppb	98
46)	Dibromomethane	6.29	93	17151	9.34457	ppb	98
47)	MIBK (methyl isobutyl ket	7.24	43	22116	10.29023	ppb	98
48)	1-Bromo-2-chloroethane	6.84	63	38867	8.23355	ppb	98
50)	Cis-1,3-Dichloropropene	7.03	75	59194	9.45397	ppb	99
51)	Toluene	7.43	91	237679	9.46739	ppb	98
52)	Trans-1,3-Dichloropropene	7.71	75	42378	9.94892	ppb	96
53)	1,1,2-TCA	7.92	83	22653	9.91526	ppb	97
54)	2-Hexanone	8.29	43	11953	9.90967	ppb	97
57)	1,2-EDB	8.53	107	24397	9.70943	ppb	96
58)	Tetrachloroethene	8.11	164	58140	9.41400	ppb	97
59)	1-Chlorohexane	9.21	91	66267	9.23870	ppb	94
60)	1,1,1,2-Tetrachloroethane	9.31	131	49279	9.42716	ppb	95
61)	m&p-Xylene	9.52	106	212559	18.80325	ppb	100
62)	o-Xylene	10.04	106	100322	9.51326	ppb	98
63)	Styrene	10.06	104	155581	9.58942	ppb	97
65)	1,3-Dichloropropane	8.13	76	47498	9.52375	ppb	99
66)	Dibromochloromethane	8.40	129	36833	9.59885	ppb	97
67)	Chlorobenzene	9.19	112	147737	9.22744	ppb	98
68)	Ethylbenzene	9.36	91	272434	9.44232	ppb	98
69)	Bromoform	10.27	173	21541	9.45405	ppb	88
71)	Isopropylbenzene	10.56	105	270183	9.32885	ppb	98
72)	1,1,2,2-Tetrachloroethane	10.97	83	27195	9.93973	ppb	99
73)	1,2,3-Trichloropropane	11.00	110	8434	9.28699	ppb	89
74)	t-1,4-Dichloro-2-Butene	11.05	53	5420	9.45324	ppb	85
75)	Bromobenzene	10.92	156	62932	9.40947	ppb	94
76)	n-Propylbenzene	11.13	91	298090	9.32118	ppb	99
77)	4-Ethyltoluene	11.30	105	260558	9.24694	ppb	97
78)	2-Chlorotoluene	11.21	91	177181	9.26168	ppb	95
79)	1,3,5-Trimethylbenzene	11.39	105	224569	9.55855	ppb	98
80)	4-Chlorotoluene	11.37	91	200777	9.31249	ppb	98
81)	Tert-Butylbenzene	11.84	119	194723	9.25986	ppb	97
82)	1,2,4-Trimethylbenzene	11.91	105	216361	9.43870	ppb	99
83)	Sec-Butylbenzene	12.15	105	265122	9.45983	ppb	99
84)	p-Isopropyltoluene	12.37	119	236190	9.64848	ppb	98
85)	Benzyl Chloride	12.59	91	20306	11.23952	ppb	97
86)	1,3-DCB	12.26	146	124517	9.30995	ppb	97
87)	1,4-DCB	12.38	146	119741	9.13617	ppb	100
88)	n-Butylbenzene	12.95	91	185022	9.62654	ppb	95
89)	1,2-DCB	12.90	146	104233	9.52500	ppb	96
90)	Hexachloroethane	13.27	117	30135	9.26203	ppb	99
91)	1,2-Dibromo-3-chloropropan	14.01	75	3438	9.13968	ppb	92
92)	1,2,4-Trichlorobenzene	15.23	180	62745	10.10523	ppb	95
93)	Hexachlorobutadiene	15.52	225	48181	9.59572	ppb	100
94)	Naphthalene	15.56	128	52453	9.69900	ppb	96
95)	1,2,3-Trichlorobenzene	15.92	180	43841	10.25273	ppb	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

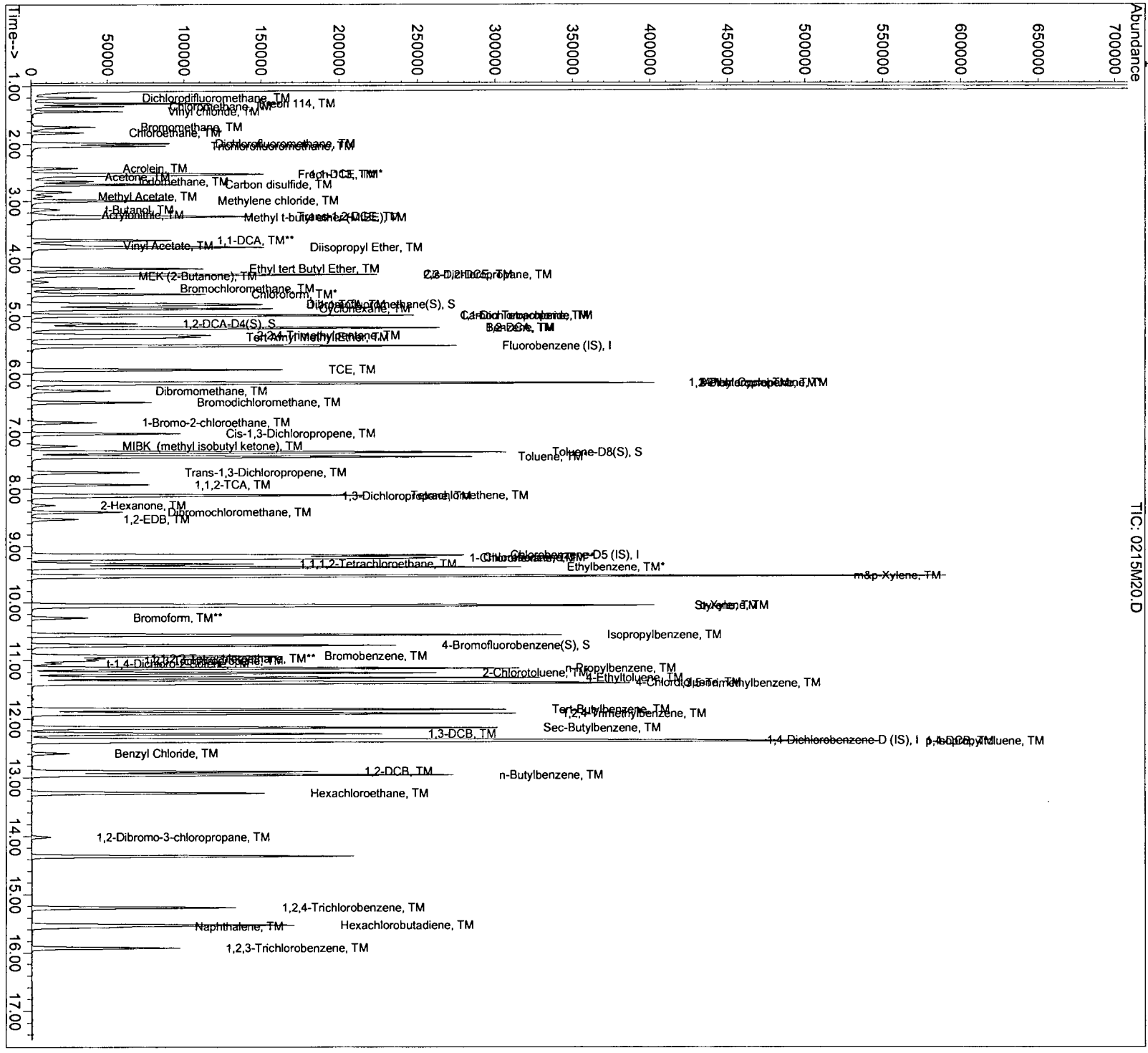
Data File : M:\MAX\DATA\M170127\0215M20.D
Acq On : 15 Feb 17 18:15
Sample : AZ49853W234 MS-1WM 10ug/L
Misc : IS&S 10/20/16

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:01 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M21.D
Acq On : 15 Feb 17 18:43
Sample : AZ49853W234 MSD-1WM 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	257668	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.15	117	188388	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.35	152	101438	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	57598	26.06421 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.256%	
36) 1,2-DCA-D4(S)	5.13	65	45866	26.19314 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.772%	
56) Toluene-D8(S)	7.35	98	228289	25.04922 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.196%	
64) 4-Bromofluorobenzene(S)	10.74	95	85352	26.02151 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.088%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	22208	8.71160 ppb	96
3) Freon 114	1.30	85	35656	8.97530 ppb	97
4) Chloromethane	1.35	50	34536	7.77971 ppb	98
5) Vinyl chloride	1.44	62	51270	8.32590 ppb	99
6) Bromomethane	1.70	94	26451	7.33656 ppb	97
7) Chloroethane	1.80	64	30086	8.80054 ppb	99
8) Dichlorofluoromethane	1.99	67	83133	8.89720 ppb	98
9) Trichlorofluoromethane	2.04	101	62967	9.68775 ppb	100
10) Acrolein	2.42	56	26203	119.21971 ppb	100
11) Acetone	2.58	43	6202	10.25562 ppb	87
12) Freon-113	2.54	101	41949	9.75132 ppb	95
13) 1,1-DCE	2.52	61	65430	9.27620 ppb	97
14) t-Butanol	3.15	59	17897	168.15917 ppb	93
15) Methyl Acetate	2.91	43	15950	9.35447 ppb	89
16) Iodomethane	2.65	142	46688	8.33539 ppb	99
17) Acrylonitrile	3.23	53	7353	9.43844 ppb	89
18) Methylene chloride	2.99	84	42418	9.17187 ppb	90
19) Carbon disulfide	2.71	76	119423	8.50704 ppb	100
20) Methyl t-butyl ether (MtBE	3.29	73	73557	9.87253 ppb	100
21) Trans-1,2-DCE	3.26	96	48441	9.57756 ppb	98
22) Diisopropyl Ether	3.80	45	127847	8.96981 ppb	99
23) 1,1-DCA	3.68	63	84354	9.42966 ppb	97
24) Vinyl Acetate	3.76	43	25293	8.86935 ppb	98
25) Ethyl tert Butyl Ether	4.17	59	92884	9.95796 ppb	99
26) MEK (2-Butanone)	4.32	43	9981	10.28585 ppb #	79
27) Cis-1,2-DCE	4.28	96	52617	9.48285 ppb	94
28) 2,2-Dichloropropane	4.28	77	57202	9.48072 ppb	99
29) Chloroform	4.62	83	83243	9.65692 ppb	97
30) Bromochloromethane	4.52	128	20434	9.59340 ppb	94
32) 1,1,1-TCA	4.81	97	77271	9.73588 ppb	98
33) Cyclohexane	4.87	41	41411	9.11279 ppb	95
34) 1,1-Dichloropropene	4.99	75	67587	9.43977 ppb	98
35) 2,2,4-Trimethylpentane	5.34	57	117861	9.09791 ppb	99
37) Carbon Tetrachloride	4.99	117	67321	9.86544 ppb	99
38) Tert Amyl Methyl Ether	5.37	73	78618	10.10974 ppb	95
39) 1,2-DCA	5.22	62	47365	10.11663 ppb	96
40) Benzene	5.21	78	199473	9.42650 ppb	99
41) TCE	5.93	95	51604	9.05186 ppb	94
42) 2-Pentanone	6.15	43	187180	132.22371 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M21.D Vial: 19
Acq On : 15 Feb 17 18:43 Operator: PM,DG,SV,CMM
Sample : AZ49853W234 MSD-1WM 10ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 7:01 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 1,2-Dichloropropane	6.17	63	44277	9.22734 ppb	99
44) Bromodichloromethane	6.49	83	53483	9.62559 ppb	95
45) Methyl Cyclohexane	6.15	83	69299	9.42721 ppb	99
46) Dibromomethane	6.29	93	17356	9.68274 ppb	93
47) MIBK (methyl isobutyl ket	7.24	43	22522	10.78415 ppb	95
48) 1-Bromo-2-chloroethane	6.84	63	38691	8.39256 ppb	96
50) Cis-1,3-Dichloropropene	7.03	75	57808	9.45373 ppb	98
51) Toluene	7.43	91	232477	9.48195 ppb	100
52) Trans-1,3-Dichloropropene	7.71	75	41156	9.89344 ppb	94
53) 1,1,2-TCA	7.92	83	22555	10.10881 ppb	95
54) 2-Hexanone	8.28	43	11761	9.98402 ppb	94
57) 1,2-EDB	8.53	107	24354	9.89127 ppb	97
58) Tetrachloroethene	8.11	164	57755	9.54362 ppb	94
59) 1-Chlorohexane	9.21	91	65521	9.32220 ppb	95
60) 1,1,1,2-Tetrachloroethane	9.31	131	47215	9.21771 ppb	96
61) m&p-Xylene	9.52	106	208094	18.78613 ppb	100
62) o-Xylene	10.04	106	99209	9.60083 ppb	91
63) Styrene	10.06	104	153012	9.62467 ppb	95
65) 1,3-Dichloropropane	8.13	76	46320	9.47820 ppb	95
66) Dibromochloromethane	8.40	129	35501	9.44163 ppb	95
67) Chlorobenzene	9.19	112	143154	9.12473 ppb	98
68) Ethylbenzene	9.36	91	262938	9.30027 ppb	99
69) Bromoform	10.27	173	21326	9.55182 ppb	96
71) Isopropylbenzene	10.56	105	260351	9.14649 ppb	99
72) 1,1,2,2-Tetrachloroethane	10.97	83	26820	9.97401 ppb	97
73) 1,2,3-Trichloropropane	11.00	110	8479	9.49973 ppb	92
74) t-1,4-Dichloro-2-Butene	11.05	53	4850	8.62532 ppb	87
75) Bromobenzene	10.92	156	60933	9.26983 ppb	99
76) n-Propylbenzene	11.13	91	295515	9.40218 ppb	100
77) 4-Ethyltoluene	11.30	105	255797	9.23664 ppb	99
78) 2-Chlorotoluene	11.21	91	173804	9.24396 ppb	95
79) 1,3,5-Trimethylbenzene	11.39	105	214052	9.27015 ppb	98
80) 4-Chlorotoluene	11.37	91	194867	9.19635 ppb	97
81) Tert-Butylbenzene	11.84	119	192127	9.29610 ppb	98
82) 1,2,4-Trimethylbenzene	11.91	105	212988	9.45396 ppb	99
83) Sec-Butylbenzene	12.15	105	258593	9.38814 ppb	99
84) p-Isopropyltoluene	12.37	119	231223	9.61067 ppb	98
85) Benzyl Chloride	12.59	91	18936	10.66442 ppb	95
86) 1,3-DCB	12.25	146	123728	9.41265 ppb	96
87) 1,4-DCB	12.38	146	116371	9.03424 ppb	99
88) n-Butylbenzene	12.95	91	181840	9.62635 ppb	97
89) 1,2-DCB	12.90	146	102323	9.51390 ppb	96
90) Hexachloroethane	13.27	117	29224	9.13903 ppb	97
91) 1,2-Dibromo-3-chloropropan	14.01	75	3384	9.15336 ppb	91
92) 1,2,4-Trichlorobenzene	15.23	180	59107	9.70539 ppb	96
93) Hexachlorobutadiene	15.52	225	46577	9.43840 ppb	97
94) Naphthalene	15.56	128	51370	9.66873 ppb	96
95) 1,2,3-Trichlorobenzene	15.92	180	40911	9.77661 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

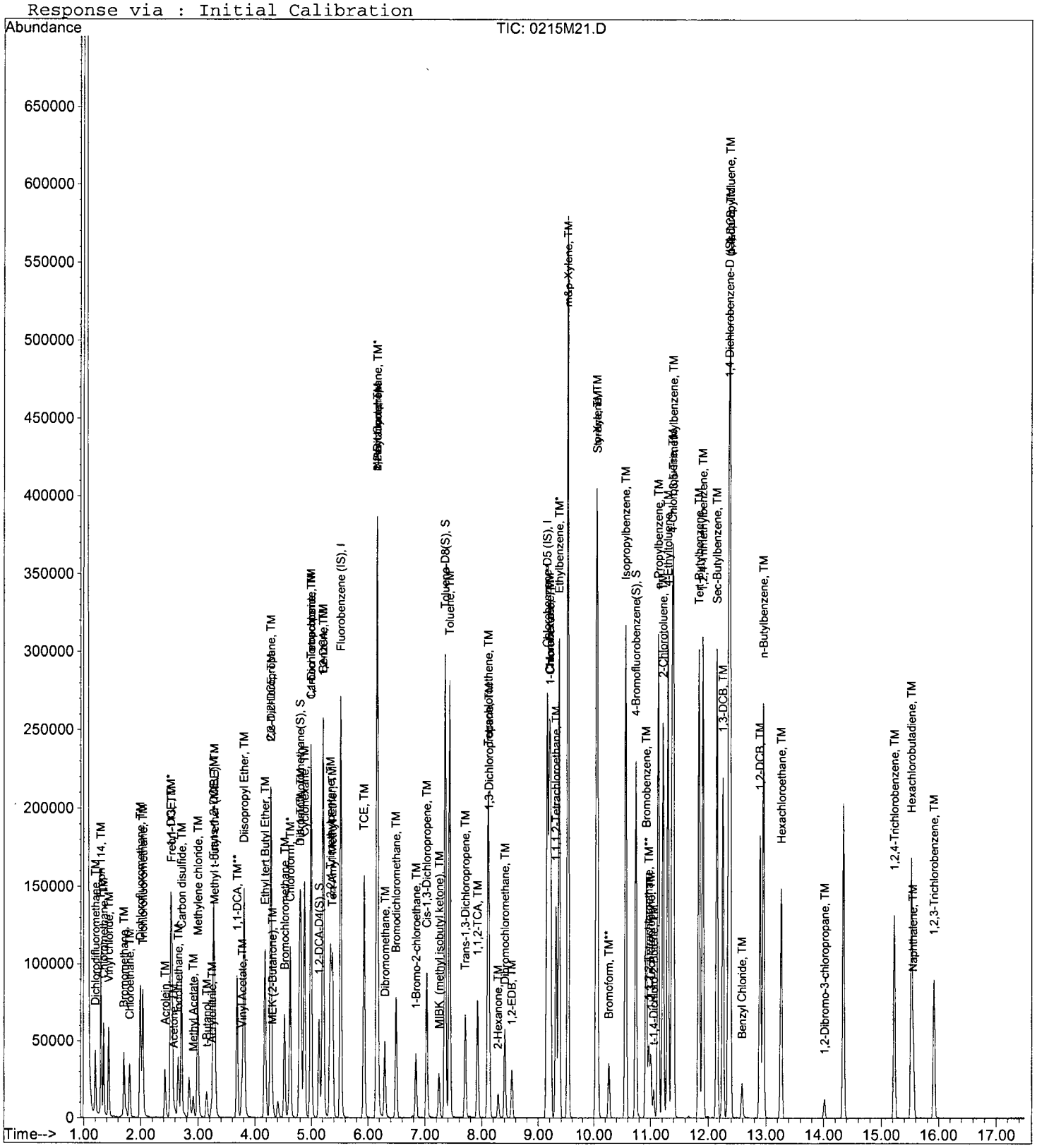
Data File : M:\MAX\DATA\M170127\0215M21.D
Acq On : 15 Feb 17 18:43
Sample : AZ49853W234 MSD-1WM 10ug/L
Misc : IS&S 10/20/16

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:01 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



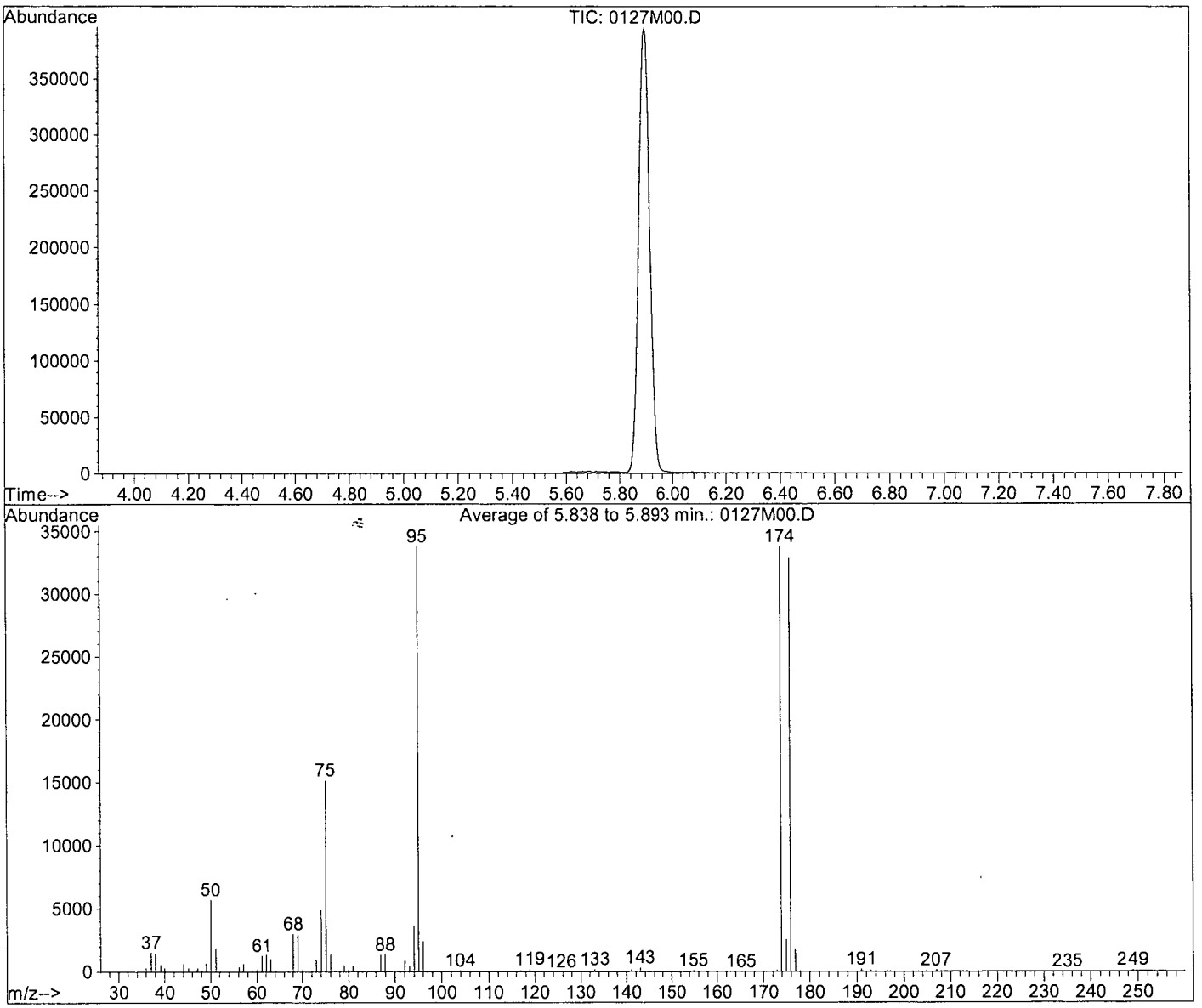
600

BFB

Data File : M:\MAX\DATA\M170127\0127M00.D
Acq On : 27 Jan 17 9:35
Sample : 5ng BFB STD 12/15/16
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	5692	PASS
75	95	30	60	44.8	15149	PASS
95	95	100	100	100.0	33790	PASS
96	95	5	9	7.1	2415	PASS
173	174	0.00	2	0.4	137	PASS
174	95	50	100	100.0	33786	PASS
175	174	5	9	7.5	2532	PASS
176	174	95	101	97.4	32900	PASS
177	176	5	9	5.4	1780	PASS

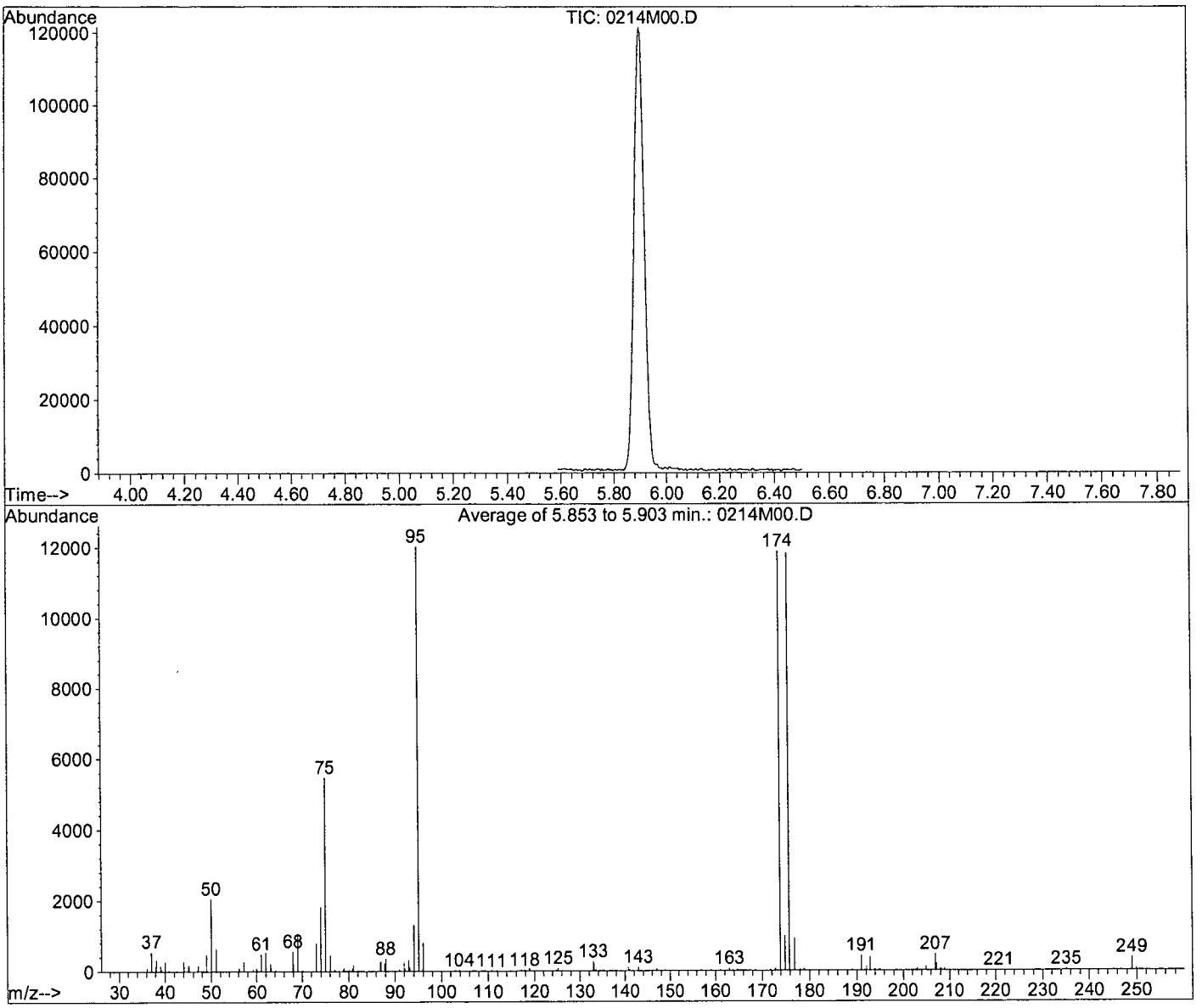
0127M00.D MALLW.M Mon Jan 30 08:03:23 2017

BFB

Data File : M:\MAX\DATA\M170127\0214M00.D
Acq On : 14 Feb 17 9:54
Sample : 5ng BFB STD 1/22/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.853 to 5.903 min.

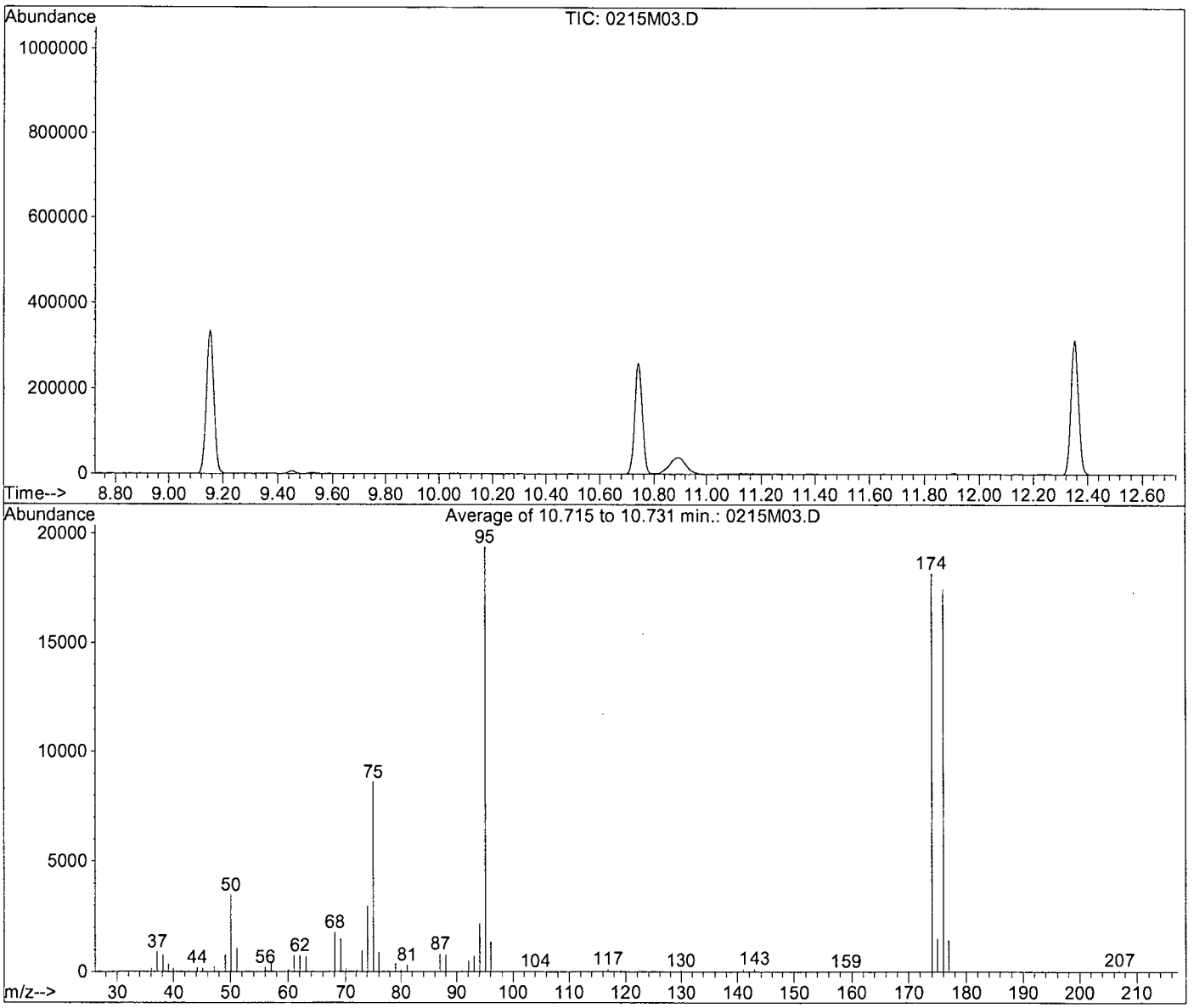
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.1	2050	PASS
75	95	30	60	45.5	5470	PASS
95	95	100	100	100.0	12022	PASS
96	95	5	9	6.6	797	PASS
173	174	0.00	2	0.7	88	PASS
174	95	50	100	98.8	11879	PASS
175	174	5	9	8.2	969	PASS
176	174	95	101	99.6	11834	PASS
177	176	5	9	7.6	905	PASS

BFB

Data File : M:\MAX\DATA\M170127\0215M03.D
Acq On : 15 Feb 17 10:12
Sample : 5ng BFB STD 1/22/17
Misc : IS&S 10/20/16

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170127\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.715 to 10.731 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	3469	PASS
75	95	30	60	44.5	8633	PASS
95	95	100	100	100.0	19388	PASS
96	95	5	9	7.0	1365	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	93.9	18198	PASS
175	174	5	9	8.2	1493	PASS
176	174	95	101	96.0	17476	PASS
177	176	5	9	8.2	1436	PASS

ADDED PAGE

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	01/28/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/27/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/27/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/27/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/27/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/27/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/27/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/27/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/27/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/27/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
O2SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0127M00.D	1	5ng BFB STD 12/15/16	2ul	27 Jan 17 9:35
2	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
3	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
4	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
5	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
6	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
7	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
8	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
9	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
10	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
11	16	0127M16.D	1	(SS) 10ug/L VOC STD 01/27/16	IS&S 10/20/16	27 Jan 17 17:03
12	1	0214M00.D	1	5ng BFB STD 1/22/17	2ul	14 Feb 17 9:54
13	2	0214M02.D	1	170214A CCV/LCS 10ug/L	IS&S 10/20/16	14 Feb 17 10:47
14	10	0214M10.D	1	170214A BLK1WM	IS&S 10/20/16	14 Feb 17 14:34
15	22	0214M22.D	1	AZ49852W01	IS&S 10/20/16	14 Feb 17 20:14
16	23	0214M23.D	1	AZ49853W01	IS&S 10/20/16	14 Feb 17 20:43
17	24	0214M24.D	1	AZ49854W01	IS&S 10/20/16	14 Feb 17 21:11
18	25	0214M25.D	1	AZ49855W01	IS&S 10/20/16	14 Feb 17 21:39
19	26	0214M26.D	1	Ending CCV 8260 10ug/L 2/14/17	IS&S 10/20/16	14 Feb 17 22:07
20	1	0215M03.D	1	5ng BFB STD 1/22/17	IS&S 10/20/16	15 Feb 17 10:12
21	2	0215M04.D	1	170215A CCV/LCS 10ug/L	IS&S 10/20/16	15 Feb 17 10:40
22	18	0215M20.D	1	AZ49853W234 MS-1WM 10ug/L	IS&S 10/20/16	15 Feb 17 18:15
23	19	0215M21.D	1	AZ49853W234 MSD-1WM 10ug/L	IS&S 10/20/16	15 Feb 17 18:43
24	26	0215M28.D	1	Ending CCV 8260 10ug/L 2/15/17	IS&S 10/20/16	15 Feb 17 22:02

EPA METHOD 8260
Gasoline Range Organics (GRO)

APPL, INC.

EPA METHOD 8260
Gasoline Range Organics (GRO)

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216189**
Batch ID: #GRO86-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	2/14/17	2/14/17

Quant Method: MGAS6211.
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:25:12 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82150
Case No: 82150 Date Analyzed: 2/14/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170214AM-LCS	Lab Control Spike	85-114	100				
170214AM-BLK	Blank	85-114	101				
AZ49852	ERH224	85-114	99.8				
AZ49853	ERH225	85-114	98.3				
AZ49854	ERH247	85-114	100				
AZ49855	ERH248	85-114	97.7				
AZ49853-MS	Matrix Spike	85-114	106				
AZ49853-MSD	Matrix SpikeD	85-114	103				

Comments: Batch: #GRO86-170214A

Printed: 2/16/17 9:25:16 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170214W-49853 LCS - 216189**
Batch ID: #GRO86-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	302	101	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M05
Initials :	SV

Printed: 2/16/17 9:25:20 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170215W-49853 MS - 216189**
Batch ID: #GRO86-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	279	286	93.0	95.3	78-122	2.5	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.4	25.7	106	103	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6211.M	MGAS6211.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M22	0215M23
Initials :	SV	

Printed: 2/16/17 9:25:25 AM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82150
Case No: 82150
Date Analyzed: 2/14/17
Matrix: WATER
Instrument: Max
Blank ID: 170214AM-BLK
Time Analyzed: 1434

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170214AM-LCS	Lab Control Spike	0214M05	2/14/17 1212
170214AM-BLK	Blank	0214M10	2/14/17 1434
AZ49852	ERH224	0214M22	2/14/17 2014
AZ49853	ERH225	0214M23	2/14/17 2043
AZ49854	ERH247	0214M24	2/14/17 2111
AZ49855	ERH248	0214M25	2/14/17 2139
170214AM-MS	Matrix Spike	0215M22	2/15/17 1911
170214AM-MSD	Matrix SpikeD	0215M23	2/15/17 1940

Comments: Batch: #GRO86-170214A

Printed: 2/16/17 9:25:32 AM
Form 4, Blank Summary

EPA METHOD 8260
Gasoline Range Organics (GRO)

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #GRO86-170214AM-216189

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.8	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0214M22
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:25:37 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M22.D
Acq On : 14 Feb 17 20:14
Sample : AZ49852W01
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	278674	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

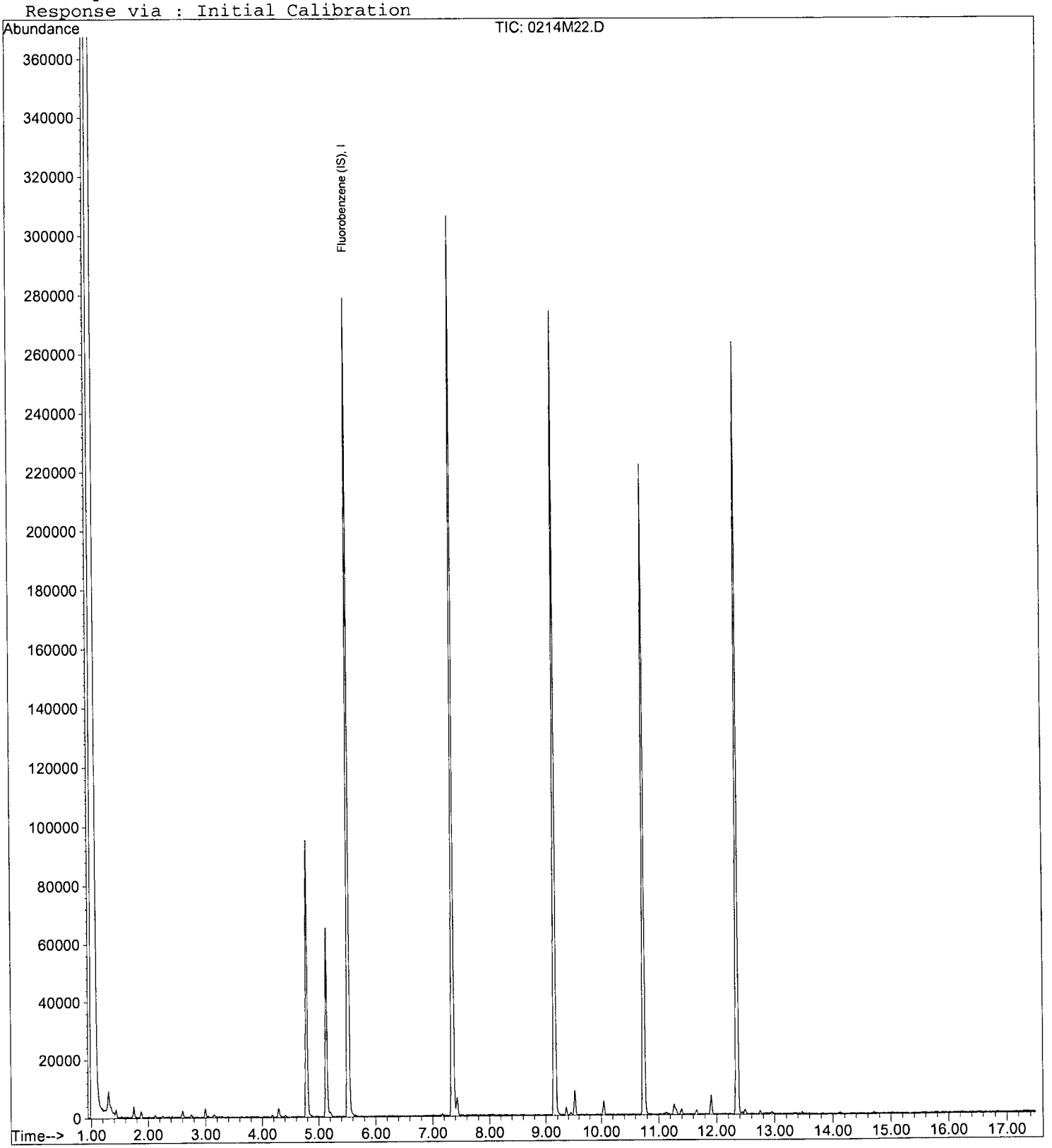
Data File : M:\MAX\DATA\M170127\0214M22.D
Acq On : 14 Feb 17 20:14
Sample : AZ49852W01
Misc : IS&S 10/20/16

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M22.D Vial: 22
Acq On : 14 Feb 17 20:14 Operator: PM,DG,SV,CMM
Sample : AZ49852W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 12:46 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266832	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	192580	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	96494	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58741	25.66854 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.676%	
3) 1,2-DCA-D4(S)	5.14	65	46880	25.85276 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.412%	
5) Toluene-D8(S)	7.35	98	231900	24.89155 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.568%	
6) 4-Bromofluorobenzene(S)	10.74	95	83635	24.94301 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.772%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #GRO86-170214AM-216189

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.3	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0214M23
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:25:37 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M23.D
Acq On : 14 Feb 17 20:43
Sample : AZ49853W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	270428	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

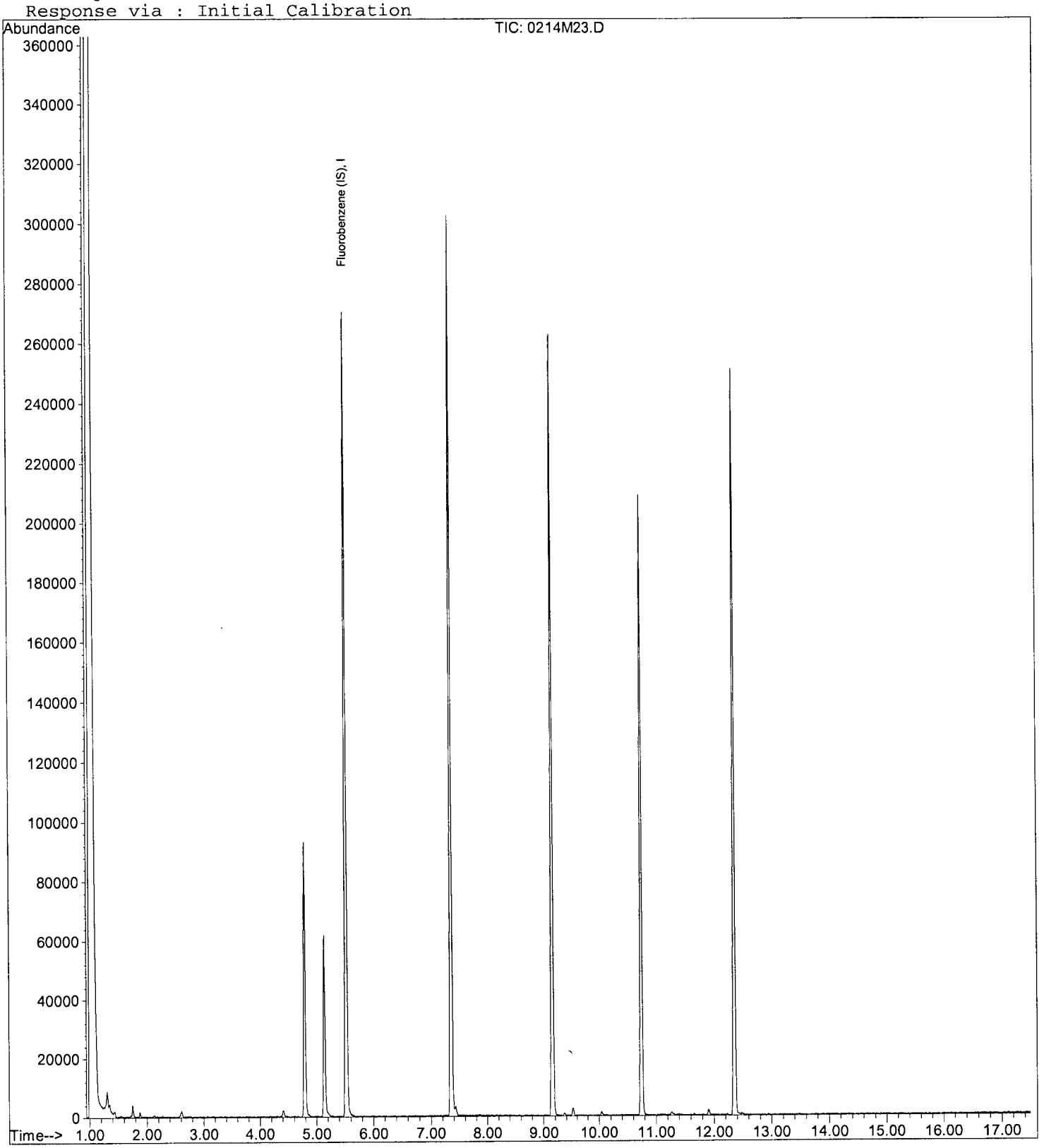
Data File : M:\MAX\DATA\M170127\0214M23.D
Acq On : 14 Feb 17 20:43
Sample : AZ49853W01
Misc : IS&S 10/20/16

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M23.D Vial: 23
Acq On : 14 Feb 17 20:43 Operator: PM,DG,SV,CMM
Sample : AZ49853W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 12:46 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259728	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	186023	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	92410	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58435	26.23324 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.932%	
3) 1,2-DCA-D4(S)	5.14	65	44821	25.39335 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.572%	
5) Toluene-D8(S)	7.36	98	226381	25.15566 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
6) 4-Bromofluorobenzene(S)	10.74	95	79601	24.57672 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.308%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0214M23.D MSUR127.M Wed Feb 15 12:47:51 2017

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854
QCG: #GRO86-170214AM-216189

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0214M24
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:25:37 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M24.D
Acq On : 14 Feb 17 21:11
Sample : AZ49854W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	269633	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

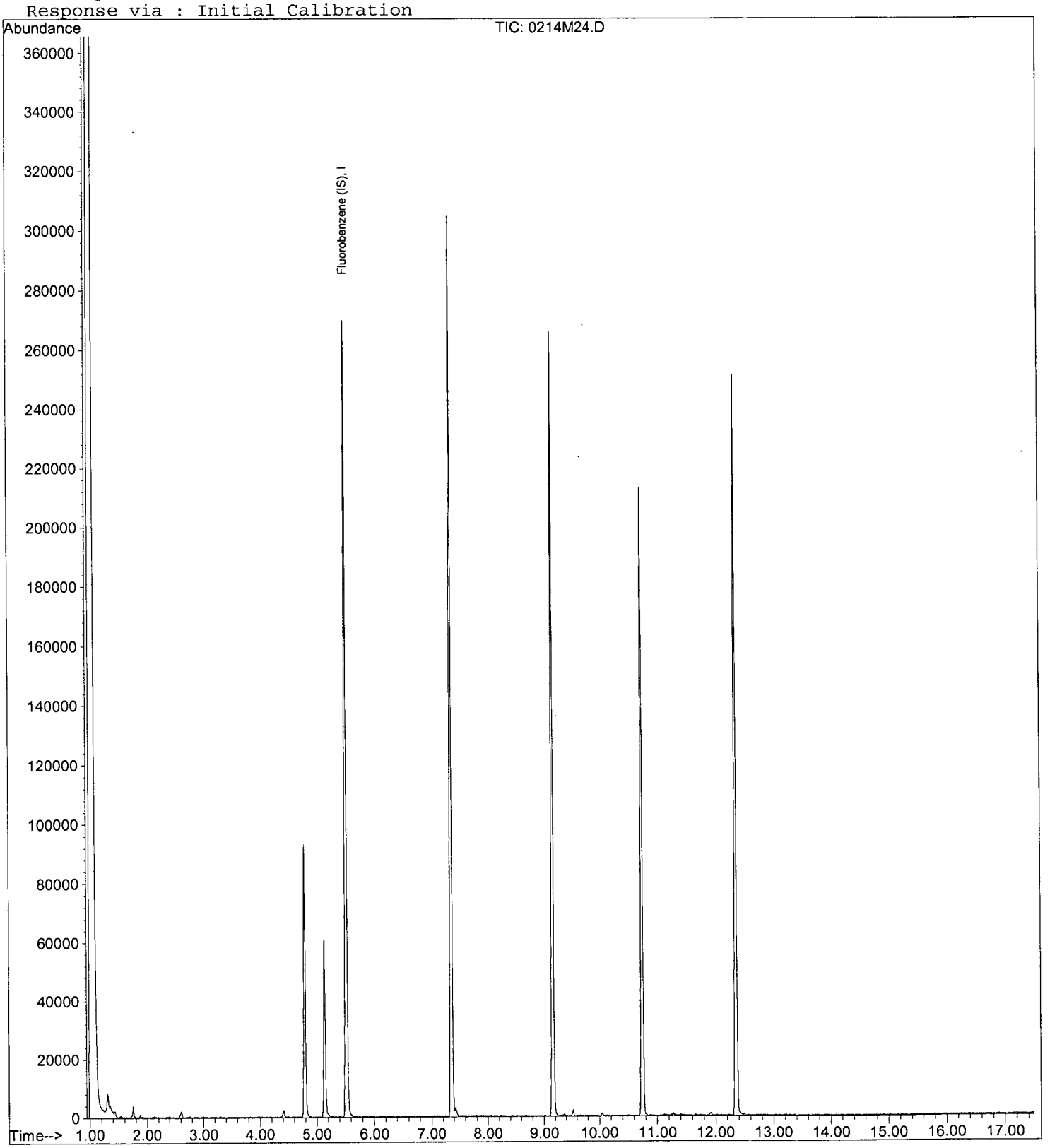
Data File : M:\MAX\DATA\M170127\0214M24.D
Acq On : 14 Feb 17 21:11
Sample : AZ49854W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M24.D
Acq On : 14 Feb 17 21:11
Sample : AZ49854W01
Misc : IS&S 10/20/16

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:46 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	258656	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	187595	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	89739	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57053	25.71897 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.876%	
3) 1,2-DCA-D4(S)	5.14	65	44551	25.34499 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.380%	
5) Toluene-D8(S)	7.35	98	229568	25.29604 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.184%	
6) 4-Bromofluorobenzene(S)	10.74	95	81983	25.10005 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.400%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH248
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49855
QCG: #GRO86-170214AM-216189

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	02/14/17	02/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.7	85-114			%	02/14/17	02/14/17

Quant Method: MGAS6211.M
Run #: 0214M25
Instrument: Max
Sequence: M170127
Dilution Factor: 1
Initials: SV

Printed: 2/16/17 9:25:37 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M25.D Vial: 25
Acq On : 14 Feb 17 21:39 Operator: PM,DG,SV,CMM
Sample : AZ49855W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 12:43 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	275686	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

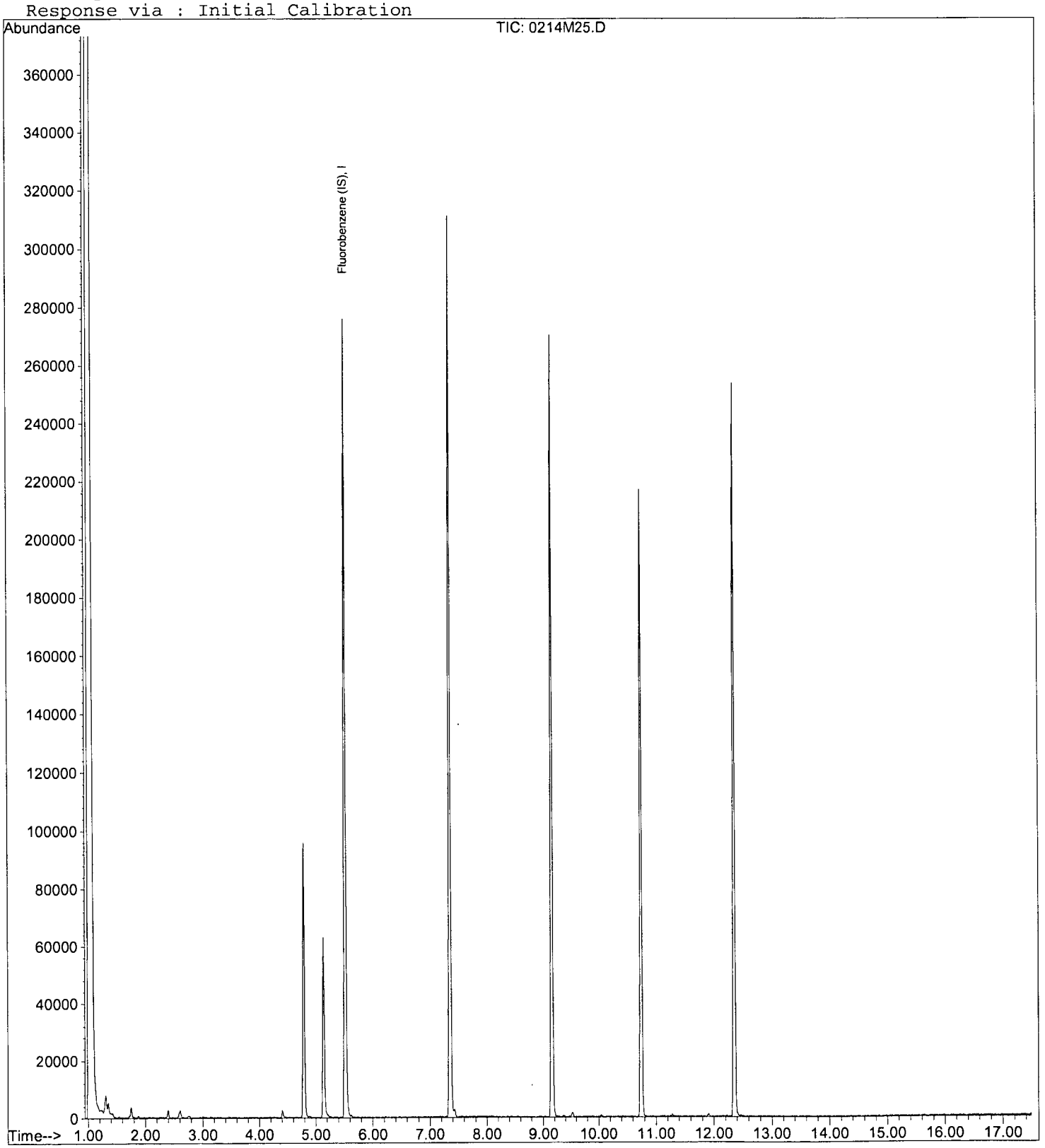
Data File : M:\MAX\DATA\M170127\0214M25.D
Acq On : 14 Feb 17 21:39
Sample : AZ49855W01
Misc : IS&S 10/20/16

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:43 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M25.D Vial: 25
Acq On : 14 Feb 17 21:39 Operator: PM,DG,SV,CMM
Sample : AZ49855W01 Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 15 12:46 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	261669	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	191053	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	91173	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58344	25.99810 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.992%	
3) 1,2-DCA-D4(S)	5.14	65	46010	25.87362 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.496%	
5) Toluene-D8(S)	7.35	98	234198	25.33913 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.356%	
6) 4-Bromofluorobenzene(S)	10.74	95	81267	24.43050 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.724%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0214M25.D MSUR127.M Wed Feb 15 12:47:58 2017

EPA METHOD 8260
Gasoline Range Organics (GRO)

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 1/27/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0127M04.D	0127M05.D	0127M06.D	0127M07.D	0127M08.D	0127M09.D	0127M10.D	0127M11.D	0127M12.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2329	0.2198	0.1905	0.2008	0.2173	0.2196	0.2202	0.2172	0.2114		0.21	5.7	S	
3	S	1,2-DCA-D4(S)	0.1882	0.1685	0.1570	0.1587	0.1727	0.1708	0.1795	0.1701	0.1635		0.17	5.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.333	1.173	1.091	1.103	1.262	1.268	1.261	1.233	1.160		1.2	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4738	0.4223	0.3936	0.3876	0.4538	0.4532	0.4596	0.4480	0.4256		0.44	6.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312573	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	217190	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	107630	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	14557	5.43023 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
3) 1,2-DCA-D4(S)	5.13	65	11763	5.53763 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.152%	
5) Toluene-D8(S)	7.35	98	57915	5.51206 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.048%	
6) 4-Bromofluorobenzene(S)	10.74	95	20580	5.44224 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.768%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0127M04.D MSUR127.M Tue Feb 14 09:22:06 2017

Quantitation Report

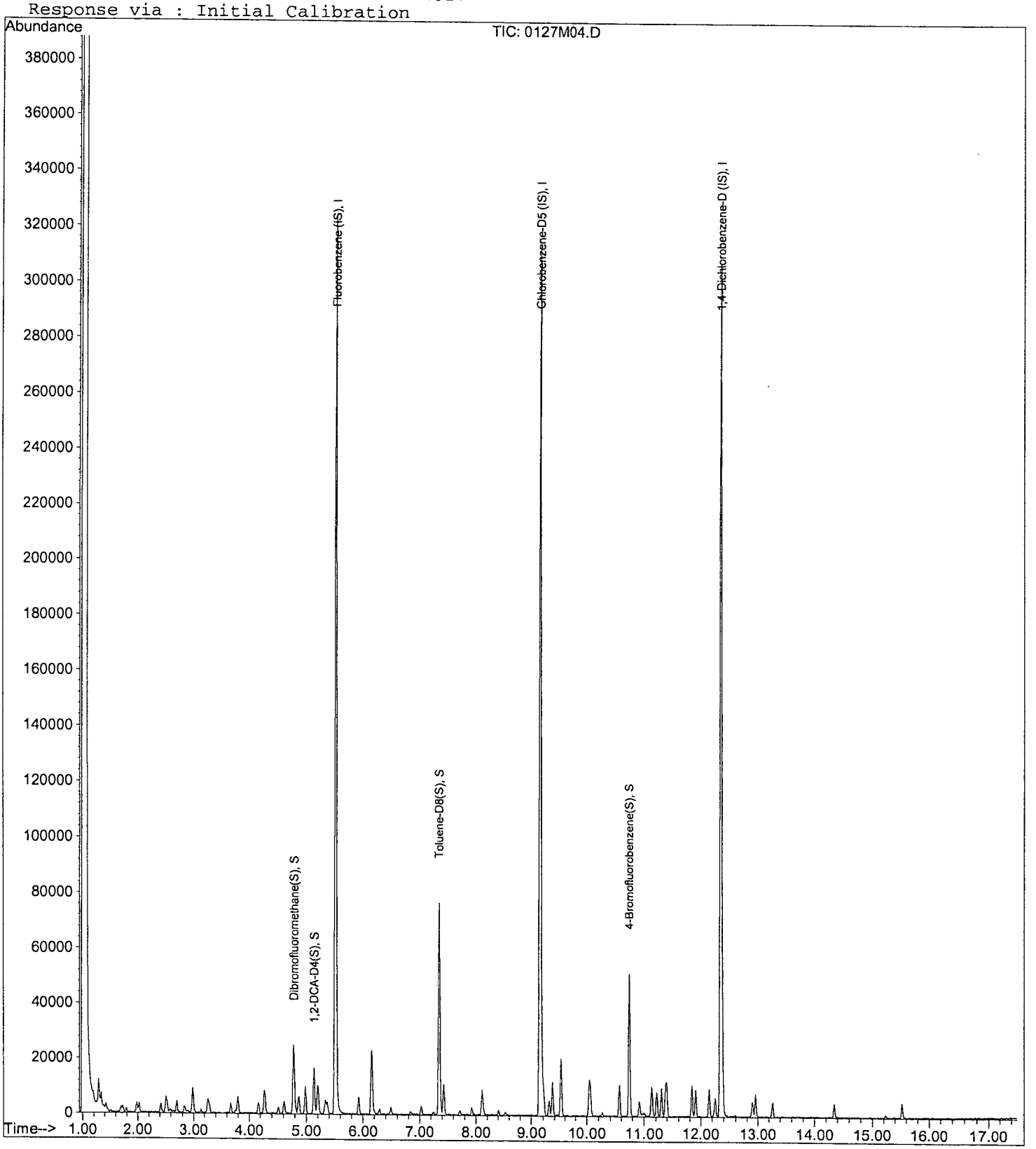
Data File : M:\MAX\DATA\M170127\0127M04.D
Acq On : 27 Jan 17 11:24
Sample : 0.3ug/L VOC STD 01/27/16A
Misc : IS&S 10/20/16

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	317063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	224481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	112077	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13937	5.12533 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.500%	
3) 1,2-DCA-D4(S)	5.13	65	10688	4.96030 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.840%	
5) Toluene-D8(S)	7.35	98	52662	4.84931 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.396%	
6) 4-Bromofluorobenzene(S)	10.74	95	18960	4.85099 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.404%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

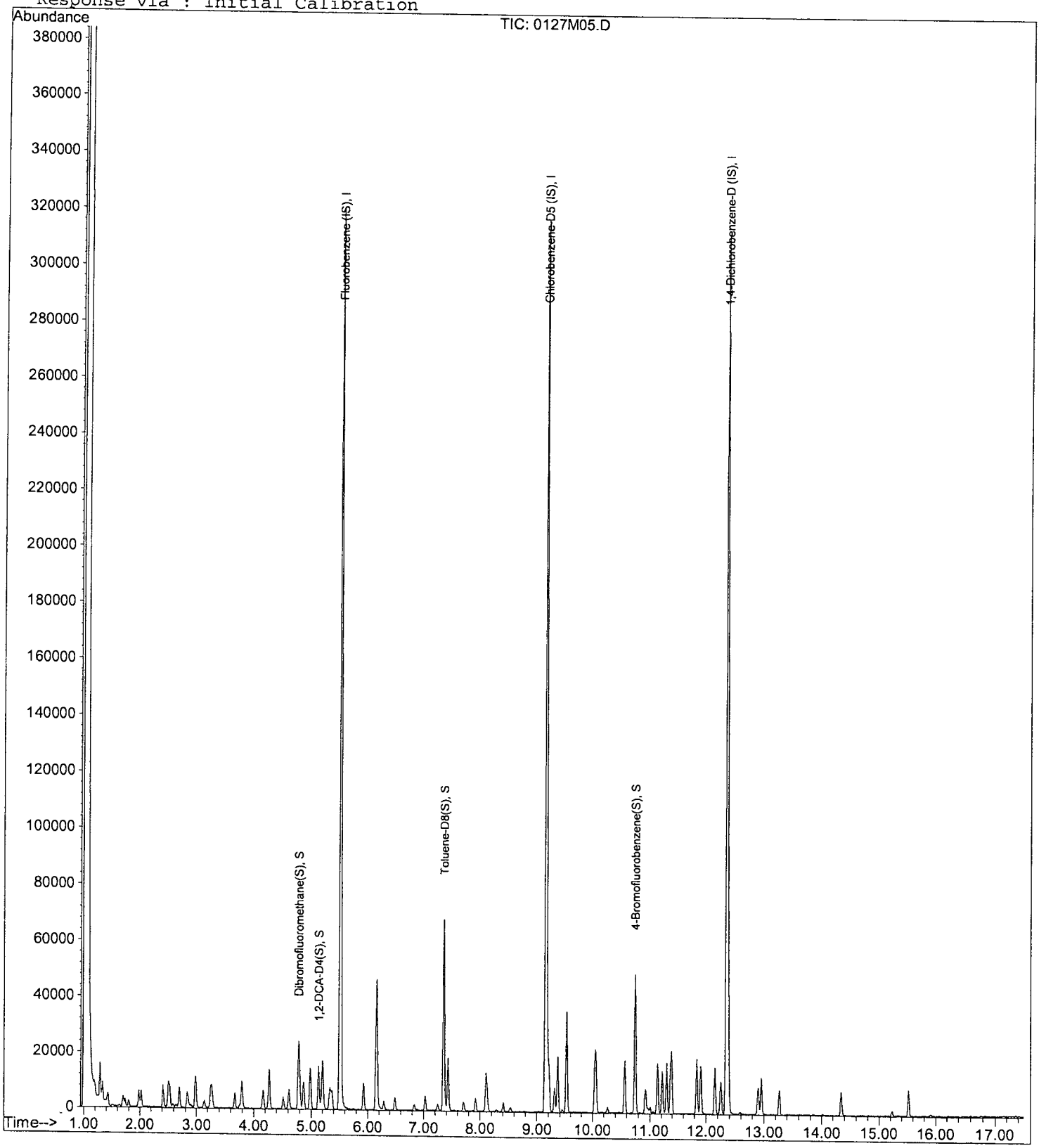
Data File : M:\MAX\DATA\M170127\0127M05.D
Acq On : 27 Jan 17 11:53
Sample : 0.5ug/L VOC STD 01/27/16B
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	315082	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	221101	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113896	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	24009	8.88481 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.540%	
3) 1,2-DCA-D4(S)	5.13	65	19787	9.24089 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.964%	
5) Toluene-D8(S)	7.35	98	96515	9.02332 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.092%	
6) 4-Bromofluorobenzene(S)	10.74	95	34814	9.04347 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.172%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0127M06.D MSUR127.M Tue Feb 14 09:22:14 2017

Quantitation Report

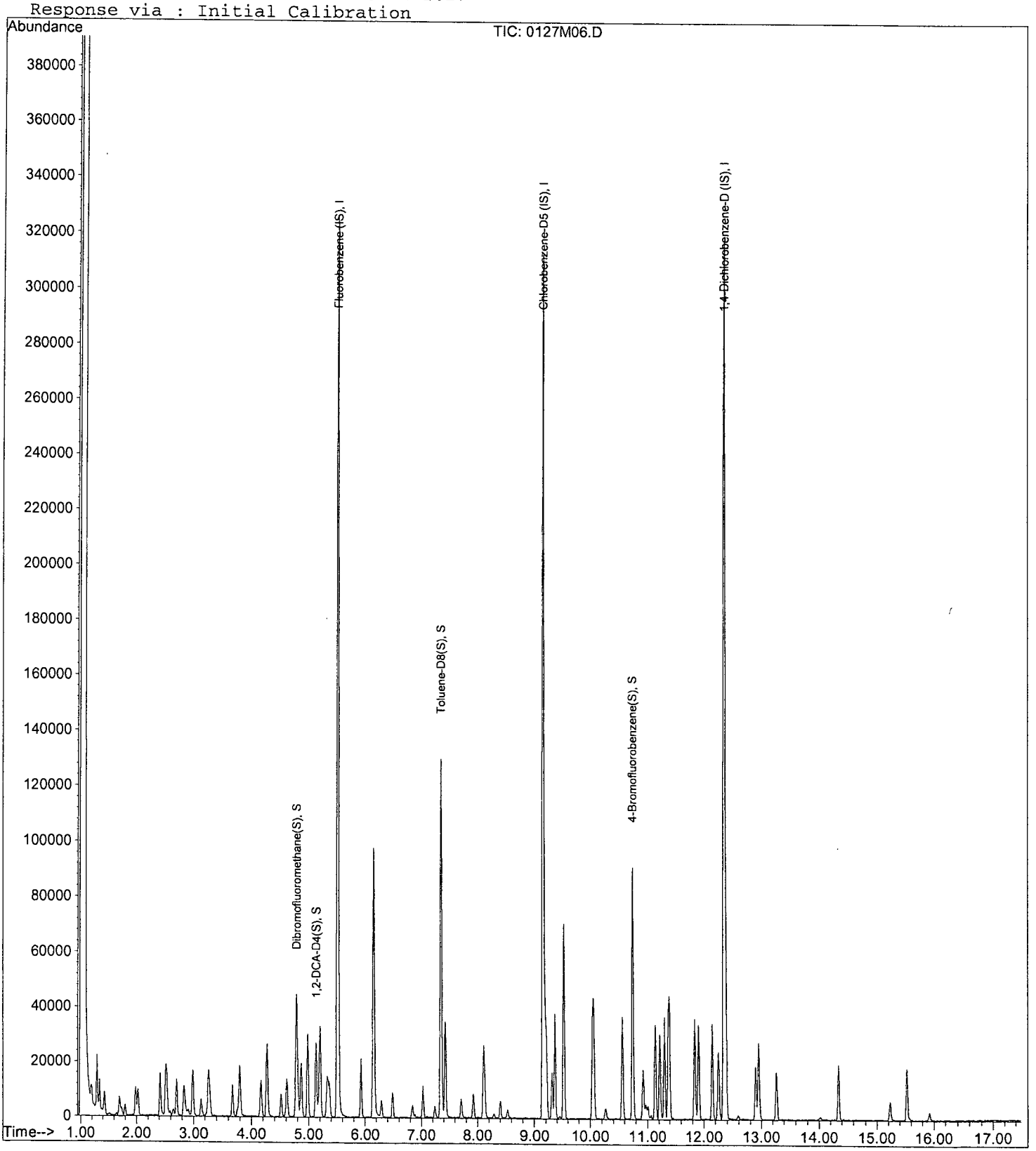
Data File : M:\MAX\DATA\M170127\0127M06.D
Acq On : 27 Jan 17 12:21
Sample : 1.0ug/L VOC STD 01/27/16C
Misc : IS&S 10/20/16

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313966	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	220728	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	113964	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	25219	9.36576 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.464%	
3) 1,2-DCA-D4(S)	5.13	65	19930	9.34075 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.364%	
5) Toluene-D8(S)	7.35	98	97422	9.12351 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	34222	8.90471 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.620%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0127M07.D MSUR127.M Tue Feb 14 09:22:18 2017

Quantitation Report

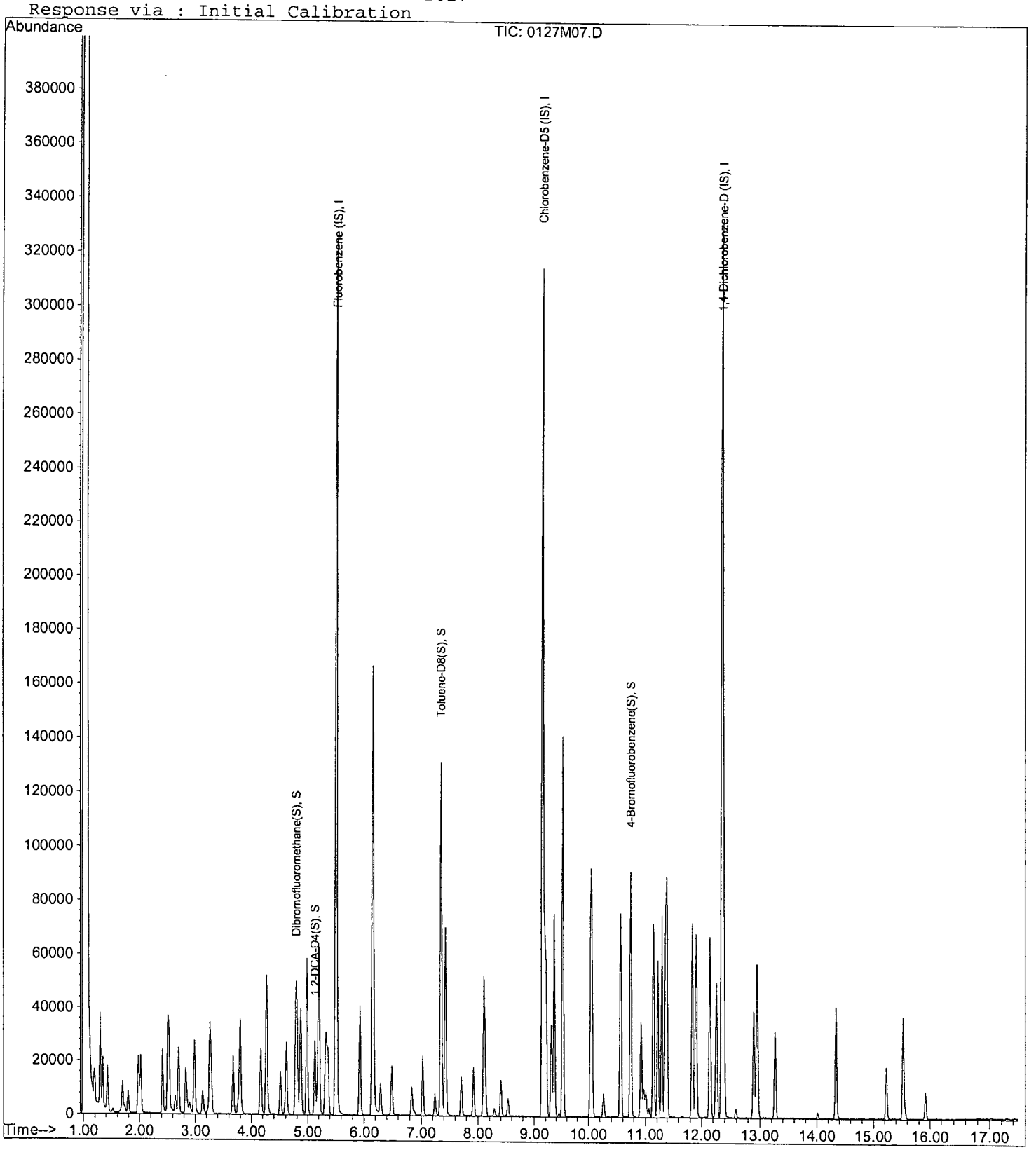
Data File : M:\MAX\DATA\M170127\0127M07.D
Acq On : 27 Jan 17 12:49
Sample : 2.0ug/L VOC STD 01/27/16D
Misc : IS&S 10/20/16

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312436	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	219131	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	116134	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67880	25.33252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.332%	
3) 1,2-DCA-D4(S)	5.13	65	53951	25.40948 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.636%	
5) Toluene-D8(S)	7.35	98	276521	26.08475 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.340%	
6) 4-Bromofluorobenzene(S)	10.74	95	99439	26.06303 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

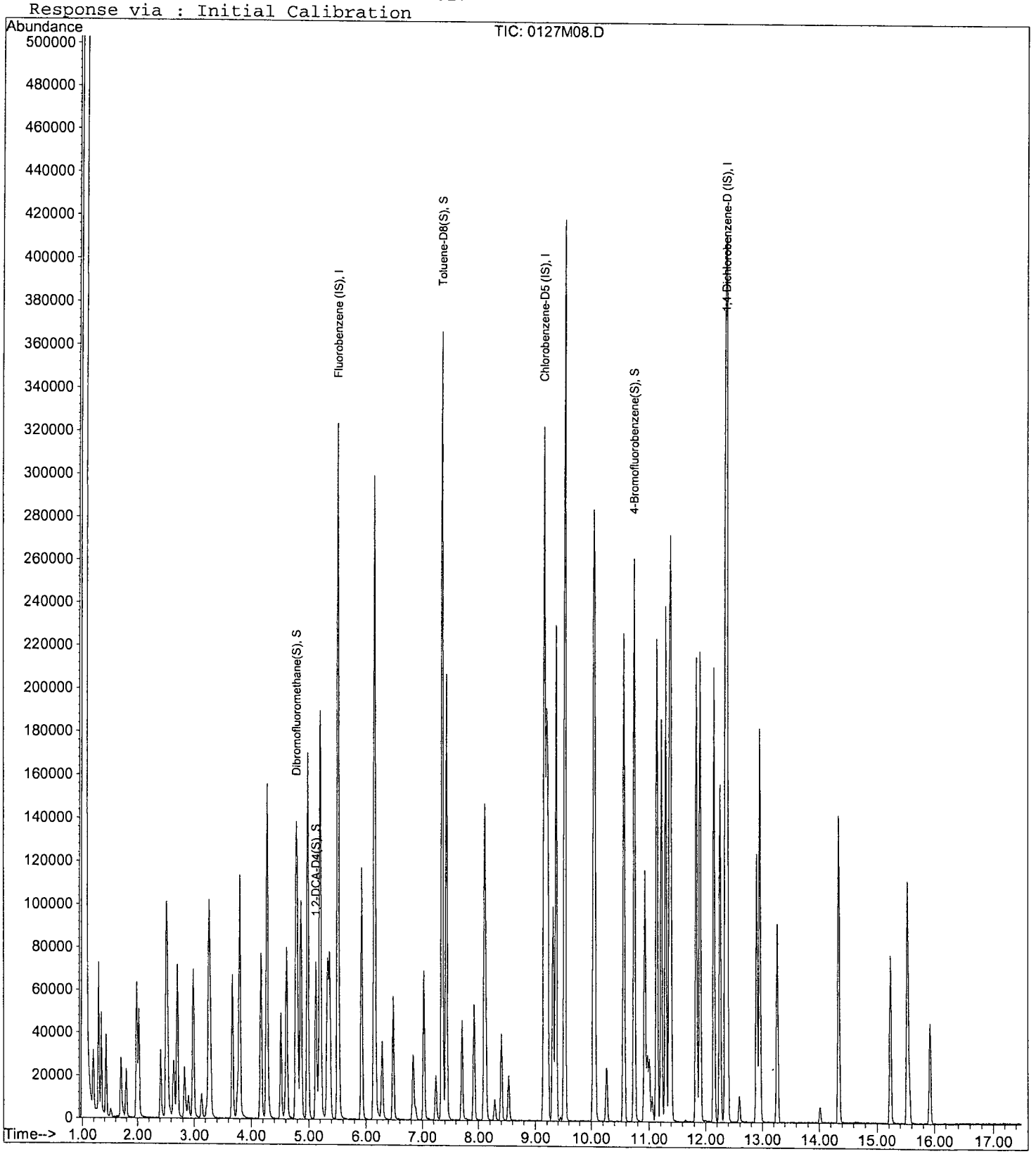
Data File : M:\MAX\DATA\M170127\0127M08.D
Acq On : 27 Jan 17 13:17
Sample : 5.0ug/L VOC STD 01/27/16E
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330920	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	236599	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	123244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72686	25.61094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.444%	
3) 1,2-DCA-D4(S)	5.13	65	56536	25.13966 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
5) Toluene-D8(S)	7.35	98	299934	26.20446 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.816%	
6) 4-Bromofluorobenzene(S)	10.74	95	107233	26.03080 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

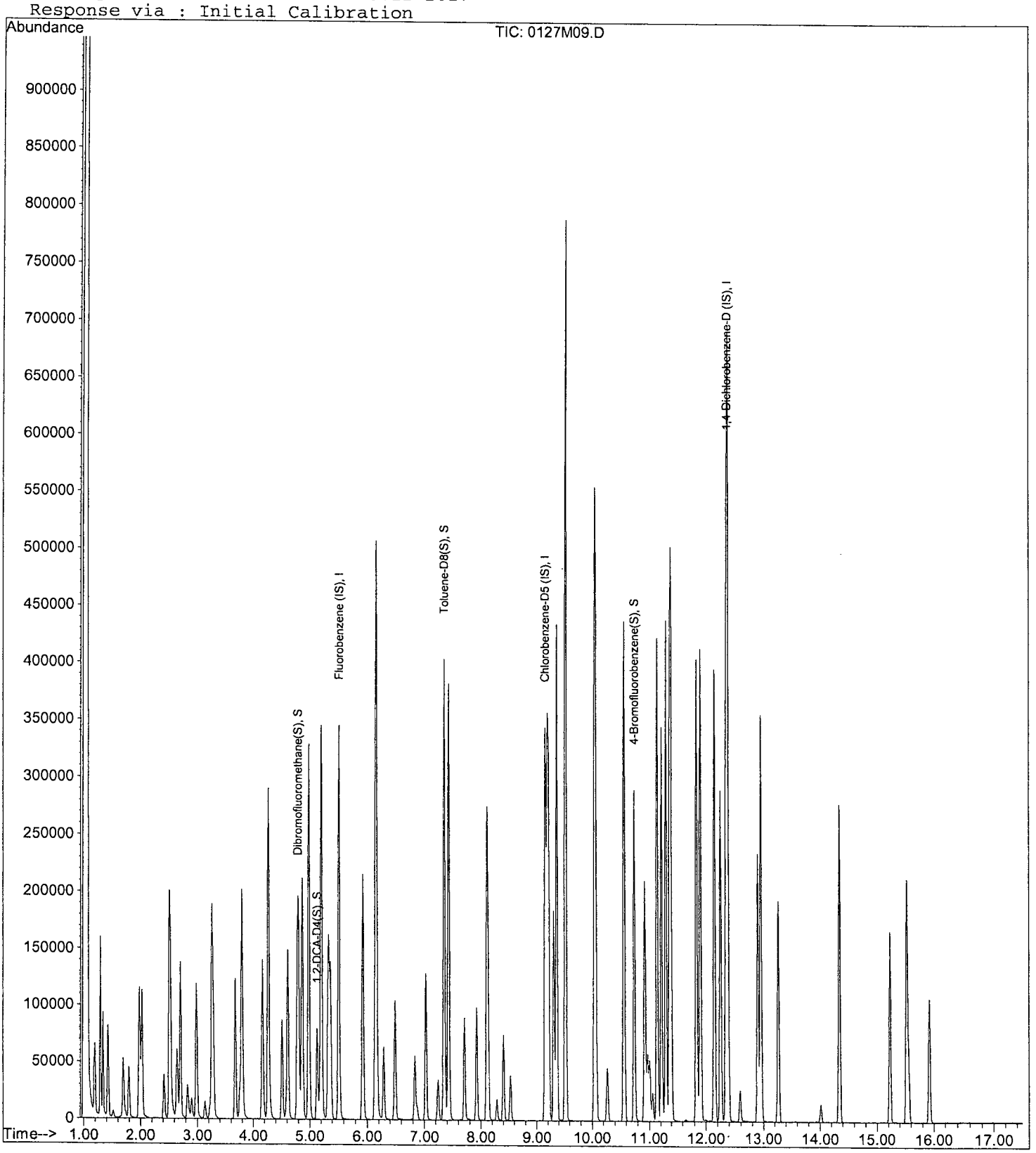
Data File : M:\MAX\DATA\M170127\0127M09.D
Acq On : 27 Jan 17 13:45
Sample : 10ug/L VOC STD 01/27/16F
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	324729	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	232640	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	126544	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143012	51.35103 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.404%	
3) 1,2-DCA-D4(S)	5.13	65	116567	52.82163 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.288%	
5) Toluene-D8(S)	7.35	98	586869	52.14578 ppb	0.00
Spiked Amount 25.000			Recovery	= 208.584%	
6) 4-Bromofluorobenzene(S)	10.74	95	213854	52.79648 ppb	0.00
Spiked Amount 25.000			Recovery	= 211.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

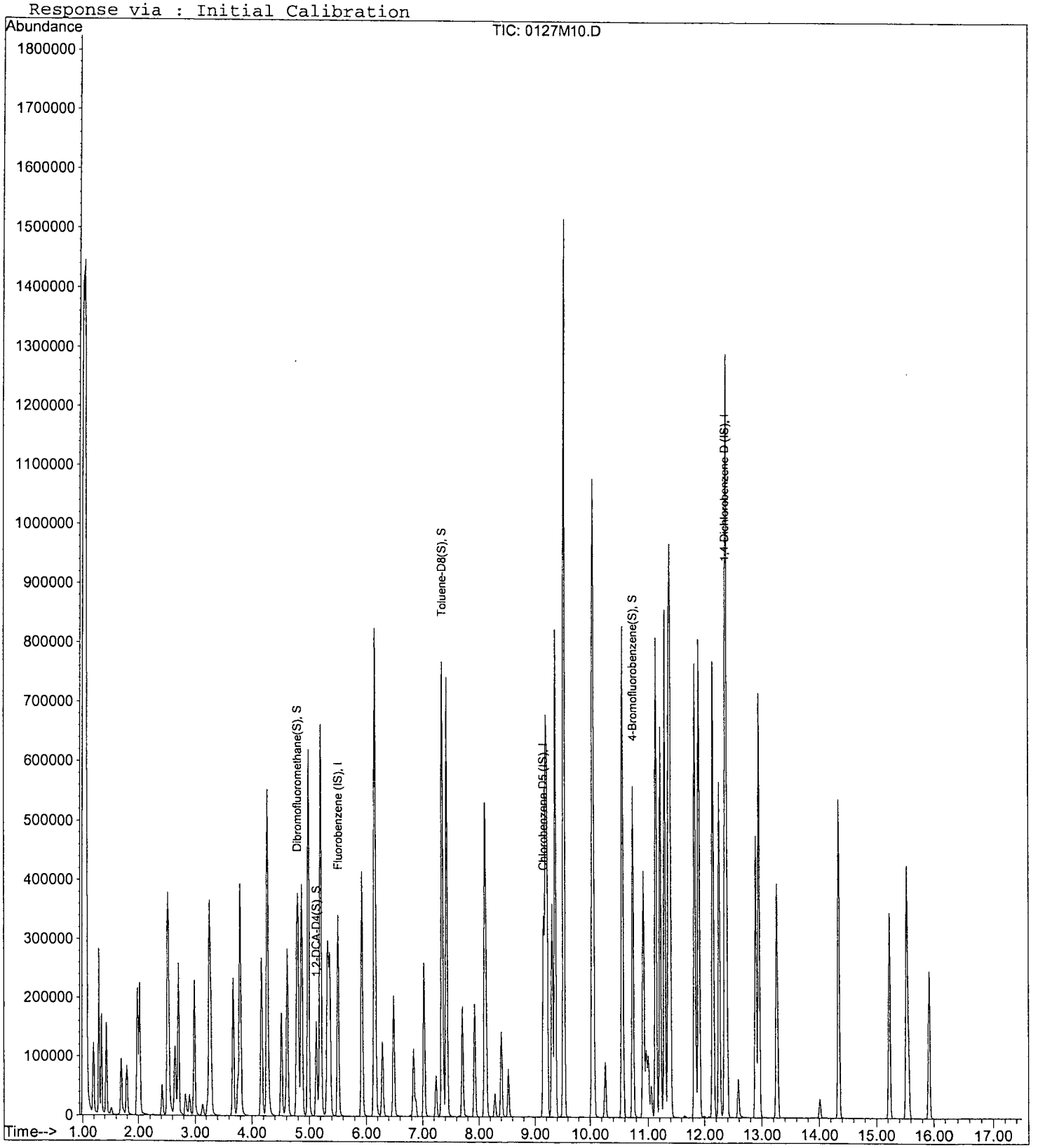
Data File : M:\MAX\DATA\M170127\0127M10.D
Acq On : 27 Jan 17 14:14
Sample : 20ug/L VOC STD 01/27/16G
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	330253	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	242490	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	129144	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	143450	50.64674 ppb	0.00
Spiked Amount 25.000			Recovery	= 202.588%	
3) 1,2-DCA-D4(S)	5.13	65	112383	50.07386 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.296%	
5) Toluene-D8(S)	7.35	98	598169	50.99087 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.964%	
6) 4-Bromofluorobenzene(S)	10.74	95	217265	51.45978 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

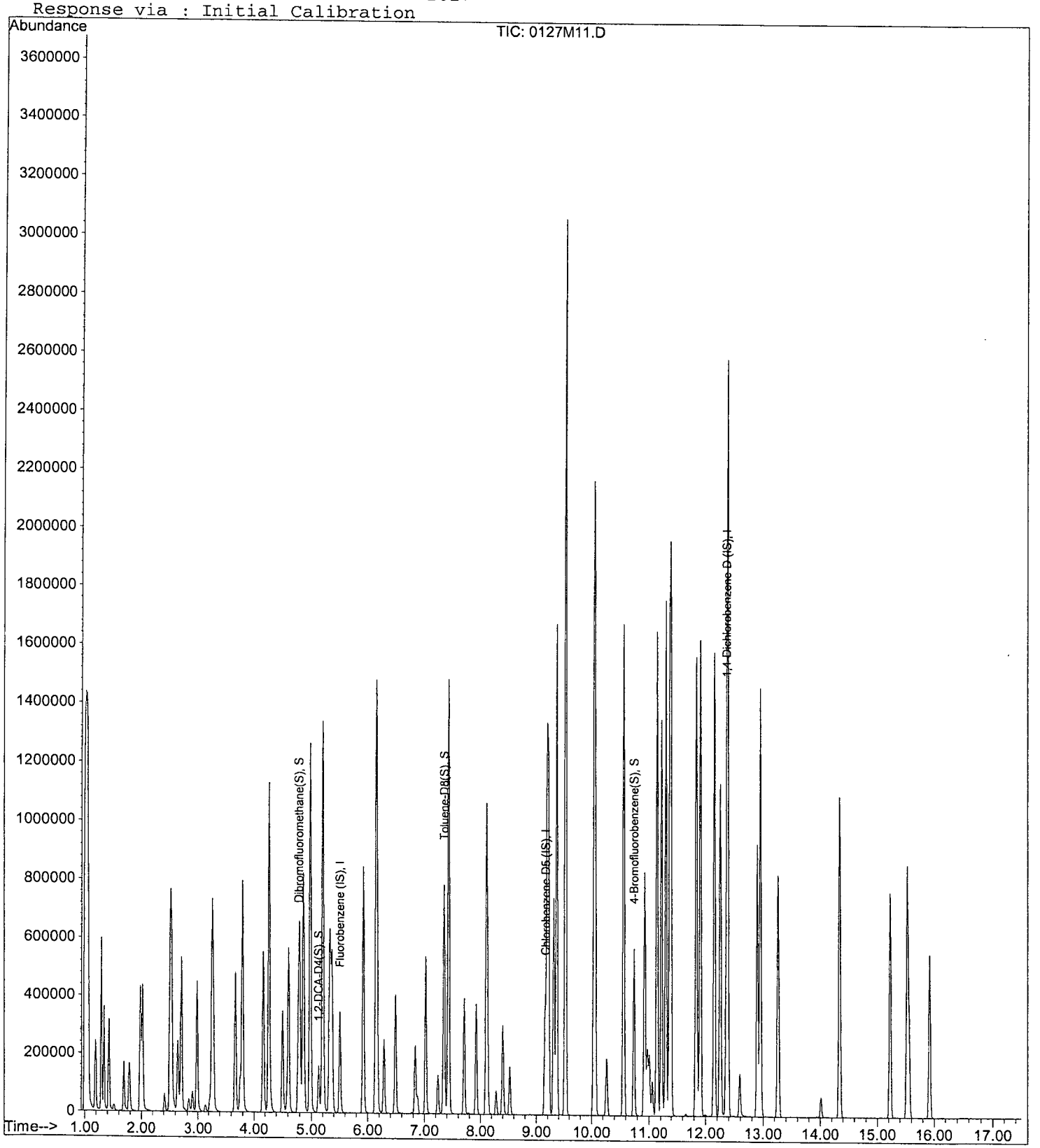
Data File : M:\MAX\DATA\M170127\0127M11.D
Acq On : 27 Jan 17 14:42
Sample : 40ug/L VOC STD 01/27/16H
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	337548	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	256799	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	135772	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285480	98.61384 ppb	0.00
Spiked Amount 25.000			Recovery	= 394.456%	
3) 1,2-DCA-D4(S)	5.13	65	220761	96.23744 ppb	0.00
Spiked Amount 25.000			Recovery	= 384.948%	
5) Toluene-D8(S)	7.35	98	1191057	95.87417 ppb	0.00
Spiked Amount 25.000			Recovery	= 383.496%	
6) 4-Bromofluorobenzene(S)	10.74	95	437127	97.76565 ppb	0.00
Spiked Amount 25.000			Recovery	= 391.064%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

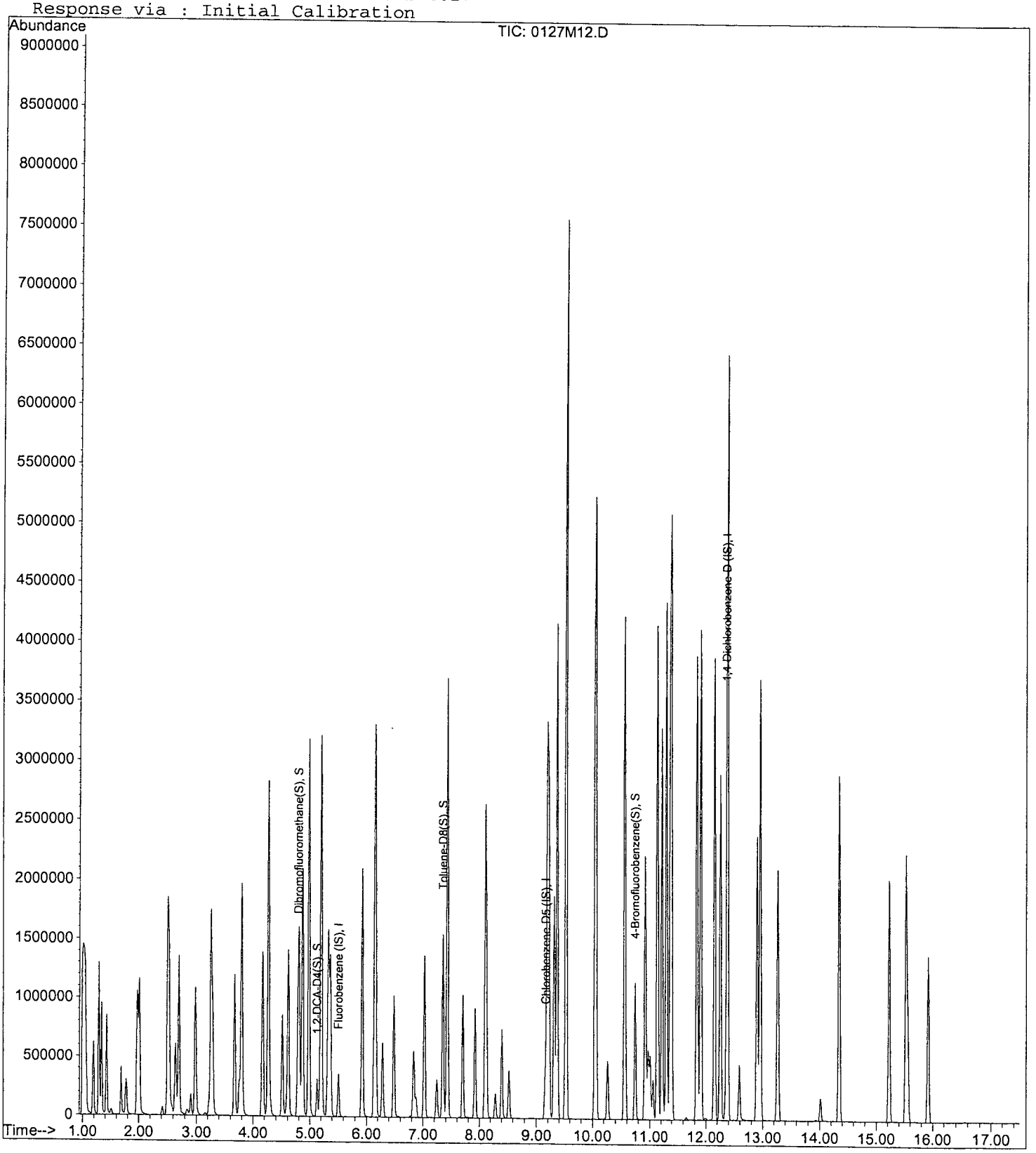
Data File : M:\MAX\DATA\M170127\0127M12.D
Acq On : 27 Jan 17 15:10
Sample : 100ug/L VOC STD 01/27/16I
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Jan 31 8:34 2017

Quant Results File: MSUR127.RES

Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 2/11/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0211M06.D	0211M09.D	0211M10.D	0211M11.D	0211M12.D	0211M13.D	0211M14.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	11.5	5.746	4.005	2.663	2.410	2.364	2.332				4.4	76	TMHBL	1.000
3																
4																
5																
6																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	293113	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	2692304m	22.09310 ppb	100

(#) = qualifier out of range (m) = manual integration

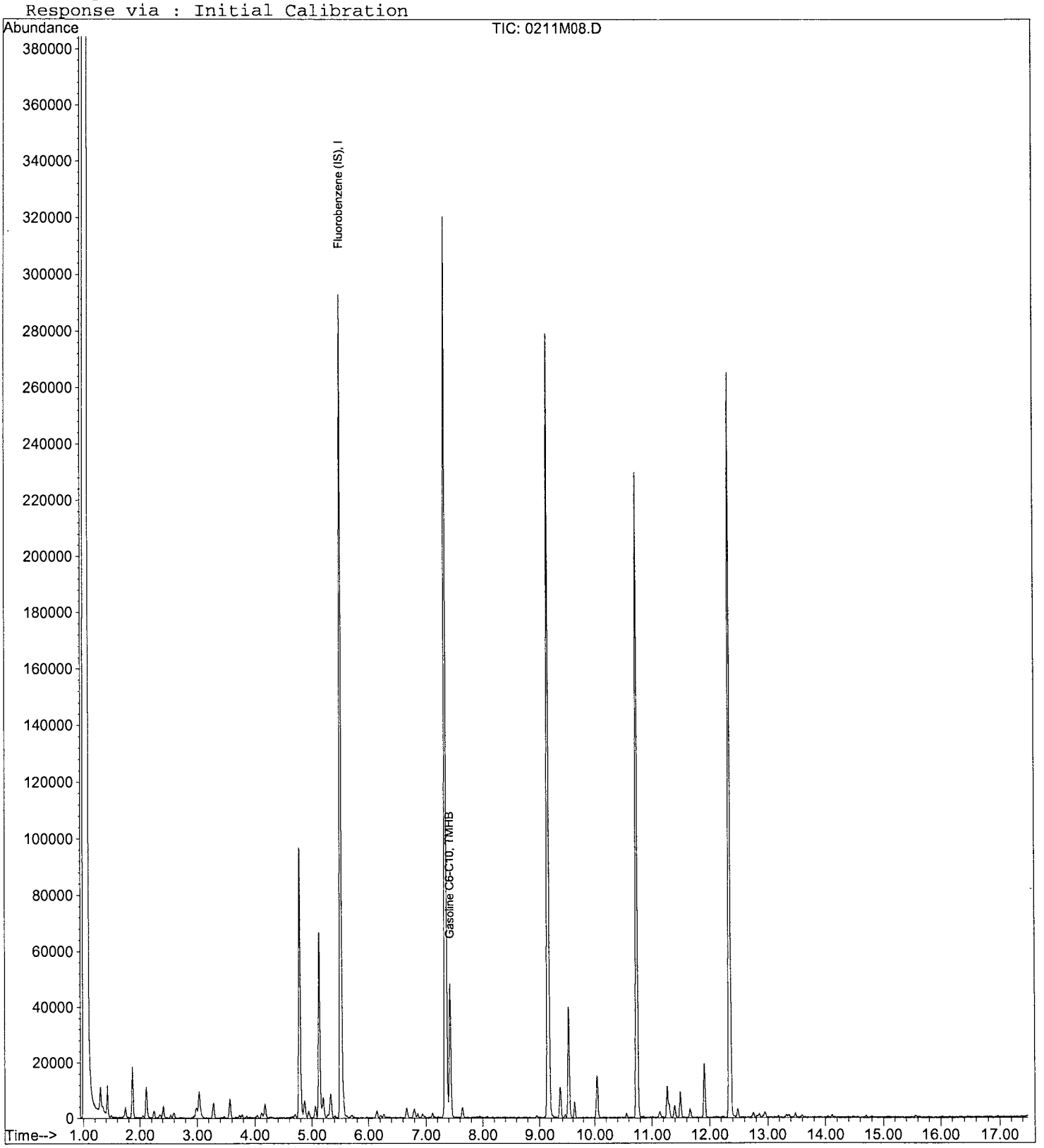
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M08.D
Acq On : 11 Feb 17 12:52
Sample : 20ppb GAS STD 02/11/17A
Misc : IS&S 10/20/16

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M09.D Vial: 9
Acq On : 11 Feb 17 13:20 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 02/11/17B Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:00 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	290206	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	3335070m	50.30162 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

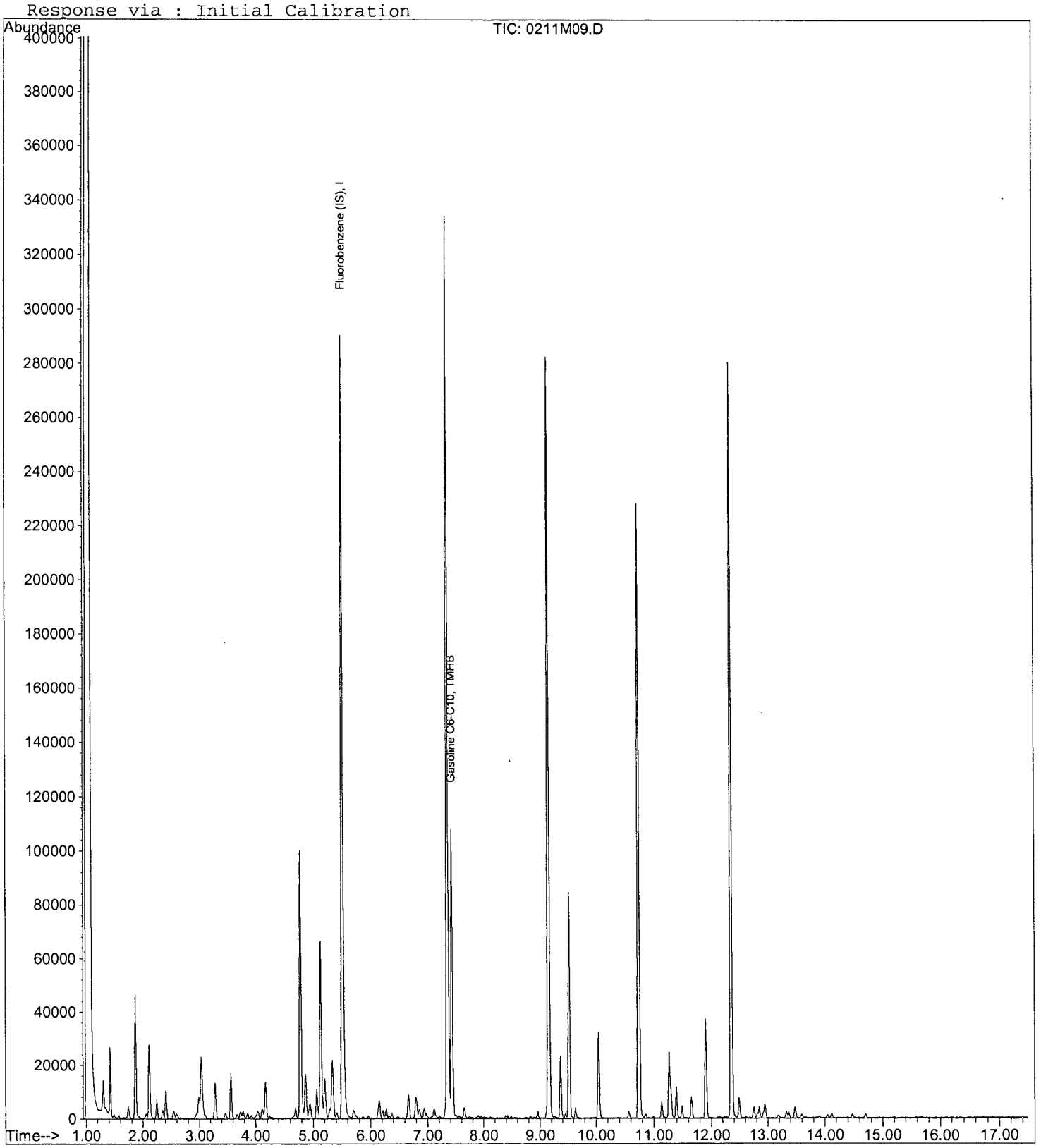
Data File : M:\MAX\DATA\M170127\0211M09.D
Acq On : 11 Feb 17 13:20
Sample : 50ppb GAS STD 02/11/17B
Misc : IS&S 10/20/16

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:00 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	305473	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	4893597m	105.66606 ppb	100

(#) = qualifier out of range (m) = manual integration

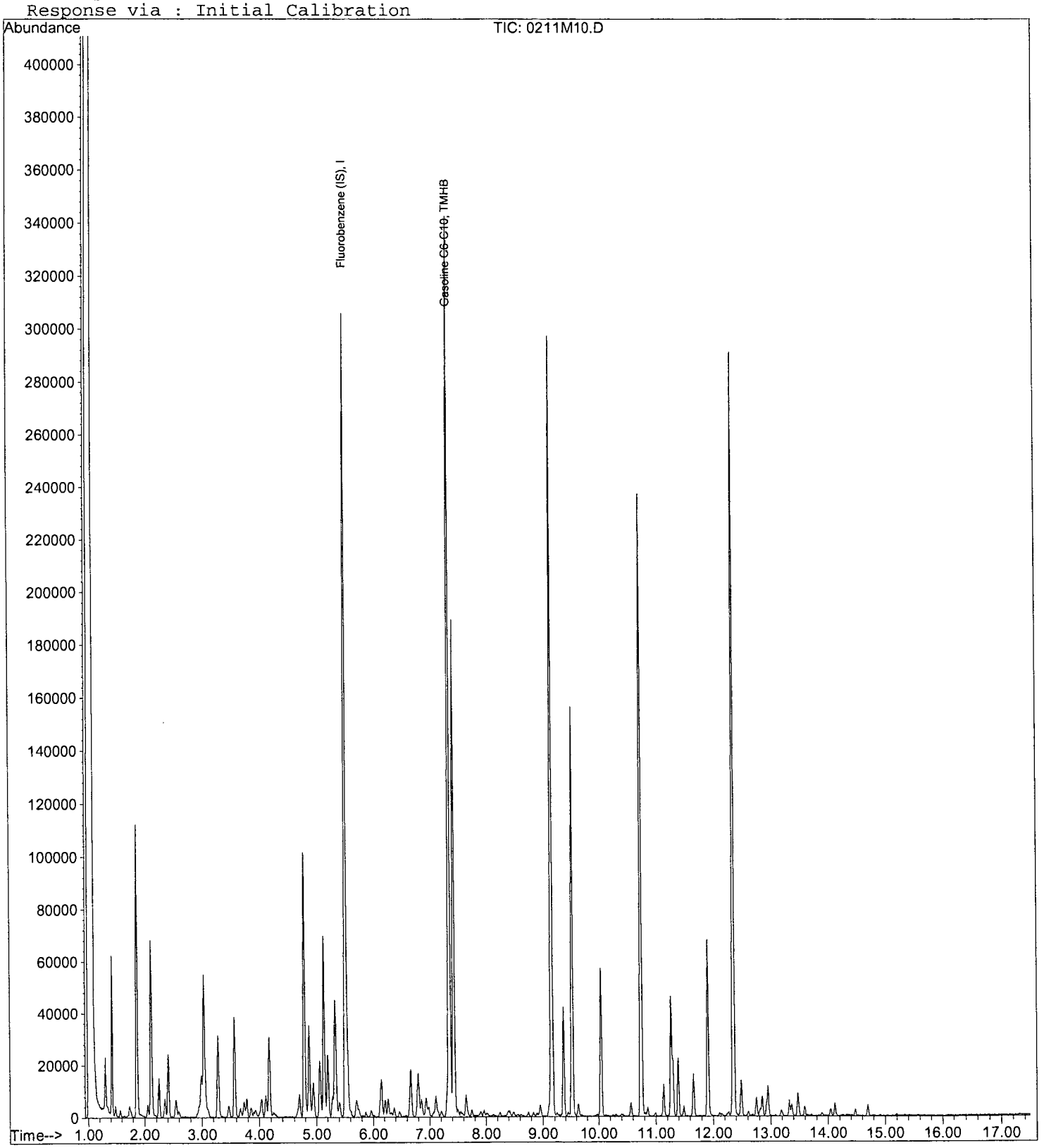
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M10.D
Acq On : 11 Feb 17 13:48
Sample : 100ppb GAS STD 02/11/17C
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:04 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	304946	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9745877m	300.57649 ppb	100

(#) = qualifier out of range (m) = manual integration

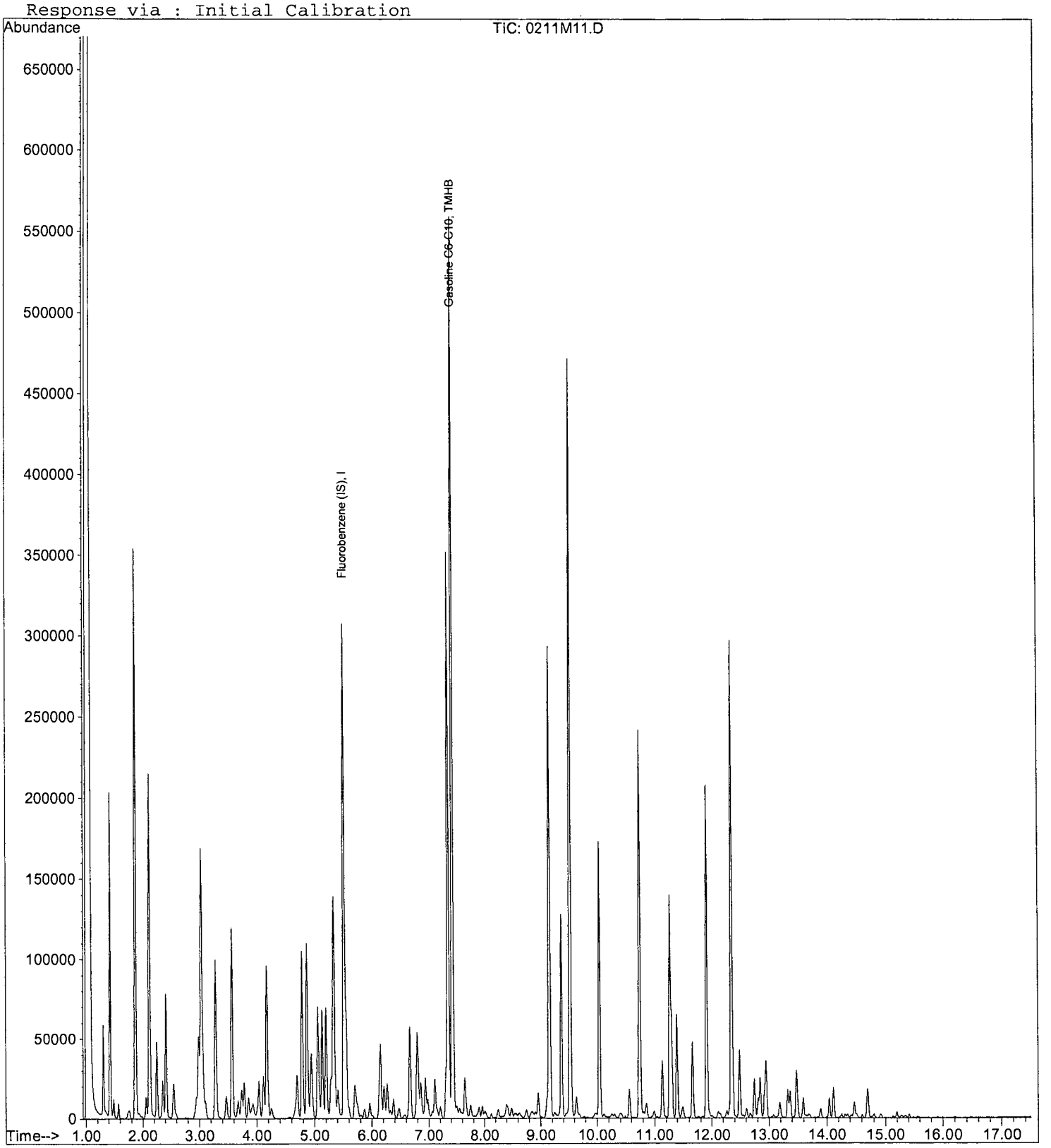
Quantitation Report

Data File : M:\MAX\DATA\M170127\0211M11.D
Acq On : 11 Feb 17 14:16
Sample : 300ppb GAS STD 02/11/17D
Misc : IS&S 10/20/16

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:07 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M12.D Vial: 12
Acq On : 11 Feb 17 14:45 Operator: PM,DG,SV,CMM
Sample : 600ppb GAS STD 02/11/17E Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:18 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 07:59:56 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295633	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	17097428m	616.96425 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

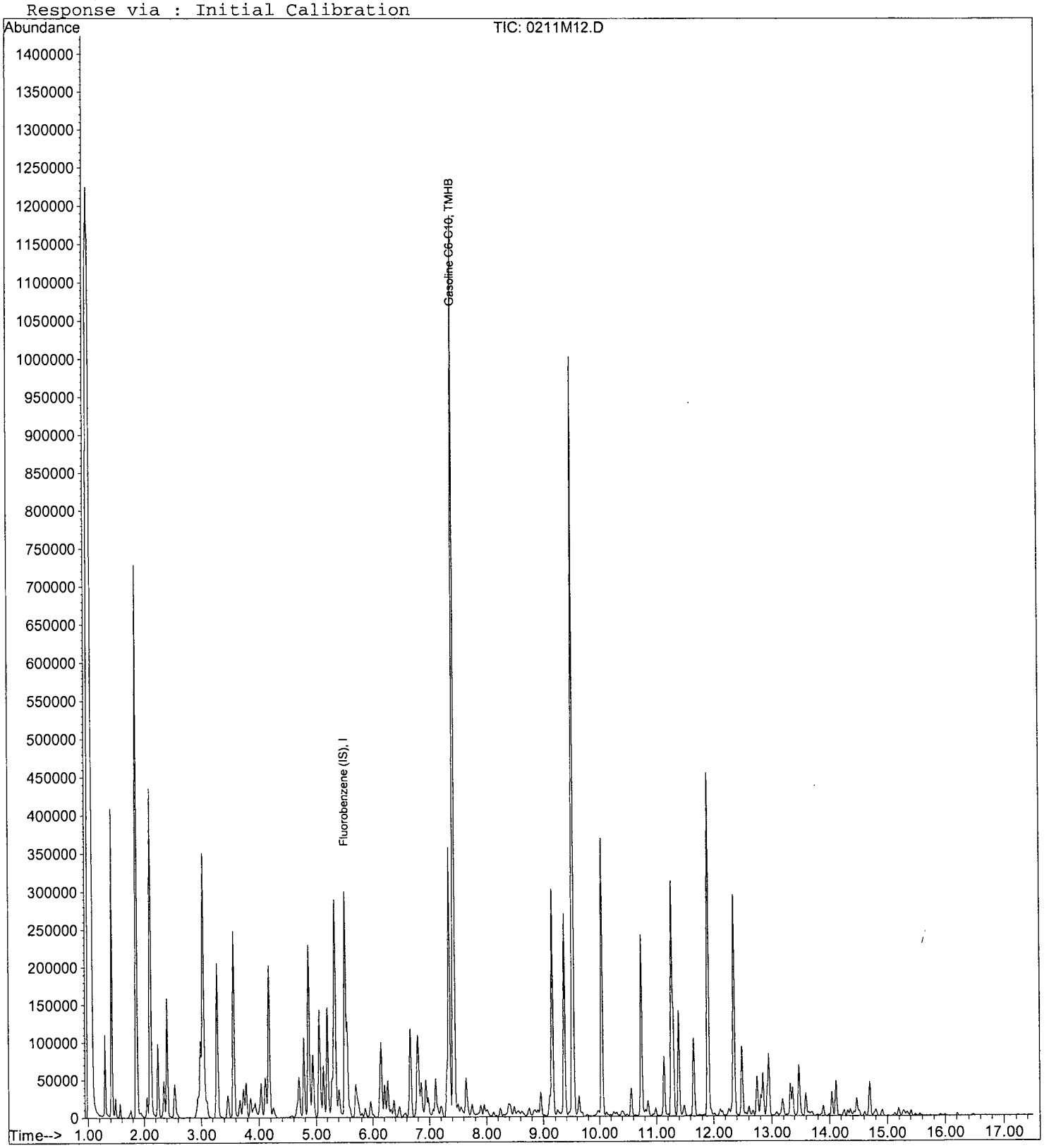
Data File : M:\MAX\DATA\M170127\0211M12.D
Acq On : 11 Feb 17 14:45
Sample : 600ppb GAS STD 02/11/17E
Misc : IS&S 10/20/16

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:18 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:12:24 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	303025	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	22923559m	812.12410 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

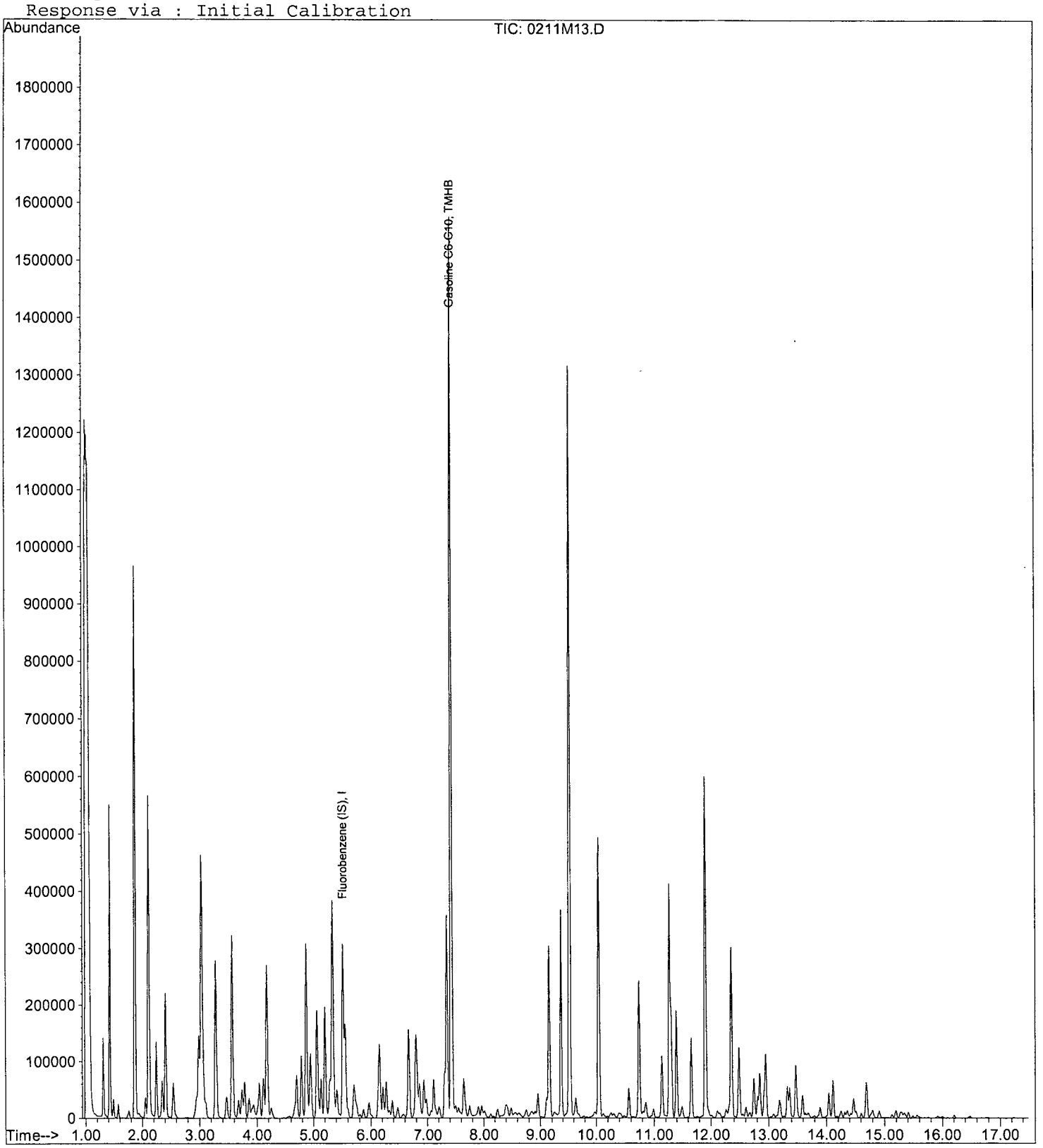
Data File : M:\MAX\DATA\M170127\0211M13.D
Acq On : 11 Feb 17 15:13
Sample : 800ppb GAS STD 02/11/17F
Misc : IS&S 10/20/16

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:13 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M14.D Vial: 14
Acq On : 11 Feb 17 15:41 Operator: PM,DG,SV,CMM
Sample : 1000ppb GAS STD 02/11/17G Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 13 8:11 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:10:45 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	294463	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.43	TIC	27466994m	1011.16091	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

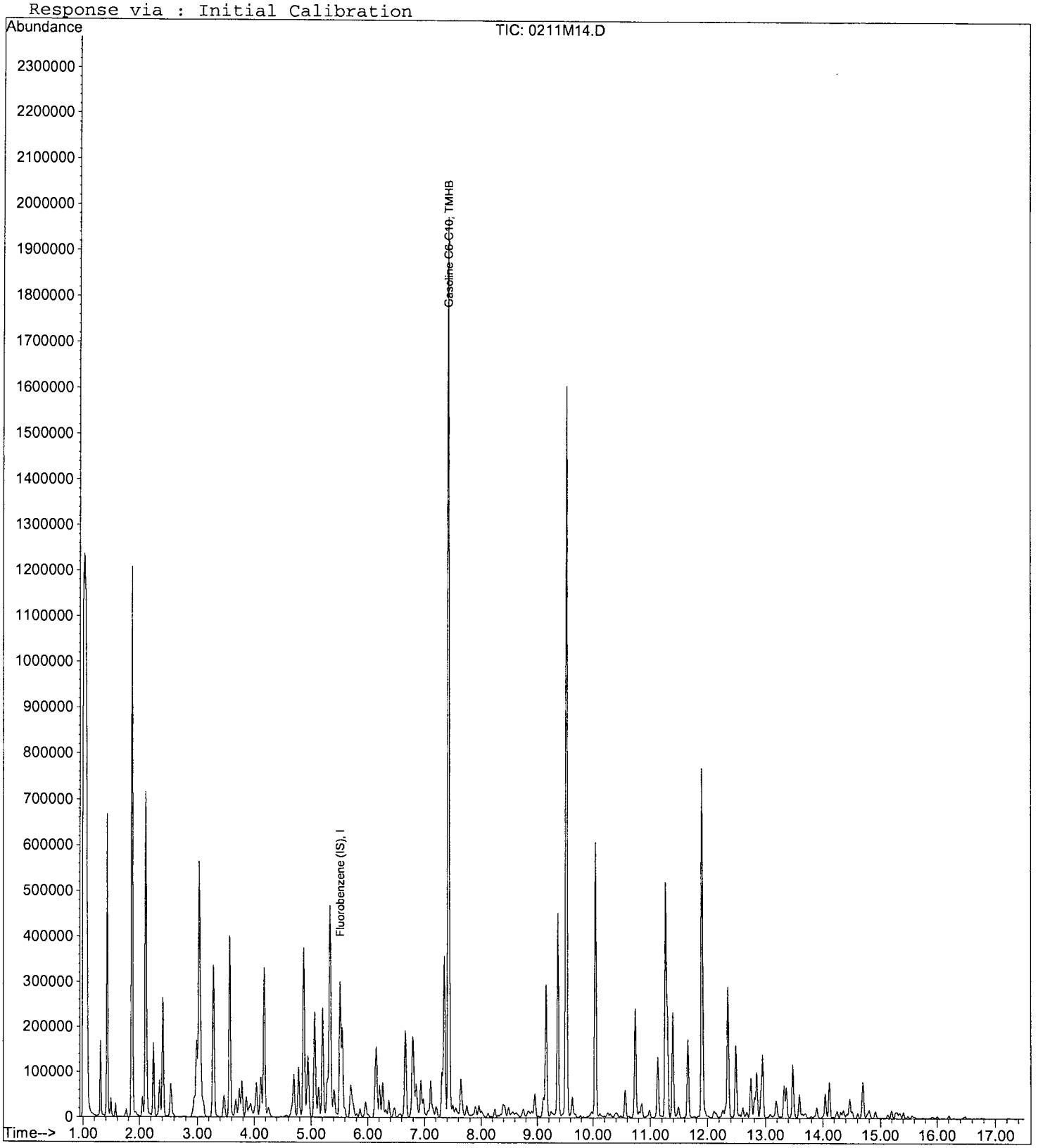
Data File : M:\MAX\DATA\M170127\0211M14.D
Acq On : 11 Feb 17 15:41
Sample : 1000ppb GAS STD 02/11/17G
Misc : IS&S 10/20/16

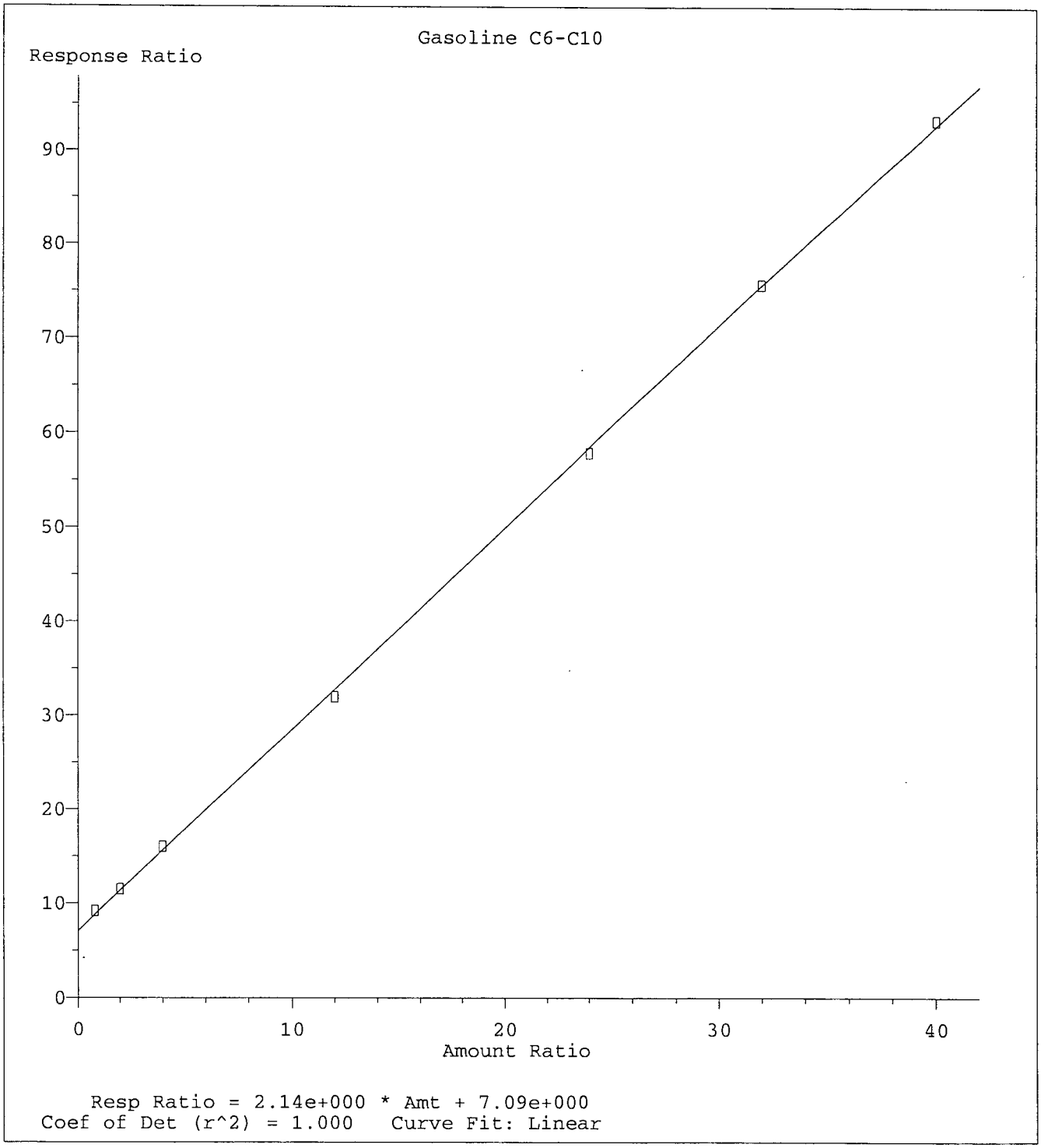
Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:11 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170127\MGAS6211.M
Calibration Table Last Updated: Mon Feb 13 08:19:08 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/11/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0211M17.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.429	2.610	41	TMHBL	5.7
2							
3							
4							
5							
6							
7							
8							
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36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0211M17.D
Acq On : 11 Feb 17 17:06
Sample : (SS) 300ppb GAS STD 02/11/17
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:21 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	302898	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9487242m	282.95435 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

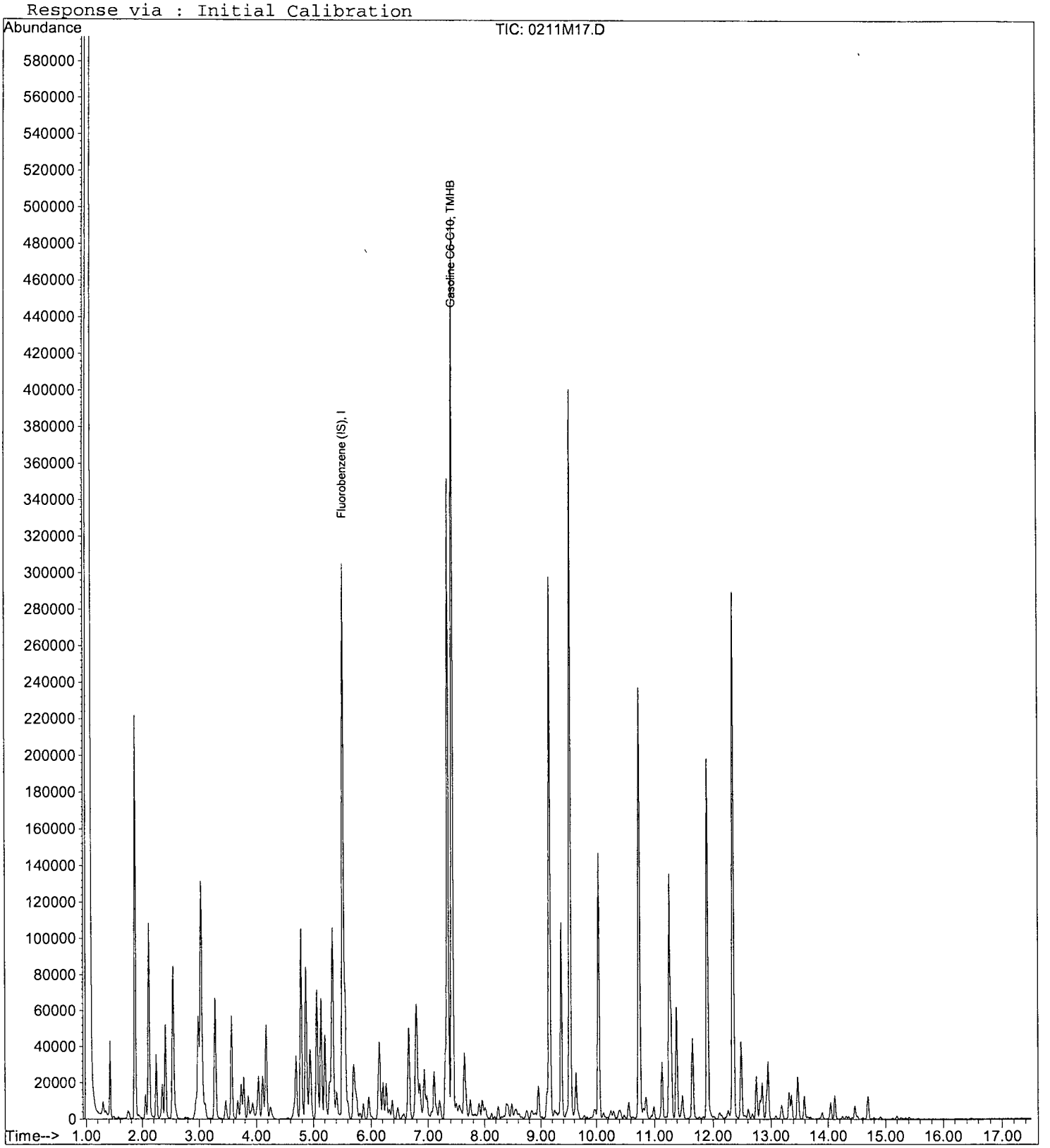
Data File : M:\MAX\DATA\M170127\0211M17.D
Acq On : 11 Feb 17 17:06
Sample : (SS) 300ppb GAS STD 02/11/17
Misc : IS&S 10/20/16

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 13 8:21 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0214M05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.749	38	TMHBL	0.79
3							
4							
5							
6							
7							
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39							
40							
		Average			38.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 15:49 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	289624	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9553308m	302.37908 ppb	100

(#) = qualifier out of range (m) = manual integration
0214M05.D MGAS6211.M Wed Feb 15 12:44:27 2017

Quantitation Report

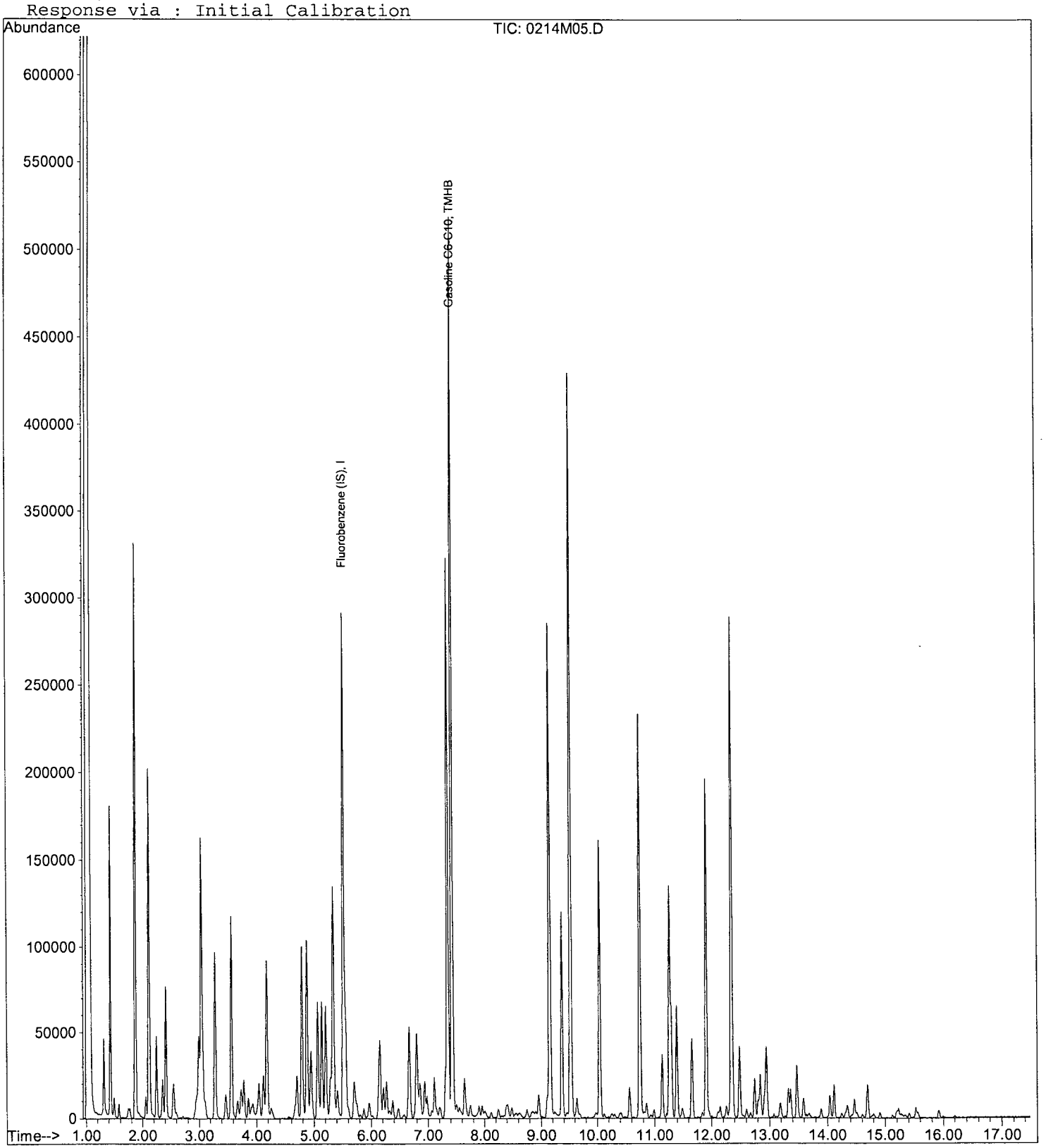
Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 15:49 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0214M05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2234	4.2	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1768	4.0	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.200	0.74	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4361	0.20	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
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35							
36							
37							
38							
39							
40							
		Average			2.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:46 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	273194	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	198430	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	61029	26.04731 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.188%	
3) 1,2-DCA-D4(S)	5.13	65	48294	26.01233 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.048%	
5) Toluene-D8(S)	7.35	98	238209	24.81494 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.260%	
6) 4-Bromofluorobenzene(S)	10.74	95	86542	25.04907 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.196%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0214M27.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.624	41	TMHBL	5.0
3							
4							
5							
6							
7							
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35							
36							
37							
38							
39							
40							
		Average			41.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M27.D
Acq On : 14 Feb 17 22:35
Sample : Ending CCV GAS 300ug/L 2/14/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:42 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	276263	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8699064m	284.90156 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

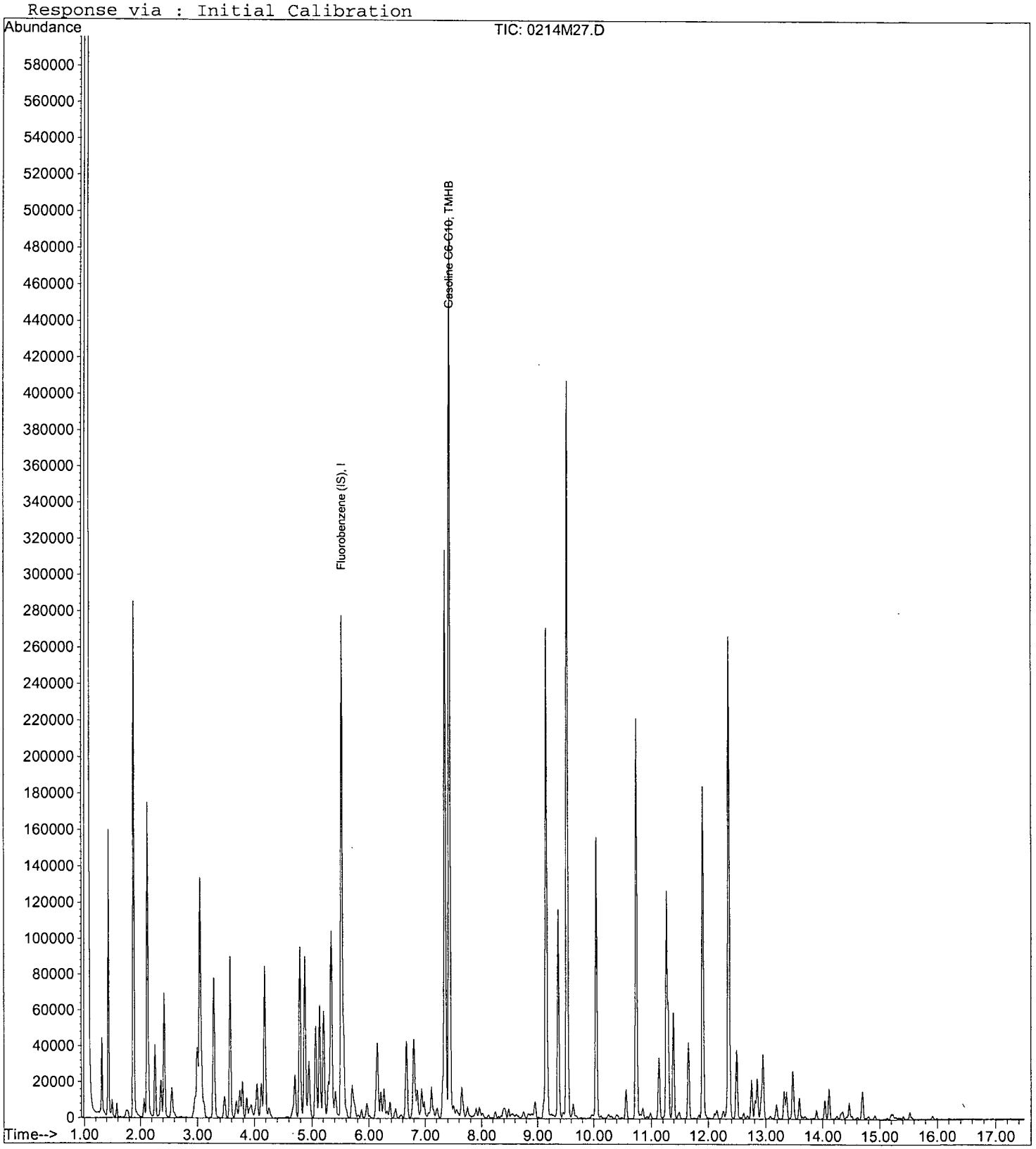
Data File : M:\MAX\DATA\M170127\0214M27.D
Acq On : 14 Feb 17 22:35
Sample : Ending CCV GAS 300ug/L 2/14/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:42 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/14/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0214M27.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2176	1.5	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1763	3.8	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.218	0.73	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4351	0.05	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
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14							
15							
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36							
37							
38							
39							
40							
		Average			1.5		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M27.D
Acq On : 14 Feb 17 22:35
Sample : Ending CCV GAS 300ug/L 2/14/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:46 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	265876	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	190713	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	94789	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57853	25.37140 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.484%	
3) 1,2-DCA-D4(S)	5.14	65	46882	25.94683 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.788%	
5) Toluene-D8(S)	7.35	98	232346	25.18357 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.736%	
6) 4-Bromofluorobenzene(S)	10.74	95	82973	24.98783 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.952%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0215M07.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.639	40	TMHBL	4.3
3							
4							
5							
6							
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36							
37							
38							
39							
40							
		Average			40.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M07.D
Acq On : 15 Feb 17 12:06
Sample : 170215A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 15:23 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	298031	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9438728m	287.02598 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

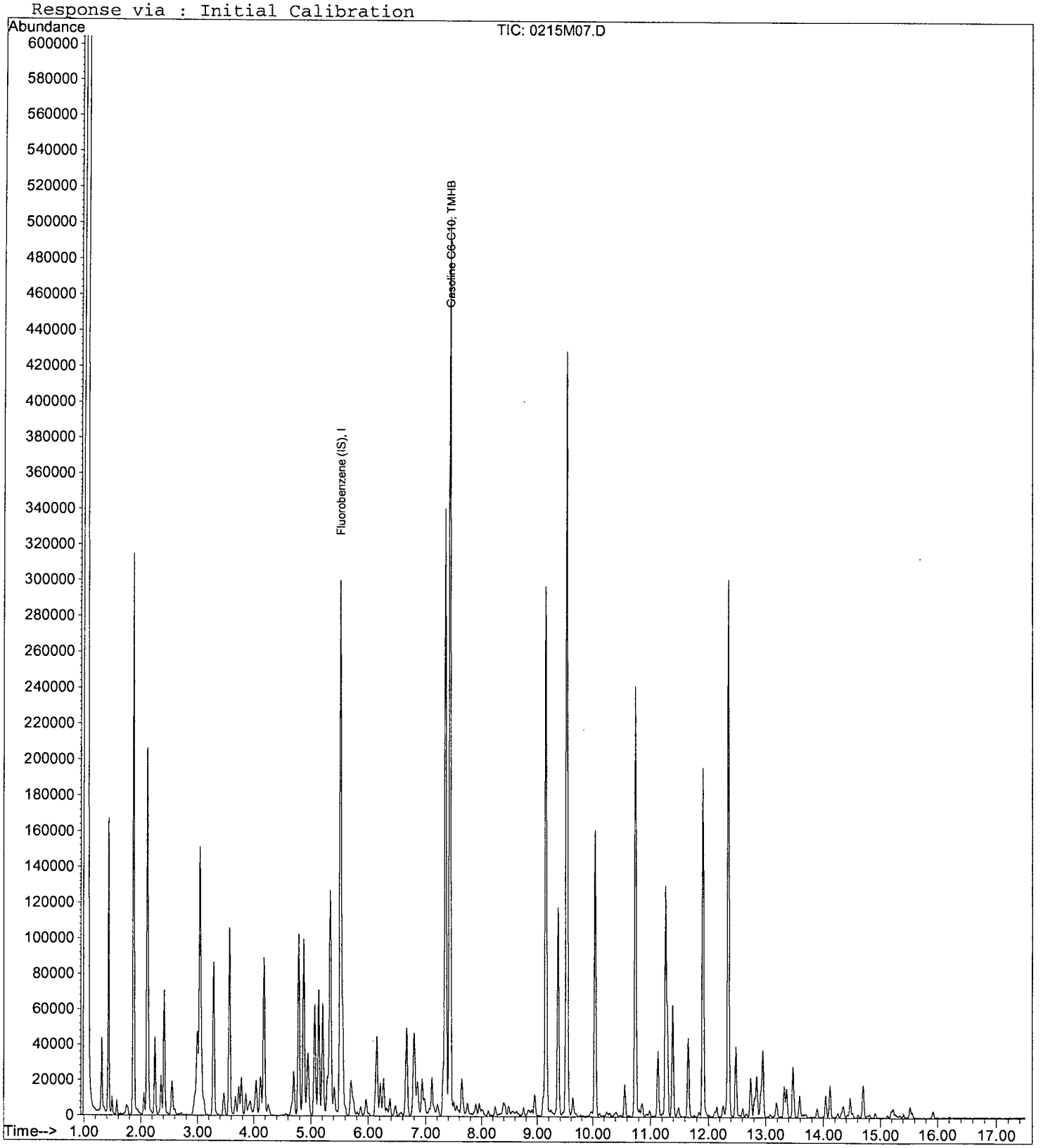
Data File : M:\MAX\DATA\M170127\0215M07.D
Acq On : 15 Feb 17 12:06
Sample : 170215A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 15:23 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0215M07.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2156	0.56	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1804	6.2	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.226	1.4	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4445	2.1	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
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27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.6		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M07.D
Acq On : 15 Feb 17 12:06
Sample : 170215A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:03 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	286808	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	204878	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	104521	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61838	25.13980 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
3) 1,2-DCA-D4(S)	5.13	65	51736	26.54354 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.176%	
5) Toluene-D8(S)	7.35	98	251139	25.33852 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.356%	
6) 4-Bromofluorobenzene(S)	10.74	95	91061	25.52755 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.112%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 2/11/17
Data File: 0215M29.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.429	2.668	40	TMHBL	3.0
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			40.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M29.D
Acq On : 15 Feb 17 22:30
Sample : Ending CCV GAS 300ug/L 2/15/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:40 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	276061	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8838131m	291.05246 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

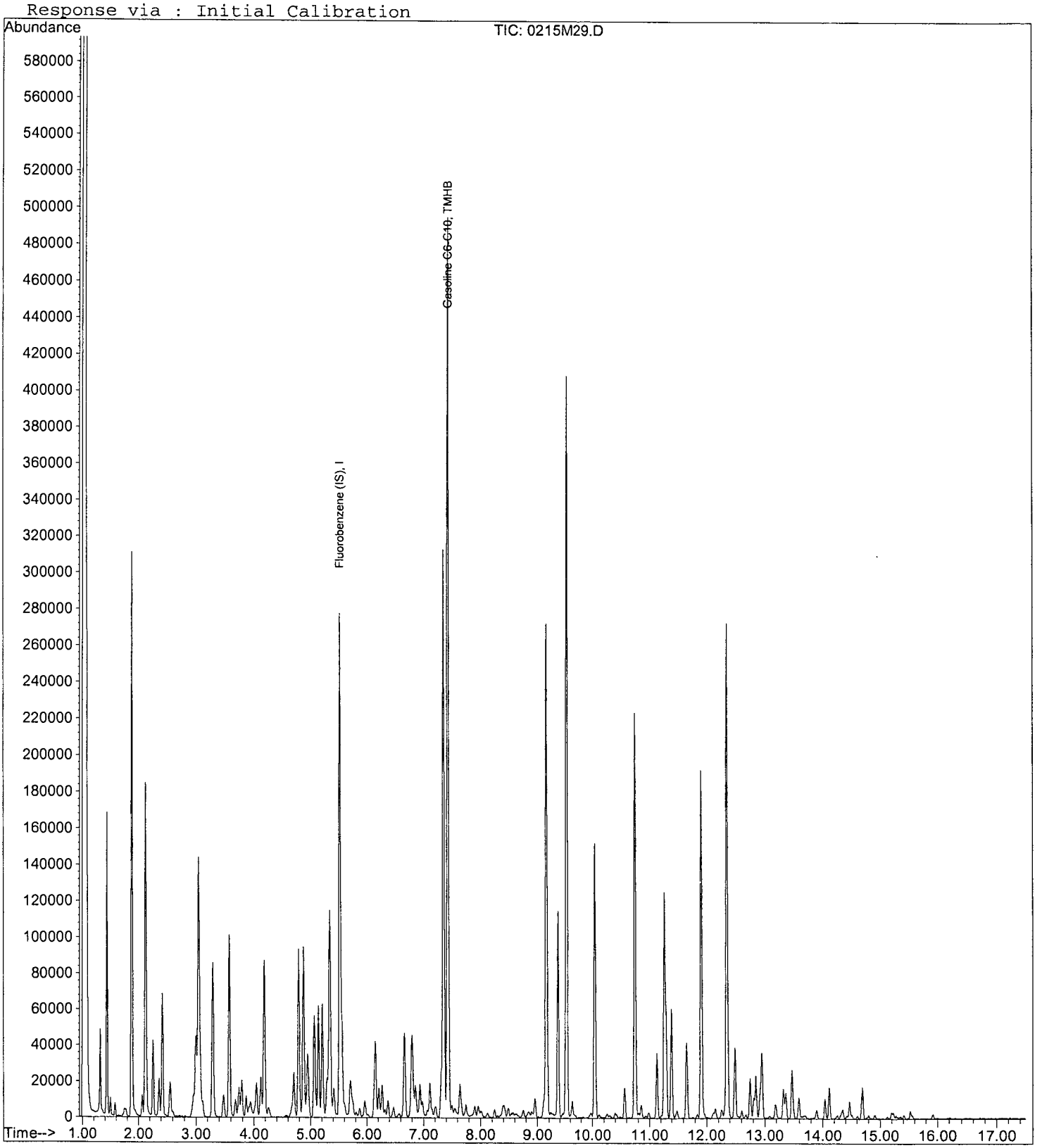
Data File : M:\MAX\DATA\M170127\0215M29.D
Acq On : 15 Feb 17 22:30
Sample : Ending CCV GAS 300ug/L 2/15/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:40 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2/15/17
Instrument: Max
Initial Cal. Date: 1/27/17
Data File: 0215M29.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2144	0.2158	0.65	S	
3	S	1,2-DCA-D4(S)	0.1699	0.1733	2.0	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.209	1.193	1.4	S	
6	S	4-Bromofluorobenzene(S)	0.4353	0.4366	0.31	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M29.D
Acq On : 15 Feb 17 22:30
Sample : Ending CCV GAS 300ug/L 2/15/17
Misc : IS&S 10/20/16

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:03 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	265248	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	193598	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	95514	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57239	25.16156 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.648%	
3) 1,2-DCA-D4(S)	5.14	65	45973	25.50398 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.016%	
5) Toluene-D8(S)	7.35	98	230906	24.65453 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.620%	
6) 4-Bromofluorobenzene(S)	10.74	95	84531	25.07767 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.312%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0215M29.D MSUR127.M Thu Feb 16 08:04:01 2017

EPA METHOD 8260
Gasoline Range Organics (GRO)

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170214W-49853 - 216189**
Batch ID: #GRO86-170214AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	2/14/17	2/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	2/14/17	2/14/17

Quant Method: MGAS6211.
Run #: 0214M10
Instrument: Max
Sequence: M170127
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 2/16/17 9:25:41 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M10.D
Acq On : 14 Feb 17 14:34
Sample : 170214A BLK1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:42 2017

Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	279130	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

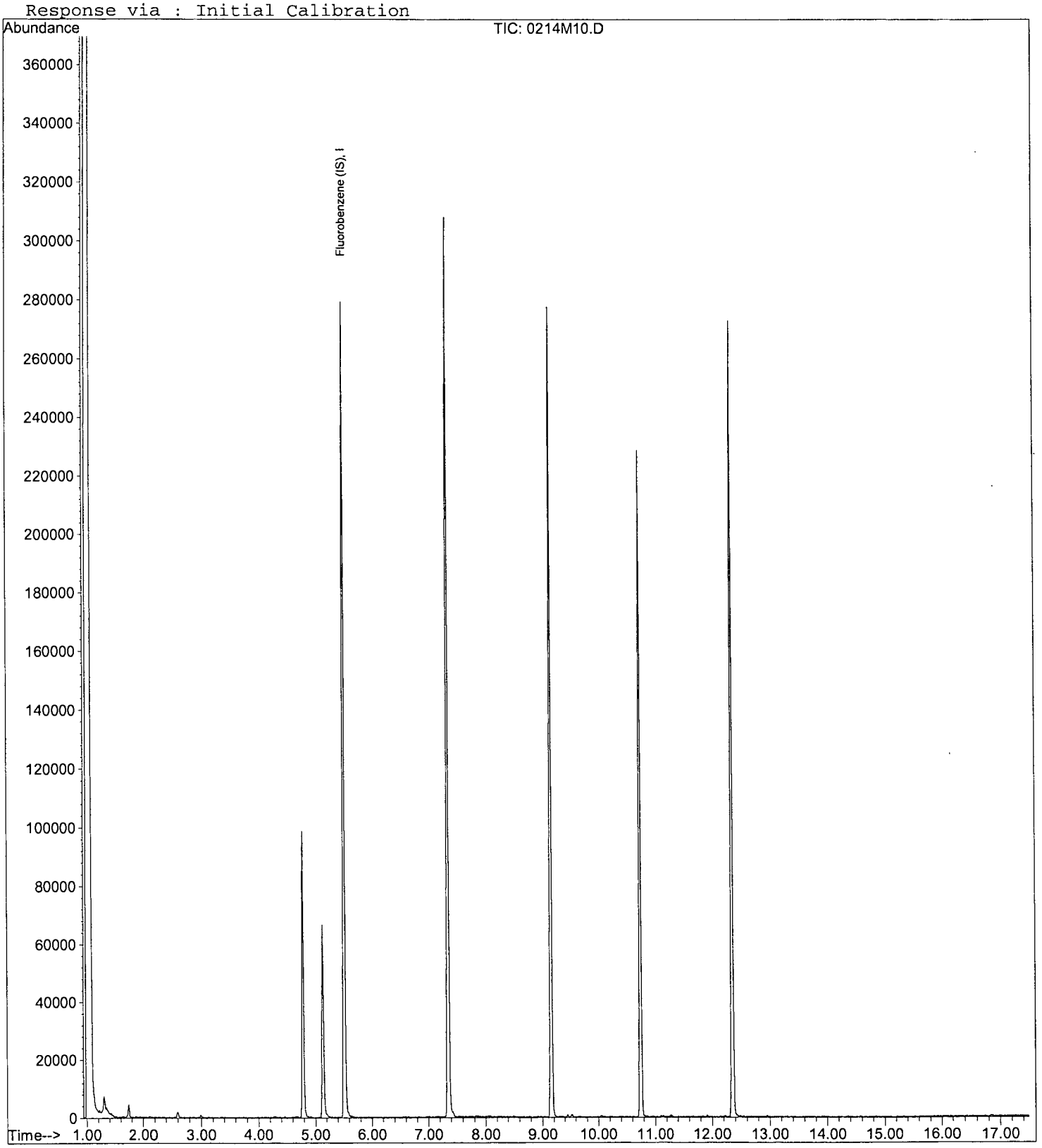
Data File : M:\MAX\DATA\M170127\0214M10.D
Acq On : 14 Feb 17 14:34
Sample : 170214A BLK1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:42 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170214W-49853 LCS - 216189**
Batch ID: #GRO86-170214AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	302	101	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.0	100	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6211.M
Extraction Date :	2/14/17
Analysis Date :	2/14/17
Instrument :	Max
Run :	0214M05
Initials :	SV

Printed: 2/16/17 9:25:46 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M10.D
Acq On : 14 Feb 17 14:34
Sample : 170214A BLK1WM
Misc : IS&S 10/20/16

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:46 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266209	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.16	117	195522	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	96726	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59252	25.95243 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.808%	
3) 1,2-DCA-D4(S)	5.13	65	48289	26.69210 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.768%	
5) Toluene-D8(S)	7.35	98	230606	24.38021 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.520%	
6) 4-Bromofluorobenzene(S)	10.74	95	86085	25.28738 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.148%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 15:49 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	289624	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	9553308m	302.37908 ppb	100

(#) = qualifier out of range (m) = manual integration
0214M05.D MGAS6211.M Wed Feb 15 12:44:27 2017

Quantitation Report

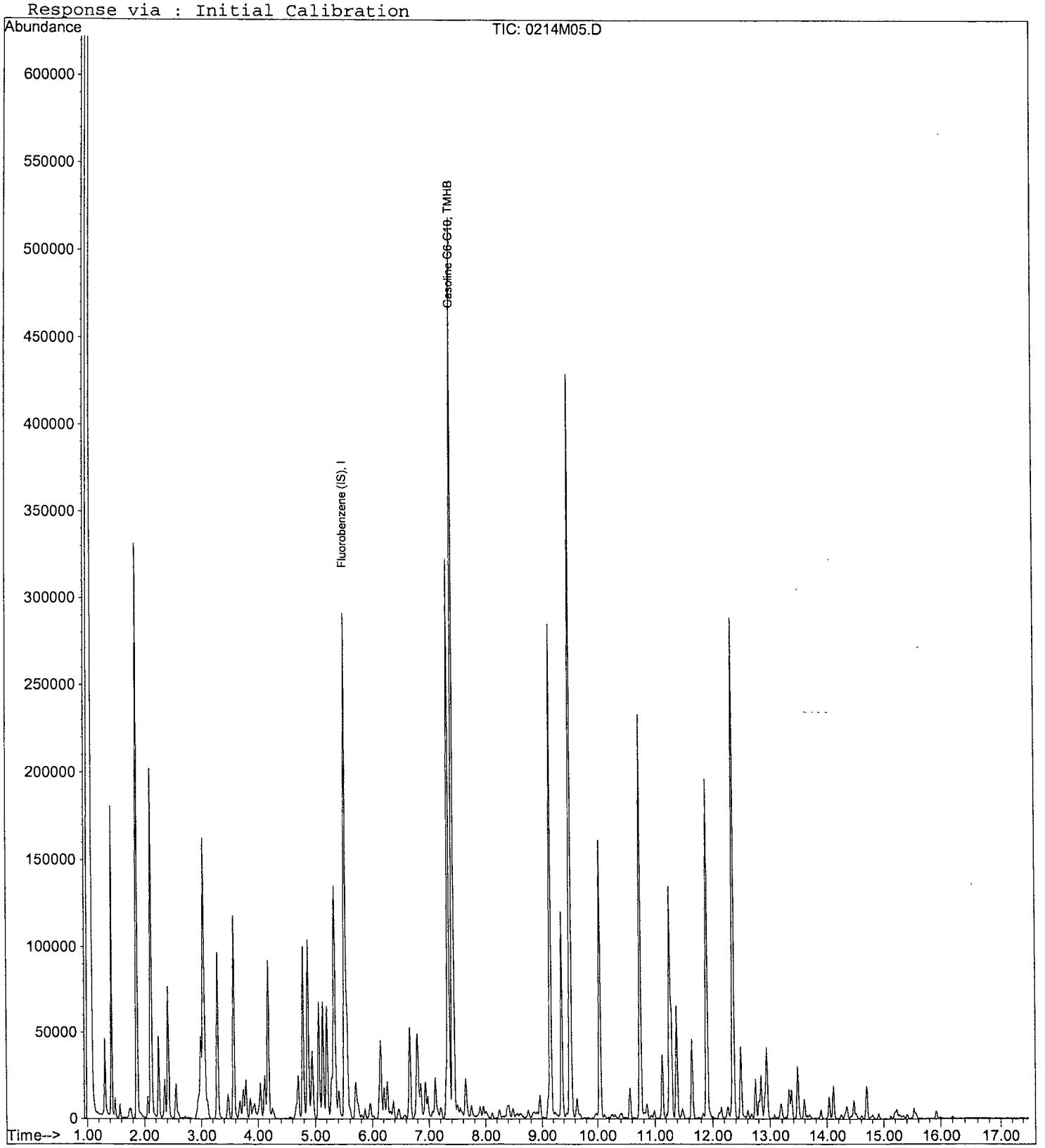
Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 14 15:49 2017

Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0214M05.D
Acq On : 14 Feb 17 12:12
Sample : 170214A CCV/LCS 300ug/L
Misc : IS&S 10/20/16

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 15 12:46 2017

Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	273194	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	198430	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	105234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	61029	26.04731 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.188%	
3) 1,2-DCA-D4(S)	5.13	65	48294	26.01233 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.048%	
5) Toluene-D8(S)	7.35	98	238209	24.81494 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.260%	
6) 4-Bromofluorobenzene(S)	10.74	95	86542	25.04907 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.196%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Matrix Spike Recoveries
EPA 8260B GRO WATER

APPL ID: **170215W-49853 MS - 216189**
Batch ID: #GRO86-170214AM
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	279	286	93.0	95.3	78-122	2.5	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.4	25.7	106	103	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	MGAS6211.M	MGAS6211.M
Extraction Date :	2/15/17	2/15/17
Analysis Date :	2/15/17	2/15/17
Instrument :	Max	Max
Run :	0215M22	0215M23
Initials :	SV	

Printed: 2/16/17 9:25:49 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M22.D
Acq On : 15 Feb 17 19:11
Sample : AZ49853W456 MS-1WM 300ug/L
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:45 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	278778	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8645408m	279.33743 ppb	100

(#) = qualifier out of range (m) = manual integration
0215M22.D MGAS6211.M Thu Feb 16 07:59:58 2017

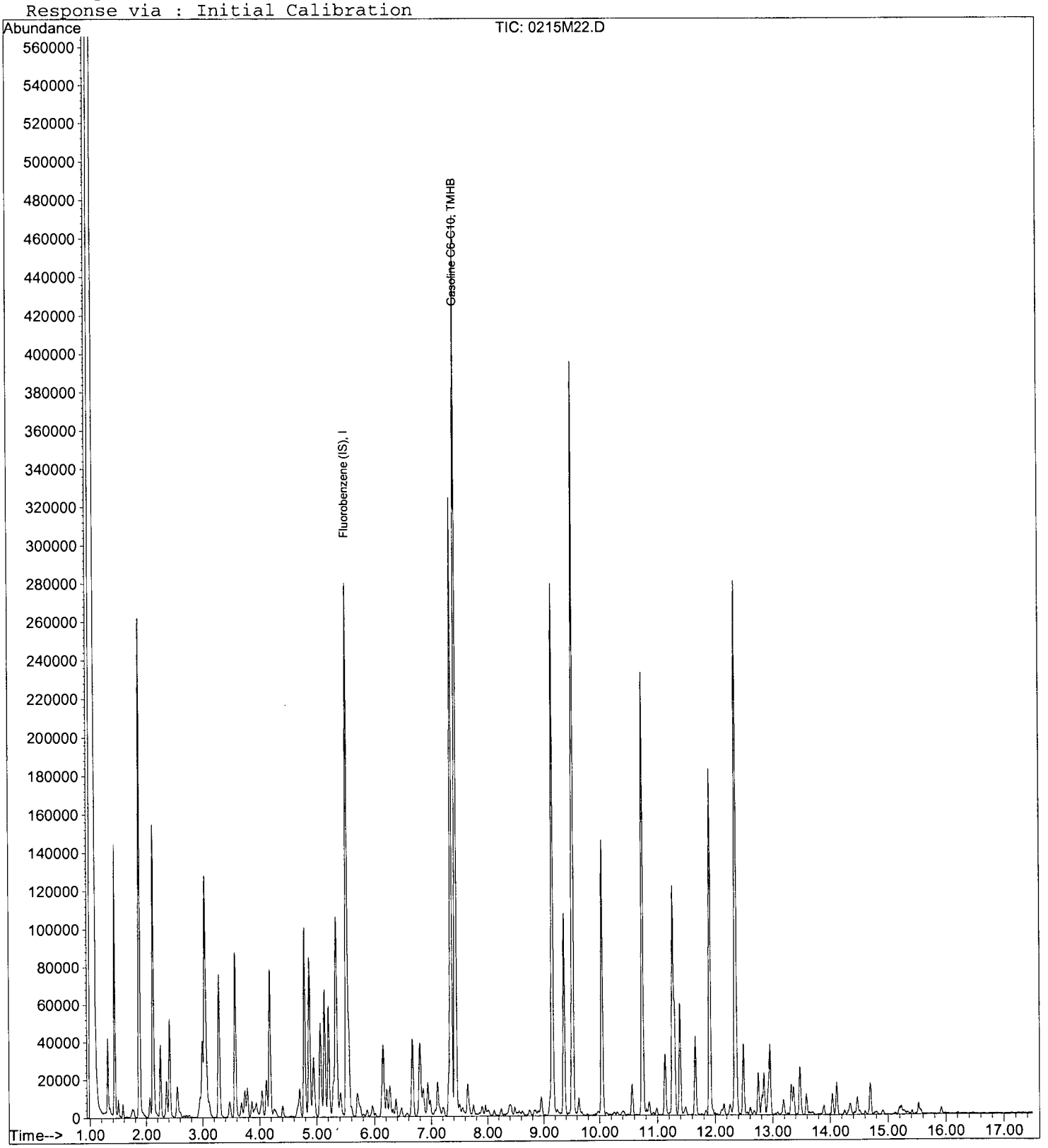
Quantitation Report

Data File : M:\MAX\DATA\M170127\0215M22.D
Acq On : 15 Feb 17 19:11
Sample : AZ49853W456 MS-1WM 300ug/L
Misc : IS&S 10/20/16

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:45 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M22.D Vial: 20
Acq On : 15 Feb 17 19:11 Operator: PM,DG,SV,CMM
Sample : AZ49853W456 MS-1WM 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 8:03 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266932	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	194327	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	101444	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	60295	26.33773 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.352%	
3) 1,2-DCA-D4(S)	5.14	65	49290	27.17161 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.688%	
5) Toluene-D8(S)	7.35	98	241176	25.65449 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.616%	
6) 4-Bromofluorobenzene(S)	10.74	95	89421	26.42886 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.716%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170127\0215M23.D Vial: 21
Acq On : 15 Feb 17 19:40 Operator: PM,DG,SV,CMM
Sample : AZ49853W456 MSD-1WM 300ug/L Inst : Max
Misc : IS&S 10/20/16 Multiplr: 1.00

Quant Time: Feb 16 7:42 2017 Quant Results File: MGAS6211.RES

Quant Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	263957	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8334104m	285.89841 ppb	100

(#) = qualifier out of range (m) = manual integration
0215M23.D MGAS6211.M Thu Feb 16 08:00:01 2017

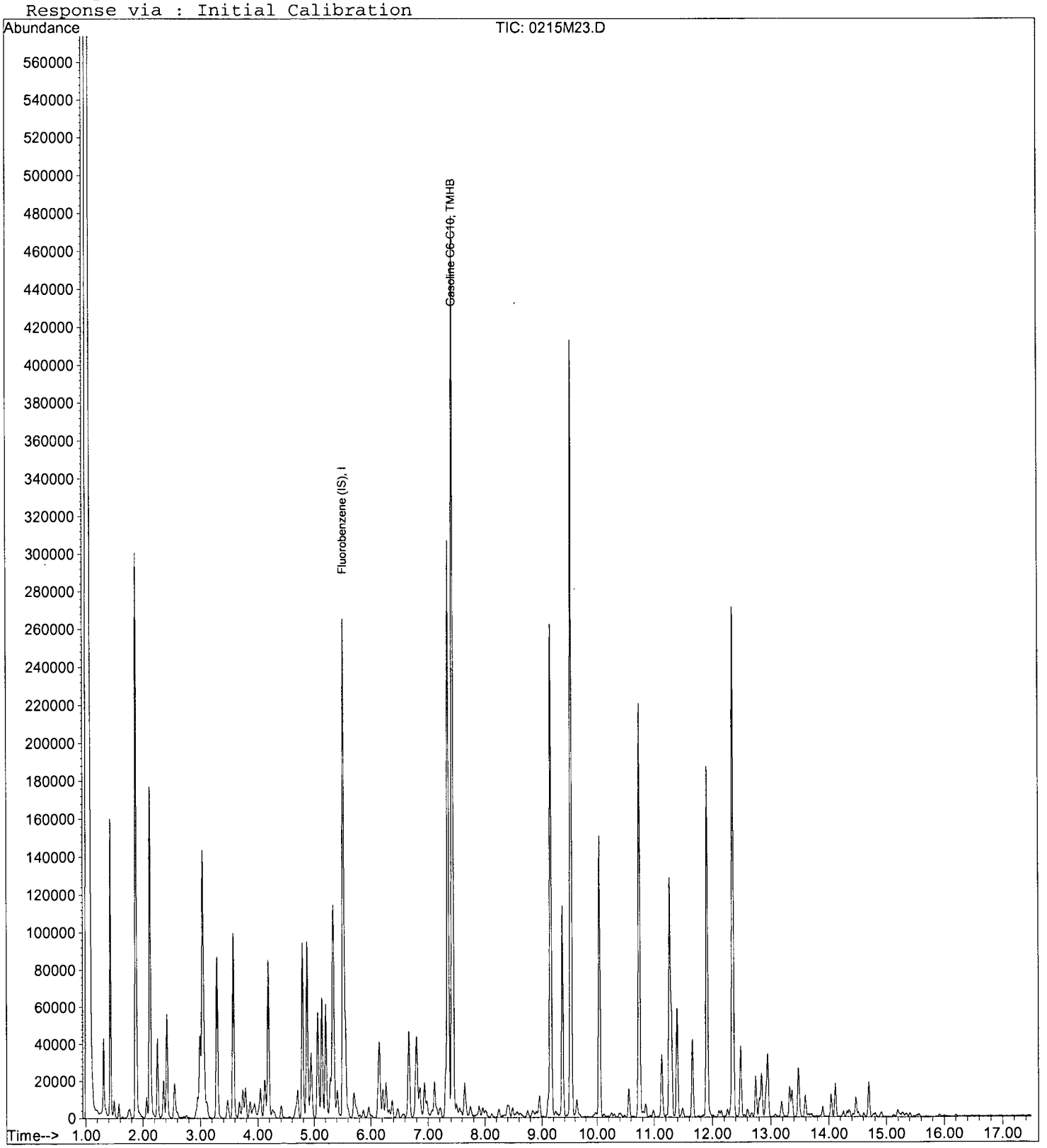
Quantitation Report

Data File : M:\MAX\DATA\M170127\0215M23.D
Acq On : 15 Feb 17 19:40
Sample : AZ49853W456 MSD-1WM 300ug/L
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 7:42 2017 Quant Results File: MGAS6211.RES

Method : M:\MAX\DATA\M170127\MGAS6211.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Feb 13 08:19:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170127\0215M23.D
Acq On : 15 Feb 17 19:40
Sample : AZ49853W456 MSD-1WM 300ug/L
Misc : IS&S 10/20/16

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Feb 16 8:03 2017 Quant Results File: MSUR127.RES

Quant Method : M:\MAX\DATA\M170127\MSUR127.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Jan 30 07:53:12 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	251388	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	183508	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.35	152	96166	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	56300	26.11329 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.452%	
3) 1,2-DCA-D4(S)	5.14	65	47054	27.54287 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.172%	
5) Toluene-D8(S)	7.35	98	226889	25.55764 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.232%	
6) 4-Bromofluorobenzene(S)	10.74	95	82263	25.74670 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.988%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	02/12/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17A-DG	20	1	100
02/11/17B-DG	50	2.5	100
02/11/17C-DG	100	5	100
02/11/17D-DG	300	15	100
02/11/17E-DG	600	30	100
02/11/17F-DG	800	40	100
02/11/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170127\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	4	0127M04.D	1	0.3ug/L VOC STD 01/27/16A	IS&S 10/20/16	27 Jan 17 11:24
2	5	0127M05.D	1	0.5ug/L VOC STD 01/27/16B	IS&S 10/20/16	27 Jan 17 11:53
3	6	0127M06.D	1	1.0ug/L VOC STD 01/27/16C	IS&S 10/20/16	27 Jan 17 12:21
4	7	0127M07.D	1	2.0ug/L VOC STD 01/27/16D	IS&S 10/20/16	27 Jan 17 12:49
5	8	0127M08.D	1	5.0ug/L VOC STD 01/27/16E	IS&S 10/20/16	27 Jan 17 13:17
6	9	0127M09.D	1	10ug/L VOC STD 01/27/16F	IS&S 10/20/16	27 Jan 17 13:45
7	10	0127M10.D	1	20ug/L VOC STD 01/27/16G	IS&S 10/20/16	27 Jan 17 14:14
8	11	0127M11.D	1	40ug/L VOC STD 01/27/16H	IS&S 10/20/16	27 Jan 17 14:42
9	12	0127M12.D	1	100ug/L VOC STD 01/27/16I	IS&S 10/20/16	27 Jan 17 15:10
10	8	0211M08.D	1	20ppb GAS STD 02/11/17A	IS&S 10/20/16	11 Feb 17 12:52
11	9	0211M09.D	1	50ppb GAS STD 02/11/17B	IS&S 10/20/16	11 Feb 17 13:20
12	10	0211M10.D	1	100ppb GAS STD 02/11/17C	IS&S 10/20/16	11 Feb 17 13:48
13	11	0211M11.D	1	300ppb GAS STD 02/11/17D	IS&S 10/20/16	11 Feb 17 14:16
14	12	0211M12.D	1	600ppb GAS STD 02/11/17E	IS&S 10/20/16	11 Feb 17 14:45
15	13	0211M13.D	1	800ppb GAS STD 02/11/17F	IS&S 10/20/16	11 Feb 17 15:13
16	14	0211M14.D	1	1000ppb GAS STD 02/11/17G	IS&S 10/20/16	11 Feb 17 15:41
17	17	0211M17.D	1	(SS) 300ppb GAS STD 02/11/17	IS&S 10/20/16	11 Feb 17 17:06
18	5	0214M05.D	1	170214A CCV/LCS 300ug/L	IS&S 10/20/16	14 Feb 17 12:12
19	10	0214M10.D	1	170214A BLK1WM	IS&S 10/20/16	14 Feb 17 14:34
20	22	0214M22.D	1	AZ49852W01	IS&S 10/20/16	14 Feb 17 20:14
21	23	0214M23.D	1	AZ49853W01	IS&S 10/20/16	14 Feb 17 20:43
22	24	0214M24.D	1	AZ49854W01	IS&S 10/20/16	14 Feb 17 21:11
23	25	0214M25.D	1	AZ49855W01	IS&S 10/20/16	14 Feb 17 21:39
24	27	0214M27.D	1	Ending CCV GAS 300ug/L 2/14/17	IS&S 10/20/16	14 Feb 17 22:35
25	5	0215M07.D	1	170215A CCV/LCS 300ug/L	IS&S 10/20/16	15 Feb 17 12:06
26	20	0215M22.D	1	AZ49853W456 MS-1WM 300ug/L	IS&S 10/20/16	15 Feb 17 19:11
27	21	0215M23.D	1	AZ49853W456 MSD-1WM 300ug/L	IS&S 10/20/16	15 Feb 17 19:40
28	27	0215M29.D	1	Ending CCV GAS 300ug/L 2/15/17	IS&S 10/20/16	15 Feb 17 22:30

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:49:36 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:49:26 PM
APPL Standard LCS

Matrix Spike Recoveries
METHANE

APPL ID: **170212W-49853 MS - 216094**
Batch ID: #RSKME-170212A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	1110	1190	83.1	89.1	72-125	7.0	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK0901.M	RSK0901.M
Extraction Date :	02/12/17	02/12/17
Analysis Date :	02/12/17	02/12/17
Instrument :	Rocky	Rocky
Run :	17021220	17021222
Initials :	CMO	

Printed: 02/12/17 1:49:19 PM
APPL MSD SCII

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH224
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49852
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021215
Instrument: Rocky
Sequence: 160901
Dilution Factor: 1
Initials: CMO

Printed: 02/12/17 1:49:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021215.D Vial: 16
Acq On : 12 Feb 17 11:28 Operator: lac
Sample : AZ49852W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:30 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

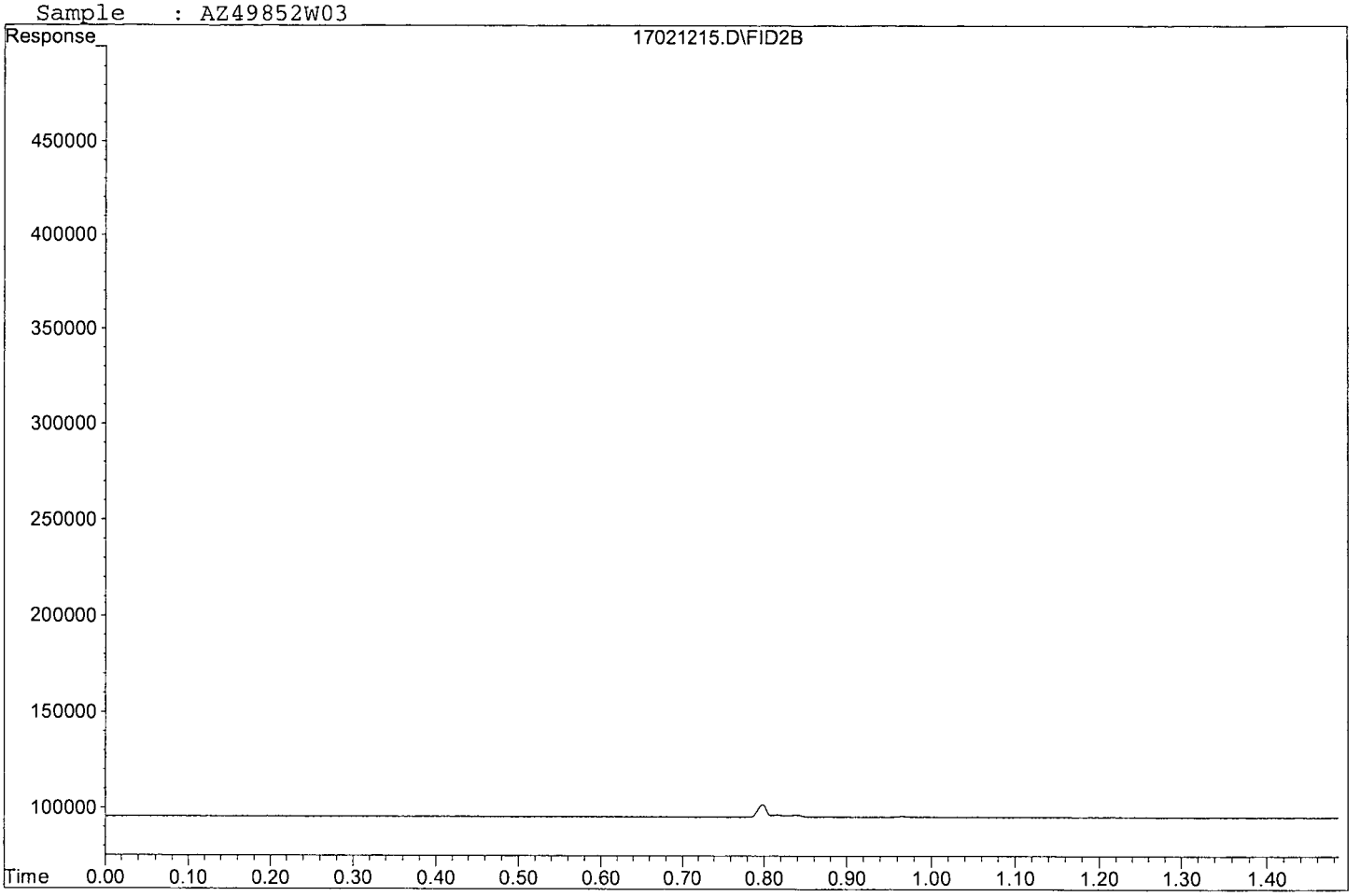
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	1290	N.D.	ppb
2) ATM Ethane	0.97	401	N.D.	ppb
3) ATM Ethene	1.11	229	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021215.D
Sample : AZ49852W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH225
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49853
QCG: #RSKME-170212A-216094

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method:	RSK0901.M
Run #:	17021216
Instrument:	Rocky
Sequence:	160901
Dilution Factor:	1
Initials:	CMO

Printed: 02/12/17 1:49:30 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021216.D Vial: 17
Acq On : 12 Feb 17 11:31 Operator: lac
Sample : AZ49853W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 11:35 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 10:48:53 2017
Response via : Multiple Level Calibration

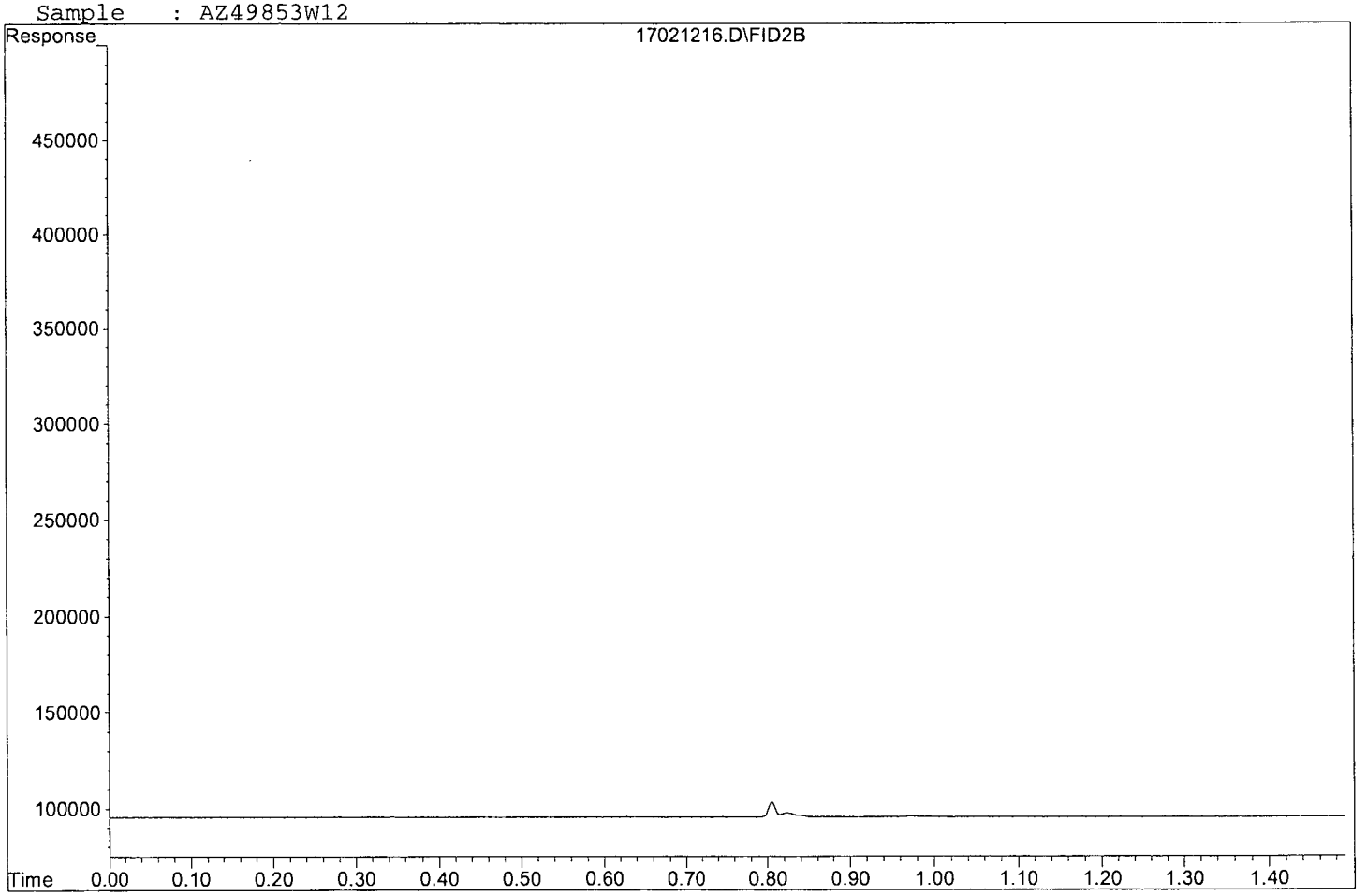
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	314	N.D.	ppb
2) ATM Ethane	0.97	768	N.D.	ppb
3) ATM Ethene	1.12	294	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021216.D
Sample : AZ49853W12



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 09/01/16
Instrument: 7890

Initials:

		Compound	0901000.D	0901001.D	0901002.D	0901003.D	0901004.D	0901005.D	0901006.D	0901007.D	0901008.D	0901009.D				
			1	2	3	4	5	6	7	8	9	10	Avg	%RSD		
1	ATM	Methane	7448	5872	3042	3435	1074	1006	1184	1314	1084	1089	2635	87	ATM	
2	ATM	Ethane	1509	1521	1416	2554	478	657	816	933	791	798	1147	54	ATM	
3	ATM	Ethene	1826	1525	1280	2301	444	570	693	733	628	626	1063	60	ATM	
4																
5																
6																
7																
8																
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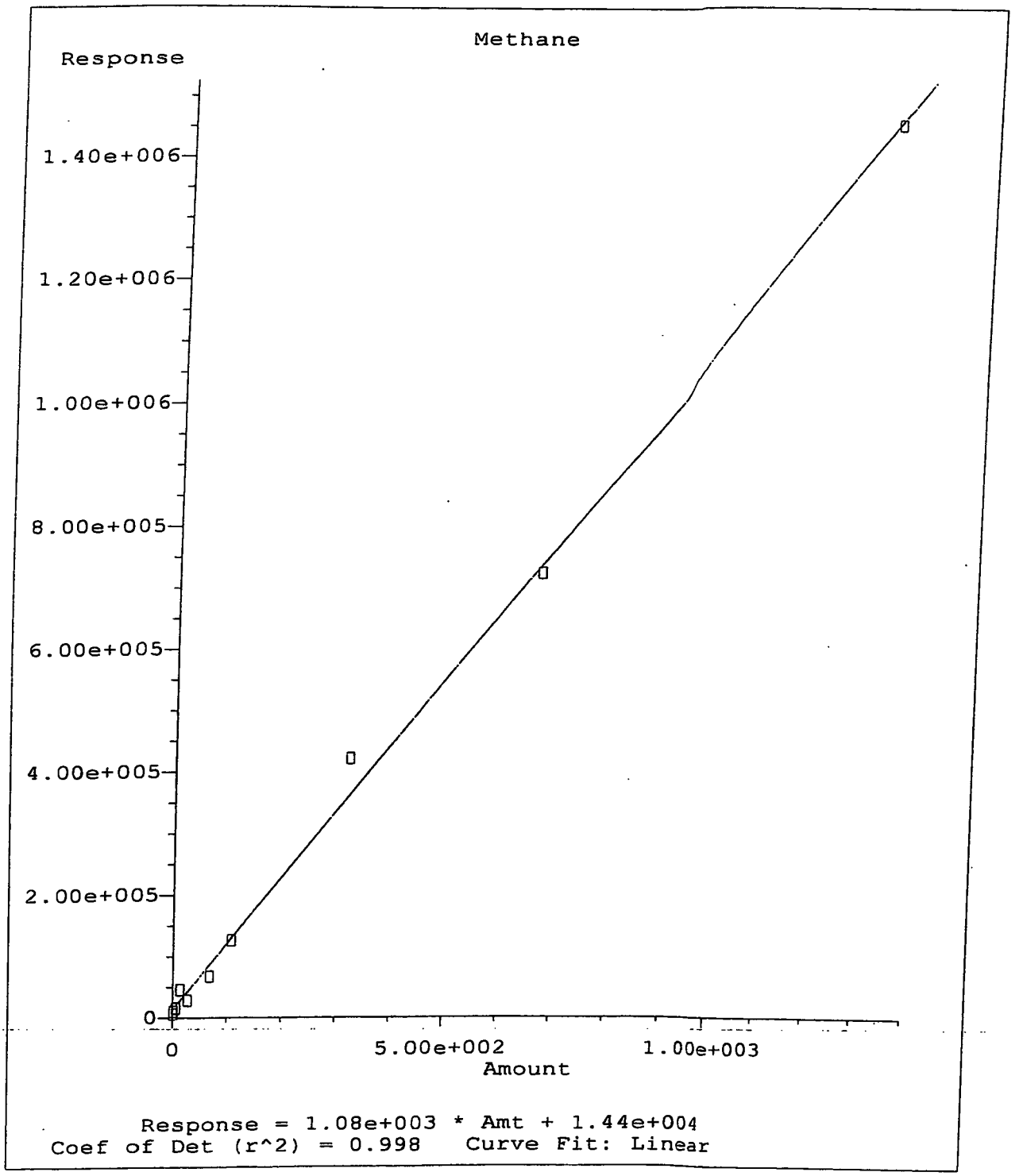
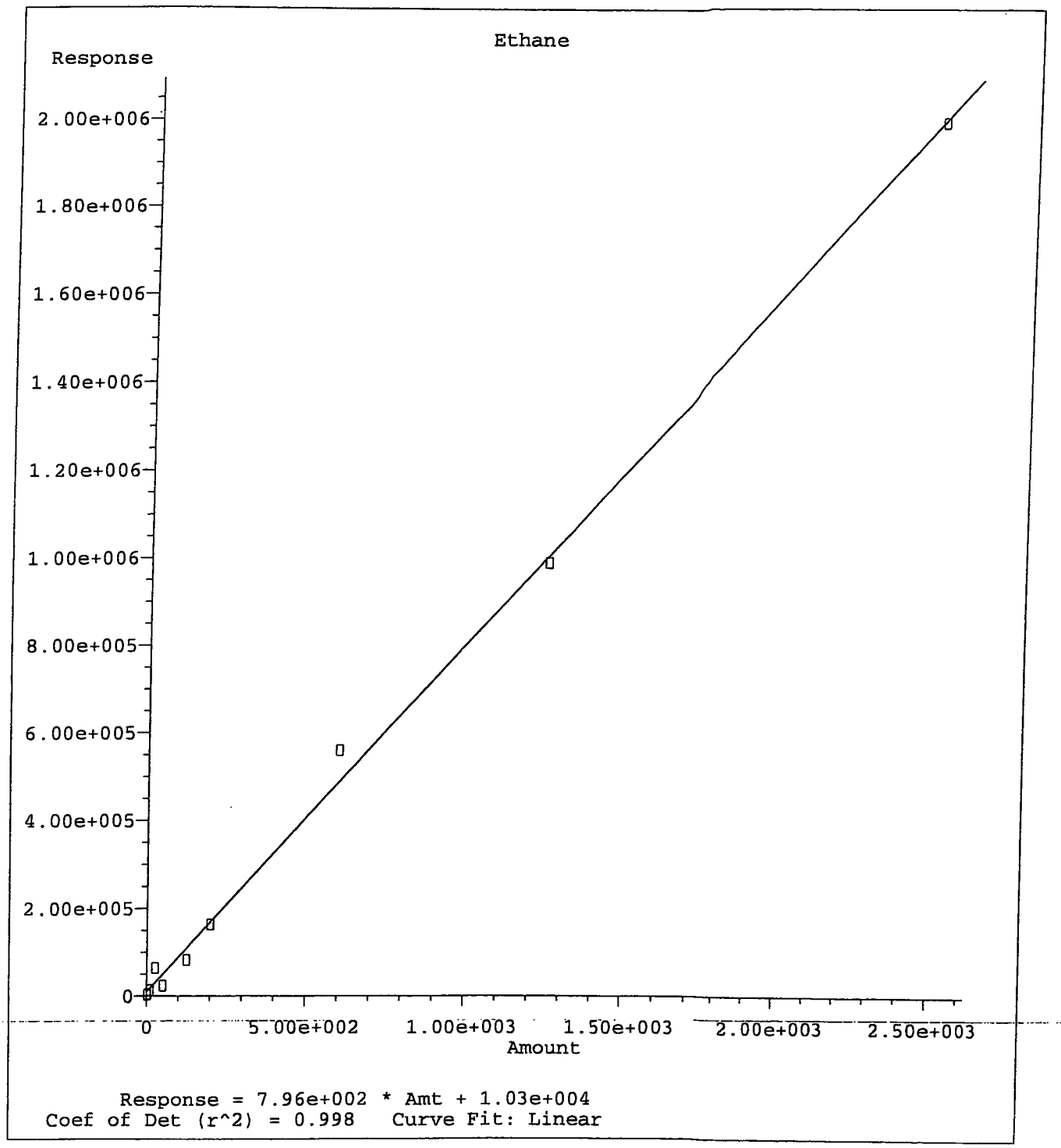
5.7170224

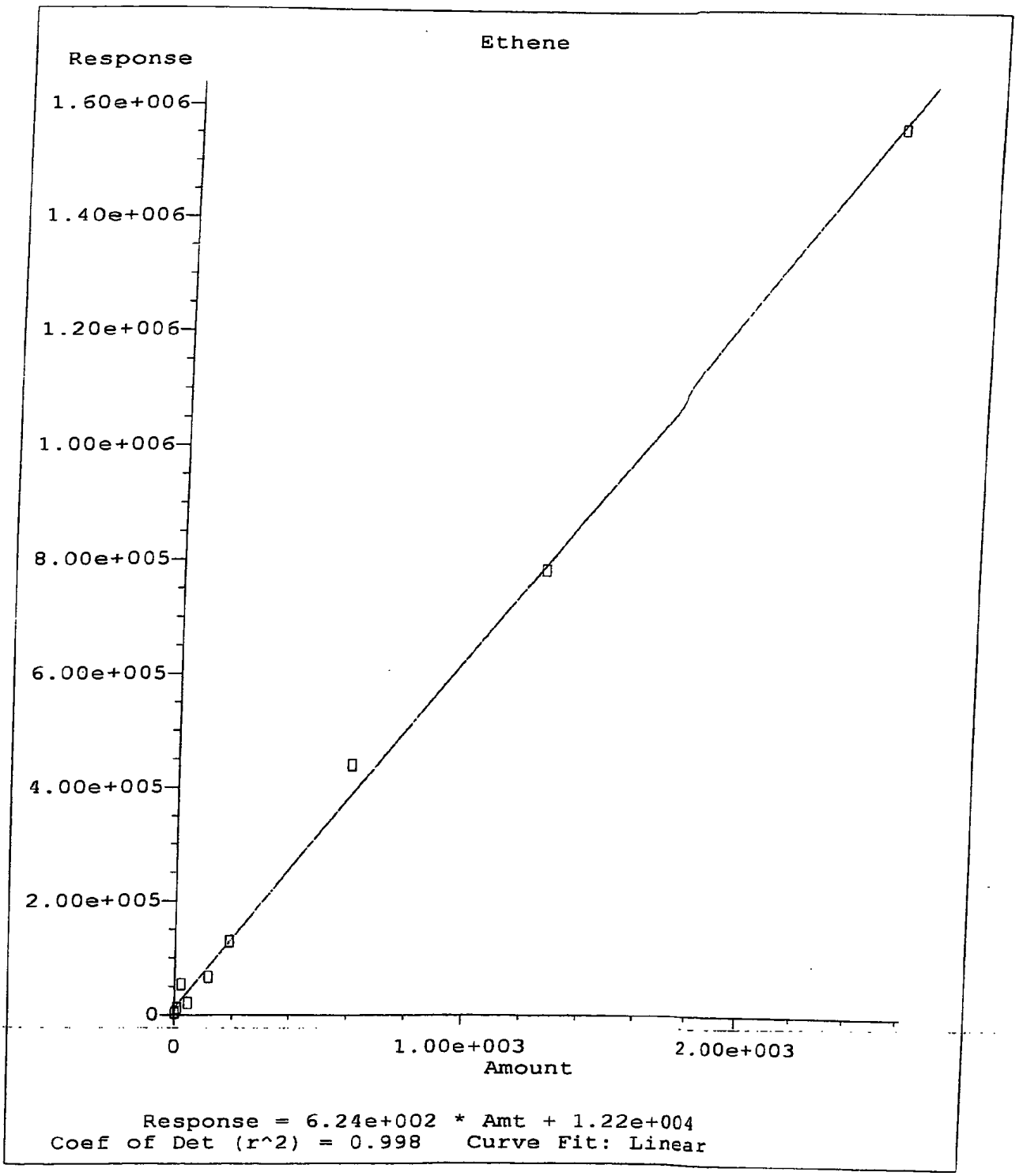
FORM61



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Thu Nov 10 08:49:51 2016



Method Name: G:\ROCKY\DATA\160901R\RSK0901.M
Calibration Table Last Updated: Fri Sep 02 15:25:38 2016

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901000.D
Acq On : 1 Sep 16 11:38
Sample : RSK Level 1 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 1
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

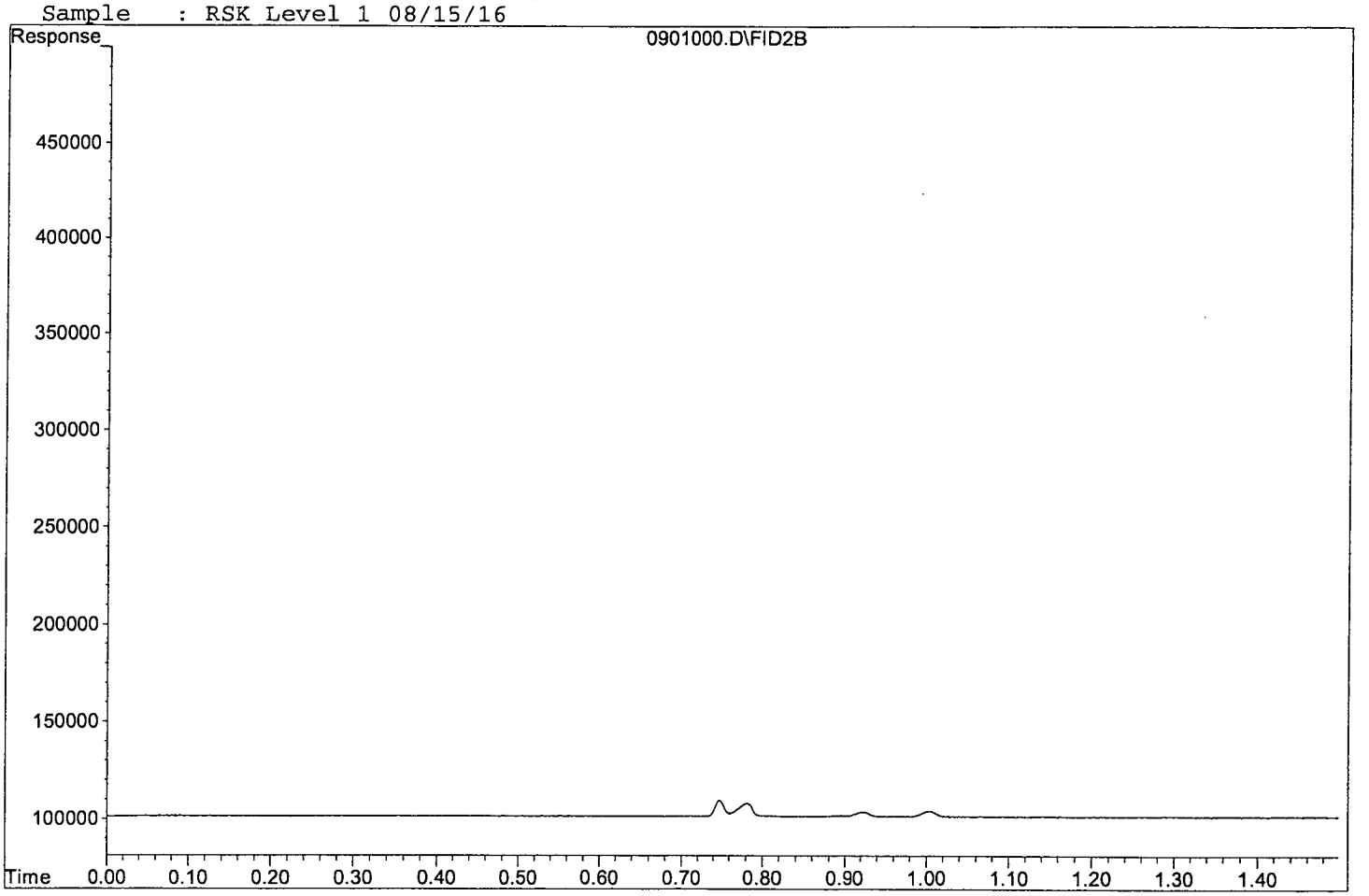
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	6703	N.D.	ppb
2) ATM Ethane	0.92	2566	N.D.	ppb
3) ATM Ethene	1.00	2922	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901000.D
Sample : RSK Level 1 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901001.D
Acq On : 1 Sep 16 11:41
Sample : RSK Level 2 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Jan 26 12:10 2017 Quant Results File: RSK0901.RES

Vial: 2
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Jan 26 12:11:56 2017
Response via : Multiple Level Calibration

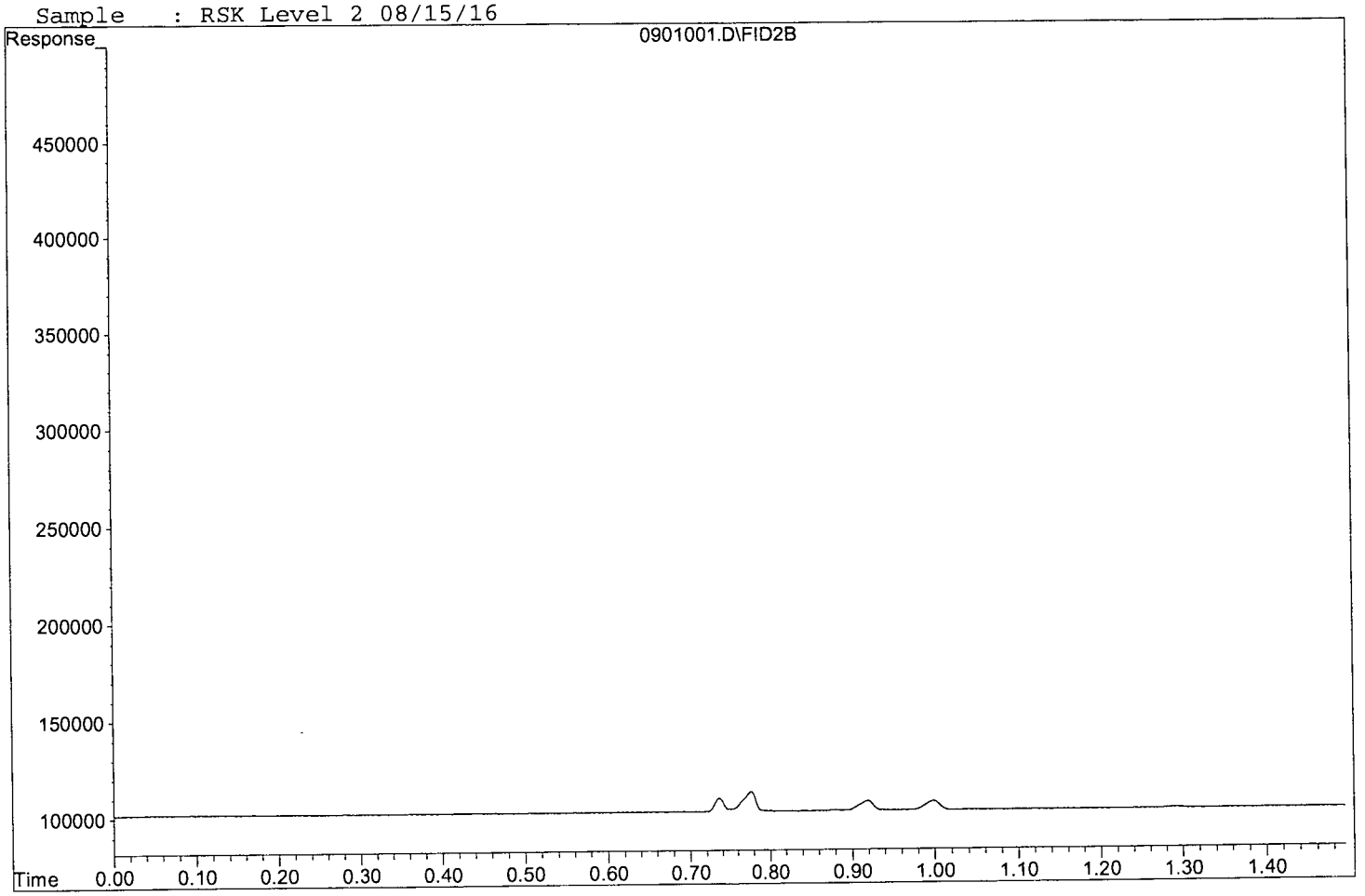
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.78	10209	N.D.	ppb
2) ATM Ethane	0.92	5171	N.D.	ppb
3) ATM Ethene	1.00	4881	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901001.D
Sample : RSK Level 2 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901002.D Vial: 3
Acq On : 1 Sep 16 11:44 Operator: lac
Sample : RSK Level 3 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 14 13:31 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

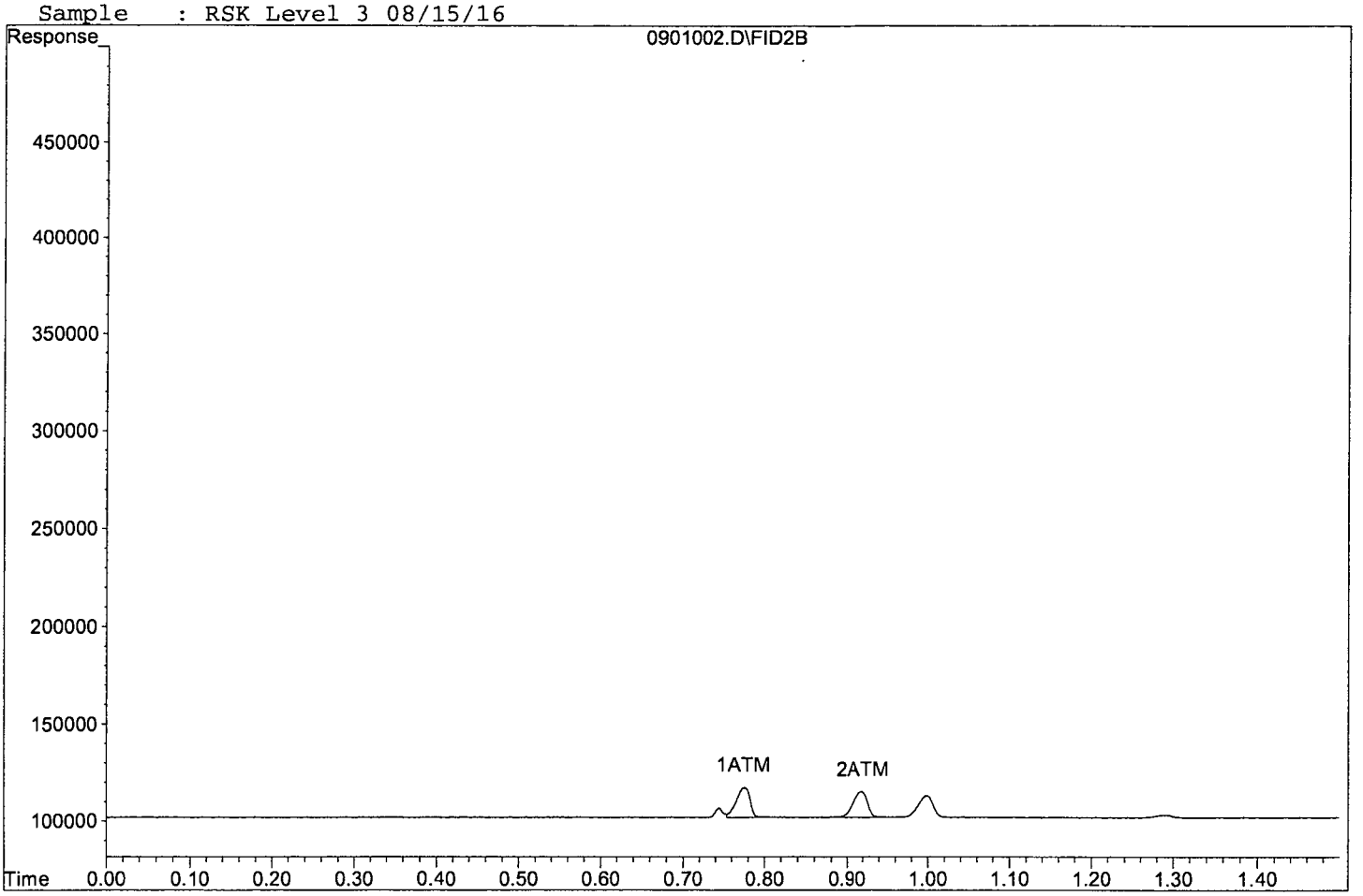
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	15515	1.054 ppb
2) ATM Ethane	0.92	13452	3.912 ppb
Target Compounds			
3) ATM Ethene	1.00	11390	N.D. ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901002.D
Sample : RSK Level 3 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901003.D Vial: 4
Acq On : 1 Sep 16 11:46 Operator: lac
Sample : RSK Level 4 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

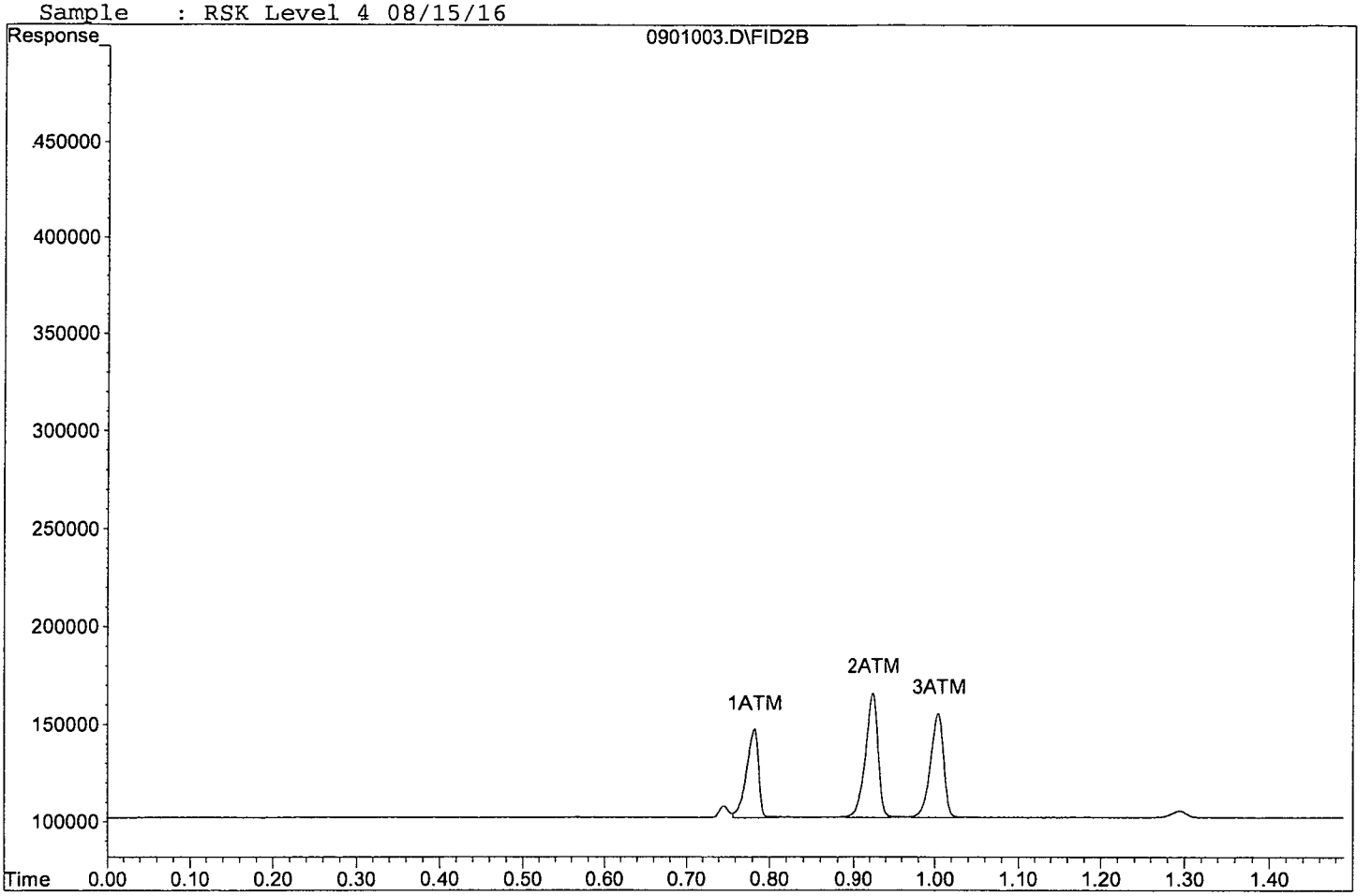
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	45792	29.006 ppb
2) ATM Ethane	0.92	63853	67.197 ppb
3) ATM Ethene	1.00	53608	66.354 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901003.D
Sample : RSK Level 4 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901004.D Vial: 5
Acq On : 1 Sep 16 11:48 Operator: lac
Sample : RSK Level 5 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

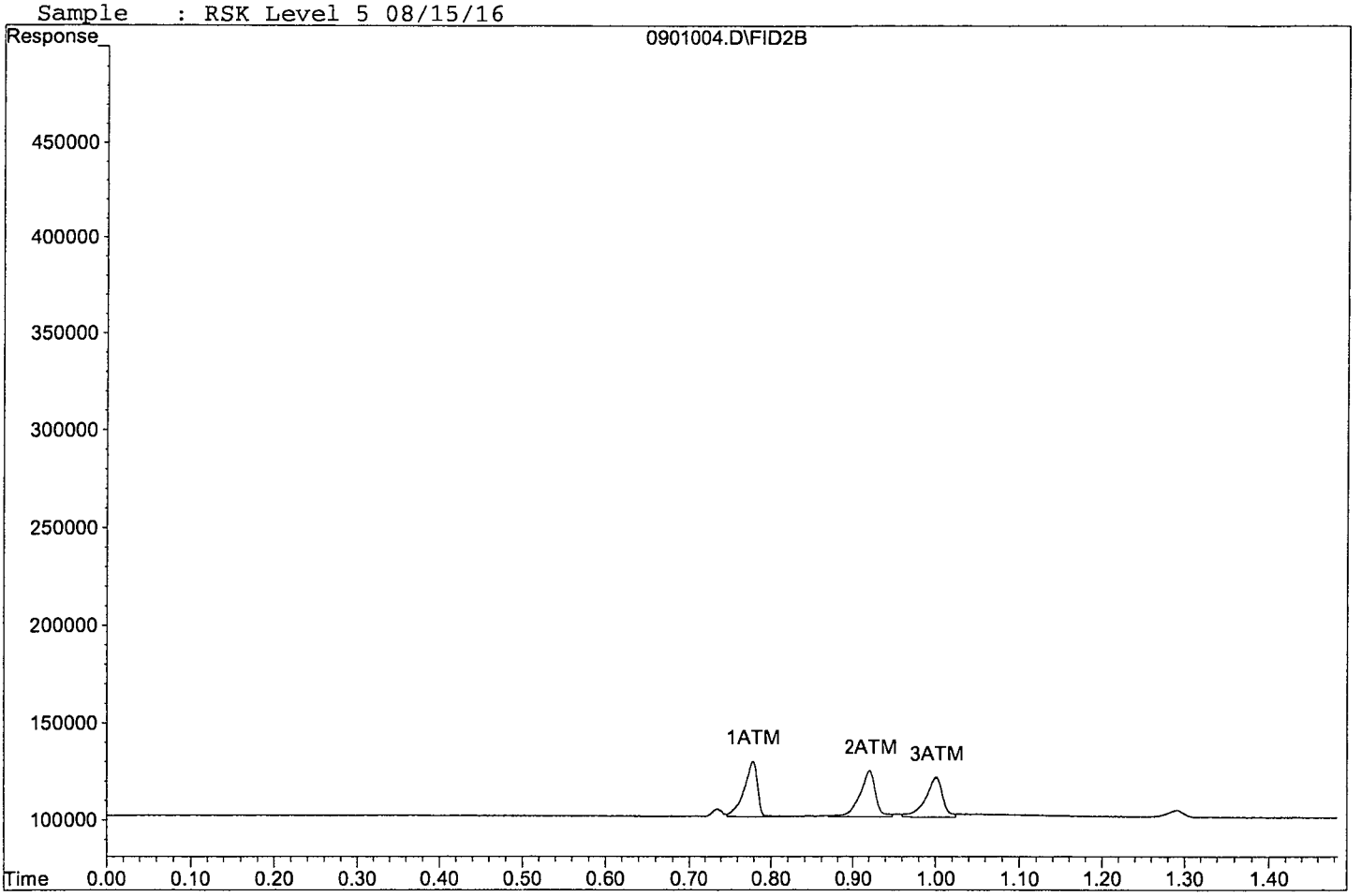
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	28664	13.193 ppb
2) ATM Ethane	0.92	23891	17.020 ppb
3) ATM Ethene	1.00	20700	13.631 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901004.D
Sample : RSK Level 5 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901005.D Vial: 6
Acq On : 1 Sep 16 11:50 Operator: lac
Sample : RSK Level 6 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

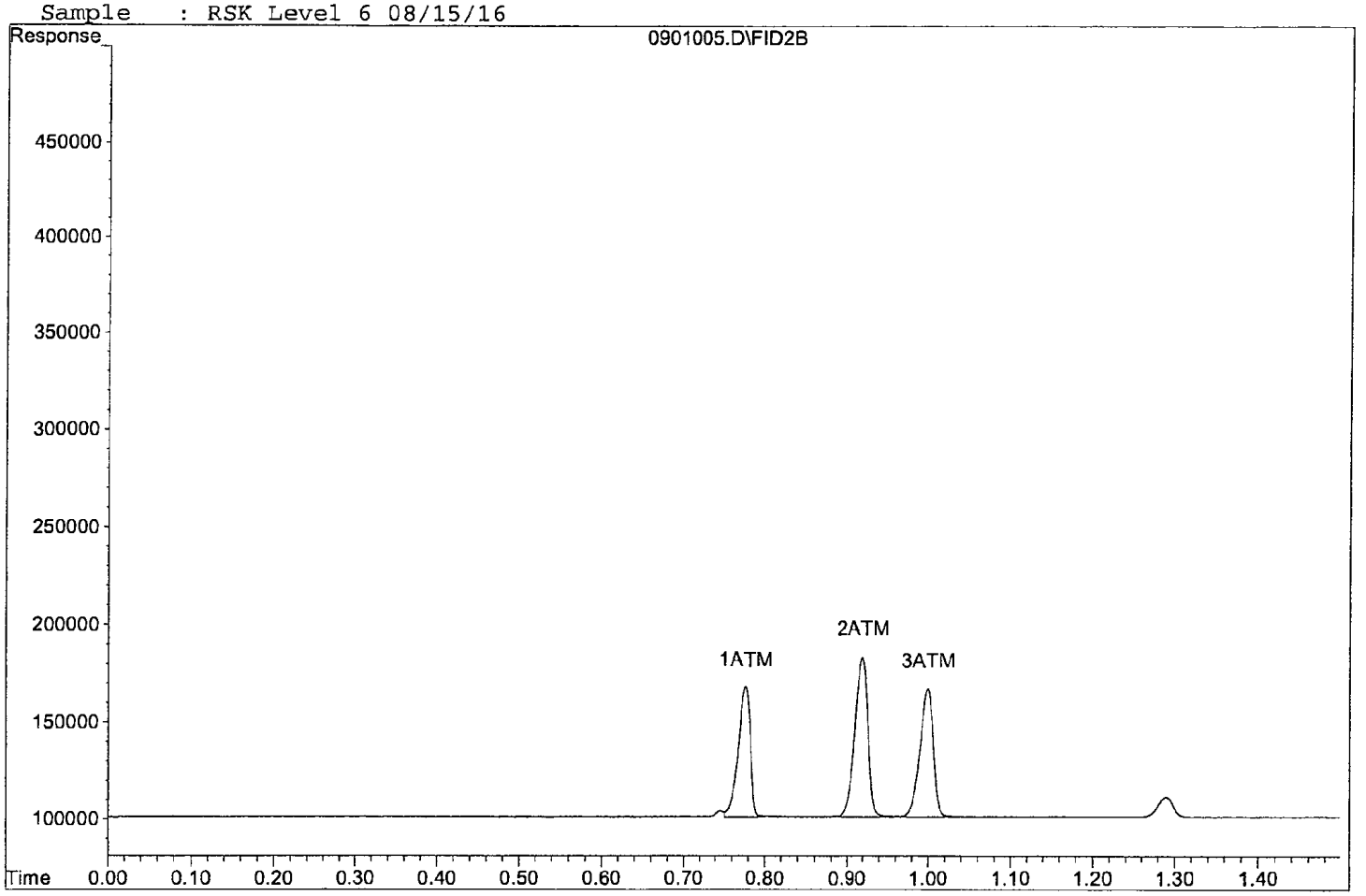
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	67137	48.712 ppb
2) ATM Ethane	0.92	82167	90.193 ppb
3) ATM Ethene	1.00	66348	86.764 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901005.D
Sample : RSK Level 6 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901006.D Vial: 7
Acq On : 1 Sep 16 11:52 Operator: lac
Sample : RSK Level 7 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

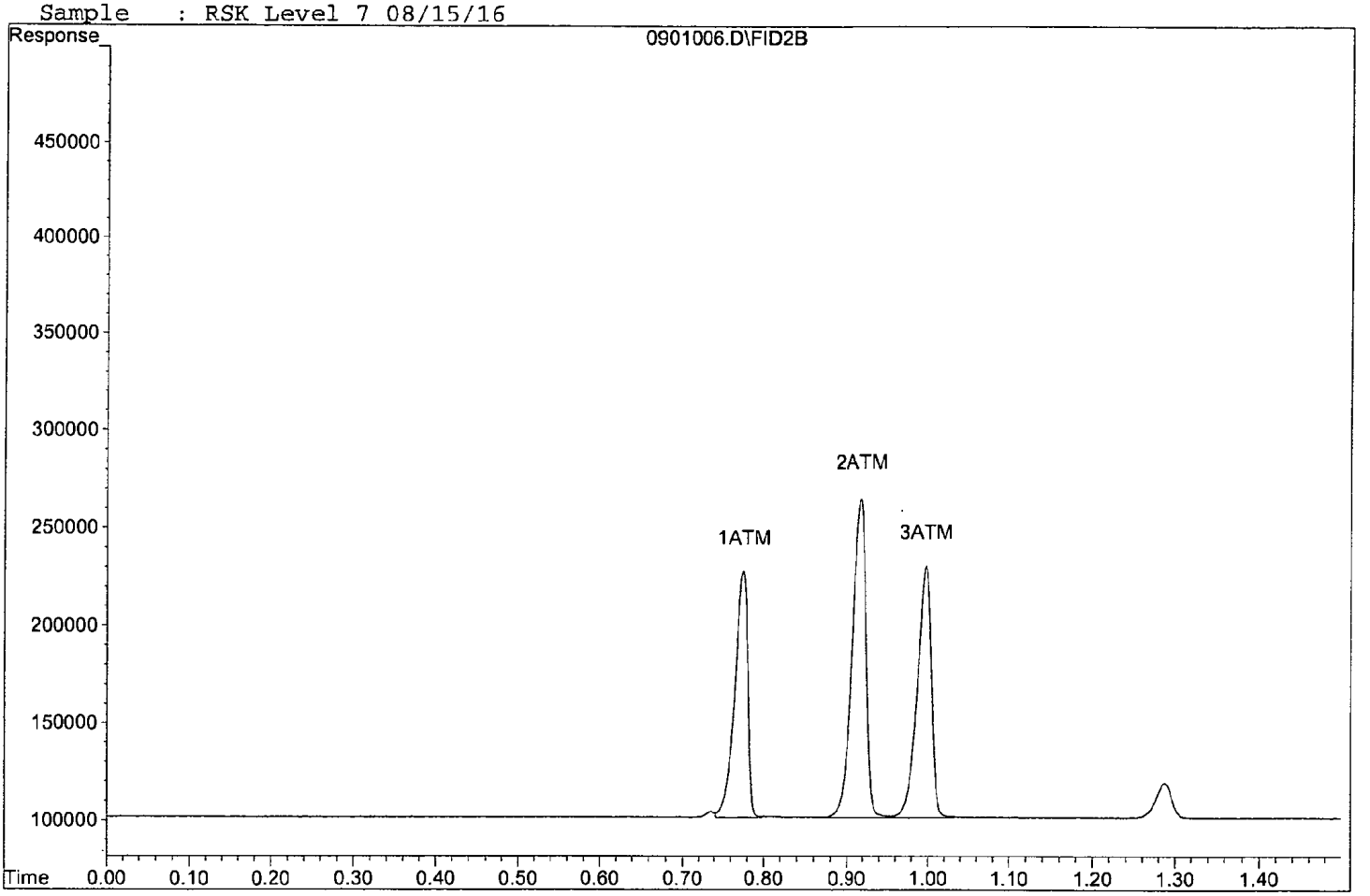
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.78	126422	103.446 ppb
2) ATM Ethane	0.92	163281	192.041 ppb
3) ATM Ethene	1.00	129200	187.460 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901006.D
Sample : RSK Level 7 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901007.D Vial: 8
Acq On : 1 Sep 16 11:55 Operator: lac
Sample : RSK Level 8 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

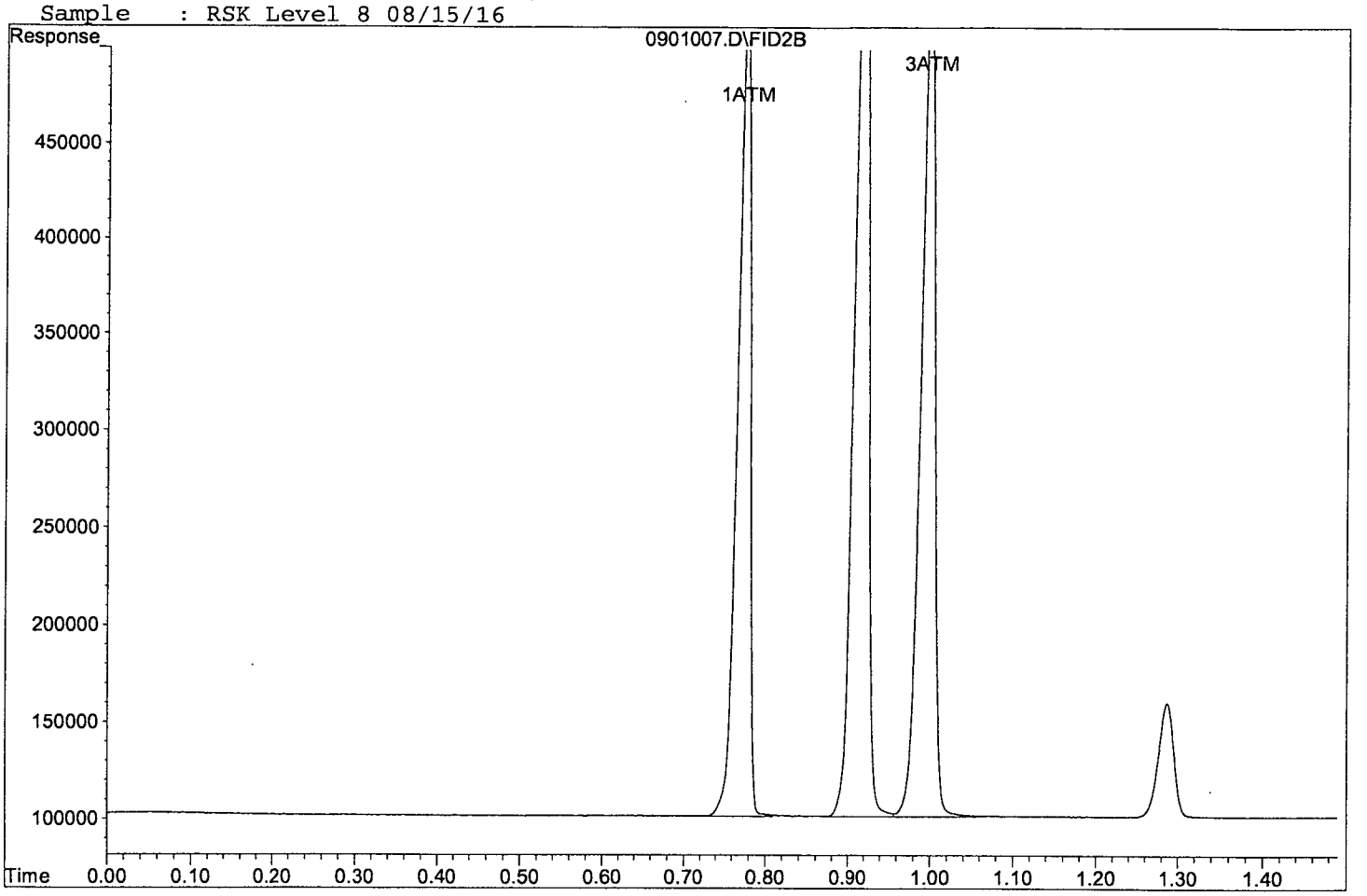
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	421052	375.455 ppb
2) ATM Ethane	0.92	559640	689.720 ppb
3) ATM Ethene	1.00	439383	684.403 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901007.D
Sample : RSK Level 8 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901008.D Vial: 9
Acq On : 1 Sep 16 11:57 Operator: lac
Sample : RSK Level 9 08/15/16 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

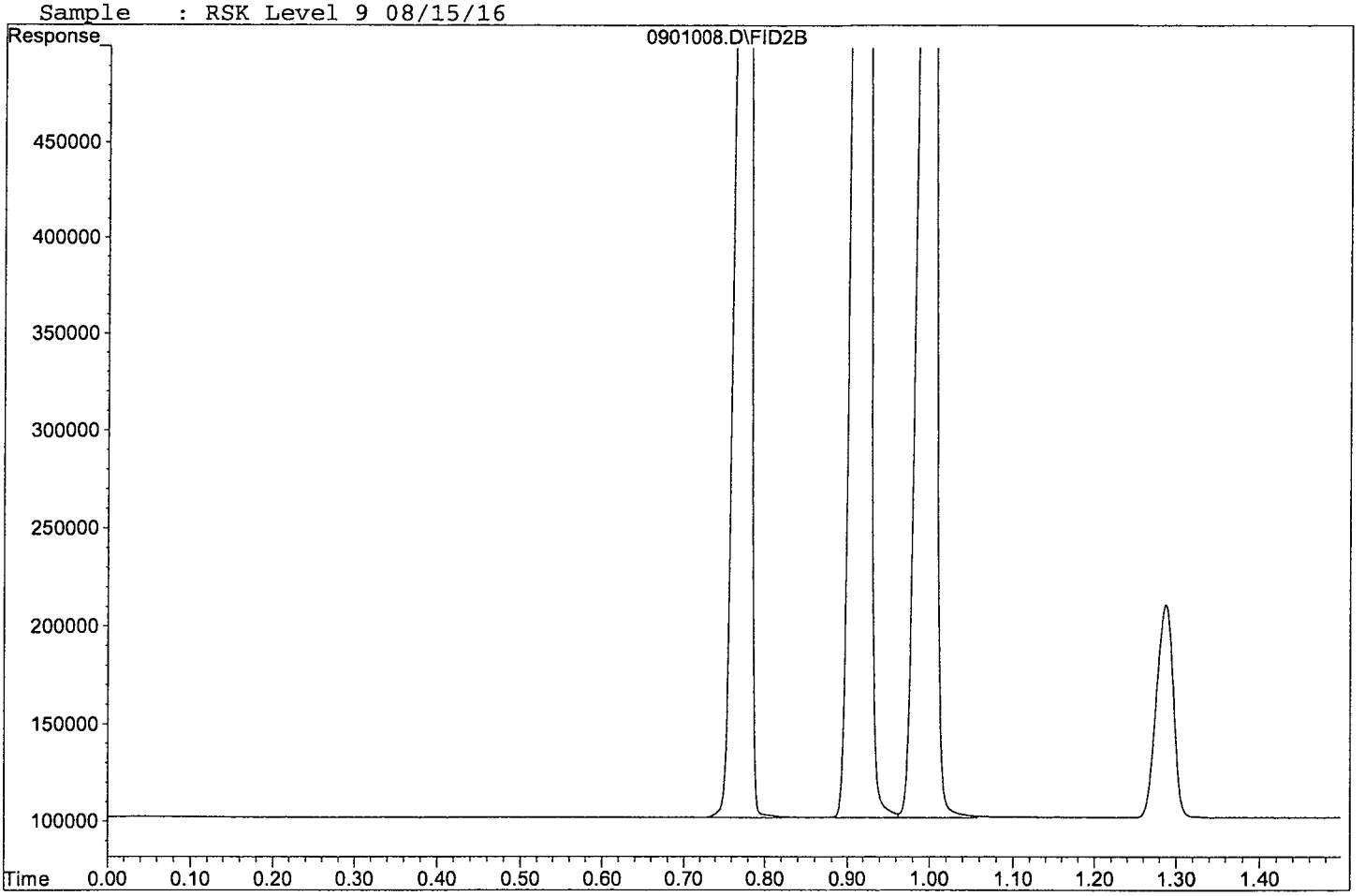
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	723824	654.982	ppb
2) ATM Ethane	0.92	989344	1229.268	ppb
3) ATM Ethene	1.00	783615	1235.897	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901008.D
Sample : RSK Level 9 08/15/16



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901009.D
Acq On : 1 Sep 16 11:59
Sample : RSK Level 10 08/15/16
Misc :
IntFile : autoint1.e
Quant Time: Oct 9 13:08 2016 Quant Results File: RSK0901.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Oct 25 11:36:05 2016
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

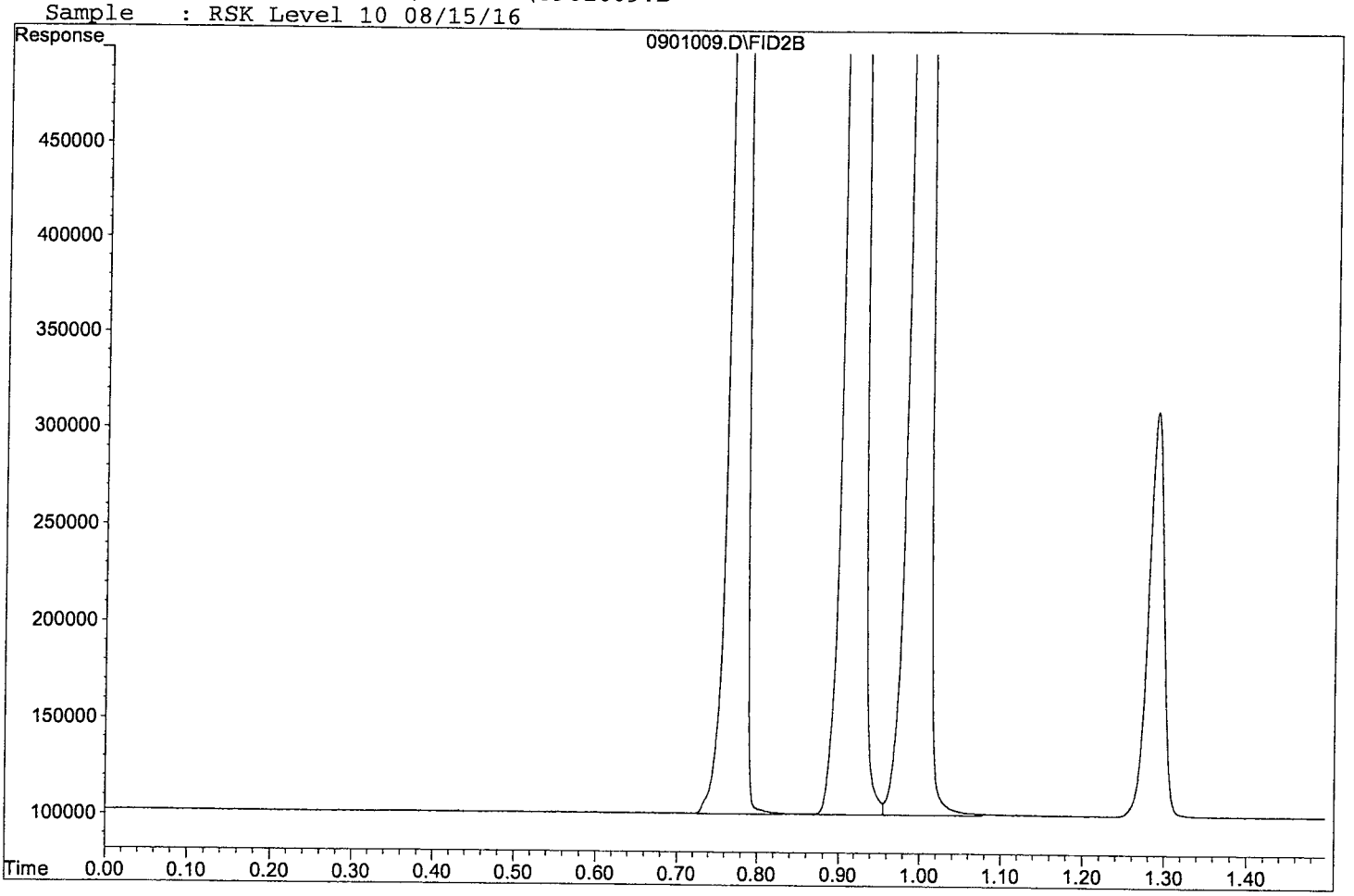
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.78	1454283	1329.358	ppb
2) ATM Ethane	0.92	1994598	2491.490	ppb
3) ATM Ethene	1.00	1562244	2483.337	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901009.D
Sample : RSK Level 10 08/15/16



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Sep 16 13:11
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 0901018.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1090	59	ATML	19
2	ATML	Ethane	1147	964	16	ATML	11
3	ATML	Ethene	1063	853	20	ATML	20
4							
5							
6							
7							
8							
9							
10							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			31.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\0901018.D
Acq On : 1 Sep 16 13:11
Sample : (SS/LCS) RSK Level 6 09/01/16
Misc :
IntFile : autoint1.e
Quant Time: Sep 1 13:16 2016 Quant Results File: RSK0901.RES

Vial: 19
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Sep 01 14:40:19 2016
Response via : Multiple Level Calibration

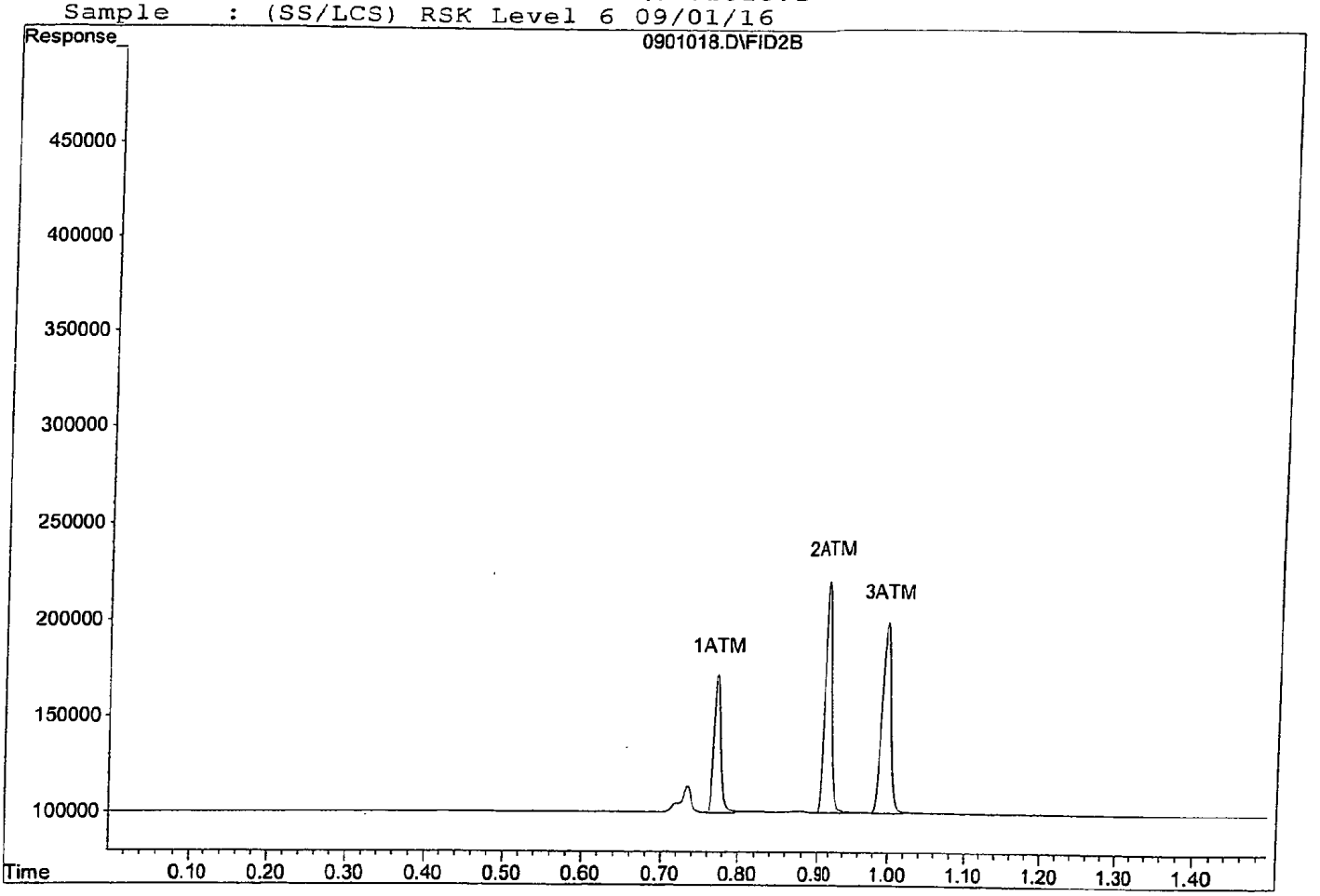
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.77	72750	53.894 ppb
2) ATM Ethane	0.91	120545	138.382 ppb
3) ATM Ethene	0.99	99349	139.636 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\0901018.D
Sample : (SS/LCS) RSK Level 6 09/01/16



0901018.D RSK0901.M Fri Sep 02 08:47:46 2016 Page 2

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021200.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	1043	60	ATML	4.7
2	ATML	Ethane	1147	877	24	ATML	9.7
3	ATML	Ethene	1063	628	41	ATML	0.20
4							
5							
6							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			41.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

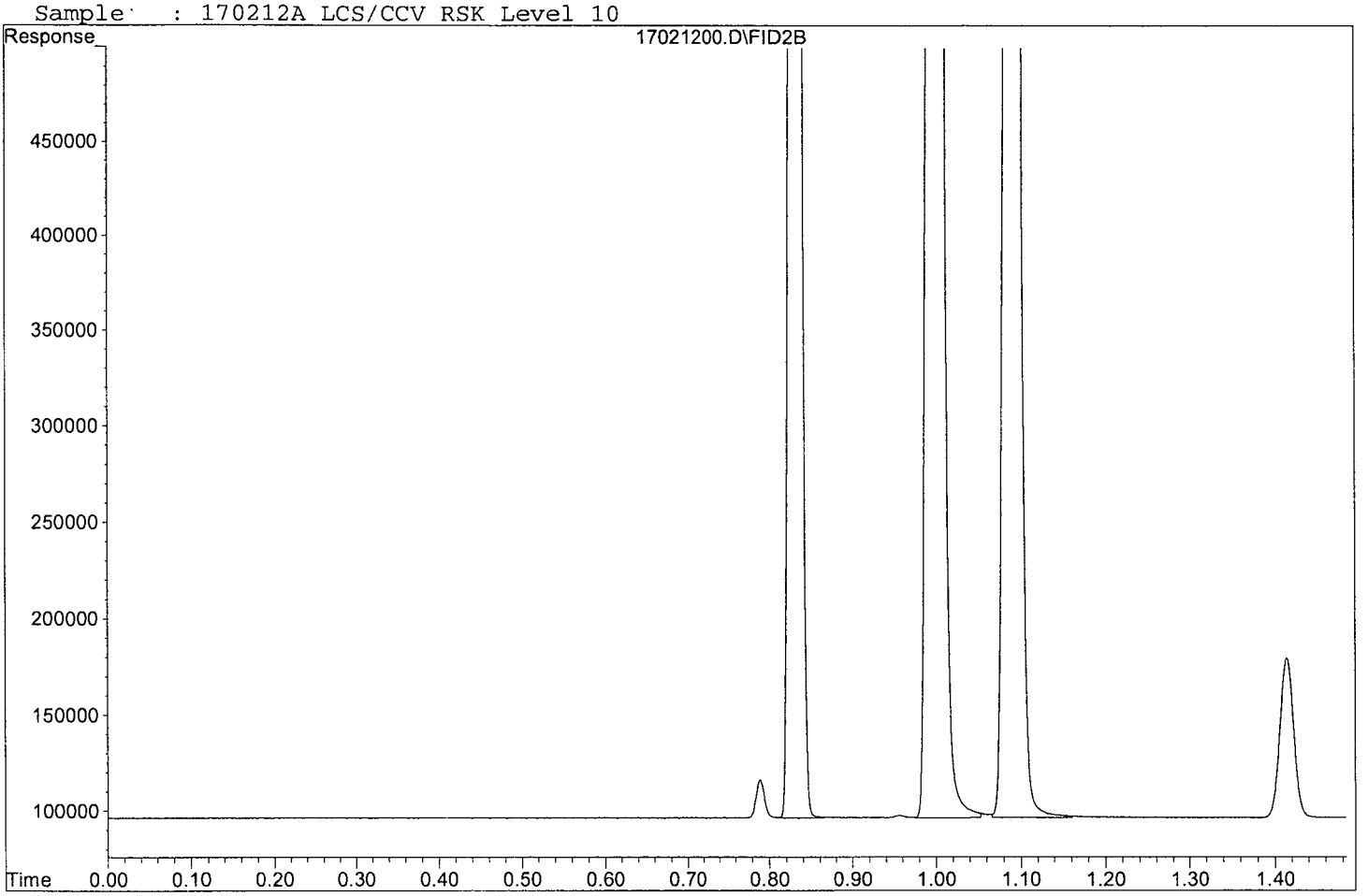
Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/12/17
Instrument: 7890
Initial Cal. Date: 09/01/16
Data File: 17021223.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2635	929	65	ATML	15
2	ATML	Ethane	1147	811	29	ATML	1.4
3	ATML	Ethene	1063	581	45	ATML	7.7
4							
5							
6							
7							
8							
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11							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			46.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021223.D Vial: 24
Acq On : 12 Feb 17 12:22 Operator: lac
Sample : Ending CCV RSK Level 10 02/12/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 12:24 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

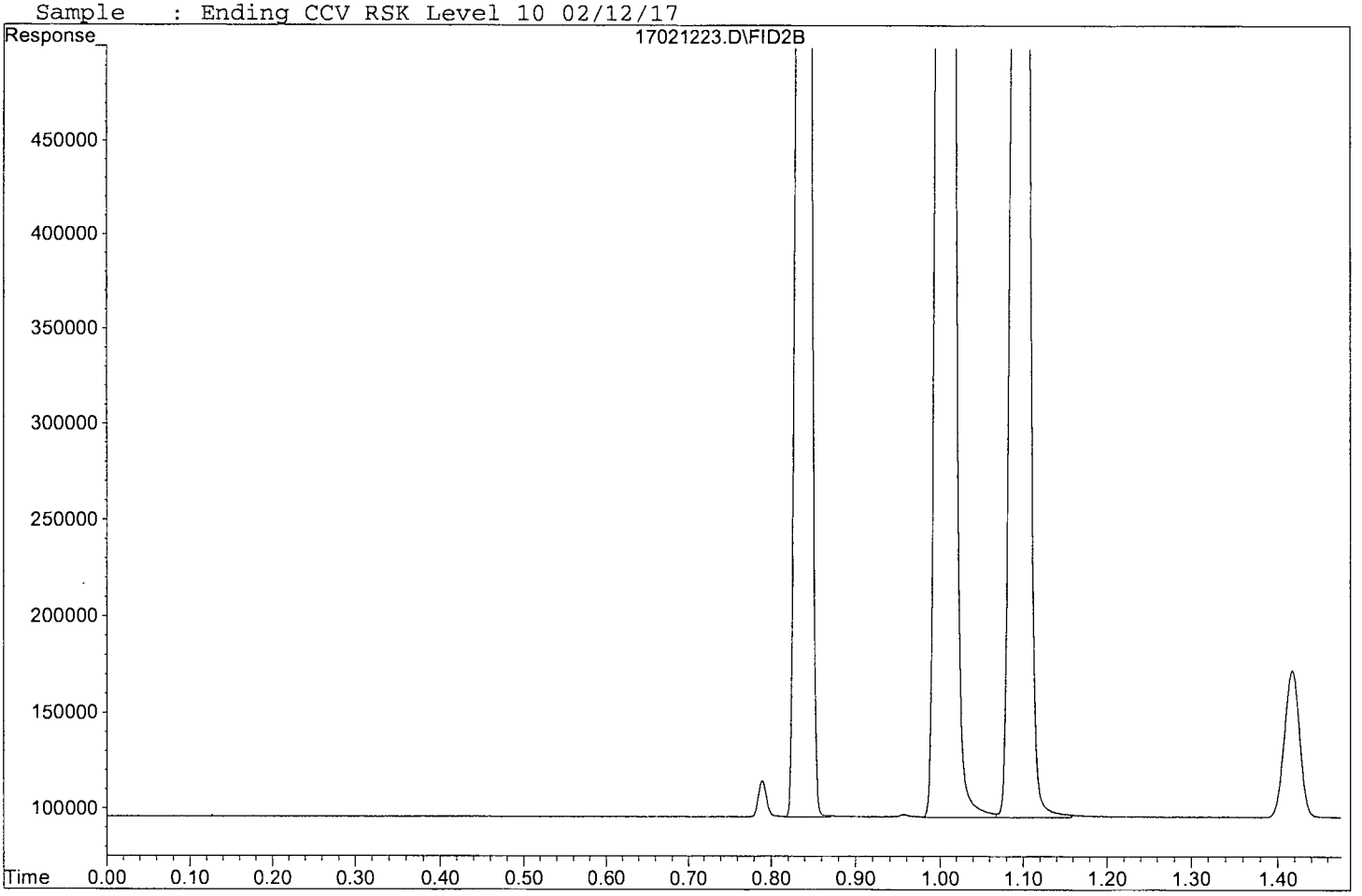
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1239911	1131.445	ppb
2) ATM Ethane	1.01	2028310	2533.819	ppb
3) ATM Ethene	1.10	1450140	2303.736	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021223.D
Sample : Ending CCV RSK Level 10 02/12/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170212W-49853 - 216094**
Batch ID: #RSKME-170212A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	02/12/17	02/12/17

Quant Method: RSK0901.M
Run #: 17021201
Instrument: Rocky
Sequence: 160901
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 02/12/17 1:49:33 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021201.D Vial: 2
Acq On : 12 Feb 17 10:26 Operator: lac
Sample : 170212A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:29 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Feb 10 10:19:50 2017
Response via : Multiple Level Calibration

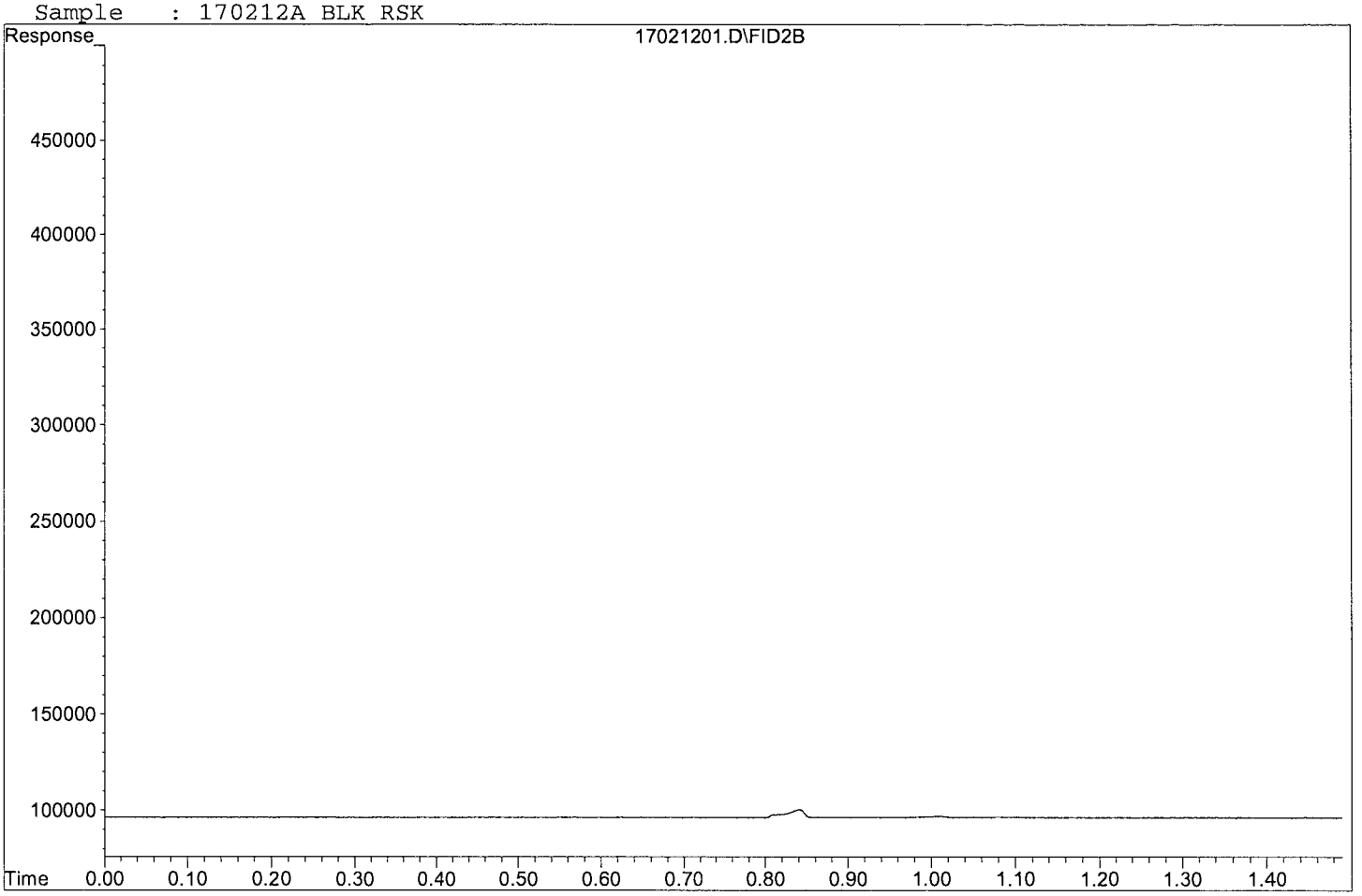
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.84	4189	N.D.	ppb
2) ATM Ethane	0.99	532	N.D.	ppb
3) ATM Ethene	1.08	354	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021201.D
Sample : 170212A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170212W-49853 LCS - 216094**
Batch ID: #RSKME-170212A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1270	95.1	72-125

Comments:

Primary	SPK
Quant Method :	RSK0901.M
Extraction Date :	02/12/17
Analysis Date :	02/12/17
Instrument :	Rocky
Run :	17021200
Initials :	CMO

Printed: 02/12/17 1:49:23 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021200.D Vial: 1
Acq On : 12 Feb 17 10:22 Operator: lac
Sample : 170212A LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 10:25 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

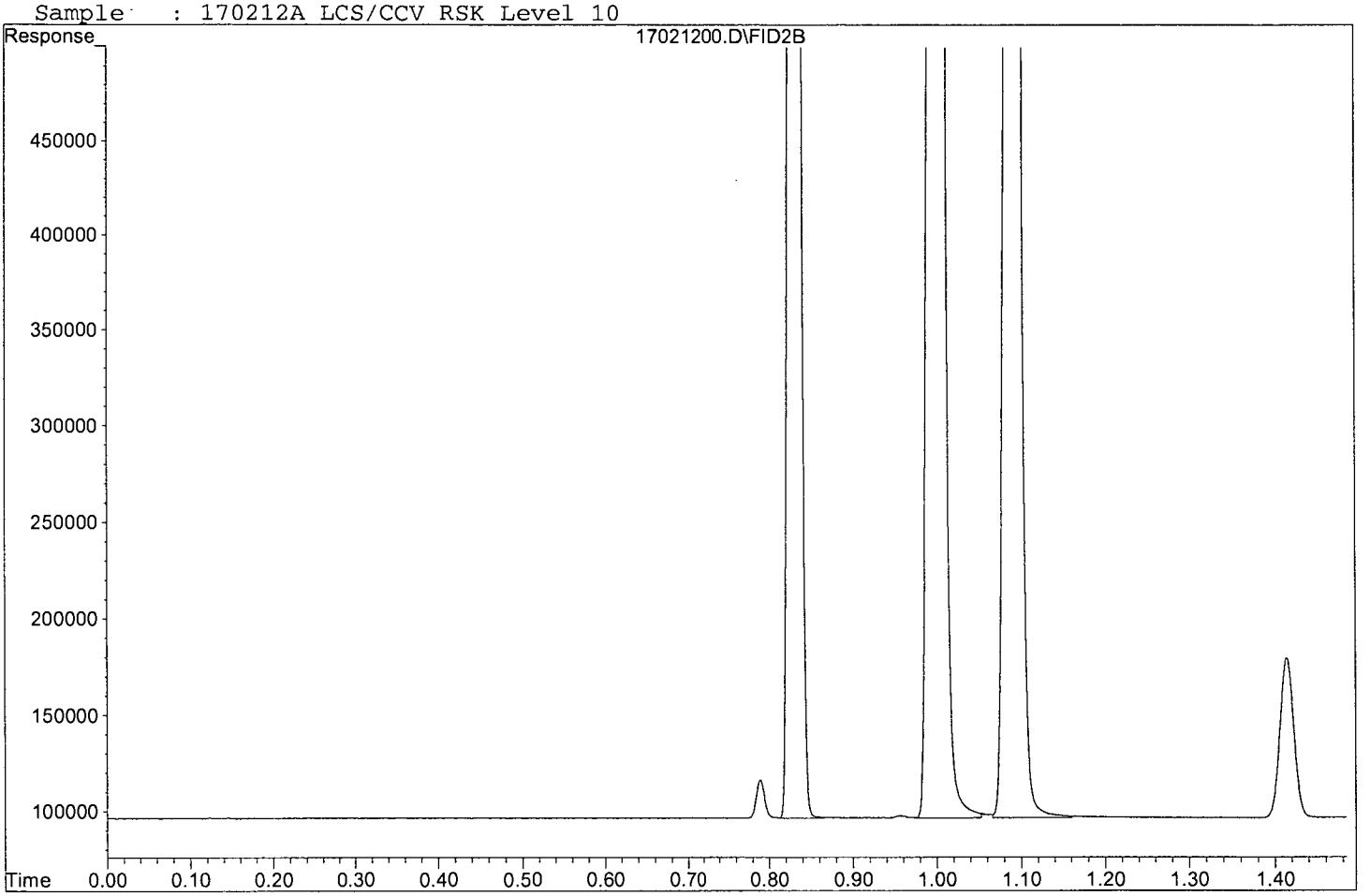
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.83	1392430	1272.254	ppb
2) ATM Ethane	1.00	2193545	2741.292	ppb
3) ATM Ethene	1.09	1567081	2491.087	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\160901R\17021200.D
Sample : 170212A LCS/CCV RSK Level 10



Matrix Spike Recoveries
METHANE

APPL ID: **170212W-49853 MS - 216094**
Batch ID: #RSKME-170212A
Sample ID: AZ49853
Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	1110	1190	83.1	89.1	72-125	7.0	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK0901.M	RSK0901.M
Extraction Date :	02/12/17	02/12/17
Analysis Date :	02/12/17	02/12/17
Instrument :	Rocky	Rocky
Run :	17021220	17021222
Initials :	CMO	

Printed: 02/12/17 1:49:17 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021220.D Vial: 21
Acq On : 12 Feb 17 12:06 Operator: lac
Sample : AZ49853W13 MS Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 12:09 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

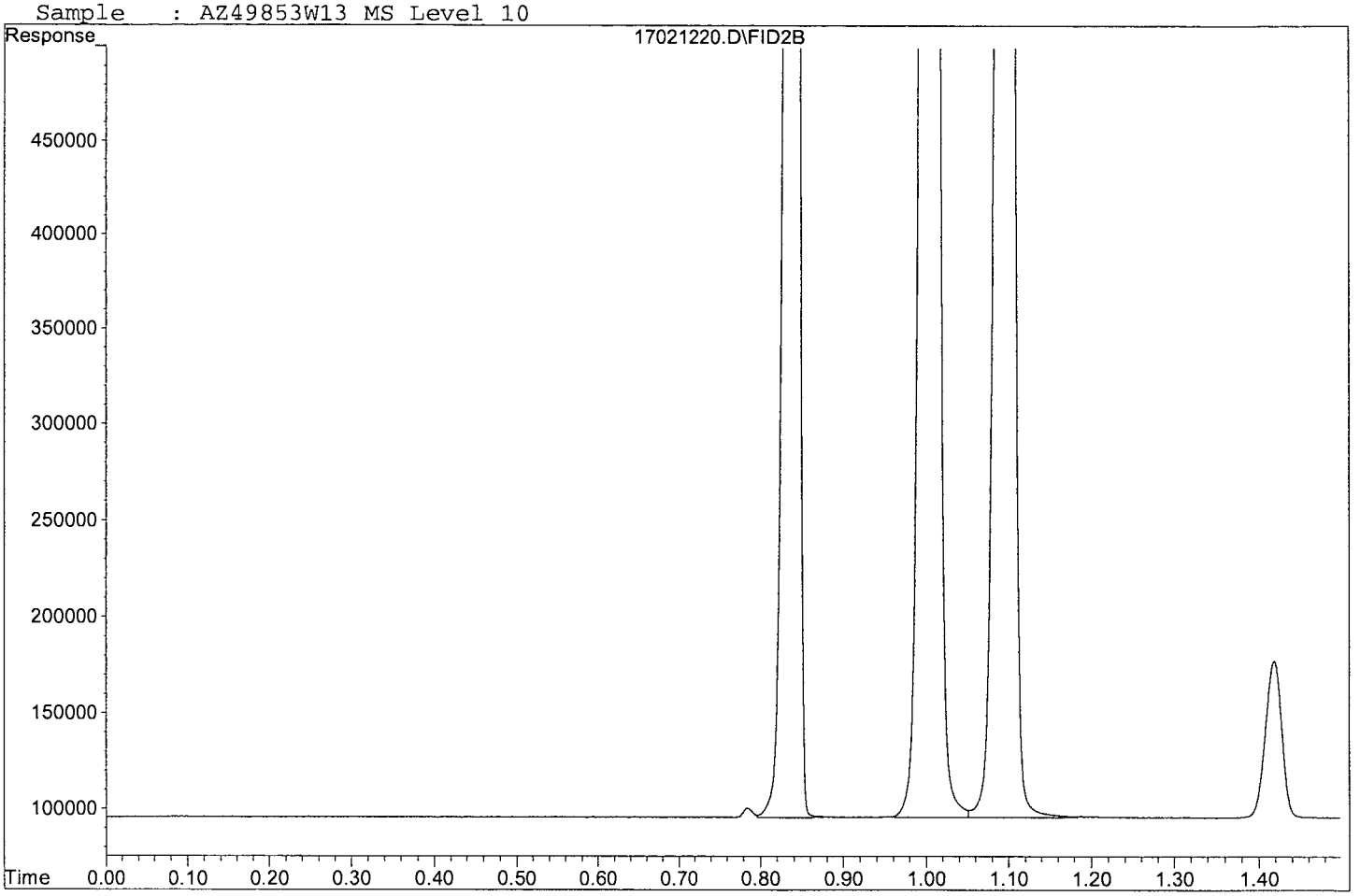
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1214095	1107.611	ppb
2) ATM Ethane	1.01	2025839	2530.717	ppb
3) ATM Ethene	1.10	1392304	2211.077	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021220.D
Sample : AZ49853W13 MS Level 10



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\160901R\17021222.D Vial: 23
Acq On : 12 Feb 17 12:17 Operator: lac
Sample : AZ49853W14 MSD Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 12 12:21 2017 Quant Results File: RSK0901.RES

Method : G:\ROCKY\DATA\160901R\RSK0901.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sun Feb 12 12:09:08 2017
Response via : Multiple Level Calibration

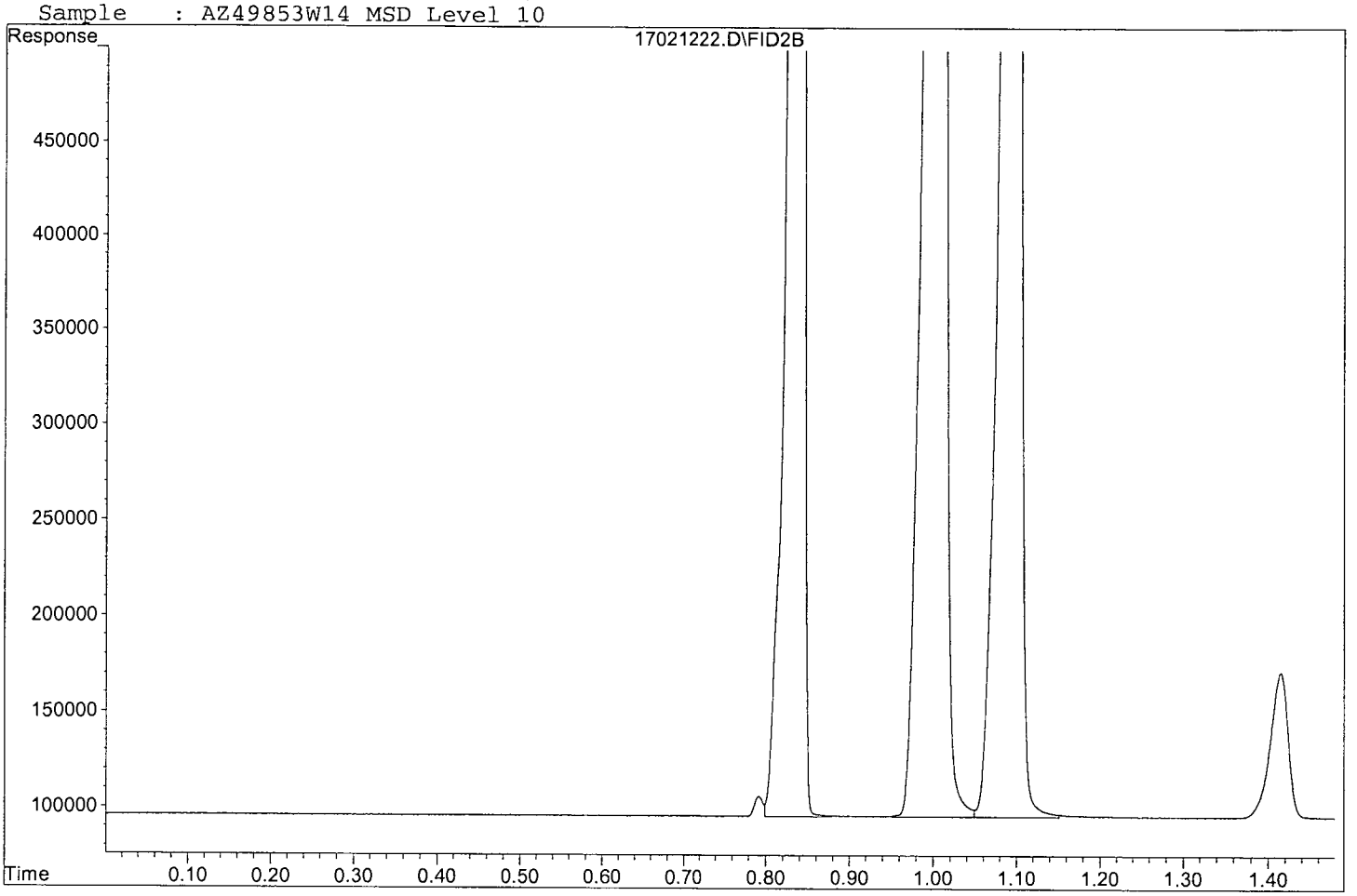
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.84	1300208	1187.112	ppb
2) ATM Ethane	1.00	2028663	2534.263	ppb
3) ATM Ethene	1.10	1392972	2212.147	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\160901R\17021222.D
Sample : AZ49853W14 MSD Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** **CM 8/15/16**
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 8/15/17** **CM 8/15/16**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 9/28/16** **CM 9/1/16**

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4SP C05L-34436	Primary Source Std #164PLU4S PC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** **CM 8/15/16**
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 8/15/17** **CM 8/15/16**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 10/1/16** **CM 9/1/16**
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 03/12/17** **CMM 02/12/17**
2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

AZ49853W13/W14 MS/MSD Level 10 **Expires 03/12/17** **CMM 02/12/17**
2.0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc:1335.0ppb Methane,2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\160901R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0901000.D	1	RSK Level 1 08/15/16	Methane 0.9, Ethane, 1.7 Etl	1 Sep 16 11:38
2	2	0901001.D	1	RSK Level 2 08/15/16		1 Sep 16 11:41
3	3	0901002.D	1	RSK Level 3 08/15/16	Methane 5.1, Ethane, 9.5 Etl	1 Sep 16 11:44
4	4	0901003.D	1	RSK Level 4 08/15/16		1 Sep 16 11:46
5	5	0901004.D	1	RSK Level 5 08/15/16		1 Sep 16 11:48
6	6	0901005.D	1	RSK Level 6 08/15/16		1 Sep 16 11:50
7	7	0901006.D	1	RSK Level 7 08/15/16		1 Sep 16 11:52
8	8	0901007.D	1	RSK Level 8 08/15/16		1 Sep 16 11:55
9	9	0901008.D	1	RSK Level 9 08/15/16		1 Sep 16 11:57
10	10	0901009.D	1	RSK Level 10 08/15/16		1 Sep 16 11:59
11	19	0901018.D	1	(SS/LCS) RSK Level 6 09/01/16		1 Sep 16 13:11
12	1	17021200.D	1	170212A LCS/CCV RSK Level 10		12 Feb 17 10:22
13	2	17021201.D	1	170212A BLK RSK		12 Feb 17 10:26
14	16	17021215.D	1	AZ49852W03		12 Feb 17 11:28
15	17	17021216.D	1	AZ49853W12		12 Feb 17 11:31
16	21	17021220.D	1	AZ49853W13 MS Level 10		12 Feb 17 12:06
17	23	17021222.D	1	AZ49853W14 MSD Level 10		12 Feb 17 12:17
18	24	17021223.D	1	Ending CCV RSK Level 10 02/12/17		12 Feb 17 12:22

METALS

APPL, INC.

METALS
QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	CALCIUM (CA)	75.0 U	1000	75.0	27.5	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	IRON (FE)	25.0 U	100	25.0	21.0	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	LEAD (PB)	4.00 U	15.0	4.00	1.58	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	MAGNESIUM (MG)	30.0 U	500	30.0	12.9	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	MANGANESE (MN)	4.00 U	10.0	4.00	1.23	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	POTASSIUM (K)	500.0 U	3000	500.0	220.0	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	SODIUM (NA)	493 J	5000	500.0	111.1	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A1-AZ49853
6010C	LEAD (PB) (DISSOL	4.00 U	15.0	4.00	1.58	ug/L	02/14/17	02/14/17	ǂ61CDO-170214A2-AZ49853

Metals SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	LEAD (PB) (DISSOLVED)	250	252	101	86-113	02/14/17	02/14/17	#61CDO-170214A2-AZ49853
EPA 6010C	CALCIUM (CA)	25000	26200	105	87-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	IRON (FE)	1000	1030	103	87-115	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	LEAD (PB)	250	252	101	86-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	MAGNESIUM (MG)	25000	26300	105	85-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	MANGANESE (MN)	250	254	102	90-114	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	POTASSIUM (K)	5000	5090	102	86-114	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	SODIUM (NA)	25000	25800	103	87-115	02/14/17	02/14/17	#61CDO-170214A1-AZ49853

Comments: _____

Matrix Spike Recoveries

METALS

APPL ID: **170214W-49853 MS - 216181**

Sample ID: AZ49853

Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	LEAD (PB) (DISSOLVE	250	ND	248	242	99.2	96.8	2.4	20	86-113	02/14/17	02/14/17	02/14/17	02/14/17	216181	AZ49853
EPA 6010C	CALCIUM (CA)	25000	12800	39300	40700	106	112	3.5	20	87-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	IRON (FE)	1000	5.0	1010	1060	101	106	4.8	20	87-115	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	LEAD (PB)	250	ND	243	254	97.2	102	4.4	20	86-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	MAGNESIUM (MG)	25000	11800	38200	39400	106	110	3.1	20	85-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	MANGANESE (MN)	250	ND	259	259	104	104	0.0	20	90-114	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	POTASSIUM (K)	5000	2060	7240	7510	104	109	3.7	20	86-114	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	SODIUM (NA)	25000	35700	61800	64200	104	114	3.8	20	87-115	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853

Comments: _____

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APPL MSD SCII

METALS
Sample Data

APPL, INC.

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
ARF: 82150
Sample ID: ERH225
APPL ID: AZ49853
Sample Collection Date: 02/08/17

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	12800	1000	75.0	27.5	ug/L	1	02/14/17	02/14/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17
6010C/3010A	MAGNESIUM (MG)	11800	500	30.0	12.9	ug/L	1	02/14/17	02/14/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	02/14/17	02/14/17
6010C/3010A	POTASSIUM (K)	2060J	3000	500.0	220.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	SODIUM (NA)	35700	5000	500.0	111.1	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17

J = Estimated value.

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APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 39
Sample ID: AZ49853W47
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 02/14/17 4:22:29 PM
Data Type: Reprocessed on 02/15/17 9:26:07 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W47

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1488352.3	102.2	%	1.02				0.99%
Y 371.029 Radial	59363.1	97.12	%	1.657				1.71%
Ag 338.289†	-27.7	-0.347	ug/L	0.4043	-0.347	ug/L	0.4043	116.65%
Al 308.215†	6.2	20.24	ug/L	8.890	20.24	ug/L	8.890	43.93%
As 188.979†	0.0	0.077	ug/L	2.0920	0.077	ug/L	2.0920	>999.9%
B†	51.4	66.16	ug/L	2.310	66.16	ug/L	2.310	3.49%
Ba 233.527†	391.2	3.670	ug/L	0.1716	3.670	ug/L	0.1716	4.68%
Be 313.107†	2.2	0.015	ug/L	0.0204	0.015	ug/L	0.0204	132.41%
Ca 315.887†	32488.6	12810	ug/L	211.9	12810	ug/L	211.9	1.65%
Cd 214.440†	-144.5	-1.150	ug/L	0.0695	-1.150	ug/L	0.0695	6.05%
Co 228.616†	-1.4	-0.101	ug/L	0.1614	-0.101	ug/L	0.1614	159.85%
Cr 267.716†	263.6	3.238	ug/L	0.1531	3.238	ug/L	0.1531	4.73%
Cu 327.393†	68.0	1.022	ug/L	0.5326	1.022	ug/L	0.5326	52.12%
Fe 273.955†	47.1	4.991	ug/L	0.0202	4.991	ug/L	0.0202	0.40%
K 766.490†	3443.4	2064	ug/L	30.1	2064	ug/L	30.1	1.46%
Mg 285.213†	55310.6	11830	ug/L	227.7	11830	ug/L	227.7	1.92%
Mn 257.610†	-5.9	-1.374	ug/L	0.0673	-1.374	ug/L	0.0673	4.90%
Mo 202.031†	17.2	0.957	ug/L	0.4673	0.957	ug/L	0.4673	48.82%
Na 589.592†	236914.8	35740	ug/L	877.7	35740	ug/L	877.7	2.46%
Ni 231.604†	6.9	0.147	ug/L	0.0520	0.147	ug/L	0.0520	35.28%
P 213.617†	167.1	70.03	ug/L	1.023	70.03	ug/L	1.023	1.46%
Pb 220.353†	-6.1	-0.848	ug/L	0.9517	-0.848	ug/L	0.9517	112.20%
Sb 206.836†	-5.1	-2.392	ug/L	1.5811	-2.392	ug/L	1.5811	66.11%
Se 196.026†	1.0	-0.311	ug/L	5.8249	-0.311	ug/L	5.8249	>999.9%
Sn 189.927†	-46.9	-5.501	ug/L	0.5948	-5.501	ug/L	0.5948	10.81%
Sr 421.552†	33533.9	81.26	ug/L	2.068	81.26	ug/L	2.068	2.54%
Ti 337.279†	-15.3	-0.996	ug/L	1.8874	-0.996	ug/L	1.8874	189.56%
Tl 190.801†	1.1	0.583	ug/L	0.4543	0.583	ug/L	0.4543	77.94%
V 292.402†	2548.2	16.48	ug/L	0.357	16.48	ug/L	0.357	2.17%
Zn 206.200†	5.9	0.562	ug/L	0.1889	0.562	ug/L	0.1889	33.59%

Sequence No.: 48
Sample ID: AZ49853W44 D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 56
Date Collected: 02/14/17 5:11:08 PM
Data Type: Reprocessed on 02/15/17 9:26:17 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W44 D

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1497174.7	102.8	%	0.81				0.79%
Y 371.029 Radial	59490.7	97.33	%	2.063				2.12%
Ag 338.289†	26.1	0.326	ug/L	0.7225	0.326	ug/L	0.7225	221.48%
Al 308.215†	5.8	18.90	ug/L	9.829	18.90	ug/L	9.829	52.02%
As 188.979†	1.1	0.594	ug/L	2.3028	0.594	ug/L	2.3028	387.58%
B†	43.7	56.25	ug/L	6.814	56.25	ug/L	6.814	12.11%
Ba 233.527†	291.8	2.735	ug/L	0.0617	2.735	ug/L	0.0617	2.26%
Be 313.107†	0.7	0.005	ug/L	0.0150	0.005	ug/L	0.0150	300.34%
Ca 315.887†	32522.1	12820	ug/L	74.9	12820	ug/L	74.9	0.58%
Cd 214.440†	-141.1	-1.122	ug/L	0.0234	-1.122	ug/L	0.0234	2.09%
Co 228.616†	-1.1	-0.097	ug/L	0.2240	-0.097	ug/L	0.2240	230.10%
Cr 267.716†	252.4	3.095	ug/L	0.2639	3.095	ug/L	0.2639	8.53%
Cu 327.393†	125.6	1.886	ug/L	0.5709	1.886	ug/L	0.5709	30.26%
Fe 273.955†	13.3	1.414	ug/L	0.2609	1.414	ug/L	0.2609	18.45%
K 766.490†	3477.8	2085	ug/L	36.4	2085	ug/L	36.4	1.74%
Mg 285.213†	55463.6	11860	ug/L	95.9	11860	ug/L	95.9	0.81%
Mn 257.610†	-1.8	-0.829	ug/L	0.8362	-0.829	ug/L	0.8362	100.83%
Mo 202.031†	20.9	1.166	ug/L	0.2863	1.166	ug/L	0.2863	24.55%
Na 589.592†	238097.9	35920	ug/L	1306.5	35920	ug/L	1306.5	3.64%
Ni 231.604†	4.5	0.075	ug/L	0.4258	0.075	ug/L	0.4258	570.38%
P 213.617†	168.0	70.39	ug/L	0.877	70.39	ug/L	0.877	1.25%
Pb 220.353†	-5.5	-0.763	ug/L	0.3040	-0.763	ug/L	0.3040	39.85%
Sb 206.836†	-7.1	-3.295	ug/L	0.6160	-3.295	ug/L	0.6160	18.70%
Se 196.026†	6.7	2.876	ug/L	1.5116	2.876	ug/L	1.5116	52.55%
Sn 189.927†	-36.4	-3.830	ug/L	0.7540	-3.830	ug/L	0.7540	19.69%
Sr 421.552†	33918.7	82.19	ug/L	3.156	82.19	ug/L	3.156	3.84%
Ti 337.279†	14.8	0.557	ug/L	1.4150	0.557	ug/L	1.4150	253.94%
Tl 190.801†	1.6	0.893	ug/L	1.2882	0.893	ug/L	1.2882	144.33%
V 292.402†	2563.2	16.58	ug/L	0.639	16.58	ug/L	0.639	3.86%
Zn 206.200†	12.1	1.145	ug/L	0.4309	1.145	ug/L	0.4309	37.63%

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH247
Sample Collection Date: 02/08/17

ARF: 82150
APPL ID: AZ49854

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	13400	1000	75.0	27.5	ug/L	1	02/14/17	02/14/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17
6010C/3010A	MAGNESIUM (MG)	12400	500	30.0	12.9	ug/L	1	02/14/17	02/14/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	02/14/17	02/14/17
6010C/3010A	POTASSIUM (K)	2200J	3000	500.0	220.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	SODIUM (NA)	36700	5000	500.0	111.1	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17

J = Estimated value.

Printed: 02/17/17 3:14:04 PM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 44
Sample ID: AZ49854W17
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 02/14/17 4:50:10 PM
Data Type: Reprocessed on 02/15/17 9:26:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49854W17

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1477629.5	101.4	%	1.20				1.19%
Y 371.029 Radial	60090.2	98.31	%	1.271				1.29%
Ag 338.289†	-97.1	-1.213	ug/L	0.3673	-1.213	ug/L	0.3673	30.29%
Al 308.215†	6.9	22.72	ug/L	3.183	22.72	ug/L	3.183	14.01%
As 188.979†	2.1	1.066	ug/L	2.0564	1.066	ug/L	2.0564	192.89%
B†	50.4	64.90	ug/L	2.575	64.90	ug/L	2.575	3.97%
Ba 233.527†	312.4	2.928	ug/L	0.0598	2.928	ug/L	0.0598	2.04%
Be 313.107†	1.5	0.010	ug/L	0.0309	0.010	ug/L	0.0309	296.75%
Ca 315.887†	34101.2	13440	ug/L	63.0	13440	ug/L	63.0	0.47%
Cd 214.440†	-146.7	-1.167	ug/L	0.0997	-1.167	ug/L	0.0997	8.54%
Co 228.616†	-4.0	-0.168	ug/L	0.1173	-0.168	ug/L	0.1173	70.02%
Cr 267.716†	265.4	3.255	ug/L	0.2196	3.255	ug/L	0.2196	6.75%
Cu 327.393†	73.2	1.100	ug/L	0.1201	1.100	ug/L	0.1201	10.92%
Fe 273.955†	61.0	6.470	ug/L	0.1051	6.470	ug/L	0.1051	1.62%
K 766.490†	3672.8	2202	ug/L	17.8	2202	ug/L	17.8	0.81%
Mg 285.213†	57856.5	12380	ug/L	36.5	12380	ug/L	36.5	0.29%
Mn 257.610†	-2.5	-0.945	ug/L	0.5741	-0.945	ug/L	0.5741	60.74%
Mo 202.031†	17.1	0.952	ug/L	0.2999	0.952	ug/L	0.2999	31.51%
Na 589.592†	243174.4	36690	ug/L	742.4	36690	ug/L	742.4	2.02%
Ni 231.604†	4.9	0.087	ug/L	0.2689	0.087	ug/L	0.2689	309.99%
P 213.617†	173.6	72.76	ug/L	1.333	72.76	ug/L	1.333	1.83%
Pb 220.353†	-9.3	-1.286	ug/L	0.2624	-1.286	ug/L	0.2624	20.41%
Sb 206.836†	-1.8	-0.838	ug/L	0.8244	-0.838	ug/L	0.8244	98.34%
Se 196.026†	7.8	3.512	ug/L	3.5772	3.512	ug/L	3.5772	101.84%
Sn 189.927†	-51.9	-6.214	ug/L	0.3256	-6.214	ug/L	0.3256	5.24%
Sr 421.552†	34555.0	83.73	ug/L	2.049	83.73	ug/L	2.049	2.45%
Ti 337.279†	14.9	0.555	ug/L	1.7207	0.555	ug/L	1.7207	310.24%
Tl 190.801†	-0.4	-0.193	ug/L	0.8094	-0.193	ug/L	0.8094	419.25%
V 292.402†	2630.5	17.01	ug/L	0.883	17.01	ug/L	0.883	5.19%
Zn 206.200†	11.8	1.116	ug/L	0.1318	1.116	ug/L	0.1318	11.81%

Sequence No.: 53
Sample ID: AZ49854W16 D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 02/14/17 5:38:23 PM
Data Type: Reprocessed on 02/15/17 9:26:22 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49854W16 D

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1500642.4	103.0	%	1.30				1.26%
Y 371.029 Radial	60628.3	99.19	%	0.883				0.89%
Ag 338.289†	-56.3	-0.703	ug/L	0.2079	-0.703	ug/L	0.2079	29.59%
Al 308.215†	3.4	11.05	ug/L	5.453	11.05	ug/L	5.453	49.33%
As 188.979†	-0.4	-0.108	ug/L	4.6670	-0.108	ug/L	4.6670	>999.9%
B†	47.0	60.46	ug/L	4.334	60.46	ug/L	4.334	7.17%
Ba 233.527†	323.7	3.035	ug/L	0.0727	3.035	ug/L	0.0727	2.40%
Be 313.107†	2.3	0.016	ug/L	0.0068	0.016	ug/L	0.0068	42.41%
Ca 315.887†	32946.6	12990	ug/L	56.3	12990	ug/L	56.3	0.43%
Cd 214.440†	-139.2	-1.108	ug/L	0.0204	-1.108	ug/L	0.0204	1.84%
Co 228.616†	5.9	0.066	ug/L	0.2234	0.066	ug/L	0.2234	341.08%
Cr 267.716†	238.1	2.914	ug/L	0.2575	2.914	ug/L	0.2575	8.84%
Cu 327.393†	58.1	0.872	ug/L	0.4986	0.872	ug/L	0.4986	57.16%
Fe 273.955†	10.9	1.158	ug/L	0.3712	1.158	ug/L	0.3712	32.06%
K 766.490†	3447.4	2067	ug/L	25.4	2067	ug/L	25.4	1.23%
Mg 285.213†	56113.8	12000	ug/L	14.1	12000	ug/L	14.1	0.12%
Mn 257.610†	-1.9	-0.846	ug/L	0.2241	-0.846	ug/L	0.2241	26.47%
Mo 202.031†	15.1	0.840	ug/L	0.0940	0.840	ug/L	0.0940	11.19%
Na 589.592†	234603.2	35390	ug/L	1234.7	35390	ug/L	1234.7	3.49%
Ni 231.604†	3.0	0.032	ug/L	0.1936	0.032	ug/L	0.1936	607.06%
P 213.617†	163.4	68.48	ug/L	1.887	68.48	ug/L	1.887	2.76%
Pb 220.353†	-7.0	-0.972	ug/L	0.6893	-0.972	ug/L	0.6893	70.94%
Sb 206.836†	-4.7	-2.175	ug/L	0.2660	-2.175	ug/L	0.2660	12.23%
Se 196.026†	8.9	4.169	ug/L	1.7943	4.169	ug/L	1.7943	43.04%
Sn 189.927†	-52.3	-6.337	ug/L	0.2085	-6.337	ug/L	0.2085	3.29%
Sr 421.552†	33331.3	80.77	ug/L	2.933	80.77	ug/L	2.933	3.63%
Ti 337.279†	12.5	0.441	ug/L	1.6165	0.441	ug/L	1.6165	366.41%
Tl 190.801†	0.1	0.059	ug/L	0.9750	0.059	ug/L	0.9750	>999.9%
V 292.402†	2568.4	16.61	ug/L	0.420	16.61	ug/L	0.420	2.53%
Zn 206.200†	19.1	1.812	ug/L	0.2459	1.812	ug/L	0.2459	13.57%

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
ARF: 82150
Sample ID: ERH248
APPL ID: AZ49855
Sample Collection Date: 02/08/17

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	62.8J	1000	75.0	27.5	ug/L	1	02/14/17	02/14/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17
6010C/3010A	MAGNESIUM (MG)	35.7J	500	30.0	12.9	ug/L	1	02/14/17	02/14/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	02/14/17	02/14/17
6010C/3010A	POTASSIUM (K)	500.0U	3000	500.0	220.0	ug/L	1	02/14/17	02/14/17
6010C/3010A	SODIUM (NA)	410J	5000	500.0	111.1	ug/L	1	02/14/17	02/14/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	02/14/17	02/14/17

J = Estimated value.

Printed: 02/17/17 3:14:04 PM
APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 45
Sample ID: AZ49855W16
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 02/14/17 4:55:55 PM
Data Type: Reprocessed on 02/15/17 9:26:13 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49855W16

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1533424.6	105.3	%	0.32				0.30%
Y 371.029 Radial	59663.0	97.61	%	0.530				0.54%
Ag 338.289†	-12.3	-0.154	ug/L	1.6230	-0.154	ug/L	1.6230	>999.9%
Al 308.215†	2.9	9.338	ug/L	7.1321	9.338	ug/L	7.1321	76.38%
As 188.979†	0.1	0.061	ug/L	1.4634	0.061	ug/L	1.4634	>999.9%
B†	8.6	11.13	ug/L	8.324	11.13	ug/L	8.324	74.76%
Ba 233.527†	397.6	3.739	ug/L	0.0651	3.739	ug/L	0.0651	1.74%
Be 313.107†	5.0	0.034	ug/L	0.0344	0.034	ug/L	0.0344	100.03%
Ca 315.887†	159.4	62.81	ug/L	0.931	62.81	ug/L	0.931	1.48%
Cd 214.440†	-4.4	-0.034	ug/L	0.0376	-0.034	ug/L	0.0376	109.30%
Co 228.616†	-2.0	-0.048	ug/L	0.1500	-0.048	ug/L	0.1500	315.45%
Cr 267.716†	47.3	0.597	ug/L	0.1510	0.597	ug/L	0.1510	25.27%
Cu 327.393†	116.9	1.756	ug/L	0.1277	1.756	ug/L	0.1277	7.27%
Fe 273.955†	61.7	6.545	ug/L	0.1083	6.545	ug/L	0.1083	1.65%
K 766.490†	136.1	81.58	ug/L	11.867	81.58	ug/L	11.867	14.55%
Mg 285.213†	167.0	35.73	ug/L	0.618	35.73	ug/L	0.618	1.73%
Mn 257.610†	-3.6	-0.491	ug/L	0.0916	-0.491	ug/L	0.0916	18.64%
Mo 202.031†	6.1	0.342	ug/L	0.2997	0.342	ug/L	0.2997	87.49%
Na 589.592†	2716.0	409.7	ug/L	10.77	409.7	ug/L	10.77	2.63%
Ni 231.604†	3.1	0.091	ug/L	0.1328	0.091	ug/L	0.1328	145.78%
P 213.617†	5.2	2.187	ug/L	1.4017	2.187	ug/L	1.4017	64.08%
Pb 220.353†	-1.9	-0.268	ug/L	0.5733	-0.268	ug/L	0.5733	213.99%
Sb 206.836†	0.5	0.249	ug/L	1.0403	0.249	ug/L	1.0403	416.98%
Se 196.026†	2.7	1.552	ug/L	3.4173	1.552	ug/L	3.4173	220.25%
Sn 189.927†	-1.6	-0.245	ug/L	0.7379	-0.245	ug/L	0.7379	301.63%
Sr 421.552†	186.4	0.451	ug/L	0.1166	0.451	ug/L	0.1166	25.83%
Ti 337.279†	3.4	0.172	ug/L	0.8305	0.172	ug/L	0.8305	483.04%
Tl 190.801†	0.1	0.031	ug/L	0.1071	0.031	ug/L	0.1071	345.50%
V 292.402†	35.8	0.240	ug/L	0.3129	0.240	ug/L	0.3129	130.15%
Zn 206.200†	25.8	2.448	ug/L	0.1821	2.448	ug/L	0.1821	7.44%

Sequence No.: 54
Sample ID: AZ49855W17 D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 02/14/17 5:44:06 PM
Data Type: Reprocessed on 02/15/17 9:26:23 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49855W17 D

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1537608.0	105.6	%	1.29				1.22%
Y 371.029 Radial	61741.9	101.0	%	1.20				1.18%
Ag 338.289†	-121.9	-1.523	ug/L	0.3434	-1.523	ug/L	0.3434	22.55%
Al 308.215†	5.3	17.31	ug/L	9.962	17.31	ug/L	9.962	57.54%
As 188.979†	-3.1	-1.456	ug/L	2.4969	-1.456	ug/L	2.4969	171.47%
B†	4.3	5.546	ug/L	6.5951	5.546	ug/L	6.5951	118.92%
Ba 233.527†	25.9	0.244	ug/L	0.0310	0.244	ug/L	0.0310	12.71%
Be 313.107†	2.6	0.018	ug/L	0.0072	0.018	ug/L	0.0072	40.98%
Ca 315.887†	116.5	45.93	ug/L	5.375	45.93	ug/L	5.375	11.70%
Cd 214.440†	0.2	0.002	ug/L	0.0395	0.002	ug/L	0.0395	>999.9%
Co 228.616†	4.3	0.100	ug/L	0.1239	0.100	ug/L	0.1239	124.27%
Cr 267.716†	32.0	0.405	ug/L	0.1361	0.405	ug/L	0.1361	33.60%
Cu 327.393†	92.2	1.385	ug/L	0.2658	1.385	ug/L	0.2658	19.19%
Fe 273.955†	35.4	3.749	ug/L	0.1186	3.749	ug/L	0.1186	3.16%
K 766.490†	105.8	63.41	ug/L	15.876	63.41	ug/L	15.876	25.04%
Mg 285.213†	174.9	37.41	ug/L	0.487	37.41	ug/L	0.487	1.30%
Mn 257.610†	-5.6	-0.758	ug/L	0.4701	-0.758	ug/L	0.4701	61.98%
Mo 202.031†	8.6	0.478	ug/L	0.1514	0.478	ug/L	0.1514	31.66%
Na 589.592†	1918.7	289.4	ug/L	10.66	289.4	ug/L	10.66	3.68%
Ni 231.604†	-0.5	-0.014	ug/L	0.2342	-0.014	ug/L	0.2342	>999.9%
P 213.617†	5.8	2.434	ug/L	1.0424	2.434	ug/L	1.0424	42.83%
Pb 220.353†	-1.6	-0.219	ug/L	0.6735	-0.219	ug/L	0.6735	308.08%
Sb 206.836†	-3.7	-1.737	ug/L	2.0224	-1.737	ug/L	2.0224	116.43%
Se 196.026†	6.4	3.637	ug/L	2.3418	3.637	ug/L	2.3418	64.39%
Sn 189.927†	-4.6	-0.722	ug/L	0.9766	-0.722	ug/L	0.9766	135.29%
Sr 421.552†	107.3	0.260	ug/L	0.1595	0.260	ug/L	0.1595	61.36%
Ti 337.279†	7.9	0.409	ug/L	1.2057	0.409	ug/L	1.2057	294.78%
Tl 190.801†	-0.2	-0.123	ug/L	2.6841	-0.123	ug/L	2.6841	>999.9%
V 292.402†	88.1	0.580	ug/L	0.8149	0.580	ug/L	0.8149	140.47%
Zn 206.200†	27.1	2.570	ug/L	0.2551	2.570	ug/L	0.2551	9.93%

METALS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:45	%R(1)	True CCV1	Found 12:15	%R(1)	True CCV1	Found 15:02	%R(1)	
Calcium (Ca)	25000	25030	100	50000	51770	104	50000	53100	106	P
Iron (Fe)	25000	24870	99.5	20000	20860	104	20000	20970	105	P
Potassium (K)	25000	24470	97.9	20000	20530	103	20000	20850	104	P
Magnesium (Mg)	25000	25520	102	50000	52350	105	50000	53800	108	P
Manganese (Mn)	1000	970.7	97.1	1000	1034	103	1000	1046	105	P
Sodium (Na)	25000	24640	98.6	25000	25790	103	25000	26240	105	P
Lead (Pb)	1000	978.7	97.9	1000	1035	104	1000	1040	104	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:45	%R(1)	True CCV2	Found 16:12	%R(1)	True CCV1	Found 17:00	%R(1)	
Calcium (Ca)	25000	25030	100	37500	39680	106	50000	52050	104	P
Iron (Fe)	25000	24870	99.5	15000	15770	105	20000	20760	104	P
Potassium (K)	25000	24470	97.9	15000	15630	104	20000	20600	103	P
Magnesium (Mg)	25000	25520	102	37500	40320	108	50000	52420	105	P
Manganese (Mn)	1000	970.7	97.1	750	774.6	103	1000	1036	104	P
Sodium (Na)	25000	24640	98.6	18750	19780	105	25000	25920	104	P
Lead (Pb)	1000	978.7	97.9	750	769.4	103	1000	1032	103	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:45	%R(1)	True CCV2	Found 17:49	%R(1)	True	Found	%R(1)	
Calcium (Ca)	25000	25030	100	37500	39340	105				P
Iron (Fe)	25000	24870	99.5	15000	16010	107				P
Potassium (K)	25000	24470	97.9	15000	15500	103				P
Magnesium (Mg)	25000	25520	102	37500	39840	106				P
Manganese (Mn)	1000	970.7	97.1	750	781.5	104				P
Sodium (Na)	25000	24640	98.6	18750	19580	104				P
Lead (Pb)	1000	978.7	97.9	750	774.7	103				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82150 SDG: 82150

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 02/14/17

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	11:54		12:20		15:07		16:17		15:35		
Calcium (Ca)	1000.00	U	1000.00	U	1000.00	U	1000.00	U	1000.00	U	P
Iron (Fe)	100.00	U	100.00	U	100.00	U	100.00	U	100.00	U	P
Potassium (K)	3000.00	U	3000.00	U	3000.00	U	3000.00	U	3000.00	U	P
Magnesium (Mg)	500.00	U	500.00	U	500.00	U	500.00	U	500.00	U	P
Manganese (Mn)	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	P
Sodium (Na)	5000.00	U	5000.00	U	5000.00	U	264.00	J	493.00	J	P
Lead (Pb)	15.00	U	15.00	U	15.00	U	15.00	U	15.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82150 SDG: 82150

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 02/14/17

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	11:54		17:06		17:57				15:35		
Calcium (Ca)	1000.00	U	1000.00	U	1000.00	U			1000.00	U	P
Iron (Fe)	100.00	U	100.00	U	100.00	U			100.00	U	P
Potassium (K)	3000.00	U	3000.00	U	3000.00	U			3000.00	U	P
Magnesium (Mg)	500.00	U	500.00	U	500.00	U			500.00	U	P
Manganese (Mn)	10.00	U	10.00	U	10.00	U			10.00	U	P
Sodium (Na)	5000.00	U	284.00	J	187.00	J			493.00	J	P
Lead (Pb)	15.00	U	15.00	U	15.00	U			15.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No.: 82150 SDG: 82150
ICP ID Number: Phoebe ICS Source: Environmental Express

Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 12:04	Sol AB 12:10	%R(1)
Aluminum (Al)	200000	200000	197900	195900	98.0
Calcium (Ca)	200000	200000	208500	206600	103
Iron (Fe)	200000	200000	187800	187400	93.7
Potassium (K)			31.25	43.57	
Magnesium (Mg)	200000	200000	197800	196300	98.2
Manganese (Mn)		500	0.66	472.5	94.5
Sodium (Na)			51.29	39.12	
Lead (Pb)		1000	1.982	954.8	95.5

(1) Control Limits: Metals 80-120

A.P.P.L. INC.

LLICV Check

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No: 82150 SDG: 82150

Concentration Units: ug/L

Analysis Date: 02/14/17

Analyte	LLICV								
	True LLICV	Found 11:59	%R(1)	True	Found	%R(1)	True	Found	%R(1)
Iron (Fe)	50	57.19	114						
Potassium (K)	1000	1046	105						
Manganese (Mn)	5	4.742	94.8						
Sodium (Na)	1000	1051	105						
Lead (Pb)	3	2.9	96.7						

A.P.P.L. INC.

LLICV Check

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No: 82150 SDG: 82150

Concentration Units: ug/L

Analysis Date: 02/14/17

Analyte	LLICV								
	True LLICV	Found 14:49	%R(1)	True	Found	%R(1)	True	Found	%R(1)
Calcium (Ca)	300	306.2	102						
Magnesium (Mg)	150	152.2	101						

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
ERH225

Lab Name: A.P.P.L. INC.
Contract: AECOM
ARF No.: 82150
SDG: 82150
Matrix: water

Analysis Date: 02/14/17
Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Calcium (Ca)	12810		12730		0.625		
Magnesium (Mg)	11830		11850		0.169		
Sodium (Na)	35740		37530		5.01		

Comments:

02/14/17 16:22 AZ49853W47

02/14/17 16:45 AZ49853W47-1/5

Sequence No.: 43
Sample ID: AZ49853W47-1/5
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 50
Date Collected: 02/14/17 4:45:09 PM
Data Type: Reprocessed on 02/15/17 9:26:11 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W47-1/5

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1520950.6	104.4	%	0.41				0.39%
Y 371.029 Radial	62303.0	101.9	%	3.88				3.80%
Ag 338.289†	-88.4	-1.105	ug/L	0.9481	-5.523	ug/L	4.7403	85.82%
Al 308.215†	3.8	12.45	ug/L	2.473	62.26	ug/L	12.364	19.86%
As 188.979†	4.3	2.044	ug/L	1.7817	10.22	ug/L	8.909	87.15%
B†	14.1	18.12	ug/L	3.979	90.61	ug/L	19.894	21.96%
Ba 233.527†	85.8	0.805	ug/L	0.0390	4.026	ug/L	0.1948	4.84%
Be 313.107†	3.6	0.025	ug/L	0.0147	0.123	ug/L	0.0736	59.91%
Ca 315.887†	6456.8	2545	ug/L	81.2	12730	ug/L	406.2	3.19%
Cd 214.440†	-41.8	-0.330	ug/L	0.0411	-1.652	ug/L	0.2055	12.44%
Co 228.616†	6.7	0.143	ug/L	0.3009	0.714	ug/L	1.5046	210.58%
Cr 267.716†	51.1	0.629	ug/L	0.3087	3.144	ug/L	1.5437	49.11%
Cu 327.393†	43.0	0.647	ug/L	0.2375	3.233	ug/L	1.1873	36.72%
Fe 273.955†	20.7	2.189	ug/L	0.5787	10.95	ug/L	2.893	26.43%
K 766.490†	720.2	431.7	ug/L	28.83	2159	ug/L	144.1	6.68%
Mg 285.213†	11079.8	2370	ug/L	75.1	11850	ug/L	375.5	3.17%
Mn 257.610†	-2.9	-0.509	ug/L	0.1641	-2.545	ug/L	0.8204	32.23%
Mo 202.031†	9.1	0.508	ug/L	0.0325	2.542	ug/L	0.1624	6.39%
Na 589.592†	49751.5	7506	ug/L	245.5	37530	ug/L	1227.3	3.27%
Ni 231.604†	1.5	0.031	ug/L	0.4551	0.154	ug/L	2.2753	>999.9%
P 213.617†	38.8	16.27	ug/L	2.168	81.37	ug/L	10.838	13.32%
Pb 220.353†	-6.1	-0.841	ug/L	0.4508	-4.205	ug/L	2.2539	53.60%
Sb 206.836†	2.7	1.262	ug/L	0.9223	6.312	ug/L	4.6117	73.06%
Se 196.026†	3.3	1.696	ug/L	4.3471	8.478	ug/L	21.7355	256.38%
Sn 189.927†	-17.1	-2.324	ug/L	0.1766	-11.62	ug/L	0.883	7.60%
Sr 421.552†	6728.7	16.30	ug/L	0.558	81.52	ug/L	2.791	3.42%
Ti 337.279†	-0.2	-0.050	ug/L	1.6479	-0.249	ug/L	8.2395	>999.9%
Tl 190.801†	3.3	1.817	ug/L	2.6519	9.084	ug/L	13.2593	145.96%
V 292.402†	611.9	3.962	ug/L	0.2272	19.81	ug/L	1.136	5.73%
Zn 206.200†	20.1	1.908	ug/L	0.0450	9.540	ug/L	0.2252	2.36%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
ERH225

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No.: 82150 SDG: 82150

Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Iron (Fe)	75-125	1052		4.991		1000.000	105		
Potassium (K)	75-125	7337		2064		5000.000	105		
Manganese (Mn)	75-125	262.7		-1.374		250.000	105		
Lead (Pb)	75-125	253.9		-0.848		250.000	102		

Comments:

02/14/17 16:22 AZ49853W47

02/14/17 16:39 AZ49853W47-A

Sequence No.: 42
Sample ID: AZ49853W47-A
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 49
Date Collected: 02/14/17 4:39:31 PM
Data Type: Reprocessed on 02/15/17 9:26:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W47-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1466960.7	100.7	%	0.99				0.98%
Y 371.029 Radial	59647.2	97.58	%	3.324				3.41%
Ag 338.289†	6830.1	85.34	ug/L	0.535	85.34	ug/L	0.535	0.63%
Al 308.215†	647.9	2121	ug/L	78.9	2121	ug/L	78.9	3.72%
As 188.979†	519.7	243.6	ug/L	4.74	243.6	ug/L	4.74	1.94%
B†	244.6	317.1	ug/L	7.80	317.1	ug/L	7.80	2.46%
Ba 233.527†	28488.0	268.0	ug/L	3.28	268.0	ug/L	3.28	1.22%
Be 313.107†	7704.0	53.34	ug/L	2.023	53.34	ug/L	2.023	3.79%
Ca 315.887†	101067.2	39840	ug/L	604.9	39840	ug/L	604.9	1.52%
Cd 214.440†	6364.4	49.62	ug/L	0.701	49.62	ug/L	0.701	1.41%
Co 228.616†	11277.9	264.1	ug/L	3.76	264.1	ug/L	3.76	1.42%
Cr 267.716†	20861.9	263.2	ug/L	2.38	263.2	ug/L	2.38	0.91%
Cu 327.393†	17140.6	257.5	ug/L	5.11	257.5	ug/L	5.11	1.99%
Fe 273.955†	9921.0	1052	ug/L	14.1	1052	ug/L	14.1	1.34%
K 766.490†	12239.6	7337	ug/L	157.8	7337	ug/L	157.8	2.15%
Mg 285.213†	180033.0	38520	ug/L	582.9	38520	ug/L	582.9	1.51%
Mn 257.610†	1963.0	262.7	ug/L	9.33	262.7	ug/L	9.33	3.55%
Mo 202.031†	4238.7	236.6	ug/L	3.24	236.6	ug/L	3.24	1.37%
Na 589.592†	407079.7	61410	ug/L	930.6	61410	ug/L	930.6	1.52%
Ni 231.604†	8952.9	259.4	ug/L	3.66	259.4	ug/L	3.66	1.41%
P 213.617†	4841.3	2029	ug/L	29.8	2029	ug/L	29.8	1.47%
Pb 220.353†	1837.0	253.9	ug/L	4.15	253.9	ug/L	4.15	1.63%
Sb 206.836†	482.5	224.4	ug/L	4.38	224.4	ug/L	4.38	1.95%
Se 196.026†	420.7	236.9	ug/L	4.31	236.9	ug/L	4.31	1.82%
Sn 189.927†	1489.2	242.5	ug/L	3.61	242.5	ug/L	3.61	1.49%
Sr 421.552†	145932.6	353.9	ug/L	4.61	353.9	ug/L	4.61	1.30%
Ti 337.279†	5011.9	258.1	ug/L	9.11	258.1	ug/L	9.11	3.53%
Tl 190.801†	457.8	250.8	ug/L	2.94	250.8	ug/L	2.94	1.17%
V 292.402†	42712.2	282.3	ug/L	3.78	282.3	ug/L	3.78	1.34%
Zn 206.200†	5501.6	522.0	ug/L	7.23	522.0	ug/L	7.23	1.39%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
ERH225

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82150 SDG: 82150

Analysis Date: 02/14/17 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead (Pb)	75-125	253		-0.763		250.000	101		

Comments:

02/14/17 17:11 AZ49853W44 D

02/14/17 17:27 AZ49853W44-A D

Sequence No.: 51
Sample ID: AZ49853W44-A D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 02/14/17 5:27:56 PM
Data Type: Reprocessed on 02/15/17 9:26:20 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W44-A D

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1459526.9	100.2	%	0.38				0.38%
Y 371.029 Radial	59875.2	97.96	%	3.030				3.09%
Ag 338.289†	6921.8	86.49	ug/L	1.332	86.49	ug/L	1.332	1.54%
Al 308.215†	630.2	2063	ug/L	59.2	2063	ug/L	59.2	2.87%
As 188.979†	515.7	241.7	ug/L	1.71	241.7	ug/L	1.71	0.71%
B†	237.4	307.8	ug/L	10.57	307.8	ug/L	10.57	3.43%
Ba 233.527†	27785.7	261.4	ug/L	1.12	261.4	ug/L	1.12	0.43%
Be 313.107†	7535.9	52.17	ug/L	1.648	52.17	ug/L	1.648	3.16%
Ca 315.887†	98868.9	38980	ug/L	1023.1	38980	ug/L	1023.1	2.62%
Cd 214.440†	6194.6	48.30	ug/L	0.174	48.30	ug/L	0.174	0.36%
Co 228.616†	11097.1	259.9	ug/L	0.95	259.9	ug/L	0.95	0.37%
Cr 267.716†	20610.5	260.1	ug/L	1.16	260.1	ug/L	1.16	0.45%
Cu 327.393†	16986.2	255.2	ug/L	3.09	255.2	ug/L	3.09	1.21%
Fe 273.955†	9788.5	1038	ug/L	5.0	1038	ug/L	5.0	0.49%
K 766.490†	11991.6	7188	ug/L	196.1	7188	ug/L	196.1	2.73%
Mg 285.213†	176450.0	37750	ug/L	988.4	37750	ug/L	988.4	2.62%
Mn 257.610†	1912.3	255.9	ug/L	8.02	255.9	ug/L	8.02	3.14%
Mo 202.031†	4222.6	235.7	ug/L	1.44	235.7	ug/L	1.44	0.61%
Na 589.592†	400145.9	60360	ug/L	1494.1	60360	ug/L	1494.1	2.48%
Ni 231.604†	8821.4	255.6	ug/L	0.78	255.6	ug/L	0.78	0.30%
P 213.617†	4769.0	1999	ug/L	8.9	1999	ug/L	8.9	0.45%
Pb 220.353†	1830.1	253.0	ug/L	3.17	253.0	ug/L	3.17	1.25%
Sb 206.836†	492.7	229.2	ug/L	1.79	229.2	ug/L	1.79	0.78%
Se 196.026†	411.2	231.6	ug/L	2.41	231.6	ug/L	2.41	1.04%
Sn 189.927†	1491.5	242.8	ug/L	1.96	242.8	ug/L	1.96	0.81%
Sr 421.552†	142996.0	346.7	ug/L	8.72	346.7	ug/L	8.72	2.51%
Ti 337.279†	4950.9	255.0	ug/L	7.63	255.0	ug/L	7.63	2.99%
Tl 190.801†	453.6	248.6	ug/L	2.70	248.6	ug/L	2.70	1.09%
V 292.402†	42343.3	279.9	ug/L	2.68	279.9	ug/L	2.68	0.96%
Zn 206.200†	5384.0	510.9	ug/L	3.73	510.9	ug/L	3.73	0.73%

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 170214A6010X
Results Library (original): C:\PE\chemist\RESULTS\Results.mdb
Results Data Set (reprocessed):
Results Library (reprocessed):

Sequence No.: 1 Autosampler Location: 1
Sample ID: CalBlk 170214RJS I:PB O:R Date Collected: 02/14/17 11:22:05 AM
Analyst: Data Type: Reprocessed on 02/15/17 9:25:26 AM
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CalBlk 170214RJS I:PB O:R

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1456687.9	11465.22	0.79%	100.0	%
Y 371.029 Radial	61124.5	2742.31	4.49%	100.0	%
Ag 338.289†	511.8	23.66	4.62%	[0.00]	ug/L
Al 308.215†	0.9	0.82	95.25%	[0.00]	ug/L
As 188.979†	-37.3	7.48	20.04%	[0.00]	ug/L
B†	3.7	1.75	46.83%	[0.00]	ug/L
Ba 233.527†	93.0	19.11	20.54%	[0.00]	ug/L
Be 313.107†	-5.5	2.32	42.37%	[0.00]	ug/L
Ca 315.887†	-31.2	0.45	1.43%	[0.00]	ug/L
Cd 214.440†	38.7	11.65	30.12%	[0.00]	ug/L
Co 228.616†	79.3	12.95	16.32%	[0.00]	ug/L
Cr 267.716†	369.1	9.81	2.66%	[0.00]	ug/L
Cu 327.393†	-261.5	56.99	21.79%	[0.00]	ug/L
Fe 273.955†	-100.4	2.20	2.19%	[0.00]	ug/L
K 766.490†	362.3	25.09	6.92%	[0.00]	ug/L
Mg 285.213†	-35.1	5.32	15.15%	[0.00]	ug/L
Mn 257.610†	-38.6	2.55	6.61%	[0.00]	ug/L
Mo 202.031†	33.9	4.04	11.91%	[0.00]	ug/L
Na 589.592†	-118.0	108.08	91.63%	[0.00]	ug/L
Ni 231.604†	-101.8	6.63	6.51%	[0.00]	ug/L
P 213.617†	-71.4	3.88	5.44%	[0.00]	ug/L
Pb 220.353†	4.0	2.92	72.81%	[0.00]	ug/L
Sb 206.836†	-2.7	2.21	83.08%	[0.00]	ug/L
Se 196.026†	6.3	2.74	43.33%	[0.00]	ug/L
Sn 189.927†	43.6	3.84	8.81%	[0.00]	ug/L
Sr 421.552†	570.6	8.25	1.45%	[0.00]	ug/L
Ti 337.279†	-182.4	8.01	4.39%	[0.00]	ug/L
Tl 190.801†	-7.3	1.98	27.24%	[0.00]	ug/L
V 292.402†	-558.0	82.36	14.76%	[0.00]	ug/L
Zn 206.200†	-327.9	2.38	0.73%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 02/14/17 11:30:38 AM
Data Type: Reprocessed on 02/15/17 9:25:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1449675.9	22467.36	1.55%	99.52	%
Y 371.029 Radial	60811.7	961.60	1.58%	99.49	%
Ag 338.289†	57.8	81.34	140.84%	[1.00]	ug/L
Al 308.215†	32.4	1.00	3.07%	[100.00]	ug/L
As 188.979†	10.3	4.68	45.63%	[3.50]	ug/L
B†	39.8	3.86	9.71%	[50.00]	ug/L
Ba 233.527†	583.4	26.62	4.56%	[5.00]	ug/L
Be 313.107†	297.1	4.92	1.66%	[2.00]	ug/L
Ca 315.887†	466.7	5.86	1.26%	[100.00]	ug/L
Cd 214.440†	693.7	12.15	1.75%	[5.00]	ug/L
Co 228.616†	243.6	10.80	4.43%	[5.00]	ug/L
Cr 267.716†	442.7	16.24	3.67%	[5.00]	ug/L
Cu 327.393†	371.4	9.84	2.65%	[5.00]	ug/L
Fe 273.955†	534.6	1.78	0.33%	[50.00]	ug/L
K 766.490†	1620.9	71.42	4.41%	[1000.00]	ug/L
Mg 285.213†	291.1	1.32	0.45%	[50]	ug/L
Mn 257.610†	33.0	2.36	7.15%	[5.00]	ug/L
Mo 202.031†	90.2	6.01	6.66%	[5.00]	ug/L
Na 589.592†	6748.1	197.93	2.93%	[1000.00]	ug/L
Ni 231.604†	187.0	4.36	2.33%	[5.00]	ug/L
P 213.617†	56.6	1.82	3.21%	[25.00]	ug/L
Pb 220.353†	18.5	2.15	11.64%	[3.00]	ug/L
Sb 206.836†	7.6	4.40	58.05%	[5.00]	ug/L
Se 196.026†	16.9	1.86	11.02%	[5.00]	ug/L
Sn 189.927†	31.9	2.75	8.63%	[5.00]	ug/L
Sr 421.552†	2048.6	124.77	6.09%	[5.00]	ug/L
Ti 337.279†	100.3	45.03	44.88%	[5.00]	ug/L
Tl 190.801†	8.9	3.14	35.28%	[5.00]	ug/L
V 292.402†	769.0	76.47	9.94%	[5.00]	ug/L
Zn 206.200†	250.0	1.55	0.62%	[20.00]	ug/L

Sequence No.: 3
Sample ID: STD 2 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 02/14/17 11:35:35 AM
Data Type: Reprocessed on 02/15/17 9:25:28 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1424410.3	9894.61	0.69%	97.78	%
Y 371.029 Radial	57051.4	336.34	0.59%	93.34	%
Ag 338.289†	40559.4	178.49	0.44%	[500.0]	ug/L
Al 308.215†	6271.2	41.59	0.66%	[20000.00]	ug/L
As 188.979†	2156.4	8.67	0.40%	[1000.00]	ug/L
B†	787.1	15.07	1.92%	[1000.00]	ug/L
Ba 233.527†	108612.9	304.14	0.28%	[1000.00]	ug/L
Be 313.107†	149054.5	3793.82	2.55%	[1000.00]	ug/L
Ca 315.887†	130732.0	3264.02	2.50%	[50000]	ug/L
Cd 214.440†	132506.0	588.62	0.44%	[1000.00]	ug/L
Co 228.616†	45070.0	208.37	0.46%	[1000.00]	ug/L
Cr 267.716†	80967.6	216.52	0.27%	[1000.00]	ug/L
Cu 327.393†	67593.4	206.77	0.31%	[1000.00]	ug/L
Fe 273.955†	192896.2	186.67	0.10%	[20000]	ug/L
K 766.490†	34336.6	875.84	2.55%	[20000]	ug/L
Mg 285.213†	245144.1	6208.61	2.53%	[50000]	ug/L
Mn 257.610†	7658.5	50.89	0.66%	[1000.00]	ug/L
Mo 202.031†	18041.3	70.68	0.39%	[1000.00]	ug/L
Na 589.592†	171446.4	4416.31	2.58%	[25000]	ug/L
Ni 231.604†	36119.8	128.78	0.36%	[1000.00]	ug/L
P 213.617†	11926.9	50.34	0.42%	[5000]	ug/L
Pb 220.353†	7378.7	22.76	0.31%	[1000.00]	ug/L
Sb 206.836†	2152.6	0.95	0.04%	[1000.00]	ug/L
Se 196.026†	1782.7	11.70	0.66%	[1000.00]	ug/L
Sn 189.927†	6298.8	23.69	0.38%	[1000.00]	ug/L
Sr 421.552†	425382.8	11594.29	2.73%	[1000.00]	ug/L
Ti 337.279†	20285.6	123.59	0.61%	[1000.00]	ug/L
Tl 190.801†	1850.1	16.21	0.88%	[1000.00]	ug/L
V 292.402†	156623.0	511.88	0.33%	[1000.00]	ug/L
Zn 206.200†	11095.8	40.30	0.36%	[1000.00]	ug/L

Sequence No.: 4
Sample ID: STD 3 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 02/14/17 11:40:30 AM
Data Type: Reprocessed on 02/15/17 9:25:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1375600.7	15690.29	1.14%	94.43	%
Y 371.029 Radial	57936.8	1882.82	3.25%	94.78	%
Ag 338.289†	79763.3	72.27	0.09%	[1000.00]	ug/L
Al 308.215†	12136.9	455.57	3.75%	[40000.00]	ug/L
As 188.979†	4276.0	50.01	1.17%	[2000.00]	ug/L
B†	1539.5	64.55	4.19%	[2000.00]	ug/L
Ba 233.527†	211508.5	415.24	0.20%	[2000.00]	ug/L
Be 313.107†	286569.7	16074.50	5.61%	[2000.00]	ug/L
Ca 315.887†	251666.7	14163.66	5.63%	[100000.0]	ug/L
Cd 214.440†	254868.7	302.23	0.12%	[2000.00]	ug/L
Co 228.616†	84079.7	274.86	0.33%	[2000.00]	ug/L
Cr 267.716†	157604.3	202.50	0.13%	[2000.00]	ug/L
Cu 327.393†	132632.2	715.46	0.54%	[2000.00]	ug/L
Fe 273.955†	375220.5	1108.02	0.30%	[40000]	ug/L
K 766.490†	66241.2	3682.82	5.56%	[40000]	ug/L
Mg 285.213†	461720.2	25570.18	5.54%	[100000]	ug/L
Mn 257.610†	14731.3	542.67	3.68%	[2000.00]	ug/L
Mo 202.031†	35800.4	296.42	0.83%	[2000.00]	ug/L
Na 589.592†	328526.8	18625.22	5.67%	[50000]	ug/L
Ni 231.604†	68035.8	108.04	0.16%	[2000.00]	ug/L
P 213.617†	23862.9	226.33	0.95%	[10000]	ug/L
Pb 220.353†	14395.6	98.68	0.69%	[2000.00]	ug/L
Sb 206.836†	4298.5	51.49	1.20%	[2000.00]	ug/L
Se 196.026†	3510.8	21.66	0.62%	[2000.00]	ug/L
Sn 189.927†	12582.2	98.79	0.79%	[2000.00]	ug/L
Sr 421.552†	817499.2	46546.18	5.69%	[2000.00]	ug/L
Ti 337.279†	38278.4	2170.73	5.67%	[2000.00]	ug/L
Tl 190.801†	3637.4	18.37	0.51%	[2000.00]	ug/L
V 292.402†	307048.8	790.77	0.26%	[2000.00]	ug/L
Zn 206.200†	20798.7	43.81	0.21%	[2000.00]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	80.03	0.00000	0.999977	
Al 308.215	3	Lin Thru 0	0.0	0.3055	0.00000	0.999912	
As 188.979	3	Lin Thru 0	0.0	2.142	0.00000	0.999994	
B	3	Lin Thru 0	0.0	0.7732	0.00000	0.999960	
Ba 233.527	3	Lin Thru 0	0.0	106.3	0.00000	0.999942	
Be 313.107	3	Lin Thru 0	0.0	144.4	0.00000	0.999872	
Ca 315.887	3	Lin Thru 0	0.0	2.536	0.00000	0.999880	
Cd 214.440	3	Lin Thru 0	0.0	128.4	0.00000	0.999875	
Co 228.616	3	Lin Thru 0	0.0	42.65	0.00000	0.999596	
Cr 267.716	3	Lin Thru 0	0.0	79.24	0.00000	0.999940	
Cu 327.393	3	Lin Thru 0	0.0	66.57	0.00000	0.999971	
Fe 273.955	3	Lin Thru 0	0.0	9.433	0.00000	0.999937	
K 766.490	3	Lin Thru 0	0.0	1.668	0.00000	0.999894	
Mg 285.213	3	Lin Thru 0	0.0	4.674	0.00000	0.999701	
Mn 257.610	3	Lin Thru 0	0.0	7.424	0.00000	0.999876	
Mo 202.031	3	Lin Thru 0	0.0	17.93	0.00000	0.999995	
Na 589.592	3	Lin Thru 0	0.0	6.628	0.00000	0.999850	
Ni 231.604	3	Lin Thru 0	0.0	34.44	0.00000	0.999702	
P 213.617	3	Lin Thru 0	0.0	2.386	0.00000	1.000000	
Pb 220.353	3	Lin Thru 0	0.0	7.234	0.00000	0.999950	
Sb 206.836	3	Lin Thru 0	0.0	2.150	0.00000	1.000000	
Se 196.026	3	Lin Thru 0	0.0	1.761	0.00000	0.999979	
Sn 189.927	3	Lin Thru 0	0.0	6.293	0.00000	1.000000	
Sr 421.552	3	Lin Thru 0	0.0	412.1	0.00000	0.999870	

Ti 337.279	3	Lin Thru 0	0.0	19.37	0.00000	0.999720
Tl 190.801	3	Lin Thru 0	0.0	1.825	0.00000	0.999976
V 292.402	3	Lin Thru 0	0.0	154.1	0.00000	0.999968
Zn 206.200	3	Lin Thru 0	0.0	10.54	0.00000	0.999649

Sequence No.: 5
Sample ID: ICV 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 02/14/17 11:45:56 AM
Data Type: Reprocessed on 02/15/17 9:25:31 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1450114.0	99.55	%	0.269				0.27%
Y 371.029 Radial	57757.3	94.49	%	1.343				1.42%
Ag 338.289†	39114.1	488.7	ug/L	5.11	488.7	ug/L	5.11	1.05%
QC value within limits for Ag 338.289 Recovery = 97.74%								
Al 308.215†	7434.6	24340	ug/L	371.3	24340	ug/L	371.3	1.53%
QC value within limits for Al 308.215 Recovery = 97.36%								
As 188.979†	1949.3	919.0	ug/L	0.62	919.0	ug/L	0.62	0.07%
QC value within limits for As 188.979 Recovery = 91.90%								
B†	768.2	1055	ug/L	22.5	1055	ug/L	22.5	2.13%
QC value within limits for B Recovery = 105.53%								
Ba 233.527†	102571.9	964.4	ug/L	4.77	964.4	ug/L	4.77	0.49%
QC value within limits for Ba 233.527 Recovery = 96.44%								
Be 313.107†	143480.8	993.4	ug/L	17.32	993.4	ug/L	17.32	1.74%
QC value within limits for Be 313.107 Recovery = 99.34%								
Ca 315.887†	63507.9	25030	ug/L	377.5	25030	ug/L	377.5	1.51%
QC value within limits for Ca 315.887 Recovery = 100.12%								
Cd 214.440†	125046.0	973.0	ug/L	3.24	973.0	ug/L	3.24	0.33%
QC value within limits for Cd 214.440 Recovery = 97.30%								
Co 228.616†	41497.4	972.0	ug/L	4.65	972.0	ug/L	4.65	0.48%
QC value within limits for Co 228.616 Recovery = 97.20%								
Cr 267.716†	76046.7	961.1	ug/L	4.78	961.1	ug/L	4.78	0.50%
QC value within limits for Cr 267.716 Recovery = 96.11%								
Cu 327.393†	63851.6	959.1	ug/L	13.52	959.1	ug/L	13.52	1.41%
QC value within limits for Cu 327.393 Recovery = 95.91%								
Fe 273.955†	234565.2	24870	ug/L	114.5	24870	ug/L	114.5	0.46%
QC value within limits for Fe 273.955 Recovery = 99.46%								
K 766.490†	40825.8	24470	ug/L	482.4	24470	ug/L	482.4	1.97%
QC value within limits for K 766.490 Recovery = 97.89%								
Mg 285.213†	119149.2	25520	ug/L	424.0	25520	ug/L	424.0	1.66%
QC value within limits for Mg 285.213 Recovery = 102.07%								
Mn 257.610†	7204.3	970.7	ug/L	14.61	970.7	ug/L	14.61	1.51%
QC value within limits for Mn 257.610 Recovery = 97.07%								
Mo 202.031†	16374.4	915.9	ug/L	5.22	915.9	ug/L	5.22	0.57%
QC value within limits for Mo 202.031 Recovery = 91.59%								
Na 589.592†	163374.3	24640	ug/L	441.6	24640	ug/L	441.6	1.79%
QC value within limits for Na 589.592 Recovery = 98.55%								
Ni 231.604†	34076.6	988.4	ug/L	5.07	988.4	ug/L	5.07	0.51%
QC value within limits for Ni 231.604 Recovery = 98.84%								
P 213.617†	10963.2	4595	ug/L	33.4	4595	ug/L	33.4	0.73%
QC value within limits for P 213.617 Recovery = 91.89%								
Pb 220.353†	7079.7	978.7	ug/L	2.84	978.7	ug/L	2.84	0.29%
QC value within limits for Pb 220.353 Recovery = 97.87%								
Sb 206.836†	2035.9	947.0	ug/L	2.61	947.0	ug/L	2.61	0.28%
QC value within limits for Sb 206.836 Recovery = 94.70%								
Se 196.026†	1670.9	956.8	ug/L	2.75	956.8	ug/L	2.75	0.29%
QC value within limits for Se 196.026 Recovery = 95.68%								
Sn 189.927†	3392.5	543.1	ug/L	2.62	543.1	ug/L	2.62	0.48%
QC value within limits for Sn 189.927 Recovery = 108.62%								
Sr 421.552†	404154.7	980.8	ug/L	15.97	980.8	ug/L	15.97	1.63%
QC value within limits for Sr 421.552 Recovery = 98.08%								
Ti 337.279†	19259.7	993.9	ug/L	15.48	993.9	ug/L	15.48	1.56%
QC value within limits for Ti 337.279 Recovery = 99.39%								
Tl 190.801†	1840.8	1009	ug/L	2.9	1009	ug/L	2.9	0.29%
QC value within limits for Tl 190.801 Recovery = 100.87%								
V 292.402†	146459.5	966.3	ug/L	5.99	966.3	ug/L	5.99	0.62%
QC value within limits for V 292.402 Recovery = 96.63%								
Zn 206.200†	10483.3	994.7	ug/L	0.89	994.7	ug/L	0.89	0.09%
QC value within limits for Zn 206.200 Recovery = 99.47%								

All analyte(s) passed QC.

Sequence No.: 6
Sample ID: ICB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 11:54:40 AM
Data Type: Reprocessed on 02/15/17 9:25:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1486019.2	102.0	%	1.44				1.41%
Y 371.029 Radial	58310.9	95.40	%	2.000				2.10%
Ag 338.289†	-30.2	-0.378	ug/L	1.1261	-0.378	ug/L	1.1261	298.24%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	2.2	7.077	ug/L	5.8027	7.077	ug/L	5.8027	82.00%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	3.6	1.690	ug/L	2.2425	1.690	ug/L	2.2425	132.68%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	7.1	9.204	ug/L	6.1555	9.204	ug/L	6.1555	66.88%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	6.2	0.058	ug/L	0.0139	0.058	ug/L	0.0139	23.95%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	1.9	0.013	ug/L	0.0178	0.013	ug/L	0.0178	135.99%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	-5.7	-2.265	ug/L	2.5022	-2.265	ug/L	2.5022	110.49%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	1.1	0.009	ug/L	0.0716	0.009	ug/L	0.0716	771.91%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	8.6	0.205	ug/L	0.2078	0.205	ug/L	0.2078	101.20%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	25.4	0.321	ug/L	0.1242	0.321	ug/L	0.1242	38.73%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	71.3	1.071	ug/L	0.8332	1.071	ug/L	0.8332	77.78%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	8.0	0.846	ug/L	0.4078	0.846	ug/L	0.4078	48.20%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	107.3	64.33	ug/L	11.620	64.33	ug/L	11.620	18.06%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	-4.8	-1.029	ug/L	2.2260	-1.029	ug/L	2.2260	216.40%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-4.5	-0.607	ug/L	0.1974	-0.607	ug/L	0.1974	32.53%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	22.8	1.271	ug/L	0.5045	1.271	ug/L	0.5045	39.69%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	274.4	41.37	ug/L	6.792	41.37	ug/L	6.792	16.42%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	5.3	0.152	ug/L	0.2491	0.152	ug/L	0.2491	164.11%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	0.6	0.244	ug/L	0.7194	0.244	ug/L	0.7194	294.71%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	5.6	0.781	ug/L	0.6198	0.781	ug/L	0.6198	79.40%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.8	-0.370	ug/L	1.1119	-0.370	ug/L	1.1119	300.47%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.8	2.728	ug/L	2.0055	2.728	ug/L	2.0055	73.53%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	22.6	3.596	ug/L	0.3481	3.596	ug/L	0.3481	9.68%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	-26.5	-0.064	ug/L	0.1061	-0.064	ug/L	0.1061	165.30%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-6.7	-0.344	ug/L	0.9631	-0.344	ug/L	0.9631	280.21%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	7.0	3.849	ug/L	0.7475	3.849	ug/L	0.7475	19.42%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	13.5	0.109	ug/L	0.5225	0.109	ug/L	0.5225	481.17%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	2.3	0.215	ug/L	0.4282	0.215	ug/L	0.4282	198.76%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 7
Sample ID: LLICV 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 02/14/17 11:59:30 AM
Data Type: Reprocessed on 02/15/17 9:25:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: LLICV 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1480820.5	101.7	%	0.46				0.45%
Y 371.029 Radial	59288.4	97.00	%	1.742				1.80%
Ag 338.289†	30.3	0.379	ug/L	0.2430	0.379	ug/L	0.2430	64.13%
QC value less than the lower limit for Ag 338.289 Recovery = 7.58%								
Al 308.215†	35.4	116.0	ug/L	4.76	116.0	ug/L	4.76	4.10%
QC value less than the lower limit for Al 308.215 Recovery = 23.19%								
As 188.979†	11.4	5.336	ug/L	1.7654	5.336	ug/L	1.7654	33.08%
QC value less than the lower limit for As 188.979 Recovery = 30.49%								
B†	42.3	54.82	ug/L	4.111	54.82	ug/L	4.111	7.50%
QC value less than the lower limit for B Recovery = 21.93%								
Ba 233.527†	577.6	5.432	ug/L	0.1245	5.432	ug/L	0.1245	2.29%
QC value less than the lower limit for Ba 233.527 Recovery = 21.73%								
Be 313.107†	308.3	2.134	ug/L	0.0293	2.134	ug/L	0.0293	1.37%
QC value less than the lower limit for Be 313.107 Recovery = 21.34%								
Ca 315.887†	466.4	183.7	ug/L	3.76	183.7	ug/L	3.76	2.05%
QC value less than the lower limit for Ca 315.887 Recovery = 36.75%								
Cd 214.440†	691.7	5.386	ug/L	0.0281	5.386	ug/L	0.0281	0.52%
QC value less than the lower limit for Cd 214.440 Recovery = 21.54%								
Co 228.616†	240.0	5.621	ug/L	0.1334	5.621	ug/L	0.1334	2.37%
QC value less than the lower limit for Co 228.616 Recovery = 22.48%								
Cr 267.716†	435.9	5.509	ug/L	0.1103	5.509	ug/L	0.1103	2.00%
QC value less than the lower limit for Cr 267.716 Recovery = 22.04%								
Cu 327.393†	425.6	6.394	ug/L	0.6257	6.394	ug/L	0.6257	9.79%
QC value less than the lower limit for Cu 327.393 Recovery = 25.57%								
Fe 273.955†	539.4	57.19	ug/L	0.220	57.19	ug/L	0.220	0.38%
QC value less than the lower limit for Fe 273.955 Recovery = 22.87%								
K 766.490†	1745.4	1046	ug/L	48.5	1046	ug/L	48.5	4.64%
QC value less than the lower limit for K 766.490 Recovery = 20.93%								
Mg 285.213†	299.8	64.16	ug/L	0.866	64.16	ug/L	0.866	1.35%
QC value less than the lower limit for Mg 285.213 Recovery = 25.66%								
Mn 257.610†	35.2	4.742	ug/L	0.2589	4.742	ug/L	0.2589	5.46%
QC value less than the lower limit for Mn 257.610 Recovery = 18.97%								
Mo 202.031†	103.2	5.766	ug/L	0.1484	5.766	ug/L	0.1484	2.57%
QC value less than the lower limit for Mo 202.031 Recovery = 23.06%								
Na 589.592†	6967.1	1051	ug/L	5.1	1051	ug/L	5.1	0.49%
QC value less than the lower limit for Na 589.592 Recovery = 21.01%								
Ni 231.604†	192.9	5.589	ug/L	0.3599	5.589	ug/L	0.3599	6.44%
QC value less than the lower limit for Ni 231.604 Recovery = 22.35%								
P 213.617†	61.0	25.55	ug/L	1.465	25.55	ug/L	1.465	5.73%
QC value less than the lower limit for P 213.617 Recovery = 20.44%								
Pb 220.353†	21.0	2.900	ug/L	0.5195	2.900	ug/L	0.5195	17.91%
QC value less than the lower limit for Pb 220.353 Recovery = 19.33%								
Sb 206.836†	8.5	3.962	ug/L	2.2767	3.962	ug/L	2.2767	57.46%
QC value less than the lower limit for Sb 206.836 Recovery = 15.85%								
Se 196.026†	14.9	8.459	ug/L	4.0303	8.459	ug/L	4.0303	47.65%
QC value less than the lower limit for Se 196.026 Recovery = 33.84%								
Sn 189.927†	42.7	6.823	ug/L	1.1525	6.823	ug/L	1.1525	16.89%
QC value less than the lower limit for Sn 189.927 Recovery = 27.29%								
Sr 421.552†	2075.3	5.037	ug/L	0.3145	5.037	ug/L	0.3145	6.25%
QC value less than the lower limit for Sr 421.552 Recovery = 20.15%								
Ti 337.279†	124.3	6.413	ug/L	1.3396	6.413	ug/L	1.3396	20.89%
QC value less than the lower limit for Ti 337.279 Recovery = 25.65%								
Tl 190.801†	12.8	6.990	ug/L	0.7475	6.990	ug/L	0.7475	10.69%
QC value less than the lower limit for Tl 190.801 Recovery = 27.96%								
V 292.402†	858.4	5.682	ug/L	0.0636	5.682	ug/L	0.0636	1.12%
QC value less than the lower limit for V 292.402 Recovery = 22.73%								
Zn 206.200†	255.2	24.21	ug/L	0.183	24.21	ug/L	0.183	0.76%
QC value less than the lower limit for Zn 206.200 Recovery = 24.21%								

QC Failed. Continue with analysis.

Sequence No.: 8
Sample ID: ICSA 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 02/14/17 12:04:27 PM
Data Type: Reprocessed on 02/15/17 9:25:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1358894.7	93.29	%	0.509				0.55%
Y 371.029 Radial	55472.3	90.75	%	0.649				0.72%
Ag 338.289†	-4.0	-0.051	ug/L	1.3802	-0.051	ug/L	1.3802	>999.9%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	60434.2	197900	ug/L	4541.9	197900	ug/L	4541.9	2.30%
QC value within limits for Al 308.215 Recovery = 98.93%								
As 188.979†	-99.3	-0.250	ug/L	3.2148	-0.250	ug/L	3.2148	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	-366.1	2.468	ug/L	4.4322	2.468	ug/L	4.4322	179.58%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	651.2	-1.987	ug/L	0.1192	-1.987	ug/L	0.1192	6.00%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	8.4	0.058	ug/L	0.0175	0.058	ug/L	0.0175	29.98%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	529028.2	208500	ug/L	4123.8	208500	ug/L	4123.8	1.98%
QC value within limits for Ca 315.887 Recovery = 104.27%								
Cd 214.440†	1106.2	0.082	ug/L	0.2668	0.082	ug/L	0.2668	324.16%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	187.9	-0.162	ug/L	0.2970	-0.162	ug/L	0.2970	183.30%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-125.8	1.422	ug/L	0.3200	1.422	ug/L	0.3200	22.51%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-47.8	-0.718	ug/L	0.3601	-0.718	ug/L	0.3601	50.16%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	1771738.9	187800	ug/L	596.9	187800	ug/L	596.9	0.32%
QC value within limits for Fe 273.955 Recovery = 93.91%								
K 766.490†	52.1	31.25	ug/L	18.717	31.25	ug/L	18.717	59.89%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	923480.3	197800	ug/L	4136.8	197800	ug/L	4136.8	2.09%
QC value within limits for Mg 285.213 Recovery = 98.89%								
Mn 257.610†	-2.8	0.660	ug/L	0.3873	0.660	ug/L	0.3873	58.71%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-212.9	2.706	ug/L	0.7680	2.706	ug/L	0.7680	28.39%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	228.1	51.29	ug/L	1.139	51.29	ug/L	1.139	2.22%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-214.9	-0.406	ug/L	0.4290	-0.406	ug/L	0.4290	105.72%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	4.7	1.982	ug/L	3.5111	1.982	ug/L	3.5111	177.19%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	14.3	1.982	ug/L	0.7806	1.982	ug/L	0.7806	39.39%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-4.4	-2.025	ug/L	1.7644	-2.025	ug/L	1.7644	87.11%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-118.8	0.681	ug/L	8.0921	0.681	ug/L	8.0921	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-166.2	-8.565	ug/L	1.5024	-8.565	ug/L	1.5024	17.54%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	432.4	0.767	ug/L	0.0360	0.767	ug/L	0.0360	4.69%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	41.3	-1.421	ug/L	0.3535	-1.421	ug/L	0.3535	24.88%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	1.9	1.065	ug/L	1.4554	1.065	ug/L	1.4554	136.72%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	5777.5	0.084	ug/L	0.2480	0.084	ug/L	0.2480	296.78%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-383.6	-36.40	ug/L	0.481	-36.40	ug/L	0.481	1.32%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: ICSAB 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 02/14/17 12:10:00 PM
Data Type: Reprocessed on 02/15/17 9:25:35 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1355687.9	93.07	%	0.115				0.12%
Y 371.029 Radial	56170.8	91.90	%	3.314				3.61%
Ag 338.289†	80406.8	1005	ug/L	1.9	1005	ug/L	1.9	0.19%
QC value within limits for Ag 338.289 Recovery = 100.47%								
Al 308.215†	59852.6	195900	ug/L	3830.5	195900	ug/L	3830.5	1.95%
QC value within limits for Al 308.215 Recovery = 97.97%								
As 188.979†	835.4	434.2	ug/L	0.43	434.2	ug/L	0.43	0.10%
QC value within limits for As 188.979 Recovery = 86.83%								
B†	-368.0	-1.442	ug/L	19.8606	-1.442	ug/L	19.8606	>999.9%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	51073.0	472.6	ug/L	0.60	472.6	ug/L	0.60	0.13%
QC value within limits for Ba 233.527 Recovery = 94.52%								
Be 313.107†	71496.6	495.0	ug/L	8.79	495.0	ug/L	8.79	1.78%
QC value within limits for Be 313.107 Recovery = 99.00%								
Ca 315.887†	524114.9	206600	ug/L	3964.2	206600	ug/L	3964.2	1.92%
QC value within limits for Ca 315.887 Recovery = 103.30%								
Cd 214.440†	119903.6	925.1	ug/L	2.80	925.1	ug/L	2.80	0.30%
QC value within limits for Cd 214.440 Recovery = 92.51%								
Co 228.616†	20730.3	482.4	ug/L	0.51	482.4	ug/L	0.51	0.11%
QC value within limits for Co 228.616 Recovery = 96.48%								
Cr 267.716†	37310.1	474.4	ug/L	0.56	474.4	ug/L	0.56	0.12%
QC value within limits for Cr 267.716 Recovery = 94.88%								
Cu 327.393†	33175.7	498.3	ug/L	2.13	498.3	ug/L	2.13	0.43%
QC value within limits for Cu 327.393 Recovery = 99.67%								
Fe 273.955†	1767864.8	187400	ug/L	568.8	187400	ug/L	568.8	0.30%
QC value within limits for Fe 273.955 Recovery = 93.70%								
K 766.490†	72.7	43.57	ug/L	43.527	43.57	ug/L	43.527	99.90%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	916776.9	196300	ug/L	3903.6	196300	ug/L	3903.6	1.99%
QC value within limits for Mg 285.213 Recovery = 98.17%								
Mn 257.610†	3499.3	472.5	ug/L	17.15	472.5	ug/L	17.15	3.63%
QC value within limits for Mn 257.610 Recovery = 94.50%								
Mo 202.031†	8063.8	464.7	ug/L	1.55	464.7	ug/L	1.55	0.33%
QC value within limits for Mo 202.031 Recovery = 92.94%								
Na 589.592†	157.6	39.12	ug/L	0.088	39.12	ug/L	0.088	0.22%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	32732.3	955.4	ug/L	1.58	955.4	ug/L	1.58	0.16%
QC value within limits for Ni 231.604 Recovery = 95.54%								
P 213.617†	-28.1	-11.80	ug/L	2.047	-11.80	ug/L	2.047	17.36%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	6906.9	954.8	ug/L	0.82	954.8	ug/L	0.82	0.09%
QC value within limits for Pb 220.353 Recovery = 95.48%								
Sb 206.836†	995.1	462.9	ug/L	2.07	462.9	ug/L	2.07	0.45%
QC value within limits for Sb 206.836 Recovery = 92.57%								
Se 196.026†	724.6	479.5	ug/L	8.29	479.5	ug/L	8.29	1.73%
QC value within limits for Se 196.026 Recovery = 95.90%								
Sn 189.927†	-181.8	-10.94	ug/L	1.532	-10.94	ug/L	1.532	14.00%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	385.7	0.666	ug/L	0.1052	0.666	ug/L	0.1052	15.80%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	45.6	-1.127	ug/L	0.4100	-1.127	ug/L	0.4100	36.38%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	915.5	501.6	ug/L	2.96	501.6	ug/L	2.96	0.59%
QC value within limits for Tl 190.801 Recovery = 100.32%								
V 292.402†	78350.5	482.0	ug/L	0.24	482.0	ug/L	0.24	0.05%
QC value within limits for V 292.402 Recovery = 96.39%								
Zn 206.200†	9893.2	938.7	ug/L	0.60	938.7	ug/L	0.60	0.06%
QC value within limits for Zn 206.200 Recovery = 93.87%								

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV1 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 02/14/17 12:15:26 PM
Data Type: Reprocessed on 02/15/17 9:25:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1429135.7	98.11	%	0.722				0.74%
Y 371.029 Radial	57958.9	94.82	%	1.977				2.08%
Ag 338.289†	41411.6	517.4	ug/L	2.89	517.4	ug/L	2.89	0.56%
QC value within limits for Ag 338.289 Recovery = 103.48%								
Al 308.215†	6301.1	20630	ug/L	485.0	20630	ug/L	485.0	2.35%
QC value within limits for Al 308.215 Recovery = 103.14%								
As 188.979†	2155.4	1014	ug/L	6.9	1014	ug/L	6.9	0.68%
QC value within limits for As 188.979 Recovery = 101.39%								
B†	782.3	1062	ug/L	30.6	1062	ug/L	30.6	2.88%
QC value within limits for B Recovery = 106.19%								
Ba 233.527†	109154.7	1026	ug/L	1.4	1026	ug/L	1.4	0.13%
QC value within limits for Ba 233.527 Recovery = 102.64%								
Be 313.107†	150828.8	1044	ug/L	33.2	1044	ug/L	33.2	3.18%
QC value within limits for Be 313.107 Recovery = 104.42%								
Ca 315.887†	131319.6	51770	ug/L	1584.9	51770	ug/L	1584.9	3.06%
QC value within limits for Ca 315.887 Recovery = 103.53%								
Cd 214.440†	132067.2	1028	ug/L	4.3	1028	ug/L	4.3	0.42%
QC value within limits for Cd 214.440 Recovery = 102.79%								
Co 228.616†	45399.9	1064	ug/L	8.6	1064	ug/L	8.6	0.81%
QC value within limits for Co 228.616 Recovery = 106.35%								
Cr 267.716†	81150.1	1025	ug/L	3.1	1025	ug/L	3.1	0.30%
QC value within limits for Cr 267.716 Recovery = 102.53%								
Cu 327.393†	68346.6	1027	ug/L	2.7	1027	ug/L	2.7	0.26%
QC value within limits for Cu 327.393 Recovery = 102.67%								
Fe 273.955†	196789.9	20860	ug/L	54.6	20860	ug/L	54.6	0.26%
QC value within limits for Fe 273.955 Recovery = 104.31%								
K 766.490†	34253.8	20530	ug/L	692.9	20530	ug/L	692.9	3.37%
QC value within limits for K 766.490 Recovery = 102.67%								
Mg 285.213†	244582.4	52350	ug/L	1628.8	52350	ug/L	1628.8	3.11%
QC value within limits for Mg 285.213 Recovery = 104.69%								
Mn 257.610†	7685.1	1034	ug/L	25.8	1034	ug/L	25.8	2.49%
QC value within limits for Mn 257.610 Recovery = 103.40%								
Mo 202.031†	18009.0	1007	ug/L	8.3	1007	ug/L	8.3	0.82%
QC value within limits for Mo 202.031 Recovery = 100.67%								
Na 589.592†	171034.6	25790	ug/L	790.2	25790	ug/L	790.2	3.06%
QC value within limits for Na 589.592 Recovery = 103.16%								
Ni 231.604†	36361.1	1054	ug/L	9.1	1054	ug/L	9.1	0.86%
QC value within limits for Ni 231.604 Recovery = 105.44%								
P 213.617†	12017.5	5036	ug/L	40.0	5036	ug/L	40.0	0.79%
QC value within limits for P 213.617 Recovery = 100.73%								
Pb 220.353†	7484.4	1035	ug/L	8.7	1035	ug/L	8.7	0.84%
QC value within limits for Pb 220.353 Recovery = 103.46%								
Sb 206.836†	2166.1	1008	ug/L	8.2	1008	ug/L	8.2	0.82%
QC value within limits for Sb 206.836 Recovery = 100.75%								
Se 196.026†	1777.6	1015	ug/L	7.4	1015	ug/L	7.4	0.73%
QC value within limits for Se 196.026 Recovery = 101.50%								
Sn 189.927†	6288.8	1007	ug/L	9.3	1007	ug/L	9.3	0.92%
QC value within limits for Sn 189.927 Recovery = 100.68%								
Sr 421.552†	424446.7	1030	ug/L	31.7	1030	ug/L	31.7	3.07%
QC value within limits for Sr 421.552 Recovery = 102.99%								
Ti 337.279†	20298.0	1047	ug/L	25.4	1047	ug/L	25.4	2.42%
QC value within limits for Ti 337.279 Recovery = 104.72%								
Tl 190.801†	1896.9	1039	ug/L	9.4	1039	ug/L	9.4	0.90%
QC value within limits for Tl 190.801 Recovery = 103.94%								
V 292.402†	157205.2	1039	ug/L	1.7	1039	ug/L	1.7	0.17%
QC value within limits for V 292.402 Recovery = 103.86%								
Zn 206.200†	11163.1	1059	ug/L	9.3	1059	ug/L	9.3	0.88%
QC value within limits for Zn 206.200 Recovery = 105.92%								

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 12:20:50 PM
Data Type: Reprocessed on 02/15/17 9:25:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1487449.9	102.1	%	0.27				0.27%
Y 371.029 Radial	58469.8	95.66	%	1.215				1.27%
Ag 338.289†	-35.7	-0.446	ug/L	0.5853	-0.446	ug/L	0.5853	131.23%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	2.9	9.371	ug/L	4.7859	9.371	ug/L	4.7859	51.07%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	4.9	2.280	ug/L	0.6711	2.280	ug/L	0.6711	29.44%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	13.2	17.05	ug/L	4.242	17.05	ug/L	4.242	24.88%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	6.9	0.064	ug/L	0.1038	0.064	ug/L	0.1038	162.66%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.8	0.033	ug/L	0.0190	0.033	ug/L	0.0190	57.21%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	-0.2	-0.099	ug/L	1.8493	-0.099	ug/L	1.8493	>999.9%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	3.2	0.026	ug/L	0.0682	0.026	ug/L	0.0682	260.87%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-0.5	-0.005	ug/L	0.1646	-0.005	ug/L	0.1646	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	32.7	0.413	ug/L	0.1030	0.413	ug/L	0.1030	24.91%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	90.3	1.356	ug/L	0.3556	1.356	ug/L	0.3556	26.23%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	47.3	5.016	ug/L	0.5698	5.016	ug/L	0.5698	11.36%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	107.2	64.26	ug/L	36.213	64.26	ug/L	36.213	56.35%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	4.5	0.961	ug/L	0.7070	0.961	ug/L	0.7070	73.53%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-6.1	-0.825	ug/L	0.1861	-0.825	ug/L	0.1861	22.57%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	38.3	2.135	ug/L	0.0956	2.135	ug/L	0.0956	4.48%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	206.3	31.09	ug/L	12.295	31.09	ug/L	12.295	39.55%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-2.2	-0.066	ug/L	0.4611	-0.066	ug/L	0.4611	702.61%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	5.1	2.120	ug/L	1.4184	2.120	ug/L	1.4184	66.92%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	5.1	0.702	ug/L	0.4729	0.702	ug/L	0.4729	67.40%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.6	-0.262	ug/L	0.6297	-0.262	ug/L	0.6297	240.24%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.8	2.744	ug/L	5.1980	2.744	ug/L	5.1980	189.41%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	18.6	2.956	ug/L	0.3934	2.956	ug/L	0.3934	13.31%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	3.5	0.009	ug/L	0.0211	0.009	ug/L	0.0211	243.13%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-3.5	-0.183	ug/L	0.9734	-0.183	ug/L	0.9734	532.45%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	11.3	6.168	ug/L	0.5457	6.168	ug/L	0.5457	8.85%
QC value greater than the upper limit for Tl 190.801 Recovery = Not calculated								
V 292.402†	25.5	0.198	ug/L	0.3777	0.198	ug/L	0.3777	190.70%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	5.0	0.470	ug/L	0.0938	0.470	ug/L	0.0938	19.96%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 21
Sample ID: LLICV 170214RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 02/14/17 2:49:24 PM
Data Type: Reprocessed on 02/15/17 9:25:48 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: LLICV 170214RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1497856.9	102.8	%	1.34				1.30%
Y 371.029 Radial	61086.4	99.94	%	2.507				2.51%
Ag 338.289†	189.0	2.361	ug/L	0.8800	2.361	ug/L	0.8800	37.26%
QC value less than the lower limit for Ag 338.289 Recovery = 47.23%								
Al 308.215†	90.5	296.2	ug/L	1.19	296.2	ug/L	1.19	0.40%
QC value less than the lower limit for Al 308.215 Recovery = 59.24%								
As 188.979†	18.1	8.553	ug/L	2.5117	8.553	ug/L	2.5117	29.37%
QC value less than the lower limit for As 188.979 Recovery = 48.87%								
B†	113.6	147.3	ug/L	3.59	147.3	ug/L	3.59	2.44%
QC value less than the lower limit for B Recovery = 58.90%								
Ba 233.527†	1584.8	14.91	ug/L	0.298	14.91	ug/L	0.298	2.00%
QC value less than the lower limit for Ba 233.527 Recovery = 59.62%								
Be 313.107†	849.8	5.884	ug/L	0.1803	5.884	ug/L	0.1803	3.06%
QC value less than the lower limit for Be 313.107 Recovery = 58.84%								
Ca 315.887†	777.5	306.2	ug/L	10.50	306.2	ug/L	10.50	3.43%
QC value less than the lower limit for Ca 315.887 Recovery = 61.24%								
Cd 214.440†	1924.6	14.98	ug/L	0.231	14.98	ug/L	0.231	1.54%
QC value less than the lower limit for Cd 214.440 Recovery = 59.94%								
Co 228.616†	654.0	15.32	ug/L	0.094	15.32	ug/L	0.094	0.61%
QC value less than the lower limit for Co 228.616 Recovery = 61.29%								
Cr 267.716†	1217.9	15.39	ug/L	0.406	15.39	ug/L	0.406	2.64%
QC value less than the lower limit for Cr 267.716 Recovery = 61.56%								
Cu 327.393†	988.6	14.85	ug/L	0.562	14.85	ug/L	0.562	3.78%
QC value less than the lower limit for Cu 327.393 Recovery = 59.40%								
Fe 273.955†	1451.6	153.9	ug/L	1.35	153.9	ug/L	1.35	0.88%
QC value less than the lower limit for Fe 273.955 Recovery = 61.55%								
K 766.490†	4874.4	2922	ug/L	65.6	2922	ug/L	65.6	2.24%
QC value less than the lower limit for K 766.490 Recovery = 58.44%								
Mg 285.213†	711.3	152.2	ug/L	3.40	152.2	ug/L	3.40	2.23%
QC value less than the lower limit for Mg 285.213 Recovery = 60.89%								
Mn 257.610†	102.3	13.78	ug/L	0.079	13.78	ug/L	0.079	0.57%
QC value less than the lower limit for Mn 257.610 Recovery = 55.11%								
Mo 202.031†	243.1	13.59	ug/L	0.442	13.59	ug/L	0.442	3.25%
QC value less than the lower limit for Mo 202.031 Recovery = 54.35%								
Na 589.592†	19313.4	2913	ug/L	54.8	2913	ug/L	54.8	1.88%
QC value less than the lower limit for Na 589.592 Recovery = 58.25%								
Ni 231.604†	529.4	15.34	ug/L	0.458	15.34	ug/L	0.458	2.98%
QC value less than the lower limit for Ni 231.604 Recovery = 61.37%								
P 213.617†	169.1	70.87	ug/L	1.639	70.87	ug/L	1.639	2.31%
QC value less than the lower limit for P 213.617 Recovery = 56.69%								
Pb 220.353†	62.3	8.612	ug/L	0.2224	8.612	ug/L	0.2224	2.58%
QC value less than the lower limit for Pb 220.353 Recovery = 57.41%								
Sb 206.836†	27.2	12.65	ug/L	0.365	12.65	ug/L	0.365	2.88%
QC value less than the lower limit for Sb 206.836 Recovery = 50.59%								
Se 196.026†	28.8	16.27	ug/L	4.414	16.27	ug/L	4.414	27.13%
QC value less than the lower limit for Se 196.026 Recovery = 65.09%								
Sn 189.927†	83.1	13.28	ug/L	1.694	13.28	ug/L	1.694	12.76%
QC value less than the lower limit for Sn 189.927 Recovery = 53.13%								
Sr 421.552†	5887.4	14.29	ug/L	0.256	14.29	ug/L	0.256	1.79%
QC value less than the lower limit for Sr 421.552 Recovery = 57.16%								
Ti 337.279†	276.2	14.25	ug/L	0.625	14.25	ug/L	0.625	4.39%
QC value less than the lower limit for Ti 337.279 Recovery = 56.98%								
Tl 190.801†	27.6	15.10	ug/L	2.278	15.10	ug/L	2.278	15.09%
QC value less than the lower limit for Tl 190.801 Recovery = 60.41%								
V 292.402†	2250.4	14.88	ug/L	0.569	14.88	ug/L	0.569	3.82%
QC value less than the lower limit for V 292.402 Recovery = 59.53%								
Zn 206.200†	663.9	62.99	ug/L	0.471	62.99	ug/L	0.471	0.75%
QC value less than the lower limit for Zn 206.200 Recovery = 62.99%								

QC Failed. Continue with analysis.

Sequence No.: 24
Sample ID: CCV1 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 02/14/17 3:02:19 PM
Data Type: Reprocessed on 02/15/17 9:25:51 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1453061.9	99.75	%	0.731				0.73%
Y 371.029 Radial	58349.0	95.46	%	1.869				1.96%
Ag 338.289†	41292.3	515.9	ug/L	1.24	515.9	ug/L	1.24	0.24%
QC value within limits for Ag 338.289 Recovery = 103.19%								
Al 308.215†	6385.3	20900	ug/L	339.3	20900	ug/L	339.3	1.62%
QC value within limits for Al 308.215 Recovery = 104.52%								
As 188.979†	2153.4	1013	ug/L	8.7	1013	ug/L	8.7	0.86%
QC value within limits for As 188.979 Recovery = 101.31%								
B†	807.3	1094	ug/L	20.9	1094	ug/L	20.9	1.91%
QC value within limits for B Recovery = 109.44%								
Ba 233.527†	109267.6	1028	ug/L	1.4	1028	ug/L	1.4	0.14%
QC value within limits for Ba 233.527 Recovery = 102.75%								
Be 313.107†	155853.6	1079	ug/L	9.5	1079	ug/L	9.5	0.88%
QC value within limits for Be 313.107 Recovery = 107.90%								
Ca 315.887†	134709.5	53100	ug/L	573.9	53100	ug/L	573.9	1.08%
QC value within limits for Ca 315.887 Recovery = 106.21%								
Cd 214.440†	132287.5	1030	ug/L	0.7	1030	ug/L	0.7	0.07%
QC value within limits for Cd 214.440 Recovery = 102.96%								
Co 228.616†	45345.6	1062	ug/L	6.0	1062	ug/L	6.0	0.57%
QC value within limits for Co 228.616 Recovery = 106.22%								
Cr 267.716†	81654.5	1032	ug/L	1.2	1032	ug/L	1.2	0.12%
QC value within limits for Cr 267.716 Recovery = 103.16%								
Cu 327.393†	68125.8	1023	ug/L	2.2	1023	ug/L	2.2	0.22%
QC value within limits for Cu 327.393 Recovery = 102.33%								
Fe 273.955†	197859.0	20970	ug/L	47.7	20970	ug/L	47.7	0.23%
QC value within limits for Fe 273.955 Recovery = 104.87%								
K 766.490†	34778.4	20850	ug/L	224.8	20850	ug/L	224.8	1.08%
QC value within limits for K 766.490 Recovery = 104.24%								
Mg 285.213†	251349.7	53800	ug/L	738.3	53800	ug/L	738.3	1.37%
QC value within limits for Mg 285.213 Recovery = 107.59%								
Mn 257.610†	7774.6	1046	ug/L	17.0	1046	ug/L	17.0	1.63%
QC value within limits for Mn 257.610 Recovery = 104.60%								
Mo 202.031†	17892.8	1000	ug/L	5.7	1000	ug/L	5.7	0.57%
QC value within limits for Mo 202.031 Recovery = 100.02%								
Na 589.592†	173989.7	26240	ug/L	289.1	26240	ug/L	289.1	1.10%
QC value within limits for Na 589.592 Recovery = 104.94%								
Ni 231.604†	35725.9	1036	ug/L	0.5	1036	ug/L	0.5	0.05%
QC value within limits for Ni 231.604 Recovery = 103.59%								
P 213.617†	12056.7	5053	ug/L	28.9	5053	ug/L	28.9	0.57%
QC value within limits for P 213.617 Recovery = 101.06%								
Pb 220.353†	7524.3	1040	ug/L	9.1	1040	ug/L	9.1	0.87%
QC value within limits for Pb 220.353 Recovery = 104.01%								
Sb 206.836†	2167.7	1008	ug/L	4.9	1008	ug/L	4.9	0.49%
QC value within limits for Sb 206.836 Recovery = 100.83%								
Se 196.026†	1783.5	1018	ug/L	11.3	1018	ug/L	11.3	1.11%
QC value within limits for Se 196.026 Recovery = 101.83%								
Sn 189.927†	6277.1	1005	ug/L	6.1	1005	ug/L	6.1	0.60%
QC value within limits for Sn 189.927 Recovery = 100.52%								
Sr 421.552†	430717.5	1045	ug/L	12.8	1045	ug/L	12.8	1.22%
QC value within limits for Sr 421.552 Recovery = 104.51%								
Ti 337.279†	20533.2	1059	ug/L	16.6	1059	ug/L	16.6	1.57%
QC value within limits for Ti 337.279 Recovery = 105.93%								
Tl 190.801†	1915.0	1049	ug/L	5.1	1049	ug/L	5.1	0.49%
QC value within limits for Tl 190.801 Recovery = 104.93%								
V 292.402†	157916.9	1043	ug/L	1.4	1043	ug/L	1.4	0.13%
QC value within limits for V 292.402 Recovery = 104.32%								
Zn 206.200†	11190.0	1062	ug/L	6.9	1062	ug/L	6.9	0.65%
QC value within limits for Zn 206.200 Recovery = 106.18%								

All analyte(s) passed QC.

Sequence No.: 25
Sample ID: CCB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 3:07:42 PM
Data Type: Reprocessed on 02/15/17 9:25:52 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1496305.7	102.7	%	0.82				0.80%
Y 371.029 Radial	58727.6	96.08	%	0.562				0.59%
Ag 338.289†	-33.5	-0.418	ug/L	1.1130	-0.418	ug/L	1.1130	266.06%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	5.2	17.17	ug/L	13.743	17.17	ug/L	13.743	80.04%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-0.3	-0.155	ug/L	1.9864	-0.155	ug/L	1.9864	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	17.2	22.24	ug/L	5.669	22.24	ug/L	5.669	25.49%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	3.2	0.029	ug/L	0.0333	0.029	ug/L	0.0333	115.47%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	3.6	0.025	ug/L	0.0131	0.025	ug/L	0.0131	52.59%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	-4.0	-1.579	ug/L	1.4163	-1.579	ug/L	1.4163	89.69%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-11.2	-0.086	ug/L	0.0769	-0.086	ug/L	0.0769	88.93%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	13.1	0.311	ug/L	0.1954	0.311	ug/L	0.1954	62.81%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	12.6	0.159	ug/L	0.1673	0.159	ug/L	0.1673	105.13%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-2.9	-0.044	ug/L	0.1147	-0.044	ug/L	0.1147	258.97%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	12.3	1.301	ug/L	0.5187	1.301	ug/L	0.5187	39.88%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	81.2	48.68	ug/L	4.719	48.68	ug/L	4.719	9.69%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	2.2	0.468	ug/L	1.6118	0.468	ug/L	1.6118	344.42%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-7.4	-1.001	ug/L	0.5889	-1.001	ug/L	0.5889	58.82%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	28.4	1.583	ug/L	0.6363	1.583	ug/L	0.6363	40.21%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	144.0	21.71	ug/L	18.046	21.71	ug/L	18.046	83.14%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-9.0	-0.265	ug/L	0.4678	-0.265	ug/L	0.4678	176.76%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	8.4	3.513	ug/L	1.3654	3.513	ug/L	1.3654	38.86%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	0.0	0.002	ug/L	0.6564	0.002	ug/L	0.6564	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.2	-0.074	ug/L	0.7467	-0.074	ug/L	0.7467	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	2.3	1.320	ug/L	1.0867	1.320	ug/L	1.0867	82.30%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	12.9	2.053	ug/L	1.1883	2.053	ug/L	1.1883	57.88%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	83.6	0.203	ug/L	0.1977	0.203	ug/L	0.1977	97.42%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	0.8	0.040	ug/L	1.1718	0.040	ug/L	1.1718	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	7.7	4.231	ug/L	0.8800	4.231	ug/L	0.8800	20.80%
QC value greater than the upper limit for Tl 190.801 Recovery = Not calculated								
V 292.402†	-33.3	-0.193	ug/L	0.5311	-0.193	ug/L	0.5311	275.40%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	1.5	0.139	ug/L	0.1013	0.139	ug/L	0.1013	72.71%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 37
Sample ID: CCV2 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 02/14/17 4:12:21 PM
Data Type: Reprocessed on 02/15/17 9:26:05 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1482284.8	101.8	%	0.30				0.29%
Y 371.029 Radial	60050.3	98.24	%	1.258				1.28%
Ag 338.289†	30667.4	383.2	ug/L	4.67	383.2	ug/L	4.67	1.22%
QC value within limits for Ag 338.289 Recovery = 102.18%								
Al 308.215†	4695.2	15370	ug/L	192.2	15370	ug/L	192.2	1.25%
QC value within limits for Al 308.215 Recovery = 102.48%								
As 188.979†	1568.8	738.3	ug/L	5.47	738.3	ug/L	5.47	0.74%
QC value within limits for As 188.979 Recovery = 98.44%								
B†	590.0	800.9	ug/L	13.88	800.9	ug/L	13.88	1.73%
QC value within limits for B Recovery = 106.79%								
Ba 233.527†	82360.4	774.5	ug/L	6.99	774.5	ug/L	6.99	0.90%
QC value within limits for Ba 233.527 Recovery = 103.27%								
Be 313.107†	116106.8	803.8	ug/L	15.19	803.8	ug/L	15.19	1.89%
QC value within limits for Be 313.107 Recovery = 107.18%								
Ca 315.887†	100664.6	39680	ug/L	665.2	39680	ug/L	665.2	1.68%
QC value within limits for Ca 315.887 Recovery = 105.82%								
Cd 214.440†	98268.1	764.8	ug/L	3.87	764.8	ug/L	3.87	0.51%
QC value within limits for Cd 214.440 Recovery = 101.98%								
Co 228.616†	32772.6	767.6	ug/L	6.30	767.6	ug/L	6.30	0.82%
QC value within limits for Co 228.616 Recovery = 102.35%								
Cr 267.716†	61670.7	779.2	ug/L	4.69	779.2	ug/L	4.69	0.60%
QC value within limits for Cr 267.716 Recovery = 103.89%								
Cu 327.393†	50884.4	764.4	ug/L	10.25	764.4	ug/L	10.25	1.34%
QC value within limits for Cu 327.393 Recovery = 101.91%								
Fe 273.955†	148766.7	15770	ug/L	93.6	15770	ug/L	93.6	0.59%
QC value within limits for Fe 273.955 Recovery = 105.14%								
K 766.490†	26077.8	15630	ug/L	307.1	15630	ug/L	307.1	1.96%
QC value within limits for K 766.490 Recovery = 104.22%								
Mg 285.213†	188380.6	40320	ug/L	649.4	40320	ug/L	649.4	1.61%
QC value within limits for Mg 285.213 Recovery = 107.52%								
Mn 257.610†	5757.3	774.6	ug/L	9.32	774.6	ug/L	9.32	1.20%
QC value within limits for Mn 257.610 Recovery = 103.28%								
Mo 202.031†	13133.8	734.2	ug/L	3.26	734.2	ug/L	3.26	0.44%
QC value within limits for Mo 202.031 Recovery = 97.90%								
Na 589.592†	131188.2	19780	ug/L	344.2	19780	ug/L	344.2	1.74%
QC value within limits for Na 589.592 Recovery = 105.50%								
Ni 231.604†	26829.5	778.0	ug/L	5.89	778.0	ug/L	5.89	0.76%
QC value within limits for Ni 231.604 Recovery = 103.73%								
P 213.617†	8859.4	3713	ug/L	23.9	3713	ug/L	23.9	0.64%
QC value within limits for P 213.617 Recovery = 99.01%								
Pb 220.353†	5565.6	769.4	ug/L	3.63	769.4	ug/L	3.63	0.47%
QC value within limits for Pb 220.353 Recovery = 102.58%								
Sb 206.836†	1578.8	734.3	ug/L	0.24	734.3	ug/L	0.24	0.03%
QC value within limits for Sb 206.836 Recovery = 97.91%								
Se 196.026†	1302.0	743.5	ug/L	4.54	743.5	ug/L	4.54	0.61%
QC value within limits for Se 196.026 Recovery = 99.13%								
Sn 189.927†	4647.6	744.3	ug/L	3.17	744.3	ug/L	3.17	0.43%
QC value within limits for Sn 189.927 Recovery = 99.24%								
Sr 421.552†	322197.6	781.8	ug/L	12.69	781.8	ug/L	12.69	1.62%
QC value within limits for Sr 421.552 Recovery = 104.24%								
Ti 337.279†	15185.9	783.4	ug/L	8.43	783.4	ug/L	8.43	1.08%
QC value within limits for Ti 337.279 Recovery = 104.45%								
Tl 190.801†	1382.3	757.4	ug/L	3.20	757.4	ug/L	3.20	0.42%
QC value within limits for Tl 190.801 Recovery = 100.99%								
V 292.402†	119083.0	786.4	ug/L	6.02	786.4	ug/L	6.02	0.77%
QC value within limits for V 292.402 Recovery = 104.86%								
Zn 206.200†	7997.8	758.9	ug/L	2.30	758.9	ug/L	2.30	0.30%
QC value within limits for Zn 206.200 Recovery = 101.19%								

All analyte(s) passed QC.

Sequence No.: 38
Sample ID: CCB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 4:17:27 PM
Data Type: Reprocessed on 02/15/17 9:26:06 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1505633.0	103.4	%	0.74				0.72%
Y 371.029 Radial	61359.0	100.4	%	2.40				2.39%
Ag 338.289†	-46.7	-0.584	ug/L	0.4546	-0.584	ug/L	0.4546	77.88%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	3.4	11.23	ug/L	6.069	11.23	ug/L	6.069	54.05%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	2.6	1.185	ug/L	2.2005	1.185	ug/L	2.2005	185.75%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	11.0	14.20	ug/L	2.502	14.20	ug/L	2.502	17.61%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	3.4	0.032	ug/L	0.1047	0.032	ug/L	0.1047	325.57%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	7.0	0.049	ug/L	0.0185	0.049	ug/L	0.0185	37.97%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	-6.6	-2.604	ug/L	3.3513	-2.604	ug/L	3.3513	128.69%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	2.4	0.020	ug/L	0.0908	0.020	ug/L	0.0908	465.21%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	15.5	0.370	ug/L	0.4172	0.370	ug/L	0.4172	112.90%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	11.2	0.142	ug/L	0.1791	0.142	ug/L	0.1791	126.26%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-41.5	-0.624	ug/L	0.0911	-0.624	ug/L	0.0911	14.61%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	14.0	1.489	ug/L	0.2941	1.489	ug/L	0.2941	19.75%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	91.6	54.91	ug/L	2.222	54.91	ug/L	2.222	4.05%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	4.1	0.867	ug/L	1.4595	0.867	ug/L	1.4595	168.30%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-2.7	-0.361	ug/L	0.3581	-0.361	ug/L	0.3581	99.22%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	23.3	1.299	ug/L	0.4446	1.299	ug/L	0.4446	34.22%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	1751.4	264.2	ug/L	15.74	264.2	ug/L	15.74	5.96%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	0.7	0.018	ug/L	0.3552	0.018	ug/L	0.3552	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	3.9	1.637	ug/L	0.9016	1.637	ug/L	0.9016	55.10%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	0.0	0.006	ug/L	0.2177	0.006	ug/L	0.2177	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.4	-0.641	ug/L	0.5369	-0.641	ug/L	0.5369	83.79%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.8	2.717	ug/L	2.2160	2.717	ug/L	2.2160	81.57%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	7.5	1.191	ug/L	0.8654	1.191	ug/L	0.8654	72.68%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	99.5	0.241	ug/L	0.3429	0.241	ug/L	0.3429	142.14%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-20.7	-1.071	ug/L	1.1194	-1.071	ug/L	1.1194	104.56%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	4.2	2.291	ug/L	2.0034	2.291	ug/L	2.0034	87.46%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	61.0	0.415	ug/L	0.9537	0.415	ug/L	0.9537	229.74%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	11.4	1.081	ug/L	0.3968	1.081	ug/L	0.3968	36.72%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 46
Sample ID: CCV1 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 02/14/17 5:00:53 PM
Data Type: Reprocessed on 02/15/17 9:26:15 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1442886.1	99.05	%	0.554				0.56%
Y 371.029 Radial	60411.8	98.83	%	1.963				1.99%
Ag 338.289†	41422.1	517.6	ug/L	2.04	517.6	ug/L	2.04	0.39%
QC value within limits for Ag 338.289 Recovery = 103.51%								
Al 308.215†	6284.2	20570	ug/L	541.0	20570	ug/L	541.0	2.63%
QC value within limits for Al 308.215 Recovery = 102.87%								
As 188.979†	2118.5	996.8	ug/L	7.13	996.8	ug/L	7.13	0.72%
QC value within limits for As 188.979 Recovery = 99.68%								
B†	779.8	1058	ug/L	27.1	1058	ug/L	27.1	2.56%
QC value within limits for B Recovery = 105.82%								
Ba 233.527†	109137.5	1026	ug/L	1.4	1026	ug/L	1.4	0.13%
QC value within limits for Ba 233.527 Recovery = 102.63%								
Be 313.107†	150286.0	1040	ug/L	52.3	1040	ug/L	52.3	5.03%
QC value within limits for Be 313.107 Recovery = 104.05%								
Ca 315.887†	132030.9	52050	ug/L	2433.2	52050	ug/L	2433.2	4.68%
QC value within limits for Ca 315.887 Recovery = 104.09%								
Cd 214.440†	129150.3	1005	ug/L	2.4	1005	ug/L	2.4	0.24%
QC value within limits for Cd 214.440 Recovery = 100.52%								
Co 228.616†	46077.1	1079	ug/L	3.3	1079	ug/L	3.3	0.31%
QC value within limits for Co 228.616 Recovery = 107.93%								
Cr 267.716†	81616.3	1031	ug/L	0.8	1031	ug/L	0.8	0.07%
QC value within limits for Cr 267.716 Recovery = 103.11%								
Cu 327.393†	68455.0	1028	ug/L	4.9	1028	ug/L	4.9	0.47%
QC value within limits for Cu 327.393 Recovery = 102.83%								
Fe 273.955†	195803.7	20760	ug/L	48.9	20760	ug/L	48.9	0.24%
QC value within limits for Fe 273.955 Recovery = 103.78%								
K 766.490†	34369.6	20600	ug/L	1002.0	20600	ug/L	1002.0	4.86%
QC value within limits for K 766.490 Recovery = 103.02%								
Mg 285.213†	244915.2	52420	ug/L	2397.3	52420	ug/L	2397.3	4.57%
QC value within limits for Mg 285.213 Recovery = 104.84%								
Mn 257.610†	7698.2	1036	ug/L	25.3	1036	ug/L	25.3	2.44%
QC value within limits for Mn 257.610 Recovery = 103.57%								
Mo 202.031†	17630.1	985.6	ug/L	3.13	985.6	ug/L	3.13	0.32%
QC value within limits for Mo 202.031 Recovery = 98.56%								
Na 589.592†	171894.4	25920	ug/L	1222.7	25920	ug/L	1222.7	4.72%
QC value within limits for Na 589.592 Recovery = 103.68%								
Ni 231.604†	35763.3	1037	ug/L	1.3	1037	ug/L	1.3	0.13%
QC value within limits for Ni 231.604 Recovery = 103.70%								
P 213.617†	11988.2	5024	ug/L	27.2	5024	ug/L	27.2	0.54%
QC value within limits for P 213.617 Recovery = 100.48%								
Pb 220.353†	7466.9	1032	ug/L	7.5	1032	ug/L	7.5	0.72%
QC value within limits for Pb 220.353 Recovery = 103.22%								
Sb 206.836†	2122.6	987.3	ug/L	4.49	987.3	ug/L	4.49	0.46%
QC value within limits for Sb 206.836 Recovery = 98.73%								
Se 196.026†	1760.5	1005	ug/L	2.1	1005	ug/L	2.1	0.21%
QC value within limits for Se 196.026 Recovery = 100.52%								
Sn 189.927†	6207.1	993.9	ug/L	3.07	993.9	ug/L	3.07	0.31%
QC value within limits for Sn 189.927 Recovery = 99.39%								
Sr 421.552†	424028.6	1029	ug/L	48.3	1029	ug/L	48.3	4.70%
QC value within limits for Sr 421.552 Recovery = 102.89%								
Ti 337.279†	20308.4	1048	ug/L	27.3	1048	ug/L	27.3	2.60%
QC value within limits for Ti 337.279 Recovery = 104.77%								
Tl 190.801†	1840.7	1009	ug/L	7.2	1009	ug/L	7.2	0.71%
QC value within limits for Tl 190.801 Recovery = 100.86%								
V 292.402†	157982.5	1043	ug/L	1.0	1043	ug/L	1.0	0.09%
QC value within limits for V 292.402 Recovery = 104.35%								
Zn 206.200†	10952.9	1039	ug/L	4.1	1039	ug/L	4.1	0.39%
QC value within limits for Zn 206.200 Recovery = 103.93%								

All analyte(s) passed QC.

Sequence No.: 47
Sample ID: CCB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 5:06:20 PM
Data Type: Reprocessed on 02/15/17 9:26:16 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1515084.8	104.0	%	0.59				0.57%
Y 371.029 Radial	62680.9	102.5	%	2.18				2.13%
Ag 338.289†	6.0	0.075	ug/L	1.0460	0.075	ug/L	1.0460	>999.9%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	3.9	12.73	ug/L	8.770	12.73	ug/L	8.770	68.91%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-2.4	-1.117	ug/L	0.3970	-1.117	ug/L	0.3970	35.55%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	14.0	18.10	ug/L	3.791	18.10	ug/L	3.791	20.95%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	10.5	0.099	ug/L	0.0184	0.099	ug/L	0.0184	18.57%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.9	0.034	ug/L	0.0046	0.034	ug/L	0.0046	13.50%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	-8.4	-3.345	ug/L	1.7111	-3.345	ug/L	1.7111	51.16%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-5.2	-0.040	ug/L	0.0145	-0.040	ug/L	0.0145	36.36%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-0.8	-0.015	ug/L	0.2631	-0.015	ug/L	0.2631	>999.9%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	5.9	0.075	ug/L	0.0793	0.075	ug/L	0.0793	105.10%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	21.4	0.322	ug/L	0.5120	0.322	ug/L	0.5120	159.16%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	28.8	3.054	ug/L	0.2336	3.054	ug/L	0.2336	7.65%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	81.7	48.96	ug/L	28.058	48.96	ug/L	28.058	57.30%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	1.8	0.390	ug/L	2.5844	0.390	ug/L	2.5844	662.96%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-4.8	-0.651	ug/L	0.7533	-0.651	ug/L	0.7533	115.79%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	21.6	1.205	ug/L	0.0345	1.205	ug/L	0.0345	2.86%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	1878.9	283.5	ug/L	10.07	283.5	ug/L	10.07	3.55%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-5.8	-0.172	ug/L	0.3756	-0.172	ug/L	0.3756	218.00%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	3.1	1.316	ug/L	0.8411	1.316	ug/L	0.8411	63.91%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	2.9	0.403	ug/L	0.1559	0.403	ug/L	0.1559	38.71%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.3	-0.587	ug/L	0.4896	-0.587	ug/L	0.4896	83.45%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	4.5	2.548	ug/L	5.8638	2.548	ug/L	5.8638	230.13%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	3.1	0.489	ug/L	0.5225	0.489	ug/L	0.5225	106.77%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	7.6	0.018	ug/L	0.2238	0.018	ug/L	0.2238	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	0.2	0.009	ug/L	1.0743	0.009	ug/L	1.0743	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	10.2	5.590	ug/L	0.5009	5.590	ug/L	0.5009	8.96%
QC value greater than the upper limit for Tl 190.801 Recovery = Not calculated								
V 292.402†	62.6	0.422	ug/L	0.3151	0.422	ug/L	0.3151	74.61%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	20.3	1.924	ug/L	0.2619	1.924	ug/L	0.2619	13.61%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 55
Sample ID: CCV2 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 02/14/17 5:49:07 PM
Data Type: Reprocessed on 02/15/17 9:26:24 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1467603.0	100.7	%	1.16				1.15%
Y 371.029 Radial	60654.1	99.23	%	1.616				1.63%
Ag 338.289†	31580.9	394.6	ug/L	4.42	394.6	ug/L	4.42	1.12%
QC value within limits for Ag 338.289 Recovery = 105.22%								
Al 308.215†	4724.0	15470	ug/L	253.3	15470	ug/L	253.3	1.64%
QC value within limits for Al 308.215 Recovery = 103.10%								
As 188.979†	1583.1	745.1	ug/L	11.11	745.1	ug/L	11.11	1.49%
QC value within limits for As 188.979 Recovery = 99.34%								
B†	597.2	810.8	ug/L	24.11	810.8	ug/L	24.11	2.97%
QC value within limits for B Recovery = 108.11%								
Ba 233.527†	84422.3	793.9	ug/L	7.57	793.9	ug/L	7.57	0.95%
QC value within limits for Ba 233.527 Recovery = 105.85%								
Be 313.107†	113877.8	788.4	ug/L	33.07	788.4	ug/L	33.07	4.19%
QC value within limits for Be 313.107 Recovery = 105.12%								
Ca 315.887†	99784.7	39340	ug/L	1593.6	39340	ug/L	1593.6	4.05%
QC value within limits for Ca 315.887 Recovery = 104.89%								
Cd 214.440†	99350.2	773.2	ug/L	7.03	773.2	ug/L	7.03	0.91%
QC value within limits for Cd 214.440 Recovery = 103.10%								
Co 228.616†	33491.2	784.5	ug/L	7.41	784.5	ug/L	7.41	0.95%
QC value within limits for Co 228.616 Recovery = 104.59%								
Cr 267.716†	63122.5	797.5	ug/L	7.70	797.5	ug/L	7.70	0.97%
QC value within limits for Cr 267.716 Recovery = 106.34%								
Cu 327.393†	52674.1	791.2	ug/L	7.40	791.2	ug/L	7.40	0.94%
QC value within limits for Cu 327.393 Recovery = 105.50%								
Fe 273.955†	151034.5	16010	ug/L	164.5	16010	ug/L	164.5	1.03%
QC value within limits for Fe 273.955 Recovery = 106.74%								
K 766.490†	25859.7	15500	ug/L	599.3	15500	ug/L	599.3	3.87%
QC value within limits for K 766.490 Recovery = 103.35%								
Mg 285.213†	186130.0	39840	ug/L	1545.7	39840	ug/L	1545.7	3.88%
QC value within limits for Mg 285.213 Recovery = 106.23%								
Mn 257.610†	5808.2	781.5	ug/L	12.48	781.5	ug/L	12.48	1.60%
QC value within limits for Mn 257.610 Recovery = 104.19%								
Mo 202.031†	13167.1	736.1	ug/L	8.64	736.1	ug/L	8.64	1.17%
QC value within limits for Mo 202.031 Recovery = 98.15%								
Na 589.592†	129875.1	19580	ug/L	753.8	19580	ug/L	753.8	3.85%
QC value within limits for Na 589.592 Recovery = 104.45%								
Ni 231.604†	27371.5	793.7	ug/L	9.49	793.7	ug/L	9.49	1.20%
QC value within limits for Ni 231.604 Recovery = 105.83%								
P 213.617†	8918.4	3738	ug/L	38.3	3738	ug/L	38.3	1.03%
QC value within limits for P 213.617 Recovery = 99.67%								
Pb 220.353†	5603.9	774.7	ug/L	6.83	774.7	ug/L	6.83	0.88%
QC value within limits for Pb 220.353 Recovery = 103.29%								
Sb 206.836†	1574.3	732.3	ug/L	8.07	732.3	ug/L	8.07	1.10%
QC value within limits for Sb 206.836 Recovery = 97.64%								
Se 196.026†	1304.9	745.3	ug/L	9.15	745.3	ug/L	9.15	1.23%
QC value within limits for Se 196.026 Recovery = 99.37%								
Sn 189.927†	4687.8	750.6	ug/L	8.32	750.6	ug/L	8.32	1.11%
QC value within limits for Sn 189.927 Recovery = 100.08%								
Sr 421.552†	319476.3	775.2	ug/L	31.32	775.2	ug/L	31.32	4.04%
QC value within limits for Sr 421.552 Recovery = 103.36%								
Ti 337.279†	15314.4	790.0	ug/L	13.51	790.0	ug/L	13.51	1.71%
QC value within limits for Ti 337.279 Recovery = 105.34%								
Tl 190.801†	1370.0	750.7	ug/L	7.59	750.7	ug/L	7.59	1.01%
QC value within limits for Tl 190.801 Recovery = 100.09%								
V 292.402†	122150.9	806.5	ug/L	7.65	806.5	ug/L	7.65	0.95%
QC value within limits for V 292.402 Recovery = 107.53%								
Zn 206.200†	7988.6	758.0	ug/L	6.78	758.0	ug/L	6.78	0.89%
QC value within limits for Zn 206.200 Recovery = 101.07%								

All analyte(s) passed QC.

Sequence No.: 56
Sample ID: CCB 170214RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 02/14/17 5:57:29 PM
Data Type: Reprocessed on 02/15/17 9:26:25 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170214RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1522638.1	104.5	%	0.69				0.66%
Y 371.029 Radial	61565.9	100.7	%	4.34				4.31%
Ag 338.289†	-38.8	-0.484	ug/L	0.7051	-0.484	ug/L	0.7051	145.56%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	2.5	8.129	ug/L	0.5001	8.129	ug/L	0.5001	6.15%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-1.8	-0.828	ug/L	2.1415	-0.828	ug/L	2.1415	258.53%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	8.1	10.48	ug/L	4.438	10.48	ug/L	4.438	42.34%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	5.3	0.051	ug/L	0.0794	0.051	ug/L	0.0794	157.04%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	1.8	0.012	ug/L	0.0080	0.012	ug/L	0.0080	65.50%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	0.6	0.235	ug/L	1.2215	0.235	ug/L	1.2215	519.01%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-6.9	-0.053	ug/L	0.0796	-0.053	ug/L	0.0796	149.13%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	13.2	0.310	ug/L	0.1144	0.310	ug/L	0.1144	36.88%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-8.9	-0.110	ug/L	0.2567	-0.110	ug/L	0.2567	233.28%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	28.9	0.435	ug/L	0.4577	0.435	ug/L	0.4577	105.29%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	25.0	2.646	ug/L	0.1042	2.646	ug/L	0.1042	3.94%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	97.6	58.48	ug/L	44.593	58.48	ug/L	44.593	76.25%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	3.5	0.751	ug/L	1.6039	0.751	ug/L	1.6039	213.60%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-3.3	-0.448	ug/L	0.8358	-0.448	ug/L	0.8358	186.53%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	8.0	0.450	ug/L	0.2261	0.450	ug/L	0.2261	50.29%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	1238.9	186.9	ug/L	4.68	186.9	ug/L	4.68	2.51%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	5.4	0.155	ug/L	0.1101	0.155	ug/L	0.1101	70.86%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	5.5	2.322	ug/L	0.4674	2.322	ug/L	0.4674	20.13%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-2.3	-0.313	ug/L	0.8097	-0.313	ug/L	0.8097	258.49%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.2	-0.083	ug/L	1.5881	-0.083	ug/L	1.5881	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-0.0	-0.015	ug/L	0.5229	-0.015	ug/L	0.5229	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-0.1	-0.010	ug/L	0.6245	-0.010	ug/L	0.6245	>999.9%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	62.2	0.151	ug/L	0.2111	0.151	ug/L	0.2111	139.99%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	2.8	0.146	ug/L	0.6484	0.146	ug/L	0.6484	445.41%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	3.3	1.835	ug/L	0.6367	1.835	ug/L	0.6367	34.70%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	120.3	0.785	ug/L	0.2790	0.785	ug/L	0.2790	35.56%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	19.4	1.845	ug/L	0.1728	1.845	ug/L	0.1728	9.37%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

METALS
Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	CALCIUM (CA)	75.0 U	1000	75.0	27.5	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	IRON (FE)	25.0 U	100	25.0	21.0	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	LEAD (PB)	4.00 U	15.0	4.00	1.58	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	MAGNESIUM (MG)	30.0 U	500	30.0	12.9	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	MANGANESE (MN)	4.00 U	10.0	4.00	1.23	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	POTASSIUM (K)	500.0 U	3000	500.0	220.0	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	SODIUM (NA)	493 J	5000	500.0	111.1	ug/L	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
6010C	LEAD (PB) (DISSOL	4.00 U	15.0	4.00	1.58	ug/L	02/14/17	02/14/17	#61CDO-170214A2-AZ49853

Metals SC-Blank-REG MDLs
Printed: 02/17/17 3:14:12 PM

Sequence No.: 30
Sample ID: 170214A-3010-BLK
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 02/14/17 3:35:04 PM
Data Type: Reprocessed on 02/15/17 9:25:57 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: 170214A-3010-BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1534744.4	105.4	%	0.55				0.52%
Y 371.029 Radial	62187.6	101.7	%	1.26				1.24%
Ag 338.289†	-5.5	-0.068	ug/L	0.4106	-0.068	ug/L	0.4106	601.68%
Al 308.215†	5.0	16.47	ug/L	2.133	16.47	ug/L	2.133	12.95%
As 188.979†	-4.4	-2.059	ug/L	0.7915	-2.059	ug/L	0.7915	38.45%
B†	-0.1	-0.079	ug/L	4.3971	-0.079	ug/L	4.3971	>999.9%
Ba 233.527†	10.4	0.097	ug/L	0.0772	0.097	ug/L	0.0772	79.27%
Be 313.107†	3.2	0.022	ug/L	0.0193	0.022	ug/L	0.0193	87.47%
Ca 315.887†	-5.1	-2.033	ug/L	2.1962	-2.033	ug/L	2.1962	108.04%
Cd 214.440†	-10.1	-0.078	ug/L	0.1591	-0.078	ug/L	0.1591	202.76%
Co 228.616†	0.1	0.002	ug/L	0.2306	0.002	ug/L	0.2306	>999.9%
Cr 267.716†	46.4	0.586	ug/L	0.1116	0.586	ug/L	0.1116	19.07%
Cu 327.393†	28.5	0.428	ug/L	0.2571	0.428	ug/L	0.2571	60.01%
Fe 273.955†	1.4	0.147	ug/L	0.1392	0.147	ug/L	0.1392	94.97%
K 766.490†	116.6	69.88	ug/L	12.301	69.88	ug/L	12.301	17.60%
Mg 285.213†	16.7	3.559	ug/L	1.1862	3.559	ug/L	1.1862	33.33%
Mn 257.610†	-1.5	-0.201	ug/L	0.7022	-0.201	ug/L	0.7022	348.93%
Mo 202.031†	8.5	0.477	ug/L	0.2816	0.477	ug/L	0.2816	59.07%
Na 589.592†	3269.8	493.3	ug/L	16.00	493.3	ug/L	16.00	3.24%
Ni 231.604†	-9.6	-0.281	ug/L	0.3515	-0.281	ug/L	0.3515	125.24%
P 213.617†	0.6	0.243	ug/L	2.1173	0.243	ug/L	2.1173	871.34%
Pb 220.353†	-2.7	-0.373	ug/L	0.5469	-0.373	ug/L	0.5469	146.66%
Sb 206.836†	-4.7	-2.196	ug/L	0.5044	-2.196	ug/L	0.5044	22.97%
Se 196.026†	2.6	1.474	ug/L	1.8696	1.474	ug/L	1.8696	126.84%
Sn 189.927†	6.3	1.013	ug/L	1.3851	1.013	ug/L	1.3851	136.75%
Sr 421.552†	-157.4	-0.382	ug/L	0.4237	-0.382	ug/L	0.4237	110.79%
Ti 337.279†	7.0	0.360	ug/L	0.8712	0.360	ug/L	0.8712	241.73%
Tl 190.801†	0.2	0.084	ug/L	1.5934	0.084	ug/L	1.5934	>999.9%
V 292.402†	-43.3	-0.270	ug/L	0.0354	-0.270	ug/L	0.0354	13.10%
Zn 206.200†	22.6	2.146	ug/L	0.2201	2.146	ug/L	0.2201	10.26%

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	LEAD (PB) (DISSOLVED)	250	252	101	86-113	02/14/17	02/14/17	#61CDO-170214A2-AZ49853
EPA 6010C	CALCIUM (CA)	25000	26200	105	87-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	IRON (FE)	1000	1030	103	87-115	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	LEAD (PB)	250	252	101	86-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	MAGNESIUM (MG)	25000	26300	105	85-113	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	MANGANESE (MN)	250	254	102	90-114	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	POTASSIUM (K)	5000	5090	102	86-114	02/14/17	02/14/17	#61CDO-170214A1-AZ49853
EPA 6010C	SODIUM (NA)	25000	25800	103	87-115	02/14/17	02/14/17	#61CDO-170214A1-AZ49853

Comments: _____

Sequence No.: 31
Sample ID: 170214A-3010-LCS
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 02/14/17 3:40:17 PM
Data Type: Reprocessed on 02/15/17 9:25:59 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: 170214A-3010-LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1485516.1	102.0	%	0.47				0.46%
Y 371.029 Radial	60296.8	98.65	%	0.737				0.75%
Ag 338.289†	7744.9	96.77	ug/L	1.296	96.77	ug/L	1.296	1.34%
Al 308.215†	621.3	2034	ug/L	22.8	2034	ug/L	22.8	1.12%
As 188.979†	498.9	233.8	ug/L	0.98	233.8	ug/L	0.98	0.42%
B†	195.0	253.3	ug/L	4.06	253.3	ug/L	4.06	1.60%
Ba 233.527†	26275.0	247.2	ug/L	2.93	247.2	ug/L	2.93	1.18%
Be 313.107†	7569.6	52.41	ug/L	0.352	52.41	ug/L	0.352	0.67%
Ca 315.887†	66525.7	26230	ug/L	70.2	26230	ug/L	70.2	0.27%
Cd 214.440†	6239.3	48.67	ug/L	0.137	48.67	ug/L	0.137	0.28%
Co 228.616†	11019.8	258.1	ug/L	0.92	258.1	ug/L	0.92	0.36%
Cr 267.716†	20058.0	253.2	ug/L	3.38	253.2	ug/L	3.38	1.34%
Cu 327.393†	16223.4	243.7	ug/L	3.96	243.7	ug/L	3.96	1.62%
Fe 273.955†	9729.6	1031	ug/L	8.7	1031	ug/L	8.7	0.85%
K 766.490†	8492.0	5091	ug/L	49.0	5091	ug/L	49.0	0.96%
Mg 285.213†	122682.0	26250	ug/L	98.1	26250	ug/L	98.1	0.37%
Mn 257.610†	1895.0	254.1	ug/L	1.87	254.1	ug/L	1.87	0.73%
Mo 202.031†	4318.9	241.1	ug/L	0.94	241.1	ug/L	0.94	0.39%
Na 589.592†	171234.2	25830	ug/L	91.2	25830	ug/L	91.2	0.35%
Ni 231.604†	8922.4	258.5	ug/L	0.70	258.5	ug/L	0.70	0.27%
P 213.617†	4637.0	1943	ug/L	3.6	1943	ug/L	3.6	0.19%
Pb 220.353†	1823.3	252.0	ug/L	1.63	252.0	ug/L	1.63	0.65%
Sb 206.836†	497.0	231.2	ug/L	1.48	231.2	ug/L	1.48	0.64%
Se 196.026†	402.9	227.8	ug/L	3.62	227.8	ug/L	3.62	1.59%
Sn 189.927†	1461.6	236.1	ug/L	0.60	236.1	ug/L	0.60	0.25%
Sr 421.552†	104665.4	253.8	ug/L	0.50	253.8	ug/L	0.50	0.20%
Ti 337.279†	4988.1	257.1	ug/L	1.58	257.1	ug/L	1.58	0.62%
Tl 190.801†	468.1	256.5	ug/L	1.13	256.5	ug/L	1.13	0.44%
V 292.402†	38998.2	258.3	ug/L	2.64	258.3	ug/L	2.64	1.02%
Zn 206.200†	5342.9	507.0	ug/L	1.61	507.0	ug/L	1.61	0.32%

Matrix Spike Recoveries

METALS

APPL ID: **170214W-49853 MS - 216181**

Sample ID: AZ49853

Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	LEAD (PB) (DISSOLVE	250	ND	248	242	99.2	96.8	2.4	20	86-113	02/14/17	02/14/17	02/14/17	02/14/17	216181	AZ49853
EPA 6010C	CALCIUM (CA)	25000	12800	39300	40700	106	112	3.5	20	87-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	IRON (FE)	1000	5.0	1010	1060	101	106	4.8	20	87-115	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	LEAD (PB)	250	ND	243	254	97.2	102	4.4	20	86-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	MAGNESIUM (MG)	25000	11800	38200	39400	106	110	3.1	20	85-113	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	MANGANESE (MN)	250	ND	259	259	104	104	0.0	20	90-114	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	POTASSIUM (K)	5000	2060	7240	7510	104	109	3.7	20	86-114	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853
EPA 6010C	SODIUM (NA)	25000	35700	61800	64200	104	114	3.8	20	87-115	02/14/17	02/14/17	02/14/17	02/14/17	216180	AZ49853

Comments: _____

Sequence No.: 40
Sample ID: AZ49853W47 MS
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 02/14/17 4:28:07 PM
Data Type: Reprocessed on 02/15/17 9:26:08 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W47 MS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1459804.9	100.2	%	0.50				0.50%
Y 371.029 Radial	57337.6	93.80	%	0.693				0.74%
Ag 338.289†	7615.4	95.15	ug/L	2.254	95.15	ug/L	2.254	2.37%
Al 308.215†	641.7	2101	ug/L	16.9	2101	ug/L	16.9	0.80%
As 188.979†	505.6	237.1	ug/L	4.86	237.1	ug/L	4.86	2.05%
B†	258.7	335.3	ug/L	2.22	335.3	ug/L	2.22	0.66%
Ba 233.527†	26758.6	251.8	ug/L	2.42	251.8	ug/L	2.42	0.96%
Be 313.107†	7719.9	53.45	ug/L	0.516	53.45	ug/L	0.516	0.96%
Ca 315.887†	99606.9	39270	ug/L	175.8	39270	ug/L	175.8	0.45%
Cd 214.440†	6082.1	47.43	ug/L	0.167	47.43	ug/L	0.167	0.35%
Co 228.616†	10734.2	251.3	ug/L	1.05	251.3	ug/L	1.05	0.42%
Cr 267.716†	20090.6	253.5	ug/L	2.00	253.5	ug/L	2.00	0.79%
Cu 327.393†	16156.6	242.7	ug/L	3.70	242.7	ug/L	3.70	1.53%
Fe 273.955†	9519.9	1009	ug/L	12.8	1009	ug/L	12.8	1.27%
K 766.490†	12071.0	7236	ug/L	20.2	7236	ug/L	20.2	0.28%
Mg 285.213†	178589.8	38210	ug/L	188.9	38210	ug/L	188.9	0.49%
Mn 257.610†	1932.9	258.6	ug/L	1.94	258.6	ug/L	1.94	0.75%
Mo 202.031†	4262.0	237.9	ug/L	1.07	237.9	ug/L	1.07	0.45%
Na 589.592†	409556.0	61780	ug/L	341.1	61780	ug/L	341.1	0.55%
Ni 231.604†	8603.7	249.2	ug/L	1.00	249.2	ug/L	1.00	0.40%
P 213.617†	4690.8	1966	ug/L	7.1	1966	ug/L	7.1	0.36%
Pb 220.353†	1760.9	243.4	ug/L	0.71	243.4	ug/L	0.71	0.29%
Sb 206.836†	480.2	223.4	ug/L	2.37	223.4	ug/L	2.37	1.06%
Se 196.026†	414.3	233.3	ug/L	4.91	233.3	ug/L	4.91	2.11%
Sn 189.927†	1508.1	245.5	ug/L	2.30	245.5	ug/L	2.30	0.94%
Sr 421.552†	140417.9	340.5	ug/L	1.48	340.5	ug/L	1.48	0.43%
Ti 337.279†	5154.2	265.5	ug/L	2.88	265.5	ug/L	2.88	1.08%
Tl 190.801†	451.1	247.2	ug/L	2.32	247.2	ug/L	2.32	0.94%
V 292.402†	41112.9	271.9	ug/L	2.61	271.9	ug/L	2.61	0.96%
Zn 206.200†	5268.2	499.9	ug/L	0.83	499.9	ug/L	0.83	0.17%

Sequence No.: 41
Sample ID: AZ49853W47 MSD
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 02/14/17 4:33:53 PM
Data Type: Reprocessed on 02/15/17 9:26:09 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W47 MSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1444801.0	99.18	%	1.118				1.13%
Y 371.029 Radial	59115.2	96.71	%	0.460				0.48%
Ag 338.289†	7996.5	99.91	ug/L	0.839	99.91	ug/L	0.839	0.84%
Al 308.215†	641.6	2101	ug/L	38.6	2101	ug/L	38.6	1.84%
As 188.979†	525.9	246.5	ug/L	6.64	246.5	ug/L	6.64	2.69%
B†	263.5	341.6	ug/L	6.91	341.6	ug/L	6.91	2.02%
Ba 233.527†	28015.5	263.6	ug/L	3.80	263.6	ug/L	3.80	1.44%
Be 313.107†	7743.9	53.61	ug/L	0.883	53.61	ug/L	0.883	1.65%
Ca 315.887†	103194.2	40680	ug/L	22.4	40680	ug/L	22.4	0.06%
Cd 214.440†	6326.1	49.33	ug/L	0.926	49.33	ug/L	0.926	1.88%
Co 228.616†	11166.0	261.5	ug/L	4.46	261.5	ug/L	4.46	1.70%
Cr 267.716†	20973.2	264.6	ug/L	4.30	264.6	ug/L	4.30	1.62%
Cu 327.393†	17063.3	256.3	ug/L	3.96	256.3	ug/L	3.96	1.55%
Fe 273.955†	9985.8	1059	ug/L	15.4	1059	ug/L	15.4	1.46%
K 766.490†	12522.9	7507	ug/L	4.3	7507	ug/L	4.3	0.06%
Mg 285.213†	184349.7	39440	ug/L	56.7	39440	ug/L	56.7	0.14%
Mn 257.610†	1934.7	258.8	ug/L	4.05	258.8	ug/L	4.05	1.57%
Mo 202.031†	4414.5	246.4	ug/L	3.52	246.4	ug/L	3.52	1.43%
Na 589.592†	425696.6	64220	ug/L	140.7	64220	ug/L	140.7	0.22%
Ni 231.604†	8937.0	258.9	ug/L	3.92	258.9	ug/L	3.92	1.51%
P 213.617†	4878.5	2045	ug/L	36.9	2045	ug/L	36.9	1.81%
Pb 220.353†	1839.0	254.2	ug/L	4.32	254.2	ug/L	4.32	1.70%
Sb 206.836†	499.6	232.4	ug/L	5.72	232.4	ug/L	5.72	2.46%
Se 196.026†	423.8	238.7	ug/L	2.74	238.7	ug/L	2.74	1.15%
Sn 189.927†	1548.7	252.1	ug/L	4.22	252.1	ug/L	4.22	1.67%
Sr 421.552†	145383.1	352.5	ug/L	0.24	352.5	ug/L	0.24	0.07%
Ti 337.279†	5138.0	264.6	ug/L	4.68	264.6	ug/L	4.68	1.77%
Tl 190.801†	467.9	256.4	ug/L	4.08	256.4	ug/L	4.08	1.59%
V 292.402†	43203.5	285.6	ug/L	4.00	285.6	ug/L	4.00	1.40%
Zn 206.200†	5471.8	519.2	ug/L	7.18	519.2	ug/L	7.18	1.38%

Sequence No.: 49
Sample ID: AZ49853W44 MS D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 57
Date Collected: 02/14/17 5:16:42 PM
Data Type: Reprocessed on 02/15/17 9:26:18 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W44 MS D

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1463022.8	100.4	%	0.16				0.16%
Y 371.029 Radial	59122.5	96.72	%	1.716				1.77%
Ag 338.289†	7908.5	98.81	ug/L	1.563	98.81	ug/L	1.563	1.58%
Al 308.215†	633.5	2074	ug/L	35.9	2074	ug/L	35.9	1.73%
As 188.979†	514.9	241.3	ug/L	3.06	241.3	ug/L	3.06	1.27%
B†	258.0	334.5	ug/L	11.17	334.5	ug/L	11.17	3.34%
Ba 233.527†	28233.2	265.6	ug/L	1.72	265.6	ug/L	1.72	0.65%
Be 313.107†	7661.2	53.04	ug/L	1.101	53.04	ug/L	1.101	2.08%
Ca 315.887†	100581.6	39650	ug/L	273.4	39650	ug/L	273.4	0.69%
Cd 214.440†	6151.5	47.97	ug/L	0.163	47.97	ug/L	0.163	0.34%
Co 228.616†	10903.0	255.3	ug/L	1.30	255.3	ug/L	1.30	0.51%
Cr 267.716†	20456.6	258.1	ug/L	3.21	258.1	ug/L	3.21	1.24%
Cu 327.393†	16824.7	252.7	ug/L	1.51	252.7	ug/L	1.51	0.60%
Fe 273.955†	9801.7	1039	ug/L	6.1	1039	ug/L	6.1	0.59%
K 766.490†	12181.1	7302	ug/L	43.2	7302	ug/L	43.2	0.59%
Mg 285.213†	180041.7	38520	ug/L	277.9	38520	ug/L	277.9	0.72%
Mn 257.610†	1914.0	256.1	ug/L	5.51	256.1	ug/L	5.51	2.15%
Mo 202.031†	4276.4	238.7	ug/L	0.42	238.7	ug/L	0.42	0.17%
Na 589.592†	413307.7	62350	ug/L	460.7	62350	ug/L	460.7	0.74%
Ni 231.604†	8721.6	252.7	ug/L	1.31	252.7	ug/L	1.31	0.52%
P 213.617†	4748.8	1990	ug/L	10.1	1990	ug/L	10.1	0.51%
Pb 220.353†	1795.2	248.2	ug/L	1.04	248.2	ug/L	1.04	0.42%
Sb 206.836†	485.7	225.9	ug/L	1.22	225.9	ug/L	1.22	0.54%
Se 196.026†	409.0	230.3	ug/L	3.60	230.3	ug/L	3.60	1.56%
Sn 189.927†	1504.5	244.9	ug/L	2.51	244.9	ug/L	2.51	1.02%
Sr 421.552†	141987.7	344.3	ug/L	2.83	344.3	ug/L	2.83	0.82%
Ti 337.279†	5072.0	261.2	ug/L	5.55	261.2	ug/L	5.55	2.12%
Tl 190.801†	455.8	249.8	ug/L	3.53	249.8	ug/L	3.53	1.41%
V 292.402†	42101.9	278.3	ug/L	2.63	278.3	ug/L	2.63	0.95%
Zn 206.200†	5335.6	506.3	ug/L	1.61	506.3	ug/L	1.61	0.32%

Sequence No.: 50
Sample ID: AZ49853W44 MSD D
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 02/14/17 5:22:16 PM
Data Type: Reprocessed on 02/15/17 9:26:19 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ49853W44 MSD D

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1452772.5	99.73	%	1.155				1.16%
Y 371.029 Radial	58901.9	96.36	%	0.987				1.02%
Ag 338.289†	7622.1	95.23	ug/L	0.621	95.23	ug/L	0.621	0.65%
Al 308.215†	617.6	2022	ug/L	37.3	2022	ug/L	37.3	1.84%
As 188.979†	493.1	231.2	ug/L	4.53	231.2	ug/L	4.53	1.96%
B†	249.4	323.3	ug/L	3.57	323.3	ug/L	3.57	1.10%
Ba 233.527†	26634.9	250.6	ug/L	1.44	250.6	ug/L	1.44	0.58%
Be 313.107†	7464.6	51.68	ug/L	0.726	51.68	ug/L	0.726	1.40%
Ca 315.887†	98691.3	38910	ug/L	129.7	38910	ug/L	129.7	0.33%
Cd 214.440†	5986.9	46.68	ug/L	0.617	46.68	ug/L	0.617	1.32%
Co 228.616†	10643.5	249.2	ug/L	3.25	249.2	ug/L	3.25	1.31%
Cr 267.716†	19968.0	252.0	ug/L	1.30	252.0	ug/L	1.30	0.52%
Cu 327.393†	16309.2	245.0	ug/L	1.91	245.0	ug/L	1.91	0.78%
Fe 273.955†	9540.6	1011	ug/L	8.7	1011	ug/L	8.7	0.86%
K 766.490†	11987.2	7186	ug/L	14.7	7186	ug/L	14.7	0.20%
Mg 285.213†	177050.2	37880	ug/L	103.9	37880	ug/L	103.9	0.27%
Mn 257.610†	1866.1	249.6	ug/L	2.99	249.6	ug/L	2.99	1.20%
Mo 202.031†	4169.0	232.7	ug/L	3.39	232.7	ug/L	3.39	1.46%
Na 589.592†	407218.5	61430	ug/L	129.7	61430	ug/L	129.7	0.21%
Ni 231.604†	8532.2	247.2	ug/L	3.29	247.2	ug/L	3.29	1.33%
P 213.617†	4614.2	1934	ug/L	29.6	1934	ug/L	29.6	1.53%
Pb 220.353†	1749.2	241.8	ug/L	3.86	241.8	ug/L	3.86	1.60%
Sb 206.836†	478.1	222.4	ug/L	3.62	222.4	ug/L	3.62	1.63%
Se 196.026†	402.0	226.3	ug/L	1.52	226.3	ug/L	1.52	0.67%
Sn 189.927†	1456.2	237.2	ug/L	3.07	237.2	ug/L	3.07	1.30%
Sr 421.552†	139496.6	338.2	ug/L	1.17	338.2	ug/L	1.17	0.35%
Ti 337.279†	4946.4	254.8	ug/L	3.75	254.8	ug/L	3.75	1.47%
Tl 190.801†	446.7	244.8	ug/L	5.57	244.8	ug/L	5.57	2.28%
V 292.402†	41080.9	271.6	ug/L	1.35	271.6	ug/L	1.35	0.50%
Zn 206.200†	5189.0	492.4	ug/L	6.70	492.4	ug/L	6.70	1.36%

1%HNO3 / 5%HCl BLK		PREPPRED BY RJS			6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCL	BDH	4116060	02/20/17	1mL	Al	CPI	14D237-33868	01/15/16
20 mL	HNO3	JT BAKER	145075	02/20/17	1mL	Ca	CPI	14D176-33867	01/15/16
Prepared in 2000 ml DI Water					1mL	Mg	CPI	14F190-33865	01/15/16
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1102618-37598	08/07/18
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	O2SI	101811-37555	02/01/18	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	14D237-33868	01/15/16
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	14D176-33867	01/15/16
1ML	CCV-A	Environmental Express	1704016-37595	02/13/18	1mL	Mg	CPI	14F190-33865	01/15/16
1ML	CCV-B	Environmental Express	1704017-37597	02/13/18	1mL	Fe	O2SI	1102618-37598	08/07/18
1ML	CCV-C	Environmental Express	1704018-37596	02/13/18	0.5mL	INT SPECIAL MIX	O2SI	1097850-37132	04/23/18
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	16G076-36927	01/17/18
25mL	STD 3	TODAY	1 week		0.5ML	QCS ICV B	CPI	16G077-36928	01/17/18
25mL	1%HNO3/5%HCl	TODAY	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C					6010B/6010C Internal Standard				
AMOUNT	STD	PREP DATE	EXP DATE		AMOUNT	STD	MANUFACTURER		
15mL	STD 3	TODAY	1 week		2mL	Yttrium	O2SI	1101566-37556	07/20/18
25mL	1%HNO3/5%HCl	TODAY	1 week		Prepared in 2L 1%HNO3 / 5%HCl				

Metals Digestion Worksheet

Method Name 3010A Digestion **Prep Method** M3010 **Set** 170214A **Units** mL

Spikes			
Spiked ID 1	LCSW LOT# 1097769-37130		
Spiked ID 2	LCSW LOT# 1097850-37131		
Spiked ID 3			
Spiked ID 4			
Spiked By	NM	Date:	02/14/17 8:31:00 AM
Witnessed By	EJ	Date:	02/14/17 8:31:00 AM

Starting Temp:	90c Slot 24
Ending Temp:	90c Slot 24
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	02/14/17 13:24

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	170214A Blk				50mL	50mL	02/14/17 8:31	equip: Modblock4
2	170214A LCS		500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4
3	170214A LCSD		500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4
4	AZ49827	AZ49827W05			50mL	50mL	02/14/17 8:31	equip: Modblock4
5	AZ49853	AZ49853W47			50mL	50mL	02/14/17 8:31	equip: Modblock4 TOTAL
6	AZ49853 D	AZ49853W44			50mL	50mL	02/14/17 8:31	equip: Modblock4 FIELD FILTER
7	AZ49853 D MS	AZ49853W44	500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4 FIELD FILTER
8	AZ49853 D MSD	AZ49853W44	500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4 FIELD FILTER
9	AZ49853 MS	AZ49853W47	500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4 TOTAL
10	AZ49853 MSD	AZ49853W47	500uL	1+2	50mL	50mL	02/14/17 8:31	equip: Modblock4 TOTAL
11	AZ49854	AZ49854W17			50mL	50mL	02/14/17 8:31	equip: Modblock4 TOTAL
12	AZ49854 D	AZ49854W16			50mL	50mL	02/14/17 8:31	equip: Modblock4 FIELD FILTER
13	AZ49855	AZ49855W16			50mL	50mL	02/14/17 8:31	equip: Modblock4 TOTAL
14	AZ49855 D	AZ49855W17			50mL	50mL	02/14/17 8:31	equip: Modblock4 FIELD FILTER
15	AZ49889	AZ49889W02			50mL	50mL	02/14/17 8:31	equip: Modblock4
16	AZ49899	AZ49899W02			50mL	50mL	02/14/17 8:31	equip: Modblock4
17	AZ49925	AZ49925W01			50mL	50mL	02/14/17 8:31	equip: Modblock4

Solvent and Lot#
HNO3 J.T.B. 145075 7719
1:1 HCL 2-6-17

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	RGS
Date	2/14/17
Time	1430
Moved to	METALS

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	02/14/17 8:18:17 AM

Reviewed By: RGS **Date:** 2/14/17

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	14 Feb 2017	11:22	CalBlk 170214RJS I:PB O:R		170214A6010	1.
2	14 Feb 2017	11:30	STD 1 170214RJS I:PB O:RJ		170214A6010	1.
3	14 Feb 2017	11:35	STD 2 170214RJS I:PB O:RJ		170214A6010	1.
4	14 Feb 2017	11:40	STD 3 170214RJS I:PB O:RJ		170214A6010	1.
5	14 Feb 2017	11:45	ICV 170214RJS I:PB O:RJS		170214A6010	1.
6	14 Feb 2017	11:54	ICB 170214RJS I:PB O:RJS		170214A6010	1.
7	14 Feb 2017	11:59	LLICV 170214RJS I:PB O:RJ		170214A6010	1.
8	14 Feb 2017	12:04	ICSA 170214RJS I:PB O:RJS		170214A6010	1.
9	14 Feb 2017	12:10	ICSAB 170214RJS I:PB O:RJ		170214A6010	1.
10	14 Feb 2017	12:15	CCV1 170214RJS I:PB O:RJS		170214A6010	1.
11	14 Feb 2017	12:20	CCB 170214RJS I:PB O:RJS		170214A6010	1.
21	14 Feb 2017	14:49	LLICV 170214RJS I:PB O:RJ		170214A6010	1.
24	14 Feb 2017	15:02	CCV1 170214RJS I:PB O:RJS		170214A6010	1.
25	14 Feb 2017	15:07	CCB 170214RJS I:PB O:RJS		170214A6010	1.
30	14 Feb 2017	15:35	170214A-3010-BLK		170214A6010	1.
31	14 Feb 2017	15:40	170214A-3010-LCS		170214A6010	1.
37	14 Feb 2017	16:12	CCV2 170214RJS I:PB O:RJS		170214A6010	1.
38	14 Feb 2017	16:17	CCB 170214RJS I:PB O:RJS		170214A6010	1.
39	14 Feb 2017	16:22	AZ49853W47		170214A6010	1.
40	14 Feb 2017	16:28	AZ49853W47 MS		170214A6010	1.
41	14 Feb 2017	16:33	AZ49853W47 MSD		170214A6010	1.
42	14 Feb 2017	16:39	AZ49853W47-A		170214A6010	1.
43	14 Feb 2017	16:45	AZ49853W47-1/5		170214A6010	5.
44	14 Feb 2017	16:50	AZ49854W17		170214A6010	1.
45	14 Feb 2017	16:55	AZ49855W16		170214A6010	1.
46	14 Feb 2017	17:00	CCV1 170214RJS I:PB O:RJS		170214A6010	1.
47	14 Feb 2017	17:06	CCB 170214RJS I:PB O:RJS		170214A6010	1.
48	14 Feb 2017	17:11	AZ49853W44 D		170214A6010	1.
49	14 Feb 2017	17:16	AZ49853W44 MS D		170214A6010	1.
50	14 Feb 2017	17:22	AZ49853W44 MSD D		170214A6010	1.
51	14 Feb 2017	17:27	AZ49853W44-A D		170214A6010	1.
53	14 Feb 2017	17:38	AZ49854W16 D		170214A6010	1.
54	14 Feb 2017	17:44	AZ49855W17 D		170214A6010	1.
55	14 Feb 2017	17:49	CCV2 170214RJS I:PB O:RJS		170214A6010	1.
56	14 Feb 2017	17:57	CCB 170214RJS I:PB O:RJS		170214A6010	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	BROMIDE	0.16 U	0.5	0.16	0.05	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	FLUORIDE	0.09 U	0.1	0.09	0.08	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/16/17	02/16/17	#300WD-170216A1-AZ49853
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/10/17	02/10/17	#35FE-170210A-AZ49853

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.9	94.5	90-110	02/16/17	02/16/17	#300WD-170216A1-AZ49853
EPA 300.0	BROMIDE	12.5	12.9	103	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	FLUORIDE	2.50	2.26	90.4	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM3500Fe	FERROUS IRON	3.00	2.97	99.0	80-120	02/10/17	02/10/17	#35FE-170210A-AZ49853

Comments: _____

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APPL Standard LCS

Matrix Spike Recoveries

WETLAB

APPL ID: **170215W-49853 MS - 216209**

Sample ID: AZ49853

Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	66.1	305	306	95.6	96.0	0.33	20	90-110	02/15/17	02/15/17	02/15/17	02/15/17	216209	AZ49853
SM 2320B	TOTAL ALKALINITY AS	250	66.1	305	306	95.6	96.0	0.33	20	90-110	02/15/17	02/15/17	02/15/17	02/15/17	216209	AZ49853
SM3500Fe	FERROUS IRON	3.00	0.017	3.02	3.02	100	100	0.0	20	80-120	02/10/17	02/10/17	02/10/17	02/10/17	216120	AZ49853

Comments: _____

Printed: 02/17/17 3:34:55 PM
APPL MSD SCII

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH225

Sample Collection Date: 02/08/17

APPL ID: AZ49853

ARF: 82150

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	52.7	2.0	0.40	0.16	mg/L	2	02/16/17	02/16/17
EPA 300.0	BROMIDE	0.30 J	0.5	0.16	0.05	mg/L	1	02/10/17	02/10/17
EPA 300.0	FLUORIDE	0.14	0.1	0.09	0.08	mg/L	1	02/10/17	02/10/17
EPA 300.0	NITRATE	2.3	0.5	0.18	0.04	mg/L	1	02/10/17	02/10/17
EPA 300.0	SULFATE	9.4	1.0	0.20	0.09	mg/L	1	02/10/17	02/10/17
SM 2320B	BICARBONATE AS CACO3	66.1	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM 2320B	TOTAL ALKALINITY AS CACO3	66.1	2.0	1.70	0.85	mg/L	1	02/15/17	02/15/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	02/10/17	02/10/17

J = Estimated value.

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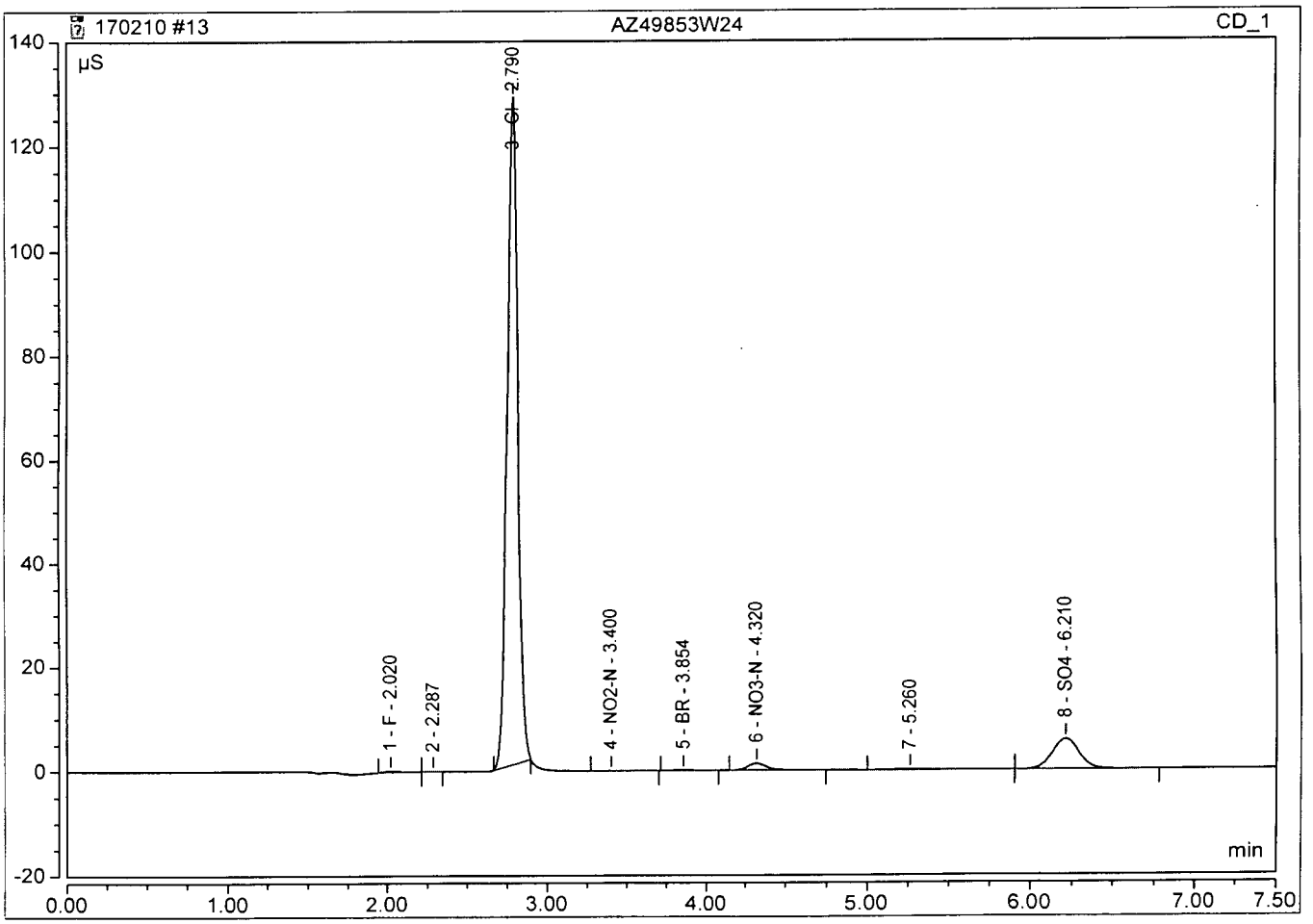
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ49853W24**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 13:40**	*Run Time:*	**7.50**

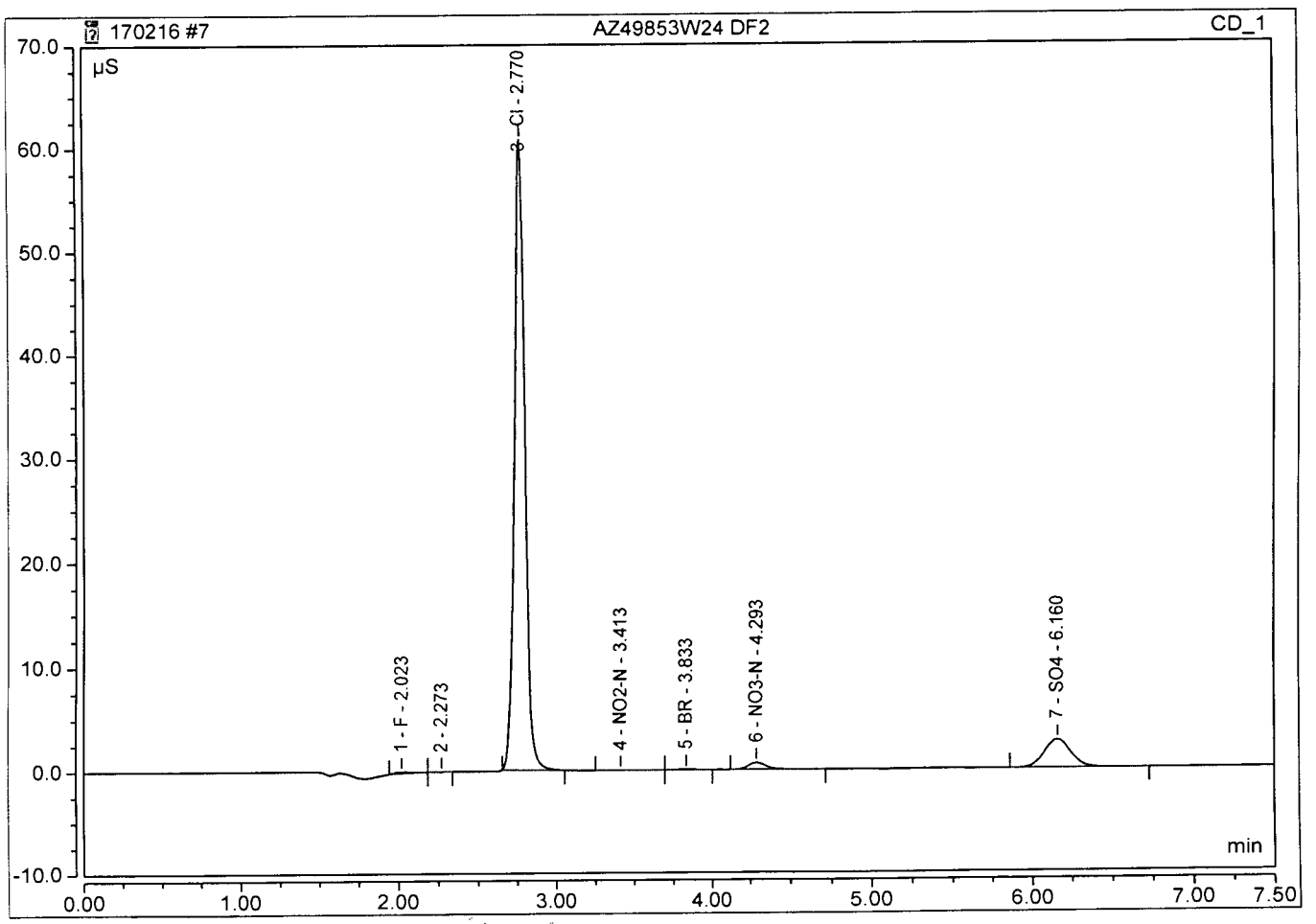
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.024	0.227	0.1442
3	2.79	Cl	BMB	9.912	127.947	55.0978
4	3.40	NO2-N	BMB	0.001	0.006	0.0263
5	3.85	BR	BMB	0.011	0.100	0.3020
6	4.32	NO3-N	BMB	0.172	1.324	0.5140
8	6.21	SO4	BMB	1.085	5.791	9.3761
TOTAL:				11.21	135.39	65.46



Peak Integration Report

Sample Name:	**AZ49853W24 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 12:32**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.017	0.144	0.2279
3	2.77	Cl	BMB	4.690	60.691	52.6929
4	3.41	NO2-N	BMB	0.001	0.004	0.0486
5	3.83	BR	BMB	0.006	0.051	0.4255
6	4.29	NO3-N	BMB	0.084	0.660	0.6015
7	6.16	SO4	BMB	0.528	2.730	9.6281
TOTAL:				5.33	64.28	63.62



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 14:00	%R(1)	True CCV1	Found 14:10	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.96304	99.1	4	3.94306	98.6	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

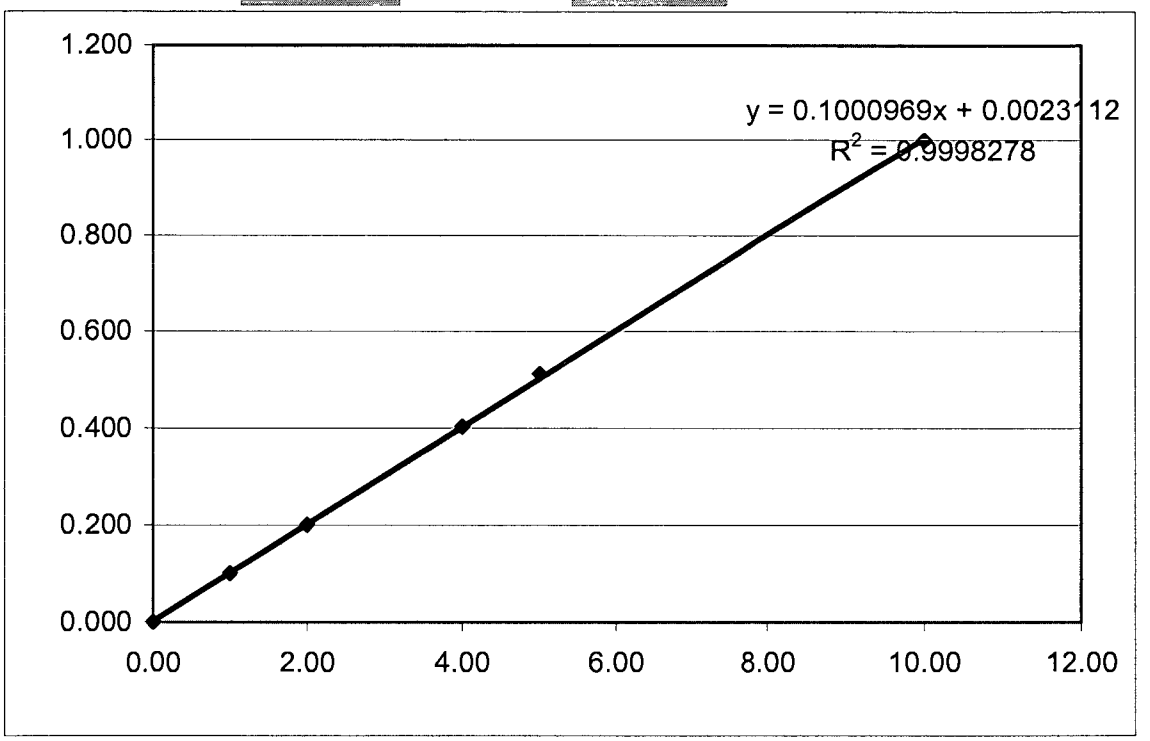
ARF No.: 82150 SDG: 82150

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 02/10/17 14:01	C	CCB 02/10/17 14:11	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

Ferrous Iron **170210A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.300	02/10/17	14:02
dilution=	1		
result (x)=	2.97 ✓		

mm 2/20/17

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 10/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:37	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	11.8422	94.7							
chloride	20	18.2183	91.1							
fluoride	2.5	2.55939	102							
Nitrate(NO3)	22.1	20.0573	90.8							
Nitrate(NO3)-N	5	4.52905	90.6							
Nitrite(NO2)	9.98	9.81221	98.3							
Nitrite(NO2)-N	3.04	2.98733	98.3							
phosphate	15.3225	14.7130	96.0							
phosphate-p	5	4.80111	96.0							
sulfate	20	18.4058	92.0							

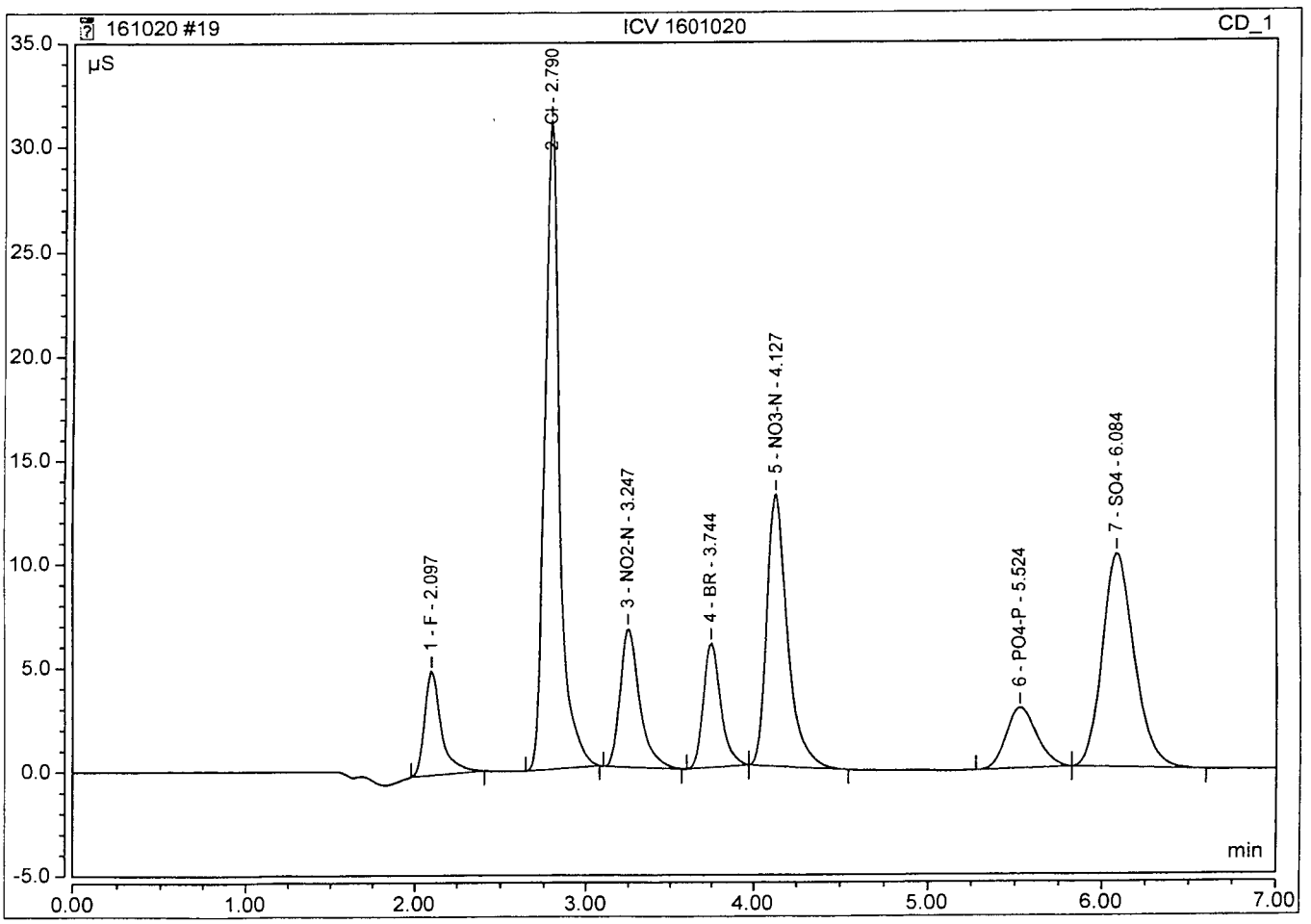
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 1601020**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:37**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.568	5.018	2.5594
2	2.79	Cl	BMB	3.214	31.139	18.2184
3	3.25	NO2-N	BMB	0.894	6.653	2.9873
4	3.74	BR	BMB	0.739	5.970	11.8423
5	4.13	NO3-N	BMB	1.827	13.075	4.5291
6	5.52	PO4-P	BMB	0.590	2.913	4.8011
7	6.08	SO4	BMB	2.187	10.255	18.4058
		TOTAL:		10.02	75.02	63.34



Algorithm Check (Charlie)

SEQUENCE:	161020			CALIBRATION: 161020			
RUN #:	19	AMPLE ID:	161020 ICV				
ANALYTE	SLOPE	INTERCEP	AREA	RESULT (	SPIKE (mg/L)	% R	Pass?
Flouride	0.225	-0.009	0.568	2.56	2.50	102.4%	Pass
Chloride	0.182	-0.094	3.214	18.22	20.00	91.1%	Pass
NO2-N	0.301	-0.007	0.894	2.99	3.04	98.3%	Pass
Bromide	0.063	-0.008	0.739	11.84	12.50	94.7%	Pass
NO3-N	0.412	-0.039	1.827	4.53	5.00	90.6%	Pass
PO4-P	0.125	-0.008	0.59	4.80	5.00	96.0%	Pass
Sulfate	0.122	-0.060	2.187	18.40	20.00	92.0%	Pass

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

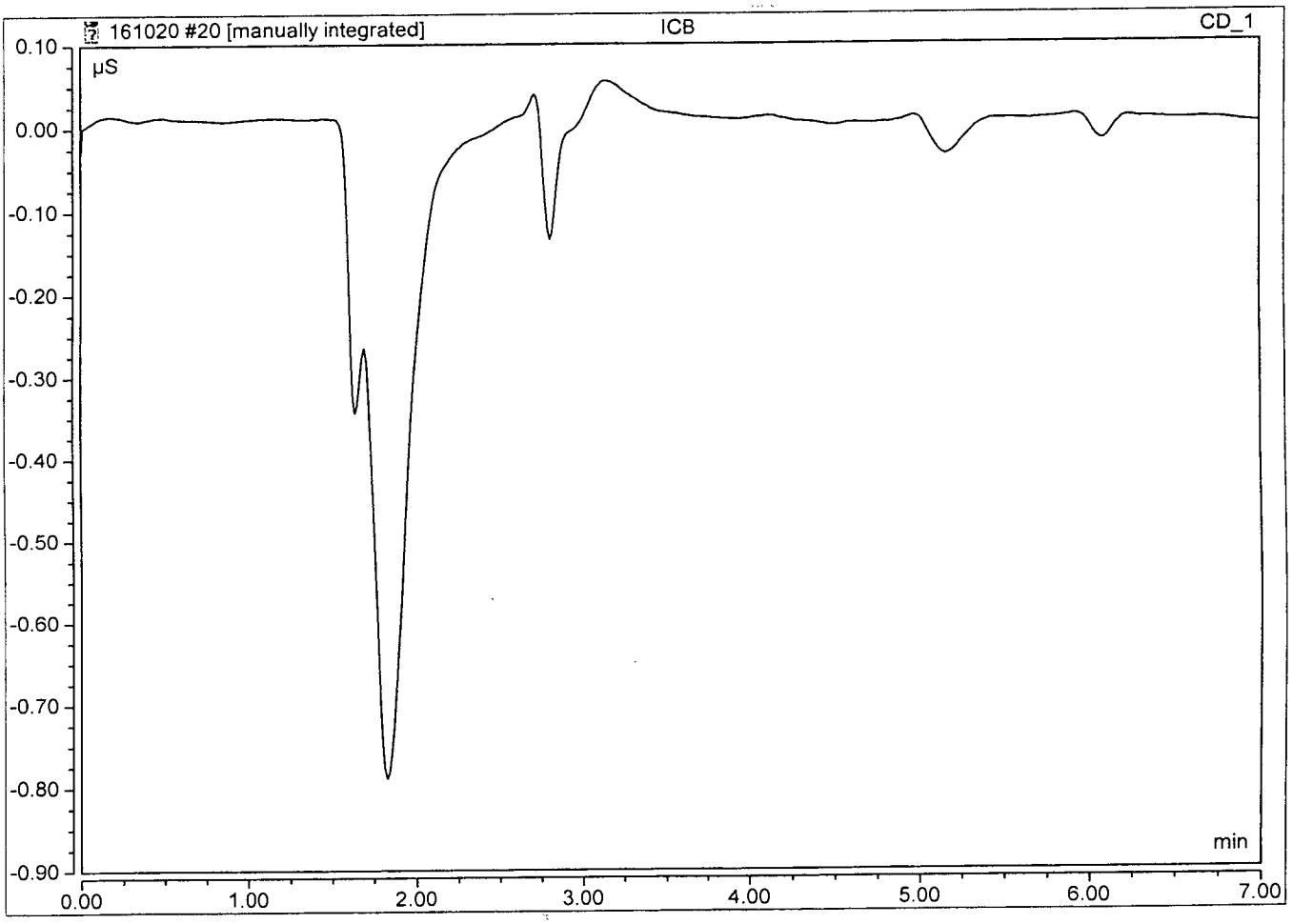
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 10/20/16 12:50	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 161020 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	20-Oct-2016 / 12:50	*Run Time:*	7.00

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/10/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:18	%R(1)	True CCV1	Found 15:01	%R(1)	True	Found	%R(1)	
bromide	12.5	12.7863	102	12.5	12.8016	102				
fluoride	2.5	2.316	92.6	2.5	2.2415	89.7				
Nitrate(NO3)	22.1	22.3002	101	22.1	22.3445	101				
sulfate	25	24.3399	97.4	25	24.3904	97.6				

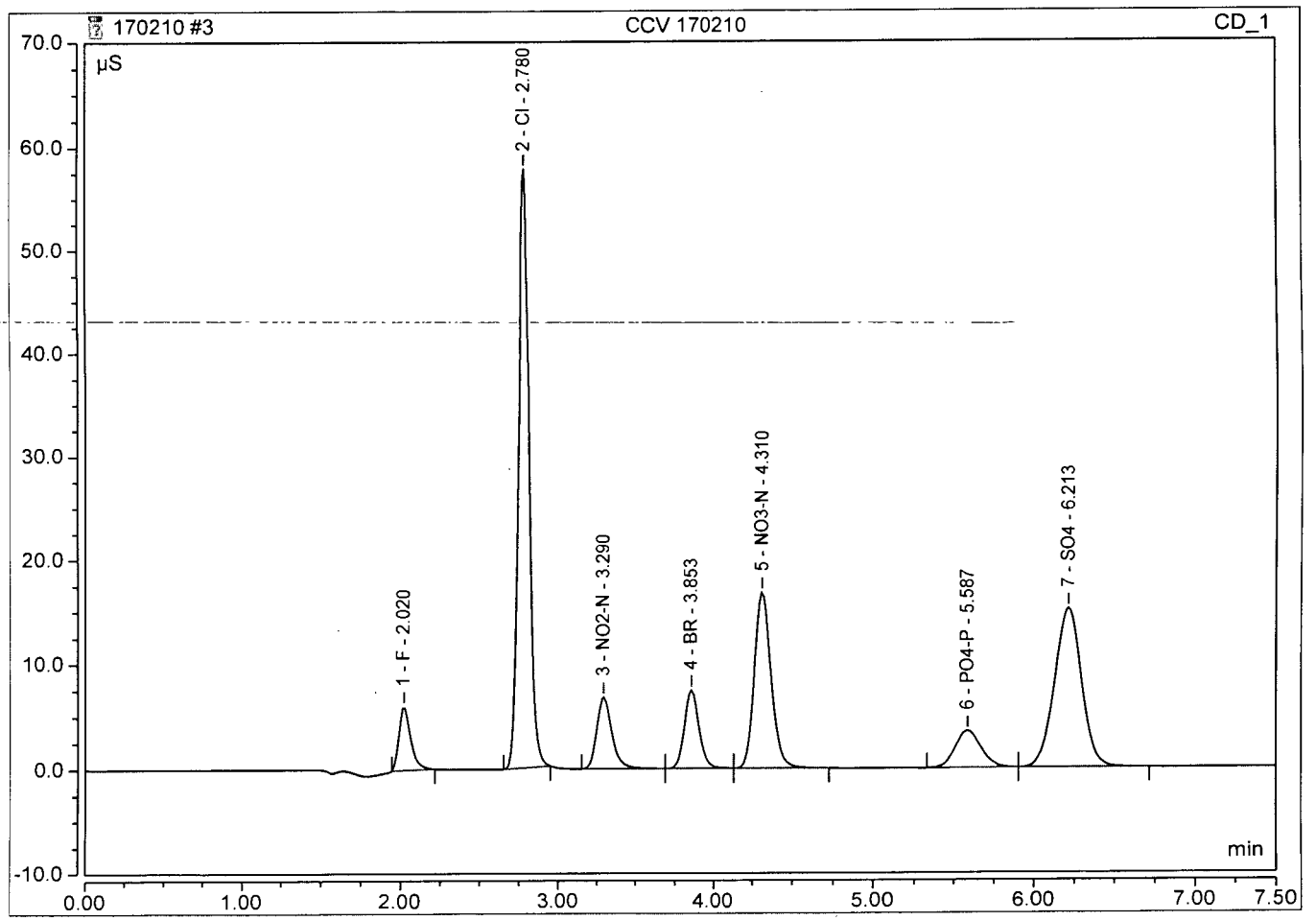
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:18**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.513	6.060	2.3160
2	2.78	Cl	BMB	4.427	57.761	24.8970
3	3.29	NO2-N	BMB	0.778	6.799	2.6017
4	3.85	BR	BMB	0.799	7.392	12.7863
5	4.31	NO3-N	BMB	2.035	16.703	5.0355
6	5.59	PO4-P	BMB	0.645	3.477	5.2445
7	6.21	SO4	BMB	2.912	15.085	24.3399
		TOTAL:		12.11	113.28	77.22

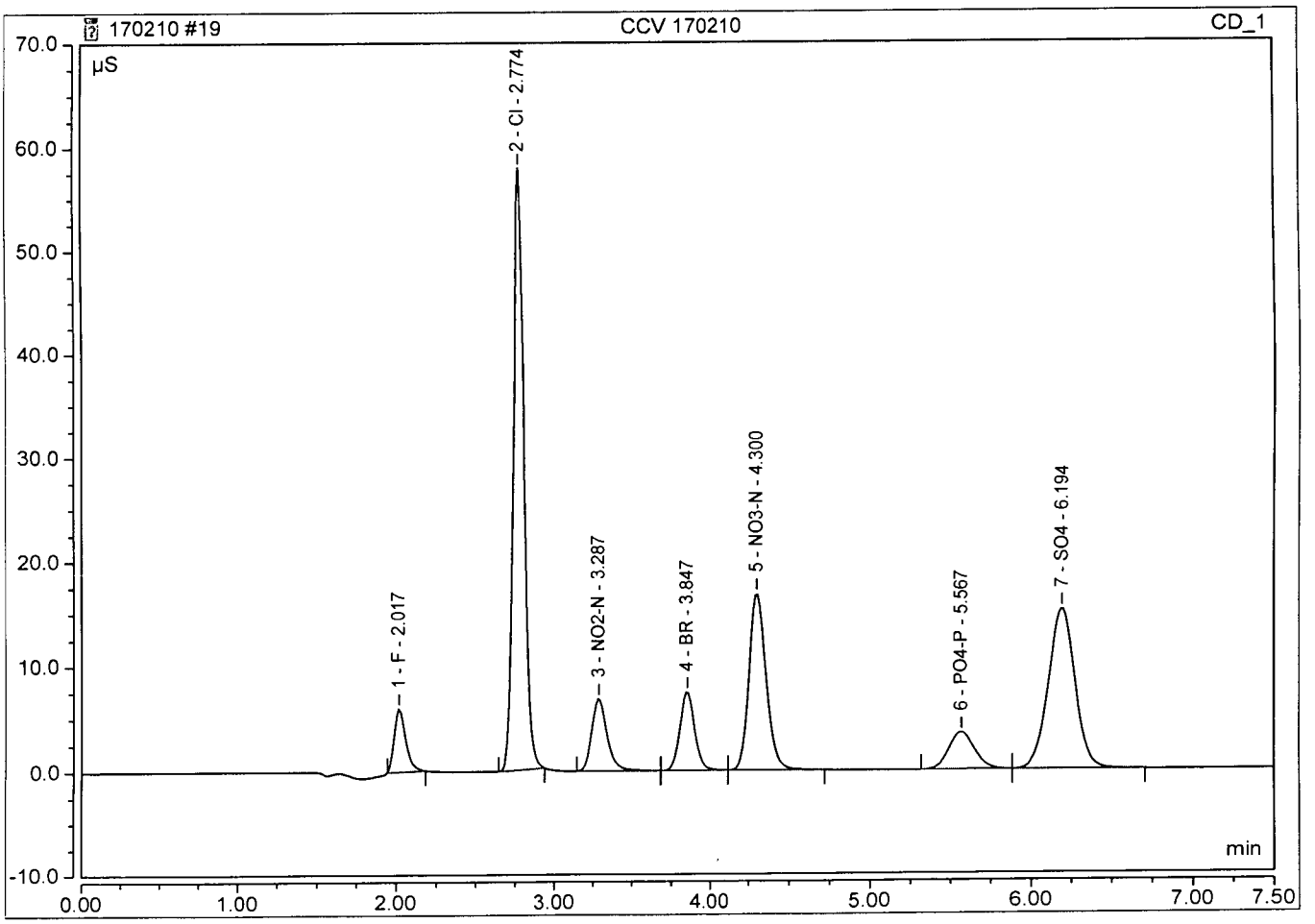


Algorithm Check
y = .1221x - .06
x = 24.34
y = Peak Area
x = Amt
MM 2/20/17

Peak Integration Report

Sample Name:	**CCV 170210**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:01**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.496	5.999	2.2415
2	2.77	Cl	BMB	4.431	57.841	24.9168
3	3.29	NO2-N	BMB	0.783	6.830	2.6188
4	3.85	BR	BMB	0.800	7.405	12.8016
5	4.30	NO3-N	BMB	2.039	16.739	5.0455
6	5.57	PO4-P	BMB	0.646	3.503	5.2498
7	6.19	SO4	BMB	2.918	15.137	24.3904
		TOTAL:		12.11	113.45	77.26



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82150 SDG: 82150

Preparation Blank Matrix (soil/water): water

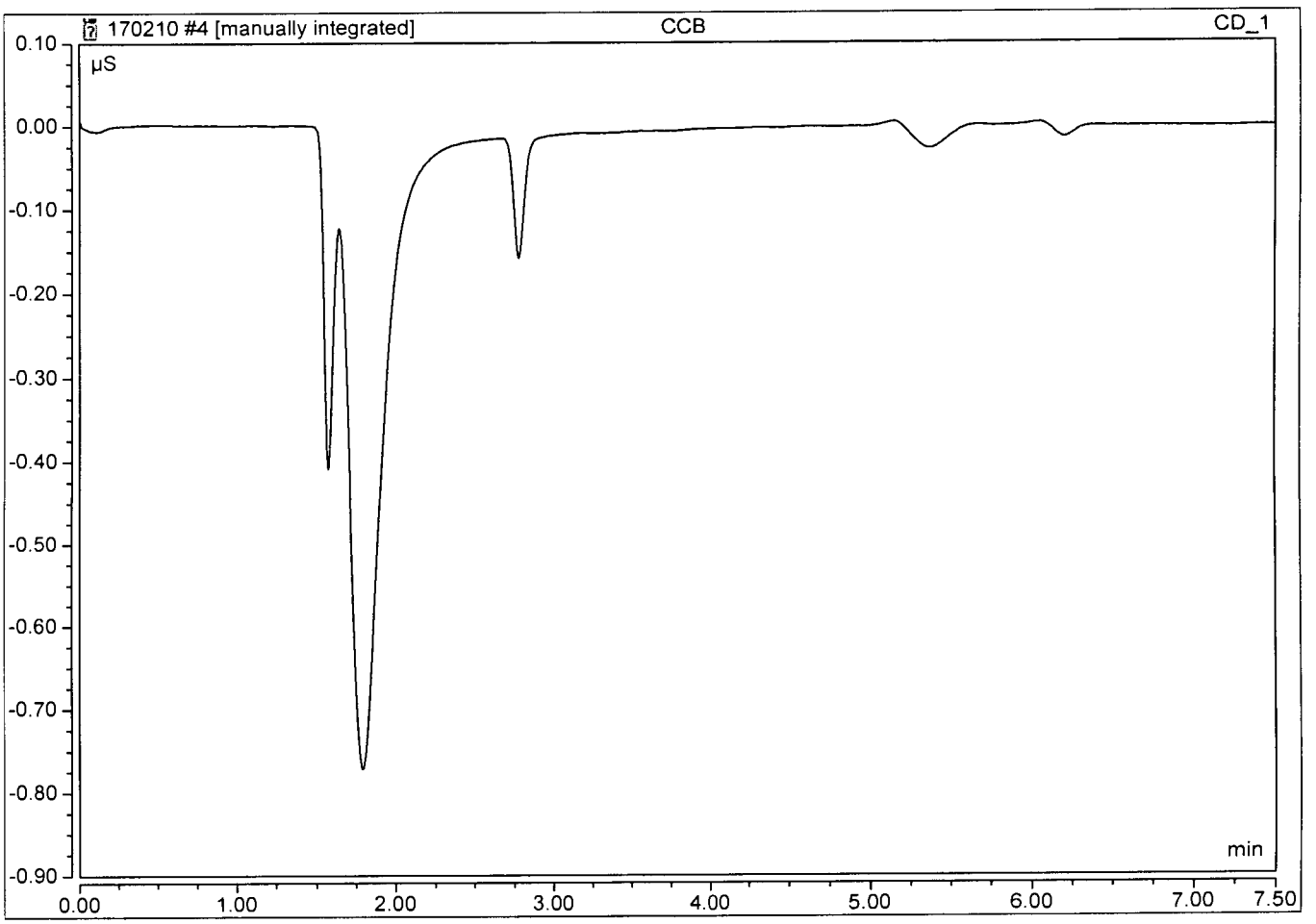
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/10/17 09:31	C	CCB 02/10/17 15:15	C		C		C		C	
bromide	.500	U	.500	U							
fluoride	.100	U	.100	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:31**	*Run Time:*	**7.50**

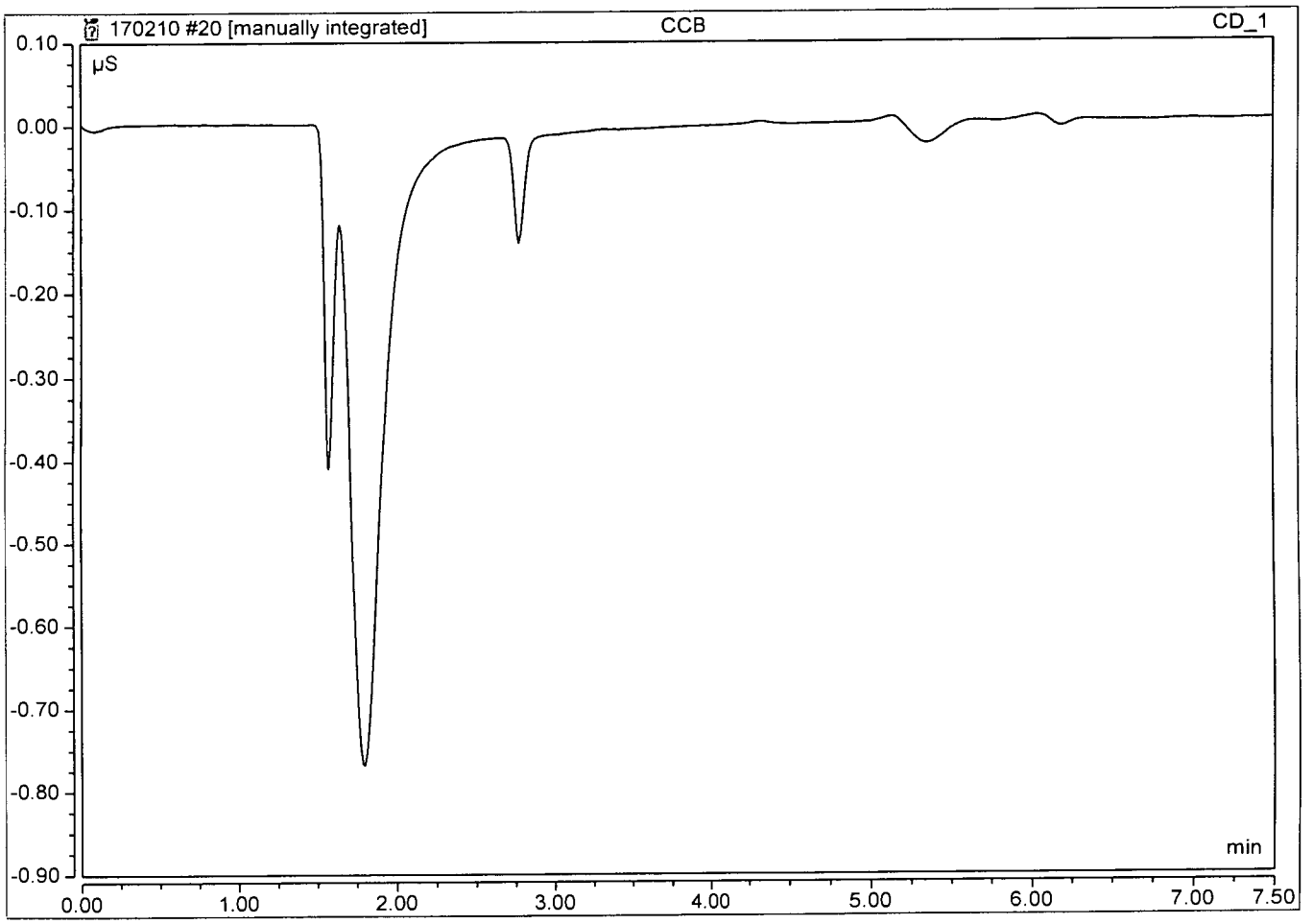
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 15:15**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82150 SDG: 82150
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 02/16/17

Analyte	Calibration Verification									M
	True CCV1	Found 11:38	%R(1)	True CCV1	Found 13:53	%R(1)	True	Found	%R(1)	
chloride	25	25.2225	101	25	25.2066	101				

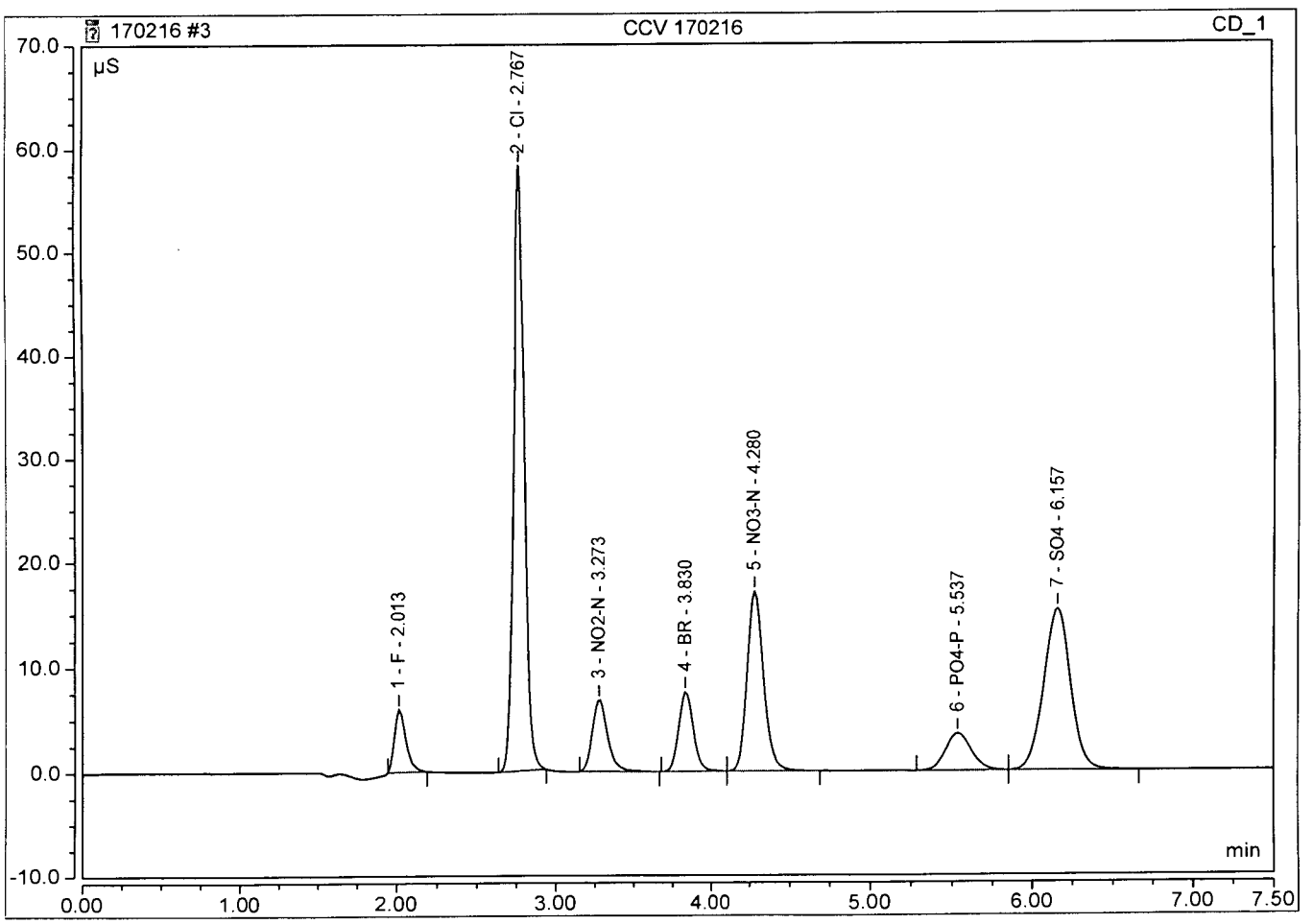
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170216**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 11:38**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.01	F	BMB	0.496	5.986	2.2401
2	2.77	Cl	BMB	4.486	58.358	25.2225
3	3.27	NO2-N	BMB	0.770	6.785	2.5768
4	3.83	BR	BMB	0.808	7.506	12.9290
5	4.28	NO3-N	BMB	2.061	16.998	5.0970
6	5.54	PO4-P	BMB	0.651	3.529	5.2914
7	6.16	SO4	BMB	2.946	15.234	24.6147
		TOTAL:		12.22	114.40	77.97



Algorithm Check

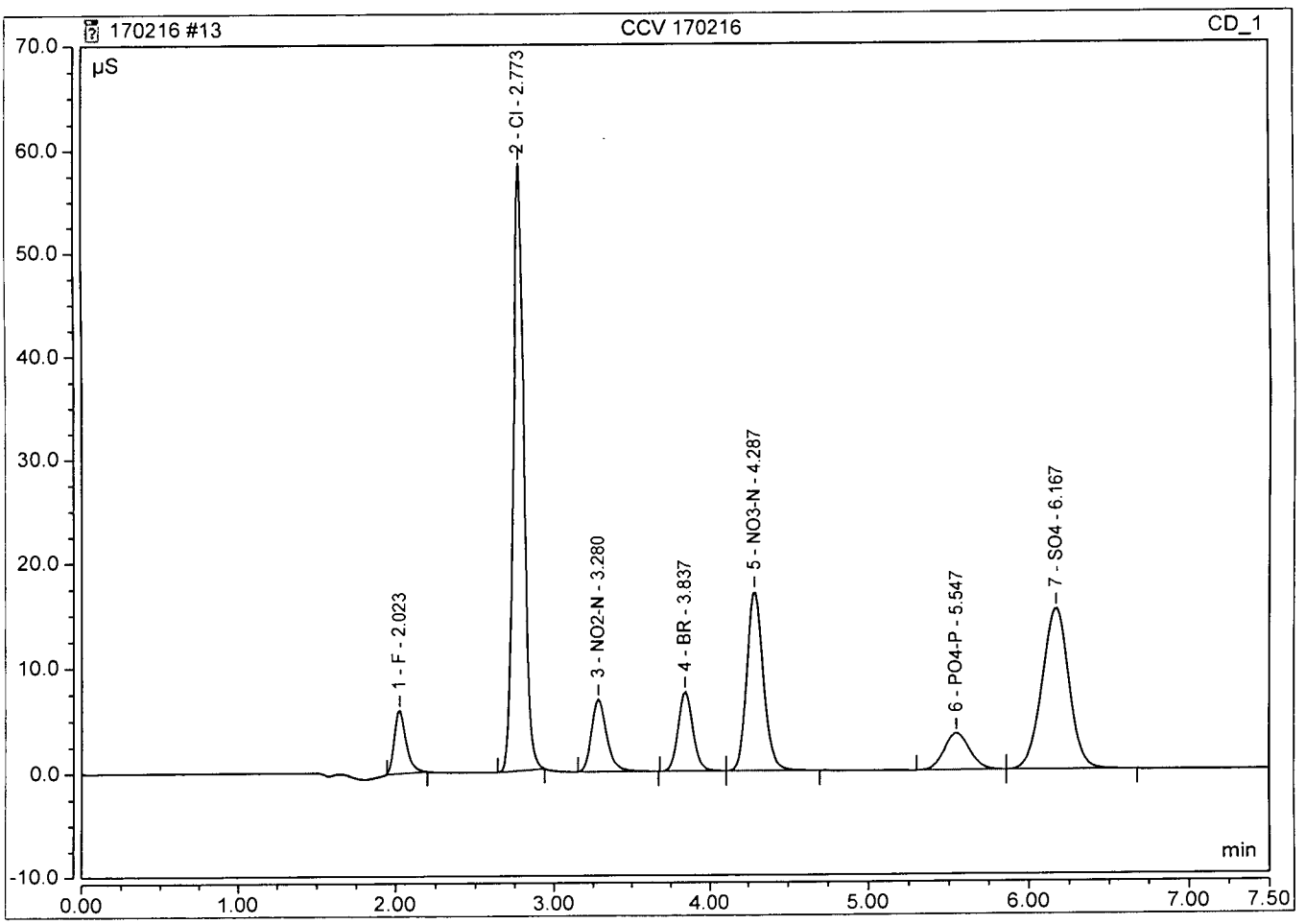
y = .1221x − .06 ✓ y = Peak Area x = Amt

x = 24.62 ✓ mm 2/20/17

Peak Integration Report

Sample Name:	**CCV 170216**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 13:53**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.509	6.020	2.2986
2	2.77	Cl	BMB	4.483	58.480	25.2066
3	3.28	NO2-N	BMB	0.781	6.848	2.6122
4	3.84	BR	BMB	0.807	7.519	12.9159
5	4.29	NO3-N	BMB	2.060	17.028	5.0952
6	5.55	PO4-P	BMB	0.639	3.474	5.1901
7	6.17	SO4	BMB	2.944	15.242	24.6033
		TOTAL:		12.22	114.61	77.92



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82150 SDG: 82150

Preparation Blank Matrix (soil/water): water

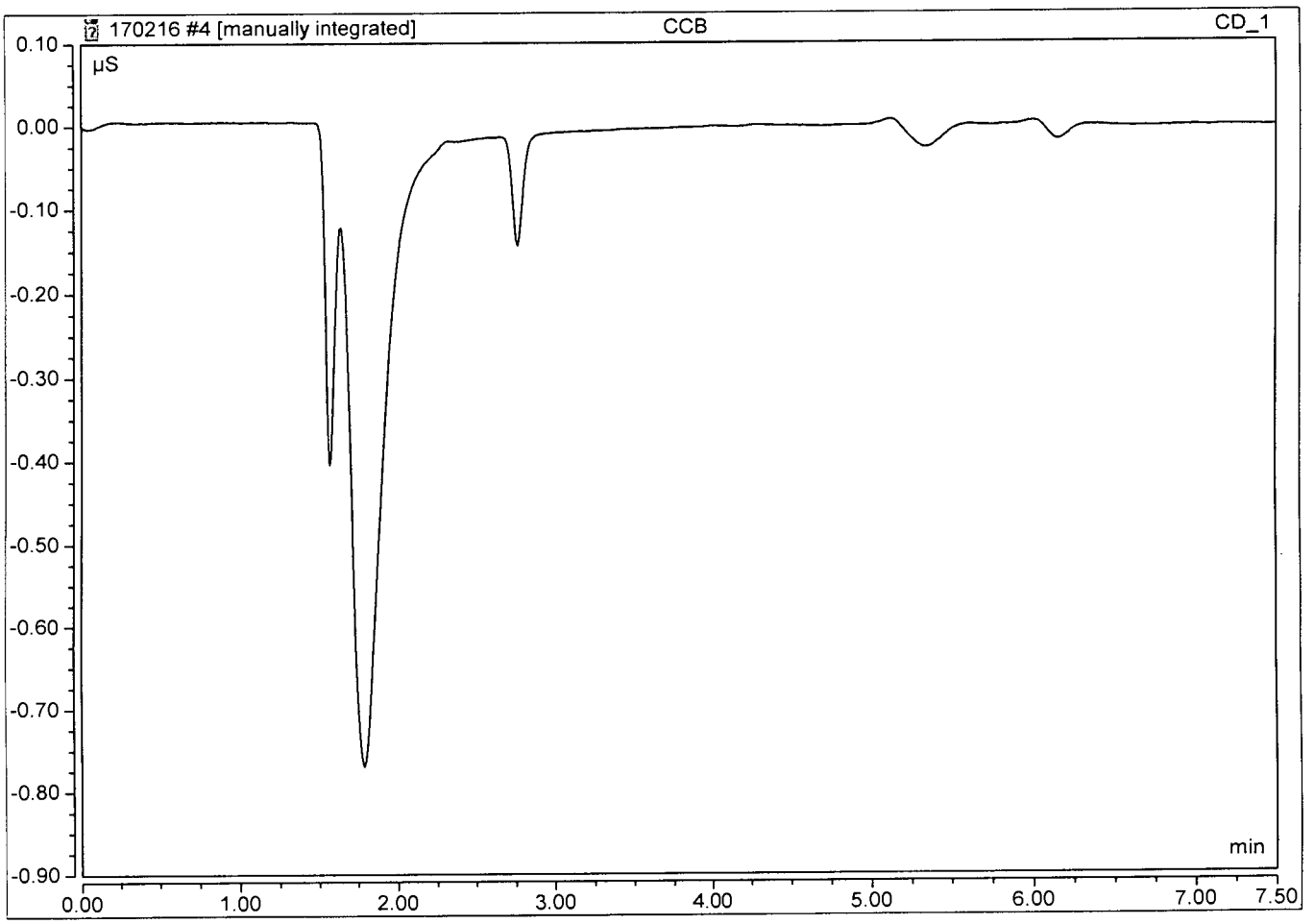
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 02/16/17 11:51	C	CCB 02/16/17 14:07	C		C		C		C	
chloride	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 11:51**	*Run Time:*	**7.50**

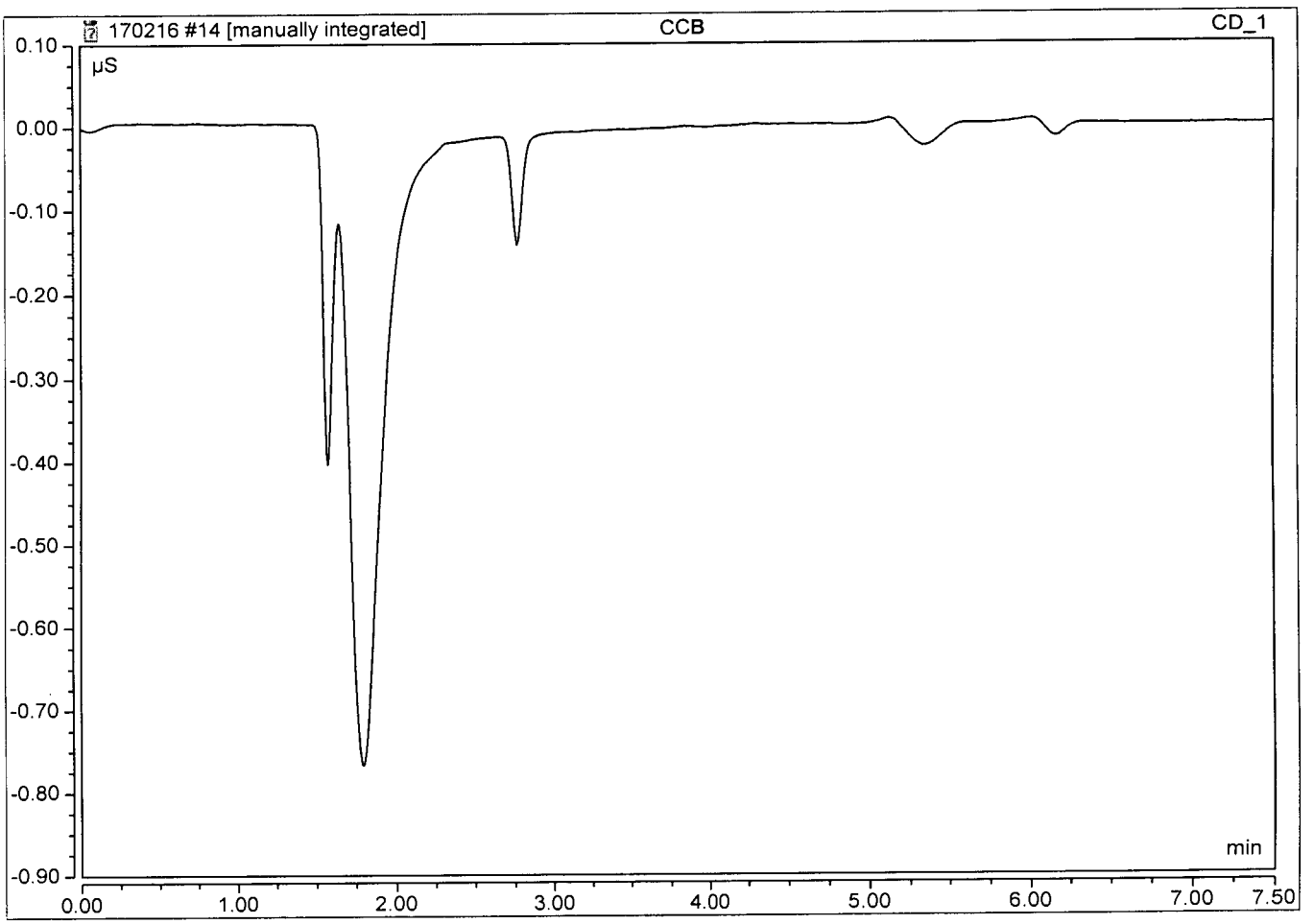
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 14:07**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



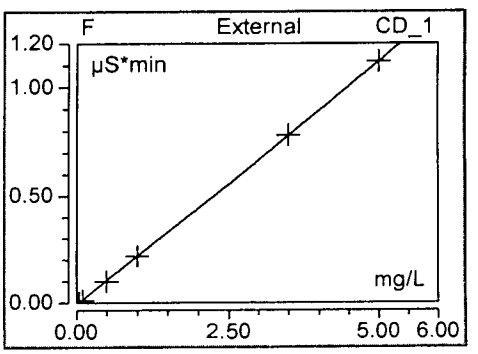
Calibration Batch Report

Sequence:	**161020**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7**

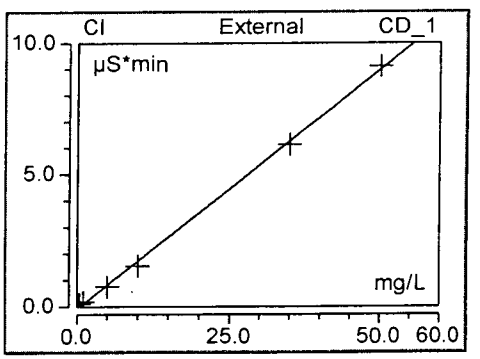
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.225	0.000	99.9840
Cl	Area	in, WithOffse	6.000	-0.094	0.182	0.000	99.8613
NO2-N	Area	in, WithOffse	6.000	-0.007	0.301	0.000	99.9917
BR	Area	in, WithOffse	6.000	-0.008	0.063	0.000	99.9802
NO3-N	Area	in, WithOffse	6.000	-0.039	0.412	0.000	99.9329
PO4-P	Area	in, WithOffse	6.000	-0.008	0.125	0.000	99.9563
SO4	Area	in, WithOffse	6.000	-0.060	0.122	0.000	99.9400
		AVERAGE:		-0.0322	0.2043	0.0000	99.9495

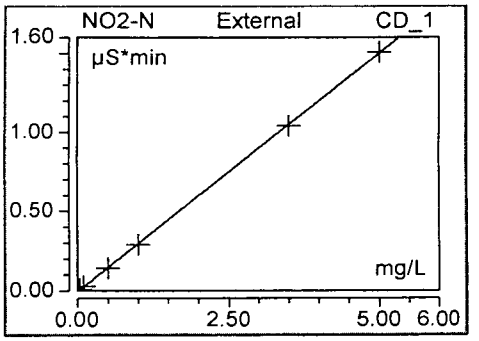
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 10/20/16	2.123	0.0012	0.022	0.044
ICAL 2 10/20/16	2.107	0.0123	0.139	0.093
ICAL 3 10/20/16	2.100	0.1000	0.922	0.483
ICAL 4 10/20/16	2.104	0.2174	1.958	1.004
ICAL 5 10/20/16	2.097	0.7826	6.953	3.513
ICAL 6 10/20/16	2.103	1.1183	9.996	5.004
Average	2.106			
Rel. Std. Dev.	0.443 %			



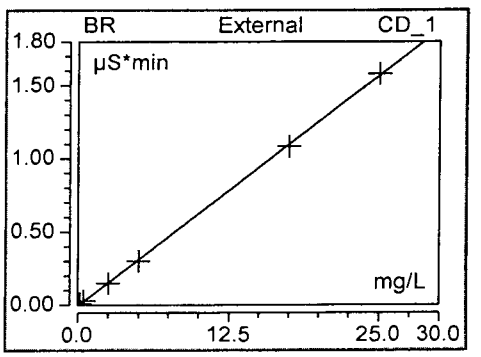
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 10/20/16	2.793	0.1132	1.052	1.143
ICAL 2 10/20/16	2.790	0.1861	1.743	1.544
ICAL 3 10/20/16	2.790	0.7617	7.117	4.714
ICAL 4 10/20/16	2.797	1.5419	14.708	9.010
ICAL 5 10/20/16	2.793	6.1288	59.398	34.268
ICAL 6 10/20/16	2.803	9.1171	87.978	50.723
Average	2.795			
Rel. Std. Dev.	0.179 %			



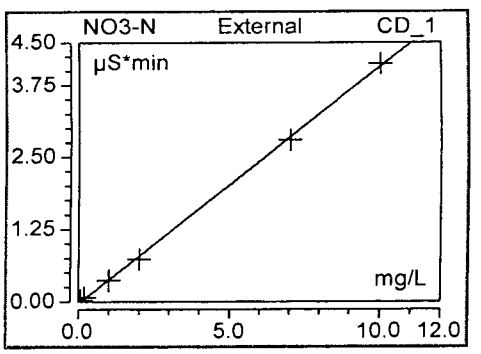
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 10/20/16	3.250	0.0095	0.073	0.053
ICAL 2 10/20/16	3.247	0.0276	0.209	0.113
ICAL 3 10/20/16	3.250	0.1420	1.072	0.493
ICAL 4 10/20/16	3.254	0.2907	2.188	0.986
ICAL 5 10/20/16	3.250	1.0405	7.775	3.473
ICAL 6 10/20/16	3.257	1.5072	11.205	5.022
Average	3.251			
Rel. Std. Dev.	0.106 %			



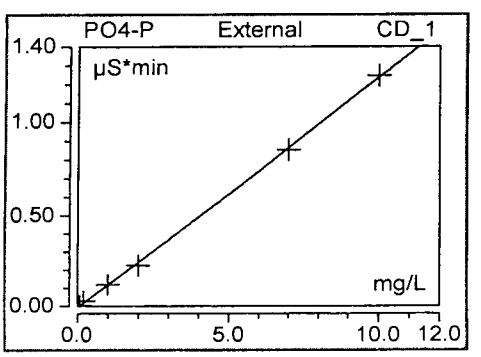
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 10/20/16	3.757	0.0109	0.087	0.299
ICAL 2 10/20/16	3.753	0.0293	0.232	0.589
ICAL 3 10/20/16	3.750	0.1485	1.179	2.478
ICAL 4 10/20/16	3.754	0.2993	2.389	4.870
ICAL 5 10/20/16	3.743	1.0832	8.801	17.295
ICAL 6 10/20/16	3.747	1.5800	13.023	25.169
Average	3.751			
Rel. Std. Dev.	0.131 %			



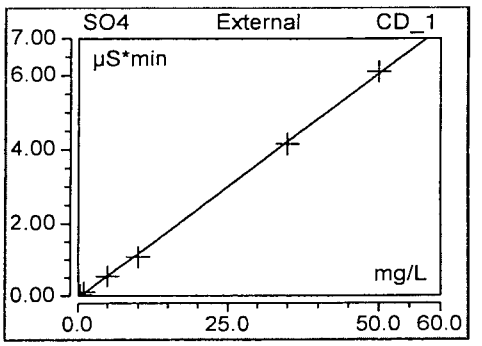
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 10/20/16	4.143	0.0290	0.196	0.166
ICAL 2 10/20/16	4.140	0.0717	0.496	0.270
ICAL 3 10/20/16	4.137	0.3656	2.533	0.983
ICAL 4 10/20/16	4.140	0.7330	5.168	1.875
ICAL 5 10/20/16	4.123	2.7923	20.144	6.873
ICAL 6 10/20/16	4.123	4.1278	30.098	10.114
Average	4.135			
Rel. Std. Dev.	0.215 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 10/20/16	5.540	0.0032	0.021	0.092
ICAL 2 10/20/16	5.540	0.0284	0.107	0.295
ICAL 3 10/20/16	5.537	0.1191	0.557	1.022
ICAL 4 10/20/16	5.537	0.2251	1.103	1.873
ICAL 5 10/20/16	5.520	0.8544	4.243	6.922
ICAL 6 10/20/16	5.523	1.2473	6.244	10.075
Average	5.533			
Rel. Std. Dev.	0.160 %			



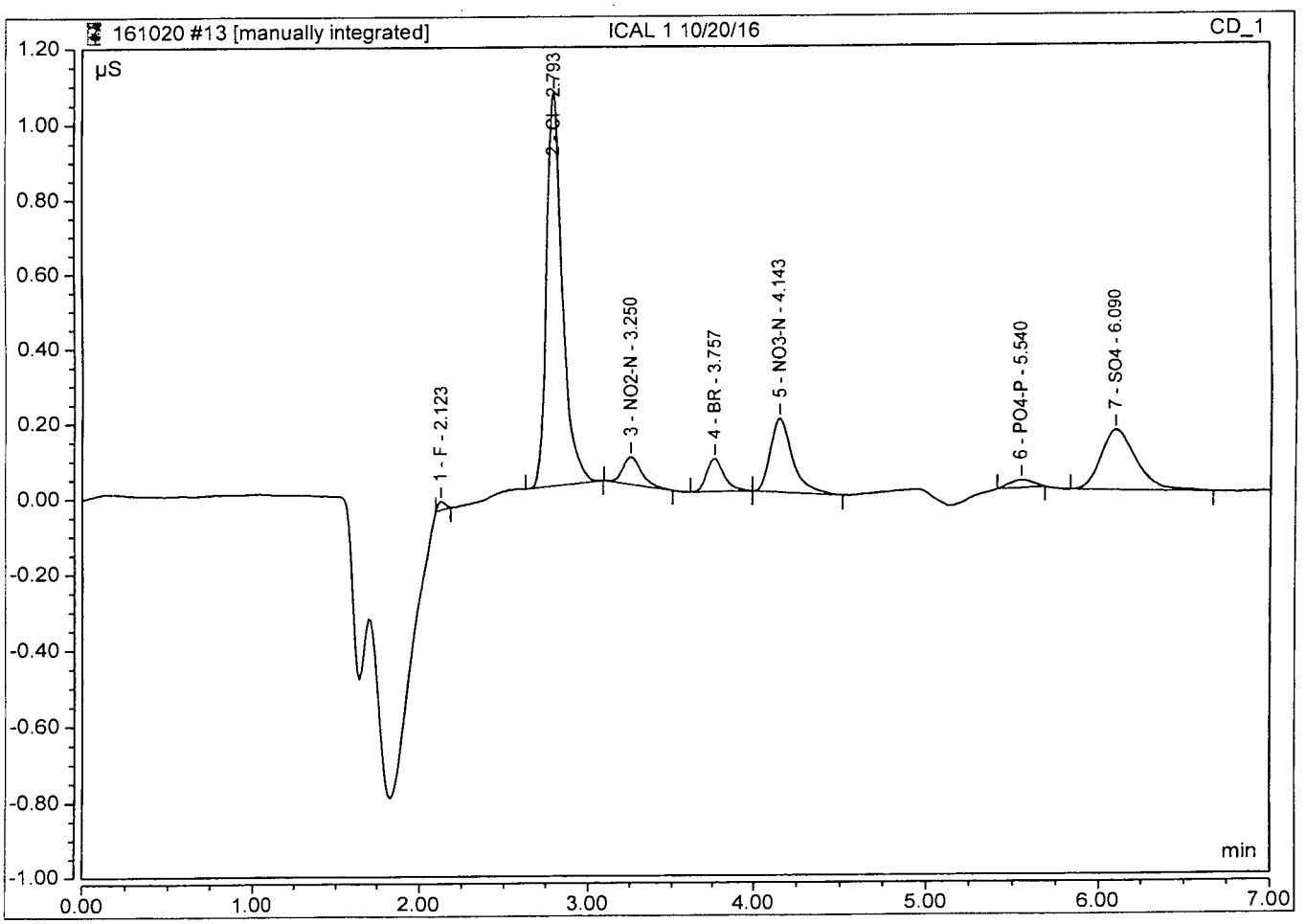
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 10/20/16	6.090	0.0385	0.159	0.808
ICAL 2 10/20/16	6.093	0.1046	0.455	1.350
ICAL 3 10/20/16	6.097	0.5456	2.464	4.961
ICAL 4 10/20/16	6.100	1.0756	4.975	9.302
ICAL 5 10/20/16	6.097	4.1512	19.714	34.487
ICAL 6 10/20/16	6.110	6.1057	29.270	50.492
Average	6.098			
Rel. Std. Dev.	0.113 %			



Peak Integration Report

Sample Name:	**ICAL 1 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:19**	*Run Time:*	**7.00**

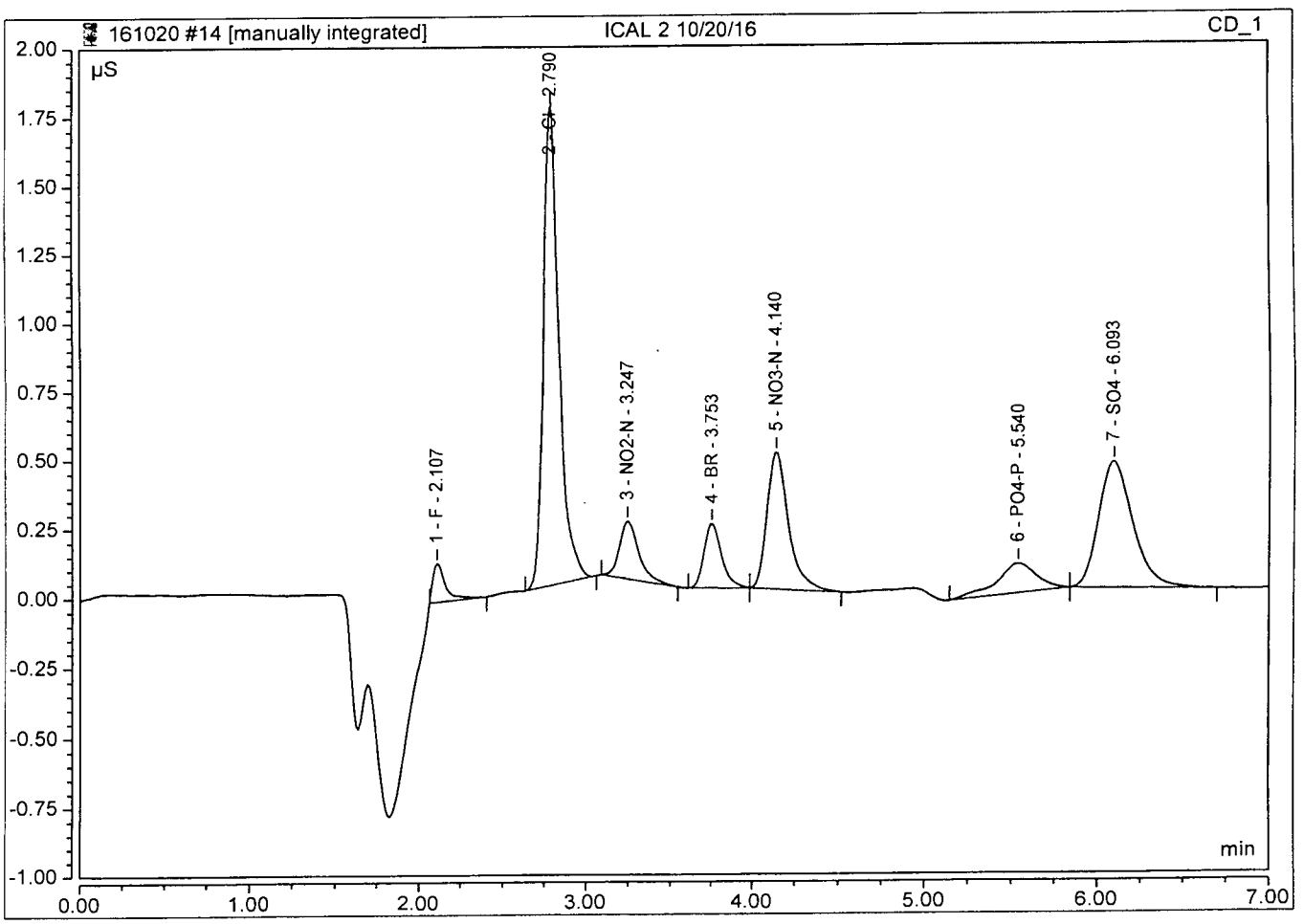
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB*	0.001	0.022	0.0438
2	2.79	Cl	BMB	0.113	1.052	1.1427
3	3.25	NO2-N	BMB	0.009	0.073	0.0531
4	3.76	BR	BMB	0.011	0.087	0.2985
5	4.14	NO3-N	BMB	0.029	0.196	0.1660
6	5.54	PO4-P	BMB*	0.003	0.021	0.0923
7	6.09	SO4	BMB	0.038	0.159	0.8084
		TOTAL:		0.21	1.61	2.60



Peak Integration Report

Sample Name:	**ICAL 2 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:32**	*Run Time:*	**7.00**

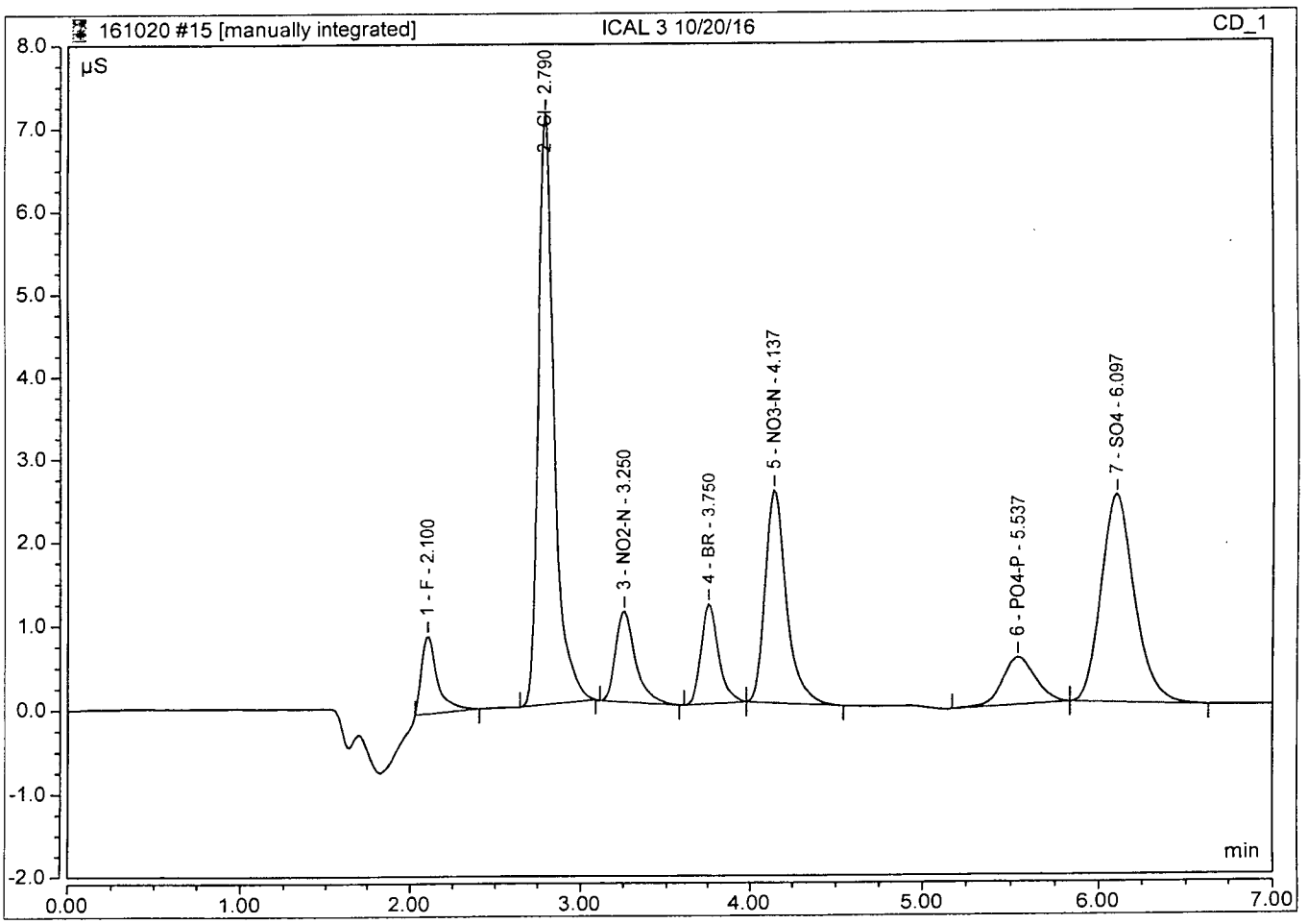
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB*	0.012	0.139	0.0933
2	2.79	Cl	BMB	0.186	1.743	1.5439
3	3.25	NO2-N	BMB	0.028	0.209	0.1132
4	3.75	BR	BMB	0.029	0.232	0.5894
5	4.14	NO3-N	BMB	0.072	0.496	0.2699
6	5.54	PO4-P	BMB	0.028	0.107	0.2946
7	6.09	SO4	BMB	0.105	0.455	1.3496
		TOTAL:		0.46	3.38	4.25



Peak Integration Report

Sample Name:	**ICAL 3 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:45**	*Run Time:*	**7.00**

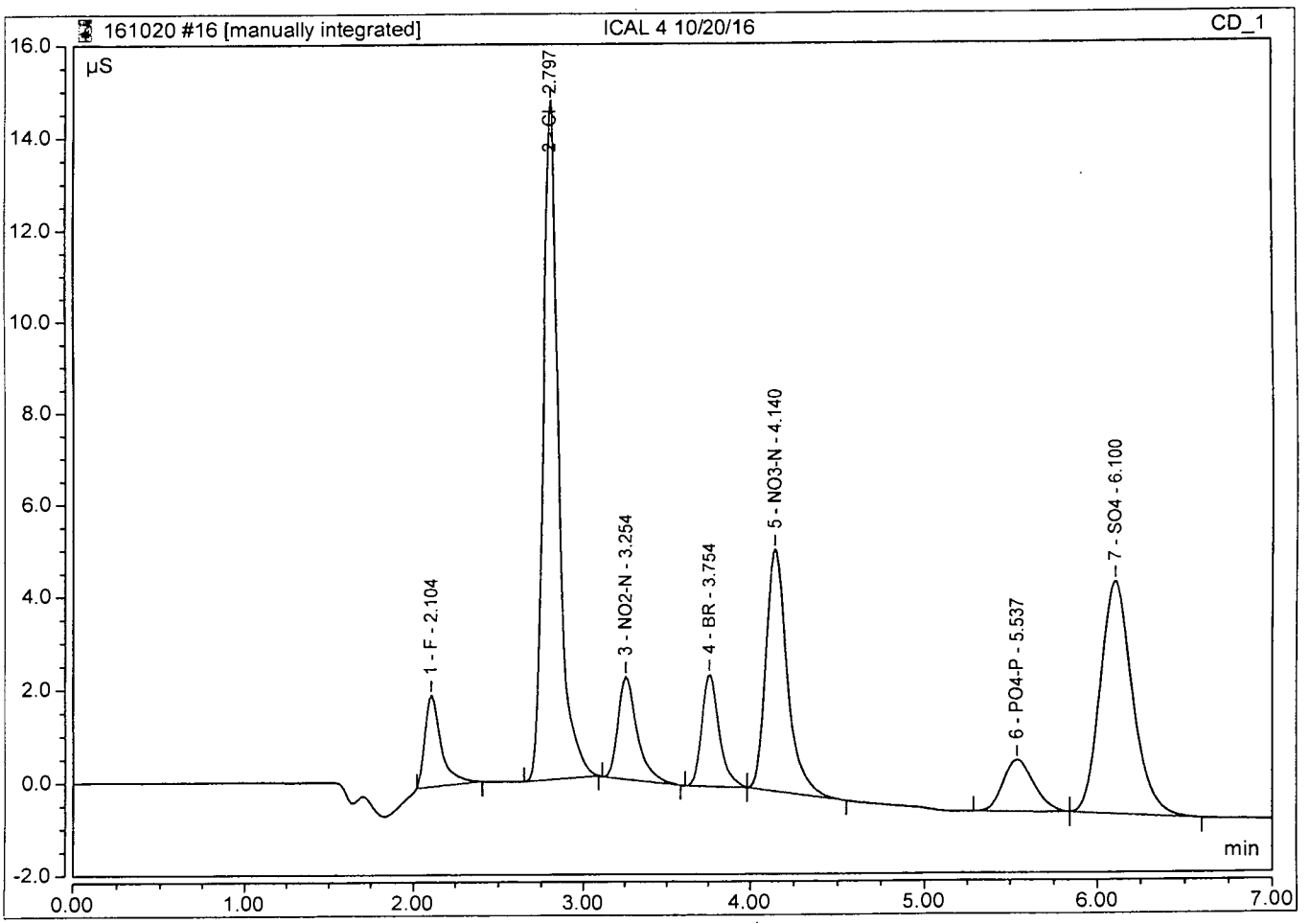
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.100	0.922	0.4827
2	2.79	Cl	BMB	0.762	7.117	4.7137
3	3.25	NO2-N	BMB	0.142	1.072	0.4926
4	3.75	BR	BMB	0.148	1.179	2.4784
5	4.14	NO3-N	BMB	0.366	2.533	0.9830
6	5.54	PO4-P	BMB	0.119	0.557	1.0221
7	6.10	SO4	BMB	0.546	2.464	4.9609
		TOTAL:		2.18	15.84	15.13



Peak Integration Report

Sample Name:	**ICAL 4 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 11:58**	*Run Time:*	**7.00**

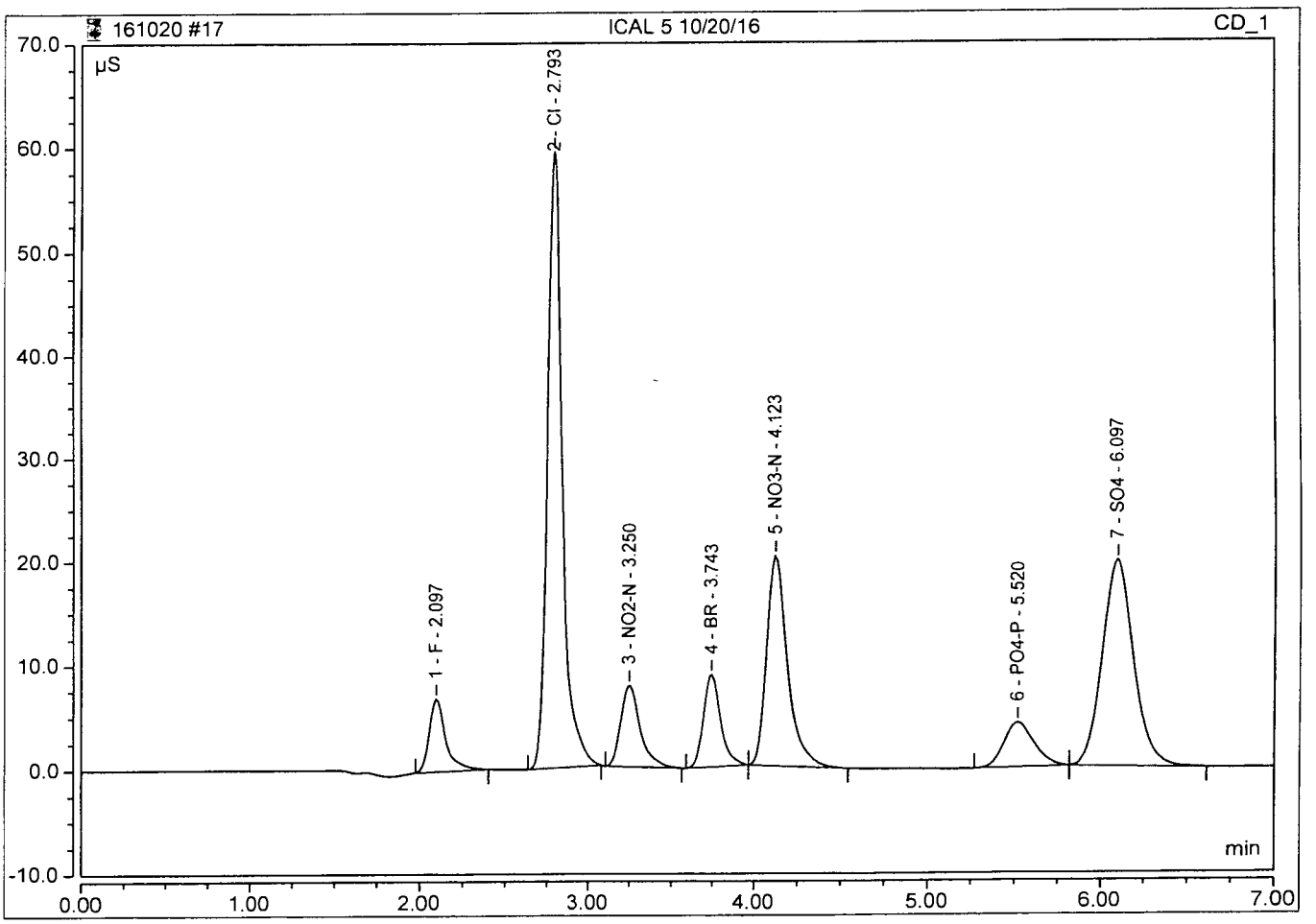
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB*	0.217	1.958	1.0036
2	2.80	Cl	BMB	1.542	14.708	9.0096
3	3.25	NO2-N	BMB	0.291	2.188	0.9859
4	3.75	BR	BMB	0.299	2.389	4.8695
5	4.14	NO3-N	BMB	0.733	5.168	1.8746
6	5.54	PO4-P	BMB	0.225	1.103	1.8731
7	6.10	SO4	BMB	1.076	4.975	9.3015
		TOTAL:		4.38	32.49	28.92



Peak Integration Report

Sample Name:	**ICAL 5 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:11**	*Run Time:*	**7.00**

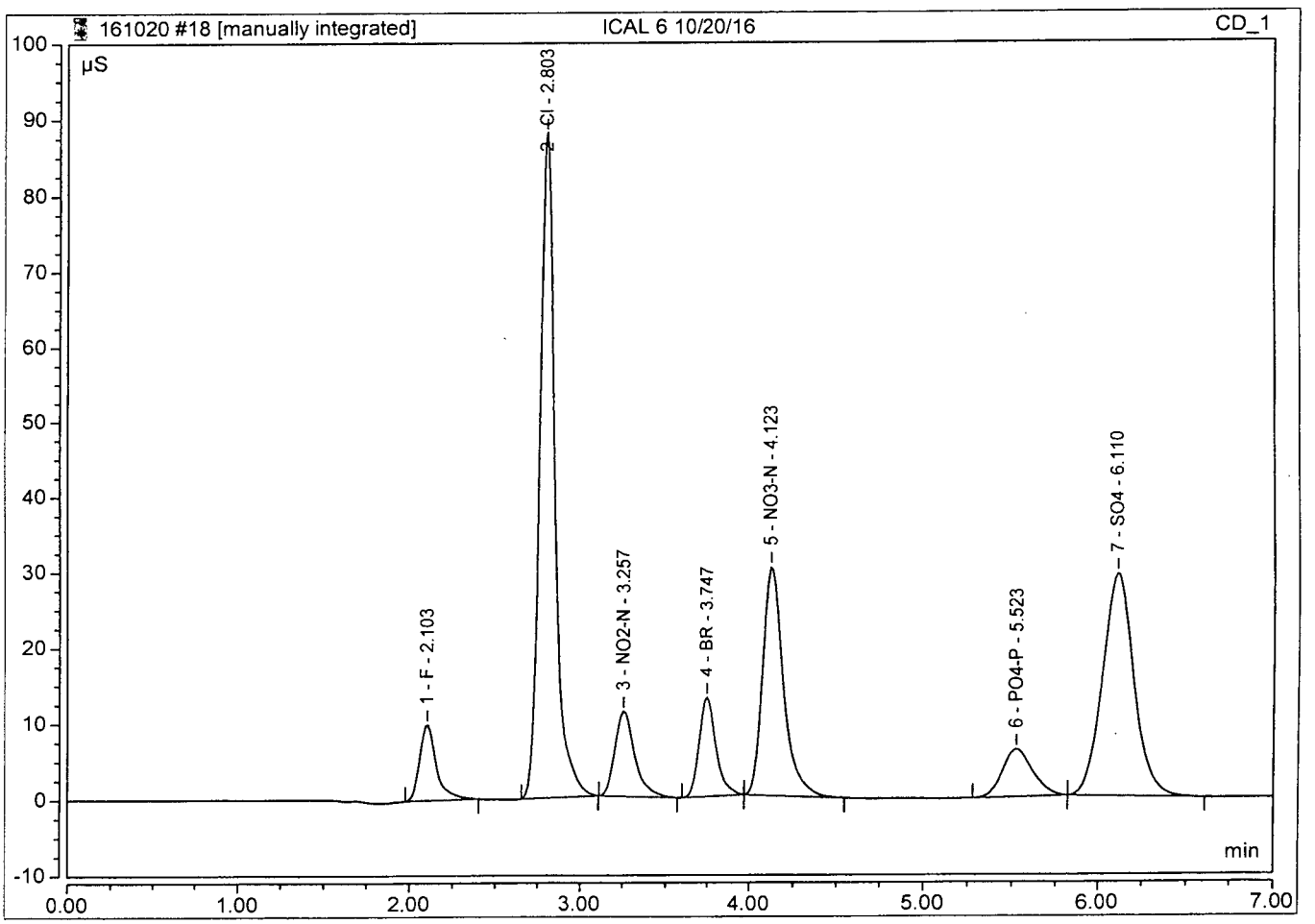
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.783	6.953	3.5131
2	2.79	Cl	BMB	6.129	59.398	34.2675
3	3.25	NO2-N	BMB	1.040	7.775	3.4734
4	3.74	BR	BMB	1.083	8.801	17.2948
5	4.12	NO3-N	BMB	2.792	20.144	6.8727
6	5.52	PO4-P	BMB	0.854	4.243	6.9225
7	6.10	SO4	BMB	4.151	19.714	34.4871
		TOTAL:		16.83	127.03	106.83



Peak Integration Report

Sample Name:	**ICAL 6 10/20/16**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**20-Oct-2016 / 12:24**	*Run Time:*	**7.00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	1.118	9.996	5.0036
2	2.80	Cl	BMB*	9.117	87.978	50.7226
3	3.26	NO2-N	BMB	1.507	11.205	5.0218
4	3.75	BR	BMB	1.580	13.023	25.1693
5	4.12	NO3-N	BMB	4.128	30.098	10.1138
6	5.52	PO4-P	BMB	1.247	6.244	10.0755
7	6.11	SO4	BMB	6.106	29.270	50.4924
		TOTAL:		24.80	187.81	156.60

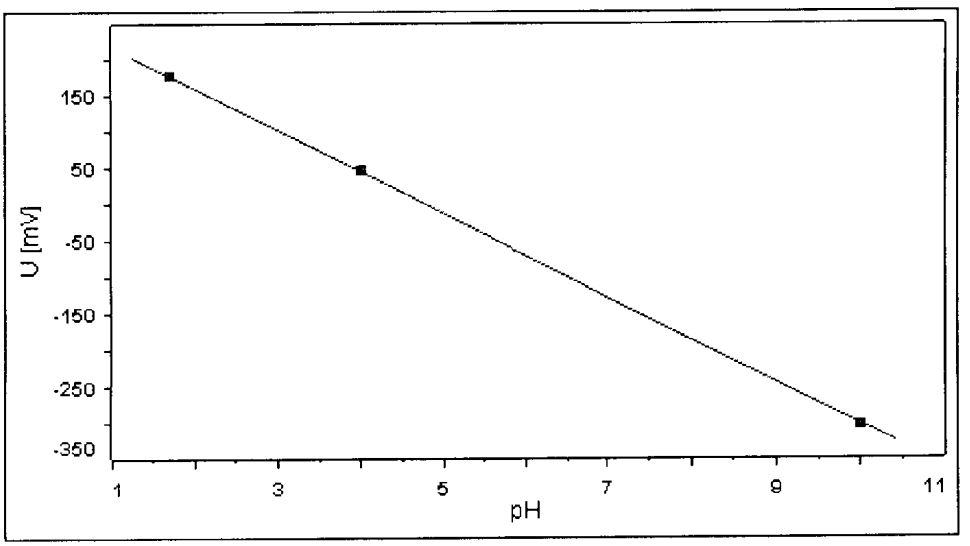


Tiamo Calibration Curve
02/15/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	178.6	20.3	38
Buffer 2:	4.000	46.7	20.2	20
Buffer 3:	10.000	-303.1	20.6	35

Slope:	99.6	%
pH	4.779	
Variance:	3.7	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	02/15/17	02/15/17	#232W-170215A-AZ49853
EPA 300.0	BROMIDE	0.16 U	0.5	0.16	0.05	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	FLUORIDE	0.09 U	0.1	0.09	0.08	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	02/16/17	02/16/17	#300WD-170216A1-AZ49853
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	02/10/17	02/10/17	#35FE-170210A-AZ49853

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.9	94.5	90-110	02/16/17	02/16/17	#300WD-170216A1-AZ49853
EPA 300.0	BROMIDE	12.5	12.9	103	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	FLUORIDE	2.50	2.26	90.4	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	NITRATE	22.1	21.6	97.7	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
EPA 300.0	SULFATE	20.0	18.1	90.5	90-110	02/10/17	02/10/17	#300W-170210A1-AZ49853
SM 2320B	BICARBONATE AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM 2320B	TOTAL ALKALINITY AS CACO3	250	244	97.6	90-110	02/15/17	02/15/17	#232W-170215A-AZ49853
SM3500Fe	FERROUS IRON	3.00	2.97	99.0	80-120	02/10/17	02/10/17	#35FE-170210A-AZ49853

Comments: _____

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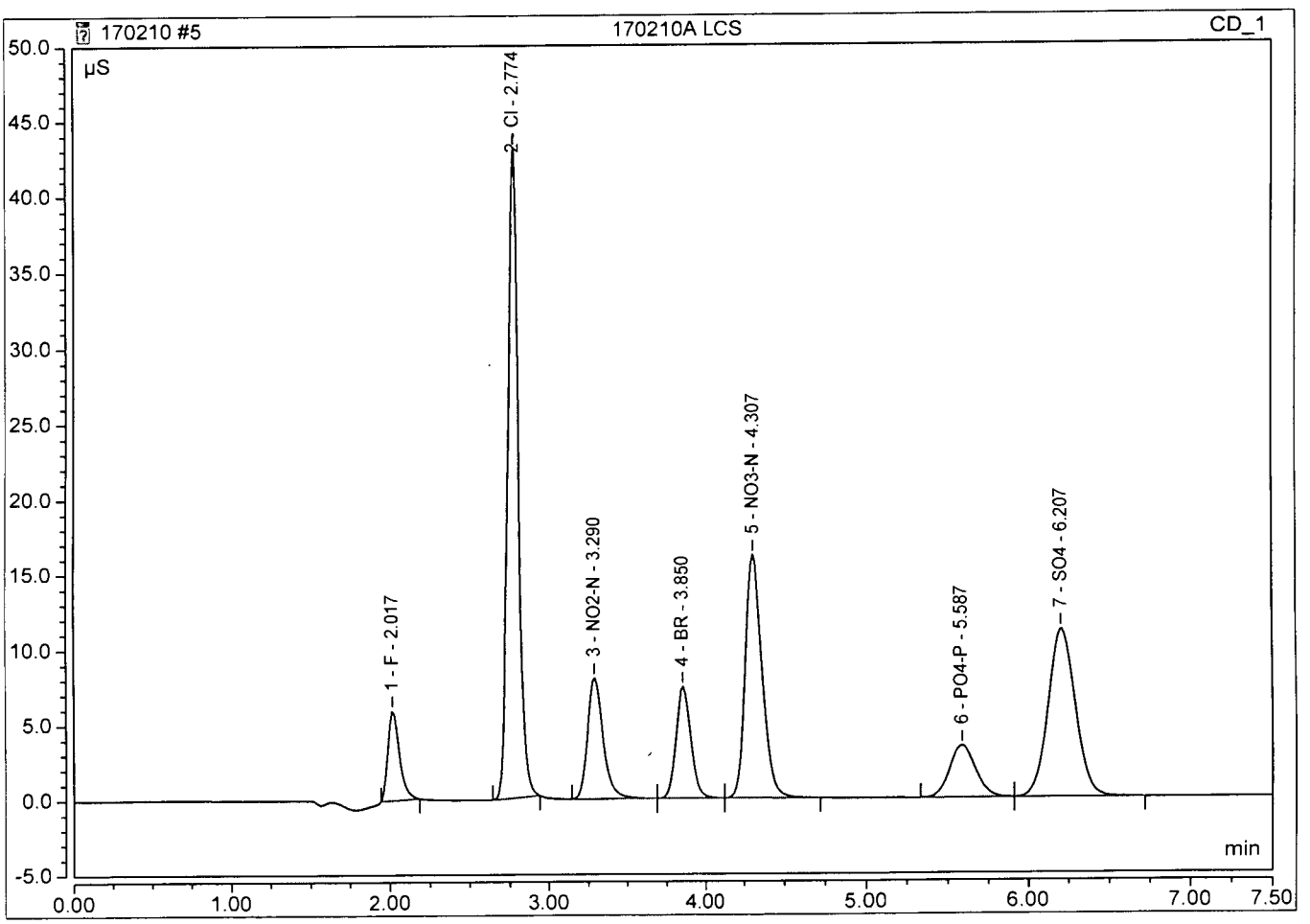
APPL Standard LCS

Peak Integration Report

Sample Name:	**170210A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Feb-2017 / 09:45**	*Run Time:*	**7.50**

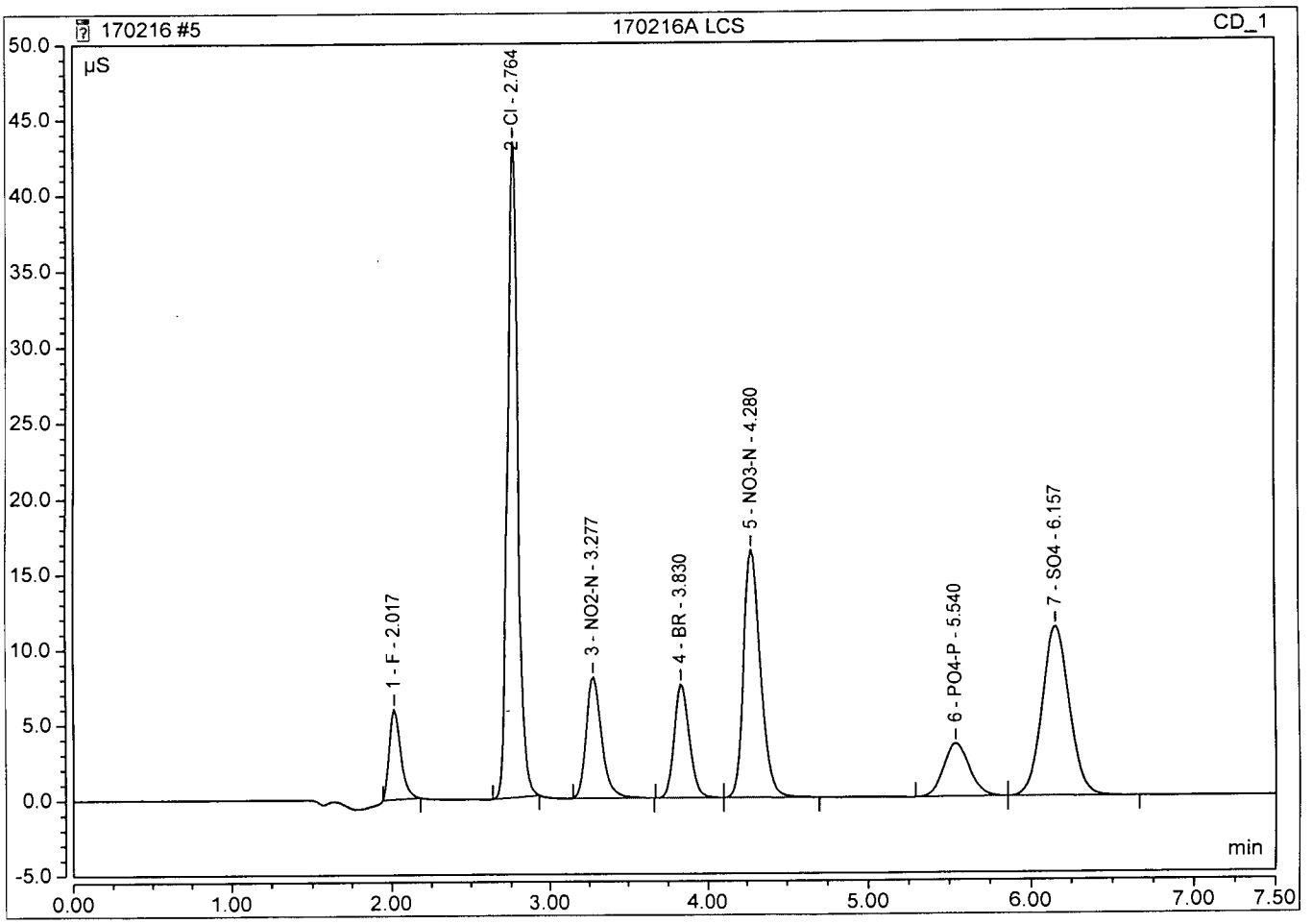
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.500	5.990	2.2567
2	2.77	Cl	BMB	3.307	43.063	18.7291
3	3.29	NO2-N	BMB	0.926	8.044	3.0938
4	3.85	BR	BMB	0.803	7.434	12.8600
5	4.31	NO3-N	BMB	1.968	16.146	4.8731
6	5.59	PO4-P	BMB	0.641	3.456	5.2120
7	6.21	SO4	BMB	2.153	11.116	18.1217
		TOTAL:		10.30	95.25	65.15



Peak Integration Report

Sample Name:	**170216A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**16-Feb-2017 / 12:05**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	**F**	BMB	0.494	5.988	2.2333
2	2.76	**Cl**	BMB	3.334	43.345	18.8767
3	3.28	**NO2-N**	BMB	0.919	8.031	3.0690
4	3.83	**BR**	BMB	0.810	7.531	12.9577
5	4.28	**NO3-N**	BMB	1.987	16.396	4.9188
6	5.54	**PO4-P**	BMB	0.646	3.506	5.2533
7	6.16	**SO4**	BMB	2.167	11.204	18.2420
		TOTAL:		10.36	96.00	65.55



Matrix Spike Recoveries

WETLAB

APPL ID: **170215W-49853 MS - 216209**

Sample ID: AZ49853

Client ID: ERH225

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	66.1	305	306	95.6	96.0	0.33	20	90-110	02/15/17	02/15/17	02/15/17	02/15/17	216209	AZ49853
SM 2320B	TOTAL ALKALINITY AS	250	66.1	305	306	95.6	96.0	0.33	20	90-110	02/15/17	02/15/17	02/15/17	02/15/17	216209	AZ49853
SM3500Fe	FERROUS IRON	3.00	0.017	3.02	3.02	100	100	0.0	20	80-120	02/10/17	02/10/17	02/10/17	02/10/17	216120	AZ49853

Comments: _____

Printed: 02/17/17 3:34:55 PM
APPL MSD SCII

SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170210A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	25mL	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
02/10/17	14:00	CCV 4.0 170210	1	0.399	25mL		3.96	3.963	4.000	*99.08*
02/10/17	14:01	CCB 170210	1	0.001	25mL		-0.01	-0.013		
02/10/17	14:02	170210A LCS 3.0	1	0.300	25mL		2.97	2.974	3.000	*99.13*
02/10/17	14:03	170210A LCSD 3.0	1	0.298	25mL		2.95	2.954	3.000	*98.47*
02/10/17	14:04	AZ49853W25	1	0.004	25mL		0.02	0.017		
02/10/17	14:05	AZ49853W25 MS	1	0.305	25mL		3.02	3.019	3.000	*100.63*
02/10/17	14:06	AZ49853W25 MSD	1	0.305	25mL		3.02	3.024	3.00	*100.80*
02/10/17	14:07	AZ49857W08	1	0.007	25mL		0.05	0.047		
02/10/17	14:08	AZ49860W08	1	0.007	25mL		0.05	0.047		
02/10/17	14:09	AZ49862W08	1	0.052	25mL		0.50	0.496		
02/10/17	14:10	CCV 4.0 170210	1	0.397	25mL		3.94	3.943	4.000	*98.58*
02/10/17	14:11	CCB 170210	1	0.002	25mL		0.00	-0.003		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ49853W24 MSD	2017-02-15 12:29:28 UTC-8	Alkalinity	0.000	7.356	0.00	0.00	306.01	306.01	mg/L	25 mL	0.0208	170215A	AH
AZ49853W24 MS	2017-02-15 12:13:39 UTC-8	Alkalinity	0.000	7.338	0.00	0.00	305.26	305.26	mg/L	25 mL	0.0208	170215A	AH
AZ49853W24	2017-02-15 12:08:12 UTC-8	Alkalinity	0.000	1.590	0.00	0.00	66.14	66.14	mg/L	25 mL	0.0208	170215A	AH
170215A LCS	2017-02-15 10:36:02 UTC-8	Alkalinity	0.000	5.872	0.00	0.00	244.28	244.28	mg/L	25 mL	0.0208	170215A	AH
170215A Blk	2017-02-15 10:08:30 UTC-8	Alkalinity	0.000	0.046	0.00	0.00	1.91	1.91	mg/L	25 mL	0.0208	170215A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 02/10/17
Exp Date: 02/11/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 10/20/16
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.25	5	
O2SI*	Cl-	5,000	1069557-34558	01/08/17	0.5	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.25	5	
Ultra Scientific	Br-	1,000	CL-3274-36926	08/31/20	1.25	25	
O2SI	NO3-N	1,000	1078397-35587	01/30/17	0.5	10	
O2SI	PO4-P	1,000	1072004-34911	09/03/16	0.5	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.5	50	
Brought up with milipore water to Final Volume of:						50	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.125	2.50
CPI	Cl-	1,000	16E065-36694	12/06/17	1.00	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.50	3.04
CPI	Br-	1,000	15L093-36101	07/21/17	0.625	12.50
CPI	NO3-N	1,000	16E022-36783	12/30/17	0.25	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.25	5.00
CPI	SO4	1,000	16E104-36693	12/06/17	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100	08/19/16	08/21/16	0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170210PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

170216PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1078397	01/30/17	0.125	5
O2SI	PO4-P	1,000	1097292	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16EO22	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15C116	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

*APPL re-certified NO3 as N Lot 1078397-35587 and extended the expiration date for 6 months to 7-30-17 per verification with a second source Lot 16EO22 injected on 01-30-17

0.02N H2SO4 Titrant for Alkalinity

Dilute 600 mL 0.1N H2SO4 (prep 1/6/17)
To final volume 3L w/ DI water
Prep 1/6/17
Exp 1/6/18
AH 1/6/17

Inorganic Spiking Solution

7.0001g $NaHCO_3$ BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	10 Feb 2017	14:00	CCV 4.0 170210		170210A	1.
2	10 Feb 2017	14:01	CCB 170210		170210A	1.
3	10 Feb 2017	14:02	170210A LCS 3.0		170210A	1.
5	10 Feb 2017	14:04	AZ49853W25		170210A	1.
6	10 Feb 2017	14:05	AZ49853W25 MS		170210A	1.
7	10 Feb 2017	14:06	AZ49853W25 MSD		170210A	1.
11	10 Feb 2017	14:10	CCV 4.0 170210		170210A	1.
12	10 Feb 2017	14:11	CCB 170210		170210A	1.
13	20 May 2016	12:37	0 BB 5/20/16		170210A	1.
14	20 May 2016	12:38	1		170210A	1.
15	20 May 2016	12:39	2		170210A	1.
16	20 May 2016	12:39	4		170210A	1.
17	20 May 2016	12:40	10		170210A	1.
18	20 May 2016	12:40	5		170210A	1.
19	20 May 2016	12:41	160520A ICV 3.0		170210A	1.
20	20 May 2016	12:42	160520A ICB		170210A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	20 Oct 2016	11:19	ICAL 1 10/20/16		161020	1.
15	20 Oct 2016	11:32	ICAL 2 10/20/16		161020	1.
16	20 Oct 2016	11:45	ICAL 3 10/20/16		161020	1.
17	20 Oct 2016	11:58	ICAL 4 10/20/16		161020	1.
18	20 Oct 2016	12:11	ICAL 5 10/20/16		161020	1.
19	20 Oct 2016	12:24	ICAL 6 10/20/16		161020	1.
20	20 Oct 2016	12:37	ICV 1601020		161020	1.
21	20 Oct 2016	12:50	ICB		161020	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	10 Feb 2017	09:18	CCV 170210		170210	1.
4	10 Feb 2017	09:31	CCB		170210	1.
5	10 Feb 2017	09:45	170210A LCS		170210	1.
13	10 Feb 2017	13:40	AZ49853W24		170210	1.
19	10 Feb 2017	15:01	CCV 170210		170210	1.
20	10 Feb 2017	15:15	CCB		170210	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	16 Feb 2017	11:38	CCV 170216		170216	1.
4	16 Feb 2017	11:51	CCB		170216	1.
5	16 Feb 2017	12:05	170216A LCS		170216	1.
7	16 Feb 2017	12:32	AZ49853W24 DF2		170216	2.
13	16 Feb 2017	13:53	CCV 170216		170216	1.
14	16 Feb 2017	14:07	CCB		170216	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	15 Feb 2017	10:08	170215A Blk		170215A_AL	1.
2	15 Feb 2017	10:36	170215A LCS		170215A_AL	1.
9	15 Feb 2017	12:08	AZ49853W24		170215A_AL	1.
10	15 Feb 2017	12:13	AZ49853W24 MS		170215A_AL	1.
11	15 Feb 2017	12:29	AZ49853W24 MSD		170215A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 20, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82337

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Five water samples were received March 7, 2017. Written results for the requested analyses are being provided on this March 20, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 653

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82337

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Method 8015B TPH-E	16
QC Summary	17
Sample Data	22
Calibration Data	32
Raw Data	85
Method 8270D SIM	109
QC Summary	110
Sample Data	120
Calibration Data	130
Raw Data	185
Method 8270D SVOCs	205
QC Summary	206
Sample Data	218
Calibration Data	228
Raw Data	286

Method 8270D SVOCs (MEE) 307
QC Summary 308
Sample Data 316
Calibration Data 326
Raw Data 353
Method 8260B VOCs 369
QC Summary 370
Sample Data 379
Calibration Data 395
Raw Data 447
Method 8260B Gasoline 461
QC Summary 462
Sample Data 467
Calibration Data 488
Raw Data 537
Method RSK-175 Methane 549
QC Summary 550
Sample Data 553
Calibration Data 560
Raw Data 594
Inorganic Analyses 603
QC Summary 604
Sample Data 607
Calibration Data 611
Raw Data 638

CASE NARRATIVE

Case Narrative

ARF: 82337

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Five water samples were received March 7, 2017, at 4.0°C, 4.0°C, and 4.5°C. The sample group was assigned Analytical Request Form (ARF) number 82337. The following discrepancies were noted and reported to the client: a metals bottle was received for sample ERH260 though metals analysis was not requested; sample ERH260 was received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

Inorganic Analyses: The sample was received more than 24 hours after collection; it was analyzed for ferrous iron as soon as possible. In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82337	03/07/17	ERH252	AZ51052	03/03/17	10:10 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82337	03/07/17	ERH252	AZ51052	03/03/17	10:10 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	8270D-SIM	EPA 8270D SIM
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82337	03/07/17	ERH253	AZ51053	03/03/17	11:20 AM	WATER	EPA 8270D	EPA 8270D WATER
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	8270D-SIM	EPA 8270D SIM
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82337	03/07/17	ERH254	AZ51054	03/03/17	10:35 AM	WATER	EPA 8270D	EPA 8270D WATER
82337	03/07/17	ERH259	AZ51055	03/06/17	08:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82337	03/07/17	ERH259	AZ51055	03/06/17	08:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82337	03/07/17	ERH259	AZ51055	03/06/17	08:00 AM	WATER	RSK 175	METHANE BY RSK 175
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	8270D-SIM	EPA 8270D SIM
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	EPA 8270D	EPA 8270D WATER
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	RSK 175	METHANE BY RSK 175
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	SM 2320B	Wetlab 2320B - Water
82337	03/07/17	ERH260	AZ51056	03/06/17	08:35 AM	WATER	SM3500FeB	Ferrous Iron

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82337

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 030617a,b,c
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 03/07/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 2X4.0,4.5°C
Color: VOA/C-BLK/P-ORNGGRN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 03/14/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 3-$87DC53W5, 3-$87DMEEW5, 3-$DOC53W5, 3-$SIMDOD5W
Extractions: 3-_MWE2MEE, 3-_SEP004, 3-_SEP004S, 3-_SEP011LL
VOA: 5-$86BTOTXDOD5W, 5-$GASBL, 5-$GRO86BW, 2-$RSKMETH
Wetlab: 1-$232W(HCO3,CO3,ALK), 1-$300W(NO3,CL,SO4), 1-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH252	AZ51052W	03/03/17 10:10	$86BTOTXDOD5W, $GASBL, $GRO86BW -- Un Preserved VOAs
2.	ERH253	AZ51053W	03/03/17 11:20	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
3.	ERH254	AZ51054W	03/03/17 10:35	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH259	AZ51055W	03/06/17 08:00	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
5.	ERH260	AZ51056W	03/06/17 08:35	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82337**

Sample	Container Type	Count	p
AZ51052	13 VOAs - HCL	3	
	15 VOAs - NP	3	
AZ51053	13 VOAs - HCL	6	
	17 Amber Liter	6	
AZ51054	13 VOAs - HCL	6	
	17 Amber Liter	6	
AZ51055	13 VOAs - HCL	3	
AZ51056	3 PL 250mL	1	
	6 PL 500mL - HNO3	1	
	13 VOAs - HCL	6	
	17 Amber Liter	6	
	38 250mL brn poly, HCl prsvd	1	

Sample	Container Type	Count	p

82337 4.0 4.5 4.0

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 030617a

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, KE
Date Shipped: 3/6/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 252	Trip Blank	03/03/17	1010	HST	6	✓				X												
ERH 253	Equip Blank	03/03/17	1120	HST	12	/				X			X		X	X	X					
ERH 254	Equip Blank	03/03/17	1035	HST	6	/				X			X		X	X	X	MT 3/6/17				see other worksheet for other 254

MT 3/6/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/6/17	1430					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/17	11:00	Yang Zou

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 030617c

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, KE

Date Shipped: 3/6/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH254	Equip Blank	03/03/17	1035	HST	6	✓							X		X	X	X					See other cooler for VOAs

MT 3/6/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/6/17	1430					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/17	11:00	Jang Zo

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 0306176

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-356-5373	Company Name: AECOM	Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600		Address: 1001 Bishop St. Suite 1600	
Honolulu, Hawaii 96813	Fax:	Honolulu, Hawaii 96813	Fax:
Attn: Margie Thach	Email: margie.thach@aecom.com	Attn: Mary Basano	Email: mary.basano@aecom.com

Project Name/Number	Sampler (Print)
CIV 53 / 60481245	TQ, KE, CB, MH, GM
Purchase Order Number	Sampler (Signature)
77265	MT for TQ, KE, CB, MH, GM

Date Shipped: 3/6/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH259	Trip Blank	3/6/17	0800	HST	3	✓				X								X			
ERH260	RHMW04	3/6/17	0835	HST	15	✓				X			X		X	X	X	X	X	X	X

Analysis Requested/Method Number

Shuttle Temperature:	Turnaround Requested: Check one ☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other	Sample Disposal: ☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/6/17	1230					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/7/17	11:00	Yang Zu

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82337**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 03/07/17

2) Coolers: Number of Coolers: 3

3) YES Were custody seals present and intact?
How many? 6 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags
X wet ice __ dry ice __ no ice __ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use J5297

8) Cooler temp(s): In °C

1: 4.0	2: 4.0	3: 4.5	4:	5:	6:
7:	8:	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ51052W01-6,AZ51053W06,AZ51055W01-3

Preservation Hold time:

18) NO/Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) np 3-7-17 Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:
Metals conatiner was received for sample ERH260, but there was no metals analysis requested.

ERH 260 received more than ~~48~~ 24 np hrs after collection: ferrous iron ~~+ nitrate~~ np passed holdtime np 3-7-17

CUSTODY SEAL
AECOM (808) 523-8874
Initials MT Date 3/6/17

Personnel receiving samples: SM Second reviewer: YL
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 3/7/17
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51053 - 216893**
Batch ID: #DOC53-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/14/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/14/17
BLANK	SURROGATE: OCTACOSANE (S)	85.1	60-142			%	03/10/17	03/14/17
BLANK	SURROGATE: ORTHO-TERPHEN	77.5	56-125			%	03/10/17	03/14/17

Quant Method: DOC0303.M
Run #: 314004
Instrument: Apollo
Sequence: 170314
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 5:16:02 PM

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82337
Case No: 82337 Date Analyzed: 03/14/17
Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310A-BLK	Blank	60-142	85.1		56-125	77.5	
170310A-LCS	Lab Control Spike	60-142	82.8		56-125	97.3	
AZ51053	ERH253	60-142	77.1		56-125	77.8	
AZ51054	ERH254	60-142	77.6		56-125	75.9	
AZ51056	ERH260	60-142	87.2		56-125	86.8	

Comments: Batch: #DOC53-170310A

Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170310W-51053 LCS - 216893**
Batch ID: #DOC53-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	367	55.0	36-132
OIL (C24-C40)	667	436	65.4	41-113
SURROGATE: OCTACOSANE (S)	40.0	33.1	82.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	38.9	97.3	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/14/17
Instrument :	Apollo
Run :	314005
Initials :	DPO

Printed: 03/14/17 5:15:57 PM
APPL Standard LCS

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82337
Case No: 82337
Date Analyzed: 03/14/17
Matrix: WATER
Instrument: Apollo
Blank ID: 170310A-BLK
Time Analyzed: 0249

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A-BLK	Blank	314004	03/14/17 0249
170310A-LCS	Lab Control Spike	314005	03/14/17 0310
AZ51053	ERH253	314007	03/14/17 0352
AZ51054	ERH254	314008	03/14/17 0413
AZ51056	ERH260	314009	03/14/17 0434

Comments: Batch: #DOC53-170310A

Printed: 03/14/17 5:15:55 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #DOC53-170310A-216893

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	77.1	60-142			%	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	77.8	56-125			%	03/10/17	03/14/17

Quant Method: DOC0303.M
Run #: 314007
Instrument: Apollo
Sequence: 170314
Dilution Factor: 1
Initials: DPO

Printed: 03/14/17 5:15:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170314\314007.D
Acq On : 3-14-17 3:52:30
Sample : AZ51053W12 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 14 17:11 2017 Quant Results File: DOC0303.RES

Vial: 7
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

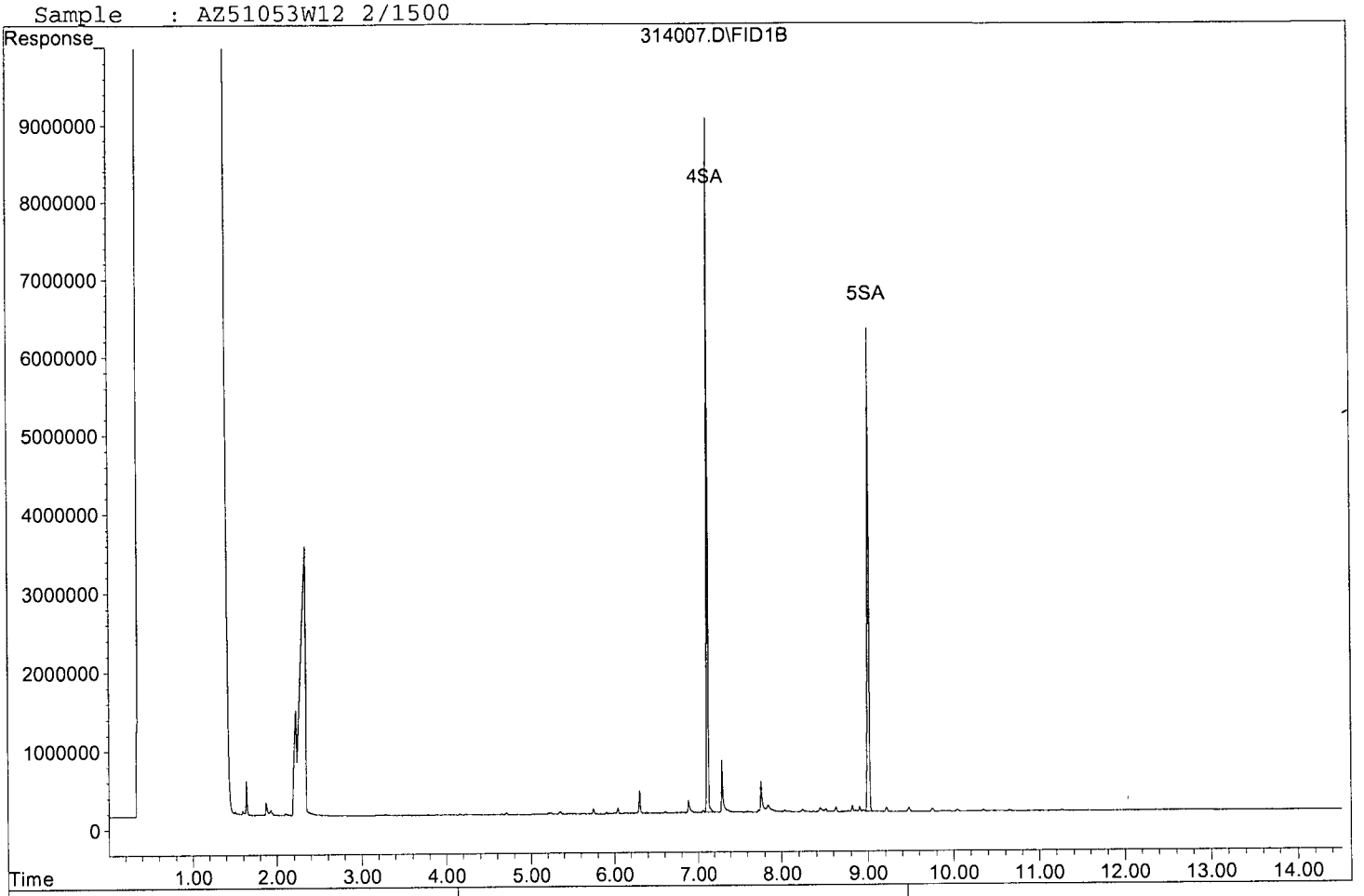
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

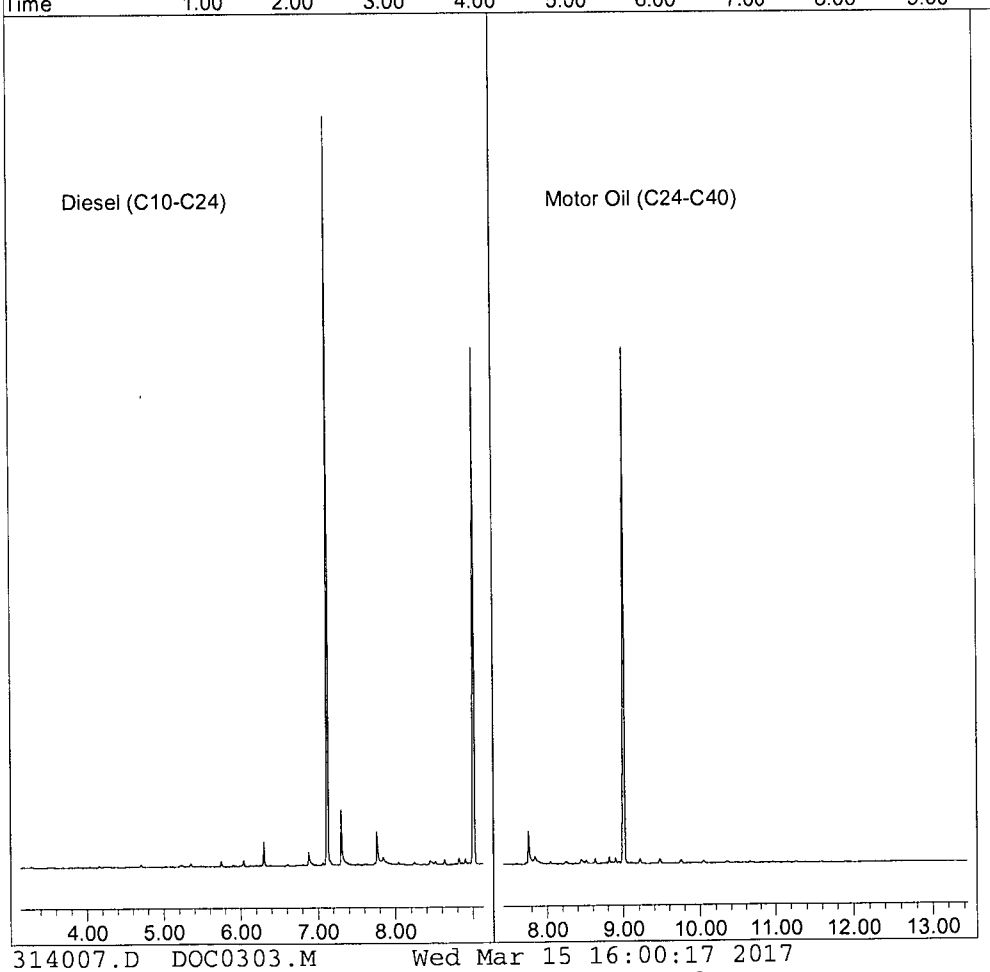
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	89502367	31.127 ppb
Surrogate Spike 40.000		Recovery =	77.82%
5) SA Octacosane(S)	9.01	75436509	30.833 ppb
Surrogate Spike 40.000		Recovery =	77.08%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170314\314007.D
Sample : AZ51053W12 2/1500





314007.D DOC0303.M Wed Mar 15 16:00:17 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH254
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51054
QCG: #DOC53-170310A-216893

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/14/17
EPA 8015B-eL	OIL (C24-C40)	47 ++	40.0	40.00	5.54	ug/L	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	77.6	60-142			%	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	75.9	56-125			%	03/10/17	03/14/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method:	DOC0303.M
Run #:	314008
Instrument:	Apollo
Sequence:	170314
Dilution Factor:	1
Initials:	DPO

Printed: 03/14/17 5:15:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170314\314008.D
Acq On : 3-14-17 4:13:18
Sample : AZ51054W08 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 14 17:12 2017 Quant Results File: DOC0303.RES

Vial: 8
Operator: DP
Inst : Apollo
Multiplr: 1.33

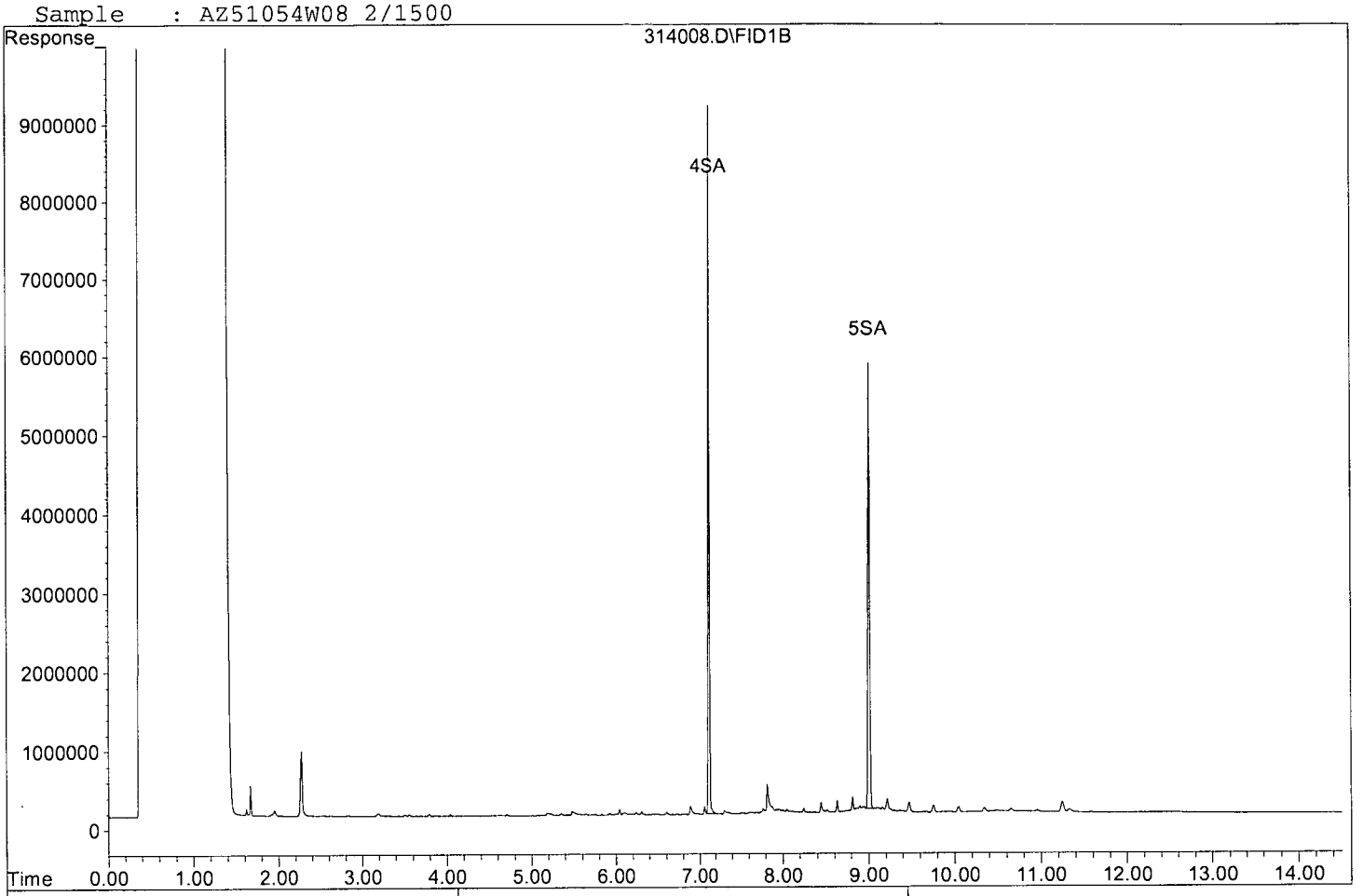
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

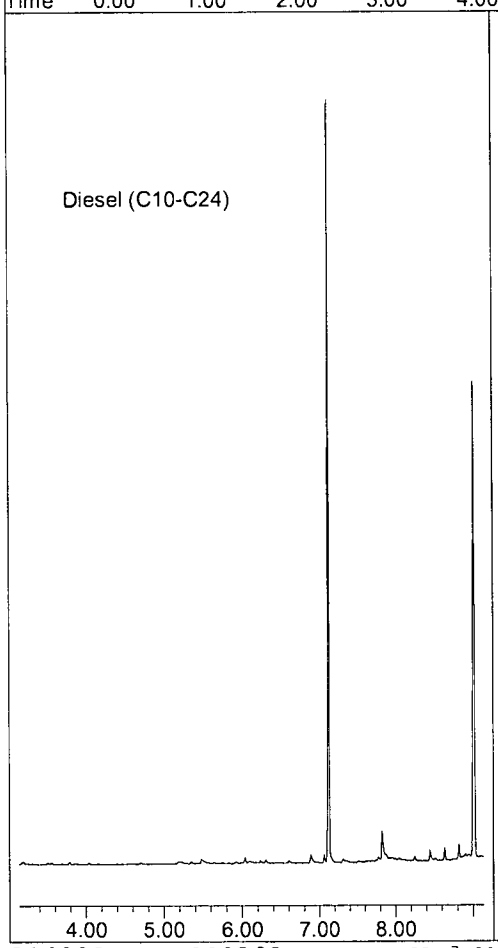
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

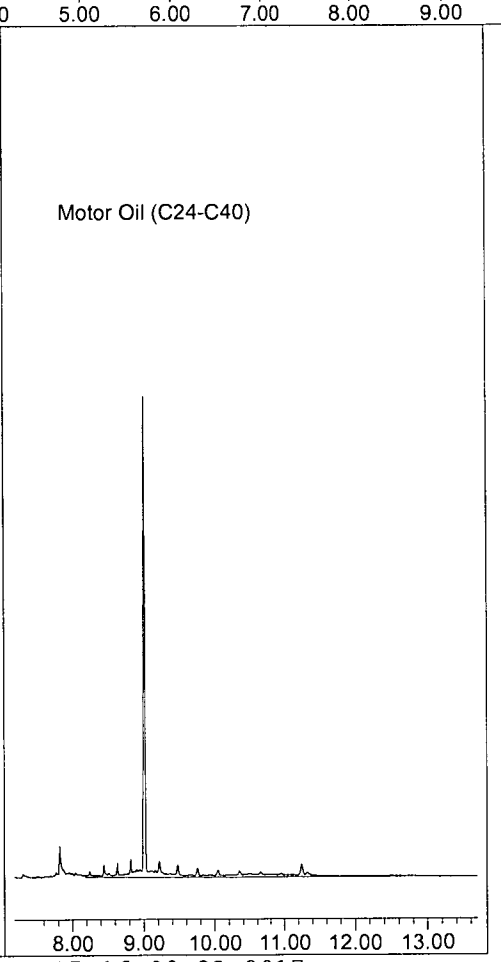
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	87249442	30.343 ppb
Surrogate Spike 40.000	Recovery	=	75.86%
5) SA Octacosane(S)	9.01	75960210	31.047 ppb
Surrogate Spike 40.000	Recovery	=	77.62%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	86670138	47.002 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170314\314008.D
Sample : AZ51054W08 2/1500







EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #DOC53-170310A-216893

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/14/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	87.2	60-142			%	03/10/17	03/14/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	86.8	56-125			%	03/10/17	03/14/17

Quant Method: DOC0303.M
Run #: 314009
Instrument: Apollo
Sequence: 170314
Dilution Factor: 1
Initials: DPO

Printed: 03/14/17 5:15:52 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

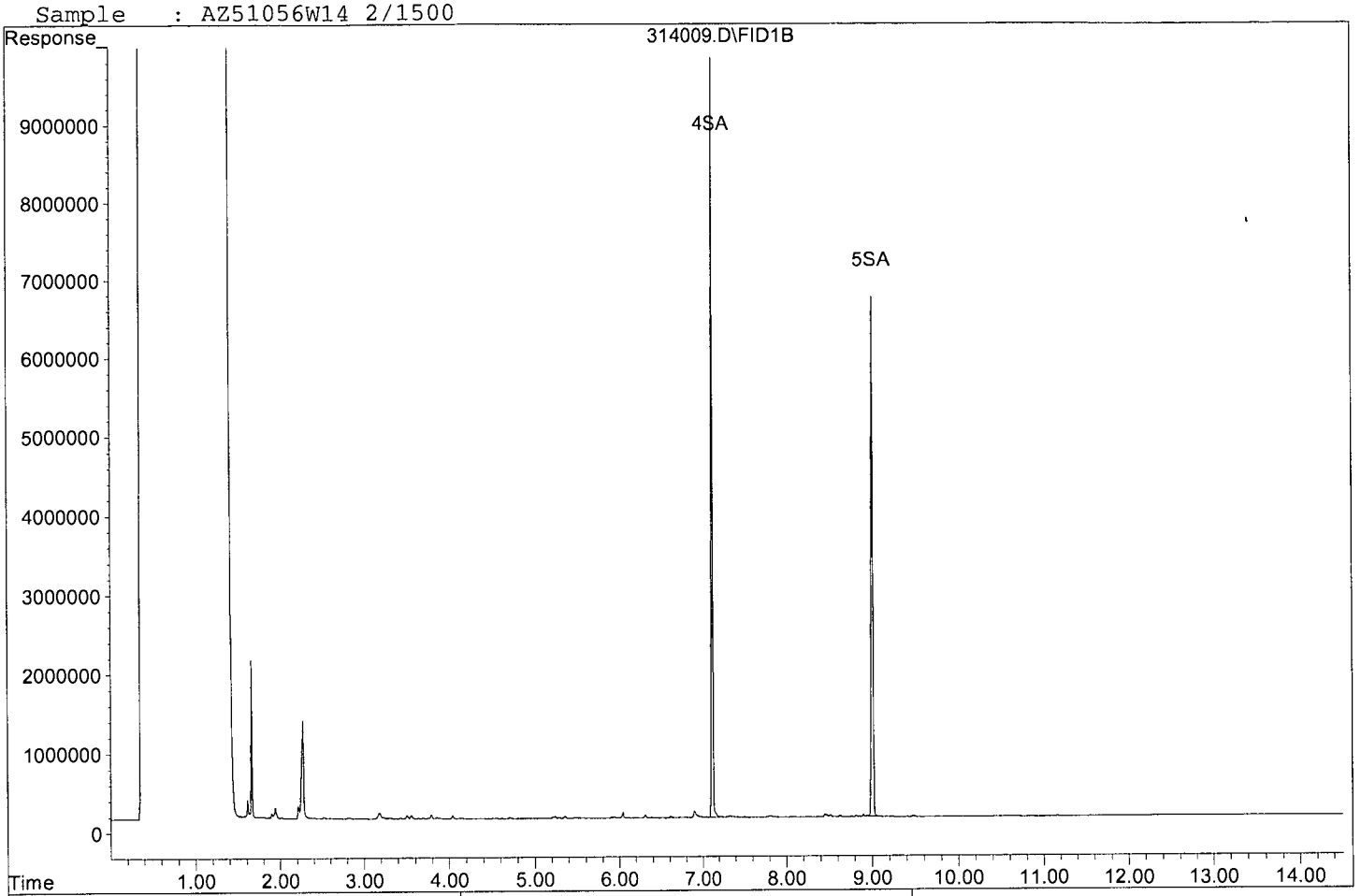
Data File : G:\APOLLO\DATA\170314\314009.D Vial: 9
Acq On : 3-14-17 4:34:05 Operator: DP
Sample : AZ51056W14 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 14 17:12 2017 Quant Results File: DOC0303.RES

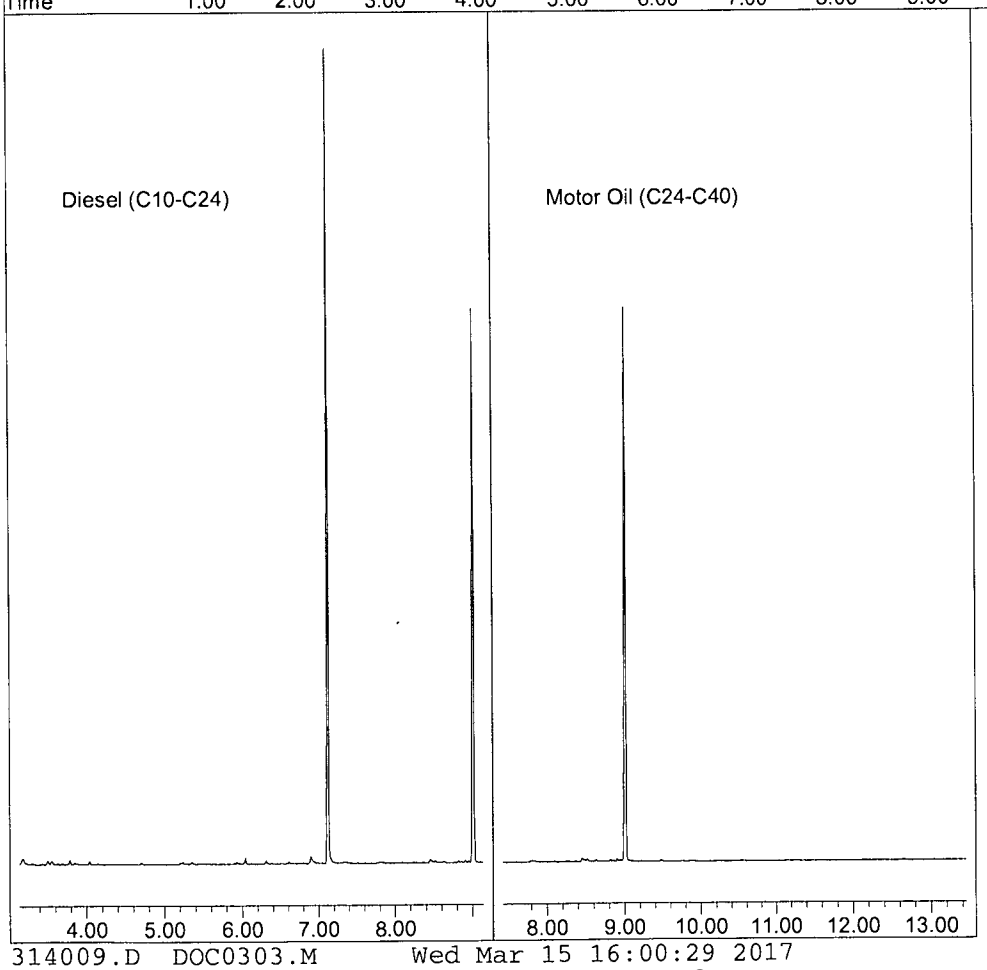
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	99841560	34.722 ppb
Surrogate Spike 40.000	Recovery	=	86.80%
5) SA Octacosane(S)	9.01	85368862	34.893 ppb
Surrogate Spike 40.000	Recovery	=	87.23%
Target Compounds			

Data File: G:\APOLLO\DATA\170314\314009.D
Sample : AZ51056W14 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0303

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/03/17
Instrument: Apollo

Initials:

Diesel:	207013.D	207014.D	207015.D	207016 D	207017.D	207018.D	
Motor Oil:	207020.D	207021 D	207022.D	207023.D	207024.D	207025.D	
Decanoic Acid:	220003.D	220004.D	220005.D	220006 D	220007.D	220008.D	
O-terphenyl / Octacosane:	303002.D	303003.D	303004.D	303005 D	303006.D	303007.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	1942562	2124223	1863439	1811326	1835034	1925070					1916942	5.9	SA	
5	SA	Octacosane(S)	1719138	1771274	1572423	1544203	1553239	1626037					1631052	5.8	SA	
6																
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1.2098039

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

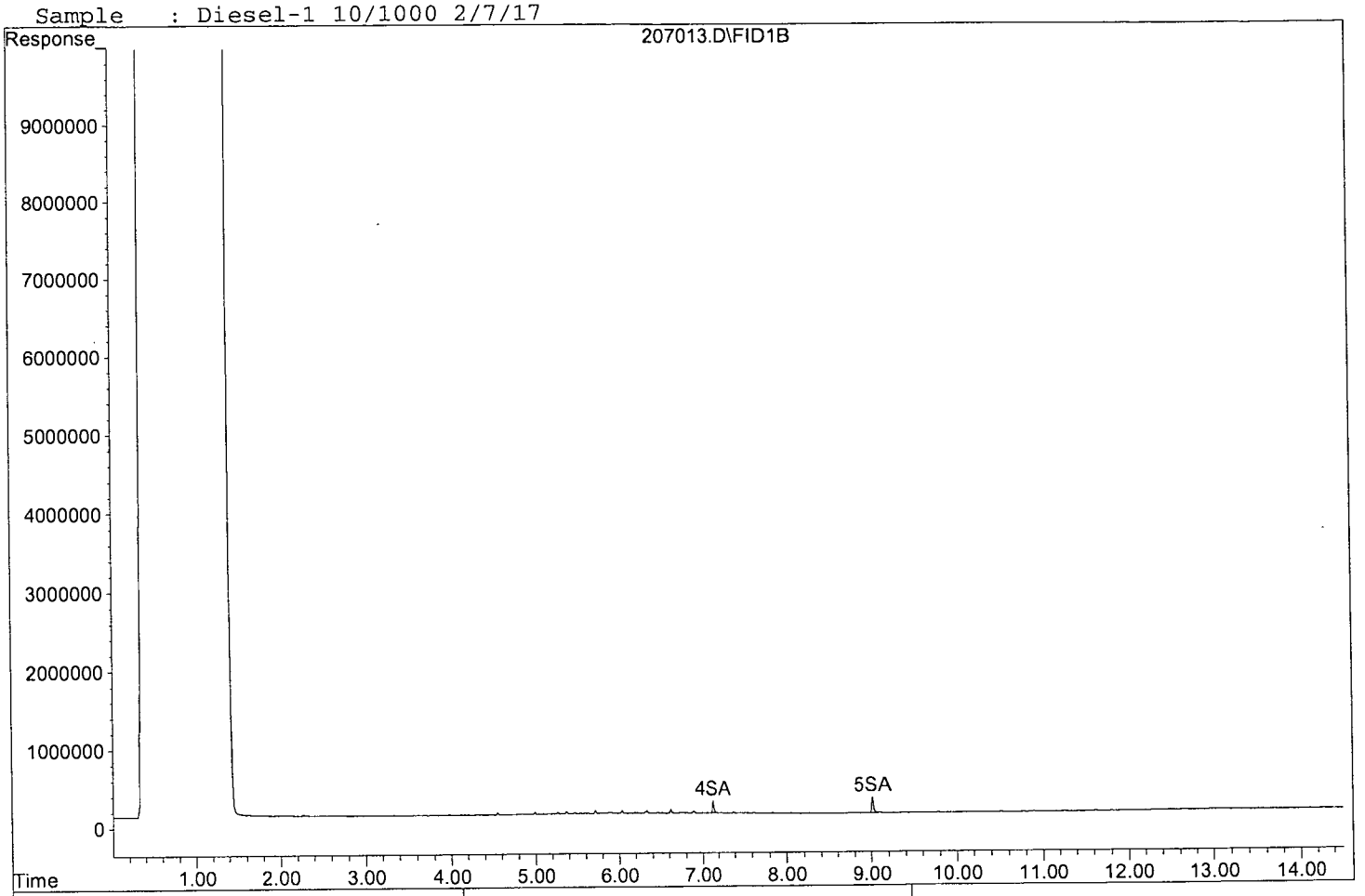
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

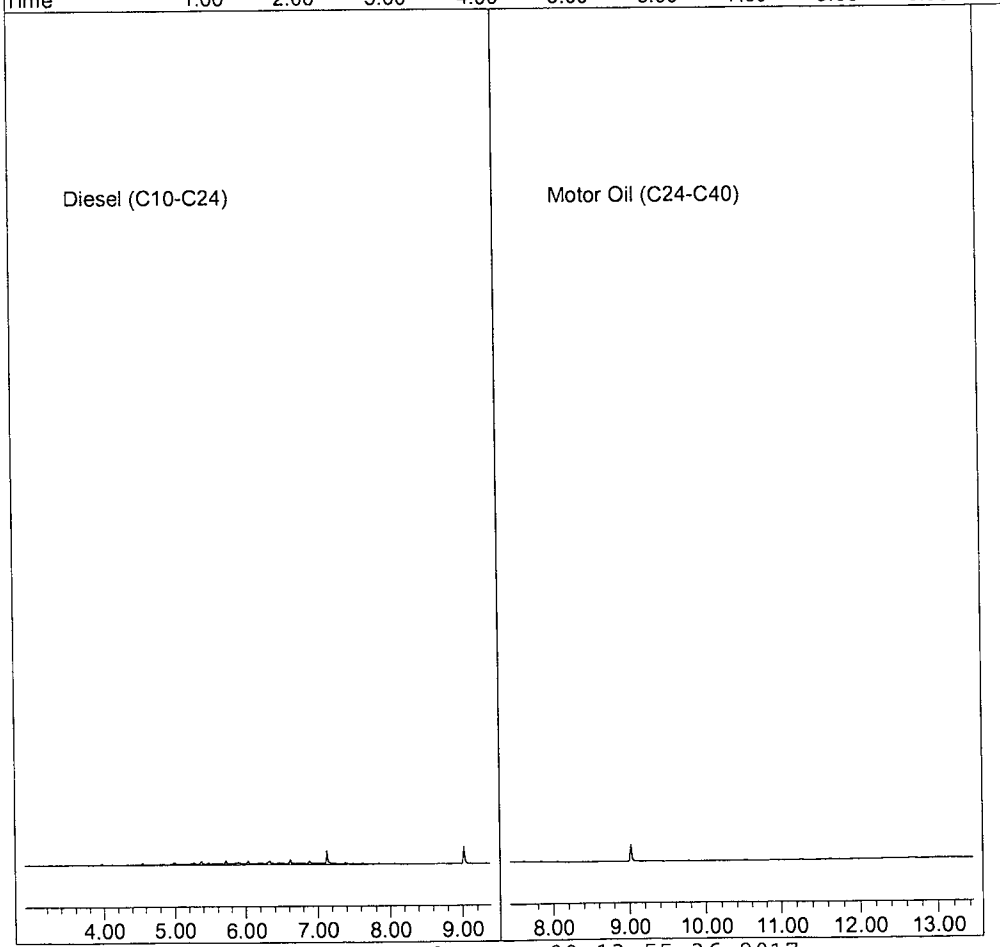
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000		Recovery =	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000		Recovery =	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

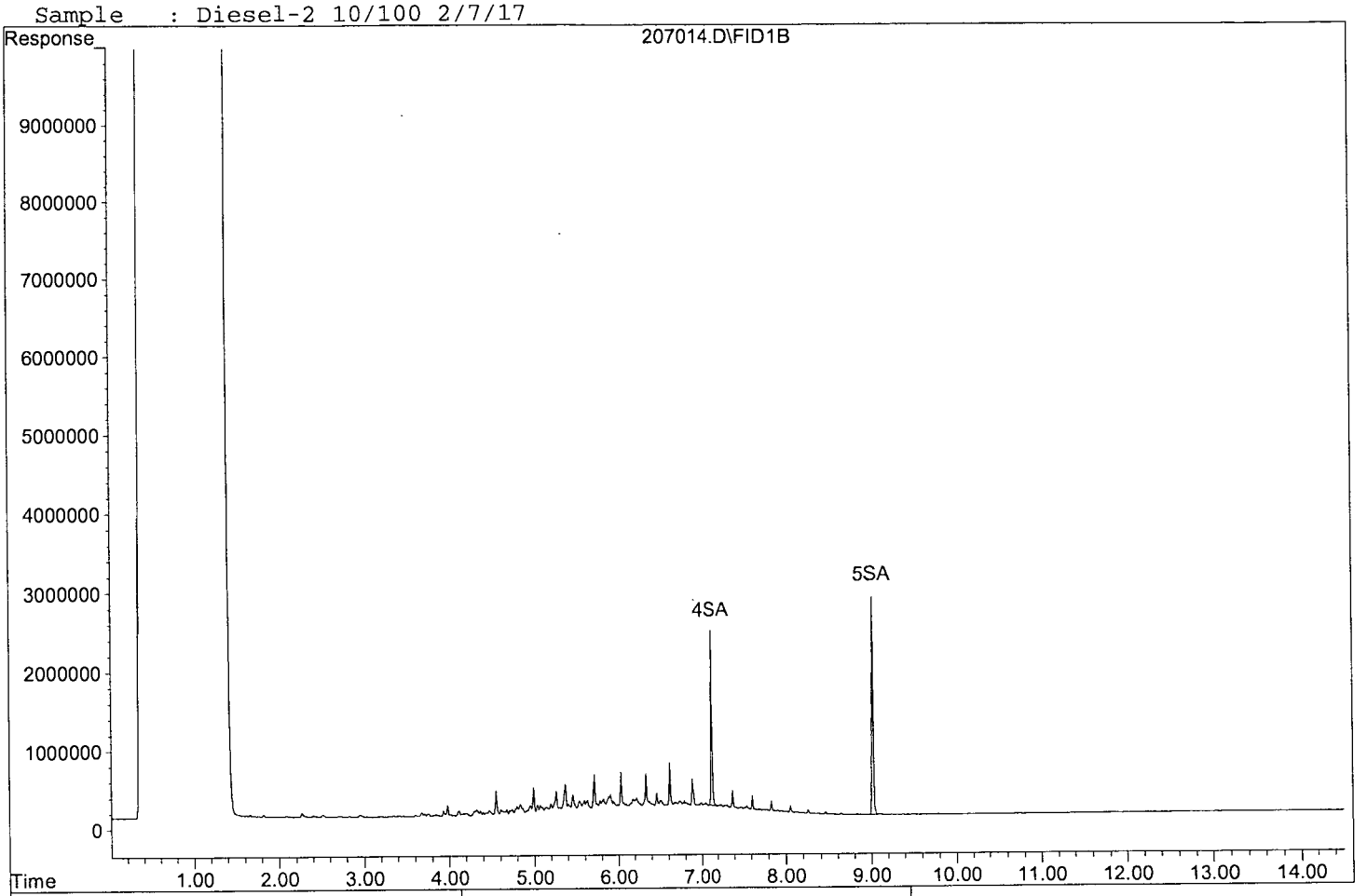
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

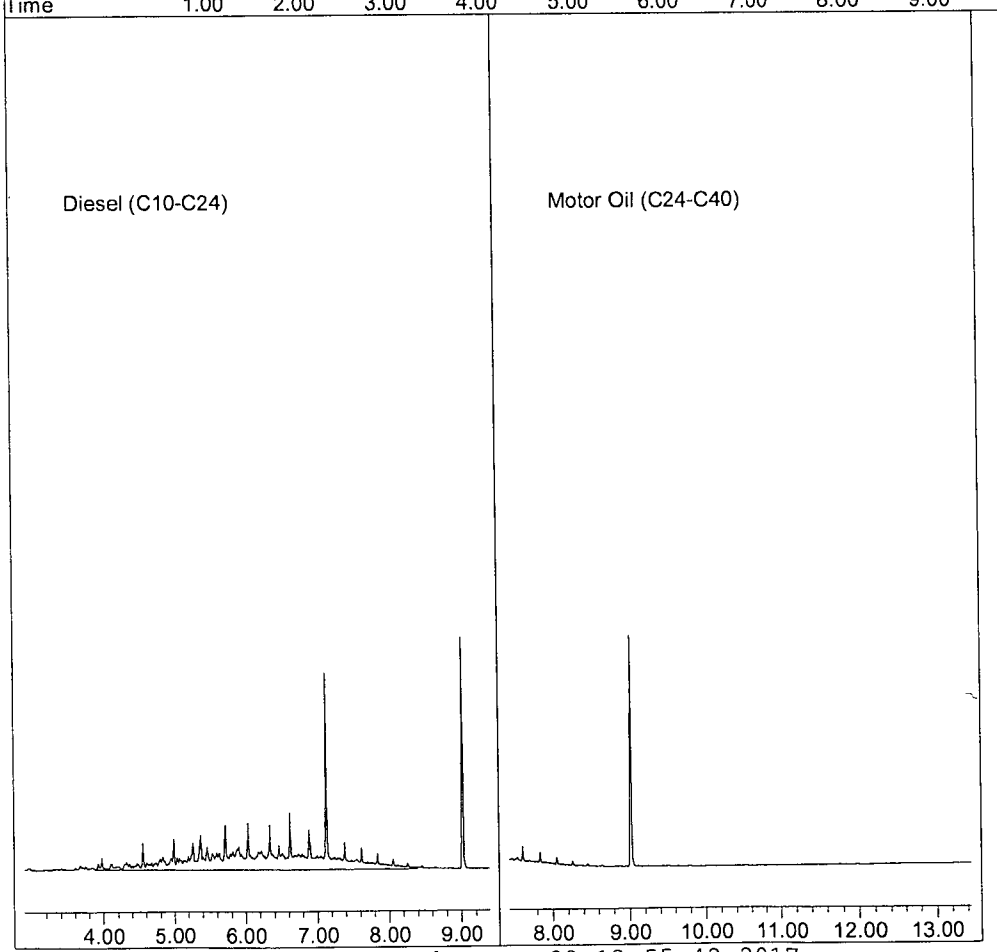
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D
Acq On : 2-7-17 14:34:48
Sample : Diesel-3 40/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 15
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

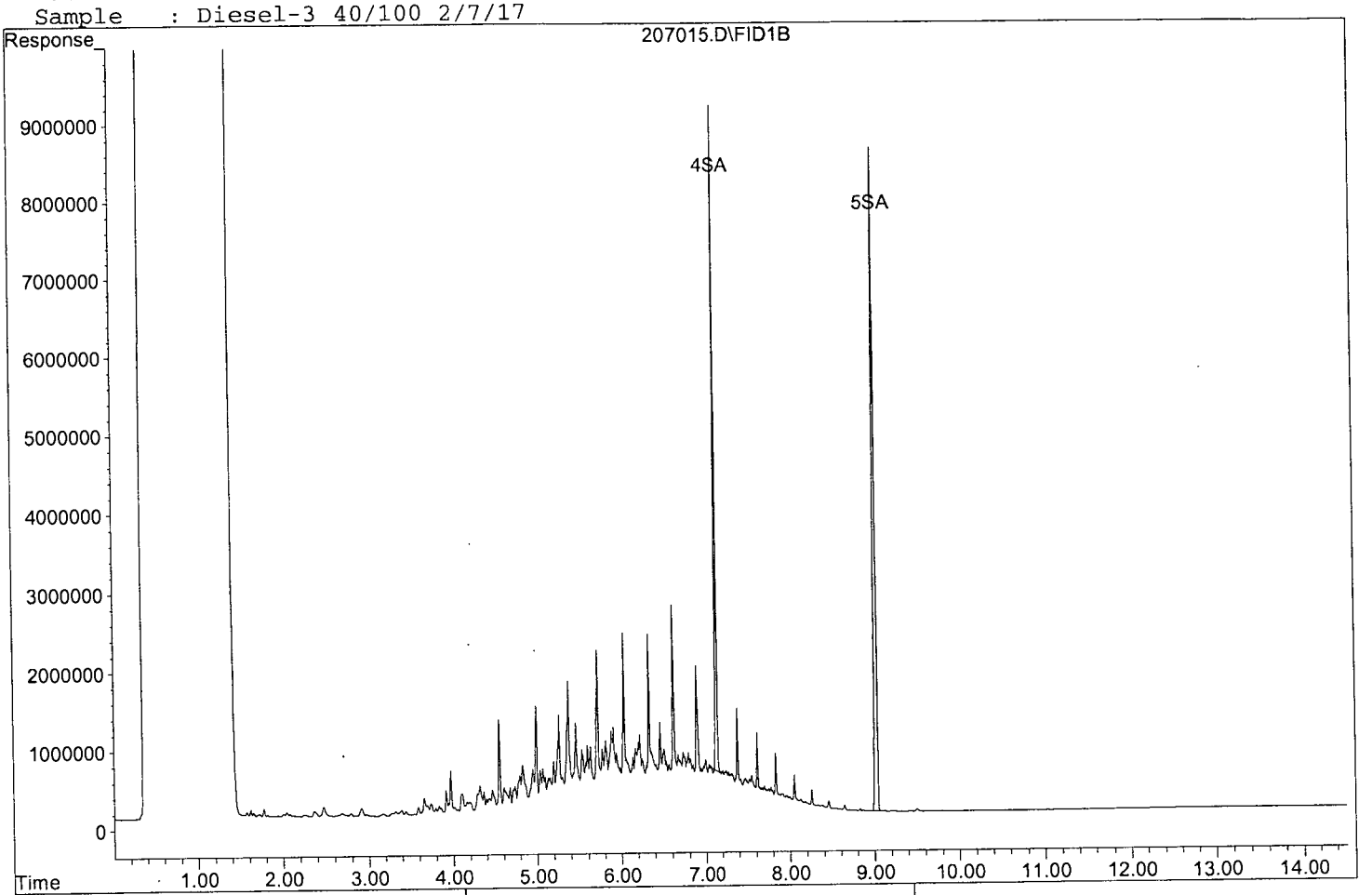
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000	Recovery =		66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000	Recovery =		66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

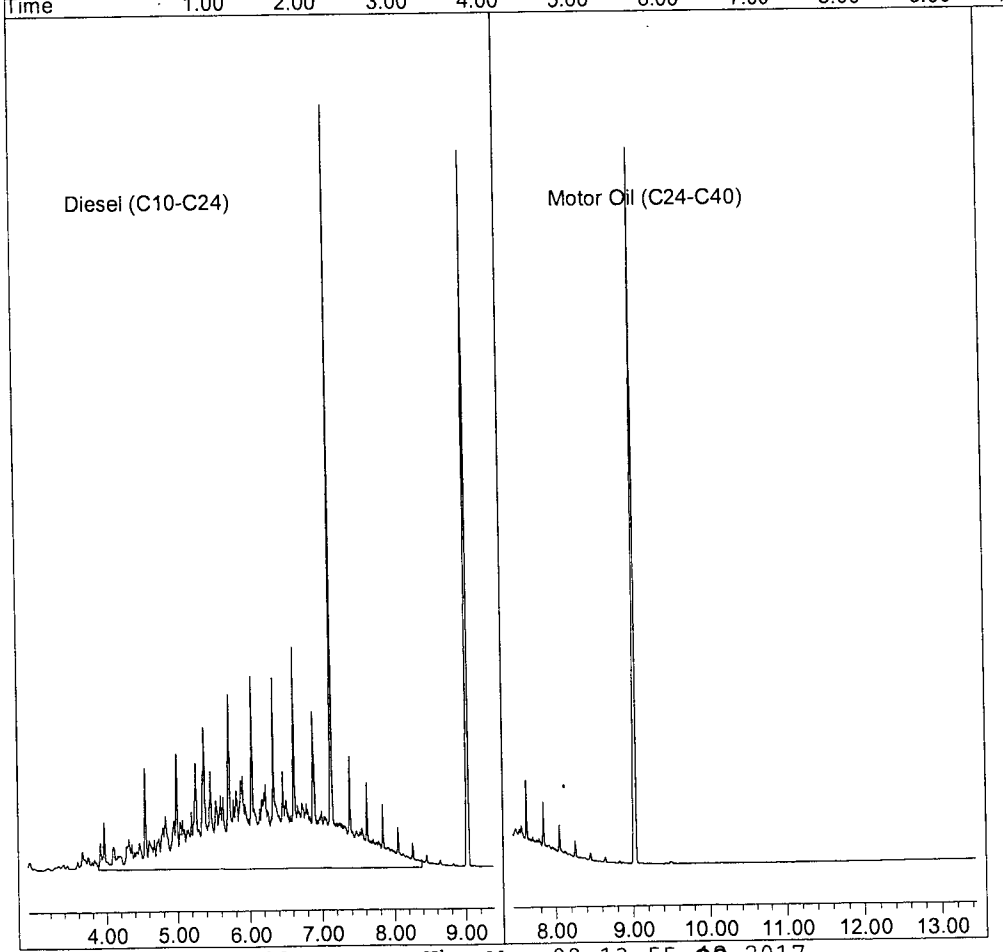
(f)=RT Delta > 1/2 Window (m)=manual int.

207015.D DOC0303.M Thu Mar 09 13:55:46 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

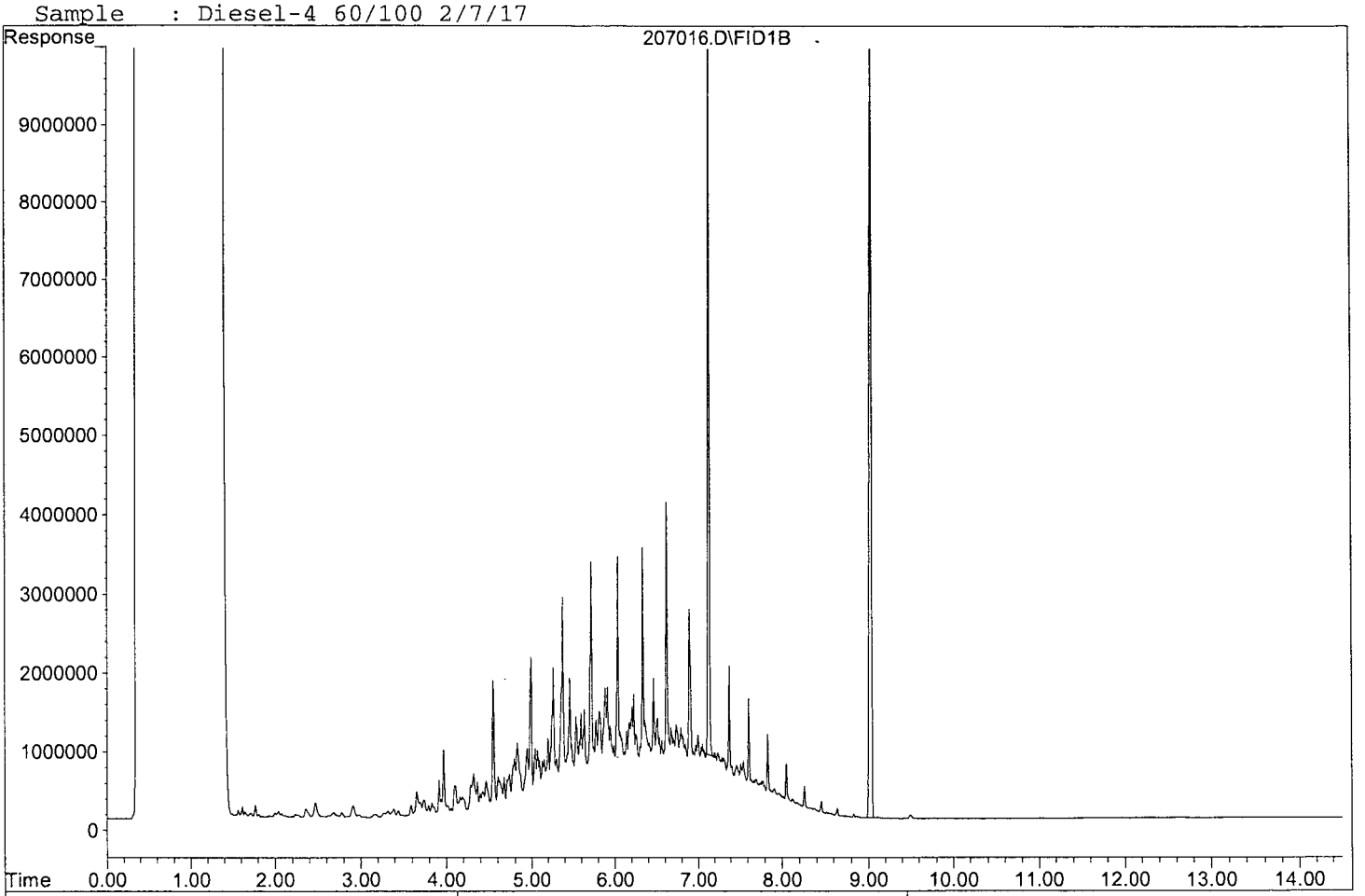
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

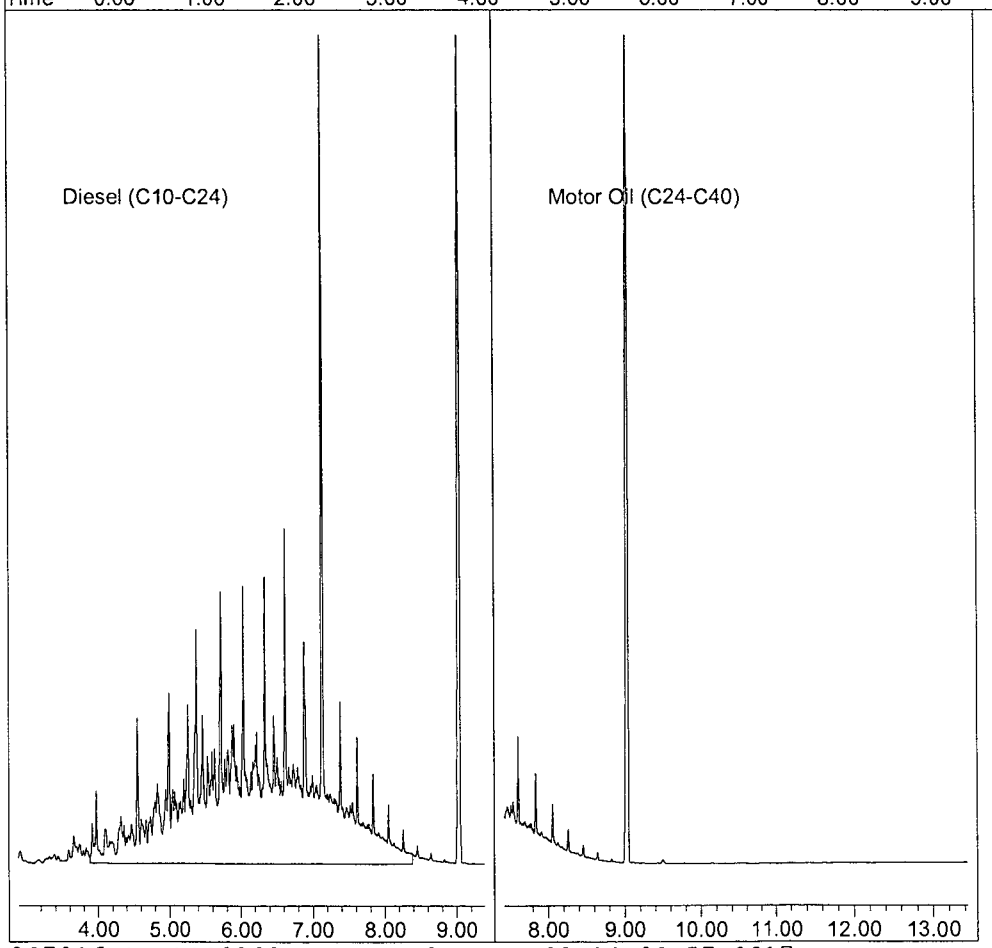
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	34.186 ppb
Surrogate Spike 30.000		Recovery =	113.95%
5) SA Octacosane(S)	9.04	190706691	58.461 ppb
Surrogate Spike 30.000		Recovery =	194.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D Vial: 17
Acq On : 2-7-17 15:16:16 Operator: DP
Sample : Diesel-5 80/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

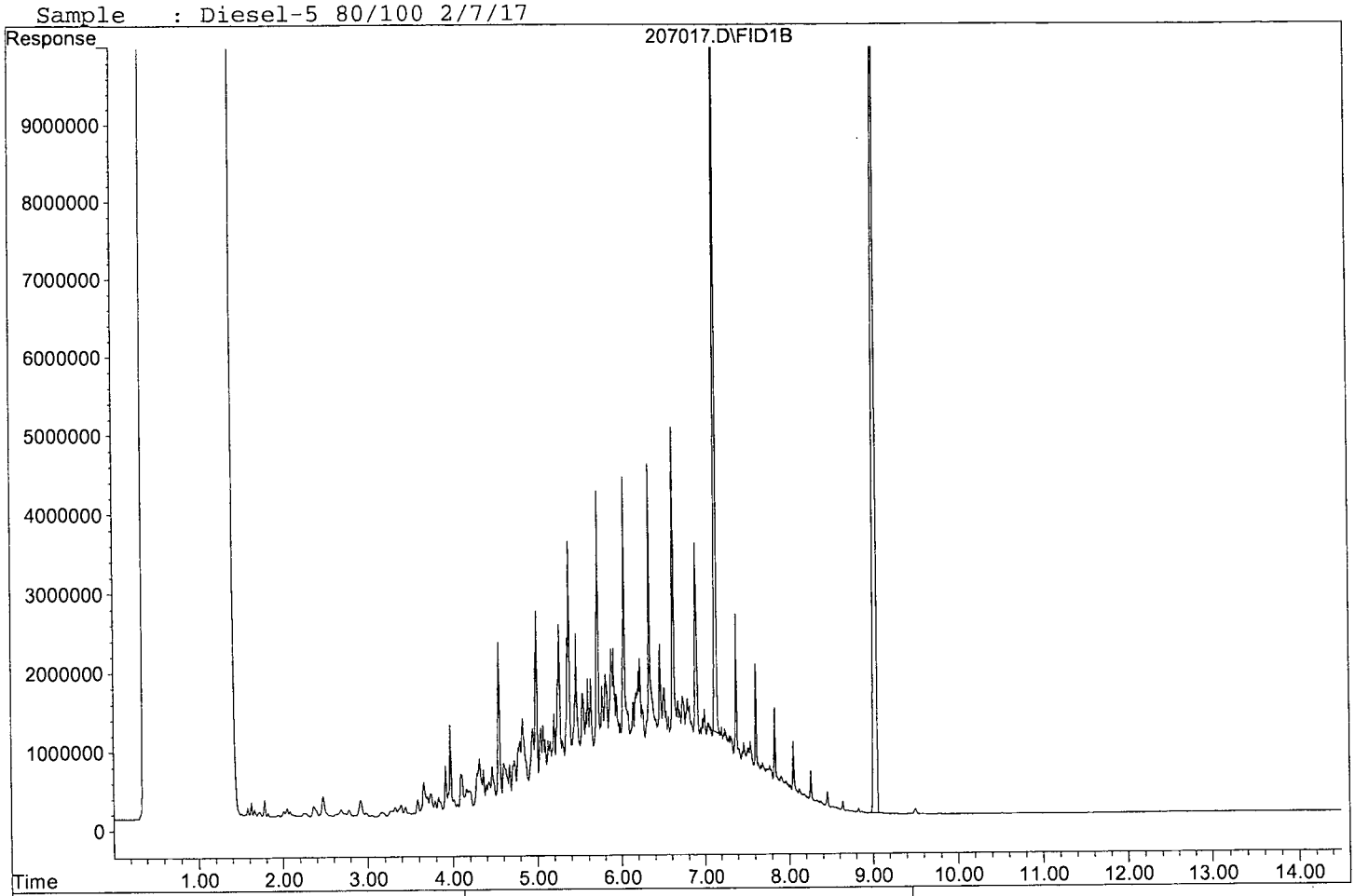
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

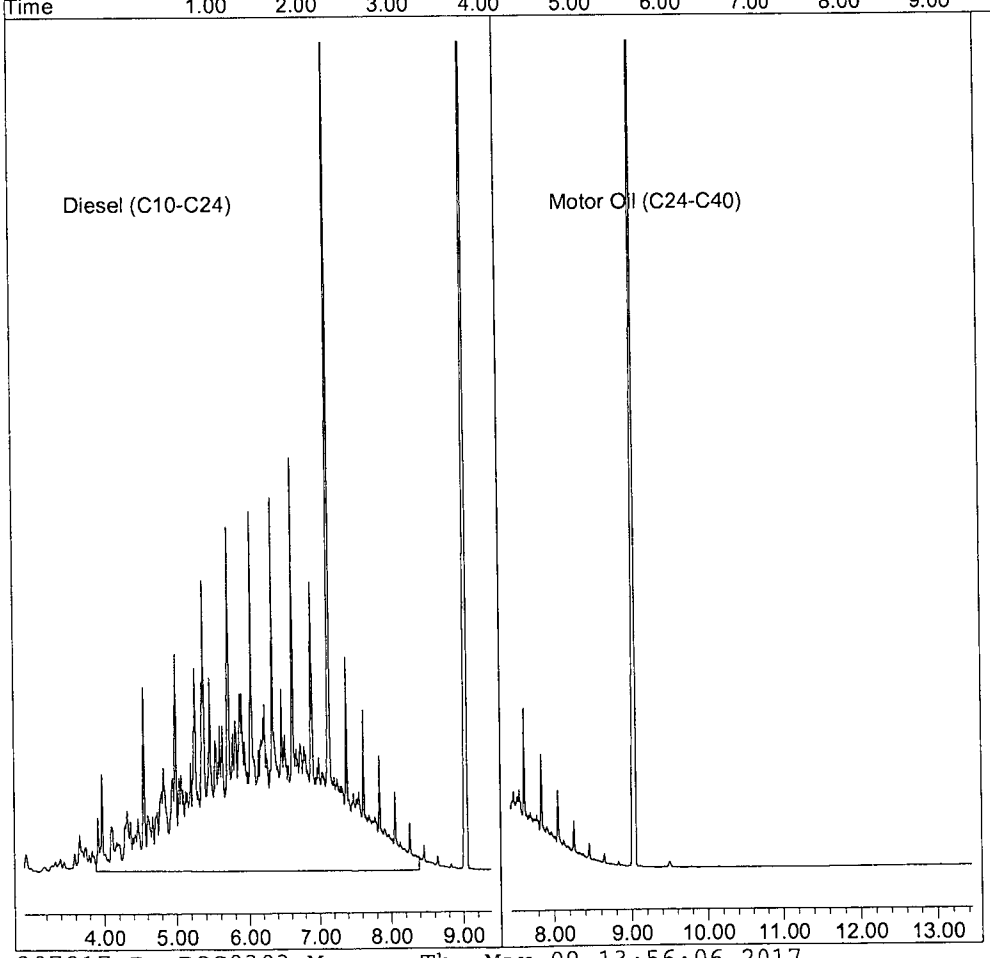
(f)=RT Delta > 1/2 Window (m)=manual int.

207017.D DOC0303.M Thu Mar 09 13:56:05 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D Vial: 18
Acq On : 2-7-17 15:36:59 Operator: DP
Sample : Diesel-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

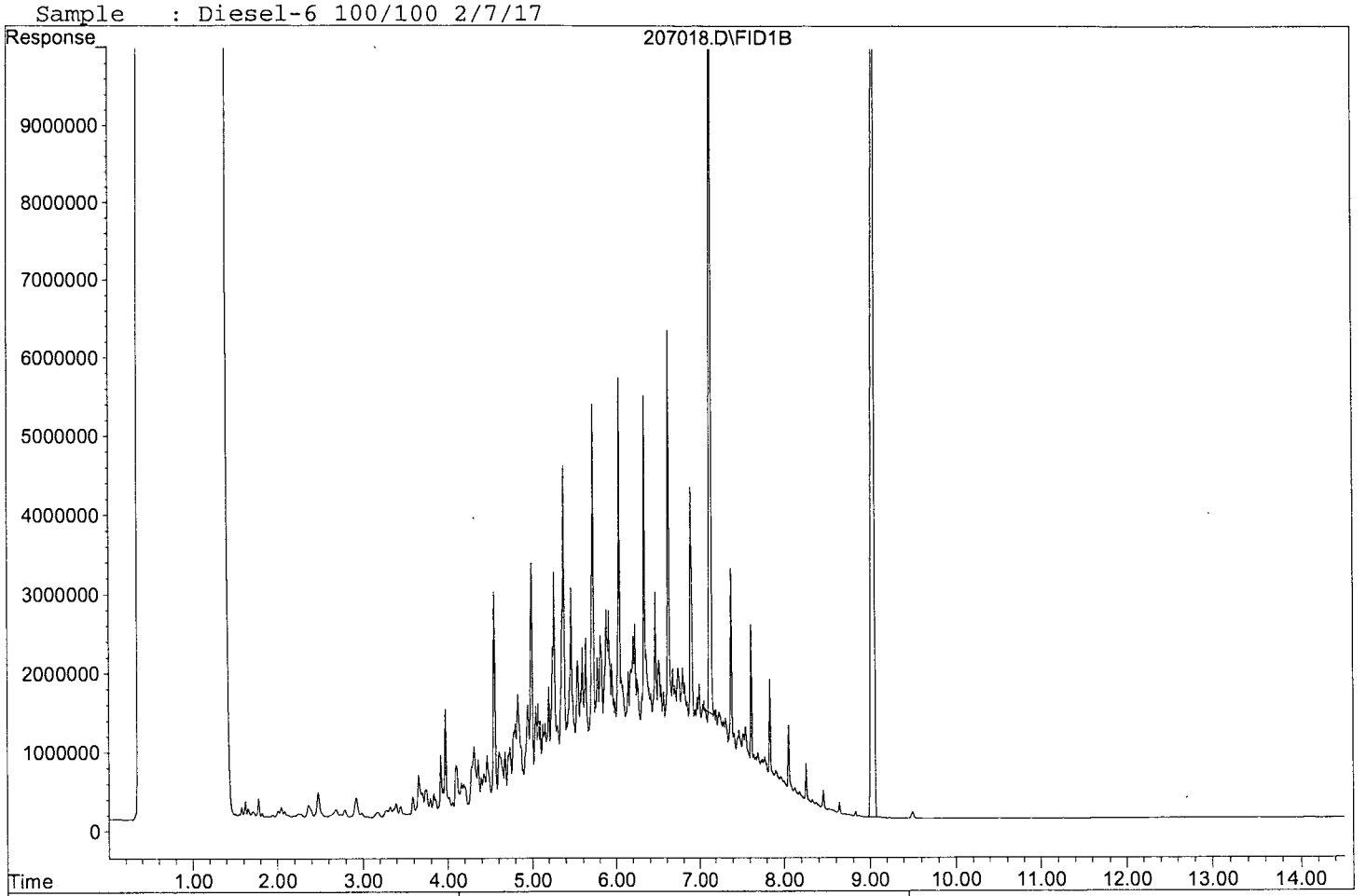
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

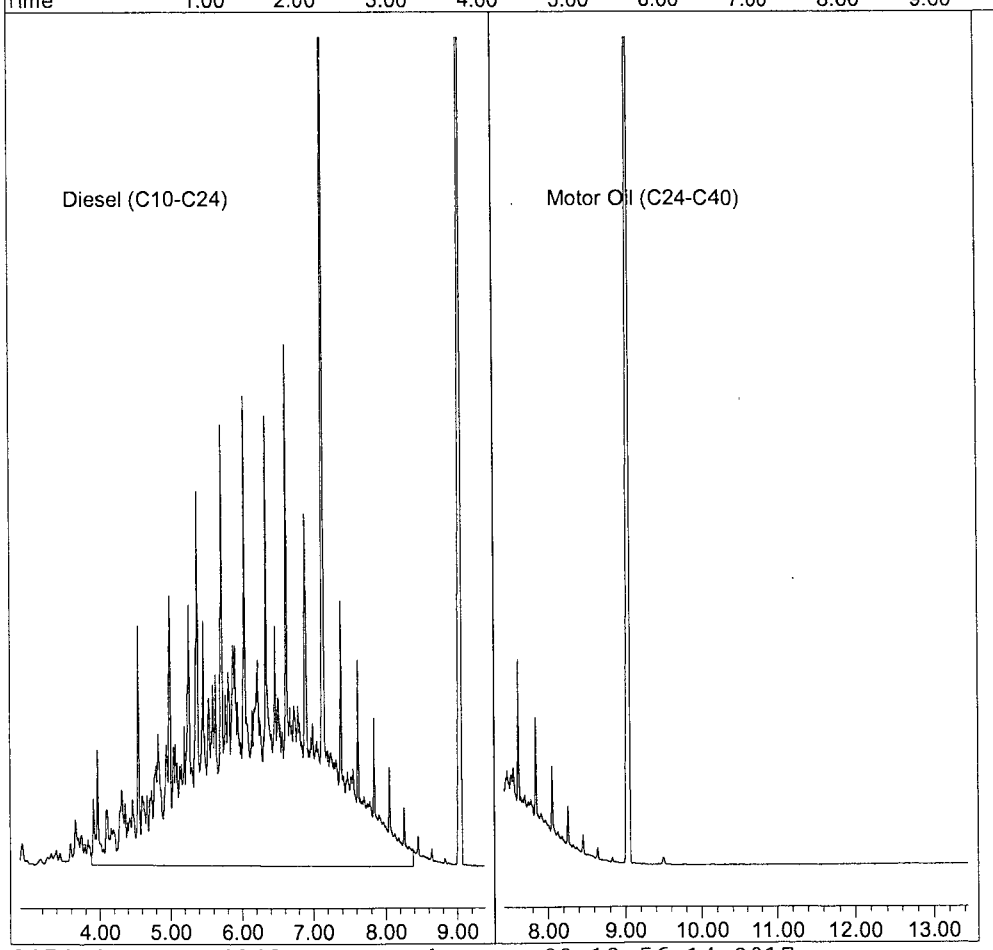
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

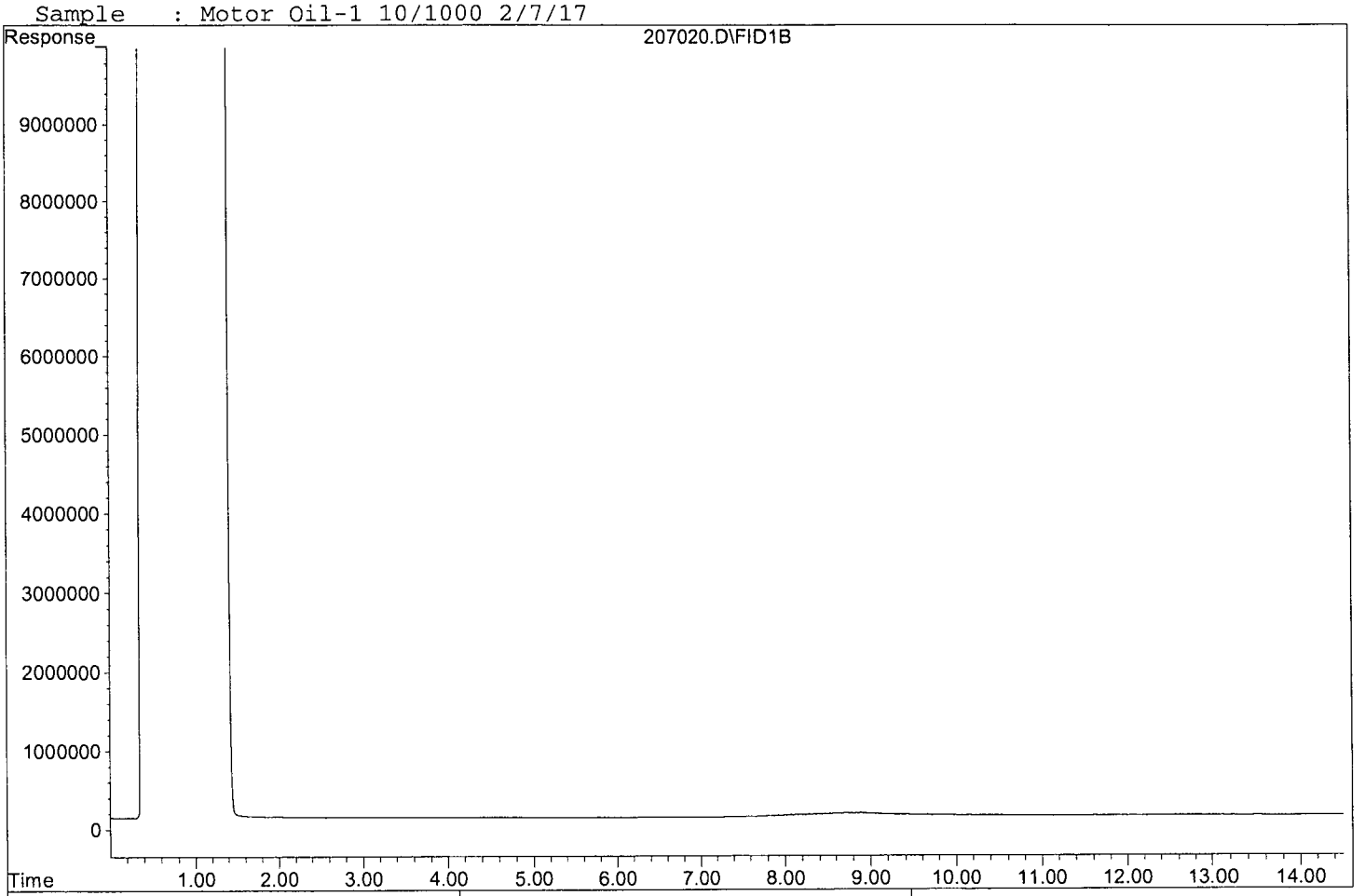
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

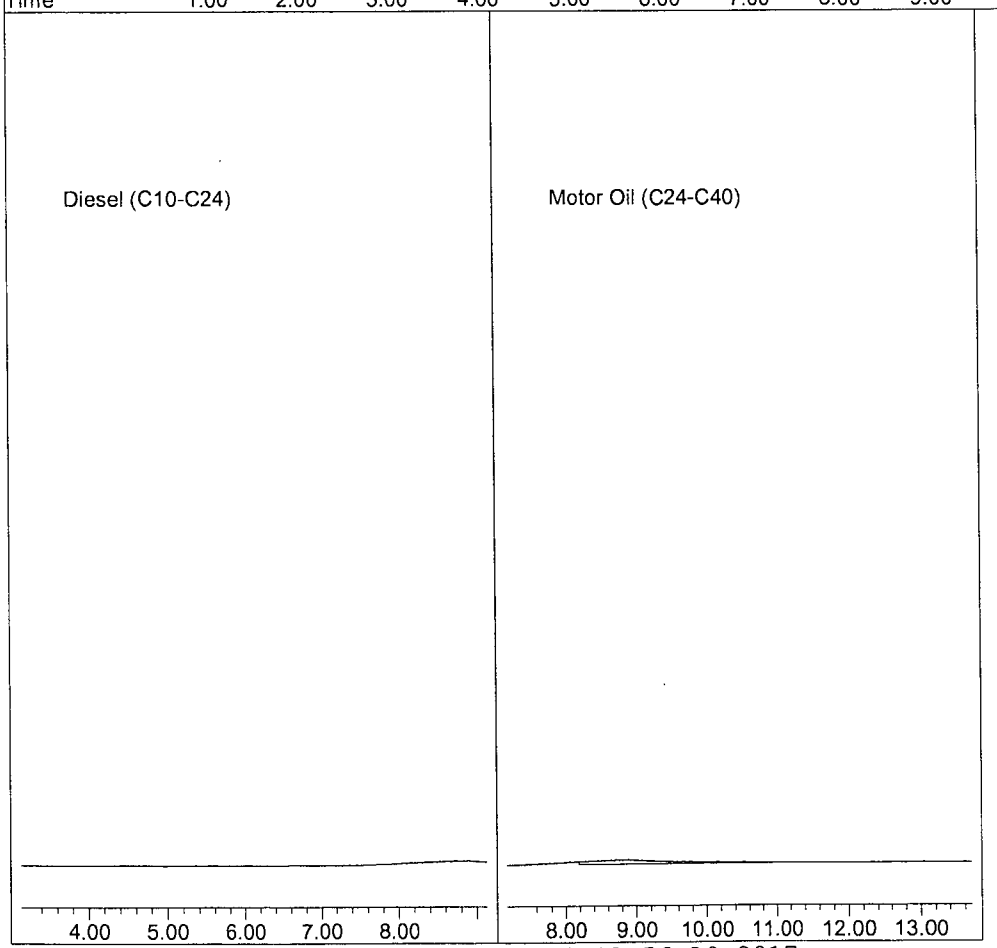
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

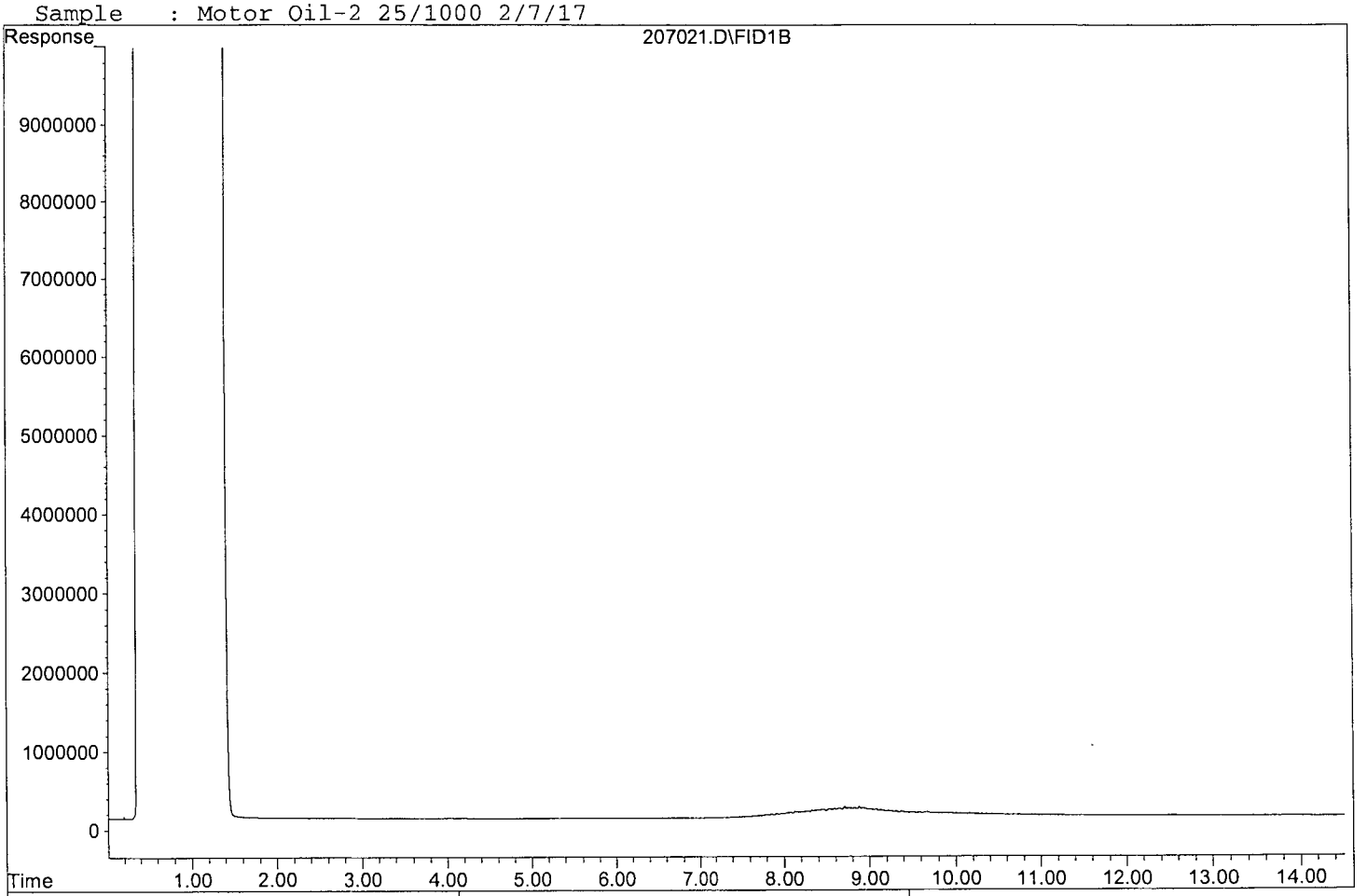
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

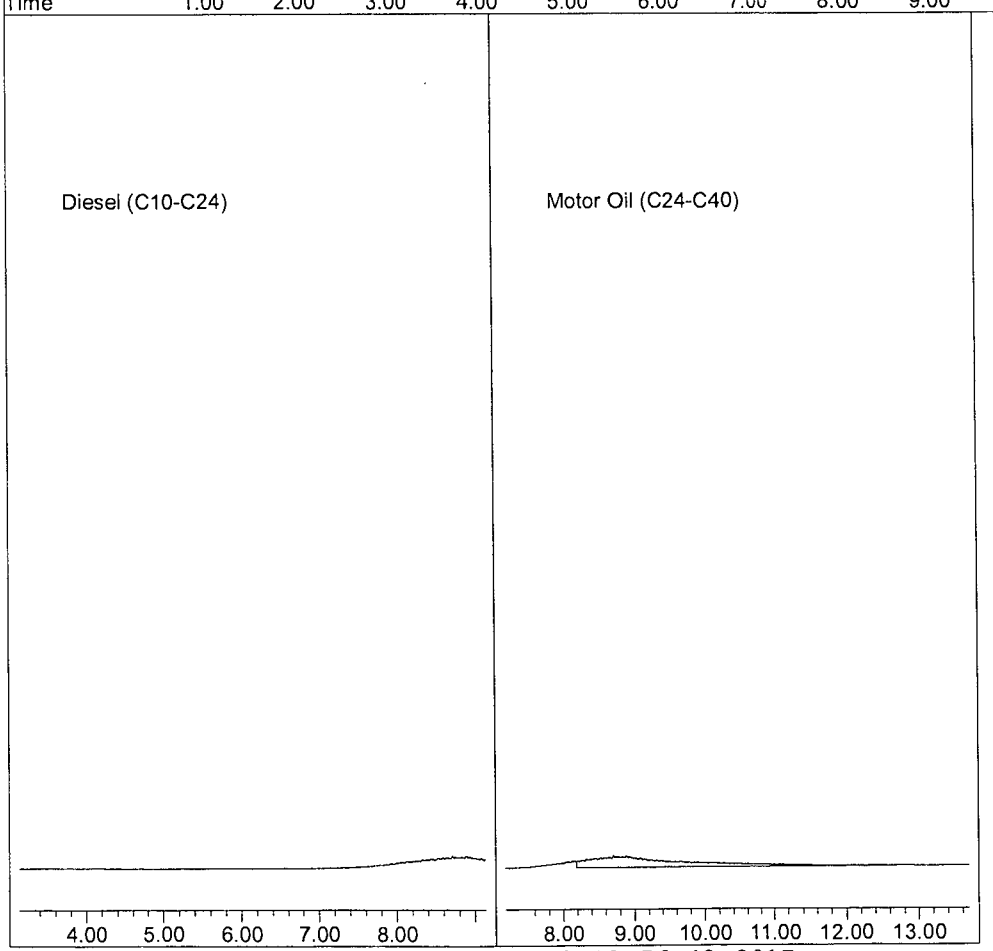
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

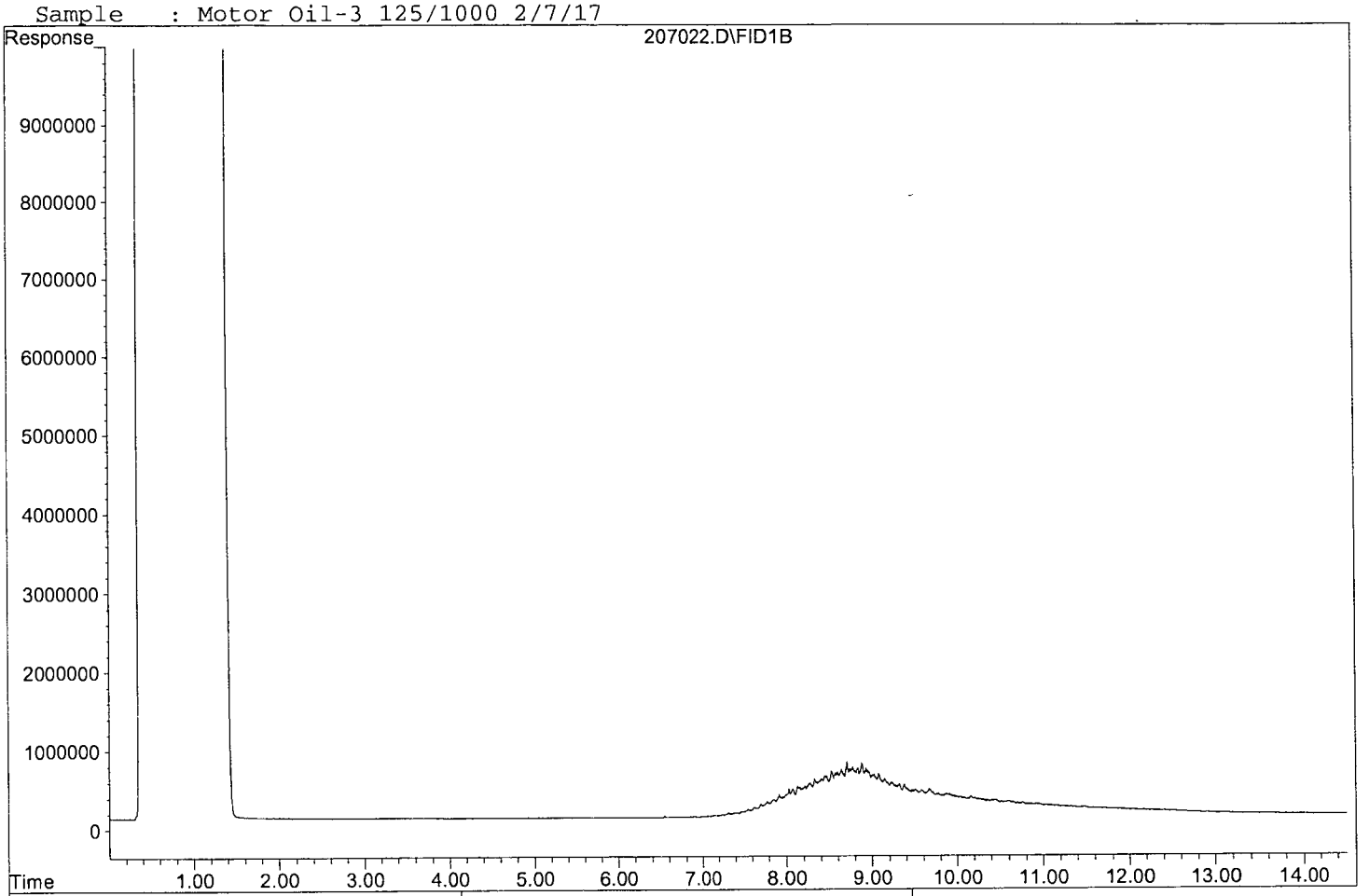
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

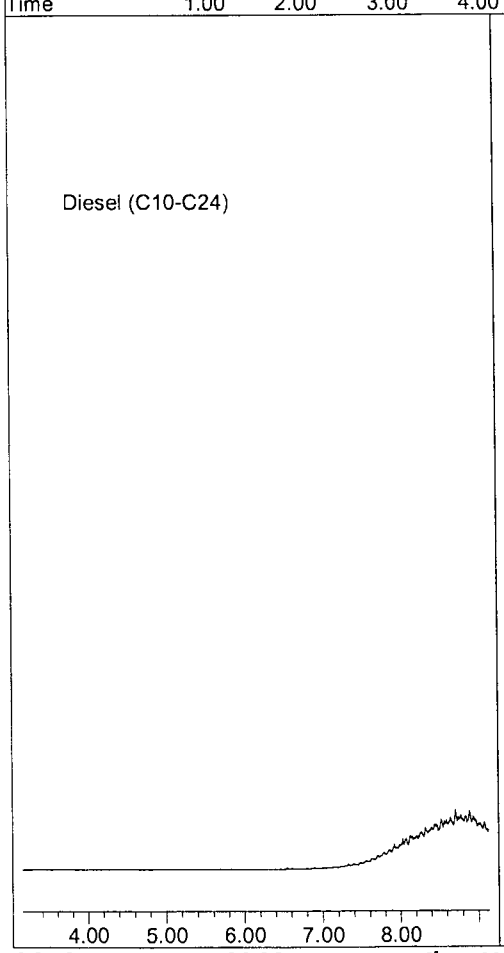
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

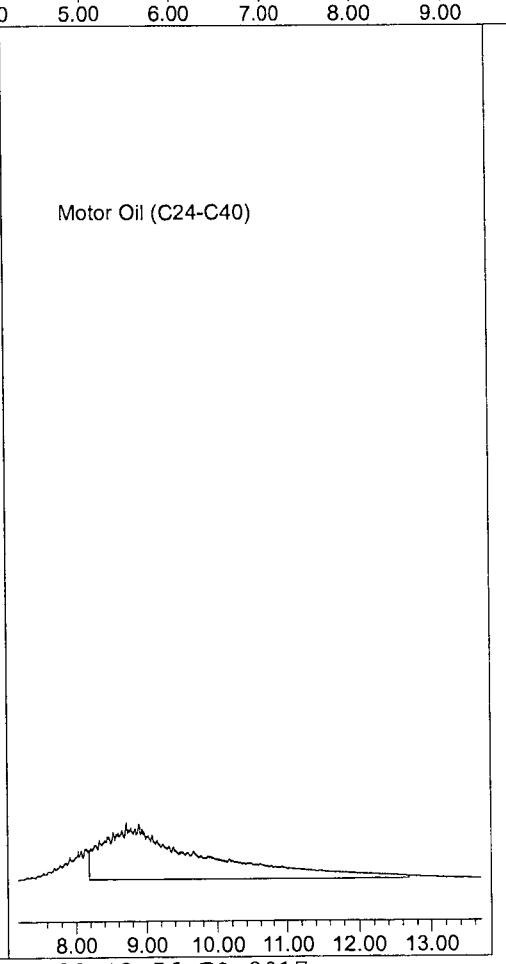
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

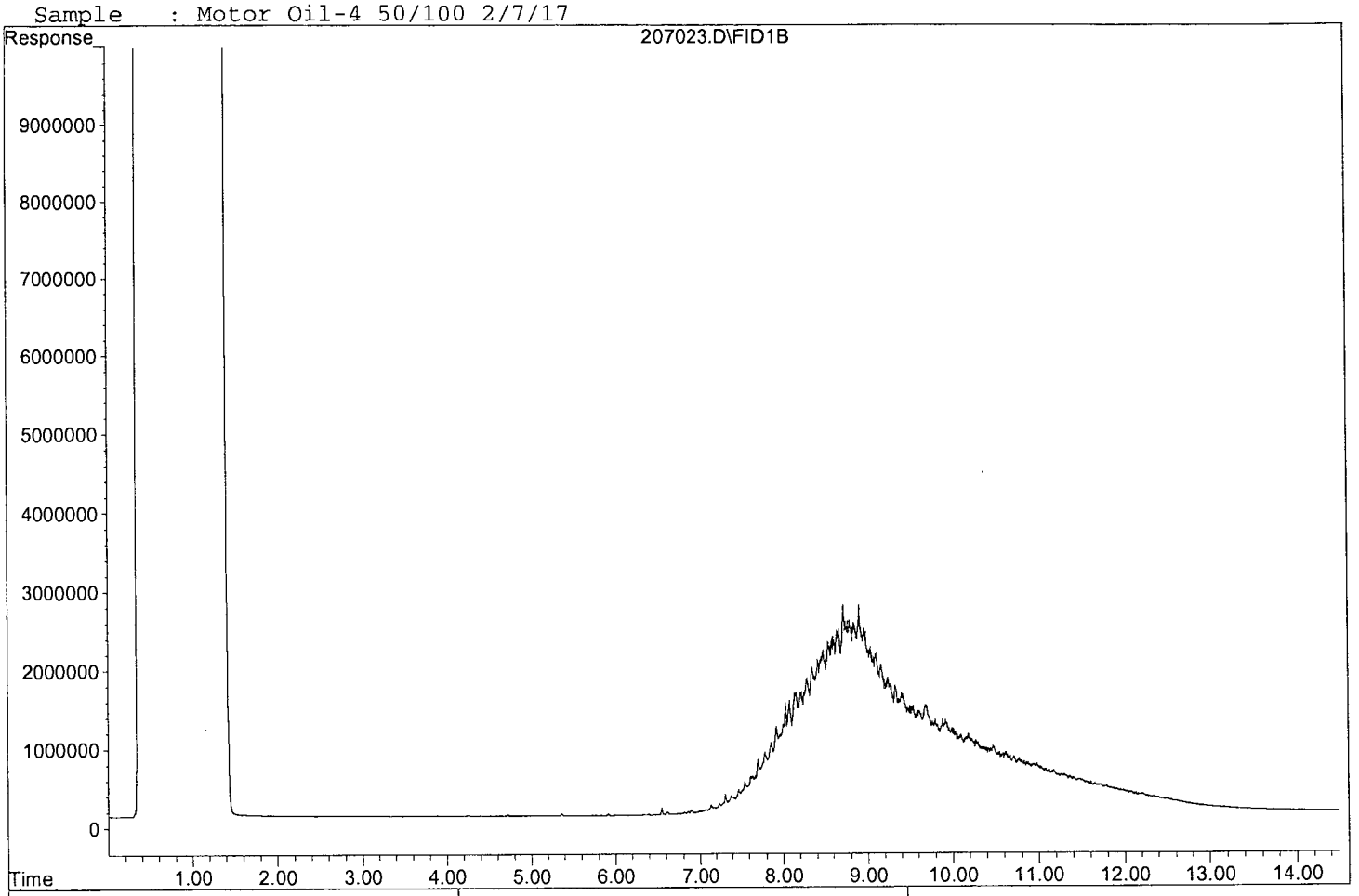
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

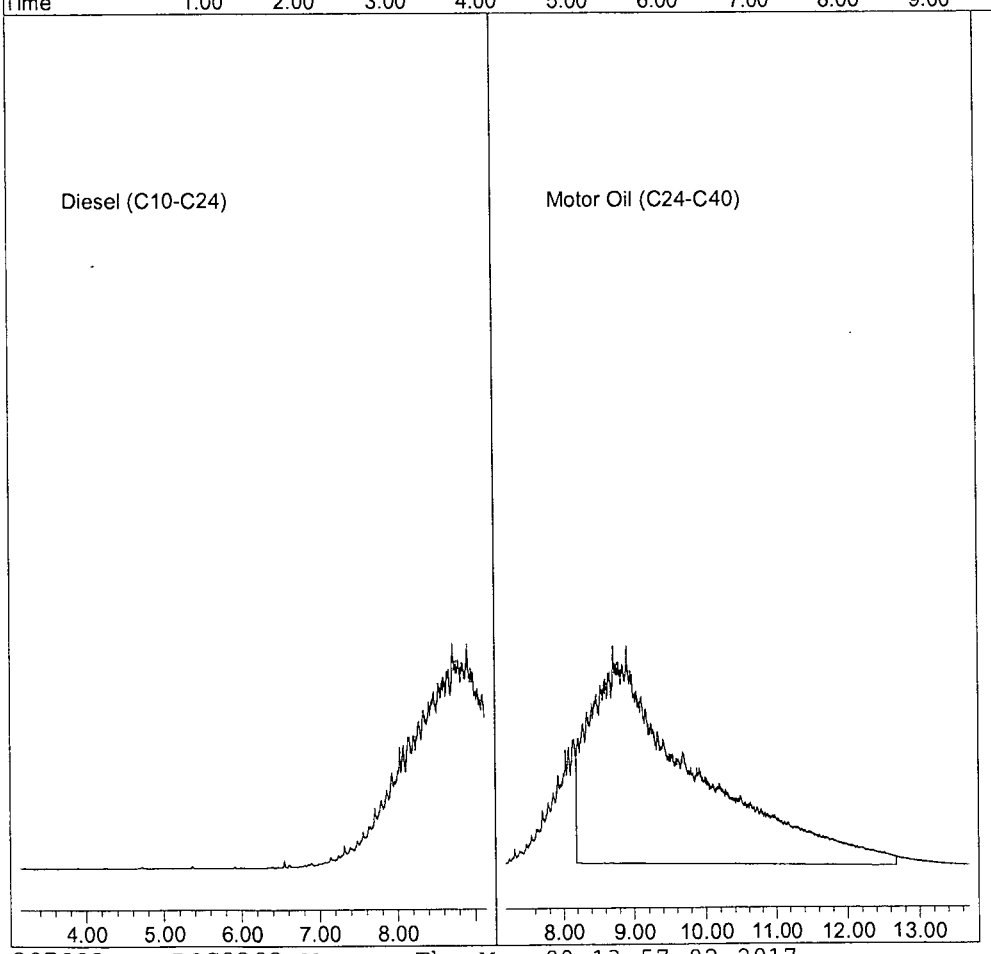
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

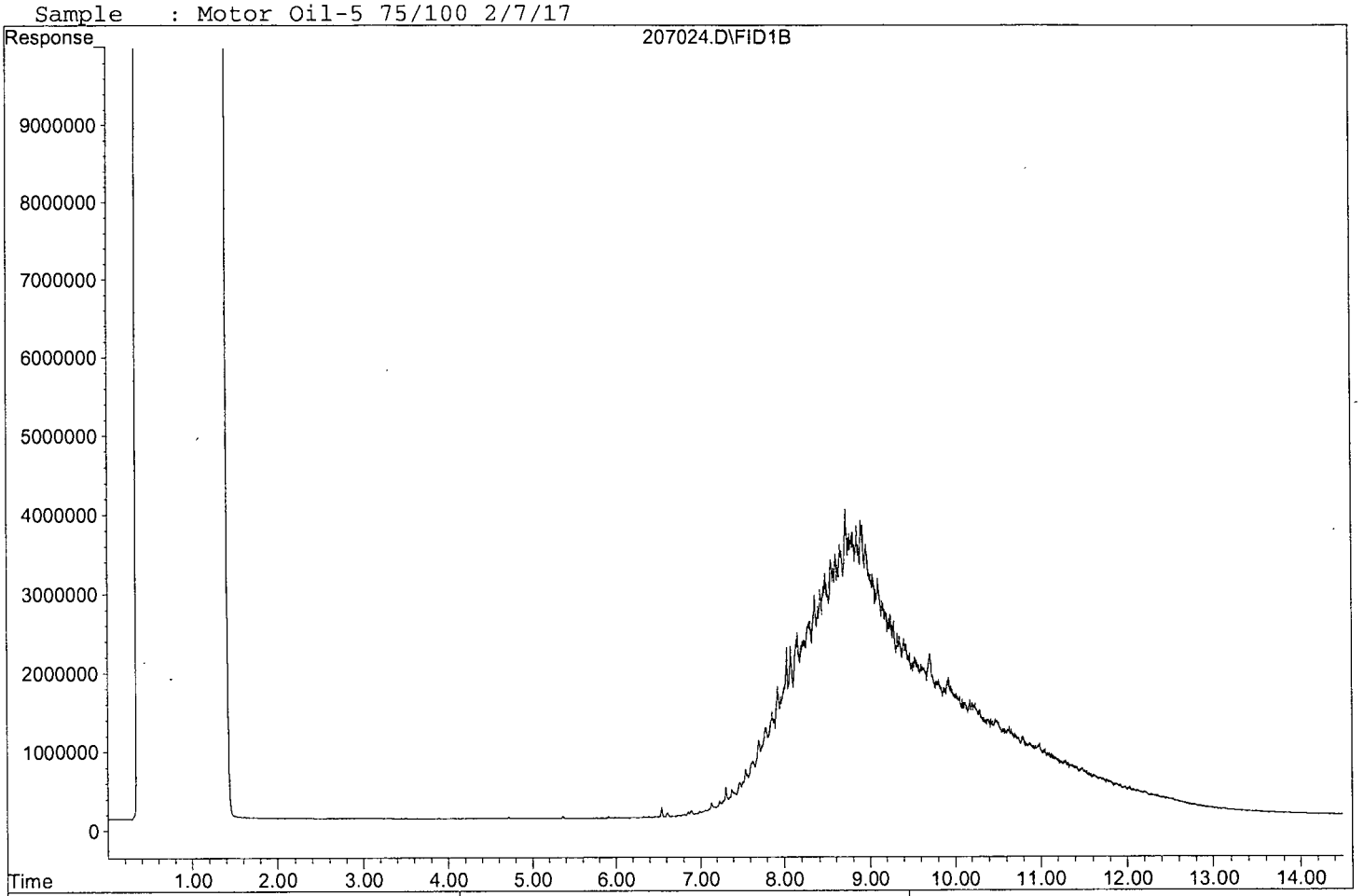
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

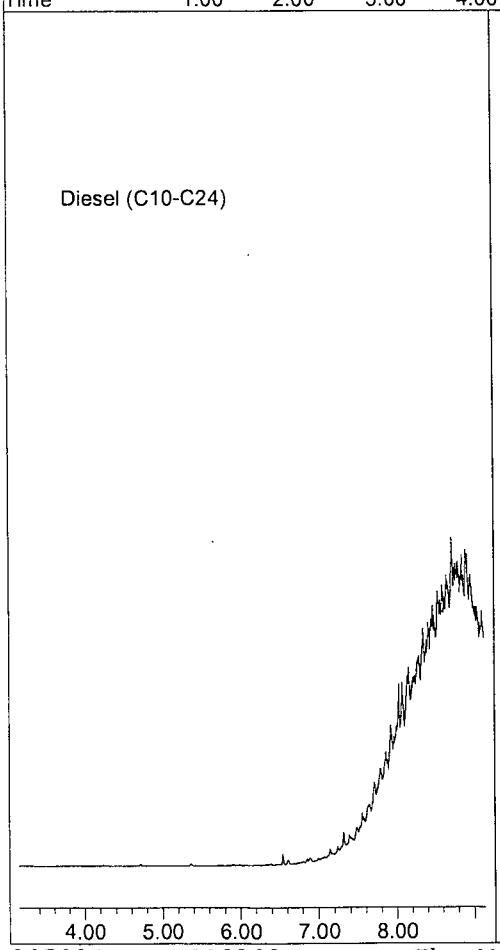
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

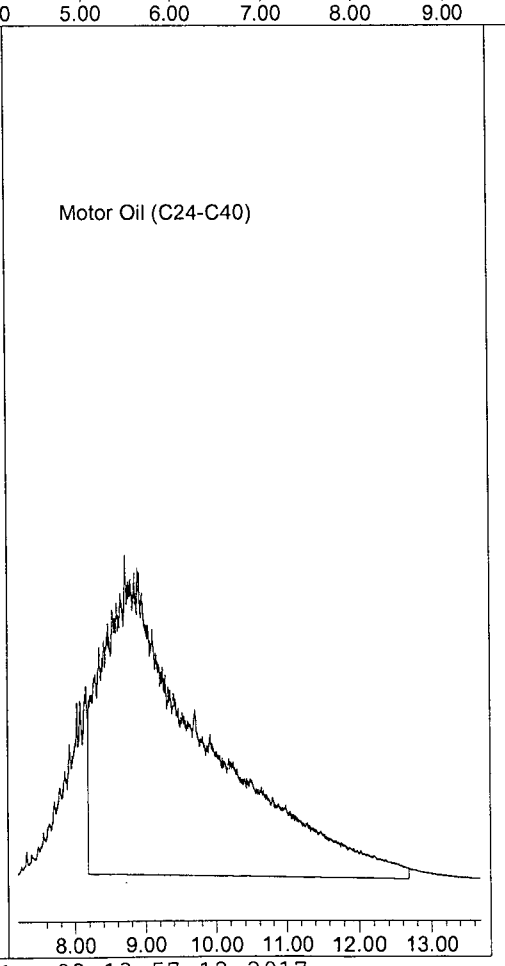
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D
Acq On : 2-7-17 18:01:11
Sample : Motor Oil-6 100/100 2/7/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

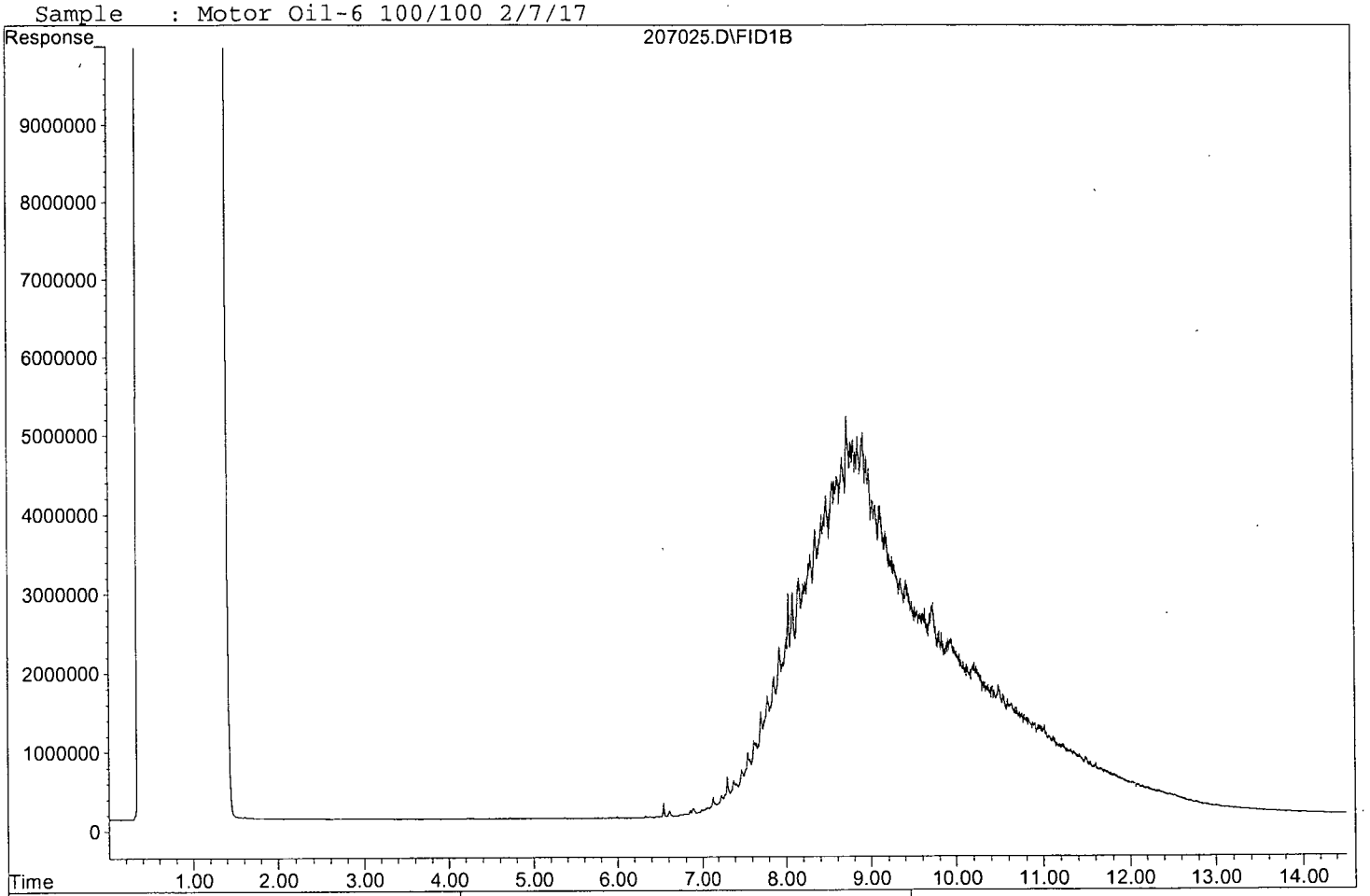
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

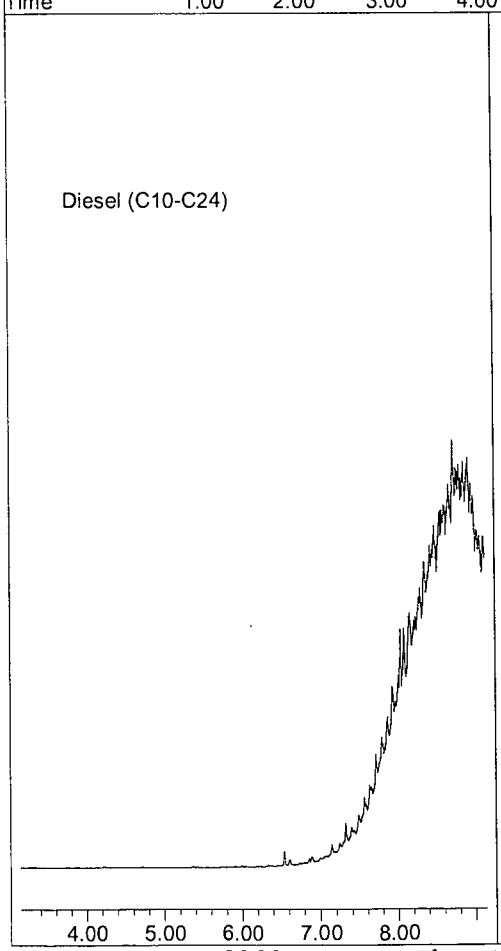
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961 ppb

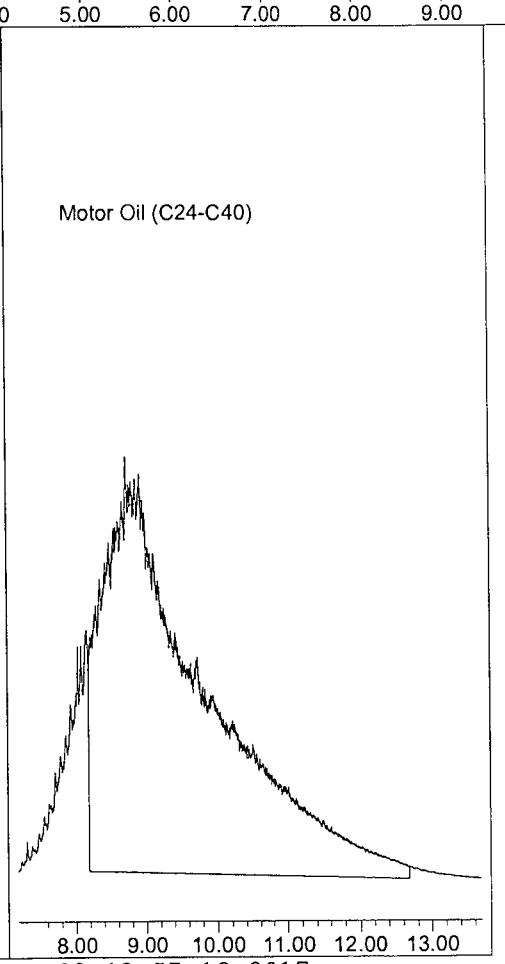
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303002.D Vial: 2
Acq On : 3-3-17 14:55:47 Operator: DP
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:03 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

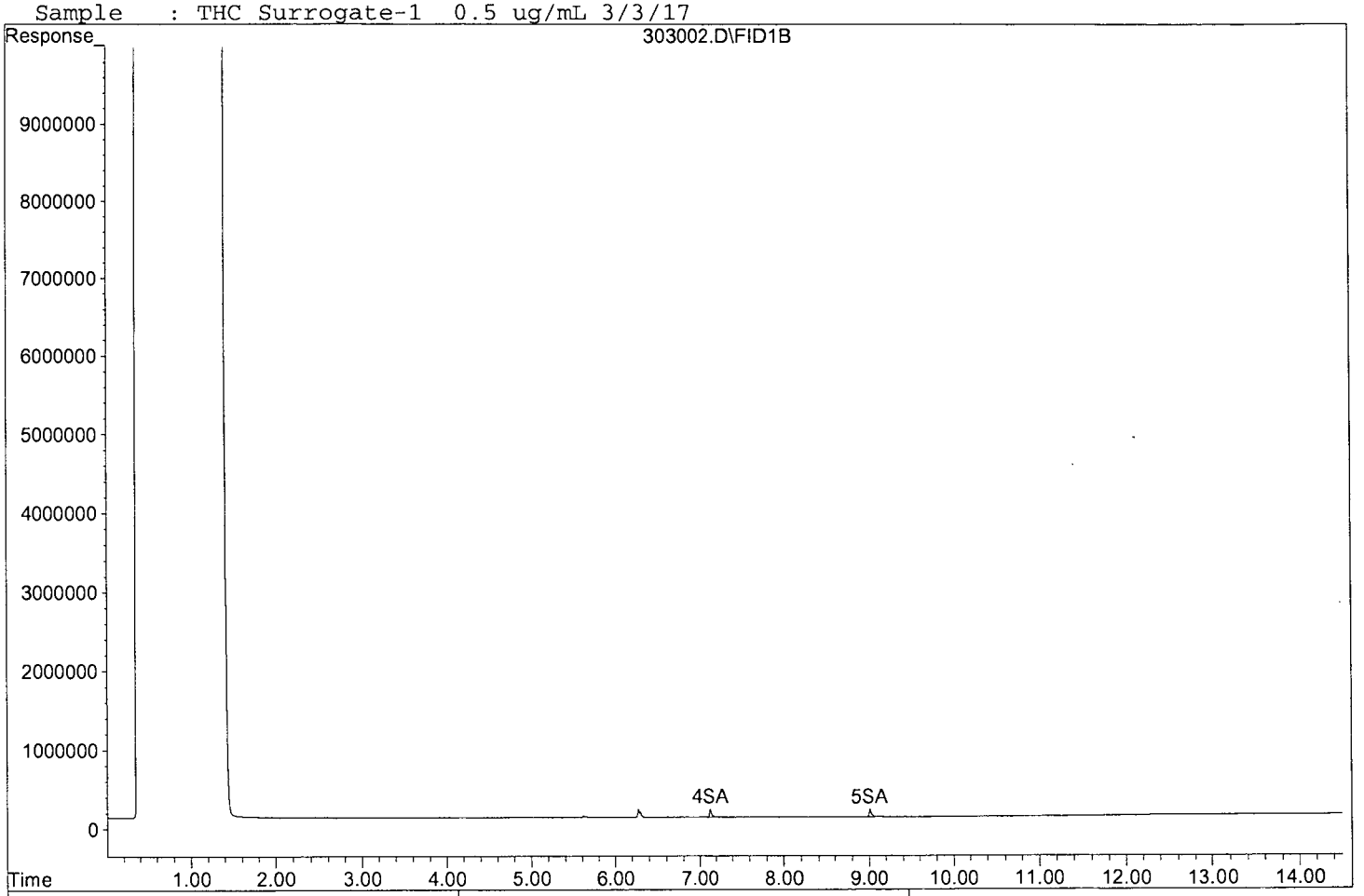
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

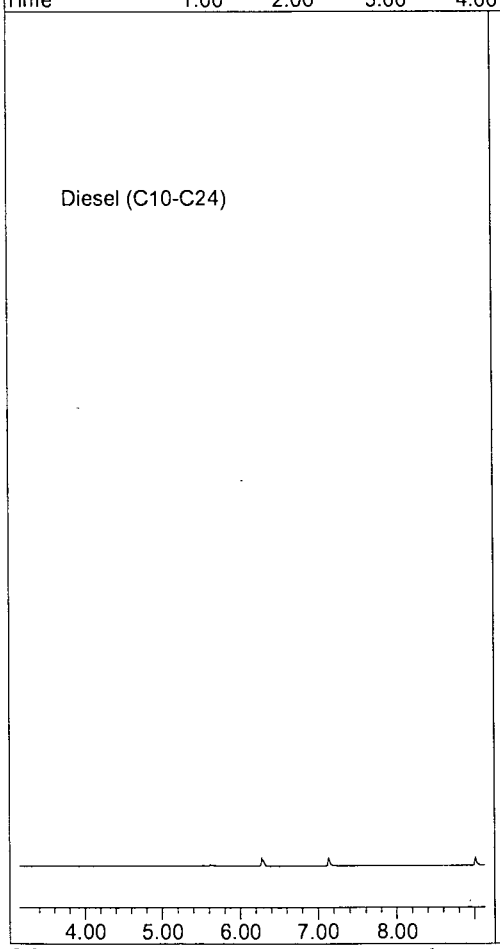
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	1942562	0.507 ppb
Surrogate Spike 30.000		Recovery =	1.69%
5) SA Octacosane(S)	9.01	1719138	0.527 ppb
Surrogate Spike 30.000		Recovery =	1.76%
Target Compounds			

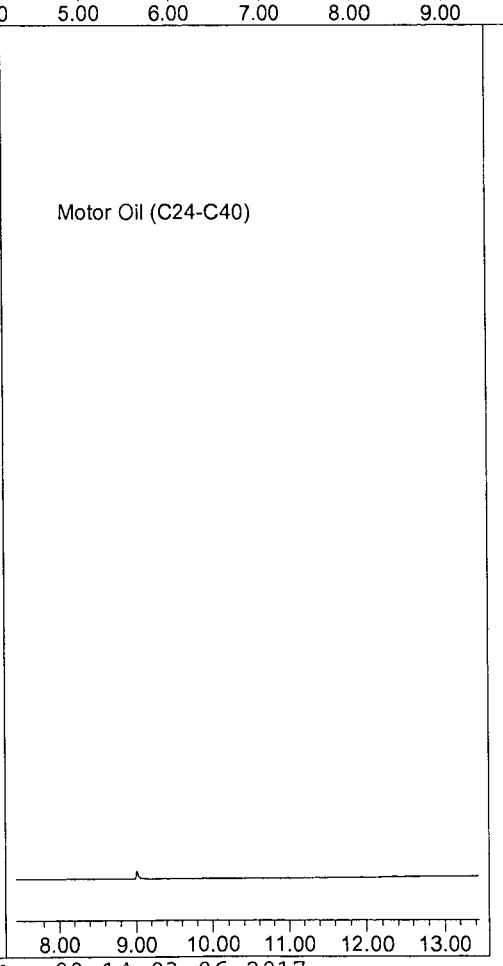
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303002.D
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303003.D Vial: 3
Acq On : 3-3-17 15:16:38 Operator: DP
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

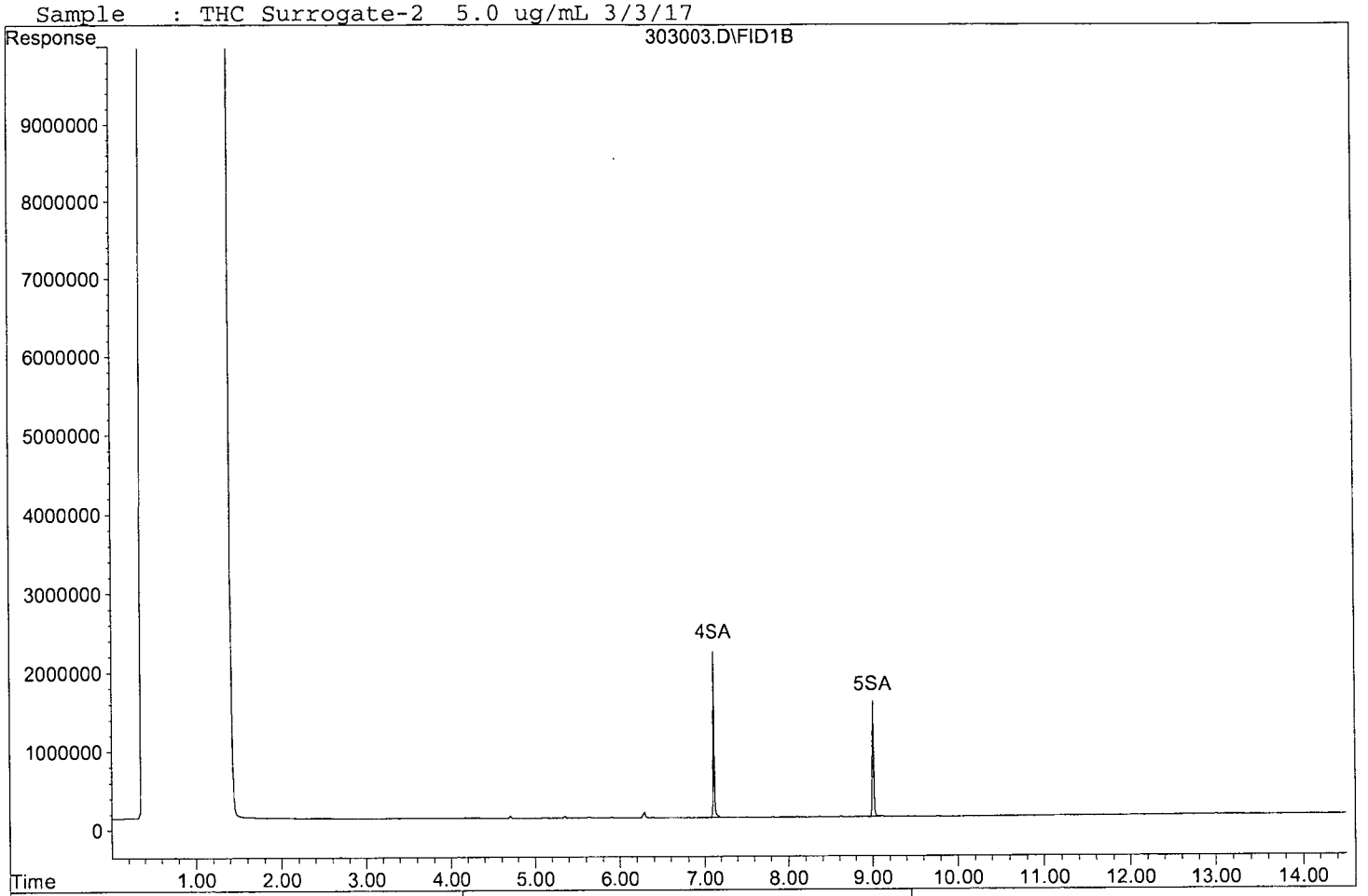
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

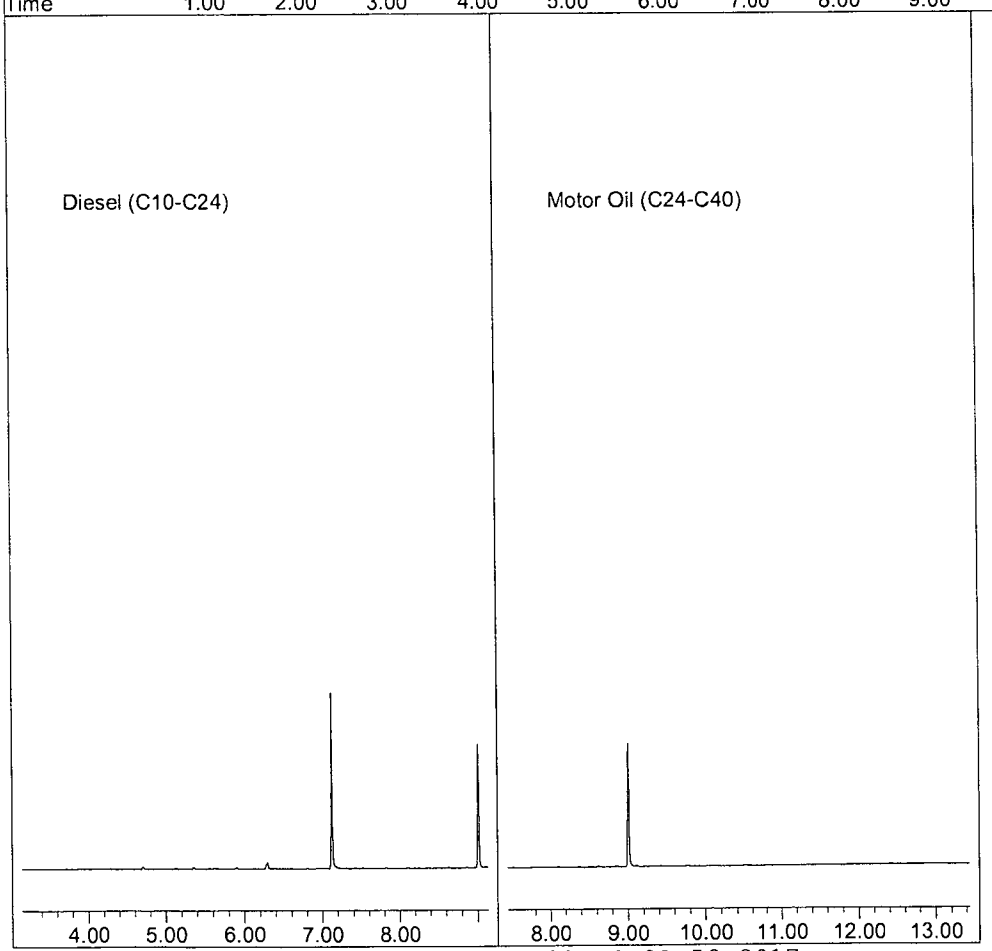
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	21242228	5.541 ppb
Surrogate Spike 30.000		Recovery =	18.47%
5) SA Octacosane(S)	9.01	17712742	5.430 ppb
Surrogate Spike 30.000		Recovery =	18.10%
Target Compounds			

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303003.D
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303004.D Vial: 4
Acq On : 3-3-17 15:37:25 Operator: DP
Sample : THC Surrogate-3 20 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

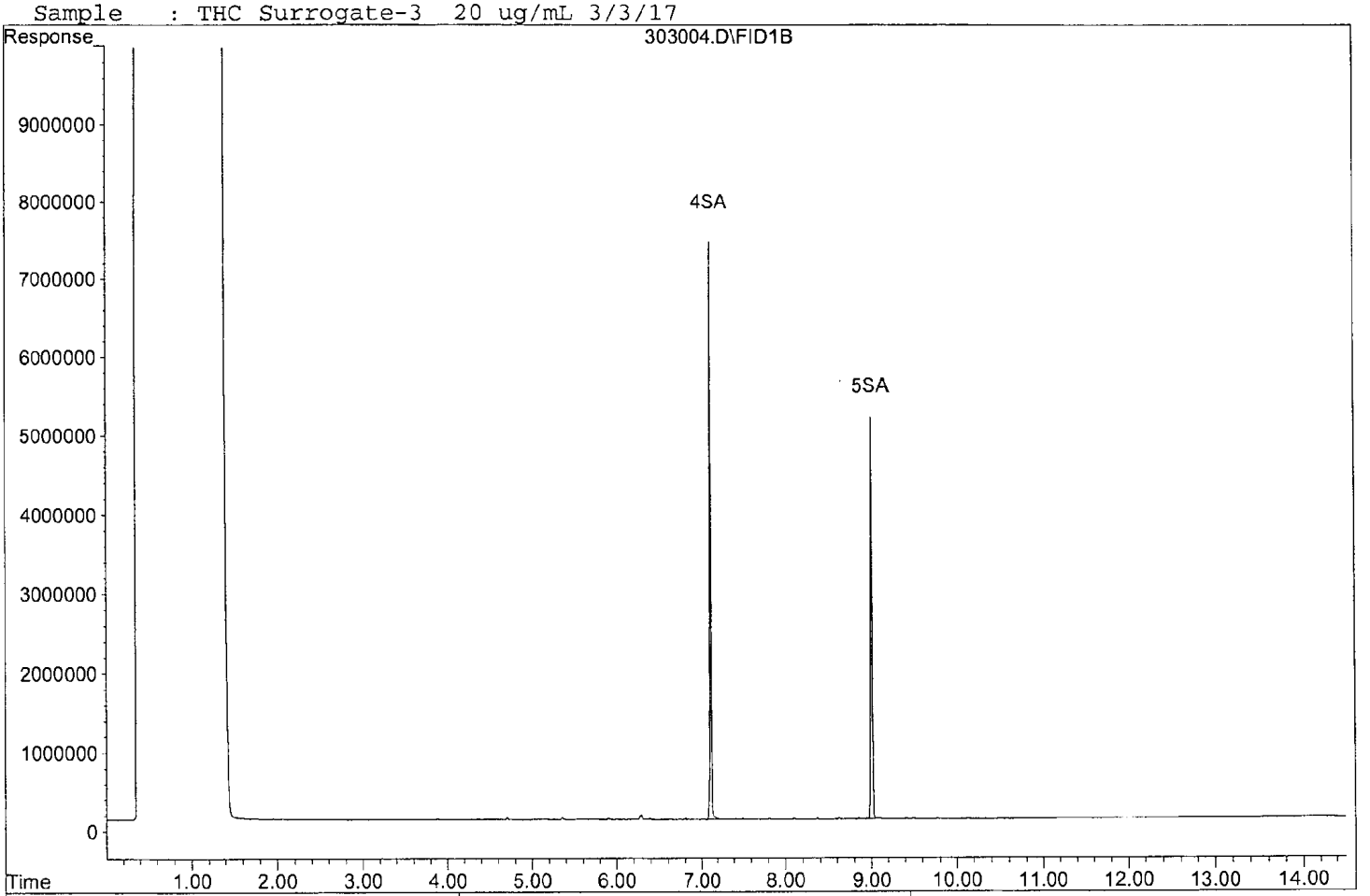
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

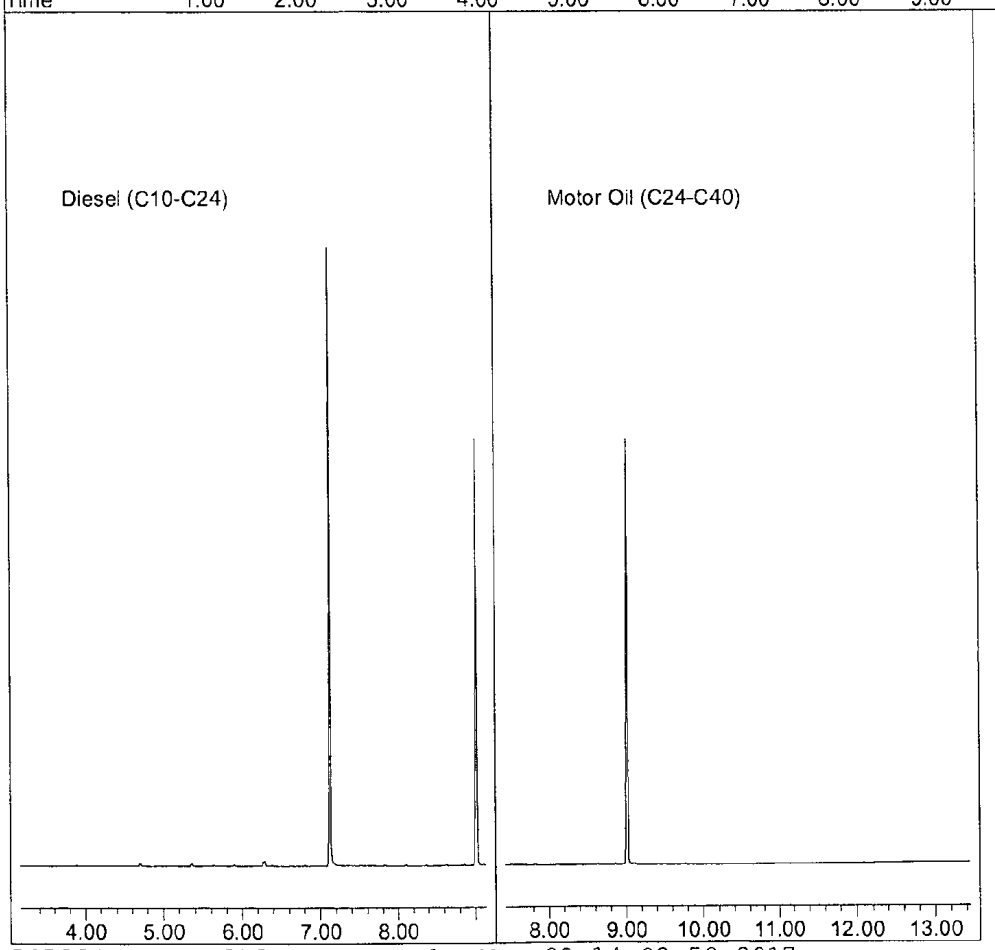
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	74537557	19.442 ppb
Surrogate Spike 30.000	Recovery =		64.81%
5) SA Octacosane(S)	9.01	62896901	19.281 ppb
Surrogate Spike 30.000	Recovery =		64.27%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303004.D
Sample : THC Surrogate-3 20 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303005.D Vial: 5
Acq On : 3-3-17 15:58:18 Operator: DP
Sample : THC Surrogate-4 30 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

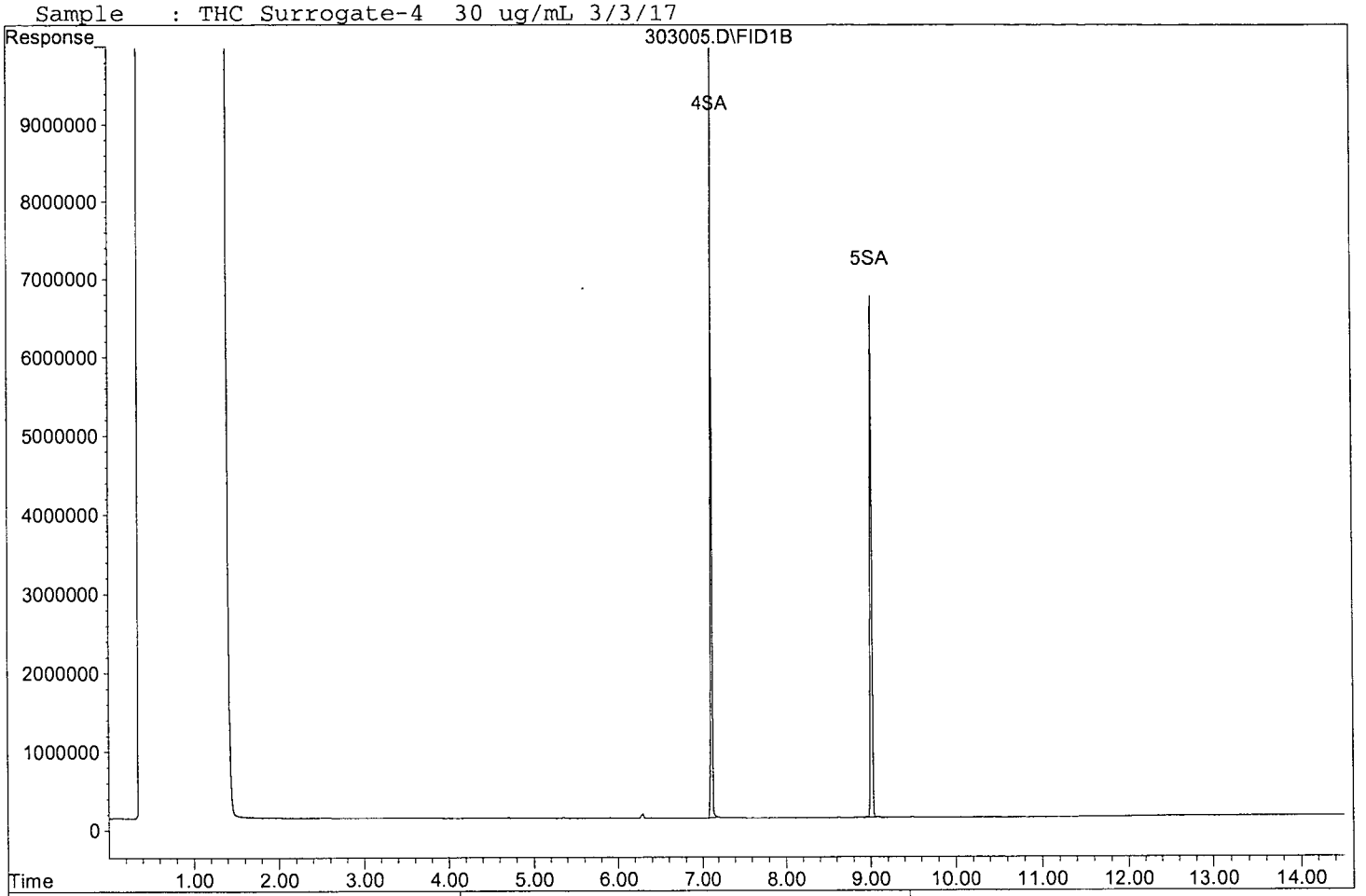
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

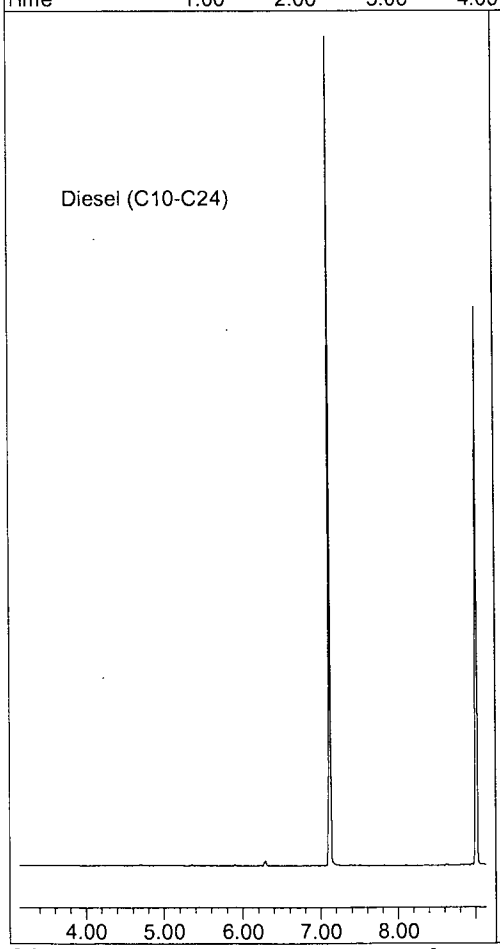
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	108679562	28.347 ppb
Surrogate Spike 30.000		Recovery =	94.49%
5) SA Octacosane(S)	9.02	92652170	28.403 ppb
Surrogate Spike 30.000		Recovery =	94.68%

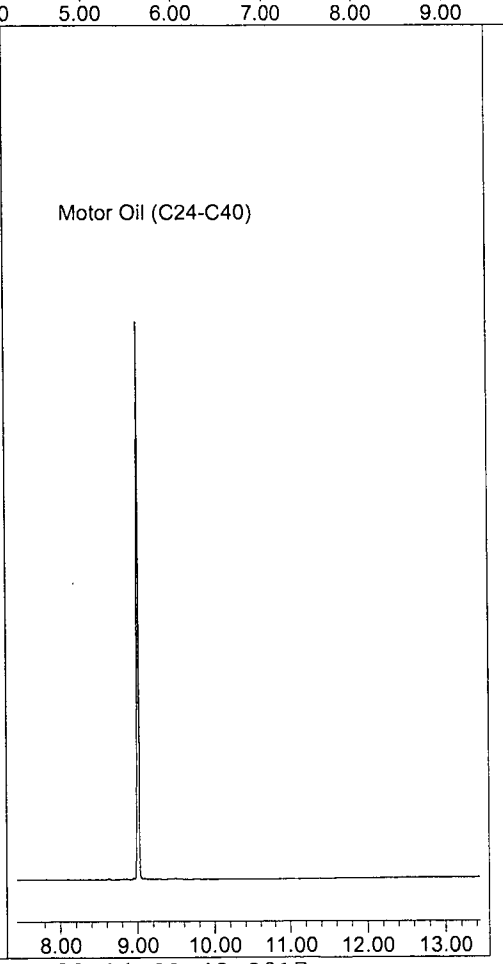
Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303005.D
Sample : THC Surrogate-4 30 ug/mL 3/3/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303006.D Vial: 6
Acq On : 3-3-17 16:19:16 Operator: DP
Sample : THC Surrogate-5 40 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

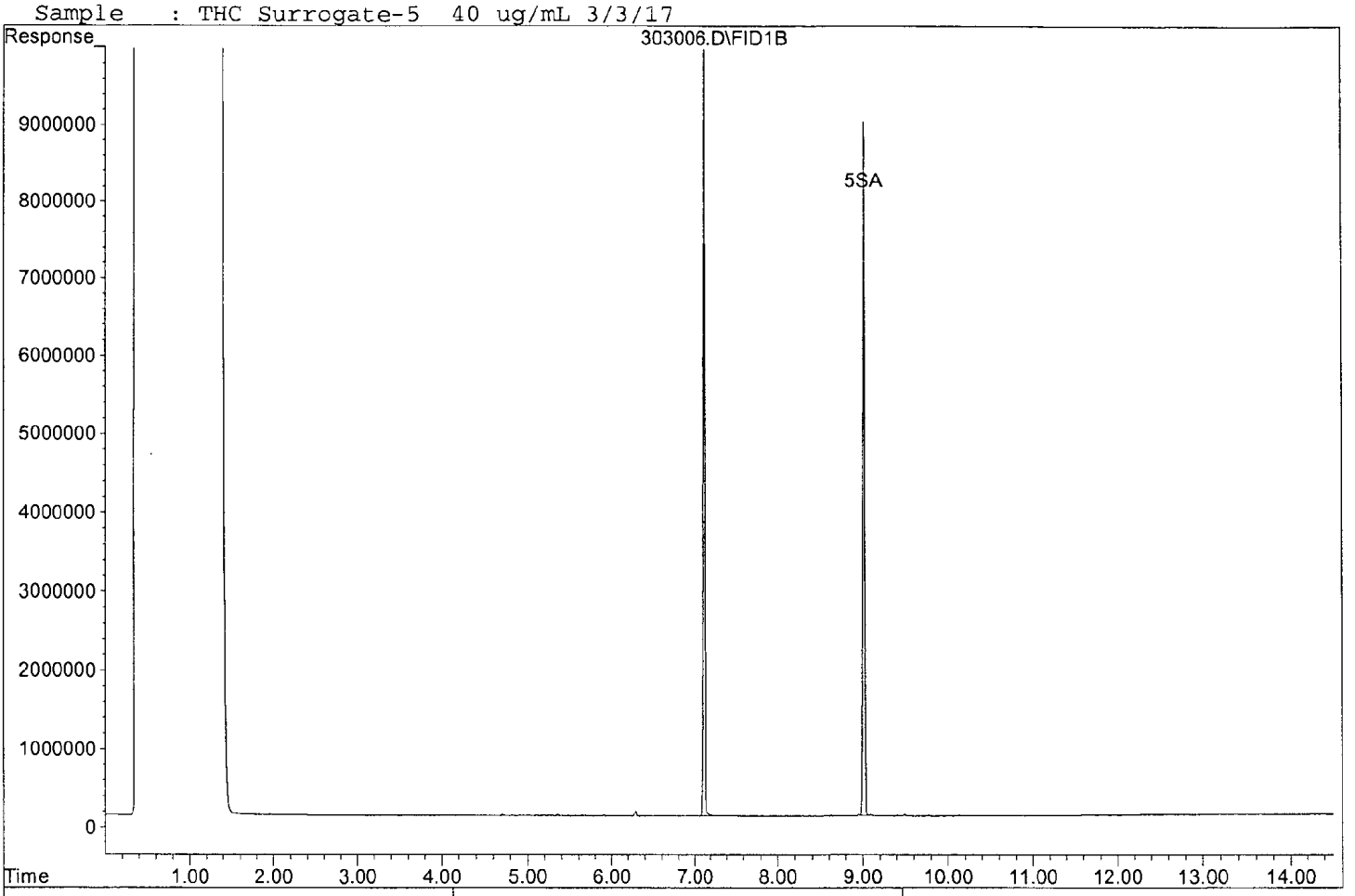
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

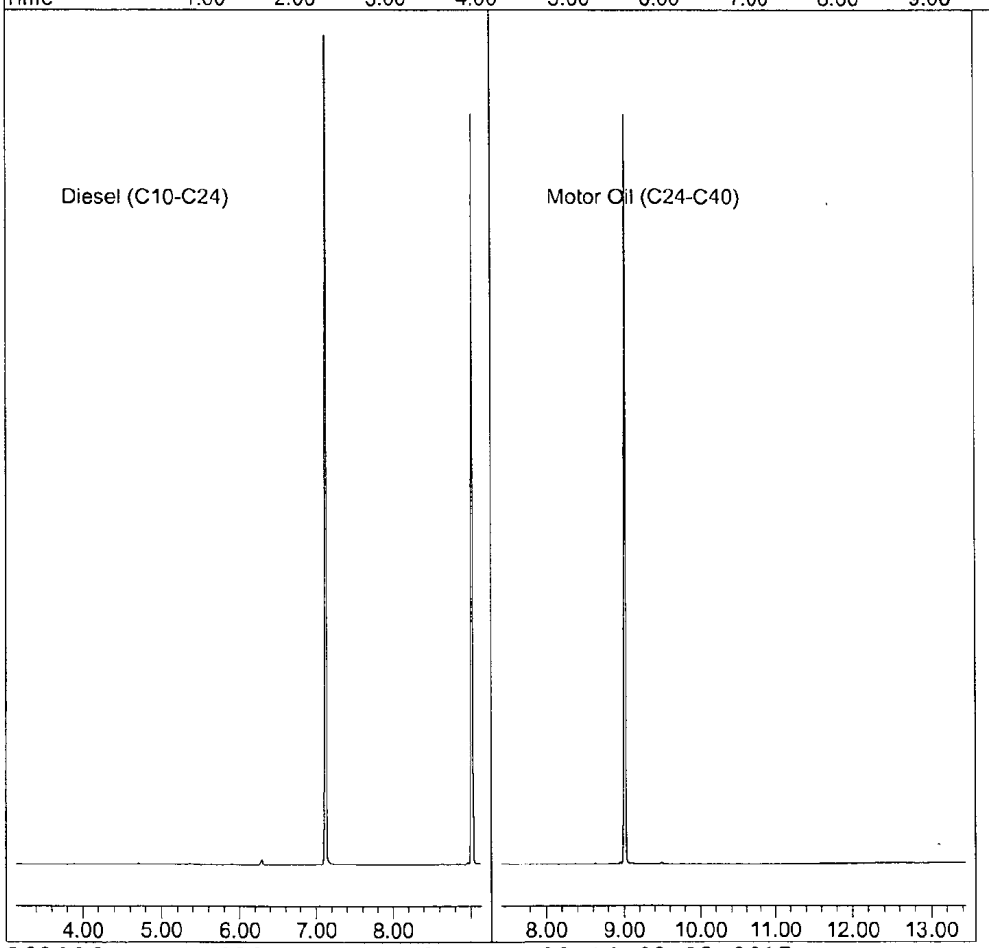
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	146802745	38.291 ppb
Surrogate Spike 30.000		Recovery =	127.64%
5) SA Octacosane(S)	9.02	124259114	38.092 ppb
Surrogate Spike 30.000		Recovery =	126.97%

Target Compounds

Data File: G:\APOLLO\DATA\170303\303006.D
Sample : THC Surrogate-5 40 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303007.D Vial: 7
Acq On : 3-3-17 16:40:03 Operator: DP
Sample : THC Surrogate-6 50 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	192507036	50.212 ppb
Surrogate Spike 30.000		Recovery =	167.37%
5) SA Octacosane(S)	9.03	162603738	49.846 ppb
Surrogate Spike 30.000		Recovery =	166.15%

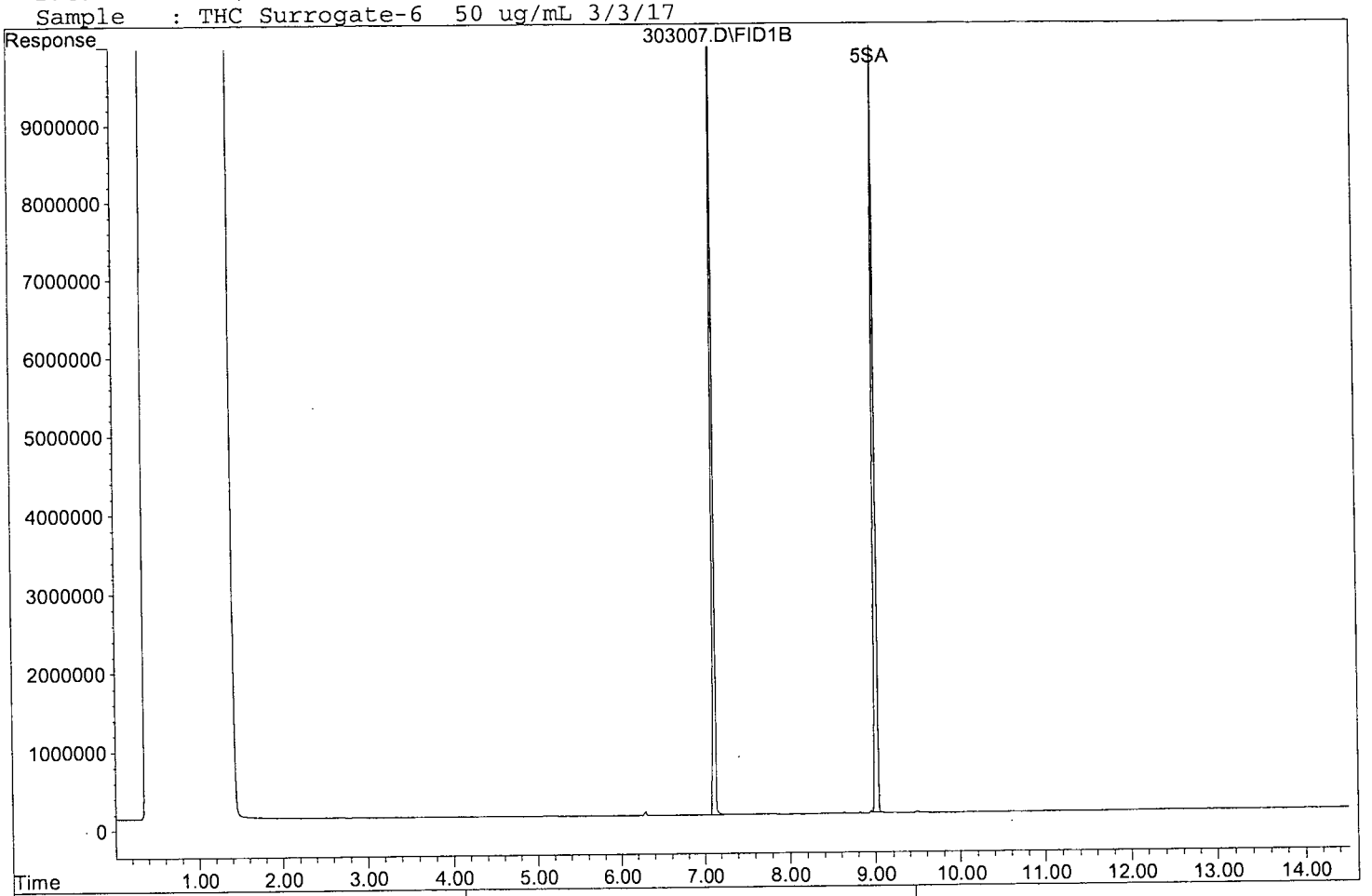
Target Compounds

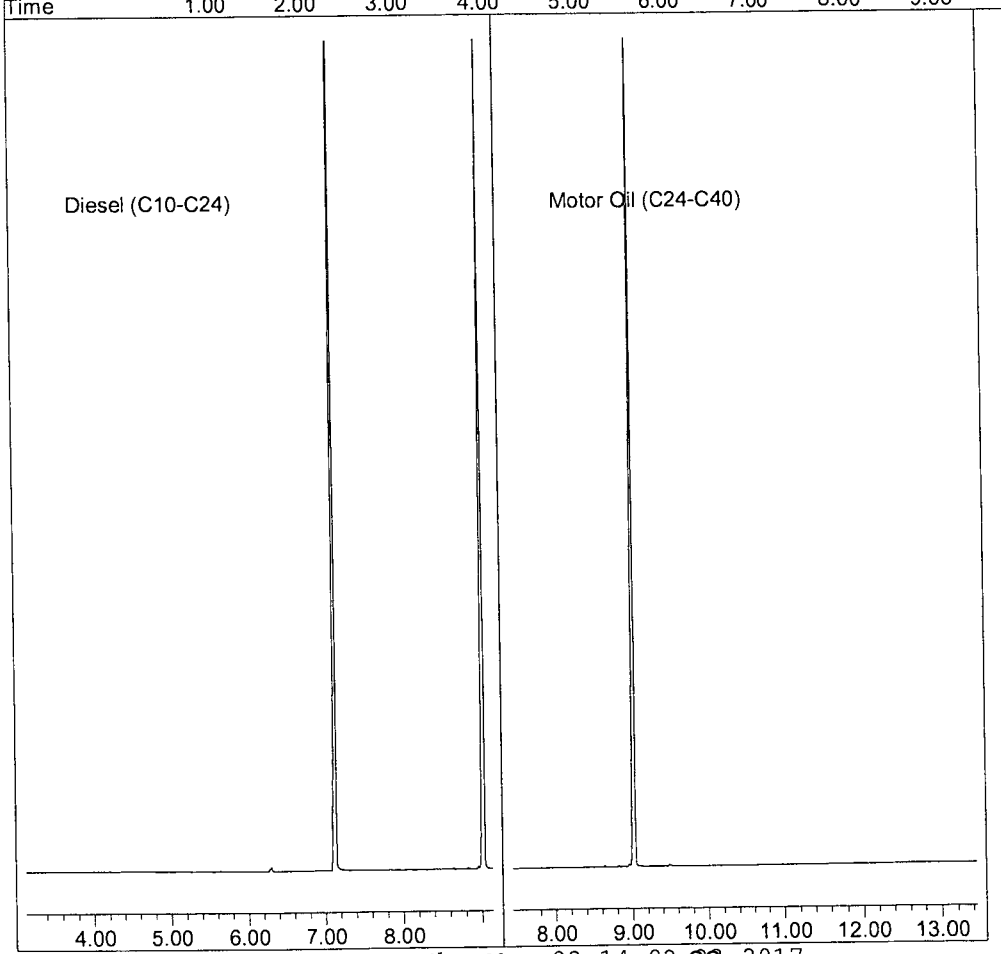
(f)=RT Delta > 1/2 Window (m)=manual int.

303007.D DOC0303.M Thu Mar 09 14:02:21 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303007.D
Sample : THC Surrogate-6 50 ug/mL 3/3/17





TPH Extractables
DOC0303

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 207019.D 207026.D
Diesel: Motor Oil:

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
4							
5							
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38							
39							
40							
		Average			14.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D Vial: 19
Acq On : 2-7-17 15:57:38 Operator: DP
Sample : Diesel-2nd Src 8/1/16 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.888 ppb
Surrogate Spike 30.000	Recovery	=	9.63%
5) SA Octacosane(S)	9.01	2024928	0.621 ppb
Surrogate Spike 30.000	Recovery	=	2.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

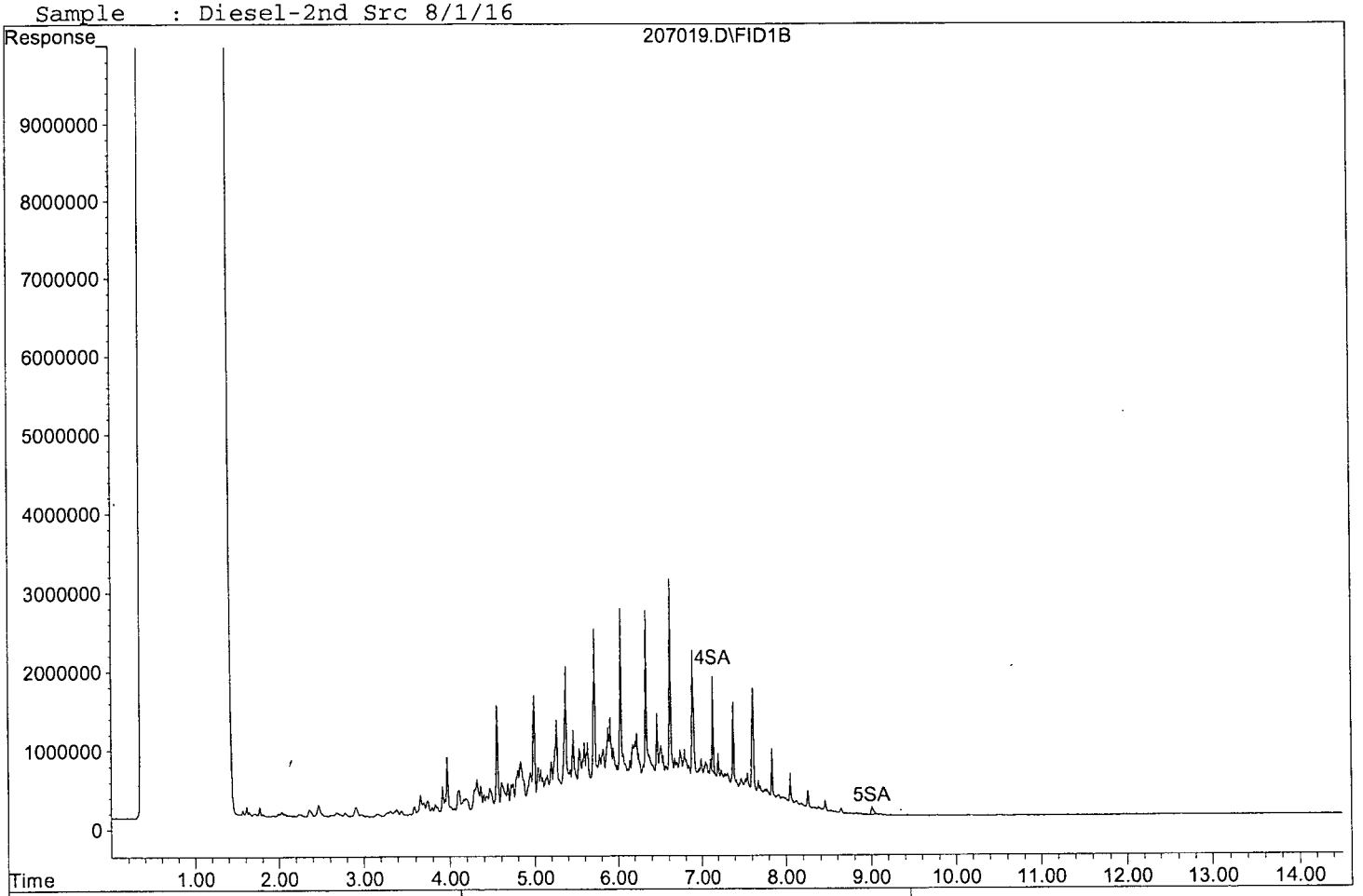
algorithm check
Diesel : $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

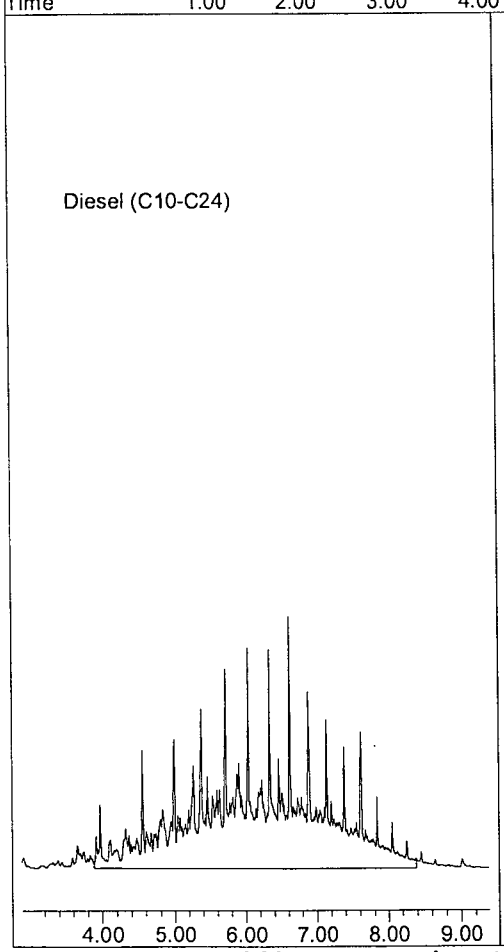
DP 3/9/17

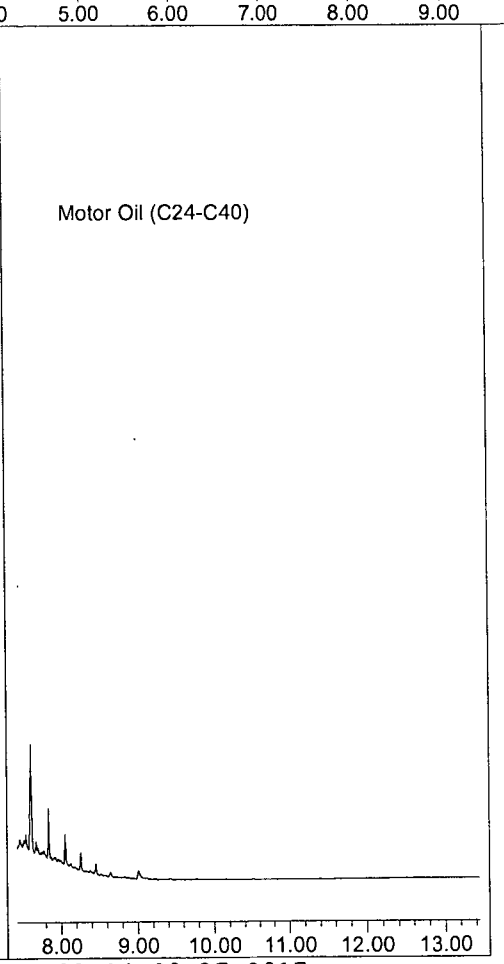
(f)=RT Delta > 1/2 Window (m)=manual int.
207019.D DOC0303.M Thu Mar 09 14:00:35 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

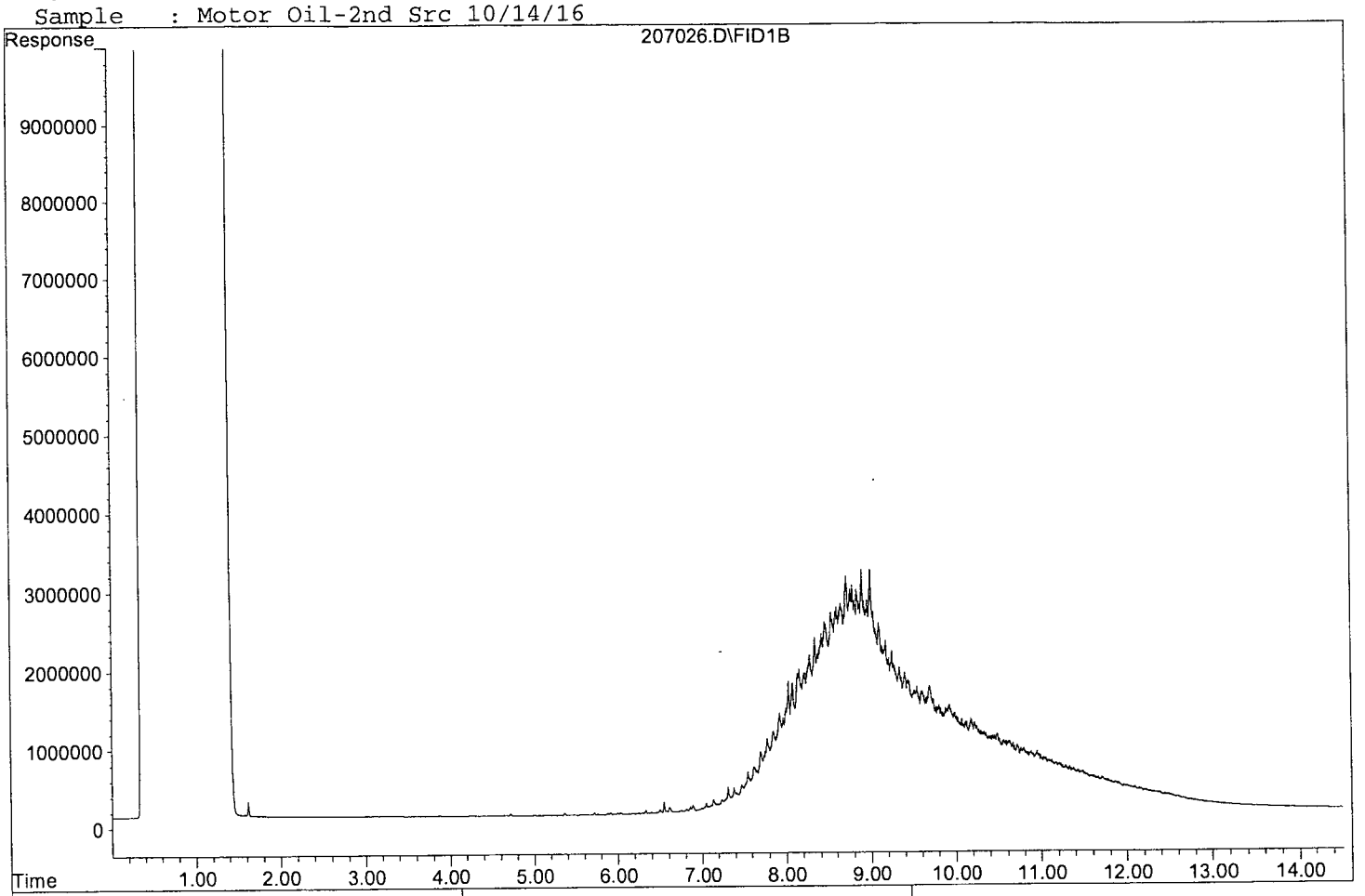
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

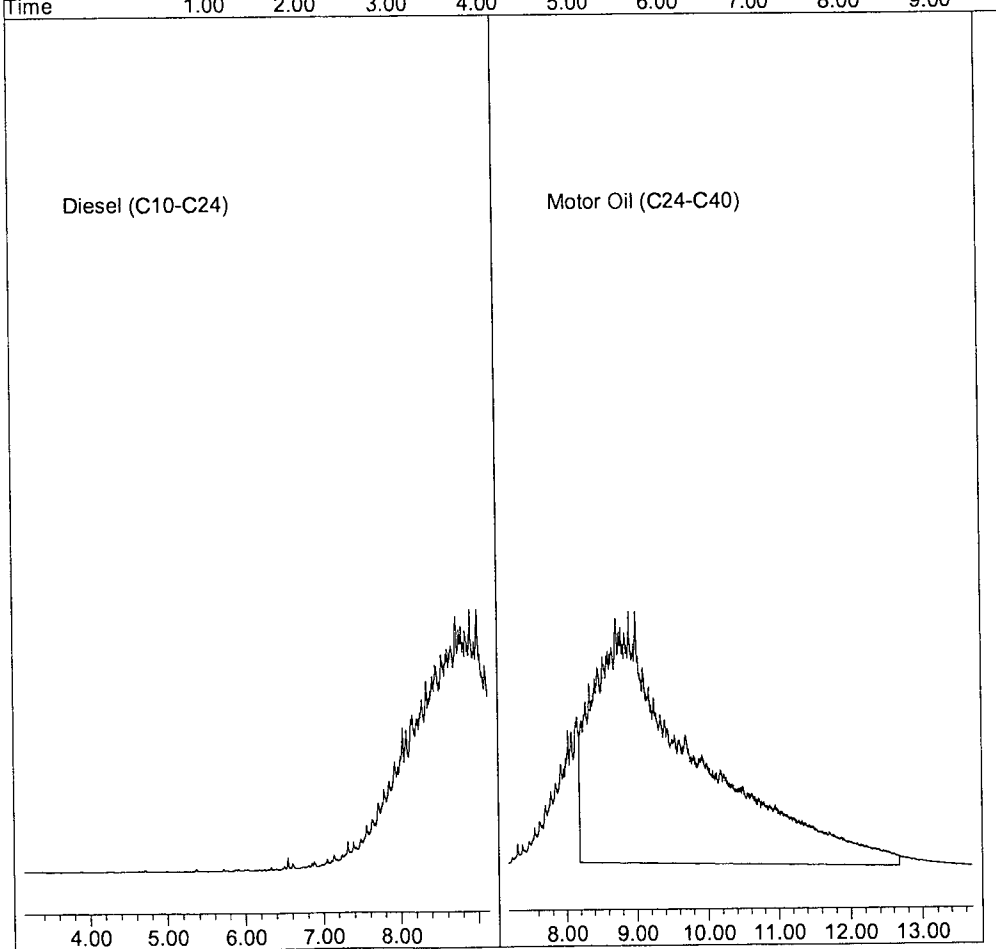
(f)=RT Delta > 1/2 Window (m)=manual int.

207026.D DOC0303.M Thu Mar 09 14:00:18 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





207026.D DOC0303.M Thu Mar 09 14:00:14 2017

TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 314002-3.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1635010	0.09	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1032290	16	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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20							
21							
22							
23							
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25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170314\314002.D Vial: 2
Acq On : 3-14-17 2:07:11 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 14 14:50 2017 Quant Results File: DOC0303.RES

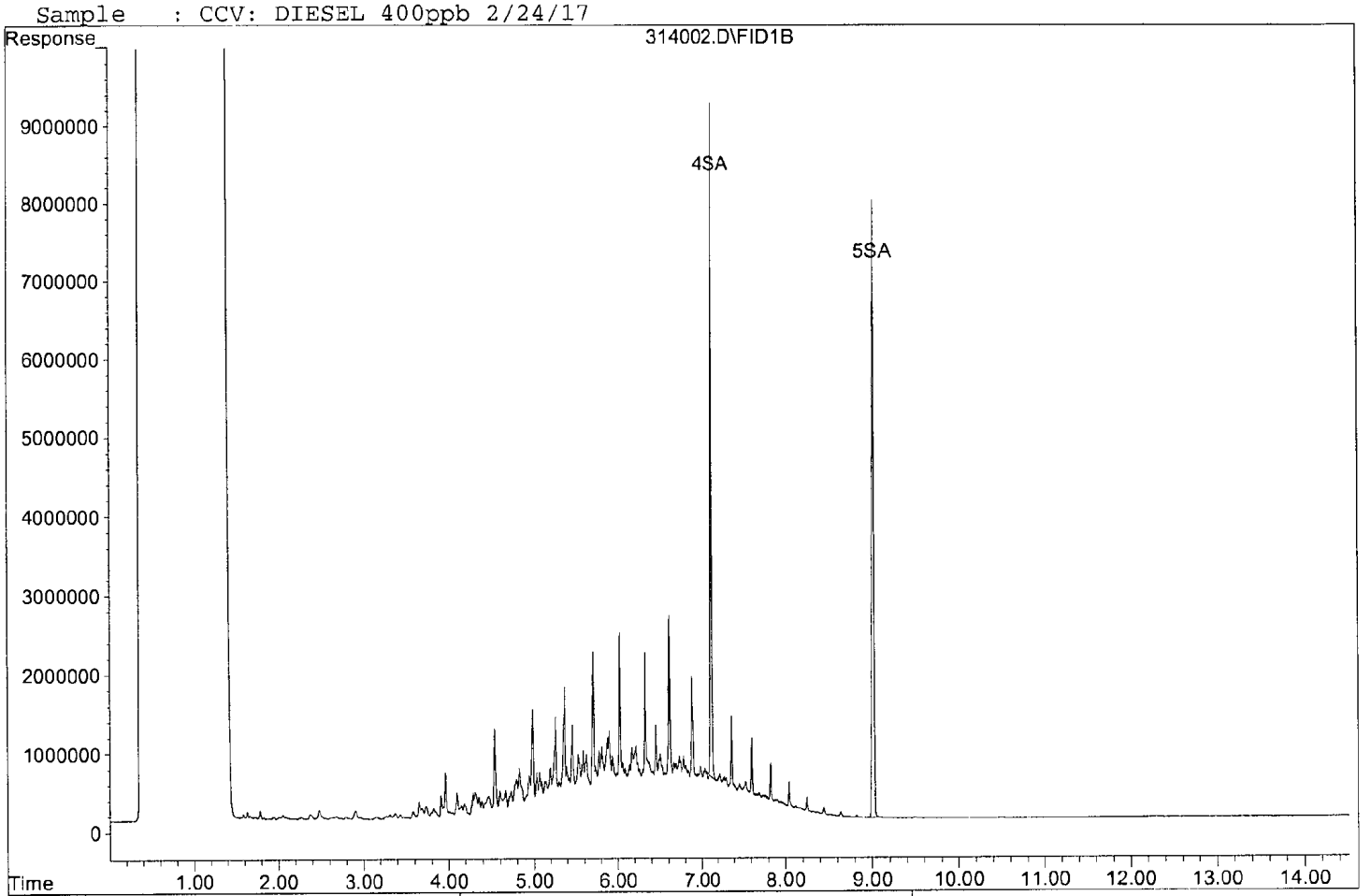
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

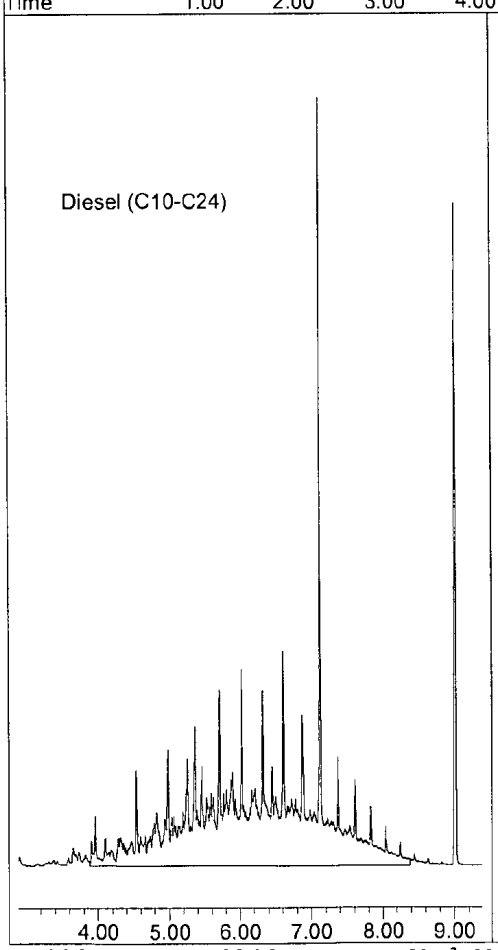
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

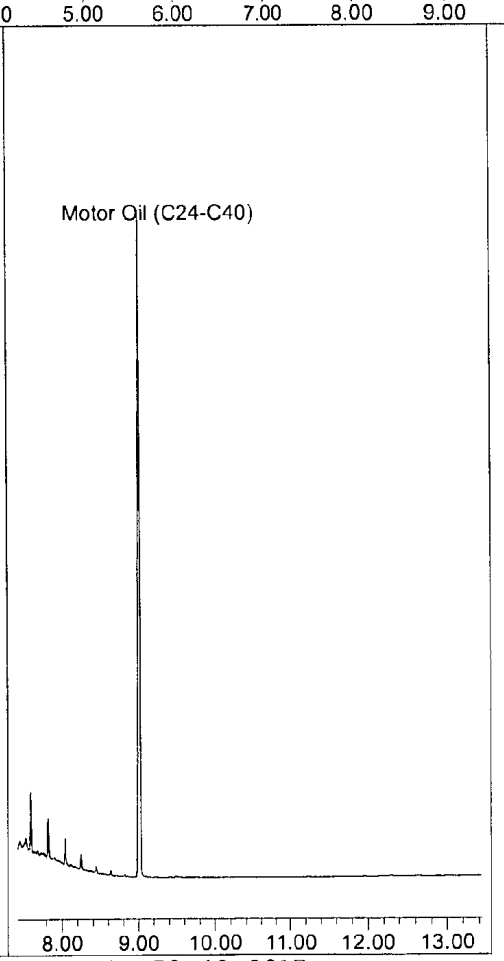
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	85405711	22.277 ppb
Surrogate Spike 30.000		Recovery =	74.26%
5) SA Octacosane(S)	9.02	115644302	35.451 ppb
Surrogate Spike 30.000		Recovery =	118.17%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1308007278	400.363 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170314\314002.D
Sample : CCV: DIESEL 400ppb 2/24/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170314\314003.D Vial: 3
Acq On : 3-14-17 2:28:15 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 14 14:52 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

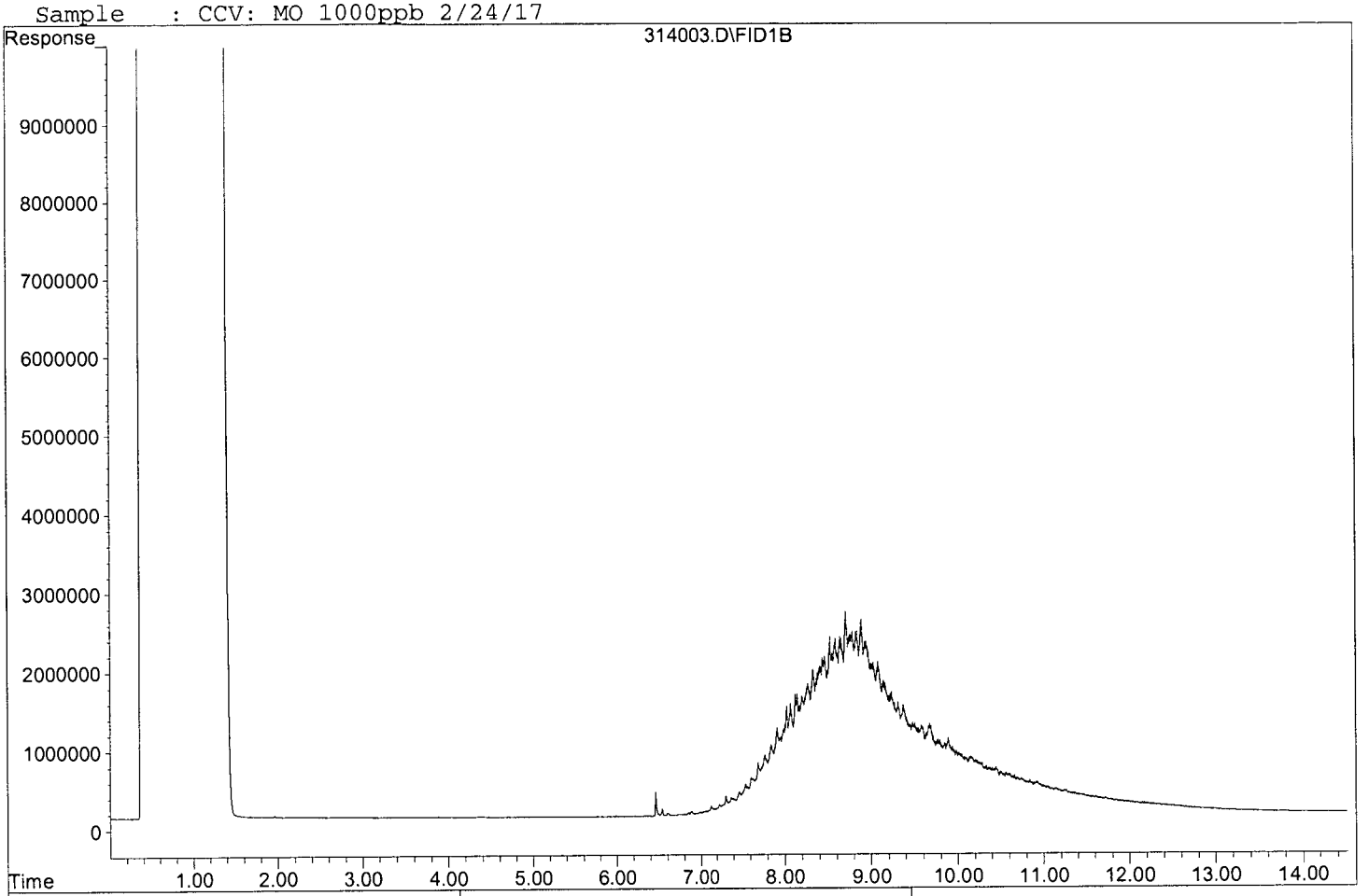
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

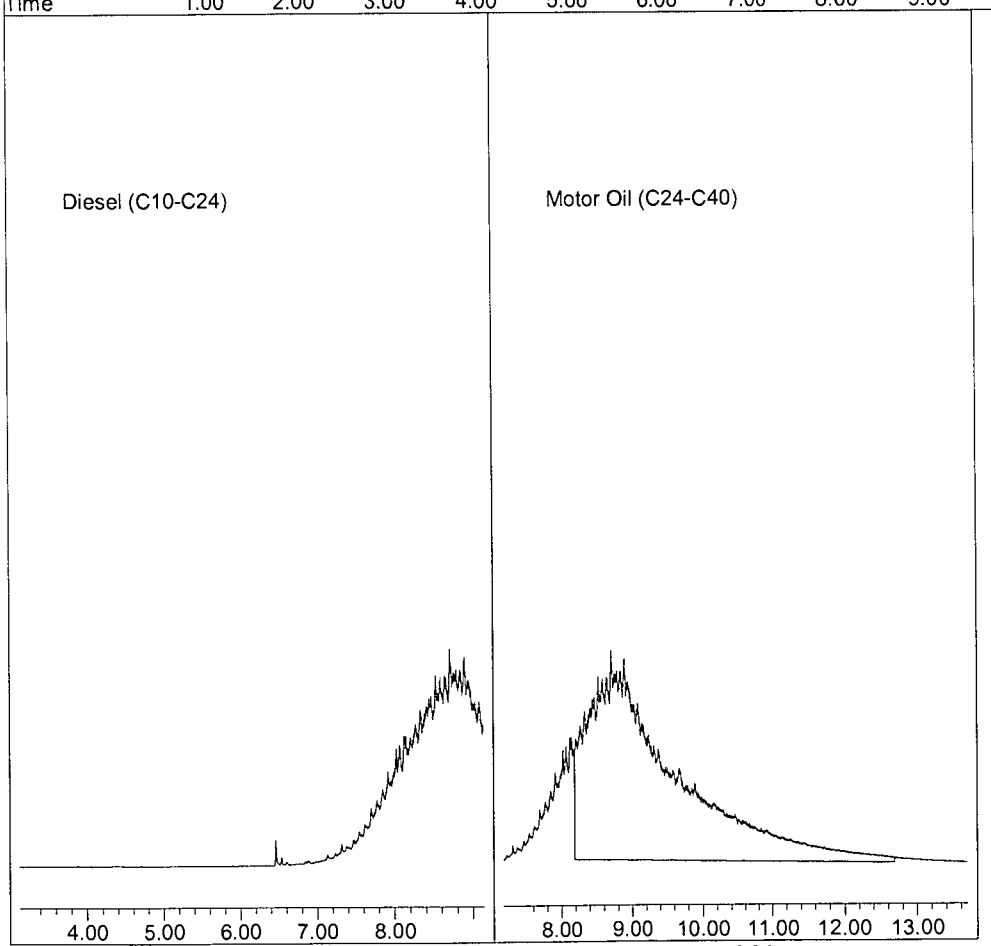
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2064585459	839.737 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170314\314003.D
Sample : CCV: MO 1000ppb 2/24/17





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 314010-11.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1617320	0.99	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1017960	17	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170314\314010.D Vial: 10
Acq On : 3-14-17 4:54:57 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 14 17:33 2017 Quant Results File: DOC0303.RES

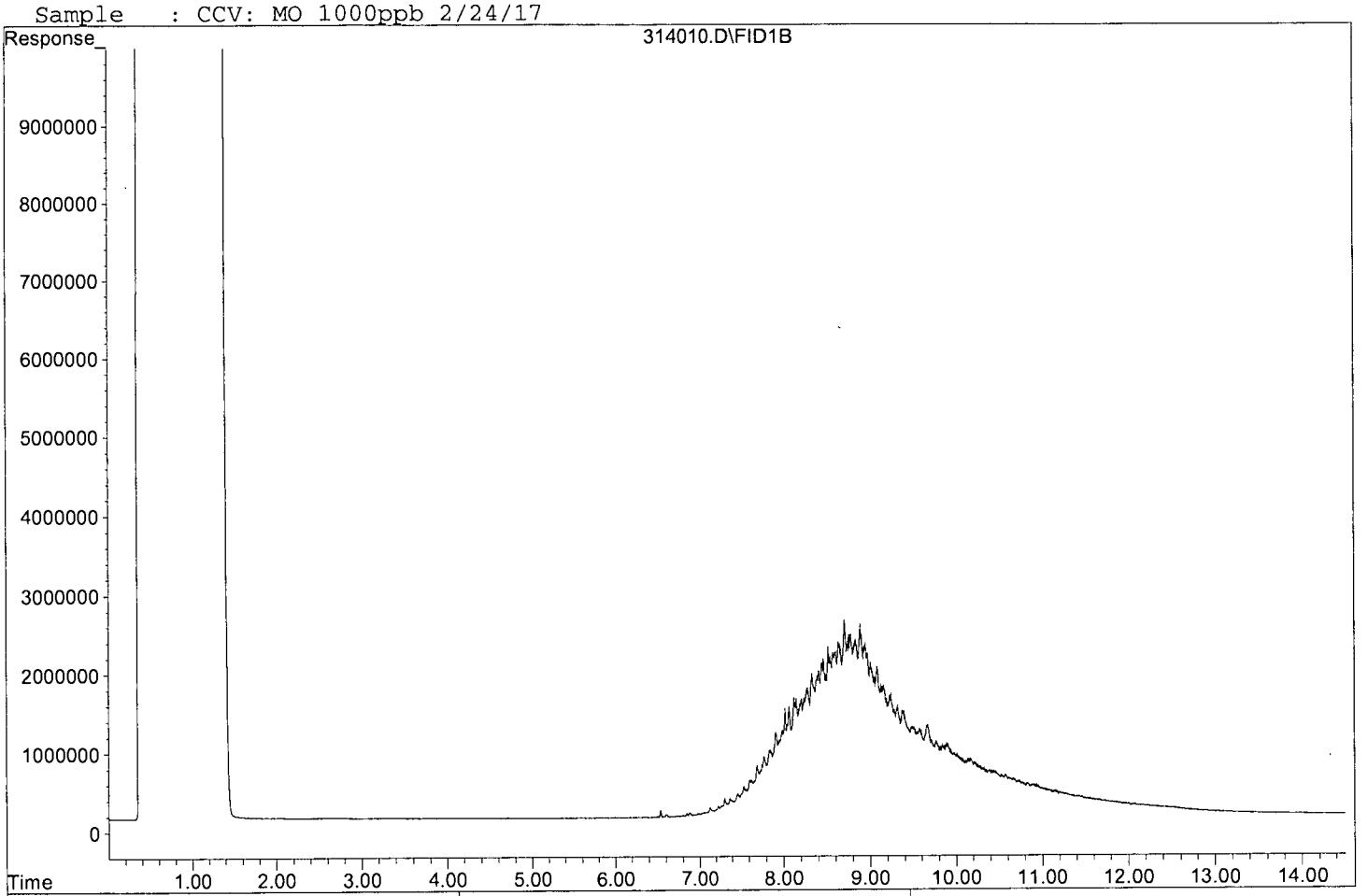
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

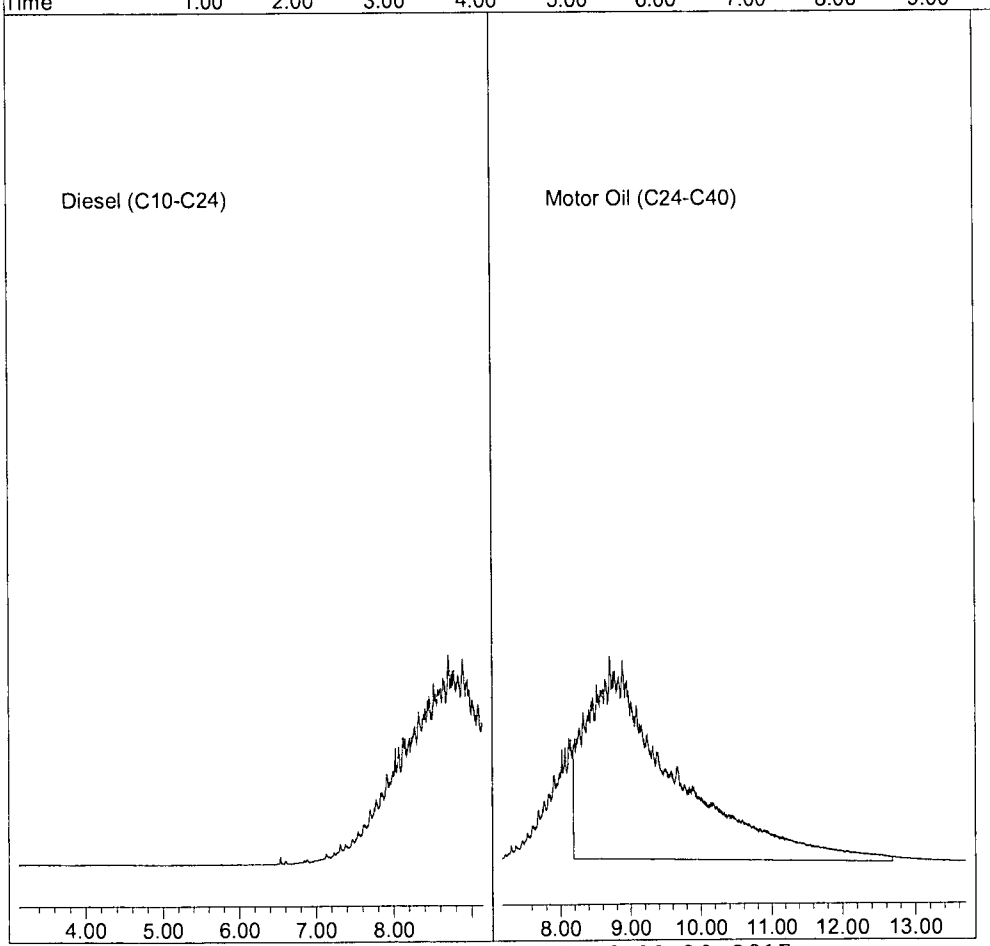
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2035916359	828.077 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170314\314010.D
Sample : CCV: MO 1000ppb 2/24/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170314\314011.D
Vial: 11
Acq On : 3-14-17 5:15:42
Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17
Inst : Apollo
Misc : Mix(A)
Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 14 17:54 2017 Quant Results File: DOC0303.RES

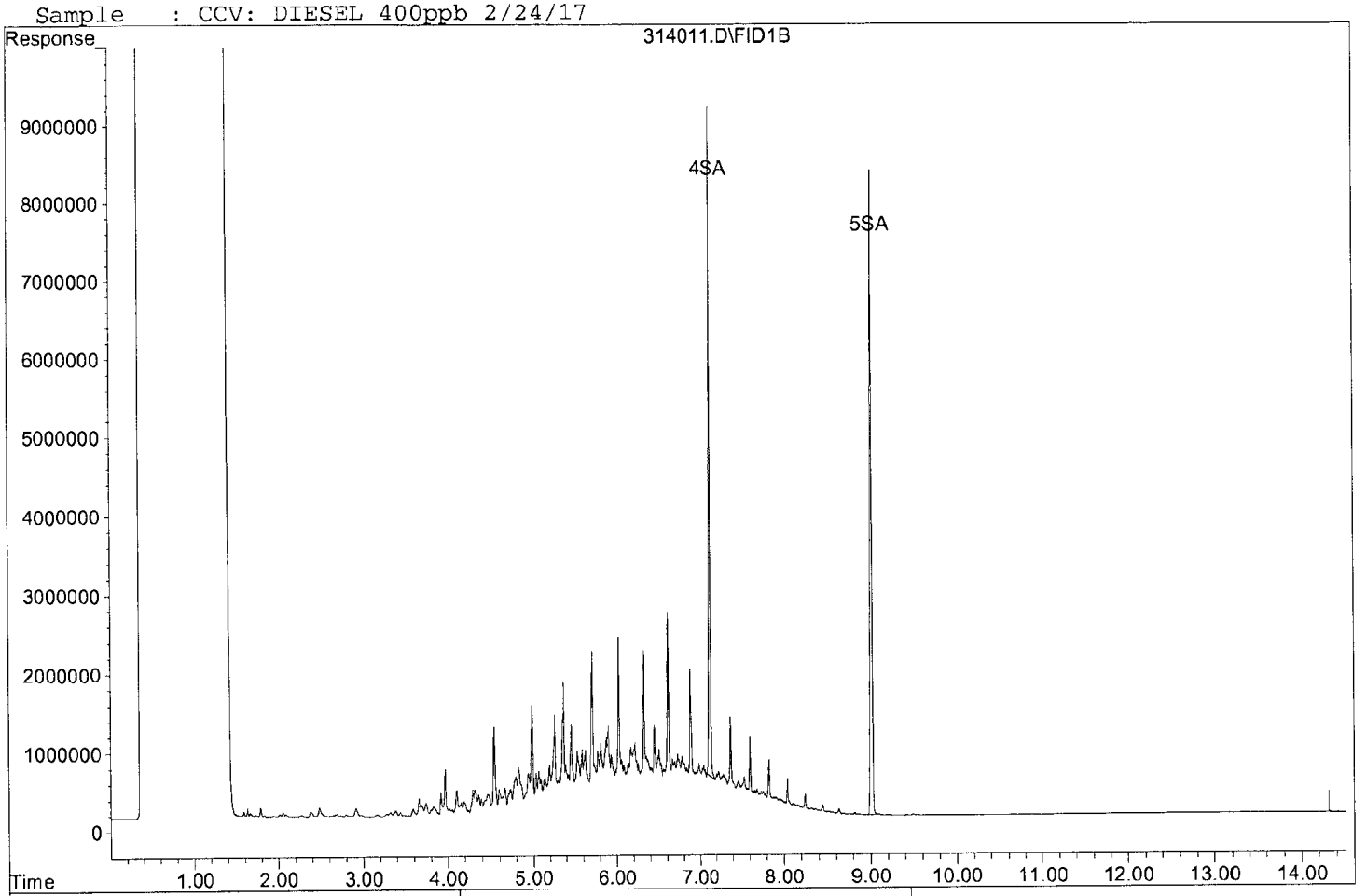
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

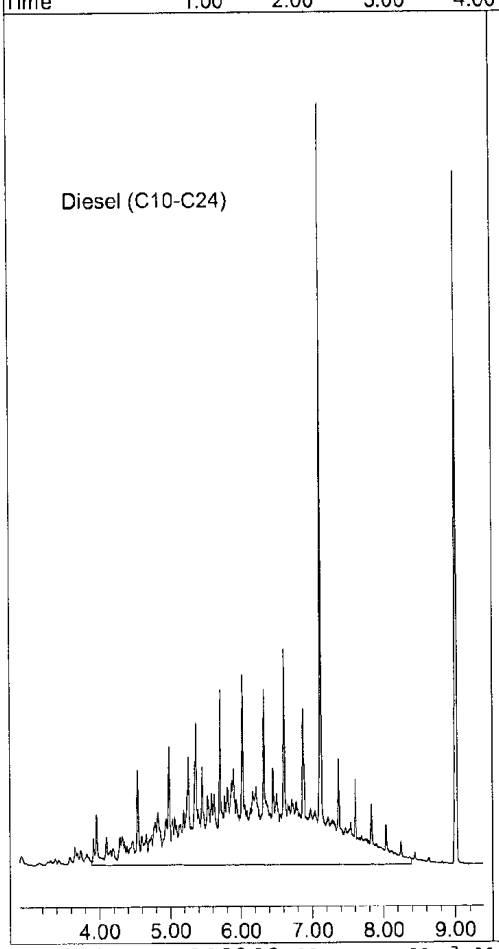
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

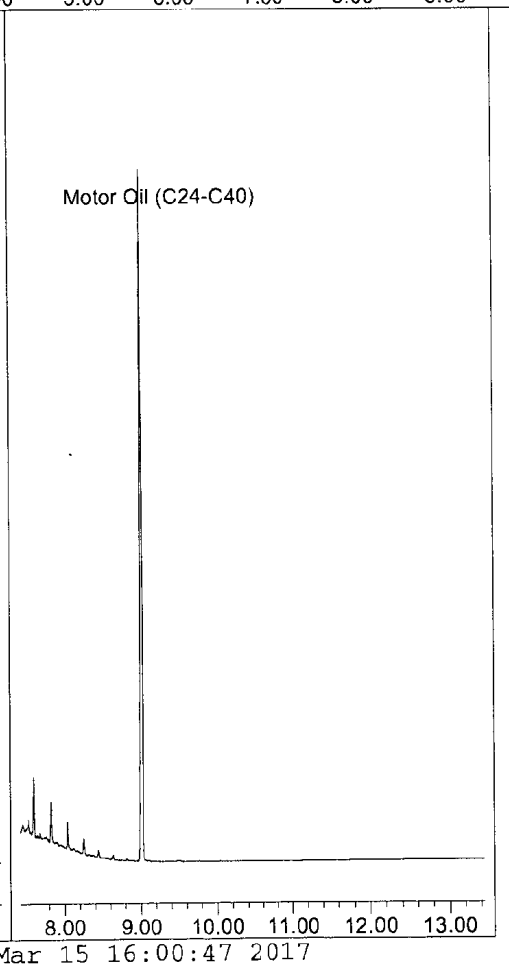
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	86555834	22.577 ppb
Surrogate Spike 30.000		Recovery =	75.26%
5) SA Octacosane(S)	9.02	115337230	35.357 ppb
Surrogate Spike 30.000		Recovery =	117.86%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1293856088	396.032 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170314\314011.D
Sample : CCV: DIESEL 400ppb 2/24/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51053 - 216893**
Batch ID: #DOC53-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/14/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/14/17
BLANK	SURROGATE: OCTACOSANE (S)	85.1	60-142			%	03/10/17	03/14/17
BLANK	SURROGATE: ORTHO-TERPHEN	77.5	56-125			%	03/10/17	03/14/17

Quant Method: DOC0303.M
Run #: 314004
Instrument: Apollo
Sequence: 170314
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 5:16:03 PM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170314\314004.D
Acq On : 3-14-17 2:49:30
Sample : 170310A BLK 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 14 17:11 2017 Quant Results File: DOC0303.RES

Vial: 4
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

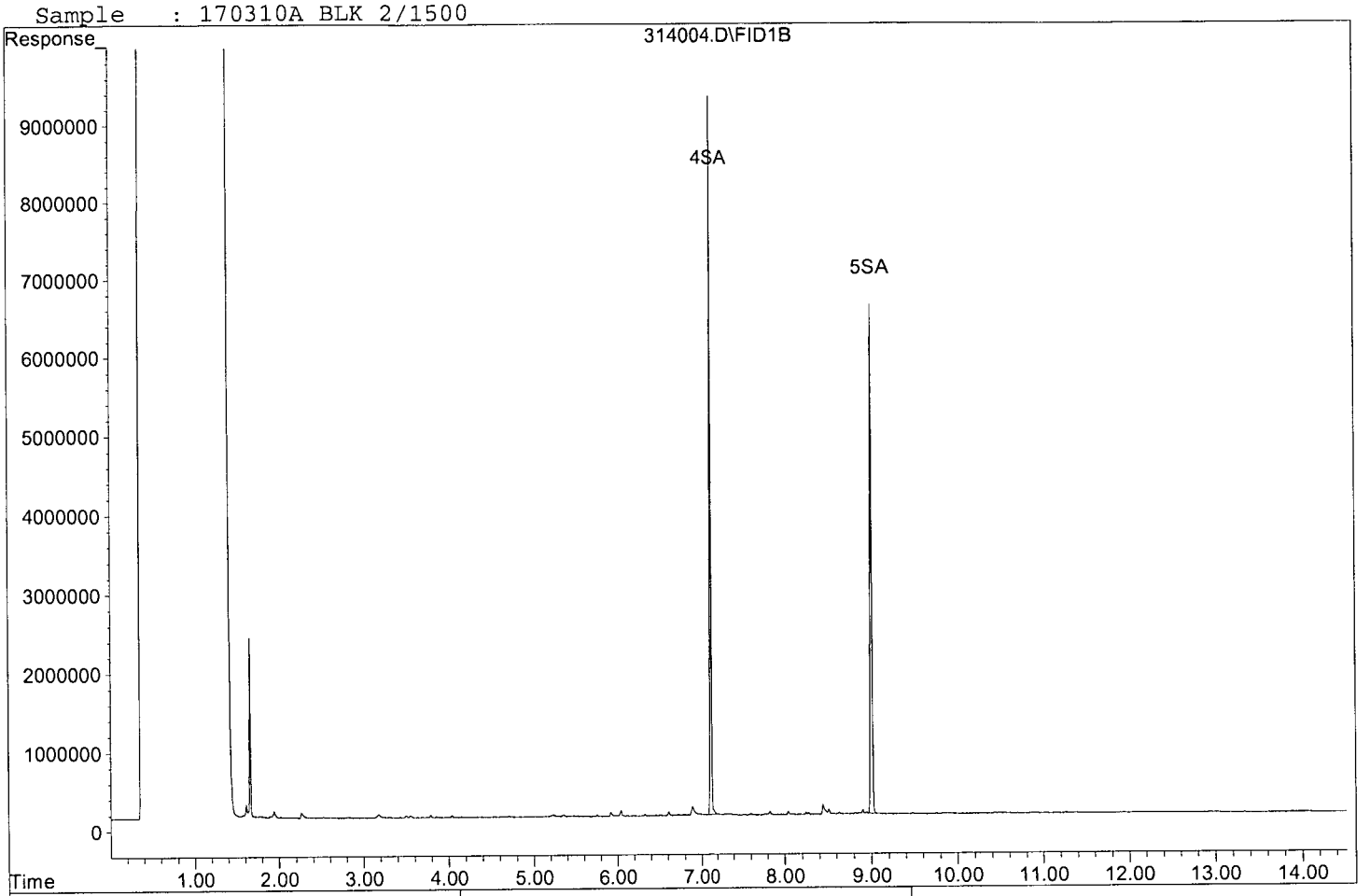
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

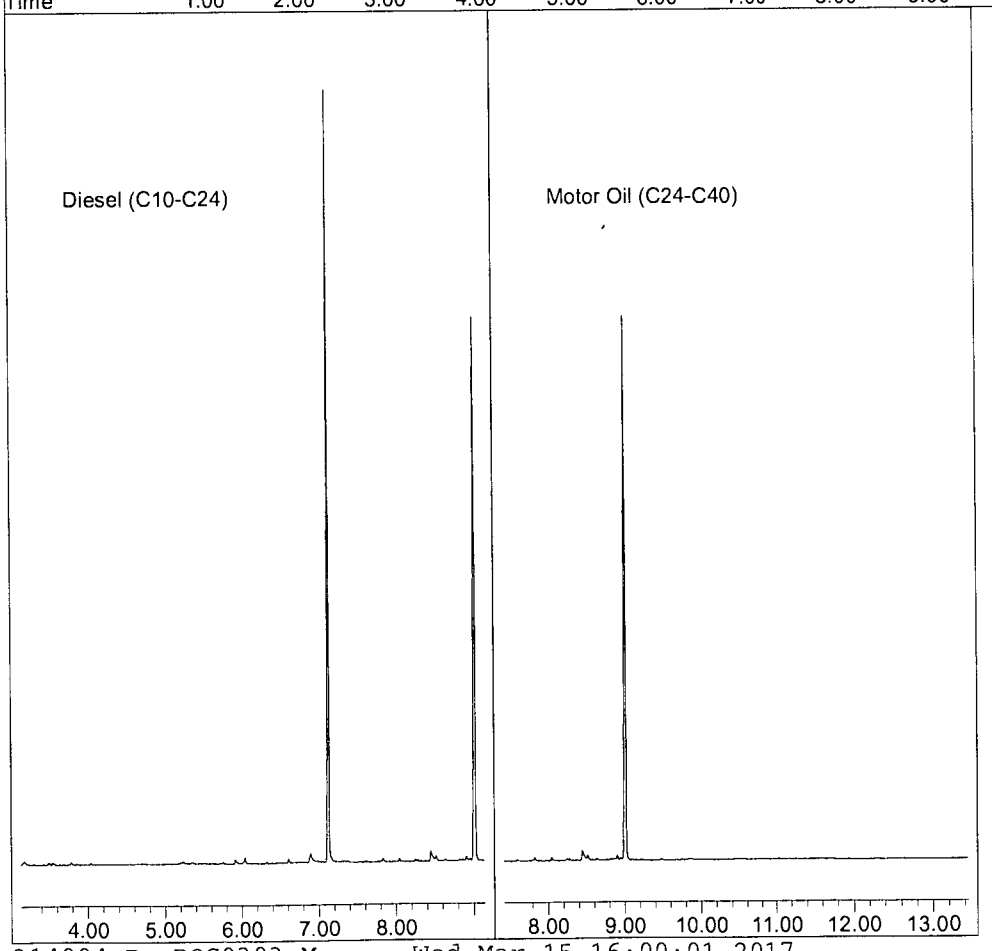
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	89134155	30.999 ppb
Surrogate Spike 40.000		Recovery =	77.50%
5) SA Octacosane(S)	9.01	83269918	34.035 ppb
Surrogate Spike 40.000		Recovery =	85.09%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170314\314004.D
Sample : 170310A BLK 2/1500





314004.D DOC0303.M Wed Mar 15 16:00:01 2017

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170310W-51053 LCS - 216893**
Batch ID: #DOC53-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	367	55.0	36-132
OIL (C24-C40)	667	436	65.4	41-113
SURROGATE: OCTACOSANE (S)	40.0	33.1	82.8	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	38.9	97.3	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/14/17
Instrument :	Apollo
Run :	314005
Initials :	DPO

Printed: 03/14/17 5:15:58 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170314\314005.D
Acq On : 3-14-17 3:10:47
Sample : 170310A LCS-1 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 14 15:36 2017 Quant Results File: DOC0303.RES

Vial: 5
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

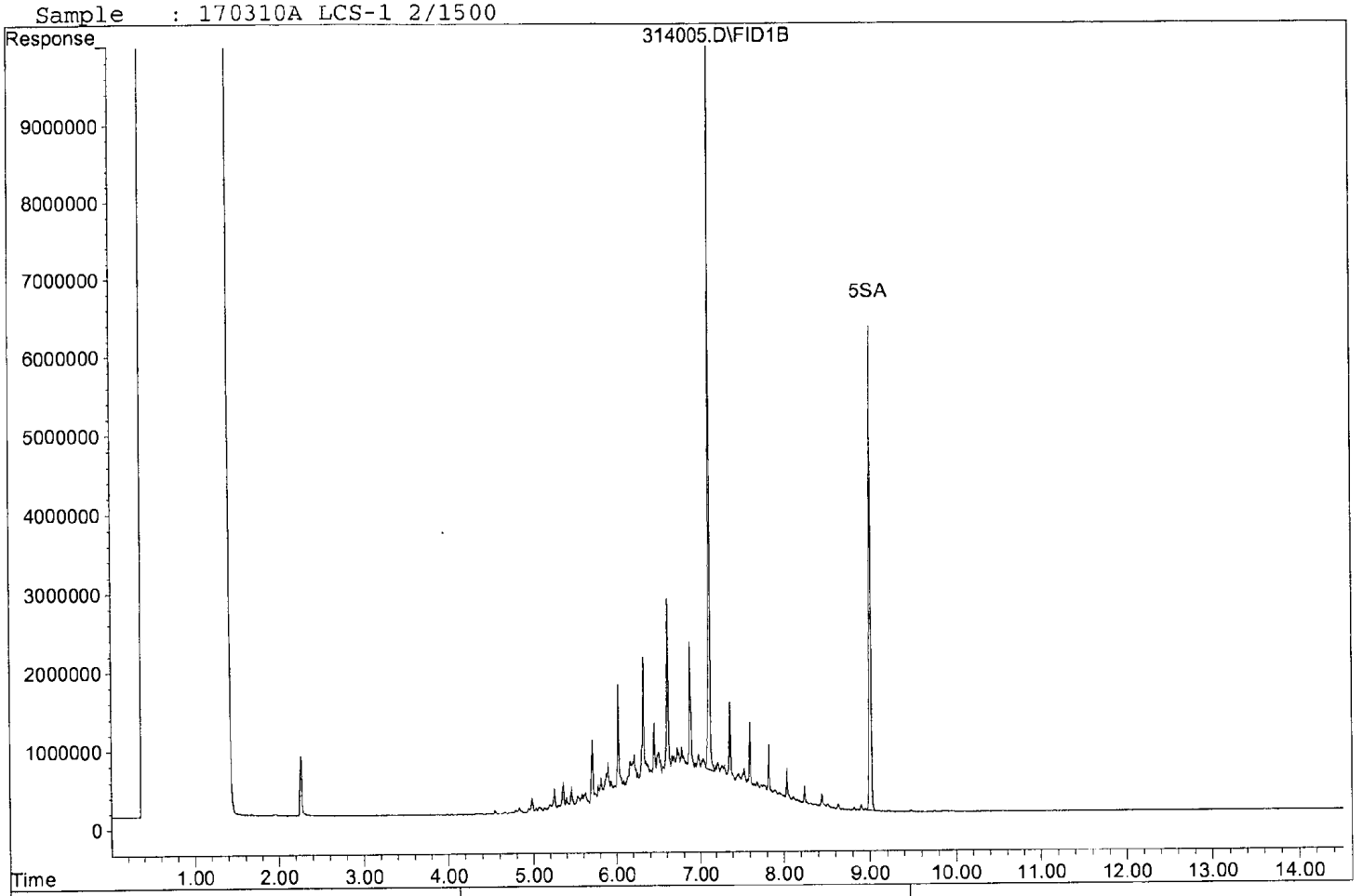
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

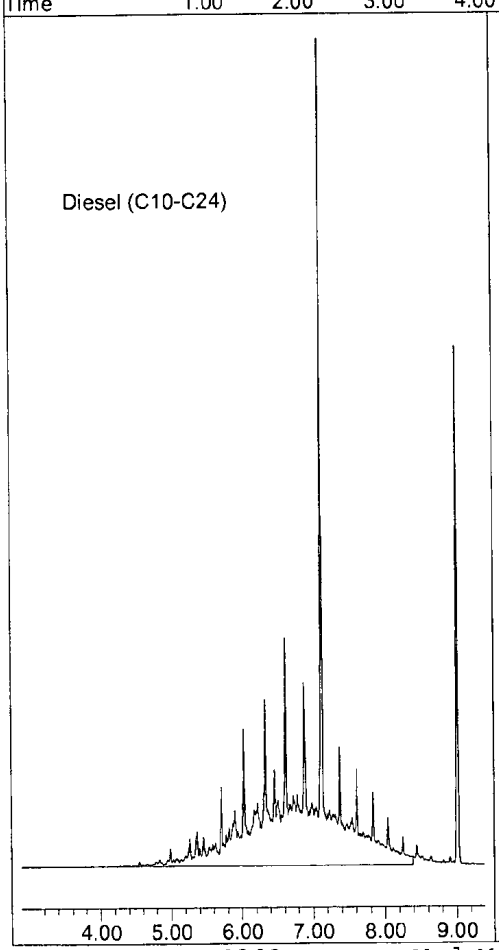
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	111764244	38.869 ppb
Surrogate Spike 40.000		Recovery =	97.17%
5) SA Octacosane(S)	9.01	80926997	33.078 ppb
Surrogate Spike 40.000		Recovery =	82.70%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	900345821	367.444 ppb

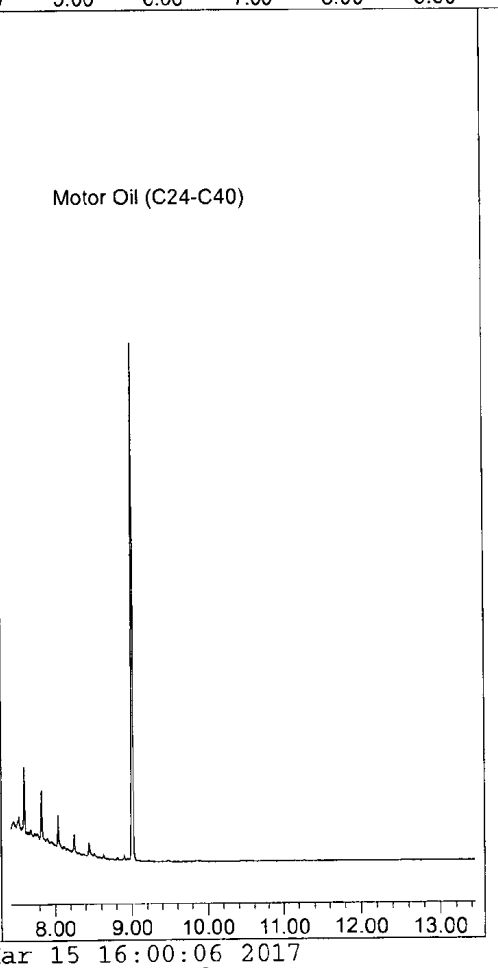
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170314\314005.D
Sample : 170310A LCS-1 2/1500







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170314\314006.D
Acq On : 3-14-17 3:31:39
Sample : 170310A LCS-2 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 14 15:52 2017 Quant Results File: DOC0303.RES

Vial: 6
Operator: DP
Inst : Apollo
Multiplr: 1.33

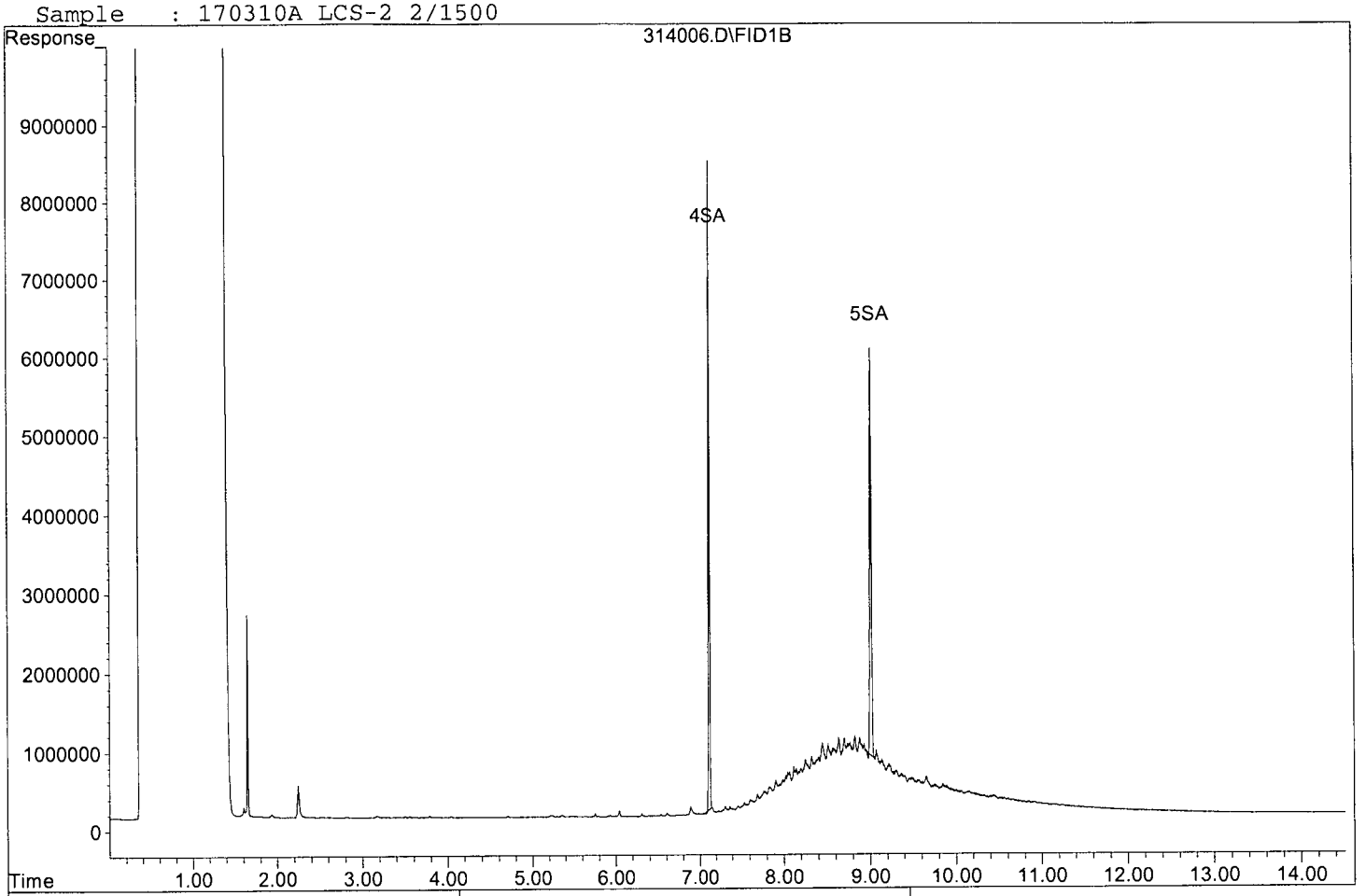
Method : G:\APOLLO\DATA\170314\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 14 15:10:37 2017
Response via : Multiple Level Calibration

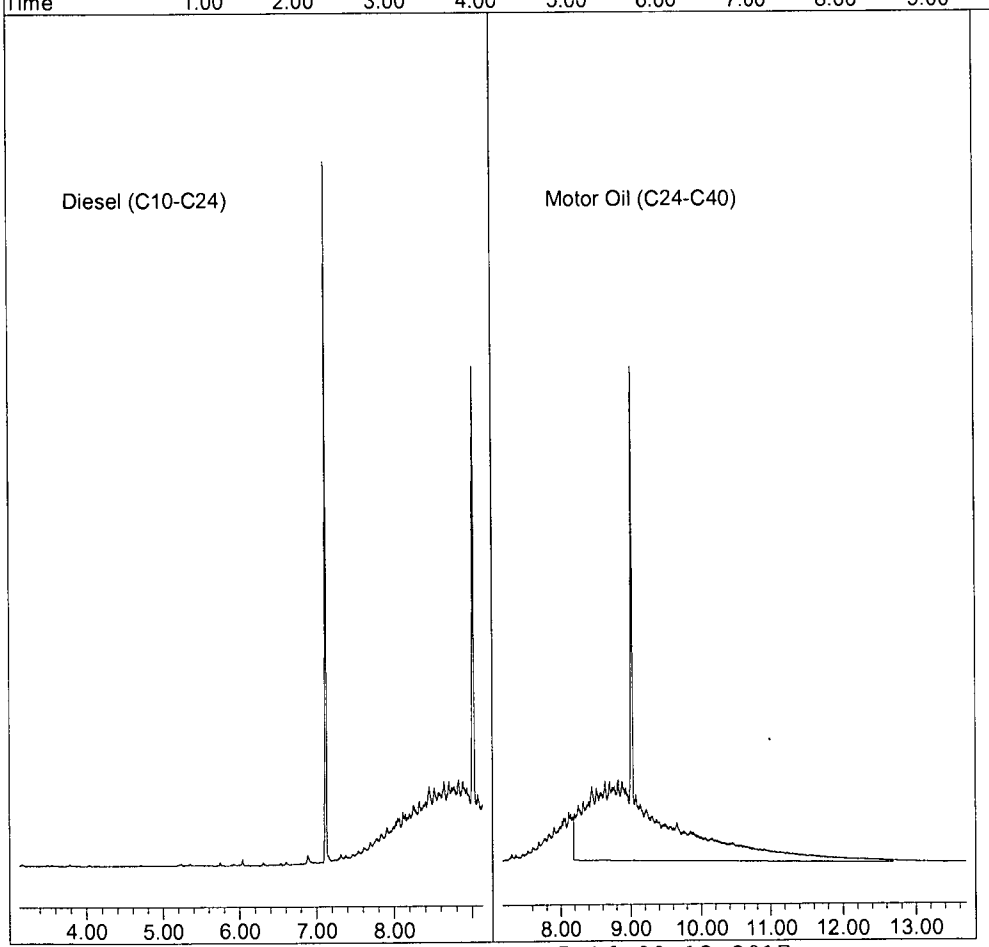
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	76545585	26.621 ppb
Surrogate Spike 40.000	Recovery	=	66.55%
5) SA Octacosane(S)	9.02	65637652	26.828 ppb
Surrogate Spike 40.000	Recovery	=	67.07%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	803096978	435.528 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170314\314006.D
Sample : 170310A LCS-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

THC Surrogate Curve		prep: 03/03/17-D.P.		exp: 06/03/17		2	3	4	5	6
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
THC Surrogate Mix	600	295677 and 266278	03/02/17	03/02/18	10	10	40	60	80	83.33
MC	N/A	56153			990	90	60	40	20	916.67
				Final VOL.	1000	100	100	100	100	1000
				Conc (ug/mL)	0.5	5	20	30	40	50

DIESEL CCV 400ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	4000 µL	10 mL	400 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	02/07/18				

MOTOR OIL CCV 1000ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

Diesel Spike	
Cat:	011598-03
Lot:	280736-37355
Op:	02/23/17-D.P.
Exp:	02/23/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34440
Op: 02/23/17-D.P.
Exp: 11/09/17

THC Surrogate	
Cat:	110316-05
Lot:	295677-37410
Op:	02/23/17-DP
Exp:	02/23/18

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/10/17 12:35
Spiked ID 8			Ext. End Time:	03/14/17 13:45
			GC Requires Extract By:	**03/13/17 0:00**

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB3				
2	170310A LCS-1		0.020	1	0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB1				
3	170310A LCS-2		0.020	2	0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB2				
4	AZ51053	AZ51053W12			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB2				
5	AZ51054	AZ51054W08			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB3				
6	AZ51056	AZ51056W14			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB1				
7	AZ51132 MS-1	AZ51132W23	0.020	1	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
8	AZ51132 MSD-1	AZ51132W31	0.020	1	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
9	AZ51132 MS-2	AZ51132W27	0.020	2	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB1				
10	AZ51132 MSD-2	AZ51132W20	0.020	2	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
11	AZ51132	AZ51132W29			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
12	AZ51133	AZ51133W07			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
13	AZ51135	AZ51135W27			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
14	AZ51136	AZ51136W10			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB1				
15	AZ51139	AZ51139W13			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
16	AZ51141	AZ51141W12			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DL
Date	3/14/17
Time	4:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: KY **Date** 3/14/17

106

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 12:35	
Spiked ID 8			Ext. End Time:	03/14/17 13:45	
			GC Requires Extract By:	**03/13/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51357	AZ51357W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
18	AZ51359	AZ51359W11			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
19	AZ51360	AZ51360W06			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
20	AZ51362	AZ51362W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB3				
21	AZ51364	AZ51364W10			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
22	AZ51530	AZ51530W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
23	AZ51533	AZ51533W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB1				
24	AZ51535	AZ51535W10			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
25	AZ51536	AZ51536W06			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB2				

Ky 3/14/17

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: Ky **Date** 3/14/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	303002.D	1	THC Surrogate-1 0.5 ug/mL 3/3/17	Mix(A)	3-3-17 14:55:47
16	3	303003.D	1	THC Surrogate-2 5.0 ug/mL 3/3/17	Mix(A)	3-3-17 15:16:38
17	4	303004.D	1	THC Surrogate-3 20 ug/mL 3/3/17	Mix(A)	3-3-17 15:37:25
18	5	303005.D	1	THC Surrogate-4 30 ug/mL 3/3/17	Mix(A)	3-3-17 15:58:18
19	6	303006.D	1	THC Surrogate-5 40 ug/mL 3/3/17	Mix(A)	3-3-17 16:19:16
20	7	303007.D	1	THC Surrogate-6 50 ug/mL 3/3/17	Mix(A)	3-3-17 16:40:03
21	2	314002.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-14-17 2:07:11
22	3	314003.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-14-17 2:28:15
23	4	314004.D	1.33333	170310A BLK 2/1500	water	3-14-17 2:49:30
24	5	314005.D	1.33333	170310A LCS-1 2/1500	water	3-14-17 3:10:47
25	6	314006.D	1.33333	170310A LCS-2 2/1500	water	3-14-17 3:31:39
26	7	314007.D	1.33333	AZ51053W12 2/1500	water	3-14-17 3:52:30
27	8	314008.D	1.33333	AZ51054W08 2/1500	water	3-14-17 4:13:18
28	9	314009.D	1.33333	AZ51056W14 2/1500	water	3-14-17 4:34:05
29	10	314010.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-14-17 4:54:57
30	11	314011.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-14-17 5:15:42

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216880**
Batch ID: #SIMDO-170309B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.9	53-106			%	03/09/17	03/13/17
BLANK	SURROGATE: NITROBENZENE-	64.7	55-111			%	03/09/17	03/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	80.6	58-132			%	03/09/17	03/13/17

Quant Method:L0303P.M
Run #:0301L188
Instrument:Linus
Sequence:L170301
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 2:34:02 PM

Laboratory Control Spike Recovery

EPA 8270D SIM

APPL ID: **170309W-51132 LCS - 216880**
Batch ID: #SIMDO-170309B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.70	74.0	41-115
2-METHYLNAPHTHALENE	5.00	3.83	76.6	39-114
NAPHTHALENE	5.00	3.25	65.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.36	67.2	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.63	72.6	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.88	77.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0303P.M
Extraction Date :	03/09/17
Analysis Date :	03/13/17
Instrument :	Linus
Run :	0301L189
Initials :	RHA

Printed: 03/14/17 2:33:56 PM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER

SDG No: 82337
Date Analyzed: 03/13/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309B-BLK	Blank	53-106	62.9		55-111	64.7	
170309B-LCS	Lab Control Spike	53-106	67.2		55-111	72.6	
AZ51053	ERH253	53-106	53.3		55-111	56.6	
AZ51054	ERH254	53-106	61.3		55-111	65.3	
AZ51056	ERH260	53-106	57.9		55-111	60.0	

Comments: Batch: #SIMDO-170309B

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82337

Case No: 82337 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309B-BLK	Blank	58-132	80.6				
170309B-LCS	Lab Control Spike	58-132	77.6				
AZ51053	ERH253	58-132	66.0				
AZ51054	ERH254	58-132	75.8				
AZ51056	ERH260	58-132	68.4				

Comments: Batch: #SIMDO-170309B

Printed: 03/14/17 2:33:59 PM

Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER
Blank ID: 170309B-BLK

SDG No: 82337
Date Analyzed: 03/13/17
Instrument: Linus
Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309B-BLK	Blank	0301L188	03/13/17 1917
170309B-LCS	Lab Control Spike	0301L189	03/13/17 1950
AZ51053	ERH253	0301L190	03/13/17 2023
AZ51054	ERH254	0301L191	03/13/17 2056
AZ51056	ERH260	0301L192	03/13/17 2129

Comments: Batch: #SIMDO-170309B

Printed: 03/14/17 2:33:53 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: water
ID: SV Tune 02/09/17

SDG No: 82337
Date Analyzed: 03/01/17
Instrument: Linus
Time Analyzed: 12:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/01/17	0301L003.D	03/01/17 12:47
2		0.2 SIM 03/01/17	0301L004.D	03/01/17 13:19
3		0.5 SIM 03/01/17	0301L005.D	03/01/17 13:52
4		1.0 SIM 03/01/17	0301L006.D	03/01/17 14:24
5		5.0 SIM 03/01/17	0301L007.D	03/01/17 14:57
6		10 SIM 03/01/17	0301L008.D	03/01/17 15:30
7		50 SIM 03/01/17	0301L009.D	03/01/17 16:02
8		100 SIM 03/01/17	0301L010.D	03/01/17 16:33
9		SS SIM 03/01/17	0301L011.D	03/01/17 17:06
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	47.6
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	1.1
127	39.5 - 60% of mass 198	53.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.5
441	0.01 - 100% of mass 443	87.6
442	50 - 150% of mass 198	55.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82337
Date Analyzed: 03/13/17
Instrument: Linus
Time Analyzed: 14:05

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 03/01/17	0301L179.D	03/13/17 14:22
2	Blank	170309B BLK 1/1000	0301L188.D	03/13/17 19:17
3	Lab Control Spike	170309B LCS-1 1/1000	0301L189.D	03/13/17 19:50
4	ERH253	AZ51053W10 1/1050	0301L190.D	03/13/17 20:23
5	ERH254	AZ51054W10 1/1040	0301L191.D	03/13/17 20:56
6	ERH260	AZ51056W09 1/1070	0301L192.D	03/13/17 21:29
7		5.0 SIM 03/01/17	0301L200.D	03/14/17 1:33
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	43.4
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	39.5 - 60% of mass 198	50.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	22.1
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	90.0
442	50 - 150% of mass 198	62.2
443	17 - 23% of mass 442	18.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 0301L007.D
Date Analyzed: 1 Mar 17 14:57
Instrument ID: Linus
Time Analyzed: 1 Mar 17 14:57
GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	21206	5.81	10750	7.85	21127	9.75
	UPPER LIMIT	42412	6.31	21500	8.35	42254	10.25
	LOWER LIMIT	10603	5.31	5375	7.35	10564	9.25
	SAMPLE NO.						
01	5.0 SIM 03/01/17	27311	5.79	14539	7.85	29278	9.75
02	170309B BLK 1/1000	25832	5.81	13201	7.85	25250	9.76
03	170309B LCS-1 1/1000	22193	5.81	11474	7.85	22157	9.75
04	AZ51053W10 1/1050	26210	5.81	13673	7.85	26010	9.75
05	AZ51054W10 1/1040	25394	5.81	13262	7.85	24994	9.75
06	AZ51056W09 1/1070	25469	5.81	13215	7.85	25082	9.75
07	5.0 SIM 03/01/17	32946	5.81	17103	7.85	31081	9.74
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 0301L007.D
Date Analyzed: 1 Mar 17 14:57
Instrument ID: Linus
Time Analyzed: 1 Mar 17 14:57
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26059	16.65	22018	20.43		
	UPPER LIMIT	52118	17.15	44036	20.93		
	LOWER LIMIT	13030	16.15	11009	19.93		
	SAMPLE NO.						
01	5.0 SIM 03/01/17	36811	16.65	31762	20.43		
02	170309B BLK 1/1000	29597	16.68	25940	20.45		
03	170309B LCS-1 1/1000	27118	16.66	23011	20.43		
04	AZ51053W10 1/1050	30674	16.67	27302	20.45		
05	AZ51054W10 1/1040	29342	16.67	26122	20.45		
06	AZ51056W09 1/1070	29487	16.68	26373	20.45		
07	5.0 SIM 03/01/17	41792	16.65	29368	20.43		
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	53.3	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	56.6	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	66.0	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L190
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:33:50 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L190.D Vial: 90
Acq On : 13 Mar 17 20:23 Operator: MA
Sample : AZ51053W10 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	26210	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13673	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	26010	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	30674	2.50000 ppb	-0.11
21) Perylene-D12(IS)	20.45	264	27302	2.50000 ppb	-0.10
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	10600	2.69552 ppb	-0.01
Spiked Amount 4.762			Recovery	= 56.616%	
7) Surrogate Recovery (FBP)	7.07	172	22315	2.54007 ppb	0.00
Spiked Amount 4.762			Recovery	= 53.340%	
17) Surrogate Recovery (TPH)	13.67	244	31726	3.14498 ppb	0.00
Spiked Amount 4.762			Recovery	= 66.045%	

Target Compounds Qvalue

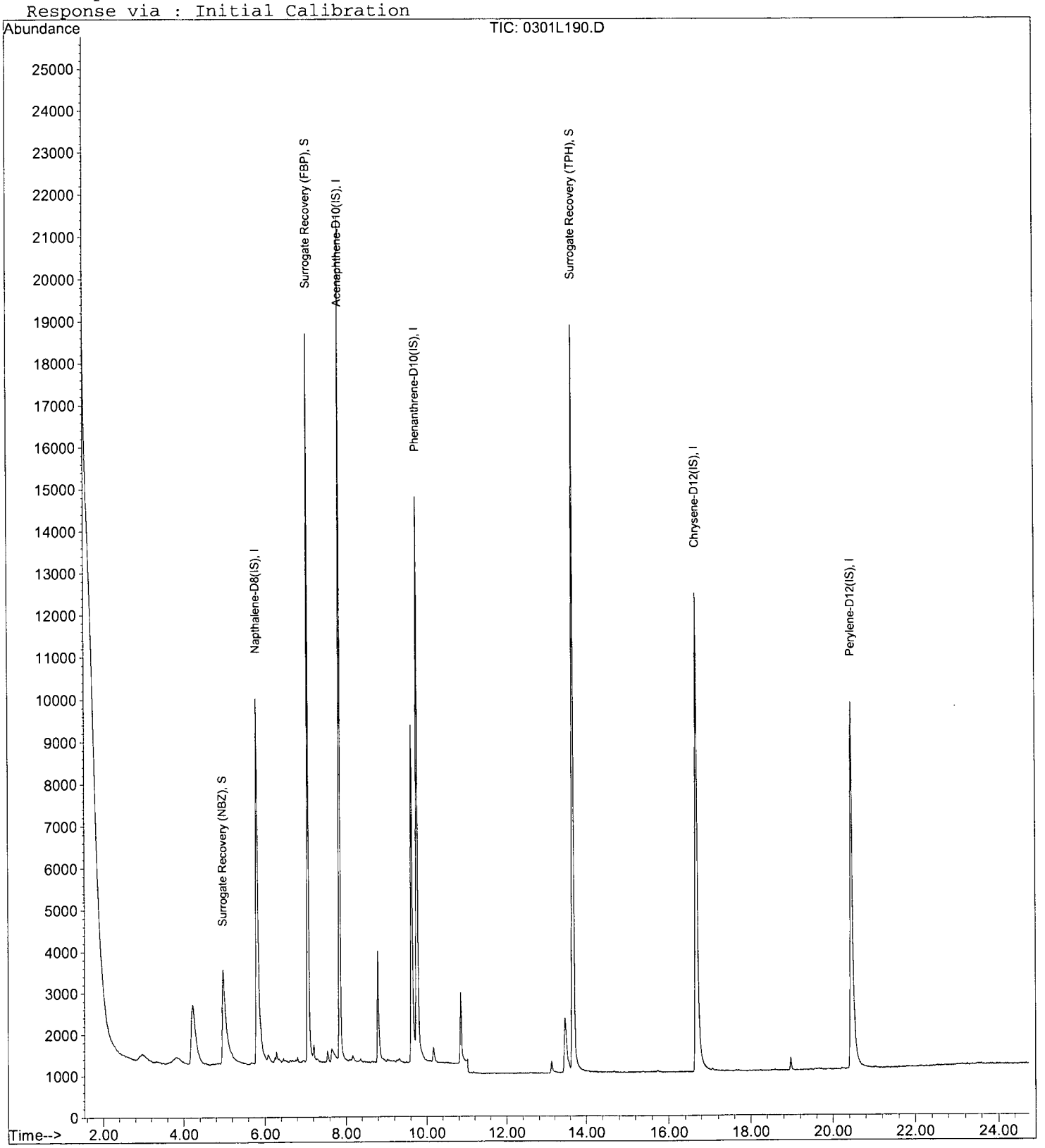
(#) = qualifier out of range (m) = manual integration
0301L190.D L0303P.M Wed Mar 15 14:59:28 2017

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L190.D Vial: 90
Acq On : 13 Mar 17 20:23 Operator: MA
Sample : AZ51053W10 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH254
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51054
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	61.3	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	65.3	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	75.8	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L191
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:33:50 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L191.D
Acq On : 13 Mar 17 20:56
Sample : AZ51054W10 1/1040
Misc : water

Vial: 91
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25394	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13262	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	24994	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	29342	2.50000 ppb	-0.11
21) Perylene-D12(IS)	20.45	264	26122	2.50000 ppb	-0.10
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	12014	3.13843 ppb	-0.01
Spiked Amount 4.808			Recovery	= 65.270%	
7) Surrogate Recovery (FBP)	7.07	172	24872	2.94694 ppb	0.00
Spiked Amount 4.808			Recovery	= 61.298%	
17) Surrogate Recovery (TPH)	13.67	244	34817	3.64277 ppb	0.00
Spiked Amount 4.808			Recovery	= 75.774%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

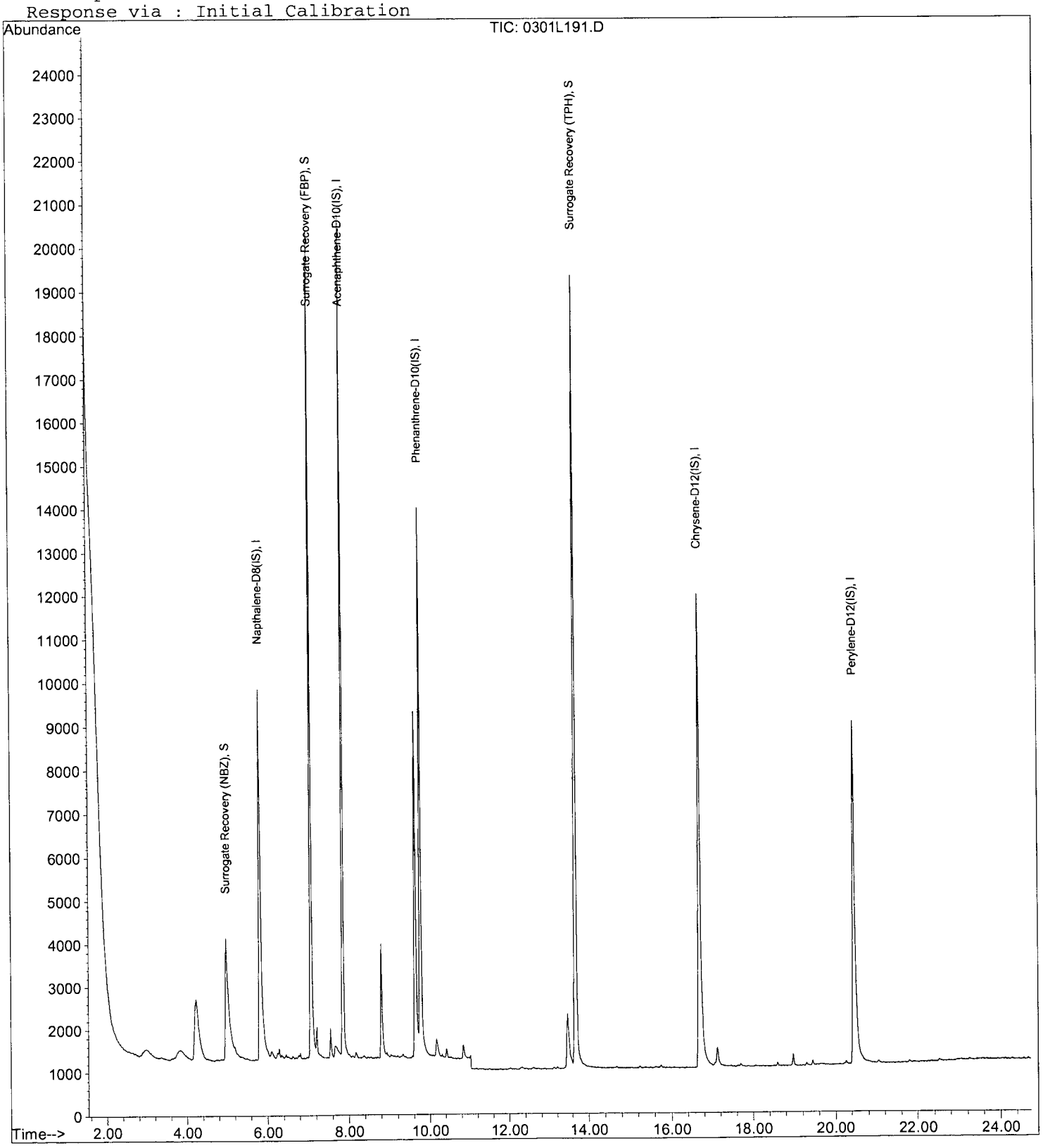
Data File : M:\LINUS\DATA\L170301\0301L191.D
Acq On : 13 Mar 17 20:56
Sample : AZ51054W10 1/1040
Misc : water

Vial: 91
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	57.9	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	60.0	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	68.4	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L192
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:33:50 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L192.D Vial: 92
Acq On : 13 Mar 17 21:29 Operator: MA
Sample : AZ51056W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25469	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13215	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	25082	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	29487	2.50000 ppb	-0.10
21) Perylene-D12(IS)	20.45	264	26373	2.50000 ppb	-0.10
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	10984	2.80355 ppb	-0.01
Spiked Amount 4.673			Recovery	= 60.006%	
7) Surrogate Recovery (FBP)	7.07	172	23408	2.70530 ppb	0.00
Spiked Amount 4.673			Recovery	= 57.887%	
17) Surrogate Recovery (TPH)	13.67	244	31562	3.19384 ppb	0.00
Spiked Amount 4.673			Recovery	= 68.352%	

Target Compounds Qvalue

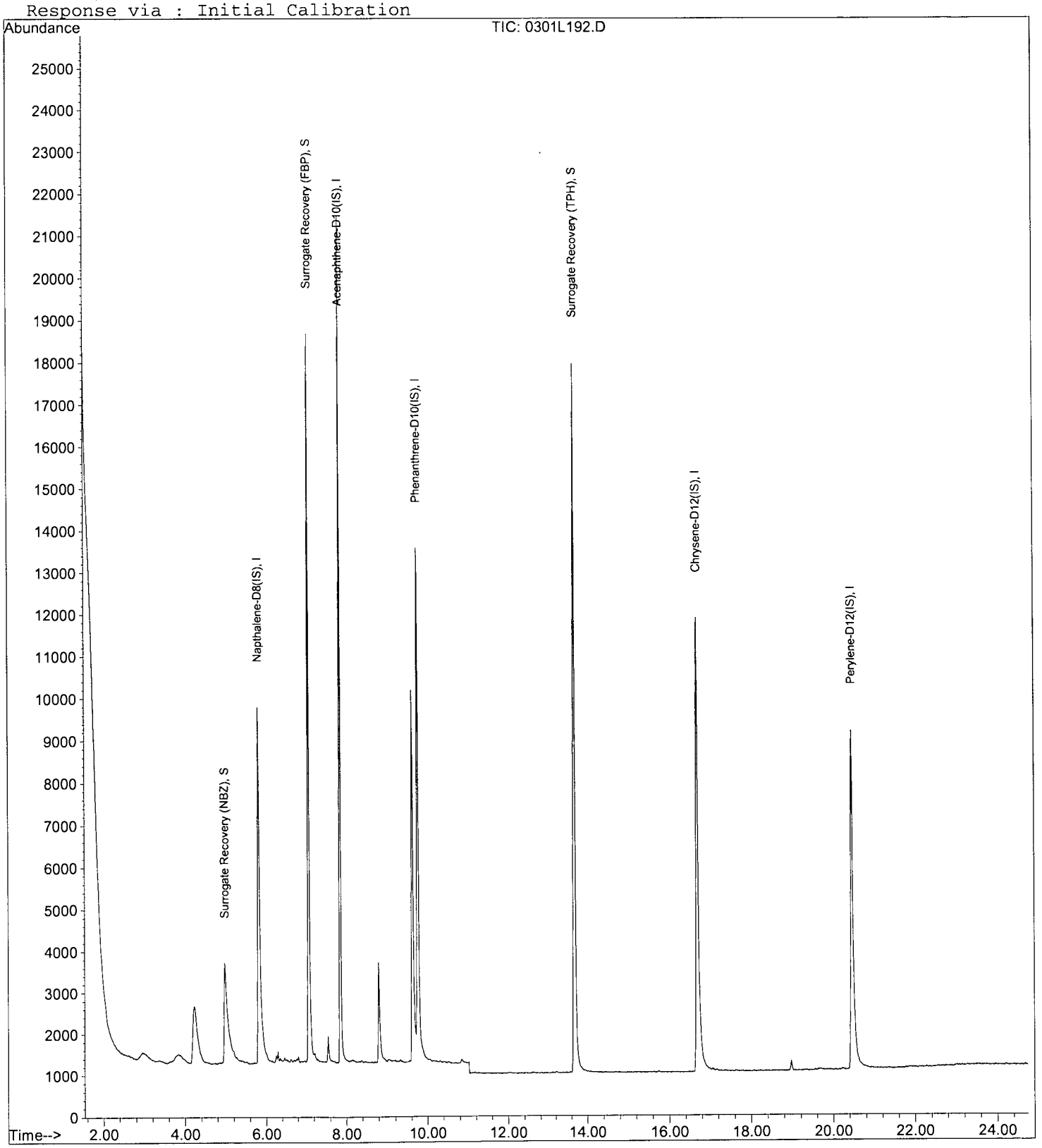
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L192.D Vial: 92
Acq On : 13 Mar 17 21:29 Operator: MA
Sample : AZ51056W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/01/17
Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0301L003.D	0301L004 D	0301L005.D	0301L006.D	0301L007 D	0301L008.D	0301L009.D	0301L010.D						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1536	0.1109	0.3479	0.3789	0.3893	0.3943			0.30	43	SL	1.00
3	TM	Naphthalene	1.069	1.041	1.168	1.125	1.117	1.055	0.9779	0.9377			1.1	7.2	TM	
4	TM	2-Methylnaphthalene	0.5294	0.5000	0.5728	0.5781	0.6629	0.6346	0.5818	0.5585			0.58	9.1	TM	
5	TM	1-Methylnaphthalene	0.7376	0.7442	0.7944	0.7378	0.6852	0.6377	0.5499	0.5207			0.68	15	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.566	1.407	1.561	1.609	1.591	1.628	1.489	1.388			1.5	6.0	S	
8	TM	Acenaphthylene	2.094	1.988	2.174	2.138	2.238	2.152	1.967	1.810			2.1	6.7	TM	
9	*TM	Acenaphthene	1.320	1.306	1.331	1.288	1.302	1.247	1.117	1.022			1.2	9.0	*TM	
10	TM	Fluorene	1.377	1.357	1.481	1.439	1.477	1.409	1.258	1.142			1.4	8.5	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.032	0.9689	1.032	1.034	1.080	1.050	0.9617	0.8973			1.0	5.9	TM	
13	TM	Anthracene	0.9661	0.8615	0.9071	0.9083	1.045	1.004	0.9412	0.8607			0.94	7.0	TM	
14	*TM	Fluoranthene	1.523	1.432	1.593	1.561	1.705	1.654	1.563	1.469			1.6	5.8	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.355	1.202	1.367	1.360	1.436	1.390	1.300	1.228			1.3	6.1	TM	
17	S	Surrogate Recovery (TPH)	0.9484	0.7633	0.7921	0.7745	0.7566	0.7836	0.7383	0.7074			0.78	9.2	S	
18	TM	Benz (a) anthracene	1.108	0.8853	0.9665	0.9732	1.121	1.128	1.108	1.064			1.0	8.7	TM	
19	TM	Chrysene	1.367	1.401	1.370	1.327	1.199	1.156	1.063	0.9996			1.2	12	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.7701	0.7661	0.8567	0.9819	1.011	0.9961	0.9560	0.9155			0.91	11	TM	
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.7197	0.7754	0.9362	0.8998	1.088	1.095	1.122	1.087			0.97	16	TML	1.000
23	TM	Benzo (k) fluoranthene	1.229	1.197	1.329	1.290	1.407	1.301	1.128	1.069			1.2	8.9	TM	
24	*TM	Benzo (a) pyrene	0.9202	0.9925	1.085	1.062	1.191	1.159	1.077	1.020			1.1	8.2	*TM	
25	TM	Dibenz (a,h) anthracene	0.6091	0.6877	0.7603	0.8450	0.9590	0.9434	0.8898	0.8381			0.82	15	TM	
26	TM	Benzo (g,h,i) perylene	0.7023	0.7631	0.8020	0.8526	0.9403	0.9178	0.8865	0.8086			0.83	9.7	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:29 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21015	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11401	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	22539	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27204	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	23066	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	2	0.27720 ppb	-0.02
Spiked Amount 5.000			Recovery	= 5.540%	
7) Surrogate Recovery (FBP)	7.10	172	357	0.05117 ppb	0.02
Spiked Amount 5.000			Recovery	= 1.020%	
17) Surrogate Recovery (TPH)	13.70	244	516	0.06056 ppb	0.02
Spiked Amount 5.000			Recovery	= 1.220%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	899	0.10076 ppb		96
4) 2-Methylnaphthalene	6.71	142	445	0.09171 ppb		93
5) 1-Methylnaphthalene	6.78	142	620	0.10912 ppb		95
8) Acenaphthylene	7.71	152	955	0.10115 ppb		99
9) Acenaphthene	7.88	154	602	0.10631 ppb		97
10) Fluorene	8.53	166	628	0.10070 ppb		99
12) Phenanthrene	9.80	178	930	0.10244 ppb		97
13) Anthracene	9.92	178	871	0.10313 ppb		97
14) Fluoranthene	12.56	202	1373	0.09747 ppb		97
16) Pyrene	13.20	202	1475	0.10197 ppb		97
18) Benz (a) anthracene	16.66	228	1206	0.10592 ppb	#	83
19) Chrysene	16.76	228	1487	0.11219 ppb	#	81
20) Indeno (1,2,3-cd) pyrene	22.93	276	838m	0.08377 ppb		23
22) Benzo (b) fluoranthene	19.61	252	664	0.01845 ppb	#	15
23) Benzo (k) fluoranthene	19.67	252	1134m	0.15069 ppb		15
24) Benzo (a) pyrene	20.34	252	849	0.08647 ppb	#	10
25) Dibenz (a,h) anthracene	22.91	278	562m	0.07419 ppb		1
26) Benzo (g,h,i) perylene	23.43	276	648m	0.08233 ppb		21

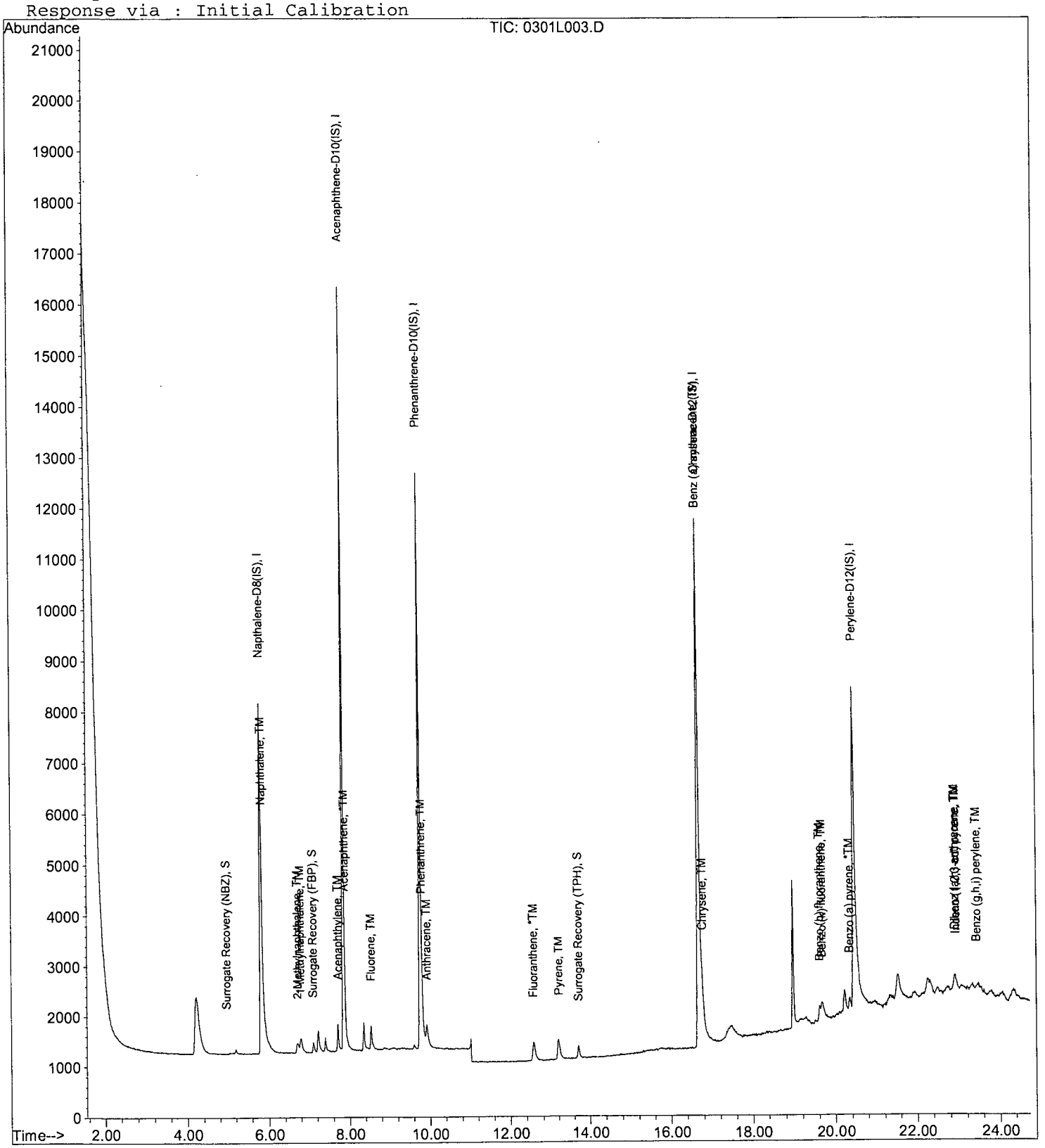
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:29 2017 Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

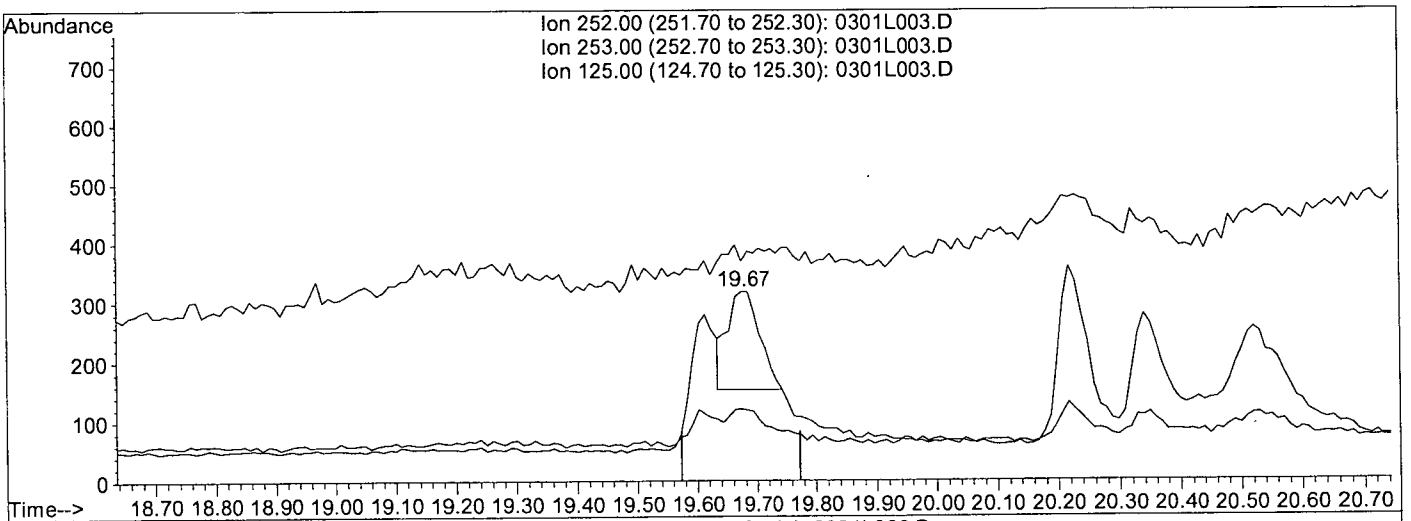


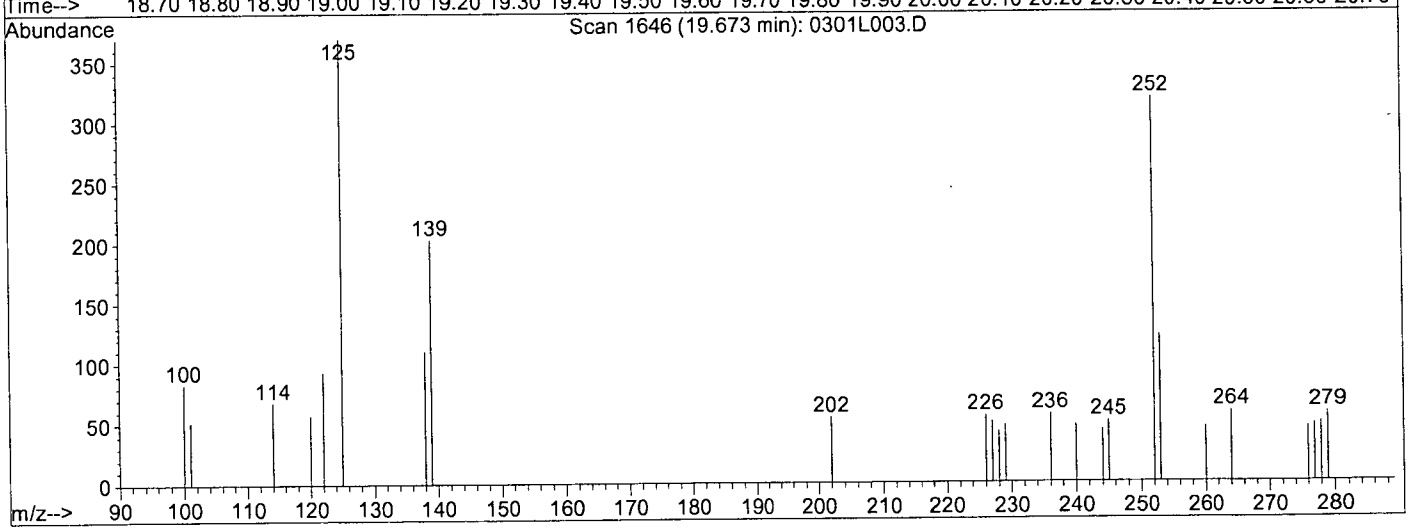
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:23 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(23) Benzo (k) fluoranthene (TM)

19.67min 0.0827ppb

response 622

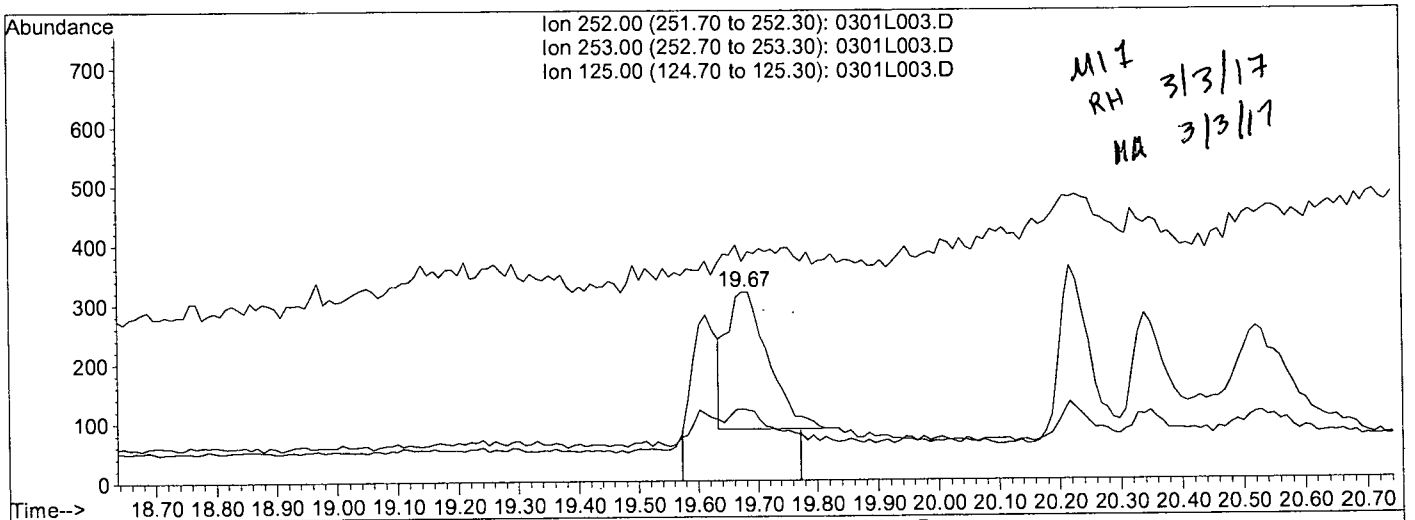
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	22.89#
125.00	116.00	1.81#
0.00	0.00	0.00

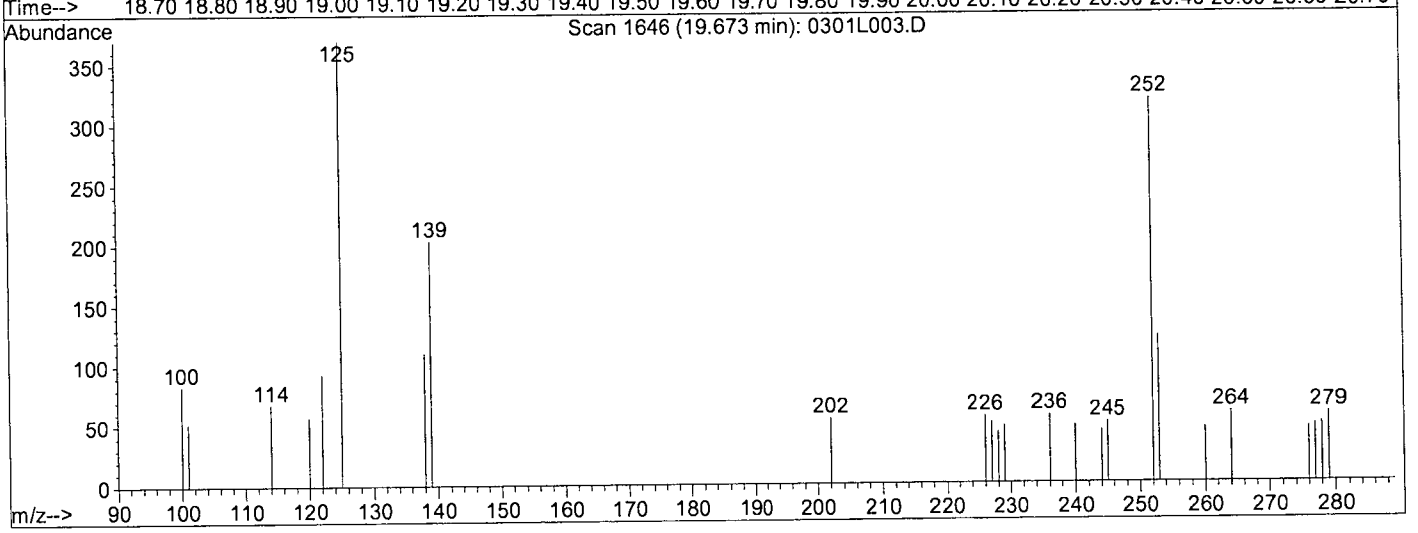
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:29 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(23) Benzo (k) fluoranthene (TM)

19.67min 0.1507ppb m

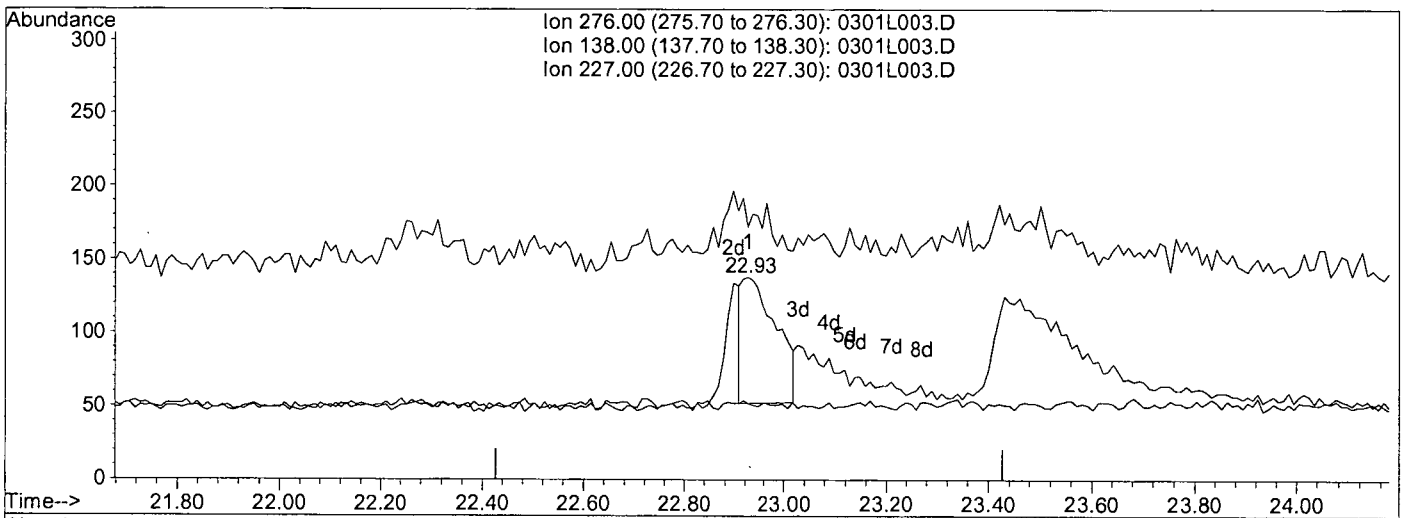
response 1134

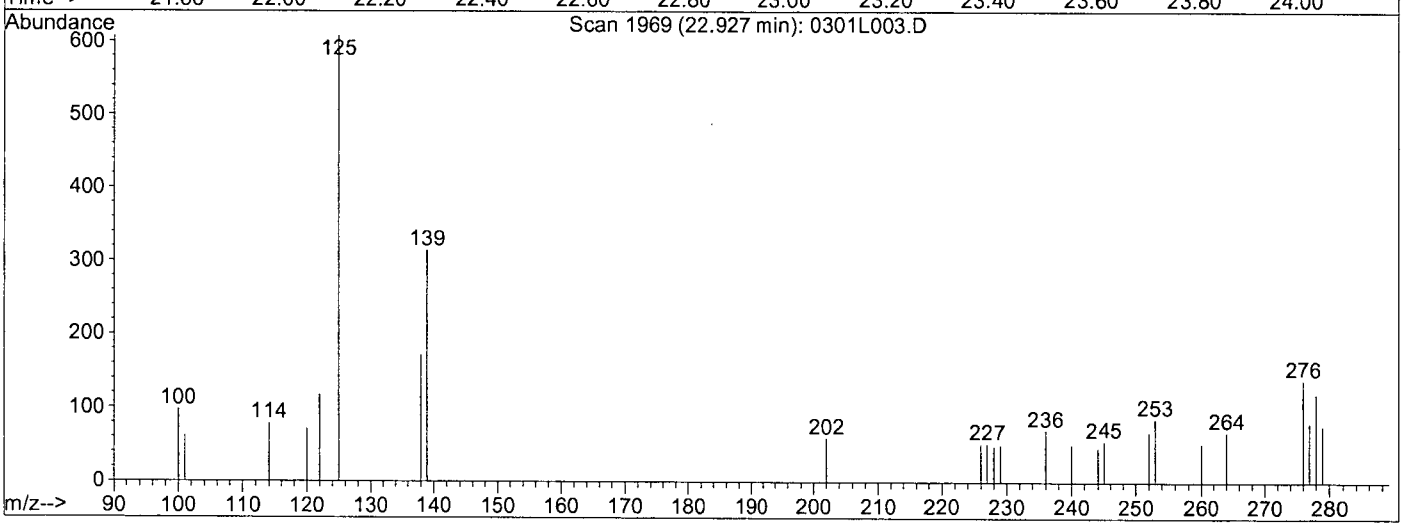
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	37.93
125.00	116.00	115.99
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:22 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(20) Indeno (1,2,3-cd) pyrene (TM)

22.93min 0.0420ppb

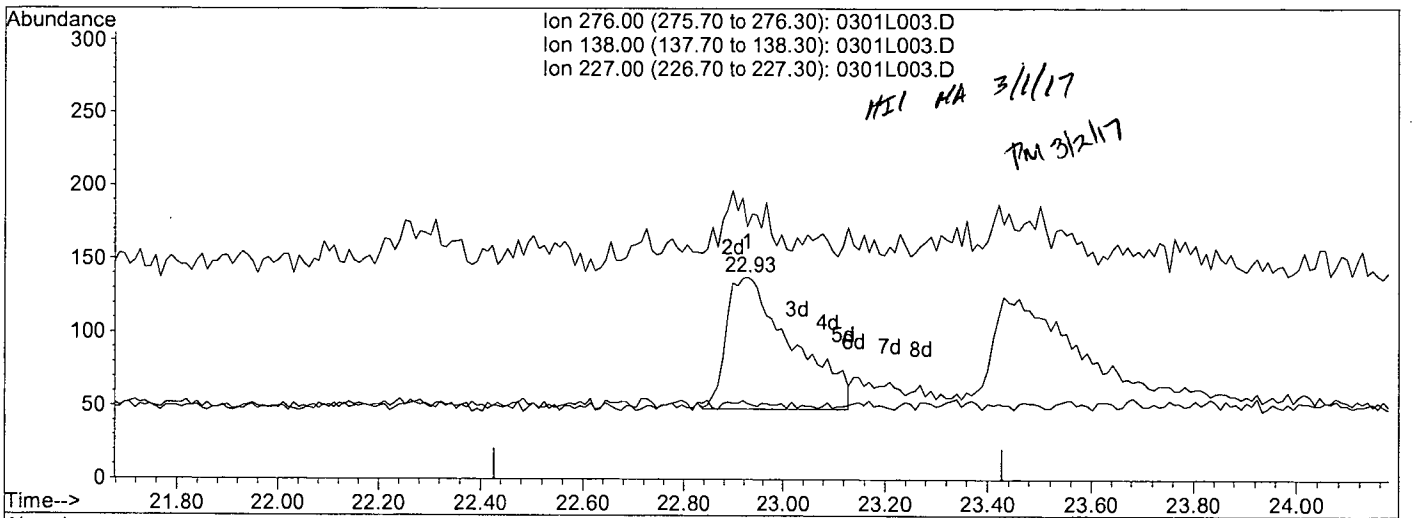
response 420

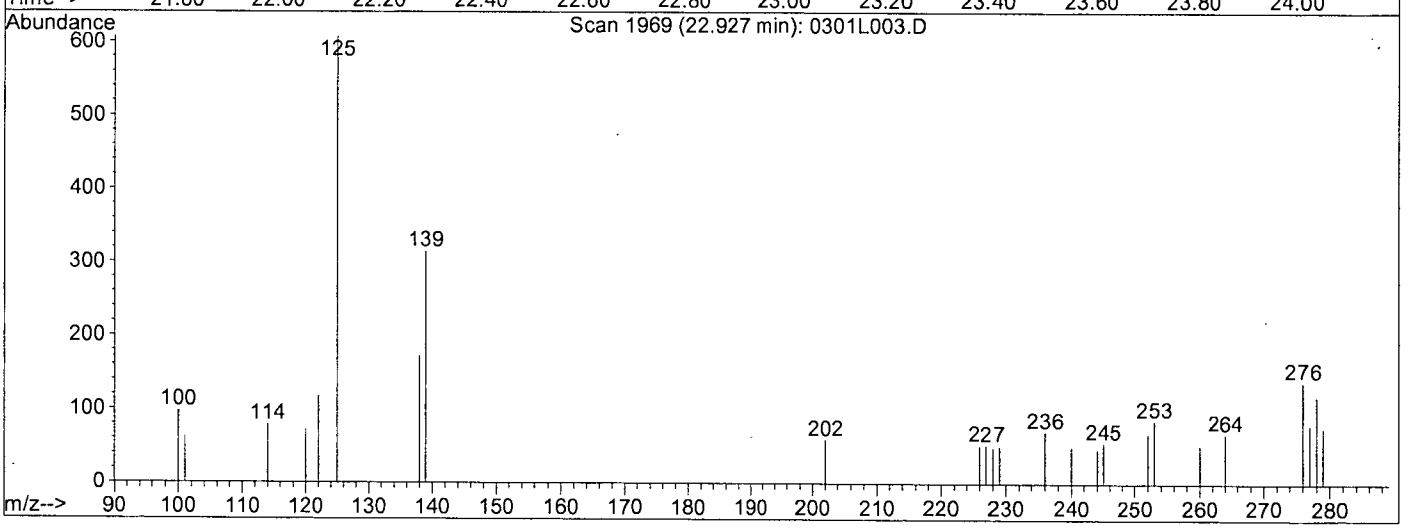
Ion	Exp%	Act%
276.00	100	100
138.00	124.60	32.00#
227.00	37.70	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(20) Indeno (1,2,3-cd) pyrene (TM)

22.93min 0.0838ppb m

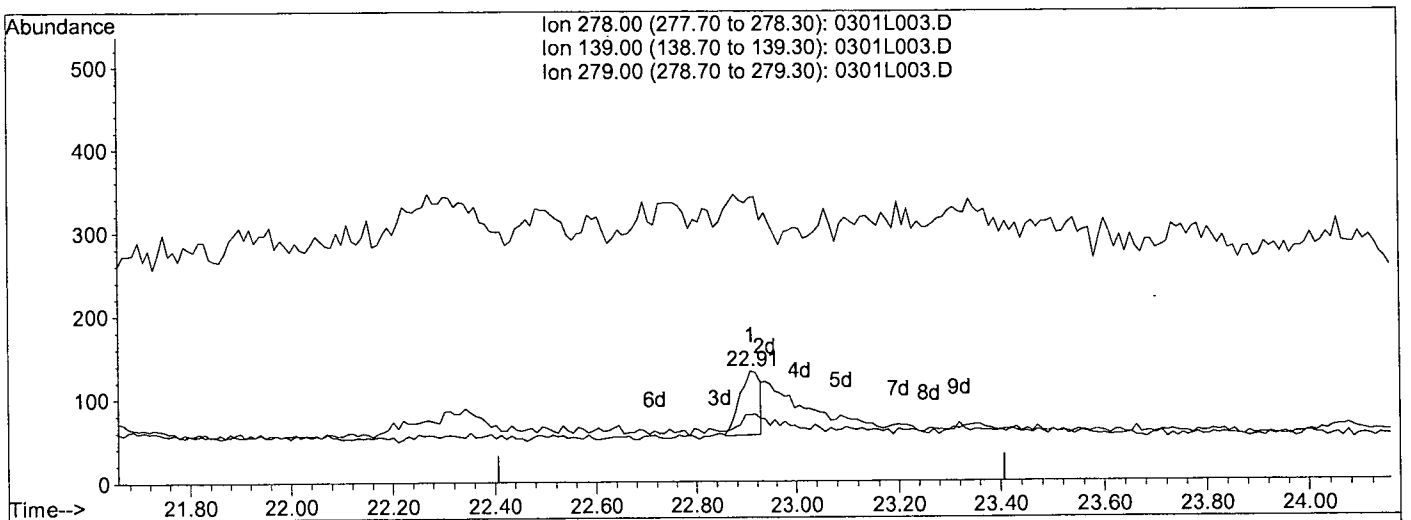
response 838

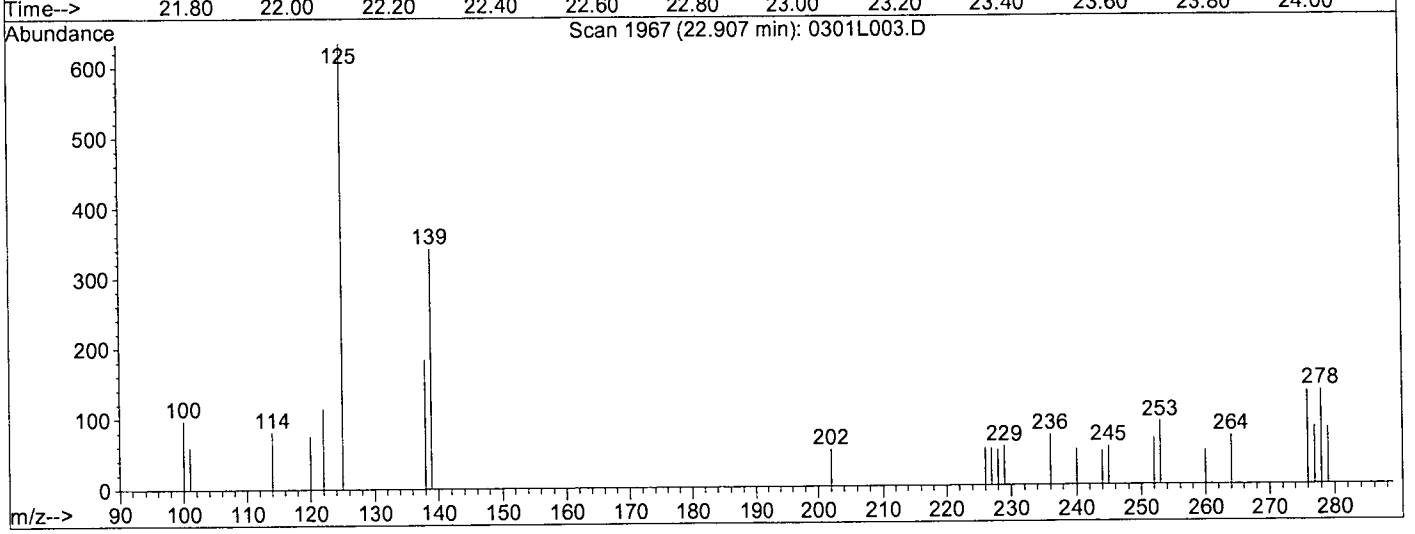
Ion	Exp%	Act%
276.00	100	100
138.00	124.60	124.64
227.00	37.70	37.68
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:21 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.0292ppb

response 221

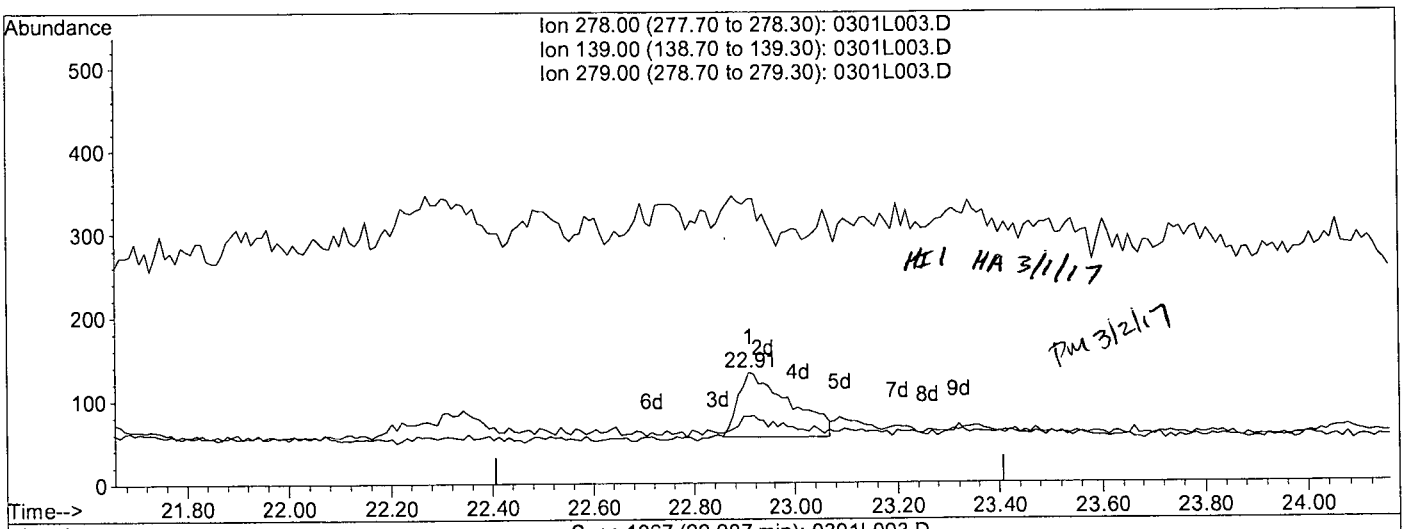
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	35.06#
279.00	60.20	25.97#
0.00	0.00	0.00

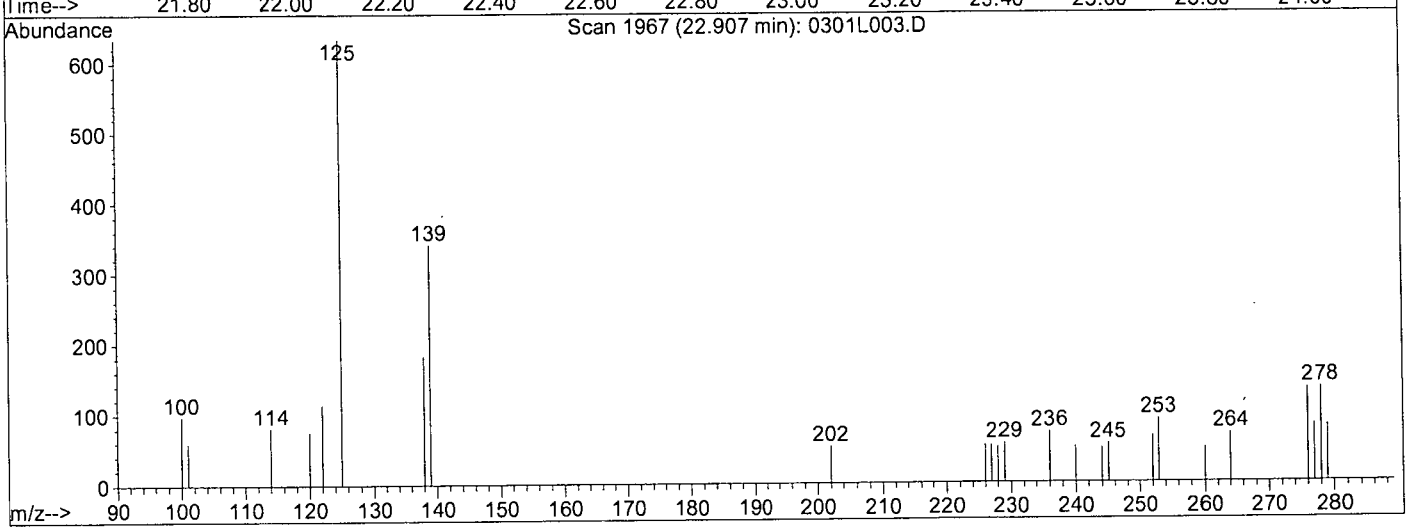
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:22 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.0742ppb m

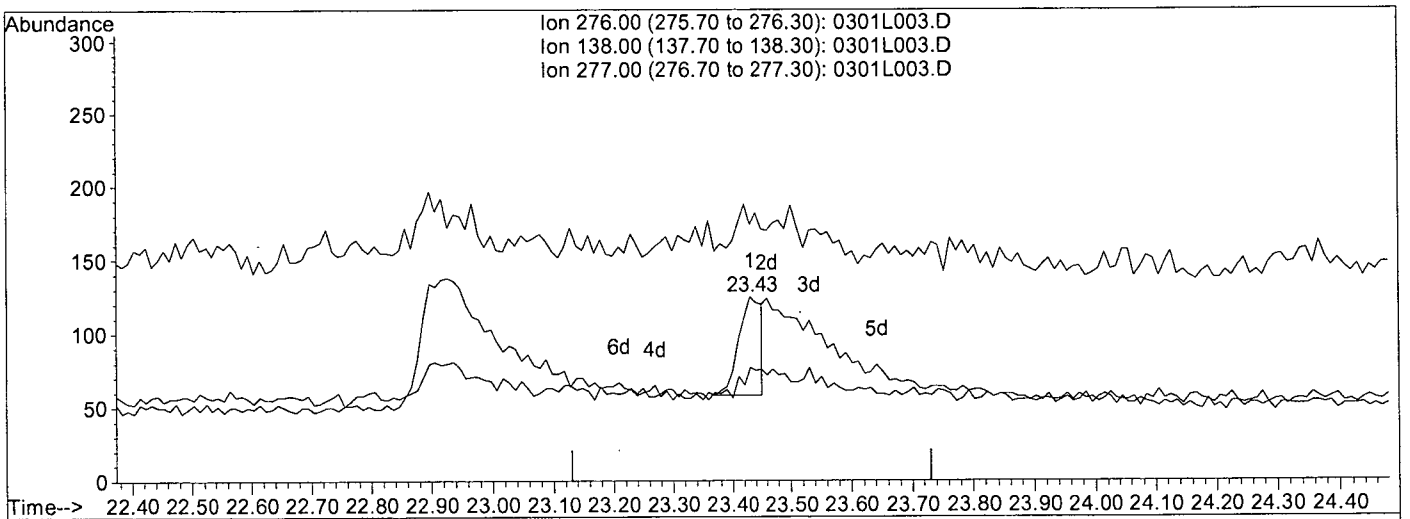
response 562

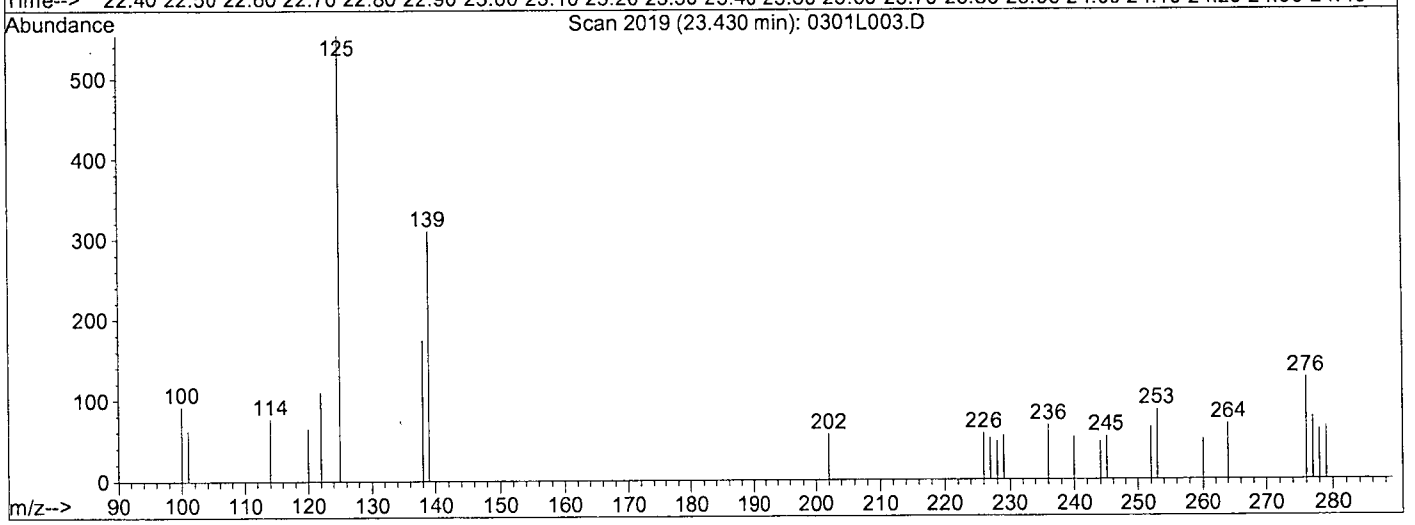
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	256.39
279.00	60.20	60.15
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:22 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(26) Benzo (g,h,i) perylene (TM)

23.43min 0.0239ppb

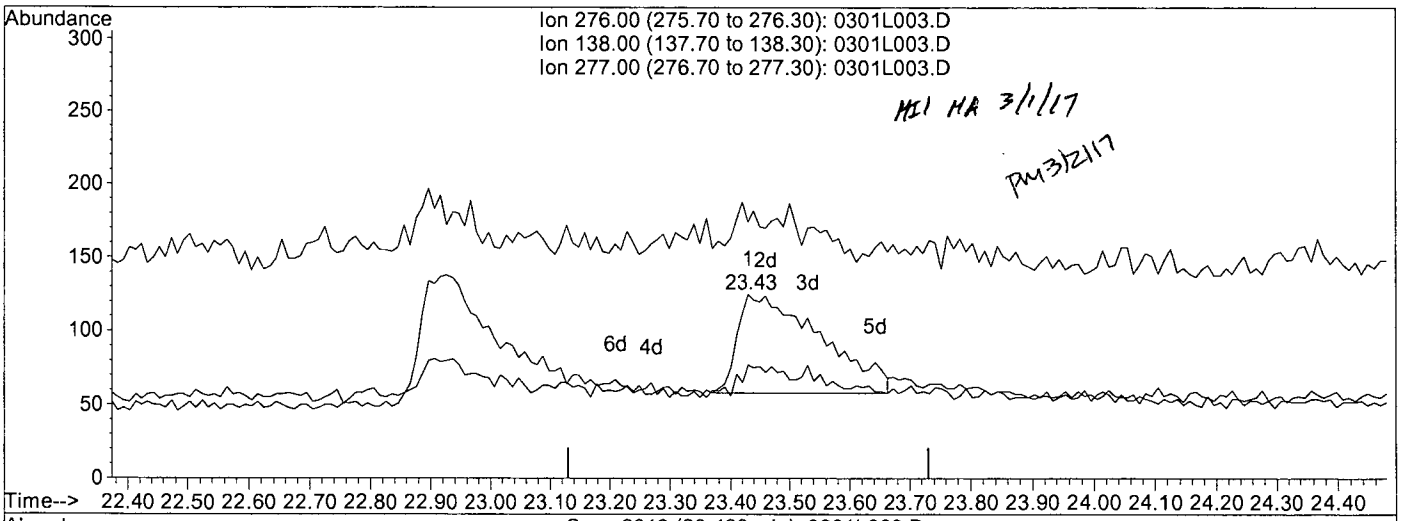
response 188

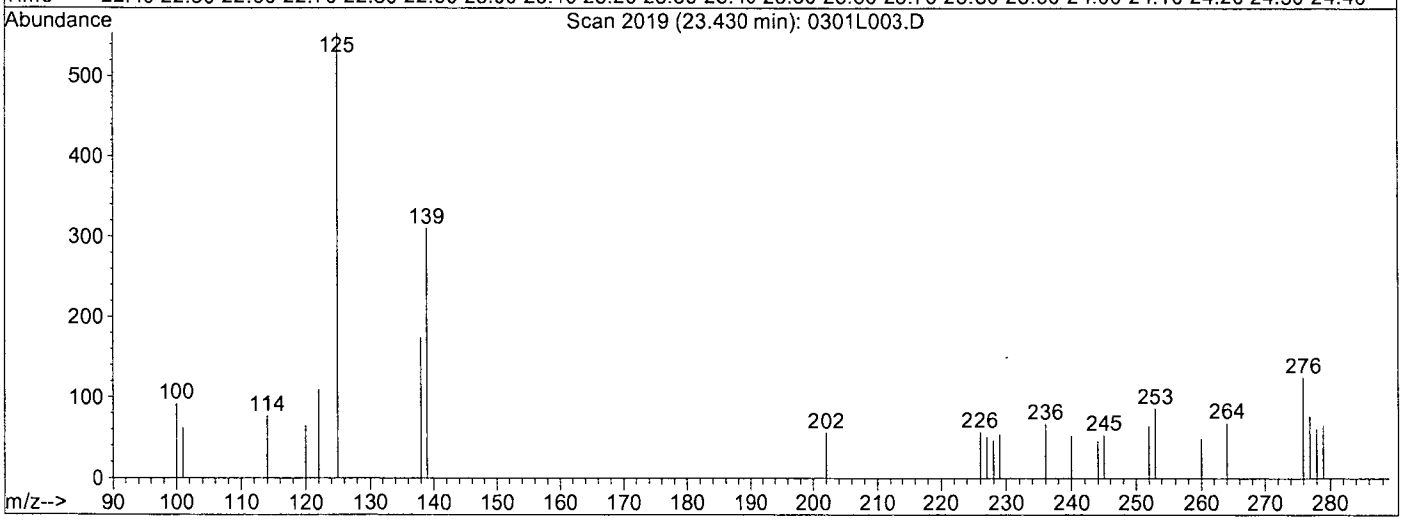
Ion	Exp%	Act%
276.00	100	100
138.00	139.20	26.87#
277.00	61.60	25.37#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:22 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(26) Benzo (g,h,i) perylene (TM)

23.43min 0.0823ppb m

response 648

Ion	Exp%	Act%
276.00	100	100
138.00	139.20	139.20
277.00	61.60	61.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:29 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20777	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	7.85	164	11089	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.76	188	21532	2.50000 ppb		0.01
15) Chrysene-D12(IS)	16.67	240	26433	2.50000 ppb		0.02
21) Perylene-D12(IS)	20.45	264	23375	2.50000 ppb		0.02
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	4.89	82	4	0.27781 ppb		-0.10
Spiked Amount 5.000			Recovery	= 5.560%		
7) Surrogate Recovery (FBP)	7.11	172	624	0.09196 ppb		0.04
Spiked Amount 5.000			Recovery	= 1.840%		
17) Surrogate Recovery (TPH)	13.72	244	807	0.09747 ppb		0.04
Spiked Amount 5.000			Recovery	= 1.940%		
Target Compounds						Qvalue
3) Naphthalene	5.83	128	1731	0.19624 ppb		98
4) 2-Methylnaphthalene	6.71	142	831	0.17322 ppb		94
5) 1-Methylnaphthalene	6.80	142	1237	0.22020 ppb		92
8) Acenaphthylene	7.71	152	1764	0.19210 ppb		98
9) Acenaphthene	7.89	154	1159	0.21044 ppb		98
10) Fluorene	8.53	166	1204	0.19849 ppb		96
12) Phenanthrene	9.80	178	1669	0.19244 ppb		99
13) Anthracene	9.93	178	1484	0.18393 ppb		100
14) Fluoranthene	12.57	202	2466	0.18325 ppb		98
16) Pyrene	13.20	202	2542	0.18085 ppb		99
18) Benz (a) anthracene	16.66	228	1872	0.16921 ppb	#	84
19) Chrysene	16.76	228	2963	0.23007 ppb	#	79
20) Indeno (1,2,3-cd) pyrene	22.91	276	1620	0.16666 ppb	#	23
22) Benzo (b) fluoranthene	19.60	252	1450	0.09445 ppb	#	13
23) Benzo (k) fluoranthene	19.66	252	2238m	0.29345 ppb		20
24) Benzo (a) pyrene	20.35	252	1856	0.18653 ppb	#	10
25) Dibenz (a,h) anthracene	22.91	278	1286m	0.16753 ppb		1
26) Benzo (g,h,i) perylene	23.44	276	1427m	0.17890 ppb		22

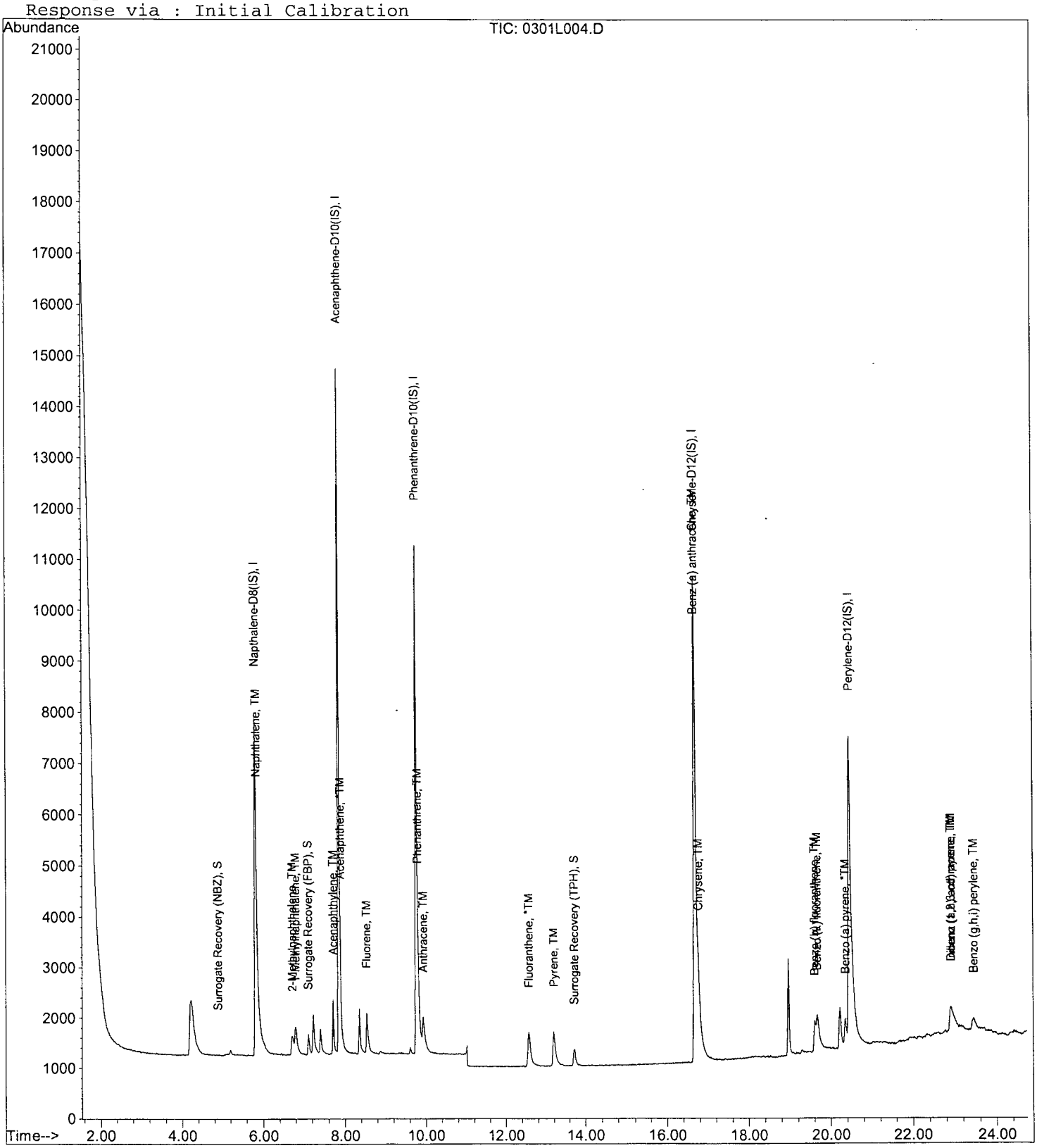
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:29 2017 Quant Results File: L0301P.RES

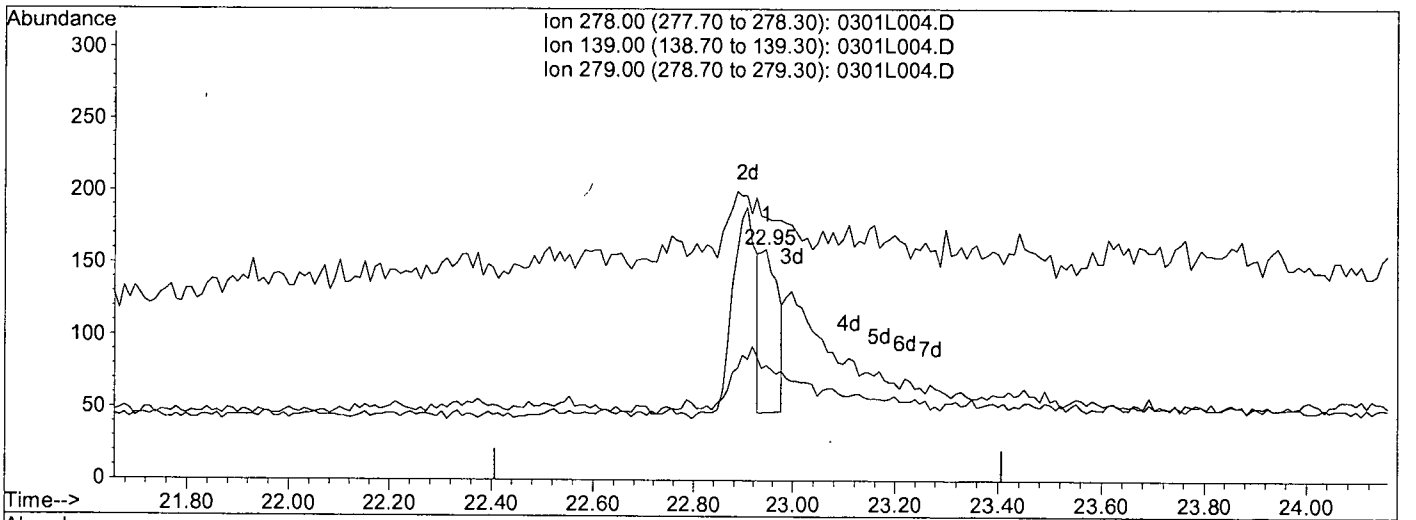
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

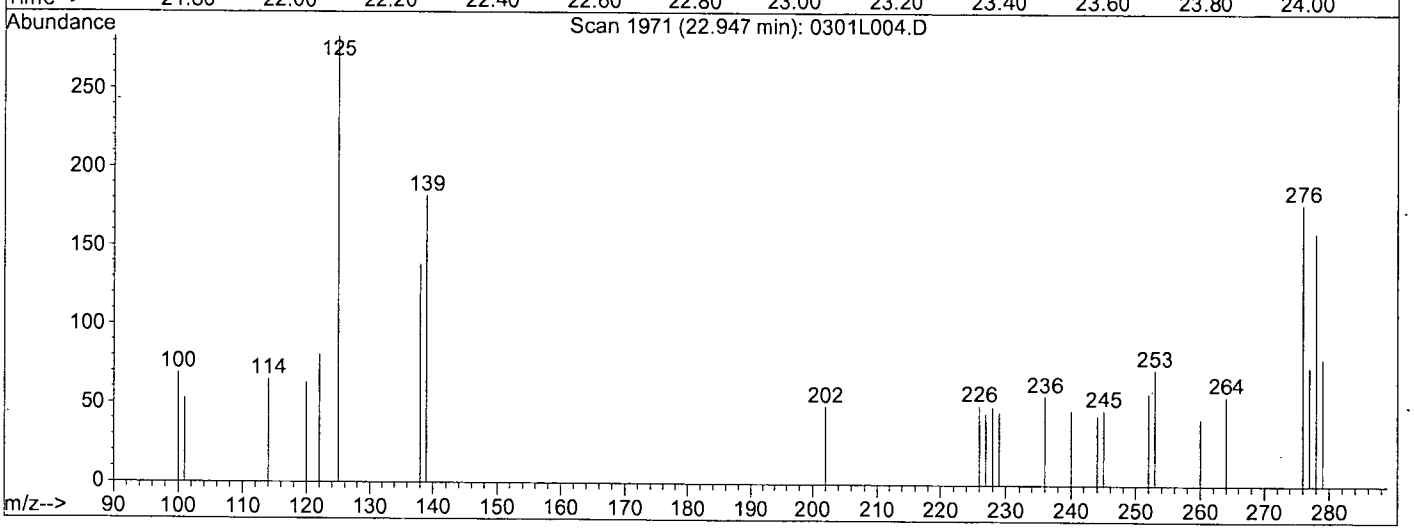


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(25) Dibenz (a,h) anthracene (TM)

22.95min 0.0382ppb

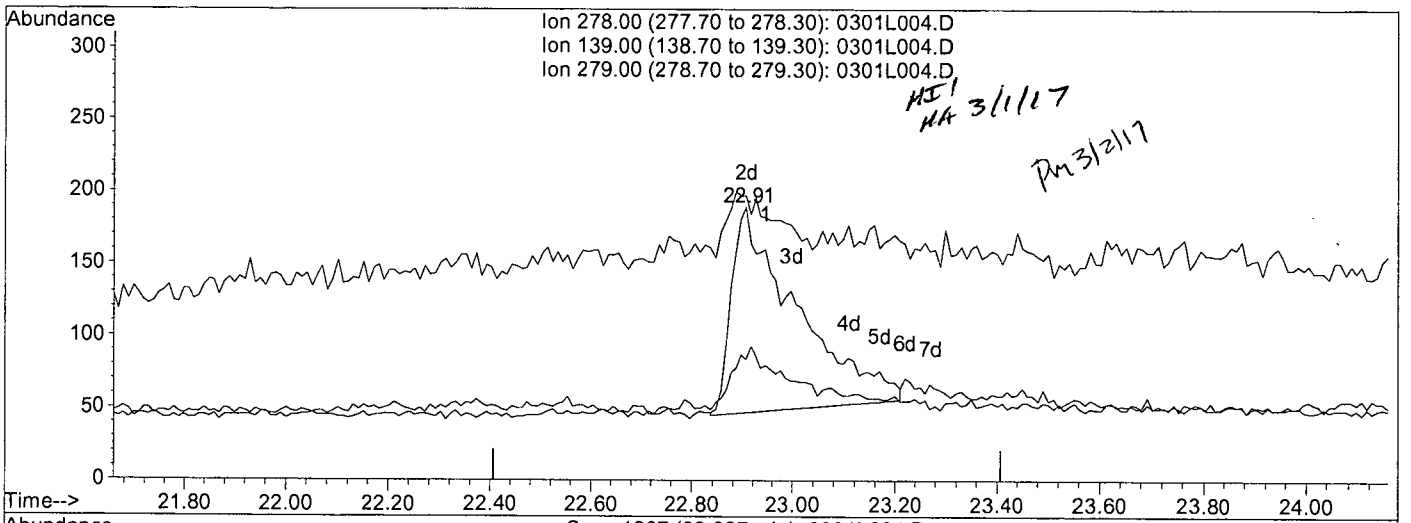
response 293

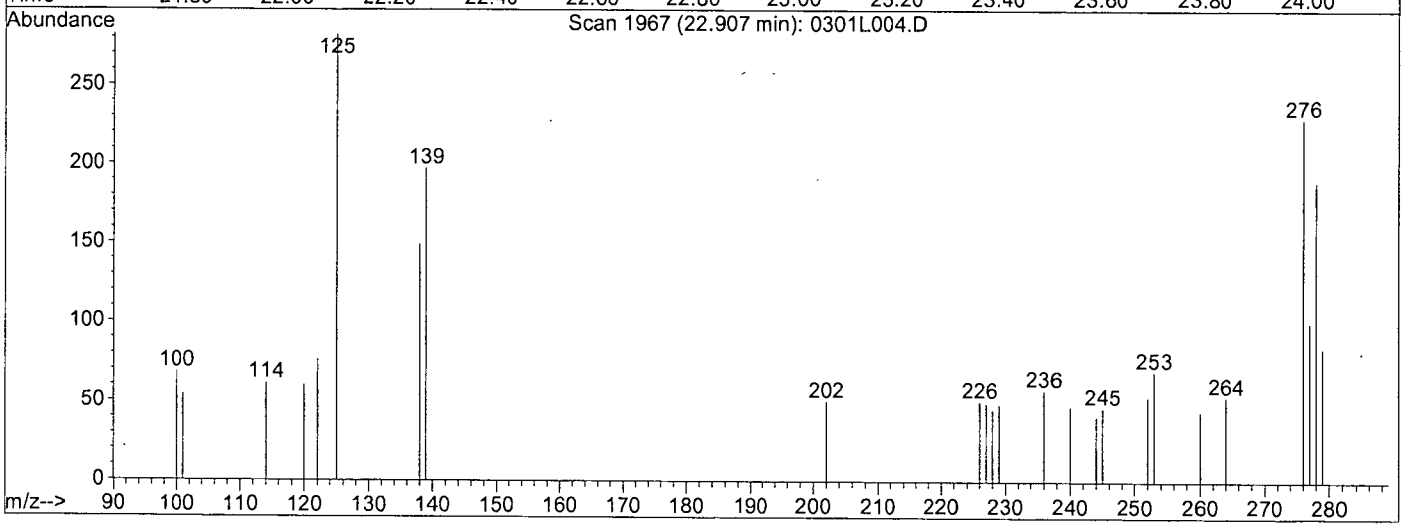
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	5.13#
279.00	60.20	10.26#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.1675ppb m

response 1286

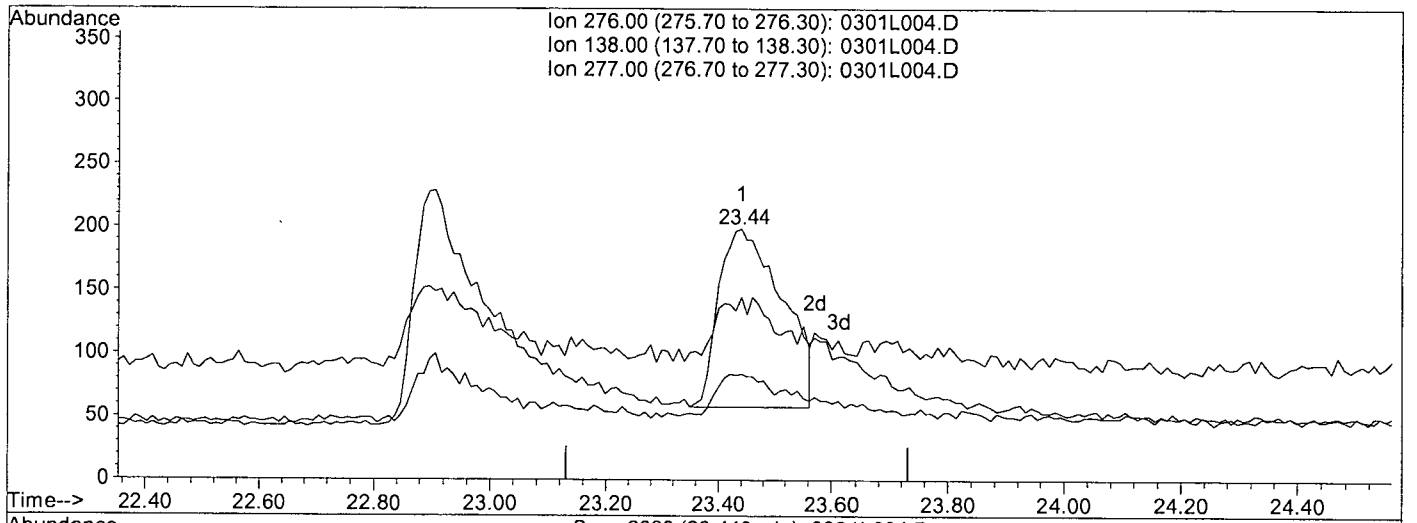
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	104.23#
279.00	60.20	44.44
0.00	0.00	0.00

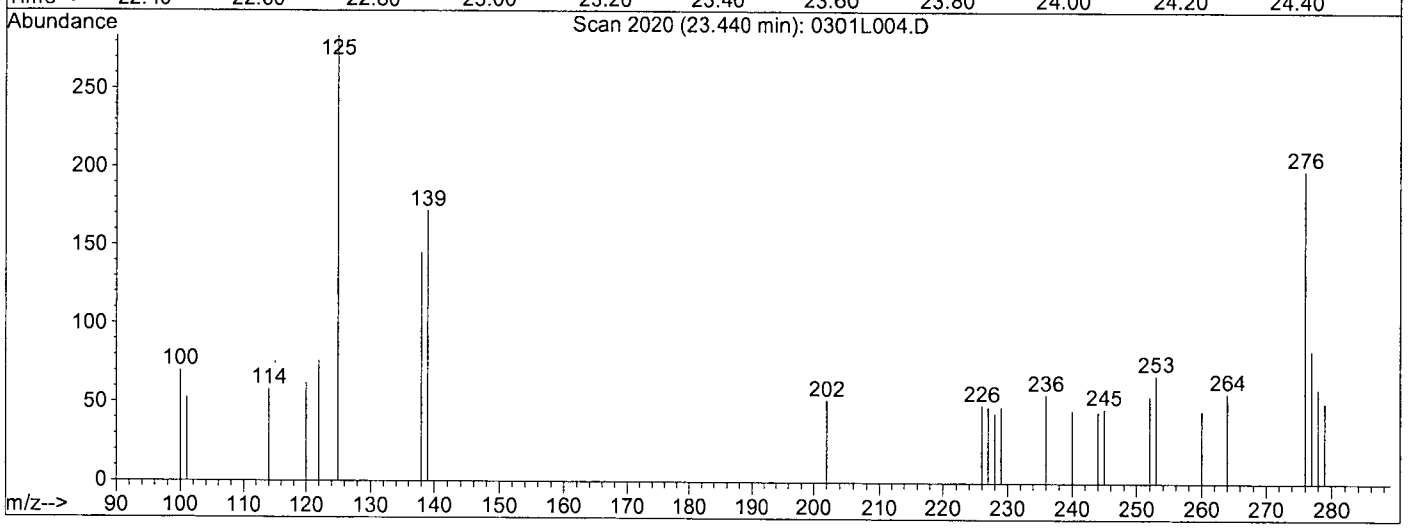
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:23 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(26) Benzo (g,h,i) perylene (TM)

23.44min 0.1392ppb

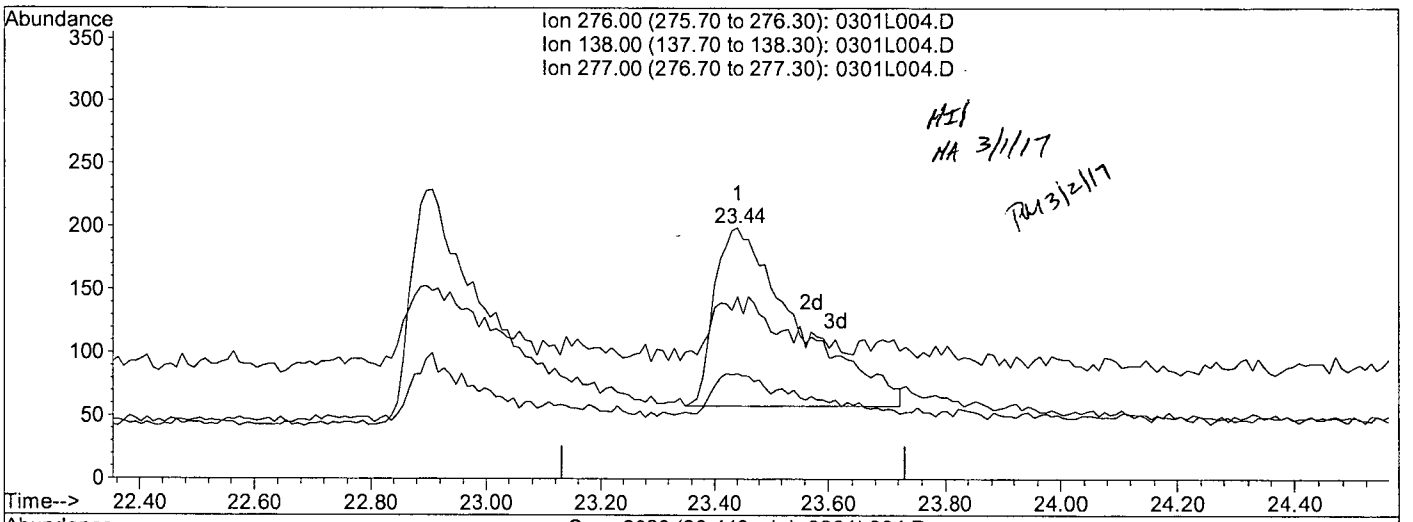
response 1110

Ion	Exp%	Act%
276.00	100	100
138.00	139.20	31.21#
277.00	61.60	21.99#
0.00	0.00	0.00

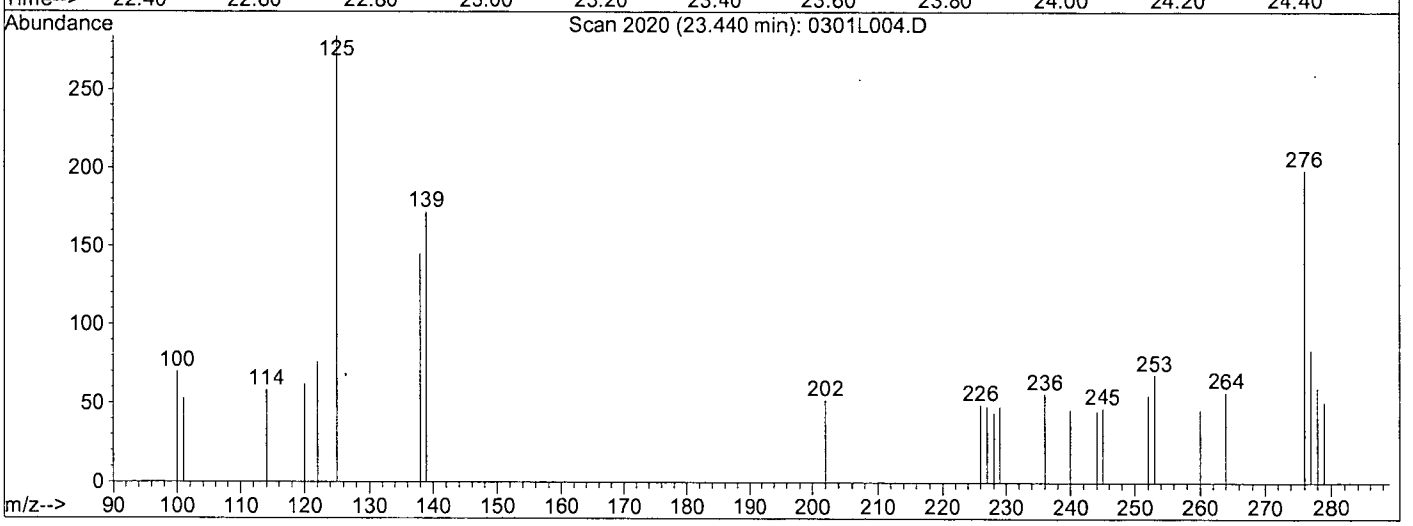
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:24 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration



HI
MA 3/1/17
PM 3/2/17



TIC: 0301L004.D

(26) Benzo (g,h,i) perylene (TM)

23.44min 0.1789ppb m

response 1427

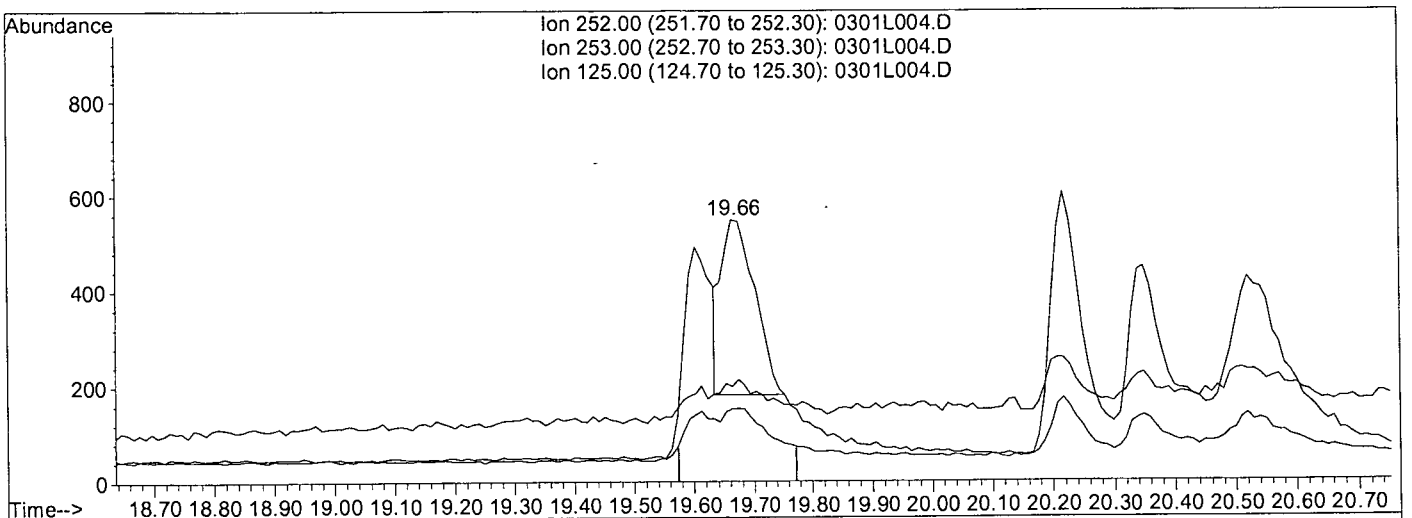
Ion	Exp%	Act%
276.00	100	100
138.00	139.20	72.86#
277.00	61.60	42.21#
0.00	0.00	0.00

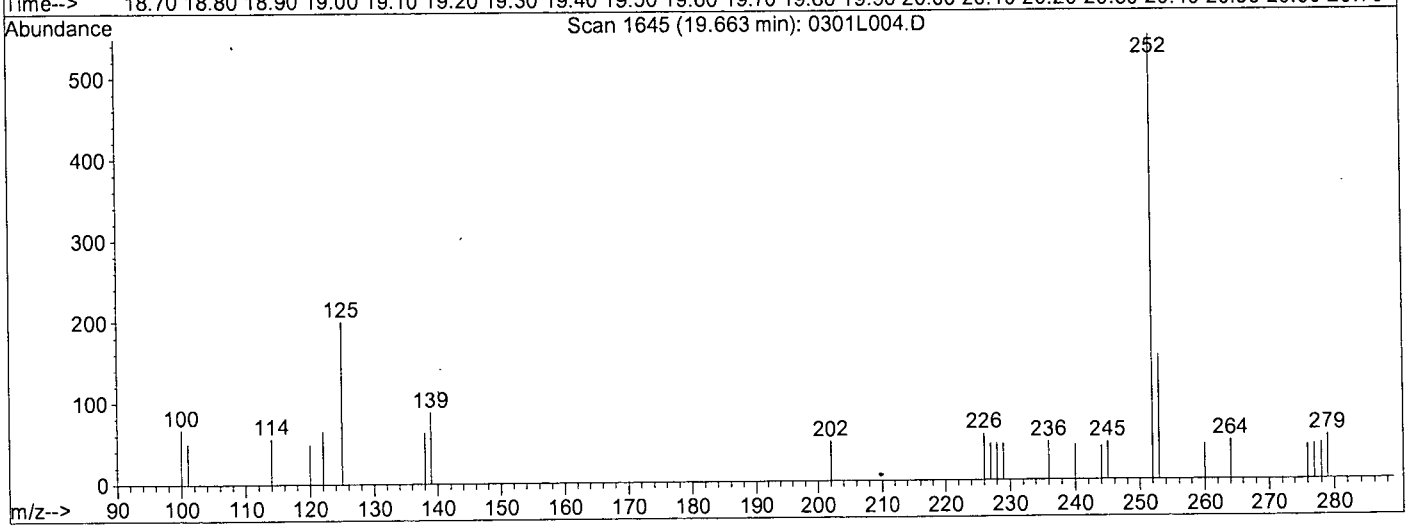
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:24 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(23) Benzo (k) fluoranthene (TM)

19.66min 0.1896ppb

response 1446

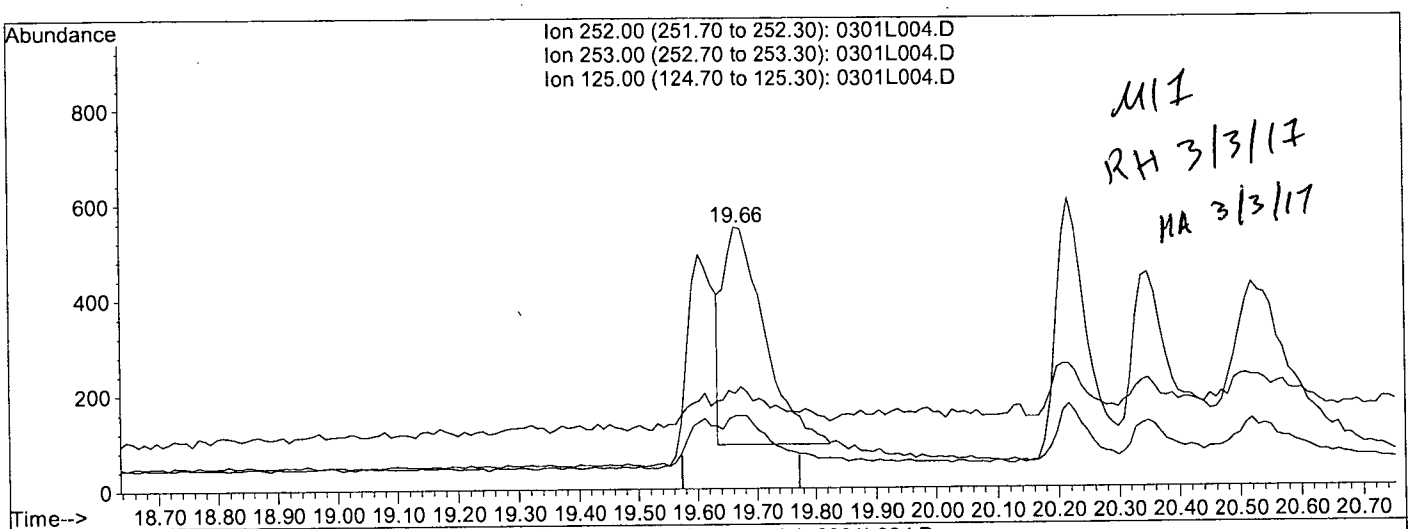
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	20.16#
125.00	116.00	10.63#
0.00	0.00	0.00

Quantitation Report

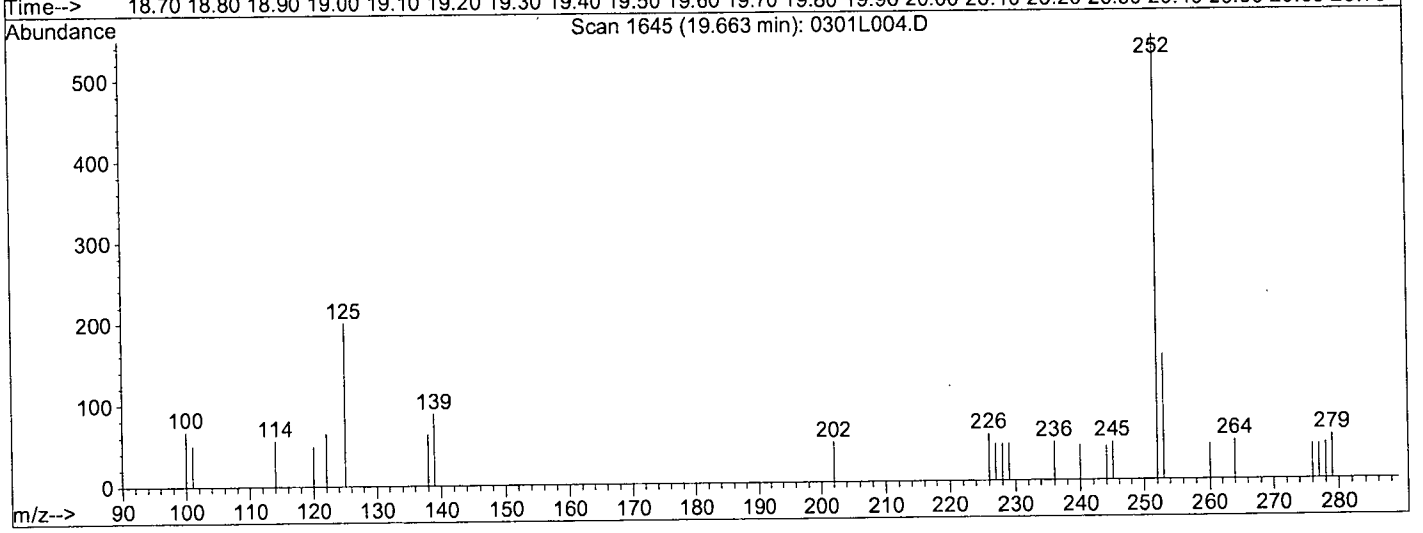
Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:29 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



MI
RH 3/3/17
MA 3/3/17



TIC: 0301L004.D

(23) Benzo (k) fluoranthene (TM)

19.66min 0.2935ppb m

response 2238

Ion	Exp%	Act%
252.00	100	100
253.00	37.90	27.87
125.00	116.00	36.43#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L005.D Vial: 5
Acq On : 1 Mar 17 13:52 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:36 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:29:06 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21029	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11159	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.76	188	21514	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.68	240	26183	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.45	264	23030	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.11	82	323	0.30440 ppb	0.12
Spiked Amount 5.000			Recovery	= 6.080%	
7) Surrogate Recovery (FBP)	7.10	172	1742	0.25511 ppb	0.02
Spiked Amount 5.000			Recovery	= 5.100%	
17) Surrogate Recovery (TPH)	13.72	244	2074	0.25290 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.060%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	4912	0.55018 ppb		99
4) 2-Methylnaphthalene	6.69	142	2409	0.49613 ppb		89
5) 1-Methylnaphthalene	6.78	142	3341	0.58761 ppb		91
8) Acenaphthylene	7.70	152	4852	0.52507 ppb		99
9) Acenaphthene	7.89	154	2970	0.53588 ppb		96
10) Fluorene	8.53	166	3306	0.54159 ppb		100
12) Phenanthrene	9.81	178	4442	0.51261 ppb		99
13) Anthracene	9.92	178	3903	0.48414 ppb		97
14) Fluoranthene	12.55	202	6855	0.50983 ppb		98
16) Pyrene	13.18	202	7158	0.51395 ppb		99
18) Benz (a) anthracene	16.66	228	5061	0.46377 ppb	#	81
19) Chrysene	16.76	228	7173	0.55199 ppb	#	78
20) Indeno (1,2,3-cd) pyrene	22.85	276	4486	0.53188 ppb	#	86
22) Benzo (b) fluoranthene	19.57	252	4312	0.38067 ppb		92
23) Benzo (k) fluoranthene	19.65	252	6120m	0.76807 ppb		93
24) Benzo (a) pyrene	20.33	252	4999	0.50956 ppb	#	8
25) Dibenz (a,h) anthracene	22.88	278	3502	0.46556 ppb	#	1
26) Benzo (g,h,i) perylene	23.38	276	3694	0.47210 ppb	#	21

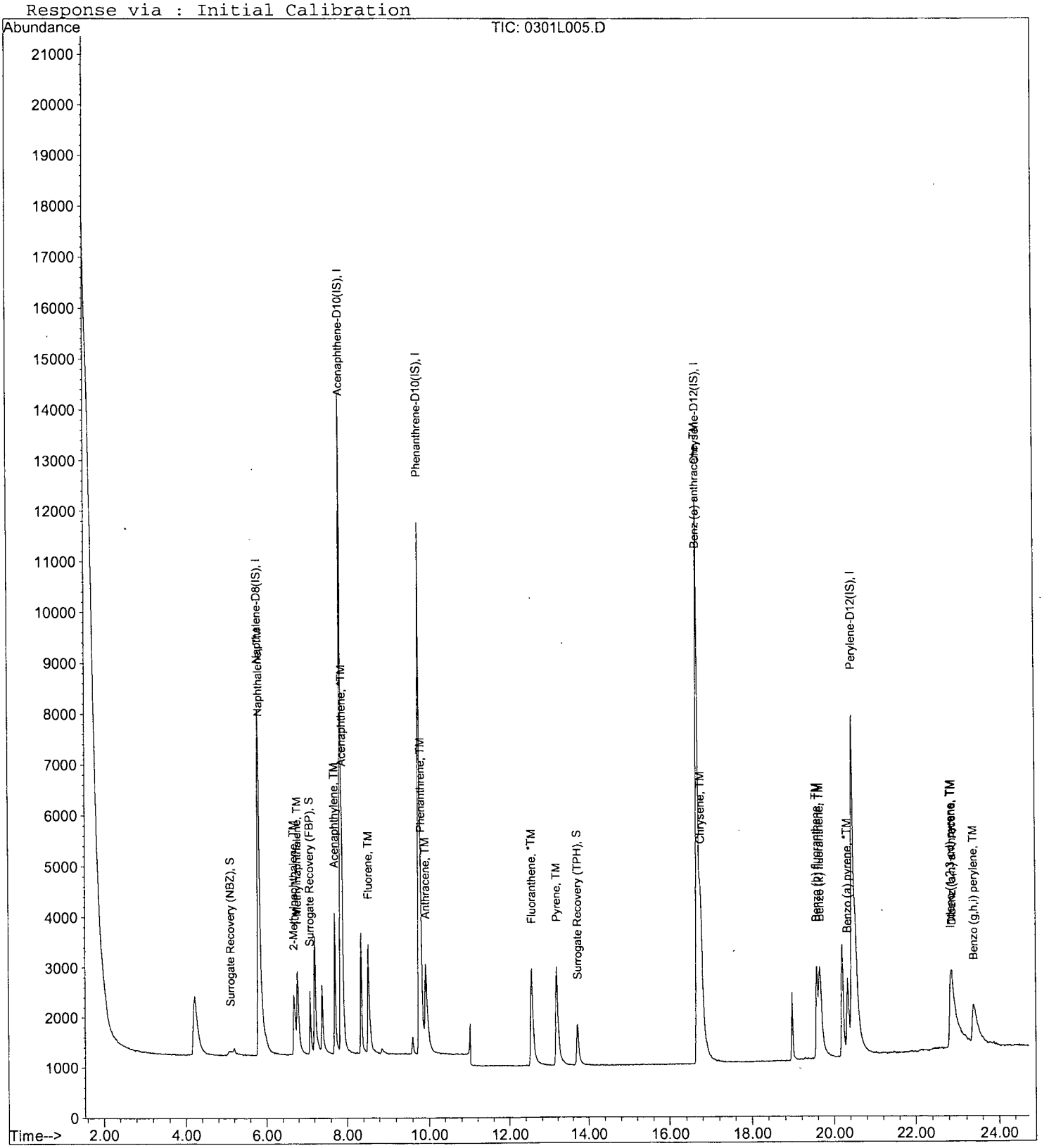
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D Vial: 5
Acq On : 1 Mar 17 13:52 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:36 2017 Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

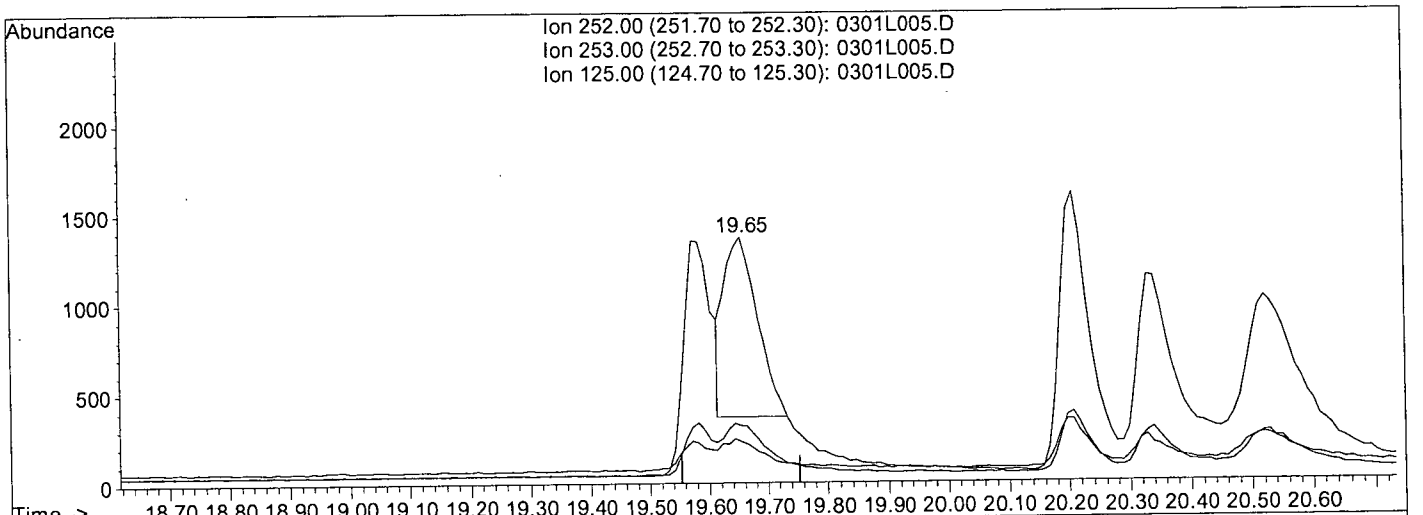


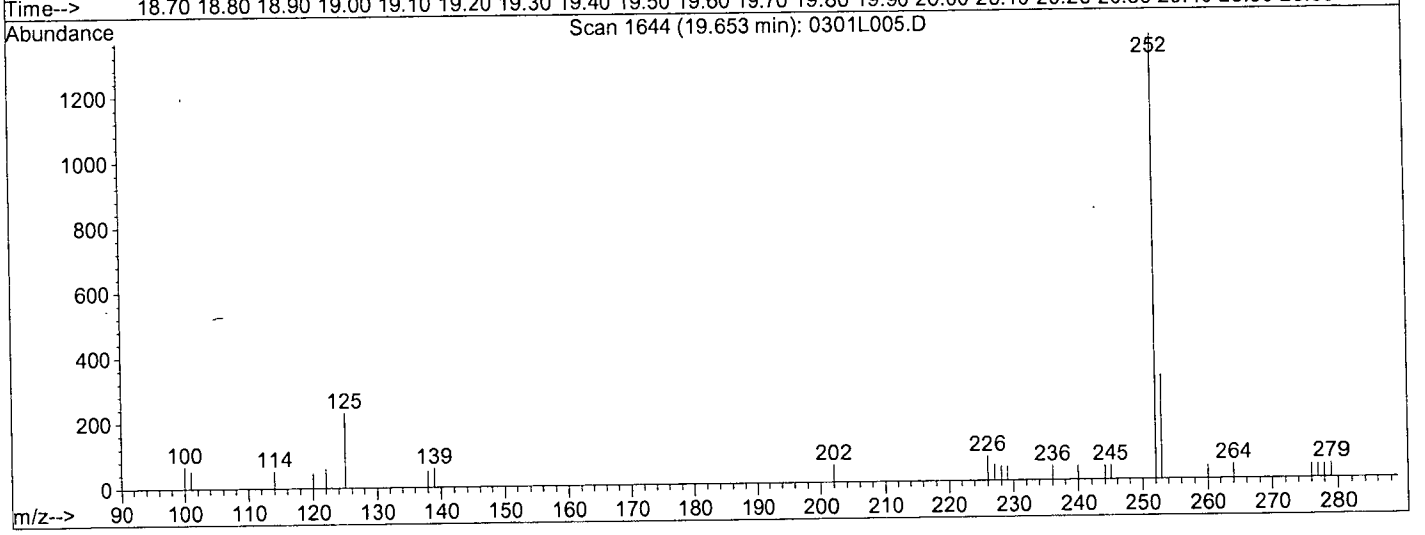
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D
Acq On : 1 Mar 17 13:52
Sample : 0.5 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:29 2017

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L005.D

(23) Benzo (k) fluoranthene (TM)

19.65min 0.4990ppb

response 3976

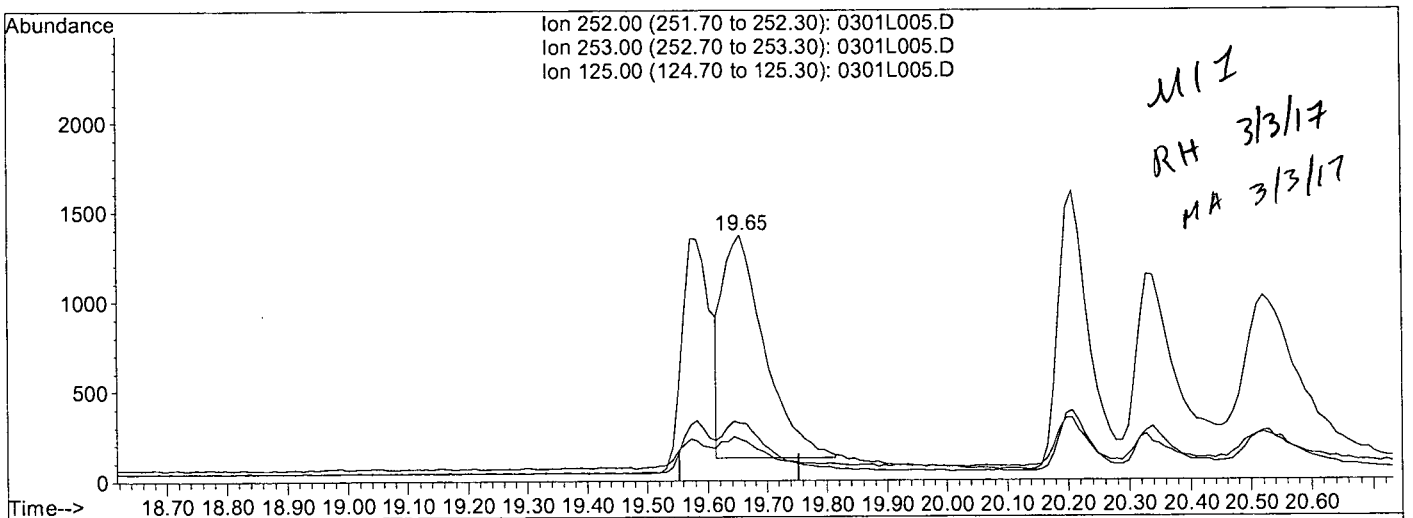
Ion	Exp%	Act%
252.00	100	100
253.00	23.30	21.00
125.00	16.80	12.20
0.00	0.00	0.00

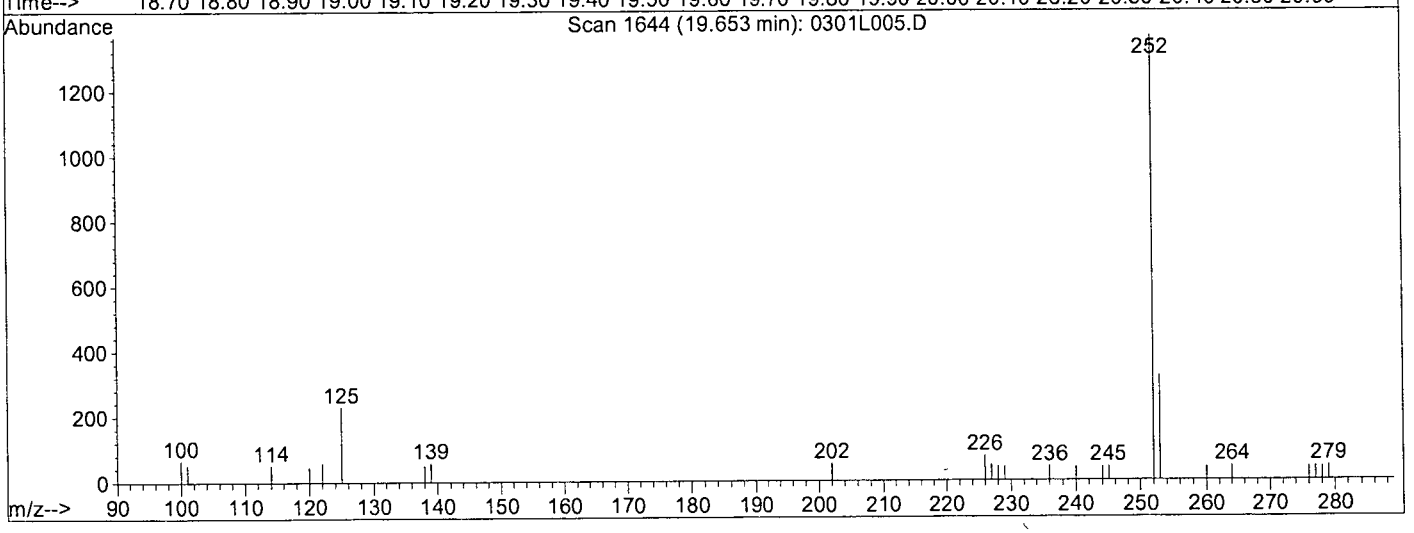
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D
Acq On : 1 Mar 17 13:52
Sample : 0.5 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:36 2017

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L005.D

(23) Benzo (k) fluoranthene (TM)

19.65min 0.7681ppb m

response 6120

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	23.34
125.00	16.80	16.75
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:24:51 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21587	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11277	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21896	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.67	240	26354	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	23331	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.06	82	479	0.41671 ppb	0.07
Spiked Amount 5.000			Recovery	= 8.340%	
7) Surrogate Recovery (FBP)	7.09	172	3628	0.52575 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.520%	
17) Surrogate Recovery (TPH)	13.71	244	4082	0.49453 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.900%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	9715	1.06003 ppb		99
4) 2-Methylnaphthalene	6.68	142	4992	1.00152 ppb		95
5) 1-Methylnaphthalene	6.77	142	6371	1.09156 ppb		96
8) Acenaphthylene	7.70	152	9645	1.03283 ppb		100
9) Acenaphthene	7.89	154	5809	1.03716 ppb		99
10) Fluorene	8.52	166	6493	1.05256 ppb		98
12) Phenanthrene	9.80	178	9058	1.02707 ppb		99
13) Anthracene	9.91	178	7955	0.96955 ppb		99
14) Fluoranthene	12.53	202	13669	0.99888 ppb		99
16) Pyrene	13.16	202	14333	1.02279 ppb		99
18) Benz (a) anthracene	16.65	228	10259	0.93009 ppb	#	83
19) Chrysene	16.76	228	13985	1.08914 ppb	#	80
20) Indeno (1,2,3-cd) pyrene	22.81	276	10351	1.06809 ppb	#	22
22) Benzo (b) fluoranthene	19.56	252	8397	0.77541 ppb	#	92
23) Benzo (k) fluoranthene	19.63	252	12043m	1.58210 ppb		93
24) Benzo (a) pyrene	20.33	252	9910	0.99784 ppb	#	6
25) Dibenz (a,h) anthracene	22.85	278	7886	1.02923 ppb	#	1
26) Benzo (g,h,i) perylene	23.35	276	7957	0.99945 ppb	#	22

(#) = qualifier out of range (m) = manual integration

Quantitation Report

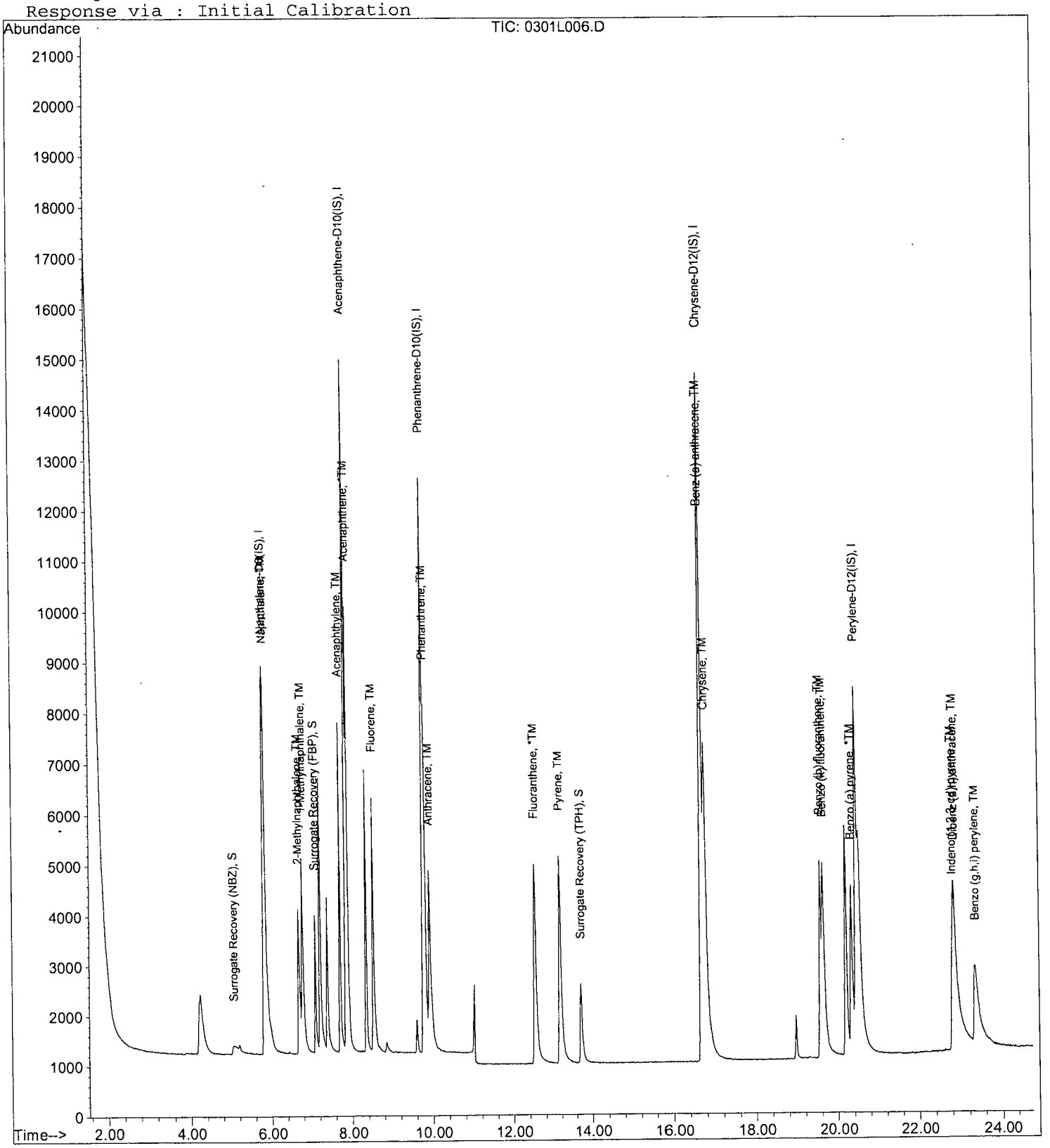
Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017

Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

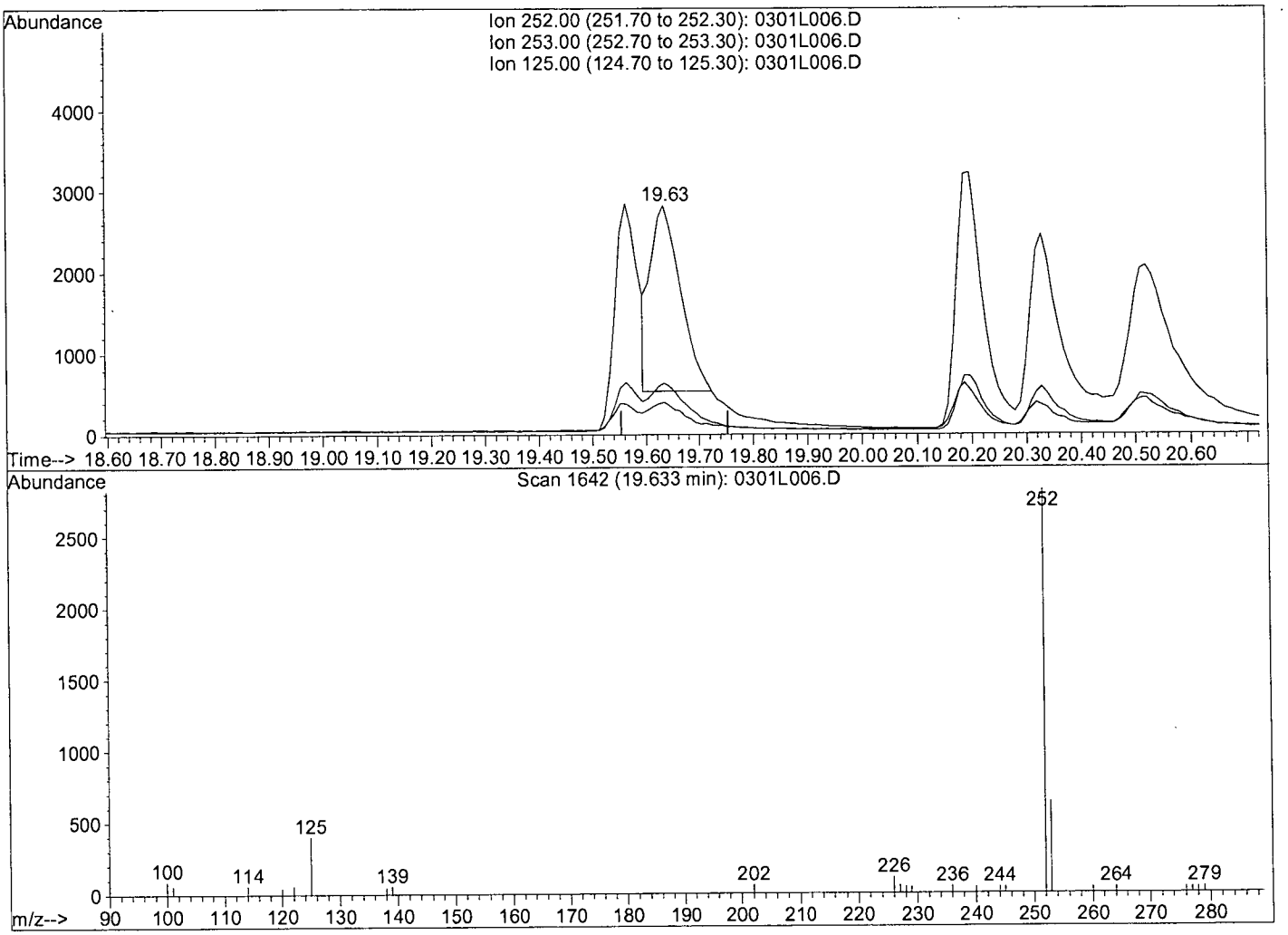


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:25 2017

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



TIC: 0301L006.D

(23) Benzo (k) fluoranthene (TM)

19.63min 1.1896ppb

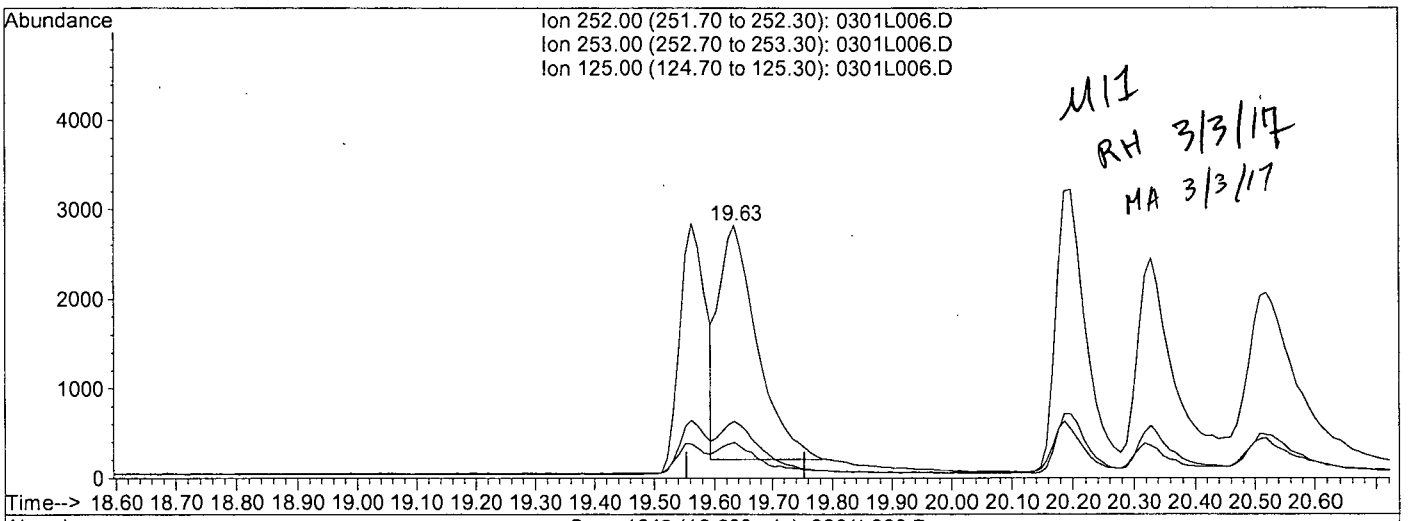
response 9055

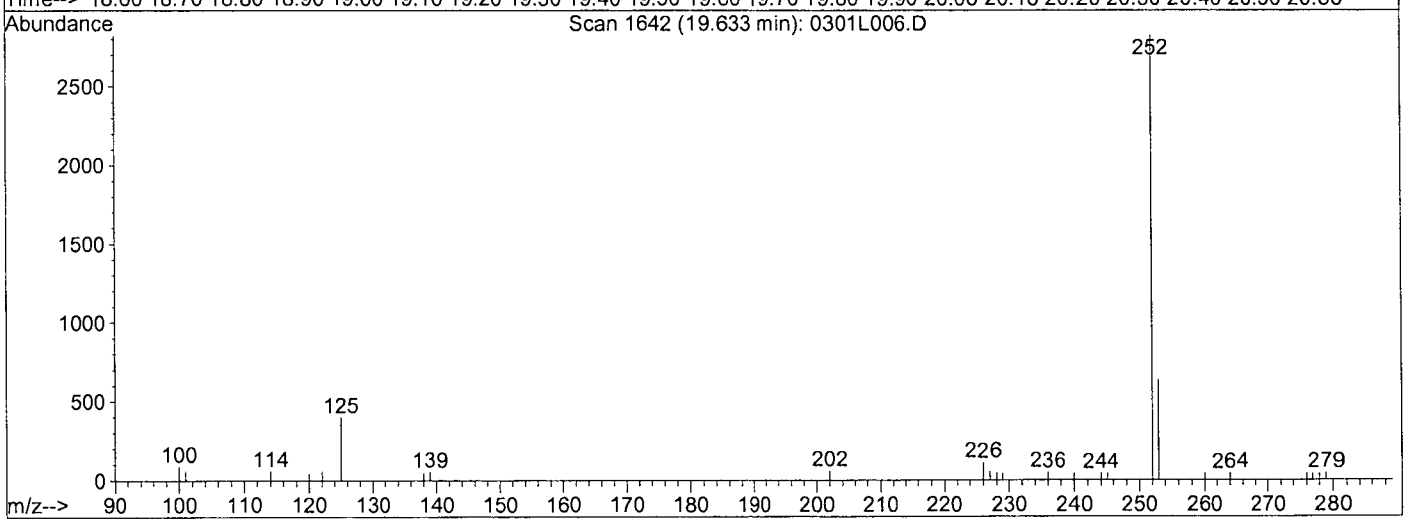
Ion	Exp%	Act%
252.00	100	100
253.00	23.30	21.16
125.00	16.80	12.33
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L006.D Vial: 6
Acq On : 1 Mar 17 14:24 Operator: MA
Sample : 1.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:37 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L006.D

(23) Benzo (k) fluoranthene (TM)

19.63min 1.5821ppb m

response 12043

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	22.49
125.00	16.80	14.06
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L007.D Vial: 7
Acq On : 1 Mar 17 14:57 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:37 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	10750	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	21127	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	26059	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.43	264	22018	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	7377	2.47320 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.460%	
7) Surrogate Recovery (FBP)	7.07	172	17099	2.59935 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.980%	
17) Surrogate Recovery (TPH)	13.68	244	19717	2.41572 ppb	0.00
Spiked Amount 5.000			Recovery	= 48.320%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	47356	5.25998 ppb	100
4) 2-Methylnaphthalene	6.64	142	28114	5.74172 ppb	98
5) 1-Methylnaphthalene	6.75	142	29061	5.06854 ppb	97
8) Acenaphthylene	7.69	152	48113	5.40475 ppb	100
9) Acenaphthene	7.88	154	27996	5.24353 ppb	100
10) Fluorene	8.50	166	31755	5.40008 ppb	100
12) Phenanthrene	9.79	178	45634	5.36270 ppb	100
13) Anthracene	9.89	178	44172	5.57960 ppb	100
14) Fluoranthene	12.50	202	72027	5.45506 ppb	100
16) Pyrene	13.13	202	74844	5.40125 ppb	100
18) Benz (a) anthracene	16.63	228	58410	5.35542 ppb	100
19) Chrysene	16.73	228	62489	4.92167 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.74	276	52695	5.49900 ppb #	97
22) Benzo (b) fluoranthene	19.52	252	47895	4.92541 ppb	99
23) Benzo (k) fluoranthene	19.59	252	61971m	8.62667 ppb	99
24) Benzo (a) pyrene	20.30	252	52466	5.59783 ppb	100
25) Dibenz (a,h) anthracene	22.79	278	42230	5.84029 ppb	96
26) Benzo (g,h,i) perylene	23.27	276	41407	5.51113 ppb	98

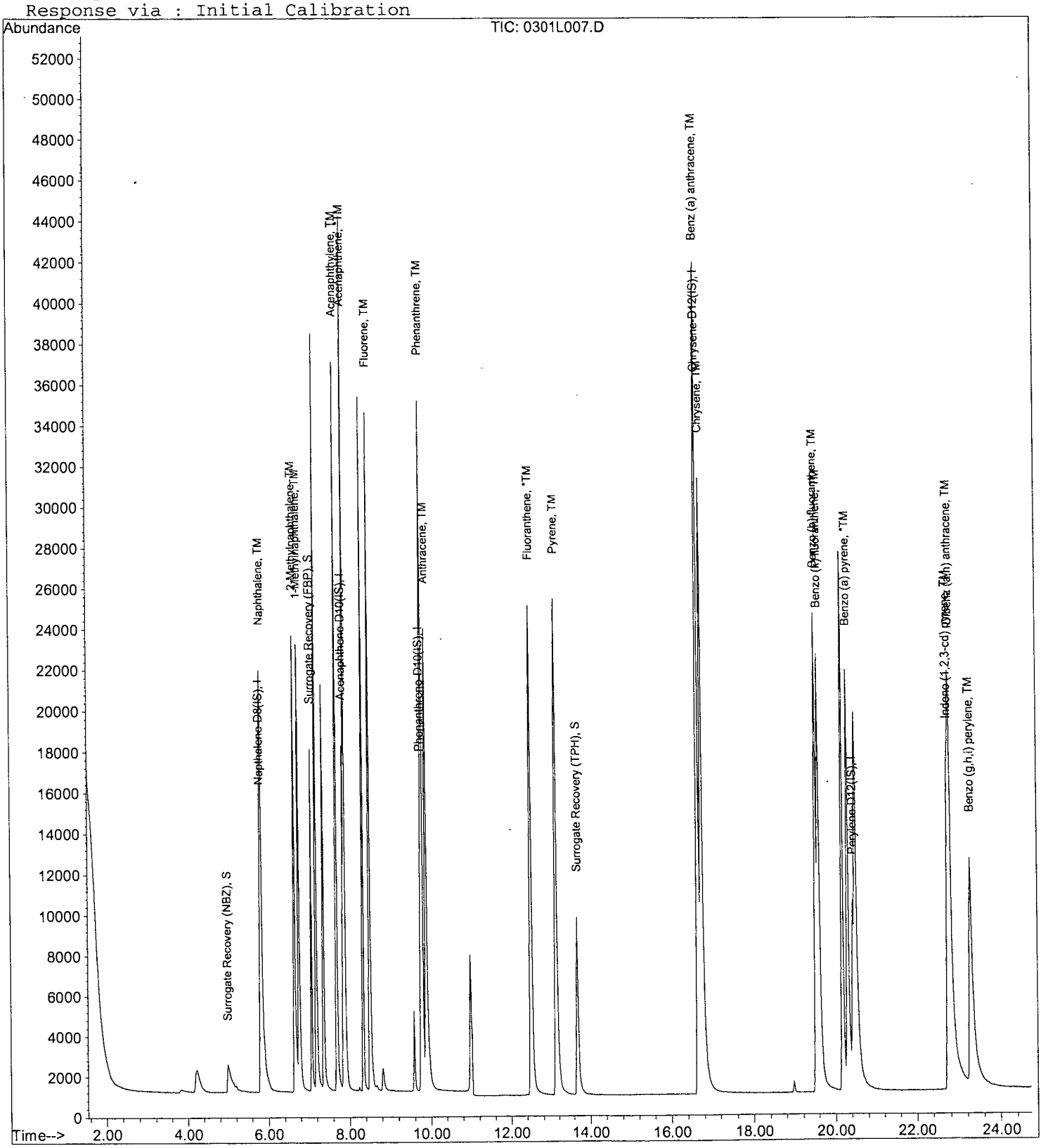
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L007.D Vial: 7
Acq On : 1 Mar 17 14:57 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:37 2017 Quant Results File: L0301P.RES

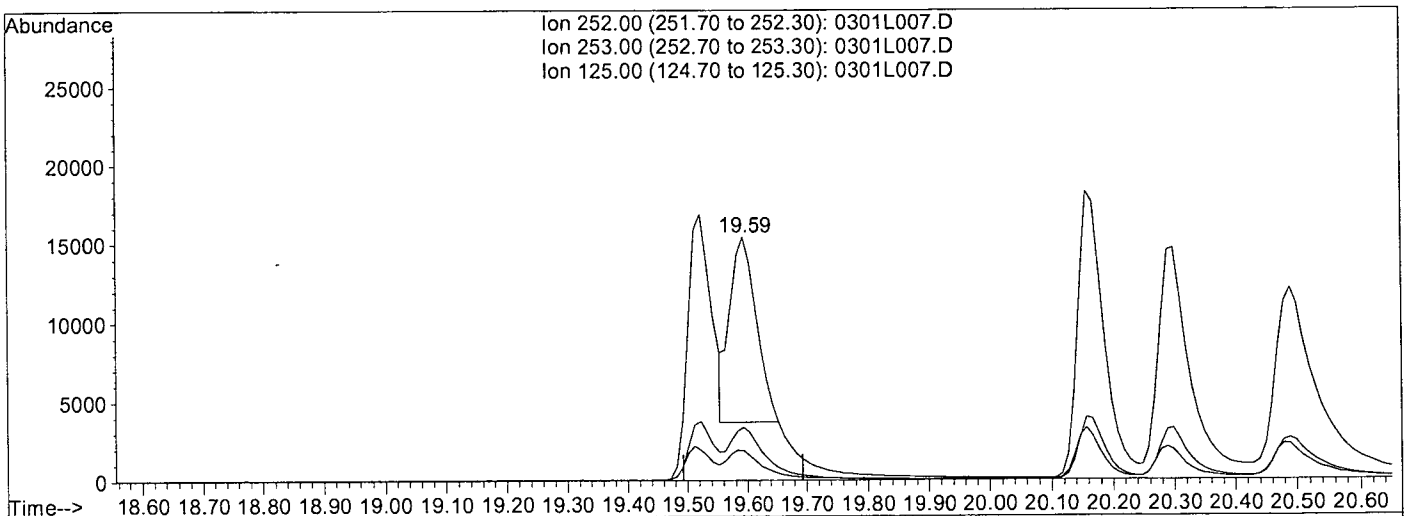
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

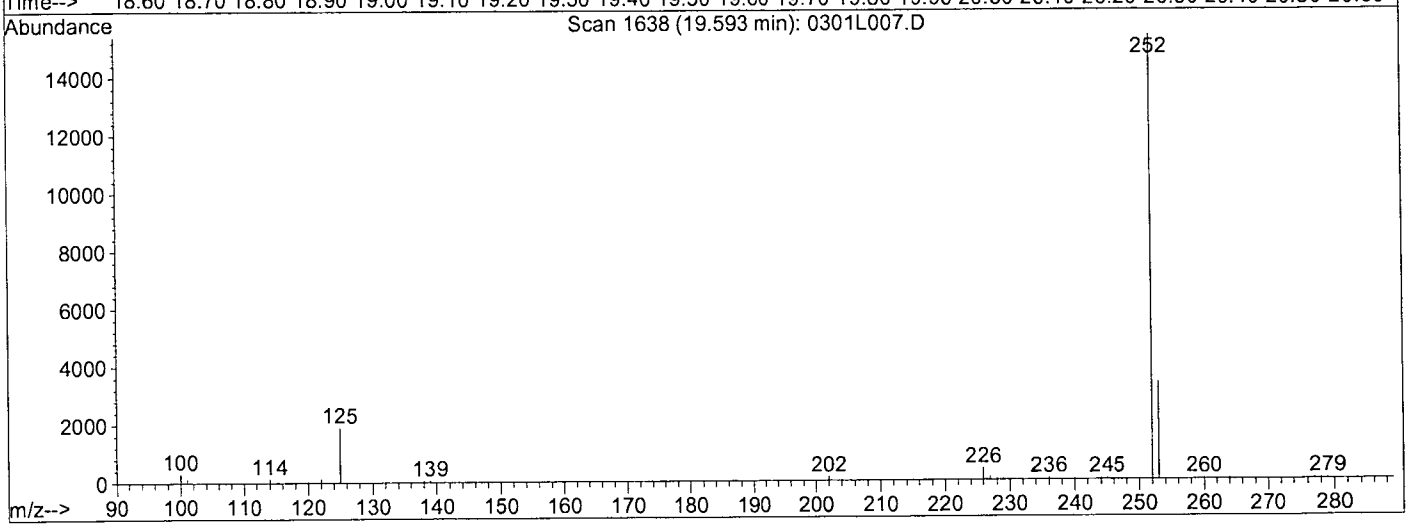


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L007.D Vial: 7
Acq On : 1 Mar 17 14:57 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L007.D

(23) Benzo (k) fluoranthene (TM)

19.59min 5.1035ppb

response 36662

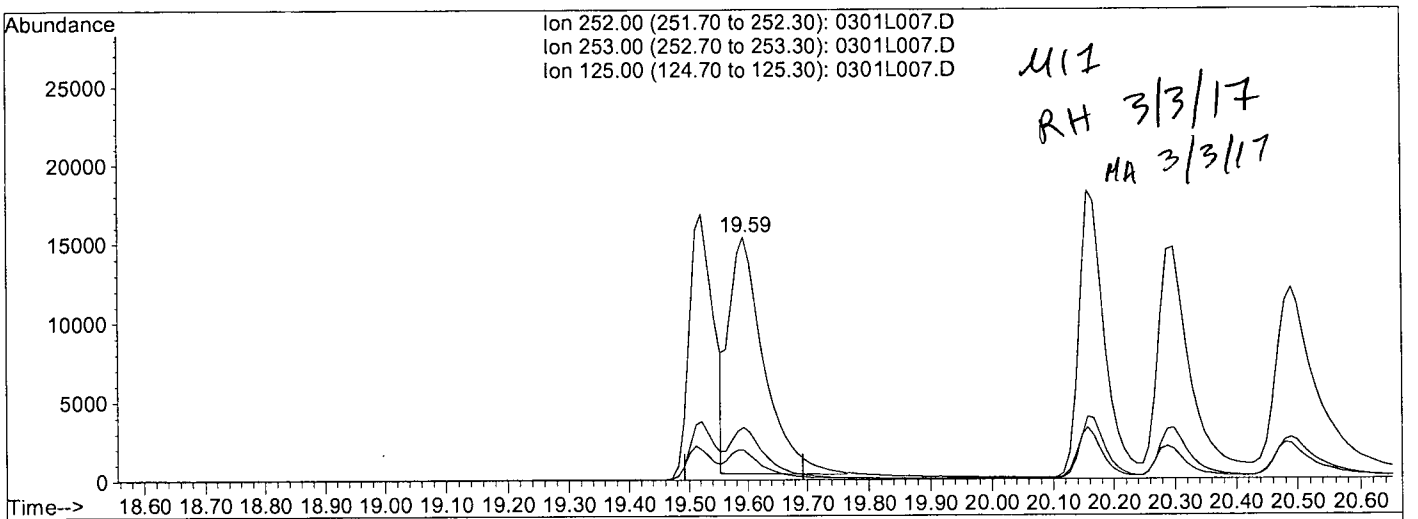
Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.84
125.00	11.80	12.43
0.00	0.00	0.00

Quantitation Report

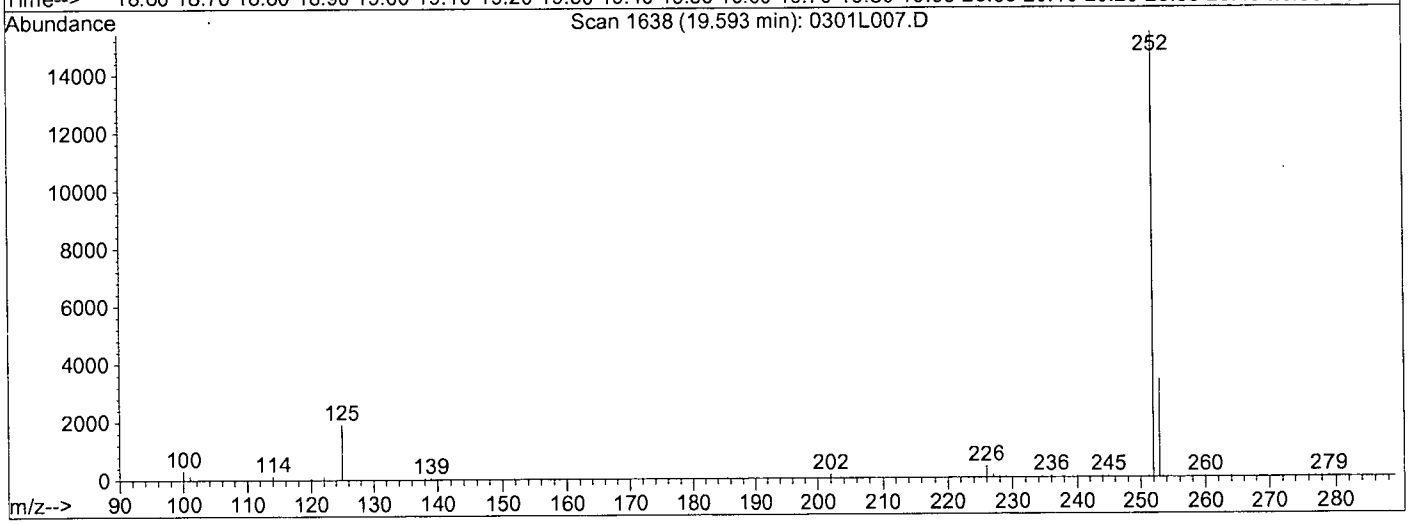
Data File : M:\LINUS\DATA\L170301\0301L007.D
Acq On : 1 Mar 17 14:57
Sample : 5.0 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:37 2017

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



MI
RH 3/3/17
MA 3/3/17



TIC: 0301L007.D

(23) Benzo (k) fluoranthene (TM)

19.59min 8.6267ppb m

response 61971

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.89
125.00	11.80	12.32
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L008.D Vial: 8
Acq On : 1 Mar 17 15:30 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:37 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	22138	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	11001	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	21823	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	26814	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.42	264	22713	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	16777	5.06188 ppb	-0.01
Spiked Amount 5.000			Recovery	= 101.240%	
7) Surrogate Recovery (FBP)	7.06	172	35820	5.32103 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.420%	
17) Surrogate Recovery (TPH)	13.67	244	42025	5.00391 ppb	-0.01
Spiked Amount 5.000			Recovery	= 100.080%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	93426	9.94024 ppb		100
4) 2-Methylnaphthalene	6.64	142	56194	10.99334 ppb		100
5) 1-Methylnaphthalene	6.75	142	56473	9.43482 ppb		100
8) Acenaphthylene	7.69	152	94718	10.39734 ppb		99
9) Acenaphthene	7.88	154	54852	10.03914 ppb		98
10) Fluorene	8.50	166	61981	10.29967 ppb		98
12) Phenanthrene	9.78	178	91626	10.42406 ppb		99
13) Anthracene	9.87	178	87656	10.71918 ppb		100
14) Fluoranthene	12.48	202	144399	10.58746 ppb		98
16) Pyrene	13.12	202	149125	10.45885 ppb		100
18) Benz (a) anthracene	16.63	228	121017	10.78324 ppb		99
19) Chrysene	16.72	228	123938	9.48658 ppb		100
20) Indeno (1,2,3-cd) pyrene	22.73	276	106841	10.83549 ppb	#	100
22) Benzo (b) fluoranthene	19.51	252	99492	9.96645 ppb		100
23) Benzo (k) fluoranthene	19.58	252	118181m	15.94799 ppb		100
24) Benzo (a) pyrene	20.29	252	105286	10.88969 ppb		100
25) Dibenz (a,h) anthracene	22.78	278	85713	11.49114 ppb		100
26) Benzo (g,h,i) perylene	23.25	276	83382	10.75827 ppb		99

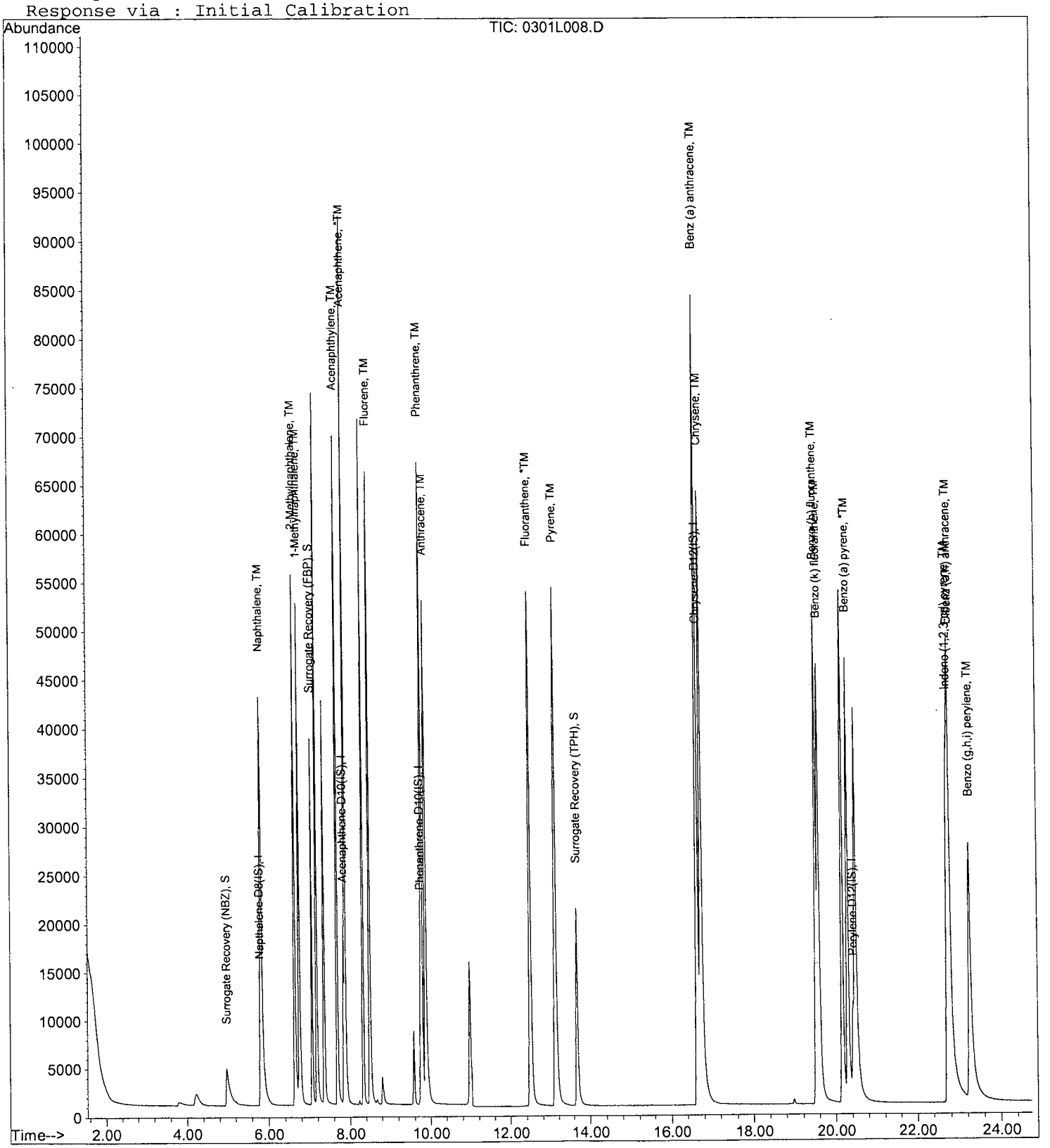
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L008.D Vial: 8
Acq On : 1 Mar 17 15:30 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:37 2017 Quant Results File: L0301P.RES

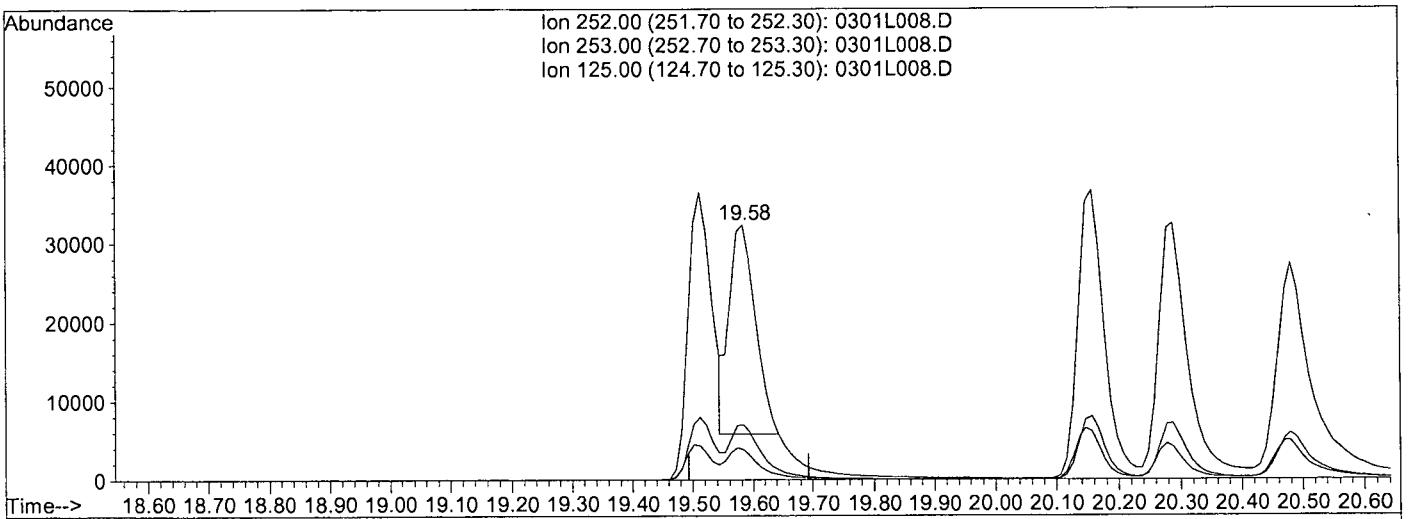
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

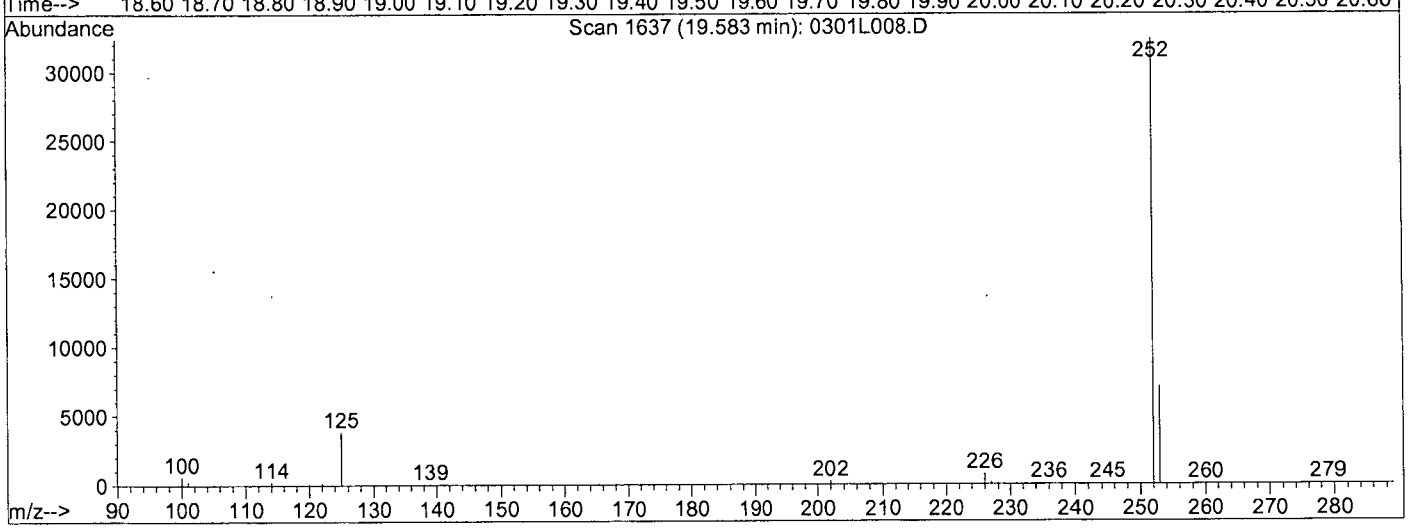


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L008.D Vial: 8
Acq On : 1 Mar 17 15:30 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L008.D

(23) Benzo (k) fluoranthene (TM)

19.58min 11.0558ppb

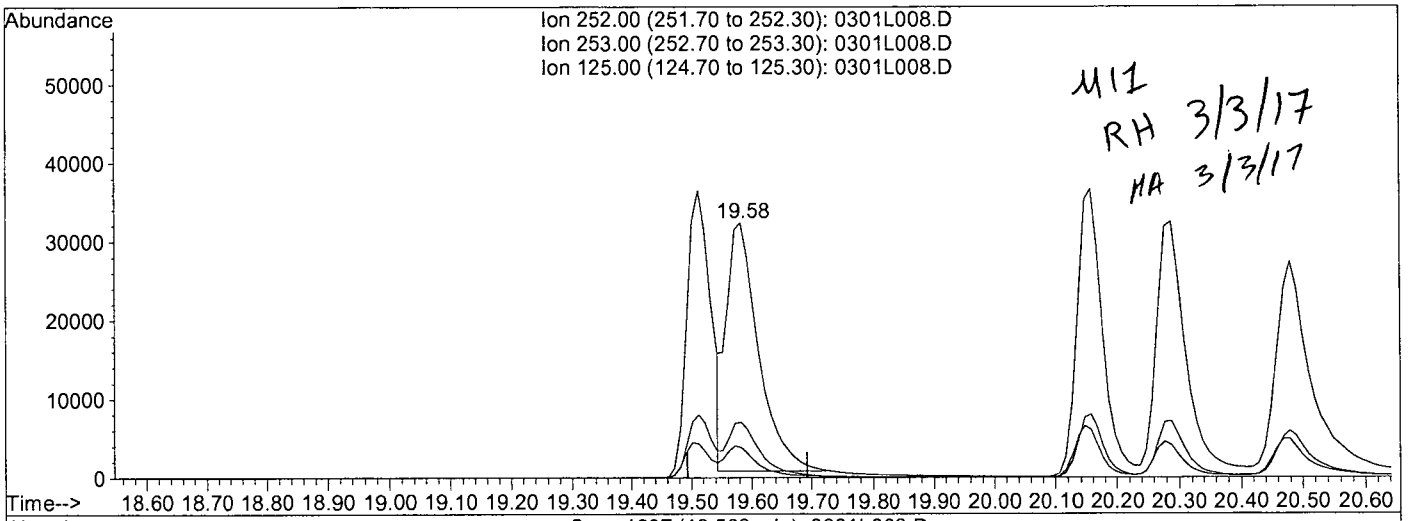
response 81928

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.69
125.00	11.80	11.88
0.00	0.00	0.00

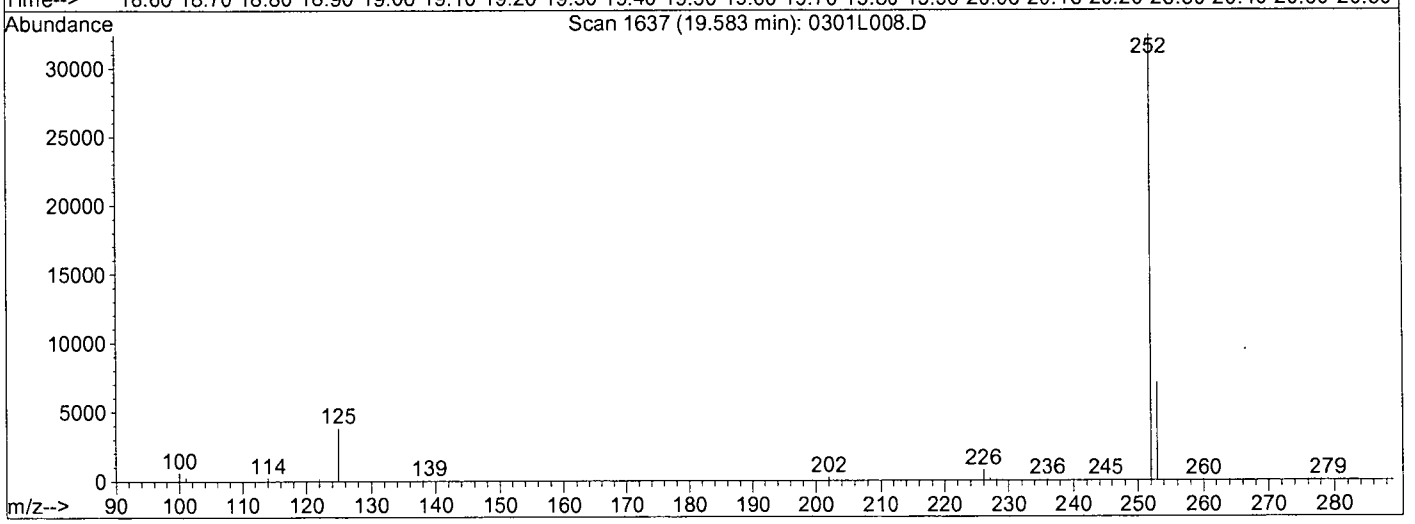
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L008.D Vial: 8
Acq On : 1 Mar 17 15:30 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:37 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



MII
RH 3/3/17
MA 3/3/17



TIC: 0301L008.D

(23) Benzo (k) fluoranthene (TM)

19.58min 15.9480ppb m

response 118181

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.74
125.00	11.80	11.83
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	21579	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	10322	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.74	188	20178	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.66	240	24956	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.42	264	21531	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	84007	24.85852 ppb	-0.04
Spiked Amount 5.000			Recovery	= 497.180%	
7) Surrogate Recovery (FBP)	7.06	172	153721	24.33727 ppb	-0.01
Spiked Amount 5.000			Recovery	= 486.740%	
17) Surrogate Recovery (TPH)	13.67	244	184252	23.57222 ppb	-0.01
Spiked Amount 5.000			Recovery	= 471.440%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	422031	46.06602 ppb	100
4) 2-Methylnaphthalene	6.63	142	251089	50.39348 ppb	99
5) 1-Methylnaphthalene	6.75	142	237312	40.67425 ppb	98
8) Acenaphthylene	7.68	152	406077	47.50797 ppb	99
9) Acenaphthene	7.88	154	230648	44.99064 ppb	97
10) Fluorene	8.49	166	259616	45.97951 ppb	100
12) Phenanthrene	9.79	178	388093	47.75187 ppb	100
13) Anthracene	9.87	178	379818	50.23329 ppb	100
14) Fluoranthene	12.49	202	630924	50.03119 ppb	99
16) Pyrene	13.12	202	648661	48.88075 ppb	99
18) Benz (a) anthracene	16.63	228	553214	52.96421 ppb	100
19) Chrysene	16.73	228	530762	43.65075 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.74	276	477179	51.99703 ppb #	98
22) Benzo (b) fluoranthene	19.52	252	483215	51.25787 ppb	100
23) Benzo (k) fluoranthene	19.59	252	485525m	69.11623 ppb	99
24) Benzo (a) pyrene	20.30	252	463955	50.62104 ppb	100
25) Dibenz (a,h) anthracene	22.79	278	383180	54.19132 ppb	97
26) Benzo (g,h,i) perylene	23.26	276	381738	51.95719 ppb	97

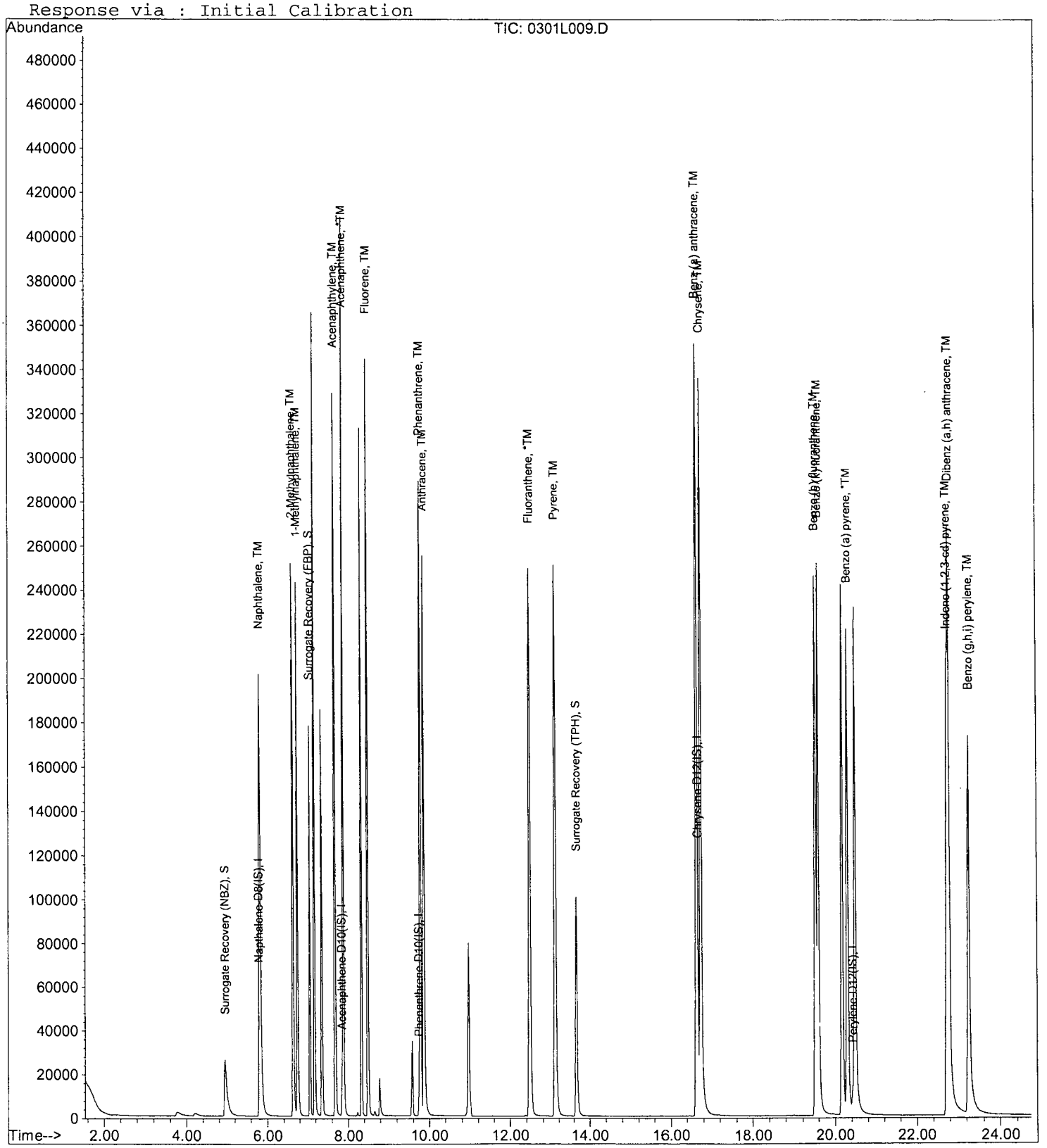
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

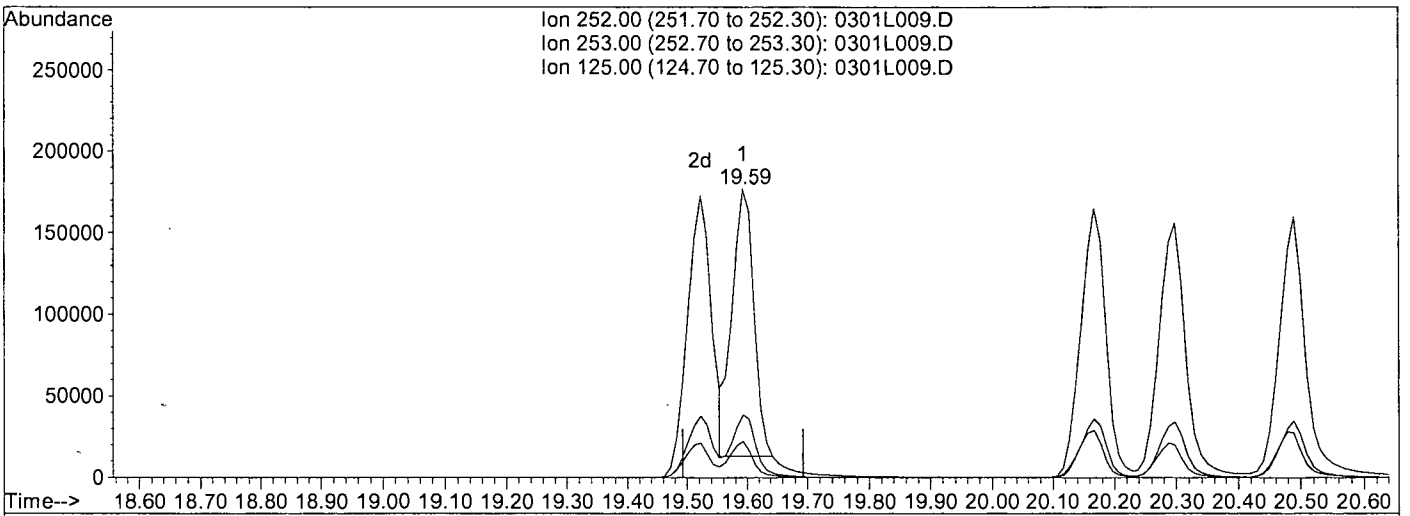
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

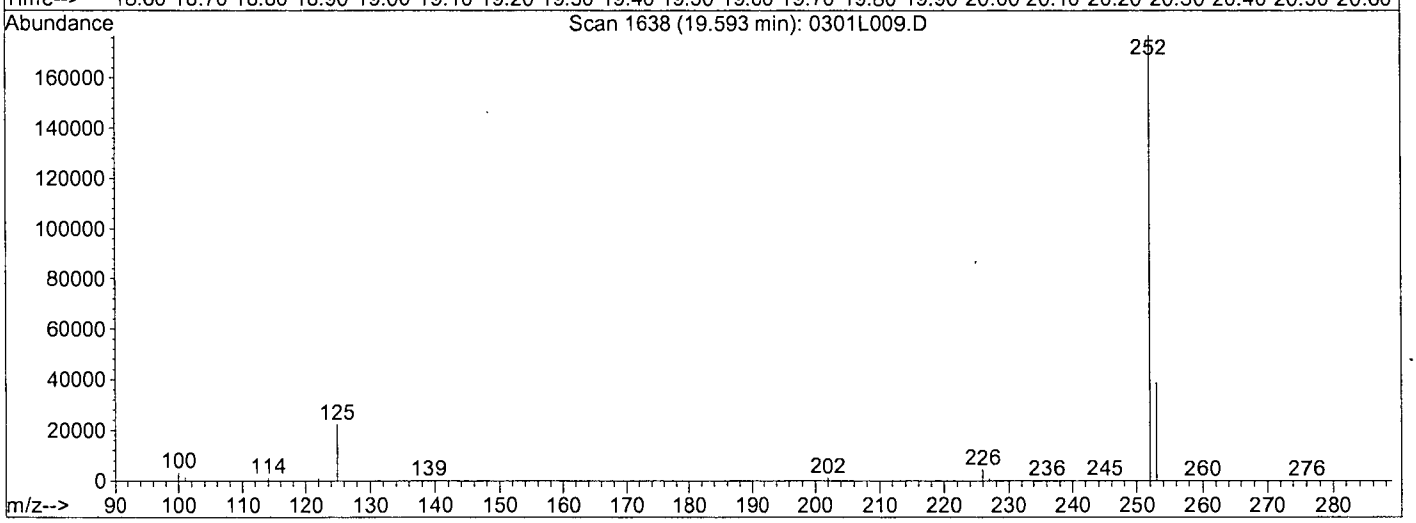


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L009.D

(23) Benzo (k) fluoranthene (TM)

19.59min 59.6580ppb

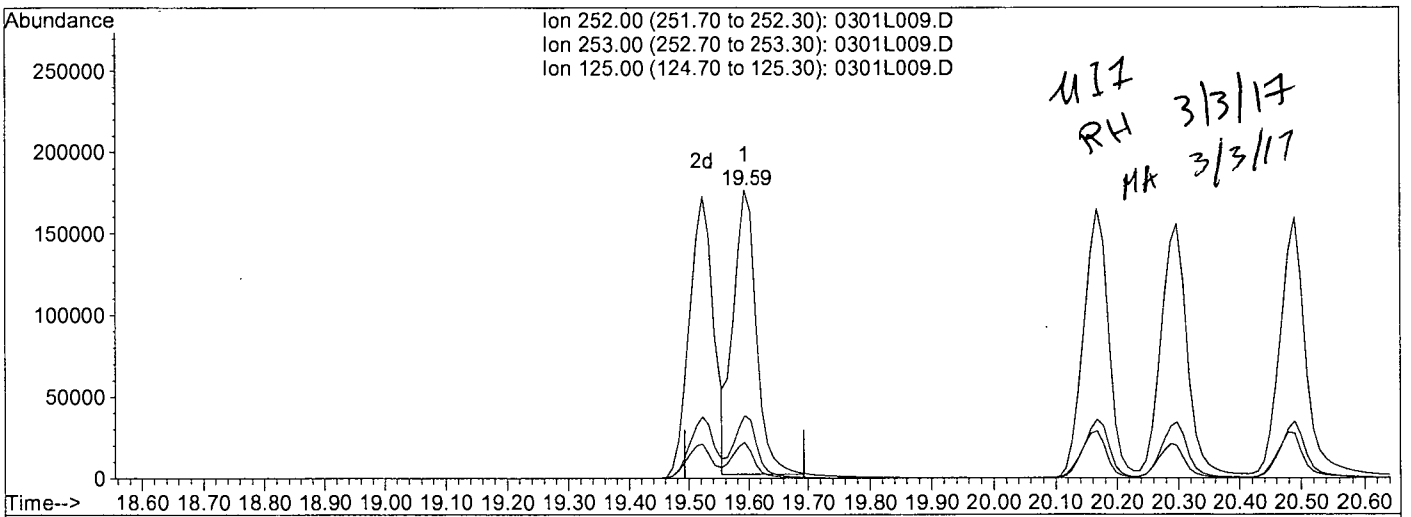
response 419083

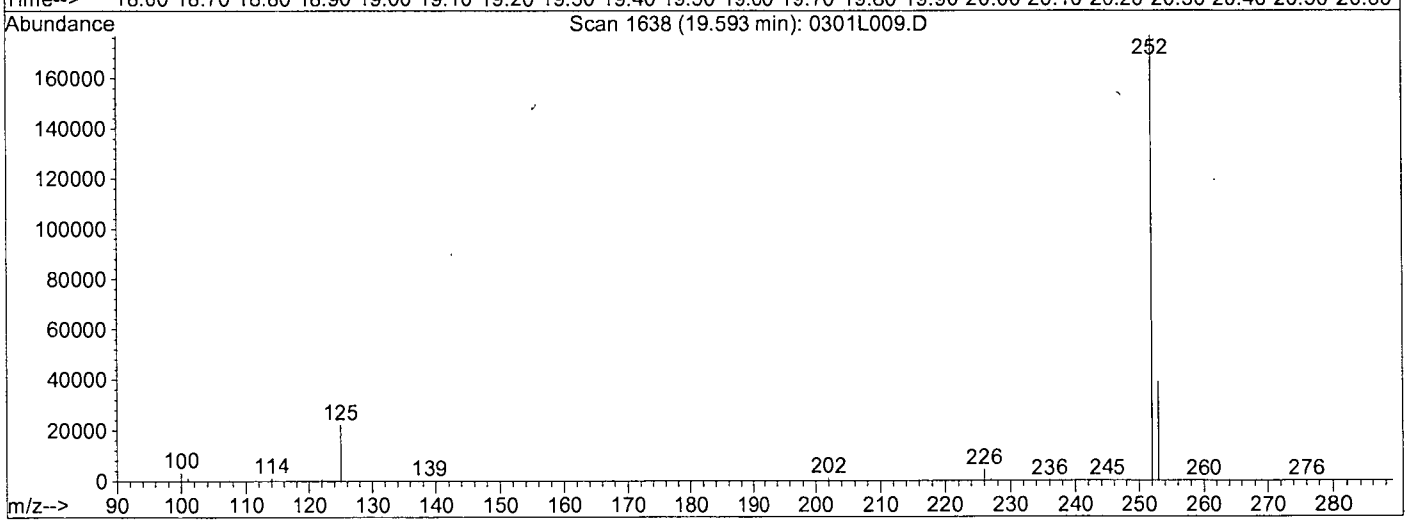
Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.90
125.00	11.80	12.74
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:38 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L009.D

(23) Benzo (k) fluoranthene (TM)

19.59min 69.1162ppb m

response 485525

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.88
125.00	11.80	12.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	20536	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	9967	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	19144	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23425	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.44	264	20548	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.94	82	161928	50.06611 ppb	-0.05
Spiked Amount 5.000			Recovery	= 1001.320%	
7) Surrogate Recovery (FBP)	7.06	172	276779	45.38070 ppb	-0.01
Spiked Amount 5.000			Recovery	= 907.620%	
17) Surrogate Recovery (TPH)	13.68	244	331430	45.17264 ppb	0.00
Spiked Amount 5.000			Recovery	= 903.460%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	770250	88.34531 ppb	100
4) 2-Methylnaphthalene	6.63	142	458759	96.74906 ppb	100
5) 1-Methylnaphthalene	6.75	142	427746	77.03734 ppb	99
8) Acenaphthylene	7.69	152	721480	87.41415 ppb	99
9) Acenaphthene	7.88	154	407562	82.33141 ppb	99
10) Fluorene	8.50	166	455406	83.52780 ppb	98
12) Phenanthrene	9.79	178	687089	89.10723 ppb	100
13) Anthracene	9.87	178	659078	91.87520 ppb	99
14) Fluoranthene	12.50	202	1124763	94.00917 ppb	97
16) Pyrene	13.13	202	1150872	92.39373 ppb	99
18) Benz (a) anthracene	16.65	228	997389	101.73006 ppb	100
19) Chrysene	16.76	228	936646	82.06590 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.77	276	857796	99.58104 ppb #	96
22) Benzo (b) fluoranthene	19.54	252	893708	99.38128 ppb	99
23) Benzo (k) fluoranthene	19.63	252	878353m	131.01837 ppb	98
24) Benzo (a) pyrene	20.33	252	837953	95.80089 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	688829	102.07819 ppb	95
26) Benzo (g,h,i) perylene	23.30	276	664596	94.78347 ppb	94

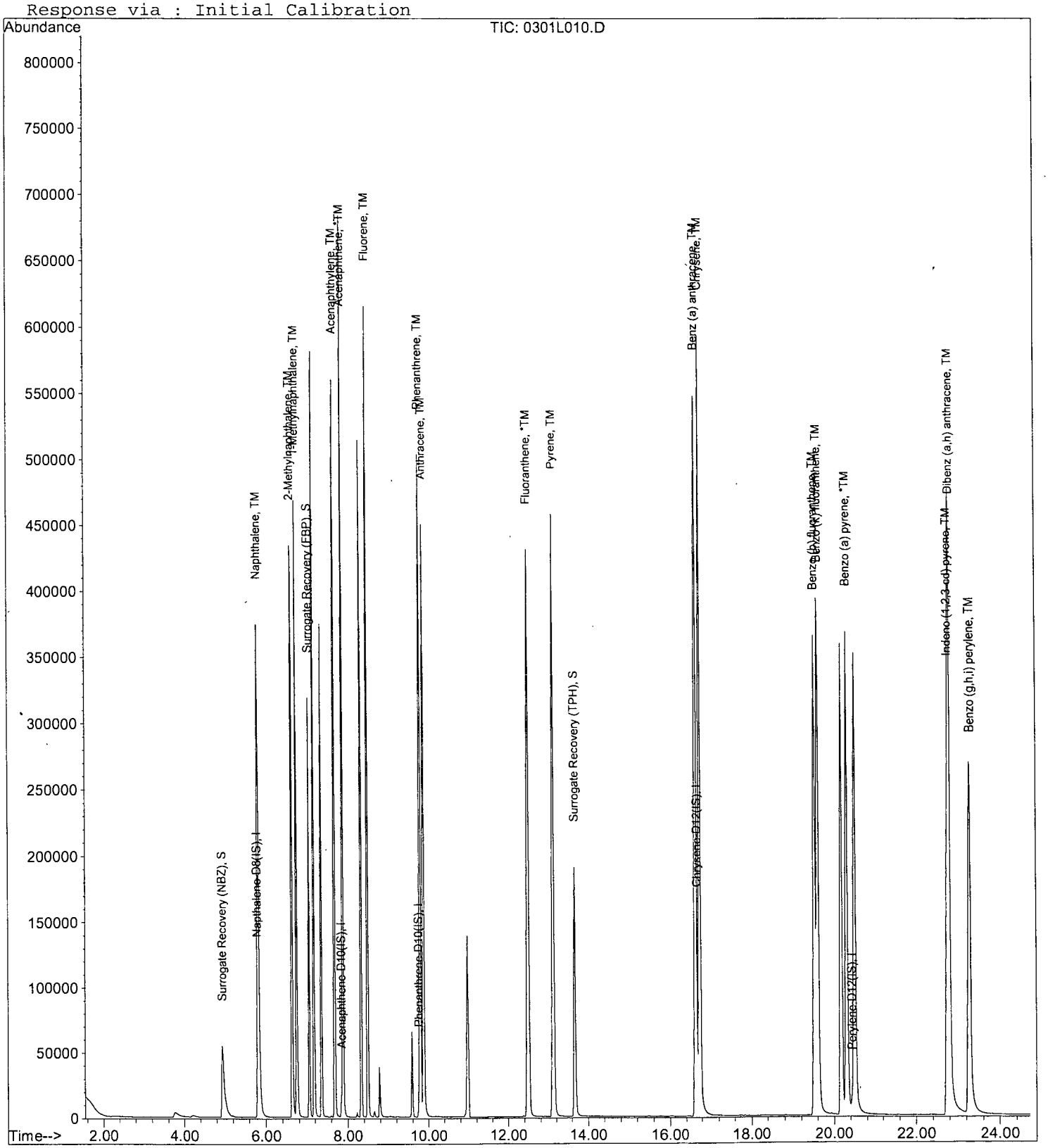
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

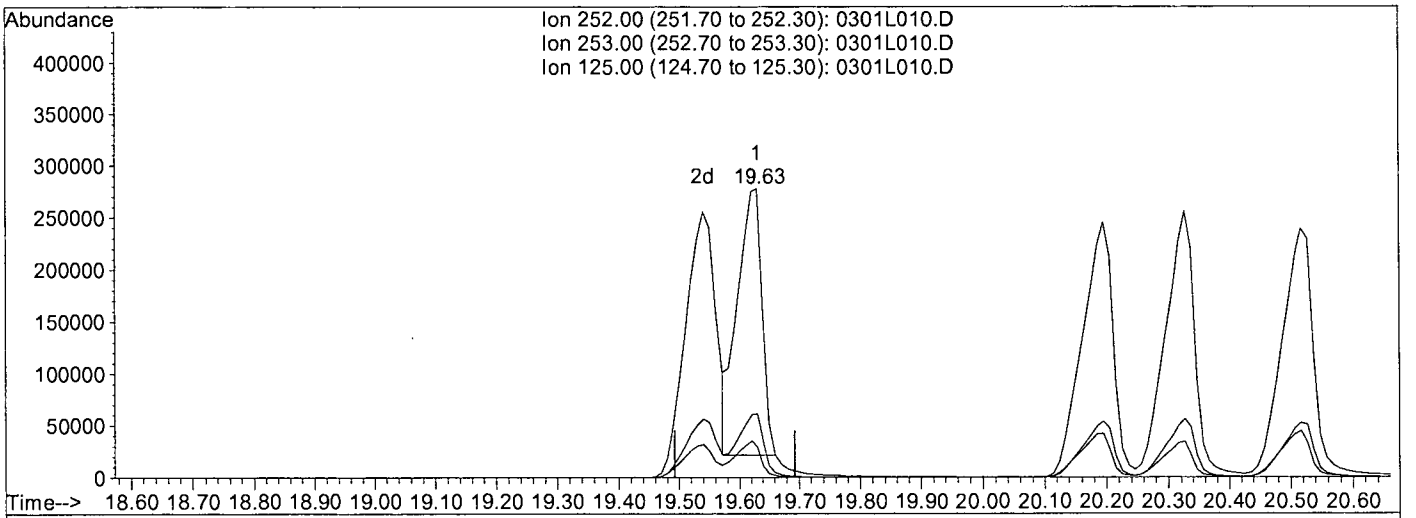
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

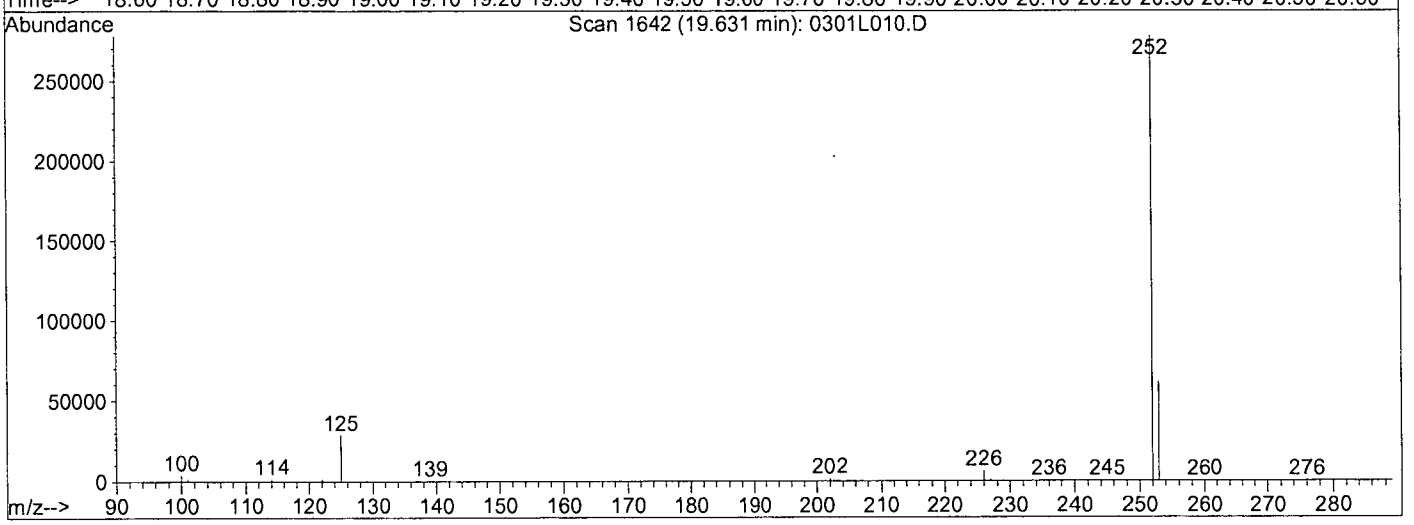


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L010.D

(23) Benzo (k) fluoranthene (TM)

19.63min 114.1699ppb

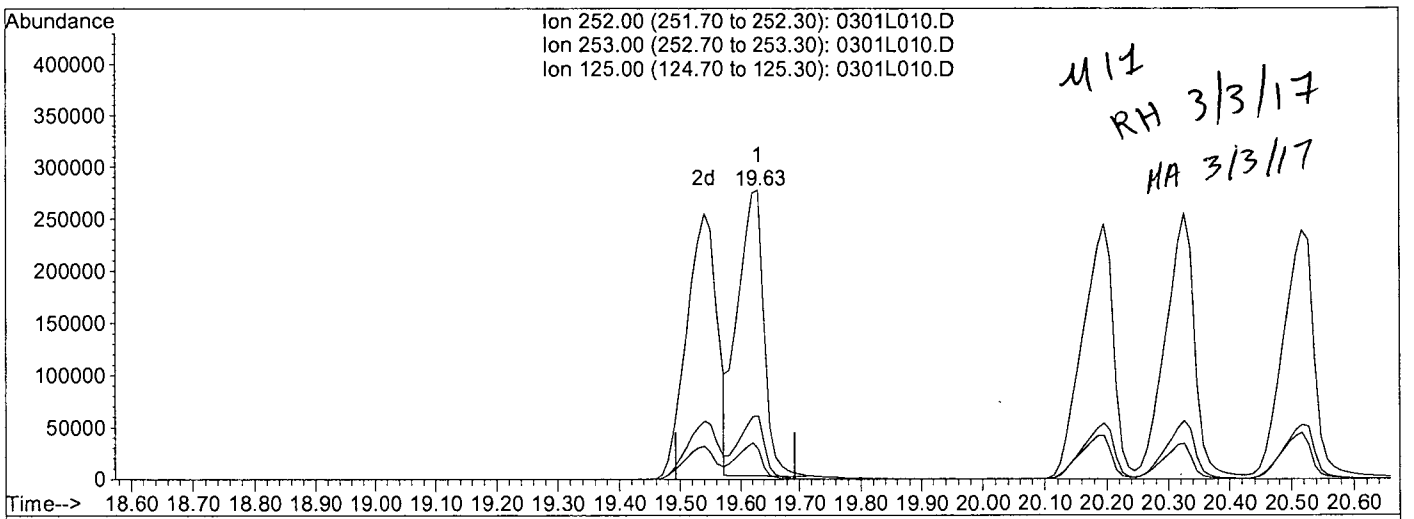
response 765400

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	22.05
125.00	11.80	10.39
0.00	0.00	0.00

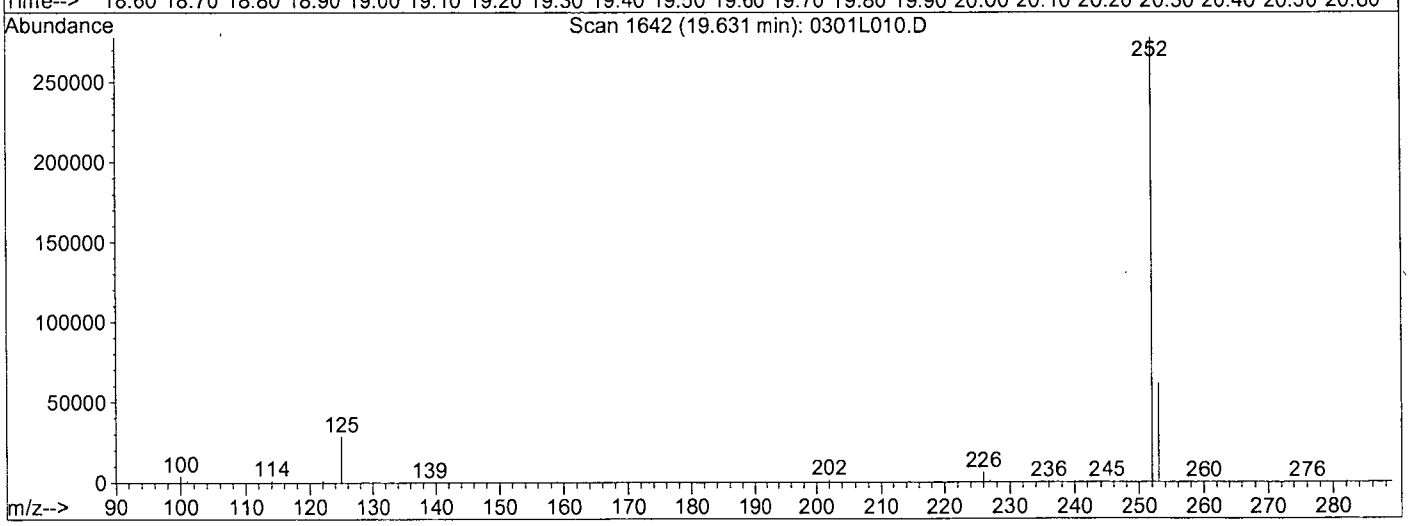
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:38 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



M11
RH 3/3/17
MA 3/3/17



TIC: 0301L010.D

(23) Benzo (k) fluoranthene (TM)

19.63min 131.0184ppb m

response 878353

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	22.05
125.00	11.80	10.30
0.00	0.00	0.00

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Mar 17 17:06
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	TM	Naphthalene	1.061	1.103	3.9	TM	
3	TM	2-Methylnaphthalene	0.5772	0.6322	9.5	TM	
4	TM	1-Methylnaphthalene	0.6759	0.6948	2.8	TM	
5	I	Acenaphthene-D10(IS)	ISTD			I	
6	TM	Acenaphthylene	2.070	2.130	2.9	TM	
7	*TM	Acenaphthene	1.242	1.289	3.8	*TM	
8	TM	Fluorene	1.368	1.463	7.0	TM	
9	I	Phenanthrene-D10(IS)	ISTD			I	
10	TM	Phenanthrene	1.007	1.035	2.8	TM	
11	TM	Anthracene	0.9368	0.9827	4.9	TM	
12	*TM	Fluoranthene	1.562	1.651	5.6	*TM	
13	I	Chrysene-D12(IS)	ISTD			I	
14	TM	Pyrene	1.330	1.333	0.23	TM	
15	TM	Benz (a) anthracene	1.044	1.028	1.5	TM	
16	TM	Chrysene	1.235	1.152	6.7	TM	
17	TM	Indeno (1,2,3-cd) pyrene	0.9067	0.9278	2.3	TM	
18	I	Perylene-D12(IS)	ISTD			I	
19	TML	Benzo (b) fluoranthene	0.9654	1.059	9.7	TML	4.1
20	TM	Benzo (k) fluoranthene	1.244	1.199	3.6	TM	
21	*TM	Benzo (a) pyrene	1.063	1.110	4.4	*TM	
22	TM	Dibenz (a,h) anthracene	0.8166	0.9070	11	TM	
23	TM	Benzo (g,h,i) perylene	0.8341	0.8616	3.3	TM	
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			4.8		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 15:02 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	19902	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	10225	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	20175	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	25646	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.43	264	21751	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	4	0.27786 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.560%	
7) Surrogate Recovery (FBP)	7.09	172	22	0.00352 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.080%	
17) Surrogate Recovery (TPH)	13.82	244	34	0.00423 ppb	0.14
Spiked Amount 5.000			Recovery	= 0.080%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	43905	5.19619 ppb	99
4) 2-Methylnaphthalene	6.65	142	25163	5.47575 ppb	97
5) 1-Methylnaphthalene	6.76	142	27656	5.13953 ppb	97
8) Acenaphthylene	7.69	152	43561	5.14466 ppb	99
9) Acenaphthene	7.88	154	26359	5.19041 ppb	100
10) Fluorene	8.50	166	29916	5.34856 ppb	99
12) Phenanthrene	9.79	178	41762	5.13926 ppb	100
13) Anthracene	9.89	178	39652	5.24500 ppb	99
14) Fluoranthene	12.50	202	66605	5.28245 ppb	98
16) Pyrene	13.13	202	68367	5.01163 ppb	99
18) Benz (a) anthracene	16.63	228	52753	4.92388 ppb	100
19) Chrysene	16.74	228	59090	4.66330 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.75	276	47588	5.11636 ppb	99
22) Benzo (b) fluoranthene	19.52	252	46083	4.79601 ppb	99
23) Benzo (k) fluoranthene	19.59	252	52138m	4.81852 ppb	99
24) Benzo (a) pyrene	20.30	252	48291	5.21955 ppb	99
25) Dibenz (a,h) anthracene	22.80	278	39455	5.55360 ppb	98
26) Benzo (g,h,i) perylene	23.28	276	37482	5.16463 ppb	99

Algorithum check = $\frac{43905 * 1 * 2.5}{1 * 19902 * 1.061} = \frac{109762.5}{21116.022}$

= 5.19

RH 3/6/17

(#) = qualifier out of range (m) = manual integration
0301L011.D L0303P.M Fri Mar 03 15:02:27 2017

Quantitation Report

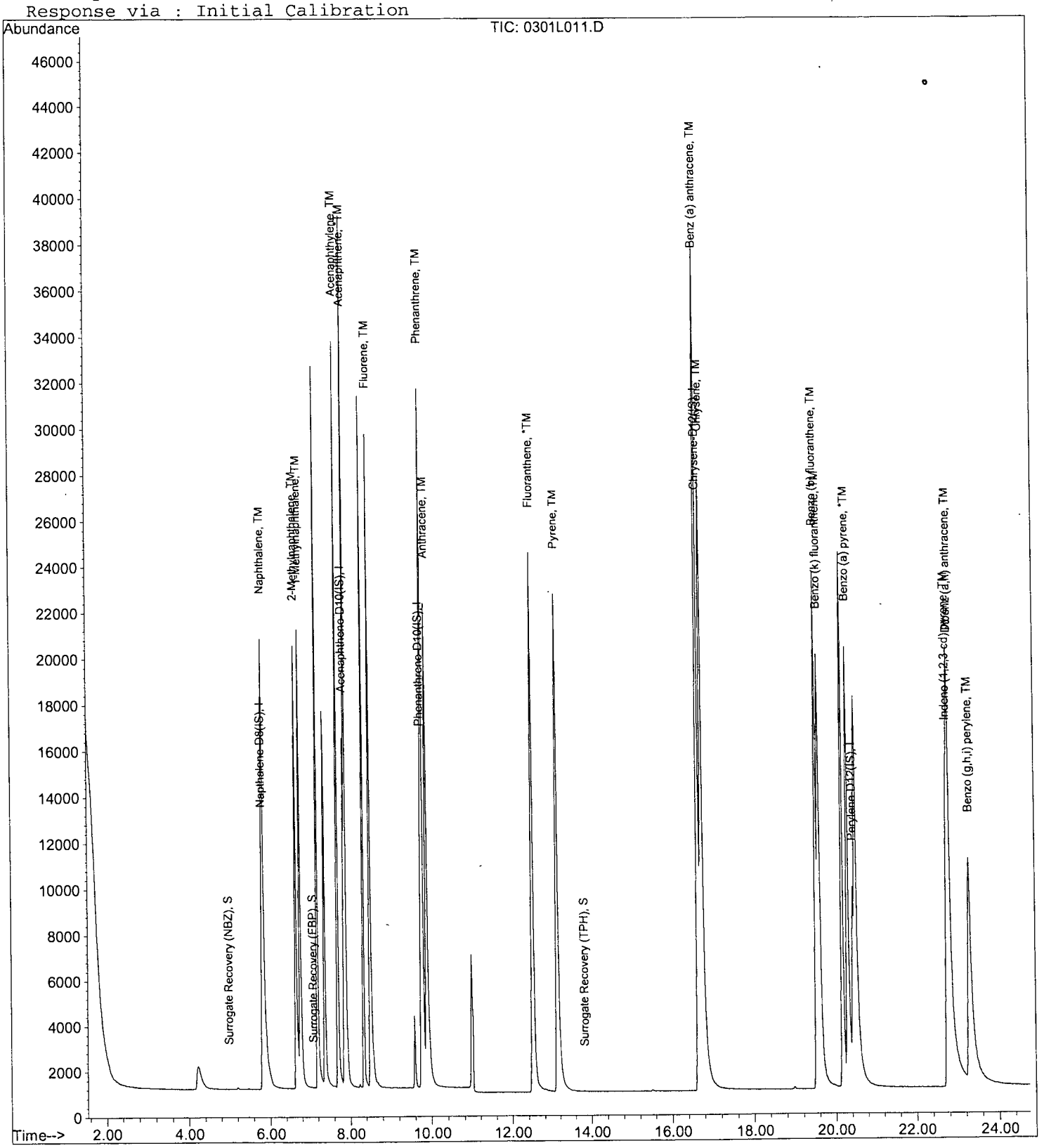
Data File : M:\LINUS\DATA\L170301\0301L011.D
Acq On : 1 Mar 17 17:06
Sample : SS SIM 03/01/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 15:02 2017

Quant Results File: L0303P.RES

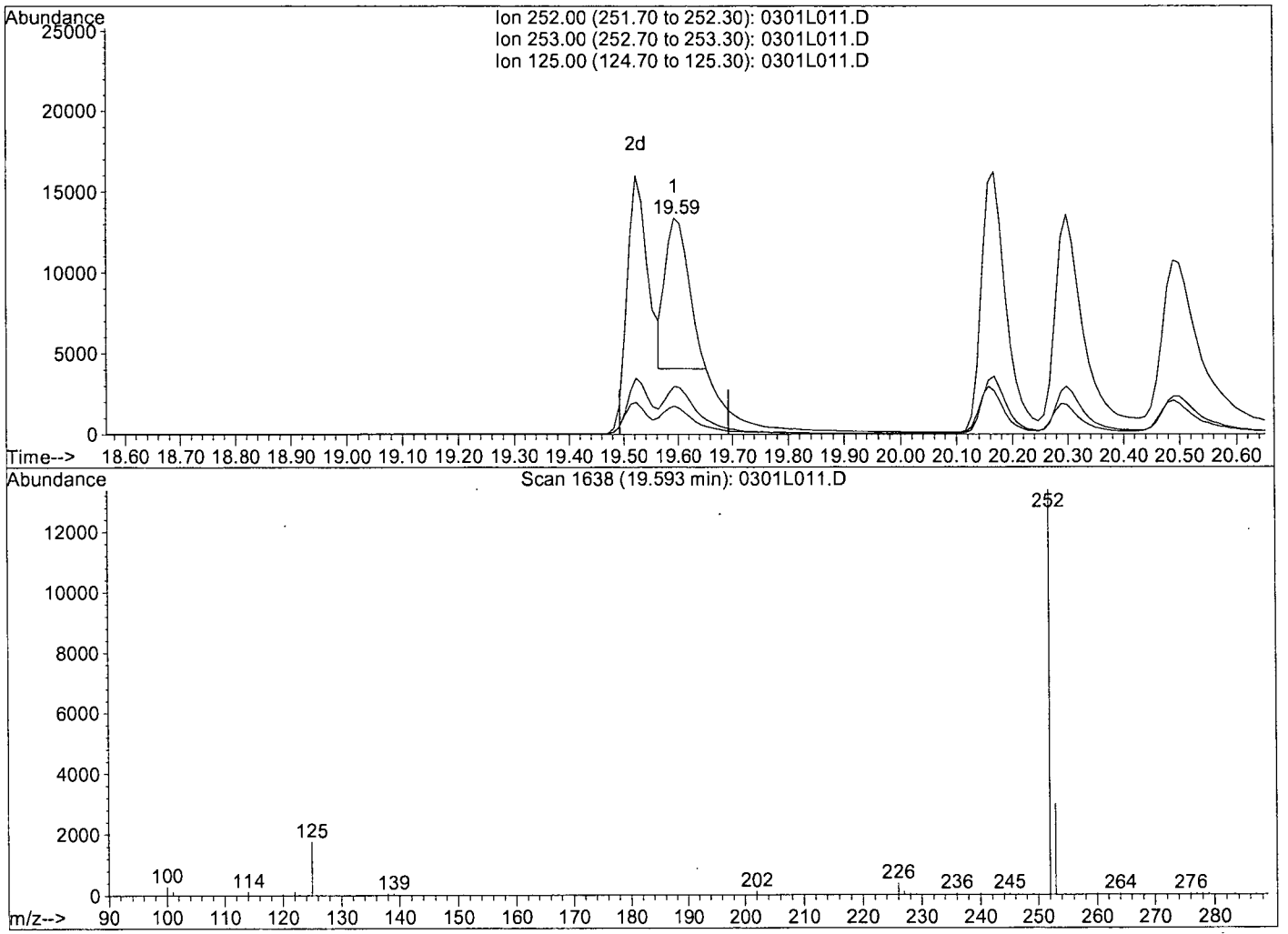
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 14:53 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Multiple Level Calibration



TIC: 0301L011.D

(23) Benzo (k) fluoranthene (TM)

19.59min 2.6539ppb

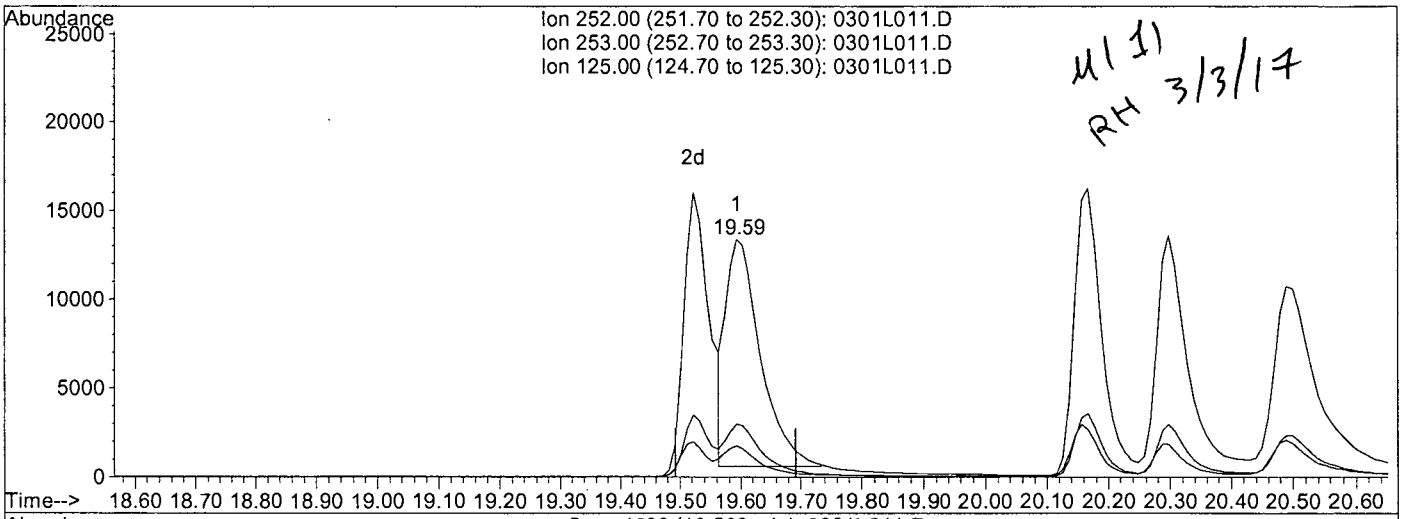
response 28716

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.37
125.00	13.10	13.76
0.00	0.00	0.00

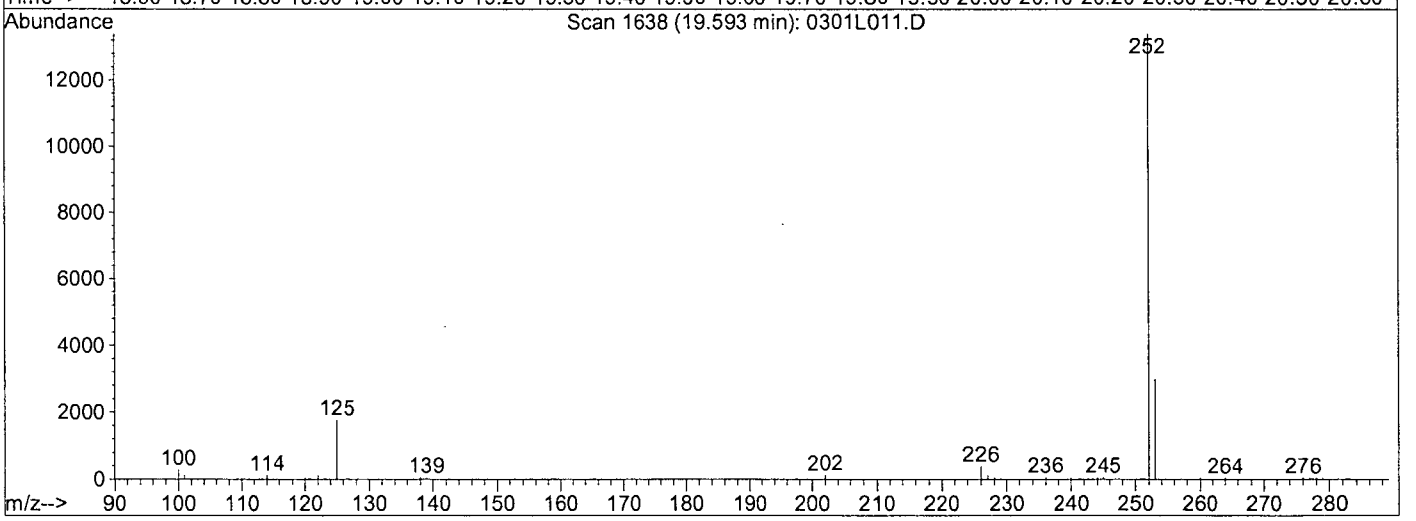
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 15:02 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Multiple Level Calibration



M 11
RH 3/3/17



TIC: 0301L011.D

(23) Benzo (k) fluoranthene (TM)

19.59min 4.8185ppb m

response 52138

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.31
125.00	13.10	13.14
0.00	0.00	0.00

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L179.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.3421	16	SL	2.5
3	TM	Naphthalene	1.061	1.046	1.4	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6251	8.3	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6486	4.0	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.461	4.5	S	
8	TM	Acenaphthylene	2.070	2.014	2.7	TM	
9	*TM	Acenaphthene	1.242	1.182	4.8	*TM	
10	TM	Fluorene	1.368	1.354	1.0	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.004	0.34	TM	
13	TM	Anthracene	0.9368	0.9502	1.4	TM	
14	*TM	Fluoranthene	1.562	1.543	1.2	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.279	3.9	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.6736	14	S	
18	TM	Benz (a) anthracene	1.044	1.040	0.39	TM	
19	TM	Chrysene	1.235	1.144	7.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.9067	1.010	11	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.9654	1.099	14	TML	0.42
23	TM	Benzo (k) fluoranthene	1.244	1.047	16	TM	
24	*TM	Benzo (a) pyrene	1.063	1.114	4.8	*TM	
25	TM	Dibenz (a,h) anthracene	0.8166	0.9609	18	TM	
26	TM	Benzo (g,h,i) perylene	0.8341	0.9407	13	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L179.D
Acq On : 13 Mar 17 14:22
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 79
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017
Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	27311	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	14539	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	29278	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	36811	2.50000 ppb	-0.13
21) Perylene-D12(IS)	20.43	264	31762	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	9344	2.43696 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.740%	
7) Surrogate Recovery (FBP)	7.06	172	21235	2.38682 ppb	-0.01
Spiked Amount 5.000			Recovery	= 47.740%	
17) Surrogate Recovery (TPH)	13.68	244	24796	2.15064 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.020%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	57157	4.92946 ppb	100
4) 2-Methylnaphthalene	6.64	142	34143	5.41430 ppb	98
5) 1-Methylnaphthalene	6.75	142	35426	4.79751 ppb	97
8) Acenaphthylene	7.69	152	58555	4.86353 ppb	99
9) Acenaphthene	7.88	154	34368	4.75944 ppb	99
10) Fluorene	8.50	166	39364	4.94950 ppb	98
12) Phenanthrene	9.79	178	58761	4.98288 ppb	99
13) Anthracene	9.87	178	55637	5.07127 ppb	99
14) Fluoranthene	12.49	202	90360	4.93829 ppb	100
16) Pyrene	13.12	202	89960	4.59434 ppb	99
19) Chrysene	16.63	228	76592	4.21119 ppb	97
20) Indeno (1,2,3-cd) pyrene	22.75	276	73420	5.49946 ppb #	97
22) Benzo (b) fluoranthene	19.52	252	69837	4.97912 ppb	99
23) Benzo (k) fluoranthene	19.52	252	55480	3.51129 ppb	99
24) Benzo (a) pyrene	20.17	252	71027	5.25729 ppb	97
25) Dibenz (a,h) anthracene	22.79	278	60586	5.84005 ppb	97
26) Benzo (g,h,i) perylene	23.27	276	56707	5.35087 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

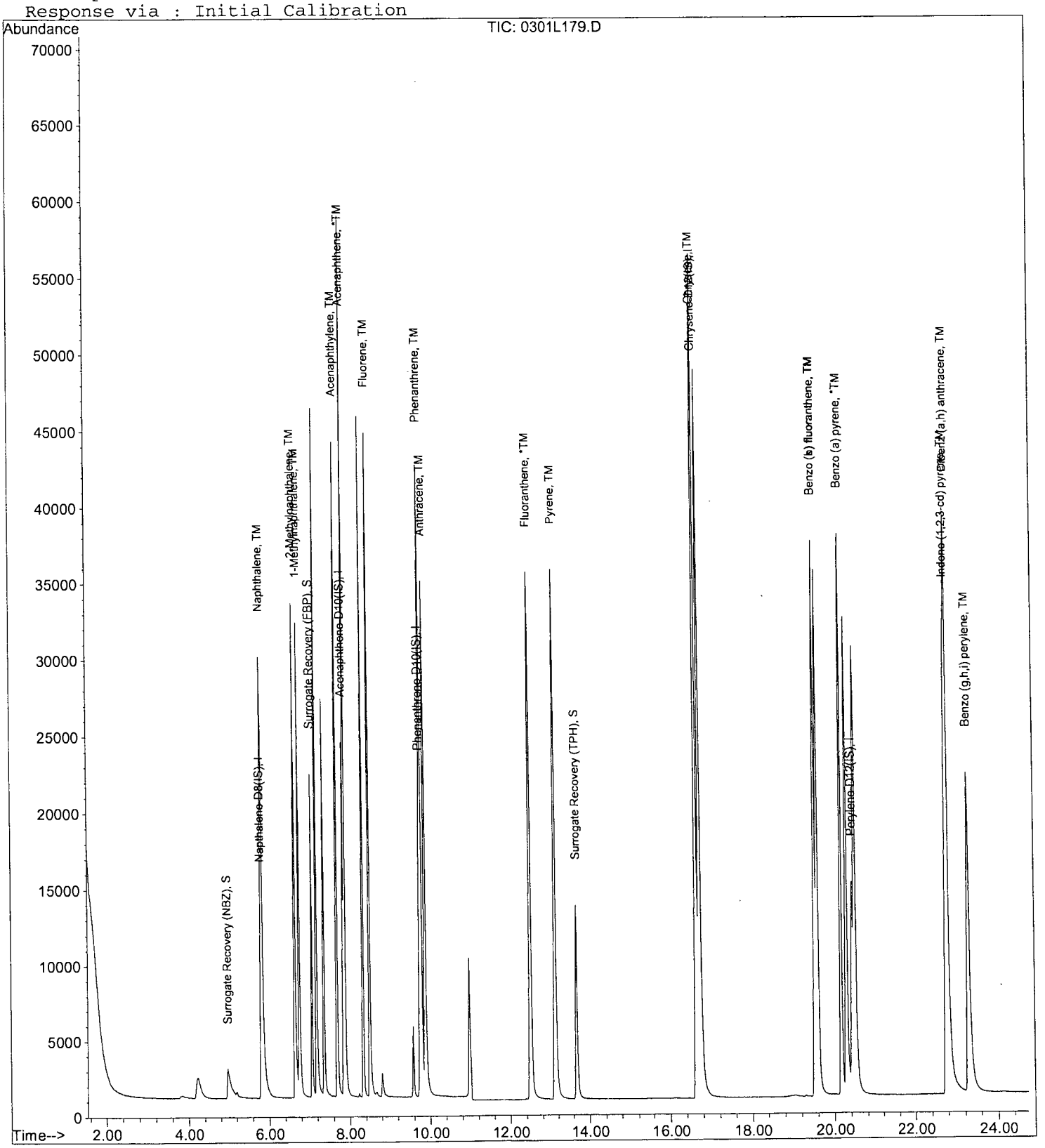
Data File : M:\LINUS\DATA\L170301\0301L179.D
Acq On : 13 Mar 17 14:22
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 79
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L200.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.3299	12	SL	5.6
3	TM	Naphthalene	1.061	1.074	1.2	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6143	6.4	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6694	0.96	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.495	2.3	S	
8	TM	Acenaphthylene	2.070	2.062	0.38	TM	
9	*TM	Acenaphthene	1.242	1.257	1.3	*TM	
10	TM	Fluorene	1.368	1.347	1.5	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.045	3.7	TM	
13	TM	Anthracene	0.9368	0.9883	5.5	TM	
14	*TM	Fluoranthene	1.562	1.694	8.4	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.352	1.7	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.6744	14	S	
18	TM	Benz (a) anthracene	1.044	1.067	2.2	TM	
19	TM	Chrysene	1.235	1.195	3.2	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.9067	0.8446	6.8	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.9654	1.269	31	TML	15
23	TM	Benzo (k) fluoranthene	1.244	1.056	15	TM	
24	*TM	Benzo (a) pyrene	1.063	1.163	9.4	*TM	
25	TM	Dibenz (a,h) anthracene	0.8166	0.9837	20	TM	
26	TM	Benzo (g,h,i) perylene	0.8341	0.9767	17	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L200.D
Acq On : 14 Mar 17 1:33
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 100
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	32946	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	17103	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.74	188	31081	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.65	240	41792	2.50000 ppb	-0.13
21) Perylene-D12(IS)	20.43	264	29368	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	10868	2.35954 ppb	0.00
Spiked Amount 5.000			Recovery	= 47.200%	
7) Surrogate Recovery (FBP)	7.06	172	25566	2.44283 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.860%	
17) Surrogate Recovery (TPH)	13.67	244	28184	2.15314 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.060%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	70750	5.05815 ppb	99
4) 2-Methylnaphthalene	6.64	142	40475	5.32062 ppb	98
5) 1-Methylnaphthalene	6.75	142	44110	4.95183 ppb	97
8) Acenaphthylene	7.69	152	70544	4.98092 ppb	99
9) Acenaphthene	7.88	154	43006	5.06283 ppb	98
10) Fluorene	8.50	166	46082	4.92556 ppb	99
12) Phenanthrene	9.78	178	64937	5.18716 ppb	100
13) Anthracene	9.87	178	61435	5.27491 ppb	100
14) Fluoranthene	12.49	202	105315	5.42172 ppb	99
16) Pyrene	13.11	202	107418	4.83210 ppb	98
19) Chrysene	16.63	228	89193	4.31953 ppb	97
20) Indeno (1,2,3-cd) pyrene	22.74	276	69819	4.60642 ppb #	98
22) Benzo (b) fluoranthene	19.52	252	74548	5.75557 ppb	99
23) Benzo (k) fluoranthene	19.52	252	59820	4.09459 ppb	99
24) Benzo (a) pyrene	20.15	252	68143	5.45498 ppb #	94
25) Dibenz (a,h) anthracene	22.78	278	57635	6.00847 ppb	99
26) Benzo (g,h,i) perylene	23.28	276	53091	5.41804 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

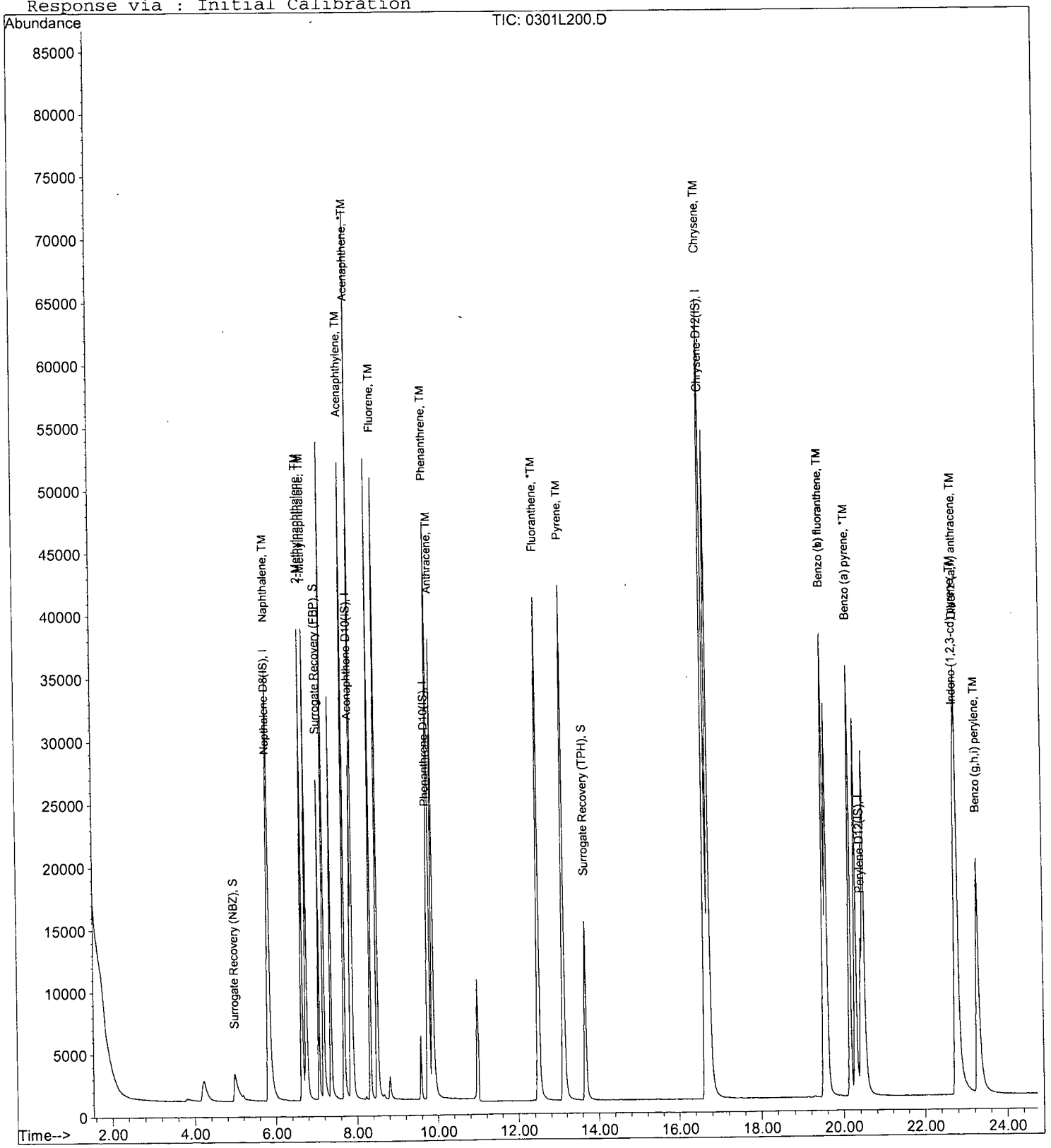
Data File : M:\LINUS\DATA\L170301\0301L200.D
Acq On : 14 Mar 17 1:33
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 100
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216880**
Batch ID: #SIMDO-170309B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.9	53-106			%	03/09/17	03/13/17
BLANK	SURROGATE: NITROBENZENE-	64.7	55-111			%	03/09/17	03/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	80.6	58-132			%	03/09/17	03/13/17

Quant Method:L0303P.M
Run #:0301L188
Instrument:Linus
Sequence:L170301
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 2:34:02 PM

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L188.D Vial: 88
Acq On : 13 Mar 17 19:17 Operator: MA
Sample : 170309B BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25832	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13201	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25250	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.68	240	29597	2.50000 ppb	-0.10
21) Perylene-D12(IS)	20.45	264	25940	2.50000 ppb	-0.10
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	12110	3.23677 ppb	-0.01
Spiked Amount 5.000			Recovery	= 64.740%	
7) Surrogate Recovery (FBP)	7.07	172	25422	3.14706 ppb	0.00
Spiked Amount 5.000			Recovery	= 62.940%	
17) Surrogate Recovery (TPH)	13.67	244	37340	4.02800 ppb	0.00
Spiked Amount 5.000			Recovery	= 80.560%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

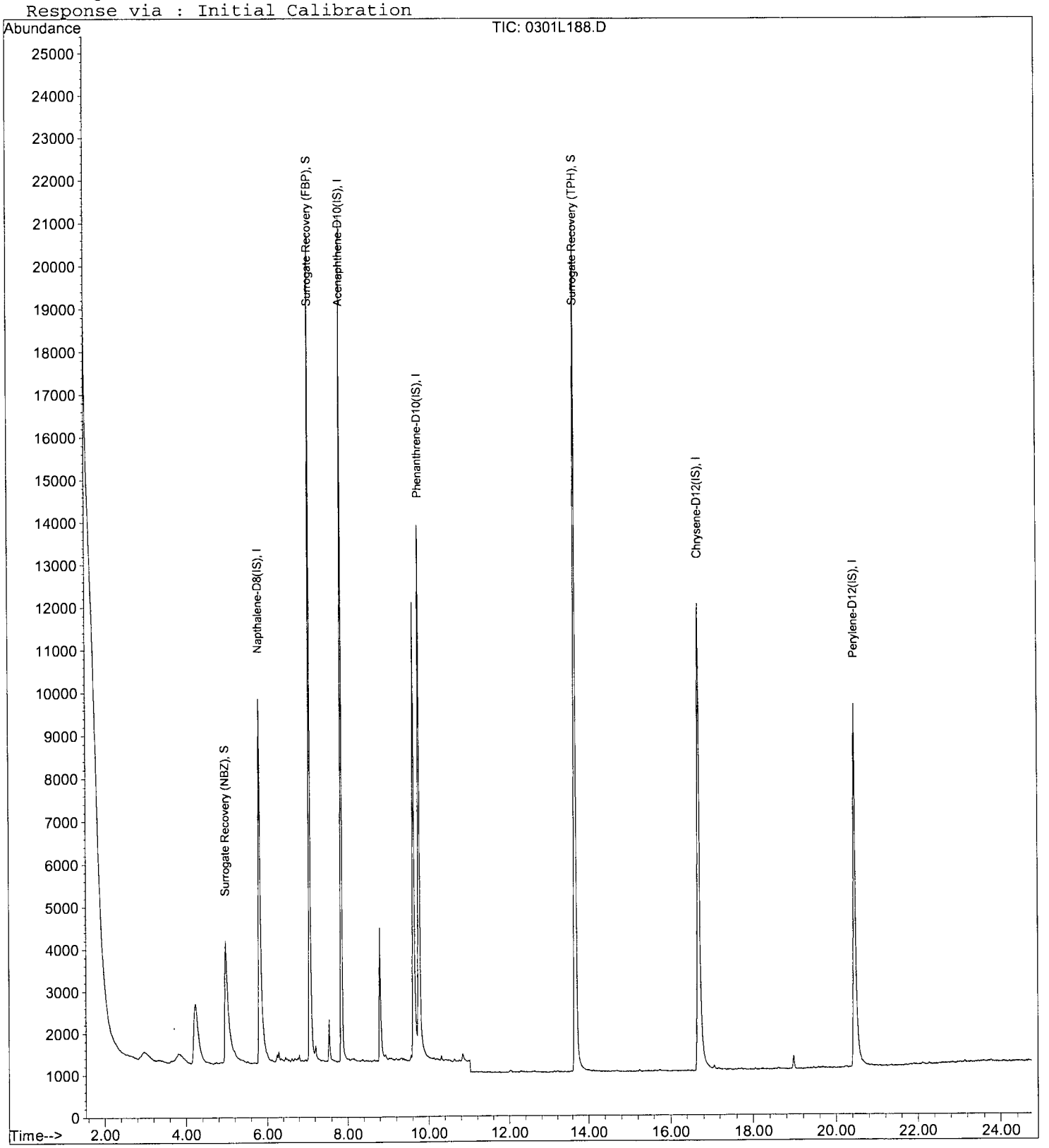
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L188.D
Acq On : 13 Mar 17 19:17
Sample : 170309B BLK 1/1000
Misc : water

Vial: 88
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170309W-51132 LCS - 216880**
Batch ID: #SIMDO-170309B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.70	74.0	41-115
2-METHYLNAPHTHALENE	5.00	3.83	76.6	39-114
NAPHTHALENE	5.00	3.25	65.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.36	67.2	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.63	72.6	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.88	77.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0303P.M
Extraction Date :	03/09/17
Analysis Date :	03/13/17
Instrument :	Linus
Run :	0301L189
Initials :	RHA

Printed: 03/14/17 2:33:56 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L189.D Vial: 89
Acq On : 13 Mar 17 19:50 Operator: MA
Sample : 170309B LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	22193	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11474	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	22157	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	27118	2.50000 ppb	-0.12
21) Perylene-D12(IS)	20.43	264	23011	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	11770	3.62542 ppb	-0.01
Spiked Amount 5.000			Recovery	= 72.500%	
7) Surrogate Recovery (FBP)	7.06	172	23579	3.35825 ppb	-0.01
Spiked Amount 5.000			Recovery	= 67.160%	
17) Surrogate Recovery (TPH)	13.67	244	32922	3.87607 ppb	0.00
Spiked Amount 5.000			Recovery	= 77.520%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	30605	3.24821 ppb		99
4) 2-Methylnaphthalene	6.64	142	19639	3.83249 ppb		99
5) 1-Methylnaphthalene	6.75	142	22185	3.69721 ppb		98
8) Acenaphthylene	7.69	152	35323	3.71762 ppb		100
9) Acenaphthene	7.88	154	20604	3.61554 ppb		100
10) Fluorene	8.50	166	25559	4.07217 ppb		100
12) Phenanthrene	9.79	178	38314	4.29318 ppb		99
13) Anthracene	9.89	178	36212	4.36150 ppb		99
14) Fluoranthene	12.49	202	62414	4.50726 ppb		99
16) Pyrene	13.13	202	61767	4.28204 ppb		99
19) Chrysene	16.64	228	52774	3.93878 ppb		97
20) Indeno (1,2,3-cd) pyrene	22.76	276	47527	4.83243 ppb	#	100
22) Benzo (b) fluoranthene	19.52	252	50075	4.92739 ppb		99
23) Benzo (k) fluoranthene	19.52	252	33841	2.95628 ppb		99
24) Benzo (a) pyrene	20.17	252	48764	4.98207 ppb	#	95
25) Dibenz (a,h) anthracene	22.80	278	40647	5.40810 ppb		97
26) Benzo (g,h,i) perylene	23.28	276	37374	4.86777 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

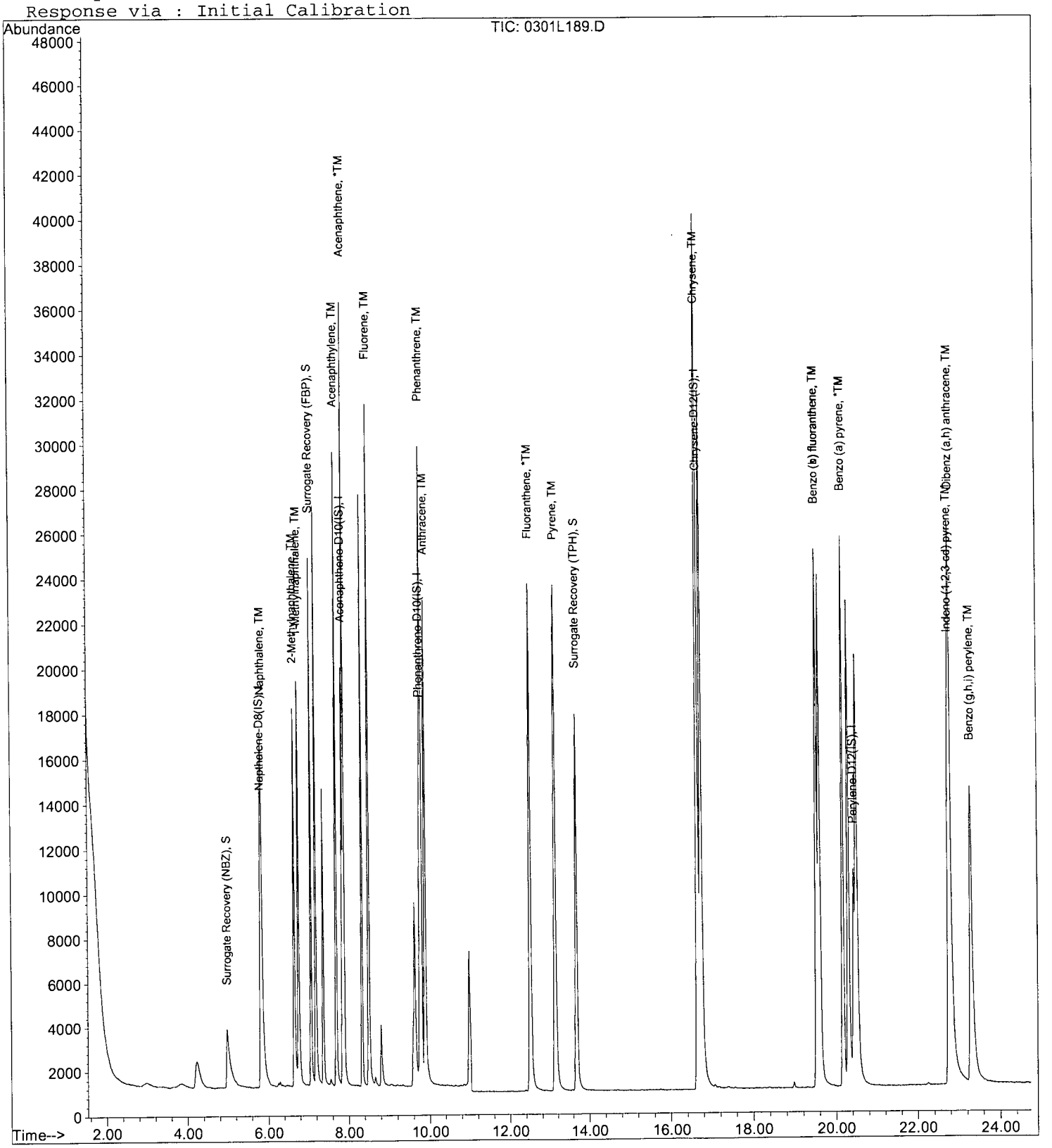
Data File : M:\LINUS\DATA\L170301\0301L189.D
Acq On : 13 Mar 17 19:50
Sample : 170309B LCS-1 1/1000
Misc : water

Vial: 89
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

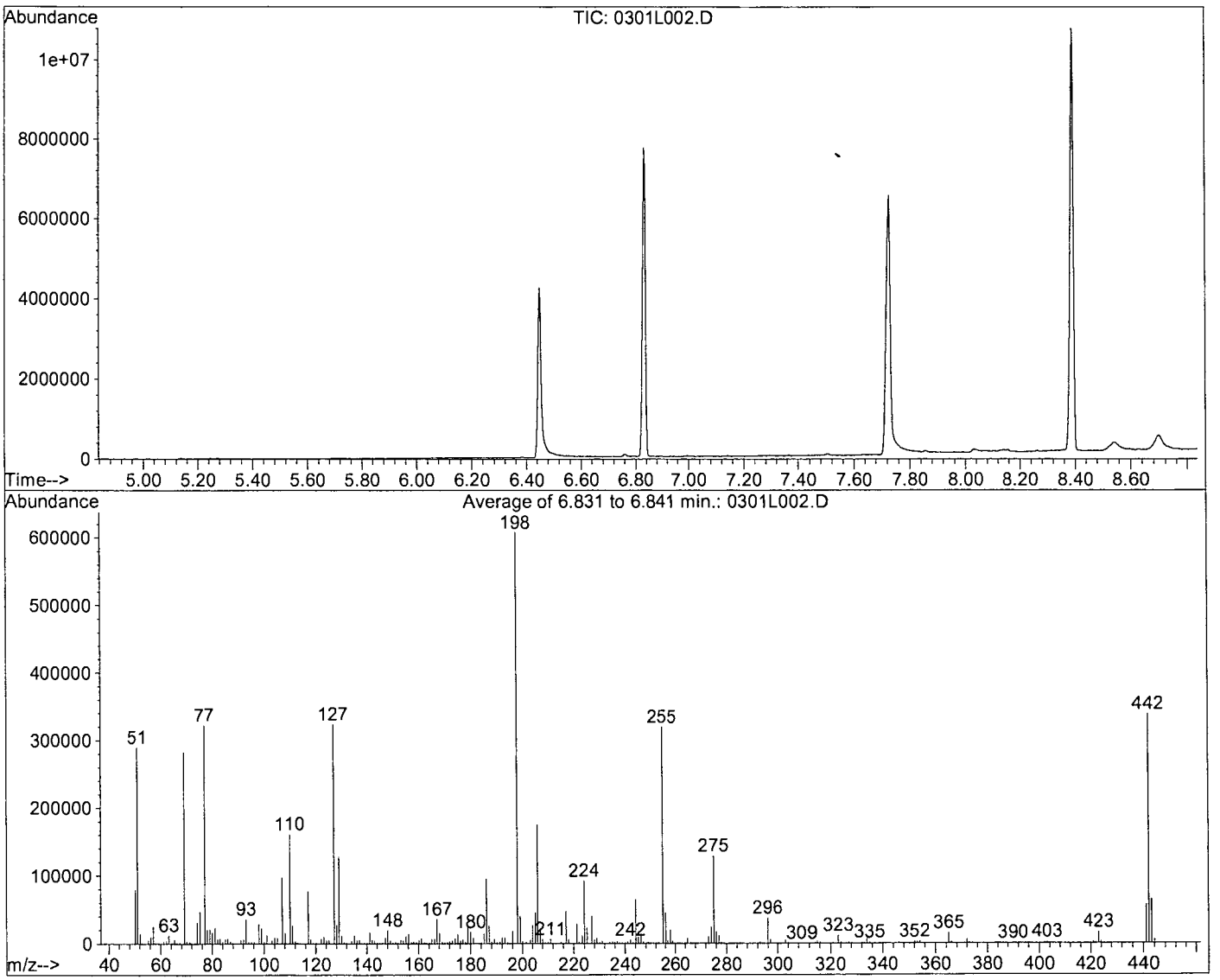
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L170301\0301L002.D Vial: 2
Acq On : 1 Mar 17 12:30 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.831 to 6.841 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.6	289466	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.1	2987	PASS
127	198	40	60	53.2	323464	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	608024	PASS
199	198	5	9	6.6	40345	PASS
275	198	10	30	21.2	128742	PASS
365	198	1	100	2.5	14989	PASS
441	443	0.01	100	87.6	56822	PASS
442	198	50	150	55.6	337803	PASS
443	442	17	23	19.2	64886	PASS

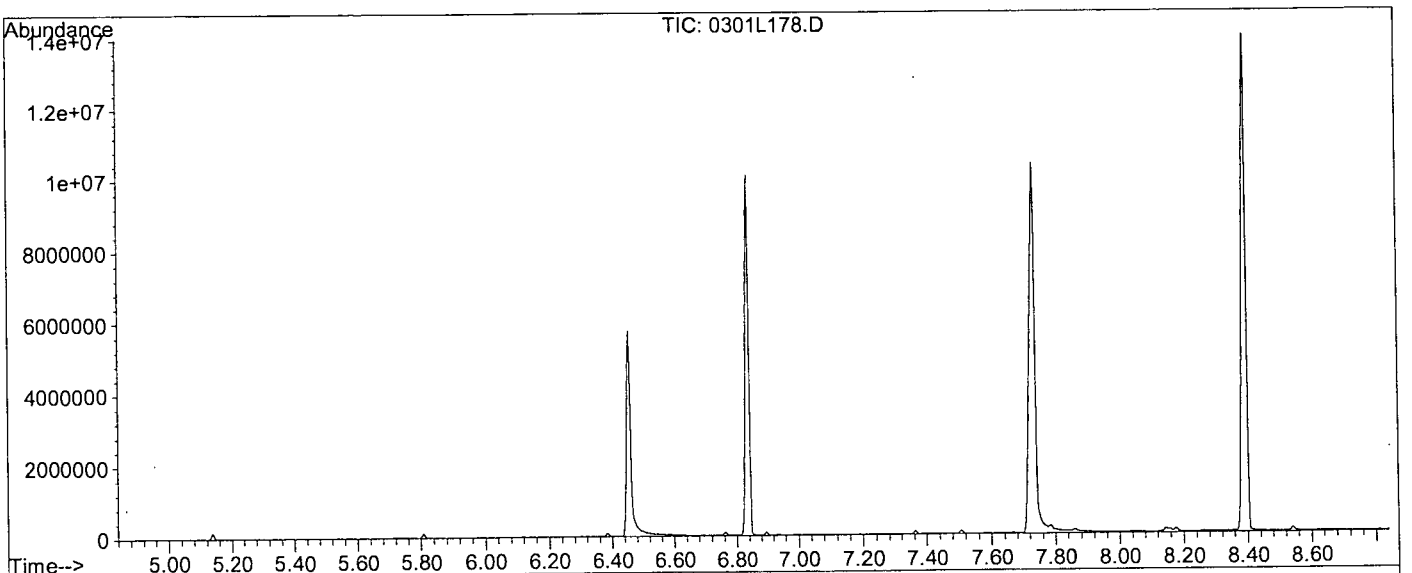
0301L002.D L0301P.M Wed Mar 01 17:38:46 2017

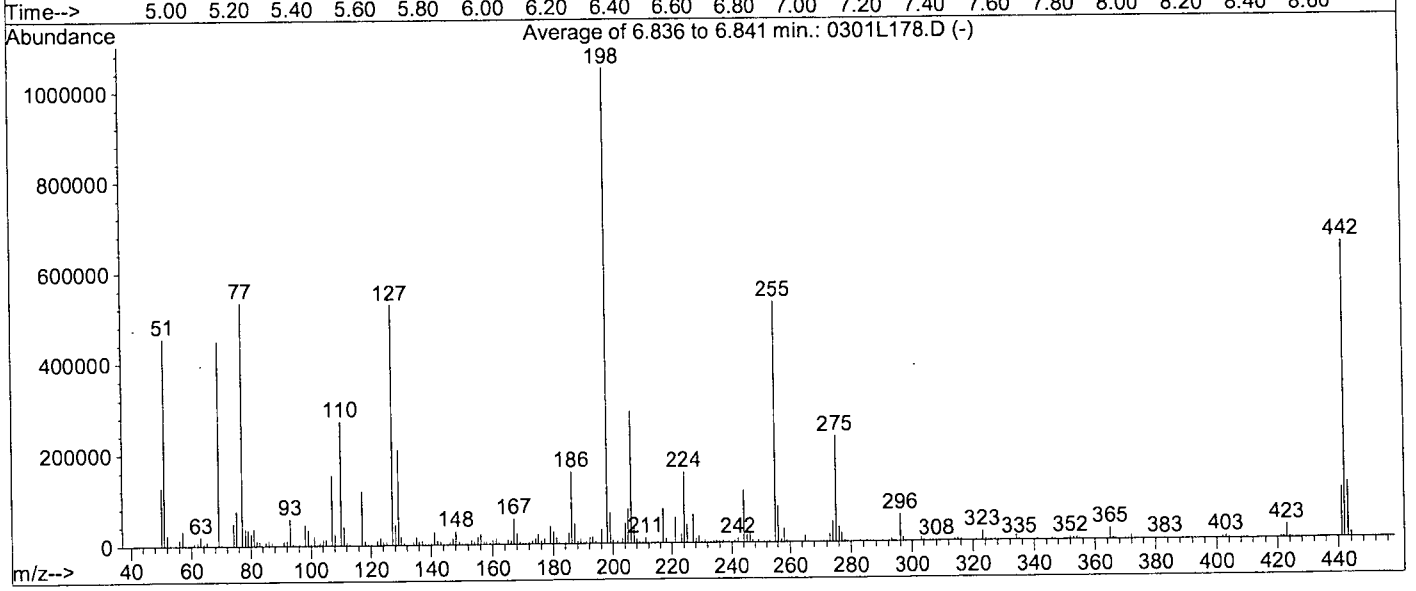
DFTPP

Data File : M:\LINUS\DATA\L170301\0301L178.D
Acq On : 13 Mar 17 14:05
Sample : SV Tune 2/9/17
Misc : water

Vial: 78
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270





Spectrum Information: Average of 6.836 to 6.841 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.4	455344	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1758	PASS
127	198	40	60	50.3	527659	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1049877	PASS
199	198	5	9	6.3	66184	PASS
275	198	10	30	22.1	231616	PASS
365	198	1	100	2.3	24195	PASS
441	443	0.01	100	90.0	109760	PASS
442	198	50	150	62.2	652971	PASS
443	442	17	23	18.7	121995	PASS

8270 PAH SIM Standard Curve

PREP DATE:	03/01/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**07/12/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/01/17	07/12/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/01/17	07/12/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		1/12/17	07/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 7/12/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 PAH SIM 2ND SRC			Prep: 03/01/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	200	01/24/17	06/21/17	25
	Methylene Chloride				75
o2si	V Internal Standar	2000	10/10/16	10/10/17	2
LOT#	XA10079V-35507			Final Vol.	102

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	9/12/16	9/12/17	1000
				Fin Vol.		1000

8270 Surrog Mix 100/200ppm						
Prep: 02/07/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 03/09/17 RH	
EX: 03/09/17	

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170309B	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 3-9-17 exp 3-9-18		Surrogate ID 1	8270 Surrogate 2-7-17 exp 11-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/09/17 15:10
Spiked ID 8			Ext. End Time:	03/10/17 11:30
			GC Requires Extract By:	**03/13/17 0:00**

pH1	2	03/09/17 3:20:00 PM	Water Bath Temp Criteria	76 °C
pH2	14	03/09/17 5:45:00 PM		
pH3				

Spiked By: KY **Date** 03/09/17 **Witnessed By:** JR **Date** 03/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170309B Blk				0.0250	1 equip	1000 E-WB7	1	2/1	03/09/17 15:10	
2	170309B LCS-1		0.0250	1	0.0250	1 equip	1000 E-WB7	1	2/1	03/09/17 15:10	
3	AZ51053	AZ51053W10			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
4	AZ51054	AZ51054W10			0.0250	1 equip	1040 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
5	AZ51056	AZ51056W09			0.0250	1 equip	1070 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
6	AZ51132 MS-1	AZ51132W17	0.0250	1	0.0250	1 equip	1020 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
7	AZ51132 MSD-1	AZ51132W25	0.0250	1	0.0250	1 equip	1020 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
8	AZ51132	AZ51132W24			0.0250	1 equip	1070 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
9	AZ51133	AZ51133W09			0.0250	1 equip	900 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
10	AZ51135	AZ51135W29			0.0250	1 equip	1060 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
11	AZ51136	AZ51136W11			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
12	AZ51139	AZ51139W12			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
13	AZ51141	AZ51141W14			0.0250	1 equip	1060 E-WB7	1	2/1	03/09/17 15:10	82351 5 days

KY 3/10/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-28-17
PH STRIP	HC 574756
MC	56258
A. Na2SO4	1-3-17
10N NaOH	1-14-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/10/17
Time	2:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,JR,DL
Extraction	KY,JR,DL
Concentration	DL
Modified	03/10/17 2:00:13 PM

Reviewed By: KY 203 **Date** 3/10/17

Injection Log

Directory: M:\LINUS\DATA\L170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0301L002.D	1	SV Tune 02/09/17	water	1 Mar 17 12:30
2	3	0301L003.D	1	0.1 SIM 03/01/17	water	1 Mar 17 12:47
3	4	0301L004.D	1	0.2 SIM 03/01/17	water	1 Mar 17 13:19
4	5	0301L005.D	1	0.5 SIM 03/01/17	water	1 Mar 17 13:52
5	6	0301L006.D	1	1.0 SIM 03/01/17	water	1 Mar 17 14:24
6	7	0301L007.D	1	5.0 SIM 03/01/17	water	1 Mar 17 14:57
7	8	0301L008.D	1	10 SIM 03/01/17	water	1 Mar 17 15:30
8	9	0301L009.D	1	50 SIM 03/01/17	water	1 Mar 17 16:02
9	10	0301L010.D	1	100 SIM 03/01/17	water	1 Mar 17 16:33
10	11	0301L011.D	1	SS SIM 03/01/17	water	1 Mar 17 17:06
11	78	0301L178.D	1	SV Tune 2/9/17	water	13 Mar 17 14:05
12	79	0301L179.D	1	5.0 SIM 03/01/17	water	13 Mar 17 14:22
13	88	0301L188.D	1	170309B BLK 1/1000	water	13 Mar 17 19:17
14	89	0301L189.D	1	170309B LCS-1 1/1000	water	13 Mar 17 19:50
15	90	0301L190.D	0.95238	AZ51053W10 1/1050	water	13 Mar 17 20:23
16	91	0301L191.D	0.96154	AZ51054W10 1/1040	water	13 Mar 17 20:56
17	92	0301L192.D	0.93458	AZ51056W09 1/1070	water	13 Mar 17 21:29
18	100	0301L200.D	1	5.0 SIM 03/01/17	water	14 Mar 17 1:33

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216830**
Batch ID: #87DC5-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	61.0	44-119			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	49.9	19-119			%	03/09/17	03/10/17
BLANK	SURROGATE: NITROBENZENE-	65.6	44-120			%	03/09/17	03/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	30.9	10-115			%	03/09/17	03/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	66.8	50-134			%	03/09/17	03/10/17

Quant Method:Y0123.M
Run #:0123Y269
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 3:35:03 PM

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170309W-51132 LCS - 216830**
Batch ID: #87DC5-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	21.3	42.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	133	66.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	64.5	64.5	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	104	52.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	74.3	74.3	44-120
SURROGATE: PHENOL-D6 (S)	200	66.3	33.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	72.3	72.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/09/17
Analysis Date :	03/10/17
Instrument :	Yoda
Run :	0123Y270
Initials :	MA

Printed: 03/15/17 3:35:05 PM
APPL Standard LCS

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER

SDG No: 82337
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	43-140	67.1		44-119	61.0	
170309A-LCS	Lab Control Spike	43-140	66.5		44-119	64.5	
AZ51053	ERH253	43-140	59.0		44-119	57.0	
AZ51054	ERH254	43-140	65.6		44-119	59.9	
AZ51056	ERH260	43-140	65.9		44-119	63.1	

Comments: Batch: #87DC5-170309A

Printed: 03/15/17 3:35:04 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER

SDG No: 82337
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	19-119	49.9		44-120	65.6	
170309A-LCS	Lab Control Spike	19-119	52.0		44-120	74.3	
AZ51053	ERH253	19-119	43.9		44-120	61.9	
AZ51054	ERH254	19-119	44.3		44-120	65.5	
AZ51056	ERH260	19-119	49.5		44-120	69.3	

Comments: Batch: #87DC5-170309A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER

SDG No: 82337
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	10-115	30.9		50-134	66.8	
170309A-LCS	Lab Control Spike	10-115	33.1		50-134	72.3	
AZ51053	ERH253	10-115	29.0		50-134	63.6	
AZ51054	ERH254	10-115	28.3		50-134	59.6	
AZ51056	ERH260	10-115	30.4		50-134	64.4	

Comments: Batch: #87DC5-170309A

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82337
Matrix: WATER
Blank ID: 170309A-BLK

SDG No: 82337
Date Analyzed: 03/10/17
Instrument: Yoda
Time Analyzed: 1518

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309A-BLK	Blank	0123Y269	03/10/17 1518
170309A-LCS	Lab Control Spike	0123Y270	03/10/17 1550
AZ51053	ERH253	0123Y272	03/10/17 1651
AZ51054	ERH254	0123Y273	03/10/17 1721
AZ51056	ERH260	0123Y288	03/14/17 0902

Comments: Batch: #87DC5-170309A

Printed: 03/15/17 3:35:07 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: SV Tune 10/19/16

SDG No: 82337
Date Analyzed: 03/10/17
Instrument: Yoda
Time Analyzed: 14:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y268.D	03/10/17 14:47
2	Blank	170309A BLK 1/1000	0123Y269.D	03/10/17 15:18
3	Lab Control Spike	170309A LCS-1 1/1000	0123Y270.D	03/10/17 15:50
4	ERH253	AZ51053W11 1/1000	0123Y272.D	03/10/17 16:51
5	ERH254	AZ51054W07 1/1070	0123Y273.D	03/10/17 17:21
6		50ug/ml SVOC 3/02/17	0123Y284.D	03/10/17 22:36
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	43.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	55.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	23.3
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	86.1
442	50 - 150% of mass 198	106.4
443	17 - 23% of mass 442	19.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: SV Tune 02/09/16

SDG No: 82337
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 7:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y287.D	03/14/17 8:01
2	ERH260	AZ51056W10 1/1070	0123Y288.D	03/14/17 9:02
3		50ug/ml SVOC 3/02/17	0123Y302.D	03/14/17 16:14
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	55.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.4
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	84.0
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	19.6

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	141116	4.82	580908	6.25	342939	8.26
02	170309A BLK 1/1000	149556	4.83	670506	6.25	421228	8.26
03	170309A LCS-1 1/1000	158255	4.82	652187	6.25	386870	8.26
04	AZ51053W11 1/1000	158225	4.82	673370	6.25	390505	8.26
05	AZ51054W07 1/1070	175190	4.82	715954	6.25	386604	8.26
06	50ug/ml SVOC 3/02/17	124598	4.82	534465	6.26	325588	8.26
07	50ug/ml SVOC 3/02/17	148886	4.82	626658	6.24	373403	8.26
08	AZ51056W10 1/1070	157213	4.82	684170	6.25	397009	8.26
09	50ug/ml SVOC 3/02/17	148257	4.82	608139	6.25	361584	8.26
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	609568	9.99	572618	13.06	602730	14.69
02	170309A BLK 1/1000	780450	9.99	778509	13.06	777382	14.69
03	170309A LCS-1 1/1000	733517	9.99	698030	13.07	733682	14.69
04	AZ51053W11 1/1000	787646	9.99	693985	13.06	729584	14.70
05	AZ51054W07 1/1070	848993	9.98	842747	13.06	891946	14.70
06	50ug/ml SVOC 3/02/17	593377	9.99	587819	13.06	634113	14.70
07	50ug/ml SVOC 3/02/17	695280	9.99	671130	13.06	737668	14.69
08	AZ51056W10 1/1070	742085	9.98	741605	13.06	739820	14.69
09	50ug/ml SVOC 3/02/17	672725	9.99	649830	13.07	691935	14.70
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.0	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.0	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	43.9	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	61.9	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	29.0	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	63.6	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y272
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:35:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y272.D
Acq On : 10 Mar 17 16:51
Sample : AZ51053W11 1/1000
Misc : water

Vial: 72
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:57 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158225	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	673370	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	390505	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	787646	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	693985	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	729584	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	438641	87.88555 ppb	-0.02
Spiked Amount 200.000			Recovery	= 43.943%	
5) Phenol-D6 (S)	4.46	99	385644	58.07580 ppb	0.00
Spiked Amount 200.000			Recovery	= 29.038%	
21) Nitrobenzene-D5(S)	5.45	82	422918	61.92983 ppb	0.00
Spiked Amount 100.000			Recovery	= 61.930%	
45) 2-Fluorobiphenyl(S)	7.50	172	713876	56.98510 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.985%	
63) 2,4,6-Tribromophenol(S)	9.19	330	213117	117.90573 ppb	0.00
Spiked Amount 200.000			Recovery	= 58.953%	
81) Terphenyl-D14(S)	11.84	244	949151	63.58681 ppb	0.00
Spiked Amount 100.000			Recovery	= 63.587%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y272.D Y0123.M Mon Mar 13 15:40:37 2017

Quantitation Report

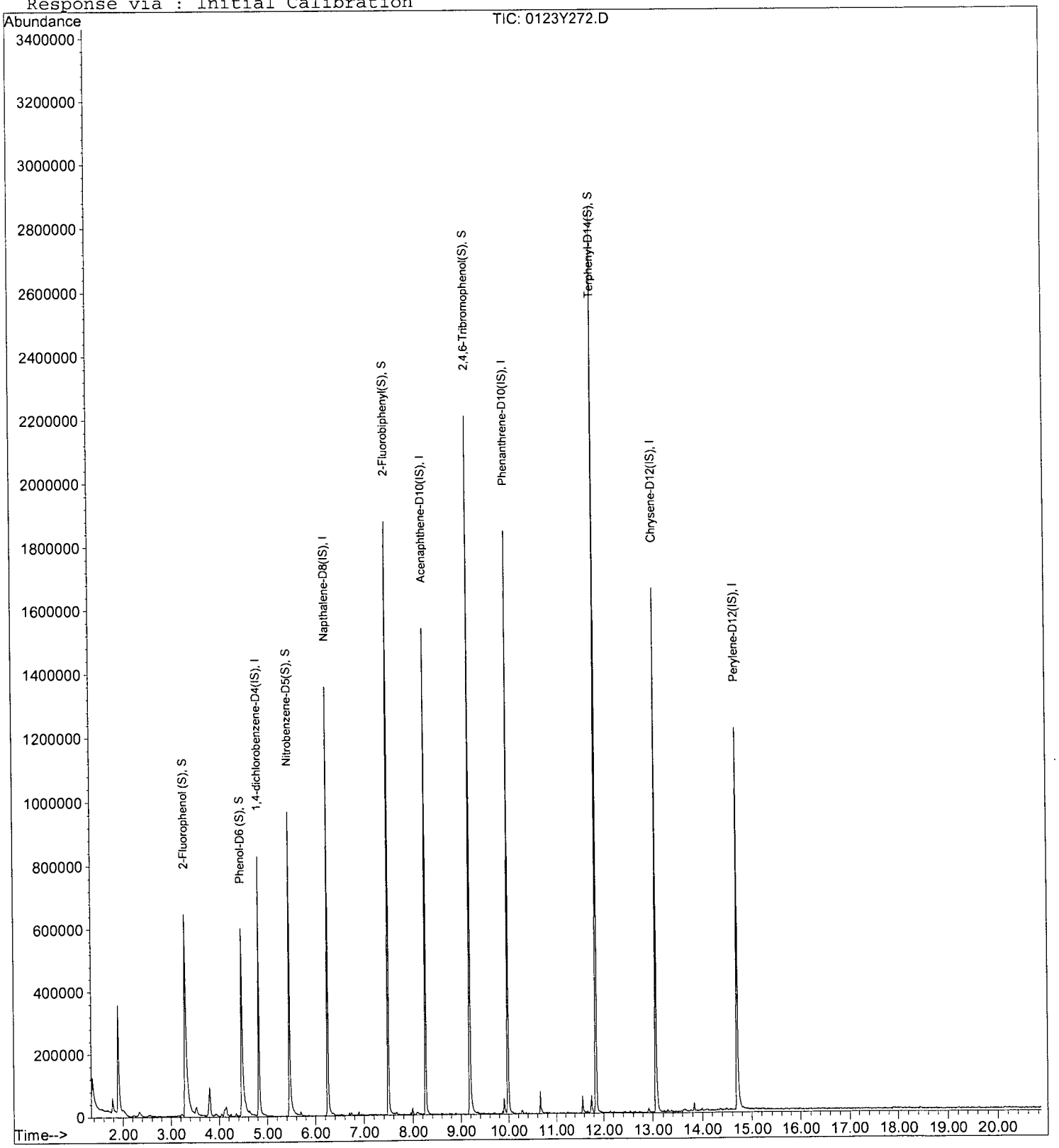
Data File : M:\YODA\DATA\Y170123\0123Y272.D
Acq On : 10 Mar 17 16:51
Sample : AZ51053W11 1/1000
Misc : water

Vial: 72
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:57 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH254
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51054
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	65.6	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	59.9	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	44.3	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	65.5	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.3	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	59.6	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y273
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:35:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y273.D
Acq On : 10 Mar 17 17:21
Sample : AZ51054W07 1/1070
Misc : water

Vial: 73
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 9:58 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	175190	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	715954	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	386604	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	848993	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	842747	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	891946	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	489297	82.74906 ppb	-0.02
Spiked Amount 186.916			Recovery	= 44.271%	
5) Phenol-D6 (S)	4.46	99	416425	52.93315 ppb	0.00
Spiked Amount 186.916			Recovery	= 28.319%	
21) Nitrobenzene-D5(S)	5.46	82	475580	61.21424 ppb	0.00
Spiked Amount 93.458			Recovery	= 65.499%	
45) 2-Fluorobiphenyl(S)	7.49	172	743366	56.01676 ppb	0.00
Spiked Amount 93.458			Recovery	= 59.938%	
63) 2,4,6-Tribromophenol(S)	9.19	330	234618	122.53351 ppb	0.00
Spiked Amount 186.916			Recovery	= 65.556%	
81) Terphenyl-D14(S)	11.85	244	1081030	55.73639 ppb	0.00
Spiked Amount 93.458			Recovery	= 59.638%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y273.D Y0123.M Mon Mar 13 15:40:42 2017

Quantitation Report

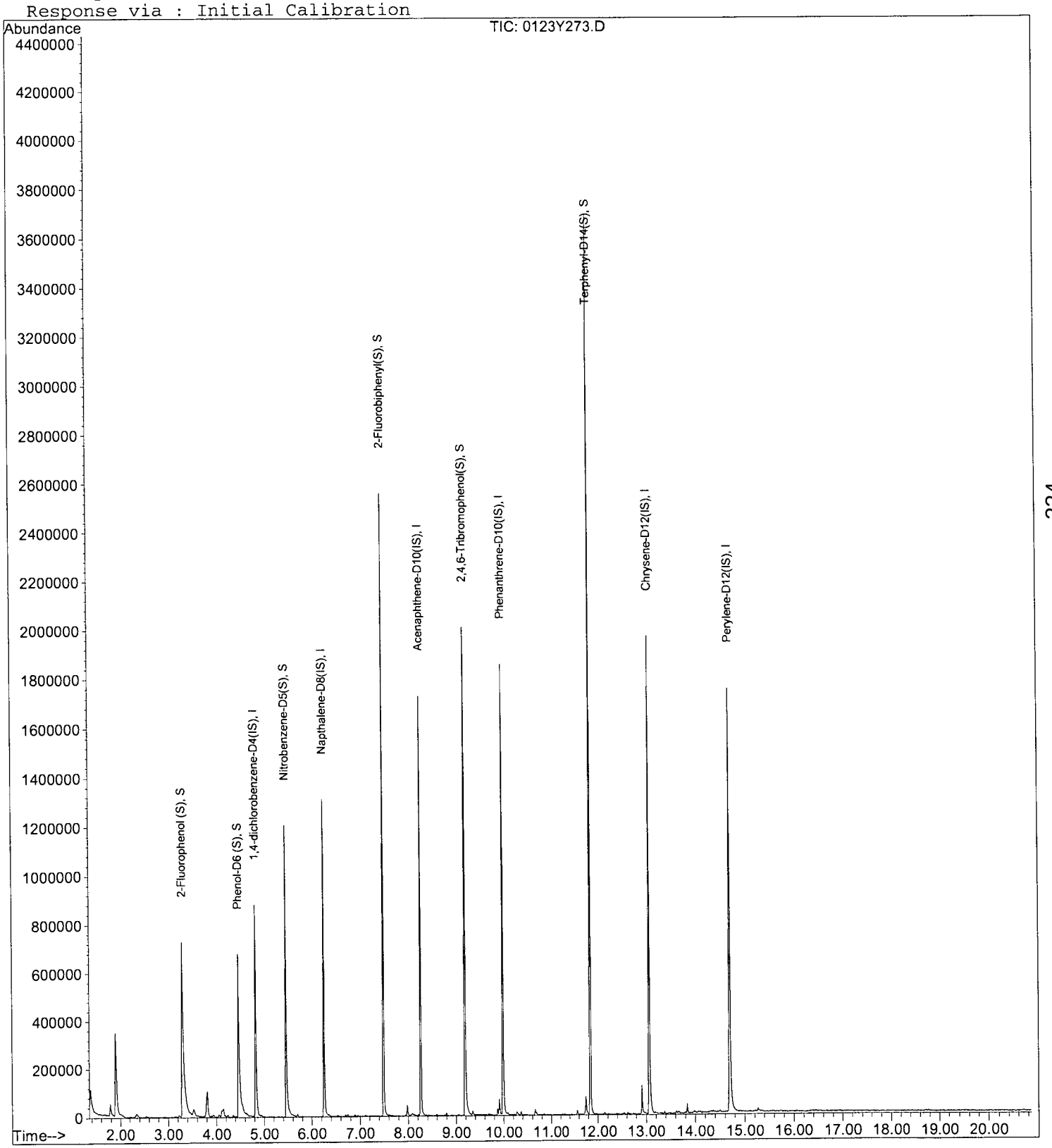
Data File : M:\YODA\DATA\Y170123\0123Y273.D
Acq On : 10 Mar 17 17:21
Sample : AZ51054W07 1/1070
Misc : water

Vial: 73
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 9:58 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



224

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	65.9	43-140			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.1	44-119			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	49.5	19-119			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	69.3	44-120			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.4	10-115			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	64.4	50-134			%	03/09/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y288
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:35:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y288.D Vial: 88
Acq On : 14 Mar 17 9:02 Operator: MA
Sample : AZ51056W10 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Mar 14 11:00 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	157213	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	684170	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	397009	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	742085	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	741605	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	739820	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	490838	92.50156 ppb	-0.02
Spiked Amount 186.916			Recovery = 49.489%		
5) Phenol-D6 (S)	4.46	99	401708	56.90125 ppb	0.00
Spiked Amount 186.916			Recovery = 30.442%		
21) Nitrobenzene-D5(S)	5.46	82	480994	64.78719 ppb	0.00
Spiked Amount 93.458			Recovery = 69.322%		
45) 2-Fluorobiphenyl(S)	7.49	172	803247	58.94268 ppb	0.00
Spiked Amount 93.458			Recovery = 63.069%		
63) 2,4,6-Tribromophenol(S)	9.19	330	242259	123.20803 ppb	0.00
Spiked Amount 186.916			Recovery = 65.916%		
81) Terphenyl-D14(S)	11.84	244	1027990	60.23017 ppb	0.00
Spiked Amount 93.458			Recovery = 64.446%		

Target Compounds Qvalue

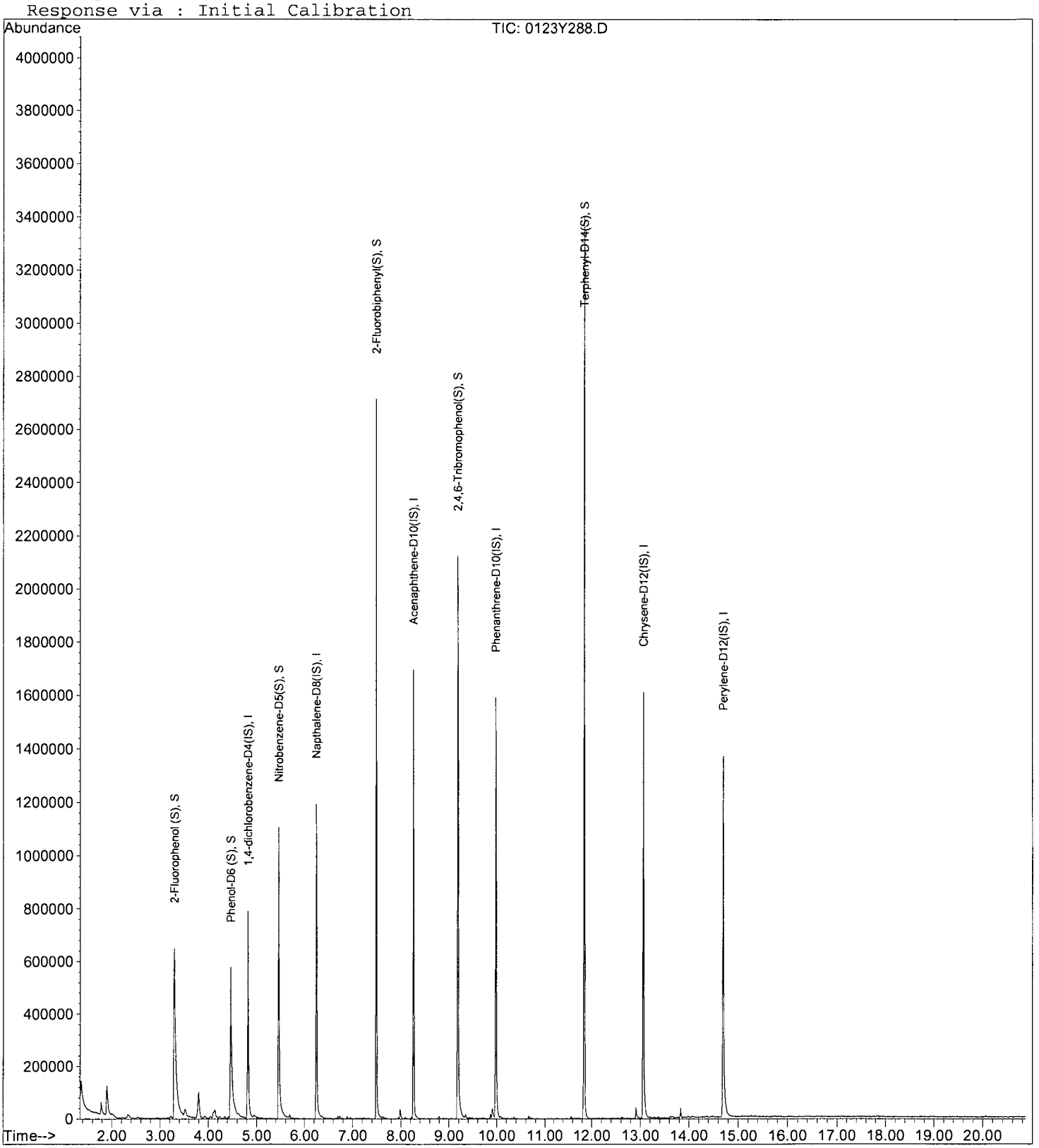
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y288.D Vial: 88
Acq On : 14 Mar 17 9:02 Operator: MA
Sample : AZ51056W10 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Mar 14 11:00 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	0123Y003.D 5	0123Y004.D 10	0123Y005.D 20	0123Y006.D 40	0123Y007.D 50	0123Y008.D 60	0123Y009.D 80	0123Y010.D 100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41) Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43) 2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44) 2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46) 1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47) 2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48) 2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49) Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50) 2,6-DNT	8.07	165	13516	4.34276	ppb		98
51) Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52) 3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53) Acenaphthene	8.30	154	61118	5.27635	ppb		98
54) 2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55) 4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56) Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57) 2,4-DNT	8.55	165	18690	4.26757	ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59) Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60) 4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61) Fluorene	8.90	166	69616	5.27556	ppb		96
62) 4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65) 4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66) Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67) n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70) Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71) Atrazine	9.68	200	7883	2.10443	ppb		92
72) Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73) Phenanthrene	10.02	178	99531	5.00174	ppb		99
74) Anthracene	10.08	178	104078	5.06633	ppb		99
75) Carbazol	10.29	167	87488	4.74701	ppb		100
76) Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77) Fluoranthene	11.40	202	106801	4.84818	ppb		99
79) Benzidine	11.59	184	41695	5.01562	ppb		98
80) Pyrene	11.66	202	111459	4.57558	ppb		97
82) Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83) 3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84) Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85) Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86) Chrysene	13.10	228	115566	5.28777	ppb		99
87) Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89) Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90) Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91) Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93) Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94) Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

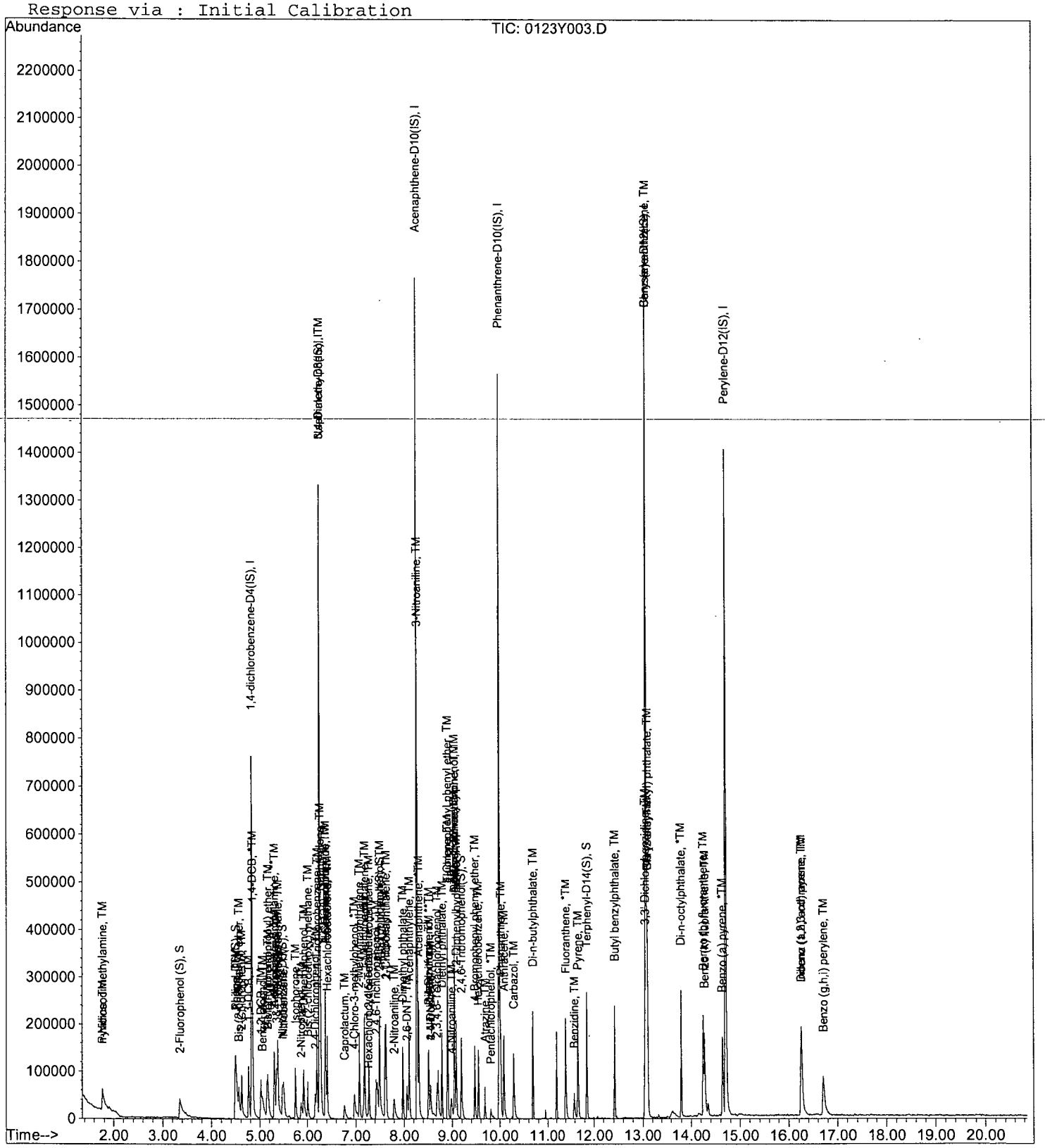
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb	93
3) Pyridine	1.75	79	66022	8.72336 ppb	92
6) Phenol	4.49	94	75248	9.07073 ppb	87
7) Aniline	4.48	66	72483	9.22212 ppb	99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb	98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb	93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb	99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb	95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb	97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb	96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb	96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb #	62
16) Acetophenone	5.30	105	82386	9.71062 ppb	97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb	96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb	98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb	88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb	99
23) Isophorone	5.74	82	111515	9.11028 ppb	95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb	97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb	95
26) Benzoic acid	6.11	105	18107	8.27766 ppb	91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb	99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb	93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb	94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb	88
31) Naphthalene	6.28	128	181219	9.50026 ppb	99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb	94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb	93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb	94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb	98
36) Caprolactum	6.77	55	26053	9.14345 ppb	99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933	ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860	ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861	ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944	ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646	ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318	ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796	ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690	ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723	ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118	ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937	ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420	ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425	ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231	ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926	ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904	ppb		86
61) Fluorene	8.90	166	136880	10.19080	ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298	ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103	ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238	ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238	ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657	ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736	ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230	ppb		89
71) Atrazine	9.69	200	17574	4.54512	ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148	ppb		93
73) Phenanthrene	10.01	178	207115	10.08340	ppb		100
74) Anthracene	10.08	178	215698	10.17215	ppb		99
75) Carbazol	10.28	167	186612	9.80942	ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533	ppb		100
77) Fluoranthene	11.40	202	215194	9.46381	ppb		99
79) Benzidine	11.58	184	88604	10.34478	ppb		98
80) Pyrene	11.66	202	225558	8.98704	ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716	ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727	ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157	ppb		98
86) Chrysene	13.10	228	218169	9.68864	ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023	ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764	ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396	ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464	ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986	ppb		97

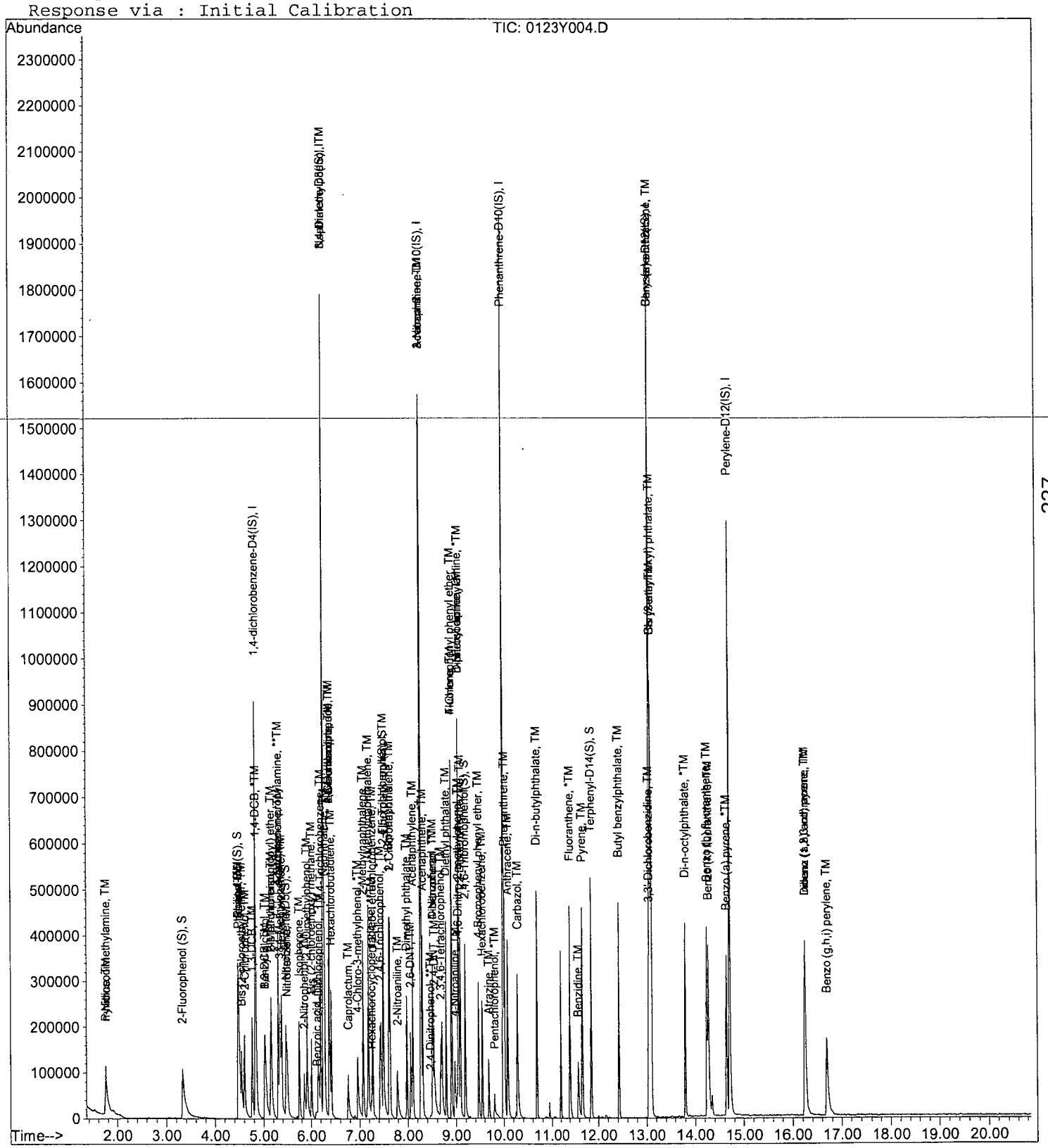
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	231683	20.17102 ppb		99
39) 1-Methylnaphthalene	7.18	142	223662	19.69293 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	19473	15.34526 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	65597	19.41205 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	69021	18.64768 ppb		94
46) 1,1'-Biphenyl	7.61	154	300719	20.68151 ppb		99
47) 2-Chloronaphthalene	7.63	162	225399	20.20873 ppb		96
48) 2-Nitroaniline	7.78	65	77977	20.35043 ppb		98
49) Dimethyl phthalate	7.98	163	262594	19.81549 ppb		100
50) 2,6-DNT	8.06	165	59117	19.67556 ppb	#	69
51) Acenaphthylene	8.10	152	367584	20.84166 ppb		99
52) 3-Nitroaniline	8.26	138	65497	19.76012 ppb	#	95
53) Acenaphthene	8.31	154	221335	19.79298 ppb		99
54) 2,4-Dinitrophenol	8.44	184	18550	16.50658 ppb		84
55) 4-Nitrophenol	8.53	65	45052	19.85590 ppb	#	49
56) Dibenzofuran	8.51	168	320527	20.35847 ppb		88
57) 2,4-DNT	8.54	165	80650	19.07537 ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983 ppb		94
59) Diethyl phthalate	8.79	149	272376	19.69280 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466 ppb		89
61) Fluorene	8.90	166	261042	20.49116 ppb		97
62) 4-Nitroaniline	8.96	138	61967	19.76886 ppb	#	86
65) 4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716 ppb	#	70
66) Diphenyl amine	9.05	169	382578	38.92582 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	382578	38.92582 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	291352	19.72726 ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	72096	19.87711 ppb		91
70) Hexachlorobenzene	9.55	284	74556	19.85327 ppb		87
71) Atrazine	9.69	200	35669	9.98520 ppb		97
72) Pentachlorophenol	9.80	266	23246	17.59668 ppb		95
73) Phenanthrene	10.01	178	397013	20.92142 ppb		100
74) Anthracene	10.08	178	410432	20.95072 ppb		99
75) Carbazol	10.28	167	360002	20.48328 ppb		99
76) Di-n-butylphthalate	10.68	149	450123	19.73394 ppb		98
77) Fluoranthene	11.40	202	427993	20.37340 ppb		98
79) Benzidine	11.57	184	172576	22.40287 ppb		100
80) Pyrene	11.66	202	446464	19.77881 ppb		100
82) Butyl benzylphthalate	12.42	149	203384	18.87857 ppb		81
83) 3,3'-Dichlorobenzidine	13.03	252	144253	20.21219 ppb		95
84) Benz (a) anthracene	13.05	228	422033	20.17517 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371 ppb		99
86) Chrysene	13.10	228	408549	20.17296 ppb		99
87) Di-n-octylphthalate	13.80	149	475570	17.99012 ppb		92
89) Benzo (b) fluoranthene	14.25	252	391685	18.20892 ppb		96
90) Benzo (k) fluoranthene	14.28	252	419442	20.96710 ppb		97
91) Benzo (a) pyrene	14.63	252	394651	20.01762 ppb		96
92) Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353 ppb		98
93) Dibenz (a,h) anthracene	16.24	278	365316	19.77397 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	363676	18.84422 ppb		99

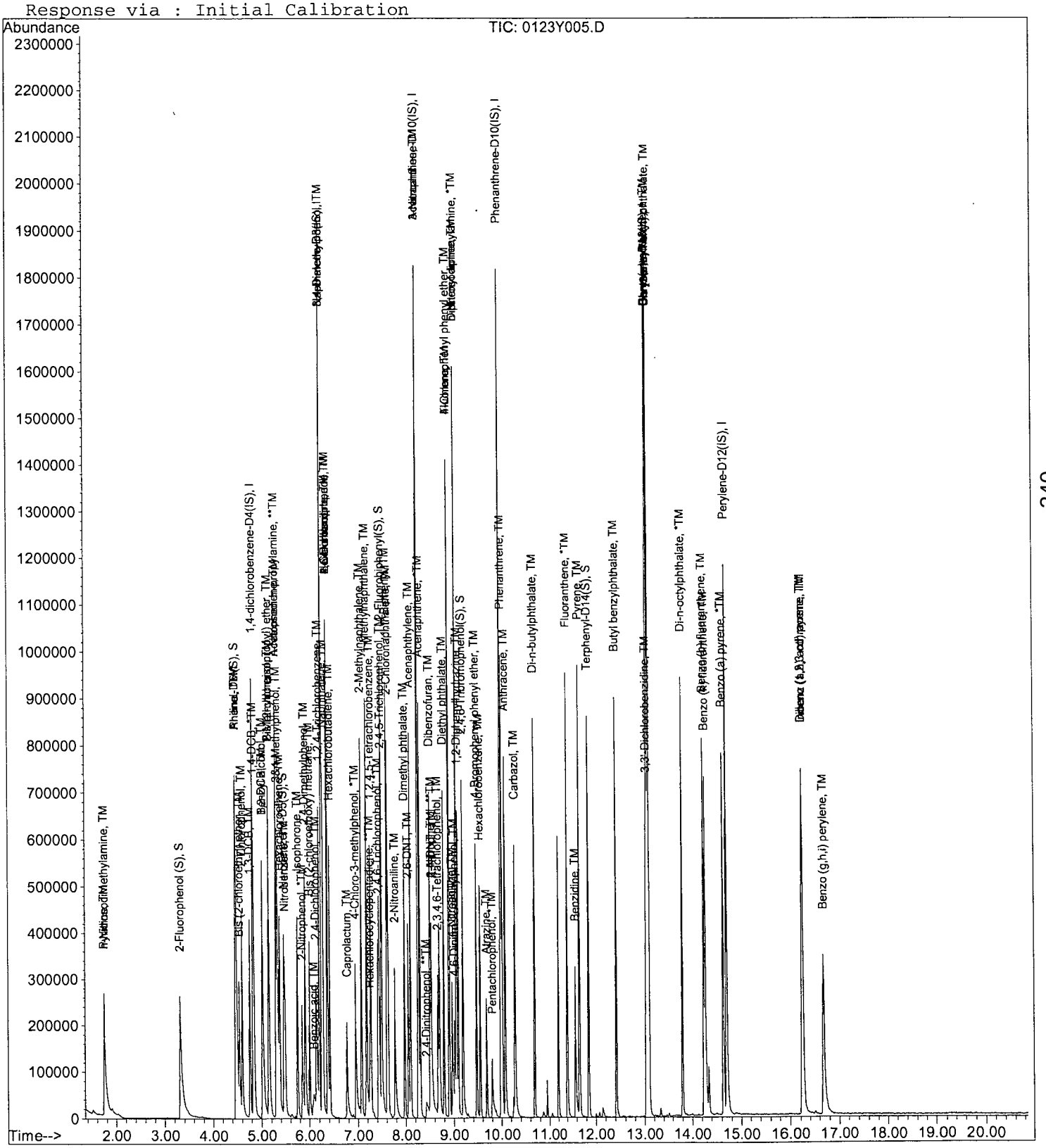
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



240

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121	ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53) Acenaphthene	8.31	154	448599	38.96400	ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547	ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61) Fluorene	8.90	166	515360	39.29261	ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71) Atrazine	9.69	200	75092	20.23603	ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73) Phenanthrene	10.02	178	797163	40.43889	ppb		99
74) Anthracene	10.08	178	837248	41.14126	ppb		99
75) Carbazol	10.28	167	750665	41.11558	ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77) Fluoranthene	11.40	202	872131	39.96448	ppb		97
79) Benzidine	11.58	184	358107	43.08926	ppb		99
80) Pyrene	11.66	202	926965	38.06361	ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86) Chrysene	13.10	228	847601	38.79268	ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

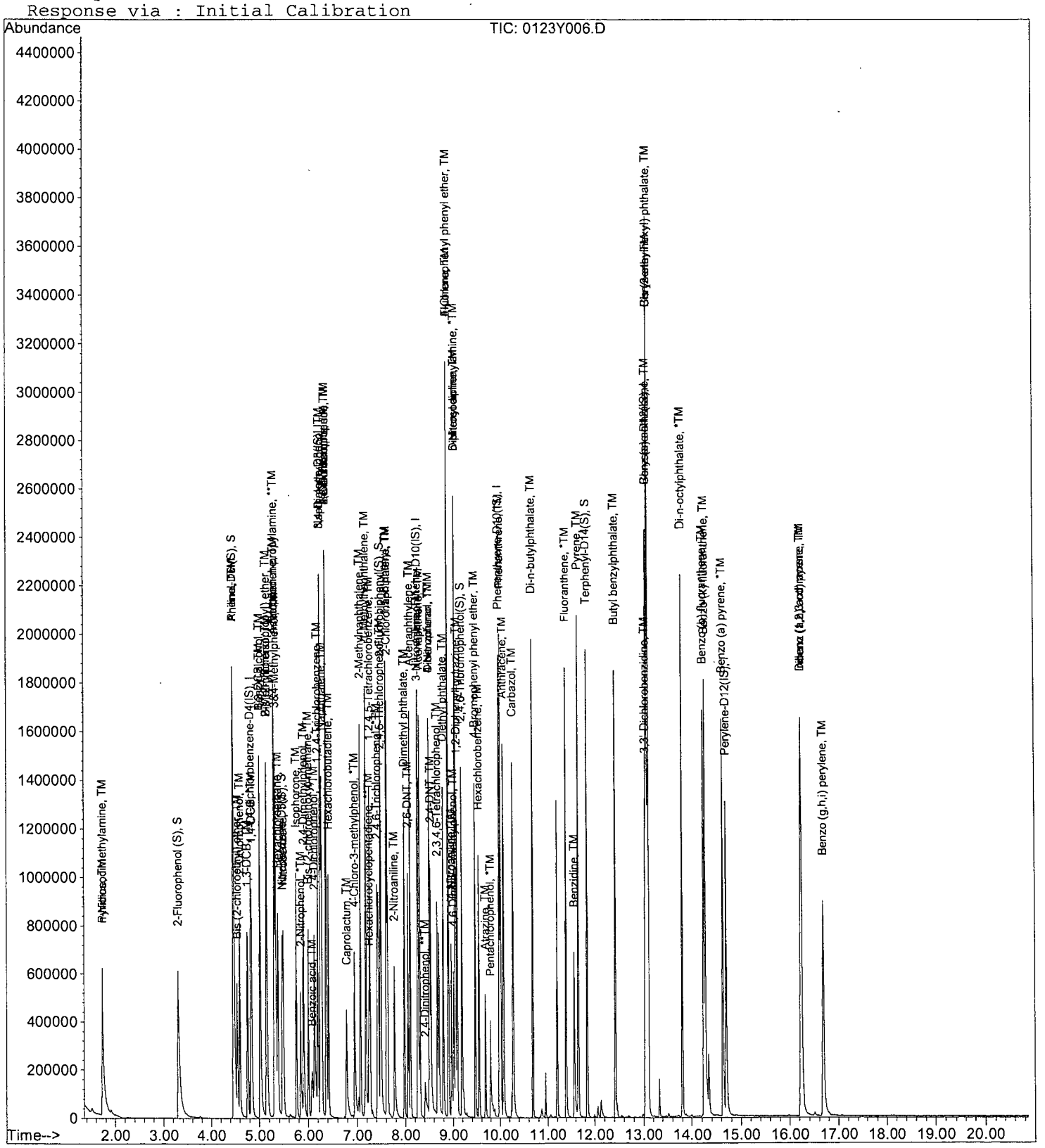
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery	= 53.334%	
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.999%	
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.350%	
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.791%	
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.033%	
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.829%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

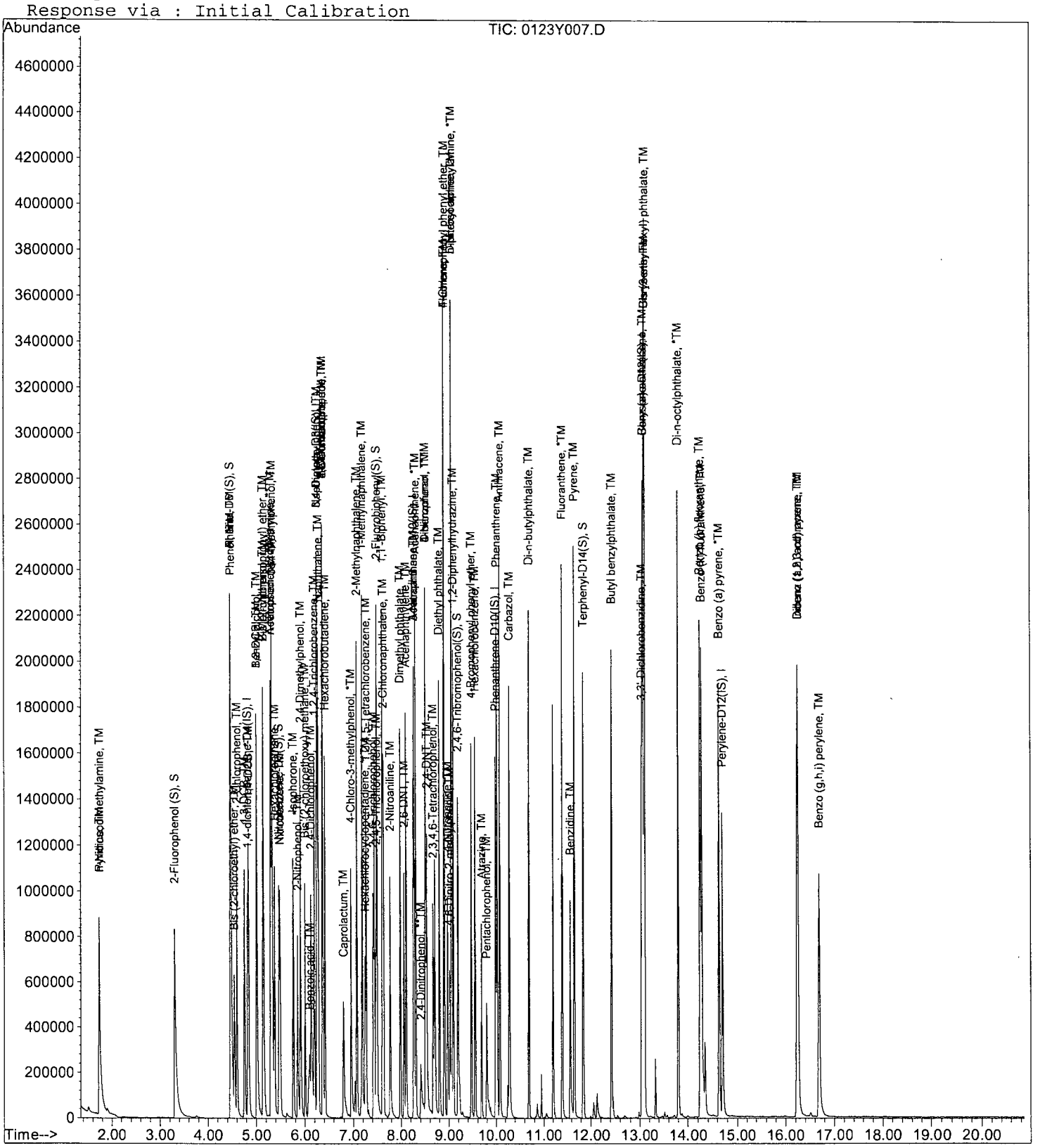
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery = 59.291%		
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery = 56.295%		
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery = 60.529%		
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery = 56.203%		
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery = 53.820%		
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery = 55.189%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750 ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920 ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008 ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161 ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869 ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920 ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675 ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844 ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818 ppb		99
53) Acenaphthene	8.31	154	660528	56.10991 ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470 ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087 ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197 ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227 ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298 ppb		98
61) Fluorene	8.90	166	723357	53.93814 ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356 ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272 ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420 ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533 ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941 ppb		96
71) Atrazine	9.69	200	113418	29.34015 ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528 ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905 ppb		99
74) Anthracene	10.08	178	1251780	59.04733 ppb		100
75) Carbazol	10.28	167	1130326	59.43097 ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811 ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928 ppb		99
79) Benzidine	11.57	184	543076	64.22768 ppb		98
80) Pyrene	11.66	202	1386950	55.97742 ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935 ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200 ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820 ppb		98
86) Chrysene	13.10	228	1217719	54.77858 ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777 ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932 ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798 ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419 ppb		98

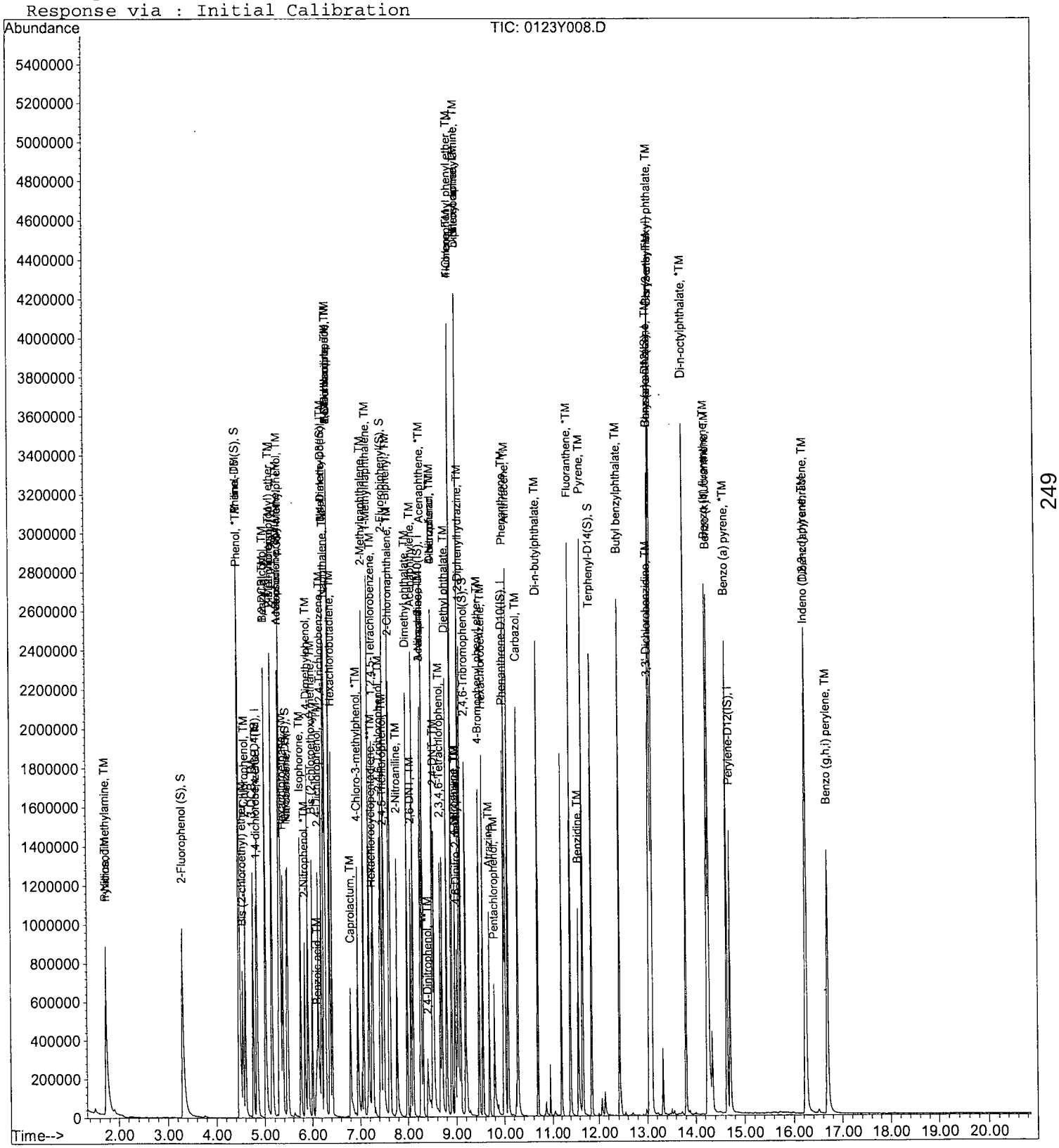
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery = 81.237%		
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery = 71.975%		
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery = 82.366%		
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery = 73.843%		
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery = 69.908%		
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery = 69.813%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb	98
3) Pyridine	1.73	79	634454	83.90277 ppb	100
6) Phenol	4.48	94	642315	77.49542 ppb	98
7) Aniline	4.48	66	611004	77.80712 ppb #	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb	91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb	99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb	99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb	96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb	93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb	99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb	96
16) Acetophenone	5.30	105	658013	77.62630 ppb	95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb	93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb	89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb	97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb	92
23) Isophorone	5.76	82	966459	84.20922 ppb	98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb	98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb	98
26) Benzoic acid	6.12	105	344797	79.06975 ppb	99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb	99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb	96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb	97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb	99
31) Naphthalene	6.28	128	1406137	78.62073 ppb	99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb	96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb	98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb	98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb	98
36) Caprolactum	6.82	55	245801	92.00545 ppb	98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

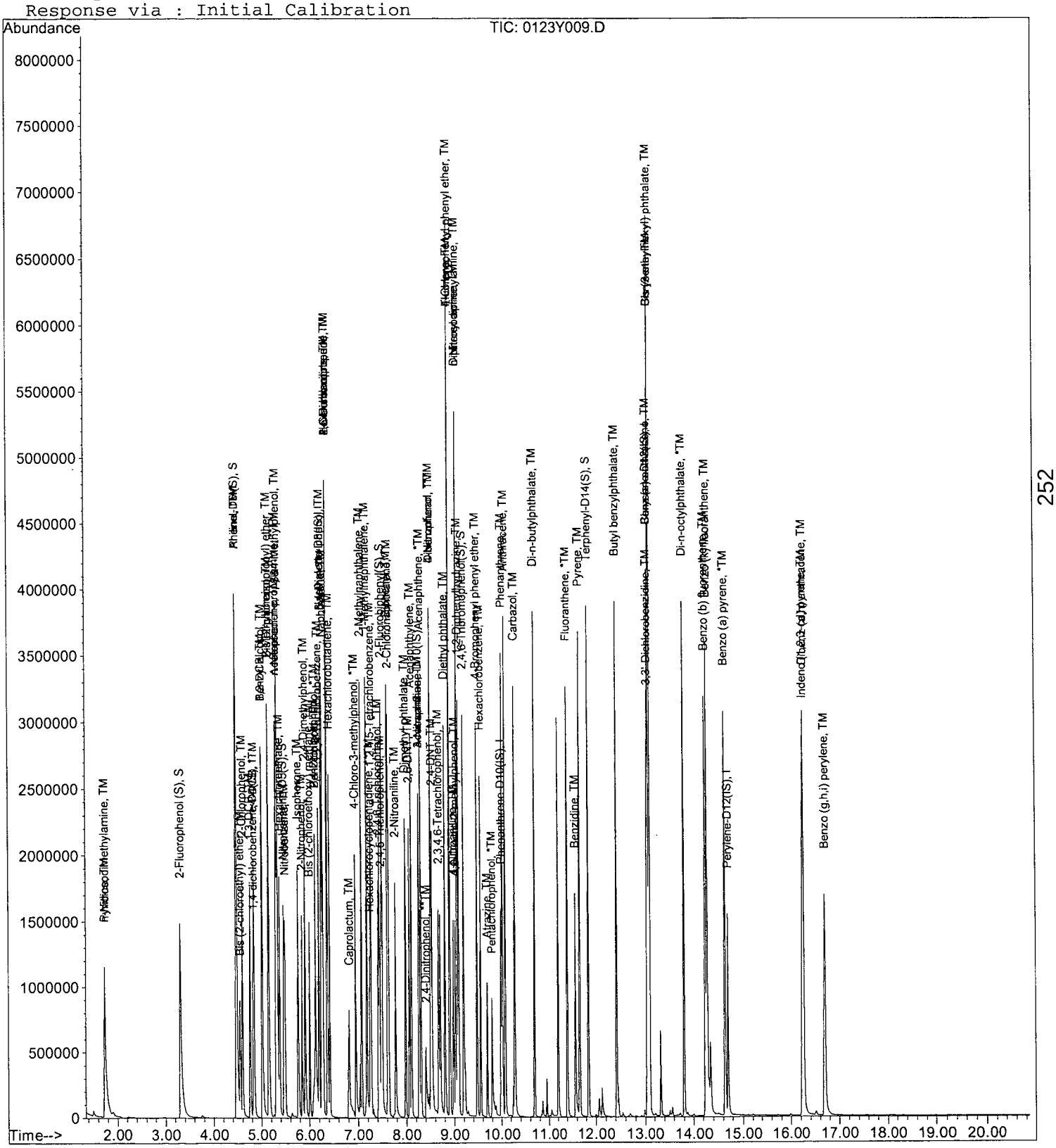
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562 ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946 ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351 ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756 ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843 ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130 ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964 ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747 ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681 ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230 ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232 ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576 ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521 ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657 ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139 ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091 ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456 ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458 ppb		86
61) Fluorene	8.91	166	1259262	98.30180 ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202 ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801 ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107 ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343 ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365 ppb	#	85
71) Atrazine	9.70	200	186402	51.29770 ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807 ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577 ppb		99
74) Anthracene	10.08	178	1948772	97.79130 ppb		100
75) Carbazol	10.29	167	1735219	97.05778 ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443 ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594 ppb	#	95
79) Benzidine	11.58	184	881021	112.09512 ppb		99
80) Pyrene	11.67	202	2238167	97.18146 ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181 ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441 ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548 ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876 ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644 ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142 ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131 ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324 ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950 ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985 ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647 ppb		95

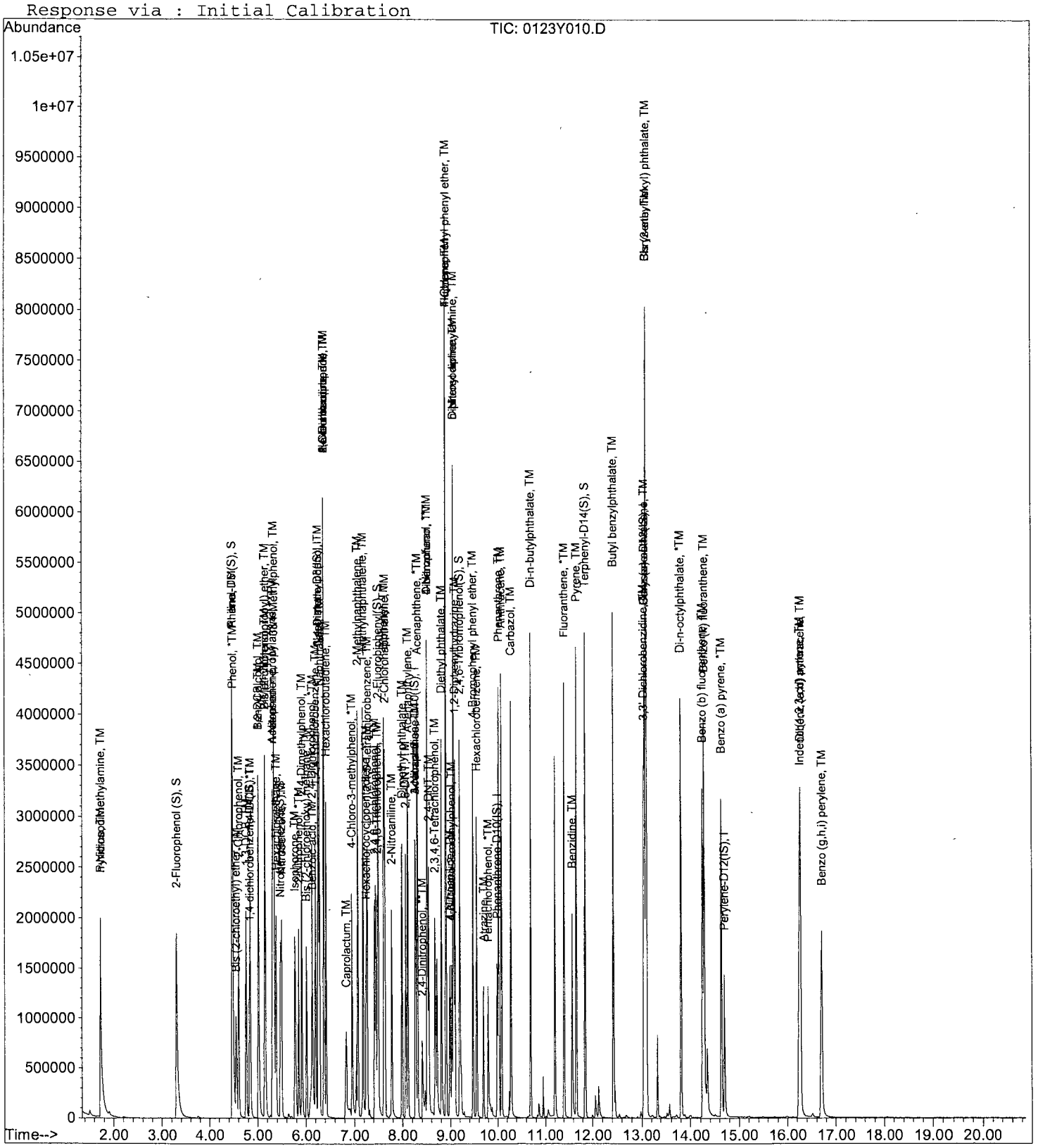
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
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116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.956}$ = 56.38 MA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	646439	48.57137	ppb		100
39) 1-Methylnaphthalene	7.19	142	602666	45.97150	ppb		100
41) Hexachlorocyclopentadiene	7.25	237	121681	52.65785	ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775	ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	193346	48.88713	ppb		97
44) 2,4,5-Trichlorophenol	7.47	196	209742	48.34739	ppb		97
46) 1,1'-Biphenyl	7.61	154	822806	47.07970	ppb		99
47) 2-Chloronaphthalene	7.63	162	692861	51.88332	ppb		96
48) 2-Nitroaniline	7.77	65	233738	49.08526	ppb		85
49) Dimethyl phthalate	7.98	163	766645	47.87741	ppb		99
50) 2,6-DNT	8.06	165	178567	49.95212	ppb	#	72
51) Acenaphthylene	8.10	152	982221	45.67988	ppb		99
52) 3-Nitroaniline	8.25	138	193766	49.56328	ppb		85
53) Acenaphthene	8.31	154	608874	45.93545	ppb		100
54) 2,4-Dinitrophenol	8.41	184	82560	48.59465	ppb		95
55) 4-Nitrophenol	8.50	65	144946	48.19129	ppb		77
56) Dibenzofuran	8.50	168	875323	46.77048	ppb		98
57) 2,4-DNT	8.54	165	249063	49.96847	ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501	ppb	#	90
59) Diethyl phthalate	8.80	149	774517	47.76643	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651	ppb		86
61) Fluorene	8.90	166	658029	43.43306	ppb		96
62) 4-Nitroaniline	8.98	138	188537	50.69450	ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398	ppb	#	80
66) Diphenyl amine	9.06	169	1101615	100.68261	ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1101615	100.68261	ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1107522	57.98015	ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	213301	49.74664	ppb		85
70) Hexachlorobenzene	9.55	284	235108	52.56424	ppb		90
71) Atrazine	9.69	200	93523	22.08154	ppb		99
72) Pentachlorophenol	9.79	266	86715	45.18058	ppb		95
73) Phenanthrene	10.02	178	1072837	46.33434	ppb		100
74) Anthracene	10.08	178	1080433	44.73670	ppb		99
75) Carbazol	10.28	167	987284	46.17731	ppb		96
76) Di-n-butylphthalate	10.69	149	1336738	49.47728	ppb		99
77) Fluoranthene	11.40	202	1187541	47.24409	ppb		97
79) Benzidine	11.58	184	466479	44.95376	ppb		97
80) Pyrene	11.66	202	1231903	46.08479	ppb		98
82) Butyl benzylphthalate	12.42	149	620712	50.22071	ppb	#	78
83) 3,3'-Dichlorobenzidine	13.03	252	451989	53.92761	ppb		94
84) Benz (a) anthracene	13.05	228	1187024	47.21512	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640	ppb		99
86) Chrysene	13.10	228	1055130	42.79043	ppb		100
87) Di-n-octylphthalate	13.81	149	1488607	49.98751	ppb		97
89) Benzo (b) fluoranthene	14.25	252	1145100	44.79514	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1223330	51.92467	ppb		98
91) Benzo (a) pyrene	14.64	252	1142371	48.92994	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771	ppb		99
93) Dibenz (a,h) anthracene	16.26	278	1059706	47.56225	ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1051918	47.90166	ppb		97

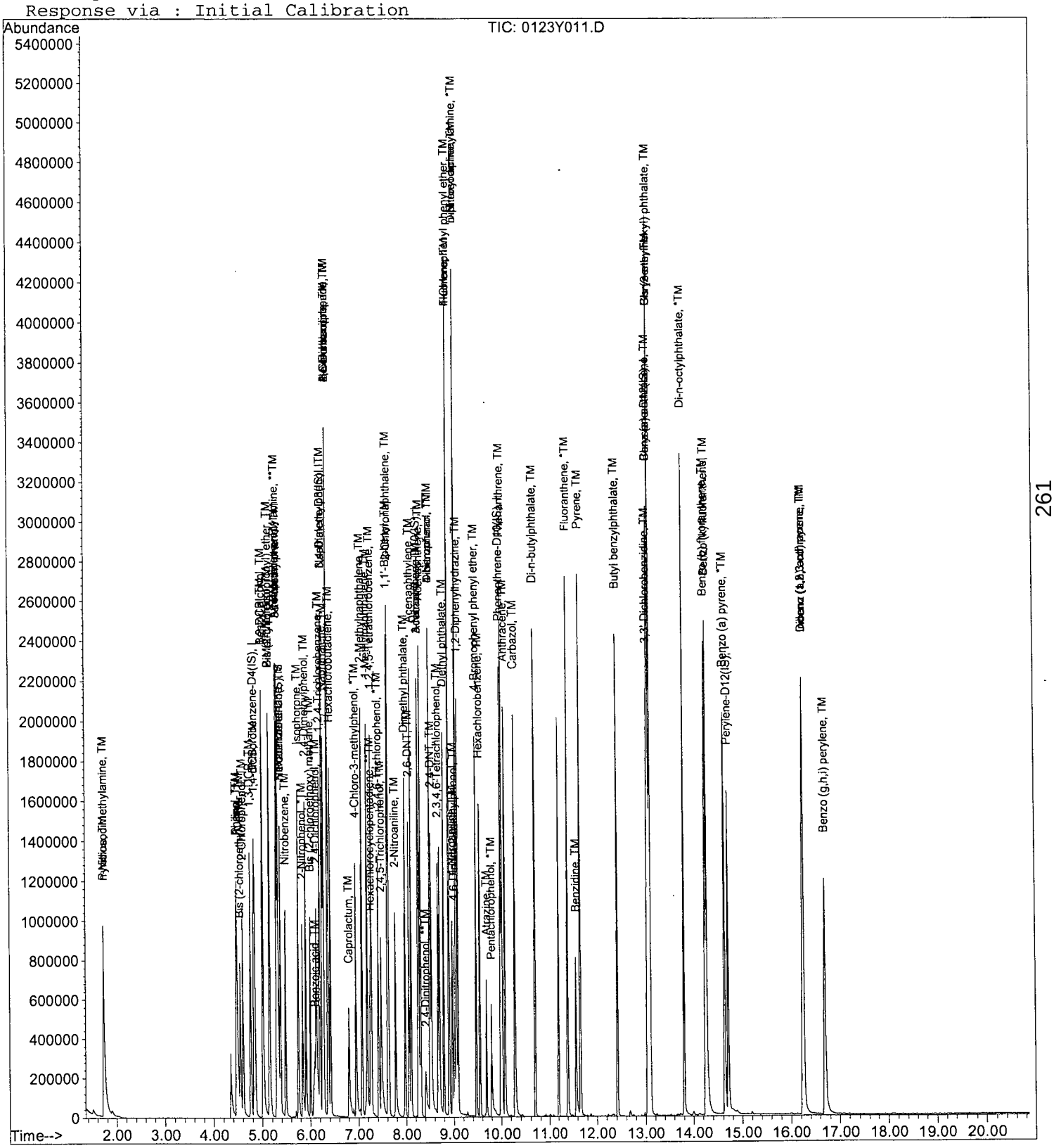
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



261

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.087	14	TM	
3	TM	Pyridine	1.902	1.980	4.1	TM	
4	S	2-Fluorophenol (S)	1.262	1.311	3.9	S	
5	S	Phenol-D6 (S)	1.679	1.578	6.0	S	
6	*TM	Phenol	1.927	2.031	5.4	*TM	
7	TM	Aniline	1.829	1.824	0.27	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9500	0.73	TM	
9	TM	2-Chlorophenol	1.490	1.568	5.2	TM	
10	TM	1,3-DCB	1.572	1.618	2.9	TM	
11	*TM	1,4-DCB	1.615	1.646	1.9	*TM	
12	TM	Benzyl alcohol	0.8487	0.9354	10	TM	
13	TM	1,2-DCB	1.472	1.542	4.7	TM	
14	TM	2-Methylphenol	1.114	1.148	3.1	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.046	1.1	TM	
16	TM	Acetophenone	1.985	2.046	3.1	TM	
17	TM	3&4-Methylphenol	1.446	1.526	5.5	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.101	0.02	**TM	
19	TM	Hexachloroethane	0.6642	0.6782	2.1	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3890	4.1	S	
22	TM	Nitrobenzene	0.4049	0.4120	1.7	TM	
23	TM	Isophorone	0.6723	0.6973	3.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.2135	12	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3229	5.2	TM	
26	TML	Benzoic acid	0.1823	0.2690	48	TML	15
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4044	3.9	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3224	10	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3337	3.4	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4648	0.55	TM	
31	TM	Naphthalene	1.046	1.062	1.6	TM	
32	TM	4-Chloroaniline	0.3674	0.3743	1.9	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2698	0.22	TM	
34	TM	Hexachloropropene	0.2347	0.2343	0.16	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1948	1.7	*TM	
36	TM	Caprolactum	0.1663	0.1764	6.1	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3325	5.0	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7067	4.0	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6972	4.2	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			5.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1684	5.4	**TMQ	9.6
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5415	0.05	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3632	6.9	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3771	1.2	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.188	7.4	S	
46	TM	1,1'-Biphenyl	1.501	1.519	1.2	TM	
47	TM	2-Chloronaphthalene	1.147	1.163	1.4	TM	
48	TM	2-Nitroaniline	0.4089	0.4189	2.5	TM	
49	TM	Dimethyl phthalate	1.375	1.405	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3189	3.9	TM	
51	TM	Acenaphthylene	1.846	1.856	0.54	TM	
52	TM	3-Nitroaniline	0.3357	0.3521	4.9	TM	
53	*TM	Acenaphthene	1.138	1.149	0.91	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1594	21	**TMQ	6.1
55	**TML	4-Nitrophenol	0.2262	0.2212	2.2	**TML	13
56	TM	Dibenzofuran	1.607	1.631	1.5	TM	
57	TM	2,4-DNT	0.4280	0.4479	4.6	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3070	4.6	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.8	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5852	6.5	TM	
61	TM	Fluorene	1.301	1.198	7.9	TM	
62	TM	4-Nitroaniline	0.3194	0.3244	1.6	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1634	12	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1469	11	TML	2.3
66	TM	Diphenyl amine	0.5157	0.5465	6.0	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5465	6.0	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8373	7.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2132	5.5	TM	
70	TM	Hexachlorobenzene	0.2108	0.2083	1.2	TM	
71	TM	Atrazine	0.1996	0.2115	6.0	TM	
72	*TML	Pentachlorophenol	0.0838	0.0954	14	*TML	3.0
73	TM	Phenanthrene	1.091	1.055	3.4	TM	
74	TM	Anthracene	1.138	1.107	2.7	TM	
75	TM	Carbazol	1.008	0.9785	2.9	TM	
76	TM	Di-n-butylphthalate	1.273	1.314	3.2	TM	
77	*TM	Fluoranthene	1.185	1.165	1.7	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4788	3.8	TM	
80	TM	Pyrene	1.283	1.305	1.7	TM	
		Average			4.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8385	2.5	S	
82	TM	Butyl benzylphthalate	0.5931	0.6263	5.6	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4563	13	TM	
84	TM	Benz (a) anthracene	1.206	1.207	0.08	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8670	3.9	TM	
86	TM	Chrysene	1.183	1.182	0.12	TM	
87	*TM	Di-n-octylphthalate	1.429	1.579	10	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.136	8.8	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.198	4.4	TM	
91	*TM	Benzo (a) pyrene	1.137	1.086	4.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.204	5.6	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.038	4.4	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9732	9.0	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y268.D
Vial: 68
Acq On : 10 Mar 17 14:47
Operator: MA
Sample : 50ug/ml SVOC 3/02/17
Inst : Yoda
Misc : water
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	141116	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	580908	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	342939	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	609568	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	572618	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	602730	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	462663	103.93740 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.968%	
5) Phenol-D6 (S)	4.46	99	556830	94.02213 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.011%	
21) Nitrobenzene-D5(S)	5.46	82	282484	47.94949 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.949%	
45) 2-Fluorobiphenyl(S)	7.49	172	509217	46.28616 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.286%	
63) 2,4,6-Tribromophenol(S)	9.19	330	140075	88.24440 ppb	0.00
Spiked Amount 200.000			Recovery	= 44.122%	
81) Terphenyl-D14(S)	11.84	244	600183	48.73046 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.730%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	191781	56.86049 ppb		92
3) Pyridine	1.73	79	349326	52.06665 ppb		95
6) Phenol	4.48	94	358206	52.69234 ppb		92
7) Aniline	4.47	66	321812	49.86749 ppb		90
8) Bis (2-chloroethyl) ether	4.54	63	167583	50.36640 ppb		97
9) 2-Chlorophenol	4.60	128	276539	52.60277 ppb		93
10) 1,3-DCB	4.75	146	285389	51.46040 ppb		99
11) 1,4-DCB	4.84	146	290260	50.93257 ppb		98
12) Benzyl alcohol	5.01	108	164995	55.10345 ppb		83
13) 1,2-DCB	5.01	146	271987	52.36254 ppb		94
14) 2-Methylphenol	5.15	107	202529	51.54912 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	360868	49.43070 ppb	#	73
16) Acetophenone	5.29	105	360909	51.54996 ppb		99
17) 3&4-Methylphenol	5.33	107	538454	105.53973 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	194289	49.99024 ppb		95
19) Hexachloroethane	5.37	117	119628	51.04959 ppb		94
22) Nitrobenzene	5.48	77	299165	50.87426 ppb		88
23) Isophorone	5.75	82	506345	51.86178 ppb		93
24) 2-Nitrophenol	5.84	139	155012	56.20483 ppb		95
25) 2,4-Dimethylphenol	5.91	122	234459	52.58011 ppb		98
26) Benzoic acid	6.10	105	195294	57.34043 ppb		93
27) Bis (2-chloroethoxy) metha	5.99	93	293680	51.95566 ppb		98
28) 2,4-Dichlorophenol	6.12	162	234091	55.16820 ppb		98
29) 1,2,4-Trichlorobenzene	6.20	180	242335	51.68615 ppb		95
30) 3,4-Dimethylphenol	6.24	107	337511	50.27458 ppb		98
31) Naphthalene	6.27	128	771353	50.78719 ppb		99
32) 4-Chloroaniline	6.37	127	271792	50.94398 ppb		95
33) 2,6-Dichlorophenol	6.37	162	195928	49.89222 ppb		98
34) Hexachloropropene	6.37	213	170135	49.91818 ppb		95
35) Hexachlorobutadiene	6.41	225	141426	50.86871 ppb		98
36) Caprolactum	6.79	55	128103	53.04314 ppb		94
37) 4-Chloro-3-methylphenol	6.95	107	241416	52.50520 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y268.D
Acq On : 10 Mar 17 14:47
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 68
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	513147	52.00851 ppb		98
39) 1-Methylnaphthalene	7.17	142	506275	52.09287 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	72197	45.22185 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	232129	50.02345 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	155684	53.46885 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	161644	50.61098 ppb		98
46) 1,1'-Biphenyl	7.61	154	651291	50.61845 ppb		98
47) 2-Chloronaphthalene	7.63	162	498444	50.69855 ppb		97
48) 2-Nitroaniline	7.77	65	179593	51.22815 ppb		86
49) Dimethyl phthalate	7.98	163	602340	51.09467 ppb		98
50) 2,6-DNT	8.05	165	136709	51.94543 ppb		79
51) Acenaphthylene	8.10	152	795771	50.26913 ppb		100
52) 3-Nitroaniline	8.25	138	150939	52.44227 ppb		87
53) Acenaphthene	8.30	154	492387	50.45737 ppb		99
54) 2,4-Dinitrophenol	8.41	184	68315	53.04091 ppb		98
55) 4-Nitrophenol	8.53	65	94801	43.62555 ppb	#	52
56) Dibenzofuran	8.50	168	699353	50.75717 ppb		93
57) 2,4-DNT	8.53	165	192004	52.32324 ppb	#	75
58) 2,3,4,6-Tetrachlorophenol	8.67	232	131601	52.31346 ppb	#	90
59) Diethyl phthalate	8.79	149	580328	48.61417 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	250839	46.74147 ppb		91
61) Fluorene	8.90	166	513753	46.06036 ppb		99
62) 4-Nitroaniline	8.97	138	139051	50.78505 ppb		87
65) 4,6-Dinitro-2-methylphenol	9.01	198	111922	51.16241 ppb	#	74
66) Diphenyl amine	9.05	169	832821	105.96683 ppb		99
67) n-Nitrosodiphenylamine	9.05	169	832821	105.96683 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	638006	46.49919 ppb		95
69) 4-Bromophenyl phenyl ether	9.47	248	162466	52.75055 ppb		93
70) Hexachlorobenzene	9.54	284	158693	49.39403 ppb	#	85
71) Atrazine	9.69	200	80583	26.48793 ppb		97
72) Pentachlorophenol	9.79	266	72727	51.49324 ppb		93
73) Phenanthrene	10.01	178	803603	48.31750 ppb		99
74) Anthracene	10.07	178	843811	48.64128 ppb		99
75) Carbazol	10.27	167	745560	48.54705 ppb		97
76) Di-n-butylphthalate	10.68	149	1001116	51.58668 ppb		99
77) Fluoranthene	11.40	202	887873	49.17489 ppb		96
79) Benzidine	11.57	184	342719	48.07843 ppb		96
80) Pyrene	11.66	202	933813	50.85330 ppb		100
82) Butyl benzylphthalate	12.42	149	448274	52.79762 ppb		89
83) 3,3'-Dichlorobenzidine	13.03	252	326609	56.72697 ppb	#	95
84) Benz (a) anthracene	13.05	228	864168	50.03777 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	620556	51.96484 ppb		99
86) Chrysene	13.10	228	845933	49.94072 ppb		99
87) Di-n-octylphthalate	13.79	149	1130181	55.24686 ppb		96
89) Benzo (b) fluoranthene	14.25	252	855593	45.59990 ppb		98
90) Benzo (k) fluoranthene	14.27	252	902328	52.17997 ppb		98
91) Benzo (a) pyrene	14.63	252	818296	47.75151 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	906873	47.20588 ppb		99
93) Dibenz (a,h) anthracene	16.24	278	781908	47.81255 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	733229	45.49016 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

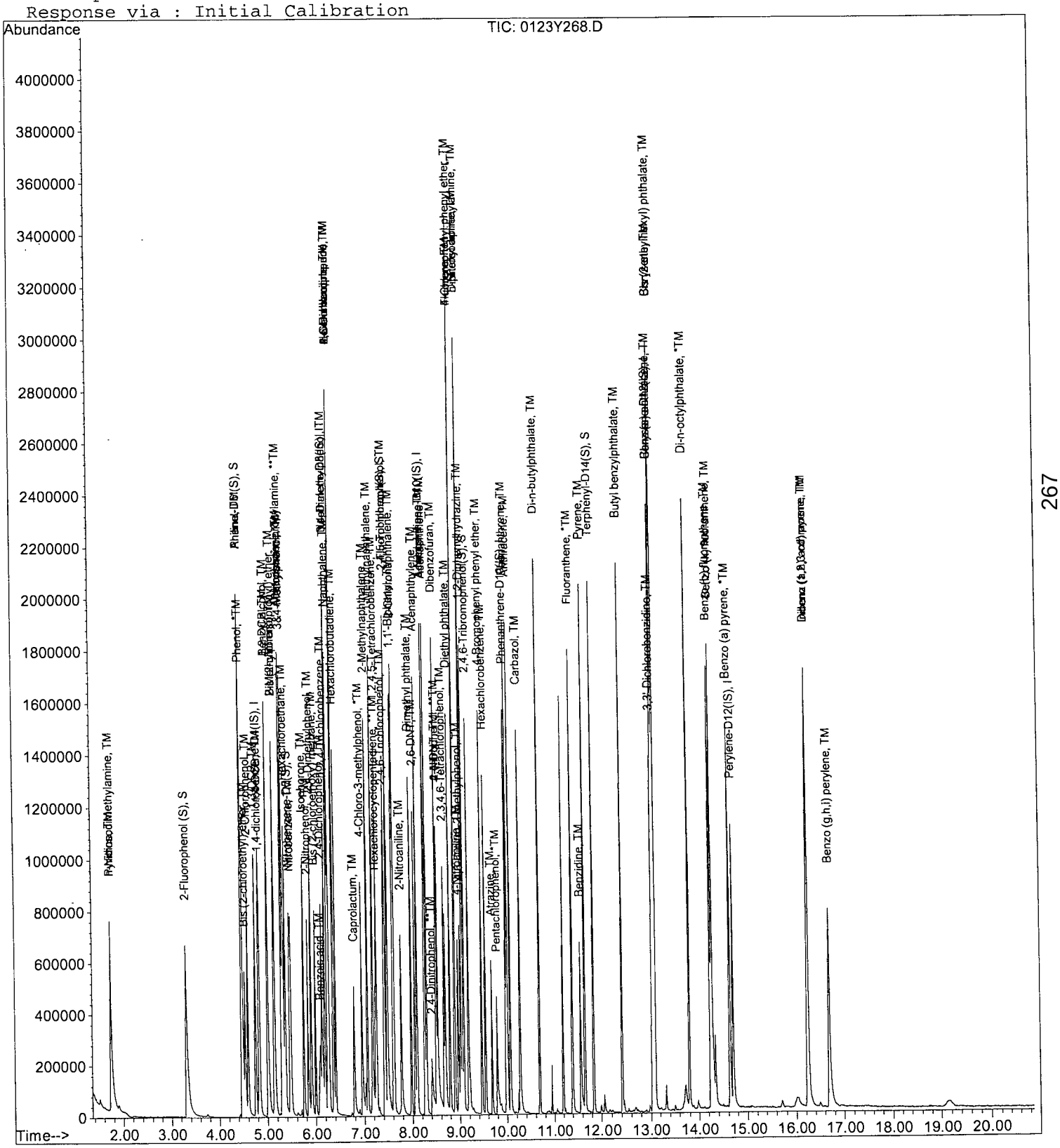
Data File : M:\YODA\DATA\Y170123\0123Y268.D
Acq On : 10 Mar 17 14:47
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 68
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



267

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.291	35	TM	
3	TM	Pyridine	1.902	2.062	8.5	TM	
4	S	2-Fluorophenol (S)	1.262	1.216	3.6	S	
5	S	Phenol-D6 (S)	1.679	1.630	2.9	S	
6	*TM	Phenol	1.927	2.037	5.7	*TM	
7	TM	Aniline	1.829	1.824	0.27	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	1.001	6.2	TM	
9	TM	2-Chlorophenol	1.490	1.562	4.9	TM	
10	TM	1,3-DCB	1.572	1.619	3.0	TM	
11	*TM	1,4-DCB	1.615	1.657	2.6	*TM	
12	TM	Benzyl alcohol	0.8487	0.9354	10	TM	
13	TM	1,2-DCB	1.472	1.565	6.3	TM	
14	TM	2-Methylphenol	1.114	1.159	4.1	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.167	4.7	TM	
16	TM	Acetophenone	1.985	2.068	4.2	TM	
17	TM	3&4-Methylphenol	1.446	1.552	7.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.146	4.0	**TM	
19	TM	Hexachloroethane	0.6642	0.6901	3.9	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3804	6.2	S	
22	TM	Nitrobenzene	0.4049	0.4007	1.0	TM	
23	TM	Isophorone	0.6723	0.6825	1.5	TM	
24	*TM	2-Nitrophenol	0.1899	0.2045	7.7	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3162	3.0	TM	
26	TML	Benzoic acid	0.1823	0.2449	34	TML	5.5
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4049	4.0	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3077	5.3	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3241	0.40	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4574	1.0	TM	
31	TM	Naphthalene	1.046	1.063	1.6	TM	
32	TM	4-Chloroaniline	0.3674	0.3838	4.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2726	0.80	TM	
34	TM	Hexachloropropene	0.2347	0.2315	1.3	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1901	0.71	*TM	
36	TM	Caprolactum	0.1663	0.1792	7.8	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3317	4.8	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7302	7.5	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6935	3.6	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			5.8		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1459	8.6	**TMQ	18
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5319	1.7	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3429	0.96	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3597	3.4	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.128	12	S	
46	TM	1,1'-Biphenyl	1.501	1.468	2.2	TM	
47	TM	2-Chloronaphthalene	1.147	1.142	0.41	TM	
48	TM	2-Nitroaniline	0.4089	0.4093	0.11	TM	
49	TM	Dimethyl phthalate	1.375	1.327	3.5	TM	
50	TM	2,6-DNT	0.3070	0.3070	0.01	TM	
51	TM	Acenaphthylene	1.846	1.799	2.6	TM	
52	TM	3-Nitroaniline	0.3357	0.3440	2.5	TM	
53	*TM	Acenaphthene	1.138	1.110	2.4	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1337	1.8	**TMQ	6.9
55	**TML	4-Nitrophenol	0.2262	0.2091	7.5	**TML	17
56	TM	Dibenzofuran	1.607	1.643	2.2	TM	
57	TM	2,4-DNT	0.4280	0.4370	2.1	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2907	0.93	TM	
59	TM	Diethyl phthalate	1.392	1.355	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5728	8.5	TM	
61	TM	Fluorene	1.301	1.208	7.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3265	2.2	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1687	8.9	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1424	7.7	TML	0.39
66	TM	Diphenyl amine	0.5157	0.5260	2.0	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5260	2.0	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8275	8.1	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2021	0.01	TM	
70	TM	Hexachlorobenzene	0.2108	0.2070	1.8	TM	
71	TM	Atrazine	0.1996	0.2088	4.6	TM	
72	*TML	Pentachlorophenol	0.0838	0.0835	0.35	*TML	8.0
73	TM	Phenanthrene	1.091	1.095	0.29	TM	
74	TM	Anthracene	1.138	1.159	1.8	TM	
75	TM	Carbazol	1.008	1.038	3.0	TM	
76	TM	Di-n-butylphthalate	1.273	1.323	3.9	TM	
77	*TM	Fluoranthene	1.185	1.231	3.9	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4515	9.3	TM	
80	TM	Pyrene	1.283	1.319	2.8	TM	
		Average			3.6		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8375	2.7	S	
82	TM	Butyl benzylphthalate	0.5931	0.6332	6.8	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4572	14	TM	
84	TM	Benz (a) anthracene	1.206	1.211	0.40	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8269	0.88	TM	
86	TM	Chrysene	1.183	1.174	0.76	TM	
87	*TM	Di-n-octylphthalate	1.429	1.537	7.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.182	5.1	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.128	1.7	TM	
91	*TM	Benzo (a) pyrene	1.137	1.110	2.4	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.189	6.8	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.012	6.7	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.016	5.0	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
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108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y284.D
Acq On : 10 Mar 17 22:36
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 84
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:45 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	124598	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	534465	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	325588	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	593377	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	587819	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	634113	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	378808	96.38100 ppb	0.00
Spiked Amount 200.000			Recovery = 48.191%		
5) Phenol-D6 (S)	4.47	99	507778	97.10611 ppb	0.00
Spiked Amount 200.000			Recovery = 48.553%		
21) Nitrobenzene-D5(S)	5.46	82	254132	46.88539 ppb	0.00
Spiked Amount 100.000			Recovery = 46.885%		
45) 2-Fluorobiphenyl(S)	7.49	172	459221	43.96615 ppb	0.00
Spiked Amount 100.000			Recovery = 43.966%		
63) 2,4,6-Tribromophenol(S)	9.19	330	137293	91.10106 ppb	0.00
Spiked Amount 200.000			Recovery = 45.551%		
81) Terphenyl-D14(S)	11.85	244	615362	48.67084 ppb	0.00
Spiked Amount 100.000			Recovery = 48.671%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	201072	67.51835 ppb #	68
3) Pyridine	1.74	79	321226	54.22563 ppb	98
6) Phenol	4.47	94	317264	52.85677 ppb	89
7) Aniline	4.47	66	284135	49.86608 ppb	86
8) Bis (2-chloroethyl) ether	4.54	63	155928	53.07625 ppb	99
9) 2-Chlorophenol	4.60	128	243349	52.42603 ppb	95
10) 1,3-DCB	4.75	146	252155	51.49543 ppb	99
11) 1,4-DCB	4.84	146	258024	51.27831 ppb	97
12) Benzyl alcohol	5.01	108	145684	55.10424 ppb	86
13) 1,2-DCB	5.01	146	243779	53.15377 ppb	95
14) 2-Methylphenol	5.15	107	180539	52.04395 ppb	94
15) Bis (2-chloroisopropyl) et	5.14	45	337576	52.37031 ppb #	81
16) Acetophenone	5.29	105	322018	52.09259 ppb	100
17) 3&4-Methylphenol	5.33	107	483469	107.32507 ppb	96
18) n-Nitrosodi-n-propylamine	5.30	70	178511	52.01962 ppb	99
19) Hexachloroethane	5.37	117	107479	51.94554 ppb	94
22) Nitrobenzene	5.48	77	267717	49.48247 ppb	100
23) Isophorone	5.75	82	455932	50.75620 ppb	98
24) 2-Nitrophenol	5.84	139	136605	53.83478 ppb	97
25) 2,4-Dimethylphenol	5.90	122	211280	51.49927 ppb	98
26) Benzoic acid	6.10	105	163642	52.76170 ppb	94
27) Bis (2-chloroethoxy) metha	6.00	93	270487	52.01073 ppb	99
28) 2,4-Dichlorophenol	6.13	162	205558	52.65341 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	216547	50.19937 ppb	98
30) 3,4-Dimethylphenol	6.25	107	305598	49.47652 ppb	98
31) Naphthalene	6.28	128	709964	50.80722 ppb	99
32) 4-Chloroaniline	6.36	127	256378	52.23060 ppb	99
33) 2,6-Dichlorophenol	6.37	162	182103	50.40127 ppb	94
34) Hexachloropropene	6.37	213	154678	49.32666 ppb	97
35) Hexachlorobutadiene	6.41	225	126983	49.64267 ppb	97
36) Caprolactum	6.79	55	119731	53.88459 ppb	91
37) 4-Chloro-3-methylphenol	6.95	107	221625	52.38936 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y284.D
Acq On : 10 Mar 17 22:36
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 84
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	487817	53.73753 ppb		98
39) 1-Methylnaphthalene	7.18	142	463296	51.81297 ppb		98
41) Hexachlorocyclopentadiene	7.24	237	59396	40.86973 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216476	49.13630 ppb		96
43) 2,4,6-Trichlorophenol	7.42	196	139546	50.48039 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	146407	48.28314 ppb		96
46) 1,1'-Biphenyl	7.60	154	597624	48.92269 ppb		99
47) 2-Chloronaphthalene	7.63	162	464781	49.79389 ppb		100
48) 2-Nitroaniline	7.77	65	166598	50.05386 ppb		94
49) Dimethyl phthalate	7.97	163	540086	48.25533 ppb		99
50) 2,6-DNT	8.06	165	124943	50.00468 ppb		96
51) Acenaphthylene	8.10	152	732064	48.70917 ppb		99
52) 3-Nitroaniline	8.25	138	140011	51.23782 ppb		95
53) Acenaphthene	8.30	154	451915	48.77792 ppb		98
54) 2,4-Dinitrophenol	8.41	184	54433	46.52598 ppb		97
55) 4-Nitrophenol	8.53	65	85113	41.65041 ppb	#	49
56) Dibenzofuran	8.50	168	668717	51.12012 ppb		89
57) 2,4-DNT	8.53	165	177857	51.05095 ppb		91
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118301	49.53261 ppb		95
59) Diethyl phthalate	8.79	149	551306	48.64414 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	233135	45.75760 ppb		98
61) Fluorene	8.90	166	491466	46.41036 ppb		98
62) 4-Nitroaniline	8.97	138	132869	51.11330 ppb		94
65) 4,6-Dinitro-2-methylphenol	9.01	198	105640	49.80334 ppb		91
66) Diphenyl amine	9.05	169	780286	101.99140 ppb		98
67) n-Nitrosodiphenylamine	9.05	169	780286	101.99140 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	613803	45.95588 ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	149912	50.00257 ppb		97
70) Hexachlorobenzene	9.54	284	153530	49.09094 ppb		96
71) Atrazine	9.68	200	77444	26.15073 ppb		99
72) Pentachlorophenol	9.79	266	61936	45.98998 ppb		95
73) Phenanthrene	10.02	178	811878	50.14702 ppb		98
74) Anthracene	10.07	178	859412	50.89237 ppb		98
75) Carbazol	10.28	167	769946	51.50293 ppb		98
76) Di-n-butylphthalate	10.69	149	981375	51.94929 ppb		99
77) Fluoranthene	11.39	202	912995	51.94603 ppb		99
79) Benzidine	11.57	184	331783	45.34063 ppb		98
80) Pyrene	11.66	202	968990	51.40436 ppb		99
82) Butyl benzylphthalate	12.42	149	465238	53.37863 ppb		99
83) 3,3'-Dichlorobenzidine	13.02	252	335933	56.83757 ppb		100
84) Benz (a) anthracene	13.05	228	889990	50.20029 ppb		100
85) Bis (2-ethylhexyl) phthala	13.08	149	607553	49.56033 ppb		98
86) Chrysene	13.09	228	862846	49.62191 ppb		100
87) Di-n-octylphthalate	13.80	149	1129326	53.77746 ppb		95
89) Benzo (b) fluoranthene	14.24	252	936520	47.44275 ppb		98
90) Benzo (k) fluoranthene	14.27	252	894391	49.16125 ppb		98
91) Benzo (a) pyrene	14.63	252	879885	48.80437 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	942273	46.62110 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	802531	46.64491 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	805347	47.49163 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

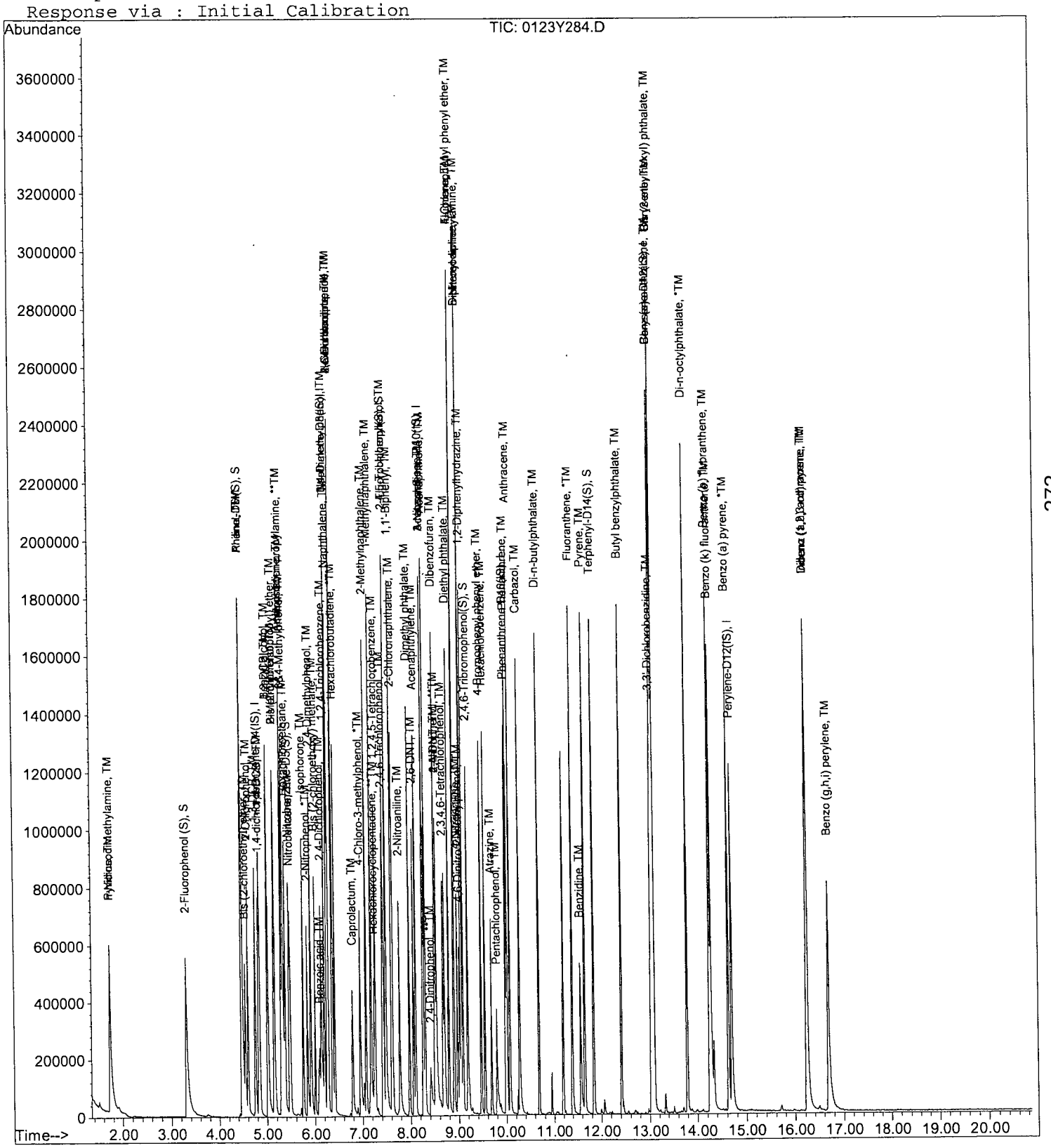
Data File : M:\YODA\DATA\Y170123\0123Y284.D
Acq On : 10 Mar 17 22:36
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 84
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:45 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



273

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.070	12	TM	
3	TM	Pyridine	1.902	1.929	1.4	TM	
4	S	2-Fluorophenol (S)	1.262	1.272	0.83	S	
5	S	Phenol-D6 (S)	1.679	1.646	1.9	S	
6	*TM	Phenol	1.927	2.002	3.9	*TM	
7	TM	Aniline	1.829	1.824	0.28	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9570	1.5	TM	
9	TM	2-Chlorophenol	1.490	1.509	1.3	TM	
10	TM	1,3-DCB	1.572	1.588	1.0	TM	
11	*TM	1,4-DCB	1.615	1.620	0.27	*TM	
12	TM	Benzyl alcohol	0.8487	0.8840	4.2	TM	
13	TM	1,2-DCB	1.472	1.528	3.8	TM	
14	TM	2-Methylphenol	1.114	1.141	2.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.065	0.23	TM	
16	TM	Acetophenone	1.985	2.007	1.1	TM	
17	TM	3&4-Methylphenol	1.446	1.508	4.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.109	0.66	**TM	
19	TM	Hexachloroethane	0.6642	0.6669	0.40	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3826	5.7	S	
22	TM	Nitrobenzene	0.4049	0.4087	0.94	TM	
23	TM	Isophorone	0.6723	0.6834	1.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.1980	4.3	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3167	3.1	TM	
26	TML	Benzoic acid	0.1823	0.2457	35	TML	5.8
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.3883	0.25	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.2993	2.5	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3267	1.2	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4517	2.3	TM	
31	TM	Naphthalene	1.046	1.036	0.89	TM	
32	TM	4-Chloroaniline	0.3674	0.3583	2.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2613	3.4	TM	
34	TM	Hexachloropropene	0.2347	0.2250	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1871	2.3	*TM	
36	TM	Caprolactum	0.1663	0.1768	6.3	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3305	4.4	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.6907	1.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6780	1.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.4		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1620	1.4	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5298	2.1	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3447	1.5	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3767	1.1	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.151	10	S	
46	TM	1,1'-Biphenyl	1.501	1.486	0.97	TM	
47	TM	2-Chloronaphthalene	1.147	1.145	0.18	TM	
48	TM	2-Nitroaniline	0.4089	0.4041	1.2	TM	
49	TM	Dimethyl phthalate	1.375	1.344	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3143	2.4	TM	
51	TM	Acenaphthylene	1.846	1.791	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3400	1.3	TM	
53	*TM	Acenaphthene	1.138	1.106	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1730	32	**TMQ	13
55	**TML	4-Nitrophenol	0.2262	0.2239	1.0	**TML	12
56	TM	Dibenzofuran	1.607	1.602	0.29	TM	
57	TM	2,4-DNT	0.4280	0.4320	0.93	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2913	0.71	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5656	9.6	TM	
61	TM	Fluorene	1.301	1.181	9.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3285	2.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1726	6.8	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1404	6.2	TML	1.6
66	TM	Diphenyl amine	0.5157	0.5110	0.91	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5110	0.91	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.7947	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2038	0.82	TM	
70	TM	Hexachlorobenzene	0.2108	0.2076	1.5	TM	
71	TM	Atrazine	0.1996	0.2051	2.7	TM	
72	*TML	Pentachlorophenol	0.0838	0.1003	20	*TML	7.5
73	TM	Phenanthrene	1.091	1.066	2.3	TM	
74	TM	Anthracene	1.138	1.118	1.8	TM	
75	TM	Carbazol	1.008	0.9991	0.86	TM	
76	TM	Di-n-butylphthalate	1.273	1.297	1.8	TM	
77	*TM	Fluoranthene	1.185	1.198	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4636	6.9	TM	
80	TM	Pyrene	1.283	1.314	2.4	TM	
		Average			4.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8439	1.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6423	8.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4455	11	TM	
84	TM	Benz (a) anthracene	1.206	1.191	1.3	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8240	1.2	TM	
86	TM	Chrysene	1.183	1.149	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.523	6.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.135	8.9	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.134	1.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.083	4.8	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.156	9.4	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.001	7.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9879	7.6	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148886	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.24	136	626658	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373403	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	695280	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	671130	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	737668	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	473559	100.83320 ppb	0.00
Spiked Amount 200.000			Recovery = 50.417%		
5) Phenol-D6 (S)	4.46	99	612723	98.06049 ppb	0.00
Spiked Amount 200.000			Recovery = 49.030%		
21) Nitrobenzene-D5(S)	5.46	82	299685	47.15545 ppb	0.00
Spiked Amount 100.000			Recovery = 47.155%		
45) 2-Fluorobiphenyl(S)	7.49	172	537257	44.85072 ppb	0.00
Spiked Amount 100.000			Recovery = 44.851%		
63) 2,4,6-Tribromophenol(S)	9.19	330	161123	93.22302 ppb	0.00
Spiked Amount 200.000			Recovery = 46.612%		
81) Terphenyl-D14(S)	11.84	244	707979	49.04509 ppb	0.00
Spiked Amount 100.000			Recovery = 49.045%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	199203	55.97876 ppb	97
3) Pyridine	1.73	79	359008	50.71720 ppb	96
6) Phenol	4.47	94	372679	51.96034 ppb	89
7) Aniline	4.47	66	339469	49.85834 ppb	81
8) Bis (2-chloroethyl) ether	4.54	63	178097	50.73293 ppb	95
9) 2-Chlorophenol	4.59	128	280823	50.62993 ppb	99
10) 1,3-DCB	4.75	146	295502	50.50318 ppb	99
11) 1,4-DCB	4.83	146	301436	50.13325 ppb	96
12) Benzyl alcohol	5.01	108	164527	52.07959 ppb	87
13) 1,2-DCB	5.00	146	284407	51.89616 ppb	98
14) 2-Methylphenol	5.15	107	212265	51.20765 ppb	93
15) Bis (2-chloroisopropyl) et	5.14	45	384246	49.88617 ppb	86
16) Acetophenone	5.29	105	373444	50.55667 ppb	99
17) 3&4-Methylphenol	5.33	107	561420	104.29840 ppb	93
18) n-Nitrosodi-n-propylamine	5.30	70	206385	50.33123 ppb	98
19) Hexachloroethane	5.37	117	124114	50.19987 ppb	89
22) Nitrobenzene	5.47	77	320147	50.46770 ppb	98
23) Isophorone	5.74	82	535327	50.82727 ppb	99
24) 2-Nitrophenol	5.84	139	155110	52.13446 ppb	99
25) 2,4-Dimethylphenol	5.90	122	248075	51.57205 ppb	98
26) Benzoic acid	6.10	105	192501	52.91544 ppb	96
27) Bis (2-chloroethoxy) metha	5.99	93	304135	49.87715 ppb	99
28) 2,4-Dichlorophenol	6.12	162	234483	51.22621 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	255875	50.58977 ppb	98
30) 3,4-Dimethylphenol	6.24	107	353817	48.85579 ppb	99
31) Naphthalene	6.27	128	811898	49.55406 ppb	99
32) 4-Chloroaniline	6.36	127	280648	48.76350 ppb	98
33) 2,6-Dichlorophenol	6.37	162	204719	48.32493 ppb	94
34) Hexachloropropene	6.37	213	176221	47.92912 ppb	96
35) Hexachlorobutadiene	6.41	225	146536	48.85878 ppb	99
36) Caprolactum	6.79	55	138528	53.17215 ppb	95
37) 4-Chloro-3-methylphenol	6.95	107	258881	52.19311 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D
Acq On : 14 Mar 17 8:01
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 87
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 9:45 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	541039	50.83209 ppb		100
39) 1-Methylnaphthalene	7.17	142	531113	50.65887 ppb		99
41) Hexachlorocyclopentadiene	7.24	237	75609	43.99504 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247309	48.94668 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	160911	50.75533 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	175842	50.56463 ppb		99
46) 1,1'-Biphenyl	7.60	154	693703	49.51610 ppb		100
47) 2-Chloronaphthalene	7.63	162	534272	49.90921 ppb		99
48) 2-Nitroaniline	7.77	65	188638	49.41827 ppb		89
49) Dimethyl phthalate	7.97	163	627359	48.87526 ppb		99
50) 2,6-DNT	8.06	165	146684	51.18846 ppb		96
51) Acenaphthylene	8.10	152	835771	48.48860 ppb		99
52) 3-Nitroaniline	8.25	138	158685	50.63548 ppb		91
53) Acenaphthene	8.30	154	516184	48.58046 ppb		99
54) 2,4-Dinitrophenol	8.41	184	80743	56.42179 ppb		97
55) 4-Nitrophenol	8.53	65	104495	44.07362 ppb	#	53
56) Dibenzofuran	8.50	168	747927	49.85392 ppb		89
57) 2,4-DNT	8.53	165	201641	50.46640 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135978	49.64346 ppb		93
59) Diethyl phthalate	8.79	149	632069	48.62873 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	263984	45.17769 ppb		99
61) Fluorene	8.90	166	551262	45.39104 ppb		96
62) 4-Nitroaniline	8.97	138	153319	51.42767 ppb		84
65) 4,6-Dinitro-2-methylphenol	9.01	198	122045	49.19452 ppb		87
66) Diphenyl amine	9.05	169	888237	99.08538 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	888237	99.08538 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	690654	44.13099 ppb		98
69) 4-Bromophenyl phenyl ether	9.47	248	177080	50.40765 ppb		98
70) Hexachlorobenzene	9.54	284	180392	49.22621 ppb		95
71) Atrazine	9.68	200	89111	25.68019 ppb		97
72) Pentachlorophenol	9.79	266	87164	53.72555 ppb		94
73) Phenanthrene	10.00	178	926617	48.84561 ppb		99
74) Anthracene	10.07	178	971338	49.08995 ppb		99
75) Carbazol	10.27	167	868314	49.57006 ppb		99
76) Di-n-butylphthalate	10.68	149	1126885	50.90908 ppb		99
77) Fluoranthene	11.39	202	1040875	50.54213 ppb		98
79) Benzidine	11.57	184	388911	46.55010 ppb		98
80) Pyrene	11.66	202	1102134	51.20967 ppb		99
82) Butyl benzylphthalate	12.42	149	538821	54.14691 ppb		98
83) 3,3'-Dichlorobenzidine	13.03	252	373701	55.37886 ppb	#	96
84) Benz (a) anthracene	13.05	228	998865	49.34747 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	691274	49.38979 ppb		97
86) Chrysene	13.10	228	963540	48.53409 ppb		99
87) Di-n-octylphthalate	13.79	149	1277457	53.28000 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1046134	45.55603 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1045629	49.40590 ppb		98
91) Benzo (a) pyrene	14.63	252	998291	47.59877 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1065575	45.32058 ppb		100
93) Dibenz (a,h) anthracene	16.24	278	922912	46.11141 ppb		98
94) Benzo (g,h,i) perylene	16.68	276	910925	46.17664 ppb		97

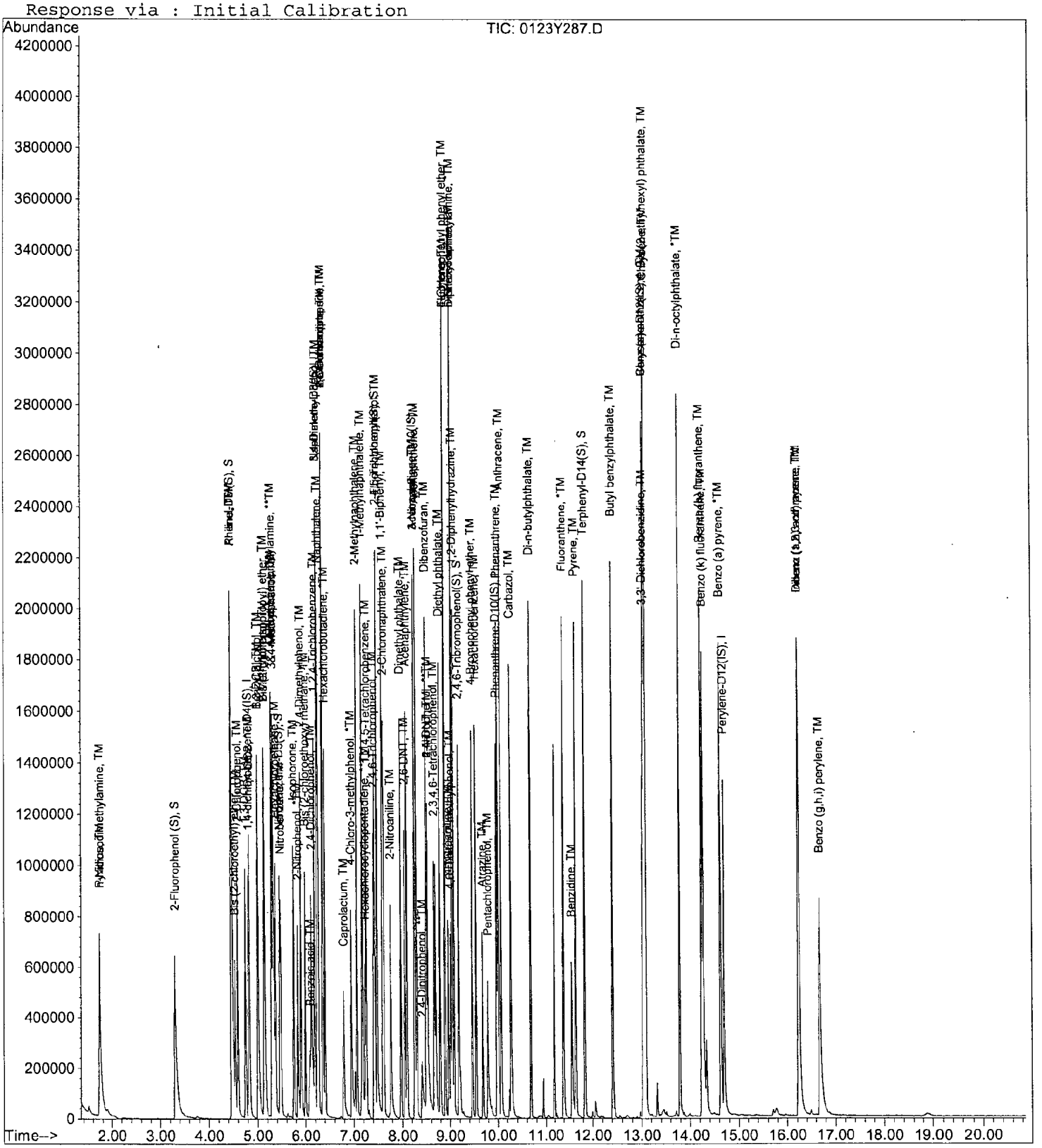
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.165	22	TM	
3	S	2-Fluorophenol (S)	1.262	1.226	2.9	S	
4	S	Phenol-D6 (S)	1.679	1.576	6.1	S	
5	*TM	Phenol	1.927	1.970	2.3	*TM	
6	TM	Aniline	1.829	1.770	3.2	TM	
7	TM	Bis (2-chloroethyl) ether	0.9431	0.9033	4.2	TM	
8	TM	2-Chlorophenol	1.490	1.512	1.5	TM	
9	TM	1,3-DCB	1.572	1.558	0.92	TM	
10	*TM	1,4-DCB	1.615	1.598	1.1	*TM	
11	TM	Benzyl alcohol	0.8487	0.8717	2.7	TM	
12	TM	1,2-DCB	1.472	1.484	0.76	TM	
13	TM	2-Methylphenol	1.114	1.140	2.3	TM	
14	TM	Bis (2-chloroisopropyl) ether	2.069	2.080	0.52	TM	
15	TM	Acetophenone	1.985	1.967	0.89	TM	
16	TM	3&4-Methylphenol	1.446	1.480	2.3	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.102	1.083	1.7	**TM	
18	TM	Hexachloroethane	0.6642	0.6695	0.79	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4057	0.3888	4.2	S	
21	TM	Nitrobenzene	0.4049	0.4058	0.22	TM	
22	TM	Isophorone	0.6723	0.6792	1.0	TM	
23	*TM	2-Nitrophenol	0.1899	0.2070	9.0	*TM	
24	TM	2,4-Dimethylphenol	0.3070	0.3231	5.2	TM	
25	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
26	TM	Bis (2-chloroethoxy) methane	0.3892	0.4037	3.7	TM	
27	*TM	2,4-Dichlorophenol	0.2922	0.3104	6.2	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3228	0.3295	2.1	TM	
29	TM	3,4-Dimethylphenol	0.4623	0.4555	1.5	TM	
30	TM	Naphthalene	1.046	1.065	1.9	TM	
31	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
32	TM	2,6-Dichlorophenol	0.2704	0.2587	4.3	TM	
33	TM	Hexachloropropene	0.2347	0.2263	3.6	TM	
34	*TM	Hexachlorobutadiene	0.1914	0.1926	0.62	*TM	
35	TM	Caprolactum	0.1663	0.1749	5.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3166	0.3204	1.2	*TM	
37	TM	2-Methylnaphthalene	0.6794	0.7018	3.3	TM	
38	TM	1-Methylnaphthalene	0.6692	0.6774	1.2	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1610	0.77	**TMQ	12
		Average			4.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5469	1.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3396	0.3444	1.4	*TM	
43	TM	2,4,5-Trichlorophenol	0.3725	0.3645	2.2	TM	
44	S	2-Fluorobiphenyl(S)	1.283	1.169	8.9	S	
45	TM	1,1'-Biphenyl	1.501	1.506	0.34	TM	
46	TM	2-Chloronaphthalene	1.147	1.148	0.10	TM	
47	TM	2-Nitroaniline	0.4089	0.4163	1.8	TM	
48	TM	Dimethyl phthalate	1.375	1.378	0.25	TM	
49	TM	2,6-DNT	0.3070	0.3165	3.1	TM	
50	TM	Acenaphthylene	1.846	1.825	1.2	TM	
51	TM	3-Nitroaniline	0.3357	0.3408	1.5	TM	
52	*TM	Acenaphthene	1.138	1.126	1.1	*TM	
53	**TMQ	2,4-Dinitrophenol	0.1314	0.1458	11	**TMQ	0.75
54	**TML	4-Nitrophenol	0.2262	0.2233	1.3	**TML	12
55	TM	Dibenzofuran	1.607	1.593	0.86	TM	
56	TM	2,4-DNT	0.4280	0.4413	3.1	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2938	0.12	TM	
58	TM	Diethyl phthalate	1.392	1.378	1.0	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6259	0.5693	9.1	TM	
60	TM	Fluorene	1.301	1.190	8.5	TM	
61	TM	4-Nitroaniline	0.3194	0.3223	0.91	TM	
62	S	2,4,6-Tribromophenol(S)	0.1851	0.1677	9.4	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1390	5.1	TML	2.5
65	TM	Diphenyl amine	0.5157	0.5262	2.0	TM	
66	*TM	n-Nitrosodiphenylamine	0.5157	0.5262	2.0	*TM	
67	TM	1,2-Diphenylhydrazine	0.9004	0.8228	8.6	TM	
68	TM	4-Bromophenyl phenyl ether	0.2021	0.2058	1.8	TM	
69	TM	Hexachlorobenzene	0.2108	0.2064	2.1	TM	
70	TM	Atrazine	0.1996	0.2058	3.1	TM	
71	*TML	Pentachlorophenol	0.0838	0.0888	5.9	*TML	3.2
72	TM	Phenanthrene	1.091	1.054	3.4	TM	
73	TM	Anthracene	1.138	1.108	2.7	TM	
74	TM	Carbazol	1.008	1.010	0.20	TM	
75	TM	Di-n-butylphthalate	1.273	1.269	0.37	TM	
76	*TM	Fluoranthene	1.185	1.186	0.14	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.4979	0.4575	8.1	TM	
79	TM	Pyrene	1.283	1.292	0.75	TM	
80	S	Terphenyl-D14(S)	0.8604	0.8333	3.1	S	
		Average			3.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5931	0.6133	3.4	TM	
82	TM	3,3'-Dichlorobenzidine	0.4022	0.4322	7.5	TM	
83	TM	Benz (a) anthracene	1.206	1.202	0.35	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8280	0.74	TM	
85	TM	Chrysene	1.183	1.102	6.9	TM	
86	*TM	Di-n-octylphthalate	1.429	1.500	5.0	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.245	1.118	10	TM	
89	TM	Benzo (k) fluoranthene	1.148	1.185	3.3	TM	
90	*TM	Benzo (a) pyrene	1.137	1.084	4.7	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.275	1.165	8.6	TM	
92	TM	Dibenz (a,h) anthracene	1.085	0.9925	8.6	TM	
93	TM	Benzo (g,h,i) perylene	1.070	0.9961	6.9	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148257	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	608139	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	361584	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	672725	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	649830	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	691935	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	454275	97.13751 ppb	-0.01
Spiked Amount 200.000			Recovery = 48.569%		
5) Phenol-D6 (S)	4.46	99	584043	93.86709 ppb	0.00
Spiked Amount 200.000			Recovery = 46.934%		
21) Nitrobenzene-D5(S)	5.46	82	295531	47.91789 ppb	0.00
Spiked Amount 100.000			Recovery = 47.918%		
45) 2-Fluorobiphenyl(S)	7.50	172	528519	45.56344 ppb	0.00
Spiked Amount 100.000			Recovery = 45.563%		
63) 2,4,6-Tribromophenol(S)	9.19	330	151600	90.58023 ppb	0.00
Spiked Amount 200.000			Recovery = 45.290%		
81) Terphenyl-D14(S)	11.84	244	676896	48.42883 ppb	0.00
Spiked Amount 100.000			Recovery = 48.429%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	215901	60.92853 ppb		99
6) Phenol	4.48	94	365165	51.12871 ppb		98
7) Aniline	4.47	66	327978	48.37501 ppb		98
8) Bis (2-chloroethyl) ether	4.55	63	167404	47.88923 ppb		94
9) 2-Chlorophenol	4.60	128	280274	50.74533 ppb		96
10) 1,3-DCB	4.75	146	288637	49.53919 ppb		97
11) 1,4-DCB	4.84	146	296059	49.44788 ppb		95
12) Benzyl alcohol	5.01	108	161552	51.35484 ppb		95
13) 1,2-DCB	5.01	146	274941	50.38174 ppb		97
14) 2-Methylphenol	5.15	107	211224	51.17271 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	385482	50.25897 ppb	#	67
16) Acetophenone	5.30	105	364514	49.55710 ppb		99
17) 3&4-Methylphenol	5.33	107	548565	102.34261 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	200787	49.17379 ppb		89
19) Hexachloroethane	5.37	117	124068	50.39417 ppb		88
22) Nitrobenzene	5.48	77	308491	50.11114 ppb		95
23) Isophorone	5.75	82	516284	50.51194 ppb		94
24) 2-Nitrophenol	5.85	139	157373	54.50584 ppb		91
25) 2,4-Dimethylphenol	5.91	122	245580	52.60804 ppb		97
26) Benzoic acid	6.11	105	191000	53.96616 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	306851	51.85498 ppb		96
28) 2,4-Dichlorophenol	6.13	162	235931	53.11211 ppb		94
29) 1,2,4-Trichlorobenzene	6.20	180	250496	51.03444 ppb		99
30) 3,4-Dimethylphenol	6.24	107	346243	49.26586 ppb		97
31) Naphthalene	6.28	128	809847	50.93408 ppb		99
32) 4-Chloroaniline	6.37	127	271385	48.58996 ppb		96
33) 2,6-Dichlorophenol	6.37	162	196632	47.82941 ppb		98
34) Hexachloropropene	6.37	213	172008	48.20790 ppb		96
35) Hexachlorobutadiene	6.41	225	146427	50.30917 ppb		99
36) Caprolactum	6.79	55	132974	52.59460 ppb		95
37) 4-Chloro-3-methylphenol	6.95	107	243592	50.60620 ppb		98
38) 2-Methylnaphthalene	7.07	142	533455	51.64579 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.18	142	514932	50.61115 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	72755	43.79922 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247192	50.52267 ppb		96
43) 2,4,6-Trichlorophenol	7.41	196	155683	50.71141 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	164750	48.92358 ppb		97
46) 1,1'-Biphenyl	7.61	154	680621	50.17031 ppb		98
47) 2-Chloronaphthalene	7.63	162	518825	50.05042 ppb		97
48) 2-Nitroaniline	7.78	65	188153	50.90238 ppb		94
49) Dimethyl phthalate	7.98	163	623022	50.12391 ppb		99
50) 2,6-DNT	8.05	165	143063	51.55672 ppb	#	74
51) Acenaphthylene	8.10	152	824843	49.41880 ppb		100
52) 3-Nitroaniline	8.26	138	154037	50.75896 ppb	#	98
53) Acenaphthene	8.31	154	508979	49.46814 ppb		99
54) 2,4-Dinitrophenol	8.41	184	65909	49.62382 ppb		93
55) 4-Nitrophenol	8.54	65	100907	43.97163 ppb	#	49
56) Dibenzofuran	8.50	168	720114	49.56897 ppb		95
57) 2,4-DNT	8.54	165	199454	51.55073 ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.67	232	132775	50.05855 ppb	#	86
59) Diethyl phthalate	8.80	149	622798	49.48166 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.90	204	257297	45.47259 ppb		91
61) Fluorene	8.90	166	537811	45.73096 ppb		97
62) 4-Nitroaniline	8.97	138	145660	50.45565 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	116851	48.74719 ppb	#	53
66) Diphenyl amine	9.06	169	884922	102.02530 ppb		100
67) n-Nitrosodiphenylamine	9.06	169	884922	102.02530 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	691935	45.69520 ppb		96
69) 4-Bromophenyl phenyl ether	9.47	248	173078	50.92030 ppb		95
70) Hexachlorobenzene	9.55	284	173535	48.94275 ppb	#	84
71) Atrazine	9.69	200	86550	25.77841 ppb		96
72) Pentachlorophenol	9.79	266	74655	48.42095 ppb		99
73) Phenanthrene	10.01	178	886645	48.30557 ppb		100
74) Anthracene	10.07	178	931456	48.65268 ppb		99
75) Carbazol	10.27	167	849123	50.09973 ppb		98
76) Di-n-butylphthalate	10.68	149	1066862	49.81338 ppb		99
77) Fluoranthene	11.40	202	997705	50.07019 ppb		97
79) Benzidine	11.57	184	371603	45.93635 ppb		99
80) Pyrene	11.66	202	1049723	50.37316 ppb		99
82) Butyl benzylphthalate	12.42	149	498167	51.70244 ppb		88
83) 3,3'-Dichlorobenzidine	13.03	252	351103	53.73549 ppb		95
84) Benz (a) anthracene	13.05	228	976534	49.82558 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	672586	49.62971 ppb	#	97
86) Chrysene	13.10	228	895041	46.56150 ppb		99
87) Di-n-octylphthalate	13.79	149	1218354	52.48054 ppb		98
89) Benzo (b) fluoranthene	14.25	252	967168	44.90101 ppb		99
90) Benzo (k) fluoranthene	14.27	252	1025195	51.64203 ppb		99
91) Benzo (a) pyrene	14.63	252	937251	47.64201 ppb	#	96
92) Indeno (1,2,3-cd) pyrene	16.23	276	1007694	45.69154 ppb		97
93) Dibenz (a,h) anthracene	16.24	278	858392	45.72244 ppb		97
94) Benzo (g,h,i) perylene	16.69	276	861566	46.56118 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

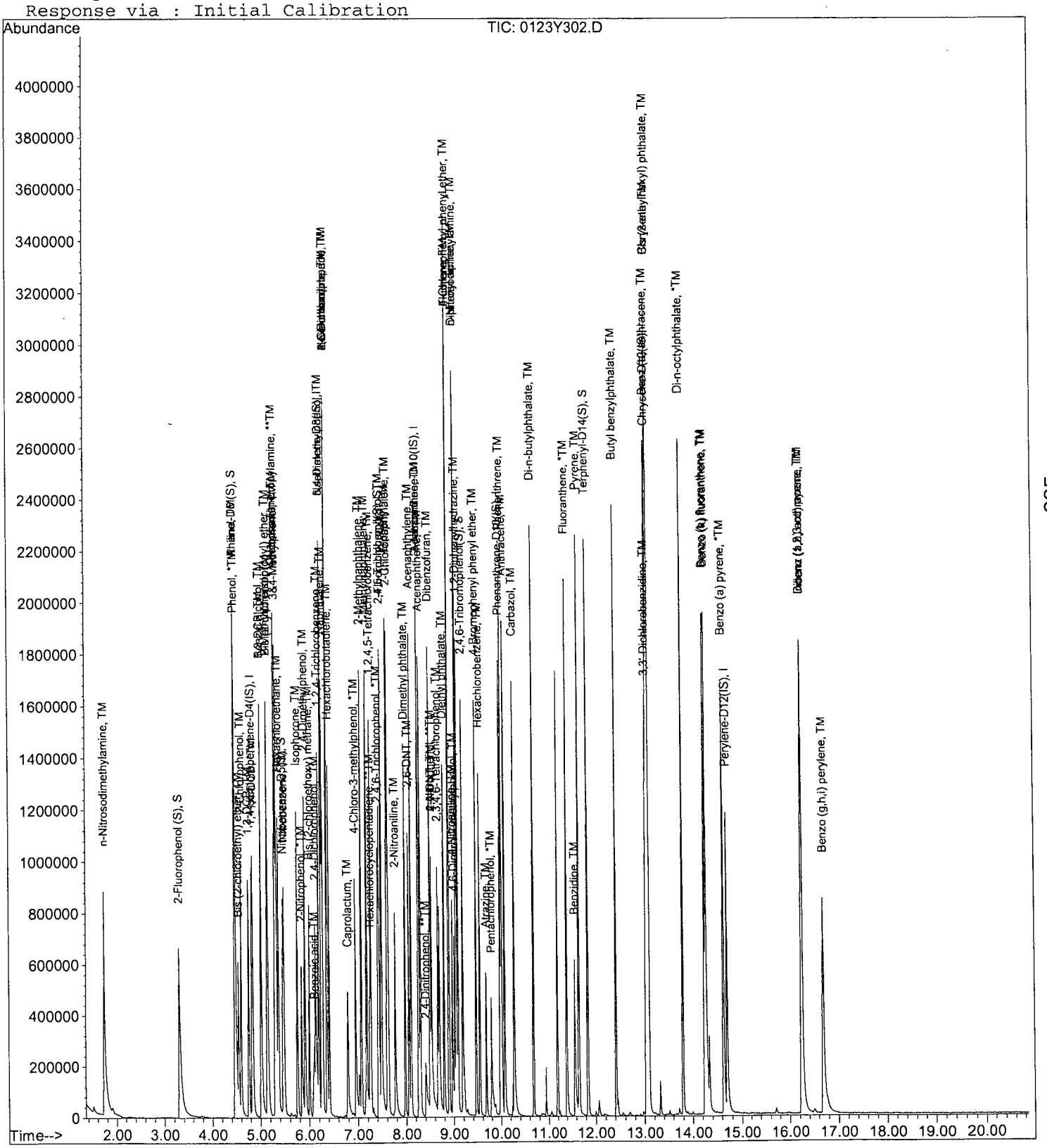
Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216830**
Batch ID: #87DC5-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	61.0	44-119			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	49.9	19-119			%	03/09/17	03/10/17
BLANK	SURROGATE: NITROBENZENE-	65.6	44-120			%	03/09/17	03/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	30.9	10-115			%	03/09/17	03/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	66.8	50-134			%	03/09/17	03/10/17

Quant Method:Y0123.M
Run #:0123Y269
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 3:35:09 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y269.D Vial: 69
Acq On : 10 Mar 17 15:18 Operator: MA
Sample : 170309A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 10 16:51 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	149556	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	670506	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	421228	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	780450	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	778509	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	777382	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	470499	99.73284 ppb	-0.02
Spiked Amount 200.000			Recovery = 49.867%		
5) Phenol-D6 (S)	4.46	99	388244	61.85640 ppb	0.00
Spiked Amount 200.000			Recovery = 30.928%		
21) Nitrobenzene-D5(S)	5.46	82	446223	65.62159 ppb	0.00
Spiked Amount 100.000			Recovery = 65.622%		
45) 2-Fluorobiphenyl(S)	7.49	172	824220	60.99455 ppb	0.00
Spiked Amount 100.000			Recovery = 60.995%		
63) 2,4,6-Tribromophenol(S)	9.19	330	261458	134.09980 ppb	0.00
Spiked Amount 200.000			Recovery = 67.050%		
81) Terphenyl-D14(S)	11.84	244	1119220	66.83957 ppb	0.00
Spiked Amount 100.000			Recovery = 66.840%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

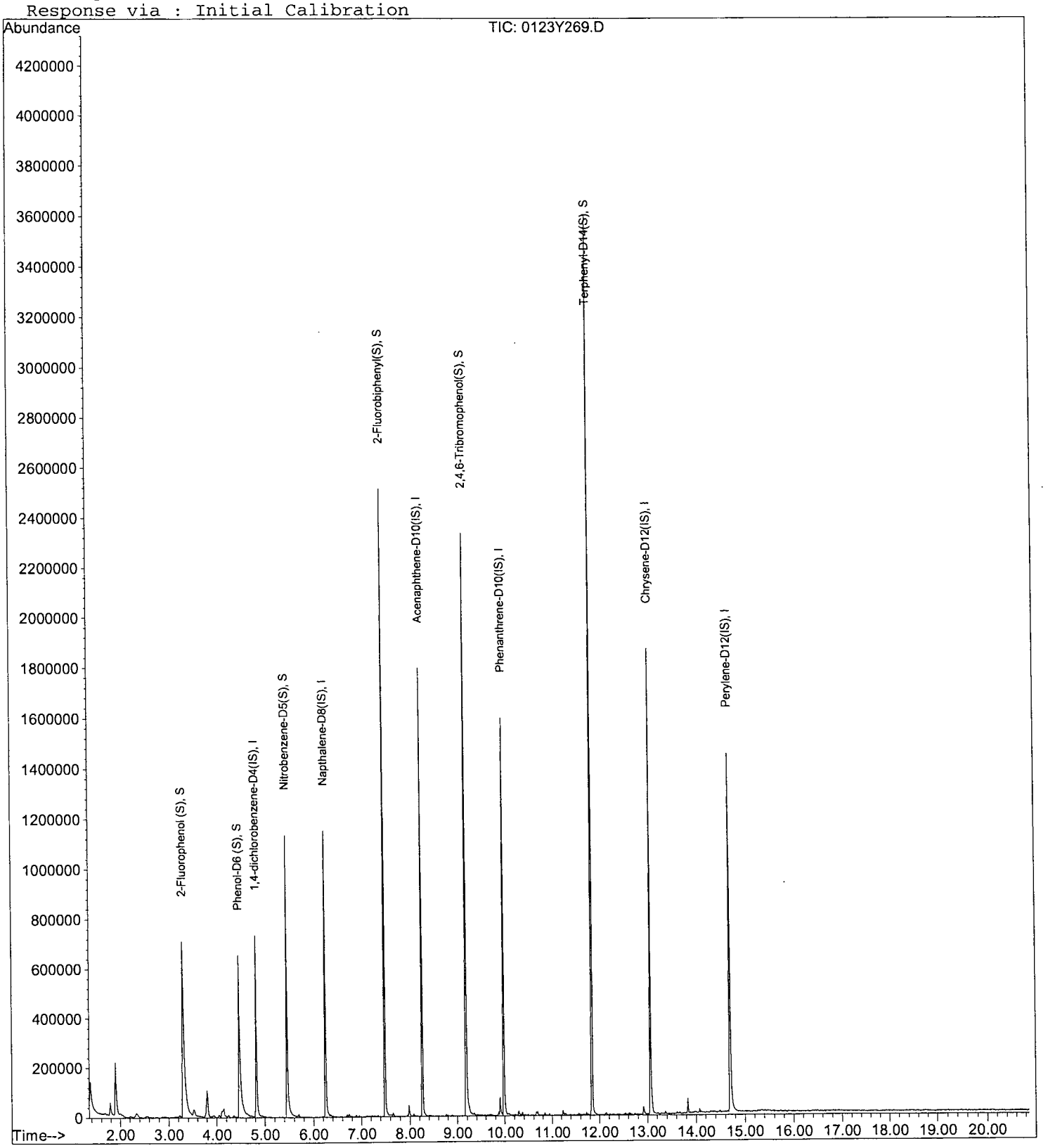
Data File : M:\YODA\DATA\Y170123\0123Y269.D
Acq On : 10 Mar 17 15:18
Sample : 170309A BLK 1/1000
Misc : water

Vial: 69
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:51 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170309W-51132 LCS - 216830**
Batch ID: #87DC5-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	21.3	42.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	133	66.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	64.5	64.5	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	104	52.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	74.3	74.3	44-120
SURROGATE: PHENOL-D6 (S)	200	66.3	33.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	72.3	72.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/09/17
Analysis Date :	03/10/17
Instrument :	Yoda
Run :	0123Y270
Initials :	MA

Printed: 03/15/17 3:35:09 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y270.D
Acq On : 10 Mar 17 15:50
Sample : 170309A LCS-1 1/1000
Misc : water

Vial: 70
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 17:32 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158255	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	652187	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	386870	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	733517	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	698030	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	733682	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	521167	104.40055 ppb	-0.02
Spiked Amount 200.000			Recovery	= 52.200%	
5) Phenol-D6 (S)	4.46	99	440189	66.27740 ppb	0.00
Spiked Amount 200.000			Recovery	= 33.139%	
21) Nitrobenzene-D5(S)	5.47	82	491429	74.29954 ppb	0.00
Spiked Amount 100.000			Recovery	= 74.300%	
45) 2-Fluorobiphenyl(S)	7.50	172	800168	64.47350 ppb	0.00
Spiked Amount 100.000			Recovery	= 64.474%	
63) 2,4,6-Tribromophenol(S)	9.20	330	238734	133.31918 ppb	0.00
Spiked Amount 200.000			Recovery	= 66.659%	
81) Terphenyl-D14(S)	11.84	244	1084760	72.25059 ppb	0.00
Spiked Amount 100.000			Recovery	= 72.251%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	141475	37.40275 ppb		90
3) Pyridine	1.74	79	177116	23.53994 ppb		91
6) Phenol	4.48	94	162673	21.33776 ppb		81
7) Aniline	4.46	66	205944	28.45662 ppb	#	52
8) Bis (2-chloroethyl) ether	4.55	63	144951	38.84642 ppb		84
9) 2-Chlorophenol	4.60	128	233837	39.66288 ppb		93
10) 1,3-DCB	4.75	146	166962	26.84555 ppb		98
11) 1,4-DCB	4.84	146	175920	27.52596 ppb		96
12) Benzyl alcohol	5.01	108	132800	39.54803 ppb		94
13) 1,2-DCB	5.01	146	168935	29.00087 ppb		98
14) 2-Methylphenol	5.15	107	160011	36.31639 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	312720	38.19644 ppb	#	69
16) Acetophenone	5.29	105	321606	40.96129 ppb		97
17) 3&4-Methylphenol	5.33	107	409147	71.50980 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	172984	39.68824 ppb		95
19) Hexachloroethane	5.37	117	58070	22.09683 ppb		99
22) Nitrobenzene	5.48	77	267950	40.58601 ppb		91
23) Isophorone	5.75	82	461608	42.11235 ppb		93
24) 2-Nitrophenol	5.84	139	133272	43.04101 ppb		91
25) 2,4-Dimethylphenol	5.91	122	186292	37.21209 ppb		96
26) Benzoic acid	6.08	105	65748	21.42639 ppb		94
27) Bis (2-chloroethoxy) metha	5.99	93	265613	41.85458 ppb		100
28) 2,4-Dichlorophenol	6.12	162	205800	43.20009 ppb		98
29) 1,2,4-Trichlorobenzene	6.20	180	166881	31.70299 ppb		94
30) 3,4-Dimethylphenol	6.24	107	290852	38.58938 ppb		100
31) Naphthalene	6.27	128	618151	36.25190 ppb		99
32) 4-Chloroaniline	6.37	127	272229	45.44915 ppb		95
33) 2,6-Dichlorophenol	6.37	162	186373	42.27217 ppb		98
34) Hexachloropropene	6.37	213	84359	22.04610 ppb		99
35) Hexachlorobutadiene	6.41	225	76178	24.40542 ppb		97
36) Caprolactum	6.77	55	43455	16.02673 ppb		97
37) 4-Chloro-3-methylphenol	6.94	107	219087	42.44124 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y270.D
Acq On : 10 Mar 17 15:50
Sample : 170309A LCS-1 1/1000
Misc : water

Vial: 70
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 17:32 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	423525	38.23375 ppb		98
39) 1-Methylnaphthalene	7.18	142	427513	39.18108 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	24173	19.72982 ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	193264	36.91875 ppb		99
43) 2,4,6-Trichlorophenol	7.41	196	139935	42.60249 ppb		96
44) 2,4,5-Trichlorophenol	7.48	196	145874	40.48693 ppb		100
46) 1,1'-Biphenyl	7.61	154	576261	39.70131 ppb		98
47) 2-Chloronaphthalene	7.63	162	438050	39.49614 ppb		99
48) 2-Nitroaniline	7.78	65	158790	40.15080 ppb		88
49) Dimethyl phthalate	7.98	163	570615	42.90707 ppb		98
50) 2,6-DNT	8.06	165	130454	43.93994 ppb		85
51) Acenaphthylene	8.10	152	709220	39.71422 ppb		99
52) 3-Nitroaniline	8.25	138	139180	42.86557 ppb	#	80
53) Acenaphthene	8.30	154	441199	40.07785 ppb		99
54) 2,4-Dinitrophenol	8.41	184	60264	44.15128 ppb		96
55) 4-Nitrophenol	8.54	65	8227	10.07868 ppb	#	39
56) Dibenzofuran	8.50	168	640800	41.22639 ppb		93
57) 2,4-DNT	8.54	165	185849	44.89484 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.67	232	119534	42.12089 ppb		92
59) Diethyl phthalate	8.79	149	564257	41.90040 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.90	204	231968	38.31662 ppb		92
61) Fluorene	8.90	166	465205	36.97168 ppb		99
62) 4-Nitroaniline	8.97	138	131191	42.47346 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	109537	42.80904 ppb	#	70
66) Diphenyl amine	9.06	169	789327	83.46170 ppb		100
67) n-Nitrosodiphenylamine	9.06	169	789327	83.46170 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	606096	36.70913 ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	152475	41.14102 ppb		95
70) Hexachlorobenzene	9.54	284	159337	41.21405 ppb	#	85
71) Atrazine	9.69	200	77671	21.21658 ppb		93
72) Pentachlorophenol	9.80	266	68806	42.09171 ppb		92
73) Phenanthrene	10.01	178	799812	39.96343 ppb		99
74) Anthracene	10.07	178	855857	40.99897 ppb		99
75) Carbazol	10.27	167	764410	41.36362 ppb		97
76) Di-n-butylphthalate	10.68	149	986256	42.23328 ppb		100
77) Fluoranthene	11.40	202	902192	41.52441 ppb		97
79) Benzidine	11.58	184	65377	7.52364 ppb		98
80) Pyrene	11.66	202	951548	42.50900 ppb		100
82) Butyl benzylphthalate	12.42	149	460404	44.48369 ppb		89
83) 3,3'-Dichlorobenzidine	13.03	252	303520	43.24537 ppb		95
84) Benz (a) anthracene	13.05	228	877472	41.67964 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	624195	42.87852 ppb	#	97
86) Chrysene	13.10	228	854046	41.36100 ppb		99
87) Di-n-octylphthalate	13.79	149	1138598	45.65842 ppb		99
89) Benzo (b) fluoranthene	14.25	252	877676	38.42783 ppb		99
90) Benzo (k) fluoranthene	14.28	252	936899	44.50892 ppb		98
91) Benzo (a) pyrene	14.63	252	844745	40.49648 ppb	#	97
92) Indeno (1,2,3-cd) pyrene	16.23	276	937337	40.08301 ppb		99
93) Dibenz (a,h) anthracene	16.24	278	785543	39.46128 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	792599	40.39674 ppb		98

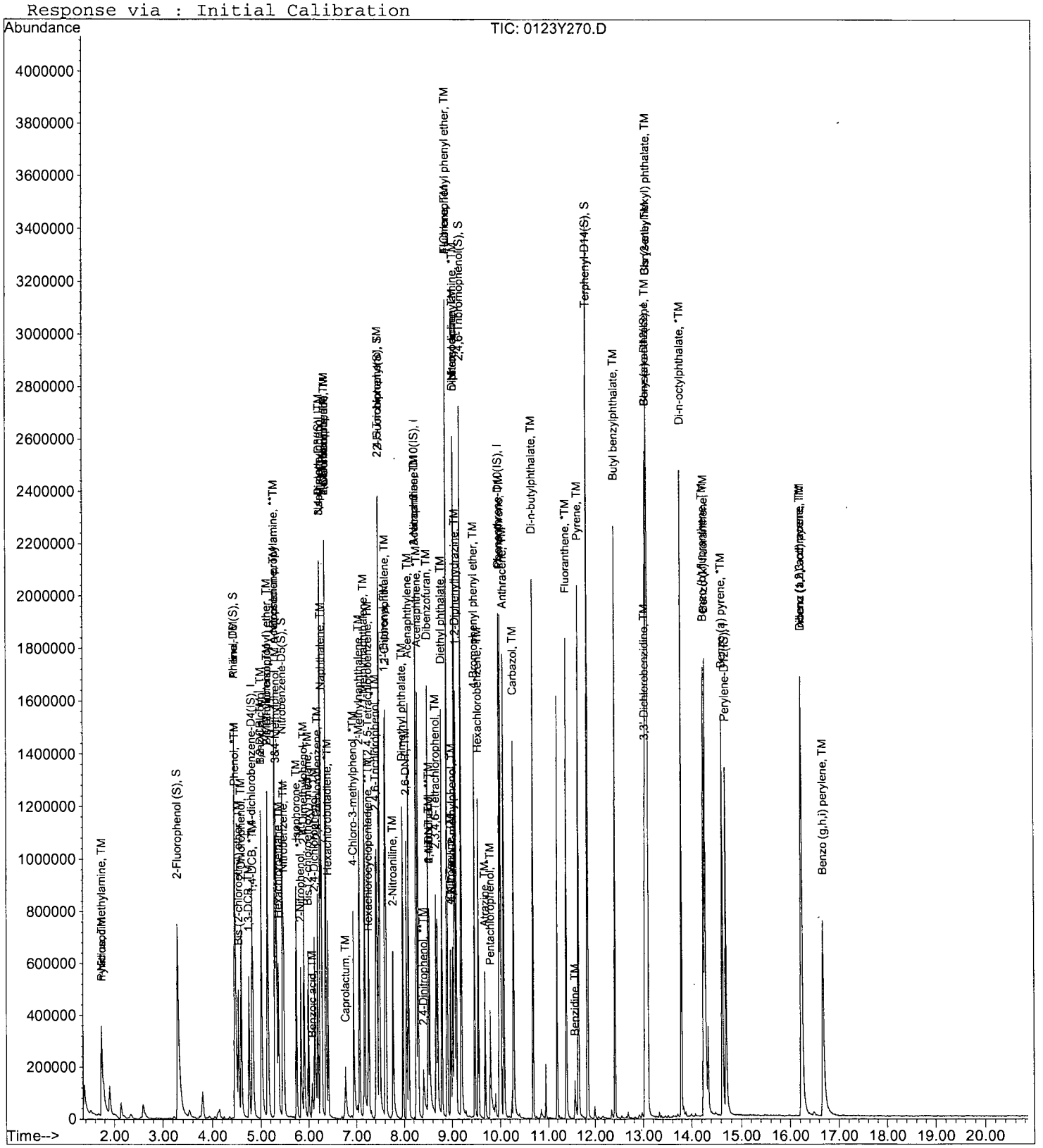
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y270.D Vial: 70
Acq On : 10 Mar 17 15:50 Operator: MA
Sample : 170309A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 10 17:32 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration

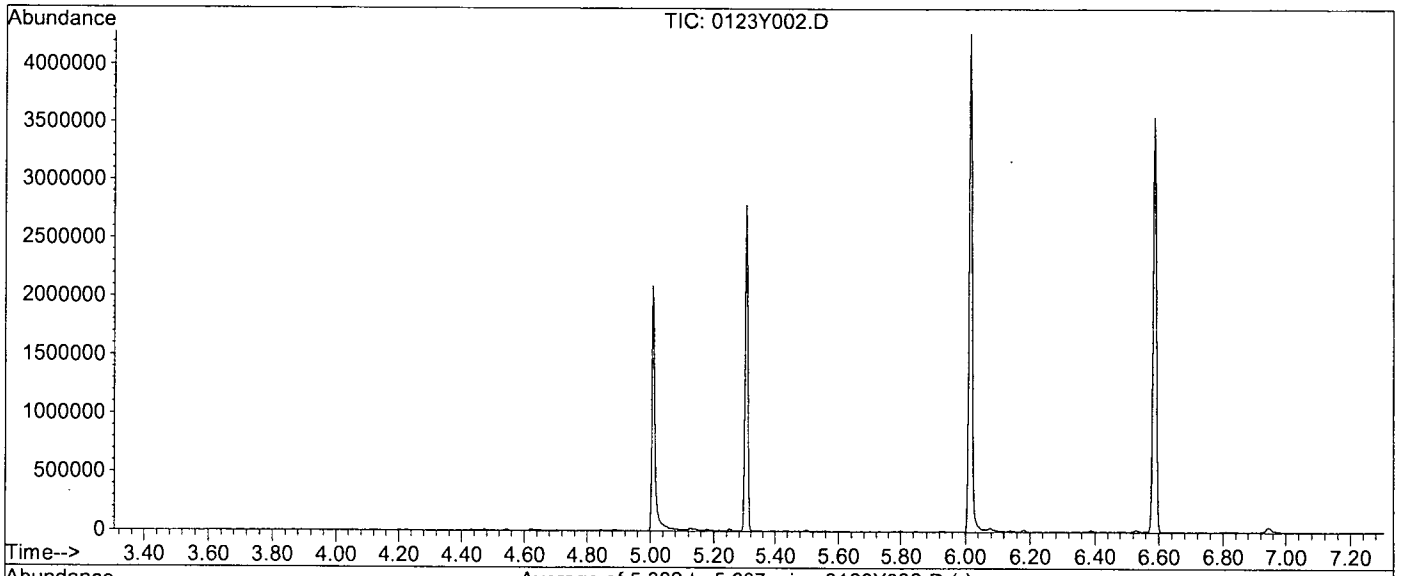


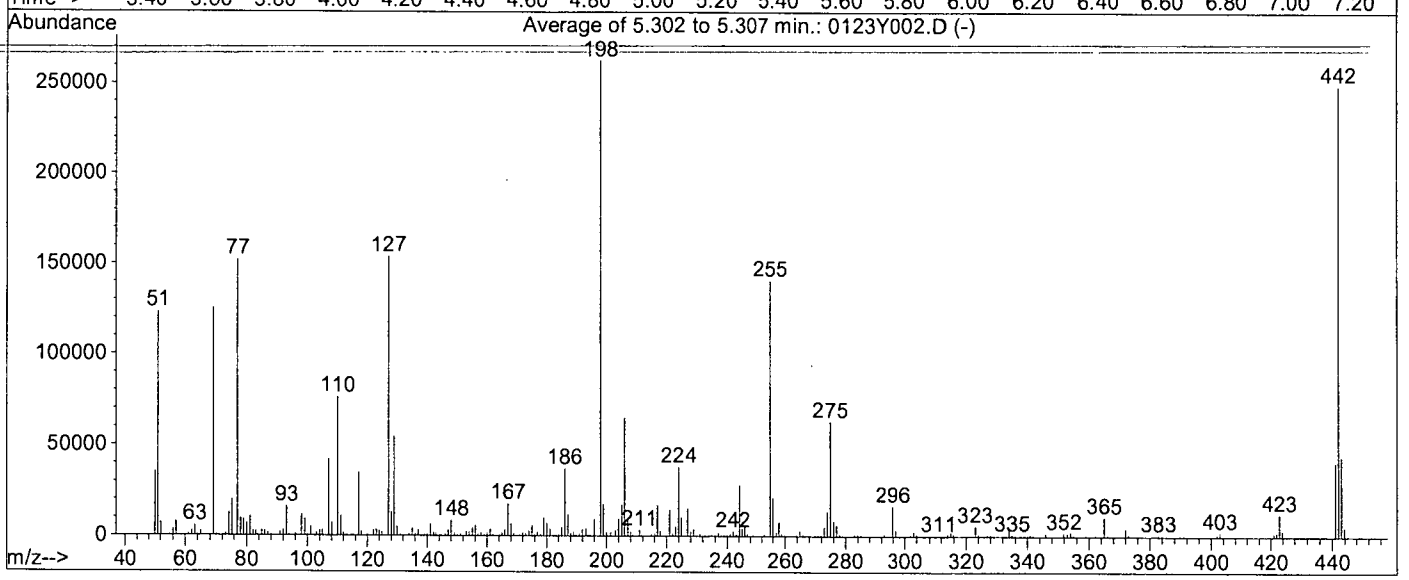
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





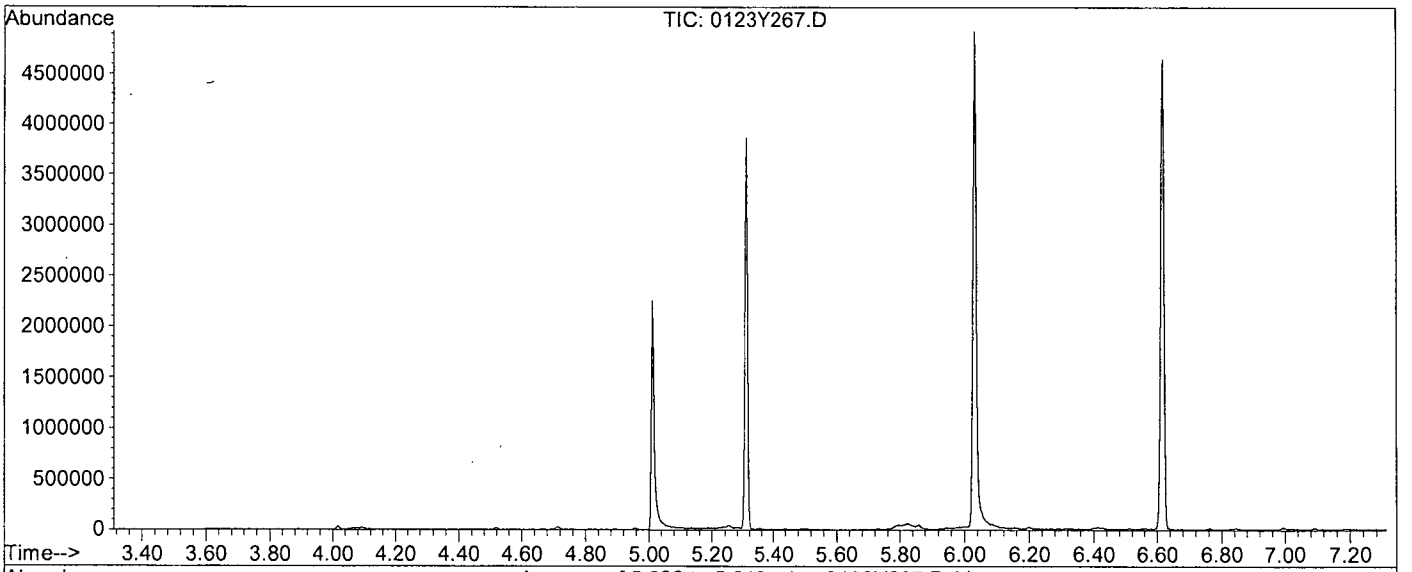
AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

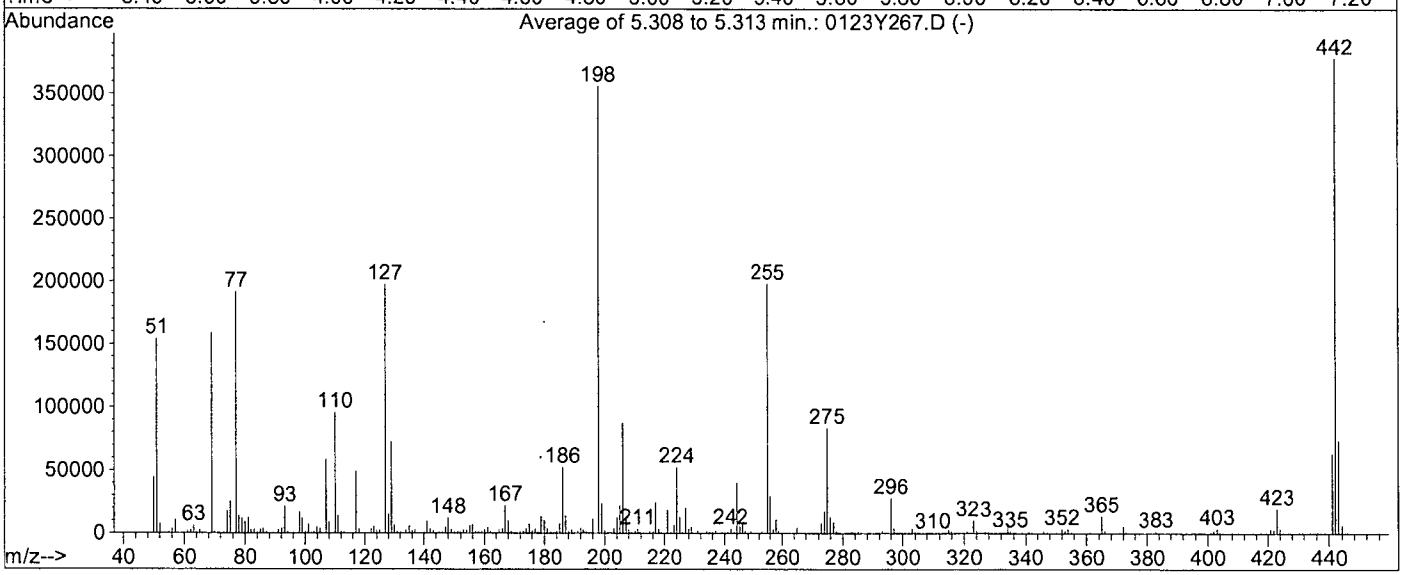
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y267.D Vial: 67
Acq On : 10 Mar 17 14:31 Operator: MA
Sample : SV Tune 10/19/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 688, 689, 690; Background Corrected with Scan 680

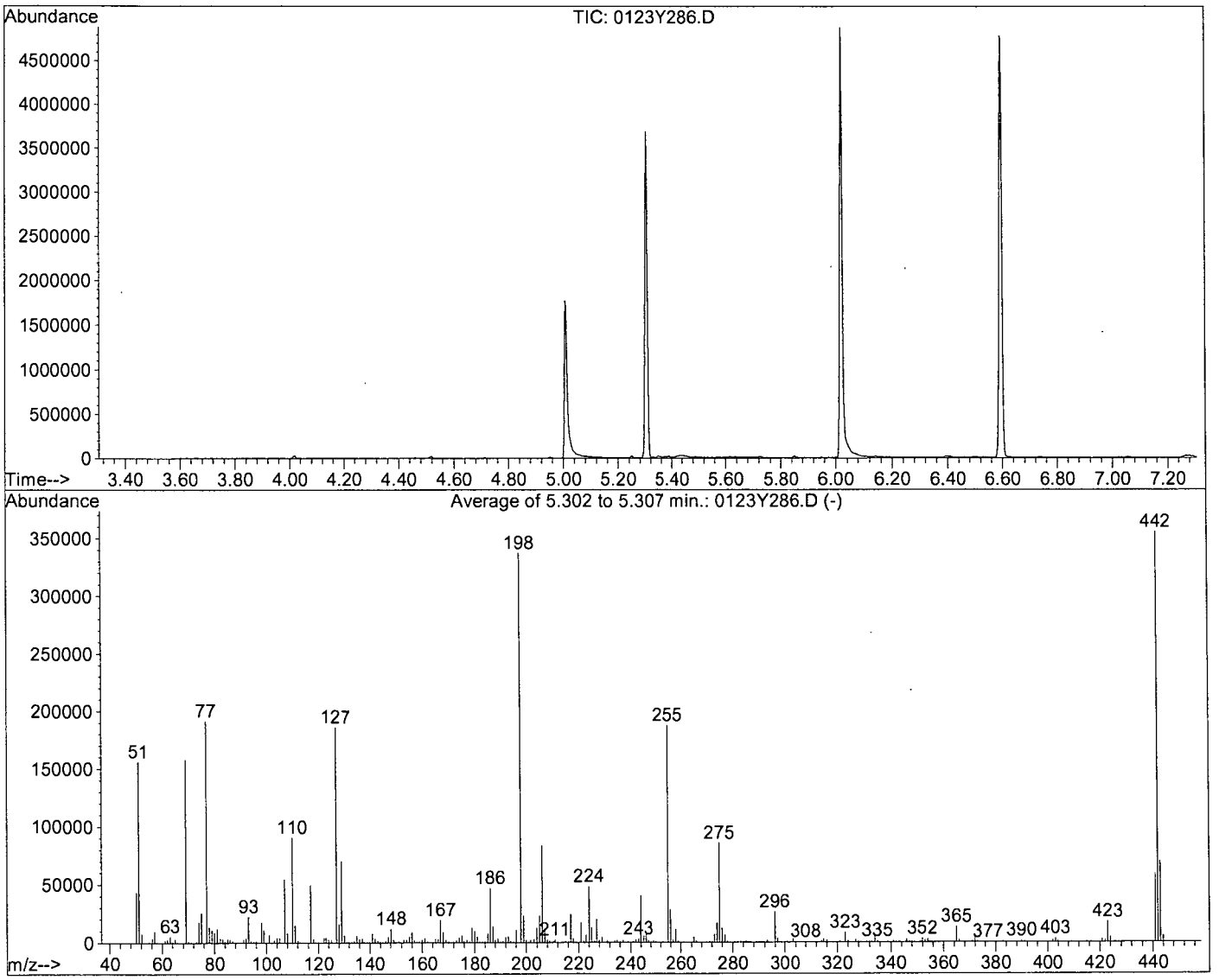
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.3	154377	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	912	PASS
127	198	40	60	55.5	197632	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	356373	PASS
199	198	5	9	6.6	23424	PASS
275	198	10	30	23.3	83205	PASS
365	198	1	100	3.7	13200	PASS
441	443	0.01	100	86.1	63285	PASS
442	198	50	150	106.4	379200	PASS
443	442	17	23	19.4	73477	PASS

0123Y267.D Y0123.M Fri Mar 10 14:45:38 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y286.D Vial: 86
Acq On : 14 Mar 17 7:44 Operator: MA
Sample : SV Tune 02/09/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.3	156309	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1266	PASS
127	198	40	60	55.1	186048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	337408	PASS
199	198	5	9	6.7	22669	PASS
275	198	10	30	25.4	85576	PASS
365	198	1	100	3.9	13181	PASS
441	443	0.01	100	84.0	58536	PASS
442	198	50	150	105.4	355755	PASS
443	442	17	23	19.6	69672	PASS

0123Y286.D Y0123.M Wed Mar 15 16:18:20 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RF					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	53014-3713	01/19/17	05/30/17	1000
Absolute	10002	2000	62216-3714	01/19/17	01/19/18	1000
Absolute	10004	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	10005	2000	10314-3713	01/19/17	01/19/18	1000
Absolute	10006	2000	81216-3707	01/19/17	01/19/18	1000
Absolute	10007	2000	20515-3714	01/19/17	01/19/18	1000
Absolute	10018	2000	90216-3715	01/19/17	01/19/18	1000
Absolute	70023	1000	83121-3715	01/19/17	01/19/18	1000
Absolute	82705	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	94552	2000	42016-3686	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170309A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 2-14-17 EXP 5-3-17	Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2	SIM PAH SPIKE 3-9-17 EXP 3-9-18	Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	YES	
Spiked ID 7		Ext. Start Time:	03/09/17 15:10	
Spiked ID 8		Ext. End Time:	03/10/17 13:30	
		GC Requires Extract By:	**03/13/17 0:00**	

pH1	2	03/09/17 3:20:00 PM	Water Bath Temp Criteria	76 °C
pH2	14	03/09/17 5:45:00 PM		
pH3				

Spiked By: KY **Date** 03/09/17 **Witnessed By:** JR **Date** 03/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170309A Blk				1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	
2	170309A LCS-1		0.250	1	1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	
3	170309A LCS-2		0.250	2	1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	
4	AZ51053	AZ51053W11			1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	82337 1 WEEK
5	AZ51054	AZ51054W07			1	1 equip	1070 E-WB6	1	2/1	03/09/17 15:10	82337 1 WEEK
6	AZ51056	AZ51056W10			1	1 equip	1070 E-WB6	1	2/1	03/09/17 15:10	82337 1 WEEK
7	AZ51132 MS-1	AZ51132W18	0.250	1	1	1 equip	1060 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
8	AZ51132 MSD-1	AZ51132W33	0.250	1	1	1 equip	1060 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
9	AZ51132	AZ51132W30			1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
10	AZ51133	AZ51133W05			1	1 equip	950 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
11	AZ51135	AZ51135W31			1	1 equip	1070 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
12	AZ51136	AZ51136W08			1	1 equip	1000 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
13	AZ51139	AZ51139W09			1	1 equip	1070 E-WB6	1	2/1	03/09/17 15:10	82351 5 days
14	AZ51141	AZ51141W13			1	1 equip	1060 E-WB6	1	2/1	03/09/17 15:10	82351 5 days

Kg 3/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-14-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/10/17
Time	2:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,JR,DL
Extraction	KY,JR,DL
Concentration	DL
Modified	03/10/17 2:01:37 PM

Reviewed By: Kg 305 **Date** 3/10/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	67	0123Y267.D	1	SV Tune 10/19/16	water	10 Mar 17 14:31
12	68	0123Y268.D	1	50ug/ml SVOC 3/02/17	water	10 Mar 17 14:47
13	69	0123Y269.D	1	170309A BLK 1/1000	water	10 Mar 17 15:18
14	70	0123Y270.D	1	170309A LCS-1 1/1000	water	10 Mar 17 15:50
15	72	0123Y272.D	1	AZ51053W11 1/1000	water	10 Mar 17 16:51
16	73	0123Y273.D	0.93458	AZ51054W07 1/1070	water	10 Mar 17 17:21
17	84	0123Y284.D	1	50ug/ml SVOC 3/02/17	water	10 Mar 17 22:36
18	86	0123Y286.D	1	SV Tune 02/09/16	water	14 Mar 17 7:44
19	87	0123Y287.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 8:01
20	88	0123Y288.D	0.934579	AZ51056W10 1/1070	water	14 Mar 17 9:02
21	2	0123Y302.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 16:14

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:20:05 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:20:06 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82337

Case No: 82337 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Yoda

Blank ID: 170310A-BLK Time Analyzed: 1034

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A-BLK	Blank	1220Y136	03/13/17 1034
170310A-LCS	Lab Control Spike	1220Y137	03/13/17 1104
AZ51053	ERH253	1220Y139	03/13/17 1206
AZ51054	ERH254	1220Y140	03/13/17 1320
AZ51056	ERH260	1220Y141	03/13/17 1351

Comments: Batch: #87DME-170310A

Printed: 03/14/17 11:20:09 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 11/15/16

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82337
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 9:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y135.D	03/13/17 10:03
2	Blank	170310A BLK 2/500	1220Y136.D	03/13/17 10:34
3	Lab Control Spike	170310A LCS-1 2/500	1220Y137.D	03/13/17 11:04
4	ERH253	AZ51053W07 2/500	1220Y139.D	03/13/17 12:06
5	ERH254	AZ51054W11 2/500	1220Y140.D	03/13/17 13:20
6	ERH260	AZ51056W12 2/500	1220Y141.D	03/13/17 13:51
7		500ug/ml DEG 02/14/1	1220Y150.D	03/13/17 18:11
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.2
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.1
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	84.2
442	50 - 150% of mass 197.95	95.9
443	17 - 23% of mass 442	19.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 1220Y007.D
Date Analyzed: 12/20/16
Instrument ID: Yoda
Time Analyzed: 12:27
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	177553	4.84	746186	6.26	429159	8.26
02	170310A BLK 2/500	140695	4.83	637834	6.26	358479	8.26
03	170310A LCS-1 2/500	136004	4.82	614588	6.25	356092	8.26
04	AZ51053W07 2/500	157376	4.83	695238	6.26	395936	8.26
05	AZ51054W11 2/500	157909	4.83	683404	6.25	395828	8.26
06	AZ51056W12 2/500	153295	4.83	687427	6.26	406643	8.26
07	500ug/ml DEG 02/14/17	178165	4.83	786911	6.25	435104	8.26
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 1220Y007.D
Date Analyzed: 12/20/16
Instrument ID: Yoda
Time Analyzed: 12:27
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	771605	9.99	734679	13.06	537954	14.69
02	170310A BLK 2/500	680715	9.99	651186	13.06	671686	14.69
03	170310A LCS-1 2/500	658238	9.99	636142	13.06	624209	14.69
04	AZ51053W07 2/500	755370	9.99	726506	13.06	709183	14.69
05	AZ51054W11 2/500	744924	9.98	721116	13.06	725520	14.70
06	AZ51056W12 2/500	762191	9.99	727274	13.06	720100	14.69
07	500ug/ml DEG 02/14/17	815094	9.99	761306	13.06	583729	14.69
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y139
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:20:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y139.D Vial: 39
Acq On : 13 Mar 17 12:06 Operator: MA
Sample : AZ51053W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	157376	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	695238	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	395936	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	755370	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	726506	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	709183	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

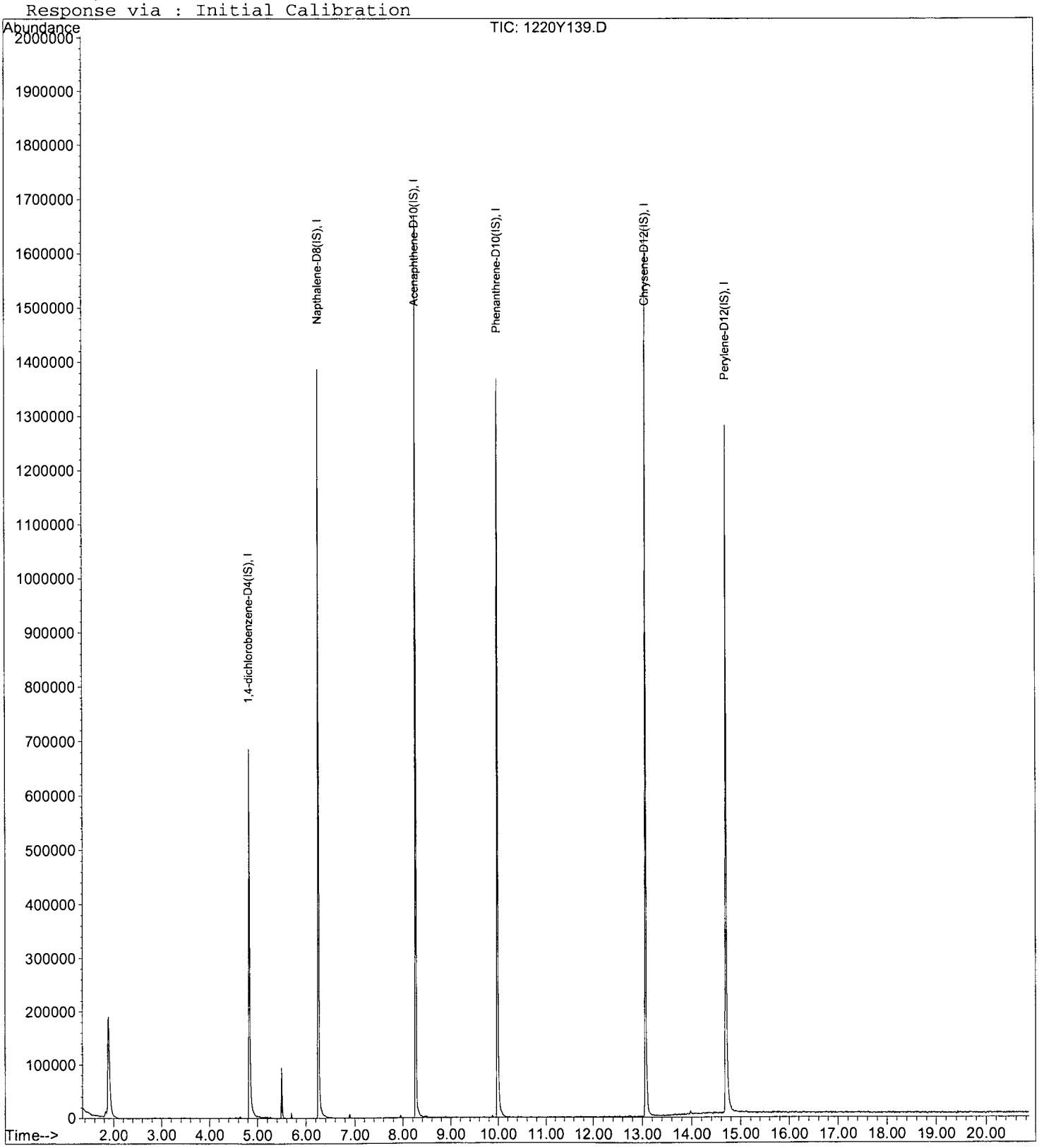
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y139.D Vial: 39
Acq On : 13 Mar 17 12:06 Operator: MA
Sample : AZ51053W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:10 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH254
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51054
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y140
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:20:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y140.D Vial: 40
Acq On : 13 Mar 17 13:20 Operator: MA
Sample : AZ51054W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:08 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	157909	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	683404	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	395828	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	744924	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	721116	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	725520	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

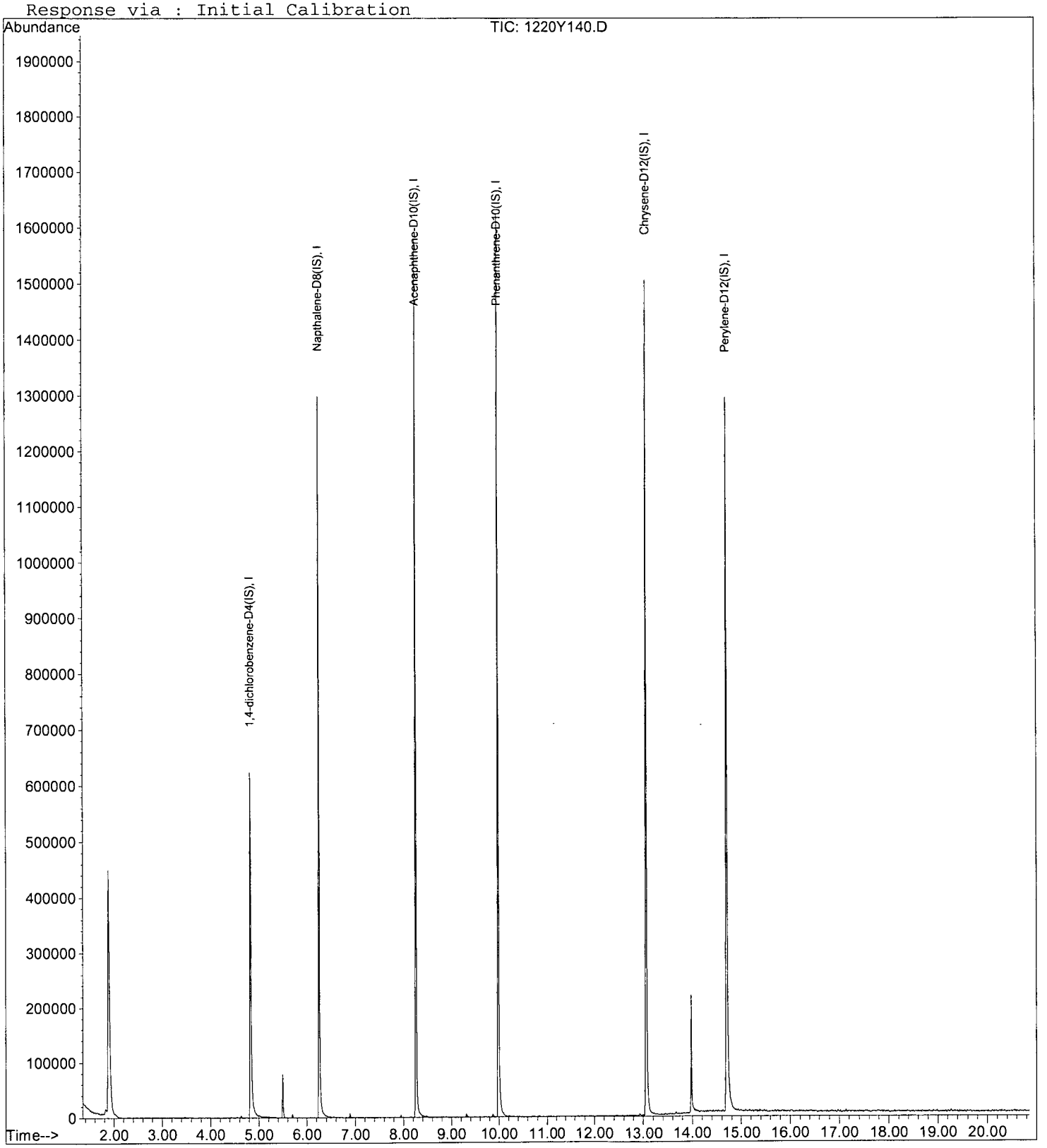
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y140.D Vial: 40
Acq On : 13 Mar 17 13:20 Operator: MA
Sample : AZ51054W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:08 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y141
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:20:10 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y141.D Vial: 41
Acq On : 13 Mar 17 13:51 Operator: MA
Sample : AZ51056W12 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:08 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	153295	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	687427	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	406643	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	762191	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	727274	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	720100	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

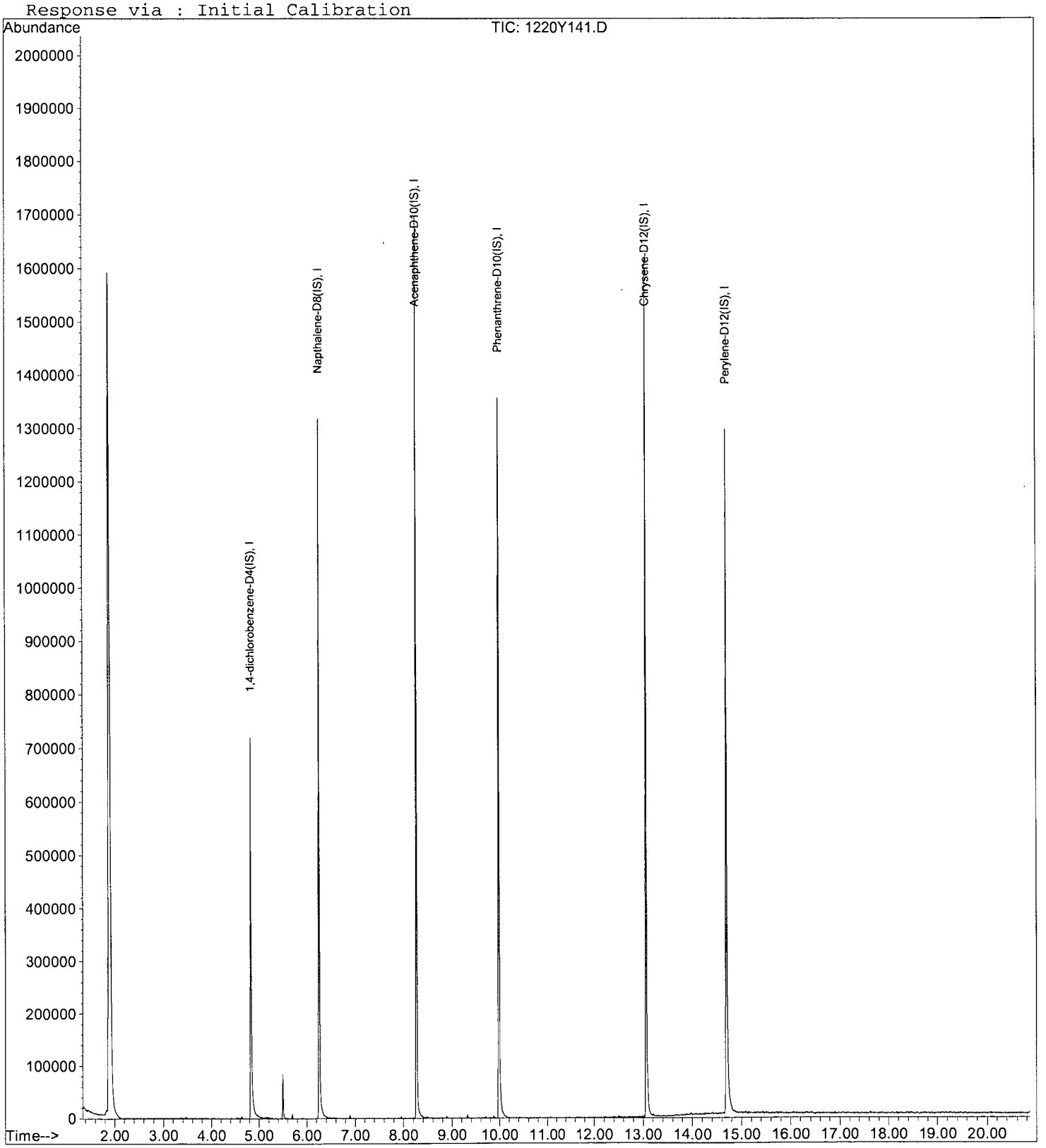
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y141.D Vial: 41
Acq On : 13 Mar 17 13:51 Operator: MA
Sample : AZ51056W12 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:08 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

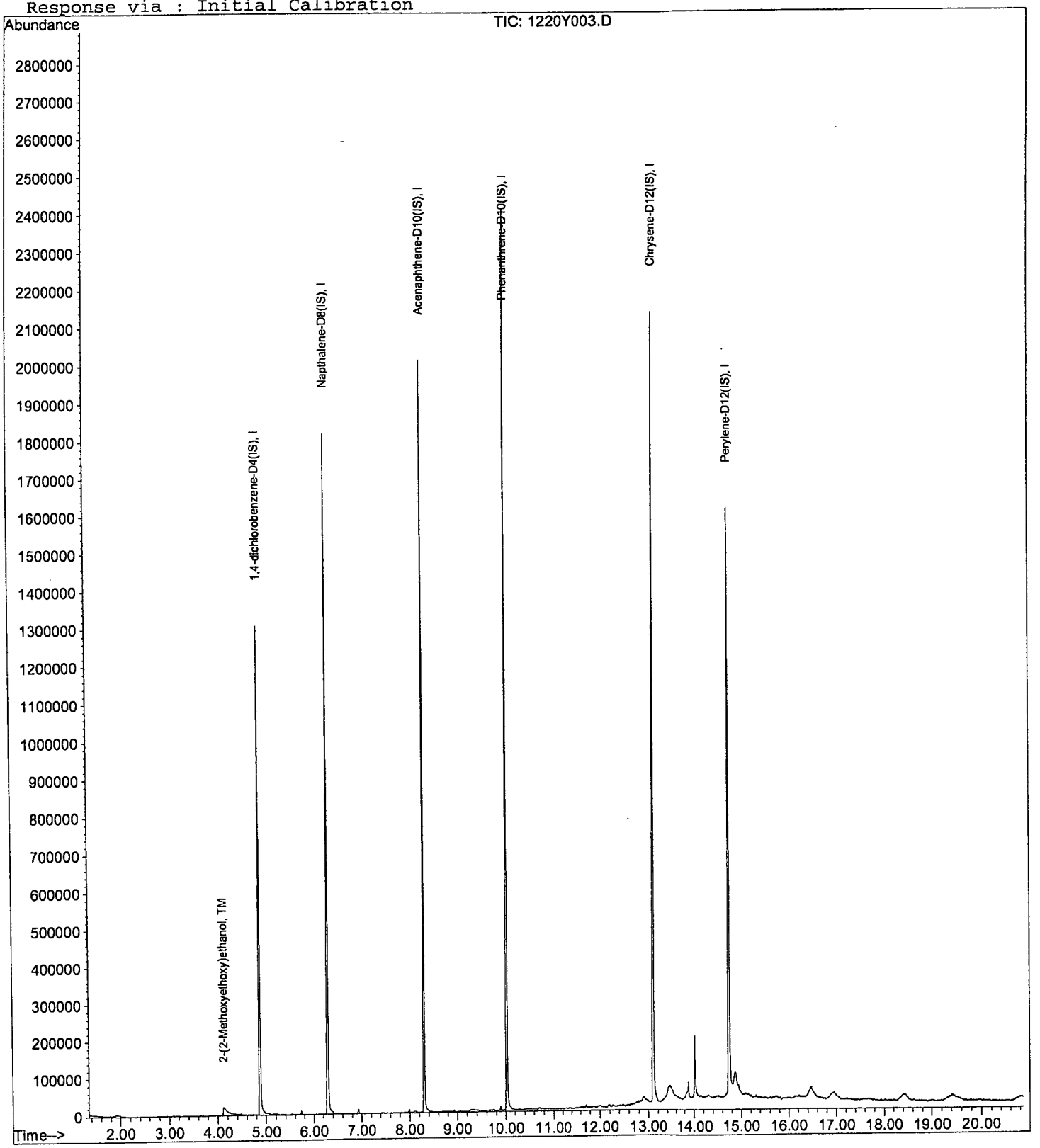
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration
1220Y004.D Y0GLYCOL.M Thu Jan 19 15:28:11 2017

Quantitation Report

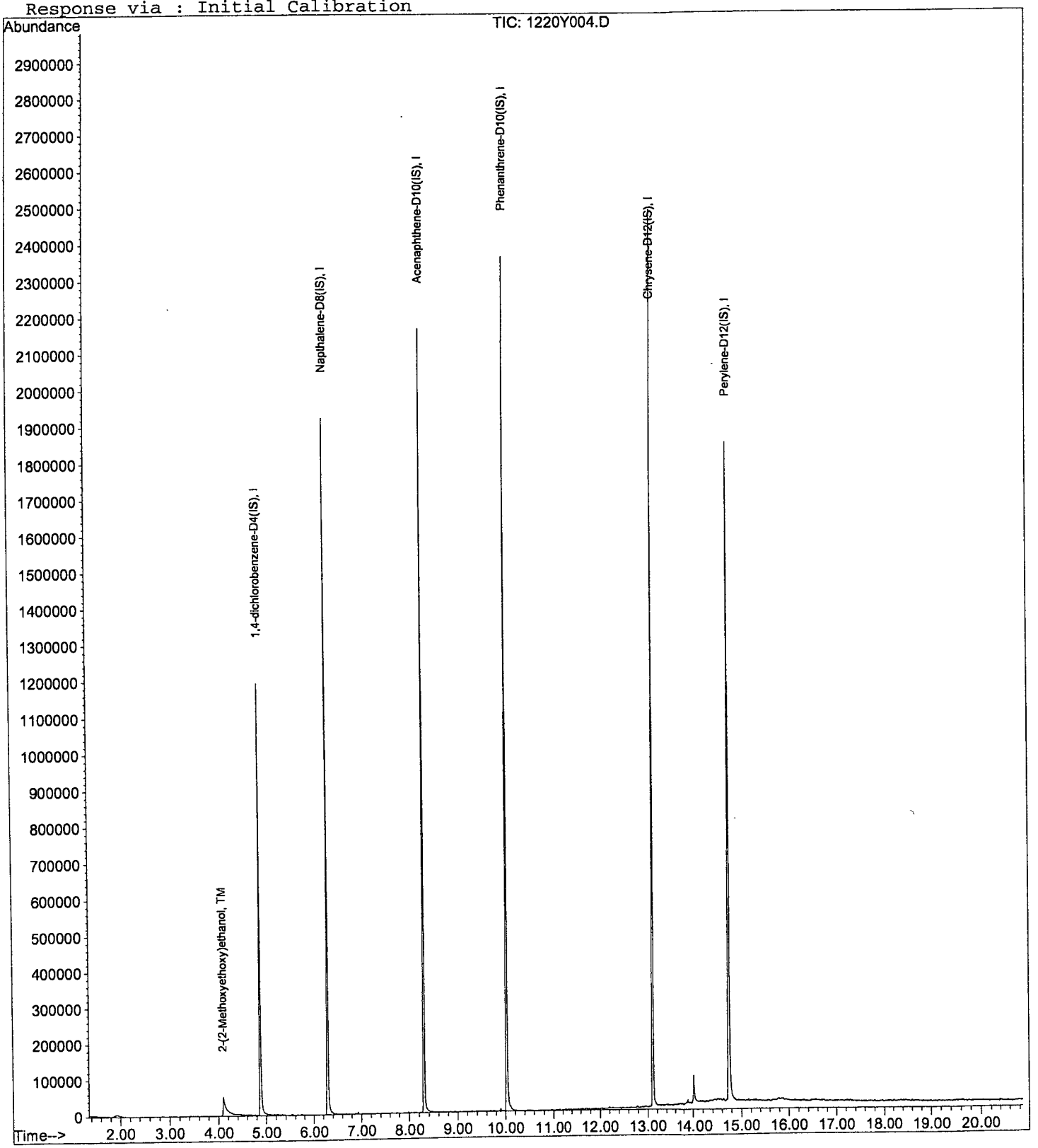
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y005.D Y0GLYCOL.M Thu Jan 19 15:31:38 2017

Quantitation Report

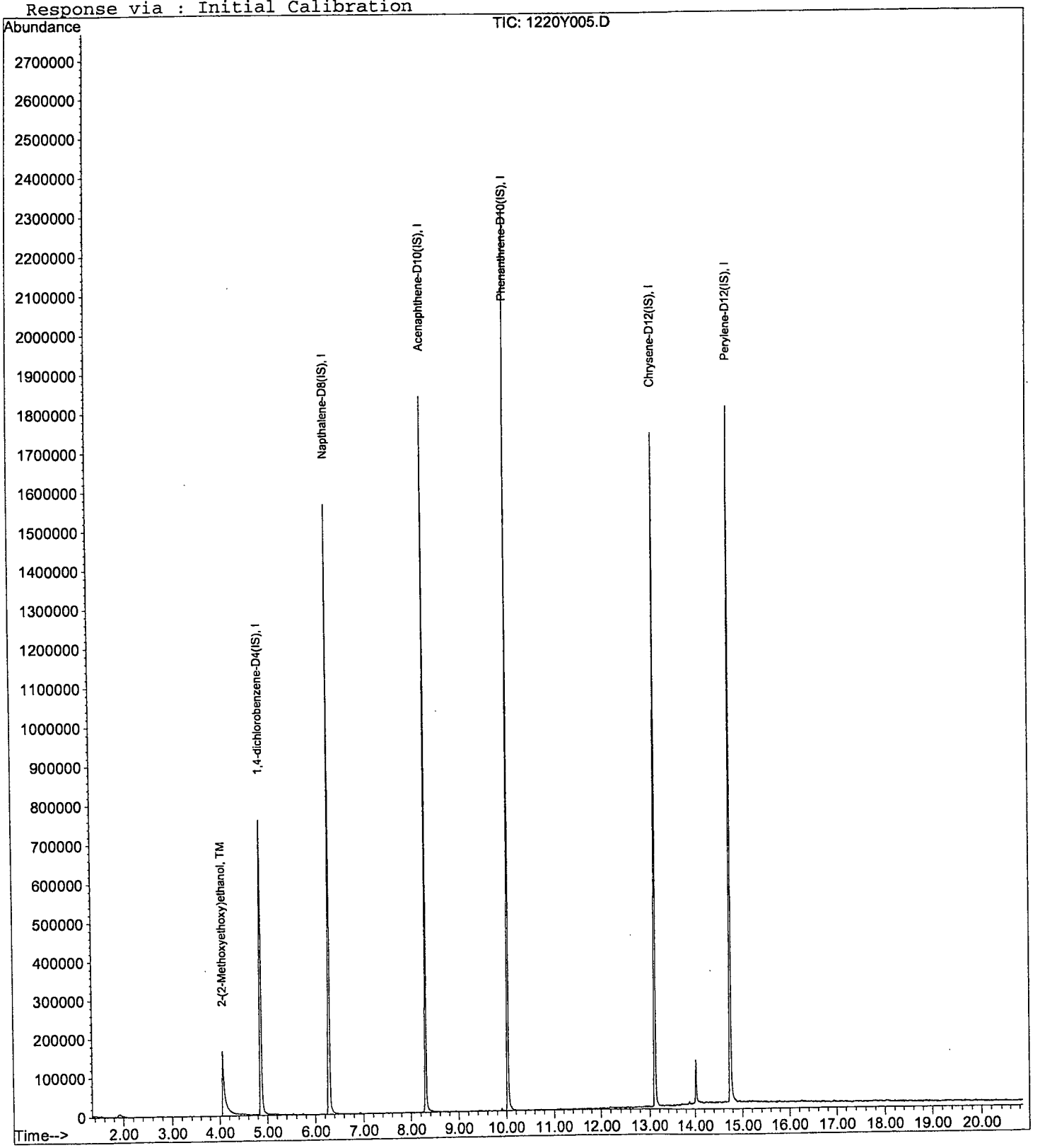
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration
1220Y006.D YOGLYCOL.M Thu Jan 19 15:32:08 2017

Quantitation Report

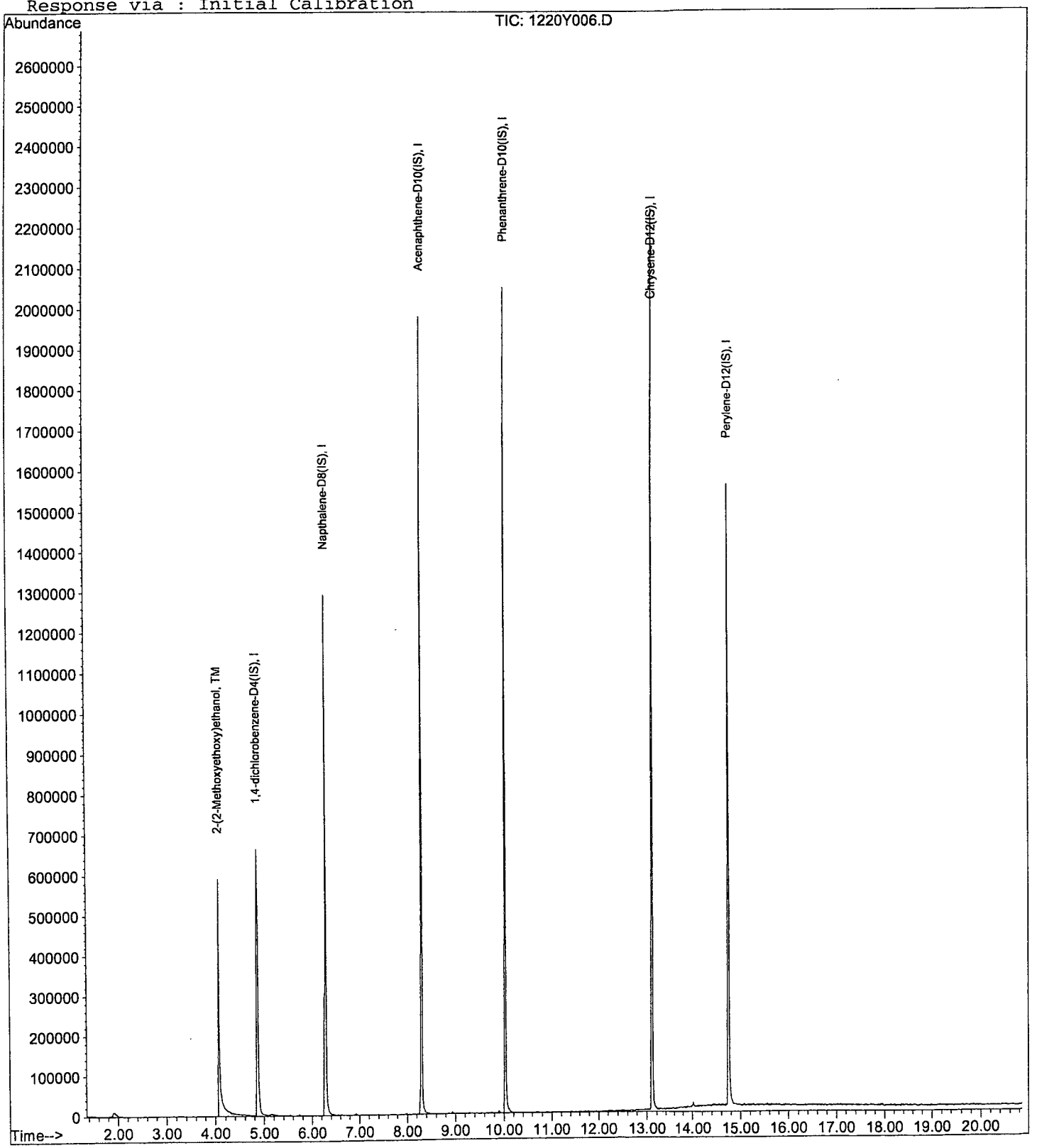
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

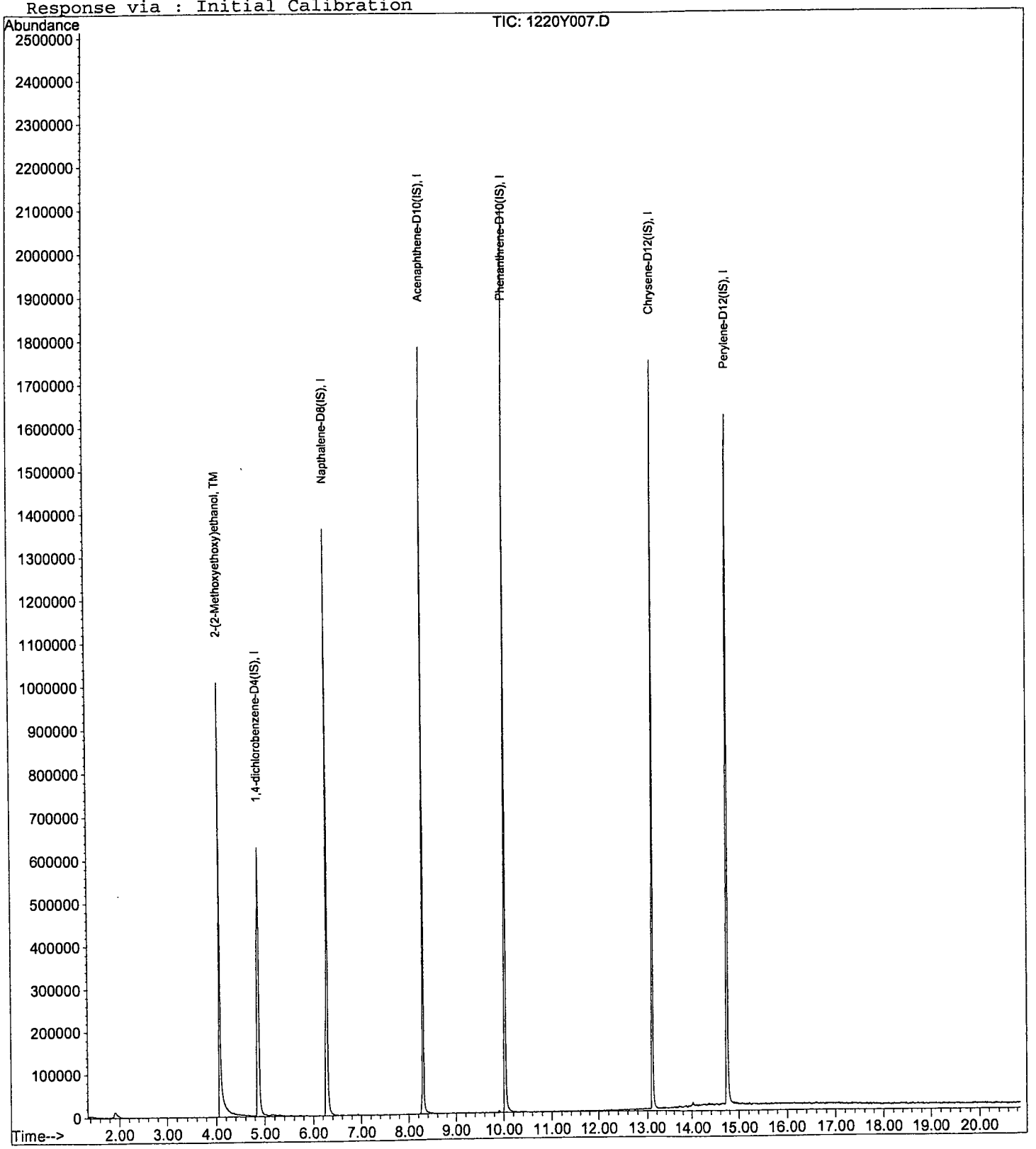
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

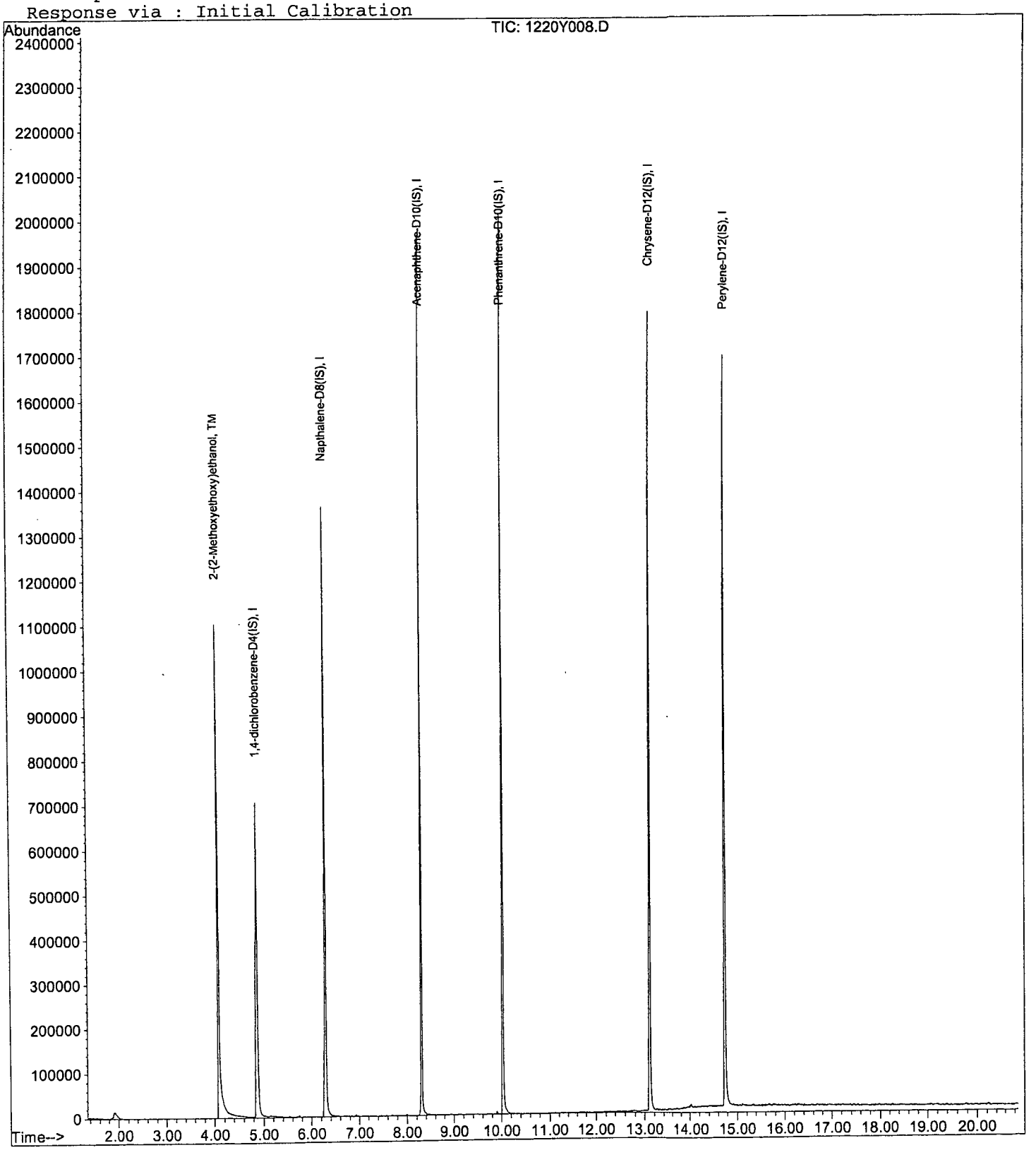
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

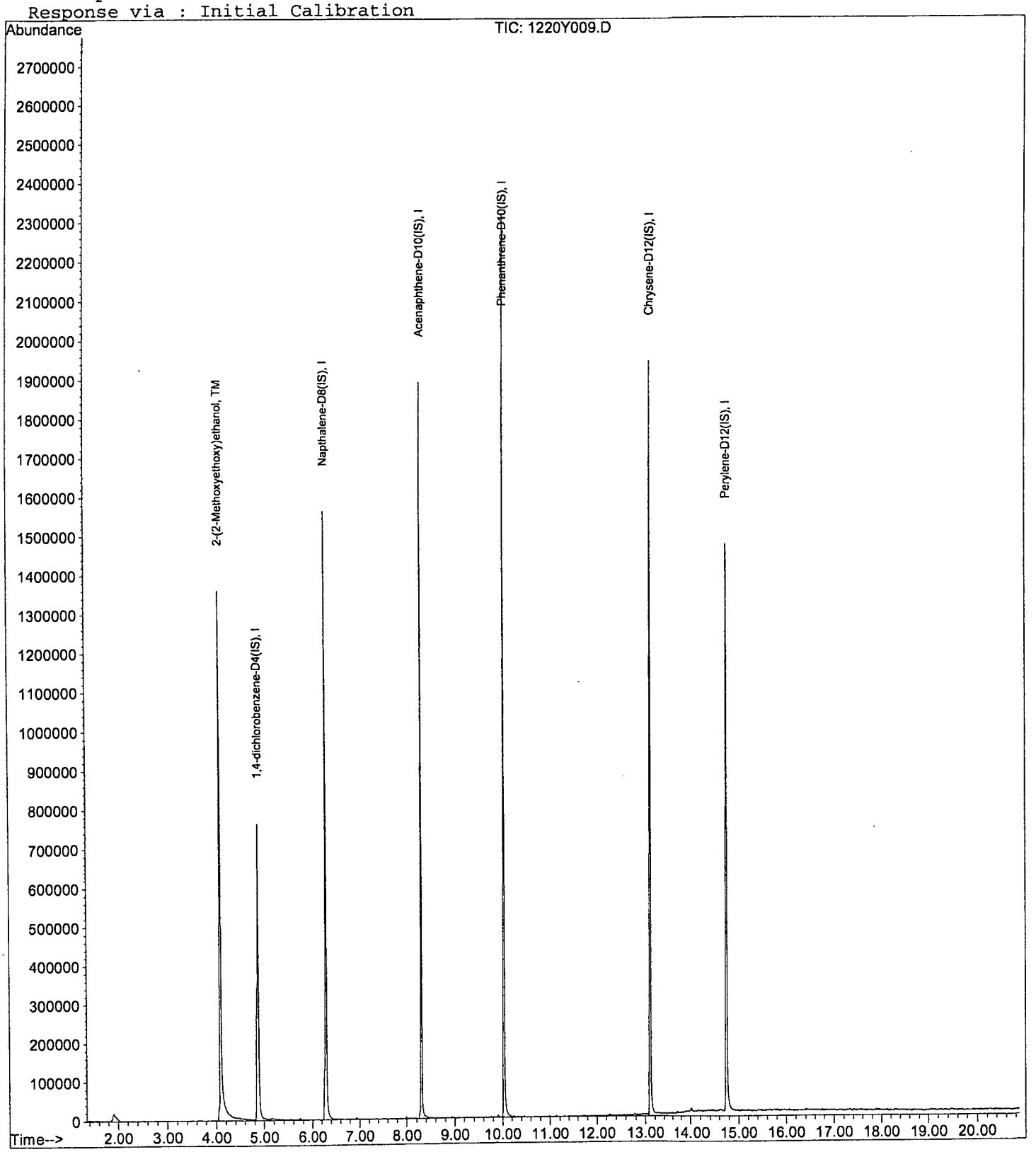
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

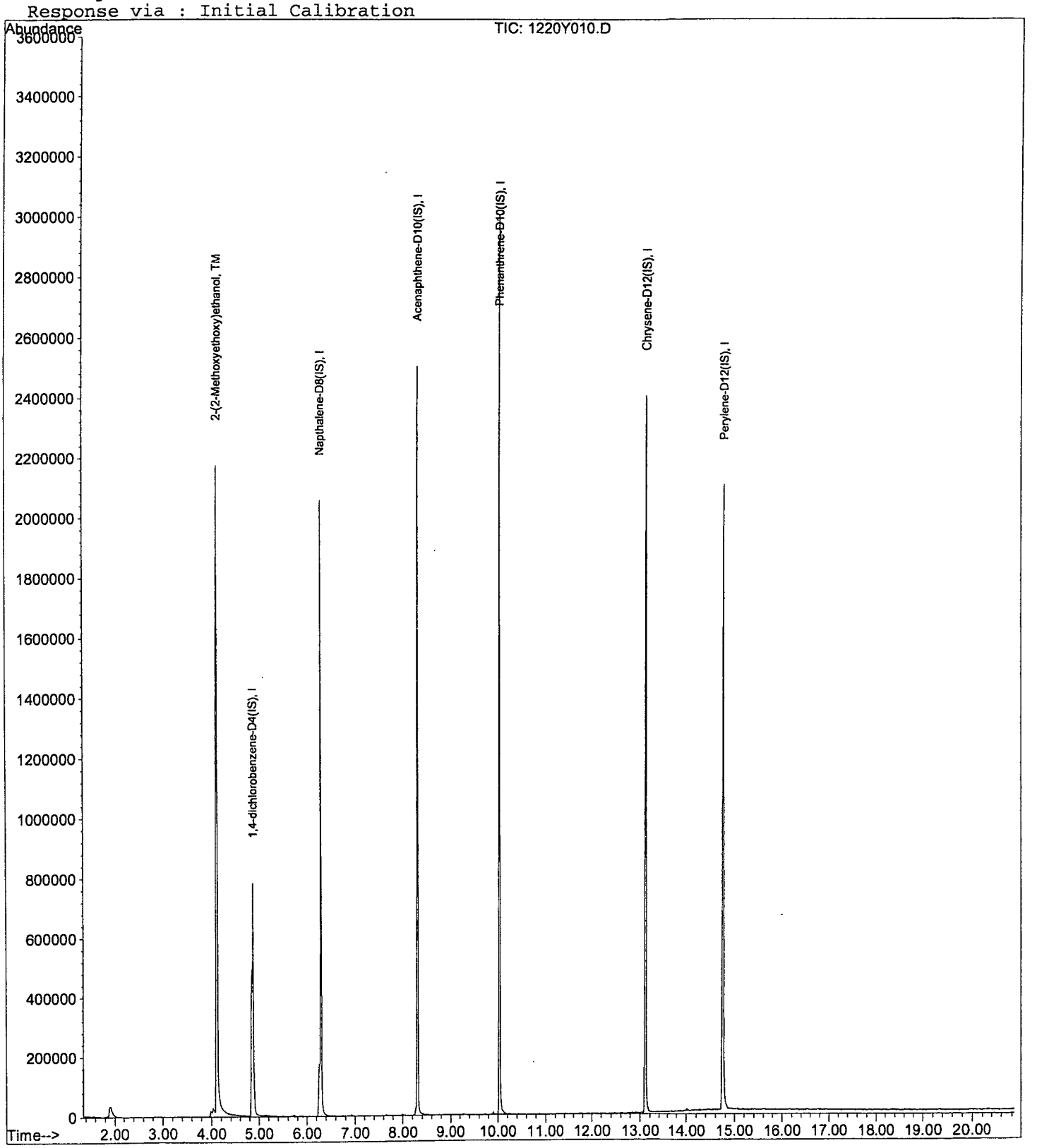
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y010.D Vial: 10
Acq On : 20 Dec 16 13:58 Operator: MA
Sample : 1000ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:37 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
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38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

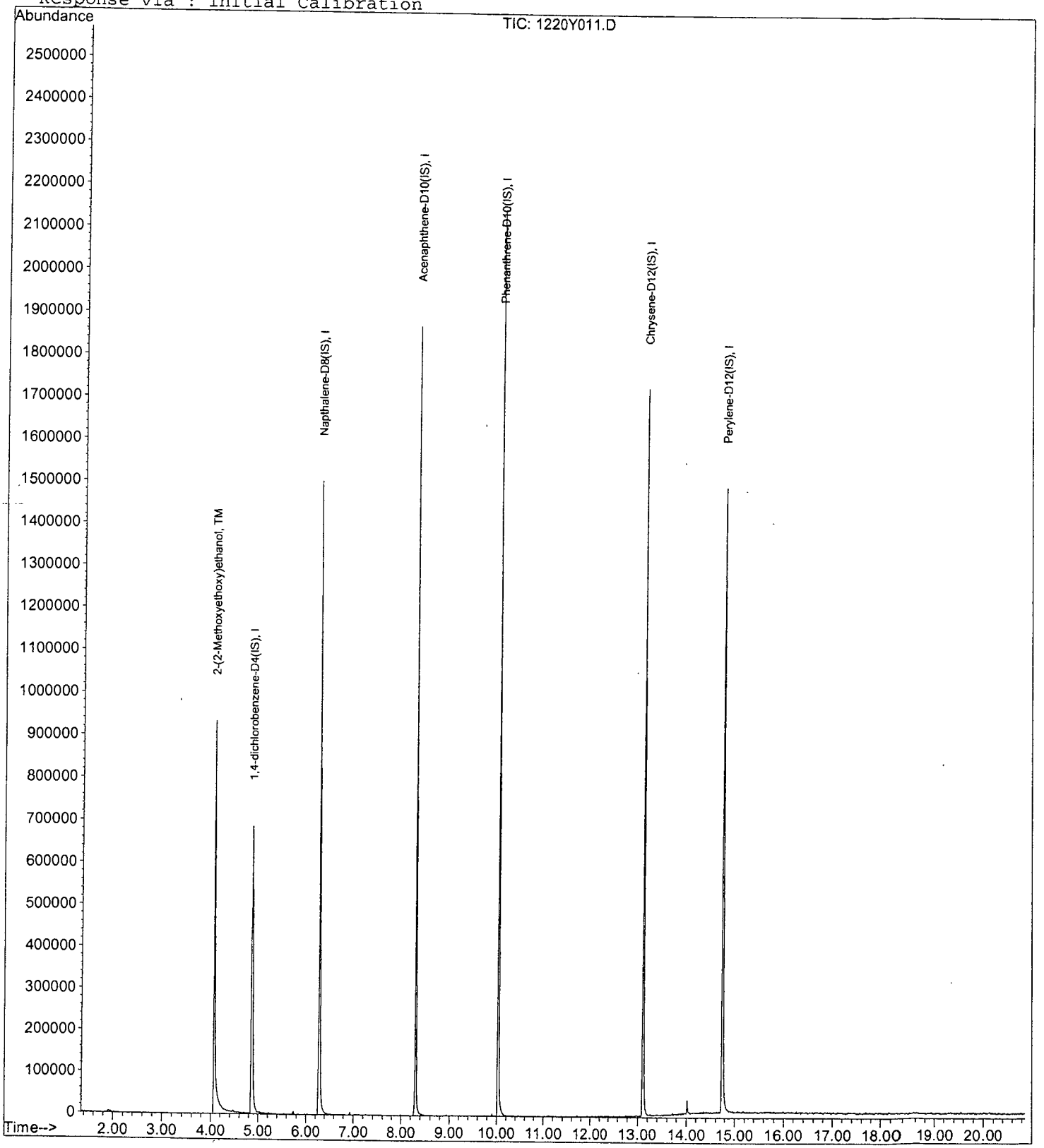
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y135.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2415	13	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
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35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	177553	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	746186	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	429159	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	771605	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	734679	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	537954	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	536004	563.14657 ppb	97

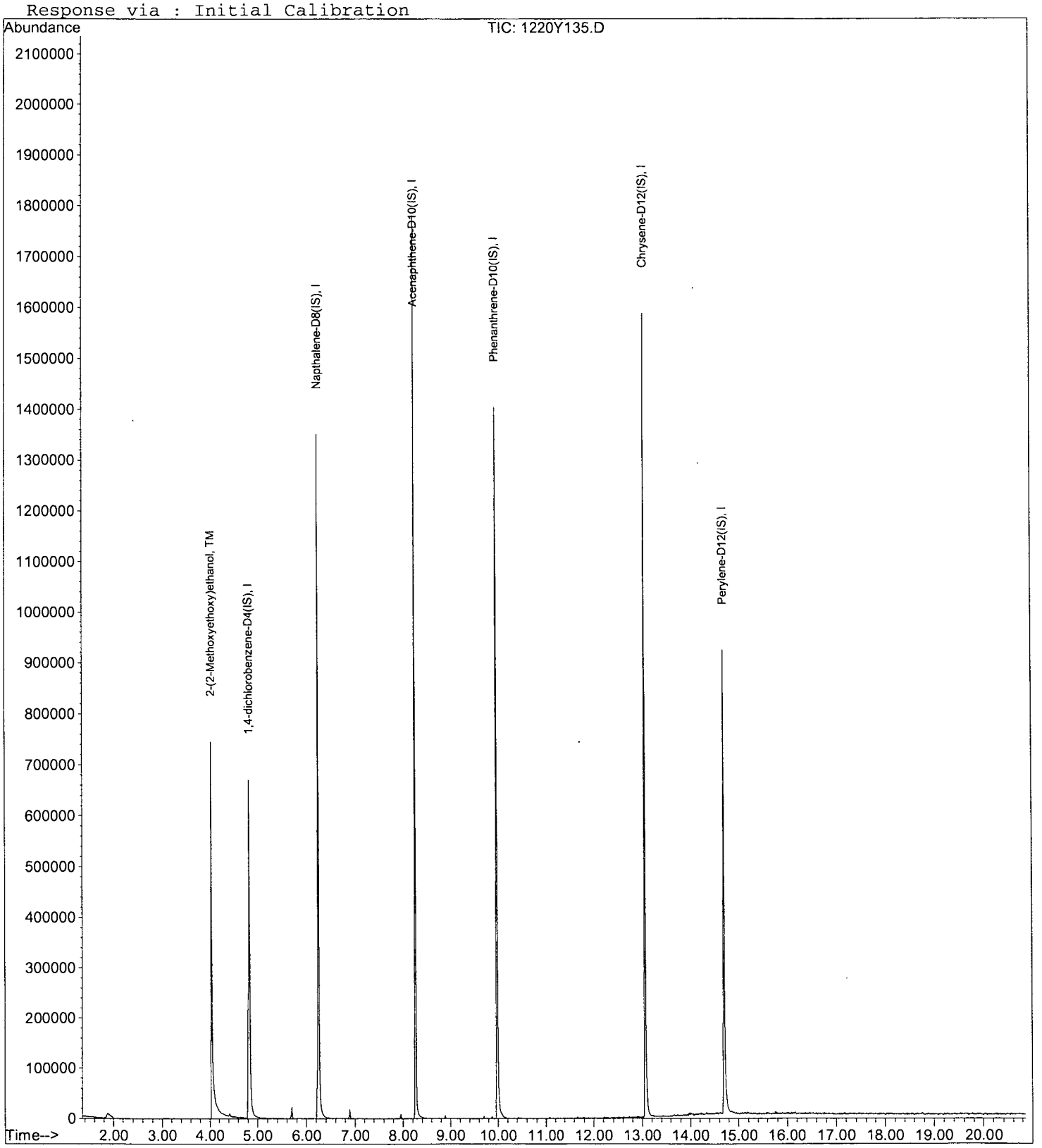
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y150.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2074	3.3	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.3		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	178165	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	786911	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	435104	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	815094	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	761306	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	583729	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	461787	483.50475 ppb	100

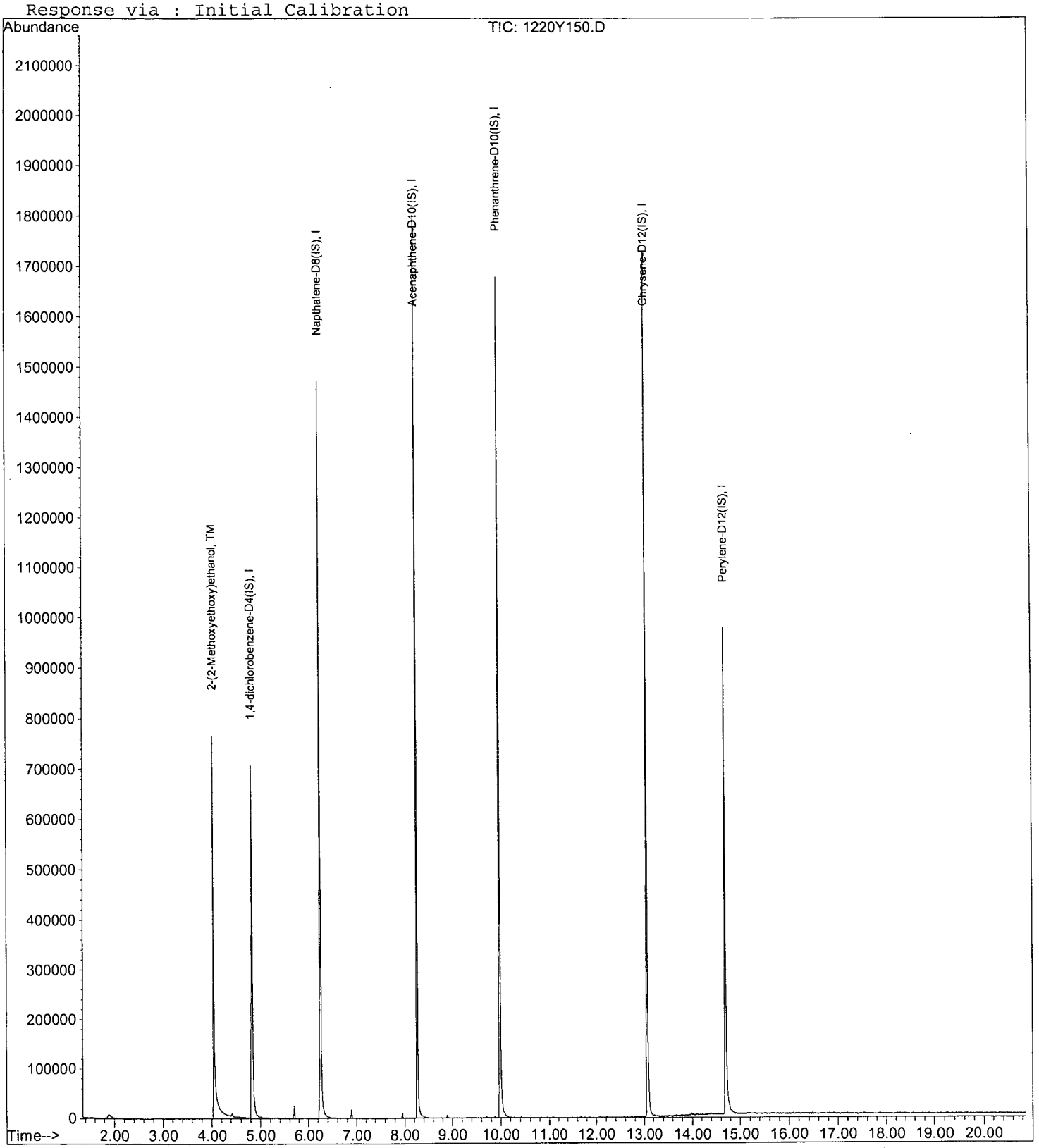
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method:Y0GLYCOL.
Run #:1220Y136
Instrument:Yoda
Sequence:Y161220G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:20:11 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	140695	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	637834	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	358479	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	680715	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	651186	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671686	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

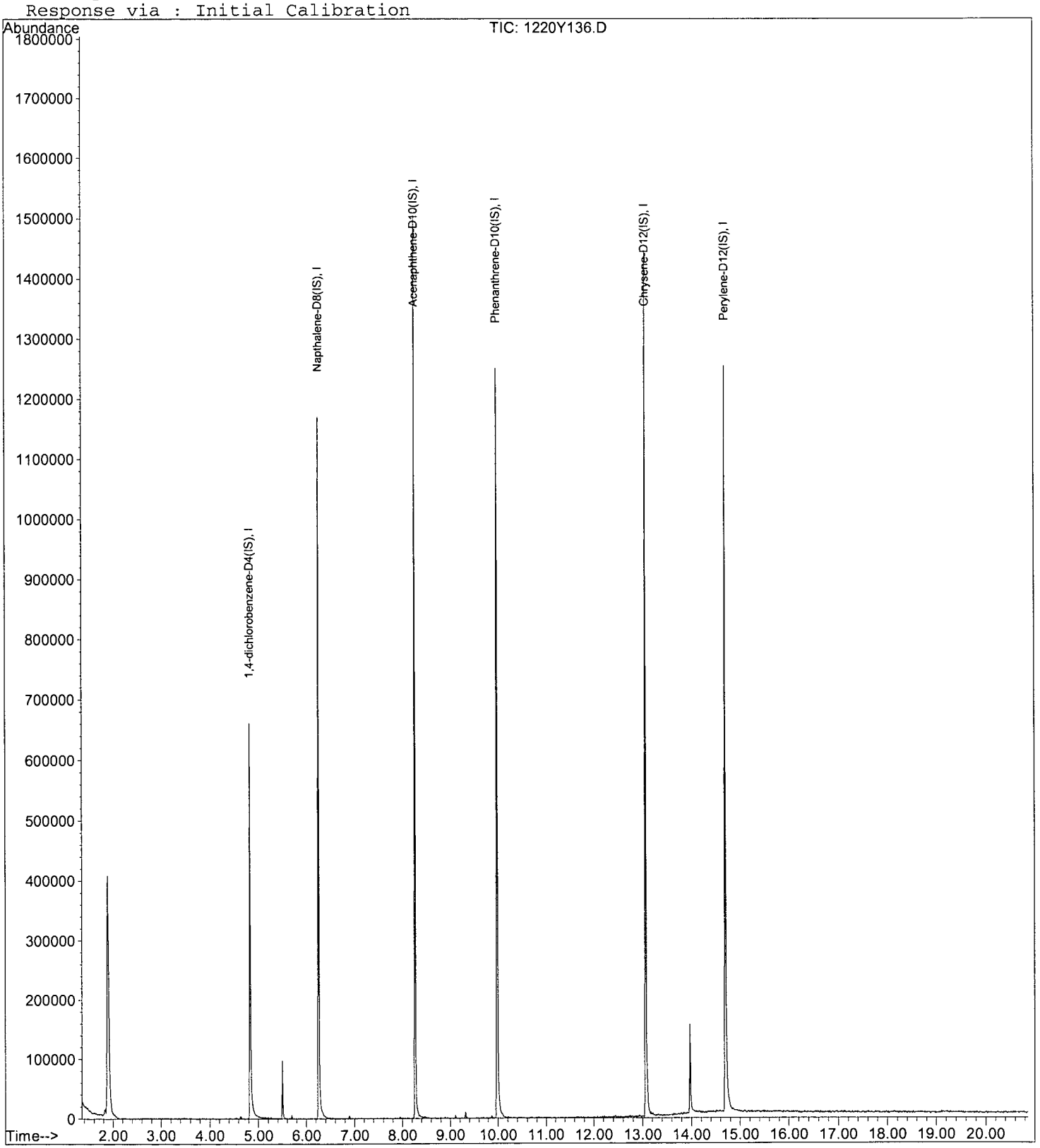
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:20:11 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	136004	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	614588	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	356092	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	658238	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636142	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	624209	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	25618	35.13783 ppb	100

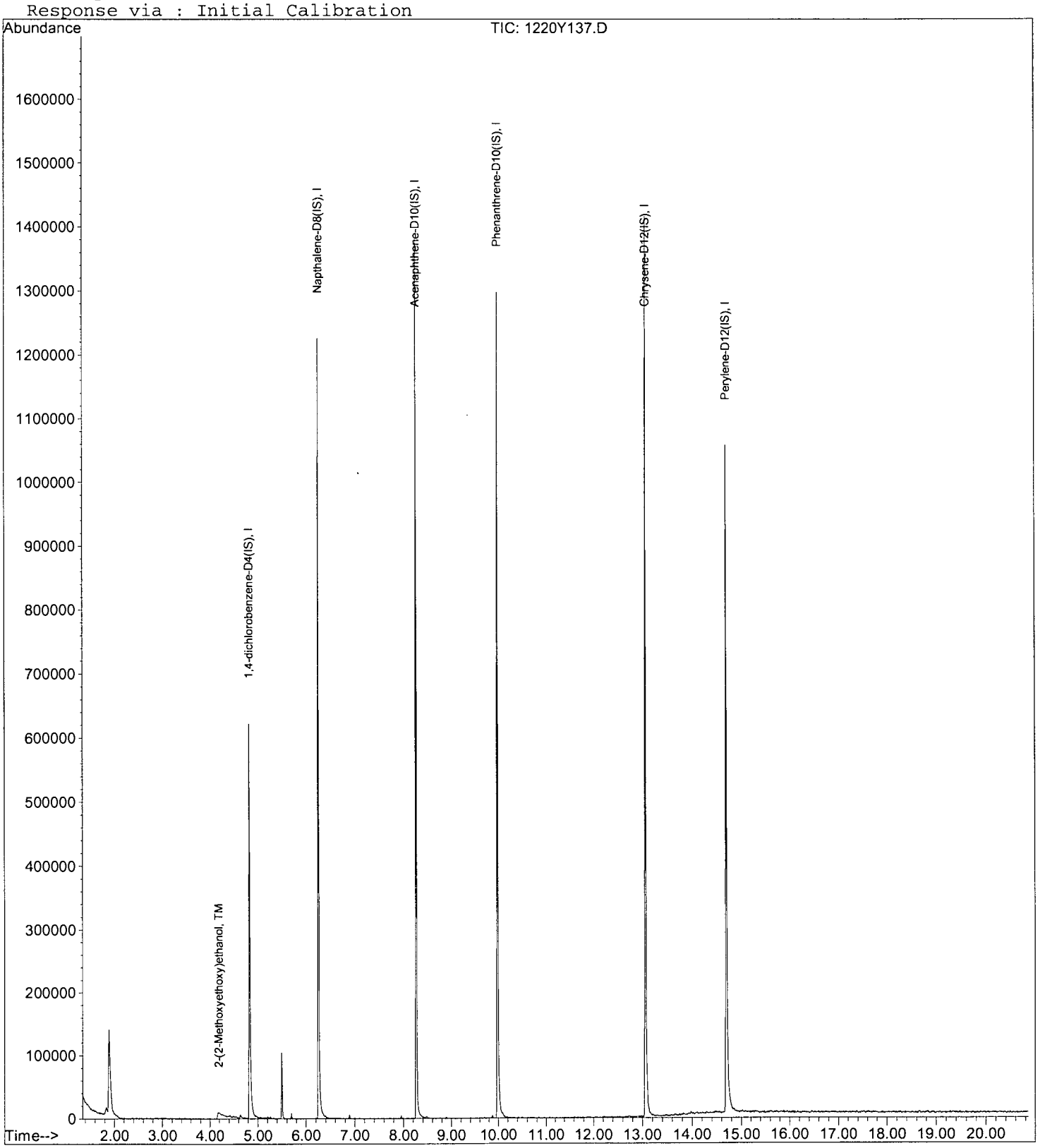
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

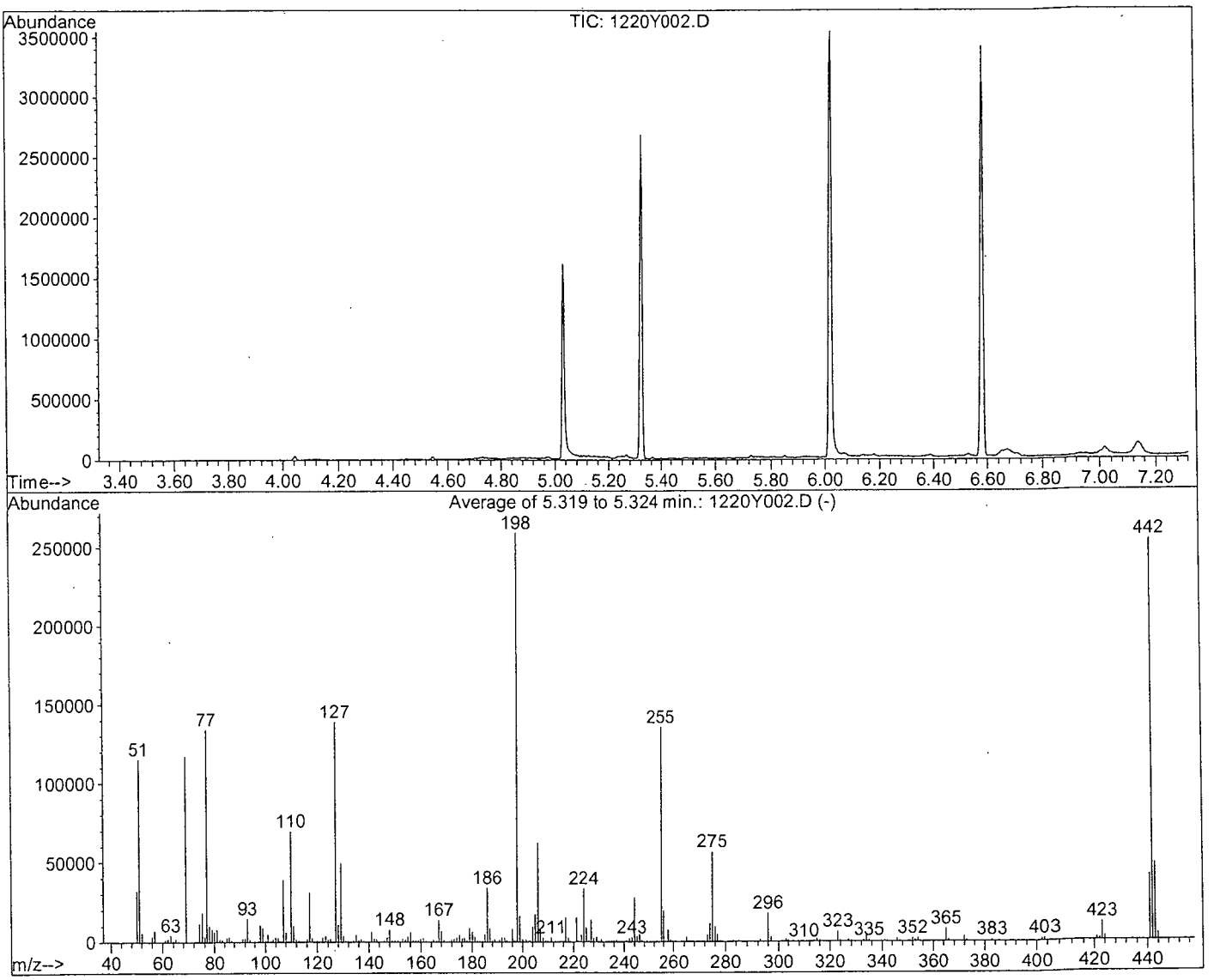
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D Vial: 2
Acq On : 20 Dec 16 9:12 Operator: MA
Sample : SV Tune 11/15/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

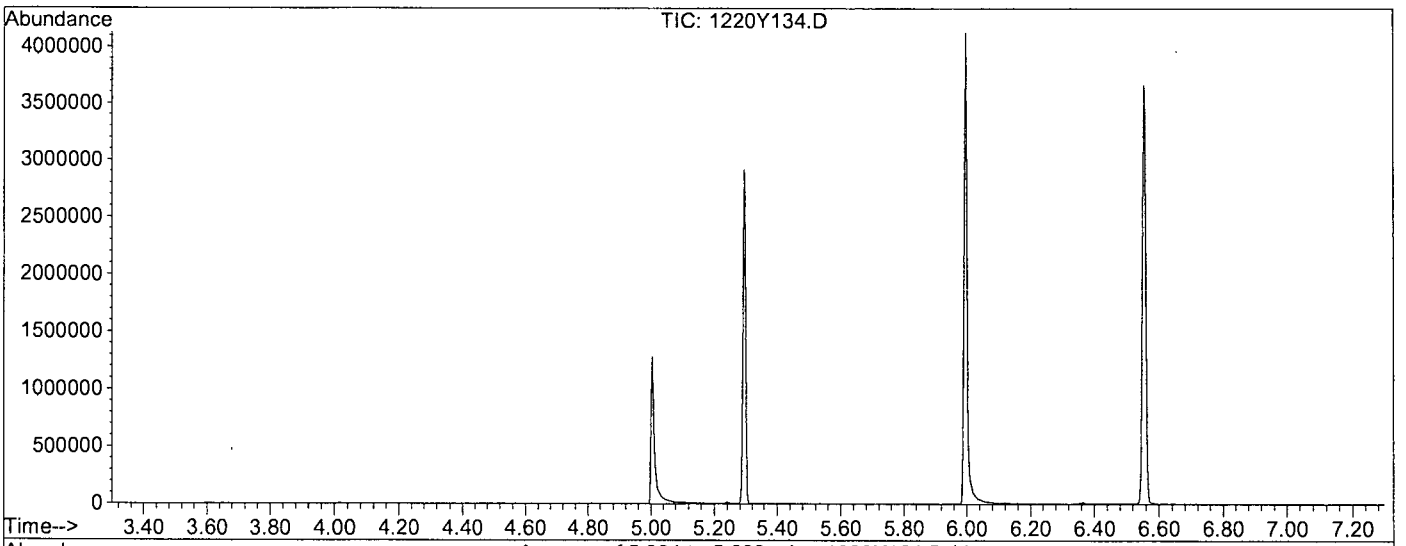
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

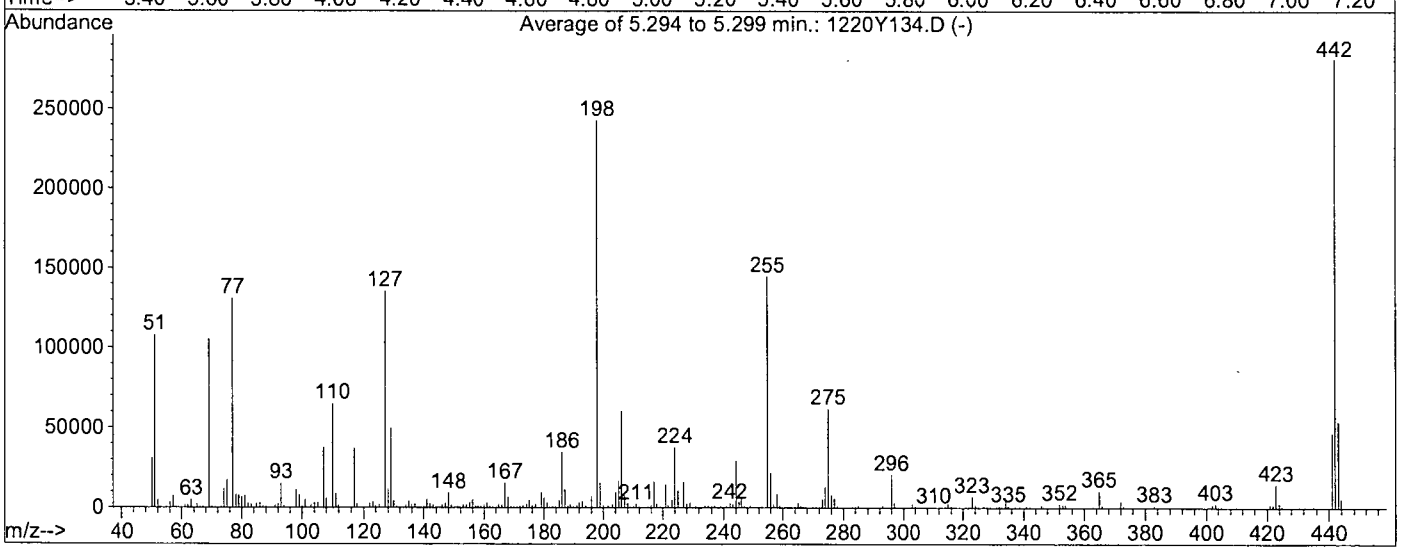
1220Y002.D YOGLYCOL.M Tue Dec 20 09:18:08 2016

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y134.D Vial: 34
Acq On : 13 Mar 17 9:46 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 684, 685, 686; Background Corrected with Scan 676

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	107921	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	105533	PASS
70	69	0.00	2	0.5	523	PASS
127	198	40	60	55.8	135376	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	242773	PASS
199	198	5	9	6.3	15412	PASS
275	198	10	30	25.5	61848	PASS
365	198	1	100	4.2	10300	PASS
441	443	0.01	100	86.3	46651	PASS
442	198	40	150	116.1	281963	PASS
443	442	17	23	19.2	54053	PASS

1220Y134.D DFTPP2.M Thu Mar 16 14:03:20 2017

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Stc	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/10/17 13:15
Spiked ID 8			Ext. End Time:	03/11/17 11:00
			GC Requires Extract By:	03/13/17 0:00
			pH1	Water Bath Temp Criteria
			pH2	
			pH3	

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				NA	NA equip	500	2	7	03/10/17 13:15	
2	170310A LCS-1		0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	
3	AZ51053	AZ51053W07			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
4	AZ51054	AZ51054W11			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
5	AZ51056	AZ51056W12			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
6	AZ51132 MS-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
7	AZ51132 MSD-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
8	AZ51132	AZ51132W22			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
9	AZ51133	AZ51133W08			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
10	AZ51135	AZ51135W26			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
11	AZ51136	AZ51136W13			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
12	AZ51139	AZ51139W14			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
13	AZ51141	AZ51141W09			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
14	AZ51357	AZ51357W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
15	AZ51359	AZ51359W12			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
16	AZ51360	AZ51360W07			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:30
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------
Modified	03/11/17 11:19:57 AM

Reviewed By: CFM **Date** 3/11/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	**03/13/17 0:00**	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51362	AZ51362W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
18	AZ51364	AZ51364W09			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
19	AZ51530	AZ51530W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
20	AZ51533	AZ51533W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
21	AZ51535	AZ51535W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
22	AZ51536	AZ51536W09			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
23	ss		0.087	2	NA	NA equip	500	2	7	03/10/17 13:15	

3/11/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: **Date** 3/11/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	34	1220Y134.D	1	SV Tune 02/09/17	water	13 Mar 17 9:46
12	35	1220Y135.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 10:03
13	36	1220Y136.D	1	170310A BLK 2/500	water	13 Mar 17 10:34
14	37	1220Y137.D	1	170310A LCS-1 2/500	water	13 Mar 17 11:04
15	39	1220Y139.D	1	AZ51053W07 2/500	water	13 Mar 17 12:06
16	40	1220Y140.D	1	AZ51054W11 2/500	water	13 Mar 17 13:20
17	41	1220Y141.D	1	AZ51056W12 2/500	water	13 Mar 17 13:51
18	50	1220Y150.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 18:11

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170308W-51052 - 216701**
Batch ID: #86BTO-170308AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/08/17	03/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/08/17	03/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/08/17	03/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/08/17	03/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	93.1	81-118			%	03/08/17	03/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/08/17	03/08/17
BLANK	SURROGATE: DIBROMOFLUOR	98.6	80-119			%	03/08/17	03/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	03/08/17	03/08/17

Quant Method: MALLW.M
Run #: 0308M28
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 11:05:36 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82337

Case No: 82337 Date Analyzed: 03/08/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170308AM-LCS	Lab Control Spike	81-118	99.2		85-114	98.0	
170308AM-BLK	Blank	81-118	93.1		85-114	95.6	
AZ51052	ERH252	81-118	94.5		85-114	93.4	
AZ51053	ERH253	81-118	91.7		85-114	93.8	
AZ51054	ERH254	81-118	93.7		85-114	91.2	
AZ51055	ERH259	81-118	93.6		85-114	93.9	
AZ51056	ERH260	81-118	92.9		85-114	95.4	

Comments: Batch: #86BTO-170308AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82337
Case No: 82337 Date Analyzed: 03/08/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170308AM-LCS	Lab Control Spike	80-119	102		89-112	98.4	
170308AM-BLK	Blank	80-119	98.6		89-112	102	
AZ51052	ERH252	80-119	95.8		89-112	101	
AZ51053	ERH253	80-119	97.4		89-112	100	
AZ51054	ERH254	80-119	95.9		89-112	98.5	
AZ51055	ERH259	80-119	98.5		89-112	102	
AZ51056	ERH260	80-119	96.6		89-112	103	

Comments: Batch: #86BTO-170308AM

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170308W-51052 LCS - 216701**
Batch ID: #86BTO-170308AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.78	97.8	79-120
ETHYLBENZENE	10.00	9.93	99.3	79-121
TOLUENE	10.00	9.72	97.2	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.8	99.2	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.6	98.4	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/08/17
Analysis Date :	03/08/17
Instrument :	Max
Run :	0308M19
Initials :	SV

Printed: 03/10/17 11:05:45 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82337

Case No: 82337 Date Analyzed: 03/08/17

Matrix: WATER Instrument: Max

Blank ID: 170308AM-BLK Time Analyzed: 2350

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170308AM-LCS	Lab Control Spike	0308M19	03/08/17 1935
170308AM-BLK	Blank	0308M28	03/08/17 2350
AZ51052	ERH252	0308M31	03/09/17 0114
AZ51053	ERH253	0308M32	03/09/17 0143
AZ51054	ERH254	0308M33	03/09/17 0211
AZ51055	ERH259	0308M34	03/09/17 0239
AZ51056	ERH260	0308M35	03/09/17 0307

Comments: Batch: #86BTO-170308AM

Printed: 03/10/17 11:05:49 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82337
Date Analyzed: 03/08/17
Instrument: Max
Time Analyzed: 11:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 3/8/	0308M05.D	03/08/17 12:58
2		0.5ug/L VOC STD 3/8/	0308M06.D	03/08/17 13:26
3		1.0ug/L VOC STD 3/8/	0308M07.D	03/08/17 13:54
4		2.0ug/L VOC STD 3/8/	0308M08.D	03/08/17 14:23
5		5.0ug/L VOC STD 3/8/	0308M09.D	03/08/17 14:51
6		10ug/L VOC STD 3/8/1	0308M10.D	03/08/17 15:20
7		20ug/L VOC STD 3/8/1	0308M11.D	03/08/17 15:48
8		40ug/L VOC STD 3/8/1	0308M12.D	03/08/17 16:16
9		100ug/L VOC STD 3/8/	0308M13.D	03/08/17 16:45
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.3
75	30 - 60% of mass 95	48.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.9
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	90.6
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	97.3
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82337
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82337
Date Analyzed: 03/08/17
Instrument: Max
Time Analyzed: 18:38

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		(SS)10ug/L VOC STD 3	0308M18.D	03/08/17 19:07
2	Lab Control Spike	170308A LCS-1WM	0308M19.D	03/08/17 19:35
3	Blank	170308A BLk-1WM	0308M28.D	03/08/17 23:50
4	ERH252	AZ51052W01	0308M31.D	03/09/17 1:14
5	ERH253	AZ51053W01	0308M32.D	03/09/17 1:43
6	ERH254	AZ51054W01	0308M33.D	03/09/17 2:11
7	ERH259	AZ51055W01	0308M34.D	03/09/17 2:39
8	ERH260	AZ51056W04	0308M35.D	03/09/17 3:07
9		Ending CCV 8260 10ug	0308M42.D	03/09/17 6:25
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.8
75	30 - 60% of mass 95	50.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	8.8
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	91.8
175	5 - 9% of mass 174	8.2
176	95.06 - 101% of mass 174	100.6
177	5 - 9% of mass 176	6.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82337
Lab File ID (Standard): 0308M10.D
Date Analyzed: 8 Mar 17 15:20
Instrument ID: Max
Time Analyzed: 8 Mar 17 15:20
GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.50	223972	9.14	113358	12.33
	UPPER LIMIT	646884	6.00	447944	9.64	226716	12.83
	LOWER LIMIT	161721	5.00	111986	8.64	56679	11.83
	SAMPLE NO.						
01	(SS)10ug/L VOC STD 3/	332241	5.50	230391	9.14	113881	12.34
02	170308A LCS-1WM	333220	5.50	236151	9.14	115174	12.34
03	170308A BLk-1WM	329598	5.50	217475	9.14	96334	12.34
04	AZ51052W01	305969	5.50	206418	9.14	90987	12.34
05	AZ51053W01	316866	5.51	210590	9.14	93792	12.34
06	AZ51054W01	311781	5.51	213699	9.14	91669	12.34
07	AZ51055W01	316484	5.51	212859	9.14	94970	12.34
08	AZ51056W04	318492	5.50	213015	9.14	94335	12.34
09	Ending CCV 8260 10ug/	322488	5.50	220234	9.14	109432	12.34
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH252
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51052
QCG: #86BTO-170308AM-216701

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	94.5	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.4	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	95.8	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0308M31
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:05:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M31.D Vial: 30
Acq On : 9 Mar 17 1:14 Operator: PM,DG,SV,CMM
Sample : AZ51052W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 9:22 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	305969	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	206418	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	90987	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	72207	23.95382 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.816%	
36) 1,2-DCA-D4(S)	5.12	65	56797	23.62791 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.512%	
56) Toluene-D8(S)	7.34	98	301934	25.19148 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.764%	
64) 4-Bromofluorobenzene(S)	10.73	95	92556	23.36077 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.444%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

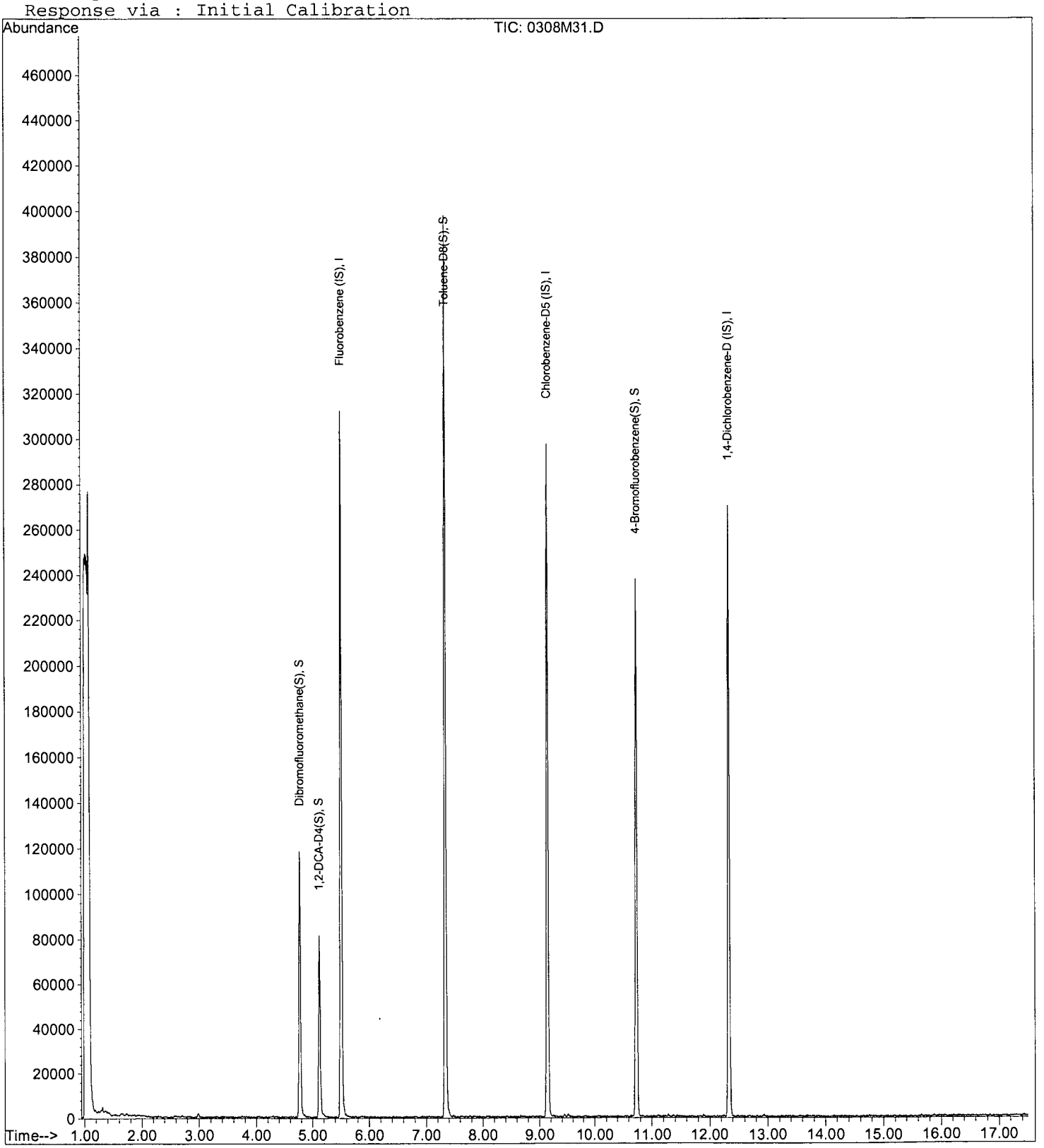
Data File : M:\MAX\DATA\M170308\0308M31.D
Acq On : 9 Mar 17 1:14
Sample : AZ51052W01
Misc : IS&S 02/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:22 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #86BTO-170308AM-216701

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	91.7	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.8	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	97.4	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0308M32
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:05:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M32.D
Acq On : 9 Mar 17 1:43
Sample : AZ51053W01
Misc : IS&S 02/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:22 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	316866	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	210590	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	93792	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	75982	24.33929 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.356%	
36) 1,2-DCA-D4(S)	5.12	65	57100	22.93706 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.748%	
56) Toluene-D8(S)	7.34	98	306577	25.07212 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.288%	
64) 4-Bromofluorobenzene(S)	10.73	95	94749	23.44051 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.764%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

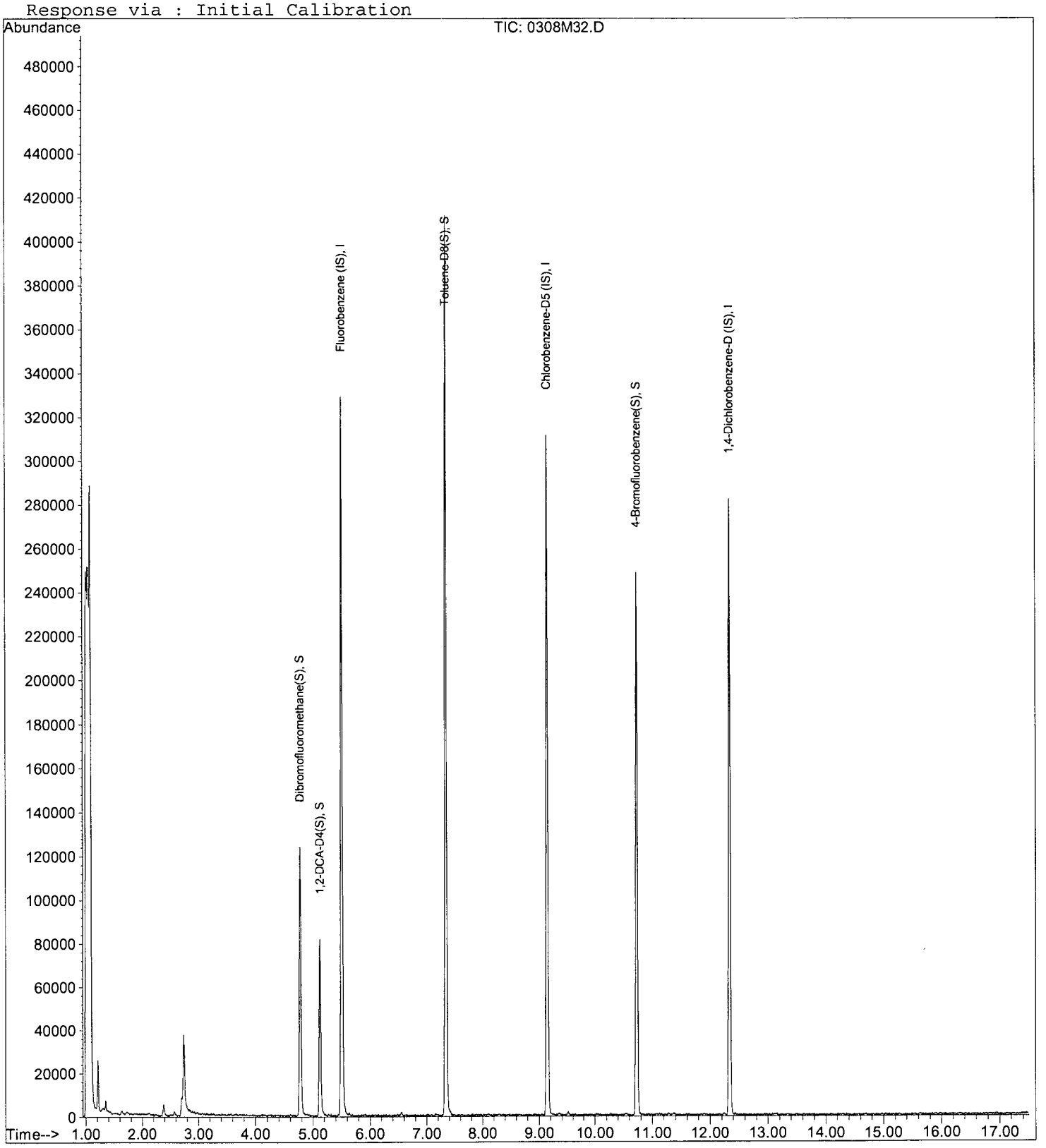
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M32.D
Acq On : 9 Mar 17 1:43
Sample : AZ51053W01
Misc : IS&S 02/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:22 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82337

Sample ID: ERH254

APPL ID: AZ51054

Sample Collection Date: 03/03/17

QCG: #86BTO-170308AM-216701

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	93.7	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	91.2	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	95.9	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.5	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0308M33
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:05:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M33.D Vial: 32
Acq On : 9 Mar 17 2:11 Operator: PM,DG,SV,CMM
Sample : AZ51054W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 9:23 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	311781	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	213699	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	91669	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	73614	23.96534 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.860%	
36) 1,2-DCA-D4(S)	5.12	65	57366	23.41975 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.680%	
56) Toluene-D8(S)	7.34	98	305498	24.62040 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.480%	
64) 4-Bromofluorobenzene(S)	10.73	95	93562	22.81010 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.240%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

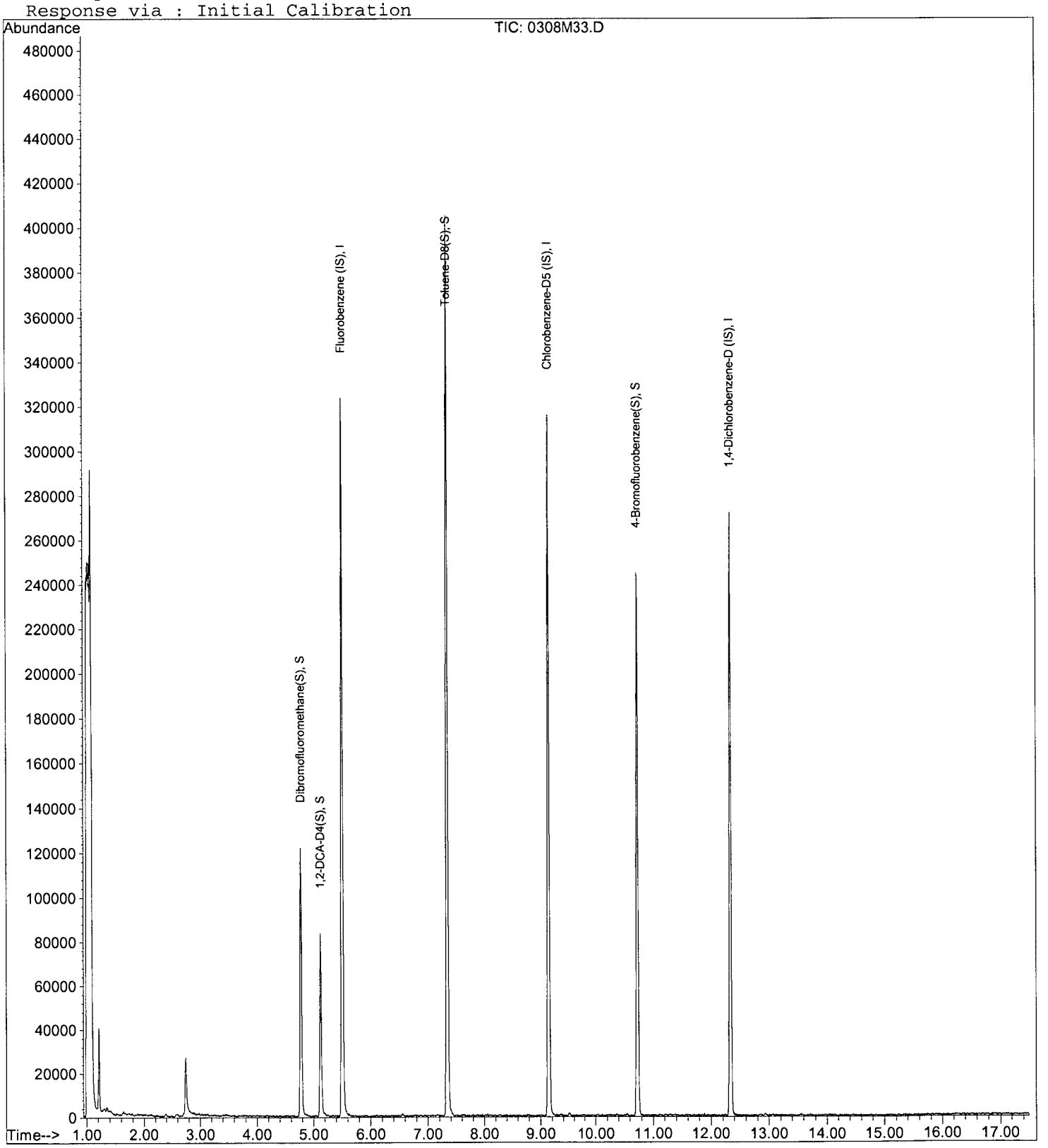
Data File : M:\MAX\DATA\M170308\0308M33.D
Acq On : 9 Mar 17 2:11
Sample : AZ51054W01
Misc : IS&S 02/23/17

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:23 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH259
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51055
QCG: #86BTO-170308AM-216701

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	93.6	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.9	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	98.5	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0308M34
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:05:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M34.D Vial: 33
Acq On : 9 Mar 17 2:39 Operator: PM,DG,SV,CMM
Sample : AZ51055W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 9:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	316484	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	212859	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	94970	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	76795	24.62941 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.516%	
36) 1,2-DCA-D4(S)	5.12	65	58175	23.39710 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.588%	
56) Toluene-D8(S)	7.34	98	315267	25.50796 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.032%	
64) 4-Bromofluorobenzene(S)	10.73	95	95920	23.47725 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.908%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

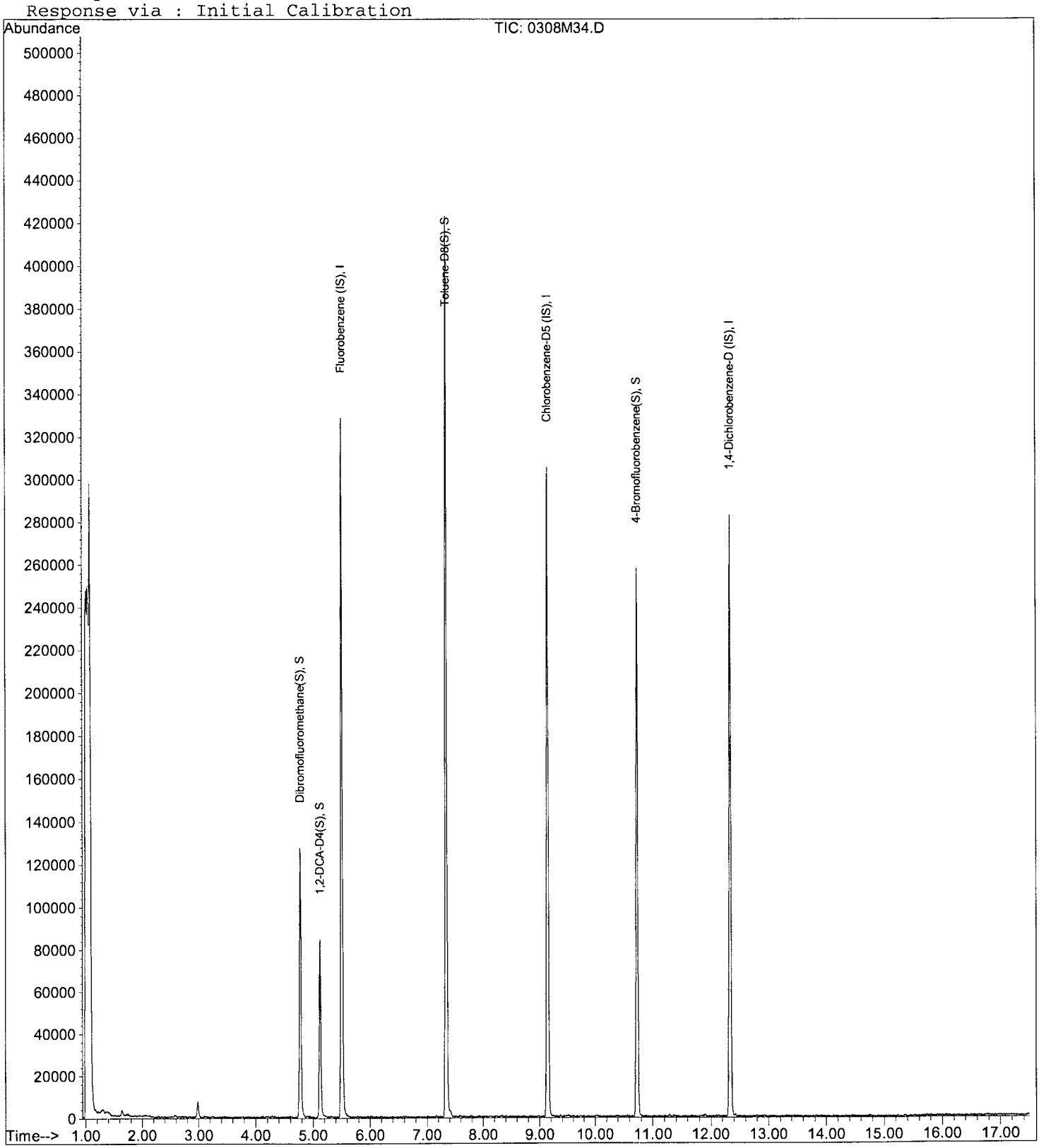
Data File : M:\MAX\DATA\M170308\0308M34.D
Acq On : 9 Mar 17 2:39
Sample : AZ51055W01
Misc : IS&S 02/23/17

Vial: 33
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:24 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82337

Sample ID: ERH260

APPL ID: AZ51056

Sample Collection Date: 03/06/17

QCG: #86BTO-170308AM-216701

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	92.9	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.4	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	96.6	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0308M35
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:05:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M35.D
Acq On : 9 Mar 17 3:07
Sample : AZ51056W04
Misc : IS&S 02/23/17

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	318492	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	213015	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	94335	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.77	111	75751	24.14141 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.564%	
36) 1,2-DCA-D4(S)	5.12	65	58119	23.22720 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.908%	
56) Toluene-D8(S)	7.34	98	318787	25.77387 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.096%	
64) 4-Bromofluorobenzene(S)	10.73	95	97537	23.85555 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.424%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

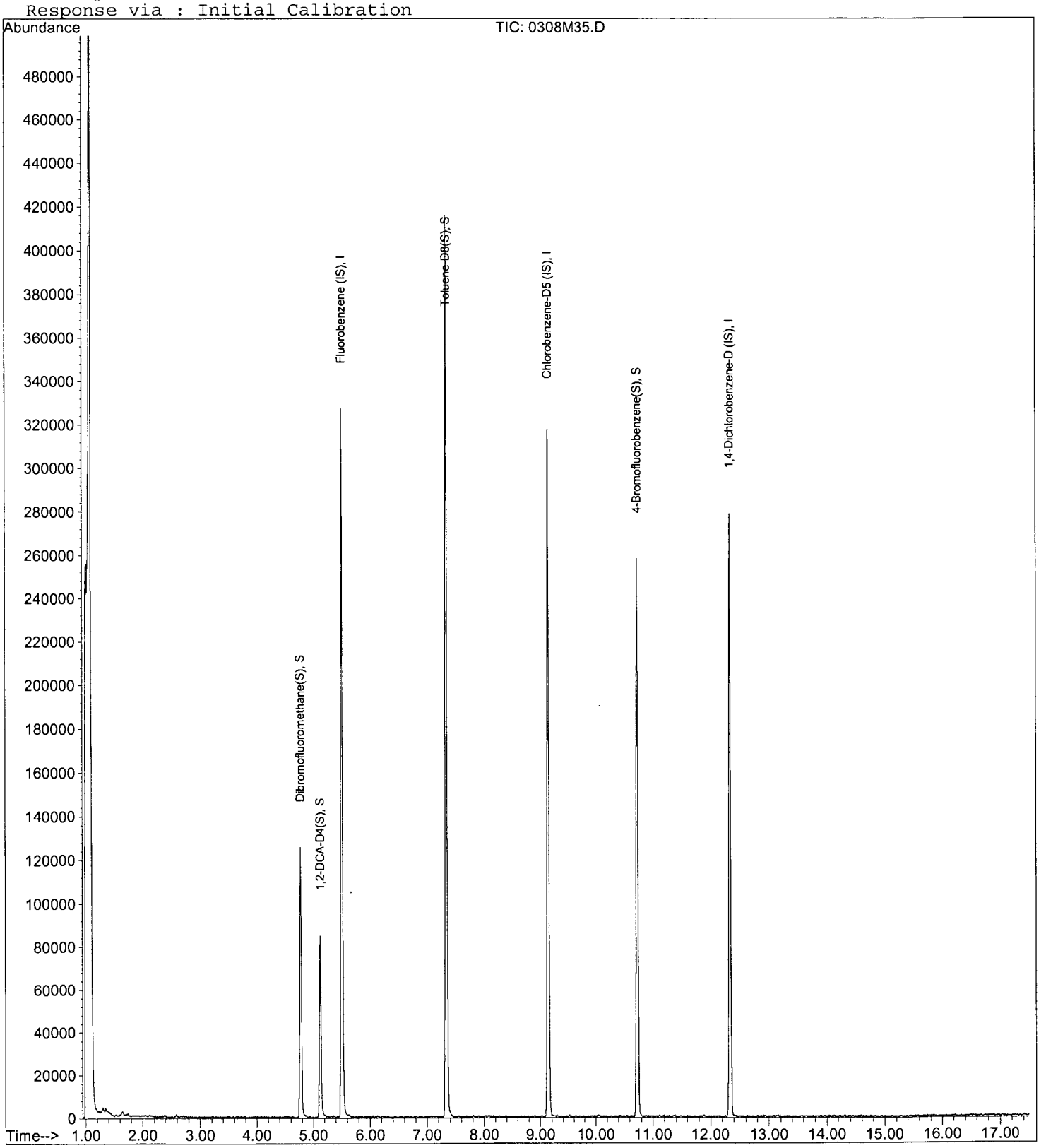
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M35.D
Acq On : 9 Mar 17 3:07
Sample : AZ51056W04
Misc : IS&S 02/23/17

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 9:24 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09 D	0308M10.D	0308M11.D	0308M12.D	0308M13.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2744	0.2878	0.2645	0.2965	0.2979	0.3049	0.3003	0.3165		0.29	5.7	TM	
3	TM	Freon 114		0.4188	0.3802	0.4212	0.3968	0.4124	0.3881	0.4302	0.4375		0.41	5.0	TM	
4	TM**	Chloromethane		0.4256	0.4378	0.4038	0.4142	0.4230	0.4029	0.4063	0.4390		0.42	3.5	TM**	
5	TM*	Vinyl chloride		0.6090	0.5726	0.5330	0.6094	0.6125	0.5996	0.6032	0.6236		0.60	4.9	TM*	
6	TM	Bromomethane		0.4498	0.4294	0.3618	0.3692	0.3535	0.4171	0.4518	0.4590		0.41	11	TM	
7	TM	Chloroethane		0.3550	0.3445	0.3126	0.3696	0.3623	0.3454	0.3524			0.35	5.2	TM	
8	TM	Dichlorofluoromethane		0.8837	0.9336	0.8582	0.9014	0.9402	0.9002	0.9362	1.013		0.92	5.1	TM	
9	TM	Trichlorofluoromethane		0.6874	0.7107	0.6874	0.7259	0.7465	0.7356	0.7560	0.8058		0.73	5.3	TM	
10	TM	Acrolein	0.0226	0.0212	0.0216	0.0209	0.0218	0.0230	0.0229	0.0232	0.0237		0.02	4.3	TM	
11	TML	Acetone			0.0224	0.0183	0.0102	0.0122	0.0094	0.0094	0.0091		0.01	40	TML	0.999
12	TM	Freon-113		0.3835	0.4580	0.4093	0.4240	0.4273	0.4075	0.4432	0.4429		0.42	5.6	TM	
13	TM*	1,1-DCE		0.6038	0.6917	0.6350	0.6662	0.6837	0.6509	0.6872	0.7042		0.67	5.1	TM*	
14	TM	Acetonitrile		0.0192	0.0191	0.0196	0.0199	0.0207	0.0208	0.0212	0.0235		0.02	7.1	TM	
15	TM	t-Butanol	0.0084	0.0065	0.0061	0.0080	0.0072	0.0074	0.0083	0.0087			0.01	12	TM	
16	TM	Methyl Acetate		0.1430	0.1423	0.1334	0.1448	0.1356	0.1492	0.1557	0.1623		0.15	6.7	TM	
17	TML	Iodomethane		0.2096	0.2478	0.2817	0.4500	0.5371	0.5556	0.5911			0.41	39	TML	0.999
18	TM	Acrylonitrile		0.0530	0.0599	0.0633	0.0739	0.0726	0.0698	0.0732	0.0760		0.07	12	TM	
19	TM	Methylene chloride		0.5048	0.4895	0.4084	0.4391	0.4385	0.4192	0.4231	0.4342		0.44	7.7	TM	
20	TM	Carbon disulfide		1.326	1.382	1.234	1.355	1.391	1.339	1.383	1.462		1.4	4.8	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.7247	0.6909	0.6542	0.7461	0.7536	0.7299	0.7441	0.7761		0.73	5.3	TM	
22	TM	Trans-1,2-DCE		0.5246	0.4628	0.4867	0.5072	0.5314	0.4987	0.5061	0.5262		0.51	4.5	TM	
23	TM	Diisopropyl Ether		1.148	1.209	1.128	1.265	1.287	1.233	1.286	1.374		1.2	6.4	TM	
24	TM**	1,1-DCA		0.7550	0.8387	0.7566	0.8322	0.8297	0.8065	0.8216	0.8652		0.81	4.8	TM**	
25	TM	Vinyl Acetate		0.1976	0.2364	0.1839	0.2067	0.2166	0.2491				0.22	11	TM	
26	TM	Ethyl tert Butyl Ether		0.8137	0.7894	0.7450	0.8160	0.8427	0.8398	0.9050	0.9773		0.84	8.5	TM	
27	TML	MEK (2-Butanone)		0.1439	0.1340	0.0784	0.1257	0.1174	0.1047	0.0964	0.0965		0.11	20	TML	0.999
28	TM	Cis-1,2-DCE		0.4416	0.5323	0.5095	0.5459	0.5442	0.5138	0.5225	0.5469		0.52	6.7	TM	
29	TM	2,2-Dichloropropane		0.4389	0.4788	0.4320	0.4841	0.5278	0.5461	0.6026			0.50	12	TM	
30	TM*	Chloroform	0.7993	0.8306	0.7646	0.7467	0.8359	0.8252	0.8025	0.8094	0.8527		0.81	4.2	TM*	
31	TM	Bromochloromethane		0.1752	0.1996	0.1891	0.2052	0.2101	0.1980	0.2018	0.2119		0.20	6.0	TM	
32	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
33	TM	1,1,1-TCA		0.6662	0.6475	0.6071	0.6893	0.7078	0.7117	0.7698	0.8339		0.70	10	TM	
34	TM	Cyclohexane		0.4263	0.4257	0.4111	0.4171	0.4299	0.4086	0.4274	0.4445		0.42	2.7	TM	
35	TM	1,1-Dichloropropene	0.6412	0.6541	0.6477	0.6150	0.6739	0.6882	0.6549	0.6701	0.6979		0.66	3.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane	1.129	1.159	1.159	1.084	1.139	1.144	1.078	1.140	1.190		1.1	3.2	TM	
37	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
38	TM	Carbon Tetrachloride		0.5051	0.4805	0.4346	0.4939	0.5445	0.5449	0.6218			0.52	12	TM	
39	TM	Tert Amyl Methyl Ether		0.6588	0.6842	0.6704	0.7347	0.7549	0.7545	0.7958	0.8715		0.74	9.6	TM	
40	TM	1,2-DCA	0.4470	0.4687	0.4295	0.4107	0.4595	0.4419	0.4199	0.4282	0.4555		0.44	4.4	TM	
41	TM	Benzene	2.030	1.877	2.004	1.882	2.020	2.012	1.911	1.966	2.085		2.0	3.7	TM	
42	TM	TCE	0.5734	0.5357	0.5541	0.5142	0.5414	0.5511	0.5223	0.5383	0.5546		0.54	3.3	TM	
43	TM	2-Pentanone	0.1268	0.1098	0.1152	0.1166	0.1216	0.1281	0.1335	0.1430			0.12	8.7	TM	
44	TM*	1,2-Dichloropropane		0.3641	0.4105	0.4079	0.4225	0.4328	0.4120	0.4241	0.4526		0.42	6.1	TM*	
45	TM	Bromodichloromethane		0.3894	0.4187	0.4006	0.4371	0.4788	0.4824	0.5047	0.5539		0.46	12	TM	
46	TM	Methyl Cyclohexane	0.7863	0.7691	0.7727	0.6807	0.7277	0.7208	0.6971	0.7298	0.7732		0.74	5.0	TM	
47	TM	Dibromomethane		0.1667	0.1578	0.1581	0.1733	0.1791	0.1729	0.1782	0.1864		0.17	5.9	TM	
48	TM	MIBK (methyl isobutyl ketone)				0.2266	0.2208	0.2002	0.1959	0.1935	0.2038		0.21	6.6	TM	
49	TM	1-Bromo-2-chloroethane		0.3862	0.3885	0.3667	0.3872	0.4087	0.4076	0.4214			0.40	4.7	TM	
50	TM	2-Chloroethyl vinyl ether													TM	
51	TM	Cis-1,3-Dichloropropene		0.3960	0.4459	0.4416	0.4933	0.5207	0.5363	0.5786			0.49	13	TM	
52	TM*	Toluene		2.231	2.298	2.088	2.323	2.347	2.200	2.275	2.482		2.3	5.1	TM*	
53	TM	Trans-1,3-Dichloropropene		0.2769	0.2759	0.2631	0.3025	0.3409	0.3646				0.30	13	TM	
54	TM	1,1,2-TCA		0.1970	0.1903	0.1908	0.2120	0.2111	0.2110	0.2060	0.2186		0.20	5.2	TM	
55	TM	2-Hexanone			0.1005	0.1065	0.1088	0.1174	0.1212	0.1259	0.1335		0.12	10	TM	
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
58	TML	1,2-EDB		0.2051	0.2191	0.2161	0.2626	0.2999	0.3176	0.3356			0.27	20	TML	0.999
59	TM	Tetrachloroethene		0.7698	0.7932	0.7468	0.8056	0.8132	0.7400	0.7391	0.7496		0.77	4.0	TM	
60	TM	1-Chlorohexane		0.9365	0.9861	0.8758	0.9048	0.9834	0.9218	0.9575	1.001		0.95	4.6	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.4181	0.4353	0.3938	0.4635	0.5137	0.5389	0.5977			0.48	15	TM	
62	TM	m&p-Xylene		1.406	1.479	1.394	1.506	1.548	1.422	1.472	1.599		1.5	4.8	TM	
63	TM	o-Xylene	1.515	1.453	1.379	1.299	1.408	1.471	1.360	1.395	1.492		1.4	4.9	TM	
64	TM	Styrene		1.938	1.817	1.875	2.111	2.222	2.061	2.164	2.384		2.1	9.2	TM	
65	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
66	TM	1,3-Dichloropropane	0.6458	0.6038	0.5957	0.5973	0.6461	0.6467	0.6046	0.6225	0.6278		0.62	3.5	TM	
67	TM	Dibromochloromethane		0.2969	0.3247	0.2929	0.3595	0.4003	0.4015				0.35	14	TM	
68	TM**	Chlorobenzene	1.993	2.013	1.927	1.910	2.035	2.066	1.924	1.970	2.043		2.0	2.9	TM**	
69	TM*	Ethylbenzene	3.454	3.682	3.543	3.434	3.770	3.836	3.525	3.630	3.867		3.6	4.4	TM*	
70	TM**	Bromoform		0.1836	0.1677	0.1609	0.1745	0.1904	0.2078	0.2354			0.19	14	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene	7.892	6.828	7.477	7.193	7.555	7.571	7.009	7.160	7.465		7.4	4.5	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6540	0.6465	0.5771	0.6578	0.6746	0.6976	0.6648	0.6855	0.7160		0.66	5.9	TM**	
74	TM	1,2,3-Trichloropropane		0.2902	0.2232	0.2149	0.2456	0.2303	0.2290	0.2238	0.2290		0.24	10	TM	
75	TM	t-1,4-Dichloro-2-Butene			0.1156	0.1320	0.1245	0.1267	0.1298	0.1491			0.13	8.6	TM	
76	TM	Bromobenzene	1.651	1.594	1.609	1.601	1.710	1.653	1.543	1.564	1.605		1.6	3.1	TM	
77	TM	n-Propylbenzene	8.776	7.704	8.562	7.924	8.447	8.408	7.817	8.143	8.657		8.3	4.7	TM	
78	TM	4-Ethyltoluene	7.228	6.981	7.039	6.866	7.404	7.433	6.909	7.138	7.634		7.2	3.7	TM	
79	TM	2-Chlorotoluene	4.910	4.748	4.767	4.557	4.854	4.866	4.459	4.598	4.789		4.7	3.3	TM	
80	TM	1,3,5-Trimethylbenzene	6.470	6.007	6.463	5.786	6.269	6.137	5.717	5.950	6.415		6.1	4.7	TM	
81	TM	4-Chlorotoluene	6.041	5.482	5.683	5.105	5.562	5.544	5.195	5.374	5.801		5.5	5.3	TM	
82	TM	Tert-Butylbenzene	5.811	5.660	5.956	5.299	5.647	5.511	5.099	5.204	5.420		5.5	5.2	TM	
83	TM	1,2,4-Trimethylbenzene	5.788	5.267	5.839	5.258	5.928	5.971	5.677	5.865	6.340		5.8	5.9	TM	
84	TM	Sec-Butylbenzene	7.291	6.959	7.493	7.033	7.480	7.445	6.887	7.166	7.656		7.3	3.7	TM	
85	TM	p-Isopropyltoluene	6.399	5.976	6.377	5.880	6.460	6.540	6.062	6.369	6.900		6.3	5.0	TM	
86	TMQ	Benzyl Chloride		0.2386	0.3344	0.3529	0.4079	0.4509	0.4975	0.6875			0.42	34	TMQ	1.000
87	TM	1,3-DCB	3.488	3.117	3.369	3.134	3.394	3.339	3.180	3.231	3.413		3.3	4.1	TM	
88	TM	1,4-DCB	3.608	3.493	3.309	3.150	3.241	3.197	2.994	3.108	3.328		3.3	5.8	TM	
89	TM	n-Butylbenzene	4.808	4.642	4.910	4.745	5.112	5.278	4.957	5.229	5.667		5.0	6.3	TM	
90	TM	1,2-DCB	2.890	2.498	2.750	2.460	2.850	2.843	2.670	2.667	2.804		2.7	5.7	TM	
91	TM	Hexachloroethane		0.5053	0.4817	0.4738	0.5112	0.5344	0.5809				0.51	7.6	TM	
92	TML	1,2-Dibromo-3-chloropropane				0.0549	0.0615	0.0639	0.0839	0.1003	0.1127		0.08	29	TML	0.998
93	TML	1,2,4-Trichlorobenzene		0.7457	0.8406	1.089	1.392	1.492	1.540				1.2	29	TML	1.000
94	TM	Hexachlorobutadiene		0.9547	0.9198	0.8863	0.9662	0.9771	0.9129	0.9312	1.035		0.95	4.9	TM	
95	TMQ	Naphthalene		0.2935	0.2530	0.3526	0.5413	0.6777	0.8346				0.49	47	TMQ	1.000
96	TMQ	1,2,3-Trichlorobenzene	0.2813	0.3493	0.4853	0.6983	0.9014	1.061					0.63	49	TMQ	1.000
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017
Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
37) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
57) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
65) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1128	0.28873 ppb		99
3) Freon 114	1.29	85	1562	0.28513 ppb		87
4) Chloromethane	1.34	50	1995	0.35687 ppb		93
5) Vinyl chloride	1.42	62	2217	0.27914 ppb		98
6) Bromomethane	1.70	94	1828	0.33302 ppb		94
7) Chloroethane	1.79	64	1634	0.35113 ppb		97
8) Dichlorofluoromethane	1.97	67	3877	0.31564 ppb		99
9) Trichlorofluoromethane	2.02	101	2846	0.29147 ppb		100
10) Acrolein	2.41	56	3014	10.12344 ppb		86
11) Acetone	2.57	58	243	0.18567 ppb		89
12) Freon-113	2.53	101	1752	0.30941 ppb		90
13) 1,1-DCE	2.50	61	2829	0.31872 ppb		97
14) Acetonitrile	2.84	41	2867	23.27452 ppb	#	73
15) t-Butanol	3.14	59	1123	11.10336 ppb	#	39
16) Methyl Acetate	2.89	43	753	0.38721 ppb	#	52
17) Iodomethane	2.65	142	761	0.98685 ppb	#	79
18) Acrylonitrile	3.23	53	238	0.26341 ppb	#	64
19) Methylene chloride	2.98	84	2142	0.36115 ppb		91
20) Carbon disulfide	2.69	76	5773	0.31847 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	2952	0.30419 ppb	#	82
22) Trans-1,2-DCE	3.25	96	2177	0.32284 ppb		95
23) Diisopropyl Ether	3.79	45	5096	0.30776 ppb		98
24) 1,1-DCA	3.66	63	3550	0.32724 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	3487	0.31076 ppb		91
27) MEK (2-Butanone)	4.31	43	395	-0.56726 ppb	#	44
28) Cis-1,2-DCE	4.26	96	2315	0.33398 ppb		81
29) 2,2-Dichloropropane	4.26	77	2215	0.33111 ppb		96
30) Chloroform	4.60	83	3199	0.29698 ppb	#	68
31) Bromochloromethane	4.50	128	751	0.28307 ppb	#	83
33) 1,1,1-TCA	4.80	97	2342	0.24931 ppb		94
34) Cyclohexane	4.86	41	2116	0.37424 ppb		92
35) 1,1-Dichloropropene	4.97	75	2566	0.29129 ppb		95
36) 2,2,4-Trimethylpentane	5.32	57	4520	0.29829 ppb		93
38) Carbon Tetrachloride	4.97	117	2008	0.29064 ppb		87
39) Tert Amyl Methyl Ether	5.36	73	2900	0.29352 ppb		94
40) 1,2-DCA	5.20	62	1789	0.30471 ppb	#	84
41) Benzene	5.19	78	8123	0.30812 ppb		93
42) TCE	5.91	95	2295	0.31694 ppb		91
43) 2-Pentanone	6.15	43	16917	10.20004 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
44)	1,2-Dichloropropane	6.15	63	1702	0.30682	ppb	#	81
45)	Bromodichloromethane	6.48	83	1516	0.24801	ppb		87
46)	Methyl Cyclohexane	6.14	83	3147	0.31891	ppb		95
47)	Dibromomethane	6.28	93	656	0.28662	ppb		88
48)	MIBK (methyl isobutyl ket	7.23	43	1155	0.41866	ppb	#	74
49)	1-Bromo-2-chloroethane	6.82	63	1383	0.26234	ppb		91
51)	Cis-1,3-Dichloropropene	7.01	75	1854	0.28508	ppb	#	86
52)	Toluene	7.41	91	9475	0.31142	ppb		89
53)	Trans-1,3-Dichloropropene	7.70	75	1334	0.32897	ppb		87
54)	1,1,2-TCA	7.90	83	795	0.29125	ppb		82
55)	2-Hexanone	8.27	43	507	0.32692	ppb	#	81
58)	1,2-EDB	8.51	107	604	0.92605	ppb	#	73
59)	Tetrachloroethene	8.09	164	2342	0.33251	ppb		93
60)	1-Chlorohexane	9.20	91	2409	0.27830	ppb	#	75
61)	1,1,1,2-Tetrachloroethane	9.29	131	1386	0.31544	ppb		84
62)	m&p-Xylene	9.51	106	7914	0.58497	ppb		82
63)	o-Xylene	10.02	106	4160	0.32032	ppb		78
64)	Styrene	10.05	104	5601	0.29547	ppb		85
66)	1,3-Dichloropropane	8.11	76	1773	0.31192	ppb		96
67)	Dibromochloromethane	8.39	129	909	0.28711	ppb		86
68)	Chlorobenzene	9.17	112	5472	0.30095	ppb		97
69)	Ethylbenzene	9.35	91	9482	0.28481	ppb		92
70)	Bromoform	10.26	173	330	0.19120	ppb	#	29
72)	Isopropylbenzene	10.55	105	10185	0.32213	ppb	#	87
73)	1,1,2,2-Tetrachloroethane	10.95	83	844	0.29559	ppb	#	75
74)	1,2,3-Trichloropropane	11.00	110	392	0.38655	ppb		86
75)	t-1,4-Dichloro-2-Butene	11.05	53	189	0.33898	ppb	#	36
76)	Bromobenzene	10.91	156	2131	0.30680	ppb		96
77)	n-Propylbenzene	11.12	91	11325	0.31831	ppb		96
78)	4-Ethyltoluene	11.28	105	9328	0.30195	ppb		95
79)	2-Chlorotoluene	11.20	91	6336	0.31156	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	8350	0.31640	ppb		98
81)	4-Chlorotoluene	11.36	91	7796	0.32762	ppb		85
82)	Tert-Butylbenzene	11.82	119	7499	0.31628	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	7469	0.30090	ppb		96
84)	Sec-Butylbenzene	12.13	105	9409	0.30096	ppb		100
85)	p-Isopropyltoluene	12.36	119	8258	0.30330	ppb		98
86)	Benzyl Chloride	12.57	91	328	0.07140	ppb	#	60
87)	1,3-DCB	12.24	146	4501	0.31744	ppb		95
88)	1,4-DCB	12.37	146	4656	0.33102	ppb		95
89)	n-Butylbenzene	12.94	91	6205	0.28628	ppb	#	91
90)	1,2-DCB	12.88	146	3730	0.31940	ppb		92
91)	Hexachloroethane	13.26	117	526	0.23764	ppb	#	69
92)	1,2-Dibromo-3-chloropropan	14.12	75	23	3.54646	ppb	#	1
93)	1,2,4-Trichlorobenzene	15.21	180	713	0.58219	ppb		95
94)	Hexachlorobutadiene	15.50	225	1504	0.36884	ppb		86
95)	Naphthalene	15.53	128	374	0.68630	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.89	180	363	0.40902	ppb	#	62

(#) = qualifier out of range (m) = manual integration

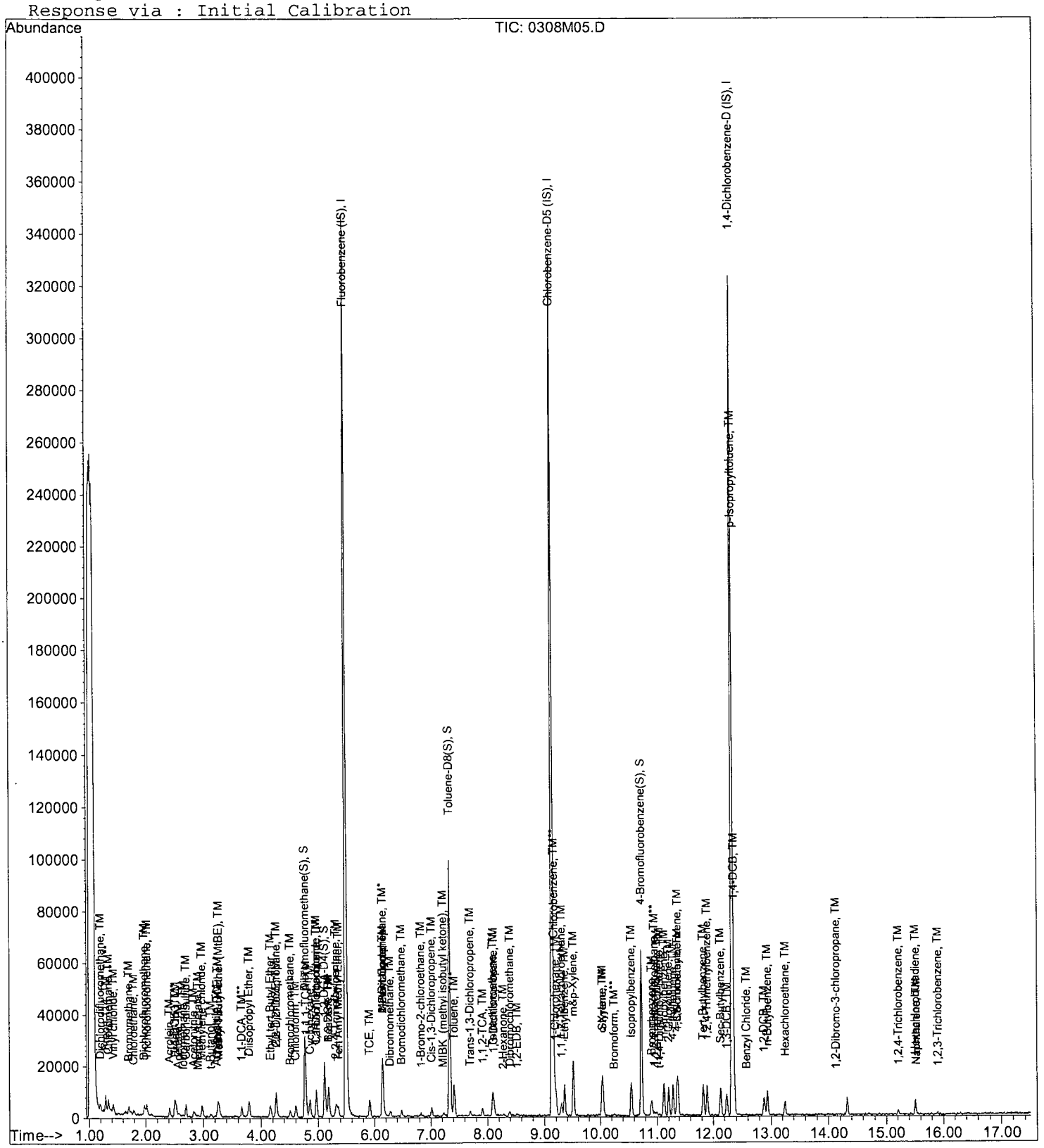
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



401

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
37) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
57) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1812	0.46854 ppb		96
3) Freon 114	1.29	85	2765	0.50987 ppb		92
4) Chloromethane	1.34	50	2810	0.50778 ppb		96
5) Vinyl chloride	1.43	62	4021	0.51144 ppb		90
6) Bromomethane	1.70	94	2970	0.54659 ppb		79
7) Chloroethane	1.79	64	2344	0.50883 ppb		92
8) Dichlorofluoromethane	1.98	67	5835	0.47988 ppb		93
9) Trichlorofluoromethane	2.03	101	4539	0.46961 ppb		85
10) Acrolein	2.41	56	6998	23.74464 ppb		99
11) Acetone	2.59	58	245	0.22348 ppb	#	1
12) Freon-113	2.53	101	2532	0.45173 ppb		89
13) 1,1-DCE	2.50	61	3987	0.45376 ppb	#	94
14) Acetonitrile	2.83	41	6323	51.85409 ppb	#	93
15) t-Butanol	3.14	59	2148	21.45436 ppb		97
16) Methyl Acetate	2.89	43	944	0.49038 ppb		97
17) Iodomethane	2.65	142	1384	1.06656 ppb	#	83
18) Acrylonitrile	3.22	53	350	0.39132 ppb	#	62
19) Methylene chloride	2.98	84	3333	0.56769 ppb		97
20) Carbon disulfide	2.69	76	8753	0.48778 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	4785	0.49811 ppb		99
22) Trans-1,2-DCE	3.25	96	3464	0.51894 ppb		88
23) Diisopropyl Ether	3.79	45	7582	0.46257 ppb	#	92
24) 1,1-DCA	3.66	63	4985	0.46421 ppb	#	92
25) Vinyl Acetate	3.75	43	1305	0.45951 ppb		91
26) Ethyl tert Butyl Ether	4.16	59	5373	0.48372 ppb		95
27) MEK (2-Butanone)	4.29	43	950	-0.12539 ppb		87
28) Cis-1,2-DCE	4.27	96	2916	0.42497 ppb		86
29) 2,2-Dichloropropane	4.26	77	2898	0.43763 ppb	#	90
30) Chloroform	4.61	83	5484	0.51430 ppb		92
31) Bromochloromethane	4.51	128	1157	0.44054 ppb		85
33) 1,1,1-TCA	4.79	97	4399	0.47306 ppb	#	86
34) Cyclohexane	4.85	41	2815	0.50295 ppb		77
35) 1,1-Dichloropropene	4.97	75	4319	0.49528 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	7654	0.51026 ppb		94
38) Carbon Tetrachloride	4.97	117	3335	0.48764 ppb		99
39) Tert Amyl Methyl Ether	5.36	73	4350	0.44477 ppb		92
40) 1,2-DCA	5.20	62	3095	0.53253 ppb		99
41) Benzene	5.19	78	12392	0.47485 ppb		93
42) TCE	5.91	95	3537	0.49344 ppb		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	36243	22.07545	ppb		94
44) 1,2-Dichloropropane	6.15	63	2404	0.43779	ppb	#	92
45) Bromodichloromethane	6.48	83	2571	0.42490	ppb		91
46) Methyl Cyclohexane	6.14	83	5078	0.51984	ppb		100
47) Dibromomethane	6.27	93	1101	0.48595	ppb		91
48) MIBK (methyl isobutyl ket	7.23	43	1391	0.50935	ppb		93
49) 1-Bromo-2-chloroethane	6.83	63	2550	0.48863	ppb		85
51) Cis-1,3-Dichloropropene	7.01	75	2615	0.40619	ppb	#	78
52) Toluene	7.42	91	14733	0.48918	ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	1828	0.45538	ppb		96
54) 1,1,2-TCA	7.91	83	1301	0.48148	ppb		86
55) 2-Hexanone	8.27	43	578	0.37651	ppb	#	84
58) 1,2-EDB	8.51	107	934	1.03398	ppb		81
59) Tetrachloroethene	8.09	164	3506	0.50011	ppb	#	72
60) 1-Chlorohexane	9.19	91	4265	0.49503	ppb		95
61) 1,1,1,2-Tetrachloroethane	9.29	131	1904	0.43537	ppb		94
62) m&p-Xylene	9.51	106	12809	0.95124	ppb		97
63) o-Xylene	10.03	106	6617	0.51190	ppb		76
64) Styrene	10.05	104	8826	0.46778	ppb		93
66) 1,3-Dichloropropane	8.11	76	2750	0.48607	ppb	#	76
67) Dibromochloromethane	8.39	129	1352	0.42904	ppb		81
68) Chlorobenzene	9.17	112	9166	0.50648	ppb		91
69) Ethylbenzene	9.35	91	16770	0.50608	ppb		99
70) Bromoform	10.25	173	836	0.48665	ppb	#	71
72) Isopropylbenzene	10.55	105	14797	0.46448	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	1401	0.48697	ppb	#	88
74) 1,2,3-Trichloropropane	10.99	110	629	0.61559	ppb	#	72
75) t-1,4-Dichloro-2-Butene	11.04	53	175	0.31151	ppb	#	36
76) Bromobenzene	10.91	156	3455	0.49368	ppb		73
77) n-Propylbenzene	11.12	91	16695	0.46571	ppb		99
78) 4-Ethyltoluene	11.29	105	15129	0.48605	ppb		100
79) 2-Chlorotoluene	11.20	91	10290	0.50219	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	13017	0.48954	ppb		95
81) 4-Chlorotoluene	11.36	91	11881	0.49553	ppb		87
82) Tert-Butylbenzene	11.82	119	12267	0.51349	ppb		94
83) 1,2,4-Trimethylbenzene	11.89	105	11415	0.45642	ppb		96
84) Sec-Butylbenzene	12.14	105	15082	0.47879	ppb		95
85) p-Isopropyltoluene	12.36	119	12951	0.47210	ppb		97
86) Benzyl Chloride	12.57	91	517	0.20130	ppb	#	60
87) 1,3-DCB	12.24	146	6756	0.47289	ppb		95
88) 1,4-DCB	12.36	146	7570	0.53415	ppb		91
89) n-Butylbenzene	12.94	91	10059	0.46061	ppb		95
90) 1,2-DCB	12.88	146	5414	0.46011	ppb	#	88
91) Hexachloroethane	13.25	117	1095	0.49100	ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	1616	0.71384	ppb	#	59
94) Hexachlorobutadiene	15.51	225	2069	0.50359	ppb		97
95) Naphthalene	15.54	128	636	0.79228	ppb	#	78
96) 1,2,3-Trichlorobenzene	15.90	180	757	0.51930	ppb	#	75

(#) = qualifier out of range (m) = manual integration

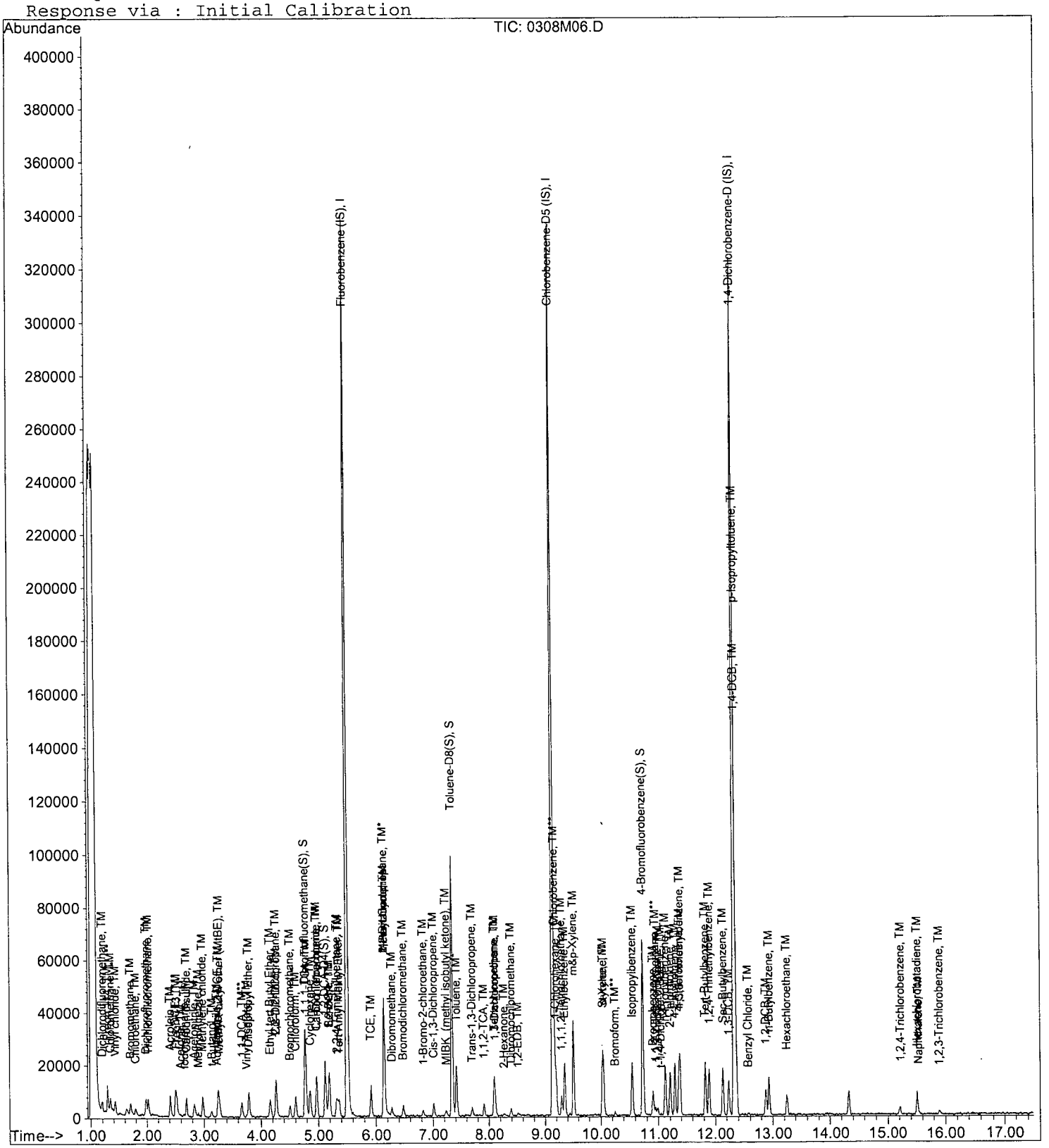
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
37) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
57) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
65) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	3641	0.98265 ppb	99
3) Freon 114	1.29	85	4811	0.92596 ppb	94
4) Chloromethane	1.34	50	5539	1.04472 ppb	89
5) Vinyl chloride	1.43	62	7245	0.96182 ppb	99
6) Bromomethane	1.70	94	5433	1.04361 ppb	95
7) Chloroethane	1.80	64	4359	0.98764 ppb	90
8) Dichlorofluoromethane	1.98	67	11812	1.01394 ppb	92
9) Trichlorofluoromethane	2.03	101	8992	0.97101 ppb	99
10) Acrolein	2.41	56	13657	48.36601 ppb	98
11) Acetone	2.56	58	283	0.65122 ppb	76
12) Freon-113	2.53	101	5795	1.07909 ppb	89
13) 1,1-DCE	2.50	61	8752	1.03964 ppb	99
14) Acetonitrile	2.83	41	12077	103.37422 ppb	91
15) t-Butanol	3.14	59	3877	40.41759 ppb #	84
16) Methyl Acetate	2.90	43	1800	0.97594 ppb	100
17) Iodomethane	2.64	142	3135	1.30521 ppb	87
18) Acrylonitrile	3.21	53	758	0.88455 ppb #	85
19) Methylene chloride	2.98	84	6193	1.10096 ppb	97
20) Carbon disulfide	2.70	76	17485	1.01701 ppb	99
21) Methyl t-butyl ether (MtBE	3.28	73	8741	0.94972 ppb #	87
22) Trans-1,2-DCE	3.25	96	5856	0.91566 ppb	92
23) Diisopropyl Ether	3.79	45	15301	0.97433 ppb	97
24) 1,1-DCA	3.67	63	10612	1.03143 ppb	93
25) Vinyl Acetate	3.75	43	2991	1.09924 ppb	92
26) Ethyl tert Butyl Ether	4.16	59	9988	0.93854 ppb	99
27) MEK (2-Butanone)	4.30	43	1696	0.52296 ppb	92
28) Cis-1,2-DCE	4.27	96	6735	1.02448 ppb	94
29) 2,2-Dichloropropane	4.26	77	6058	0.95483 ppb	98
30) Chloroform	4.61	83	9674	0.94694 ppb	97
31) Bromochloromethane	4.51	128	2526	1.00388 ppb	96
33) 1,1,1-TCA	4.79	97	8192	0.91948 ppb	96
34) Cyclohexane	4.86	41	5386	1.00440 ppb	97
35) 1,1-Dichloropropene	4.97	75	8195	0.98087 ppb	94
36) 2,2,4-Trimethylpentane	5.32	57	14666	1.02049 ppb	99
38) Carbon Tetrachloride	4.97	117	6080	0.92790 ppb	98
39) Tert Amyl Methyl Ether	5.36	73	8657	0.92387 ppb #	92
40) 1,2-DCA	5.21	62	5434	0.97588 ppb	96
41) Benzene	5.19	78	25361	1.01431 ppb	98
42) TCE	5.91	95	7011	1.02088 ppb	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	72878	46.33138 ppb		97
44) 1,2-Dichloropropane	6.15	63	5194	0.98724 ppb	#	81
45) Bromodichloromethane	6.48	83	5297	0.91370 ppb		95
46) Methyl Cyclohexane	6.14	83	9777	1.04466 ppb		87
47) Dibromomethane	6.28	93	1997	0.91998 ppb		98
48) MIBK (methyl isobutyl ket	7.23	43	3254	1.24366 ppb		93
49) 1-Bromo-2-chloroethane	6.83	63	4915	0.98302 ppb		93
51) Cis-1,3-Dichloropropene	7.02	75	5642	0.91472 ppb		94
52) Toluene	7.42	91	29081	1.00781 ppb		97
53) Trans-1,3-Dichloropropene	7.69	75	3491	0.90771 ppb		84
54) 1,1,2-TCA	7.91	83	2408	0.93014 ppb		84
55) 2-Hexanone	8.27	43	1272	0.86482 ppb	#	61
58) 1,2-EDB	8.52	107	1918	1.37822 ppb		94
59) Tetrachloroethene	8.09	164	6944	1.03055 ppb		94
60) 1-Chlorohexane	9.20	91	8633	1.04252 ppb		85
61) 1,1,1,2-Tetrachloroethane	9.29	131	3811	0.90665 ppb		95
62) m&p-Xylene	9.51	106	25899	2.00109 ppb		95
63) o-Xylene	10.03	106	12070	0.97149 ppb		97
64) Styrene	10.05	104	15904	0.87699 ppb		86
66) 1,3-Dichloropropane	8.11	76	5215	0.95902 ppb		84
67) Dibromochloromethane	8.39	129	2843	0.93865 ppb		97
68) Chlorobenzene	9.18	112	16870	0.96985 ppb		91
69) Ethylbenzene	9.35	91	31018	0.97389 ppb		96
70) Bromoform	10.25	173	1468	0.88908 ppb		94
72) Isopropylbenzene	10.55	105	30411	1.01728 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	2347	0.86936 ppb	#	97
74) 1,2,3-Trichloropropane	10.98	110	908	0.94699 ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	470	0.89157 ppb	#	65
76) Bromobenzene	10.90	156	6545	0.99662 ppb		91
77) n-Propylbenzene	11.12	91	34824	1.03522 ppb		96
78) 4-Ethyltoluene	11.29	105	28629	0.98016 ppb		96
79) 2-Chlorotoluene	11.20	91	19387	1.00829 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	26287	1.05351 ppb		91
81) 4-Chlorotoluene	11.35	91	23112	1.02725 ppb		92
82) Tert-Butylbenzene	11.82	119	24223	1.08054 ppb		93
83) 1,2,4-Trimethylbenzene	11.89	105	23748	1.01189 ppb		96
84) Sec-Butylbenzene	12.13	105	30474	1.03094 ppb		98
85) p-Isopropyltoluene	12.36	119	25938	1.00760 ppb		99
86) Benzyl Chloride	12.57	91	1360	0.83753 ppb	#	88
87) 1,3-DCB	12.24	146	13704	1.02222 ppb		99
88) 1,4-DCB	12.37	146	13460	1.01212 ppb		93
89) n-Butylbenzene	12.94	91	19968	0.97439 ppb		96
90) 1,2-DCB	12.88	146	11186	1.01308 ppb		97
91) Hexachloroethane	13.25	117	1959	0.93610 ppb	#	82
92) 1,2-Dibromo-3-chloropropan	14.00	75	230	3.98985 ppb	#	58
93) 1,2,4-Trichlorobenzene	15.21	180	3419	1.01119 ppb		97
94) Hexachlorobutadiene	15.50	225	3741	0.97035 ppb		96
95) Naphthalene	15.53	128	1029	0.97910 ppb	#	78
96) 1,2,3-Trichlorobenzene	15.89	180	1974	0.89237 ppb		82

(#) = qualifier out of range (m) = manual integration

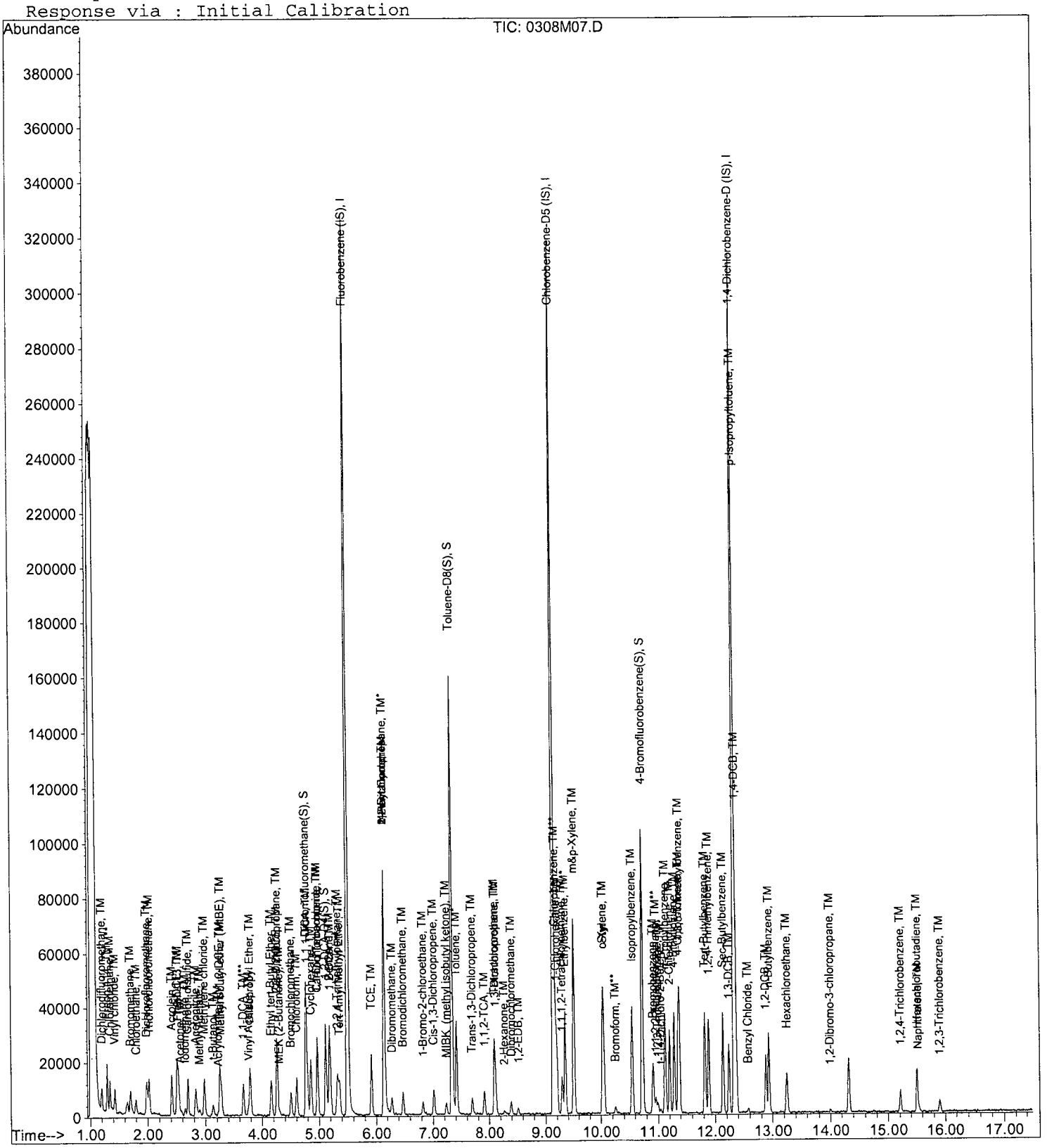
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
37) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
57) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	7130	1.80650 ppb	97
3) Freon 114	1.29	85	11352	2.05115 ppb	99
4) Chloromethane	1.34	50	10884	1.92719 ppb	93
5) Vinyl chloride	1.43	62	14367	1.79056 ppb	95
6) Bromomethane	1.69	94	9753	1.75875 ppb	92
7) Chloroethane	1.79	64	8427	1.79247 ppb	98
8) Dichlorofluoromethane	1.98	67	23131	1.86403 ppb	97
9) Trichlorofluoromethane	2.03	101	18528	1.87829 ppb	99
10) Acrolein	2.41	56	21133	70.26113 ppb	98
11) Acetone	2.57	58	494	2.25314 ppb	89
12) Freon-113	2.53	101	11032	1.92853 ppb	91
13) 1,1-DCE	2.51	61	17117	1.90885 ppb	92
14) Acetonitrile	2.82	41	19795	159.06613 ppb	96
15) t-Butanol	3.14	59	8119	79.45957 ppb	95
16) Methyl Acetate	2.90	43	3595	1.82987 ppb	93
17) Iodomethane	2.64	142	7594	1.83214 ppb	97
18) Acrylonitrile	3.22	53	1707	1.87006 ppb #	80
19) Methylene chloride	2.98	84	11009	1.83734 ppb	94
20) Carbon disulfide	2.69	76	33252	1.81571 ppb	96
21) Methyl t-butyl ether (MtBE	3.28	73	17634	1.79867 ppb	92
22) Trans-1,2-DCE	3.25	96	13119	1.92577 ppb	93
23) Diisopropyl Ether	3.79	45	30407	1.81773 ppb	96
24) 1,1-DCA	3.66	63	20393	1.86076 ppb	96
25) Vinyl Acetate	3.75	43	4958	1.71061 ppb	95
26) Ethyl tert Butyl Ether	4.16	59	20080	1.77136 ppb	100
27) MEK (2-Butanone)	4.30	43	2113	0.76031 ppb	94
28) Cis-1,2-DCE	4.26	96	13732	1.96095 ppb	98
29) 2,2-Dichloropropane	4.26	77	11643	1.72279 ppb	97
30) Chloroform	4.61	83	20128	1.84963 ppb	96
31) Bromochloromethane	4.50	128	5096	1.90128 ppb	93
33) 1,1,1-TCA	4.79	97	16365	1.72440 ppb	96
34) Cyclohexane	4.86	41	11080	1.93976 ppb	91
35) 1,1-Dichloropropene	4.97	75	16577	1.86267 ppb	96
36) 2,2,4-Trimethylpentane	5.32	57	29207	1.90789 ppb	100
38) Carbon Tetrachloride	4.97	117	11713	1.67816 ppb #	79
39) Tert Amyl Methyl Ether	5.36	73	18071	1.81048 ppb	97
40) 1,2-DCA	5.20	62	11071	1.86653 ppb	100
41) Benzene	5.19	78	50729	1.90471 ppb	97
42) TCE	5.91	95	13861	1.89477 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	117833	70.32581	ppb		98
44) 1,2-Dichloropropane	6.15	63	10996	1.96212	ppb		100
45) Bromodichloromethane	6.48	83	10799	1.74874	ppb		98
46) Methyl Cyclohexane	6.14	83	18347	1.84035	ppb		98
47) Dibromomethane	6.28	93	4261	1.84282	ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	6109	2.19190	ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	9884	1.85583	ppb		86
51) Cis-1,3-Dichloropropene	7.01	75	11904	1.81182	ppb		99
52) Toluene	7.42	91	56278	1.83095	ppb		92
53) Trans-1,3-Dichloropropene	7.70	75	7091	1.73090	ppb	#	82
54) 1,1,2-TCA	7.90	83	5144	1.86536	ppb		85
55) 2-Hexanone	8.27	43	2871	1.83248	ppb		90
58) 1,2-EDB	8.51	107	4029	2.00800	ppb		94
59) Tetrachloroethene	8.09	164	13921	1.94068	ppb		92
60) 1-Chlorohexane	9.20	91	16326	1.85193	ppb		96
61) 1,1,1,2-Tetrachloroethane	9.29	131	7340	1.64028	ppb		91
62) m&p-Xylene	9.51	106	51956	3.77087	ppb		99
63) o-Xylene	10.03	106	24216	1.83087	ppb		90
64) Styrene	10.05	104	34945	1.81007	ppb		98
66) 1,3-Dichloropropane	8.12	76	11133	1.92314	ppb		93
67) Dibromochloromethane	8.39	129	5460	1.69333	ppb		78
68) Chlorobenzene	9.17	112	35608	1.92291	ppb		99
69) Ethylbenzene	9.35	91	64013	1.88793	ppb		99
70) Bromoform	10.26	173	2999	1.70614	ppb	#	78
72) Isopropylbenzene	10.55	105	63462	1.95715	ppb		98
73) 1,1,2,2-Tetrachloroethane	10.95	83	5804	1.98205	ppb		95
74) 1,2,3-Trichloropropane	10.99	110	1896	1.82305	ppb	#	71
75) t-1,4-Dichloro-2-Butene	11.04	53	1165	2.03743	ppb		92
76) Bromobenzene	10.91	156	14130	1.98363	ppb		86
77) n-Propylbenzene	11.12	91	69919	1.91623	ppb		100
78) 4-Ethyltoluene	11.28	105	60584	1.91227	ppb		99
79) 2-Chlorotoluene	11.20	91	40206	1.92781	ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	51051	1.88627	ppb		98
81) 4-Chlorotoluene	11.35	91	45039	1.84555	ppb		96
82) Tert-Butylbenzene	11.82	119	46751	1.92266	ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	46393	1.82246	ppb		95
84) Sec-Butylbenzene	12.13	105	62057	1.93551	ppb		96
85) p-Isopropyltoluene	12.36	119	51878	1.85794	ppb		96
86) Benzyl Chloride	12.57	91	3114	1.88951	ppb		99
87) 1,3-DCB	12.24	146	27649	1.90140	ppb		98
88) 1,4-DCB	12.37	146	27796	1.92694	ppb		96
89) n-Butylbenzene	12.94	91	41864	1.88338	ppb		98
90) 1,2-DCB	12.88	146	21703	1.81212	ppb		91
91) Hexachloroethane	13.25	117	4180	1.84146	ppb		83
92) 1,2-Dibromo-3-chloropropan	13.99	75	484	4.45019	ppb	#	73
93) 1,2,4-Trichlorobenzene	15.21	180	9609	1.86138	ppb		93
94) Hexachlorobutadiene	15.50	225	7820	1.87002	ppb		88
95) Naphthalene	15.54	128	3111	1.75389	ppb		99
96) 1,2,3-Trichlorobenzene	15.89	180	6161	1.93426	ppb		88

(#) = qualifier out of range (m) = manual integration

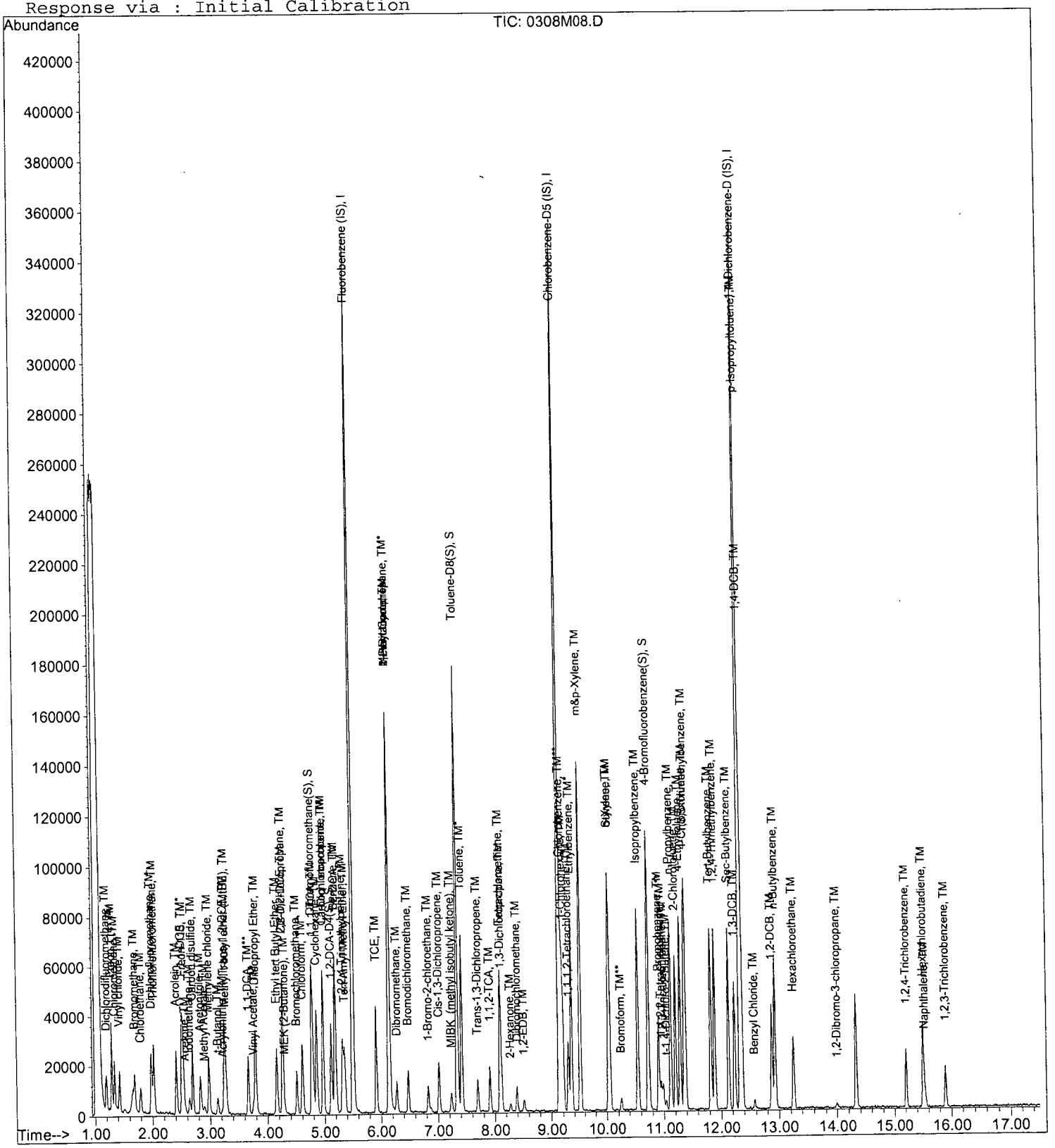
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



410

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery = 100.624%		
37) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery = 99.440%		
57) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery = 99.032%		
65) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery = 97.624%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	19696	5.06257 ppb		99
3) Freon 114	1.29	85	26358	4.83149 ppb		99
4) Chloromethane	1.34	50	27512	4.94200 ppb		93
5) Vinyl chloride	1.43	62	40477	5.11771 ppb		99
6) Bromomethane	1.69	94	24523	4.48626 ppb		96
7) Chloroethane	1.79	64	24551	5.29777 ppb		98
8) Dichlorofluoromethane	1.98	67	59875	4.89496 ppb		94
9) Trichlorofluoromethane	2.02	101	48220	4.95914 ppb		98
10) Acrolein	2.41	56	29001	97.81639 ppb		97
11) Acetone	2.57	58	676	3.84874 ppb	#	54
12) Freon-113	2.53	101	28162	4.99438 ppb		99
13) 1,1-DCE	2.50	61	44254	5.00657 ppb		100
14) Acetonitrile	2.82	41	26453	215.64621 ppb	#	95
15) t-Butanol	3.13	59	9567	94.98699 ppb		92
16) Methyl Acetate	2.90	43	9621	4.96805 ppb		99
17) Iodomethane	2.64	142	29893	4.64744 ppb		98
18) Acrylonitrile	3.21	53	4912	5.45914 ppb	#	90
19) Methylene chloride	2.98	84	29167	4.93830 ppb		96
20) Carbon disulfide	2.69	76	90024	4.98692 ppb		99
21) Methyl t-butyl ether (MtBE	3.27	73	49559	5.12825 ppb		99
22) Trans-1,2-DCE	3.25	96	33693	5.01751 ppb		98
23) Diisopropyl Ether	3.79	45	84005	5.09456 ppb		97
24) 1,1-DCA	3.66	63	55279	5.11700 ppb		99
25) Vinyl Acetate	3.75	43	13731	4.80608 ppb		94
26) Ethyl tert Butyl Ether	4.16	59	54203	4.85078 ppb		98
27) MEK (2-Butanone)	4.30	43	8352	5.68652 ppb		92
28) Cis-1,2-DCE	4.27	96	36263	5.25342 ppb		94
29) 2,2-Dichloropropane	4.26	77	32157	4.82711 ppb		94
30) Chloroform	4.61	83	55526	5.17638 ppb		100
31) Bromochloromethane	4.50	128	13632	5.15965 ppb		97
33) 1,1,1-TCA	4.79	97	45789	4.89471 ppb		97
34) Cyclohexane	4.86	41	27705	4.92052 ppb		96
35) 1,1-Dichloropropene	4.97	75	44766	5.10298 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	75632	5.01207 ppb		99
38) Carbon Tetrachloride	4.97	117	32804	4.76800 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	48800	4.95994 ppb		98
40) 1,2-DCA	5.20	62	30525	5.22093 ppb		100
41) Benzene	5.19	78	134181	5.11104 ppb		99
42) TCE	5.91	95	35961	4.98699 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	161594	97.84028 ppb		98
44) 1,2-Dichloropropane	6.15	63	28062	5.07990 ppb		96
45) Bromodichloromethane	6.48	83	29031	4.76924 ppb		96
46) Methyl Cyclohexane	6.14	83	48339	4.91902 ppb		95
47) Dibromomethane	6.27	93	11511	5.05043 ppb		94
48) MIBK (methyl isobutyl ket	7.23	43	14664	5.33763 ppb		92
49) 1-Bromo-2-chloroethane	6.82	63	25718	4.89878 ppb		91
51) Cis-1,3-Dichloropropene	7.01	75	32767	5.05946 ppb		96
52) Toluene	7.42	91	154314	5.09317 ppb		100
53) Trans-1,3-Dichloropropene	7.69	75	20093	4.97570 ppb		96
54) 1,1,2-TCA	7.91	83	14081	5.18012 ppb		90
55) 2-Hexanone	8.27	43	7225	4.67832 ppb	#	85
58) 1,2-EDB	8.51	107	12196	4.60987 ppb		98
59) Tetrachloroethene	8.09	164	37409	5.23328 ppb		99
60) 1-Chlorohexane	9.20	91	42017	4.78283 ppb		94
61) 1,1,1,2-Tetrachloroethane	9.29	131	21523	4.82657 ppb		98
62) m&p-Xylene	9.51	106	139883	10.18792 ppb		99
63) o-Xylene	10.03	106	65402	4.96204 ppb		98
64) Styrene	10.05	104	98044	5.09618 ppb		100
66) 1,3-Dichloropropane	8.11	76	30003	5.20089 ppb		97
67) Dibromochloromethane	8.39	129	16693	5.19514 ppb		99
68) Chlorobenzene	9.17	112	94496	5.12081 ppb		100
69) Ethylbenzene	9.35	91	175062	5.18112 ppb		100
70) Bromoform	10.25	173	8103	4.62592 ppb		97
72) Isopropylbenzene	10.55	105	171742	5.13966 ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	15335	5.08182 ppb		94
74) 1,2,3-Trichloropropane	10.98	110	5582	5.20833 ppb		95
75) t-1,4-Dichloro-2-Butene	11.03	53	2830	4.80276 ppb		90
76) Bromobenzene	10.90	156	38874	5.29573 ppb		91
77) n-Propylbenzene	11.12	91	191998	5.10619 ppb		97
78) 4-Ethyltoluene	11.28	105	168291	5.15465 ppb		97
79) 2-Chlorotoluene	11.20	91	110347	5.13430 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	142498	5.10922 ppb		95
81) 4-Chlorotoluene	11.35	91	126425	5.02711 ppb		97
82) Tert-Butylbenzene	11.82	119	128351	5.12223 ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	134752	5.13676 ppb		93
84) Sec-Butylbenzene	12.13	105	170020	5.14580 ppb		97
85) p-Isopropyltoluene	12.36	119	146848	5.10346 ppb		97
86) Benzyl Chloride	12.57	91	9273	5.28570 ppb		93
87) 1,3-DCB	12.24	146	77155	5.14880 ppb		99
88) 1,4-DCB	12.37	146	73669	4.95586 ppb		98
89) n-Butylbenzene	12.94	91	116193	5.07252 ppb		97
90) 1,2-DCB	12.88	146	64782	5.24891 ppb		96
91) Hexachloroethane	13.25	117	11621	4.96794 ppb		89
92) 1,2-Dibromo-3-chloropropan	13.99	75	1398	6.16302 ppb		88
93) 1,2,4-Trichlorobenzene	15.20	180	31638	4.90054 ppb		94
94) Hexachlorobutadiene	15.51	225	21963	5.09659 ppb		97
95) Naphthalene	15.54	128	12304	4.86337 ppb		96
96) 1,2,3-Trichlorobenzene	15.90	180	20490	5.05302 ppb		96

(#) = qualifier out of range (m) = manual integration

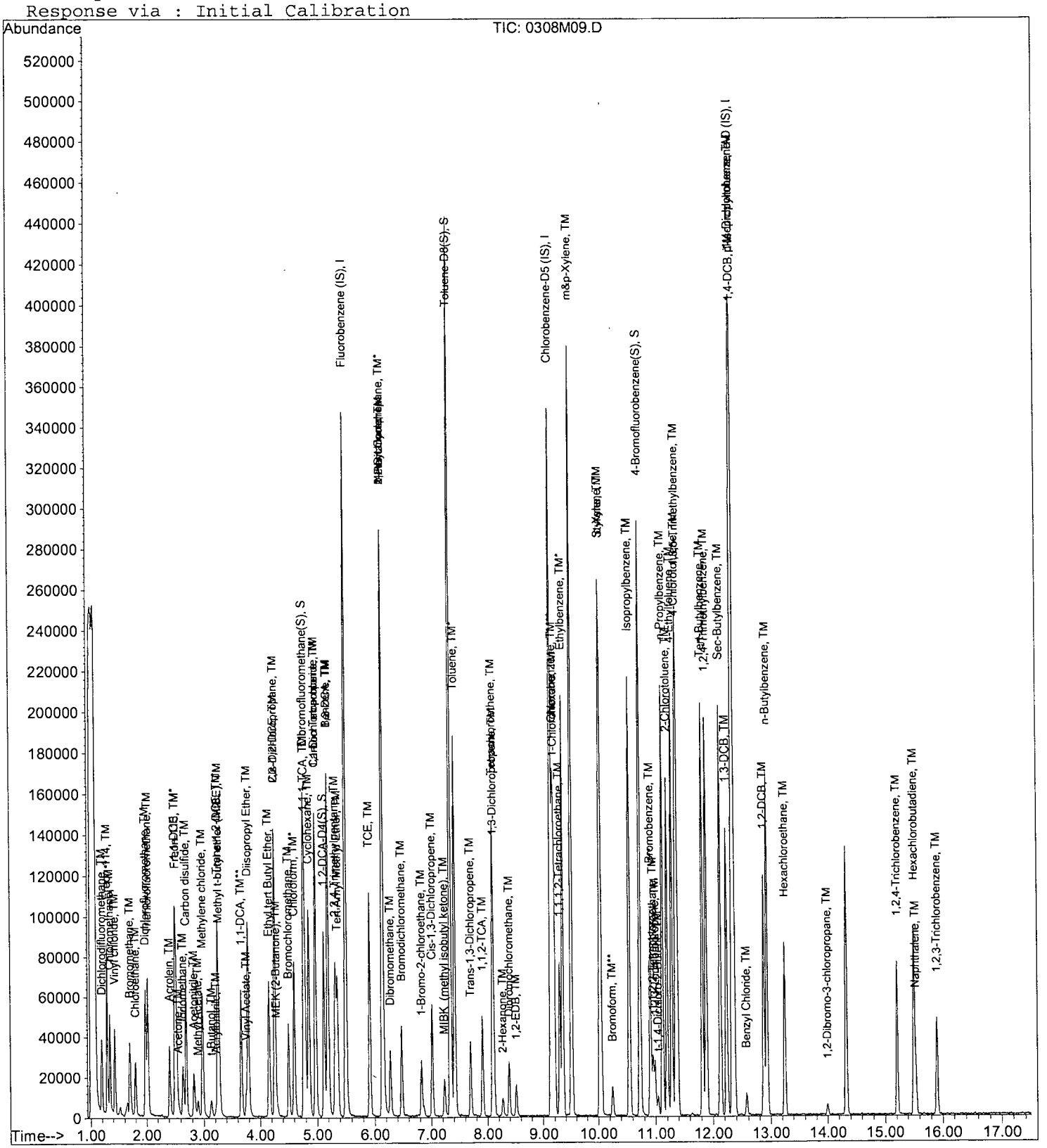
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



413

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D Vial: 9
Acq On : 8 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 3/8/17M Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
37) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
57) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
65) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	38536	10.17084 ppb	100
3) Freon 114	1.29	85	53360	10.04343 ppb	100
4) Chloromethane	1.34	50	54720	10.09309 ppb	100
5) Vinyl chloride	1.43	62	79237	10.28709 ppb	100
6) Bromomethane	1.69	94	45738	8.59183 ppb	100
7) Chloroethane	1.79	64	46870	10.38524 ppb	100
8) Dichlorofluoromethane	1.98	67	121644	10.21154 ppb	100
9) Trichlorofluoromethane	2.03	101	96578	10.19894 ppb	100
10) Acrolein	2.41	56	37177	128.75684 ppb	100
11) Acetone	2.57	58	1574	11.78426 ppb	100
12) Freon-113	2.53	101	55285	10.06752 ppb	100
13) 1,1-DCE	2.50	61	88460	10.27619 ppb	100
14) Acetonitrile	2.82	41	33552	280.85529 ppb	98
15) t-Butanol	3.14	59	11893	121.24869 ppb	100
16) Methyl Acetate	2.90	43	17540	9.30020 ppb	100
17) Iodomethane	2.64	142	69487	9.85630 ppb	100
18) Acrylonitrile	3.22	53	9397	10.72389 ppb	100
19) Methylene chloride	2.98	84	56734	9.86339 ppb	100
20) Carbon disulfide	2.69	76	180017	10.23965 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	97502	10.35994 ppb	100
22) Trans-1,2-DCE	3.25	96	68750	10.51280 ppb	100
23) Diisopropyl Ether	3.79	45	166490	10.36781 ppb	100
24) 1,1-DCA	3.66	63	107344	10.20305 ppb	100
25) Vinyl Acetate	3.75	43	28022	10.07129 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	109025	10.01870 ppb	100
27) MEK (2-Butanone)	4.30	43	15187	11.37752 ppb	100
28) Cis-1,2-DCE	4.26	96	70408	10.47364 ppb	100
29) 2,2-Dichloropropane	4.26	77	68282	10.52483 ppb	100
30) Chloroform	4.61	83	106763	10.21992 ppb	100
31) Bromochloromethane	4.51	128	27186	10.56583 ppb	100
33) 1,1,1-TCA	4.79	97	91578	10.05204 ppb	100
34) Cyclohexane	4.86	41	55624	10.14407 ppb	100
35) 1,1-Dichloropropene	4.97	75	89037	10.42182 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	148003	10.07116 ppb	100
38) Carbon Tetrachloride	4.97	117	70452	10.51478 ppb	100
39) Tert Amyl Methyl Ether	5.36	73	97669	10.19320 ppb	100
40) 1,2-DCA	5.20	62	57170	10.04055 ppb	100
41) Benzene	5.19	78	260293	10.18071 ppb	100
42) TCE	5.91	95	71302	10.15326 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	207103	128.75858	ppb	100
44)	1,2-Dichloropropane	6.15	63	55997	10.40875	ppb	100
45)	Bromodichloromethane	6.48	83	61944	10.44923	ppb	100
46)	Methyl Cyclohexane	6.14	83	93252	9.74398	ppb	100
47)	Dibromomethane	6.27	93	23174	10.44031	ppb	100
48)	MIBK (methyl isobutyl ket	7.23	43	25905	9.68227	ppb	100
49)	1-Bromo-2-chloroethane	6.83	63	52872	10.34127	ppb	100
51)	Cis-1,3-Dichloropropene	7.02	75	67363	10.68037	ppb	100
52)	Toluene	7.42	91	303587	10.28876	ppb	100
53)	Trans-1,3-Dichloropropene	7.70	75	44108	11.21563	ppb	100
54)	1,1,2-TCA	7.91	83	27309	10.31595	ppb	100
55)	2-Hexanone	8.27	43	15184	10.09567	ppb	100
58)	1,2-EDB	8.51	107	26864	9.58843	ppb	100
59)	Tetrachloroethene	8.09	164	72854	10.56589	ppb	100
60)	1-Chlorohexane	9.20	91	88106	10.39730	ppb	100
61)	1,1,1,2-Tetrachloroethane	9.29	131	46021	10.69909	ppb	100
62)	m&p-Xylene	9.51	106	277320	20.93906	ppb	100
63)	o-Xylene	10.03	106	131825	10.36866	ppb	100
64)	Styrene	10.05	104	199022	10.72458	ppb	100
66)	1,3-Dichloropropane	8.12	76	57935	10.41140	ppb	100
67)	Dibromochloromethane	8.39	129	35866	11.57181	ppb	100
68)	Chlorobenzene	9.17	112	185119	10.39995	ppb	100
69)	Ethylbenzene	9.35	91	343652	10.54402	ppb	100
70)	Bromoform	10.25	173	17056	10.09450	ppb	100
72)	Isopropylbenzene	10.55	105	343300	10.30073	ppb	100
73)	1,1,2,2-Tetrachloroethane	10.95	83	31632	10.50989	ppb	100
74)	1,2,3-Trichloropropane	10.99	110	10443	9.76945	ppb	100
75)	t-1,4-Dichloro-2-Butene	11.04	53	5745	9.77531	ppb	100
76)	Bromobenzene	10.91	156	74945	10.23637	ppb	100
77)	n-Propylbenzene	11.12	91	381263	10.16627	ppb	100
78)	4-Ethyltoluene	11.28	105	337049	10.35064	ppb	100
79)	2-Chlorotoluene	11.20	91	220636	10.29280	ppb	100
80)	1,3,5-Trimethylbenzene	11.38	105	278268	10.00336	ppb	100
81)	4-Chlorotoluene	11.36	91	251363	10.02128	ppb	100
82)	Tert-Butylbenzene	11.82	119	249876	9.99818	ppb	100
83)	1,2,4-Trimethylbenzene	11.89	105	270745	10.34786	ppb	100
84)	Sec-Butylbenzene	12.13	105	337560	10.24331	ppb	100
85)	p-Isopropyltoluene	12.36	119	296542	10.33283	ppb	100
86)	Benzyl Chloride	12.57	91	20444	10.54093	ppb	100
87)	1,3-DCB	12.24	146	151408	10.13042	ppb	100
88)	1,4-DCB	12.37	146	144958	9.77717	ppb	100
89)	n-Butylbenzene	12.94	91	239309	10.47465	ppb	100
90)	1,2-DCB	12.88	146	128889	10.47049	ppb	100
91)	Hexachloroethane	13.25	117	24230	10.38539	ppb	100
92)	1,2-Dibromo-3-chloropropan	13.99	75	2896	9.03081	ppb	100
93)	1,2,4-Trichlorobenzene	15.21	180	67649	9.96047	ppb	100
94)	Hexachlorobutadiene	15.51	225	44303	10.30760	ppb	100
95)	Naphthalene	15.54	128	30728	10.12963	ppb	100
96)	1,2,3-Trichlorobenzene	15.90	180	48097	9.99186	ppb	100

(#) = qualifier out of range (m) = manual integration

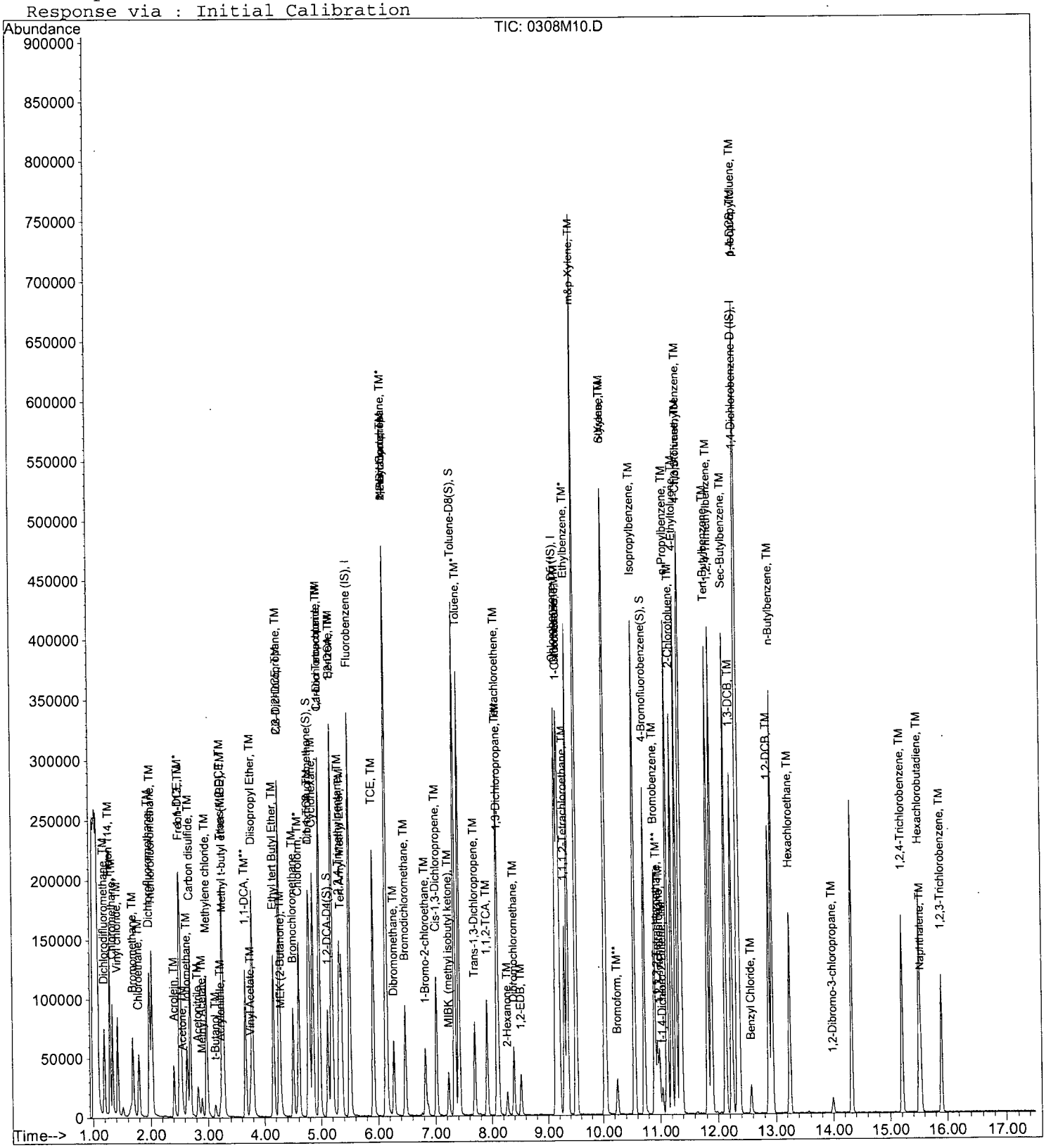
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



416

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
37) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
57) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	82536	20.82571 ppb	99
3) Freon 114	1.29	85	105039	18.90092 ppb	95
4) Chloromethane	1.34	50	109040	19.22781 ppb	96
5) Vinyl chloride	1.43	62	162282	20.14192 ppb	97
6) Bromomethane	1.69	94	112904	20.27607 ppb	98
7) Chloroethane	1.79	64	93486	19.80315 ppb	97
8) Dichlorofluoromethane	1.98	67	243658	19.55453 ppb	98
9) Trichlorofluoromethane	2.02	101	199107	20.10155 ppb	97
10) Acrolein	2.41	56	46391	153.60164 ppb	96
11) Acetone	2.56	58	2546	19.23758 ppb	74
12) Freon-113	2.53	101	110286	19.20002 ppb	99
13) 1,1-DCE	2.50	61	176159	19.56393 ppb	99
14) Acetonitrile	2.82	41	42213	337.81318 ppb	98
15) t-Butanol	3.14	59	16936	165.06791 ppb	96
16) Methyl Acetate	2.90	43	40381	20.46945 ppb	97
17) Iodomethane	2.64	142	150365	19.43735 ppb	100
18) Acrylonitrile	3.21	53	18882	20.60047 ppb #	92
19) Methylene chloride	2.98	84	113454	18.85683 ppb	97
20) Carbon disulfide	2.69	76	362330	19.70344 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	197541	20.06628 ppb	99
22) Trans-1,2-DCE	3.25	96	134967	19.73057 ppb	96
23) Diisopropyl Ether	3.79	45	333748	19.86936 ppb	100
24) 1,1-DCA	3.66	63	218288	19.83573 ppb	97
25) Vinyl Acetate	3.75	43	67410	23.16202 ppb	99
26) Ethyl tert Butyl Ether	4.16	59	227306	19.96929 ppb	94
27) MEK (2-Butanone)	4.30	43	28339	20.98374 ppb	96
28) Cis-1,2-DCE	4.26	96	139061	19.77640 ppb	97
29) 2,2-Dichloropropane	4.26	77	147798	21.77929 ppb	100
30) Chloroform	4.61	83	217210	19.87800 ppb	96
31) Bromochloromethane	4.50	128	53602	19.91615 ppb	98
33) 1,1,1-TCA	4.79	97	192630	20.21403 ppb	98
34) Cyclohexane	4.86	41	110588	19.28076 ppb	99
35) 1,1-Dichloropropene	4.97	75	177262	19.83603 ppb	98
36) 2,2,4-Trimethylpentane	5.32	57	291841	18.98548 ppb	99
38) Carbon Tetrachloride	4.97	117	147477	21.04249 ppb	94
39) Tert Amyl Methyl Ether	5.36	73	204211	20.37508 ppb	98
40) 1,2-DCA	5.20	62	113636	19.07970 ppb	98
41) Benzene	5.19	78	517130	19.33666 ppb	99
42) TCE	5.91	95	141353	19.24311 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) 2-Pentanone	6.14	43	270975	161.05907	ppb	97
44) 1,2-Dichloropropane	6.15	63	111509	19.81572	ppb	97
45) Bromodichloromethane	6.48	83	130578	21.05819	ppb	99
46) Methyl Cyclohexane	6.14	83	188675	18.84772	ppb	93
47) Dibromomethane	6.28	93	46792	20.15348	ppb	93
48) MIBK (methyl isobutyl ket	7.23	43	53010	18.94163	ppb	95
49) 1-Bromo-2-chloroethane	6.83	63	110325	20.62948	ppb	91
51) Cis-1,3-Dichloropropene	7.01	75	145159	22.00265	ppb	94
52) Toluene	7.42	91	595547	19.29577	ppb	98
53) Trans-1,3-Dichloropropene	7.70	75	98676	23.98745	ppb	96
54) 1,1,2-TCA	7.91	83	57122	20.62876	ppb	94
55) 2-Hexanone	8.27	43	32801	20.84982	ppb	95
58) 1,2-EDB	8.51	107	61003	19.49274	ppb	97
59) Tetrachloroethene	8.09	164	142137	19.22858	ppb	96
60) 1-Chlorohexane	9.20	91	177057	19.49016	ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	103520	22.44927	ppb	99
62) m&p-Xylene	9.51	106	546456	38.48737	ppb	98
63) o-Xylene	10.03	106	261203	19.16418	ppb	99
64) Styrene	10.05	104	395903	19.90010	ppb	100
66) 1,3-Dichloropropane	8.11	76	116126	19.46636	ppb	99
67) Dibromochloromethane	8.39	129	77114	23.20805	ppb	94
68) Chlorobenzene	9.17	112	369605	19.36892	ppb	98
69) Ethylbenzene	9.35	91	677197	19.38160	ppb	98
70) Bromoform	10.25	173	39915	22.03591	ppb	99
72) Isopropylbenzene	10.55	105	684017	19.07216	ppb	99
73) 1,1,2,2-Tetrachloroethane	10.95	83	64879	20.03154	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	22347	19.42687	ppb	95
75) t-1,4-Dichloro-2-Butene	11.04	53	12666	20.02713	ppb	98
76) Bromobenzene	10.91	156	150596	19.11417	ppb	99
77) n-Propylbenzene	11.12	91	762837	18.90198	ppb	98
78) 4-Ethyltoluene	11.28	105	674284	19.24225	ppb	98
79) 2-Chlorotoluene	11.20	91	435112	18.86239	ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	557956	18.63893	ppb	99
81) 4-Chlorotoluene	11.35	91	506971	18.78208	ppb	98
82) Tert-Butylbenzene	11.82	119	497598	18.50179	ppb	99
83) 1,2,4-Trimethylbenzene	11.89	105	554034	19.67728	ppb	98
84) Sec-Butylbenzene	12.13	105	672062	18.95123	ppb	99
85) p-Isopropyltoluene	12.36	119	591623	19.15652	ppb	99
86) Benzyl Chloride	12.57	91	48553	19.64493	ppb	96
87) 1,3-DCB	12.24	146	310354	19.29632	ppb	98
88) 1,4-DCB	12.37	146	292154	18.31139	ppb	99
89) n-Butylbenzene	12.94	91	483760	19.67655	ppb	100
90) 1,2-DCB	12.88	146	260576	19.67090	ppb	99
91) Hexachloroethane	13.25	117	56694	22.58110	ppb	94
92) 1,2-Dibromo-3-chloropropan	13.99	75	8186	18.02756	ppb	92
93) 1,2,4-Trichlorobenzene	15.21	180	150268	20.05259	ppb	98
94) Hexachlorobutadiene	15.51	225	89094	19.26246	ppb	97
95) Naphthalene	15.54	128	81448	19.98249	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	109392	17.37893	ppb	100

(#) = qualifier out of range (m) = manual integration

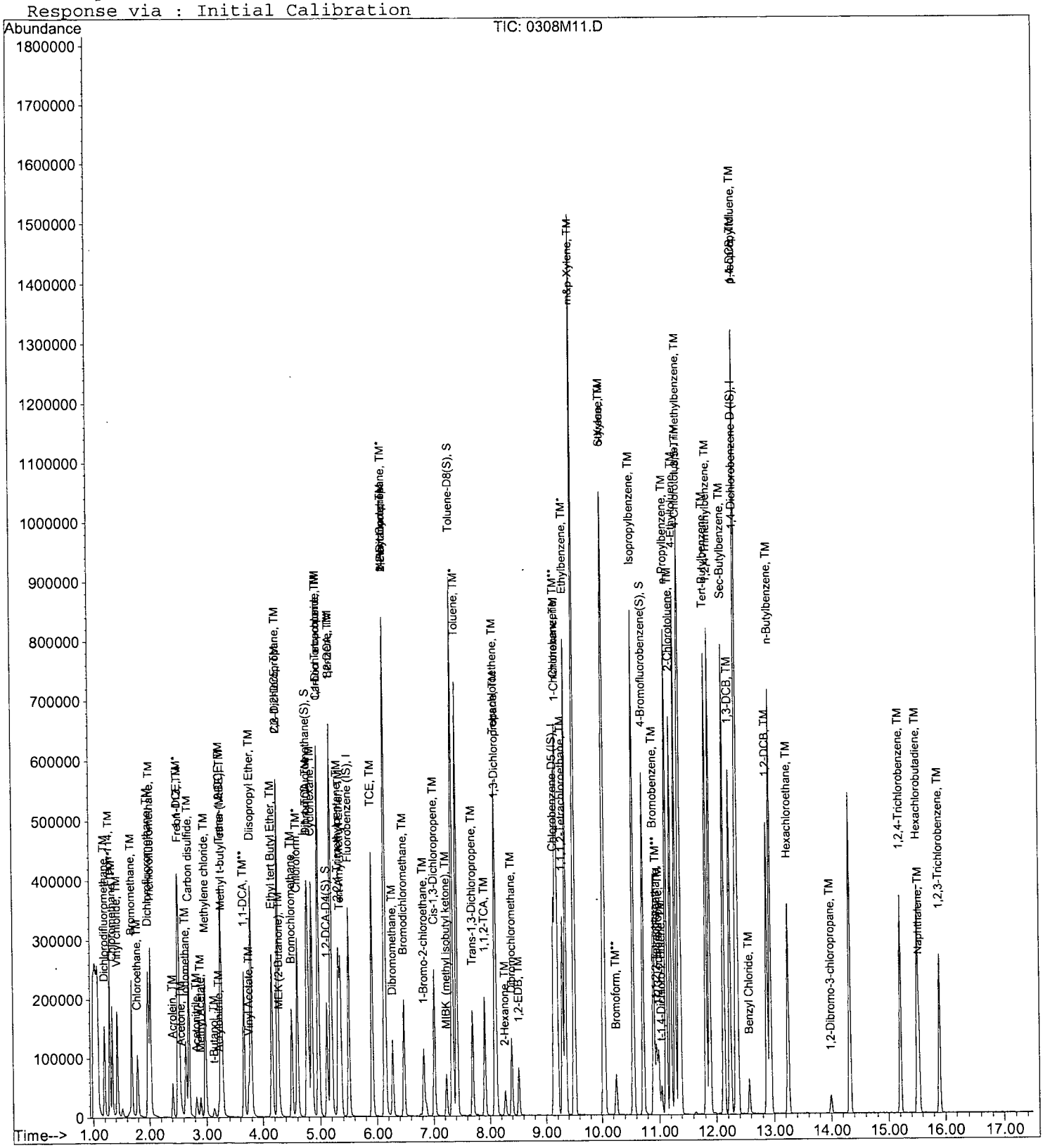
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



419

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
37) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
57) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
65) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	160128	41.01765 ppb		99
3) Freon 114	1.29	85	229384	41.90276 ppb		98
4) Chloromethane	1.34	50	216631	38.78035 ppb		97
5) Vinyl chloride	1.43	62	321641	40.52742 ppb		99
6) Bromomethane	1.69	94	240925	43.92416 ppb		98
7) Chloroethane	1.78	64	187907	40.40897 ppb		99
8) Dichlorofluoromethane	1.98	67	499178	40.66953 ppb		100
9) Trichlorofluoromethane	2.02	101	403115	41.31608 ppb		96
10) Acrolein	2.41	56	54202	182.18998 ppb		98
11) Acetone	2.57	58	5015	40.32503 ppb	#	60
12) Freon-113	2.52	101	236325	41.76746 ppb		96
13) 1,1-DCE	2.50	61	366446	41.31505 ppb		99
14) Acetonitrile	2.82	41	49440	401.65751 ppb		98
15) t-Butanol	3.14	59	20222	200.08889 ppb	#	90
16) Methyl Acetate	2.89	43	83027	42.72632 ppb		99
17) Iodomethane	2.63	142	315174	40.35500 ppb		99
18) Acrylonitrile	3.21	53	39046	43.24669 ppb	#	93
19) Methylene chloride	2.97	84	225581	38.06259 ppb		99
20) Carbon disulfide	2.69	76	737216	40.69862 ppb		100
21) Methyl t-butyl ether (MtBE	3.27	73	396779	40.91716 ppb		100
22) Trans-1,2-DCE	3.25	96	269880	40.05251 ppb		99
23) Diisopropyl Ether	3.79	45	685512	41.43118 ppb		98
24) 1,1-DCA	3.66	63	438099	40.41454 ppb		99
25) Vinyl Acetate	3.75	43	152885	53.32907 ppb		98
26) Ethyl tert Butyl Ether	4.16	59	482569	43.03860 ppb		97
27) MEK (2-Butanone)	4.29	43	51412	39.38413 ppb		95
28) Cis-1,2-DCE	4.26	96	278622	40.22578 ppb		97
29) 2,2-Dichloropropane	4.26	77	321304	48.06604 ppb		98
30) Chloroform	4.60	83	431609	40.09871 ppb		99
31) Bromochloromethane	4.50	128	107612	40.59122 ppb		96
33) 1,1,1-TCA	4.79	97	410471	43.72790 ppb		97
34) Cyclohexane	4.86	41	227909	40.33896 ppb		98
35) 1,1-Dichloropropene	4.97	75	357325	40.59286 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	608071	40.15842 ppb		99
38) Carbon Tetrachloride	4.97	117	331527	48.02184 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	424338	42.98126 ppb		94
40) 1,2-DCA	5.20	62	228317	38.91713 ppb		100
41) Benzene	5.19	78	1048073	39.78508 ppb		98
42) TCE	5.91	95	287026	39.66783 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	333666	201.33300 ppb		95
44) 1,2-Dichloropropane	6.15	63	226140	40.79665 ppb		95
45) Bromodichloromethane	6.48	83	269125	44.06077 ppb		98
46) Methyl Cyclohexane	6.14	83	389155	39.46519 ppb		92
47) Dibromomethane	6.28	93	95006	41.54096 ppb		97
48) MIBK (methyl isobutyl ket	7.23	43	103159	37.42087 ppb		95
49) 1-Bromo-2-chloroethane	6.82	63	224717	42.65768 ppb		94
51) Cis-1,3-Dichloropropene	7.01	75	308535	47.47692 ppb		96
52) Toluene	7.42	91	1213140	39.90286 ppb		99
53) Trans-1,3-Dichloropropene	7.69	75	222031	54.79403 ppb		96
54) 1,1,2-TCA	7.91	83	109838	40.26887 ppb		93
55) 2-Hexanone	8.27	43	67133	43.32098 ppb		95
58) 1,2-EDB	8.51	107	127578	40.38876 ppb		98
59) Tetrachloroethene	8.09	164	280935	38.41292 ppb		99
60) 1-Chlorohexane	9.20	91	363948	40.49236 ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	227168	49.79166 ppb		99
62) m&p-Xylene	9.51	106	1119123	79.66588 ppb		98
63) o-Xylene	10.03	106	530105	39.31022 ppb		99
64) Styrene	10.05	104	822689	41.79589 ppb		100
66) 1,3-Dichloropropane	8.11	76	236614	40.08918 ppb		99
67) Dibromochloromethane	8.39	129	169501	51.55957 ppb		91
68) Chlorobenzene	9.17	112	748821	39.66222 ppb		98
69) Ethylbenzene	9.35	91	1379859	39.91542 ppb		99
70) Bromoform	10.25	173	89473	49.92502 ppb		97
72) Isopropylbenzene	10.55	105	1394640	38.96697 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	133522	41.31091 ppb		95
74) 1,2,3-Trichloropropane	10.99	110	43583	37.96665 ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	29039	46.01109 ppb	#	80
76) Bromobenzene	10.91	156	304679	38.75129 ppb		96
77) n-Propylbenzene	11.12	91	1586120	39.38340 ppb		99
78) 4-Ethyltoluene	11.29	105	1390370	39.75987 ppb		97
79) 2-Chlorotoluene	11.20	91	895508	38.90154 ppb		100
80) 1,3,5-Trimethylbenzene	11.38	105	1158897	38.79427 ppb		98
81) 4-Chlorotoluene	11.36	91	1046787	38.86160 ppb		99
82) Tert-Butylbenzene	11.82	119	1013596	37.76605 ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	1142256	40.65311 ppb		99
84) Sec-Butylbenzene	12.14	105	1395739	39.43972 ppb		99
85) p-Isopropyltoluene	12.36	119	1240518	40.25096 ppb		100
86) Benzyl Chloride	12.57	91	133909	40.03984 ppb		97
87) 1,3-DCB	12.24	146	629318	39.20928 ppb		99
88) 1,4-DCB	12.37	146	605287	38.01653 ppb		99
89) n-Butylbenzene	12.94	91	1018528	41.51391 ppb		99
90) 1,2-DCB	12.88	146	519552	39.30253 ppb		99
91) Hexachloroethane	13.25	117	140867	56.22363 ppb		97
92) 1,2-Dibromo-3-chloropropan	13.99	75	19535	38.24028 ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	324344	42.81768 ppb		97
94) Hexachlorobutadiene	15.51	225	181372	39.29480 ppb		96
95) Naphthalene	15.54	128	185280	35.29479 ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	241088	29.78847 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

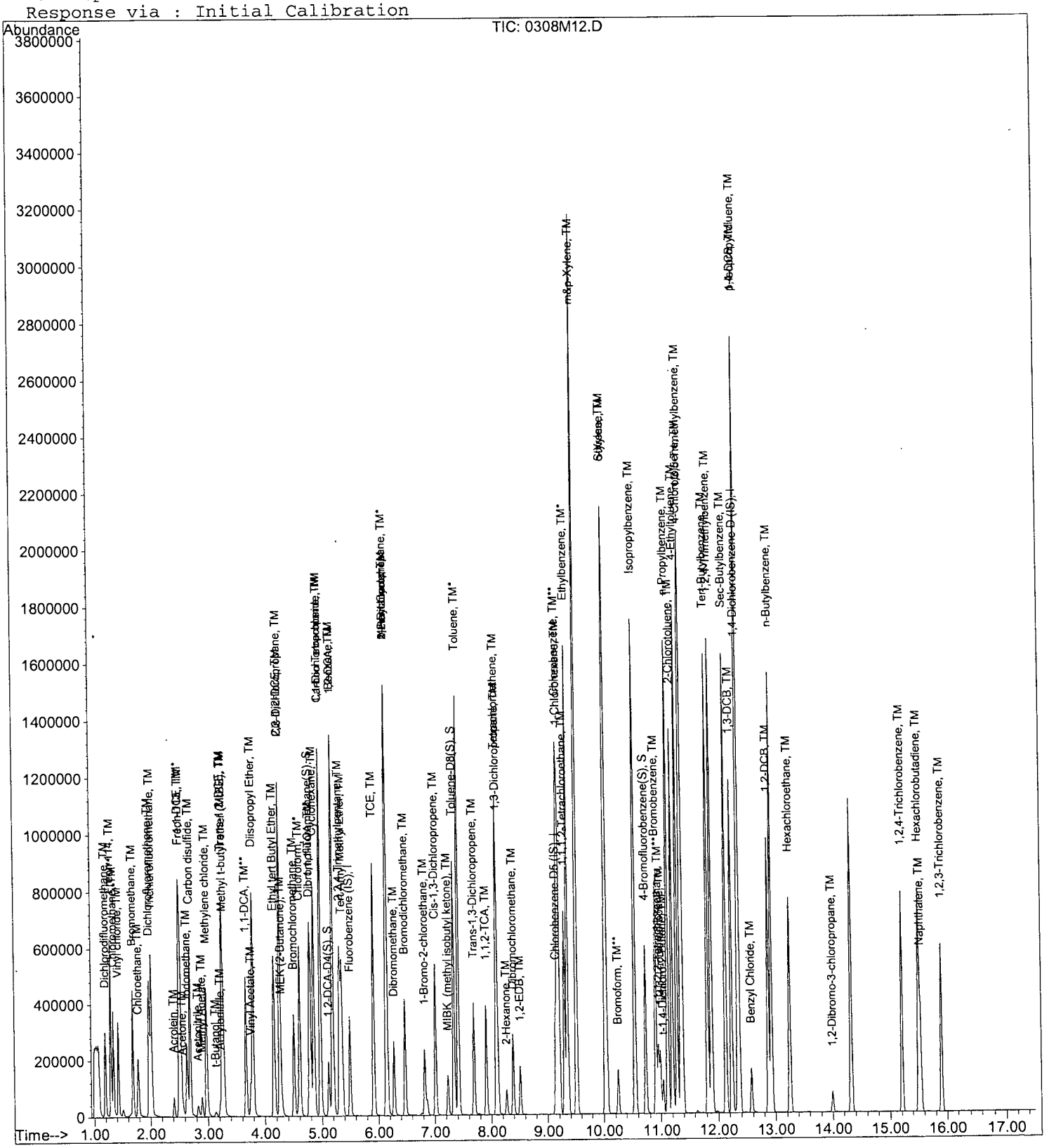
Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



422

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
37) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
57) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
65) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	406656	108.06985 ppb		99
3) Freon 114	1.29	85	562201	106.54791 ppb		99
4) Chloromethane	1.34	50	564019	104.75113 ppb		96
5) Vinyl chloride	1.43	62	801310	104.74951 ppb		98
6) Bromomethane	1.68	94	589757	111.54973 ppb		98
7) Chloroethane	1.77	64	673195	150.19296 ppb		98
8) Dichlorofluoromethane	1.97	67	1300985	109.96637 ppb		98
9) Trichlorofluoromethane	2.01	101	1035374	110.09339 ppb		98
10) Acrolein	2.41	56	60817	212.08406 ppb		90
11) Acetone	2.57	58	11661	99.90003 ppb	#	65
12) Freon-113	2.52	101	569035	104.33769 ppb		96
13) 1,1-DCE	2.50	61	904864	105.84138 ppb		99
14) Acetonitrile	2.83	41	60471	509.68098 ppb		99
15) t-Butanol	3.15	59	27346	280.71559 ppb		97
16) Methyl Acetate	2.90	43	208491	111.31079 ppb		99
17) Iodomethane	2.63	142	815411	106.81559 ppb		98
18) Acrylonitrile	3.22	53	97677	112.23865 ppb	#	94
19) Methylene chloride	2.97	84	557876	97.65790 ppb		96
20) Carbon disulfide	2.69	76	1877954	107.55824 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	997179	106.68510 ppb		98
22) Trans-1,2-DCE	3.25	96	676073	104.09420 ppb		99
23) Diisopropyl Ether	3.79	45	1765022	110.67160 ppb		99
24) 1,1-DCA	3.66	63	1111654	106.39199 ppb		98
25) Vinyl Acetate	3.75	43	466056	168.65961 ppb		97
26) Ethyl tert Butyl Ether	4.16	59	1255702	116.18743 ppb		95
27) MEK (2-Butanone)	4.30	43	124055	99.91021 ppb		93
28) Cis-1,2-DCE	4.26	96	702743	105.25904 ppb		95
29) 2,2-Dichloropropane	4.26	77	887004	137.66441 ppb		99
30) Chloroform	4.60	83	1095662	105.60643 ppb		99
31) Bromochloromethane	4.50	128	272224	106.52993 ppb		99
33) 1,1,1-TCA	4.79	97	1071428	118.41670 ppb		97
34) Cyclohexane	4.86	41	571159	104.88033 ppb		99
35) 1,1-Dichloropropene	4.97	75	896738	105.68799 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	1529522	104.79773 ppb		98
38) Carbon Tetrachloride	4.97	117	902697	135.65498 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	1119806	117.67490 ppb	#	91
40) 1,2-DCA	5.20	62	585241	103.49305 ppb		99
41) Benzene	5.19	78	2678437	105.48337 ppb		98
42) TCE	5.91	95	712662	102.18205 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	418965	262.27361	ppb	92
44) 1,2-Dichloropropane	6.15	63	581609	108.85592	ppb	95
45) Bromodichloromethane	6.48	83	711756	120.89353	ppb	100
46) Methyl Cyclohexane	6.14	83	993474	104.52541	ppb	95
47) Dibromomethane	6.28	93	239489	108.63879	ppb	96
48) MIBK (methyl isobutyl ket	7.23	43	261915	98.56913	ppb	93
49) 1-Bromo-2-chloroethane	6.82	63	579550	114.13691	ppb	94
51) Cis-1,3-Dichloropropene	7.01	75	817057	130.43807	ppb	96
52) Toluene	7.42	91	3189759	108.84910	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	607645	155.57629	ppb	98
54) 1,1,2-TCA	7.91	83	280906	106.84437	ppb	96
55) 2-Hexanone	8.27	43	171506	114.81942	ppb	95
58) 1,2-EDB	8.51	107	332321	104.76805	ppb	95
59) Tetrachloroethene	8.09	164	707231	97.38930	ppb	99
60) 1-Chlorohexane	9.20	91	944519	105.83344	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.29	131	628350	138.70418	ppb	96
62) m&p-Xylene	9.51	106	3017730	216.34827	ppb	95
63) o-Xylene	10.03	106	1407682	105.12998	ppb	94
64) Styrene	10.05	104	2249213	115.08189	ppb	99
66) 1,3-Dichloropropane	8.11	76	592302	101.06677	ppb	99
67) Dibromochloromethane	8.39	129	469876	143.94572	ppb	95
68) Chlorobenzene	9.17	112	1927952	102.84276	ppb	97
69) Ethylbenzene	9.35	91	3648904	106.30334	ppb	97
70) Bromoform	10.25	173	265551	149.22883	ppb	99
72) Isopropylbenzene	10.55	105	3763658	101.56516	ppb	98
73) 1,1,2,2-Tetrachloroethane	10.96	83	360976	107.86742	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	115429	97.11810	ppb	98
75) t-1,4-Dichloro-2-Butene	11.04	53	85546	130.91235	ppb	83
76) Bromobenzene	10.91	156	809384	99.42561	ppb	97
77) n-Propylbenzene	11.12	91	4364476	104.66689	ppb	98
78) 4-Ethyltoluene	11.29	105	3848783	106.30118	ppb	95
79) 2-Chlorotoluene	11.20	91	2414645	101.30963	ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	3234072	104.56166	ppb	96
81) 4-Chlorotoluene	11.36	91	2924658	104.86667	ppb	97
82) Tert-Butylbenzene	11.82	119	2732669	98.33854	ppb	98
83) 1,2,4-Trimethylbenzene	11.90	105	3196357	109.87164	ppb	98
84) Sec-Butylbenzene	12.14	105	3860121	105.34904	ppb	99
85) p-Isopropyltoluene	12.36	119	3478678	109.01530	ppb	99
86) Benzyl Chloride	12.57	91	461920	84.59637	ppb	97
87) 1,3-DCB	12.24	146	1720511	103.53239	ppb	99
88) 1,4-DCB	12.37	146	1677905	101.78379	ppb	99
89) n-Butylbenzene	12.94	91	2857282	112.47963	ppb	99
90) 1,2-DCB	12.88	146	1413926	103.30425	ppb	99
91) Hexachloroethane	13.25	117	448836	173.02041	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	56817	101.08814	ppb	94
93) 1,2,4-Trichlorobenzene	15.21	180	906456	114.76478	ppb	96
94) Hexachlorobutadiene	15.51	225	521806	109.18776	ppb	96
95) Naphthalene	15.54	128	501120	64.71172	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	631498	53.17018	ppb	98

(#) = qualifier out of range (m) = manual integration

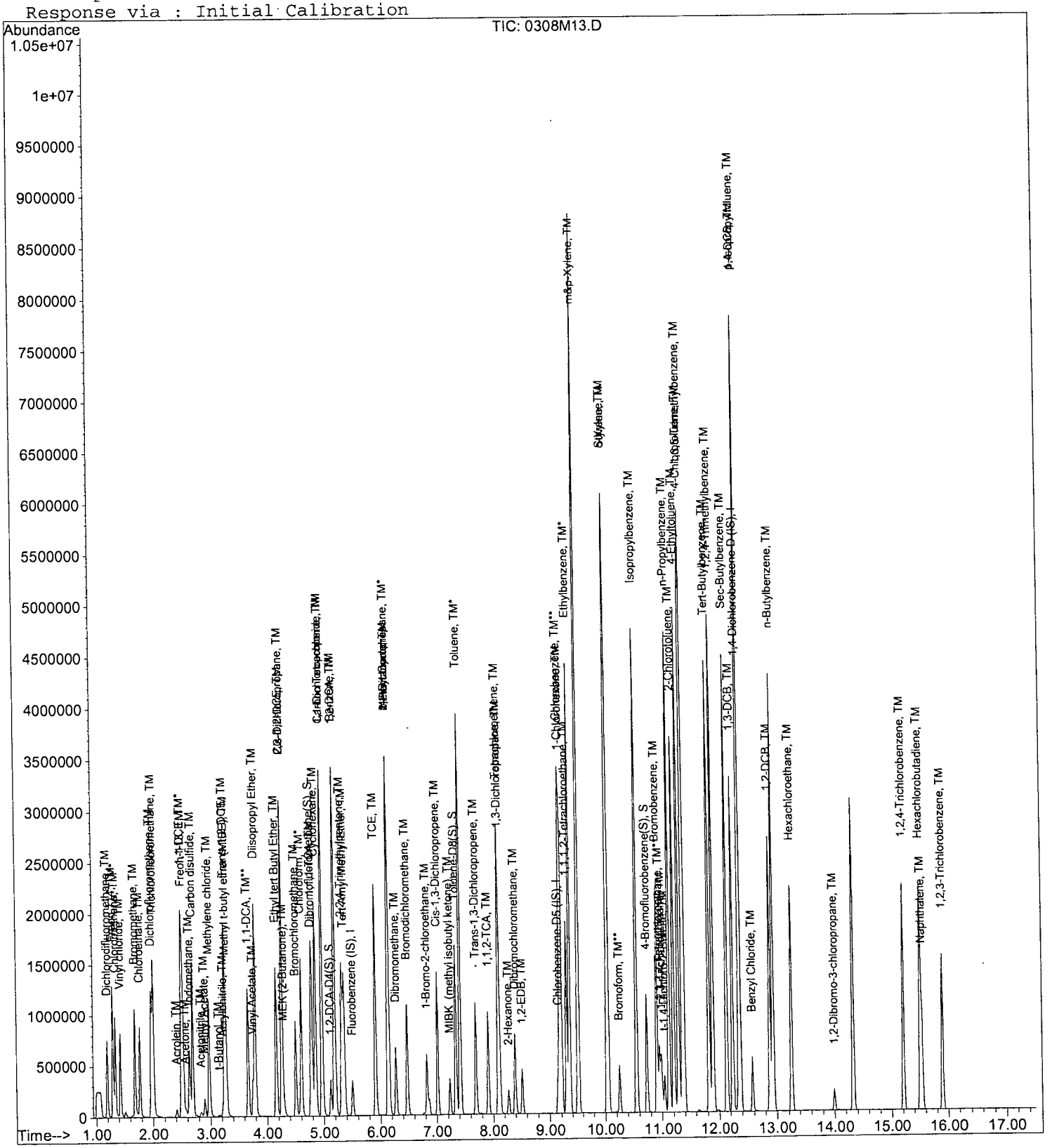
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

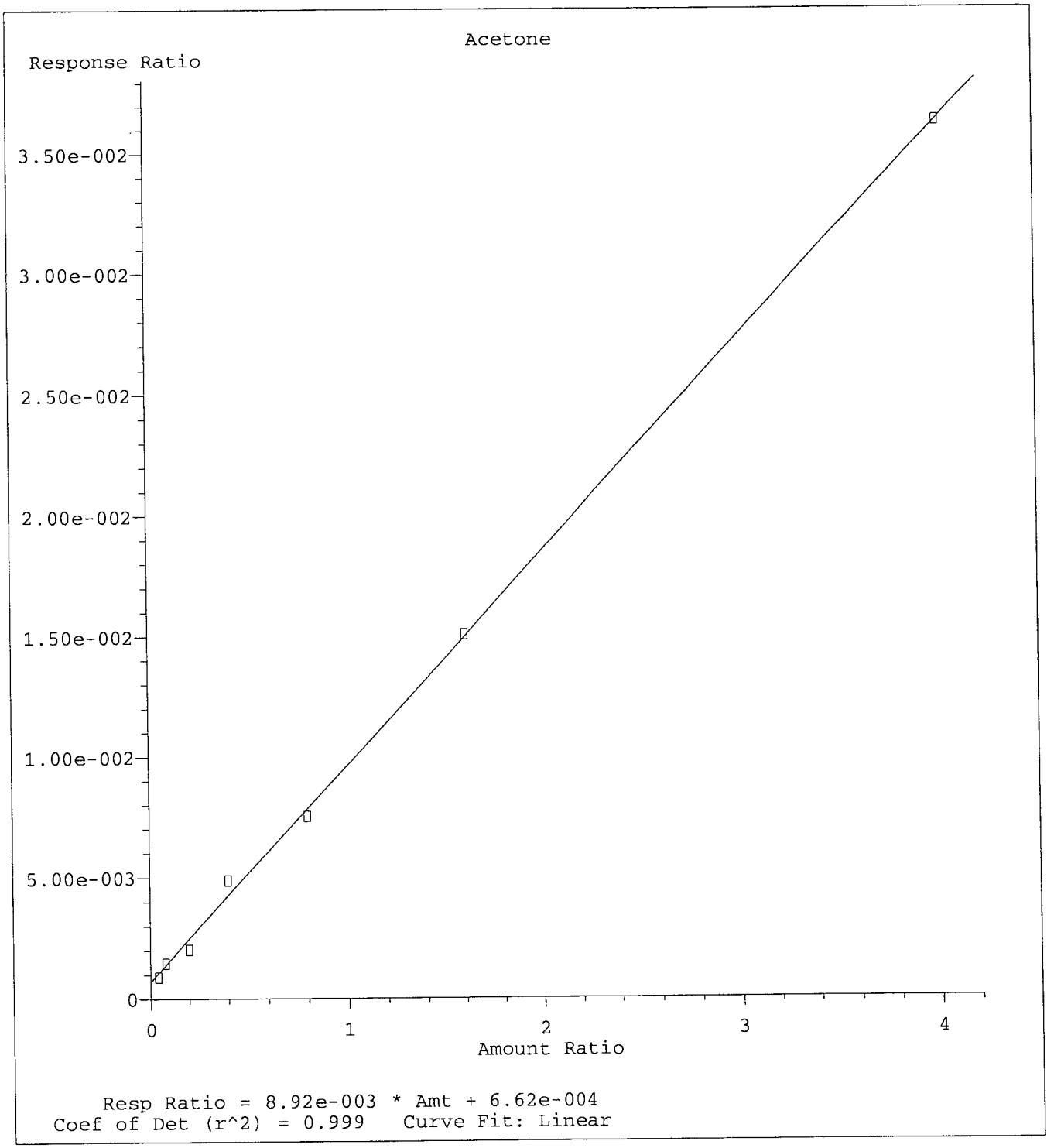
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

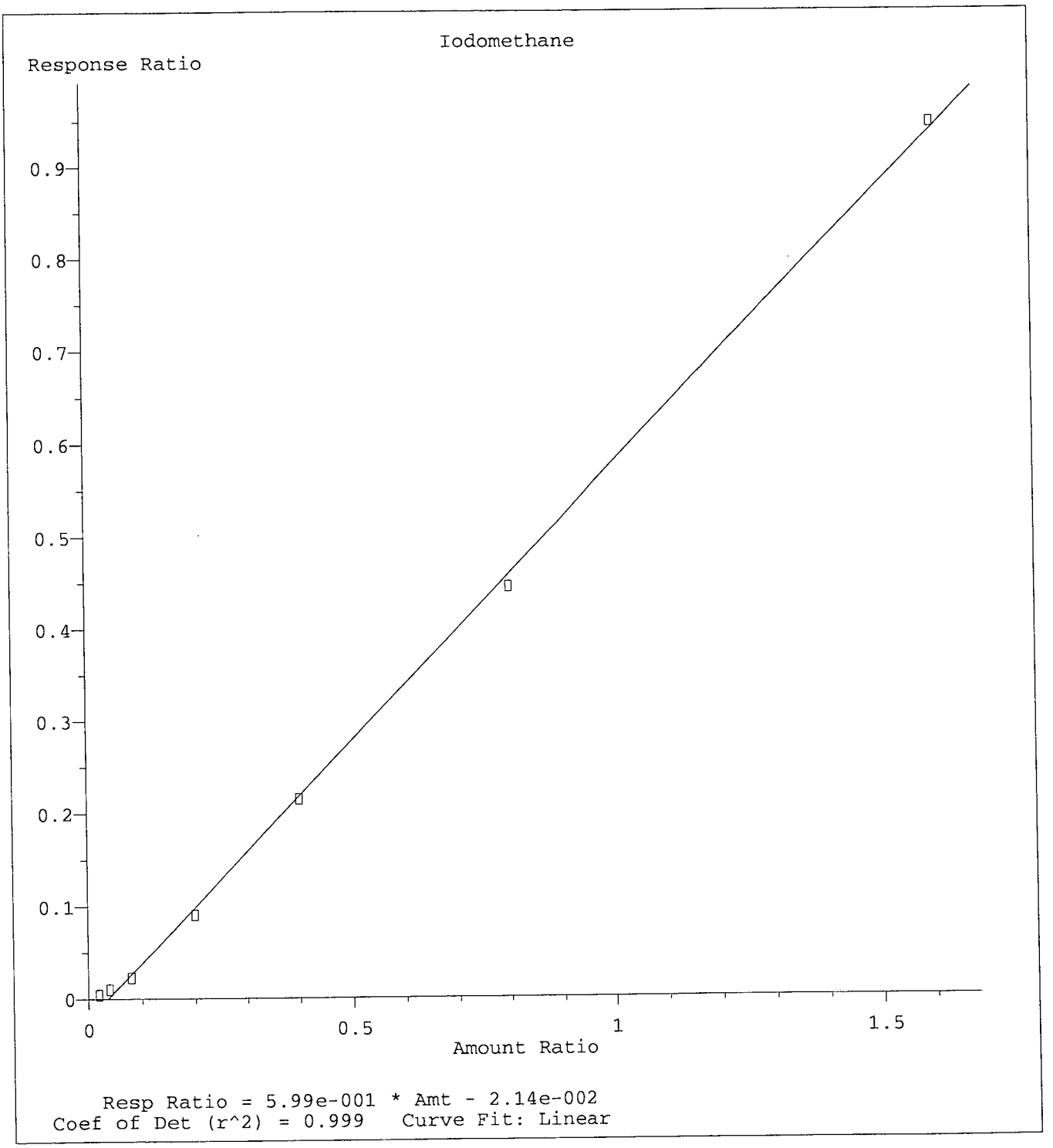
Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



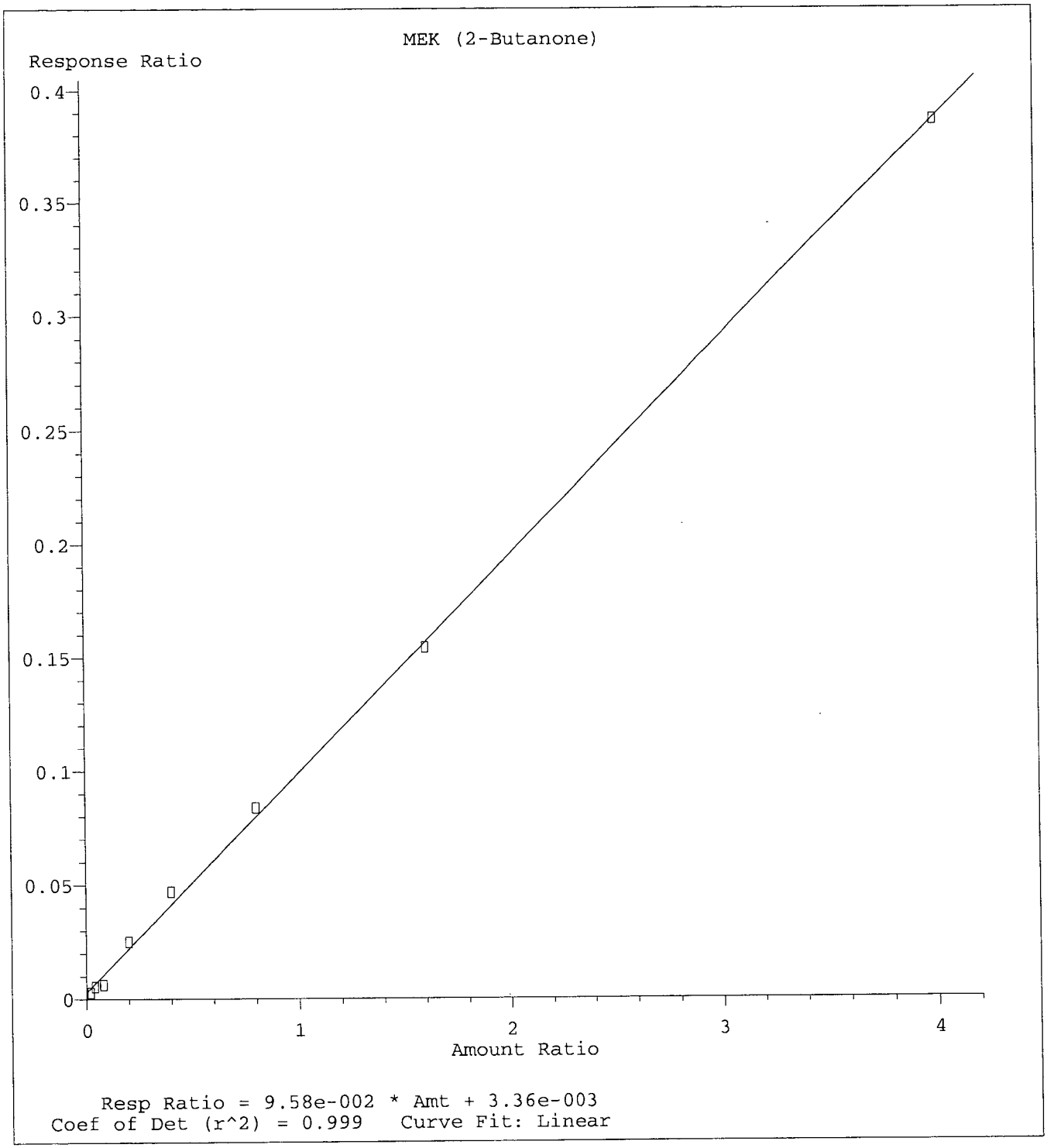
425



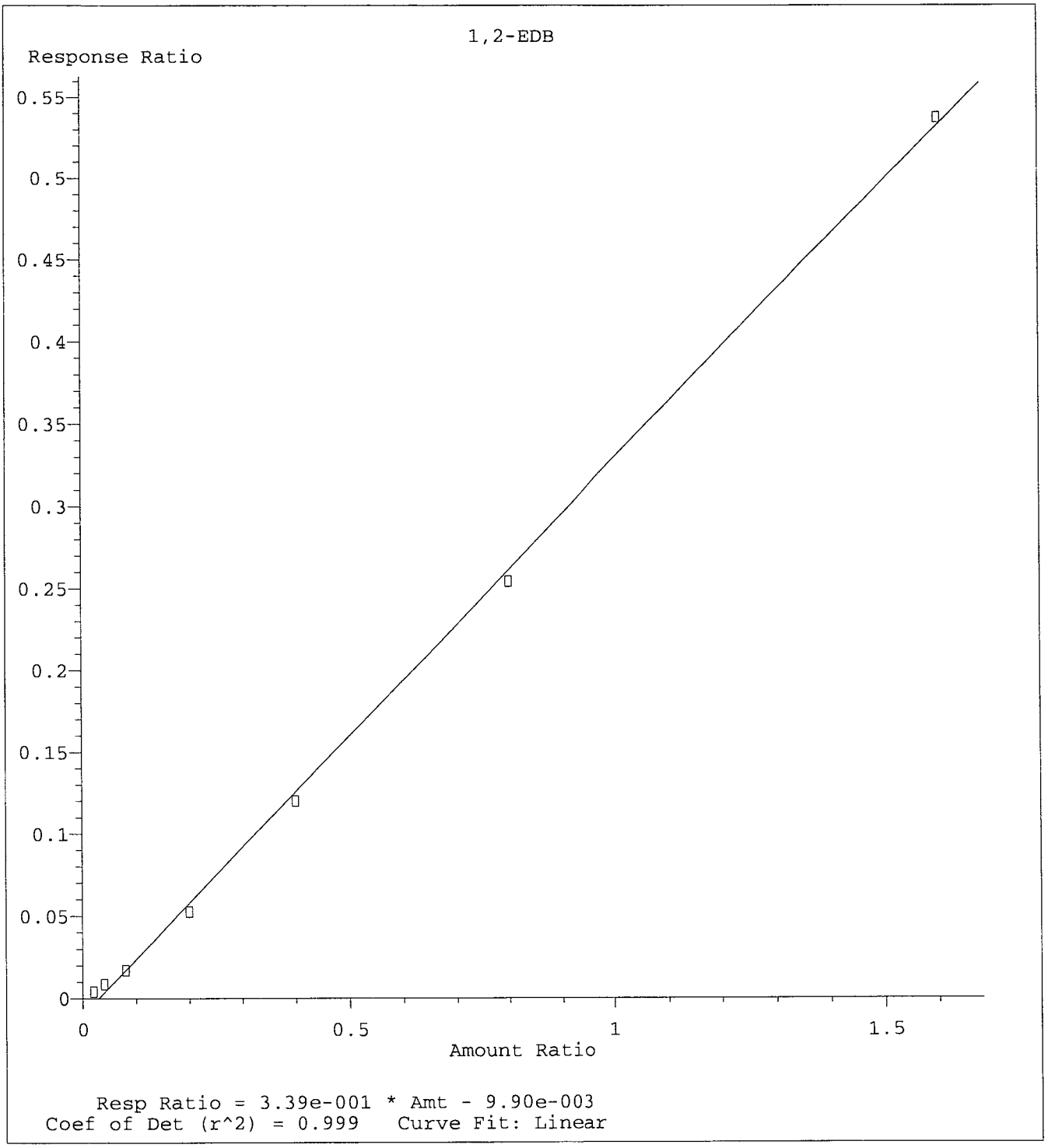
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



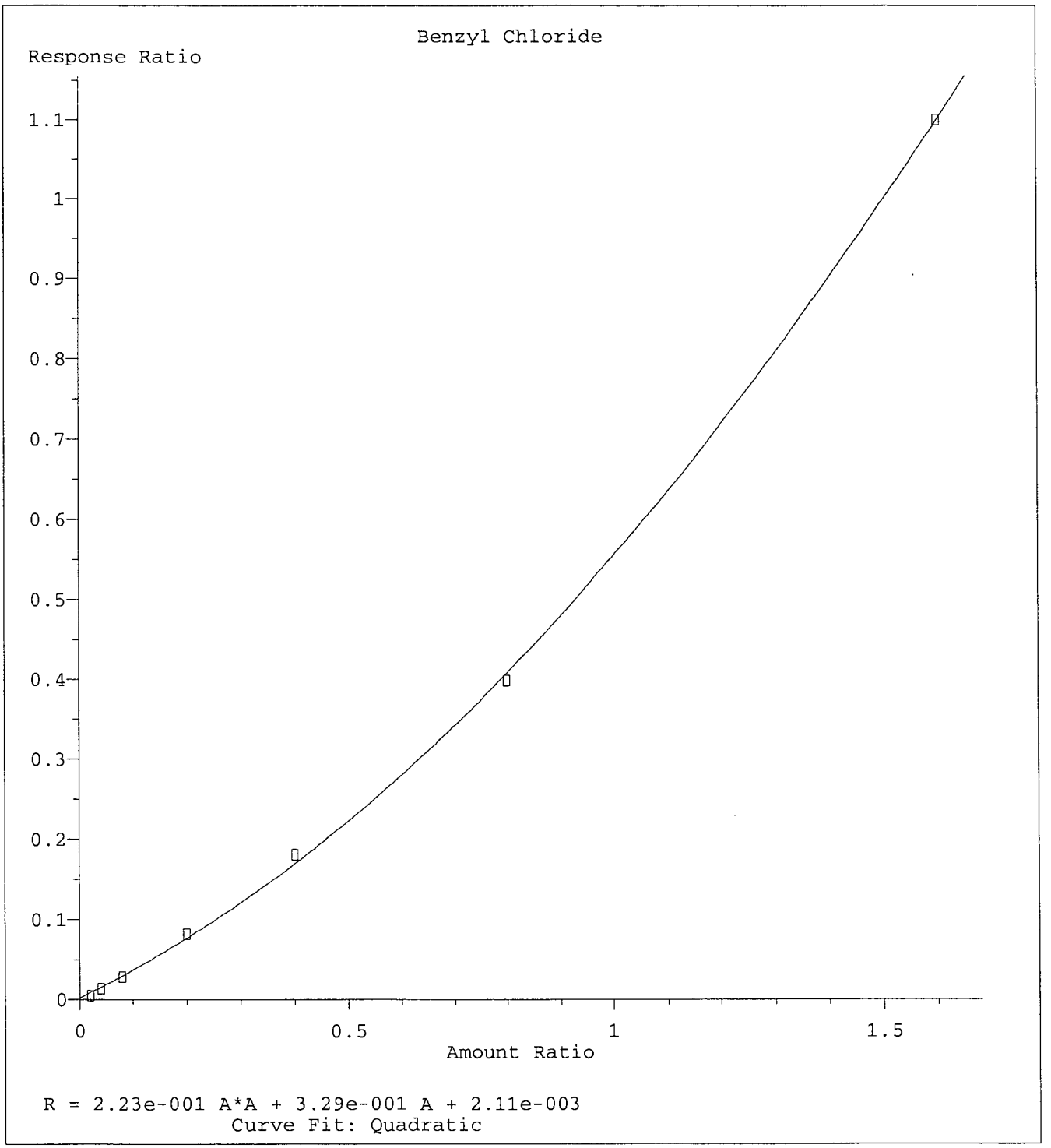
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



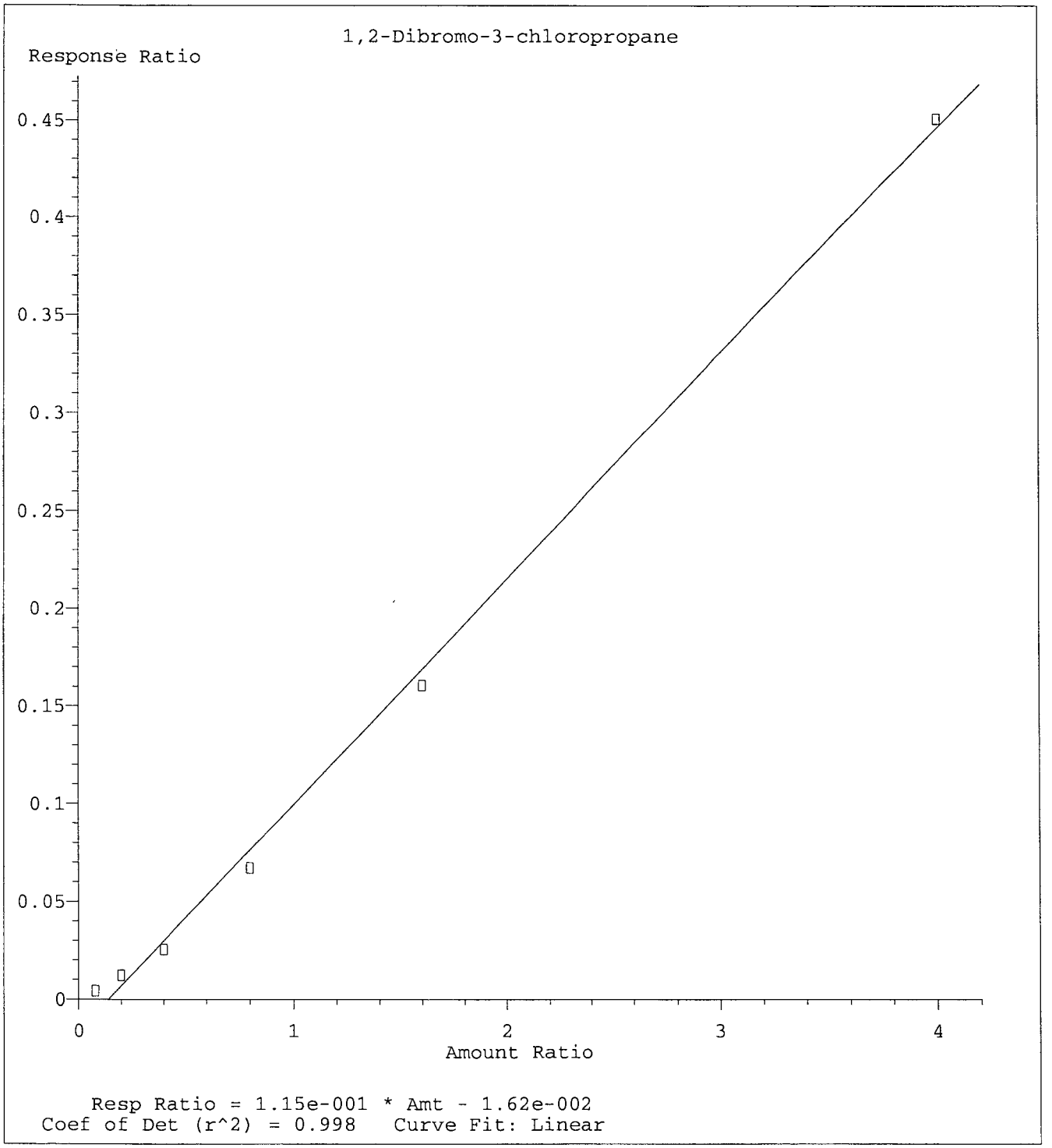
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



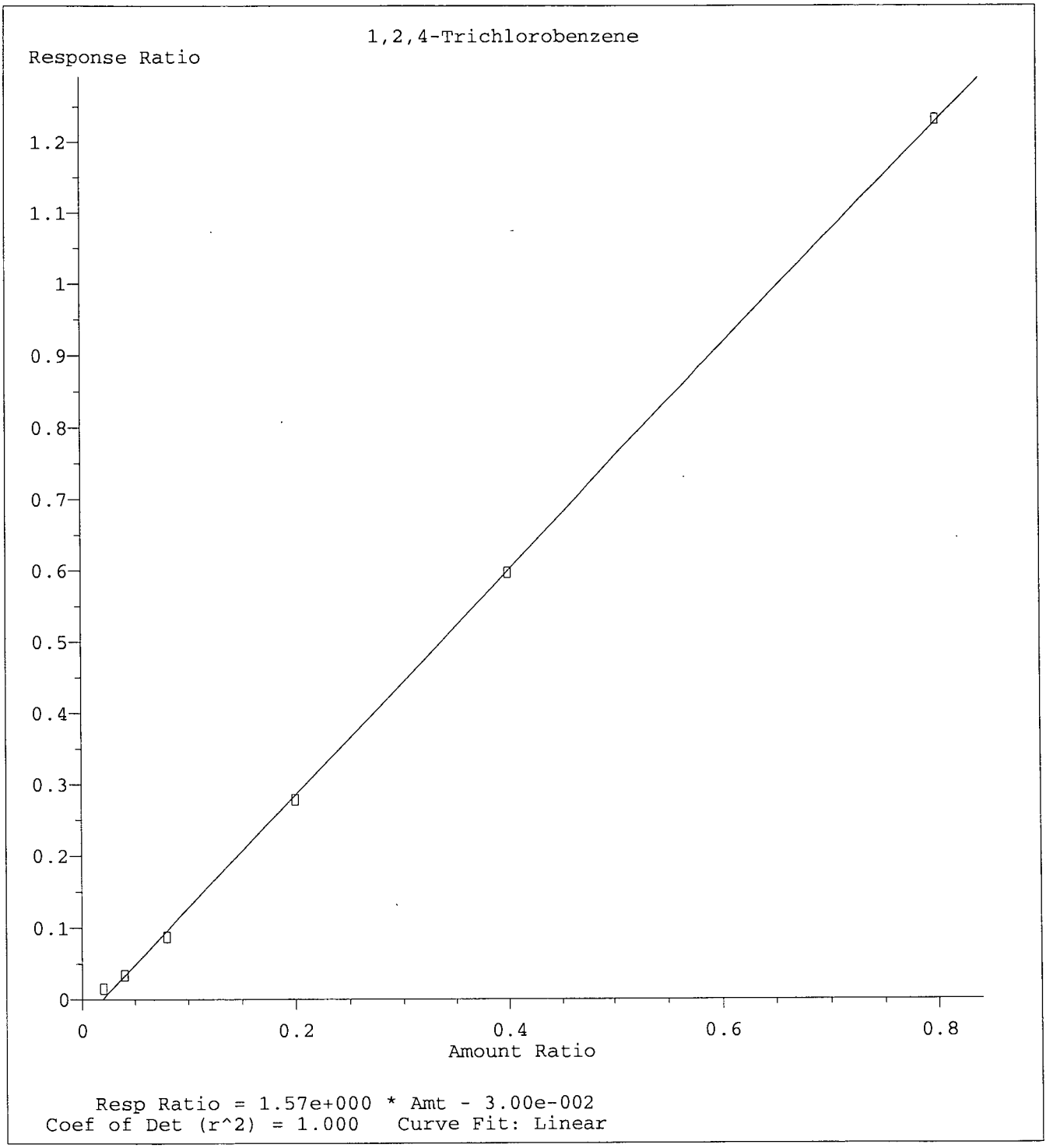
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



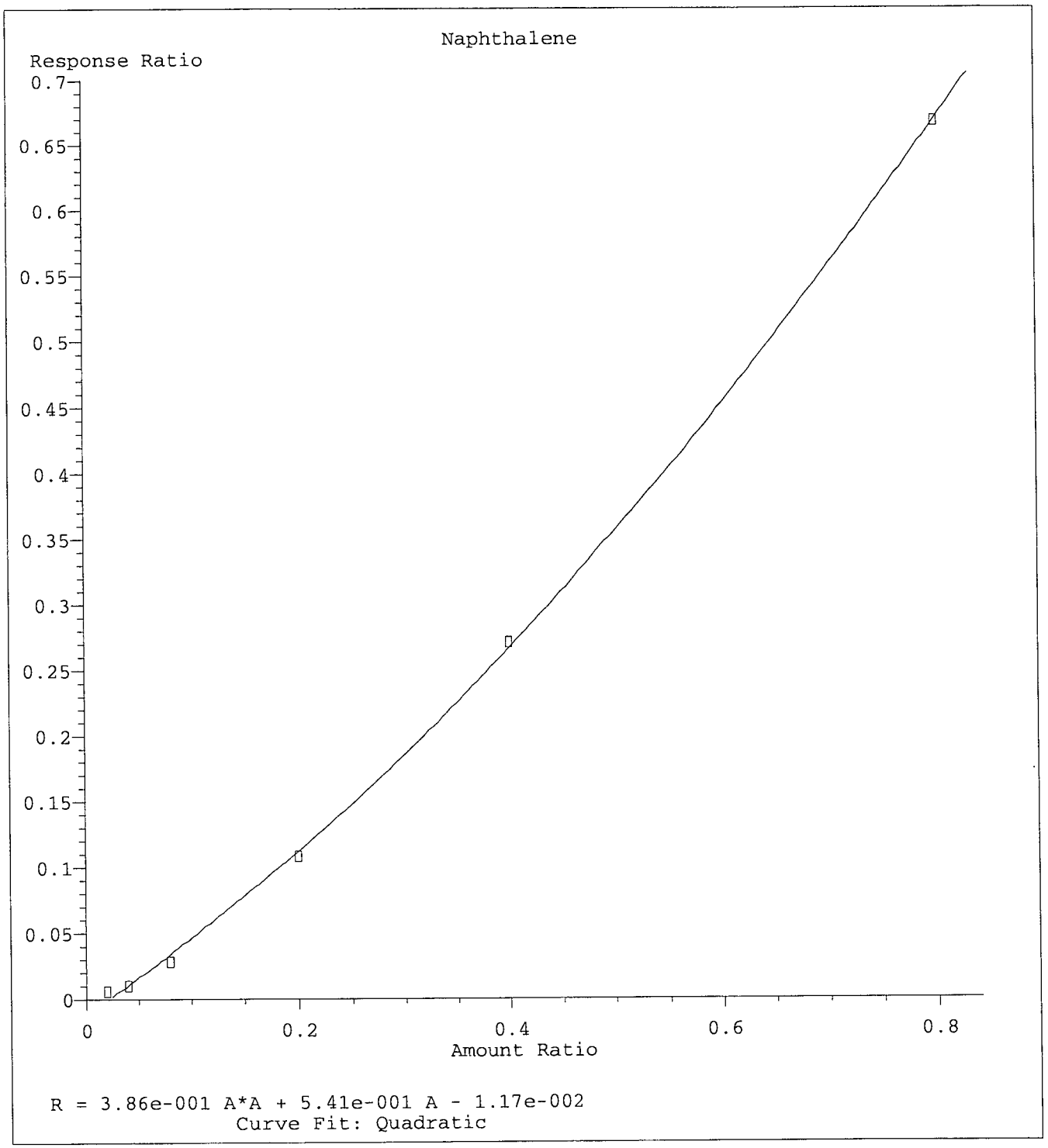
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



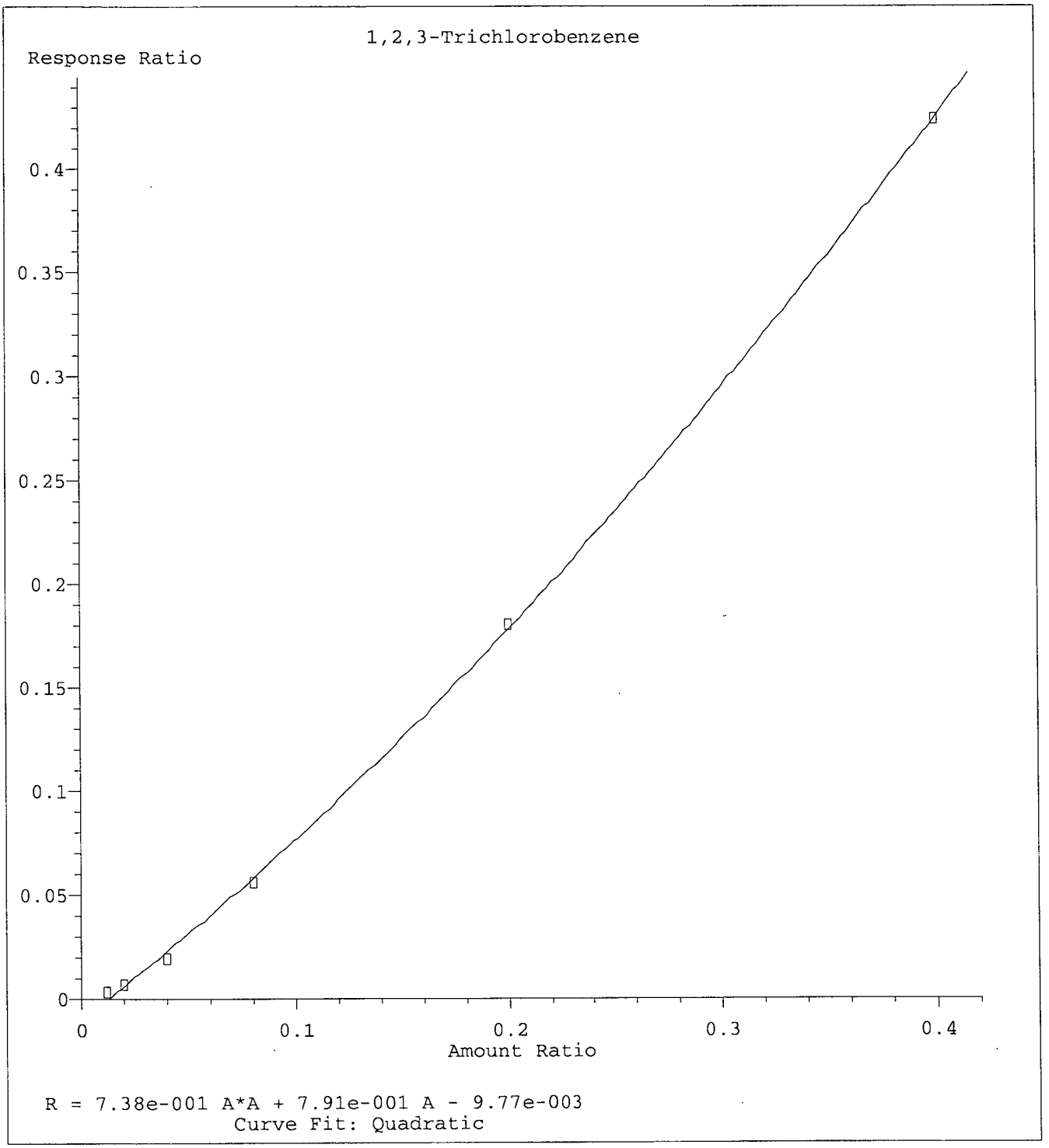
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2929	0.2661	9.1	TM		
2	TM	Freon 114	0.4107	0.3572	13	TM		
3	TM**	Chloromethane	0.4190	0.3946	5.8	TM**		
4	TM*	Vinyl chloride	0.5954	0.5872	1.4	TM*		
5	TM	Bromomethane	0.4115	0.3356	18	TM		
6	TM	Chloroethane	0.3488	0.3338	4.3	TM		
7	TM	Dichlorofluoromethane	0.9208	0.8857	3.8	TM		
8	TM	Trichlorofluoromethane	0.7319	0.7560	3.3	TM		
9	TM	Acrolein	0.0223	0.0203	8.9	TM		
10	TML	Acetone	0.0130	0.0135	4.1	TML	33	*NI SN 3/14/17
11	TM	Freon-113	0.4245	0.4336	2.2	TM		
12	TM*	1,1-DCE	0.6654	0.6019	9.5	TM*		
13	TM	Acetonitrile	0.0205	0.0224	9.1	TM		
14	TM	t-Butanol	0.0076	0.0090	18	TM		
15	TM	Methyl Acetate	0.1458	0.1513	3.8	TM		
16	TML	Iodomethane	0.4104	0.2661	35	TML	47	nt
17	TM	Acrylonitrile	0.0677	0.0710	4.8	TM		
18	TM	Methylene chloride	0.4446	0.3809	14	TM		
19	TM	Carbon disulfide	1.359	1.137	16	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7603	4.5	TM		
21	TM	Trans-1,2-DCE	0.5055	0.4613	8.7	TM		
22	TM	Diisopropyl Ether	1.241	1.219	1.8	TM		
23	TM**	1,1-DCA	0.8132	0.7216	11	TM**		
24	TM	Vinyl Acetate	0.2151	0.2197	2.1	TM		
25	TM	Ethyl tert Butyl Ether	0.8411	0.9358	11	TM		
26	TML	MEK (2-Butanone)	0.1121	0.0928	17	TML	12	
27	TM	Cis-1,2-DCE	0.5196	0.4831	7.0	TM		
28	TM	2,2-Dichloropropane	0.5015	0.4825	3.8	TM		
29	TM*	Chloroform	0.8075	0.7137	12	TM*		
30	TM	Bromochloromethane	0.1989	0.1817	8.7	TM		
31	TM	1,1,1-TCA	0.7042	0.6740	4.3	TM		
32	TM	Cyclohexane	0.4238	0.3864	8.8	TM		
33	TM	1,1-Dichloropropene	0.6603	0.5800	12	TM		
34	TM	2,2,4-Trimethylpentane	1.136	1.017	10	TM		
35	TM	Carbon Tetrachloride	0.5179	0.5425	4.8	TM		
36	TM	Tert Amyl Methyl Ether	0.7406	0.7592	2.5	TM		
37	TM	1,2-DCA	0.4401	0.3855	12	TM		
38	TM	Benzene	1.976	1.759	11	TM		
39	TM	TCE	0.5428	0.4797	12	TM		
40	TM	2-Pentanone	0.1243	0.1385	11	TM		
		Average			9.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4158	0.3666	12	TM*	
42	TM	Bromodichloromethane	0.4582	0.4410	3.8	TM	
43	TM	Methyl Cyclohexane	0.7397	0.6718	9.2	TM	
44	TM	Dibromomethane	0.1716	0.1528	11	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2053	0.70	TM	
46	TM	1-Bromo-2-chloroethane	0.3952	0.3867	2.1	TM	
47	TM	Cis-1,3-Dichloropropene	0.4875	0.4772	2.1	TM	
48	TM*	Toluene	2.281	1.998	12	TM*	
49	TM	Trans-1,3-Dichloropropene	0.3040	0.3459	14	TM	
50	TM	1,1,2-TCA	0.2046	0.1833	10	TM	
51	TM	2-Hexanone	0.1163	0.1300	12	TM	
52	TML	1,2-EDB	0.2651	0.2844	7.2	TML	8.7
53	TM	Tetrachloroethene	0.7696	0.6912	10	TM	
54	TM	1-Chlorohexane	0.9459	0.9434	0.26	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5101	6.2	TM	
56	TM	m&p-Xylene	1.478	1.296	12	TM	
57	TM	o-Xylene	1.419	1.227	14	TM	
58	TM	Styrene	2.071	1.826	12	TM	
59	TM	1,3-Dichloropropane	0.6211	0.5613	9.6	TM	
60	TM	Dibromochloromethane	0.3460	0.3772	9.0	TM	
61	TM**	Chlorobenzene	1.987	1.746	12	TM**	
62	TM*	Ethylbenzene	3.638	3.245	11	TM*	
63	TM**	Bromoform	0.1886	0.1804	4.3	TM**	
64	TM	Isopropylbenzene	7.350	6.599	10	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6170	7.1	TM**	
66	TM	1,2,3-Trichloropropane	0.2357	0.2197	6.8	TM	
67	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1145	12	TM	
68	TM	Bromobenzene	1.615	1.430	11	TM	
69	TM	n-Propylbenzene	8.271	7.307	12	TM	
70	TM	4-Ethyltoluene	7.181	7.139	0.59	TM	
71	TM	2-Chlorotoluene	4.727	4.145	12	TM	
72	TM	1,3,5-Trimethylbenzene	6.135	5.368	12	TM	
73	TM	4-Chlorotoluene	5.532	4.775	14	TM	
74	TM	Tert-Butylbenzene	5.512	4.775	13	TM	
75	TM	1,2,4-Trimethylbenzene	5.770	5.198	9.9	TM	
76	TM	Sec-Butylbenzene	7.268	6.414	12	TM	
77	TM	p-Isopropyltoluene	6.329	5.502	13	TM	
78	TMQ	Benzyl Chloride	0.4242	0.3942	7.1	TMQ	5.8
79	TM	1,3-DCB	3.296	2.912	12	TM	
80	TM	1,4-DCB	3.270	2.785	15	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	5.039	4.392	13	TM	
82	TM	1,2-DCB	2.715	2.346	14	TM	
83	TM	Hexachloroethane	0.5145	0.6085	18	TM	
84	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0805	1.2	TML	4.7
85	TML	1,2,4-Trichlorobenzene	1.183	1.208	2.1	TML	18
86	TM	Hexachlorobutadiene	0.9479	0.8306	12	TM	
87	TMQ	Naphthalene	0.4921	0.5544	13	TMQ	14
88	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8227	31	TMQ	18
89							
90							
91							
92							
93							
94							
95							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332241	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	230391	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113881	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	81347	24.85199 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.408%	
37) 1,2-DCA-D4(S)	5.12	65	62763	24.04517 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.180%	
57) Toluene-D8(S)	7.34	98	329558	24.63517 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.540%	
65) 4-Bromofluorobenzene(S)	10.72	95	109282	24.71231 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.848%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	35368	9.08749 ppb		94
3) Freon 114	1.29	85	47467	8.69764 ppb		99
4) Chloromethane	1.34	50	52440	9.41638 ppb		97
5) Vinyl chloride	1.43	62	78035	9.86273 ppb		99
6) Bromomethane	1.69	94	44603	8.15672 ppb		98
7) Chloroethane	1.79	64	44365	9.56985 ppb		97
8) Dichlorofluoromethane	1.98	67	117711	9.61968 ppb		98
9) Trichlorofluoromethane	2.02	101	100472	10.32916 ppb		96
10) Acrolein	2.41	56	33786	113.91369 ppb		95
11) Acetone	2.56	58	1797	13.30442 ppb	#	64
12) Freon-113	2.53	101	57630	10.21661 ppb		95
13) 1,1-DCE	2.51	61	79991	9.04627 ppb		96
14) Acetonitrile	2.83	41	37164	136.40801 ppb		99
15) t-Butanol	3.13	59	14924	148.12013 ppb		96
16) Methyl Acetate	2.90	43	20102	10.37637 ppb		99
17) Iodomethane	2.64	142	35358	5.33244 ppb		94
18) Acrylonitrile	3.21	53	9433	10.47987 ppb		92
19) Methylene chloride	2.98	84	50624	8.56806 ppb		94
20) Carbon disulfide	2.69	76	151159	8.37045 ppb		99
21) Methyl t-butyl ether (MtBE	3.27	73	101046	10.45216 ppb		95
22) Trans-1,2-DCE	3.25	96	61301	9.12550 ppb		99
23) Diisopropyl Ether	3.79	45	161982	9.81994 ppb		99
24) 1,1-DCA	3.66	63	95898	8.87370 ppb		97
25) Vinyl Acetate	3.75	43	29195	10.21498 ppb		100
26) Ethyl tert Butyl Ether	4.16	59	124366	11.12578 ppb		94
27) MEK (2-Butanone)	4.30	43	12332	8.81039 ppb		84
28) Cis-1,2-DCE	4.26	96	64204	9.29782 ppb		98
29) 2,2-Dichloropropane	4.26	77	64129	9.62292 ppb		98
30) Chloroform	4.60	83	94844	8.83852 ppb		95
31) Bromochloromethane	4.50	128	24142	9.13429 ppb		96
33) 1,1,1-TCA	4.79	97	89571	9.57136 ppb		97
34) Cyclohexane	4.86	41	51350	9.11661 ppb		99
35) 1,1-Dichloropropene	4.97	75	77076	8.78285 ppb		100
36) 2,2,4-Trimethylpentane	5.32	57	135152	8.95313 ppb		99
38) Carbon Tetrachloride	4.97	117	72098	10.47546 ppb		96
39) Tert Amyl Methyl Ether	5.36	73	100899	10.25142 ppb		100
40) 1,2-DCA	5.20	62	51233	8.75956 ppb		100
41) Benzene	5.19	78	233760	8.90080 ppb		98
42) TCE	5.91	95	63744	8.83663 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	230098	139.26623 ppb		98
44) 1,2-Dichloropropane	6.15	63	48717	8.81572 ppb	#	93
45) Bromodichloromethane	6.48	83	58602	9.62366 ppb		100
46) Methyl Cyclohexane	6.14	83	89281	9.08198 ppb		90
47) Dibromomethane	6.28	93	20309	8.90726 ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	27290	9.92979 ppb		92
49) 1-Bromo-2-chloroethane	6.83	63	51390	9.78520 ppb		94
51) Cis-1,3-Dichloropropene	7.01	75	63419	9.78876 ppb		97
52) Toluene	7.42	91	265582	8.76237 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	45965	11.37829 ppb		95
54) 1,1,2-TCA	7.91	83	24362	8.95900 ppb		95
55) 2-Hexanone	8.27	43	17271	11.17917 ppb	#	94
58) 1,2-EDB	8.51	107	26206	9.13075 ppb		96
59) Tetrachloroethene	8.09	164	63702	8.98120 ppb		96
60) 1-Chlorohexane	9.20	91	86937	9.97351 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.29	131	47008	10.62407 ppb		97
62) m&p-Xylene	9.51	106	238921	17.53713 ppb		97
63) o-Xylene	10.03	106	113036	8.64311 ppb		100
64) Styrene	10.05	104	168299	8.81635 ppb		97
66) 1,3-Dichloropropane	8.11	76	51729	9.03713 ppb		96
67) Dibromochloromethane	8.39	129	34762	10.90313 ppb		90
68) Chlorobenzene	9.17	112	160861	8.78536 ppb		99
69) Ethylbenzene	9.35	91	299056	8.92007 ppb		100
70) Bromoform	10.25	173	16625	9.56528 ppb		87
72) Isopropylbenzene	10.55	105	300578	8.97744 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	28104	9.29481 ppb		91
74) 1,2,3-Trichloropropane	10.99	110	10010	9.32137 ppb		95
75) t-1,4-Dichloro-2-Butene	11.03	53	5218	8.83783 ppb		87
76) Bromobenzene	10.91	156	65137	8.85589 ppb		99
77) n-Propylbenzene	11.12	91	332862	8.83491 ppb		99
78) 4-Ethyltoluene	11.28	105	325192	9.94066 ppb		98
79) 2-Chlorotoluene	11.20	91	188836	8.76885 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	244530	8.75015 ppb		99
81) 4-Chlorotoluene	11.35	91	217506	8.63166 ppb		100
82) Tert-Butylbenzene	11.82	119	217514	8.66332 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	236796	9.00877 ppb		98
84) Sec-Butylbenzene	12.13	105	292153	8.82471 ppb		95
85) p-Isopropyltoluene	12.36	119	250635	8.69312 ppb		98
86) Benzyl Chloride	12.57	91	17956	9.42206 ppb		99
87) 1,3-DCB	12.24	146	132636	8.83366 ppb		99
88) 1,4-DCB	12.37	146	126869	8.51780 ppb		99
89) n-Butylbenzene	12.94	91	200062	8.71658 ppb		99
90) 1,2-DCB	12.88	146	106888	8.64333 ppb		98
91) Hexachloroethane	13.25	117	27720	11.82670 ppb		94
92) 1,2-Dibromo-3-chloropropan	13.99	75	3665	10.46727 ppb		82
93) 1,2,4-Trichlorobenzene	15.21	180	55019	8.15446 ppb		95
94) Hexachlorobutadiene	15.51	225	37836	8.76255 ppb		99
95) Naphthalene	15.54	128	25256	8.64720 ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	37478	8.19983 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

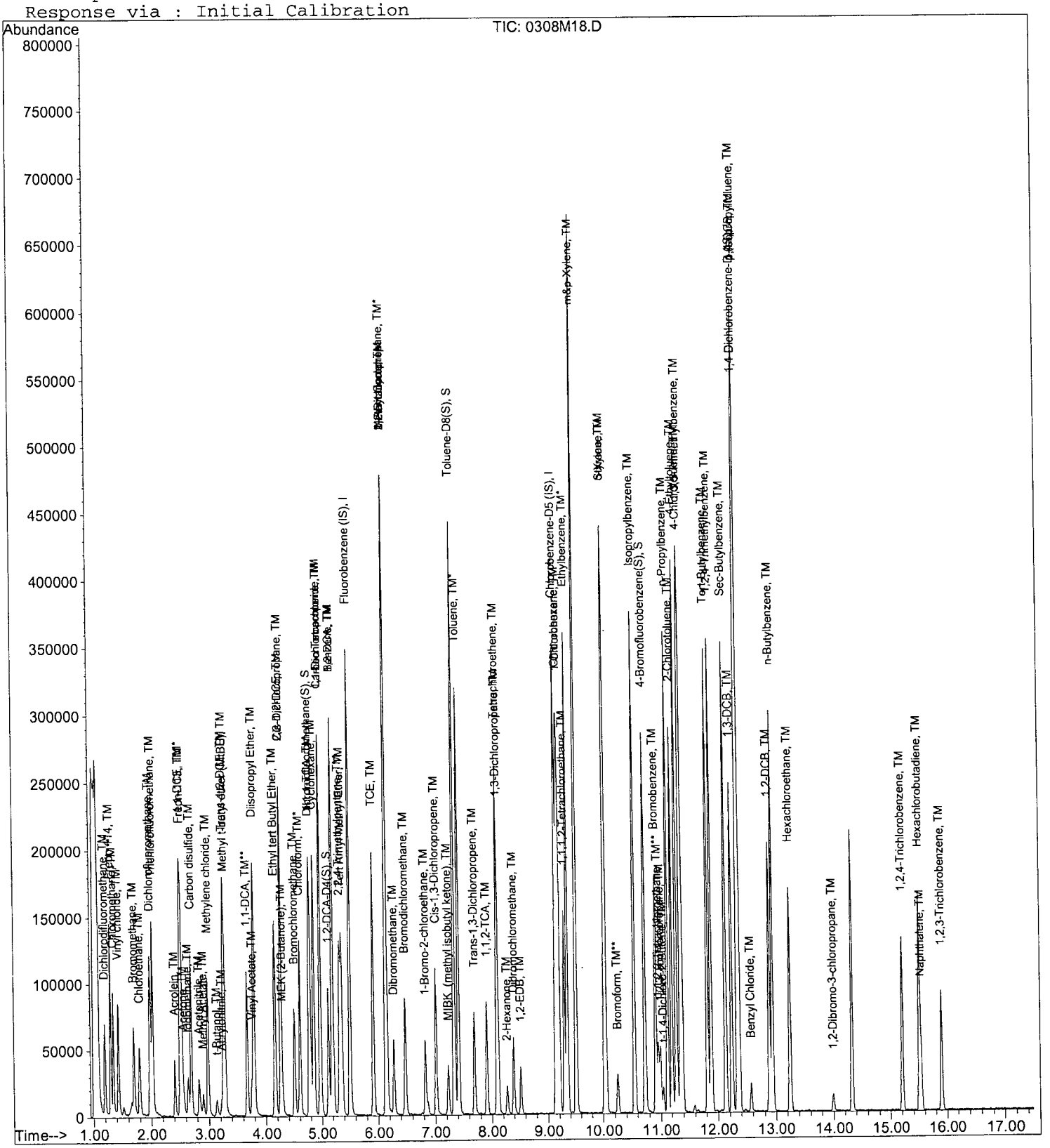
Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



440

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 6:25
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M42.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2929	0.3300	13	TM	
3	TM	Freon 114	0.4107	0.4032	1.8	TM	
4	TM**	Chloromethane	0.4190	0.3974	5.2	TM**	
5	TM*	Vinyl chloride	0.5954	0.5634	5.4	TM*	
6	TM	Bromomethane	0.4115	0.2065	50	TM	
7	TM	Chloroethane	0.3488	0.3633	4.1	TM	
8	TM	Dichlorofluoromethane	0.9208	0.8960	2.7	TM	
9	TM	Trichlorofluoromethane	0.7319	0.7136	2.5	TM	
10	TM	Acrolein	0.0223	0.0162	27	TM	
11	TML	Acetone	0.0130	0.0089	32	TML	19
12	TM	Freon-113	0.4245	0.4247	0.05	TM	
13	TM*	1,1-DCE	0.6654	0.6701	0.71	TM*	
14	TM	Acetonitrile	0.0205	0.0174	15	TM	
15	TM	t-Butanol	0.0076	0.0086	13	TM	
16	TM	Methyl Acetate	0.1458	0.1387	4.8	TM	
17	TML	Iodomethane	0.4104	0.4254	3.7	TML	20
18	TM	Acrylonitrile	0.0677	0.0617	8.9	TM	
19	TM	Methylene chloride	0.4446	0.4133	7.0	TM	
20	TM	Carbon disulfide	1.359	1.413	4.0	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6719	7.6	TM	
22	TM	Trans-1,2-DCE	0.5055	0.5034	0.41	TM	
23	TM	Diisopropyl Ether	1.241	1.159	6.6	TM	
24	TM**	1,1-DCA	0.8132	0.8311	2.2	TM**	
25	TM	Vinyl Acetate	0.2151	0.1618	25	TM	
26	TM	Ethyl tert Butyl Ether	0.8411	0.8189	2.6	TM	
27	TML	MEK (2-Butanone)	0.1121	0.0798	29	TML	25
28	TM	Cis-1,2-DCE	0.5196	0.5423	4.4	TM	
29	TM	2,2-Dichloropropane	0.5015	0.4902	2.2	TM	
30	TM*	Chloroform	0.8075	0.8326	3.1	TM*	
31	TM	Bromochloromethane	0.1989	0.2007	0.93	TM	
32	S	Dibromofluoromethane(S)	0.2463	0.2425	1.6	S	
33	TM	1,1,1-TCA	0.7042	0.7893	12	TM	
34	TM	Cyclohexane	0.4238	0.4172	1.6	TM	
35	TM	1,1-Dichloropropene	0.6603	0.6873	4.1	TM	
36	TM	2,2,4-Trimethylpentane	1.136	0.9748	14	TM	
37	S	1,2-DCA-D4(S)	0.1964	0.1853	5.7	S	
38	TM	Carbon Tetrachloride	0.5179	0.6544	26	TM	
39	TM	Tert Amyl Methyl Ether	0.7406	0.7155	3.4	TM	
40	TM	1,2-DCA	0.4401	0.4167	5.3	TM	
		Average			9.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Mar 17 6:25
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M42.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.976	1.970	0.30	TM	
42	TM	TCE	0.5428	0.5590	3.0	TM	
43	TM	2-Pentanone	0.1243	0.1037	17	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4157	0.02	TM*	
45	TM	Bromodichloromethane	0.4582	0.5008	9.3	TM	
46	TM	Methyl Cyclohexane	0.7397	0.6966	5.8	TM	
47	TM	Dibromomethane	0.1716	0.1671	2.6	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1726	17	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.3559	9.9	TM	
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5084	4.3	TM	
51	TM*	Toluene	2.281	2.247	1.5	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3454	14	TM	
53	TM	1,1,2-TCA	0.2046	0.1972	3.6	TM	
54	TM	2-Hexanone	0.1163	0.1011	13	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.452	1.439	0.88	S	
57	TML	1,2-EDB	0.2651	0.3222	22	TML	2.5
58	TM	Tetrachloroethene	0.7696	0.8207	6.6	TM	
59	TM	1-Chlorohexane	0.9459	0.9293	1.8	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6195	29	TM	
61	TM	m&p-Xylene	1.478	1.492	0.96	TM	
62	TM	o-Xylene	1.419	1.381	2.7	TM	
63	TM	Styrene	2.071	2.043	1.4	TM	
64	S	4-Bromofluorobenzene(S)	0.4799	0.4604	4.0	S	
65	TM	1,3-Dichloropropane	0.6211	0.6001	3.4	TM	
66	TM	Dibromochloromethane	0.3460	0.4463	29	TM	
67	TM**	Chlorobenzene	1.987	1.960	1.3	TM**	
68	TM*	Ethylbenzene	3.638	3.679	1.1	TM*	
69	TM**	Bromoform	0.1886	0.2111	12	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.350	7.352	0.03	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6208	6.5	TM**	
73	TM	1,2,3-Trichloropropane	0.2357	0.2265	3.9	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.0973	25	TM	
75	TM	Bromobenzene	1.615	1.576	2.4	TM	
76	TM	n-Propylbenzene	8.271	8.239	0.39	TM	
77	TM	4-Ethyltoluene	7.181	7.141	0.56	TM	
78	TM	2-Chlorotoluene	4.727	4.666	1.3	TM	
79	TM	1,3,5-Trimethylbenzene	6.135	6.139	0.07	TM	
80	TM	4-Chlorotoluene	5.532	5.386	2.6	TM	
		Average			6.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Mar 17 6:25
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M42.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.292	4.0	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	5.965	3.4	TM	
83	TM	Sec-Butylbenzene	7.268	7.282	0.20	TM	
84	TM	p-Isopropyltoluene	6.329	6.491	2.6	TM	
85	TMQ	Benzyl Chloride	0.4242	0.2345	45	TMQ	40
86	TM	1,3-DCB	3.296	3.241	1.7	TM	
87	TM	1,4-DCB	3.270	3.000	8.2	TM	
88	TM	n-Butylbenzene	5.039	5.002	0.73	TM	
89	TM	1,2-DCB	2.715	2.678	1.4	TM	
90	TM	Hexachloroethane	0.5145	0.5719	11	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0739	7.1	TML	1.0
92	TML	1,2,4-Trichlorobenzene	1.183	1.313	11	TML	12
93	TM	Hexachlorobutadiene	0.9479	0.9695	2.3	TM	
94	TMQ	Naphthalene	0.4921	0.5545	13	TMQ	14
95	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8632	37	TMQ	15
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			9.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M42.D
Acq On : 9 Mar 17 6:25
Sample : Ending CCV 8260 10ug/L 3/8/17
Misc : IS&S 02/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:19 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	322488	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	220234	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	109432	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	78190	24.60994 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.440%	
37) 1,2-DCA-D4(S)	5.12	65	59759	23.58670 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.348%	
57) Toluene-D8(S)	7.34	98	316886	24.78038 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.120%	
65) 4-Bromofluorobenzene(S)	10.73	95	101401	23.98767 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.952%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	42568	11.26825 ppb		96
3) Freon 114	1.30	85	52010	9.81829 ppb		95
4) Chloromethane	1.34	50	51267	9.48416 ppb		99
5) Vinyl chloride	1.43	62	72676	9.46320 ppb	#	3
6) Bromomethane	1.70	94	26636	5.01834 ppb		95
7) Chloroethane	1.80	64	46859	10.41352 ppb		97
8) Dichlorofluoromethane	1.99	67	115576	9.73086 ppb		97
9) Trichlorofluoromethane	2.03	101	92051	9.74963 ppb		97
10) Acrolein	2.42	56	26093	90.63644 ppb		88
11) Acetone	2.57	58	1145	8.09571 ppb	#	71
12) Freon-113	2.54	101	54782	10.00543 ppb		96
13) 1,1-DCE	2.51	61	86434	10.07054 ppb		98
14) Acetonitrile	2.83	41	27998	105.87273 ppb		98
15) t-Butanol	3.13	59	13839	141.50546 ppb		92
16) Methyl Acetate	2.90	43	17898	9.51810 ppb		99
17) Iodomethane	2.64	142	54874	7.99199 ppb		96
18) Acrylonitrile	3.22	53	7960	9.11085 ppb	#	93
19) Methylene chloride	2.98	84	53319	9.29710 ppb		97
20) Carbon disulfide	2.70	76	182320	10.40133 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	86676	9.23688 ppb		98
22) Trans-1,2-DCE	3.26	96	64937	9.95912 ppb		99
23) Diisopropyl Ether	3.79	45	149468	9.33534 ppb		98
24) 1,1-DCA	3.67	63	107212	10.22065 ppb		98
25) Vinyl Acetate	3.76	43	20873	7.52408 ppb		98
26) Ethyl tert Butyl Ether	4.16	59	105629	9.73535 ppb		94
27) MEK (2-Butanone)	4.30	43	10298	7.45733 ppb		98
28) Cis-1,2-DCE	4.27	96	69955	10.43704 ppb		98
29) 2,2-Dichloropropane	4.27	77	63237	9.77604 ppb		98
30) Chloroform	4.61	83	107399	10.31121 ppb		98
31) Bromochloromethane	4.51	128	25894	10.09346 ppb		97
33) 1,1,1-TCA	4.80	97	101813	11.20854 ppb		96
34) Cyclohexane	4.86	41	53818	9.84375 ppb		98
35) 1,1-Dichloropropene	4.98	75	88659	10.40827 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	125745	8.58188 ppb		100
38) Carbon Tetrachloride	4.98	117	84414	12.63584 ppb		95
39) Tert Amyl Methyl Ether	5.36	73	92296	9.66095 ppb		95
40) 1,2-DCA	5.21	62	53758	9.46924 ppb		99
41) Benzene	5.19	78	254157	9.97012 ppb		98
42) TCE	5.91	95	72103	10.29770 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M42.D
Acq On : 9 Mar 17 6:25
Sample : Ending CCV 8260 10ug/L 3/8/17
Misc : IS&S 02/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:19 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	167152	104.22795	ppb		98
44) 1,2-Dichloropropane	6.16	63	53628	9.99789	ppb		98
45) Bromodichloromethane	6.48	83	64598	10.92916	ppb		99
46) Methyl Cyclohexane	6.14	83	89853	9.41659	ppb		91
47) Dibromomethane	6.28	93	21558	9.74100	ppb		91
48) MIBK (methyl isobutyl ket	7.23	43	22266	8.34677	ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	45907	9.00554	ppb		95
51) Cis-1,3-Dichloropropene	7.02	75	65579	10.42828	ppb		97
52) Toluene	7.42	91	289837	9.85182	ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	44561	11.36434	ppb		98
54) 1,1,2-TCA	7.91	83	25443	9.63951	ppb		89
55) 2-Hexanone	8.27	43	13047	8.70047	ppb		95
58) 1,2-EDB	8.51	107	28382	10.24776	ppb		98
59) Tetrachloroethene	8.09	164	72296	10.66293	ppb		95
60) 1-Chlorohexane	9.20	91	81864	9.82466	ppb		95
61) 1,1,1,2-Tetrachloroethane	9.29	131	54577	12.90357	ppb		95
62) m&p-Xylene	9.51	106	262954	20.19134	ppb		98
63) o-Xylene	10.03	106	121646	9.73043	ppb		100
64) Styrene	10.05	104	179943	9.86106	ppb		99
66) 1,3-Dichloropropane	8.11	76	52869	9.66226	ppb		99
67) Dibromochloromethane	8.39	129	39319	12.90120	ppb		94
68) Chlorobenzene	9.17	112	172668	9.86510	ppb		97
69) Ethylbenzene	9.35	91	324120	10.11353	ppb		99
70) Bromoform	10.25	173	18598	11.19395	ppb		98
72) Isopropylbenzene	10.55	105	321834	10.00309	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	27173	9.35227	ppb		95
74) 1,2,3-Trichloropropane	10.99	110	9916	9.60924	ppb	#	81
75) t-1,4-Dichloro-2-Butene	11.04	53	4257	7.50330	ppb	#	69
76) Bromobenzene	10.91	156	68985	9.76036	ppb		94
77) n-Propylbenzene	11.12	91	360638	9.96130	ppb		99
78) 4-Ethyltoluene	11.28	105	312583	9.94369	ppb		98
79) 2-Chlorotoluene	11.20	91	204250	9.87022	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	268740	10.00743	ppb		99
81) 4-Chlorotoluene	11.35	91	235782	9.73734	ppb		99
82) Tert-Butylbenzene	11.82	119	231634	9.60078	ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	261085	10.33665	ppb		97
84) Sec-Butylbenzene	12.13	105	318774	10.02028	ppb		97
85) p-Isopropyltoluene	12.36	119	284117	10.25505	ppb		99
86) Benzyl Chloride	12.57	91	10264	5.99636	ppb		94
87) 1,3-DCB	12.24	146	141871	9.83286	ppb		98
88) 1,4-DCB	12.37	146	131330	9.17577	ppb		100
89) n-Butylbenzene	12.94	91	218949	9.92730	ppb		98
90) 1,2-DCB	12.88	146	117215	9.86375	ppb		98
91) Hexachloroethane	13.25	117	25035	11.11539	ppb		87
92) 1,2-Dibromo-3-chloropropan	13.99	75	3233	9.89590	ppb		84
93) 1,2,4-Trichlorobenzene	15.21	180	57452	8.81991	ppb		96
94) Hexachlorobutadiene	15.51	225	42437	10.22768	ppb		91
95) Naphthalene	15.54	128	24272	8.64796	ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	37785	8.51485	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

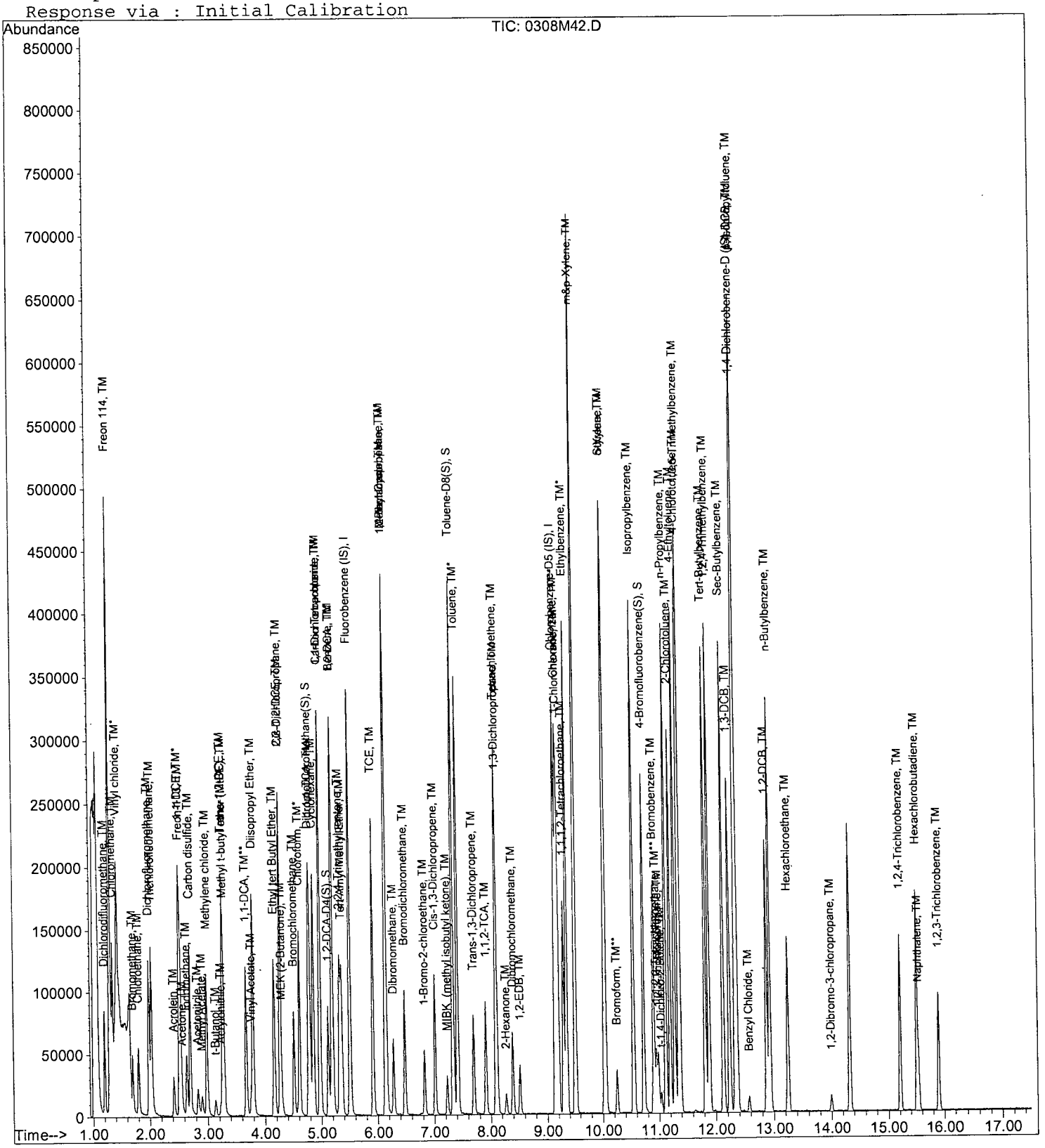
Data File : M:\MAX\DATA\M170308\0308M42.D
Acq On : 9 Mar 17 6:25
Sample : Ending CCV 8260 10ug/L 3/8/17
Misc : IS&S 02/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:19 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



446

ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170308W-51052 - 216701**
Batch ID: #86BTO-170308AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/08/17	03/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/08/17	03/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/08/17	03/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/08/17	03/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	93.1	81-118			%	03/08/17	03/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/08/17	03/08/17
BLANK	SURROGATE: DIBROMOFLUOR	98.6	80-119			%	03/08/17	03/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	03/08/17	03/08/17

Quant Method: MALLW.M
Run #: 0308M28
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 11:05:56 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M28.D
Acq On : 8 Mar 17 23:50
Sample : 170308A BLk-1WM
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 8:38 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:09:42 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	329598	25.00000 ppb	0.00
55) Chlorobenzene-D5 (IS)	9.14	117	217475	25.00000 ppb	0.00
70) 1,4-Dichlorobenzene-D (IS)	12.34	152	96334	25.00000 ppb	0.00
System Monitoring Compounds					
31) Dibromofluoromethane(S)	4.78	111	80078	24.66048 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.640%	
36) 1,2-DCA-D4(S)	5.12	65	60275	23.27716 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.108%	
56) Toluene-D8(S)	7.34	98	323027	25.58107 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.324%	
64) 4-Bromofluorobenzene(S)	10.73	95	99783	23.90437 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.616%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

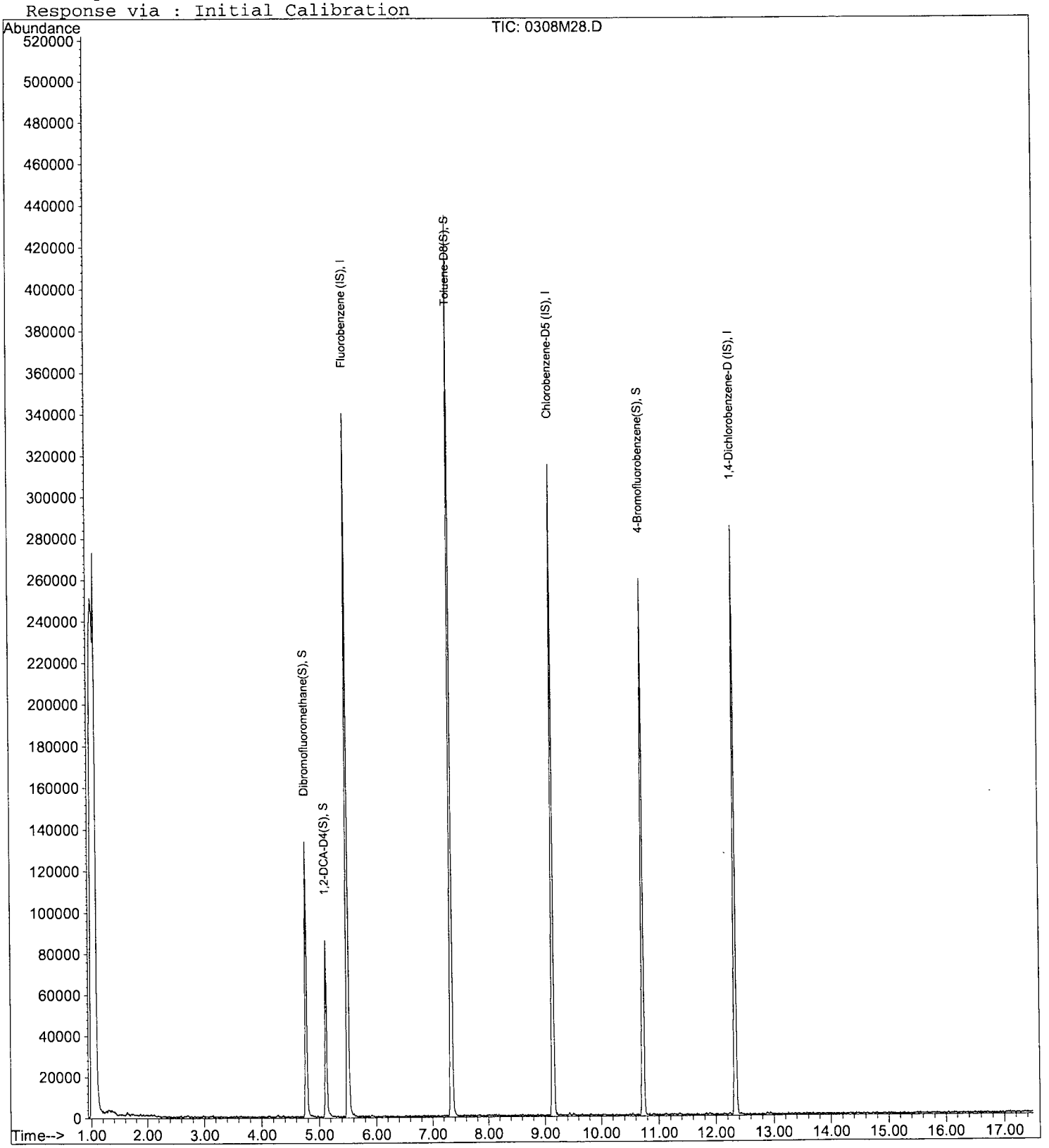
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M28.D
Acq On : 8 Mar 17 23:50
Sample : 170308A BLk-1WM
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 8:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 08:20:09 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170308W-51052 LCS - 216701**
Batch ID: #86BTO-170308AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.78	97.8	79-120
ETHYLBENZENE	10.00	9.93	99.3	79-121
TOLUENE	10.00	9.72	97.2	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.8	99.2	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.6	98.4	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/08/17
Analysis Date :	03/08/17
Instrument :	Max
Run :	0308M19
Initials :	SV

Printed: 03/10/17 11:06:00 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M19.D
Acq On : 8 Mar 17 19:35
Sample : 170308A LCS-1WM
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:27 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333220	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	236151	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	115174	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	83248	25.35804 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.432%	
37) 1,2-DCA-D4(S)	5.12	65	65006	24.83132 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.324%	
57) Toluene-D8(S)	7.34	98	336973	24.57506 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.300%	
65) 4-Bromofluorobenzene(S)	10.72	95	111223	24.53776 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.152%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	44208	11.32548 ppb	98
3) Freon 114	1.29	85	55842	10.20217 ppb	99
4) Chloromethane	1.34	50	55752	9.98168 ppb	96
5) Vinyl chloride	1.43	62	79489	10.01698 ppb	94
6) Bromomethane	1.69	94	49211	8.97296 ppb	99
7) Chloroethane	1.80	64	46849	10.07598 ppb	100
8) Dichlorofluoromethane	1.98	67	121112	9.86854 ppb	99
9) Trichlorofluoromethane	2.03	101	99203	10.16874 ppb	98
10) Acrolein	2.41	56	34351	115.47838 ppb	96
11) Acetone	2.57	58	1287	8.96970 ppb	93
12) Freon-113	2.53	101	59099	10.44626 ppb	98
13) 1,1-DCE	2.51	61	90483	10.20275 ppb	99
14) Acetonitrile	2.83	41	30688	112.30735 ppb	97
15) t-Butanol	3.14	59	13037	129.01157 ppb	99
16) Methyl Acetate	2.90	43	20302	10.44882 ppb	97
17) Iodomethane	2.64	142	58264	8.18783 ppb	98
18) Acrylonitrile	3.22	53	9058	10.03369 ppb	91
19) Methylene chloride	2.98	84	55374	9.34445 ppb	99
20) Carbon disulfide	2.70	76	182710	10.08787 ppb	99
21) Methyl t-butyl ether (MtBE	3.28	73	95274	9.82615 ppb	99
22) Trans-1,2-DCE	3.25	96	66764	9.90954 ppb	97
23) Diisopropyl Ether	3.79	45	159662	9.65086 ppb	99
24) 1,1-DCA	3.67	63	107544	9.92210 ppb	99
25) Vinyl Acetate	3.75	43	27451	9.57656 ppb	98
26) Ethyl tert Butyl Ether	4.16	59	109528	9.76958 ppb	96
27) MEK (2-Butanone)	4.30	43	11379m	8.03555 ppb	44
28) Cis-1,2-DCE	4.26	96	68051	9.82598 ppb	96
29) 2,2-Dichloropropane	4.26	77	74183	11.09887 ppb	98
30) Chloroform	4.61	83	108993	10.12723 ppb	100
31) Bromochloromethane	4.51	128	26167	9.87137 ppb	95
33) 1,1,1-TCA	4.79	97	103759	11.05488 ppb	97
34) Cyclohexane	4.86	41	57551	10.18751 ppb	99
35) 1,1-Dichloropropene	4.98	75	90113	10.23825 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	146512	9.67715 ppb	97
38) Carbon Tetrachloride	4.97	117	84712	12.27205 ppb	97
39) Tert Amyl Methyl Ether	5.36	73	98227	9.95062 ppb	96
40) 1,2-DCA	5.20	62	55299	9.42697 ppb	96
41) Benzene	5.19	78	257589	9.77931 ppb	99
42) TCE	5.91	95	73811	10.20212 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M19.D
Acq On : 8 Mar 17 19:35
Sample : 170308A LCS-1WM
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:27 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	203773	122.97074	ppb	96
44) 1,2-Dichloropropane	6.15	63	55202	9.95988	ppb	96
45) Bromodichloromethane	6.48	83	65942	10.79723	ppb	96
46) Methyl Cyclohexane	6.14	83	96223	9.75939	ppb	97
47) Dibromomethane	6.28	93	22858	9.99576	ppb	92
48) MIBK (methyl isobutyl ket	7.23	43	24756	8.98130	ppb	96
49) 1-Bromo-2-chloroethane	6.82	63	51581	9.79272	ppb	88
51) Cis-1,3-Dichloropropene	7.01	75	70197	10.80311	ppb	96
52) Toluene	7.42	91	295369	9.71651	ppb	98
53) Trans-1,3-Dichloropropene	7.70	75	47005	11.60154	ppb	97
54) 1,1,2-TCA	7.91	83	26559	9.73824	ppb	88
55) 2-Hexanone	8.27	43	14295	9.22568	ppb	95
58) 1,2-EDB	8.51	107	28707	9.70795	ppb	97
59) Tetrachloroethene	8.09	164	73986	10.17669	ppb	97
60) 1-Chlorohexane	9.20	91	88467	9.90149	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.29	131	53497	11.79571	ppb	92
62) m&p-Xylene	9.51	106	274229	19.63782	ppb	100
63) o-Xylene	10.03	106	127785	9.53254	ppb	97
64) Styrene	10.05	104	189067	9.66271	ppb	98
66) 1,3-Dichloropropane	8.11	76	54500	9.28899	ppb	100
67) Dibromochloromethane	8.39	129	38748	11.85691	ppb	89
68) Chlorobenzene	9.17	112	183597	9.78250	ppb	99
69) Ethylbenzene	9.35	91	341135	9.92699	ppb	100
70) Bromoform	10.25	173	18477	10.37154	ppb	97
72) Isopropylbenzene	10.55	105	342324	10.10949	ppb	99
73) 1,1,2,2-Tetrachloroethane	10.95	83	29261	9.56882	ppb	91
74) 1,2,3-Trichloropropane	10.99	110	9962	9.17253	ppb	100
75) t-1,4-Dichloro-2-Butene	11.04	53	5423	9.08192	ppb	86
76) Bromobenzene	10.91	156	72977	9.81041	ppb	99
77) n-Propylbenzene	11.12	91	382297	10.03311	ppb	97
78) 4-Ethyltoluene	11.28	105	333316	10.07461	ppb	98
79) 2-Chlorotoluene	11.20	91	217950	10.00718	ppb	100
80) 1,3,5-Trimethylbenzene	11.38	105	277893	9.83236	ppb	99
81) 4-Chlorotoluene	11.35	91	246636	9.67779	ppb	97
82) Tert-Butylbenzene	11.82	119	247461	9.74543	ppb	97
83) 1,2,4-Trimethylbenzene	11.89	105	267126	10.04856	ppb	99
84) Sec-Butylbenzene	12.13	105	336552	10.05169	ppb	99
85) p-Isopropyltoluene	12.36	119	293439	10.06349	ppb	99
86) Benzyl Chloride	12.57	91	17097	8.95364	ppb	97
87) 1,3-DCB	12.24	146	149917	9.87250	ppb	99
88) 1,4-DCB	12.37	146	141139	9.36948	ppb	99
89) n-Butylbenzene	12.94	91	237531	10.23289	ppb	100
90) 1,2-DCB	12.88	146	120995	9.67423	ppb	97
91) Hexachloroethane	13.25	117	26612	11.22650	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	3885	10.80257	ppb	87
93) 1,2,4-Trichlorobenzene	15.21	180	63885	9.29158	ppb	99
94) Hexachlorobutadiene	15.51	225	45195	10.34934	ppb	97
95) Naphthalene	15.54	128	28760	9.49722	ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	44304	9.26319	ppb	96

(#) = qualifier out of range (m) = manual integration

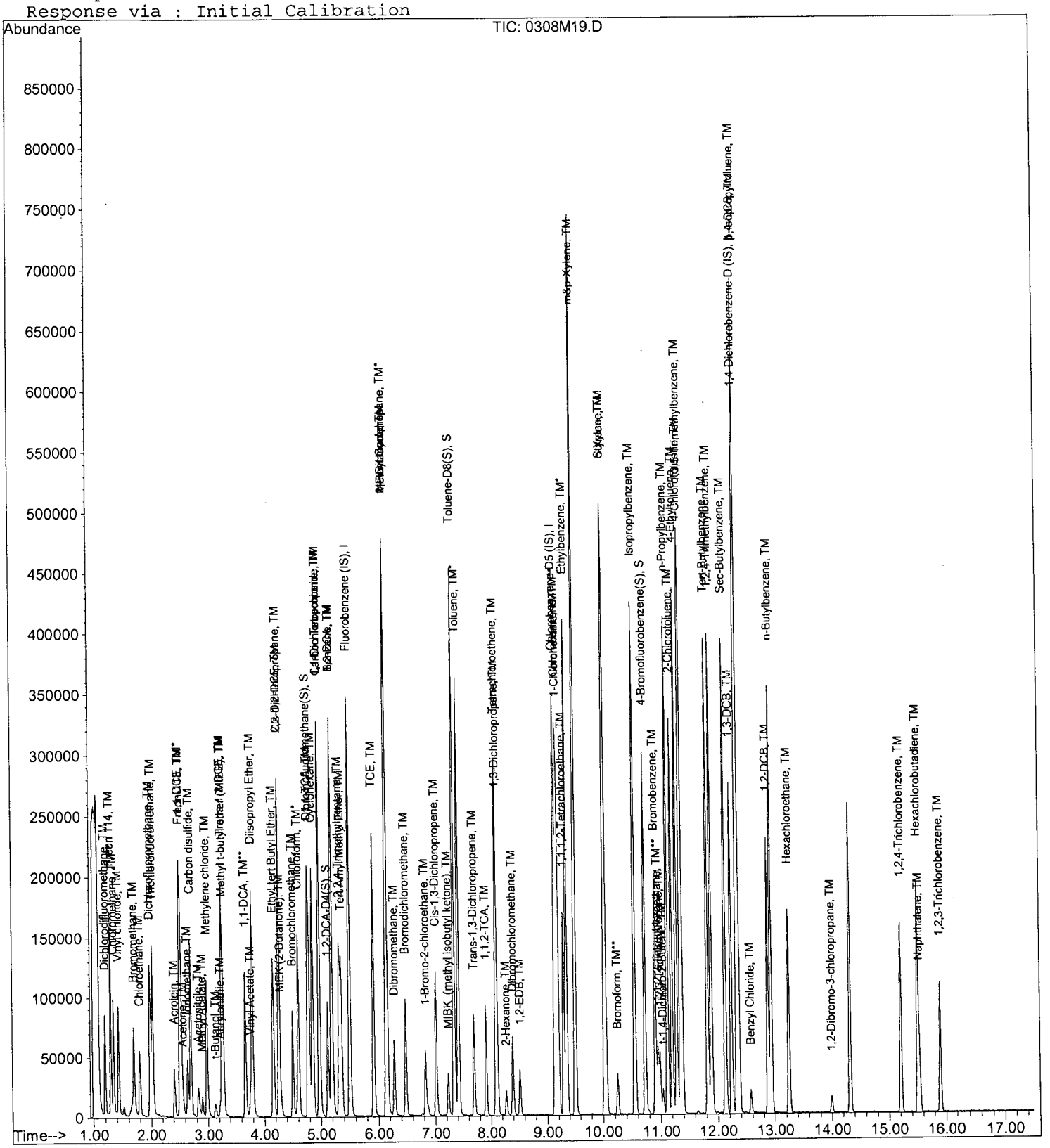
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M19.D
Acq On : 8 Mar 17 19:35
Sample : 170308A LCS-1WM
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



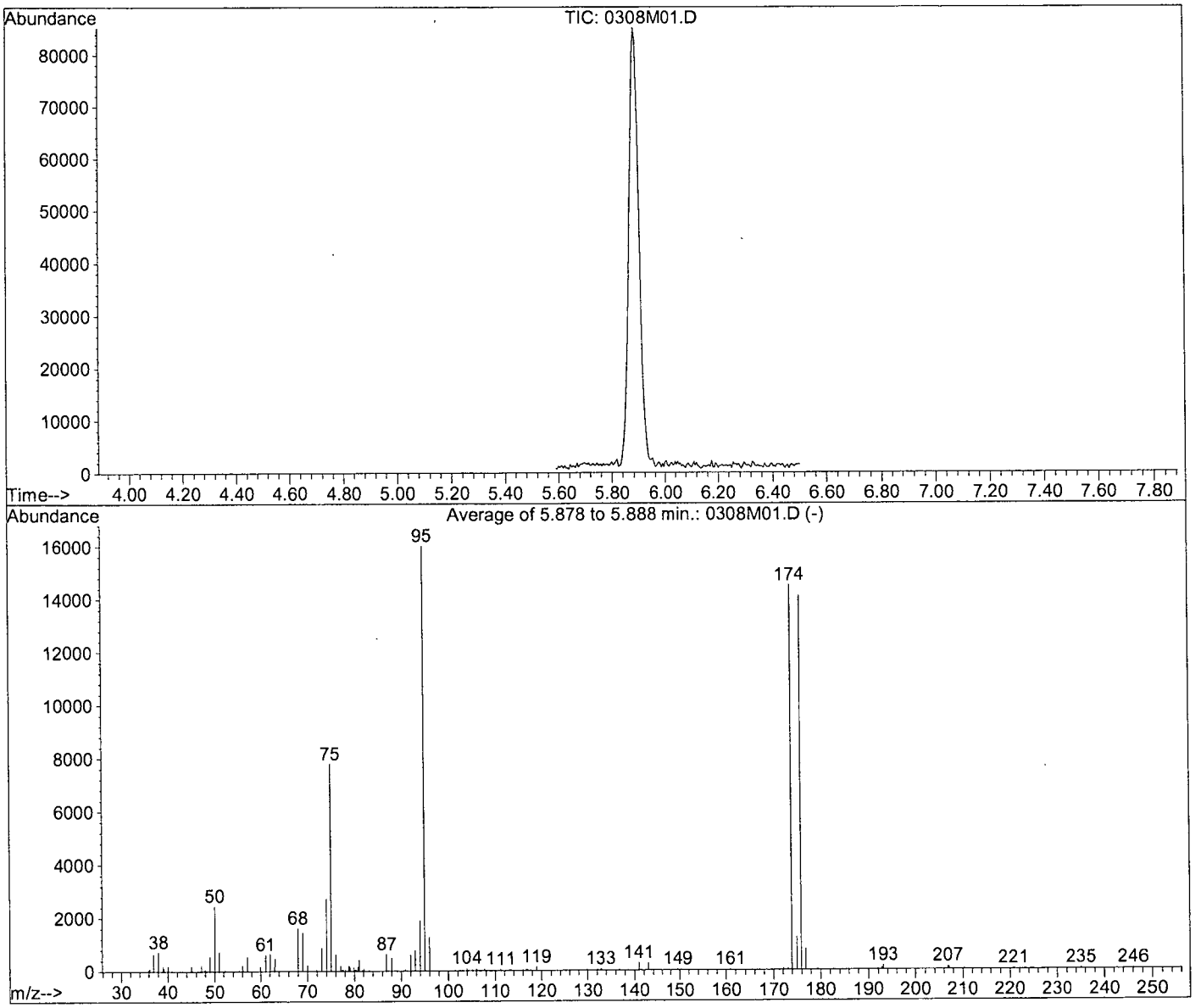
454

BFB

Data File : M:\MAX\DATA\M170308\0308M01.D
Acq On : 8 Mar 17 11:09
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	2448	PASS
75	95	30	60	48.6	7787	PASS
95	95	100	100	100.0	16012	PASS
96	95	5	9	7.9	1263	PASS
173	174	0.00	2	0.5	72	PASS
174	95	50	100	90.6	14507	PASS
175	174	5	9	8.6	1245	PASS
176	174	95	101	97.3	14113	PASS
177	176	5	9	5.6	793	PASS

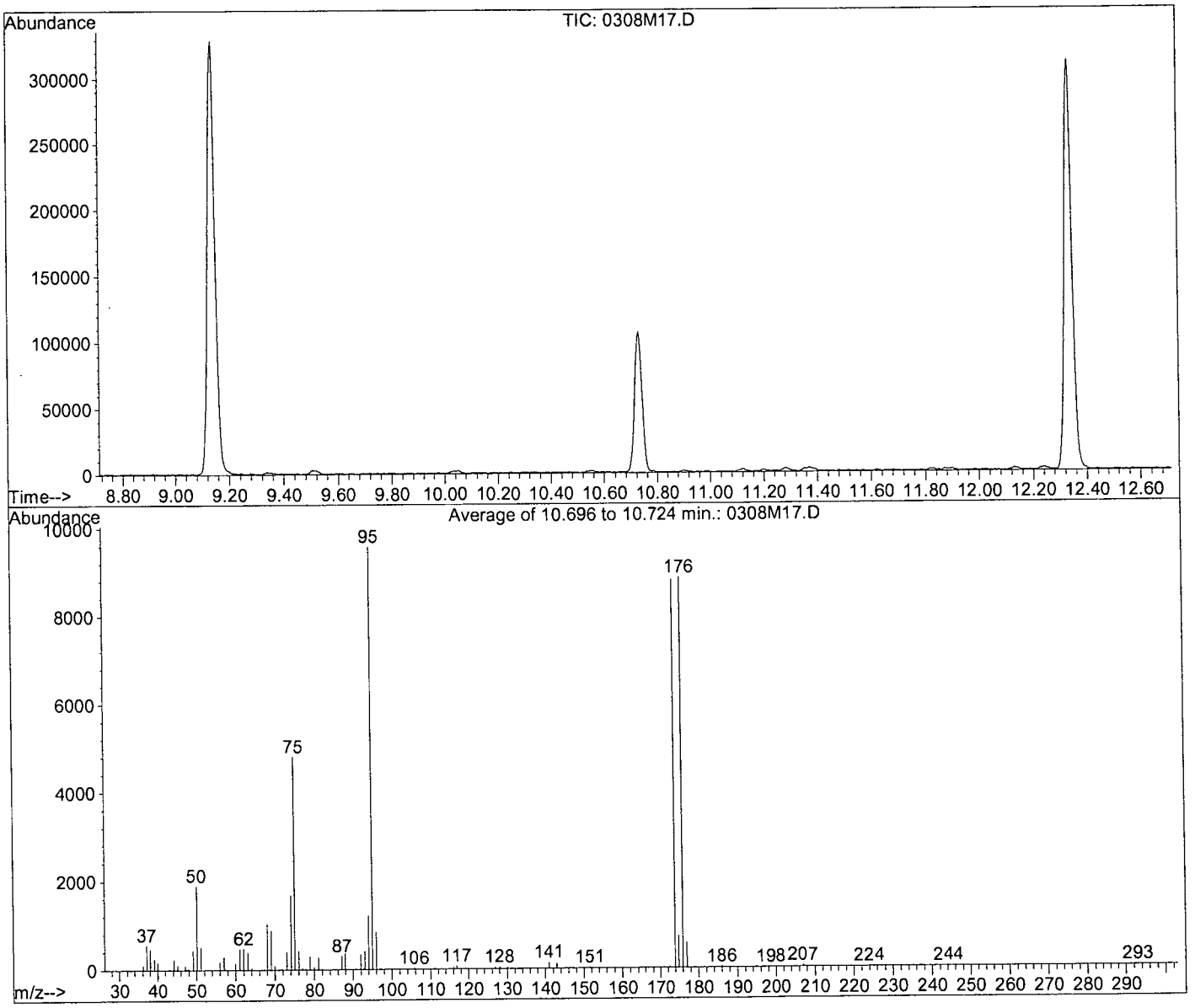
0308M01.D MALLW.M Thu Mar 09 08:26:49 2017

BFB

Data File : M:\MAX\DATA\M170308\0308M17.D
Acq On : 8 Mar 17 18:38
Sample : 25ug/ml BFB STD 3/02/17
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.696 to 10.724 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	1894	PASS
75	95	30	60	50.2	4807	PASS
95	95	100	100	100.0	9573	PASS
96	95	5	9	8.8	839	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	91.8	8791	PASS
175	174	5	9	8.2	719	PASS
176	174	95	101	100.6	8848	PASS
177	176	5	9	6.4	567	PASS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	03/09/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/07/17K	03/07/17L	03/07/17M	03/07/17G	03/07/17I	03/07/17H	03/07/17J	03/07/17N	Final Vol
	Conc.	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
03/08/17H-CMM	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
03/08/17I-CMM	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
03/08/17J-CMM	1	10	10	10	n/a	n/a	n/a	n/a	10	50
03/08/17K-CMM	2	20	20	20	n/a	n/a	n/a	n/a	15	50
03/08/17L-CMM	5	n/a	n/a	n/a	5	5	5	5	20	50
03/08/17M-CMM	10	n/a	n/a	n/a	10	10	10	10	25	50
03/08/17N-CMM	20	n/a	n/a	n/a	20	20	20	20	30	50
03/08/17O-CMM	40	n/a	n/a	n/a	40	40	40	40	35	50
03/08/17P-CMM	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

03/07/17G							
50ug/ml Vol Work Std #7							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	279822-36640	030717A-CMM	21919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37448	022317E-DG	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36575	022317F-DG	52418	200
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3500
03/07/17H							
50ug/ml Vol Work Std #1							
Exp:04/07/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37216	022317G-DG	91919	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17I							
50ug/ml Vol Work Std #8							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37170	022317H-DG	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-365582	022317I-DG	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37439	022317K-DG	41017	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3700
03/07/17J							
50ug/ml Vol Work Std #2							
Exp:04/07/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36074	022317J-DG	81717	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3900
		03/07/17K					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/07/17G**	Exp:04/07/17	200	
		50ug/ml Vol Work Std #8		**03/07/17I**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1600	
		03/07/17L					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/07/17H**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
		03/07/17M					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/07/17J**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
03/07/17N							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37455	030717B-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	298515-37587	030717C-CMM	31417	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3400

SECONDARY SOURCE

03/07/17O							
50ug/ml VOC Std#4							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37376	030717D-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17P							
50ug/ml VOC Std#5							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37380	022317N-DG	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35382	022317O-DG	62117	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1900
03/07/17Q							

50ug/ml VOC Std#6							
Exp:04/07/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35932	022317P-DG	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37442	022317Q-DG	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37385	022317R-DG	121918	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1800
03/07/17R							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37236	030717E-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	298516-37589	030717F-CMM	31417	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170308\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0308M01.D	1	25ug/ml BFB STD 3/02/17	2ul	8 Mar 17 11:09
2	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
3	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
4	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
5	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
6	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
7	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
8	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
9	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
10	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
11	16	0308M17.D	1	25ug/ml BFB STD 3/02/17	IS&S 02/23/17	8 Mar 17 18:38
12	17	0308M18.D	1	(SS)10ug/L VOC STD 3/8/17	IS&S 02/23/17	8 Mar 17 19:07
13	18	0308M19.D	1	170308A LCS-1WM	IS&S 02/23/17	8 Mar 17 19:35
14	27	0308M28.D	1	170308A BLk-1WM	IS&S 02/23/17	8 Mar 17 23:50
15	30	0308M31.D	1	AZ51052W01	IS&S 02/23/17	9 Mar 17 1:14
16	31	0308M32.D	1	AZ51053W01	IS&S 02/23/17	9 Mar 17 1:43
17	32	0308M33.D	1	AZ51054W01	IS&S 02/23/17	9 Mar 17 2:11
18	33	0308M34.D	1	AZ51055W01	IS&S 02/23/17	9 Mar 17 2:39
19	34	0308M35.D	1	AZ51056W04	IS&S 02/23/17	9 Mar 17 3:07
20	41	0308M42.D	1	Ending CCV 8260 10ug/L 3/8/1	IS&S 02/23/17	9 Mar 17 6:25

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170308W-51052 - 216734**
Batch ID: #GRO86-170308AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/08/17	03/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/08/17	03/08/17

Quant Method: MGAS6302.
Run #: 0308M28
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 11:07:36 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82337
Case No: 82337 Date Analyzed: 03/08/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170308AM-LCS	Lab Control Spike	85-114	96.0				
170308AM-BLK	Blank	85-114	95.6				
AZ51052	ERH252	85-114	93.4				
AZ51053	ERH253	85-114	93.8				
AZ51054	ERH254	85-114	91.2				
AZ51055	ERH259	85-114	93.9				
AZ51056	ERH260	85-114	95.4				

Comments: Batch: #GRO86-170308A

Printed: 03/10/17 11:07:39 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170308W-51052 LCS - 216734**
Batch ID: #GRO86-170308AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	287	95.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.0	96.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/08/17
Analysis Date :	03/08/17
Instrument :	Max
Run :	0308M24
Initials :	SV

Printed: 03/10/17 11:07:44 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82337

Case No: 82337 Date Analyzed: 03/08/17

Matrix: WATER Instrument: Max

Blank ID: 170308AM-BLK Time Analyzed: 2350

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170308AM-LCS	Lab Control Spike	0308M24	03/08/17 2157
170308AM-BLK	Blank	0308M28	03/08/17 2350
AZ51052	ERH252	0308M31	03/09/17 0114
AZ51053	ERH253	0308M32	03/09/17 0143
AZ51054	ERH254	0308M33	03/09/17 0211
AZ51055	ERH259	0308M34	03/09/17 0239
AZ51056	ERH260	0308M35	03/09/17 0307

Comments: Batch: #GRO86-170308A

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH252
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51052
QCG: #GRO86-170308AM-216734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.4	85-114			%	03/09/17	03/09/17

Quant Method:	MGAS6302.M
Run #:	0308M31
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/10/17 11:07:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M31.D
Acq On : 9 Mar 17 1:14
Sample : AZ51052W01
Misc : IS&S 02/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	311841	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

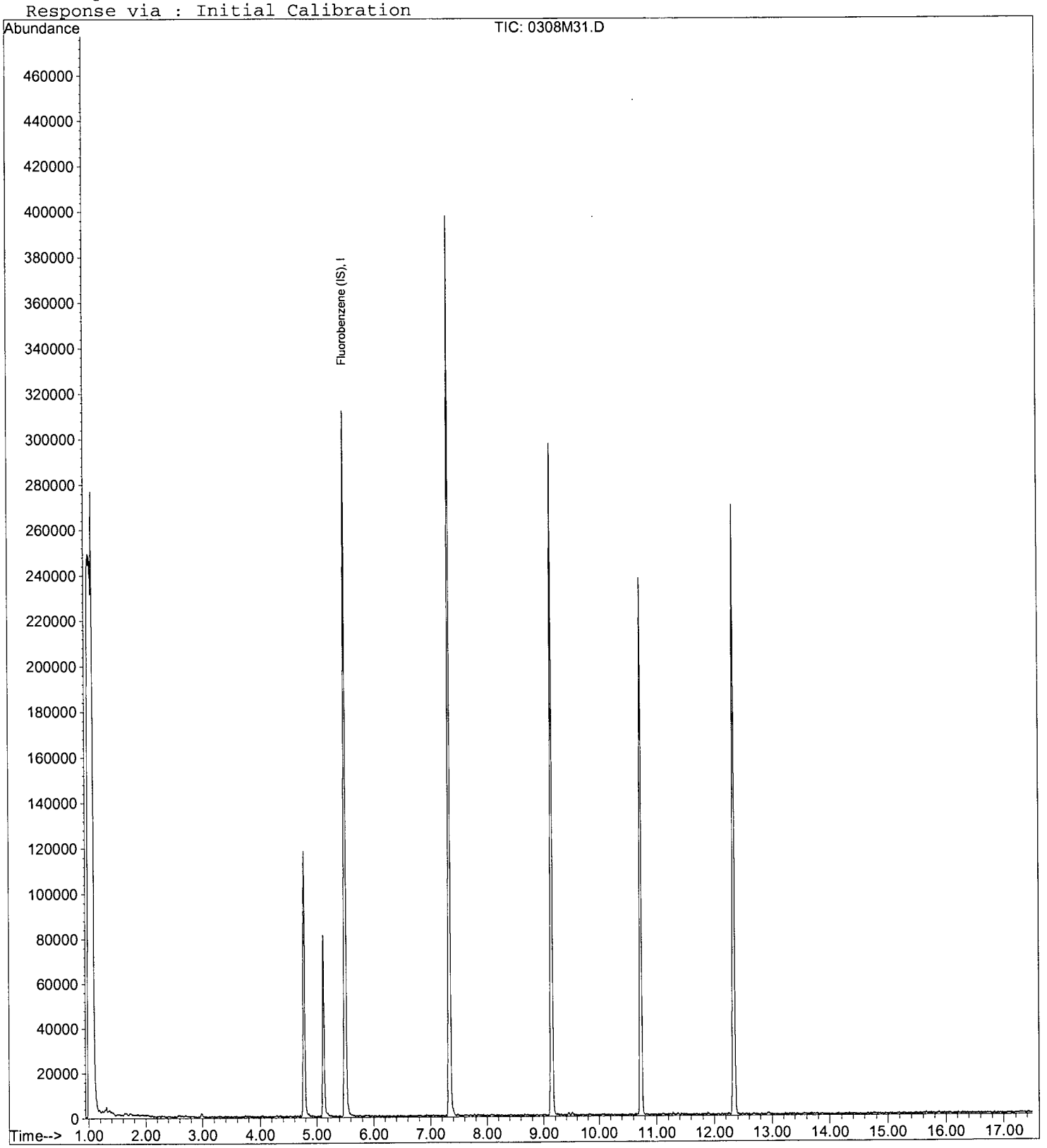
Data File : M:\MAX\DATA\M170308\0308M31.D
Acq On : 9 Mar 17 1:14
Sample : AZ51052W01
Misc : IS&S 02/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M31.D
Acq On : 9 Mar 17 1:14
Sample : AZ51052W01
Misc : IS&S 02/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	305969	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	206418	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	90987	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72207	23.95382 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.816%	
3) 1,2-DCA-D4(S)	5.12	65	56797	23.62791 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.512%	
5) Toluene-D8(S)	7.34	98	301934	25.19148 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.764%	
6) 4-Bromofluorobenzene(S)	10.73	95	92556	23.36077 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.444%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH253
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51053
QCG: #GRO86-170308AM-216734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.8	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0308M32
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:07:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M32.D
Acq On : 9 Mar 17 1:43
Sample : AZ51053W01
Misc : IS&S 02/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	328276	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

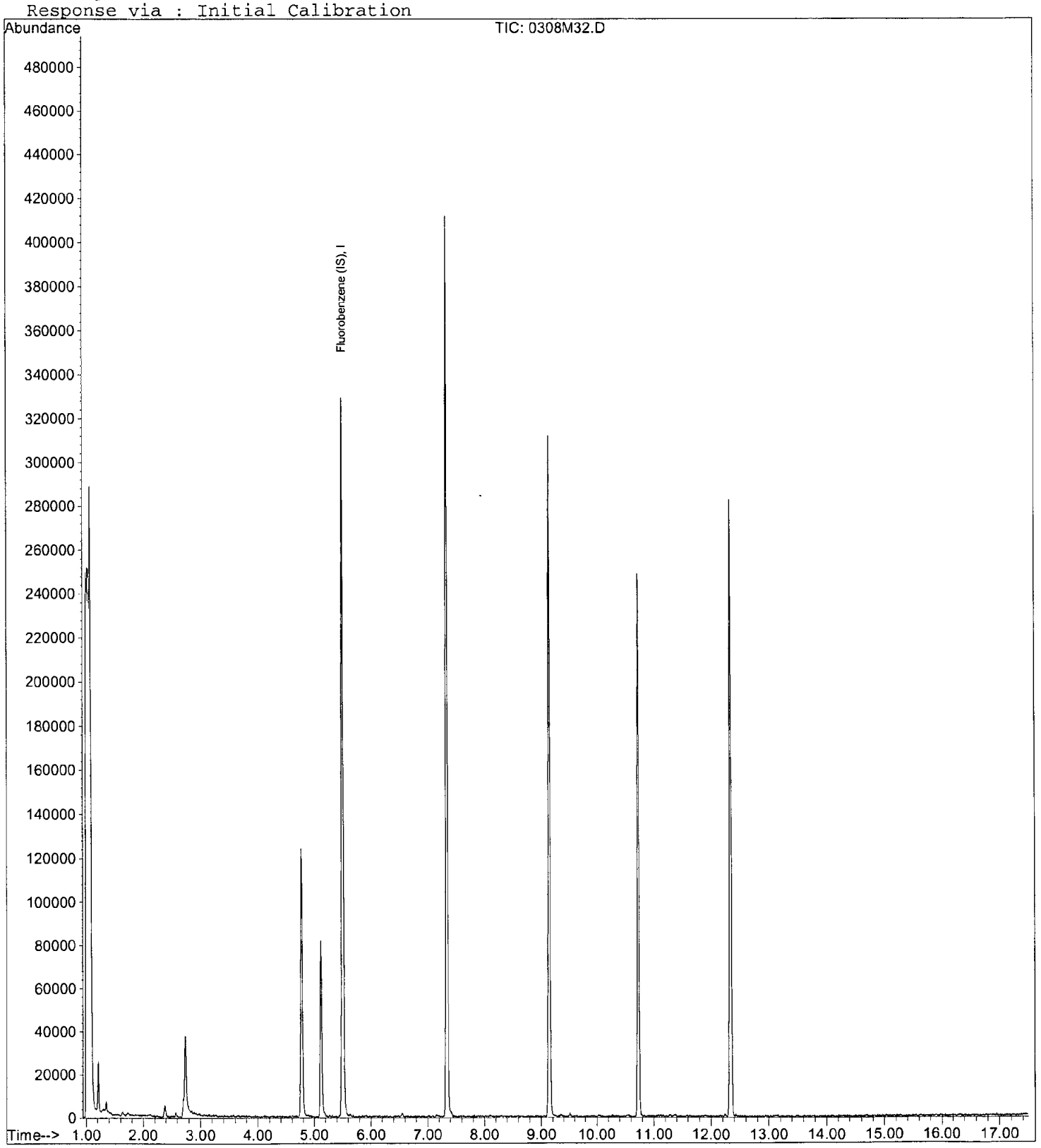
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M32.D
Acq On : 9 Mar 17 1:43
Sample : AZ51053W01
Misc : IS&S 02/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M32.D
Acq On : 9 Mar 17 1:43
Sample : AZ51053W01
Misc : IS&S 02/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	316866	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	210590	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	93792	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75982	24.33929 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.356%	
3) 1,2-DCA-D4(S)	5.12	65	57100	22.93706 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.748%	
5) Toluene-D8(S)	7.34	98	306577	25.07212 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.288%	
6) 4-Bromofluorobenzene(S)	10.73	95	94749	23.44051 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.764%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH254
Sample Collection Date: 03/03/17

ARF: 82337
APPL ID: AZ51054
QCG: #GRO86-170308AM-216734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	91.2	85-114			%	03/09/17	03/09/17

Quant Method:	MGAS6302.M
Run #:	0308M33
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/10/17 11:07:54 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M33.D
Acq On : 9 Mar 17 2:11
Sample : AZ51054W01
Misc : IS&S 02/23/17

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	323435	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

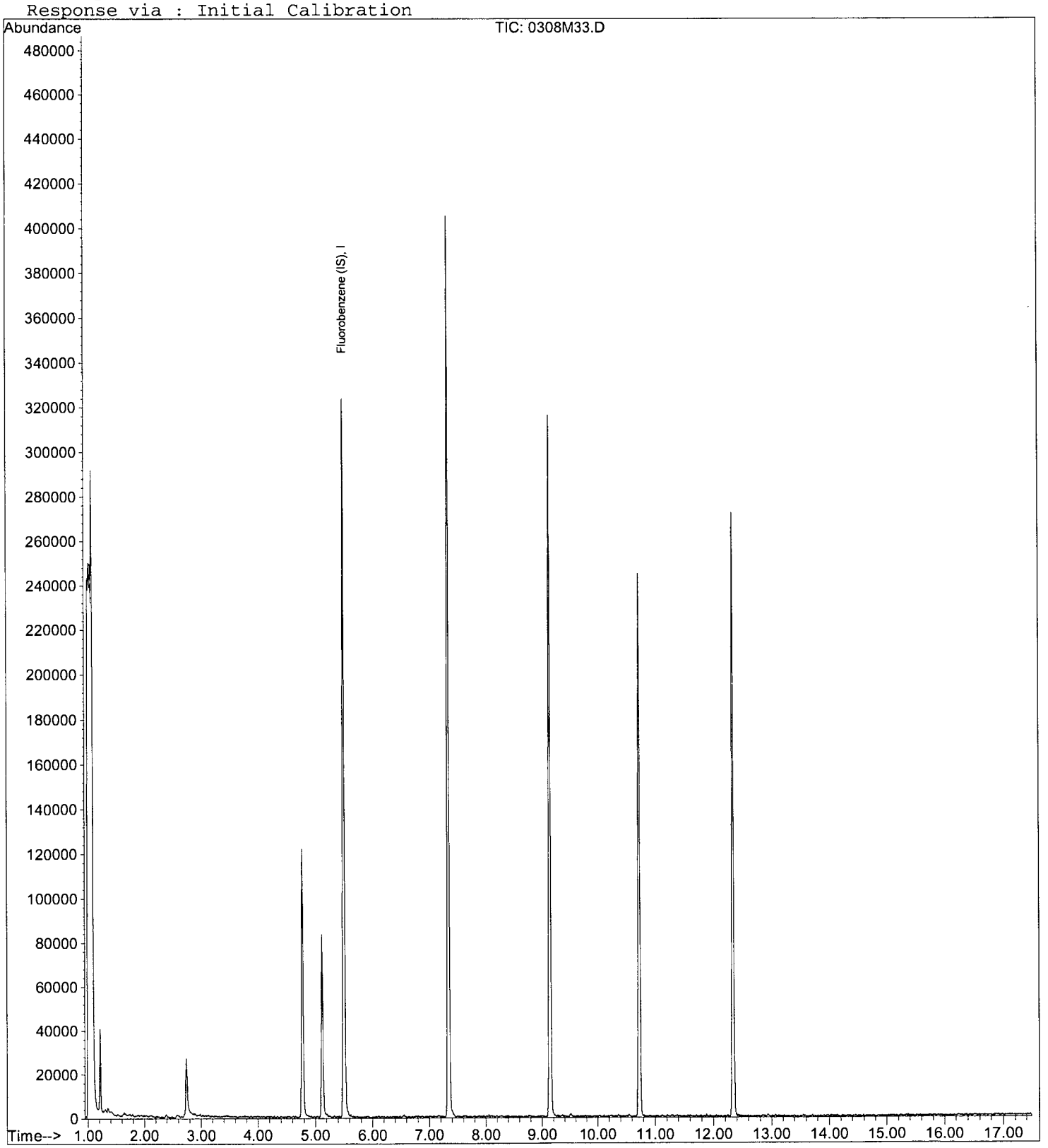
Data File : M:\MAX\DATA\M170308\0308M33.D
Acq On : 9 Mar 17 2:11
Sample : AZ51054W01
Misc : IS&S 02/23/17

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M33.D
Acq On : 9 Mar 17 2:11
Sample : AZ51054W01
Misc : IS&S 02/23/17

Vial: 32
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	311781	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213699	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	91669	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73614	23.96534 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.860%	
3) 1,2-DCA-D4(S)	5.12	65	57366	23.41975 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.680%	
5) Toluene-D8(S)	7.34	98	305498	24.62040 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.480%	
6) 4-Bromofluorobenzene(S)	10.73	95	93562	22.81010 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.240%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH259
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51055
QCG: #GRO86-170308AM-216734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.9	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0308M34
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:07:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M34.D
Acq On : 9 Mar 17 2:39
Sample : AZ51055W01
Misc : IS&S 02/23/17

Vial: 33
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:44 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	328396	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

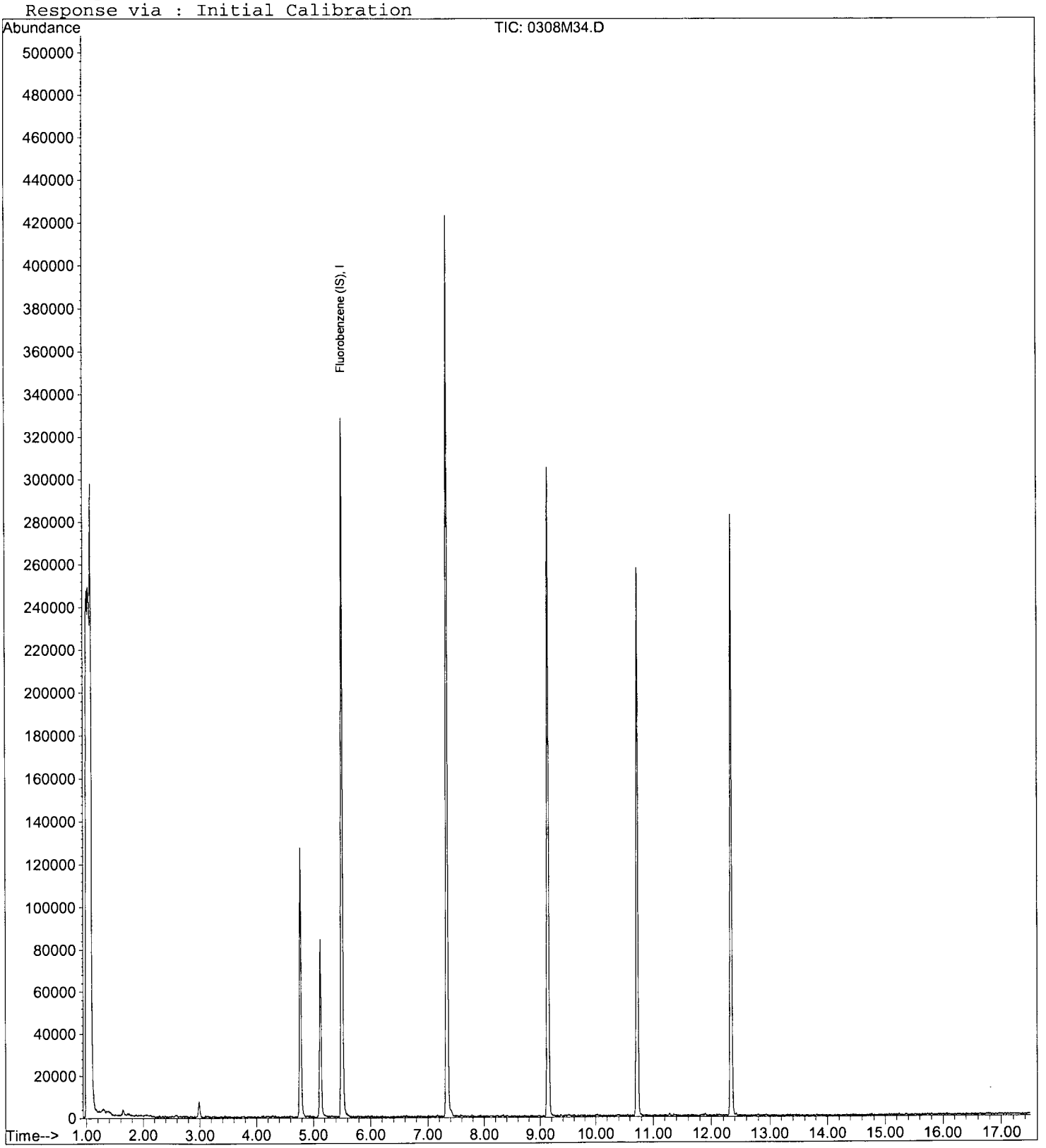
Data File : M:\MAX\DATA\M170308\0308M34.D
Acq On : 9 Mar 17 2:39
Sample : AZ51055W01
Misc : IS&S 02/23/17

Vial: 33
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:44 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M34.D Vial: 33
Acq On : 9 Mar 17 2:39 Operator: PM,DG,SV,CMM
Sample : AZ51055W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	316484	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212859	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	94970	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76795	24.62941 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.516%	
3) 1,2-DCA-D4(S)	5.12	65	58175	23.39710 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.588%	
5) Toluene-D8(S)	7.34	98	315267	25.50796 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.032%	
6) 4-Bromofluorobenzene(S)	10.73	95	95920	23.47725 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.908%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #GRO86-170308AM-216734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.4	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0308M35
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/10/17 11:07:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M35.D
Acq On : 9 Mar 17 3:07
Sample : AZ51056W04
Misc : IS&S 02/23/17

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:44 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	326819	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

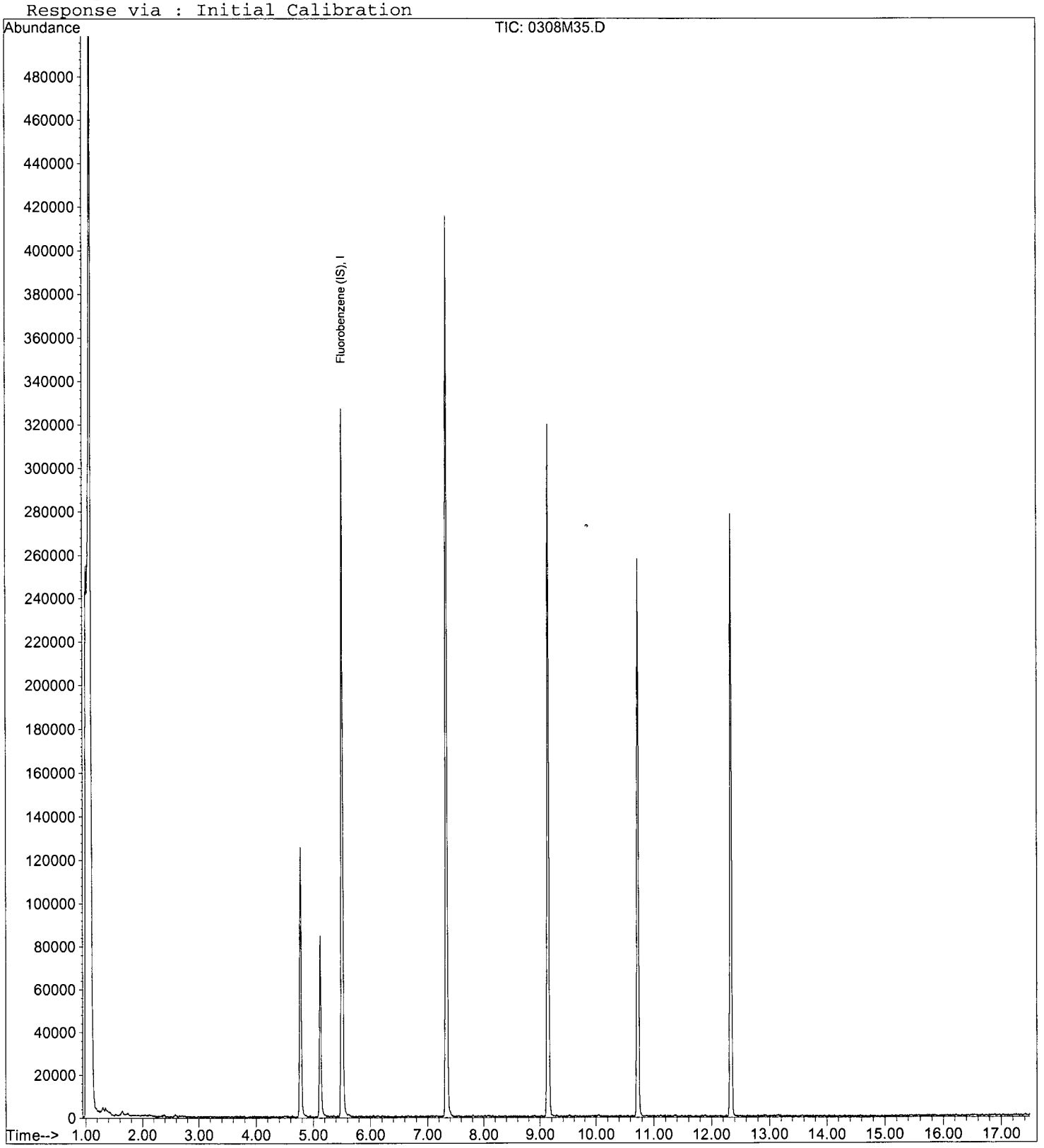
Data File : M:\MAX\DATA\M170308\0308M35.D
Acq On : 9 Mar 17 3:07
Sample : AZ51056W04
Misc : IS&S 02/23/17

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:44 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M35.D Vial: 34
Acq On : 9 Mar 17 3:07 Operator: PM,DG,SV,CMM
Sample : AZ51056W04 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	318492	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213015	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	94335	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75751	24.14141 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.564%	
3) 1,2-DCA-D4(S)	5.12	65	58119	23.22720 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.908%	
5) Toluene-D8(S)	7.34	98	318787	25.77387 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.096%	
6) 4-Bromofluorobenzene(S)	10.73	95	97537	23.85555 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.424%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
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5																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

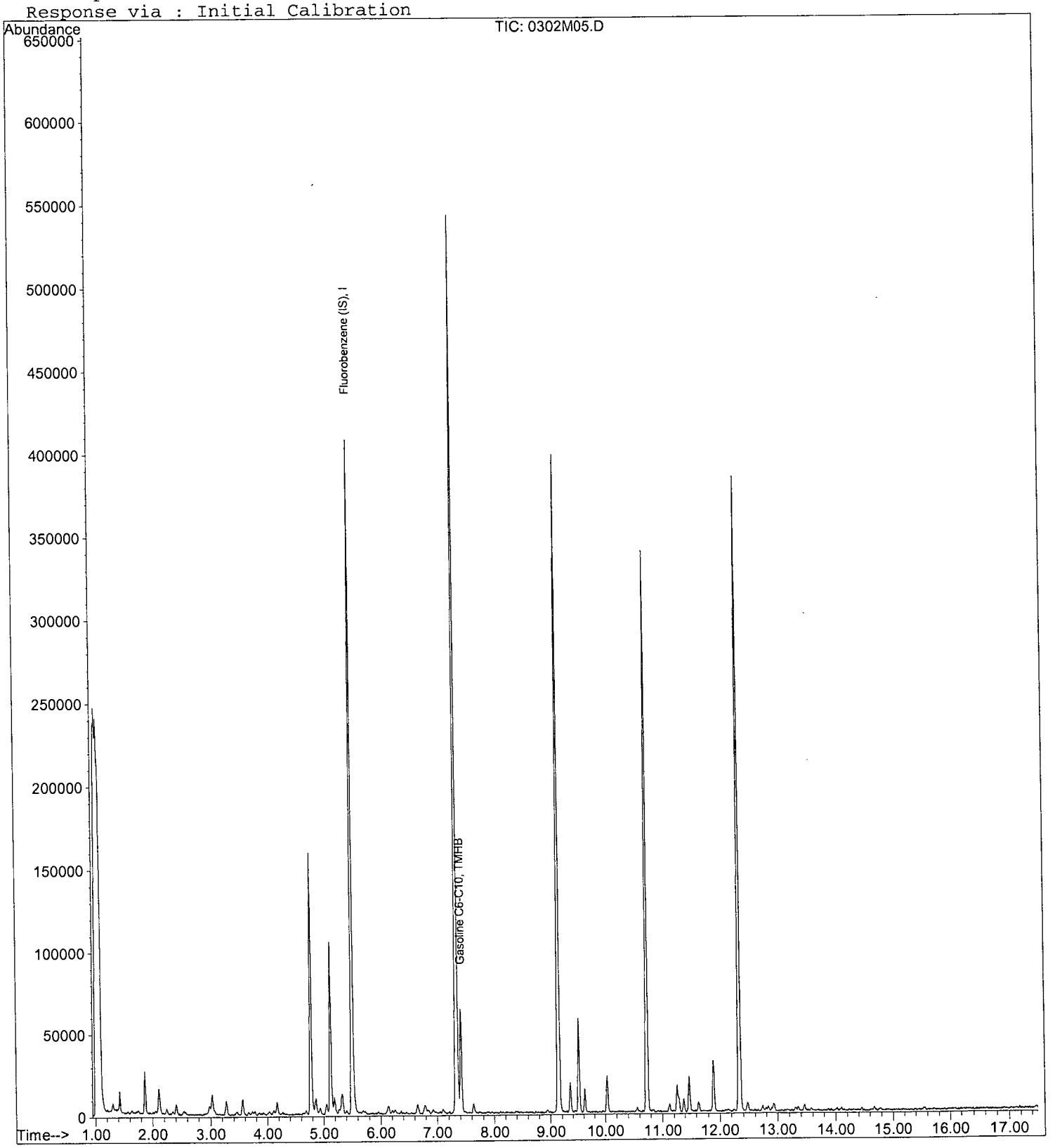
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

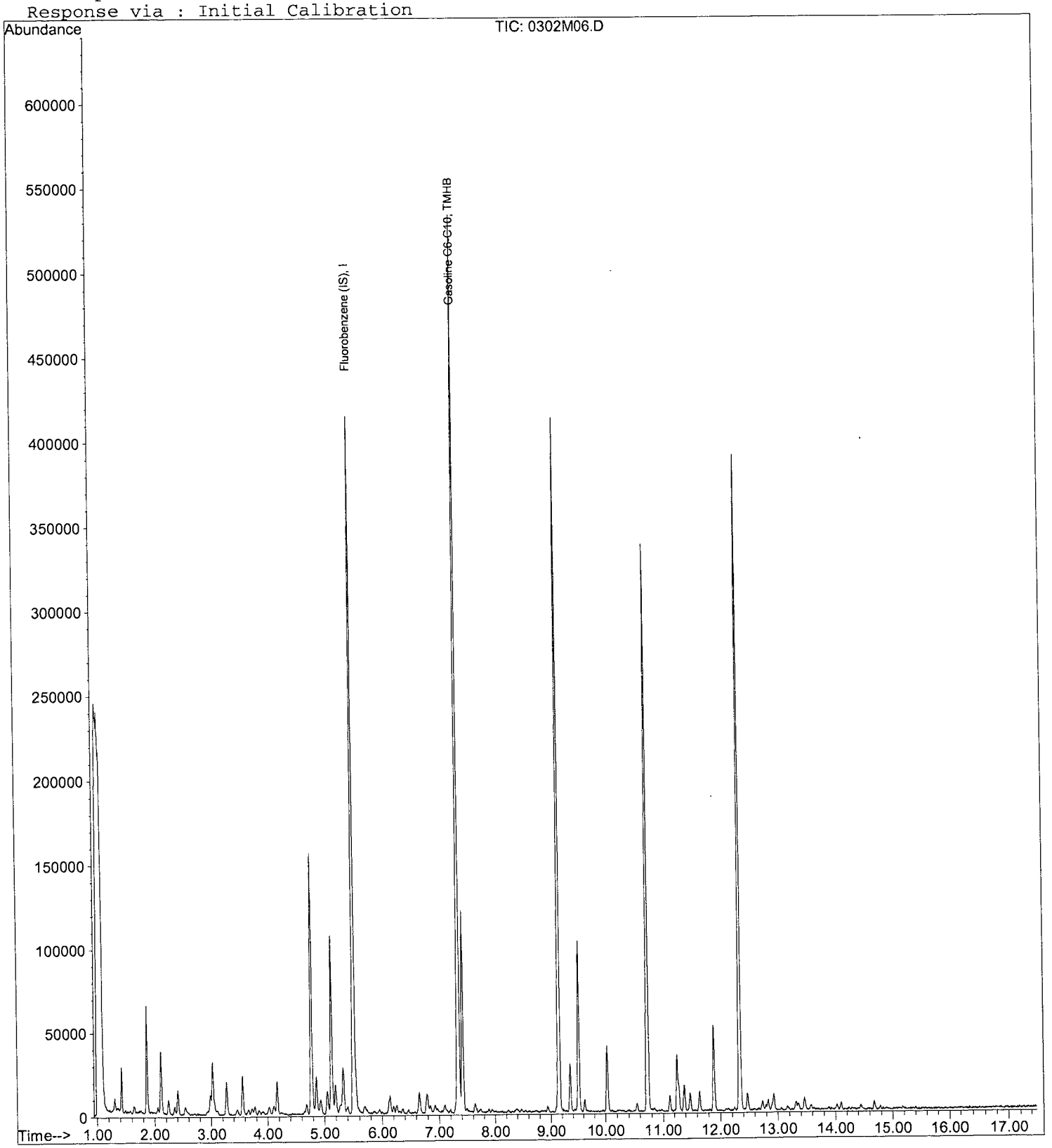
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

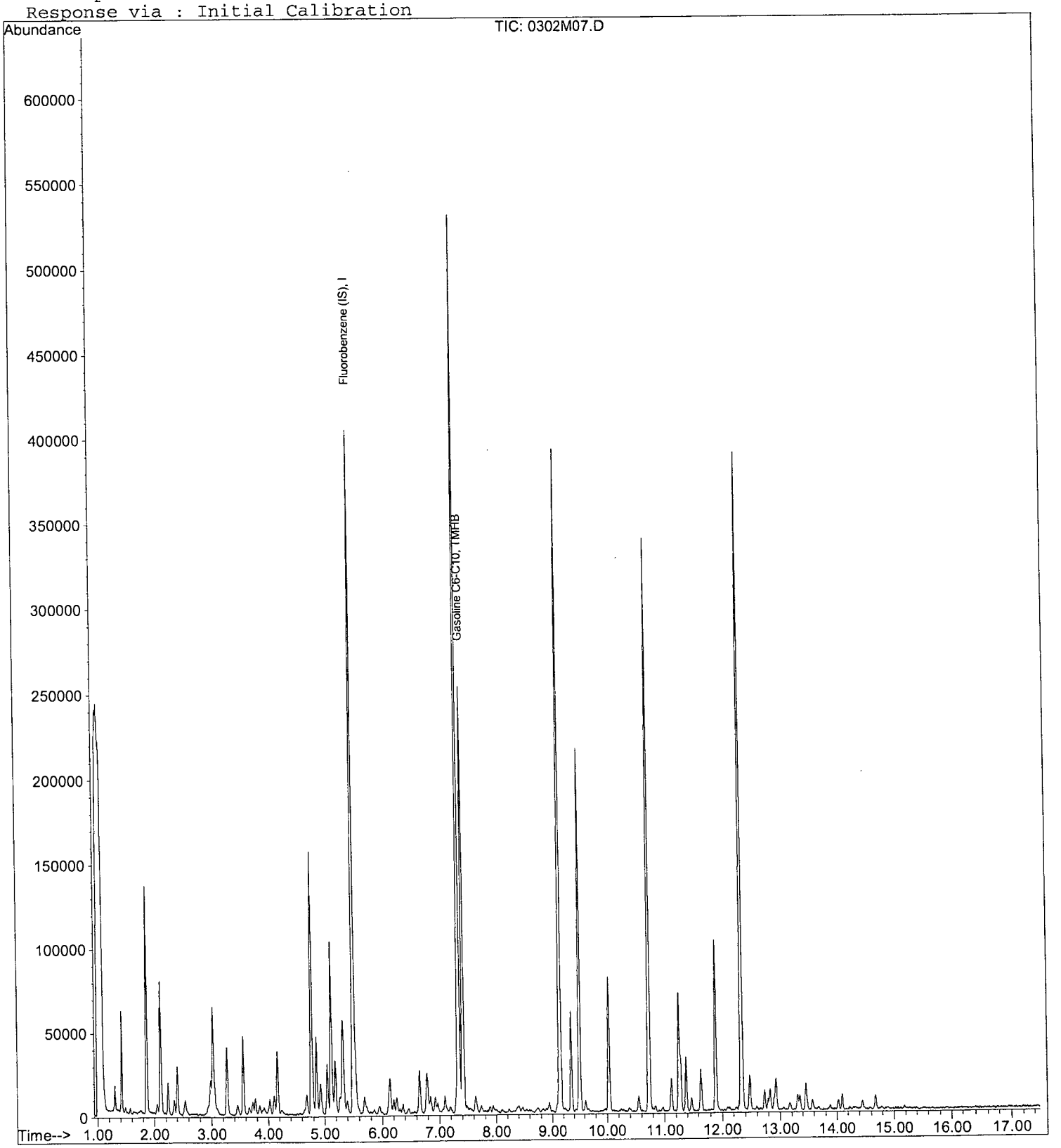
Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M08.D MGAS6302.M Mon Mar 06 11:54:39 2017

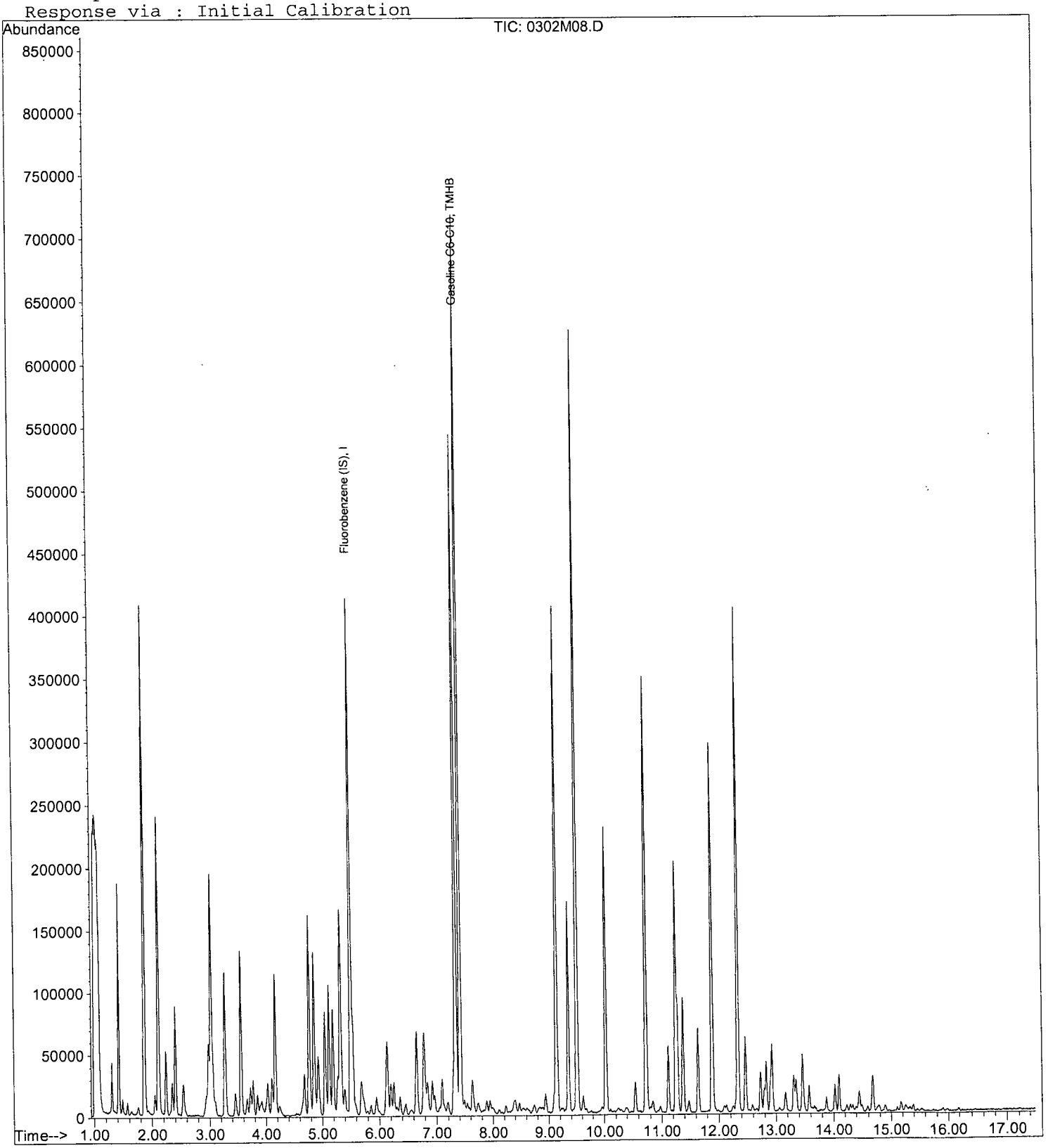
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D Vial: 9
Acq On : 2 Mar 17 11:19 Operator: PM,DG,SV,CMM
Sample : 600ppb GAS STD 03/02/17E Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration

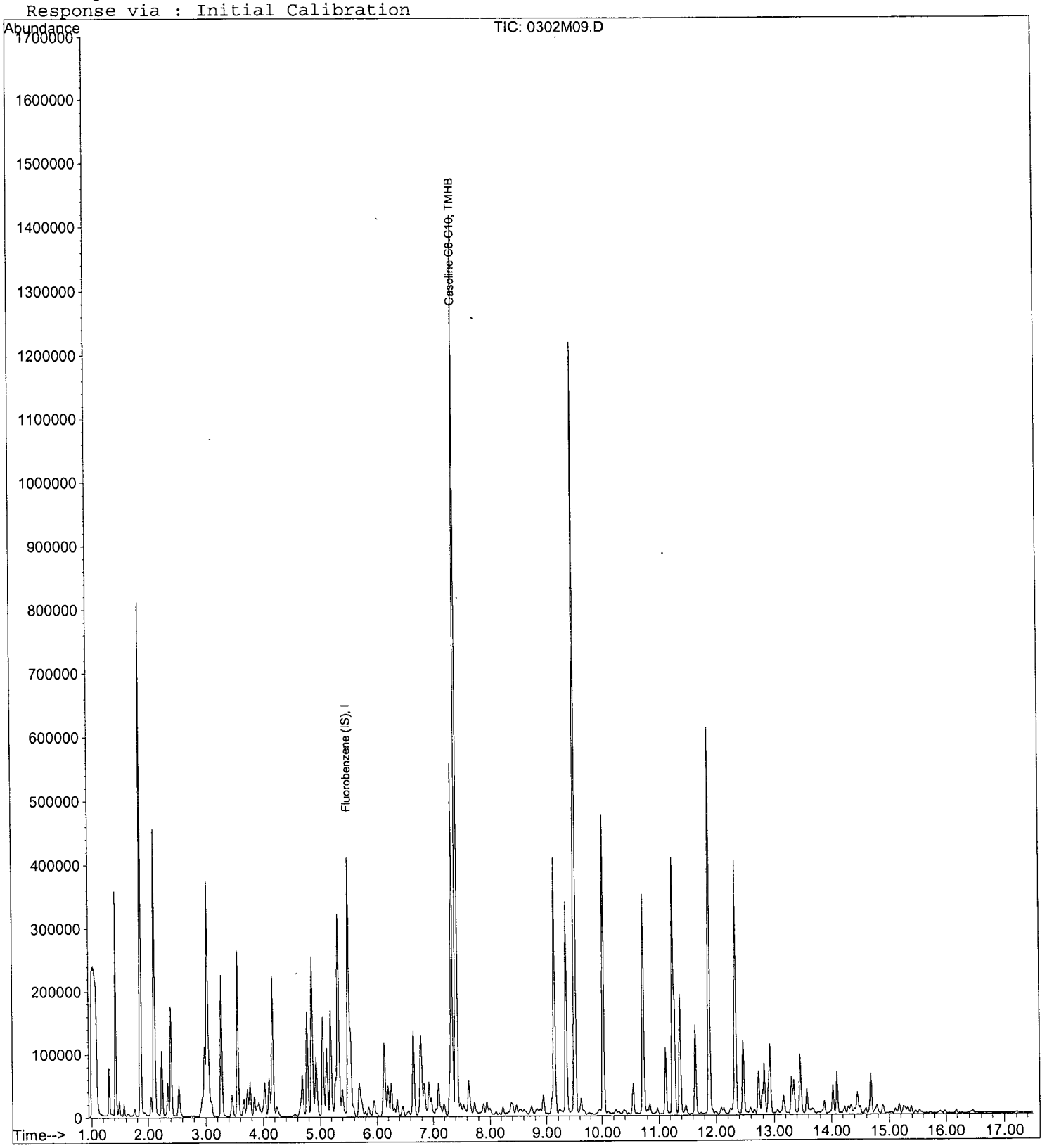
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M10.D MGAS6302.M Mon Mar 06 11:54:46 2017

Quantitation Report

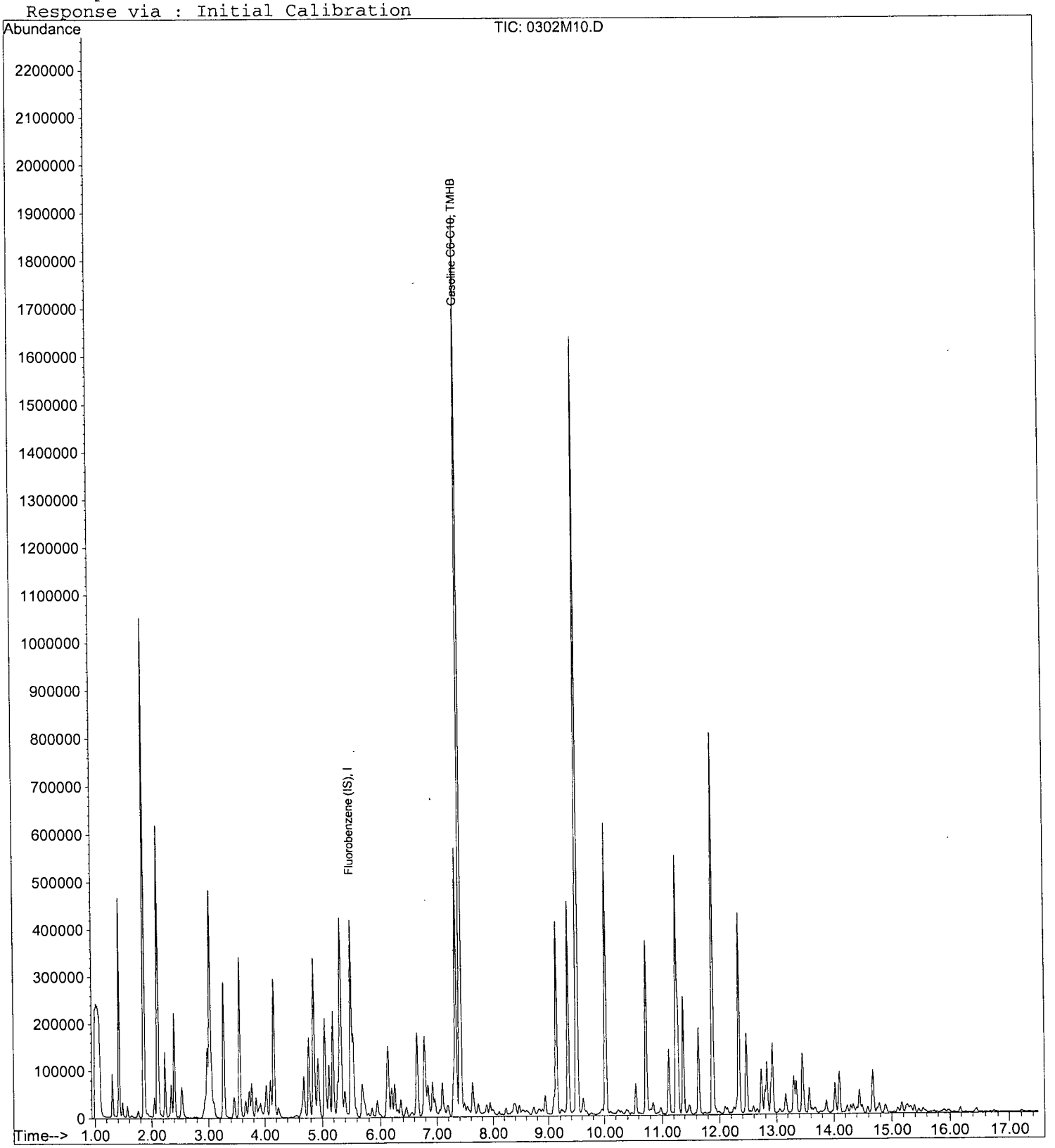
Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M11.D MGAS6302.M Mon Mar 06 11:54:58 2017

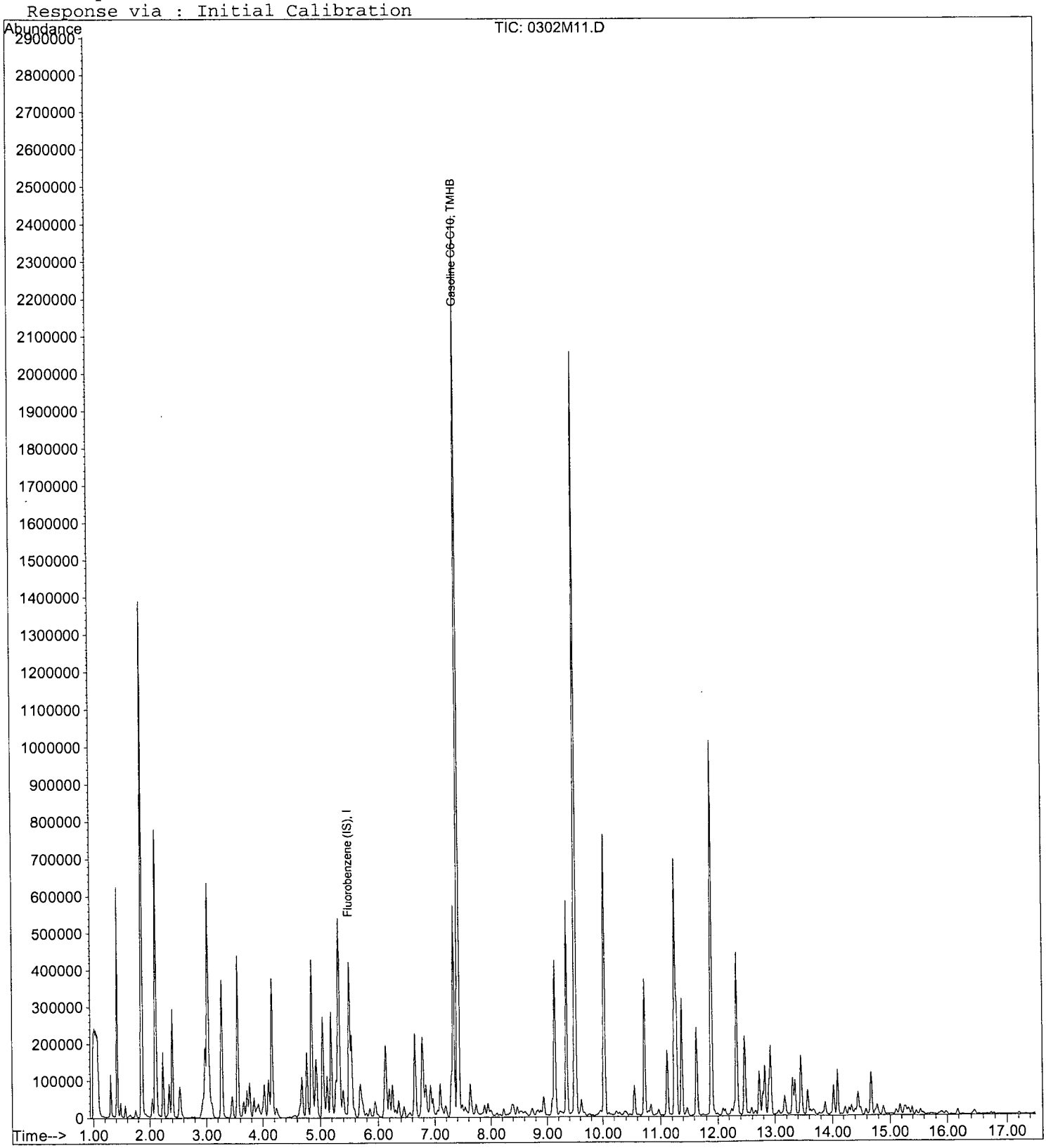
Quantitation Report

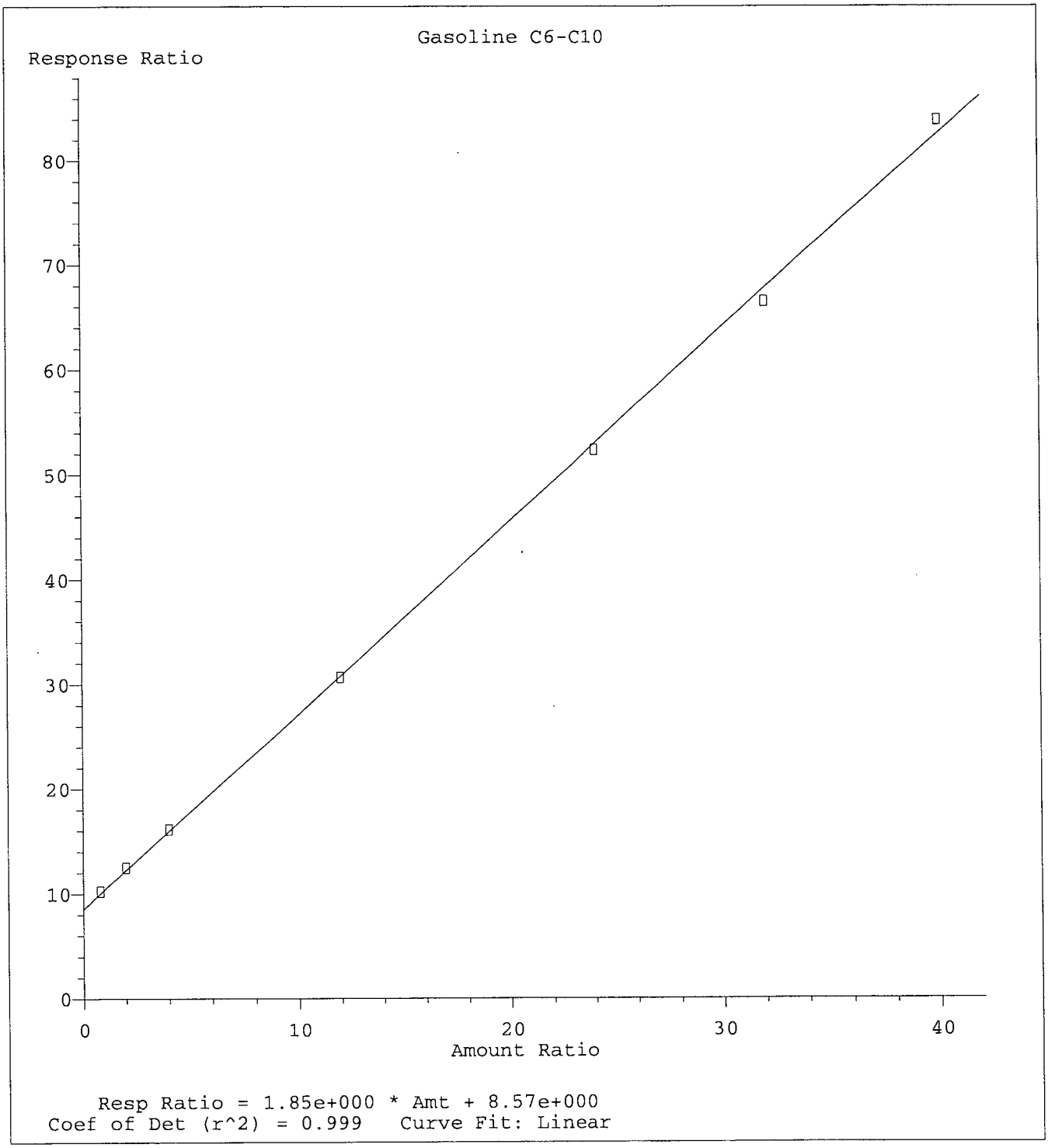
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
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35							
36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639	ppb	100

(#) = qualifier out of range (m) = manual integration

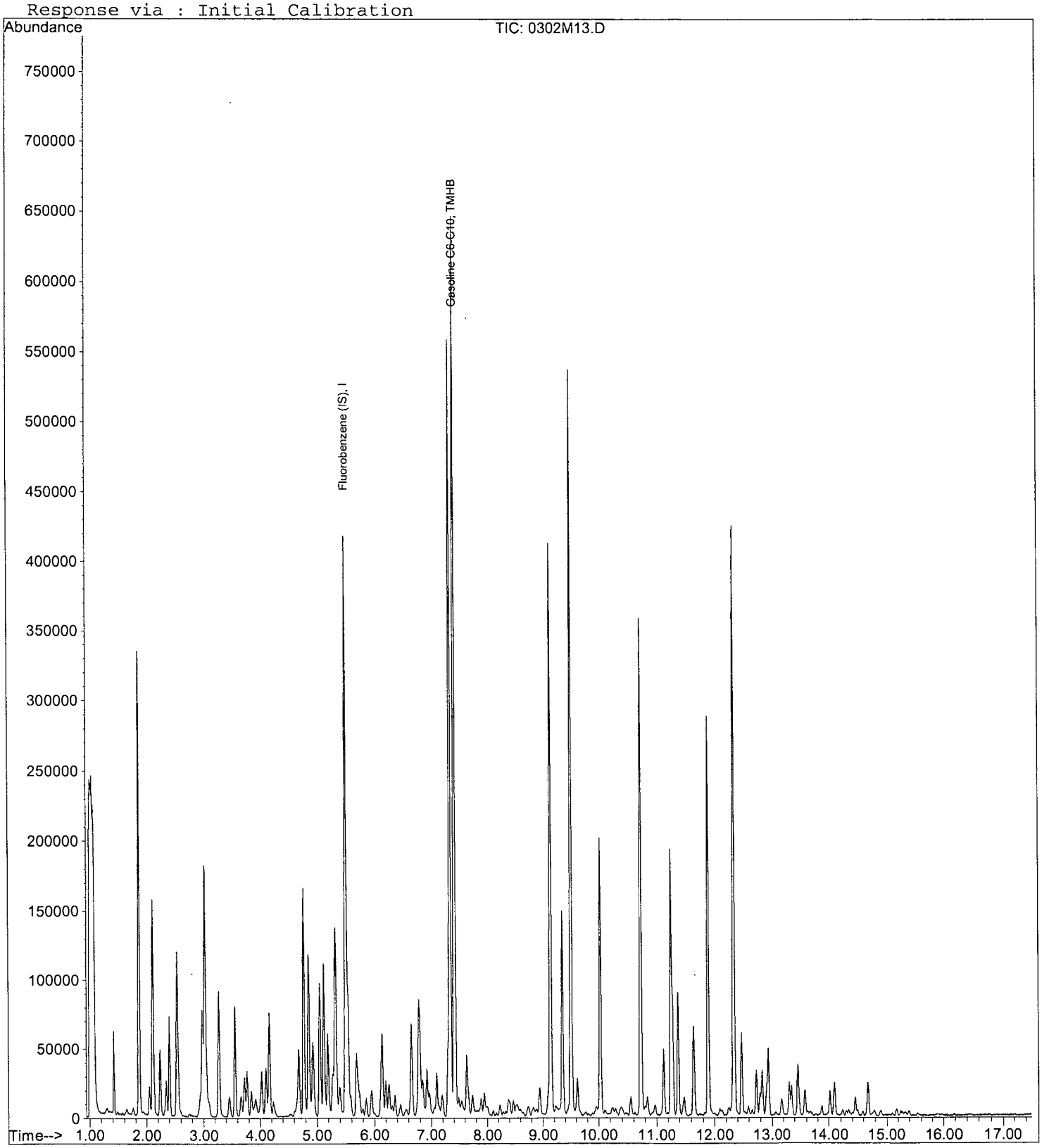
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09.D	0308M10.D	0308M11.D	0308M12.D	0308M13.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
3	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
6	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
13																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D Vial: 4
Acq On : 8 Mar 17 12:58 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 3/8/17H Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
3) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
5) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
6) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

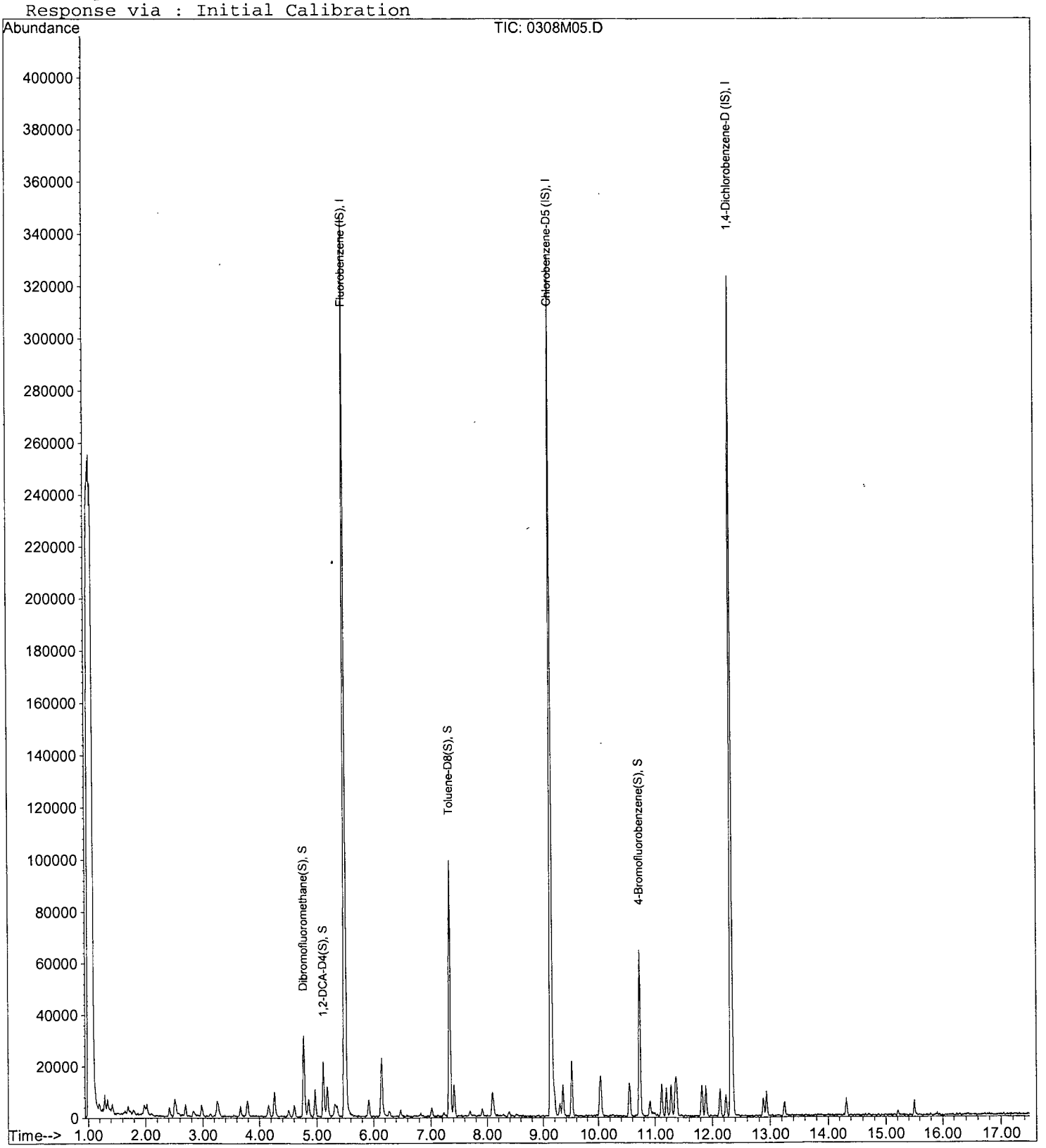
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
3) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
5) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
6) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

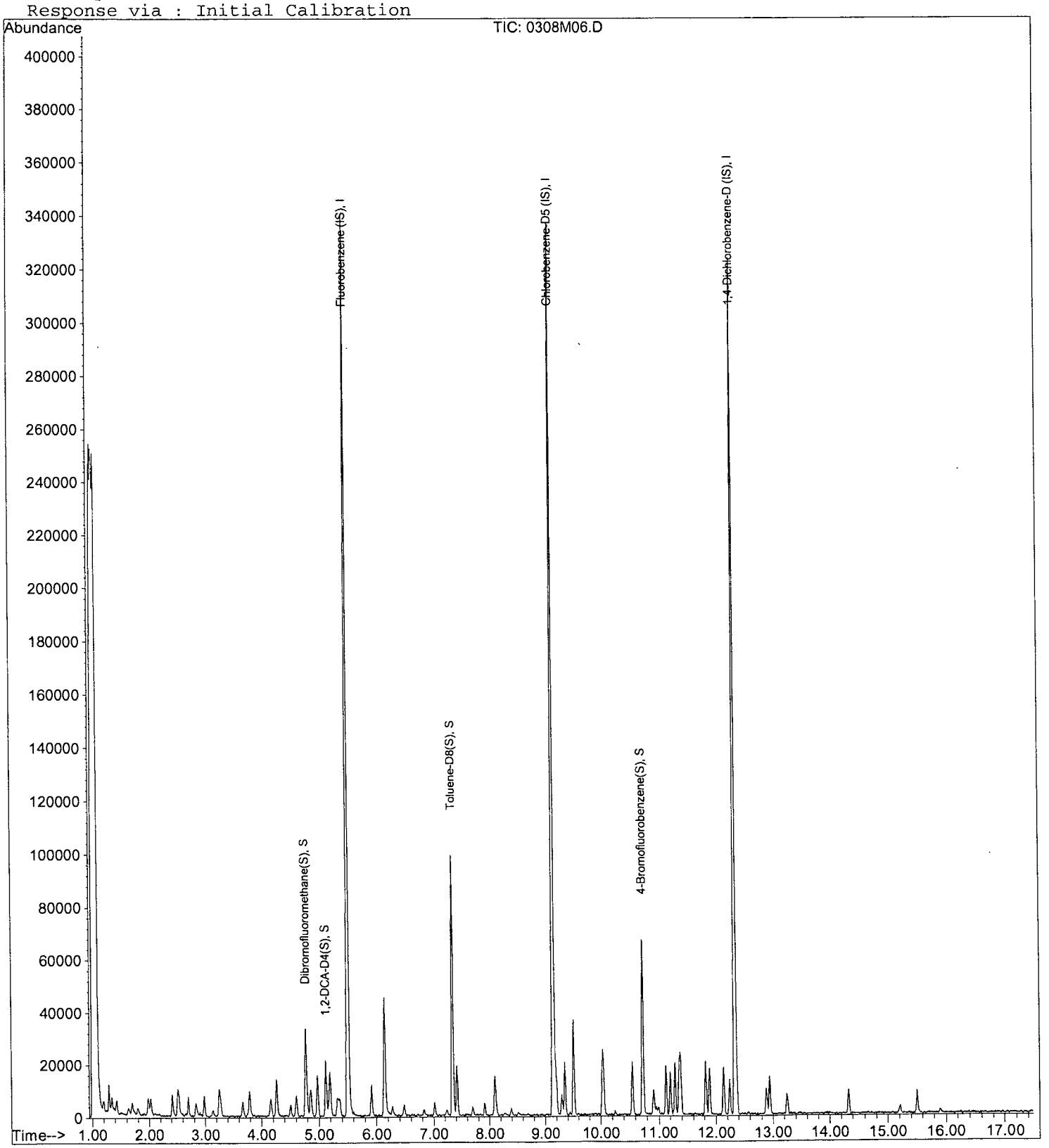
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D Vial: 6
Acq On : 8 Mar 17 13:54 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 3/8/17J Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
3) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
5) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
6) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M07.D MSUR308.M Thu Mar 09 11:52:38 2017

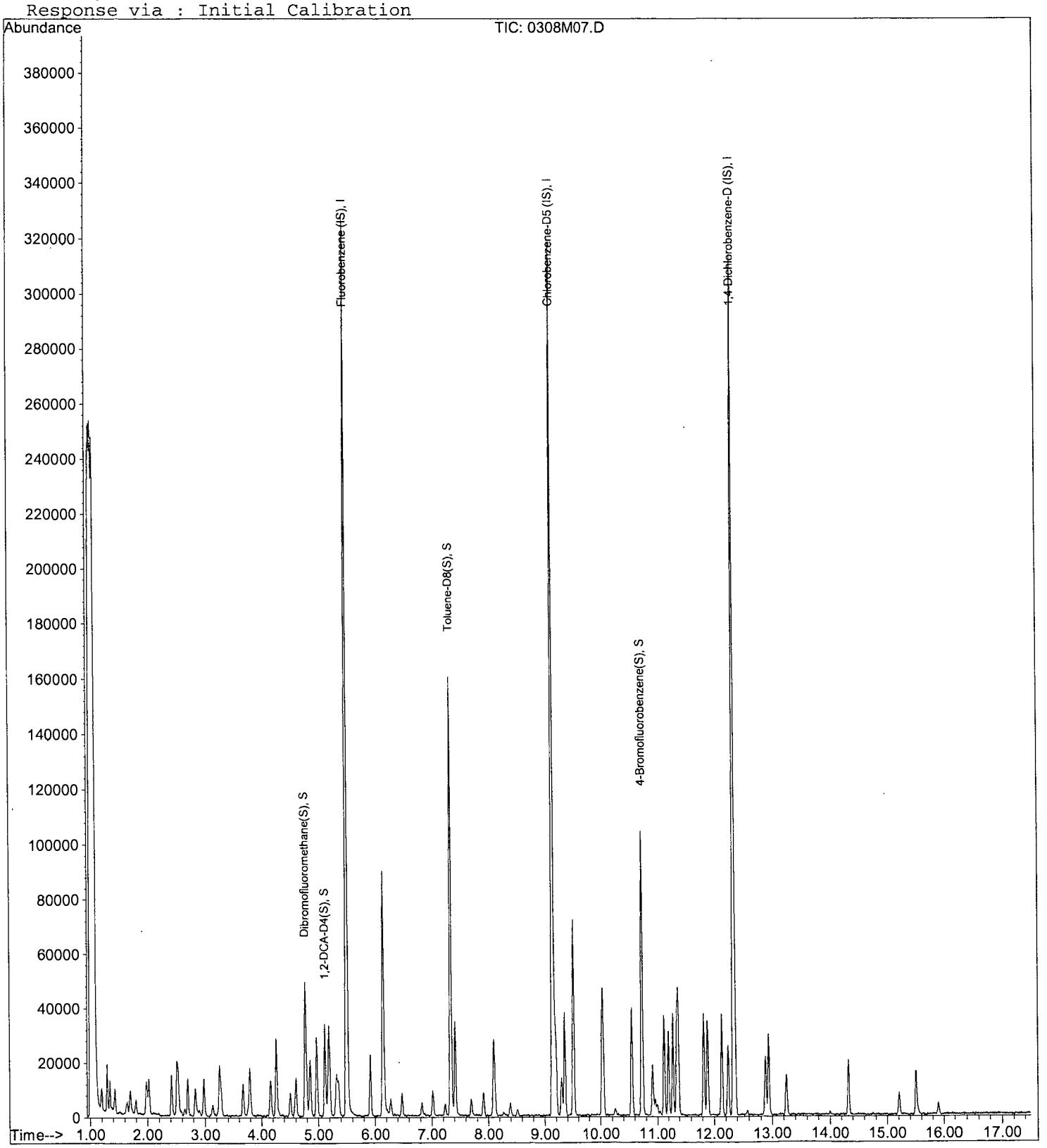
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D Vial: 7
Acq On : 8 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 3/8/17K Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
3) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
5) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

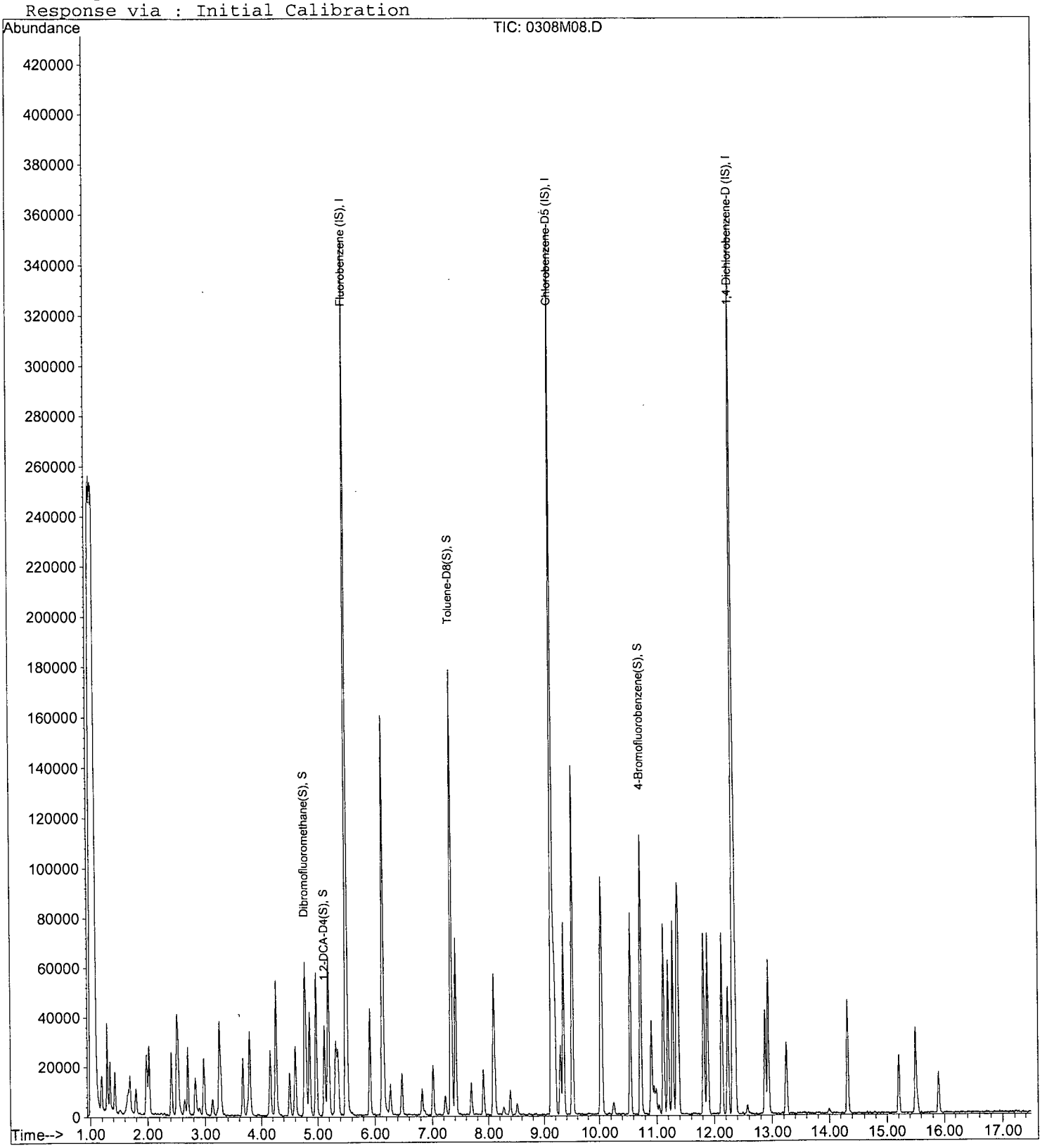
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
3) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
5) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
6) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

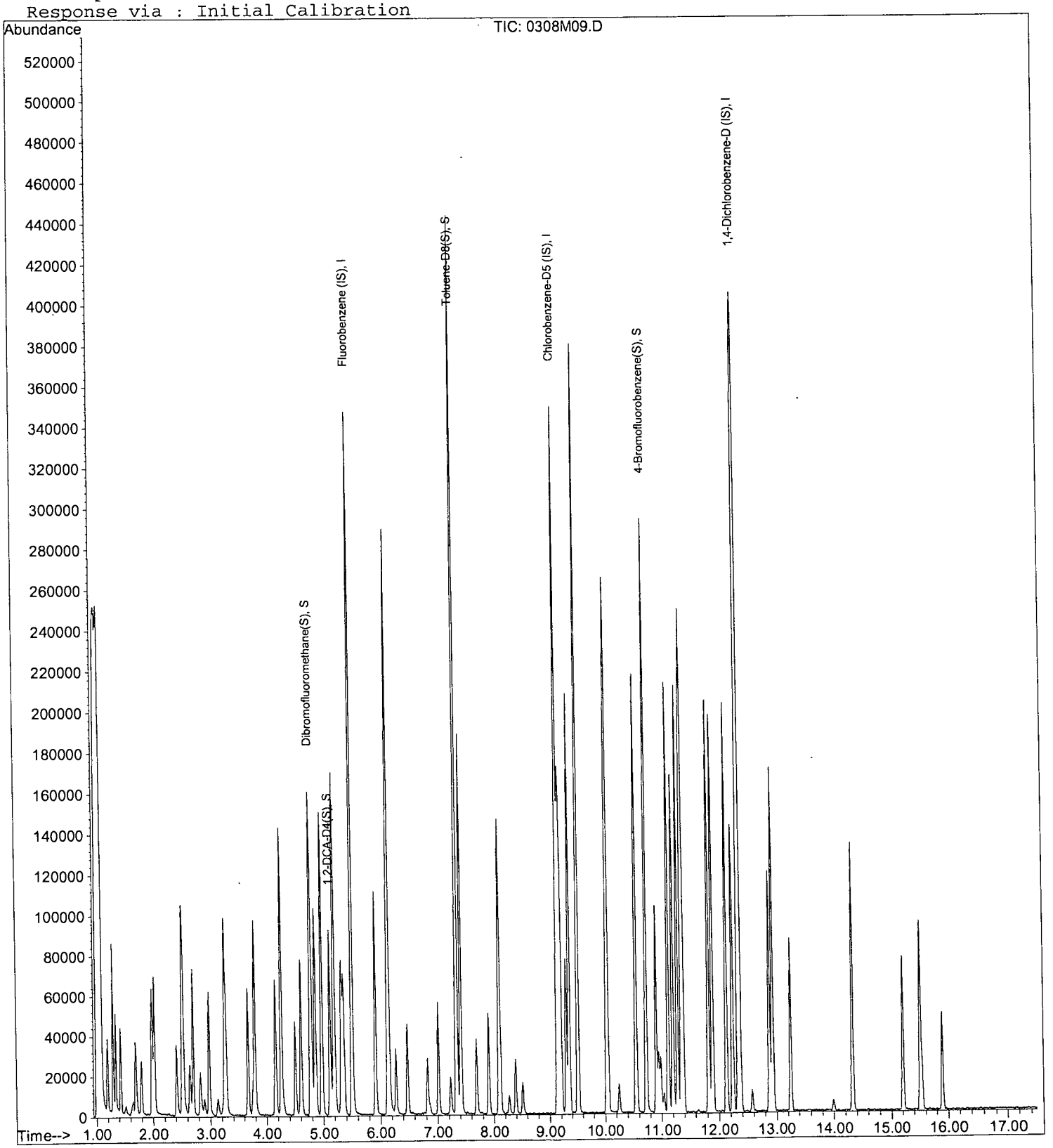
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
3) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
5) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
6) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M10.D MSUR308.M Thu Mar 09 11:52:49 2017

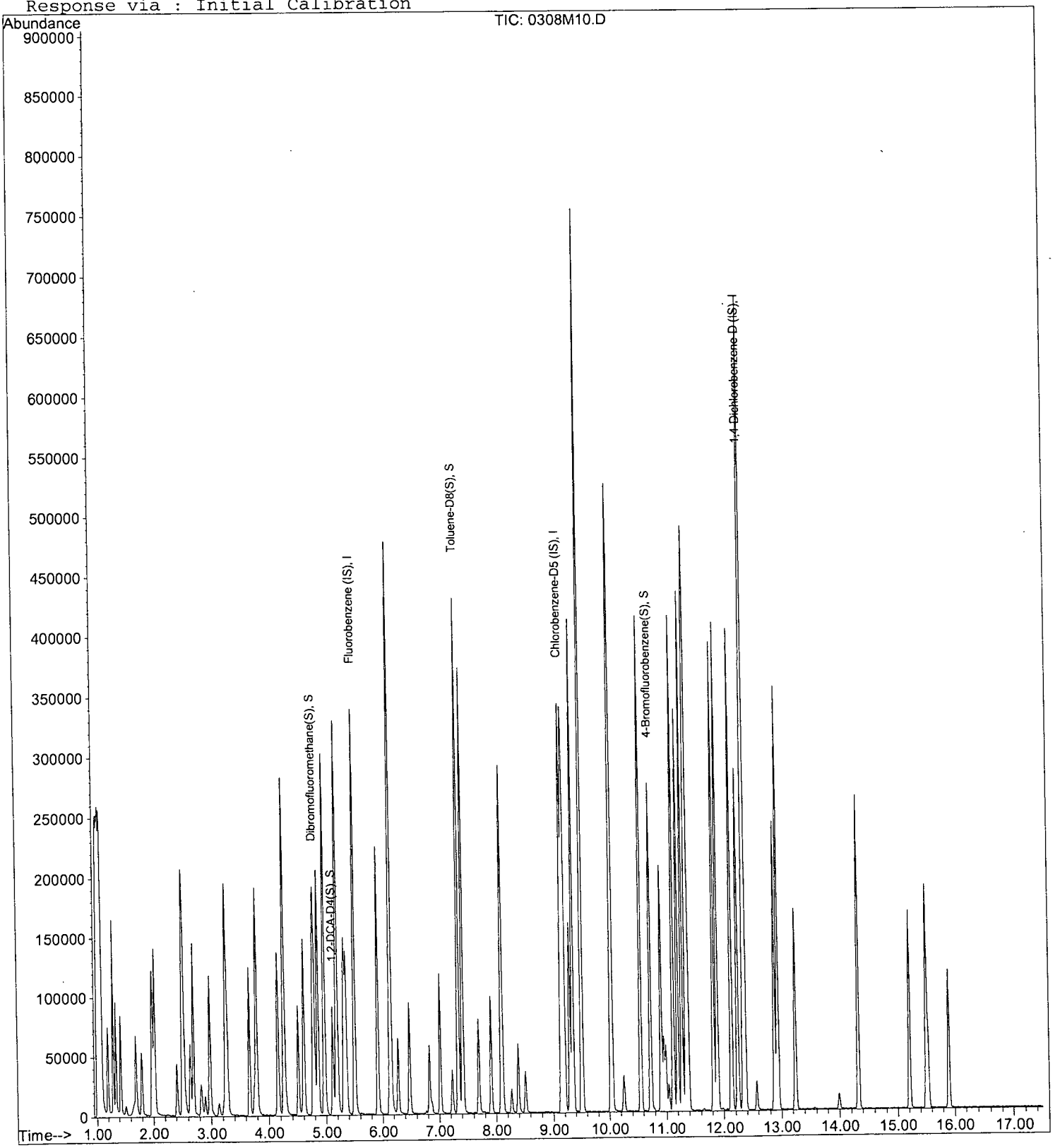
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
3) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
5) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M11.D MSUR308.M Thu Mar 09 11:52:53 2017

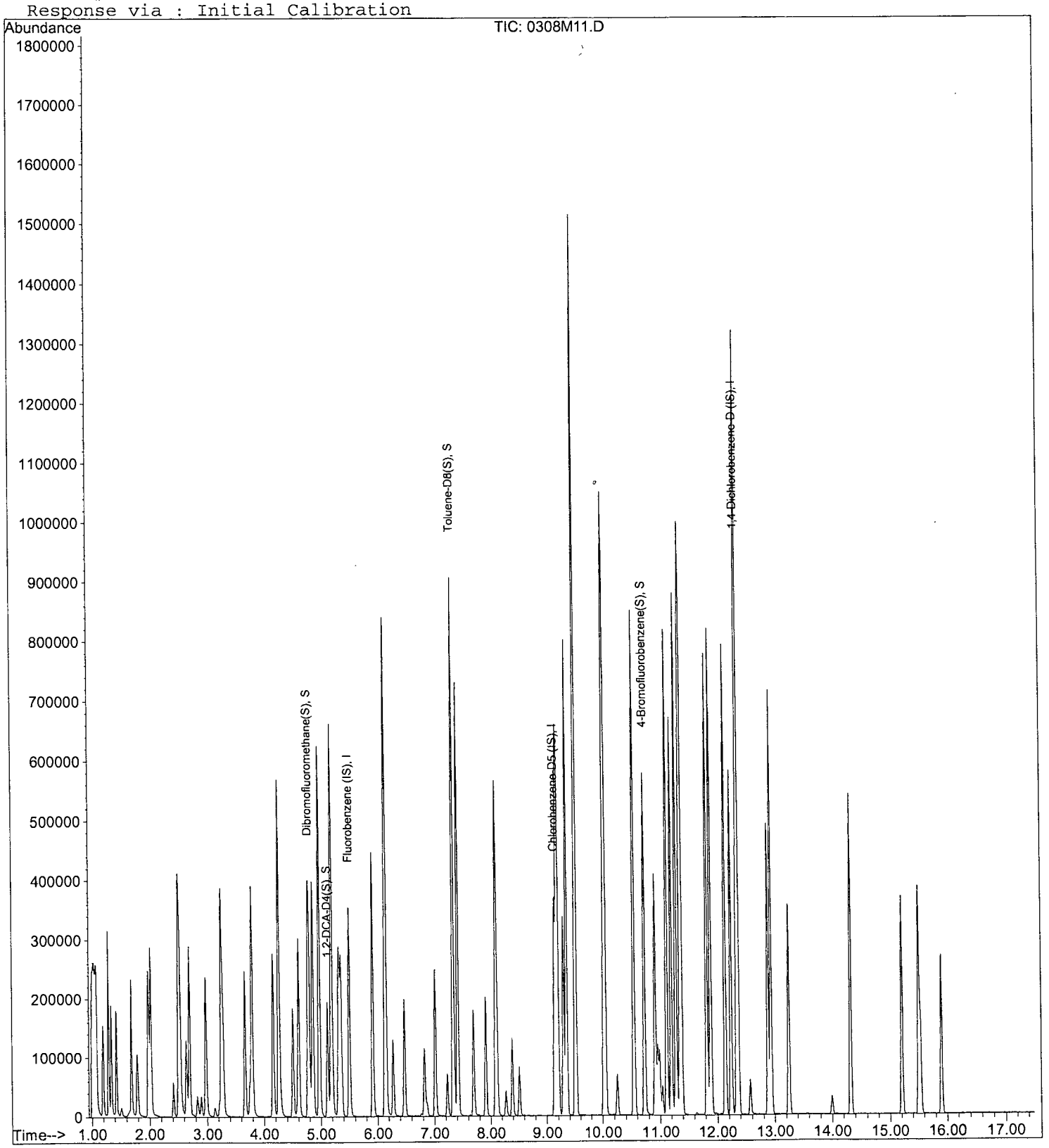
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
3) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
5) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
6) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

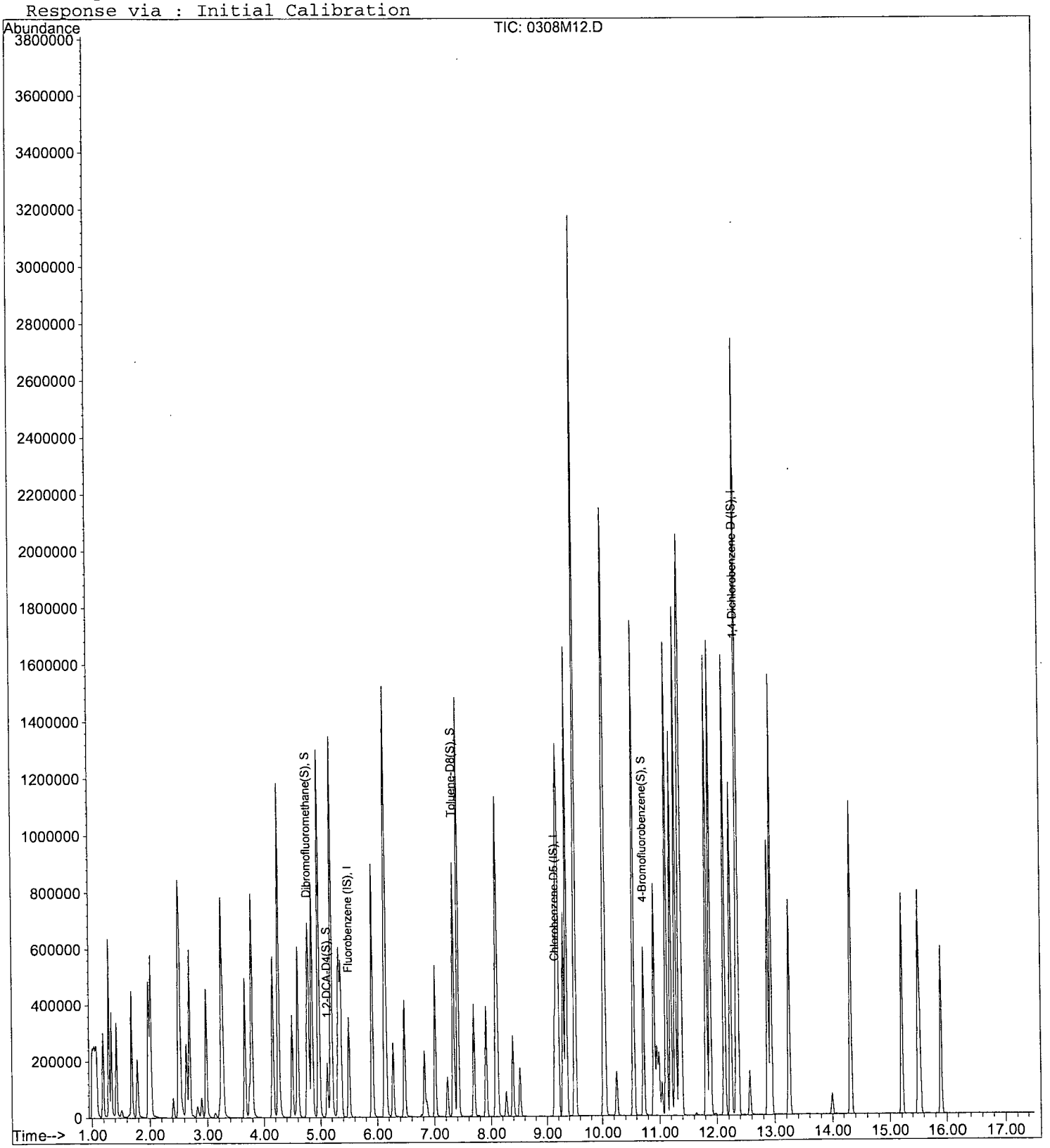
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
3) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
5) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M13.D MSUR308.M Thu Mar 09 11:53:01 2017

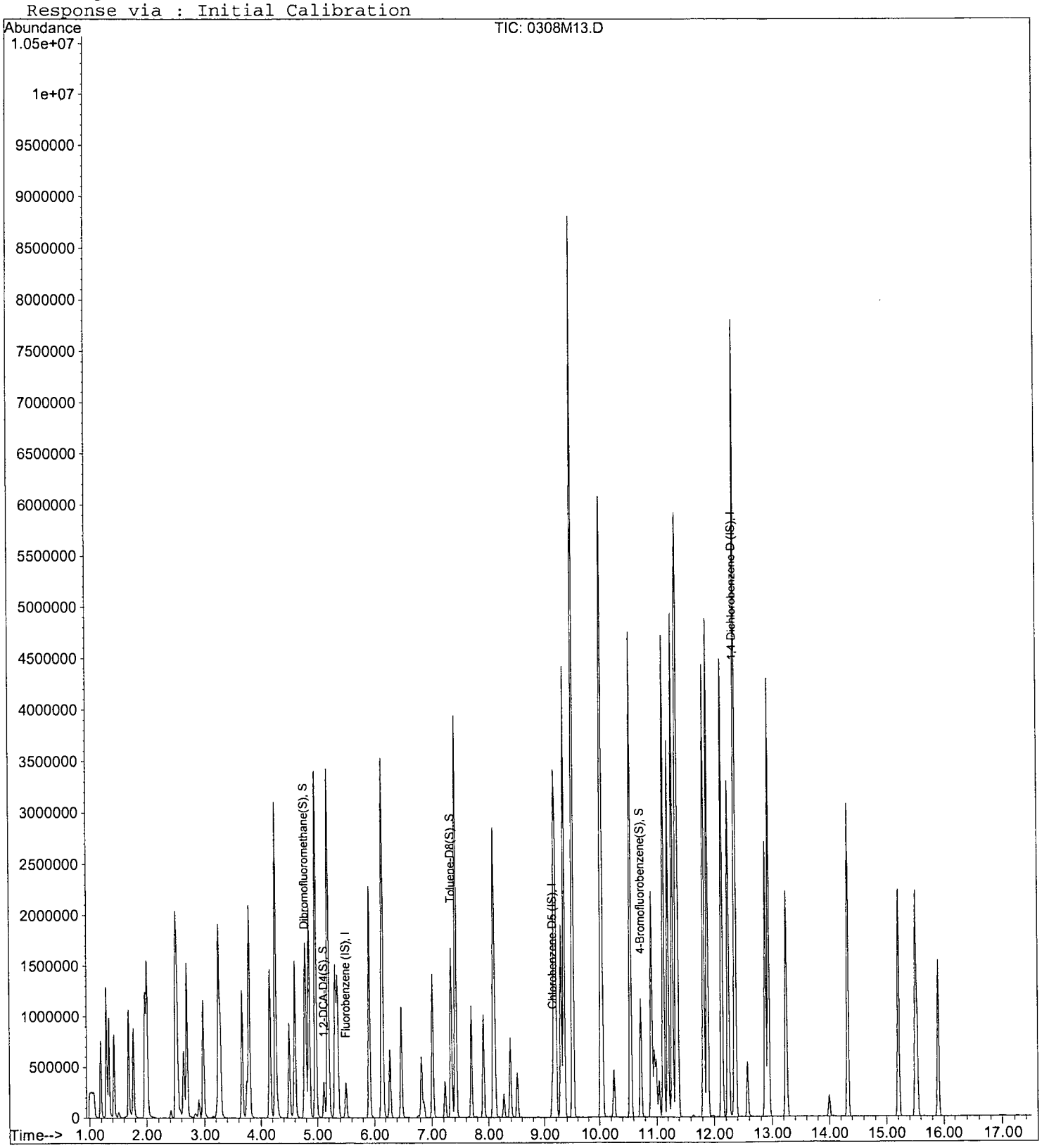
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 21:28
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0308M23.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.566	44	TMHBL	0.16
3							
4							
5							
6							
7							
8							
9							
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35							
36							
37							
38							
39							
40							
		Average			44.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M23.D Vial: 22
Acq On : 8 Mar 17 21:28 Operator: PM,DG,SV,CMM
Sample : 170308A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:40 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	320898	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9880857m	300.47161 ppb	100

(#) = qualifier out of range (m) = manual integration

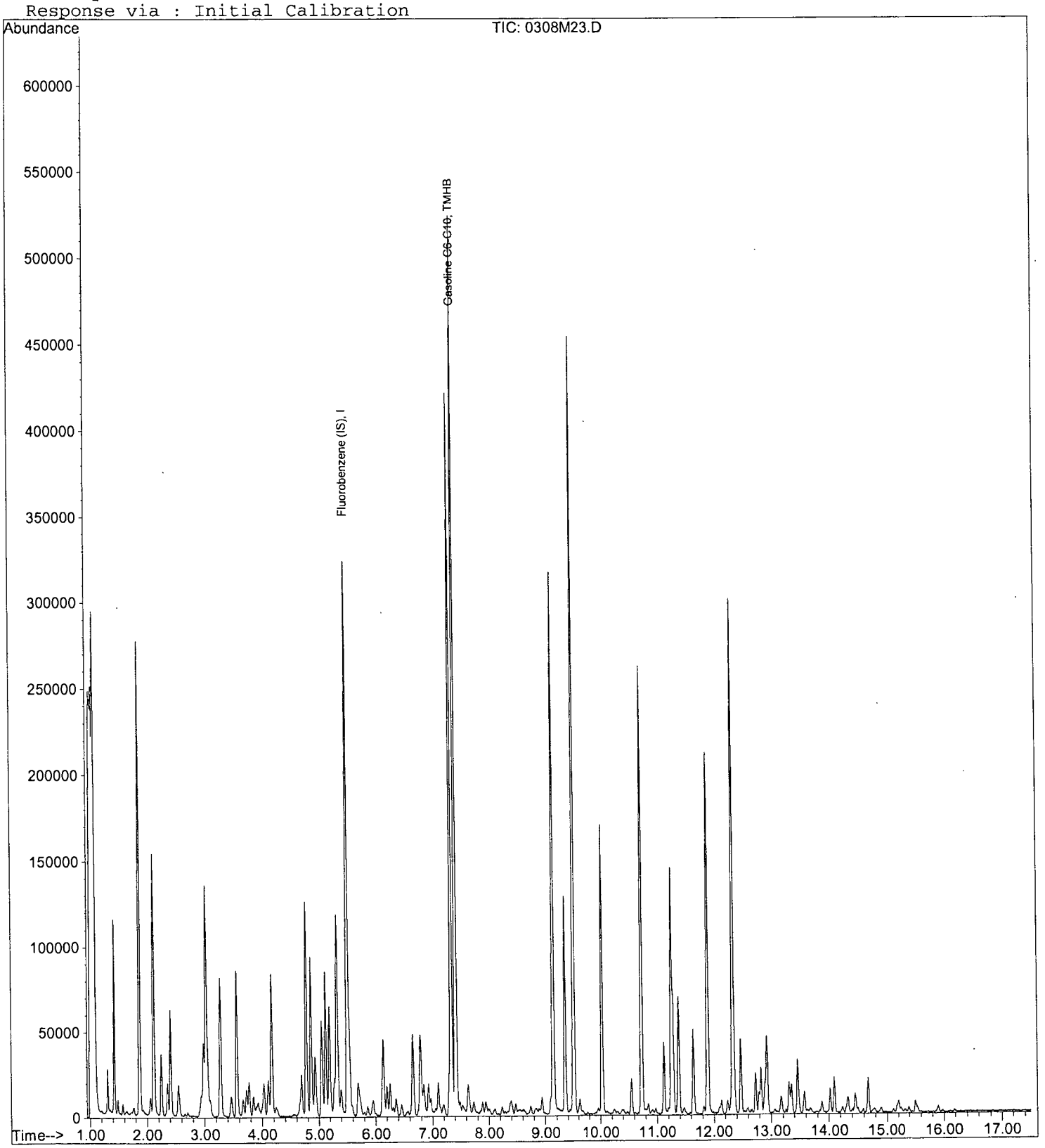
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M23.D
Acq On : 8 Mar 17 21:28
Sample : 170308A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:40 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 21:28
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M23.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2409	2.2	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1894	3.6	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.443	0.57	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4622	3.7	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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35							
36							
37							
38							
39							
40							
		Average			2.5		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M23.D Vial: 22
Acq On : 8 Mar 17 21:28 Operator: PM,DG,SV,CMM
Sample : 170308A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	310900	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	214350	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	97592	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	74898	24.45245 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.808%	
3) 1,2-DCA-D4(S)	5.12	65	58873	24.10309 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.412%	
5) Toluene-D8(S)	7.34	98	309369	24.85665 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.428%	
6) 4-Bromofluorobenzene(S)	10.73	95	99081	24.08225 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.328%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M23.D MSUR308.M Thu Mar 09 11:53:05 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 6:53
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0308M43.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.379	48	TMHBL	10.0
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			48.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M43.D Vial: 42
Acq On : 9 Mar 17 6:53 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 3/8/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:44 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	333521	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9521017m	270.12791 ppb	100

(#) = qualifier out of range (m) = manual integration

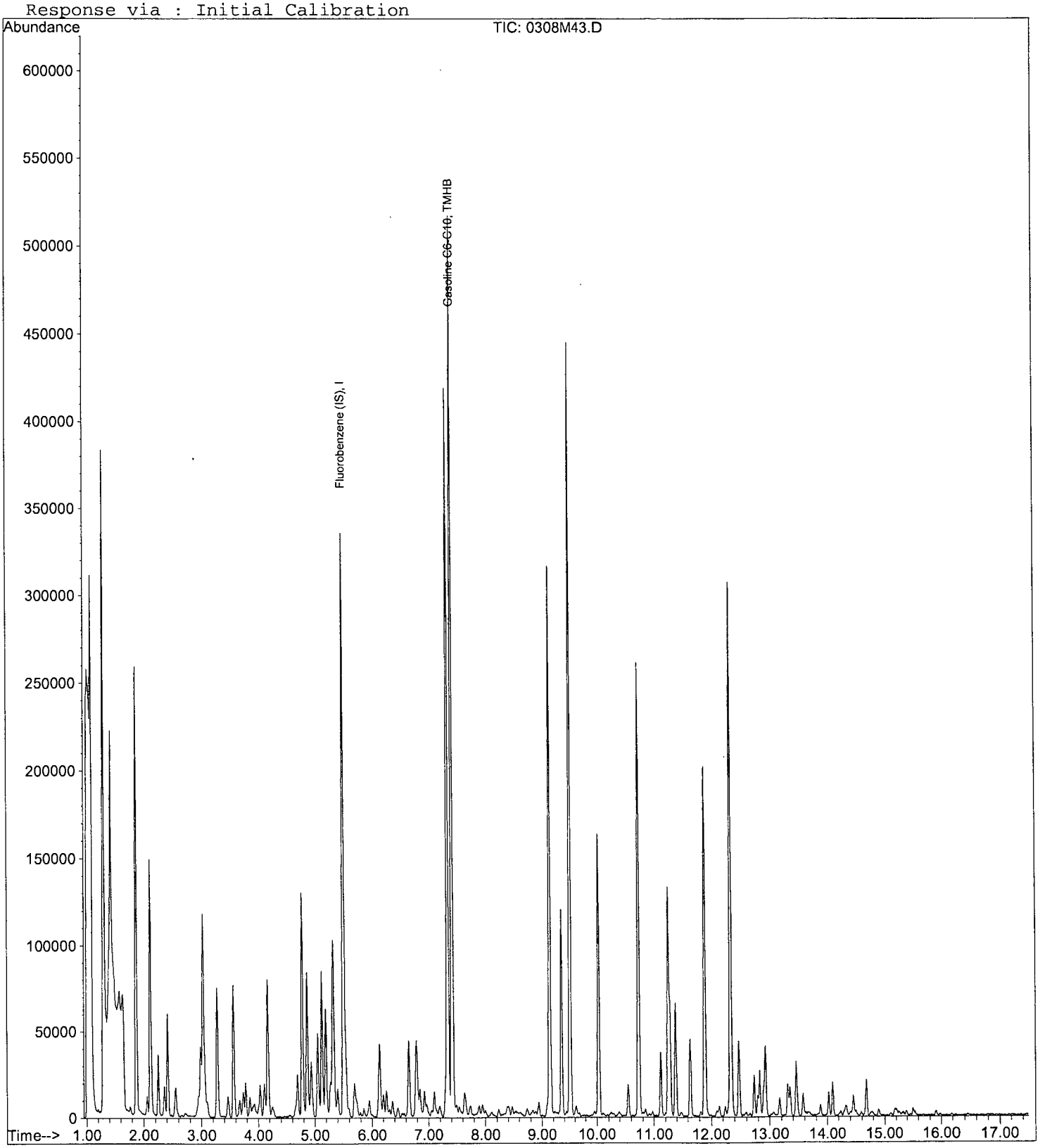
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M43.D
Acq On : 9 Mar 17 6:53
Sample : Ending CCV GAS 300ug/L 3/8/17
Misc : IS&S 02/23/17

Vial: 42
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:44 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 6:53
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M43.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2433	1.2	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1812	7.8	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.463	0.75	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4565	4.9	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M43.D Vial: 42
Acq On : 9 Mar 17 6:53 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 3/8/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	319240	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	214886	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101218	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	77679	24.69785 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.792%	
3) 1,2-DCA-D4(S)	5.12	65	57834	23.05915 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.236%	
5) Toluene-D8(S)	7.34	98	314274	25.18776 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.752%	
6) 4-Bromofluorobenzene(S)	10.73	95	98085	23.78070 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.124%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M43.D MSUR308.M Thu Mar 09 11:53:36 2017

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170308W-51052 - 216734**
Batch ID: #GRO86-170308AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/08/17	03/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/08/17	03/08/17

Quant Method: MGAS6302.
Run #: 0308M28
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 11:07:59 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M28.D
Acq On : 8 Mar 17 23:50
Sample : 170308A BLk-1WM
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:42 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	340088	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M28.D MGAS6302.M Thu Mar 09 11:45:56 2017

Quantitation Report

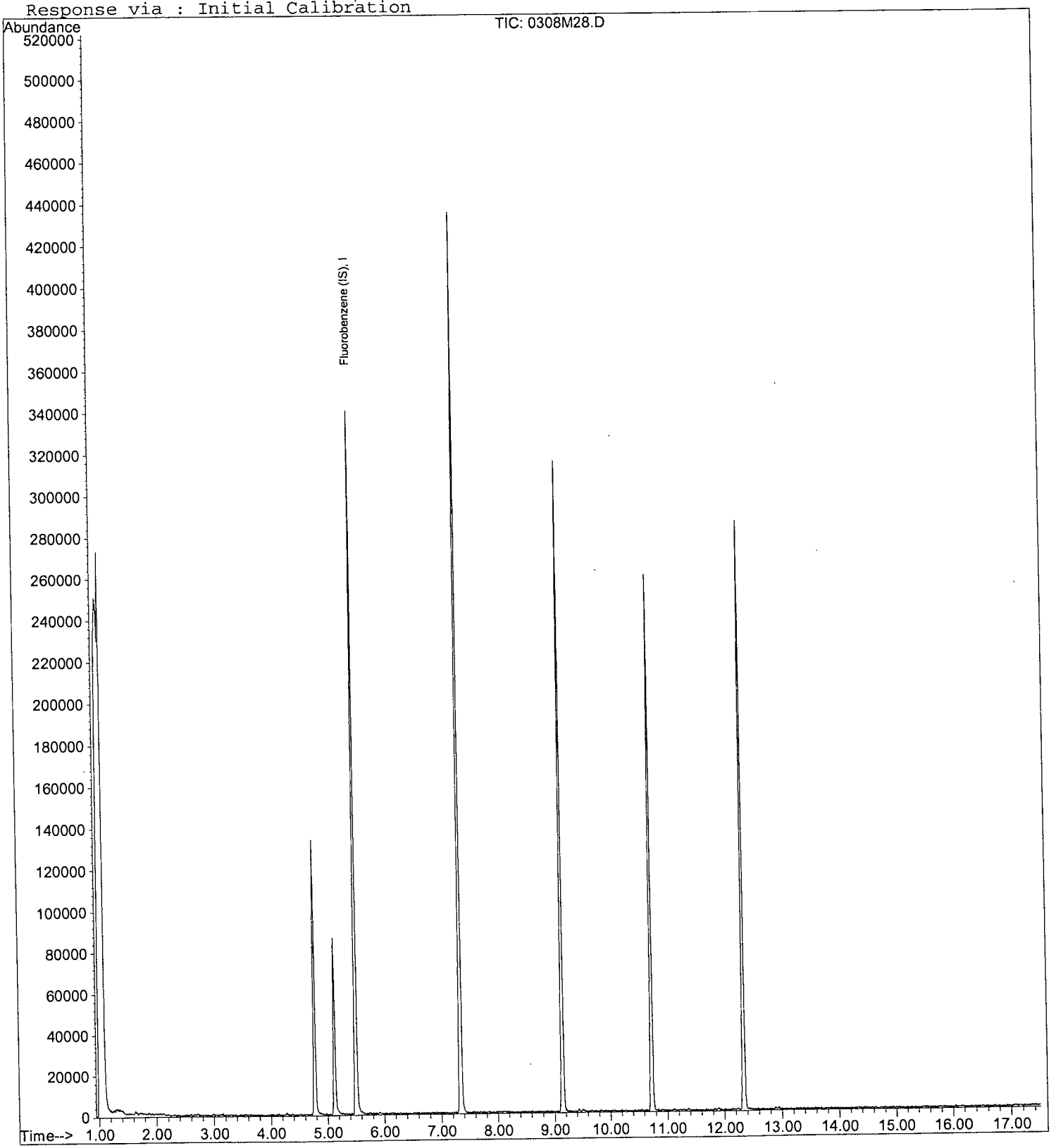
Data File : M:\MAX\DATA\M170308\0308M28.D
Acq On : 8 Mar 17 23:50
Sample : 170308A BLk-1WM
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:42 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M28.D
Acq On : 8 Mar 17 23:50
Sample : 170308A BLk-1WM
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	329598	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	217475	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	96334	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	80078	24.66048 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.640%	
3) 1,2-DCA-D4(S)	5.12	65	60275	23.27716 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.108%	
5) Toluene-D8(S)	7.34	98	323027	25.58107 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.324%	
6) 4-Bromofluorobenzene(S)	10.73	95	99783	23.90437 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.616%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170308W-51052 LCS - 216734**
Batch ID: #GRO86-170308AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	287	95.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.0	96.0	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/08/17
Analysis Date :	03/08/17
Instrument :	Max
Run :	0308M24
Initials :	SV

Printed: 03/10/17 11:08:02 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0308M24.D
Acq On : 8 Mar 17 21:57
Sample : 170308A LCS-1WM GAS
Misc : IS&S 02/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:41 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	343074	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	10210106m	286.53725 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

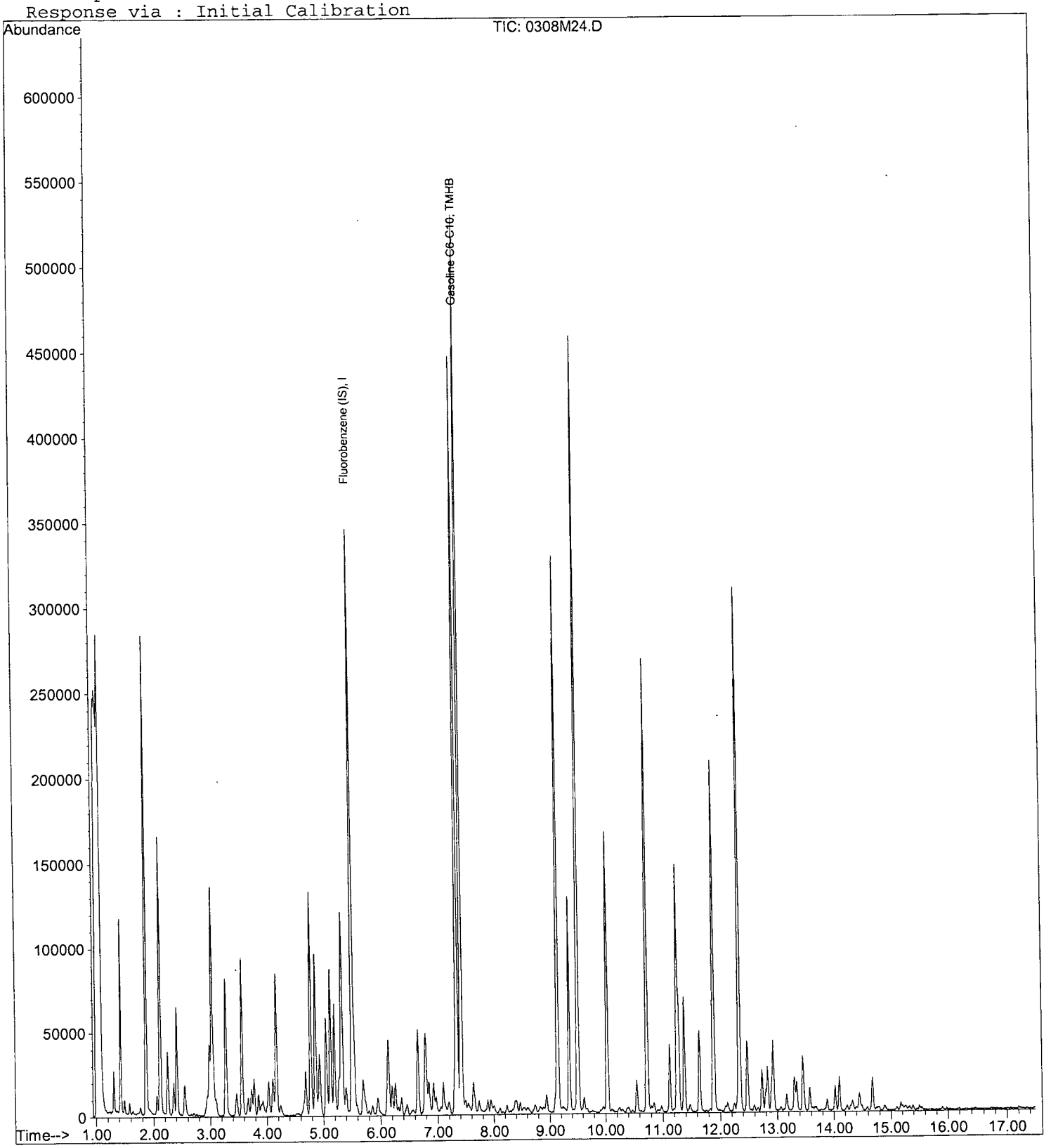
Data File : M:\MAX\DATA\M170308\0308M24.D
Acq On : 8 Mar 17 21:57
Sample : 170308A LCS-1WM GAS
Misc : IS&S 02/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:41 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M24.D
Acq On : 8 Mar 17 21:57
Sample : 170308A LCS-1WM GAS
Misc : IS&S 02/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	329662	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	222213	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102525	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	78854	24.27883 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.116%	
3) 1,2-DCA-D4(S)	5.12	65	62537	24.14602 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.584%	
5) Toluene-D8(S)	7.34	98	329155	25.51058 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
6) 4-Bromofluorobenzene(S)	10.73	95	102238	23.97028 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.880%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date.	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
10	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
11	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
12	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
13	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
14	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
15	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
16	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
17	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
18	22	0308M23.D	1	170308A CCV-1WM 300ug/L	IS&S 02/23/17	8 Mar 17 21:28
19	23	0308M24.D	1	170308A LCS-1WM GAS	IS&S 02/23/17	8 Mar 17 21:57
20	27	0308M28.D	1	170308A BLk-1WM	IS&S 02/23/17	8 Mar 17 23:50
21	30	0308M31.D	1	AZ51052W01	IS&S 02/23/17	9 Mar 17 1:14
22	31	0308M32.D	1	AZ51053W01	IS&S 02/23/17	9 Mar 17 1:43
23	32	0308M33.D	1	AZ51054W01	IS&S 02/23/17	9 Mar 17 2:11
24	33	0308M34.D	1	AZ51055W01	IS&S 02/23/17	9 Mar 17 2:39
25	34	0308M35.D	1	AZ51056W04	IS&S 02/23/17	9 Mar 17 3:07
26	42	0308M43.D	1	Ending CCV GAS 300ug/L 3/8/17	IS&S 02/23/17	9 Mar 17 6:53

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51055 - 216697**
Batch ID: #RSKME-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/09/17	03/09/17

Quant Method: RSK0225.M
Run #: 17030906
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/09/17 9:34:33 AM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170309W-51055 LCS - 216697**
Batch ID: #RSKME-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	320	316	98.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Rocky
Run :	17030904
Initials :	CMO

Printed: 03/09/17 9:34:25 AM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH259
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51055
QCG: #RSKME-170309A-216697

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/09/17	03/09/17

Quant Method: RSK0225.M
Run #: 17030908
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/09/17 9:34:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030908.D Vial: 7
Acq On : 9 Mar 17 8:18 Operator: lac
Sample : AZ51055W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:21 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

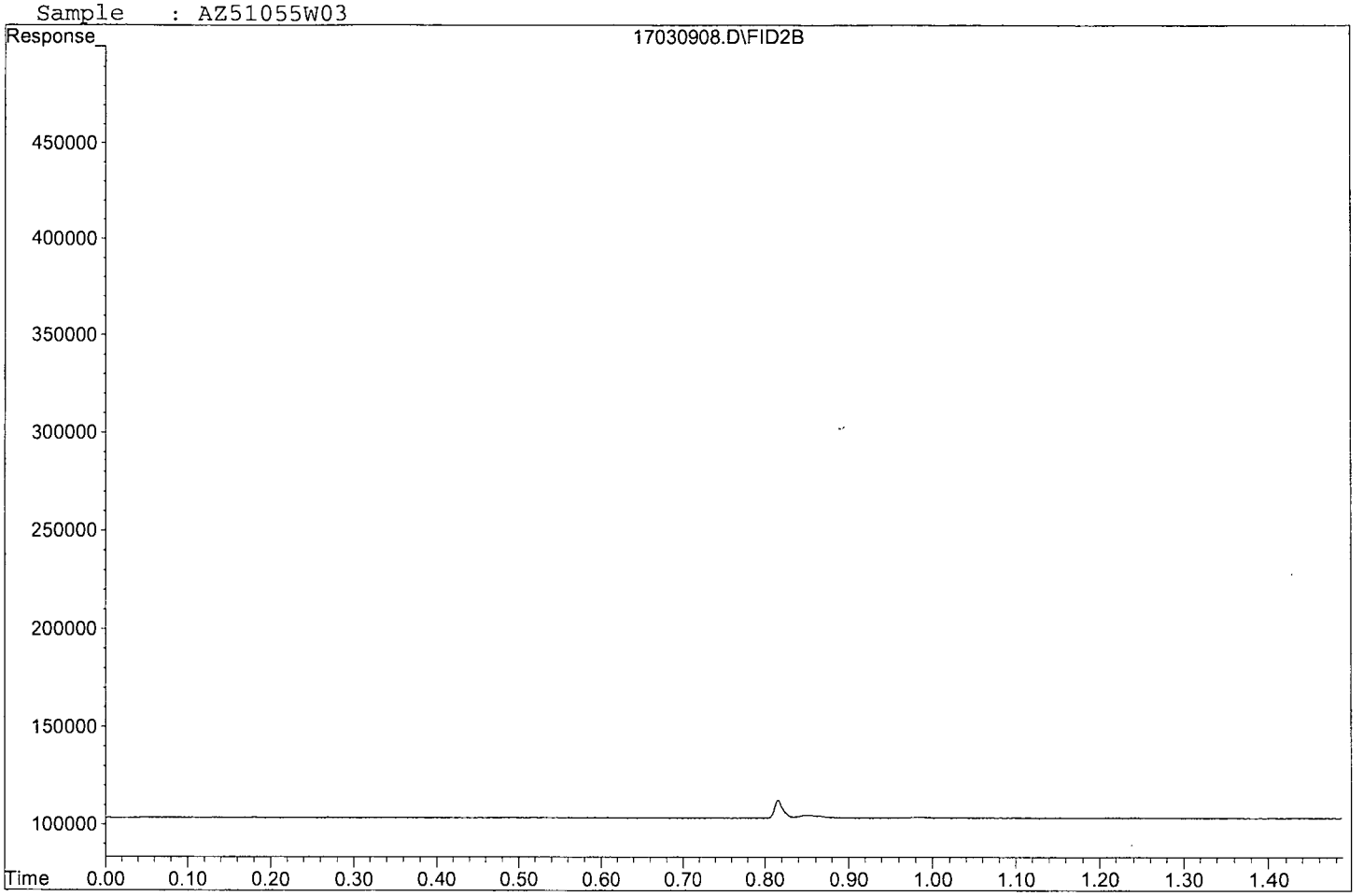
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1620	N.D.	ppb
2) ATM Ethane	1.03	356	N.D.	ppb
3) ATM Ethene	1.12	337	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17030908.D
Sample : AZ51055W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH260
Sample Collection Date: 03/06/17

ARF: 82337
APPL ID: AZ51056
QCG: #RSKME-170309A-216697

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/09/17	03/09/17

Quant Method: RSK0225.M
Run #: 17030909
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/09/17 9:34:30 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030909.D Vial: 8
Acq On : 9 Mar 17 8:23 Operator: lac
Sample : AZ51056W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:27 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

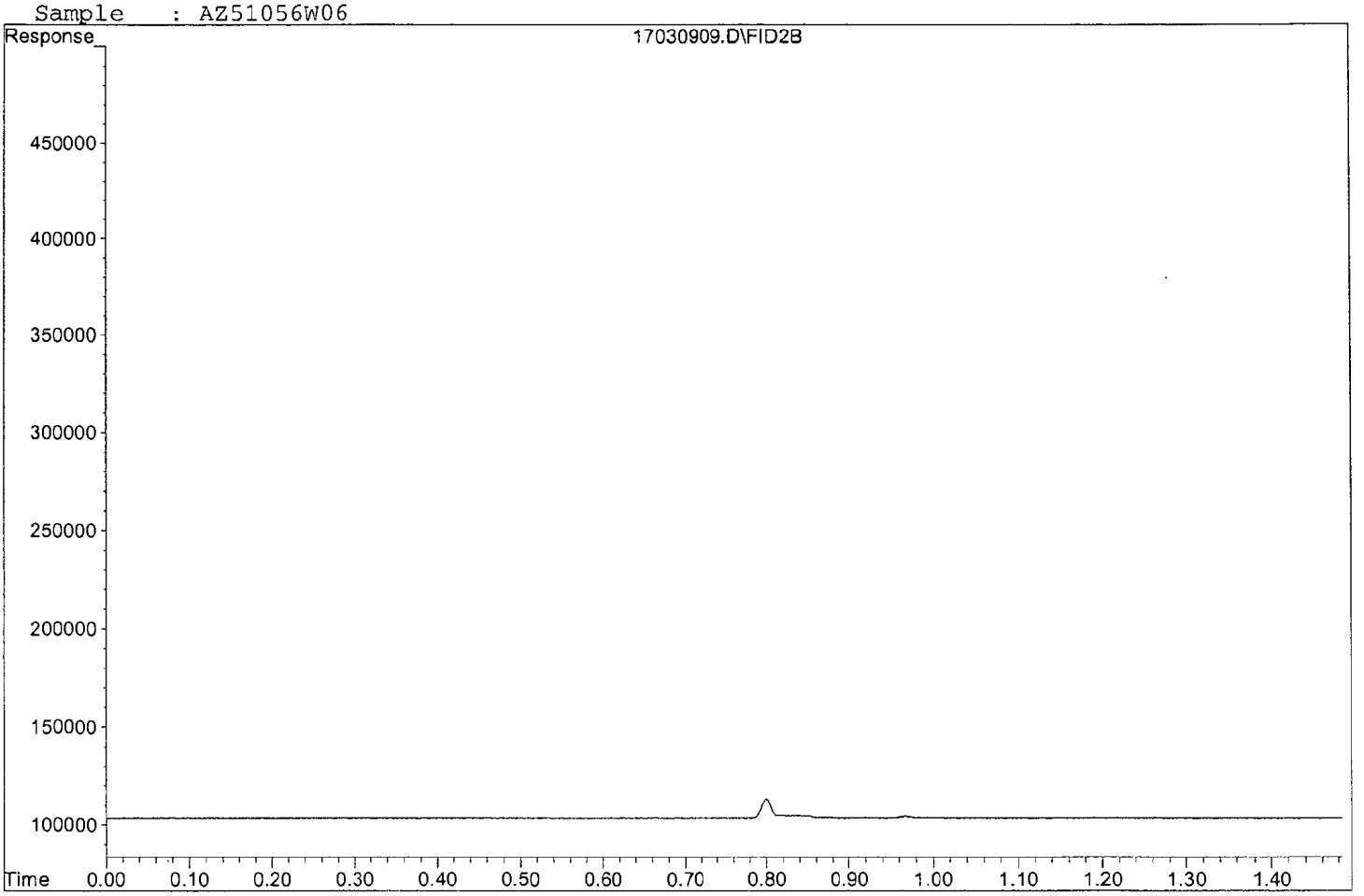
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.87	610	N.D.	ppb
2) ATM Ethane	1.03	303	N.D.	ppb
3) ATM Ethene	1.13	317	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17030909.D
Sample : AZ51056W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890
Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
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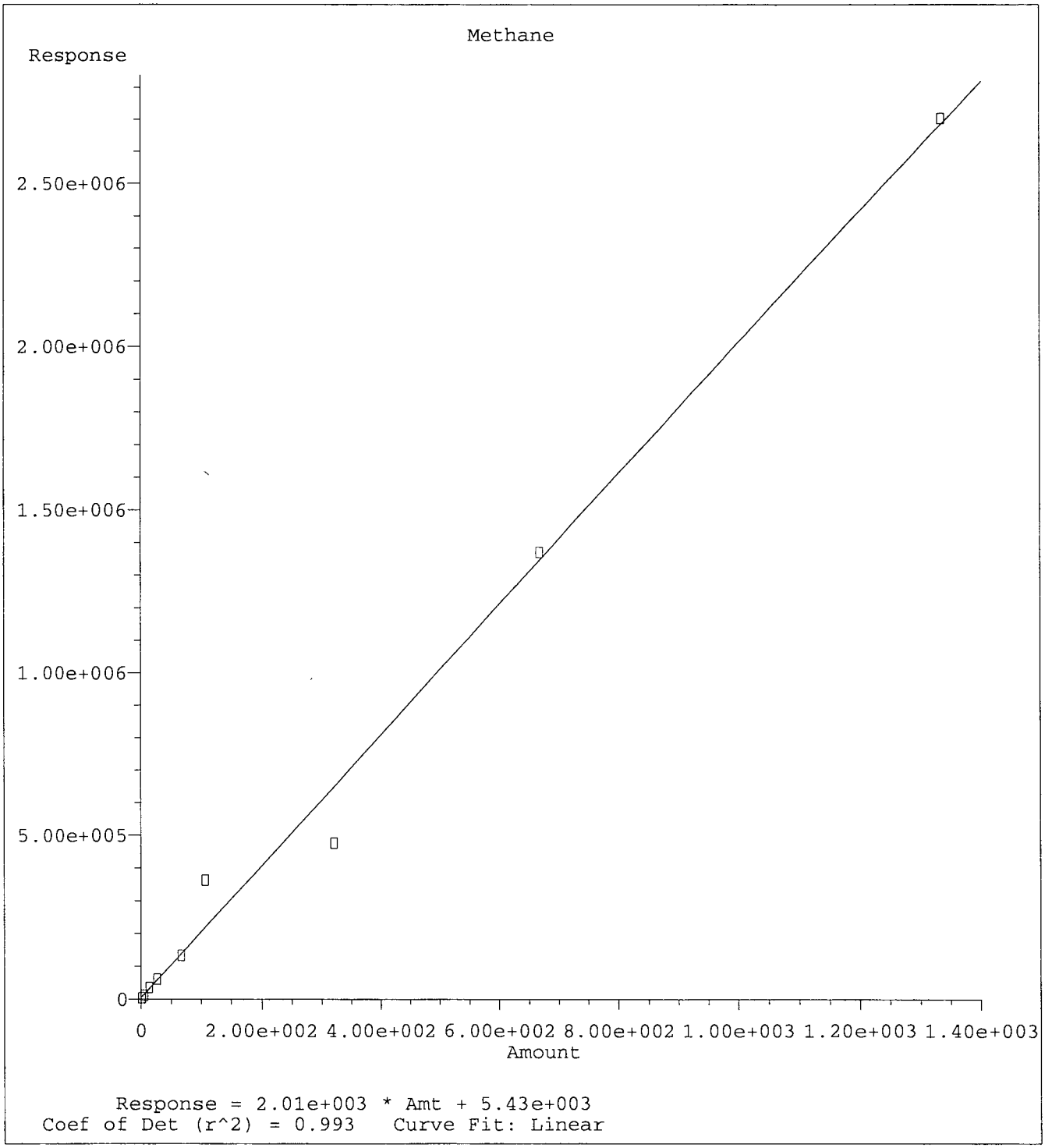
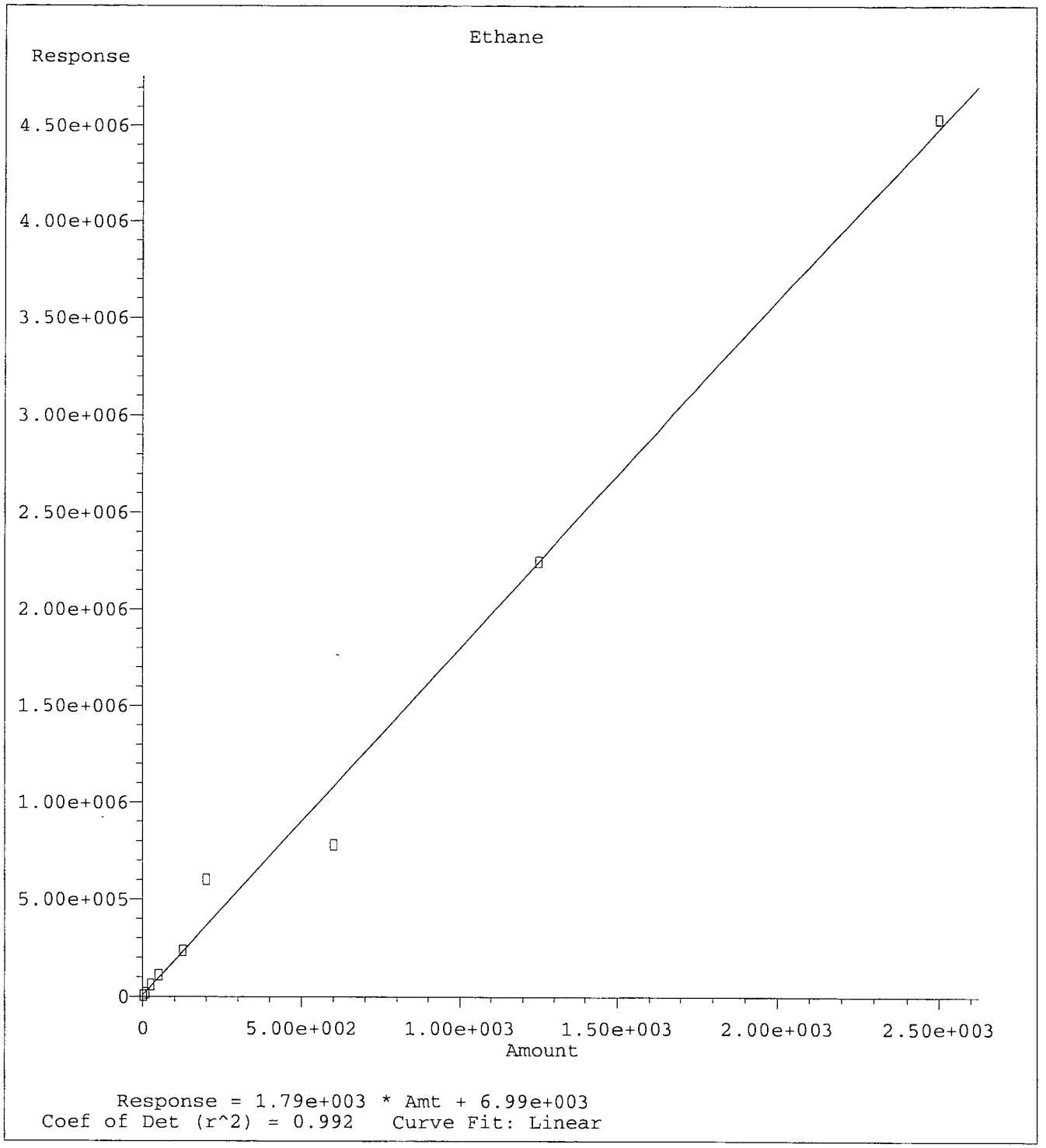
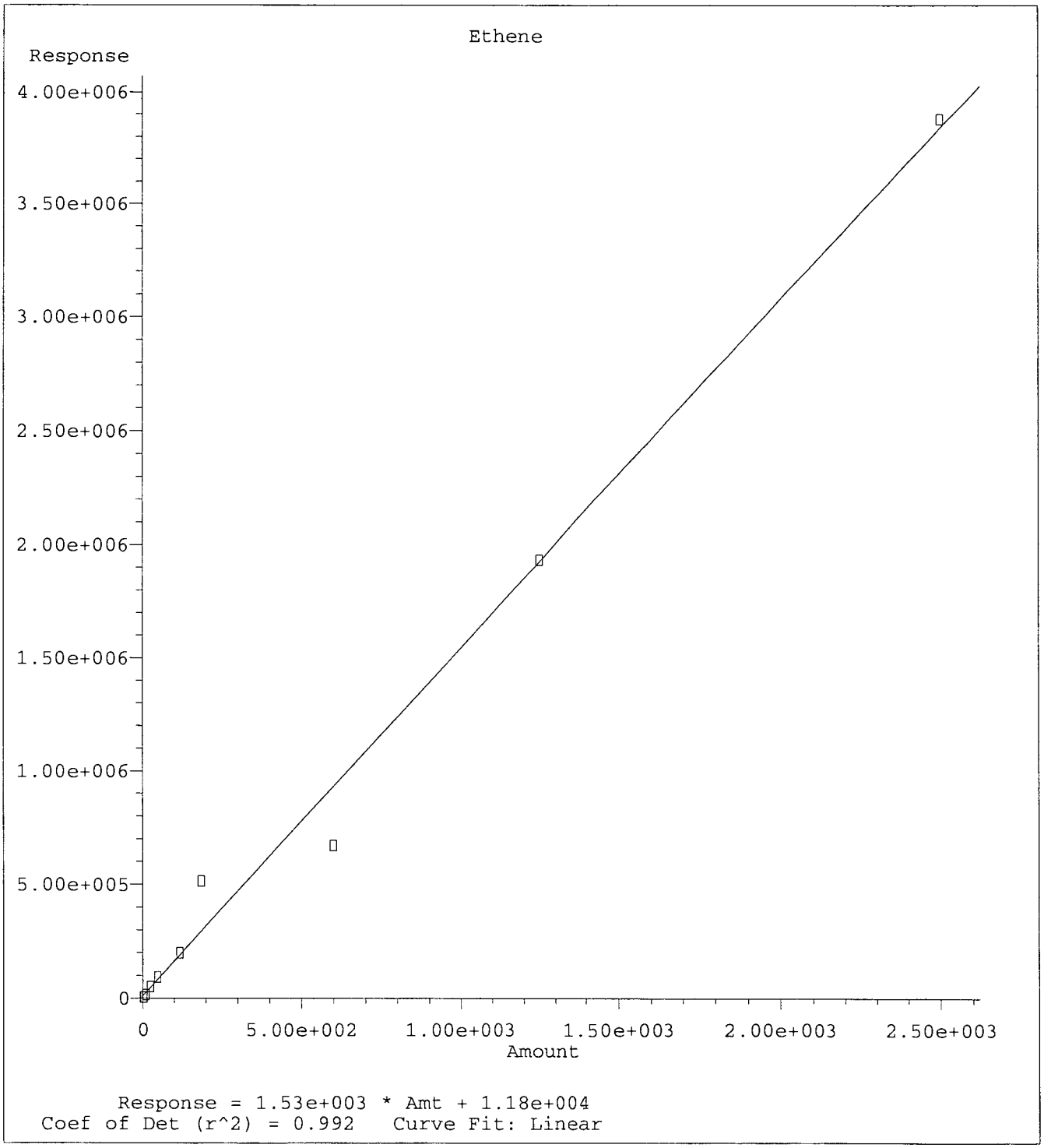


Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

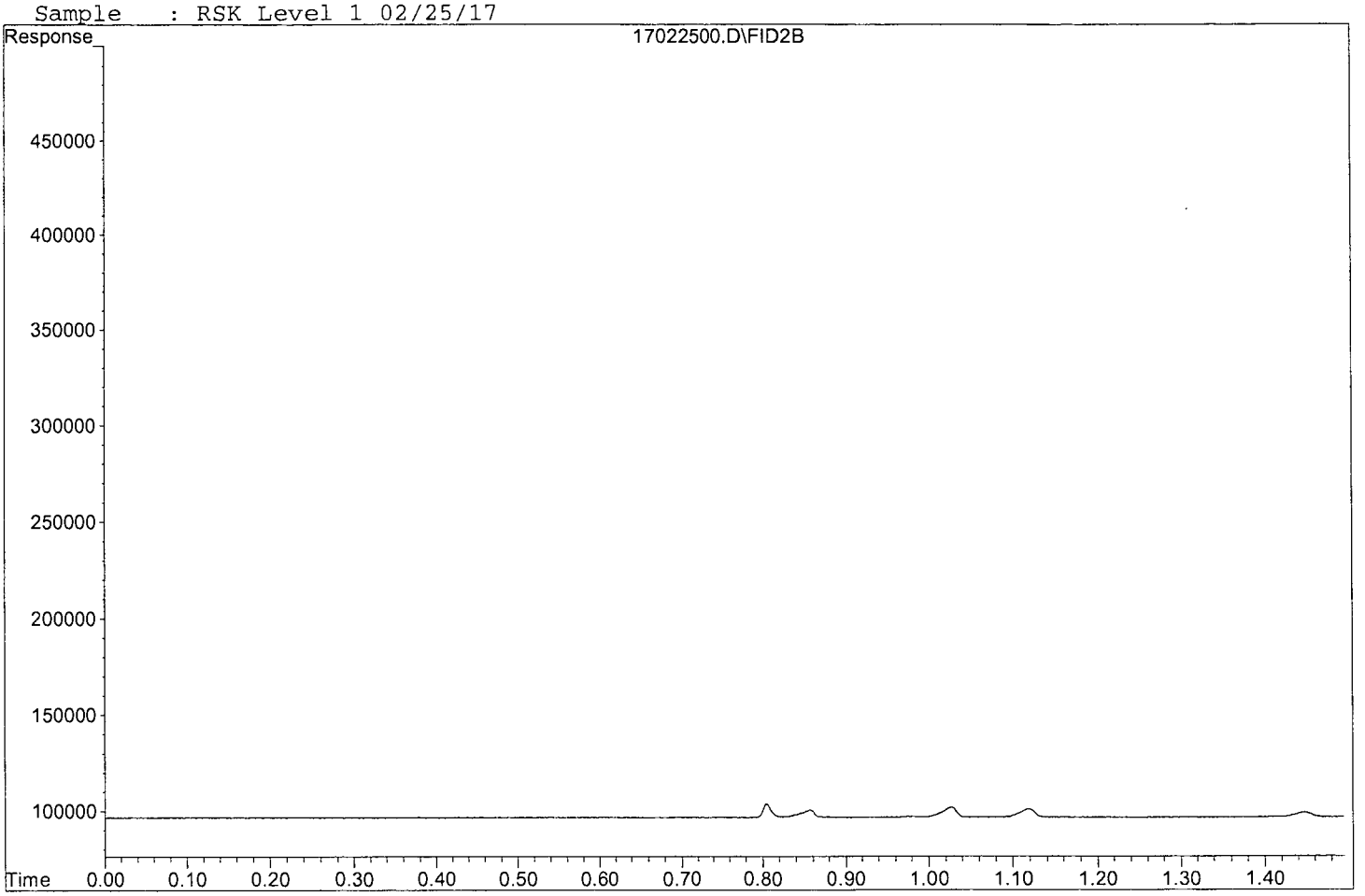
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

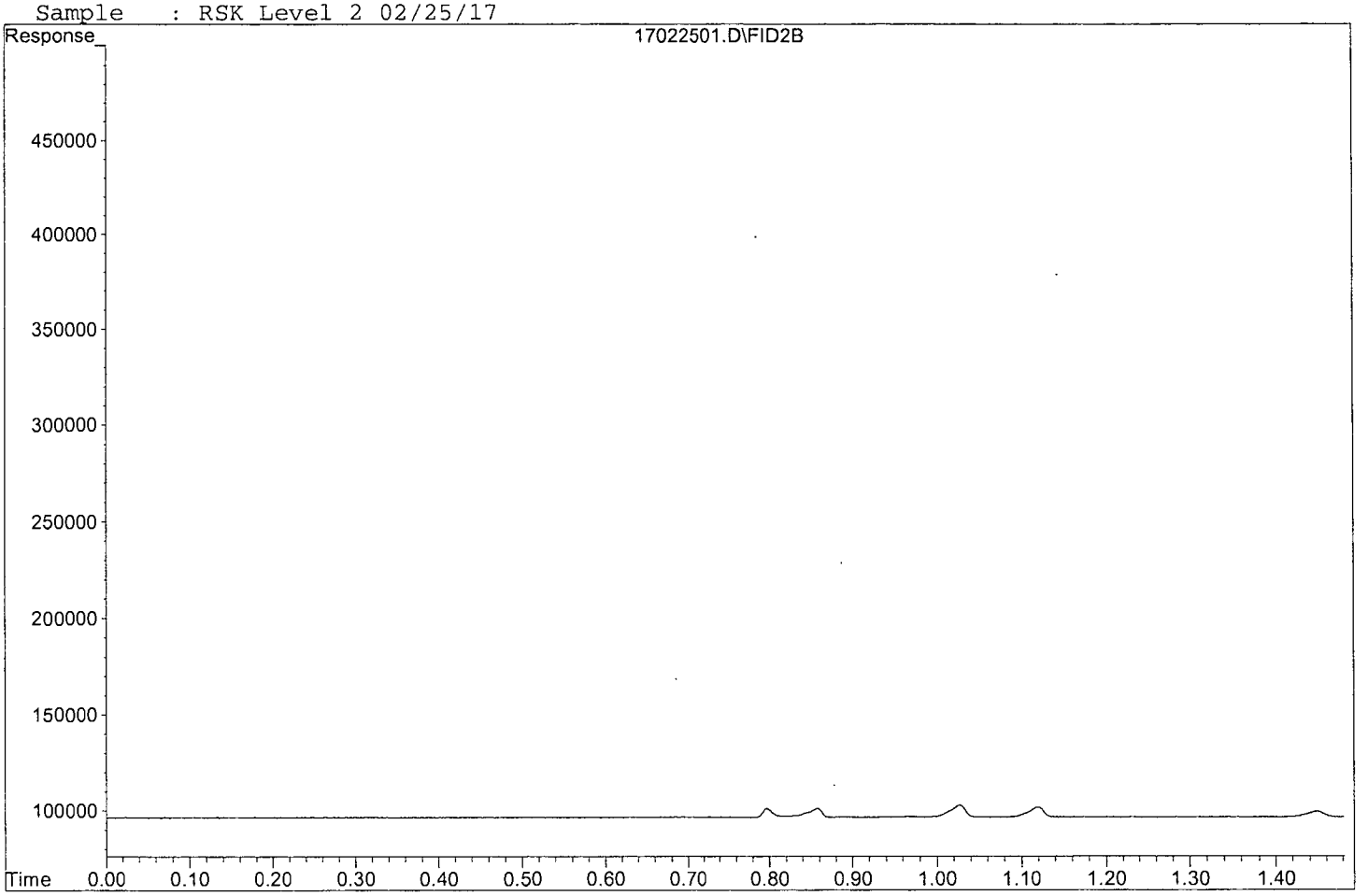
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

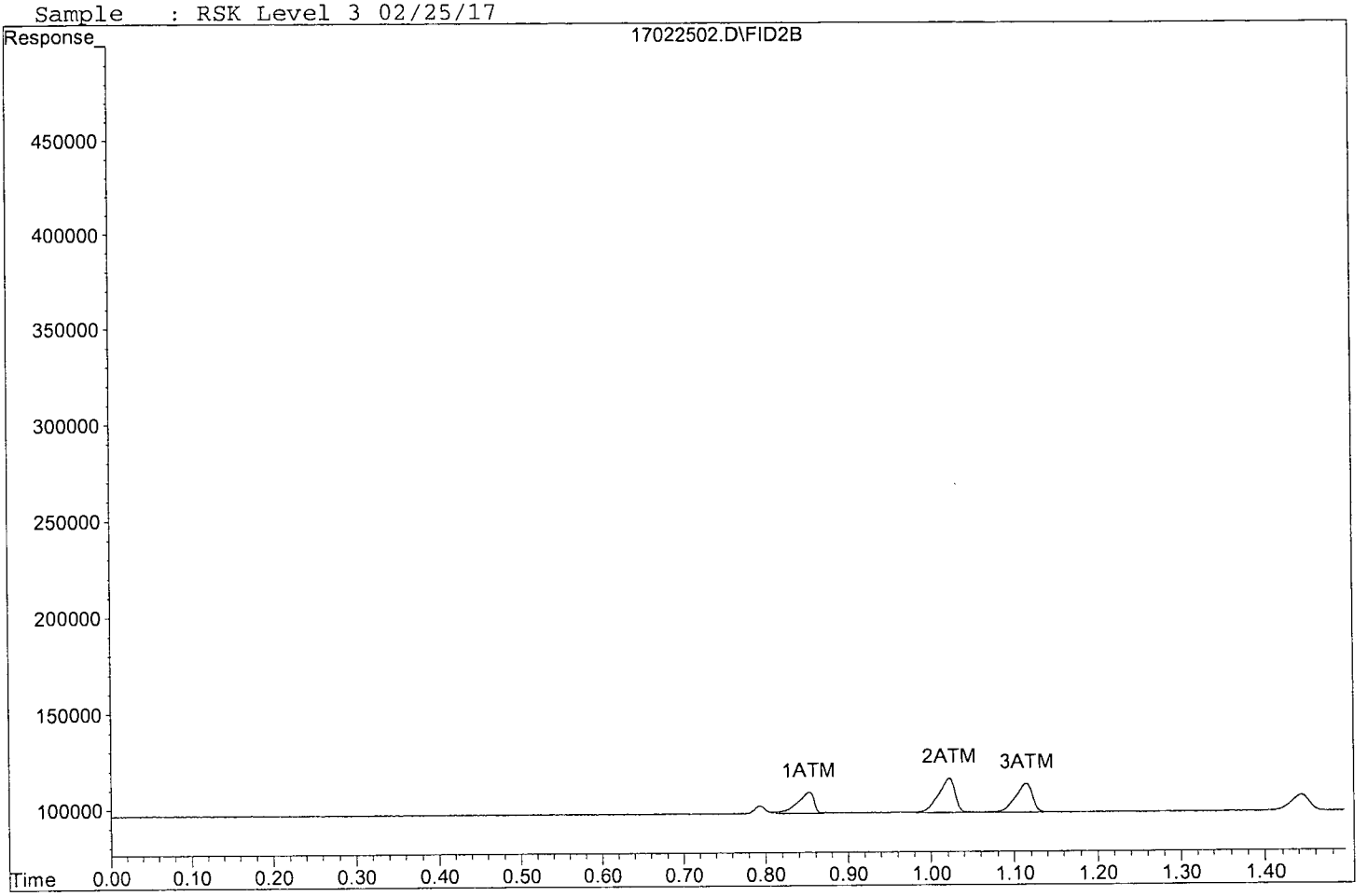
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D
Acq On : 25 Feb 17 11:17
Sample : RSK Level 4 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 4
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

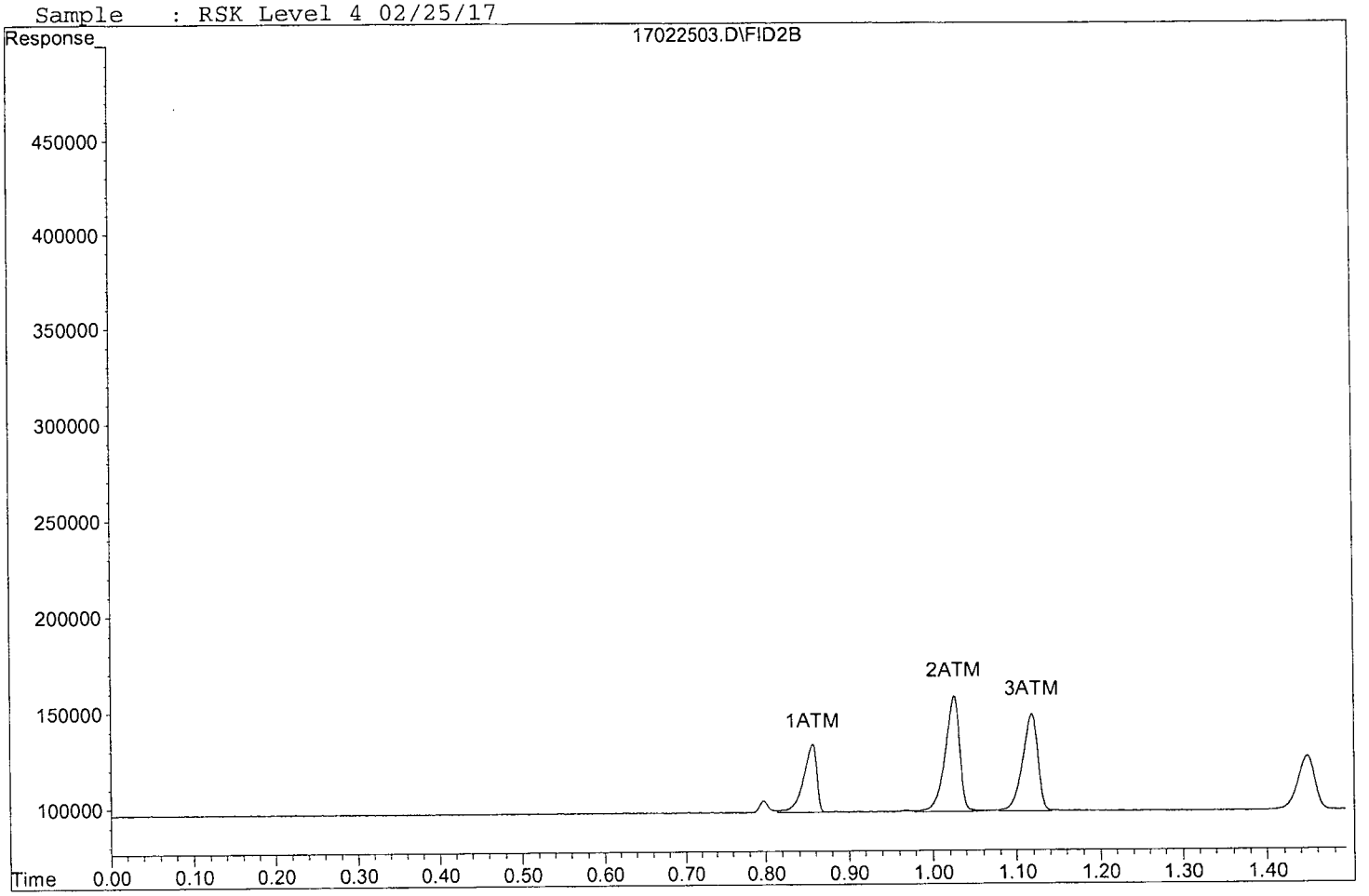
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D Vial: 5
Acq On : 25 Feb 17 11:20 Operator: lac
Sample : RSK Level 5 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

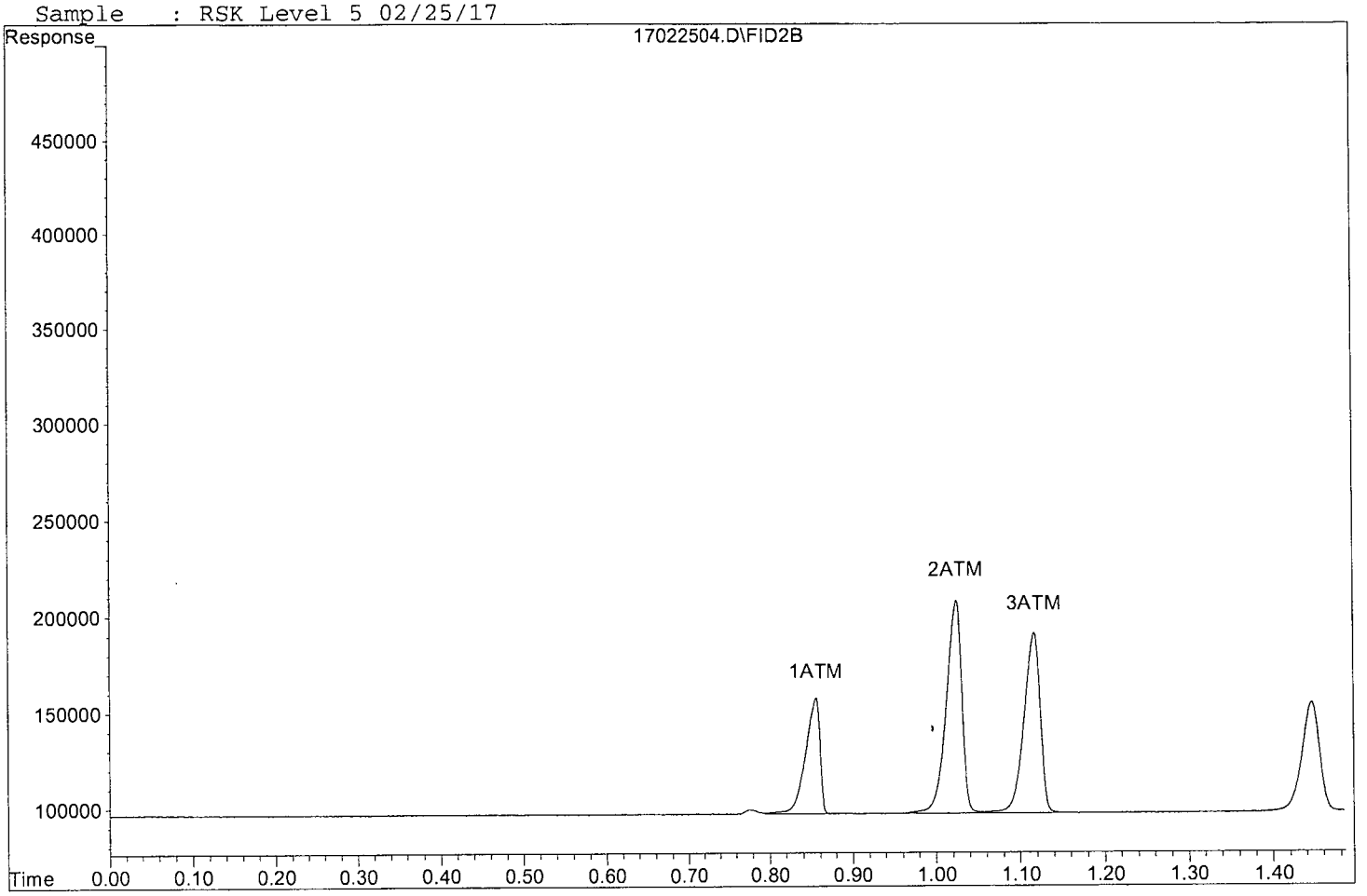
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D Vial: 6
Acq On : 25 Feb 17 11:23 Operator: lac
Sample : RSK Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

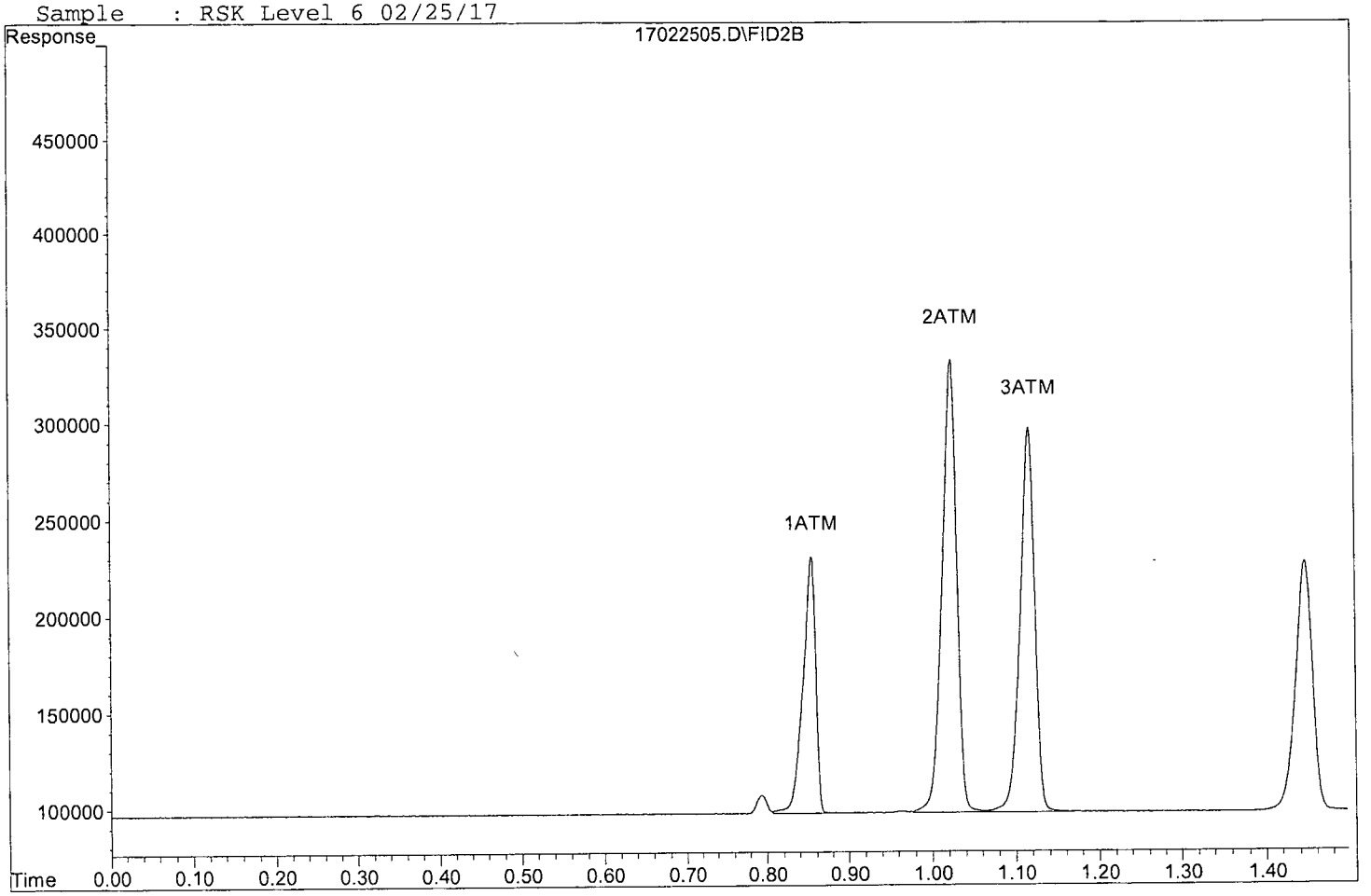
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D Vial: 7
Acq On : 25 Feb 17 11:25 Operator: lac
Sample : RSK Level 7 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

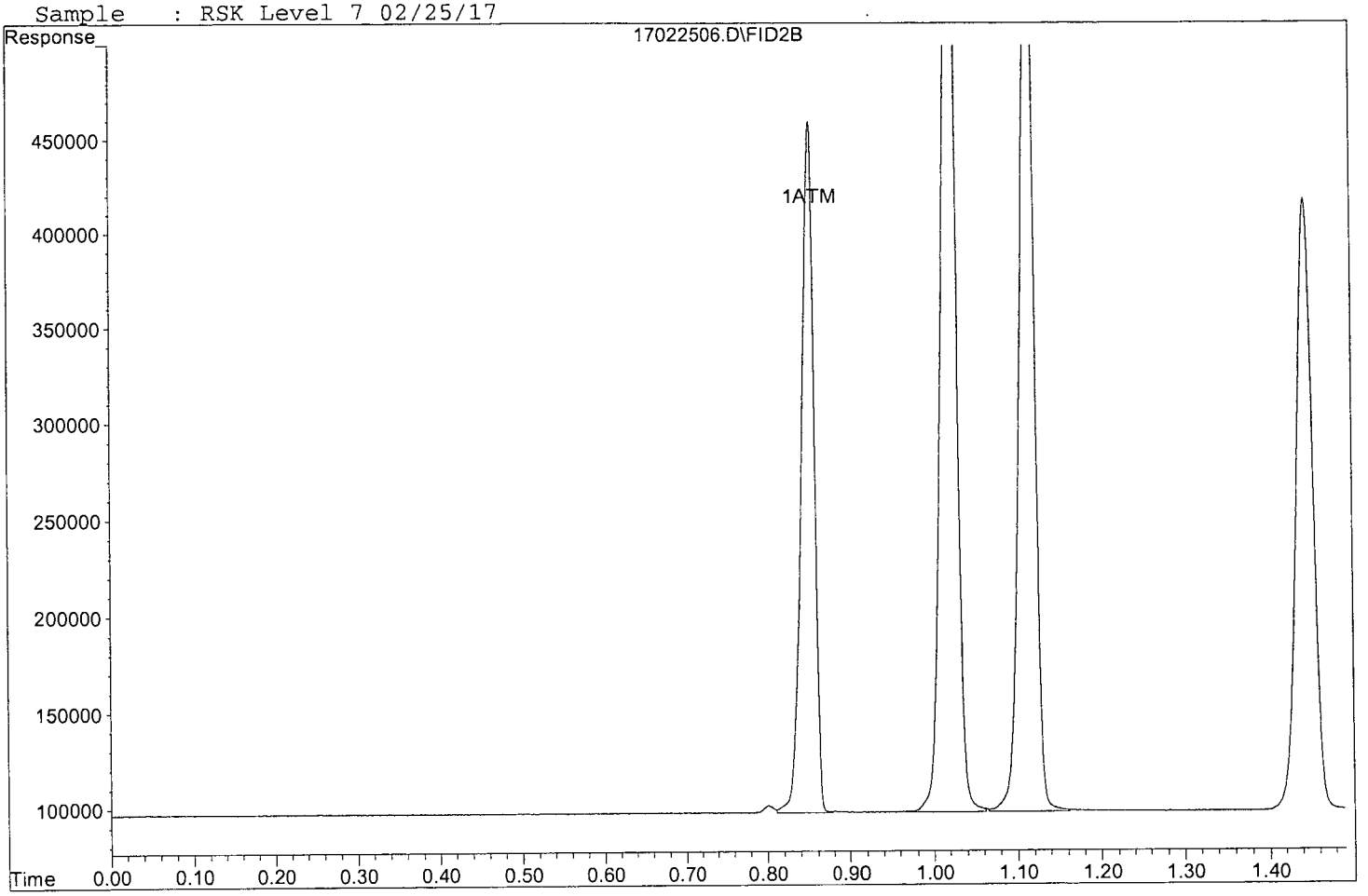
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D Vial: 8
Acq On : 25 Feb 17 11:27 Operator: lac
Sample : RSK Level 8 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

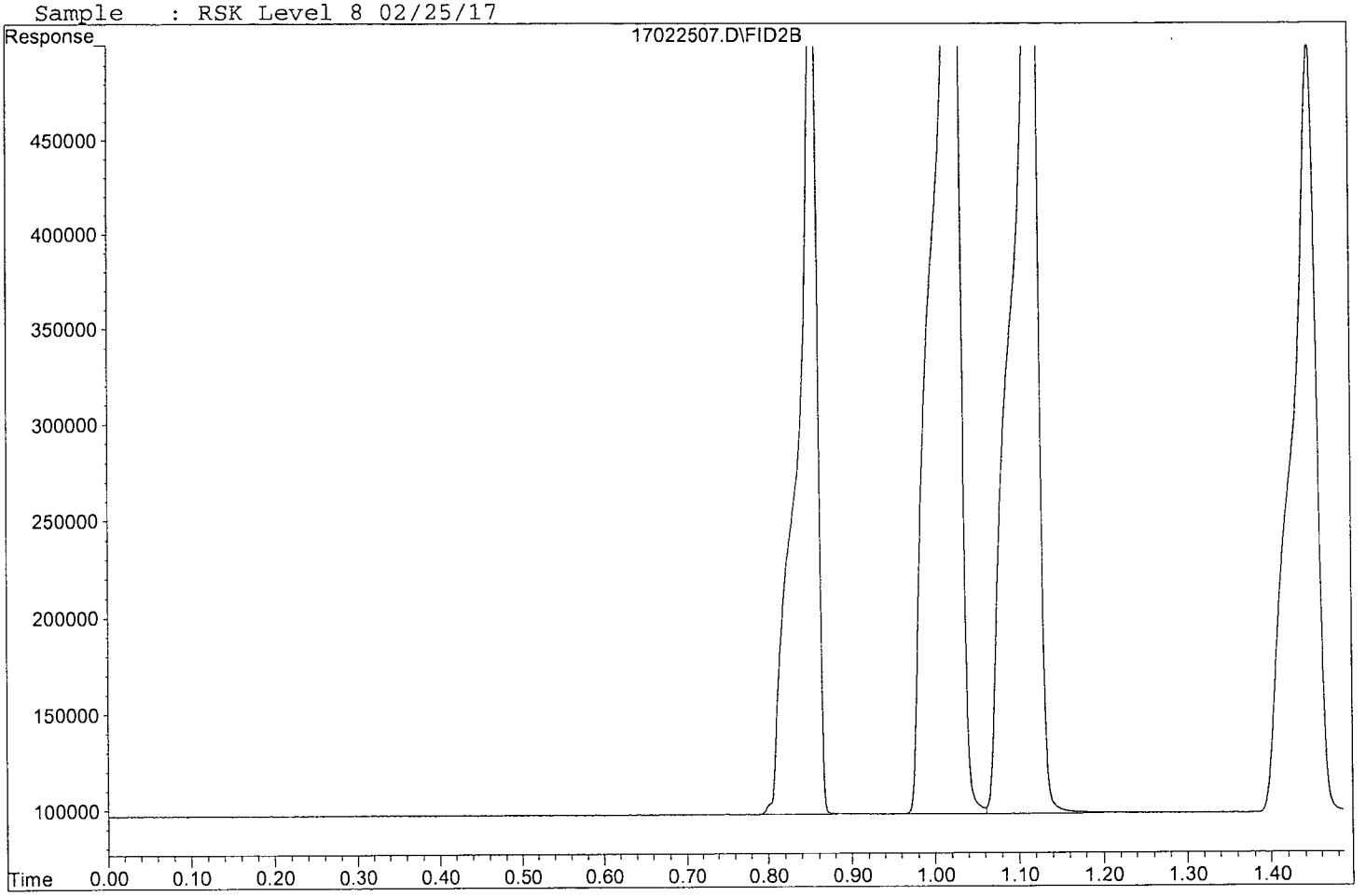
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D Vial: 9
Acq On : 25 Feb 17 11:30 Operator: lac
Sample : RSK Level 9 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

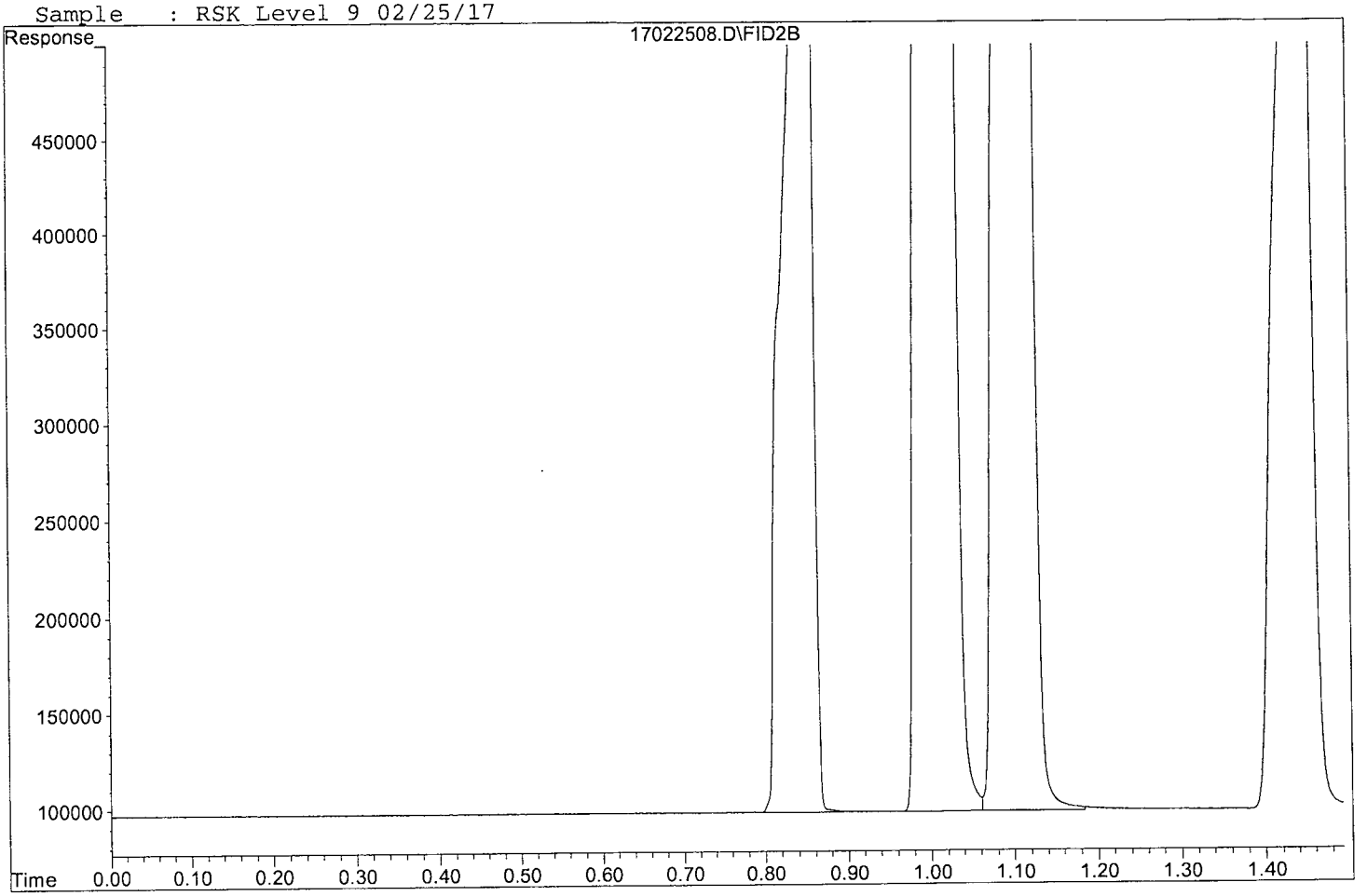
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1370511	679.760	ppb
2) ATM Ethane	1.03	2246413	1250.978	ppb
3) ATM Ethene	1.12	1934164	1254.226	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D Vial: 10
Acq On : 25 Feb 17 11:32 Operator: lac
Sample : RSK Level 10 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

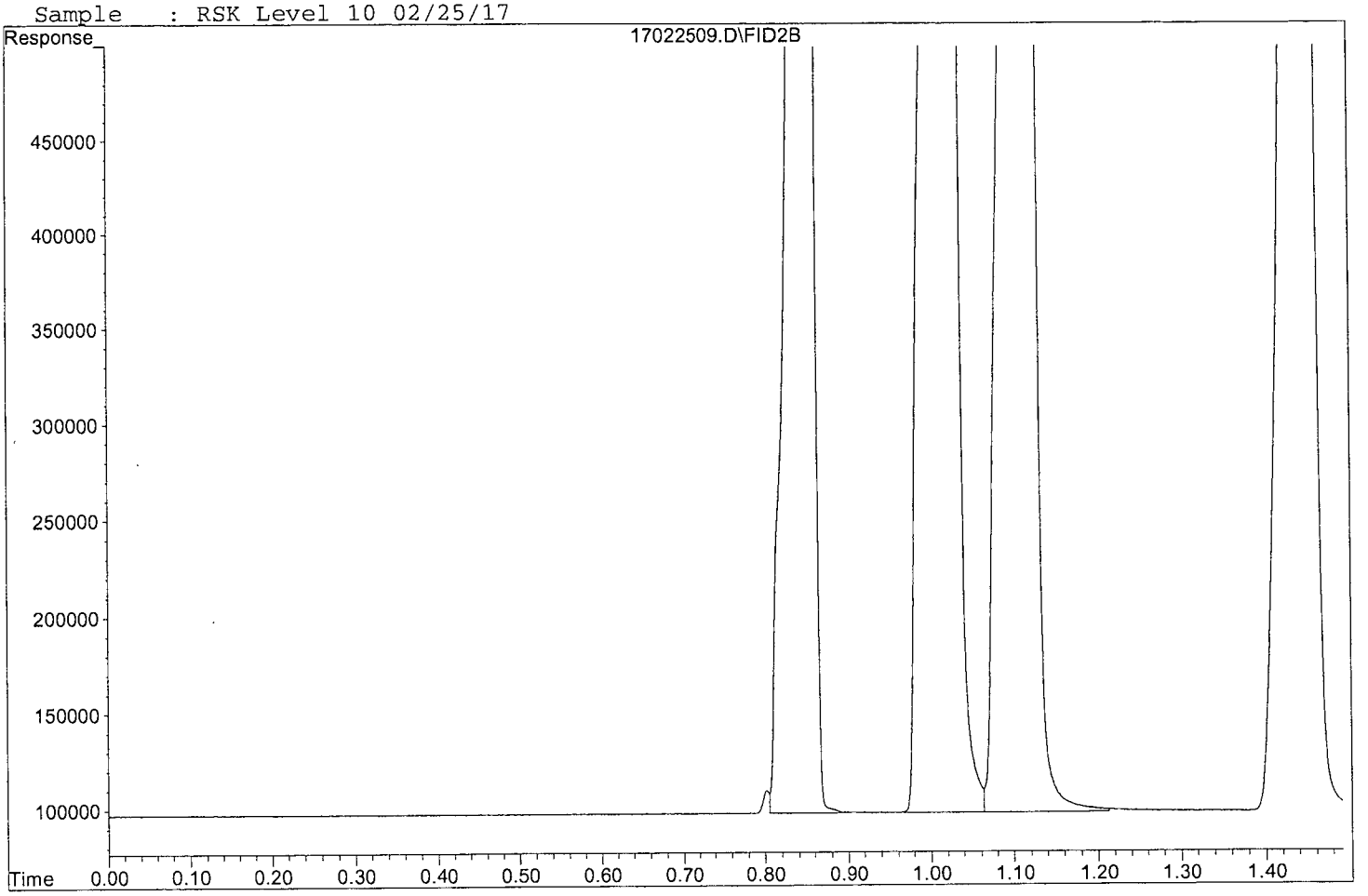
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

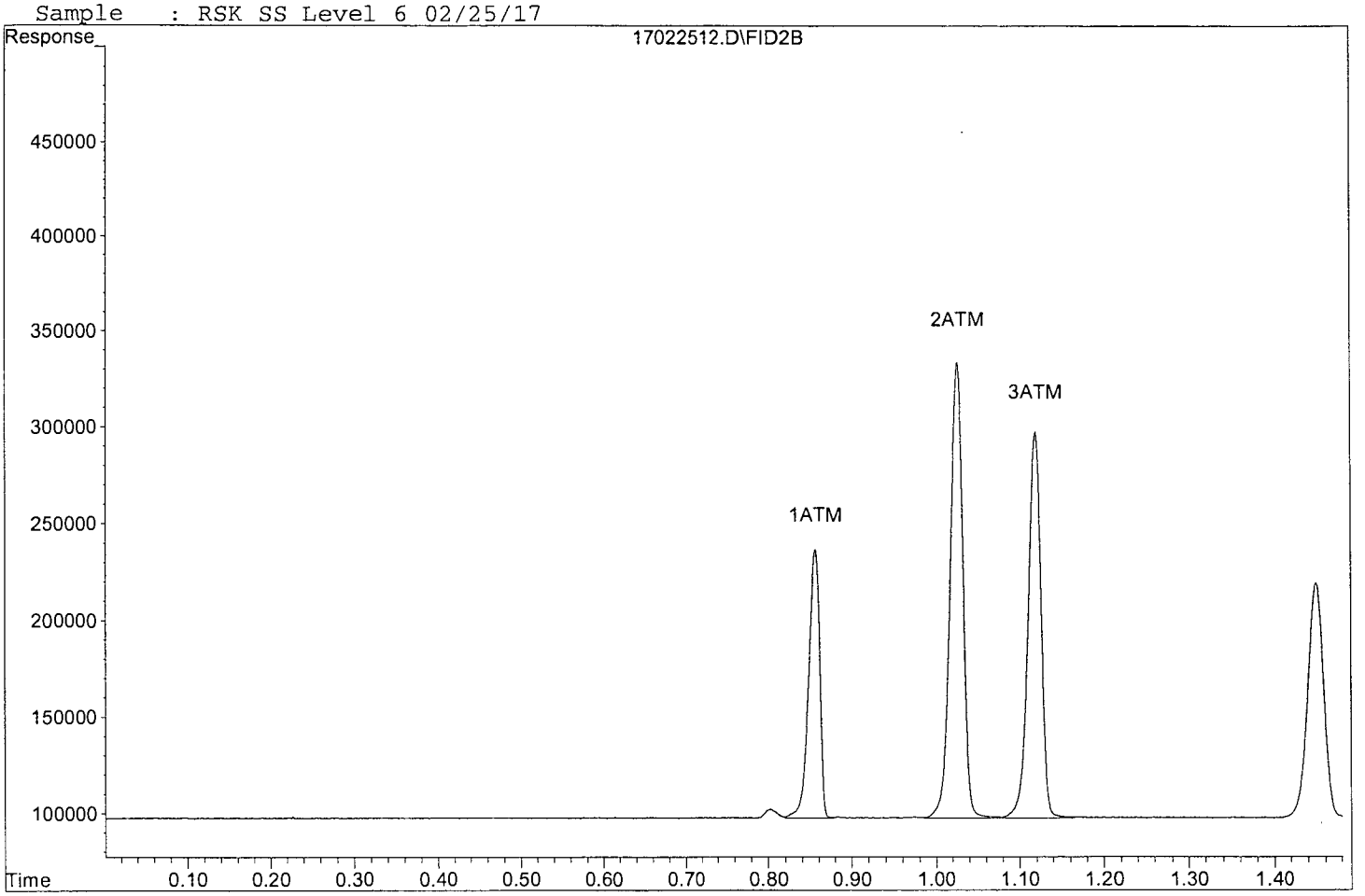
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 8:04
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17030904.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1999	21	ATML	1.3
2	ATML	Ethane	2140	1888	12	ATML	4.8
3	ATML	Ethene	1905	1545	19	ATML	0.46
4							
5							
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7							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			17.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030904.D Vial: 3
Acq On : 9 Mar 17 8:04 Operator: lac
Sample : 170309A LCS/CCV RSK Level 8 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:07 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

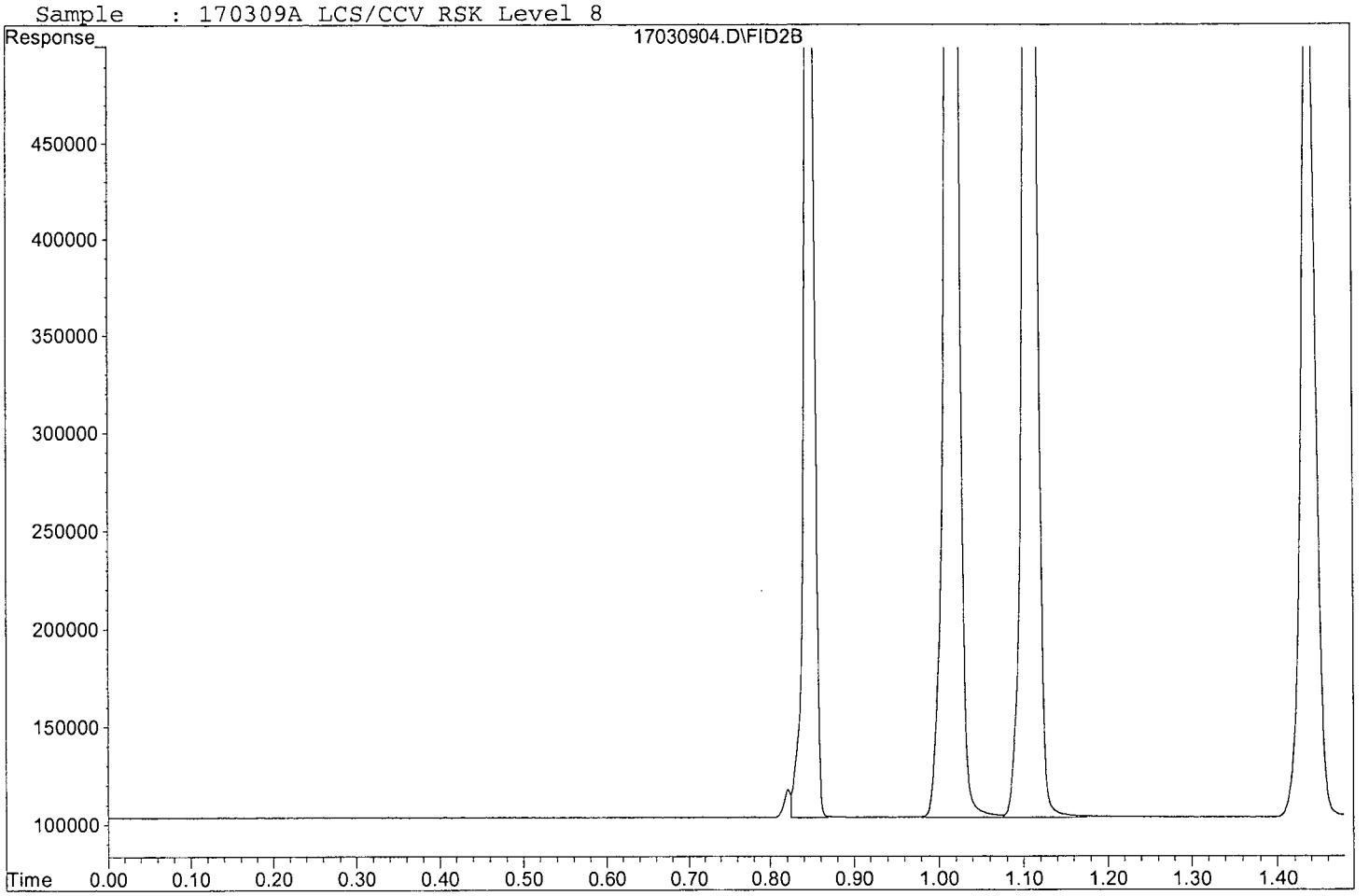
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	640406	316.195 ppb
2) ATM Ethane	1.02	1132563	628.763 ppb
3) ATM Ethene	1.11	925949	596.423 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17030904.D
Sample : 170309A LCS/CCV RSK Level 8



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 8:50
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17030915.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1643	35	ATML	19
2	ATML	Ethane	2140	1609	25	ATML	11
3	ATML	Ethene	1905	1320	31	ATML	15
4							
5							
6							
7							
8							
9							
10							
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35							
36							
37							
38							
39							
40							
		Average			30.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030915.D Vial: 14
Acq On : 9 Mar 17 8:50 Operator: lac
Sample : Ending CCV RSK Level 8 03/09/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:52 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

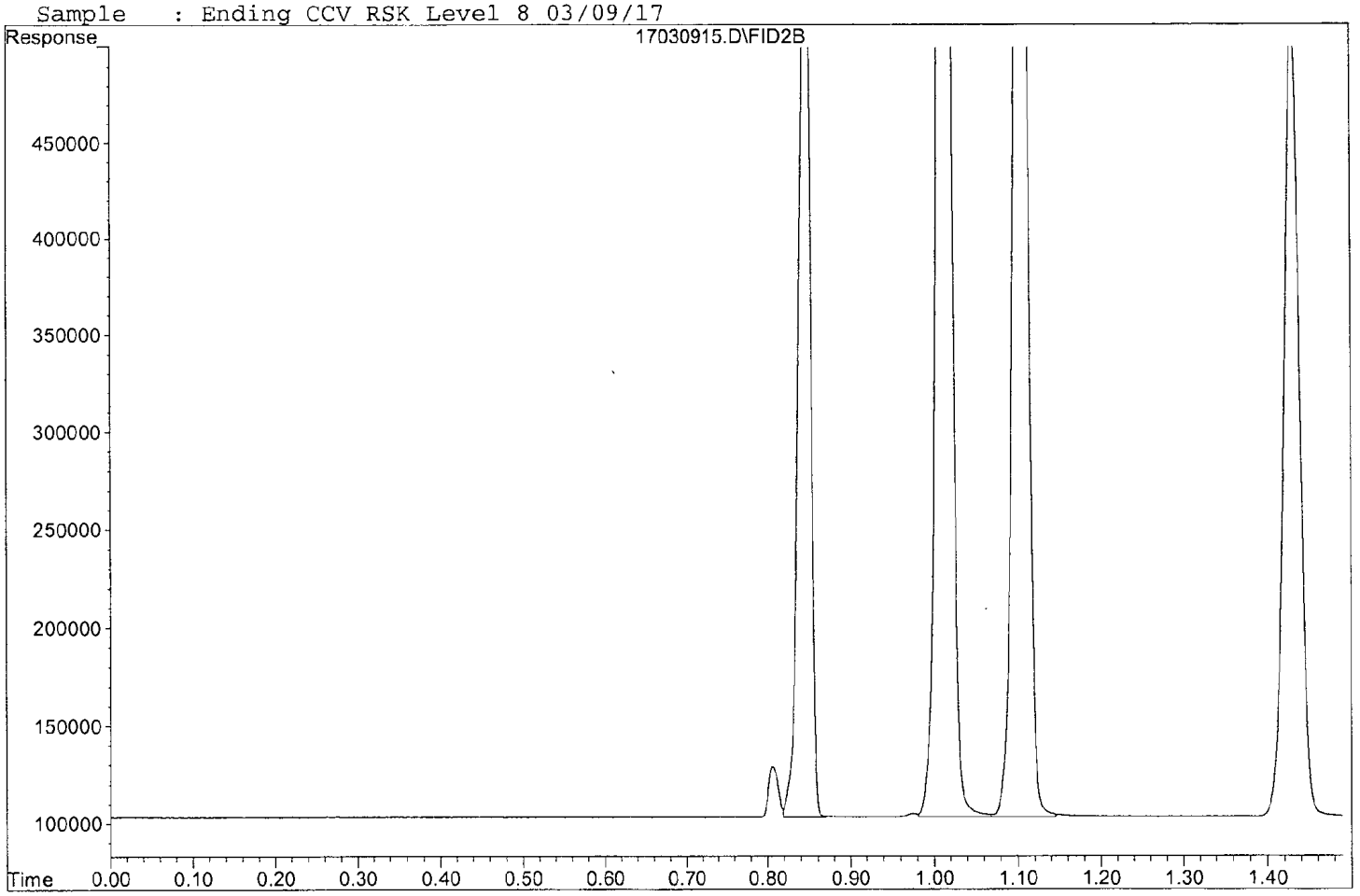
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	526545	259.496 ppb
2) ATM Ethane	1.02	965659	535.527 ppb
3) ATM Ethene	1.11	790998	508.376 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17030915.D
Sample : Ending CCV RSK Level 8 03/09/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51055 - 216697**
Batch ID: #RSKME-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/09/17	03/09/17

Quant Method: RSK0225.M
Run #: 17030906
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/09/17 9:49:36 AM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030906.D Vial: 5
Acq On : 9 Mar 17 8:11 Operator: lac
Sample : 170309A BLK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:13 2017 Quant Results File: RSK0225.RES

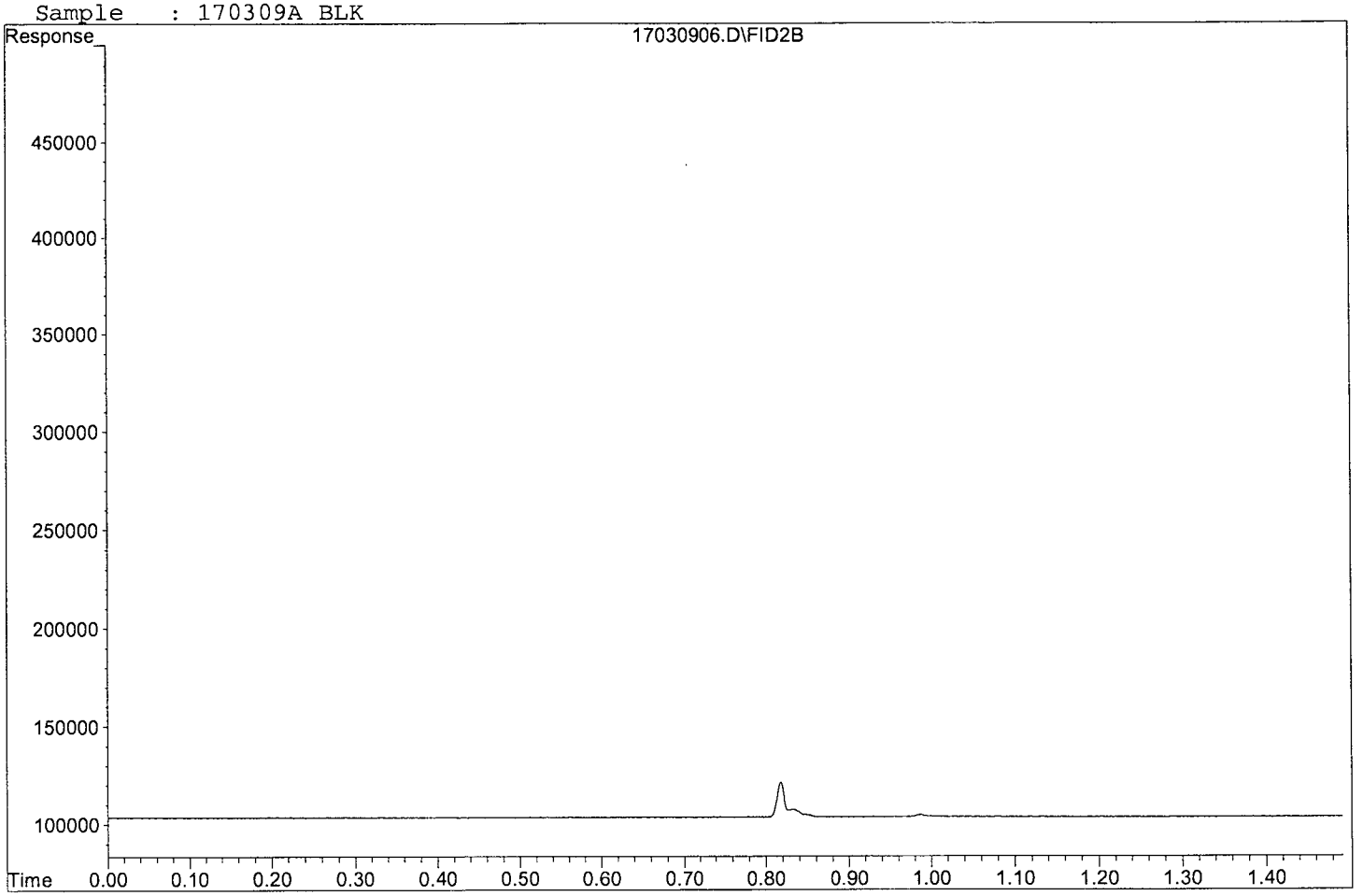
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.87	365	N.D.	ppb
2) ATM Ethane	1.03	274	N.D.	ppb
3) ATM Ethene	1.12	115	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17030906.D
Sample : 170309A BLK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170309W-51055 LCS - 216697**
Batch ID: #RSKME-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	320	316	98.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Rocky
Run :	17030904
Initials :	CMO

Printed: 03/09/17 9:48:12 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17030904.D Vial: 3
Acq On : 9 Mar 17 8:04 Operator: lac
Sample : 170309A LCS/CCV RSK Level 8 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 9 8:07 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

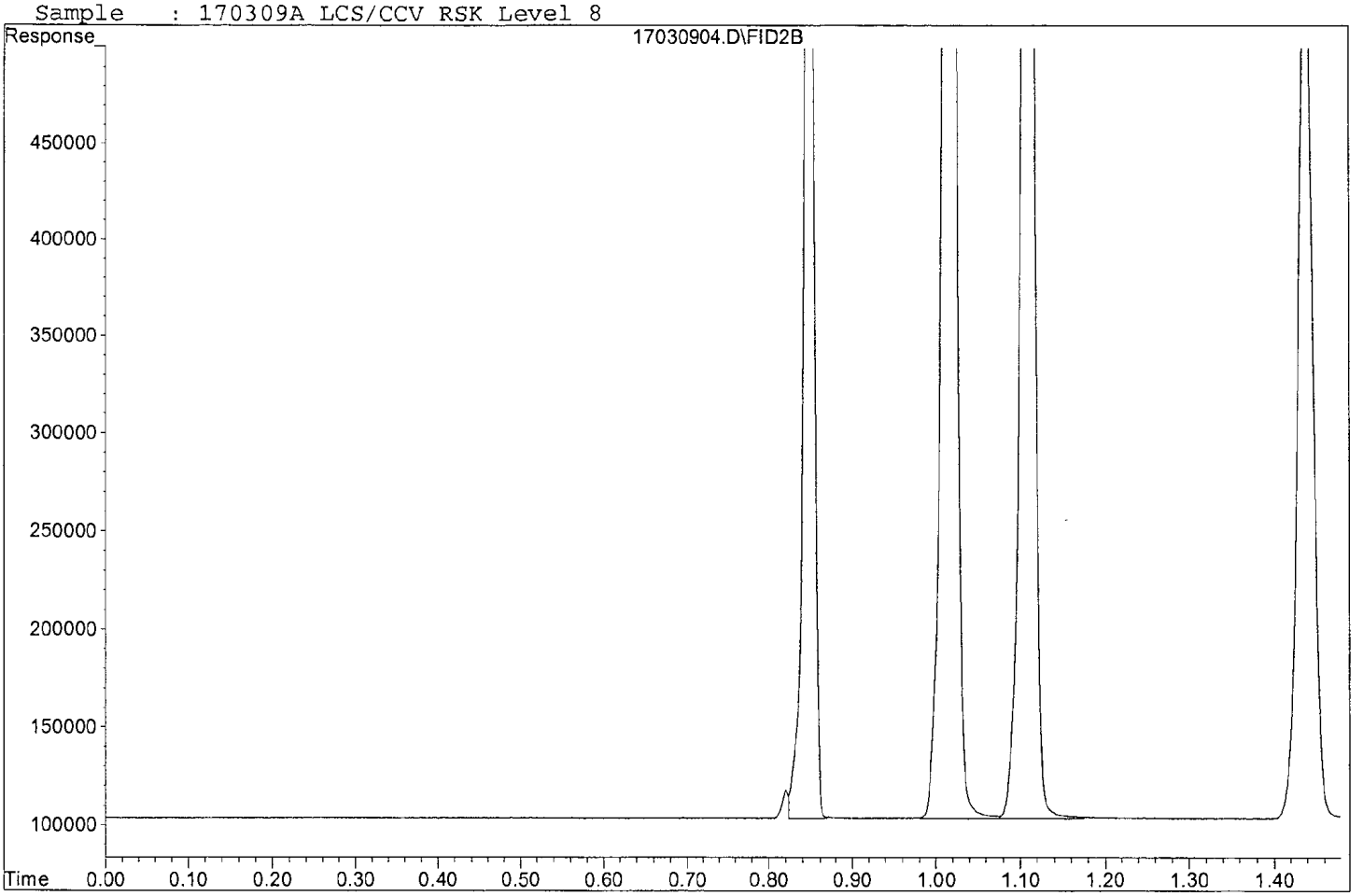
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	640406	316.195 ppb
2) ATM Ethane	1.02	1132563	628.763 ppb
3) ATM Ethene	1.11	925949	596.423 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17030904.D
Sample : 170309A LCS/CCV RSK Level 8



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** **CMM 02/25/17**
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** **CMM 02/25/17**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** **CMM 02/25/17**

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4S PC05L-34436	Primary Source Std #164PLU4SP C05L-34436	Primary Source Std #164PLU4S PC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** **CMM 02/25/17**
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** **CMM 02/25/17**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** **CMM 02/25/17**
10.0mL of Intermediate SS stock 02/25/17 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 8 **Expires 04/09/17** **CMM 03/09/17**
0.480mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 320.4 ppb Methane, 600.0 ppb Ethane, and 599.2 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	3	17030904.D	1	170309A LCS/CCV RSK Level 8		9 Mar 17 8:04
13	5	17030906.D	1	170309A BLK		9 Mar 17 8:11
14	7	17030908.D	1	AZ51055W03		9 Mar 17 8:18
15	8	17030909.D	1	AZ51056W06		9 Mar 17 8:23
16	14	17030915.D	1	Ending CCV RSK Level 8 03/09/17		9 Mar 17 8:50

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/08/17	03/08/17	#35FE-170308A-AZ51132

Wetlab SC-Blank-REG MDLs
Printed: 03/14/17 11:47:40 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM3500Fe	FERROUS IRON	3.00	2.89	96.3	80-120	03/08/17	03/08/17	#35FE-170308A-AZ51132

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH260

Sample Collection Date: 03/06/17

APPL ID: AZ51056

ARF: 82337

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	NITRATE	2.7	0.5	0.18	0.04	mg/L	1	03/07/17	03/07/17
EPA 300.0	SULFATE	10.7	1.0	0.20	0.09	mg/L	1	03/07/17	03/07/17
EPA 300.0	CHLORIDE	75.9	5.0	1.00	0.40	mg/L	5	03/07/17	03/07/17
SM 2320B	BICARBONATE AS CACO3	78.4	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	78.4	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/08/17	03/08/17

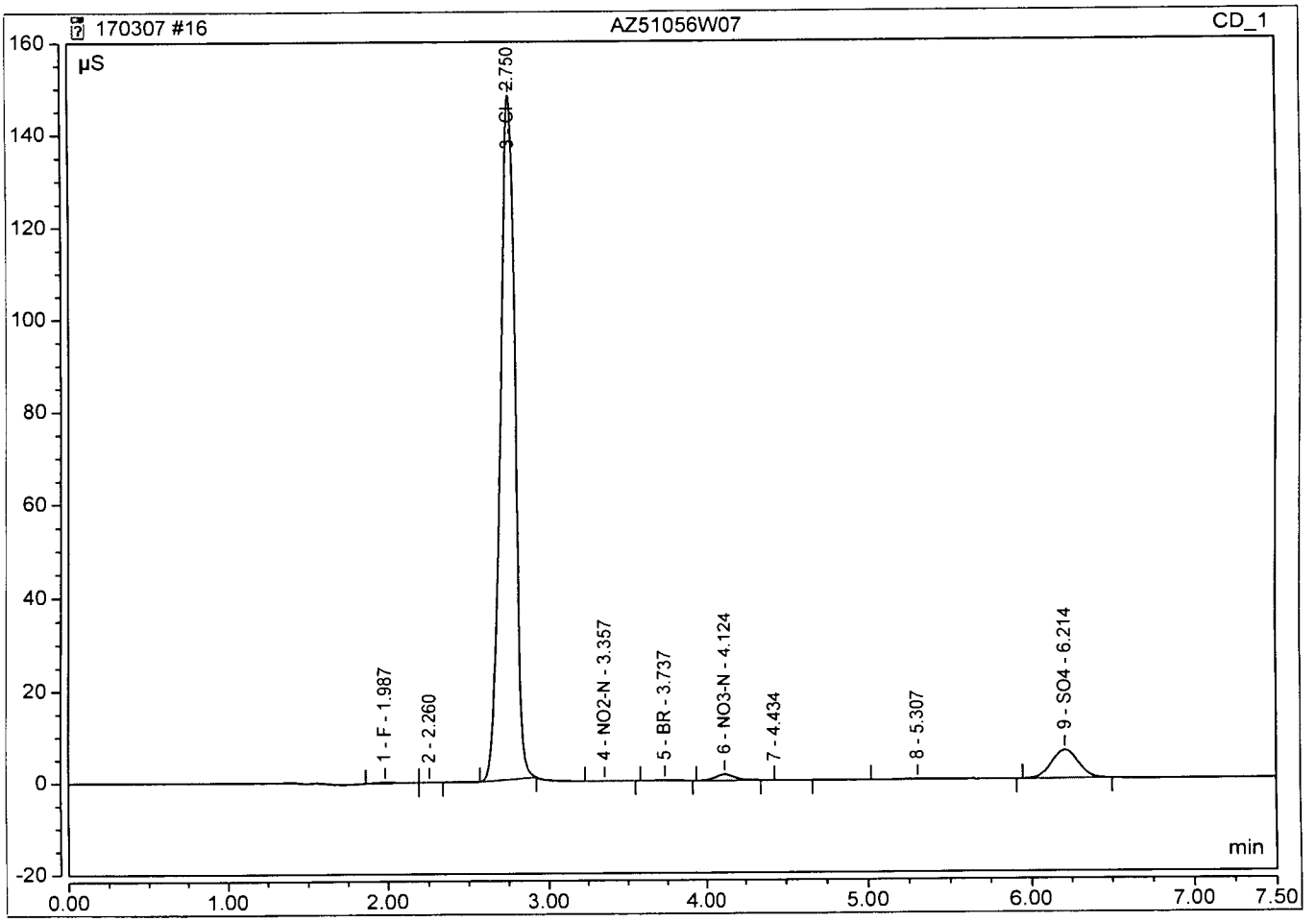
Printed: 03/14/17 11:47:36 AM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51056W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 13:25**	*Run Time:*	**7.50**

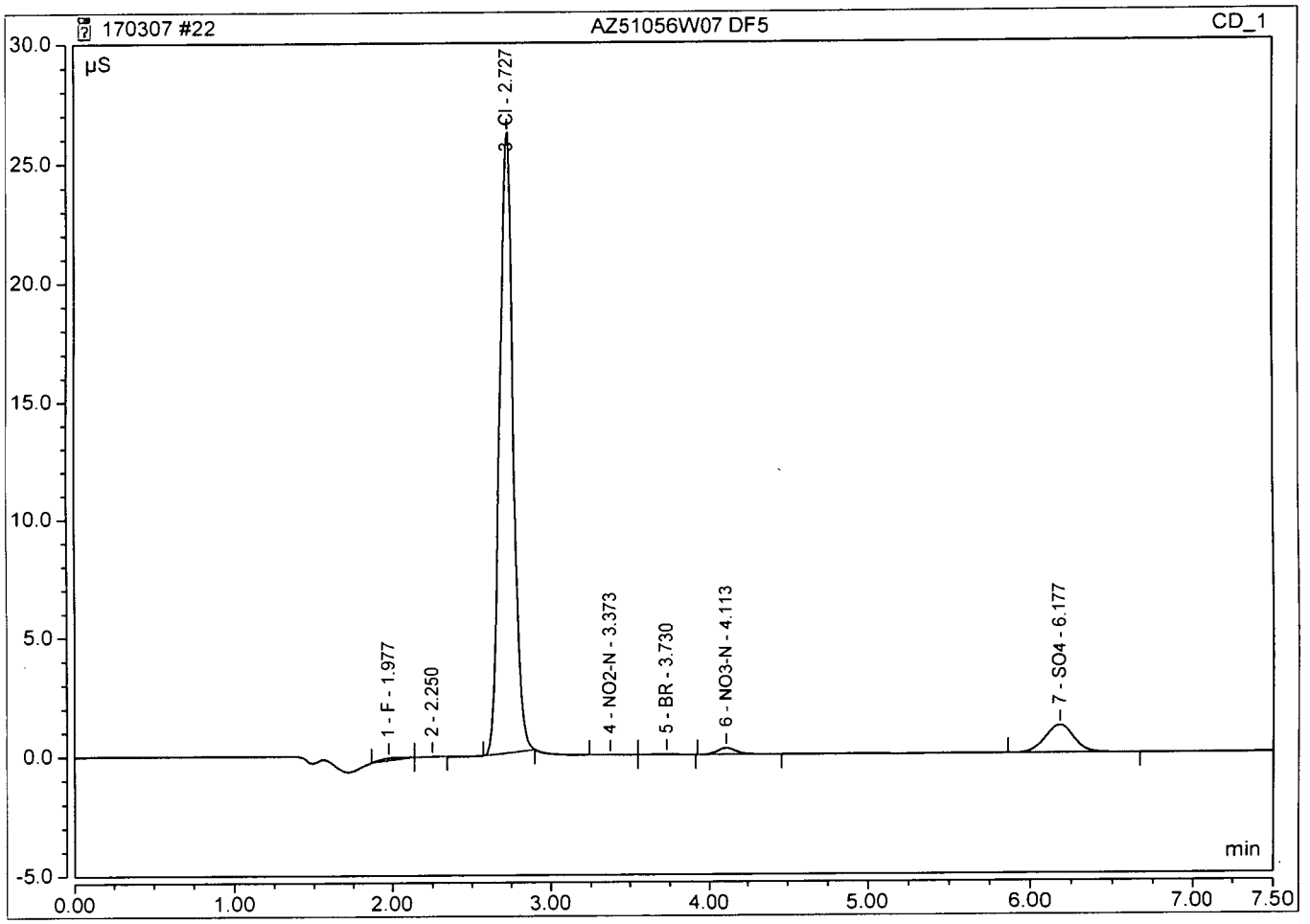
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.027	0.211	0.1775
3	2.75	Cl	BMB	15.570	147.755	87.3636
4	3.36	NO2-N	BMB	0.001	0.007	0.0367
5	3.74	BR	BMB	0.016	0.125	0.4641
6	4.12	NO3-N	BMB	0.184	1.314	0.6090
9	6.21	SO4	BMB	1.175	6.132	10.6868
TOTAL:				16.97	155.54	99.34



Peak Integration Report

Sample Name:	**AZ51056W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 14:46**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.016	0.105	0.6245
3	2.73	Cl	BMB	2.560	26.106	75.9253
4	3.37	NO2-N	BMB	0.000	0.001	0.1659
5	3.73	BR	BMB	0.003	0.025	1.3420
6	4.11	NO3-N	BMB	0.038	0.265	1.1392
7	6.18	SO4	BMB	0.231	1.134	12.6833
TOTAL:				2.85	27.64	91.88



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82337 SDG: 82337
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
chloride	20	18.867	94.3							
Nitrate(NO3)	22.1	21.9317	99.2							
sulfate	20	19.6588	98.3							

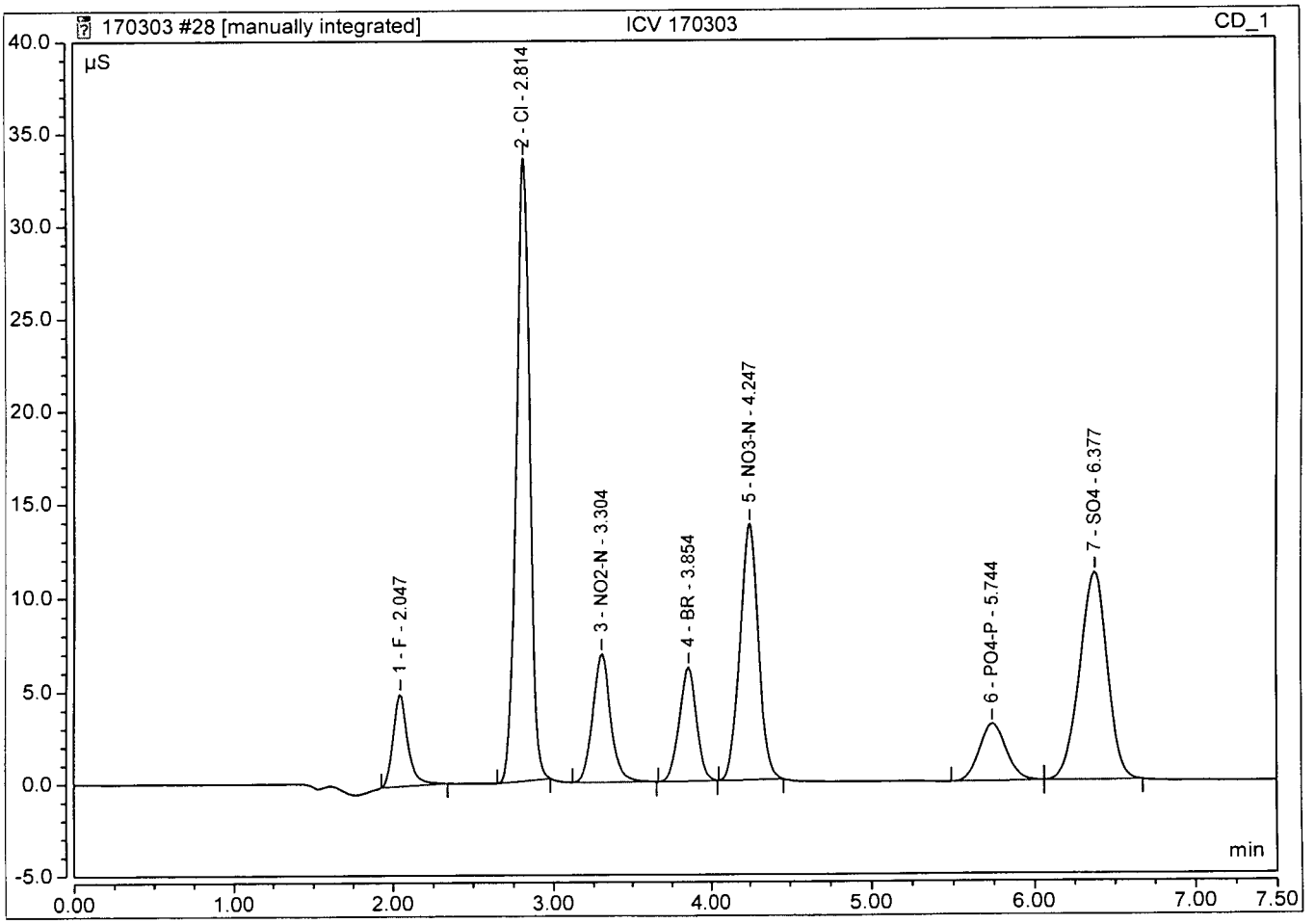
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm Check
y = .384x - .05
x = 4.95 ✓
y = Peak Area
x = Amnt
MM 3/14/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82337 SDG: 82337

Preparation Blank Matrix (soil/water): water

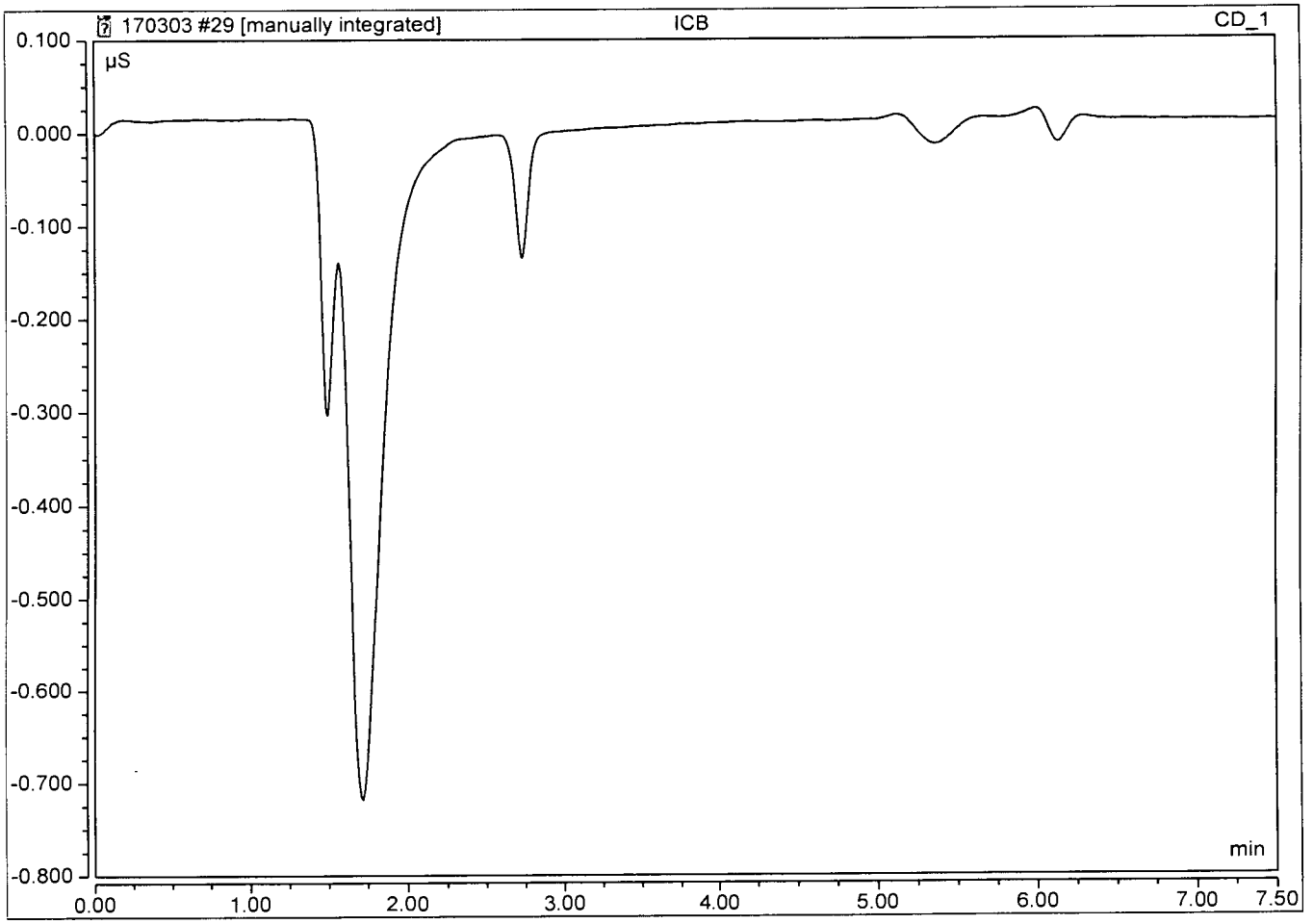
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
chloride	1.000	U									
Nitrate(NO3)	.500	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82337 SDG: 82337
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/07/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:24	%R(1)	True CCV1	Found 14:05	%R(1)	True CCV1	Found 15:13	%R(1)	
chloride	25	23.676	94.7	25	23.8488	95.4	25	23.6907	94.8	
Nitrate(NO3)	22.1	22.4069	101	22.1	22.5429	102	22.1	22.3715	101	
sulfate	25	24.035	96.1	25	24.2078	96.8	25	24.1409	96.6	

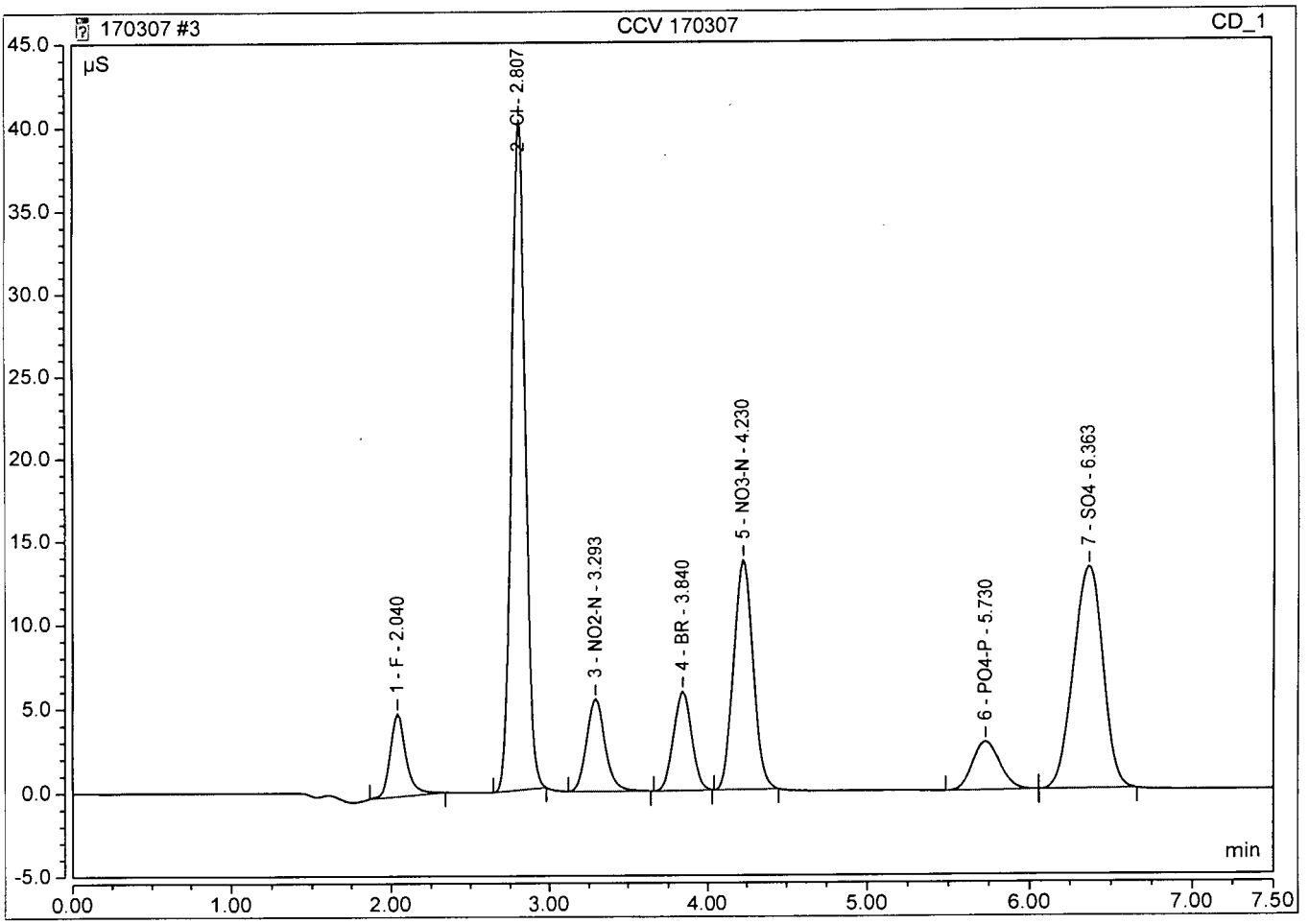
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170307**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 09:24**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.562	4.904	2.8262
2	2.81	Cl	BMB	4.090	40.247	23.6760
3	3.29	NO2-N	BMB	0.737	5.453	2.5442
4	3.84	BR	BMB	0.760	5.854	12.1413
5	4.23	NO3-N	BMB	1.891	13.619	5.0596
6	5.73	PO4-P	BMB	0.552	2.858	4.5722
7	6.36	SO4	BMB	2.723	13.160	24.0350
		TOTAL:		11.31	86.09	74.85



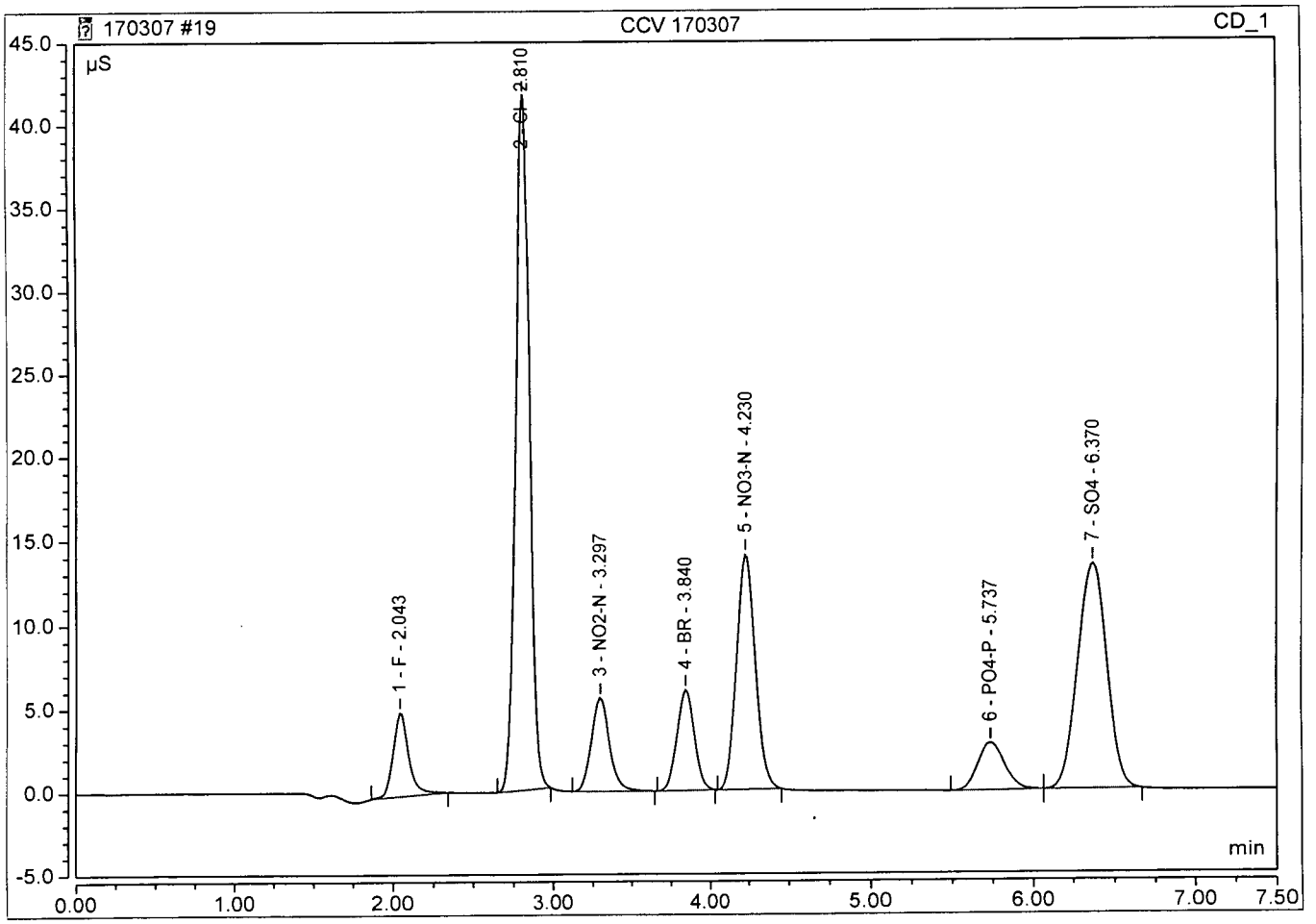
Algorithm Check
y = .384x − .05
x = 5.06 ✓

y = Peak Area
x = Amnt
MM 3/14/17

Peak Integration Report

Sample Name:	**CCV 170307**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 14:05**	*Run Time:*	**7.50**

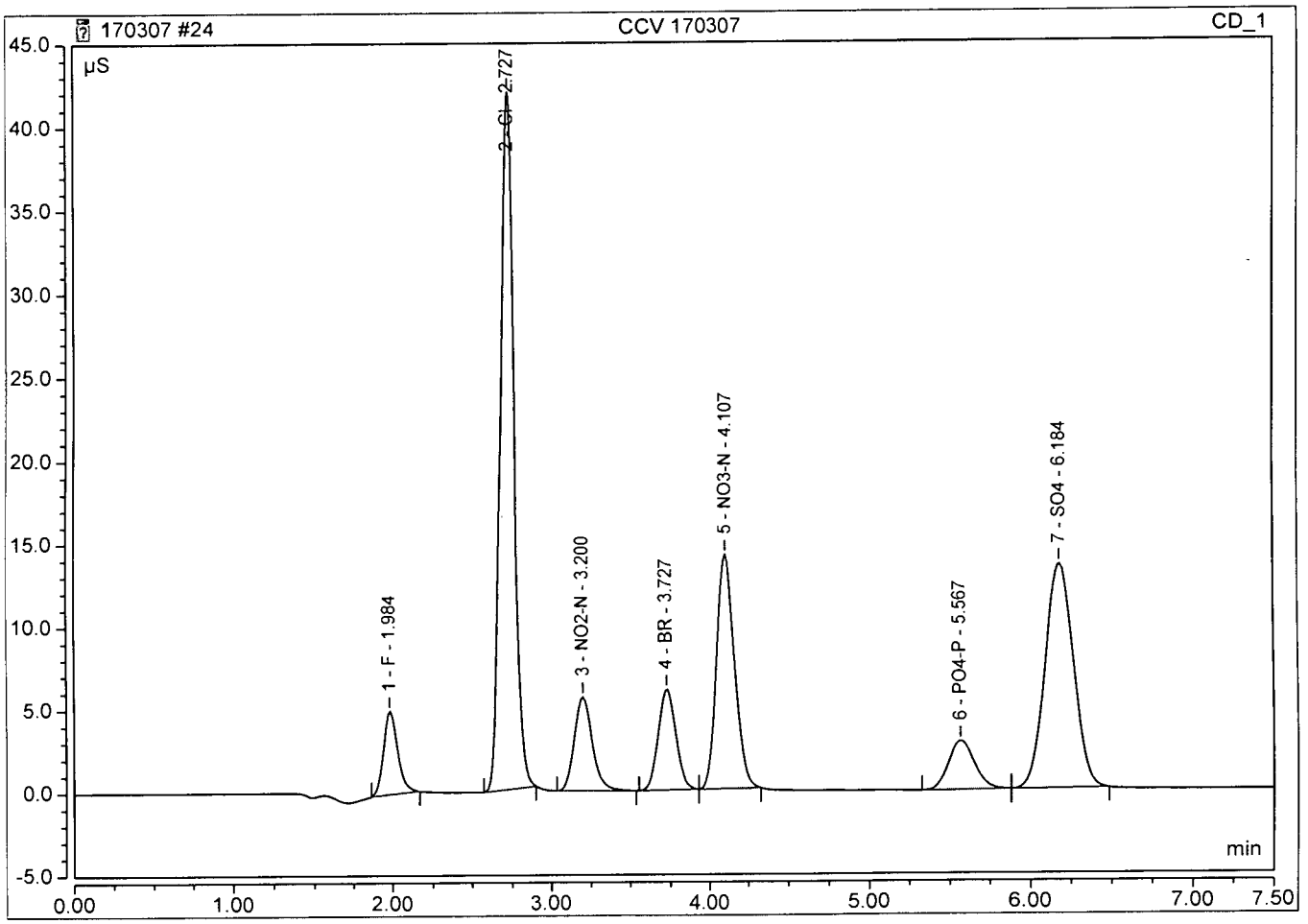
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.566	5.046	2.8466
2	2.81	Cl	BMB	4.121	41.675	23.8488
3	3.30	NO2-N	BMB	0.744	5.589	2.5687
4	3.84	BR	BMB	0.764	6.006	12.2149
5	4.23	NO3-N	BMB	1.903	13.933	5.0903
6	5.74	PO4-P	BMB	0.550	2.855	4.5553
7	6.37	SO4	BMB	2.743	13.329	24.2078
		TOTAL:		11.39	88.43	75.33



Peak Integration Report

Sample Name:	**CCV 170307**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 15:13**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	**F**	BMB	0.514	5.015	2.5929
2	2.73	**Cl**	BMB	4.093	41.866	23.6907
3	3.20	**NO2-N**	BMB	0.739	5.645	2.5519
4	3.73	**BR**	BMB	0.759	6.055	12.1297
5	4.11	**NO3-N**	BMB	1.888	14.070	5.0516
6	5.57	**PO4-P**	BMB	0.551	2.921	4.5622
7	6.18	**SO4**	BMB	2.735	13.476	24.1409
		TOTAL:		11.28	89.05	74.72



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82337 SDG: 82337

Preparation Blank Matrix (soil/water): water

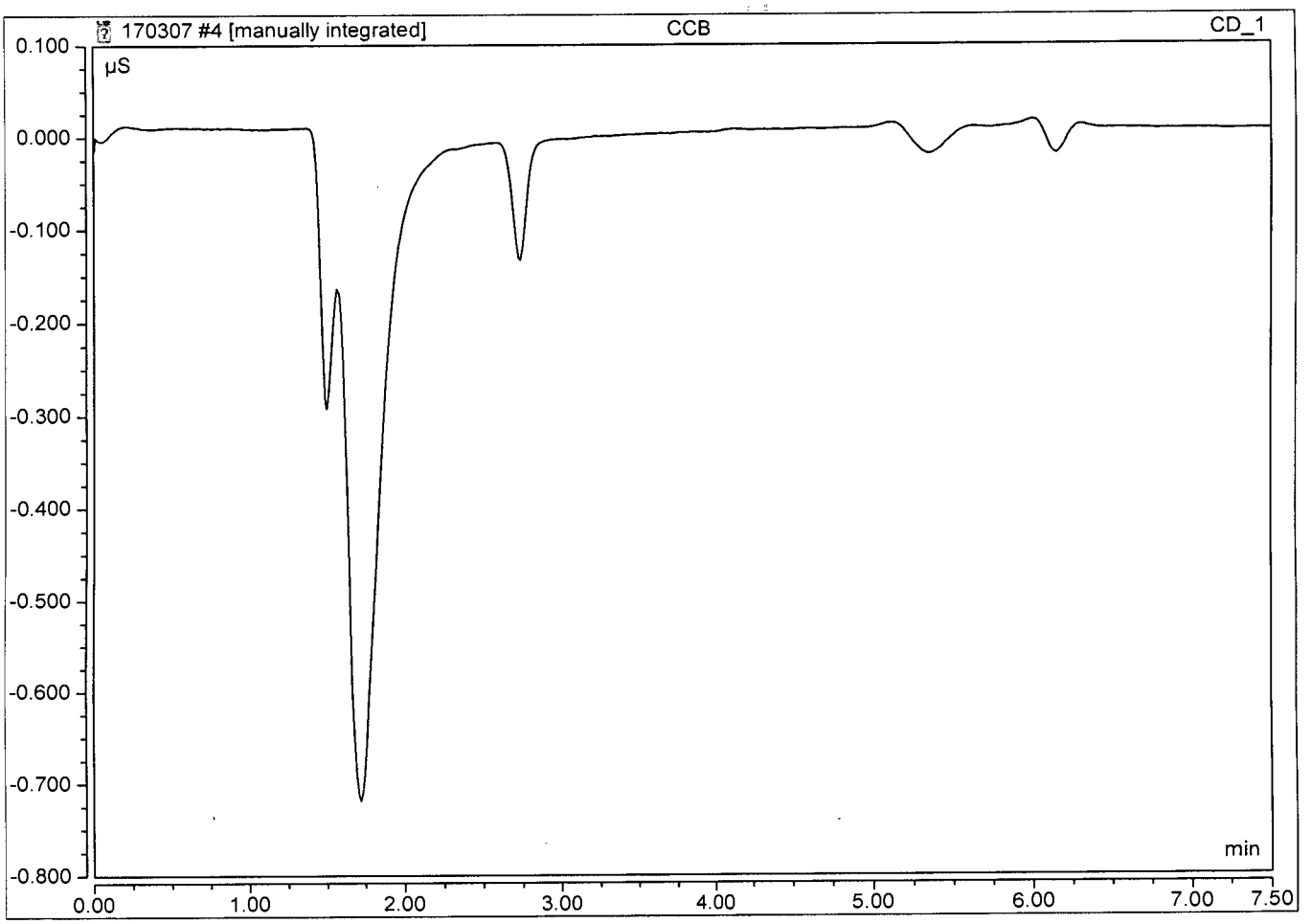
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/07/17 09:38	C	CCB 03/07/17 14:19	C	CCB 03/07/17 15:27	C		C		C	
chloride	1.000	U	1.000	U	1.000	U					
Nitrate(NO3)	.500	U	.500	U	.500	U					
sulfate	1.000	U	1.000	U	1.000	U					

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 09:38**	*Run Time:*	**7.50**

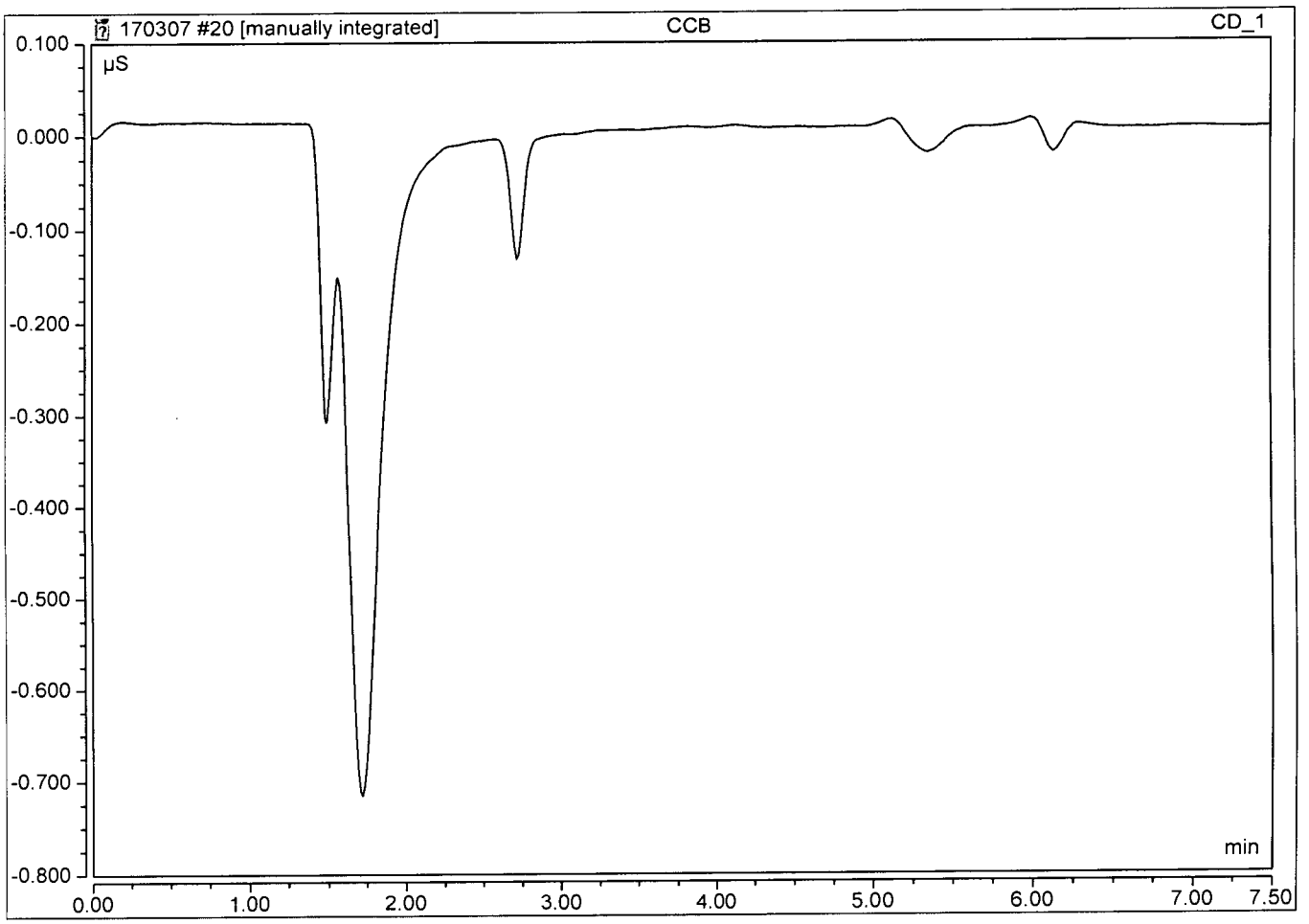
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 14:19**	*Run Time:*	**7.50**

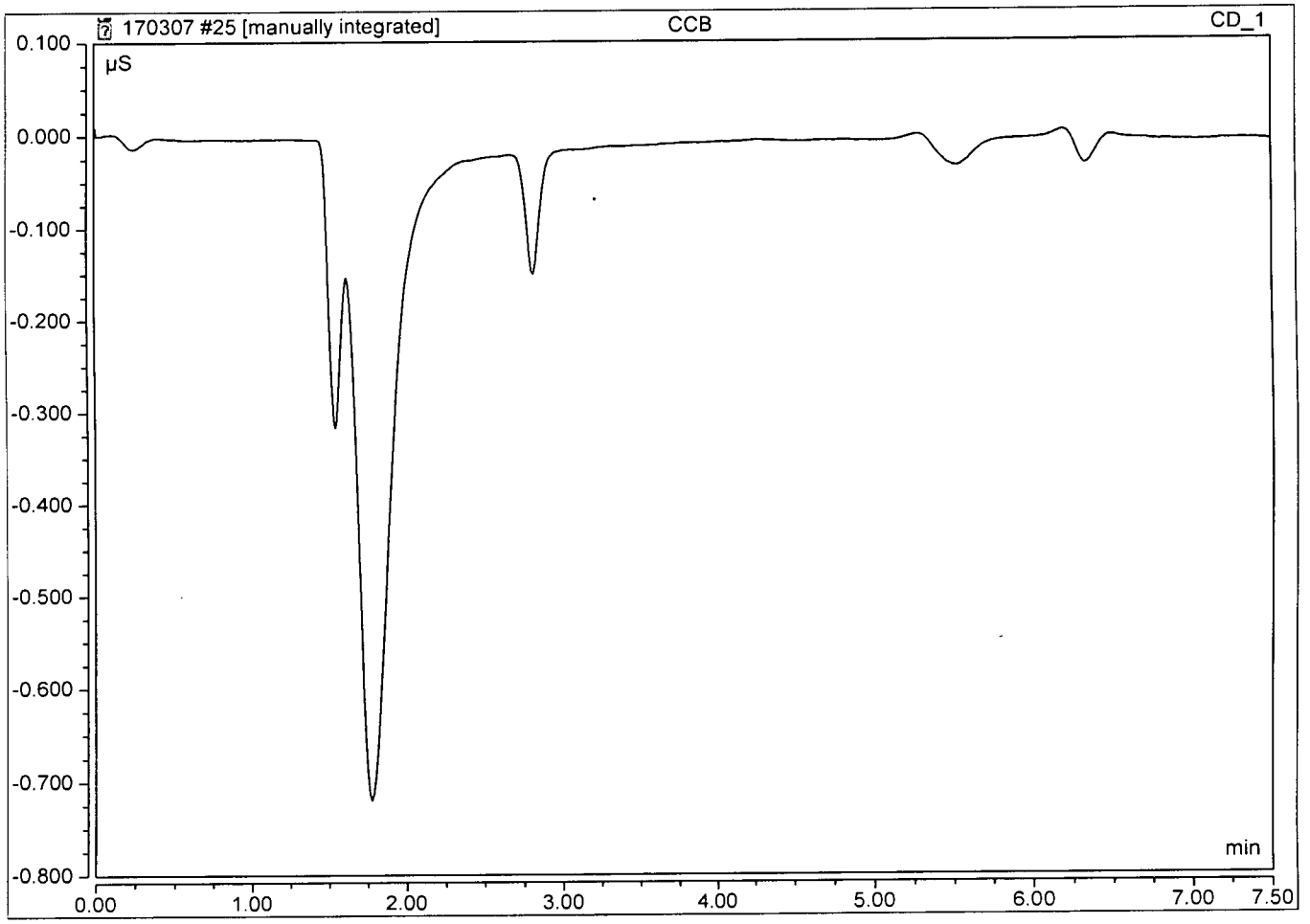
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 15:27**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82337 SDG: 82337
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 16:58	%R(1)	True CCV1	Found 17:30	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.71328	92.8	4	3.71328	92.8	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82337 SDG: 82337

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 03/08/17 17:01	C	CCB 03/08/17 17:32	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

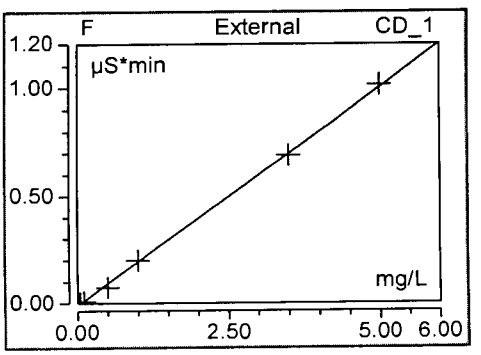
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

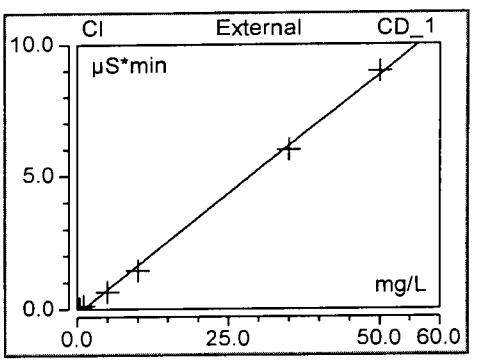
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

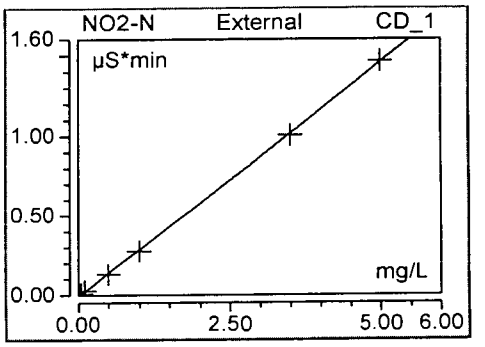
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



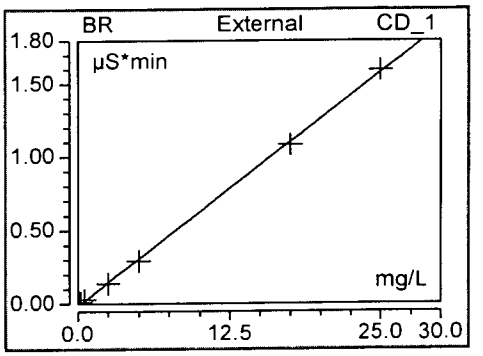
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



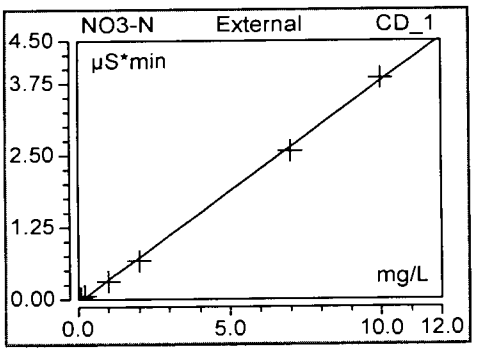
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



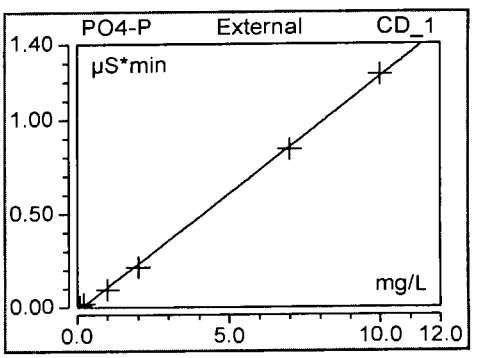
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



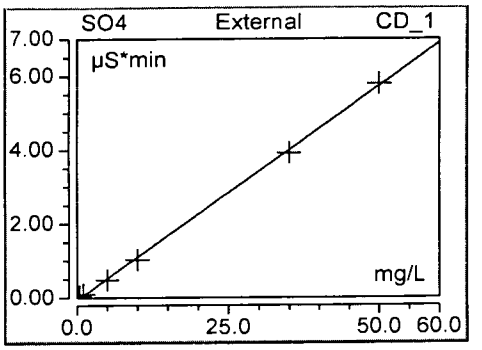
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



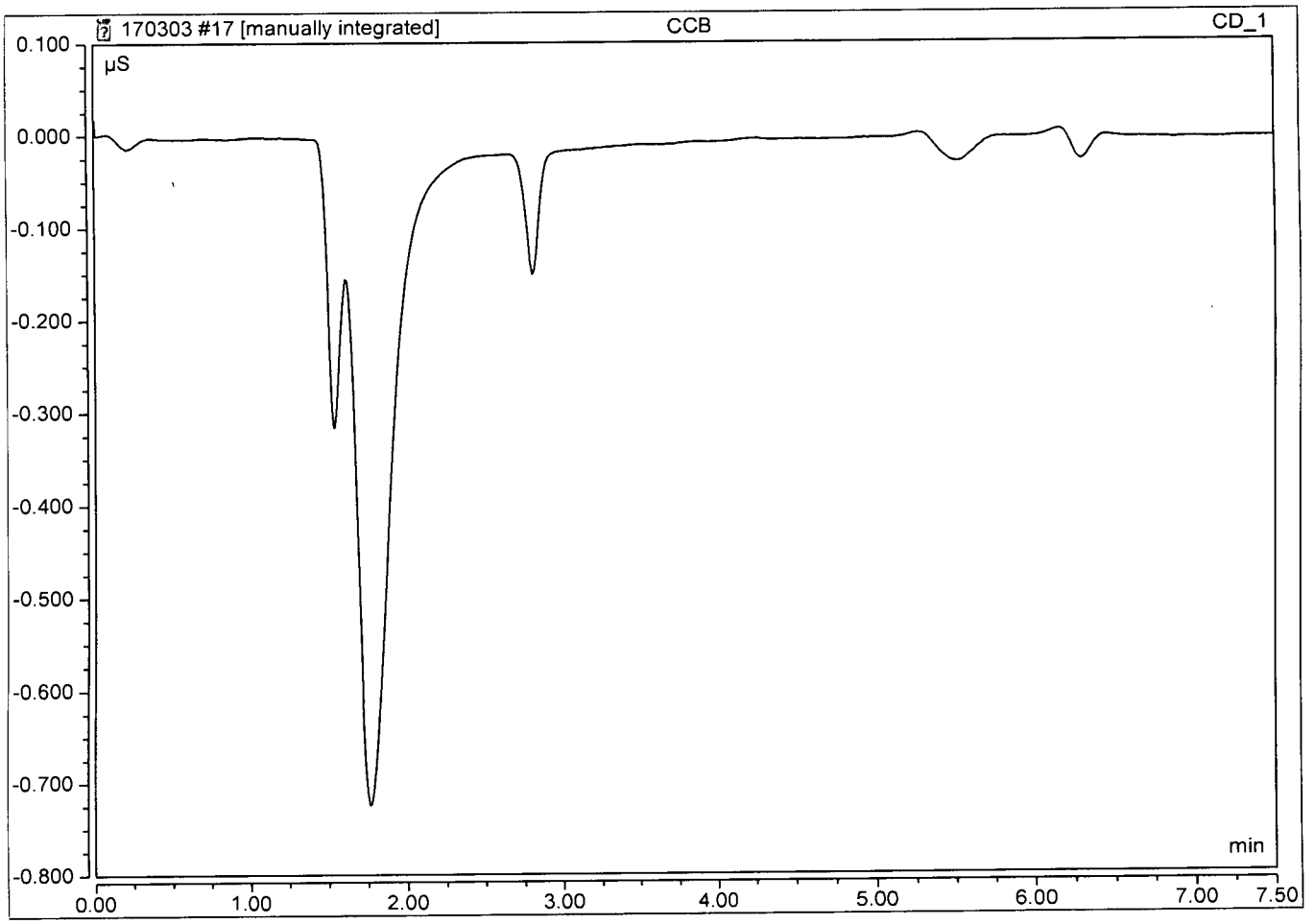
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 161020 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 13:08**	*Run Time:*	**7.50**

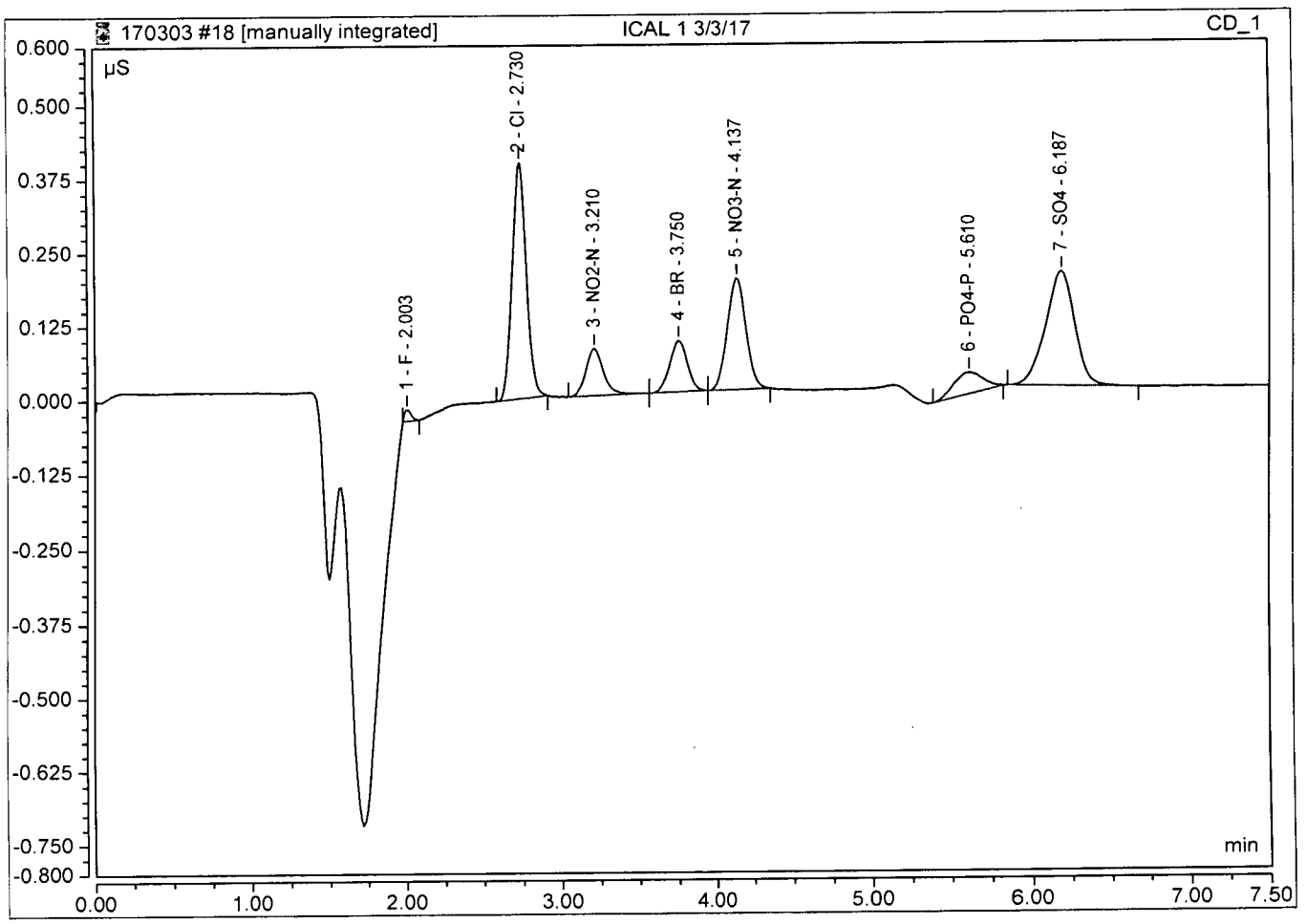
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7.50**

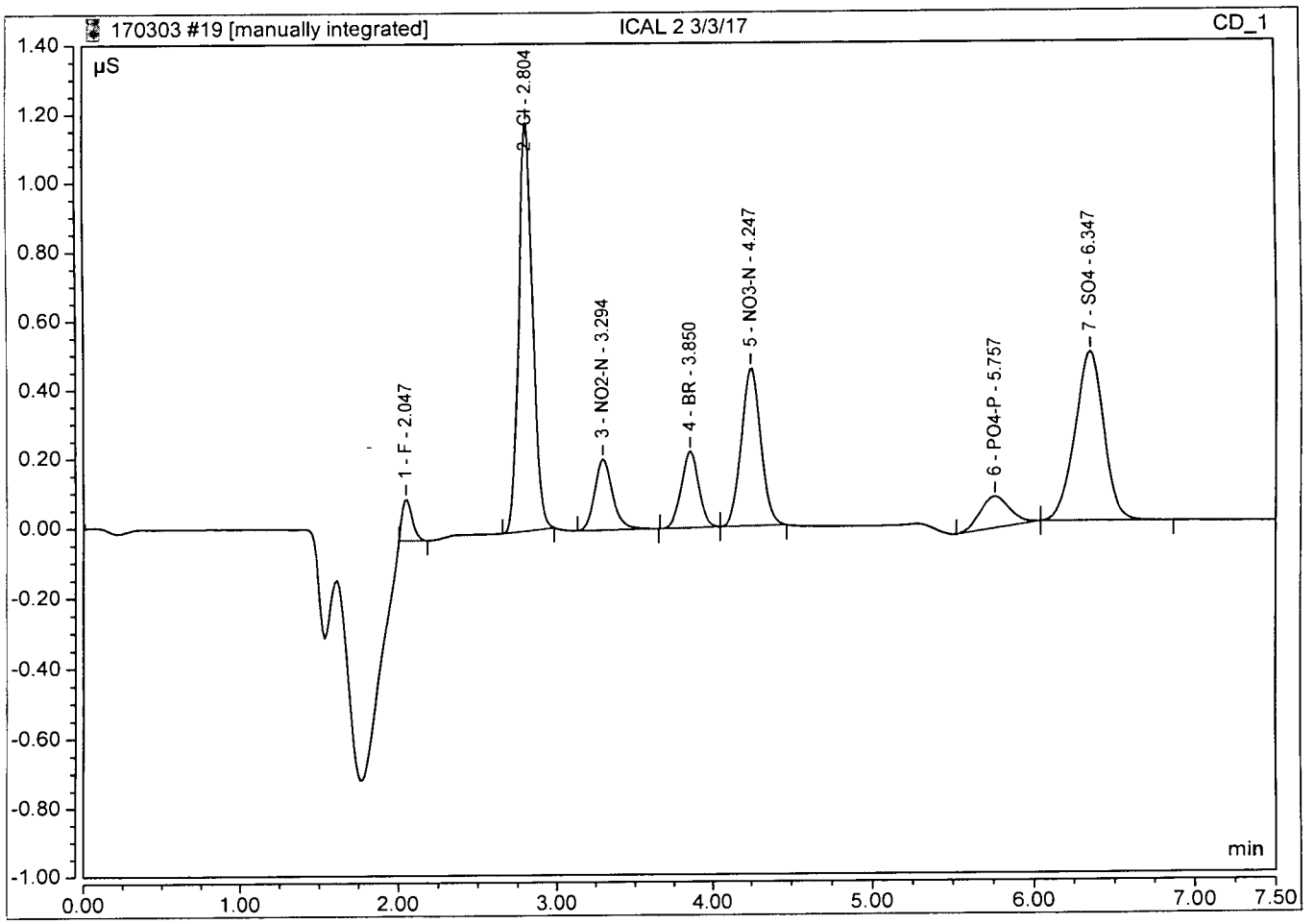
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

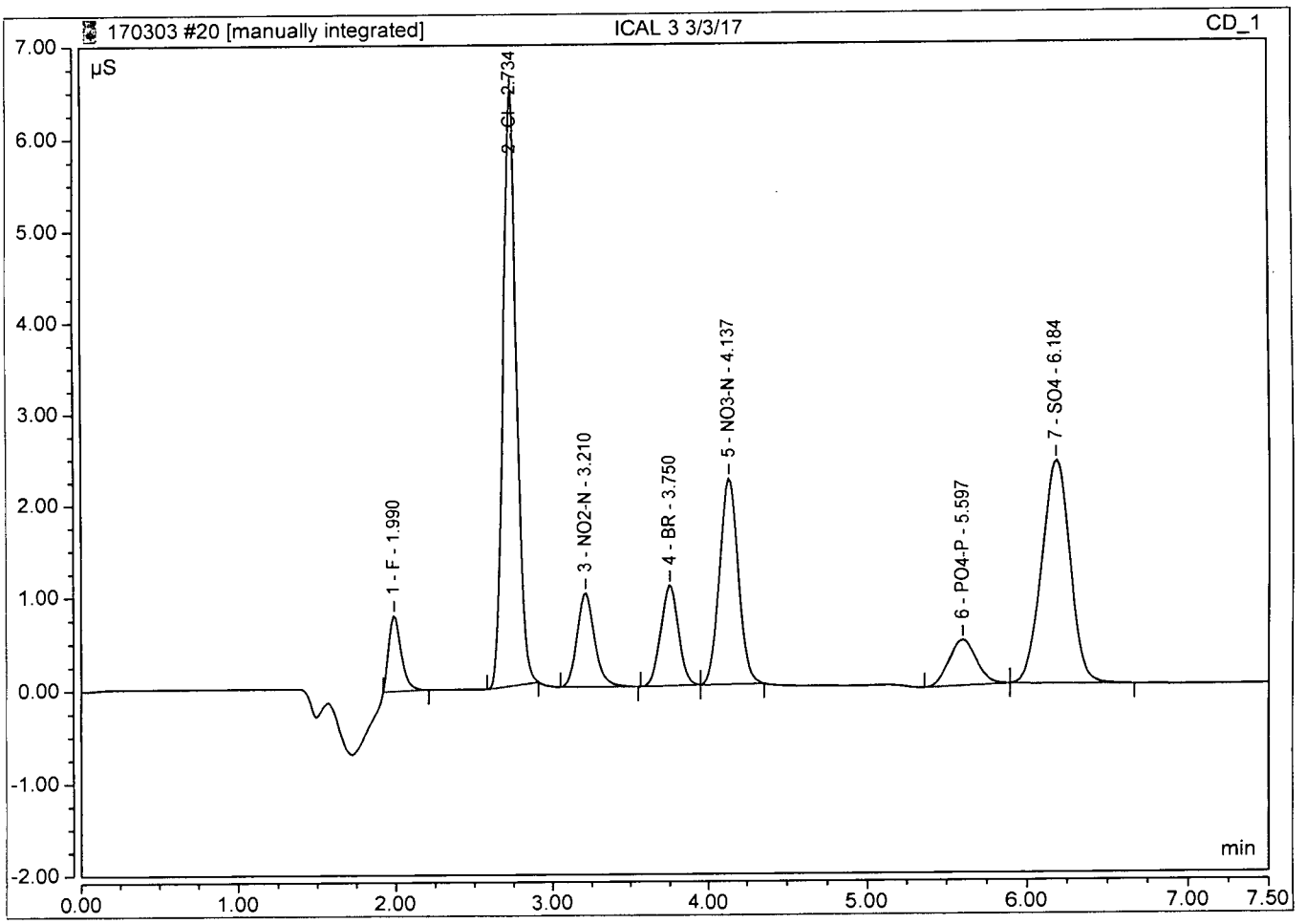
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

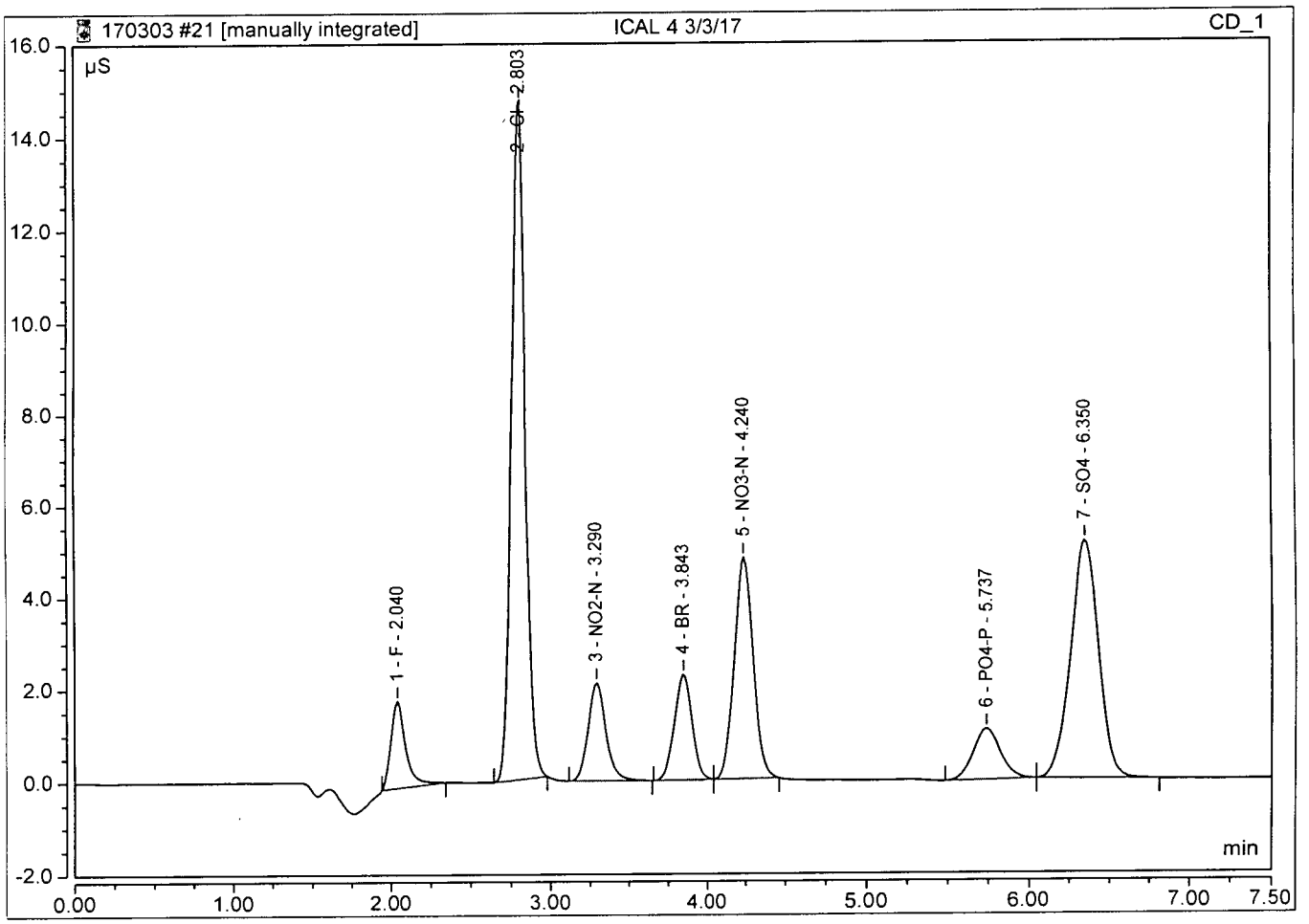
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

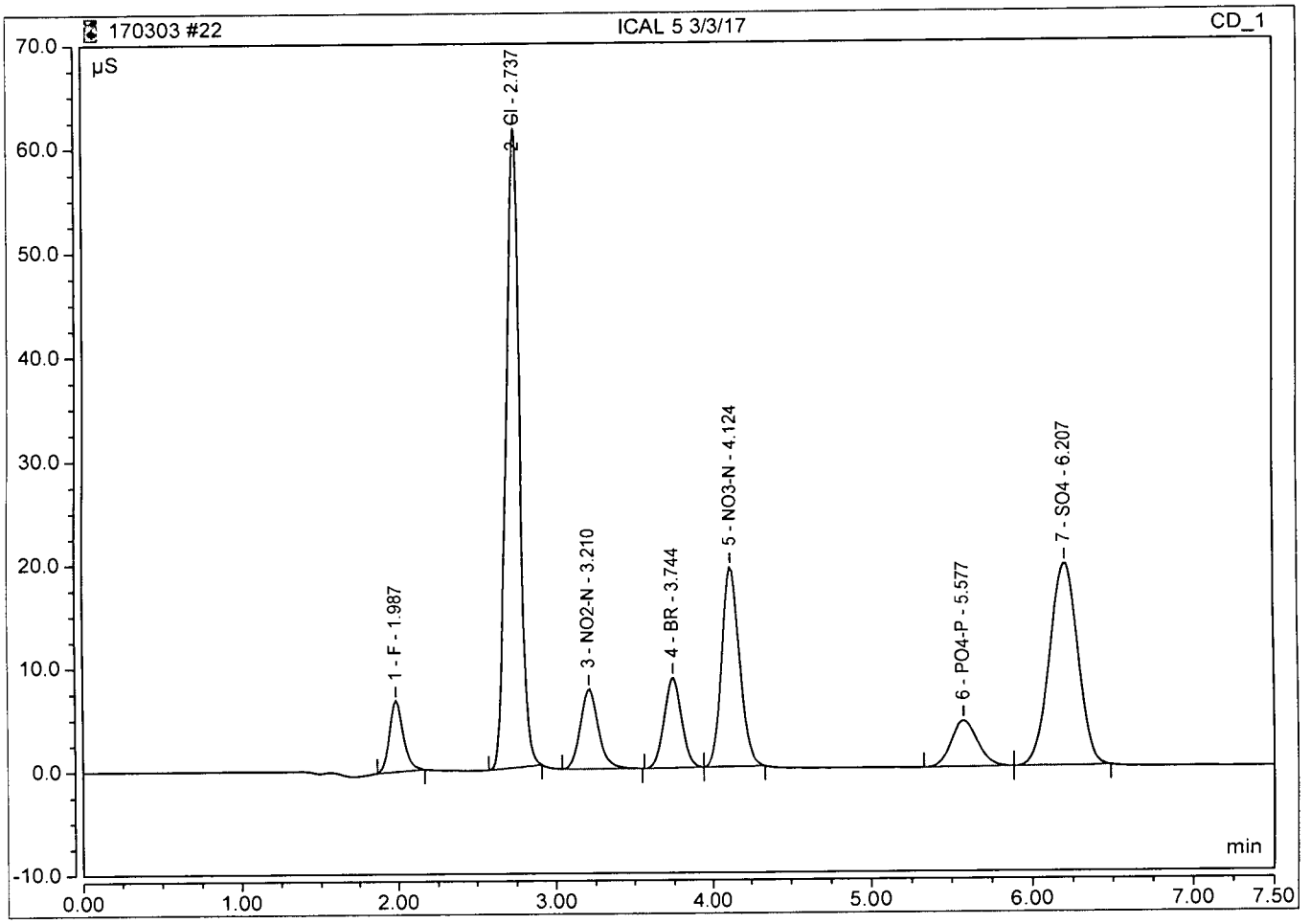
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	**F**	BMB*	0.200	1.871	1.0362
2	2.80	**Cl**	BMB	1.444	14.708	8.9948
3	3.29	**NO2-N**	BMB	0.276	2.113	0.9744
4	3.84	**BR**	BMB	0.292	2.279	4.8050
5	4.24	**NO3-N**	BMB	0.666	4.786	1.8654
6	5.74	**PO4-P**	BMB	0.216	1.095	1.8722
7	6.35	**SO4**	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

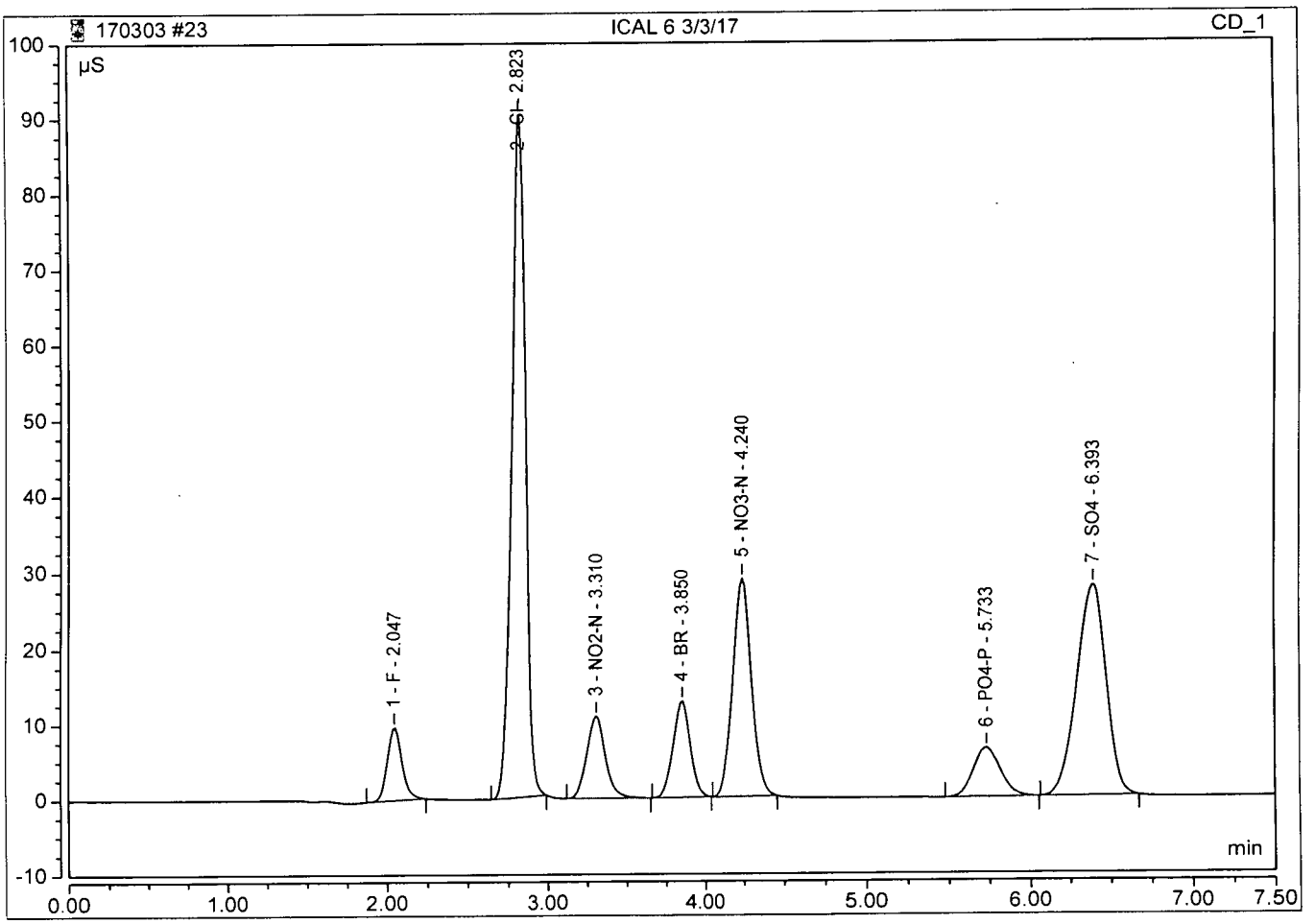
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



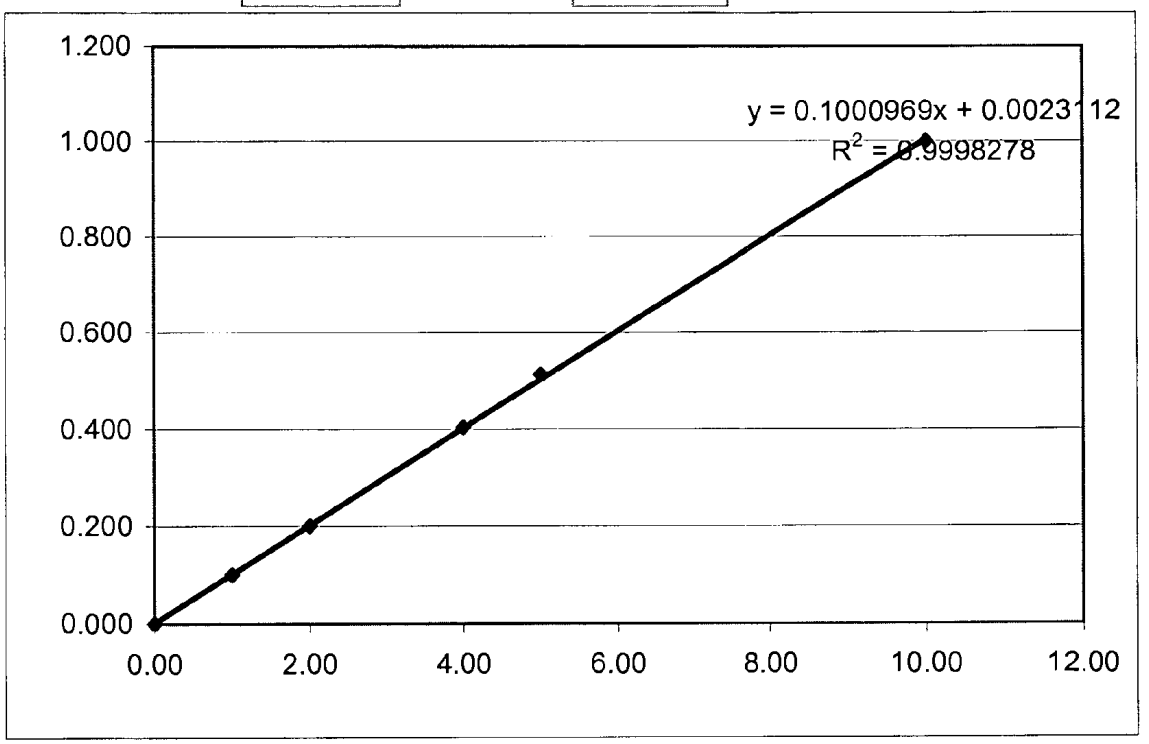
Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97



Ferrous Iron **170308A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.292	03/08/17	17:02
dilution=	1		
result (x)=	2.89 ✓		

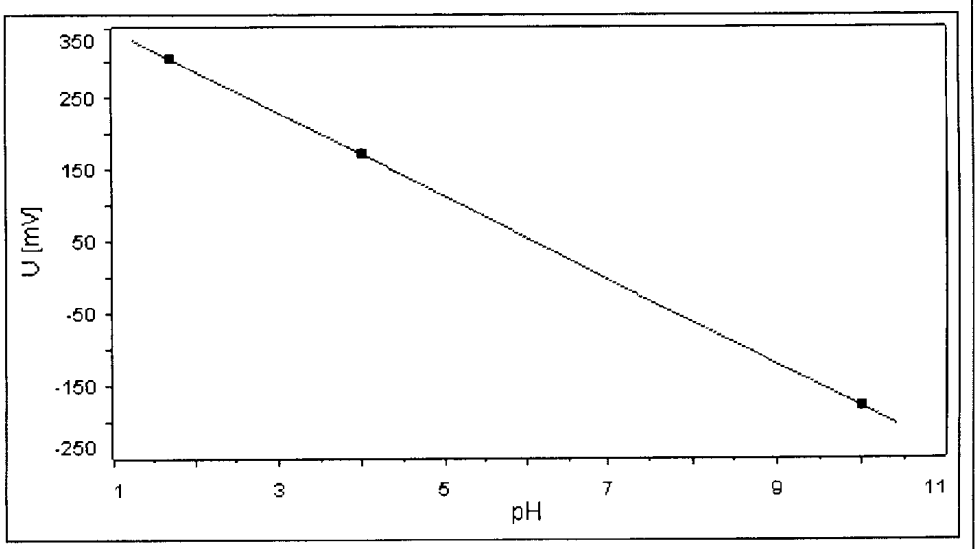
MM 3/14/17

Tiamo Calibration Curve
03/13/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	307.5	22.2	44
Buffer 2:	4.000	172.0	21.7	20
Buffer 3:	10.000	-180.0	21.7	20

Slope:	100.1	%
pH	6.930	
Variance:	0.3	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/07/17	03/07/17	#300W-170307A-AZ51056
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/08/17	03/08/17	#35FE-170308A-AZ51132

Wetlab SC-Blank-REG MDLs
Printed: 03/14/17 11:47:40 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

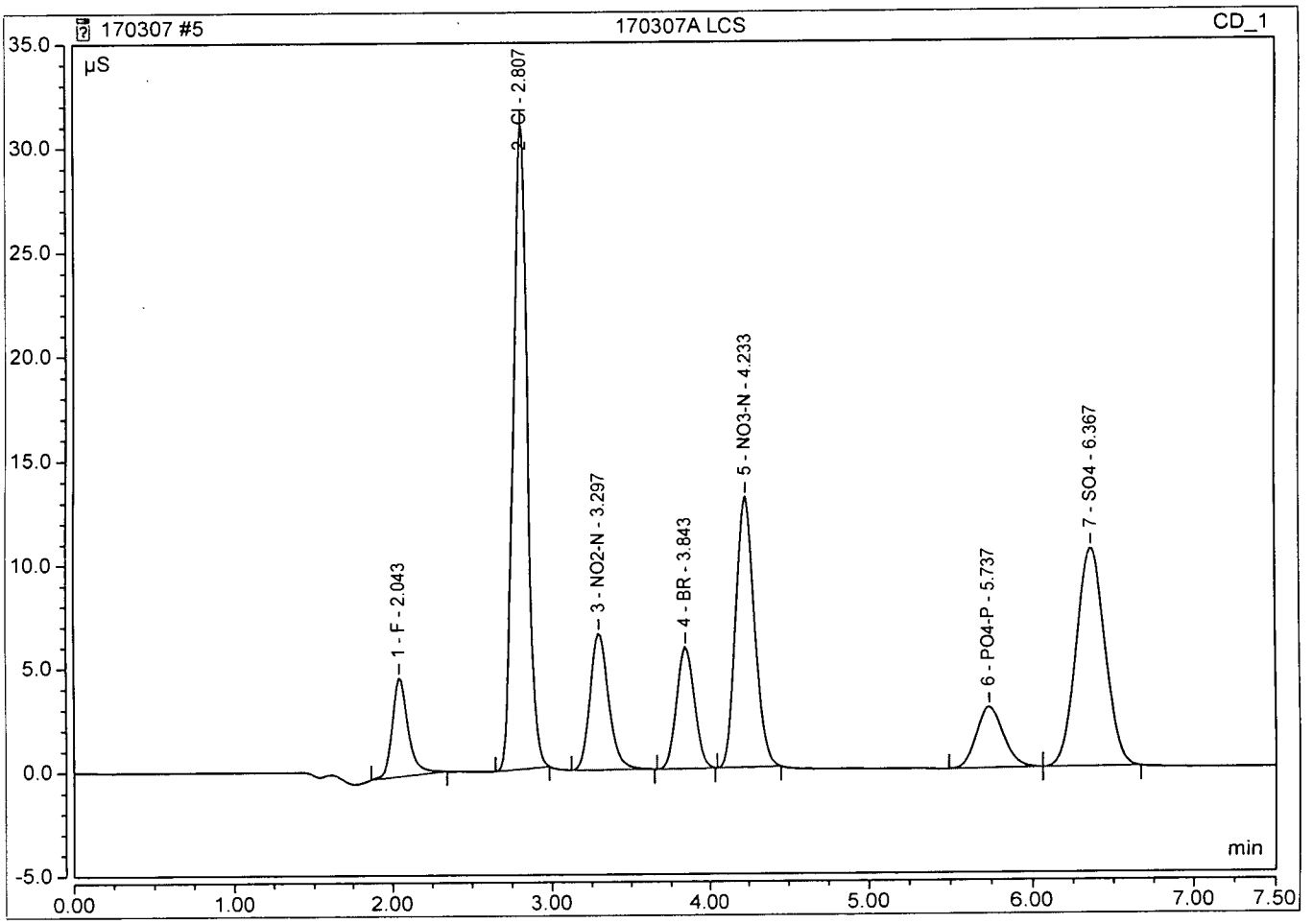
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/07/17	03/07/17	#300W-170307A-AZ51056
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM3500Fe	FERROUS IRON	3.00	2.89	96.3	80-120	03/08/17	03/08/17	#35FE-170308A-AZ51132

Comments: _____

Peak Integration Report

Sample Name:	**170307A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**07-Mar-2017 / 09:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.544	4.748	2.7401
2	2.81	Cl	BMB	3.125	30.921	18.3191
3	3.30	NO2-N	BMB	0.886	6.557	3.0527
4	3.84	BR	BMB	0.754	5.834	12.0450
5	4.23	NO3-N	BMB	1.804	13.041	4.8331
6	5.74	PO4-P	BMB	0.564	2.925	4.6710
7	6.37	SO4	BMB	2.163	10.515	19.2116
		TOTAL:		9.84	74.54	64.87



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170308A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
03/08/17	16:58	CCV 4.0 170308	1	0.374	25mL		3.71	3.713	4.000	*92.83*
03/08/17	17:01	CCB 170308	1	-0.002	25mL		-0.04	-0.043		
03/08/17	17:02	170308A LCS 3.0	1	0.292	25mL		2.89	2.894	3.000	*96.47*
03/08/17	17:04	1703080A LCSD 3.0	1	0.287	25mL		2.84	2.844	3.000	*94.80*
03/08/17	17:06	AZ51132W16	1	0.010	25mL		0.08	0.077		
03/08/17	17:11	AZ51132W16 MS	1	0.302	25mL		2.99	2.994	3.000	*99.80*
03/08/17	17:12	AZ51132W16 MSD	1	0.298	25mL		2.95	2.954	3.00	*98.47*
03/08/17	17:17	AZ51056W08	1	0.013	25mL		0.11	0.107		
03/08/17	17:18	AZ51123W04	1	0.023	25mL		0.21	0.207		
03/08/17	17:20	AZ51124W04	1	0.008	25mL		0.06	0.057		
03/08/17	17:22	AZ51125W04	1	-0.009	25mL		-0.11	-0.113		
03/08/17	17:24	AZ51135W25	1	-0.011	25mL		-0.13	-0.133		
03/08/17	17:25	AZ51139W08	1	-0.018	25mL		-0.20	-0.203		
03/08/17	17:26	AZ51141W08	1	-0.011	25mL		-0.13	-0.133		
03/08/17	17:30	CCV 4.0 170308	1	0.374	25mL		3.71	3.713	4.000	*92.83*
03/08/17	17:32	CCB 170308	1	-0.036	25mL		-0.38	-0.383		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ51056W07	2017-03-13 16:29:04 UTC-8	Alkalinity	0.000	1.866	0.00	0.00	78.37	78.37	mg/L	25 mL	0.0210	170313A	AH
170313A LCS	2017-03-13 16:03:52 UTC-8	Alkalinity	0.126	5.982	0.00	10.58	240.66	251.24	mg/L	25 mL	0.0210	170313A	AH
170313A Blk	2017-03-13 15:47:25 UTC-8	Alkalinity	0.000	0.050	0.00	0.00	2.10	2.10	mg/L	25 mL	0.0210	170313A	AH

PW 03/03/17

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50
Brought up with milipore water to Final Volume of:						25

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170307 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 03/08/17
Exp Date: 03/09/17
Prep'd By: PW

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

0.02N H2SO4 Titrant for Alkalinity

200 mL 0.1N H2SO4 (prep 1/6/17)
Final vol 1L w/ DI water
Prep 3/8/17
Exp 1/6/18
AH 3/14/17

Inorganic Spiking Solution

7.0001g $NaHCO_3$ BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
17	03 Mar 2017	13:08	CCB		170307	1.
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170307	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170307	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170307	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170307	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170307	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170307	1.
28	03 Mar 2017	16:51	ICV 170303		170307	1.
29	03 Mar 2017	17:04	ICB		170307	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
52	07 Mar 2017	09:24	CCV 170307		170307	1.
53	07 Mar 2017	09:38	CCB		170307	1.
54	07 Mar 2017	09:51	170307A LCS		170307	1.
65	07 Mar 2017	13:25	AZ51056W07		170307	1.
68	07 Mar 2017	14:05	CCV 170307		170307	1.
69	07 Mar 2017	14:19	CCB		170307	1.
71	07 Mar 2017	14:46	AZ51056W07 DF5		170307	5.
73	07 Mar 2017	15:13	CCV 170307		170307	1.
74	07 Mar 2017	15:27	CCB		170307	1.

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	08 Mar 2017	16:58	CCV 4.0 170308		170308A	1.
2	08 Mar 2017	17:01	CCB 170308		170308A	1.
3	08 Mar 2017	17:02	170308A LCS 3.0		170308A	1.
8	08 Mar 2017	17:17	AZ51056W08		170308A	1.
15	08 Mar 2017	17:30	CCV 4.0 170308		170308A	1.
16	08 Mar 2017	17:32	CCB 170308		170308A	1.
17	20 May 2016	12:37	0 BB 5/20/16		170308A	1.
18	20 May 2016	12:38	1		170308A	1.
20	20 May 2016	12:39	2		170308A	1.
19	20 May 2016	12:39	4		170308A	1.
22	20 May 2016	12:40	10		170308A	1.
21	20 May 2016	12:40	5		170308A	1.
23	20 May 2016	12:41	160520A ICV 3.0		170308A	1.
24	20 May 2016	12:42	160520A ICB		170308A	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Mar 2017	15:47	170313A Blk		170313A_AL	1.
2	13 Mar 2017	16:03	170313A LCS		170313A_AL	1.
3	13 Mar 2017	16:29	AZ51056W07		170313A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 28, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82351

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Twelve water samples were received March 8, 2017. Written results for the requested analyses are being provided on this March 28, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 998

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82351

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	5
Sample Management Records	10
Method 8011 EDB	24
QC Summary	25
Sample Data	31
Calibration Data	41
Raw Data	64
Method 8015B TPH-E	86
QC Summary	87
Sample Data	93
Calibration Data	112
Raw Data	170
Method 8270D SIM	204
QC Summary	205
Sample Data	217
Calibration Data	236
Raw Data	299

Method 8270D SVOCs 325
QC Summary 326
Sample Data 339
Calibration Data 358
Raw Data 416
Method 8270D SVOCs (MEE) 444
QC Summary 445
Sample Data 454
Calibration Data 473
Raw Data 500
Method 8260B VOCs 521
QC Summary 522
Sample Data 543
Calibration Data 580
Raw Data 650
Method 8260B Gasoline 686
QC Summary 687
Sample Data 698
Calibration Data 739
Raw Data 799
Method RSK-175 Methane 831
QC Summary 832
Sample Data 839
Calibration Data 864
Raw Data 904

Inorganic Analyses 929

QC Summary 930

Sample Data 935

Calibration Data 947

Raw Data 977

CASE NARRATIVE

Case Narrative

ARF: 82351

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Twelve water samples were received March 8, 2017, at 1.3°C, 1.4°C, 3.4°C, 1.9°C, 3.3°C, 1.6, °C, 3.4°C, and 2.6°C. The sample group was assigned Analytical Request Form (ARF) number 82351. The following discrepancies were noted and reported to the client: samples ERH257, ERH262, and ERH270 were received more than 24 hours after collection; sample ERH261 was listed on the COC as a Trip Blank, but the vials received did not have a trip blank label. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to APPL SOP MWE012.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8260B: The MSD performed on sample ERH257 was injected more than 12 hours after the BFB standard was injected.

Inorganic Analyses: Samples ERH257, ERH262, and ERH270 were received more than 24 hours after collection; they were analyzed for ferrous iron as soon as possible on the day received. Sample ERH268 was received very close to 24 hours of collection; it was analyzed for ferrous iron as soon as possible on the day received. Sample ERH257 was received very close to 48 hours of collection; it was analyzed for nitrate as soon as possible on the day received.

In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82351	03/08/17	ERH255	AZ51130	03/06/17	09:30 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH255	AZ51130	03/06/17	09:30 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH255	AZ51130	03/06/17	09:30 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH256	AZ51131	03/06/17	11:45 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	SM 2320B	Wetlab 2320B - Water
82351	03/08/17	ERH257	AZ51132	03/06/17	09:50 AM	WATER	SM3500FeB	Ferrous Iron
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH258	AZ51133	03/06/17	09:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH261	AZ51134	03/06/17	10:45 AM	WATER	8011	EPA 8011
82351	03/08/17	ERH261	AZ51134	03/06/17	10:45 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82351	03/08/17	ERH261	AZ51134	03/06/17	10:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH261	AZ51134	03/06/17	10:45 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	8011	EPA 8011
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	SM 2320B	Wetlab 2320B - Water
82351	03/08/17	ERH262	AZ51135	03/06/17	12:00 PM	WATER	SM3500FeB	Ferrous Iron
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	8011	EPA 8011
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER

82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH263	AZ51136	03/06/17	12:00 PM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH266	AZ51137	03/07/17	09:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH266	AZ51137	03/07/17	09:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH266	AZ51137	03/07/17	09:20 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH267	AZ51138	03/07/17	10:30 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	SM 2320B	Wetlab 2320B - Water
82351	03/08/17	ERH268	AZ51139	03/07/17	10:30 AM	WATER	SM3500FeB	Ferrous Iron
82351	03/08/17	ERH269	AZ51140	03/07/17	07:30 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH269	AZ51140	03/07/17	07:30 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH269	AZ51140	03/07/17	07:30 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	8270D-SIM	EPA 8270D SIM
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	EPA 8270D	EPA 8270D WATER
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	RSK 175	METHANE BY RSK 175
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	SM 2320B	Wetlab 2320B - Water
82351	03/08/17	ERH270	AZ51141	03/07/17	08:20 AM	WATER	SM3500FeB	Ferrous Iron

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82351

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 030717
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 5 DAYS

Received by: CM
Date Received: 03/08/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): SEE CRF
Color: VOA/I-PURRED
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 03/13/17

Comments:
7-day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O; RSK: Methane only; 8011: EDB only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com
CHANGE IN ARF: add $RSKMETH to ERH257 (AZ51132). rp 3-16-17

Sample Distribution:
GC: 6-$87DC53W5, 6-$87DMEEW5, 6-$DOC53W5, 6-$SIMDOD5W, 3-$8011
Extractions: 6-_MWE2MEE, 6-_SEP004, 6-_SEP004S, 6-_SEP011LL, 3-_MWE012
VOA: 9-$86BTOTXDOD5W, 10-$GASBL, 10-$GRO86BW, 8-$RSKMETH, 3-$86BTOTXDCAW
Wetlab: 4-$232W(HCO3,CO3,ALK), 4-$300W(NO3,CL,SO4), 3-$300WD(CL,SO4), 4-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH255	AZ51130W	03/06/17 09:30	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Non Preserved vials
2.	ERH256	AZ51131W	03/06/17 11:45	$86BTOTXDOD5W -- BTEX only
3.	ERH257 ms/msd	AZ51132W	03/06/17 09:50	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $300WD(CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE 80ppb spk; no methane & WL MS/MSD

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4. ERH258	AZ51133W	03/06/17	09:50	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
5. ERH261	AZ51134W	03/06/17	10:45	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH
6. ERH262 EDB ms/msd	AZ51135W	03/06/17	12:00	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $300WD(CL,SO4), $35FE, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE 80ppb spk; MS/MSD for 8011 only
7. ERH263	AZ51136W	03/06/17	12:00	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
8. ERH266	AZ51137W	03/07/17	09:20	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
9. ERH267	AZ51138W	03/07/17	10:30	$86BTOTXDOD5W -- BTEX only
10. ERH268	AZ51139W	03/07/17	10:30	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
11. ERH269	AZ51140W	03/07/17	07:30	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- Non Preserved vials
12. ERH270	AZ51141W	03/07/17	08:20	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $300WD(CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82351**

Sample	Container Type	Count	p
AZ51130	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51131	13 VOAs - HCL	6	NA
AZ51132	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	14	NA
	17 Amber Liter	18	NA
	38 250mL bm poly, HCl prsvd	1	1.7
AZ51133	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ51134	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51135	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	14	NA
	15 VOAs - NP	9	NA
	17 Amber Liter	6	NA
	38 250mL bm poly, HCl prsvd	1	1.7
AZ51136	13 VOAs - HCL	4	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
AZ51137	13 VOAs - HCL	6	NA
AZ51138	13 VOAs - HCL	5	NA
AZ51139	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL bm poly, HCl prsvd	1	1.7
AZ51140	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51141	3 PL 250mL	1	NA
	5 PL Liter - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL bm poly, HCl prsvd	1	1.7

Sample	Container Type	Count	p

Renee Patterson

From: Thach, Margie [Margie.Thach@aecom.com]
Sent: Wednesday, March 15, 2017 7:52 PM
To: Renee Patterson; 'Libby Cheeseborough'
Subject: RE: CIV0053 Red Hill 82351 1-week rush results

Hi Renee,
Sorry, I didn't see the methane result for ERH257. I checked the login, and I didn't notice that RSK was not included. Can you please analyze for methane?

Thank you,

Margie Pascua Thach
Environmental Scientist
Environment, West Region, Pacific District
Direct 808.356.5373
Margie.Thach@aecom.com

From: Renee Patterson [mailto:rpatterson@applinc.com]
Sent: Wednesday, March 15, 2017 2:08 PM
To: Thach, Margie; 'Libby Cheeseborough'
Subject: CIV0053 Red Hill 82351 1-week rush results

Special note: Our GC-FID stopped last night so we do not have the TPH-D&O results for this group of samples today. They will go back on the instrument tonight and we will have results for you tomorrow -- hopefully.

The message is ready to be sent with the following file attachments:

CIV0053 Red Hill 82351 EDB results.pdf
CIV0053 Red Hill 82351 inorganics results.pdf
CIV0053 Red Hill 82351 SIM results.pdf
CIV0053 Red Hill 82351 BTEX & gas results.pdf
CIV0053 Red Hill 82351 2-MEE & phenol results.pdf
CIV0053 Red Hill 82351 methane results.pdf

Please see attached.

Renée Patterson

Agriculture & Priority Pollutants Laboratories, Inc.
WOSB. NELAP Accredited.

t. 559.275-2175 f. 559.275-4422
a. 908 N. Temperance Ave., Clovis, CA 93611

Website • Email

DoD accredited for ISM, Dioxins and PCB congeners.

1.3, 1.4, 3.4 82351

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 1.9, 3.3, 1.6, 3.4, 2.6

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-356-5373	Company Name: AECOM	Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600		Address: 1001 Bishop St. Suite 1600	
Honolulu, Hawaii 96813	Fax:	Honolulu, Hawaii 96813	Fax:
Attn: Margie Thach	Email: margie.thach@aecom.com	Attn: Mary Basano	Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TR, KE, CB, MH, GM
Sampler (Signature): MT for TR, KE, CB, MH, GM
Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 255	Trip Blank	3/6/17	0930	HST	6	✓				X								X				
ERH 256	Ambient Blank	3/6/17	1145	HST	5	/				X*												* BTEX only
ERH 257	RHMW2254-01	3/6/17	0950	HST	19	/				X			X		X	X	X	X	X	X	X	MS/MSD ; see other orders
ERH 258	RHMW2254-01	3/6/17	0950	HST	4	/				X												see other orders for other tests

MT 3/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					
Relinquished by:	Date	Time	Received by:	Received by:	Date	Time	Received at lab by:
					3/8/17	11:00	

Note: The first sampled date of the ARF wil e COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 257	RHMW2254-01	3/6/17	0950	HST	8	✓							X		X	X	X					MS/MSD, see other containers

MT 3/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/8/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM
Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH257	RHMW2254-01	3/6/17	0950	HST	8	✓							X		X	X	X					MS/MSD; see other coolers

MT 3/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/8/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM
Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 258	RHMW22E4-01	3/6/17	0950	HST	6	✓							X		X	X	X					See Aber cooler for VOAs

MT 3/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/8/17	11:00	

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Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE, CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, KE, CB, MH, GM
Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 261	Trip Blank	3/6/17	1045	HST	6	✓				X	X	X						X				
ERH 262	RHMW08	3/6/17	1200	HST	~~9~~ 13	✓				X	X	X						X				see other cooler, MS/MSD EDB
ERH 263	RHMW08	3/6/17	1200	HST	13	✓				X	X	X	X		X	X	X					

MT 3/7/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	03/07/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/8/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 2602	RHMW08	3/6/17	1200	HST	9	✓							X		X	X	X	X MT 3/7/17	X	X	X	see other cooler for VOAs

MT 3/7/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/8/17	1100	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Honolulu, Hawaii 96813 Fax:
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Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 2666	Trip Blank	03/07/17	0920	HST	6	✓				X								X				
ERH 2667	Ambient Blank	03/07/17	1030	HST	5	/				X*												*BTEX only
ERH 2668	RHMW03	03/07/17	1030	HST	15	/				X			X		X	X	X	X	X	X	X	

MT

Shuttle Temperature:
Turnaround Requested: Check one ☐ Standard 2-3 wk ☒ One week ☒ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/8/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM
Date Shipped: 3/7/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH269	Trip Blank	03/07/17	0730	HST	6	✓				X								X			
ERH270	RHMW07	03/07/17	0820	HST	15	/				X			X		X	X	X	X	X	X	X

MT 3/7/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/7/17	1500					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/8/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82351**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 03/08/17

2) Coolers: Number of Coolers: 8

3) YES Were custody seals present and intact?
How many? 16 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap ___ popcorn ___ foam X plastic bags
X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use IR GUN CF OF +1

8) Cooler temp(s): In °C

1: 1.3	2: 1.4	3: 3.4	4: 1.9	5: 3.3	6: 1.6
7: 3.4	8: 2.6	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ51130W01-6

Preservation Hold time:

18) No/Yes np 3-9-17 Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) Yes Were unpreserved VOA Vials received?

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

CUSTODY SEAL
AECOM (808) 523-8874
Initials MT Date 3/7/17

Notes/Deficiencies:

Sample ERH261 Has the location ID as "Tripblank", but we received 3 HCL VOAS, that did not have tripblank labels and 3 unpreserved VOAS that did contain tripblank labels SM 3/8/17
Samples ERH 257, ERH 262 + ERH 270 were received more than 24 hrs after collection. np

Personnel receiving samples: SM Second reviewer: YC
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 3/8/17
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51135 - 216868**
Batch ID: #8011-170311A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	98.2	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309057
Instrument: Herbie
Sequence: 170309
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 12:45:42 PM

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170311W-51135 LCS - 216868**
Batch ID: #8011-170311A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.229	91.6	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.247	98.8	70-132

Comments: _____

Primary	SPK
Quant Method :	80110311.M
Extraction Date :	03/11/17
Analysis Date :	03/13/17
Instrument :	Herbie
Run :	0309059
Initials :	RHA

Printed: 03/14/17 12:45:35 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8011

APPL ID: **170311W-51135 MS - 216868**
Batch ID: #8011-170311A1
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.298	0.252	119	101	60-140	16.7	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	NA	0.310	0.269	124	108	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110311.M	80110311.M
Extraction Date :	03/11/17	03/11/17
Analysis Date :	03/13/17	03/13/17
Instrument :	Herbie	Herbie
Run :	0309063	0309064
Initials :	RHA	

Printed: 03/14/17 12:51:42 PM
APPL MSD SCII

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A1-BLK	Blank	70-132	98.2				
170311A1-LCS	Lab Control Spike	70-132	98.8				
AZ51134	ERH261	70-132	97.4				
AZ51135-MS	Matrix Spike	70-132	88.6				
AZ51135-MSD	Matrix SpikeD	70-132	76.9				
AZ51135	ERH262	70-132	108				
AZ51136	ERH263	70-132	98.6				

Comments: Batch: #8011-170311A1

Printed: 03/14/17 12:45:39 PM

Form 2 & 8, Surrogate Recovery Summary

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER
Blank ID: 170311A1-BLK

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Herbie
Time Analyzed: 1226

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A1-BLK	Blank	0309057	03/13/17 1226
170311A1-LCS	Lab Control Spike	0309059	03/13/17 1309
AZ51134	ERH261	0309060	03/13/17 1330
170311A1-MS	Matrix Spike	0309063	03/13/17 1433
170311A1-MSD	Matrix SpikeD	0309064	03/13/17 1454
AZ51135	ERH262	0309065	03/13/17 1515
AZ51136	ERH263	0309066	03/13/17 1536

Comments: Batch: #8011-170311A1

Printed: 03/14/17 12:45:26 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH261
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51134
QCG: #8011-170311A1-216868

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	97.4	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309060
Instrument: Herbie
Sequence: 170309
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 12:45:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309060.D\ECD1A.CH Vial: 60
Signal #2 : G:\HERBIE\DATA\170309\0309060.D\ECD2B.CH
Acq On : 03-13-17 13:30:24 Operator: RH
Sample : AZ51134W04 2/34.90G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:33 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

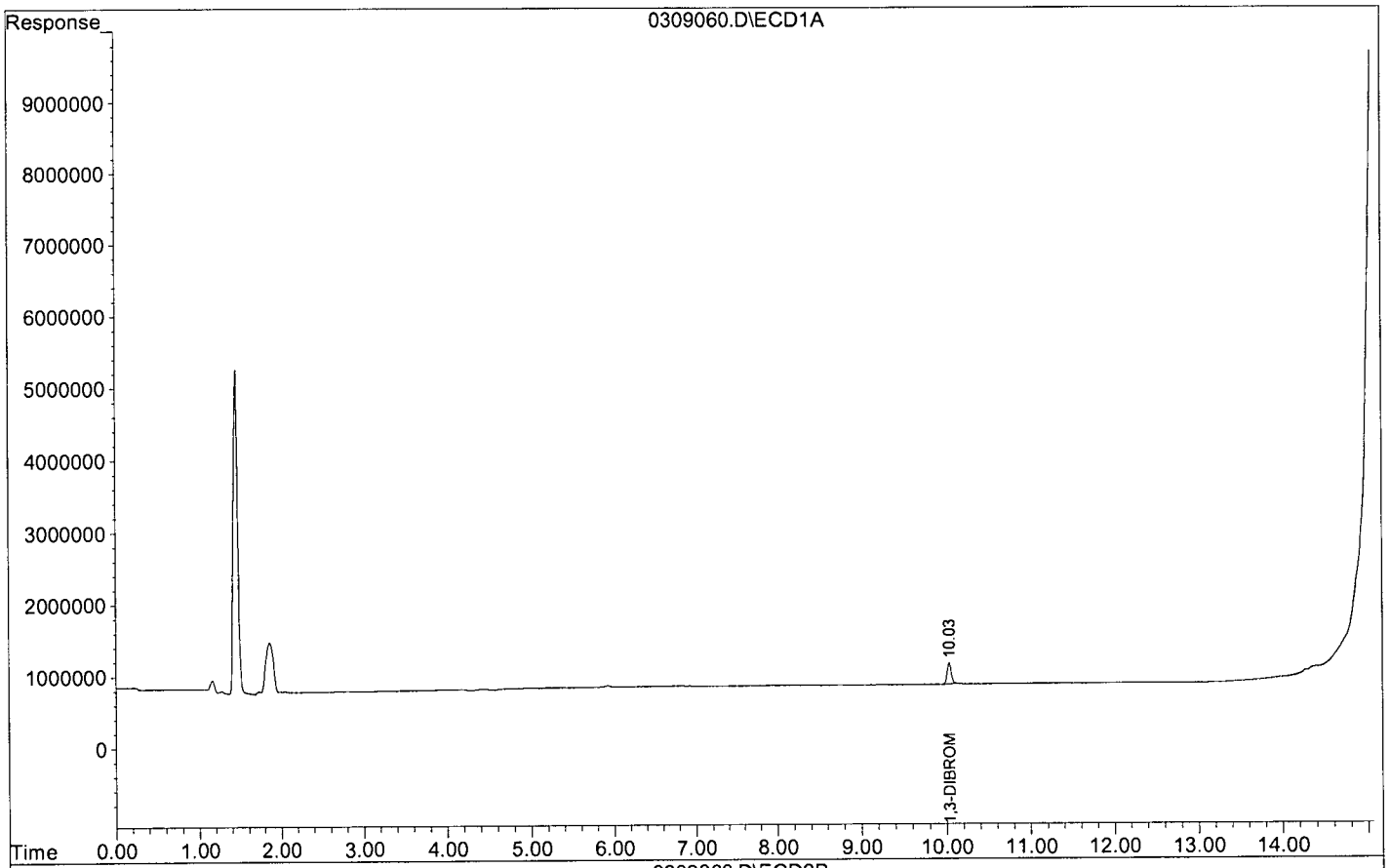
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	292654	516537	0.342	0.337
Spiked Amount 0.351			Recovery	=	97.44%	96.01%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

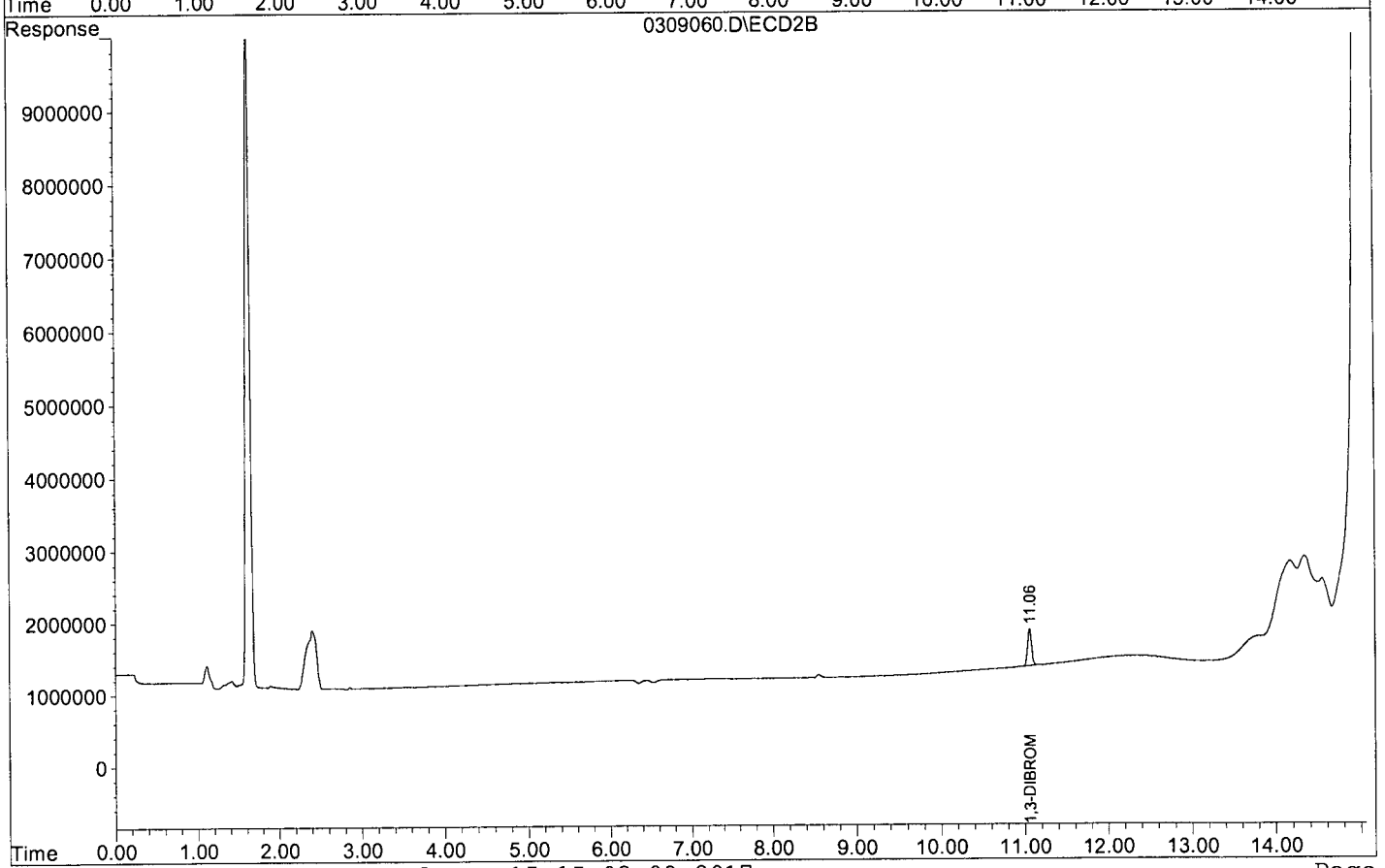
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309060.D
Acq On : 03-13-17 13:30:24
Sample : AZ51134W04 2/34.90G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 60
Operator: RH
Inst : Herbie
Multiplr: 1.00





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #8011-170311A1-216868

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	108	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309065
Instrument: Herbie
Sequence: 170309
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 12:45:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309065.D\ECD1A.CH Vial: 65
Signal #2 : G:\HERBIE\DATA\170309\0309065.D\ECD2B.CH
Acq On : 03-13-17 15:15:35 Operator: RH
Sample : AZ51135W18 2/34.33G Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 15:38 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

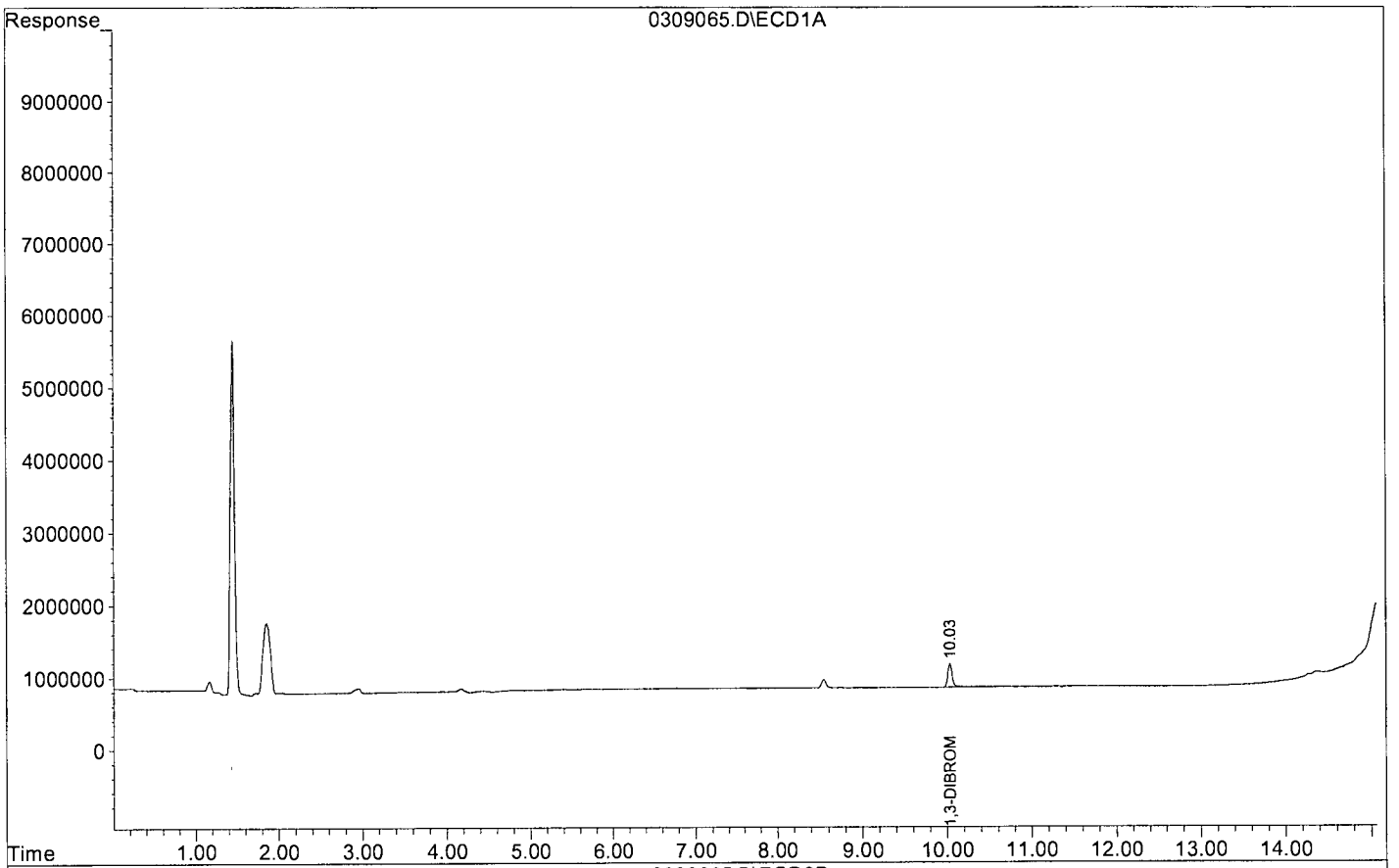
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	325848	589931	0.387	0.391
Spiked Amount 0.357			Recovery	=	108.45%	109.58%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

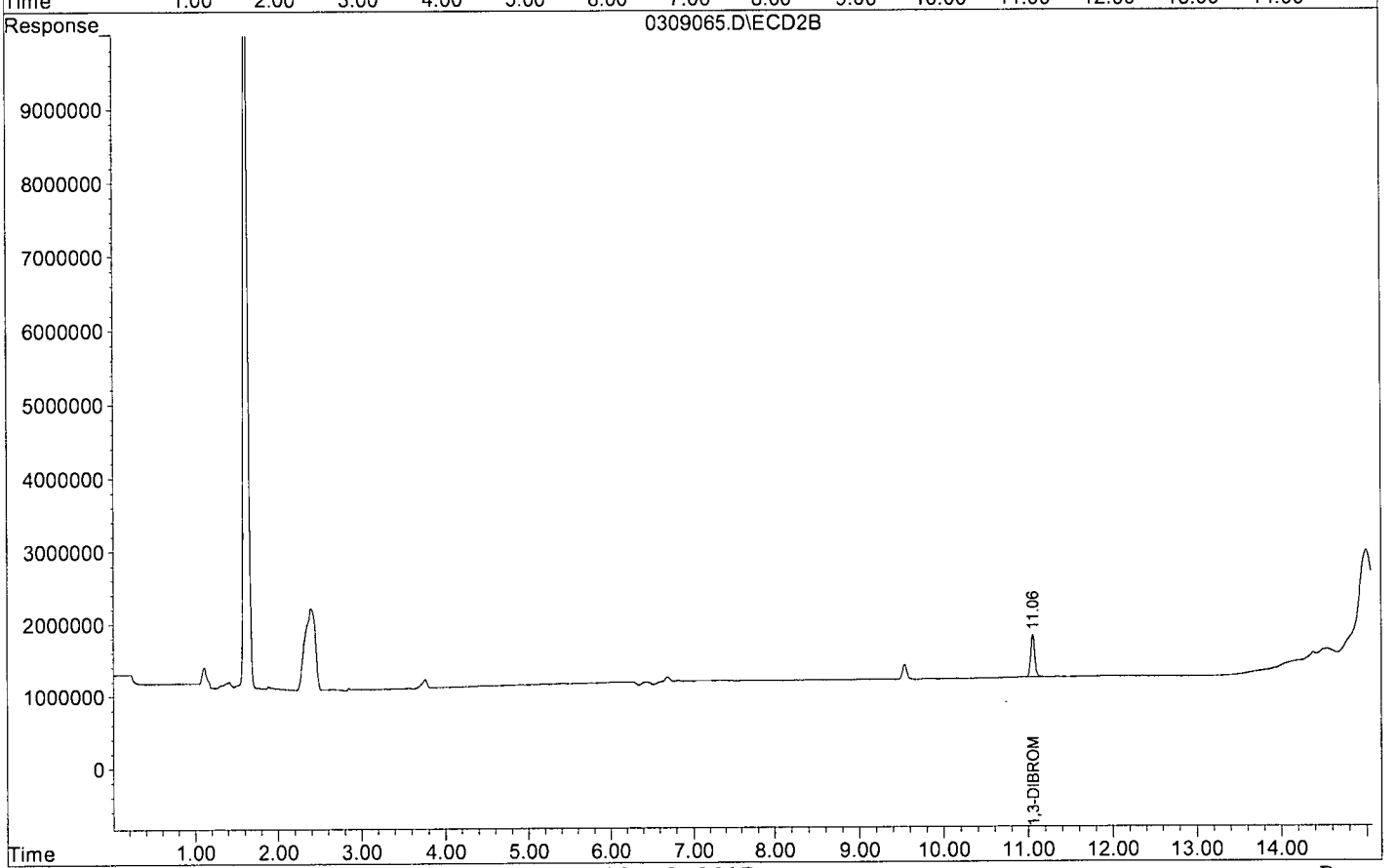
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309065.D
Acq On : 03-13-17 15:15:35
Sample : AZ51135W18 2/34.33G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 65
Operator: RH
Inst : Herbie
Multiplr: 1.02





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #8011-170311A1-216868

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	98.6	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309066
Instrument: Herbie
Sequence: 170309
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 12:45:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309066.D\ECD1A.CH Vial: 66
Signal #2 : G:\HERBIE\DATA\170309\0309066.D\ECD2B.CH
Acq On : 03-13-17 15:36:53 Operator: RH
Sample : AZ51136W05 2/34.71G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 16:08 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

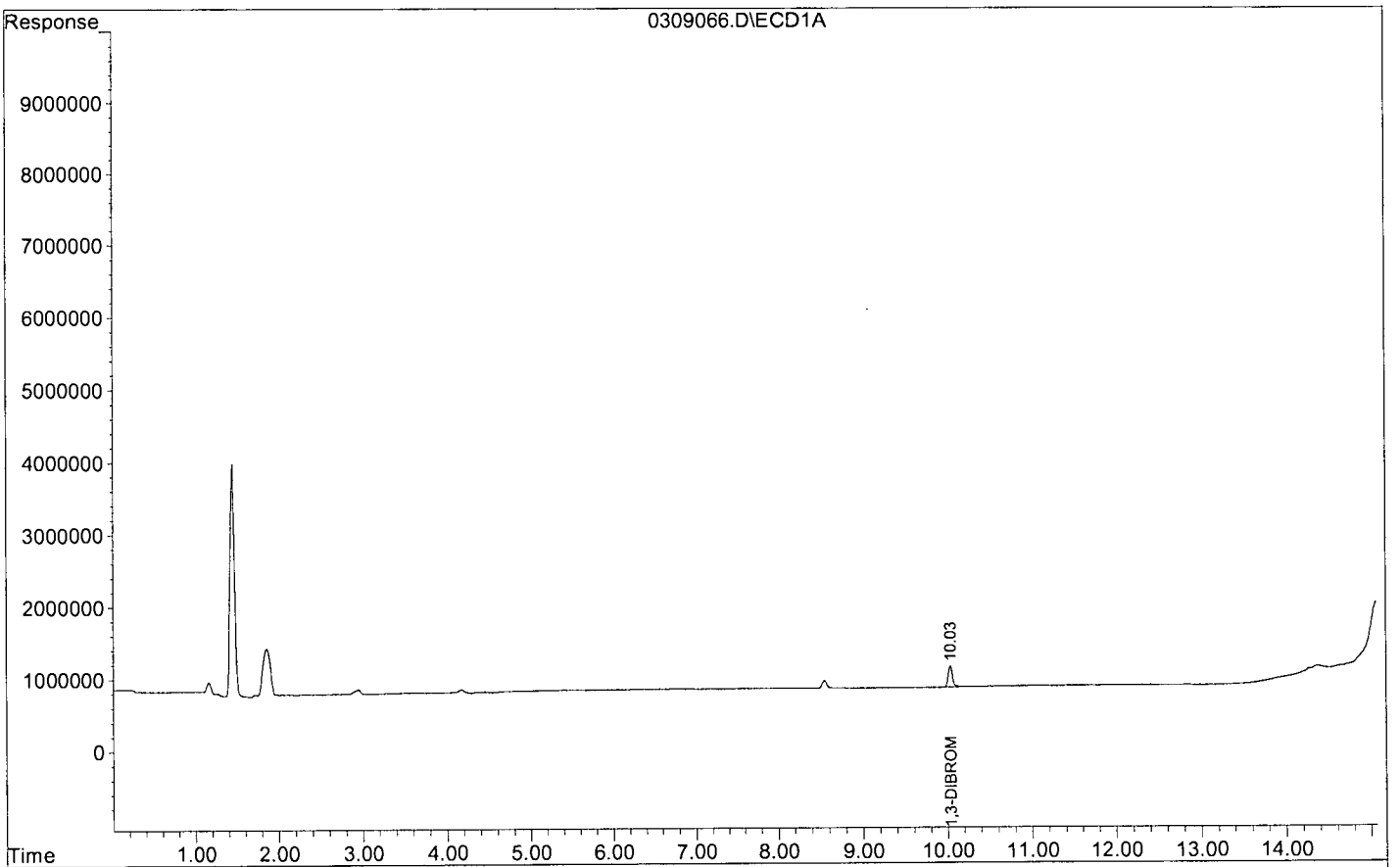
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	295814	541672	0.348	0.355
Spiked Amount 0.353			Recovery	=	98.60%	100.59%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

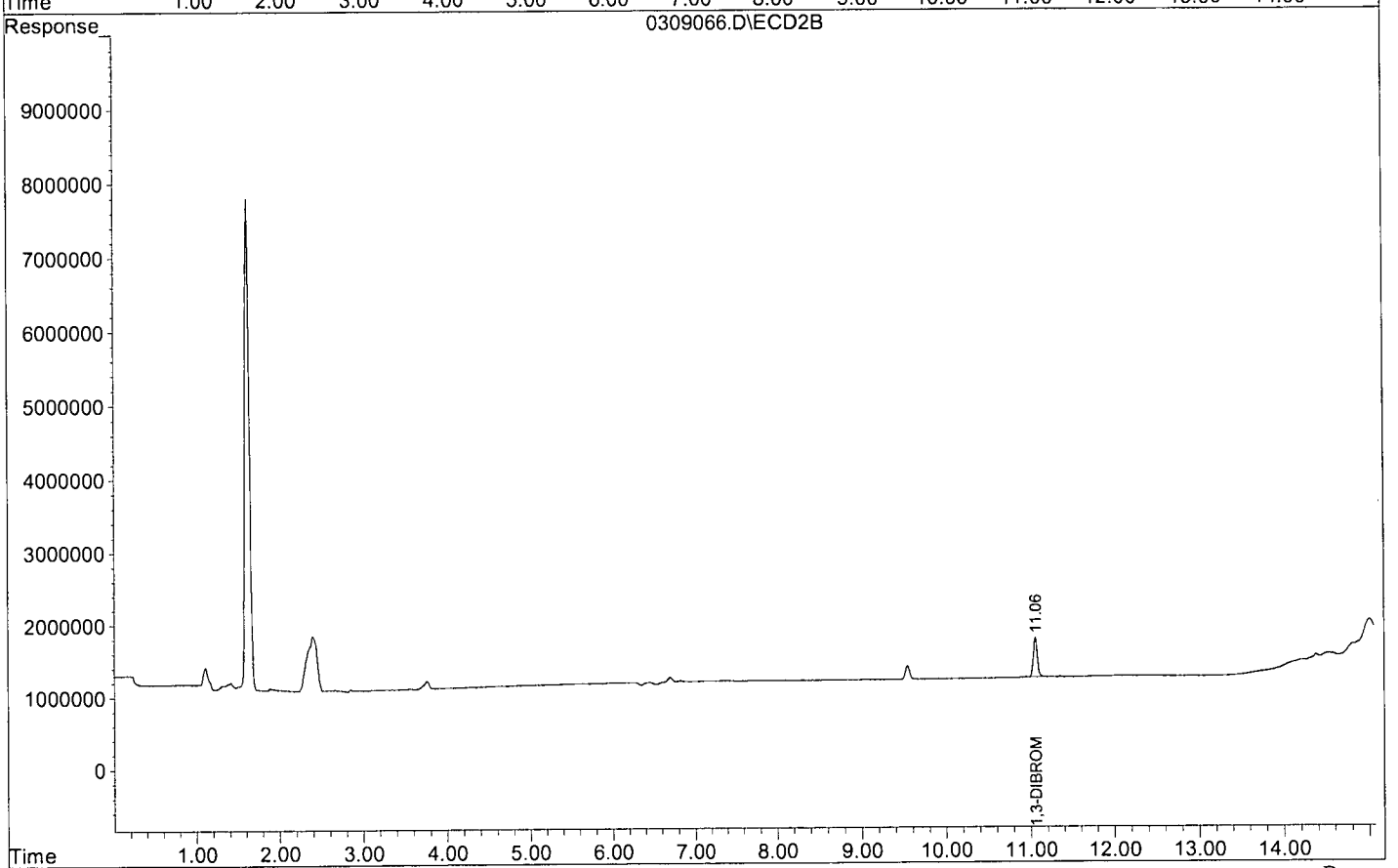
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309066.D
Acq On : 03-13-17 15:36:53
Sample : AZ51136W05 2/34.71G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 66
Operator: RH
Inst : Herbie
Multiplr: 1.01





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0309050.D	0309051.D	0309052.D	0309053.D	0309054.D	0309055.D								
1	TM	EDB	731925	680620	611072	531332	583957	469398					601384	16	TM	
2	TM	1,2,3-TCP	155600	141725	129914	121635	127627	102134					129772	14	TM	
3	S	1,3-DIBROMOPROPANE(S)	480175	479070	451462	408773	416710	337004					428866	13	S	
4	TM	DBCP	1582900	1477500	1414644	1329104	1387113	1124233					1385916	11	TM	
5		Signal #2											0	0		
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35																

1.5348896

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0309050.D	0309051.D	0309052.D	0309053.D	0309054.D	0309055.D								
36	TM	EDB #2	1574000	1429075	1388940	1229074	1337817	1090437					1341557	12	TM	
37	TM	1,2,3-TCP #2	263075	236610	224004	203901	232093	189299					224830	12	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	898700	814185	785588	721550	763513	628887					768737	12	S	
39	TM	DBCP #2	3428225	3395465	3100362	3046925	3379353	2843457					3198964	7.4	TM	
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1.2343749

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309050.D\ECD1A.CH Vial: 50
Signal #2 : G:\HERBIE\DATA\170309\0309050.D\ECD2B.CH
Acq On : 03-13-17 9:59:00 Operator: RH
Sample : 8011 1 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.05	19207	35948	0.019	0.020
Spiked Amount 0.350			Recovery	=	5.43%	5.71%
Target Compounds						
1) TM EDB	5.77	7.22	29277	62960	0.022	0.019
2) TM 1,2,3-TCP	9.26	10.47	6224	10523	0.021	0.020
4) TM DBCP	13.37	14.10	63316	137129	0.018	0.016

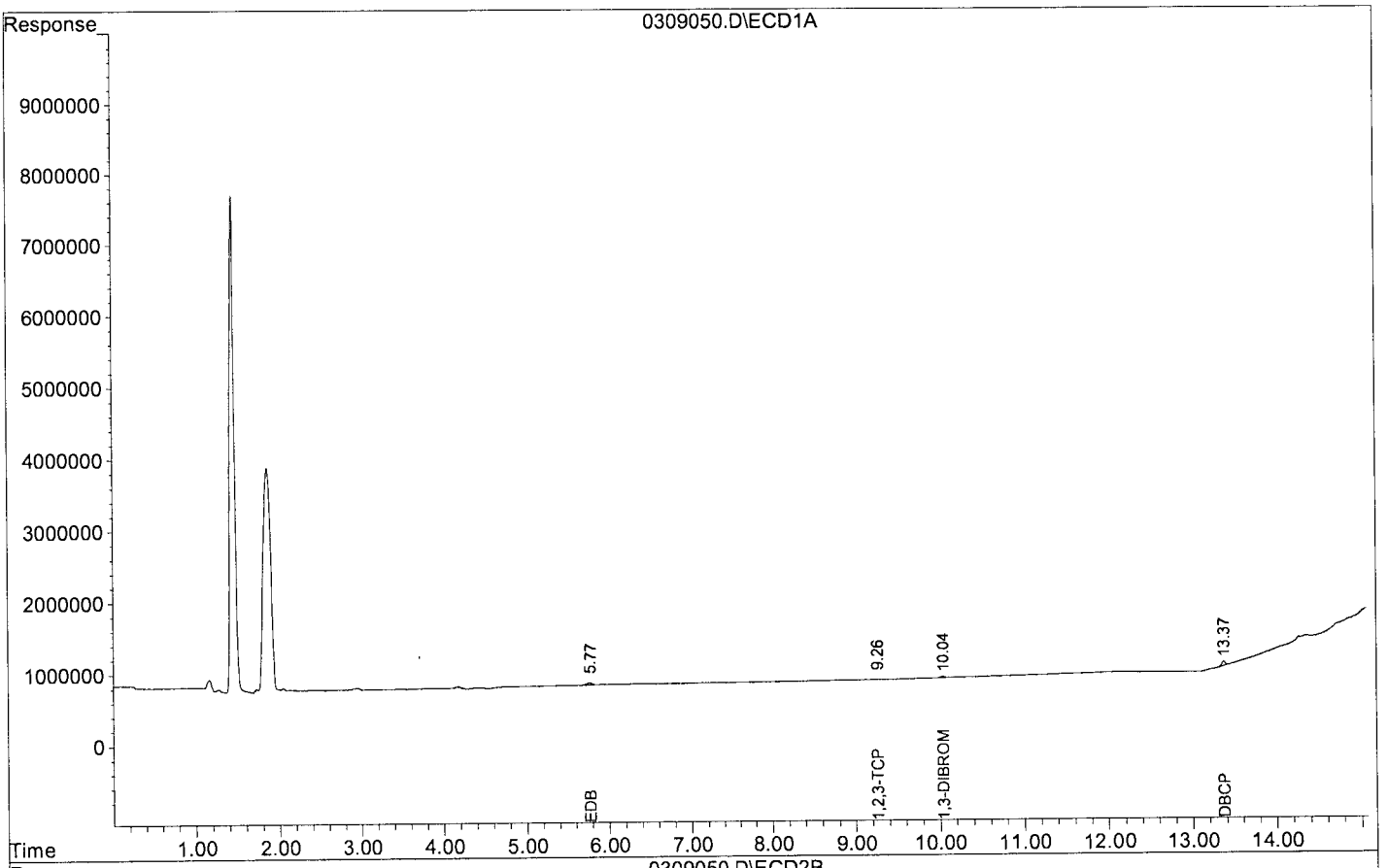
Target Compounds

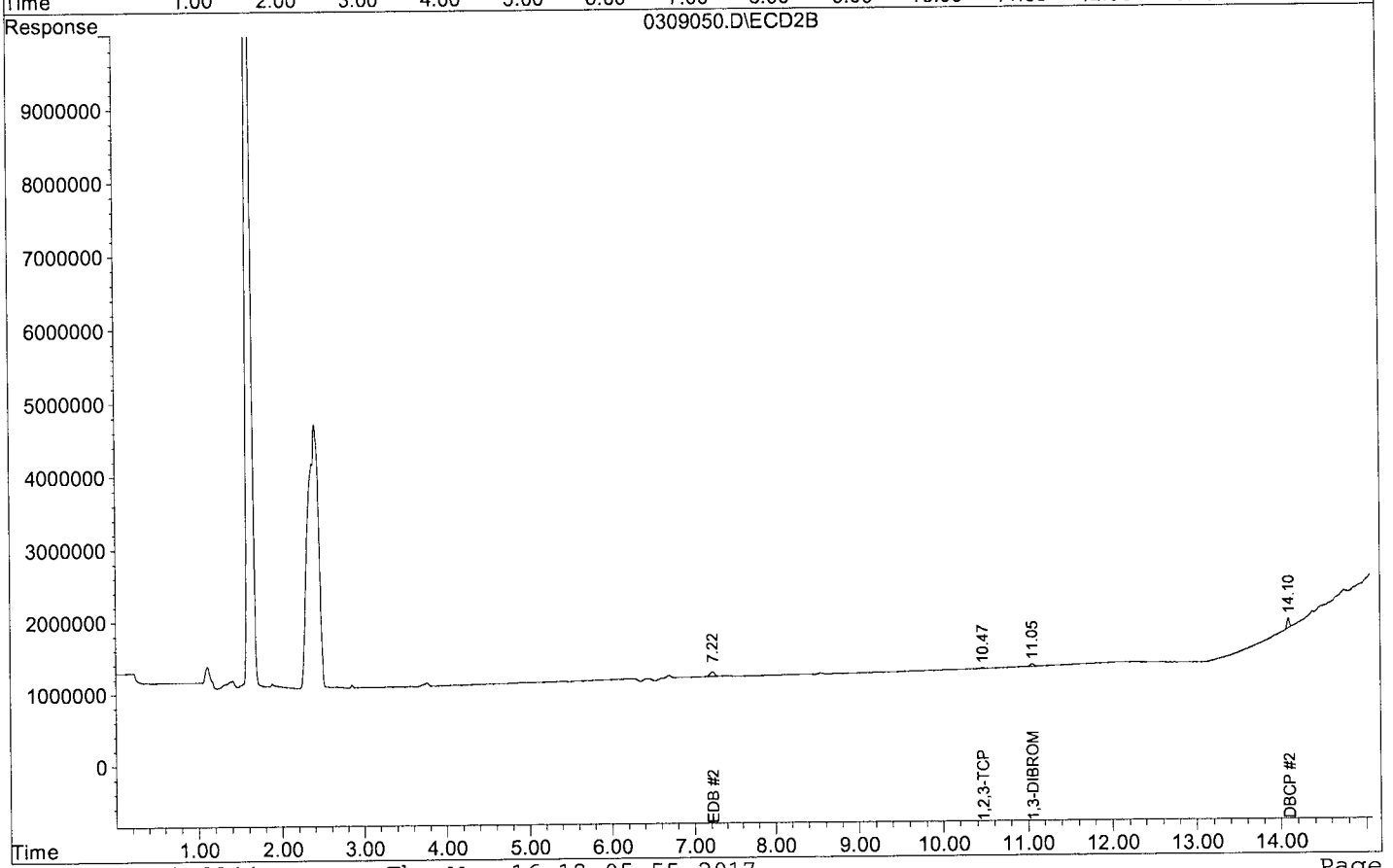
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309050.D
Acq On : 03-13-17 9:59:00
Sample : 8011 1 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 50
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309051.D\ECD1A.CH Vial: 51
Signal #2 : G:\HERBIE\DATA\170309\0309051.D\ECD2B.CH
Acq On : 03-13-17 10:19:53 Operator: RH
Sample : 8011 2 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	95814	162837	0.095	0.090
Spiked Amount 0.350			Recovery	=	27.14%	25.71%
Target Compounds						
1) TM EDB	5.77	7.22	136124	285815	0.101	0.088
2) TM 1,2,3-TCP	9.26	10.46	28345	47322	0.096	0.088
4) TM DBCP	13.37	14.10	295500	679093	0.084	0.080

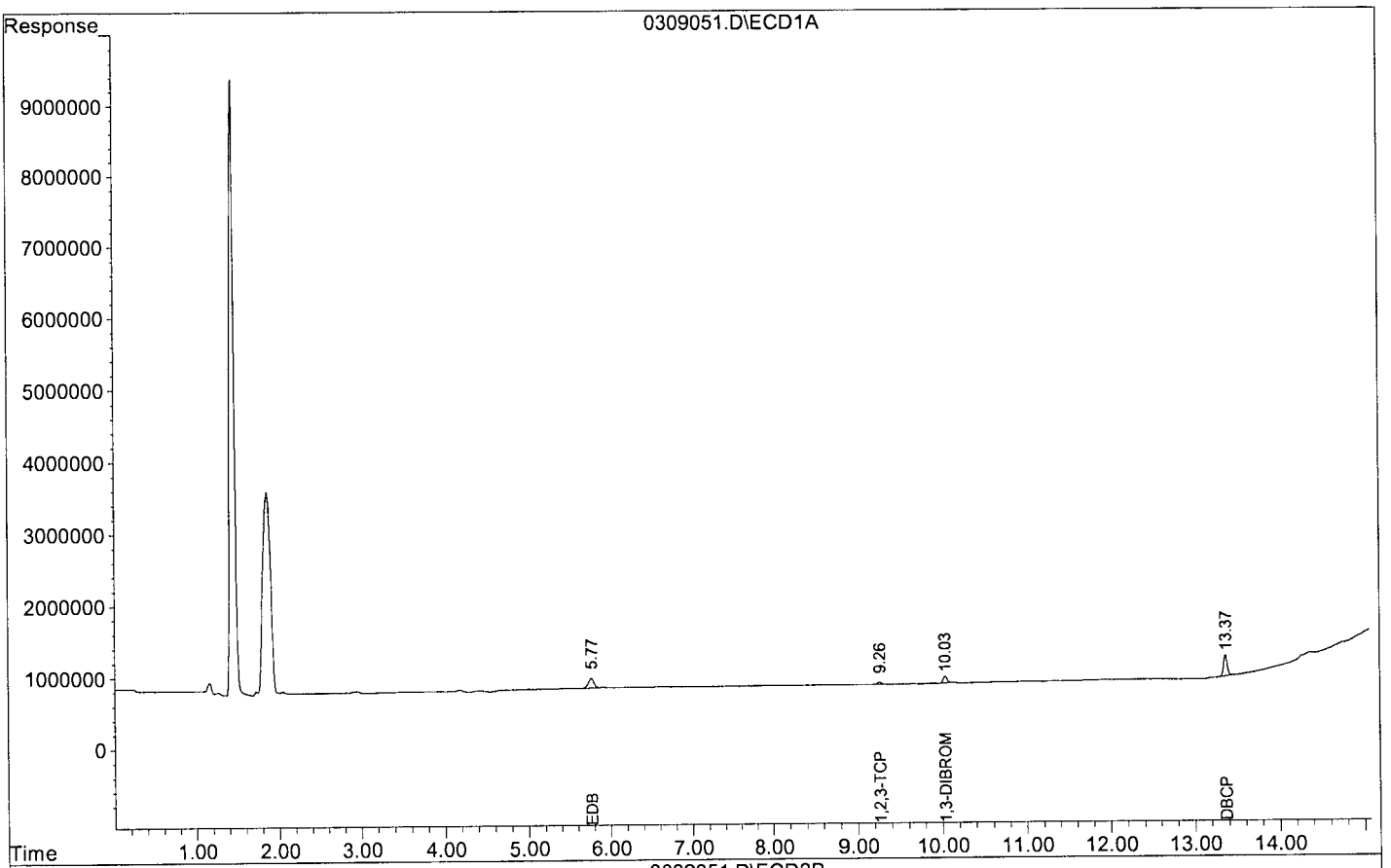
Target Compounds

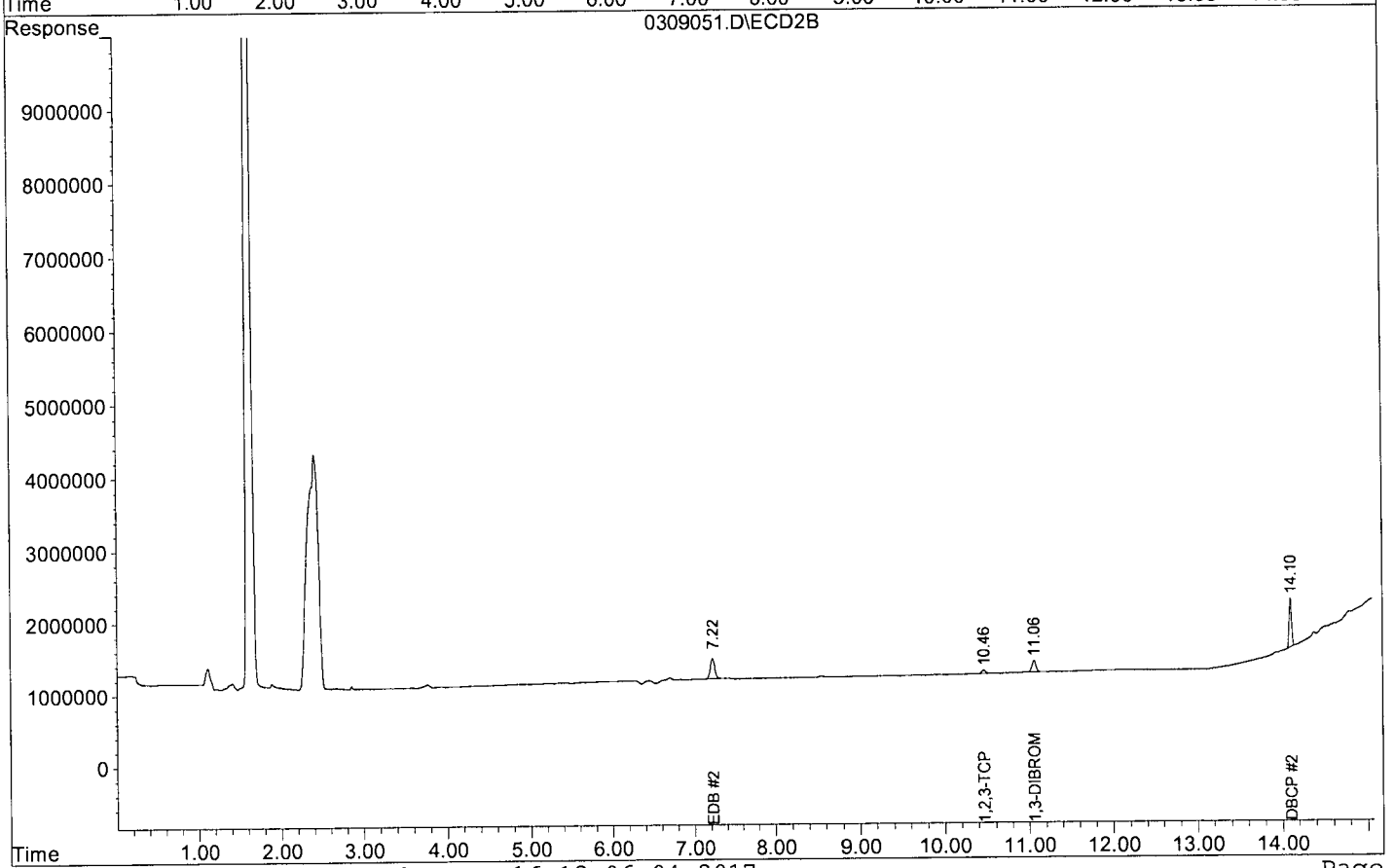
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309051.D
Acq On : 03-13-17 10:19:53
Sample : 8011 2 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 51
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309052.D\ECD1A.CH Vial: 52
Signal #2 : G:\HERBIE\DATA\170309\0309052.D\ECD2B.CH
Acq On : 03-13-17 10:40:57 Operator: RH
Sample : 8011 3 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	225731	392794	0.225	0.216
Spiked Amount 0.350			Recovery	=	64.29%	61.71%
Target Compounds						
1) TM EDB	5.76	7.22	305536	694470	0.226	0.214
2) TM 1,2,3-TCP	9.26	10.46	64957	112002	0.220	0.208
4) TM DBCP	13.36	14.10	707322	1550181	0.200	0.183

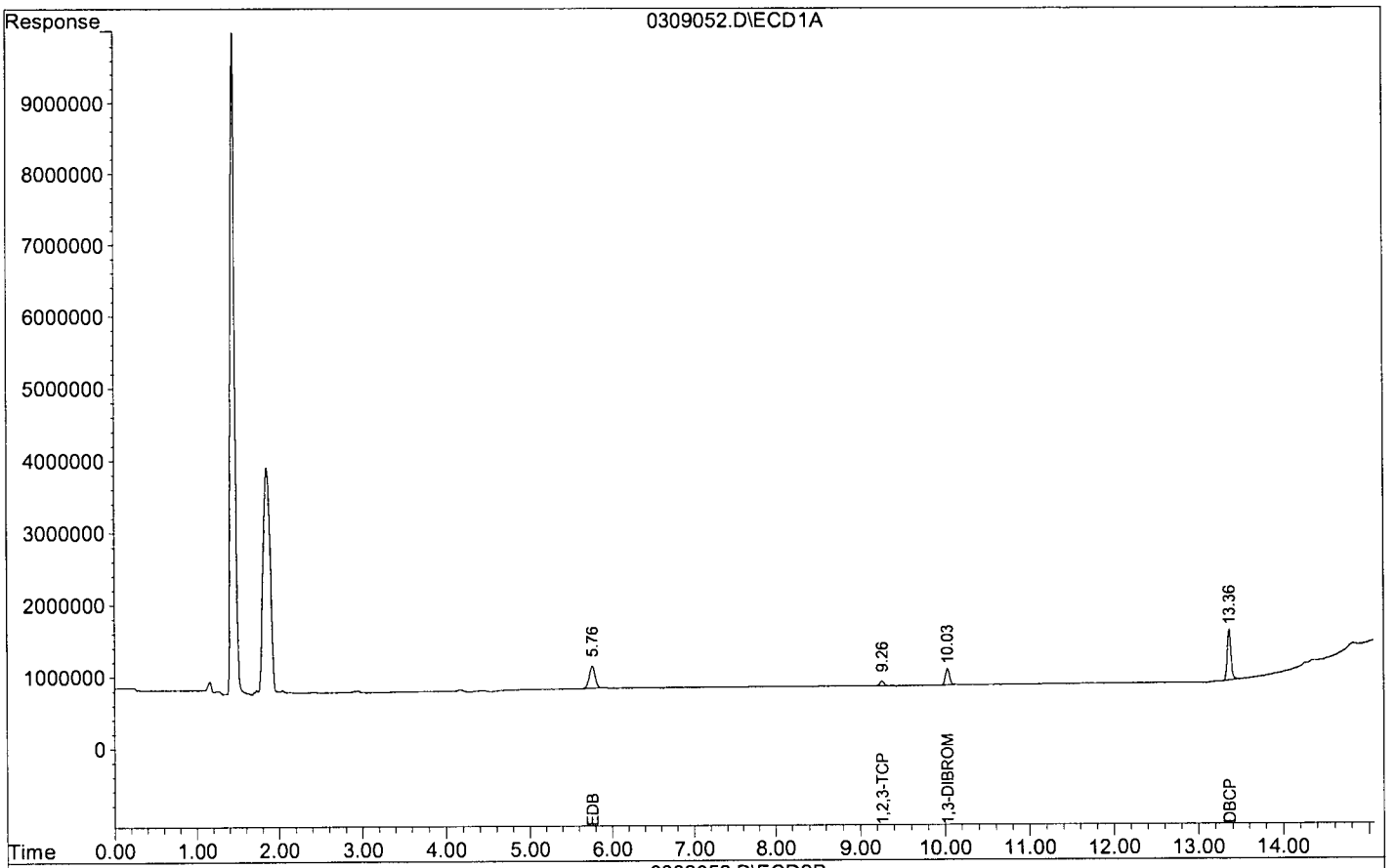
Target Compounds

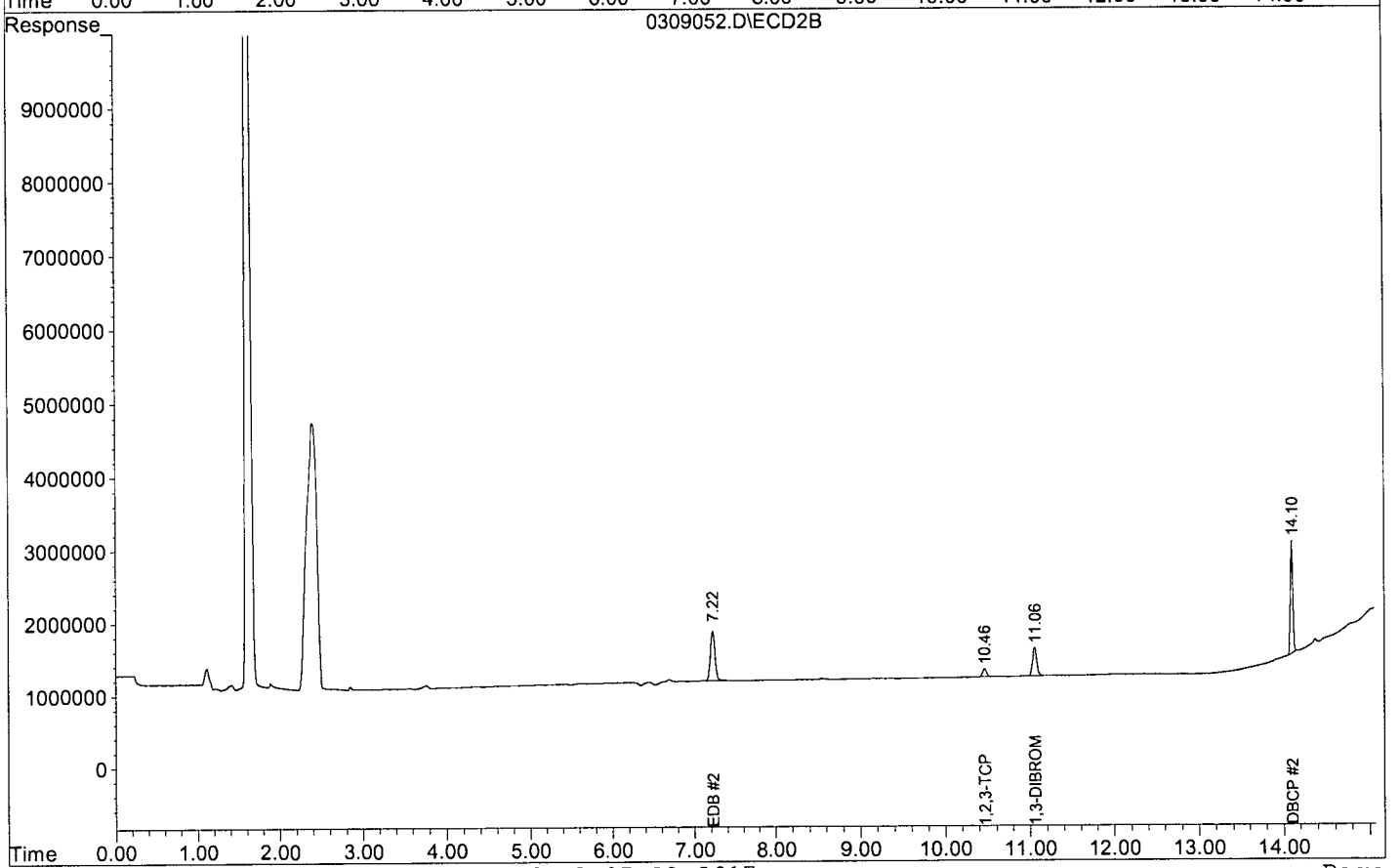
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309052.D
Acq On : 03-13-17 10:40:57
Sample : 8011 3 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 52
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309053.D\ECD1A.CH Vial: 53
Acq On : 03-13-17 11:02:05 Operator: RH
Sample : 8011 4 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint.p

Data File : G:\HERBIE\DATA\170309\0309053.D\ECD2B.CH Vial: 53
Acq On : 03-13-17 11:02:04 Operator: RH
Sample : 8011 4 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

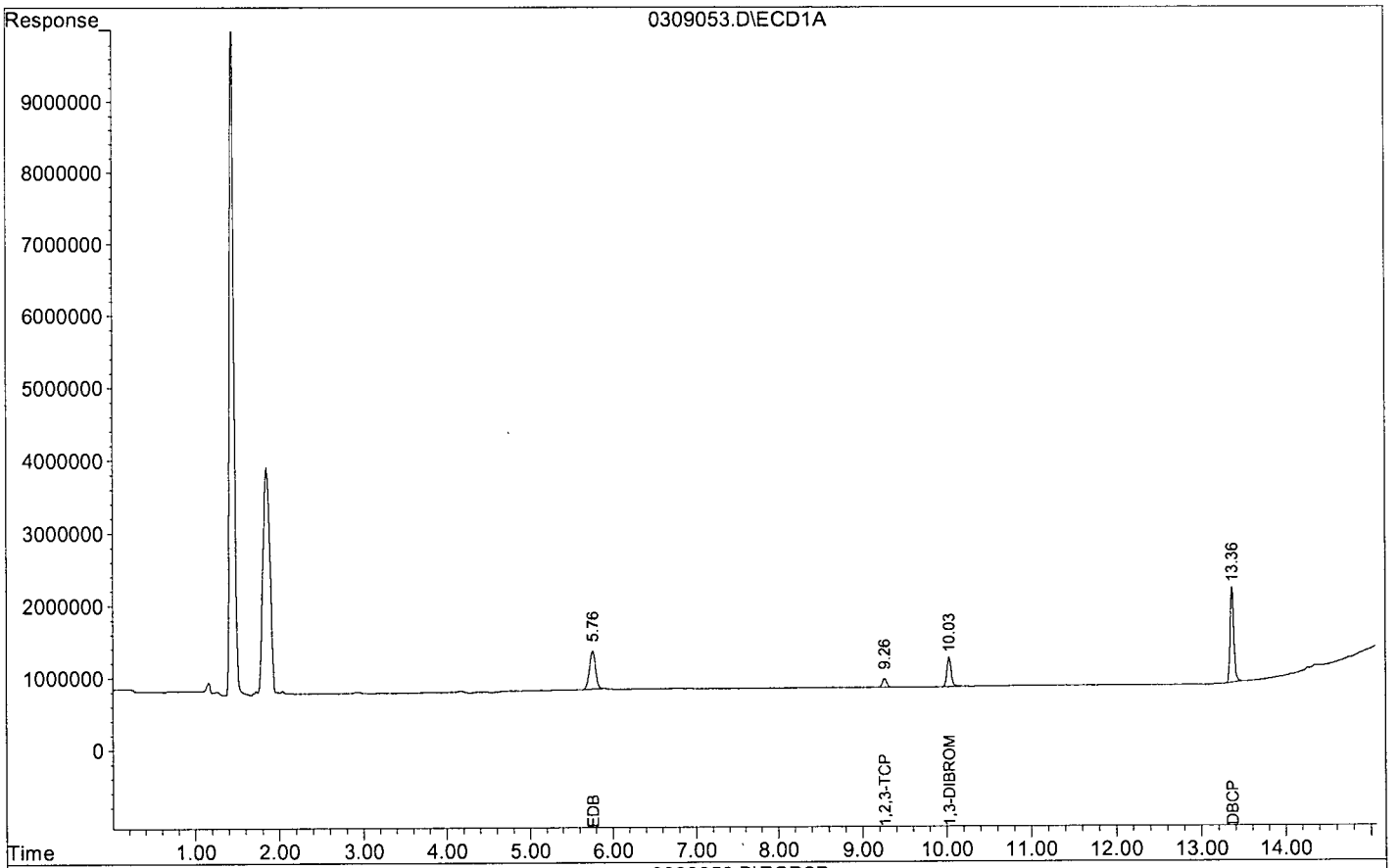
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	408773	721550	0.407	0.397
Spiked Amount 0.350			Recovery	=	116.29%	113.43%
Target Compounds						
1) TM EDB	5.76	7.22	531332	1229074	0.394	0.379
2) TM 1,2,3-TCP	9.26	10.46	121635	203901	0.413	0.379
4) TM DBCP	13.36	14.10	1329104	3046925	0.377	0.360
Target Compounds						

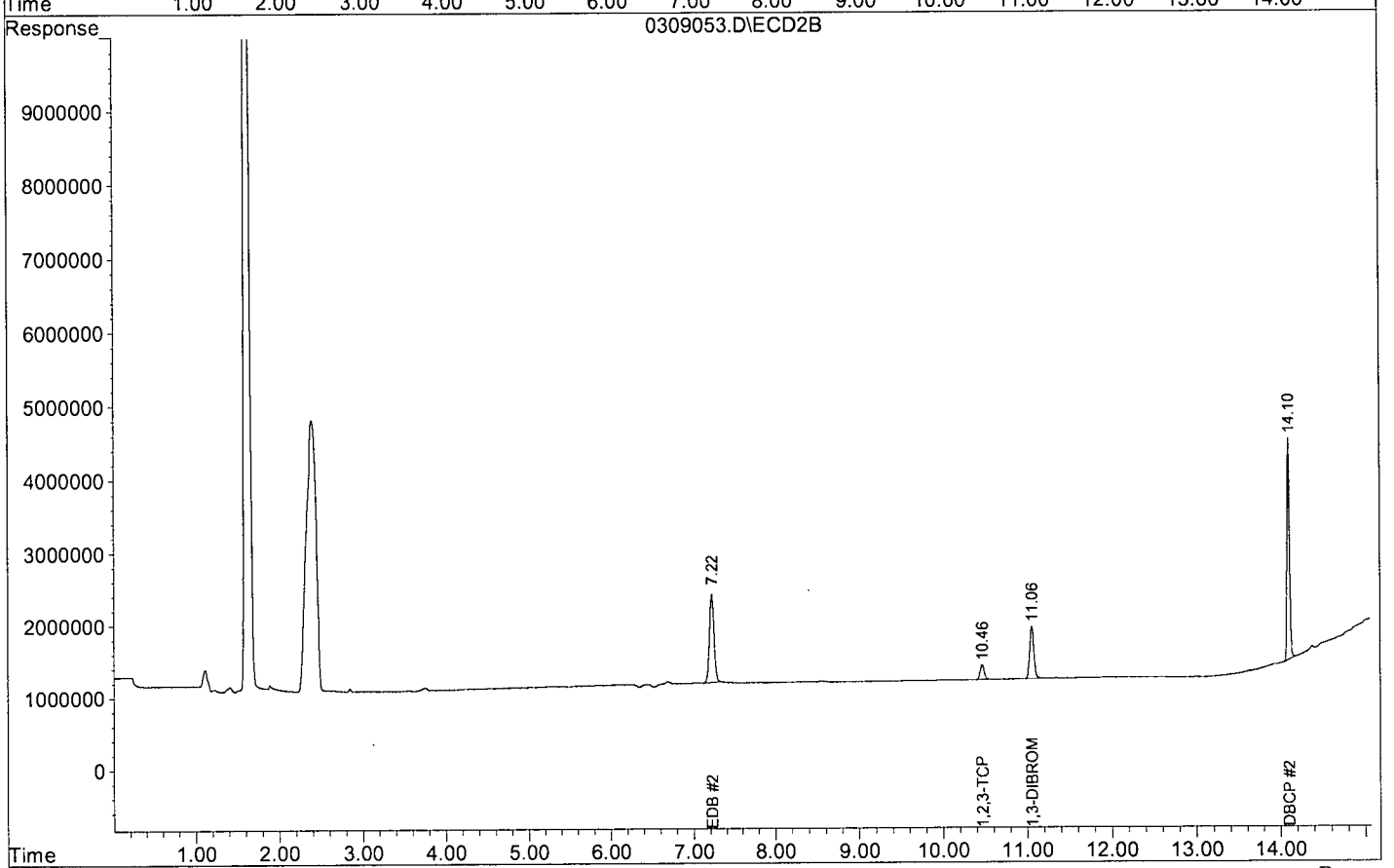
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309053.D
Acq On : 03-13-17 11:02:05
Sample : 8011 4 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 53
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309054.D\ECD1A.CH Vial: 54
Signal #2 : G:\HERBIE\DATA\170309\0309054.D\ECD2B.CH
Acq On : 03-13-17 11:23:12 Operator: RH
Sample : 8011 5 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

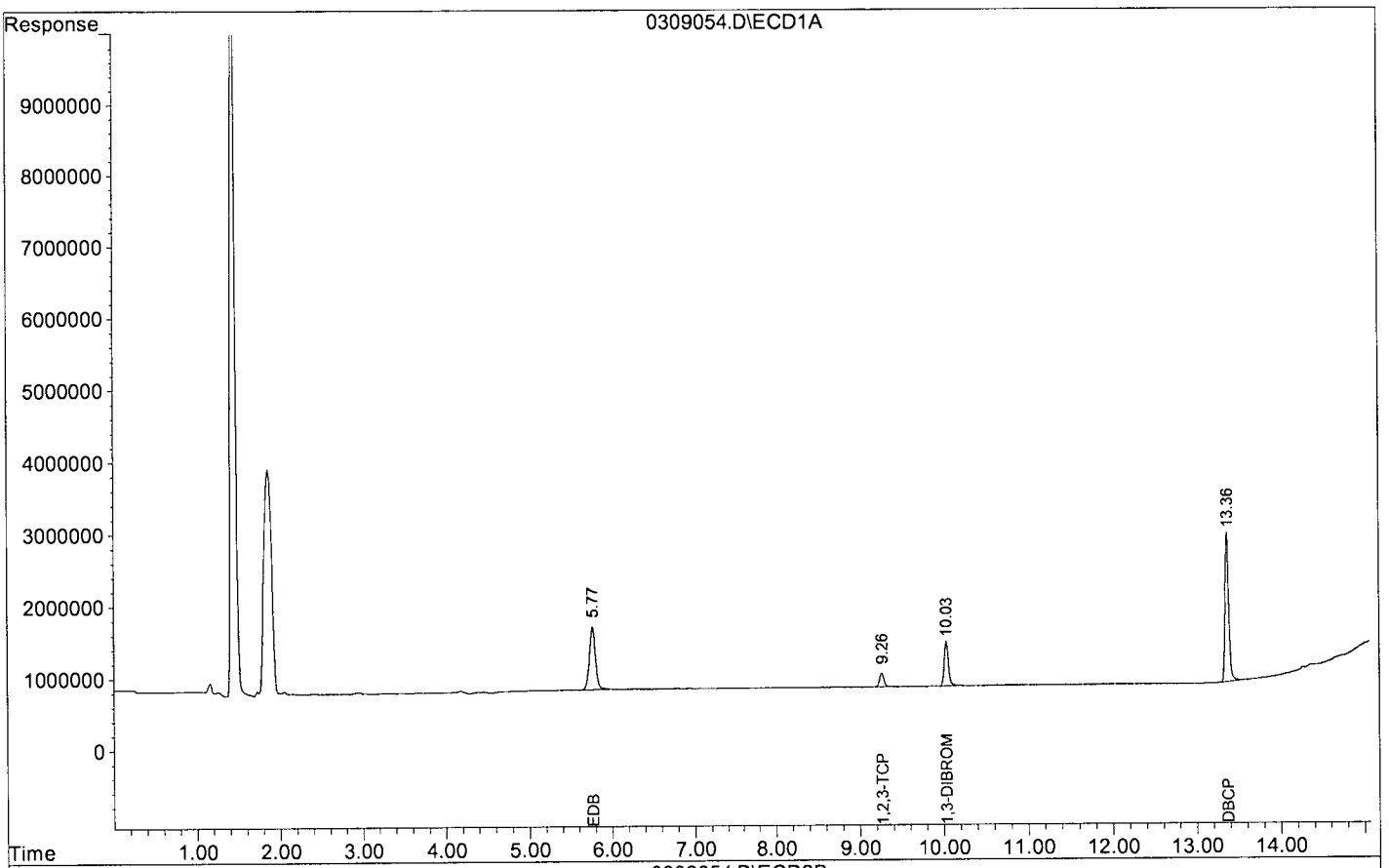
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	625065	1145269	0.622	0.630
Spiked Amount 0.350			Recovery	=	177.71%	180.00%
Target Compounds						
1) TM EDB	5.77	7.22	875935	2006726	0.649	0.618
2) TM 1,2,3-TCP	9.26	10.46	191441	348139	0.649	0.647
4) TM DBCP	13.36	14.10	2080669	5069029	0.590	0.599
Target Compounds						

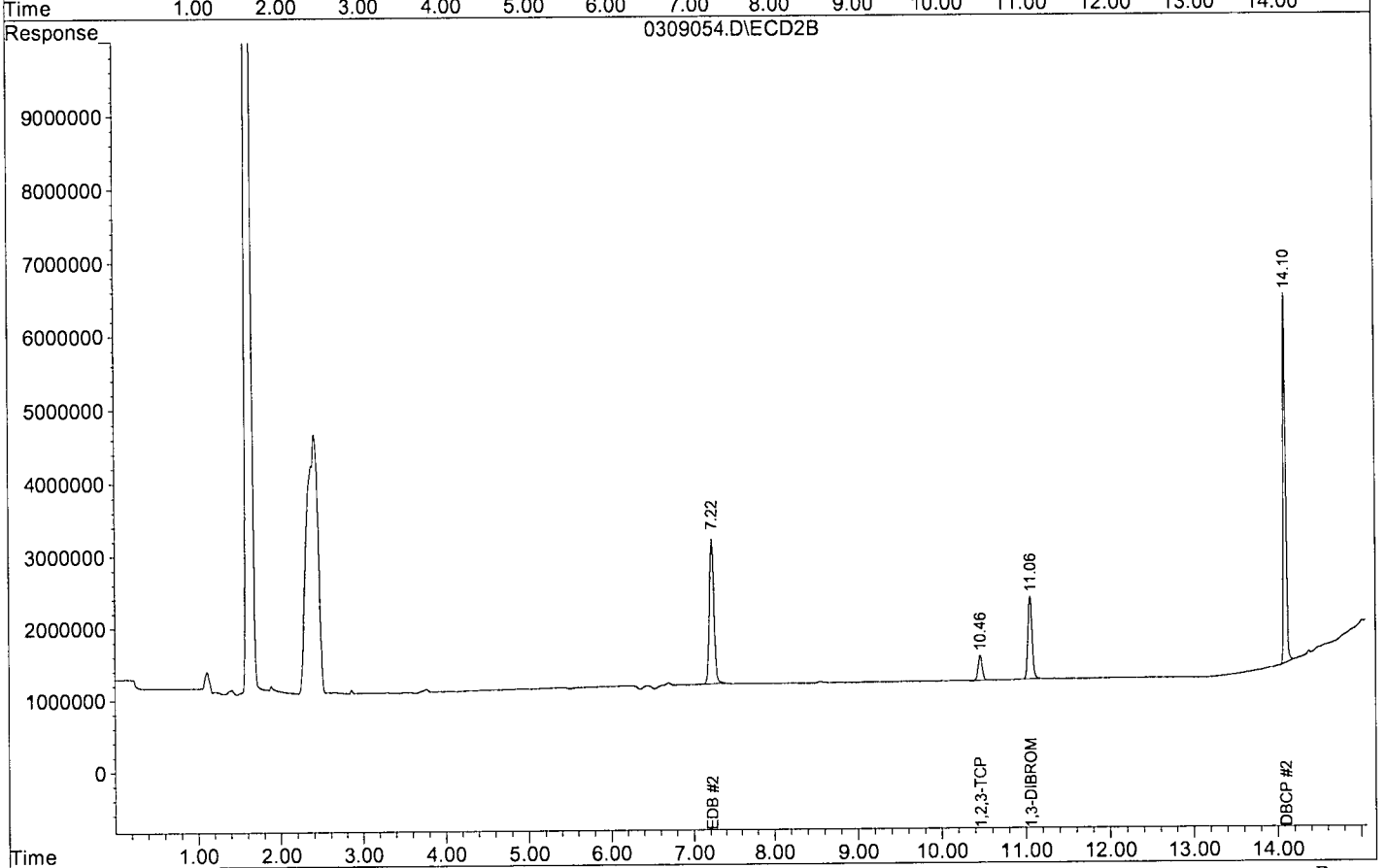
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309054.D
Acq On : 03-13-17 11:23:12
Sample : 8011 5 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 54
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309055.D\ECD1A.CH Vial: 55
Signal #2 : G:\HERBIE\DATA\170309\0309055.D\ECD2B.CH
Acq On : 03-13-17 11:44:25 Operator: RH
Sample : 8011 6 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

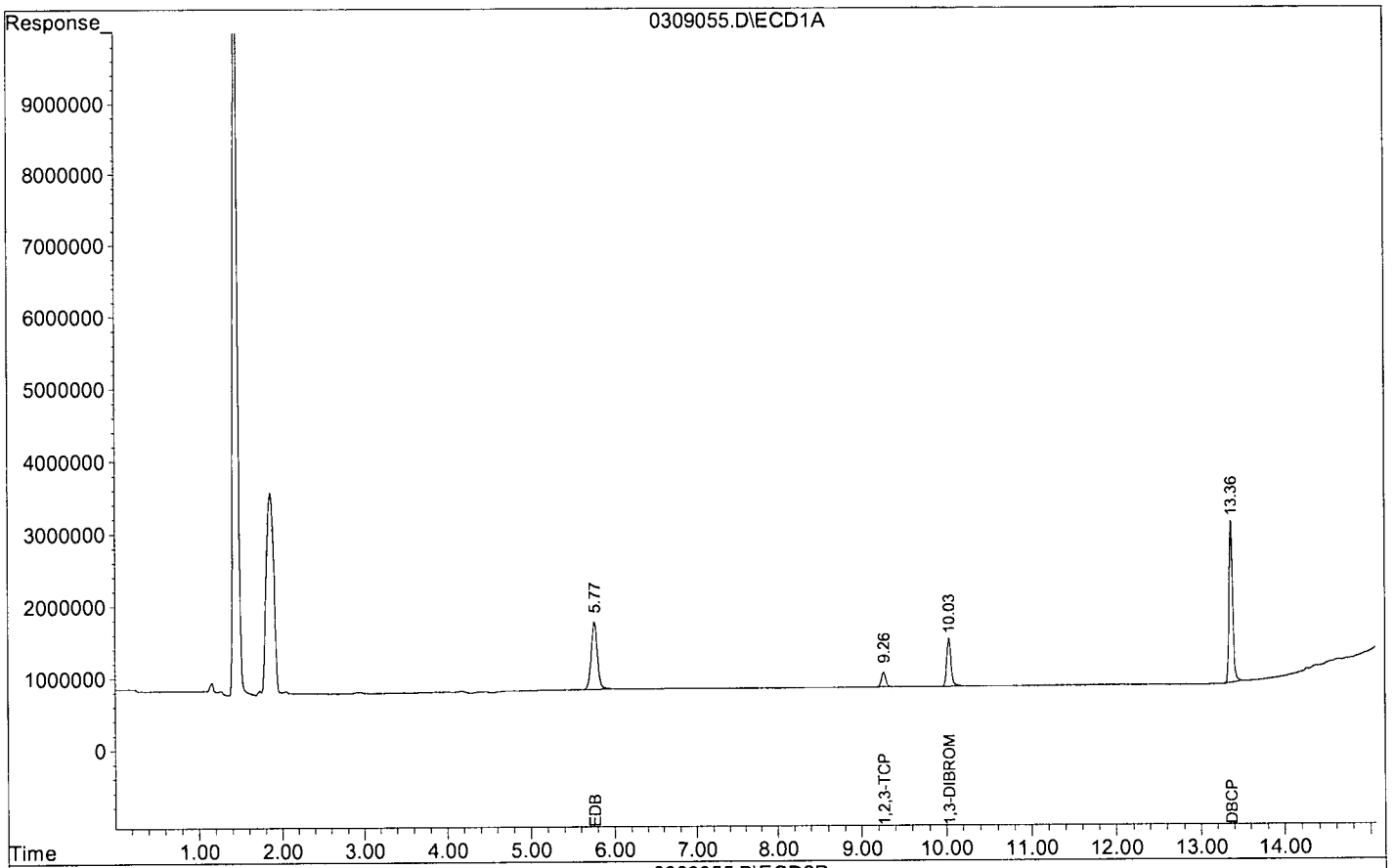
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	674007	1257774	0.671	0.692
Spiked Amount 0.350			Recovery	=	191.71%	197.71%
Target Compounds						
1) TM EDB	5.77	7.22	938795	2180874	0.696	0.672
2) TM 1,2,3-TCP	9.26	10.46	204267	378598	0.693	0.704
4) TM DBCP	13.36	14.10	2248465	5686914	0.637	0.672
Target Compounds						

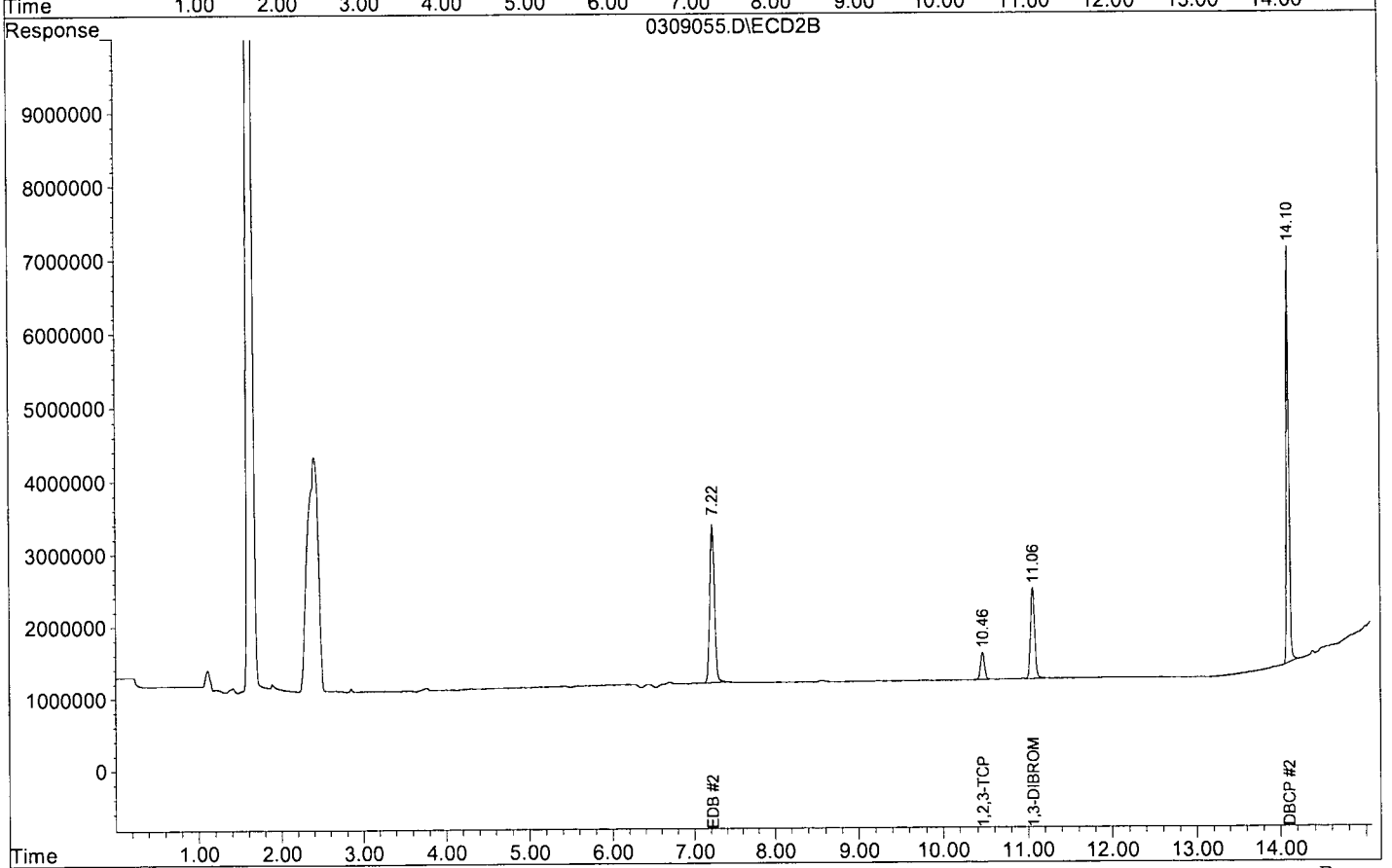
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309055.D
Acq On : 03-13-17 11:44:25
Sample : 8011 6 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 55
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Soil

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Initial Cal. Date: 03/13/17
Data File: 0309058.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	601384	578765	3.8	TM	
2	TM	1,2,3-TCP	129772	125500	3.3	TM	
3	TM	DBCP	1385920	1339430	3.4	TM	
4							
5							
6							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.5		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Soil

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Cal. Date: 03/13/17
Data File: 0309058.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1341560	1191680	11	TM	
42	TM	1,2,3-TCP	224830	209150	7.0	TM	
43	TM	DBCP	3198960	3160980	1.2	TM	
44							
45							
46							
47							
48							
49							
50							
51							
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73							
74							
75							
76							
77							
78							
79							
80							
		Average			6.4		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309058.D\ECD1A.CH Vial: 58
Signal #2 : G:\HERBIE\DATA\170309\0309058.D\ECD2B.CH
Acq On : 03-13-17 12:48:05 Operator: RH
Sample : 170311A LCS-1 2/35.30G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:22 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	305738	563061	0.353	0.363
Spiked Amount 0.347			Recovery	=	101.72%	104.60%
Target Compounds						
1) TM EDB	5.76	7.22	115753	238336	0.095	0.088 ✓
2) TM 1,2,3-TCP	9.26	10.46	25100	41830	0.096	0.092
4) TM DBCP	13.36	14.10	267886	632196	0.096	0.098

Target Compounds

Algorithum check = $\frac{238336 * 0.99}{1341560 * 2} = \frac{235952.64}{2683120}$

= 0.0879 ✓

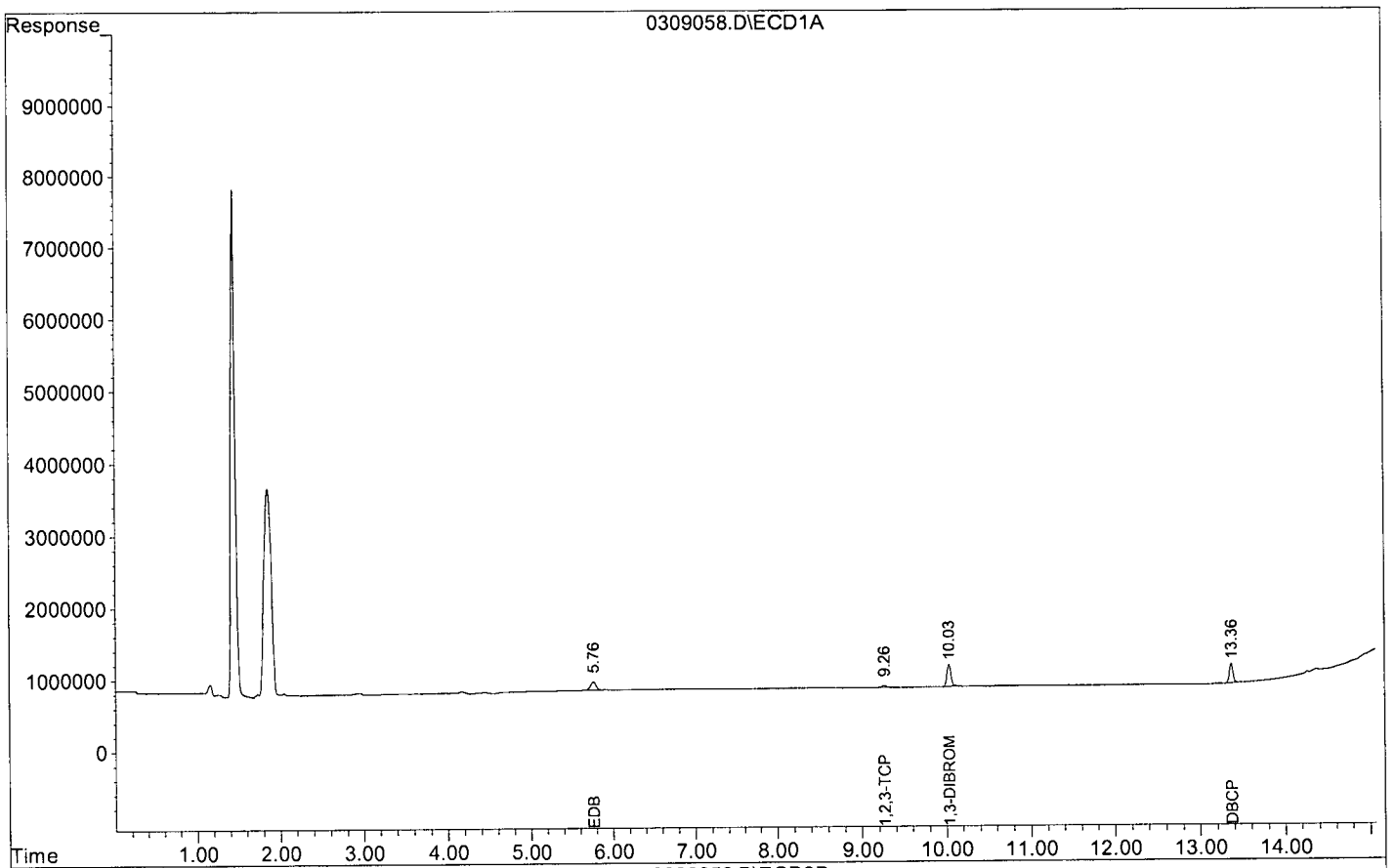
RH 3/16/17

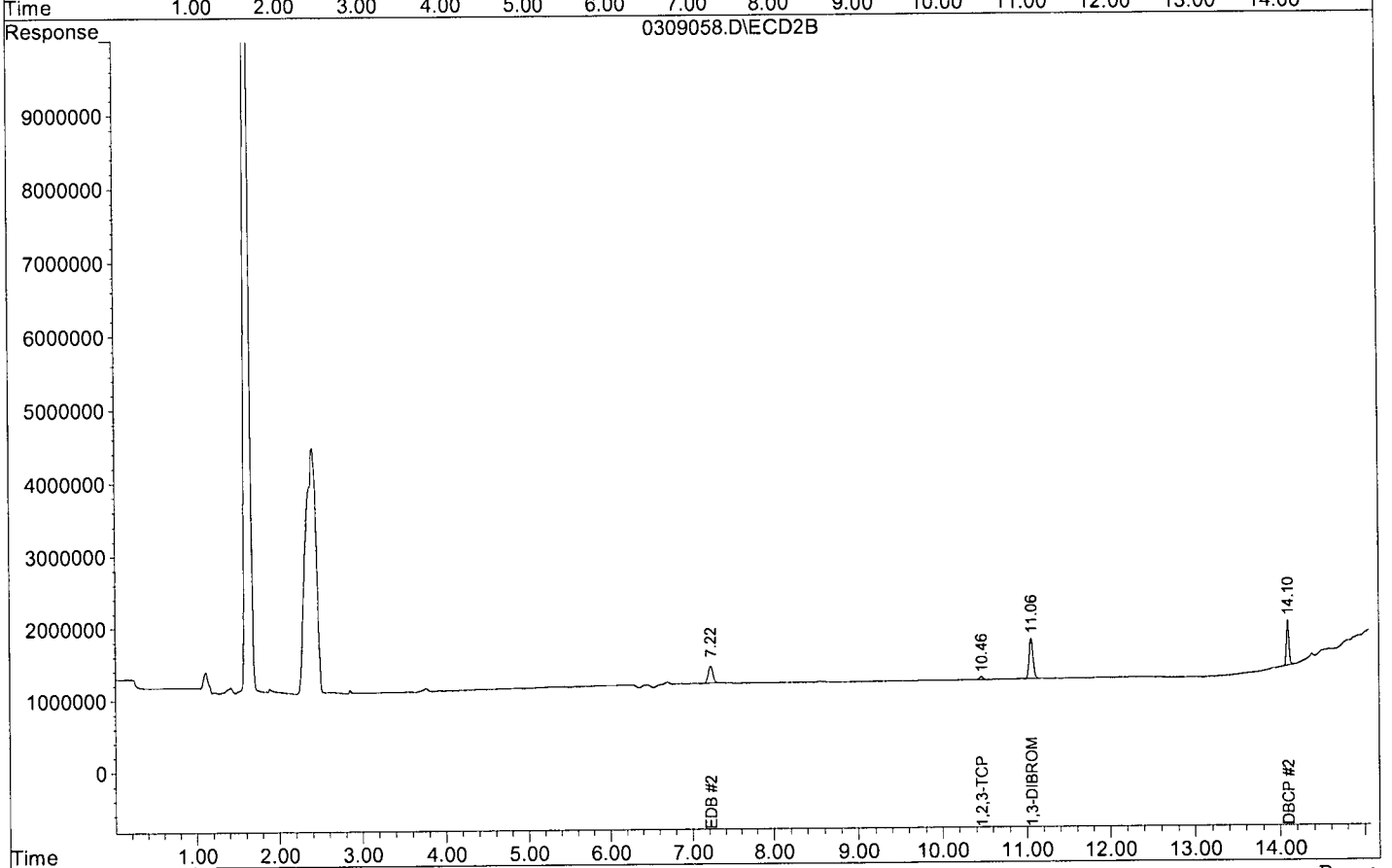
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0309058.D 80110311.M Thu Mar 16 12:10:26 2017 58

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309058.D
Acq On : 03-13-17 12:48:05
Sample : 170311A LCS-1 2/35.30G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 58
Operator: RH
Inst : Herbie
Multiplr: 0.99





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Initial Cal. Date: 03/13/17
Data File: 0309076.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	601384	624380	3.8	TM	
2	TM	1,2,3-TCP	129772	138108	6.4	TM	
3	S	1,3-DIBROMOPROPANE(S)	428866	476256	11	S	
4	TM	DBCP	1385920	1486950	7.3	TM	
5							
6							
7							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Cal. Date: 03/13/17
Data File: 0309076.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1341560	1435890	7.0	TM	
42	TM	1,2,3-TCP	224830	238200	5.9	TM	
43	S	1,3-DIBROMOPROPANE(S)	768737	848498	10	S	
44	TM	DBCP	3198960	3553100	11	TM	
45							
46							
47							
48							
49							
50							
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70							
71							
72							
73							
74							
75							
76							
77							
78							
79							
80							
		Average			8.5		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309076.D\ECD1A.CH Vial: 76
Signal #2 : G:\HERBIE\DATA\170309\0309076.D\ECD2B.CH
Acq On : 03-13-17 19:10:30 Operator: RH
Sample : 8011 3 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 14 11:32 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	238128	424249	0.278	0.276
Spiked Amount 0.350			Recovery	=	79.43%	78.86%
Target Compounds						
1) TM EDB	5.77	7.22	312190	717946	0.260	0.268
2) TM 1,2,3-TCP	9.26	10.46	69054	119100	0.266	0.265
4) TM DBCP	13.36	14.10	743473	1776548	0.268	0.278

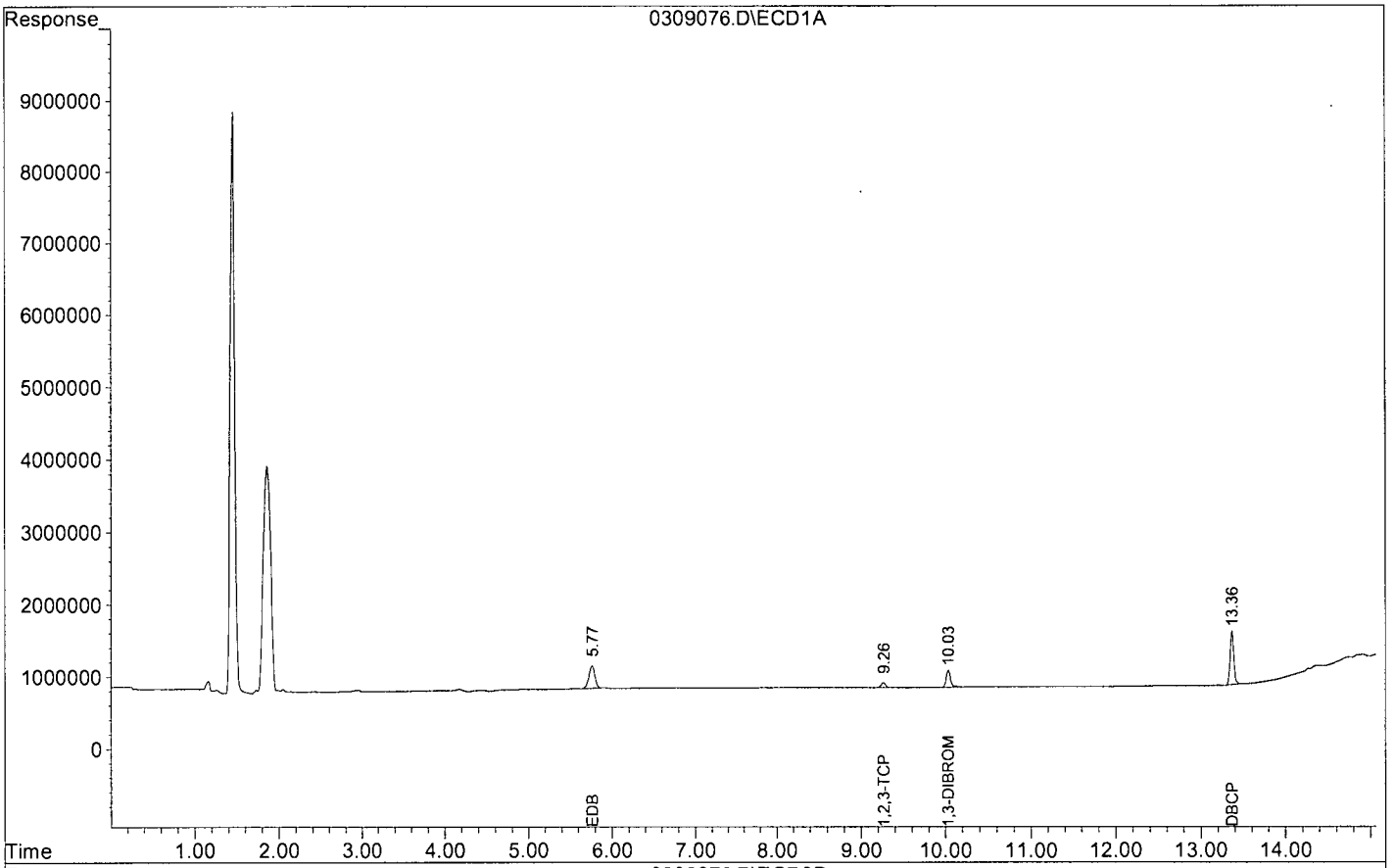
Target Compounds

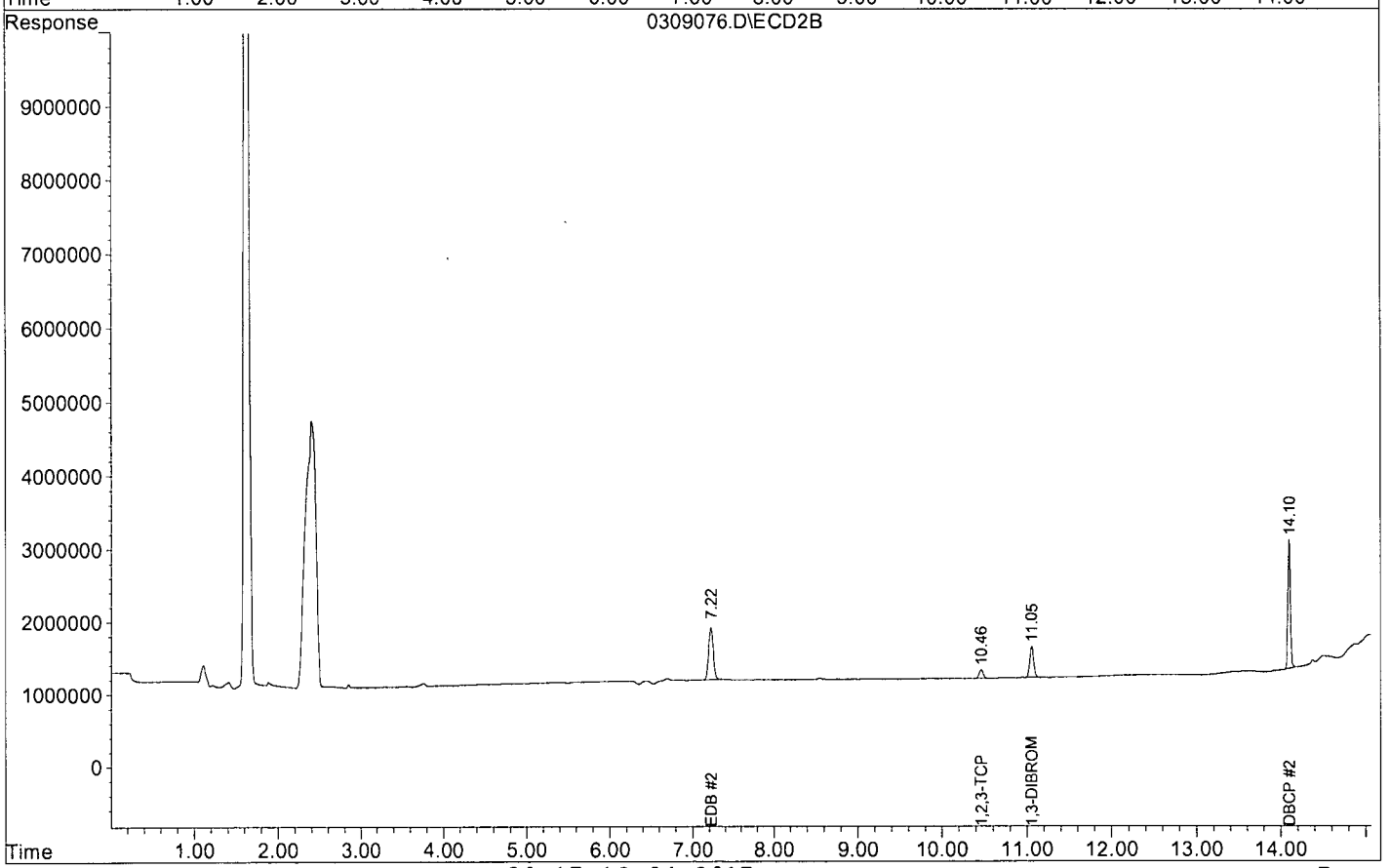
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309076.D
Acq On : 03-13-17 19:10:30
Sample : 8011 3 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 76
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51135 - 216868**
Batch ID: #8011-170311A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	98.2	70-132			%	03/11/17	03/13/17

Quant Method:80110311.M
Run #:0309057
Instrument:Herbie
Sequence:170309
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 12:45:42 PM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309057.D\ECD1A.CH Vial: 57
Signal #2 : G:\HERBIE\DATA\170309\0309057.D\ECD2B.CH
Acq On : 03-13-17 12:26:47 Operator: RH
Sample : 170311A BLK 2/35.27G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:28 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

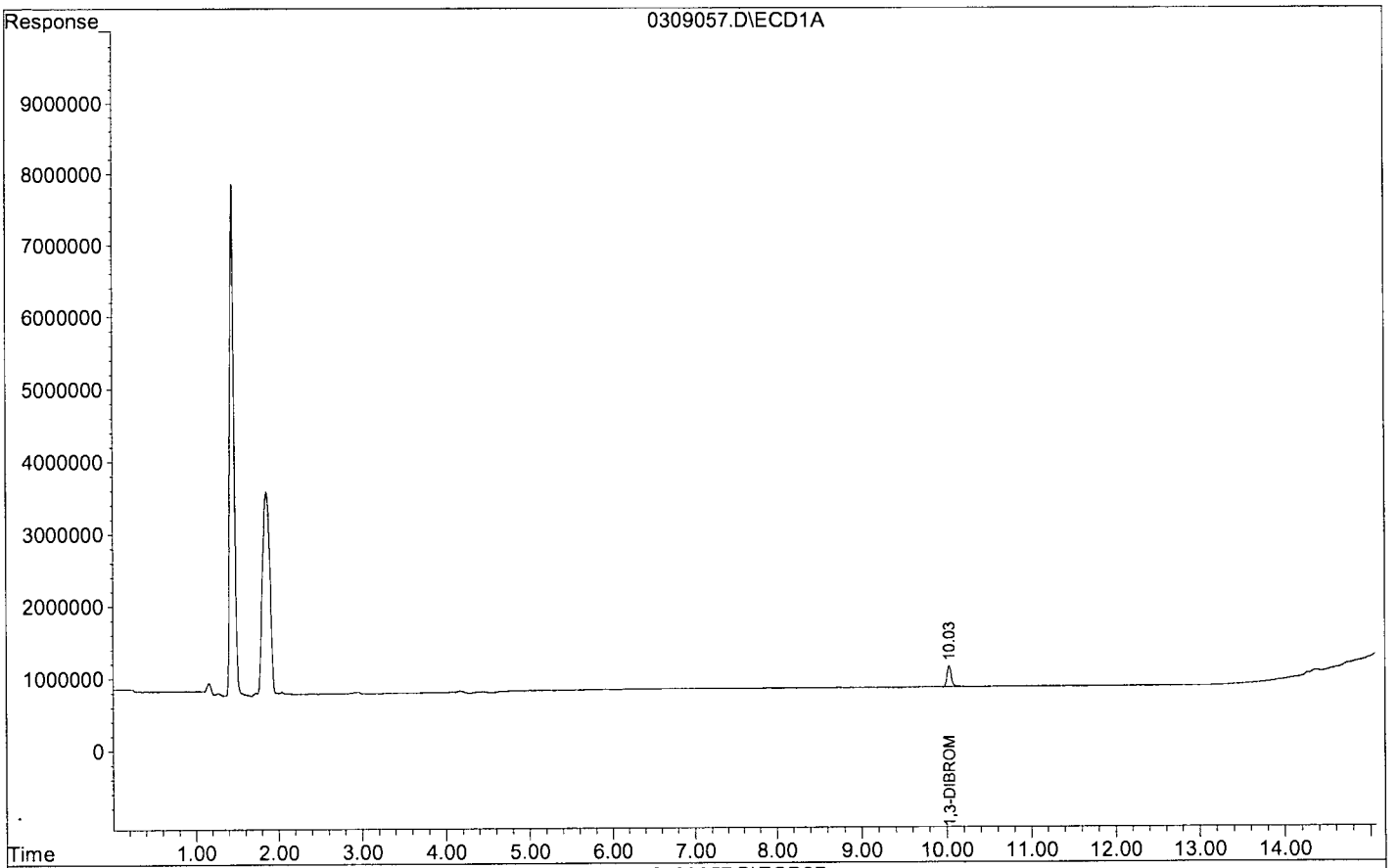
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	294844	522867	0.341	0.337
Spiked Amount 0.347			Recovery	=	98.18%	97.03%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

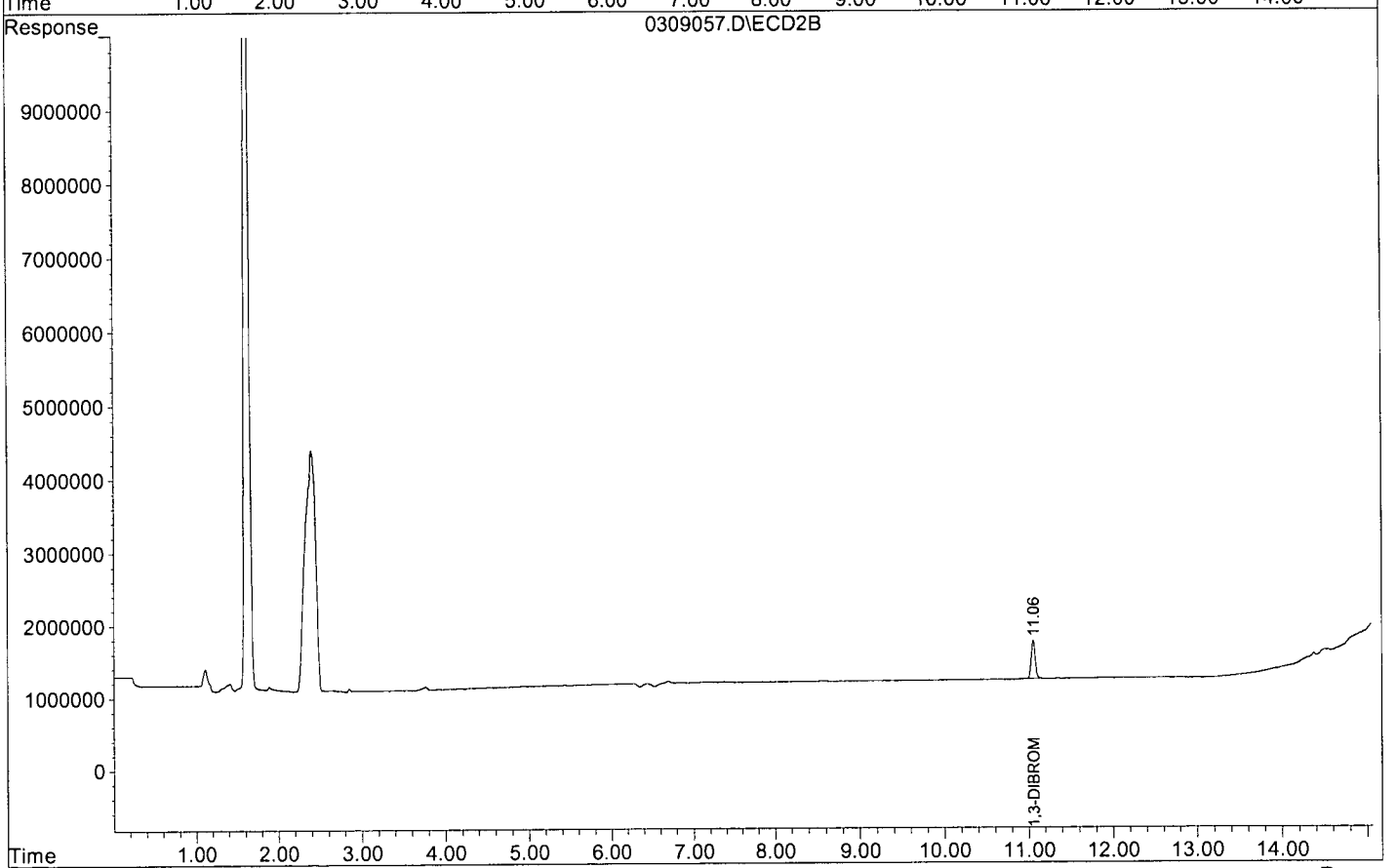
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309057.D
Acq On : 03-13-17 12:26:47
Sample : 170311A BLK 2/35.27G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 57
Operator: RH
Inst : Herbie
Multiplr: 0.99





Laboratory Control Spike Recovery

EPA 8011

APPL ID: **170311W-51135 LCS - 216868**
Batch ID: #8011-170311A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.229	91.6	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.247	98.8	70-132

Comments: _____

Primary	SPK
Quant Method :	80110311.M
Extraction Date :	03/11/17
Analysis Date :	03/13/17
Instrument :	Herbie
Run :	0309059
Initials :	RHA

Printed: 03/14/17 12:45:35 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309059.D\ECD1A.CH Vial: 59
Signal #2 : G:\HERBIE\DATA\170309\0309059.D\ECD2B.CH
Acq On : 03-13-17 13:09:13 Operator: RH
Sample : 170311A LCS-2 2/35.04G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:22 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

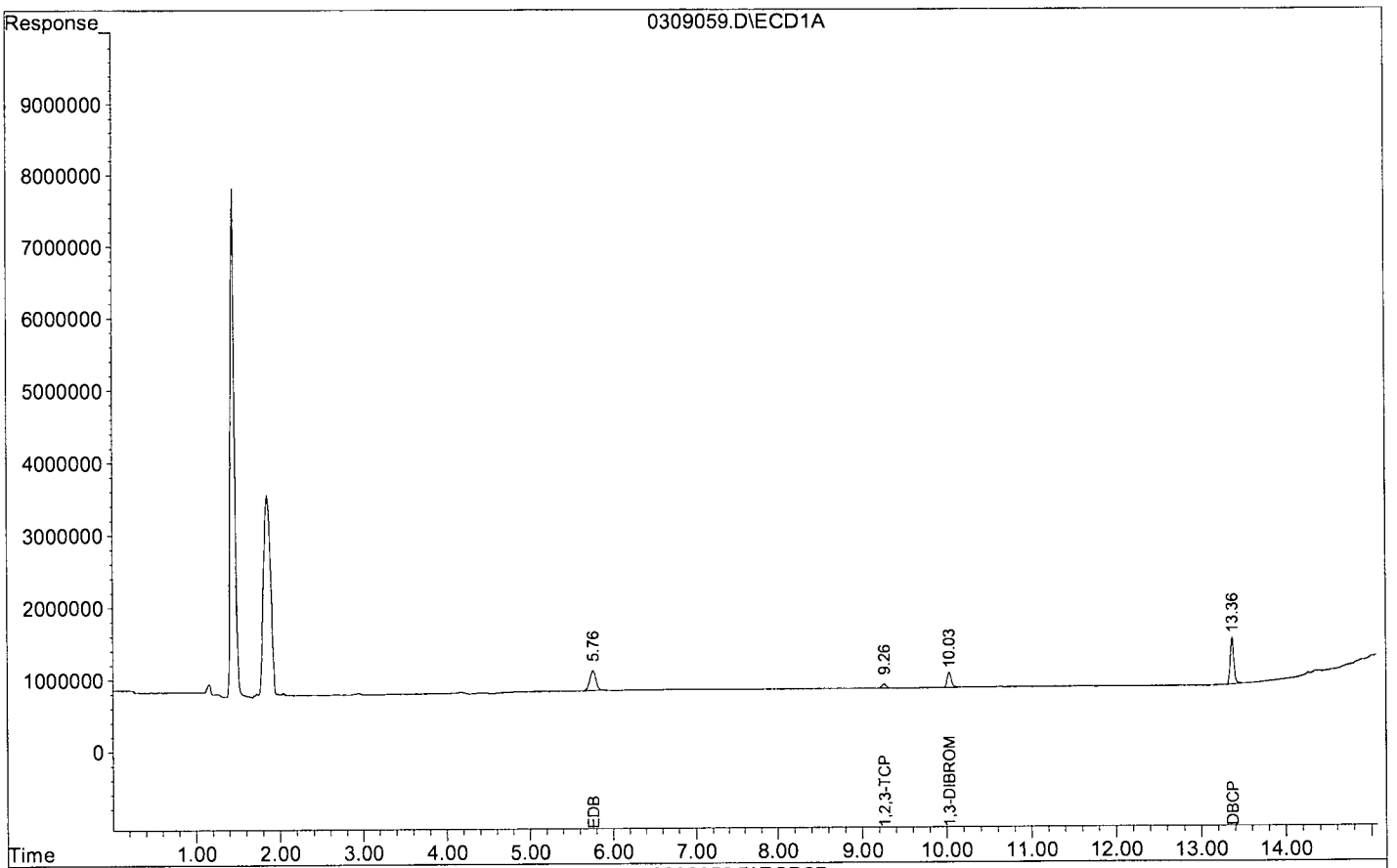
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	212048	369265	0.247	0.240
Spiked Amount 0.350			Recovery	=	70.65%	68.65%
Target Compounds						
1) TM EDB	5.76	7.22	275838	616358	0.229	0.229
2) TM 1,2,3-TCP	9.26	10.46	59583	104188	0.229	0.231
4) TM DBCP	13.36	14.10	653603	1517368	0.236	0.237
Target Compounds						

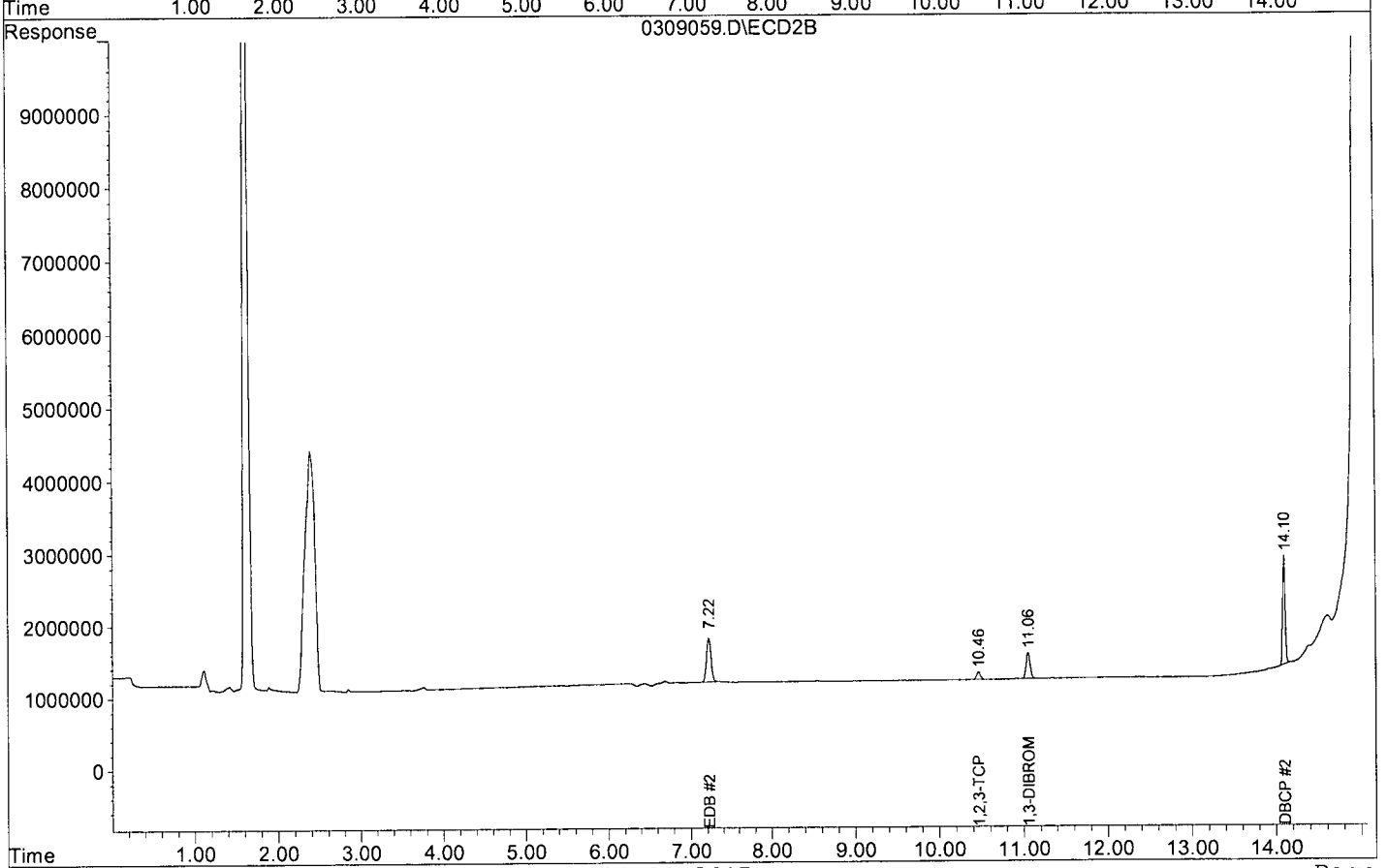
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309059.D
Acq On : 03-13-17 13:09:13
Sample : 170311A LCS-2 2/35.04G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 59
Operator: RH
Inst : Herbie
Multiplr: 1.00





Matrix Spike Recoveries

EPA 8011

APPL ID: **170311W-51135 MS - 216868**
Batch ID: #8011-170311A1
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.298	0.252	119	101	60-140	16.7	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	NA	0.310	0.269	124	108	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110311.M	80110311.M
Extraction Date :	03/11/17	03/11/17
Analysis Date :	03/13/17	03/13/17
Instrument :	Herbie	Herbie
Run :	0309063	0309064
Initials :	RHA	

Printed: 03/14/17 12:51:42 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309063.D\ECD1A.CH Vial: 63
Signal #2 : G:\HERBIE\DATA\170309\0309063.D\ECD2B.CH
Acq On : 03-13-17 14:33:00 Operator: RH
Sample : AZ51135W21 MS-2 2/34.19G Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 15:34 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

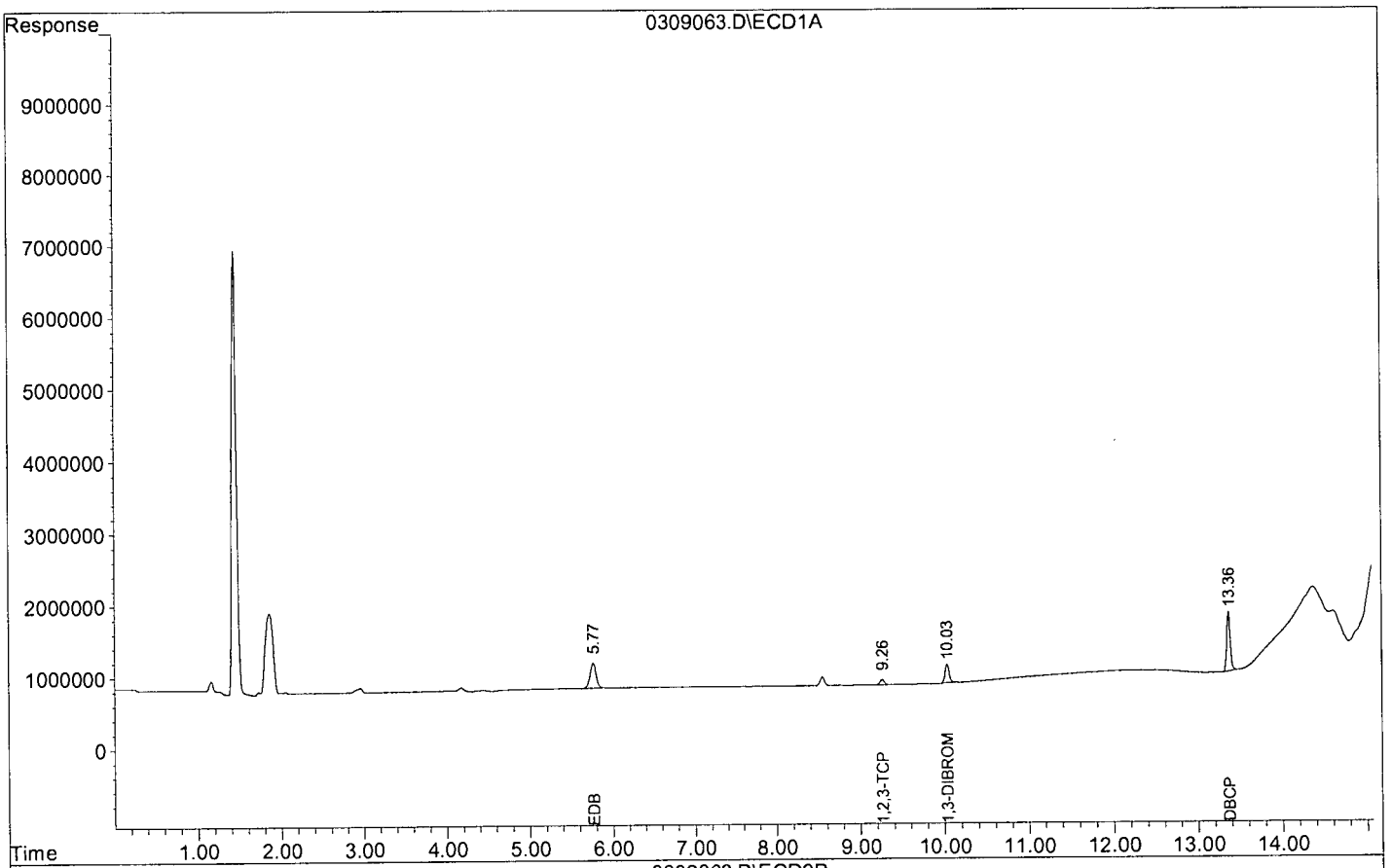
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	259633	480855	0.310	0.320
Spiked Amount 0.358			Recovery	=	86.52%	89.31%
Target Compounds						
1) TM EDB	5.77	7.22	350320	789980	0.298	0.301
2) TM 1,2,3-TCP	9.26	10.46	75964	131884	0.300	0.300
4) TM DBCP	13.36	14.10	835125	1995835	0.308	0.319
Target Compounds						

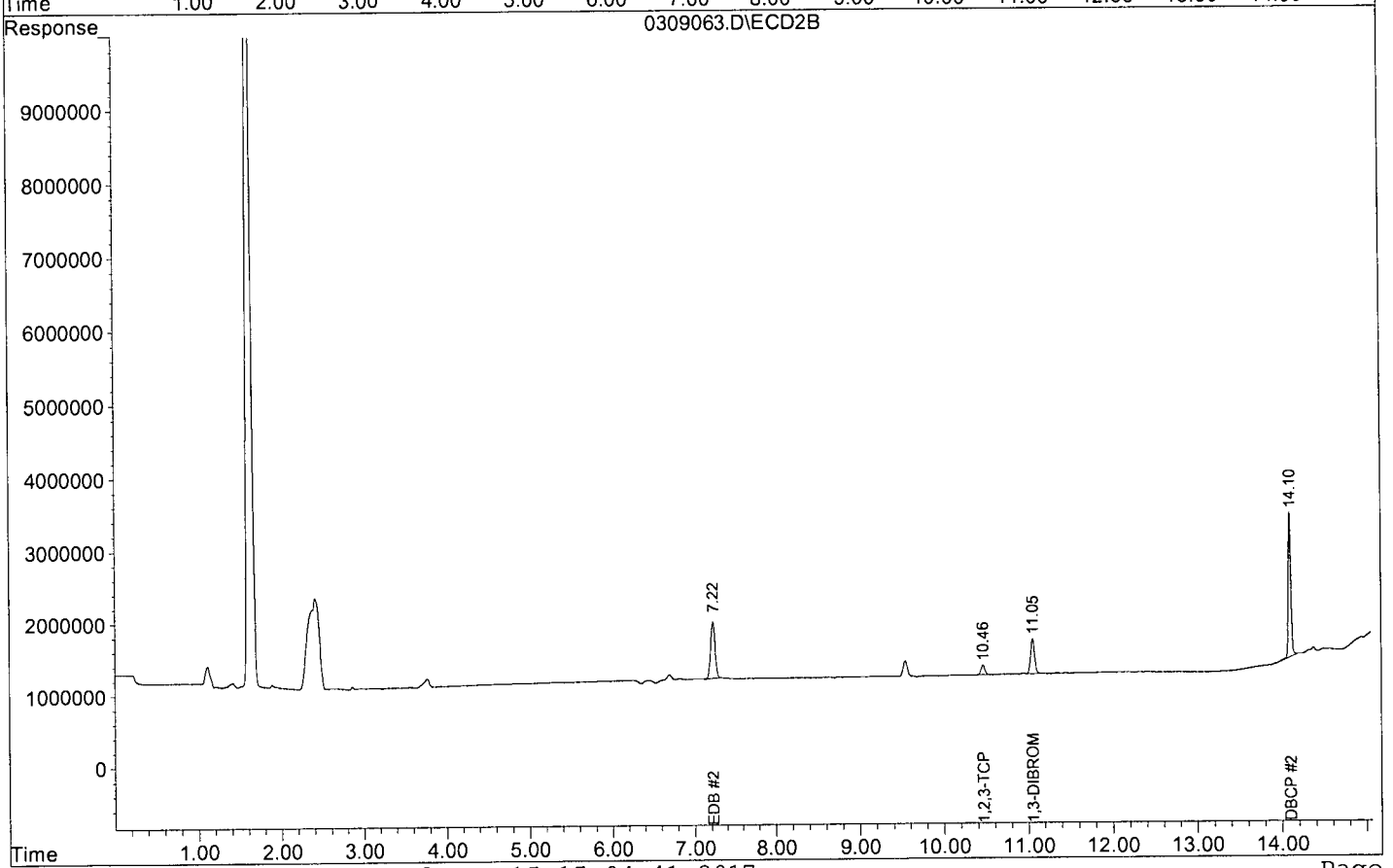
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309063.D
Acq On : 03-13-17 14:33:00
Sample : AZ51135W21 MS-2 2/34.19G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 63
Operator: RH
Inst : Herbie
Multiplr: 1.02





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309064.D\ECD1A.CH Vial: 64
Signal #2 : G:\HERBIE\DATA\170309\0309064.D\ECD2B.CH
Acq On : 03-13-17 14:54:21 Operator: RH
Sample : AZ51135W22 MSD-2 2/34.45G Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 15:37 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	227318	406564	0.269	0.269
Spiked Amount 0.356			Recovery	=	75.65%	75.65%
Target Compounds						
1) TM EDB	5.76	7.22	298164	674414	0.252	0.255
2) TM 1,2,3-TCP	9.26	10.46	64937	112584	0.254	0.254
4) TM DBCP	13.36	14.10	715780	1691343	0.262	0.269

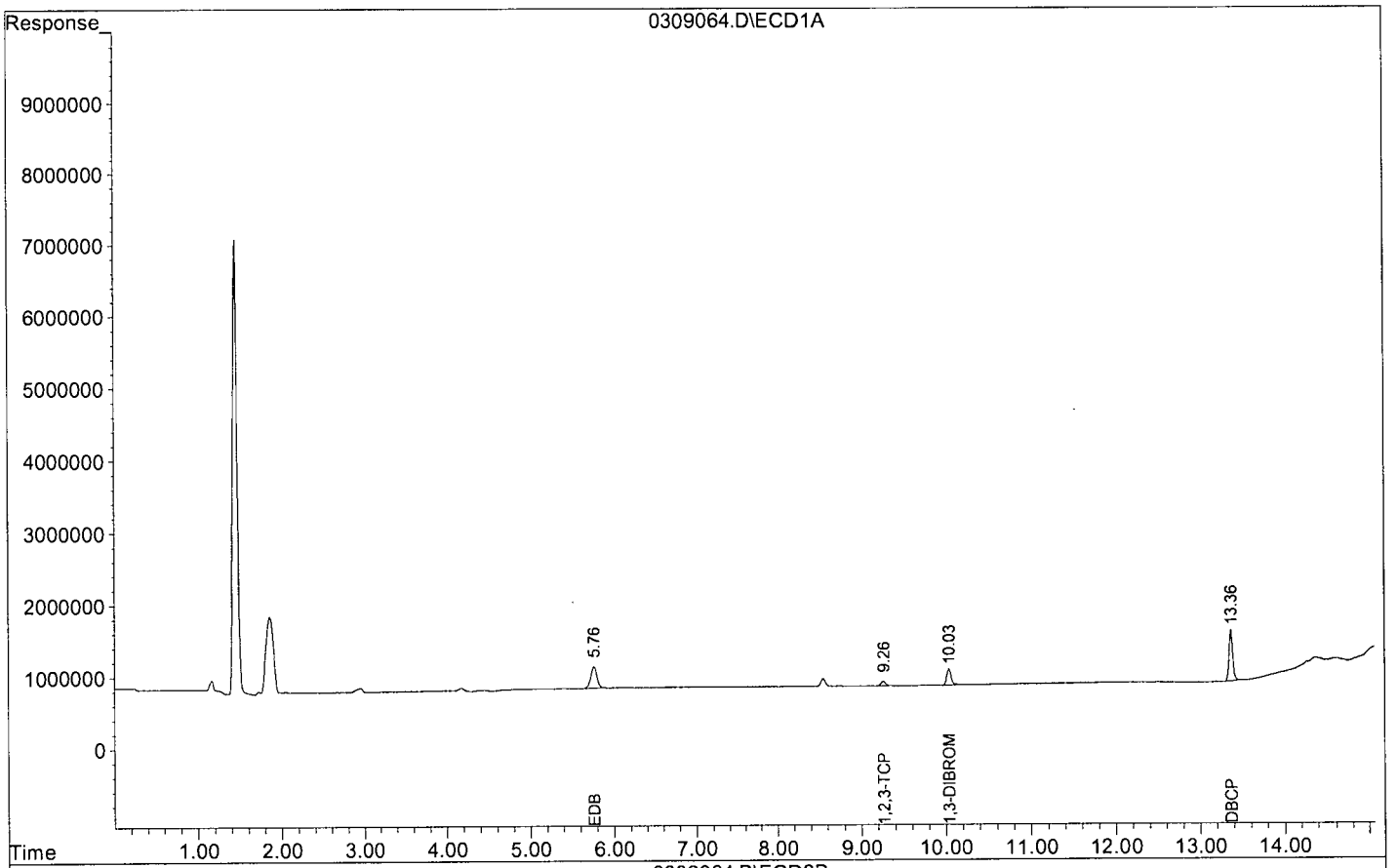
Target Compounds

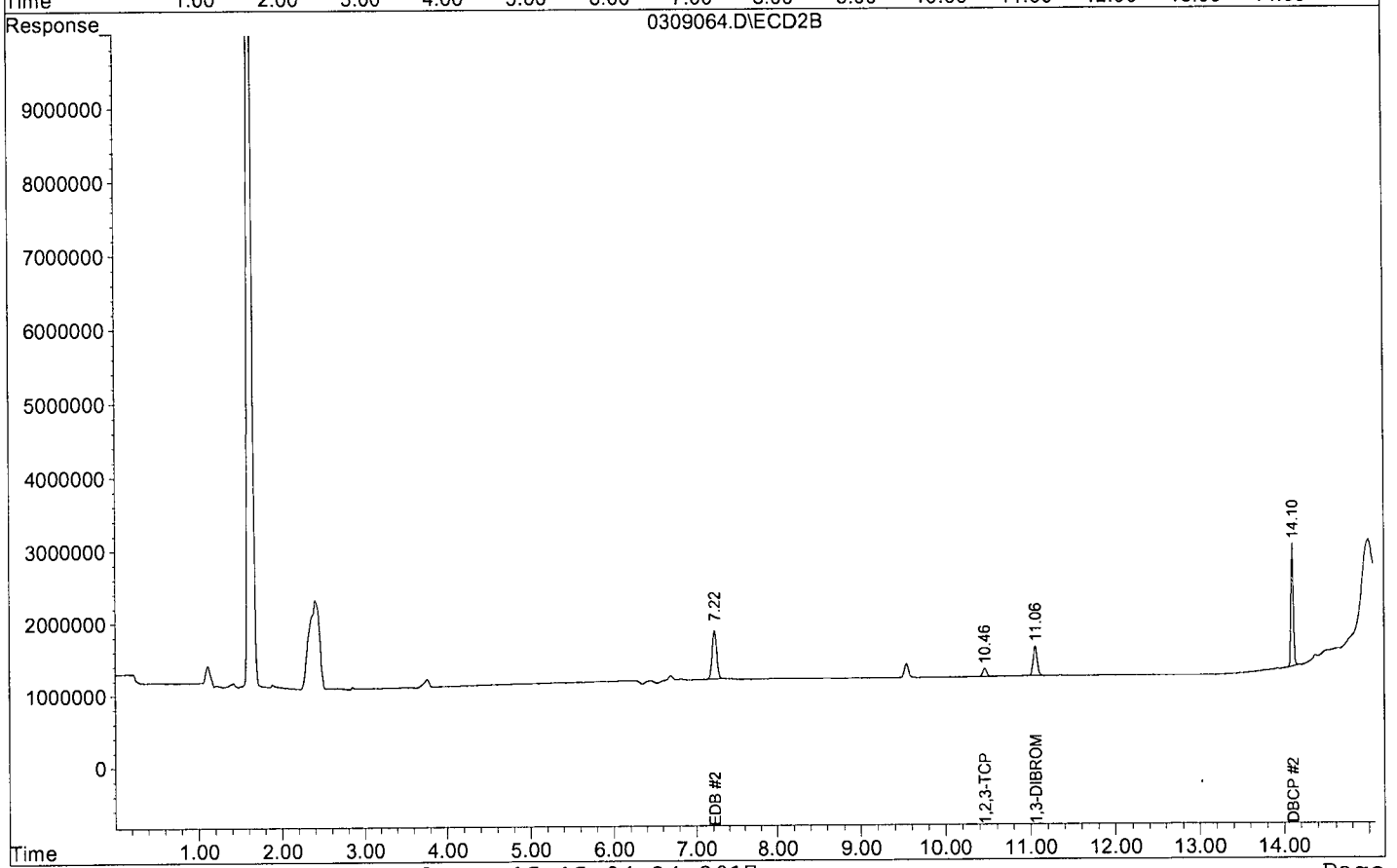
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309064.D
Acq On : 03-13-17 14:54:21
Sample : AZ51135W22 MSD-2 2/34.45G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 64
Operator: RH
Inst : Herbie
Multiplr: 1.02





	504/8011 M STD					
Prep: 02/23/17 Exp: 04/08/17 RH						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB	0.35ug/mL	04/8011 M STD ST	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep.12/08/16				BDH1135-4LG
DBCP		exp: 04/08/17				
1,3 DBP						

504/8011 M STD STOCK						
Prep: 12/08/16-R.H.		Exp: 04/08/17				
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol
TCP		prep. 06/07/16				021915C
DBCP		exp: 06/07/17				
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL			
		prep.06/07/16				
		exp. 06/07/17				

504 DOHS STOCK prep: 6/7/16 Exp: 6/7/17 LH						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	1000ug/mL	O2SI	500uL	25mL	20ug/mL	Methanol
TCP	Cat:	130271-08				Lot # 021915C
DBCP	Lot:	270815-36134				
	Op:	06/07/16				
	Exp:	06/07/17				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 6/7/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

		504/8011 SS				
Prep: 02/10/17 RH Ex: 7/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 1/18/18				

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 1/18/18						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170311A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17
Spiked ID 2	504.1 M. STD 2-23-17 exp 4-8-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/11/17 9:15
Spiked ID 8			Ext. End Time:	03/11/17 11:05
			GC Requires Extract By:	03/16/17 0:00
			pH1	Water Bath Temp Criteria
			pH2	
			pH3	

Spiked By: KY **Date** 03/11/17 **Witnessed By:** CFM **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A Blk				0.035	1 equip	35.27g	2	7	03/11/17 9:15	
2	170311A LCS-1		0.1	1	0.035	1 equip	35.30g	2	7	03/11/17 9:15	
3	170311A LCS-2		0.250	2	0.035	NA equip	35.04g	2	7	03/11/17 9:15	
4	AZ50896	AZ50896W05			0.035	1 equip	34.95g	2	7	03/11/17 9:15	82312
5	AZ50898	AZ50898W05			0.035	1 equip	35.03g	2	7	03/11/17 9:15	82312
6	AZ50982	AZ50982W05			0.035	1 equip	34.67g	2	7	03/11/17 9:15	82330
7	AZ50994	AZ50994W04			0.035	1 equip	34.68g	2	7	03/11/17 9:15	82331
8	AZ51134	AZ51134W04			0.035	1 equip	34.90g	2	7	03/11/17 9:15	82351 5 DAYS
9	AZ51135 MS-1	AZ51135W19	0.1	1	0.035	1 equip	34.44g	2	7	03/11/17 9:15	82351 5 DAYS
10	AZ51135 MSD-1	AZ51135W20	0.1	1	0.035	1 equip	34.17g	2	7	03/11/17 9:15	82351 5 DAYS
11	AZ51135 MS-2	AZ51135W21	0.250	2	NA	NA equip	34.19g	2	7	03/11/17 9:15	82351 5 DAYS
12	AZ51135 MSD-2	AZ51135W22	0.250	2	NA	NA equip	34.45g	2	7	03/11/17 9:15	82351 5 DAYS
13	AZ51135	AZ51135W18			0.035	1 equip	34.33g	2	7	03/11/17 9:15	82351 5 DAYS
14	AZ51136	AZ51136W05			0.035	1 equip	34.71g	2	7	03/11/17 9:15	82351 5 DAYS
15	AZ51152	AZ51152W05			0.035	1 equip	34.68g	2	7	03/11/17 9:15	82353 3 DAYS
16	AZ51358	AZ51358W05			0.035	1 equip	34.55g	2	7	03/11/17 9:15	82369 5 DAYS

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:30
Refrigerator	Hubert

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:14:01 AM

Reviewed By: 83 **Date** 3/11/17

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170311A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17	
Spiked ID 2	504.1 M. STD 2-23-17 exp 4-8-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/11/17 9:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:05	
			GC Requires Extract By:	03/16/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/11/17 **Witnessed By:** CFM **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51359	AZ51359W08			0.035	1 equip	35.25g	2	7	03/11/17 9:15	82369 5 DAYS
18	M STD 1		0.020	2	NA	NA equip	35.27g	2	7	03/11/17 9:15	
19	M STD 2		0.1	2	NA	NA equip	35.20g	2	7	03/11/17 9:15	
20	M STD 3		0.250	2	NA	NA equip	30.14g	2	7	03/11/17 9:15	
21	M STD 4		0.5	2	NA	NA equip	30.19g	2	7	03/11/17 9:15	
22	M STD 5		0.750	2	NA	NA equip	34.47g	2	7	03/11/17 9:15	
23	M STD 6		1	2	NA	NA equip	34.44g	2	7	03/11/17 9:15	

3/11/17

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:14:01 AM

Reviewed By: 84 **Date** 3/11/17

Injection Log

Directory: G:\HERBIE\DATA\170309\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	50	0309050.D	1	8011 1 3/11/17		03-13-17 9:59:00
2	51	0309051.D	1	8011 2 3/11/17		03-13-17 10:19:53
3	52	0309052.D	1	8011 3 3/11/17		03-13-17 10:40:57
4	53	0309053.D	1	8011 4 3/11/17		03-13-17 11:02:05
5	54	0309054.D	1	8011 5 3/11/17		03-13-17 11:23:12
6	55	0309055.D	1	8011 6 3/11/17		03-13-17 11:44:25
7	57	0309057.D	0.992345	170311A BLK 2/35.27G		03-13-17 12:26:47
8	58	0309058.D	0.991501	170311A LCS-1 2/35.30G		03-13-17 12:48:05
9	59	0309059.D	0.998858	170311A LCS-2 2/35.04G		03-13-17 13:09:13
10	60	0309060.D	1.00287	AZ51134W04 2/34.90G		03-13-17 13:30:24
11	63	0309063.D	1.02369	AZ51135W21 MS-2 2/34.19G		03-13-17 14:33:00
12	64	0309064.D	1.01597	AZ51135W22 MSD-2 2/34.45G		03-13-17 14:54:21
13	65	0309065.D	1.01952	AZ51135W18 2/34.33G		03-13-17 15:15:35
14	66	0309066.D	1.00835	AZ51136W05 2/34.71G		03-13-17 15:36:53
15	76	0309076.D	1	8011 3 3/11/17		03-13-17 19:10:30

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315027
Instrument: Apollo
Sequence: 170315
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:22:51 AM

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:22:49 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170310W-51132 MS - 216933**
Batch ID: #DOC53-170310A1
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	506	489	75.9	73.3	36-132	3.4	30
OIL (C24-C40)	667	ND	703	686	105	103	41-113	2.4	30
SURROGATE: OCTACOSANE (S)	40.0	NA	37.5	40.5	93.8	101	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	41.1	41.5	103	104	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0303.M	DOC0303.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/16/17	03/16/17
Instrument :	Apollo	Apollo
Run :	315030	315033
Initials :	DPO	

Printed: 03/16/17 10:22:43 AM
APPL MSD SCII

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351
Case No: 82351 Date Analyzed: 03/16/17
Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310A1-BLK	Blank	60-142	92.4		56-125	78.1	
170310A1-LCS	Lab Control Spike	60-142	91.0		56-125	99.5	
AZ51132-MS	Matrix Spike	60-142	93.8		56-125	103	
AZ51132-MSD	Matrix SpikeD	60-142	101		56-125	104	
AZ51132	ERH257	60-142	101		56-125	90.5	
AZ51133	ERH258	60-142	94.4		56-125	83.8	
AZ51135	ERH262	60-142	101		56-125	92.3	
AZ51136	ERH263	60-142	88.9		56-125	80.0	
AZ51139	ERH268	60-142	94.7		56-125	87.3	
AZ51141	ERH270	60-142	97.4		56-125	87.7	

Comments: Batch: #DOC53-170310A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82351
Case No: 82351
Date Analyzed: 03/16/17
Matrix: WATER
Instrument: Apollo
Blank ID: 170310A1-BLK
Time Analyzed: 0004

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A1-BLK	Blank	315027	03/16/17 0004
170310A1-LCS	Lab Control Spike	315028	03/16/17 0025
170310A1-MS	Matrix Spike	315030	03/16/17 0107
170310A1-MSD	Matrix SpikeD	315033	03/16/17 0209
AZ51132	ERH257	315034	03/16/17 0230
AZ51133	ERH258	315035	03/16/17 0251
AZ51135	ERH262	315036	03/16/17 0311
AZ51136	ERH263	315037	03/16/17 0332
AZ51139	ERH268	315041	03/16/17 0455
AZ51141	ERH270	315042	03/16/17 0515

Comments: Batch: #DOC53-170310A1

Printed: 03/16/17 10:22:45 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	101	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	90.5	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315034
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315034.D
Acq On : 3-16-17 2:30:31
Sample : AZ51132W29 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 16 10:01 2017 Quant Results File: DOC0303.RES

Vial: 34
Operator: DP
Inst : Apollo
Multiplr: 1.33

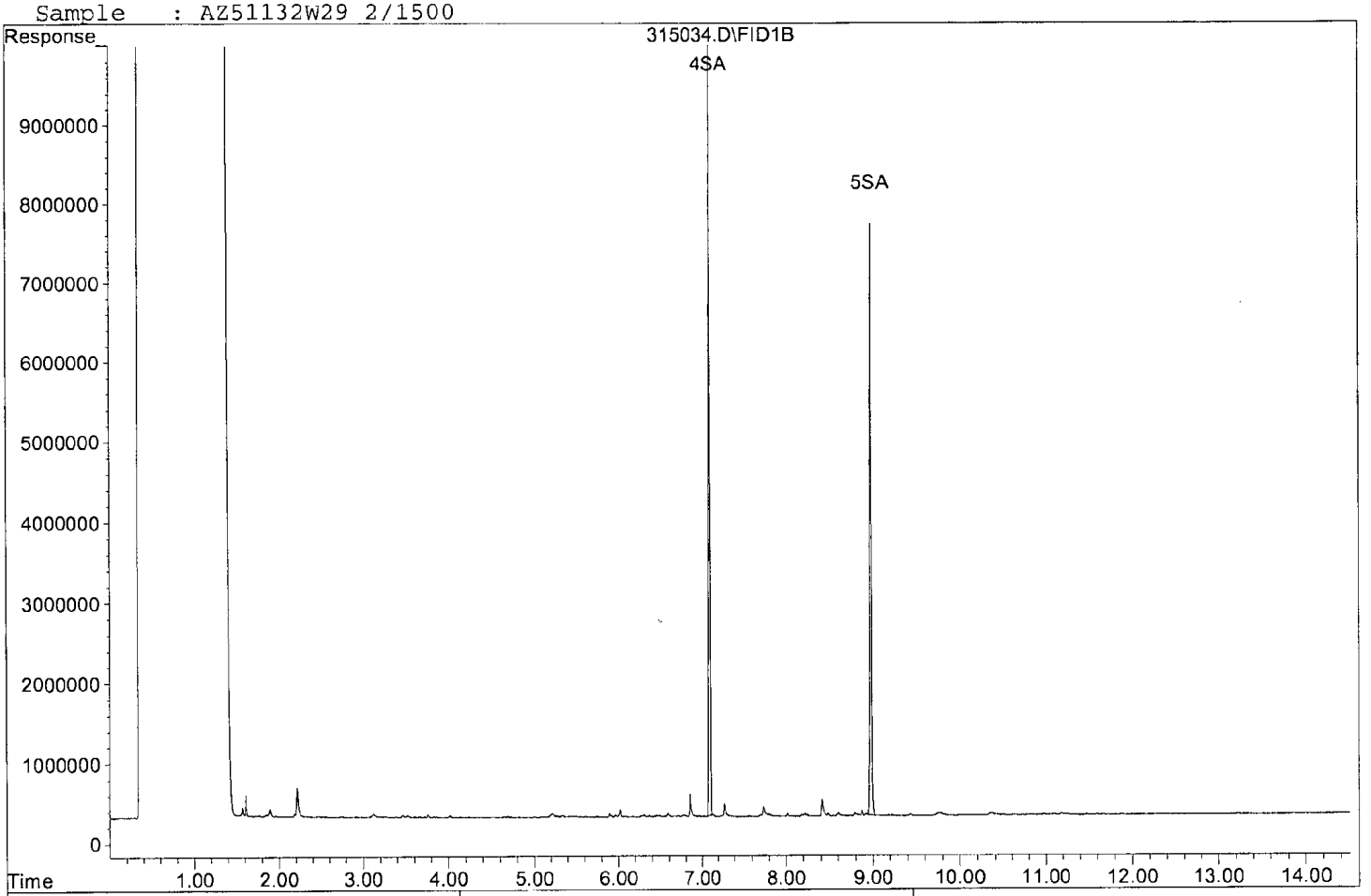
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

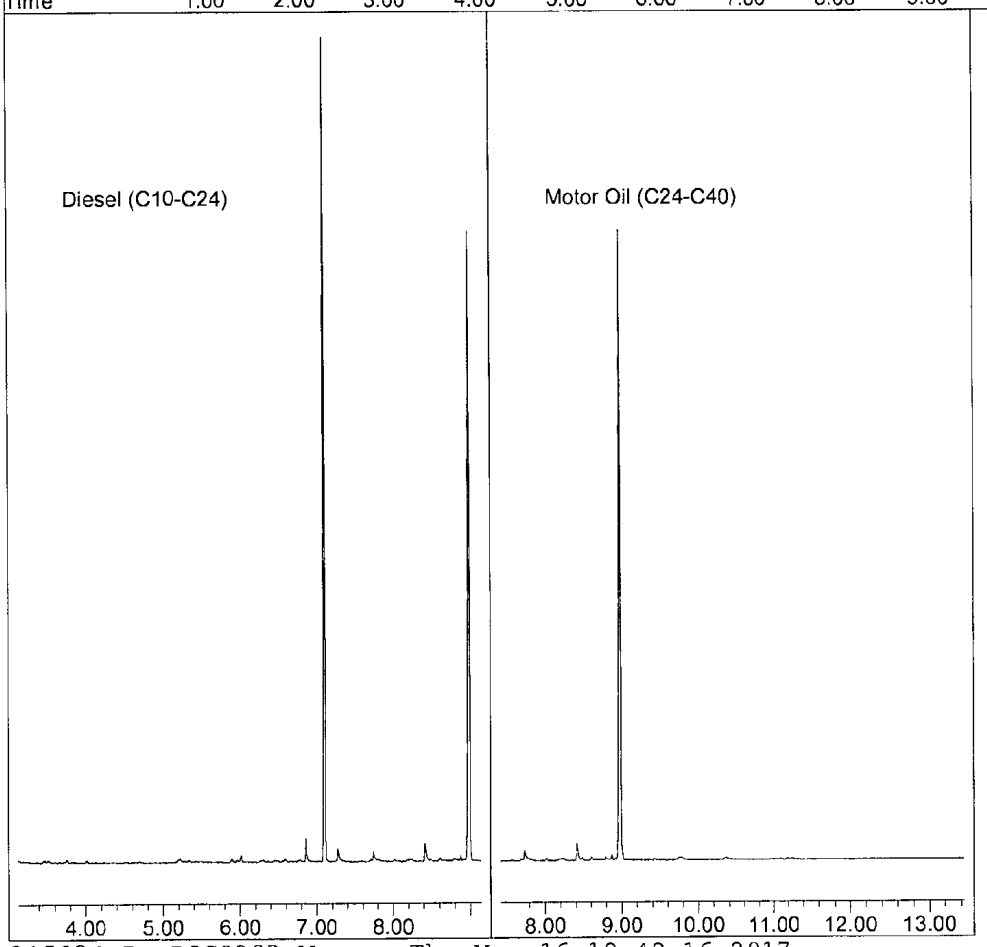
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
4) SA Ortho-Terphenyl(S)	7.10	104088073	36.199	ppb
Surrogate Spike 40.000		Recovery =	90.50%	
5) SA Octacosane(S)	8.99	98682091	40.335	ppb
Surrogate Spike 40.000		Recovery =	100.84%	
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315034.D
Sample : AZ51132W29 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	94.4	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	83.8	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315035
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315035.D Vial: 35
Acq On : 3-16-17 2:51:18 Operator: DP
Sample : AZ51133W07 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:05 2017 Quant Results File: DOC0303.RES

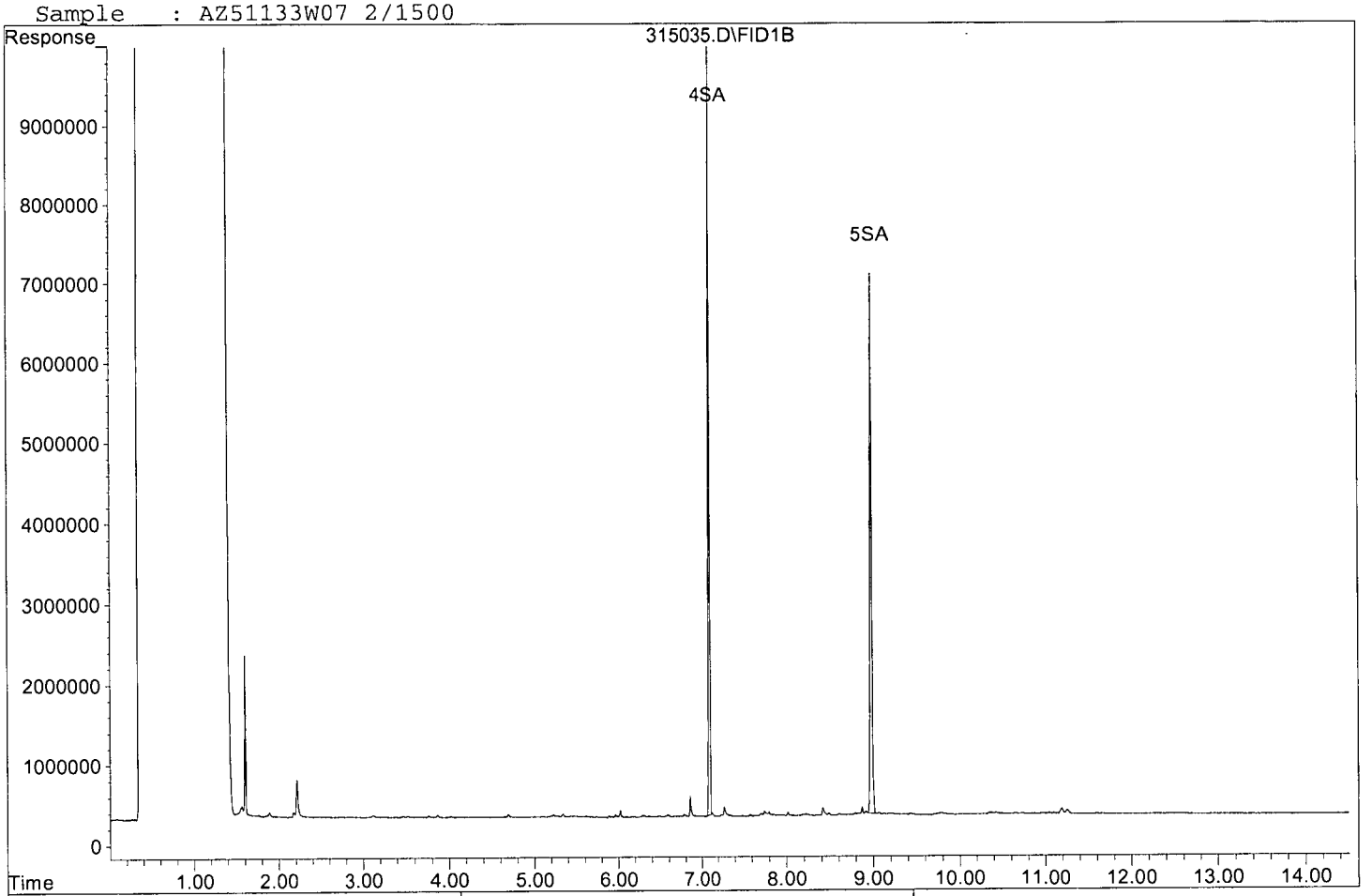
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

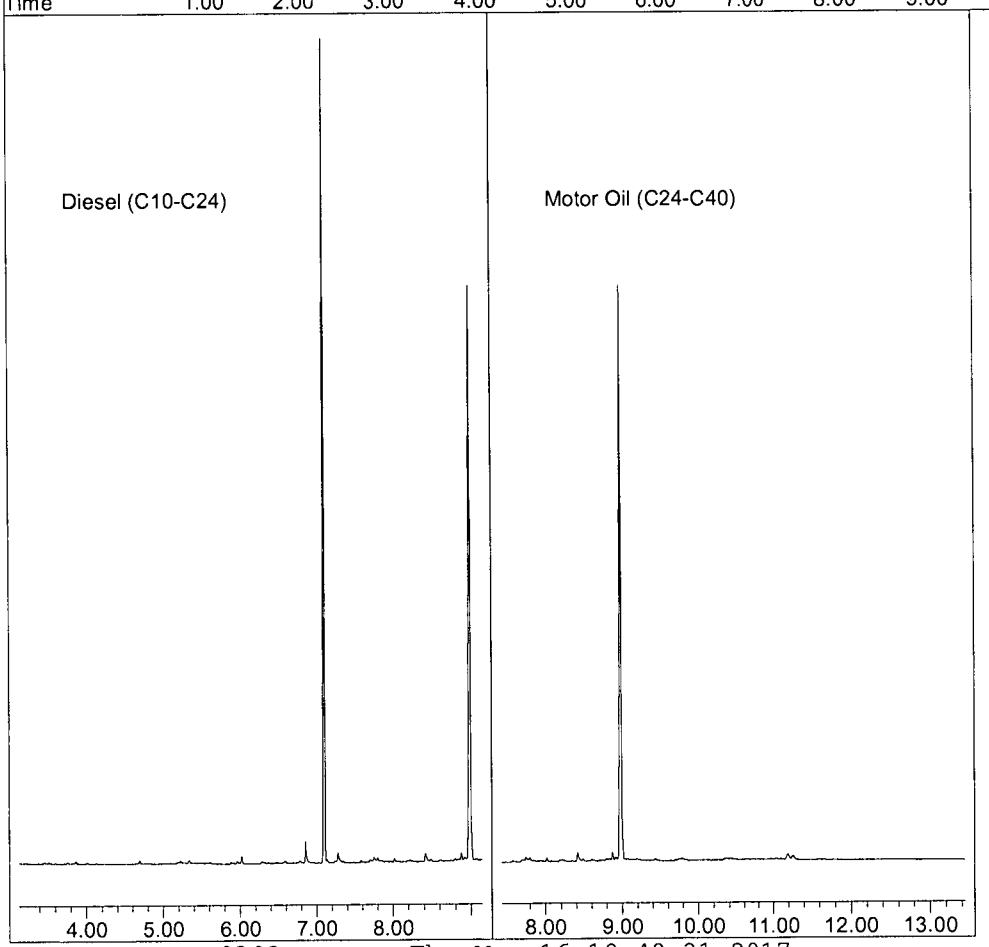
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	96357399	33.511 ppb
Surrogate Spike 40.000		Recovery =	83.78%
5) SA Octacosane(S)	8.98	92366849	37.753 ppb
Surrogate Spike 40.000		Recovery =	94.38%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315035.D
Sample : AZ51133W07 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	27 ++J	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	23 J	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	101	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	92.3	56-125			%	03/10/17	03/16/17

J = Estimated value.
++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0303.M
Run #: 315036
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315036.D Vial: 36
Acq On : 3-16-17 3:11:58 Operator: DP
Sample : AZ51135W27 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:03 2017 Quant Results File: DOC0303.RES

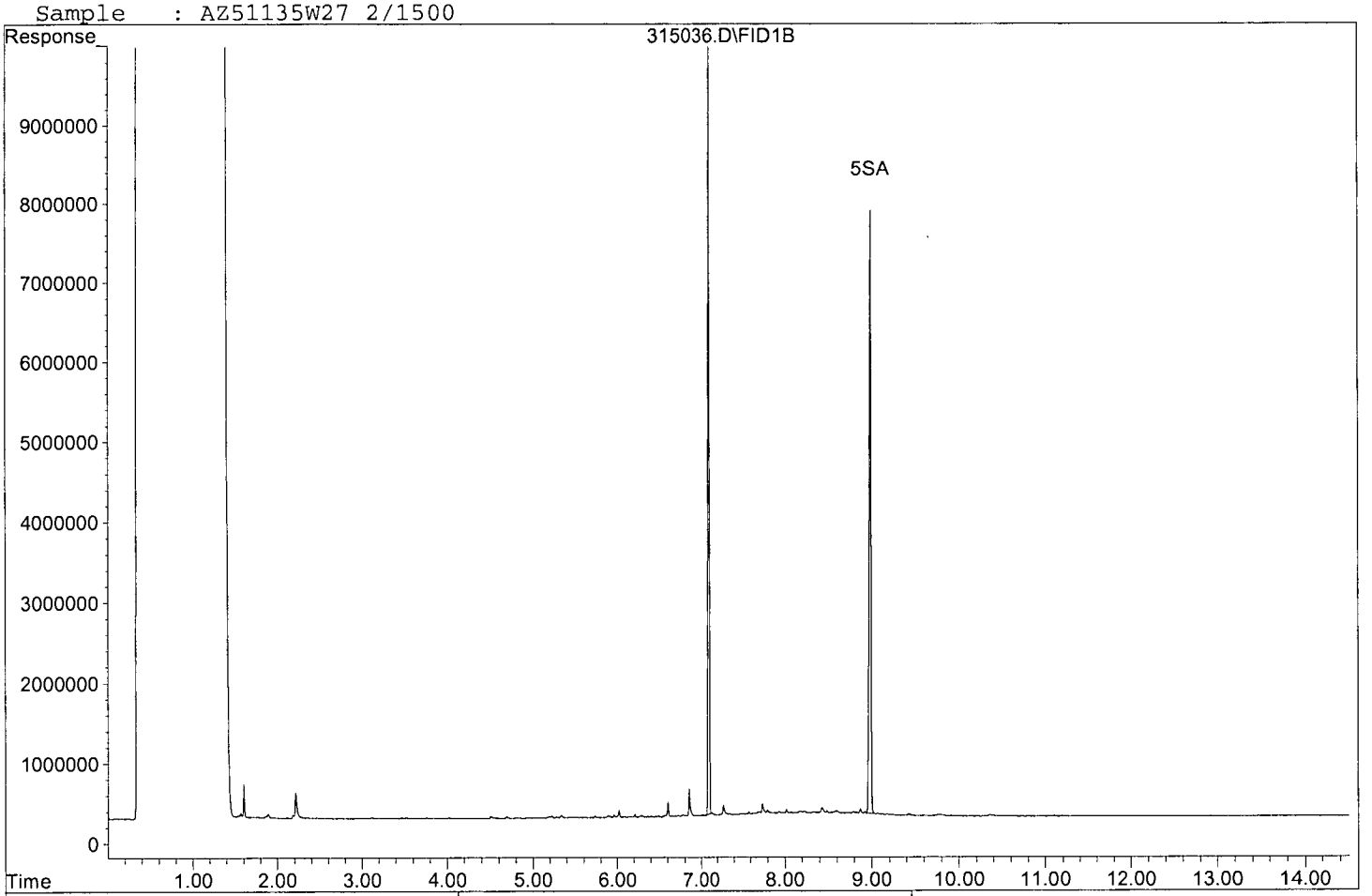
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

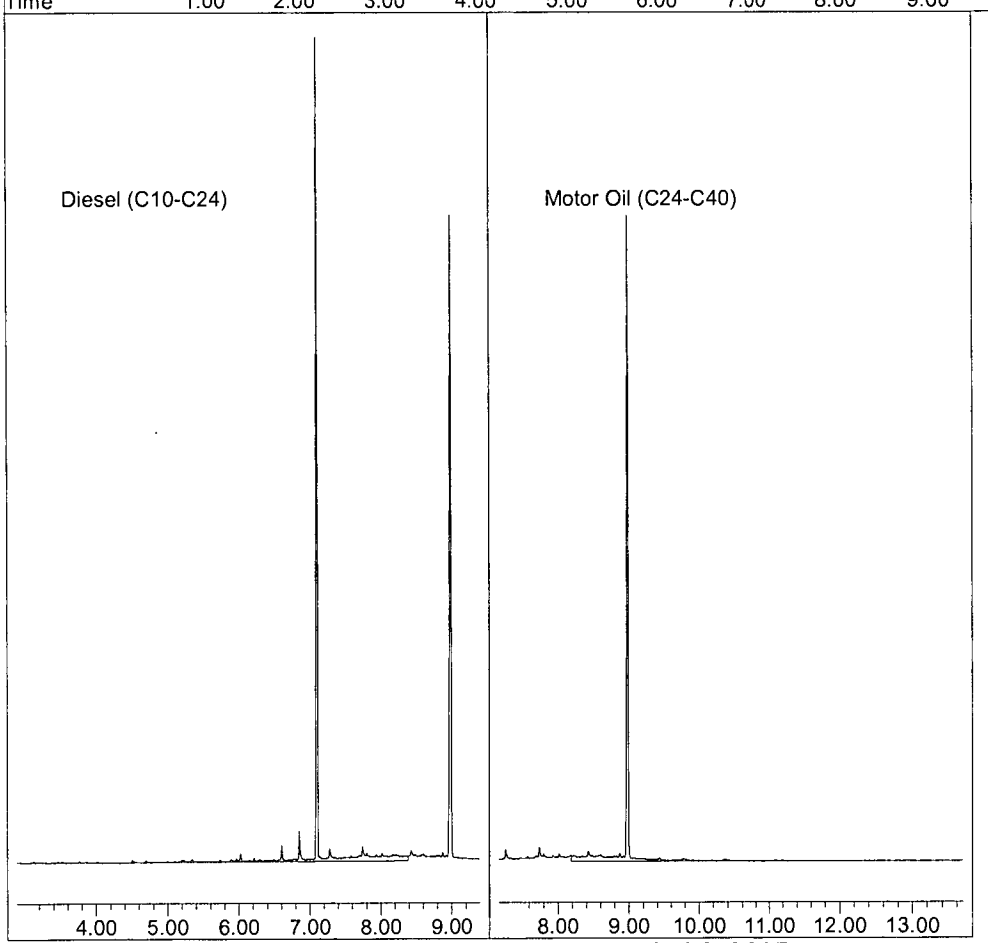
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	106131410	36.910 ppb
Surrogate Spike 40.000		Recovery =	92.27%
5) SA Octacosane(S)	8.99	99024252	40.474 ppb
Surrogate Spike 40.000		Recovery =	101.19%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	67244019	27.443 ppb
2) HBTM Motor Oil (C24-C40)	10.44	43210960	23.434 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315036.D
Sample : AZ51135W27 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25 ++J	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	25 J	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	88.9	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	80.0	56-125			%	03/10/17	03/16/17

J = Estimated value.
++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0303.M
Run #: 315037
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315037.D Vial: 37
Acq On : 3-16-17 3:32:44 Operator: DP
Sample : AZ51136W10 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:04 2017 Quant Results File: DOC0303.RES

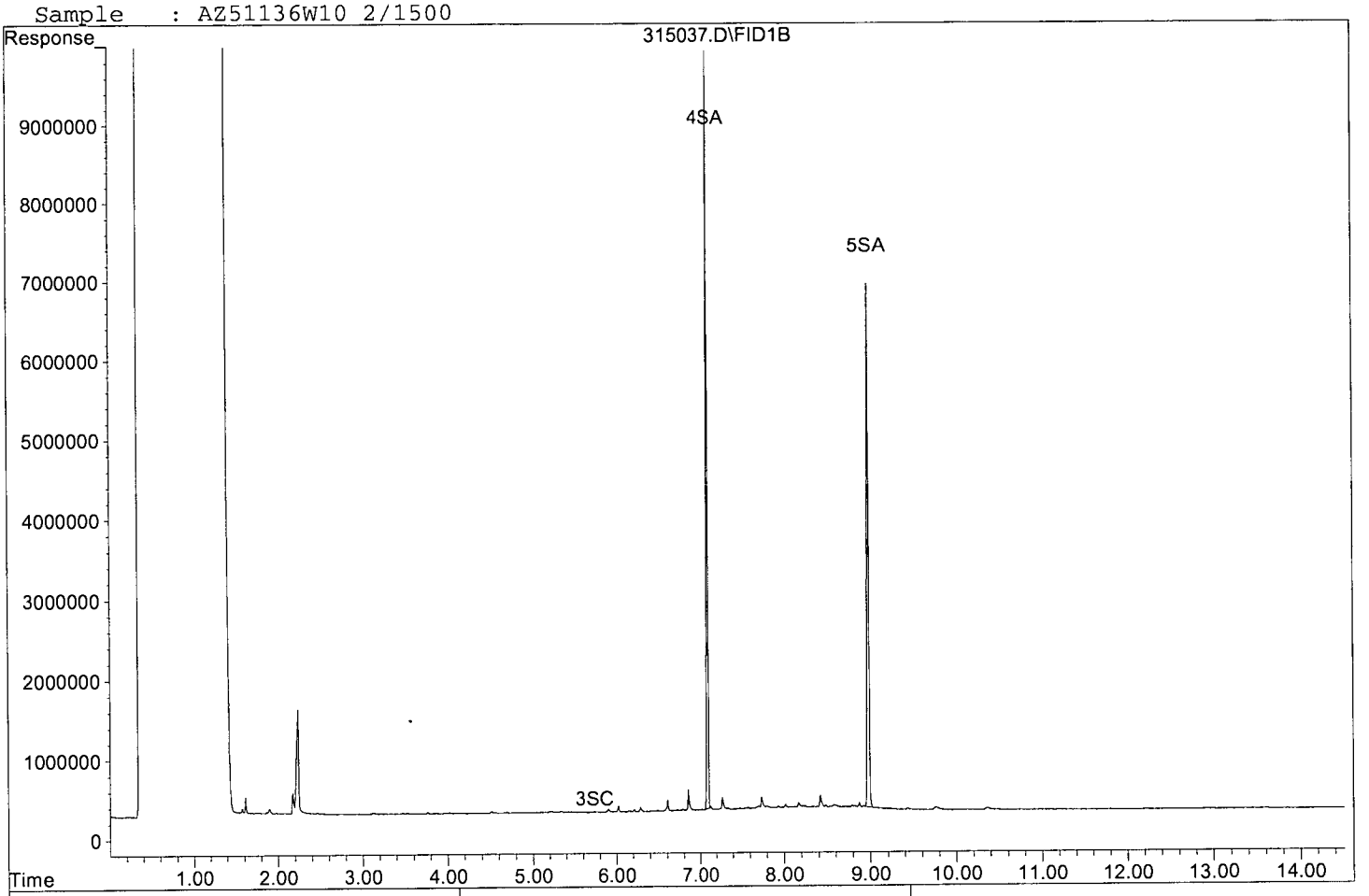
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

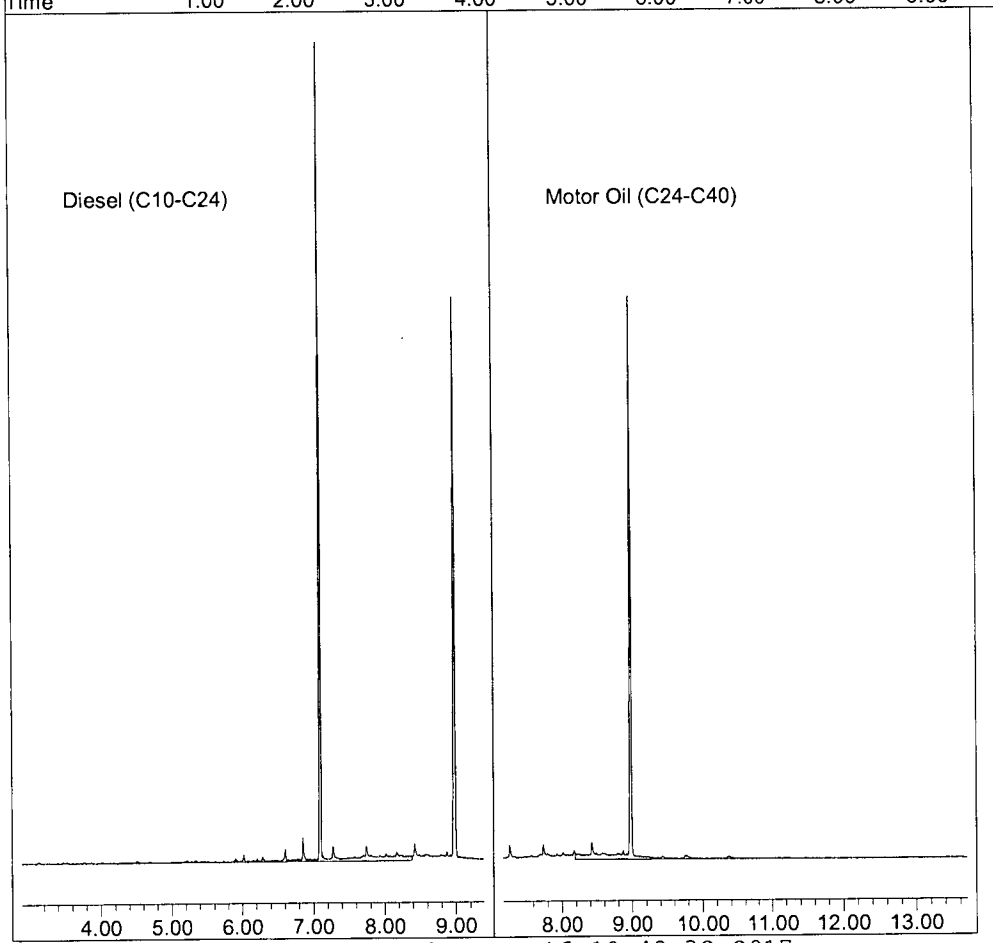
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	103668	2.838 ppb
Surrogate Spike 32.000		Recovery =	8.87%
4) SA Ortho-Terphenyl(S)	7.10	92036568	32.008 ppb
Surrogate Spike 40.000		Recovery =	80.02%
5) SA Octacosane(S)	8.98	87014015	35.566 ppb
Surrogate Spike 40.000		Recovery =	88.92%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	61099565	24.936 ppb
2) HBTM Motor Oil (C24-C40)	10.44	45569290	24.713 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315037.D
Sample : AZ51136W10 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	55 ++	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	41	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	94.7	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	87.3	56-125			%	03/10/17	03/16/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0303.M
Run #: 315041
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315041.D Vial: 41
Acq On : 3-16-17 4:55:27 Operator: DP
Sample : AZ51139W13 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:06 2017 Quant Results File: DOC0303.RES

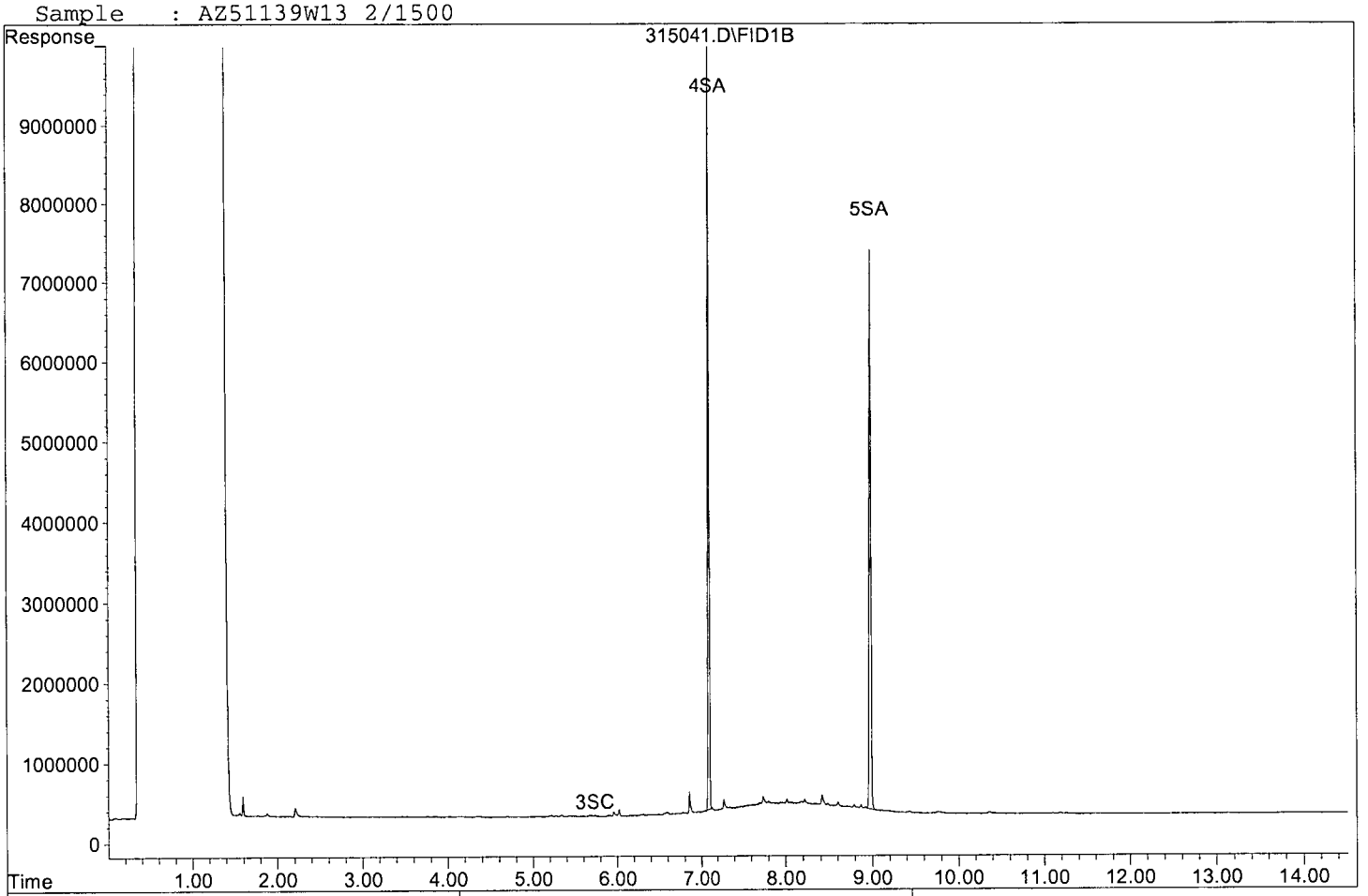
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

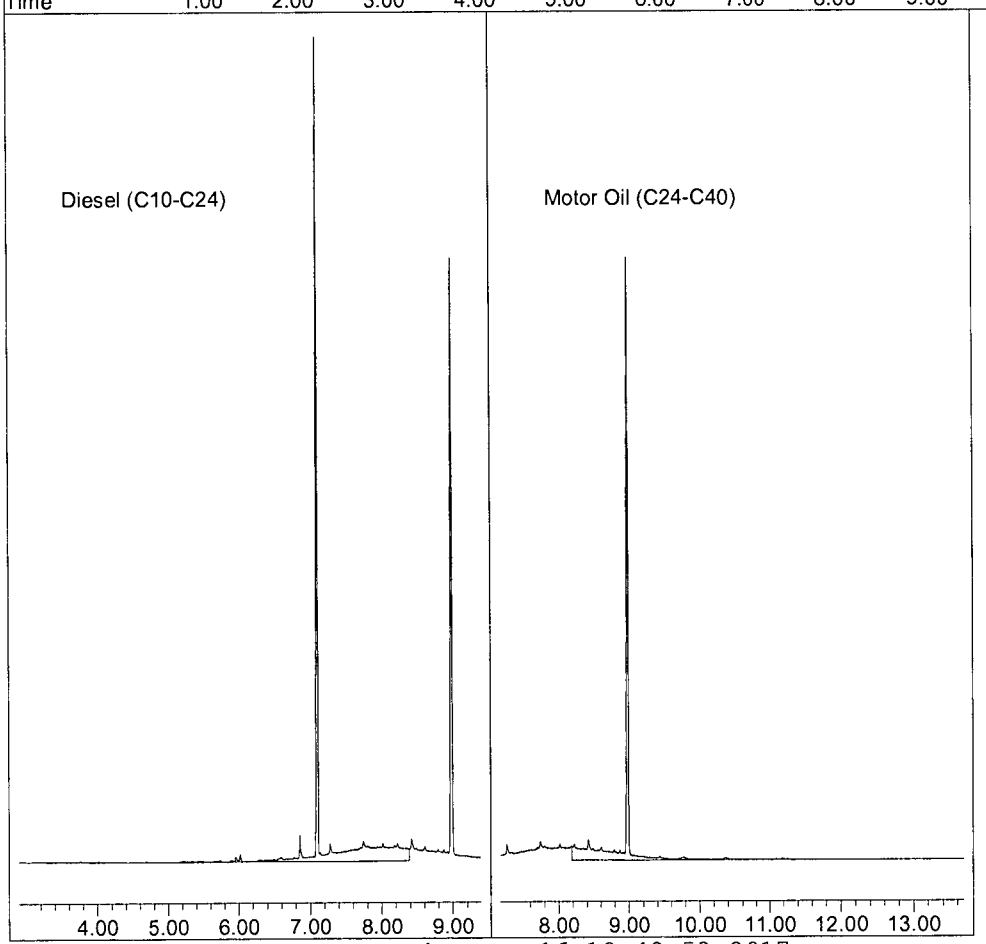
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	82751	2.827 ppb
Surrogate Spike 32.000		Recovery =	8.83%
4) SA Ortho-Terphenyl(S)	7.10	100360710	34.903 ppb
Surrogate Spike 40.000		Recovery =	87.26%
5) SA Octacosane(S)	8.98	92708402	37.893 ppb
Surrogate Spike 40.000		Recovery =	94.73%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	133748910	54.585 ppb
2) HBTM Motor Oil (C24-C40)	10.44	75168753	40.765 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315041.D
Sample : AZ51139W13 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	97.4	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	87.7	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315042
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:22:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315042.D
Vial: 42
Acq On : 3-16-17 5:15:58
Operator: DP
Sample : AZ51141W12 2/1500
Inst : Apollo
Misc : water
Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:07 2017 Quant Results File: DOC0303.RES

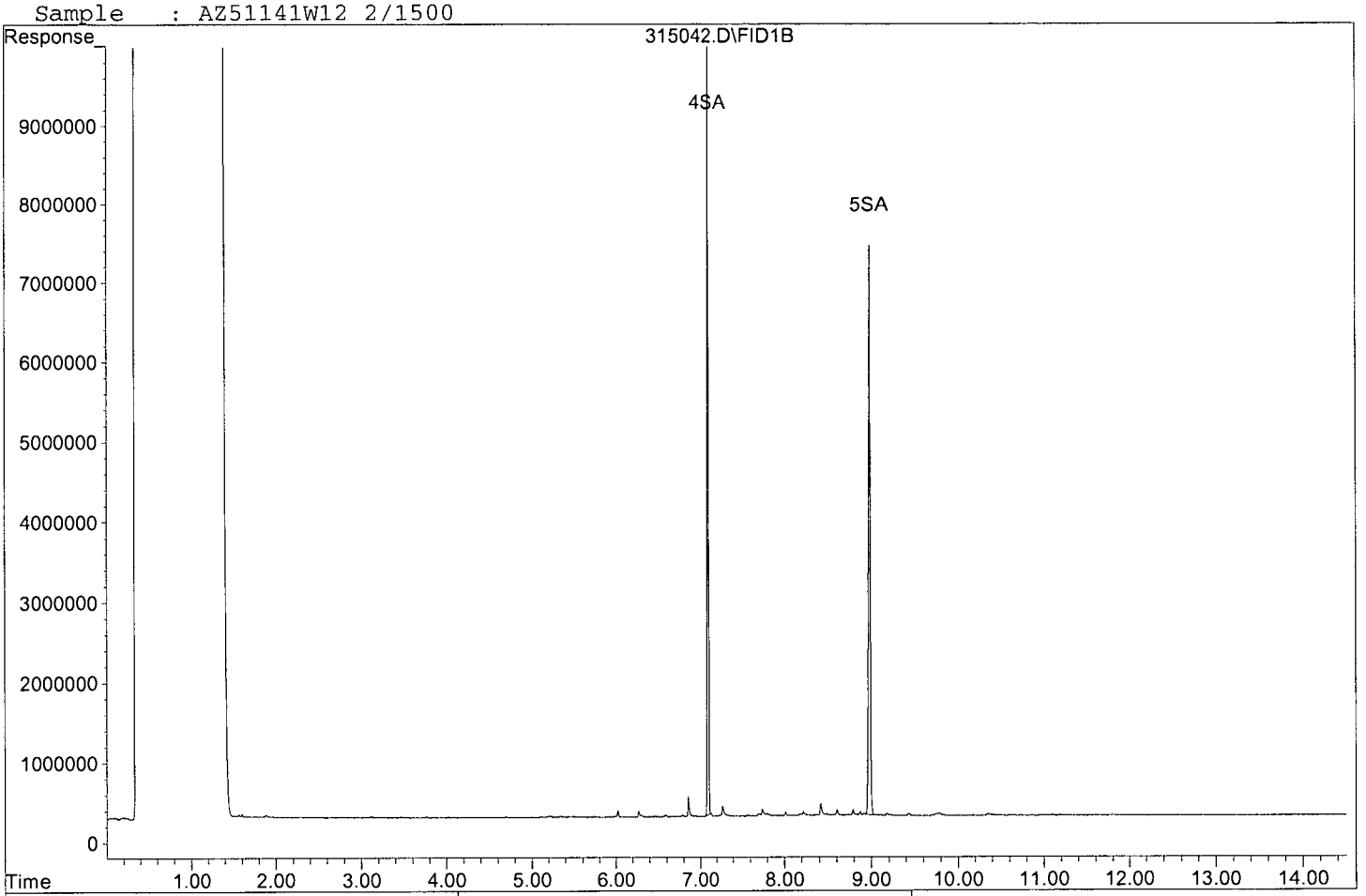
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

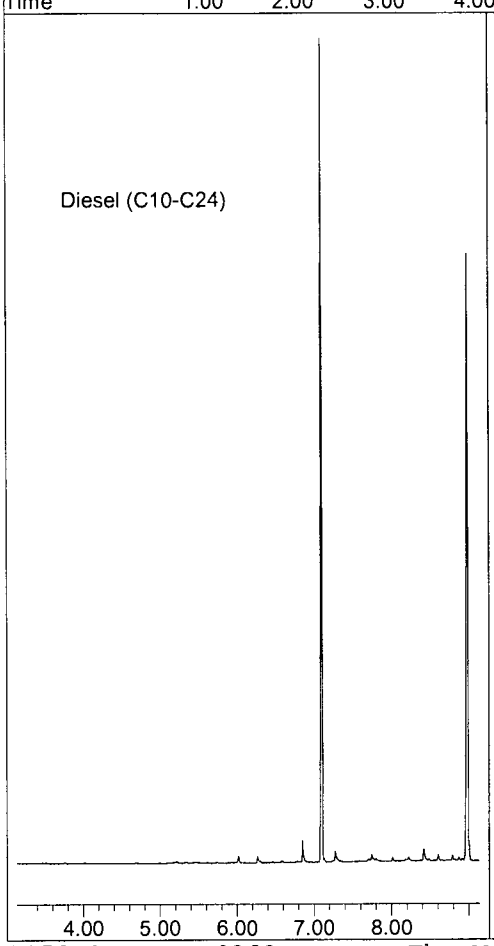
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

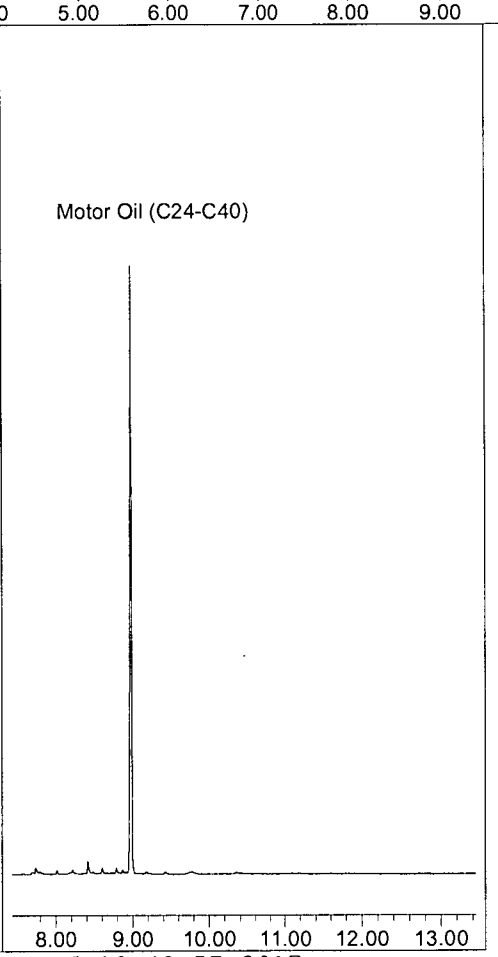
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	100866260	35.079 ppb
Surrogate Spike 40.000		Recovery =	87.70%
5) SA Octacosane(S)	8.98	95279713	38.944 ppb
Surrogate Spike 40.000		Recovery =	97.36%
Target Compounds			

(f)=RT Delta > 1/2 Window
(m)=manual int.

Data File: G:\APOLLO\DATA\170315\315042.D
Sample : AZ51141W12 2/1500







ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0303

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/03/17
Instrument: Apollo

Initials:

Diesel:	207013.D	207014.D	207015.D	207016.D	207017.D	207018 D	
Motor Oil:	207020.D	207021.D	207022.D	207023 D	207024.D	207025.D	
Decanoic Acid:	220003.D	220004.D	220005.D	220006 D	220007.D	220008.D	
O-terphenyl / Octacosane:	303002.D	303003.D	303004.D	303005.D	303006.D	303007.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	1942562	2124223	1863439	1811326	1835034	1925070					1916942	5.9	SA	
5	SA	Octacosane(S)	1719138	1771274	1572423	1544203	1553239	1626037					1631052	5.8	SA	
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1.2098039

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

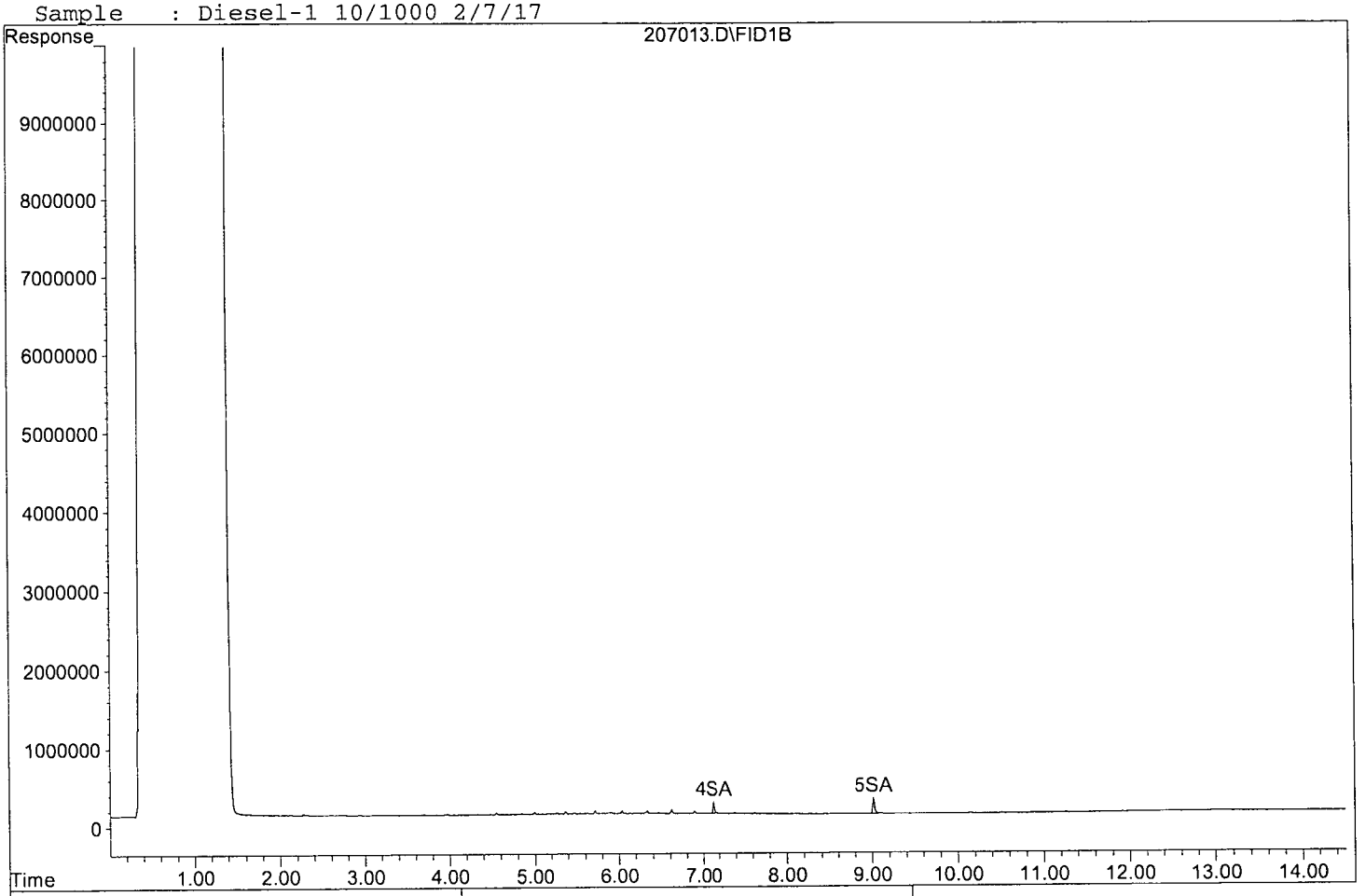
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

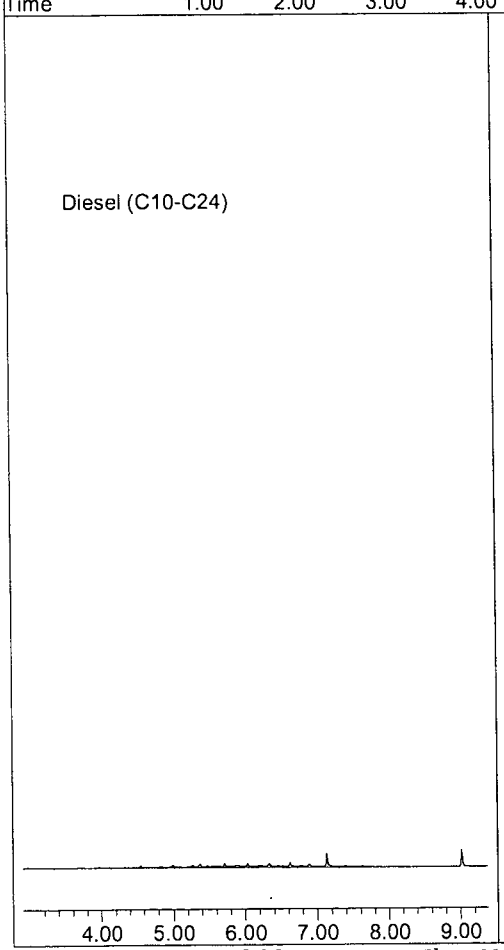
(f)=RT Delta > 1/2 Window (m)=manual int.

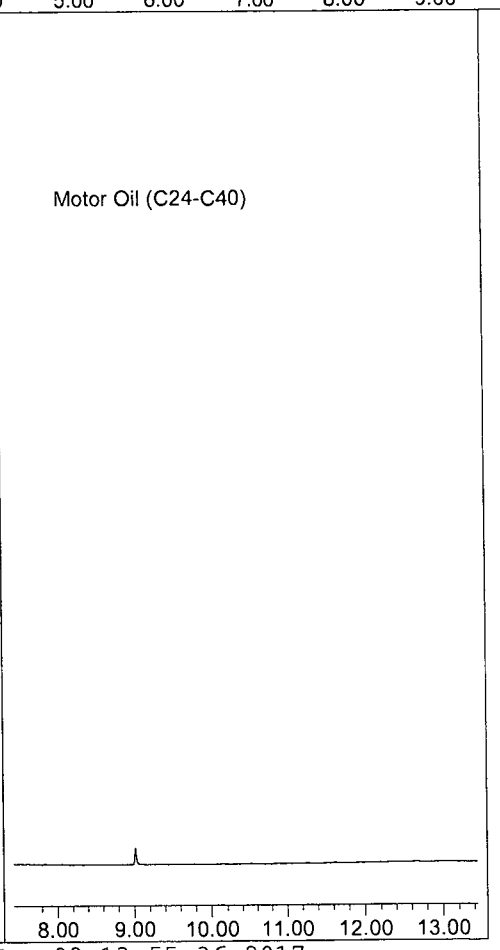
207013.D DOC0303.M Thu Mar 09 13:55:34 2017 Page 1

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

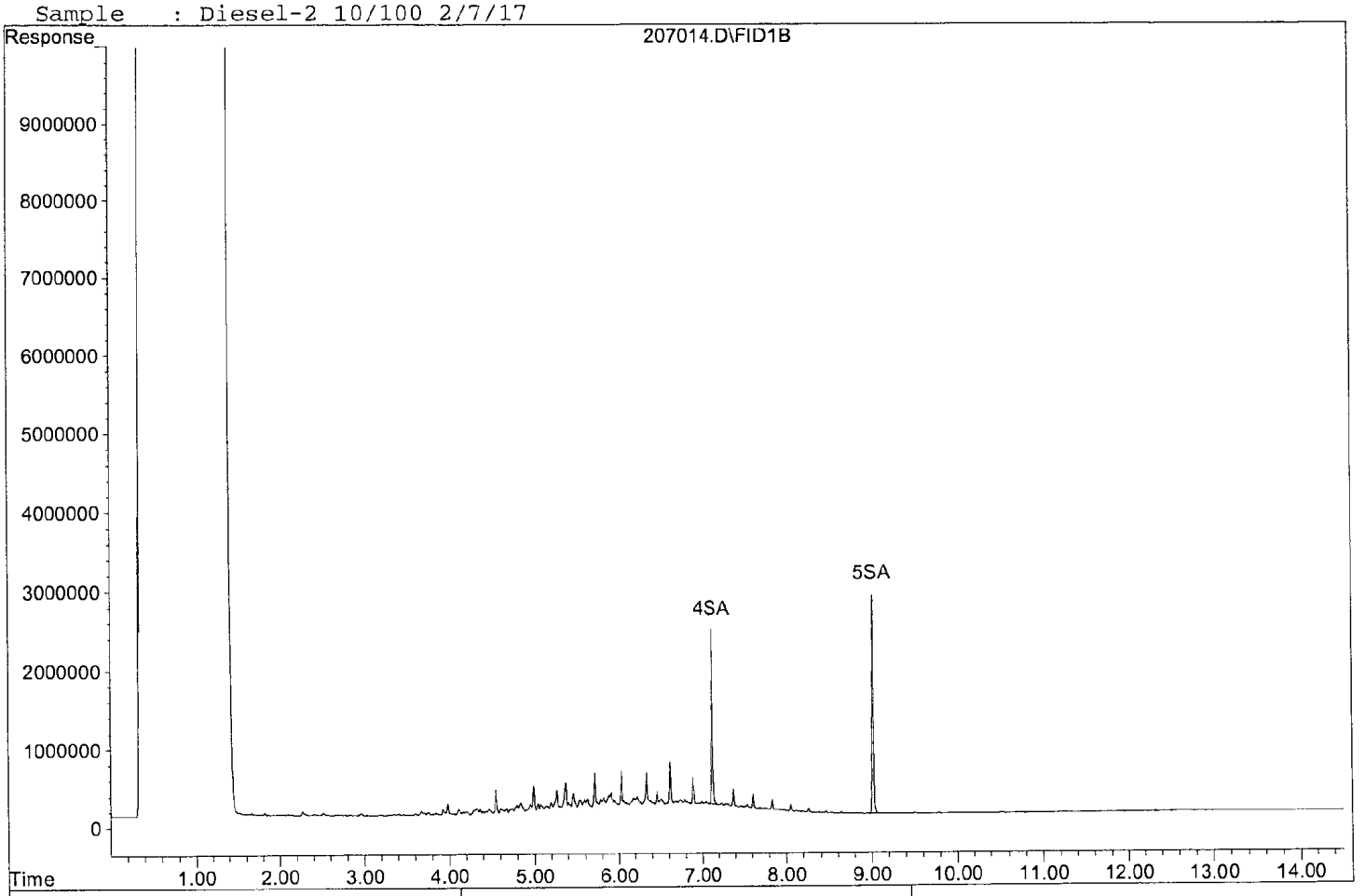
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

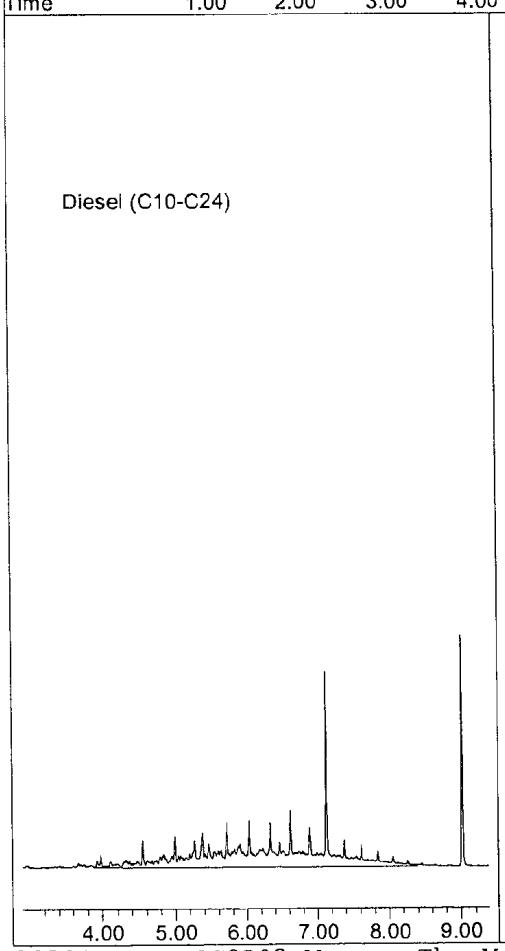
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000	Recovery =		16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000	Recovery =		17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

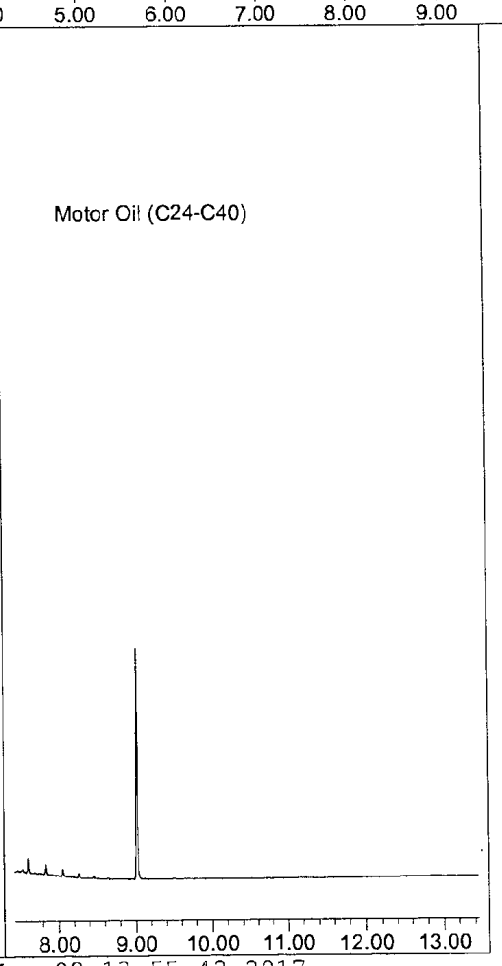
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D
Acq On : 2-7-17 14:34:48
Sample : Diesel-3 40/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 15
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

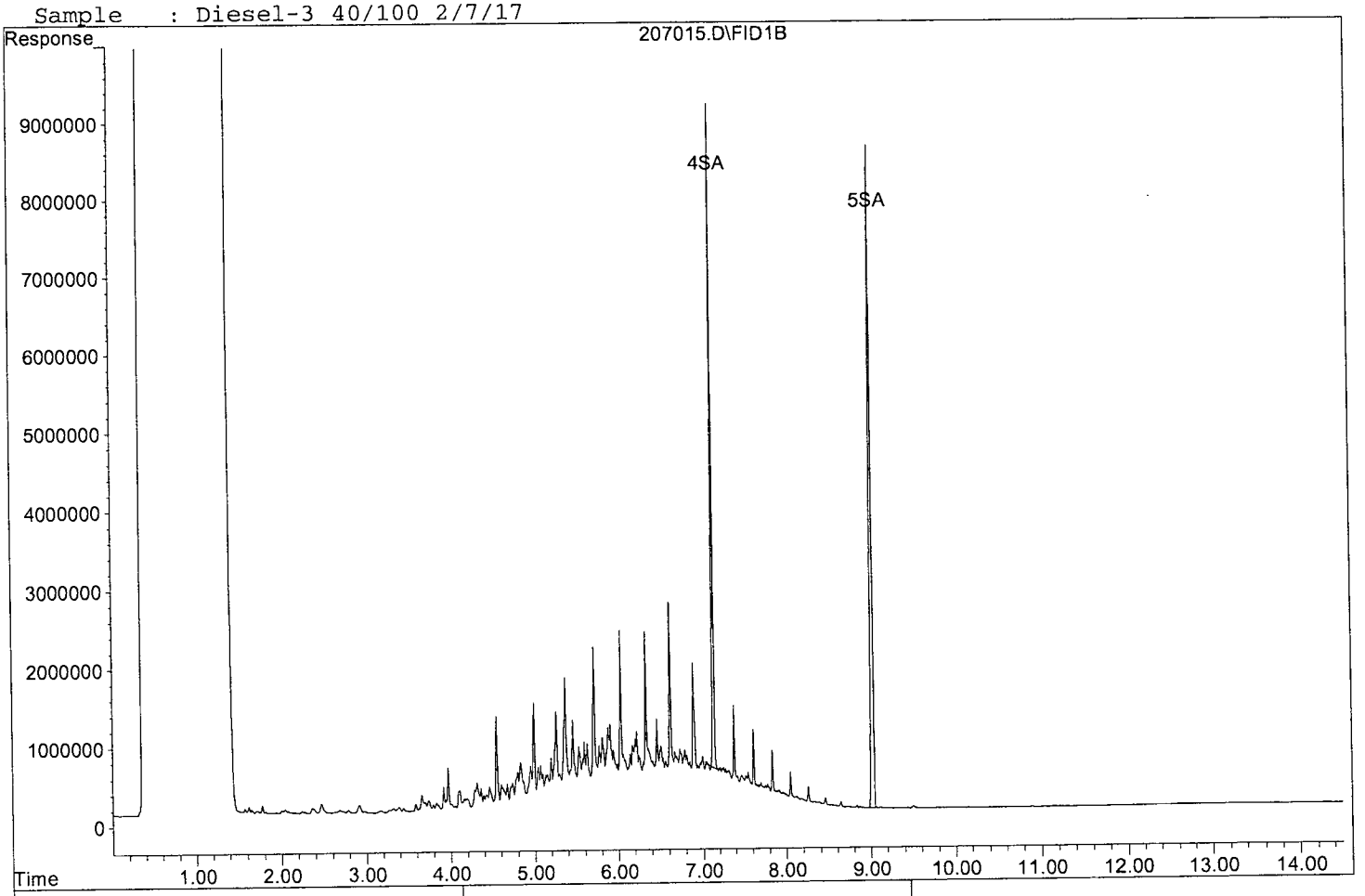
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

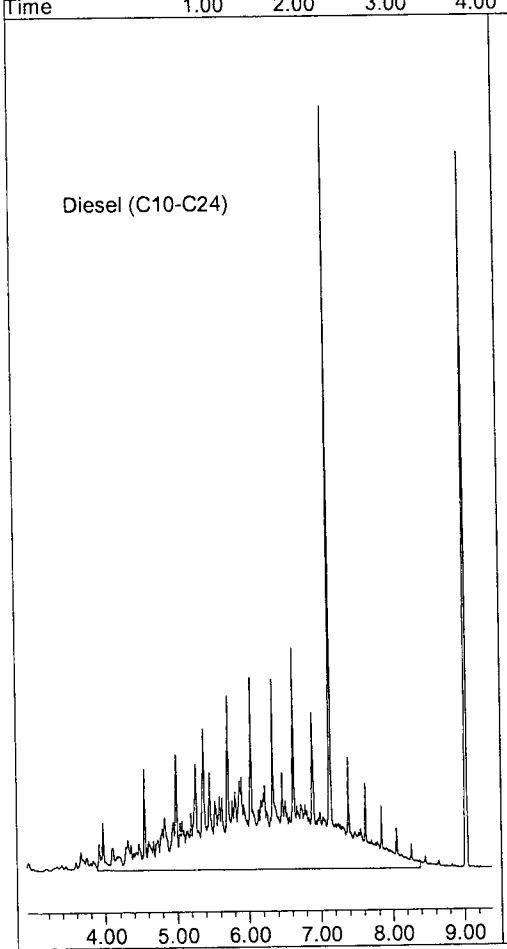
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

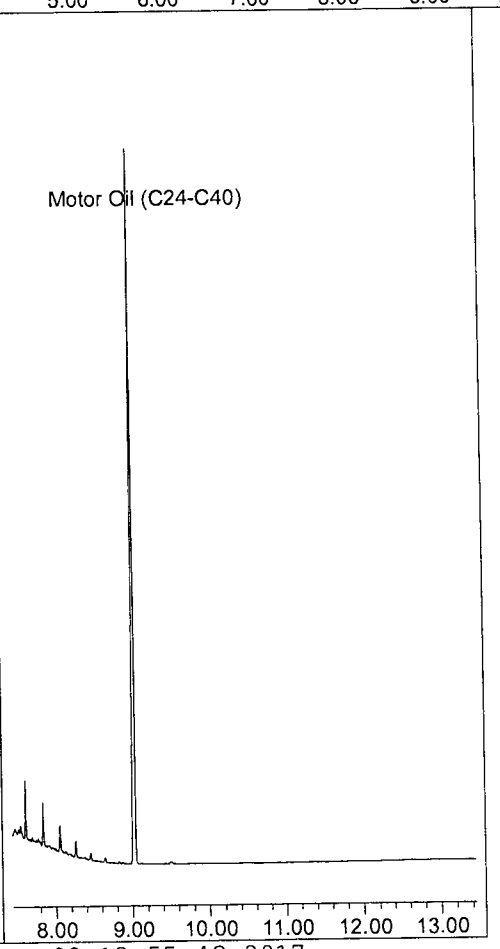
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

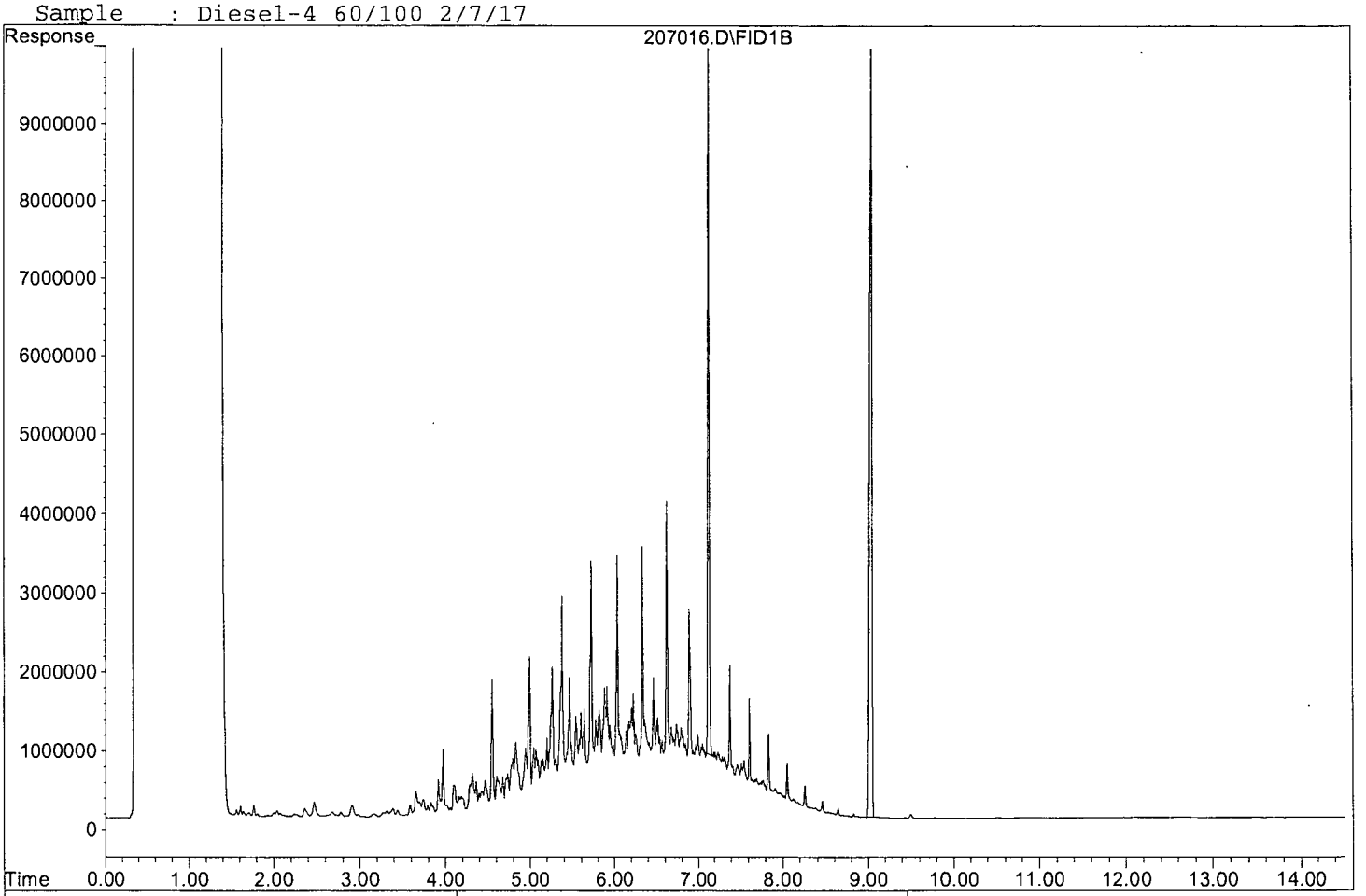
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

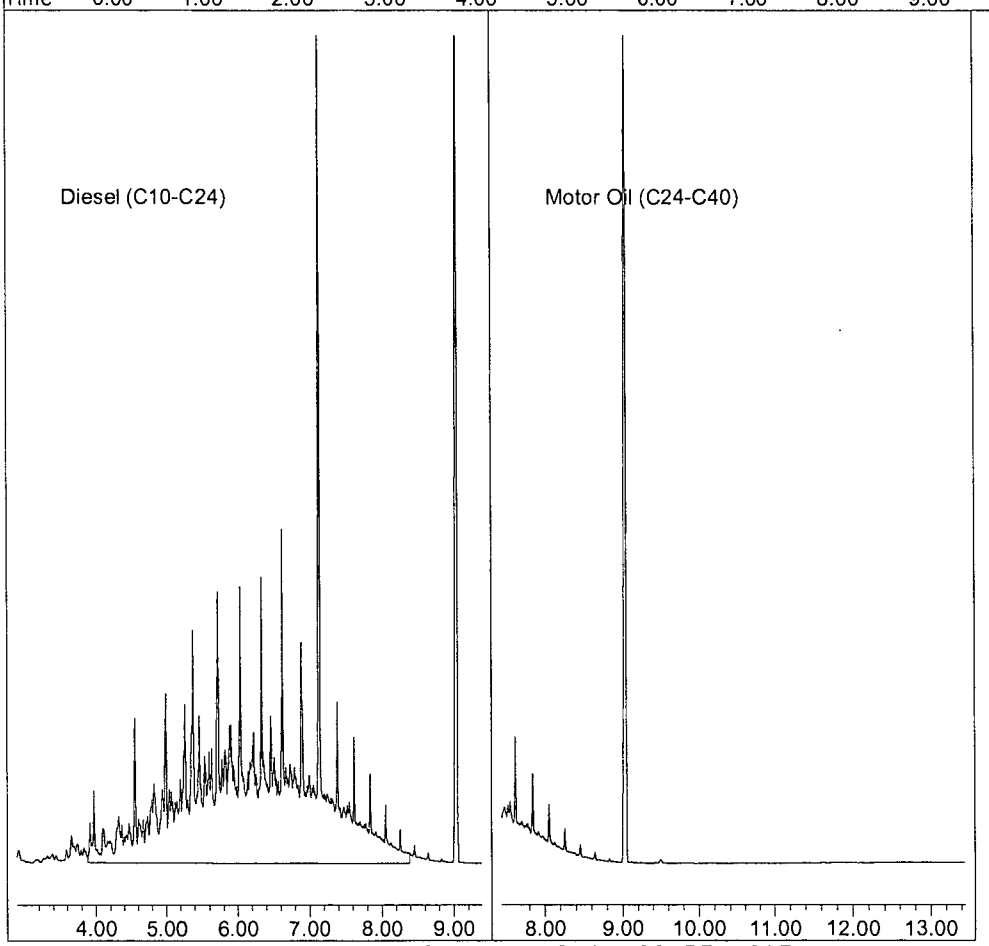
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	34.186 ppb
Surrogate Spike 30.000		Recovery =	113.95%
5) SA Octacosane(S)	9.04	190706691	58.461 ppb
Surrogate Spike 30.000		Recovery =	194.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D
Acq On : 2-7-17 15:16:16
Sample : Diesel-5 80/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

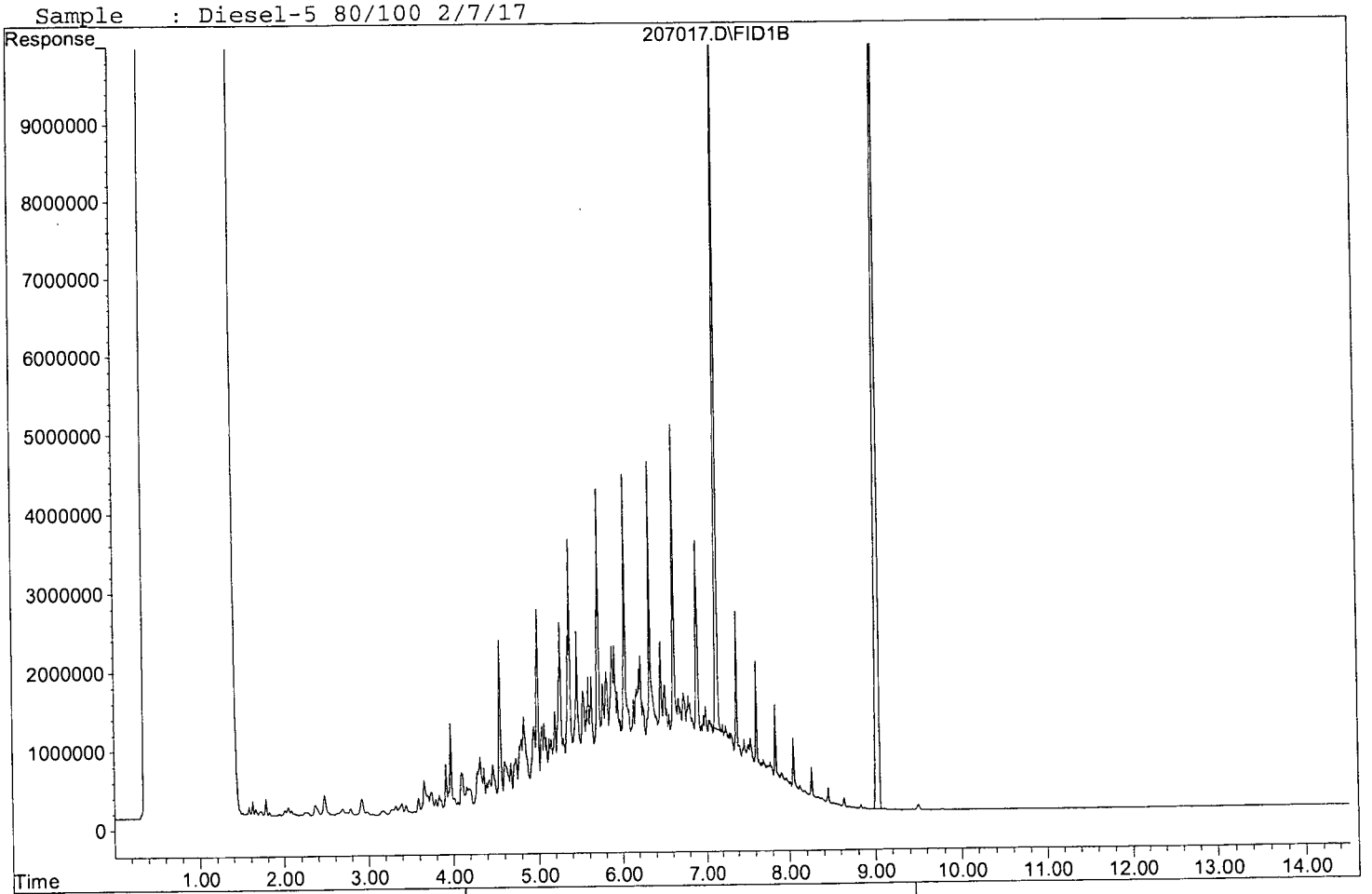
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

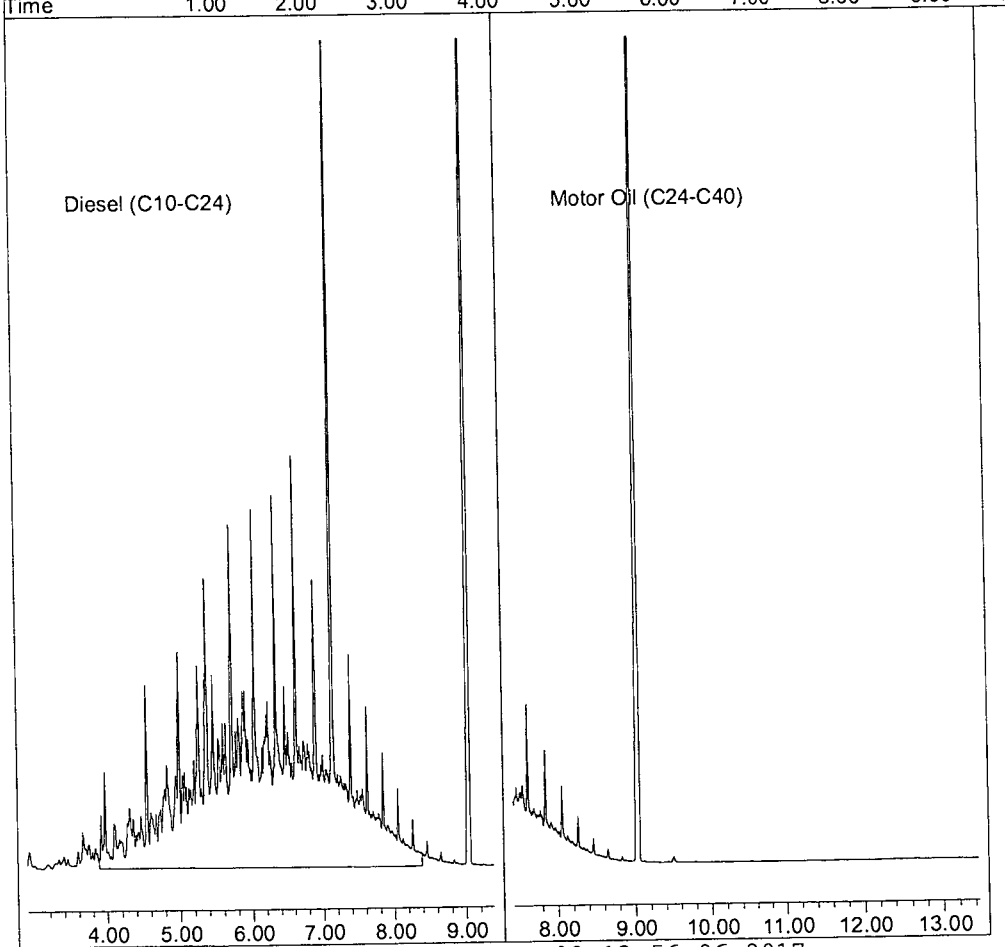
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D
Acq On : 2-7-17 15:36:59
Sample : Diesel-6 100/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

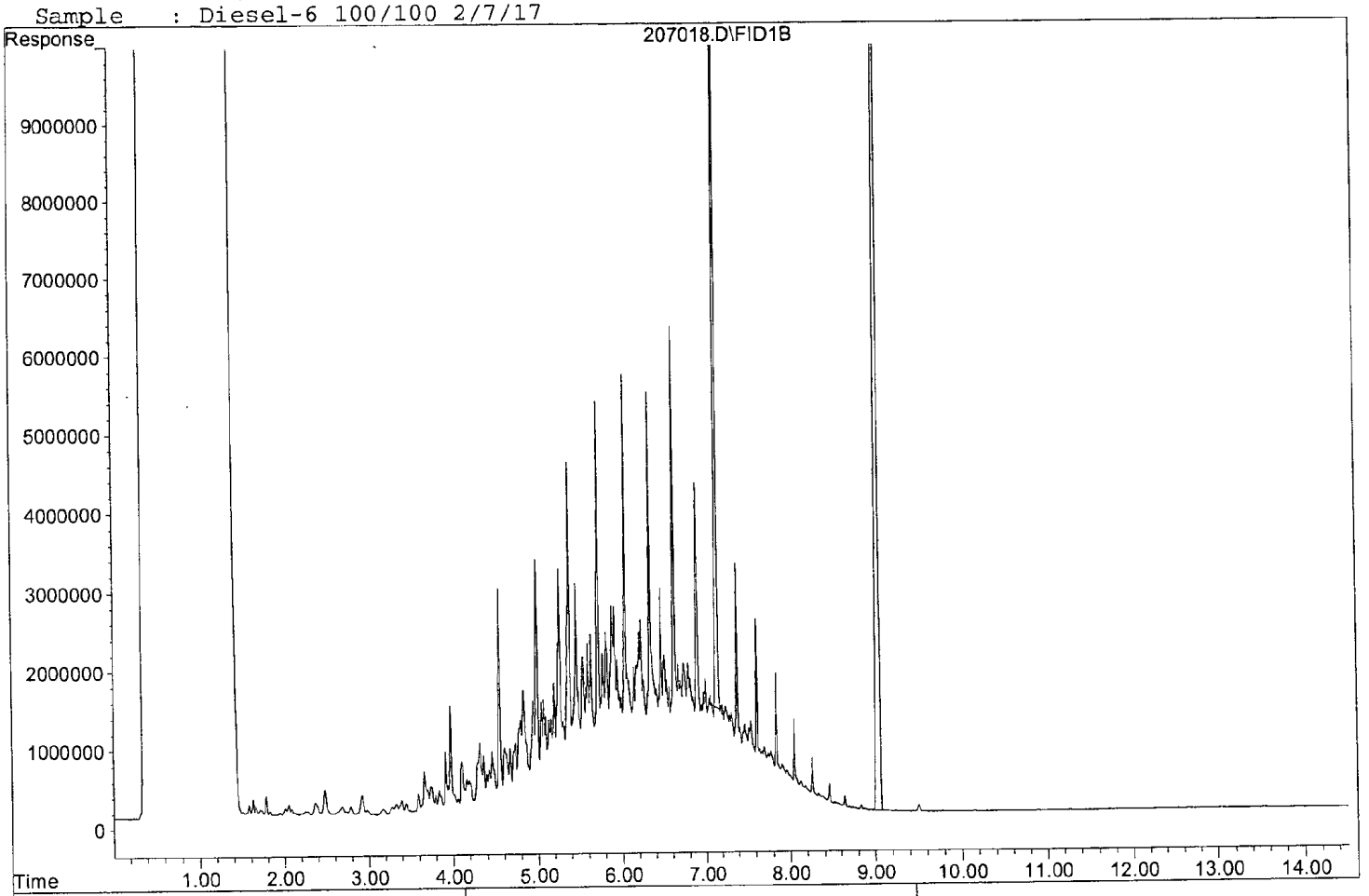
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

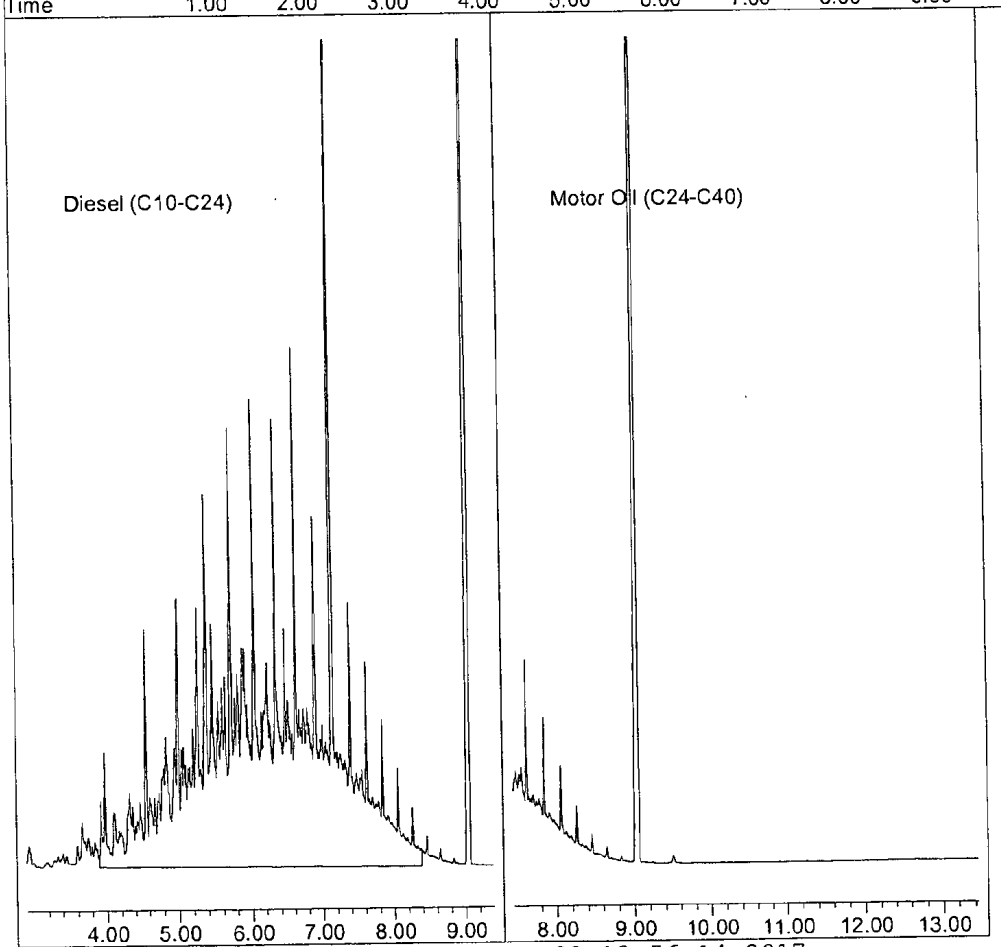
(f)=RT Delta > 1/2 Window (m)=manual int.

207018.D DOC0303.M Thu Mar 09 13:56:12 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

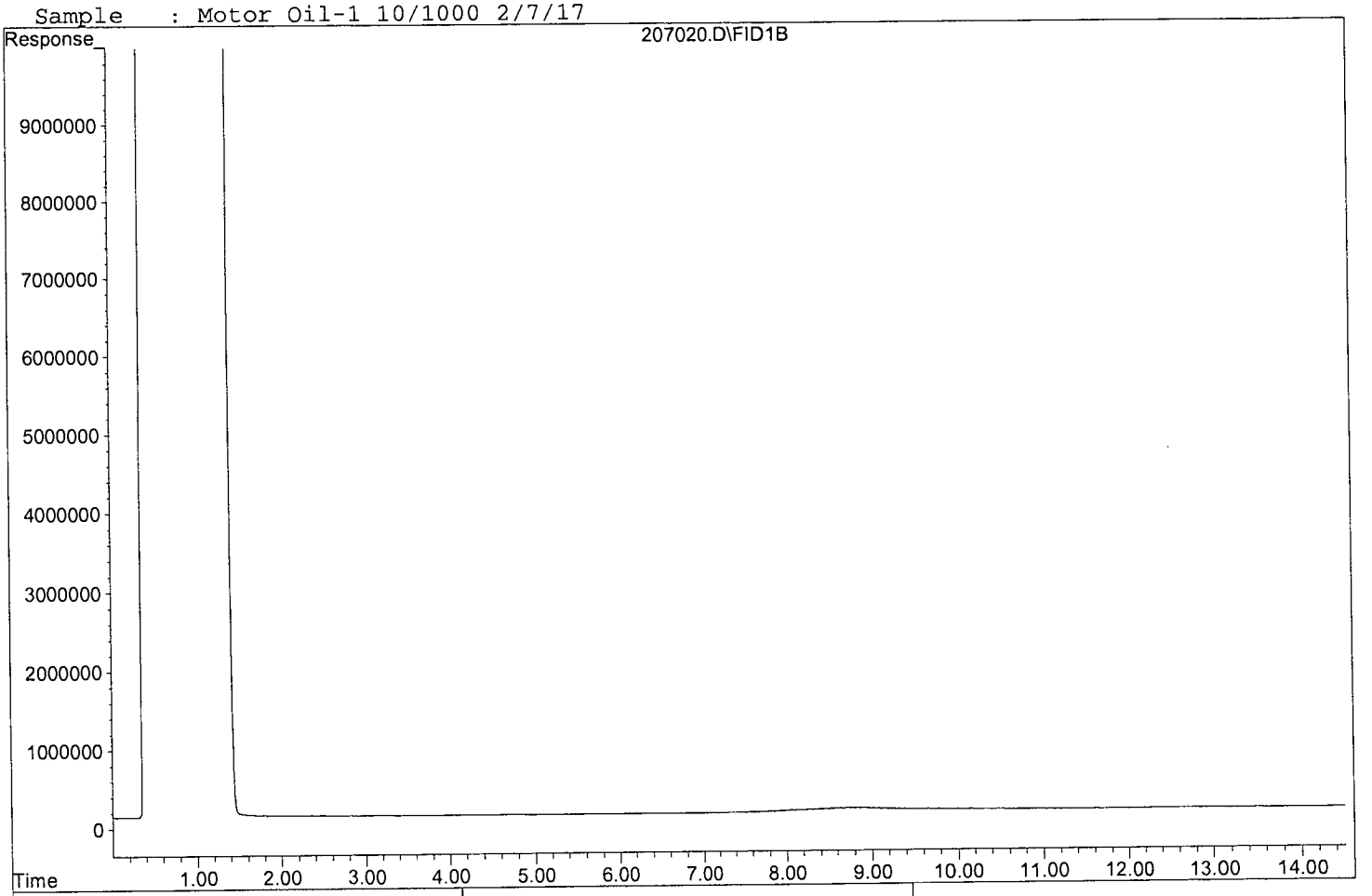
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

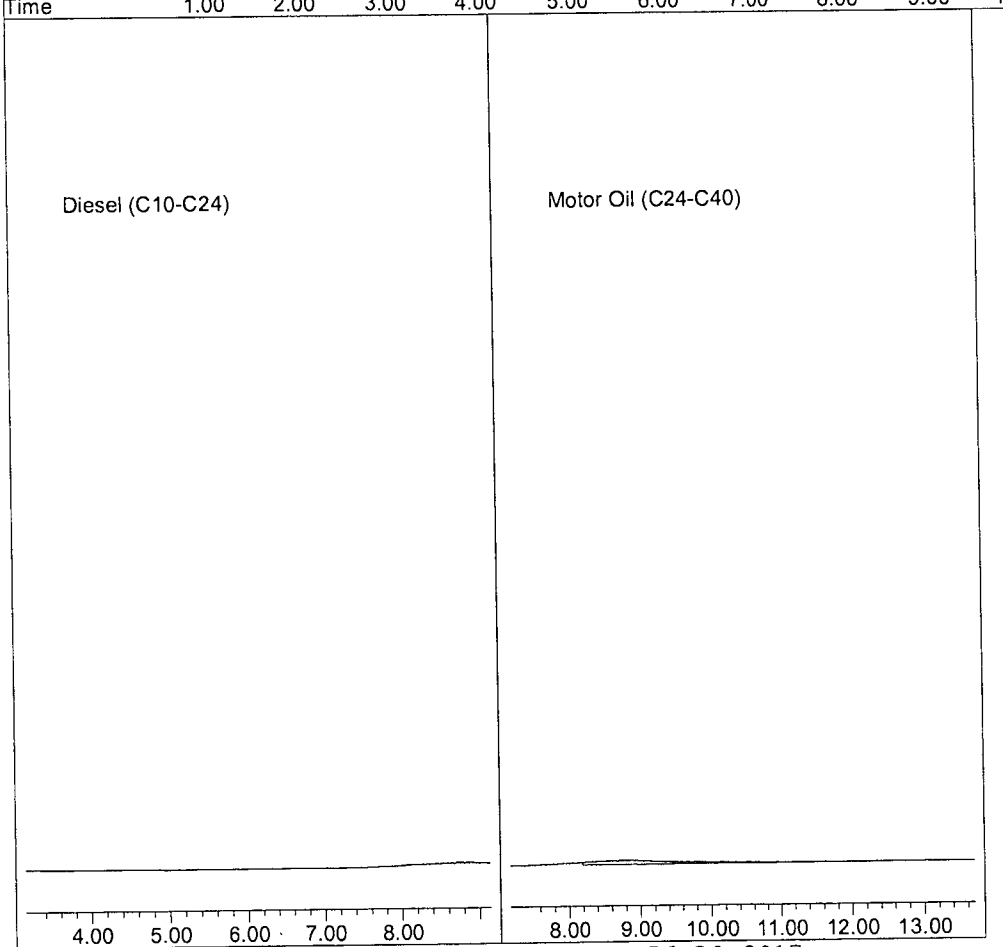
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

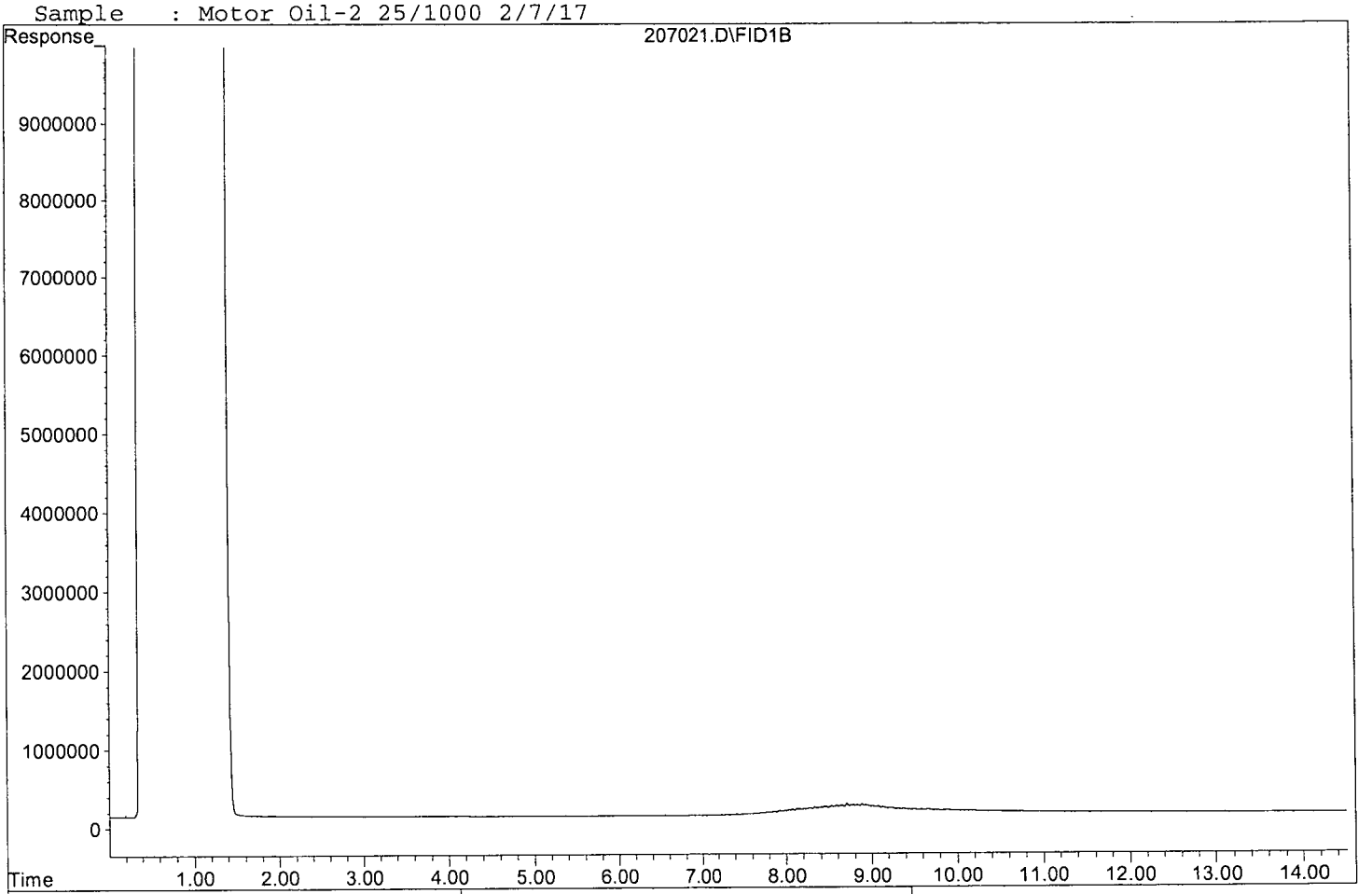
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

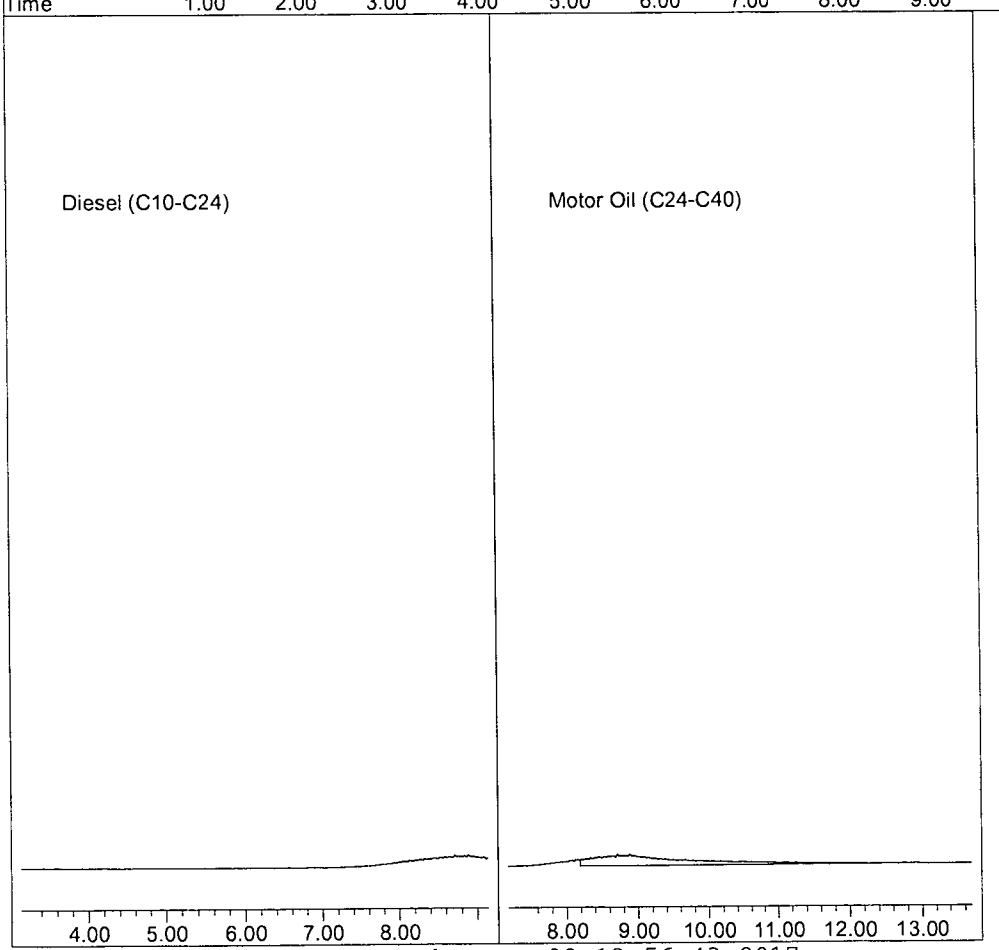
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

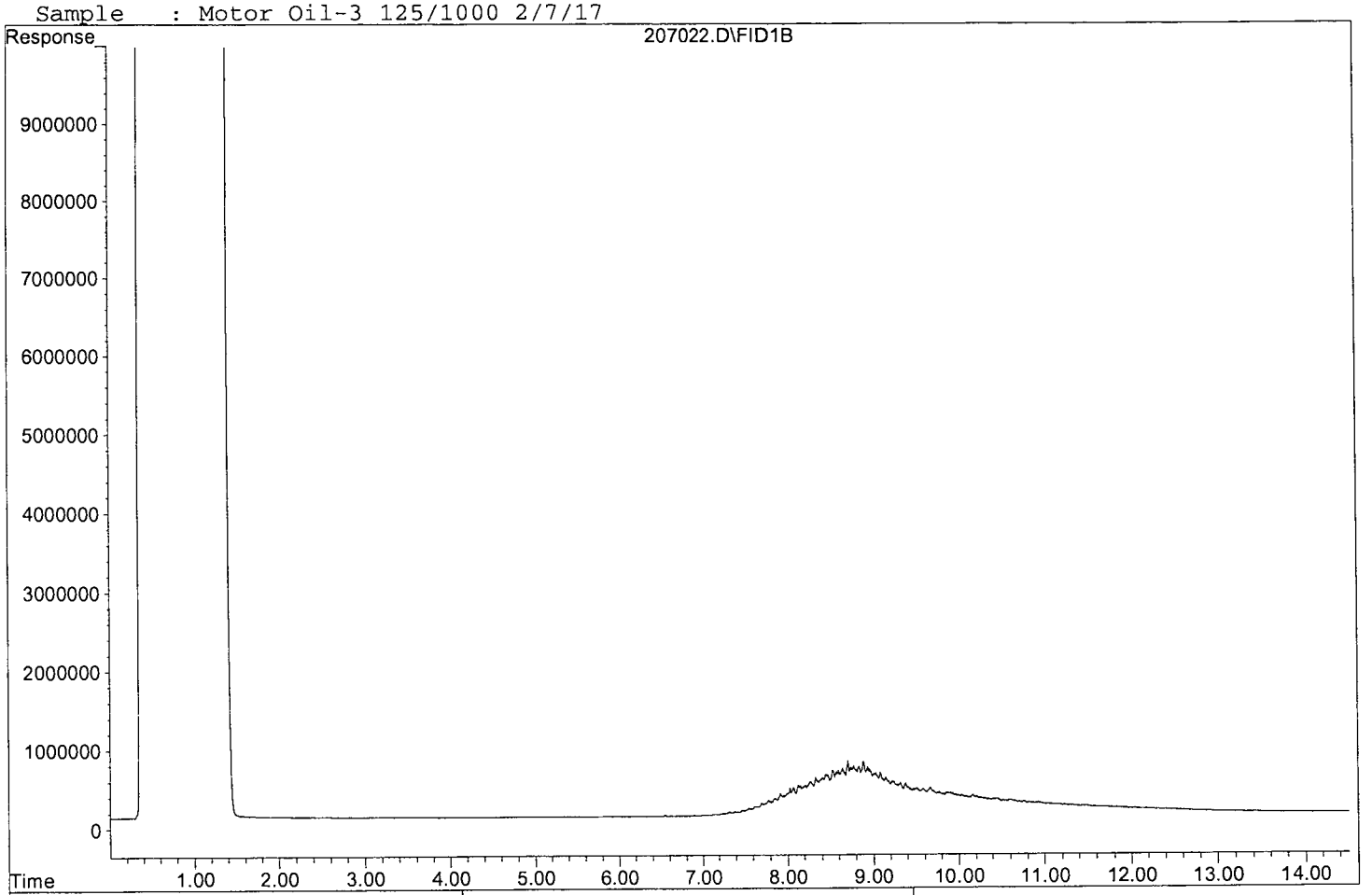
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

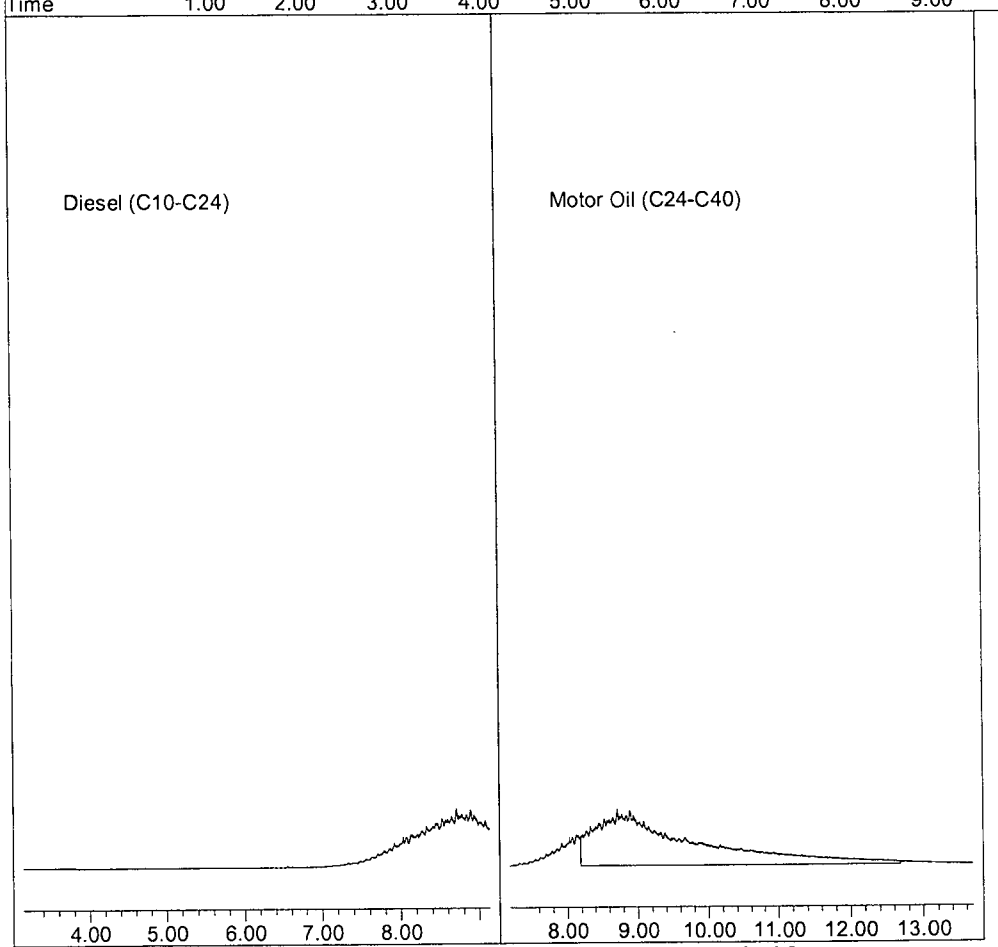
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

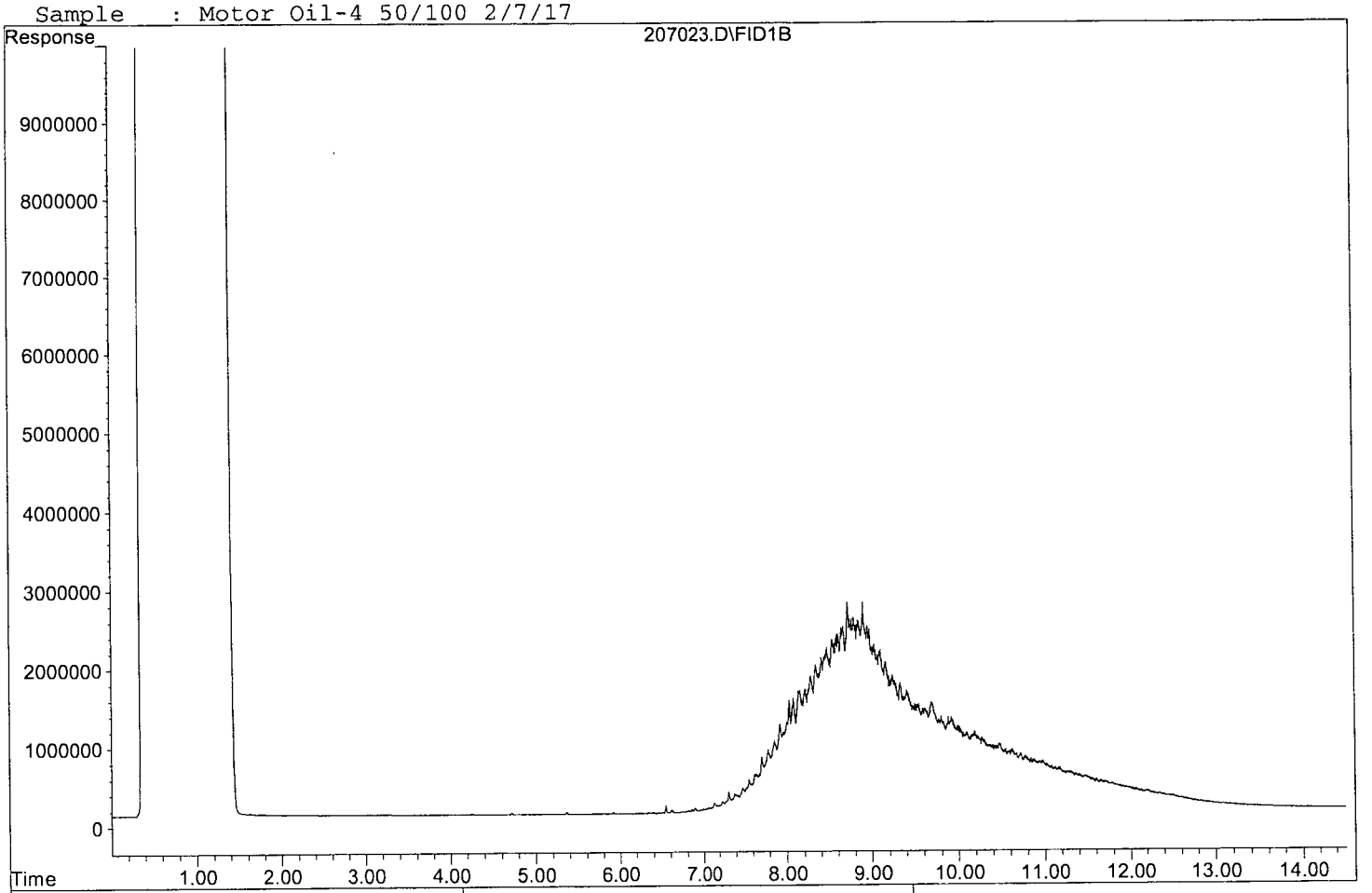
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

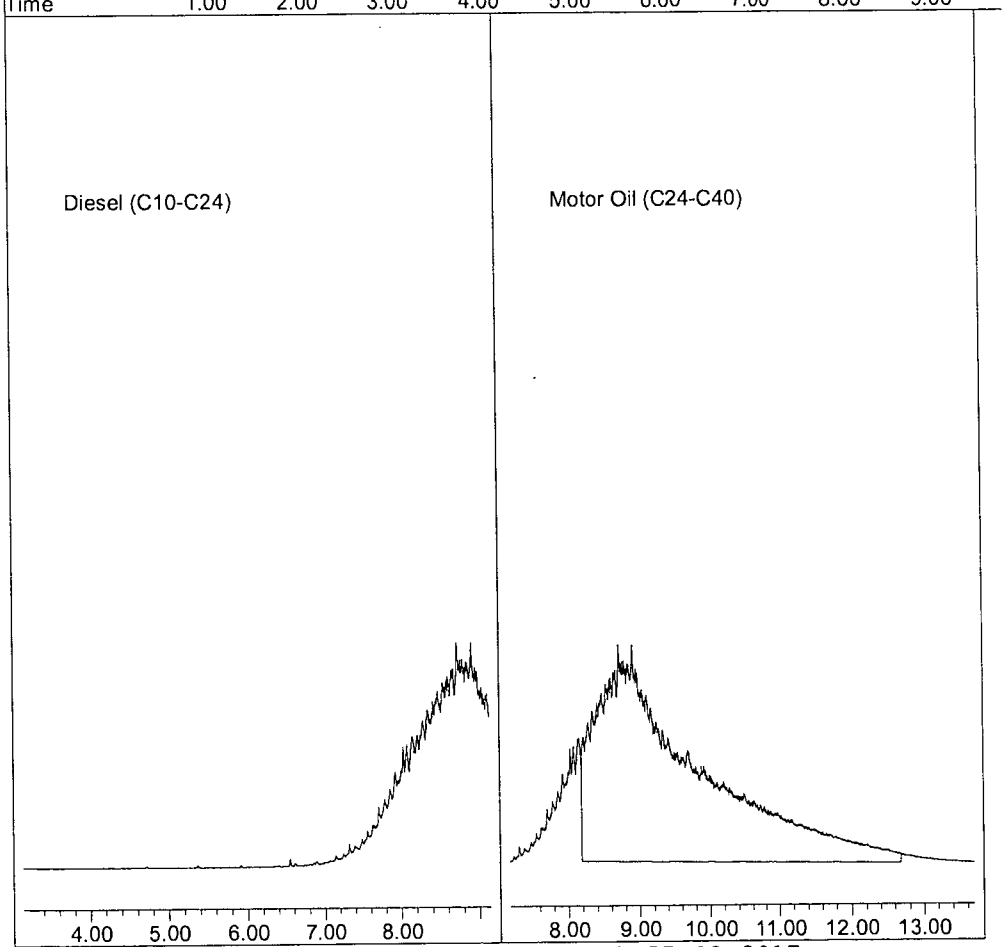
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

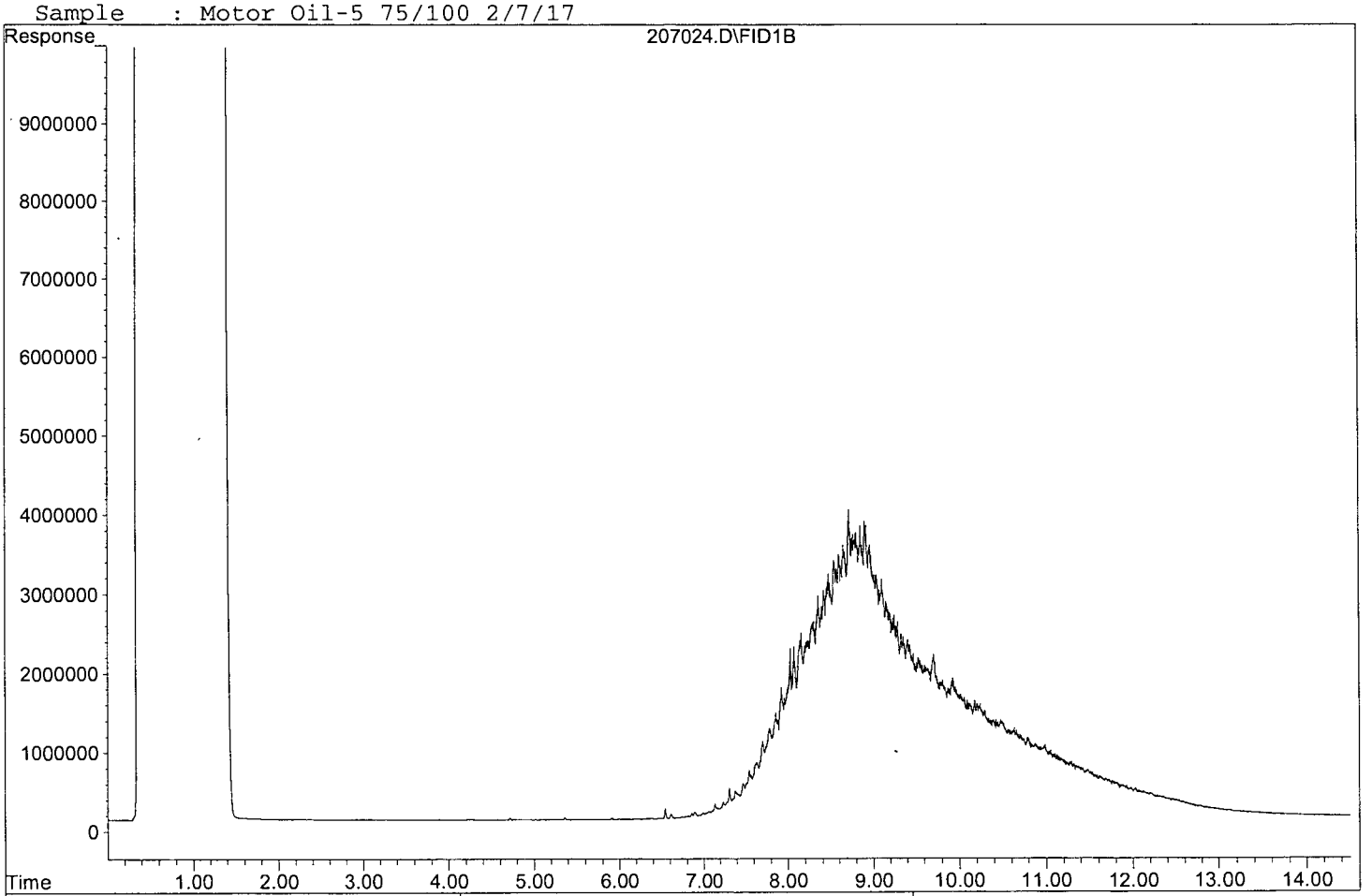
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

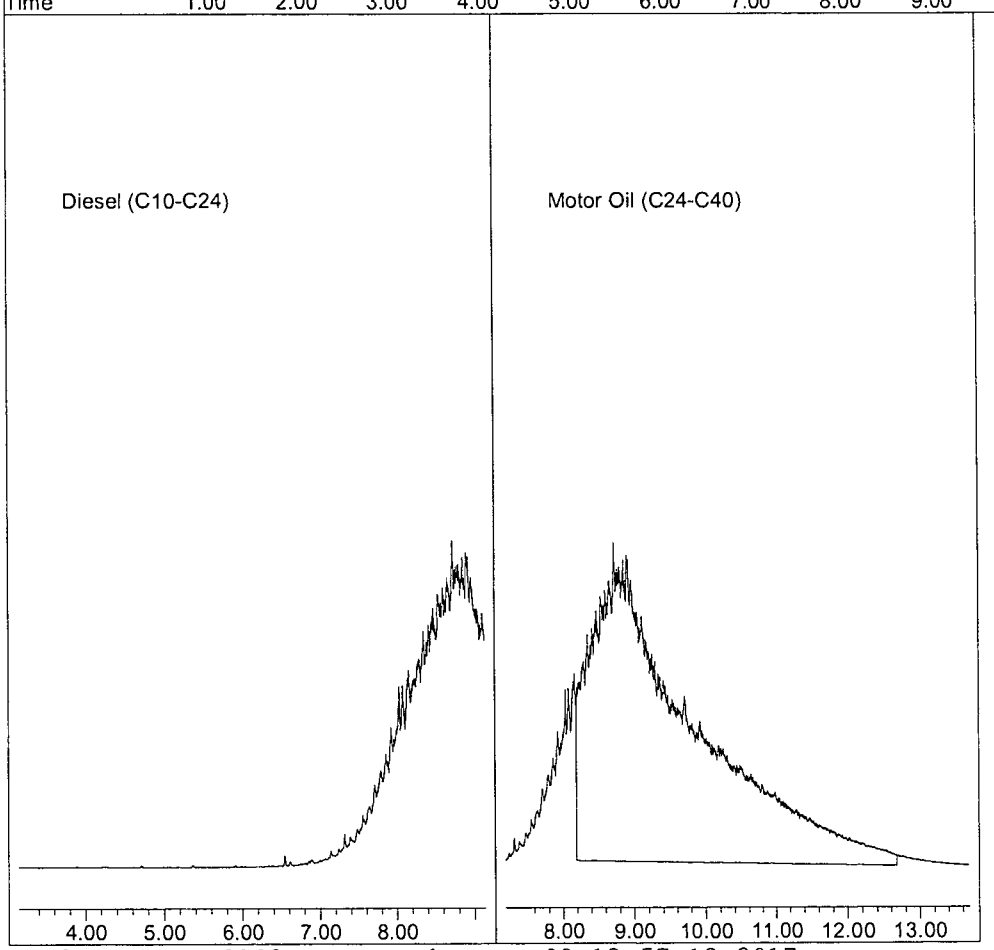
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D Vial: 25
Acq On : 2-7-17 18:01:11 Operator: DP
Sample : Motor Oil-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

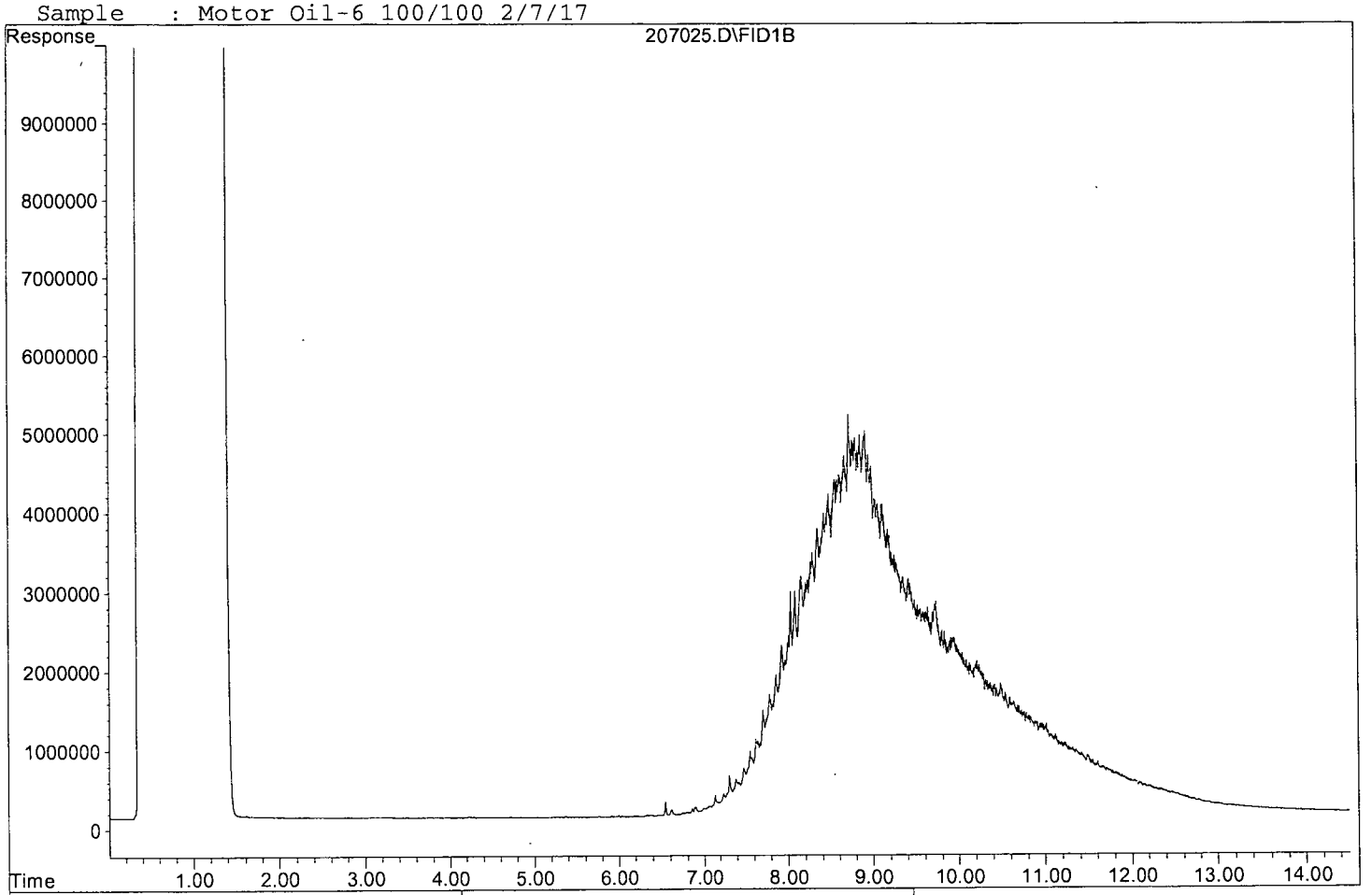
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

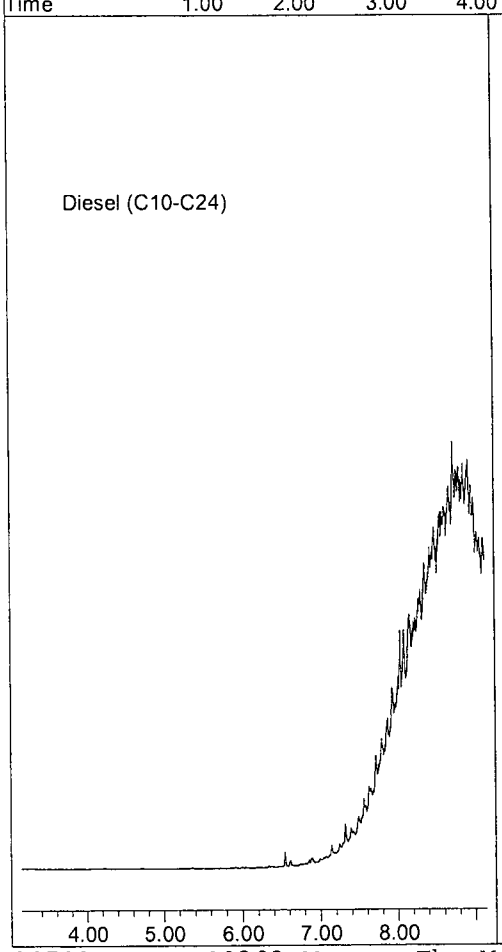
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

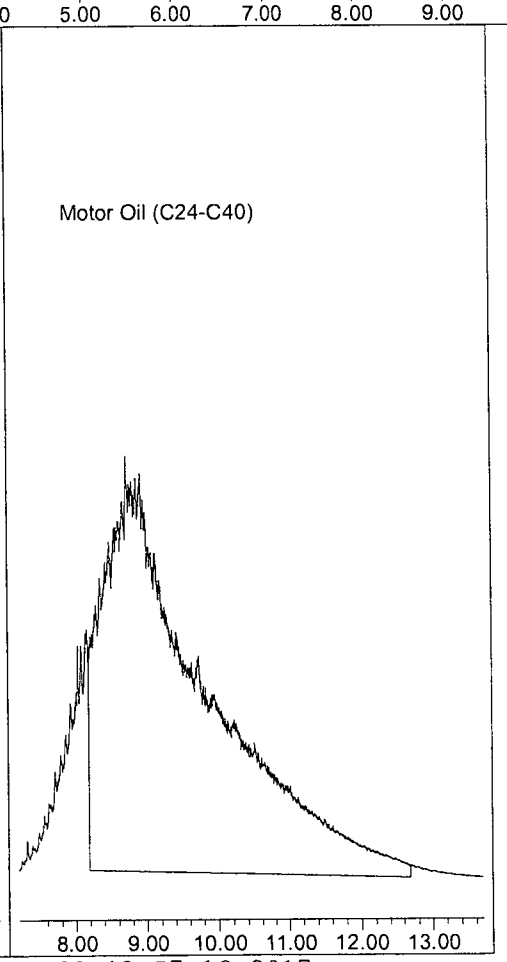
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961	ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303002.D Vial: 2
Acq On : 3-3-17 14:55:47 Operator: DP
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:03 2017 Quant Results File: DOC0303.RES

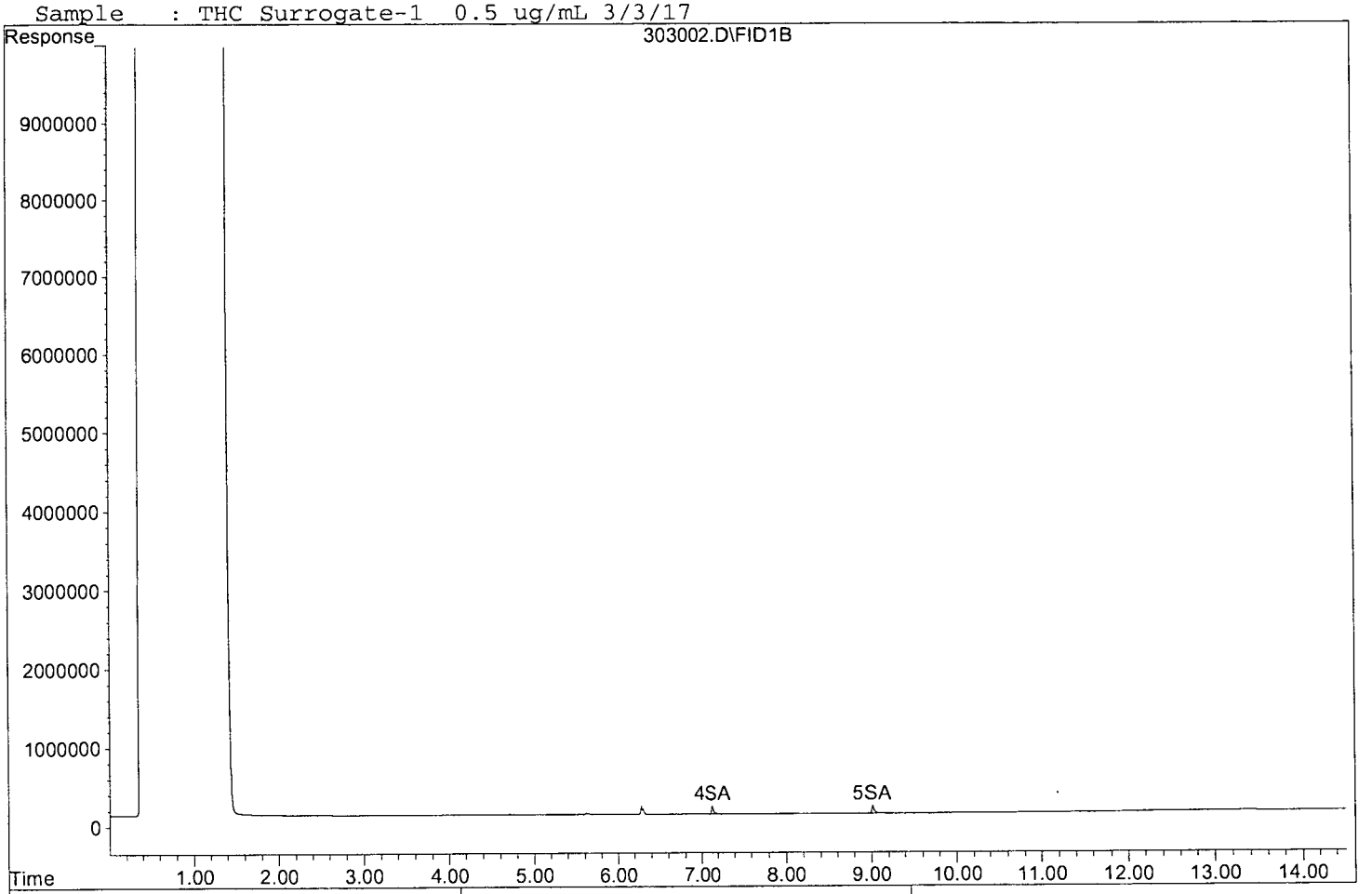
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

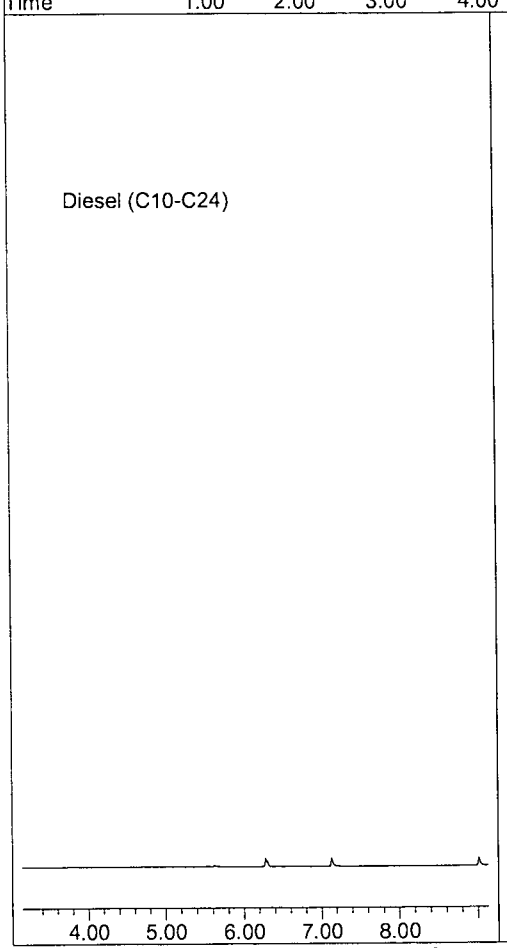
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

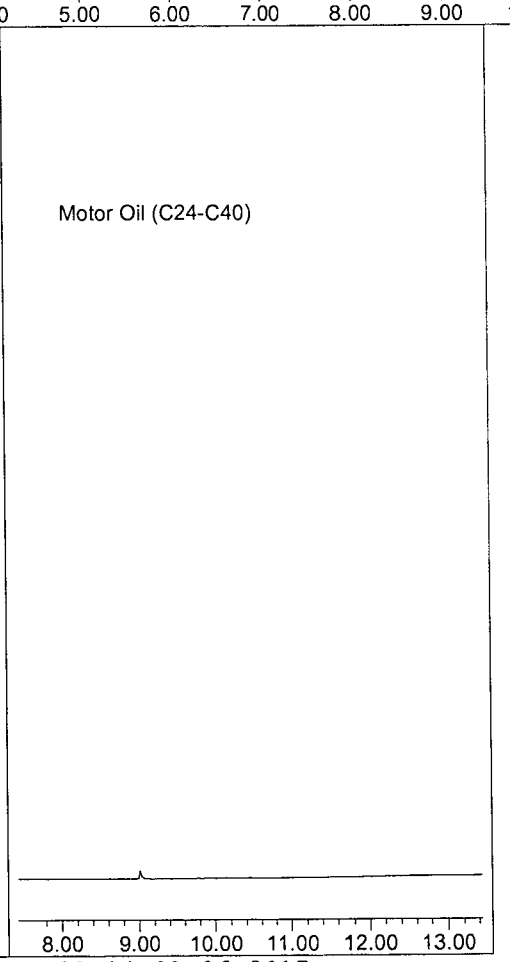
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	1942562	0.507 ppb
Surrogate Spike 30.000	Recovery	=	1.69%
5) SA Octacosane(S)	9.01	1719138	0.527 ppb
Surrogate Spike 30.000	Recovery	=	1.76%
Target Compounds			

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303002.D
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303003.D Vial: 3
Acq On : 3-3-17 15:16:38 Operator: DP
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

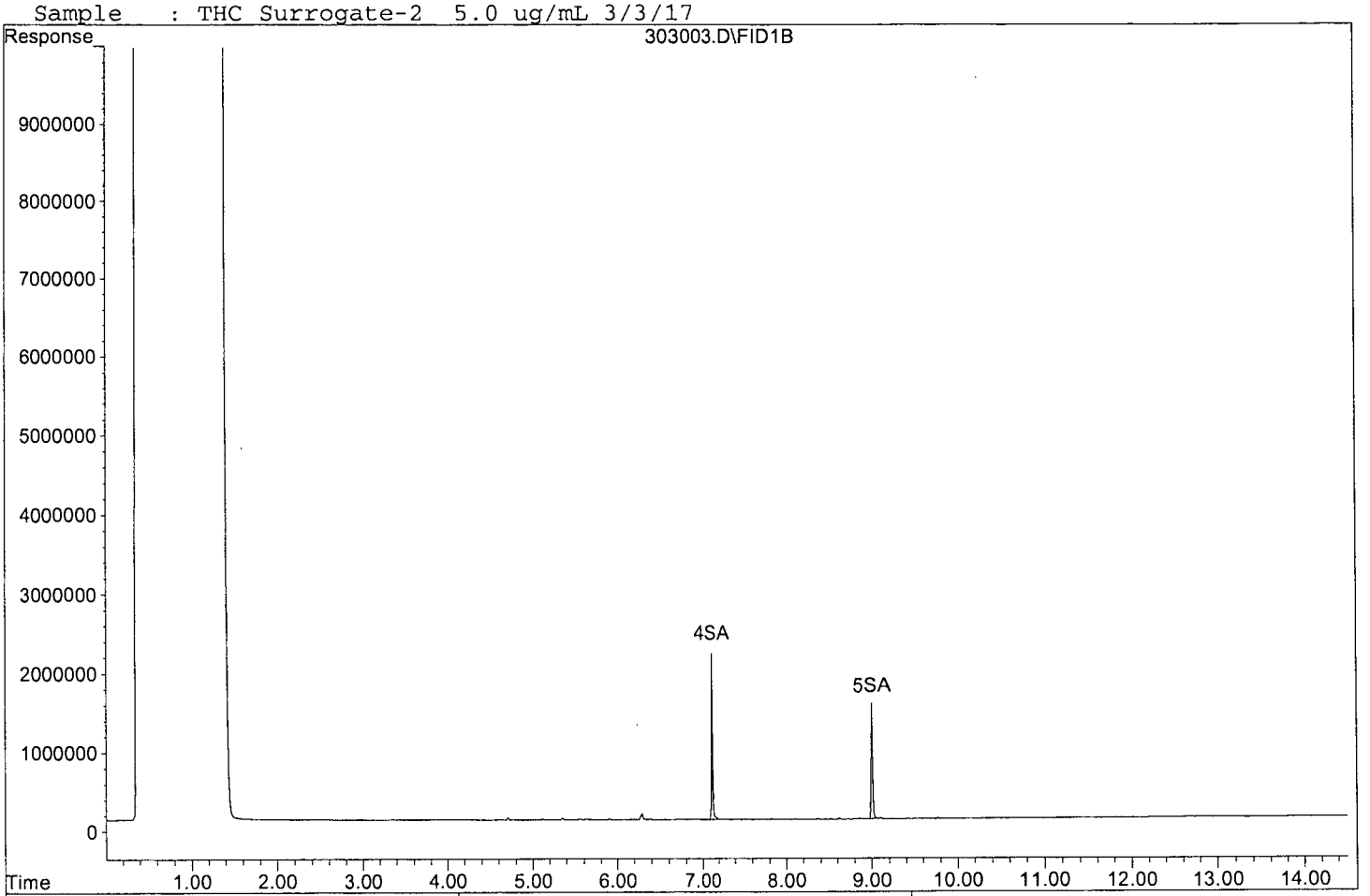
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

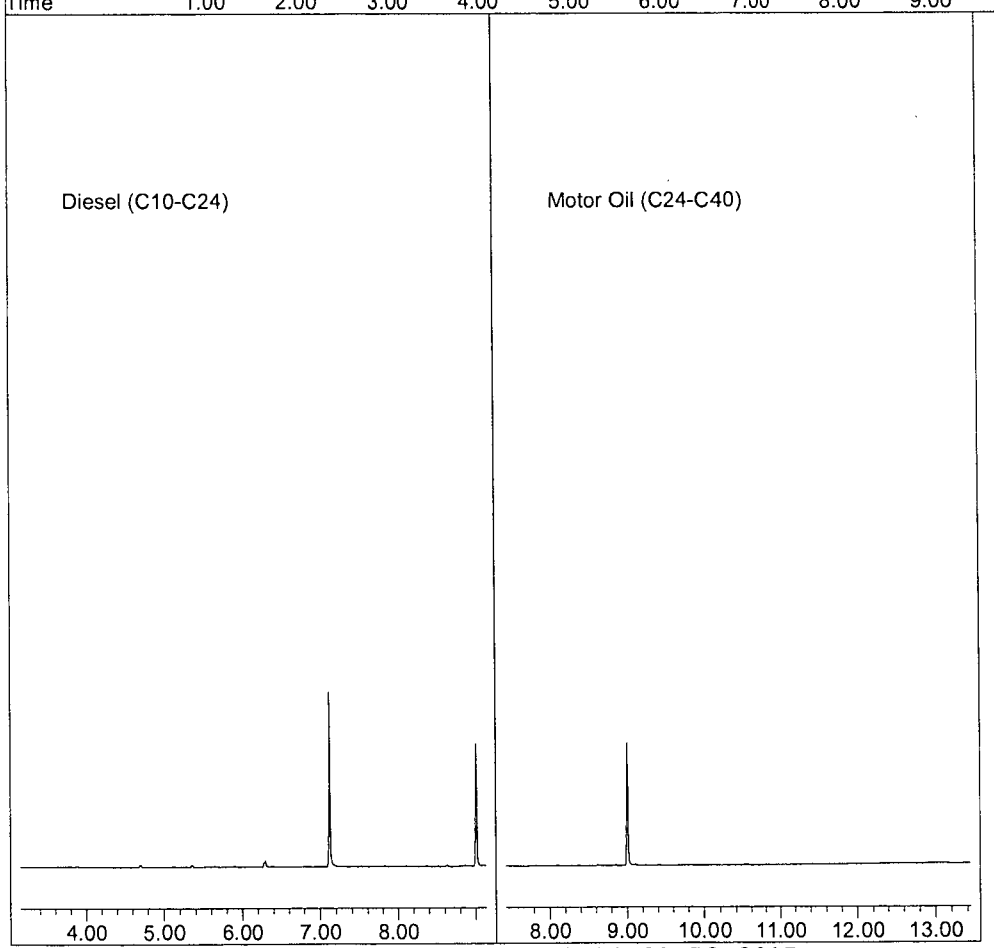
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	21242228	5.541 ppb
Surrogate Spike 30.000		Recovery =	18.47%
5) SA Octacosane(S)	9.01	17712742	5.430 ppb
Surrogate Spike 30.000		Recovery =	18.10%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303003.D
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303004.D Vial: 4
Acq On : 3-3-17 15:37:25 Operator: DP
Sample : THC Surrogate-3 20 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

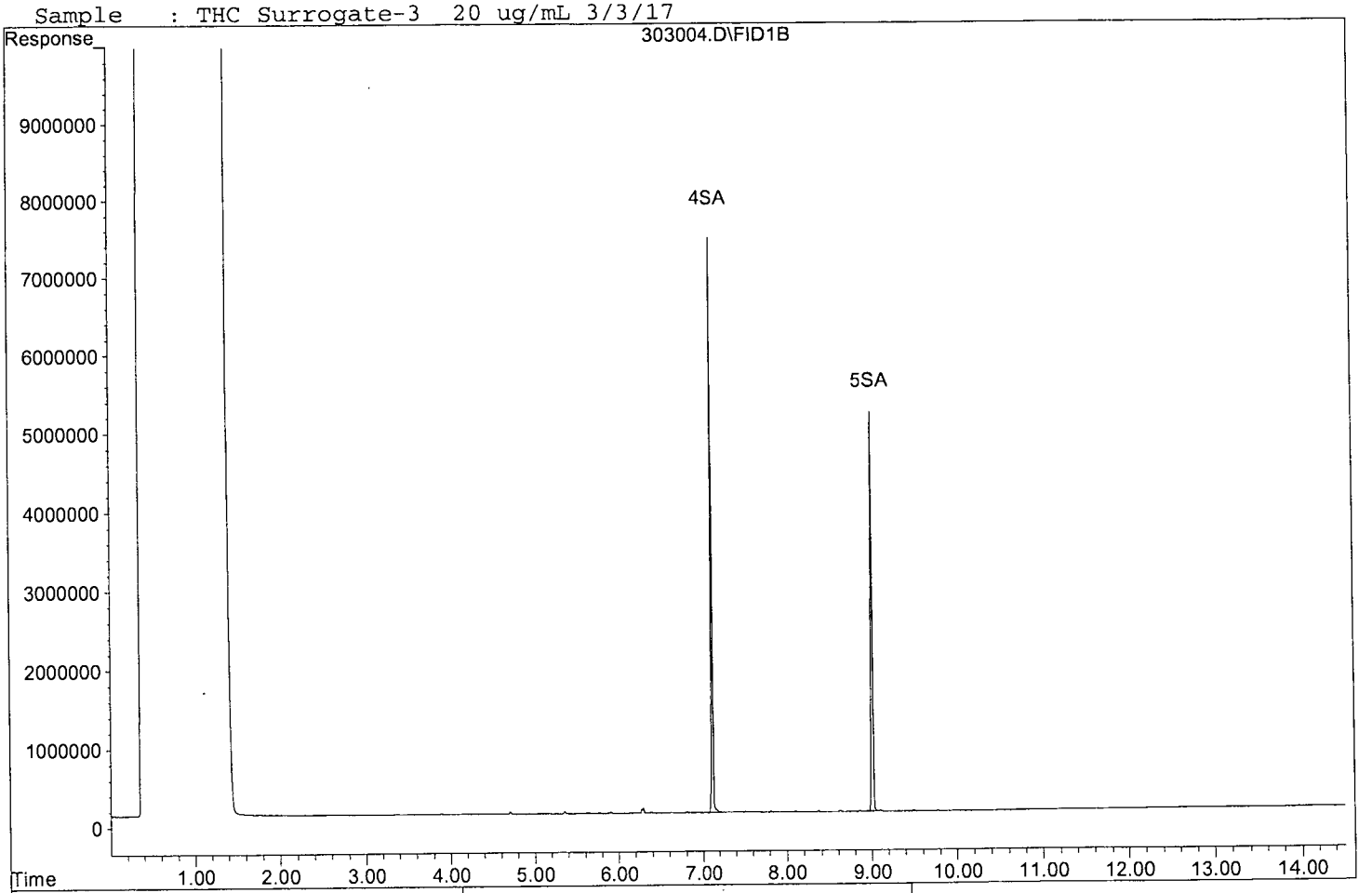
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

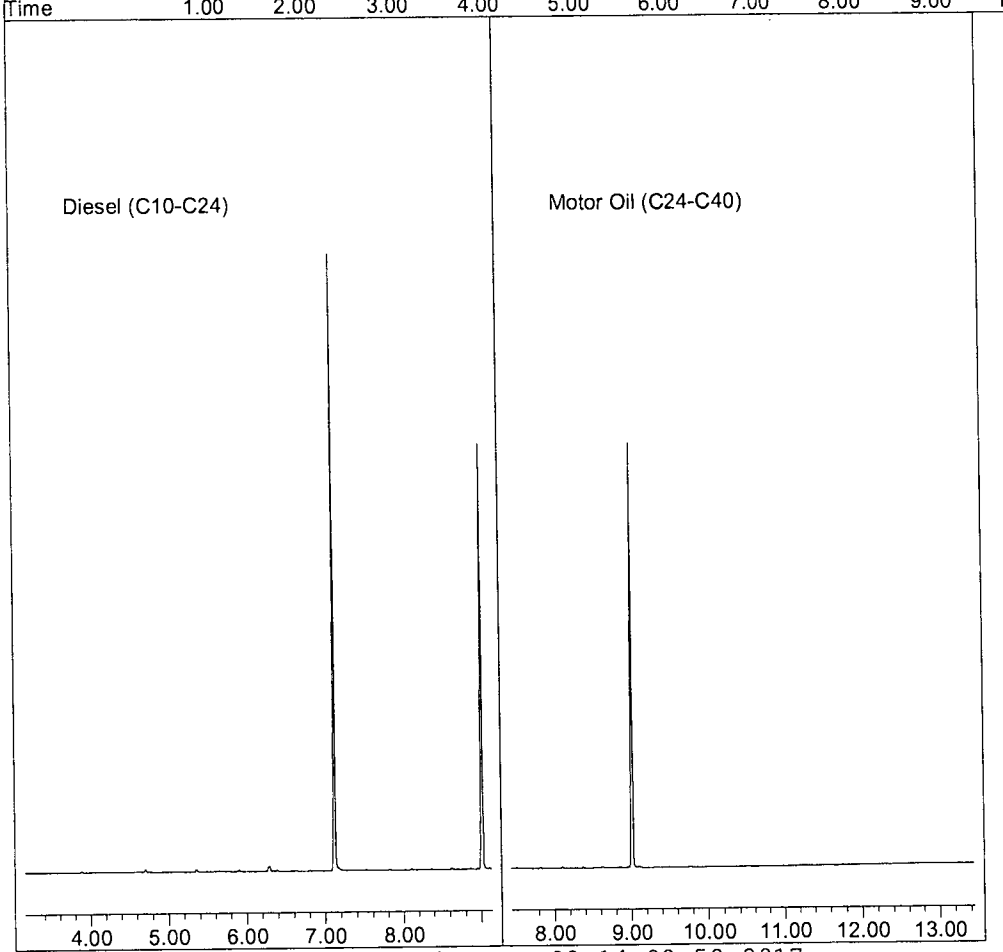
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	74537557	19.442 ppb
Surrogate Spike 30.000		Recovery =	64.81%
5) SA Octacosane(S)	9.01	62896901	19.281 ppb
Surrogate Spike 30.000		Recovery =	64.27%
Target Compounds			

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303004.D
Sample : THC Surrogate-3 20 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303005.D Vial: 5
Acq On : 3-3-17 15:58:18 Operator: DP
Sample : THC Surrogate-4 30 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

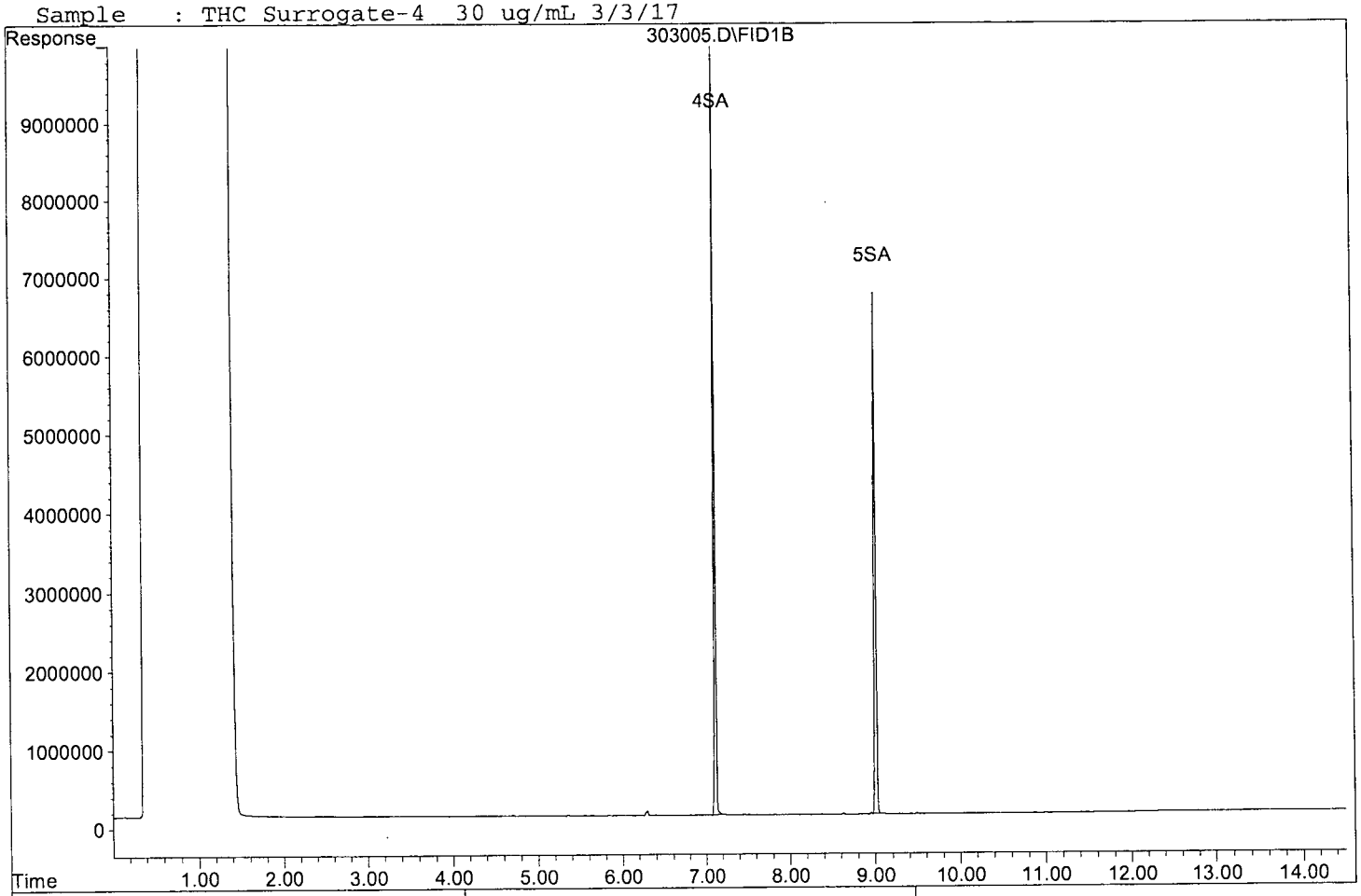
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

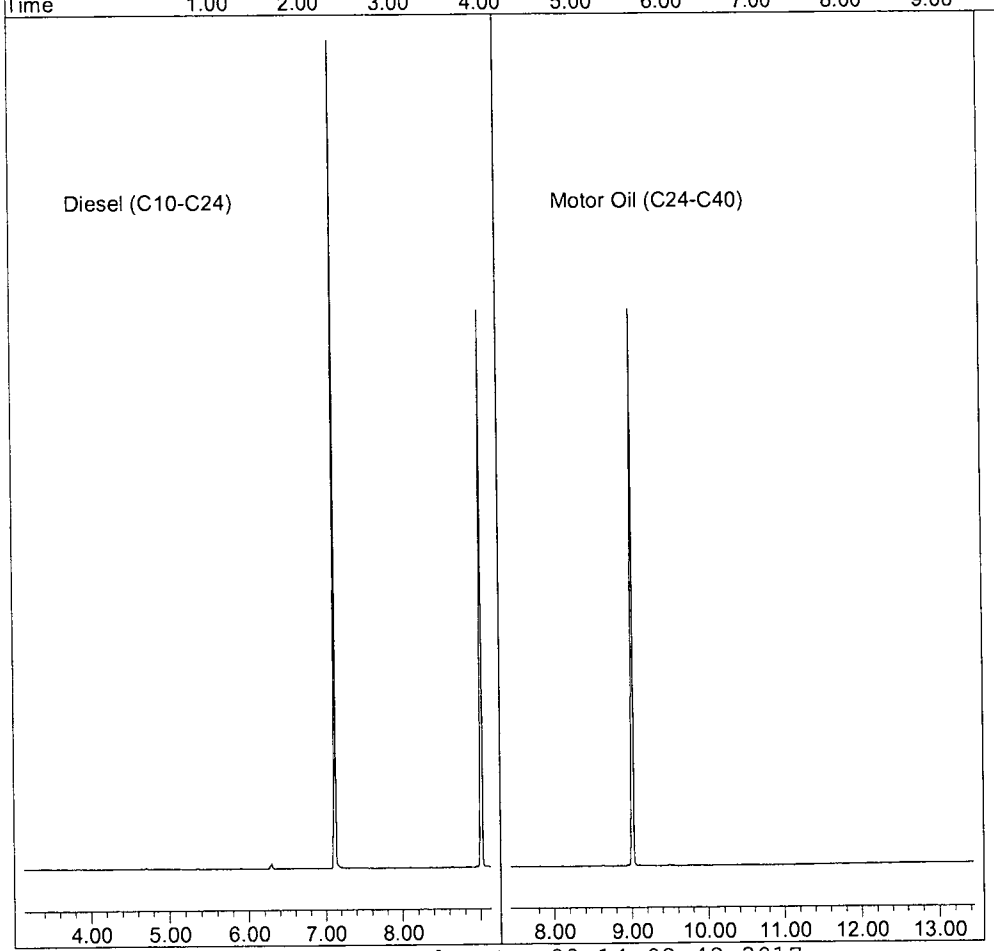
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	108679562	28.347 ppb
Surrogate Spike 30.000		Recovery =	94.49%
5) SA Octacosane(S)	9.02	92652170	28.403 ppb
Surrogate Spike 30.000		Recovery =	94.68%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303005.D
Sample : THC Surrogate-4 30 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303006.D Vial: 6
Acq On : 3-3-17 16:19:16 Operator: DP
Sample : THC Surrogate-5 40 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

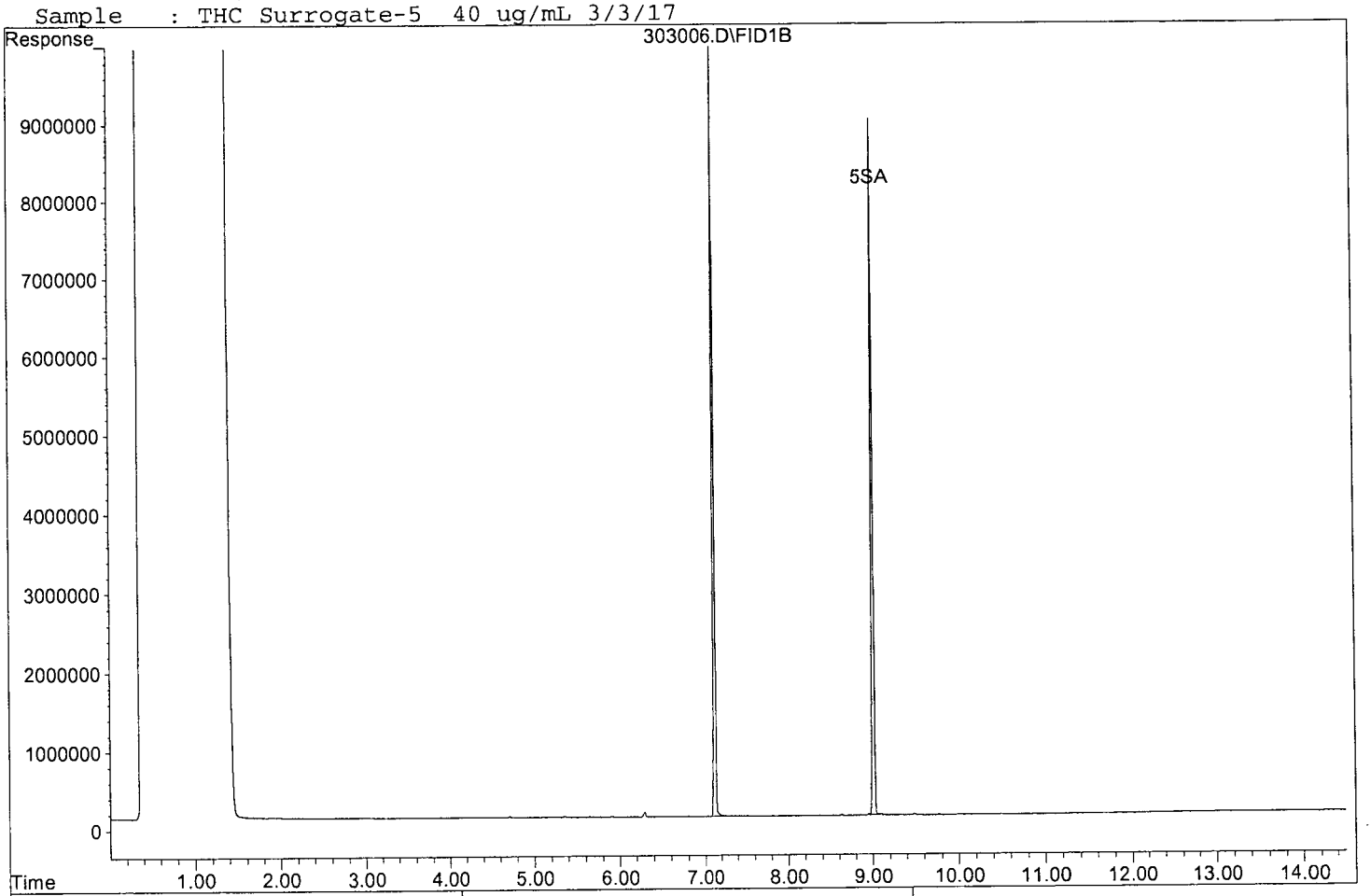
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

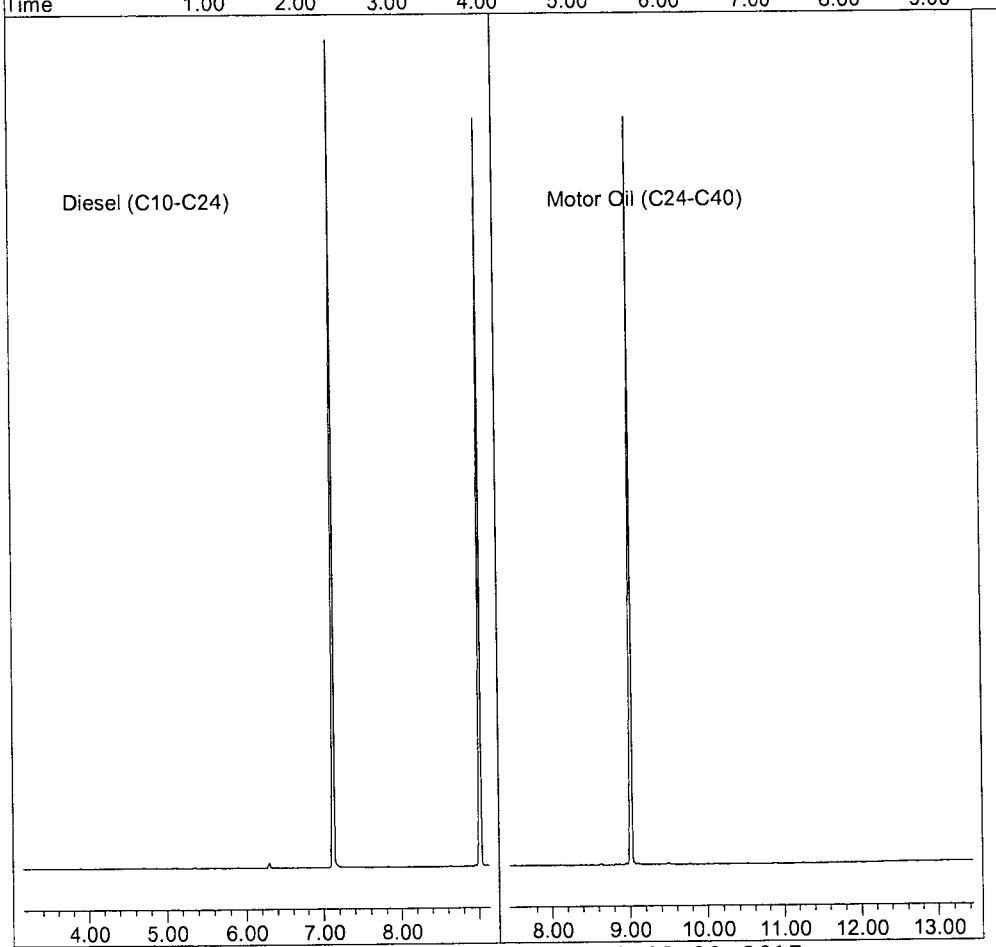
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	146802745	38.291 ppb
Surrogate Spike 30.000		Recovery =	127.64%
5) SA Octacosane(S)	9.02	124259114	38.092 ppb
Surrogate Spike 30.000		Recovery =	126.97%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303006.D
Sample : THC Surrogate-5 40 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303007.D Vial: 7
Acq On : 3-3-17 16:40:03 Operator: DP
Sample : THC Surrogate-6 50 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

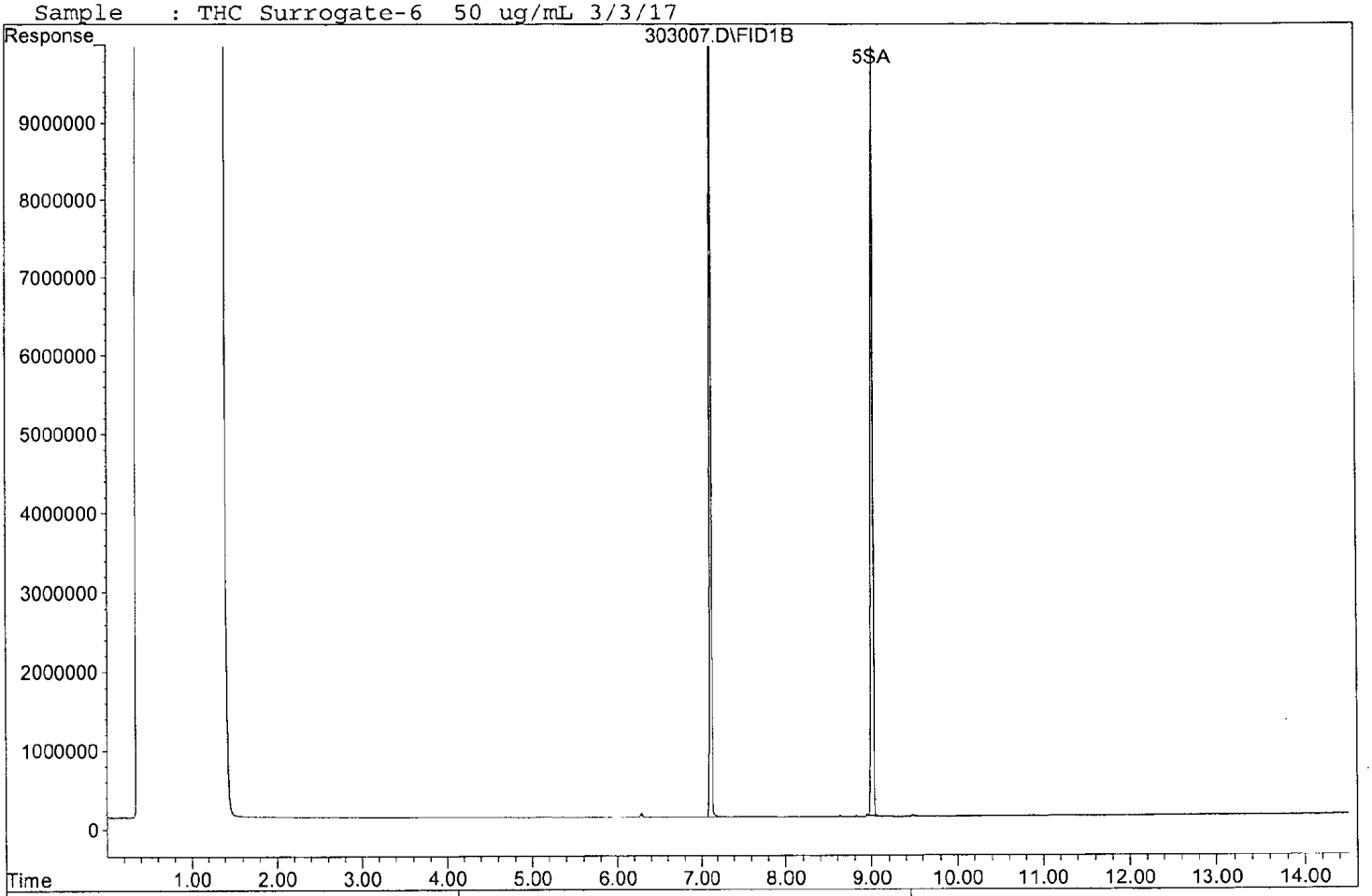
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

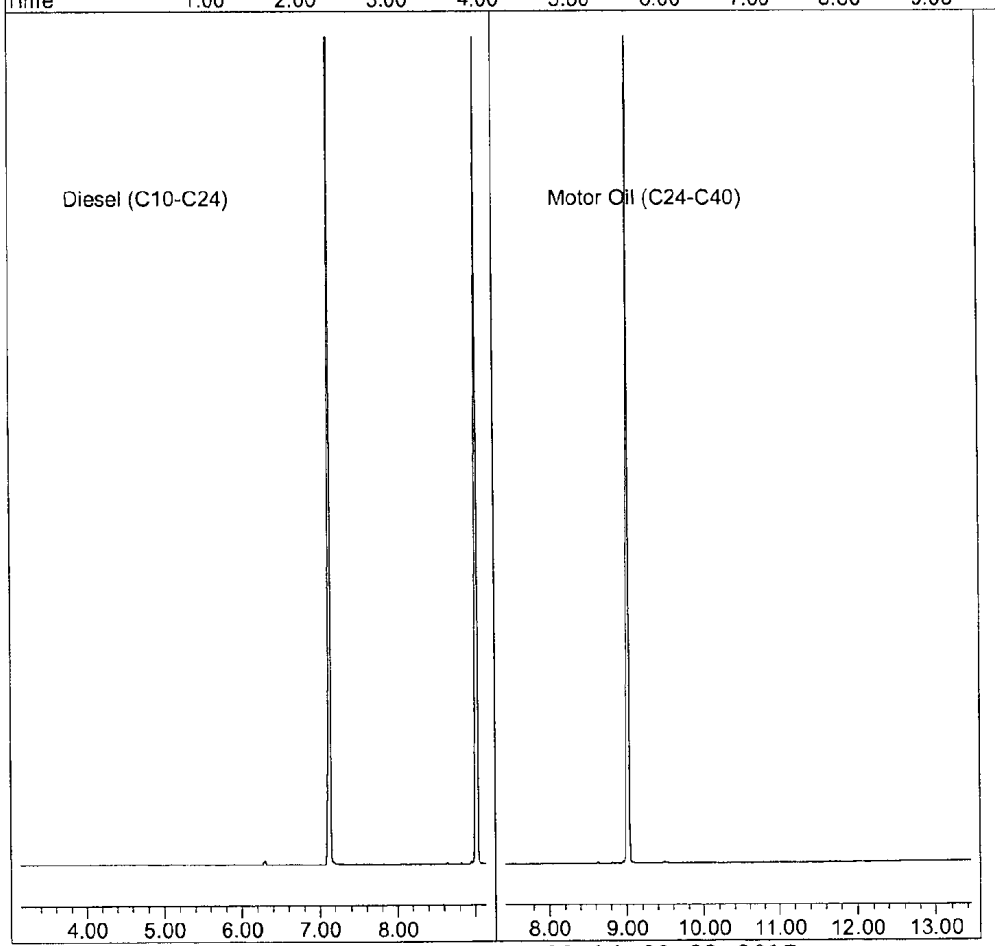
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	192507036	50.212 ppb
Surrogate Spike 30.000		Recovery =	167.37%
5) SA Octacosane(S)	9.03	162603738	49.846 ppb
Surrogate Spike 30.000		Recovery =	166.15%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303007.D
Sample : THC Surrogate-6 50 ug/mL 3/3/17





TPH Extractables
DOC0303

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 207019.D (Diesel:) 207026.D (Motor Oil:)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
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39							
40							
		Average			14.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D
Acq On : 2-7-17 15:57:38
Sample : Diesel-2nd Src 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.888 ppb
Surrogate Spike 30.000	Recovery	=	9.63%
5) SA Octacosane(S)	9.01	2024928	0.621 ppb
Surrogate Spike 30.000	Recovery	=	2.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

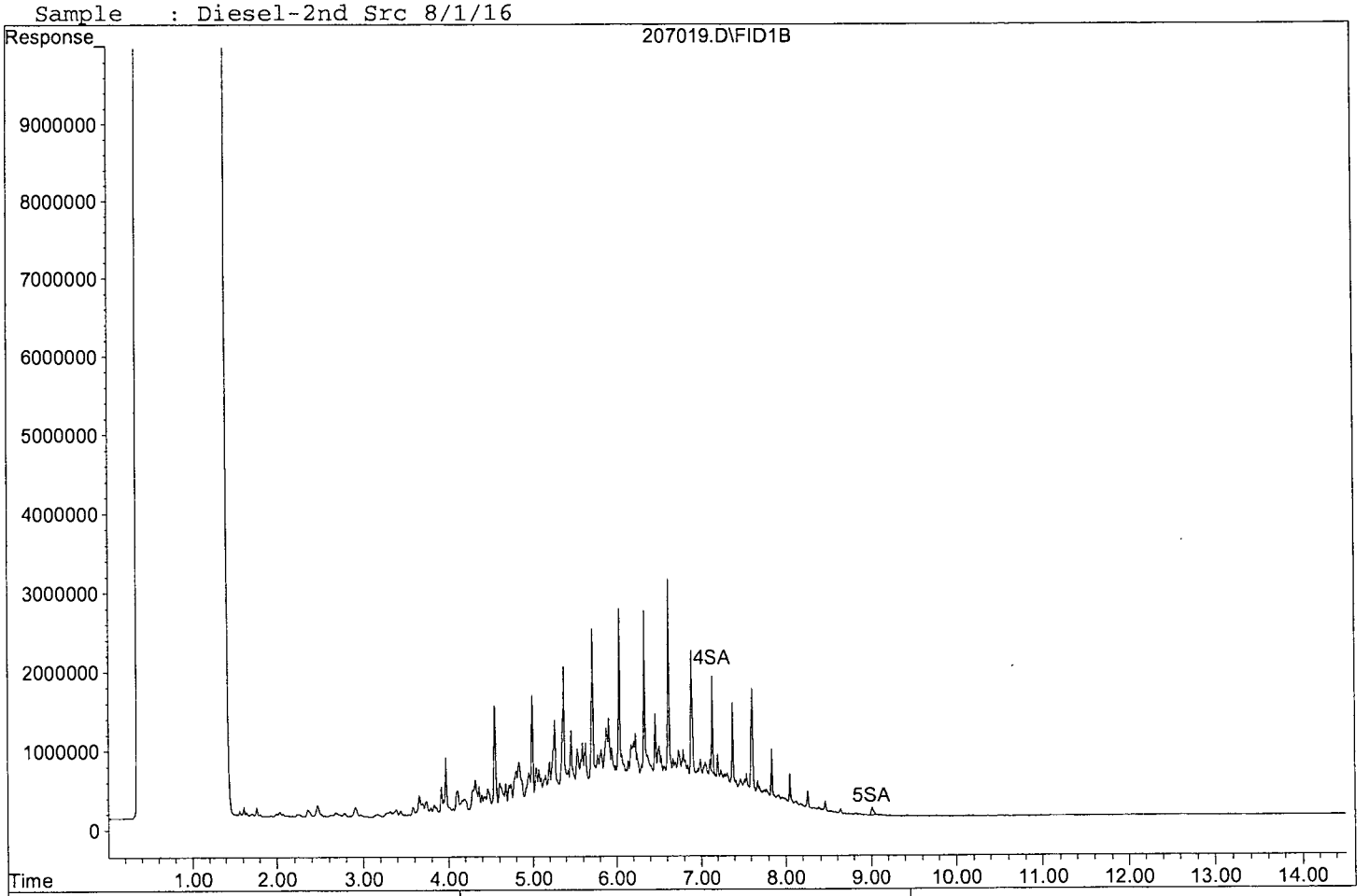
algorithm check
Diesel : $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

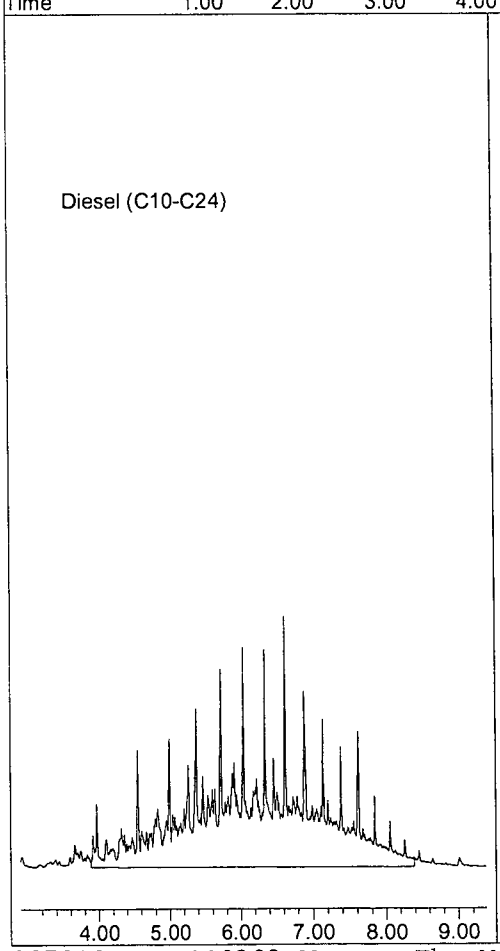
DP 3/9/17

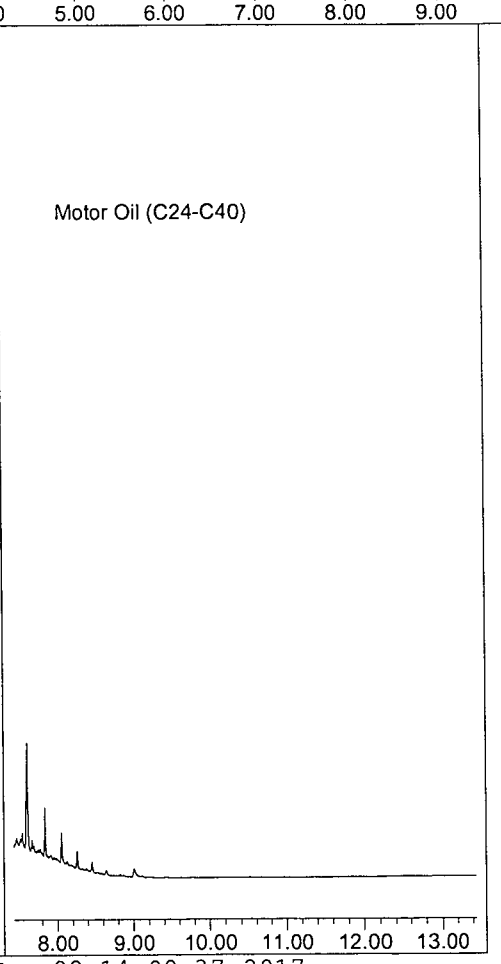
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D
Acq On : 2-7-17 18:21:35
Sample : Motor Oil-2nd Src 10/14/16
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

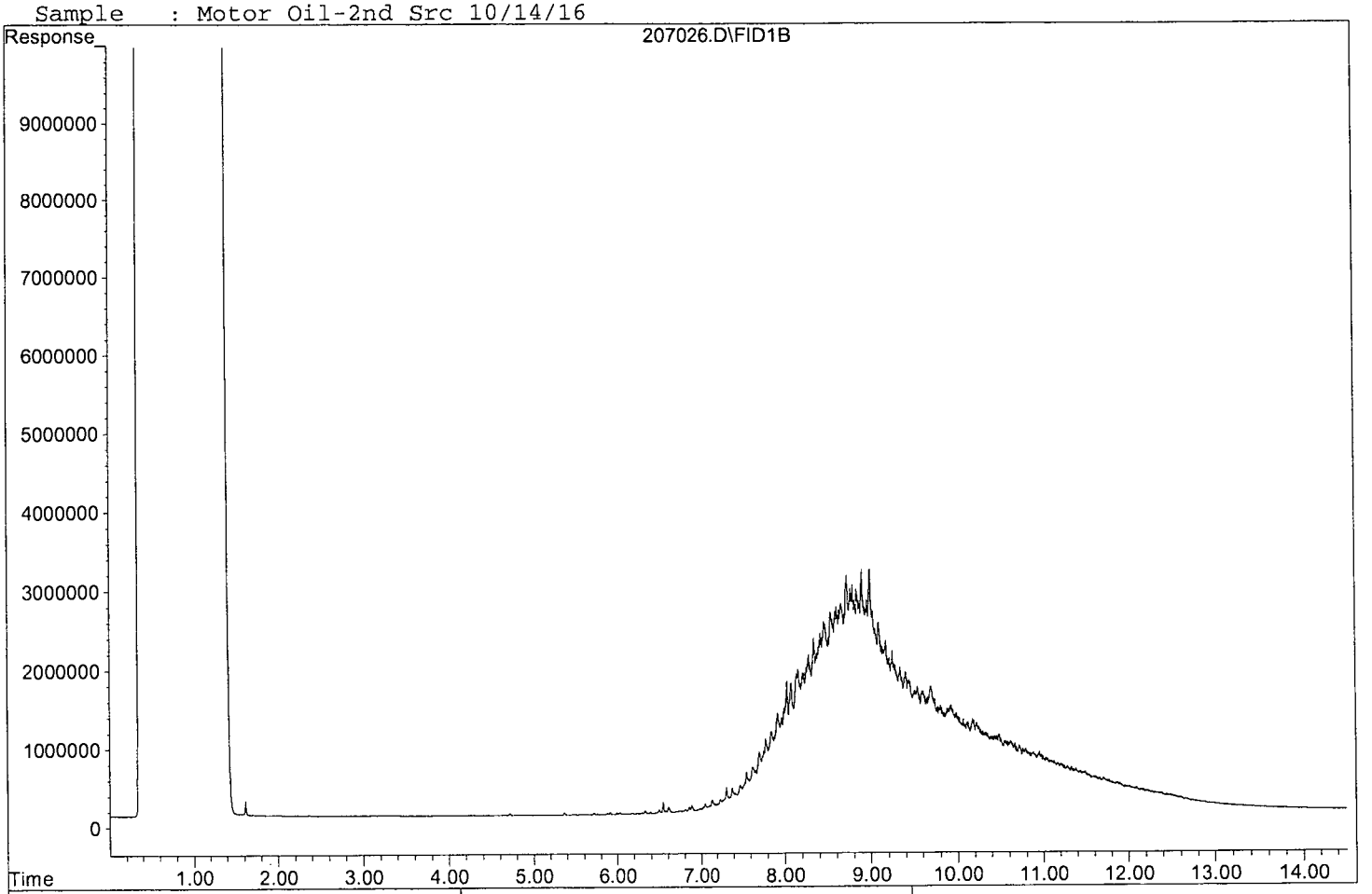
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

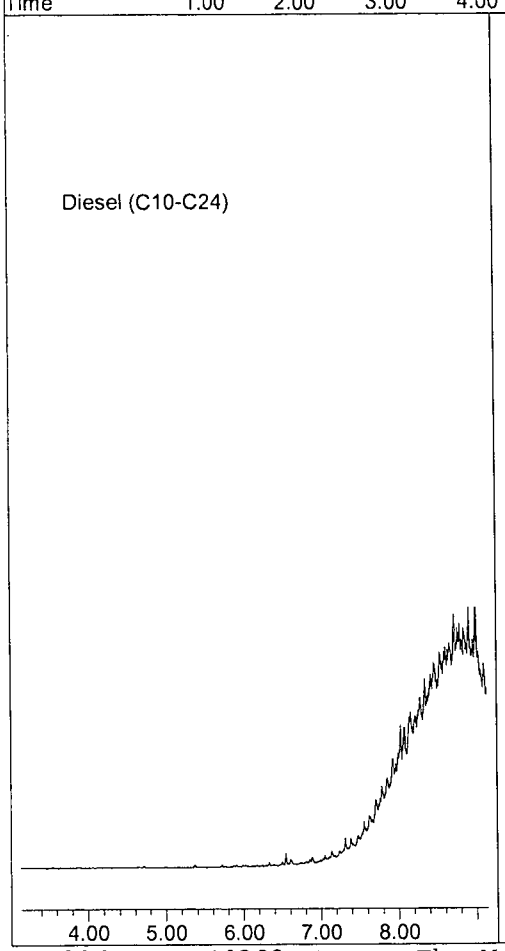
(f)=RT Delta > 1/2 Window (m)=manual int.

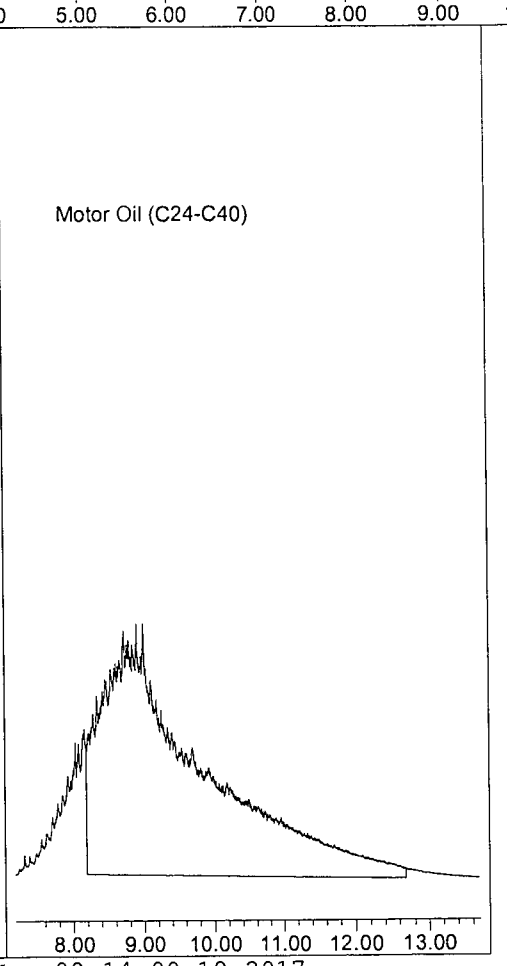
207026.D DOC0303.M Thu Mar 09 14:00:18 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16







TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/15/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315018-19.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1661350	1.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1216850	1.0	HBTM	
3							
4							
5							
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39							
40							
		Average			1.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315018.D Vial: 18
Acq On : 3-15-17 20:55:24 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:57 2017 Quant Results File: DOC0303.RES

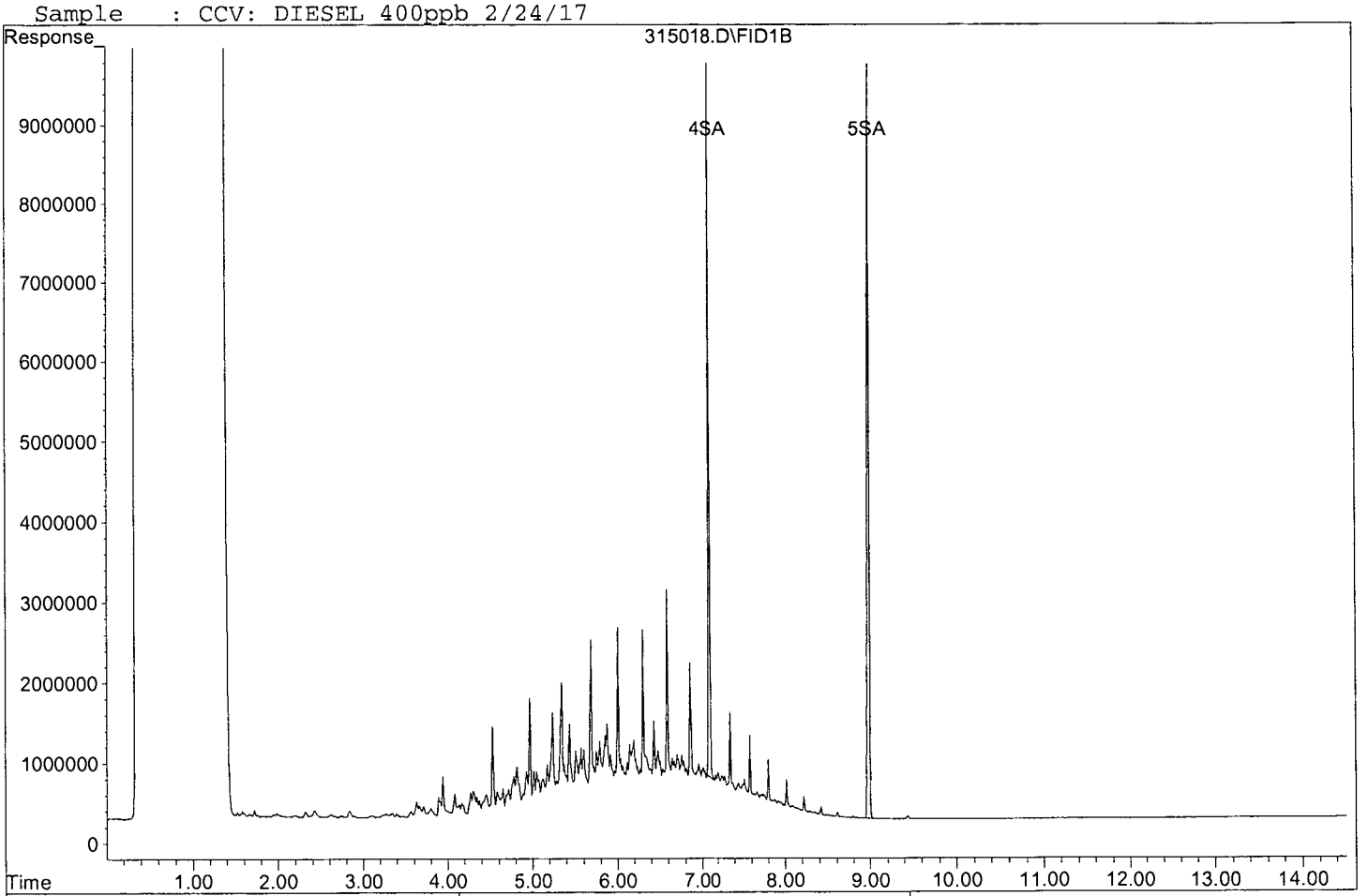
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

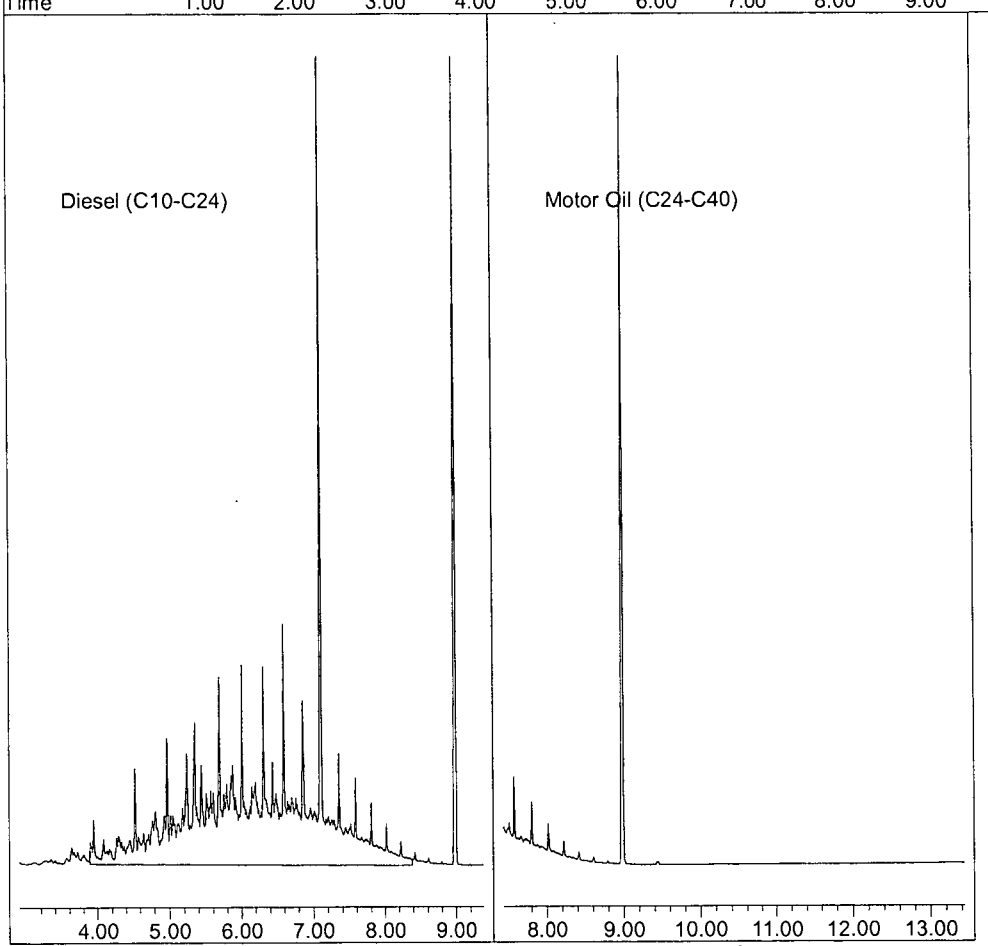
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90305202	23.554 ppb
Surrogate Spike 30.000		Recovery =	78.51%
5) SA Octacosane(S)	8.99	130318448	39.949 ppb
Surrogate Spike 30.000		Recovery =	133.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1329082184	406.814 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315018.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315019.D Vial: 19
Acq On : 3-15-17 21:16:33 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:58 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

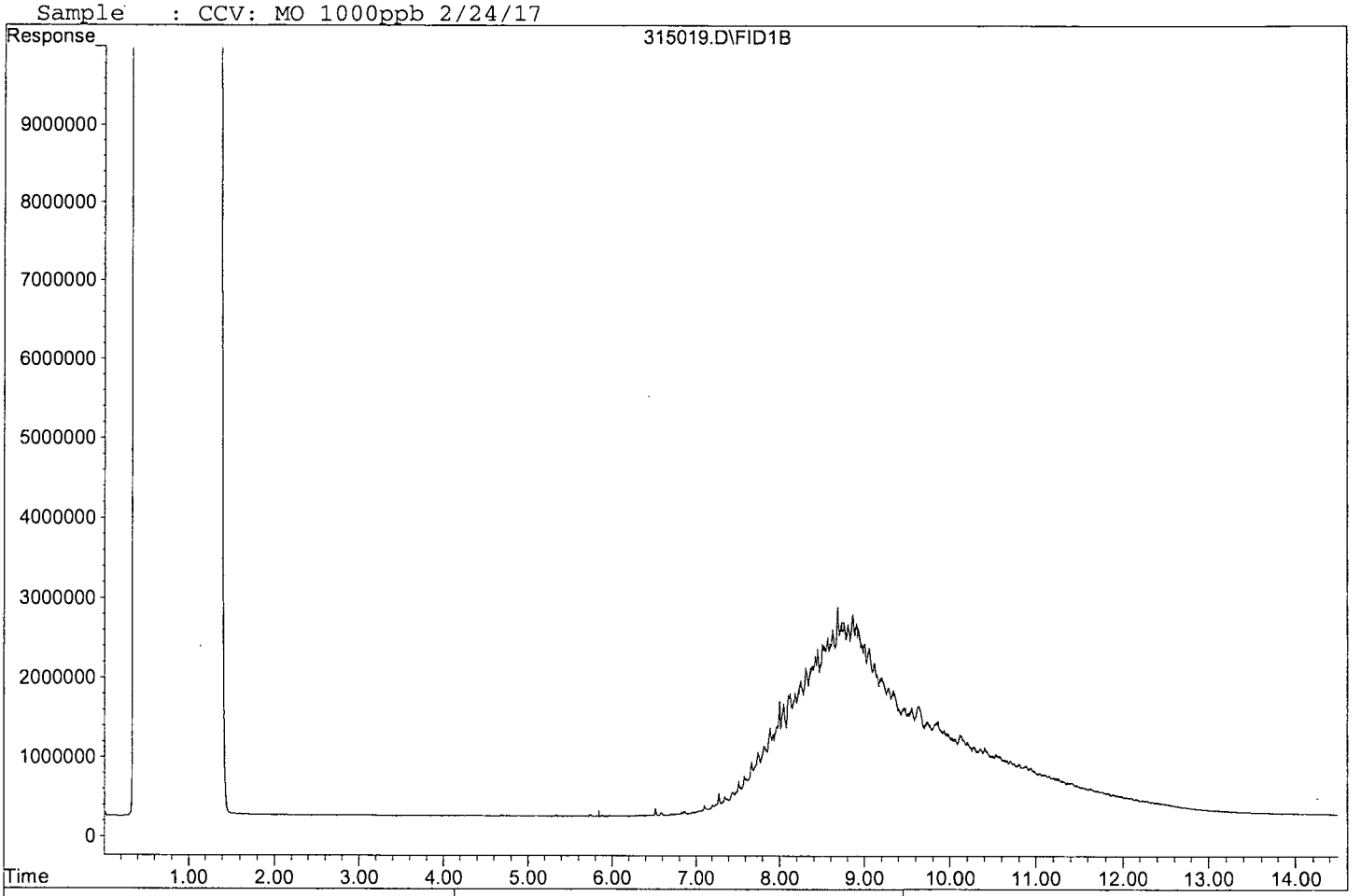
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

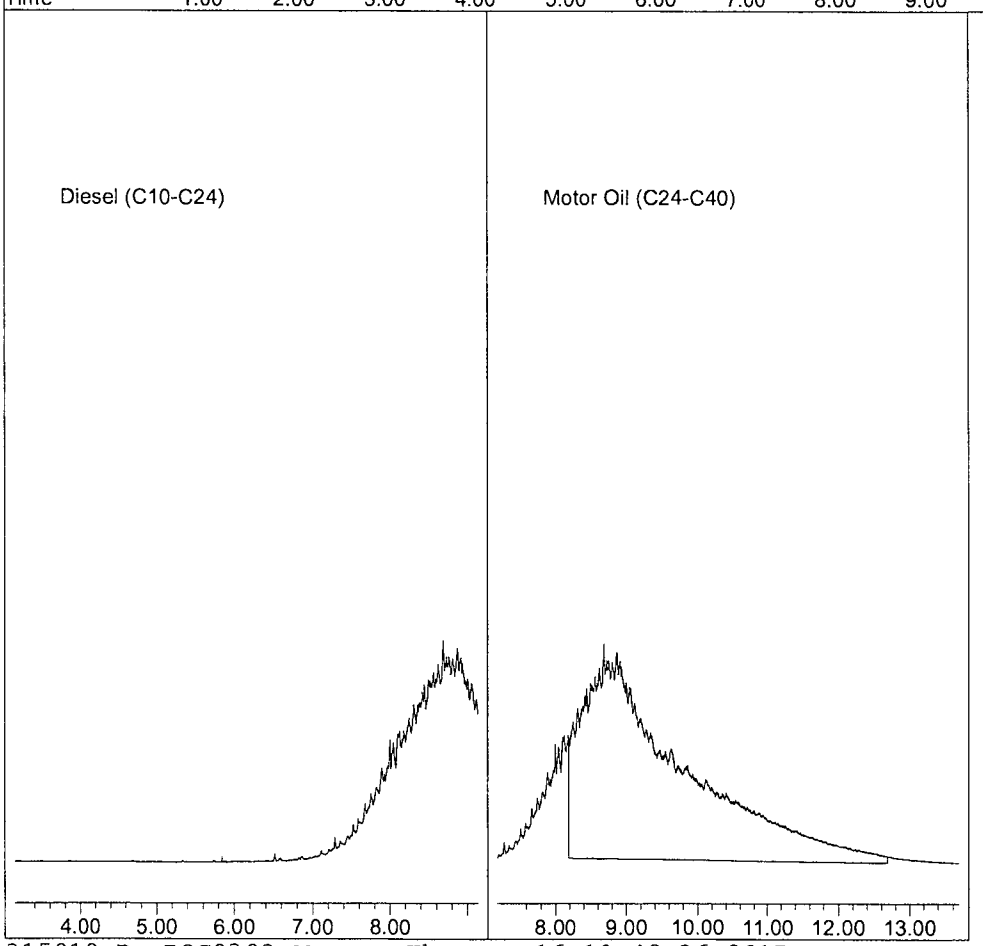
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2433694365	989.867 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315019.D
Sample : CCV: MO 1000ppb 2/24/17





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315038-39.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1678820	2.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1215680	1.1	HBTM	
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38							
39							
40							
		Average			2.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315038.D Vial: 38
Acq On : 3-16-17 3:53:22 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:05 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

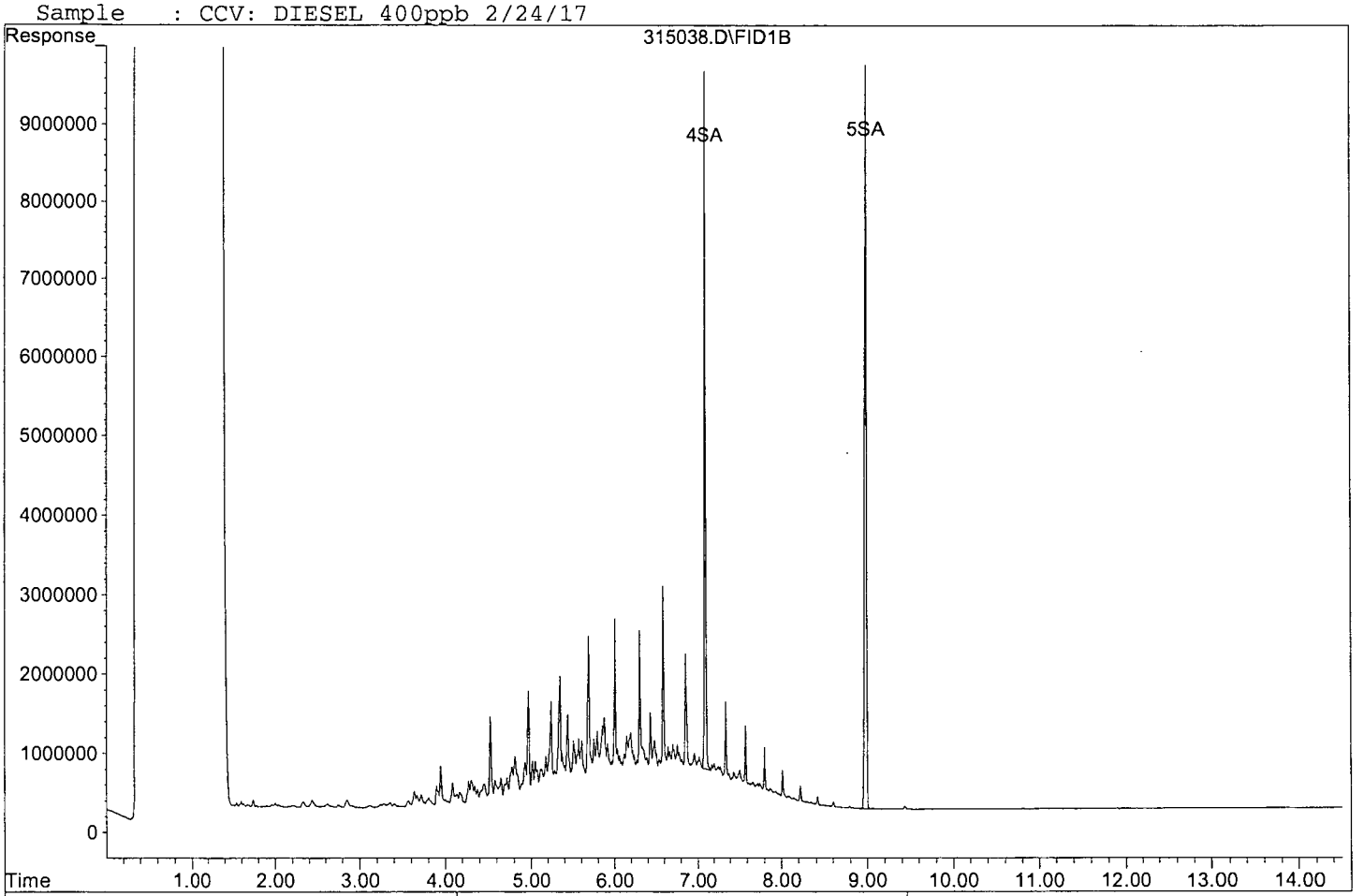
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

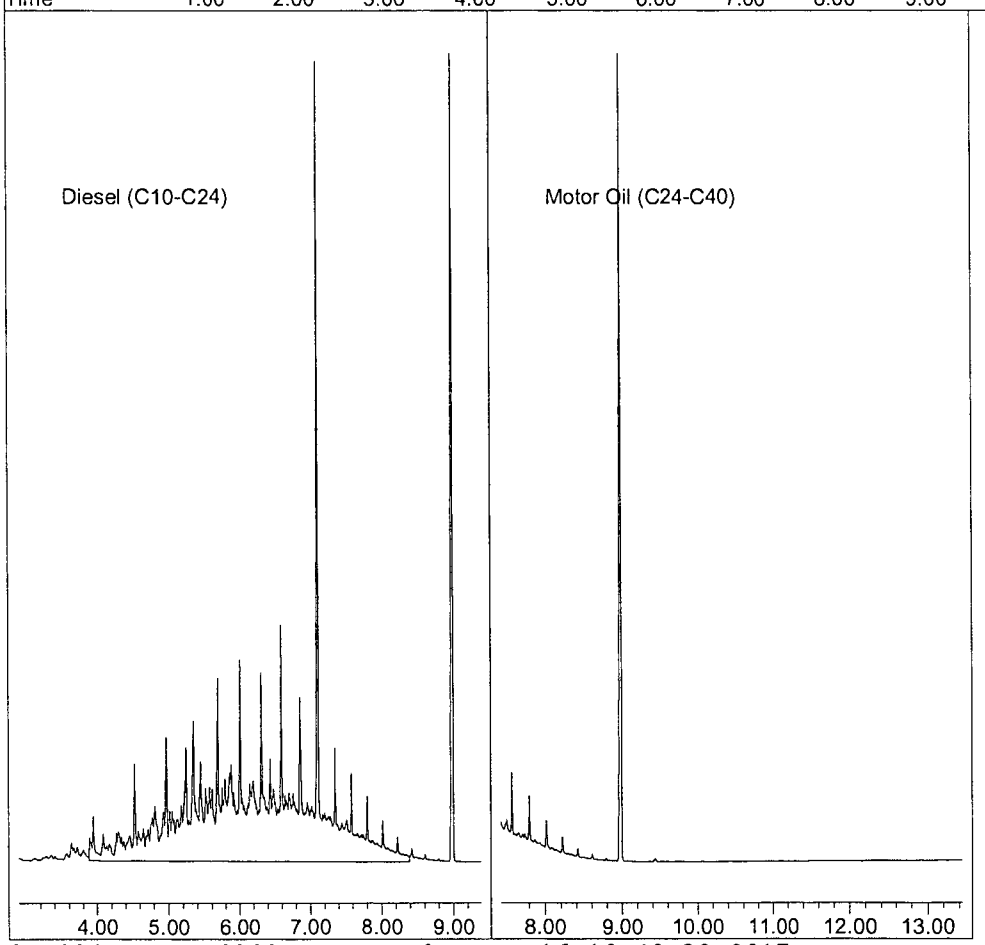
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	91861762	23.960 ppb
Surrogate Spike 30.000		Recovery =	79.87%
5) SA Octacosane(S)	8.99	130262003	39.932 ppb
Surrogate Spike 30.000		Recovery =	133.11%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1343059033	411.092 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315038.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315039.D Vial: 39
Acq On : 3-16-17 4:14:00 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:06 2017 Quant Results File: DOC0303.RES

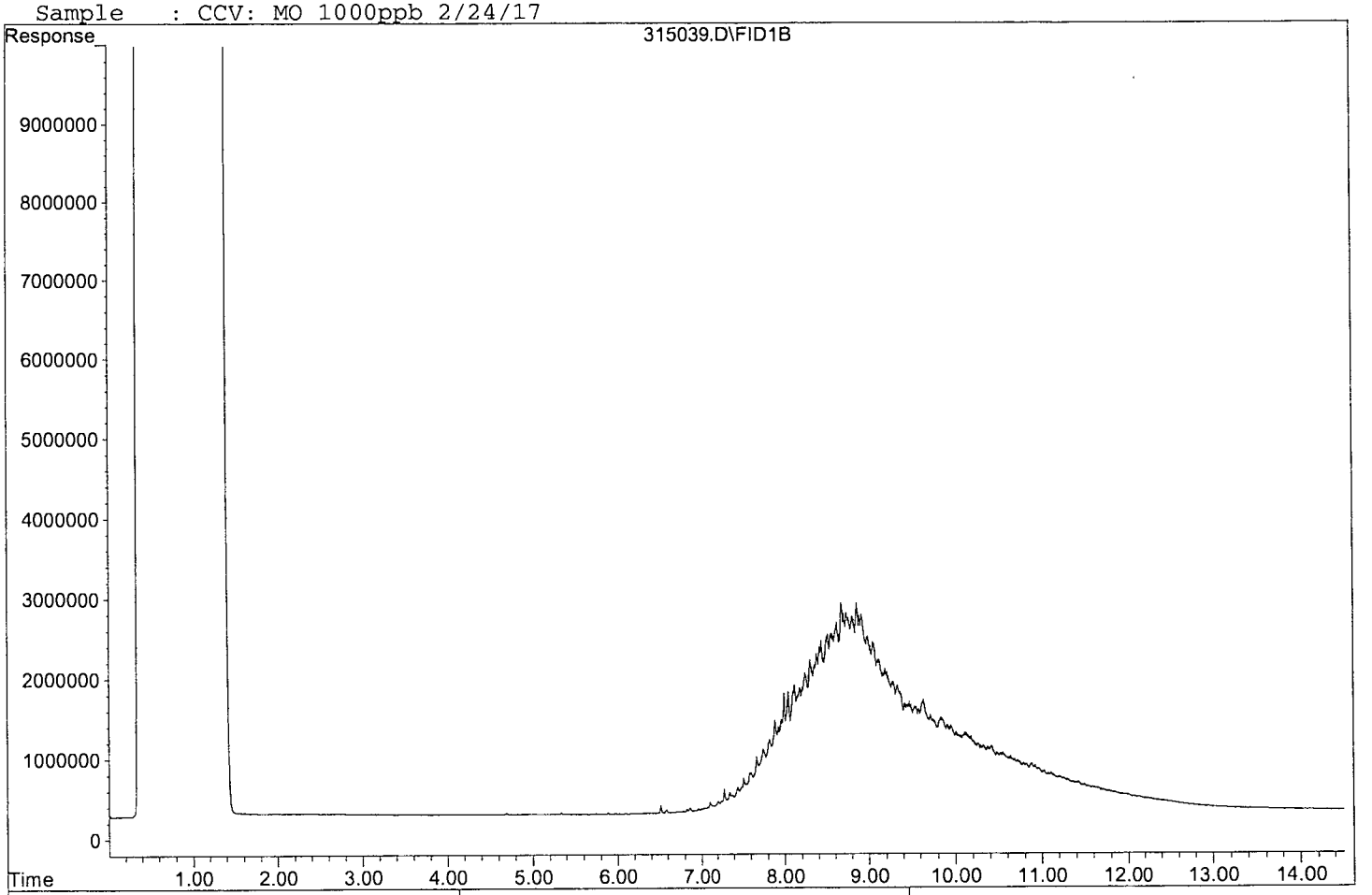
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

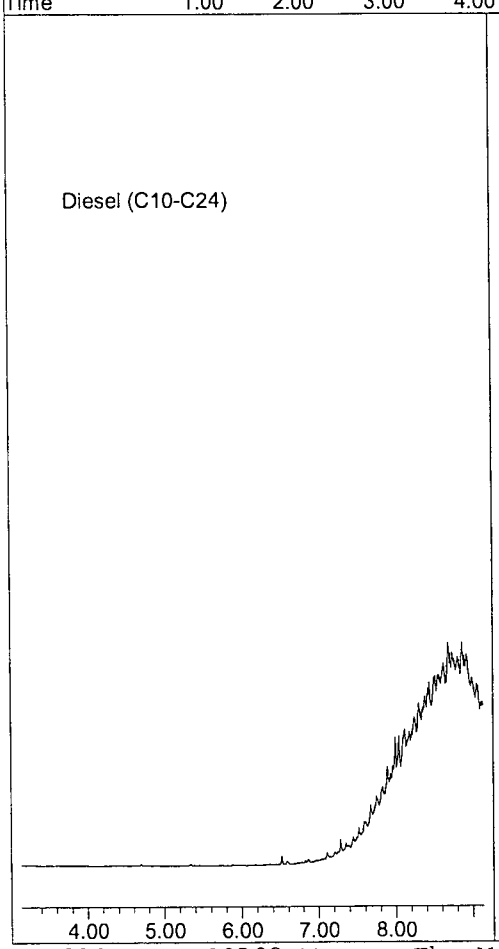
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

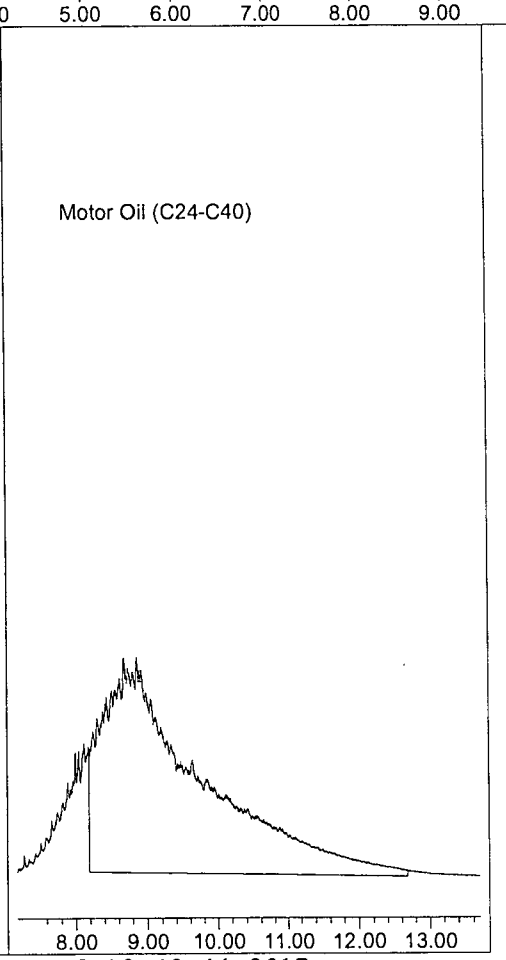
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2431366995	988.920 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315039.D
Sample : CCV: MO 1000ppb 2/24/17







TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315051-52.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1687600	3.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1157030	5.9	HBTM	
3							
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38							
39							
40							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315051.D Vial: 51
Acq On : 3-16-17 8:21:33 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

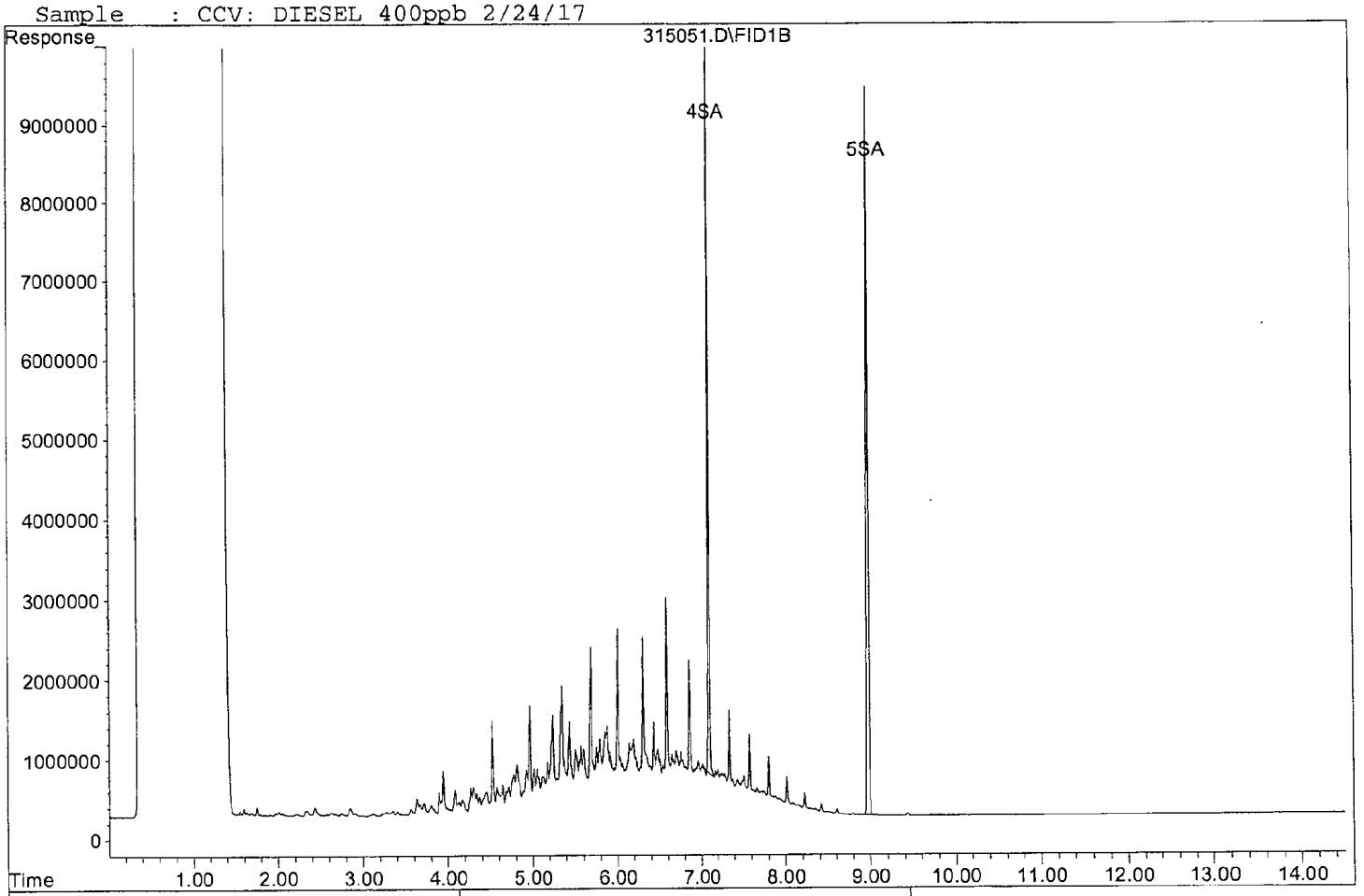
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

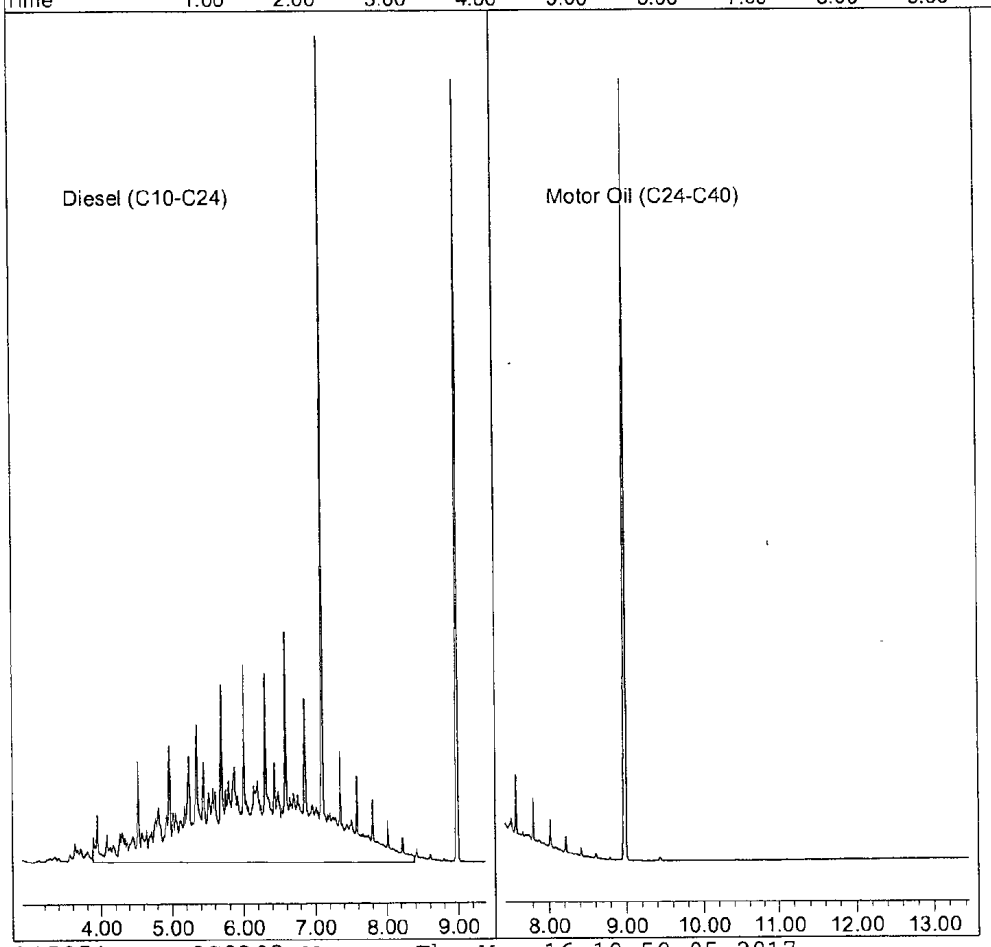
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90316172	23.557 ppb
Surrogate Spike 30.000		Recovery =	78.52%
5) SA Octacosane(S)	8.99	129879825	39.815 ppb
Surrogate Spike 30.000		Recovery =	132.72%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1350078927	413.241 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315051.D
Sample : CCV: DIESEL 400ppb 2/24/17





315051.D DOC0303.M Thu Mar 16 10:50:05 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315052.D Vial: 52
Acq On : 3-16-17 8:42:09 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

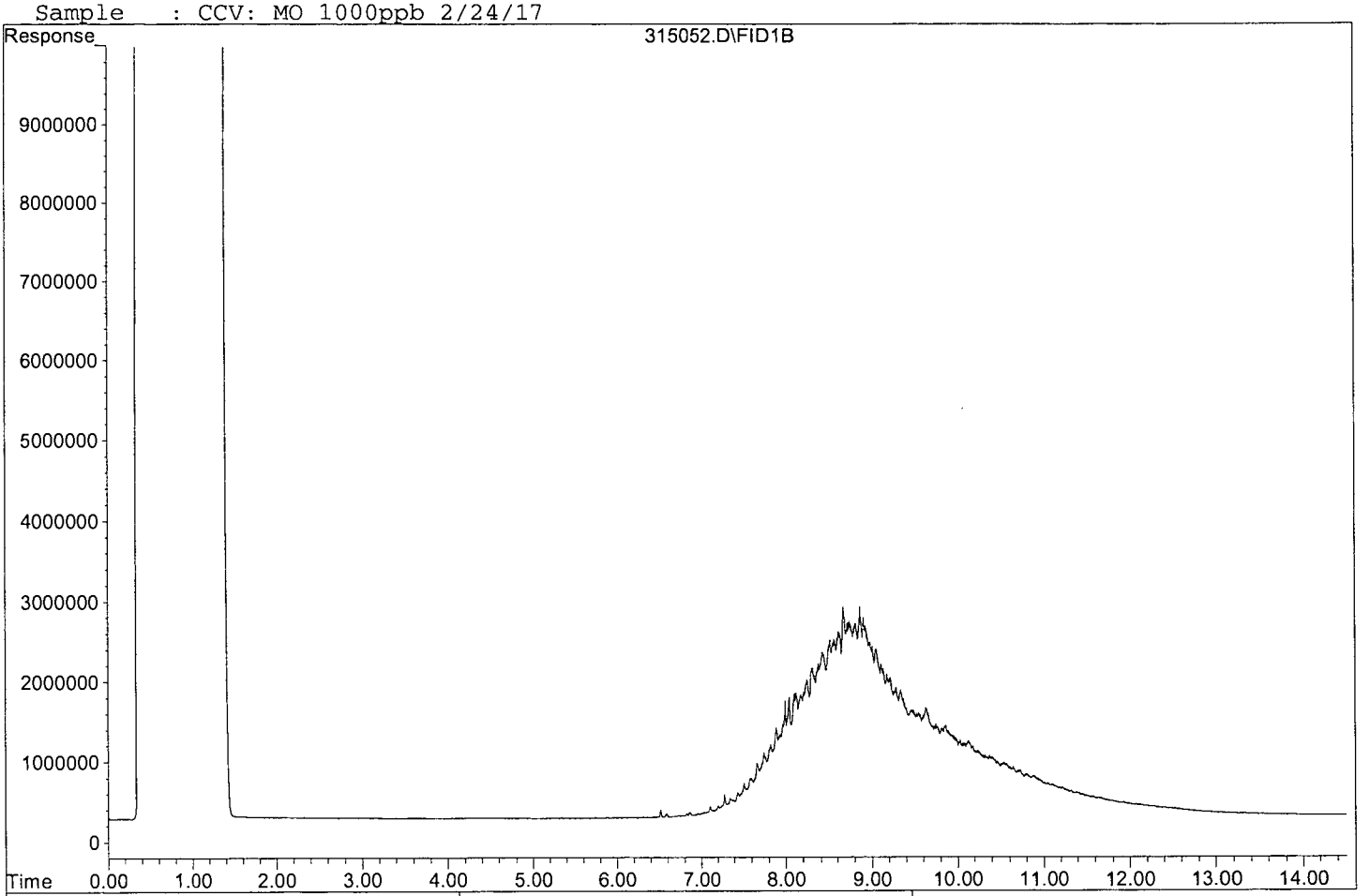
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

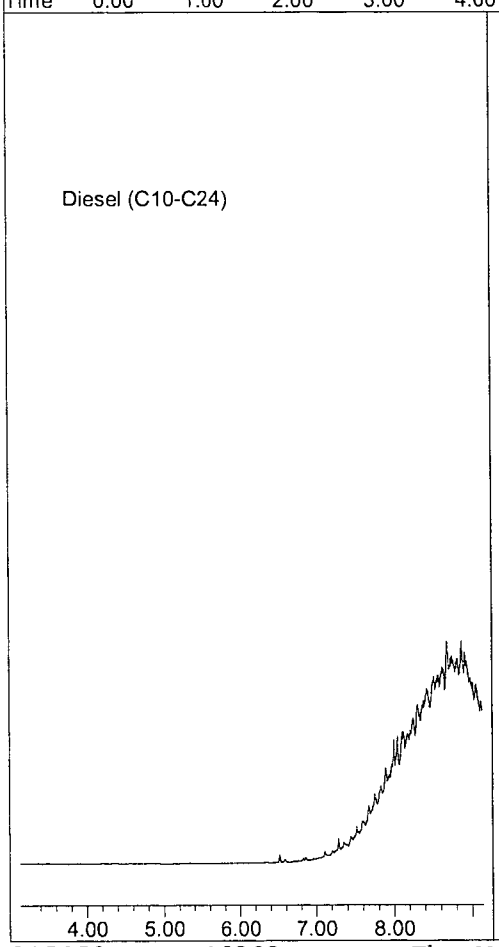
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2314052828	941.204 ppb

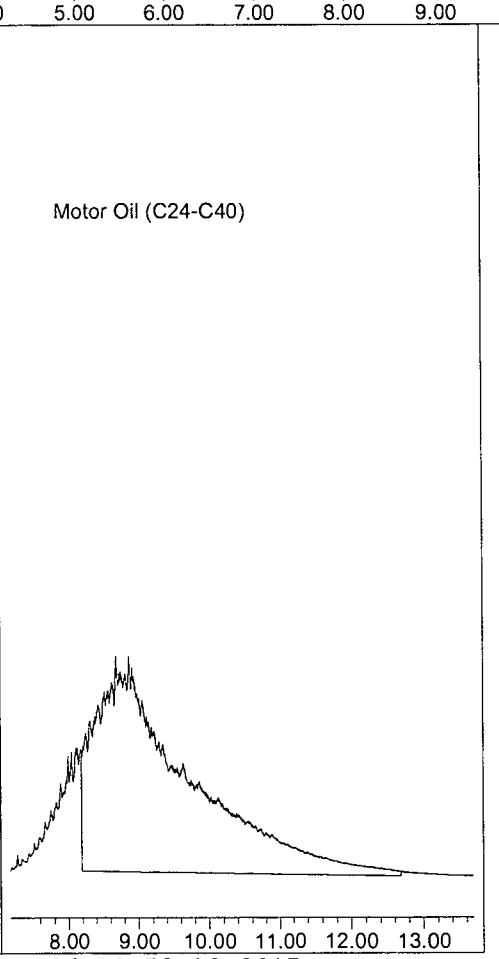
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315052.D
Sample : CCV: MO 1000ppb 2/24/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315027
Instrument: Apollo
Sequence: 170315
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:22:50 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315027.D Vial: 27
Acq On : 3-16-17 0:04:51 Operator: DP
Sample : 170310A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

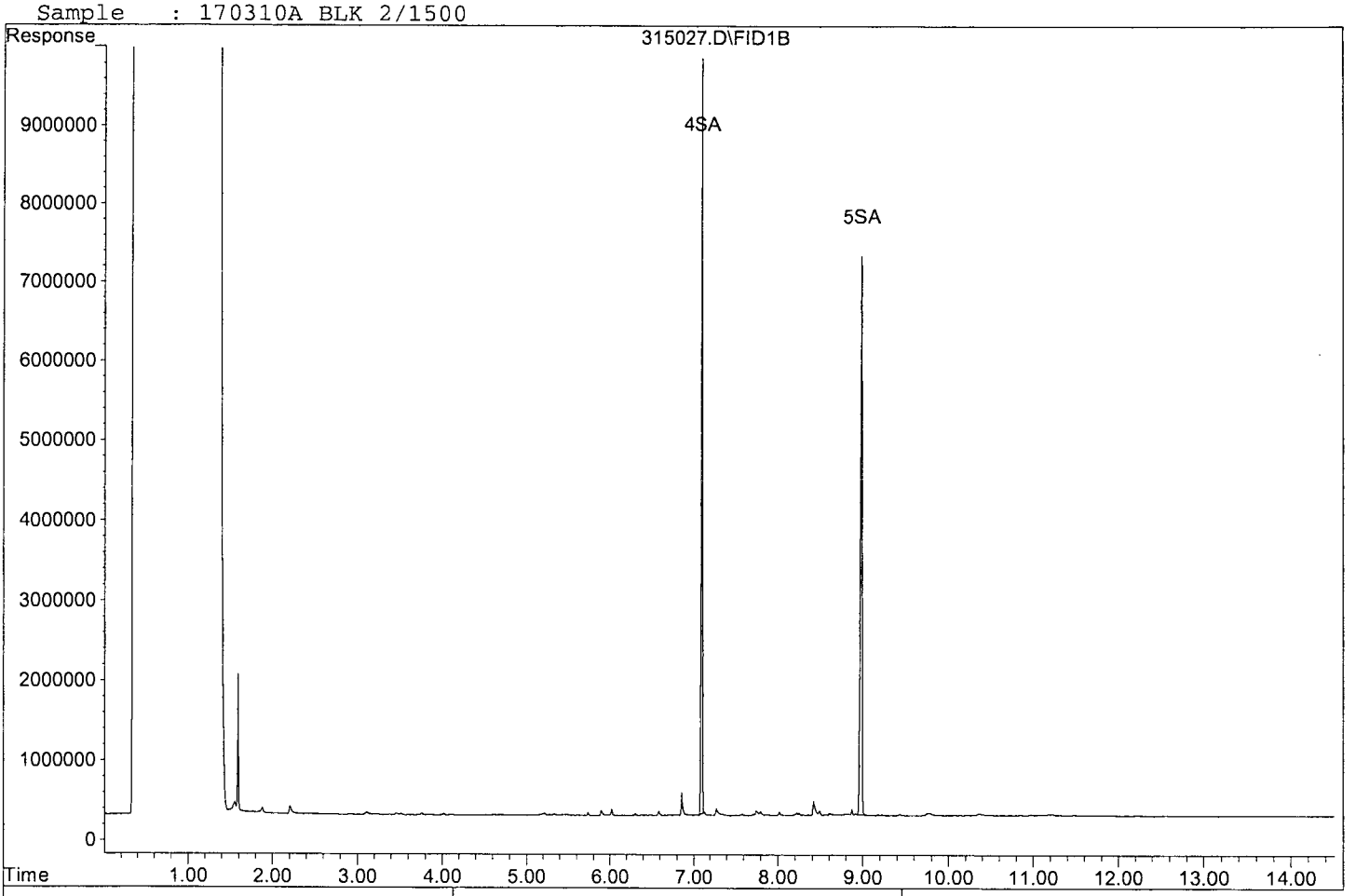
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

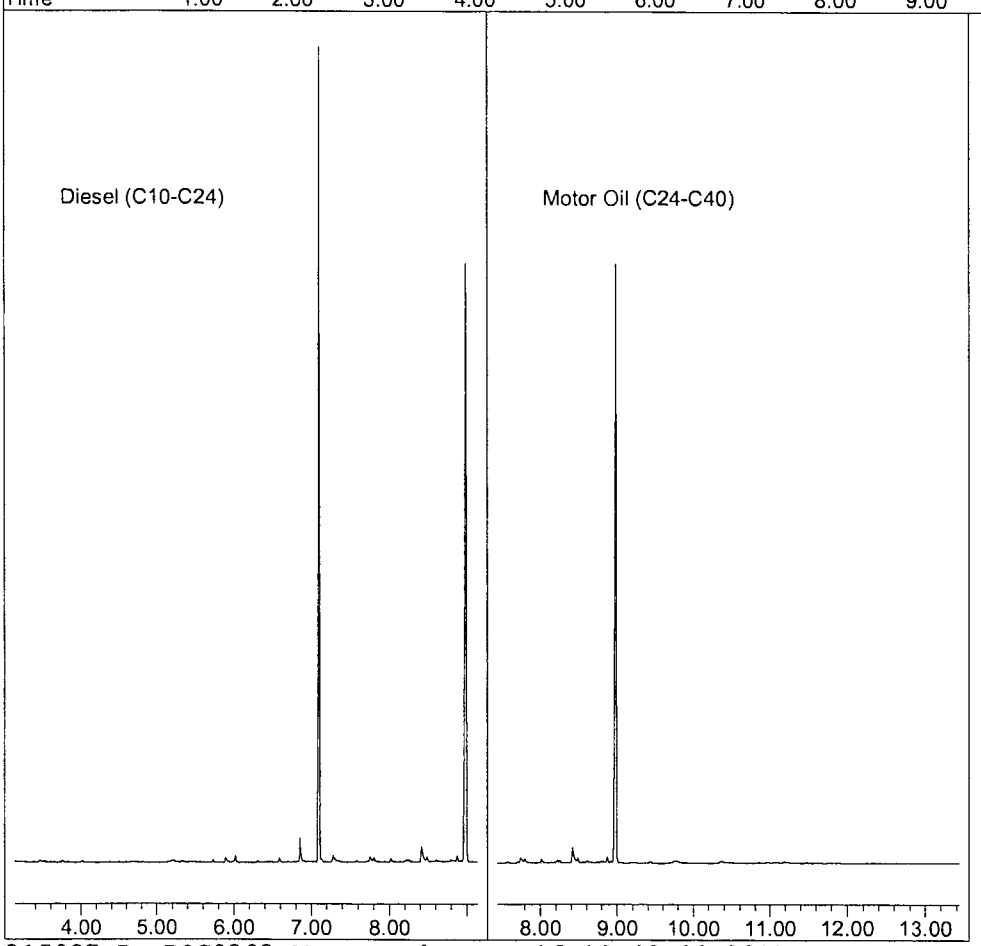
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89795582	31.229 ppb
Surrogate Spike 40.000		Recovery =	78.07%
5) SA Octacosane(S)	8.98	90467112	36.977 ppb
Surrogate Spike 40.000		Recovery =	92.44%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315027.D
Sample : 170310A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:22:48 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315028.D Vial: 28
Acq On : 3-16-17 0:25:45 Operator: DP
Sample : 170310A LCS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

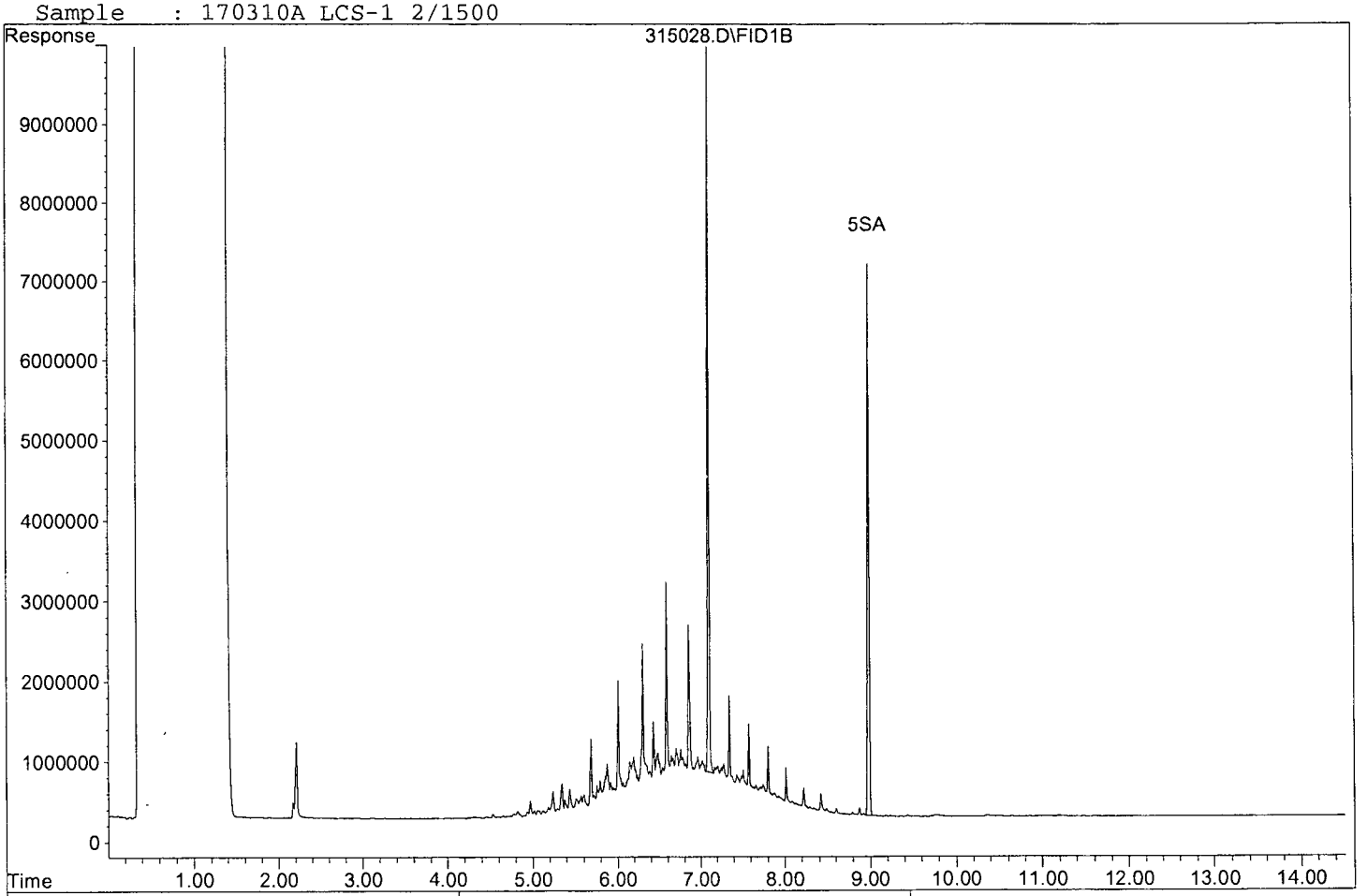
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

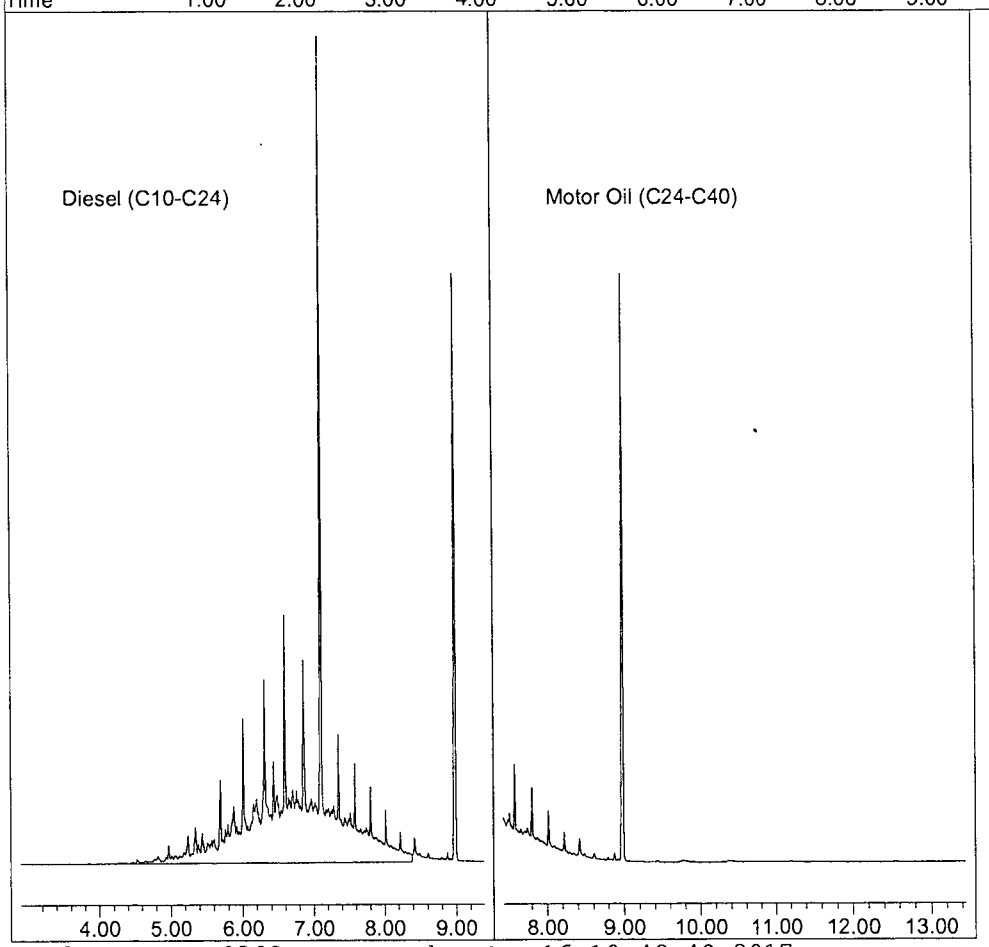
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	114375232	39.777 ppb
Surrogate Spike 40.000		Recovery =	99.44%
5) SA Octacosane(S)	8.99	89055147	36.400 ppb
Surrogate Spike 40.000		Recovery =	91.00%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	928608852	378.978 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315028.D
Sample : 170310A LCS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315029.D Vial: 29
Acq On : 3-16-17 0:46:40 Operator: DP
Sample : 170310A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

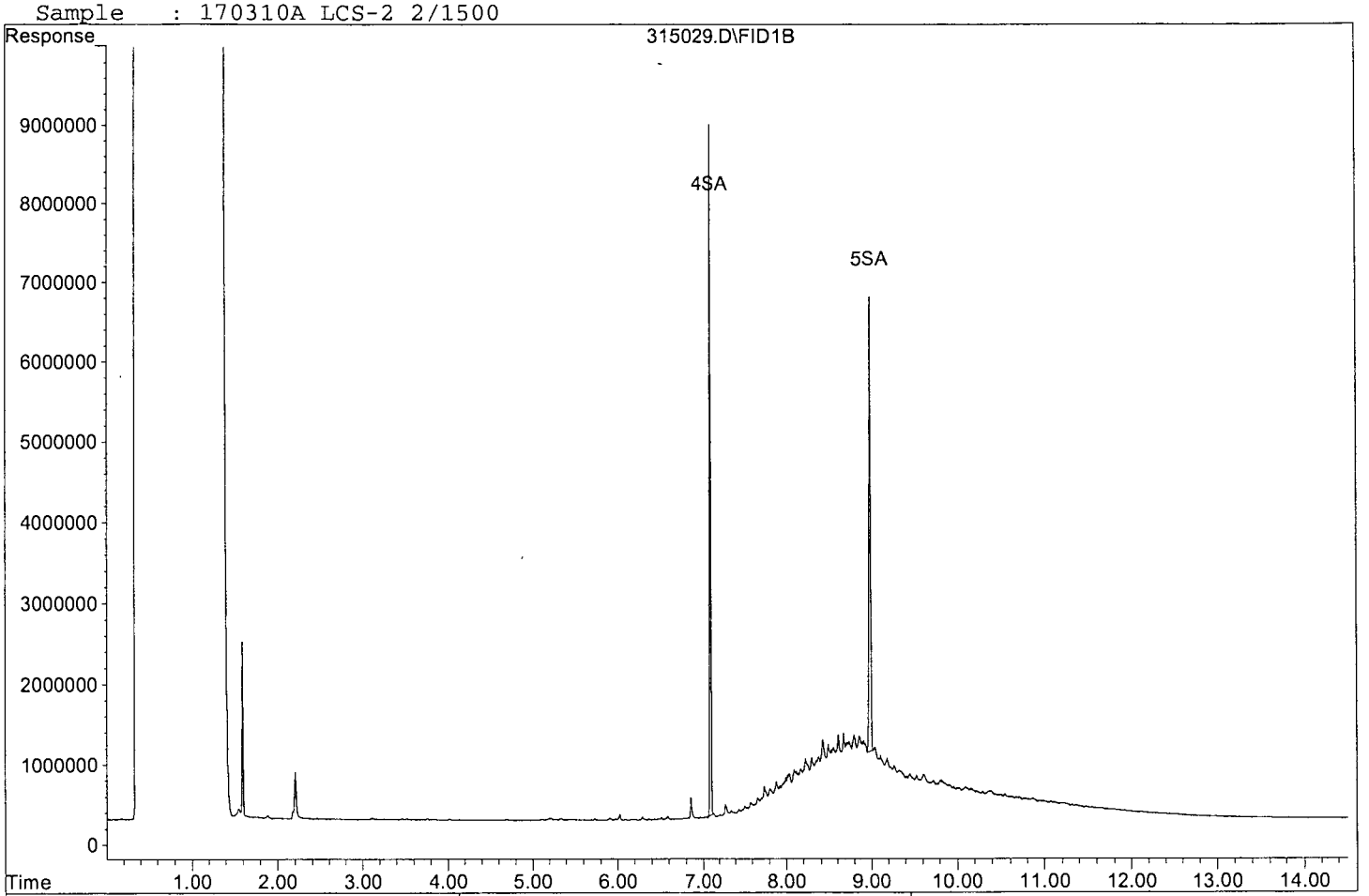
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

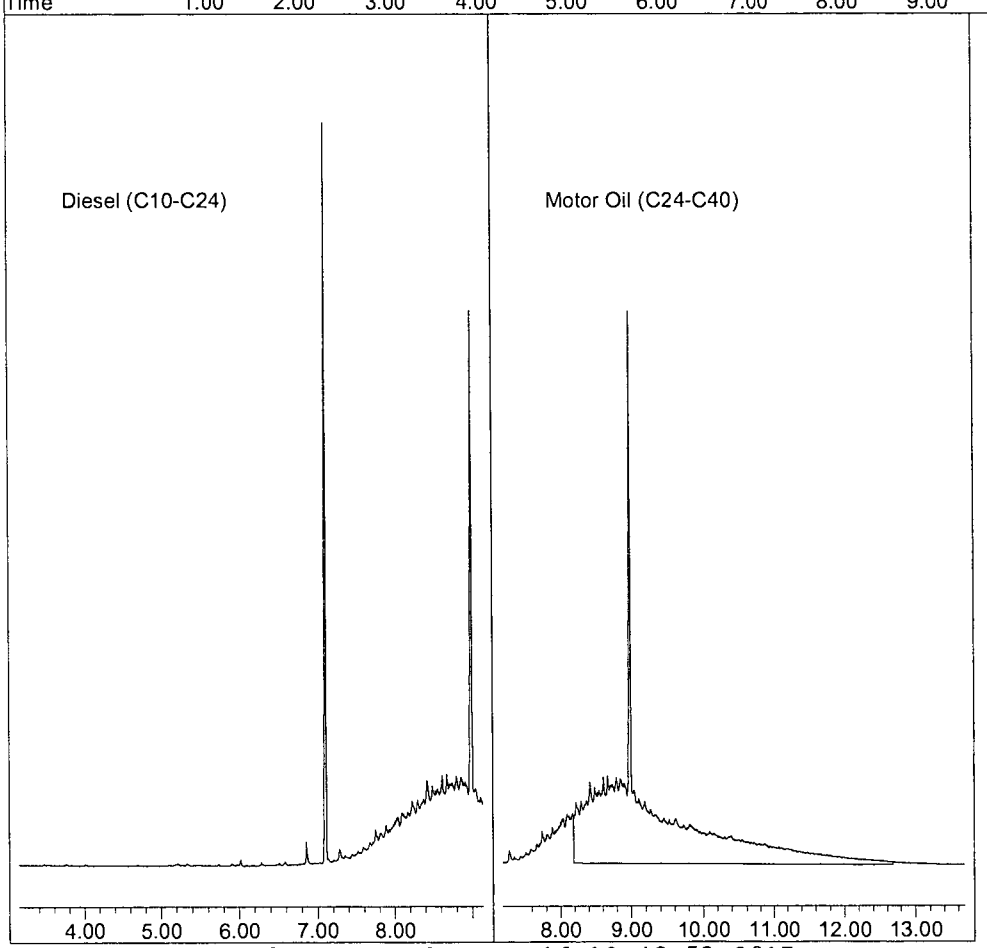
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	81533667	28.355 ppb
Surrogate Spike 40.000		Recovery =	70.89%
5) SA Octacosane(S)	8.99	73029265	29.849 ppb
Surrogate Spike 40.000		Recovery =	74.62%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	978632363	530.723 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315029.D
Sample : 170310A LCS-2 2/1500





Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170310W-51132 MS - 216933**
Batch ID: #DOC53-170310A1
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	506	489	75.9	73.3	36-132	3.4	30
OIL (C24-C40)	667	ND	703	686	105	103	41-113	2.4	30
SURROGATE: OCTACOSANE (S)	40.0	NA	37.5	40.5	93.8	101	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	41.1	41.5	103	104	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0303.M	DOC0303.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/16/17	03/16/17
Instrument :	Apollo	Apollo
Run :	315030	315033
Initials :	DPO	

Printed: 03/16/17 10:22:43 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315030.D
Vial: 30
Acq On : 3-16-17 1:07:31
Operator: DP
Sample : AZ51132W23 MS-1 2/1500
Inst : Apollo
Misc : water
Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:00 2017 Quant Results File: DOC0303.RES

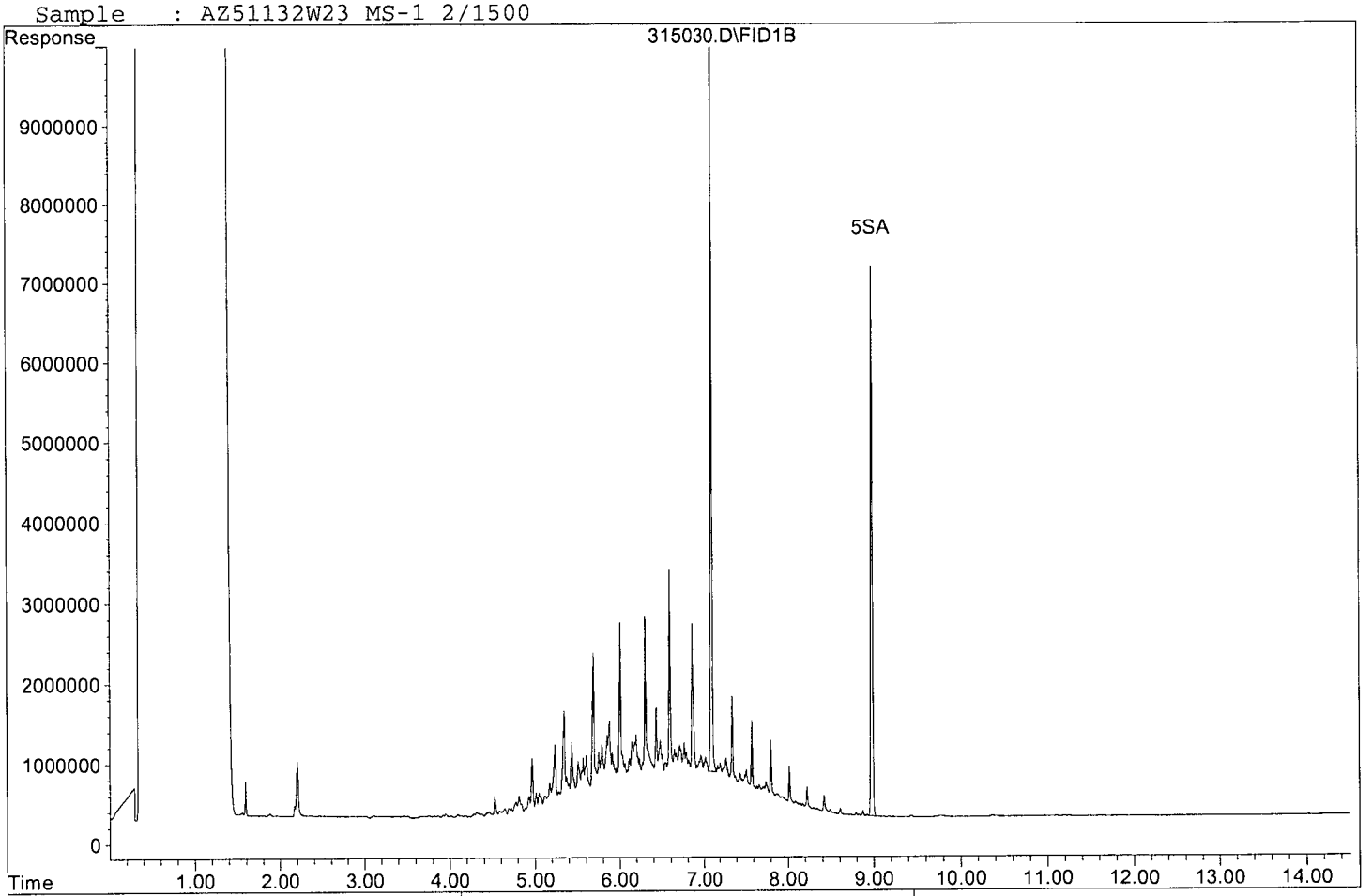
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

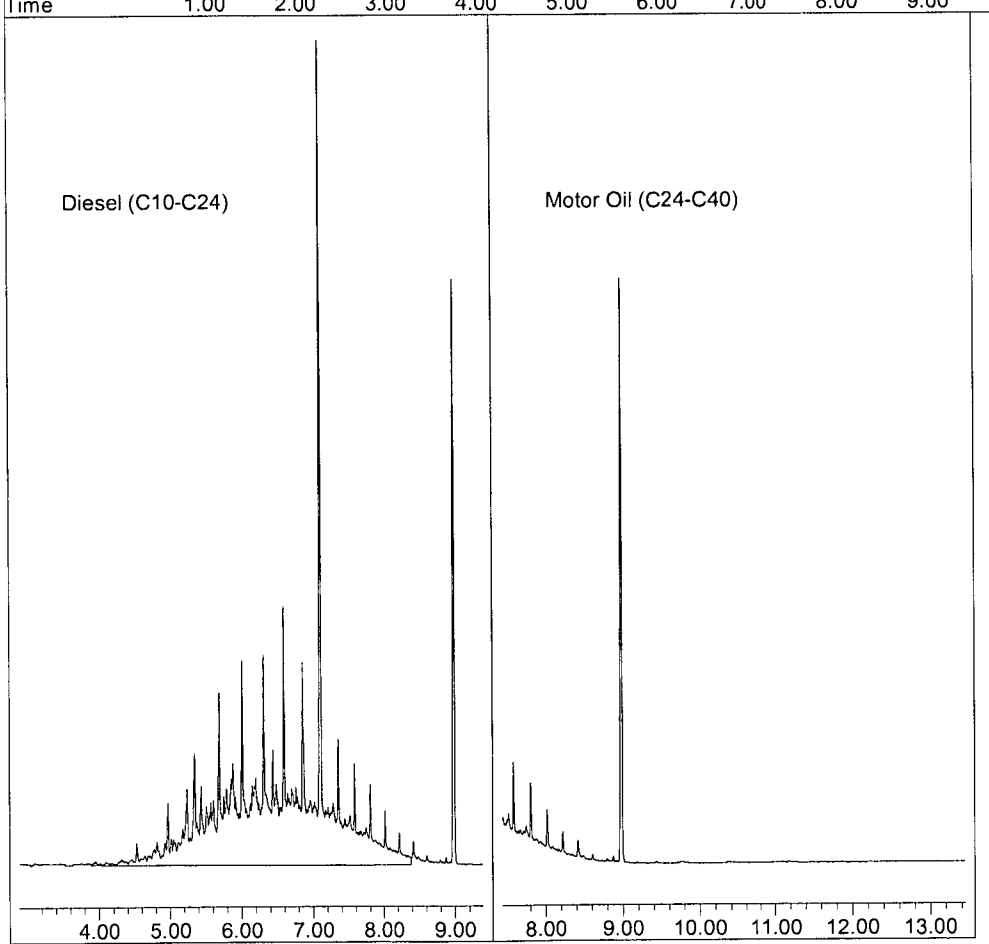
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	118300790	41.142 ppb
Surrogate Spike 40.000		Recovery =	102.86%
5) SA Octacosane(S)	8.98	91725119	37.491 ppb
Surrogate Spike 40.000		Recovery =	93.73%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1239888394	506.016 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315030.D
Sample : AZ51132W23 MS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315031.D Vial: 31
Acq On : 3-16-17 1:28:19 Operator: DP
Sample : AZ51132W31 MSD-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:01 2017 Quant Results File: DOC0303.RES

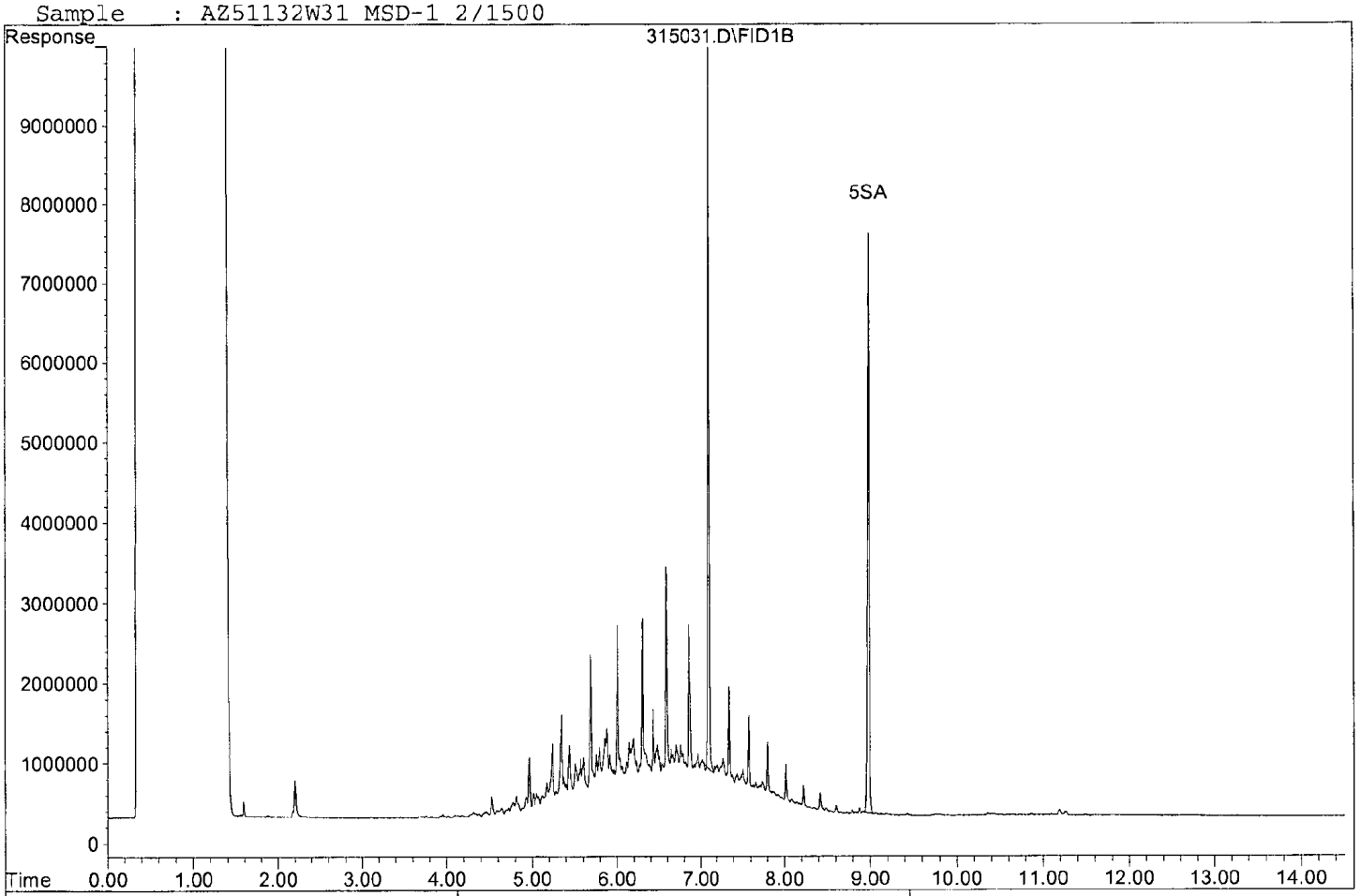
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

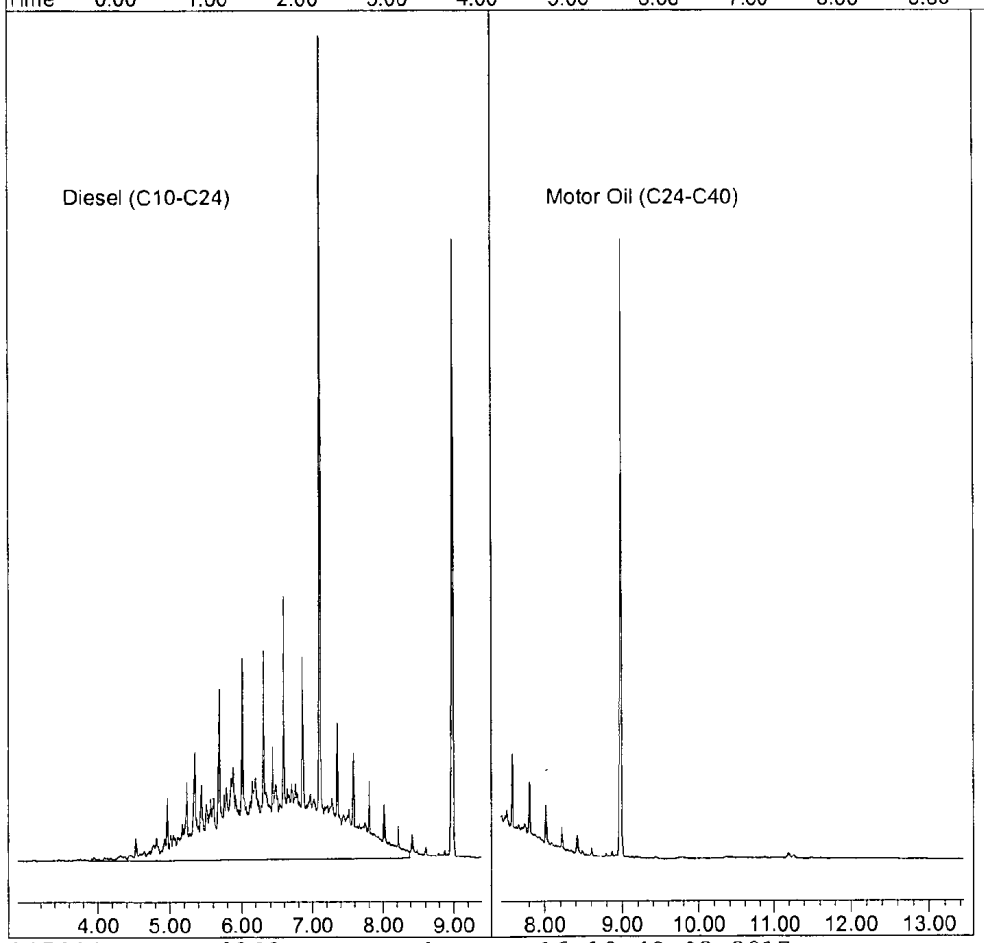
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	119332988	41.501 ppb
Surrogate Spike 40.000		Recovery =	103.75%
5) SA Octacosane(S)	8.99	99053104	40.486 ppb
Surrogate Spike 40.000		Recovery =	101.22%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1198395522	489.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315031.D
Sample : AZ51132W31 MSD-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315032.D
Vial: 32
Acq On : 3-16-17 1:49:04
Operator: DP
Sample : AZ51132W27 MS-2 2/1500
Inst : Apollo
Misc : water
Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:01 2017 Quant Results File: DOC0303.RES

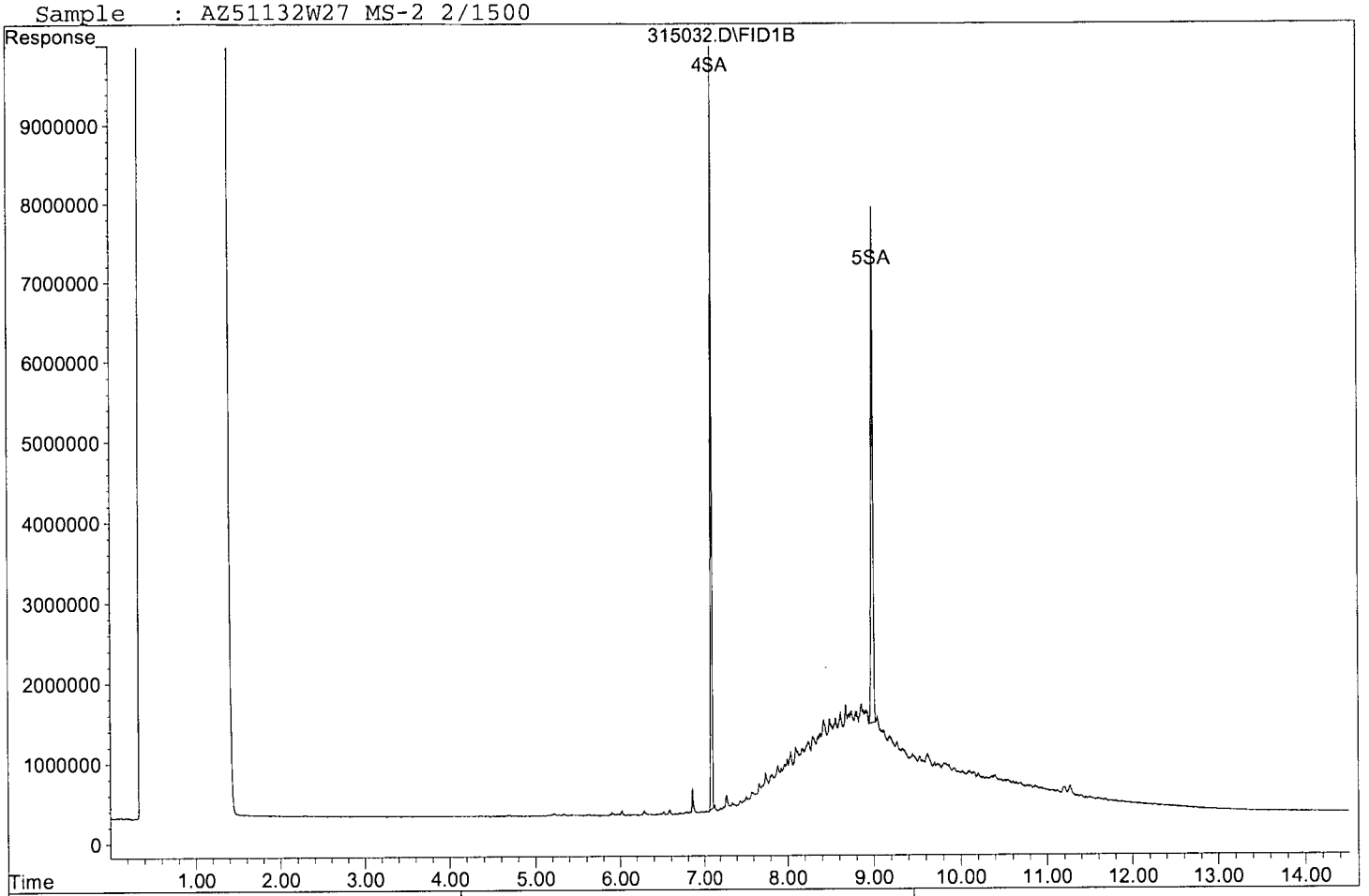
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

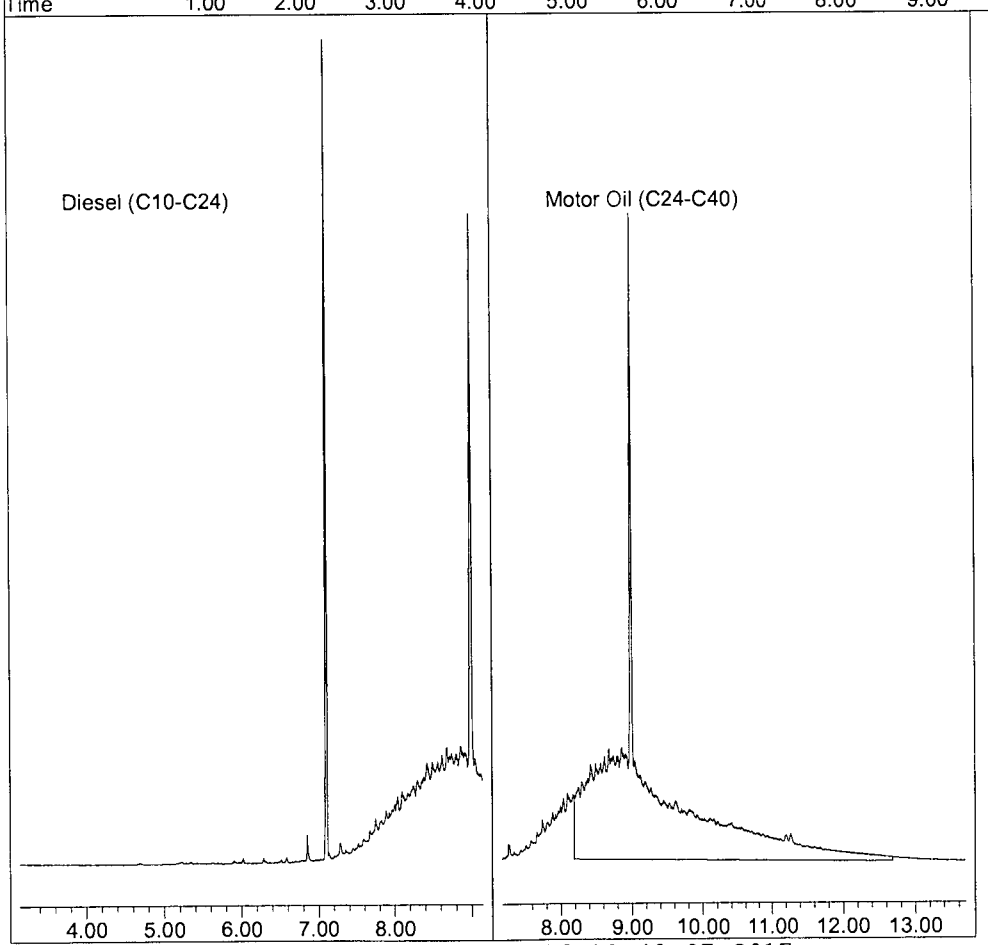
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	104326808	36.282 ppb
Surrogate Spike 40.000		Recovery =	90.70%
5) SA Octacosane(S)	8.99	94617873	38.673 ppb
Surrogate Spike 40.000		Recovery =	96.68%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1296542045	703.129 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315032.D
Sample : AZ51132W27 MS-2 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315033.D Vial: 33
Acq On : 3-16-17 2:09:49 Operator: DP
Sample : AZ51132W20 MSD-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:01 2017 Quant Results File: DOC0303.RES

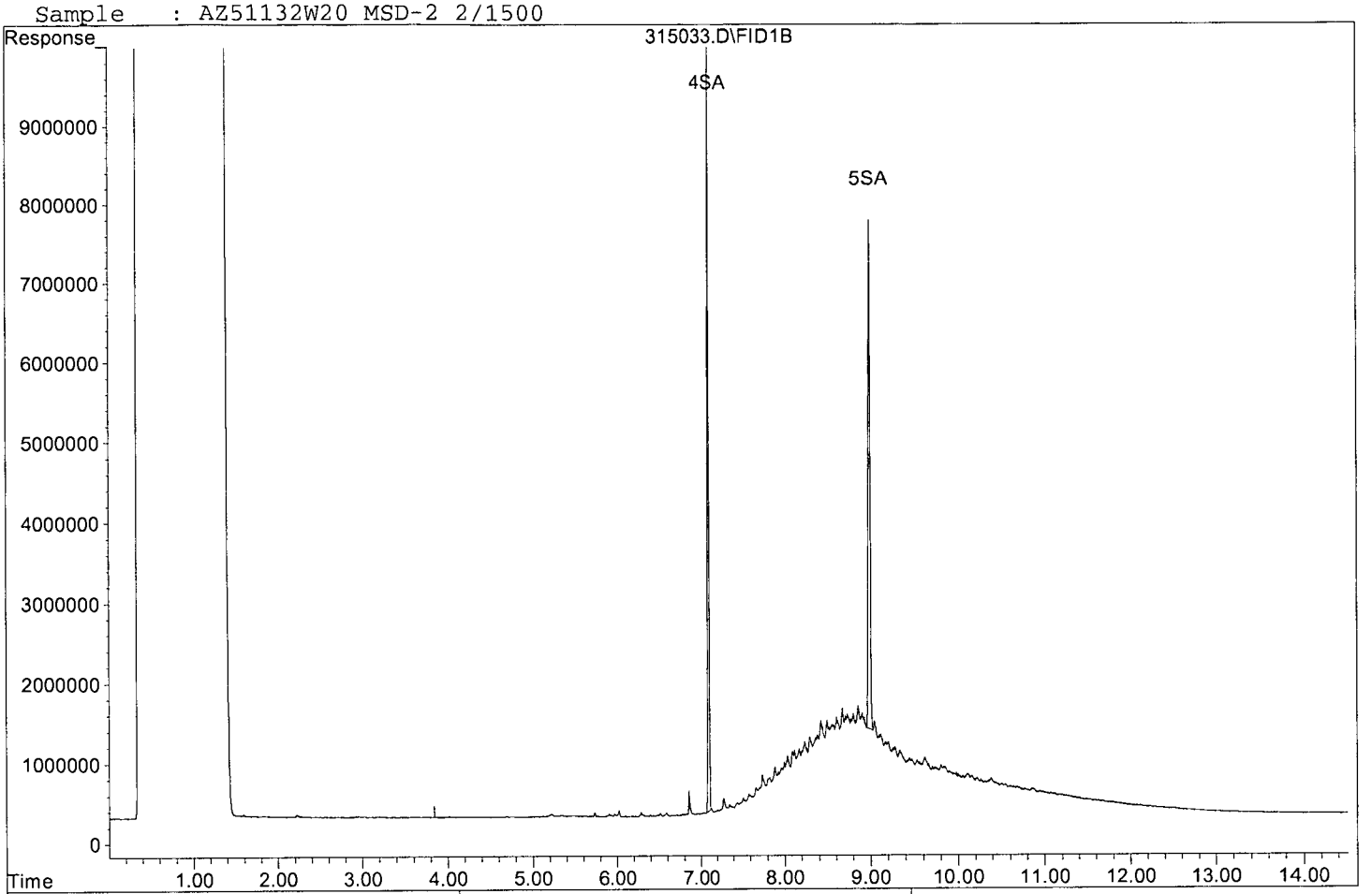
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

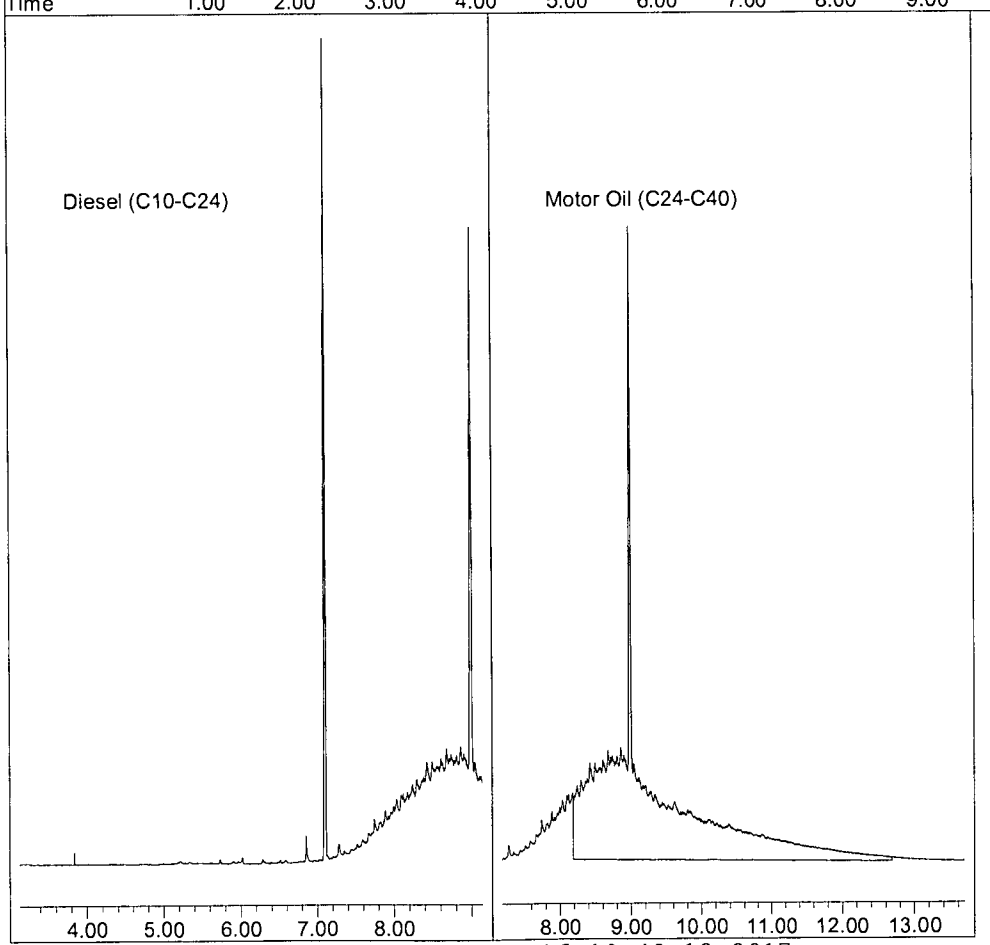
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	102516176	35.653 ppb
Surrogate Spike 40.000		Recovery =	89.13%
5) SA Octacosane(S)	8.99	93841371	38.356 ppb
Surrogate Spike 40.000		Recovery =	95.89%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	1264179930	685.579 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315033.D
Sample : AZ51132W20 MSD-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

THC Surrogate Curve		prep: 03/03/17-D.P.		exp: 06/03/17		2	3	4	5	6
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
THC Surrogate Mix	600	295677 and 266278	03/02/17	03/02/18	10	10	40	60	80	83.33
MC	N/A	56153			990	90	60	40	20	916.67
				Final VOL.	1000	100	100	100	100	1000
				Conc (ug/mL)	0.5	5	20	30	40	50

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

DIESEL CCV 400ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	4000 µL	10 mL	400 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	02/07/18				

MOTOR OIL CCV 1000ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

Diesel Spike
Cat: 011598-03
Lot: 280736-37355
Op: 02/23/17-D.P.
Exp: 02/23/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34440
Op: 02/23/17-D.P.
Exp: 11/09/17

THC Surrogate	
Cat:	110316-05
Lot:	295677-37410
Op:	02/23/17-DP
Exp:	02/23/18

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 12:35	
Spiked ID 8			Ext. End Time:	03/14/17 13:45	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria 35,35,35 °
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	
2	170310A LCS-1		0.020	1	0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	
3	170310A LCS-2		0.020	2	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	
4	AZ51053	AZ51053W12			0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82337 1 WEEK
5	AZ51054	AZ51054W08			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82337 1 WEEK
6	AZ51056	AZ51056W14			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82337 1 WEEK
7	AZ51132 MS-1	AZ51132W23	0.020	1	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
8	AZ51132 MSD-1	AZ51132W31	0.020	1	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
9	AZ51132 MS-2	AZ51132W27	0.020	2	0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82351 5 DAYS
10	AZ51132 MSD-2	AZ51132W20	0.020	2	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
11	AZ51132	AZ51132W29			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
12	AZ51133	AZ51133W07			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
13	AZ51135	AZ51135W27			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
14	AZ51136	AZ51136W10			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82351 5 DAYS
15	AZ51139	AZ51139W13			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
16	AZ51141	AZ51141W12			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	3/14/17
Time	4:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP
Modified	03/14/17 1:55:58 PM

Reviewed By: [illegible] **Date** 3/14/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/10/17 12:35
Spiked ID 8			Ext. End Time:	03/14/17 13:45
			GC Requires Extract By:	**03/13/17 0:00**

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51357	AZ51357W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
18	AZ51359	AZ51359W11			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
19	AZ51360	AZ51360W06			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
20	AZ51362	AZ51362W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB3				
21	AZ51364	AZ51364W10			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
22	AZ51530	AZ51530W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
23	AZ51533	AZ51533W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB1				
24	AZ51535	AZ51535W10			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
25	AZ51536	AZ51536W06			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB2				

KY 3/14/17

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: KY **Date** 3/14/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	303002.D	1	THC Surrogate-1 0.5 ug/mL 3/3/17	Mix(A)	3-3-17 14:55:47
16	3	303003.D	1	THC Surrogate-2 5.0 ug/mL 3/3/17	Mix(A)	3-3-17 15:16:38
17	4	303004.D	1	THC Surrogate-3 20 ug/mL 3/3/17	Mix(A)	3-3-17 15:37:25
18	5	303005.D	1	THC Surrogate-4 30 ug/mL 3/3/17	Mix(A)	3-3-17 15:58:18
19	6	303006.D	1	THC Surrogate-5 40 ug/mL 3/3/17	Mix(A)	3-3-17 16:19:16
20	7	303007.D	1	THC Surrogate-6 50 ug/mL 3/3/17	Mix(A)	3-3-17 16:40:03
21	18	315018.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-15-17 20:55:24
22	19	315019.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-15-17 21:16:33
23	27	315027.D	1.33333	170310A BLK 2/1500	water	3-16-17 0:04:51
24	28	315028.D	1.33333	170310A LCS-1 2/1500	water	3-16-17 0:25:45
25	29	315029.D	1.33333	170310A LCS-2 2/1500	water	3-16-17 0:46:40
26	30	315030.D	1.33333	AZ51132W23 MS-1 2/1500	water	3-16-17 1:07:31
27	31	315031.D	1.33333	AZ51132W31 MSD-1 2/1500	water	3-16-17 1:28:19
28	32	315032.D	1.33333	AZ51132W27 MS-2 2/1500	water	3-16-17 1:49:04
29	33	315033.D	1.33333	AZ51132W20 MSD-2 2/1500	water	3-16-17 2:09:49
30	34	315034.D	1.33333	AZ51132W29 2/1500	water	3-16-17 2:30:31
31	35	315035.D	1.33333	AZ51133W07 2/1500	water	3-16-17 2:51:18
32	36	315036.D	1.33333	AZ51135W27 2/1500	water	3-16-17 3:11:58
33	37	315037.D	1.33333	AZ51136W10 2/1500	water	3-16-17 3:32:44
34	38	315038.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 3:53:22
35	39	315039.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 4:14:00
36	41	315041.D	1.33333	AZ51139W13 2/1500	water	3-16-17 4:55:27
37	42	315042.D	1.33333	AZ51141W12 2/1500	water	3-16-17 5:15:58
38	51	315051.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 8:21:33
39	52	315052.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 8:42:09

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216880**
Batch ID: #SIMDO-170309B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.9	53-106			%	03/09/17	03/13/17
BLANK	SURROGATE: NITROBENZENE-	64.7	55-111			%	03/09/17	03/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	80.6	58-132			%	03/09/17	03/13/17

Quant Method:L0303P.M
Run #:0301L188
Instrument:Linus
Sequence:L170301
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 2:43:01 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170309W-51132 LCS - 216880**
Batch ID: #SIMDO-170309B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.70	74.0	41-115
2-METHYLNAPHTHALENE	5.00	3.83	76.6	39-114
NAPHTHALENE	5.00	3.25	65.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.36	67.2	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.63	72.6	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.88	77.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0303P.M
Extraction Date :	03/09/17
Analysis Date :	03/13/17
Instrument :	Linus
Run :	0301L189
Initials :	RHA

Printed: 03/14/17 2:42:49 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170309W-51132 MS - 216880**
Batch ID: #SIMDO-170309B
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.22	3.46	64.4	69.2	41-115	7.2	20
2-METHYLNAPHTHALENE	5.00	ND	3.41	3.72	68.2	74.4	39-114	8.7	20
NAPHTHALENE	5.00	ND	2.88	3.10	57.6	62.0	43-114	7.4	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	2.95	3.52	59.0	70.4	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.11	3.17	62.2	63.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	3.21	3.82	64.2	76.4	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0303P.M	L0303P.M
Extraction Date :	03/09/17	03/09/17
Analysis Date :	03/13/17	03/14/17
Instrument :	Linus	Linus
Run :	0301L193	0301L207
Initials :	RHA	

Printed: 03/14/17 2:42:46 PM
APPL MSD SCII

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
AZ51132	ERH257	53-106	64.4		55-111	62.4	
AZ51133	ERH258	53-106	57.7		55-111	60.4	
AZ51136	ERH263	53-106	57.0		55-111	58.3	
AZ51139	ERH268	53-106	53.8		55-111	58.7	
AZ51141	ERH270	53-106	61.9		55-111	66.3	
170309B-BLK	Blank	53-106	62.9		55-111	64.7	
170309B-LCS	Lab Control Spike	53-106	67.2		55-111	72.6	
AZ51132-MS	Matrix Spike	53-106	59.0		55-111	62.2	
AZ51135	ERH262	53-106	54.2		55-111	55.7	
AZ51132-MSD	Matrix SpikeD	53-106	70.4		55-111	63.4	

Comments: Batch: #SIMDO-170309B

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
AZ51132	ERH257	58-132	75.5				
AZ51133	ERH258	58-132	68.5				
AZ51136	ERH263	58-132	66.3				
AZ51139	ERH268	58-132	63.8				
AZ51141	ERH270	58-132	74.6				
170309B-BLK	Blank	58-132	80.6				
170309B-LCS	Lab Control Spike	58-132	77.6				
AZ51132-MS	Matrix Spike	58-132	64.2				
AZ51135	ERH262	58-132	66.7				
AZ51132-MSD	Matrix SpikeD	58-132	76.4				

Comments: Batch: #SIMDO-170309B

Printed: 03/14/17 2:42:52 PM

Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER
Blank ID: 170309B-BLK

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Linus
Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
AZ51132	ERH257	0301L182	03/13/17 1601
AZ51133	ERH258	0301L183	03/13/17 1633
AZ51136	ERH263	0301L185	03/13/17 1739
AZ51139	ERH268	0301L186	03/13/17 1812
AZ51141	ERH270	0301L187	03/13/17 1845
170309B-BLK	Blank	0301L188	03/13/17 1917
170309B-LCS	Lab Control Spike	0301L189	03/13/17 1950
170309B-MS	Matrix Spike	0301L193	03/13/17 2201
AZ51135	ERH262	0301L205	03/14/17 1148
170309B-MSD	Matrix SpikeD	0301L207	03/14/17 1253

Comments: Batch: #SIMDO-170309B

Printed: 03/14/17 2:42:42 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82351
Date Analyzed: 03/01/17
Instrument: Linus
Time Analyzed: 12:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/01/17	0301L003.D	03/01/17 12:47
2		0.2 SIM 03/01/17	0301L004.D	03/01/17 13:19
3		0.5 SIM 03/01/17	0301L005.D	03/01/17 13:52
4		1.0 SIM 03/01/17	0301L006.D	03/01/17 14:24
5		5.0 SIM 03/01/17	0301L007.D	03/01/17 14:57
6		10 SIM 03/01/17	0301L008.D	03/01/17 15:30
7		50 SIM 03/01/17	0301L009.D	03/01/17 16:02
8		100 SIM 03/01/17	0301L010.D	03/01/17 16:33
9		SS SIM 03/01/17	0301L011.D	03/01/17 17:06
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	47.6
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	1.1
127	39.5 - 60% of mass 198	53.2
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.5
441	0.01 - 100% of mass 443	87.6
442	50 - 150% of mass 198	55.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Linus
Time Analyzed: 14:05

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 03/01/17	0301L179.D	03/13/17 14:22
2	ERH257	AZ51132W24 1/1070	0301L182.D	03/13/17 16:01
3	ERH258	AZ51133W09 1/900	0301L183.D	03/13/17 16:33
4	ERH263	AZ51136W11 1/1050	0301L185.D	03/13/17 17:39
5	ERH268	AZ51139W12 1/1050	0301L186.D	03/13/17 18:12
6	ERH270	AZ51141W14 1/1060	0301L187.D	03/13/17 18:45
7	Blank	170309B BLK 1/1000	0301L188.D	03/13/17 19:17
8	Lab Control Spike	170309B LCS-1 1/1000	0301L189.D	03/13/17 19:50
9		AZ51132W17 MS-1 1/10	0301L193.D	03/13/17 22:01
10		5.0 SIM 03/01/17	0301L200.D	03/14/17 1:33
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	43.4
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	50.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	22.1
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	90.0
442	40 - 150% of mass 198	62.2
443	17 - 23% of mass 442	18.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82351
Date Analyzed: 03/14/17
Instrument: Linus
Time Analyzed: 10:19

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 03/01/17	0301L203.D	03/14/17 10:36
2	ERH262	AZ51135W29 1/1060	0301L205.D	03/14/17 11:48
3		AZ51132W25 MSD-1 1/1	0301L207.D	03/14/17 12:53
4		5.0 SIM 03/01/17	0301L216.D	03/14/17 17:48
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	46.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	50.5
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	21.9
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	87.5
442	40 - 150% of mass 198	62.8
443	17 - 23% of mass 442	18.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82351
Lab File ID (Standard): 0301L007.D
Date Analyzed: 1 Mar 17 14:57
Instrument ID: Linus
Time Analyzed: 1 Mar 17 14:57
GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	21206	5.81	10750	7.85	21127	9.75
	UPPER LIMIT	42412	6.31	21500	8.35	42254	10.25
	LOWER LIMIT	10603	5.31	5375	7.35	10564	9.25
	SAMPLE NO.						
01	5.0 SIM 03/01/17	27311	5.79	14539	7.85	29278	9.75
02	AZ51132W24 1/1070	26782	5.81	13790	7.85	26415	9.75
03	AZ51133W09 1/900	31716	5.81	16561	7.85	31622	9.75
04	AZ51136W11 1/1050	27460	5.81	14134	7.85	26646	9.75
05	AZ51139W12 1/1050	30295	5.81	15602	7.85	30021	9.75
06	AZ51141W14 1/1060	30139	5.81	15559	7.85	29821	9.75
07	170309B BLK 1/1000	25832	5.81	13201	7.85	25250	9.76
08	170309B LCS-1 1/1000	22193	5.81	11474	7.85	22157	9.75
09	AZ51132W17 MS-1 1/1(	26038	5.81	13163	7.85	25513	9.75
10	5.0 SIM 03/01/17	32946	5.81	17103	7.85	31081	9.74
11	5.0 SIM 03/01/17	30722	5.79	15843	7.85	27822	9.74
12	AZ51135W29 1/1060	29671	5.81	14973	7.85	25990	9.76
13	AZ51132W25 MSD-1 1/	30227	5.81	14018	7.85	28170	9.75
14	5.0 SIM 03/01/17	22931	5.82	12478	7.86	25880	9.78
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 0301L007.D Date Analyzed: 1 Mar 17 14:57

Instrument ID: Linus Time Analyzed: 1 Mar 17 14:57

GC Column: ID: Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	26059	16.65	22018	20.43		
	UPPER LIMIT	52118	17.15	44036	20.93		
	LOWER LIMIT	13030	16.15	11009	19.93		
	SAMPLE NO.						
01	5.0 SIM 03/01/17	36811	16.65	31762	20.43		
02	AZ51132W24 1/1070	31121	16.67	27316	20.45		
03	AZ51133W09 1/900	37308	16.68	32942	20.45		
04	AZ51136W11 1/1050	31484	16.67	27371	20.45		
05	AZ51139W12 1/1050	34944	16.67	30405	20.44		
06	AZ51141W14 1/1060	35527	16.67	31125	20.44		
07	170309B BLK 1/1000	29597	16.68	25940	20.45		
08	170309B LCS-1 1/1000	27118	16.66	23011	20.43		
09	AZ51132W17 MS-1 1/1(	30870	16.66	26606	20.43		
10	5.0 SIM 03/01/17	41792	16.65	29368	20.43		
11	5.0 SIM 03/01/17	31924	16.65	26776	20.42		
12	AZ51135W29 1/1060	26363	16.67	22970	20.45		
13	AZ51132W25 MSD-1 1/	29387	16.66	26128	20.43		
14	5.0 SIM 03/01/17	33171	16.71	27905	20.48		
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	64.4	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	62.4	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	75.5	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L182
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L182.D Vial: 82
Acq On : 13 Mar 17 16:01 Operator: MA
Sample : AZ51132W24 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 14 10:58 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	26782	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13790	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	26415	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	31121	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.45	264	27316	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	12058	2.91543 ppb	-0.01
Spiked Amount 4.673			Recovery	= 62.381%	
7) Surrogate Recovery (FBP)	7.06	172	27155	3.00749 ppb	-0.01
Spiked Amount 4.673			Recovery	= 64.350%	
17) Surrogate Recovery (TPH)	13.67	244	36795	3.52789 ppb	-0.01
Spiked Amount 4.673			Recovery	= 75.499%	

Target Compounds Qvalue

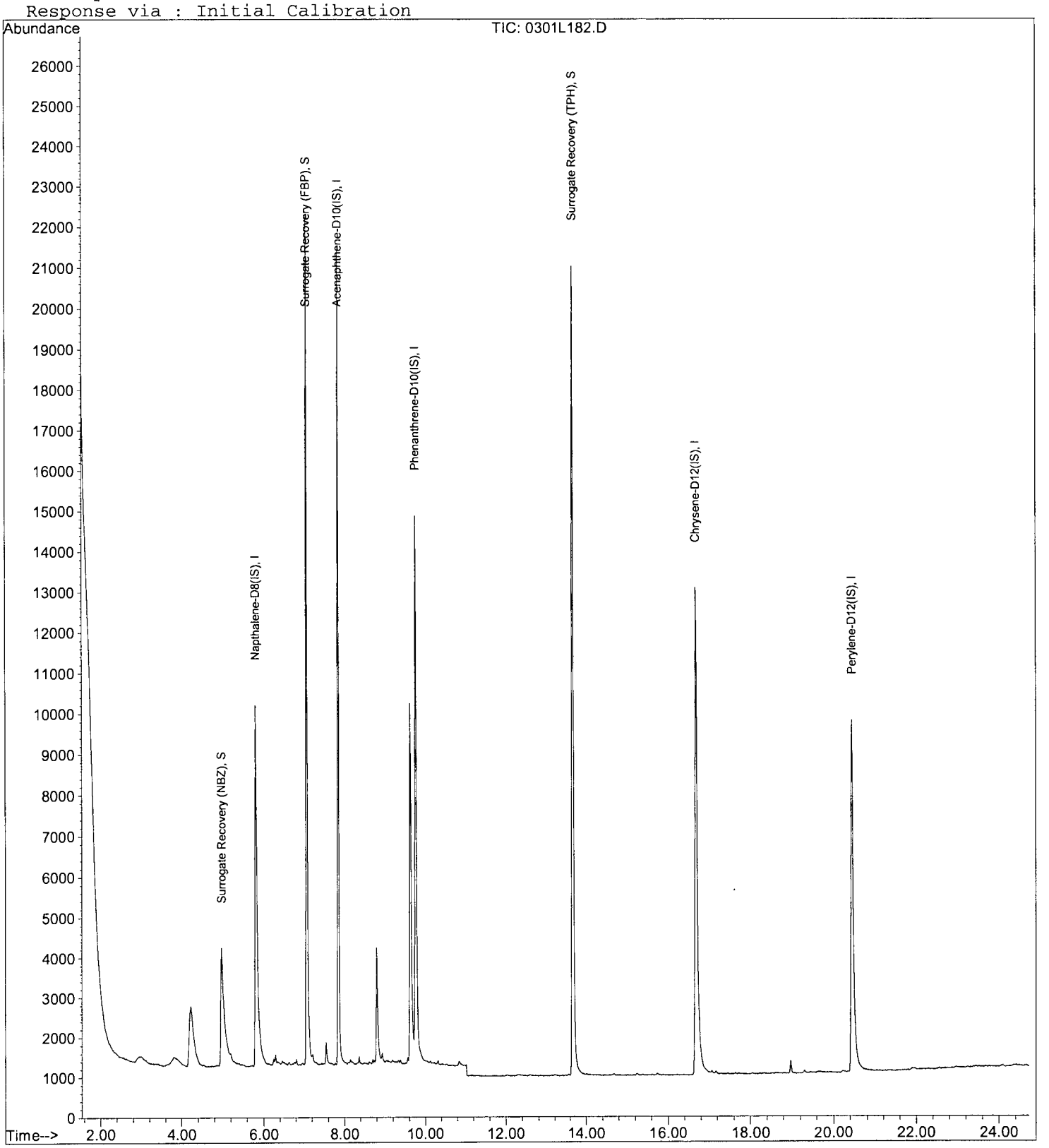
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L182.D Vial: 82
Acq On : 13 Mar 17 16:01 Operator: MA
Sample : AZ51132W24 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 14 10:58 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	57.7	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	60.4	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	68.5	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L183
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L183.D Vial: 83
Acq On : 13 Mar 17 16:33 Operator: MA
Sample : AZ51133W09 1/900 Inst : Linus
Misc : water Multiplr: 1.11

Quant Time: Mar 14 10:59 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	31716	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	16561	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	31622	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	37308	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.45	264	32942	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	13768	3.35299 ppb	-0.01
Spiked Amount 5.556			Recovery	= 60.354%	
7) Surrogate Recovery (FBP)	7.06	172	29225	3.20426 ppb	-0.01
Spiked Amount 5.556			Recovery	= 57.672%	
17) Surrogate Recovery (TPH)	13.68	244	40045	3.80773 ppb	0.00
Spiked Amount 5.556			Recovery	= 68.544%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

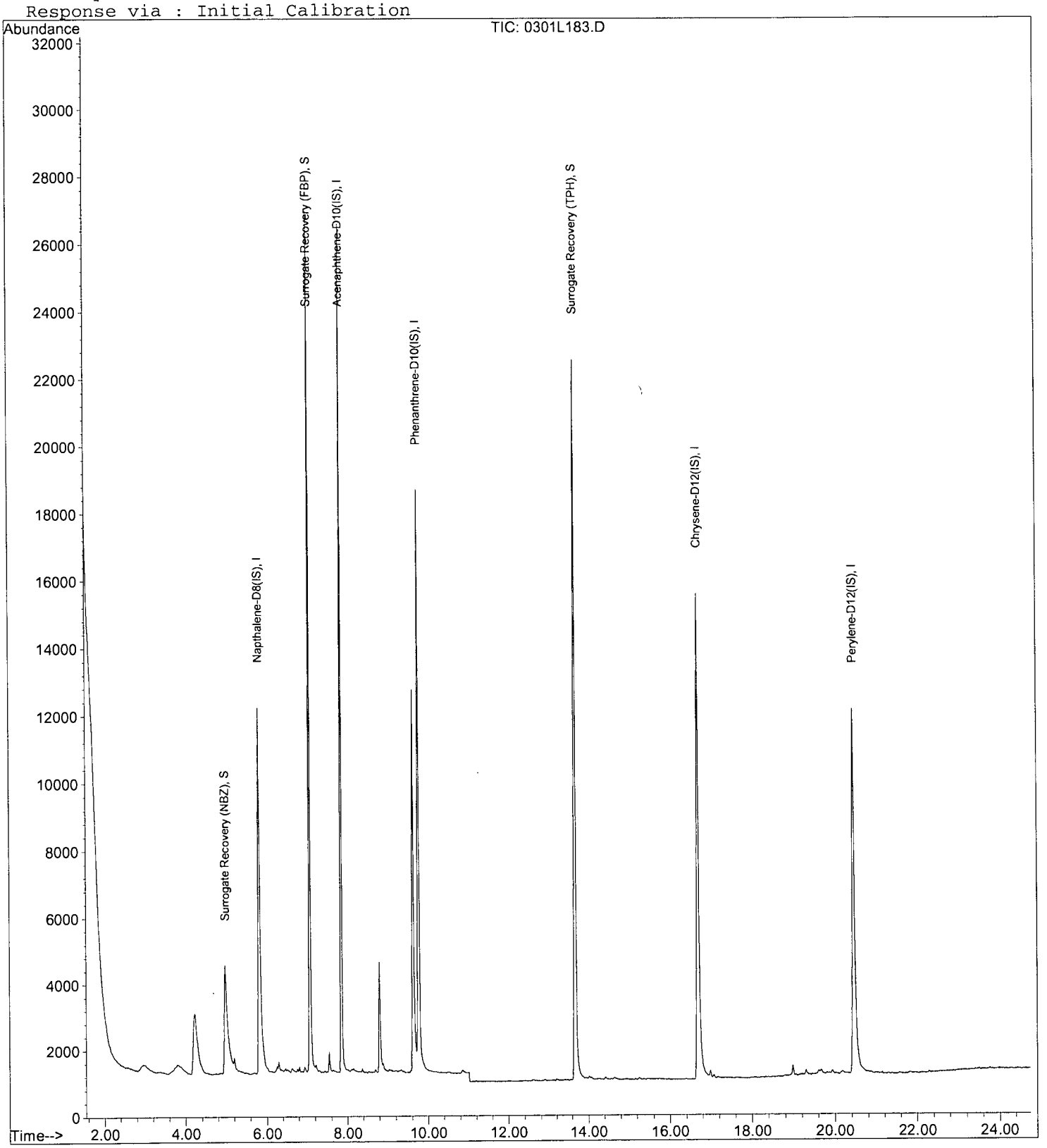
Data File : M:\LINUS\DATA\L170301\0301L183.D
Acq On : 13 Mar 17 16:33
Sample : AZ51133W09 1/900
Misc : water

Vial: 83
Operator: MA
Inst : Linus
Multiplr: 1.11

Quant Time: Mar 14 10:59 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/14/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/14/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/14/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	54.2	53-106			%	03/09/17	03/14/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	55.7	55-111			%	03/09/17	03/14/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	66.7	58-132			%	03/09/17	03/14/17

Quant Method: L0303P.M
Run #: 0301L205
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L205.D Vial: 5
Acq On : 14 Mar 17 11:48 Operator: MA
Sample : AZ51135W29 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Mar 14 12:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	29671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	14973	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25990	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.67	240	26363	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.45	264	22970	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	11791	2.62819 ppb	-0.01
Spiked Amount 4.717			Recovery	= 55.714%	
7) Surrogate Recovery (FBP)	7.07	172	24825	2.55610 ppb	0.00
Spiked Amount 4.717			Recovery	= 54.187%	
17) Surrogate Recovery (TPH)	13.67	244	27515	3.14363 ppb	-0.01
Spiked Amount 4.717			Recovery	= 66.653%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

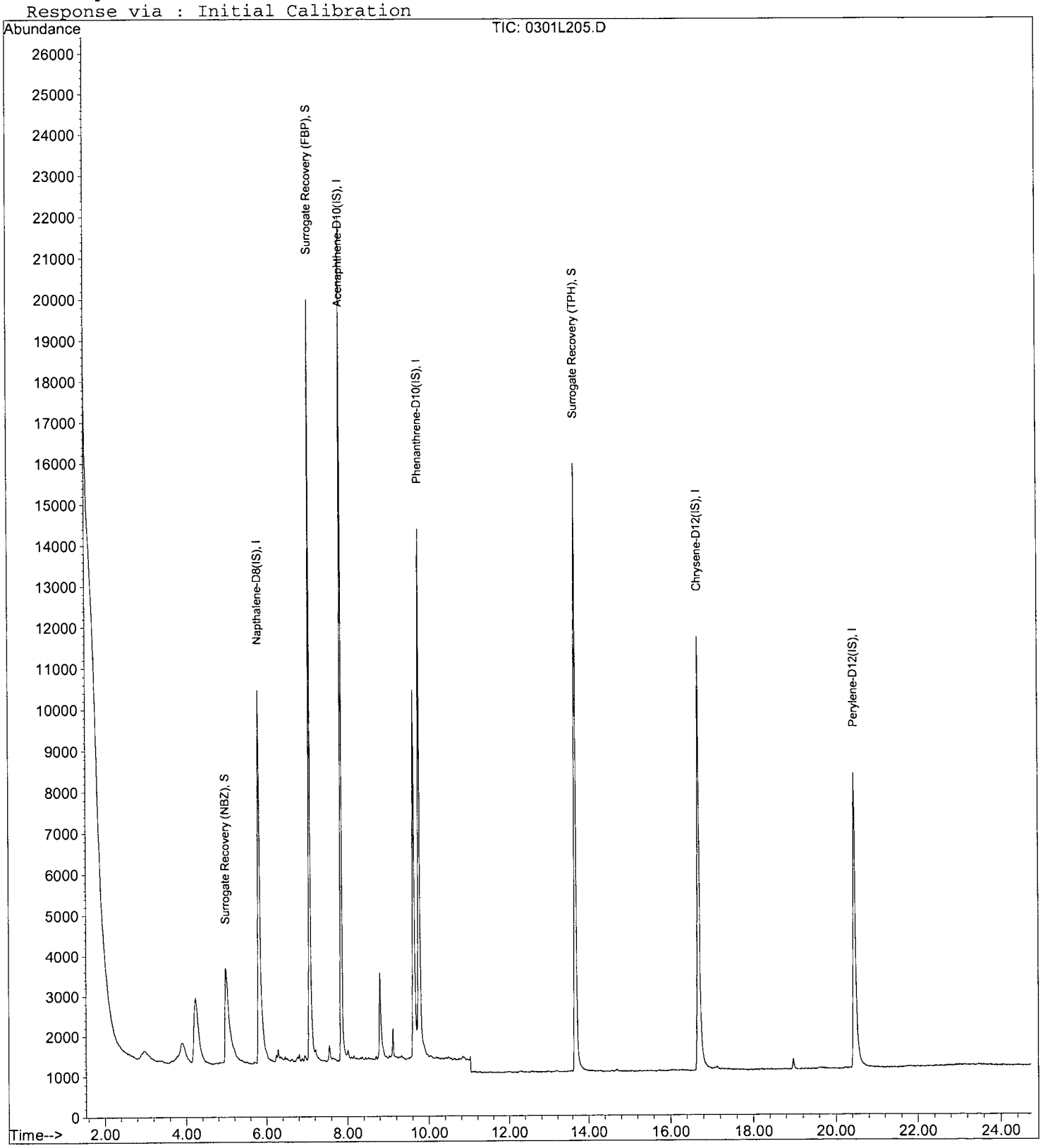
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L205.D
Acq On : 14 Mar 17 11:48
Sample : AZ51135W29 1/1060
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Mar 14 12:24 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	57.0	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	58.3	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	66.3	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L185
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L185.D Vial: 85
Acq On : 13 Mar 17 17:39 Operator: MA
Sample : AZ51136W11 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 14 11:00 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	27460	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	14134	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	26646	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	31484	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.45	264	27371	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	11466	2.77446 ppb	-0.01
Spiked Amount 4.762			Recovery	= 58.254%	
7) Surrogate Recovery (FBP)	7.07	172	24659	2.71533 ppb	0.00
Spiked Amount 4.762			Recovery	= 57.015%	
17) Surrogate Recovery (TPH)	13.67	244	32689	3.15708 ppb	-0.01
Spiked Amount 4.762			Recovery	= 66.297%	

Target Compounds Qvalue

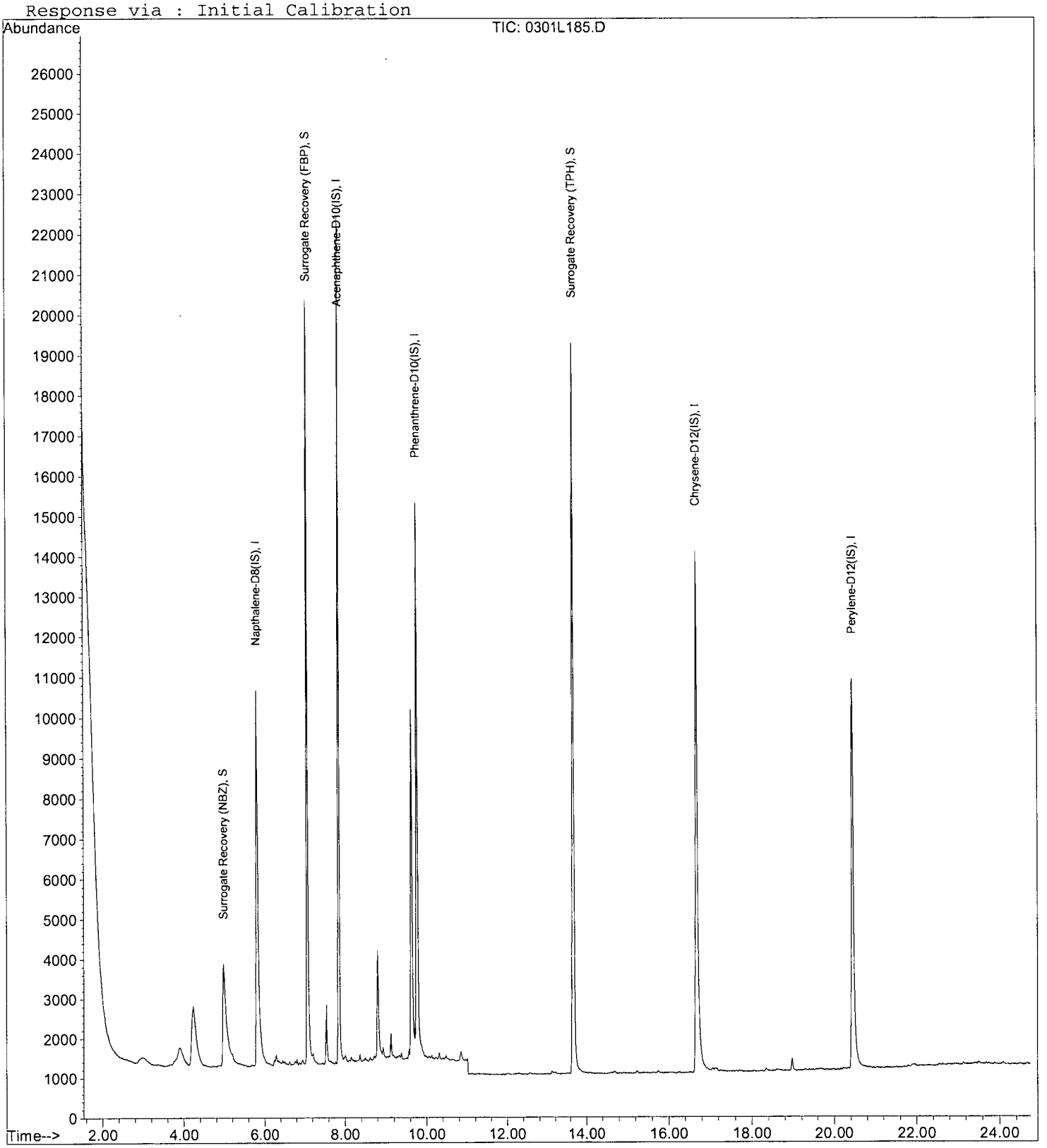
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L185.D Vial: 85
Acq On : 13 Mar 17 17:39 Operator: MA
Sample : AZ51136W11 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 14 11:00 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	53.8	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	58.7	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	63.8	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L186
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L186.D Vial: 86
Acq On : 13 Mar 17 18:12 Operator: MA
Sample : AZ51139W12 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 14 11:00 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	30295	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	15602	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	30021	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	34944	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	30405	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	12743	2.79297 ppb	-0.01
Spiked Amount 4.762			Recovery	= 58.653%	
7) Surrogate Recovery (FBP)	7.07	172	25660	2.55970 ppb	0.00
Spiked Amount 4.762			Recovery	= 53.760%	
17) Surrogate Recovery (TPH)	13.67	244	34886	3.03565 ppb	-0.01
Spiked Amount 4.762			Recovery	= 63.756%	

Target Compounds Qvalue

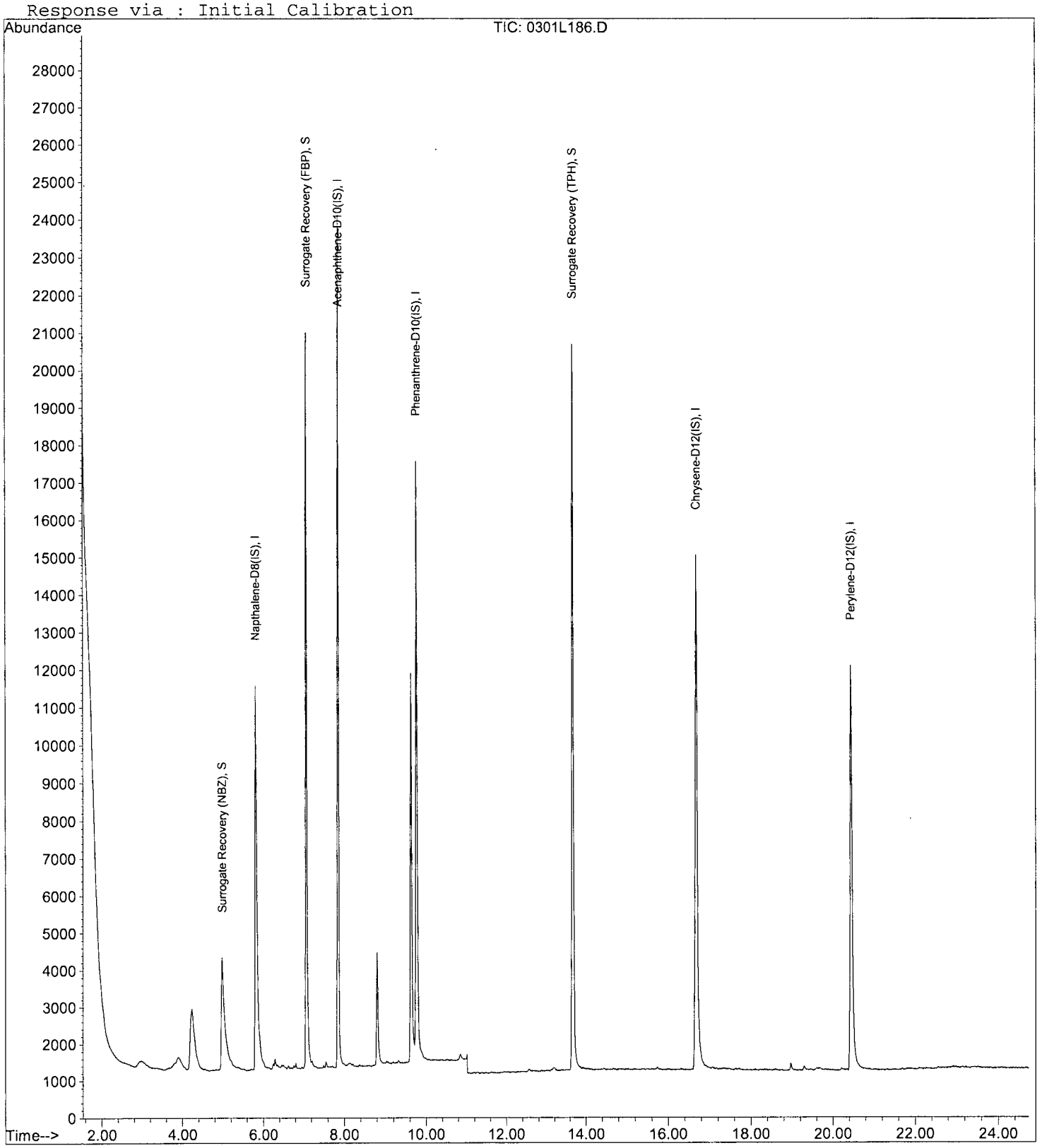
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L186.D Vial: 86
Acq On : 13 Mar 17 18:12 Operator: MA
Sample : AZ51139W12 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Mar 14 11:00 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #SIMDO-170309B-216880

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	61.9	53-106			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	66.3	55-111			%	03/09/17	03/13/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	74.6	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L187
Instrument: Linus
Sequence: L170301
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 2:42:39 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L187.D Vial: 87
Acq On : 13 Mar 17 18:45 Operator: MA
Sample : AZ51141W14 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Mar 14 11:01 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	30139	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	15559	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	29821	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	35527	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	31125	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	14491	3.12510 ppb	-0.01
Spiked Amount 4.717			Recovery	= 66.250%	
7) Surrogate Recovery (FBP)	7.06	172	29491	2.92218 ppb	-0.01
Spiked Amount 4.717			Recovery	= 61.946%	
17) Surrogate Recovery (TPH)	13.67	244	41513	3.51953 ppb	-0.01
Spiked Amount 4.717			Recovery	= 74.624%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

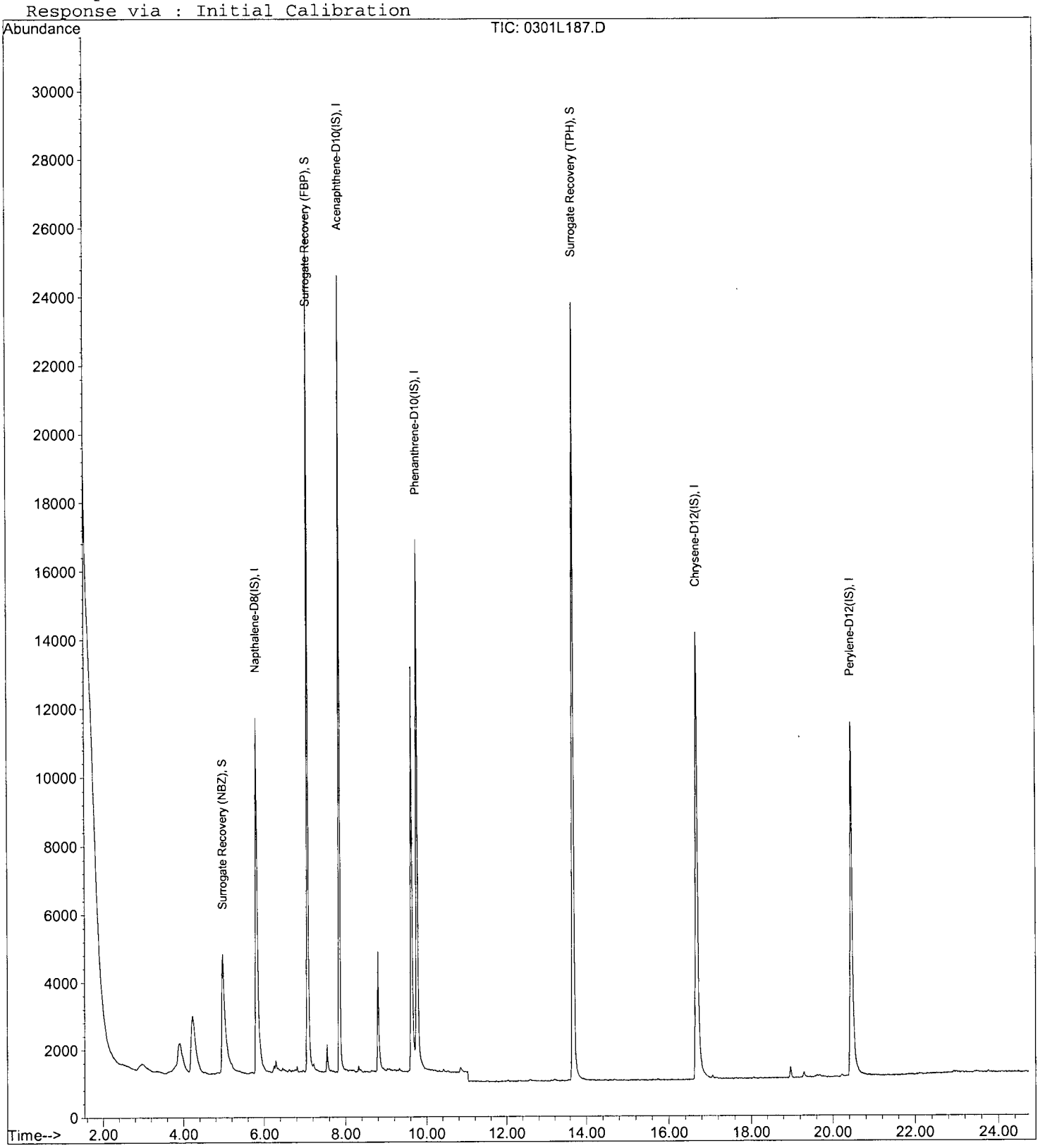
Data File : M:\LINUS\DATA\L170301\0301L187.D
Acq On : 13 Mar 17 18:45
Sample : AZ51141W14 1/1060
Misc : water

Vial: 87
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Mar 14 11:01 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

EPA 8270C SIM

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/01/17
Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0301L003.D	0301L004.D	0301L005.D	0301L006.D	0301L007 D	0301L008.D	0301L009.D	0301L010.D						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)			0.1536	0.1109	0.3479	0.3789	0.3893	0.3943			0.30	43	SL	1.00
3	TM	Naphthalene	1.069	1.041	1.168	1.125	1.117	1.055	0.9779	0.9377			1.1	7.2	TM	
4	TM	2-Methylnaphthalene	0.5294	0.5000	0.5728	0.5781	0.6629	0.6346	0.5818	0.5585			0.58	9.1	TM	
5	TM	1-Methylnaphthalene	0.7376	0.7442	0.7944	0.7378	0.6852	0.6377	0.5499	0.5207			0.68	15	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.566	1.407	1.561	1.609	1.591	1.628	1.489	1.388			1.5	6.0	S	
8	TM	Acenaphthylene	2.094	1.988	2.174	2.138	2.238	2.152	1.967	1.810			2.1	6.7	TM	
9	*TM	Acenaphthene	1.320	1.306	1.331	1.288	1.302	1.247	1.117	1.022			1.2	9.0	*TM	
10	TM	Fluorene	1.377	1.357	1.481	1.439	1.477	1.409	1.258	1.142			1.4	8.5	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.032	0.9689	1.032	1.034	1.080	1.050	0.9617	0.8973			1.0	5.9	TM	
13	TM	Anthracene	0.9661	0.8615	0.9071	0.9083	1.045	1.004	0.9412	0.8607			0.94	7.0	TM	
14	*TM	Fluoranthene	1.523	1.432	1.593	1.561	1.705	1.654	1.563	1.469			1.6	5.8	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.355	1.202	1.367	1.360	1.436	1.390	1.300	1.228			1.3	6.1	TM	
17	S	Surrogate Recovery (TPH)	0.9484	0.7633	0.7921	0.7745	0.7566	0.7836	0.7383	0.7074			0.78	9.2	S	
18	TM	Benz (a) anthracene	1.108	0.8853	0.9665	0.9732	1.121	1.128	1.108	1.064			1.0	8.7	TM	
19	TM	Chrysene	1.367	1.401	1.370	1.327	1.199	1.156	1.063	0.9996			1.2	12	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.7701	0.7661	0.8567	0.9819	1.011	0.9961	0.9560	0.9155			0.91	11	TM	
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	0.7197	0.7754	0.9362	0.8998	1.088	1.095	1.122	1.087			0.97	16	TML	1.000
23	TM	Benzo (k) fluoranthene	1.229	1.197	1.329	1.290	1.407	1.301	1.128	1.069			1.2	8.9	TM	
24	*TM	Benzo (a) pyrene	0.9202	0.9925	1.085	1.062	1.191	1.159	1.077	1.020			1.1	8.2	*TM	
25	TM	Dibenz (a,h) anthracene	0.6091	0.6877	0.7603	0.8450	0.9590	0.9434	0.8898	0.8381			0.82	15	TM	
26	TM	Benzo (g,h,i) perylene	0.7023	0.7631	0.8020	0.8526	0.9403	0.9178	0.8865	0.8086			0.83	9.7	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:29 2017

Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21015	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11401	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	22539	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	27204	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	23066	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	2	0.27720 ppb	-0.02
Spiked Amount 5.000			Recovery	= 5.540%	
7) Surrogate Recovery (FBP)	7.10	172	357	0.05117 ppb	0.02
Spiked Amount 5.000			Recovery	= 1.020%	
17) Surrogate Recovery (TPH)	13.70	244	516	0.06056 ppb	0.02
Spiked Amount 5.000			Recovery	= 1.220%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	899	0.10076 ppb		96
4) 2-Methylnaphthalene	6.71	142	445	0.09171 ppb		93
5) 1-Methylnaphthalene	6.78	142	620	0.10912 ppb		95
8) Acenaphthylene	7.71	152	955	0.10115 ppb		99
9) Acenaphthene	7.88	154	602	0.10631 ppb		97
10) Fluorene	8.53	166	628	0.10070 ppb		99
12) Phenanthrene	9.80	178	930	0.10244 ppb		97
13) Anthracene	9.92	178	871	0.10313 ppb		97
14) Fluoranthene	12.56	202	1373	0.09747 ppb		97
16) Pyrene	13.20	202	1475	0.10197 ppb		97
18) Benz (a) anthracene	16.66	228	1206	0.10592 ppb	#	83
19) Chrysene	16.76	228	1487	0.11219 ppb	#	81
20) Indeno (1,2,3-cd) pyrene	22.93	276	838m	0.08377 ppb		23
22) Benzo (b) fluoranthene	19.61	252	664	0.01845 ppb	#	15
23) Benzo (k) fluoranthene	19.67	252	1134m	0.15069 ppb		15
24) Benzo (a) pyrene	20.34	252	849	0.08647 ppb	#	10
25) Dibenz (a,h) anthracene	22.91	278	562m	0.07419 ppb		1
26) Benzo (g,h,i) perylene	23.43	276	648m	0.08233 ppb		21

(#) = qualifier out of range (m) = manual integration

Quantitation Report

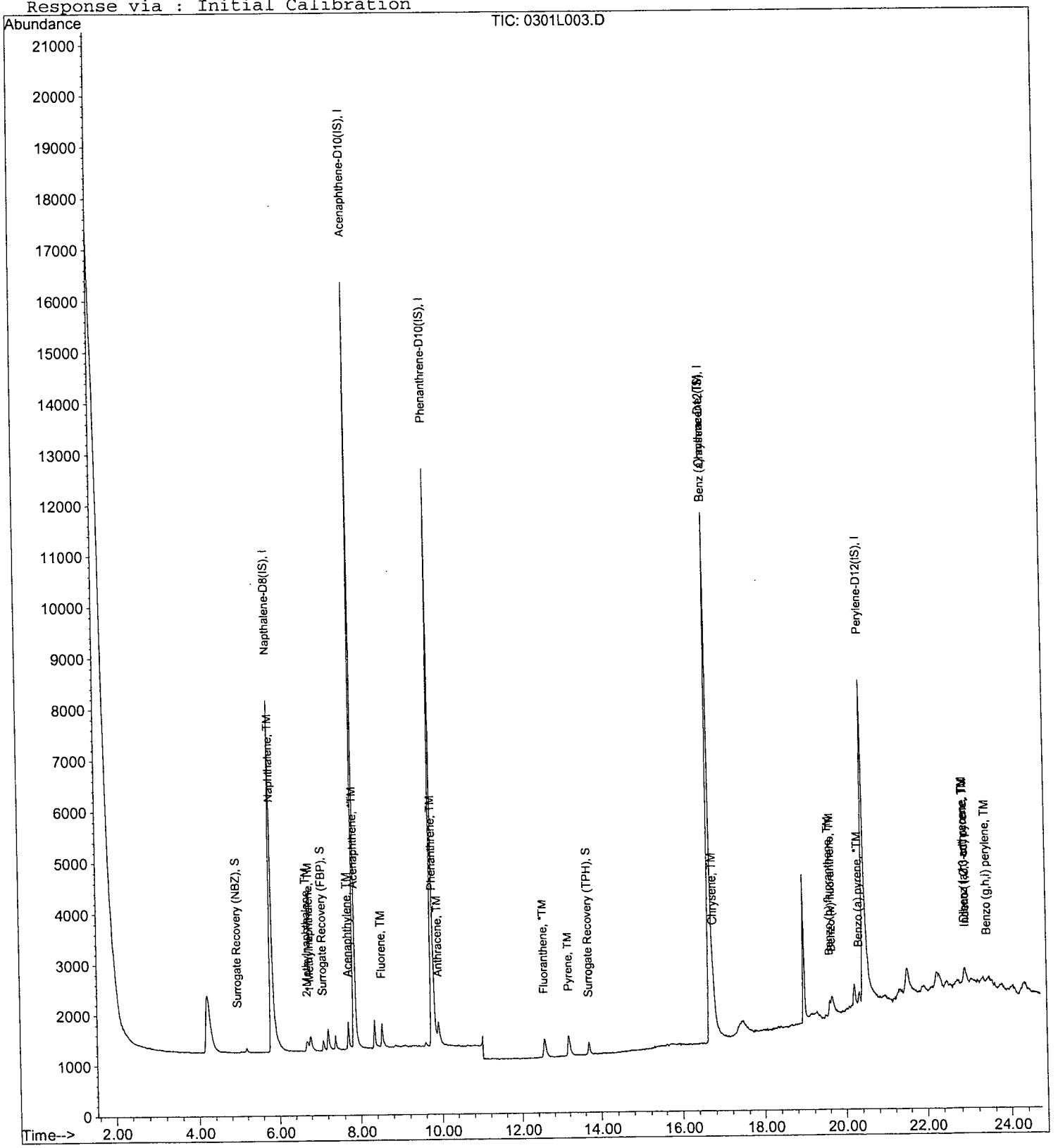
Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:29 2017

Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

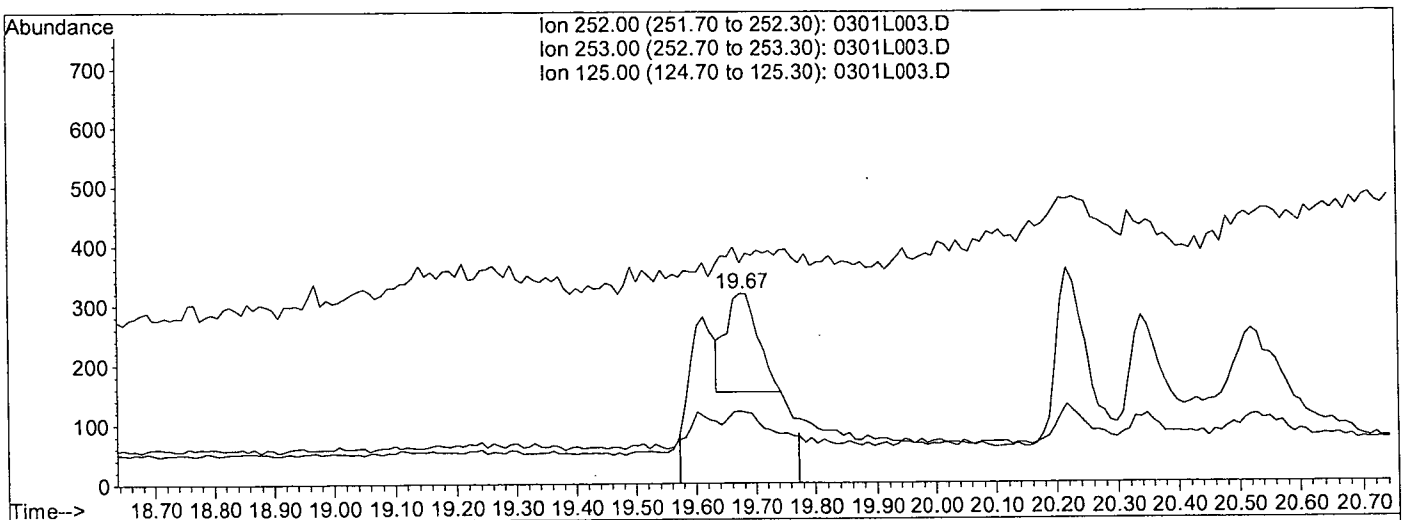


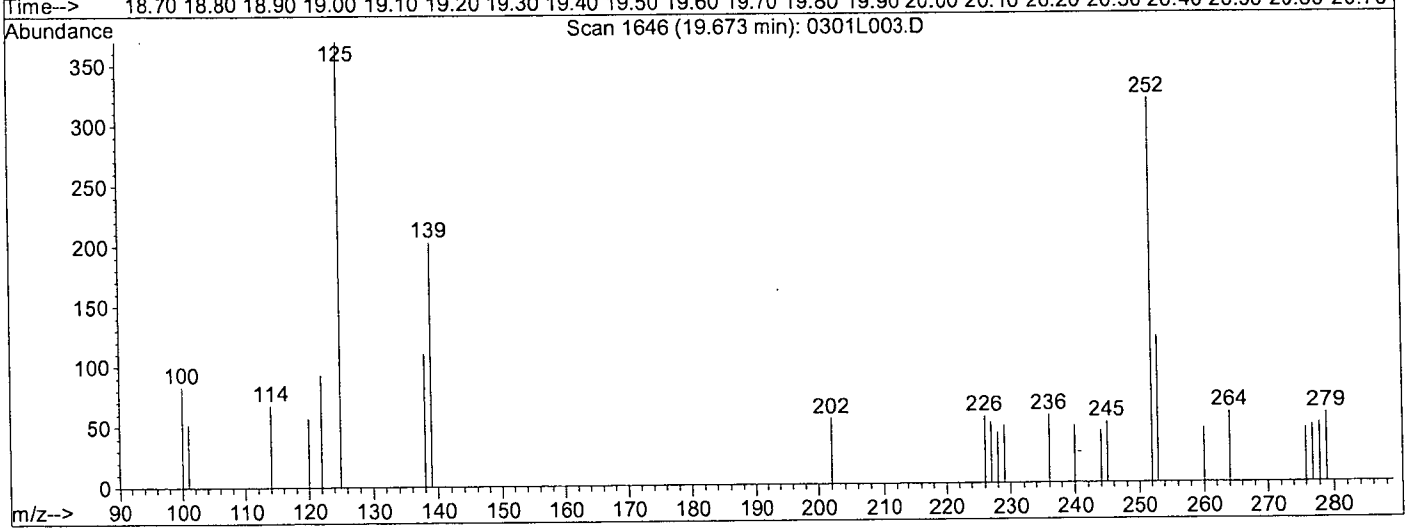
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:23 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(23) Benzo (k) fluoranthene (TM)

19.67min 0.0827ppb

response 622

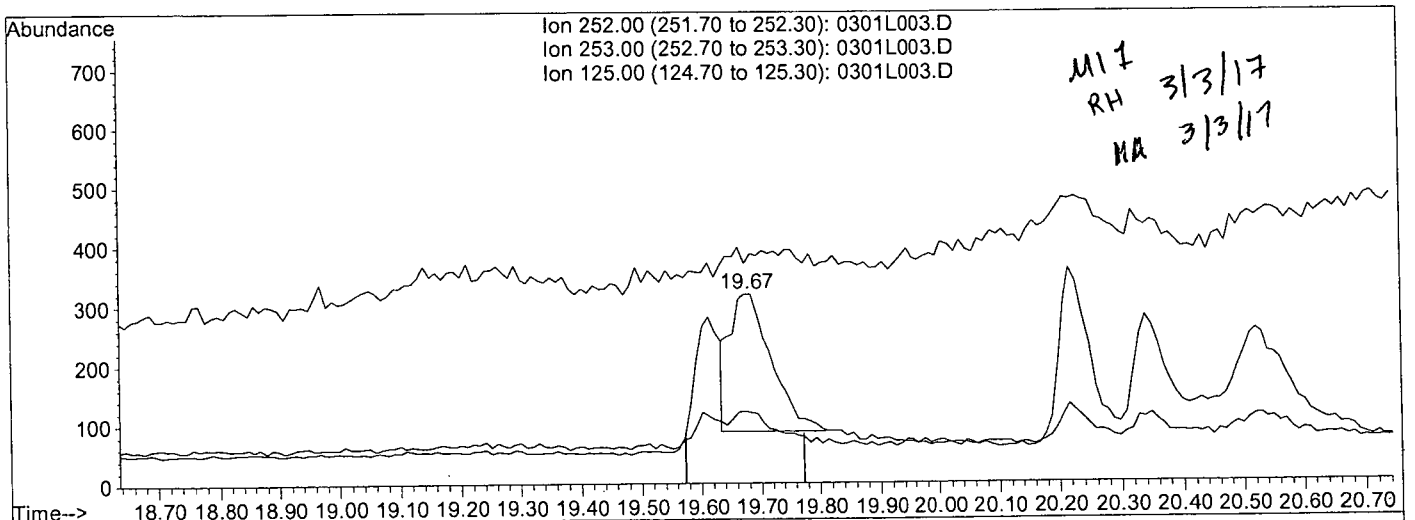
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	22.89#
125.00	116.00	1.81#
0.00	0.00	0.00

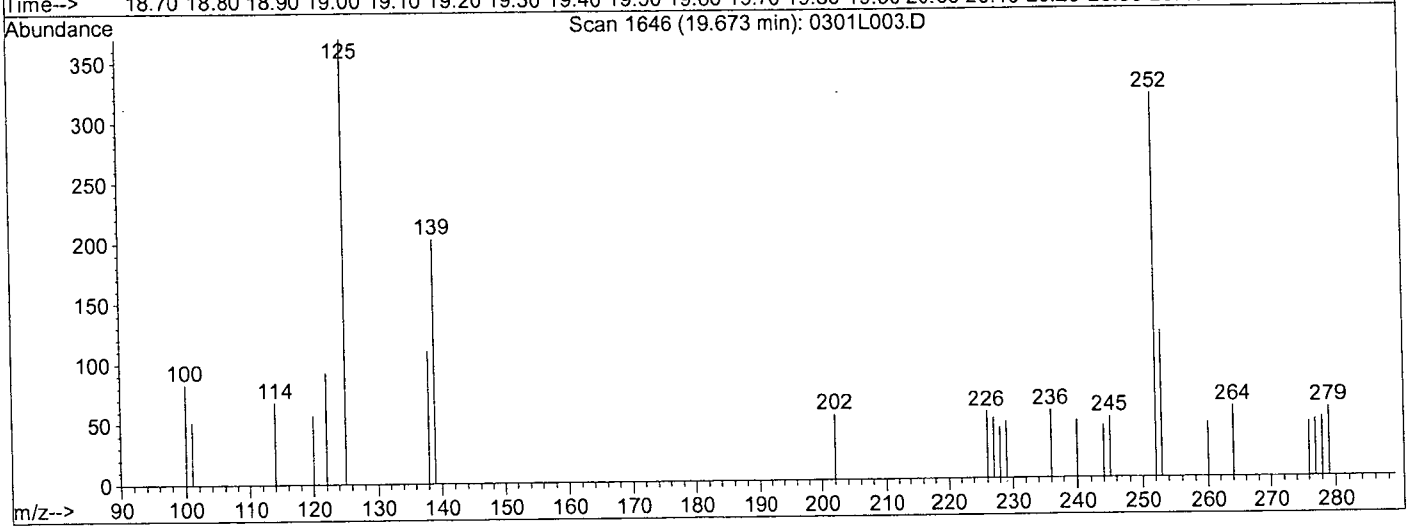
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:29 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(23) Benzo (k) fluoranthene (TM)

19.67min 0.1507ppb m

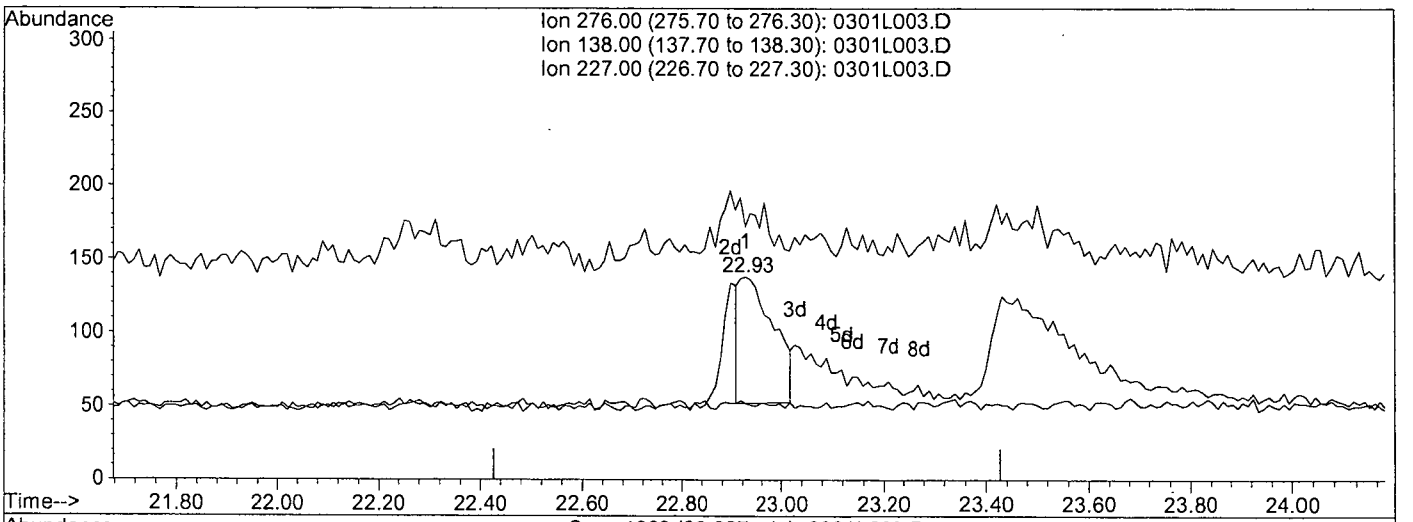
response 1134

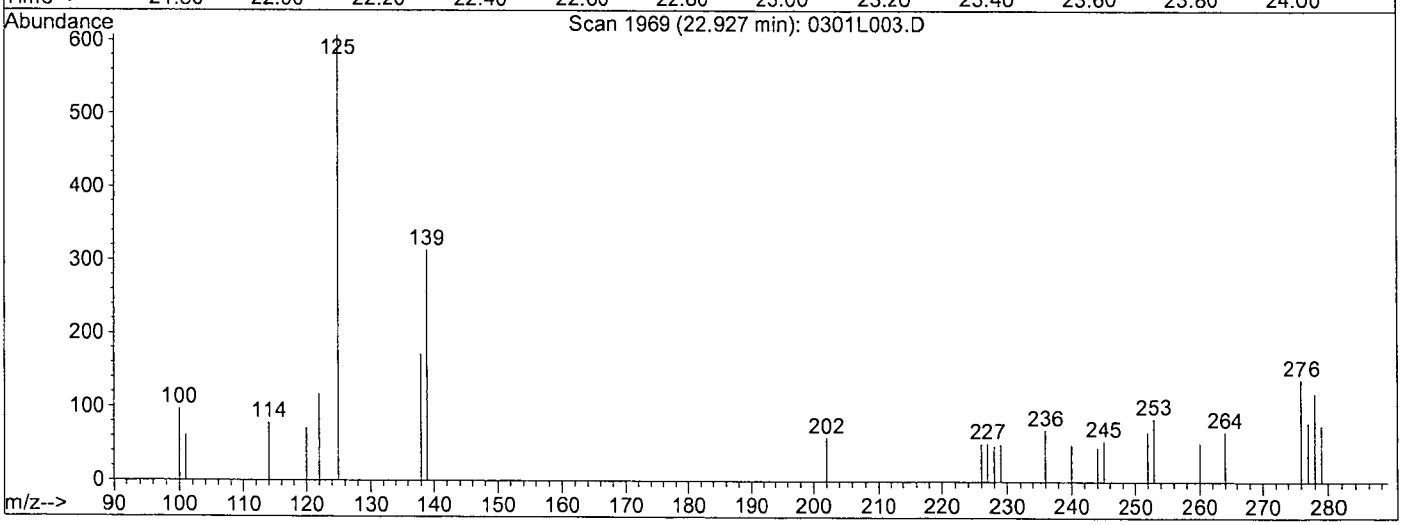
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	37.93
125.00	116.00	115.99
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:22 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(20) Indeno (1,2,3-cd) pyrene (TM)

22.93min 0.0420ppb

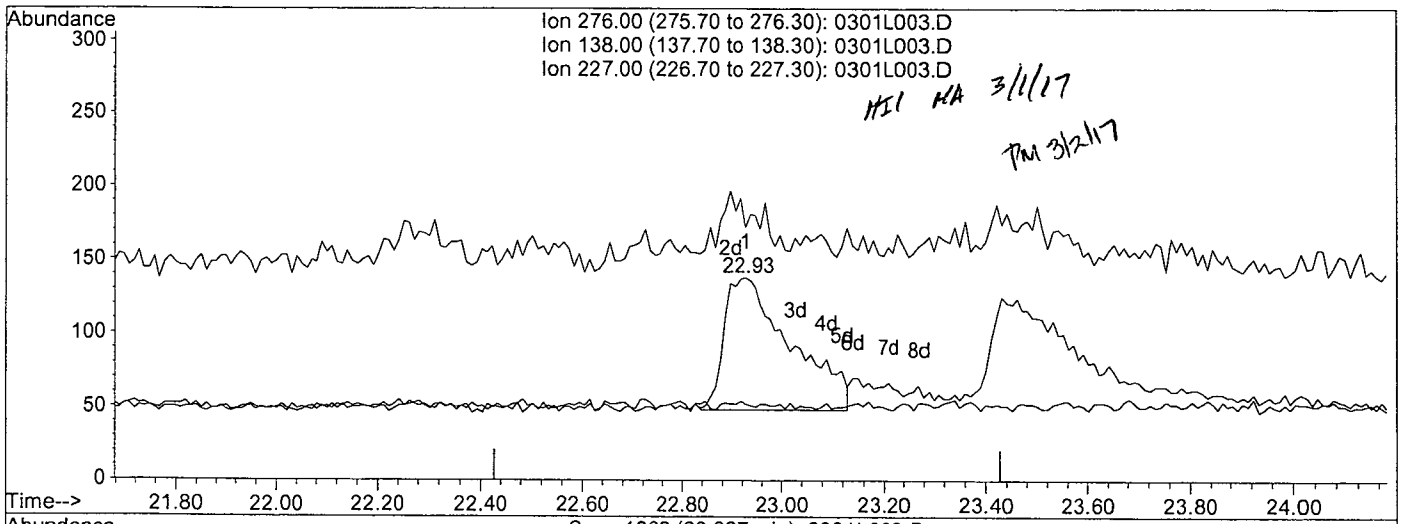
response 420

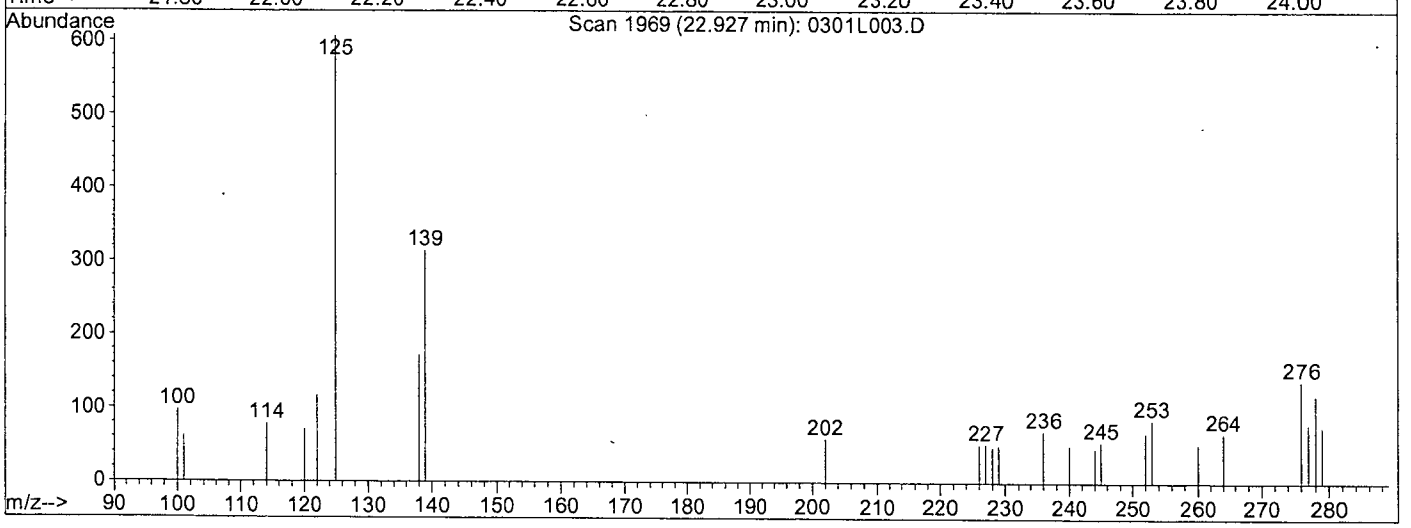
Ion	Exp%	Act%
276.00	100	100
138.00	124.60	32.00#
227.00	37.70	0.00#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(20) Indeno (1,2,3-cd) pyrene (TM)

22.93min 0.0838ppb m

response 838

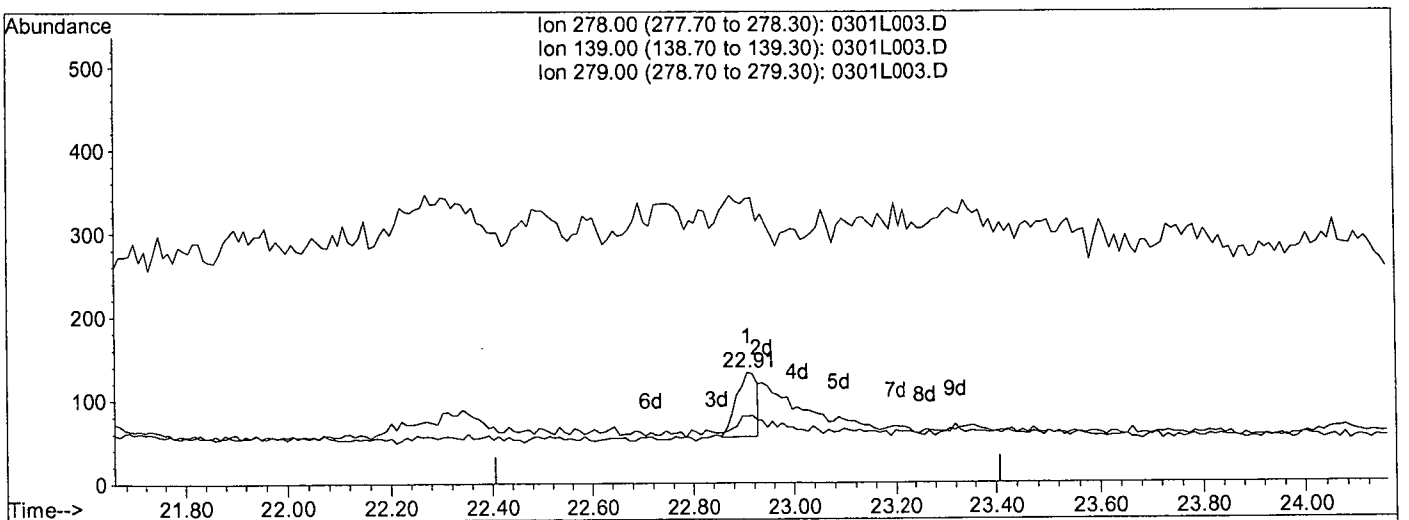
Ion	Exp%	Act%
276.00	100	100
138.00	124.60	124.64
227.00	37.70	37.68
0.00	0.00	0.00

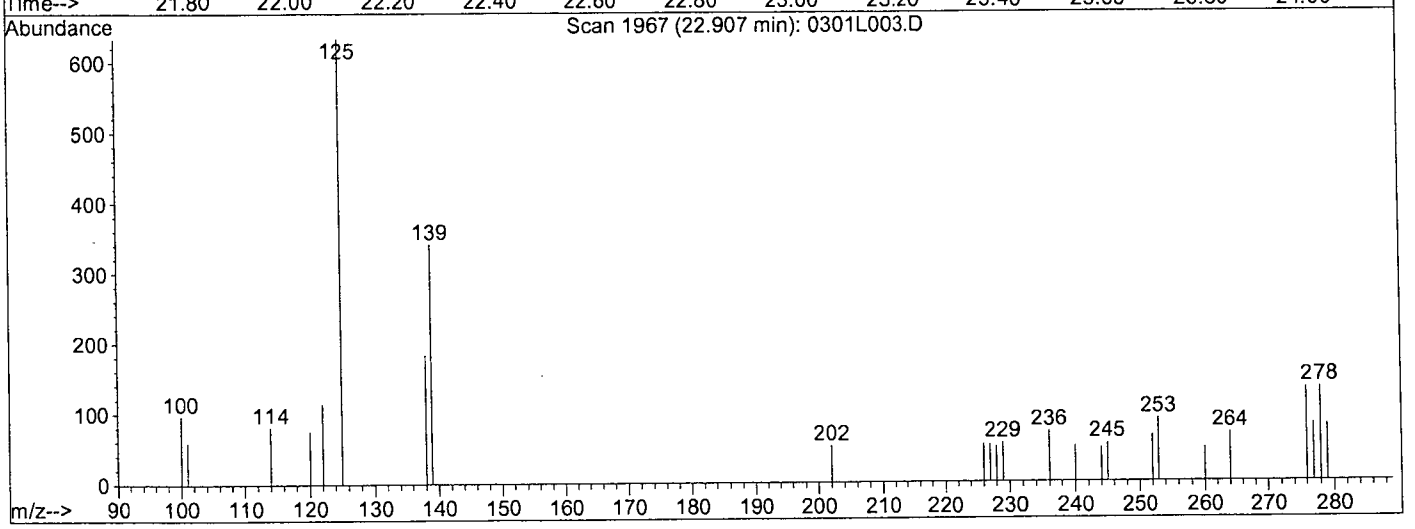
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:21 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.0292ppb

response 221

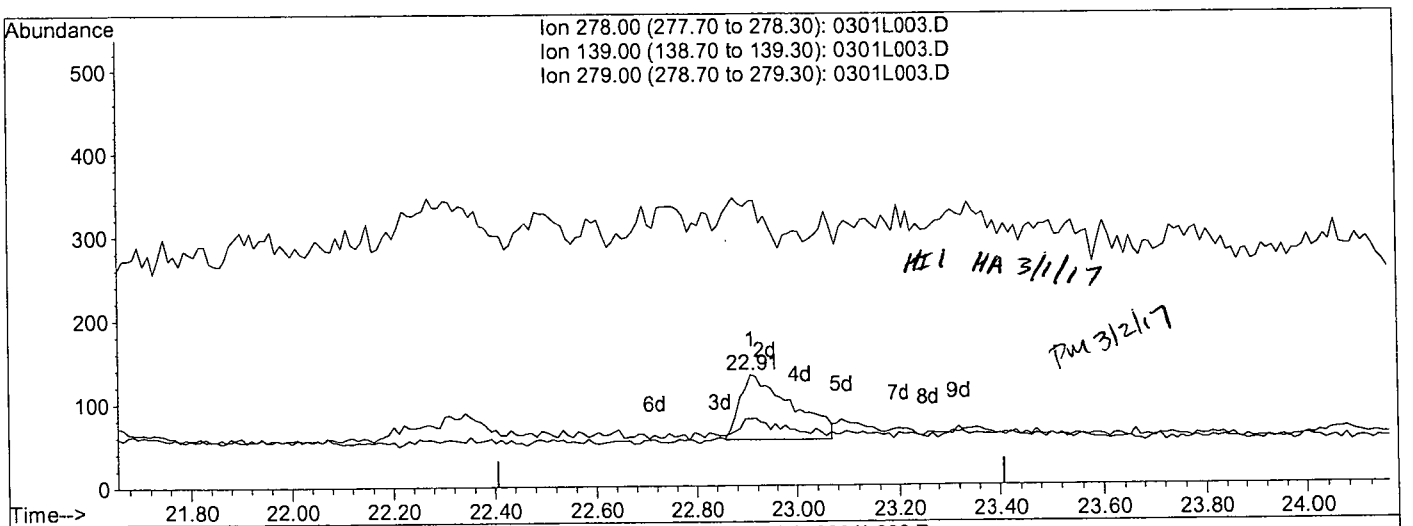
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	35.06#
279.00	60.20	25.97#
0.00	0.00	0.00

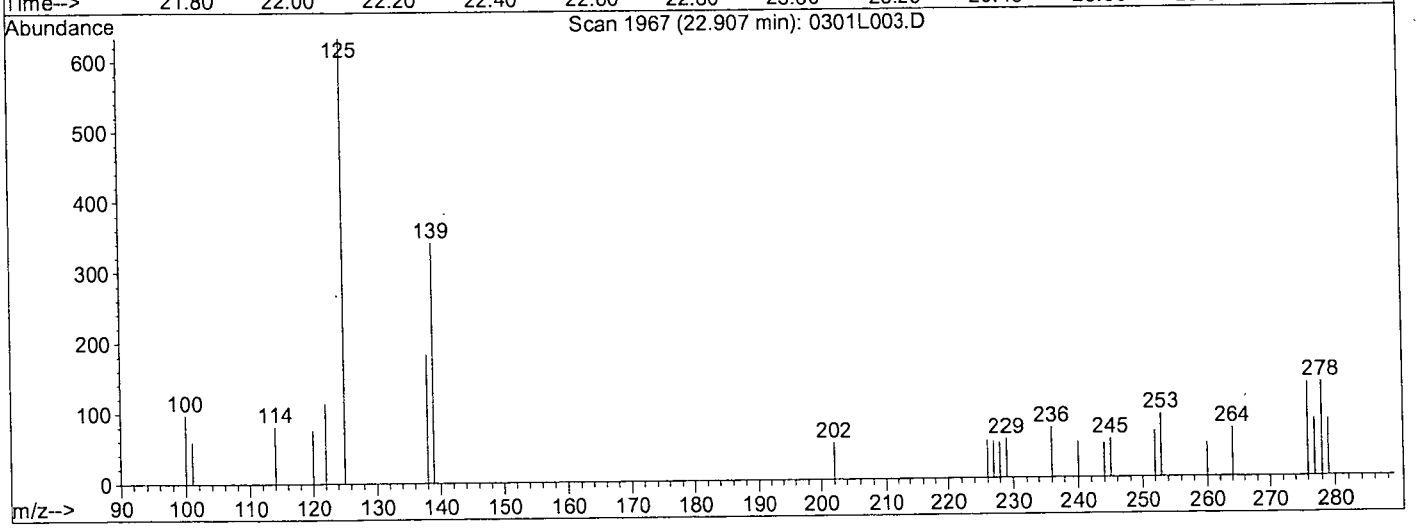
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:22 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.0742ppb m

response 562

Ion	Exp%	Act%
278.00	100	100
139.00	256.40	256.39
279.00	60.20	60.15
0.00	0.00	0.00

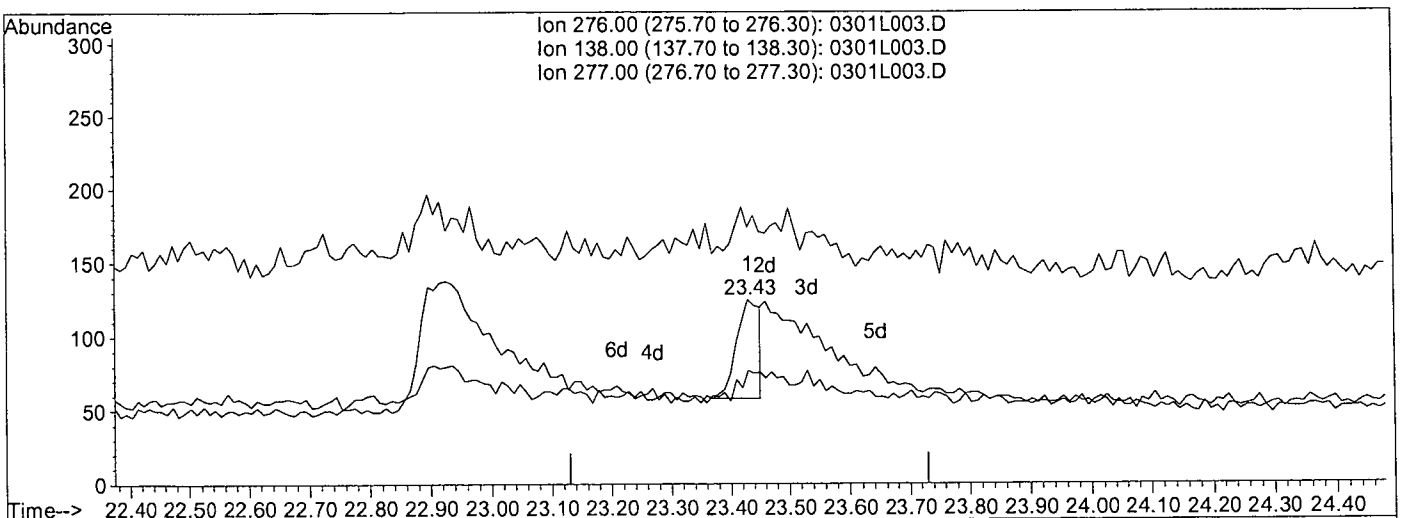
0301L003.D L0301P.M Wed Mar 01 17:22:13 2017

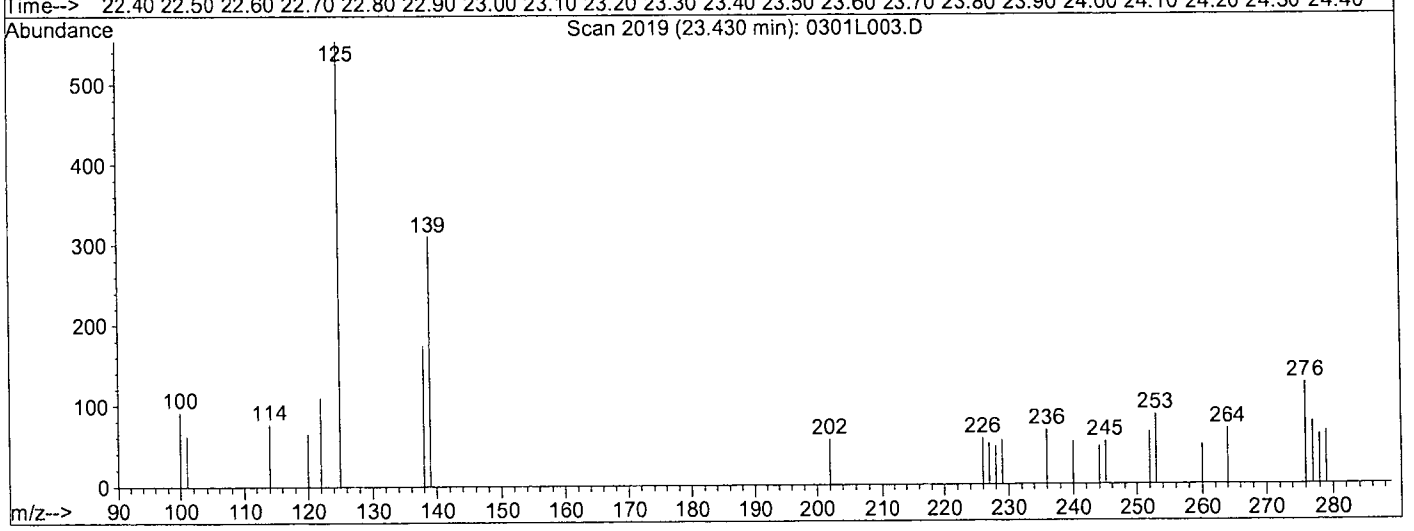
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D
Acq On : 1 Mar 17 12:47
Sample : 0.1 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:22 2017

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(26) Benzo (g,h,i) perylene (TM)

23.43min 0.0239ppb

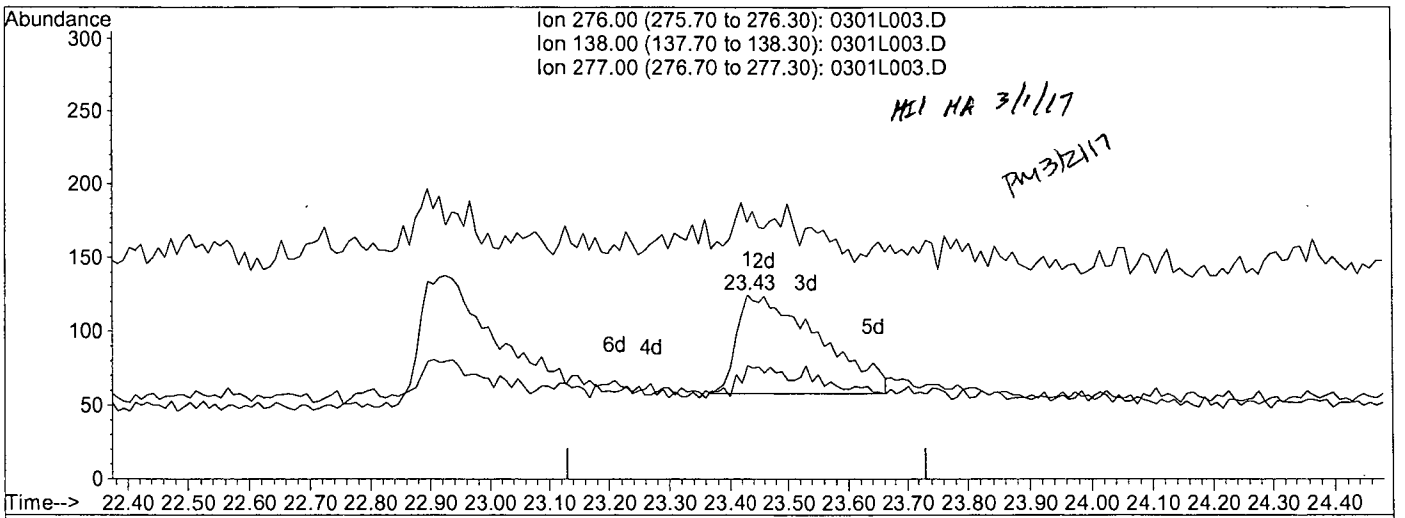
response 188

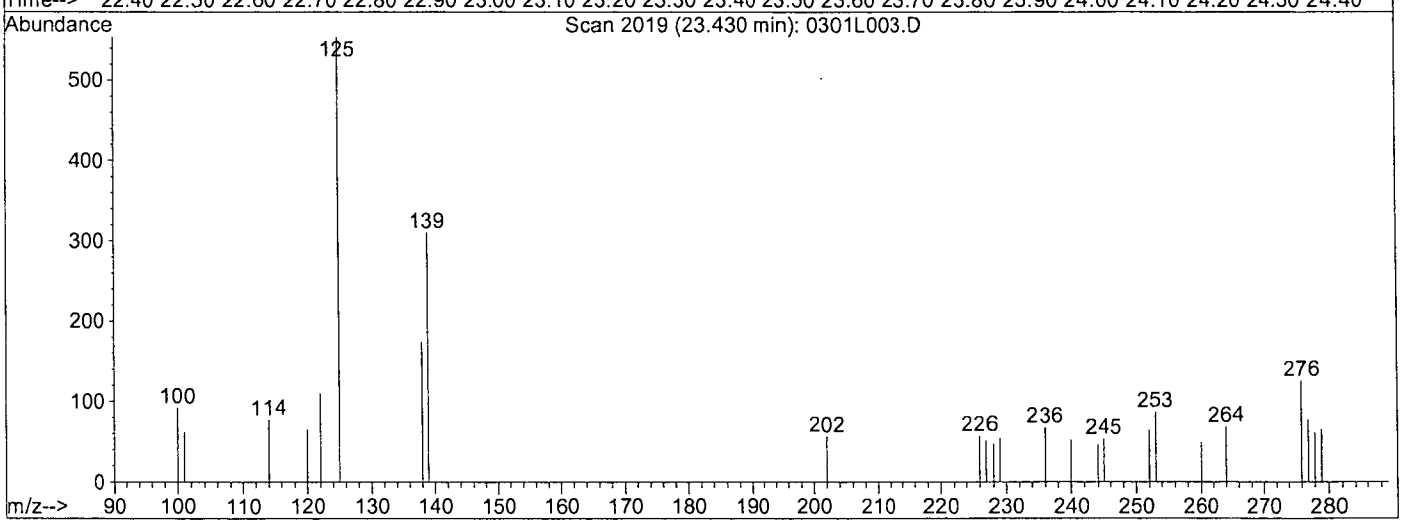
Ion	Exp%	Act%
276.00	100	100
138.00	139.20	26.87#
277.00	61.60	25.37#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L003.D Vial: 3
Acq On : 1 Mar 17 12:47 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:22 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L003.D

(26) Benzo (g,h,i) perylene (TM)

23.43min 0.0823ppb m

response 648

Ion	Exp%	Act%
276.00	100	100
138.00	139.20	139.20
277.00	61.60	61.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:29 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	20777	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11089	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21532	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.67	240	26433	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.45	264	23375	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.89	82	4	0.27781 ppb	-0.10
Spiked Amount 5.000			Recovery	= 5.560%	
7) Surrogate Recovery (FBP)	7.11	172	624	0.09196 ppb	0.04
Spiked Amount 5.000			Recovery	= 1.840%	
17) Surrogate Recovery (TPH)	13.72	244	807	0.09747 ppb	0.04
Spiked Amount 5.000			Recovery	= 1.940%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	1731	0.19624 ppb		98
4) 2-Methylnaphthalene	6.71	142	831	0.17322 ppb		94
5) 1-Methylnaphthalene	6.80	142	1237	0.22020 ppb		92
8) Acenaphthylene	7.71	152	1764	0.19210 ppb		98
9) Acenaphthene	7.89	154	1159	0.21044 ppb		98
10) Fluorene	8.53	166	1204	0.19849 ppb		96
12) Phenanthrene	9.80	178	1669	0.19244 ppb		99
13) Anthracene	9.93	178	1484	0.18393 ppb		100
14) Fluoranthene	12.57	202	2466	0.18325 ppb		98
16) Pyrene	13.20	202	2542	0.18085 ppb		99
18) Benz (a) anthracene	16.66	228	1872	0.16921 ppb	#	84
19) Chrysene	16.76	228	2963	0.23007 ppb	#	79
20) Indeno (1,2,3-cd) pyrene	22.91	276	1620	0.16666 ppb	#	23
22) Benzo (b) fluoranthene	19.60	252	1450	0.09445 ppb	#	13
23) Benzo (k) fluoranthene	19.66	252	2238m	0.29345 ppb		20
24) Benzo (a) pyrene	20.35	252	1856	0.18653 ppb	#	10
25) Dibenz (a,h) anthracene	22.91	278	1286m	0.16753 ppb		1
26) Benzo (g,h,i) perylene	23.44	276	1427m	0.17890 ppb		22

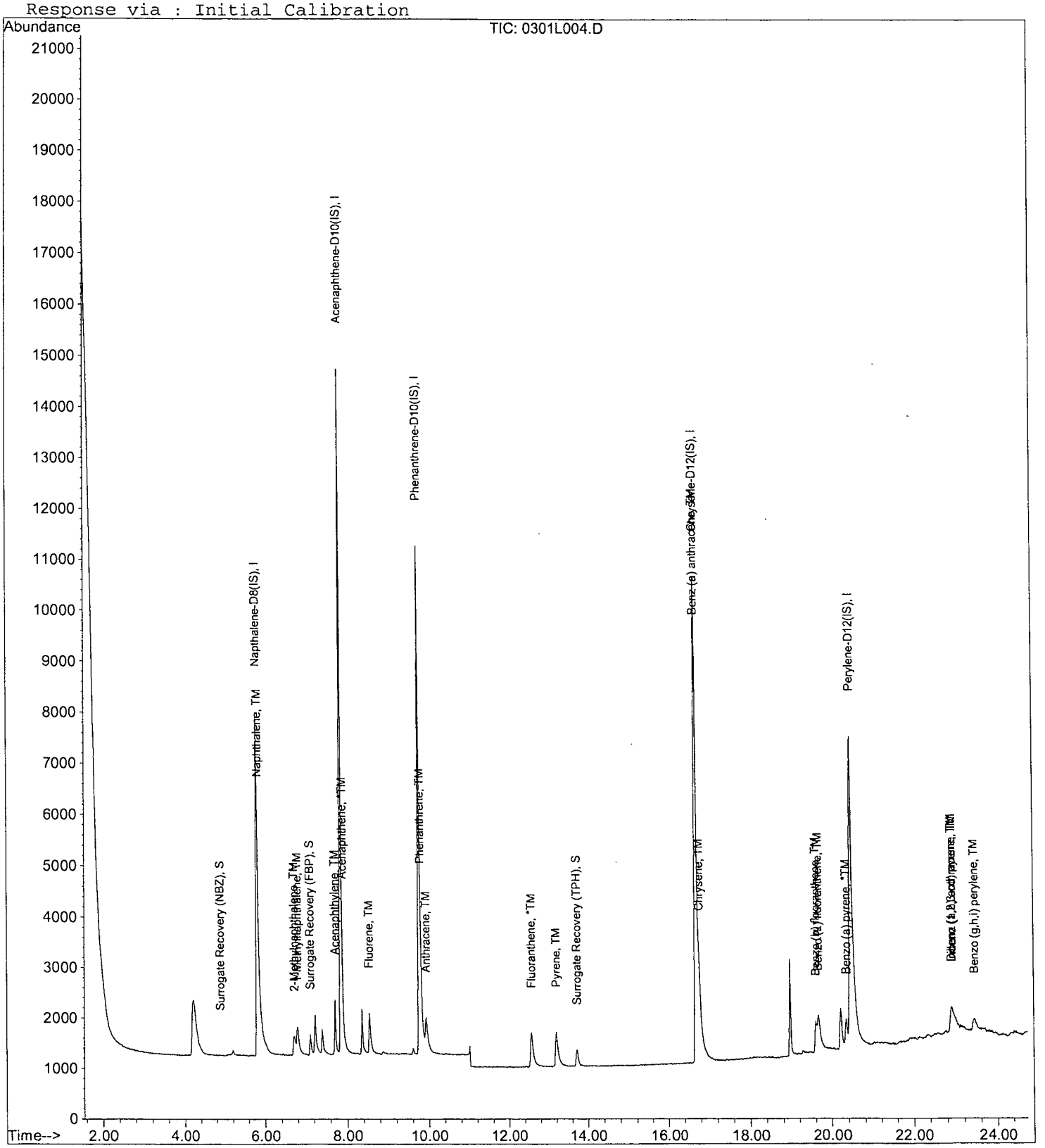
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:29 2017 Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

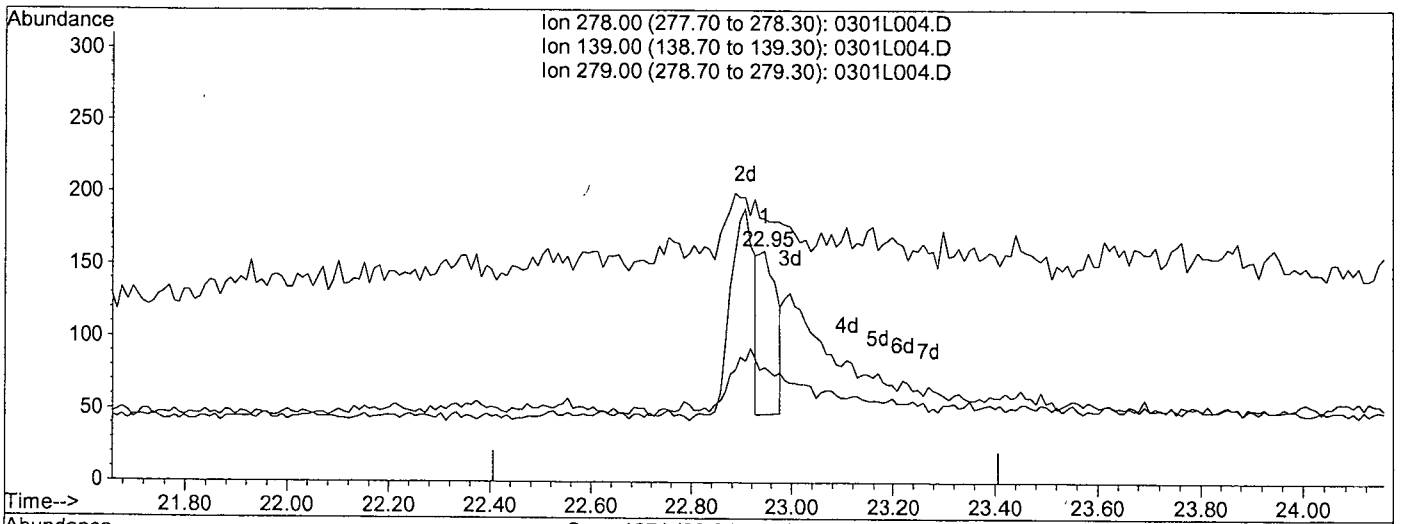


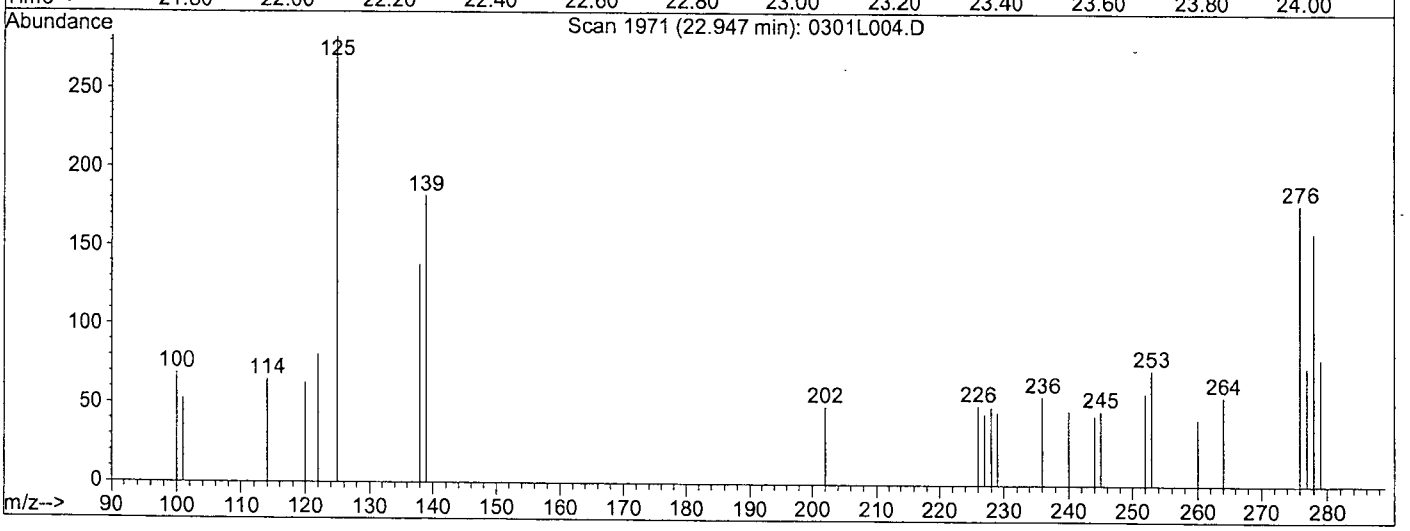
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:23 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(25) Dibenz (a,h) anthracene (TM)

22.95min 0.0382ppb

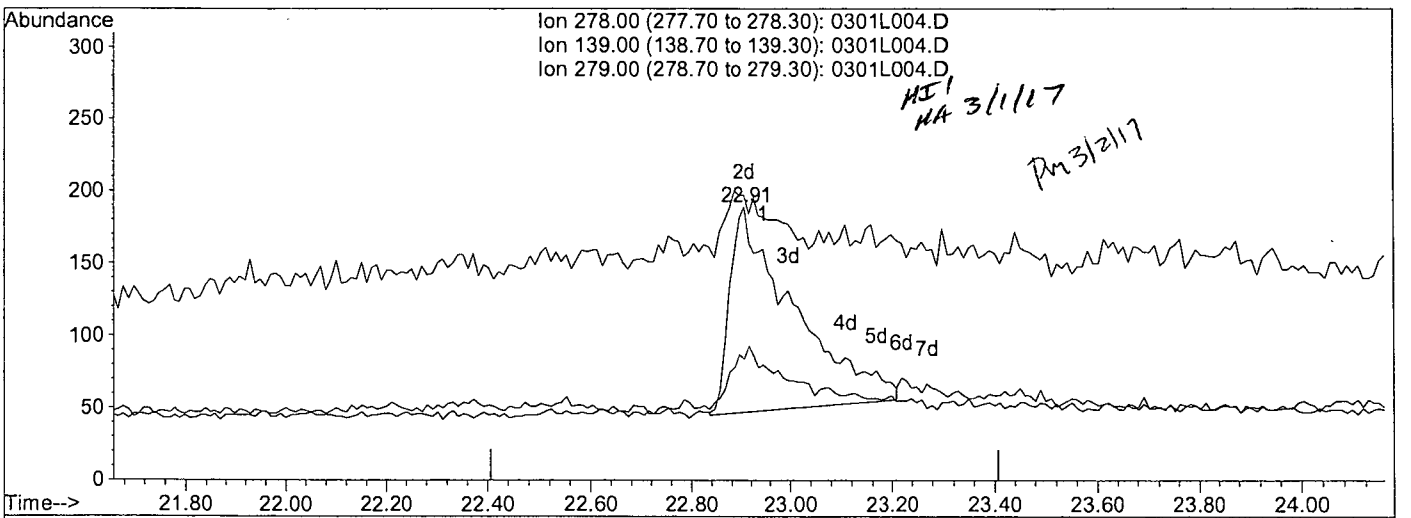
response 293

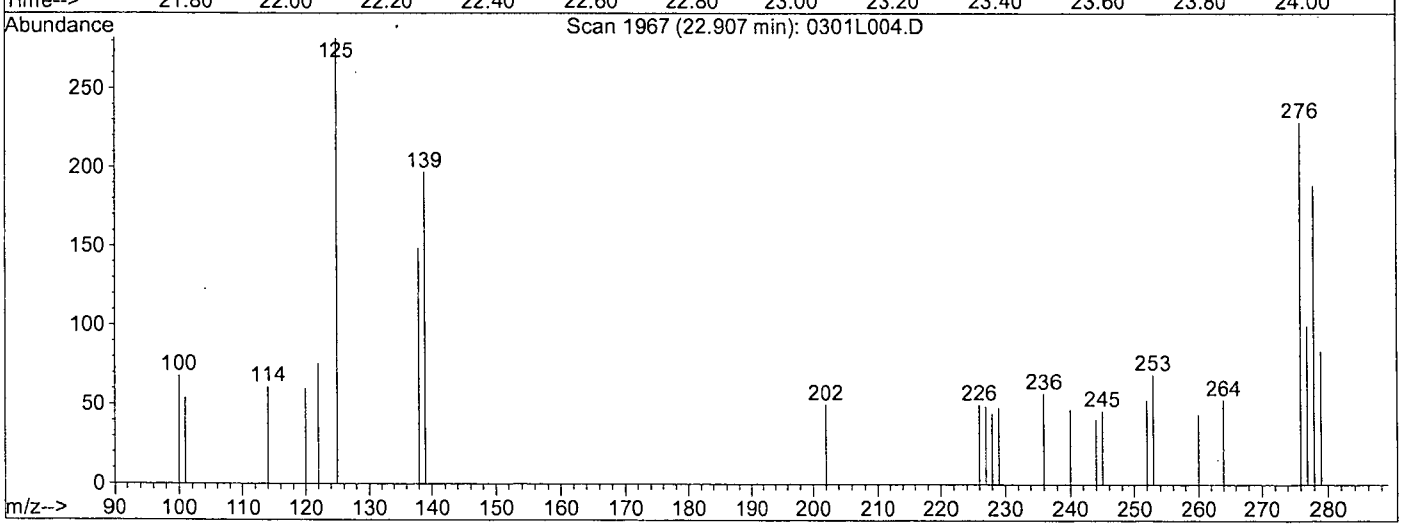
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	5.13#
279.00	60.20	10.26#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(25) Dibenz (a,h) anthracene (TM)

22.91min 0.1675ppb m

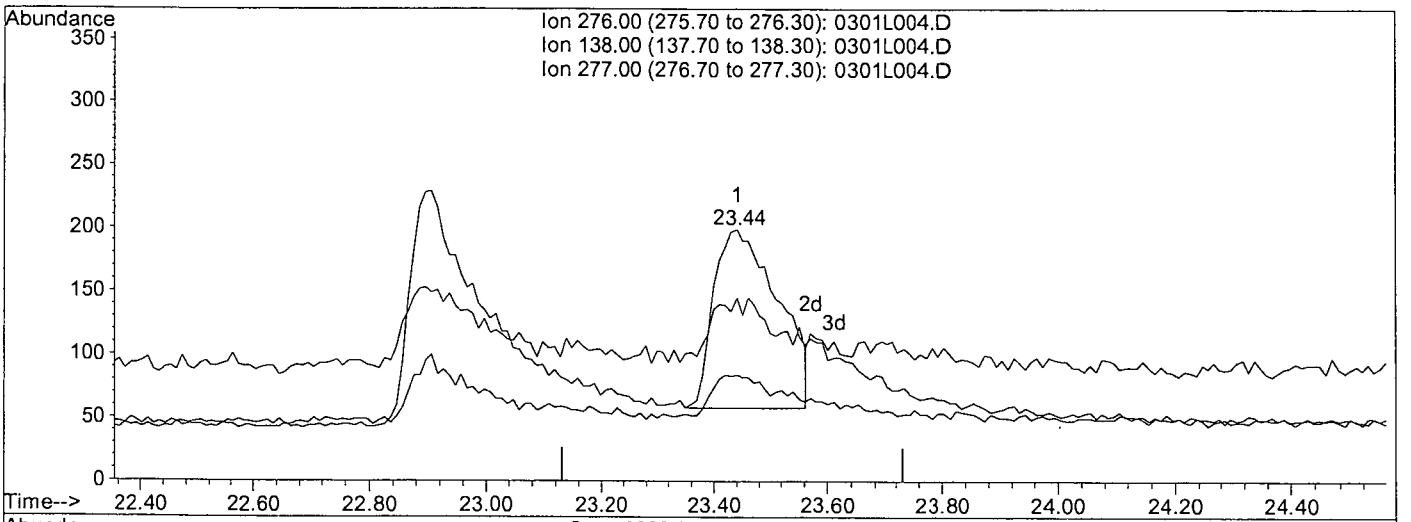
response 1286

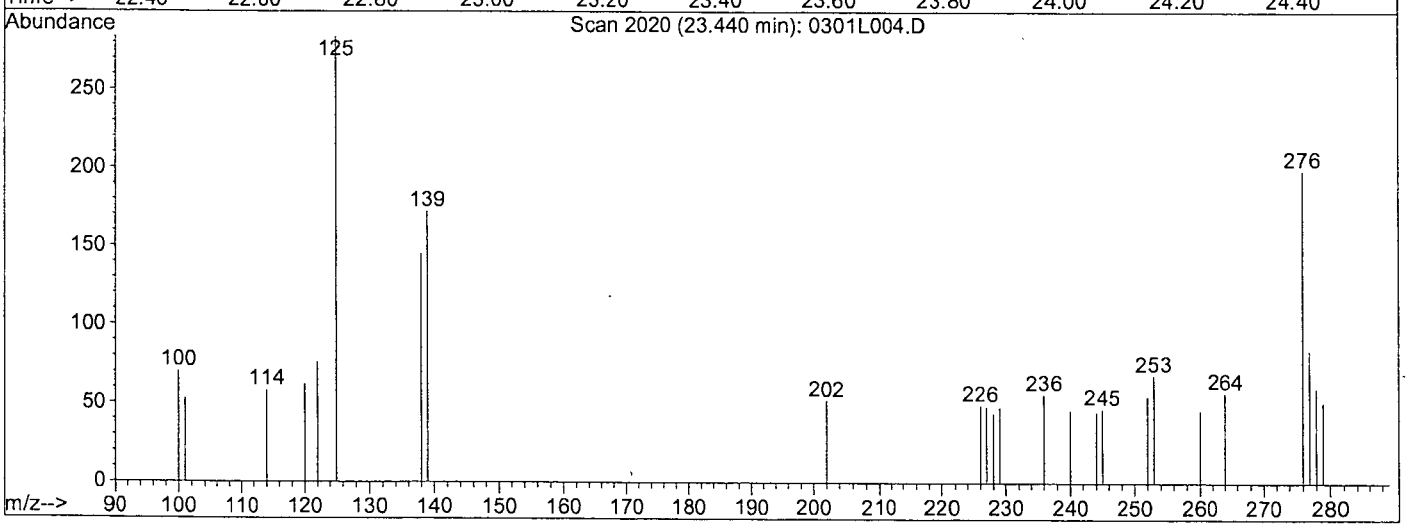
Ion	Exp%	Act%
278.00	100	100
139.00	256.40	104.23#
279.00	60.20	44.44
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:23 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(26) Benzo (g,h,i) perylene (TM)

23.44min 0.1392ppb

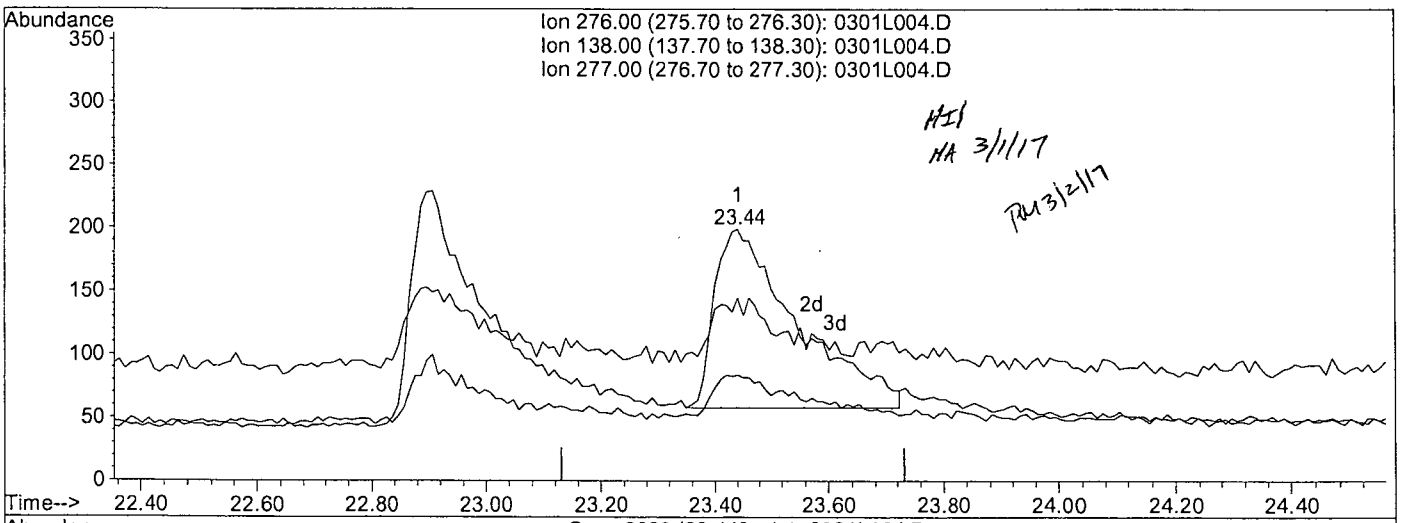
response 1110

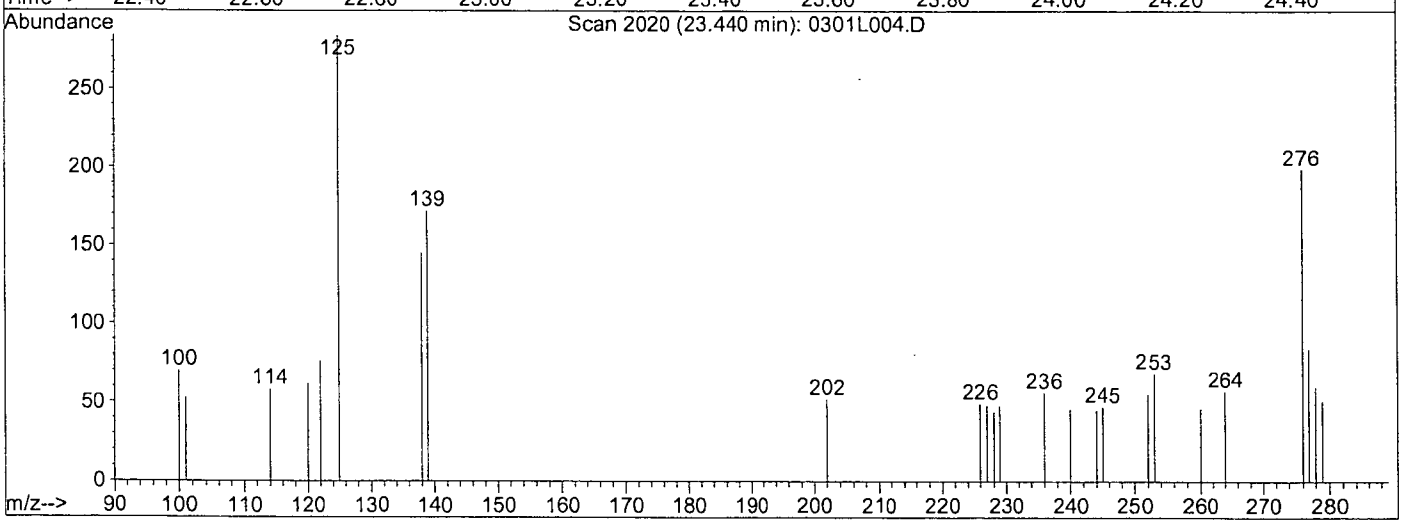
Ion	Exp%	Act%
276.00	100	100
138.00	139.20	31.21#
277.00	61.60	21.99#
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D Vial: 4
Acq On : 1 Mar 17 13:19 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:24 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:21:29 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(26) Benzo (g,h,i) perylene (TM)

23.44min 0.1789ppb m

response 1427

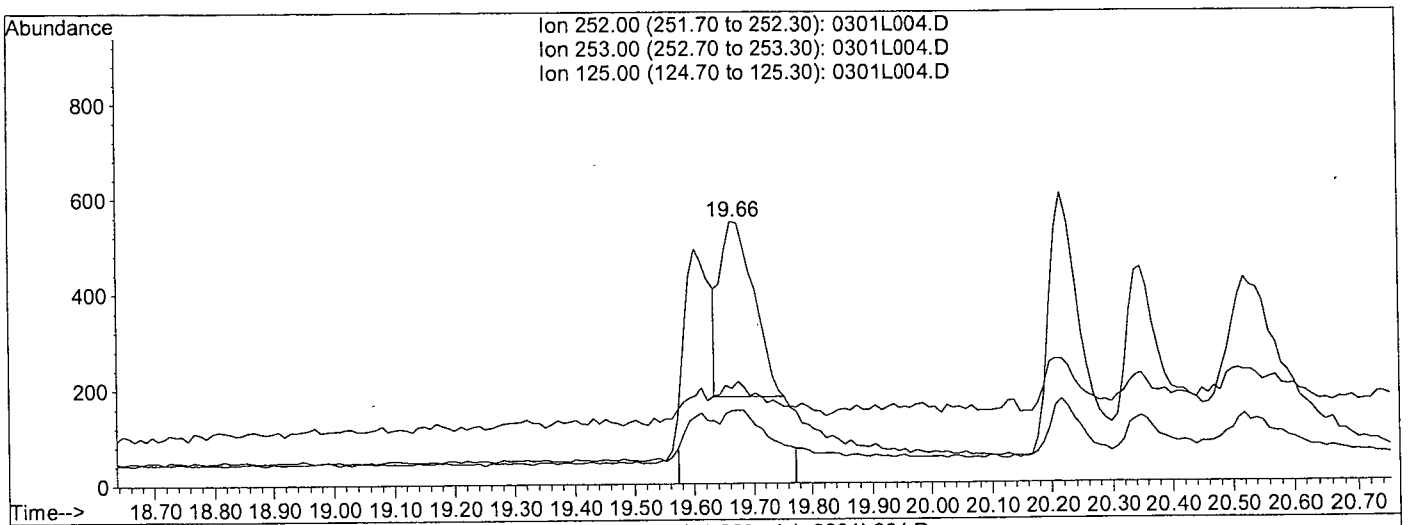
Ion	Exp%	Act%
276.00	100	100
138.00	139.20	72.86#
277.00	61.60	42.21#
0.00	0.00	0.00

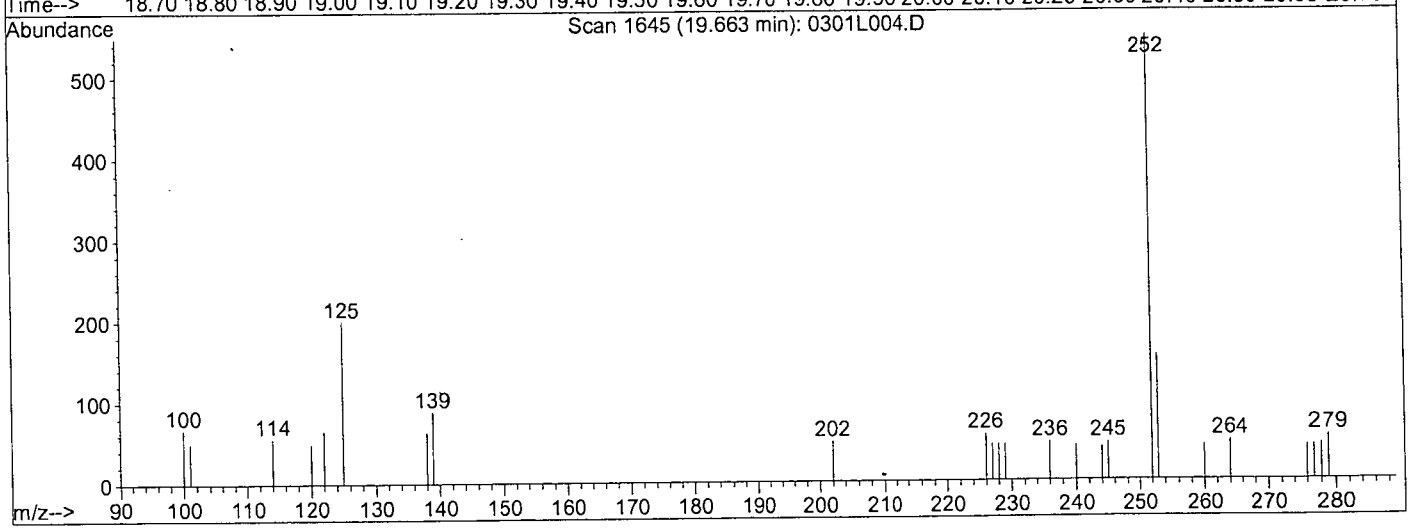
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:24 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L004.D

(23) Benzo (k) fluoranthene (TM)

19.66min 0.1896ppb

response 1446

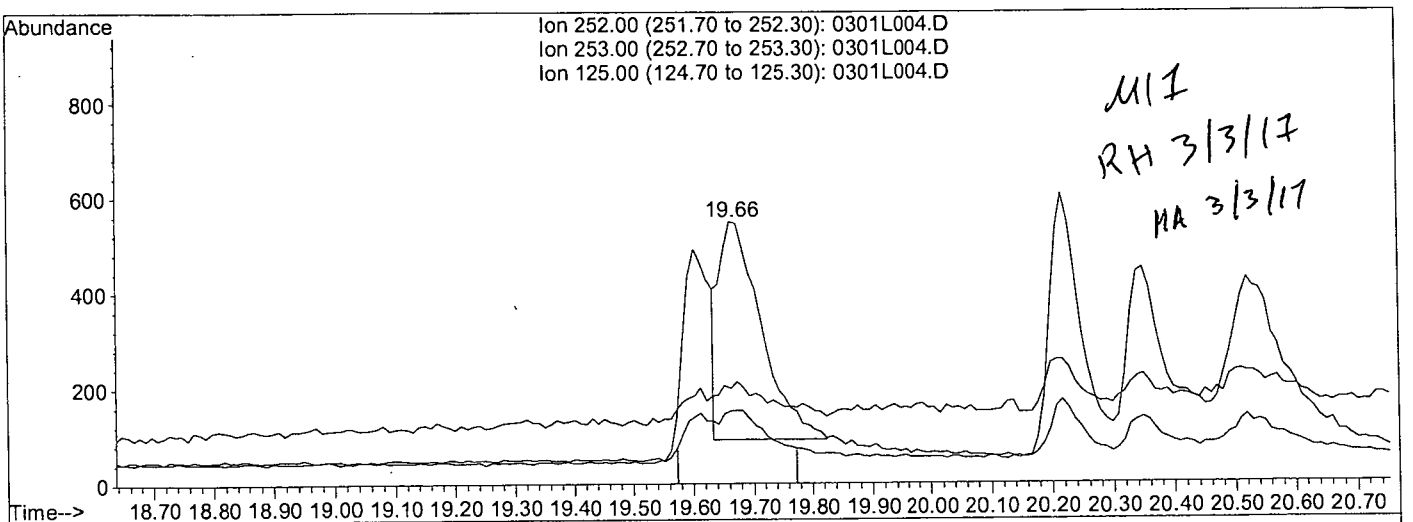
Ion	Exp%	Act%
252.00	100	100
253.00	37.90	20.16#
125.00	116.00	10.63#
0.00	0.00	0.00

Quantitation Report

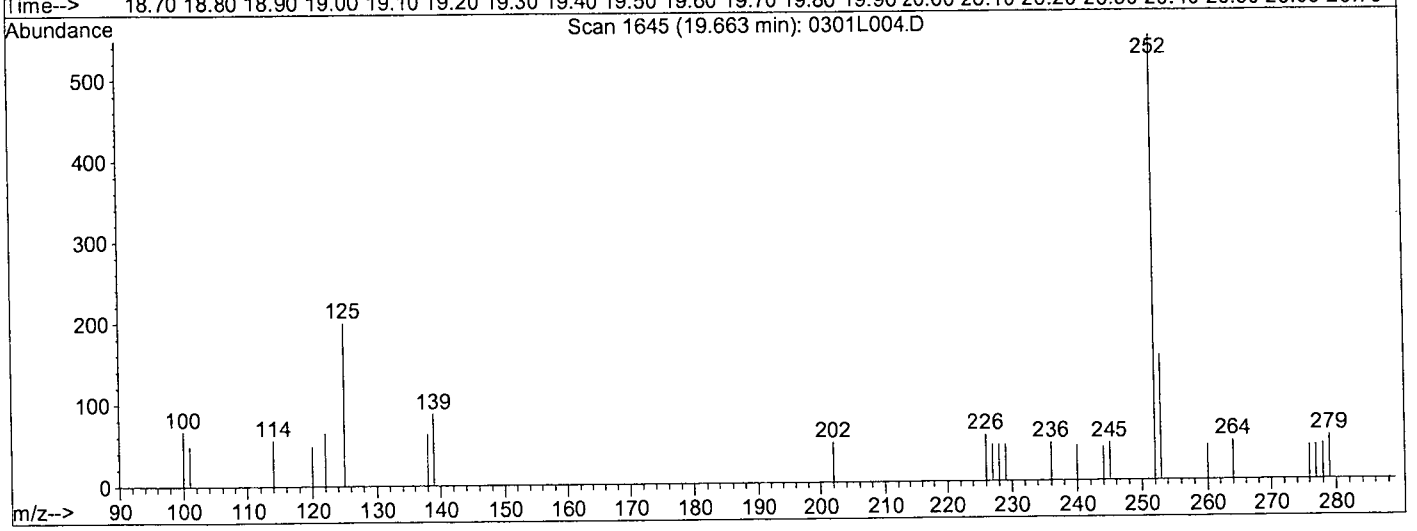
Data File : M:\LINUS\DATA\L170301\0301L004.D
Acq On : 1 Mar 17 13:19
Sample : 0.2 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:29 2017

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



M1
RH 3/3/17
MA 3/3/17



TIC: 0301L004.D

(23) Benzo (k) fluoranthene (TM)

19.66min 0.2935ppb m

response 2238

Ion	Exp%	Act%
252.00	100	100
253.00	37.90	27.87
125.00	116.00	36.43#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L005.D
Acq On : 1 Mar 17 13:52
Sample : 0.5 SIM 03/01/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:36 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:29:06 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21029	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.86	164	11159	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.76	188	21514	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.68	240	26183	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.45	264	23030	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.11	82	323	0.30440 ppb	0.12
Spiked Amount 5.000			Recovery	= 6.080%	
7) Surrogate Recovery (FBP)	7.10	172	1742	0.25511 ppb	0.02
Spiked Amount 5.000			Recovery	= 5.100%	
17) Surrogate Recovery (TPH)	13.72	244	2074	0.25290 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.060%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	4912	0.55018 ppb		99
4) 2-Methylnaphthalene	6.69	142	2409	0.49613 ppb		89
5) 1-Methylnaphthalene	6.78	142	3341	0.58761 ppb		91
8) Acenaphthylene	7.70	152	4852	0.52507 ppb		99
9) Acenaphthene	7.89	154	2970	0.53588 ppb		96
10) Fluorene	8.53	166	3306	0.54159 ppb		100
12) Phenanthrene	9.81	178	4442	0.51261 ppb		99
13) Anthracene	9.92	178	3903	0.48414 ppb		97
14) Fluoranthene	12.55	202	6855	0.50983 ppb		98
16) Pyrene	13.18	202	7158	0.51395 ppb		99
18) Benz (a) anthracene	16.66	228	5061	0.46377 ppb	#	81
19) Chrysene	16.76	228	7173	0.55199 ppb	#	78
20) Indeno (1,2,3-cd) pyrene	22.85	276	4486	0.53188 ppb	#	86
22) Benzo (b) fluoranthene	19.57	252	4312	0.38067 ppb		92
23) Benzo (k) fluoranthene	19.65	252	6120m	0.76807 ppb		93
24) Benzo (a) pyrene	20.33	252	4999	0.50956 ppb	#	8
25) Dibenz (a,h) anthracene	22.88	278	3502	0.46556 ppb	#	1
26) Benzo (g,h,i) perylene	23.38	276	3694	0.47210 ppb	#	21

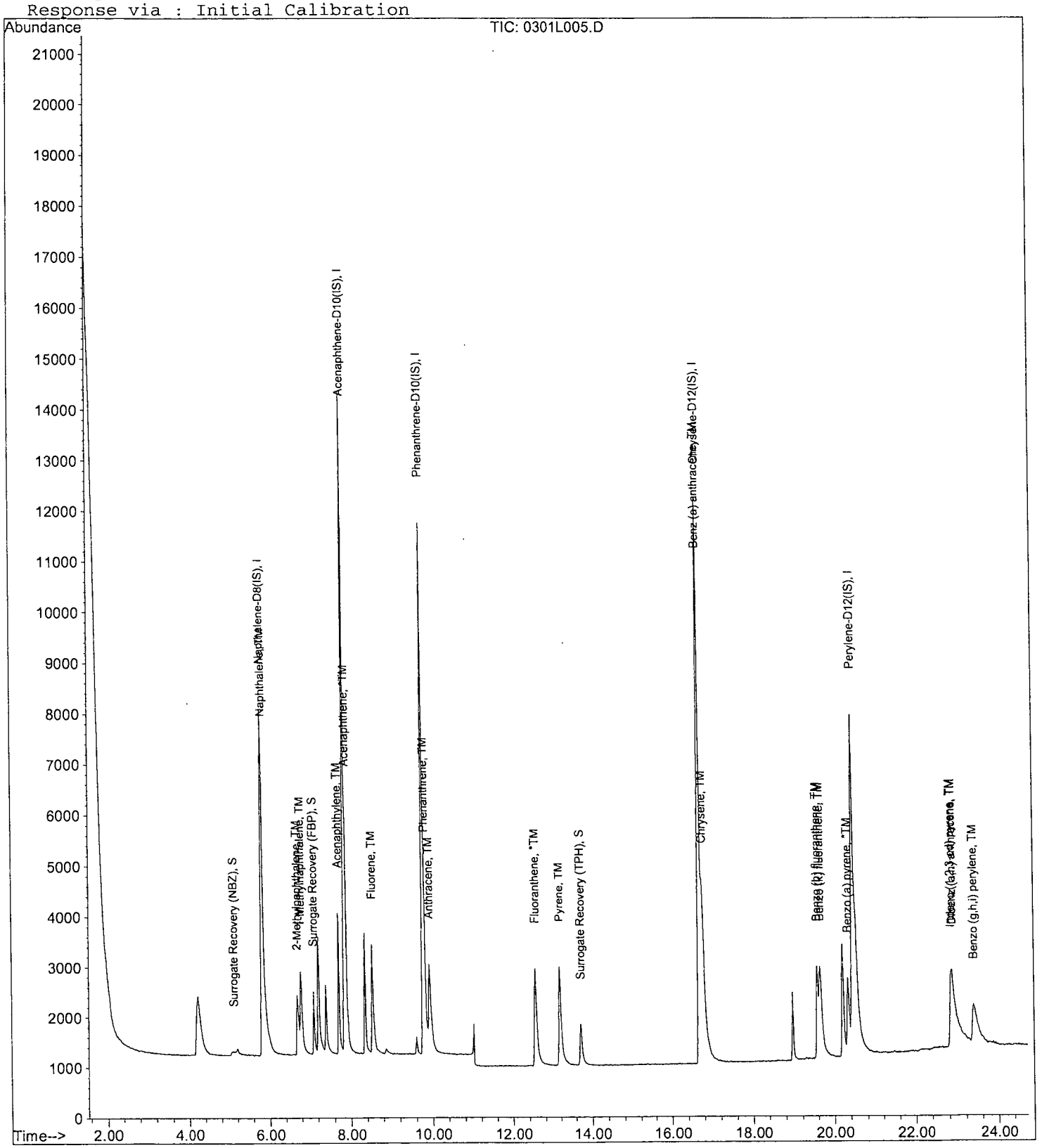
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D Vial: 5
Acq On : 1 Mar 17 13:52 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:36 2017 Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

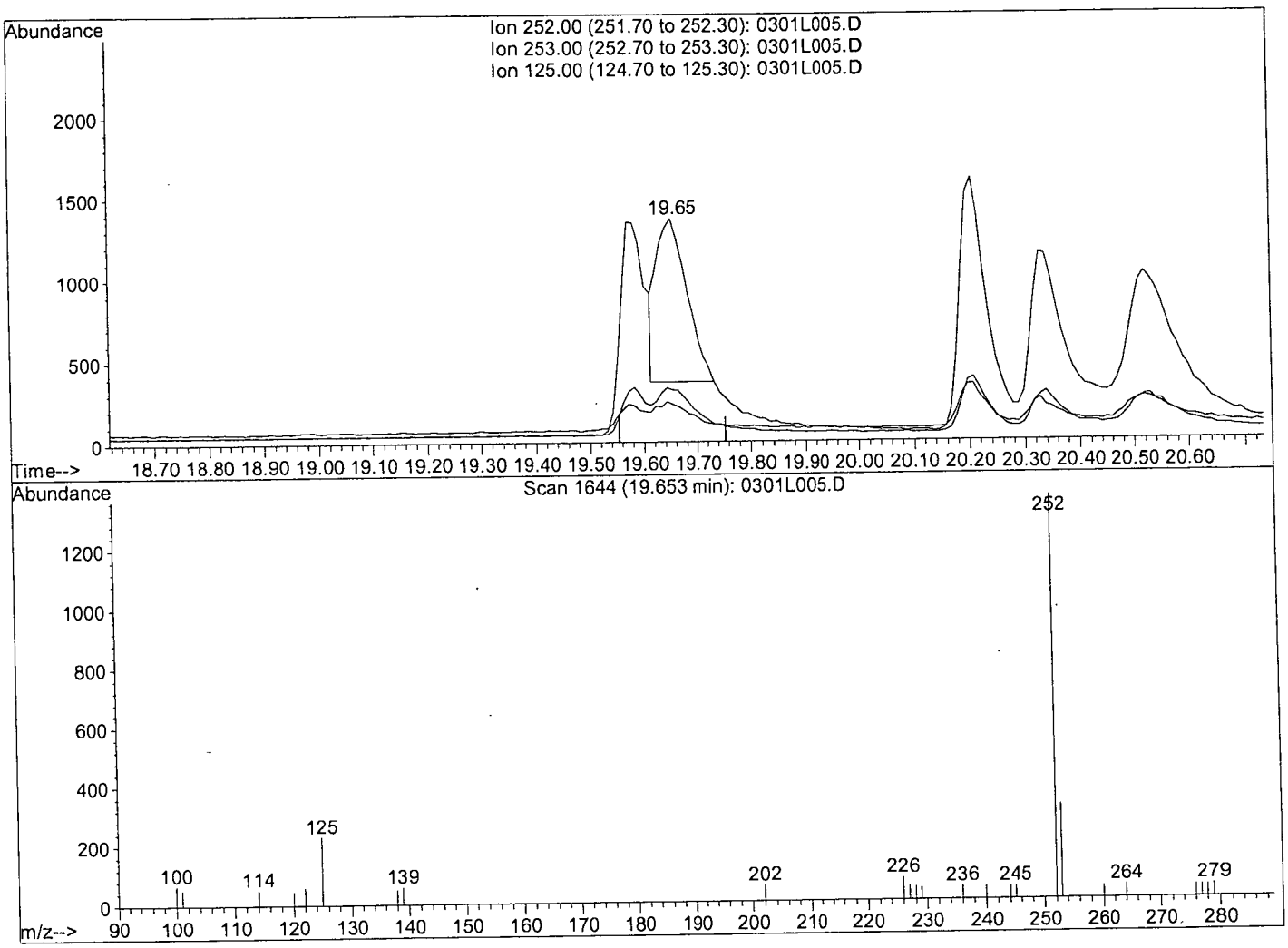


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D
Acq On : 1 Mar 17 13:52
Sample : 0.5 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:29 2017

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



TIC: 0301L005.D

(23) Benzo (k) fluoranthene (TM)

19.65min 0.4990ppb

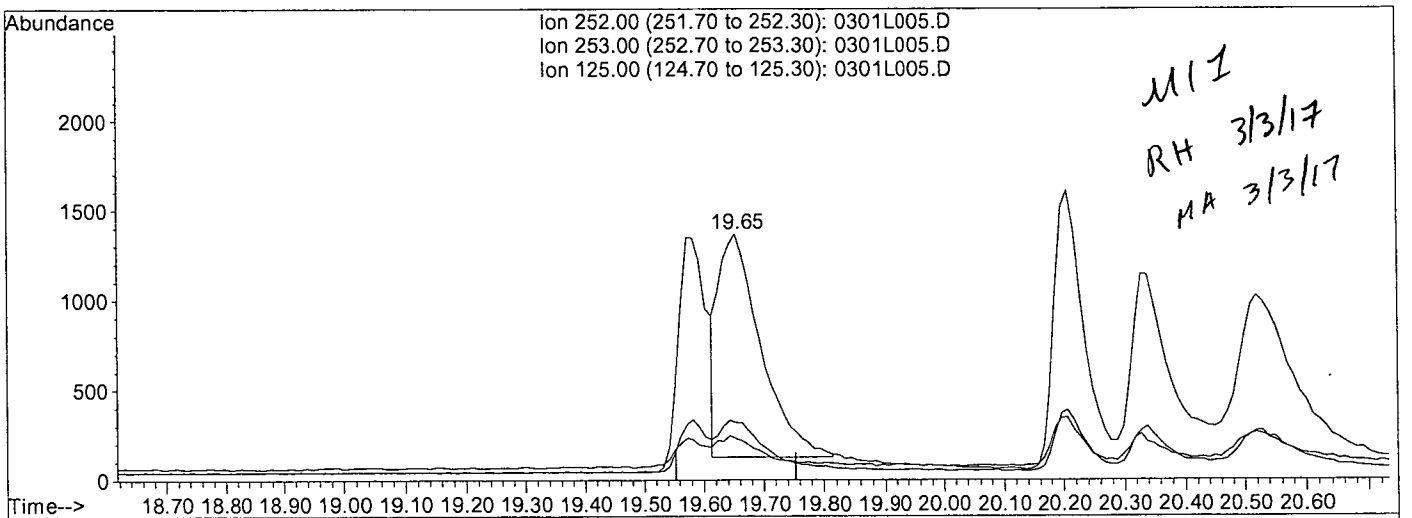
response 3976

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	21.00
125.00	16.80	12.20
0.00	0.00	0.00

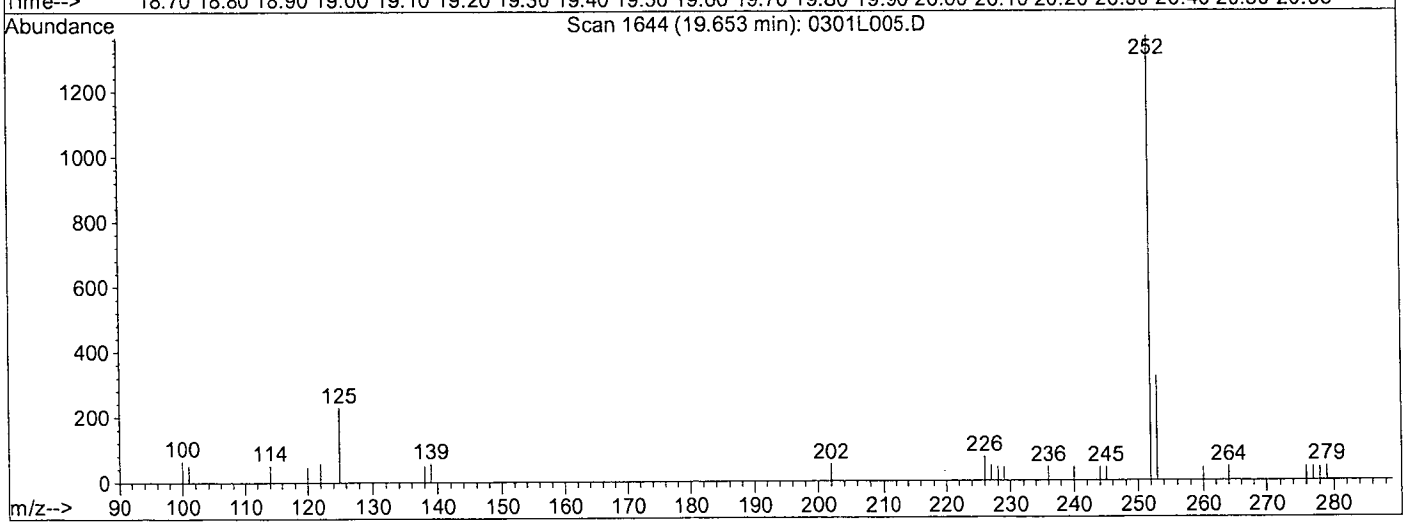
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L005.D Vial: 5
Acq On : 1 Mar 17 13:52 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:36 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



M1 I
RH 3/3/17
MA 3/3/17



TIC: 0301L005.D

(23) Benzo (k) fluoranthene (TM)

19.65min 0.7681ppb m

response 6120

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	23.34
125.00	16.80	16.75
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:24:51 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21587	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11277	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	21896	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.67	240	26354	2.50000 ppb	0.02
21) Perylene-D12(IS)	20.44	264	23331	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.06	82	479	0.41671 ppb	0.07
Spiked Amount 5.000			Recovery	= 8.340%	
7) Surrogate Recovery (FBP)	7.09	172	3628	0.52575 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.520%	
17) Surrogate Recovery (TPH)	13.71	244	4082	0.49453 ppb	0.03
Spiked Amount 5.000			Recovery	= 9.900%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	9715	1.06003 ppb		99
4) 2-Methylnaphthalene	6.68	142	4992	1.00152 ppb		95
5) 1-Methylnaphthalene	6.77	142	6371	1.09156 ppb		96
8) Acenaphthylene	7.70	152	9645	1.03283 ppb		100
9) Acenaphthene	7.89	154	5809	1.03716 ppb		99
10) Fluorene	8.52	166	6493	1.05256 ppb		98
12) Phenanthrene	9.80	178	9058	1.02707 ppb		99
13) Anthracene	9.91	178	7955	0.96955 ppb		99
14) Fluoranthene	12.53	202	13669	0.99888 ppb		99
16) Pyrene	13.16	202	14333	1.02279 ppb		99
18) Benz (a) anthracene	16.65	228	10259	0.93009 ppb	#	83
19) Chrysene	16.76	228	13985	1.08914 ppb	#	80
20) Indeno (1,2,3-cd) pyrene	22.81	276	10351	1.06809 ppb	#	22
22) Benzo (b) fluoranthene	19.56	252	8397	0.77541 ppb	#	92
23) Benzo (k) fluoranthene	19.63	252	12043m	1.58210 ppb		93
24) Benzo (a) pyrene	20.33	252	9910	0.99784 ppb	#	6
25) Dibenz (a,h) anthracene	22.85	278	7886	1.02923 ppb	#	1
26) Benzo (g,h,i) perylene	23.35	276	7957	0.99945 ppb	#	22

(#) = qualifier out of range (m) = manual integration

Quantitation Report

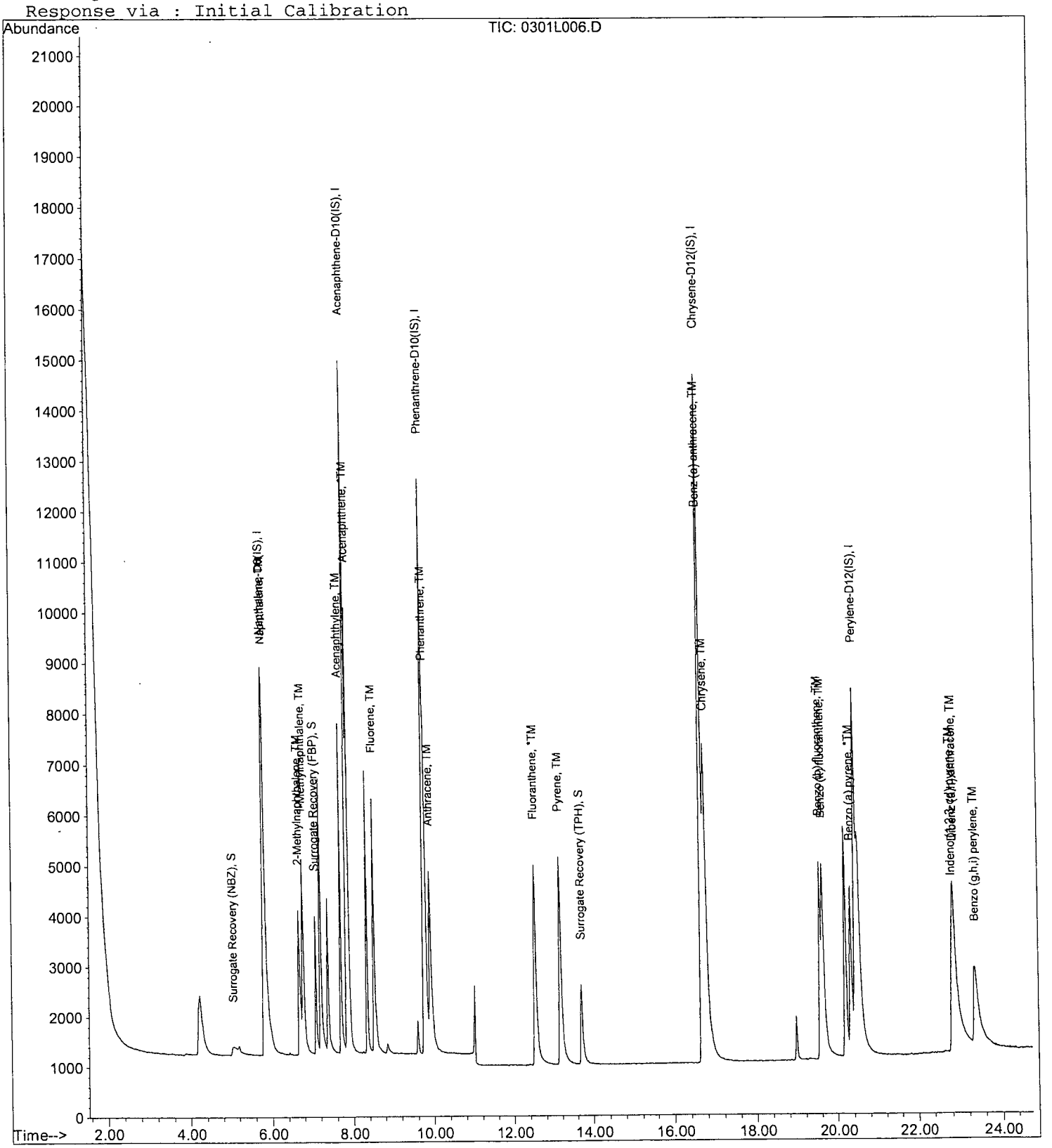
Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017

Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

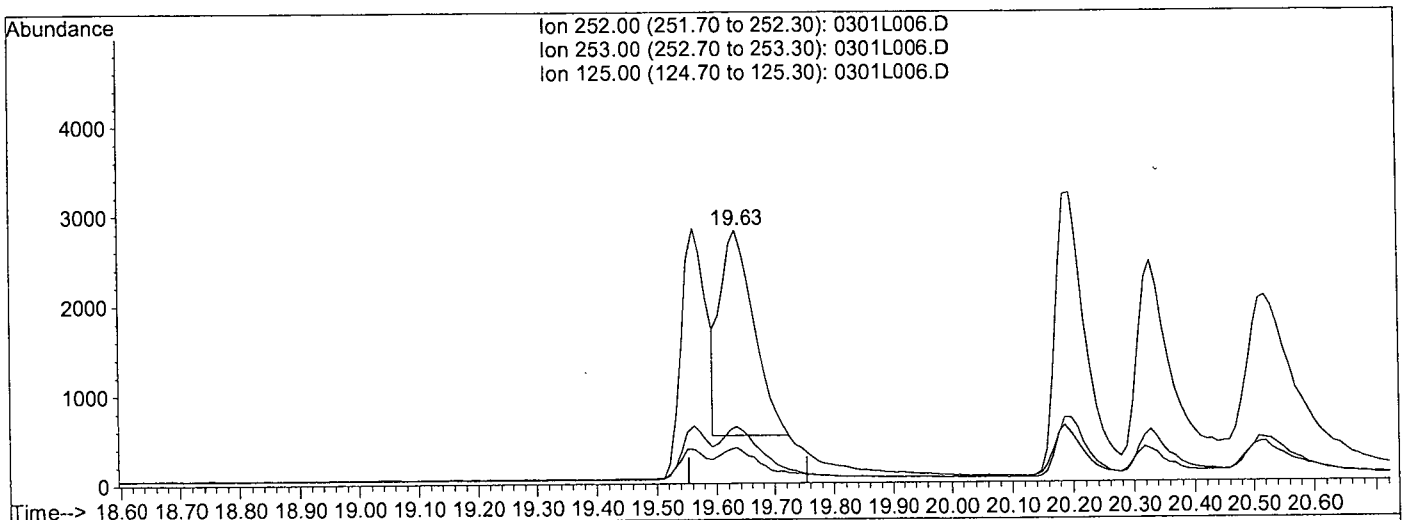


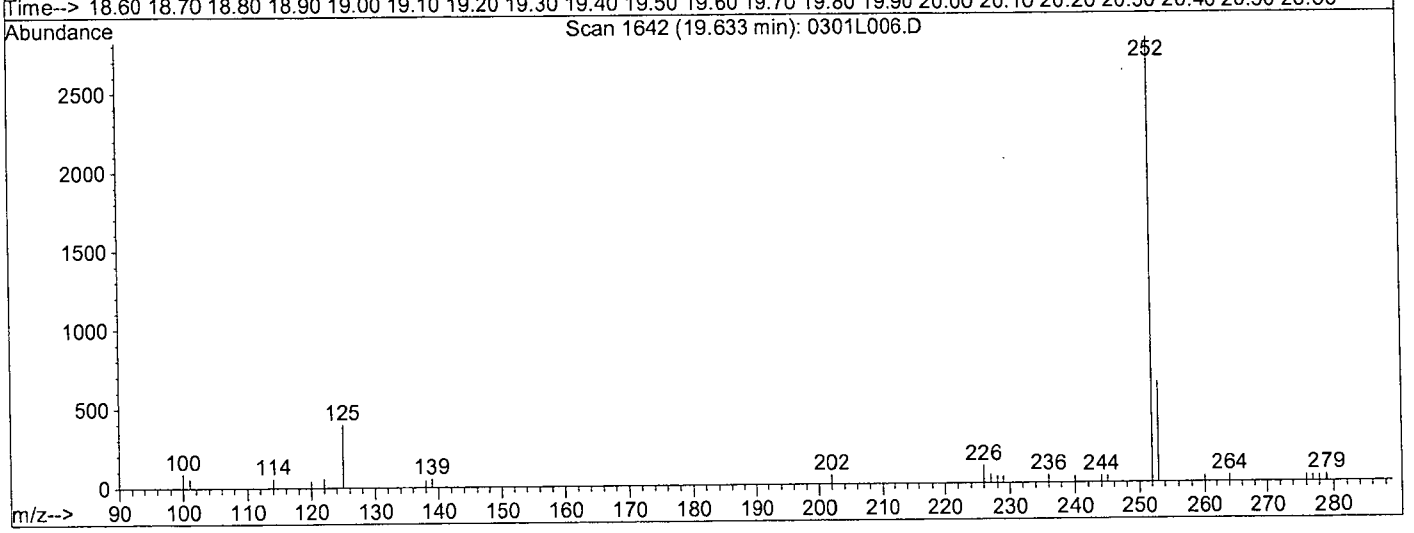
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L006.D
Acq On : 1 Mar 17 14:24
Sample : 1.0 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:25 2017

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L006.D

(23) Benzo (k) fluoranthene (TM)

19.63min 1.1896ppb

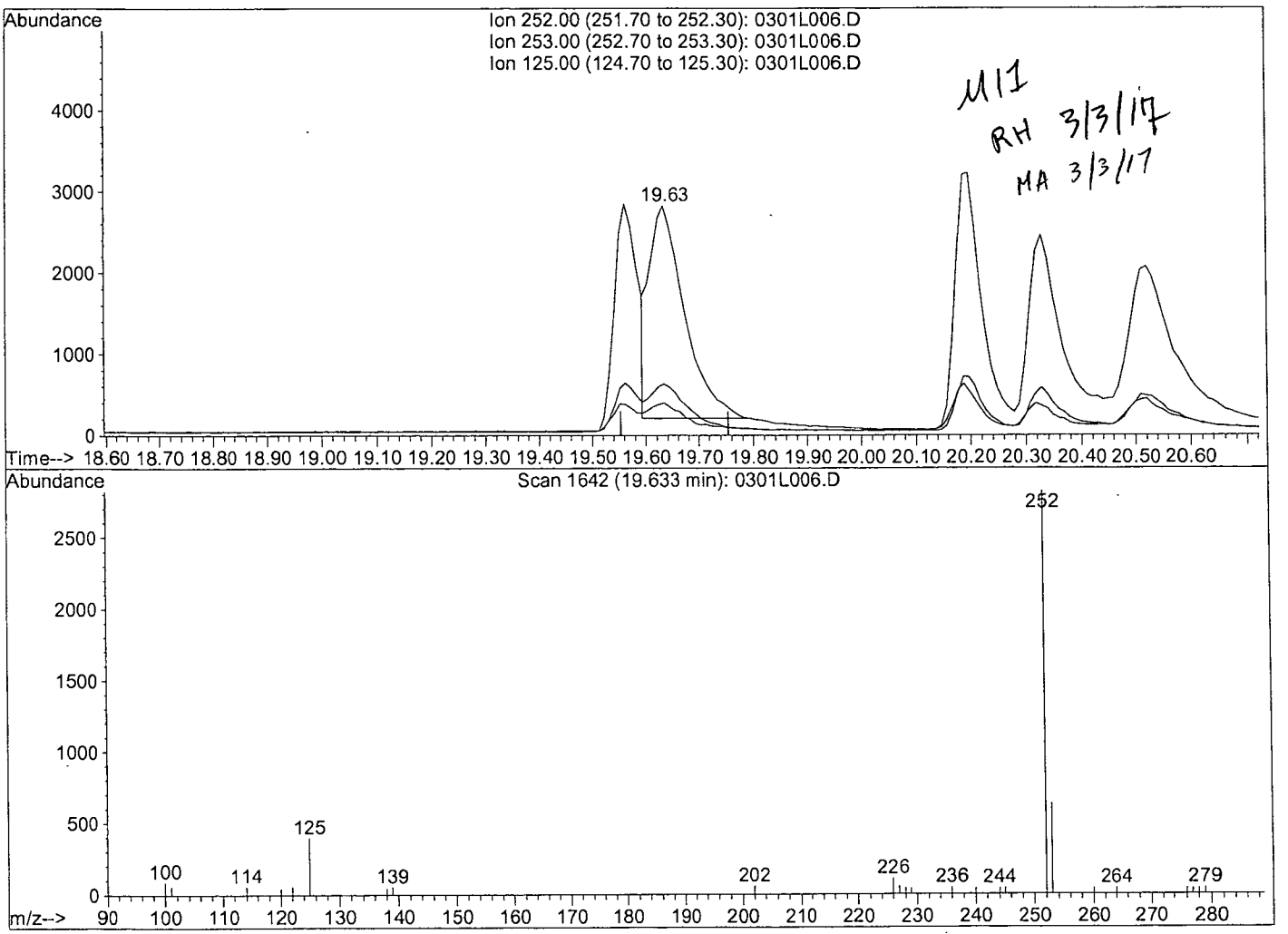
response 9055

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	21.16
125.00	16.80	12.33
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L006.D Vial: 6
Acq On : 1 Mar 17 14:24 Operator: MA
Sample : 1.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:37 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



TIC: 0301L006.D

(23) Benzo (k) fluoranthene (TM)

19.63min 1.5821ppb m

response 12043

Ion	Exp%	Act%
252.00	100	100
253.00	23.30	22.49
125.00	16.80	14.06
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L007.D
Acq On : 1 Mar 17 14:57
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	21206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	10750	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	21127	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	26059	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.43	264	22018	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	7377	2.47320 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.460%	
7) Surrogate Recovery (FBP)	7.07	172	17099	2.59935 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.980%	
17) Surrogate Recovery (TPH)	13.68	244	19717	2.41572 ppb	0.00
Spiked Amount 5.000			Recovery	= 48.320%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	47356	5.25998 ppb		100
4) 2-Methylnaphthalene	6.64	142	28114	5.74172 ppb		98
5) 1-Methylnaphthalene	6.75	142	29061	5.06854 ppb		97
8) Acenaphthylene	7.69	152	48113	5.40475 ppb		100
9) Acenaphthene	7.88	154	27996	5.24353 ppb		100
10) Fluorene	8.50	166	31755	5.40008 ppb		100
12) Phenanthrene	9.79	178	45634	5.36270 ppb		100
13) Anthracene	9.89	178	44172	5.57960 ppb		100
14) Fluoranthene	12.50	202	72027	5.45506 ppb		100
16) Pyrene	13.13	202	74844	5.40125 ppb		100
18) Benz (a) anthracene	16.63	228	58410	5.35542 ppb		100
19) Chrysene	16.73	228	62489	4.92167 ppb		100
20) Indeno (1,2,3-cd) pyrene	22.74	276	52695	5.49900 ppb	#	97
22) Benzo (b) fluoranthene	19.52	252	47895	4.92541 ppb		99
23) Benzo (k) fluoranthene	19.59	252	61971m	8.62667 ppb		99
24) Benzo (a) pyrene	20.30	252	52466	5.59783 ppb		100
25) Dibenz (a,h) anthracene	22.79	278	42230	5.84029 ppb		96
26) Benzo (g,h,i) perylene	23.27	276	41407	5.51113 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

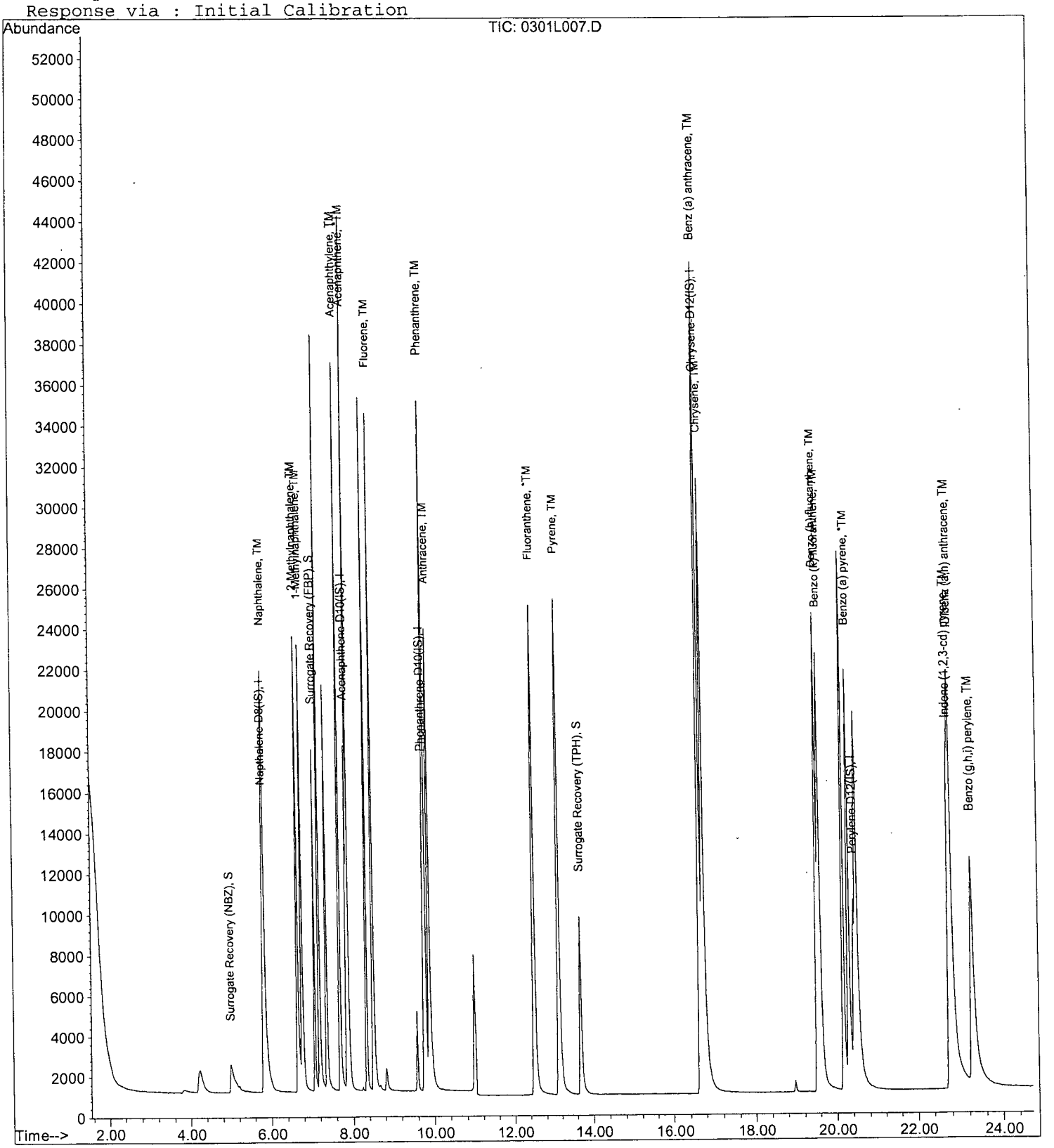
Data File : M:\LINUS\DATA\L170301\0301L007.D
Acq On : 1 Mar 17 14:57
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017

Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

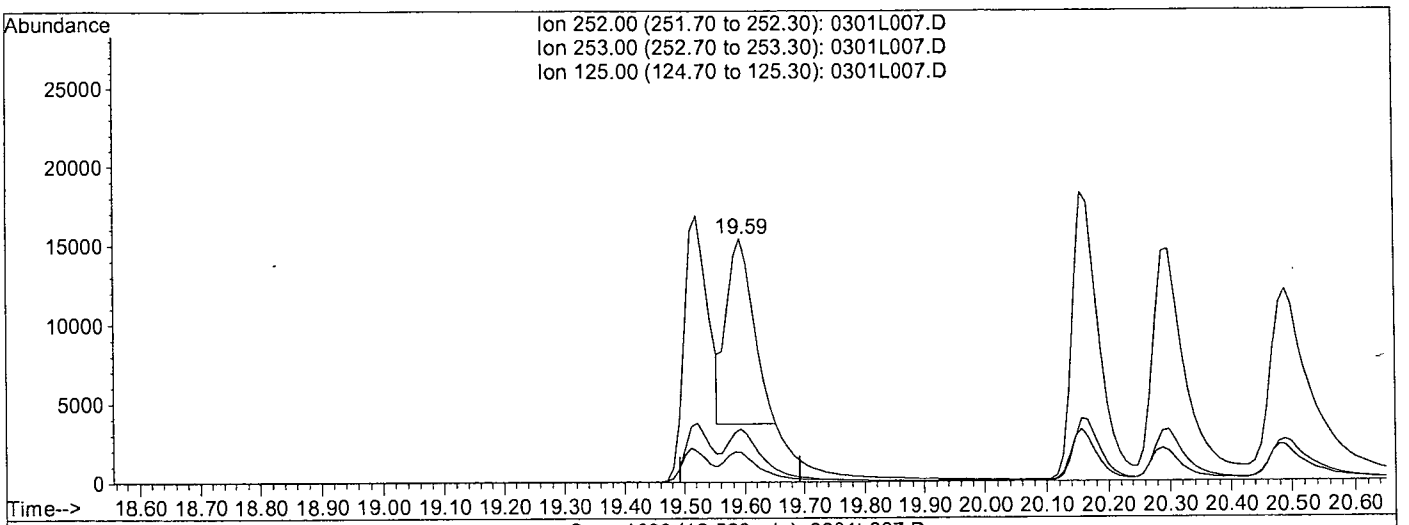


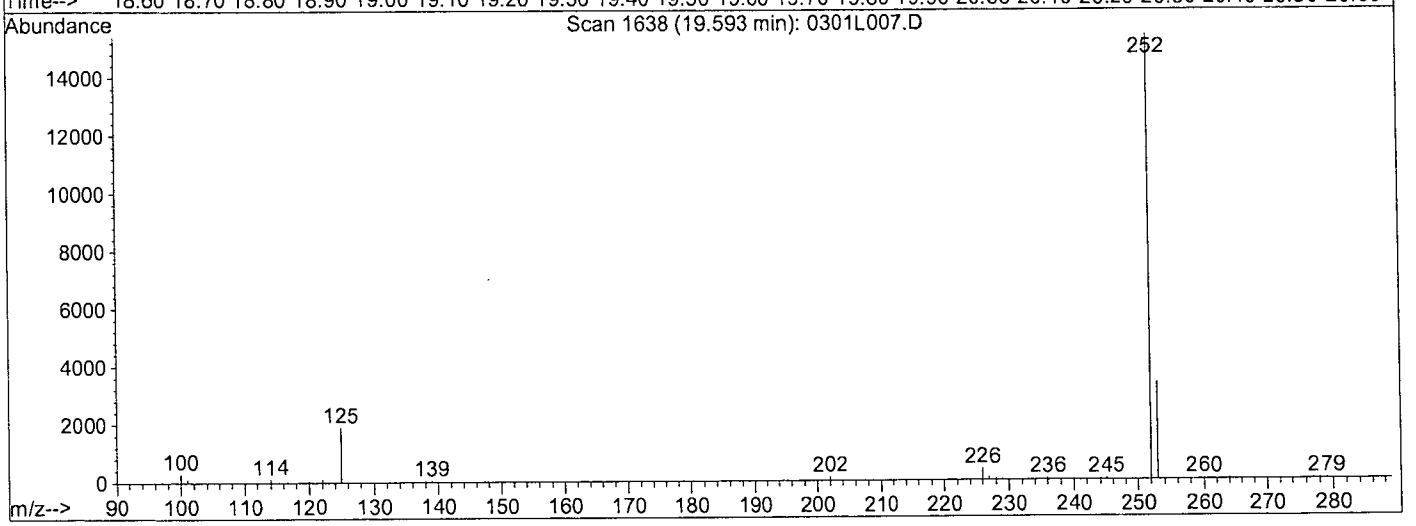
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L007.D
Acq On : 1 Mar 17 14:57
Sample : 5.0 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:18 2017

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L007.D

(23) Benzo (k) fluoranthene (TM)

19.59min 5.1035ppb

response 36662

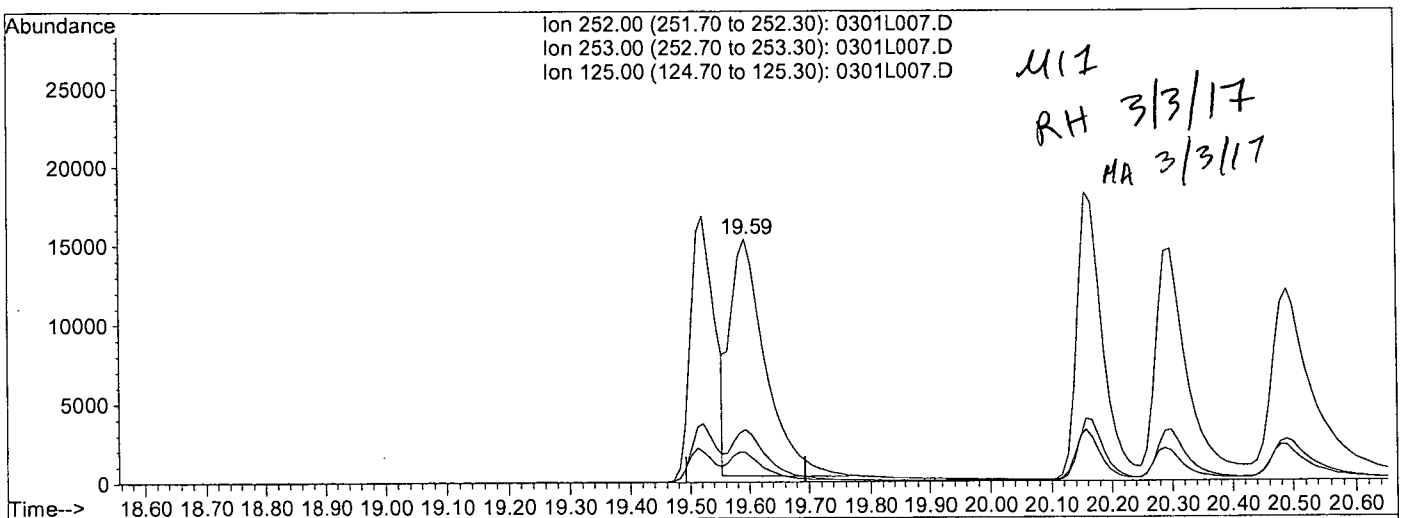
Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.84
125.00	11.80	12.43
0.00	0.00	0.00

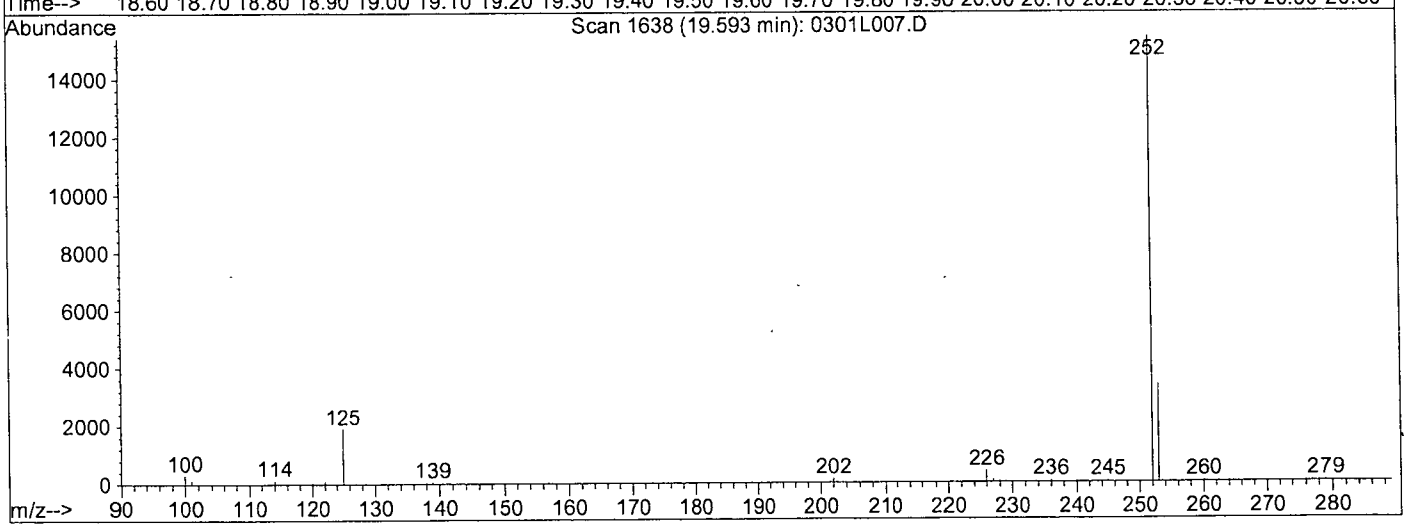
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L007.D
Acq On : 1 Mar 17 14:57
Sample : 5.0 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:37 2017

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L007.D

(23) Benzo (k) fluoranthene (TM)

19.59min 8.6267ppb m

response 61971

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.89
125.00	11.80	12.32
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L008.D
Acq On : 1 Mar 17 15:30
Sample : 10 SIM 03/01/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	22138	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	11001	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	21823	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	26814	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.42	264	22713	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	16777	5.06188 ppb	-0.01
Spiked Amount 5.000			Recovery	= 101.240%	
7) Surrogate Recovery (FBP)	7.06	172	35820	5.32103 ppb	-0.01
Spiked Amount 5.000			Recovery	= 106.420%	
17) Surrogate Recovery (TPH)	13.67	244	42025	5.00391 ppb	-0.01
Spiked Amount 5.000			Recovery	= 100.080%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	93426	9.94024 ppb		100
4) 2-Methylnaphthalene	6.64	142	56194	10.99334 ppb		100
5) 1-Methylnaphthalene	6.75	142	56473	9.43482 ppb		100
8) Acenaphthylene	7.69	152	94718	10.39734 ppb		99
9) Acenaphthene	7.88	154	54852	10.03914 ppb		98
10) Fluorene	8.50	166	61981	10.29967 ppb		98
12) Phenanthrene	9.78	178	91626	10.42406 ppb		99
13) Anthracene	9.87	178	87656	10.71918 ppb		100
14) Fluoranthene	12.48	202	144399	10.58746 ppb		98
16) Pyrene	13.12	202	149125	10.45885 ppb		100
18) Benz (a) anthracene	16.63	228	121017	10.78324 ppb		99
19) Chrysene	16.72	228	123938	9.48658 ppb		100
20) Indeno (1,2,3-cd) pyrene	22.73	276	106841	10.83549 ppb	#	100
22) Benzo (b) fluoranthene	19.51	252	99492	9.96645 ppb		100
23) Benzo (k) fluoranthene	19.58	252	118181m	15.94799 ppb		100
24) Benzo (a) pyrene	20.29	252	105286	10.88969 ppb		100
25) Dibenz (a,h) anthracene	22.78	278	85713	11.49114 ppb		100
26) Benzo (g,h,i) perylene	23.25	276	83382	10.75827 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

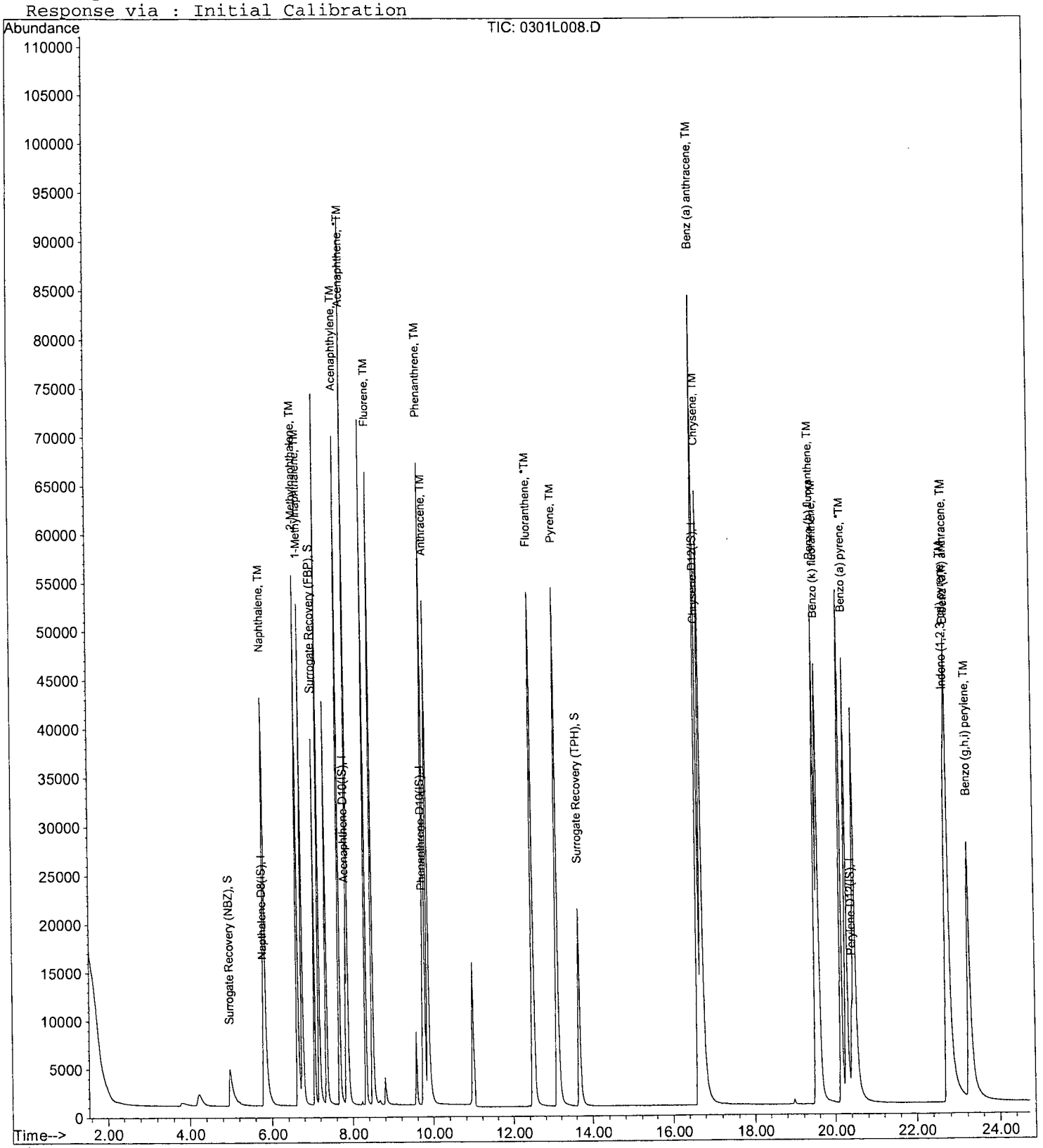
Data File : M:\LINUS\DATA\L170301\0301L008.D
Acq On : 1 Mar 17 15:30
Sample : 10 SIM 03/01/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:37 2017

Quant Results File: L0301P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration



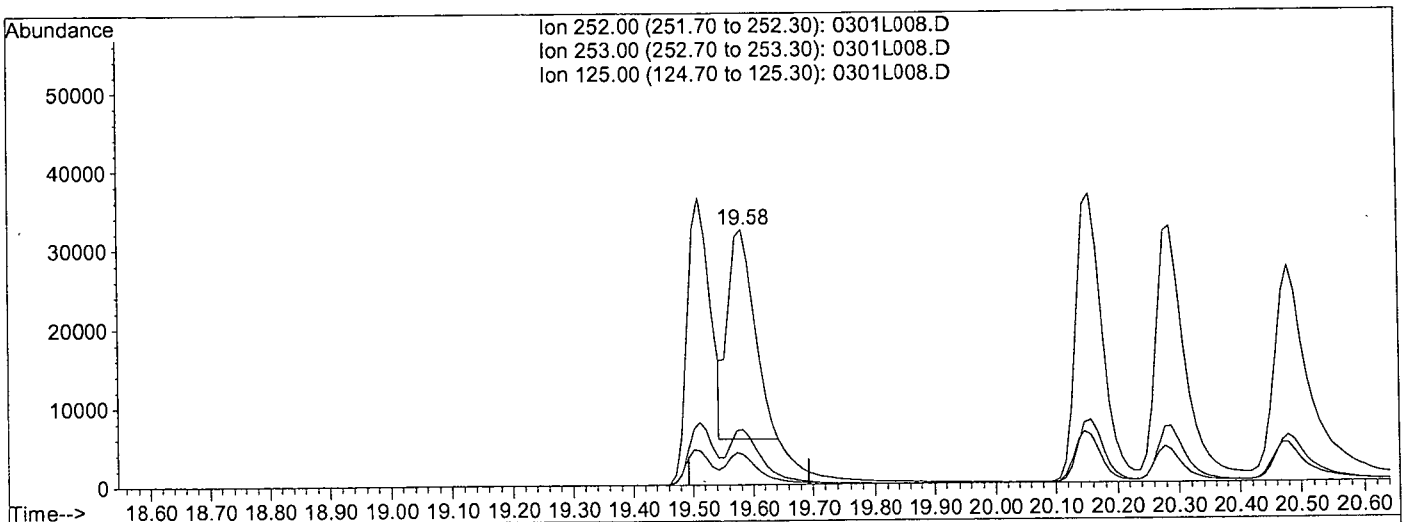
0301L008.D L0303P.M Fri Mar 03 11:28:12 2017 Page 2

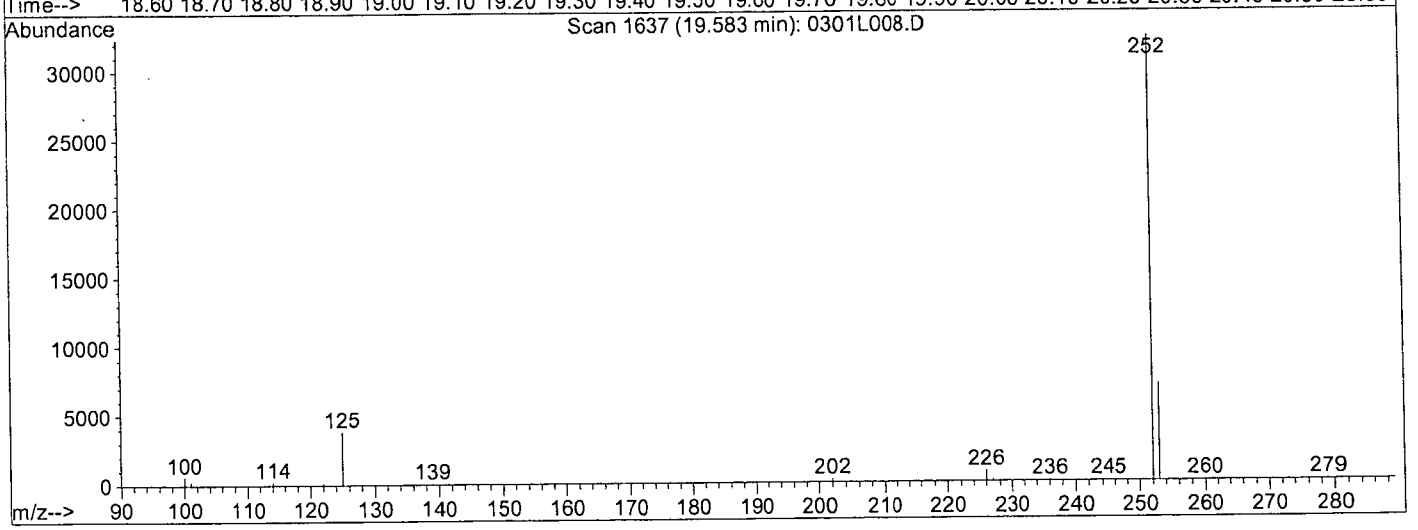
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L008.D
Acq On : 1 Mar 17 15:30
Sample : 10 SIM 03/01/17
Misc : water
Quant Time: Mar 1 17:18 2017

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L008.D

(23) Benzo (k) fluoranthene (TM)

19.58min 11.0558ppb

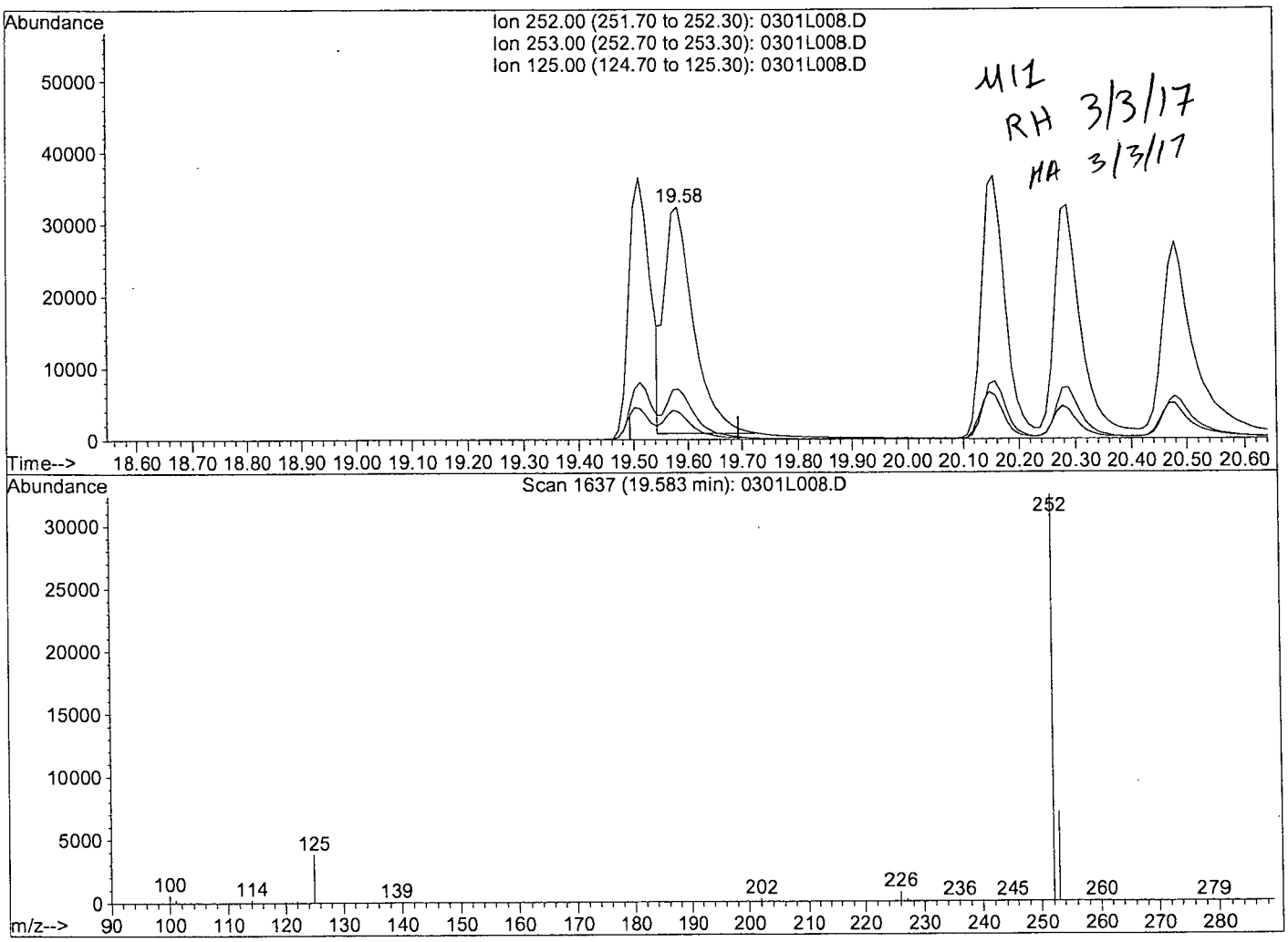
response 81928

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.69
125.00	11.80	11.88
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L008.D Vial: 8
Acq On : 1 Mar 17 15:30 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:37 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



TIC: 0301L008.D

(23) Benzo (k) fluoranthene (TM)

19.58min 15.9480ppb m

response 118181

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.74
125.00	11.80	11.83
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	21579	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	10322	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.74	188	20178	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.66	240	24956	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.42	264	21531	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	84007	24.85852 ppb	-0.04
Spiked Amount 5.000			Recovery	= 497.180%	
7) Surrogate Recovery (FBP)	7.06	172	153721	24.33727 ppb	-0.01
Spiked Amount 5.000			Recovery	= 486.740%	
17) Surrogate Recovery (TPH)	13.67	244	184252	23.57222 ppb	-0.01
Spiked Amount 5.000			Recovery	= 471.440%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	422031	46.06602 ppb	100
4) 2-Methylnaphthalene	6.63	142	251089	50.39348 ppb	99
5) 1-Methylnaphthalene	6.75	142	237312	40.67425 ppb	98
8) Acenaphthylene	7.68	152	406077	47.50797 ppb	99
9) Acenaphthene	7.88	154	230648	44.99064 ppb	97
10) Fluorene	8.49	166	259616	45.97951 ppb	100
12) Phenanthrene	9.79	178	388093	47.75187 ppb	100
13) Anthracene	9.87	178	379818	50.23329 ppb	100
14) Fluoranthene	12.49	202	630924	50.03119 ppb	99
16) Pyrene	13.12	202	648661	48.88075 ppb	99
18) Benz (a) anthracene	16.63	228	553214	52.96421 ppb	100
19) Chrysene	16.73	228	530762	43.65075 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.74	276	477179	51.99703 ppb #	98
22) Benzo (b) fluoranthene	19.52	252	483215	51.25787 ppb	100
23) Benzo (k) fluoranthene	19.59	252	485525m	69.11623 ppb	99
24) Benzo (a) pyrene	20.30	252	463955	50.62104 ppb	100
25) Dibenz (a,h) anthracene	22.79	278	383180	54.19132 ppb	97
26) Benzo (g,h,i) perylene	23.26	276	381738	51.95719 ppb	97

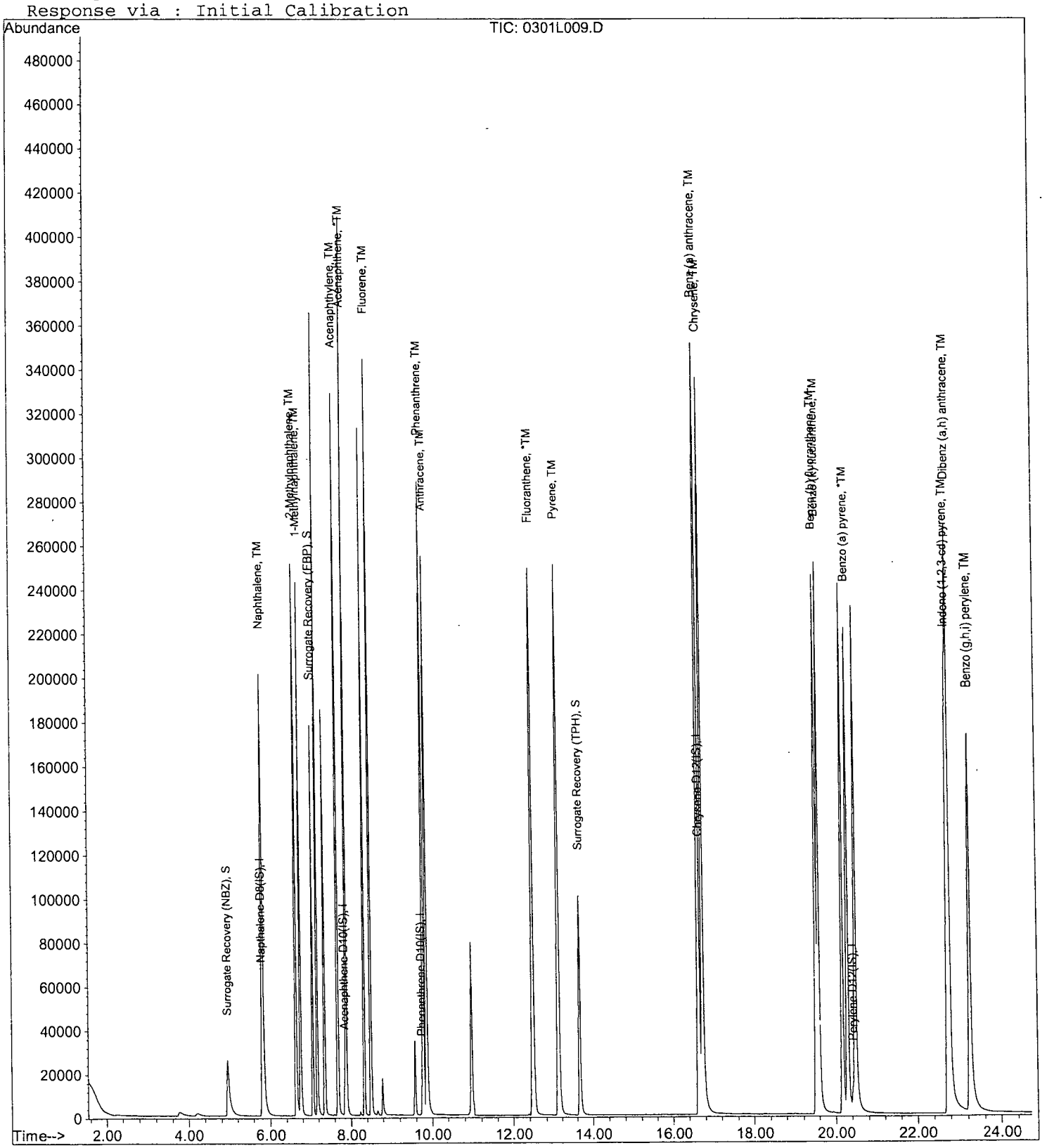
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

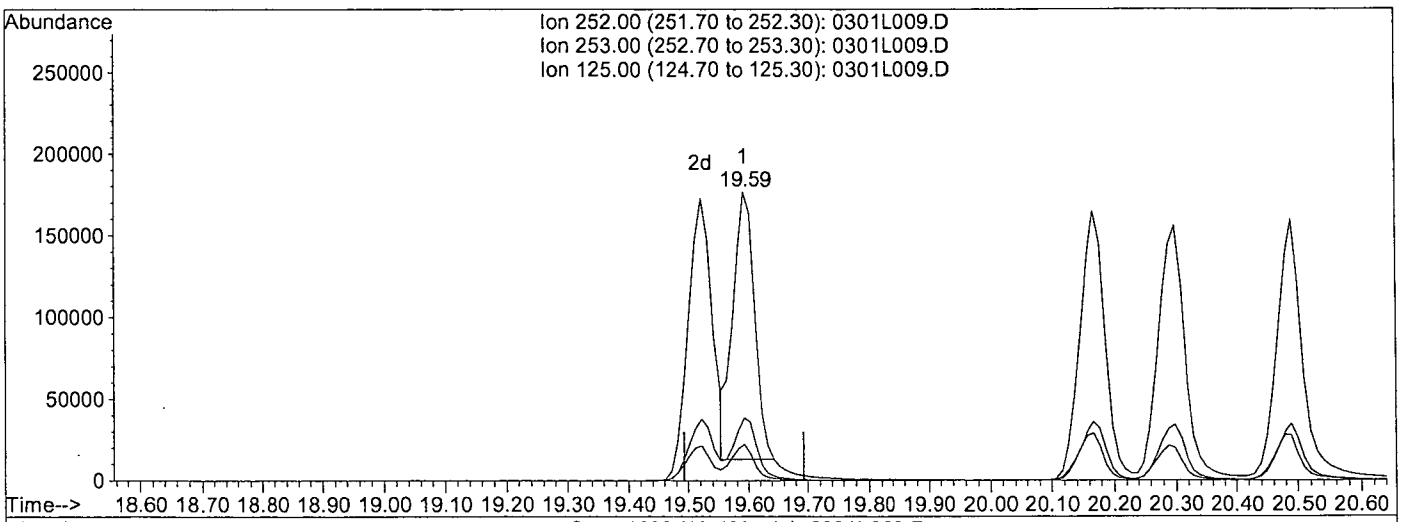
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

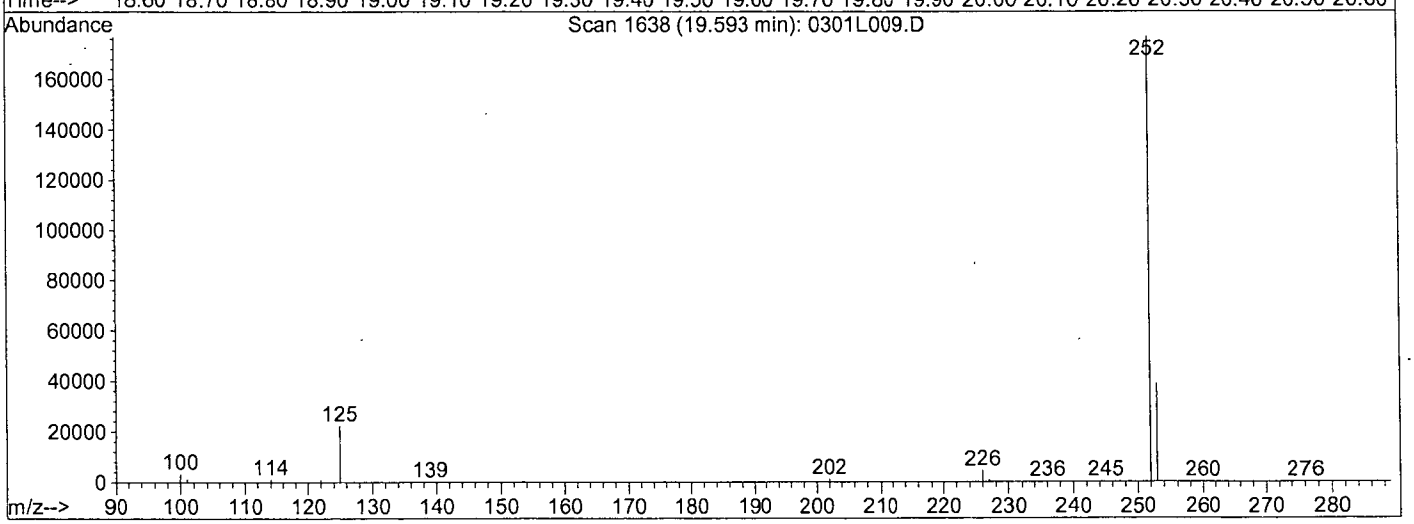


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D Vial: 9
Acq On : 1 Mar 17 16:02 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L009.D

(23) Benzo (k) fluoranthene (TM)

19.59min 59.6580ppb

response 419083

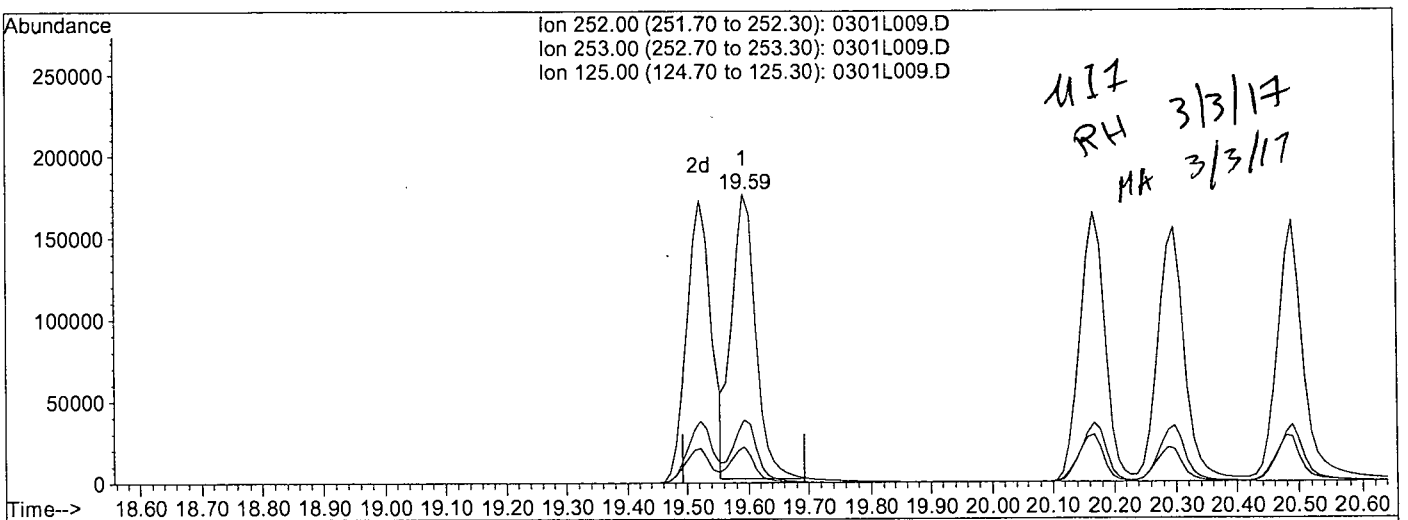
Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.90
125.00	11.80	12.74
0.00	0.00	0.00

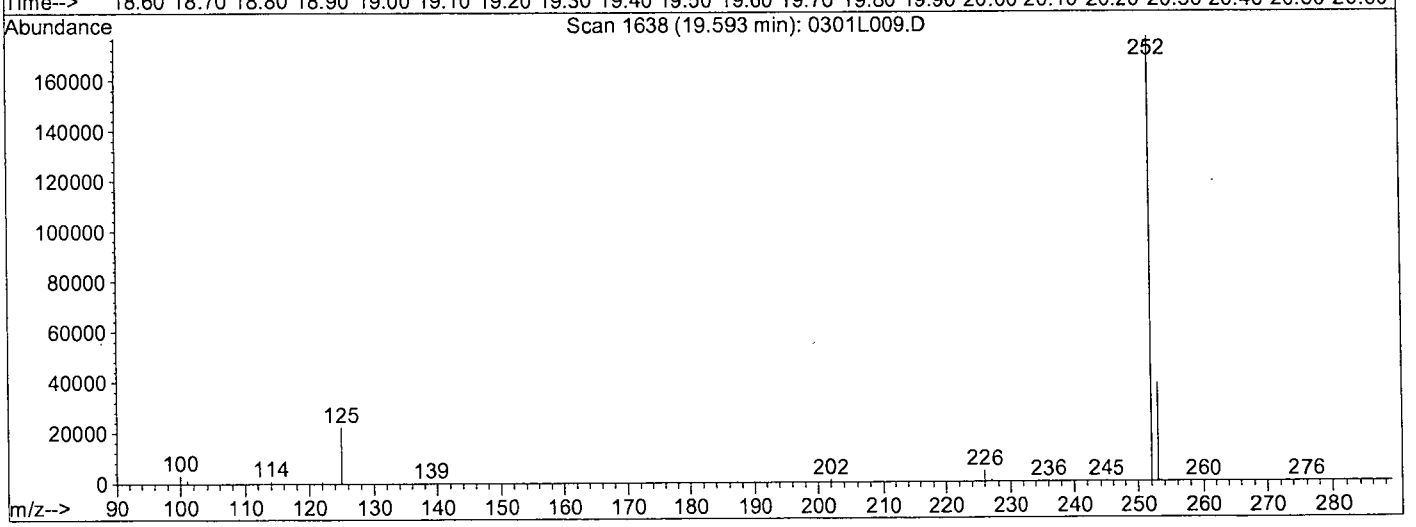
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L009.D
Acq On : 1 Mar 17 16:02
Sample : 50 SIM 03/01/17
Misc : water
Quant Time: Mar 3 10:38 2017

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00
Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L009.D

(23) Benzo (k) fluoranthene (TM)

19.59min 69.1162ppb m

response 485525

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	21.88
125.00	11.80	12.60
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L010.D
Acq On : 1 Mar 17 16:33
Sample : 100 SIM 03/01/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 3 10:38 2017
Quant Results File: L0301P.RES

Quant Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 01 17:10:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	20536	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	9967	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	19144	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	23425	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.44	264	20548	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.94	82	161928	50.06611 ppb	-0.05
Spiked Amount 5.000			Recovery	= 1001.320%	
7) Surrogate Recovery (FBP)	7.06	172	276779	45.38070 ppb	-0.01
Spiked Amount 5.000			Recovery	= 907.620%	
17) Surrogate Recovery (TPH)	13.68	244	331430	45.17264 ppb	0.00
Spiked Amount 5.000			Recovery	= 903.460%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	770250	88.34531 ppb	100
4) 2-Methylnaphthalene	6.63	142	458759	96.74906 ppb	100
5) 1-Methylnaphthalene	6.75	142	427746	77.03734 ppb	99
8) Acenaphthylene	7.69	152	721480	87.41415 ppb	99
9) Acenaphthene	7.88	154	407562	82.33141 ppb	99
10) Fluorene	8.50	166	455406	83.52780 ppb	98
12) Phenanthrene	9.79	178	687089	89.10723 ppb	100
13) Anthracene	9.87	178	659078	91.87520 ppb	99
14) Fluoranthene	12.50	202	1124763	94.00917 ppb	97
16) Pyrene	13.13	202	1150872	92.39373 ppb	99
18) Benz (a) anthracene	16.65	228	997389	101.73006 ppb	100
19) Chrysene	16.76	228	936646	82.06590 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.77	276	857796	99.58104 ppb #	96
22) Benzo (b) fluoranthene	19.54	252	893708	99.38128 ppb	99
23) Benzo (k) fluoranthene	19.63	252	878353m	131.01837 ppb	98
24) Benzo (a) pyrene	20.33	252	837953	95.80089 ppb	99
25) Dibenz (a,h) anthracene	22.82	278	688829	102.07819 ppb	95
26) Benzo (g,h,i) perylene	23.30	276	664596	94.78347 ppb	94

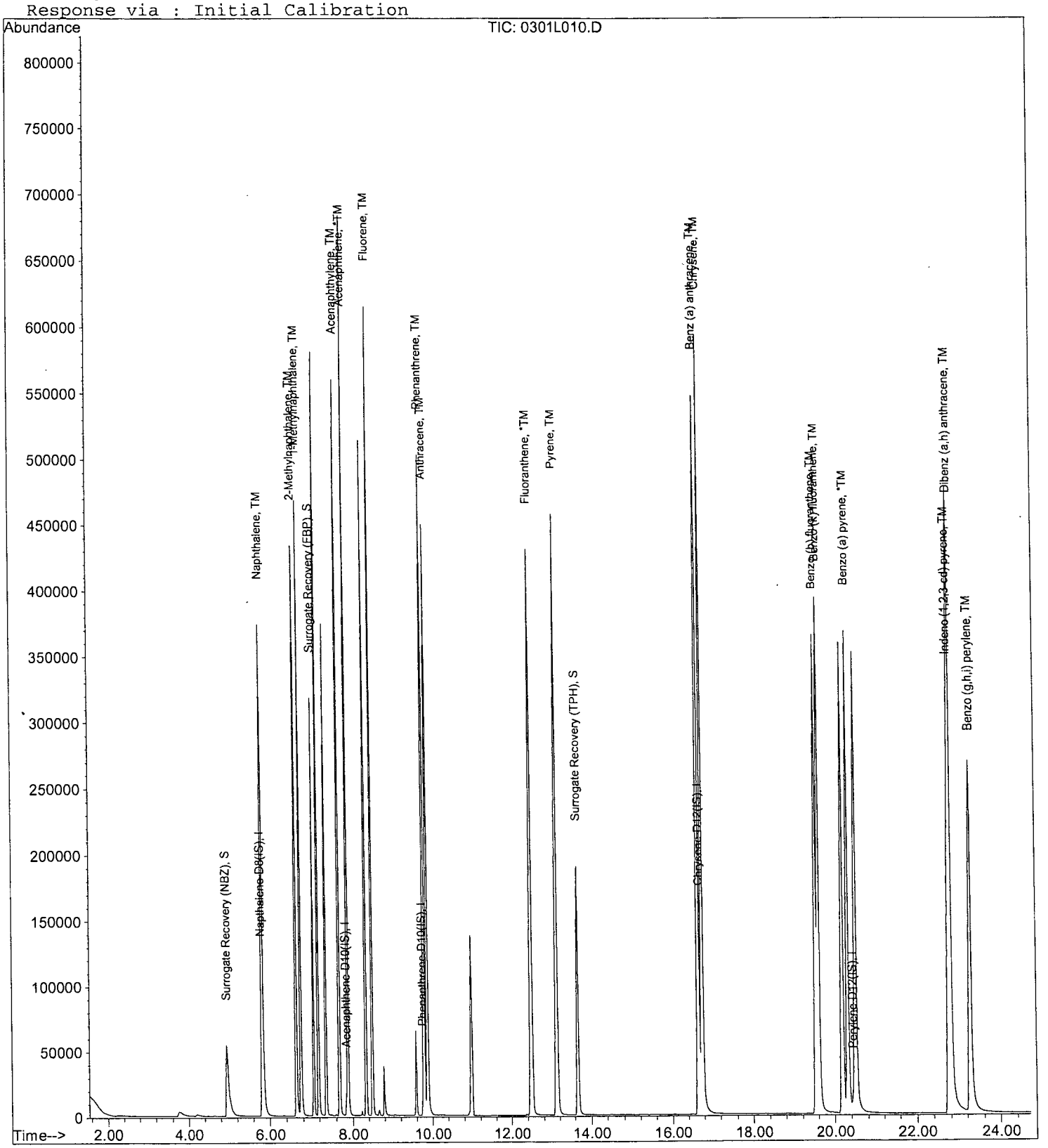
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 10:38 2017 Quant Results File: L0301P.RES

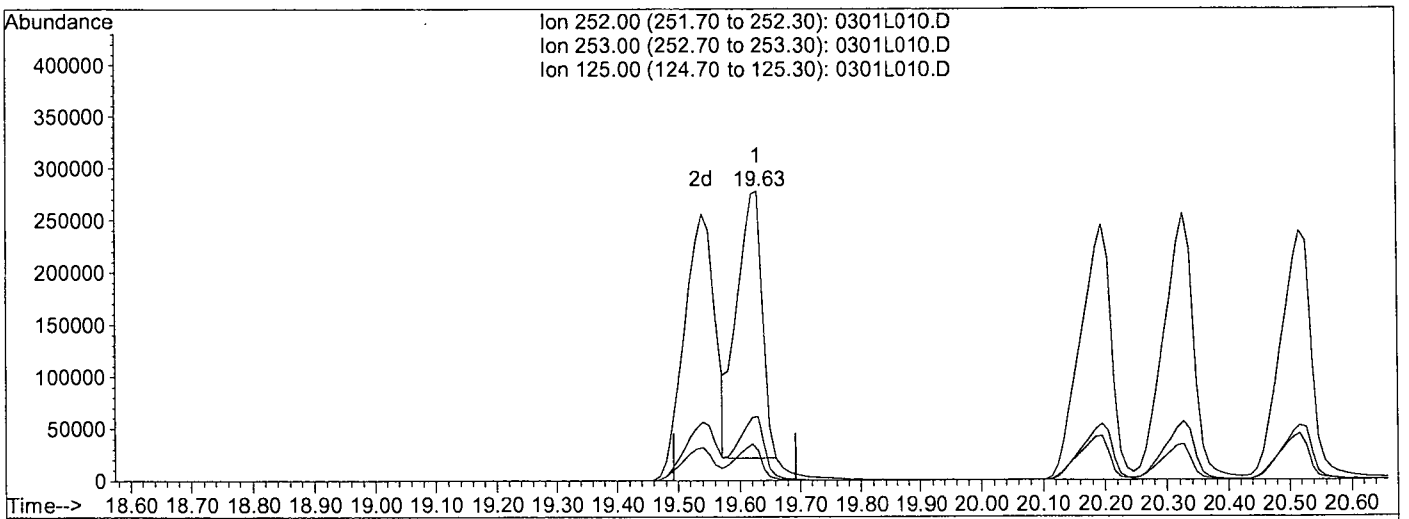
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Initial Calibration

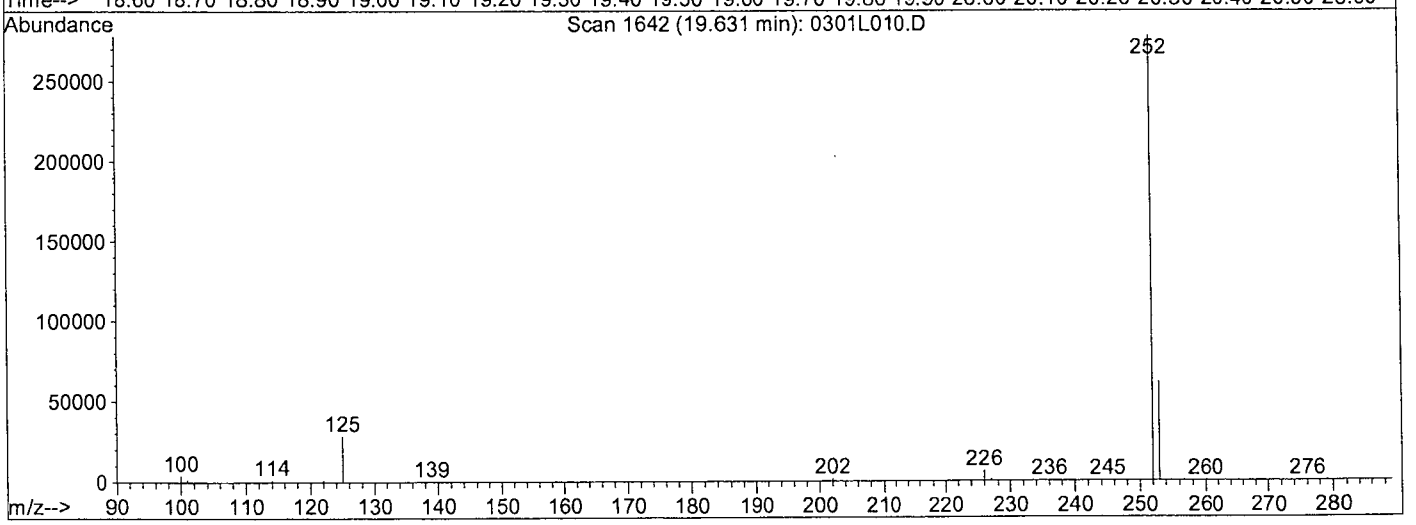


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 1 17:18 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration





TIC: 0301L010.D

(23) Benzo (k) fluoranthene (TM)

19.63min 114.1699ppb

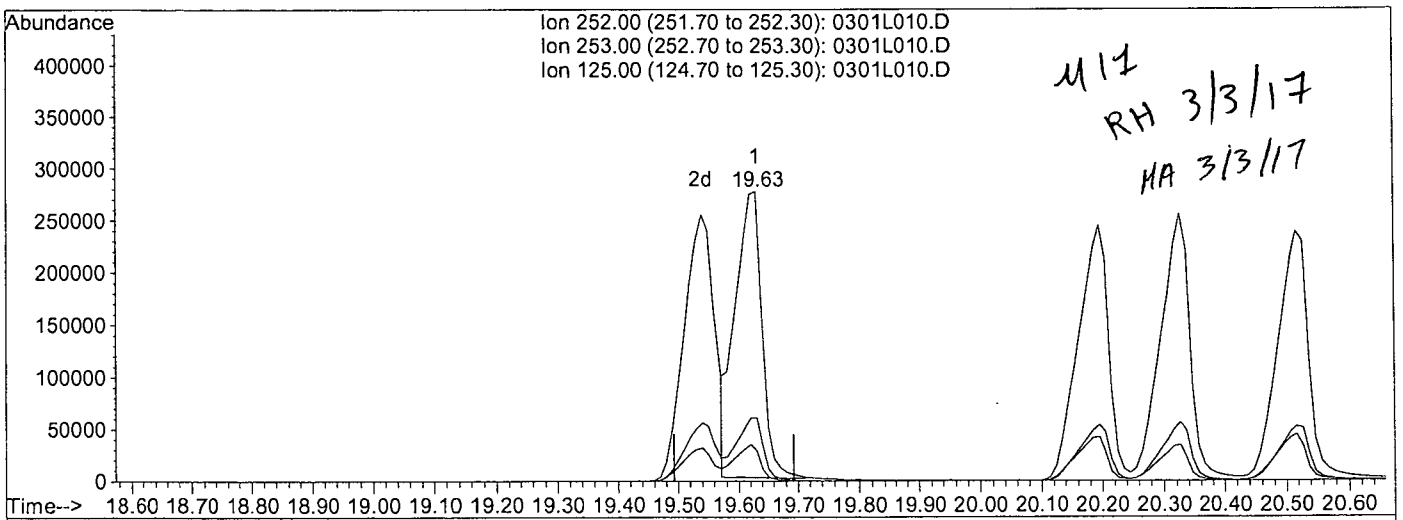
response 765400

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	22.05
125.00	11.80	10.39
0.00	0.00	0.00

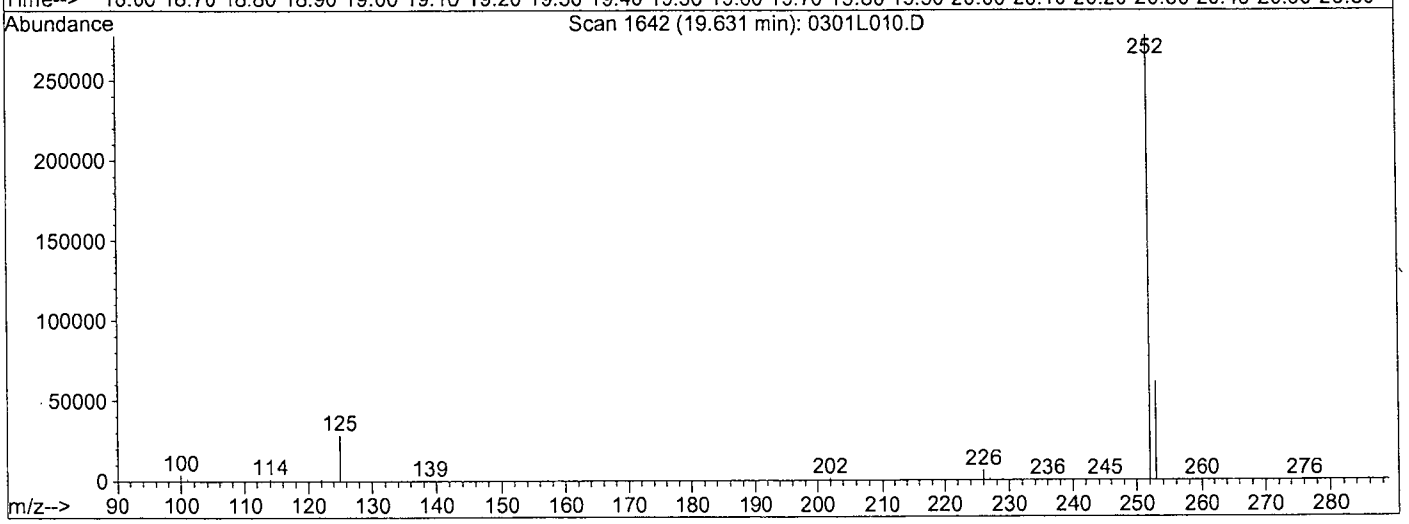
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L010.D Vial: 10
Acq On : 1 Mar 17 16:33 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 10:38 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 10:14:07 2017
Response via : Multiple Level Calibration



M1
RH 3/3/17
HA 3/3/17



TIC: 0301L010.D

(23) Benzo (k) fluoranthene (TM)

19.63min 131.0184ppb m

response 878353

Ion	Exp%	Act%
252.00	100	100
253.00	21.70	22.05
125.00	11.80	10.30
0.00	0.00	0.00

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 1 Mar 17 17:06
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	TM	Naphthalene	1.061	1.103	3.9	TM	
3	TM	2-Methylnaphthalene	0.5772	0.6322	9.5	TM	
4	TM	1-Methylnaphthalene	0.6759	0.6948	2.8	TM	
5	I	Acenaphthene-D10(IS)	ISTD			I	
6	TM	Acenaphthylene	2.070	2.130	2.9	TM	
7	*TM	Acenaphthene	1.242	1.289	3.8	*TM	
8	TM	Fluorene	1.368	1.463	7.0	TM	
9	I	Phenanthrene-D10(IS)	ISTD			I	
10	TM	Phenanthrene	1.007	1.035	2.8	TM	
11	TM	Anthracene	0.9368	0.9827	4.9	TM	
12	*TM	Fluoranthene	1.562	1.651	5.6	*TM	
13	I	Chrysene-D12(IS)	ISTD			I	
14	TM	Pyrene	1.330	1.333	0.23	TM	
15	TM	Benz (a) anthracene	1.044	1.028	1.5	TM	
16	TM	Chrysene	1.235	1.152	6.7	TM	
17	TM	Indeno (1,2,3-cd) pyrene	0.9067	0.9278	2.3	TM	
18	I	Perylene-D12(IS)	ISTD			I	
19	TML	Benzo (b) fluoranthene	0.9654	1.059	9.7	TML	4.1
20	TM	Benzo (k) fluoranthene	1.244	1.199	3.6	TM	
21	*TM	Benzo (a) pyrene	1.063	1.110	4.4	*TM	
22	TM	Dibenz (a,h) anthracene	0.8166	0.9070	11	TM	
23	TM	Benzo (g,h,i) perylene	0.8341	0.8616	3.3	TM	
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			4.8		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 15:02 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	19902	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	10225	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	20175	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	25646	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.43	264	21751	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	4	0.27786 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.560%	
7) Surrogate Recovery (FBP)	7.09	172	22	0.00352 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.080%	
17) Surrogate Recovery (TPH)	13.82	244	34	0.00423 ppb	0.14
Spiked Amount 5.000			Recovery	= 0.080%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	43905	5.19619 ppb	99
4) 2-Methylnaphthalene	6.65	142	25163	5.47575 ppb	97
5) 1-Methylnaphthalene	6.76	142	27656	5.13953 ppb	97
8) Acenaphthylene	7.69	152	43561	5.14466 ppb	99
9) Acenaphthene	7.88	154	26359	5.19041 ppb	100
10) Fluorene	8.50	166	29916	5.34856 ppb	99
12) Phenanthrene	9.79	178	41762	5.13926 ppb	100
13) Anthracene	9.89	178	39652	5.24500 ppb	99
14) Fluoranthene	12.50	202	66605	5.28245 ppb	98
16) Pyrene	13.13	202	68367	5.01163 ppb	99
18) Benz (a) anthracene	16.63	228	52753	4.92388 ppb	100
19) Chrysene	16.74	228	59090	4.66330 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.75	276	47588	5.11636 ppb	99
22) Benzo (b) fluoranthene	19.52	252	46083	4.79601 ppb	99
23) Benzo (k) fluoranthene	19.59	252	52138m	4.81852 ppb	99
24) Benzo (a) pyrene	20.30	252	48291	5.21955 ppb	99
25) Dibenz (a,h) anthracene	22.80	278	39455	5.55360 ppb	98
26) Benzo (g,h,i) perylene	23.28	276	37482	5.16463 ppb	99

Algorithum check = $\frac{43905 * 1 * 2.5}{1 * 19902 * 1.061} = \frac{109762.5}{21116.022}$

= 5.19

RH 3/6/17

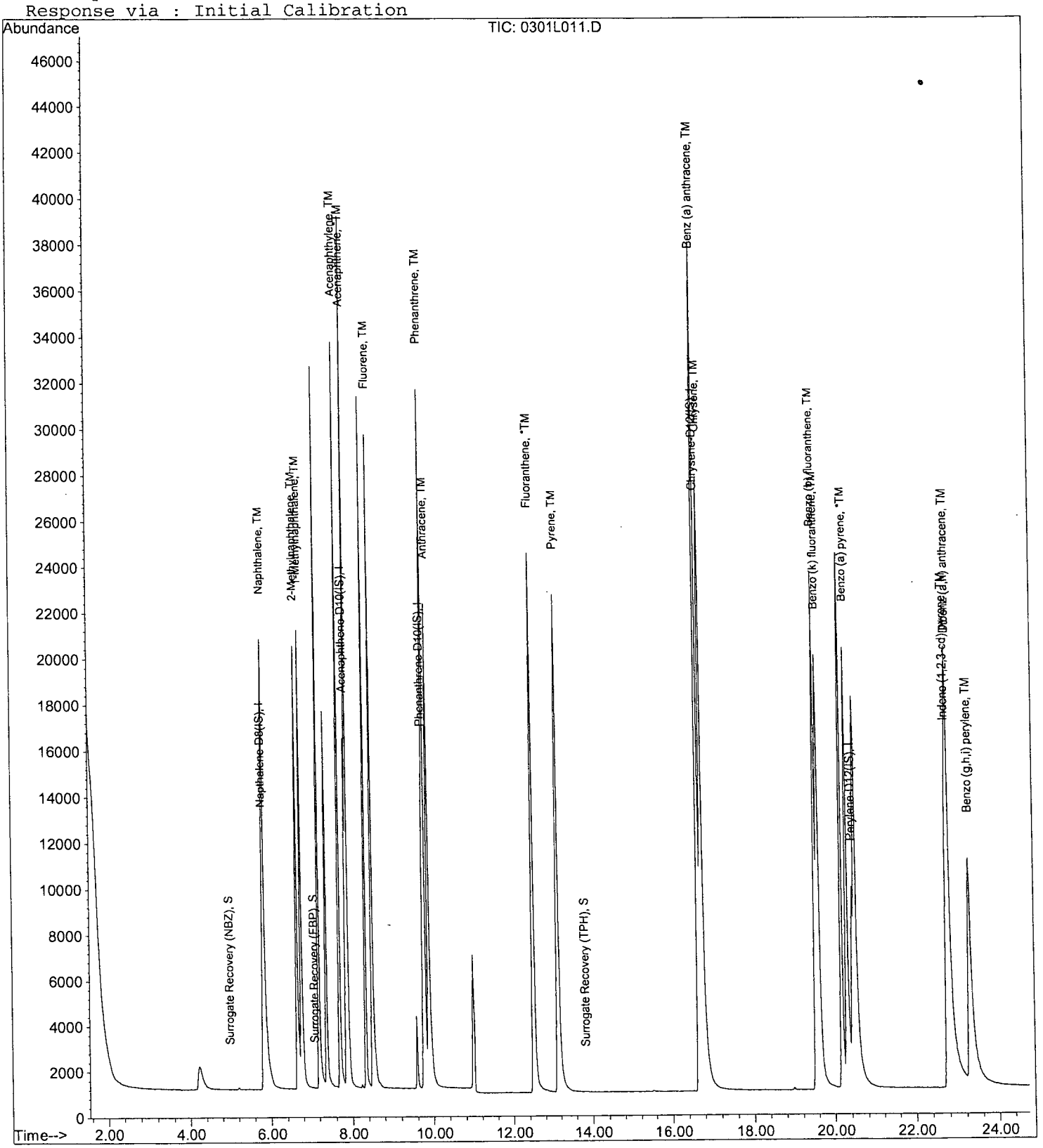
(#) = qualifier out of range (m) = manual integration
0301L011.D L0303P.M Fri Mar 03 15:02:28 2017

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 3 15:02 2017 Quant Results File: L0303P.RES

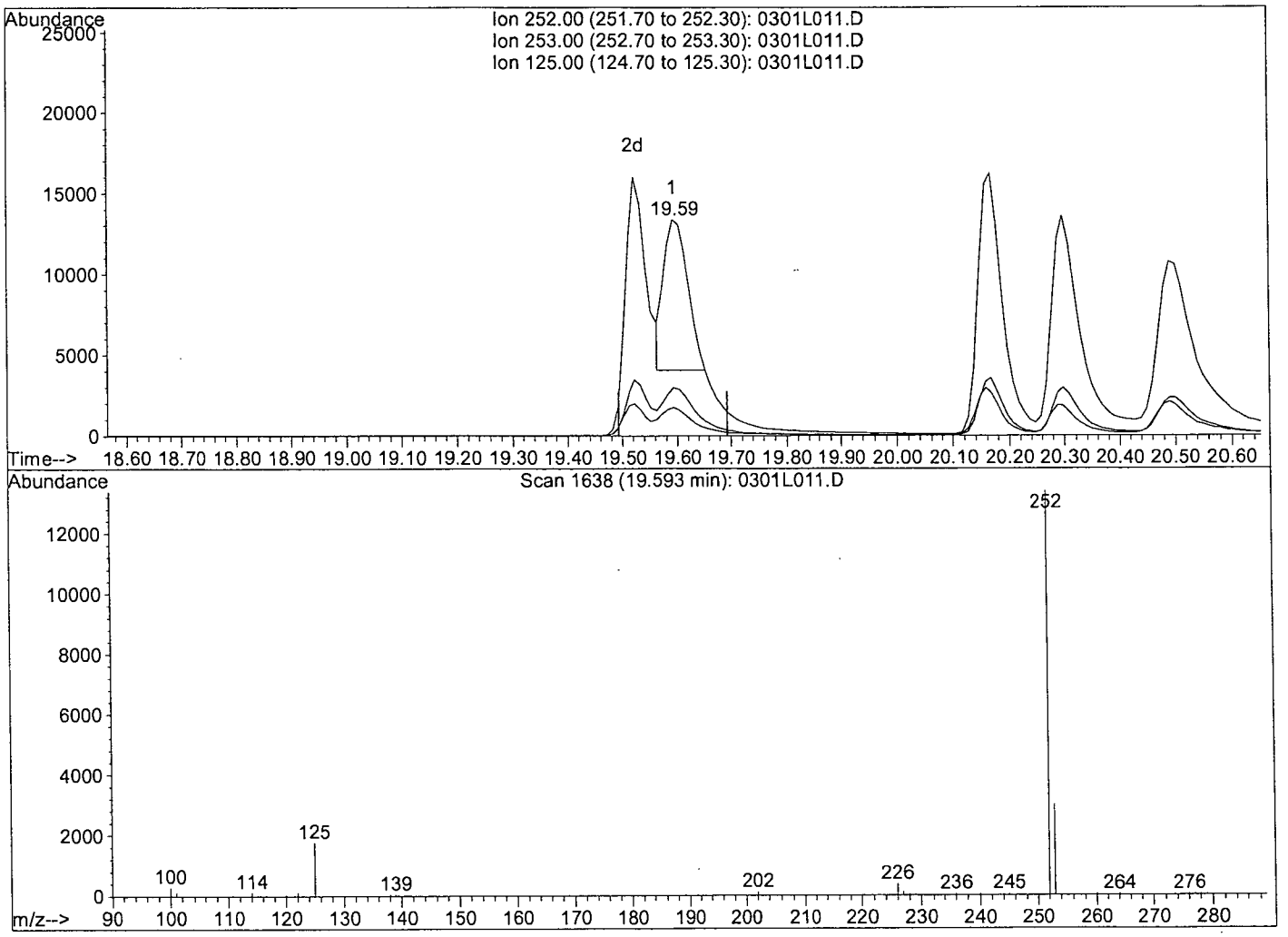
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Initial Calibration



Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 14:53 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Multiple Level Calibration



TIC: 0301L011.D

(23) Benzo (k) fluoranthene (TM)

19.59min 2.6539ppb

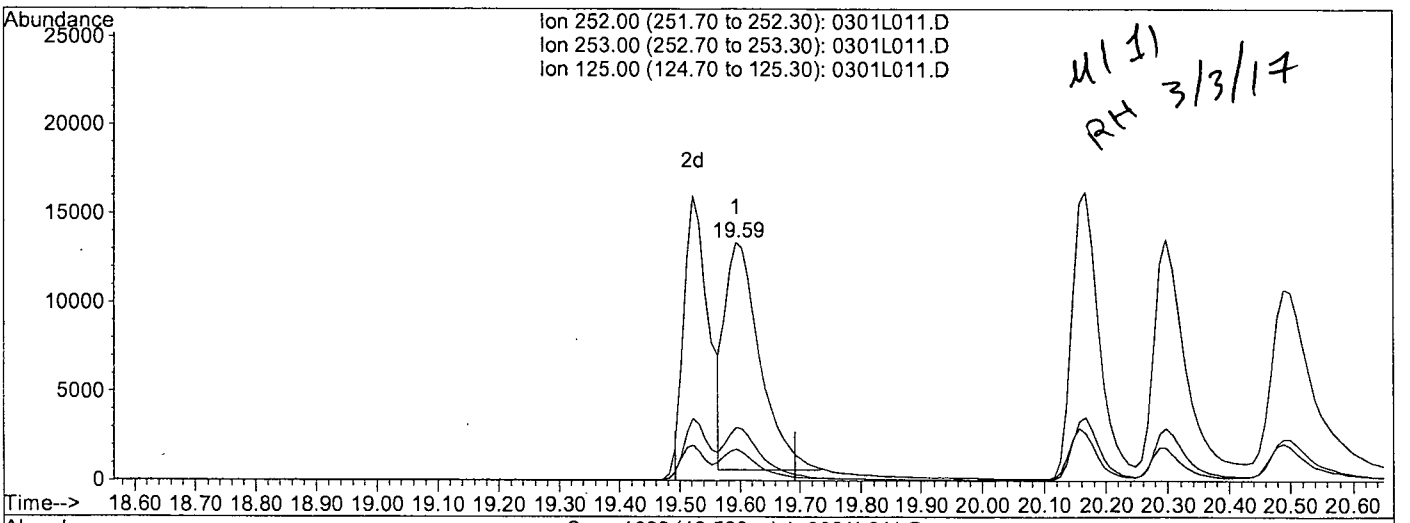
response 28716

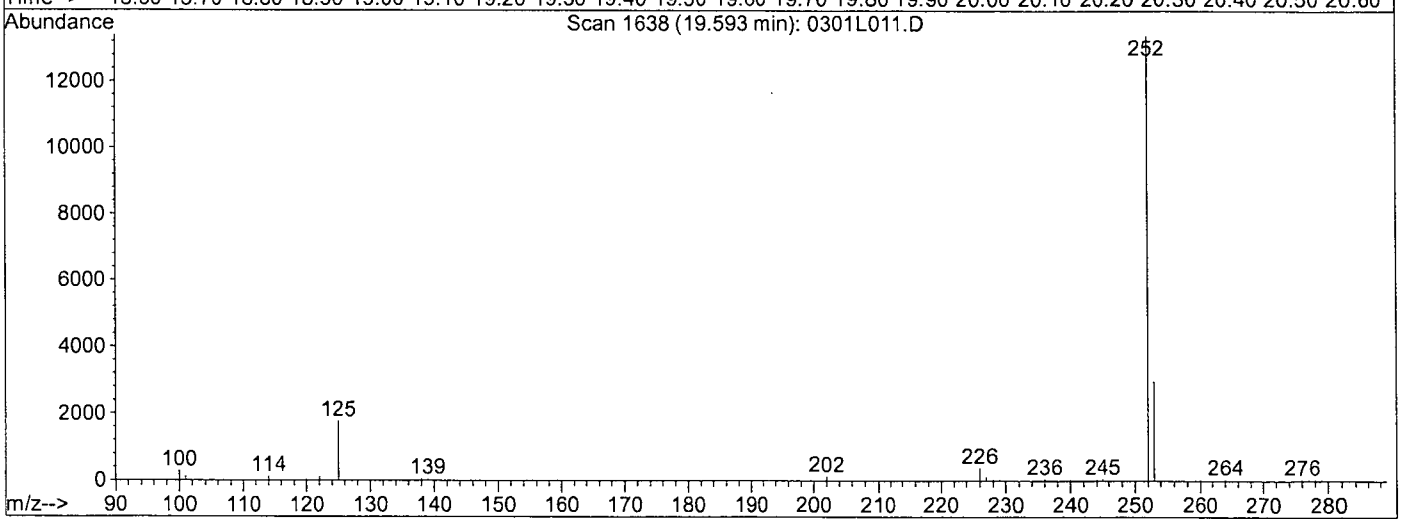
Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.37
125.00	13.10	13.76
0.00	0.00	0.00

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L011.D Vial: 11
Acq On : 1 Mar 17 17:06 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 3 15:02 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 03 14:51:54 2017
Response via : Multiple Level Calibration





TIC: 0301L011.D

(23) Benzo (k) fluoranthene (TM)

19.59min 4.8185ppb m

response 52138

Ion	Exp%	Act%
252.00	100	100
253.00	22.30	22.31
125.00	13.10	13.14
0.00	0.00	0.00

EPA 8270C SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L179.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.3421	16	SL	2.5
3	TM	Naphthalene	1.061	1.046	1.4	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6251	8.3	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6486	4.0	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.461	4.5	S	
8	TM	Acenaphthylene	2.070	2.014	2.7	TM	
9	*TM	Acenaphthene	1.242	1.182	4.8	*TM	
10	TM	Fluorene	1.368	1.354	1.0	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.004	0.34	TM	
13	TM	Anthracene	0.9368	0.9502	1.4	TM	
14	*TM	Fluoranthene	1.562	1.543	1.2	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.279	3.9	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.6736	14	S	
18	TM	Benz (a) anthracene	1.044	1.040	0.39	TM	
19	TM	Chrysene	1.235	1.144	7.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.9067	1.010	11	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.9654	1.099	14	TML	0.42
23	TM	Benzo (k) fluoranthene	1.244	1.047	16	TM	
24	*TM	Benzo (a) pyrene	1.063	1.114	4.8	*TM	
25	TM	Dibenz (a,h) anthracene	0.8166	0.9609	18	TM	
26	TM	Benzo (g,h,i) perylene	0.8341	0.9407	13	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L179.D
Acq On : 13 Mar 17 14:22
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 79
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017
Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	27311	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	14539	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	29278	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.65	240	36811	2.50000 ppb	-0.13
21) Perylene-D12(IS)	20.43	264	31762	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	9344	2.43696 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.740%	
7) Surrogate Recovery (FBP)	7.06	172	21235	2.38682 ppb	-0.01
Spiked Amount 5.000			Recovery	= 47.740%	
17) Surrogate Recovery (TPH)	13.68	244	24796	2.15064 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.020%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	57157	4.92946 ppb	100
4) 2-Methylnaphthalene	6.64	142	34143	5.41430 ppb	98
5) 1-Methylnaphthalene	6.75	142	35426	4.79751 ppb	97
8) Acenaphthylene	7.69	152	58555	4.86353 ppb	99
9) Acenaphthene	7.88	154	34368	4.75944 ppb	99
10) Fluorene	8.50	166	39364	4.94950 ppb	98
12) Phenanthrene	9.79	178	58761	4.98288 ppb	99
13) Anthracene	9.87	178	55637	5.07127 ppb	99
14) Fluoranthene	12.49	202	90360	4.93829 ppb	100
16) Pyrene	13.12	202	89960	4.59434 ppb	99
19) Chrysene	16.63	228	76592	4.21119 ppb	97
20) Indeno (1,2,3-cd) pyrene	22.75	276	73420	5.49946 ppb #	97
22) Benzo (b) fluoranthene	19.52	252	69837	4.97912 ppb	99
23) Benzo (k) fluoranthene	19.52	252	55480	3.51129 ppb	99
24) Benzo (a) pyrene	20.17	252	71027	5.25729 ppb	97
25) Dibenz (a,h) anthracene	22.79	278	60586	5.84005 ppb	97
26) Benzo (g,h,i) perylene	23.27	276	56707	5.35087 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

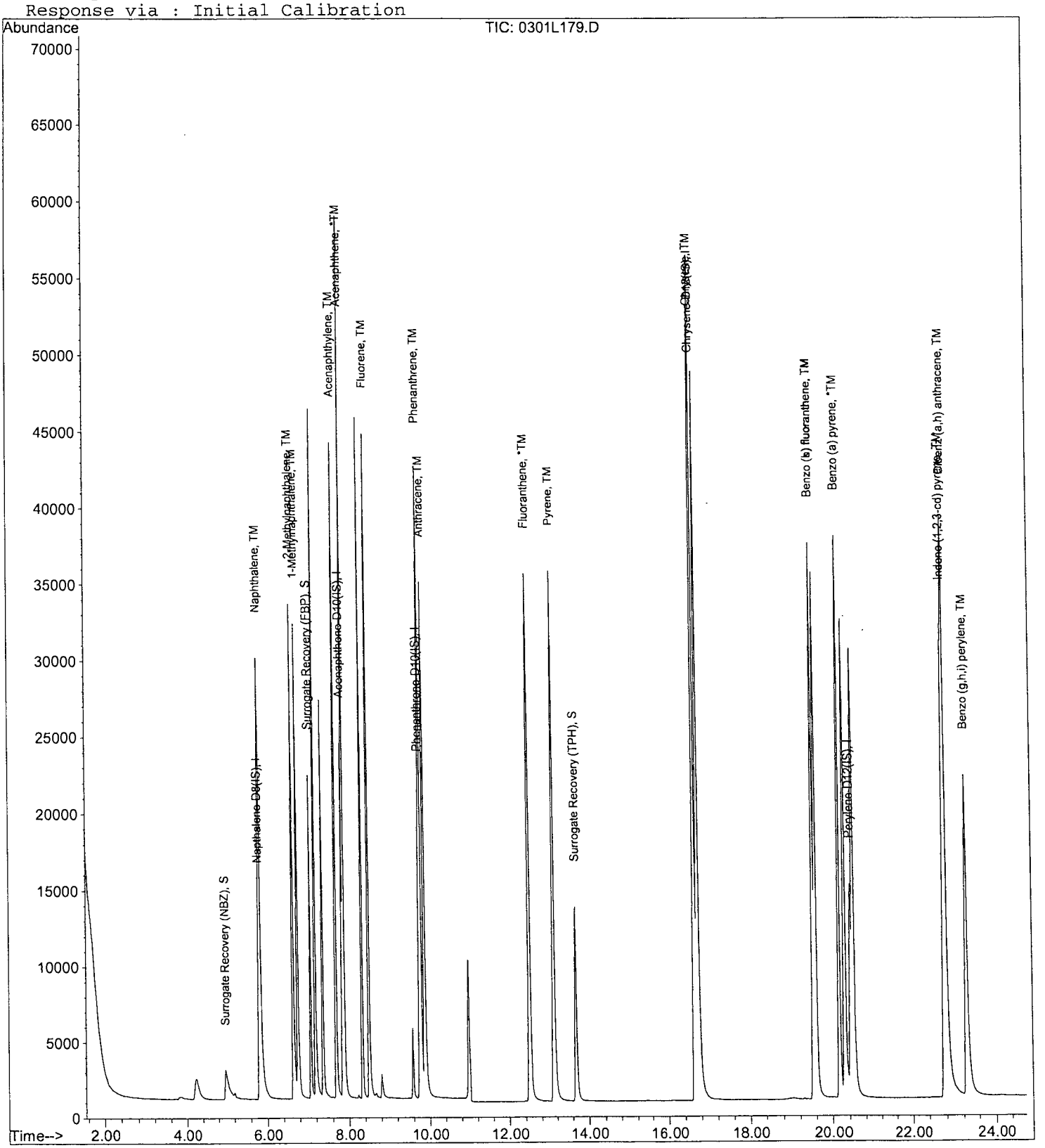
Data File : M:\LINUS\DATA\L170301\0301L179.D
Acq On : 13 Mar 17 14:22
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 79
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L200.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.3299	12	SL	5.6
3	TM	Naphthalene	1.061	1.074	1.2	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6143	6.4	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6694	0.96	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.495	2.3	S	
8	TM	Acenaphthylene	2.070	2.062	0.38	TM	
9	*TM	Acenaphthene	1.242	1.257	1.3	*TM	
10	TM	Fluorene	1.368	1.347	1.5	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.045	3.7	TM	
13	TM	Anthracene	0.9368	0.9883	5.5	TM	
14	*TM	Fluoranthene	1.562	1.694	8.4	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.352	1.7	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.6744	14	S	
18	TM	Benz (a) anthracene	1.044	1.067	2.2	TM	
19	TM	Chrysene	1.235	1.195	3.2	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.9067	0.8446	6.8	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.9654	1.269	31	TML	15
23	TM	Benzo (k) fluoranthene	1.244	1.056	15	TM	
24	*TM	Benzo (a) pyrene	1.063	1.163	9.4	*TM	
25	TM	Dibenz (a,h) anthracene	0.8166	0.9837	20	TM	
26	TM	Benzo (g,h,i) perylene	0.8341	0.9767	17	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L200.D Vial: 100
Acq On : 14 Mar 17 1:33 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	32946	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	17103	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.74	188	31081	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.65	240	41792	2.50000 ppb	-0.13
21) Perylene-D12(IS)	20.43	264	29368	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	10868	2.35954 ppb	0.00
Spiked Amount 5.000			Recovery	= 47.200%	
7) Surrogate Recovery (FBP)	7.06	172	25566	2.44283 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.860%	
17) Surrogate Recovery (TPH)	13.67	244	28184	2.15314 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.060%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	70750	5.05815 ppb	99
4) 2-Methylnaphthalene	6.64	142	40475	5.32062 ppb	98
5) 1-Methylnaphthalene	6.75	142	44110	4.95183 ppb	97
8) Acenaphthylene	7.69	152	70544	4.98092 ppb	99
9) Acenaphthene	7.88	154	43006	5.06283 ppb	98
10) Fluorene	8.50	166	46082	4.92556 ppb	99
12) Phenanthrene	9.78	178	64937	5.18716 ppb	100
13) Anthracene	9.87	178	61435	5.27491 ppb	100
14) Fluoranthene	12.49	202	105315	5.42172 ppb	99
16) Pyrene	13.11	202	107418	4.83210 ppb	98
19) Chrysene	16.63	228	89193	4.31953 ppb	97
20) Indeno (1,2,3-cd) pyrene	22.74	276	69819	4.60642 ppb #	98
22) Benzo (b) fluoranthene	19.52	252	74548	5.75557 ppb	99
23) Benzo (k) fluoranthene	19.52	252	59820	4.09459 ppb	99
24) Benzo (a) pyrene	20.15	252	68143	5.45498 ppb #	94
25) Dibenz (a,h) anthracene	22.78	278	57635	6.00847 ppb	99
26) Benzo (g,h,i) perylene	23.28	276	53091	5.41804 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

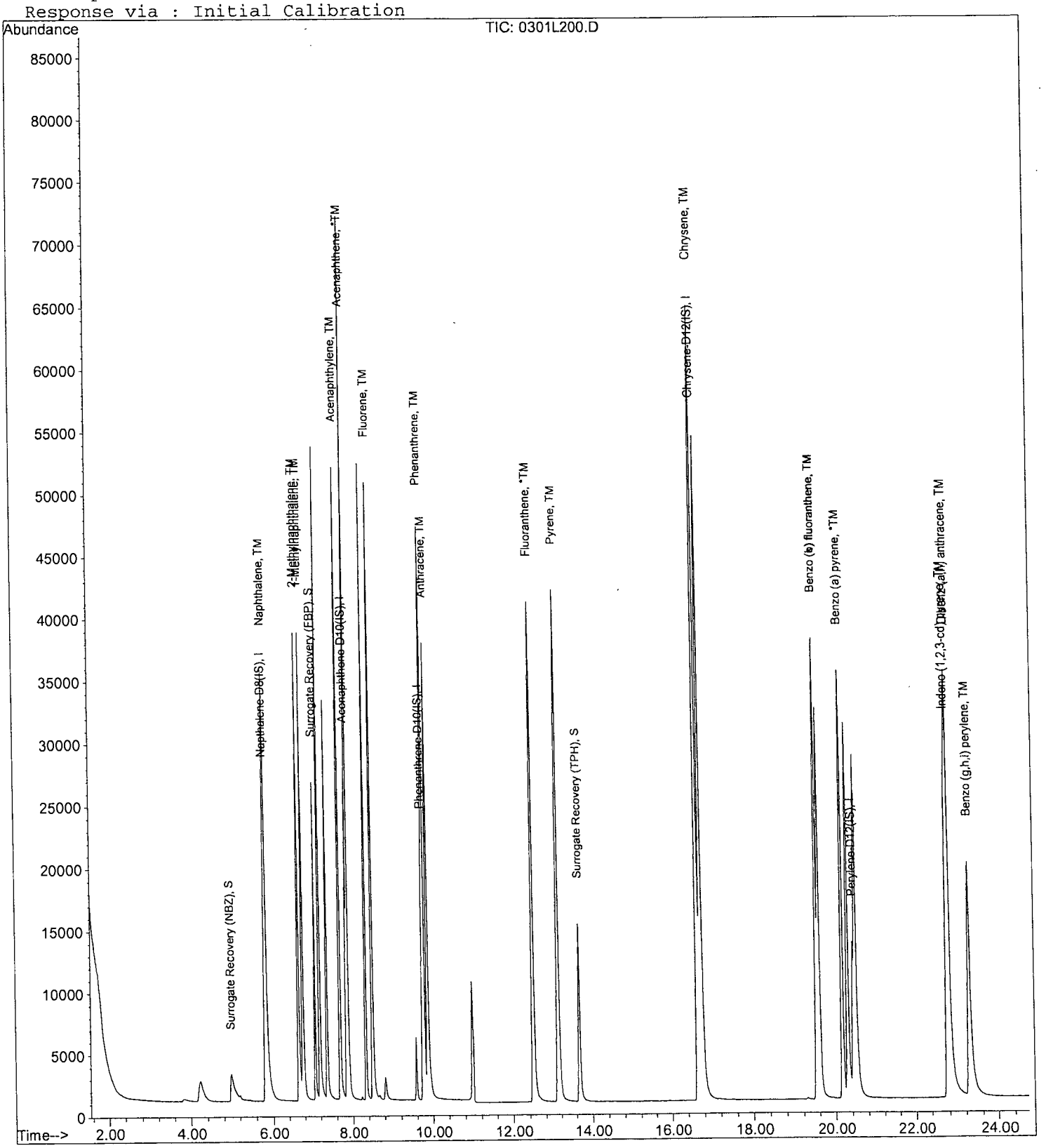
Data File : M:\LINUS\DATA\L170301\0301L200.D
Acq On : 14 Mar 17 1:33
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 100
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L203.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.3244	9.7	SL	7.0
3	TM	Naphthalene	1.061	1.070	0.82	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6216	7.7	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6488	4.0	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.477	3.4	S	
8	TM	Acenaphthylene	2.070	2.032	1.9	TM	
9	*TM	Acenaphthene	1.242	1.243	0.13	*TM	
10	TM	Fluorene	1.368	1.436	5.0	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.022	1.5	TM	
13	TM	Anthracene	0.9368	0.9886	5.5	TM	
14	*TM	Fluoranthene	1.562	1.447	7.4	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.409	6.0	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.6879	12	S	
18	TM	Benz (a) anthracene	1.044	1.050	0.59	TM	
19	TM	Chrysene	1.235	1.192	3.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	0.9067	1.015	12	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	0.9654	1.178	22	TML	6.8
23	TM	Benzo (k) fluoranthene	1.244	1.266	1.8	TM	
24	*TM	Benzo (a) pyrene	1.063	1.177	11	*TM	
25	TM	Dibenz (a,h) anthracene	0.8166	0.9787	20	TM	
26	TM	Benzo (g,h,i) perylene	0.8341	0.9661	16	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.2		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L203.D Vial: 3
Acq On : 14 Mar 17 10:36 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:11 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	30722	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.85	164	15843	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.74	188	27822	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.65	240	31924	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.42	264	26776	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	9967	2.32515 ppb	0.00
Spiked Amount 5.000			Recovery	= 46.500%	
7) Surrogate Recovery (FBP)	7.06	172	23401	2.41379 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.280%	
17) Surrogate Recovery (TPH)	13.67	244	21959	2.19613 ppb	-0.01
Spiked Amount 5.000			Recovery	= 43.920%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	65752	5.04112 ppb	99
4) 2-Methylnaphthalene	6.64	142	38194	5.38423 ppb	97
5) 1-Methylnaphthalene	6.75	142	39863	4.79901 ppb	97
8) Acenaphthylene	7.69	152	64379	4.90714 ppb	99
9) Acenaphthene	7.88	154	39395	5.00657 ppb	96
10) Fluorene	8.50	166	45504	5.25060 ppb	98
12) Phenanthrene	9.79	178	56889	5.07660 ppb	99
13) Anthracene	9.87	178	55008	5.27633 ppb	100
14) Fluoranthene	12.49	202	80510	4.63024 ppb	99
16) Pyrene	13.12	202	89976	5.29860 ppb	100
18) Benz (a) anthracene	16.63	228	67072	5.02926 ppb	100
19) Chrysene	16.72	228	76101	4.82472 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.75	276	64784	5.59543 ppb #	98
22) Benzo (b) fluoranthene	19.51	252	63081	5.33830 ppb	98
23) Benzo (k) fluoranthene	19.58	252	67820m	5.09156 ppb	98
24) Benzo (a) pyrene	20.29	252	63052	5.53604 ppb	99
25) Dibenz (a,h) anthracene	22.79	278	52413	5.99302 ppb	98
26) Benzo (g,h,i) perylene	23.28	276	51738	5.79108 ppb	98

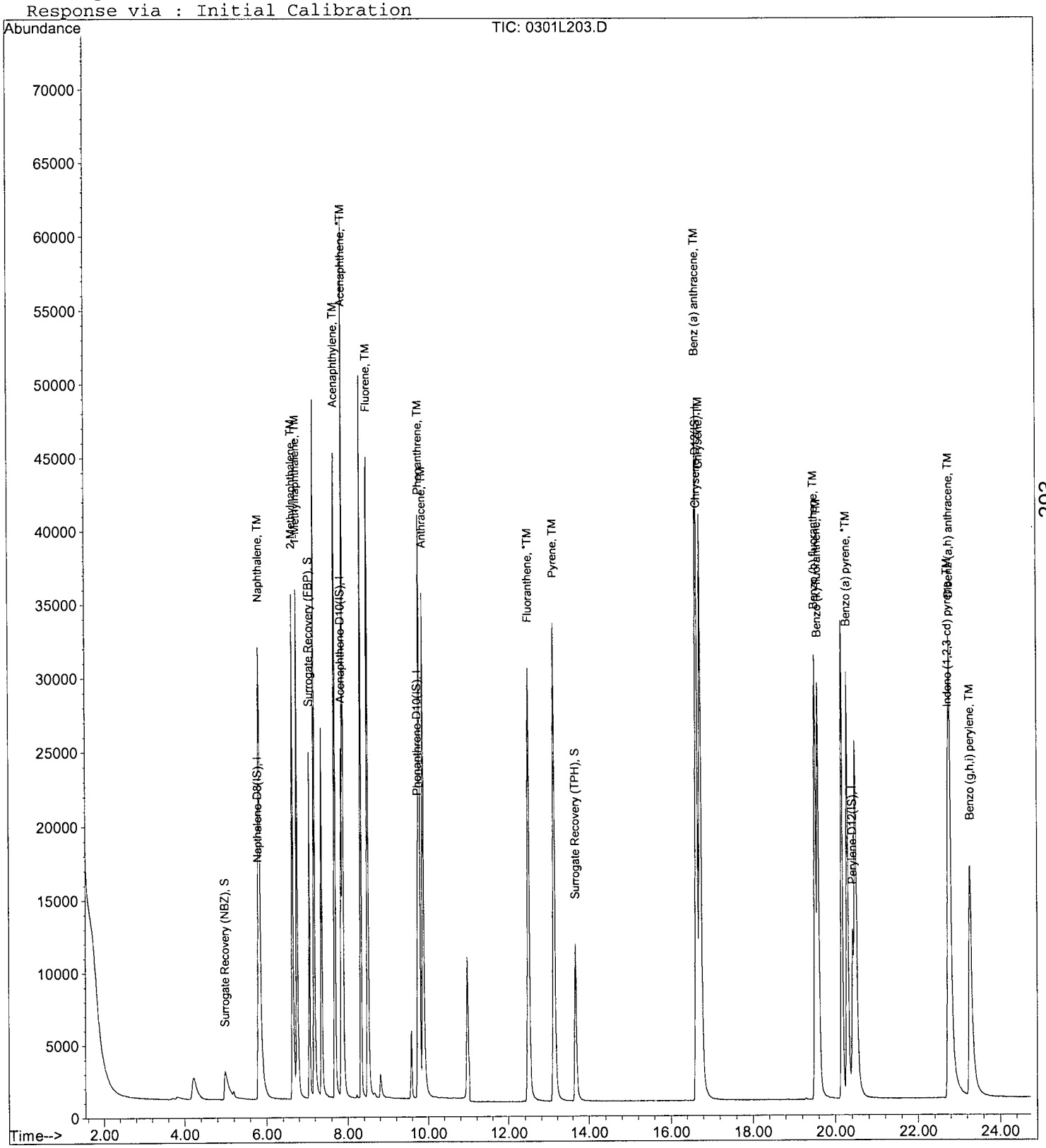
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L203.D Vial: 3
Acq On : 14 Mar 17 10:36 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:11 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Linus
Initial Cal. Date: 03/01/17
Data File: 0301L216.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2958	0.4035	36	SL	13
3	TM	Naphthalene	1.061	1.091	2.8	TM	
4	TM	2-Methylnaphthalene	0.5772	0.6828	18	TM	
5	TM	1-Methylnaphthalene	0.6759	0.6601	2.3	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.530	1.538	0.56	S	
8	TM	Acenaphthylene	2.070	2.163	4.5	TM	
9	*TM	Acenaphthene	1.242	1.253	0.92	*TM	
10	TM	Fluorene	1.368	1.460	6.7	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.043	3.6	TM	
13	TM	Anthracene	0.9368	1.032	10	TM	
14	*TM	Fluoranthene	1.562	1.777	14	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.330	1.422	6.9	TM	
17	S	Surrogate Recovery (TPH)	0.7830	0.7846	0.20	S	
18	TM	Chrysene	1.235	1.211	2.0	TM	
19	TM	Indeno (1,2,3-cd) pyrene	0.9067	1.012	12	TM	
20	I	Perylene-D12(IS)	ISTD			I	
21	TML	Benzo (b) fluoranthene	0.9654	1.271	32	TML	15
22	TM	Benzo (k) fluoranthene	1.244	1.271	2.2	TM	
23	*TM	Benzo (a) pyrene	1.063	1.220	15	*TM	
24	TM	Dibenz (a,h) anthracene	0.8166	0.9414	15	TM	
25	TM	Benzo (g,h,i) perylene	0.8341	0.9608	15	TM	
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			10.0		

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L216.D Vial: 16
Acq On : 14 Mar 17 17:48 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 11:57 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:07:58 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.82	136	22931	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	12478	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.78	188	25880	2.50000 ppb	0.02
15) Chrysene-D12(IS)	16.71	240	33171	2.50000 ppb	-0.07
21) Perylene-D12(IS)	20.48	264	27905	2.50000 ppb	-0.07
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	9252	2.82427 ppb	0.00
Spiked Amount 5.000			Recovery	= 56.480%	
7) Surrogate Recovery (FBP)	7.07	172	19196	2.51402 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.280%	
17) Surrogate Recovery (TPH)	13.72	244	26027	2.50512 ppb	0.05
Spiked Amount 5.000			Recovery	= 50.100%	

Target Compounds					Qvalue
3) Naphthalene	5.84	128	50043	5.14029 ppb	100
4) 2-Methylnaphthalene	6.65	142	31313	5.91398 ppb	99
5) 1-Methylnaphthalene	6.76	142	30273	4.88274 ppb	99
8) Acenaphthylene	7.70	152	53979	5.22398 ppb	100
9) Acenaphthene	7.91	154	31272	5.04600 ppb	96
10) Fluorene	8.51	166	36428	5.33688 ppb	100
12) Phenanthrene	9.81	178	53979	5.17837 ppb	100
13) Anthracene	9.91	178	53410	5.50747 ppb	100
14) Fluoranthene	12.54	202	91965	5.68591 ppb	98
16) Pyrene	13.17	202	94337	5.34657 ppb	98
19) Chrysene	16.69	228	80346	4.90235 ppb	96
20) Indeno (1,2,3-cd) pyrene	22.80	276	67142	5.58109 ppb #	93
22) Benzo (b) fluoranthene	19.58	252	70934	5.76374 ppb	98
23) Benzo (k) fluoranthene	19.58	252	70934	5.10988 ppb	97
24) Benzo (a) pyrene	20.23	252	68085	5.73609 ppb	98
25) Dibenz (a,h) anthracene	22.85	278	52538m	5.76426 ppb	93
26) Benzo (g,h,i) perylene	23.33	276	53625	5.75945 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

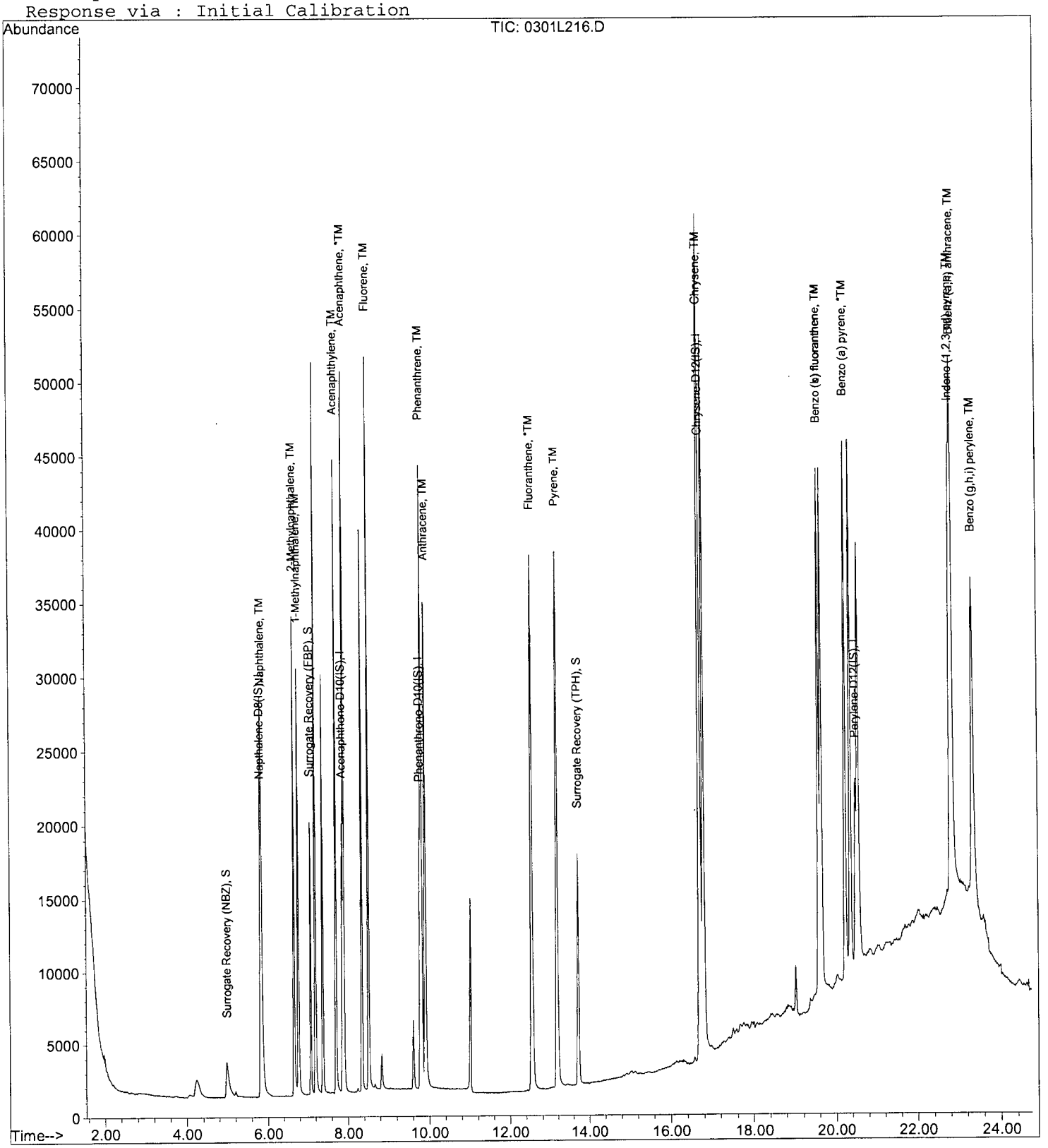
Data File : M:\LINUS\DATA\L170301\0301L216.D
Acq On : 14 Mar 17 17:48
Sample : 5.0 SIM 03/01/17
Misc : water

Vial: 16
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 11:57 2017

Quant Results File: L0303P.RES

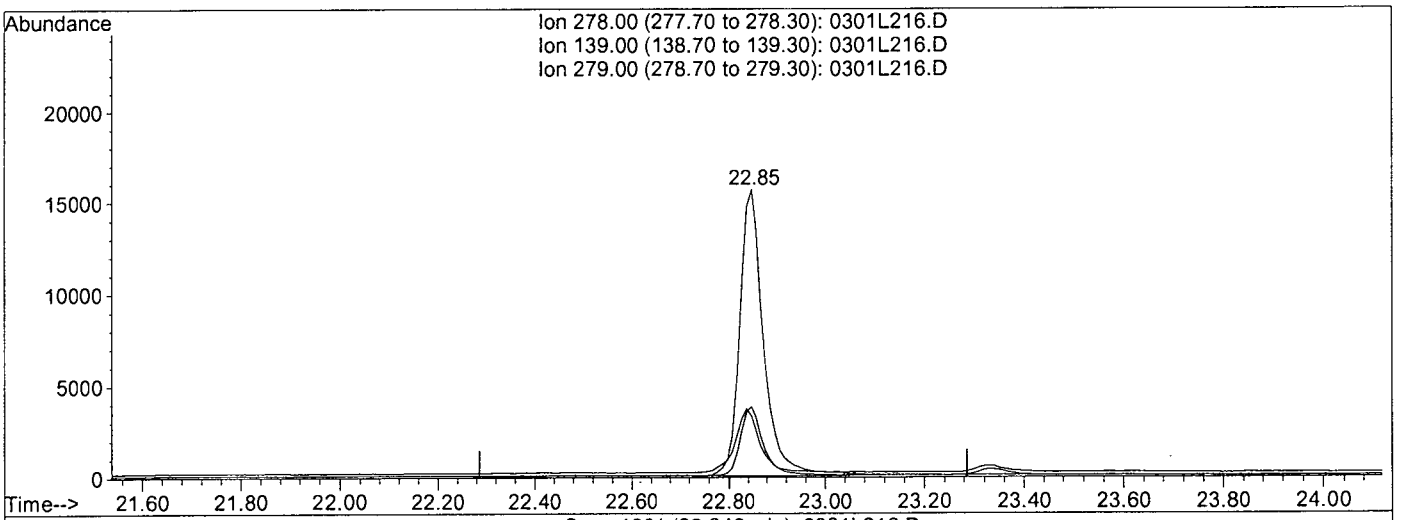
Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration

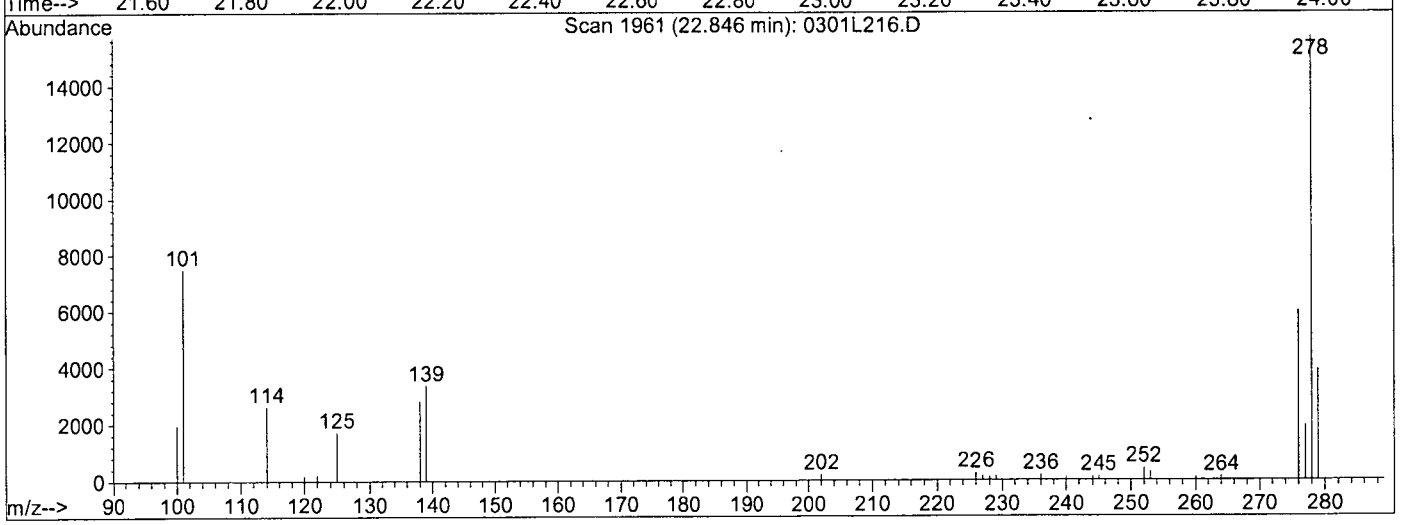


Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L216.D Vial: 16
Acq On : 14 Mar 17 17:48 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 15 17:08 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Multiple Level Calibration





TIC: 0301L216.D

(25) Dibenz (a,h) anthracene (TM)

22.85min 6.1095ppb

response 55685

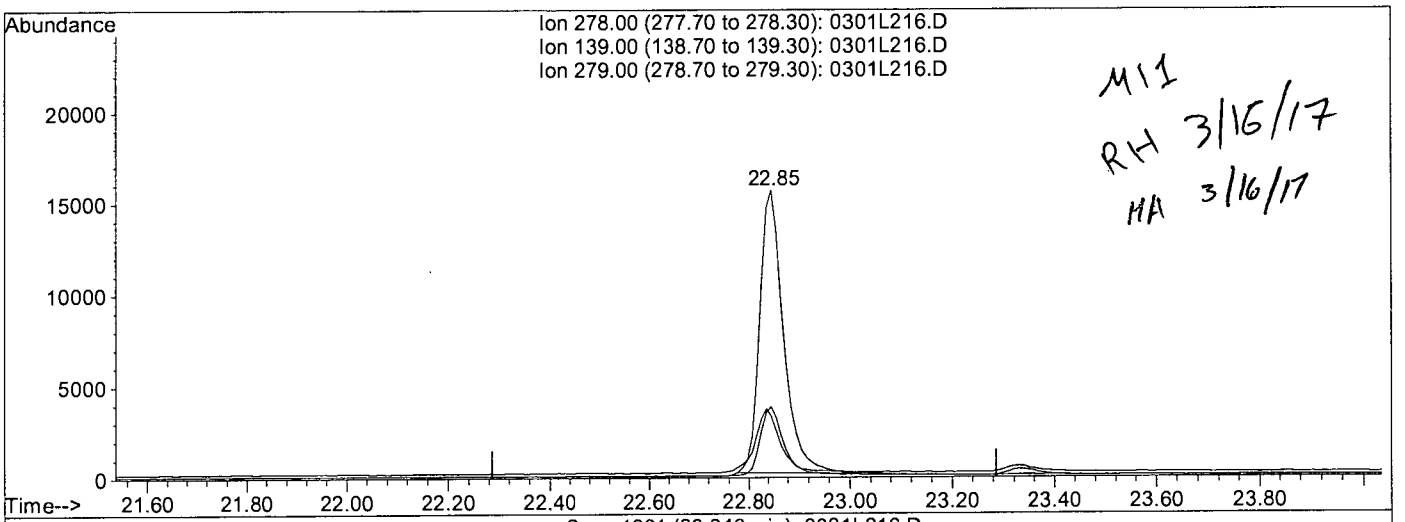
Ion	Exp%	Act%
278.00	100	100
139.00	26.10	19.74
279.00	23.70	24.10
0.00	0.00	0.00

0301L216.D L0303P.M Wed Mar 15 17:50:58 2017

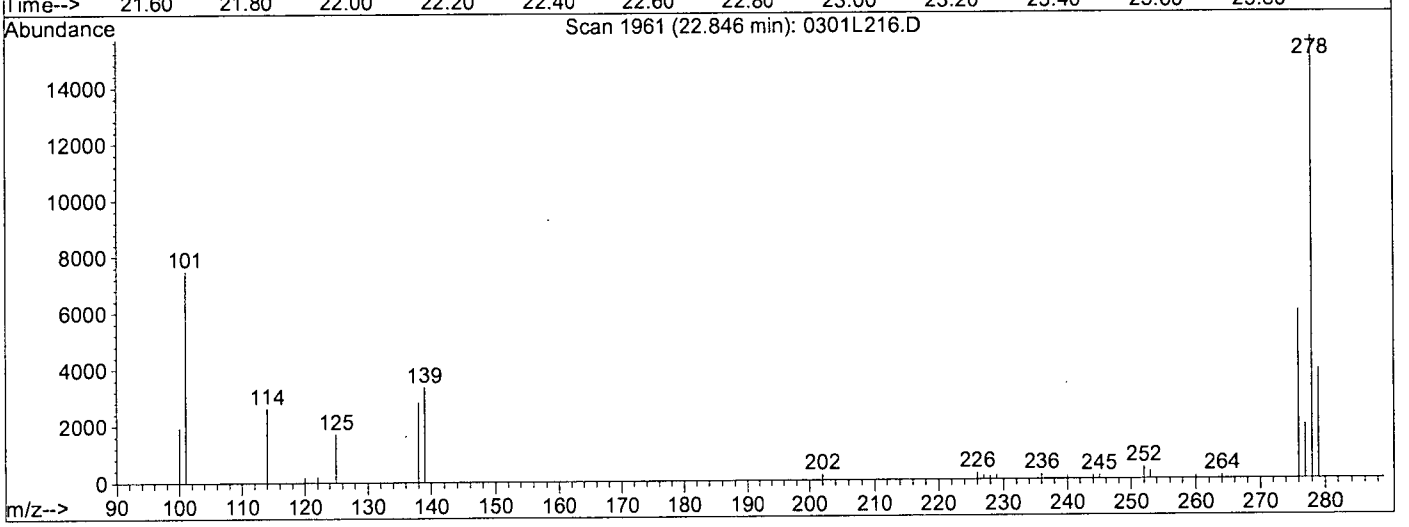
Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L216.D Vial: 16
Acq On : 14 Mar 17 17:48 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00
Quant Time: Mar 16 11:57 2017 Quant Results File: temp.res

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Multiple Level Calibration



M11
RH 3/16/17
MA 3/16/17



TIC: 0301L216.D

(25) Dibenz (a,h) anthracene (TM)

22.85min 5.7643ppb m

response 52538

Ion	Exp%	Act%
278.00	100	100
139.00	26.10	21.39
279.00	23.70	24.61
0.00	0.00	0.00

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216880**
Batch ID: #SIMDO-170309B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/09/17	03/13/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/09/17	03/13/17
BLANK	SURROGATE: 2-FLUORBIPHENY	62.9	53-106			%	03/09/17	03/13/17
BLANK	SURROGATE: NITROBENZENE-	64.7	55-111			%	03/09/17	03/13/17
BLANK	SURROGATE: TERPHENYL-D14 (	80.6	58-132			%	03/09/17	03/13/17

Quant Method: L0303P.M
Run #: 0301L188
Instrument: Linus
Sequence: L170301
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 2:43:01 PM

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L188.D Vial: 88
Acq On : 13 Mar 17 19:17 Operator: MA
Sample : 170309B BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	25832	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13201	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	25250	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.68	240	29597	2.50000 ppb	-0.10
21) Perylene-D12(IS)	20.45	264	25940	2.50000 ppb	-0.10
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	12110	3.23677 ppb	-0.01
Spiked Amount 5.000			Recovery	= 64.740%	
7) Surrogate Recovery (FBP)	7.07	172	25422	3.14706 ppb	0.00
Spiked Amount 5.000			Recovery	= 62.940%	
17) Surrogate Recovery (TPH)	13.67	244	37340	4.02800 ppb	0.00
Spiked Amount 5.000			Recovery	= 80.560%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0301L188.D L0303P.M Wed Mar 15 14:58:55 2017

Quantitation Report

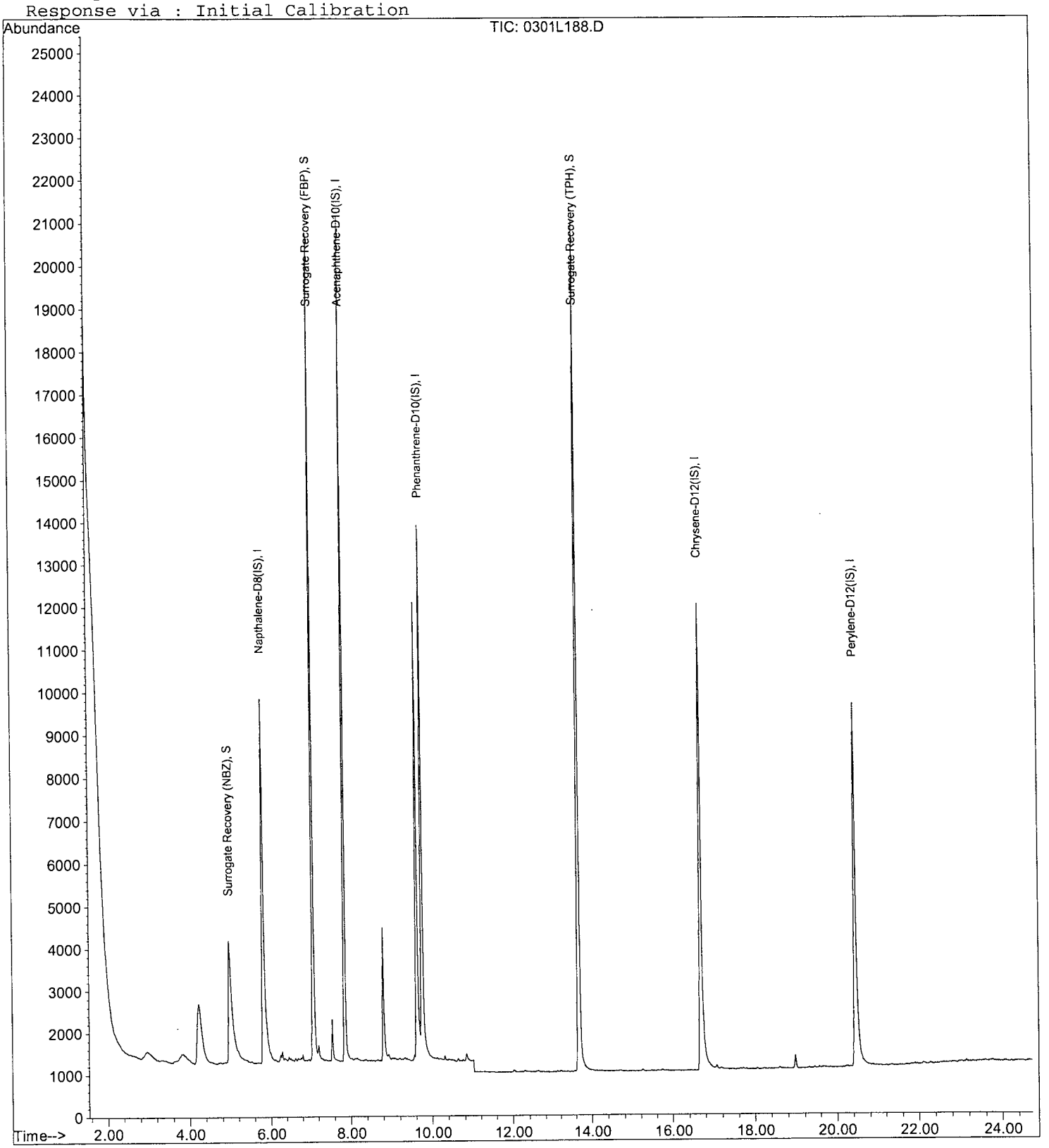
Data File : M:\LINUS\DATA\L170301\0301L188.D
Acq On : 13 Mar 17 19:17
Sample : 170309B BLK 1/1000
Misc : water

Vial: 88
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 15 14:24 2017

Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170309W-51132 LCS - 216880**
Batch ID: #SIMDO-170309B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.70	74.0	41-115
2-METHYLNAPHTHALENE	5.00	3.83	76.6	39-114
NAPHTHALENE	5.00	3.25	65.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.36	67.2	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.63	72.6	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.88	77.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0303P.M
Extraction Date :	03/09/17
Analysis Date :	03/13/17
Instrument :	Linus
Run :	0301L189
Initials :	RHA

Printed: 03/14/17 2:42:49 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L189.D Vial: 89
Acq On : 13 Mar 17 19:50 Operator: MA
Sample : 170309B LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	22193	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	11474	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	22157	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	27118	2.50000 ppb	-0.12
21) Perylene-D12(IS)	20.43	264	23011	2.50000 ppb	-0.12
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	11770	3.62542 ppb	-0.01
Spiked Amount 5.000			Recovery	= 72.500%	
7) Surrogate Recovery (FBP)	7.06	172	23579	3.35825 ppb	-0.01
Spiked Amount 5.000			Recovery	= 67.160%	
17) Surrogate Recovery (TPH)	13.67	244	32922	3.87607 ppb	0.00
Spiked Amount 5.000			Recovery	= 77.520%	

Target Compounds						Qvalue
3) Naphthalene	5.83	128	30605	3.24821 ppb		99
4) 2-Methylnaphthalene	6.64	142	19639	3.83249 ppb		99
5) 1-Methylnaphthalene	6.75	142	22185	3.69721 ppb		98
8) Acenaphthylene	7.69	152	35323	3.71762 ppb		100
9) Acenaphthene	7.88	154	20604	3.61554 ppb		100
10) Fluorene	8.50	166	25559	4.07217 ppb		100
12) Phenanthrene	9.79	178	38314	4.29318 ppb		99
13) Anthracene	9.89	178	36212	4.36150 ppb		99
14) Fluoranthene	12.49	202	62414	4.50726 ppb		99
16) Pyrene	13.13	202	61767	4.28204 ppb		99
19) Chrysene	16.64	228	52774	3.93878 ppb		97
20) Indeno (1,2,3-cd) pyrene	22.76	276	47527	4.83243 ppb	#	100
22) Benzo (b) fluoranthene	19.52	252	50075	4.92739 ppb		99
23) Benzo (k) fluoranthene	19.52	252	33841	2.95628 ppb		99
24) Benzo (a) pyrene	20.17	252	48764	4.98207 ppb	#	95
25) Dibenz (a,h) anthracene	22.80	278	40647	5.40810 ppb		97
26) Benzo (g,h,i) perylene	23.28	276	37374	4.86777 ppb		98

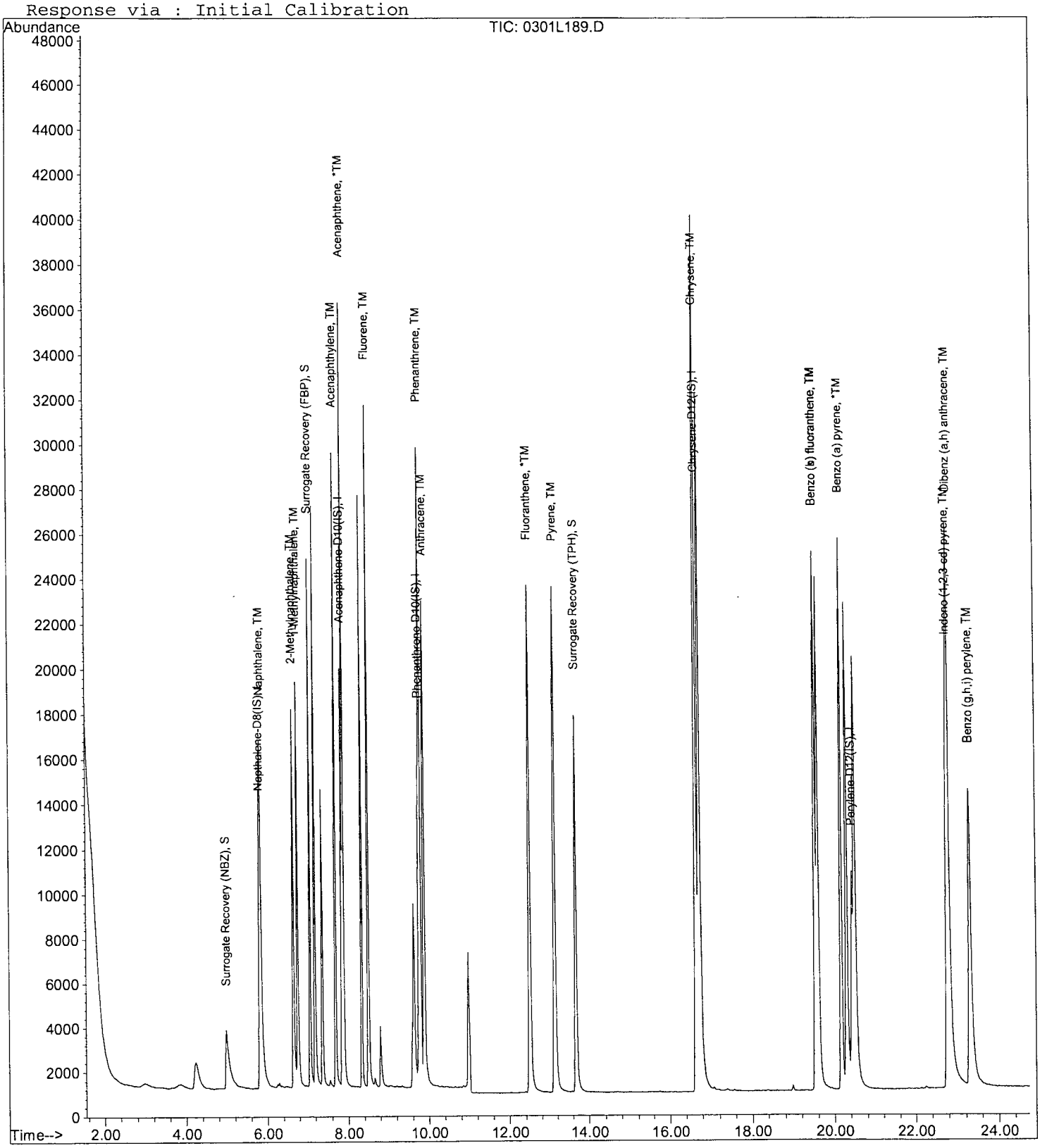
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L189.D Vial: 89
Acq On : 13 Mar 17 19:50 Operator: MA
Sample : 170309B LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 15 14:24 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 09:18:05 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170309W-51132 MS - 216880**
Batch ID: #SIMDO-170309B
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.22	3.46	64.4	69.2	41-115	7.2	20
2-METHYLNAPHTHALENE	5.00	ND	3.41	3.72	68.2	74.4	39-114	8.7	20
NAPHTHALENE	5.00	ND	2.88	3.10	57.6	62.0	43-114	7.4	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	2.95	3.52	59.0	70.4	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.11	3.17	62.2	63.4	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	3.21	3.82	64.2	76.4	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0303P.M	L0303P.M
Extraction Date :	03/09/17	03/09/17
Analysis Date :	03/13/17	03/14/17
Instrument :	Linus	Linus
Run :	0301L193	0301L207
Initials :	RHA	

Printed: 03/14/17 2:42:46 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L193.D Vial: 93
Acq On : 13 Mar 17 22:01 Operator: MA
Sample : AZ51132W17 MS-1 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Mar 14 9:45 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	26038	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	13163	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	25513	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	30870	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.43	264	26606	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	11933	3.10826 ppb	0.00
Spiked Amount 4.902			Recovery	= 63.403%	
7) Surrogate Recovery (FBP)	7.06	172	24211	2.94686 ppb	-0.01
Spiked Amount 4.902			Recovery	= 60.119%	
17) Surrogate Recovery (TPH)	13.67	244	31627	3.20689 ppb	-0.01
Spiked Amount 4.902			Recovery	= 65.423%	

Target Compounds					Qvalue
3) Naphthalene	5.83	128	32478	2.88037 ppb	100
4) 2-Methylnaphthalene	6.64	142	20942	3.41497 ppb	100
5) 1-Methylnaphthalene	6.75	142	23117	3.21924 ppb	99
8) Acenaphthylene	7.69	152	35450	3.18847 ppb	100
9) Acenaphthene	7.88	154	20393	3.05817 ppb	99
10) Fluorene	8.50	166	25489	3.47051 ppb	98
12) Phenanthrene	9.79	178	37767	3.60315 ppb	99
13) Anthracene	9.89	178	34957	3.58481 ppb	100
14) Fluoranthene	12.49	202	61068	3.75485 ppb	98
16) Pyrene	13.13	202	63051	3.76449 ppb	99
18) Benz (a) anthracene	16.63	228	49655	3.77490 ppb	100
19) Chrysene	16.73	228	57983	3.72702 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.76	276	46922	4.10886 ppb #	100
22) Benzo (b) fluoranthene	19.52	252	49378	4.11305 ppb	99
23) Benzo (k) fluoranthene	19.59	252	38453	2.84832 ppb	99
24) Benzo (a) pyrene	20.30	252	46286	4.00973 ppb	98
25) Dibenz (a,h) anthracene	22.80	278	40061	4.51953 ppb	97
26) Benzo (g,h,i) perylene	23.28	276	39710	4.38546 ppb	98

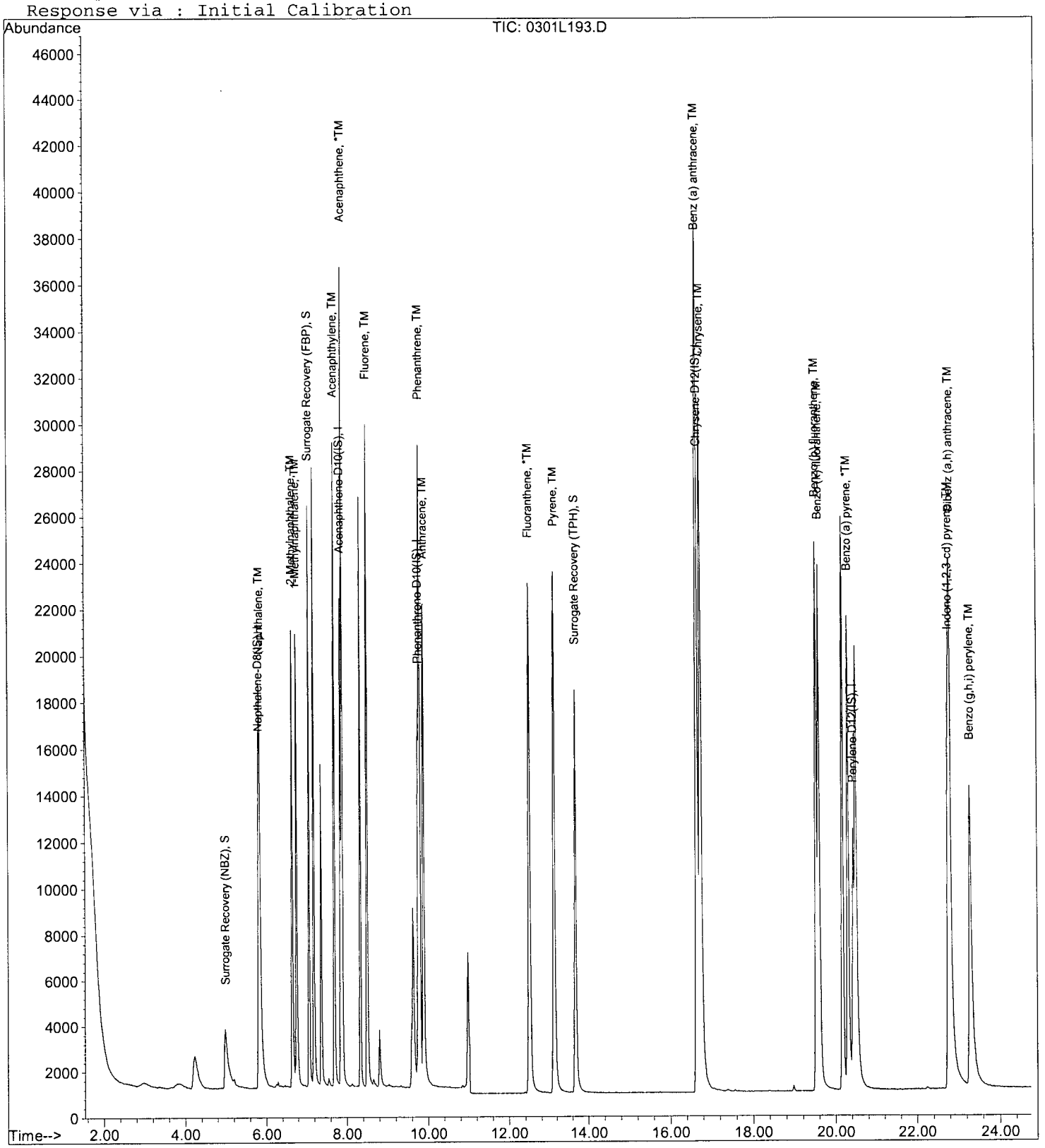
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L193.D Vial: 93
Acq On : 13 Mar 17 22:01 Operator: MA
Sample : AZ51132W17 MS-1 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Mar 14 9:45 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170301\0301L207.D Vial: 7
Acq On : 14 Mar 17 12:53 Operator: MA
Sample : AZ51132W25 MSD-1 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Mar 14 14:00 2017 Quant Results File: L0303P.RES

Quant Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon Mar 06 13:41:15 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	30227	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	14018	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	28170	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.66	240	29387	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.43	264	26128	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.99	82	14147	3.16852 ppb	0.00
Spiked Amount 4.902			Recovery	= 64.648%	
7) Surrogate Recovery (FBP)	7.06	172	30777	3.51757 ppb	-0.01
Spiked Amount 4.902			Recovery	= 71.767%	
17) Surrogate Recovery (TPH)	13.67	244	35864	3.82003 ppb	-0.01
Spiked Amount 4.902			Recovery	= 77.928%	

Target Compounds					Qvalue
3) Naphthalene	5.83	128	40534	3.09665 ppb	99
4) 2-Methylnaphthalene	6.64	142	26506	3.72329 ppb	99
5) 1-Methylnaphthalene	6.75	142	28850	3.46084 ppb	99
8) Acenaphthylene	7.69	152	42237	3.56721 ppb	99
9) Acenaphthene	7.88	154	24345	3.42815 ppb	98
10) Fluorene	8.50	166	30615	3.91422 ppb	98
12) Phenanthrene	9.79	178	47858	4.13523 ppb	100
13) Anthracene	9.89	178	45758	4.24986 ppb	99
14) Fluoranthene	12.50	202	67050	3.73382 ppb	99
16) Pyrene	13.13	202	69925	4.38560 ppb	100
18) Benz (a) anthracene	16.64	228	56829	4.53832 ppb	99
19) Chrysene	16.73	228	64061	4.32551 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.76	276	54796	5.04053 ppb #	99
22) Benzo (b) fluoranthene	19.53	252	54754	4.65030 ppb	99
23) Benzo (k) fluoranthene	19.59	252	42190	3.18230 ppb	98
24) Benzo (a) pyrene	20.30	252	53499	4.71939 ppb	98
25) Dibenz (a,h) anthracene	22.80	278	46759	5.37169 ppb	99
26) Benzo (g,h,i) perylene	23.29	276	44094	4.95871 ppb	98

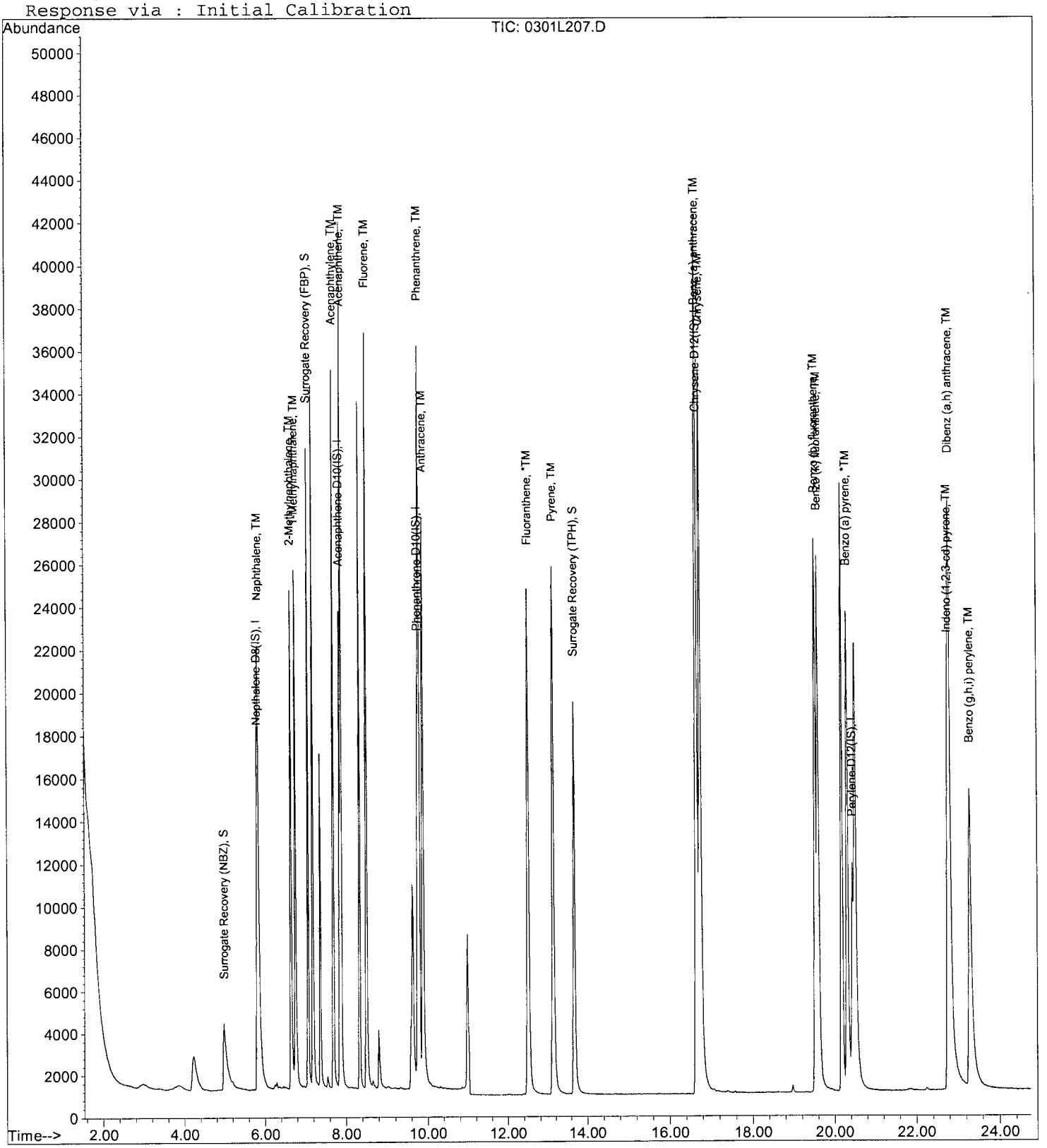
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170301\0301L207.D Vial: 7
Acq On : 14 Mar 17 12:53 Operator: MA
Sample : AZ51132W25 MSD-1 1/1020 Inst : Linus
Misc : water Multiplr: 0.98

Quant Time: Mar 14 14:00 2017 Quant Results File: L0303P.RES

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed Mar 15 17:17:13 2017
Response via : Initial Calibration

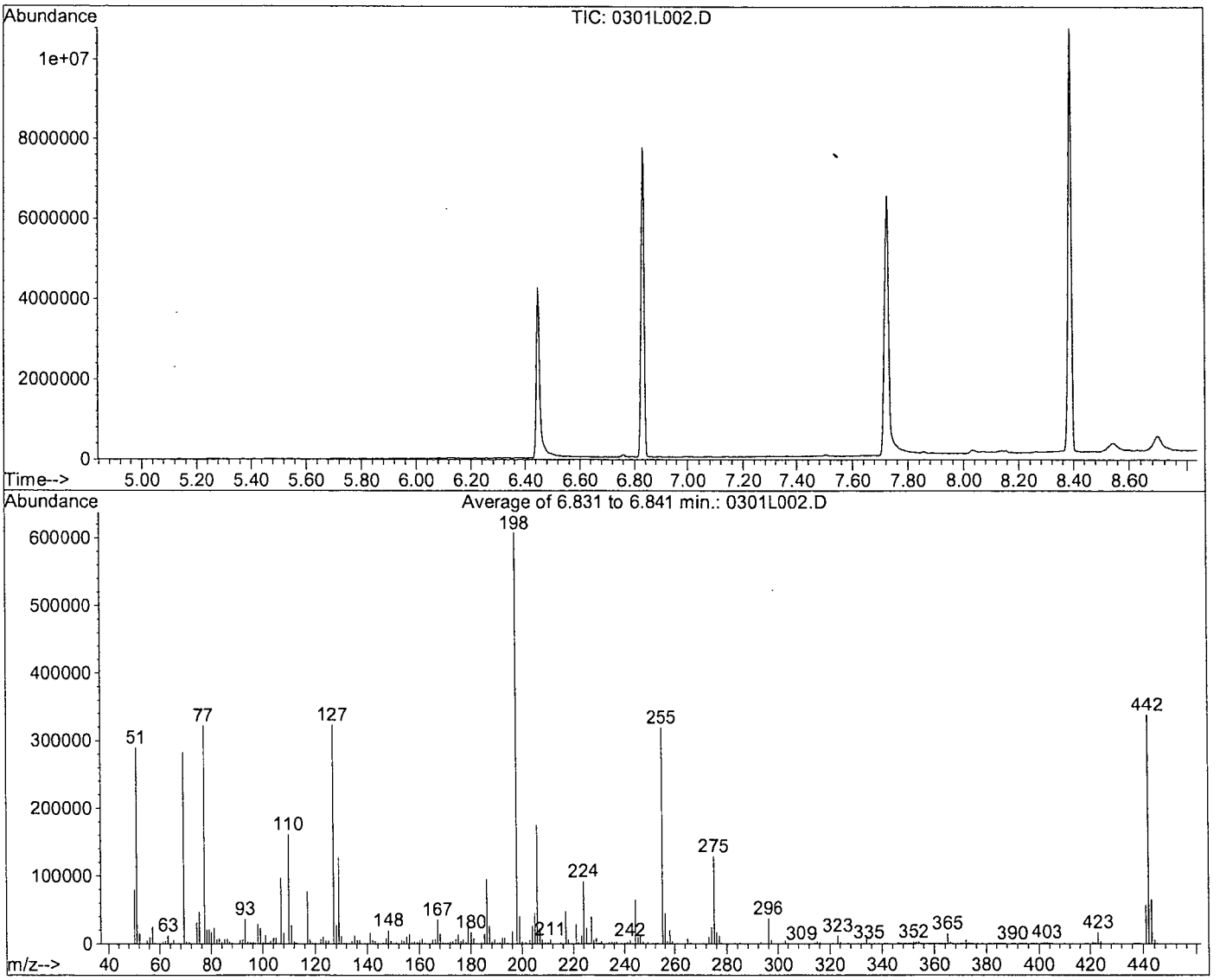


DFTPP

Data File : M:\LINUS\DATA\L170301\0301L002.D
Acq On : 1 Mar 17 12:30
Sample : SV Tune 02/09/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170301\L0301P.M (RTE Integrator)
Title : EPA 8270



Spectrum Information: Average of 6.831 to 6.841 min.

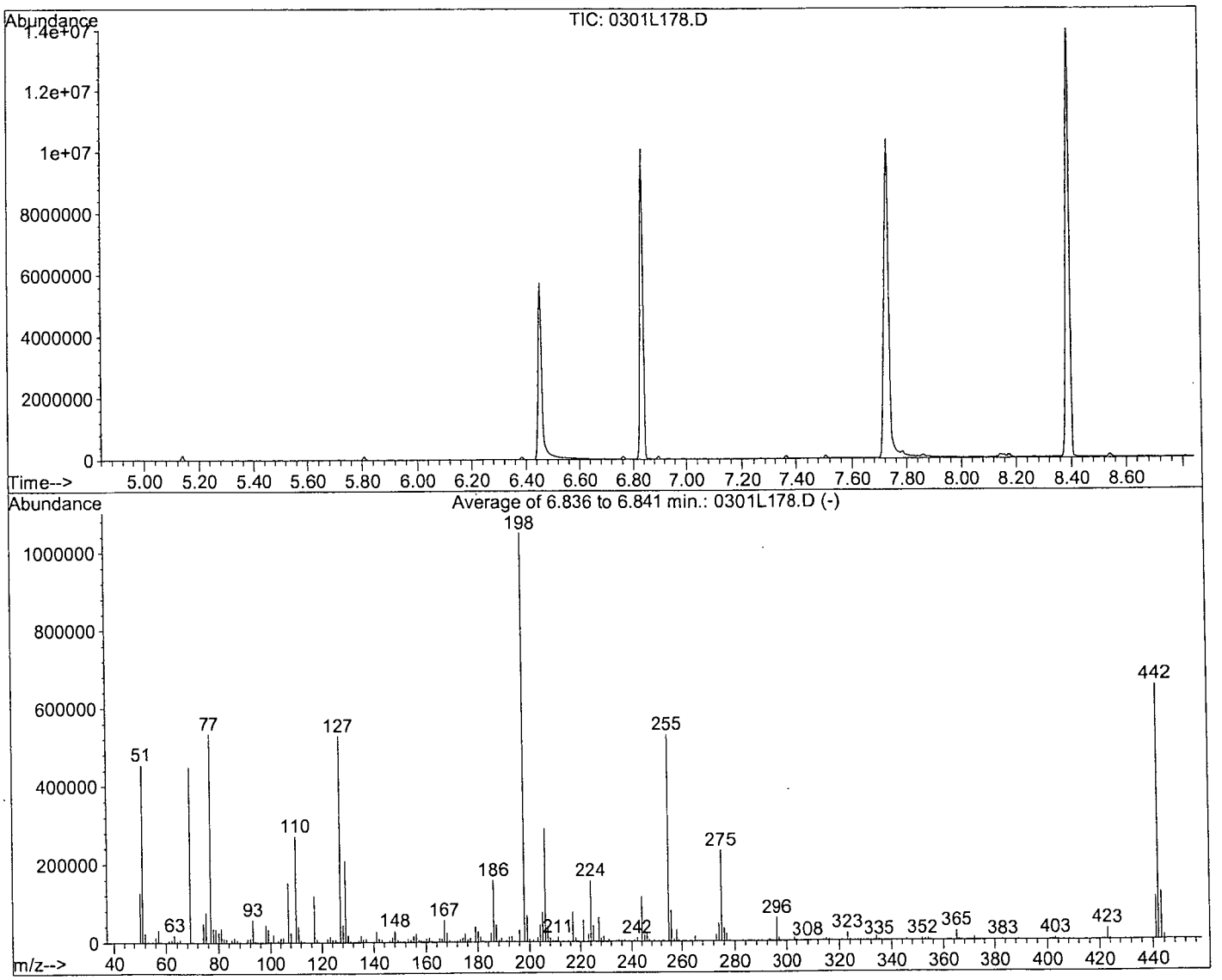
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.6	289466	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	1.1	2987	PASS
127	198	40	60	53.2	323464	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	608024	PASS
199	198	5	9	6.6	40345	PASS
275	198	10	30	21.2	128742	PASS
365	198	1	100	2.5	14989	PASS
441	443	0.01	100	87.6	56822	PASS
442	198	50	150	55.6	337803	PASS
443	442	17	23	19.2	64886	PASS

DFTPP

Data File : M:\LINUS\DATA\L170301\0301L178.D
Acq On : 13 Mar 17 14:05
Sample : SV Tune 2/9/17
Misc : water

Vial: 78
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170301\L0303P.M (RTE Integrator)
Title : EPA 8270



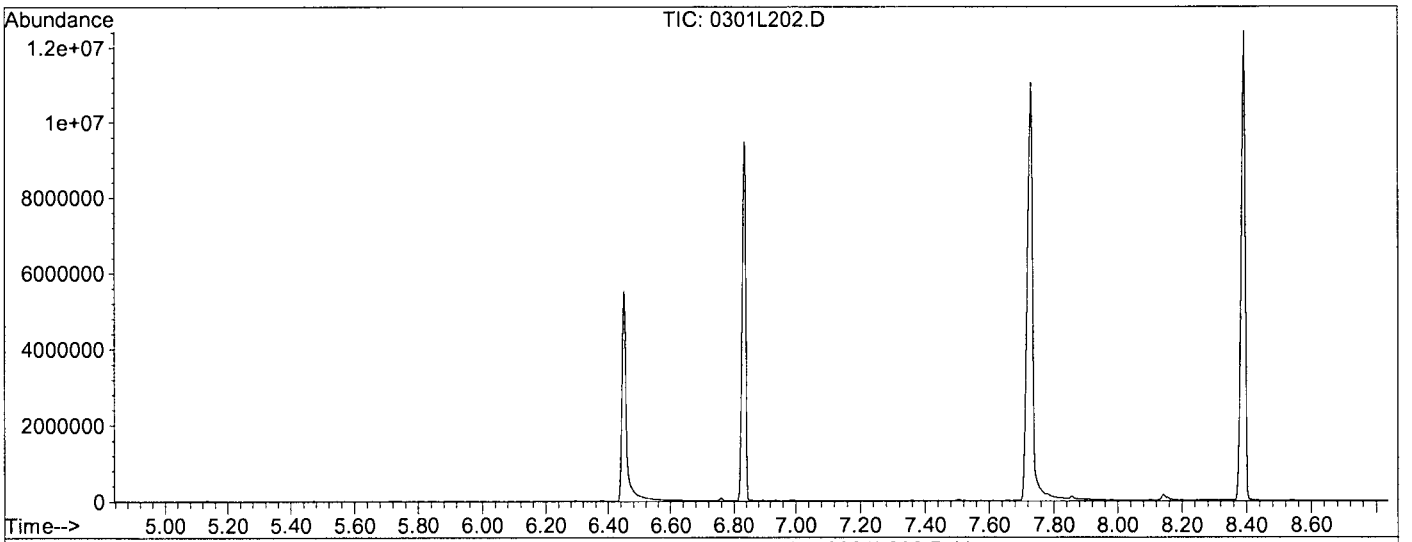
Spectrum Information: Average of 6.836 to 6.841 min.

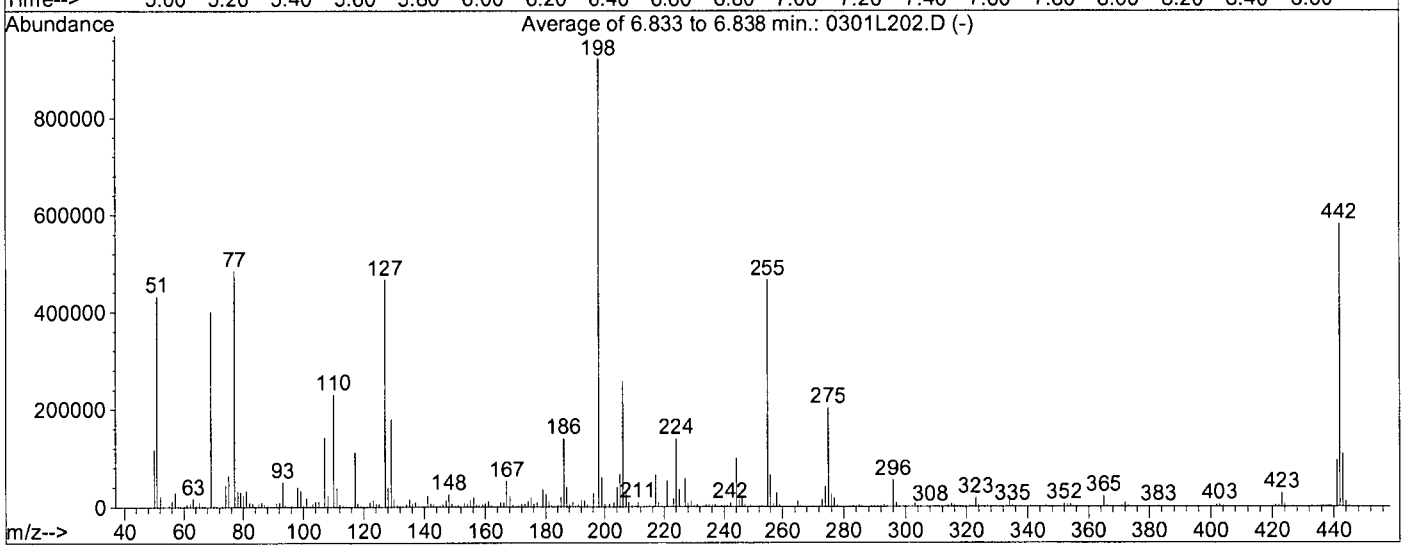
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.4	455344	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	1758	PASS
127	198	40	60	50.3	527659	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1049877	PASS
199	198	5	9	6.3	66184	PASS
275	198	10	30	22.1	231616	PASS
365	198	1	100	2.3	24195	PASS
441	443	0.01	100	90.0	109760	PASS
442	198	50	150	62.2	652971	PASS
443	442	17	23	18.7	121995	PASS

DFTPP

Data File : M:\LINUS\DATA\L170301\0301L202.D Vial: 2
Acq On : 14 Mar 17 10:19 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L161026\DFTPP2.M (Chemstation Integrator)
Title :





Spectrum Information: Average of 6.833 to 6.838 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.8	432510	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	401109	PASS
70	69	0.00	2	0.6	2530	PASS
127	198	40	60	50.5	465877	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	923435	PASS
199	198	5	9	6.4	59485	PASS
275	198	10	30	21.9	201963	PASS
365	198	1	100	2.2	20652	PASS
441	443	0.01	100	87.5	94693	PASS
442	198	40	150	62.8	579819	PASS
443	442	17	23	18.7	108171	PASS

0301L202.D DFTPP2.M Wed Mar 15 17:40:16 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/01/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**07/12/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/01/17	07/12/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/01/17	07/12/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		1/12/17	07/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 7/12/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 PAH SIM 2ND SRC			Prep: 03/01/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	200	01/24/17	06/21/17	25
	Methylene Chloride				75
o2si	V Internal Standar	2000	10/10/16	10/10/17	2
LOT#	XA10079V-35507			Final Vol.	102

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA140020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	9/12/16	9/12/17	1000
				Fin Vol.		1000

8270 Surrog Mix 100/200ppm						
Prep: 02/07/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 03/09/17 RH	
EX: 03/09/17	

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170309B	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 3-9-17 exp 3-9-18		Surrogate ID 1	8270 Surrogate 2-7-17 exp 11-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/09/17 15:10	
Spiked ID 8			Ext. End Time:	03/10/17 11:30	
			GC Requires Extract By:	**03/13/17 0:00**	

pH1	2	03/09/17 3:20:00 PM	Water Bath Temp Criteria	76 °C
pH2	14	03/09/17 5:45:00 PM		
pH3				

Spiked By: KY **Date** 03/09/17 **Witnessed By:** JR **Date** 03/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170309B Blk				0.0250	1 equip	1000 E-WB7	1	2/1	03/09/17 15:10	
2	170309B LCS-1		0.0250	1	0.0250	1 equip	1000 E-WB7	1	2/1	03/09/17 15:10	
3	AZ51053	AZ51053W10			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
4	AZ51054	AZ51054W10			0.0250	1 equip	1040 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
5	AZ51056	AZ51056W09			0.0250	1 equip	1070 E-WB7	1	2/1	03/09/17 15:10	82337 1 week
6	AZ51132 MS-1	AZ51132W17	0.0250	1	0.0250	1 equip	1020 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
7	AZ51132 MSD-1	AZ51132W25	0.0250	1	0.0250	1 equip	1020 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
8	AZ51132	AZ51132W24			0.0250	1 equip	1070 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
9	AZ51133	AZ51133W09			0.0250	1 equip	900 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
10	AZ51135	AZ51135W29			0.0250	1 equip	1060 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
11	AZ51136	AZ51136W11			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
12	AZ51139	AZ51139W12			0.0250	1 equip	1050 E-WB7	1	2/1	03/09/17 15:10	82351 5 days
13	AZ51141	AZ51141W14			0.0250	1 equip	1060 E-WB7	1	2/1	03/09/17 15:10	82351 5 days

Ky 3/10/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-28-17
PH STRIP	HC 574756
MC	56258
A. Na2SO4	1-3-17
10N NaOH	1-14-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/10/17
Time	2:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,JR,DL
Extraction	KY,JR,DL
Concentration	DL

Modified	03/10/17 2:00:13 PM

Reviewed By: Ky 323 **Date** 3/10/17

Injection Log

Directory: M:\LINUS\DATA\L170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0301L002.D	1	SV Tune 02/09/17	water	1 Mar 17 12:30
2	3	0301L003.D	1	0.1 SIM 03/01/17	water	1 Mar 17 12:47
3	4	0301L004.D	1	0.2 SIM 03/01/17	water	1 Mar 17 13:19
4	5	0301L005.D	1	0.5 SIM 03/01/17	water	1 Mar 17 13:52
5	6	0301L006.D	1	1.0 SIM 03/01/17	water	1 Mar 17 14:24
6	7	0301L007.D	1	5.0 SIM 03/01/17	water	1 Mar 17 14:57
7	8	0301L008.D	1	10 SIM 03/01/17	water	1 Mar 17 15:30
8	9	0301L009.D	1	50 SIM 03/01/17	water	1 Mar 17 16:02
9	10	0301L010.D	1	100 SIM 03/01/17	water	1 Mar 17 16:33
10	11	0301L011.D	1	SS SIM 03/01/17	water	1 Mar 17 17:06
11	78	0301L178.D	1	SV Tune 2/9/17	water	13 Mar 17 14:05
12	79	0301L179.D	1	5.0 SIM 03/01/17	water	13 Mar 17 14:22
13	82	0301L182.D	0.934579	AZ51132W24 1/1070	water	13 Mar 17 16:01
14	83	0301L183.D	1.11111	AZ51133W09 1/900	water	13 Mar 17 16:33
15	85	0301L185.D	0.95238	AZ51136W11 1/1050	water	13 Mar 17 17:39
16	86	0301L186.D	0.95238	AZ51139W12 1/1050	water	13 Mar 17 18:12
17	87	0301L187.D	0.9434	AZ51141W14 1/1060	water	13 Mar 17 18:45
18	88	0301L188.D	1	170309B BLK 1/1000	water	13 Mar 17 19:17
19	89	0301L189.D	1	170309B LCS-1 1/1000	water	13 Mar 17 19:50
20	93	0301L193.D	0.98039	AZ51132W17 MS-1 1/1020	water	13 Mar 17 22:01
21	100	0301L200.D	1	5.0 SIM 03/01/17	water	14 Mar 17 1:33
22	2	0301L202.D	1	SV Tune 2/9/17	water	14 Mar 17 10:19
23	3	0301L203.D	1	5.0 SIM 03/01/17	water	14 Mar 17 10:36
24	5	0301L205.D	0.943396	AZ51135W29 1/1060	water	14 Mar 17 11:48
25	7	0301L207.D	0.980392	AZ51132W25 MSD-1 1/1020	water	14 Mar 17 12:53
26	16	0301L216.D	1	5.0 SIM 03/01/17	water	14 Mar 17 17:48

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216830**
Batch ID: #87DC5-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	61.0	44-119			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	49.9	19-119			%	03/09/17	03/10/17
BLANK	SURROGATE: NITROBENZENE-	65.6	44-120			%	03/09/17	03/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	30.9	10-115			%	03/09/17	03/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	66.8	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y269
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 3:33:10 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	43-140	67.1		44-119	61.0	
170309A-LCS	Lab Control Spike	43-140	66.5		44-119	64.5	
AZ51132	ERH257	43-140	55.3		44-119	57.4	
AZ51132-MS	Matrix Spike	43-140	47.9		44-119	44.3	
AZ51132-MSD	Matrix SpikeD	43-140	51.5		44-119	51.0	
AZ51133	ERH258	43-140	55.9		44-119	54.1	
AZ51135	ERH262	43-140	49.8		44-119	46.4	
AZ51136	ERH263	43-140	59.2		44-119	53.5	
AZ51139	ERH268	43-140	50.9		44-119	46.0	
AZ51141	ERH270	43-140	50.5		44-119	46.6	

Comments: Batch: #87DC5-170309A

Printed: 03/15/17 3:33:12 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	19-119	49.9		44-120	65.6	
170309A-LCS	Lab Control Spike	19-119	52.0		44-120	74.3	
AZ51132	ERH257	19-119	40.5		44-120	59.7	
AZ51132-MS	Matrix Spike	19-119	35.5		44-120	48.0	
AZ51132-MSD	Matrix SpikeD	19-119	38.8		44-120	56.8	
AZ51133	ERH258	19-119	42.9		44-120	58.7	
AZ51135	ERH262	19-119	34.8		44-120	47.6	
AZ51136	ERH263	19-119	39.2		44-120	56.9	
AZ51139	ERH268	19-119	34.8		44-120	50.3	
AZ51141	ERH270	19-119	37.0		44-120	49.4	

Comments: Batch: #87DC5-170309A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309A-BLK	Blank	10-115	30.9		50-134	66.8	
170309A-LCS	Lab Control Spike	10-115	33.1		50-134	72.3	
AZ51132	ERH257	10-115	26.2		50-134	57.7	
AZ51132-MS	Matrix Spike	10-115	23.0		50-134	53.8	
AZ51132-MSD	Matrix SpikeD	10-115	23.7		50-134	53.6	
AZ51133	ERH258	10-115	28.1		50-134	56.7	
AZ51135	ERH262	10-115	22.2		50-134	49.6	
AZ51136	ERH263	10-115	25.0		50-134	59.7	
AZ51139	ERH268	10-115	23.5		50-134	50.9	
AZ51141	ERH270	10-115	25.1		50-134	50.9	

Comments: Batch: #87DC5-170309A

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170309W-51132 LCS - 216830**
Batch ID: #87DC5-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	21.3	42.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	133	66.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	64.5	64.5	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	104	52.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	74.3	74.3	44-120
SURROGATE: PHENOL-D6 (S)	200	66.3	33.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	72.3	72.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/09/17
Analysis Date :	03/10/17
Instrument :	Yoda
Run :	0123Y270
Initials :	MA

Printed: 03/15/17 3:33:12 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170309W-51132 MS - 216830**
Batch ID: #87DC5-170309A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	15.4	15.4	30.8	30.8	10-115	0.0	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	95.7	103	47.9	51.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	44.3	51.0	44.3	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.0	77.5	35.5	38.8	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	48.0	56.8	48.0	56.8	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	46.0	47.4	23.0	23.7	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	53.8	53.6	53.8	53.6	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	03/09/17	03/09/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Yoda	Yoda
Run :	0123Y276	0123Y277
Initials :	MA	

Printed: 03/15/17 3:33:14 PM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER
Blank ID: 170309A-BLK

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Yoda
Time Analyzed: 1518

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309A-BLK	Blank	0123Y269	03/10/17 1518
170309A-LCS	Lab Control Spike	0123Y270	03/10/17 1550
AZ51132	ERH257	0123Y275	03/10/17 1822
170309A-MS	Matrix Spike	0123Y276	03/10/17 1853
170309A-MSD	Matrix SpikeD	0123Y277	03/10/17 1923
AZ51133	ERH258	0123Y278	03/10/17 1953
AZ51135	ERH262	0123Y279	03/10/17 2023
AZ51136	ERH263	0123Y280	03/10/17 2053
AZ51139	ERH268	0123Y281	03/10/17 2123
AZ51141	ERH270	0123Y289	03/14/17 0932

Comments: Batch: #87DC5-170309A

Printed: 03/15/17 3:33:15 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 10/19/16

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Yoda
Time Analyzed: 14:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y268.D	03/10/17 14:47
2	Blank	170309A BLK 1/1000	0123Y269.D	03/10/17 15:18
3	Lab Control Spike	170309A LCS-1 1/1000	0123Y270.D	03/10/17 15:50
4	ERH257	AZ51132W30 1/1000	0123Y275.D	03/10/17 18:22
5		AZ51132W18 MS-1 1/10	0123Y276.D	03/10/17 18:53
6		AZ51132W33 MSD-1 1/1	0123Y277.D	03/10/17 19:23
7	ERH258	AZ51133W05 1/950	0123Y278.D	03/10/17 19:53
8	ERH262	AZ51135W31 1/1070	0123Y279.D	03/10/17 20:23
9	ERH263	AZ51136W08 1/1000	0123Y280.D	03/10/17 20:53
10	ERH268	AZ51139W09 1/1070	0123Y281.D	03/10/17 21:23
11		50ug/ml SVOC 3/02/17	0123Y284.D	03/10/17 22:36
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	43.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	55.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	23.3
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	86.1
442	50 - 150% of mass 198	106.4
443	17 - 23% of mass 442	19.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 02/09/16

SDG No: 82351
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 7:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y287.D	03/14/17 8:01
2	ERH270	AZ51141W13 1/1060	0123Y289.D	03/14/17 9:32
3		50ug/ml SVOC 3/02/17	0123Y302.D	03/14/17 16:14
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	55.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.4
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	84.0
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	19.6

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 0123Y007.D Date Analyzed: 01/23/17

Instrument ID: Yoda Time Analyzed: 12:32

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	141116	4.82	580908	6.25	342939	8.26
02	170309A BLK 1/1000	149556	4.83	670506	6.25	421228	8.26
03	170309A LCS-1 1/1000	158255	4.82	652187	6.25	386870	8.26
04	AZ51132W30 1/1000	173467	4.82	734540	6.25	424916	8.26
05	AZ51132W18 MS-1 1/1(	172190	4.82	726184	6.26	428292	8.26
06	AZ51132W33 MSD-1 1/	188840	4.82	760749	6.25	445630	8.27
07	AZ51133W05 1/950	183043	4.82	799539	6.25	451954	8.26
08	AZ51135W31 1/1070	205307	4.82	884632	6.25	499631	8.26
09	AZ51136W08 1/1000	168722	4.83	741089	6.26	419370	8.26
10	AZ51139W09 1/1070	172893	4.82	748836	6.25	429713	8.26
11	50ug/ml SVOC 3/02/17	124598	4.82	534465	6.26	325588	8.26
12	50ug/ml SVOC 3/02/17	148886	4.82	626658	6.24	373403	8.26
13	AZ51141W13 1/1060	155902	4.82	666897	6.25	391356	8.26
14	50ug/ml SVOC 3/02/17	148257	4.82	608139	6.25	361584	8.26
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82351
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	609568	9.99	572618	13.06	602730	14.69
02	170309A BLK 1/1000	780450	9.99	778509	13.06	777382	14.69
03	170309A LCS-1 1/1000	733517	9.99	698030	13.07	733682	14.69
04	AZ51132W30 1/1000	790386	9.99	774879	13.06	833750	14.69
05	AZ51132W18 MS-1 1/1(	797901	9.99	760405	13.06	856327	14.69
06	AZ51132W33 MSD-1 1/	824282	9.99	817974	13.07	887606	14.69
07	AZ51133W05 1/950	826939	9.98	841045	13.06	902828	14.69
08	AZ51135W31 1/1070	937478	9.99	921422	13.06	985414	14.69
09	AZ51136W08 1/1000	777752	9.99	777633	13.06	828595	14.69
10	AZ51139W09 1/1070	806940	9.99	809907	13.06	842804	14.69
11	50ug/ml SVOC 3/02/17	593377	9.99	587819	13.06	634113	14.70
12	50ug/ml SVOC 3/02/17	695280	9.99	671130	13.06	737668	14.69
13	AZ51141W13 1/1060	716469	9.98	727882	13.06	724645	14.69
14	50ug/ml SVOC 3/02/17	672725	9.99	649830	13.07	691935	14.70
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	55.3	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.4	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	40.5	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	59.7	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	26.2	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	57.7	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y275
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y275.D
Acq On : 10 Mar 17 18:22
Sample : AZ51132W30 1/1000
Misc : water

Vial: 75
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 10:00 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	173467	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	734540	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	424916	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	790386	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	774879	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	833750	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	443425	81.03761 ppb	-0.02
Spiked Amount 200.000			Recovery	= 40.519%	
5) Phenol-D6 (S)	4.46	99	381139	52.35405 ppb	0.00
Spiked Amount 200.000			Recovery	= 26.177%	
21) Nitrobenzene-D5(S)	5.46	82	444643	59.68889 ppb	0.00
Spiked Amount 100.000			Recovery	= 59.689%	
45) 2-Fluorobiphenyl(S)	7.50	172	782899	57.43383 ppb	0.00
Spiked Amount 100.000			Recovery	= 57.434%	
63) 2,4,6-Tribromophenol(S)	9.19	330	217651	110.66263 ppb	0.00
Spiked Amount 200.000			Recovery	= 55.332%	
81) Terphenyl-D14(S)	11.84	244	961590	57.69496 ppb	0.00
Spiked Amount 100.000			Recovery	= 57.695%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

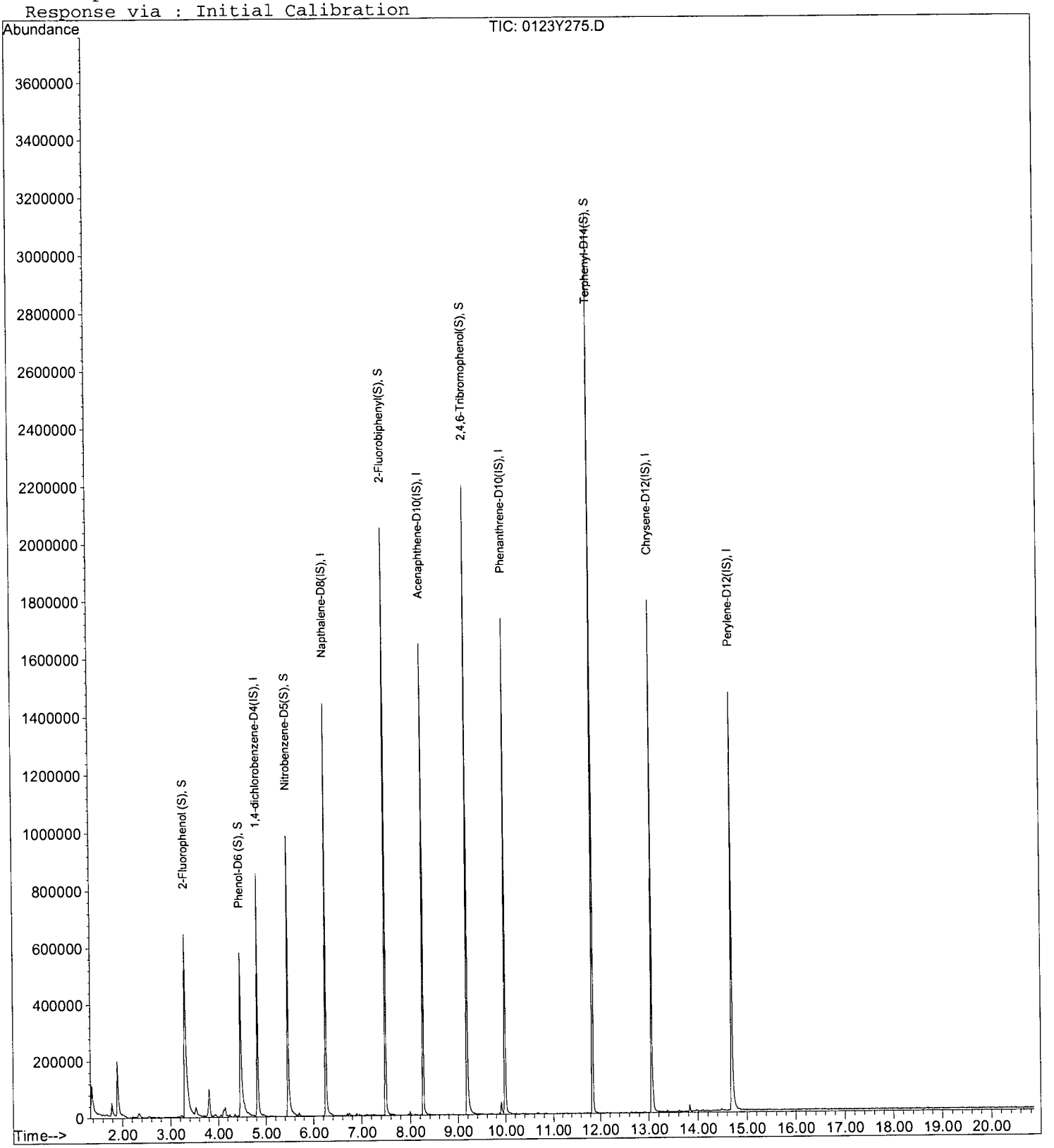
Data File : M:\YODA\DATA\Y170123\0123Y275.D
Acq On : 10 Mar 17 18:22
Sample : AZ51132W30 1/1000
Misc : water

Vial: 75
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 10:00 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	55.9	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.1	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.9	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	58.7	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.1	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	56.7	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y278
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y278.D
Acq On : 10 Mar 17 19:53
Sample : AZ51133W05 1/950
Misc : water

Vial: 78
Operator: MA
Inst : Yoda
Multiplr: 1.05

Quant Time: Mar 13 10:02 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	183043	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	799539	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	451954	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	826939	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	841045	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	902828	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	494926	90.22902 ppb	-0.02
Spiked Amount 210.526			Recovery	= 42.859%	
5) Phenol-D6 (S)	4.46	99	431478	59.12416 ppb	0.00
Spiked Amount 210.526			Recovery	= 28.084%	
21) Nitrobenzene-D5(S)	5.46	82	475926	61.78357 ppb	0.00
Spiked Amount 105.263			Recovery	= 58.695%	
45) 2-Fluorobiphenyl(S)	7.49	172	784876	56.98331 ppb	0.00
Spiked Amount 105.263			Recovery	= 54.134%	
63) 2,4,6-Tribromophenol(S)	9.19	330	234003	117.74605 ppb	0.00
Spiked Amount 210.526			Recovery	= 55.929%	
81) Terphenyl-D14(S)	11.84	244	1026519	59.73176 ppb	0.00
Spiked Amount 105.263			Recovery	= 56.745%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y278.D Y0123.M Mon Mar 13 15:41:00 2017

Quantitation Report

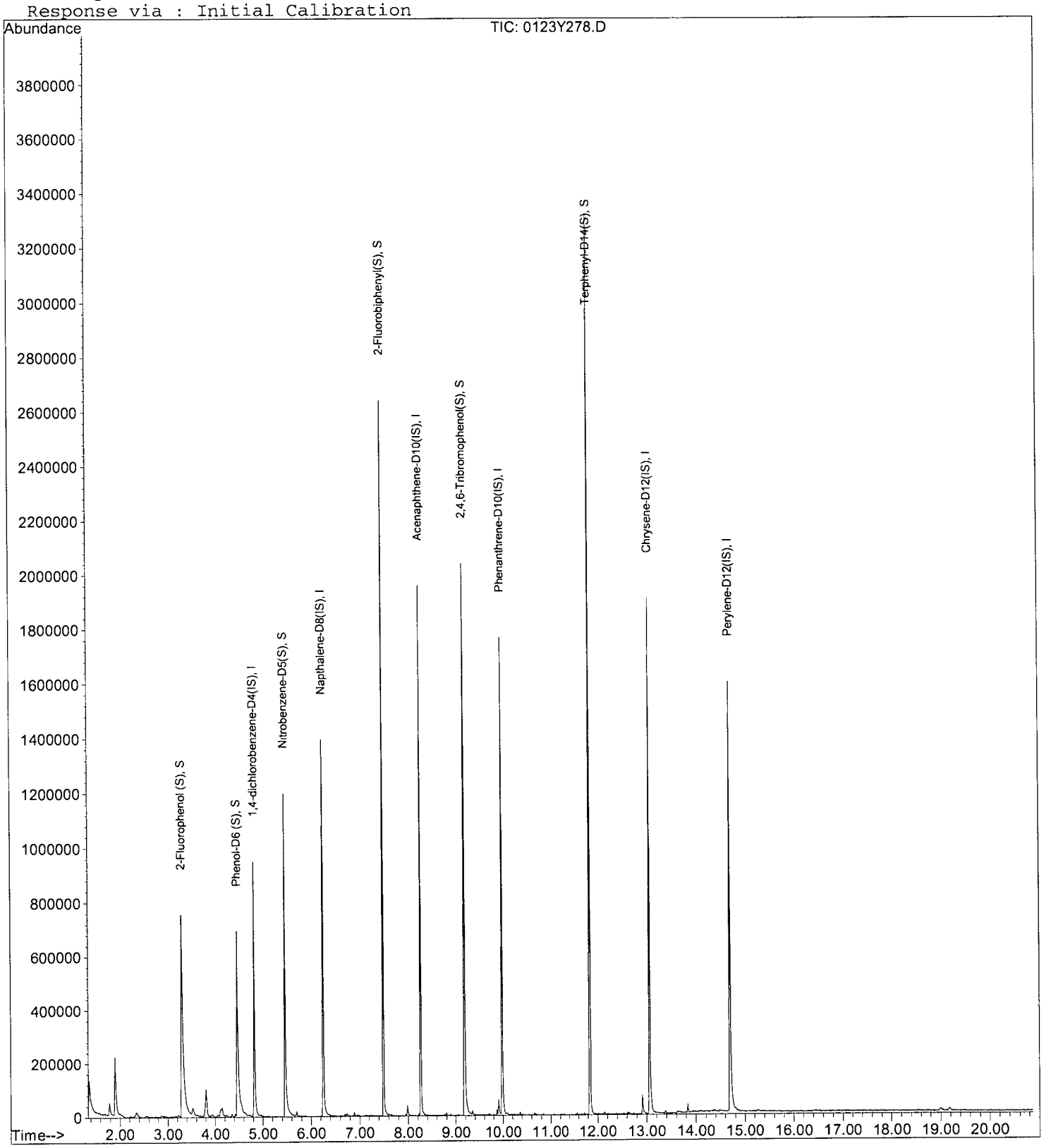
Data File : M:\YODA\DATA\Y170123\0123Y278.D
Acq On : 10 Mar 17 19:53
Sample : AZ51133W05 1/950
Misc : water

Vial: 78
Operator: MA
Inst : Yoda
Multiplr: 1.05

Quant Time: Mar 13 10:02 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	49.8	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	46.4	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.8	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	47.6	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.2	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	49.6	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y279
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y279.D
Acq On : 10 Mar 17 20:23
Sample : AZ51135W31 1/1070
Misc : water

Vial: 79
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 10:03 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	205307	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	884632	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	499631	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	937478	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	921422	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	985414	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	450367	64.99241 ppb	-0.02
Spiked Amount 186.916			Recovery	= 34.771%	
5) Phenol-D6 (S)	4.46	99	382326	41.46964 ppb	0.00
Spiked Amount 186.916			Recovery	= 22.186%	
21) Nitrobenzene-D5(S)	5.46	82	426792	44.45981 ppb	0.00
Spiked Amount 93.458			Recovery	= 47.572%	
45) 2-Fluorobiphenyl(S)	7.49	172	743993	43.38115 ppb	0.00
Spiked Amount 93.458			Recovery	= 46.418%	
63) 2,4,6-Tribromophenol(S)	9.19	330	230381	93.10161 ppb	0.00
Spiked Amount 186.916			Recovery	= 49.810%	
81) Terphenyl-D14(S)	11.84	244	982762	46.34342 ppb	0.00
Spiked Amount 93.458			Recovery	= 49.587%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y279.D Y0123.M Mon Mar 13 15:41:05 2017

Quantitation Report

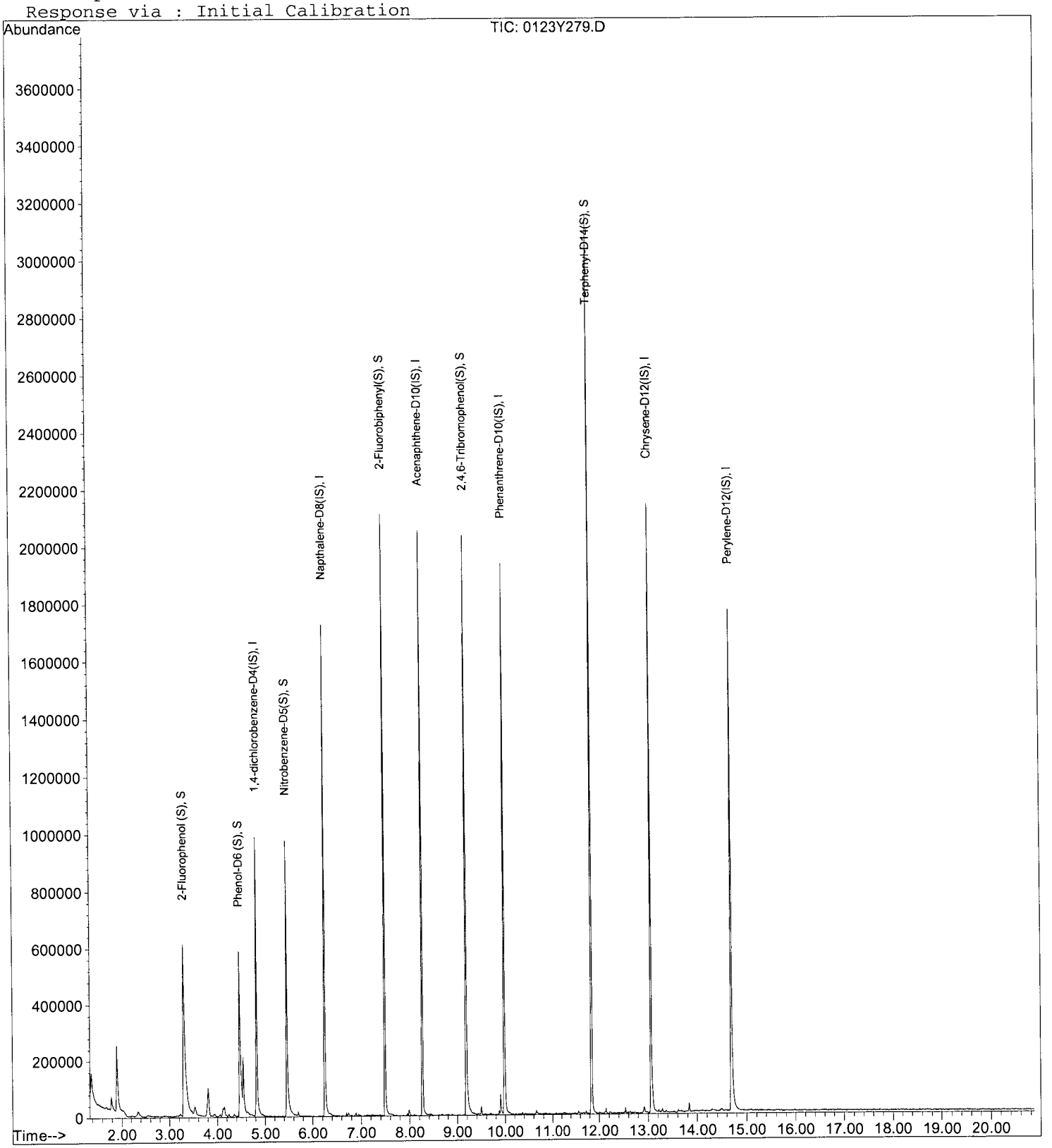
Data File : M:\YODA\DATA\Y170123\0123Y279.D
Acq On : 10 Mar 17 20:23
Sample : AZ51135W31 1/1070
Misc : water

Vial: 79
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 10:03 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.2	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	53.5	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	39.2	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	56.9	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.0	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	59.7	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y280
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y280.D
Acq On : 10 Mar 17 20:53
Sample : AZ51136W08 1/1000
Misc : water

Vial: 80
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 10:04 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	168722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	741089	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	419370	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	777752	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	777633	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	828595	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	417500	78.44551 ppb	-0.02
Spiked Amount 200.000			Recovery = 39.223%		
5) Phenol-D6 (S)	4.46	99	353561	49.93170 ppb	0.00
Spiked Amount 200.000			Recovery = 24.966%		
21) Nitrobenzene-D5(S)	5.46	82	427294	56.85307 ppb	0.00
Spiked Amount 100.000			Recovery = 56.853%		
45) 2-Fluorobiphenyl(S)	7.49	172	719316	53.46721 ppb	0.00
Spiked Amount 100.000			Recovery = 53.467%		
63) 2,4,6-Tribromophenol(S)	9.19	330	229670	118.31787 ppb	0.00
Spiked Amount 200.000			Recovery = 59.159%		
81) Terphenyl-D14(S)	11.84	244	998462	59.69510 ppb	0.00
Spiked Amount 100.000			Recovery = 59.695%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y280.D Y0123.M Mon Mar 13 15:41:10 2017

Quantitation Report

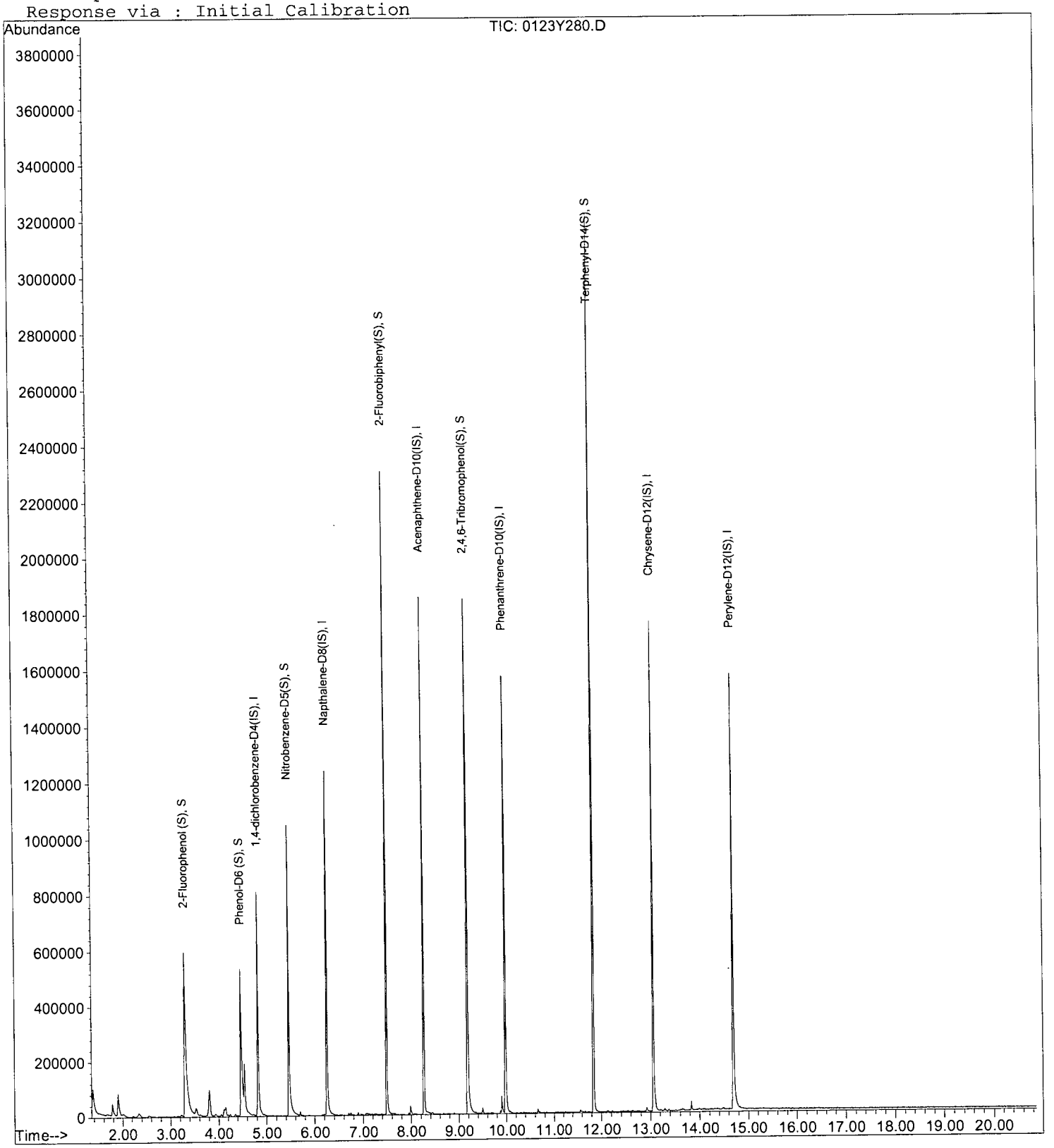
Data File : M:\YODA\DATA\Y170123\0123Y280.D
Acq On : 10 Mar 17 20:53
Sample : AZ51136W08 1/1000
Misc : water

Vial: 80
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 10:04 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	50.9	43-140			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	46.0	44-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	34.8	19-119			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	50.3	44-120			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	23.5	10-115			%	03/09/17	03/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	50.9	50-134			%	03/09/17	03/10/17

Quant Method: Y0123.M
Run #: 0123Y281
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y281.D
Acq On : 10 Mar 17 21:23
Sample : AZ51139W09 1/1070
Misc : water

Vial: 81
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 10:05 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	172893	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	748836	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	429713	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	806940	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	809907	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	842804	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	380061	65.12920 ppb	0.00
Spiked Amount 186.916			Recovery	= 34.844%	
5) Phenol-D6 (S)	4.47	99	341018	43.92382 ppb	0.00
Spiked Amount 186.916			Recovery	= 23.499%	
21) Nitrobenzene-D5(S)	5.46	82	382242	47.03982 ppb	0.00
Spiked Amount 93.458			Recovery	= 50.333%	
45) 2-Fluorobiphenyl(S)	7.49	172	634204	42.99640 ppb	0.00
Spiked Amount 93.458			Recovery	= 46.006%	
63) 2,4,6-Tribromophenol(S)	9.19	330	202505	95.15183 ppb	0.00
Spiked Amount 186.916			Recovery	= 50.906%	
81) Terphenyl-D14(S)	11.84	244	886453	47.55748 ppb	0.00
Spiked Amount 93.458			Recovery	= 50.886%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

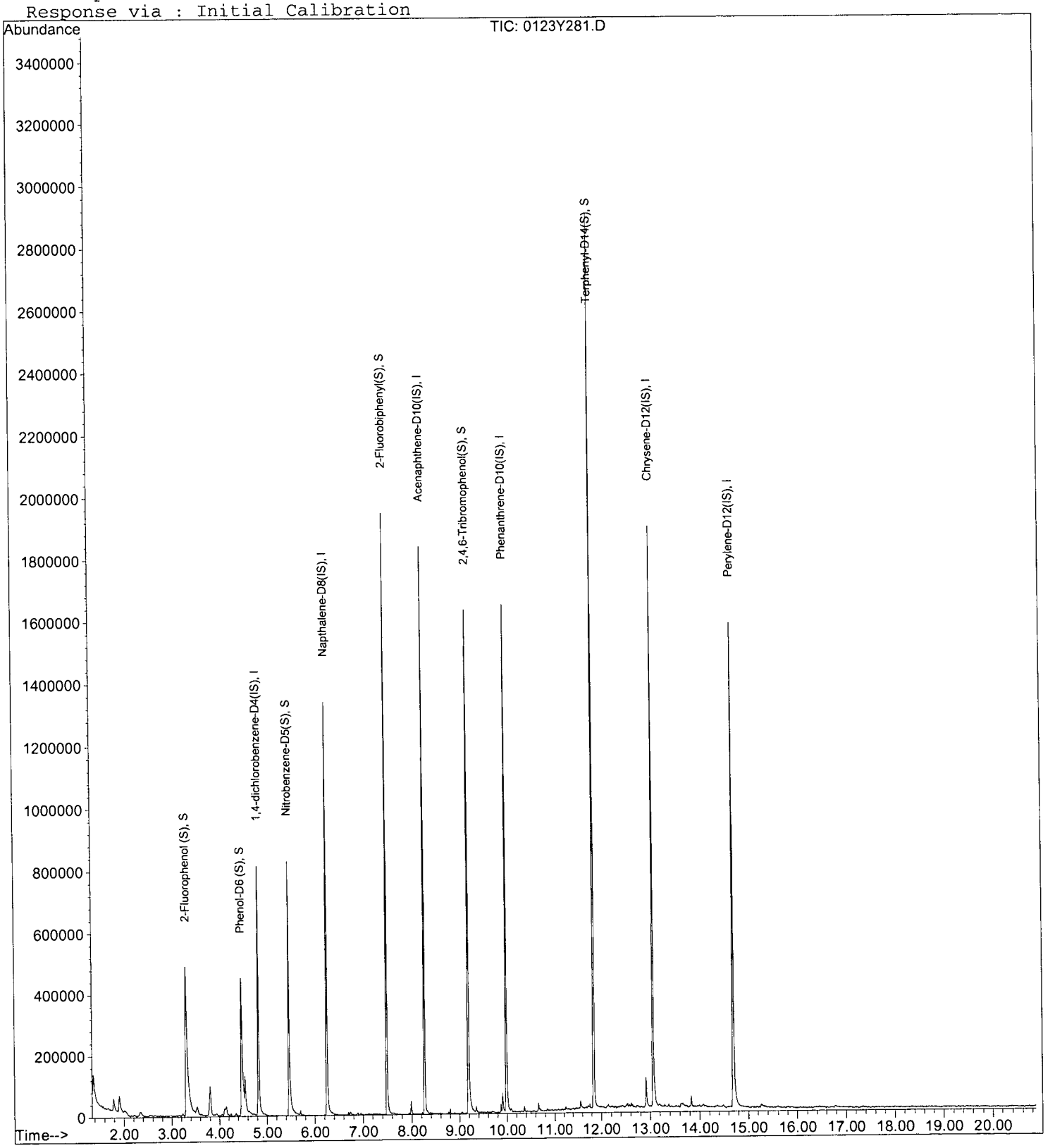
Data File : M:\YODA\DATA\Y170123\0123Y281.D
Acq On : 10 Mar 17 21:23
Sample : AZ51139W09 1/1070
Misc : water

Vial: 81
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 13 10:05 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #87DC5-170309A-216830

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	50.5	43-140			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	46.6	44-119			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	37.0	19-119			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	49.4	44-120			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.1	10-115			%	03/09/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	50.9	50-134			%	03/09/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y289
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/15/17 3:33:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y289.D Vial: 89
Acq On : 14 Mar 17 9:32 Operator: MA
Sample : AZ51141W13 1/1060 Inst : Yoda
Misc : water Multiplr: 0.94

Quant Time: Mar 14 11:00 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	155902	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	666897	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	391356	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	716469	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	727882	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	724645	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	363454	69.72285 ppb	-0.02
Spiked Amount 188.679			Recovery	= 36.953%	
5) Phenol-D6 (S)	4.46	99	328190	47.32073 ppb	0.00
Spiked Amount 188.679			Recovery	= 25.080%	
21) Nitrobenzene-D5(S)	5.46	82	334326	46.63402 ppb	0.00
Spiked Amount 94.340			Recovery	= 49.432%	
45) 2-Fluorobiphenyl(S)	7.49	172	584819	43.94492 ppb	0.00
Spiked Amount 94.340			Recovery	= 46.582%	
63) 2,4,6-Tribromophenol(S)	9.19	330	183095	95.35466 ppb	0.00
Spiked Amount 188.679			Recovery	= 50.538%	
81) Terphenyl-D14(S)	11.84	244	797015	48.02655 ppb	0.00
Spiked Amount 94.340			Recovery	= 50.909%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

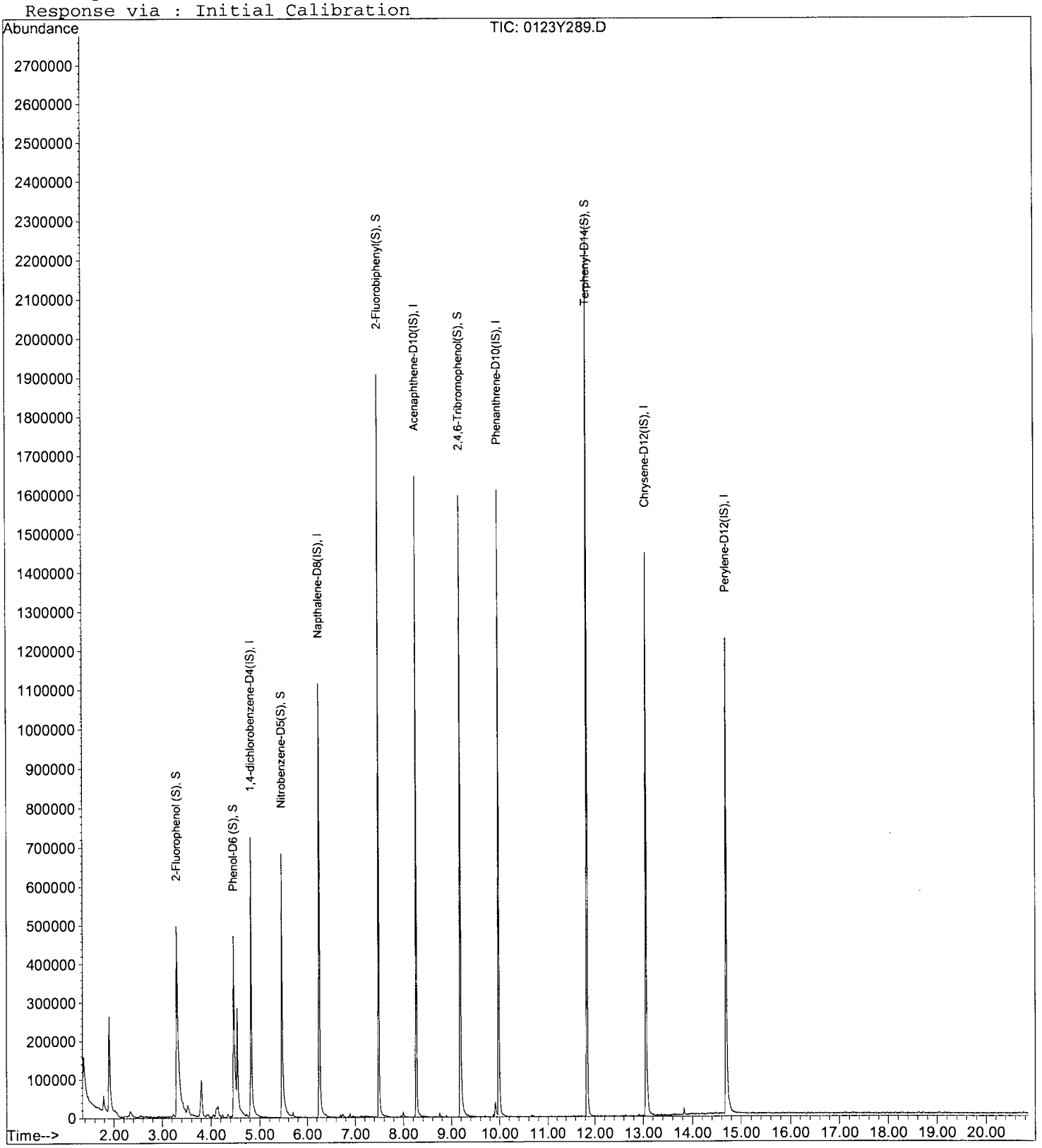
Data File : M:\YODA\DATA\Y170123\0123Y289.D
Acq On : 14 Mar 17 9:32
Sample : AZ51141W13 1/1060
Misc : water

Vial: 89
Operator: MA
Inst : Yoda
Multiplr: 0.94

Quant Time: Mar 14 11:00 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	0123Y003.D 5	0123Y004.D 10	0123Y005.D 20	0123Y006.D 40	0123Y007.D 50	0123Y008.D 60	0123Y009.D 80	0123Y010.D 100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.19	142	59013	4.85644 ppb		96
41) Hexachlorocyclopentadiene	7.25	237	1405	6.22737 ppb	#	75
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981 ppb		91
43) 2,4,6-Trichlorophenol	7.43	196	15908	4.54471 ppb		92
44) 2,4,5-Trichlorophenol	7.51	196	17938	4.67865 ppb		87
46) 1,1'-Biphenyl	7.61	154	77069	5.11687 ppb		97
47) 2-Chloronaphthalene	7.63	162	56714	4.90886 ppb		93
48) 2-Nitroaniline	7.80	65	17559	4.42395 ppb		96
49) Dimethyl phthalate	7.97	163	68080	4.95956 ppb		97
50) 2,6-DNT	8.07	165	13516	4.34276 ppb		98
51) Acenaphthylene	8.10	152	90270	4.94109 ppb		98
52) 3-Nitroaniline	8.28	138	15220	4.43288 ppb		85
53) Acenaphthene	8.30	154	61118	5.27635 ppb		98
54) 2,4-Dinitrophenol	8.50	184	169	4.37820 ppb	#	30
55) 4-Nitrophenol	8.55	65	1469	5.72682 ppb	#	1
56) Dibenzofuran	8.51	168	83980	5.14943 ppb		89
57) 2,4-DNT	8.55	165	18690	4.26757 ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109 ppb	#	89
59) Diethyl phthalate	8.79	149	71558	4.99459 ppb		95
60) 4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558 ppb		97
61) Fluorene	8.90	166	69616	5.27556 ppb		96
62) 4-Nitroaniline	8.99	138	14747	4.54180 ppb		92
65) 4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540 ppb	#	1
66) Diphenyl amine	9.05	169	98605	9.56739 ppb		98
67) n-Nitrosodiphenylamine	9.05	169	98605	9.56739 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	74355	4.80104 ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	17941	4.71699 ppb		89
70) Hexachlorobenzene	9.54	284	18706	4.75015 ppb	#	85
71) Atrazine	9.68	200	7883	2.10443 ppb		92
72) Pentachlorophenol	9.80	266	5220	8.60768 ppb		93
73) Phenanthrene	10.02	178	99531	5.00174 ppb		99
74) Anthracene	10.08	178	104078	5.06633 ppb		99
75) Carbazol	10.29	167	87488	4.74701 ppb		100
76) Di-n-butylphthalate	10.69	149	107331	4.48729 ppb		99
77) Fluoranthene	11.40	202	106801	4.84818 ppb		99
79) Benzidine	11.59	184	41695	5.01562 ppb		98
80) Pyrene	11.66	202	111459	4.57558 ppb		97
82) Butyl benzylphthalate	12.42	149	49664	4.27180 ppb		94
83) 3,3'-Dichlorobenzidine	13.03	252	33450	4.34312 ppb		91
84) Benz (a) anthracene	13.05	228	110458	4.89311 ppb		98
85) Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077 ppb	#	95
86) Chrysene	13.10	228	115566	5.28777 ppb		99
87) Di-n-octylphthalate	13.80	149	116268	4.07565 ppb		100
89) Benzo (b) fluoranthene	14.25	252	112128	4.89068 ppb		98
90) Benzo (k) fluoranthene	14.28	252	99670	4.67454 ppb		97
91) Benzo (a) pyrene	14.64	252	95844	4.56113 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128 ppb		98
93) Dibenz (a,h) anthracene	16.26	278	99827	5.06969 ppb		96
94) Benzo (g,h,i) perylene	16.71	276	98040	4.76623 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

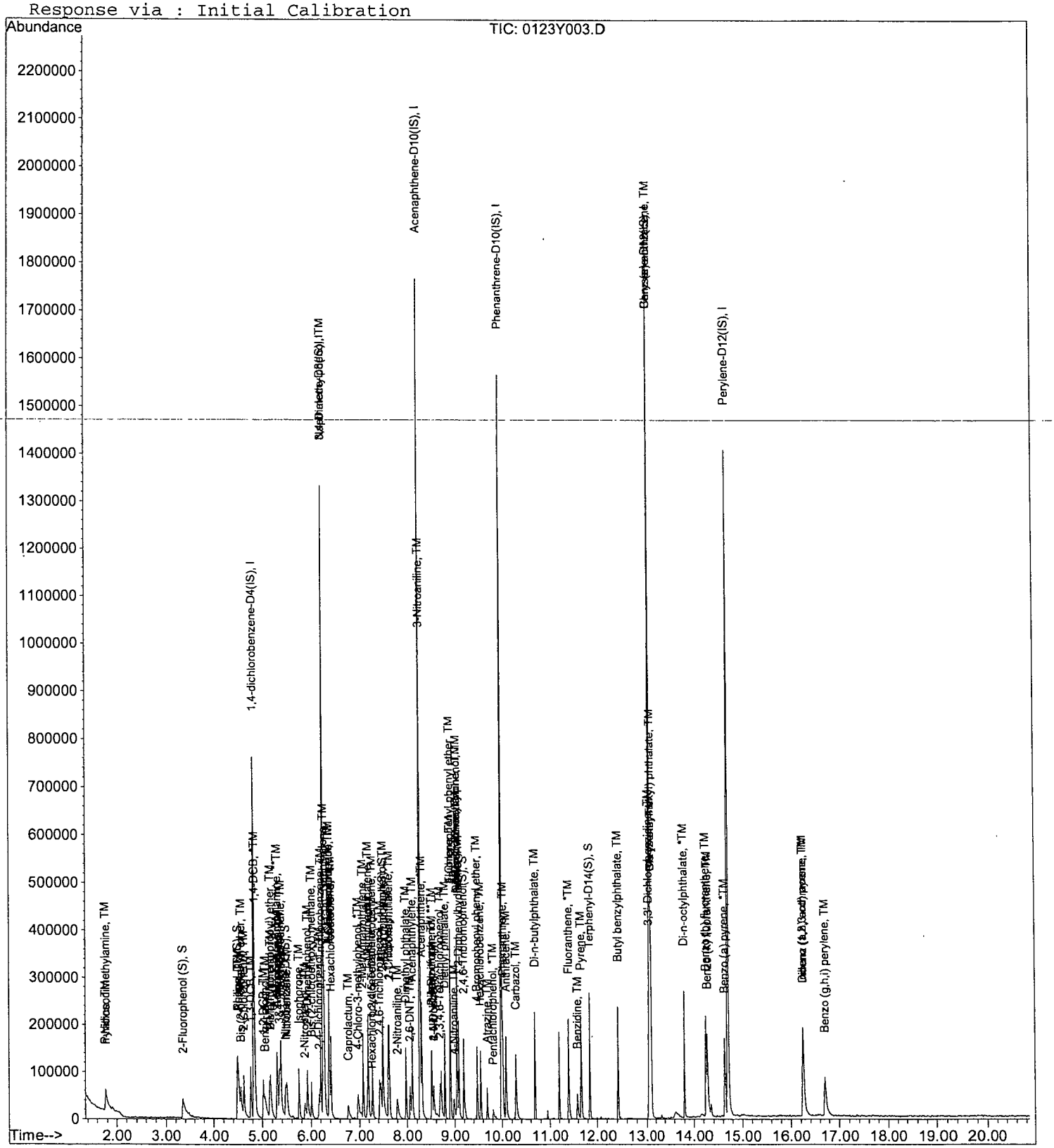
Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery = 9.327%		
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery = 10.281%		
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery = 10.089%		
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery = 11.036%		
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery = 9.921%		
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery = 10.240%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933 ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860 ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861 ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944 ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646 ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318 ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796 ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690 ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723 ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118 ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937 ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420 ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425 ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231 ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926 ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904 ppb		86
61) Fluorene	8.90	166	136880	10.19080 ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103 ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238 ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238 ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657 ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736 ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230 ppb		89
71) Atrazine	9.69	200	17574	4.54512 ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148 ppb		93
73) Phenanthrene	10.01	178	207115	10.08340 ppb		100
74) Anthracene	10.08	178	215698	10.17215 ppb		99
75) Carbazol	10.28	167	186612	9.80942 ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533 ppb		100
77) Fluoranthene	11.40	202	215194	9.46381 ppb		99
79) Benzidine	11.58	184	88604	10.34478 ppb		98
80) Pyrene	11.66	202	225558	8.98704 ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716 ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727 ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157 ppb		98
86) Chrysene	13.10	228	218169	9.68864 ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023 ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764 ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396 ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464 ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986 ppb		97

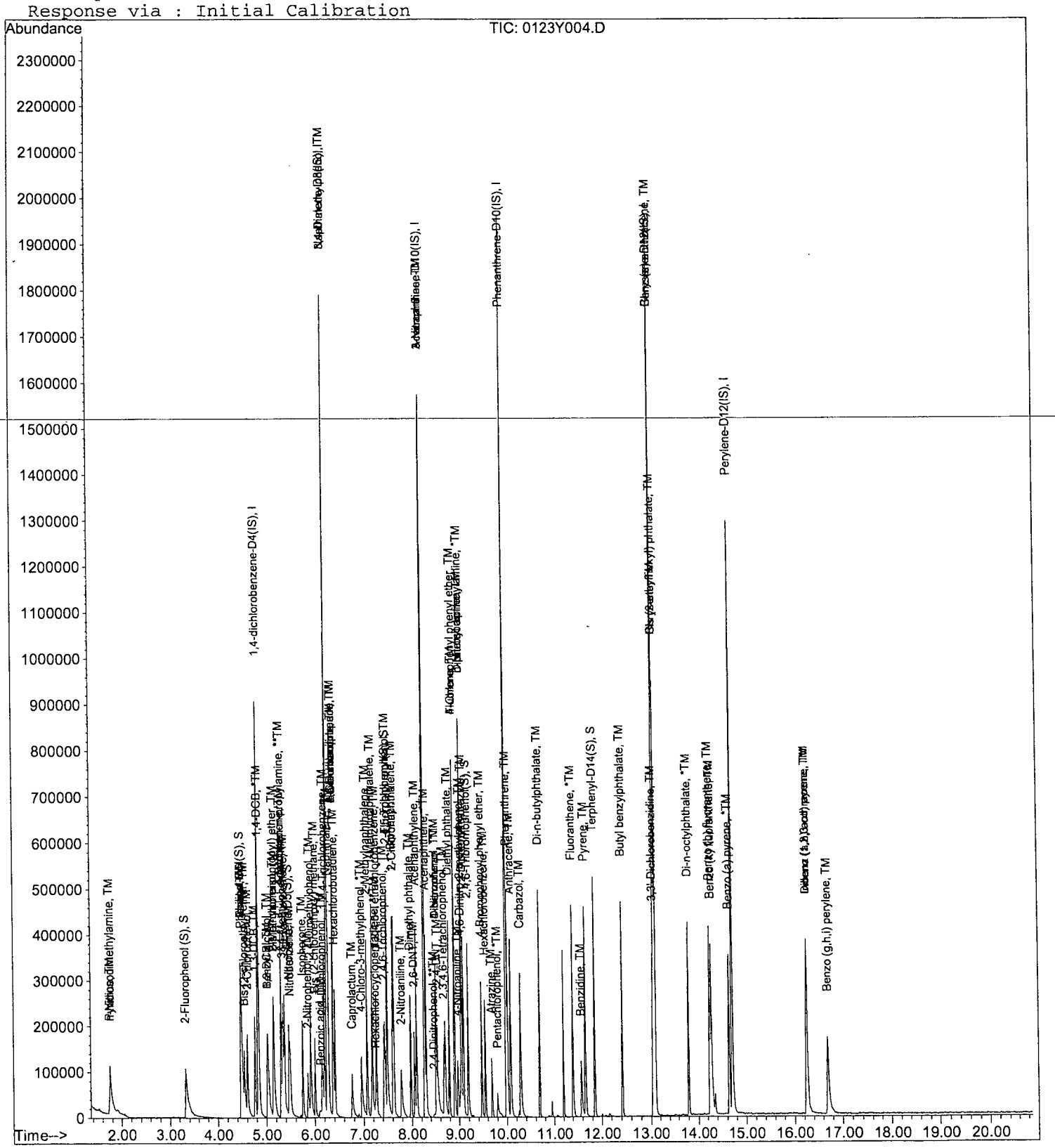
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y004.D Vial: 4
Acq On : 23 Jan 17 11:02 Operator: MA
Sample : 10ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	231683	20.17102 ppb		99
39) 1-Methylnaphthalene	7.18	142	223662	19.69293 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	19473	15.34526 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	65597	19.41205 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	69021	18.64768 ppb		94
46) 1,1'-Biphenyl	7.61	154	300719	20.68151 ppb		99
47) 2-Chloronaphthalene	7.63	162	225399	20.20873 ppb		96
48) 2-Nitroaniline	7.78	65	77977	20.35043 ppb		98
49) Dimethyl phthalate	7.98	163	262594	19.81549 ppb		100
50) 2,6-DNT	8.06	165	59117	19.67556 ppb	#	69
51) Acenaphthylene	8.10	152	367584	20.84166 ppb		99
52) 3-Nitroaniline	8.26	138	65497	19.76012 ppb	#	95
53) Acenaphthene	8.31	154	221335	19.79298 ppb		99
54) 2,4-Dinitrophenol	8.44	184	18550	16.50658 ppb		84
55) 4-Nitrophenol	8.53	65	45052	19.85590 ppb	#	49
56) Dibenzofuran	8.51	168	320527	20.35847 ppb		88
57) 2,4-DNT	8.54	165	80650	19.07537 ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983 ppb		94
59) Diethyl phthalate	8.79	149	272376	19.69280 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466 ppb		89
61) Fluorene	8.90	166	261042	20.49116 ppb		97
62) 4-Nitroaniline	8.96	138	61967	19.76886 ppb	#	86
65) 4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716 ppb	#	70
66) Diphenyl amine	9.05	169	382578	38.92582 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	382578	38.92582 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	291352	19.72726 ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	72096	19.87711 ppb		91
70) Hexachlorobenzene	9.55	284	74556	19.85327 ppb		87
71) Atrazine	9.69	200	35669	9.98520 ppb		97
72) Pentachlorophenol	9.80	266	23246	17.59668 ppb		95
73) Phenanthrene	10.01	178	397013	20.92142 ppb		100
74) Anthracene	10.08	178	410432	20.95072 ppb		99
75) Carbazol	10.28	167	360002	20.48328 ppb		99
76) Di-n-butylphthalate	10.68	149	450123	19.73394 ppb		98
77) Fluoranthene	11.40	202	427993	20.37340 ppb		98
79) Benzidine	11.57	184	172576	22.40287 ppb		100
80) Pyrene	11.66	202	446464	19.77881 ppb		100
82) Butyl benzylphthalate	12.42	149	203384	18.87857 ppb		81
83) 3,3'-Dichlorobenzidine	13.03	252	144253	20.21219 ppb		95
84) Benz (a) anthracene	13.05	228	422033	20.17517 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371 ppb		99
86) Chrysene	13.10	228	408549	20.17296 ppb		99
87) Di-n-octylphthalate	13.80	149	475570	17.99012 ppb		92
89) Benzo (b) fluoranthene	14.25	252	391685	18.20892 ppb		96
90) Benzo (k) fluoranthene	14.28	252	419442	20.96710 ppb		97
91) Benzo (a) pyrene	14.63	252	394651	20.01762 ppb		96
92) Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353 ppb		98
93) Dibenz (a,h) anthracene	16.24	278	365316	19.77397 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	363676	18.84422 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

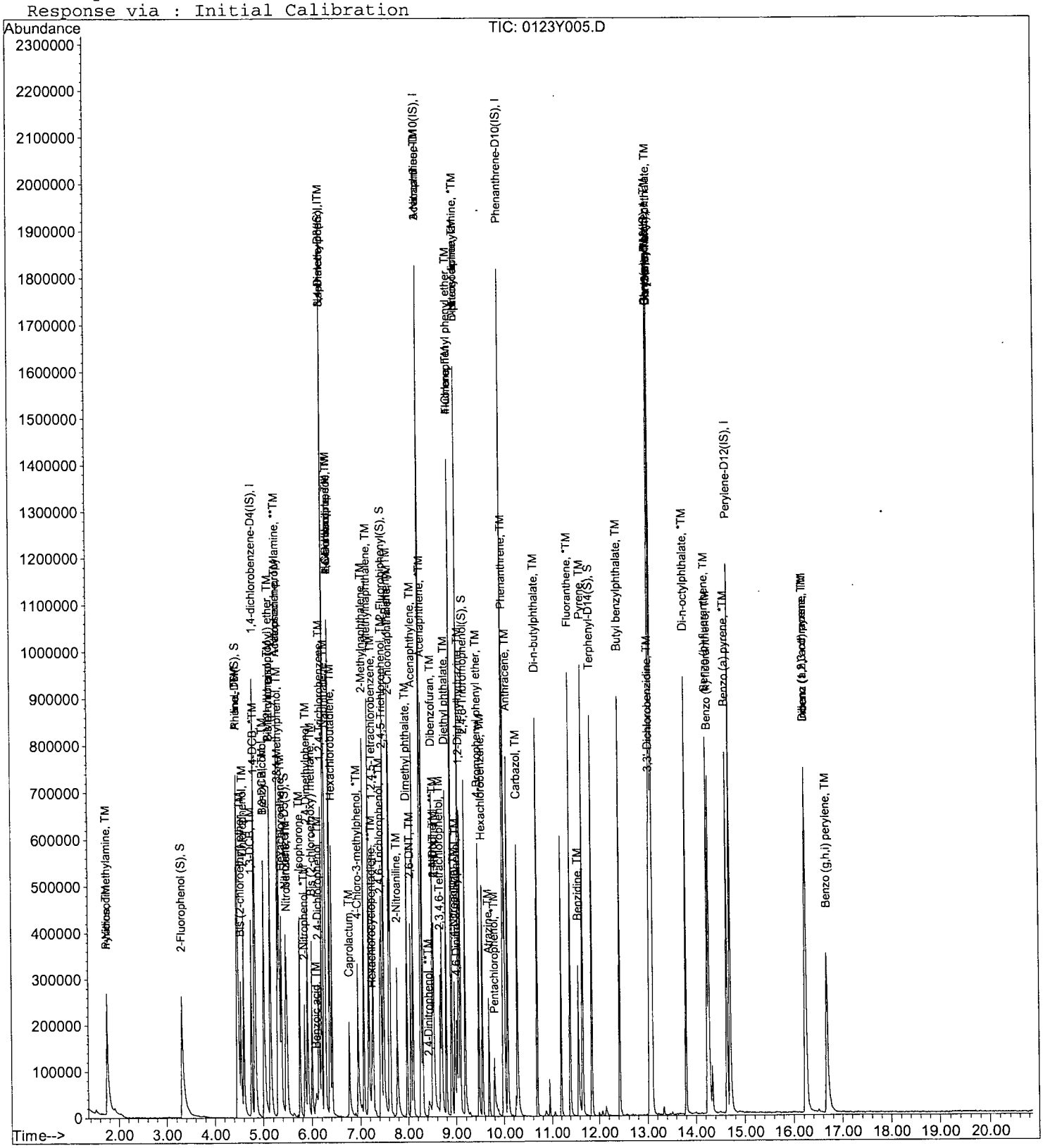
Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356	ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870	ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014	ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940	ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428	ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004	ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396	ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122	ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241	ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845	ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121	ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400	ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391	ppb		87
53) Acenaphthene	8.31	154	448599	38.96400	ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971	ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539	ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307	ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547	ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067	ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017	ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075	ppb		86
61) Fluorene	8.90	166	515360	39.29261	ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992	ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068	ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719	ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451	ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454	ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756	ppb	#	85
71) Atrazine	9.69	200	75092	20.23603	ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128	ppb		97
73) Phenanthrene	10.02	178	797163	40.43889	ppb		99
74) Anthracene	10.08	178	837248	41.14126	ppb		99
75) Carbazol	10.28	167	750665	41.11558	ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459	ppb		98
77) Fluoranthene	11.40	202	872131	39.96448	ppb		97
79) Benzidine	11.58	184	358107	43.08926	ppb		99
80) Pyrene	11.66	202	926965	38.06361	ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648	ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303	ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357	ppb		99
86) Chrysene	13.10	228	847601	38.79268	ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670	ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269	ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337	ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002	ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592	ppb		96

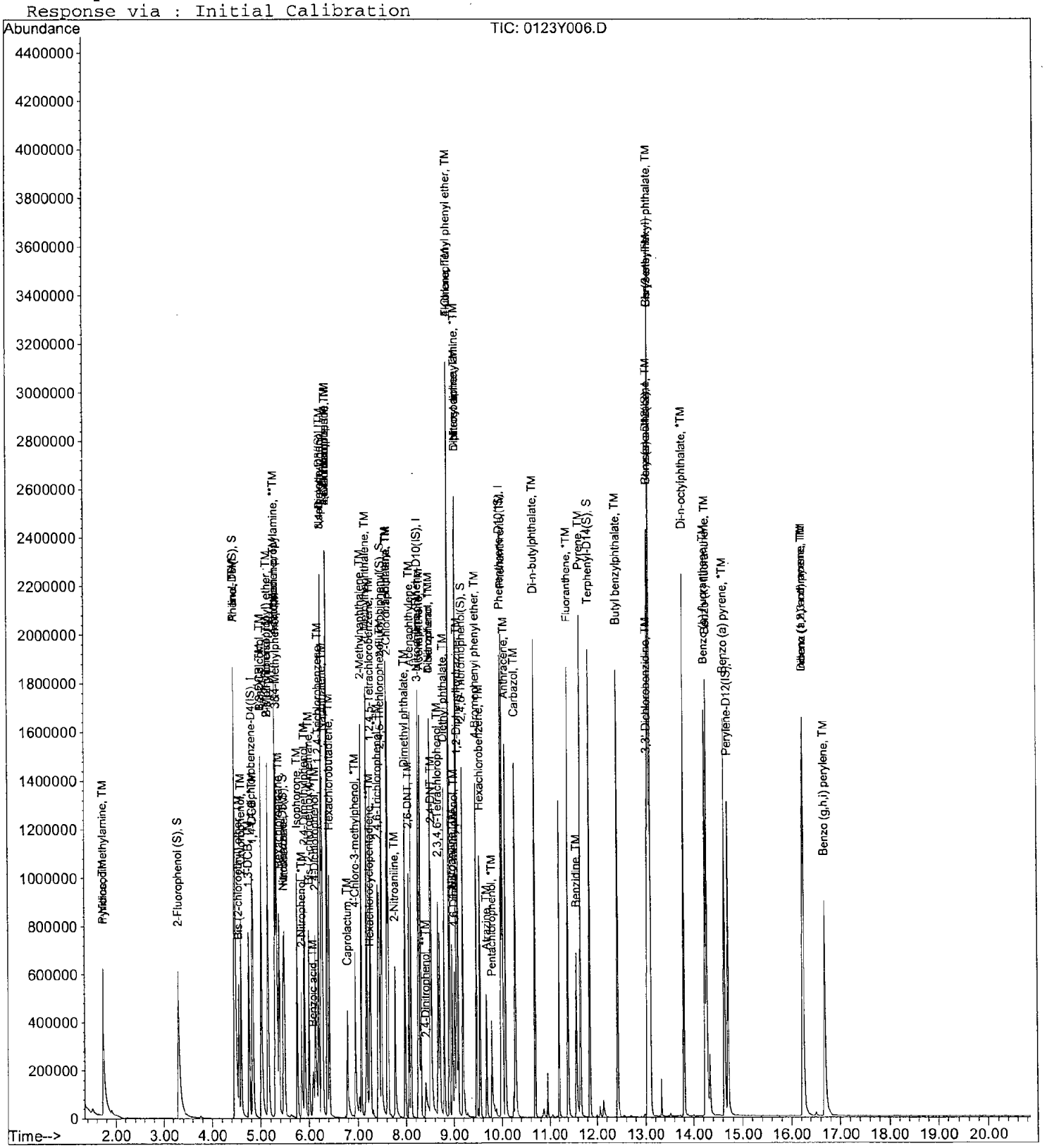
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782 ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257 ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233 ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718 ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002 ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292 ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712 ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461 ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509 ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223 ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745 ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018 ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517 ppb	100
53) Acenaphthene	8.31	154	531832	50.55517 ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563 ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921 ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608 ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039 ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489 ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208 ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330 ppb	100
61) Fluorene	8.91	166	607907	50.72514 ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677 ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772 ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418 ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418 ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983 ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976 ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867 ppb	100
71) Atrazine	9.69	200	93292	25.41109 ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123 ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940 ppb	100
74) Anthracene	10.08	178	1072822	53.28421 ppb	100
75) Carbazol	10.28	167	961347	53.22159 ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166 ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006 ppb	100
79) Benzidine	11.57	184	449897	58.05903 ppb	100
80) Pyrene	11.66	202	1160046	51.08841 ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356 ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714 ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271 ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915 ppb	100
86) Chrysene	13.10	228	1002337	49.20084 ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316 ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771 ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665 ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837 ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785 ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432 ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546 ppb	100

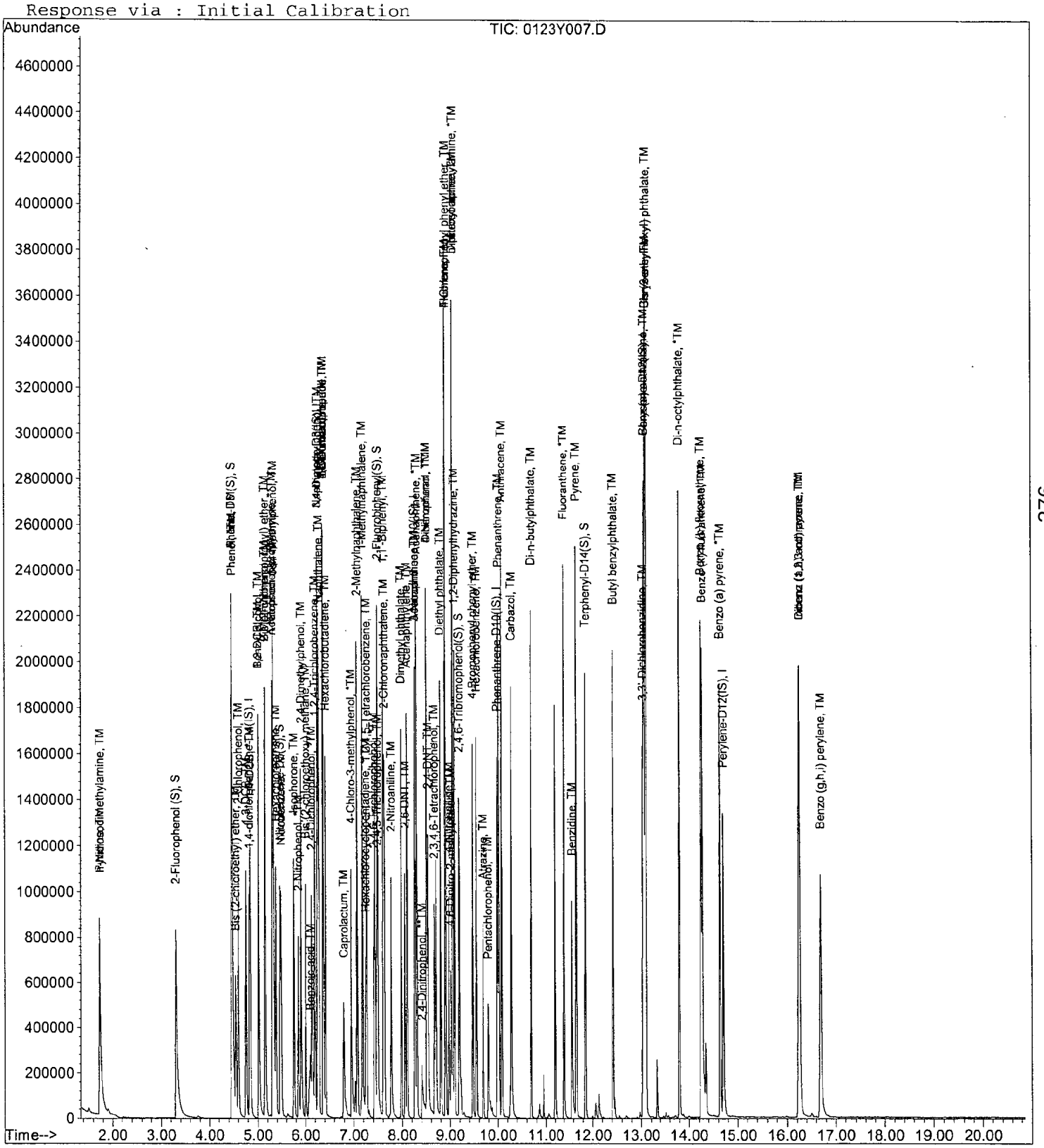
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



376

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery	= 59.291%	
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.295%	
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.529%	
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.203%	
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.820%	
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.189%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750	ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588	ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920	ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008	ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161	ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869	ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920	ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675	ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844	ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818	ppb		99
53) Acenaphthene	8.31	154	660528	56.10991	ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470	ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087	ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197	ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227	ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298	ppb		98
61) Fluorene	8.90	166	723357	53.93814	ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356	ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272	ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420	ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533	ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941	ppb		96
71) Atrazine	9.69	200	113418	29.34015	ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528	ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905	ppb		99
74) Anthracene	10.08	178	1251780	59.04733	ppb		100
75) Carbazol	10.28	167	1130326	59.43097	ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811	ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928	ppb		99
79) Benzidine	11.57	184	543076	64.22768	ppb		98
80) Pyrene	11.66	202	1386950	55.97742	ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935	ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200	ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820	ppb		98
86) Chrysene	13.10	228	1217719	54.77858	ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777	ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932	ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798	ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419	ppb		98

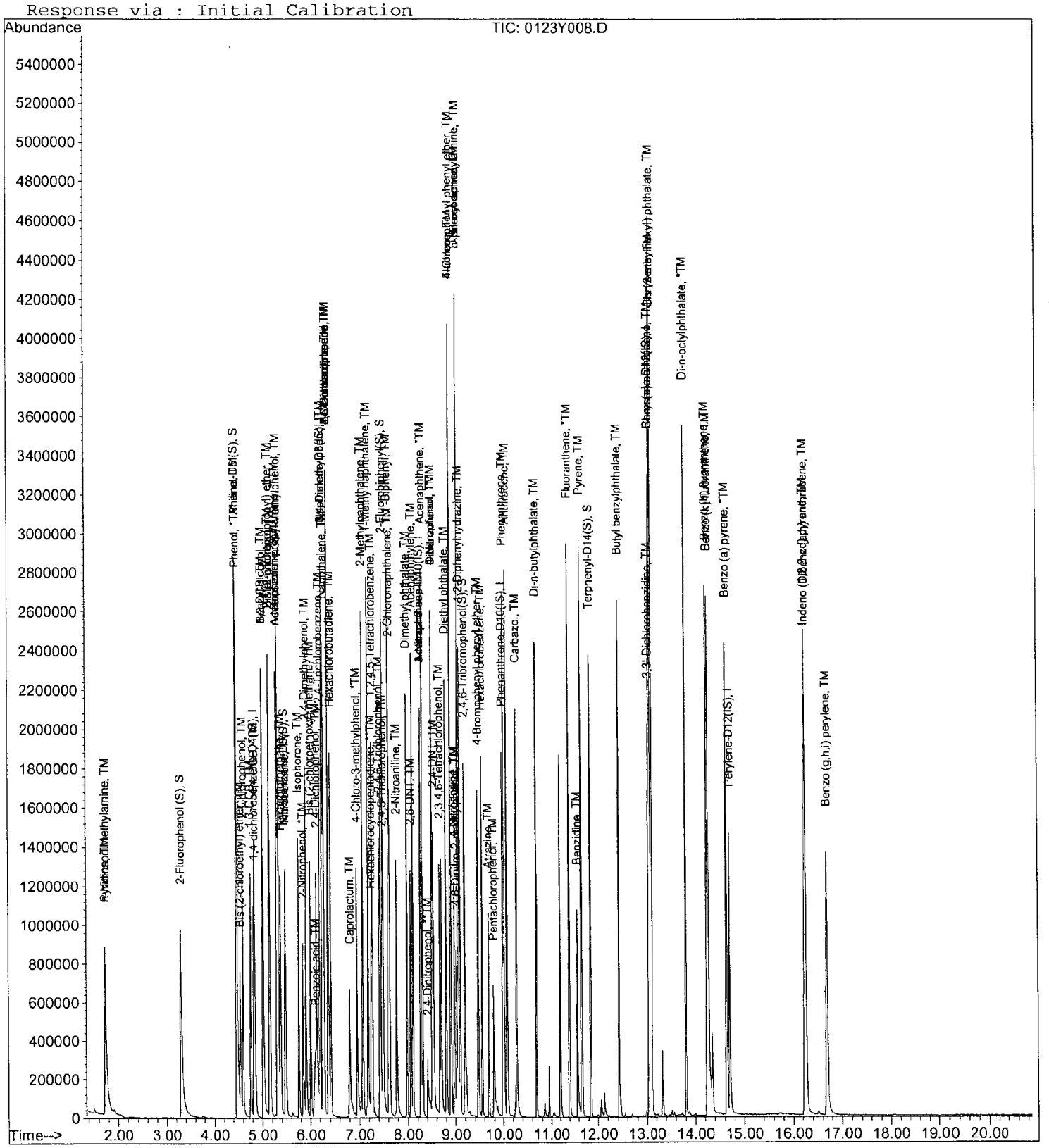
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb		98
3) Pyridine	1.73	79	634454	83.90277 ppb		100
6) Phenol	4.48	94	642315	77.49542 ppb		98
7) Aniline	4.48	66	611004	77.80712 ppb	#	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb		91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb		99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb		99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb		96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb		93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb		99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb		98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb		96
16) Acetophenone	5.30	105	658013	77.62630 ppb		95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb		93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb		89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb		97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb		92
23) Isophorone	5.76	82	966459	84.20922 ppb		98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb		98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb		98
26) Benzoic acid	6.12	105	344797	79.06975 ppb		99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb		99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb		97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb		99
31) Naphthalene	6.28	128	1406137	78.62073 ppb		99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb		96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb		98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb		98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb		98
36) Caprolactum	6.82	55	245801	92.00545 ppb		98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

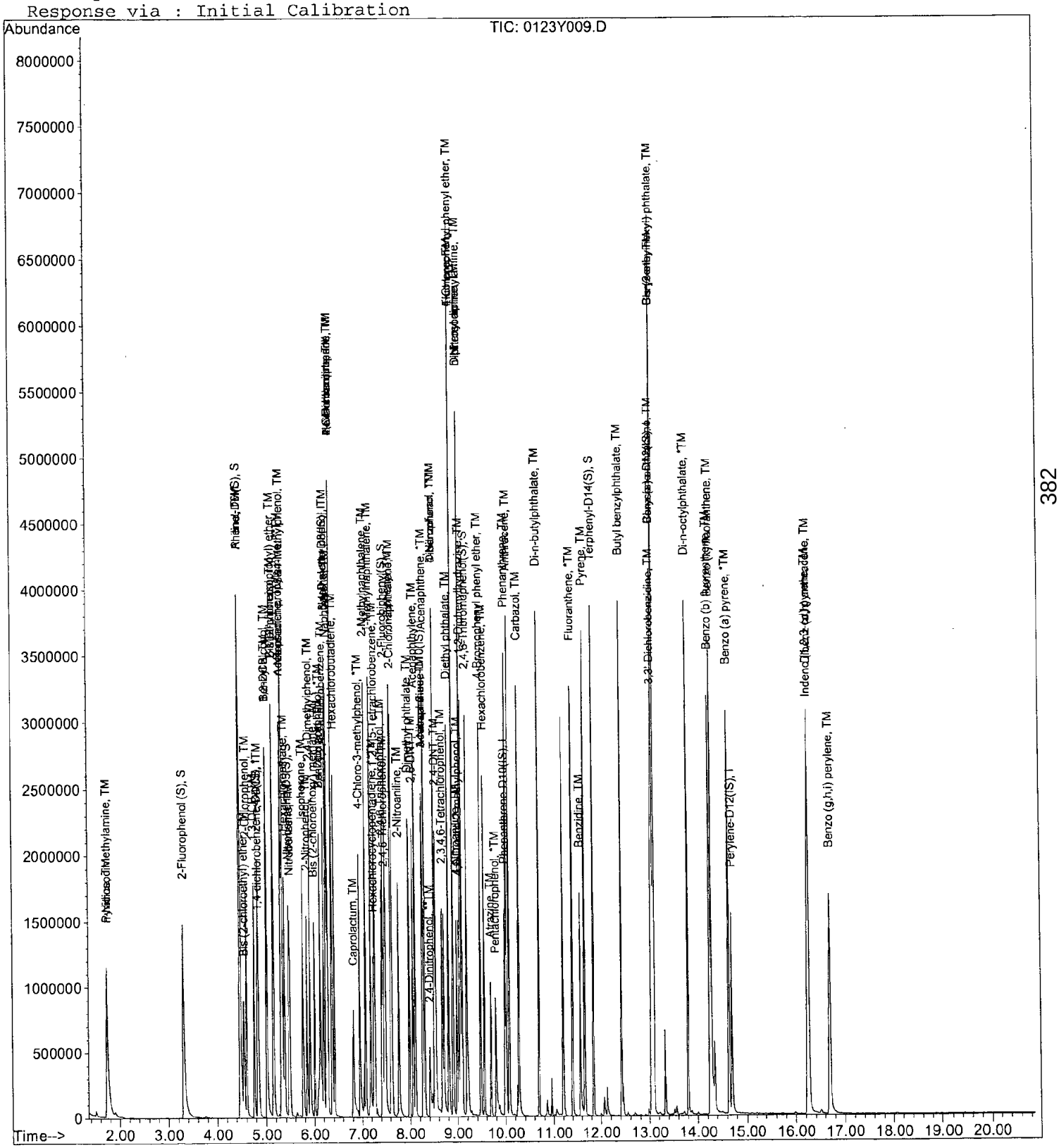
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



382

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562 ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946 ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351 ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756 ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843 ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130 ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964 ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747 ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681 ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230 ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232 ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576 ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521 ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657 ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139 ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091 ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456 ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458 ppb		86
61) Fluorene	8.91	166	1259262	98.30180 ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202 ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801 ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107 ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343 ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365 ppb	#	85
71) Atrazine	9.70	200	186402	51.29770 ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807 ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577 ppb		99
74) Anthracene	10.08	178	1948772	97.79130 ppb		100
75) Carbazol	10.29	167	1735219	97.05778 ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443 ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594 ppb	#	95
79) Benzidine	11.58	184	881021	112.09512 ppb		99
80) Pyrene	11.67	202	2238167	97.18146 ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181 ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441 ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548 ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876 ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644 ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142 ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131 ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324 ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950 ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985 ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

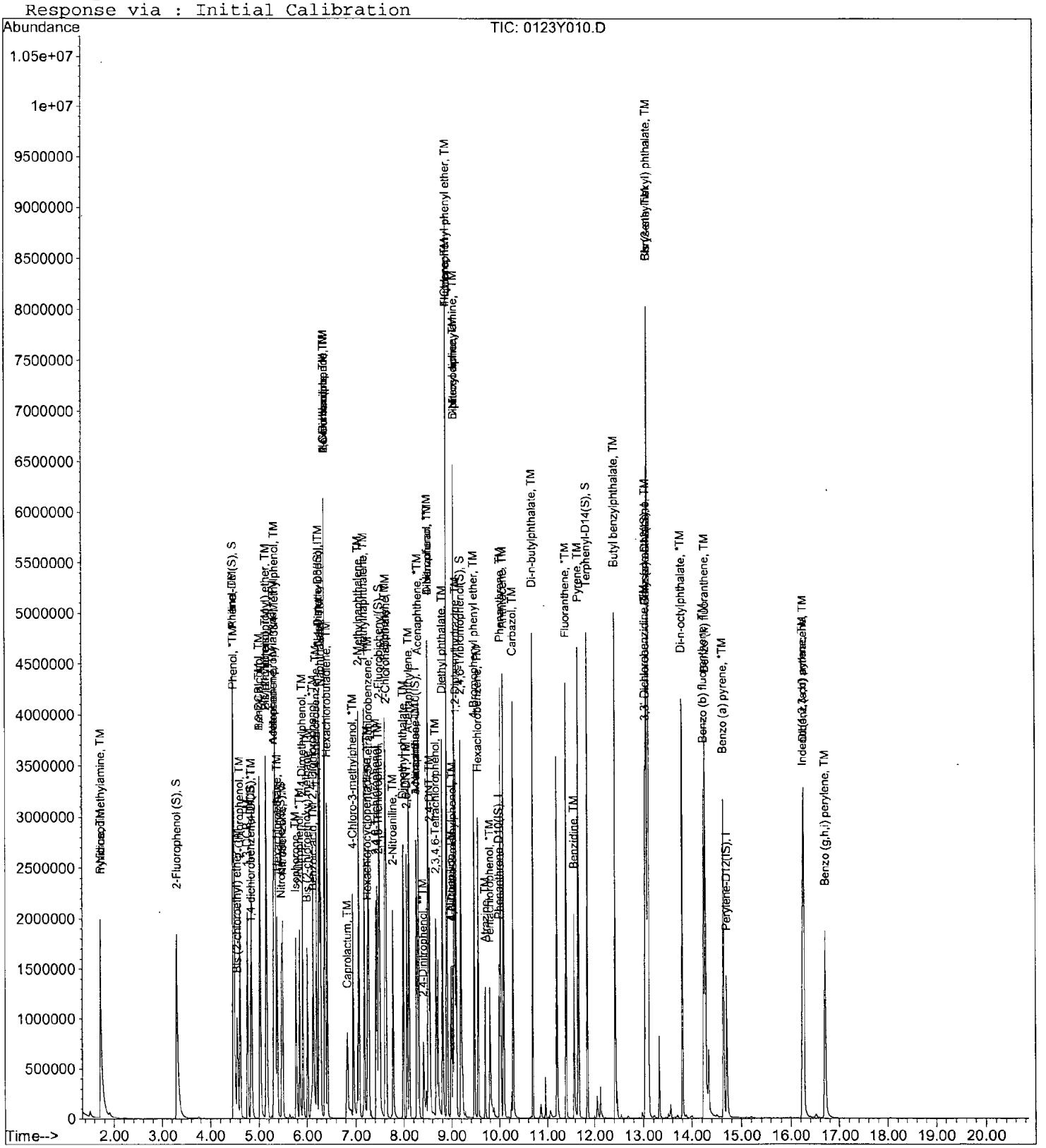
Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
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115							
116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.956}$ = 56.38 HA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	646439	48.57137 ppb		100
39) 1-Methylnaphthalene	7.19	142	602666	45.97150 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	121681	52.65785 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	193346	48.88713 ppb		97
44) 2,4,5-Trichlorophenol	7.47	196	209742	48.34739 ppb		97
46) 1,1'-Biphenyl	7.61	154	822806	47.07970 ppb		99
47) 2-Chloronaphthalene	7.63	162	692861	51.88332 ppb		96
48) 2-Nitroaniline	7.77	65	233738	49.08526 ppb		85
49) Dimethyl phthalate	7.98	163	766645	47.87741 ppb		99
50) 2,6-DNT	8.06	165	178567	49.95212 ppb	#	72
51) Acenaphthylene	8.10	152	982221	45.67988 ppb		99
52) 3-Nitroaniline	8.25	138	193766	49.56328 ppb		85
53) Acenaphthene	8.31	154	608874	45.93545 ppb		100
54) 2,4-Dinitrophenol	8.41	184	82560	48.59465 ppb		95
55) 4-Nitrophenol	8.50	65	144946	48.19129 ppb		77
56) Dibenzofuran	8.50	168	875323	46.77048 ppb		98
57) 2,4-DNT	8.54	165	249063	49.96847 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501 ppb	#	90
59) Diethyl phthalate	8.80	149	774517	47.76643 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651 ppb		86
61) Fluorene	8.90	166	658029	43.43306 ppb		96
62) 4-Nitroaniline	8.98	138	188537	50.69450 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398 ppb	#	80
66) Diphenyl amine	9.06	169	1101615	100.68261 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1101615	100.68261 ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1107522	57.98015 ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	213301	49.74664 ppb		85
70) Hexachlorobenzene	9.55	284	235108	52.56424 ppb		90
71) Atrazine	9.69	200	93523	22.08154 ppb		99
72) Pentachlorophenol	9.79	266	86715	45.18058 ppb		95
73) Phenanthrene	10.02	178	1072837	46.33434 ppb		100
74) Anthracene	10.08	178	1080433	44.73670 ppb		99
75) Carbazol	10.28	167	987284	46.17731 ppb		96
76) Di-n-butylphthalate	10.69	149	1336738	49.47728 ppb		99
77) Fluoranthene	11.40	202	1187541	47.24409 ppb		97
79) Benzidine	11.58	184	466479	44.95376 ppb		97
80) Pyrene	11.66	202	1231903	46.08479 ppb		98
82) Butyl benzylphthalate	12.42	149	620712	50.22071 ppb	#	78
83) 3,3'-Dichlorobenzidine	13.03	252	451989	53.92761 ppb		94
84) Benz (a) anthracene	13.05	228	1187024	47.21512 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640 ppb		99
86) Chrysene	13.10	228	1055130	42.79043 ppb		100
87) Di-n-octylphthalate	13.81	149	1488607	49.98751 ppb		97
89) Benzo (b) fluoranthene	14.25	252	1145100	44.79514 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1223330	51.92467 ppb		98
91) Benzo (a) pyrene	14.64	252	1142371	48.92994 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771 ppb		99
93) Dibenz (a,h) anthracene	16.26	278	1059706	47.56225 ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1051918	47.90166 ppb		97

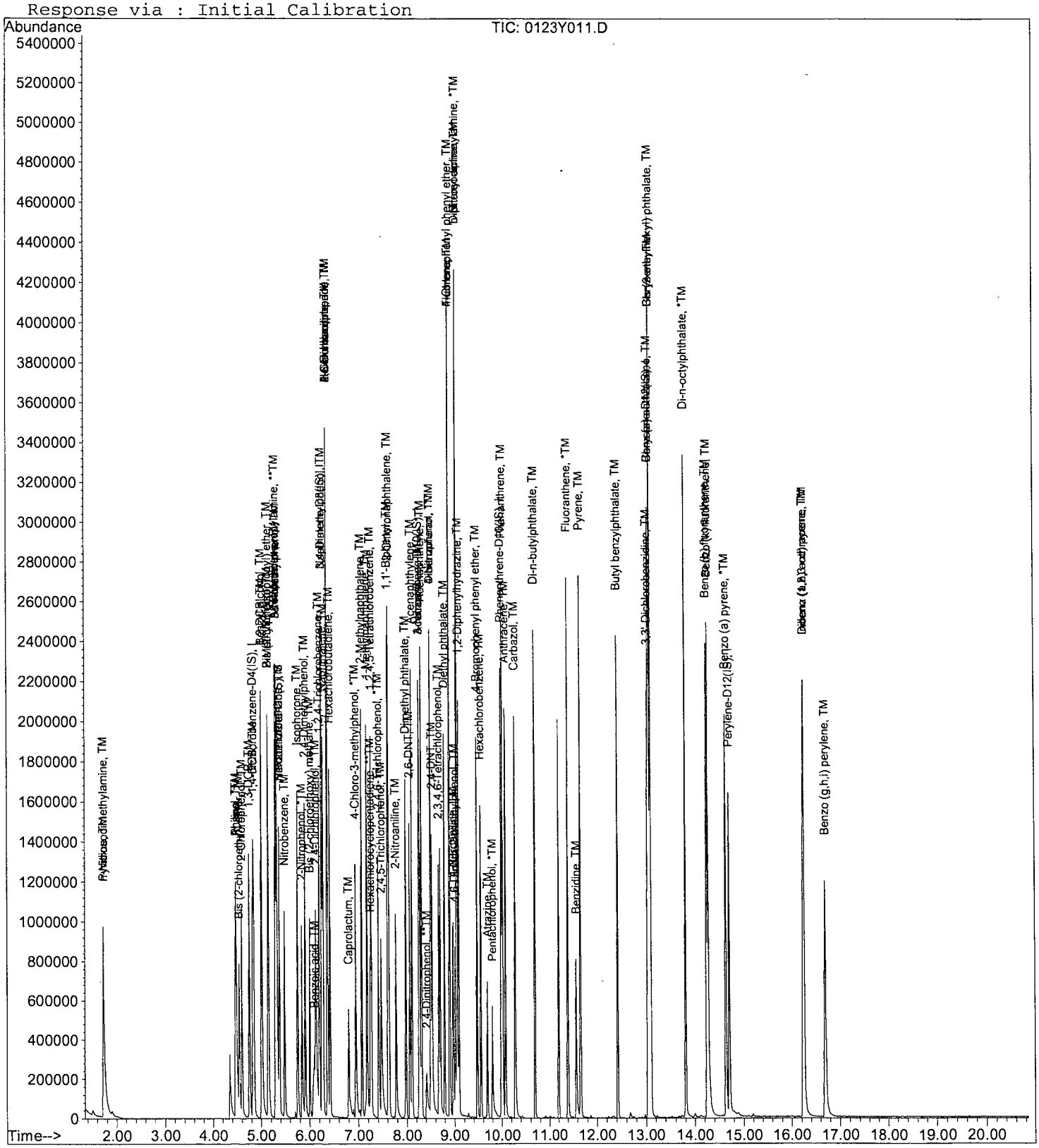
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y011.D Vial: 11
Acq On : 23 Jan 17 15:32 Operator: MA
Sample : 2ND SRC SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 15:47 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.087	14	TM	
3	TM	Pyridine	1.902	1.980	4.1	TM	
4	S	2-Fluorophenol (S)	1.262	1.311	3.9	S	
5	S	Phenol-D6 (S)	1.679	1.578	6.0	S	
6	*TM	Phenol	1.927	2.031	5.4	*TM	
7	TM	Aniline	1.829	1.824	0.27	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9500	0.73	TM	
9	TM	2-Chlorophenol	1.490	1.568	5.2	TM	
10	TM	1,3-DCB	1.572	1.618	2.9	TM	
11	*TM	1,4-DCB	1.615	1.646	1.9	*TM	
12	TM	Benzyl alcohol	0.8487	0.9354	10	TM	
13	TM	1,2-DCB	1.472	1.542	4.7	TM	
14	TM	2-Methylphenol	1.114	1.148	3.1	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.046	1.1	TM	
16	TM	Acetophenone	1.985	2.046	3.1	TM	
17	TM	3&4-Methylphenol	1.446	1.526	5.5	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.101	0.02	**TM	
19	TM	Hexachloroethane	0.6642	0.6782	2.1	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3890	4.1	S	
22	TM	Nitrobenzene	0.4049	0.4120	1.7	TM	
23	TM	Isophorone	0.6723	0.6973	3.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.2135	12	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3229	5.2	TM	
26	TML	Benzoic acid	0.1823	0.2690	48	TML	15
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4044	3.9	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3224	10	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3337	3.4	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4648	0.55	TM	
31	TM	Naphthalene	1.046	1.062	1.6	TM	
32	TM	4-Chloroaniline	0.3674	0.3743	1.9	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2698	0.22	TM	
34	TM	Hexachloropropene	0.2347	0.2343	0.16	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1948	1.7	*TM	
36	TM	Caprolactum	0.1663	0.1764	6.1	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3325	5.0	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7067	4.0	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6972	4.2	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			5.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1684	5.4	**TMQ	9.6
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5415	0.05	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3632	6.9	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3771	1.2	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.188	7.4	S	
46	TM	1,1'-Biphenyl	1.501	1.519	1.2	TM	
47	TM	2-Chloronaphthalene	1.147	1.163	1.4	TM	
48	TM	2-Nitroaniline	0.4089	0.4189	2.5	TM	
49	TM	Dimethyl phthalate	1.375	1.405	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3189	3.9	TM	
51	TM	Acenaphthylene	1.846	1.856	0.54	TM	
52	TM	3-Nitroaniline	0.3357	0.3521	4.9	TM	
53	*TM	Acenaphthene	1.138	1.149	0.91	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1594	21	**TMQ	6.1
55	**TML	4-Nitrophenol	0.2262	0.2212	2.2	**TML	13
56	TM	Dibenzofuran	1.607	1.631	1.5	TM	
57	TM	2,4-DNT	0.4280	0.4479	4.6	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.3070	4.6	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.8	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5852	6.5	TM	
61	TM	Fluorene	1.301	1.198	7.9	TM	
62	TM	4-Nitroaniline	0.3194	0.3244	1.6	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1634	12	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1469	11	TML	2.3
66	TM	Diphenyl amine	0.5157	0.5465	6.0	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5465	6.0	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8373	7.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2132	5.5	TM	
70	TM	Hexachlorobenzene	0.2108	0.2083	1.2	TM	
71	TM	Atrazine	0.1996	0.2115	6.0	TM	
72	*TML	Pentachlorophenol	0.0838	0.0954	14	*TML	3.0
73	TM	Phenanthrene	1.091	1.055	3.4	TM	
74	TM	Anthracene	1.138	1.107	2.7	TM	
75	TM	Carbazol	1.008	0.9785	2.9	TM	
76	TM	Di-n-butylphthalate	1.273	1.314	3.2	TM	
77	*TM	Fluoranthene	1.185	1.165	1.7	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4788	3.8	TM	
80	TM	Pyrene	1.283	1.305	1.7	TM	
		Average			4.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y268.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8385	2.5	S	
82	TM	Butyl benzylphthalate	0.5931	0.6263	5.6	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4563	13	TM	
84	TM	Benz (a) anthracene	1.206	1.207	0.08	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8670	3.9	TM	
86	TM	Chrysene	1.183	1.182	0.12	TM	
87	*TM	Di-n-octylphthalate	1.429	1.579	10	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.136	8.8	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.198	4.4	TM	
91	*TM	Benzo (a) pyrene	1.137	1.086	4.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.204	5.6	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.038	4.4	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9732	9.0	TM	
95							
96							
97							
98							
99							
100							
101							
102							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y268.D
Acq On : 10 Mar 17 14:47
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 68
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	141116	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	580908	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	342939	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	609568	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	572618	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	602730	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	462663	103.93740 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.968%	
5) Phenol-D6 (S)	4.46	99	556830	94.02213 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.011%	
21) Nitrobenzene-D5(S)	5.46	82	282484	47.94949 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.949%	
45) 2-Fluorobiphenyl(S)	7.49	172	509217	46.28616 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.286%	
63) 2,4,6-Tribromophenol(S)	9.19	330	140075	88.24440 ppb	0.00
Spiked Amount 200.000			Recovery	= 44.122%	
81) Terphenyl-D14(S)	11.84	244	600183	48.73046 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.730%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	191781	56.86049 ppb		92
3) Pyridine	1.73	79	349326	52.06665 ppb		95
6) Phenol	4.48	94	358206	52.69234 ppb		92
7) Aniline	4.47	66	321812	49.86749 ppb		90
8) Bis (2-chloroethyl) ether	4.54	63	167583	50.36640 ppb		97
9) 2-Chlorophenol	4.60	128	276539	52.60277 ppb		93
10) 1,3-DCB	4.75	146	285389	51.46040 ppb		99
11) 1,4-DCB	4.84	146	290260	50.93257 ppb		98
12) Benzyl alcohol	5.01	108	164995	55.10345 ppb		83
13) 1,2-DCB	5.01	146	271987	52.36254 ppb		94
14) 2-Methylphenol	5.15	107	202529	51.54912 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	360868	49.43070 ppb	#	73
16) Acetophenone	5.29	105	360909	51.54996 ppb		99
17) 3&4-Methylphenol	5.33	107	538454	105.53973 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	194289	49.99024 ppb		95
19) Hexachloroethane	5.37	117	119628	51.04959 ppb		94
22) Nitrobenzene	5.48	77	299165	50.87426 ppb		88
23) Isophorone	5.75	82	506345	51.86178 ppb		93
24) 2-Nitrophenol	5.84	139	155012	56.20483 ppb		95
25) 2,4-Dimethylphenol	5.91	122	234459	52.58011 ppb		98
26) Benzoic acid	6.10	105	195294	57.34043 ppb		93
27) Bis (2-chloroethoxy) metha	5.99	93	293680	51.95566 ppb		98
28) 2,4-Dichlorophenol	6.12	162	234091	55.16820 ppb		98
29) 1,2,4-Trichlorobenzene	6.20	180	242335	51.68615 ppb		95
30) 3,4-Dimethylphenol	6.24	107	337511	50.27458 ppb		98
31) Naphthalene	6.27	128	771353	50.78719 ppb		99
32) 4-Chloroaniline	6.37	127	271792	50.94398 ppb		95
33) 2,6-Dichlorophenol	6.37	162	195928	49.89222 ppb		98
34) Hexachloropropene	6.37	213	170135	49.91818 ppb		95
35) Hexachlorobutadiene	6.41	225	141426	50.86871 ppb		98
36) Caprolactum	6.79	55	128103	53.04314 ppb		94
37) 4-Chloro-3-methylphenol	6.95	107	241416	52.50520 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y268.D
Acq On : 10 Mar 17 14:47
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 68
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	513147	52.00851 ppb		98
39) 1-Methylnaphthalene	7.17	142	506275	52.09287 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	72197	45.22185 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	232129	50.02345 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	155684	53.46885 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	161644	50.61098 ppb		98
46) 1,1'-Biphenyl	7.61	154	651291	50.61845 ppb		98
47) 2-Chloronaphthalene	7.63	162	498444	50.69855 ppb		97
48) 2-Nitroaniline	7.77	65	179593	51.22815 ppb		86
49) Dimethyl phthalate	7.98	163	602340	51.09467 ppb		98
50) 2,6-DNT	8.05	165	136709	51.94543 ppb		79
51) Acenaphthylene	8.10	152	795771	50.26913 ppb		100
52) 3-Nitroaniline	8.25	138	150939	52.44227 ppb		87
53) Acenaphthene	8.30	154	492387	50.45737 ppb		99
54) 2,4-Dinitrophenol	8.41	184	68315	53.04091 ppb		98
55) 4-Nitrophenol	8.53	65	94801	43.62555 ppb	#	52
56) Dibenzofuran	8.50	168	699353	50.75717 ppb		93
57) 2,4-DNT	8.53	165	192004	52.32324 ppb	#	75
58) 2,3,4,6-Tetrachlorophenol	8.67	232	131601	52.31346 ppb	#	90
59) Diethyl phthalate	8.79	149	580328	48.61417 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	250839	46.74147 ppb		91
61) Fluorene	8.90	166	513753	46.06036 ppb		99
62) 4-Nitroaniline	8.97	138	139051	50.78505 ppb		87
65) 4,6-Dinitro-2-methylphenol	9.01	198	111922	51.16241 ppb	#	74
66) Diphenyl amine	9.05	169	832821	105.96683 ppb		99
67) n-Nitrosodiphenylamine	9.05	169	832821	105.96683 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	638006	46.49919 ppb		95
69) 4-Bromophenyl phenyl ether	9.47	248	162466	52.75055 ppb		93
70) Hexachlorobenzene	9.54	284	158693	49.39403 ppb	#	85
71) Atrazine	9.69	200	80583	26.48793 ppb		97
72) Pentachlorophenol	9.79	266	72727	51.49324 ppb		93
73) Phenanthrene	10.01	178	803603	48.31750 ppb		99
74) Anthracene	10.07	178	843811	48.64128 ppb		99
75) Carbazol	10.27	167	745560	48.54705 ppb		97
76) Di-n-butylphthalate	10.68	149	1001116	51.58668 ppb		99
77) Fluoranthene	11.40	202	887873	49.17489 ppb		96
79) Benzidine	11.57	184	342719	48.07843 ppb		96
80) Pyrene	11.66	202	933813	50.85330 ppb		100
82) Butyl benzylphthalate	12.42	149	448274	52.79762 ppb		89
83) 3,3'-Dichlorobenzidine	13.03	252	326609	56.72697 ppb	#	95
84) Benz (a) anthracene	13.05	228	864168	50.03777 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	620556	51.96484 ppb		99
86) Chrysene	13.10	228	845933	49.94072 ppb		99
87) Di-n-octylphthalate	13.79	149	1130181	55.24686 ppb		96
89) Benzo (b) fluoranthene	14.25	252	855593	45.59990 ppb		98
90) Benzo (k) fluoranthene	14.27	252	902328	52.17997 ppb		98
91) Benzo (a) pyrene	14.63	252	818296	47.75151 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	906873	47.20588 ppb		99
93) Dibenz (a,h) anthracene	16.24	278	781908	47.81255 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	733229	45.49016 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

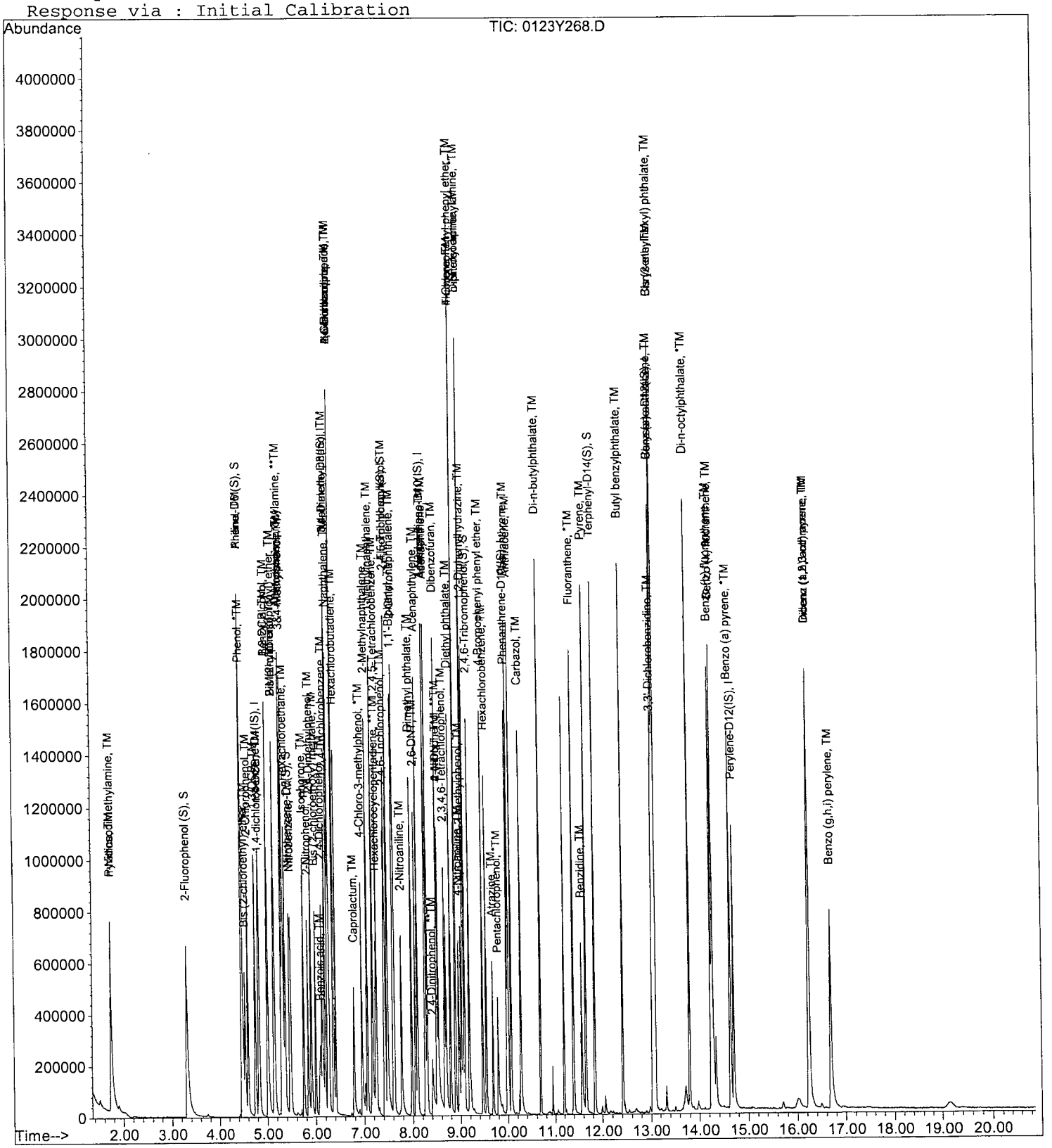
Data File : M:\YODA\DATA\Y170123\0123Y268.D
Acq On : 10 Mar 17 14:47
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 68
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:38 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.291	35	TM	
3	TM	Pyridine	1.902	2.062	8.5	TM	
4	S	2-Fluorophenol (S)	1.262	1.216	3.6	S	
5	S	Phenol-D6 (S)	1.679	1.630	2.9	S	
6	*TM	Phenol	1.927	2.037	5.7	*TM	
7	TM	Aniline	1.829	1.824	0.27	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	1.001	6.2	TM	
9	TM	2-Chlorophenol	1.490	1.562	4.9	TM	
10	TM	1,3-DCB	1.572	1.619	3.0	TM	
11	*TM	1,4-DCB	1.615	1.657	2.6	*TM	
12	TM	Benzyl alcohol	0.8487	0.9354	10	TM	
13	TM	1,2-DCB	1.472	1.565	6.3	TM	
14	TM	2-Methylphenol	1.114	1.159	4.1	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.167	4.7	TM	
16	TM	Acetophenone	1.985	2.068	4.2	TM	
17	TM	3&4-Methylphenol	1.446	1.552	7.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.146	4.0	**TM	
19	TM	Hexachloroethane	0.6642	0.6901	3.9	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3804	6.2	S	
22	TM	Nitrobenzene	0.4049	0.4007	1.0	TM	
23	TM	Isophorone	0.6723	0.6825	1.5	TM	
24	*TM	2-Nitrophenol	0.1899	0.2045	7.7	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3162	3.0	TM	
26	TML	Benzoic acid	0.1823	0.2449	34	TML	5.5
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.4049	4.0	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.3077	5.3	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3241	0.40	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4574	1.0	TM	
31	TM	Naphthalene	1.046	1.063	1.6	TM	
32	TM	4-Chloroaniline	0.3674	0.3838	4.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2726	0.80	TM	
34	TM	Hexachloropropene	0.2347	0.2315	1.3	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1901	0.71	*TM	
36	TM	Caprolactum	0.1663	0.1792	7.8	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3317	4.8	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.7302	7.5	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6935	3.6	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			5.8		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1459	8.6	**TMQ	18
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5319	1.7	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3429	0.96	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3597	3.4	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.128	12	S	
46	TM	1,1'-Biphenyl	1.501	1.468	2.2	TM	
47	TM	2-Chloronaphthalene	1.147	1.142	0.41	TM	
48	TM	2-Nitroaniline	0.4089	0.4093	0.11	TM	
49	TM	Dimethyl phthalate	1.375	1.327	3.5	TM	
50	TM	2,6-DNT	0.3070	0.3070	0.01	TM	
51	TM	Acenaphthylene	1.846	1.799	2.6	TM	
52	TM	3-Nitroaniline	0.3357	0.3440	2.5	TM	
53	*TM	Acenaphthene	1.138	1.110	2.4	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1337	1.8	**TMQ	6.9
55	**TML	4-Nitrophenol	0.2262	0.2091	7.5	**TML	17
56	TM	Dibenzofuran	1.607	1.643	2.2	TM	
57	TM	2,4-DNT	0.4280	0.4370	2.1	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2907	0.93	TM	
59	TM	Diethyl phthalate	1.392	1.355	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5728	8.5	TM	
61	TM	Fluorene	1.301	1.208	7.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3265	2.2	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1687	8.9	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1424	7.7	TML	0.39
66	TM	Diphenyl amine	0.5157	0.5260	2.0	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5260	2.0	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.8275	8.1	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2021	0.01	TM	
70	TM	Hexachlorobenzene	0.2108	0.2070	1.8	TM	
71	TM	Atrazine	0.1996	0.2088	4.6	TM	
72	*TML	Pentachlorophenol	0.0838	0.0835	0.35	*TML	8.0
73	TM	Phenanthrene	1.091	1.095	0.29	TM	
74	TM	Anthracene	1.138	1.159	1.8	TM	
75	TM	Carbazol	1.008	1.038	3.0	TM	
76	TM	Di-n-butylphthalate	1.273	1.323	3.9	TM	
77	*TM	Fluoranthene	1.185	1.231	3.9	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4515	9.3	TM	
80	TM	Pyrene	1.283	1.319	2.8	TM	
		Average			3.6		

0
0

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y284.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8375	2.7	S	
82	TM	Butyl benzylphthalate	0.5931	0.6332	6.8	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4572	14	TM	
84	TM	Benz (a) anthracene	1.206	1.211	0.40	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8269	0.88	TM	
86	TM	Chrysene	1.183	1.174	0.76	TM	
87	*TM	Di-n-octylphthalate	1.429	1.537	7.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.182	5.1	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.128	1.7	TM	
91	*TM	Benzo (a) pyrene	1.137	1.110	2.4	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.189	6.8	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.012	6.7	TM	
94	TM	Benzo (g,h,i) perylene	1.070	1.016	5.0	TM	
95							
96							
97							
98							
99							
100							
101							
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111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y284.D Vial: 84
Acq On : 10 Mar 17 22:36 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	124598	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	534465	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	325588	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	593377	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	587819	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	634113	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	378808	96.38100 ppb	0.00
Spiked Amount 200.000			Recovery = 48.191%		
5) Phenol-D6 (S)	4.47	99	507778	97.10611 ppb	0.00
Spiked Amount 200.000			Recovery = 48.553%		
21) Nitrobenzene-D5(S)	5.46	82	254132	46.88539 ppb	0.00
Spiked Amount 100.000			Recovery = 46.885%		
45) 2-Fluorobiphenyl(S)	7.49	172	459221	43.96615 ppb	0.00
Spiked Amount 100.000			Recovery = 43.966%		
63) 2,4,6-Tribromophenol(S)	9.19	330	137293	91.10106 ppb	0.00
Spiked Amount 200.000			Recovery = 45.551%		
81) Terphenyl-D14(S)	11.85	244	615362	48.67084 ppb	0.00
Spiked Amount 100.000			Recovery = 48.671%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	201072	67.51835 ppb #	68
3) Pyridine	1.74	79	321226	54.22563 ppb	98
6) Phenol	4.47	94	317264	52.85677 ppb	89
7) Aniline	4.47	66	284135	49.86608 ppb	86
8) Bis (2-chloroethyl) ether	4.54	63	155928	53.07625 ppb	99
9) 2-Chlorophenol	4.60	128	243349	52.42603 ppb	95
10) 1,3-DCB	4.75	146	252155	51.49543 ppb	99
11) 1,4-DCB	4.84	146	258024	51.27831 ppb	97
12) Benzyl alcohol	5.01	108	145684	55.10424 ppb	86
13) 1,2-DCB	5.01	146	243779	53.15377 ppb	95
14) 2-Methylphenol	5.15	107	180539	52.04395 ppb	94
15) Bis (2-chloroisopropyl) et	5.14	45	337576	52.37031 ppb #	81
16) Acetophenone	5.29	105	322018	52.09259 ppb	100
17) 3&4-Methylphenol	5.33	107	483469	107.32507 ppb	96
18) n-Nitrosodi-n-propylamine	5.30	70	178511	52.01962 ppb	99
19) Hexachloroethane	5.37	117	107479	51.94554 ppb	94
22) Nitrobenzene	5.48	77	267717	49.48247 ppb	100
23) Isophorone	5.75	82	455932	50.75620 ppb	98
24) 2-Nitrophenol	5.84	139	136605	53.83478 ppb	97
25) 2,4-Dimethylphenol	5.90	122	211280	51.49927 ppb	98
26) Benzoic acid	6.10	105	163642	52.76170 ppb	94
27) Bis (2-chloroethoxy) metha	6.00	93	270487	52.01073 ppb	99
28) 2,4-Dichlorophenol	6.13	162	205558	52.65341 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	216547	50.19937 ppb	98
30) 3,4-Dimethylphenol	6.25	107	305598	49.47652 ppb	98
31) Naphthalene	6.28	128	709964	50.80722 ppb	99
32) 4-Chloroaniline	6.36	127	256378	52.23060 ppb	99
33) 2,6-Dichlorophenol	6.37	162	182103	50.40127 ppb	94
34) Hexachloropropene	6.37	213	154678	49.32666 ppb	97
35) Hexachlorobutadiene	6.41	225	126983	49.64267 ppb	97
36) Caprolactum	6.79	55	119731	53.88459 ppb	91
37) 4-Chloro-3-methylphenol	6.95	107	221625	52.38936 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y284.D
Acq On : 10 Mar 17 22:36
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 84
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:45 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	487817	53.73753 ppb		98
39) 1-Methylnaphthalene	7.18	142	463296	51.81297 ppb		98
41) Hexachlorocyclopentadiene	7.24	237	59396	40.86973 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216476	49.13630 ppb		96
43) 2,4,6-Trichlorophenol	7.42	196	139546	50.48039 ppb		98
44) 2,4,5-Trichlorophenol	7.48	196	146407	48.28314 ppb		96
46) 1,1'-Biphenyl	7.60	154	597624	48.92269 ppb		99
47) 2-Chloronaphthalene	7.63	162	464781	49.79389 ppb		100
48) 2-Nitroaniline	7.77	65	166598	50.05386 ppb		94
49) Dimethyl phthalate	7.97	163	540086	48.25533 ppb		99
50) 2,6-DNT	8.06	165	124943	50.00468 ppb		96
51) Acenaphthylene	8.10	152	732064	48.70917 ppb		99
52) 3-Nitroaniline	8.25	138	140011	51.23782 ppb		95
53) Acenaphthene	8.30	154	451915	48.77792 ppb		98
54) 2,4-Dinitrophenol	8.41	184	54433	46.52598 ppb		97
55) 4-Nitrophenol	8.53	65	85113	41.65041 ppb	#	49
56) Dibenzofuran	8.50	168	668717	51.12012 ppb		89
57) 2,4-DNT	8.53	165	177857	51.05095 ppb		91
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118301	49.53261 ppb		95
59) Diethyl phthalate	8.79	149	551306	48.64414 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	233135	45.75760 ppb		98
61) Fluorene	8.90	166	491466	46.41036 ppb		98
62) 4-Nitroaniline	8.97	138	132869	51.11330 ppb		94
65) 4,6-Dinitro-2-methylphenol	9.01	198	105640	49.80334 ppb		91
66) Diphenyl amine	9.05	169	780286	101.99140 ppb		98
67) n-Nitrosodiphenylamine	9.05	169	780286	101.99140 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	613803	45.95588 ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	149912	50.00257 ppb		97
70) Hexachlorobenzene	9.54	284	153530	49.09094 ppb		96
71) Atrazine	9.68	200	77444	26.15073 ppb		99
72) Pentachlorophenol	9.79	266	61936	45.98998 ppb		95
73) Phenanthrene	10.02	178	811878	50.14702 ppb		98
74) Anthracene	10.07	178	859412	50.89237 ppb		98
75) Carbazol	10.28	167	769946	51.50293 ppb		98
76) Di-n-butylphthalate	10.69	149	981375	51.94929 ppb		99
77) Fluoranthene	11.39	202	912995	51.94603 ppb		99
79) Benzidine	11.57	184	331783	45.34063 ppb		98
80) Pyrene	11.66	202	968990	51.40436 ppb		99
82) Butyl benzylphthalate	12.42	149	465238	53.37863 ppb		99
83) 3,3'-Dichlorobenzidine	13.02	252	335933	56.83757 ppb		100
84) Benz (a) anthracene	13.05	228	889990	50.20029 ppb		100
85) Bis (2-ethylhexyl) phthala	13.08	149	607553	49.56033 ppb		98
86) Chrysene	13.09	228	862846	49.62191 ppb		100
87) Di-n-octylphthalate	13.80	149	1129326	53.77746 ppb		95
89) Benzo (b) fluoranthene	14.24	252	936520	47.44275 ppb		98
90) Benzo (k) fluoranthene	14.27	252	894391	49.16125 ppb		98
91) Benzo (a) pyrene	14.63	252	879885	48.80437 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.24	276	942273	46.62110 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	802531	46.64491 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	805347	47.49163 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

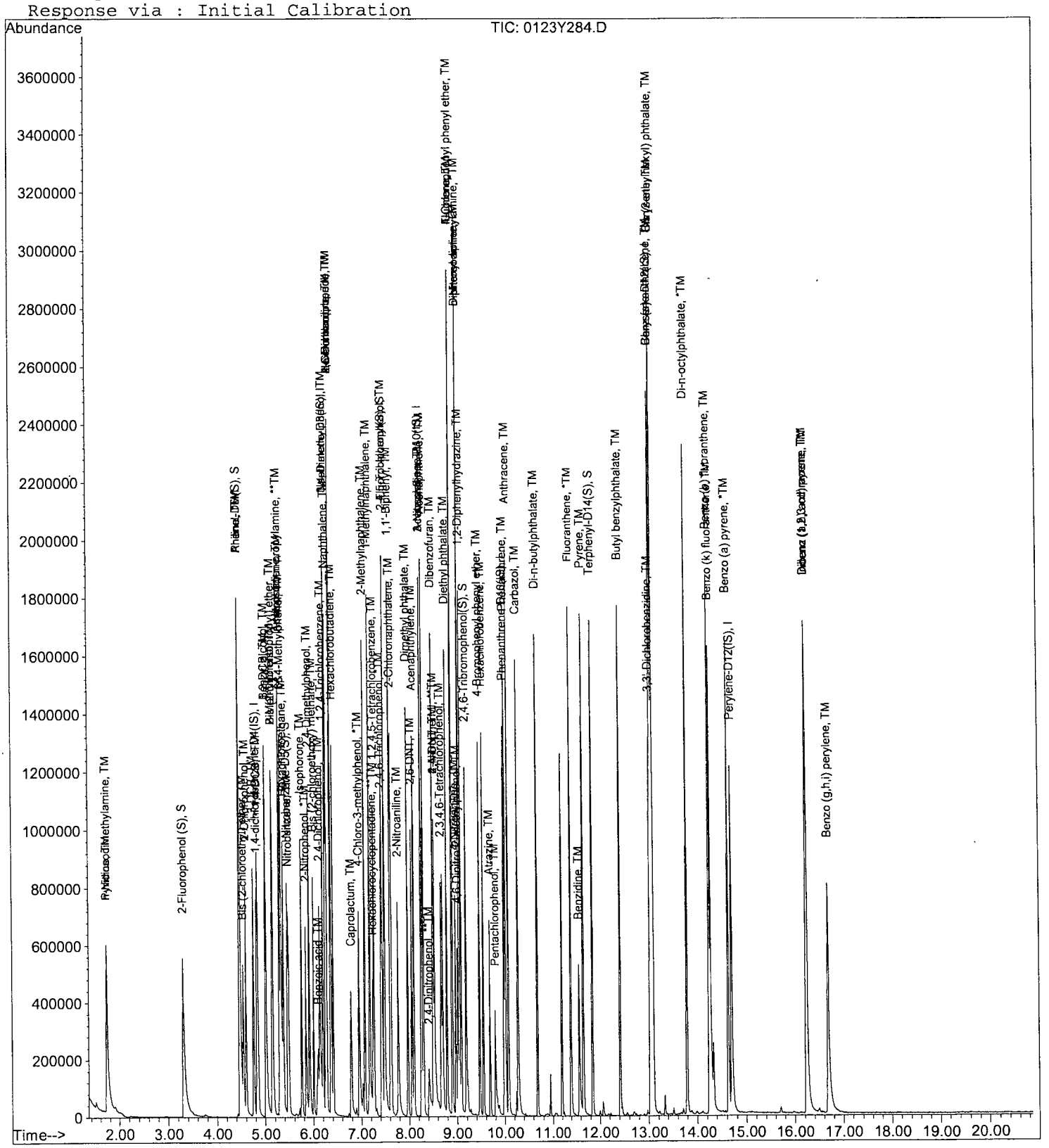
Data File : M:\YODA\DATA\Y170123\0123Y284.D
Acq On : 10 Mar 17 22:36
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 84
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 9:45 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.070	12	TM	
3	TM	Pyridine	1.902	1.929	1.4	TM	
4	S	2-Fluorophenol (S)	1.262	1.272	0.83	S	
5	S	Phenol-D6 (S)	1.679	1.646	1.9	S	
6	*TM	Phenol	1.927	2.002	3.9	*TM	
7	TM	Aniline	1.829	1.824	0.28	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9570	1.5	TM	
9	TM	2-Chlorophenol	1.490	1.509	1.3	TM	
10	TM	1,3-DCB	1.572	1.588	1.0	TM	
11	*TM	1,4-DCB	1.615	1.620	0.27	*TM	
12	TM	Benzyl alcohol	0.8487	0.8840	4.2	TM	
13	TM	1,2-DCB	1.472	1.528	3.8	TM	
14	TM	2-Methylphenol	1.114	1.141	2.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.065	0.23	TM	
16	TM	Acetophenone	1.985	2.007	1.1	TM	
17	TM	3&4-Methylphenol	1.446	1.508	4.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.109	0.66	**TM	
19	TM	Hexachloroethane	0.6642	0.6669	0.40	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3826	5.7	S	
22	TM	Nitrobenzene	0.4049	0.4087	0.94	TM	
23	TM	Isophorone	0.6723	0.6834	1.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.1980	4.3	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3167	3.1	TM	
26	TML	Benzoic acid	0.1823	0.2457	35	TML	5.8
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.3883	0.25	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.2993	2.5	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3267	1.2	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4517	2.3	TM	
31	TM	Naphthalene	1.046	1.036	0.89	TM	
32	TM	4-Chloroaniline	0.3674	0.3583	2.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2613	3.4	TM	
34	TM	Hexachloropropene	0.2347	0.2250	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1871	2.3	*TM	
36	TM	Caprolactum	0.1663	0.1768	6.3	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3305	4.4	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.6907	1.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6780	1.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.4		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1620	1.4	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5298	2.1	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3447	1.5	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3767	1.1	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.151	10	S	
46	TM	1,1'-Biphenyl	1.501	1.486	0.97	TM	
47	TM	2-Chloronaphthalene	1.147	1.145	0.18	TM	
48	TM	2-Nitroaniline	0.4089	0.4041	1.2	TM	
49	TM	Dimethyl phthalate	1.375	1.344	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3143	2.4	TM	
51	TM	Acenaphthylene	1.846	1.791	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3400	1.3	TM	
53	*TM	Acenaphthene	1.138	1.106	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1730	32	**TMQ	13
55	**TML	4-Nitrophenol	0.2262	0.2239	1.0	**TML	12
56	TM	Dibenzofuran	1.607	1.602	0.29	TM	
57	TM	2,4-DNT	0.4280	0.4320	0.93	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2913	0.71	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5656	9.6	TM	
61	TM	Fluorene	1.301	1.181	9.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3285	2.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1726	6.8	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1404	6.2	TML	1.6
66	TM	Diphenyl amine	0.5157	0.5110	0.91	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5110	0.91	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.7947	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2038	0.82	TM	
70	TM	Hexachlorobenzene	0.2108	0.2076	1.5	TM	
71	TM	Atrazine	0.1996	0.2051	2.7	TM	
72	*TML	Pentachlorophenol	0.0838	0.1003	20	*TML	7.5
73	TM	Phenanthrene	1.091	1.066	2.3	TM	
74	TM	Anthracene	1.138	1.118	1.8	TM	
75	TM	Carbazol	1.008	0.9991	0.86	TM	
76	TM	Di-n-butylphthalate	1.273	1.297	1.8	TM	
77	*TM	Fluoranthene	1.185	1.198	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4636	6.9	TM	
80	TM	Pyrene	1.283	1.314	2.4	TM	
		Average			4.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8604	0.8439	1.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6423	8.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4455	11	TM	
84	TM	Benz (a) anthracene	1.206	1.191	1.3	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8240	1.2	TM	
86	TM	Chrysene	1.183	1.149	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.523	6.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.135	8.9	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.134	1.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.083	4.8	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.156	9.4	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.001	7.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9879	7.6	TM	
95							
96							
97							
98							
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117							
118							
119							
120							
		Average			5.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148886	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.24	136	626658	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373403	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	695280	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	671130	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	737668	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	473559	100.83320 ppb	0.00
Spiked Amount 200.000			Recovery	= 50.417%	
5) Phenol-D6 (S)	4.46	99	612723	98.06049 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.030%	
21) Nitrobenzene-D5(S)	5.46	82	299685	47.15545 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.155%	
45) 2-Fluorobiphenyl(S)	7.49	172	537257	44.85072 ppb	0.00
Spiked Amount 100.000			Recovery	= 44.851%	
63) 2,4,6-Tribromophenol(S)	9.19	330	161123	93.22302 ppb	0.00
Spiked Amount 200.000			Recovery	= 46.612%	
81) Terphenyl-D14(S)	11.84	244	707979	49.04509 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.045%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	199203	55.97876 ppb	97
3) Pyridine	1.73	79	359008	50.71720 ppb	96
6) Phenol	4.47	94	372679	51.96034 ppb	89
7) Aniline	4.47	66	339469	49.85834 ppb	81
8) Bis (2-chloroethyl) ether	4.54	63	178097	50.73293 ppb	95
9) 2-Chlorophenol	4.59	128	280823	50.62993 ppb	99
10) 1,3-DCB	4.75	146	295502	50.50318 ppb	99
11) 1,4-DCB	4.83	146	301436	50.13325 ppb	96
12) Benzyl alcohol	5.01	108	164527	52.07959 ppb	87
13) 1,2-DCB	5.00	146	284407	51.89616 ppb	98
14) 2-Methylphenol	5.15	107	212265	51.20765 ppb	93
15) Bis (2-chloroisopropyl) et	5.14	45	384246	49.88617 ppb	86
16) Acetophenone	5.29	105	373444	50.55667 ppb	99
17) 3&4-Methylphenol	5.33	107	561420	104.29840 ppb	93
18) n-Nitrosodi-n-propylamine	5.30	70	206385	50.33123 ppb	98
19) Hexachloroethane	5.37	117	124114	50.19987 ppb	89
22) Nitrobenzene	5.47	77	320147	50.46770 ppb	98
23) Isophorone	5.74	82	535327	50.82727 ppb	99
24) 2-Nitrophenol	5.84	139	155110	52.13446 ppb	99
25) 2,4-Dimethylphenol	5.90	122	248075	51.57205 ppb	98
26) Benzoic acid	6.10	105	192501	52.91544 ppb	96
27) Bis (2-chloroethoxy) metha	5.99	93	304135	49.87715 ppb	99
28) 2,4-Dichlorophenol	6.12	162	234483	51.22621 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	255875	50.58977 ppb	98
30) 3,4-Dimethylphenol	6.24	107	353817	48.85579 ppb	99
31) Naphthalene	6.27	128	811898	49.55406 ppb	99
32) 4-Chloroaniline	6.36	127	280648	48.76350 ppb	98
33) 2,6-Dichlorophenol	6.37	162	204719	48.32493 ppb	94
34) Hexachloropropene	6.37	213	176221	47.92912 ppb	96
35) Hexachlorobutadiene	6.41	225	146536	48.85878 ppb	99
36) Caprolactum	6.79	55	138528	53.17215 ppb	95
37) 4-Chloro-3-methylphenol	6.95	107	258881	52.19311 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D
Acq On : 14 Mar 17 8:01
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 87
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 9:45 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	541039	50.83209 ppb		100
39) 1-Methylnaphthalene	7.17	142	531113	50.65887 ppb		99
41) Hexachlorocyclopentadiene	7.24	237	75609	43.99504 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247309	48.94668 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	160911	50.75533 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	175842	50.56463 ppb		99
46) 1,1'-Biphenyl	7.60	154	693703	49.51610 ppb		100
47) 2-Chloronaphthalene	7.63	162	534272	49.90921 ppb		99
48) 2-Nitroaniline	7.77	65	188638	49.41827 ppb		89
49) Dimethyl phthalate	7.97	163	627359	48.87526 ppb		99
50) 2,6-DNT	8.06	165	146684	51.18846 ppb		96
51) Acenaphthylene	8.10	152	835771	48.48860 ppb		99
52) 3-Nitroaniline	8.25	138	158685	50.63548 ppb		91
53) Acenaphthene	8.30	154	516184	48.58046 ppb		99
54) 2,4-Dinitrophenol	8.41	184	80743	56.42179 ppb		97
55) 4-Nitrophenol	8.53	65	104495	44.07362 ppb	#	53
56) Dibenzofuran	8.50	168	747927	49.85392 ppb		89
57) 2,4-DNT	8.53	165	201641	50.46640 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135978	49.64346 ppb		93
59) Diethyl phthalate	8.79	149	632069	48.62873 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	263984	45.17769 ppb		99
61) Fluorene	8.90	166	551262	45.39104 ppb		96
62) 4-Nitroaniline	8.97	138	153319	51.42767 ppb		84
65) 4,6-Dinitro-2-methylphenol	9.01	198	122045	49.19452 ppb		87
66) Diphenyl amine	9.05	169	888237	99.08538 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	888237	99.08538 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	690654	44.13099 ppb		98
69) 4-Bromophenyl phenyl ether	9.47	248	177080	50.40765 ppb		98
70) Hexachlorobenzene	9.54	284	180392	49.22621 ppb		95
71) Atrazine	9.68	200	89111	25.68019 ppb		97
72) Pentachlorophenol	9.79	266	87164	53.72555 ppb		94
73) Phenanthrene	10.00	178	926617	48.84561 ppb		99
74) Anthracene	10.07	178	971338	49.08995 ppb		99
75) Carbazol	10.27	167	868314	49.57006 ppb		99
76) Di-n-butylphthalate	10.68	149	1126885	50.90908 ppb		99
77) Fluoranthene	11.39	202	1040875	50.54213 ppb		98
79) Benzidine	11.57	184	388911	46.55010 ppb		98
80) Pyrene	11.66	202	1102134	51.20967 ppb		99
82) Butyl benzylphthalate	12.42	149	538821	54.14691 ppb		98
83) 3,3'-Dichlorobenzidine	13.03	252	373701	55.37886 ppb	#	96
84) Benz (a) anthracene	13.05	228	998865	49.34747 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	691274	49.38979 ppb		97
86) Chrysene	13.10	228	963540	48.53409 ppb		99
87) Di-n-octylphthalate	13.79	149	1277457	53.28000 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1046134	45.55603 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1045629	49.40590 ppb		98
91) Benzo (a) pyrene	14.63	252	998291	47.59877 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1065575	45.32058 ppb		100
93) Dibenz (a,h) anthracene	16.24	278	922912	46.11141 ppb		98
94) Benzo (g,h,i) perylene	16.68	276	910925	46.17664 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

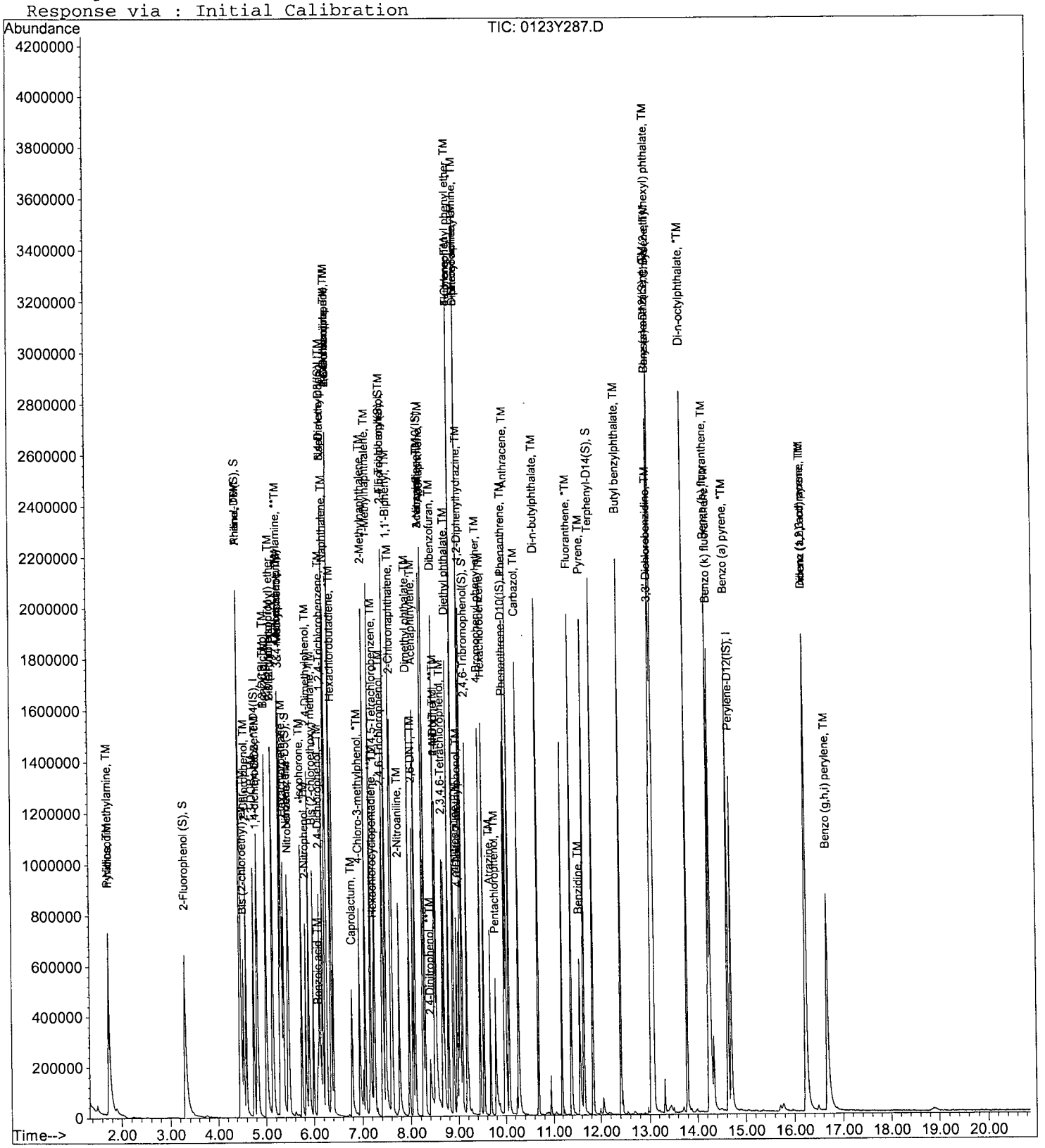
Data File : M:\YODA\DATA\Y170123\0123Y287.D
Acq On : 14 Mar 17 8:01
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 87
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 9:45 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.165	22	TM	
3	S	2-Fluorophenol (S)	1.262	1.226	2.9	S	
4	S	Phenol-D6 (S)	1.679	1.576	6.1	S	
5	*TM	Phenol	1.927	1.970	2.3	*TM	
6	TM	Aniline	1.829	1.770	3.2	TM	
7	TM	Bis (2-chloroethyl) ether	0.9431	0.9033	4.2	TM	
8	TM	2-Chlorophenol	1.490	1.512	1.5	TM	
9	TM	1,3-DCB	1.572	1.558	0.92	TM	
10	*TM	1,4-DCB	1.615	1.598	1.1	*TM	
11	TM	Benzyl alcohol	0.8487	0.8717	2.7	TM	
12	TM	1,2-DCB	1.472	1.484	0.76	TM	
13	TM	2-Methylphenol	1.114	1.140	2.3	TM	
14	TM	Bis (2-chloroisopropyl) ether	2.069	2.080	0.52	TM	
15	TM	Acetophenone	1.985	1.967	0.89	TM	
16	TM	3&4-Methylphenol	1.446	1.480	2.3	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.102	1.083	1.7	**TM	
18	TM	Hexachloroethane	0.6642	0.6695	0.79	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4057	0.3888	4.2	S	
21	TM	Nitrobenzene	0.4049	0.4058	0.22	TM	
22	TM	Isophorone	0.6723	0.6792	1.0	TM	
23	*TM	2-Nitrophenol	0.1899	0.2070	9.0	*TM	
24	TM	2,4-Dimethylphenol	0.3070	0.3231	5.2	TM	
25	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
26	TM	Bis (2-chloroethoxy) methane	0.3892	0.4037	3.7	TM	
27	*TM	2,4-Dichlorophenol	0.2922	0.3104	6.2	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3228	0.3295	2.1	TM	
29	TM	3,4-Dimethylphenol	0.4623	0.4555	1.5	TM	
30	TM	Naphthalene	1.046	1.065	1.9	TM	
31	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
32	TM	2,6-Dichlorophenol	0.2704	0.2587	4.3	TM	
33	TM	Hexachloropropene	0.2347	0.2263	3.6	TM	
34	*TM	Hexachlorobutadiene	0.1914	0.1926	0.62	*TM	
35	TM	Caprolactum	0.1663	0.1749	5.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3166	0.3204	1.2	*TM	
37	TM	2-Methylnaphthalene	0.6794	0.7018	3.3	TM	
38	TM	1-Methylnaphthalene	0.6692	0.6774	1.2	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1610	0.77	**TMQ	12
		Average			4.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5469	1.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3396	0.3444	1.4	*TM	
43	TM	2,4,5-Trichlorophenol	0.3725	0.3645	2.2	TM	
44	S	2-Fluorobiphenyl(S)	1.283	1.169	8.9	S	
45	TM	1,1'-Biphenyl	1.501	1.506	0.34	TM	
46	TM	2-Chloronaphthalene	1.147	1.148	0.10	TM	
47	TM	2-Nitroaniline	0.4089	0.4163	1.8	TM	
48	TM	Dimethyl phthalate	1.375	1.378	0.25	TM	
49	TM	2,6-DNT	0.3070	0.3165	3.1	TM	
50	TM	Acenaphthylene	1.846	1.825	1.2	TM	
51	TM	3-Nitroaniline	0.3357	0.3408	1.5	TM	
52	*TM	Acenaphthene	1.138	1.126	1.1	*TM	
53	**TMQ	2,4-Dinitrophenol	0.1314	0.1458	11	**TMQ	0.75
54	**TML	4-Nitrophenol	0.2262	0.2233	1.3	**TML	12
55	TM	Dibenzofuran	1.607	1.593	0.86	TM	
56	TM	2,4-DNT	0.4280	0.4413	3.1	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2938	0.12	TM	
58	TM	Diethyl phthalate	1.392	1.378	1.0	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6259	0.5693	9.1	TM	
60	TM	Fluorene	1.301	1.190	8.5	TM	
61	TM	4-Nitroaniline	0.3194	0.3223	0.91	TM	
62	S	2,4,6-Tribromophenol(S)	0.1851	0.1677	9.4	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1390	5.1	TML	2.5
65	TM	Diphenyl amine	0.5157	0.5262	2.0	TM	
66	*TM	n-Nitrosodiphenylamine	0.5157	0.5262	2.0	*TM	
67	TM	1,2-Diphenylhydrazine	0.9004	0.8228	8.6	TM	
68	TM	4-Bromophenyl phenyl ether	0.2021	0.2058	1.8	TM	
69	TM	Hexachlorobenzene	0.2108	0.2064	2.1	TM	
70	TM	Atrazine	0.1996	0.2058	3.1	TM	
71	*TML	Pentachlorophenol	0.0838	0.0888	5.9	*TML	3.2
72	TM	Phenanthrene	1.091	1.054	3.4	TM	
73	TM	Anthracene	1.138	1.108	2.7	TM	
74	TM	Carbazol	1.008	1.010	0.20	TM	
75	TM	Di-n-butylphthalate	1.273	1.269	0.37	TM	
76	*TM	Fluoranthene	1.185	1.186	0.14	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.4979	0.4575	8.1	TM	
79	TM	Pyrene	1.283	1.292	0.75	TM	
80	S	Terphenyl-D14(S)	0.8604	0.8333	3.1	S	
		Average			3.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Butyl benzylphthalate	0.5931	0.6133	3.4	TM	
82	TM	3,3'-Dichlorobenzidine	0.4022	0.4322	7.5	TM	
83	TM	Benz (a) anthracene	1.206	1.202	0.35	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8280	0.74	TM	
85	TM	Chrysene	1.183	1.102	6.9	TM	
86	*TM	Di-n-octylphthalate	1.429	1.500	5.0	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.245	1.118	10	TM	
89	TM	Benzo (k) fluoranthene	1.148	1.185	3.3	TM	
90	*TM	Benzo (a) pyrene	1.137	1.084	4.7	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.275	1.165	8.6	TM	
92	TM	Dibenz (a,h) anthracene	1.085	0.9925	8.6	TM	
93	TM	Benzo (g,h,i) perylene	1.070	0.9961	6.9	TM	
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118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D Vial: 2
Acq On : 14 Mar 17 16:14 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148257	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	608139	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	361584	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	672725	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	649830	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	691935	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	454275	97.13751 ppb	-0.01
Spiked Amount 200.000			Recovery = 48.569%		
5) Phenol-D6 (S)	4.46	99	584043	93.86709 ppb	0.00
Spiked Amount 200.000			Recovery = 46.934%		
21) Nitrobenzene-D5(S)	5.46	82	295531	47.91789 ppb	0.00
Spiked Amount 100.000			Recovery = 47.918%		
45) 2-Fluorobiphenyl(S)	7.50	172	528519	45.56344 ppb	0.00
Spiked Amount 100.000			Recovery = 45.563%		
63) 2,4,6-Tribromophenol(S)	9.19	330	151600	90.58023 ppb	0.00
Spiked Amount 200.000			Recovery = 45.290%		
81) Terphenyl-D14(S)	11.84	244	676896	48.42883 ppb	0.00
Spiked Amount 100.000			Recovery = 48.429%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	215901	60.92853 ppb		99
6) Phenol	4.48	94	365165	51.12871 ppb		98
7) Aniline	4.47	66	327978	48.37501 ppb		98
8) Bis (2-chloroethyl) ether	4.55	63	167404	47.88923 ppb		94
9) 2-Chlorophenol	4.60	128	280274	50.74533 ppb		96
10) 1,3-DCB	4.75	146	288637	49.53919 ppb		97
11) 1,4-DCB	4.84	146	296059	49.44788 ppb		95
12) Benzyl alcohol	5.01	108	161552	51.35484 ppb		95
13) 1,2-DCB	5.01	146	274941	50.38174 ppb		97
14) 2-Methylphenol	5.15	107	211224	51.17271 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	385482	50.25897 ppb	#	67
16) Acetophenone	5.30	105	364514	49.55710 ppb		99
17) 3&4-Methylphenol	5.33	107	548565	102.34261 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	200787	49.17379 ppb		89
19) Hexachloroethane	5.37	117	124068	50.39417 ppb		88
22) Nitrobenzene	5.48	77	308491	50.11114 ppb		95
23) Isophorone	5.75	82	516284	50.51194 ppb		94
24) 2-Nitrophenol	5.85	139	157373	54.50584 ppb		91
25) 2,4-Dimethylphenol	5.91	122	245580	52.60804 ppb		97
26) Benzoic acid	6.11	105	191000	53.96616 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	306851	51.85498 ppb		96
28) 2,4-Dichlorophenol	6.13	162	235931	53.11211 ppb		94
29) 1,2,4-Trichlorobenzene	6.20	180	250496	51.03444 ppb		99
30) 3,4-Dimethylphenol	6.24	107	346243	49.26586 ppb		97
31) Naphthalene	6.28	128	809847	50.93408 ppb		99
32) 4-Chloroaniline	6.37	127	271385	48.58996 ppb		96
33) 2,6-Dichlorophenol	6.37	162	196632	47.82941 ppb		98
34) Hexachloropropene	6.37	213	172008	48.20790 ppb		96
35) Hexachlorobutadiene	6.41	225	146427	50.30917 ppb		99
36) Caprolactum	6.79	55	132974	52.59460 ppb		95
37) 4-Chloro-3-methylphenol	6.95	107	243592	50.60620 ppb		98
38) 2-Methylnaphthalene	7.07	142	533455	51.64579 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.18	142	514932	50.61115 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	72755	43.79922 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247192	50.52267 ppb		96
43) 2,4,6-Trichlorophenol	7.41	196	155683	50.71141 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	164750	48.92358 ppb		97
46) 1,1'-Biphenyl	7.61	154	680621	50.17031 ppb		98
47) 2-Chloronaphthalene	7.63	162	518825	50.05042 ppb		97
48) 2-Nitroaniline	7.78	65	188153	50.90238 ppb		94
49) Dimethyl phthalate	7.98	163	623022	50.12391 ppb		99
50) 2,6-DNT	8.05	165	143063	51.55672 ppb	#	74
51) Acenaphthylene	8.10	152	824843	49.41880 ppb		100
52) 3-Nitroaniline	8.26	138	154037	50.75896 ppb	#	98
53) Acenaphthene	8.31	154	508979	49.46814 ppb		99
54) 2,4-Dinitrophenol	8.41	184	65909	49.62382 ppb		93
55) 4-Nitrophenol	8.54	65	100907	43.97163 ppb	#	49
56) Dibenzofuran	8.50	168	720114	49.56897 ppb		95
57) 2,4-DNT	8.54	165	199454	51.55073 ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.67	232	132775	50.05855 ppb	#	86
59) Diethyl phthalate	8.80	149	622798	49.48166 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.90	204	257297	45.47259 ppb		91
61) Fluorene	8.90	166	537811	45.73096 ppb		97
62) 4-Nitroaniline	8.97	138	145660	50.45565 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	116851	48.74719 ppb	#	53
66) Diphenyl amine	9.06	169	884922	102.02530 ppb		100
67) n-Nitrosodiphenylamine	9.06	169	884922	102.02530 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	691935	45.69520 ppb		96
69) 4-Bromophenyl phenyl ether	9.47	248	173078	50.92030 ppb		95
70) Hexachlorobenzene	9.55	284	173535	48.94275 ppb	#	84
71) Atrazine	9.69	200	86550	25.77841 ppb		96
72) Pentachlorophenol	9.79	266	74655	48.42095 ppb		99
73) Phenanthrene	10.01	178	886645	48.30557 ppb		100
74) Anthracene	10.07	178	931456	48.65268 ppb		99
75) Carbazol	10.27	167	849123	50.09973 ppb		98
76) Di-n-butylphthalate	10.68	149	1066862	49.81338 ppb		99
77) Fluoranthene	11.40	202	997705	50.07019 ppb		97
79) Benzidine	11.57	184	371603	45.93635 ppb		99
80) Pyrene	11.66	202	1049723	50.37316 ppb		99
82) Butyl benzylphthalate	12.42	149	498167	51.70244 ppb		88
83) 3,3'-Dichlorobenzidine	13.03	252	351103	53.73549 ppb		95
84) Benz (a) anthracene	13.05	228	976534	49.82558 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	672586	49.62971 ppb	#	97
86) Chrysene	13.10	228	895041	46.56150 ppb		99
87) Di-n-octylphthalate	13.79	149	1218354	52.48054 ppb		98
89) Benzo (b) fluoranthene	14.25	252	967168	44.90101 ppb		99
90) Benzo (k) fluoranthene	14.27	252	1025195	51.64203 ppb		99
91) Benzo (a) pyrene	14.63	252	937251	47.64201 ppb	#	96
92) Indeno (1,2,3-cd) pyrene	16.23	276	1007694	45.69154 ppb		97
93) Dibenz (a,h) anthracene	16.24	278	858392	45.72244 ppb		97
94) Benzo (g,h,i) perylene	16.69	276	861566	46.56118 ppb		99

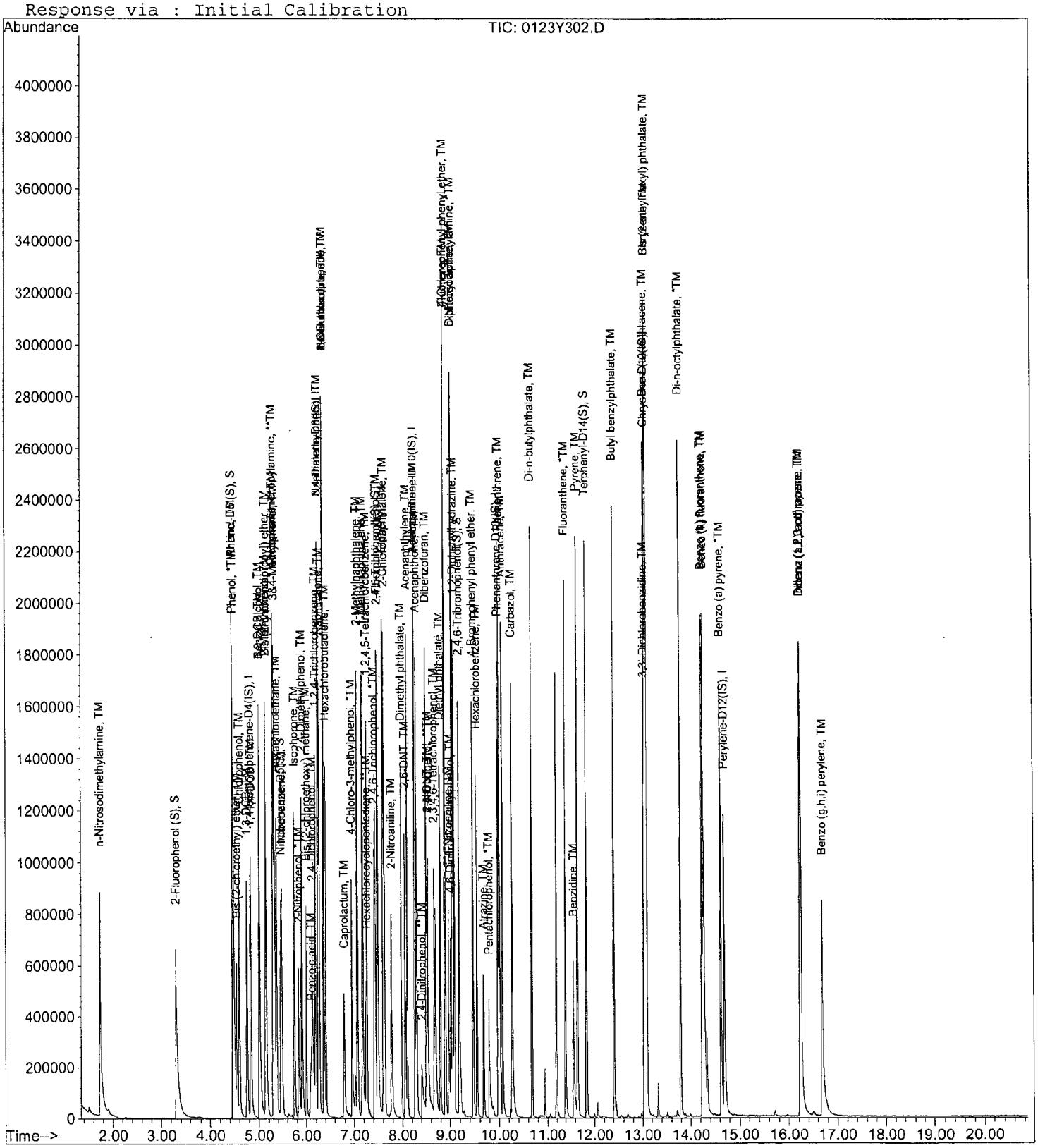
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y302.D Vial: 2
Acq On : 14 Mar 17 16:14 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51132 - 216830**
Batch ID: #87DC5-170309A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/09/17	03/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	61.0	44-119			%	03/09/17	03/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	49.9	19-119			%	03/09/17	03/10/17
BLANK	SURROGATE: NITROBENZENE-	65.6	44-120			%	03/09/17	03/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	30.9	10-115			%	03/09/17	03/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	66.8	50-134			%	03/09/17	03/10/17

Quant Method:Y0123.M
Run #:0123Y269
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 3:33:17 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y269.D Vial: 69
Acq On : 10 Mar 17 15:18 Operator: MA
Sample : 170309A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 10 16:51 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	149556	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	670506	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	421228	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	780450	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	778509	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	777382	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	470499	99.73284 ppb	-0.02
Spiked Amount 200.000			Recovery	= 49.867%	
5) Phenol-D6 (S)	4.46	99	388244	61.85640 ppb	0.00
Spiked Amount 200.000			Recovery	= 30.928%	
21) Nitrobenzene-D5(S)	5.46	82	446223	65.62159 ppb	0.00
Spiked Amount 100.000			Recovery	= 65.622%	
45) 2-Fluorobiphenyl(S)	7.49	172	824220	60.99455 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.995%	
63) 2,4,6-Tribromophenol(S)	9.19	330	261458	134.09980 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.050%	
81) Terphenyl-D14(S)	11.84	244	1119220	66.83957 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

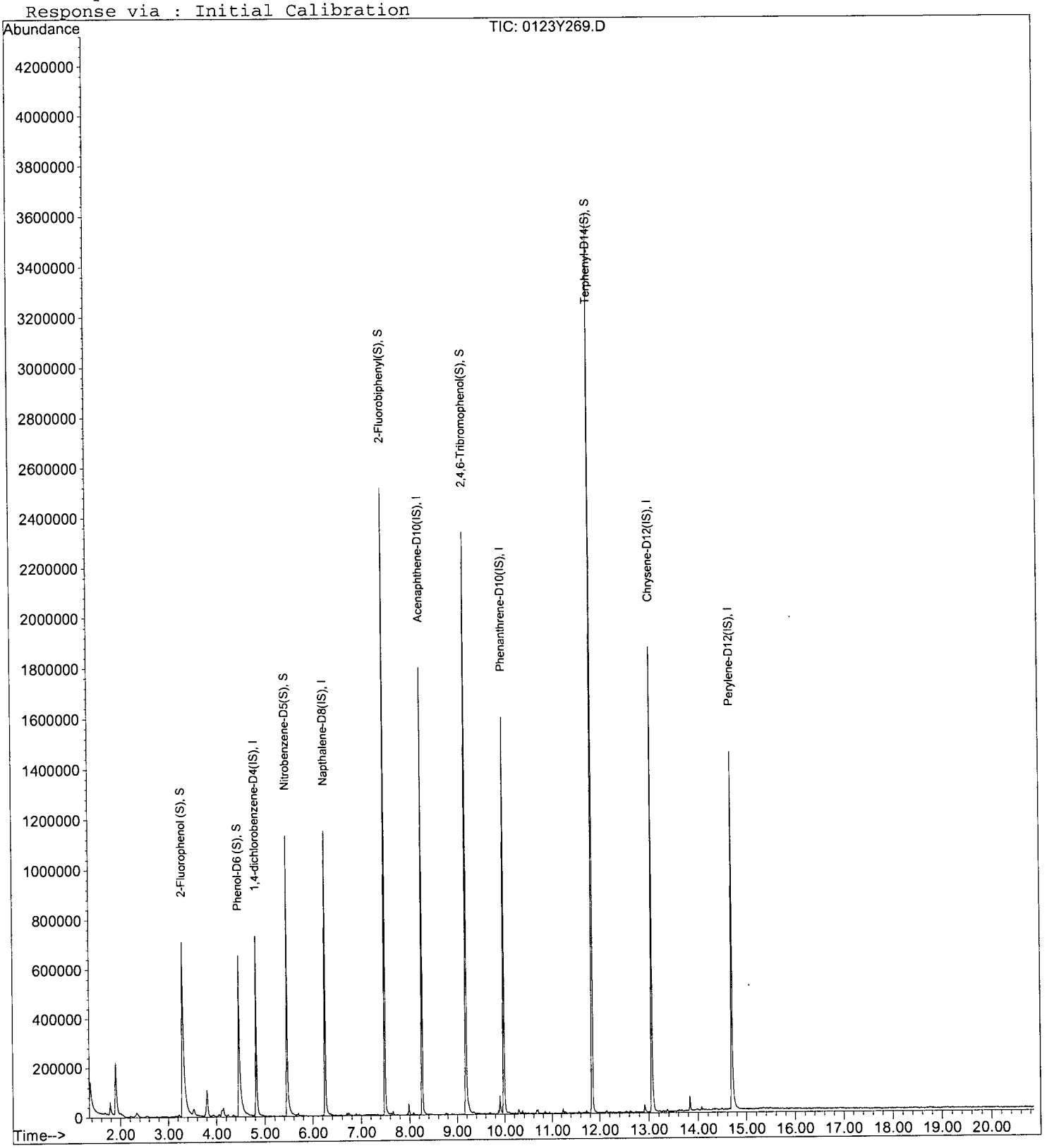
Data File : M:\YODA\DATA\Y170123\0123Y269.D
Acq On : 10 Mar 17 15:18
Sample : 170309A BLK 1/1000
Misc : water

Vial: 69
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 16:51 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170309W-51132 LCS - 216830**
Batch ID: #87DC5-170309A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	21.3	42.6	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	133	66.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	64.5	64.5	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	104	52.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	74.3	74.3	44-120
SURROGATE: PHENOL-D6 (S)	200	66.3	33.1	10-115
SURROGATE: TERPHENYL-D14 (S)	100	72.3	72.3	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/09/17
Analysis Date :	03/10/17
Instrument :	Yoda
Run :	0123Y270
Initials :	MA

Printed: 03/15/17 3:33:18 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y270.D Vial: 70
Acq On : 10 Mar 17 15:50 Operator: MA
Sample : 170309A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 10 17:32 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158255	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	652187	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	386870	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	733517	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	698030	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	733682	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	521167	104.40055 ppb	-0.02
Spiked Amount 200.000			Recovery	= 52.200%	
5) Phenol-D6 (S)	4.46	99	440189	66.27740 ppb	0.00
Spiked Amount 200.000			Recovery	= 33.139%	
21) Nitrobenzene-D5(S)	5.47	82	491429	74.29954 ppb	0.00
Spiked Amount 100.000			Recovery	= 74.300%	
45) 2-Fluorobiphenyl(S)	7.50	172	800168	64.47350 ppb	0.00
Spiked Amount 100.000			Recovery	= 64.474%	
63) 2,4,6-Tribromophenol(S)	9.20	330	238734	133.31918 ppb	0.00
Spiked Amount 200.000			Recovery	= 66.659%	
81) Terphenyl-D14(S)	11.84	244	1084760	72.25059 ppb	0.00
Spiked Amount 100.000			Recovery	= 72.251%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	141475	37.40275 ppb		90
3) Pyridine	1.74	79	177116	23.53994 ppb		91
6) Phenol	4.48	94	162673	21.33776 ppb		81
7) Aniline	4.46	66	205944	28.45662 ppb	#	52
8) Bis (2-chloroethyl) ether	4.55	63	144951	38.84642 ppb		84
9) 2-Chlorophenol	4.60	128	233837	39.66288 ppb		93
10) 1,3-DCB	4.75	146	166962	26.84555 ppb		98
11) 1,4-DCB	4.84	146	175920	27.52596 ppb		96
12) Benzyl alcohol	5.01	108	132800	39.54803 ppb		94
13) 1,2-DCB	5.01	146	168935	29.00087 ppb		98
14) 2-Methylphenol	5.15	107	160011	36.31639 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	312720	38.19644 ppb	#	69
16) Acetophenone	5.29	105	321606	40.96129 ppb		97
17) 3&4-Methylphenol	5.33	107	409147	71.50980 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	172984	39.68824 ppb		95
19) Hexachloroethane	5.37	117	58070	22.09683 ppb		99
22) Nitrobenzene	5.48	77	267950	40.58601 ppb		91
23) Isophorone	5.75	82	461608	42.11235 ppb		93
24) 2-Nitrophenol	5.84	139	133272	43.04101 ppb		91
25) 2,4-Dimethylphenol	5.91	122	186292	37.21209 ppb		96
26) Benzoic acid	6.08	105	65748	21.42639 ppb		94
27) Bis (2-chloroethoxy) metha	5.99	93	265613	41.85458 ppb		100
28) 2,4-Dichlorophenol	6.12	162	205800	43.20009 ppb		98
29) 1,2,4-Trichlorobenzene	6.20	180	166881	31.70299 ppb		94
30) 3,4-Dimethylphenol	6.24	107	290852	38.58938 ppb		100
31) Naphthalene	6.27	128	618151	36.25190 ppb		99
32) 4-Chloroaniline	6.37	127	272229	45.44915 ppb		95
33) 2,6-Dichlorophenol	6.37	162	186373	42.27217 ppb		98
34) Hexachloropropene	6.37	213	84359	22.04610 ppb		99
35) Hexachlorobutadiene	6.41	225	76178	24.40542 ppb		97
36) Caprolactum	6.77	55	43455	16.02673 ppb		97
37) 4-Chloro-3-methylphenol	6.94	107	219087	42.44124 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y270.D
Acq On : 10 Mar 17 15:50
Sample : 170309A LCS-1 1/1000
Misc : water

Vial: 70
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 10 17:32 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	423525	38.23375 ppb		98
39) 1-Methylnaphthalene	7.18	142	427513	39.18108 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	24173	19.72982 ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	193264	36.91875 ppb		99
43) 2,4,6-Trichlorophenol	7.41	196	139935	42.60249 ppb		96
44) 2,4,5-Trichlorophenol	7.48	196	145874	40.48693 ppb		100
46) 1,1'-Biphenyl	7.61	154	576261	39.70131 ppb		98
47) 2-Chloronaphthalene	7.63	162	438050	39.49614 ppb		99
48) 2-Nitroaniline	7.78	65	158790	40.15080 ppb		88
49) Dimethyl phthalate	7.98	163	570615	42.90707 ppb		98
50) 2,6-DNT	8.06	165	130454	43.93994 ppb		85
51) Acenaphthylene	8.10	152	709220	39.71422 ppb		99
52) 3-Nitroaniline	8.25	138	139180	42.86557 ppb	#	80
53) Acenaphthene	8.30	154	441199	40.07785 ppb		99
54) 2,4-Dinitrophenol	8.41	184	60264	44.15128 ppb		96
55) 4-Nitrophenol	8.54	65	8227	10.07868 ppb	#	39
56) Dibenzofuran	8.50	168	640800	41.22639 ppb		93
57) 2,4-DNT	8.54	165	185849	44.89484 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.67	232	119534	42.12089 ppb		92
59) Diethyl phthalate	8.79	149	564257	41.90040 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.90	204	231968	38.31662 ppb		92
61) Fluorene	8.90	166	465205	36.97168 ppb		99
62) 4-Nitroaniline	8.97	138	131191	42.47346 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	109537	42.80904 ppb	#	70
66) Diphenyl amine	9.06	169	789327	83.46170 ppb		100
67) n-Nitrosodiphenylamine	9.06	169	789327	83.46170 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	606096	36.70913 ppb		97
69) 4-Bromophenyl phenyl ether	9.47	248	152475	41.14102 ppb		95
70) Hexachlorobenzene	9.54	284	159337	41.21405 ppb	#	85
71) Atrazine	9.69	200	77671	21.21658 ppb		93
72) Pentachlorophenol	9.80	266	68806	42.09171 ppb		92
73) Phenanthrene	10.01	178	799812	39.96343 ppb		99
74) Anthracene	10.07	178	855857	40.99897 ppb		99
75) Carbazol	10.27	167	764410	41.36362 ppb		97
76) Di-n-butylphthalate	10.68	149	986256	42.23328 ppb		100
77) Fluoranthene	11.40	202	902192	41.52441 ppb		97
79) Benzidine	11.58	184	65377	7.52364 ppb		98
80) Pyrene	11.66	202	951548	42.50900 ppb		100
82) Butyl benzylphthalate	12.42	149	460404	44.48369 ppb		89
83) 3,3'-Dichlorobenzidine	13.03	252	303520	43.24537 ppb		95
84) Benz (a) anthracene	13.05	228	877472	41.67964 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	624195	42.87852 ppb	#	97
86) Chrysene	13.10	228	854046	41.36100 ppb		99
87) Di-n-octylphthalate	13.79	149	1138598	45.65842 ppb		99
89) Benzo (b) fluoranthene	14.25	252	877676	38.42783 ppb		99
90) Benzo (k) fluoranthene	14.28	252	936899	44.50892 ppb		98
91) Benzo (a) pyrene	14.63	252	844745	40.49648 ppb	#	97
92) Indeno (1,2,3-cd) pyrene	16.23	276	937337	40.08301 ppb		99
93) Dibenz (a,h) anthracene	16.24	278	785543	39.46128 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	792599	40.39674 ppb		98

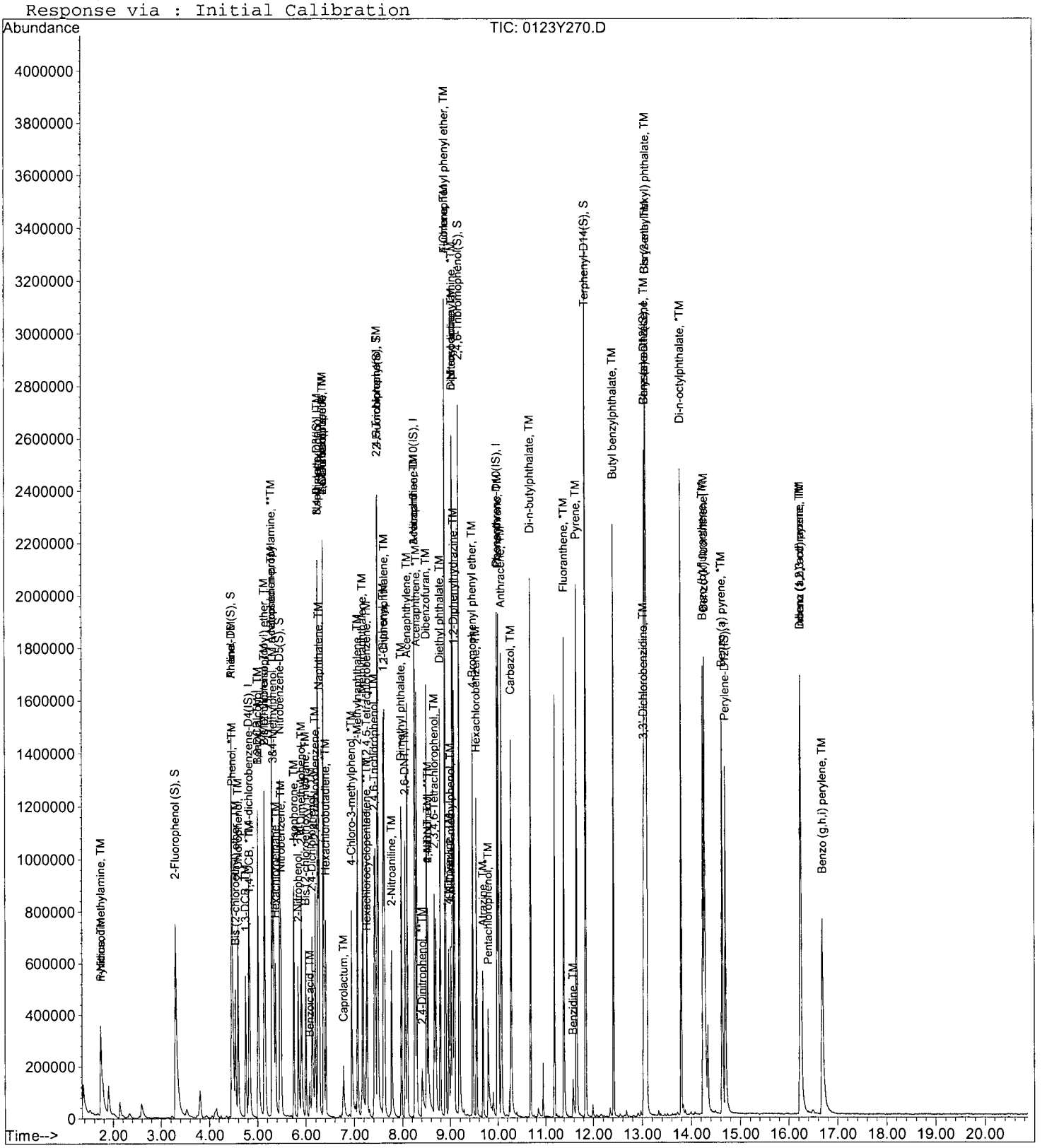
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y270.D Vial: 70
Acq On : 10 Mar 17 15:50 Operator: MA
Sample : 170309A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 10 17:32 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170309W-51132 MS - 216830**
Batch ID: #87DC5-170309A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	15.4	15.4	30.8	30.8	10-115	0.0	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	95.7	103	47.9	51.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	44.3	51.0	44.3	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	71.0	77.5	35.5	38.8	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	48.0	56.8	48.0	56.8	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	46.0	47.4	23.0	23.7	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	53.8	53.6	53.8	53.6	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0123.M	Y0123.M
Extraction Date :	03/09/17	03/09/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Yoda	Yoda
Run :	0123Y276	0123Y277
Initials :	MA	

Printed: 03/15/17 3:33:20 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y276.D Vial: 76
Acq On : 10 Mar 17 18:53 Operator: MA
Sample : AZ51132W18 MS-1 1/1060 Inst : Yoda
Misc : water Multiplr: 0.94

Quant Time: Mar 13 10:01 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	172190	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	726184	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	428292	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	797901	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	760405	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	856327	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	408599	70.96868 ppb	0.00
Spiked Amount 188.679			Recovery	= 37.614%	
5) Phenol-D6 (S)	4.46	99	352425	46.00834 ppb	0.00
Spiked Amount 188.679			Recovery	= 24.384%	
21) Nitrobenzene-D5(S)	5.46	82	375026	48.04036 ppb	0.00
Spiked Amount 94.340			Recovery	= 50.922%	
45) 2-Fluorobiphenyl(S)	7.49	172	644928	44.28233 ppb	0.00
Spiked Amount 94.340			Recovery	= 46.939%	
63) 2,4,6-Tribromophenol(S)	9.19	330	201017	95.65998 ppb	0.00
Spiked Amount 188.679			Recovery	= 50.700%	
81) Terphenyl-D14(S)	11.84	244	933119	53.82300 ppb	0.00
Spiked Amount 94.340			Recovery	= 57.052%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	120798	27.69027 ppb	90
3) Pyridine	1.74	79	149561	17.23493 ppb	78
6) Phenol	4.48	94	135383	15.39718 ppb #	74
7) Aniline	4.46	66	176688	21.16824 ppb #	51
8) Bis (2-chloroethyl) ether	4.54	63	123319	28.65519 ppb	95
9) 2-Chlorophenol	4.60	128	204145	30.02295 ppb	93
10) 1,3-DCB	4.75	146	160119	22.32241 ppb	99
11) 1,4-DCB	4.85	146	166765	22.62433 ppb	95
12) Benzyl alcohol	5.01	108	111956	28.90798 ppb	88
13) 1,2-DCB	5.01	146	163379	24.31819 ppb	95
14) 2-Methylphenol	5.15	107	138190	27.19400 ppb	93
15) Bis (2-chloroisopropyl) et	5.14	45	274037	29.02151 ppb #	73
16) Acetophenone	5.29	105	271725	30.00700 ppb	98
17) 3&4-Methylphenol	5.33	107	342484	51.90032 ppb	98
18) n-Nitrosodi-n-propylamine	5.30	70	151626	30.16290 ppb	99
19) Hexachloroethane	5.37	117	59486	19.62622 ppb	97
22) Nitrobenzene	5.49	77	234164	30.05122 ppb	91
23) Isophorone	5.75	82	399202	30.85662 ppb	98
24) 2-Nitrophenol	5.84	139	116327	31.83051 ppb	96
25) 2,4-Dimethylphenol	5.91	122	155921	26.38845 ppb	93
26) Benzoic acid	6.07	105	50561	15.72451 ppb	91
27) Bis (2-chloroethoxy) metha	6.00	93	229936	30.69871 ppb	100
28) 2,4-Dichlorophenol	6.13	162	172678	30.71113 ppb	96
29) 1,2,4-Trichlorobenzene	6.20	180	154451	24.86014 ppb	93
30) 3,4-Dimethylphenol	6.25	107	252077	28.33665 ppb	98
31) Naphthalene	6.27	128	549317	27.29473 ppb	100
32) 4-Chloroaniline	6.36	127	246277	34.83652 ppb	99
33) 2,6-Dichlorophenol	6.37	162	160987	30.93726 ppb	94
34) Hexachloropropene	6.37	213	91200	20.19364 ppb	96
35) Hexachlorobutadiene	6.41	225	75929	20.61028 ppb	97
36) Caprolactum	6.78	55	35960	11.23684 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	192393	31.57768 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y276.D
Acq On : 10 Mar 17 18:53
Sample : AZ51132W18 MS-1 1/1060
Misc : water

Vial: 76
Operator: MA
Inst : Yoda
Multiplr: 0.94

Quant Time: Mar 13 10:01 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	388044	29.68030 ppb		97
39) 1-Methylnaphthalene	7.18	142	381141	29.59594 ppb		99
41) Hexachlorocyclopentadiene	7.24	237	18804	15.04256 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	174853	28.46350 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	122616	31.81083 ppb		96
44) 2,4,5-Trichlorophenol	7.47	196	127010	30.03959 ppb		94
46) 1,1'-Biphenyl	7.60	154	505580	29.68210 ppb		99
47) 2-Chloronaphthalene	7.63	162	382716	29.40538 ppb		99
48) 2-Nitroaniline	7.77	65	141967	30.58987 ppb		89
49) Dimethyl phthalate	7.97	163	501546	32.13776 ppb		100
50) 2,6-DNT	8.06	165	114629	32.90150 ppb		93
51) Acenaphthylene	8.10	152	622871	29.72229 ppb		99
52) 3-Nitroaniline	8.25	138	122062	32.03549 ppb		91
53) Acenaphthene	8.30	154	384518	29.76498 ppb		98
54) 2,4-Dinitrophenol	8.41	184	45806	31.73741 ppb		95
55) 4-Nitrophenol	8.53	65	5973	8.60039 ppb	#	39
56) Dibenzofuran	8.50	168	568759	31.18173 ppb		91
57) 2,4-DNT	8.53	165	158441	32.61541 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.67	232	103569	31.09962 ppb		94
59) Diethyl phthalate	8.79	149	497972	31.51122 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	211897	29.82655 ppb		99
61) Fluorene	8.90	166	430902	29.18249 ppb		97
62) 4-Nitroaniline	8.97	138	117094	32.30482 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.01	198	93953	33.12526 ppb		86
66) Diphenyl amine	9.05	169	697099	63.92635 ppb		99
67) n-Nitrosodiphenylamine	9.05	169	697099	63.92635 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	532475	27.96965 ppb		99
69) 4-Bromophenyl phenyl ether	9.47	248	139508	32.64606 ppb		95
70) Hexachlorobenzene	9.54	284	137876	30.92947 ppb		92
71) Atrazine	9.68	200	68992	16.34445 ppb		97
72) Pentachlorophenol	9.79	266	55385	31.22811 ppb		97
73) Phenanthrene	10.02	178	723248	31.34132 ppb		99
74) Anthracene	10.07	178	759143	31.53919 ppb		99
75) Carbazol	10.28	167	698097	32.76145 ppb		97
76) Di-n-butylphthalate	10.68	149	895802	33.26844 ppb		100
77) Fluoranthene	11.40	202	808966	32.29163 ppb		96
79) Benzidine	11.58	184	82614	8.23341 ppb		98
80) Pyrene	11.66	202	882901	34.15744 ppb		99
82) Butyl benzylphthalate	12.42	149	419753	35.12196 ppb		99
83) 3,3'-Dichlorobenzidine	13.02	252	286342	35.33138 ppb		97
84) Benz (a) anthracene	13.05	228	777260	31.97276 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	571937	34.02443 ppb		98
86) Chrysene	13.09	228	773928	32.45887 ppb		100
87) Di-n-octylphthalate	13.79	149	1021796	35.48443 ppb		95
89) Benzo (b) fluoranthene	14.24	252	824112	29.16487 ppb		97
90) Benzo (k) fluoranthene	14.28	252	828937	31.83011 ppb		96
91) Benzo (a) pyrene	14.63	252	787045	30.49674 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.24	276	845507	29.22429 ppb		98
93) Dibenz (a,h) anthracene	16.25	278	735474	29.86282 ppb		99
94) Benzo (g,h,i) perylene	16.68	276	720908	29.69853 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

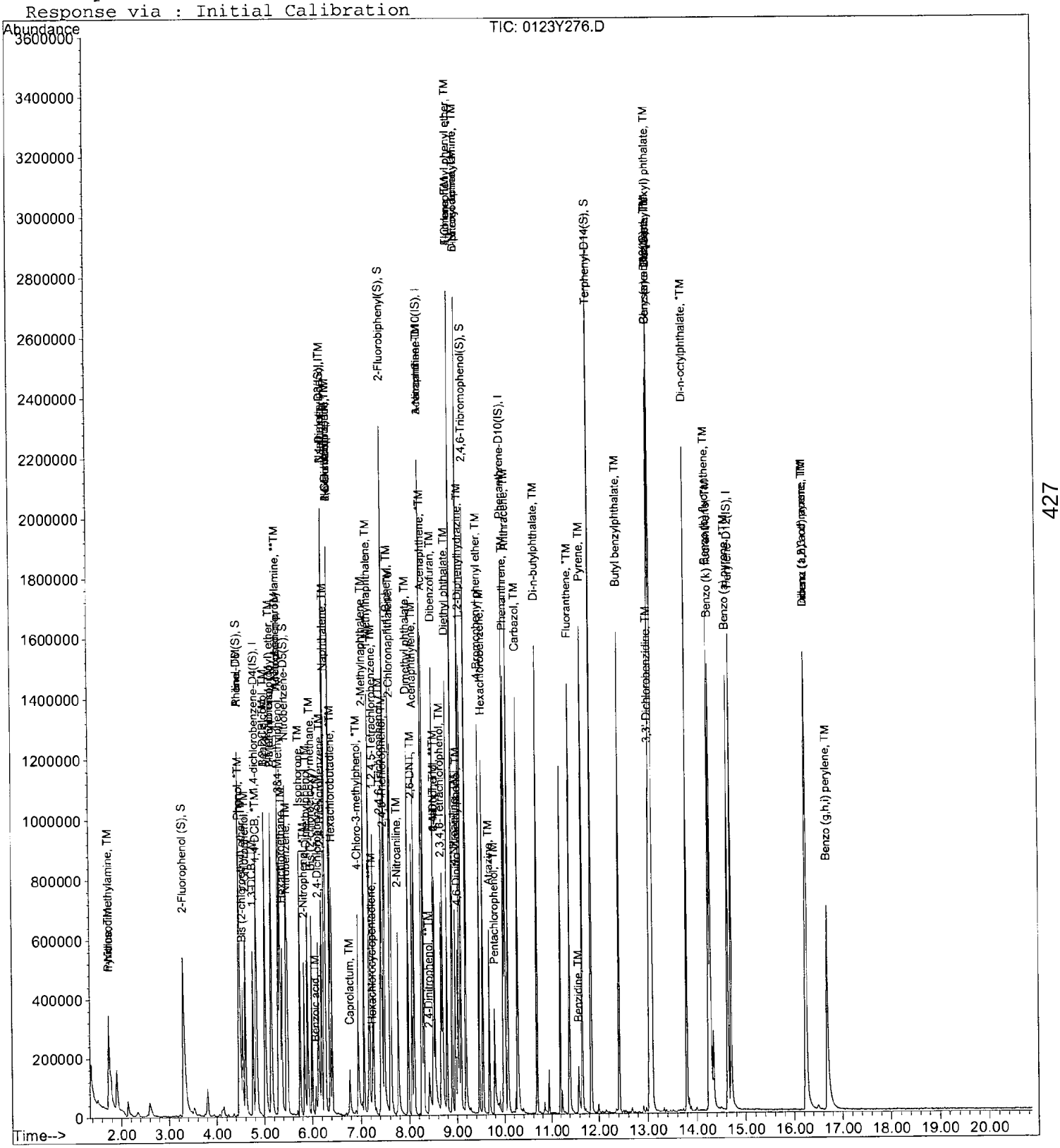
Data File : M:\YODA\DATA\Y170123\0123Y276.D
Acq On : 10 Mar 17 18:53
Sample : AZ51132W18 MS-1 1/1060
Misc : water

Vial: 76
Operator: MA
Inst : Yoda
Multiplr: 0.94

Quant Time: Mar 13 10:01 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration


Abundance
TIC: 0123Y276.D
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3400000
3200000
3000000
2800000
2600000
2400000
2200000
2000000
1800000
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00
2-Fluorophenol (S), S
Caprolactum, TM
Benzoic acid, TM
Benzidine, TM
Pyrene, TM
Fluoranthene, TM
Carbazol, TM
Di-n-butylphthalate, TM
Butyl benzylphthalate, TM
Benzo (g,h,i) perylene, TM
Terphenyl-D14(S), S
Di-n-octylphthalate, TM
2-Fluorobiphenyl(S), S
2,4,6-Tribromophenol(S), S
Pentachlorophenol, TM
Hexachlorobenzene, TM
Naphthalene, TM
2-Nitroaniline, TM
2,6-DNT, TM
Dibenzofuran, TM
Diethyl phthalate, TM
Dimethyl phthalate, TM
Acenaphthene, TM
Phenanthrene, TM
Anthracene, TM
Benzo (k) fluoranthene, TM
Benzo (a) anthracene, TM
Chrysene, TM
3,3'-Dichlorobenzidine, TM
Hexachlorobutadiene, TM
Nitrobenzene, TM
2-Methylnaphthalene, TM
4-Chloro-3-methylphenol, TM
2,4-Dinitrophenol, TM
Hexachlorocyclopentadiene, TM
Aniline, TM
Phenol, TM
Benzyl alcohol, TM
Bis(2-chloroethyl)ether, TM
1,3-DCB, TM
1,4-DCB, TM
1,2-DCB, TM
4-Methylphenol, TM
Isophorone, TM
Bis(2-chloroethoxy)methane, TM
2,4-Dichlorophenol, TM
Naphthalene-D8(S), S
Acenaphthylene-D10(S), I
Phenanthrene-D10(S), I
Chrysene-D12(S), I
Perylene-D12(S), I
Benzo (a,h,i) perylene, TM
Dibenz (a,h) anthracene, TM
Benzo (b) fluoranthene, TM
Benzo (a) pyrene, TM
Indeno (1,2,3-cd) pyrene, TM
Benzo (g,h,i) perylene-D12(S), I
Dibenz (a,h) anthracene-D14(S), I
Benzo (k) fluoranthene-D12(S), I
Benzo (a) pyrene-D12(S), I
Benzo (b) fluoranthene-D12(S), I
Benzo (a) anthracene-D12(S), I
Chrysene-D12(S), I
Perylene-D12(S), I

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y277.D
Vial: 77
Acq On : 10 Mar 17 19:23
Operator: MA
Sample : AZ51132W33 MSD-1 1/1060
Inst : Yoda
Misc : water
Multiplr: 0.94

Quant Time: Mar 13 10:01 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	188840	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	760749	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	445630	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	824282	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	817974	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	887606	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	489105	77.46142 ppb	-0.01
Spiked Amount 188.679			Recovery	= 41.054%	
5) Phenol-D6 (S)	4.46	99	398261	47.40799 ppb	0.00
Spiked Amount 188.679			Recovery	= 25.126%	
21) Nitrobenzene-D5(S)	5.46	82	464742	56.82796 ppb	0.00
Spiked Amount 94.340			Recovery	= 60.238%	
45) 2-Fluorobiphenyl(S)	7.50	172	772317	50.96597 ppb	0.00
Spiked Amount 94.340			Recovery	= 54.024%	
63) 2,4,6-Tribromophenol(S)	9.20	330	224371	102.61947 ppb	0.00
Spiked Amount 188.679			Recovery	= 54.388%	
81) Terphenyl-D14(S)	11.84	244	998701	53.55153 ppb	0.00
Spiked Amount 94.340			Recovery	= 56.765%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	135148	28.24821 ppb		85
3) Pyridine	1.74	79	142553	14.97895 ppb		91
6) Phenol	4.48	94	148932	15.44468 ppb	#	72
7) Aniline	4.46	66	192997	21.08347 ppb	#	53
8) Bis (2-chloroethyl) ether	4.55	63	136165	28.85046 ppb		90
9) 2-Chlorophenol	4.60	128	233244	31.27800 ppb		93
10) 1,3-DCB	4.75	146	179117	22.76926 ppb		96
11) 1,4-DCB	4.84	146	187569	23.20309 ppb		95
12) Benzyl alcohol	5.01	108	125009	29.43239 ppb		94
13) 1,2-DCB	5.01	146	179473	24.35836 ppb		97
14) 2-Methylphenol	5.15	107	156157	28.02024 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	313608	30.28390 ppb	#	67
16) Acetophenone	5.30	105	303996	30.61081 ppb		94
17) 3&4-Methylphenol	5.33	107	379326	52.41508 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	166943	30.28179 ppb		94
19) Hexachloroethane	5.37	117	65679	19.75888 ppb		95
22) Nitrobenzene	5.48	77	251126	30.76373 ppb		92
23) Isophorone	5.75	82	434101	32.02961 ppb		92
24) 2-Nitrophenol	5.85	139	131195	34.26775 ppb		90
25) 2,4-Dimethylphenol	5.91	122	164101	26.51098 ppb		98
26) Benzoic acid	6.08	105	55957	16.29014 ppb		94
27) Bis (2-chloroethoxy) metha	6.00	93	254399	32.42156 ppb		98
28) 2,4-Dichlorophenol	6.12	162	192496	32.68028 ppb		99
29) 1,2,4-Trichlorobenzene	6.20	180	179959	27.64978 ppb		99
30) 3,4-Dimethylphenol	6.24	107	273346	29.33143 ppb		98
31) Naphthalene	6.27	128	620662	29.43853 ppb		99
32) 4-Chloroaniline	6.36	127	257230	34.73264 ppb		95
33) 2,6-Dichlorophenol	6.36	162	175479	32.19004 ppb		96
34) Hexachloropropene	6.37	213	100279	21.19508 ppb		95
35) Hexachlorobutadiene	6.41	225	87037	22.55202 ppb		95
36) Caprolactum	6.77	55	37613	11.21935 ppb		98
37) 4-Chloro-3-methylphenol	6.94	107	208693	32.69671 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y277.D
Acq On : 10 Mar 17 19:23
Sample : AZ51132W33 MSD-1 1/1060
Misc : water

Vial: 77
Operator: MA
Inst : Yoda
Multiplr: 0.94

Quant Time: Mar 13 10:01 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	428251	31.26735 ppb		97
39) 1-Methylnaphthalene	7.18	142	425451	31.53562 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	22802	16.45865 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	194104	30.36793 ppb		99
43) 2,4,6-Trichlorophenol	7.41	196	133292	33.23513 ppb		96
44) 2,4,5-Trichlorophenol	7.48	196	140306	31.89318 ppb		94
46) 1,1'-Biphenyl	7.61	154	558613	31.51964 ppb		99
47) 2-Chloronaphthalene	7.63	162	428824	31.66611 ppb		98
48) 2-Nitroaniline	7.78	65	155193	32.13867 ppb		95
49) Dimethyl phthalate	7.98	163	545996	33.62481 ppb		99
50) 2,6-DNT	8.05	165	119083	32.85009 ppb	#	76
51) Acenaphthylene	8.10	152	675451	30.97730 ppb		99
52) 3-Nitroaniline	8.26	138	128339	32.37242 ppb	#	93
53) Acenaphthene	8.31	154	420024	31.24846 ppb		98
54) 2,4-Dinitrophenol	8.42	184	53503	34.45518 ppb	#	64
55) 4-Nitrophenol	8.53	65	6298	8.62354 ppb	#	51
56) Dibenzofuran	8.50	168	604968	31.87644 ppb		94
57) 2,4-DNT	8.54	165	168943	33.42420 ppb		90
58) 2,3,4,6-Tetrachlorophenol	8.67	232	113991	32.89738 ppb	#	89
59) Diethyl phthalate	8.79	149	524721	31.91202 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	228731	30.94346 ppb		91
61) Fluorene	8.90	166	452840	29.47503 ppb		99
62) 4-Nitroaniline	8.97	138	128097	33.96544 ppb		85
65) 4,6-Dinitro-2-methylphenol	9.01	198	101580	34.38613 ppb	#	64
66) Diphenyl amine	9.06	169	750764	66.64416 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	750764	66.64416 ppb		99
68) 1,2-Diphenylhydrazine	9.09	77	583464	29.66710 ppb		95
69) 4-Bromophenyl phenyl ether	9.47	248	145297	32.91255 ppb		96
70) Hexachlorobenzene	9.55	284	153361	33.30213 ppb	#	84
71) Atrazine	9.69	200	73020	16.74506 ppb		98
72) Pentachlorophenol	9.80	266	61043	32.84249 ppb		99
73) Phenanthrene	10.01	178	762654	31.99122 ppb		100
74) Anthracene	10.07	178	800304	32.18512 ppb		100
75) Carbazol	10.27	167	734356	33.36009 ppb		98
76) Di-n-butylphthalate	10.68	149	957029	34.40477 ppb		99
77) Fluoranthene	11.40	202	882927	34.11597 ppb		97
79) Benzidine	11.58	184	78123	7.23787 ppb		97
80) Pyrene	11.66	202	910405	32.74262 ppb		99
82) Butyl benzylphthalate	12.42	149	440927	34.29707 ppb		93
83) 3,3'-Dichlorobenzidine	13.03	252	295927	33.94420 ppb		95
84) Benz (a) anthracene	13.05	228	830607	31.76251 ppb		100
85) Bis (2-ethylhexyl) phthala	13.08	149	602408	33.31493 ppb		97
86) Chrysene	13.10	228	844559	32.92823 ppb		99
87) Di-n-octylphthalate	13.79	149	1069293	34.52040 ppb		100
89) Benzo (b) fluoranthene	14.25	252	857636	29.28170 ppb		99
90) Benzo (k) fluoranthene	14.27	252	874377	32.39177 ppb		99
91) Benzo (a) pyrene	14.63	252	815081	30.47011 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	888269	29.62039 ppb		99
93) Dibenz (a,h) anthracene	16.24	278	758855	29.72635 ppb		97
94) Benzo (g,h,i) perylene	16.69	276	771398	30.65865 ppb		97

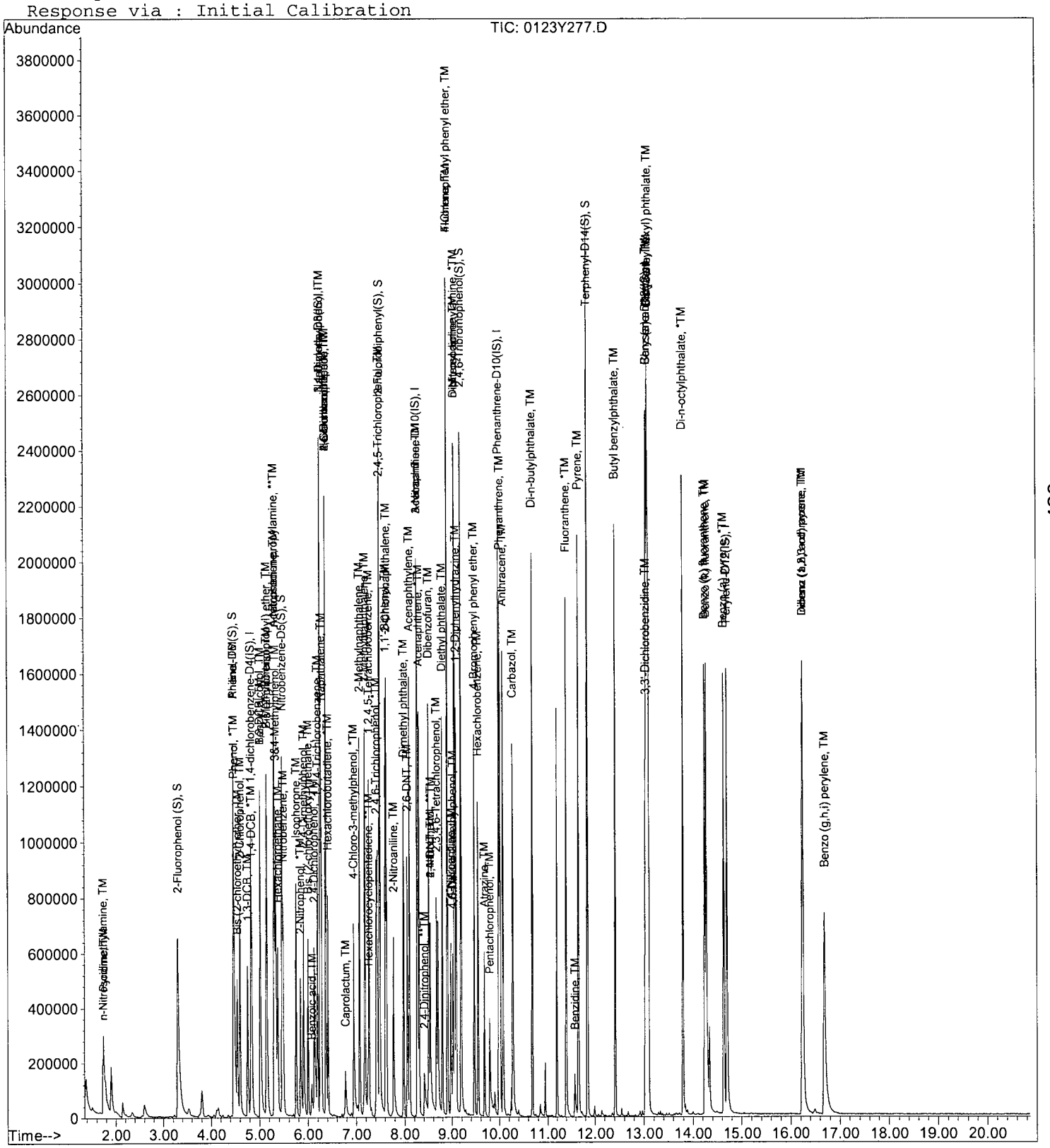
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y277.D Vial: 77
Acq On : 10 Mar 17 19:23 Operator: MA
Sample : AZ51132W33 MSD-1 1/1060 Inst : Yoda
Misc : water Multiplr: 0.94

Quant Time: Mar 13 10:01 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



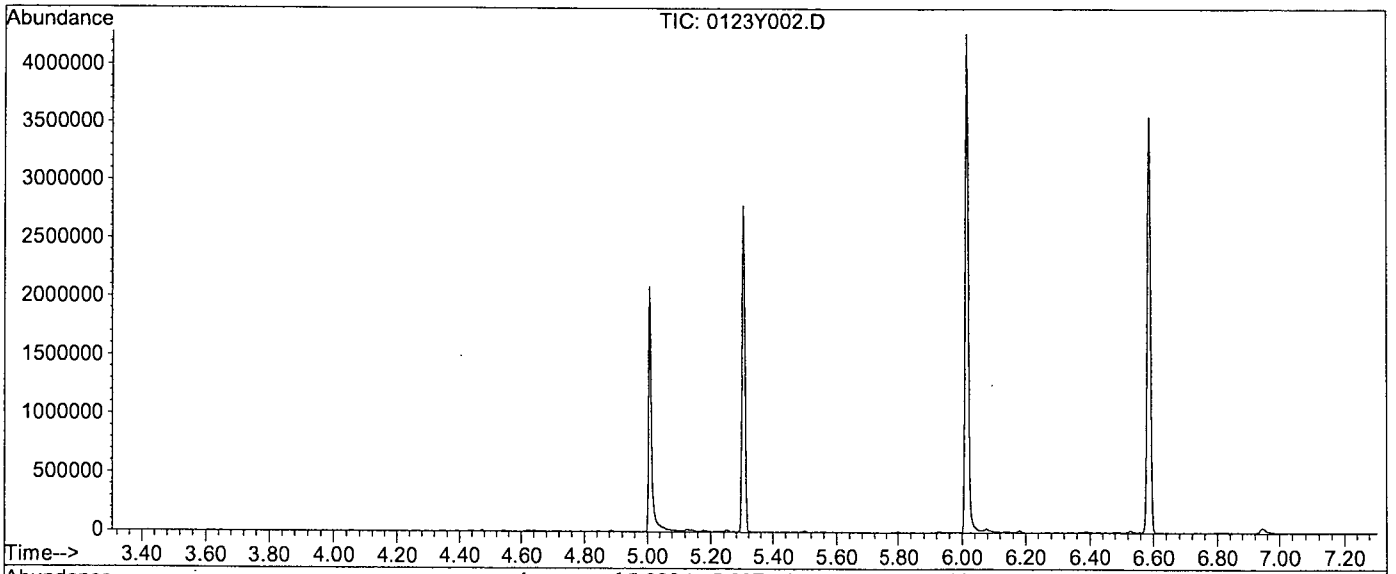
430

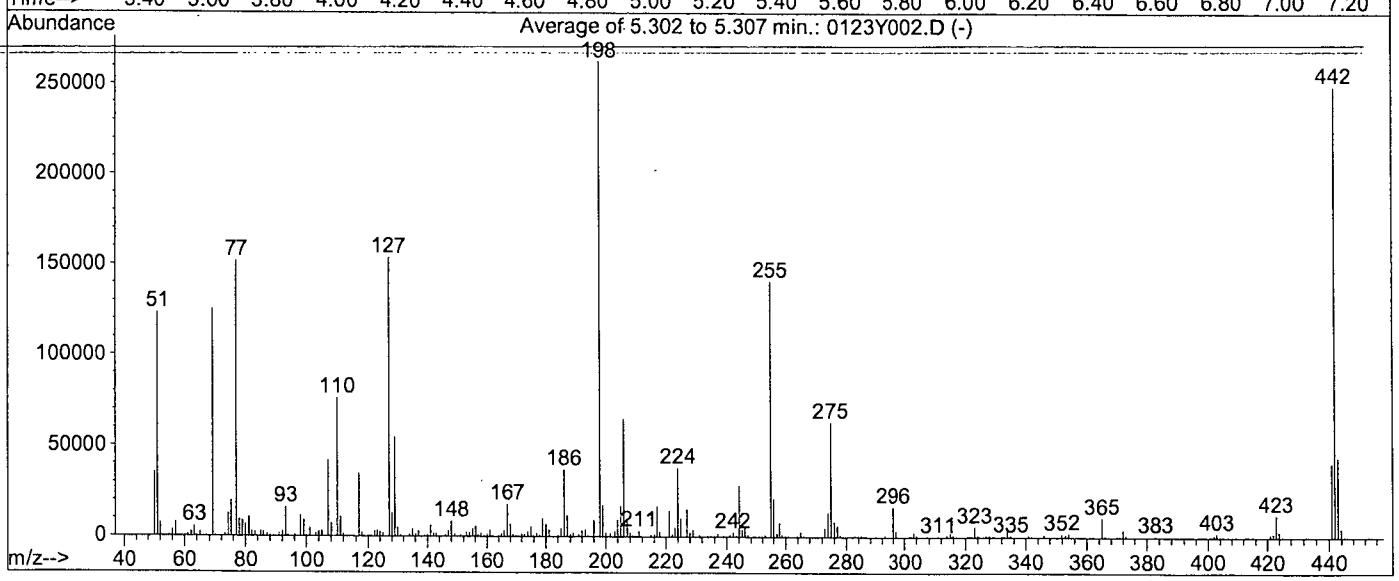
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

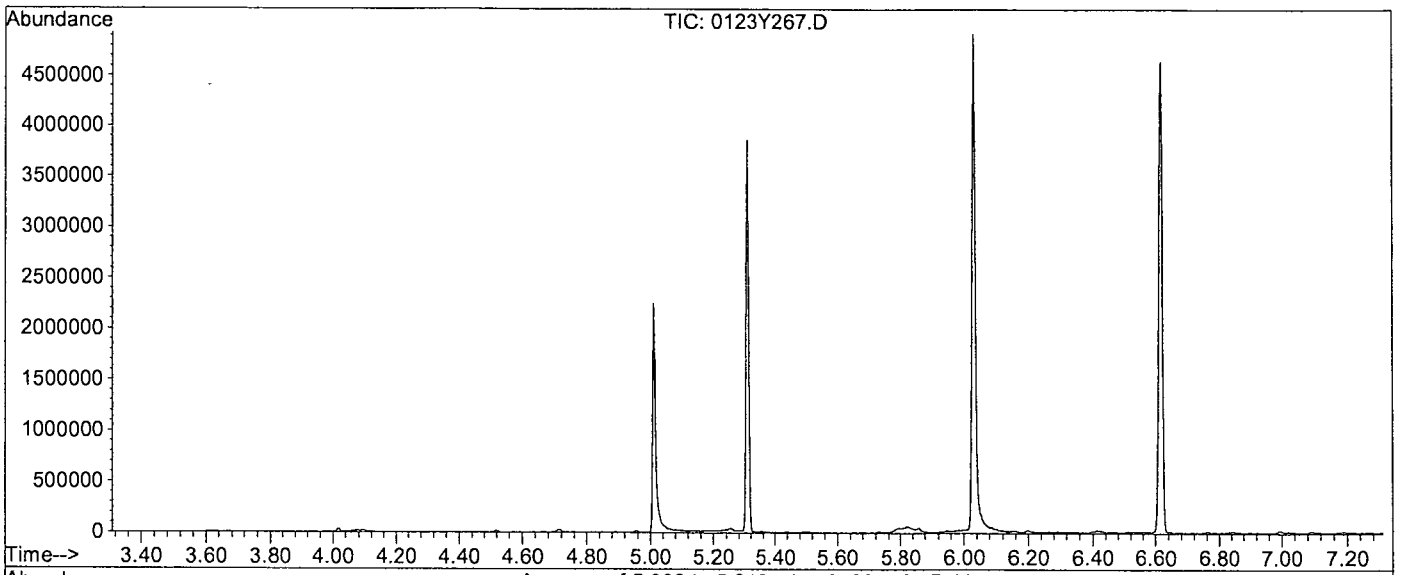
0123Y002.D Y0123.M Wed Mar 15 16:48:40 2017

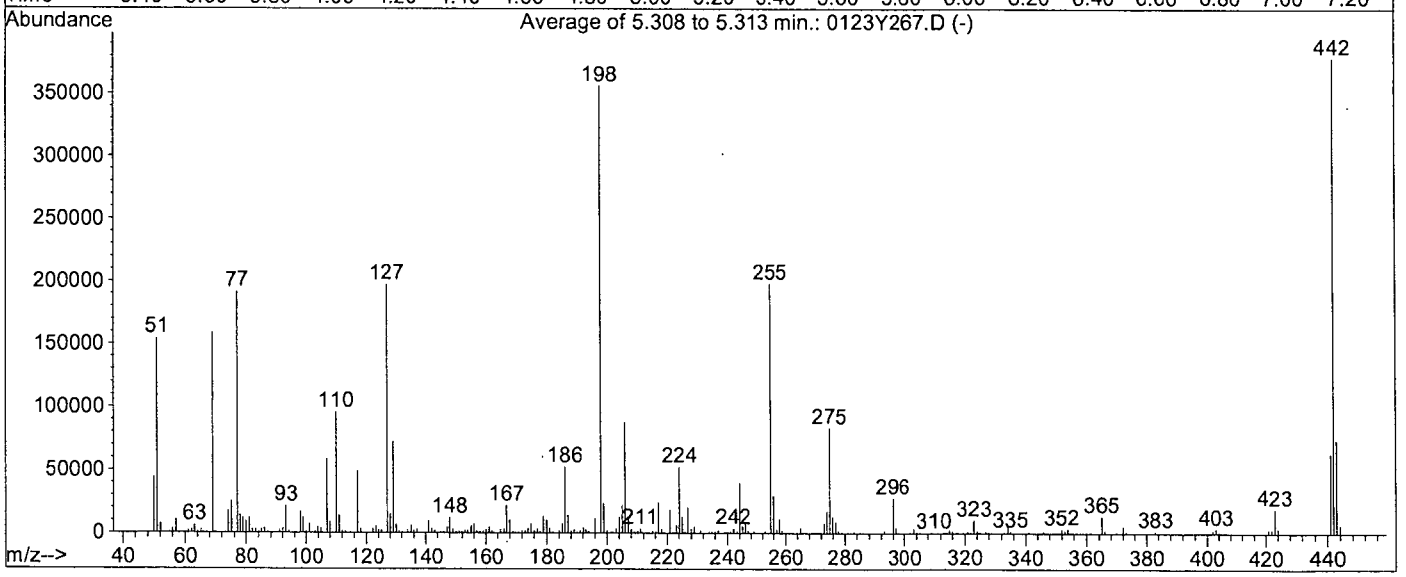
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y267.D
Acq On : 10 Mar 17 14:31
Sample : SV Tune 10/19/16
Misc : water

Vial: 67
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 688, 689, 690; Background Corrected with Scan 680

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	43.3	154377	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	912	PASS
127	198	40	60	55.5	197632	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	356373	PASS
199	198	5	9	6.6	23424	PASS
275	198	10	30	23.3	83205	PASS
365	198	1	100	3.7	13200	PASS
441	443	0.01	100	86.1	63285	PASS
442	198	50	150	106.4	379200	PASS
443	442	17	23	19.4	73477	PASS

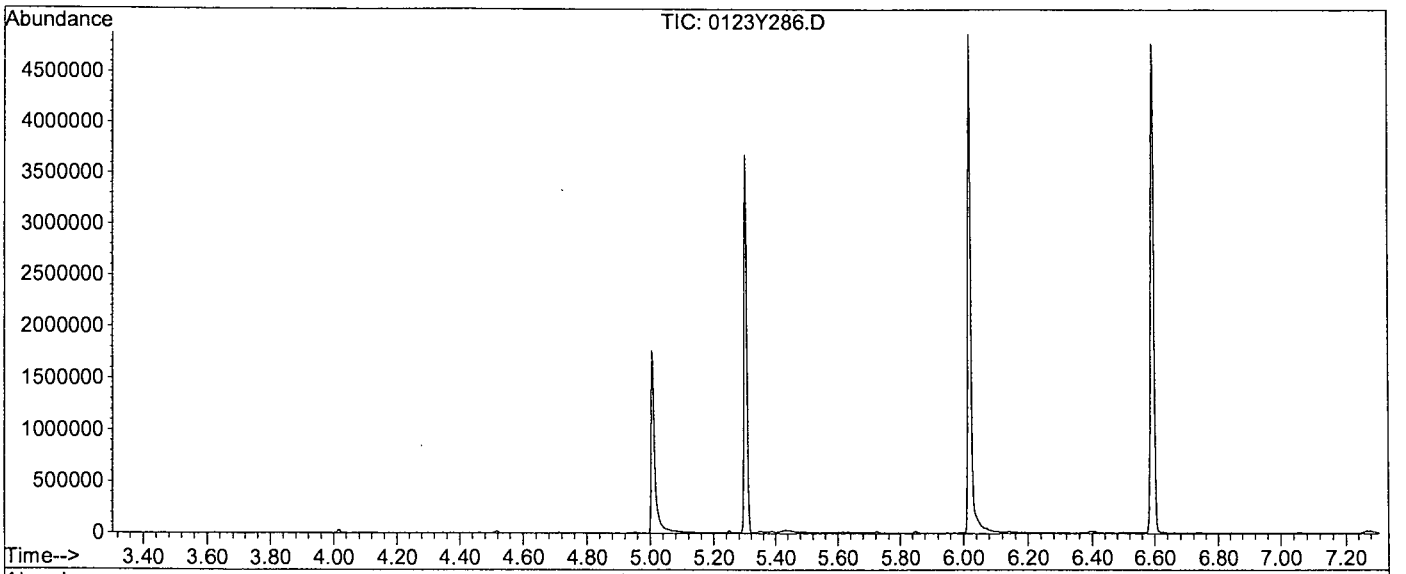
0123Y267.D Y0123.M Fri Mar 10 14:45:38 2017

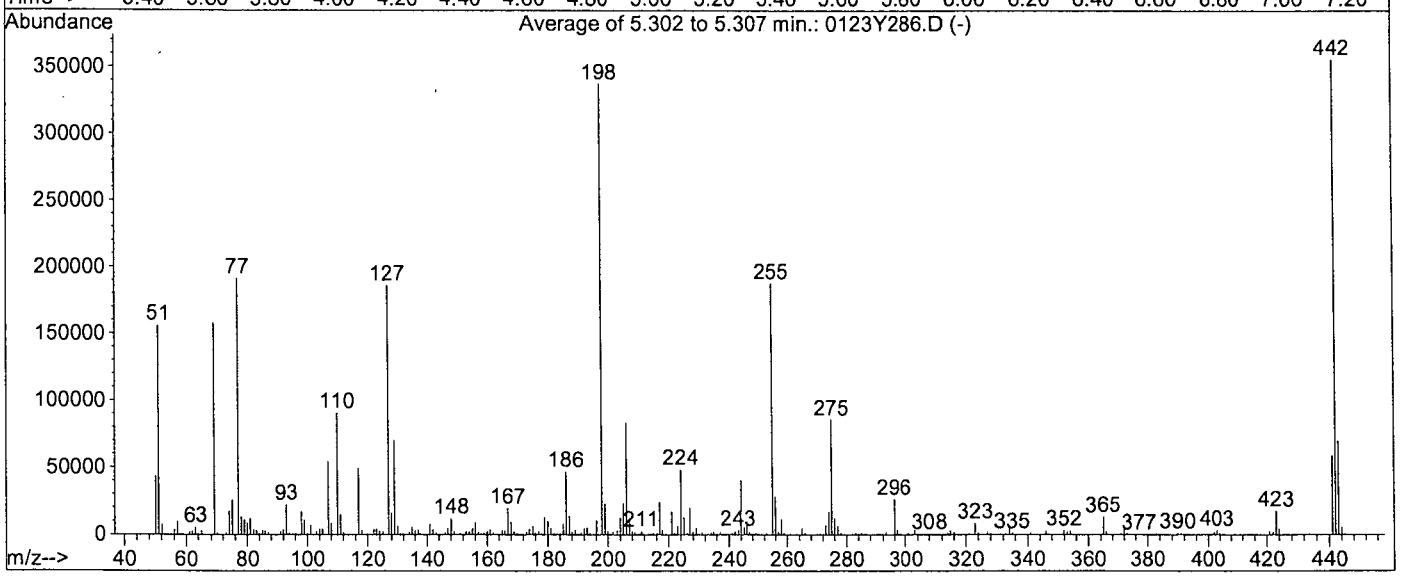
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y286.D
Acq On : 14 Mar 17 7:44
Sample : SV Tune 02/09/16
Misc : water

Vial: 86
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.3	156309	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1266	PASS
127	198	40	60	55.1	186048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	337408	PASS
199	198	5	9	6.7	22669	PASS
275	198	10	30	25.4	85576	PASS
365	198	1	100	3.9	13181	PASS
441	443	0.01	100	84.0	58536	PASS
442	198	50	150	105.4	355755	PASS
443	442	17	23	19.6	69672	PASS

0123Y286.D Y0123.M Wed Mar 15 16:18:20 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	53014-3713	01/19/17	05/30/17	1000
Absolute	10002	2000	62216-3714	01/19/17	01/19/18	1000
Absolute	10004	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	10005	2000	10314-3713	01/19/17	01/19/18	1000
Absolute	10006	2000	81216-3707	01/19/17	01/19/18	1000
Absolute	10007	2000	20515-3714	01/19/17	01/19/18	1000
Absolute	10018	2000	90216-3715	01/19/17	01/19/18	1000
Absolute	70023	1000	83121-3715	01/19/17	01/19/18	1000
Absolute	82705	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	94552	2000	42016-3686	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170309A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 2-14-17 EXP 5-3-17	Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2	SIM PAH SPIKE 3-9-17 EXP 3-9-18	Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	YES	
Spiked ID 7		Ext. Start Time:	03/09/17 15:10	
Spiked ID 8		Ext. End Time:	03/10/17 13:30	
		GC Requires Extract By:	03/13/17 0:00	

pH1	2	03/09/17 3:20:00 PM	Water Bath Temp Criteria	76 °C
pH2	14	03/09/17 5:45:00 PM		
pH3				

Spiked By: KY **Date** 03/09/17 **Witnessed By:** JR **Date** 03/09/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170309A Blk				1	1	1000	1	2/1	03/09/17 15:10	
						equip	E-WB6				
2	170309A LCS-1		0.250	1	1	1	1000	1	2/1	03/09/17 15:10	
						equip	E-WB6				
3	170309A LCS-2		0.250	2	1	1	1000	1	2/1	03/09/17 15:10	
						equip	E-WB6				
4	AZ51053	AZ51053W11			1	1	1000	1	2/1	03/09/17 15:10	82337 1 WEEK
						equip	E-WB6				
5	AZ51054	AZ51054W07			1	1	1070	1	2/1	03/09/17 15:10	82337 1 WEEK
						equip	E-WB6				
6	AZ51056	AZ51056W10			1	1	1070	1	2/1	03/09/17 15:10	82337 1 WEEK
						equip	E-WB6				
7	AZ51132 MS-1	AZ51132W18	0.250	1	1	1	1060	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
8	AZ51132 MSD-1	AZ51132W33	0.250	1	1	1	1060	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
9	AZ51132	AZ51132W30			1	1	1000	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
10	AZ51133	AZ51133W05			1	1	950	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
11	AZ51135	AZ51135W31			1	1	1070	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
12	AZ51136	AZ51136W08			1	1	1000	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
13	AZ51139	AZ51139W09			1	1	1070	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				
14	AZ51141	AZ51141W13			1	1	1060	1	2/1	03/09/17 15:10	82351 5 days
						equip	E-WB6				

Kg 3/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-14-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/10/17
Time	2:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,JR,DL
Extraction	KY,JR,DL
Concentration	DL

Modified	03/10/17 2:01:37 PM

Reviewed By: Kg 442 **Date** 3/10/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
2	3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
3	4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
4	5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
5	6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
6	7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
7	8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
8	9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
9	10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
10	11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
11	67	0123Y267.D	1	SV Tune 10/19/16	water	10 Mar 17 14:31
12	68	0123Y268.D	1	50ug/ml SVOC 3/02/17	water	10 Mar 17 14:47
13	69	0123Y269.D	1	170309A BLK 1/1000	water	10 Mar 17 15:18
14	70	0123Y270.D	1	170309A LCS-1 1/1000	water	10 Mar 17 15:50
15	75	0123Y275.D	1	AZ51132W30 1/1000	water	10 Mar 17 18:22
16	76	0123Y276.D	0.943396	AZ51132W18 MS-1 1/1060	water	10 Mar 17 18:53
17	77	0123Y277.D	0.943396	AZ51132W33 MSD-1 1/1060	water	10 Mar 17 19:23
18	78	0123Y278.D	1.05263	AZ51133W05 1/950	water	10 Mar 17 19:53
19	79	0123Y279.D	0.93458	AZ51135W31 1/1070	water	10 Mar 17 20:23
20	80	0123Y280.D	1	AZ51136W08 1/1000	water	10 Mar 17 20:53
21	81	0123Y281.D	0.93458	AZ51139W09 1/1070	water	10 Mar 17 21:23
22	84	0123Y284.D	1	50ug/ml SVOC 3/02/17	water	10 Mar 17 22:36
23	86	0123Y286.D	1	SV Tune 02/09/16	water	14 Mar 17 7:44
24	87	0123Y287.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 8:01
25	89	0123Y289.D	0.943396	AZ51141W13 1/1060	water	14 Mar 17 9:32
26	2	0123Y302.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 16:14

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:16:09 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:17:46 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 MS - 216866**
Batch ID: #87DME-170310A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	69.0	57.4	86.3	71.8	30-130	18.4	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/13/17	03/13/17
Instrument :	Yoda	Yoda
Run :	1220Y142	1220Y143
Initials :	MA	

Printed: 03/14/17 11:17:48 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82351
Matrix: WATER
Blank ID: 170310A-BLK

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 1034

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A-BLK	Blank	1220Y136	03/13/17 1034
170310A-LCS	Lab Control Spike	1220Y137	03/13/17 1104
AZ51139	ERH268	1220Y138	03/13/17 1135
170310A-MS	Matrix Spike	1220Y142	03/13/17 1421
170310A-MSD	Matrix SpikeD	1220Y143	03/13/17 1452
AZ51132	ERH257	1220Y144	03/13/17 1523
AZ51133	ERH258	1220Y145	03/13/17 1554
AZ51135	ERH262	1220Y146	03/13/17 1625
AZ51136	ERH263	1220Y147	03/13/17 1656
AZ51141	ERH270	1220Y148	03/13/17 1727

Comments: Batch: #87DME-170310A

Printed: 03/14/17 11:17:49 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 11/15/16

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82351
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 9:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y135.D	03/13/17 10:03
2	Blank	170310A BLK 2/500	1220Y136.D	03/13/17 10:34
3	Lab Control Spike	170310A LCS-1 2/500	1220Y137.D	03/13/17 11:04
4	ERH268	AZ51139W14 2/500	1220Y138.D	03/13/17 11:35
5		AZ51132W28 MS-1 2/50	1220Y142.D	03/13/17 14:21
6		AZ51132W28 MSD-1 2/5	1220Y143.D	03/13/17 14:52
7	ERH257	AZ51132W22 2/500	1220Y144.D	03/13/17 15:23
8	ERH258	AZ51133W08 2/500	1220Y145.D	03/13/17 15:54
9	ERH262	AZ51135W26 2/500	1220Y146.D	03/13/17 16:25
10	ERH263	AZ51136W13 2/500	1220Y147.D	03/13/17 16:56
11	ERH270	AZ51141W09 2/500	1220Y148.D	03/13/17 17:27
12		500ug/ml DEG 02/14/1	1220Y150.D	03/13/17 18:11
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.2
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.1
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	84.2
442	50 - 150% of mass 197.95	95.9
443	17 - 23% of mass 442	19.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)			Napthalene-D8(IS)			Acenaphthene-D10(IS)		
		AREA	#	RT	#	AREA	#	RT	#
	12 HOUR STD	220710		4.87		916121		6.29		479952		8.31	
	UPPER LIMIT	441420		5.37		1832242		6.79		959904		8.81	
	LOWER LIMIT	110355		4.37		458061		5.79		239976		7.81	
	SAMPLE NO.												
01	500ug/ml DEG 02/14/17	177553		4.84		746186		6.26		429159		8.26	
02	170310A BLK 2/500	140695		4.83		637834		6.26		358479		8.26	
03	170310A LCS-1 2/500	136004		4.82		614588		6.25		356092		8.26	
04	AZ51139W14 2/500	131092		4.82		569622		6.25		333535		8.26	
05	AZ51132W28 MS-1 2/50	145034		4.83		624941		6.25		369044		8.26	
06	AZ51132W28 MSD-1 2/	155384		4.82		671435		6.25		387283		8.26	
07	AZ51132W22 2/500	140681		4.82		628172		6.25		371011		8.26	
08	AZ51133W08 2/500	152280		4.83		679820		6.25		390378		8.26	
09	AZ51135W26 2/500	155429		4.83		698509		6.26		403293		8.26	
10	AZ51136W13 2/500	138702		4.82		625094		6.25		372713		8.26	
11	AZ51141W09 2/500	134590		4.84		590503		6.26		342473		8.26	
12	500ug/ml DEG 02/14/17	178165		4.83		786911		6.25		435104		8.26	
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	771605	9.99	734679	13.06	537954	14.69
02	170310A BLK 2/500	680715	9.99	651186	13.06	671686	14.69
03	170310A LCS-1 2/500	658238	9.99	636142	13.06	624209	14.69
04	AZ51139W14 2/500	615815	9.99	589437	13.06	583597	14.69
05	AZ51132W28 MS-1 2/50	691357	9.99	655836	13.06	653518	14.69
06	AZ51132W28 MSD-1 2/	730974	9.99	704749	13.06	708733	14.69
07	AZ51132W22 2/500	703093	9.99	679629	13.06	679480	14.69
08	AZ51133W08 2/500	734680	9.99	709773	13.06	708533	14.69
09	AZ51135W26 2/500	781452	9.99	730774	13.06	737863	14.69
10	AZ51136W13 2/500	695912	9.99	658916	13.06	653234	14.69
11	AZ51141W09 2/500	636858	9.98	588104	13.06	588158	14.70
12	500ug/ml DEG 02/14/17	815094	9.99	761306	13.06	583729	14.69
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y144
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y144.D Vial: 44
Acq On : 13 Mar 17 15:23 Operator: MA
Sample : AZ51132W22 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	140681	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	628172	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	371011	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	703093	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	679629	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	679480	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

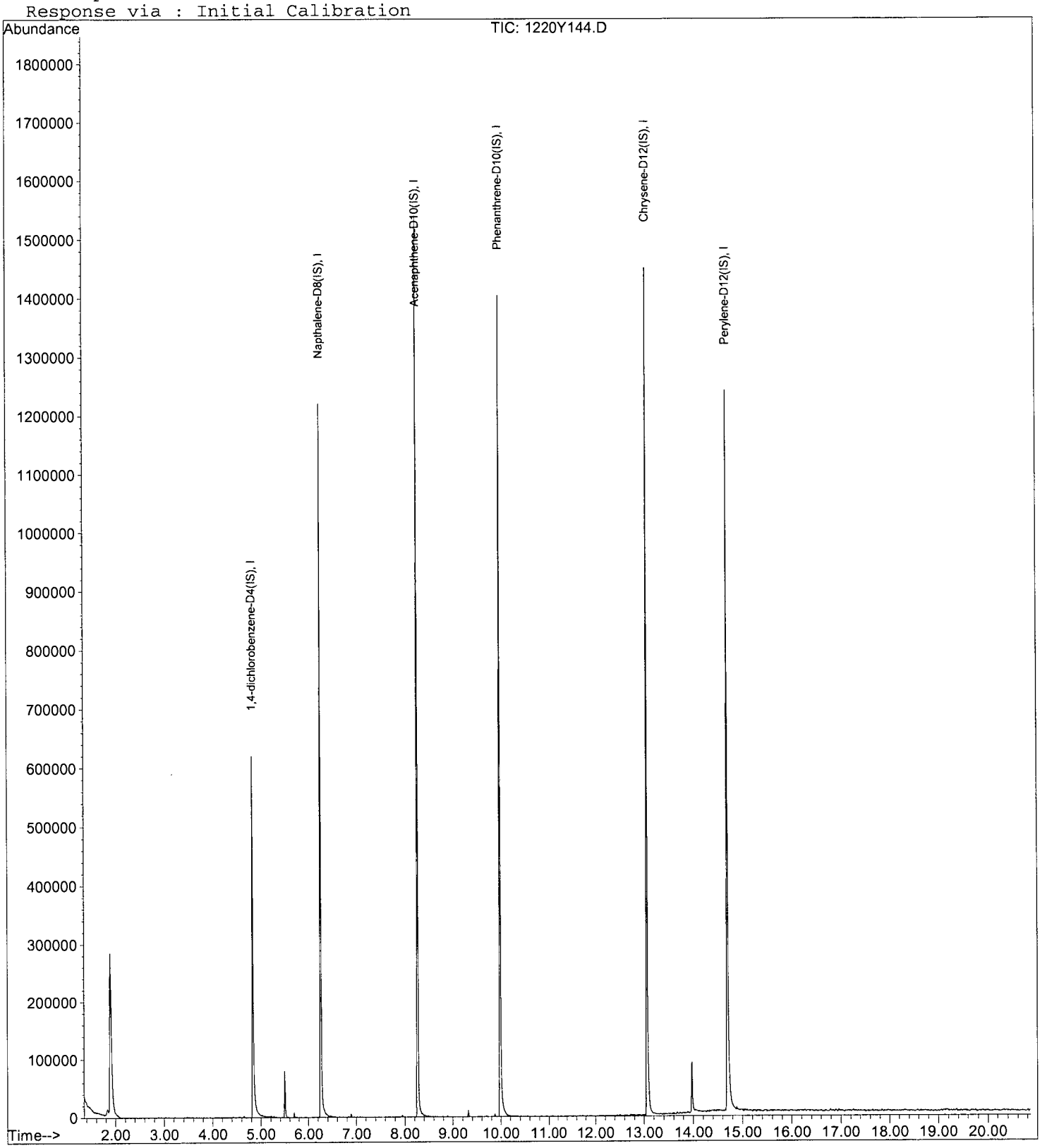
Data File : M:\YODA\DATA\Y161220G\1220Y144.D
Acq On : 13 Mar 17 15:23
Sample : AZ51132W22 2/500
Misc : water

Vial: 44
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y145
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y145.D Vial: 45
Acq On : 13 Mar 17 15:54 Operator: MA
Sample : AZ51133W08 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	152280	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	679820	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	390378	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	734680	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	709773	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	708533	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

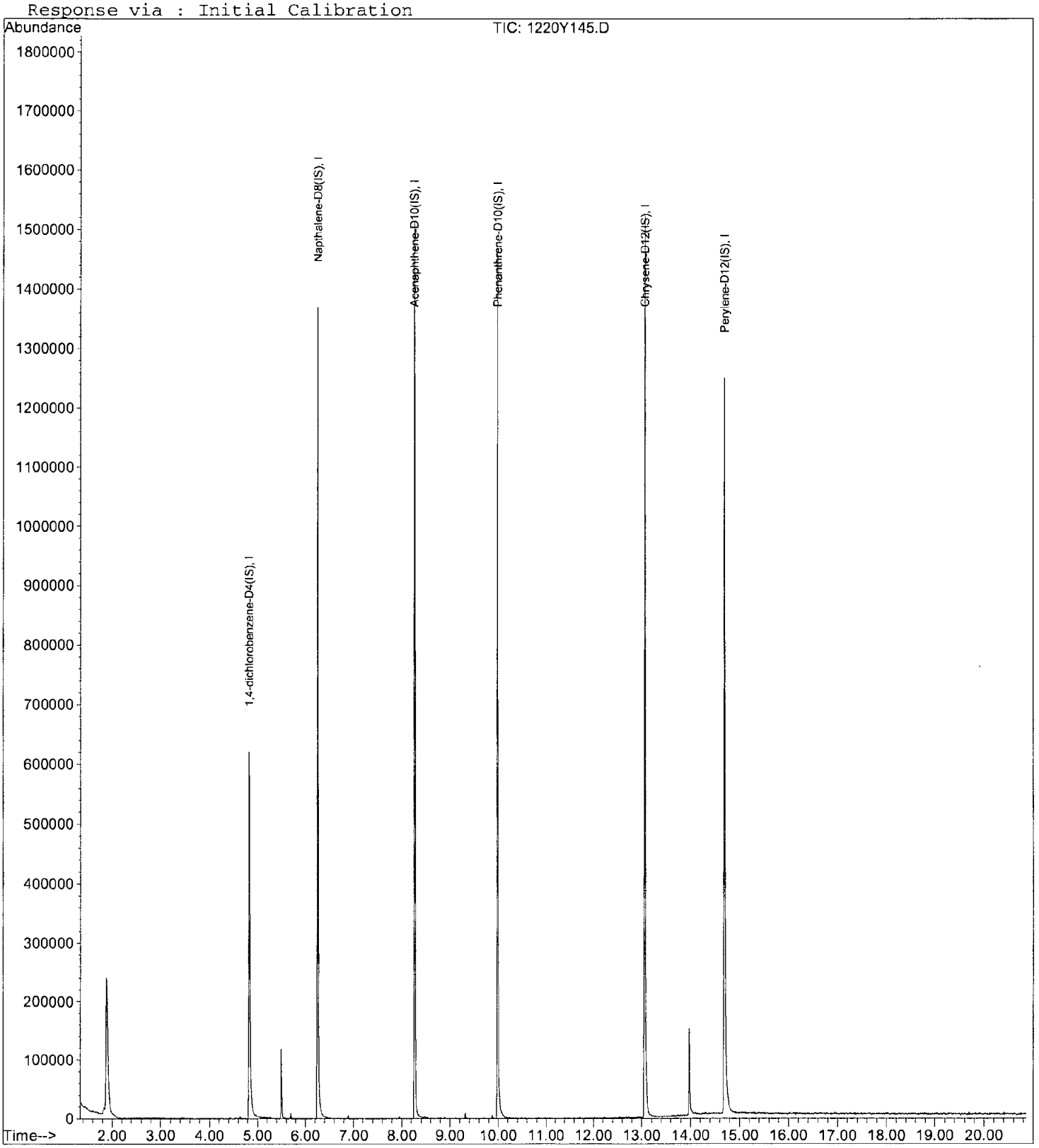
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y145.D Vial: 45
Acq On : 13 Mar 17 15:54 Operator: MA
Sample : AZ51133W08 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y146
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y146.D Vial: 46
Acq On : 13 Mar 17 16:25 Operator: MA
Sample : AZ51135W26 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155429	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	698509	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	403293	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	781452	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	730774	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	737863	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

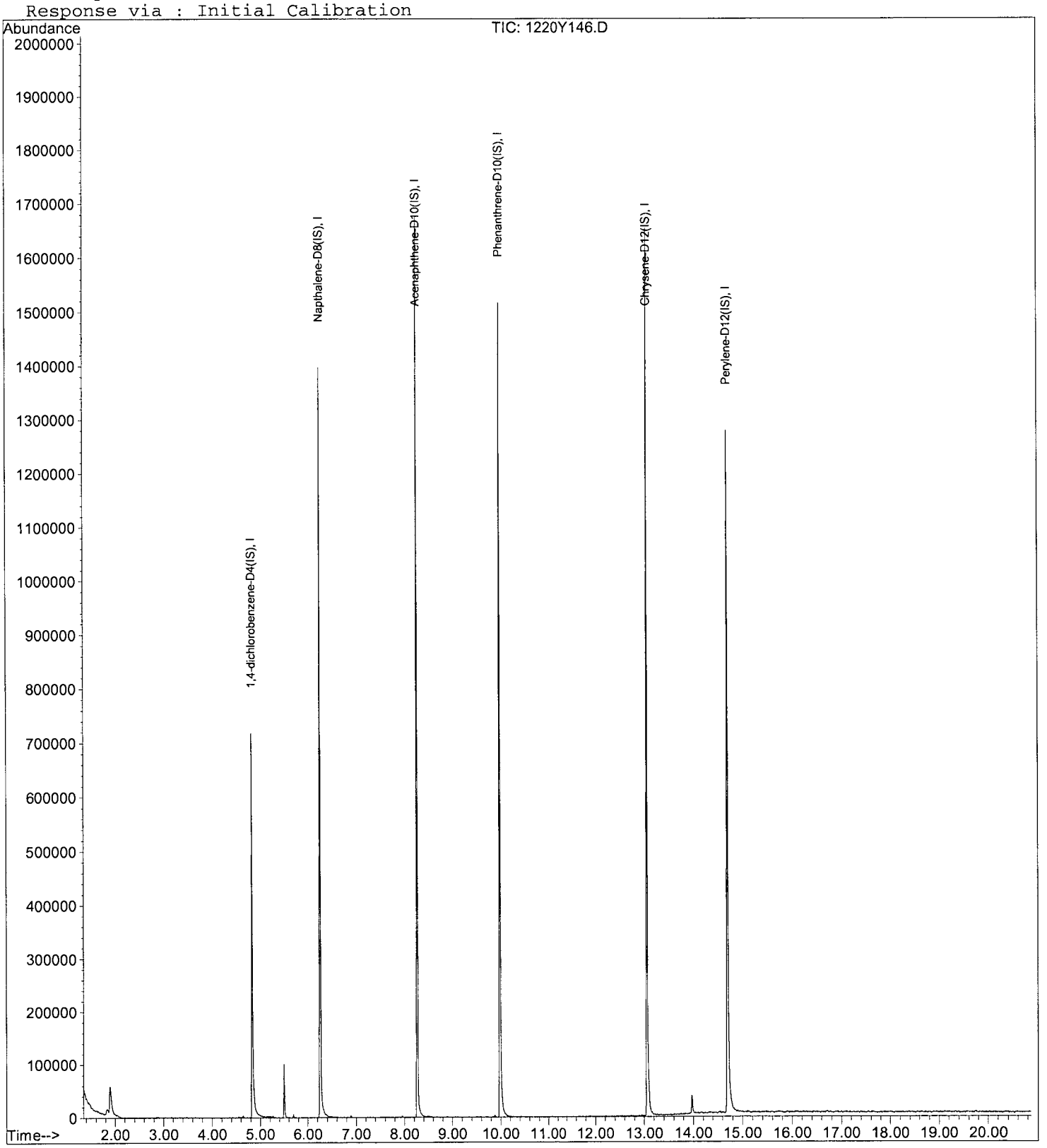
Data File : M:\YODA\DATA\Y161220G\1220Y146.D
Acq On : 13 Mar 17 16:25
Sample : AZ51135W26 2/500
Misc : water

Vial: 46
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y147
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y147.D Vial: 47
Acq On : 13 Mar 17 16:56 Operator: MA
Sample : AZ51136W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	138702	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	625094	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	372713	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	695912	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	658916	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	653234	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

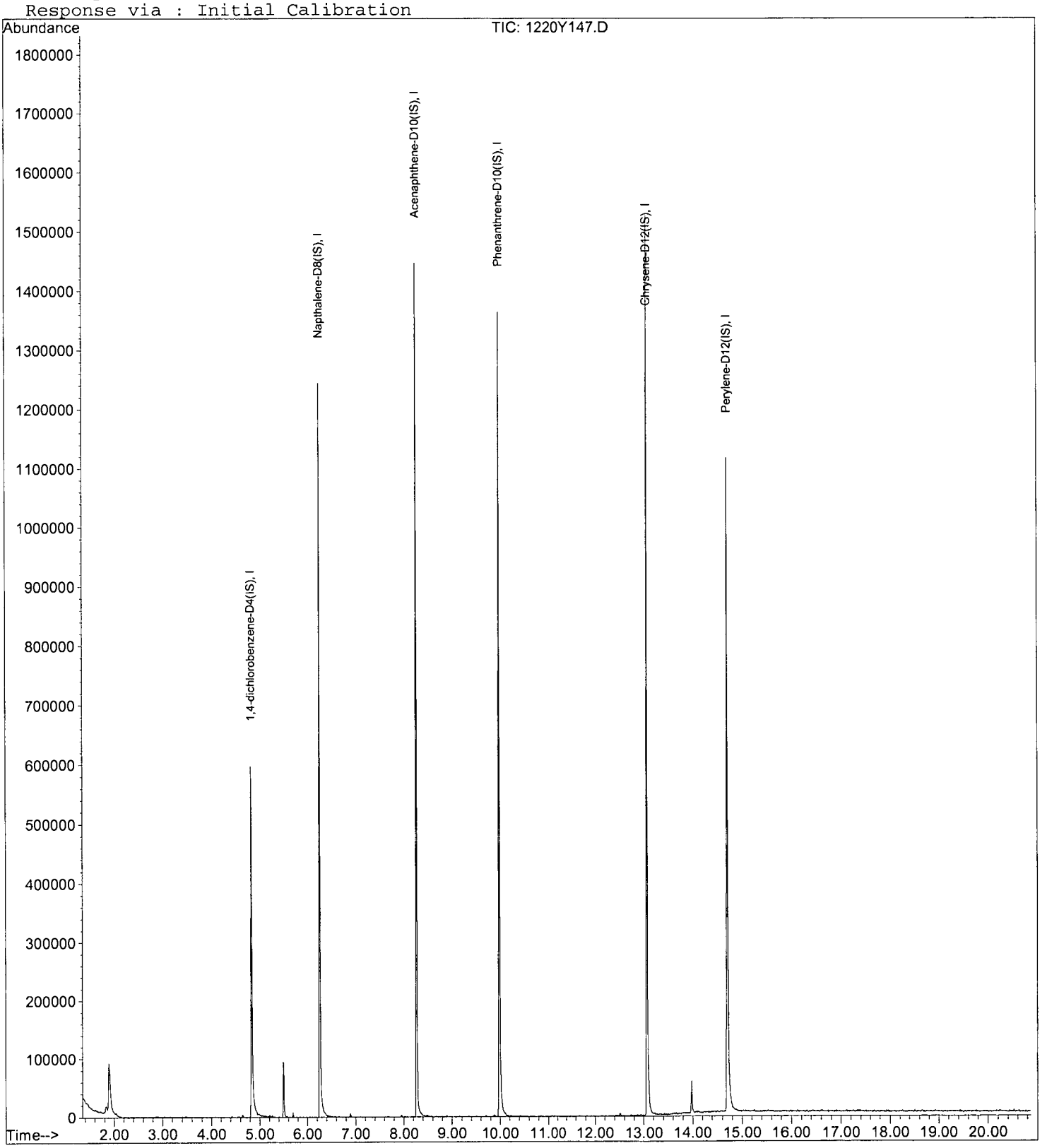
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y147.D Vial: 47
Acq On : 13 Mar 17 16:56 Operator: MA
Sample : AZ51136W13 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y138
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y138.D Vial: 38
Acq On : 13 Mar 17 11:35 Operator: MA
Sample : AZ51139W14 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 13:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	131092	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	569622	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	333535	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	615815	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	589437	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	583597	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

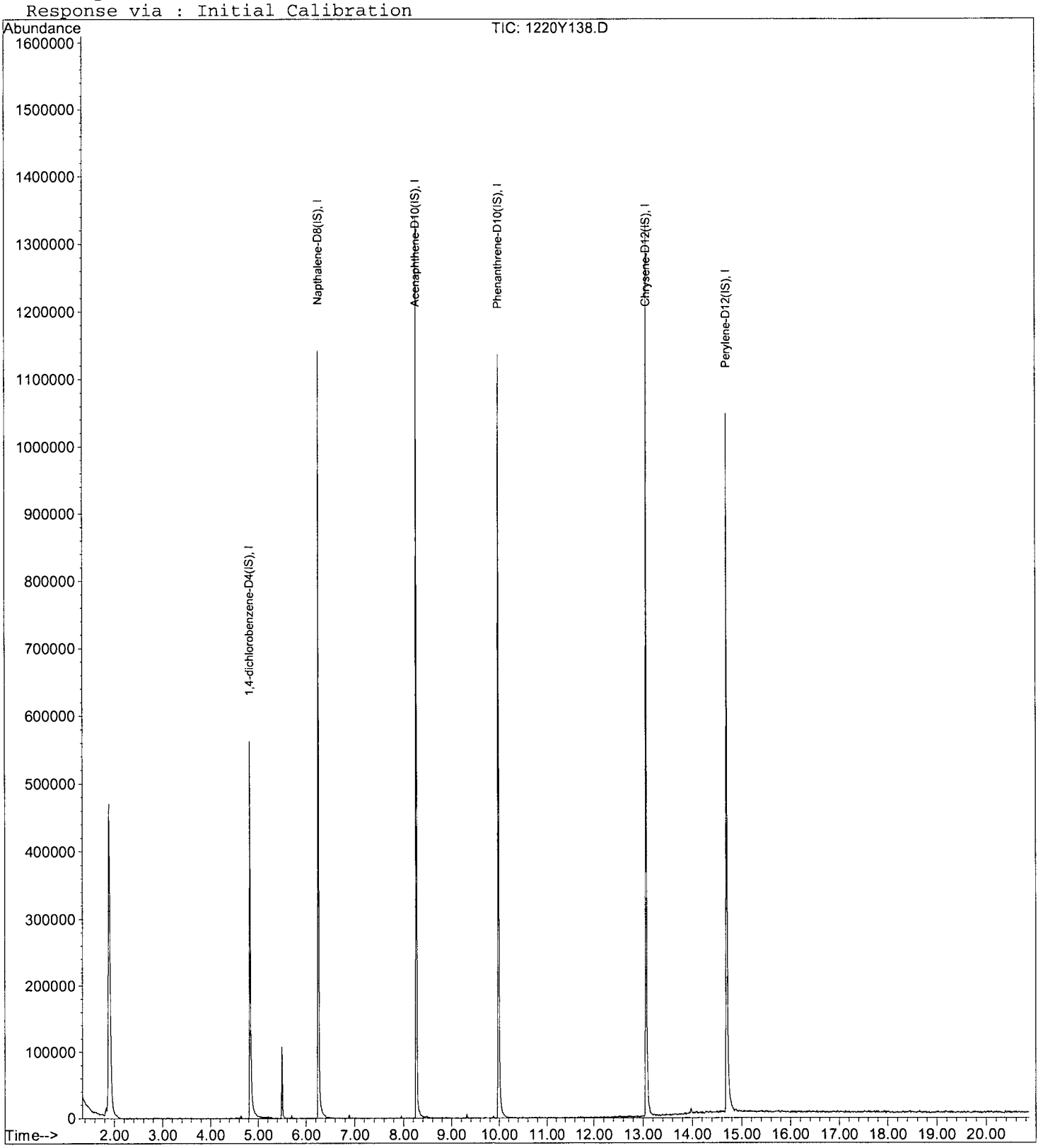
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y138.D Vial: 38
Acq On : 13 Mar 17 11:35 Operator: MA
Sample : AZ51139W14 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 13:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y148
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:17:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y148.D Vial: 48
Acq On : 13 Mar 17 17:27 Operator: MA
Sample : AZ51141W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	134590	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	590503	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	342473	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	636858	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	588104	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.70	264	588158	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

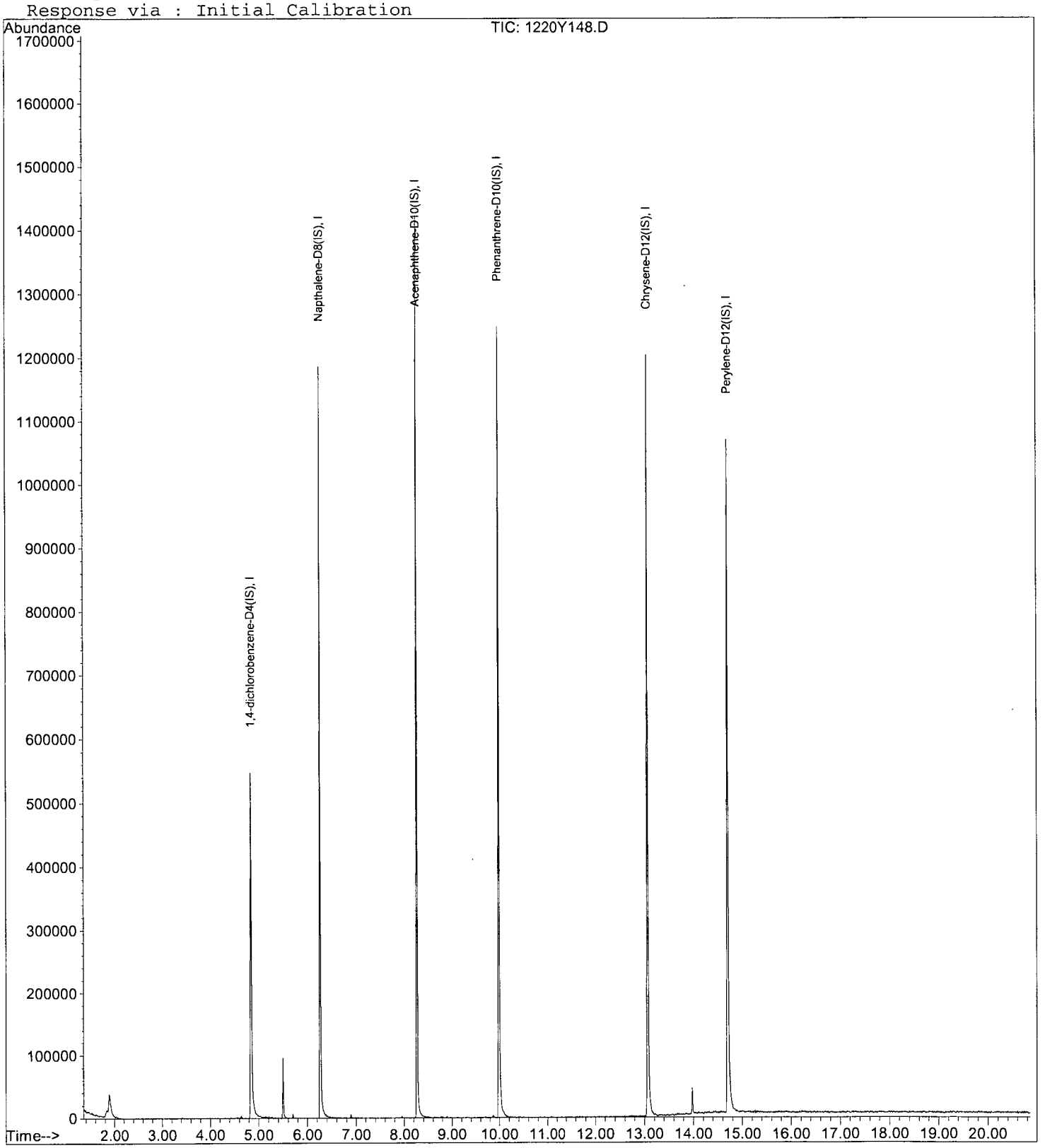
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y148.D Vial: 48
Acq On : 13 Mar 17 17:27 Operator: MA
Sample : AZ51141W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D Vial: 3
Acq On : 20 Dec 16 9:32 Operator: MA
Sample : 50ug/ml DEG 12/20/16 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

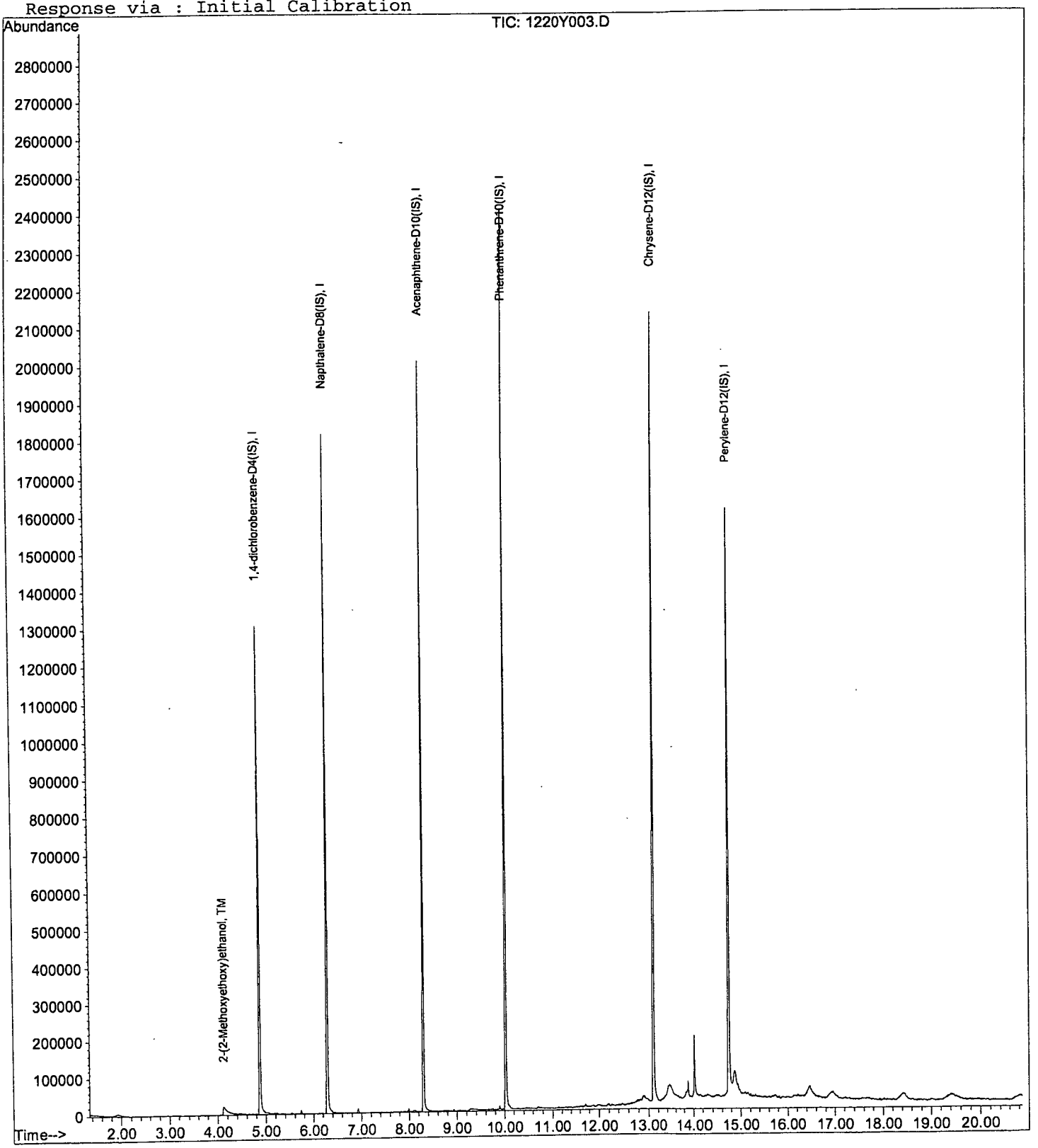
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

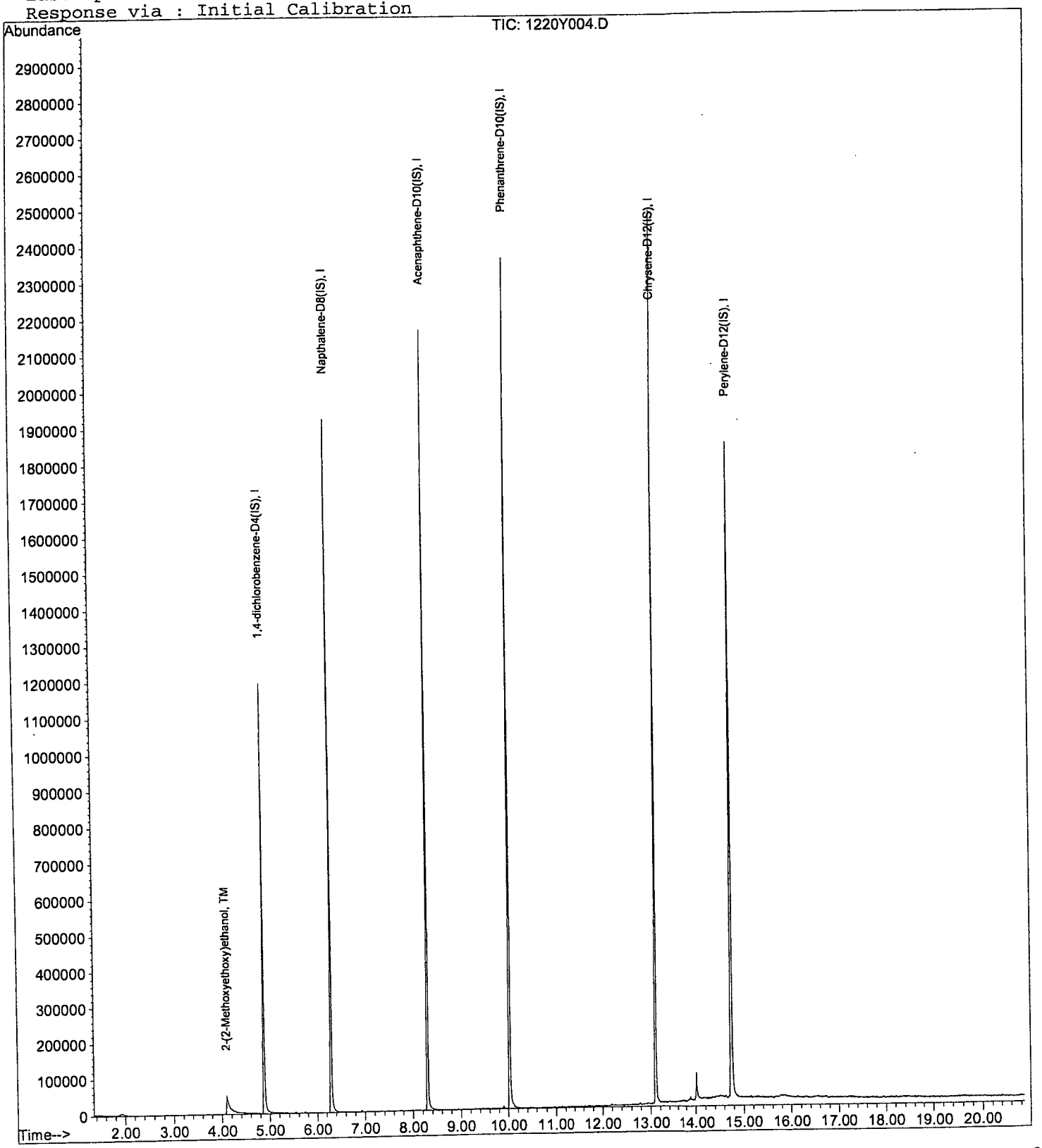
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

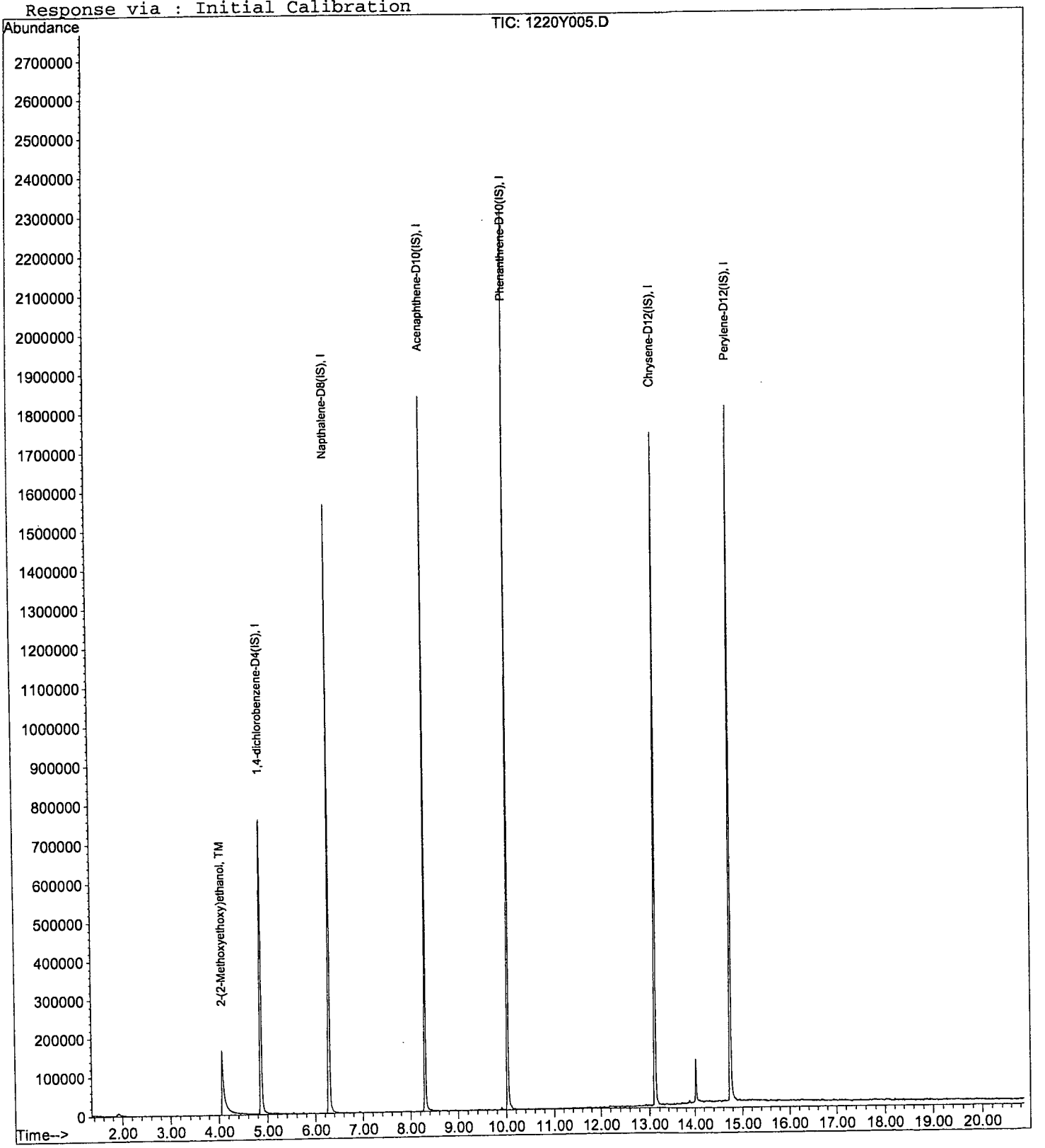
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration

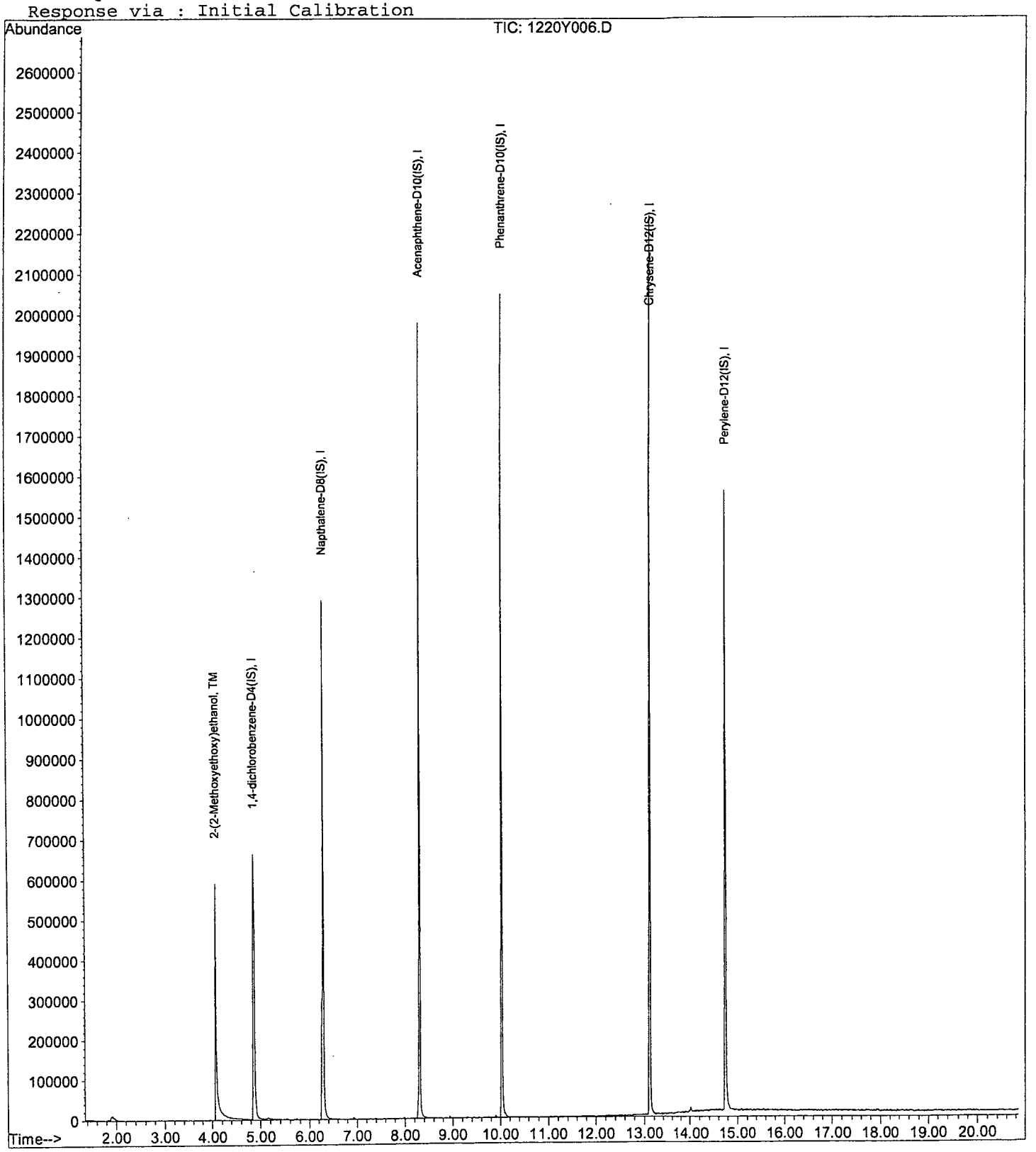
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

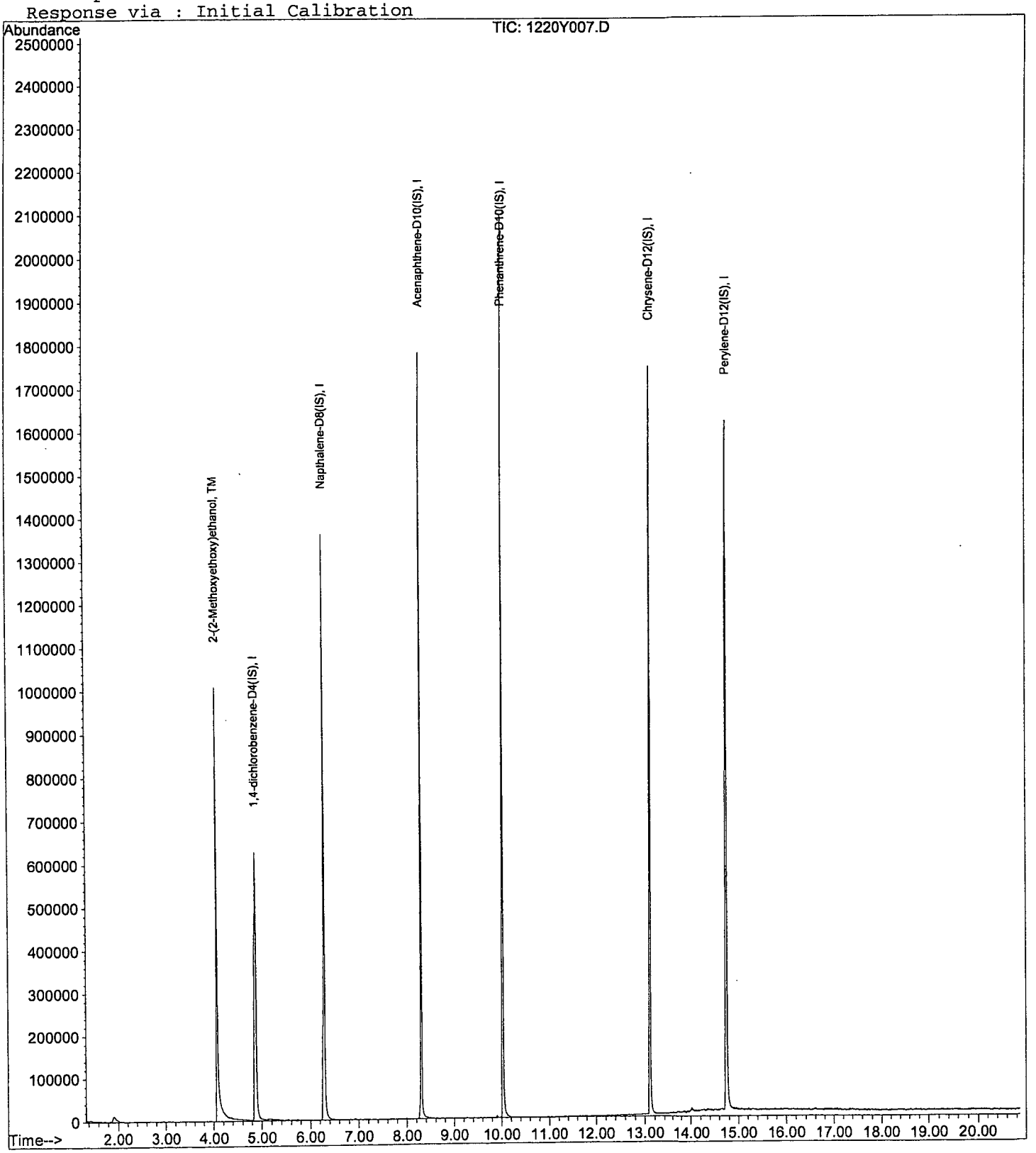
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

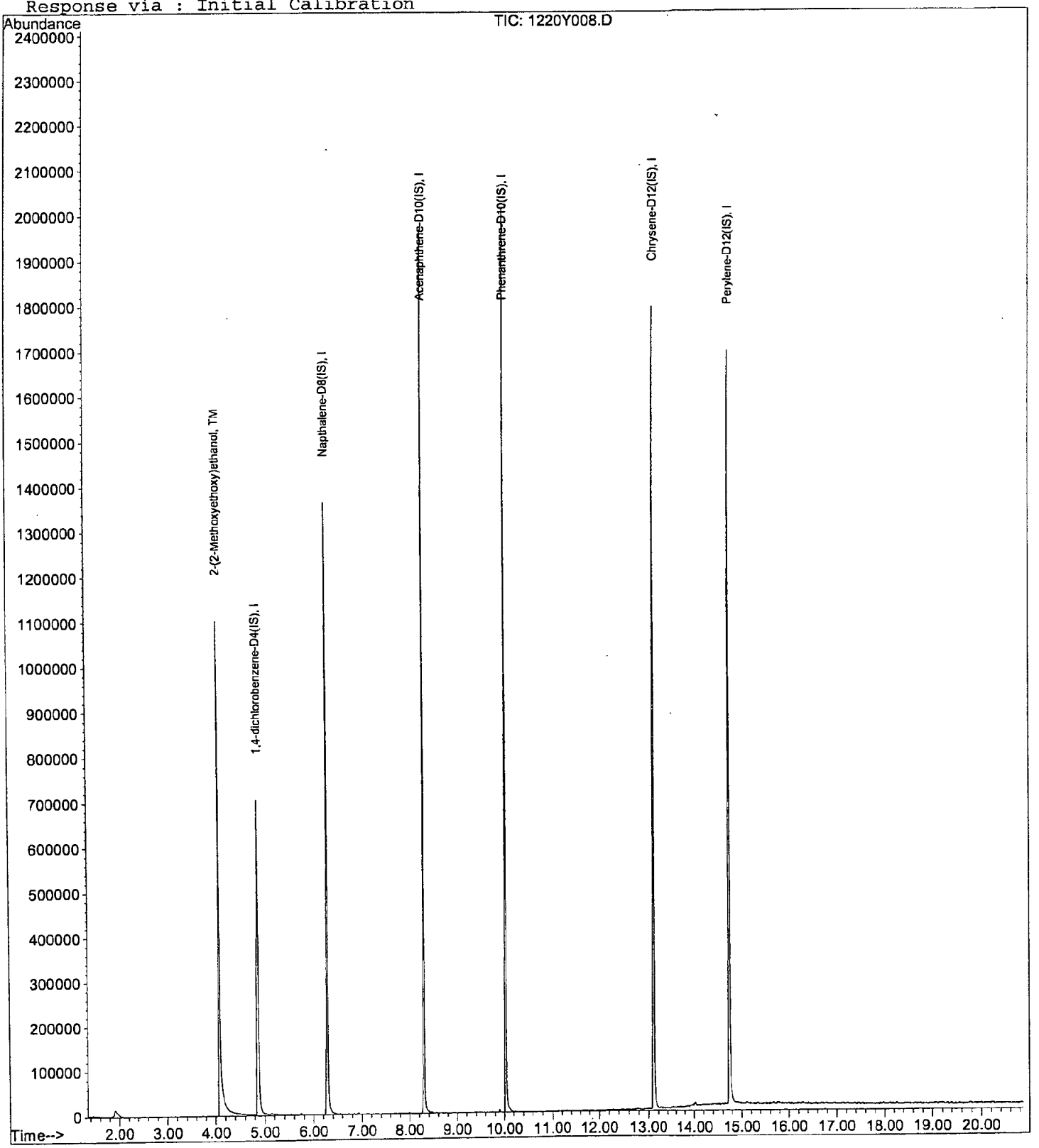
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

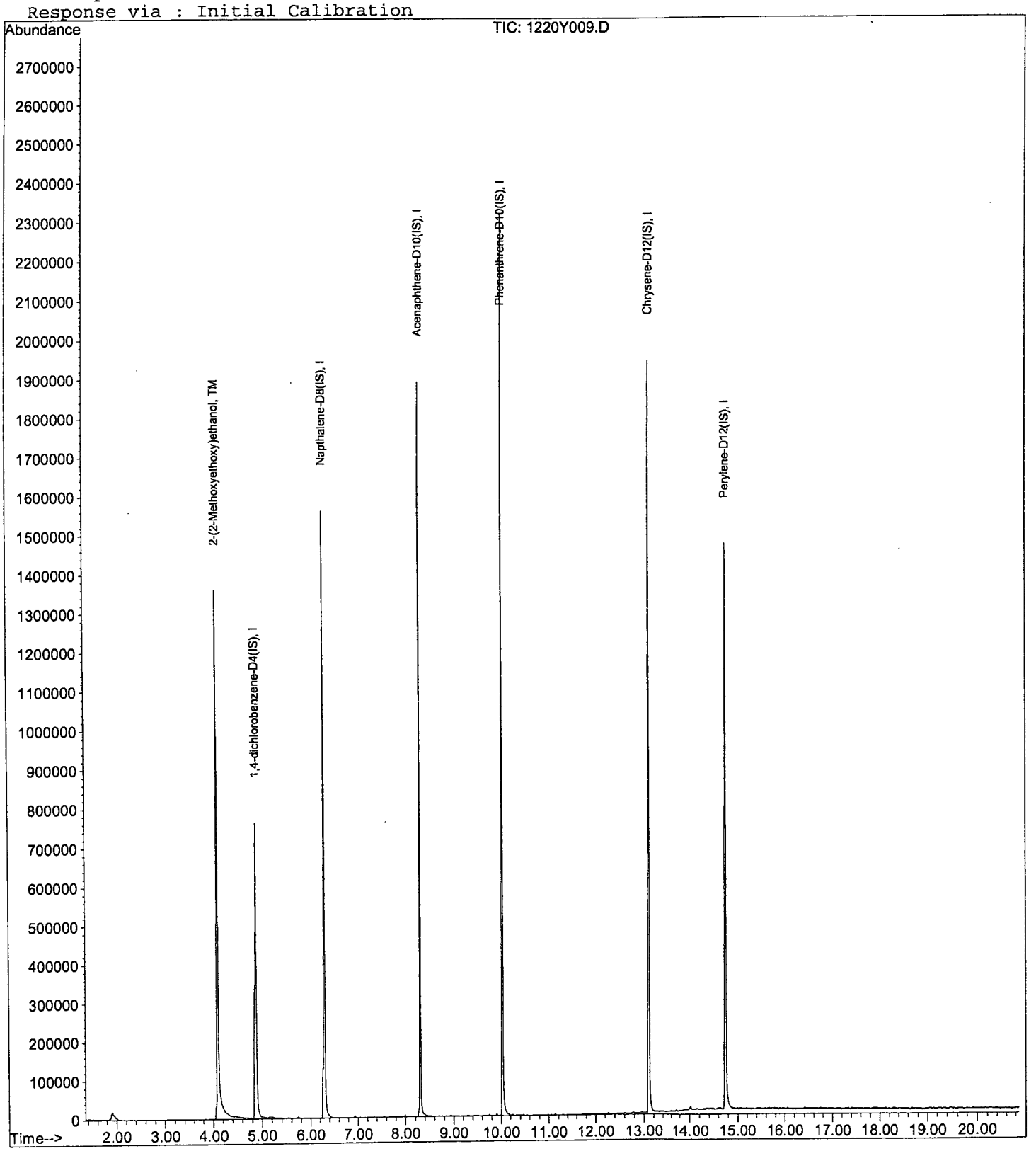
Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

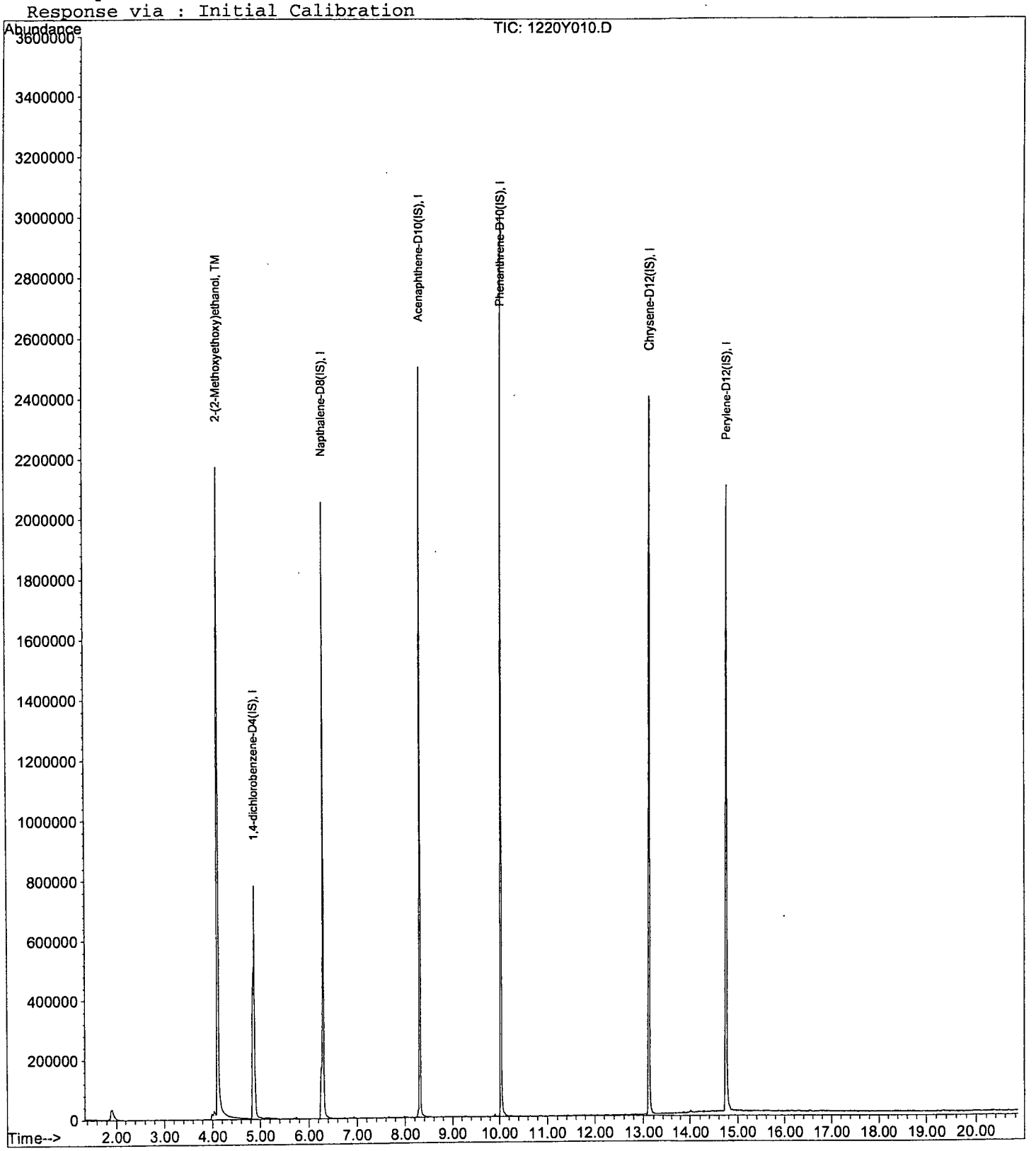
Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

HA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

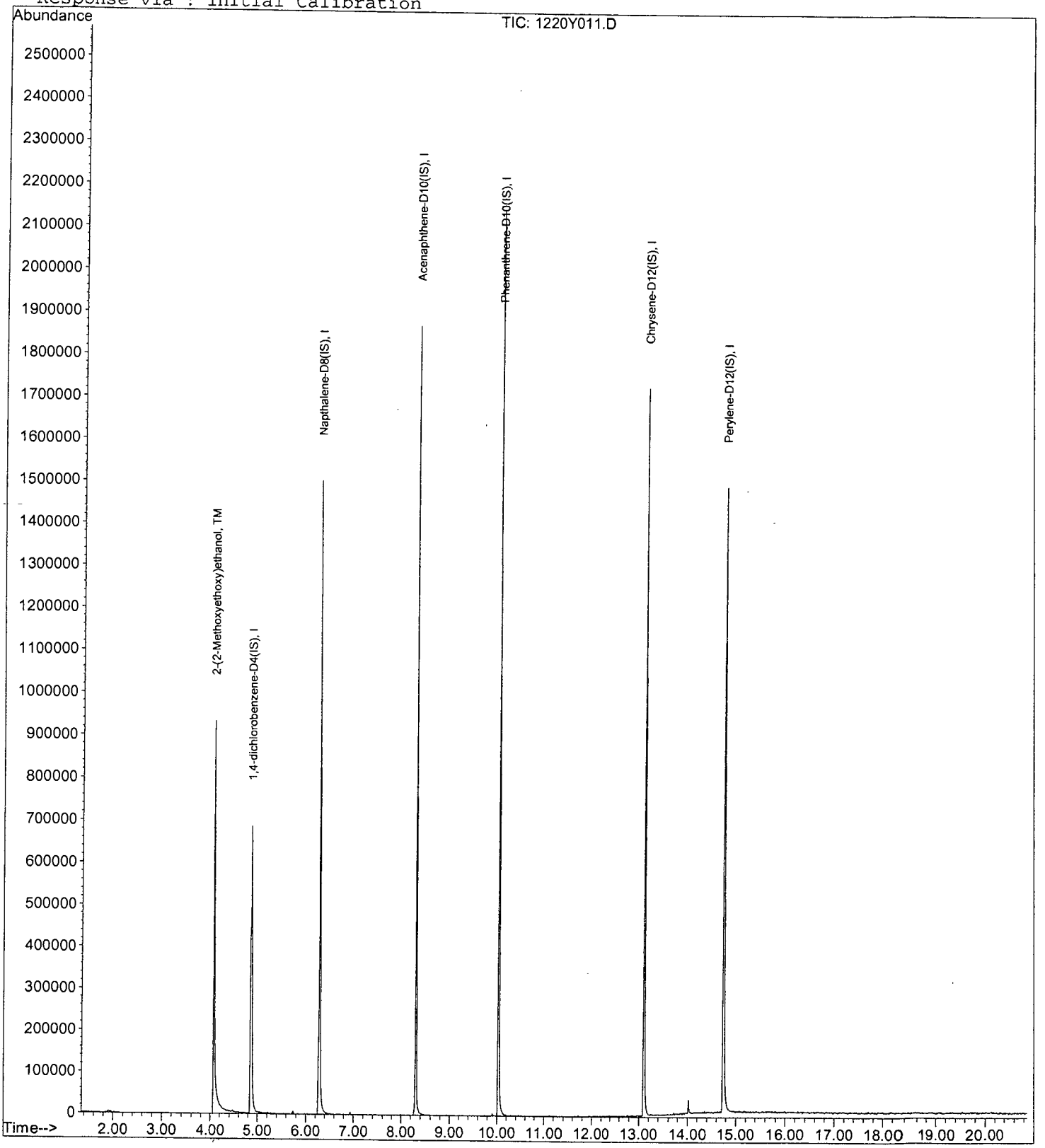
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y135.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2415	13	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	177553	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	746186	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	429159	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	771605	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	734679	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	537954	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	536004	563.14657 ppb	97

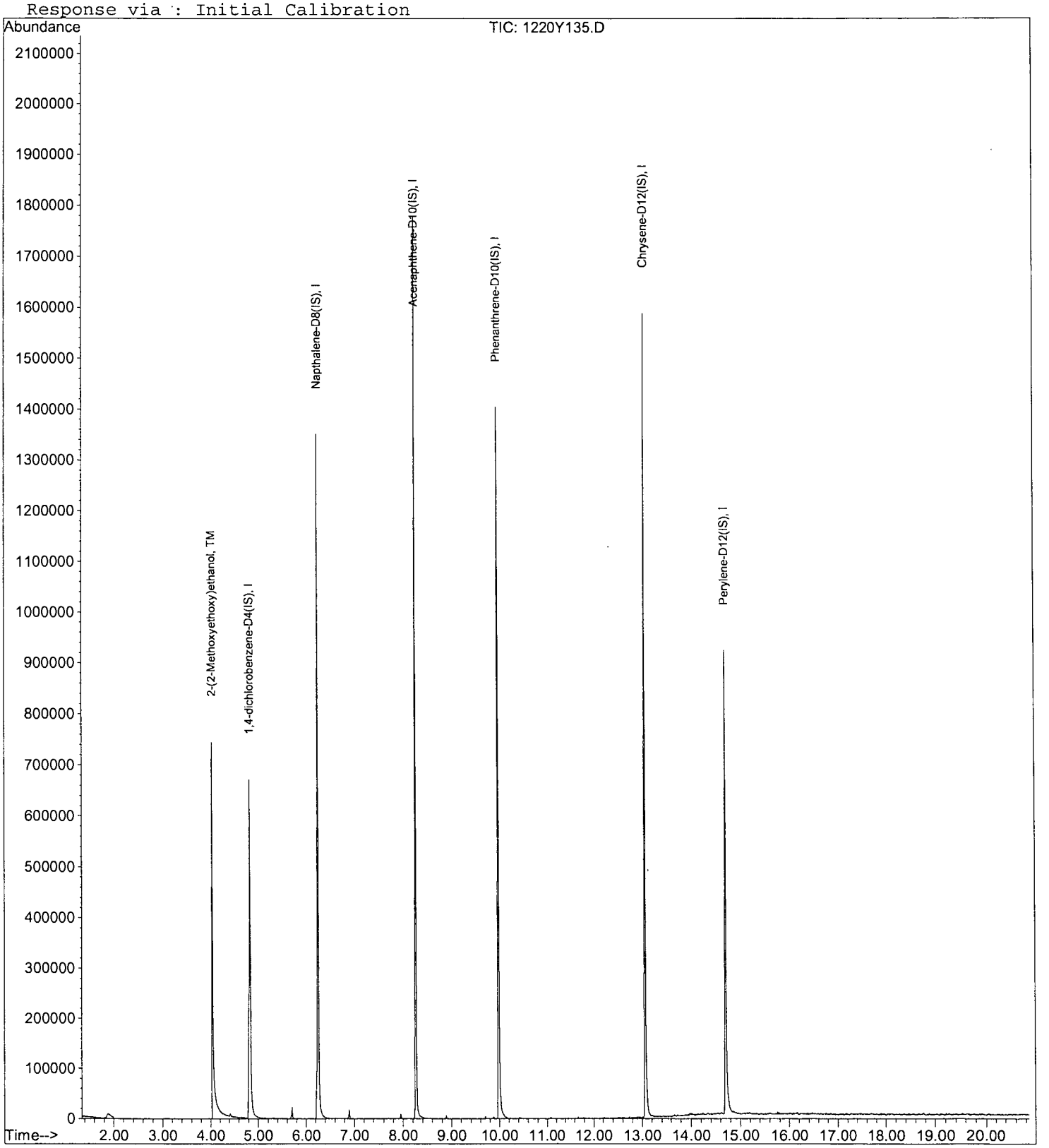
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y150.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2074	3.3	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
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27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.3		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y150.D
Acq On : 13 Mar 17 18:11
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	178165	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	786911	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	435104	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	815094	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	761306	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	583729	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	461787	483.50475 ppb	100

(#) = qualifier out of range (m) = manual integration

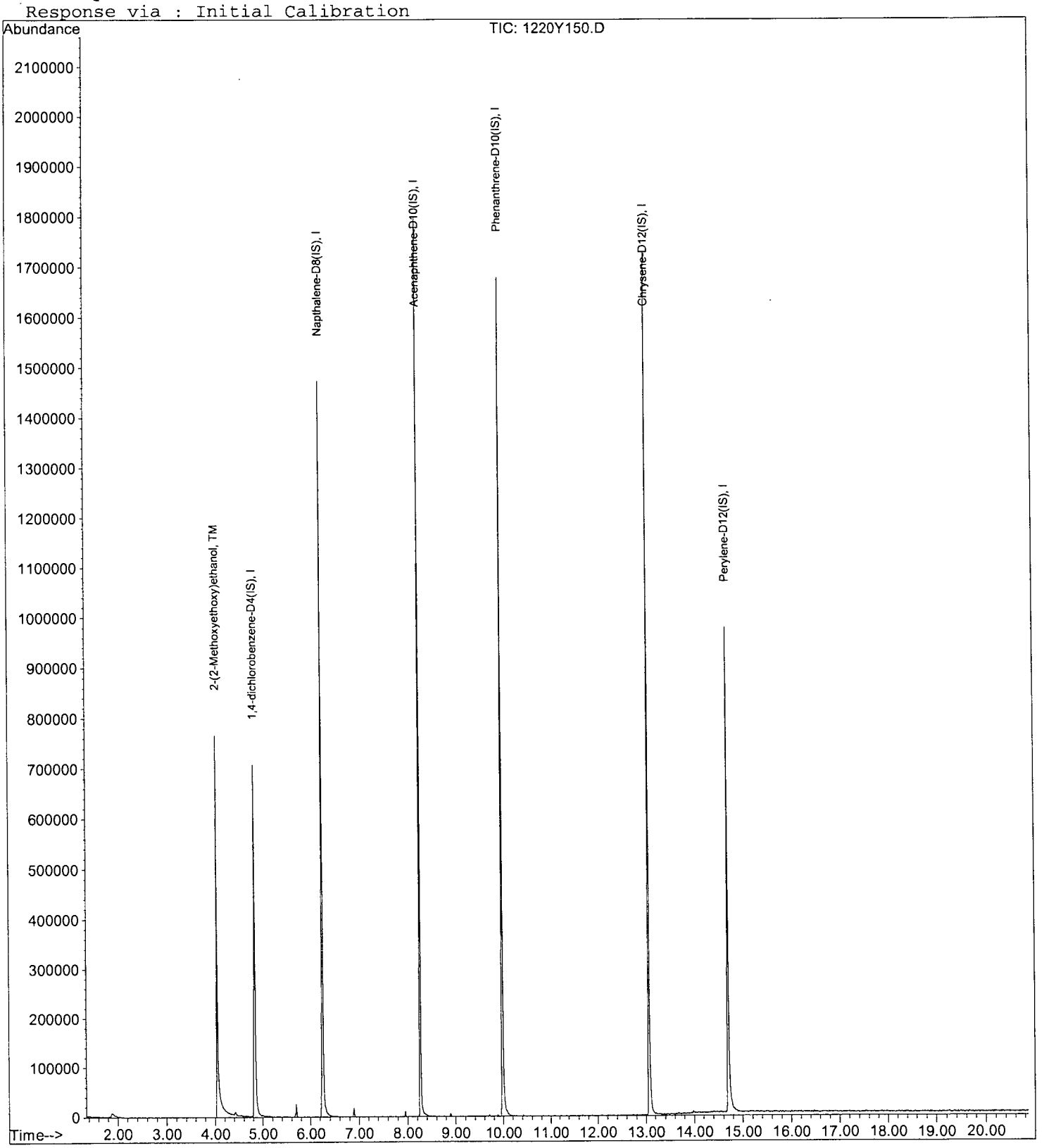
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y150.D
Acq On : 13 Mar 17 18:11
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:17:51 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	140695	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	637834	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	358479	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	680715	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	651186	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671686	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

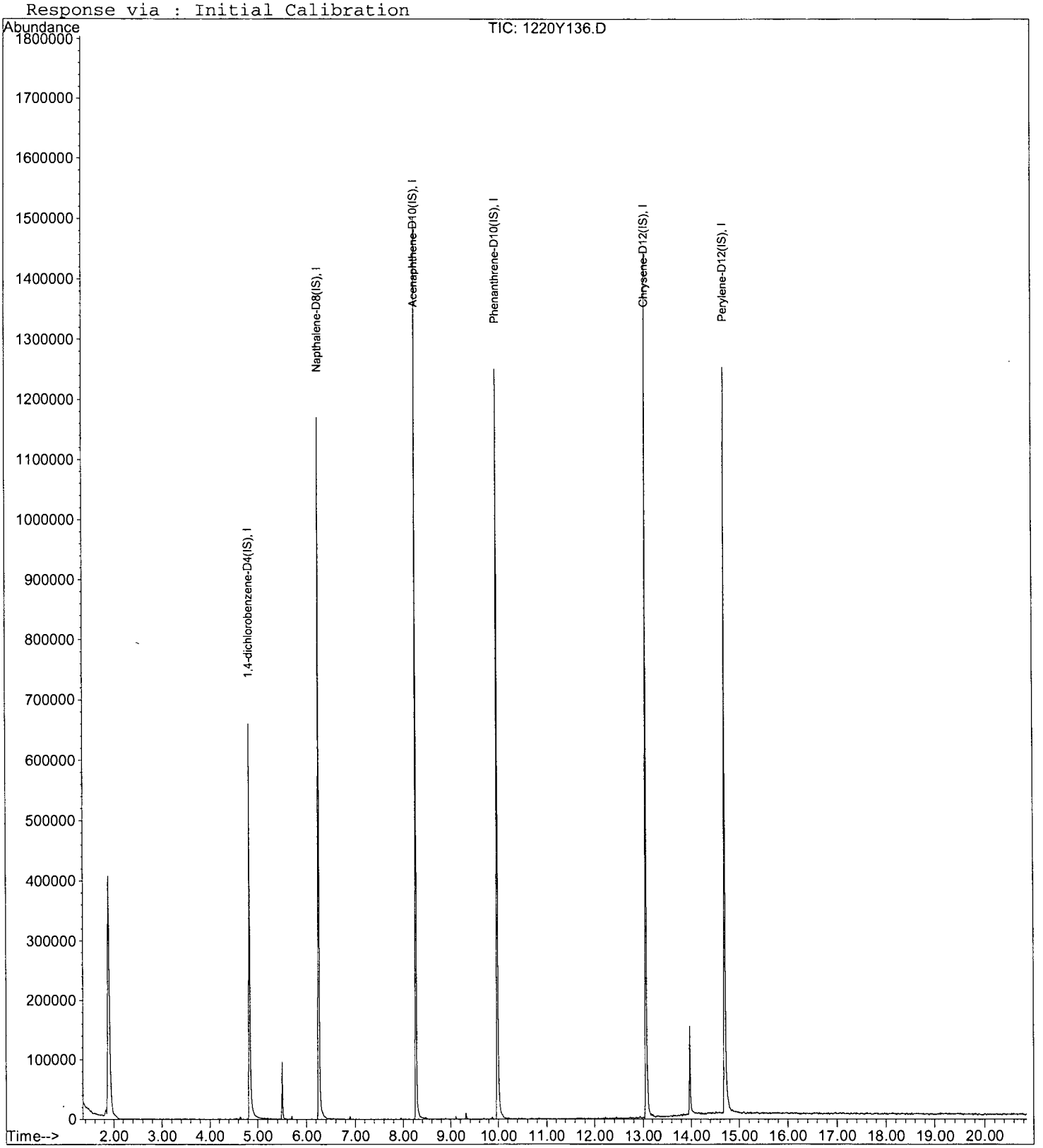
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:17:51 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	136004	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	614588	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	356092	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	658238	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636142	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	624209	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	25618	35.13783 ppb	100

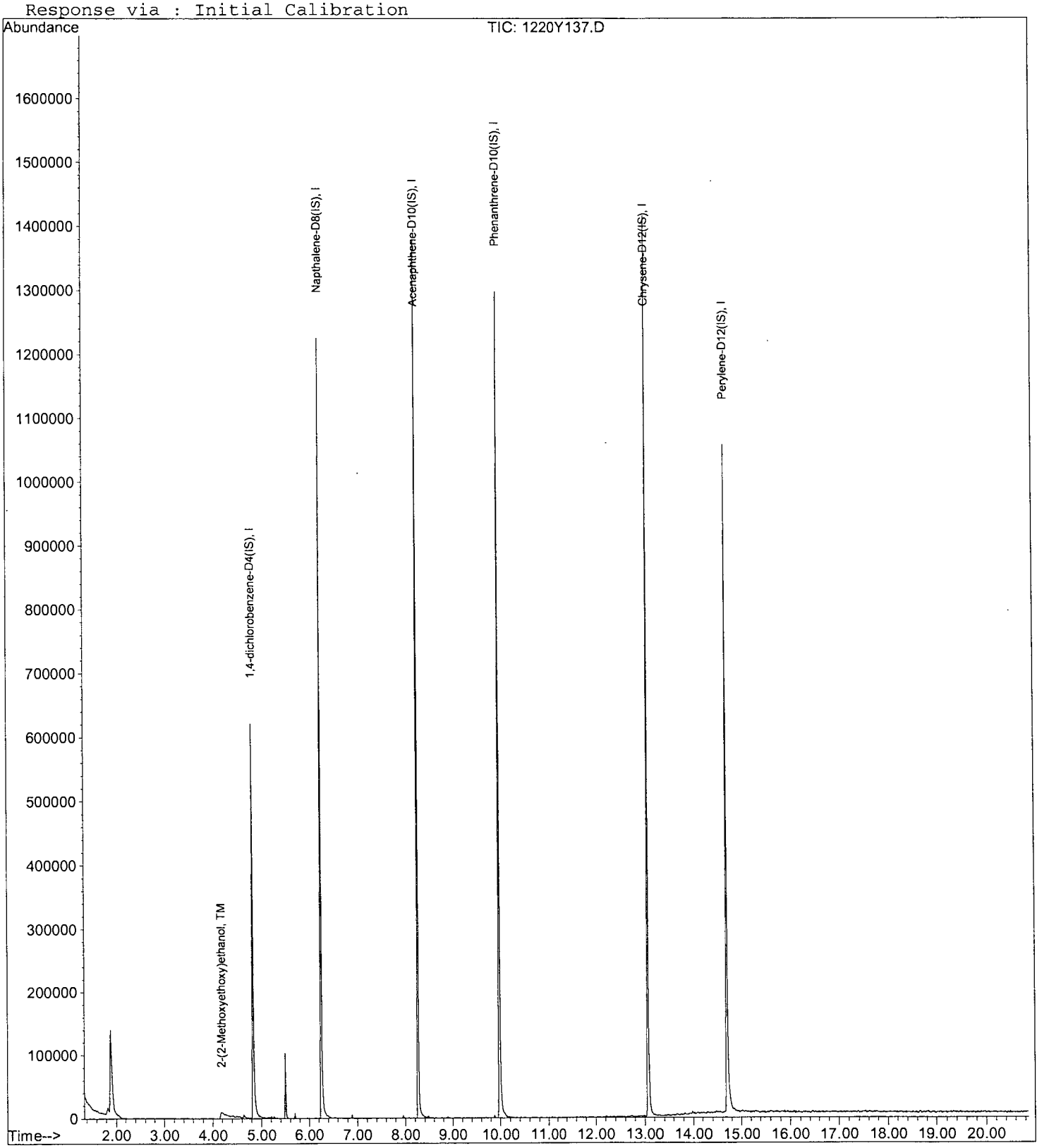
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 MS - 216866**
Batch ID: #87DME-170310A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	69.0	57.4	86.3	71.8	30-130	18.4	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/13/17	03/13/17
Instrument :	Yoda	Yoda
Run :	1220Y142	1220Y143
Initials :	MA	

Printed: 03/14/17 11:17:53 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y142.D Vial: 42
Acq On : 13 Mar 17 14:21 Operator: MA
Sample : AZ51132W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:09 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	145034	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	624941	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	369044	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	691357	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	655836	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	653518	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.19	45	53654m	69.01027 ppb	88

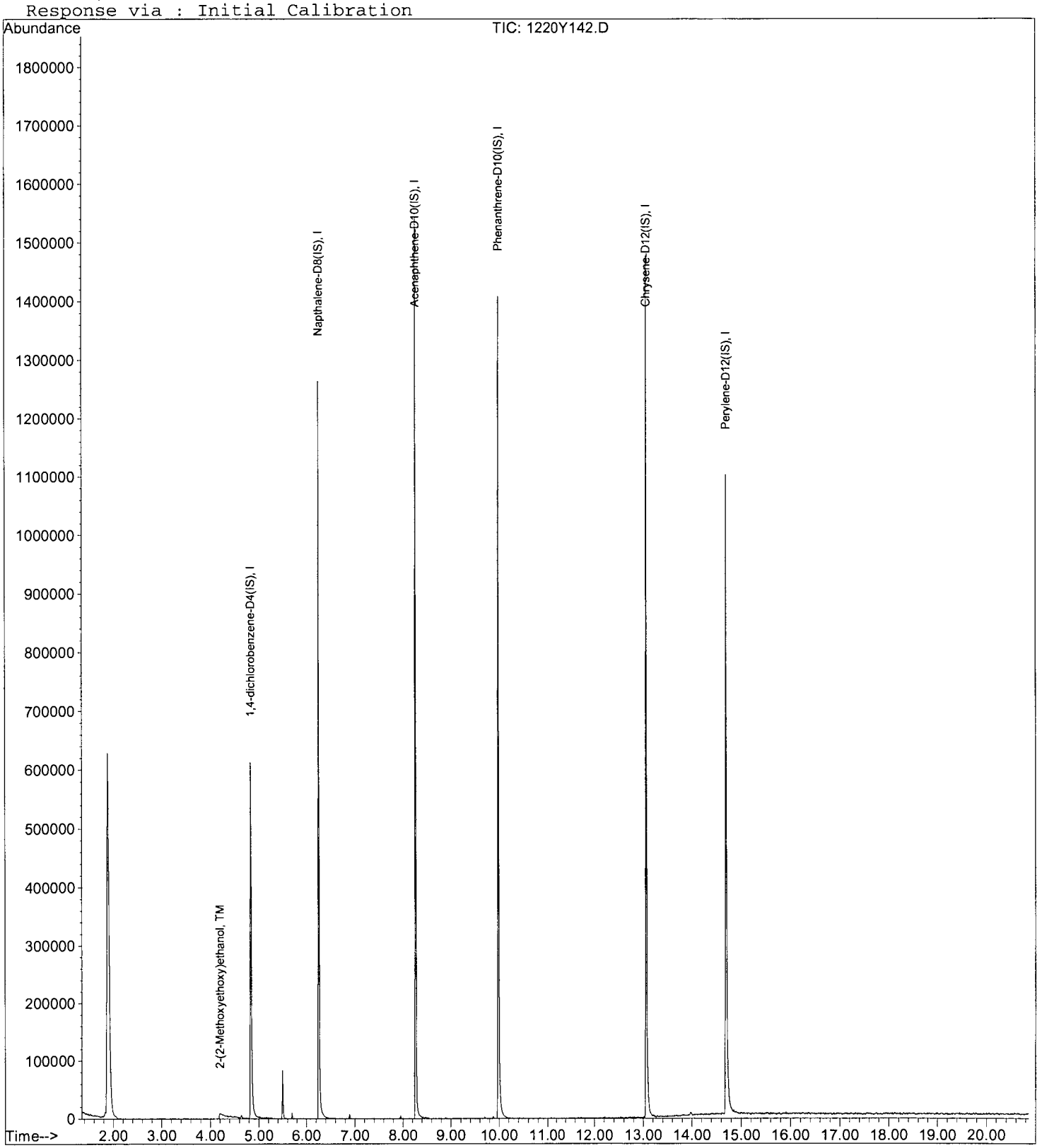
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y142.D Vial: 42
Acq On : 13 Mar 17 14:21 Operator: MA
Sample : AZ51132W28 MS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:09 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y143.D Vial: 43
Acq On : 13 Mar 17 14:52 Operator: MA
Sample : AZ51132W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:10 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	155384	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	671435	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	387283	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	730974	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	704749	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	708733	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	47771m	57.35080 ppb	92

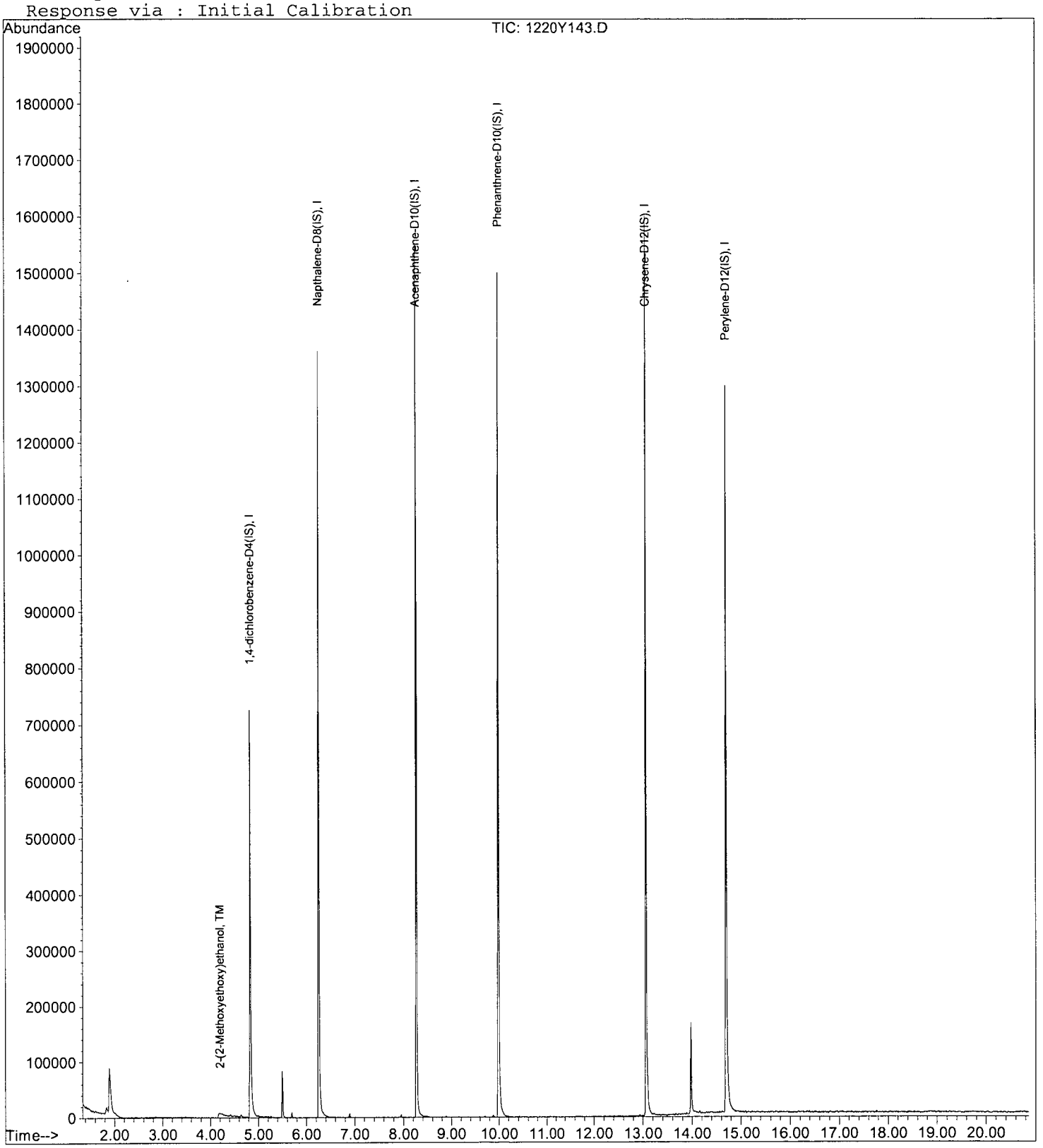
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y143.D Vial: 43
Acq On : 13 Mar 17 14:52 Operator: MA
Sample : AZ51132W28 MSD-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 16:10 2017 Quant Results File: Y0GLYCOL.RES

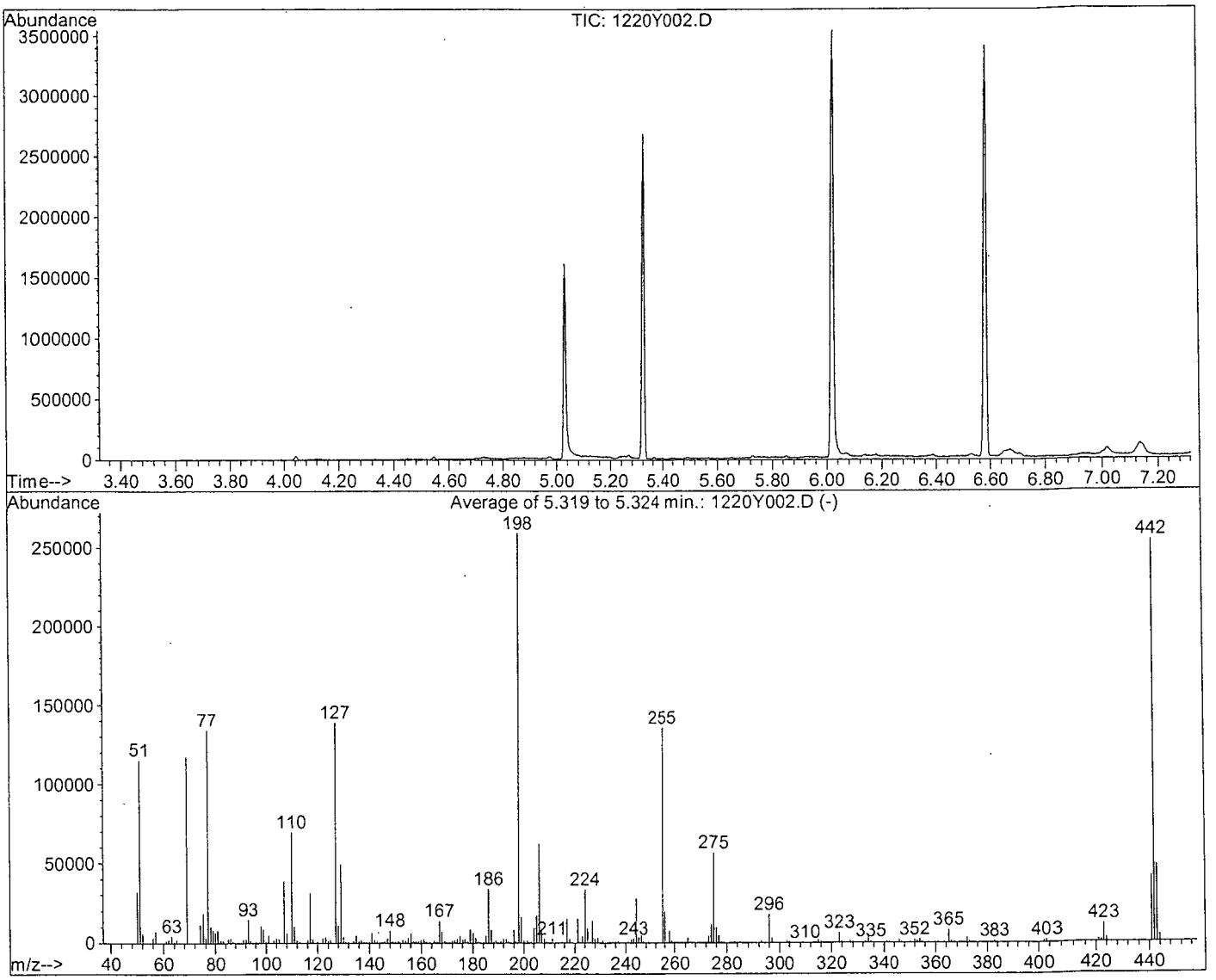
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D Vial: 2
Acq On : 20 Dec 16 9:12 Operator: MA
Sample : SV Tune 11/15/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

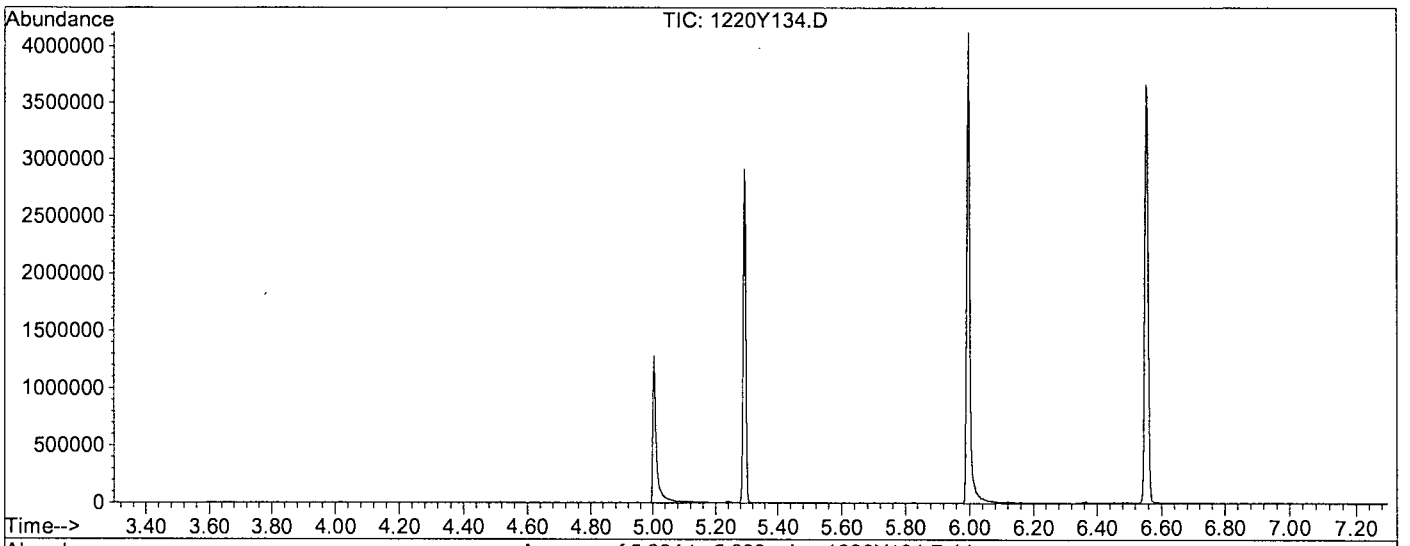
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

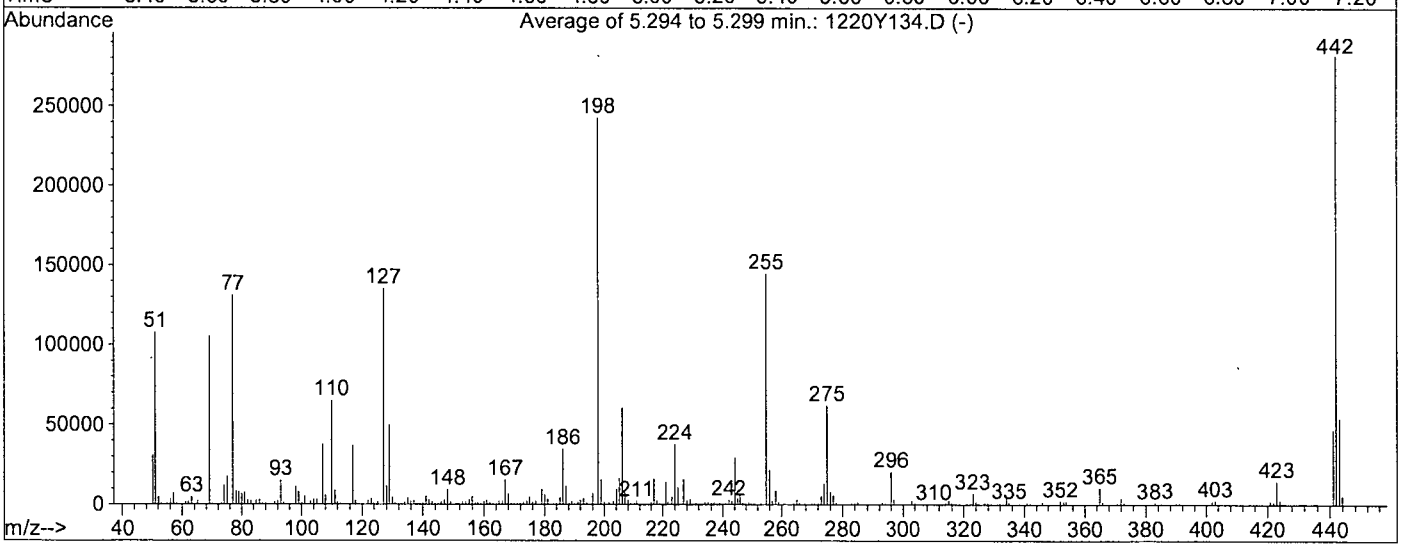
1220Y002.D Y0GLYCOL.M Tue Dec 20 09:18:08 2016

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y134.D Vial: 34
Acq On : 13 Mar 17 9:46 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 684, 685, 686; Background Corrected with Scan 676

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	107921	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	105533	PASS
70	69	0.00	2	0.5	523	PASS
127	198	40	60	55.8	135376	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	242773	PASS
199	198	5	9	6.3	15412	PASS
275	198	10	30	25.5	61848	PASS
365	198	1	100	4.2	10300	PASS
441	443	0.01	100	86.3	46651	PASS
442	198	40	150	116.1	281963	PASS
443	442	17	23	19.2	54053	PASS

1220Y134.D DFTPP2.M Thu Mar 16 14:03:20 2017

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	CHEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	**03/13/17 0:00**	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				NA	NA equip	500	2	7	03/10/17 13:15	
2	170310A LCS-1		0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	
3	AZ51053	AZ51053W07			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
4	AZ51054	AZ51054W11			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
5	AZ51056	AZ51056W12			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
6	AZ51132 MS-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
7	AZ51132 MSD-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
8	AZ51132	AZ51132W22			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
9	AZ51133	AZ51133W08			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
10	AZ51135	AZ51135W26			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
11	AZ51136	AZ51136W13			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
12	AZ51139	AZ51139W14			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
13	AZ51141	AZ51141W09			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
14	AZ51357	AZ51357W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
15	AZ51359	AZ51359W12			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
16	AZ51360	AZ51360W07			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:50
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: CFM **Date** 3/11/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51362	AZ51362W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
18	AZ51364	AZ51364W09			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
19	AZ51530	AZ51530W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
20	AZ51533	AZ51533W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
21	AZ51535	AZ51535W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
22	AZ51536	AZ51536W09			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
23	ss		0.087	2	NA	NA equip	500	2	7	03/10/17 13:15	

3/11/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: **Date** 3/11/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
2	3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
3	4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
4	5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
5	6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
6	7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
7	8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
8	9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
9	10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
10	11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
11	34	1220Y134.D	1	SV Tune 02/09/17	water	13 Mar 17 9:46
12	35	1220Y135.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 10:03
13	36	1220Y136.D	1	170310A BLK 2/500	water	13 Mar 17 10:34
14	37	1220Y137.D	1	170310A LCS-1 2/500	water	13 Mar 17 11:04
15	38	1220Y138.D	1	AZ51139W14 2/500	water	13 Mar 17 11:35
16	42	1220Y142.D	1	AZ51132W28 MS-1 2/500	water	13 Mar 17 14:21
17	43	1220Y143.D	1	AZ51132W28 MSD-1 2/500	water	13 Mar 17 14:52
18	44	1220Y144.D	1	AZ51132W22 2/500	water	13 Mar 17 15:23
19	45	1220Y145.D	1	AZ51133W08 2/500	water	13 Mar 17 15:54
20	46	1220Y146.D	1	AZ51135W26 2/500	water	13 Mar 17 16:25
21	47	1220Y147.D	1	AZ51136W13 2/500	water	13 Mar 17 16:56
22	48	1220Y148.D	1	AZ51141W09 2/500	water	13 Mar 17 17:27
23	50	1220Y150.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 18:11

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51135 - 216769**
Batch ID: #86BTO-170309AM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/09/17	03/09/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.1	81-118			%	03/09/17	03/09/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/09/17	03/09/17
BLANK	SURROGATE: DIBROMOFLUOR	99.2	80-119			%	03/09/17	03/09/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.8	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M08
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:21:41 AM

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216806**
Batch ID: #86BTO-170310AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.1	81-118			%	03/10/17	03/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.9	85-114			%	03/10/17	03/10/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	03/10/17	03/10/17
BLANK	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	03/10/17	03/10/17

Quant Method: MALLW.M
Run #: 0310M10
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:21:41 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309AM-LCS	Lab Control Spike	81-118	98.0		85-114	98.0	
170309AM-BLK	Blank	81-118	98.1		85-114	95.6	
AZ51130	ERH255	81-118	101		85-114	97.5	
AZ51131	ERH256	81-118	95.7		85-114	96.0	
AZ51133	ERH258	81-118	98.9		85-114	95.7	
AZ51137	ERH266	81-118	98.3		85-114	96.1	
AZ51138	ERH267	81-118	98.0		85-114	98.0	

Comments: Batch: #86BTO-170309AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309AM-LCS	Lab Control Spike	80-119	98.4		89-112	99.2	
170309AM-BLK	Blank	80-119	99.2		89-112	98.8	
AZ51130	ERH255	80-119	102		89-112	98.0	
AZ51131	ERH256	80-119	99.2		89-112	98.2	
AZ51133	ERH258	80-119	99.7		89-112	98.0	
AZ51137	ERH266	80-119	103		89-112	99.2	
AZ51138	ERH267	80-119	103		89-112	99.8	

Comments: Batch: #86BTO-170309AM

Printed: 03/14/17 11:21:47 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309AM1-LCS	Lab Control Spike	81-118	98.0		85-114	98.0	
170309AM1-BLK	Blank	81-118	98.1		85-114	95.6	
AZ51135	ERH262	81-118	101		85-114	98.2	
AZ51134	ERH261	81-118	101		85-114	97.0	
AZ51136	ERH263	81-118	96.7		85-114	98.3	
AZ51135-MS	Matrix Spike	81-118	96.8		85-114	100	
AZ51135-MSD	Matrix SpikeD	81-118	100		85-114	98.4	

Comments: Batch: #86BTO-170309AM

Printed: 03/14/17 11:21:47 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351
Case No: 82351 Date Analyzed: 03/09/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309AM1-LCS	Lab Control Spike	80-119	98.4		89-112	99.2	
170309AM1-BLK	Blank	80-119	99.2		89-112	98.8	
AZ51135	ERH262	80-119	103		89-112	101	
AZ51134	ERH261	80-119	99.6		89-112	99.4	
AZ51136	ERH263	80-119	101		89-112	99.5	
AZ51135-MS	Matrix Spike	80-119	100		89-112	98.8	
AZ51135-MSD	Matrix SpikeD	80-119	100		89-112	98.8	

Comments: Batch: #86BTO-170309AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/10/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310AM-LCS	Lab Control Spike	81-118	97.6		85-114	98.4	
170310AM-BLK	Blank	81-118	98.1		85-114	95.9	
AZ51139	ERH268	81-118	102		85-114	97.3	
AZ51140	ERH269	81-118	98.2		85-114	97.5	
AZ51141	ERH270	81-118	103		85-114	99.8	
AZ51132	ERH257	81-118	100		85-114	95.0	
AZ51132-MS	Matrix Spike	81-118	104		85-114	100	
AZ51132-MSD	Matrix SpikeD	81-118	99.2		85-114	99.2	

Comments: Batch: #86BTO-170310AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351
Case No: 82351 Date Analyzed: 03/10/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310AM-LCS	Lab Control Spike	80-119	102		89-112	100	
170310AM-BLK	Blank	80-119	101		89-112	100	
AZ51139	ERH268	80-119	102		89-112	99.4	
AZ51140	ERH269	80-119	98.5		89-112	101	
AZ51141	ERH270	80-119	104		89-112	99.0	
AZ51132	ERH257	80-119	101		89-112	98.3	
AZ51132-MS	Matrix Spike	80-119	103		89-112	101	
AZ51132-MSD	Matrix SpikeD	80-119	100		89-112	98.8	

Comments: Batch: #86BTO-170310AM

Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170309W-51135 LCS - 216769**
Batch ID: #86BTO-170309AM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.56	95.6	73-128
BENZENE	10.00	9.96	99.6	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	10.0	100	80-121
XYLENES (TOTAL)	30.0	30.6	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.5	98.0	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.6	98.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.8	99.2	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Max
Run :	0309M04
Initials :	SV

Printed: 03/14/17 11:21:55 AM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170310W-51132 LCS - 216806**
Batch ID: #86BTO-170310AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.99	99.9	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.5	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.4	97.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.5	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.0	100	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Max
Run :	0310M06
Initials :	SV

Printed: 03/14/17 11:21:55 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170310W-51132 MS - 216806**
Batch ID: #86BTO-170310AM
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	10.0	9.55	100	95.5	79-120	4.6	20
ETHYLBENZENE	10.00	ND	9.86	9.89	98.6	98.9	79-121	0.30	20
TOLUENE	10.00	ND	10.0	9.56	100	95.6	80-121	4.5	20
XYLENES (TOTAL)	30.0	ND	29.2	29.5	97.3	98.3	79-121	1.0	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	25.9	24.8	104	99.2	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.1	24.8	100	99.2	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.8	25.0	103	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.2	24.7	101	98.8	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M28	0310M29
Initials :	SV	

Printed: 03/14/17 11:22:01 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170310W-51135 MS - 216769**
Batch ID: #86BTO-170309AM1
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	ND	9.51	9.62	95.1	96.2	73-128	1.2	20
BENZENE	10.00	ND	9.58	9.67	95.8	96.7	79-120	0.94	20
ETHYLBENZENE	10.00	ND	9.54	9.56	95.4	95.6	79-121	0.21	20
TOLUENE	10.00	ND	9.46	9.48	94.6	94.8	80-121	0.21	20
XYLENES (TOTAL)	30.0	ND	28.3	28.8	94.3	96.0	79-121	1.8	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	24.2	25.0	96.8	100	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.0	24.6	100	98.4	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.1	25.1	100	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	24.7	24.7	98.8	98.8	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M11	0310M12
Initials :	SV	

Printed: 03/14/17 11:22:01 AM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

Blank ID: 170309AM-BLK Time Analyzed: 1229

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309AM-LCS	Lab Control Spike	0309M04	03/09/17 1036
170309AM-BLK	Blank	0309M08	03/09/17 1229
AZ51130	ERH255	0309M12	03/09/17 1423
AZ51131	ERH256	0309M13	03/09/17 1451
AZ51133	ERH258	0309M15	03/09/17 1548
AZ51137	ERH266	0309M18	03/09/17 1713
AZ51138	ERH267	0309M19	03/09/17 1742

Comments: Batch: #86BTO-170309AM

Printed: 03/14/17 11:22:06 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

Blank ID: 170309AM1-BLK Time Analyzed: 1230

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309AM1-LCS	Lab Control Spike	0309M04	03/09/17 1037
170309AM1-BLK	Blank	0309M08	03/09/17 1230
AZ51135	ERH262	0309M14	03/09/17 1520
AZ51134	ERH261	0309M16	03/09/17 1617
AZ51136	ERH263	0309M17	03/09/17 1645
170309AM1-MS	Matrix Spike	0310M11	03/10/17 1337
170309AM1-MSD	Matrix SpikeD	0310M12	03/10/17 1405

Comments: Batch: #86BTO-170309AM

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/10/17

Matrix: WATER Instrument: Max

Blank ID: 170310AM-BLK Time Analyzed: 1308

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310AM-LCS	Lab Control Spike	0310M06	03/10/17 1115
170310AM-BLK	Blank	0310M10	03/10/17 1308
AZ51139	ERH268	0310M15	03/10/17 1530
AZ51140	ERH269	0310M16	03/10/17 1559
AZ51141	ERH270	0310M17	03/10/17 1627
AZ51132	ERH257	0310M18	03/10/17 1656
170310AM-MS	Matrix Spike	0310M28	03/10/17 2146
170310AM-MSD	Matrix SpikeD	0310M29	03/10/17 2214

Comments: Batch: #86BTO-170310AM

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82351
Date Analyzed: 03/08/17
Instrument: Max
Time Analyzed: 11:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 3/8/	0308M05.D	03/08/17 12:58
2		0.5ug/L VOC STD 3/8/	0308M06.D	03/08/17 13:26
3		1.0ug/L VOC STD 3/8/	0308M07.D	03/08/17 13:54
4		2.0ug/L VOC STD 3/8/	0308M08.D	03/08/17 14:23
5		5.0ug/L VOC STD 3/8/	0308M09.D	03/08/17 14:51
6		10ug/L VOC STD 3/8/1	0308M10.D	03/08/17 15:20
7		20ug/L VOC STD 3/8/1	0308M11.D	03/08/17 15:48
8		40ug/L VOC STD 3/8/1	0308M12.D	03/08/17 16:16
9		100ug/L VOC STD 3/8/	0308M13.D	03/08/17 16:45
10		(SS)10ug/L VOC STD 3	0308M18.D	03/08/17 19:07
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.3
75	30 - 60% of mass 95	48.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.9
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	90.6
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	97.3
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82351
Date Analyzed: 03/09/17
Instrument: Max
Time Analyzed: 9:14

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170309A CCV-1WM 10ug	0309M03.D	03/09/17 10:08
2	Lab Control Spike	170309A LCS-1WM 10ug	0309M04.D	03/09/17 10:36
3	Blank	170309A BLK-1WM	0309M08.D	03/09/17 12:29
4	ERH255	AZ51130W01	0309M12.D	03/09/17 14:23
5	ERH256	AZ51131W01	0309M13.D	03/09/17 14:51
6	ERH262	AZ51135W01	0309M14.D	03/09/17 15:20
7	ERH258	AZ51133W01	0309M15.D	03/09/17 15:48
8	ERH261	AZ51134W01	0309M16.D	03/09/17 16:17
9	ERH263	AZ51136W01	0309M17.D	03/09/17 16:45
10	ERH266	AZ51137W01	0309M18.D	03/09/17 17:13
11	ERH267	AZ51138W01	0309M19.D	03/09/17 17:42
12		Ending CCV 8260 10ug	0309M21.D	03/10/17 6:37
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.0
75	30 - 60% of mass 95	50.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.4
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	83.2
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	96.1
177	5 - 9% of mass 176	7.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82351
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82351
Date Analyzed: 03/10/17
Instrument: Max
Time Analyzed: 9:52

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170310A CCV-1WM 10ug	0310M05.D	03/10/17 10:46
2	Lab Control Spike	170310A LCS-1WM 10ug	0310M06.D	03/10/17 11:15
3	Blank	170310A BLK-1WM	0310M10.D	03/10/17 13:08
4		AZ51135W234 MS-1WM 1	0310M11.D	03/10/17 13:37
5		AZ51135W234 MSD-1WM	0310M12.D	03/10/17 14:05
6	ERH268	AZ51139W02	0310M15.D	03/10/17 15:30
7	ERH269	AZ51140W01	0310M16.D	03/10/17 15:59
8	ERH270	AZ51141W01	0310M17.D	03/10/17 16:27
9	ERH257	AZ51132W01	0310M18.D	03/10/17 16:56
10		AZ51132W234 MS-1WM 1	0310M28.D	03/10/17 21:46
11		AZ51132W234 MSD-1WM	0310M29.D	03/10/17 22:14 *
12		Ending CCV 8260 10ug	0310M30.D	03/10/17 22:42
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.5
75	30 - 60% of mass 95	47.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.5
173	0 - 2% of mass 174	0.8
174	50 - 100% of mass 95	83.3
175	5 - 9% of mass 174	8.0
176	95.06 - 101% of mass 174	95.2
177	5 - 9% of mass 176	6.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.50	223972	9.14	113358	12.33
	UPPER LIMIT	646884	6.00	447944	9.64	226716	12.83
	LOWER LIMIT	161721	5.00	111986	8.64	56679	11.83
	SAMPLE NO.						
01	(SS)10ug/L VOC STD 3/	332241	5.50	230391	9.14	113881	12.34
02	170309A CCV-1WM 10u	325192	5.50	223120	9.14	110288	12.34
03	170309A LCS-1WM 10u	315102	5.50	218002	9.14	107471	12.34
04	170309A BLK-1WM	304274	5.50	214277	9.14	99976	12.34
05	AZ51130W01	299613	5.50	216957	9.14	101296	12.34
06	AZ51131W01	308666	5.50	216247	9.14	99433	12.34
07	AZ51135W01	302481	5.50	215154	9.14	100338	12.34
08	AZ51133W01	306340	5.50	213336	9.14	102817	12.34
09	AZ51134W01	306561	5.50	212469	9.14	100592	12.34
10	AZ51136W01	296248	5.50	207112	9.14	95986	12.34
11	AZ51137W01	300089	5.50	211789	9.14	97809	12.34
12	AZ51138W01	296280	5.50	207571	9.14	96530	12.34
13	Ending CCV 8260 10ug/	327089	5.52	221500	9.14	105470	12.34
14	170310A CCV-1WM 10u	320937	5.51	220155	9.14	109543	12.34
15	170310A LCS-1WM 10u	308026	5.51	215127	9.14	109287	12.34
16	170310A BLK-1WM	307649	5.51	215033	9.14	98510	12.34
17	AZ51135W234 MS-1WM	314121	5.50	219073	9.14	106657	12.34
18	AZ51135W234 MSD-1W	312353	5.50	217380	9.14	107449	12.34
19	AZ51139W02	286101	5.51	202073	9.14	93225	12.34
20	AZ51140W01	313030	5.51	214648	9.14	100027	12.34
21	AZ51141W01	295135	5.51	208739	9.14	100701	12.34
22	AZ51132W01	312435	5.51	216945	9.14	100622	12.34

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82351

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.5004	223972	9.1361	113358	12.332
	UPPER LIMIT	646884	6.0004	447944	9.6361	226716	12.832
	LOWER LIMIT	161721	5.0004	111986	8.6361	56679	11.832
	SAMPLE NO.						
23	AZ51132W234 MS-1WN	296478	5.51	211882	9.14	103222	12.34
24	AZ51132W234 MSD-1W	304048	5.51	207241	9.14	102298	12.34
25	Ending CCV 8260 10ug/	301210	5.51	209363	9.14	100682	12.34
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH255
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51130
QCG: #86BTO-170309AM-216754

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.0	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M12
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M12.D Vial: 11
Acq On : 9 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : AZ51130W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 9:06 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	299613	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	216957	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101296	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	75047	25.42410 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.696%	
37) 1,2-DCA-D4(S)	5.12	65	59149	25.12836 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.512%	
57) Toluene-D8(S)	7.34	98	308544	24.49248 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.968%	
65) 4-Bromofluorobenzene(S)	10.73	95	101493	24.37208 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.488%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

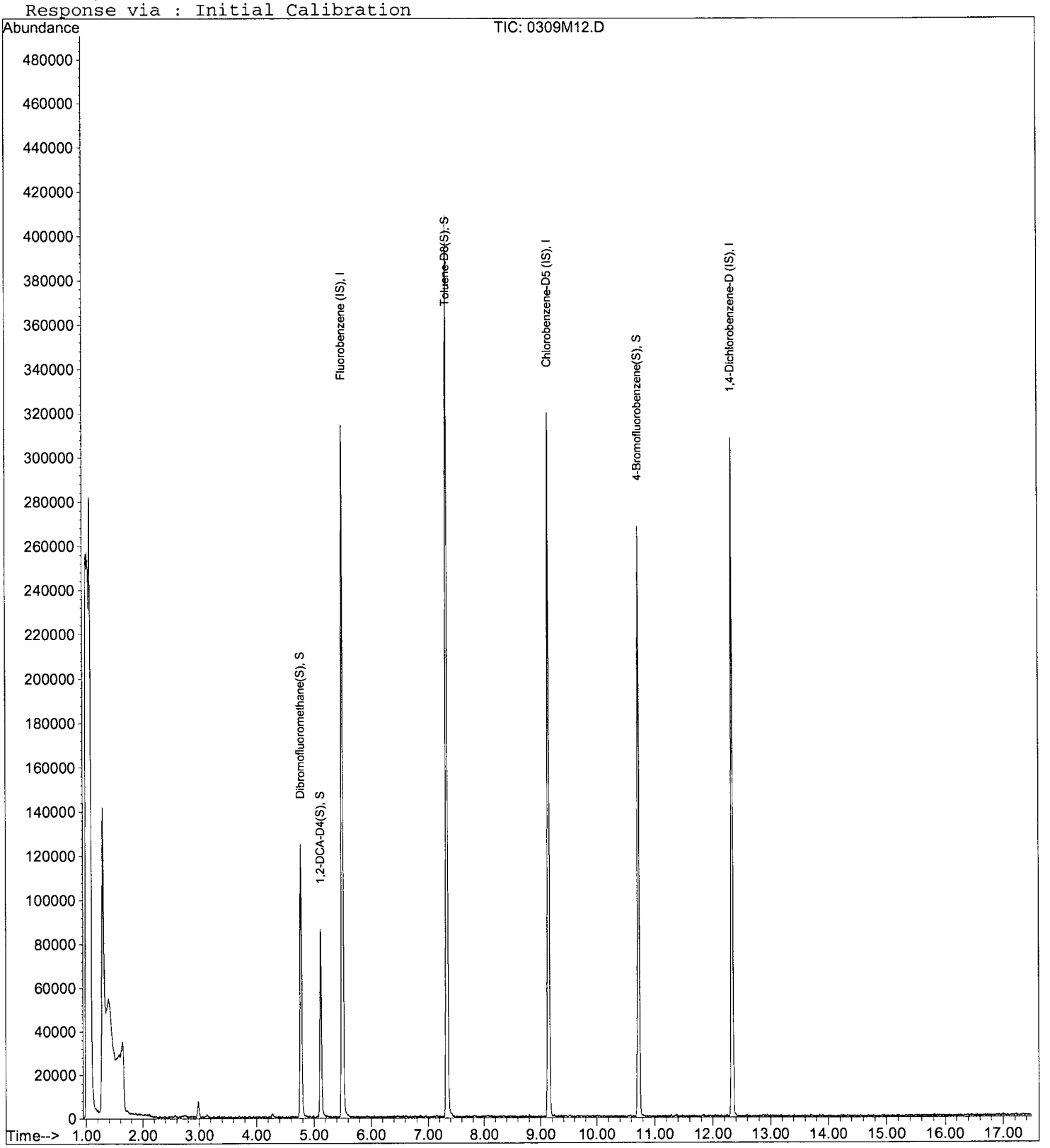
Data File : M:\MAX\DATA\M170308\0309M12.D
Acq On : 9 Mar 17 14:23
Sample : AZ51130W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:06 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82351

Sample ID: ERH256

APPL ID: AZ51131

Sample Collection Date: 03/06/17

QCG: #86BTO-170309AM-216754

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	95.7	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.0	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.2	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.2	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M13
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M13.D
Acq On : 9 Mar 17 14:51
Sample : AZ51131W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:07 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	308666	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	216247	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99433	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	75393	24.79220 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.168%	
37) 1,2-DCA-D4(S)	5.12	65	58005	23.91960 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.680%	
57) Toluene-D8(S)	7.34	98	308219	24.54701 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.188%	
65) 4-Bromofluorobenzene(S)	10.73	95	99586	23.99266 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.972%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

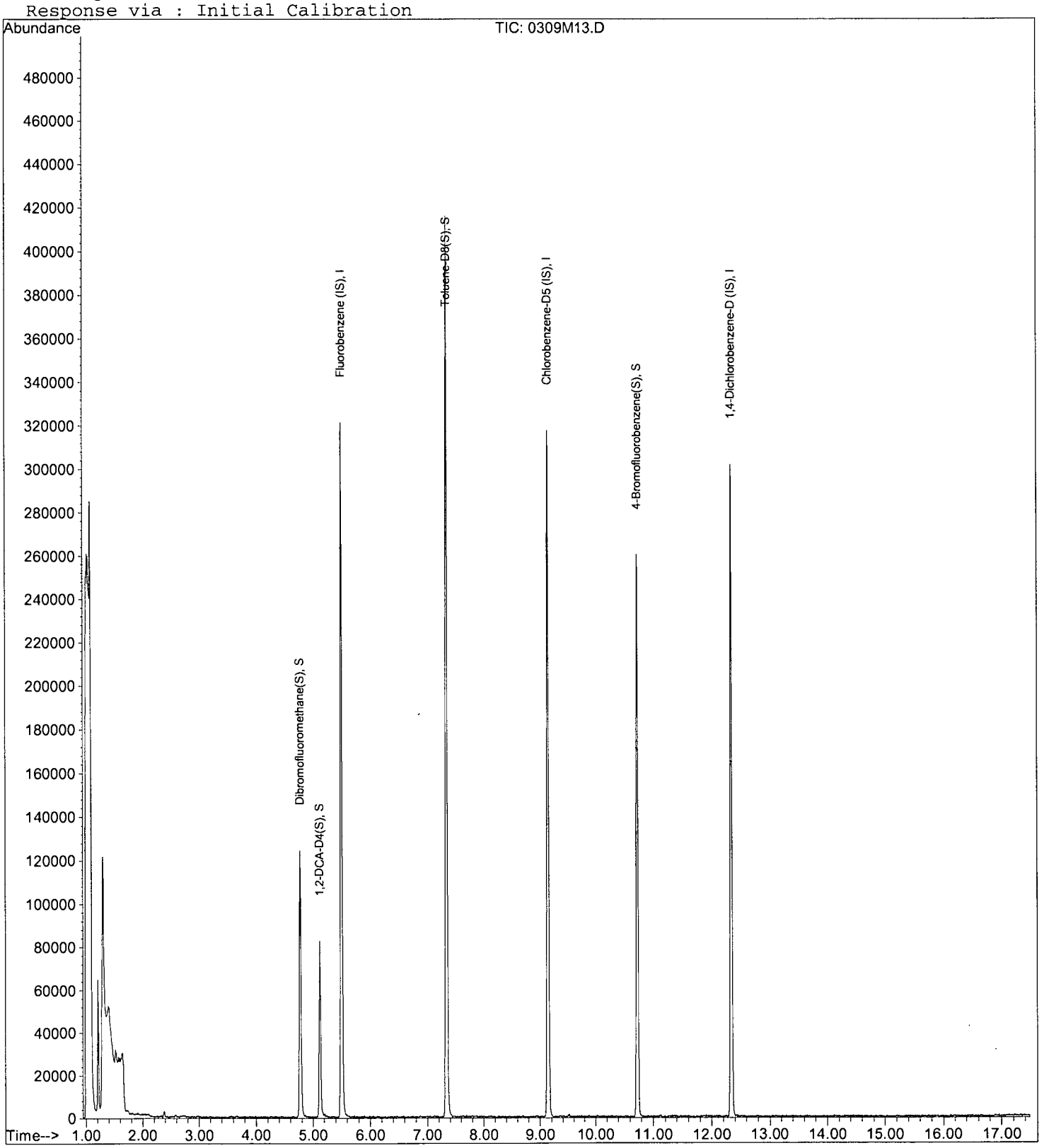
Data File : M:\MAX\DATA\M170308\0309M13.D
Acq On : 9 Mar 17 14:51
Sample : AZ51131W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:07 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #86BTO-170310AM-216806

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.0	85-114			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.3	89-112			%	03/10/17	03/10/17

Quant Method: MGAS6302.M
Run #: 0310M18
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M18.D Vial: 15
Acq On : 10 Mar 17 16:56 Operator: PM,DG,SV,CMM
Sample : AZ51132W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:54 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312435	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	216945	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100622	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	77450	25.16139 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.644%	
37) 1,2-DCA-D4(S)	5.12	65	61368	25.00113 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.004%	
57) Toluene-D8(S)	7.34	98	309539	24.57282 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.292%	
65) 4-Bromofluorobenzene(S)	10.73	95	98916	23.75456 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.020%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

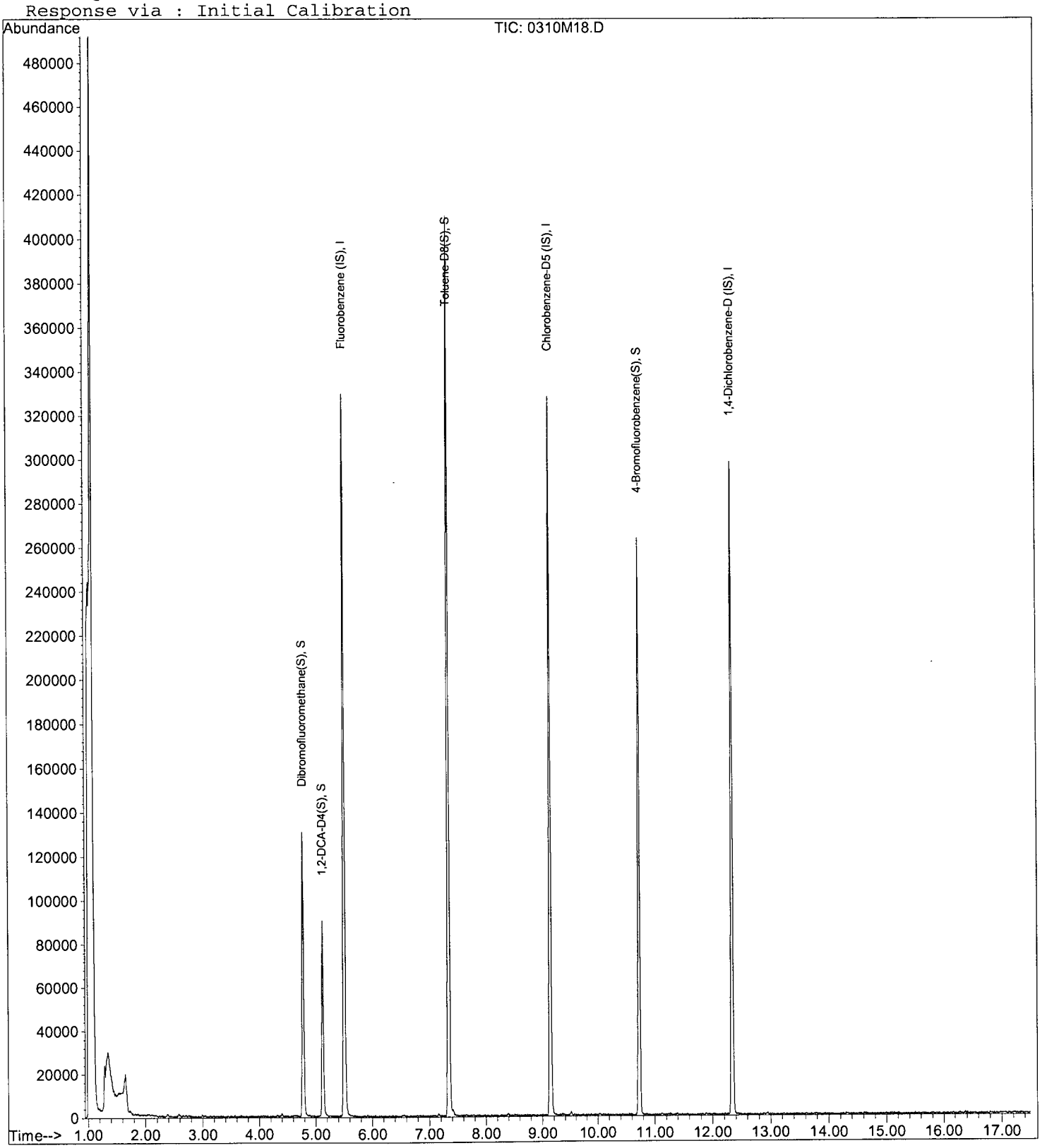
Data File : M:\MAX\DATA\M170308\0310M18.D
Acq On : 10 Mar 17 16:56
Sample : AZ51132W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #86BTO-170309AM-216754

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.9	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.7	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.7	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.0	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M15.D
Acq On : 9 Mar 17 15:48
Sample : AZ51133W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:07 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306340	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	213336	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	102817	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	75255	24.93472 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.740%	
37) 1,2-DCA-D4(S)	5.12	65	59489	24.71783 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.872%	
57) Toluene-D8(S)	7.34	98	303613	24.51012 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.040%	
65) 4-Bromofluorobenzene(S)	10.73	95	97934	23.91660 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.668%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

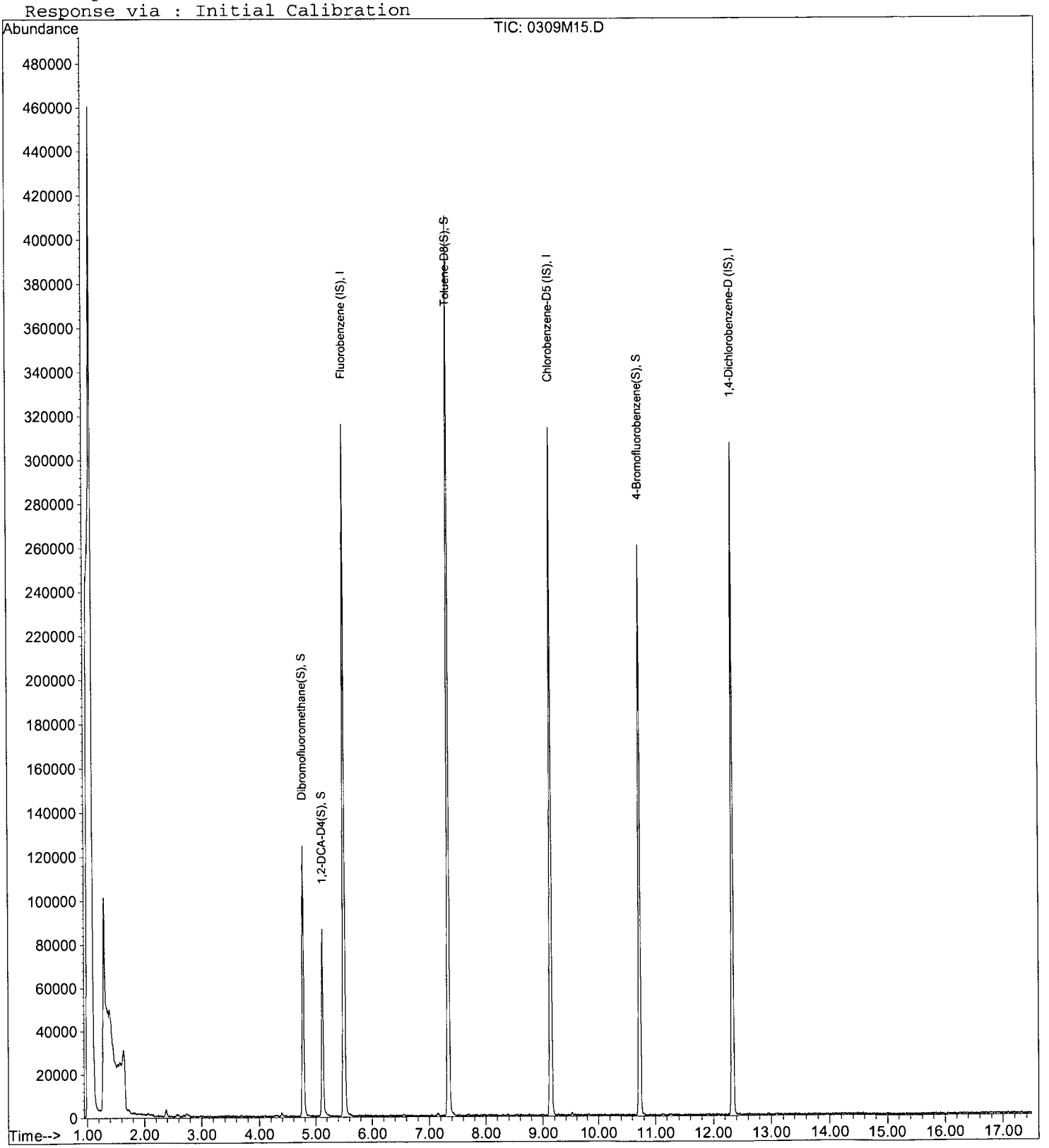
Data File : M:\MAX\DATA\M170308\0309M15.D
Acq On : 9 Mar 17 15:48
Sample : AZ51133W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:07 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH261
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51134
QCG: #86BTO-170309AM1-21676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/09/17	03/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.6	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.4	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M16.D
Acq On : 9 Mar 17 16:17
Sample : AZ51134W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306561	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	212469	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100592	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	75229	24.90814 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.632%	
37) 1,2-DCA-D4(S)	5.12	65	60620	25.16960 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.680%	
57) Toluene-D8(S)	7.34	98	306569	24.84974 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.400%	
65) 4-Bromofluorobenzene(S)	10.73	95	98911	24.25377 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.016%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

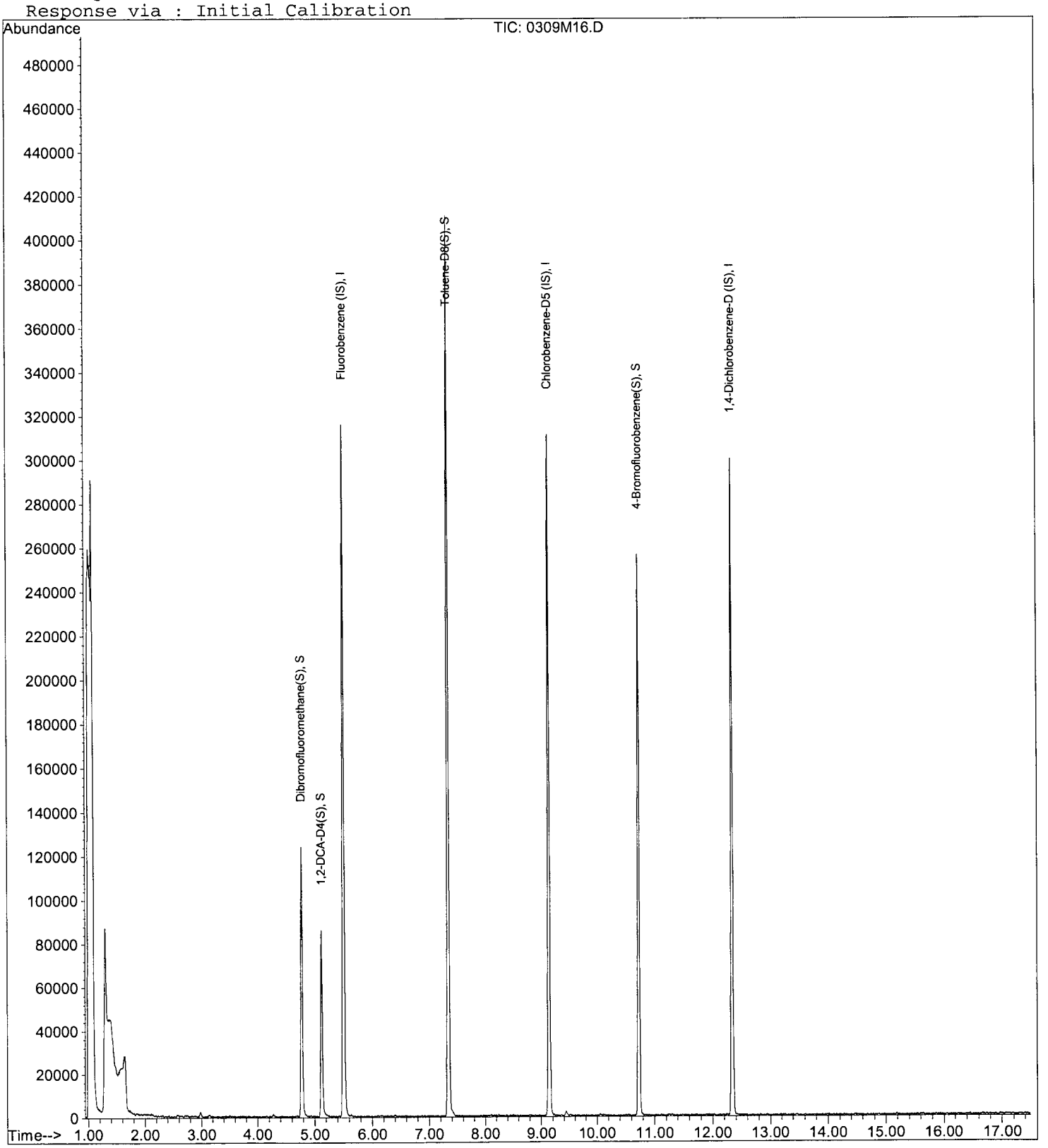
Data File : M:\MAX\DATA\M170308\0309M16.D
Acq On : 9 Mar 17 16:17
Sample : AZ51134W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #86BTO-170309AM1-21676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/09/17	03/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M14.D Vial: 13
Acq On : 9 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : AZ51135W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 9:07 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	302481	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	215154	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100338	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	76711	25.74141 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.964%	
37) 1,2-DCA-D4(S)	5.12	65	59919	25.21412 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.856%	
57) Toluene-D8(S)	7.34	98	316392	25.32593 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.304%	
65) 4-Bromofluorobenzene(S)	10.73	95	101419	24.55840 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.232%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

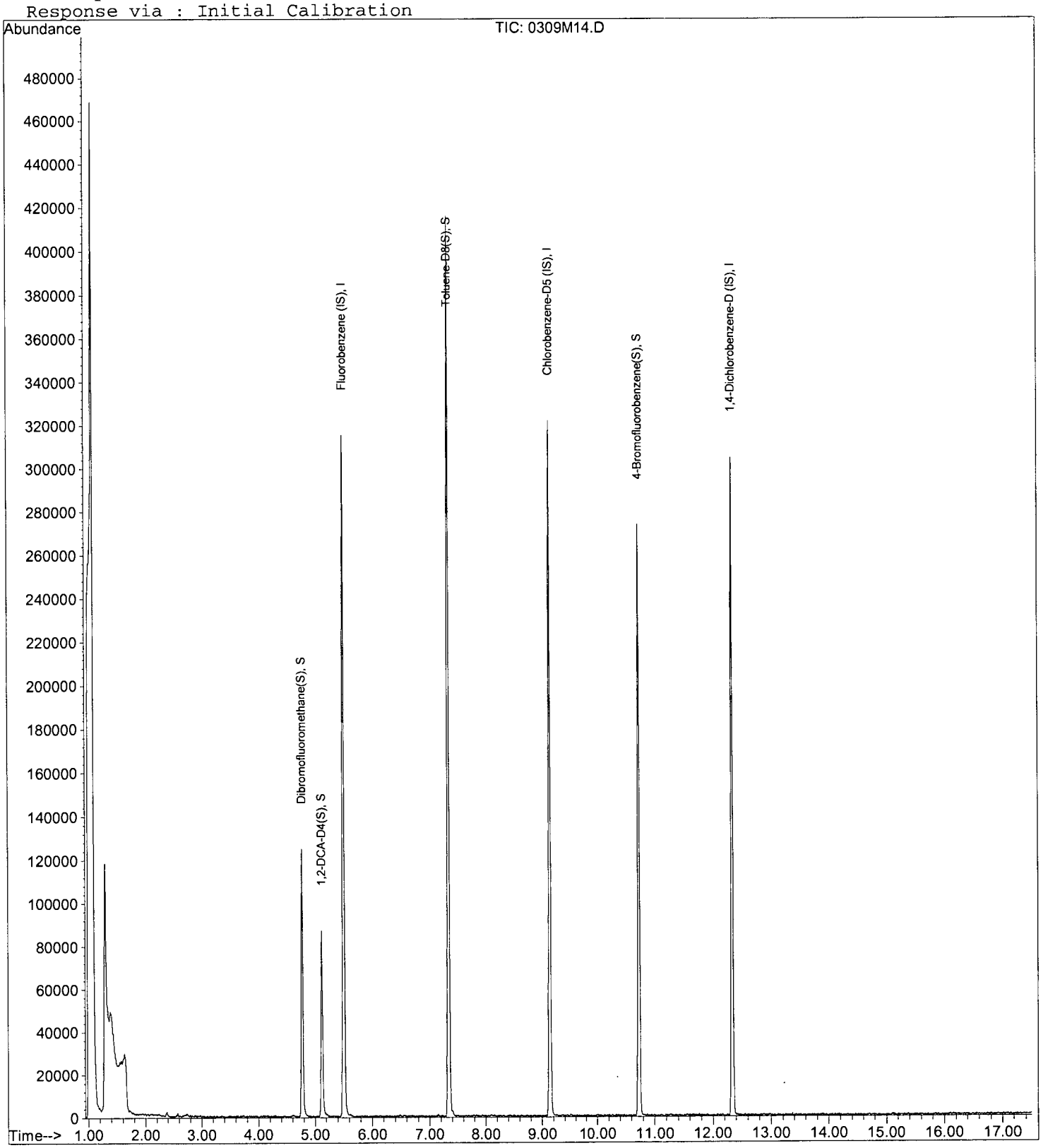
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M14.D
Acq On : 9 Mar 17 15:20
Sample : AZ51135W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:07 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82351

Sample ID: ERH263

APPL ID: AZ51136

Sample Collection Date: 03/06/17

QCG: #86BTO-170309AM1-21676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/09/17	03/09/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	96.7	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.3	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.5	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M17.D
Acq On : 9 Mar 17 16:45
Sample : AZ51136W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:09 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	296248	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	207112	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	95986	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	74018	25.36032 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.440%	
37) 1,2-DCA-D4(S)	5.12	65	56275	24.17895 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.716%	
57) Toluene-D8(S)	7.34	98	299271	24.88563 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.544%	
65) 4-Bromofluorobenzene(S)	10.73	95	97667	24.56817 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.272%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

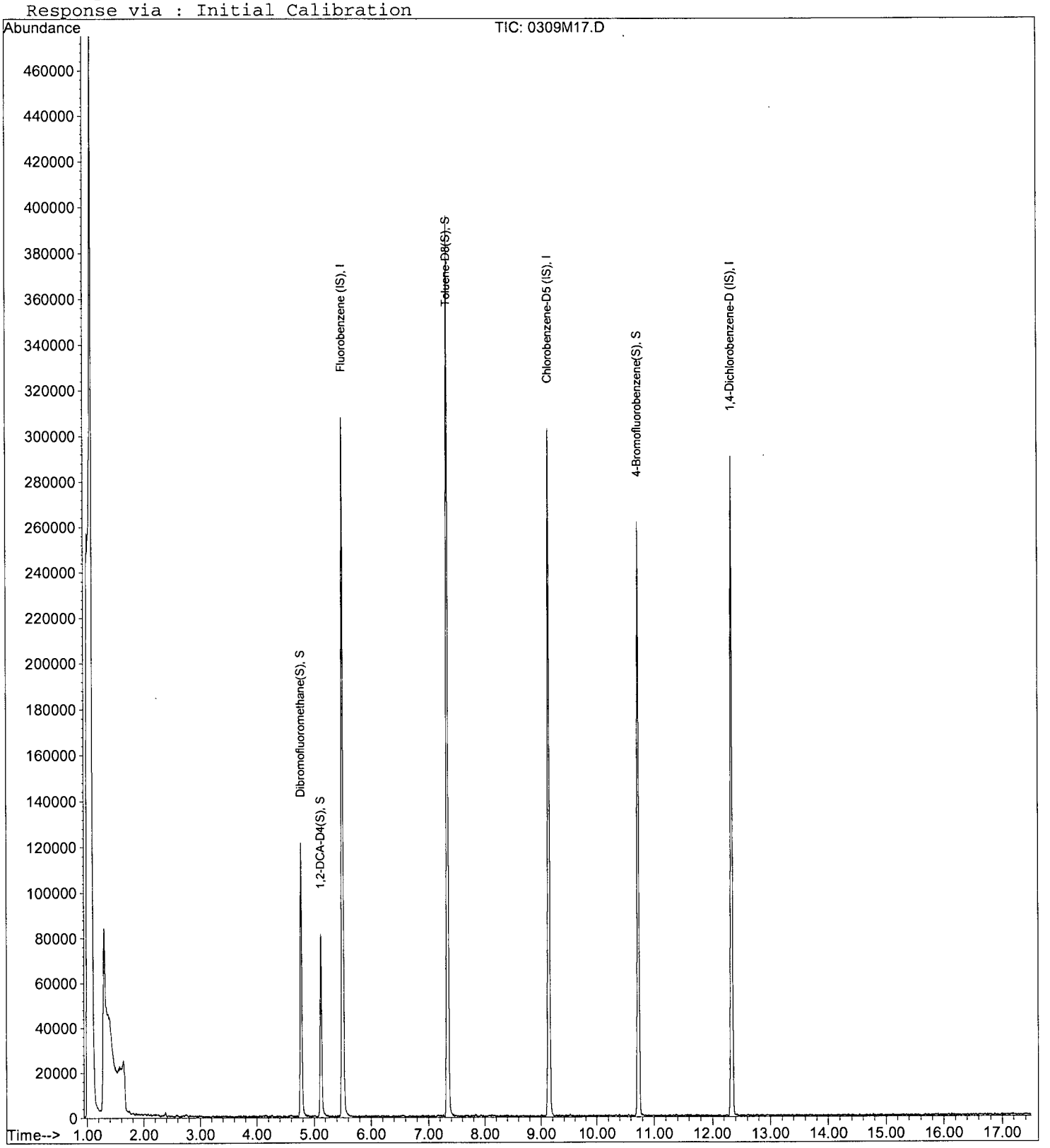
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M17.D
Acq On : 9 Mar 17 16:45
Sample : AZ51136W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:09 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH266
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51137
QCG: #86BTO-170309AM-216754

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.3	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.1	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.2	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M18
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M18.D
Acq On : 9 Mar 17 17:13
Sample : AZ51137W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:09 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	300089	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	211789	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97809	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	75759	25.62460 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.500%	
37) 1,2-DCA-D4(S)	5.12	65	57909	24.56254 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.252%	
57) Toluene-D8(S)	7.34	98	304984	24.80064 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.204%	
65) 4-Bromofluorobenzene(S)	10.73	95	97647	24.02070 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.084%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

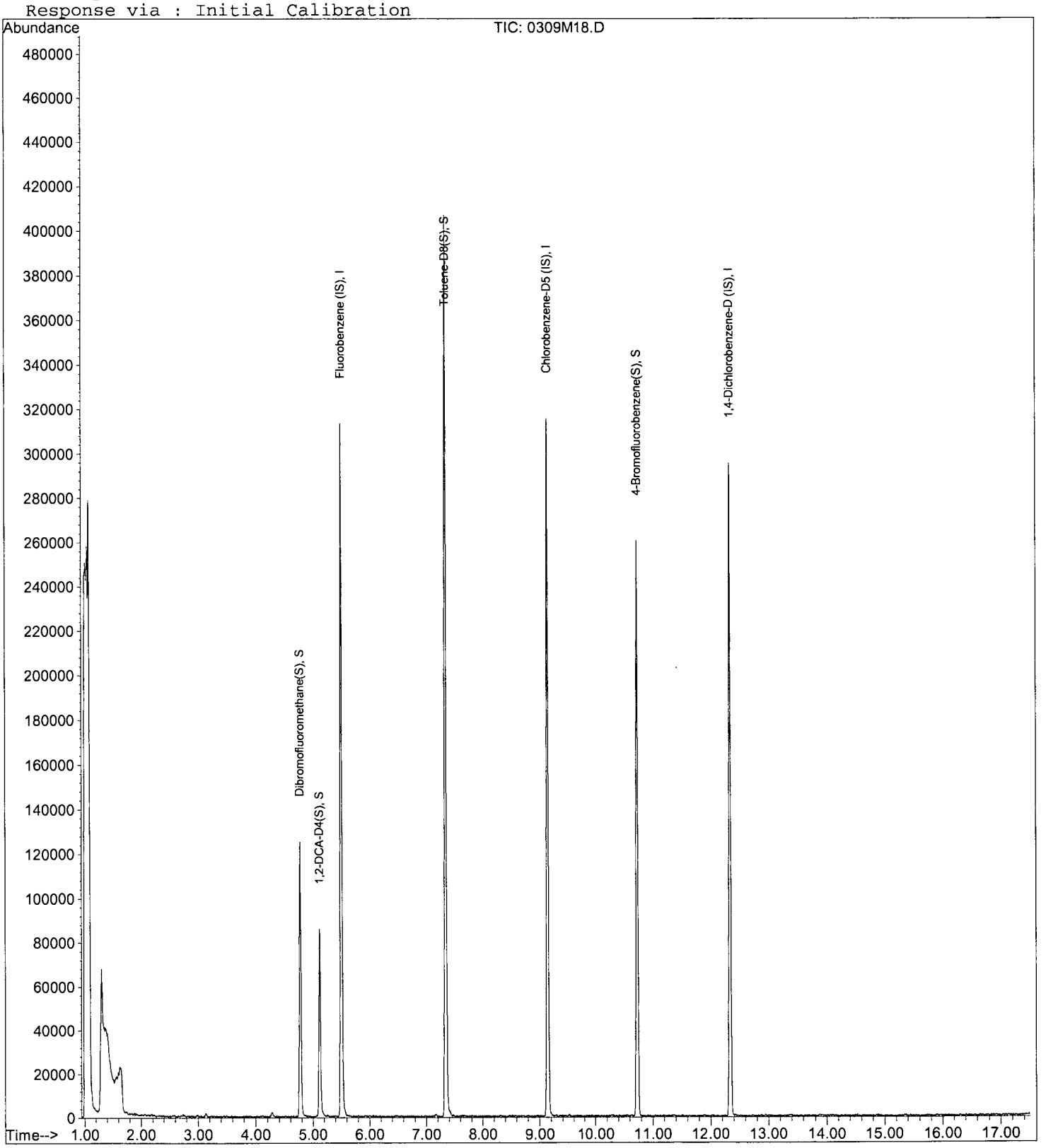
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M18.D
Acq On : 9 Mar 17 17:13
Sample : AZ51137W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:09 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH267
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51138
QCG: #86BTO-170309AM-216754

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.0	81-118			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.0	85-114			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/09/17	03/09/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.8	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M19
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:11 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M19.D
Acq On : 9 Mar 17 17:42
Sample : AZ51138W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:10 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	296280	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	207571	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	96530	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	74996	25.69263 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.772%	
37) 1,2-DCA-D4(S)	5.12	65	57021	24.49683 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.988%	
57) Toluene-D8(S)	7.34	98	300776	24.95547 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
65) 4-Bromofluorobenzene(S)	10.73	95	97588	24.49401 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.976%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

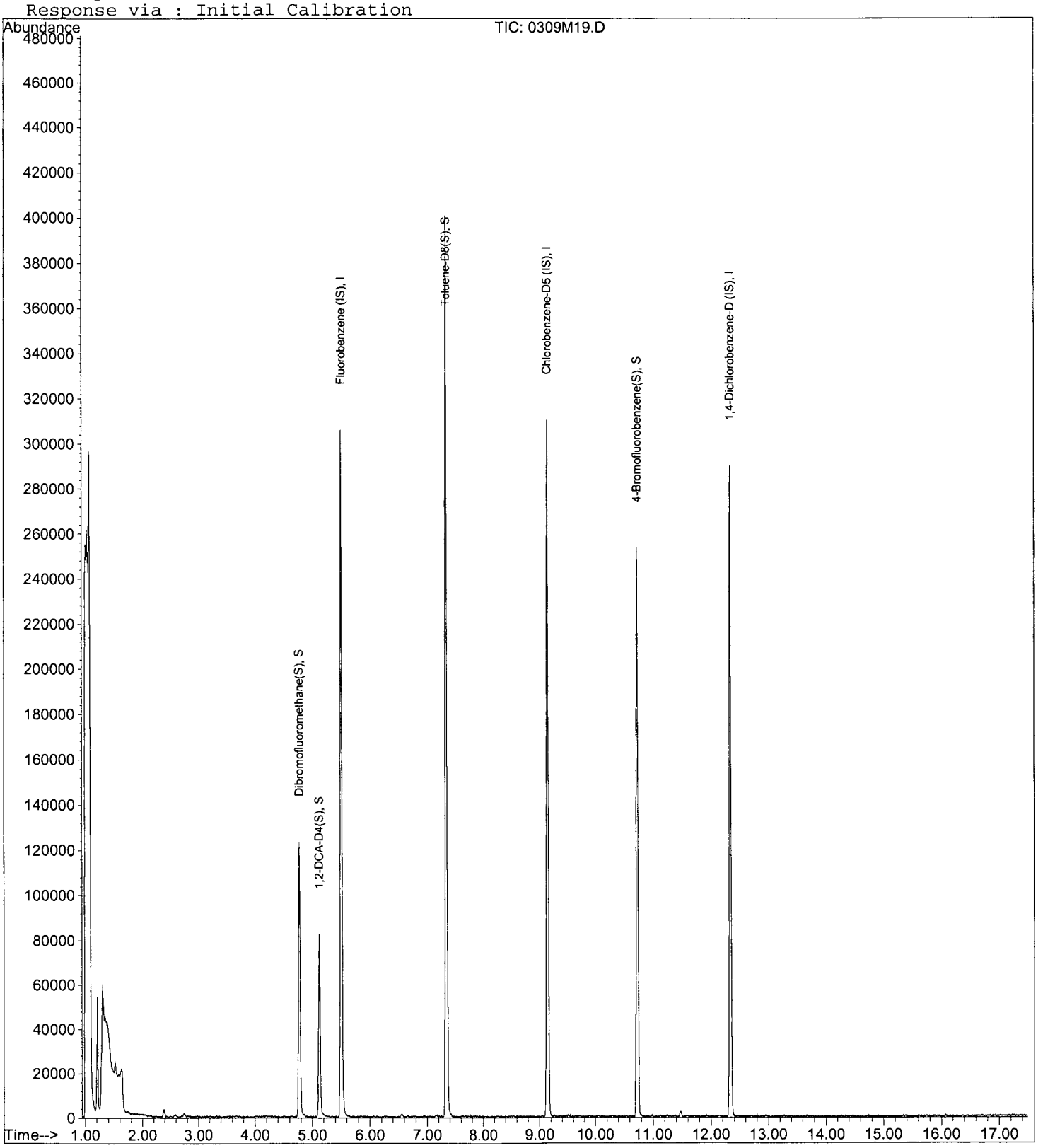
Data File : M:\MAX\DATA\M170308\0309M19.D
Acq On : 9 Mar 17 17:42
Sample : AZ51138W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:10 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #86BTO-170310AM-216806

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.3	85-114			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.4	89-112			%	03/10/17	03/10/17

Quant Method: MALLW.M
Run #: 0310M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M15.D
Acq On : 10 Mar 17 15:30
Sample : AZ51139W02
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:50 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	286101	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202073	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	93225	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	72197	25.61372 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.456%	
37) 1,2-DCA-D4(S)	5.12	65	57496	25.57971 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.320%	
57) Toluene-D8(S)	7.34	98	291706	24.86144 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.444%	
65) 4-Bromofluorobenzene(S)	10.73	95	94333	24.32123 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.284%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

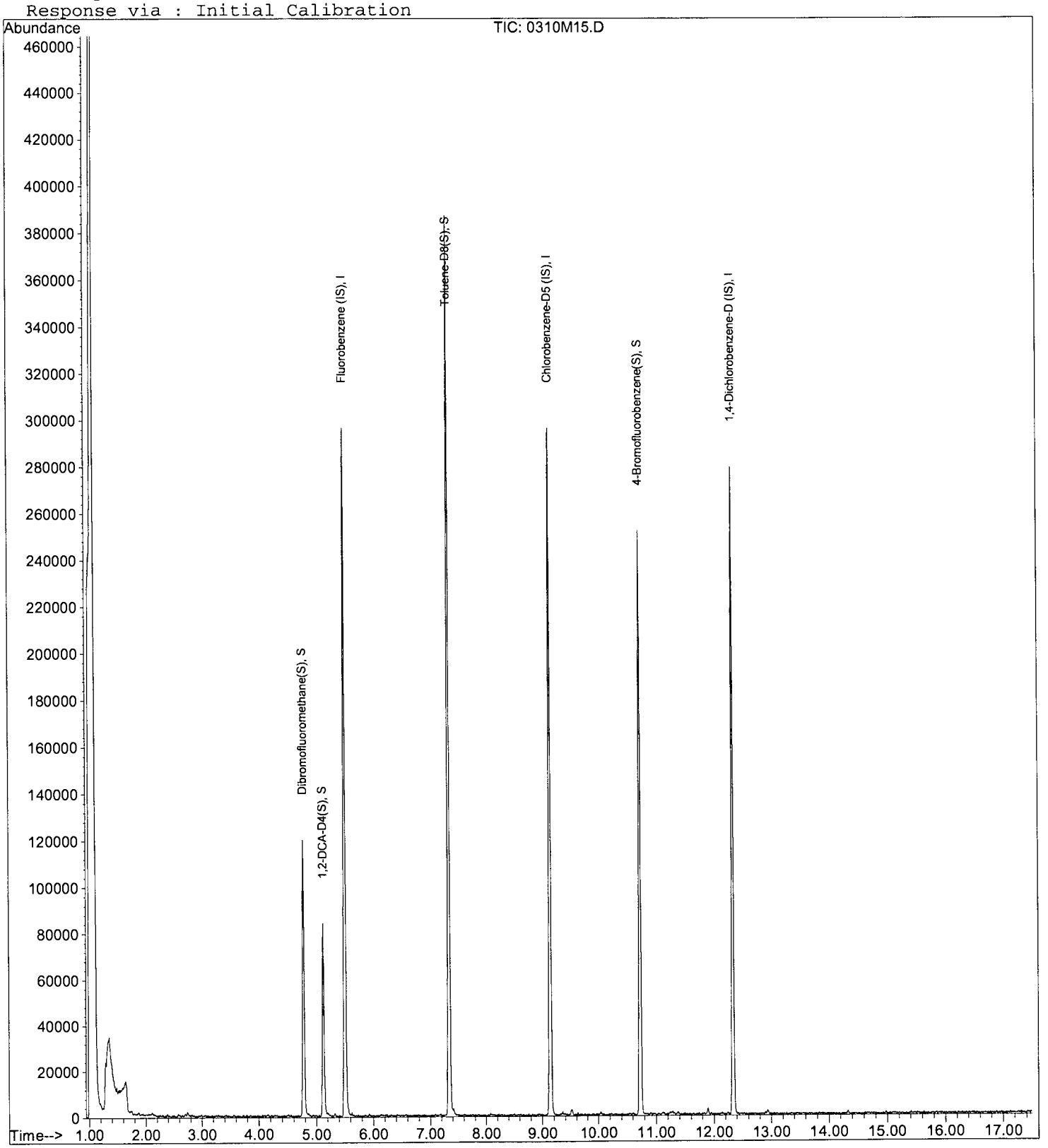
Data File : M:\MAX\DATA\M170308\0310M15.D
Acq On : 10 Mar 17 15:30
Sample : AZ51139W02
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:50 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH269
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51140
QCG: #86BTO-170310AM-216806

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.2	81-118			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	98.5	80-119			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/10/17	03/10/17

Quant Method: MALLW.M
Run #: 0310M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M16.D
Acq On : 10 Mar 17 15:59
Sample : AZ51140W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:53 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313030	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	214648	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100027	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75980	24.63691 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.548%	
37) 1,2-DCA-D4(S)	5.12	65	60397	24.55878 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.236%	
57) Toluene-D8(S)	7.34	98	313206	25.13000 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.520%	
65) 4-Bromofluorobenzene(S)	10.73	95	100438	24.37818 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.512%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

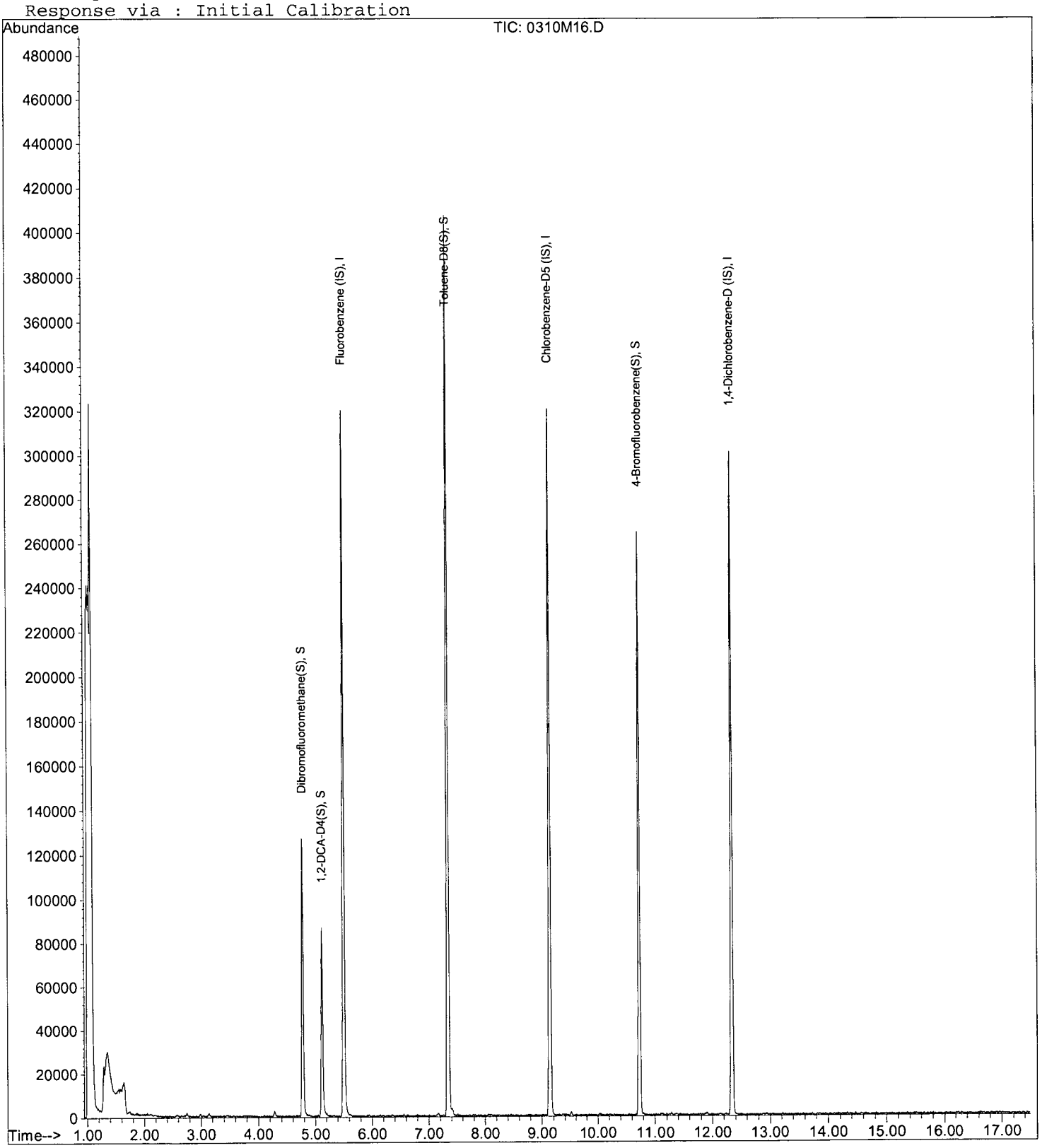
Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M16.D
Acq On : 10 Mar 17 15:59
Sample : AZ51140W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:53 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #86BTO-170310AM-216806

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.8	85-114			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	03/10/17	03/10/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.0	89-112			%	03/10/17	03/10/17

Quant Method: MGAS6302.M
Run #: 0310M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:22:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M17.D
Acq On : 10 Mar 17 16:27
Sample : AZ51141W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:54 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	295135	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	208739	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100701	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75468	25.95464 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.820%	
37) 1,2-DCA-D4(S)	5.13	65	59792	25.78693 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.148%	
57) Toluene-D8(S)	7.34	98	299998	24.75164 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.008%	
65) 4-Bromofluorobenzene(S)	10.73	95	99999	24.95871 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.836%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

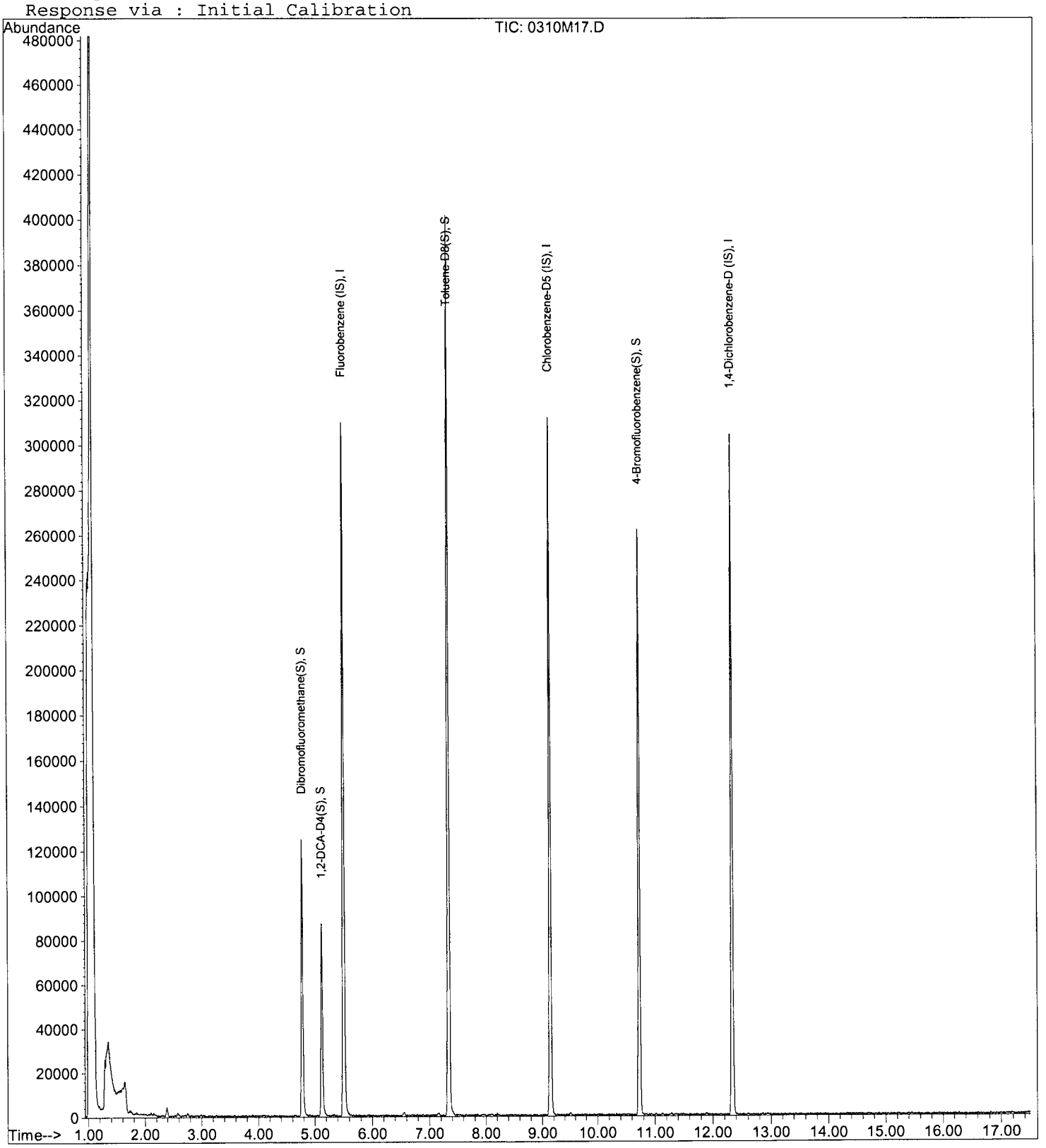
Data File : M:\MAX\DATA\M170308\0310M17.D
Acq On : 10 Mar 17 16:27
Sample : AZ51141W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/08/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09.D	0308M10.D	0308M11.D	0308M12.D	0308M13.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2744	0.2878	0.2645	0.2965	0.2979	0.3049	0.3003	0.3165		0.29	5.7	TM	
3	TM	Freon 114		0.4188	0.3802	0.4212	0.3968	0.4124	0.3881	0.4302	0.4375		0.41	5.0	TM	
4	TM**	Chloromethane		0.4256	0.4378	0.4038	0.4142	0.4230	0.4029	0.4063	0.4390		0.42	3.5	TM**	
5	TM*	Vinyl chloride		0.6090	0.5726	0.5330	0.6094	0.6125	0.5996	0.6032	0.6236		0.60	4.9	TM*	
6	TM	Bromomethane		0.4498	0.4294	0.3618	0.3692	0.3535	0.4171	0.4518	0.4590		0.41	11	TM	
7	TM	Chloroethane		0.3550	0.3445	0.3126	0.3696	0.3623	0.3454	0.3524			0.35	5.2	TM	
8	TM	Dichlorofluoromethane		0.8837	0.9336	0.8582	0.9014	0.9402	0.9002	0.9362	1.013		0.92	5.1	TM	
9	TM	Trichlorofluoromethane		0.6874	0.7107	0.6874	0.7259	0.7465	0.7356	0.7560	0.8058		0.73	5.3	TM	
10	TM	Acrolein	0.0226	0.0212	0.0216	0.0209	0.0218	0.0230	0.0229	0.0232	0.0237		0.02	4.3	TM	
11	TML	Acetone			0.0224	0.0183	0.0102	0.0122	0.0094	0.0094	0.0091		0.01	40	TML	0.999
12	TM	Freon-113		0.3835	0.4580	0.4093	0.4240	0.4273	0.4075	0.4432	0.4429		0.42	5.6	TM	
13	TM*	1,1-DCE		0.6038	0.6917	0.6350	0.6662	0.6837	0.6509	0.6872	0.7042		0.67	5.1	TM*	
14	TM	Acetonitrile		0.0192	0.0191	0.0196	0.0199	0.0207	0.0208	0.0212	0.0235		0.02	7.1	TM	
15	TM	t-Butanol	0.0084	0.0065	0.0061	0.0080	0.0072	0.0074	0.0083	0.0087			0.01	12	TM	
16	TM	Methyl Acetate		0.1430	0.1423	0.1334	0.1448	0.1356	0.1492	0.1557	0.1623		0.15	6.7	TM	
17	TML	Iodomethane		0.2096	0.2478	0.2817	0.4500	0.5371	0.5556	0.5911			0.41	39	TML	0.999
18	TM	Acrylonitrile		0.0530	0.0599	0.0633	0.0739	0.0726	0.0698	0.0732	0.0760		0.07	12	TM	
19	TM	Methylene chloride		0.5048	0.4895	0.4084	0.4391	0.4385	0.4192	0.4231	0.4342		0.44	7.7	TM	
20	TM	Carbon disulfide		1.326	1.382	1.234	1.355	1.391	1.339	1.383	1.462		1.4	4.8	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.7247	0.6909	0.6542	0.7461	0.7536	0.7299	0.7441	0.7761		0.73	5.3	TM	
22	TM	Trans-1,2-DCE		0.5246	0.4628	0.4867	0.5072	0.5314	0.4987	0.5061	0.5262		0.51	4.5	TM	
23	TM	Diisopropyl Ether		1.148	1.209	1.128	1.265	1.287	1.233	1.286	1.374		1.2	6.4	TM	
24	TM**	1,1-DCA		0.7550	0.8387	0.7566	0.8322	0.8297	0.8065	0.8216	0.8652		0.81	4.8	TM**	
25	TM	Vinyl Acetate		0.1976	0.2364	0.1839	0.2067	0.2166	0.2491				0.22	11	TM	
26	TM	Ethyl tert Butyl Ether		0.8137	0.7894	0.7450	0.8160	0.8427	0.8398	0.9050	0.9773		0.84	8.5	TM	
27	TML	MEK (2-Butanone)		0.1439	0.1340	0.0784	0.1257	0.1174	0.1047	0.0964	0.0965		0.11	20	TML	0.999
28	TM	Cis-1,2-DCE		0.4416	0.5323	0.5095	0.5459	0.5442	0.5138	0.5225	0.5469		0.52	6.7	TM	
29	TM	2,2-Dichloropropane		0.4389	0.4788	0.4320	0.4841	0.5278	0.5461	0.6026			0.50	12	TM	
30	TM*	Chloroform	0.7993	0.8306	0.7646	0.7467	0.8359	0.8252	0.8025	0.8094	0.8527		0.81	4.2	TM*	
31	TM	Bromochloromethane		0.1752	0.1996	0.1891	0.2052	0.2101	0.1980	0.2018	0.2119		0.20	6.0	TM	
32	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
33	TM	1,1,1-TCA		0.6662	0.6475	0.6071	0.6893	0.7078	0.7117	0.7698	0.8339		0.70	10	TM	
34	TM	Cyclohexane		0.4263	0.4257	0.4111	0.4171	0.4299	0.4086	0.4274	0.4445		0.42	2.7	TM	
35	TM	1,1-Dichloropropene	0.6412	0.6541	0.6477	0.6150	0.6739	0.6882	0.6549	0.6701	0.6979		0.66	3.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane	1.129	1.159	1.159	1.084	1.139	1.144	1.078	1.140	1.190		1.1	3.2	TM	
37	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
38	TM	Carbon Tetrachloride		0.5051	0.4805	0.4346	0.4939	0.5445	0.5449	0.6218			0.52	12	TM	
39	TM	Tert Amyl Methyl Ether		0.6588	0.6842	0.6704	0.7347	0.7549	0.7545	0.7958	0.8715		0.74	9.6	TM	
40	TM	1,2-DCA	0.4470	0.4687	0.4295	0.4107	0.4595	0.4419	0.4199	0.4282	0.4555		0.44	4.4	TM	
41	TM	Benzene	2.030	1.877	2.004	1.882	2.020	2.012	1.911	1.966	2.085		2.0	3.7	TM	
42	TM	TCE	0.5734	0.5357	0.5541	0.5142	0.5414	0.5511	0.5223	0.5383	0.5546		0.54	3.3	TM	
43	TM	2-Pentanone	0.1268	0.1098	0.1152	0.1166	0.1216	0.1281	0.1335	0.1430			0.12	8.7	TM	
44	TM*	1,2-Dichloropropane		0.3641	0.4105	0.4079	0.4225	0.4328	0.4120	0.4241	0.4526		0.42	6.1	TM*	
45	TM	Bromodichloromethane		0.3894	0.4187	0.4006	0.4371	0.4788	0.4824	0.5047	0.5539		0.46	12	TM	
46	TM	Methyl Cyclohexane	0.7863	0.7691	0.7727	0.6807	0.7277	0.7208	0.6971	0.7298	0.7732		0.74	5.0	TM	
47	TM	Dibromomethane		0.1667	0.1578	0.1581	0.1733	0.1791	0.1729	0.1782	0.1864		0.17	5.9	TM	
48	TM	MIBK (methyl isobutyl ketone)				0.2266	0.2208	0.2002	0.1959	0.1935	0.2038		0.21	6.6	TM	
49	TM	1-Bromo-2-chloroethane		0.3862	0.3885	0.3667	0.3872	0.4087	0.4076	0.4214			0.40	4.7	TM	
50	TM	2-Chloroethyl vinyl ether													TM	
51	TM	Cis-1,3-Dichloropropene		0.3960	0.4459	0.4416	0.4933	0.5207	0.5363	0.5786			0.49	13	TM	
52	TM*	Toluene		2.231	2.298	2.088	2.323	2.347	2.200	2.275	2.482		2.3	5.1	TM*	
53	TM	Trans-1,3-Dichloropropene		0.2769	0.2759	0.2631	0.3025	0.3409	0.3646				0.30	13	TM	
54	TM	1,1,2-TCA		0.1970	0.1903	0.1908	0.2120	0.2111	0.2110	0.2060	0.2186		0.20	5.2	TM	
55	TM	2-Hexanone			0.1005	0.1065	0.1088	0.1174	0.1212	0.1259	0.1335		0.12	10	TM	
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
58	TML	1,2-EDB		0.2051	0.2191	0.2161	0.2626	0.2999	0.3176	0.3356			0.27	20	TML	0.999
59	TM	Tetrachloroethene		0.7698	0.7932	0.7468	0.8056	0.8132	0.7400	0.7391	0.7496		0.77	4.0	TM	
60	TM	1-Chlorohexane		0.9365	0.9861	0.8758	0.9048	0.9834	0.9218	0.9575	1.001		0.95	4.6	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.4181	0.4353	0.3938	0.4635	0.5137	0.5389	0.5977			0.48	15	TM	
62	TM	m&p-Xylene		1.406	1.479	1.394	1.506	1.548	1.422	1.472	1.599		1.5	4.8	TM	
63	TM	o-Xylene	1.515	1.453	1.379	1.299	1.408	1.471	1.360	1.395	1.492		1.4	4.9	TM	
64	TM	Styrene		1.938	1.817	1.875	2.111	2.222	2.061	2.164	2.384		2.1	9.2	TM	
65	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
66	TM	1,3-Dichloropropane	0.6458	0.6038	0.5957	0.5973	0.6461	0.6467	0.6046	0.6225	0.6278		0.62	3.5	TM	
67	TM	Dibromochloromethane		0.2969	0.3247	0.2929	0.3595	0.4003	0.4015				0.35	14	TM	
68	TM**	Chlorobenzene	1.993	2.013	1.927	1.910	2.035	2.066	1.924	1.970	2.043		2.0	2.9	TM**	
69	TM*	Ethylbenzene	3.454	3.682	3.543	3.434	3.770	3.836	3.525	3.630	3.867		3.6	4.4	TM*	
70	TM**	Bromoform		0.1836	0.1677	0.1609	0.1745	0.1904	0.2078	0.2354			0.19	14	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/08/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene	7.892	6.828	7.477	7.193	7.555	7.571	7.009	7.160	7.465		7.4	4.5	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6540	0.6465	0.5771	0.6578	0.6746	0.6976	0.6648	0.6855	0.7160		0.66	5.9	TM**	
74	TM	1,2,3-Trichloropropane		0.2902	0.2232	0.2149	0.2456	0.2303	0.2290	0.2238	0.2290		0.24	10	TM	
75	TM	t-1,4-Dichloro-2-Butene			0.1156	0.1320	0.1245	0.1267	0.1298	0.1491			0.13	8.6	TM	
76	TM	Bromobenzene	1.651	1.594	1.609	1.601	1.710	1.653	1.543	1.564	1.605		1.6	3.1	TM	
77	TM	n-Propylbenzene	8.776	7.704	8.562	7.924	8.447	8.408	7.817	8.143	8.657		8.3	4.7	TM	
78	TM	4-Ethyltoluene	7.228	6.981	7.039	6.866	7.404	7.433	6.909	7.138	7.634		7.2	3.7	TM	
79	TM	2-Chlorotoluene	4.910	4.748	4.767	4.557	4.854	4.866	4.459	4.598	4.789		4.7	3.3	TM	
80	TM	1,3,5-Trimethylbenzene	6.470	6.007	6.463	5.786	6.269	6.137	5.717	5.950	6.415		6.1	4.7	TM	
81	TM	4-Chlorotoluene	6.041	5.482	5.683	5.105	5.562	5.544	5.195	5.374	5.801		5.5	5.3	TM	
82	TM	Tert-Butylbenzene	5.811	5.660	5.956	5.299	5.647	5.511	5.099	5.204	5.420		5.5	5.2	TM	
83	TM	1,2,4-Trimethylbenzene	5.788	5.267	5.839	5.258	5.928	5.971	5.677	5.865	6.340		5.8	5.9	TM	
84	TM	Sec-Butylbenzene	7.291	6.959	7.493	7.033	7.480	7.445	6.887	7.166	7.656		7.3	3.7	TM	
85	TM	p-Isopropyltoluene	6.399	5.976	6.377	5.880	6.460	6.540	6.062	6.369	6.900		6.3	5.0	TM	
86	TMQ	Benzyl Chloride		0.2386	0.3344	0.3529	0.4079	0.4509	0.4975	0.6875			0.42	34	TMQ	1.000
87	TM	1,3-DCB	3.488	3.117	3.369	3.134	3.394	3.339	3.180	3.231	3.413		3.3	4.1	TM	
88	TM	1,4-DCB	3.608	3.493	3.309	3.150	3.241	3.197	2.994	3.108	3.328		3.3	5.8	TM	
89	TM	n-Butylbenzene	4.808	4.642	4.910	4.745	5.112	5.278	4.957	5.229	5.667		5.0	6.3	TM	
90	TM	1,2-DCB	2.890	2.498	2.750	2.460	2.850	2.843	2.670	2.667	2.804		2.7	5.7	TM	
91	TM	Hexachloroethane		0.5053	0.4817	0.4738	0.5112	0.5344	0.5809				0.51	7.6	TM	
92	TML	1,2-Dibromo-3-chloropropane				0.0549	0.0615	0.0639	0.0839	0.1003	0.1127		0.08	29	TML	0.998
93	TML	1,2,4-Trichlorobenzene		0.7457	0.8406	1.089	1.392	1.492	1.540				1.2	29	TML	1.000
94	TM	Hexachlorobutadiene		0.9547	0.9198	0.8863	0.9662	0.9771	0.9129	0.9312	1.035		0.95	4.9	TM	
95	TMQ	Naphthalene		0.2935	0.2530	0.3526	0.5413	0.6777	0.8346				0.49	47	TMQ	1.000
96	TMQ	1,2,3-Trichlorobenzene	0.2813	0.3493	0.4853	0.6983	0.9014	1.061					0.63	49	TMQ	1.000
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
37) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
57) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
65) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1128	0.28873 ppb		99
3) Freon 114	1.29	85	1562	0.28513 ppb		87
4) Chloromethane	1.34	50	1995	0.35687 ppb		93
5) Vinyl chloride	1.42	62	2217	0.27914 ppb		98
6) Bromomethane	1.70	94	1828	0.33302 ppb		94
7) Chloroethane	1.79	64	1634	0.35113 ppb		97
8) Dichlorofluoromethane	1.97	67	3877	0.31564 ppb		99
9) Trichlorofluoromethane	2.02	101	2846	0.29147 ppb		100
10) Acrolein	2.41	56	3014	10.12344 ppb		86
11) Acetone	2.57	58	243	0.18567 ppb		89
12) Freon-113	2.53	101	1752	0.30941 ppb		90
13) 1,1-DCE	2.50	61	2829	0.31872 ppb		97
14) Acetonitrile	2.84	41	2867	23.27452 ppb	#	73
15) t-Butanol	3.14	59	1123	11.10336 ppb	#	39
16) Methyl Acetate	2.89	43	753	0.38721 ppb	#	52
17) Iodomethane	2.65	142	761	0.98685 ppb	#	79
18) Acrylonitrile	3.23	53	238	0.26341 ppb	#	64
19) Methylene chloride	2.98	84	2142	0.36115 ppb		91
20) Carbon disulfide	2.69	76	5773	0.31847 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	2952	0.30419 ppb	#	82
22) Trans-1,2-DCE	3.25	96	2177	0.32284 ppb		95
23) Diisopropyl Ether	3.79	45	5096	0.30776 ppb		98
24) 1,1-DCA	3.66	63	3550	0.32724 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	3487	0.31076 ppb		91
27) MEK (2-Butanone)	4.31	43	395	-0.56726 ppb	#	44
28) Cis-1,2-DCE	4.26	96	2315	0.33398 ppb		81
29) 2,2-Dichloropropane	4.26	77	2215	0.33111 ppb		96
30) Chloroform	4.60	83	3199	0.29698 ppb	#	68
31) Bromochloromethane	4.50	128	751	0.28307 ppb	#	83
33) 1,1,1-TCA	4.80	97	2342	0.24931 ppb		94
34) Cyclohexane	4.86	41	2116	0.37424 ppb		92
35) 1,1-Dichloropropene	4.97	75	2566	0.29129 ppb		95
36) 2,2,4-Trimethylpentane	5.32	57	4520	0.29829 ppb		93
38) Carbon Tetrachloride	4.97	117	2008	0.29064 ppb		87
39) Tert Amyl Methyl Ether	5.36	73	2900	0.29352 ppb		94
40) 1,2-DCA	5.20	62	1789	0.30471 ppb	#	84
41) Benzene	5.19	78	8123	0.30812 ppb		93
42) TCE	5.91	95	2295	0.31694 ppb		91
43) 2-Pentanone	6.15	43	16917	10.20004 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D Vial: 4
Acq On : 8 Mar 17 12:58 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 3/8/17H Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloropropane	6.15	63	1702	0.30682	ppb	#	81
45)	Bromodichloromethane	6.48	83	1516	0.24801	ppb		87
46)	Methyl Cyclohexane	6.14	83	3147	0.31891	ppb		95
47)	Dibromomethane	6.28	93	656	0.28662	ppb		88
48)	MIBK (methyl isobutyl ket	7.23	43	1155	0.41866	ppb	#	74
49)	1-Bromo-2-chloroethane	6.82	63	1383	0.26234	ppb		91
51)	Cis-1,3-Dichloropropene	7.01	75	1854	0.28508	ppb	#	86
52)	Toluene	7.41	91	9475	0.31142	ppb		89
53)	Trans-1,3-Dichloropropene	7.70	75	1334	0.32897	ppb		87
54)	1,1,2-TCA	7.90	83	795	0.29125	ppb		82
55)	2-Hexanone	8.27	43	507	0.32692	ppb	#	81
58)	1,2-EDB	8.51	107	604	0.92605	ppb	#	73
59)	Tetrachloroethene	8.09	164	2342	0.33251	ppb		93
60)	1-Chlorohexane	9.20	91	2409	0.27830	ppb	#	75
61)	1,1,1,2-Tetrachloroethane	9.29	131	1386	0.31544	ppb		84
62)	m&p-Xylene	9.51	106	7914	0.58497	ppb		82
63)	o-Xylene	10.02	106	4160	0.32032	ppb		78
64)	Styrene	10.05	104	5601	0.29547	ppb		85
66)	1,3-Dichloropropane	8.11	76	1773	0.31192	ppb		96
67)	Dibromochloromethane	8.39	129	909	0.28711	ppb		86
68)	Chlorobenzene	9.17	112	5472	0.30095	ppb		97
69)	Ethylbenzene	9.35	91	9482	0.28481	ppb		92
70)	Bromoform	10.26	173	330	0.19120	ppb	#	29
72)	Isopropylbenzene	10.55	105	10185	0.32213	ppb	#	87
73)	1,1,2,2-Tetrachloroethane	10.95	83	844	0.29559	ppb	#	75
74)	1,2,3-Trichloropropane	11.00	110	392	0.38655	ppb		86
75)	t-1,4-Dichloro-2-Butene	11.05	53	189	0.33898	ppb	#	36
76)	Bromobenzene	10.91	156	2131	0.30680	ppb		96
77)	n-Propylbenzene	11.12	91	11325	0.31831	ppb		96
78)	4-Ethyltoluene	11.28	105	9328	0.30195	ppb		95
79)	2-Chlorotoluene	11.20	91	6336	0.31156	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	8350	0.31640	ppb		98
81)	4-Chlorotoluene	11.36	91	7796	0.32762	ppb		85
82)	Tert-Butylbenzene	11.82	119	7499	0.31628	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	7469	0.30090	ppb		96
84)	Sec-Butylbenzene	12.13	105	9409	0.30096	ppb		100
85)	p-Isopropyltoluene	12.36	119	8258	0.30330	ppb		98
86)	Benzyl Chloride	12.57	91	328	0.07140	ppb	#	60
87)	1,3-DCB	12.24	146	4501	0.31744	ppb		95
88)	1,4-DCB	12.37	146	4656	0.33102	ppb		95
89)	n-Butylbenzene	12.94	91	6205	0.28628	ppb	#	91
90)	1,2-DCB	12.88	146	3730	0.31940	ppb		92
91)	Hexachloroethane	13.26	117	526	0.23764	ppb	#	69
92)	1,2-Dibromo-3-chloropropan	14.12	75	23	3.54646	ppb	#	1
93)	1,2,4-Trichlorobenzene	15.21	180	713	0.58219	ppb		95
94)	Hexachlorobutadiene	15.50	225	1504	0.36884	ppb		86
95)	Naphthalene	15.53	128	374	0.68630	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.89	180	363	0.40902	ppb	#	62

(#) = qualifier out of range (m) = manual integration

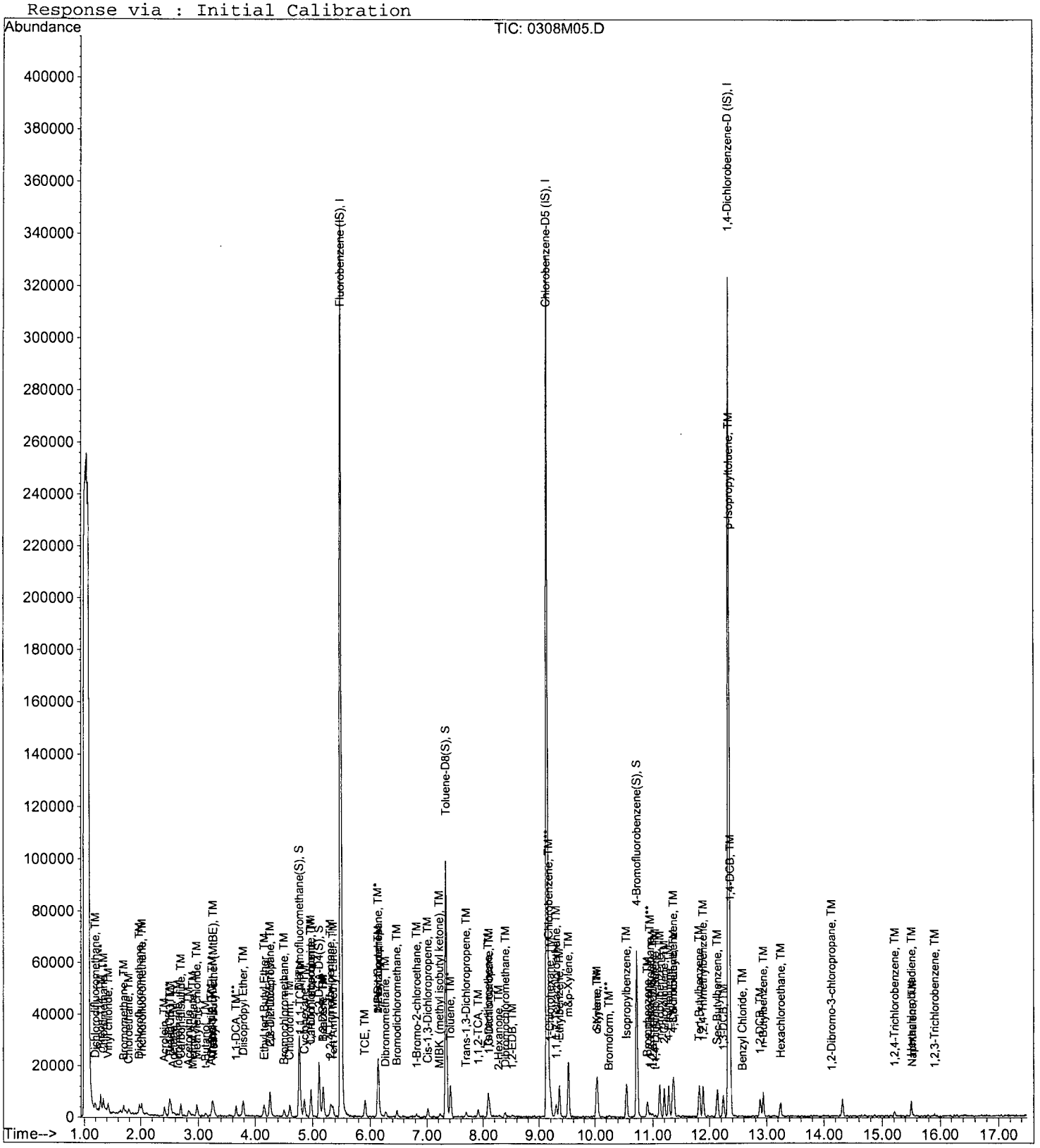
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



586

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
37) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
57) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1812	0.46854 ppb		96
3) Freon 114	1.29	85	2765	0.50987 ppb		92
4) Chloromethane	1.34	50	2810	0.50778 ppb		96
5) Vinyl chloride	1.43	62	4021	0.51144 ppb		90
6) Bromomethane	1.70	94	2970	0.54659 ppb		79
7) Chloroethane	1.79	64	2344	0.50883 ppb		92
8) Dichlorofluoromethane	1.98	67	5835	0.47988 ppb		93
9) Trichlorofluoromethane	2.03	101	4539	0.46961 ppb		85
10) Acrolein	2.41	56	6998	23.74464 ppb		99
11) Acetone	2.59	58	245	0.22348 ppb	#	1
12) Freon-113	2.53	101	2532	0.45173 ppb		89
13) 1,1-DCE	2.50	61	3987	0.45376 ppb	#	94
14) Acetonitrile	2.83	41	6323	51.85409 ppb	#	93
15) t-Butanol	3.14	59	2148	21.45436 ppb		97
16) Methyl Acetate	2.89	43	944	0.49038 ppb		97
17) Iodomethane	2.65	142	1384	1.06656 ppb	#	83
18) Acrylonitrile	3.22	53	350	0.39132 ppb	#	62
19) Methylene chloride	2.98	84	3333	0.56769 ppb		97
20) Carbon disulfide	2.69	76	8753	0.48778 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	4785	0.49811 ppb		99
22) Trans-1,2-DCE	3.25	96	3464	0.51894 ppb		88
23) Diisopropyl Ether	3.79	45	7582	0.46257 ppb	#	92
24) 1,1-DCA	3.66	63	4985	0.46421 ppb	#	92
25) Vinyl Acetate	3.75	43	1305	0.45951 ppb		91
26) Ethyl tert Butyl Ether	4.16	59	5373	0.48372 ppb		95
27) MEK (2-Butanone)	4.29	43	950	-0.12539 ppb		87
28) Cis-1,2-DCE	4.27	96	2916	0.42497 ppb		86
29) 2,2-Dichloropropane	4.26	77	2898	0.43763 ppb	#	90
30) Chloroform	4.61	83	5484	0.51430 ppb		92
31) Bromochloromethane	4.51	128	1157	0.44054 ppb		85
33) 1,1,1-TCA	4.79	97	4399	0.47306 ppb	#	86
34) Cyclohexane	4.85	41	2815	0.50295 ppb		77
35) 1,1-Dichloropropene	4.97	75	4319	0.49528 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	7654	0.51026 ppb		94
38) Carbon Tetrachloride	4.97	117	3335	0.48764 ppb		99
39) Tert Amyl Methyl Ether	5.36	73	4350	0.44477 ppb		92
40) 1,2-DCA	5.20	62	3095	0.53253 ppb		99
41) Benzene	5.19	78	12392	0.47485 ppb		93
42) TCE	5.91	95	3537	0.49344 ppb		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43)	2-Pentanone	6.14	43	36243	22.07545	ppb		94
44)	1,2-Dichloropropane	6.15	63	2404	0.43779	ppb	#	92
45)	Bromodichloromethane	6.48	83	2571	0.42490	ppb		91
46)	Methyl Cyclohexane	6.14	83	5078	0.51984	ppb		100
47)	Dibromomethane	6.27	93	1101	0.48595	ppb		91
48)	MIBK (methyl isobutyl ket	7.23	43	1391	0.50935	ppb		93
49)	1-Bromo-2-chloroethane	6.83	63	2550	0.48863	ppb		85
51)	Cis-1,3-Dichloropropene	7.01	75	2615	0.40619	ppb	#	78
52)	Toluene	7.42	91	14733	0.48918	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	1828	0.45538	ppb		96
54)	1,1,2-TCA	7.91	83	1301	0.48148	ppb		86
55)	2-Hexanone	8.27	43	578	0.37651	ppb	#	84
58)	1,2-EDB	8.51	107	934	1.03398	ppb		81
59)	Tetrachloroethene	8.09	164	3506	0.50011	ppb	#	72
60)	1-Chlorohexane	9.19	91	4265	0.49503	ppb		95
61)	1,1,1,2-Tetrachloroethane	9.29	131	1904	0.43537	ppb		94
62)	m&p-Xylene	9.51	106	12809	0.95124	ppb		97
63)	o-Xylene	10.03	106	6617	0.51190	ppb		76
64)	Styrene	10.05	104	8826	0.46778	ppb		93
66)	1,3-Dichloropropane	8.11	76	2750	0.48607	ppb	#	76
67)	Dibromochloromethane	8.39	129	1352	0.42904	ppb		81
68)	Chlorobenzene	9.17	112	9166	0.50648	ppb		91
69)	Ethylbenzene	9.35	91	16770	0.50608	ppb		99
70)	Bromoform	10.25	173	836	0.48665	ppb	#	71
72)	Isopropylbenzene	10.55	105	14797	0.46448	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	1401	0.48697	ppb	#	88
74)	1,2,3-Trichloropropane	10.99	110	629	0.61559	ppb	#	72
75)	t-1,4-Dichloro-2-Butene	11.04	53	175	0.31151	ppb	#	36
76)	Bromobenzene	10.91	156	3455	0.49368	ppb		73
77)	n-Propylbenzene	11.12	91	16695	0.46571	ppb		99
78)	4-Ethyltoluene	11.29	105	15129	0.48605	ppb		100
79)	2-Chlorotoluene	11.20	91	10290	0.50219	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	13017	0.48954	ppb		95
81)	4-Chlorotoluene	11.36	91	11881	0.49553	ppb		87
82)	Tert-Butylbenzene	11.82	119	12267	0.51349	ppb		94
83)	1,2,4-Trimethylbenzene	11.89	105	11415	0.45642	ppb		96
84)	Sec-Butylbenzene	12.14	105	15082	0.47879	ppb		95
85)	p-Isopropyltoluene	12.36	119	12951	0.47210	ppb		97
86)	Benzyl Chloride	12.57	91	517	0.20130	ppb	#	60
87)	1,3-DCB	12.24	146	6756	0.47289	ppb		95
88)	1,4-DCB	12.36	146	7570	0.53415	ppb		91
89)	n-Butylbenzene	12.94	91	10059	0.46061	ppb		95
90)	1,2-DCB	12.88	146	5414	0.46011	ppb	#	88
91)	Hexachloroethane	13.25	117	1095	0.49100	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	1616	0.71384	ppb	#	59
94)	Hexachlorobutadiene	15.51	225	2069	0.50359	ppb		97
95)	Naphthalene	15.54	128	636	0.79228	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.90	180	757	0.51930	ppb	#	75

(#) = qualifier out of range (m) = manual integration

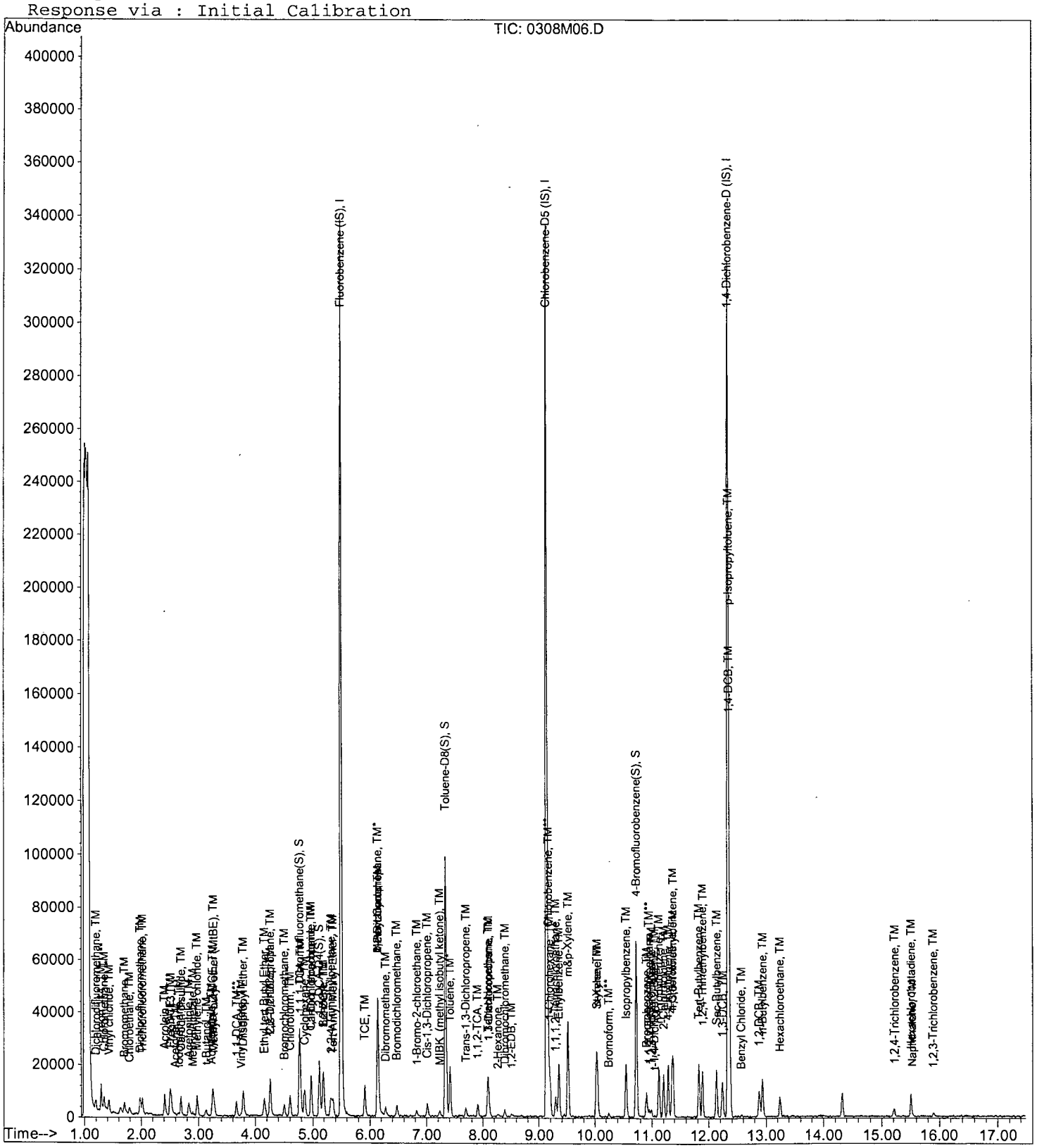
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



589

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
37) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
57) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
65) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	3641	0.98265 ppb		99
3) Freon 114	1.29	85	4811	0.92596 ppb		94
4) Chloromethane	1.34	50	5539	1.04472 ppb		89
5) Vinyl chloride	1.43	62	7245	0.96182 ppb		99
6) Bromomethane	1.70	94	5433	1.04361 ppb		95
7) Chloroethane	1.80	64	4359	0.98764 ppb		90
8) Dichlorofluoromethane	1.98	67	11812	1.01394 ppb		92
9) Trichlorofluoromethane	2.03	101	8992	0.97101 ppb		99
10) Acrolein	2.41	56	13657	48.36601 ppb		98
11) Acetone	2.56	58	283	0.65122 ppb		76
12) Freon-113	2.53	101	5795	1.07909 ppb		89
13) 1,1-DCE	2.50	61	8752	1.03964 ppb		99
14) Acetonitrile	2.83	41	12077	103.37422 ppb		91
15) t-Butanol	3.14	59	3877	40.41759 ppb	#	84
16) Methyl Acetate	2.90	43	1800	0.97594 ppb		100
17) Iodomethane	2.64	142	3135	1.30521 ppb		87
18) Acrylonitrile	3.21	53	758	0.88455 ppb	#	85
19) Methylene chloride	2.98	84	6193	1.10096 ppb		97
20) Carbon disulfide	2.70	76	17485	1.01701 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	8741	0.94972 ppb	#	87
22) Trans-1,2-DCE	3.25	96	5856	0.91566 ppb		92
23) Diisopropyl Ether	3.79	45	15301	0.97433 ppb		97
24) 1,1-DCA	3.67	63	10612	1.03143 ppb		93
25) Vinyl Acetate	3.75	43	2991	1.09924 ppb		92
26) Ethyl tert Butyl Ether	4.16	59	9988	0.93854 ppb		99
27) MEK (2-Butanone)	4.30	43	1696	0.52296 ppb		92
28) Cis-1,2-DCE	4.27	96	6735	1.02448 ppb		94
29) 2,2-Dichloropropane	4.26	77	6058	0.95483 ppb		98
30) Chloroform	4.61	83	9674	0.94694 ppb		97
31) Bromochloromethane	4.51	128	2526	1.00388 ppb		96
33) 1,1,1-TCA	4.79	97	8192	0.91948 ppb		96
34) Cyclohexane	4.86	41	5386	1.00440 ppb		97
35) 1,1-Dichloropropene	4.97	75	8195	0.98087 ppb		94
36) 2,2,4-Trimethylpentane	5.32	57	14666	1.02049 ppb		99
38) Carbon Tetrachloride	4.97	117	6080	0.92790 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	8657	0.92387 ppb	#	92
40) 1,2-DCA	5.21	62	5434	0.97588 ppb		96
41) Benzene	5.19	78	25361	1.01431 ppb		98
42) TCE	5.91	95	7011	1.02088 ppb		89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	72878	46.33138	ppb		97
44) 1,2-Dichloropropane	6.15	63	5194	0.98724	ppb	#	81
45) Bromodichloromethane	6.48	83	5297	0.91370	ppb		95
46) Methyl Cyclohexane	6.14	83	9777	1.04466	ppb		87
47) Dibromomethane	6.28	93	1997	0.91998	ppb		98
48) MIBK (methyl isobutyl ket	7.23	43	3254	1.24366	ppb		93
49) 1-Bromo-2-chloroethane	6.83	63	4915	0.98302	ppb		93
51) Cis-1,3-Dichloropropene	7.02	75	5642	0.91472	ppb		94
52) Toluene	7.42	91	29081	1.00781	ppb		97
53) Trans-1,3-Dichloropropene	7.69	75	3491	0.90771	ppb		84
54) 1,1,2-TCA	7.91	83	2408	0.93014	ppb		84
55) 2-Hexanone	8.27	43	1272	0.86482	ppb	#	61
58) 1,2-EDB	8.52	107	1918	1.37822	ppb		94
59) Tetrachloroethene	8.09	164	6944	1.03055	ppb		94
60) 1-Chlorohexane	9.20	91	8633	1.04252	ppb		85
61) 1,1,1,2-Tetrachloroethane	9.29	131	3811	0.90665	ppb		95
62) m&p-Xylene	9.51	106	25899	2.00109	ppb		95
63) o-Xylene	10.03	106	12070	0.97149	ppb		97
64) Styrene	10.05	104	15904	0.87699	ppb		86
66) 1,3-Dichloropropane	8.11	76	5215	0.95902	ppb		84
67) Dibromochloromethane	8.39	129	2843	0.93865	ppb		97
68) Chlorobenzene	9.18	112	16870	0.96985	ppb		91
69) Ethylbenzene	9.35	91	31018	0.97389	ppb		96
70) Bromoform	10.25	173	1468	0.88908	ppb		94
72) Isopropylbenzene	10.55	105	30411	1.01728	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	2347	0.86936	ppb	#	97
74) 1,2,3-Trichloropropane	10.98	110	908	0.94699	ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	470	0.89157	ppb	#	65
76) Bromobenzene	10.90	156	6545	0.99662	ppb		91
77) n-Propylbenzene	11.12	91	34824	1.03522	ppb		96
78) 4-Ethyltoluene	11.29	105	28629	0.98016	ppb		96
79) 2-Chlorotoluene	11.20	91	19387	1.00829	ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	26287	1.05351	ppb		91
81) 4-Chlorotoluene	11.35	91	23112	1.02725	ppb		92
82) Tert-Butylbenzene	11.82	119	24223	1.08054	ppb		93
83) 1,2,4-Trimethylbenzene	11.89	105	23748	1.01189	ppb		96
84) Sec-Butylbenzene	12.13	105	30474	1.03094	ppb		98
85) p-Isopropyltoluene	12.36	119	25938	1.00760	ppb		99
86) Benzyl Chloride	12.57	91	1360	0.83753	ppb	#	88
87) 1,3-DCB	12.24	146	13704	1.02222	ppb		99
88) 1,4-DCB	12.37	146	13460	1.01212	ppb		93
89) n-Butylbenzene	12.94	91	19968	0.97439	ppb		96
90) 1,2-DCB	12.88	146	11186	1.01308	ppb		97
91) Hexachloroethane	13.25	117	1959	0.93610	ppb	#	82
92) 1,2-Dibromo-3-chloropropan	14.00	75	230	3.98985	ppb	#	58
93) 1,2,4-Trichlorobenzene	15.21	180	3419	1.01119	ppb		97
94) Hexachlorobutadiene	15.50	225	3741	0.97035	ppb		96
95) Naphthalene	15.53	128	1029	0.97910	ppb	#	78
96) 1,2,3-Trichlorobenzene	15.89	180	1974	0.89237	ppb		82

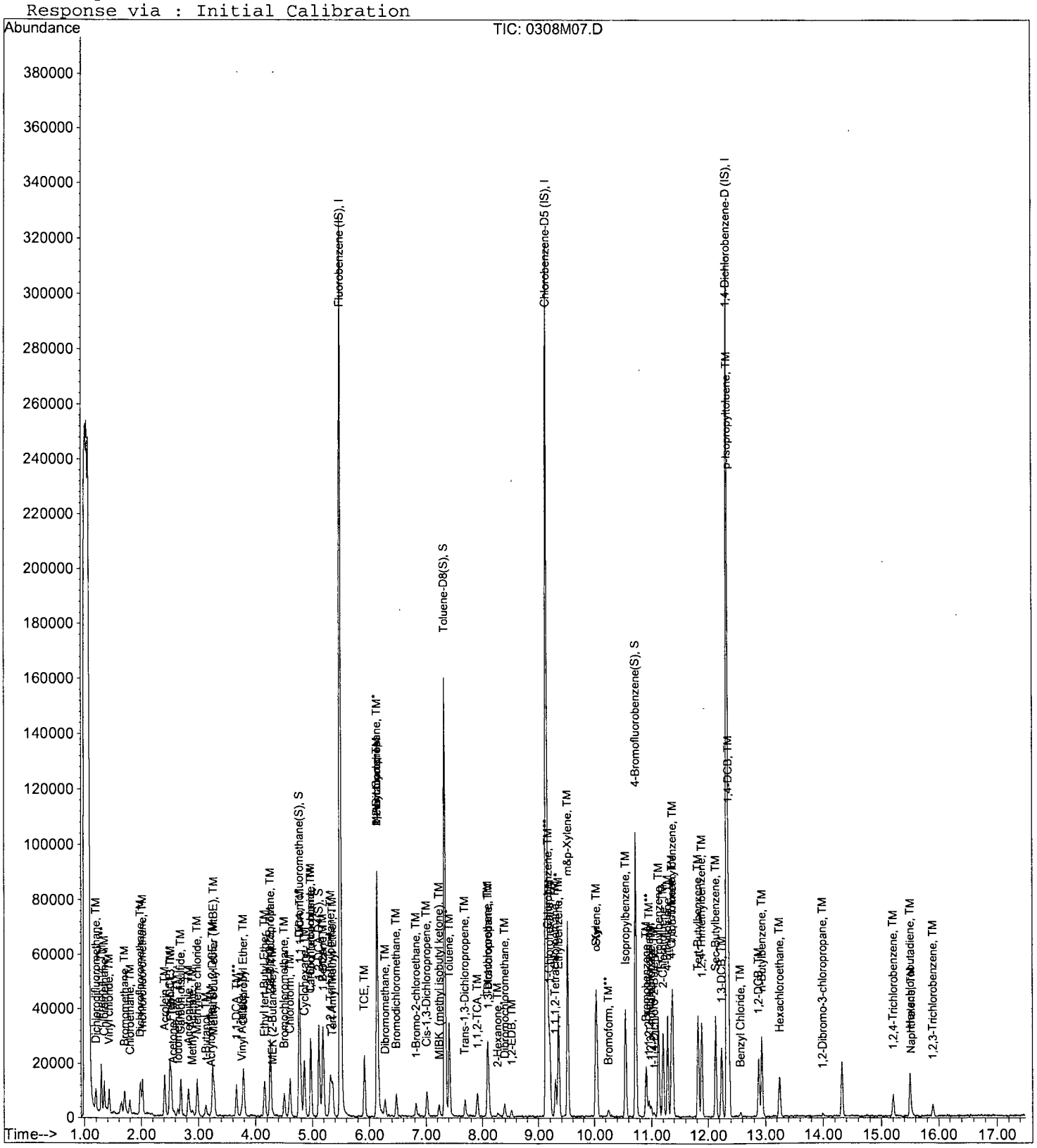
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D Vial: 6
Acq On : 8 Mar 17 13:54 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 3/8/17J Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



592

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
37) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
57) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	7130	1.80650 ppb		97
3) Freon 114	1.29	85	11352	2.05115 ppb		99
4) Chloromethane	1.34	50	10884	1.92719 ppb		93
5) Vinyl chloride	1.43	62	14367	1.79056 ppb		95
6) Bromomethane	1.69	94	9753	1.75875 ppb		92
7) Chloroethane	1.79	64	8427	1.79247 ppb		98
8) Dichlorofluoromethane	1.98	67	23131	1.86403 ppb		97
9) Trichlorofluoromethane	2.03	101	18528	1.87829 ppb		99
10) Acrolein	2.41	56	21133	70.26113 ppb		98
11) Acetone	2.57	58	494	2.25314 ppb		89
12) Freon-113	2.53	101	11032	1.92853 ppb		91
13) 1,1-DCE	2.51	61	17117	1.90885 ppb		92
14) Acetonitrile	2.82	41	19795	159.06613 ppb		96
15) t-Butanol	3.14	59	8119	79.45957 ppb		95
16) Methyl Acetate	2.90	43	3595	1.82987 ppb		93
17) Iodomethane	2.64	142	7594	1.83214 ppb		97
18) Acrylonitrile	3.22	53	1707	1.87006 ppb	#	80
19) Methylene chloride	2.98	84	11009	1.83734 ppb		94
20) Carbon disulfide	2.69	76	33252	1.81571 ppb		96
21) Methyl t-butyl ether (MtBE	3.28	73	17634	1.79867 ppb		92
22) Trans-1,2-DCE	3.25	96	13119	1.92577 ppb		93
23) Diisopropyl Ether	3.79	45	30407	1.81773 ppb		96
24) 1,1-DCA	3.66	63	20393	1.86076 ppb		96
25) Vinyl Acetate	3.75	43	4958	1.71061 ppb		95
26) Ethyl tert Butyl Ether	4.16	59	20080	1.77136 ppb		100
27) MEK (2-Butanone)	4.30	43	2113	0.76031 ppb		94
28) Cis-1,2-DCE	4.26	96	13732	1.96095 ppb		98
29) 2,2-Dichloropropane	4.26	77	11643	1.72279 ppb		97
30) Chloroform	4.61	83	20128	1.84963 ppb		96
31) Bromochloromethane	4.50	128	5096	1.90128 ppb		93
33) 1,1,1-TCA	4.79	97	16365	1.72440 ppb		96
34) Cyclohexane	4.86	41	11080	1.93976 ppb		91
35) 1,1-Dichloropropene	4.97	75	16577	1.86267 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	29207	1.90789 ppb		100
38) Carbon Tetrachloride	4.97	117	11713	1.67816 ppb	#	79
39) Tert Amyl Methyl Ether	5.36	73	18071	1.81048 ppb		97
40) 1,2-DCA	5.20	62	11071	1.86653 ppb		100
41) Benzene	5.19	78	50729	1.90471 ppb		97
42) TCE	5.91	95	13861	1.89477 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D Vial: 7
Acq On : 8 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 3/8/17K Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	117833	70.32581	ppb		98
44) 1,2-Dichloropropane	6.15	63	10996	1.96212	ppb		100
45) Bromodichloromethane	6.48	83	10799	1.74874	ppb		98
46) Methyl Cyclohexane	6.14	83	18347	1.84035	ppb		98
47) Dibromomethane	6.28	93	4261	1.84282	ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	6109	2.19190	ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	9884	1.85583	ppb		86
51) Cis-1,3-Dichloropropene	7.01	75	11904	1.81182	ppb		99
52) Toluene	7.42	91	56278	1.83095	ppb		92
53) Trans-1,3-Dichloropropene	7.70	75	7091	1.73090	ppb	#	82
54) 1,1,2-TCA	7.90	83	5144	1.86536	ppb		85
55) 2-Hexanone	8.27	43	2871	1.83248	ppb		90
58) 1,2-EDB	8.51	107	4029	2.00800	ppb		94
59) Tetrachloroethene	8.09	164	13921	1.94068	ppb		92
60) 1-Chlorohexane	9.20	91	16326	1.85193	ppb		96
61) 1,1,1,2-Tetrachloroethane	9.29	131	7340	1.64028	ppb		91
62) m&p-Xylene	9.51	106	51956	3.77087	ppb		99
63) o-Xylene	10.03	106	24216	1.83087	ppb		90
64) Styrene	10.05	104	34945	1.81007	ppb		98
66) 1,3-Dichloropropane	8.12	76	11133	1.92314	ppb		93
67) Dibromochloromethane	8.39	129	5460	1.69333	ppb		78
68) Chlorobenzene	9.17	112	35608	1.92291	ppb		99
69) Ethylbenzene	9.35	91	64013	1.88793	ppb		99
70) Bromoform	10.26	173	2999	1.70614	ppb	#	78
72) Isopropylbenzene	10.55	105	63462	1.95715	ppb		98
73) 1,1,2,2-Tetrachloroethane	10.95	83	5804	1.98205	ppb		95
74) 1,2,3-Trichloropropane	10.99	110	1896	1.82305	ppb	#	71
75) t-1,4-Dichloro-2-Butene	11.04	53	1165	2.03743	ppb		92
76) Bromobenzene	10.91	156	14130	1.98363	ppb		86
77) n-Propylbenzene	11.12	91	69919	1.91623	ppb		100
78) 4-Ethyltoluene	11.28	105	60584	1.91227	ppb		99
79) 2-Chlorotoluene	11.20	91	40206	1.92781	ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	51051	1.88627	ppb		98
81) 4-Chlorotoluene	11.35	91	45039	1.84555	ppb		96
82) Tert-Butylbenzene	11.82	119	46751	1.92266	ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	46393	1.82246	ppb		95
84) Sec-Butylbenzene	12.13	105	62057	1.93551	ppb		96
85) p-Isopropyltoluene	12.36	119	51878	1.85794	ppb		96
86) Benzyl Chloride	12.57	91	3114	1.88951	ppb		99
87) 1,3-DCB	12.24	146	27649	1.90140	ppb		98
88) 1,4-DCB	12.37	146	27796	1.92694	ppb		96
89) n-Butylbenzene	12.94	91	41864	1.88338	ppb		98
90) 1,2-DCB	12.88	146	21703	1.81212	ppb		91
91) Hexachloroethane	13.25	117	4180	1.84146	ppb		83
92) 1,2-Dibromo-3-chloropropan	13.99	75	484	4.45019	ppb	#	73
93) 1,2,4-Trichlorobenzene	15.21	180	9609	1.86138	ppb		93
94) Hexachlorobutadiene	15.50	225	7820	1.87002	ppb		88
95) Naphthalene	15.54	128	3111	1.75389	ppb		99
96) 1,2,3-Trichlorobenzene	15.89	180	6161	1.93426	ppb		88

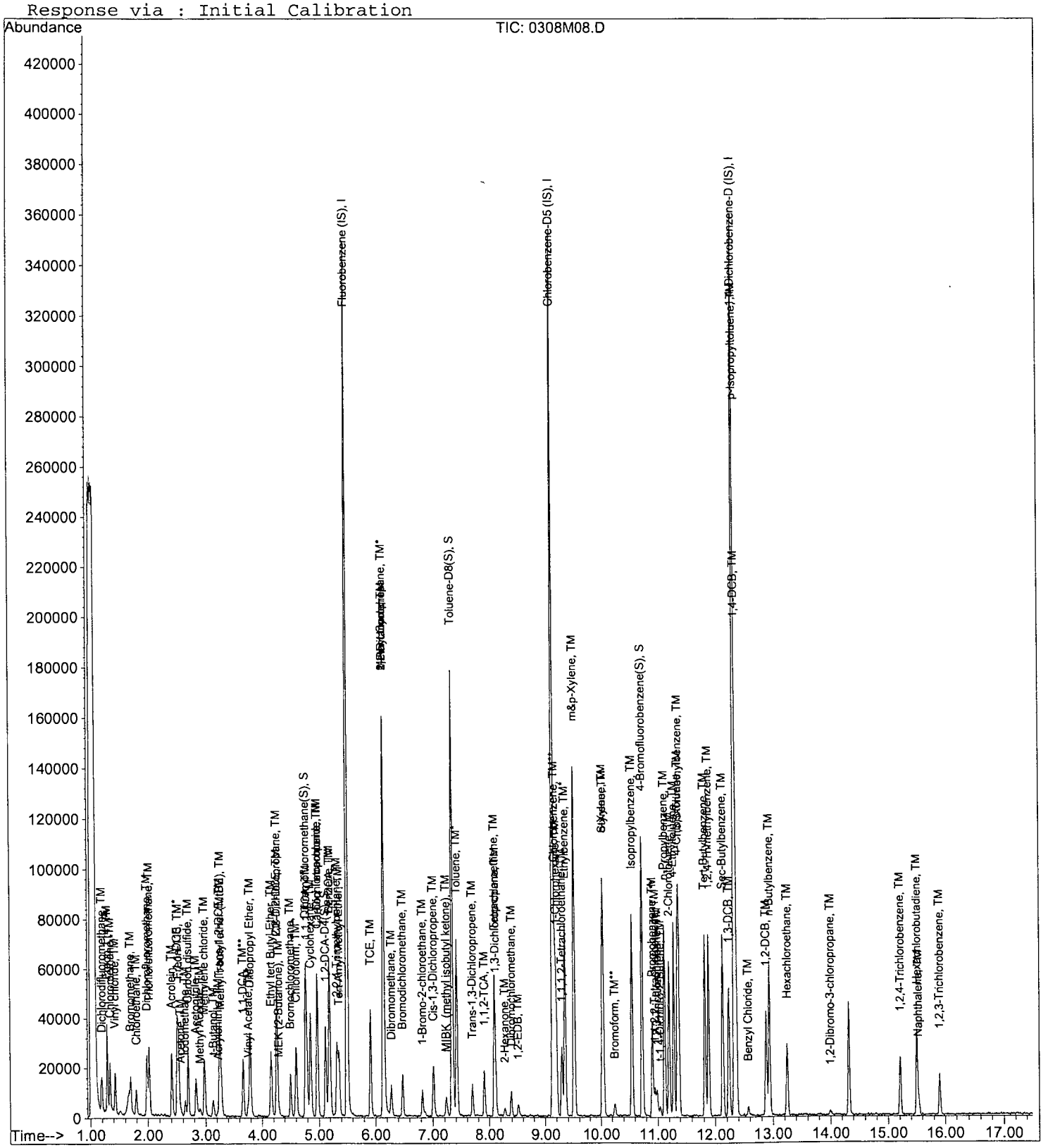
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D Vial: 7
Acq On : 8 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 3/8/17K Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



595

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
37) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
57) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
65) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	19696	5.06257 ppb		99
3) Freon 114	1.29	85	26358	4.83149 ppb		99
4) Chloromethane	1.34	50	27512	4.94200 ppb		93
5) Vinyl chloride	1.43	62	40477	5.11771 ppb		99
6) Bromomethane	1.69	94	24523	4.48626 ppb		96
7) Chloroethane	1.79	64	24551	5.29777 ppb		98
8) Dichlorofluoromethane	1.98	67	59875	4.89496 ppb		94
9) Trichlorofluoromethane	2.02	101	48220	4.95914 ppb		98
10) Acrolein	2.41	56	29001	97.81639 ppb		97
11) Acetone	2.57	58	676	3.84874 ppb	#	54
12) Freon-113	2.53	101	28162	4.99438 ppb		99
13) 1,1-DCE	2.50	61	44254	5.00657 ppb		100
14) Acetonitrile	2.82	41	26453	215.64621 ppb	#	95
15) t-Butanol	3.13	59	9567	94.98699 ppb		92
16) Methyl Acetate	2.90	43	9621	4.96805 ppb		99
17) Iodomethane	2.64	142	29893	4.64744 ppb		98
18) Acrylonitrile	3.21	53	4912	5.45914 ppb	#	90
19) Methylene chloride	2.98	84	29167	4.93830 ppb		96
20) Carbon disulfide	2.69	76	90024	4.98692 ppb		99
21) Methyl t-butyl ether (MtBE	3.27	73	49559	5.12825 ppb		99
22) Trans-1,2-DCE	3.25	96	33693	5.01751 ppb		98
23) Diisopropyl Ether	3.79	45	84005	5.09456 ppb		97
24) 1,1-DCA	3.66	63	55279	5.11700 ppb		99
25) Vinyl Acetate	3.75	43	13731	4.80608 ppb		94
26) Ethyl tert Butyl Ether	4.16	59	54203	4.85078 ppb		98
27) MEK (2-Butanone)	4.30	43	8352	5.68652 ppb		92
28) Cis-1,2-DCE	4.27	96	36263	5.25342 ppb		94
29) 2,2-Dichloropropane	4.26	77	32157	4.82711 ppb		94
30) Chloroform	4.61	83	55526	5.17638 ppb		100
31) Bromochloromethane	4.50	128	13632	5.15965 ppb		97
33) 1,1,1-TCA	4.79	97	45789	4.89471 ppb		97
34) Cyclohexane	4.86	41	27705	4.92052 ppb		96
35) 1,1-Dichloropropene	4.97	75	44766	5.10298 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	75632	5.01207 ppb		99
38) Carbon Tetrachloride	4.97	117	32804	4.76800 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	48800	4.95994 ppb		98
40) 1,2-DCA	5.20	62	30525	5.22093 ppb		100
41) Benzene	5.19	78	134181	5.11104 ppb		99
42) TCE	5.91	95	35961	4.98699 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	161594	97.84028	ppb		98
44)	1,2-Dichloropropane	6.15	63	28062	5.07990	ppb		96
45)	Bromodichloromethane	6.48	83	29031	4.76924	ppb		96
46)	Methyl Cyclohexane	6.14	83	48339	4.91902	ppb		95
47)	Dibromomethane	6.27	93	11511	5.05043	ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	14664	5.33763	ppb		92
49)	1-Bromo-2-chloroethane	6.82	63	25718	4.89878	ppb		91
51)	Cis-1,3-Dichloropropene	7.01	75	32767	5.05946	ppb		96
52)	Toluene	7.42	91	154314	5.09317	ppb		100
53)	Trans-1,3-Dichloropropene	7.69	75	20093	4.97570	ppb		96
54)	1,1,2-TCA	7.91	83	14081	5.18012	ppb		90
55)	2-Hexanone	8.27	43	7225	4.67832	ppb	#	85
58)	1,2-EDB	8.51	107	12196	4.60987	ppb		98
59)	Tetrachloroethene	8.09	164	37409	5.23328	ppb		99
60)	1-Chlorohexane	9.20	91	42017	4.78283	ppb		94
61)	1,1,1,2-Tetrachloroethane	9.29	131	21523	4.82657	ppb		98
62)	m&p-Xylene	9.51	106	139883	10.18792	ppb		99
63)	o-Xylene	10.03	106	65402	4.96204	ppb		98
64)	Styrene	10.05	104	98044	5.09618	ppb		100
66)	1,3-Dichloropropane	8.11	76	30003	5.20089	ppb		97
67)	Dibromochloromethane	8.39	129	16693	5.19514	ppb		99
68)	Chlorobenzene	9.17	112	94496	5.12081	ppb		100
69)	Ethylbenzene	9.35	91	175062	5.18112	ppb		100
70)	Bromoform	10.25	173	8103	4.62592	ppb		97
72)	Isopropylbenzene	10.55	105	171742	5.13966	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	15335	5.08182	ppb		94
74)	1,2,3-Trichloropropane	10.98	110	5582	5.20833	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.03	53	2830	4.80276	ppb		90
76)	Bromobenzene	10.90	156	38874	5.29573	ppb		91
77)	n-Propylbenzene	11.12	91	191998	5.10619	ppb		97
78)	4-Ethyltoluene	11.28	105	168291	5.15465	ppb		97
79)	2-Chlorotoluene	11.20	91	110347	5.13430	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	142498	5.10922	ppb		95
81)	4-Chlorotoluene	11.35	91	126425	5.02711	ppb		97
82)	Tert-Butylbenzene	11.82	119	128351	5.12223	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	134752	5.13676	ppb		93
84)	Sec-Butylbenzene	12.13	105	170020	5.14580	ppb		97
85)	p-Isopropyltoluene	12.36	119	146848	5.10346	ppb		97
86)	Benzyl Chloride	12.57	91	9273	5.28570	ppb		93
87)	1,3-DCB	12.24	146	77155	5.14880	ppb		99
88)	1,4-DCB	12.37	146	73669	4.95586	ppb		98
89)	n-Butylbenzene	12.94	91	116193	5.07252	ppb		97
90)	1,2-DCB	12.88	146	64782	5.24891	ppb		96
91)	Hexachloroethane	13.25	117	11621	4.96794	ppb		89
92)	1,2-Dibromo-3-chloropropan	13.99	75	1398	6.16302	ppb		88
93)	1,2,4-Trichlorobenzene	15.20	180	31638	4.90054	ppb		94
94)	Hexachlorobutadiene	15.51	225	21963	5.09659	ppb		97
95)	Naphthalene	15.54	128	12304	4.86337	ppb		96
96)	1,2,3-Trichlorobenzene	15.90	180	20490	5.05302	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

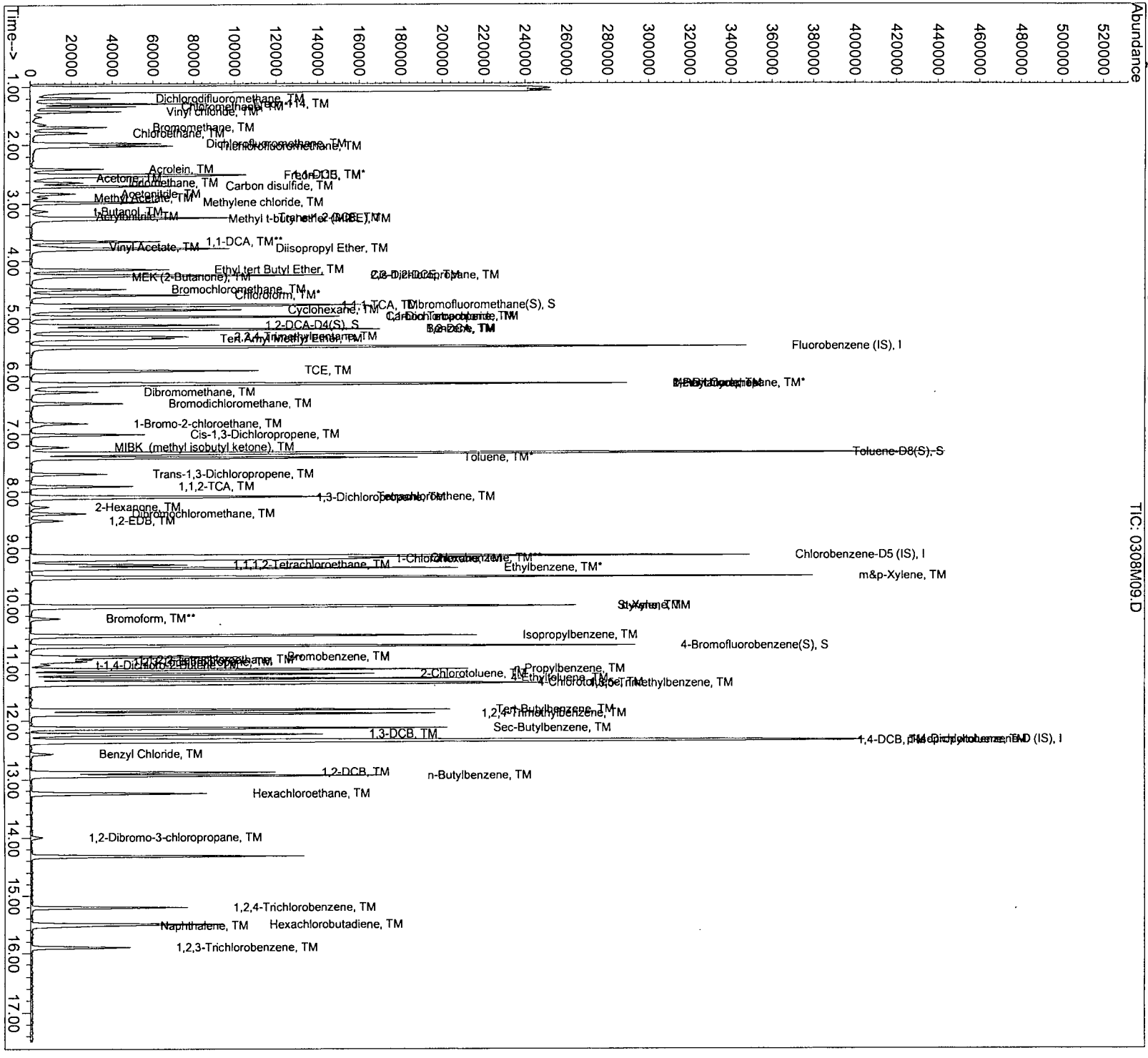
Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D Vial: 9
Acq On : 8 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 3/8/17M Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
37) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
57) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
65) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	38536	10.17084 ppb	100
3) Freon 114	1.29	85	53360	10.04343 ppb	100
4) Chloromethane	1.34	50	54720	10.09309 ppb	100
5) Vinyl chloride	1.43	62	79237	10.28709 ppb	100
6) Bromomethane	1.69	94	45738	8.59183 ppb	100
7) Chloroethane	1.79	64	46870	10.38524 ppb	100
8) Dichlorofluoromethane	1.98	67	121644	10.21154 ppb	100
9) Trichlorofluoromethane	2.03	101	96578	10.19894 ppb	100
10) Acrolein	2.41	56	37177	128.75684 ppb	100
11) Acetone	2.57	58	1574	11.78426 ppb	100
12) Freon-113	2.53	101	55285	10.06752 ppb	100
13) 1,1-DCE	2.50	61	88460	10.27619 ppb	100
14) Acetonitrile	2.82	41	33552	280.85529 ppb	98
15) t-Butanol	3.14	59	11893	121.24869 ppb	100
16) Methyl Acetate	2.90	43	17540	9.30020 ppb	100
17) Iodomethane	2.64	142	69487	9.85630 ppb	100
18) Acrylonitrile	3.22	53	9397	10.72389 ppb	100
19) Methylene chloride	2.98	84	56734	9.86339 ppb	100
20) Carbon disulfide	2.69	76	180017	10.23965 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	97502	10.35994 ppb	100
22) Trans-1,2-DCE	3.25	96	68750	10.51280 ppb	100
23) Diisopropyl Ether	3.79	45	166490	10.36781 ppb	100
24) 1,1-DCA	3.66	63	107344	10.20305 ppb	100
25) Vinyl Acetate	3.75	43	28022	10.07129 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	109025	10.01870 ppb	100
27) MEK (2-Butanone)	4.30	43	15187	11.37752 ppb	100
28) Cis-1,2-DCE	4.26	96	70408	10.47364 ppb	100
29) 2,2-Dichloropropane	4.26	77	68282	10.52483 ppb	100
30) Chloroform	4.61	83	106763	10.21992 ppb	100
31) Bromochloromethane	4.51	128	27186	10.56583 ppb	100
33) 1,1,1-TCA	4.79	97	91578	10.05204 ppb	100
34) Cyclohexane	4.86	41	55624	10.14407 ppb	100
35) 1,1-Dichloropropene	4.97	75	89037	10.42182 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	148003	10.07116 ppb	100
38) Carbon Tetrachloride	4.97	117	70452	10.51478 ppb	100
39) Tert Amyl Methyl Ether	5.36	73	97669	10.19320 ppb	100
40) 1,2-DCA	5.20	62	57170	10.04055 ppb	100
41) Benzene	5.19	78	260293	10.18071 ppb	100
42) TCE	5.91	95	71302	10.15326 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D Vial: 9
Acq On : 8 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 3/8/17M Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	207103	128.75858	ppb	100
44)	1,2-Dichloropropane	6.15	63	55997	10.40875	ppb	100
45)	Bromodichloromethane	6.48	83	61944	10.44923	ppb	100
46)	Methyl Cyclohexane	6.14	83	93252	9.74398	ppb	100
47)	Dibromomethane	6.27	93	23174	10.44031	ppb	100
48)	MIBK (methyl isobutyl ket	7.23	43	25905	9.68227	ppb	100
49)	1-Bromo-2-chloroethane	6.83	63	52872	10.34127	ppb	100
51)	Cis-1,3-Dichloropropene	7.02	75	67363	10.68037	ppb	100
52)	Toluene	7.42	91	303587	10.28876	ppb	100
53)	Trans-1,3-Dichloropropene	7.70	75	44108	11.21563	ppb	100
54)	1,1,2-TCA	7.91	83	27309	10.31595	ppb	100
55)	2-Hexanone	8.27	43	15184	10.09567	ppb	100
58)	1,2-EDB	8.51	107	26864	9.58843	ppb	100
59)	Tetrachloroethene	8.09	164	72854	10.56589	ppb	100
60)	1-Chlorohexane	9.20	91	88106	10.39730	ppb	100
61)	1,1,1,2-Tetrachloroethane	9.29	131	46021	10.69909	ppb	100
62)	m&p-Xylene	9.51	106	277320	20.93906	ppb	100
63)	o-Xylene	10.03	106	131825	10.36866	ppb	100
64)	Styrene	10.05	104	199022	10.72458	ppb	100
66)	1,3-Dichloropropane	8.12	76	57935	10.41140	ppb	100
67)	Dibromochloromethane	8.39	129	35866	11.57181	ppb	100
68)	Chlorobenzene	9.17	112	185119	10.39995	ppb	100
69)	Ethylbenzene	9.35	91	343652	10.54402	ppb	100
70)	Bromoform	10.25	173	17056	10.09450	ppb	100
72)	Isopropylbenzene	10.55	105	343300	10.30073	ppb	100
73)	1,1,2,2-Tetrachloroethane	10.95	83	31632	10.50989	ppb	100
74)	1,2,3-Trichloropropane	10.99	110	10443	9.76945	ppb	100
75)	t-1,4-Dichloro-2-Butene	11.04	53	5745	9.77531	ppb	100
76)	Bromobenzene	10.91	156	74945	10.23637	ppb	100
77)	n-Propylbenzene	11.12	91	381263	10.16627	ppb	100
78)	4-Ethyltoluene	11.28	105	337049	10.35064	ppb	100
79)	2-Chlorotoluene	11.20	91	220636	10.29280	ppb	100
80)	1,3,5-Trimethylbenzene	11.38	105	278268	10.00336	ppb	100
81)	4-Chlorotoluene	11.36	91	251363	10.02128	ppb	100
82)	Tert-Butylbenzene	11.82	119	249876	9.99818	ppb	100
83)	1,2,4-Trimethylbenzene	11.89	105	270745	10.34786	ppb	100
84)	Sec-Butylbenzene	12.13	105	337560	10.24331	ppb	100
85)	p-Isopropyltoluene	12.36	119	296542	10.33283	ppb	100
86)	Benzyl Chloride	12.57	91	20444	10.54093	ppb	100
87)	1,3-DCB	12.24	146	151408	10.13042	ppb	100
88)	1,4-DCB	12.37	146	144958	9.77717	ppb	100
89)	n-Butylbenzene	12.94	91	239309	10.47465	ppb	100
90)	1,2-DCB	12.88	146	128889	10.47049	ppb	100
91)	Hexachloroethane	13.25	117	24230	10.38539	ppb	100
92)	1,2-Dibromo-3-chloropropan	13.99	75	2896	9.03081	ppb	100
93)	1,2,4-Trichlorobenzene	15.21	180	67649	9.96047	ppb	100
94)	Hexachlorobutadiene	15.51	225	44303	10.30760	ppb	100
95)	Naphthalene	15.54	128	30728	10.12963	ppb	100
96)	1,2,3-Trichlorobenzene	15.90	180	48097	9.99186	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

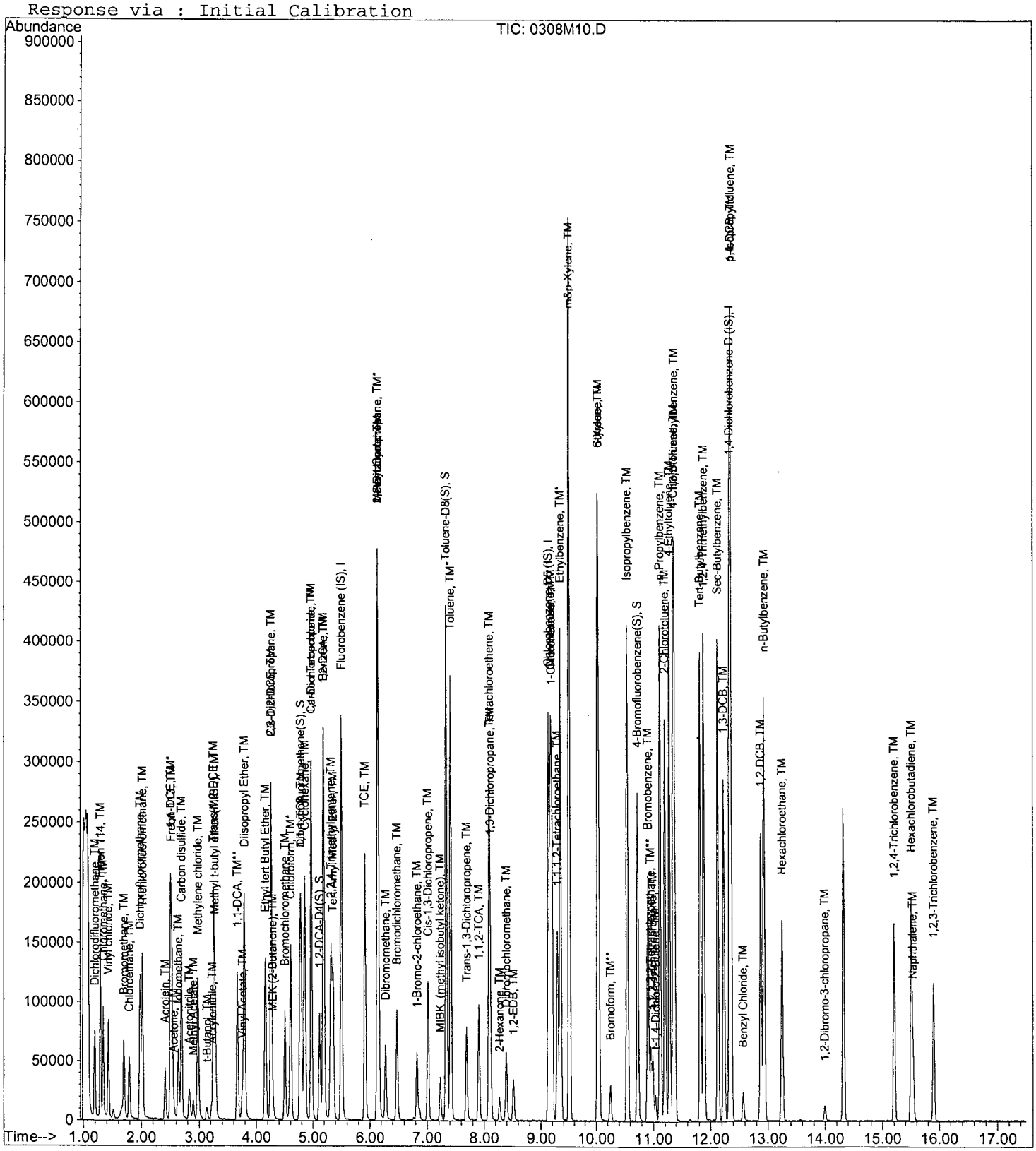
Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



601

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D Vial: 10
Acq On : 8 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 3/8/17N Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
37) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
57) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	82536	20.82571 ppb	99
3) Freon 114	1.29	85	105039	18.90092 ppb	95
4) Chloromethane	1.34	50	109040	19.22781 ppb	96
5) Vinyl chloride	1.43	62	162282	20.14192 ppb	97
6) Bromomethane	1.69	94	112904	20.27607 ppb	98
7) Chloroethane	1.79	64	93486	19.80315 ppb	97
8) Dichlorofluoromethane	1.98	67	243658	19.55453 ppb	98
9) Trichlorofluoromethane	2.02	101	199107	20.10155 ppb	97
10) Acrolein	2.41	56	46391	153.60164 ppb	96
11) Acetone	2.56	58	2546	19.23758 ppb	74
12) Freon-113	2.53	101	110286	19.20002 ppb	99
13) 1,1-DCE	2.50	61	176159	19.56393 ppb	99
14) Acetonitrile	2.82	41	42213	337.81318 ppb	98
15) t-Butanol	3.14	59	16936	165.06791 ppb	96
16) Methyl Acetate	2.90	43	40381	20.46945 ppb	97
17) Iodomethane	2.64	142	150365	19.43735 ppb	100
18) Acrylonitrile	3.21	53	18882	20.60047 ppb #	92
19) Methylene chloride	2.98	84	113454	18.85683 ppb	97
20) Carbon disulfide	2.69	76	362330	19.70344 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	197541	20.06628 ppb	99
22) Trans-1,2-DCE	3.25	96	134967	19.73057 ppb	96
23) Diisopropyl Ether	3.79	45	333748	19.86936 ppb	100
24) 1,1-DCA	3.66	63	218288	19.83573 ppb	97
25) Vinyl Acetate	3.75	43	67410	23.16202 ppb	99
26) Ethyl tert Butyl Ether	4.16	59	227306	19.96929 ppb	94
27) MEK (2-Butanone)	4.30	43	28339	20.98374 ppb	96
28) Cis-1,2-DCE	4.26	96	139061	19.77640 ppb	97
29) 2,2-Dichloropropane	4.26	77	147798	21.77929 ppb	100
30) Chloroform	4.61	83	217210	19.87800 ppb	96
31) Bromochloromethane	4.50	128	53602	19.91615 ppb	98
33) 1,1,1-TCA	4.79	97	192630	20.21403 ppb	98
34) Cyclohexane	4.86	41	110588	19.28076 ppb	99
35) 1,1-Dichloropropene	4.97	75	177262	19.83603 ppb	98
36) 2,2,4-Trimethylpentane	5.32	57	291841	18.98548 ppb	99
38) Carbon Tetrachloride	4.97	117	147477	21.04249 ppb	94
39) Tert Amyl Methyl Ether	5.36	73	204211	20.37508 ppb	98
40) 1,2-DCA	5.20	62	113636	19.07970 ppb	98
41) Benzene	5.19	78	517130	19.33666 ppb	99
42) TCE	5.91	95	141353	19.24311 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	270975	161.05907	ppb	97
44) 1,2-Dichloropropane	6.15	63	111509	19.81572	ppb	97
45) Bromodichloromethane	6.48	83	130578	21.05819	ppb	99
46) Methyl Cyclohexane	6.14	83	188675	18.84772	ppb	93
47) Dibromomethane	6.28	93	46792	20.15348	ppb	93
48) MIBK (methyl isobutyl ket	7.23	43	53010	18.94163	ppb	95
49) 1-Bromo-2-chloroethane	6.83	63	110325	20.62948	ppb	91
51) Cis-1,3-Dichloropropene	7.01	75	145159	22.00265	ppb	94
52) Toluene	7.42	91	595547	19.29577	ppb	98
53) Trans-1,3-Dichloropropene	7.70	75	98676	23.98745	ppb	96
54) 1,1,2-TCA	7.91	83	57122	20.62876	ppb	94
55) 2-Hexanone	8.27	43	32801	20.84982	ppb	95
58) 1,2-EDB	8.51	107	61003	19.49274	ppb	97
59) Tetrachloroethene	8.09	164	142137	19.22858	ppb	96
60) 1-Chlorohexane	9.20	91	177057	19.49016	ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	103520	22.44927	ppb	99
62) m&p-Xylene	9.51	106	546456	38.48737	ppb	98
63) o-Xylene	10.03	106	261203	19.16418	ppb	99
64) Styrene	10.05	104	395903	19.90010	ppb	100
66) 1,3-Dichloropropane	8.11	76	116126	19.46636	ppb	99
67) Dibromochloromethane	8.39	129	77114	23.20805	ppb	94
68) Chlorobenzene	9.17	112	369605	19.36892	ppb	98
69) Ethylbenzene	9.35	91	677197	19.38160	ppb	98
70) Bromoform	10.25	173	39915	22.03591	ppb	99
72) Isopropylbenzene	10.55	105	684017	19.07216	ppb	99
73) 1,1,2,2-Tetrachloroethane	10.95	83	64879	20.03154	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	22347	19.42687	ppb	95
75) t-1,4-Dichloro-2-Butene	11.04	53	12666	20.02713	ppb	98
76) Bromobenzene	10.91	156	150596	19.11417	ppb	99
77) n-Propylbenzene	11.12	91	762837	18.90198	ppb	98
78) 4-Ethyltoluene	11.28	105	674284	19.24225	ppb	98
79) 2-Chlorotoluene	11.20	91	435112	18.86239	ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	557956	18.63893	ppb	99
81) 4-Chlorotoluene	11.35	91	506971	18.78208	ppb	98
82) Tert-Butylbenzene	11.82	119	497598	18.50179	ppb	99
83) 1,2,4-Trimethylbenzene	11.89	105	554034	19.67728	ppb	98
84) Sec-Butylbenzene	12.13	105	672062	18.95123	ppb	99
85) p-Isopropyltoluene	12.36	119	591623	19.15652	ppb	99
86) Benzyl Chloride	12.57	91	48553	19.64493	ppb	96
87) 1,3-DCB	12.24	146	310354	19.29632	ppb	98
88) 1,4-DCB	12.37	146	292154	18.31139	ppb	99
89) n-Butylbenzene	12.94	91	483760	19.67655	ppb	100
90) 1,2-DCB	12.88	146	260576	19.67090	ppb	99
91) Hexachloroethane	13.25	117	56694	22.58110	ppb	94
92) 1,2-Dibromo-3-chloropropan	13.99	75	8186	18.02756	ppb	92
93) 1,2,4-Trichlorobenzene	15.21	180	150268	20.05259	ppb	98
94) Hexachlorobutadiene	15.51	225	89094	19.26246	ppb	97
95) Naphthalene	15.54	128	81448	19.98249	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	109392	17.37893	ppb	100

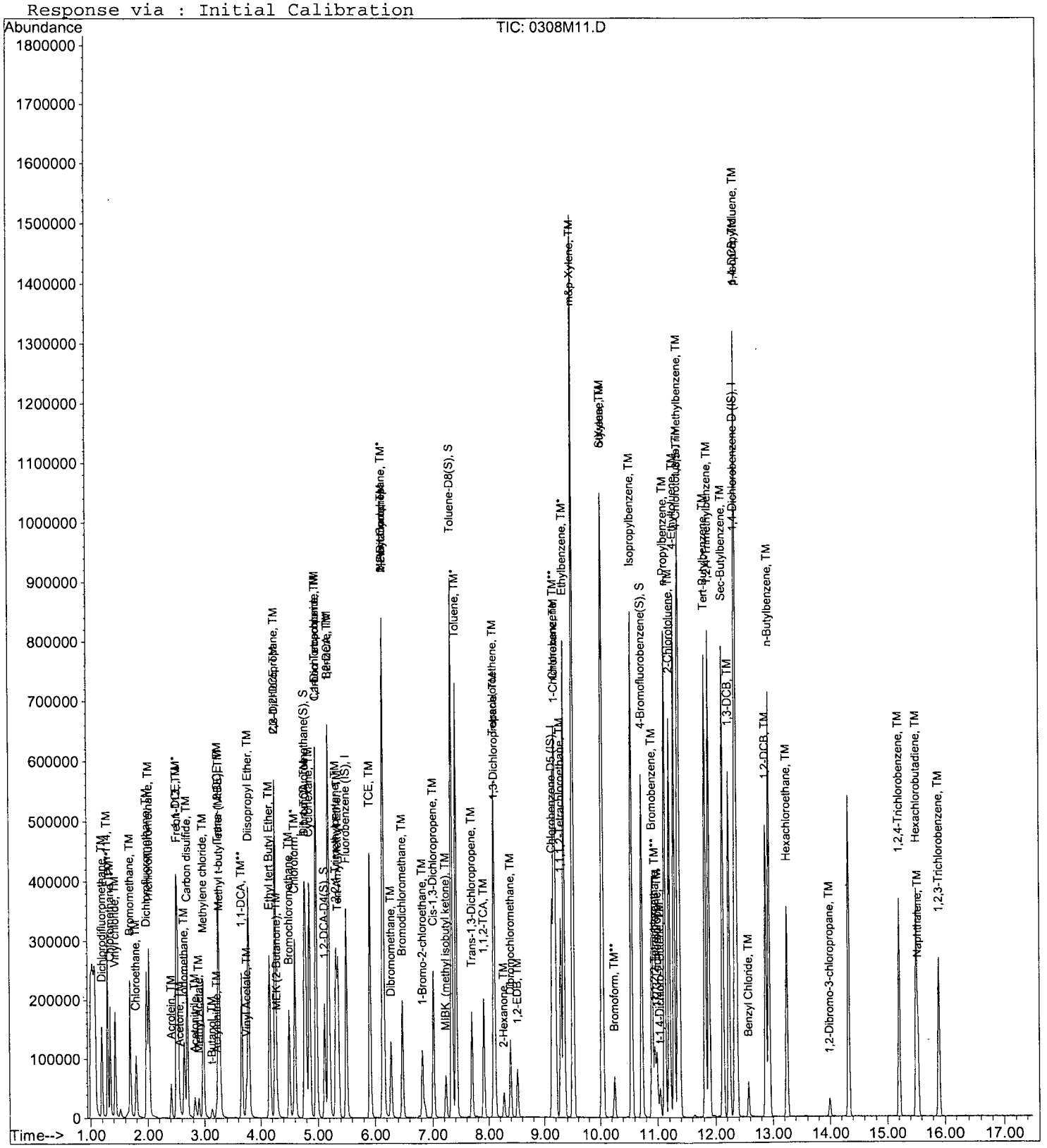
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D Vial: 10
Acq On : 8 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 3/8/17N Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



604

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D Vial: 11
Acq On : 8 Mar 17 16:16 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 3/8/17O Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
37) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
57) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
65) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	160128	41.01765 ppb		99
3) Freon 114	1.29	85	229384	41.90276 ppb		98
4) Chloromethane	1.34	50	216631	38.78035 ppb		97
5) Vinyl chloride	1.43	62	321641	40.52742 ppb		99
6) Bromomethane	1.69	94	240925	43.92416 ppb		98
7) Chloroethane	1.78	64	187907	40.40897 ppb		99
8) Dichlorofluoromethane	1.98	67	499178	40.66953 ppb		100
9) Trichlorofluoromethane	2.02	101	403115	41.31608 ppb		96
10) Acrolein	2.41	56	54202	182.18998 ppb		98
11) Acetone	2.57	58	5015	40.32503 ppb	#	60
12) Freon-113	2.52	101	236325	41.76746 ppb		96
13) 1,1-DCE	2.50	61	366446	41.31505 ppb		99
14) Acetonitrile	2.82	41	49440	401.65751 ppb		98
15) t-Butanol	3.14	59	20222	200.08889 ppb	#	90
16) Methyl Acetate	2.89	43	83027	42.72632 ppb		99
17) Iodomethane	2.63	142	315174	40.35500 ppb		99
18) Acrylonitrile	3.21	53	39046	43.24669 ppb	#	93
19) Methylene chloride	2.97	84	225581	38.06259 ppb		99
20) Carbon disulfide	2.69	76	737216	40.69862 ppb		100
21) Methyl t-butyl ether (MtBE	3.27	73	396779	40.91716 ppb		100
22) Trans-1,2-DCE	3.25	96	269880	40.05251 ppb		99
23) Diisopropyl Ether	3.79	45	685512	41.43118 ppb		98
24) 1,1-DCA	3.66	63	438099	40.41454 ppb		99
25) Vinyl Acetate	3.75	43	152885	53.32907 ppb		98
26) Ethyl tert Butyl Ether	4.16	59	482569	43.03860 ppb		97
27) MEK (2-Butanone)	4.29	43	51412	39.38413 ppb		95
28) Cis-1,2-DCE	4.26	96	278622	40.22578 ppb		97
29) 2,2-Dichloropropane	4.26	77	321304	48.06604 ppb		98
30) Chloroform	4.60	83	431609	40.09871 ppb		99
31) Bromochloromethane	4.50	128	107612	40.59122 ppb		96
33) 1,1,1-TCA	4.79	97	410471	43.72790 ppb		97
34) Cyclohexane	4.86	41	227909	40.33896 ppb		98
35) 1,1-Dichloropropene	4.97	75	357325	40.59286 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	608071	40.15842 ppb		99
38) Carbon Tetrachloride	4.97	117	331527	48.02184 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	424338	42.98126 ppb		94
40) 1,2-DCA	5.20	62	228317	38.91713 ppb		100
41) Benzene	5.19	78	1048073	39.78508 ppb		98
42) TCE	5.91	95	287026	39.66783 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	333666	201.33300	ppb		95
44) 1,2-Dichloropropane	6.15	63	226140	40.79665	ppb		95
45) Bromodichloromethane	6.48	83	269125	44.06077	ppb		98
46) Methyl Cyclohexane	6.14	83	389155	39.46519	ppb		92
47) Dibromomethane	6.28	93	95006	41.54096	ppb		97
48) MIBK (methyl isobutyl ket	7.23	43	103159	37.42087	ppb		95
49) 1-Bromo-2-chloroethane	6.82	63	224717	42.65768	ppb		94
51) Cis-1,3-Dichloropropene	7.01	75	308535	47.47692	ppb		96
52) Toluene	7.42	91	1213140	39.90286	ppb		99
53) Trans-1,3-Dichloropropene	7.69	75	222031	54.79403	ppb		96
54) 1,1,2-TCA	7.91	83	109838	40.26887	ppb		93
55) 2-Hexanone	8.27	43	67133	43.32098	ppb		95
58) 1,2-EDB	8.51	107	127578	40.38876	ppb		98
59) Tetrachloroethene	8.09	164	280935	38.41292	ppb		99
60) 1-Chlorohexane	9.20	91	363948	40.49236	ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	227168	49.79166	ppb		99
62) m&p-Xylene	9.51	106	1119123	79.66588	ppb		98
63) o-Xylene	10.03	106	530105	39.31022	ppb		99
64) Styrene	10.05	104	822689	41.79589	ppb		100
66) 1,3-Dichloropropane	8.11	76	236614	40.08918	ppb		99
67) Dibromochloromethane	8.39	129	169501	51.55957	ppb		91
68) Chlorobenzene	9.17	112	748821	39.66222	ppb		98
69) Ethylbenzene	9.35	91	1379859	39.91542	ppb		99
70) Bromoform	10.25	173	89473	49.92502	ppb		97
72) Isopropylbenzene	10.55	105	1394640	38.96697	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	133522	41.31091	ppb		95
74) 1,2,3-Trichloropropane	10.99	110	43583	37.96665	ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	29039	46.01109	ppb	#	80
76) Bromobenzene	10.91	156	304679	38.75129	ppb		96
77) n-Propylbenzene	11.12	91	1586120	39.38340	ppb		99
78) 4-Ethyltoluene	11.29	105	1390370	39.75987	ppb		97
79) 2-Chlorotoluene	11.20	91	895508	38.90154	ppb		100
80) 1,3,5-Trimethylbenzene	11.38	105	1158897	38.79427	ppb		98
81) 4-Chlorotoluene	11.36	91	1046787	38.86160	ppb		99
82) Tert-Butylbenzene	11.82	119	1013596	37.76605	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	1142256	40.65311	ppb		99
84) Sec-Butylbenzene	12.14	105	1395739	39.43972	ppb		99
85) p-Isopropyltoluene	12.36	119	1240518	40.25096	ppb		100
86) Benzyl Chloride	12.57	91	133909	40.03984	ppb		97
87) 1,3-DCB	12.24	146	629318	39.20928	ppb		99
88) 1,4-DCB	12.37	146	605287	38.01653	ppb		99
89) n-Butylbenzene	12.94	91	1018528	41.51391	ppb		99
90) 1,2-DCB	12.88	146	519552	39.30253	ppb		99
91) Hexachloroethane	13.25	117	140867	56.22363	ppb		97
92) 1,2-Dibromo-3-chloropropan	13.99	75	19535	38.24028	ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	324344	42.81768	ppb		97
94) Hexachlorobutadiene	15.51	225	181372	39.29480	ppb		96
95) Naphthalene	15.54	128	185280	35.29479	ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	241088	29.78847	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

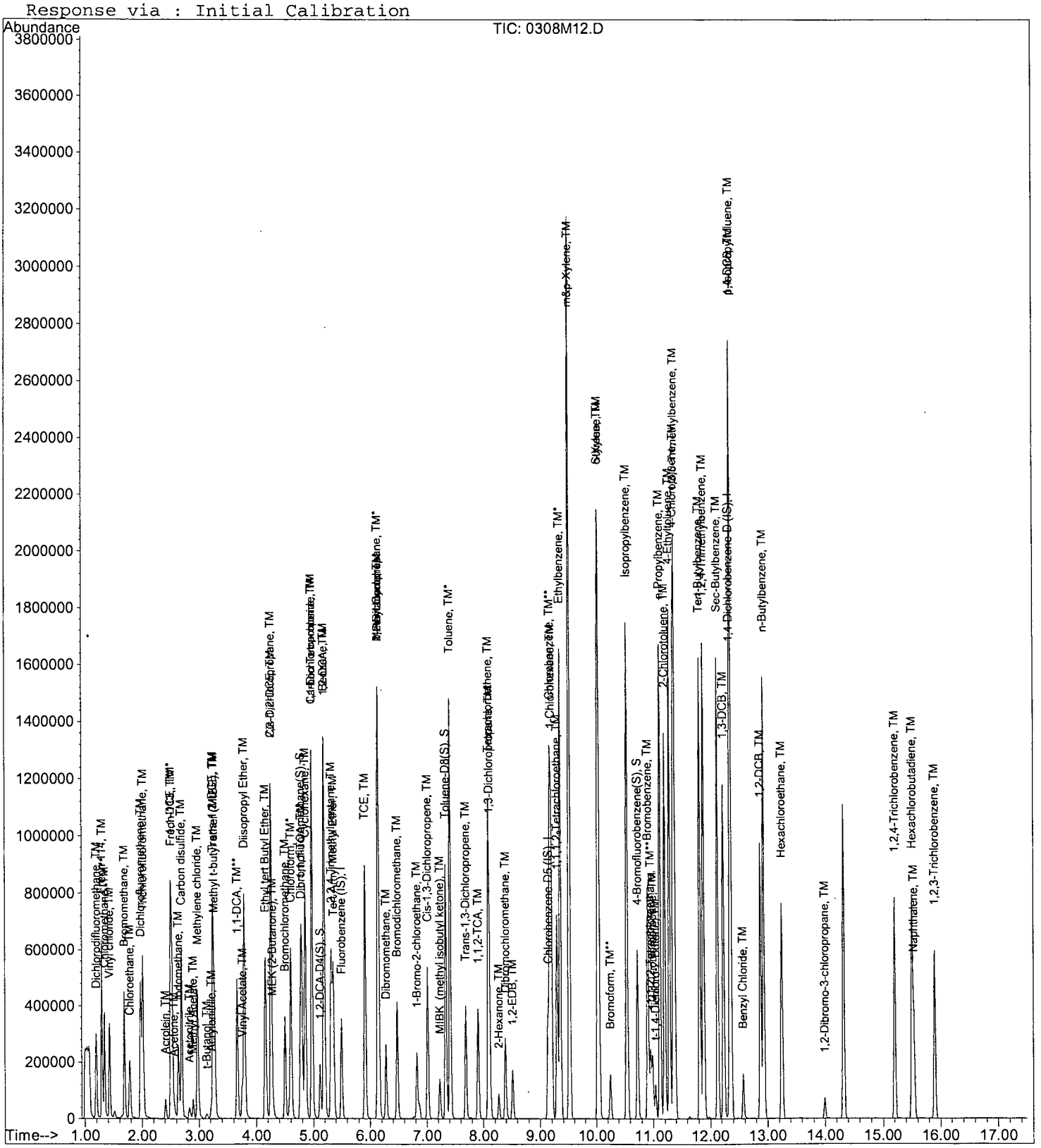
Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



607

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
37) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
57) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
65) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	406656	108.06985 ppb		99
3) Freon 114	1.29	85	562201	106.54791 ppb		99
4) Chloromethane	1.34	50	564019	104.75113 ppb		96
5) Vinyl chloride	1.43	62	801310	104.74951 ppb		98
6) Bromomethane	1.68	94	589757	111.54973 ppb		98
7) Chloroethane	1.77	64	673195	150.19296 ppb		98
8) Dichlorofluoromethane	1.97	67	1300985	109.96637 ppb		98
9) Trichlorofluoromethane	2.01	101	1035374	110.09339 ppb		98
10) Acrolein	2.41	56	60817	212.08406 ppb		90
11) Acetone	2.57	58	11661	99.90003 ppb	#	65
12) Freon-113	2.52	101	569035	104.33769 ppb		96
13) 1,1-DCE	2.50	61	904864	105.84138 ppb		99
14) Acetonitrile	2.83	41	60471	509.68098 ppb		99
15) t-Butanol	3.15	59	27346	280.71559 ppb		97
16) Methyl Acetate	2.90	43	208491	111.31079 ppb		99
17) Iodomethane	2.63	142	815411	106.81559 ppb		98
18) Acrylonitrile	3.22	53	97677	112.23865 ppb	#	94
19) Methylene chloride	2.97	84	557876	97.65790 ppb		96
20) Carbon disulfide	2.69	76	1877954	107.55824 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	997179	106.68510 ppb		98
22) Trans-1,2-DCE	3.25	96	676073	104.09420 ppb		99
23) Diisopropyl Ether	3.79	45	1765022	110.67160 ppb		99
24) 1,1-DCA	3.66	63	1111654	106.39199 ppb		98
25) Vinyl Acetate	3.75	43	466056	168.65961 ppb		97
26) Ethyl tert Butyl Ether	4.16	59	1255702	116.18743 ppb		95
27) MEK (2-Butanone)	4.30	43	124055	99.91021 ppb		93
28) Cis-1,2-DCE	4.26	96	702743	105.25904 ppb		95
29) 2,2-Dichloropropane	4.26	77	887004	137.66441 ppb		99
30) Chloroform	4.60	83	1095662	105.60643 ppb		99
31) Bromochloromethane	4.50	128	272224	106.52993 ppb		99
33) 1,1,1-TCA	4.79	97	1071428	118.41670 ppb		97
34) Cyclohexane	4.86	41	571159	104.88033 ppb		99
35) 1,1-Dichloropropene	4.97	75	896738	105.68799 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	1529522	104.79773 ppb		98
38) Carbon Tetrachloride	4.97	117	902697	135.65498 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	1119806	117.67490 ppb	#	91
40) 1,2-DCA	5.20	62	585241	103.49305 ppb		99
41) Benzene	5.19	78	2678437	105.48337 ppb		98
42) TCE	5.91	95	712662	102.18205 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	418965	262.27361	ppb	92
44) 1,2-Dichloropropane	6.15	63	581609	108.85592	ppb	95
45) Bromodichloromethane	6.48	83	711756	120.89353	ppb	100
46) Methyl Cyclohexane	6.14	83	993474	104.52541	ppb	95
47) Dibromomethane	6.28	93	239489	108.63879	ppb	96
48) MIBK (methyl isobutyl ket	7.23	43	261915	98.56913	ppb	93
49) 1-Bromo-2-chloroethane	6.82	63	579550	114.13691	ppb	94
51) Cis-1,3-Dichloropropene	7.01	75	817057	130.43807	ppb	96
52) Toluene	7.42	91	3189759	108.84910	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	607645	155.57629	ppb	98
54) 1,1,2-TCA	7.91	83	280906	106.84437	ppb	96
55) 2-Hexanone	8.27	43	171506	114.81942	ppb	95
58) 1,2-EDB	8.51	107	332321	104.76805	ppb	95
59) Tetrachloroethene	8.09	164	707231	97.38930	ppb	99
60) 1-Chlorohexane	9.20	91	944519	105.83344	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.29	131	628350	138.70418	ppb	96
62) m&p-Xylene	9.51	106	3017730	216.34827	ppb	95
63) o-Xylene	10.03	106	1407682	105.12998	ppb	94
64) Styrene	10.05	104	2249213	115.08189	ppb	99
66) 1,3-Dichloropropane	8.11	76	592302	101.06677	ppb	99
67) Dibromochloromethane	8.39	129	469876	143.94572	ppb	95
68) Chlorobenzene	9.17	112	1927952	102.84276	ppb	97
69) Ethylbenzene	9.35	91	3648904	106.30334	ppb	97
70) Bromoform	10.25	173	265551	149.22883	ppb	99
72) Isopropylbenzene	10.55	105	3763658	101.56516	ppb	98
73) 1,1,2,2-Tetrachloroethane	10.96	83	360976	107.86742	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	115429	97.11810	ppb	98
75) t-1,4-Dichloro-2-Butene	11.04	53	85546	130.91235	ppb	83
76) Bromobenzene	10.91	156	809384	99.42561	ppb	97
77) n-Propylbenzene	11.12	91	4364476	104.66689	ppb	98
78) 4-Ethyltoluene	11.29	105	3848783	106.30118	ppb	95
79) 2-Chlorotoluene	11.20	91	2414645	101.30963	ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	3234072	104.56166	ppb	96
81) 4-Chlorotoluene	11.36	91	2924658	104.86667	ppb	97
82) Tert-Butylbenzene	11.82	119	2732669	98.33854	ppb	98
83) 1,2,4-Trimethylbenzene	11.90	105	3196357	109.87164	ppb	98
84) Sec-Butylbenzene	12.14	105	3860121	105.34904	ppb	99
85) p-Isopropyltoluene	12.36	119	3478678	109.01530	ppb	99
86) Benzyl Chloride	12.57	91	461920	84.59637	ppb	97
87) 1,3-DCB	12.24	146	1720511	103.53239	ppb	99
88) 1,4-DCB	12.37	146	1677905	101.78379	ppb	99
89) n-Butylbenzene	12.94	91	2857282	112.47963	ppb	99
90) 1,2-DCB	12.88	146	1413926	103.30425	ppb	99
91) Hexachloroethane	13.25	117	448836	173.02041	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	56817	101.08814	ppb	94
93) 1,2,4-Trichlorobenzene	15.21	180	906456	114.76478	ppb	96
94) Hexachlorobutadiene	15.51	225	521806	109.18776	ppb	96
95) Naphthalene	15.54	128	501120	64.71172	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	631498	53.17018	ppb	98

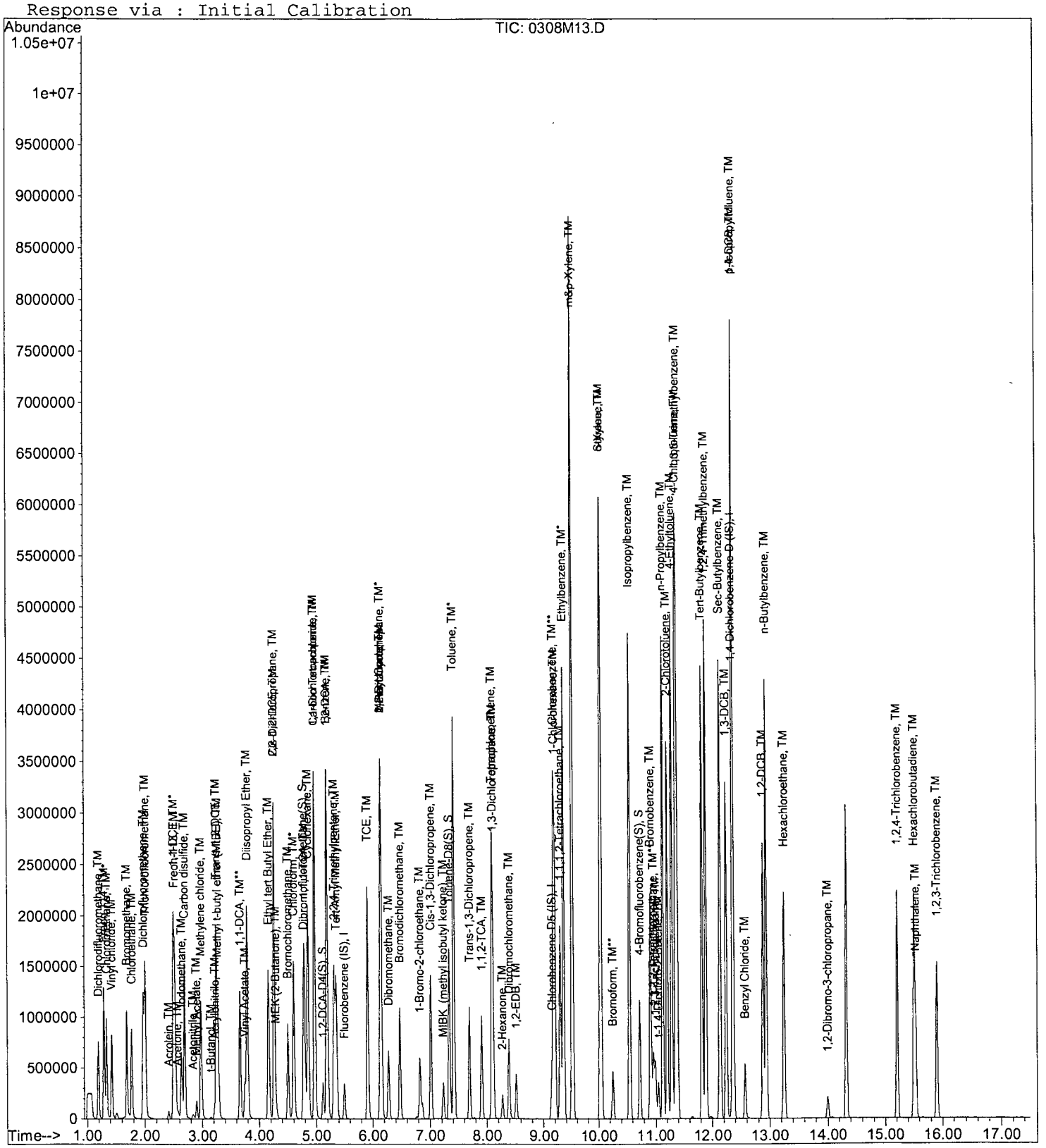
(#) = qualifier out of range (m) = manual integration

Quantitation Report

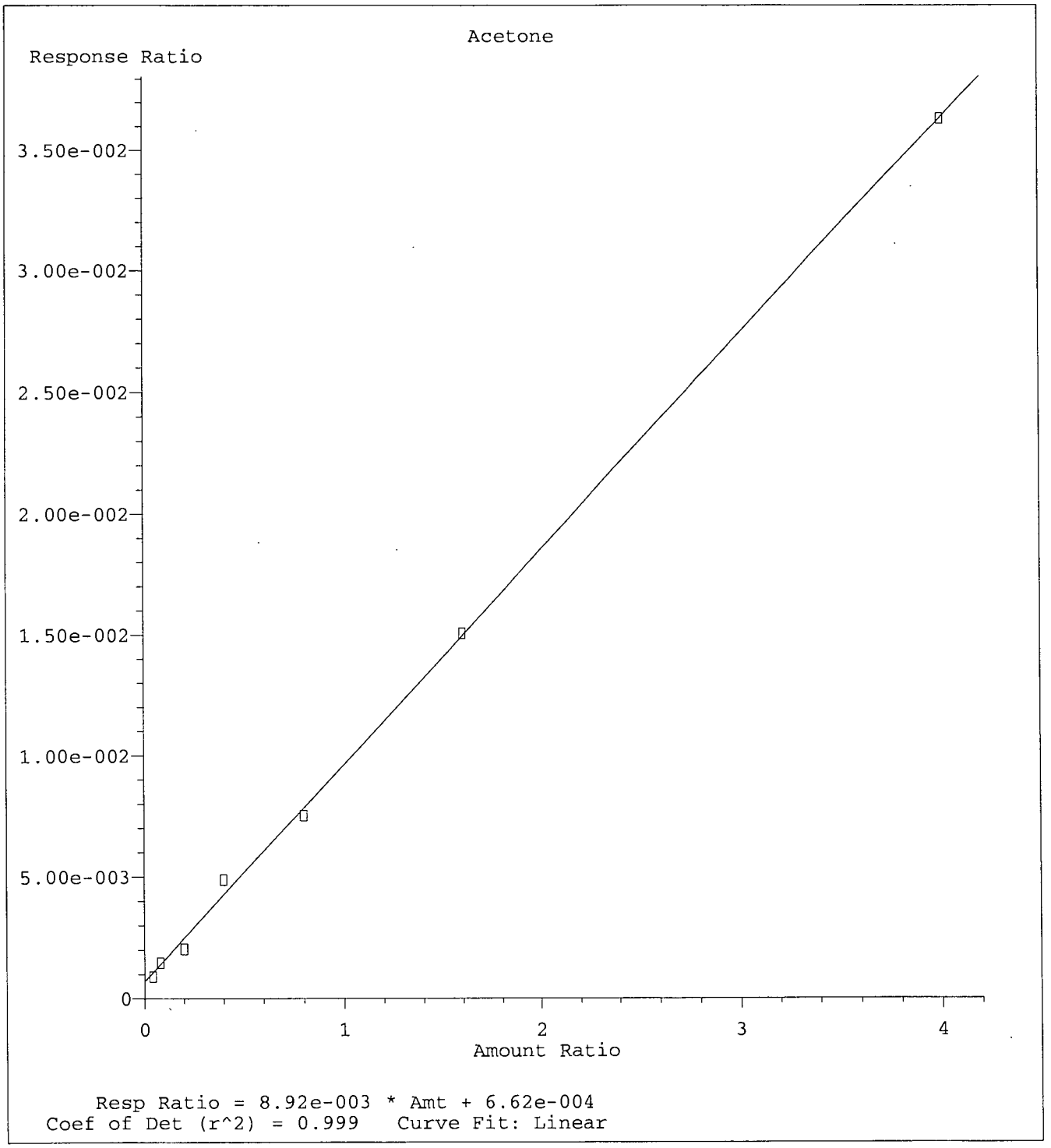
Data File : M:\MAX\DATA\M170308\0308M13.D Vial: 12
Acq On : 8 Mar 17 16:45 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 3/8/17P Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

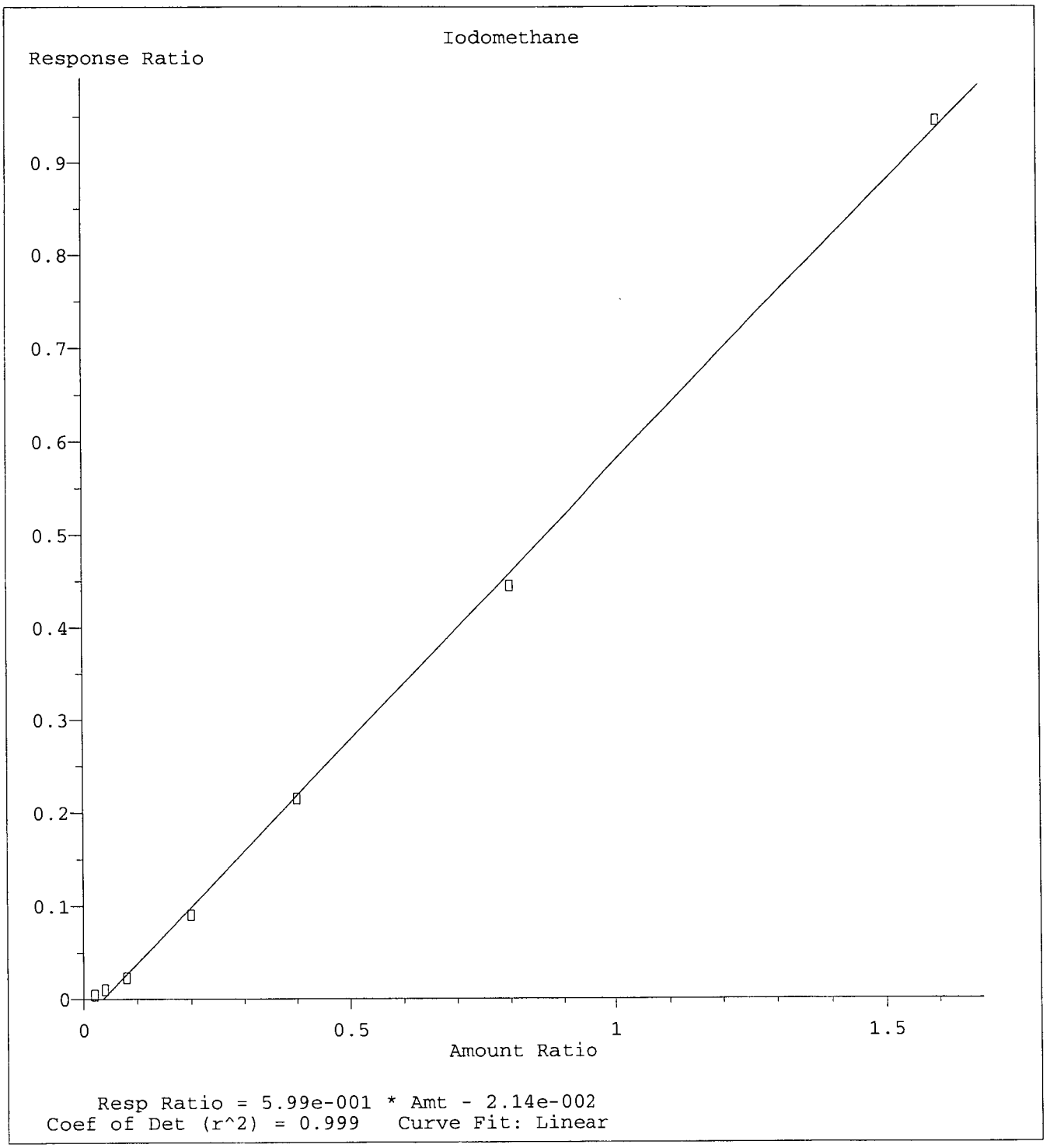
Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



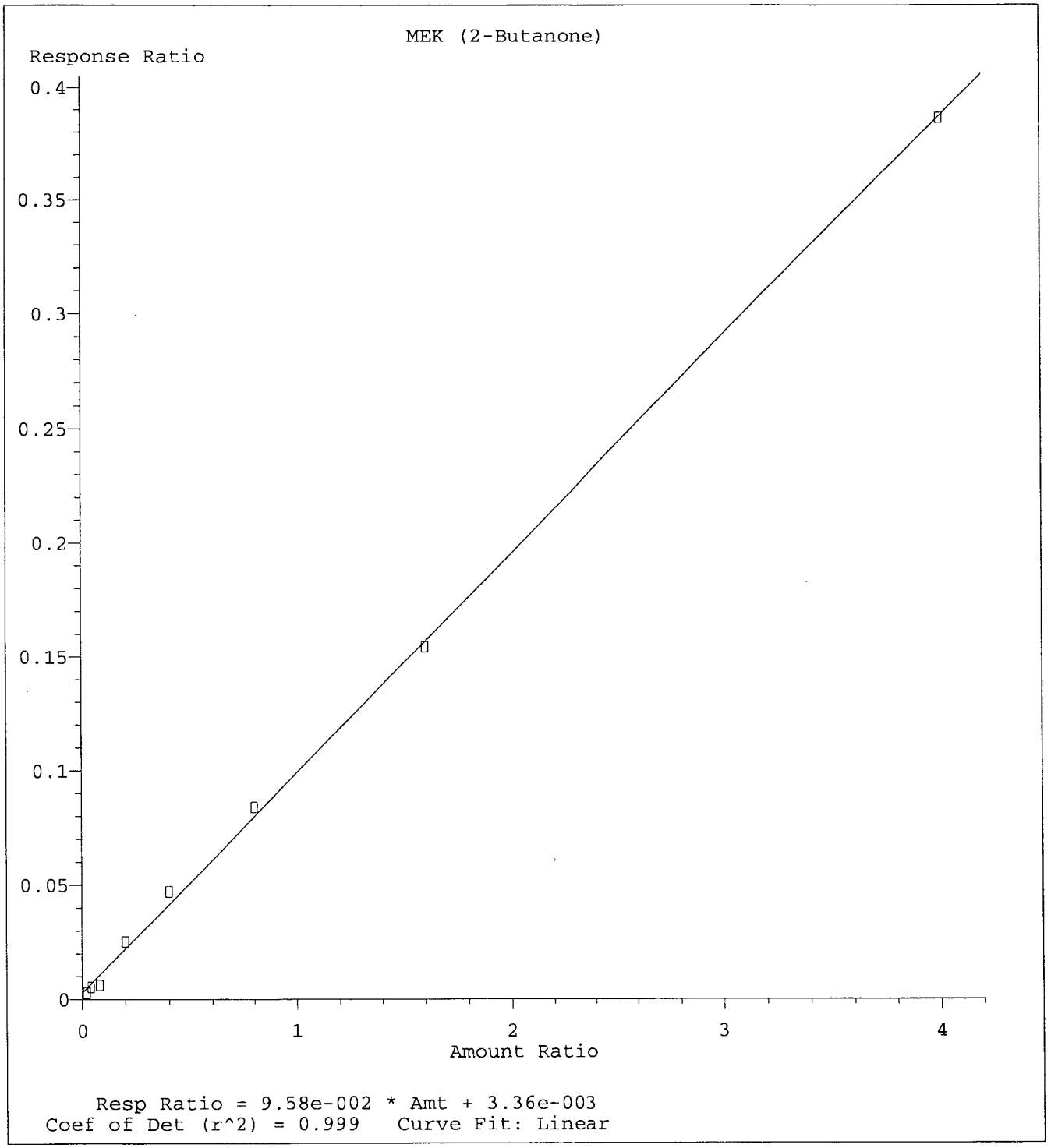
610



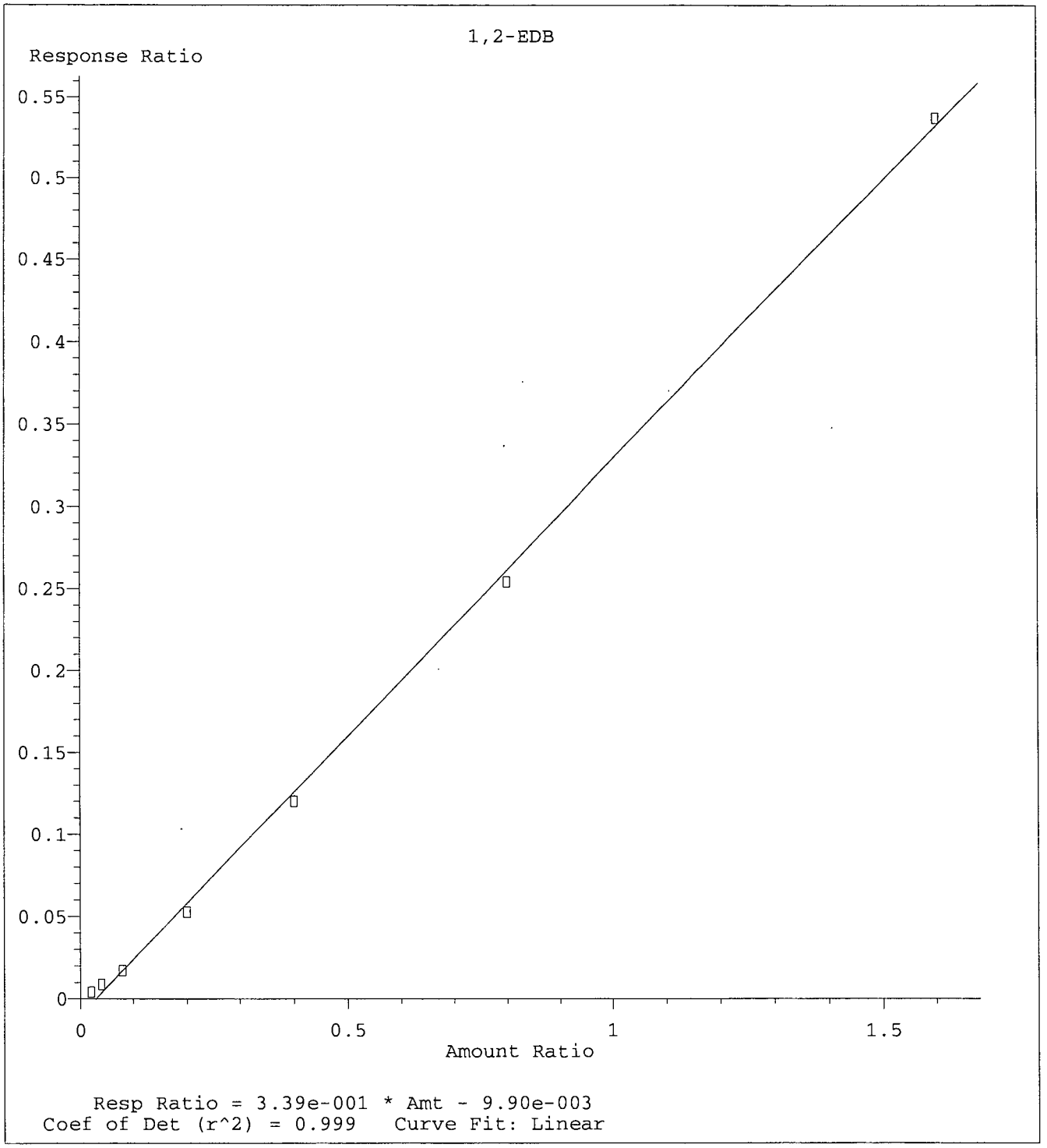
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



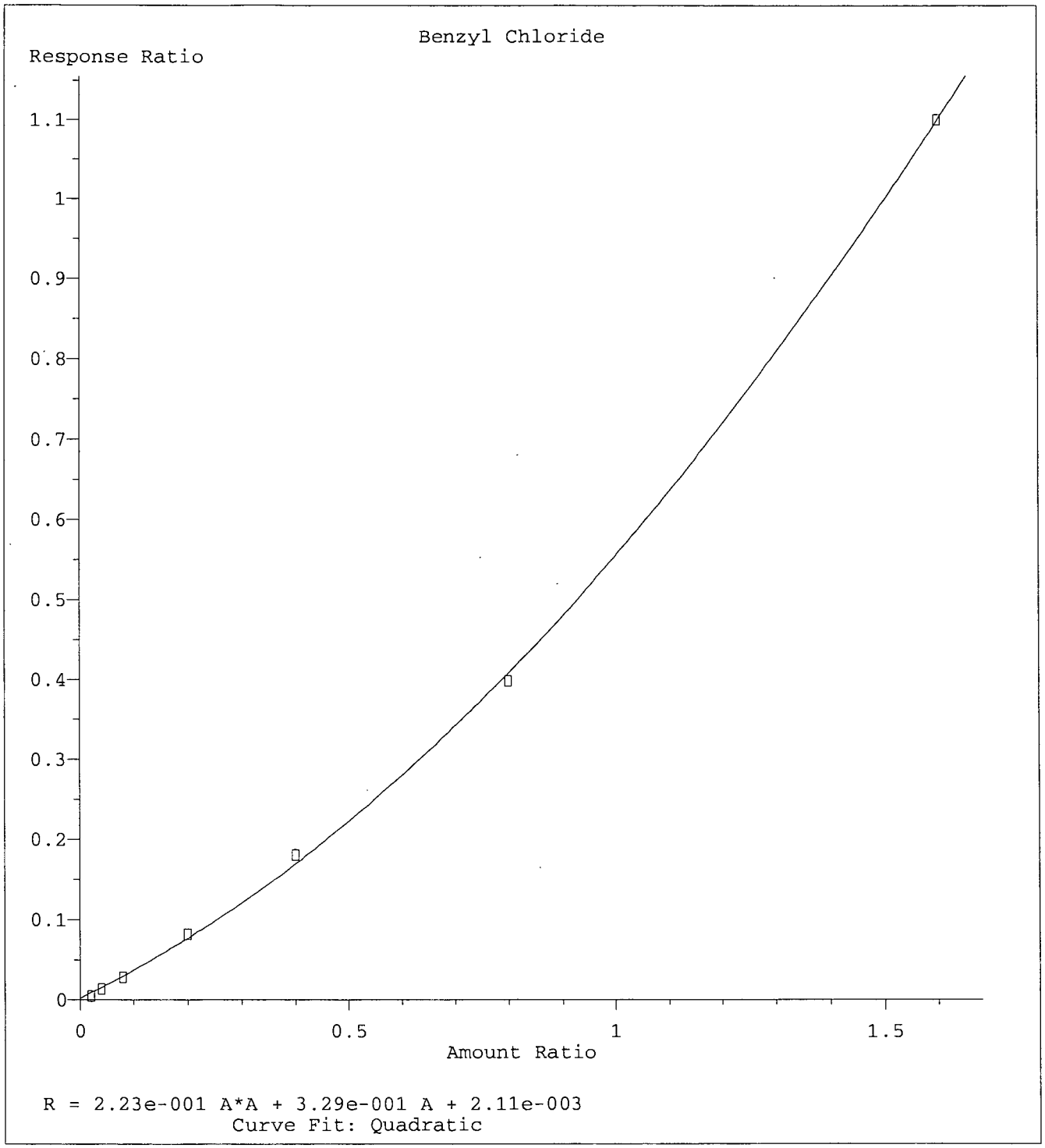
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



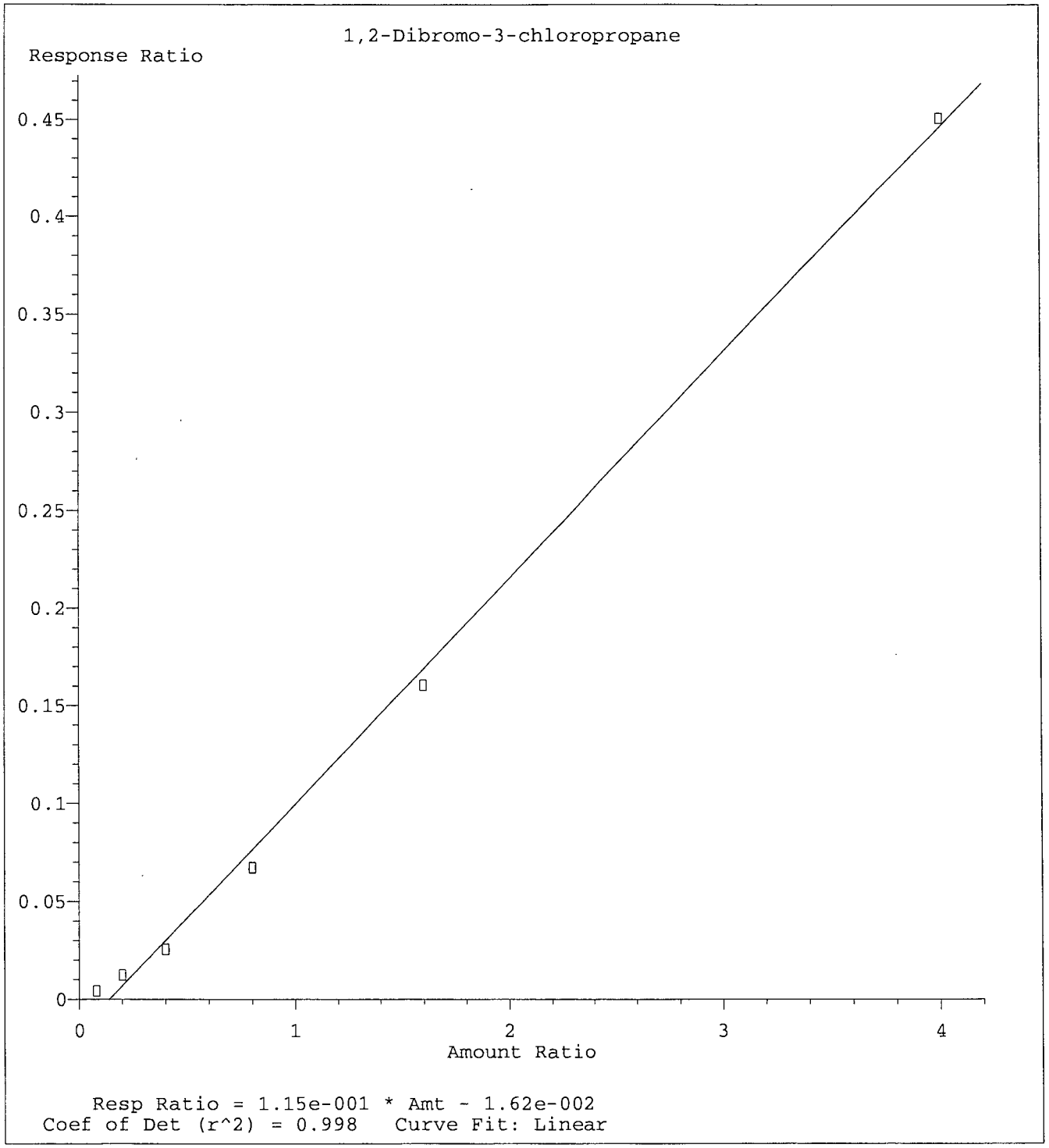
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



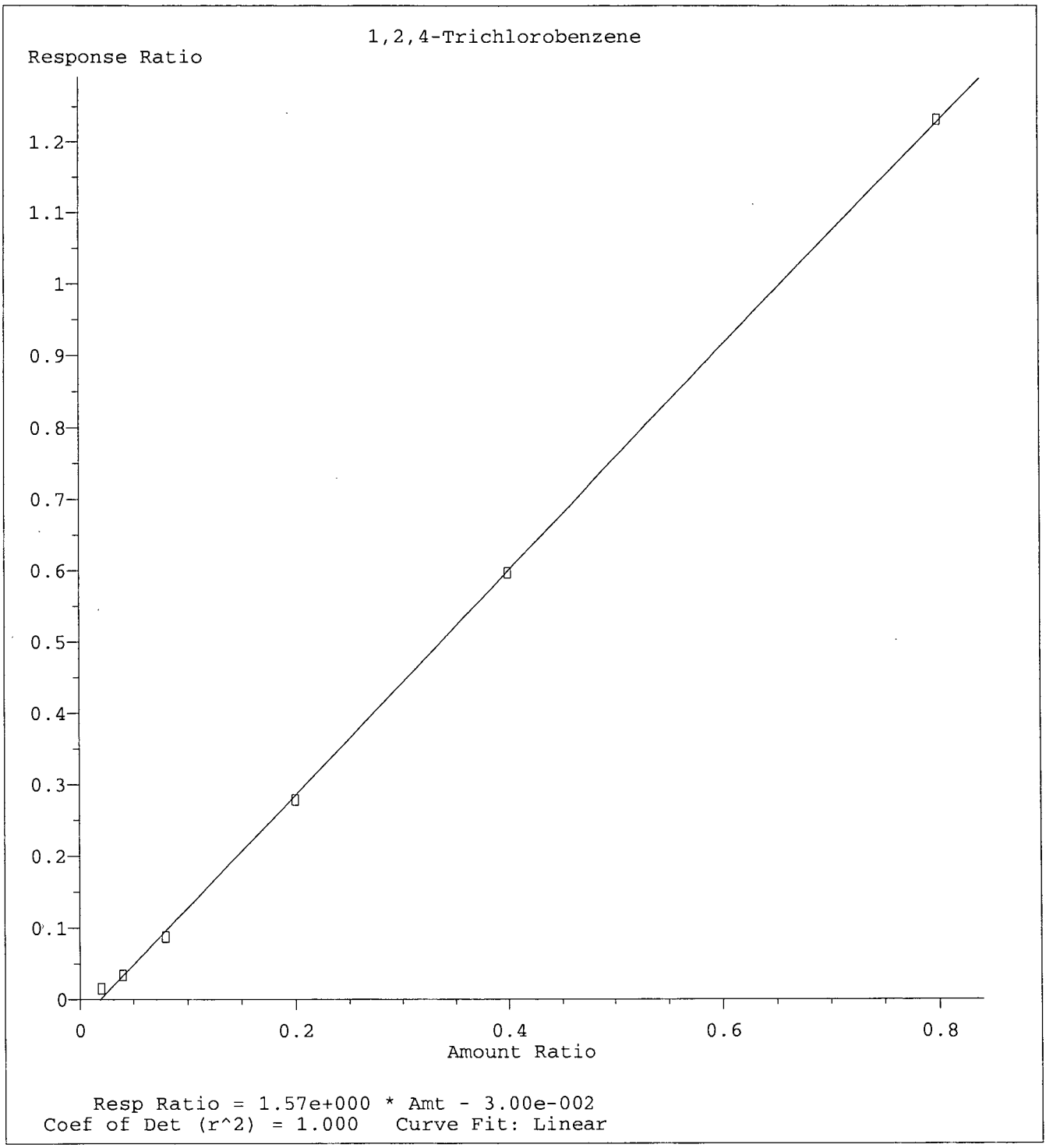
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



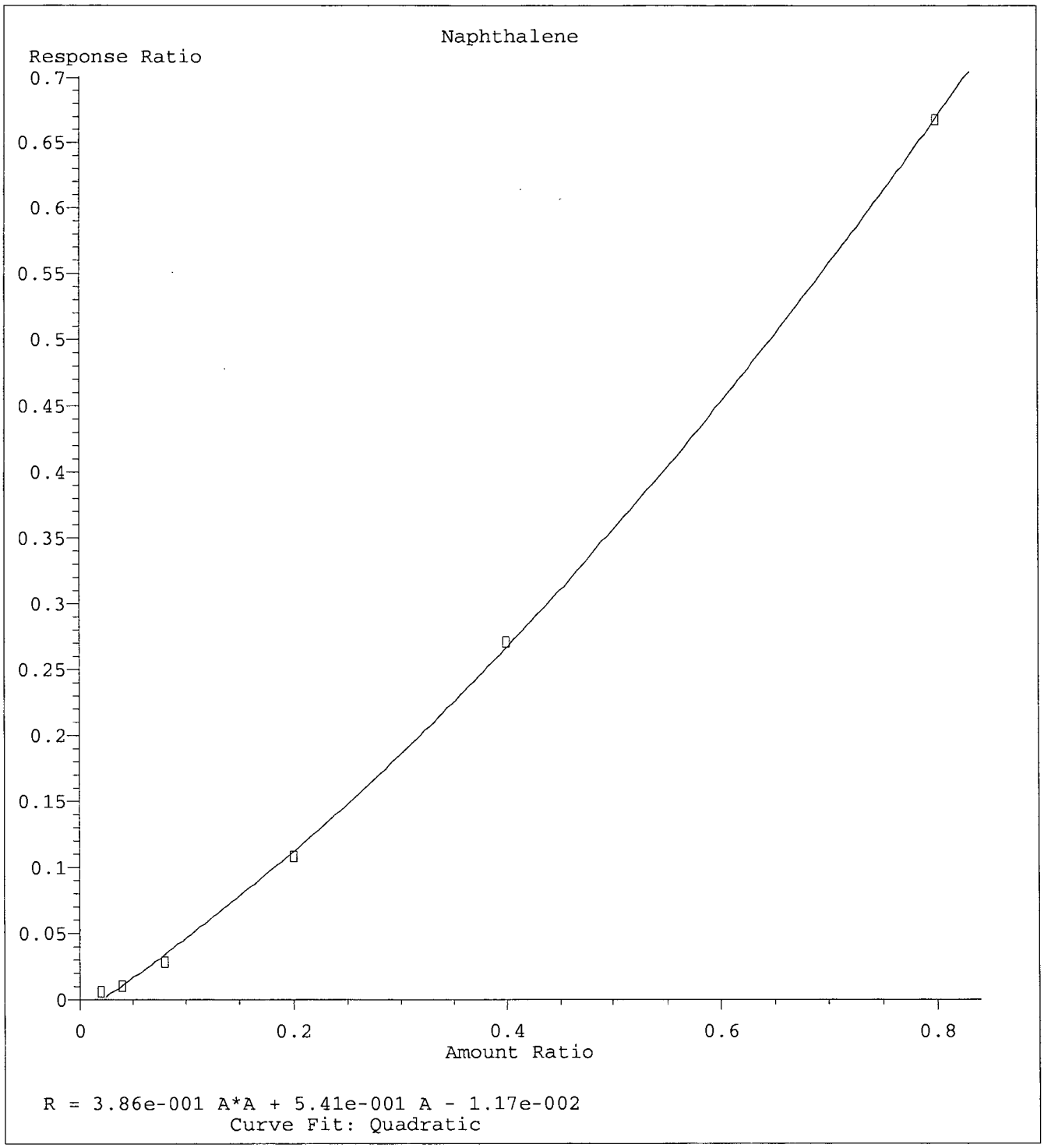
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



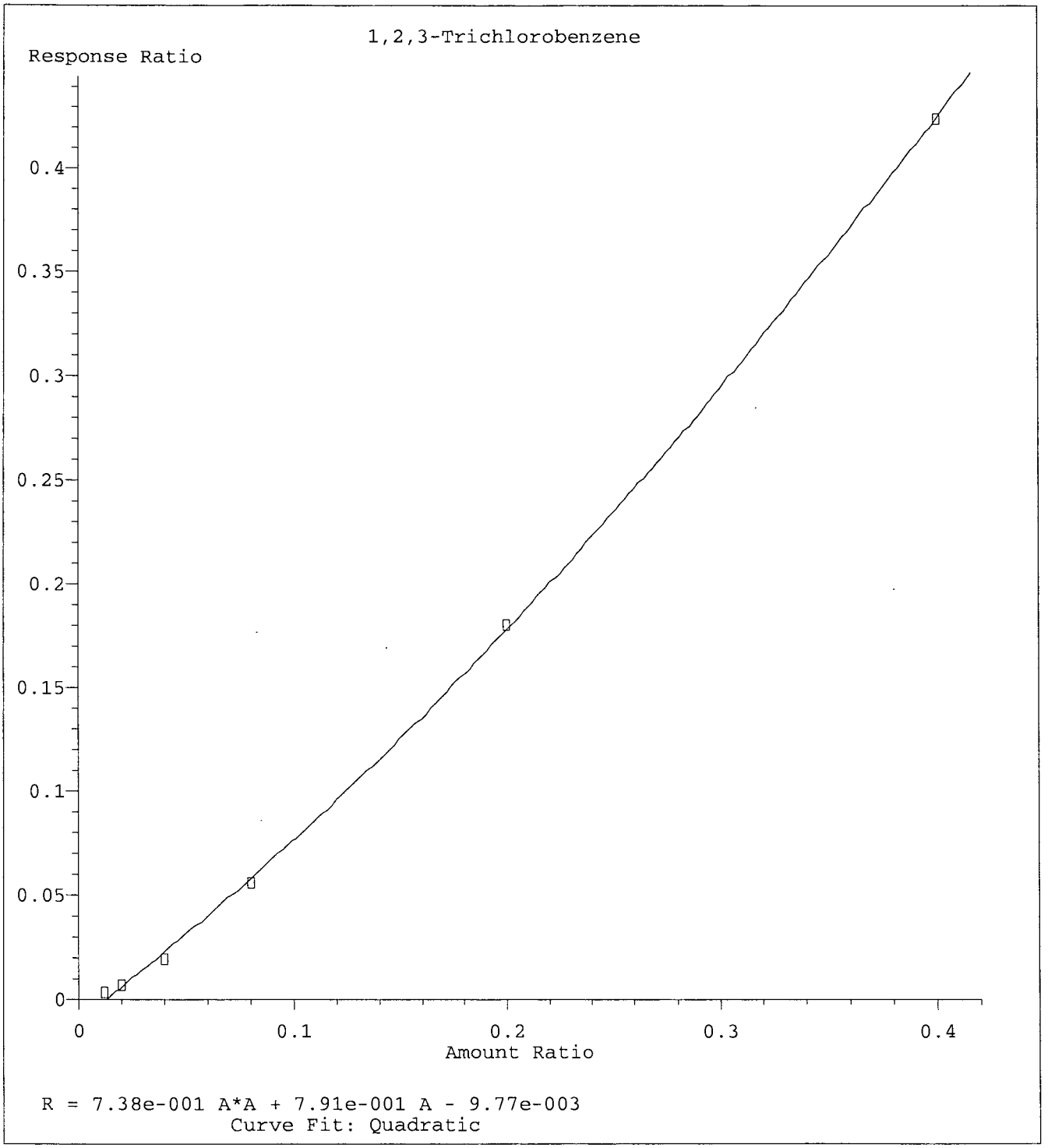
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2929	0.2661	9.1	TM		
2	TM	Freon 114	0.4107	0.3572	13	TM		
3	TM**	Chloromethane	0.4190	0.3946	5.8	TM**		
4	TM*	Vinyl chloride	0.5954	0.5872	1.4	TM*		
5	TM	Bromomethane	0.4115	0.3356	18	TM		
6	TM	Chloroethane	0.3488	0.3338	4.3	TM		
7	TM	Dichlorofluoromethane	0.9208	0.8857	3.8	TM		
8	TM	Trichlorofluoromethane	0.7319	0.7560	3.3	TM		
9	TM	Acrolein	0.0223	0.0203	8.9	TM		
10	TML	Acetone	0.0130	0.0135	4.1	TML	33	*
11	TM	Freon-113	0.4245	0.4336	2.2	TM		
12	TM*	1,1-DCE	0.6654	0.6019	9.5	TM*		
13	TM	Acetonitrile	0.0205	0.0224	9.1	TM		
14	TM	t-Butanol	0.0076	0.0090	18	TM		
15	TM	Methyl Acetate	0.1458	0.1513	3.8	TM		
16	TML	Iodomethane	0.4104	0.2661	35	TML	47	nt
17	TM	Acrylonitrile	0.0677	0.0710	4.8	TM		
18	TM	Methylene chloride	0.4446	0.3809	14	TM		
19	TM	Carbon disulfide	1.359	1.137	16	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7603	4.5	TM		
21	TM	Trans-1,2-DCE	0.5055	0.4613	8.7	TM		
22	TM	Diisopropyl Ether	1.241	1.219	1.8	TM		
23	TM**	1,1-DCA	0.8132	0.7216	11	TM**		
24	TM	Vinyl Acetate	0.2151	0.2197	2.1	TM		
25	TM	Ethyl tert Butyl Ether	0.8411	0.9358	11	TM		
26	TML	MEK (2-Butanone)	0.1121	0.0928	17	TML	12	
27	TM	Cis-1,2-DCE	0.5196	0.4831	7.0	TM		
28	TM	2,2-Dichloropropane	0.5015	0.4825	3.8	TM		
29	TM*	Chloroform	0.8075	0.7137	12	TM*		
30	TM	Bromochloromethane	0.1989	0.1817	8.7	TM		
31	TM	1,1,1-TCA	0.7042	0.6740	4.3	TM		
32	TM	Cyclohexane	0.4238	0.3864	8.8	TM		
33	TM	1,1-Dichloropropene	0.6603	0.5800	12	TM		
34	TM	2,2,4-Trimethylpentane	1.136	1.017	10	TM		
35	TM	Carbon Tetrachloride	0.5179	0.5425	4.8	TM		
36	TM	Tert Amyl Methyl Ether	0.7406	0.7592	2.5	TM		
37	TM	1,2-DCA	0.4401	0.3855	12	TM		
38	TM	Benzene	1.976	1.759	11	TM		
39	TM	TCE	0.5428	0.4797	12	TM		
40	TM	2-Pentanone	0.1243	0.1385	11	TM		
		Average			9.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4158	0.3666	12	TM*	
42	TM	Bromodichloromethane	0.4582	0.4410	3.8	TM	
43	TM	Methyl Cyclohexane	0.7397	0.6718	9.2	TM	
44	TM	Dibromomethane	0.1716	0.1528	11	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2053	0.70	TM	
46	TM	1-Bromo-2-chloroethane	0.3952	0.3867	2.1	TM	
47	TM	Cis-1,3-Dichloropropene	0.4875	0.4772	2.1	TM	
48	TM*	Toluene	2.281	1.998	12	TM*	
49	TM	Trans-1,3-Dichloropropene	0.3040	0.3459	14	TM	
50	TM	1,1,2-TCA	0.2046	0.1833	10	TM	
51	TM	2-Hexanone	0.1163	0.1300	12	TM	
52	TML	1,2-EDB	0.2651	0.2844	7.2	TML	8.7
53	TM	Tetrachloroethene	0.7696	0.6912	10	TM	
54	TM	1-Chlorohexane	0.9459	0.9434	0.26	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5101	6.2	TM	
56	TM	m&p-Xylene	1.478	1.296	12	TM	
57	TM	o-Xylene	1.419	1.227	14	TM	
58	TM	Styrene	2.071	1.826	12	TM	
59	TM	1,3-Dichloropropane	0.6211	0.5613	9.6	TM	
60	TM	Dibromochloromethane	0.3460	0.3772	9.0	TM	
61	TM**	Chlorobenzene	1.987	1.746	12	TM**	
62	TM*	Ethylbenzene	3.638	3.245	11	TM*	
63	TM**	Bromoform	0.1886	0.1804	4.3	TM**	
64	TM	Isopropylbenzene	7.350	6.599	10	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6170	7.1	TM**	
66	TM	1,2,3-Trichloropropane	0.2357	0.2197	6.8	TM	
67	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1145	12	TM	
68	TM	Bromobenzene	1.615	1.430	11	TM	
69	TM	n-Propylbenzene	8.271	7.307	12	TM	
70	TM	4-Ethyltoluene	7.181	7.139	0.59	TM	
71	TM	2-Chlorotoluene	4.727	4.145	12	TM	
72	TM	1,3,5-Trimethylbenzene	6.135	5.368	12	TM	
73	TM	4-Chlorotoluene	5.532	4.775	14	TM	
74	TM	Tert-Butylbenzene	5.512	4.775	13	TM	
75	TM	1,2,4-Trimethylbenzene	5.770	5.198	9.9	TM	
76	TM	Sec-Butylbenzene	7.268	6.414	12	TM	
77	TM	p-Isopropyltoluene	6.329	5.502	13	TM	
78	TMQ	Benzyl Chloride	0.4242	0.3942	7.1	TMQ	5.8
79	TM	1,3-DCB	3.296	2.912	12	TM	
80	TM	1,4-DCB	3.270	2.785	15	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	5.039	4.392	13	TM	
82	TM	1,2-DCB	2.715	2.346	14	TM	
83	TM	Hexachloroethane	0.5145	0.6085	18	TM	
84	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0805	1.2	TML	4.7
85	TML	1,2,4-Trichlorobenzene	1.183	1.208	2.1	TML	18
86	TM	Hexachlorobutadiene	0.9479	0.8306	12	TM	
87	TMQ	Naphthalene	0.4921	0.5544	13	TMQ	14
88	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8227	31	TMQ	18
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332241	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	230391	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113881	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	81347	24.85199 ppb	0.00
Spiked Amount 25.000			Recovery = 99.408%		
37) 1,2-DCA-D4(S)	5.12	65	62763	24.04517 ppb	0.00
Spiked Amount 25.000			Recovery = 96.180%		
57) Toluene-D8(S)	7.34	98	329558	24.63517 ppb	0.00
Spiked Amount 25.000			Recovery = 98.540%		
65) 4-Bromofluorobenzene(S)	10.72	95	109282	24.71231 ppb	0.00
Spiked Amount 25.000			Recovery = 98.848%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	35368	9.08749 ppb	94
3) Freon 114	1.29	85	47467	8.69764 ppb	99
4) Chloromethane	1.34	50	52440	9.41638 ppb	97
5) Vinyl chloride	1.43	62	78035	9.86273 ppb	99
6) Bromomethane	1.69	94	44603	8.15672 ppb	98
7) Chloroethane	1.79	64	44365	9.56985 ppb	97
8) Dichlorofluoromethane	1.98	67	117711	9.61968 ppb	98
9) Trichlorofluoromethane	2.02	101	100472	10.32916 ppb	96
10) Acrolein	2.41	56	33786	113.91369 ppb	95
11) Acetone	2.56	58	1797	13.30442 ppb #	64
12) Freon-113	2.53	101	57630	10.21661 ppb	95
13) 1,1-DCE	2.51	61	79991	9.04627 ppb	96
14) Acetonitrile	2.83	41	37164	136.40801 ppb	99
15) t-Butanol	3.13	59	14924	148.12013 ppb	96
16) Methyl Acetate	2.90	43	20102	10.37637 ppb	99
17) Iodomethane	2.64	142	35358	5.33244 ppb	94
18) Acrylonitrile	3.21	53	9433	10.47987 ppb	92
19) Methylene chloride	2.98	84	50624	8.56806 ppb	94
20) Carbon disulfide	2.69	76	151159	8.37045 ppb	99
21) Methyl t-butyl ether (MtBE	3.27	73	101046	10.45216 ppb	95
22) Trans-1,2-DCE	3.25	96	61301	9.12550 ppb	99
23) Diisopropyl Ether	3.79	45	161982	9.81994 ppb	99
24) 1,1-DCA	3.66	63	95898	8.87370 ppb	97
25) Vinyl Acetate	3.75	43	29195	10.21498 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	124366	11.12578 ppb	94
27) MEK (2-Butanone)	4.30	43	12332	8.81039 ppb	84
28) Cis-1,2-DCE	4.26	96	64204	9.29782 ppb	98
29) 2,2-Dichloropropane	4.26	77	64129	9.62292 ppb	98
30) Chloroform	4.60	83	94844	8.83852 ppb	95
31) Bromochloromethane	4.50	128	24142	9.13429 ppb	96
33) 1,1,1-TCA	4.79	97	89571	9.57136 ppb	97
34) Cyclohexane	4.86	41	51350	9.11661 ppb	99
35) 1,1-Dichloropropene	4.97	75	77076	8.78285 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	135152	8.95313 ppb	99
38) Carbon Tetrachloride	4.97	117	72098	10.47546 ppb	96
39) Tert Amyl Methyl Ether	5.36	73	100899	10.25142 ppb	100
40) 1,2-DCA	5.20	62	51233	8.75956 ppb	100
41) Benzene	5.19	78	233760	8.90080 ppb	98
42) TCE	5.91	95	63744	8.83663 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	230098	139.26623	ppb		98
44)	1,2-Dichloropropane	6.15	63	48717	8.81572	ppb	#	93
45)	Bromodichloromethane	6.48	83	58602	9.62366	ppb		100
46)	Methyl Cyclohexane	6.14	83	89281	9.08198	ppb		90
47)	Dibromomethane	6.28	93	20309	8.90726	ppb		96
48)	MIBK (methyl isobutyl ket	7.23	43	27290	9.92979	ppb		92
49)	1-Bromo-2-chloroethane	6.83	63	51390	9.78520	ppb		94
51)	Cis-1,3-Dichloropropene	7.01	75	63419	9.78876	ppb		97
52)	Toluene	7.42	91	265582	8.76237	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	45965	11.37829	ppb		95
54)	1,1,2-TCA	7.91	83	24362	8.95900	ppb		95
55)	2-Hexanone	8.27	43	17271	11.17917	ppb	#	94
58)	1,2-EDB	8.51	107	26206	9.13075	ppb		96
59)	Tetrachloroethene	8.09	164	63702	8.98120	ppb		96
60)	1-Chlorohexane	9.20	91	86937	9.97351	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.29	131	47008	10.62407	ppb		97
62)	m&p-Xylene	9.51	106	238921	17.53713	ppb		97
63)	o-Xylene	10.03	106	113036	8.64311	ppb		100
64)	Styrene	10.05	104	168299	8.81635	ppb		97
66)	1,3-Dichloropropane	8.11	76	51729	9.03713	ppb		96
67)	Dibromochloromethane	8.39	129	34762	10.90313	ppb		90
68)	Chlorobenzene	9.17	112	160861	8.78536	ppb		99
69)	Ethylbenzene	9.35	91	299056	8.92007	ppb		100
70)	Bromoform	10.25	173	16625	9.56528	ppb		87
72)	Isopropylbenzene	10.55	105	300578	8.97744	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	28104	9.29481	ppb		91
74)	1,2,3-Trichloropropane	10.99	110	10010	9.32137	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.03	53	5218	8.83783	ppb		87
76)	Bromobenzene	10.91	156	65137	8.85589	ppb		99
77)	n-Propylbenzene	11.12	91	332862	8.83491	ppb		99
78)	4-Ethyltoluene	11.28	105	325192	9.94066	ppb		98
79)	2-Chlorotoluene	11.20	91	188836	8.76885	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	244530	8.75015	ppb		99
81)	4-Chlorotoluene	11.35	91	217506	8.63166	ppb		100
82)	Tert-Butylbenzene	11.82	119	217514	8.66332	ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	236796	9.00877	ppb		98
84)	Sec-Butylbenzene	12.13	105	292153	8.82471	ppb		95
85)	p-Isopropyltoluene	12.36	119	250635	8.69312	ppb		98
86)	Benzyl Chloride	12.57	91	17956	9.42206	ppb		99
87)	1,3-DCB	12.24	146	132636	8.83366	ppb		99
88)	1,4-DCB	12.37	146	126869	8.51780	ppb		99
89)	n-Butylbenzene	12.94	91	200062	8.71658	ppb		99
90)	1,2-DCB	12.88	146	106888	8.64333	ppb		98
91)	Hexachloroethane	13.25	117	27720	11.82670	ppb		94
92)	1,2-Dibromo-3-chloropropan	13.99	75	3665	10.46727	ppb		82
93)	1,2,4-Trichlorobenzene	15.21	180	55019	8.15446	ppb		95
94)	Hexachlorobutadiene	15.51	225	37836	8.76255	ppb		99
95)	Naphthalene	15.54	128	25256	8.64720	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	37478	8.19983	ppb		98

(#) = qualifier out of range (m) = manual integration

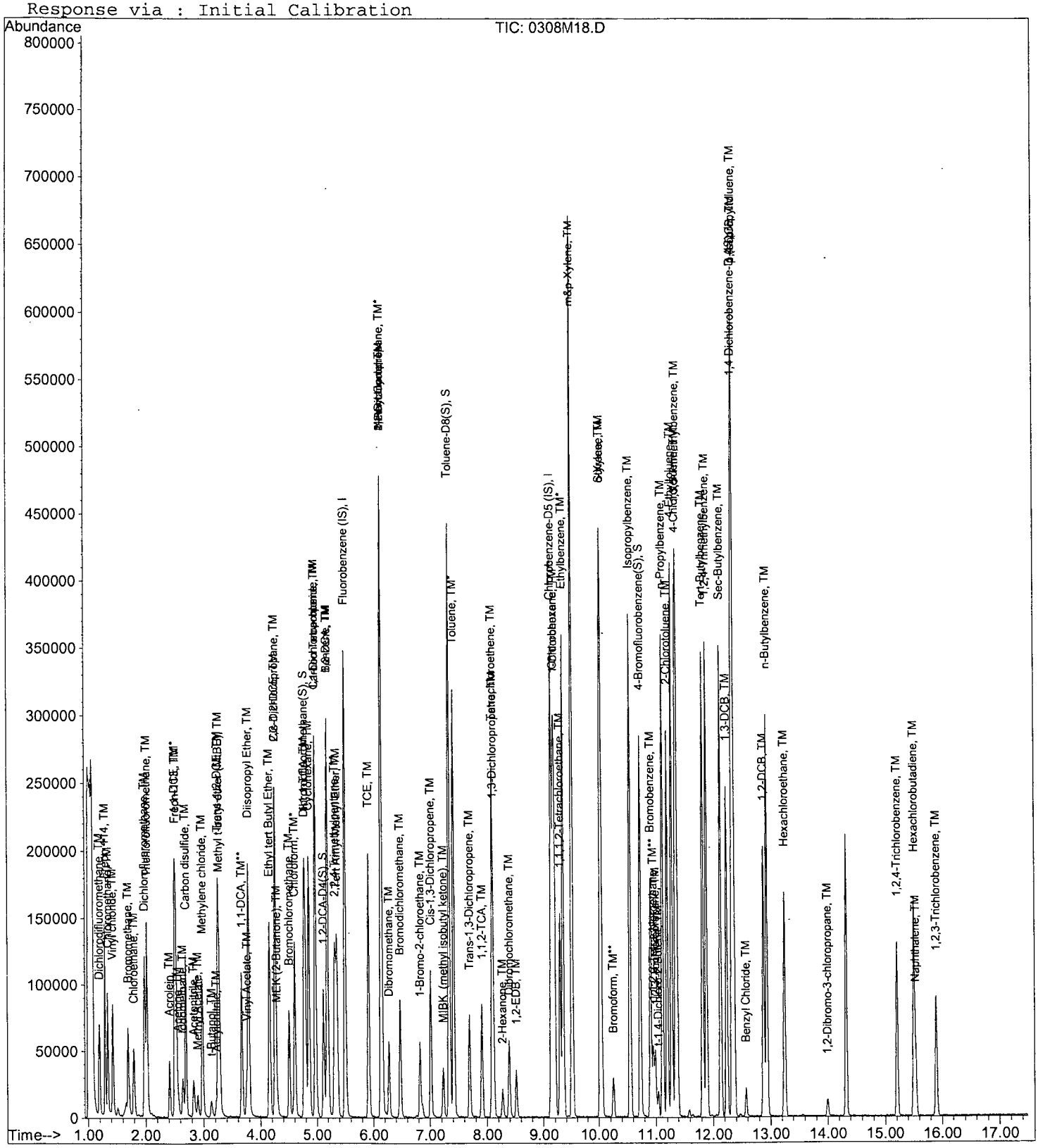
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 10:08
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0309M03.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.2841	3.0	TM		
3	TM	Freon 114	0.4107	0.4532	10	TM		
4	TM**	Chloromethane	0.4190	0.3528	16	TM**		
5	TM*	Vinyl chloride	0.5954	0.5618	5.6	TM*		
6	TM	Bromomethane	0.4115	0.2263	45	TM		nt
7	TM	Chloroethane	0.3488	0.3492	0.11	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9151	0.61	TM		
9	TM	Trichlorofluoromethane	0.7319	0.7343	0.32	TM		
10	TM	Acrolein	0.0223	0.0189	15	TM		
11	TML	Acetone	0.0130	0.0086	34	TML	22	nt
12	TM	Freon-113	0.4245	0.4504	6.1	TM		
13	TM*	1,1-DCE	0.6654	0.6497	2.4	TM*		
14	TM	Acetonitrile	0.0205	0.0171	16	TM		
15	TM	t-Butanol	0.0076	0.0087	14	TM		
16	TM	Methyl Acetate	0.1458	0.1340	8.1	TM		
17	TML	Iodomethane	0.4104	0.2867	30	TML	43	nt
18	TM	Acrylonitrile	0.0677	0.0591	13	TM		
19	TM	Methylene chloride	0.4446	0.4650	4.6	TM		
20	TM	Carbon disulfide	1.359	1.406	3.5	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6444	11	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5010	0.89	TM		
23	TM	Diisopropyl Ether	1.241	1.137	8.4	TM		
24	TM**	1,1-DCA	0.8132	0.8008	1.5	TM**		
25	TM	Vinyl Acetate	0.2151	0.2779	29	TM		nt
26	TM	Ethyl tert Butyl Ether	0.8411	0.8089	3.8	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0811	28	TML	24	nt
28	TM	Cis-1,2-DCE	0.5196	0.5246	0.96	TM		
29	TM	2,2-Dichloropropane	0.5015	0.6513	30	TM		nt
30	TM*	Chloroform	0.8075	0.7858	2.7	TM*		
31	TM	Bromochloromethane	0.1989	0.1993	0.20	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2494	1.2	S		
33	TM	1,1,1-TCA	0.7042	0.7885	12	TM		
34	TM	Cyclohexane	0.4238	0.4271	0.76	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6790	2.8	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.227	8.0	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1930	1.7	S		
38	TM	Carbon Tetrachloride	0.5179	0.6467	25	TM		nt
39	TM	Tert Amyl Methyl Ether	0.7406	0.7098	4.2	TM		
40	TM	1,2-DCA	0.4401	0.4095	7.0	TM		
		Average			10.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Mar 17 10:08
Instrument: Max
Cal. Date: 03/08/17
Data File: 0309M03.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	Benzene	1.976	1.934	2.1	TM		
42	TM	TCE	0.5428	0.5365	1.2	TM		
43	TM	2-Pentanone	0.1243	0.1135	8.7	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.4103	1.3	TM*		
45	TM	Bromodichloromethane	0.4582	0.4855	6.0	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7511	1.5	TM		
47	TM	Dibromomethane	0.1716	0.1644	4.2	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1769	14	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.3691	6.6	TM		
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5232	7.3	TM		
51	TM*	Toluene	2.281	2.241	1.7	TM*		
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3480	14	TM		
53	TM	1,1,2-TCA	0.2046	0.1919	6.2	TM		
54	TM	2-Hexanone	0.1163	0.0979	16	TM		
55	I	Chlorobenzene-D5 (IS)	ISTD			I		
56	S	Toluene-D8(S)	1.452	1.461	0.62	S		
57	TML	1,2-EDB	0.2651	0.3073	16	TML	1.9	
58	TM	Tetrachloroethene	0.7696	0.8349	8.5	TM		
59	TM	1-Chlorohexane	0.9459	0.9880	4.4	TM		
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6122	28	TM		nt
61	TM	m&p-Xylene	1.478	1.502	1.6	TM		
62	TM	o-Xylene	1.419	1.388	2.2	TM		
63	TM	Styrene	2.071	2.019	2.5	TM		
64	S	4-Bromofluorobenzene(S)	0.4799	0.4691	2.2	S		
65	TM	1,3-Dichloropropane	0.6211	0.6000	3.4	TM		
66	TM	Dibromochloromethane	0.3460	0.4285	24	TM		nt
67	TM**	Chlorobenzene	1.987	1.964	1.2	TM**		
68	TM*	Ethylbenzene	3.638	3.646	0.22	TM*		
69	TM**	Bromoform	0.1886	0.2077	10	TM**		
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
71	TM	Isopropylbenzene	7.350	7.558	2.8	TM		
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6471	2.5	TM**		
73	TM	1,2,3-Trichloropropane	0.2357	0.2119	10	TM		
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1154	11	TM		
75	TM	Bromobenzene	1.615	1.538	4.7	TM		
76	TM	n-Propylbenzene	8.271	8.480	2.5	TM		
77	TM	4-Ethyltoluene	7.181	7.486	4.2	TM		
78	TM	2-Chlorotoluene	4.727	4.784	1.2	TM		
79	TM	1,3,5-Trimethylbenzene	6.135	6.163	0.45	TM		
80	TM	4-Chlorotoluene	5.532	5.415	2.1	TM		
		Average			6.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 9 Mar 17 10:08
Instrument: Max
Cal. Date: 03/08/17
Data File: 0309M03.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.447	1.2	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	5.978	3.6	TM	
83	TM	Sec-Butylbenzene	7.268	7.468	2.7	TM	
84	TM	p-Isopropyltoluene	6.329	6.641	4.9	TM	
85	TMQ	Benzyl Chloride	0.4242	0.4458	5.1	TMQ	4.4
86	TM	1,3-DCB	3.296	3.207	2.7	TM	
87	TM	1,4-DCB	3.270	2.992	8.5	TM	
88	TM	n-Butylbenzene	5.039	5.358	6.3	TM	
89	TM	1,2-DCB	2.715	2.581	4.9	TM	
90	TM	Hexachloroethane	0.5145	0.5710	11	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0906	14	TML	13
92	TML	1,2,4-Trichlorobenzene	1.183	1.353	14	TML	9.2
93	TM	Hexachlorobutadiene	0.9479	1.054	11	TM	
94	TMQ	Naphthalene	0.4921	0.5841	19	TMQ	9.9
95	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8993	43	TMQ	12
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
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108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			10.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M03.D Vial: 2
Acq On : 9 Mar 17 10:08 Operator: PM,DG,SV,CMM
Sample : 170309A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	325192	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	223120	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	110288	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	81092	25.31110 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.244%	
37) 1,2-DCA-D4(S)	5.12	65	62775	24.57108 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.284%	
57) Toluene-D8(S)	7.34	98	325906	25.15609 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
65) 4-Bromofluorobenzene(S)	10.73	95	104669	24.44048 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.760%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	36960	9.70239 ppb		96
3) Freon 114	1.29	85	58952	11.03625 ppb		94
4) Chloromethane	1.34	50	45886	8.41811 ppb		94
5) Vinyl chloride	1.43	62	73075	9.43604 ppb	#	14
6) Bromomethane	1.69	94	29439	5.50032 ppb		96
7) Chloroethane	1.79	64	45426	10.01112 ppb		98
8) Dichlorofluoromethane	1.98	67	119038	9.93900 ppb		97
9) Trichlorofluoromethane	2.03	101	95513	10.03219 ppb		97
10) Acrolein	2.41	56	30778	106.02125 ppb		95
11) Acetone	2.57	58	1121	7.80608 ppb		91
12) Freon-113	2.53	101	58583	10.61068 ppb		98
13) 1,1-DCE	2.51	61	84506	9.76403 ppb		97
14) Acetonitrile	2.83	41	27843	104.41114 ppb	#	96
15) t-Butanol	3.14	59	14114	143.11736 ppb		97
16) Methyl Acetate	2.90	43	17426	9.19003 ppb		99
17) Iodomethane	2.64	142	37292	5.67686 ppb		97
18) Acrylonitrile	3.22	53	7683	8.72068 ppb	#	86
19) Methylene chloride	2.98	84	60486	10.45909 ppb		96
20) Carbon disulfide	2.70	76	182896	10.34743 ppb		98
21) Methyl t-butyl ether (MtBE	3.28	73	83819	8.85814 ppb		96
22) Trans-1,2-DCE	3.25	96	65166	9.91114 ppb		98
23) Diisopropyl Ether	3.79	45	147878	9.15923 ppb		99
24) 1,1-DCA	3.67	63	104169	9.84798 ppb		96
25) Vinyl Acetate	3.75	43	36142	12.91977 ppb		97
26) Ethyl tert Butyl Ether	4.16	59	105217	9.61674 ppb		93
27) MEK (2-Butanone)	4.29	43	10547	7.58786 ppb		94
28) Cis-1,2-DCE	4.26	96	68235	10.09577 ppb		98
29) 2,2-Dichloropropane	4.26	77	84715	12.98751 ppb		100
30) Chloroform	4.61	83	102220	9.73238 ppb		97
31) Bromochloromethane	4.51	128	25921	10.01997 ppb		96
33) 1,1,1-TCA	4.79	97	102567	11.19766 ppb		99
34) Cyclohexane	4.86	41	55552	10.07642 ppb		93
35) 1,1-Dichloropropene	4.97	75	88318	10.28203 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	159573	10.80003 ppb		99
38) Carbon Tetrachloride	4.97	117	84115	12.48638 ppb		99
39) Tert Amyl Methyl Ether	5.36	73	92329	9.58404 ppb		93
40) 1,2-DCA	5.20	62	53265	9.30439 ppb		99
41) Benzene	5.19	78	251618	9.78845 ppb		99
42) TCE	5.91	95	69791	9.88462 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M03.D
Acq On : 9 Mar 17 10:08
Sample : 170309A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.14	43	184610	114.15674 ppb	99
44) 1,2-Dichloropropane	6.15	63	53370	9.86706 ppb	96
45) Bromodichloromethane	6.48	83	63150	10.59534 ppb	97
46) Methyl Cyclohexane	6.14	83	97697	10.15351 ppb	94
47) Dibromomethane	6.27	93	21382	9.58114 ppb	90
48) MIBK (methyl isobutyl ket	7.23	43	23012	8.55469 ppb	93
49) 1-Bromo-2-chloroethane	6.82	63	48011	9.33997 ppb	94
51) Cis-1,3-Dichloropropene	7.01	75	68061	10.73297 ppb	96
52) Toluene	7.42	91	291507	9.82620 ppb	98
53) Trans-1,3-Dichloropropene	7.70	75	45261	11.44688 ppb	99
54) 1,1,2-TCA	7.91	83	24961	9.37826 ppb	93
55) 2-Hexanone	8.27	43	12733	8.42047 ppb	93
58) 1,2-EDB	8.51	107	27425	9.80793 ppb	95
59) Tetrachloroethene	8.09	164	74513	10.84776 ppb	96
60) 1-Chlorohexane	9.20	91	88173	10.44494 ppb	97
61) 1,1,1,2-Tetrachloroethane	9.29	131	54636	12.75043 ppb	96
62) m&p-Xylene	9.51	106	268047	20.31618 ppb	99
63) o-Xylene	10.03	106	123896	9.78222 ppb	96
64) Styrene	10.05	104	180172	9.74590 ppb	98
66) 1,3-Dichloropropane	8.11	76	53545	9.65922 ppb	96
67) Dibromochloromethane	8.39	129	38240	12.38487 ppb	95
68) Chlorobenzene	9.17	112	175274	9.88446 ppb	99
69) Ethylbenzene	9.35	91	325381	10.02155 ppb	100
70) Bromoform	10.25	173	18539	11.01411 ppb	100
72) Isopropylbenzene	10.55	105	333428	10.28301 ppb	100
73) 1,1,2,2-Tetrachloroethane	10.95	83	28549	9.74959 ppb	96
74) 1,2,3-Trichloropropane	10.98	110	9349	8.98947 ppb	87
75) t-1,4-Dichloro-2-Butene	11.04	53	5089	8.90014 ppb	89
76) Bromobenzene	10.91	156	67849	9.52513 ppb	100
77) n-Propylbenzene	11.12	91	374094	10.25278 ppb	98
78) 4-Ethyltoluene	11.28	105	330249	10.42413 ppb	98
79) 2-Chlorotoluene	11.20	91	211045	10.11943 ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	271862	10.04511 ppb	97
81) 4-Chlorotoluene	11.35	91	238889	9.78909 ppb	98
82) Tert-Butylbenzene	11.82	119	240279	9.88180 ppb	96
83) 1,2,4-Trimethylbenzene	11.89	105	263730	10.36033 ppb	97
84) Sec-Butylbenzene	12.13	105	329433	10.27496 ppb	99
85) p-Isopropyltoluene	12.36	119	292955	10.49199 ppb	99
86) Benzyl Chloride	12.57	91	19668	10.44322 ppb	99
87) 1,3-DCB	12.24	146	141481	9.72972 ppb	99
88) 1,4-DCB	12.37	146	131992	9.15045 ppb	98
89) n-Butylbenzene	12.94	91	236388	10.63481 ppb	98
90) 1,2-DCB	12.88	146	113873	9.50815 ppb	99
91) Hexachloroethane	13.25	117	25192	11.09828 ppb	97
92) 1,2-Dibromo-3-chloropropan	14.00	75	3995	11.34200 ppb	85
93) 1,2,4-Trichlorobenzene	15.21	180	59696	9.07850 ppb	97
94) Hexachlorobutadiene	15.51	225	46490	11.11752 ppb	95
95) Naphthalene	15.54	128	25768	9.01165 ppb	100
96) 1,2,3-Trichlorobenzene	15.90	180	39674	8.79228 ppb	95

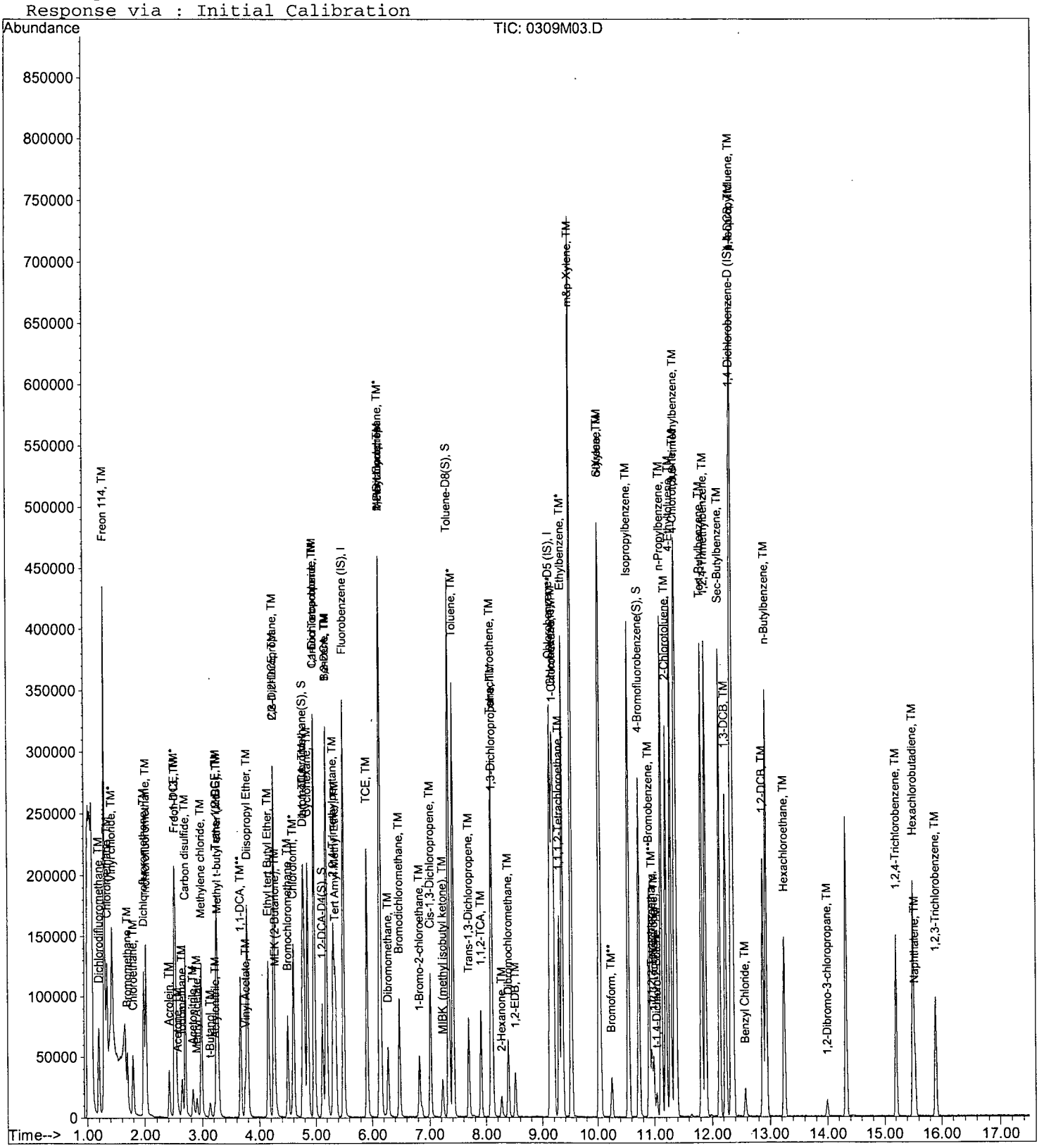
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M03.D Vial: 2
Acq On : 9 Mar 17 10:08 Operator: PM,DG,SV,CMM
Sample : 170309A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 8:56 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



631

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0309M21.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.1662	43	TM		
3	TM	Freon 114	0.4107	0.4069	0.92	TM		
4	TM**	Chloromethane	0.4190	0.0138	97	TM**		nt
5	TM*	Vinyl chloride	0.5954	0.3874	35	TM*		
6	TM	Bromomethane	0.4115	0.0972	76	TM		nt
7	TM	Chloroethane	0.3488	0.2728	22	TM		
8	TM	Dichlorofluoromethane	0.9208	0.8806	4.4	TM		
9	TM	Trichlorofluoromethane	0.7319	0.6672	8.8	TM		
10	TM	Acrolein	0.0223	0.0149	33	TM		
11	TML	Acetone	0.0130	0.0045	65	TML	68	nt
12	TM	Freon-113	0.4245	0.3866	8.9	TM		
13	TM*	1,1-DCE	0.6654	0.9046	36	TM*		
14	TM	Acetonitrile	0.0205	0.0155	25	TM		
15	TM	t-Butanol	0.0076	0.0000	100	TM		nt
16	TM	Methyl Acetate	0.1458	0.1199	18	TM		
17	TML	Iodomethane	0.4104	0.0438	89	TML	84	nt
18	TM	Acrylonitrile	0.0677	0.0505	25	TM		
19	TM	Methylene chloride	0.4446	0.4502	1.3	TM		
20	TM	Carbon disulfide	1.359	1.380	1.6	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.0003	100	TM		nt
22	TM	Trans-1,2-DCE	0.5055	0.3000	41	TM		
23	TM	Diisopropyl Ether	1.241	1.049	16	TM		
24	TM**	1,1-DCA	0.8132	0.7720	5.1	TM**		
25	TM	Ethyl tert Butyl Ether	0.8411	0.0103	99	TM		nt
26	TML	MEK (2-Butanone)	0.1121	0.0337	70	TML	74	nt
27	TM	Cis-1,2-DCE	0.5196	0.4014	23	TM		
28	TM*	Chloroform	0.8075	0.8113	0.48	TM*		
29	TM	Bromochloromethane	0.1989	0.1033	48	TM		
30	S	Dibromofluoromethane(S)	0.2463	0.2176	12	S		
31	TM	1,1,1-TCA	0.7042	0.5018	29	TM		
32	TM	Cyclohexane	0.4238	0.4267	0.69	TM		
33	TM	1,1-Dichloropropene	0.6603	0.6703	1.5	TM		
34	TM	2,2,4-Trimethylpentane	1.136	1.030	9.3	TM		
35	S	1,2-DCA-D4(S)	0.1964	0.1510	23	S		
36	TM	Carbon Tetrachloride	0.5179	0.1170	77	TM		nt
37	TM	Tert Amyl Methyl Ether	0.7406	0.0176	98	TM		nt
38	TM	1,2-DCA	0.4401	0.3857	12	TM		
39	TM	Benzene	1.976	2.004	1.4	TM		
40	TM	TCE	0.5428	0.5809	7.0	TM		
		Average			35.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0309M21.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	2-Pentanone	0.1243	0.0786	37	TM		
42	TM*	1,2-Dichloropropane	0.4158	0.3963	4.7	TM*		
43	TM	Bromodichloromethane	0.4582	0.2993	35	TM		
44	TM	Methyl Cyclohexane	0.7397	0.7397	0.00	TM		
45	TM	Dibromomethane	0.1716	0.0769	55	TM		nt
46	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1288	38	TM		
47	TM	1-Bromo-2-chloroethane	0.3952	0.2294	42	TM		
48	TM	Cis-1,3-Dichloropropene	0.4875	0.1608	67	TM		nt
49	TM*	Toluene	2.281	2.293	0.53	TM*		
50	TM	Trans-1,3-Dichloropropene	0.3040	0.0358	88	TM		nt
51	TM	1,1,2-TCA	0.2046	0.1891	7.6	TM		
52	TM	2-Hexanone	0.1163	0.0602	48	TM		
53	I	Chlorobenzene-D5 (IS)	ISTD			I		
54	S	Toluene-D8(S)	1.452	1.432	1.3	S		
55	TML	1,2-EDB	0.2651	0.0529	80	TML	77	nt
56	TM	Tetrachloroethene	0.7696	1.280	66	TM		nt
57	TM	1-Chlorohexane	0.9459	0.7965	16	TM		
58	TM	1,1,1,2-Tetrachloroethane	0.4801	0.2936	39	TM		
59	TM	m&p-Xylene	1.478	1.550	4.8	TM		
60	TM	o-Xylene	1.419	1.412	0.50	TM		
61	TM	Styrene	2.071	2.070	0.05	TM		
62	S	4-Bromofluorobenzene(S)	0.4799	0.4521	5.8	S		
63	TM	1,3-Dichloropropane	0.6211	0.3795	39	TM		
64	TM	Dibromochloromethane	0.3460	0.2051	41	TM		
65	TM**	Chlorobenzene	1.987	2.009	1.1	TM**		
66	TM*	Ethylbenzene	3.638	3.810	4.7	TM*		
67	TM**	Bromoform	0.1886	0.0828	56	TM**		nt
68	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
69	TM	Isopropylbenzene	7.350	8.006	8.9	TM		
70	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.4772	28	TM**		
71	TM	1,2,3-Trichloropropane	0.2357	0.1957	17	TM		
72	TM	t-1,4-Dichloro-2-Butene	0.1296	0.0036	97	TM		nt
73	TM	Bromobenzene	1.615	1.639	1.5	TM		
74	TM	n-Propylbenzene	8.271	9.018	9.0	TM		
75	TM	4-Ethyltoluene	7.181	7.781	8.3	TM		
76	TM	2-Chlorotoluene	4.727	4.960	4.9	TM		
77	TM	1,3,5-Trimethylbenzene	6.135	6.463	5.3	TM		
78	TM	4-Chlorotoluene	5.532	5.689	2.8	TM		
79	TM	Tert-Butylbenzene	5.512	5.856	6.3	TM		
80	TM	1,2,4-Trimethylbenzene	5.770	6.358	10	TM		
		Average			25.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0309M21.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	Sec-Butylbenzene	7.268	7.878	8.4	TM		
82	TM	p-Isopropyltoluene	6.329	6.882	8.7	TM		
83	TMQ	Benzyl Chloride	0.4242	0.0462	89	TMQ	88	nt
84	TM	1,3-DCB	3.296	3.412	3.5	TM		
85	TM	1,4-DCB	3.270	3.230	1.2	TM		
86	TM	n-Butylbenzene	5.039	5.562	10	TM		
87	TM	1,2-DCB	2.715	2.632	3.0	TM		
88	TM	Hexachloroethane	0.5145	0.0226	96	TM		nt
89	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0336	58	TML	36	
90	TML	1,2,4-Trichlorobenzene	1.183	1.388	17	TML	7.0	
91	TM	Hexachlorobutadiene	0.9479	0.9867	4.1	TM		
92	TMQ	Naphthalene	0.4921	0.5497	12	TMQ	14	
93	TMQ	1,2,3-Trichlorobenzene	0.6294	0.9674	54	TMQ	6.9	
94								
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			28.1			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M21.D Vial: 20
Acq On : 10 Mar 17 6:37 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 3/9/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 8:57 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	327089	25.00000 ppb	0.02
56) Chlorobenzene-D5 (IS)	9.14	117	221500	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	105470	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	71190	22.09154 ppb	0.02
Spiked Amount 25.000			Recovery	= 88.368%	
37) 1,2-DCA-D4(S)	5.14	65	49397	19.22259 ppb	0.02
Spiked Amount 25.000			Recovery	= 76.892%	
57) Toluene-D8(S)	7.34	98	317244	24.66658 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.668%	
65) 4-Bromofluorobenzene(S)	10.73	95	100148	23.55585 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.224%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.23	85	21744	5.67493 ppb		93
3) Freon 114	1.33	85	53233	9.90781 ppb		86
4) Chloromethane	1.33	50	1803	0.32885 ppb	#	44
5) Vinyl chloride	1.46	62	50688	6.50729 ppb	#	40
6) Bromomethane	1.74	94	12714	2.36168 ppb		93
7) Chloroethane	1.83	64	35693	7.82051 ppb		97
8) Dichlorofluoromethane	2.02	67	115208	9.56343 ppb		96
9) Trichlorofluoromethane	2.06	101	87291	9.11542 ppb		99
10) Acrolein	2.46	56	24290	83.18671 ppb	#	63
11) Acetone	2.68	58	588	3.18234 ppb	#	58
12) Freon-113	2.57	101	50585	9.10893 ppb		93
13) 1,1-DCE	2.54	61	118353	13.59549 ppb		99
14) Acetonitrile	3.00	41	25313	94.37312 ppb	#	82
15) t-Butanol	3.13	59	41	0.41333 ppb	#	56
16) Methyl Acetate	2.94	43	15684	8.22338 ppb		97
17) Iodomethane	2.69	142	5729	1.62250 ppb		88
18) Acrylonitrile	3.27	53	6604	7.45248 ppb		92
19) Methylene chloride	3.01	84	58903	10.12629 ppb		97
20) Carbon disulfide	2.73	76	180563	10.15619 ppb		100
22) Trans-1,2-DCE	3.28	96	39246	5.93433 ppb		90
23) Diisopropyl Ether	3.82	45	137219	8.44975 ppb		98
24) 1,1-DCA	3.69	63	101000	9.49301 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	1344	0.12213 ppb	#	85
27) MEK (2-Butanone)	4.34	43	4403	2.63666 ppb	#	80
28) Cis-1,2-DCE	4.29	96	52520	7.72558 ppb		92
30) Chloroform	4.63	83	106153	10.04823 ppb		99
31) Bromochloromethane	4.53	128	13516	5.19442 ppb		96
33) 1,1,1-TCA	4.81	97	65655	7.12625 ppb		97
34) Cyclohexane	4.87	41	55834	10.06883 ppb		95
35) 1,1-Dichloropropene	4.99	75	87703	10.15121 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	134778	9.06898 ppb		92
38) Carbon Tetrachloride	4.99	117	15304	2.25861 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	2300	0.23736 ppb	#	84
40) 1,2-DCA	5.22	62	50457	8.76277 ppb		99
41) Benzene	5.21	78	262259	10.14323 ppb		99
42) TCE	5.93	95	76001	10.70172 ppb		96
43) 2-Pentanone	6.16	43	128563	79.03806 ppb		96
44) 1,2-Dichloropropane	6.16	63	51844	9.52934 ppb	#	93
45) Bromodichloromethane	6.49	83	39163	6.53268 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M21.D
Acq On : 10 Mar 17 6:37
Sample : Ending CCV 8260 10ug/L 3/9/17
Misc : IS&S 02/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 8:57 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Methyl Cyclohexane	6.15	83	96780	9.99987	ppb		92
47)	Dibromomethane	6.29	93	10059	4.48123	ppb		92
48)	MIBK (methyl isobutyl ket	7.24	43	16851	6.22801	ppb		95
49)	1-Bromo-2-chloroethane	6.83	63	30010	5.80423	ppb		95
51)	Cis-1,3-Dichloropropene	7.02	75	21037	3.29822	ppb		95
52)	Toluene	7.42	91	299972	10.05289	ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	4689	1.17901	ppb		94
54)	1,1,2-TCA	7.91	83	24740	9.24131	ppb		96
55)	2-Hexanone	8.28	43	7874	5.17696	ppb		98
58)	1,2-EDB	8.52	107	4688	2.29402	ppb		98
59)	Tetrachloroethene	8.10	164	113434	16.63474	ppb		99
60)	1-Chlorohexane	9.20	91	70573	8.42119	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.30	131	26012	6.11483	ppb		94
62)	m&p-Xylene	9.51	106	274615	20.96622	ppb		99
63)	o-Xylene	10.03	106	125108	9.95016	ppb		98
64)	Styrene	10.05	104	183432	9.99481	ppb		99
66)	1,3-Dichloropropane	8.12	76	33622	6.10958	ppb		99
67)	Dibromochloromethane	8.39	129	18168	5.92714	ppb		91
68)	Chlorobenzene	9.17	112	178026	10.11309	ppb		99
69)	Ethylbenzene	9.35	91	337539	10.47204	ppb		100
70)	Bromoform	10.25	173	7337	4.39083	ppb		92
72)	Isopropylbenzene	10.55	105	337770	10.89278	ppb		97
73)	1,1,2,2-Tetrachloroethane	10.96	83	20132	7.18922	ppb		99
74)	1,2,3-Trichloropropane	10.99	110	8257	8.30215	ppb		90
75)	t-1,4-Dichloro-2-Butene	11.05	53	152	0.27798	ppb	#	36
76)	Bromobenzene	10.91	156	69144	10.15035	ppb		94
77)	n-Propylbenzene	11.12	91	380458	10.90352	ppb		98
78)	4-Ethyltoluene	11.28	105	328247	10.83424	ppb		99
79)	2-Chlorotoluene	11.20	91	209256	10.49200	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	272660	10.53482	ppb		100
81)	4-Chlorotoluene	11.35	91	239997	10.28374	ppb		98
82)	Tert-Butylbenzene	11.82	119	247070	10.62526	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	268240	11.01886	ppb		100
84)	Sec-Butylbenzene	12.14	105	332362	10.83987	ppb		99
85)	p-Isopropyltoluene	12.36	119	290336	10.87319	ppb		99
86)	Benzyl Chloride	12.57	91	1951	1.20656	ppb	#	55
87)	1,3-DCB	12.24	146	143931	10.35037	ppb		99
88)	1,4-DCB	12.37	146	136248	9.87698	ppb		97
89)	n-Butylbenzene	12.94	91	234629	11.03787	ppb		99
90)	1,2-DCB	12.88	146	111055	9.69644	ppb		97
91)	Hexachloroethane	13.24	117	953	0.43902	ppb		82
92)	1,2-Dibromo-3-chloropropan	13.99	75	1416	6.40662	ppb	#	69
93)	1,2,4-Trichlorobenzene	15.21	180	58564	9.30087	ppb		96
94)	Hexachlorobutadiene	15.51	225	41626	10.40908	ppb		98
95)	Naphthalene	15.54	128	23192	8.58889	ppb		98
96)	1,2,3-Trichlorobenzene	15.90	180	40813	9.30599	ppb		98

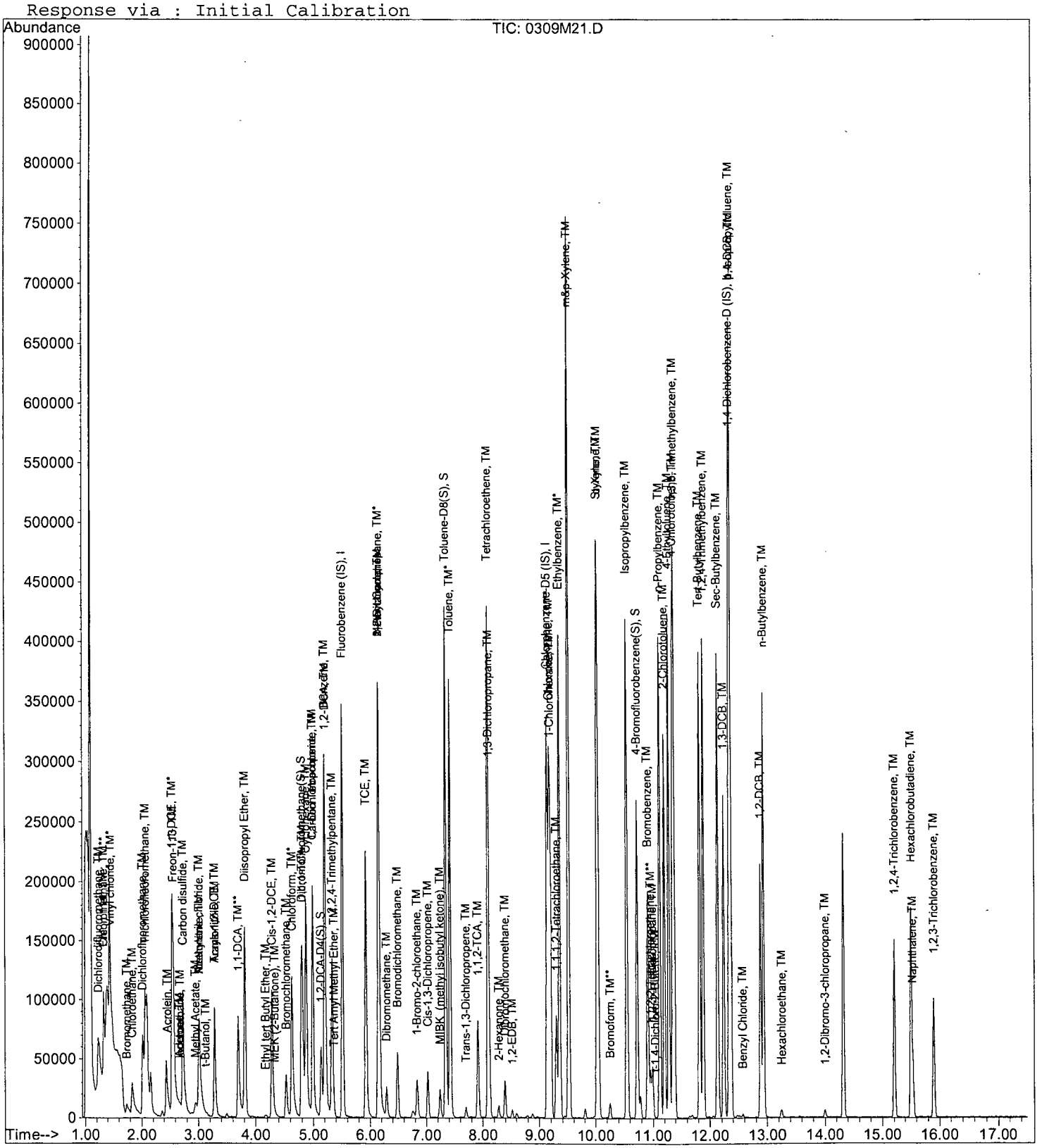
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M21.D Vial: 20
Acq On : 10 Mar 17 6:37 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 3/9/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 8:57 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



637

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0310M05.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.3308	13	TM		
3	TM	Freon 114	0.4107	0.4113	0.16	TM		
4	TM**	Chloromethane	0.4190	0.3952	5.7	TM**		
5	TM*	Vinyl chloride	0.5954	0.5667	4.8	TM*		
6	TM	Bromomethane	0.4115	0.3457	16	TM		
7	TM	Chloroethane	0.3488	0.3483	0.15	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9140	0.73	TM		
9	TM	Trichlorofluoromethane	0.7319	0.7091	3.1	TM		
10	TM	Acrolein	0.0223	0.0200	11	TM		
11	TML	Acetone	0.0130	0.0080	38	TML	28	nt
12	TM	Freon-113	0.4245	0.4526	6.6	TM		
13	TM*	1,1-DCE	0.6654	0.6713	0.90	TM*		
14	TM	Acetonitrile	0.0205	0.0174	15	TM		
15	TM	t-Butanol	0.0076	0.0079	4.0	TM		
16	TM	Methyl Acetate	0.1458	0.1346	7.7	TM		
17	TML	Iodomethane	0.4104	0.2116	48	TML	56	nt
18	TM	Acrylonitrile	0.0677	0.0622	8.2	TM		
19	TM	Methylene chloride	0.4446	0.4313	3.0	TM		
20	TM	Carbon disulfide	1.359	1.321	2.8	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6640	8.7	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5167	2.2	TM		
23	TM	Diisopropyl Ether	1.241	1.184	4.6	TM		
24	TM**	1,1-DCA	0.8132	0.8064	0.83	TM**		
25	TM	Vinyl Acetate	0.2151	0.2291	6.5	TM		
26	TM	Ethyl tert Butyl Ether	0.8411	0.7888	6.2	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0938	16	TML	11	
28	TM	Cis-1,2-DCE	0.5196	0.5244	0.93	TM		
29	TM	2,2-Dichloropropane	0.5015	0.5919	18	TM		
30	TM*	Chloroform	0.8075	0.8263	2.3	TM*		
31	TM	Bromochloromethane	0.1989	0.1982	0.32	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2424	1.6	S		
33	TM	1,1,1-TCA	0.7042	0.7628	8.3	TM		
34	TM	Cyclohexane	0.4238	0.3999	5.6	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6768	2.5	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.180	3.9	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1926	2.0	S		
38	TM	Carbon Tetrachloride	0.5179	0.6118	18	TM		
39	TM	Tert Amyl Methyl Ether	0.7406	0.7052	4.8	TM		
40	TM	1,2-DCA	0.4401	0.4313	2.0	TM		
		Average			7.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0310M05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.976	1.984	0.38	TM	
42	TM	TCE	0.5428	0.5361	1.2	TM	
43	TM	2-Pentanone	0.1243	0.1138	8.5	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4266	2.6	TM*	
45	TM	Bromodichloromethane	0.4582	0.4967	8.4	TM	
46	TM	Methyl Cyclohexane	0.7397	0.7432	0.47	TM	
47	TM	Dibromomethane	0.1716	0.1737	1.3	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1870	9.6	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.3552	10	TM	
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5253	7.8	TM	
51	TM*	Toluene	2.281	2.273	0.34	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3425	13	TM	
53	TM	1,1,2-TCA	0.2046	0.1979	3.3	TM	
54	TM	2-Hexanone	0.1163	0.1014	13	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.452	1.429	1.6	S	
57	TML	1,2-EDB	0.2651	0.3073	16	TML	1.9
58	TM	Tetrachloroethene	0.7696	0.8371	8.8	TM	
59	TM	1-Chlorohexane	0.9459	0.9615	1.7	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5755	20	TM	
61	TM	m&p-Xylene	1.478	1.529	3.4	TM	
62	TM	o-Xylene	1.419	1.404	1.1	TM	
63	TM	Styrene	2.071	2.100	1.4	TM	
64	S	4-Bromofluorobenzene(S)	0.4799	0.4694	2.2	S	
65	TM	1,3-Dichloropropane	0.6211	0.6125	1.4	TM	
66	TM	Dibromochloromethane	0.3460	0.4275	24	TM	nt
67	TM**	Chlorobenzene	1.987	2.031	2.2	TM**	
68	TM*	Ethylbenzene	3.638	3.745	2.9	TM*	
69	TM**	Bromoform	0.1886	0.2021	7.2	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.350	7.475	1.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6915	4.2	TM**	
73	TM	1,2,3-Trichloropropane	0.2357	0.2334	1.0	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1190	8.2	TM	
75	TM	Bromobenzene	1.615	1.604	0.68	TM	
76	TM	n-Propylbenzene	8.271	8.513	2.9	TM	
77	TM	4-Ethyltoluene	7.181	7.373	2.7	TM	
78	TM	2-Chlorotoluene	4.727	4.771	0.92	TM	
79	TM	1,3,5-Trimethylbenzene	6.135	6.120	0.24	TM	
80	TM	4-Chlorotoluene	5.532	5.434	1.8	TM	
		Average			5.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0310M05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.421	1.6	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	6.012	4.2	TM	
83	TM	Sec-Butylbenzene	7.268	7.327	0.82	TM	
84	TM	p-Isopropyltoluene	6.329	6.525	3.1	TM	
85	TMQ	Benzyl Chloride	0.4242	0.4088	3.6	TMQ	2.8
86	TM	1,3-DCB	3.296	3.284	0.36	TM	
87	TM	1,4-DCB	3.270	3.149	3.7	TM	
88	TM	n-Butylbenzene	5.039	5.286	4.9	TM	
89	TM	1,2-DCB	2.715	2.646	2.5	TM	
90	TM	Hexachloroethane	0.5145	0.5419	5.3	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0695	13	TML	4.8
92	TML	1,2,4-Trichlorobenzene	1.183	1.386	17	TML	7.2
93	TM	Hexachlorobutadiene	0.9479	0.9557	0.82	TM	
94	TMQ	Naphthalene	0.4921	0.5751	17	TMQ	11
95	TMQ	1,2,3-Trichlorobenzene	0.6294	0.9045	44	TMQ	12
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M05.D
Acq On : 10 Mar 17 10:46
Sample : 170310A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:40 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	320937	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	220155	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	109543	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	77810	24.60869 ppb	0.00
Spiked Amount 25.000			Recovery = 98.436%		
37) 1,2-DCA-D4(S)	5.12	65	61798	24.50936 ppb	0.00
Spiked Amount 25.000			Recovery = 98.036%		
57) Toluene-D8(S)	7.34	98	314565	24.60770 ppb	0.00
Spiked Amount 25.000			Recovery = 98.432%		
65) 4-Bromofluorobenzene(S)	10.73	95	103345	24.45632 ppb	0.00
Spiked Amount 25.000			Recovery = 97.824%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	42472	11.29717 ppb	96
3) Freon 114	1.30	85	52803	10.01617 ppb	98
4) Chloromethane	1.34	50	50731	9.43035 ppb	97
5) Vinyl chloride	1.43	62	72755	9.51927 ppb	90
6) Bromomethane	1.70	94	44373	8.40047 ppb	99
7) Chloroethane	1.80	64	44713	9.98463 ppb	100
8) Dichlorofluoromethane	1.99	67	117337	9.92687 ppb	99
9) Trichlorofluoromethane	2.03	101	91026	9.68766 ppb	100
10) Acrolein	2.42	56	32027	111.78637 ppb	100
11) Acetone	2.57	58	1032	7.15686 ppb #	70
12) Freon-113	2.54	101	58105	10.66364 ppb	95
13) 1,1-DCE	2.51	61	86183	10.08982 ppb	99
14) Acetonitrile	2.83	41	27961	106.24379 ppb	93
15) t-Butanol	3.14	59	12655	130.02427 ppb	97
16) Methyl Acetate	2.90	43	17278	9.23279 ppb	90
17) Iodomethane	2.65	142	27161	4.42308 ppb	97
18) Acrylonitrile	3.23	53	7985	9.18363 ppb #	82
19) Methylene chloride	2.98	84	55367	9.70086 ppb	96
20) Carbon disulfide	2.70	76	169550	9.71955 ppb	99
21) Methyl t-butyl ether (MtBE	3.28	73	85239	9.12764 ppb	98
22) Trans-1,2-DCE	3.26	96	66331	10.22207 ppb	99
23) Diisopropyl Ether	3.79	45	151962	9.53697 ppb	99
24) 1,1-DCA	3.67	63	103526	9.91695 ppb	99
25) Vinyl Acetate	3.76	43	29406	10.65120 ppb	93
26) Ethyl tert Butyl Ether	4.17	59	101256	9.37741 ppb	95
27) MEK (2-Butanone)	4.30	43	12041	8.91495 ppb	90
28) Cis-1,2-DCE	4.27	96	67321	10.09260 ppb	95
29) 2,2-Dichloropropane	4.26	77	75990	11.80435 ppb	99
30) Chloroform	4.61	83	106082	10.23399 ppb	99
31) Bromochloromethane	4.51	128	25448	9.96755 ppb	96
33) 1,1,1-TCA	4.80	97	97925	10.83261 ppb	97
34) Cyclohexane	4.86	41	51336	9.43515 ppb	96
35) 1,1-Dichloropropene	4.98	75	86885	10.24930 ppb	98
36) 2,2,4-Trimethylpentane	5.32	57	151472	10.38767 ppb	98
38) Carbon Tetrachloride	4.98	117	78539	11.81323 ppb	98
39) Tert Amyl Methyl Ether	5.36	73	90524	9.52126 ppb	98
40) 1,2-DCA	5.21	62	55365	9.79944 ppb	99
41) Benzene	5.19	78	254657	10.03801 ppb	99
42) TCE	5.91	95	68825	9.87704 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M05.D
Acq On : 10 Mar 17 10:46
Sample : 170310A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:40 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	182570	114.39204	ppb		99
44)	1,2-Dichloropropane	6.16	63	54771	10.26033	ppb	#	94
45)	Bromodichloromethane	6.48	83	63769	10.84104	ppb		99
46)	Methyl Cyclohexane	6.14	83	95407	10.04697	ppb		91
47)	Dibromomethane	6.28	93	22304	10.12679	ppb		90
48)	MIBK (methyl isobutyl ket	7.23	43	24005	9.04215	ppb		98
49)	1-Bromo-2-chloroethane	6.83	63	45601	8.98875	ppb		97
51)	Cis-1,3-Dichloropropene	7.02	75	67436	10.77540	ppb		97
52)	Toluene	7.42	91	291777	9.96569	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	43966	11.26678	ppb		95
54)	1,1,2-TCA	7.91	83	25400	9.66972	ppb		93
55)	2-Hexanone	8.27	43	13021	8.72509	ppb		94
58)	1,2-EDB	8.52	107	27059	9.80741	ppb		91
59)	Tetrachloroethene	8.09	164	73716	10.87627	ppb		99
60)	1-Chlorohexane	9.20	91	84673	10.16542	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.29	131	50682	11.98698	ppb		95
62)	m&p-Xylene	9.51	106	269238	20.68128	ppb		97
63)	o-Xylene	10.03	106	123651	9.89436	ppb		98
64)	Styrene	10.05	104	184959	10.13958	ppb		99
66)	1,3-Dichloropropane	8.12	76	53939	9.86135	ppb		96
67)	Dibromochloromethane	8.39	129	37643	12.35571	ppb		88
68)	Chlorobenzene	9.17	112	178883	10.22385	ppb		98
69)	Ethylbenzene	9.35	91	329769	10.29348	ppb		99
70)	Bromoform	10.25	173	17800	10.71748	ppb		95
72)	Isopropylbenzene	10.55	105	327525	10.16966	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	30298	10.41725	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	10225	9.89865	ppb		96
75)	t-1,4-Dichloro-2-Butene	11.04	53	5213	9.17901	ppb		96
76)	Bromobenzene	10.91	156	70267	9.93167	ppb		95
77)	n-Propylbenzene	11.12	91	373028	10.29309	ppb		99
78)	4-Ethyltoluene	11.28	105	323074	10.26701	ppb		98
79)	2-Chlorotoluene	11.20	91	209042	10.09156	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	268175	9.97627	ppb		100
81)	4-Chlorotoluene	11.36	91	238088	9.82261	ppb		100
82)	Tert-Butylbenzene	11.82	119	237547	9.83589	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	263445	10.41952	ppb		99
84)	Sec-Butylbenzene	12.13	105	321054	10.08173	ppb		98
85)	p-Isopropyltoluene	12.36	119	285891	10.30863	ppb		99
86)	Benzyl Chloride	12.57	91	17914	9.71549	ppb		95
87)	1,3-DCB	12.24	146	143915	9.96442	ppb		99
88)	1,4-DCB	12.37	146	137984	9.63091	ppb		99
89)	n-Butylbenzene	12.94	91	231611	10.49076	ppb		99
90)	1,2-DCB	12.88	146	115937	9.74632	ppb		99
91)	Hexachloroethane	13.25	117	23746	10.53240	ppb		91
92)	1,2-Dibromo-3-chloropropan	14.00	75	3044	9.51591	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	60709	9.28396	ppb		99
94)	Hexachlorobutadiene	15.51	225	41876	10.08225	ppb		94
95)	Naphthalene	15.54	128	25200	8.90174	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	39634	8.83197	ppb		97

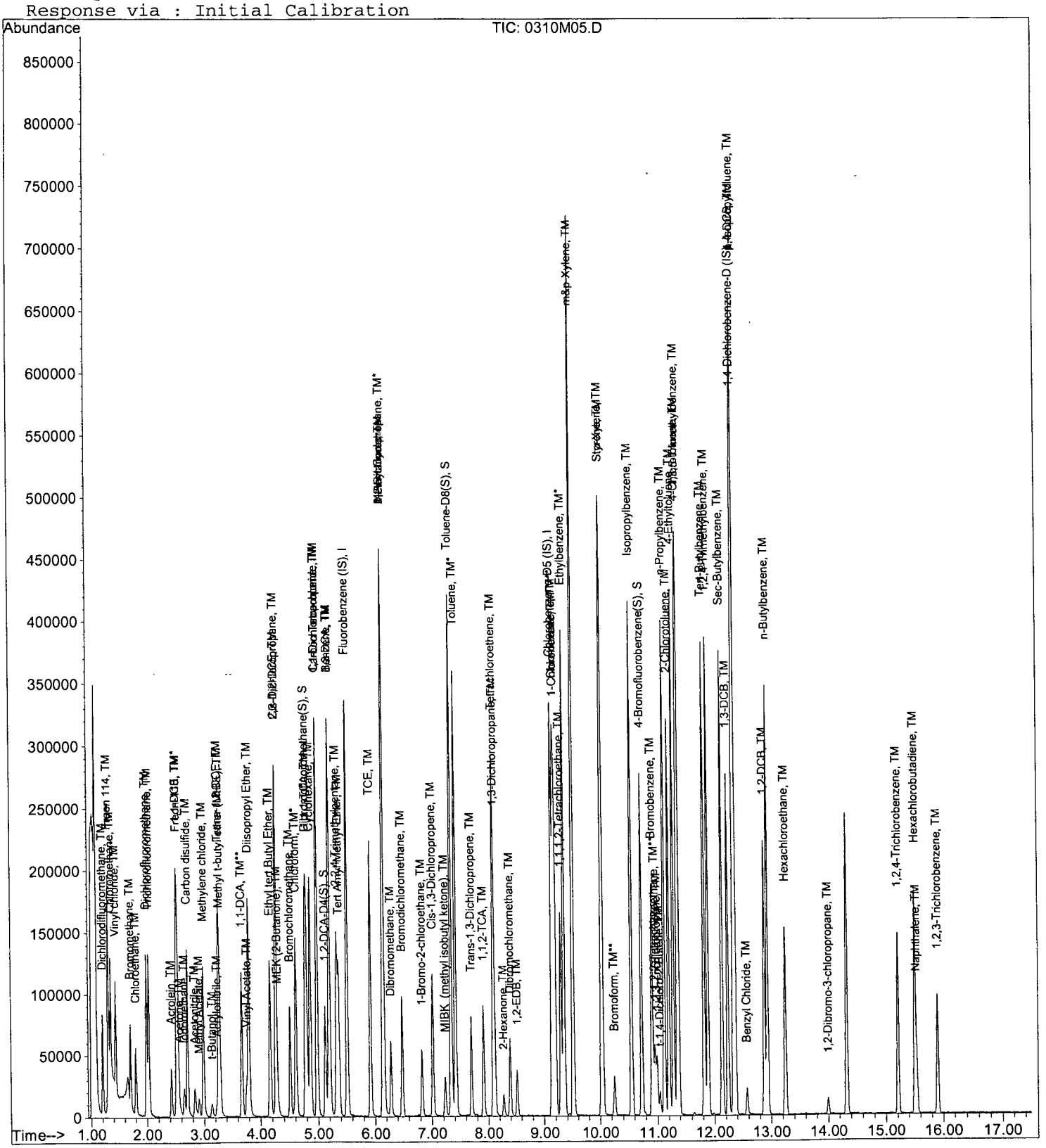
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M05.D Vial: 2
Acq On : 10 Mar 17 10:46 Operator: PM,DG,SV,CMM
Sample : 170310A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:40 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0310M30.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2929	0.3745	28	TM	
3	TM	Freon 114	0.4107	0.4029	1.9	TM	
4	TM**	Chloromethane	0.4190	0.3357	20	TM**	
5	TM*	Vinyl chloride	0.5954	0.5182	13	TM*	
6	TM	Bromomethane	0.4115	0.2350	43	TM	
7	TM	Chloroethane	0.3488	0.3353	3.9	TM	
8	TM	Dichlorofluoromethane	0.9208	0.9306	1.1	TM	
9	TM	Trichlorofluoromethane	0.7319	0.7075	3.3	TM	
10	TM	Acrolein	0.0223	0.0192	14	TM	
11	TML	Acetone	0.0130	0.0072	45	TML	38
12	TM	Freon-113	0.4245	0.4441	4.6	TM	
13	TM*	1,1-DCE	0.6654	0.6614	0.59	TM*	
14	TM	Acetonitrile	0.0205	0.0184	10	TM	
15	TM	t-Butanol	0.0076	0.0095	25	TM	
16	TM	Methyl Acetate	0.1458	0.1372	5.9	TM	
17	TML	Iodomethane	0.4104	0.3464	16	TML	33
18	TM	Acrylonitrile	0.0677	0.0672	0.74	TM	
19	TM	Methylene chloride	0.4446	0.4269	4.0	TM	
20	TM	Carbon disulfide	1.359	1.422	4.7	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7067	2.8	TM	
22	TM	Trans-1,2-DCE	0.5055	0.5169	2.3	TM	
23	TM	Diisopropyl Ether	1.241	1.219	1.8	TM	
24	TM**	1,1-DCA	0.8132	0.8290	1.9	TM**	
25	TM	Vinyl Acetate	0.2151	0.1670	22	TM	
26	TM	Ethyl tert Butyl Ether	0.8411	0.8228	2.2	TM	
27	TML	MEK (2-Butanone)	0.1121	0.0821	27	TML	23
28	TM	Cis-1,2-DCE	0.5196	0.5358	3.1	TM	
29	TM	2,2-Dichloropropane	0.5015	0.5483	9.3	TM	
30	TM*	Chloroform	0.8075	0.8221	1.8	TM*	
31	TM	Bromochloromethane	0.1989	0.1961	1.4	TM	
32	S	Dibromofluoromethane(S)	0.2463	0.2410	2.2	S	
33	TM	1,1,1-TCA	0.7042	0.7921	12	TM	
34	TM	Cyclohexane	0.4238	0.4140	2.3	TM	
35	TM	1,1-Dichloropropene	0.6603	0.6684	1.2	TM	
36	TM	2,2,4-Trimethylpentane	1.136	1.118	1.6	TM	
37	S	1,2-DCA-D4(S)	0.1964	0.1953	0.57	S	
38	TM	Carbon Tetrachloride	0.5179	0.6427	24	TM	
39	TM	Tert Amyl Methyl Ether	0.7406	0.6993	5.6	TM	
40	TM	1,2-DCA	0.4401	0.4272	2.9	TM	
		Average			9.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0310M30.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.976	1.970	0.33	TM	
42	TM	TCE	0.5428	0.5536	2.0	TM	
43	TM	2-Pentanone	0.1243	0.1154	7.2	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4211	1.3	TM*	
45	TM	Bromodichloromethane	0.4582	0.5098	11	TM	
46	TM	Methyl Cyclohexane	0.7397	0.7235	2.2	TM	
47	TM	Dibromomethane	0.1716	0.1655	3.5	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1805	13	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.3818	3.4	TM	
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5152	5.7	TM	
51	TM*	Toluene	2.281	2.263	0.78	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3516	16	TM	
53	TM	1,1,2-TCA	0.2046	0.1997	2.4	TM	
54	TM	2-Hexanone	0.1163	0.0991	15	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.452	1.438	0.93	S	
57	TML	1,2-EDB	0.2651	0.3333	26	TML	5.8
58	TM	Tetrachloroethene	0.7696	0.8670	13	TM	
59	TM	1-Chlorohexane	0.9459	0.9389	0.73	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6160	28	TM	
61	TM	m&p-Xylene	1.478	1.505	1.8	TM	
62	TM	o-Xylene	1.419	1.399	1.4	TM	
63	TM	Styrene	2.071	2.113	2.0	TM	
64	S	4-Bromofluorobenzene(S)	0.4799	0.4741	1.2	S	
65	TM	1,3-Dichloropropane	0.6211	0.6146	1.1	TM	
66	TM	Dibromochloromethane	0.3460	0.4555	32	TM	
67	TM**	Chlorobenzene	1.987	2.011	1.2	TM**	
68	TM*	Ethylbenzene	3.638	3.719	2.2	TM*	
69	TM**	Bromoform	0.1886	0.2165	15	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.350	7.745	5.4	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6527	1.7	TM**	
73	TM	1,2,3-Trichloropropane	0.2357	0.2277	3.4	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1096	15	TM	
75	TM	Bromobenzene	1.615	1.627	0.74	TM	
76	TM	n-Propylbenzene	8.271	8.654	4.6	TM	
77	TM	4-Ethyltoluene	7.181	7.659	6.6	TM	
78	TM	2-Chlorotoluene	4.727	4.852	2.6	TM	
79	TM	1,3,5-Trimethylbenzene	6.135	6.318	3.0	TM	
80	TM	4-Chlorotoluene	5.532	5.696	3.0	TM	
		Average			6.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0310M30.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.527	0.28	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	6.256	8.4	TM	
83	TM	Sec-Butylbenzene	7.268	7.589	4.4	TM	
84	TM	p-Isopropyltoluene	6.329	6.729	6.3	TM	
85	TMQ	Benzyl Chloride	0.4242	0.2920	31	TMQ	27
86	TM	1,3-DCB	3.296	3.411	3.5	TM	
87	TM	1,4-DCB	3.270	3.262	0.24	TM	
88	TM	n-Butylbenzene	5.039	5.356	6.3	TM	
89	TM	1,2-DCB	2.715	2.786	2.6	TM	
90	TM	Hexachloroethane	0.5145	0.5910	15	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0894	12	TML	12
92	TML	1,2,4-Trichlorobenzene	1.183	1.410	19	TML	5.6
93	TM	Hexachlorobutadiene	0.9479	1.048	11	TM	
94	TMQ	Naphthalene	0.4921	0.5657	15	TMQ	12
95	TMQ	1,2,3-Trichlorobenzene	0.6294	0.9239	47	TMQ	10
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M30.D Vial: 27
Acq On : 10 Mar 17 22:42 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 3/10/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:30 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	301210	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	209363	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100682	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	72579	24.45763 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.832%	
37) 1,2-DCA-D4(S)	5.13	65	58826	24.85863 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.436%	
57) Toluene-D8(S)	7.34	98	301092	24.76786 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.072%	
65) 4-Bromofluorobenzene(S)	10.73	95	99263	24.70118 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.804%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	45120	12.78752 ppb		98
3) Freon 114	1.31	85	48547	9.81196 ppb		97
4) Chloromethane	1.35	50	40446	8.01088 ppb		97
5) Vinyl chloride	1.44	62	62435	8.70401 ppb	#	1
6) Bromomethane	1.71	94	28315	5.71152 ppb		99
7) Chloroethane	1.81	64	40396	9.61141 ppb		97
8) Dichlorofluoromethane	1.99	67	112123	10.10700 ppb		94
9) Trichlorofluoromethane	2.04	101	85243	9.66635 ppb		93
10) Acrolein	2.42	56	28982	107.78326 ppb		91
11) Acetone	2.57	58	863	6.17445 ppb		74
12) Freon-113	2.54	101	53504	10.46233 ppb		98
13) 1,1-DCE	2.52	61	79691	9.94080 ppb		99
14) Acetonitrile	2.84	41	27717	112.21411 ppb		95
15) t-Butanol	3.14	59	14234	155.82590 ppb	#	90
16) Methyl Acetate	2.91	43	16532	9.41272 ppb		87
17) Iodomethane	2.65	142	41737	6.67364 ppb		98
18) Acrylonitrile	3.23	53	8100	9.92602 ppb		95
19) Methylene chloride	2.99	84	51437	9.60252 ppb		95
20) Carbon disulfide	2.71	76	171353	10.46623 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	85151	9.71539 ppb		99
22) Trans-1,2-DCE	3.26	96	62283	10.22686 ppb		98
23) Diisopropyl Ether	3.80	45	146909	9.82368 ppb		99
24) 1,1-DCA	3.67	63	99885	10.19482 ppb		99
25) Vinyl Acetate	3.76	43	20118	7.76422 ppb		95
26) Ethyl tert Butyl Ether	4.17	59	99136	9.78237 ppb		99
27) MEK (2-Butanone)	4.30	43	9890	7.69254 ppb		90
28) Cis-1,2-DCE	4.27	96	64559	10.31240 ppb		97
29) 2,2-Dichloropropane	4.27	77	66061	10.93405 ppb		100
30) Chloroform	4.61	83	99051	10.18152 ppb		98
31) Bromochloromethane	4.51	128	23625	9.85955 ppb		98
33) 1,1,1-TCA	4.80	97	95431	11.24811 ppb		97
34) Cyclohexane	4.87	41	49879	9.76775 ppb		97
35) 1,1-Dichloropropene	4.98	75	80530	10.12180 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	134649	9.83873 ppb		98
38) Carbon Tetrachloride	4.98	117	77435	12.40998 ppb		95
39) Tert Amyl Methyl Ether	5.36	73	84259	9.44272 ppb		98
40) 1,2-DCA	5.21	62	51473	9.70724 ppb		99
41) Benzene	5.20	78	237311	9.96691 ppb		98
42) TCE	5.92	95	66700	10.19898 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M30.D Vial: 27
Acq On : 10 Mar 17 22:42 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 3/10/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:30 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.15	43	173731	115.98294	ppb	99
44)	1,2-Dichloropropane	6.16	63	50730	10.12572	ppb	94
45)	Bromodichloromethane	6.48	83	61427	11.12682	ppb	95
46)	Methyl Cyclohexane	6.14	83	87167	9.78042	ppb	94
47)	Dibromomethane	6.28	93	19941	9.64687	ppb	98
48)	MIBK (methyl isobutyl ket	7.23	43	21749	8.72891	ppb	96
49)	1-Bromo-2-chloroethane	6.83	63	45999	9.66103	ppb	93
51)	Cis-1,3-Dichloropropene	7.02	75	62074	10.56822	ppb	95
52)	Toluene	7.42	91	272631	9.92161	ppb	97
53)	Trans-1,3-Dichloropropene	7.70	75	42368	11.56835	ppb	99
54)	1,1,2-TCA	7.91	83	24059	9.75906	ppb	95
55)	2-Hexanone	8.27	43	11935	8.52115	ppb	95
58)	1,2-EDB	8.51	107	27911	10.57578	ppb	92
59)	Tetrachloroethene	8.09	164	72605	11.26453	ppb	99
60)	1-Chlorohexane	9.20	91	78631	9.92665	ppb	98
61)	1,1,1,2-Tetrachloroethane	9.29	131	51587	12.82995	ppb	96
62)	m&p-Xylene	9.51	106	252120	20.36466	ppb	100
63)	o-Xylene	10.03	106	117152	9.85754	ppb	93
64)	Styrene	10.05	104	176955	10.20084	ppb	99
66)	1,3-Dichloropropane	8.12	76	51466	9.89424	ppb	96
67)	Dibromochloromethane	8.39	129	38147	13.16657	ppb	95
68)	Chlorobenzene	9.17	112	168424	10.12228	ppb	97
69)	Ethylbenzene	9.35	91	311454	10.22292	ppb	97
70)	Bromoform	10.26	173	18135	11.48204	ppb	100
72)	Isopropylbenzene	10.55	105	311914	10.53730	ppb	100
73)	1,1,2,2-Tetrachloroethane	10.95	83	26286	9.83324	ppb	93
74)	1,2,3-Trichloropropane	10.98	110	9171	9.65966	ppb	99
75)	t-1,4-Dichloro-2-Butene	11.04	53	4415	8.45808	ppb	87
76)	Bromobenzene	10.91	156	65507	10.07375	ppb	97
77)	n-Propylbenzene	11.12	91	348502	10.46267	ppb	97
78)	4-Ethyltoluene	11.28	105	308443	10.66472	ppb	96
79)	2-Chlorotoluene	11.20	91	195422	10.26434	ppb	100
80)	1,3,5-Trimethylbenzene	11.38	105	254426	10.29780	ppb	99
81)	4-Chlorotoluene	11.35	91	229376	10.29604	ppb	99
82)	Tert-Butylbenzene	11.82	119	222600	10.02818	ppb	96
83)	1,2,4-Trimethylbenzene	11.89	105	251942	10.84154	ppb	96
84)	Sec-Butylbenzene	12.14	105	305632	10.44212	ppb	96
85)	p-Isopropyltoluene	12.36	119	271015	10.63228	ppb	98
86)	Benzyl Chloride	12.57	91	11761	7.28345	ppb	93
87)	1,3-DCB	12.24	146	137362	10.34774	ppb	99
88)	1,4-DCB	12.37	146	131361	9.97557	ppb	99
89)	n-Butylbenzene	12.94	91	215685	10.62920	ppb	100
90)	1,2-DCB	12.88	146	112195	10.26183	ppb	100
91)	Hexachloroethane	13.24	117	23803	11.48686	ppb	83
92)	1,2-Dibromo-3-chloropropan	14.00	75	3601	11.24301	ppb	94
93)	1,2,4-Trichlorobenzene	15.21	180	56783	9.43939	ppb	98
94)	Hexachlorobutadiene	15.51	225	42186	11.05079	ppb	96
95)	Naphthalene	15.54	128	22784	8.78664	ppb	95
96)	1,2,3-Trichlorobenzene	15.90	180	37207	8.97887	ppb	97

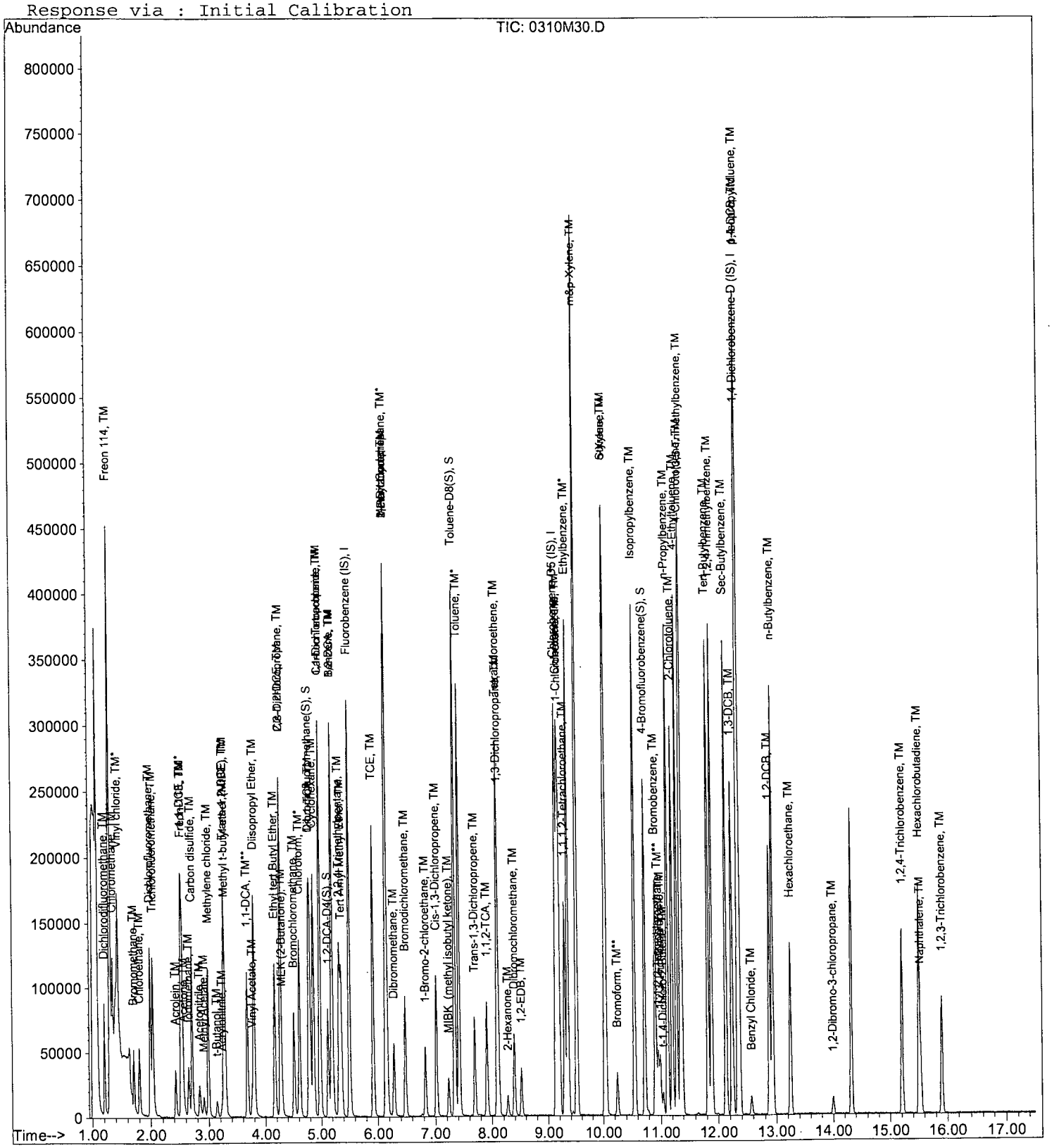
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M30.D Vial: 27
Acq On : 10 Mar 17 22:42 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 3/10/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:30 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51135 - 216769**
Batch ID: #86BTO-170309AM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/09/17	03/09/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/09/17	03/09/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/09/17	03/09/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/09/17	03/09/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/09/17	03/09/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.1	81-118			%	03/09/17	03/09/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/09/17	03/09/17
BLANK	SURROGATE: DIBROMOFLUOR	99.2	80-119			%	03/09/17	03/09/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.8	89-112			%	03/09/17	03/09/17

Quant Method: MALLW.M
Run #: 0309M08
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:22:16 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M08.D
Acq On : 9 Mar 17 12:29
Sample : 170309A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:04 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	304274	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	214277	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99976	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	74369	24.80847 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.232%	
37) 1,2-DCA-D4(S)	5.12	65	58645	24.53259 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.132%	
57) Toluene-D8(S)	7.34	98	307263	24.69585 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.784%	
65) 4-Bromofluorobenzene(S)	10.72	95	98347	23.91199 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.648%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

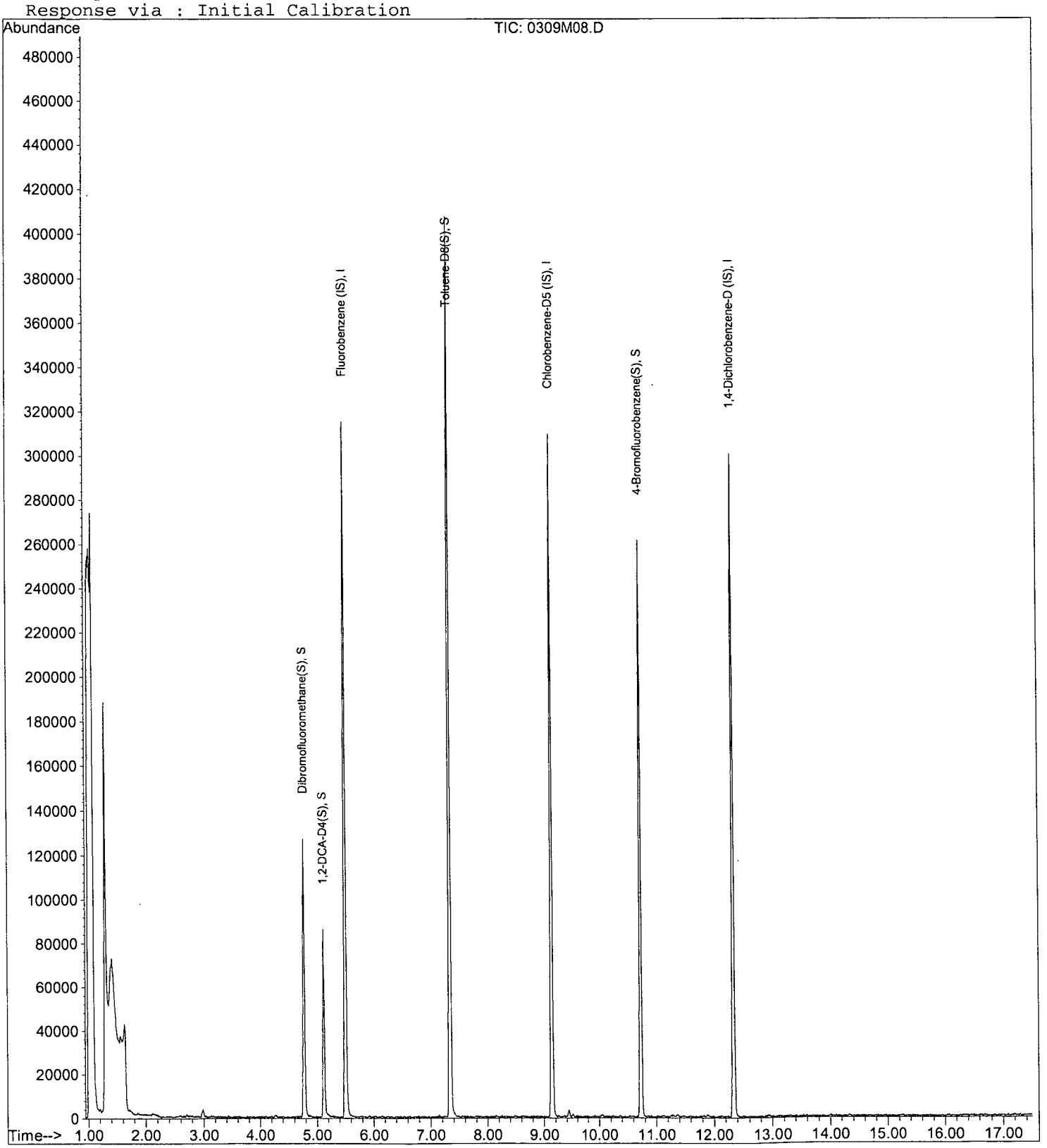
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M08.D
Acq On : 9 Mar 17 12:29
Sample : 170309A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:04 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216806**
Batch ID: #86BTO-170310AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/10/17	03/10/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/10/17	03/10/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/10/17	03/10/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/10/17	03/10/17
BLANK	SURROGATE: 1,2-DICHLOROET	98.1	81-118			%	03/10/17	03/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.9	85-114			%	03/10/17	03/10/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	03/10/17	03/10/17
BLANK	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	03/10/17	03/10/17

Quant Method: MALLW.M
Run #: 0310M10
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:22:16 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M10.D Vial: 7
Acq On : 10 Mar 17 13:08 Operator: PM,DG,SV,CMM
Sample : 170310A BLK-1WM Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 9:39 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307649	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	215033	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	98510	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76513	25.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.976%	
37) 1,2-DCA-D4(S)	5.12	65	59255	24.51584 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.064%	
57) Toluene-D8(S)	7.34	98	313061	25.07339 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.292%	
65) 4-Bromofluorobenzene(S)	10.73	95	98959	23.97620 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.904%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

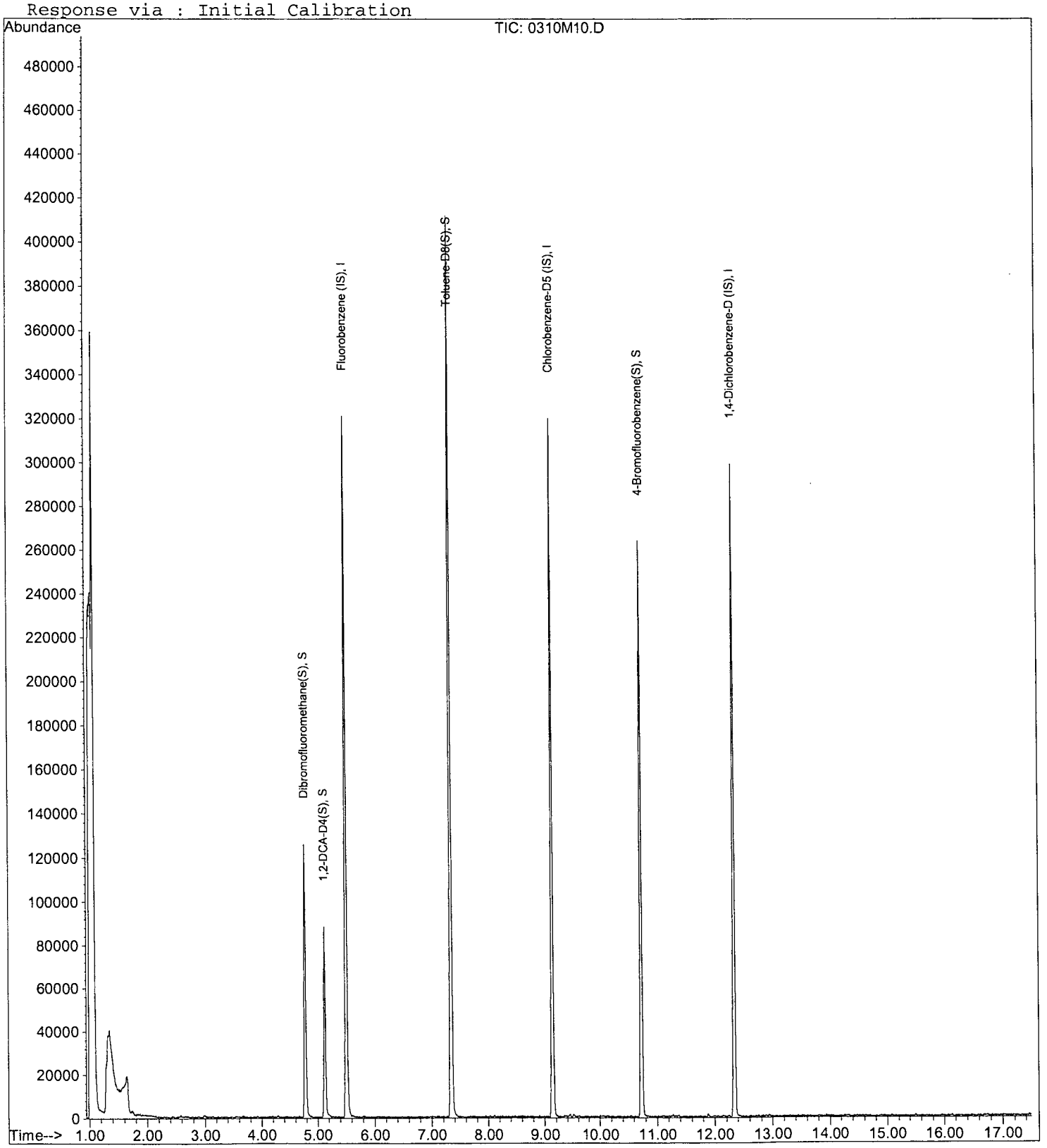
Data File : M:\MAX\DATA\M170308\0310M10.D
Acq On : 10 Mar 17 13:08
Sample : 170310A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:39 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170309W-51135 LCS - 216769**
Batch ID: #86BTO-170309AM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.56	95.6	73-128
BENZENE	10.00	9.96	99.6	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	10.0	100	80-121
XYLENES (TOTAL)	30.0	30.6	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.5	98.0	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.6	98.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.8	99.2	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Max
Run :	0309M04
Initials :	SV

Printed: 03/14/17 11:22:21 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M04.D
Acq On : 9 Mar 17 10:36
Sample : 170309A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 8:56 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	315102	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	218002	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107471	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	76519	24.64853 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.596%	
37) 1,2-DCA-D4(S)	5.12	65	60634	24.49302 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.972%	
57) Toluene-D8(S)	7.34	98	313554	24.77086 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.084%	
65) 4-Bromofluorobenzene(S)	10.73	95	102658	24.53367 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.136%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	38328	10.38369 ppb		99
3) Freon 114	1.29	85	57137	11.03898 ppb		98
4) Chloromethane	1.34	50	43879	8.30768 ppb		98
5) Vinyl chloride	1.43	62	71003	9.46207 ppb	#	1
6) Bromomethane	1.69	94	31008	5.97898 ppb		95
7) Chloroethane	1.79	64	43001	9.78015 ppb		100
8) Dichlorofluoromethane	1.98	67	113119	9.74723 ppb		96
9) Trichlorofluoromethane	2.02	101	95326	10.33317 ppb		100
10) Acrolein	2.41	56	33930	120.62160 ppb		95
11) Acetone	2.57	58	1165	8.50691 ppb	#	69
12) Freon-113	2.53	101	57373	10.72428 ppb		96
13) 1,1-DCE	2.51	61	85079	10.14502 ppb		97
14) Acetonitrile	2.83	41	34560	133.74983 ppb		98
15) t-Butanol	3.14	59	16994	177.83880 ppb		98
16) Methyl Acetate	2.90	43	18219	9.91591 ppb		96
17) Iodomethane	2.64	142	38618	6.00569 ppb		97
18) Acrylonitrile	3.21	53	9732	11.40015 ppb	#	89
19) Methylene chloride	2.98	84	65599	11.70645 ppb		97
20) Carbon disulfide	2.70	76	181538	10.59948 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	91279	9.95542 ppb		98
22) Trans-1,2-DCE	3.25	96	63998	10.04518 ppb		96
23) Diisopropyl Ether	3.79	45	154261	9.86053 ppb		99
24) 1,1-DCA	3.66	63	102645	10.01464 ppb		98
25) Vinyl Acetate	3.75	43	41358	15.25776 ppb		99
26) Ethyl tert Butyl Ether	4.16	59	113458	10.70202 ppb		100
27) MEK (2-Butanone)	4.30	43	9624	7.09445 ppb		84
28) Cis-1,2-DCE	4.26	96	66680	10.18161 ppb		95
29) 2,2-Dichloropropane	4.26	77	83219	13.16669 ppb		98
30) Chloroform	4.61	83	102890	10.10986 ppb		100
31) Bromochloromethane	4.51	128	25309	10.09668 ppb		98
33) 1,1,1-TCA	4.79	97	102976	11.60230 ppb		94
34) Cyclohexane	4.86	41	55094	10.31334 ppb		98
35) 1,1-Dichloropropene	4.97	75	86284	10.36689 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	157897	11.02880 ppb		97
38) Carbon Tetrachloride	4.97	117	82027	12.56634 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	98136	10.51302 ppb		95
40) 1,2-DCA	5.20	62	53057	9.56483 ppb		99
41) Benzene	5.19	78	247995	9.95643 ppb		99
42) TCE	5.91	95	66772	9.75986 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M04.D
Acq On : 9 Mar 17 10:36
Sample : 170309A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 8:56 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	196881	125.64316	ppb		99
44) 1,2-Dichloropropane	6.15	63	53181	10.14695	ppb		97
45) Bromodichloromethane	6.48	83	63441	10.98500	ppb		94
46) Methyl Cyclohexane	6.14	83	95754	10.27024	ppb		92
47) Dibromomethane	6.28	93	22367	10.34345	ppb		94
48) MIBK (methyl isobutyl ket	7.23	43	25290	9.70259	ppb	#	88
49) 1-Bromo-2-chloroethane	6.83	63	51715	10.38269	ppb		95
51) Cis-1,3-Dichloropropene	7.01	75	69698	11.34307	ppb		96
52) Toluene	7.42	91	288339	10.03064	ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	49156	12.83005	ppb		98
54) 1,1,2-TCA	7.91	83	25720	9.97286	ppb		94
55) 2-Hexanone	8.27	43	14291	9.75342	ppb		90
58) 1,2-EDB	8.51	107	28736	10.46511	ppb		98
59) Tetrachloroethene	8.09	164	72236	10.76316	ppb		96
60) 1-Chlorohexane	9.20	91	86559	10.49447	ppb		98
61) 1,1,1,2-Tetrachloroethane	9.29	131	54071	12.91482	ppb		92
62) m&p-Xylene	9.51	106	266113	20.64312	ppb		98
63) o-Xylene	10.03	106	123029	9.94182	ppb		98
64) Styrene	10.05	104	187483	10.37945	ppb		100
66) 1,3-Dichloropropane	8.11	76	56211	10.37822	ppb		98
67) Dibromochloromethane	8.39	129	39209	12.99683	ppb		81
68) Chlorobenzene	9.17	112	170584	9.84582	ppb		96
69) Ethylbenzene	9.35	91	325084	10.24746	ppb		98
70) Bromoform	10.25	173	20326	12.35927	ppb		99
72) Isopropylbenzene	10.55	105	328058	10.38259	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	32173	11.27520	ppb		97
74) 1,2,3-Trichloropropane	10.99	110	10609	10.46840	ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	5989	10.74870	ppb		86
76) Bromobenzene	10.91	156	71691	10.32830	ppb		97
77) n-Propylbenzene	11.12	91	372966	10.48980	ppb		100
78) 4-Ethyltoluene	11.28	105	329512	10.67349	ppb		98
79) 2-Chlorotoluene	11.20	91	208051	10.23736	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	273195	10.35896	ppb		96
81) 4-Chlorotoluene	11.35	91	238461	10.02768	ppb		96
82) Tert-Butylbenzene	11.82	119	236418	9.97787	ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	264906	10.67930	ppb		99
84) Sec-Butylbenzene	12.14	105	327475	10.48162	ppb		99
85) p-Isopropyltoluene	12.36	119	287787	10.57706	ppb		100
86) Benzyl Chloride	12.57	91	22027	11.70826	ppb		98
87) 1,3-DCB	12.24	146	146693	10.35258	ppb		97
88) 1,4-DCB	12.37	146	137828	9.80549	ppb		99
89) n-Butylbenzene	12.94	91	239669	11.06504	ppb		97
90) 1,2-DCB	12.88	146	119156	10.21005	ppb		98
91) Hexachloroethane	13.25	117	26324	11.90096	ppb		89
92) 1,2-Dibromo-3-chloropropan	13.99	75	4022	11.60194	ppb		89
93) 1,2,4-Trichlorobenzene	15.21	180	66111	10.25254	ppb		98
94) Hexachlorobutadiene	15.51	225	45284	11.11297	ppb		97
95) Naphthalene	15.54	128	31600	10.79369	ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	44862	9.86735	ppb		94

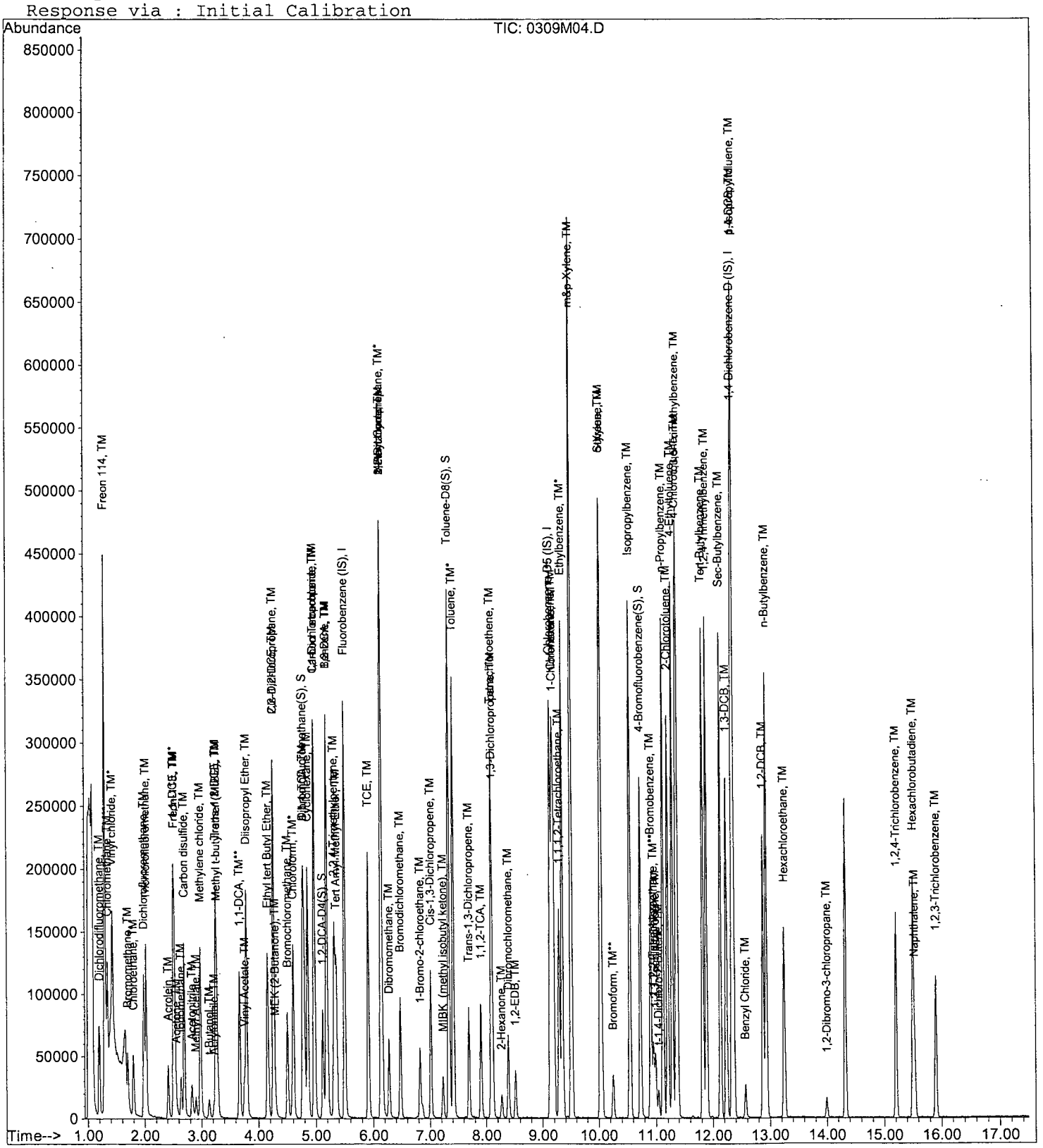
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M04.D Vial: 3
Acq On : 9 Mar 17 10:36 Operator: PM,DG,SV,CMM
Sample : 170309A LCS-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 8:56 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



660

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170310W-51132 LCS - 216806**
Batch ID: #86BTO-170310AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.99	99.9	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.5	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.4	97.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.5	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.0	100	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Max
Run :	0310M06
Initials :	SV

Printed: 03/14/17 11:22:21 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M06.D
Acq On : 10 Mar 17 11:15
Sample : 170310A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:40 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	308026	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	215127	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	109287	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	77438	25.51759 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.072%	
37) 1,2-DCA-D4(S)	5.13	65	58964	24.36559 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.464%	
57) Toluene-D8(S)	7.34	98	311968	24.97494 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.900%	
65) 4-Bromofluorobenzene(S)	10.73	95	101767	24.64576 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.584%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	42352	11.73744 ppb	98
3) Freon 114	1.30	85	54348	10.74135 ppb	97
4) Chloromethane	1.34	50	46433	8.99319 ppb	96
5) Vinyl chloride	1.44	62	68154	9.29105 ppb	92
6) Bromomethane	1.70	94	40862	8.06004 ppb	99
7) Chloroethane	1.80	64	43282	10.07020 ppb	99
8) Dichlorofluoromethane	1.99	67	115695	10.19821 ppb	98
9) Trichlorofluoromethane	2.03	101	89983	9.97807 ppb	96
10) Acrolein	2.42	56	32332	117.58111 ppb	96
11) Acetone	2.57	58	1315	10.11001 ppb	88
12) Freon-113	2.54	101	55827	10.67502 ppb	96
13) 1,1-DCE	2.52	61	83685	10.20803 ppb	98
14) Acetonitrile	2.83	41	32557	128.89250 ppb	97
15) t-Butanol	3.14	59	13768	147.38916 ppb	100
16) Methyl Acetate	2.91	43	17338	9.65319 ppb	89
17) Iodomethane	2.65	142	33027	5.36577 ppb	98
18) Acrylonitrile	3.22	53	8675	10.39541 ppb	97
19) Methylene chloride	2.98	84	54781	10.00050 ppb	99
20) Carbon disulfide	2.70	76	167684	10.01549 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	88920	9.92092 ppb	97
22) Trans-1,2-DCE	3.26	96	63334	10.16932 ppb	96
23) Diisopropyl Ether	3.80	45	152481	9.97066 ppb	96
24) 1,1-DCA	3.67	63	102871	10.26725 ppb	98
25) Vinyl Acetate	3.76	43	32436	12.24115 ppb	98
26) Ethyl tert Butyl Ether	4.17	59	105714	10.20063 ppb	96
27) MEK (2-Butanone)	4.30	43	12601	9.79981 ppb	87
28) Cis-1,2-DCE	4.27	96	66134	10.33022 ppb	99
29) 2,2-Dichloropropane	4.27	77	74742	12.09714 ppb	100
30) Chloroform	4.61	83	103786	10.43217 ppb	95
31) Bromochloromethane	4.51	128	25295	10.32290 ppb	96
33) 1,1,1-TCA	4.80	97	97224	11.20587 ppb	95
34) Cyclohexane	4.86	41	50819	9.73162 ppb	97
35) 1,1-Dichloropropene	4.98	75	84963	10.44268 ppb	96
36) 2,2,4-Trimethylpentane	5.32	57	148466	10.60828 ppb	99
38) Carbon Tetrachloride	4.98	117	75937	11.90061 ppb	93
39) Tert Amyl Methyl Ether	5.36	73	91271	10.00221 ppb	98
40) 1,2-DCA	5.21	62	53563	9.87787 ppb	99
41) Benzene	5.19	78	243194	9.98797 ppb	100
42) TCE	5.92	95	67185	10.04582 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M06.D
Acq On : 10 Mar 17 11:15
Sample : 170310A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:40 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	190349	124.26517	ppb	98
44)	1,2-Dichloropropane	6.15	63	53781	10.49716	ppb	95
45)	Bromodichloromethane	6.48	83	62704	11.10680	ppb	98
46)	Methyl Cyclohexane	6.14	83	90715	9.95329	ppb	96
47)	Dibromomethane	6.28	93	22048	10.43015	ppb	93
48)	MIBK (methyl isobutyl ket	7.23	43	24677	9.68489	ppb	92
49)	1-Bromo-2-chloroethane	6.83	63	47531	9.76189	ppb	91
51)	Cis-1,3-Dichloropropene	7.02	75	66939	11.14431	ppb	95
52)	Toluene	7.42	91	283289	10.08135	ppb	99
53)	Trans-1,3-Dichloropropene	7.70	75	46334	12.37130	ppb	94
54)	1,1,2-TCA	7.91	83	25788	10.22893	ppb	95
55)	2-Hexanone	8.27	43	13800	9.63468	ppb	97
58)	1,2-EDB	8.52	107	28068	10.36590	ppb	90
59)	Tetrachloroethene	8.09	164	70311	10.61634	ppb	96
60)	1-Chlorohexane	9.20	91	83401	10.24673	ppb	97
61)	1,1,1,2-Tetrachloroethane	9.29	131	49273	11.92611	ppb	96
62)	m&p-Xylene	9.51	106	262112	20.60448	ppb	98
63)	o-Xylene	10.03	106	121105	9.91713	ppb	98
64)	Styrene	10.05	104	184363	10.34313	ppb	98
66)	1,3-Dichloropropane	8.12	76	53178	9.94945	ppb	97
67)	Dibromochloromethane	8.39	129	38962	13.08755	ppb	94
68)	Chlorobenzene	9.17	112	173343	10.13878	ppb	99
69)	Ethylbenzene	9.35	91	320076	10.22444	ppb	99
70)	Bromoform	10.25	173	17855	11.00187	ppb	92
72)	Isopropylbenzene	10.55	105	320927	9.98813	ppb	98
73)	1,1,2,2-Tetrachloroethane	10.96	83	30019	10.34550	ppb	95
74)	1,2,3-Trichloropropane	10.99	110	10237	9.93348	ppb	91
75)	t-1,4-Dichloro-2-Butene	11.04	53	5393	9.51820	ppb	99
76)	Bromobenzene	10.91	156	68520	9.70743	ppb	100
77)	n-Propylbenzene	11.12	91	363018	10.04035	ppb	99
78)	4-Ethyltoluene	11.28	105	318096	10.13249	ppb	97
79)	2-Chlorotoluene	11.20	91	205933	9.96476	ppb	97
80)	1,3,5-Trimethylbenzene	11.38	105	260912	9.72882	ppb	99
81)	4-Chlorotoluene	11.35	91	234288	9.68848	ppb	99
82)	Tert-Butylbenzene	11.82	119	234054	9.71396	ppb	99
83)	1,2,4-Trimethylbenzene	11.89	105	262432	10.40376	ppb	99
84)	Sec-Butylbenzene	12.13	105	318481	10.02436	ppb	98
85)	p-Isopropyltoluene	12.36	119	278837	10.07783	ppb	98
86)	Benzyl Chloride	12.57	91	19396	10.40165	ppb	94
87)	1,3-DCB	12.24	146	143034	9.92662	ppb	99
88)	1,4-DCB	12.37	146	136976	9.58295	ppb	99
89)	n-Butylbenzene	12.94	91	230982	10.48678	ppb	98
90)	1,2-DCB	12.88	146	115095	9.69820	ppb	99
91)	Hexachloroethane	13.25	117	24691	10.97720	ppb	92
92)	1,2-Dibromo-3-chloropropan	13.99	75	3388	10.21143	ppb	95
93)	1,2,4-Trichlorobenzene	15.21	180	64242	9.81832	ppb	97
94)	Hexachlorobutadiene	15.51	225	42676	10.29893	ppb	95
95)	Naphthalene	15.54	128	28624	9.86039	ppb	100
96)	1,2,3-Trichlorobenzene	15.90	180	43664	9.53927	ppb	97

(#) = qualifier out of range (m) = manual integration

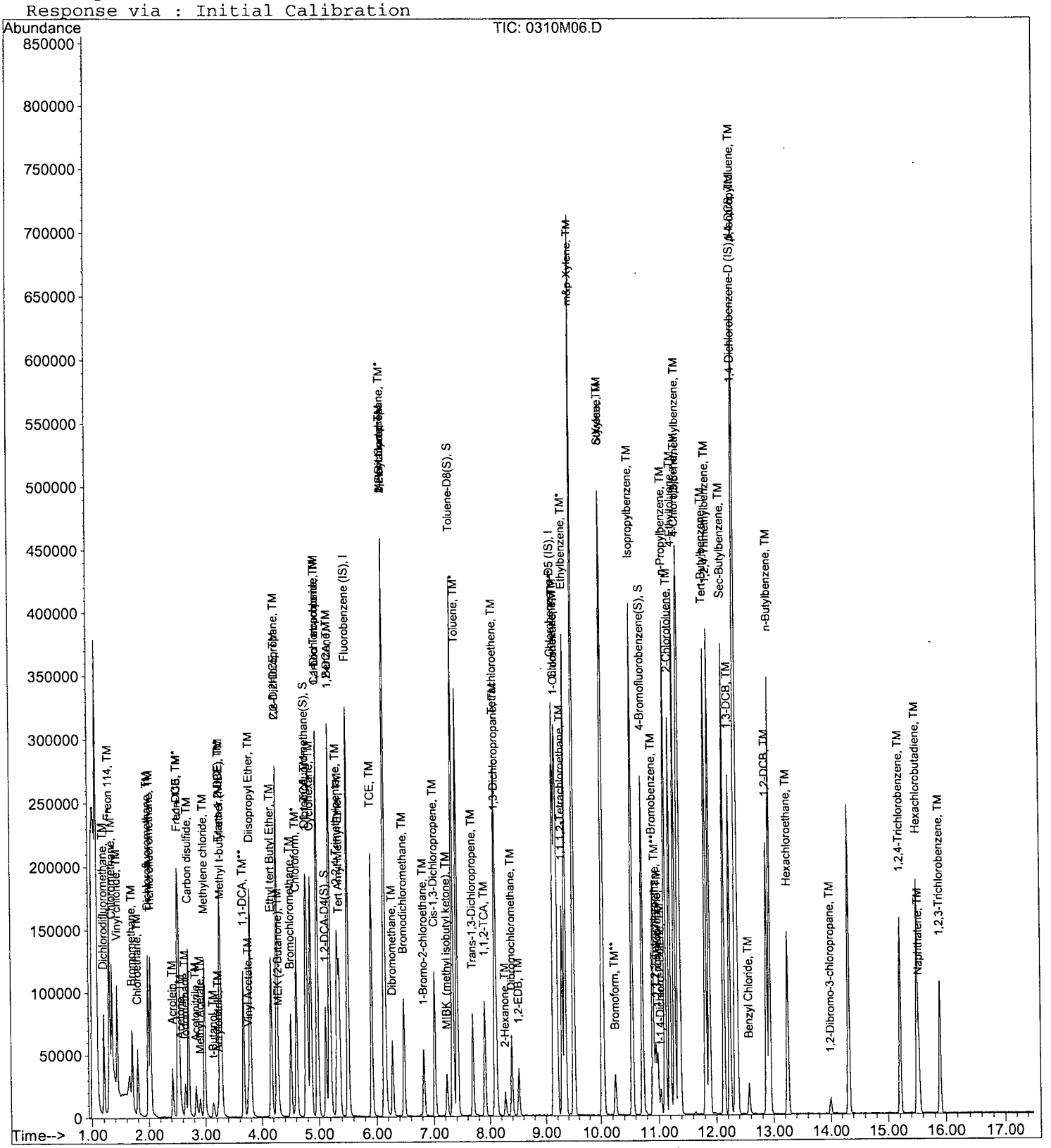
Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M06.D
Acq On : 10 Mar 17 11:15
Sample : 170310A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 9:40 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



664

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170310W-51132 MS - 216806**
Batch ID: #86BTO-170310AM
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	10.0	9.55	100	95.5	79-120	4.6	20
ETHYLBENZENE	10.00	ND	9.86	9.89	98.6	98.9	79-121	0.30	20
TOLUENE	10.00	ND	10.0	9.56	100	95.6	80-121	4.5	20
XYLENES (TOTAL)	30.0	ND	29.2	29.5	97.3	98.3	79-121	1.0	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	25.9	24.8	104	99.2	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.1	24.8	100	99.2	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.8	25.0	103	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.2	24.7	101	98.8	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M28	0310M29
Initials :	SV	

Printed: 03/14/17 11:22:24 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M28.D
Acq On : 10 Mar 17 21:46
Sample : AZ51132W234 MS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	296478	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	211882	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	103222	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75345	25.79496 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.180%	
37) 1,2-DCA-D4(S)	5.13	65	60435	25.94618 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.784%	
57) Toluene-D8(S)	7.34	98	309887	25.18828 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.752%	
65) 4-Bromofluorobenzene(S)	10.73	95	101934	25.06428 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.256%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	41896	12.06332 ppb		94
3) Freon 114	1.30	85	46989	9.64865 ppb		99
4) Chloromethane	1.35	50	41566	8.36412 ppb		97
5) Vinyl chloride	1.44	62	62428	8.84194 ppb	#	6
6) Bromomethane	1.71	94	23451	4.80589 ppb		92
7) Chloroethane	1.80	64	39753	9.60938 ppb		95
8) Dichlorofluoromethane	1.99	67	109635	10.04046 ppb		98
9) Trichlorofluoromethane	2.04	101	84056	9.68388 ppb		93
10) Acrolein	2.42	56	29074	109.85117 ppb		100
11) Acetone	2.58	58	893	6.58627 ppb	#	54
12) Freon-113	2.54	101	52951	10.51946 ppb		98
13) 1,1-DCE	2.52	61	78485	9.94662 ppb		98
14) Acetonitrile	2.83	41	27383	112.63133 ppb		96
15) t-Butanol	3.14	59	13022	144.83292 ppb		100
16) Methyl Acetate	2.91	43	15620	9.03541 ppb		96
17) Iodomethane	2.65	142	37386	6.15355 ppb		97
18) Acrylonitrile	3.22	53	7946	9.89272 ppb		86
19) Methylene chloride	2.99	84	50736	9.62283 ppb		98
20) Carbon disulfide	2.71	76	167777	10.41137 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	81873	9.49048 ppb		97
22) Trans-1,2-DCE	3.26	96	59734	9.96486 ppb		97
23) Diisopropyl Ether	3.80	45	141635	9.62218 ppb		100
24) 1,1-DCA	3.67	63	97962	10.15813 ppb		99
25) Vinyl Acetate	3.76	43	27737	10.87550 ppb		96
26) Ethyl tert Butyl Ether	4.17	59	95044	9.52827 ppb		100
27) MEK (2-Butanone)	4.31	43	14867	12.21030 ppb		96
28) Cis-1,2-DCE	4.27	96	64812	10.51805 ppb		100
29) 2,2-Dichloropropane	4.27	77	62178	10.45562 ppb		98
30) Chloroform	4.61	83	96880	10.11730 ppb		96
31) Bromochloromethane	4.51	128	23748	10.06907 ppb		93
33) 1,1,1-TCA	4.80	97	93321	11.17497 ppb		100
34) Cyclohexane	4.87	41	50215	9.99050 ppb		95
35) 1,1-Dichloropropene	4.98	75	80564	10.28769 ppb		99
36) 2,2,4-Trimethylpentane	5.32	57	129409	9.60677 ppb		99
38) Carbon Tetrachloride	4.98	117	76981	12.53413 ppb		97
39) Tert Amyl Methyl Ether	5.36	73	81513	9.28079 ppb		98
40) 1,2-DCA	5.21	62	49353	9.45599 ppb		99
41) Benzene	5.20	78	234310	9.99793 ppb		99
42) TCE	5.92	95	62438	9.69967 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M28.D
Acq On : 10 Mar 17 21:46
Sample : AZ51132W234 MS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	171891	116.58612	ppb	100
44) 1,2-Dichloropropane	6.15	63	50253	10.19060	ppb	98
45) Bromodichloromethane	6.48	83	61165	11.25620	ppb	95
46) Methyl Cyclohexane	6.14	83	86010	9.80463	ppb	95
47) Dibromomethane	6.28	93	20521	10.08590	ppb	91
48) MIBK (methyl isobutyl ket	7.23	43	21085	8.59748	ppb	92
49) 1-Bromo-2-chloroethane	6.83	63	43880	9.36308	ppb	91
51) Cis-1,3-Dichloropropene	7.02	75	61157	10.57828	ppb	93
52) Toluene	7.42	91	271340	10.03223	ppb	99
53) Trans-1,3-Dichloropropene	7.70	75	40508	11.23702	ppb	98
54) 1,1,2-TCA	7.91	83	23379	9.63459	ppb	97
55) 2-Hexanone	8.27	43	12175	8.83124	ppb	91
58) 1,2-EDB	8.52	107	27433	10.29214	ppb	94
59) Tetrachloroethene	8.09	164	70525	10.81174	ppb	96
60) 1-Chlorohexane	9.20	91	80326	10.02007	ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	48894	12.01562	ppb	99
62) m&p-Xylene	9.51	106	248179	19.80800	ppb	96
63) o-Xylene	10.03	106	112870	9.38433	ppb	98
64) Styrene	10.05	104	161501	9.19929	ppb	99
66) 1,3-Dichloropropane	8.12	76	50236	9.54295	ppb	97
67) Dibromochloromethane	8.39	129	35519	12.11376	ppb	91
68) Chlorobenzene	9.17	112	165749	9.84308	ppb	98
69) Ethylbenzene	9.35	91	304044	9.86106	ppb	99
70) Bromoform	10.26	173	17673	11.05650	ppb	95
72) Isopropylbenzene	10.55	105	303603	10.00415	ppb	99
73) 1,1,2,2-Tetrachloroethane	10.95	83	29409	10.73079	ppb	98
74) 1,2,3-Trichloropropane	10.99	110	9336	9.59148	ppb	93
75) t-1,4-Dichloro-2-Butene	11.04	53	4413	8.24621	ppb	98
76) Bromobenzene	10.91	156	64210	9.63132	ppb	99
77) n-Propylbenzene	11.12	91	342510	10.02975	ppb	98
78) 4-Ethyltoluene	11.28	105	298847	10.07867	ppb	100
79) 2-Chlorotoluene	11.20	91	193361	9.90617	ppb	98
80) 1,3,5-Trimethylbenzene	11.38	105	252935	9.98553	ppb	98
81) 4-Chlorotoluene	11.35	91	222475	9.74054	ppb	99
82) Tert-Butylbenzene	11.82	119	224355	9.85853	ppb	99
83) 1,2,4-Trimethylbenzene	11.89	105	241968	10.15612	ppb	97
84) Sec-Butylbenzene	12.14	105	303006	10.09765	ppb	97
85) p-Isopropyltoluene	12.36	119	264295	10.11351	ppb	99
86) Benzyl Chloride	12.57	91	10147	6.25376	ppb	99
87) 1,3-DCB	12.24	146	131296	9.64739	ppb	99
88) 1,4-DCB	12.37	146	127541	9.44715	ppb	99
89) n-Butylbenzene	12.94	91	212450	10.21215	ppb	99
90) 1,2-DCB	12.88	146	109276	9.74891	ppb	98
91) Hexachloroethane	13.25	117	19987	9.40799	ppb	88
92) 1,2-Dibromo-3-chloropropan	13.99	75	2905	9.59277	ppb	87
93) 1,2,4-Trichlorobenzene	15.21	180	55463	9.01563	ppb	99
94) Hexachlorobutadiene	15.51	225	41173	10.52003	ppb	96
95) Naphthalene	15.54	128	23608	8.86080	ppb	95
96) 1,2,3-Trichlorobenzene	15.90	180	36546	8.68366	ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

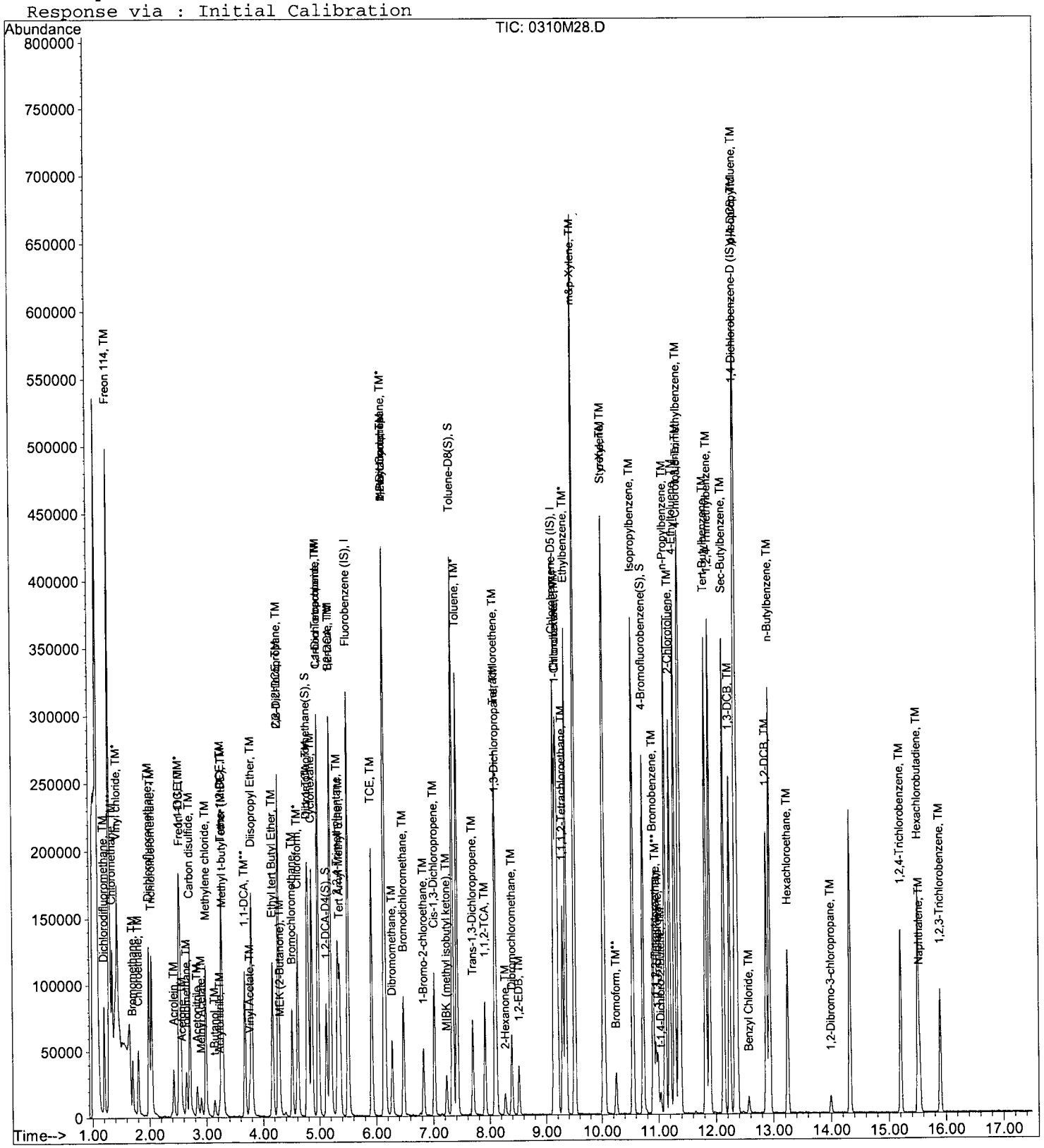
Data File : M:\MAX\DATA\M170308\0310M28.D
Acq On : 10 Mar 17 21:46
Sample : AZ51132W234 MS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



668

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M29.D
Acq On : 10 Mar 17 22:14
Sample : AZ51132W234 MSD-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	304048	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	207241	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	102298	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75012	25.04156 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.168%	
37) 1,2-DCA-D4(S)	5.12	65	59309	24.82880 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.316%	
57) Toluene-D8(S)	7.34	98	297379	24.71291 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.852%	
65) 4-Bromofluorobenzene(S)	10.73	95	98681	24.80779 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.232%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	39320	11.03972 ppb		99
3) Freon 114	1.30	85	45288	9.06784 ppb		94
4) Chloromethane	1.35	50	39381	7.72714 ppb		91
5) Vinyl chloride	1.44	62	60914	8.41271 ppb	#	18
6) Bromomethane	1.70	94	25438	5.08330 ppb		100
7) Chloroethane	1.81	64	37845	8.92040 ppb		95
8) Dichlorofluoromethane	1.99	67	106542	9.51427 ppb		99
9) Trichlorofluoromethane	2.04	101	79870	8.97253 ppb		99
10) Acrolein	2.42	56	29892	110.12989 ppb		99
11) Acetone	2.58	58	1168	8.91135 ppb		94
12) Freon-113	2.54	101	50347	9.75311 ppb		97
13) 1,1-DCE	2.52	61	78117	9.65350 ppb		100
14) Acetonitrile	2.83	41	27099	108.68804 ppb		97
15) t-Butanol	3.15	59	14046	152.33250 ppb		98
16) Methyl Acetate	2.91	43	14687	8.28419 ppb		97
17) Iodomethane	2.65	142	38589	6.18764 ppb		98
18) Acrylonitrile	3.23	53	7076	8.59024 ppb	#	84
19) Methylene chloride	2.99	84	51702	9.56190 ppb		97
20) Carbon disulfide	2.71	76	161326	9.76181 ppb		98
21) Methyl t-butyl ether (MtBE	3.29	73	80071	9.05051 ppb		98
22) Trans-1,2-DCE	3.26	96	59880	9.74051 ppb		99
23) Diisopropyl Ether	3.80	45	137904	9.13545 ppb		99
24) 1,1-DCA	3.67	63	94670	9.57236 ppb		99
25) Vinyl Acetate	3.76	43	28160	10.76646 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	96165	9.40063 ppb		96
27) MEK (2-Butanone)	4.31	43	11576	9.05970 ppb	#	80
28) Cis-1,2-DCE	4.27	96	61066	9.66339 ppb		95
29) 2,2-Dichloropropane	4.27	77	60842	9.97624 ppb		100
30) Chloroform	4.61	83	95285	9.70299 ppb		97
31) Bromochloromethane	4.51	128	22926	9.47852 ppb		96
33) 1,1,1-TCA	4.80	97	91342	10.66566 ppb		94
34) Cyclohexane	4.86	41	46964	9.11107 ppb		95
35) 1,1-Dichloropropene	4.98	75	78336	9.75413 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	119167	8.62620 ppb		99
38) Carbon Tetrachloride	4.98	117	75466	11.98153 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	82283	9.13521 ppb		98
40) 1,2-DCA	5.21	62	50233	9.38497 ppb		100
41) Benzene	5.20	78	229631	9.55433 ppb		98
42) TCE	5.92	95	62068	9.40212 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M29.D
Acq On : 10 Mar 17 22:14
Sample : AZ51132W234 MSD-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	170413	112.70593	ppb		100
44) 1,2-Dichloropropane	6.16	63	48834	9.65629	ppb		95
45) Bromodichloromethane	6.48	83	58778	10.54761	ppb		98
46) Methyl Cyclohexane	6.14	83	80904	8.99296	ppb		91
47) Dibromomethane	6.28	93	20481	9.81562	ppb		99
48) MIBK (methyl isobutyl ket	7.23	43	21708	8.63113	ppb		91
49) 1-Bromo-2-chloroethane	6.83	63	42989	8.94458	ppb		93
51) Cis-1,3-Dichloropropene	7.01	75	60744	10.24525	ppb		96
52) Toluene	7.42	91	265189	9.56070	ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	40521	10.96076	ppb		98
54) 1,1,2-TCA	7.91	83	23518	9.45057	ppb		94
55) 2-Hexanone	8.27	43	12195	8.62551	ppb	#	94
58) 1,2-EDB	8.52	107	27384	10.48880	ppb		95
59) Tetrachloroethene	8.09	164	66678	10.45090	ppb		97
60) 1-Chlorohexane	9.20	91	74222	9.46599	ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	48901	12.28646	ppb		99
62) m&p-Xylene	9.51	106	242121	19.75725	ppb		98
63) o-Xylene	10.03	106	114712	9.75106	ppb		97
64) Styrene	10.05	104	163279	9.50884	ppb		99
66) 1,3-Dichloropropane	8.12	76	49980	9.70694	ppb		94
67) Dibromochloromethane	8.39	129	36471	12.71698	ppb		86
68) Chlorobenzene	9.17	112	162762	9.88215	ppb		99
69) Ethylbenzene	9.35	91	298228	9.88903	ppb		100
70) Bromoform	10.25	173	17509	11.19920	ppb		94
72) Isopropylbenzene	10.55	105	301066	10.01016	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	28554	10.51293	ppb		97
74) 1,2,3-Trichloropropane	10.99	110	9156	9.49152	ppb		97
75) t-1,4-Dichloro-2-Butene	11.04	53	4324	8.15288	ppb		85
76) Bromobenzene	10.91	156	63031	9.53987	ppb		98
77) n-Propylbenzene	11.12	91	336082	9.93041	ppb		99
78) 4-Ethyltoluene	11.28	105	291915	9.93381	ppb		100
79) 2-Chlorotoluene	11.20	91	187155	9.67483	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	242136	9.64555	ppb		100
81) 4-Chlorotoluene	11.35	91	218648	9.65945	ppb		96
82) Tert-Butylbenzene	11.82	119	218090	9.66979	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	236611	10.02097	ppb		98
84) Sec-Butylbenzene	12.13	105	295497	9.93636	ppb		99
85) p-Isopropyltoluene	12.36	119	259186	10.00759	ppb		99
86) Benzyl Chloride	12.57	91	10762	6.64251	ppb		98
87) 1,3-DCB	12.24	146	130555	9.67959	ppb		100
88) 1,4-DCB	12.37	146	124161	9.27985	ppb		99
89) n-Butylbenzene	12.94	91	206836	10.03209	ppb		99
90) 1,2-DCB	12.88	146	108694	9.78457	ppb		98
91) Hexachloroethane	13.25	117	19551	9.28589	ppb		99
92) 1,2-Dibromo-3-chloropropan	14.00	75	3718	11.36830	ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	56260	9.21657	ppb		94
94) Hexachlorobutadiene	15.51	225	39072	10.07338	ppb		93
95) Naphthalene	15.54	128	25616	9.51808	ppb		96
96) 1,2,3-Trichlorobenzene	15.90	180	37447	8.91269	ppb		97

(#) = qualifier out of range (m) = manual integration

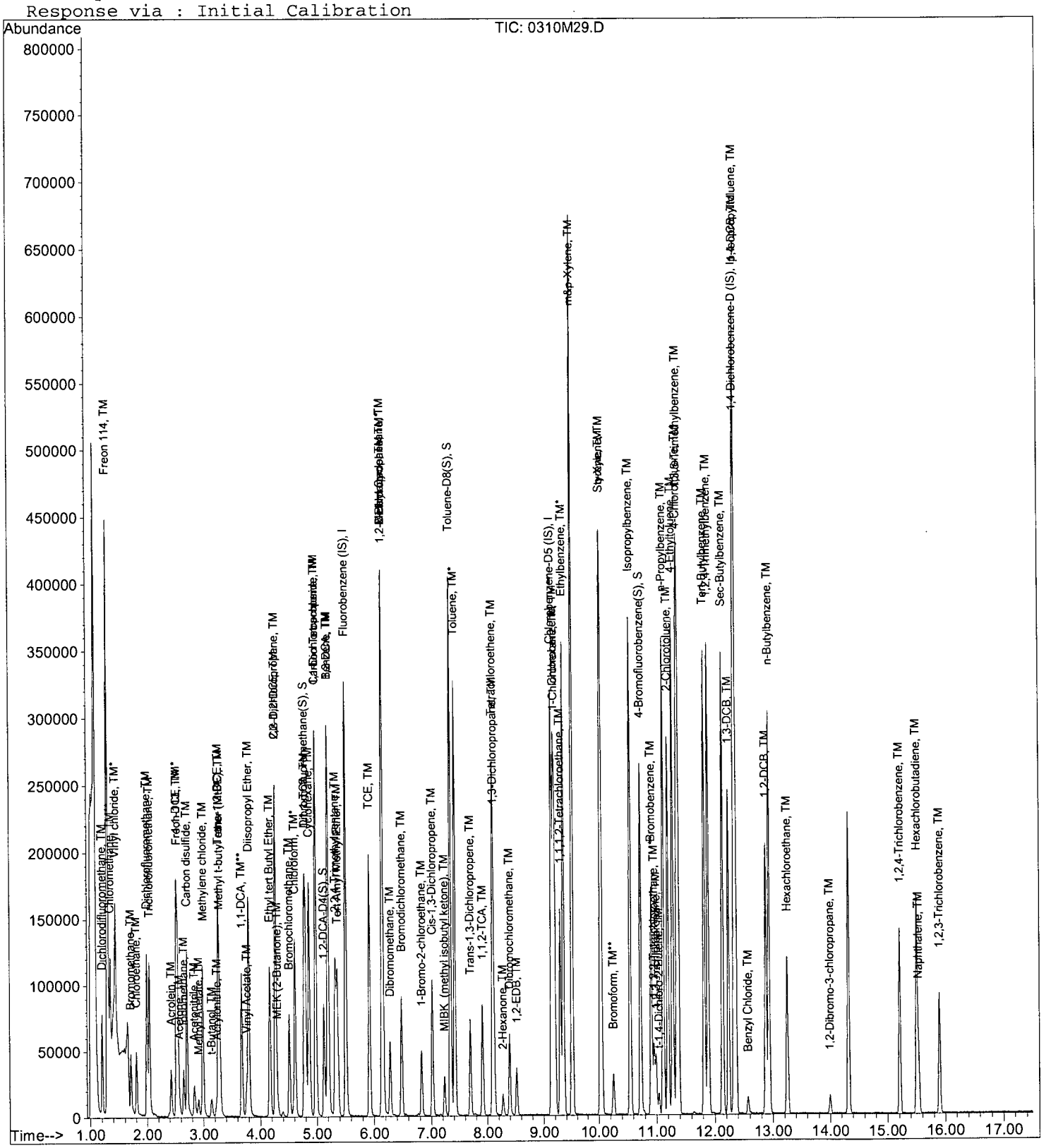
Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M29.D
Acq On : 10 Mar 17 22:14
Sample : AZ51132W234 MSD-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:12 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



671

Matrix Spike Recoveries

EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170310W-51135 MS - 216769**
Batch ID: #86BTO-170309AM1
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2-DICHLOROETHANE	10.00	ND	9.51	9.62	95.1	96.2	73-128	1.2	20
BENZENE	10.00	ND	9.58	9.67	95.8	96.7	79-120	0.94	20
ETHYLBENZENE	10.00	ND	9.54	9.56	95.4	95.6	79-121	0.21	20
TOLUENE	10.00	ND	9.46	9.48	94.6	94.8	80-121	0.21	20
XYLENES (TOTAL)	30.0	ND	28.3	28.8	94.3	96.0	79-121	1.8	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	24.2	25.0	96.8	100	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.0	24.6	100	98.4	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	25.1	25.1	100	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	24.7	24.7	98.8	98.8	89-112		

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M11	0310M12
Initials :	SV	

Printed: 03/14/17 11:22:24 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M11.D
Acq On : 10 Mar 17 13:37
Sample : AZ51135W234 MS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	314121	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	219073	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	106657	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	77540	25.05542 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.220%	
37) 1,2-DCA-D4(S)	5.13	65	59732	24.20402 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.816%	
57) Toluene-D8(S)	7.34	98	314101	24.69276 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.772%	
65) 4-Bromofluorobenzene(S)	10.73	95	105267	25.03419 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.136%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	39480	10.72919 ppb		99
3) Freon 114	1.30	85	46339	8.98074 ppb		97
4) Chloromethane	1.34	50	47717	9.06255 ppb		95
5) Vinyl chloride	1.43	62	66010	8.82416 ppb	#	85
6) Bromomethane	1.70	94	37771	7.30577 ppb		100
7) Chloroethane	1.80	64	38660	8.82029 ppb		99
8) Dichlorofluoromethane	1.99	67	110193	9.52476 ppb		99
9) Trichlorofluoromethane	2.03	101	84602	9.19935 ppb		91
10) Acrolein	2.42	56	26913	95.97486 ppb		93
11) Acetone	2.57	58	1279	9.55657 ppb		99
12) Freon-113	2.54	101	50713	9.50898 ppb		94
13) 1,1-DCE	2.51	61	78637	9.40614 ppb		98
14) Acetonitrile	2.83	41	30201	117.24518 ppb		97
15) t-Butanol	3.14	59	14316	150.28193 ppb		99
16) Methyl Acetate	2.91	43	13352	7.28968 ppb		99
17) Iodomethane	2.65	142	30131	4.89425 ppb		99
18) Acrylonitrile	3.22	53	6965	8.18434 ppb	#	87
19) Methylene chloride	2.98	84	51773	9.26799 ppb		99
20) Carbon disulfide	2.70	76	159300	9.33011 ppb		98
21) Methyl t-butyl ether (MtBE	3.28	73	85302	9.33259 ppb		99
22) Trans-1,2-DCE	3.26	96	60457	9.51901 ppb		98
23) Diisopropyl Ether	3.80	45	146604	9.40035 ppb		98
24) 1,1-DCA	3.67	63	99268	9.71541 ppb		99
25) Vinyl Acetate	3.75	43	21059	7.79333 ppb		96
26) Ethyl tert Butyl Ether	4.17	59	97775	9.25151 ppb		99
27) MEK (2-Butanone)	4.30	43	9012	6.61089 ppb		96
28) Cis-1,2-DCE	4.27	96	63724	9.76064 ppb		97
29) 2,2-Dichloropropane	4.27	77	47770	7.58165 ppb		100
30) Chloroform	4.61	83	100720	9.92754 ppb		99
31) Bromochloromethane	4.51	128	25019	10.01215 ppb		96
33) 1,1,1-TCA	4.80	97	92753	10.48311 ppb		97
34) Cyclohexane	4.86	41	48917	9.18564 ppb		97
35) 1,1-Dichloropropene	4.98	75	82222	9.90970 ppb		99
36) 2,2,4-Trimethylpentane	5.32	57	106773	7.48118 ppb		98
38) Carbon Tetrachloride	4.98	117	74058	11.38094 ppb		96
39) Tert Amyl Methyl Ether	5.36	73	86753	9.32262 ppb		97
40) 1,2-DCA	5.21	62	52601	9.51224 ppb		100
41) Benzene	5.19	78	237865	9.57956 ppb		97
42) TCE	5.92	95	63156	9.26015 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M11.D Vial: 8
Acq On : 10 Mar 17 13:37 Operator: PM,DG,SV,CMM
Sample : AZ51135W234 MS-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	187109	119.77989	ppb		97
44) 1,2-Dichloropropane	6.16	63	50911	9.74417	ppb		96
45) Bromodichloromethane	6.48	83	60035	10.42771	ppb		98
46) Methyl Cyclohexane	6.14	83	82797	8.90825	ppb		93
47) Dibromomethane	6.28	93	20840	9.66739	ppb		99
48) MIBK (methyl isobutyl ket	7.23	43	22754	8.75691	ppb		91
49) 1-Bromo-2-chloroethane	6.83	63	45879	9.23978	ppb		95
51) Cis-1,3-Dichloropropene	7.02	75	59796	9.76195	ppb		90
52) Toluene	7.42	91	271158	9.46241	ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	39725	10.40087	ppb		100
54) 1,1,2-TCA	7.91	83	24871	9.67378	ppb		92
55) 2-Hexanone	8.27	43	12171	8.33249	ppb		97
58) 1,2-EDB	8.51	107	27047	9.84819	ppb		96
59) Tetrachloroethene	8.09	164	65665	9.73625	ppb		98
60) 1-Chlorohexane	9.20	91	78319	9.44903	ppb		98
61) 1,1,1,2-Tetrachloroethane	9.29	131	49219	11.69846	ppb		95
62) m&p-Xylene	9.51	106	248159	19.15627	ppb		98
63) o-Xylene	10.03	106	113957	9.16370	ppb		97
64) Styrene	10.05	104	166500	9.17273	ppb		100
66) 1,3-Dichloropropane	8.12	76	52017	9.55693	ppb		97
67) Dibromochloromethane	8.39	129	35785	11.80387	ppb		95
68) Chlorobenzene	9.17	112	165603	9.51160	ppb		97
69) Ethylbenzene	9.35	91	304270	9.54446	ppb		99
70) Bromoform	10.25	173	17528	10.60584	ppb		95
72) Isopropylbenzene	10.55	105	304298	9.70412	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	31242	11.03248	ppb		99
74) 1,2,3-Trichloropropane	10.99	110	10084	10.02630	ppb		99
75) t-1,4-Dichloro-2-Butene	11.04	53	4651	8.41104	ppb	#	78
76) Bromobenzene	10.91	156	64856	9.41491	ppb		95
77) n-Propylbenzene	11.12	91	335253	9.50107	ppb		98
78) 4-Ethyltoluene	11.29	105	291708	9.52106	ppb		98
79) 2-Chlorotoluene	11.20	91	195594	9.69785	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	246538	9.41953	ppb		97
81) 4-Chlorotoluene	11.36	91	219195	9.28786	ppb		97
82) Tert-Butylbenzene	11.82	119	218763	9.30322	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	239886	9.74446	ppb		98
84) Sec-Butylbenzene	12.13	105	296184	9.55243	ppb		97
85) p-Isopropyltoluene	12.36	119	259865	9.62373	ppb		99
86) Benzyl Chloride	12.57	91	8806	5.34324	ppb		97
87) 1,3-DCB	12.24	146	133223	9.47372	ppb		99
88) 1,4-DCB	12.37	146	128399	9.20440	ppb		98
89) n-Butylbenzene	12.94	91	200733	9.33818	ppb		98
90) 1,2-DCB	12.88	146	110805	9.56695	ppb		99
91) Hexachloroethane	13.25	117	22239	10.13088	ppb		97
92) 1,2-Dibromo-3-chloropropan	13.99	75	3048	9.68681	ppb		95
93) 1,2,4-Trichlorobenzene	15.20	180	57061	8.97873	ppb		95
94) Hexachlorobutadiene	15.51	225	37508	9.27494	ppb		89
95) Naphthalene	15.54	128	26680	9.51035	ppb		99
96) 1,2,3-Trichlorobenzene	15.90	180	38044	8.73427	ppb		99

(#) = qualifier out of range (m) = manual integration

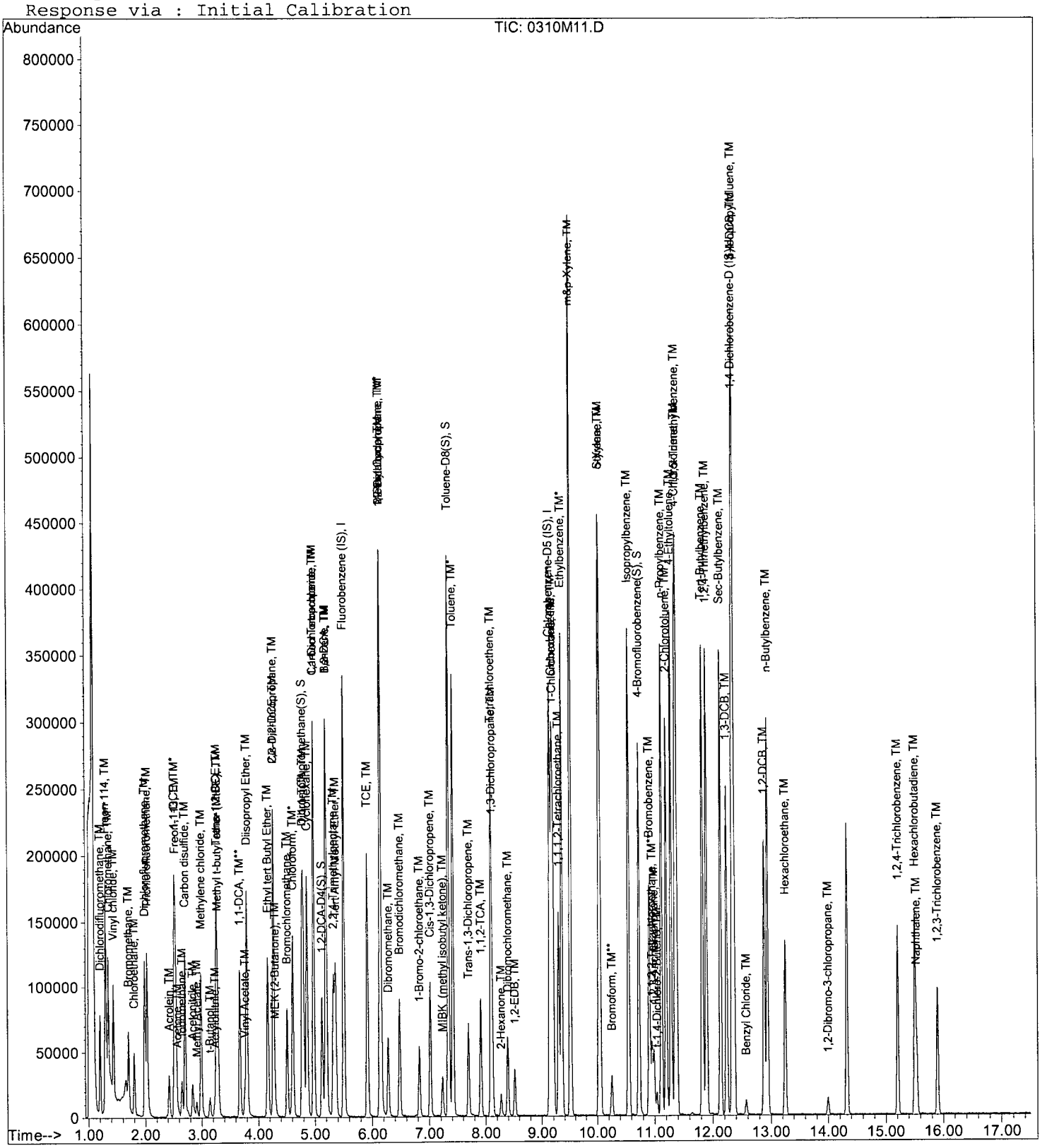
Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M11.D
Acq On : 10 Mar 17 13:37
Sample : AZ51135W234 MS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



675

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M12.D
Acq On : 10 Mar 17 14:05
Sample : AZ51135W234 MSD-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	312353	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	217380	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107449	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	77284	25.11405 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.456%	
37) 1,2-DCA-D4(S)	5.12	65	61336	24.99465 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.980%	
57) Toluene-D8(S)	7.34	98	311314	24.66427 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.656%	
65) 4-Bromofluorobenzene(S)	10.73	95	102802	24.63838 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.552%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	41584	11.36494 ppb		97
3) Freon 114	1.30	85	49591	9.66540 ppb		97
4) Chloromethane	1.34	50	45773	8.74255 ppb		95
5) Vinyl chloride	1.43	62	67274	9.04404 ppb		96
6) Bromomethane	1.70	94	36615	7.12226 ppb		90
7) Chloroethane	1.80	64	39860	9.14555 ppb		98
8) Dichlorofluoromethane	1.99	67	109887	9.55207 ppb		96
9) Trichlorofluoromethane	2.03	101	84811	9.27427 ppb		100
10) Acrolein	2.42	56	28214	101.18388 ppb		100
11) Acetone	2.57	58	1264	9.48656 ppb		95
12) Freon-113	2.54	101	52054	9.81567 ppb		95
13) 1,1-DCE	2.51	61	80883	9.72956 ppb		98
14) Acetonitrile	2.83	41	33370	130.28103 ppb		100
15) t-Butanol	3.14	59	15566	164.32869 ppb		99
16) Methyl Acetate	2.90	43	14238	7.81740 ppb		99
17) Iodomethane	2.64	142	37123	5.85098 ppb		99
18) Acrylonitrile	3.22	53	8585	10.14505 ppb	#	83
19) Methylene chloride	2.98	84	51191	9.21567 ppb		97
20) Carbon disulfide	2.70	76	160380	9.44654 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	87042	9.57686 ppb		100
22) Trans-1,2-DCE	3.25	96	62454	9.88910 ppb		98
23) Diisopropyl Ether	3.79	45	147396	9.50463 ppb		99
24) 1,1-DCA	3.67	63	99860	9.82866 ppb		98
25) Vinyl Acetate	3.76	43	23262	8.65732 ppb		97
26) Ethyl tert Butyl Ether	4.17	59	99379	9.45651 ppb		96
27) MEK (2-Butanone)	4.30	43	9036	6.67332 ppb		91
28) Cis-1,2-DCE	4.27	96	62805	9.67433 ppb		99
29) 2,2-Dichloropropane	4.26	77	49564	7.91090 ppb		96
30) Chloroform	4.61	83	100755	9.98721 ppb		96
31) Bromochloromethane	4.51	128	25342	10.19882 ppb		93
33) 1,1,1-TCA	4.79	97	92274	10.48801 ppb		99
34) Cyclohexane	4.86	41	49304	9.31071 ppb		97
35) 1,1-Dichloropropene	4.98	75	80128	9.71199 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	120088	8.46174 ppb		99
38) Carbon Tetrachloride	4.98	117	74902	11.57579 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	88430	9.55662 ppb		98
40) 1,2-DCA	5.21	62	52895	9.61955 ppb		97
41) Benzene	5.19	78	238834	9.67303 ppb		100
42) TCE	5.91	95	63045	9.29620 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M12.D
Acq On : 10 Mar 17 14:05
Sample : AZ51135W234 MSD-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	194079	124.94505	ppb		97
44)	1,2-Dichloropropane	6.15	63	50619	9.74312	ppb		100
45)	Bromodichloromethane	6.48	83	61292	10.70630	ppb		97
46)	Methyl Cyclohexane	6.14	83	86398	9.34830	ppb		95
47)	Dibromomethane	6.28	93	21833	10.18536	ppb		90
48)	MIBK (methyl isobutyl ket	7.23	43	21173	8.19458	ppb	#	87
49)	1-Bromo-2-chloroethane	6.83	63	43704	8.85156	ppb		93
51)	Cis-1,3-Dichloropropene	7.01	75	61414	10.08284	ppb		95
52)	Toluene	7.42	91	270158	9.48088	ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	42100	11.08509	ppb		95
54)	1,1,2-TCA	7.91	83	25779	10.08371	ppb		89
55)	2-Hexanone	8.27	43	13108	9.02477	ppb		96
58)	1,2-EDB	8.52	107	28495	10.41110	ppb		96
59)	Tetrachloroethene	8.09	164	65291	9.75619	ppb		97
60)	1-Chlorohexane	9.20	91	78223	9.51095	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.29	131	48481	11.61279	ppb		99
62)	m&p-Xylene	9.51	106	250123	19.45825	ppb		99
63)	o-Xylene	10.03	106	115715	9.37754	ppb		99
64)	Styrene	10.05	104	168702	9.36642	ppb		96
66)	1,3-Dichloropropane	8.12	76	53195	9.84947	ppb		94
67)	Dibromochloromethane	8.39	129	37609	12.50214	ppb		98
68)	Chlorobenzene	9.17	112	169804	9.82884	ppb		98
69)	Ethylbenzene	9.35	91	302327	9.55737	ppb		99
70)	Bromoform	10.25	173	18388	11.21286	ppb		98
72)	Isopropylbenzene	10.55	105	300520	9.51300	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	30184	10.58031	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	10148	10.01556	ppb		94
75)	t-1,4-Dichloro-2-Butene	11.04	53	4639	8.32750	ppb	#	78
76)	Bromobenzene	10.91	156	67760	9.76397	ppb		100
77)	n-Propylbenzene	11.12	91	340313	9.57338	ppb		98
78)	4-Ethyltoluene	11.28	105	301283	9.76110	ppb		98
79)	2-Chlorotoluene	11.20	91	195009	9.59758	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	248533	9.42576	ppb		99
81)	4-Chlorotoluene	11.35	91	224151	9.42785	ppb		99
82)	Tert-Butylbenzene	11.82	119	222962	9.41189	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	243872	9.83336	ppb		98
84)	Sec-Butylbenzene	12.14	105	305899	9.79303	ppb		98
85)	p-Isopropyltoluene	12.36	119	265330	9.75369	ppb		99
86)	Benzyl Chloride	12.57	91	9714	5.80118	ppb		99
87)	1,3-DCB	12.24	146	139639	9.85678	ppb		97
88)	1,4-DCB	12.37	146	130318	9.27310	ppb		100
89)	n-Butylbenzene	12.94	91	208795	9.64163	ppb		98
90)	1,2-DCB	12.88	146	113809	9.75388	ppb		97
91)	Hexachloroethane	13.25	117	22275	10.07249	ppb		90
92)	1,2-Dibromo-3-chloropropan	13.99	75	3672	10.89843	ppb		98
93)	1,2,4-Trichlorobenzene	15.21	180	61858	9.62553	ppb		96
94)	Hexachlorobutadiene	15.51	225	40056	9.83200	ppb		91
95)	Naphthalene	15.54	128	29464	10.22147	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	42245	9.42134	ppb		96

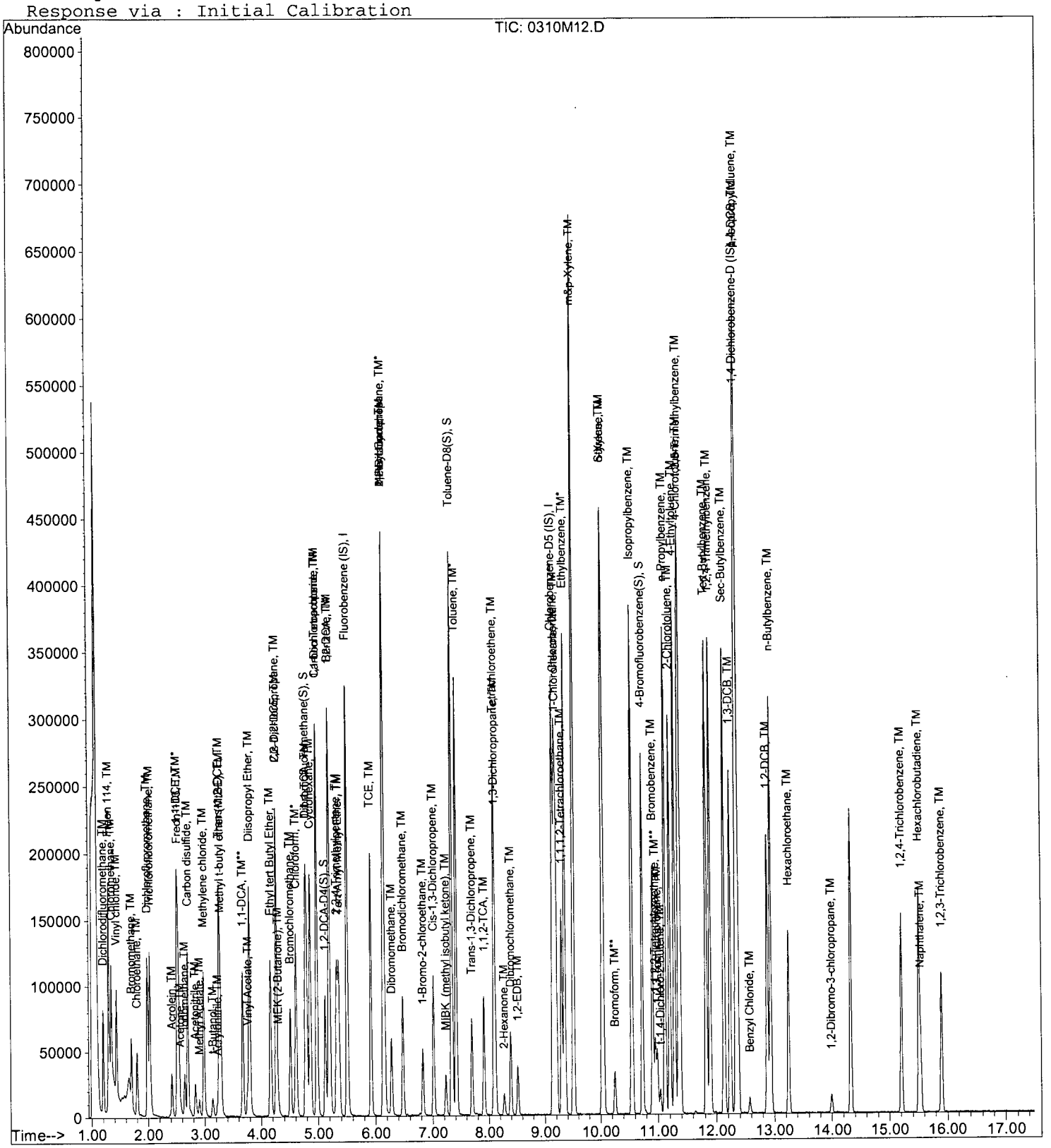
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M12.D Vial: 9
Acq On : 10 Mar 17 14:05 Operator: PM,DG,SV,CMM
Sample : AZ51135W234 MSD-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



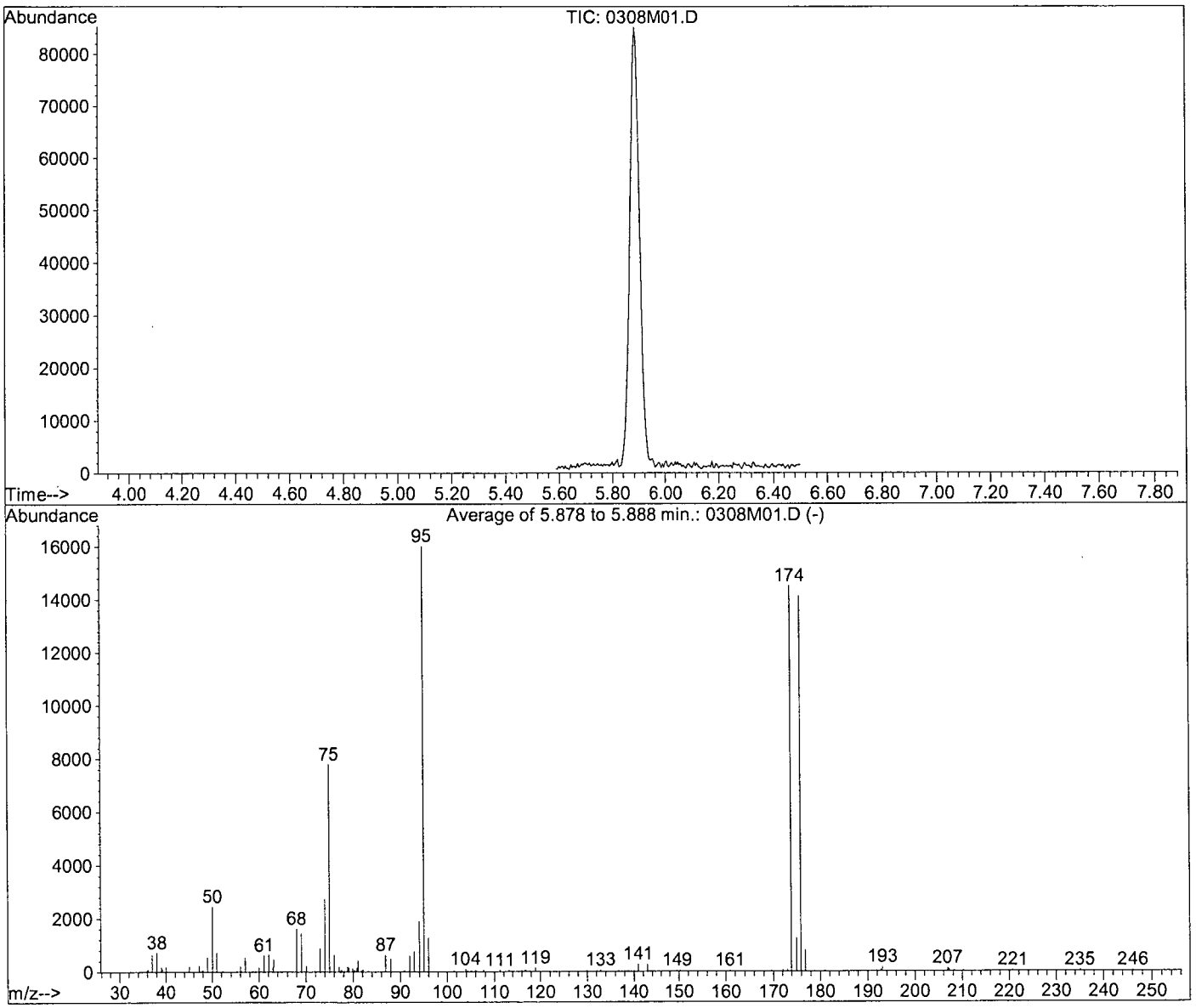
678

BFB

Data File : M:\MAX\DATA\M170308\0308M01.D
Acq On : 8 Mar 17 11:09
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	2448	PASS
75	95	30	60	48.6	7787	PASS
95	95	100	100	100.0	16012	PASS
96	95	5	9	7.9	1263	PASS
173	174	0.00	2	0.5	72	PASS
174	95	50	100	90.6	14507	PASS
175	174	5	9	8.6	1245	PASS
176	174	95	101	97.3	14113	PASS
177	176	5	9	5.6	793	PASS

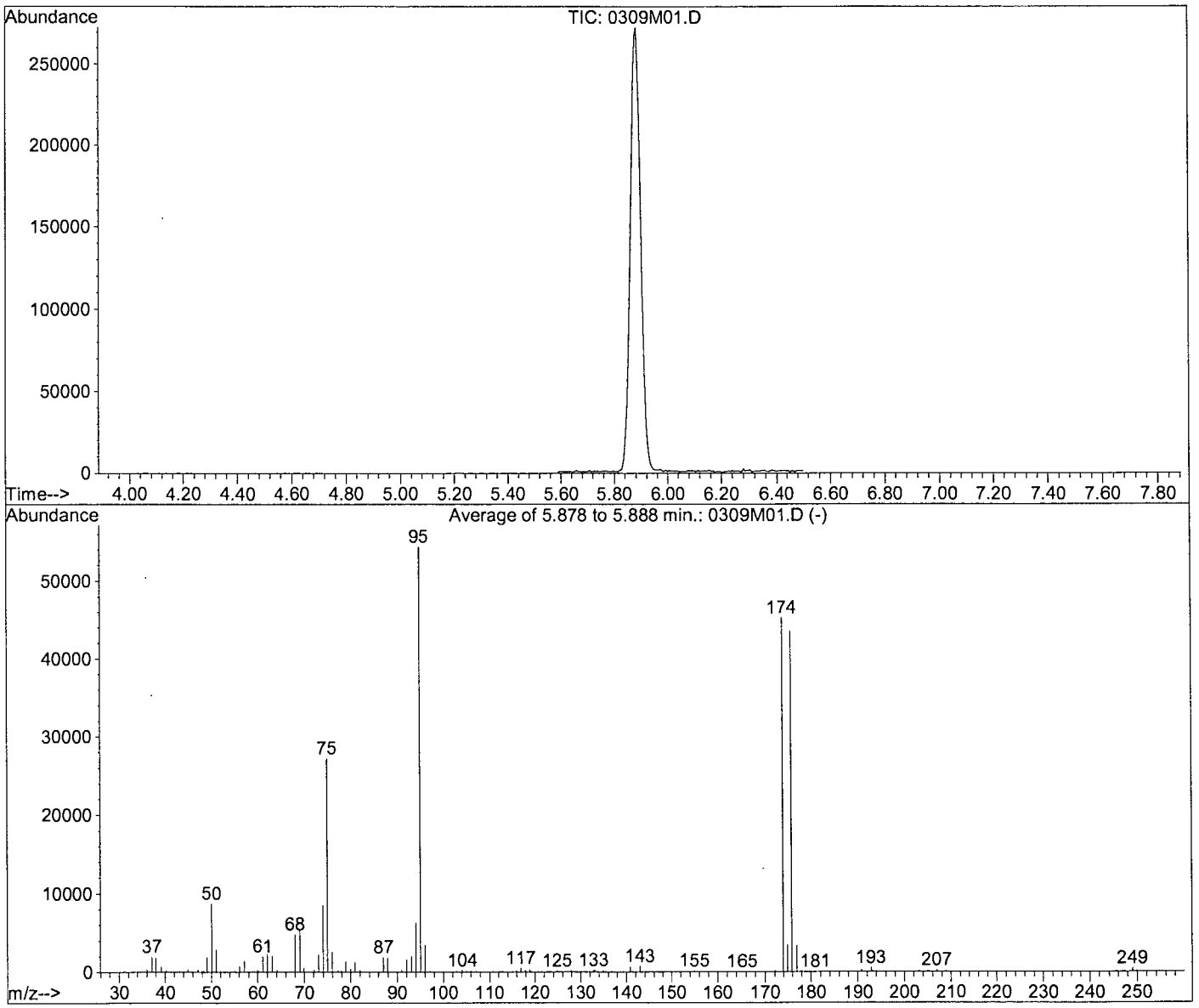
0308M01.D MALLW.M Thu Mar 09 08:26:49 2017

BFB

Data File : M:\MAX\DATA\M170308\0309M01.D
Acq On : 9 Mar 17 9:14
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.0	8699	PASS
75	95	30	60	50.0	27216	PASS
95	95	100	100	100.0	54424	PASS
96	95	5	9	6.4	3462	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.2	45291	PASS
175	174	5	9	7.5	3415	PASS
176	174	95	101	96.1	43515	PASS
177	176	5	9	7.7	3338	PASS

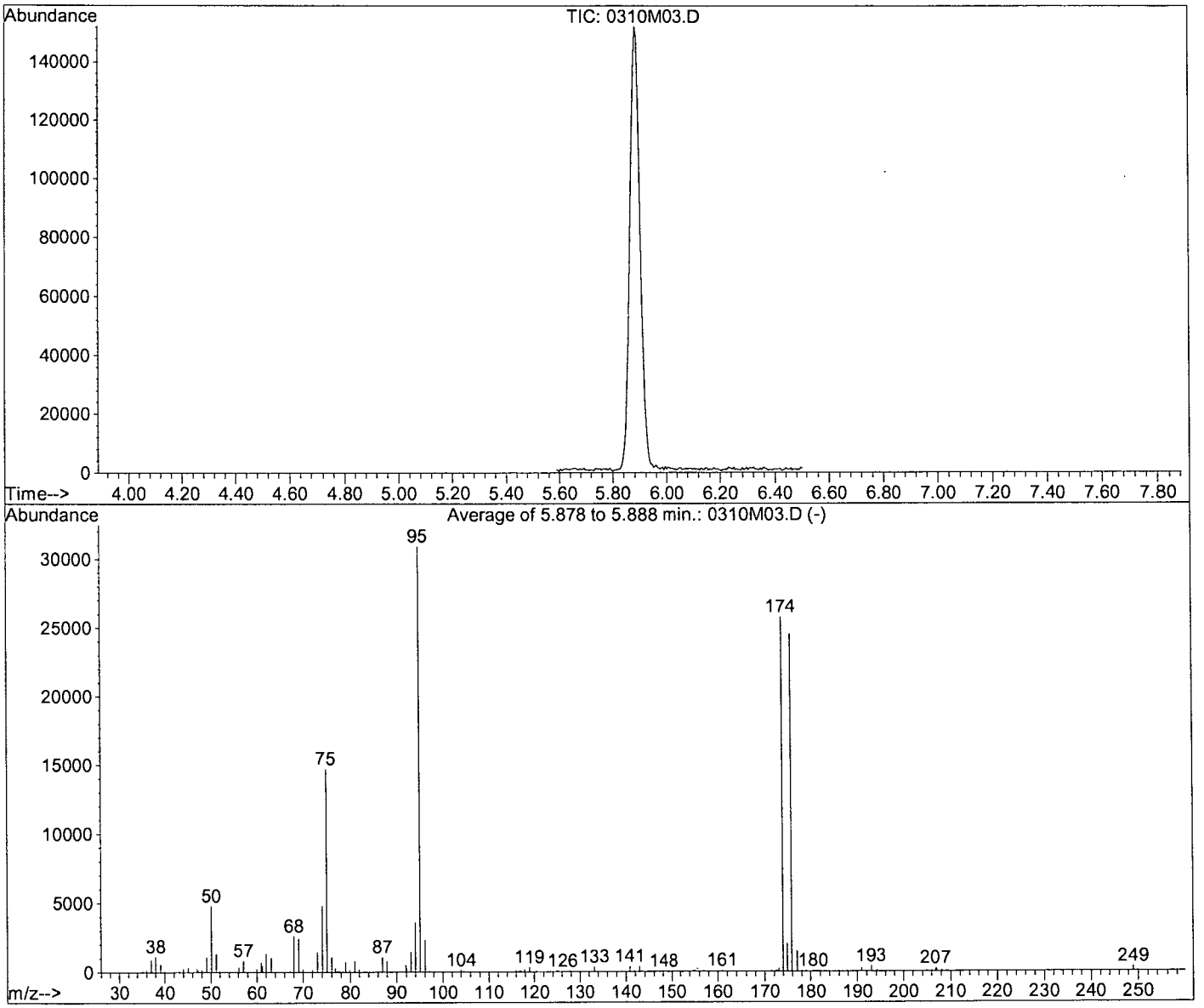
0309M01.D MALLW.M Fri Mar 10 08:59:57 2017

BFB

Data File : M:\MAX\DATA\M170308\0310M03.D
Acq On : 10 Mar 17 9:52
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.5	4794	PASS
75	95	30	60	47.6	14705	PASS
95	95	100	100	100.0	30912	PASS
96	95	5	9	7.5	2312	PASS
173	174	0.00	2	0.8	215	PASS
174	95	50	100	83.3	25736	PASS
175	174	5	9	8.0	2054	PASS
176	174	95	101	95.2	24512	PASS
177	176	5	9	6.1	1490	PASS

0310M03.D MALLW.M Mon Mar 13 09:36:53 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	03/09/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/07/17K	03/07/17L	03/07/17M	03/07/17G	03/07/17I	03/07/17H	03/07/17J	03/07/17N	Final Vol
	Conc.	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
03/08/17H-CMM	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
03/08/17I-CMM	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
03/08/17J-CMM	1	10	10	10	n/a	n/a	n/a	n/a	10	50
03/08/17K-CMM	2	20	20	20	n/a	n/a	n/a	n/a	15	50
03/08/17L-CMM	5	n/a	n/a	n/a	5	5	5	5	20	50
03/08/17M-CMM	10	n/a	n/a	n/a	10	10	10	10	25	50
03/08/17N-CMM	20	n/a	n/a	n/a	20	20	20	20	30	50
03/08/17O-CMM	40	n/a	n/a	n/a	40	40	40	40	35	50
03/08/17P-CMM	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

03/07/17G							
50ug/ml Vol Work Std #7							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	279822-36640	030717A-CMM	21919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37448	022317E-DG	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36575	022317F-DG	52418	200
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3500
03/07/17H							
50ug/ml Vol Work Std #1							
Exp:04/07/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37216	022317G-DG	91919	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17I							
50ug/ml Vol Work Std #8							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37170	022317H-DG	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-365582	022317I-DG	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37439	022317K-DG	41017	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3700
03/07/17J							
50ug/ml Vol Work Std #2							
Exp:04/07/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36074	022317J-DG	81717	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3900
		03/07/17K					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/07/17G**	Exp:04/07/17	200	
		50ug/ml Vol Work Std #8		**03/07/17I**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1600	
		03/07/17L					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/07/17H**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
		03/07/17M					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/07/17J**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
03/07/17N							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37455	030717B-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	298515-37587	030717C-CMM	31417	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3400

SECONDARY SOURCE

03/07/17O							
50ug/ml VOC Std#4							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37376	030717D-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17P							
50ug/ml VOC Std#5							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37380	022317N-DG	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35382	022317O-DG	62117	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1900
03/07/17Q							

50ug/ml VOC Std#6							
Exp:04/07/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35932	022317P-DG	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37442	022317Q-DG	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37385	022317R-DG	121918	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1800
03/07/17R							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37236	030717E-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	298516-37589	030717F-CMM	31417	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170308\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0308M01.D	1	25ug/ml BFB STD 3/02/17	2ul	8 Mar 17 11:09
2	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
3	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
4	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
5	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
6	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
7	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
8	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
9	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
10	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
11	17	0308M18.D	1	(SS)10ug/L VOC STD 3/8/17	IS&S 02/23/17	8 Mar 17 19:07
12	1	0309M01.D	1	25ug/ml BFB STD 3/02/17	2ul	9 Mar 17 9:14
13	2	0309M03.D	1	170309A CCV-1WM 10ug/L	IS&S 02/23/17	9 Mar 17 10:08
14	3	0309M04.D	1	170309A LCS-1WM 10ug/L	IS&S 02/23/17	9 Mar 17 10:36
15	7	0309M08.D	1	170309A BLK-1WM	IS&S 02/23/17	9 Mar 17 12:29
16	11	0309M12.D	1	AZ51130W01	IS&S 02/23/17	9 Mar 17 14:23
17	12	0309M13.D	1	AZ51131W01	IS&S 02/23/17	9 Mar 17 14:51
18	13	0309M14.D	1	AZ51135W01	IS&S 02/23/17	9 Mar 17 15:20
19	14	0309M15.D	1	AZ51133W01	IS&S 02/23/17	9 Mar 17 15:48
20	15	0309M16.D	1	AZ51134W01	IS&S 02/23/17	9 Mar 17 16:17
21	16	0309M17.D	1	AZ51136W01	IS&S 02/23/17	9 Mar 17 16:45
22	17	0309M18.D	1	AZ51137W01	IS&S 02/23/17	9 Mar 17 17:13
23	18	0309M19.D	1	AZ51138W01	IS&S 02/23/17	9 Mar 17 17:42
24	20	0309M21.D	1	Ending CCV 8260 10ug/L 3/9/17	IS&S 02/23/17	10 Mar 17 6:37
25	1	0310M03.D	1	25ug/ml BFB STD 3/02/17	2ul	10 Mar 17 9:52
26	2	0310M05.D	1	170310A CCV-1WM 10ug/L	IS&S 02/23/17	10 Mar 17 10:46
27	3	0310M06.D	1	170310A LCS-1WM 10ug/L	IS&S 02/23/17	10 Mar 17 11:15
28	7	0310M10.D	1	170310A BLK-1WM	IS&S 02/23/17	10 Mar 17 13:08
29	8	0310M11.D	1	AZ51135W234 MS-1WM 10ug/L	IS&S 02/23/17	10 Mar 17 13:37
30	9	0310M12.D	1	AZ51135W234 MSD-1WM 10ug/l	IS&S 02/23/17	10 Mar 17 14:05
31	12	0310M15.D	1	AZ51139W02	IS&S 02/23/17	10 Mar 17 15:30
32	13	0310M16.D	1	AZ51140W01	IS&S 02/23/17	10 Mar 17 15:59
33	14	0310M17.D	1	AZ51141W01	IS&S 02/23/17	10 Mar 17 16:27
34	15	0310M18.D	1	AZ51132W01	IS&S 02/23/17	10 Mar 17 16:56
35	25	0310M28.D	1	AZ51132W234 MS-1WM 10ug/L	IS&S 02/23/17	10 Mar 17 21:46
36	26	0310M29.D	1	AZ51132W234 MSD-1WM 10ug/l	IS&S 02/23/17	10 Mar 17 22:14
37	27	0310M30.D	1	Ending CCV 8260 10ug/L 3/10/17	IS&S 02/23/17	10 Mar 17 22:42

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51142 - 216753**
Batch ID: #GRO86-170309AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.
Run #: 0309M08
Instrument: Max
Sequence: M170308
Initials: PM

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:12:18 AM

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216804**
Batch ID: #GRO86-170310AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.9	85-114			%	03/10/17	03/10/17

Quant Method: MGAS6302.
Run #: 0310M10
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:12:19 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/09/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170309AM-LCS	Lab Control Spike	85-114	97.6				
170309AM-BLK	Blank	85-114	95.6				
AZ51130	ERH255	85-114	97.5				
AZ51135	ERH262	85-114	98.2				
AZ51133	ERH258	85-114	95.7				
AZ51134	ERH261	85-114	97.0				
AZ51136	ERH263	85-114	98.3				
AZ51137	ERH266	85-114	96.1				
AZ51139	ERH268	85-114	105				
AZ51135-MS	Matrix Spike	85-114	98.4				
AZ51135-MSD	Matrix SpikeD	85-114	98.8				

Comments: Batch: #GRO86-170309A

Printed: 03/14/17 11:12:24 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82351

Case No: 82351 Date Analyzed: 03/10/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310AM-LCS	Lab Control Spike	85-114	97.2				
170310AM-BLK	Blank	85-114	95.9				
AZ51140	ERH269	85-114	97.5				
AZ51141	ERH270	85-114	99.8				
AZ51132	ERH257	85-114	95.0				
AZ51132-MS	Matrix Spike	85-114	96.8				
AZ51132-MSD	Matrix SpikeD	85-114	98.4				

Comments: Batch: #GRO86-170310A

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170309W-51142 LCS - 216753**
Batch ID: #GRO86-170309AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	291	97.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.4	97.6	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Max
Run :	0309M06
Initials :	SV

Printed: 03/14/17 11:12:29 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170310W-51132 LCS - 216804**
Batch ID: #GRO86-170310AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	284	94.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.3	97.2	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Max
Run :	0310M08
Initials :	SV

Printed: 03/14/17 11:12:29 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170310W-51132 MS - 216804**
Batch ID: #GRO86-170310AM
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	275	262	91.7	87.3	78-122	4.8	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.2	24.6	96.8	98.4	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M26	0310M27
Initials :	SV	

Printed: 03/14/17 11:12:38 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170310W-51135 MS - 216753**
Batch ID: #GRO86-170309AM
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	260	249	86.7	83.0	78-122	4.3	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.6	24.7	98.4	98.8	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M13	0310M14
Initials :	SV	

Printed: 03/14/17 11:12:38 AM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82351
Case No: 82351
Date Analyzed: 03/09/17
Matrix: WATER
Instrument: Max
Blank ID: 170309AM-BLK
Time Analyzed: 1229

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170309AM-LCS	Lab Control Spike	0309M06	03/09/17 1133
170309AM-BLK	Blank	0309M08	03/09/17 1229
AZ51130	ERH255	0309M12	03/09/17 1423
AZ51135	ERH262	0309M14	03/09/17 1520
AZ51133	ERH258	0309M15	03/09/17 1548
AZ51134	ERH261	0309M16	03/09/17 1617
AZ51136	ERH263	0309M17	03/09/17 1645
AZ51137	ERH266	0309M18	03/09/17 1713
AZ51139	ERH268	0309M20	03/10/17 0609
170309AM-MS	Matrix Spike	0310M13	03/10/17 1434
170309AM-MSD	Matrix SpikeD	0310M14	03/10/17 1502

Comments: Batch: #GRO86-170309A

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82351
Case No: 82351
Date Analyzed: 03/10/17
Matrix: WATER
Instrument: Max
Blank ID: 170310AM-BLK
Time Analyzed: 1308

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310AM-LCS	Lab Control Spike	0310M08	03/10/17 1212
170310AM-BLK	Blank	0310M10	03/10/17 1308
AZ51140	ERH269	0310M16	03/10/17 1559
AZ51141	ERH270	0310M17	03/10/17 1627
AZ51132	ERH257	0310M18	03/10/17 1656
170310AM-MS	Matrix Spike	0310M26	03/10/17 2049
170310AM-MSD	Matrix SpikeD	0310M27	03/10/17 2117

Comments: Batch: #GRO86-170310A

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH255
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51130
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	03/09/17	03/09/17

Quant Method:	MGAS6302.M
Run #:	0309M12
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/14/17 11:12:47 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M12.D
Acq On : 9 Mar 17 14:23
Sample : AZ51130W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:54 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	313962	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

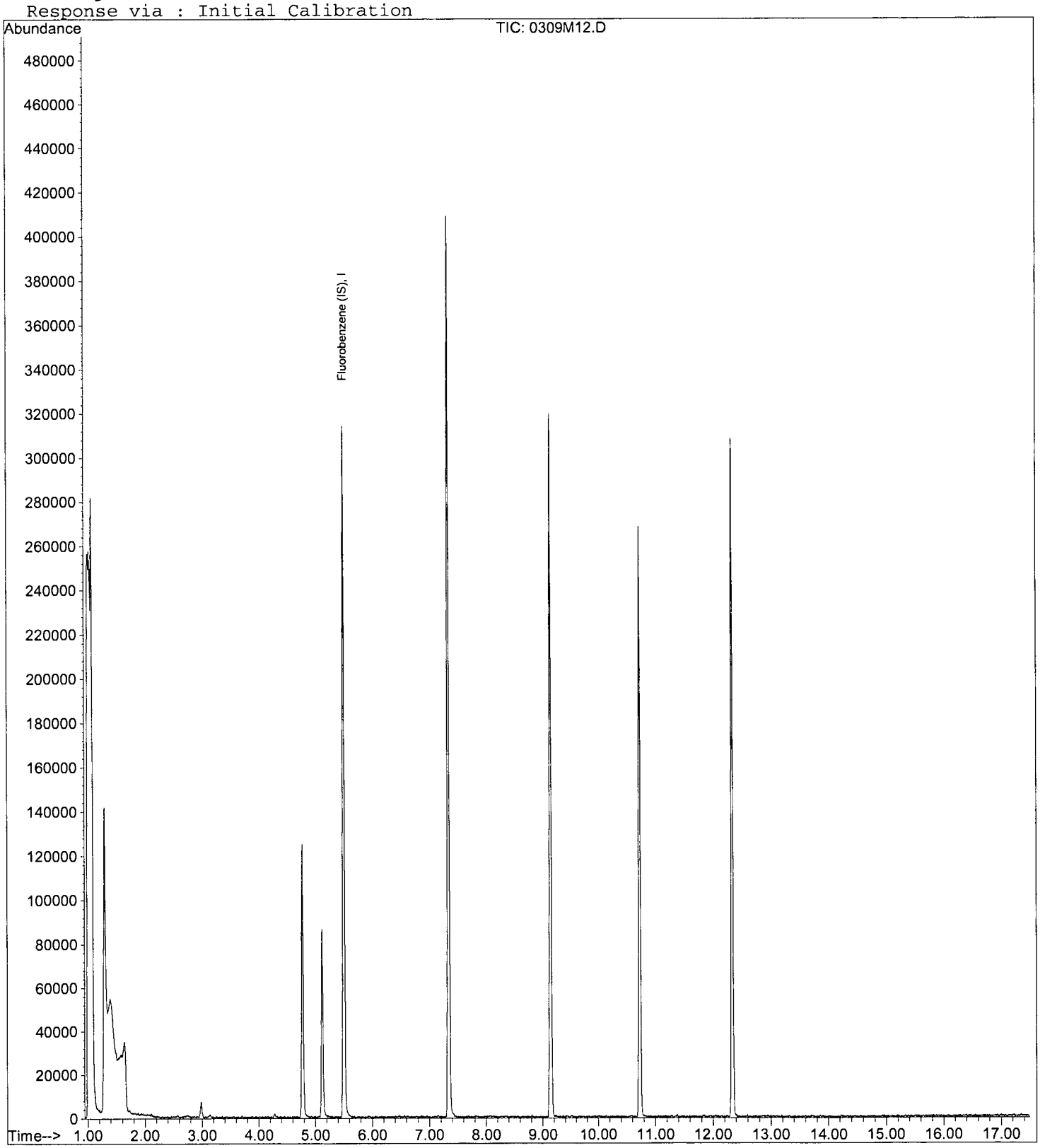
Data File : M:\MAX\DATA\M170308\0309M12.D
Acq On : 9 Mar 17 14:23
Sample : AZ51130W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:54 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M12.D Vial: 11
Acq On : 9 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : AZ51130W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	299613	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	216957	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101296	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75047	25.42410 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.696%	
3) 1,2-DCA-D4(S)	5.12	65	59149	25.12836 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.512%	
5) Toluene-D8(S)	7.34	98	308544	24.49248 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.968%	
6) 4-Bromofluorobenzene(S)	10.73	95	101493	24.37208 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.488%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #GRO86-170310AM-216804

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.0	85-114			%	03/10/17	03/10/17

Quant Method: MGAS6302.M
Run #: 0310M18
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M18.D
Acq On : 10 Mar 17 16:56
Sample : AZ51132W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:28 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	328862	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

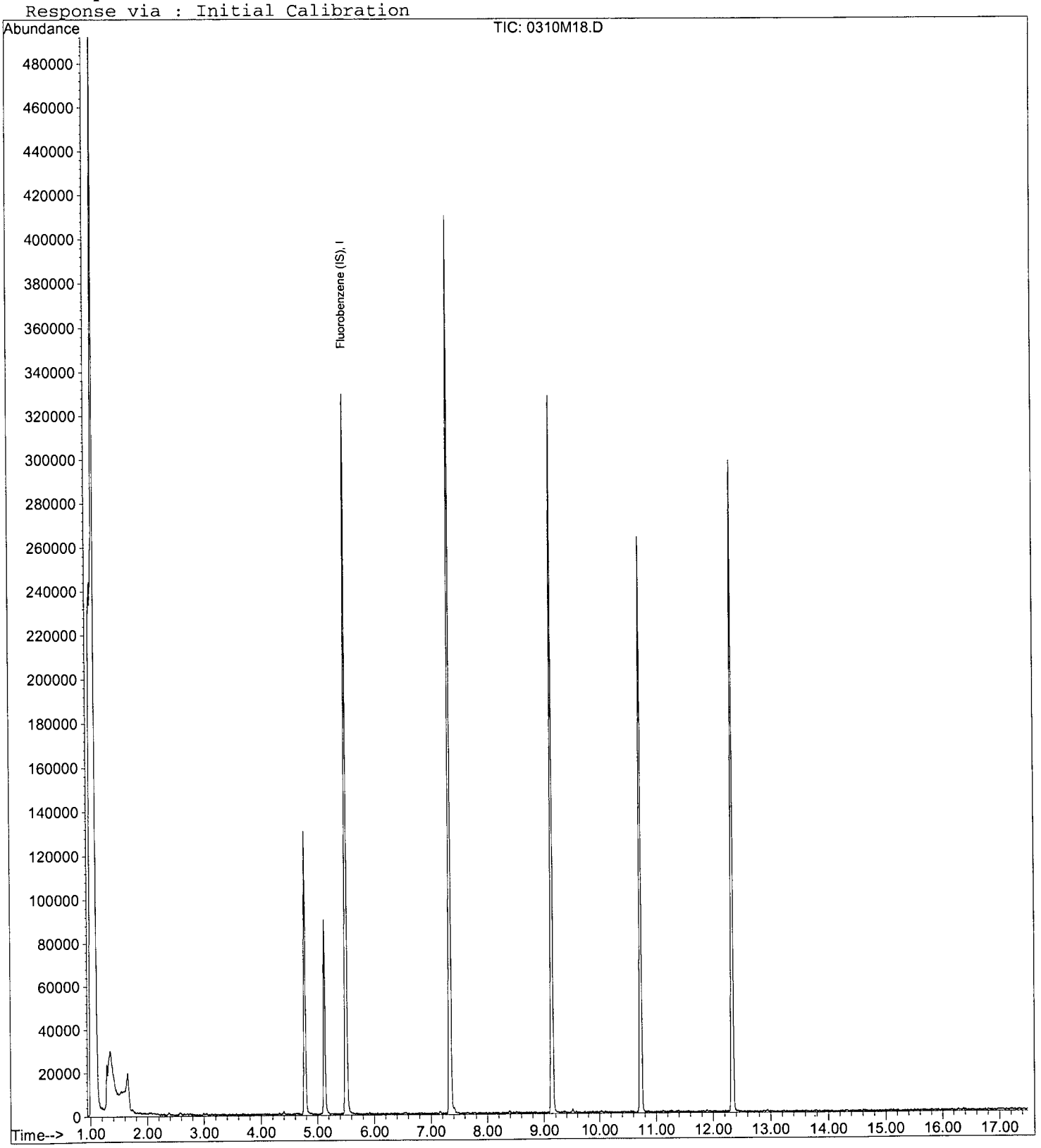
Data File : M:\MAX\DATA\M170308\0310M18.D
Acq On : 10 Mar 17 16:56
Sample : AZ51132W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:28 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M18.D Vial: 15
Acq On : 10 Mar 17 16:56 Operator: PM,DG,SV,CMM
Sample : AZ51132W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	312435	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	216945	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100622	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	77450	25.16139 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.644%	
3) 1,2-DCA-D4(S)	5.12	65	61368	25.00113 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.004%	
5) Toluene-D8(S)	7.34	98	309539	24.57282 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.292%	
6) 4-Bromofluorobenzene(S)	10.73	95	98916	23.75456 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.020%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH258
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51133
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.7	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0309M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M15.D Vial: 14
Acq On : 9 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : AZ51133W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 9:55 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	315878	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

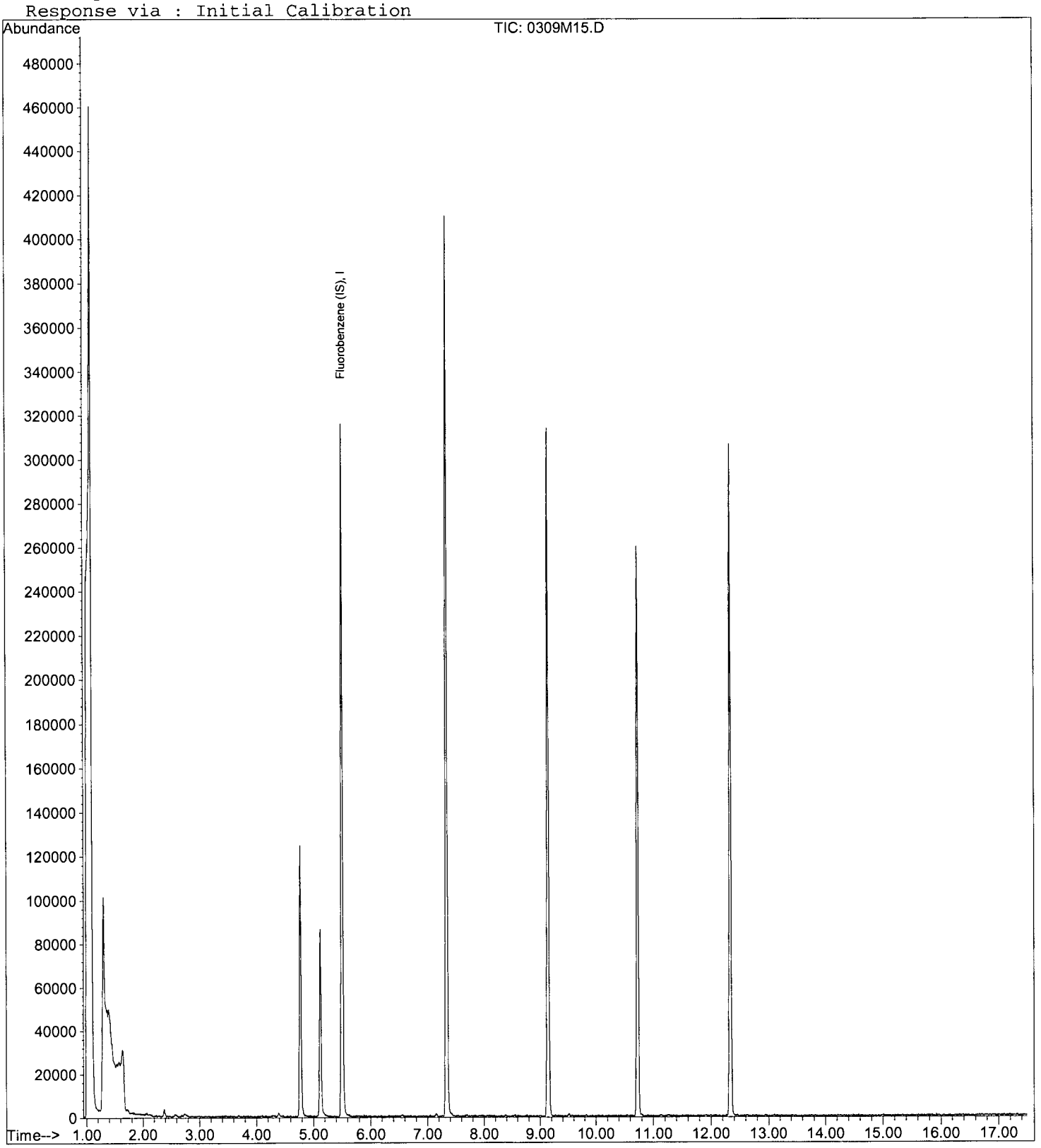
Data File : M:\MAX\DATA\M170308\0309M15.D
Acq On : 9 Mar 17 15:48
Sample : AZ51133W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:55 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M15.D Vial: 14
Acq On : 9 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : AZ51133W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306340	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213336	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102817	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75255	24.93472 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.740%	
3) 1,2-DCA-D4(S)	5.12	65	59489	24.71783 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.872%	
5) Toluene-D8(S)	7.34	98	303613	24.51012 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.040%	
6) 4-Bromofluorobenzene(S)	10.73	95	97934	23.91660 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.668%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH261
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51134
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0309M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M16.D
Acq On : 9 Mar 17 16:17
Sample : AZ51134W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:55 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	315676	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

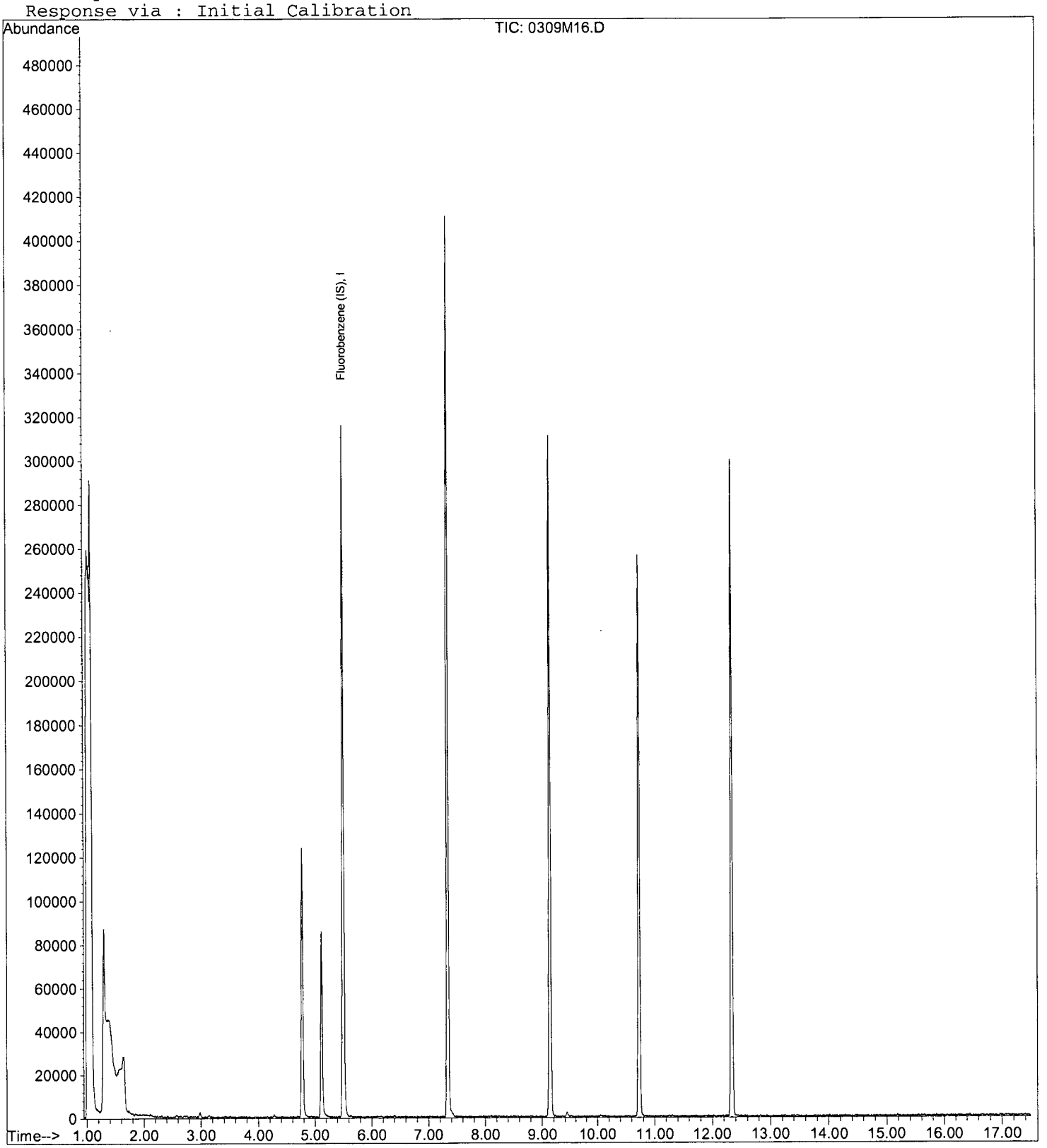
Data File : M:\MAX\DATA\M170308\0309M16.D
Acq On : 9 Mar 17 16:17
Sample : AZ51134W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:55 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M16.D
Acq On : 9 Mar 17 16:17
Sample : AZ51134W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 10:01 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306561	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212469	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100592	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75229	24.90814 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.632%	
3) 1,2-DCA-D4(S)	5.12	65	60620	25.16960 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.680%	
5) Toluene-D8(S)	7.34	98	306569	24.84974 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.400%	
6) 4-Bromofluorobenzene(S)	10.73	95	98911	24.25377 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.016%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.M
Run #: 0309M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M14.D Vial: 13
Acq On : 9 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : AZ51135W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 9:55 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	314998	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

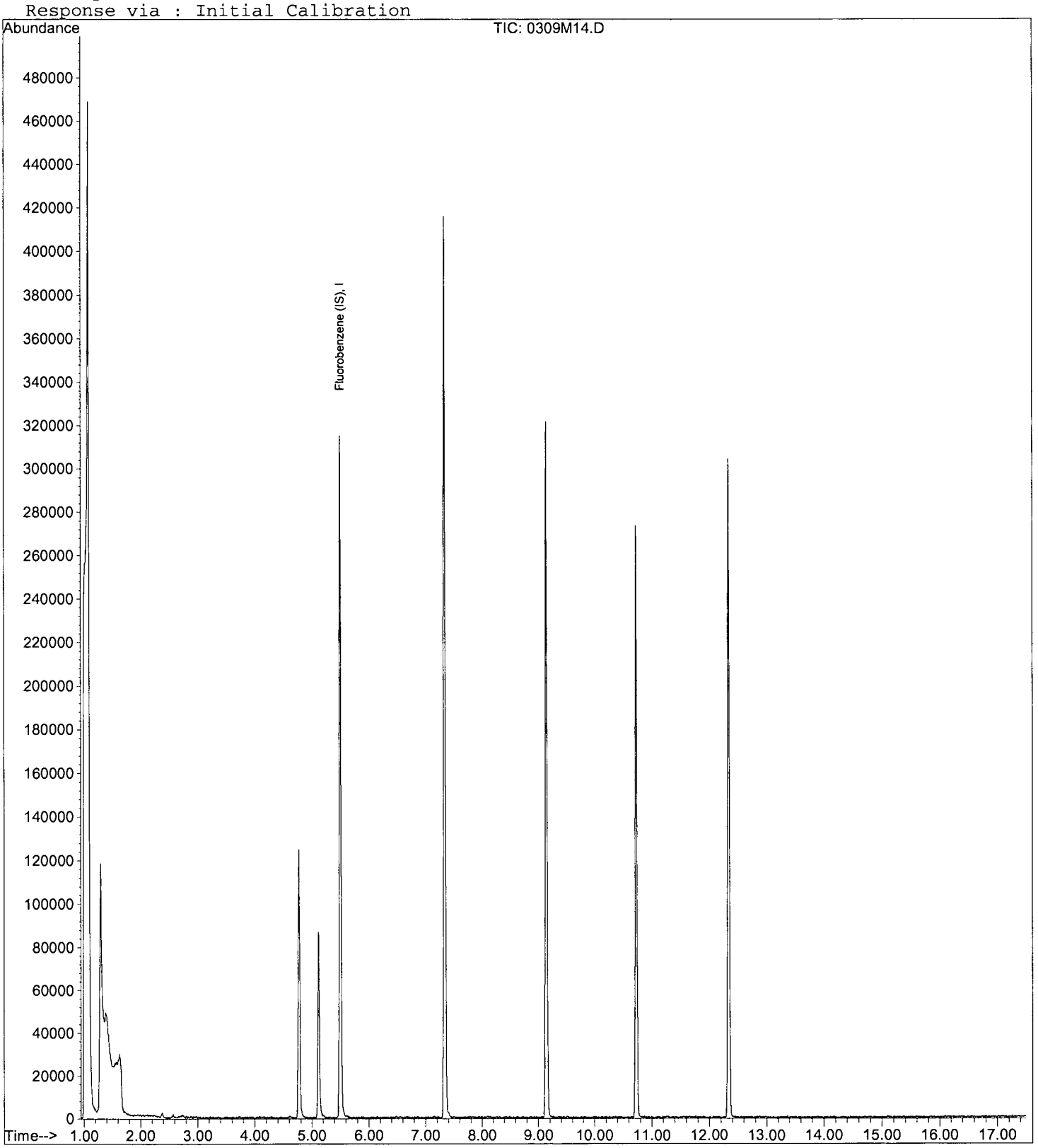
Data File : M:\MAX\DATA\M170308\0309M14.D
Acq On : 9 Mar 17 15:20
Sample : AZ51135W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:55 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M14.D Vial: 13
Acq On : 9 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : AZ51135W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	302481	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	215154	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100338	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	76711	25.74141 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.964%	
3) 1,2-DCA-D4(S)	5.12	65	59919	25.21412 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.856%	
5) Toluene-D8(S)	7.34	98	316392	25.32593 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.304%	
6) 4-Bromofluorobenzene(S)	10.73	95	101419	24.55840 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.232%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH263
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51136
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.3	85-114			%	03/09/17	03/09/17

Quant Method:	MGAS6302.M
Run #:	0309M17
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M17.D
Acq On : 9 Mar 17 16:45
Sample : AZ51136W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:56 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	307591	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

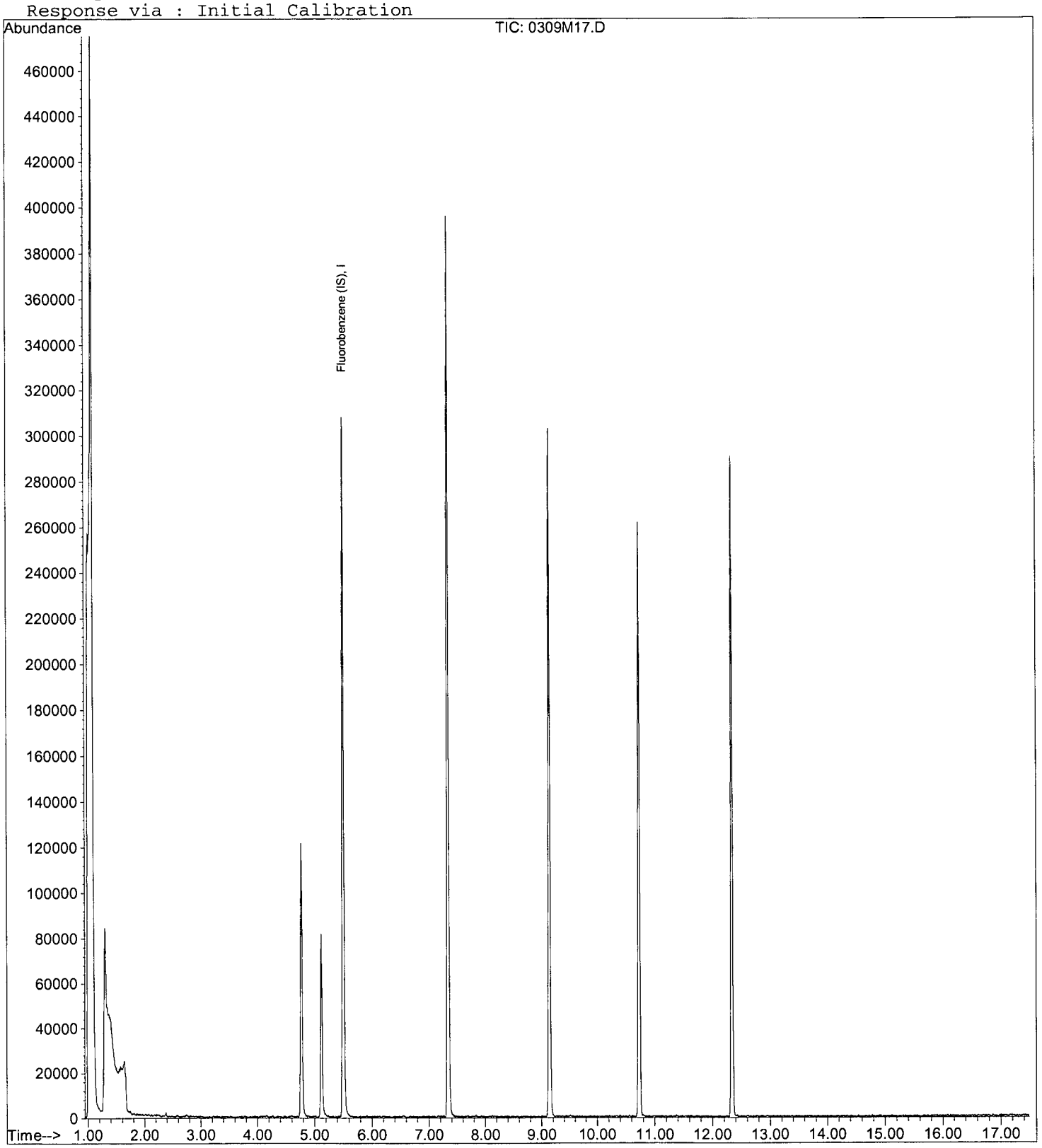
Data File : M:\MAX\DATA\M170308\0309M17.D
Acq On : 9 Mar 17 16:45
Sample : AZ51136W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M17.D Vial: 16
Acq On : 9 Mar 17 16:45 Operator: PM,DG,SV,CMM
Sample : AZ51136W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	296248	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	207112	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	95986	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	74018	25.36032 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.440%	
3) 1,2-DCA-D4(S)	5.12	65	56275	24.17895 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.716%	
5) Toluene-D8(S)	7.34	98	299271	24.88563 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.544%	
6) 4-Bromofluorobenzene(S)	10.73	95	97667	24.56817 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.272%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH266
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51137
QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.1	85-114			%	03/09/17	03/09/17

Quant Method:	MGAS6302.M
Run #:	0309M18
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M18.D
Acq On : 9 Mar 17 17:13
Sample : AZ51137W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	313241	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

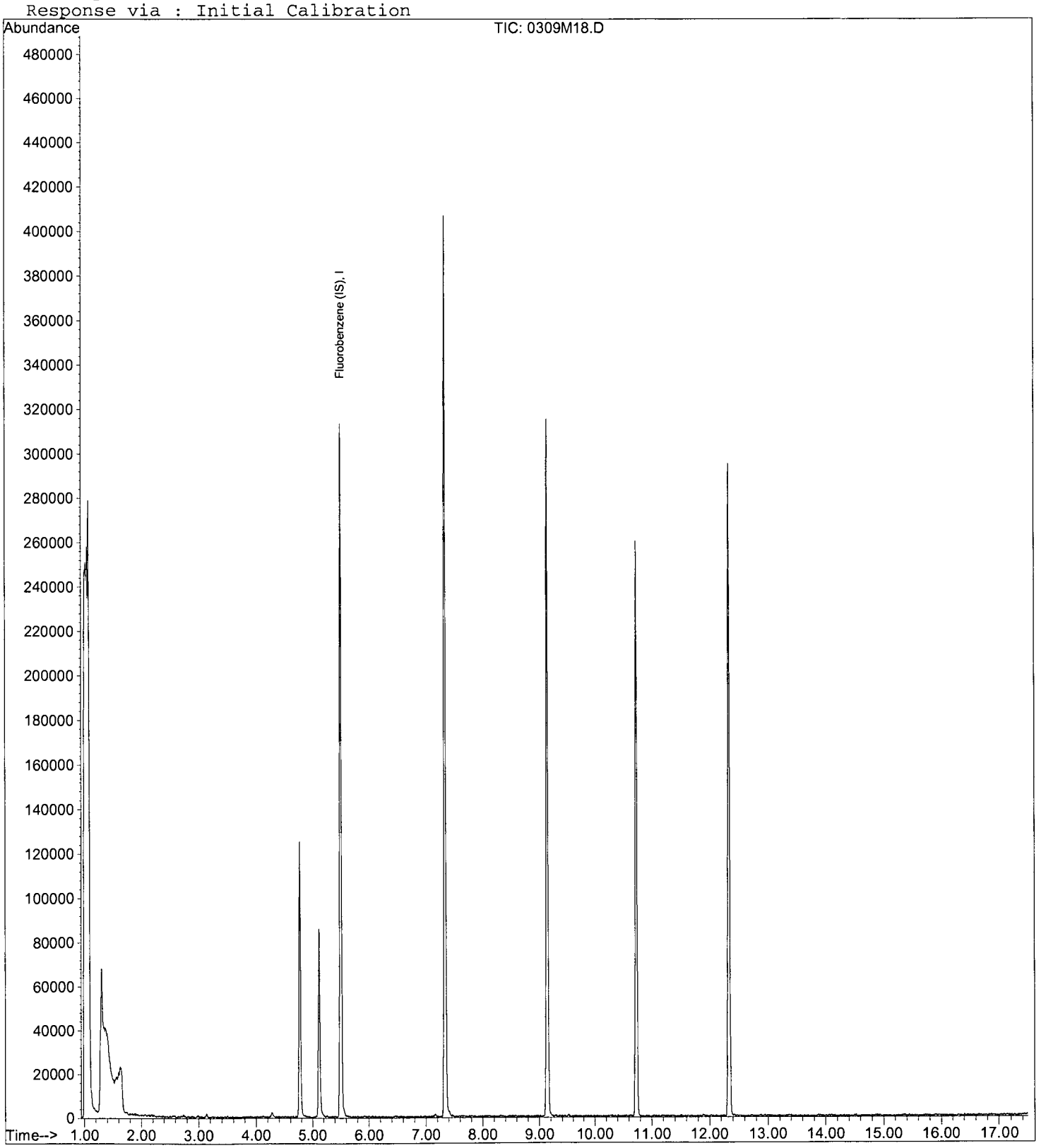
Data File : M:\MAX\DATA\M170308\0309M18.D
Acq On : 9 Mar 17 17:13
Sample : AZ51137W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M18.D Vial: 17
Acq On : 9 Mar 17 17:13 Operator: PM,DG,SV,CMM
Sample : AZ51137W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	300089	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	211789	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	97809	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75759	25.62460 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.500%	
3) 1,2-DCA-D4(S)	5.12	65	57909	24.56254 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.252%	
5) Toluene-D8(S)	7.34	98	304984	24.80064 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.204%	
6) 4-Bromofluorobenzene(S)	10.73	95	97647	24.02070 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.084%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82351

Sample ID: ERH268

APPL ID: AZ51139

Sample Collection Date: 03/07/17

QCG: #GRO86-170309AM-216753

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	105	85-114			%	03/10/17	03/10/17

Quant Method:	MGAS6302.M
Run #:	0309M20
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M20.D Vial: 19
Acq On : 10 Mar 17 6:09 Operator: PM,DG,SV,CMM
Sample : AZ51139W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 9:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.55	TIC	206726	25.00000 ppb	0.04

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

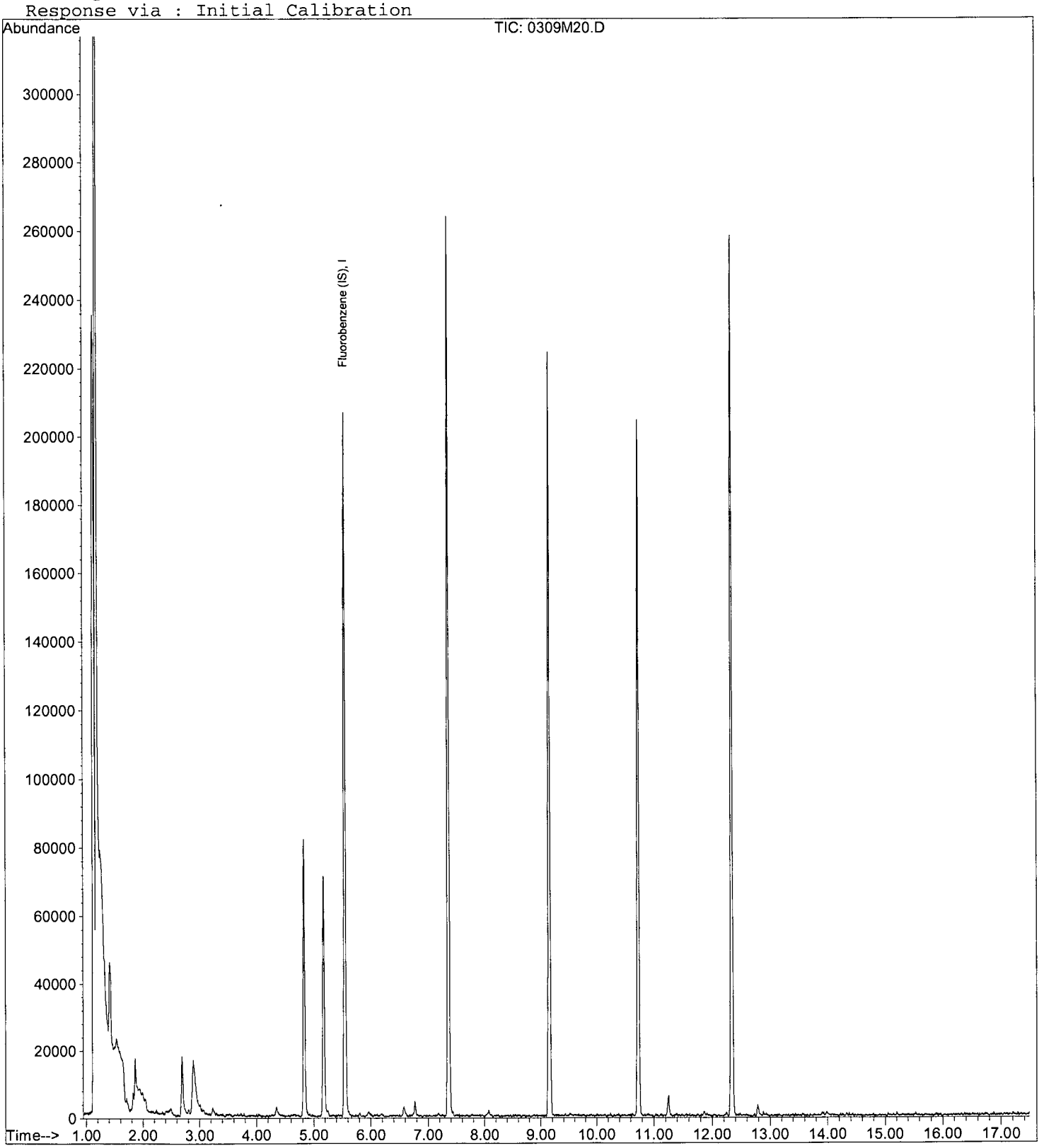
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M20.D
Acq On : 10 Mar 17 6:09
Sample : AZ51139W01
Misc : IS&S 02/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:56 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M20.D Vial: 19
Acq On : 10 Mar 17 6:09 Operator: PM,DG,SV,CMM
Sample : AZ51139W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.55	96	193081	25.00000 ppb	0.04
4) Chlorobenzene-D5 (IS)	9.15	117	153547	25.00000 ppb	0.01
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	86215	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.83	111	48494	25.49302 ppb	0.06
Spiked Amount 25.000			Recovery	= 101.972%	
3) 1,2-DCA-D4(S)	5.18	65	50457	33.26283 ppb	0.06
Spiked Amount 25.000			Recovery	= 133.052%	
5) Toluene-D8(S)	7.36	98	197264	22.12564 ppb	0.02
Spiked Amount 25.000			Recovery	= 88.504%	
6) 4-Bromofluorobenzene(S)	10.73	95	77536	26.30826 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.232%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH269
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51140
QCG: #GRO86-170310AM-216804

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	03/10/17	03/10/17

Quant Method: MGAS6302.M
Run #: 0310M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M16.D Vial: 13
Acq On : 10 Mar 17 15:59 Operator: PM,DG,SV,CMM
Sample : AZ51140W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:27 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	319677	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration
0310M16.D MGAS6302.M Mon Mar 13 10:30:39 2017

Quantitation Report

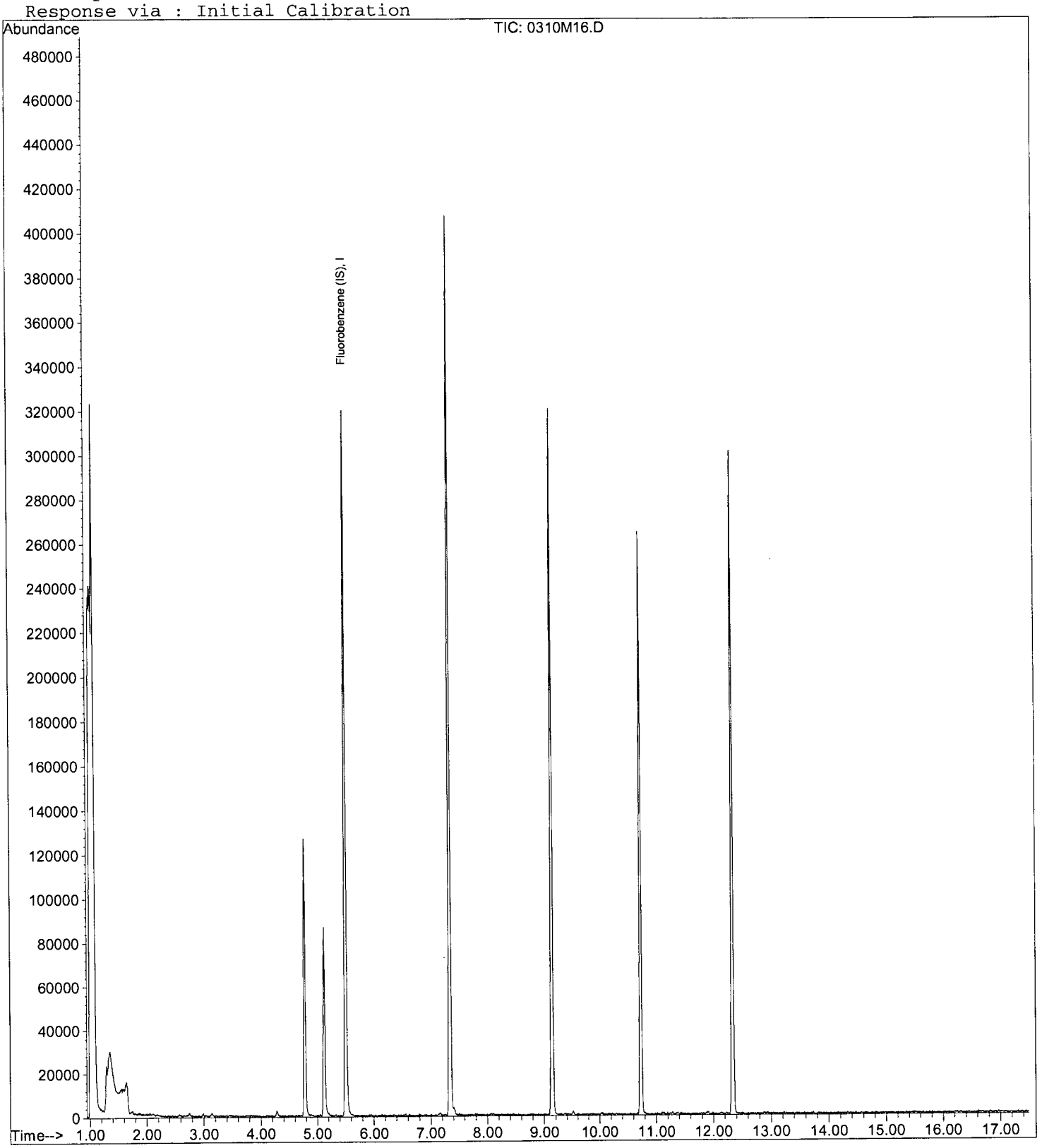
Data File : M:\MAX\DATA\M170308\0310M16.D
Acq On : 10 Mar 17 15:59
Sample : AZ51140W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M16.D
Acq On : 10 Mar 17 15:59
Sample : AZ51140W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:35 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313030	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	214648	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100027	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75980	24.63691 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.548%	
3) 1,2-DCA-D4(S)	5.12	65	60397	24.55878 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.236%	
5) Toluene-D8(S)	7.34	98	313206	25.13000 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.520%	
6) 4-Bromofluorobenzene(S)	10.73	95	100438	24.37818 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.512%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #GRO86-170310AM-216804

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.8	85-114			%	03/10/17	03/10/17

Quant Method: MGAS6302.M
Run #: 0310M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/14/17 11:12:48 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M17.D
Acq On : 10 Mar 17 16:27
Sample : AZ51141W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:28 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	309815	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

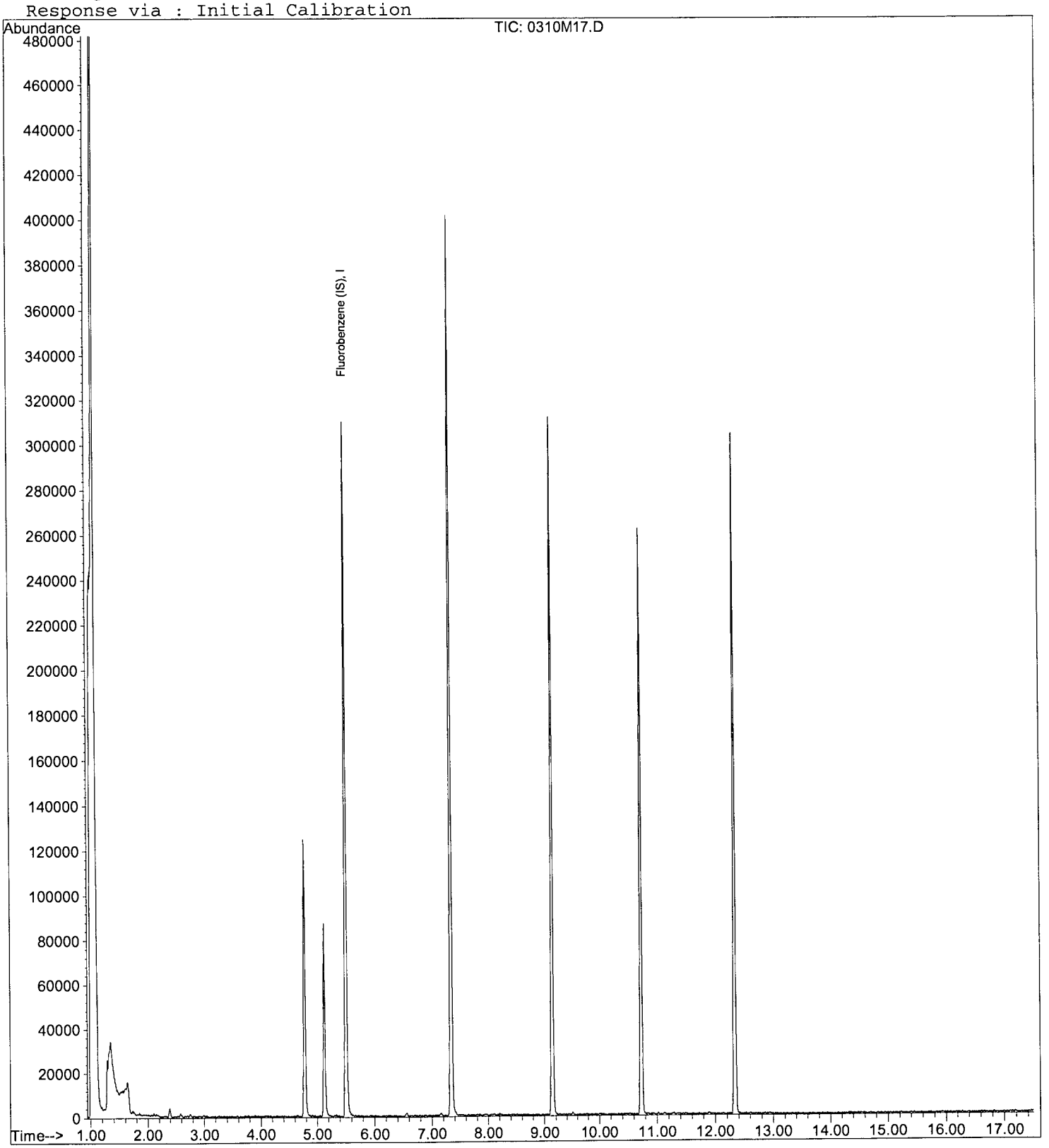
Data File : M:\MAX\DATA\M170308\0310M17.D
Acq On : 10 Mar 17 16:27
Sample : AZ51141W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:28 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M17.D Vial: 14
Acq On : 10 Mar 17 16:27 Operator: PM,DG,SV,CMM
Sample : AZ51141W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	295135	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	208739	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100701	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75468	25.95464 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.820%	
3) 1,2-DCA-D4(S)	5.13	65	59792	25.78693 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.148%	
5) Toluene-D8(S)	7.34	98	299998	24.75164 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.008%	
6) 4-Bromofluorobenzene(S)	10.73	95	99999	24.95871 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.836%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
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5																
6																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M05.D MGAS6302.M Mon Mar 06 11:54:28 2017

Quantitation Report

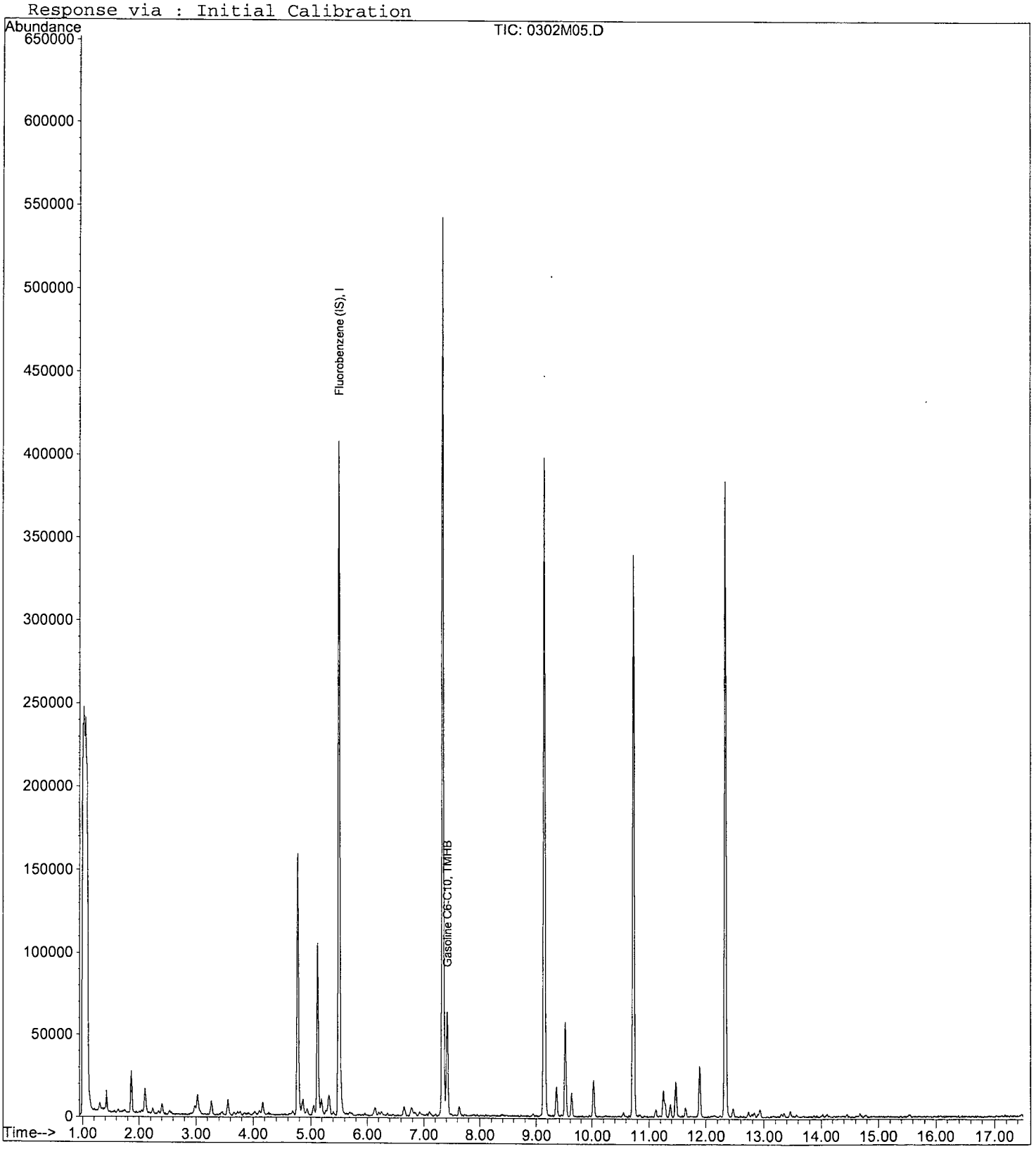
Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

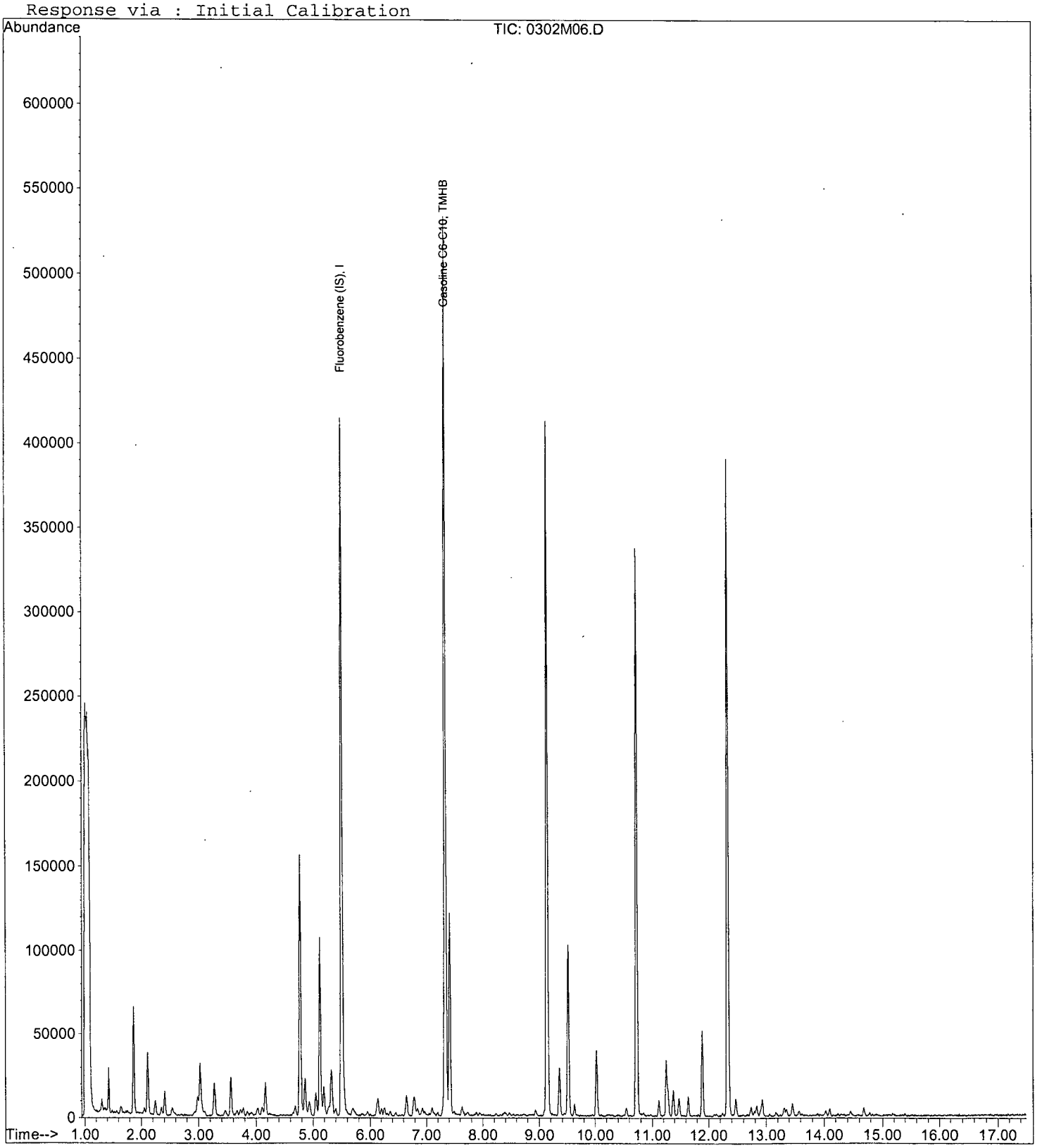
Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M07.D MGAS6302.M Mon Mar 06 11:54:35 2017

Quantitation Report

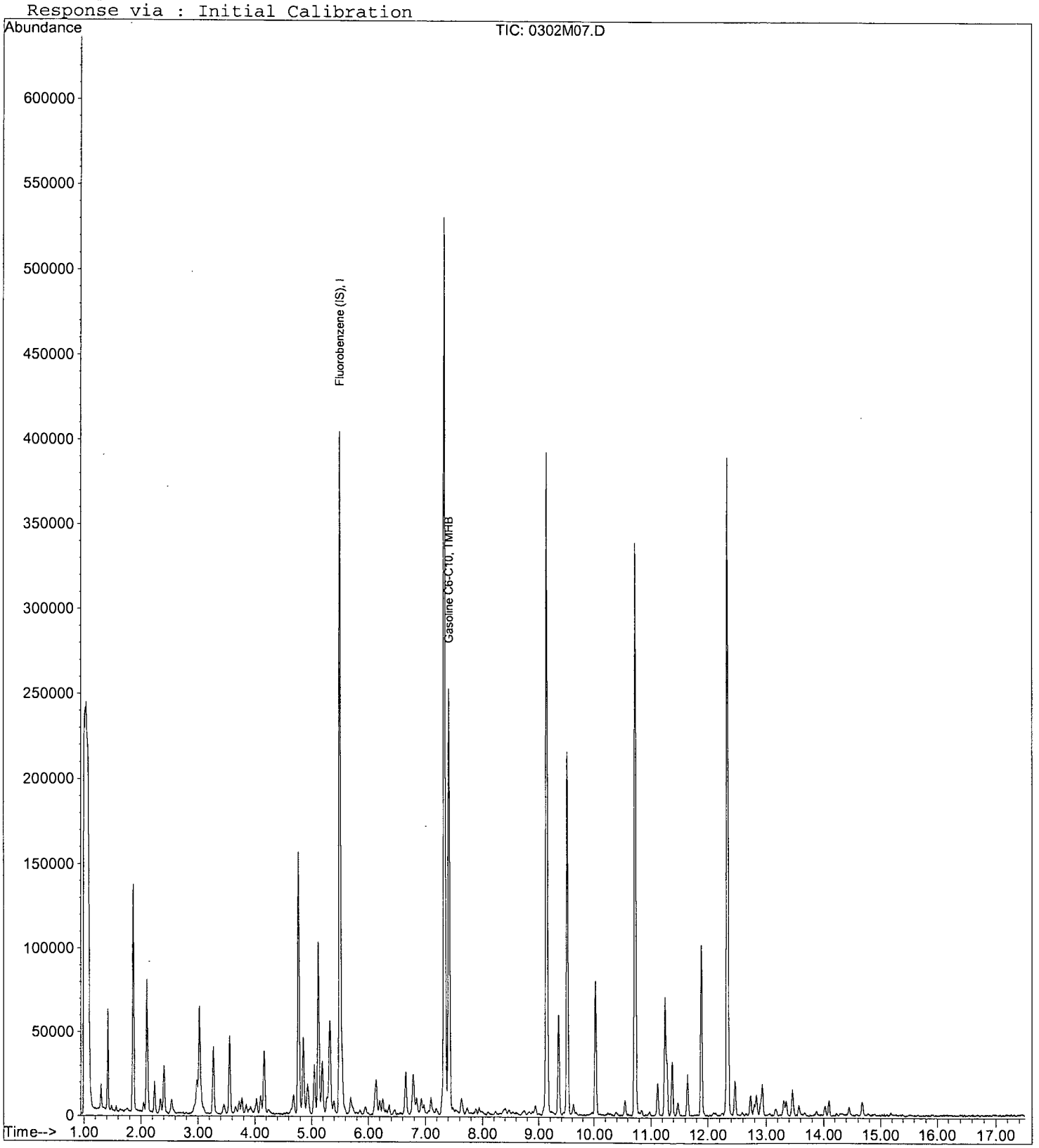
Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

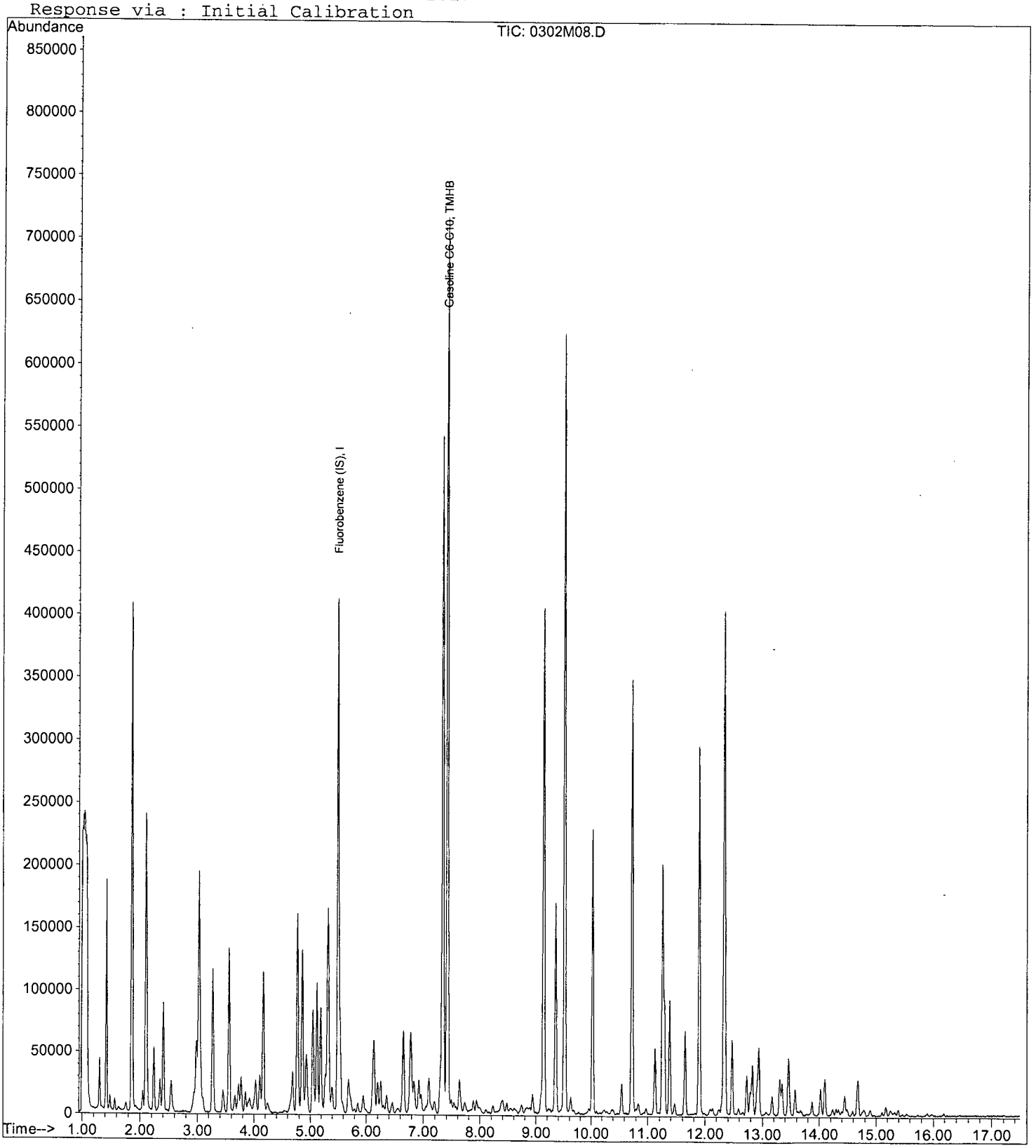
Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M09.D MGAS6302.M Mon Mar 06 11:54:42 2017

Quantitation Report

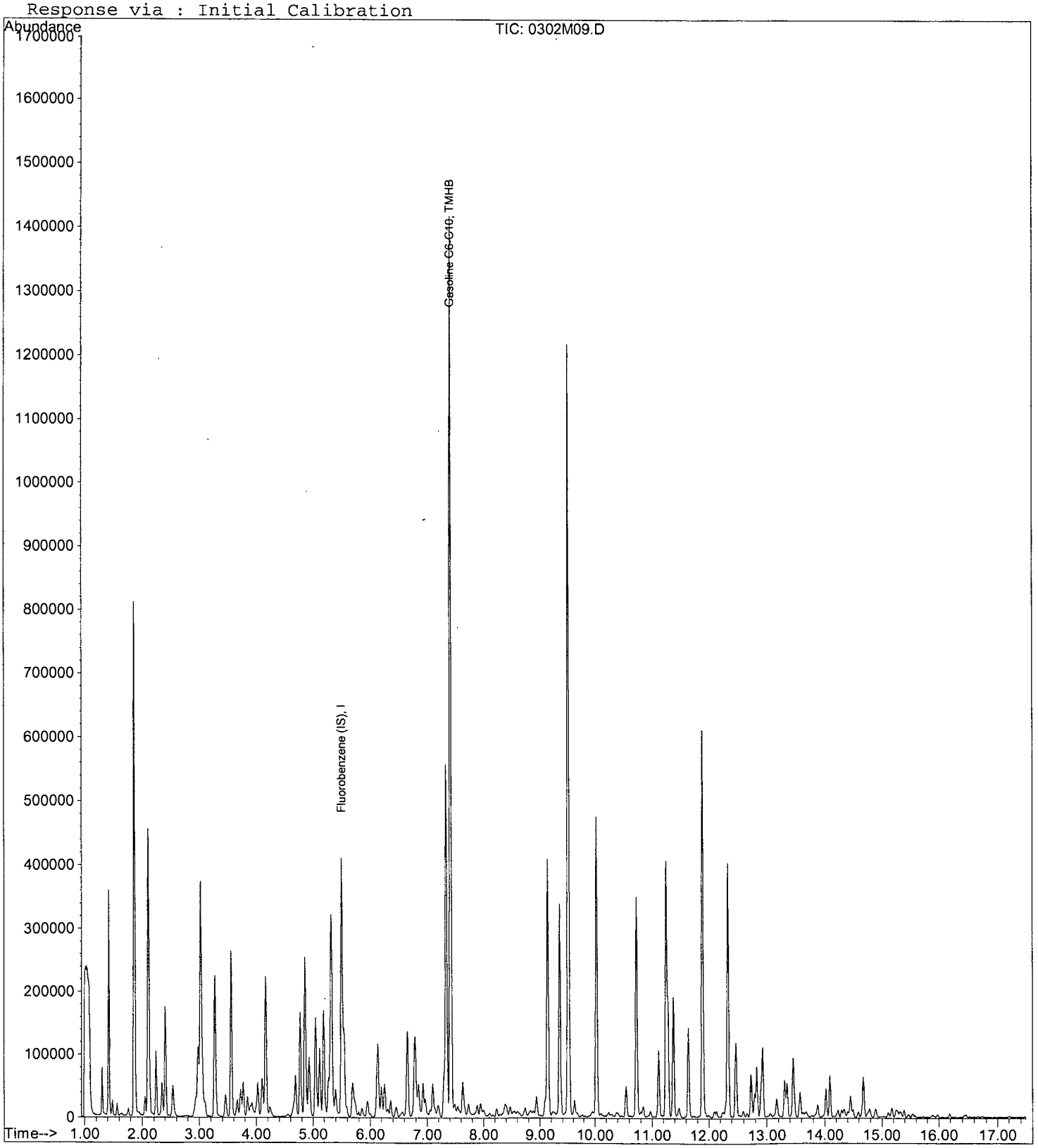
Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

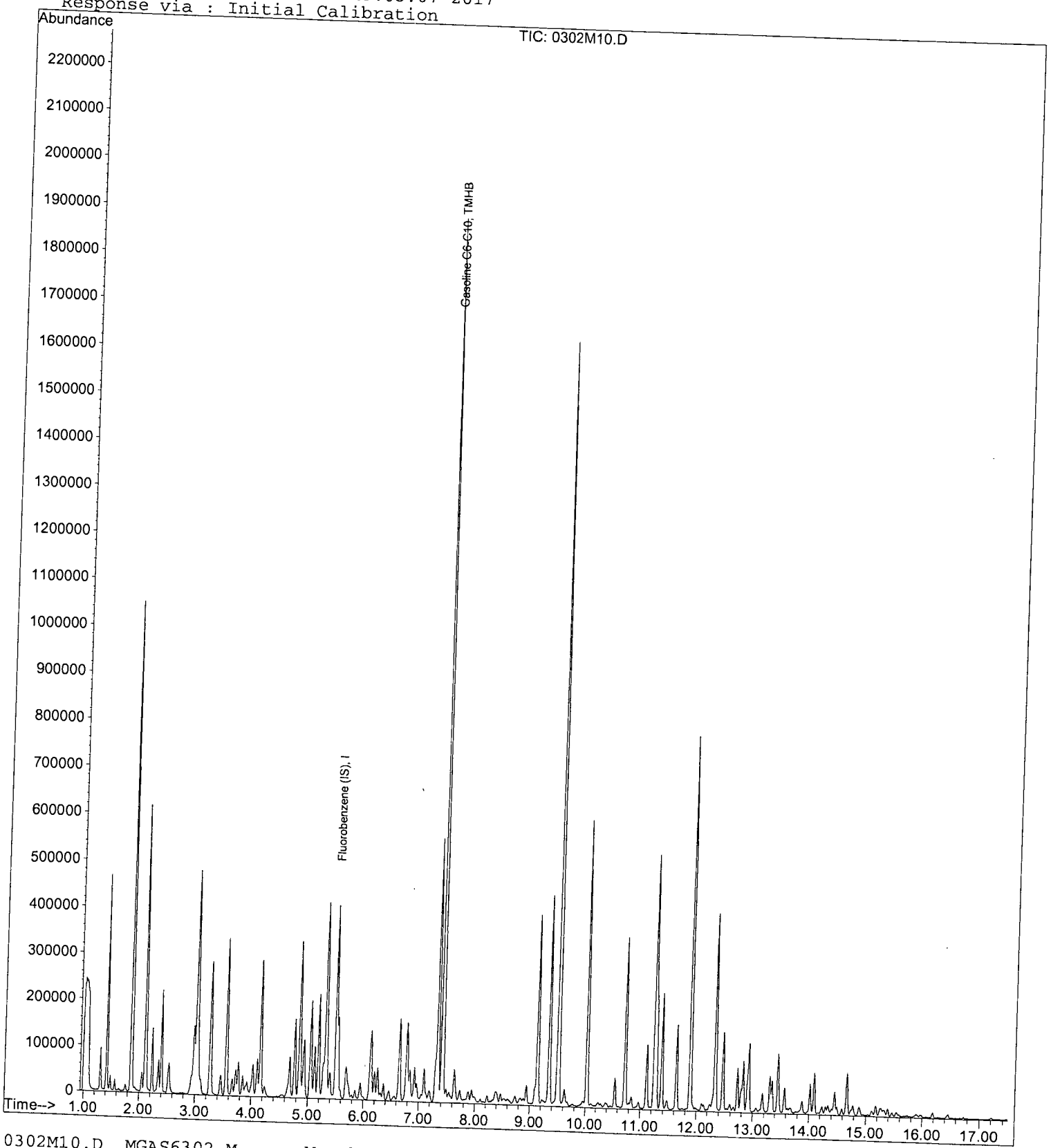
Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards

	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds

					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

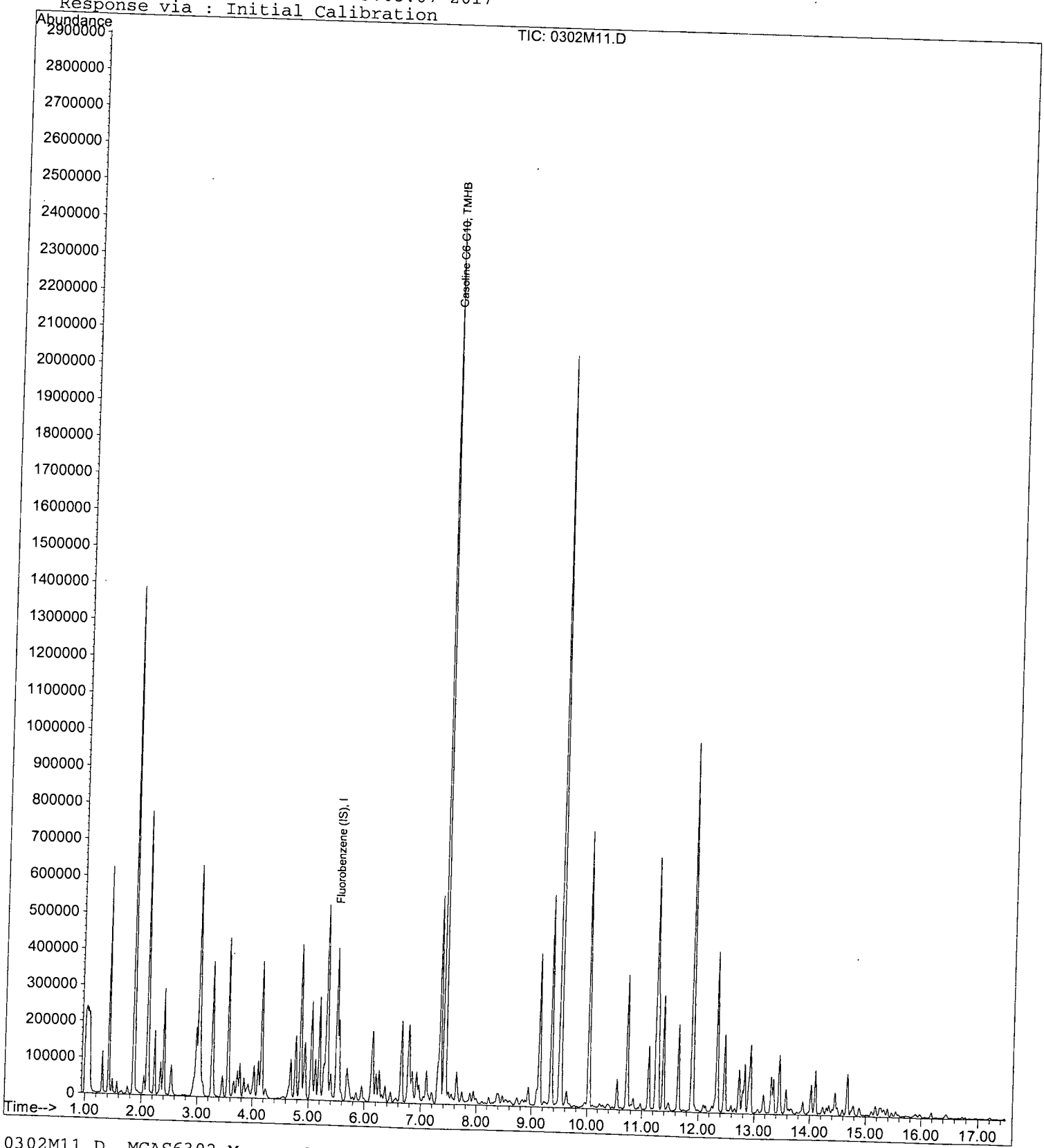
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

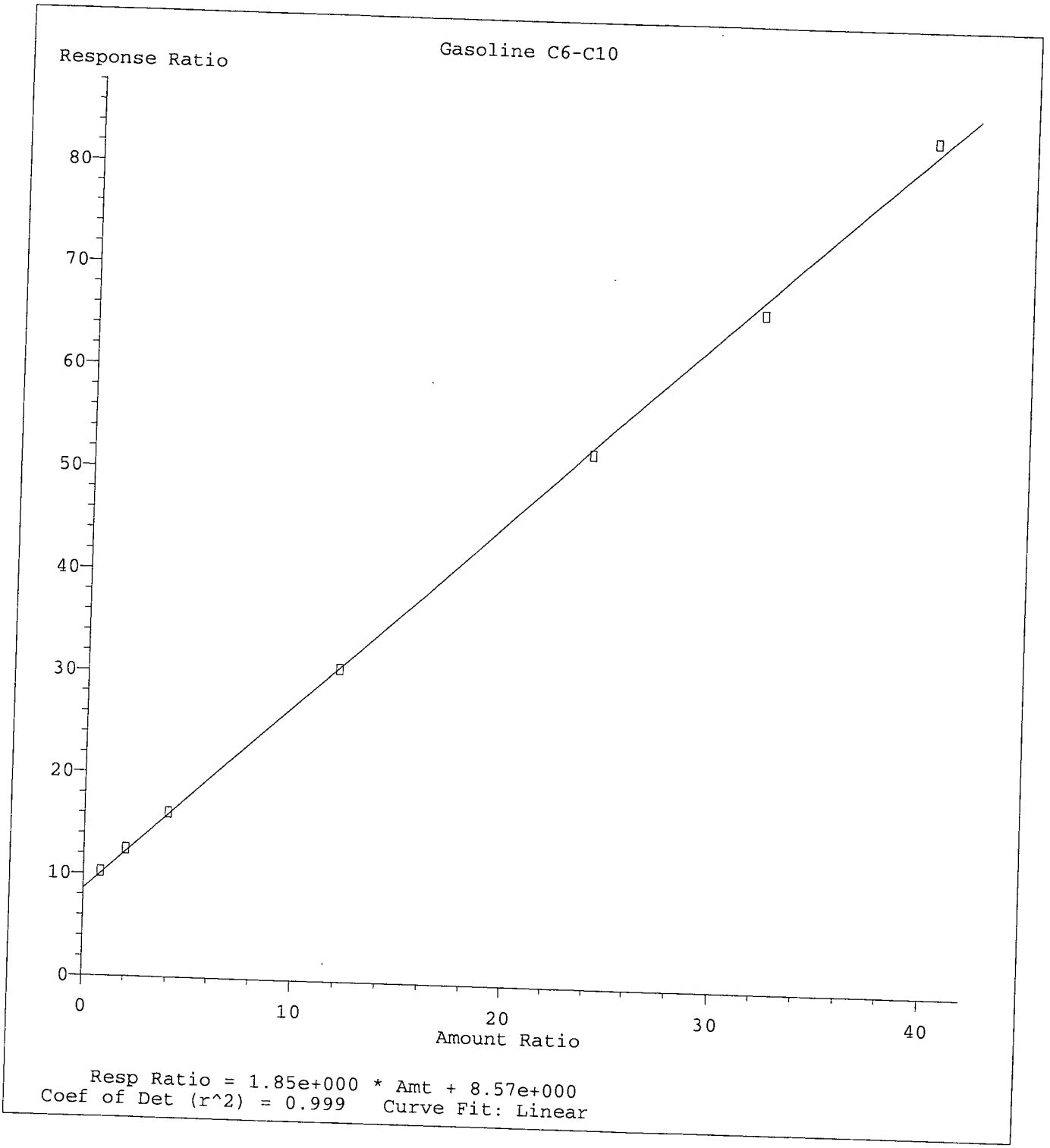
Quant Time: Mar 2 13:03 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



0302M11.D MGAS6302.M Mon Mar 06 11:54:51 2017



Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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14							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards

	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds

					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

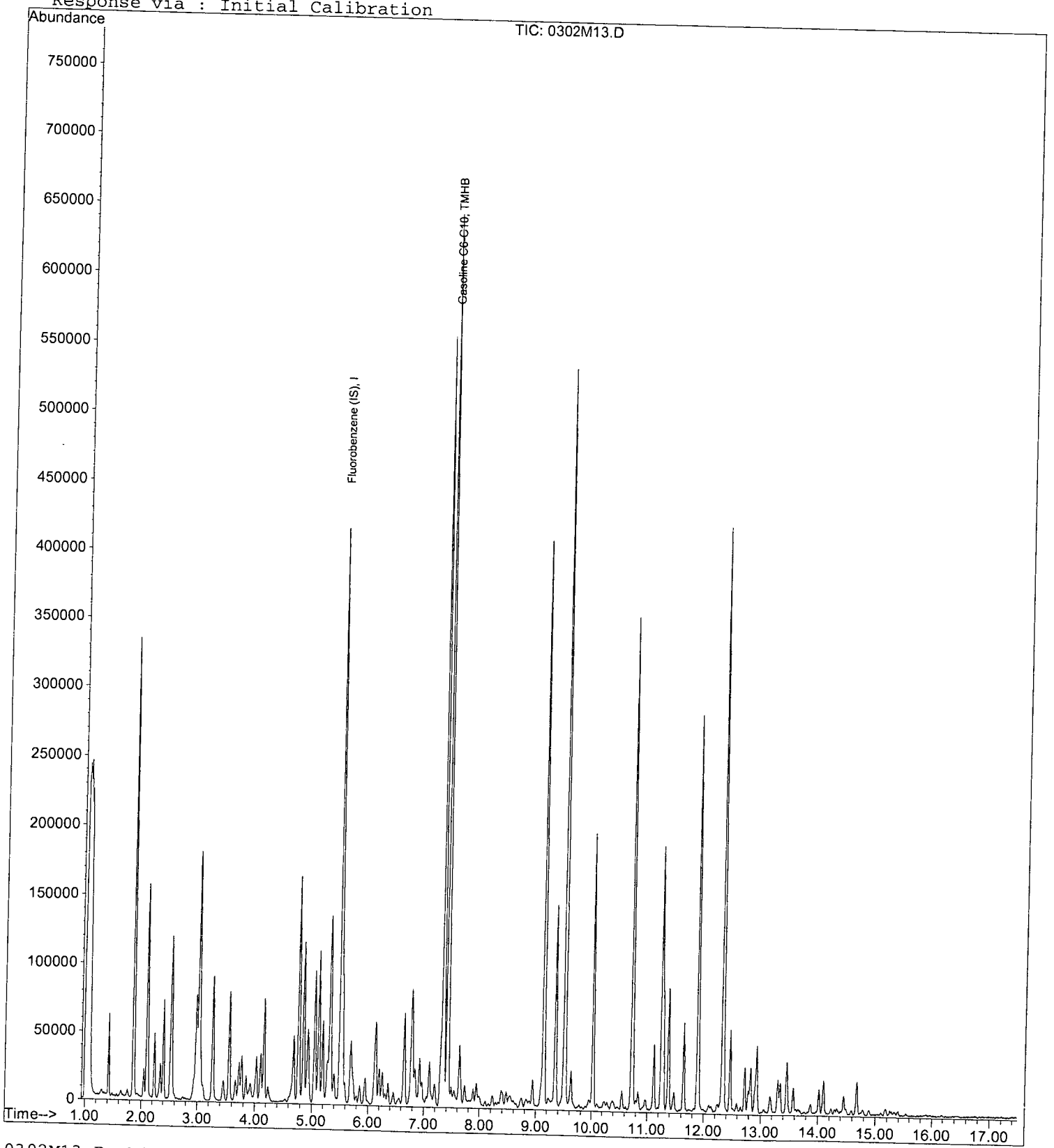
Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09.D	0308M10.D	0308M11.D	0308M12.D	0308M13.D		Avg	%RSD		
			1	2	3	4	5	6	7	8	9					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
3	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
6	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
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34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
3) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
5) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
6) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

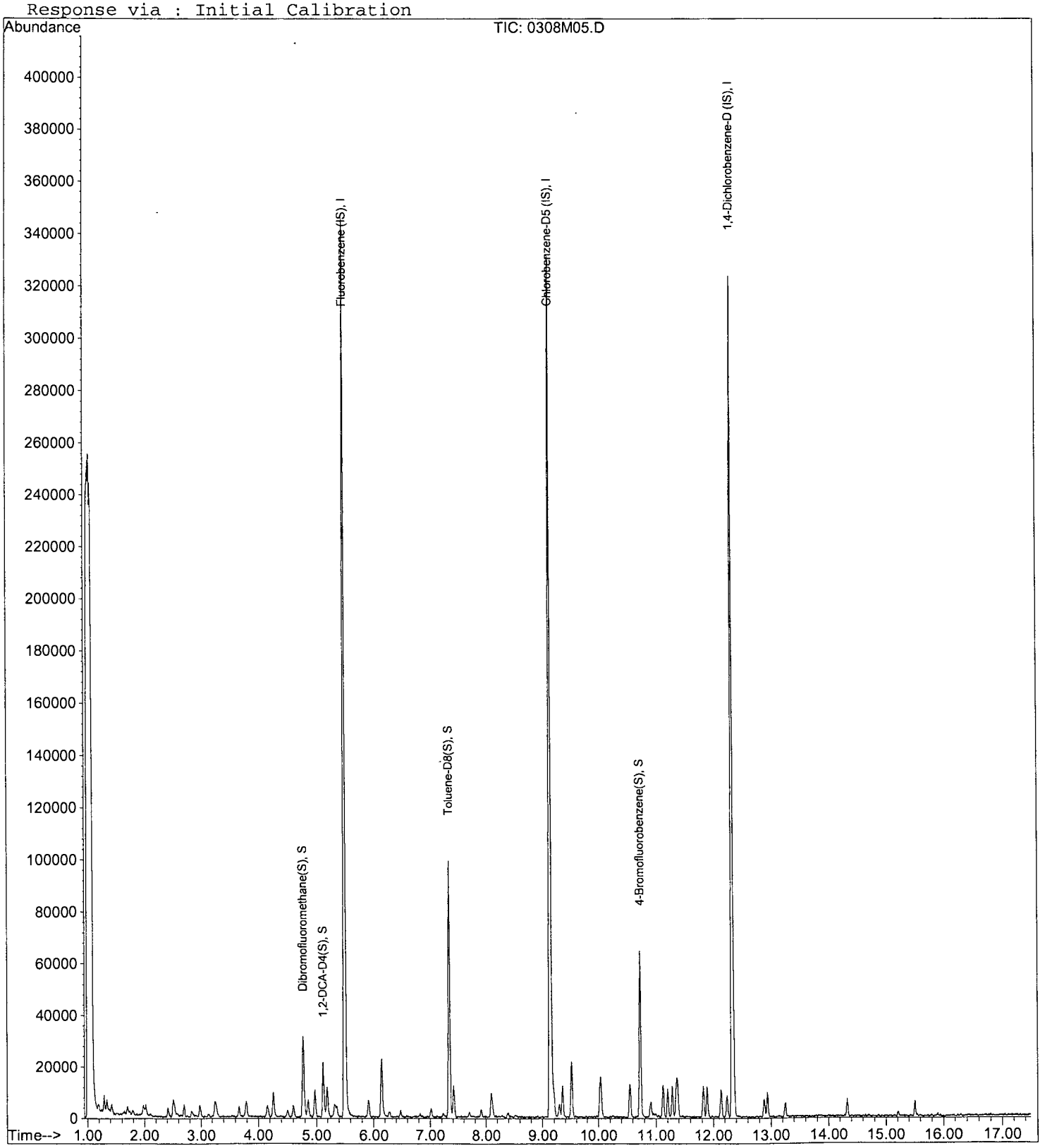
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
3) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
5) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
6) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

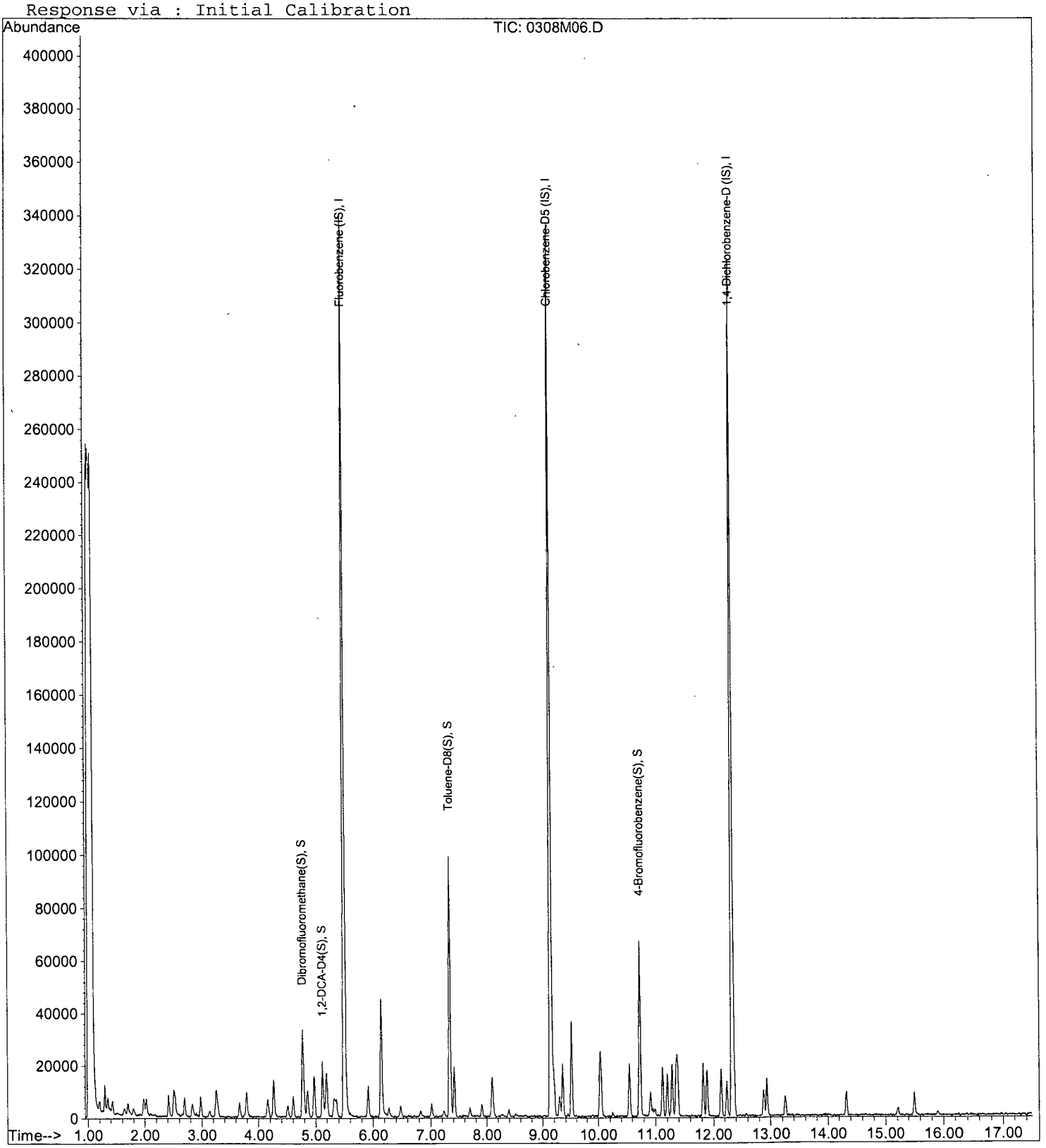
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D Vial: 6
Acq On : 8 Mar 17 13:54 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 3/8/17J Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
3) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
5) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
6) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

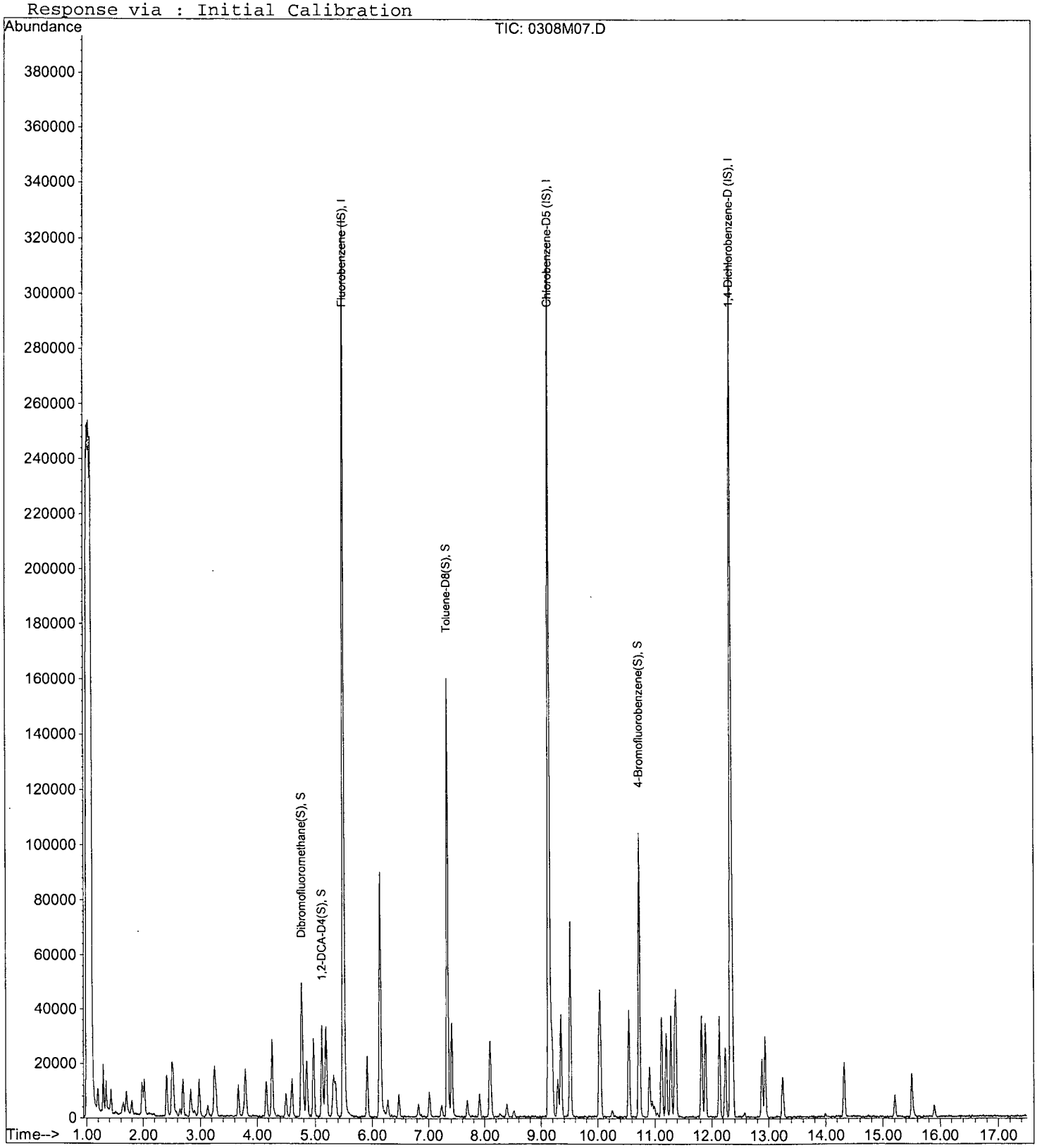
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
3) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
5) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

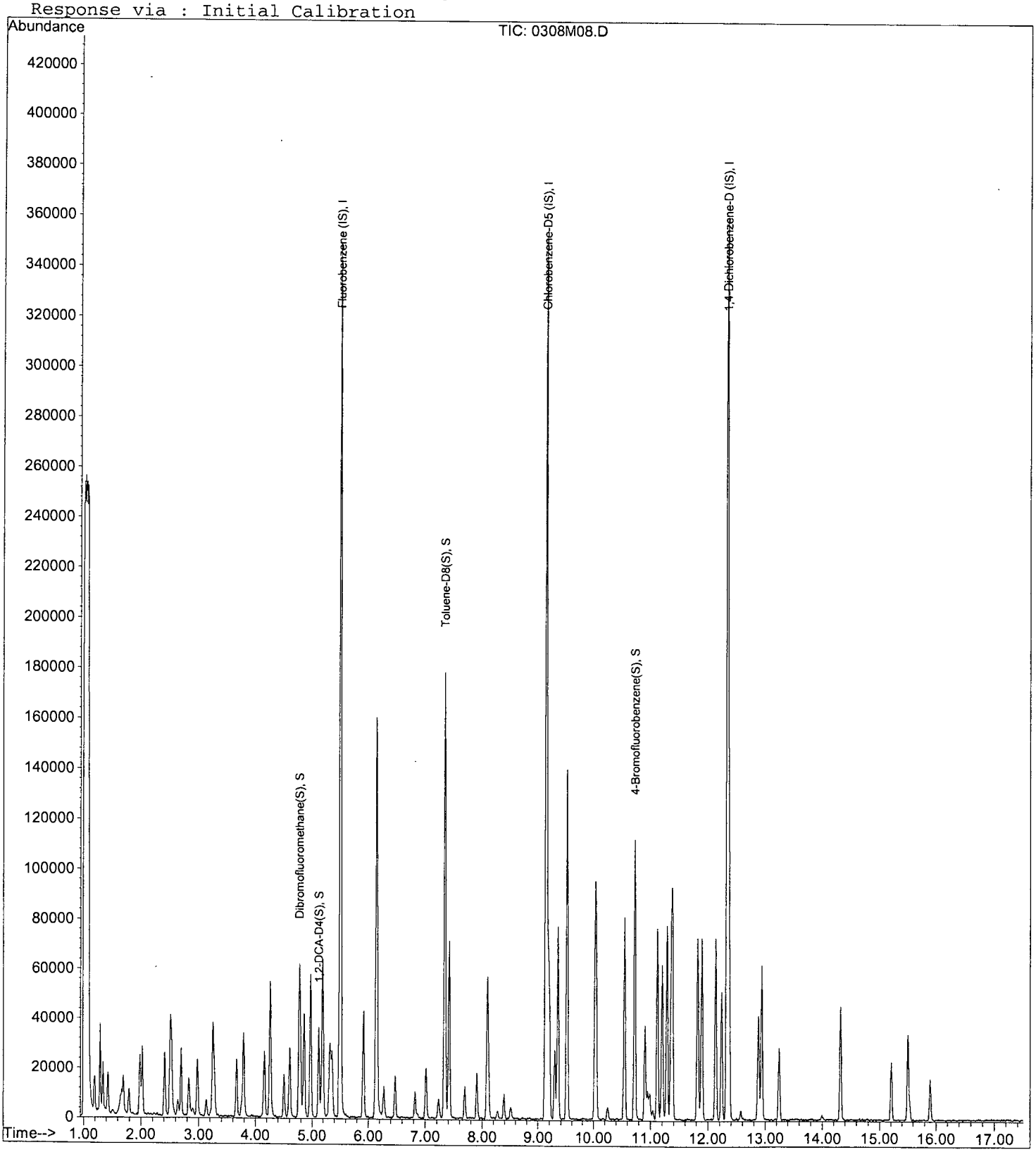
Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
3) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
5) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
6) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0308M09.D MSUR308.M Thu Mar 09 11:52:45 2017

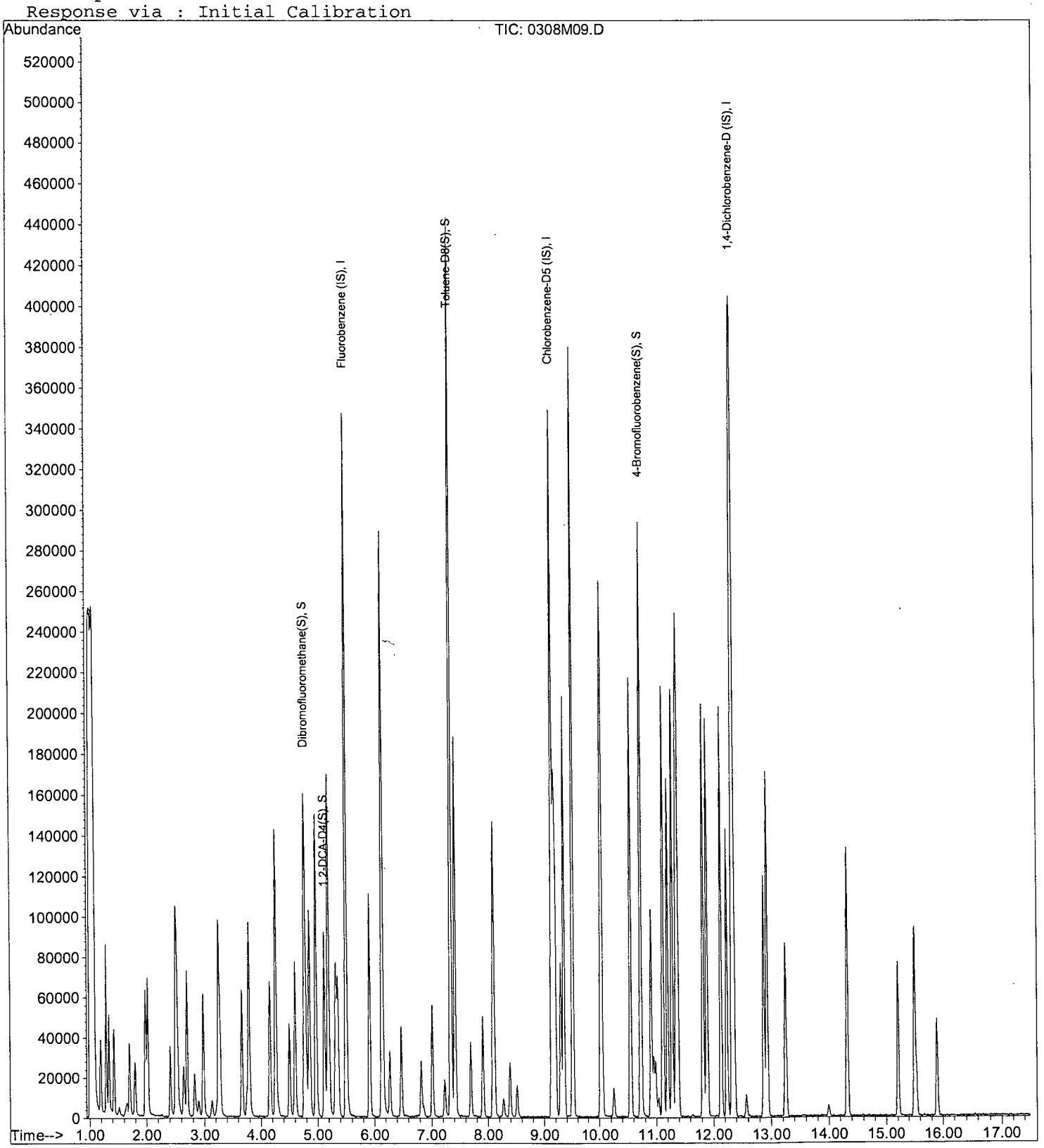
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
3) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
5) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
6) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

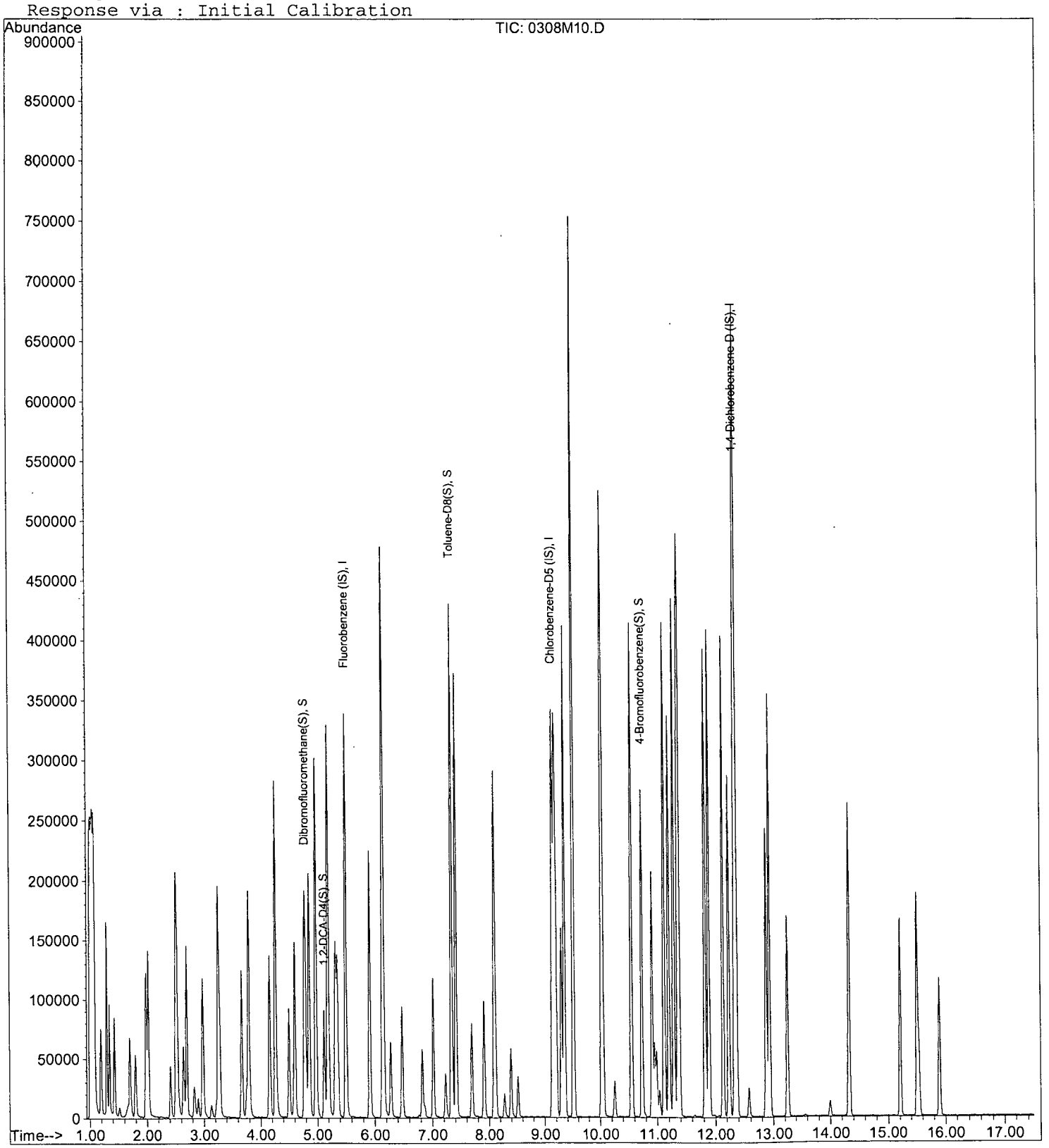
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
3) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
5) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

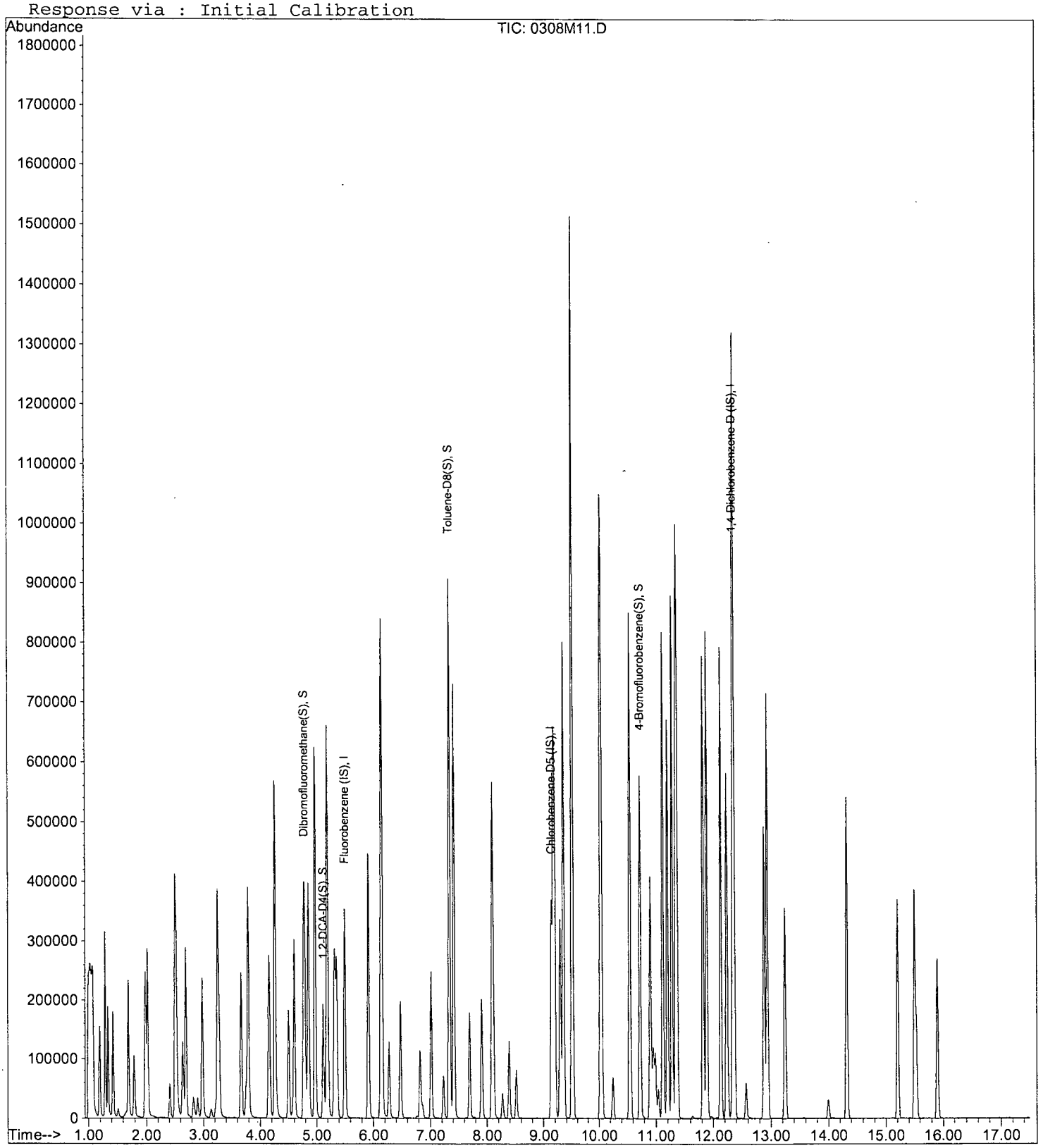
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D Vial: 11
Acq On : 8 Mar 17 16:16 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 3/8/17O Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
3) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
5) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
6) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

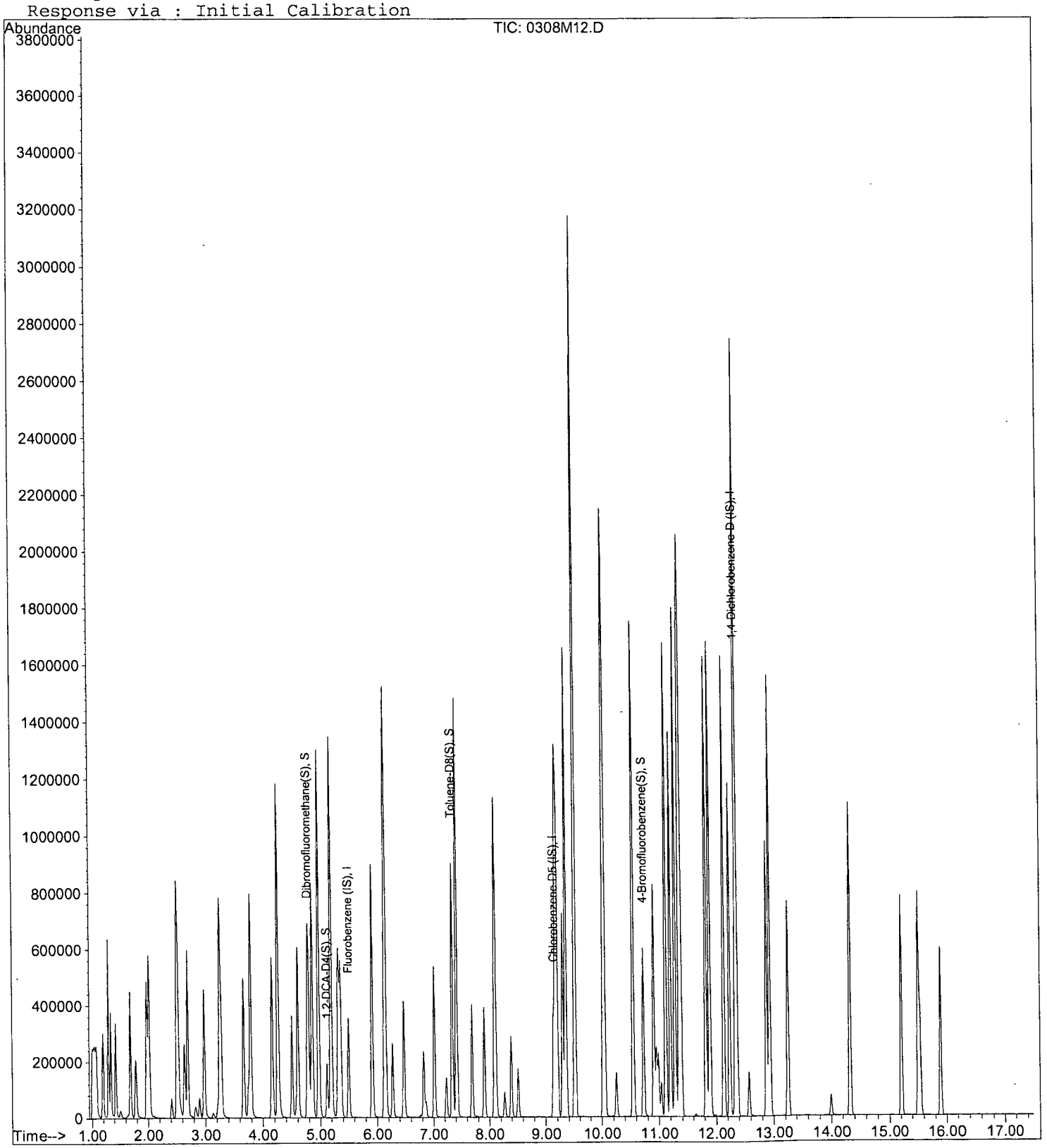
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
3) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
5) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M13.D MSUR308.M Thu Mar 09 11:53:01 2017

Quantitation Report

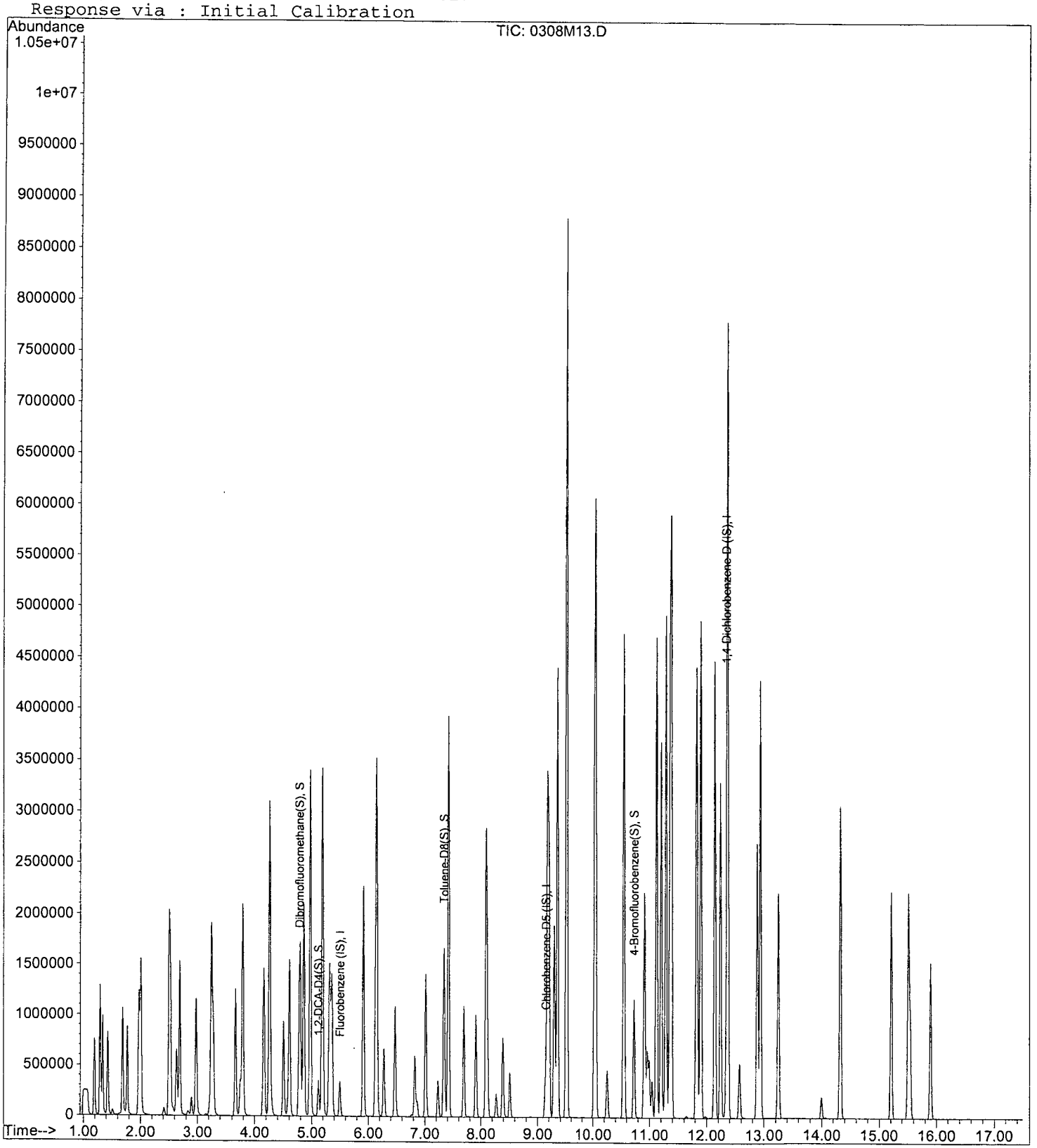
Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017

Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 11:04
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0309M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.622	43	TMHBL	3.2
3							
4							
5							
6							
7							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			43.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M05.D
Acq On : 9 Mar 17 11:04
Sample : 170309A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	314010	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9881521m	309.63222 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

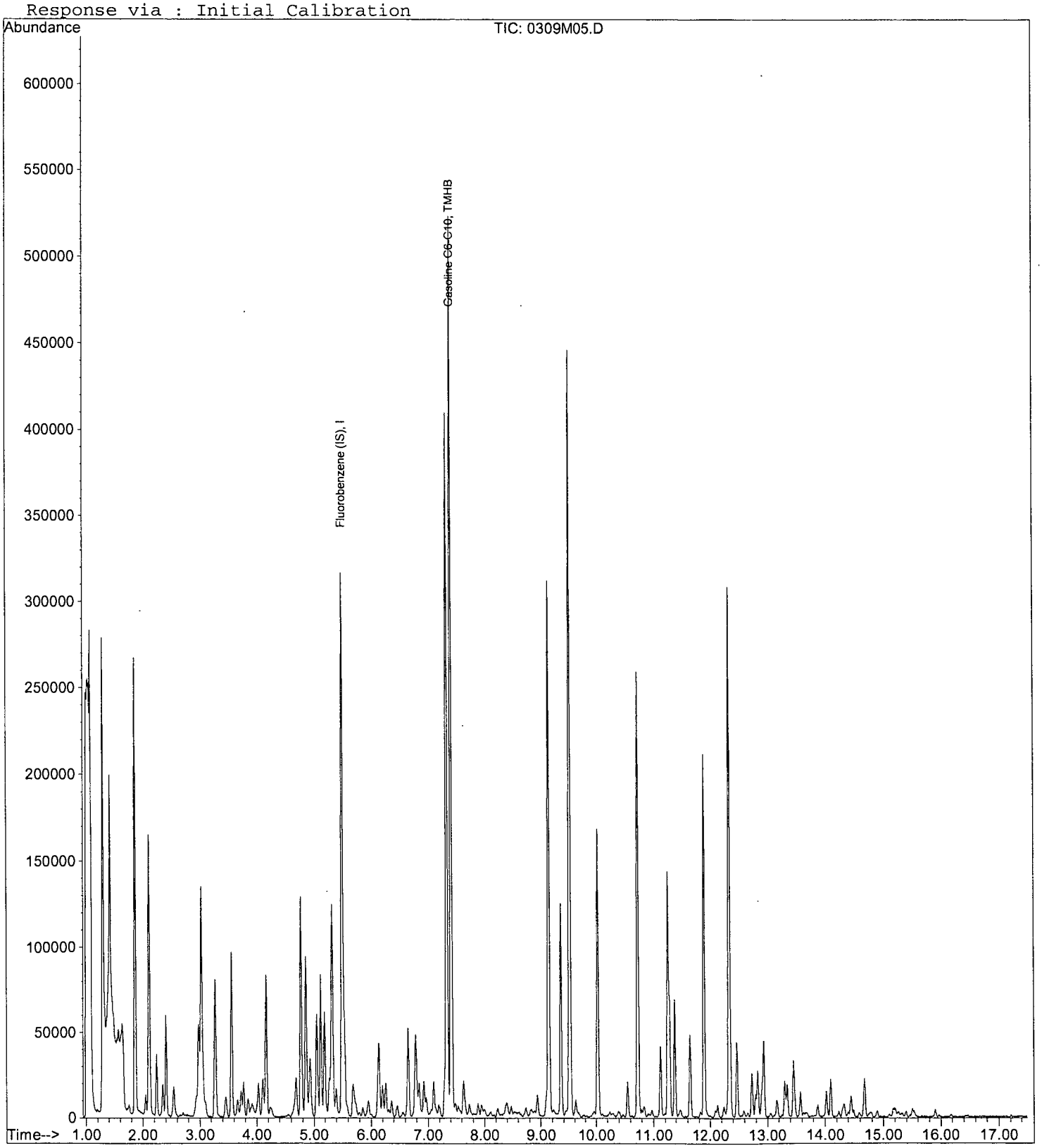
Data File : M:\MAX\DATA\M170308\0309M05.D
Acq On : 9 Mar 17 11:04
Sample : 170309A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 9 Mar 17 11:04
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0309M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2504	1.7	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1872	4.7	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.434	1.2	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4726	1.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M05.D Vial: 4
Acq On : 9 Mar 17 11:04 Operator: PM,DG,SV,CMM
Sample : 170309A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	303254	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212371	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102260	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	75935	25.41607 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.664%	
3) 1,2-DCA-D4(S)	5.12	65	56781	23.83273 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.332%	
5) Toluene-D8(S)	7.34	98	304497	24.69318 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.772%	
6) 4-Bromofluorobenzene(S)	10.73	95	100358	24.61994 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0309M22.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.213	52	TMHBL	19
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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39							
40							
		Average			52.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M22.D Vial: 21
Acq On : 10 Mar 17 7:05 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 3/9/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	341016	25.00000 ppb	0.02
4) Chlorobenzene-D5 (IS)	9.14	117	216911	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	93066	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.80	111	63012	18.75519 ppb	0.03
Spiked Amount 25.000			Recovery	= 75.020%	
3) 1,2-DCA-D4(S)	5.15	65	44210	16.50149 ppb	0.03
Spiked Amount 25.000			Recovery	= 66.004%	
5) Toluene-D8(S)	7.34	98	331130	26.29095 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.164%	
6) 4-Bromofluorobenzene(S)	10.73	95	98630	23.68959 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.760%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M22.D
Acq On : 10 Mar 17 7:05
Sample : Ending CCV GAS 300ug/L 3/9/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:57 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	356474	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9465712m	243.17830 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

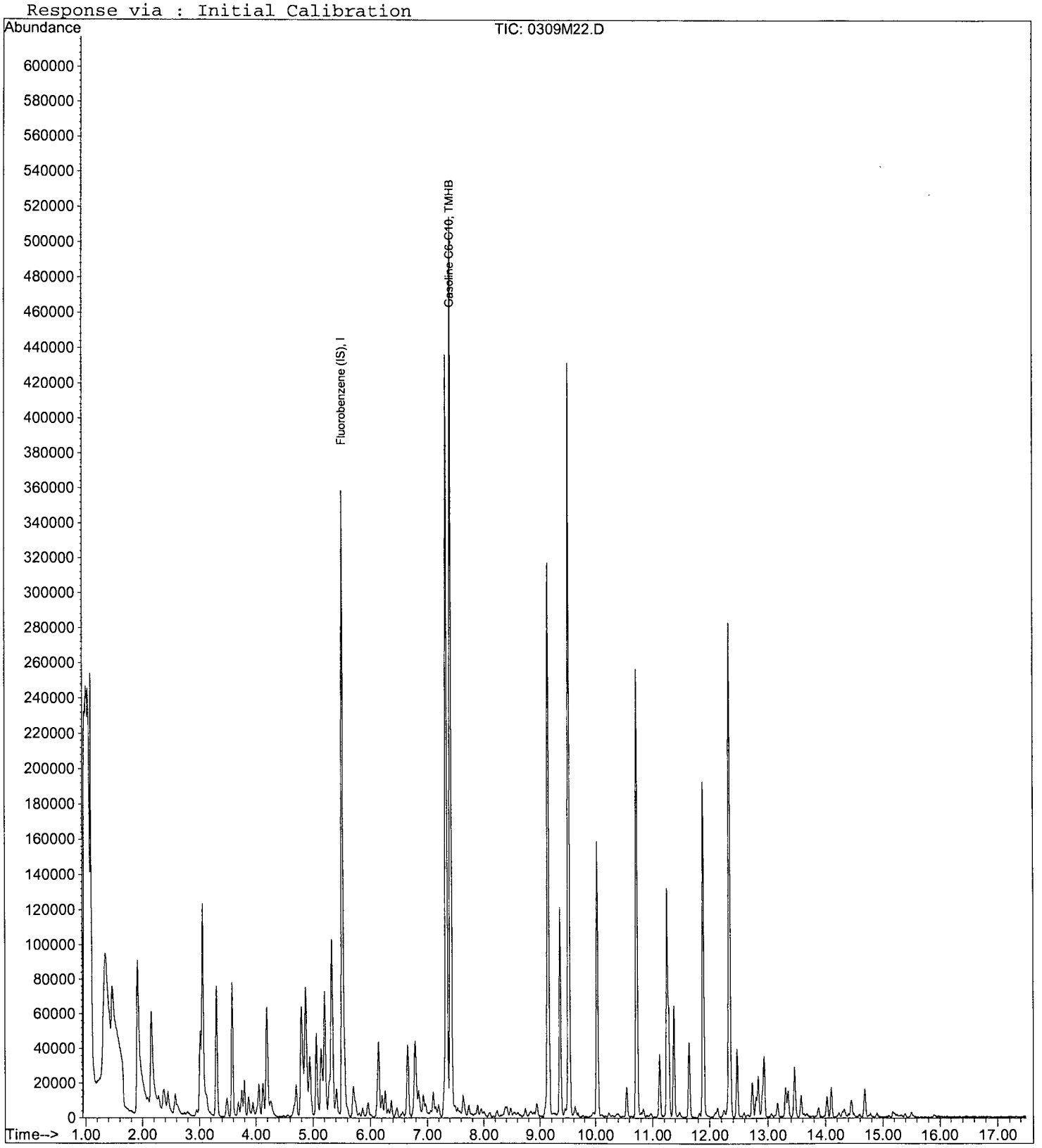
Data File : M:\MAX\DATA\M170308\0309M22.D
Acq On : 10 Mar 17 7:05
Sample : Ending CCV GAS 300ug/L 3/9/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:57 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0309M22.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.1848	25	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1296	34	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.527	5.2	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4547	5.2	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
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14							
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39							
40							
		Average			17.4		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M22.D Vial: 21
Acq On : 10 Mar 17 7:05 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 3/9/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	341016	25.00000 ppb	0.02
4) Chlorobenzene-D5 (IS)	9.14	117	216911	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	93066	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.80	111	63012	18.75519 ppb	0.03
Spiked Amount 25.000			Recovery	= 75.020%	
3) 1,2-DCA-D4(S)	5.15	65	44210	16.50149 ppb	0.03
Spiked Amount 25.000			Recovery	= 66.004%	
5) Toluene-D8(S)	7.34	98	331130	26.29095 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.164%	
6) 4-Bromofluorobenzene(S)	10.73	95	98630	23.68959 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.760%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0309M22.D MSUR308.M Fri Mar 10 10:06:52 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0310M07.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.668	42	TMHBL	5.7
3							
4							
5							
6							
7							
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40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M07.D
Acq On : 10 Mar 17 11:43
Sample : 170310A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:24 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	307672	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	9850790m	317.04641	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

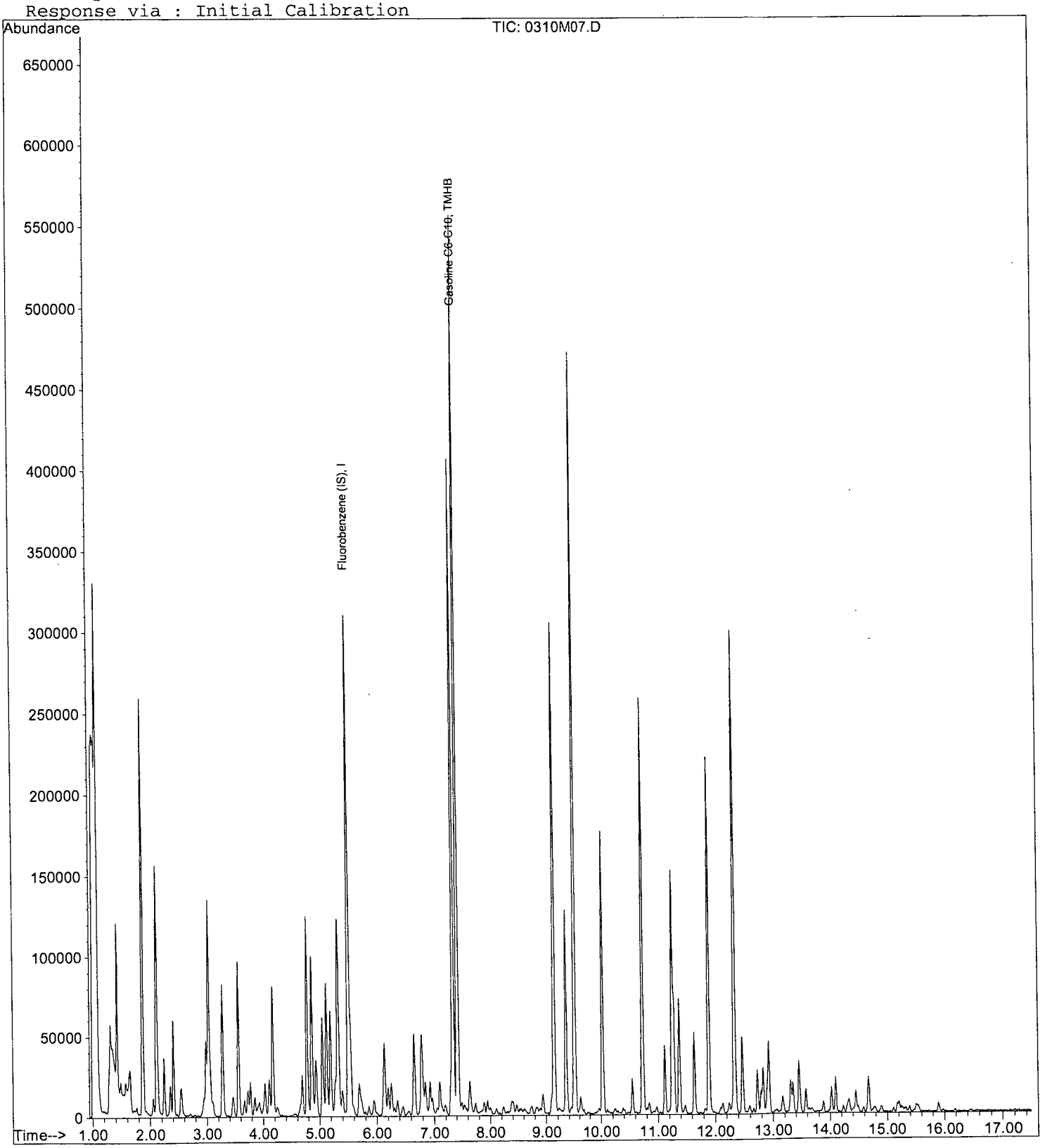
Data File : M:\MAX\DATA\M170308\0310M07.D
Acq On : 10 Mar 17 11:43
Sample : 170310A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:24 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0310M07.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2484	0.87	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1907	2.9	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.422	2.0	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4630	3.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
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14							
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37							
38							
39							
40							
		Average			2.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M07.D
Acq On : 10 Mar 17 11:43
Sample : 170310A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	294617	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	207561	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	97980	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73193	25.21649 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.864%	
3) 1,2-DCA-D4(S)	5.12	65	56193	24.27738 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.108%	
5) Toluene-D8(S)	7.34	98	295194	24.49351 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.976%	
6) 4-Bromofluorobenzene(S)	10.73	95	96094	24.12019 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0310M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.348	49	TMHBL	12
3							
4							
5							
6							
7							
8							
9							
10							
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39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M31.D
Acq On : 10 Mar 17 23:10
Sample : Ending CCV GAS 300ug/L 3/10/17
Misc : IS&S 02/23/17

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:24 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	325942	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	9184981m	265.16353	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

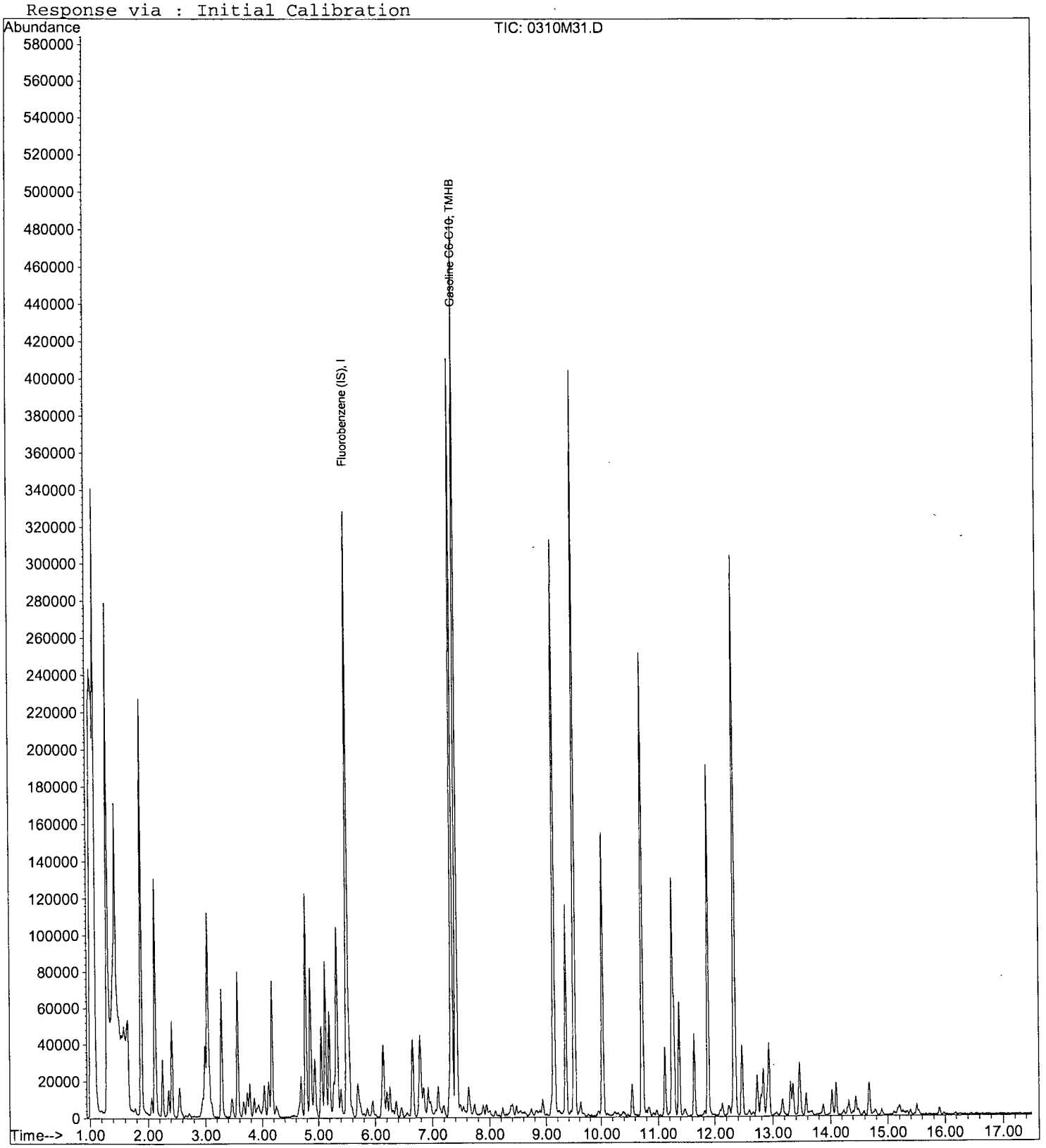
Data File : M:\MAX\DATA\M170308\0310M31.D
Acq On : 10 Mar 17 23:10
Sample : Ending CCV GAS 300ug/L 3/10/17
Misc : IS&S 02/23/17

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:24 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0310M31.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2378	3.5	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1913	2.6	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.417	2.4	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4486	6.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
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37							
38							
39							
40							
		Average			3.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M31.D
Acq On : 10 Mar 17 23:10
Sample : Ending CCV GAS 300ug/L 3/10/17
Misc : IS&S 02/23/17

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307511	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	211668	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	98221	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73120	24.13506 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.540%	
3) 1,2-DCA-D4(S)	5.13	65	58830	24.35093 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.404%	
5) Toluene-D8(S)	7.34	98	300013	24.41036 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.640%	
6) 4-Bromofluorobenzene(S)	10.73	95	94963	23.37380 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.496%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170309W-51142 - 216753**
Batch ID: #GRO86-170309AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/09/17	03/09/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.6	85-114			%	03/09/17	03/09/17

Quant Method: MGAS6302.
Run #: 0309M08
Instrument: Max
Sequence: M170308
Initials: PM

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:12:52 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M08.D
Acq On : 9 Mar 17 12:29
Sample : 170309A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:53 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	315041	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

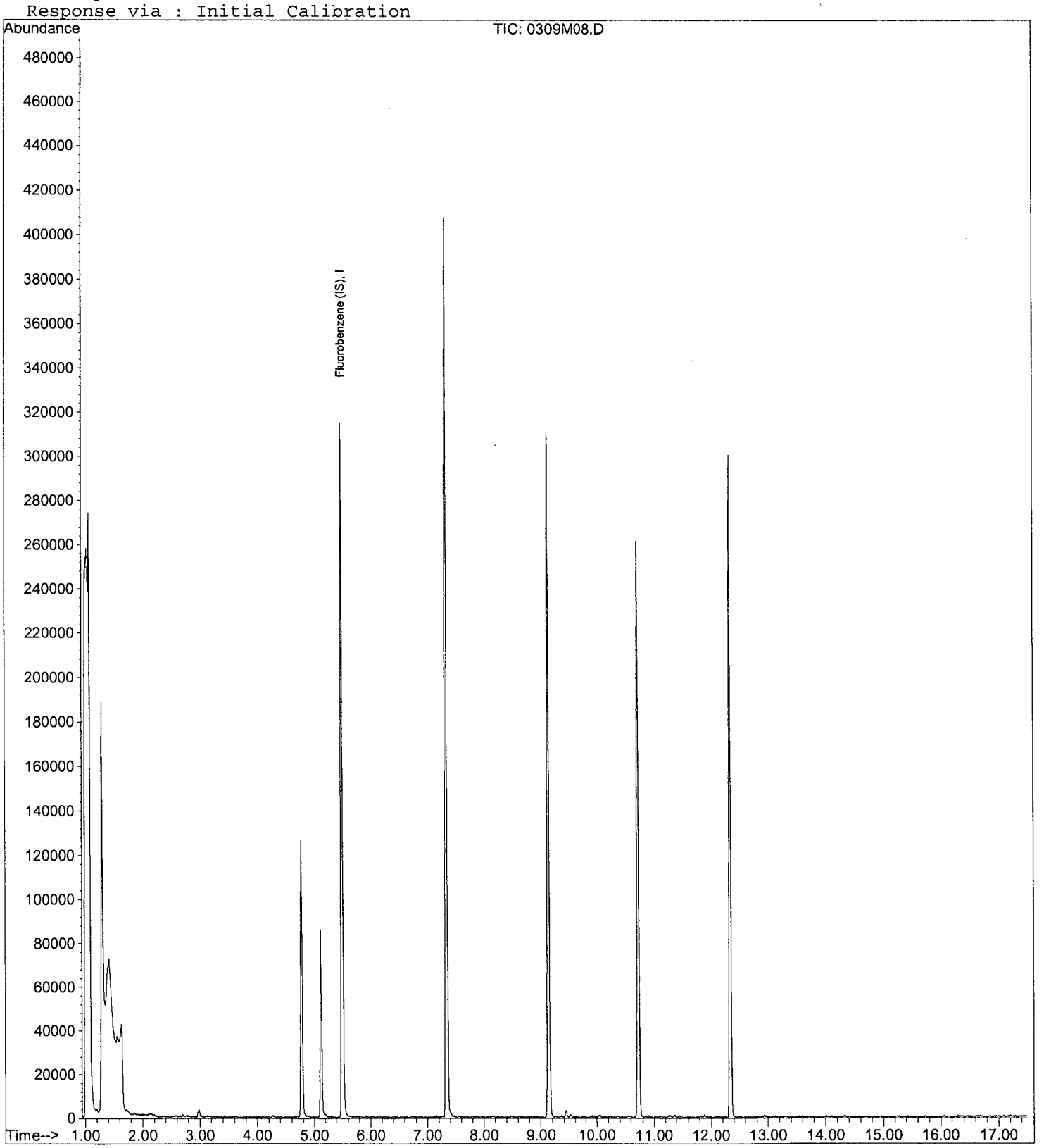
Data File : M:\MAX\DATA\M170308\0309M08.D
Acq On : 9 Mar 17 12:29
Sample : 170309A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:53 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M08.D
Acq On : 9 Mar 17 12:29
Sample : 170309A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 10:01 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	304274	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	214277	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	99976	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	74369	24.80847 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.232%	
3) 1,2-DCA-D4(S)	5.12	65	58645	24.53259 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.132%	
5) Toluene-D8(S)	7.34	98	307263	24.69585 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.784%	
6) 4-Bromofluorobenzene(S)	10.72	95	98347	23.91199 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.648%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216804**
Batch ID: #GRO86-170310AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/10/17	03/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	95.9	85-114			%	03/10/17	03/10/17

Quant Method: MGAS6302.
Run #: 0310M10
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:12:53 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M10.D
Acq On : 10 Mar 17 13:08
Sample : 170310A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:26 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	320905	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0310M10.D MGAS6302.M Mon Mar 13 10:30:28 2017

Quantitation Report

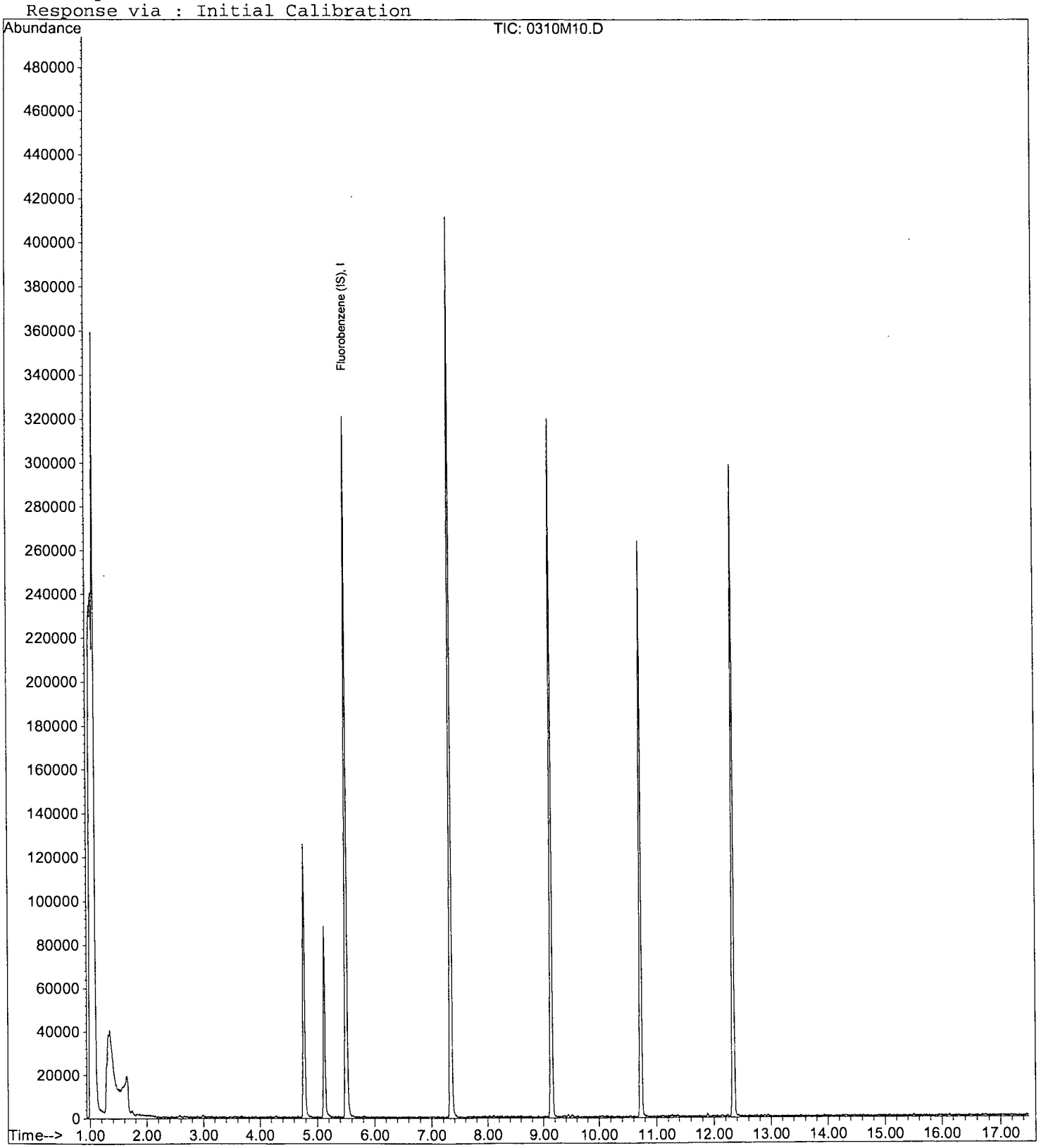
Data File : M:\MAX\DATA\M170308\0310M10.D
Acq On : 10 Mar 17 13:08
Sample : 170310A BLK-1WM
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:26 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M10.D Vial: 7
Acq On : 10 Mar 17 13:08 Operator: PM,DG,SV,CMM
Sample : 170310A BLK-1WM Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307649	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	215033	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	98510	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76513	25.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.976%	
3) 1,2-DCA-D4(S)	5.12	65	59255	24.51584 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.064%	
5) Toluene-D8(S)	7.34	98	313061	25.07339 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.292%	
6) 4-Bromofluorobenzene(S)	10.73	95	98959	23.97620 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.904%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170309W-51142 LCS - 216753**
Batch ID: #GRO86-170309AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	291	97.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.4	97.6	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/09/17
Analysis Date :	03/09/17
Instrument :	Max
Run :	0309M06
Initials :	SV

Printed: 03/14/17 11:12:57 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0309M06.D
Acq On : 9 Mar 17 11:33
Sample : 170309A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:48 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	324338	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9758917m	290.97293 ppb	100

(#) = qualifier out of range (m) = manual integration

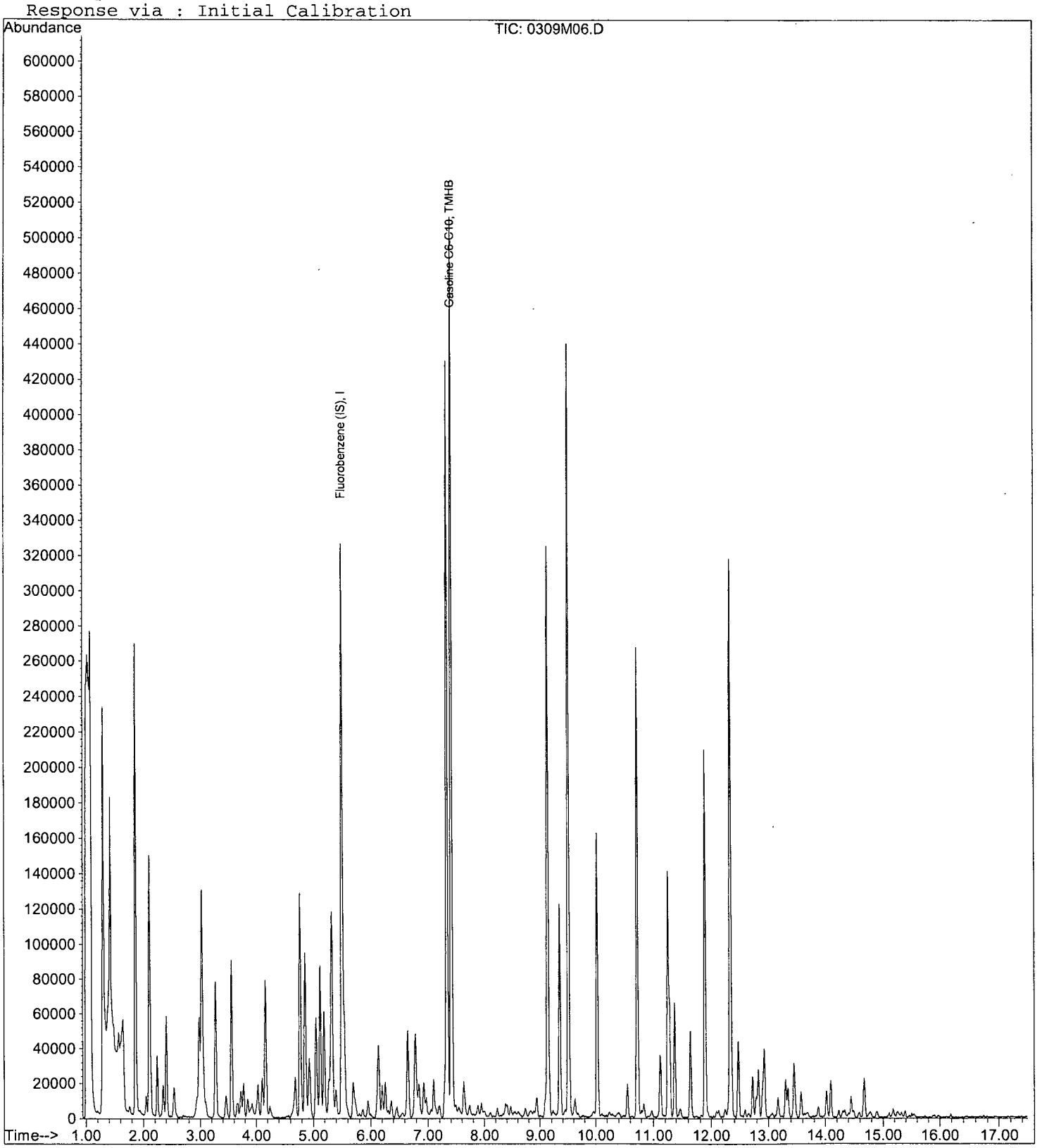
Quantitation Report

Data File : M:\MAX\DATA\M170308\0309M06.D
Acq On : 9 Mar 17 11:33
Sample : 170309A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 10 9:48 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0309M06.D Vial: 5
Acq On : 9 Mar 17 11:33 Operator: PM,DG,SV,CMM
Sample : 170309A LCS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 10 10:01 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	309375	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	217718	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	103494	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	78425	25.73014 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.920%	
3) 1,2-DCA-D4(S)	5.12	65	60254	24.79008 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.160%	
5) Toluene-D8(S)	7.34	98	316370	25.02593 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.104%	
6) 4-Bromofluorobenzene(S)	10.73	95	101802	24.36083 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.444%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery

EPA 8260B GRO WATER

APPL ID: **170310W-51132 LCS - 216804**
Batch ID: #GRO86-170310AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	284	94.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.3	97.2	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Max
Run :	0310M08
Initials :	SV

Printed: 03/14/17 11:12:57 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M08.D Vial: 5
Acq On : 10 Mar 17 12:12 Operator: PM,DG,SV,CMM
Sample : 170310A LCS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:25 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	335537	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9910964m	283.52175 ppb	100

(#) = qualifier out of range (m) = manual integration

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170310W-51132 MS - 216804**
Batch ID: #GRO86-170310AM
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	275	262	91.7	87.3	78-122	4.8	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.2	24.6	96.8	98.4	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M26	0310M27
Initials :	SV	

Printed: 03/14/17 11:13:00 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M26.D Vial: 23
Acq On : 10 Mar 17 20:49 Operator: PM,DG,SV,CMM
Sample : AZ51132W456 MS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:28 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	316788	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9152972m	274.80694 ppb	100

(#) = qualifier out of range (m) = manual integration
0310M26.D MGAS6302.M Mon Mar 13 10:30:50 2017

Quantitation Report

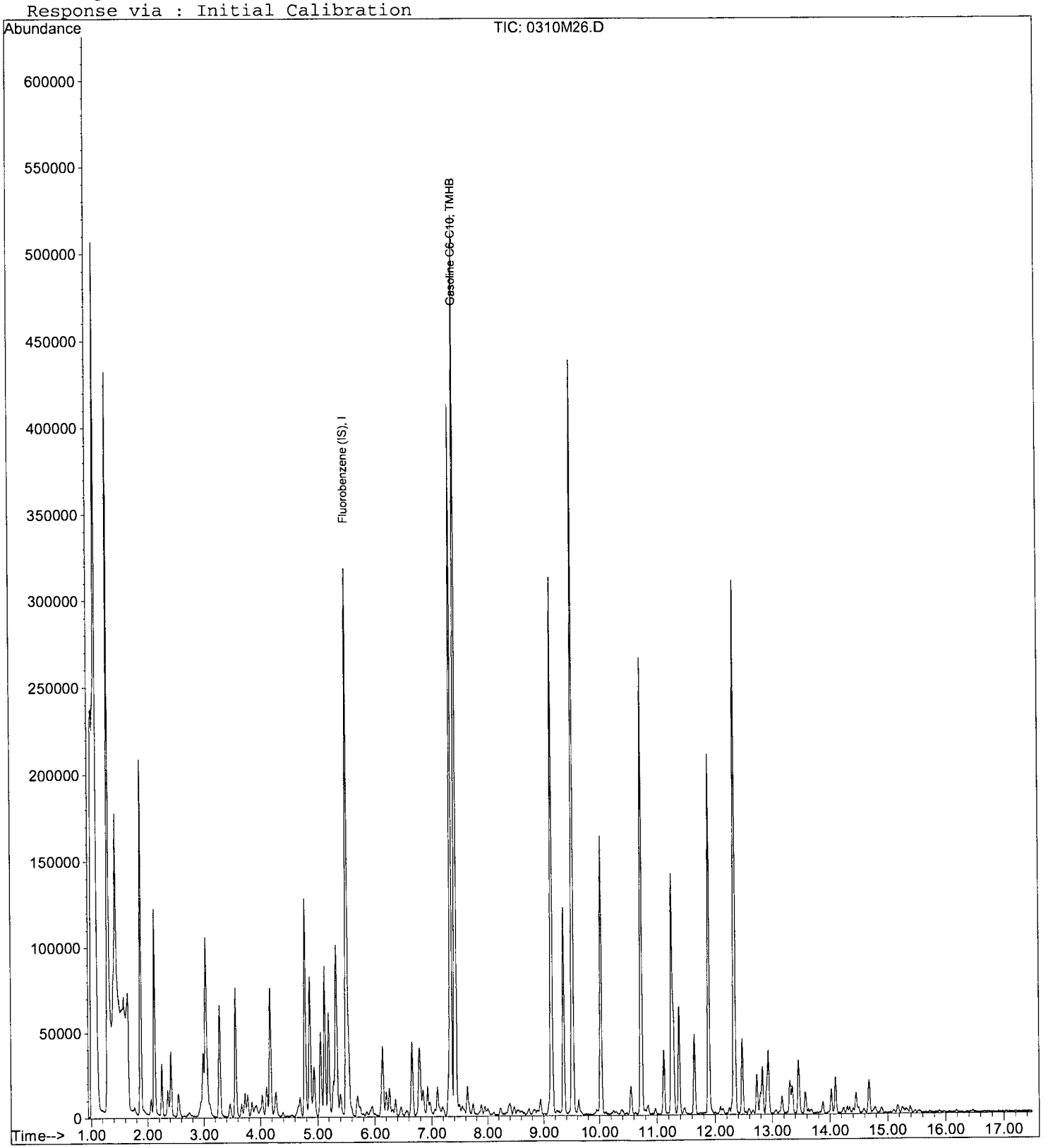
Data File : M:\MAX\DATA\M170308\0310M26.D
Acq On : 10 Mar 17 20:49
Sample : AZ51132W456 MS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:28 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M26.D Vial: 23
Acq On : 10 Mar 17 20:49 Operator: PM,DG,SV,CMM
Sample : AZ51132W456 MS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305063	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	210481	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102792	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76059	25.30661 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.228%	
3) 1,2-DCA-D4(S)	5.13	65	59288	24.73743 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.948%	
5) Toluene-D8(S)	7.34	98	303991	24.87351 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.496%	
6) 4-Bromofluorobenzene(S)	10.73	95	97661	24.17344 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.692%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M27.D Vial: 24
Acq On : 10 Mar 17 21:17 Operator: PM,DG,SV,CMM
Sample : AZ51132W456 MSD-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:29 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	324883	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9088821m	262.40364 ppb	100

(#) = qualifier out of range (m) = manual integration
0310M27.D MGAS6302.M Mon Mar 13 10:30:54 2017 Page 1

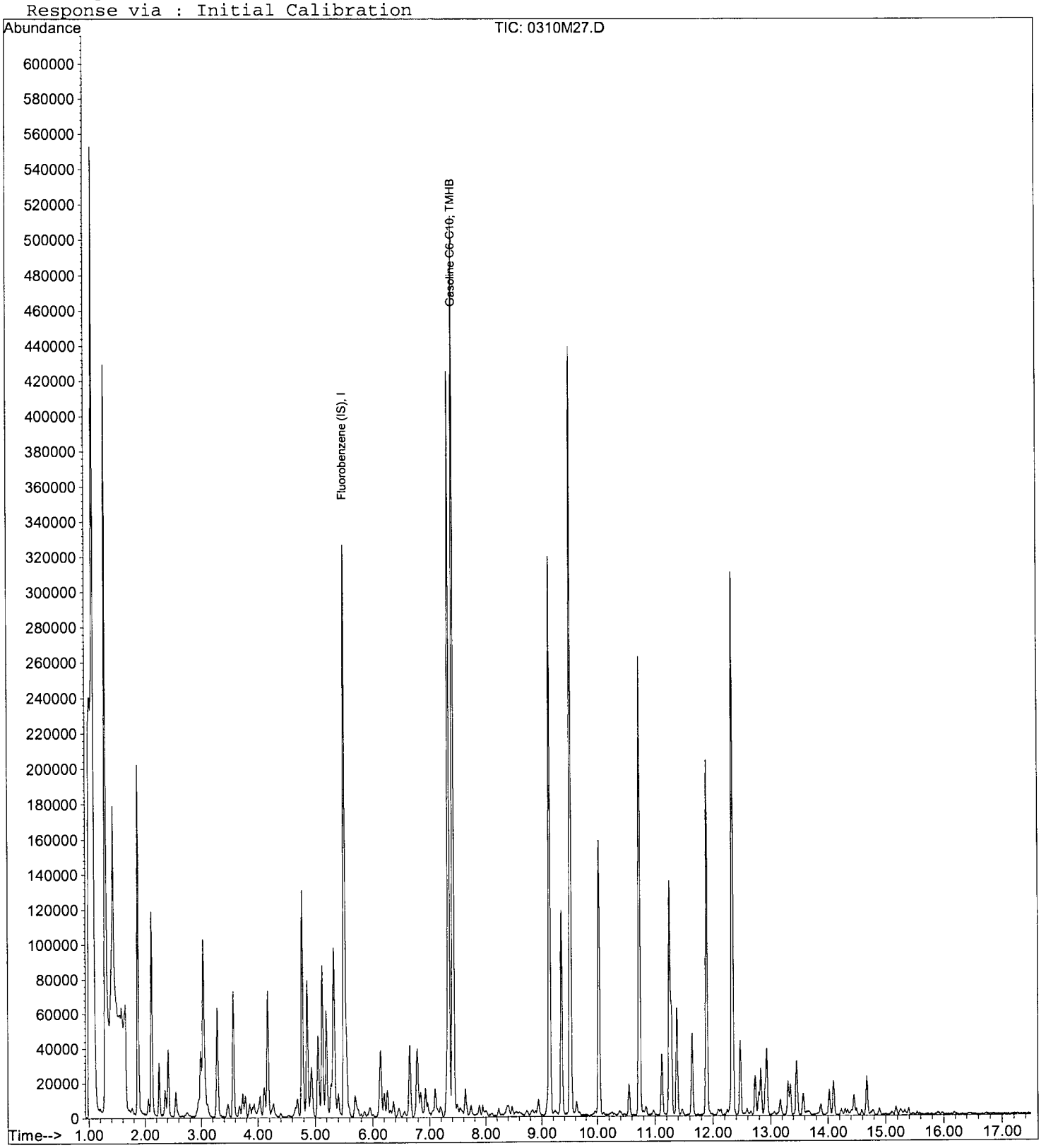
Quantitation Report

Data File : M:\MAX\DATA\M170308\0310M27.D
Acq On : 10 Mar 17 21:17
Sample : AZ51132W456 MSD-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:29 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M27.D Vial: 24
Acq On : 10 Mar 17 21:17 Operator: PM,DG,SV,CMM
Sample : AZ51132W456 MSD-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	309541	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	214234	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102614	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76899	25.21595 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.864%	
3) 1,2-DCA-D4(S)	5.13	65	61303	25.20814 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.832%	
5) Toluene-D8(S)	7.34	98	312216	25.09898 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.396%	
6) 4-Bromofluorobenzene(S)	10.73	95	101339	24.64441 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.576%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0310M27.D MSUR308.M Mon Mar 13 10:36:44 2017

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170310W-51135 MS - 216753**
Batch ID: #GRO86-170309AM
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	260	249	86.7	83.0	78-122	4.3	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.6	24.7	98.4	98.8	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Max	Max
Run :	0310M13	0310M14
Initials :	SV	

Printed: 03/14/17 11:13:00 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M13.D Vial: 10
Acq On : 10 Mar 17 14:34 Operator: PM,DG,SV,CMM
Sample : AZ51135W456 MS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:32 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	316502	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8797786m	259.98703 ppb	100

(#) = qualifier out of range (m) = manual integration
0310M13.D MGAS6302.M Mon Mar 13 10:33:27 2017

Quantitation Report

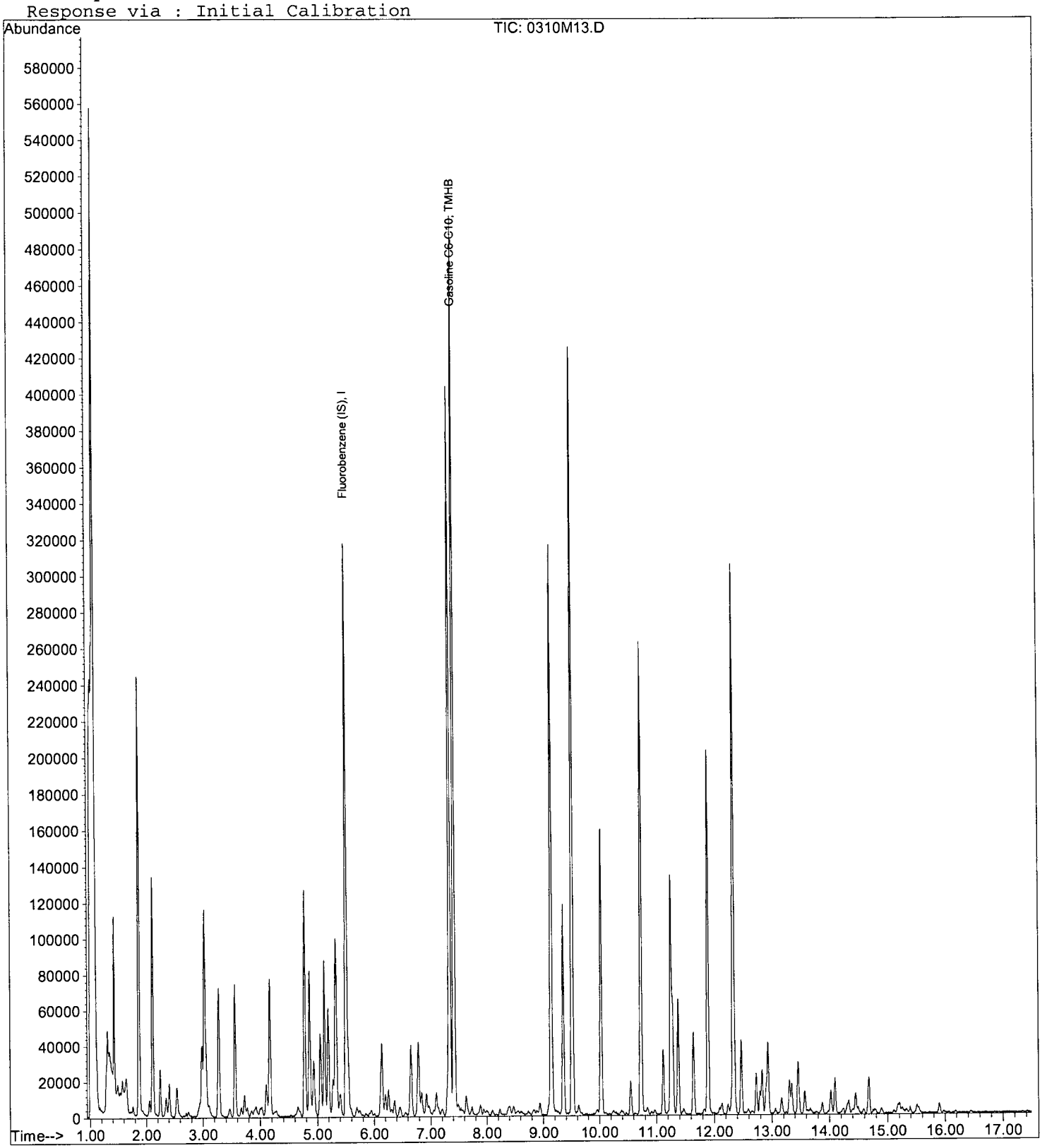
Data File : M:\MAX\DATA\M170308\0310M13.D
Acq On : 10 Mar 17 14:34
Sample : AZ51135W456 MS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:32 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M13.D
Acq On : 10 Mar 17 14:34
Sample : AZ51135W456 MS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	301371	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212506	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100271	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73330	24.69750 ppb	0.00
Spiked Amount 25.000			Recovery = 98.792%		
3) 1,2-DCA-D4(S)	5.12	65	58507	24.71062 ppb	0.00
Spiked Amount 25.000			Recovery = 98.844%		
5) Toluene-D8(S)	7.34	98	303753	24.61720 ppb	0.00
Spiked Amount 25.000			Recovery = 98.468%		
6) 4-Bromofluorobenzene(S)	10.73	95	100164	24.55673 ppb	0.00
Spiked Amount 25.000			Recovery = 98.228%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0310M14.D Vial: 11
Acq On : 10 Mar 17 15:02 Operator: PM,DG,SV,CMM
Sample : AZ51135W456 MSD-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:27 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	321398	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	8682684m	249.41987	ppb	100

(#) = qualifier out of range (m) = manual integration
0310M14.D MGAS6302.M Mon Mar 13 10:30:35 2017

Quantitation Report

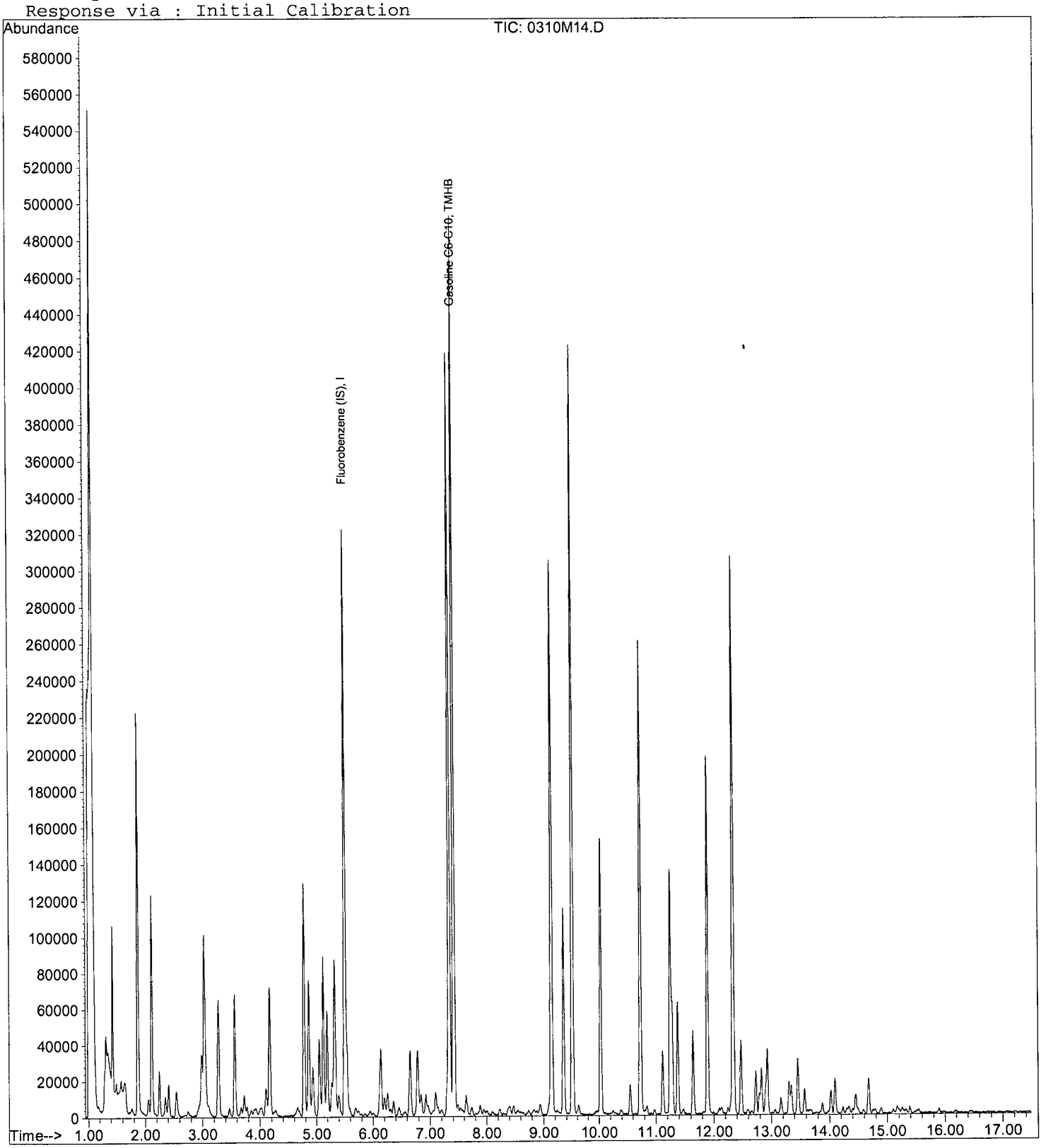
Data File : M:\MAX\DATA\M170308\0310M14.D
Acq On : 10 Mar 17 15:02
Sample : AZ51135W456 MSD-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 10:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0310M14.D Vial: 11
Acq On : 10 Mar 17 15:02 Operator: PM,DG,SV,CMM
Sample : AZ51135W456 MSD-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	304947	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212524	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100084	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	77235	25.70767 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.832%	
3) 1,2-DCA-D4(S)	5.13	65	59131	24.68131 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.724%	
5) Toluene-D8(S)	7.34	98	310089	25.12856 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.516%	
6) 4-Bromofluorobenzene(S)	10.73	95	100845	24.72160 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.888%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
10	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
11	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
12	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
13	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
14	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
15	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
16	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
17	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
18	4	0309M05.D	1	170309A CCV-1WM 300ug/L	IS&S 02/23/17	9 Mar 17 11:04
19	5	0309M06.D	1	170309A LCS-1WM 300ug/L	IS&S 02/23/17	9 Mar 17 11:33
20	7	0309M08.D	1	170309A BLK-1WM	IS&S 02/23/17	9 Mar 17 12:29
21	11	0309M12.D	1	AZ51130W01	IS&S 02/23/17	9 Mar 17 14:23
22	13	0309M14.D	1	AZ51135W01	IS&S 02/23/17	9 Mar 17 15:20
23	14	0309M15.D	1	AZ51133W01	IS&S 02/23/17	9 Mar 17 15:48
24	15	0309M16.D	1	AZ51134W01	IS&S 02/23/17	9 Mar 17 16:17
25	16	0309M17.D	1	AZ51136W01	IS&S 02/23/17	9 Mar 17 16:45
26	17	0309M18.D	1	AZ51137W01	IS&S 02/23/17	9 Mar 17 17:13
27	19	0309M20.D	1	AZ51139W01	IS&S 02/23/17	10 Mar 17 6:09
28	21	0309M22.D	1	Ending CCV GAS 300ug/L 3/9/17	IS&S 02/23/17	10 Mar 17 7:05
29	4	0310M07.D	1	170310A CCV-1WM 300ug/L	IS&S 02/23/17	10 Mar 17 11:43
30	5	0310M08.D	1	170310A LCS-1WM 300ug/L	IS&S 02/23/17	10 Mar 17 12:12
31	7	0310M10.D	1	170310A BLK-1WM	IS&S 02/23/17	10 Mar 17 13:08
32	10	0310M13.D	1	AZ51135W456 MS-1WM 300ug/L	IS&S 02/23/17	10 Mar 17 14:34
33	11	0310M14.D	1	AZ51135W456 MSD-1WM 300ug/	IS&S 02/23/17	10 Mar 17 15:02
34	13	0310M16.D	1	AZ51140W01	IS&S 02/23/17	10 Mar 17 15:59
35	14	0310M17.D	1	AZ51141W01	IS&S 02/23/17	10 Mar 17 16:27
36	15	0310M18.D	1	AZ51132W01	IS&S 02/23/17	10 Mar 17 16:56
37	23	0310M26.D	1	AZ51132W456 MS-1WM 300ug/L	IS&S 02/23/17	10 Mar 17 20:49
38	24	0310M27.D	1	AZ51132W456 MSD-1WM 300ug/	IS&S 02/23/17	10 Mar 17 21:17
39	28	0310M31.D	1	Ending CCV GAS 300ug/L 3/10/17	IS&S 02/23/17	10 Mar 17 23:10

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51135 - 216775**
Batch ID: #RSKME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031005
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 10:46:40 AM

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170317W-51132 - 216981**
Batch ID: #RSKME-170317A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/17/17	03/17/17

Quant Method: RSK0225.M
Run #: 17031701
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 10:53:08 AM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170310W-51135 LCS - 216775**
Batch ID: #RSKME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	709	106	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Rocky
Run :	17031004
Initials :	CMO

Printed: 03/10/17 10:46:32 AM
APPL Standard LCS

Laboratory Control Spike Recovery
METHANE

APPL ID: **170317W-51132 LCS - 216981**
Batch ID: #RSKME-170317A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	641	96.0	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/17/17
Analysis Date :	03/17/17
Instrument :	Rocky
Run :	17031700
Initials :	CMO

Printed: 03/17/17 10:52:57 AM
APPL Standard LCS

Matrix Spike Recoveries

METHANE

APPL ID: **170317W-51132 MS - 216981**
Batch ID: #RSKME-170317A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	668	ND	582	626	87.2	93.8	72-125	7.3	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	03/17/17	03/17/17
Analysis Date :	03/17/17	03/17/17
Instrument :	Rocky	Rocky
Run :	17031703	17031704
Initials :	CMO	

Printed: 03/17/17 10:52:50 AM
APPL MSD SCII

Matrix Spike Recoveries

METHANE

APPL ID: **170310W-51135 MS - 216775**
Batch ID: #RSKME-170310A
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	668	ND	574	523	86.0	78.4	72-125	9.3	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Rocky	Rocky
Run :	17031009	17031010
Initials :	CMO	

Printed: 03/10/17 10:46:29 AM
APPL MSD SCII

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH255
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51130
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031006
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031006.D Vial: 7
Acq On : 10 Mar 17 8:24 Operator: lac
Sample : AZ51130W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:28 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

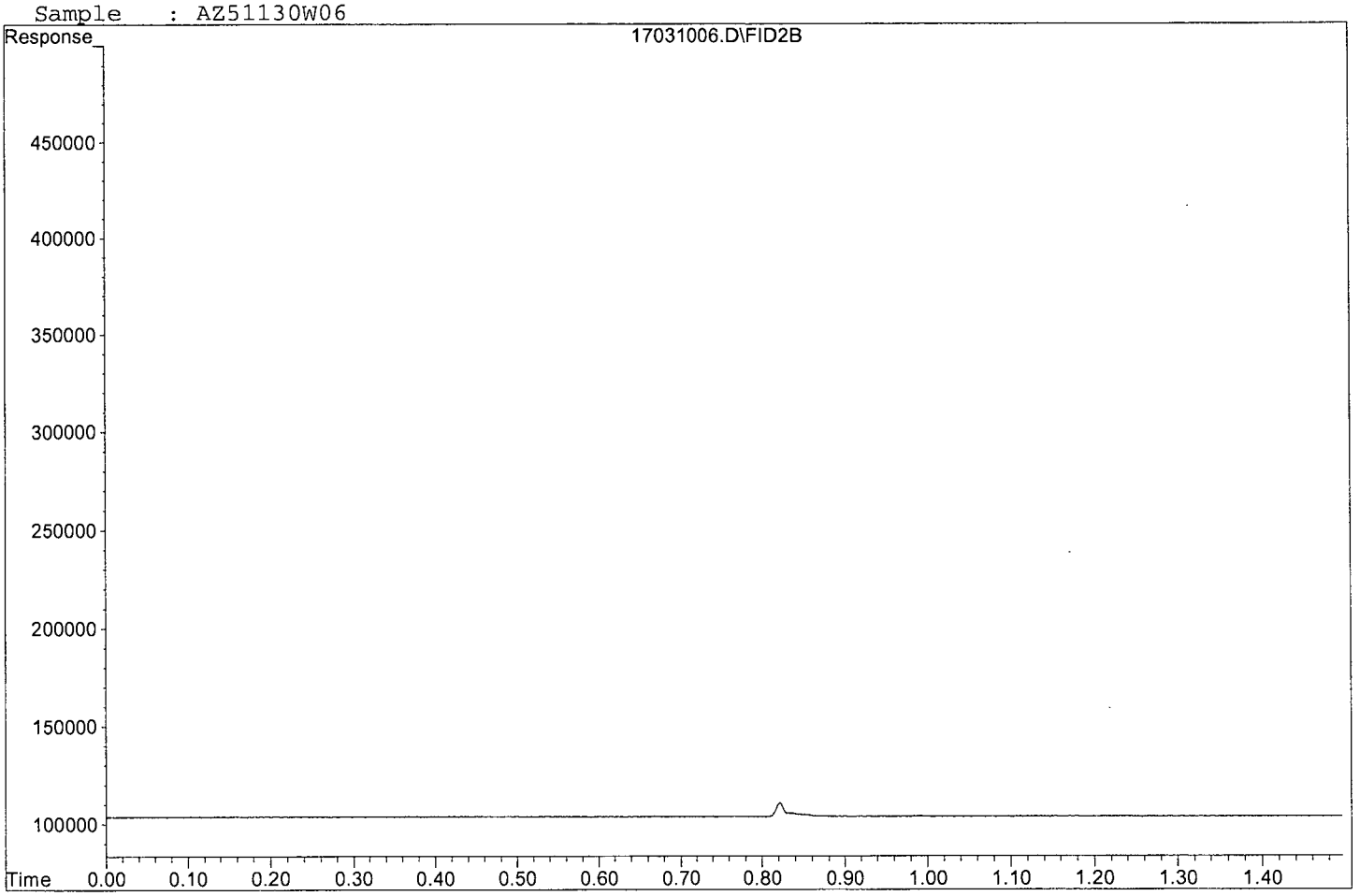
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	1115	N.D.	ppb
2) ATM Ethane	1.03	288	N.D.	ppb
3) ATM Ethene	1.12	168	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031006.D
Sample : AZ51130W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH257
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51132
QCG: #RSKME-170317A-216981

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/17/17	03/17/17

Quant Method:	RSK0225.M
Run #:	17031702
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/17/17 10:53:02 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031702.D Vial: 3
Acq On : 17 Mar 17 9:10 Operator: lac
Sample : AZ51132W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 9:13 2017 Quant Results File: RSK0225.RES

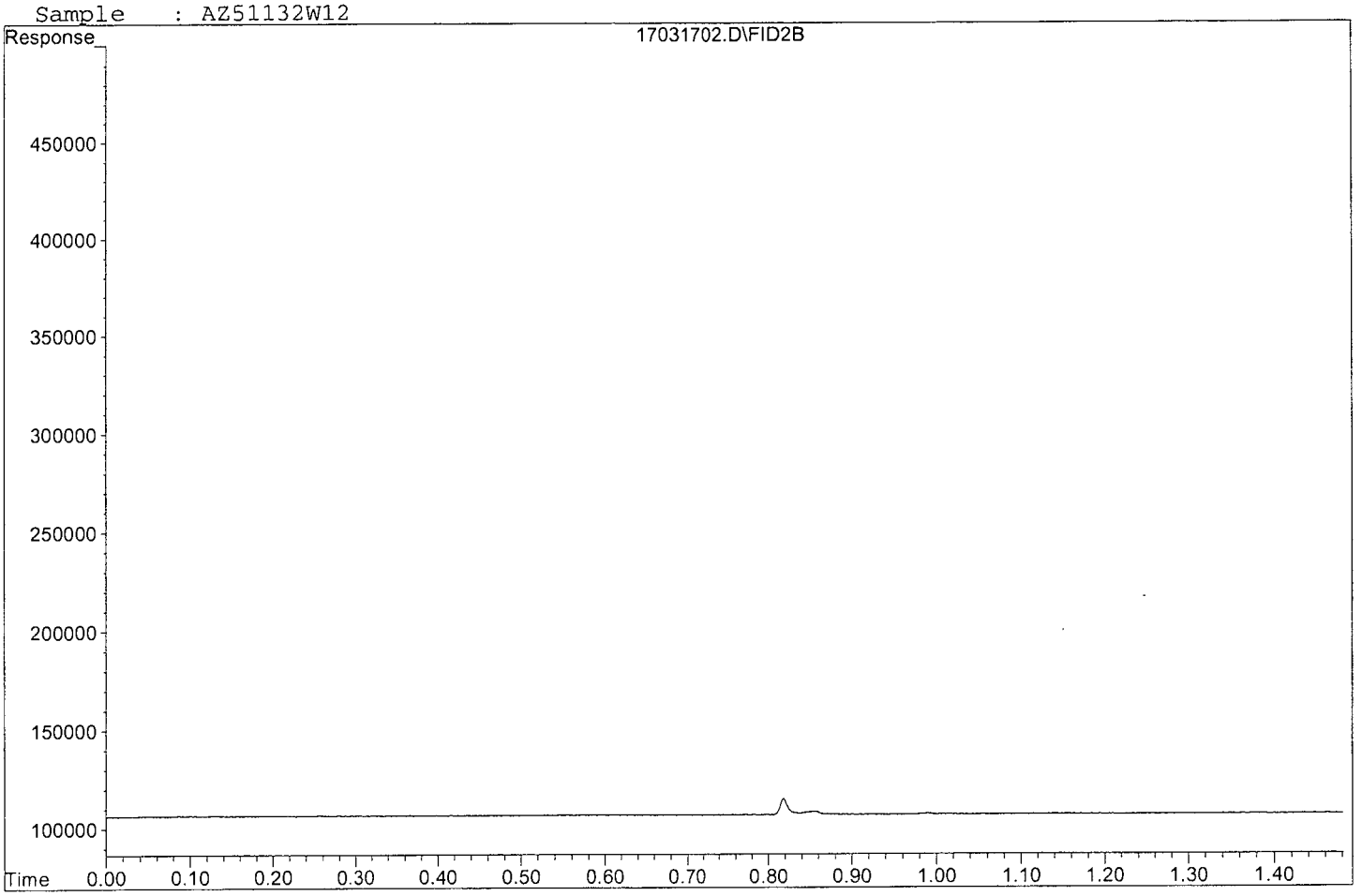
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1653	N.D.	ppb
2) ATM Ethane	1.03	268	N.D.	ppb
3) ATM Ethene	1.12	296	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031702.D
Sample : AZ51132W12



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH261
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51134
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031007
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031007.D
Acq On : 10 Mar 17 8:30
Sample : AZ51134W03
Misc :
IntFile : autoint1.e
Quant Time: Mar 10 8:32 2017 Quant Results File: RSK0225.RES

Vial: 8
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

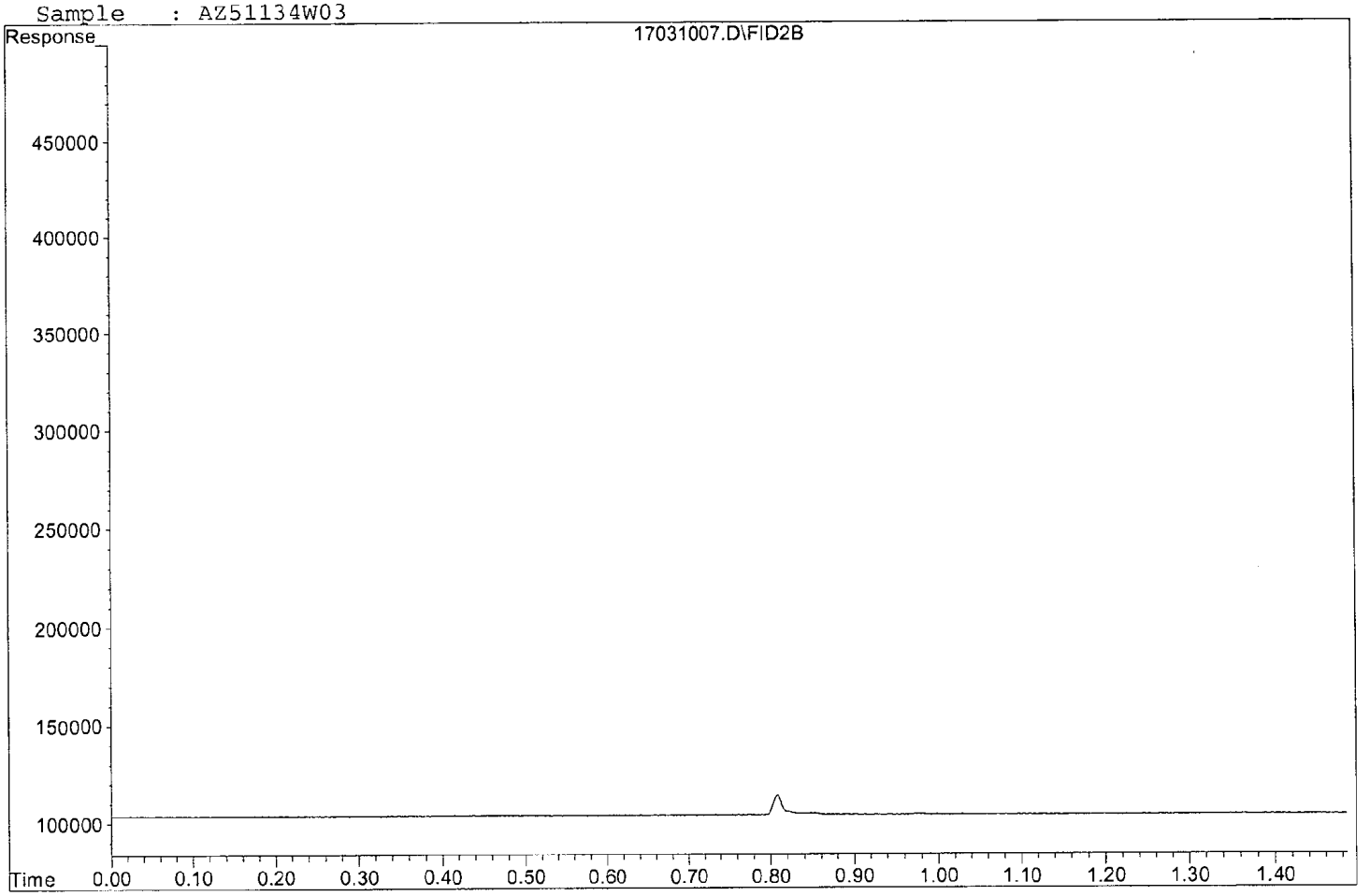
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1069	N.D.	ppb
2) ATM Ethane	1.03	374	N.D.	ppb
3) ATM Ethene	1.12	269	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031007.D
Sample : AZ51134W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH262
Sample Collection Date: 03/06/17

ARF: 82351
APPL ID: AZ51135
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031008
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031008.D Vial: 9
Acq On : 10 Mar 17 8:34 Operator: lac
Sample : AZ51135W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:35 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

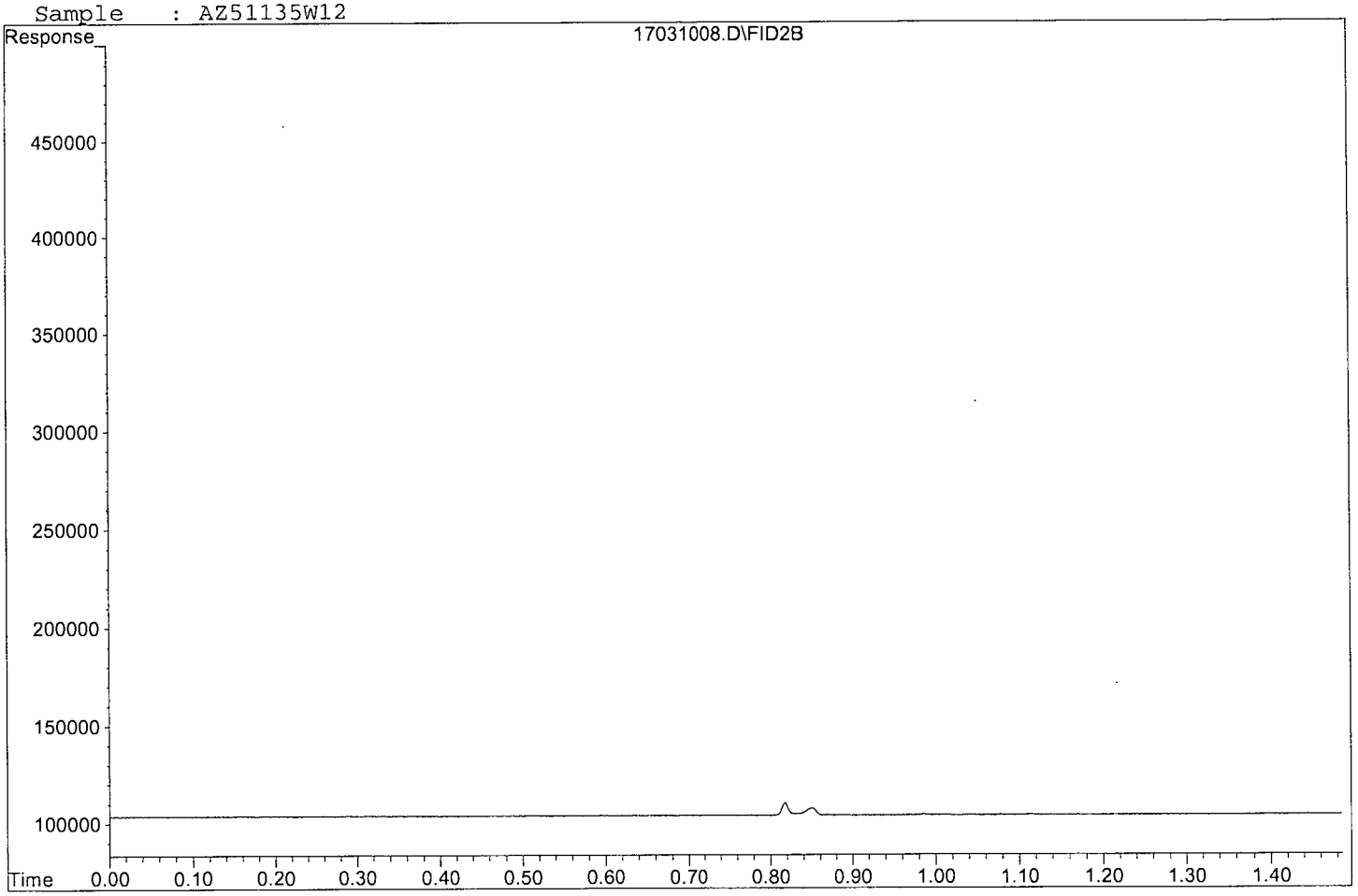
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	3993	N.D.	ppb
2) ATM Ethane	1.03	184	N.D.	ppb
3) ATM Ethene	1.13	391	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031008.D
Sample : AZ51135W12



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH266
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51137
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031012
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031012.D Vial: 13
Acq On : 10 Mar 17 8:48 Operator: lac
Sample : AZ51137W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

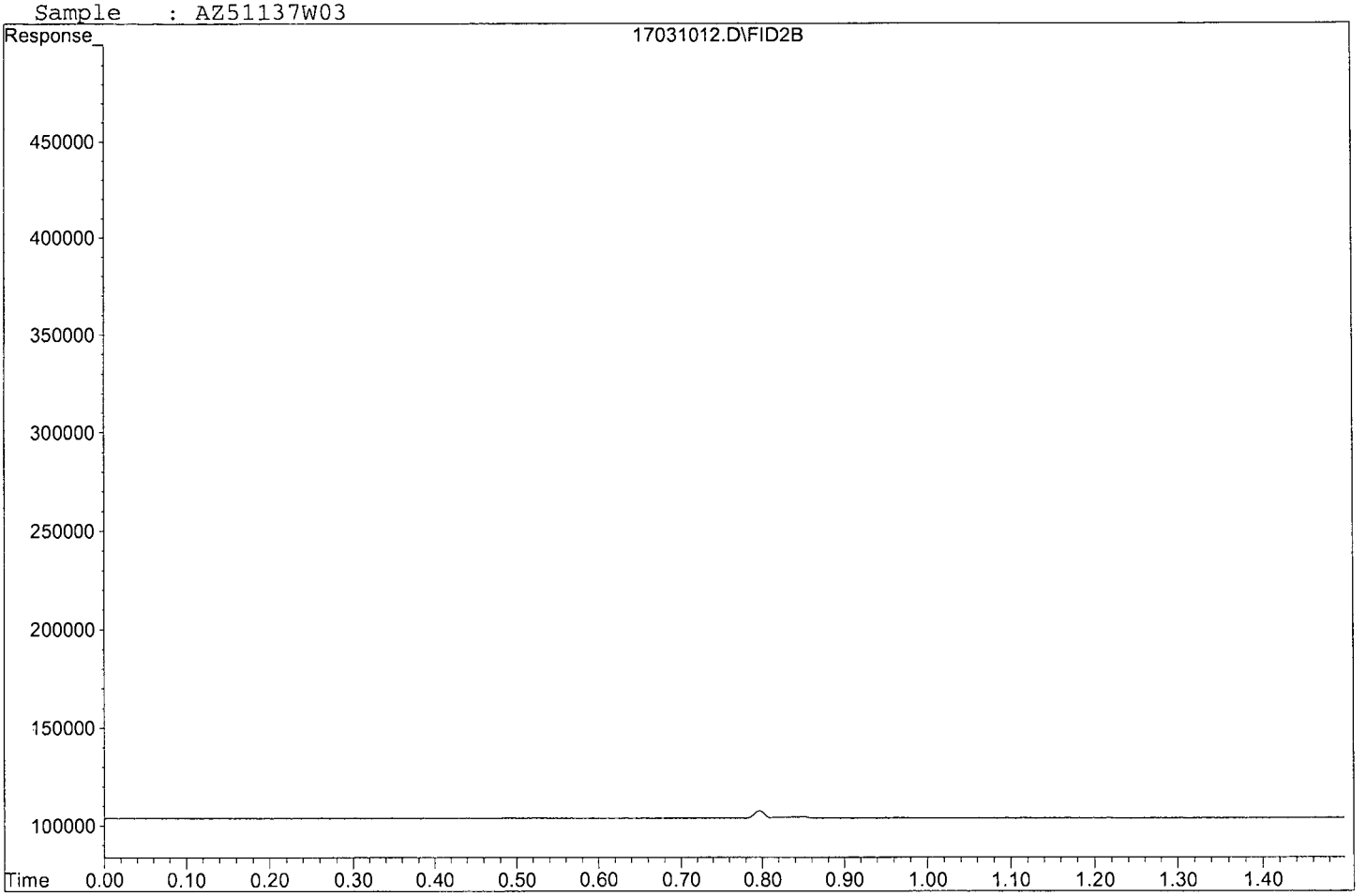
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	281	N.D.	ppb
2) ATM Ethane	1.03	232	N.D.	ppb
3) ATM Ethene	1.12	363	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031012.D
Sample : AZ51137W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH268
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51139
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031013
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031013.D Vial: 14
Acq On : 10 Mar 17 8:51 Operator: lac
Sample : AZ51139W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:53 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

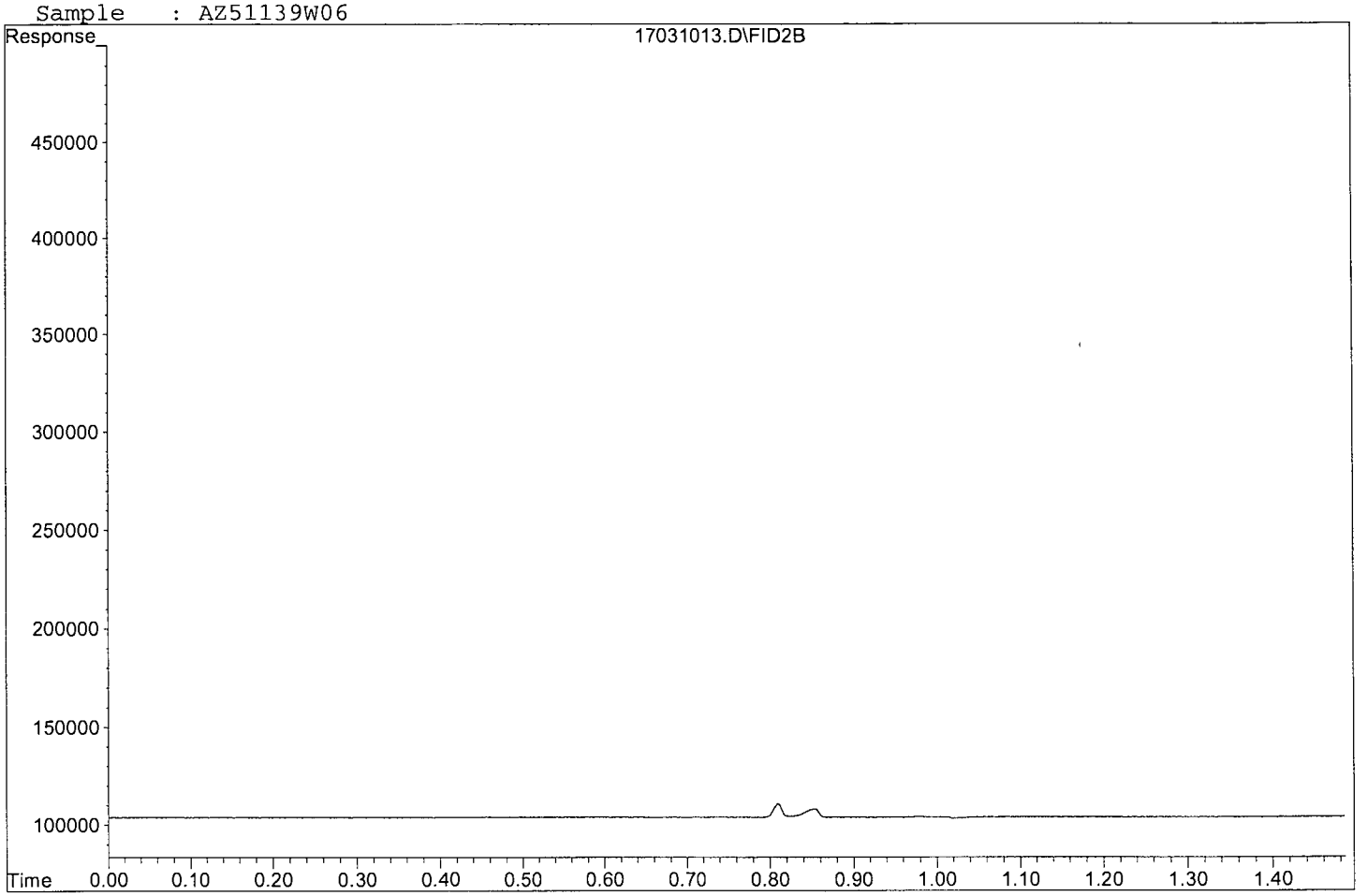
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	4710	N.D.	ppb
2) ATM Ethane	1.03	200	N.D.	ppb
3) ATM Ethene	1.13	469	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031013.D
Sample : AZ51139W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH269
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51140
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031014
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031014.D Vial: 15
Acq On : 10 Mar 17 8:55 Operator: lac
Sample : AZ51140W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:57 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

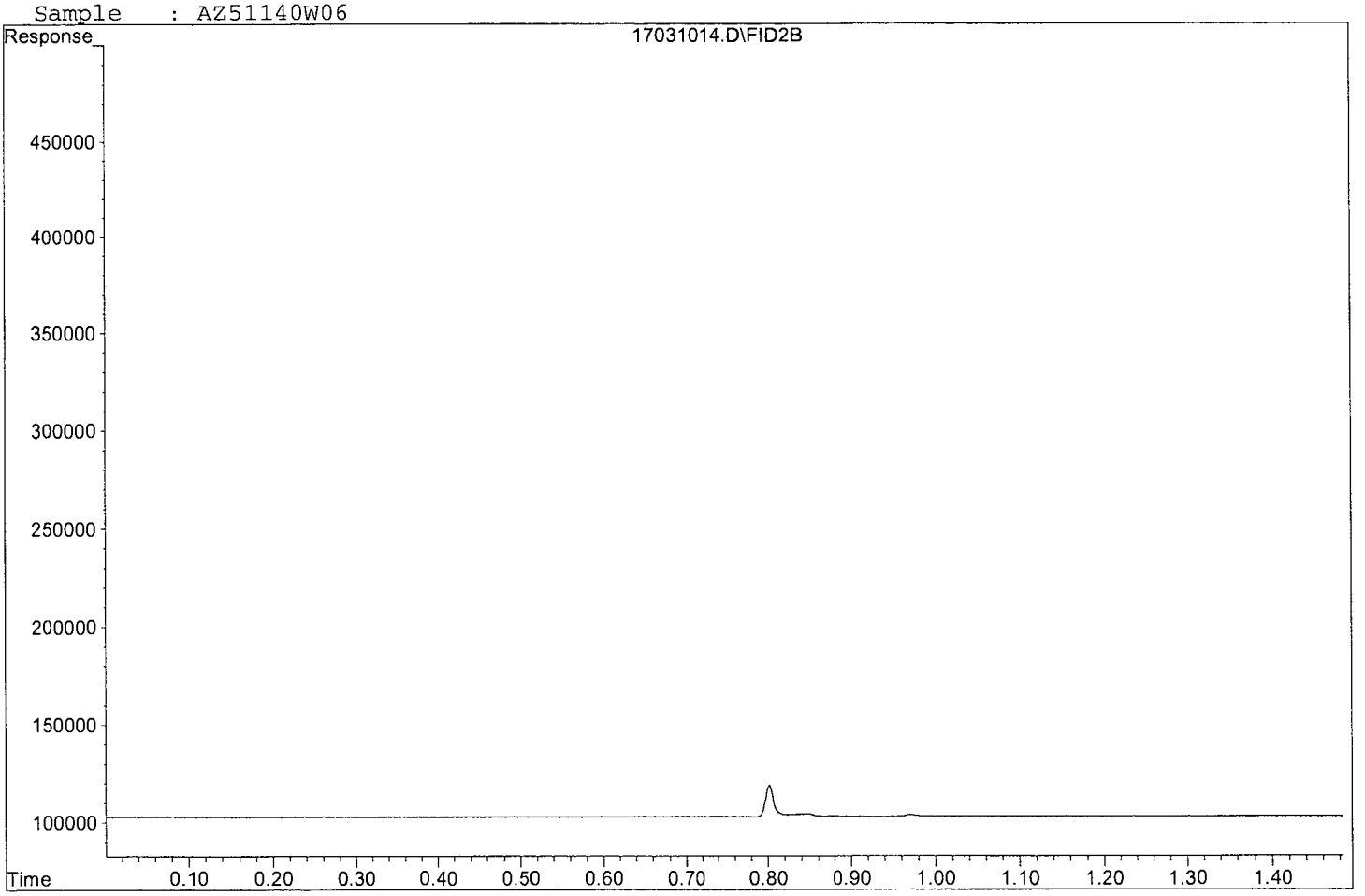
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	438	N.D.	ppb
2) ATM Ethane	1.03	298	N.D.	ppb
3) ATM Ethene	1.11	302	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031014.D
Sample : AZ51140W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH270
Sample Collection Date: 03/07/17

ARF: 82351
APPL ID: AZ51141
QCG: #RSKME-170310A-216775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031015
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/10/17 10:46:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031015.D Vial: 16
Acq On : 10 Mar 17 8:58 Operator: lac
Sample : AZ51141W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 9:00 2017 Quant Results File: RSK0225.RES

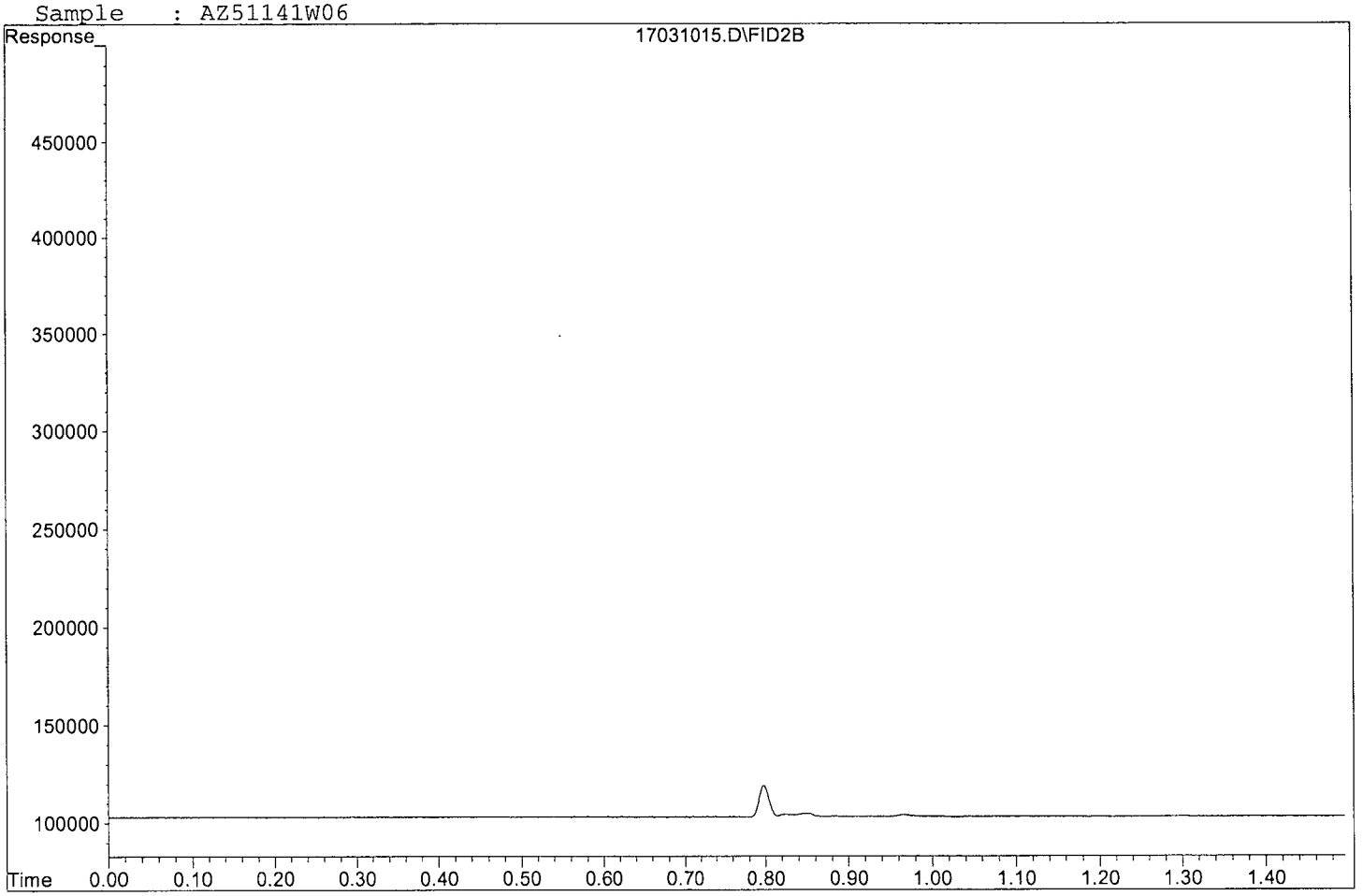
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1932	N.D.	ppb
2) ATM Ethane	1.03	116	N.D.	ppb
3) ATM Ethene	1.12	391	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031015.D
Sample : AZ51141W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503 D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
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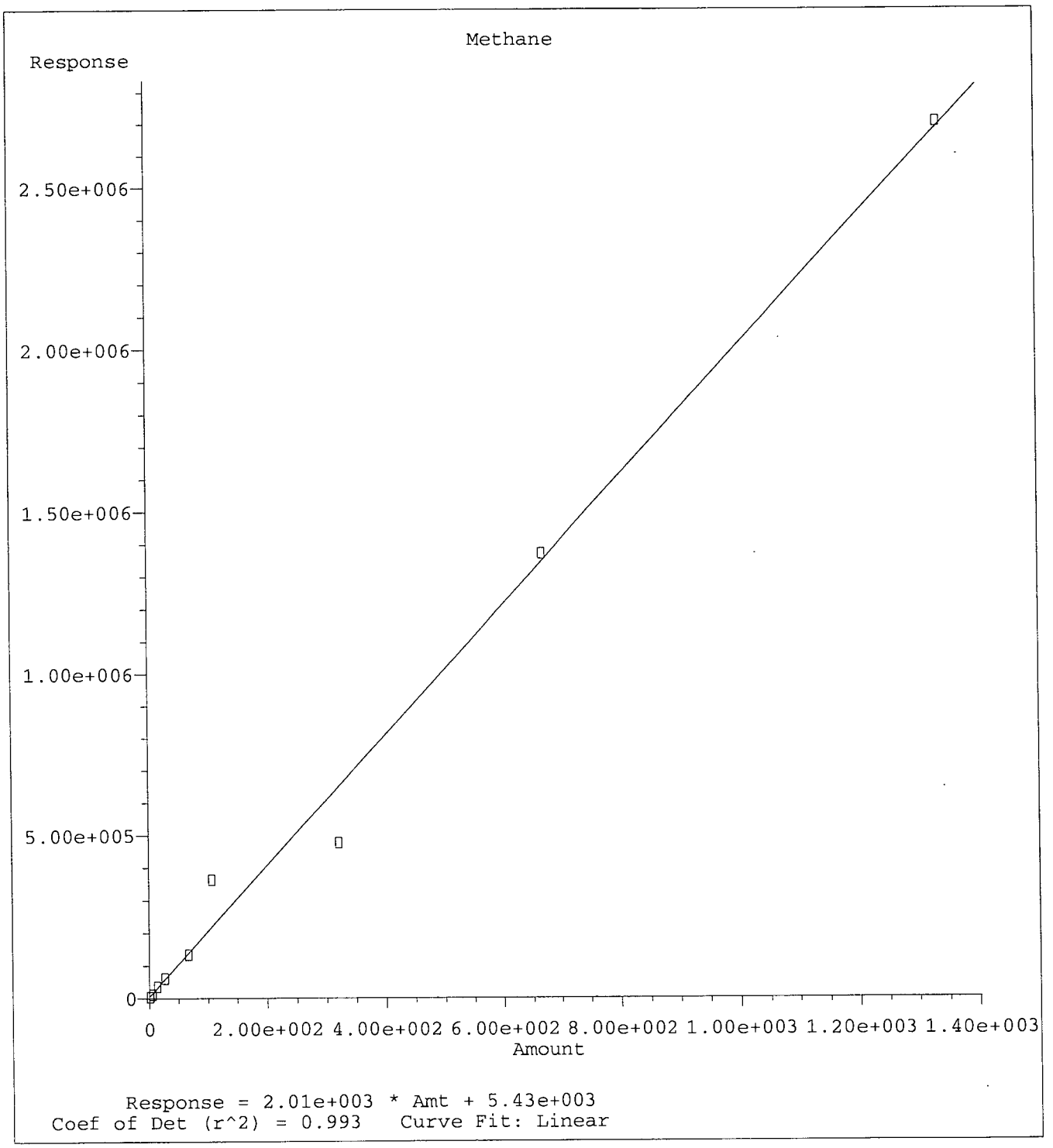
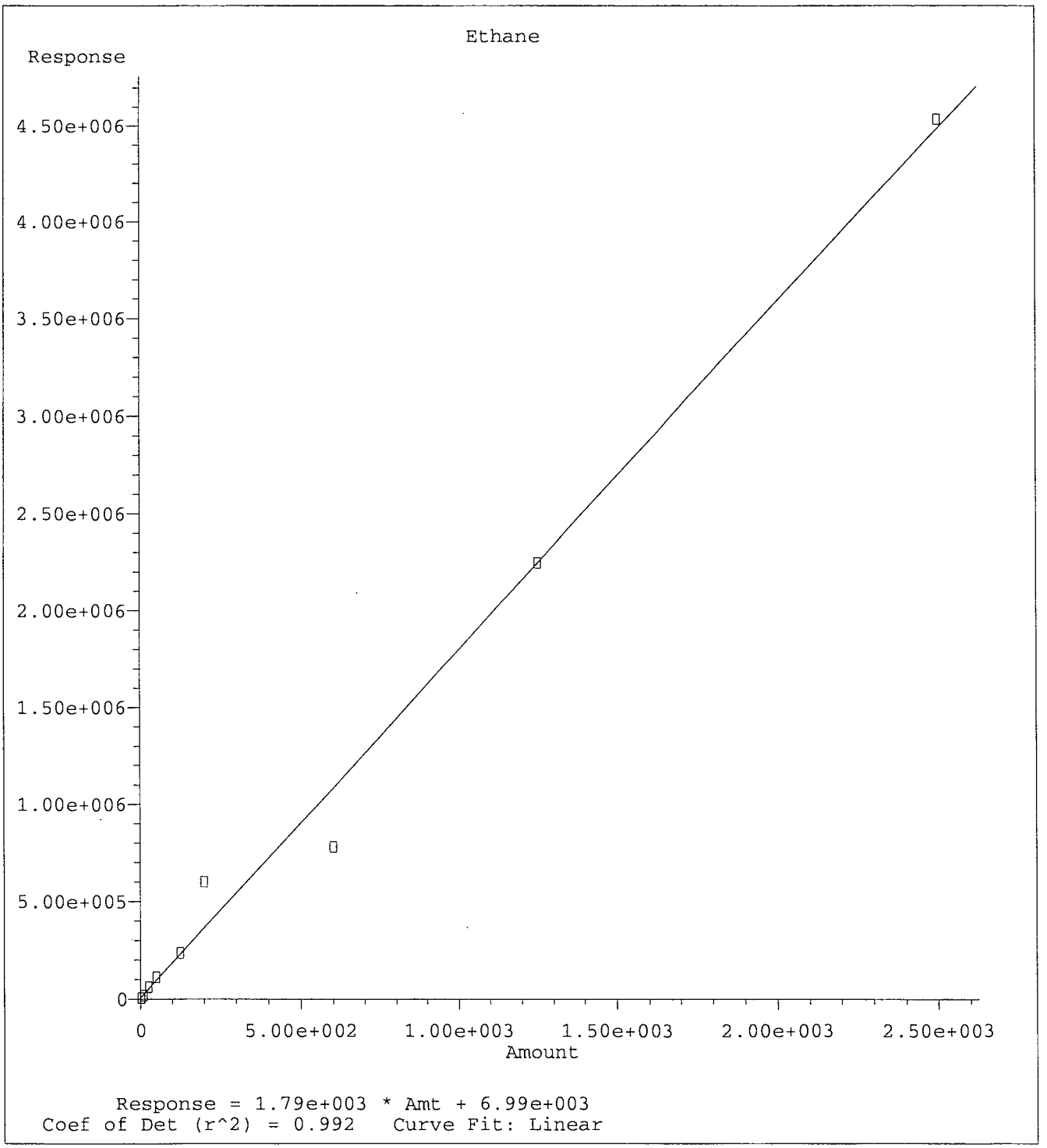
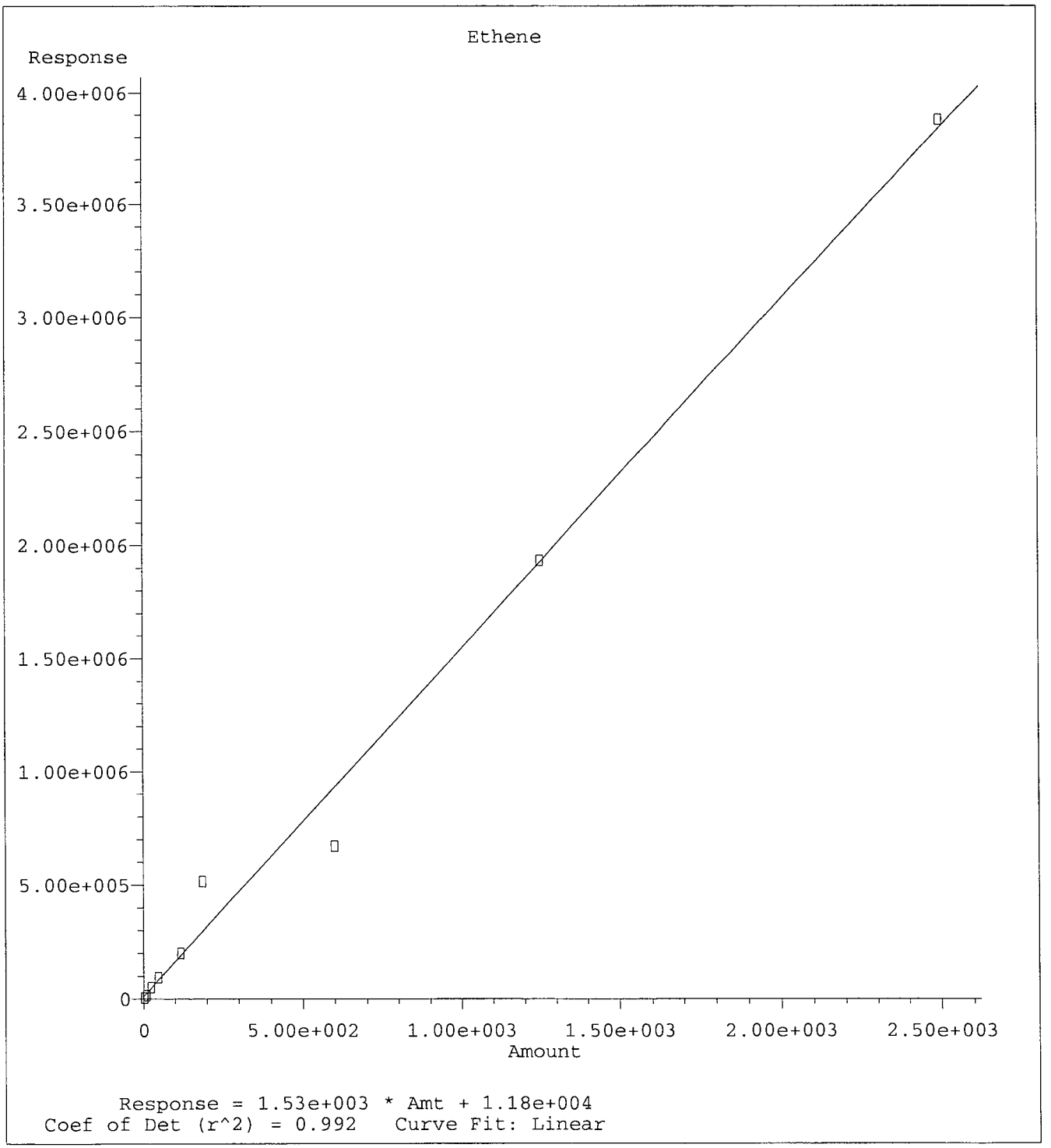
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

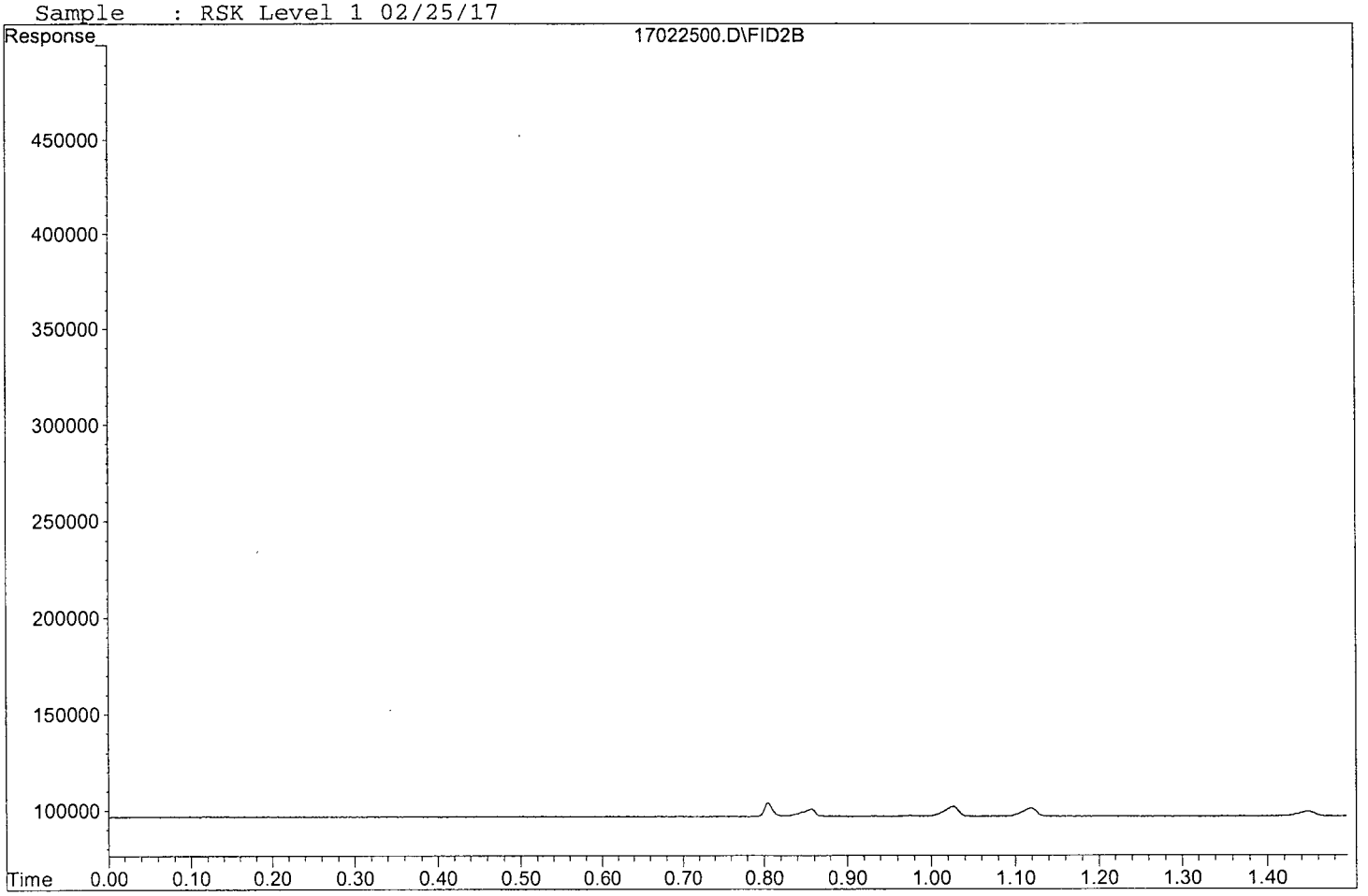
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

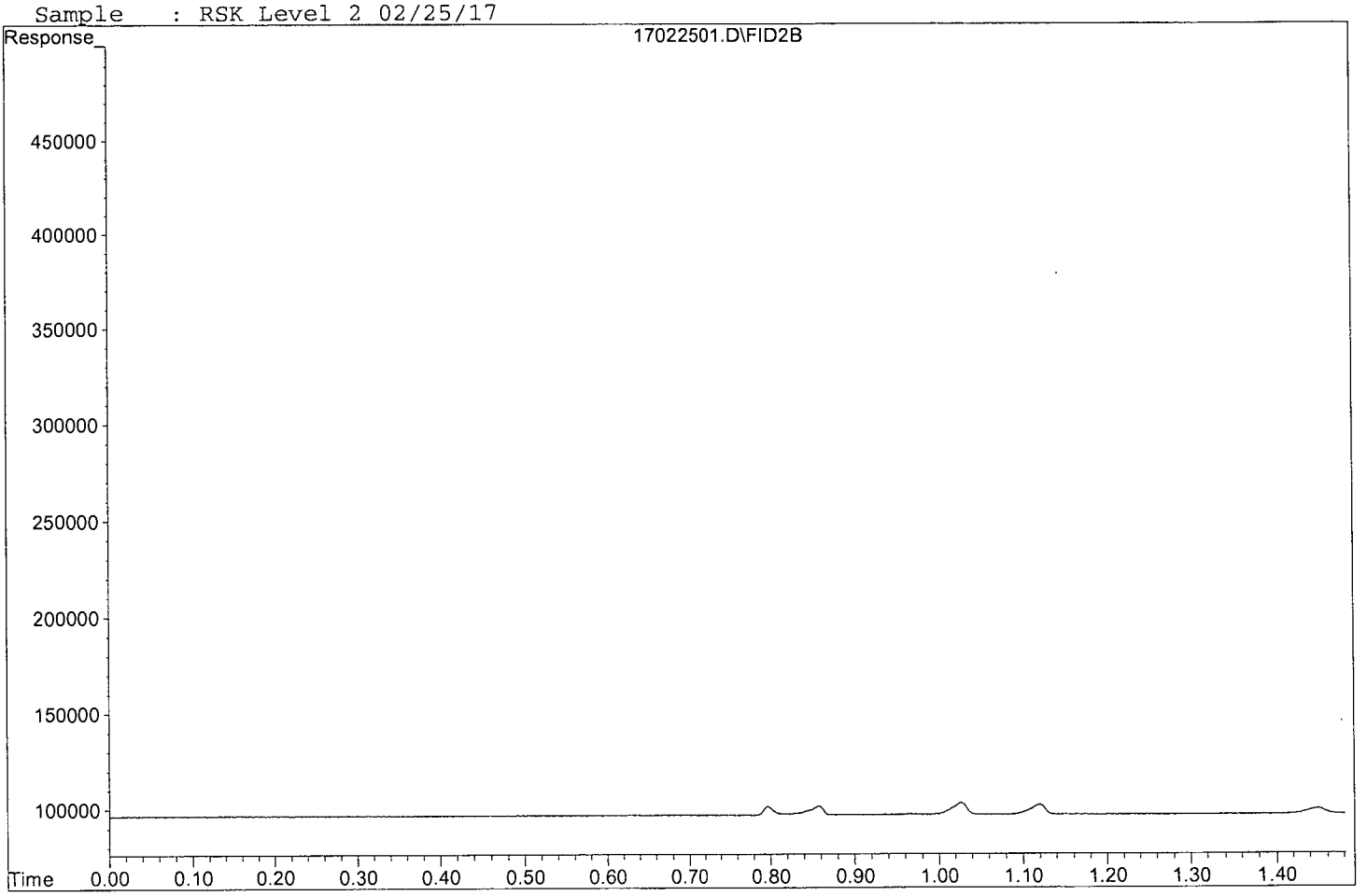
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

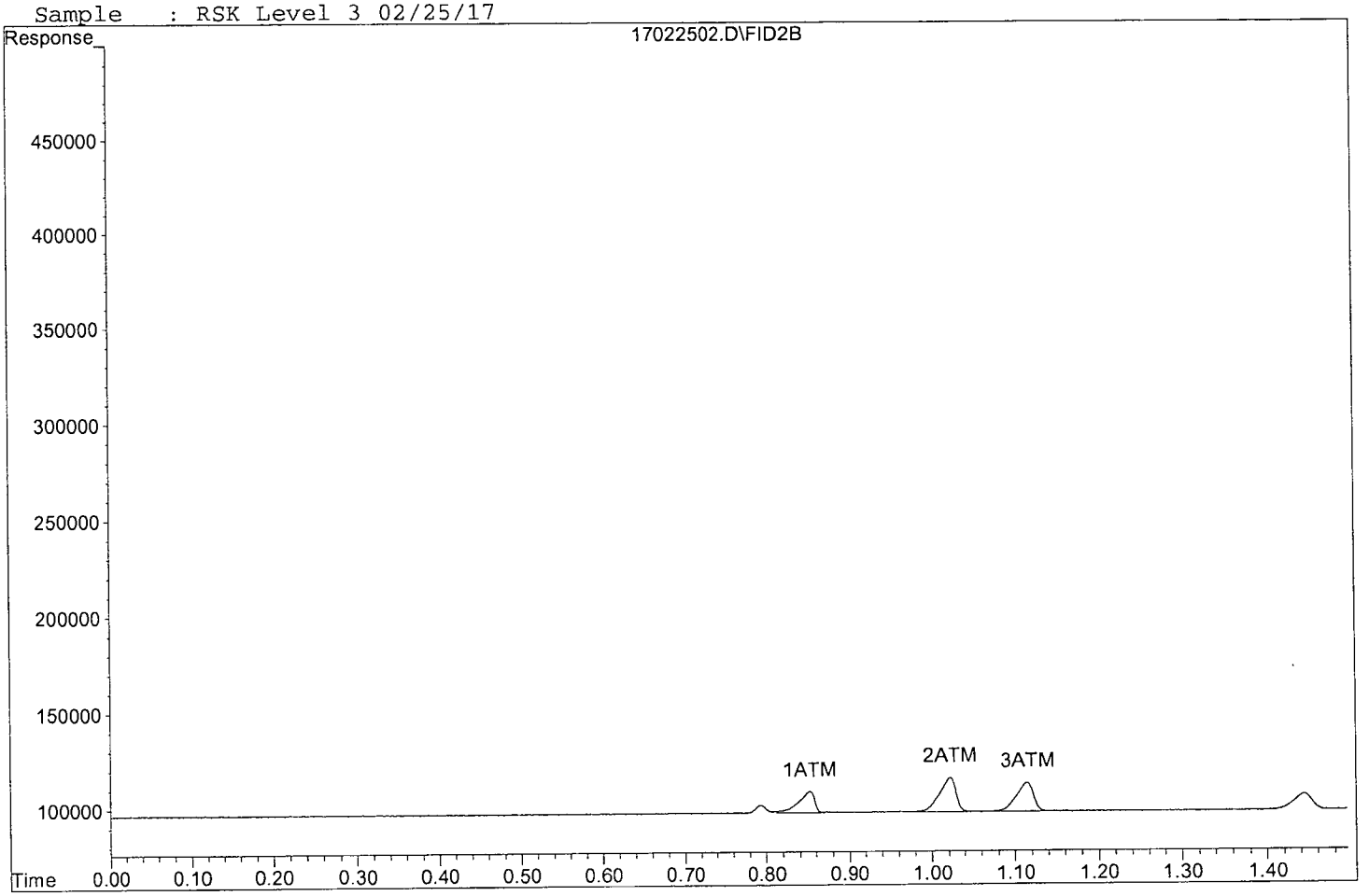
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D
Acq On : 25 Feb 17 11:17
Sample : RSK Level 4 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 4
Operator: lac
Inst : 7890
Multiplr: 1.00

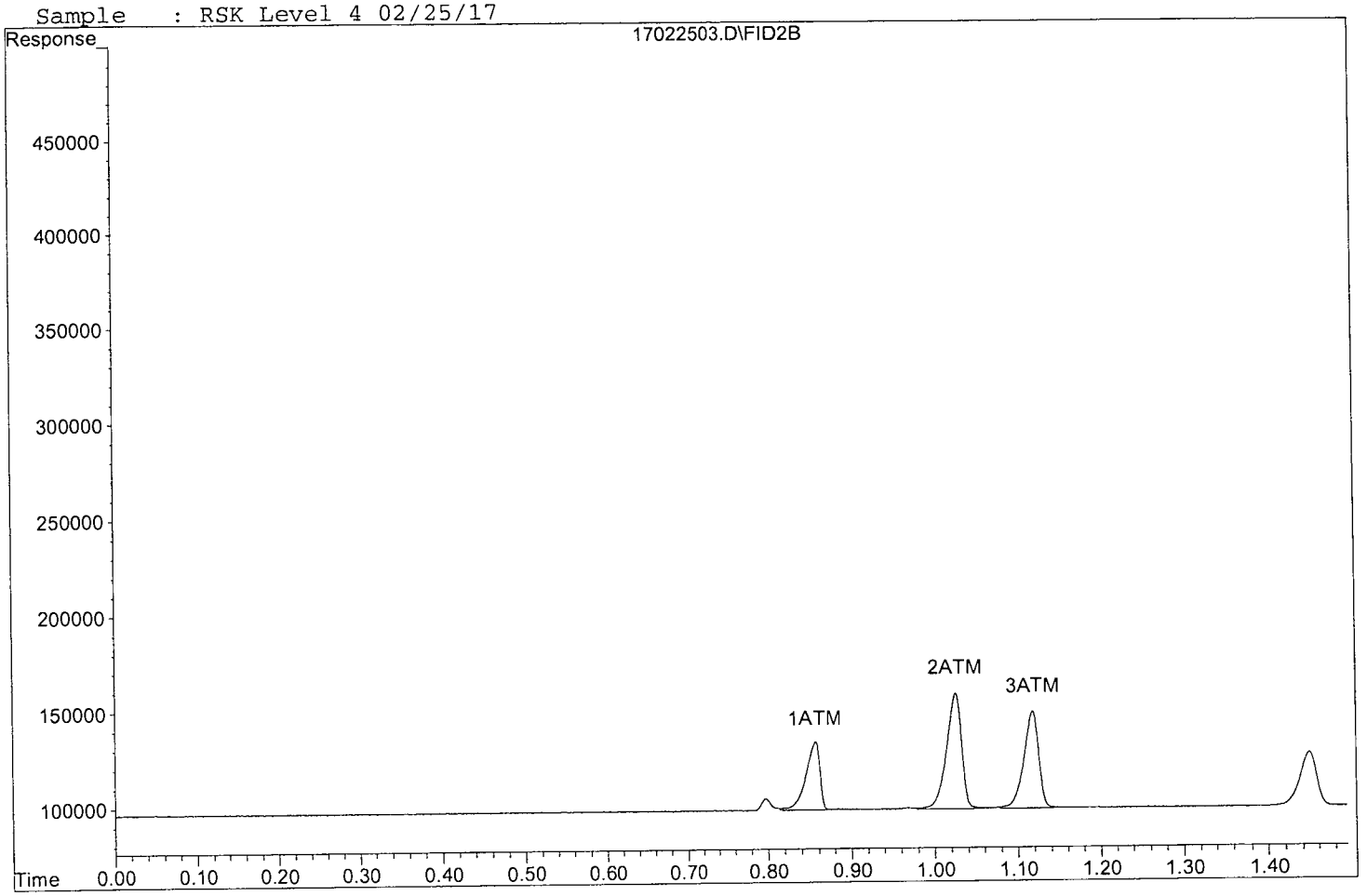
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

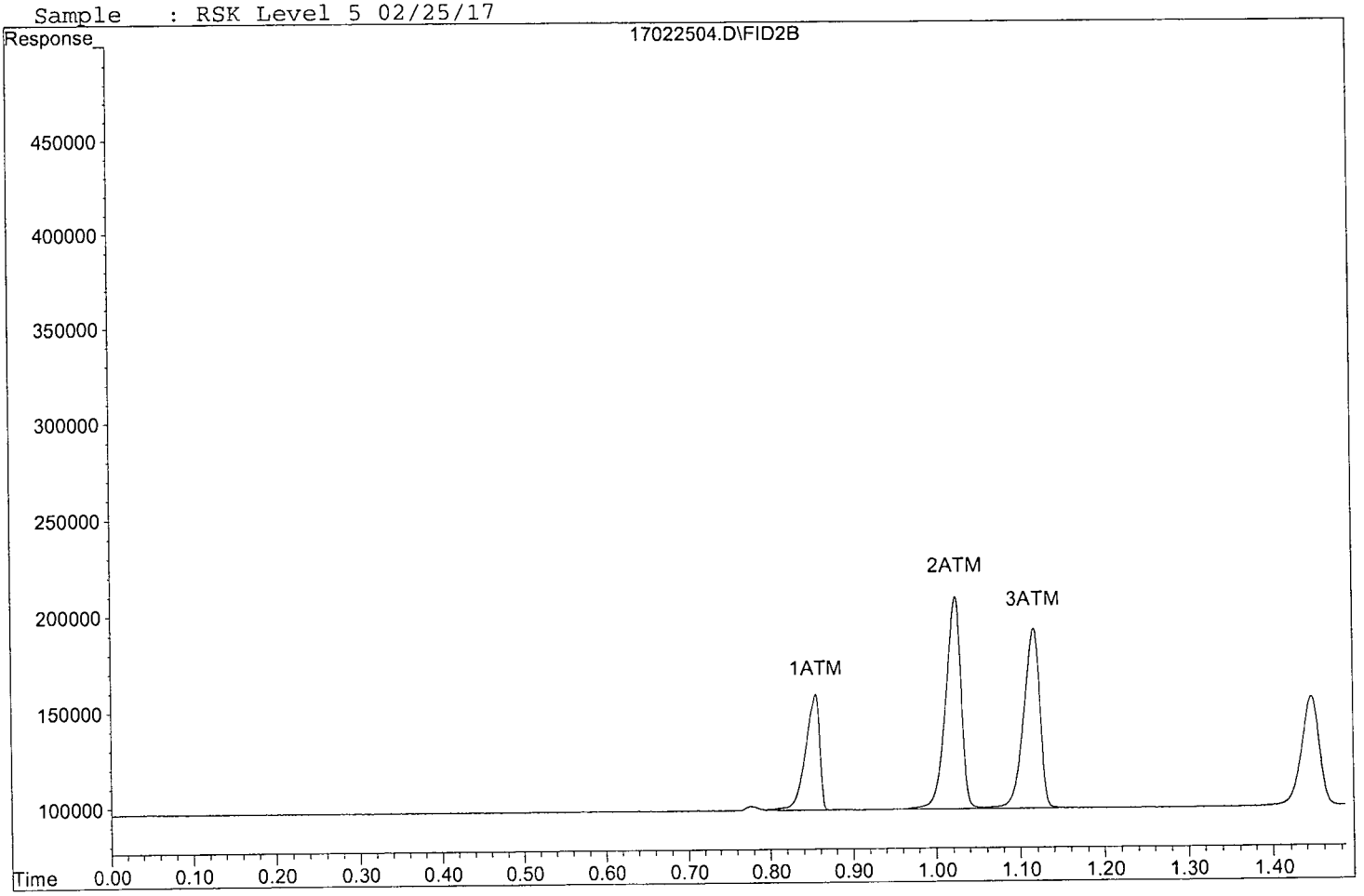
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Acq On : 25 Feb 17 11:23
Sample : RSK Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 6
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

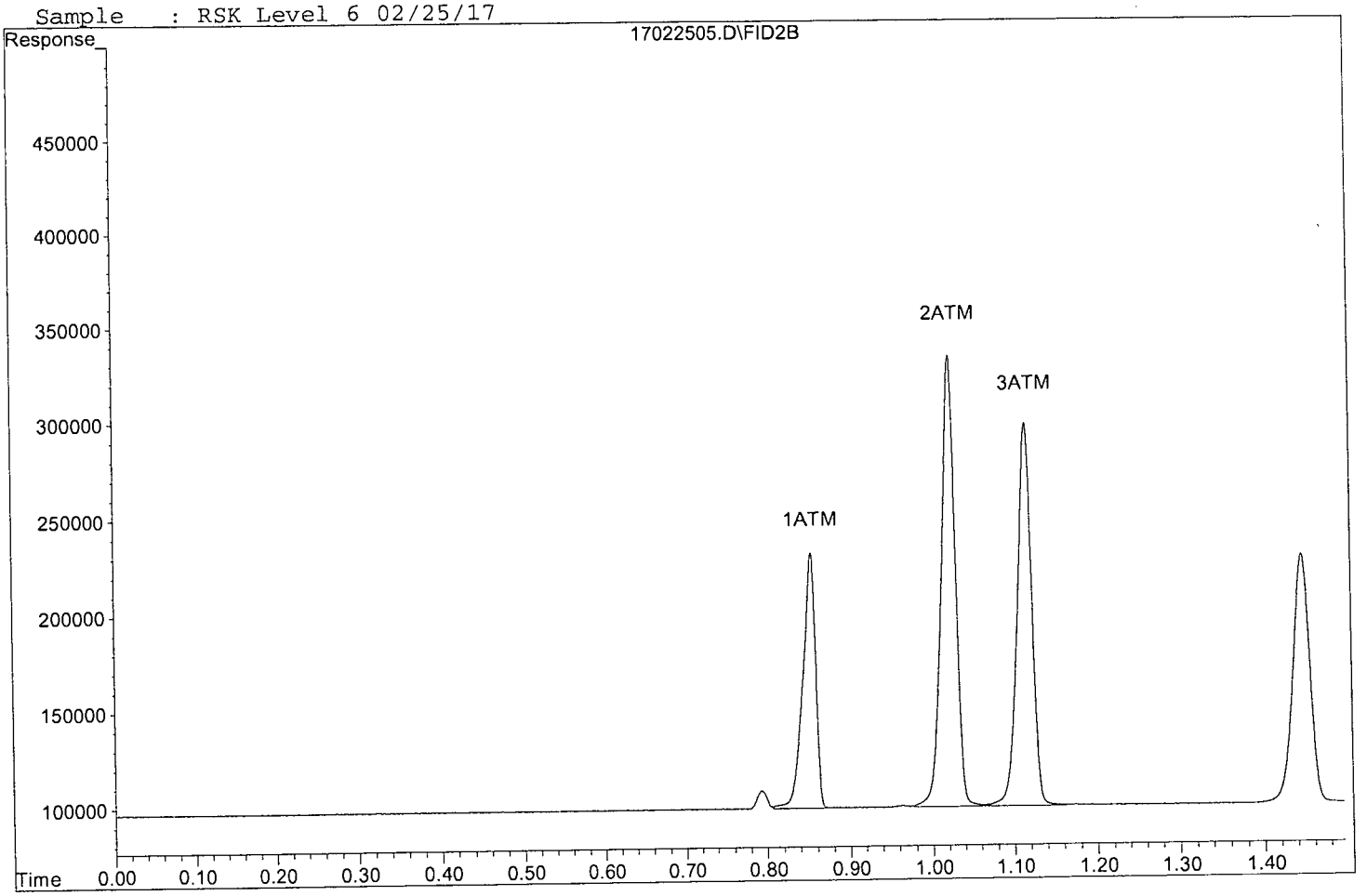
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	133452	63.750	ppb
2) ATM Ethane	1.03	235371	127.576	ppb
3) ATM Ethene	1.12	199827	122.670	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D
Acq On : 25 Feb 17 11:25
Sample : RSK Level 7 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 7
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

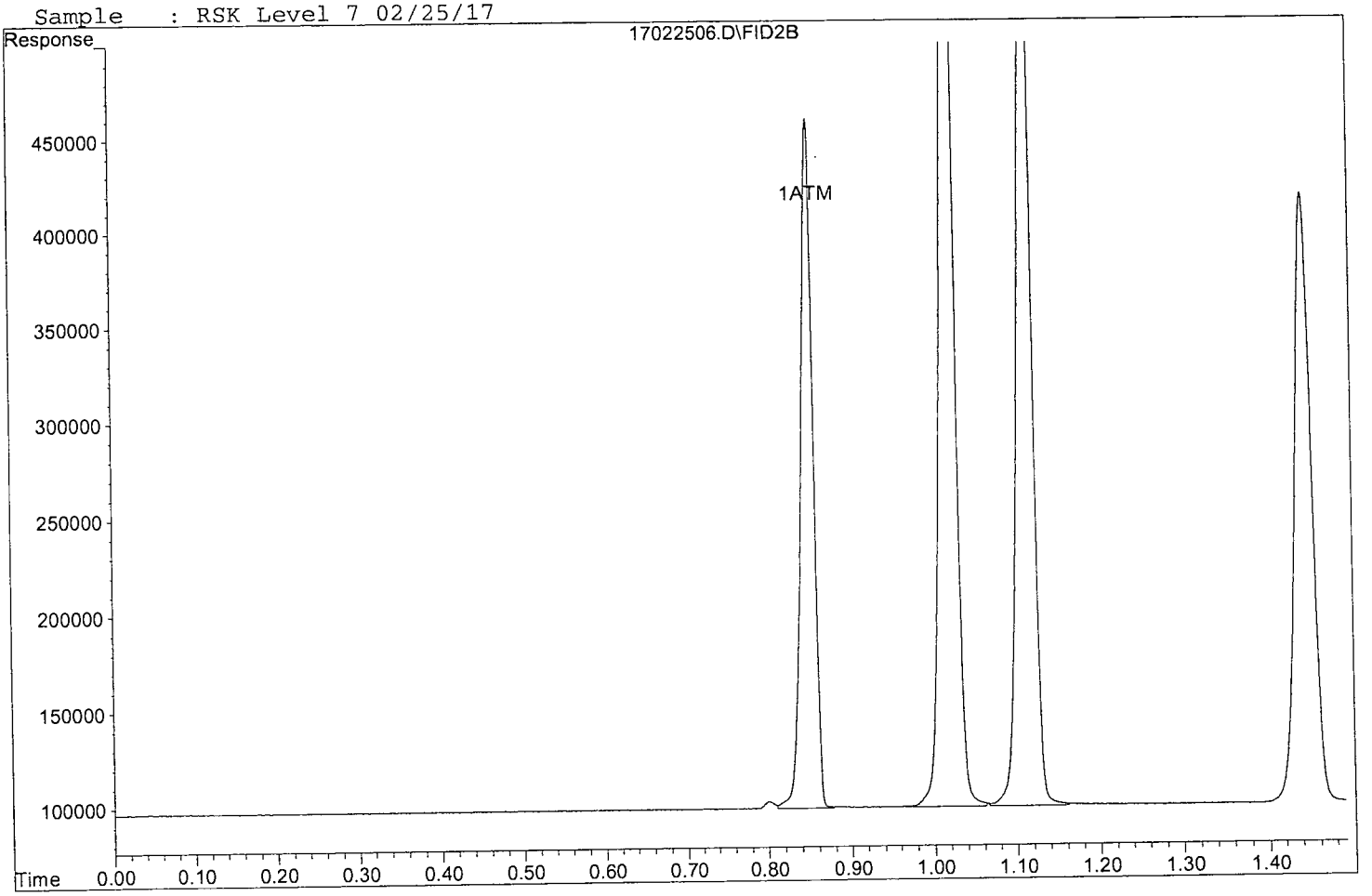
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D
Acq On : 25 Feb 17 11:27
Sample : RSK Level 8 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 8
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

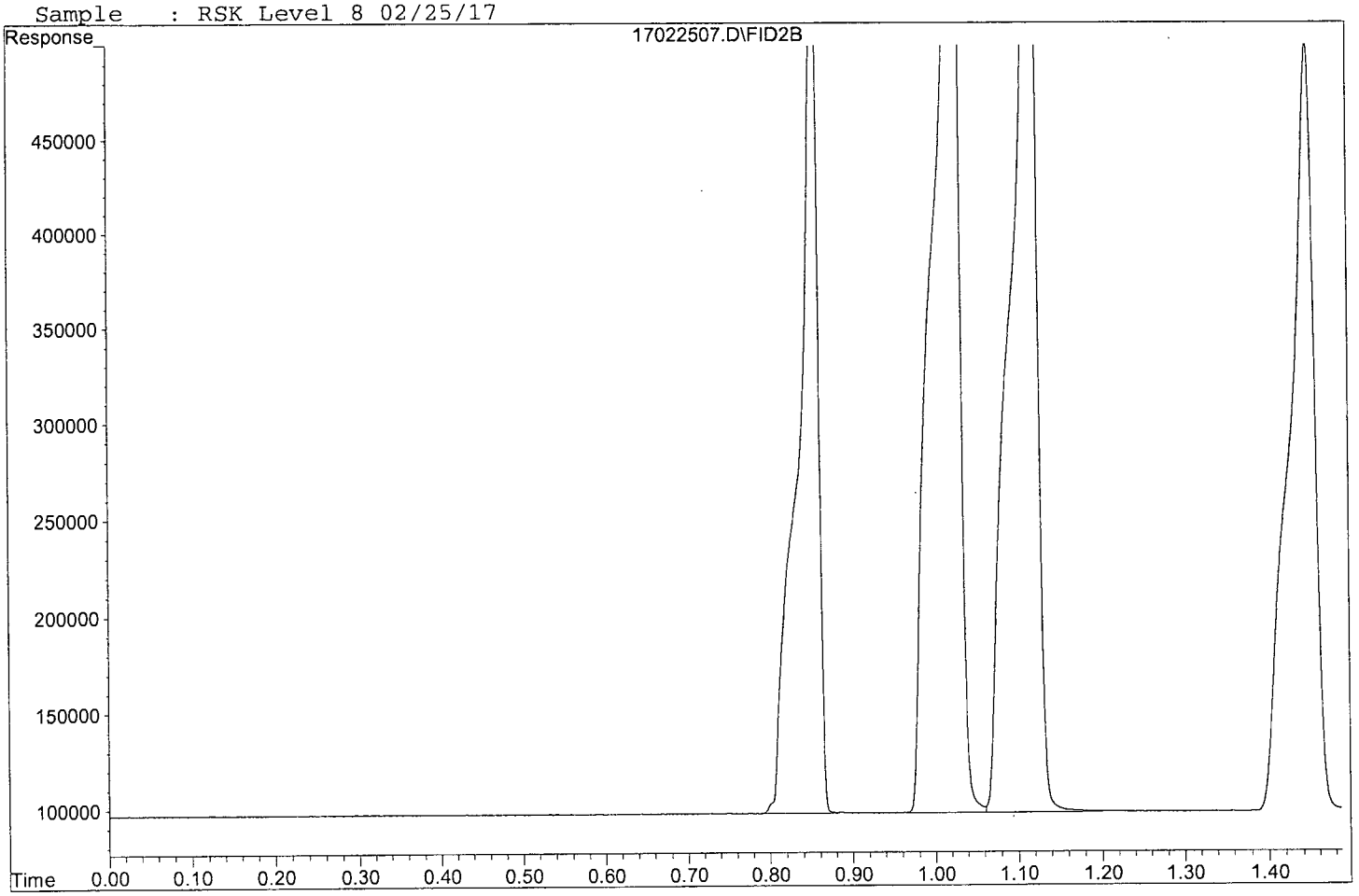
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D
Acq On : 25 Feb 17 11:30
Sample : RSK Level 9 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 9
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

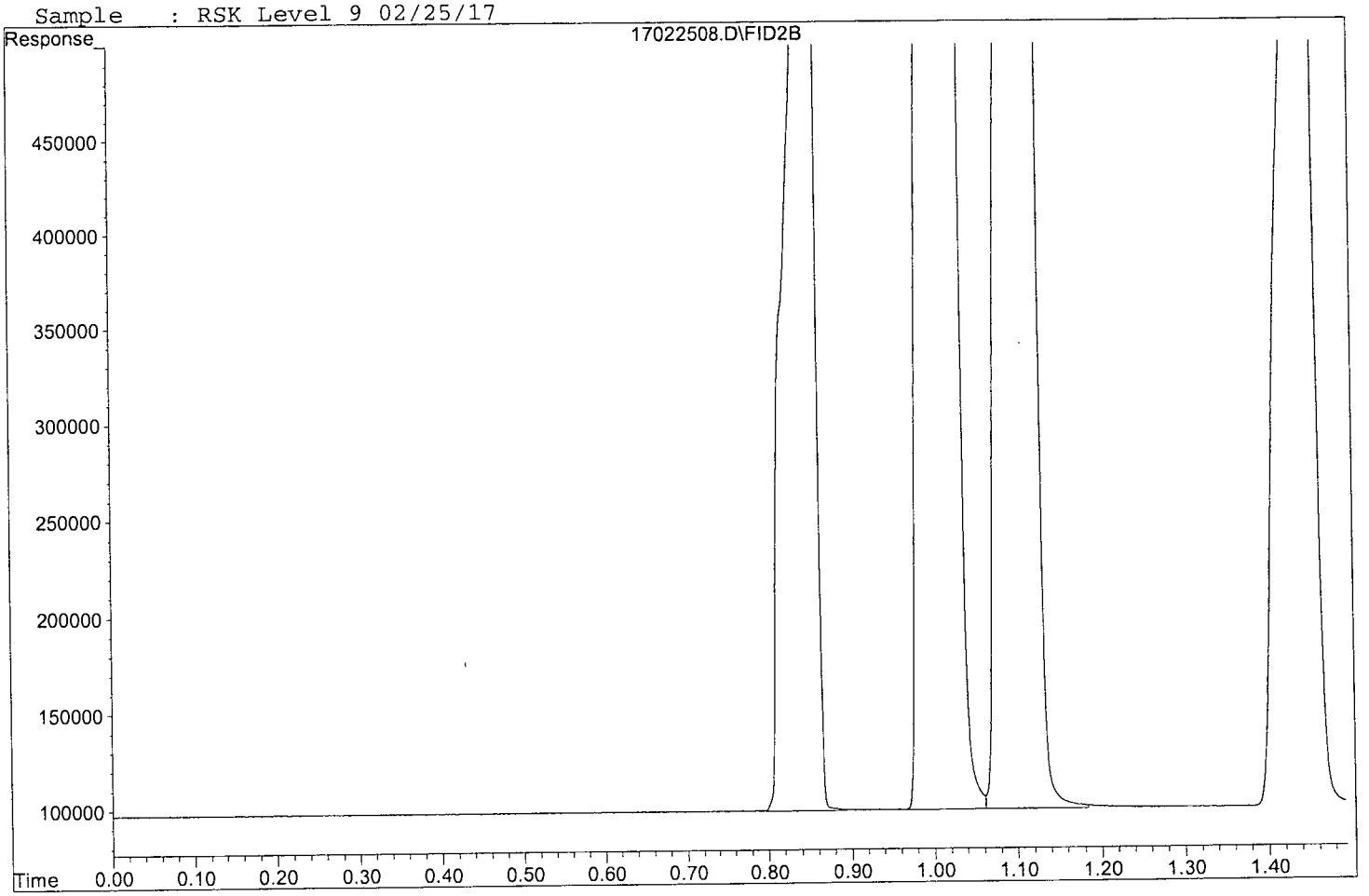
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1370511	679.760	ppb
2) ATM Ethane	1.03	2246413	1250.978	ppb
3) ATM Ethene	1.12	1934164	1254.226	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D
Acq On : 25 Feb 17 11:32
Sample : RSK Level 10 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

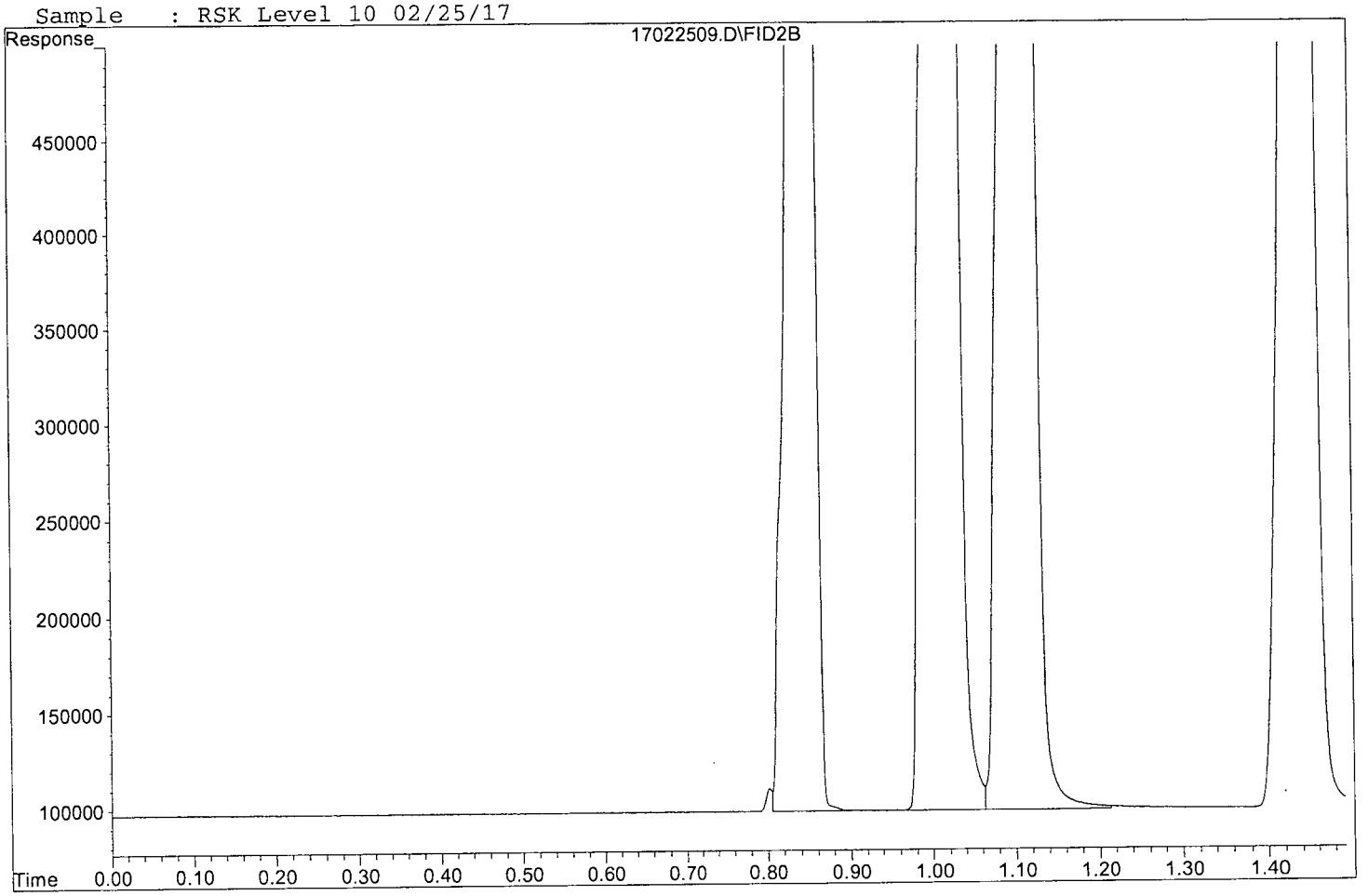
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D
Acq On : 25 Feb 17 11:41
Sample : RSK SS Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Vial: 13
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

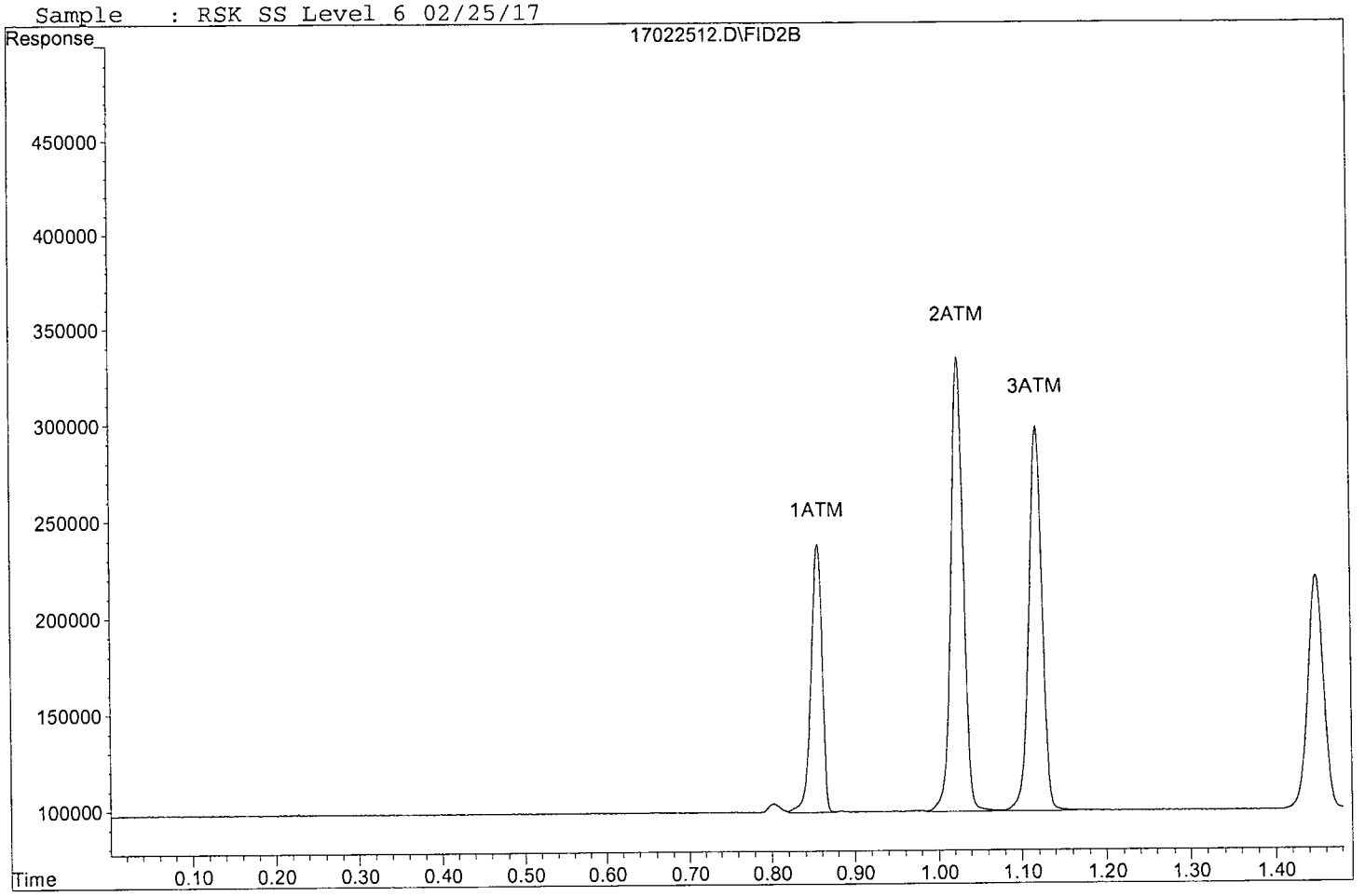
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031004.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2142	15	ATML	6.3
2	ATML	Ethane	2140	2235	4.4	ATML	25
3	ATML	Ethene	1905	1863	2.2	ATML	21
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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17							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.2		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031004.D Vial: 5
Acq On : 10 Mar 17 8:12 Operator: lac
Sample : 170310A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:15 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

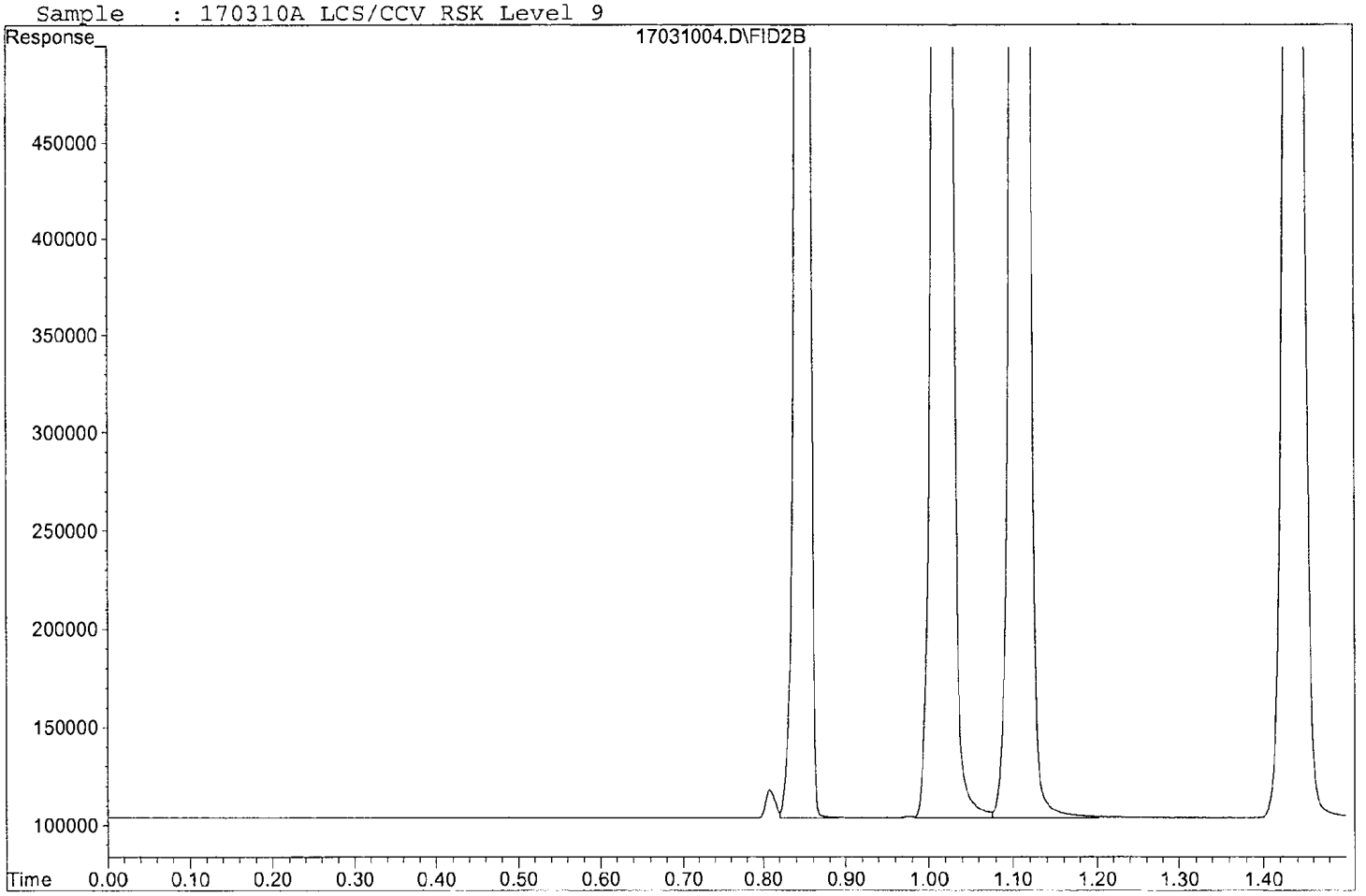
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1429812	709.290	ppb
2) ATM Ethane	1.02	2793619	1556.656	ppb
3) ATM Ethene	1.11	2325181	1509.343	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031004.D
Sample : 170310A LCS/CCV RSK Level 9



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/17/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031700.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1936	23	ATML	4.0
2	ATML	Ethane	2140	2001	6.5	ATML	11
3	ATML	Ethene	1905	1642	14	ATML	6.5
4							
5							
6							
7							
8							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.5		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031700.D Vial: 1
Acq On : 17 Mar 17 9:03 Operator: lac
Sample : 170317A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 9:05 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

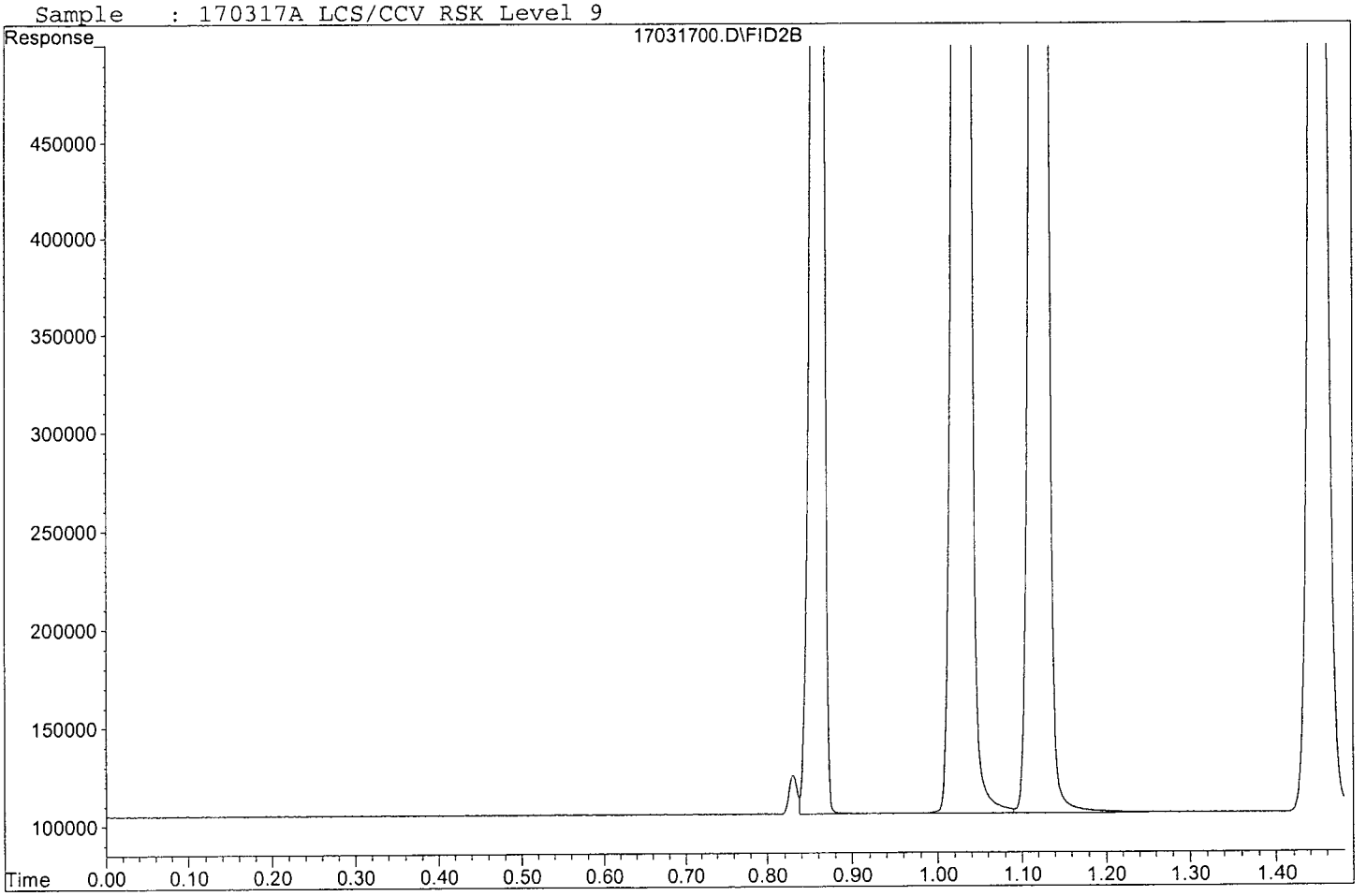
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	1292311	640.819 ppb
2) ATM Ethane	1.03	2501165	1393.286 ppb
3) ATM Ethene	1.12	2049332	1329.367 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031700.D
Sample : 170317A LCS/CCV RSK Level 9



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/10/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031024.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2136	15	ATML	5.9
2	ATML	Ethane	2140	2119	0.96	ATML	18
3	ATML	Ethene	1905	1748	8.3	ATML	13
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031024.D Vial: 25
Acq On : 10 Mar 17 10:00 Operator: lac
Sample : Ending CCV RSK Level 9 03/10/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 10:03 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

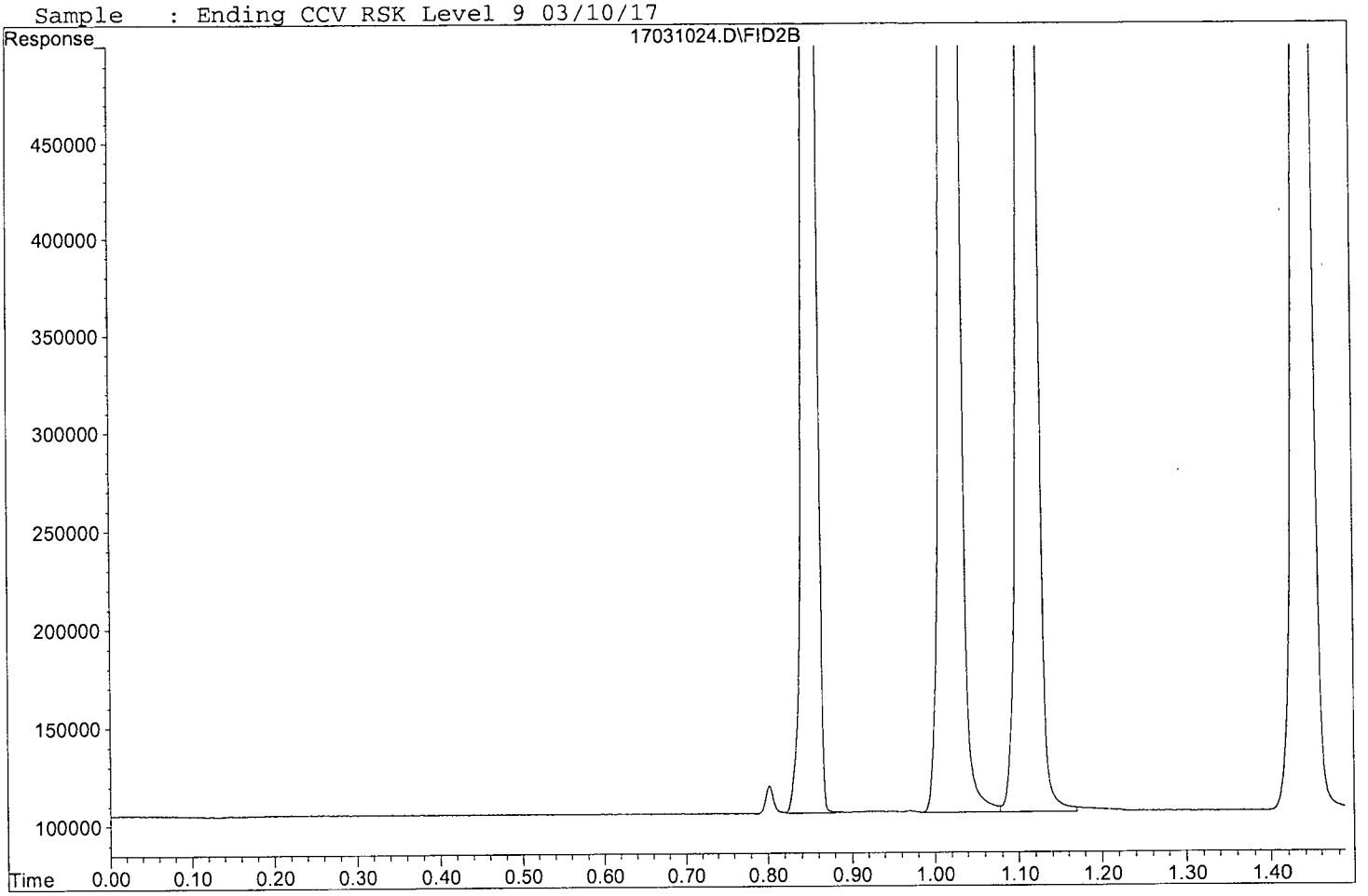
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1425455	707.120	ppb
2) ATM Ethane	1.02	2649325	1476.051	ppb
3) ATM Ethene	1.12	2182010	1415.932	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031024.D
Sample : Ending CCV RSK Level 9 03/10/17



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/17/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031717.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1777	30	ATML	12
2	ATML	Ethane	2140	1843	14	ATML	2.7
3	ATML	Ethene	1905	1501	21	ATML	2.7
4							
5							
6							
7							
8							
9							
10							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			21.7		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031717.D Vial: 18
Acq On : 17 Mar 17 10:37 Operator: lac
Sample : Ending RSK Level 9 03/17/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 10:39 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

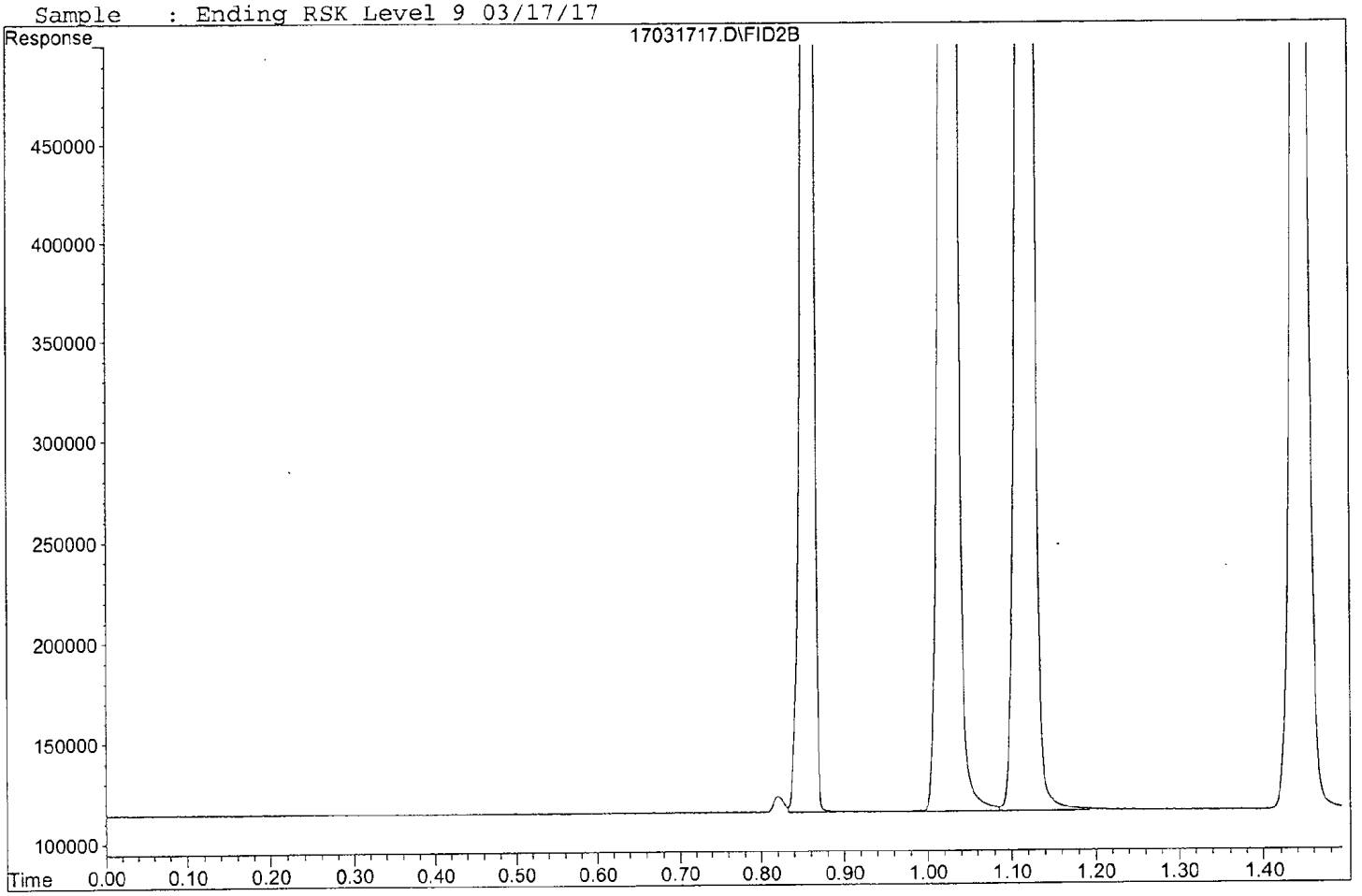
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1186152	587.956	ppb
2) ATM Ethane	1.03	2304060	1283.180	ppb
3) ATM Ethene	1.12	1873255	1214.486	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031717.D
Sample : Ending RSK Level 9 03/17/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51135 - 216775**
Batch ID: #RSKME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/10/17	03/10/17

Quant Method: RSK0225.M
Run #: 17031005
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/10/17 11:01:05 AM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031005.D Vial: 6
Acq On : 10 Mar 17 8:20 Operator: lac
Sample : 170310A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:23 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

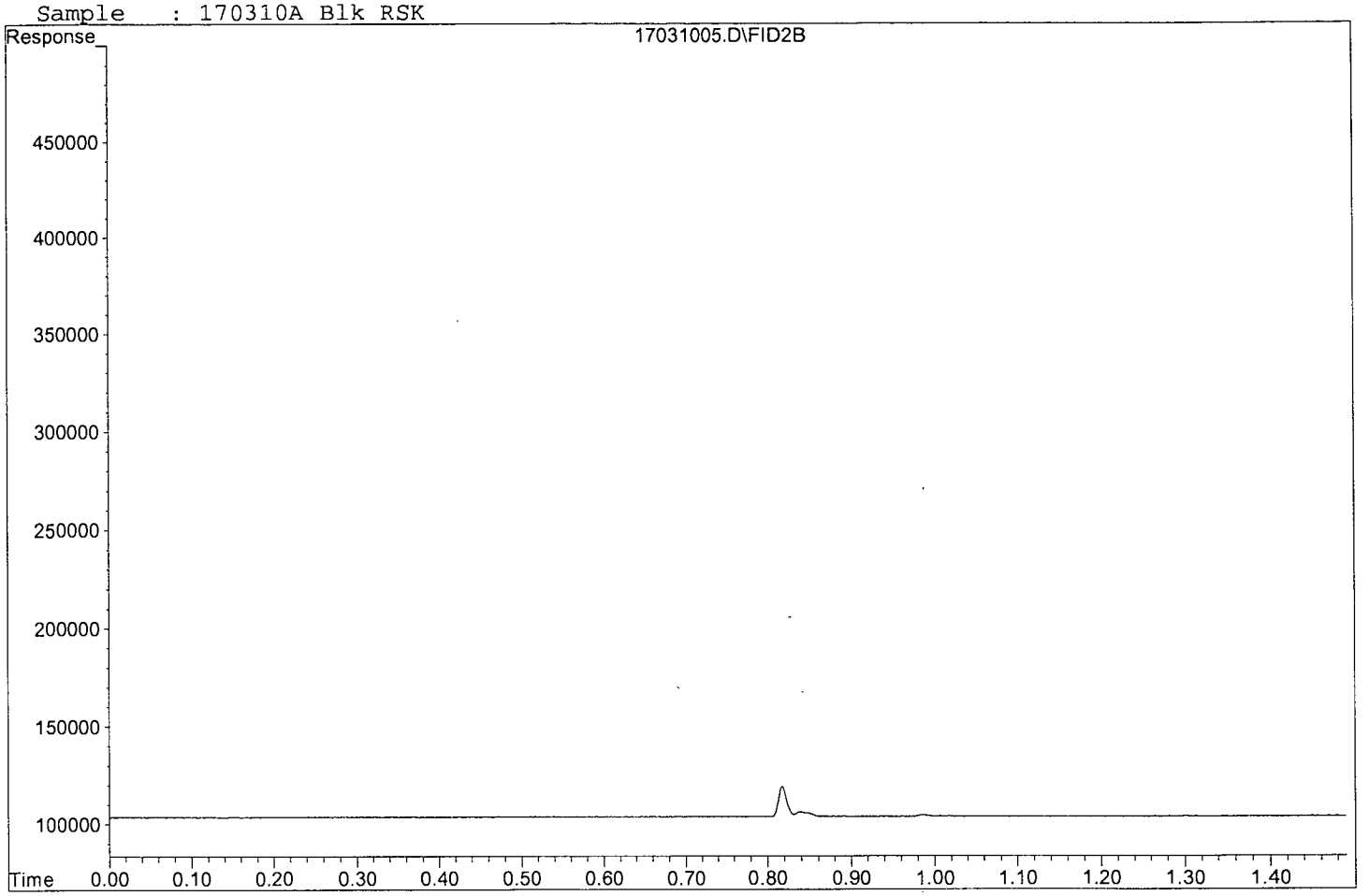
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.88	455	N.D.	ppb
2) ATM Ethane	1.03	294	N.D.	ppb
3) ATM Ethene	1.13	253	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031005.D
Sample : 170310A Blk RSK



Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170317W-51132 - 216981**
Batch ID: #RSKME-170317A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/17/17	03/17/17

Quant Method: RSK0225.M
Run #: 17031701
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 10:53:06 AM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031701.D Vial: 2
Acq On : 17 Mar 17 9:06 Operator: lac
Sample : 170317A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 9:09 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

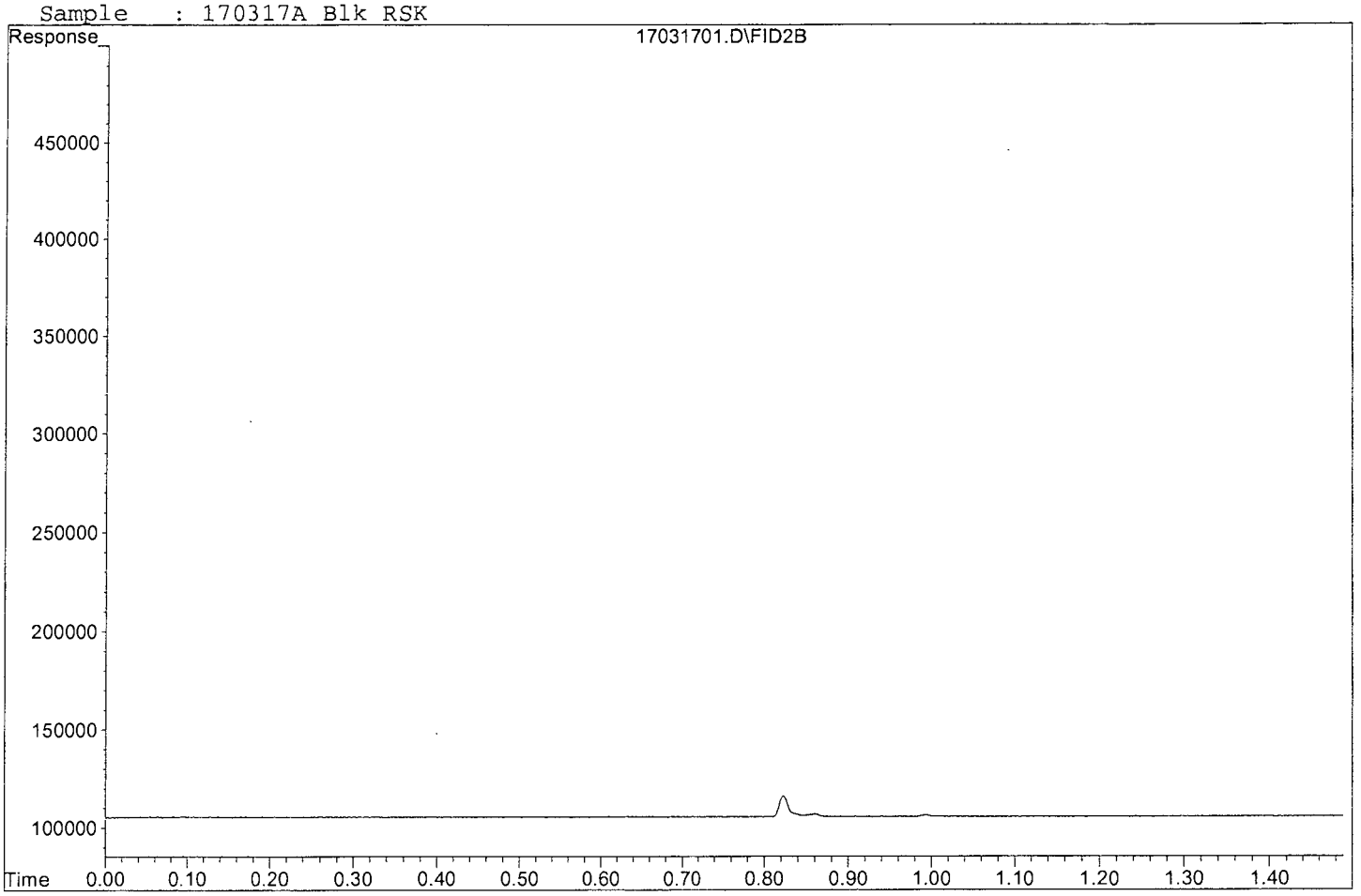
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	1517	N.D.	ppb
2) ATM Ethane	1.02	268	N.D.	ppb
3) ATM Ethene	1.12	325	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031701.D
Sample : 170317A Blk RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170310W-51135 LCS - 216775**
Batch ID: #RSKME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	709	106	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/10/17
Analysis Date :	03/10/17
Instrument :	Rocky
Run :	17031004
Initials :	CMO

Printed: 03/10/17 11:01:02 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031004.D Vial: 5
Acq On : 10 Mar 17 8:12 Operator: lac
Sample : 170310A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:15 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1429812	709.290	ppb
2) ATM Ethane	1.02	2793619	1556.656	ppb
3) ATM Ethene	1.11	2325181	1509.343	ppb

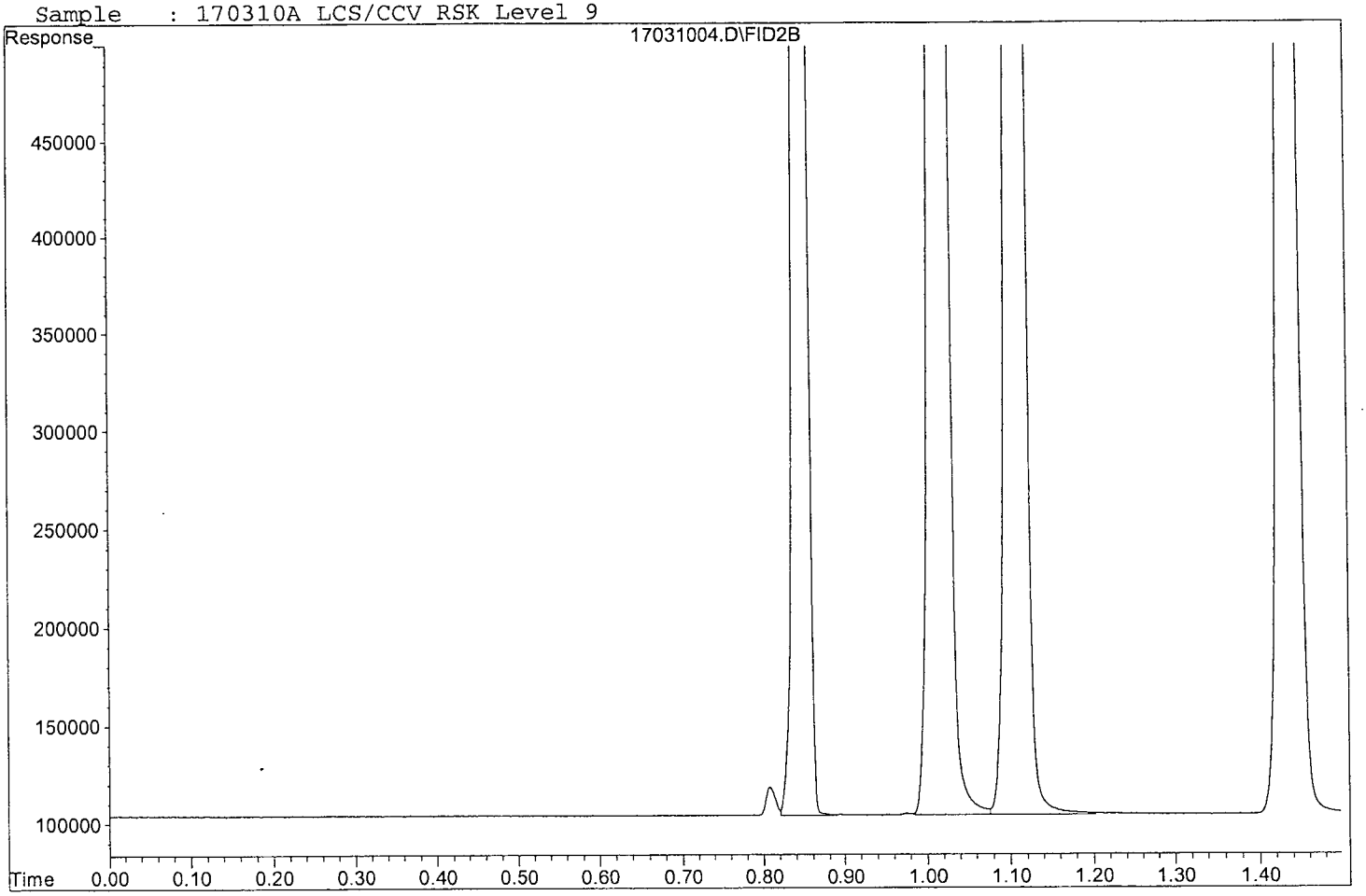
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17031004.D RSK0225.M Fri Mar 10 08:18:58 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031004.D
Sample : 170310A LCS/CCV RSK Level 9



Laboratory Control Spike Recovery
METHANE

APPL ID: **170317W-51132 LCS - 216981**
Batch ID: #RSKME-170317A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	641	96.0	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/17/17
Analysis Date :	03/17/17
Instrument :	Rocky
Run :	17031700
Initials :	CMO

Printed: 03/17/17 10:52:54 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031700.D
Acq On : 17 Mar 17 9:03
Sample : 170317A LCS/CCV RSK Level 9
Misc :
IntFile : autoint1.e
Quant Time: Mar 17 9:05 2017 Quant Results File: RSK0225.RES

Vial: 1
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

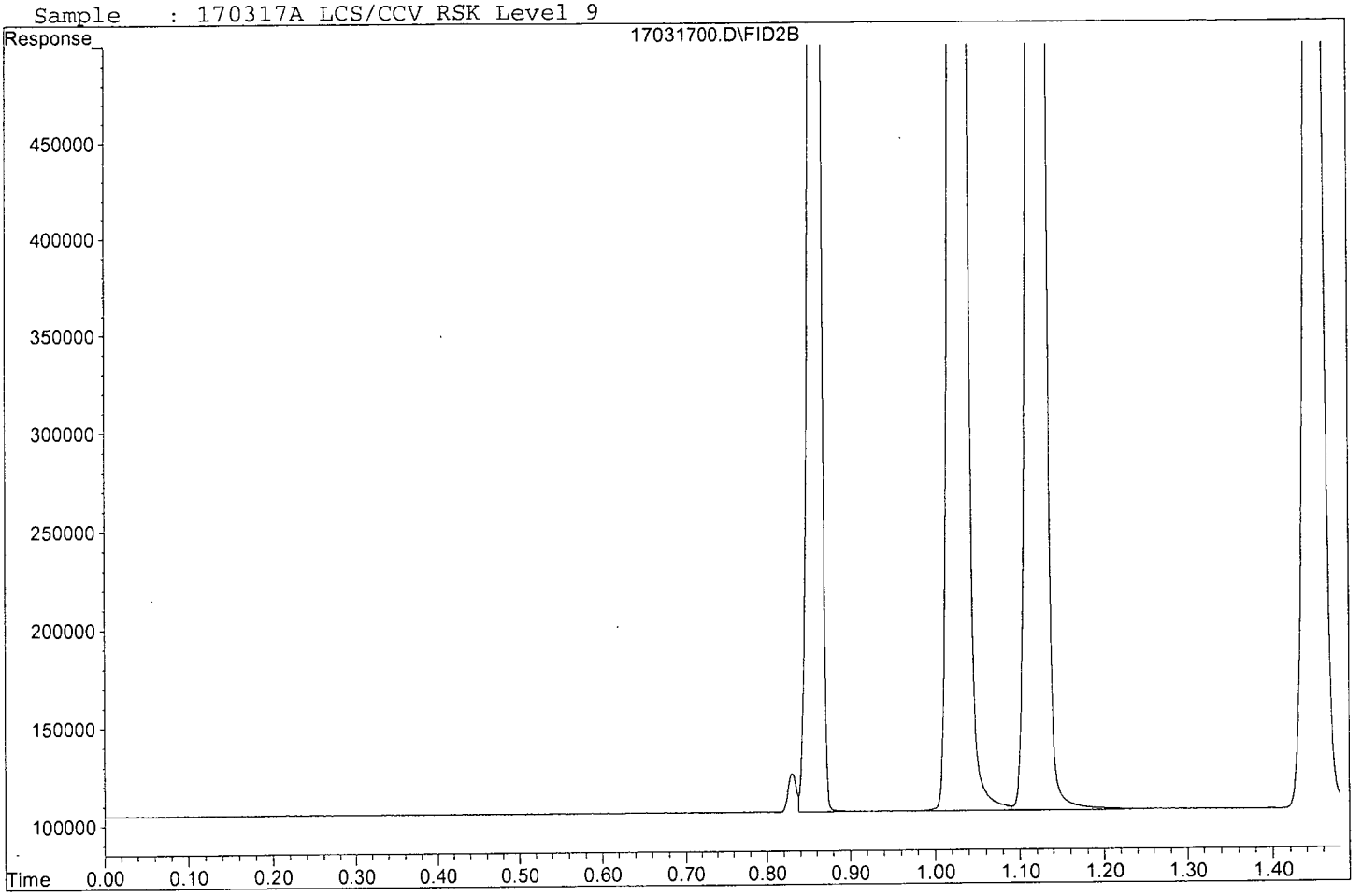
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1292311	640.819	ppb
2) ATM Ethane	1.03	2501165	1393.286	ppb
3) ATM Ethene	1.12	2049332	1329.367	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031700.D
Sample : 170317A LCS/CCV RSK Level 9



Matrix Spike Recoveries
METHANE

APPL ID: **170310W-51135 MS - 216775**
Batch ID: #RSKME-170310A
Sample ID: AZ51135
Client ID: ERH262

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	668	ND	574	523	86.0	78.4	72-125	9.3	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	03/10/17	03/10/17
Analysis Date :	03/10/17	03/10/17
Instrument :	Rocky	Rocky
Run :	17031009	17031010
Initials :	CMO	

Printed: 03/10/17 11:00:59 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031009.D Vial: 10
Acq On : 10 Mar 17 8:37 Operator: lac
Sample : AZ51135W13 MS Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:39 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

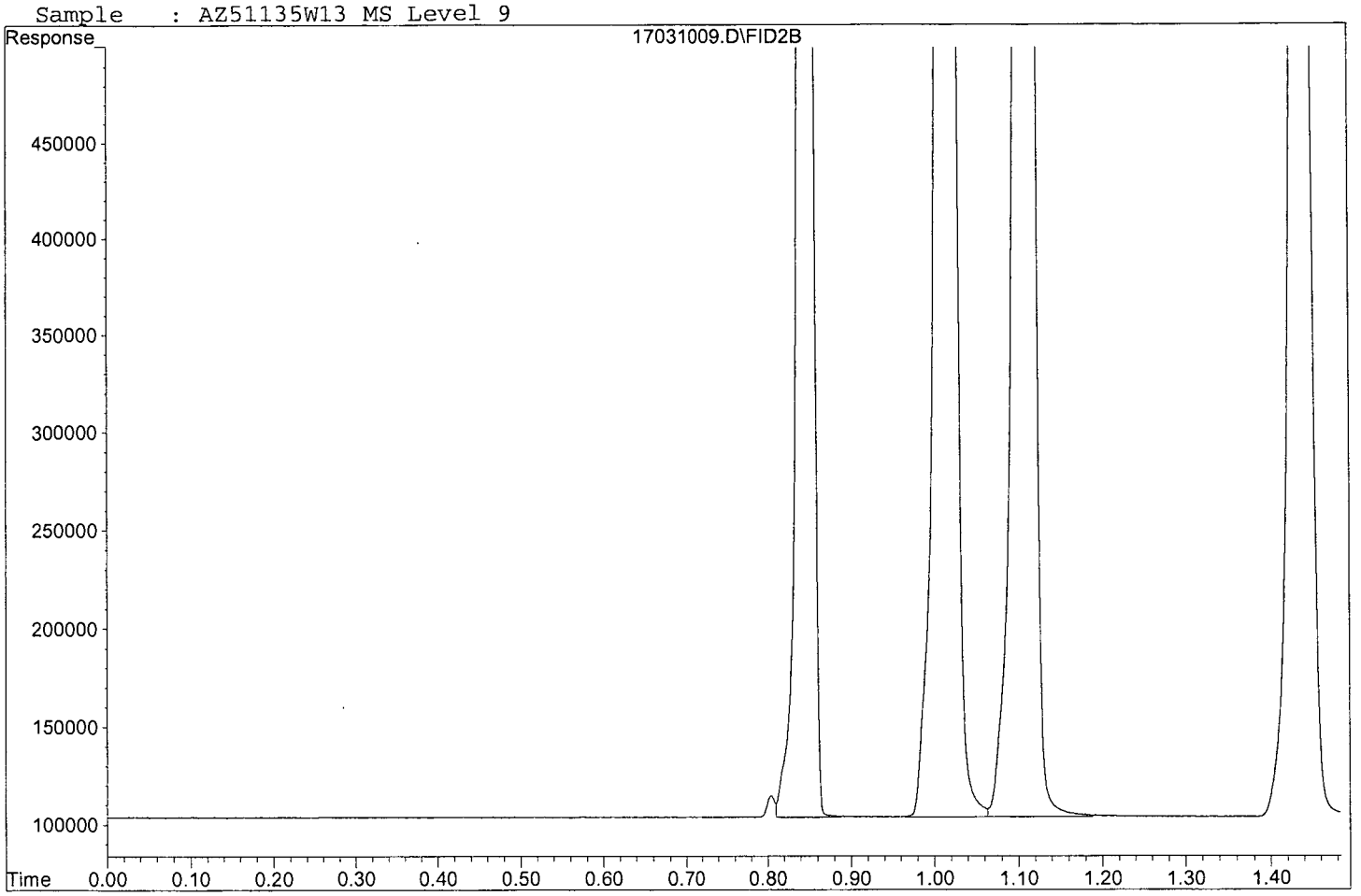
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1158535	574.204	ppb
2) ATM Ethane	1.02	2360658	1314.797	ppb
3) ATM Ethene	1.11	1837599	1191.223	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031009.D
Sample : AZ51135W13 MS Level 9



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031010.D Vial: 11
Acq On : 10 Mar 17 8:41 Operator: lac
Sample : AZ51135W14 MSD Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 10 8:43 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

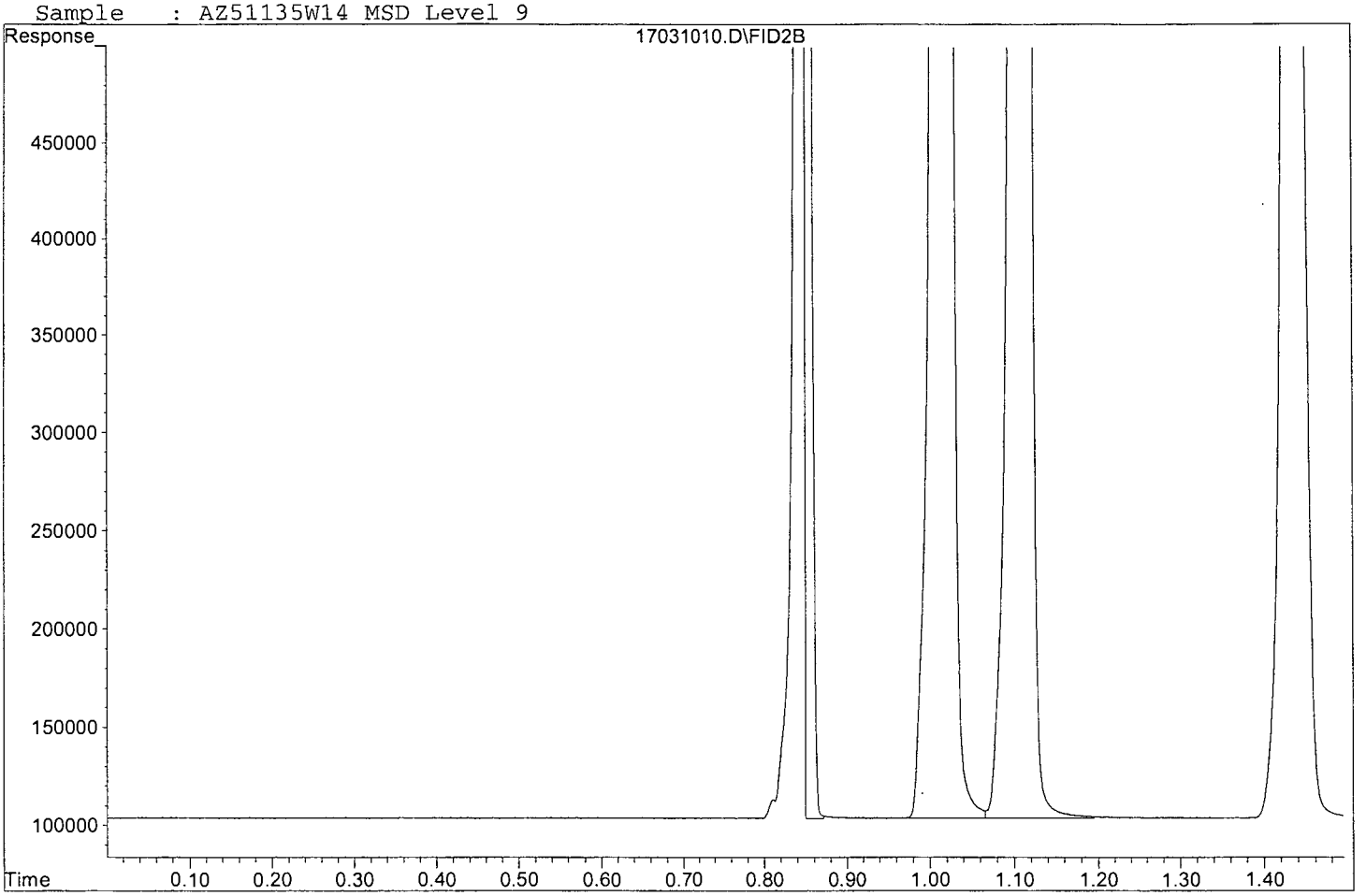
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1055520	522.906	ppb
2) ATM Ethane	1.01	2289458	1275.024	ppb
3) ATM Ethene	1.11	1812831	1175.064	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031010.D
Sample : AZ51135W14 MSD Level 9



Matrix Spike Recoveries

METHANE

APPL ID: **170317W-51132 MS - 216981**
Batch ID: #RSKME-170317A
Sample ID: AZ51132
Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	668	ND	582	626	87.2	93.8	72-125	7.3	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	03/17/17	03/17/17
Analysis Date :	03/17/17	03/17/17
Instrument :	Rocky	Rocky
Run :	17031703	17031704
Initials :	CMO	

Printed: 03/17/17 10:52:50 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031703.D Vial: 4
Acq On : 17 Mar 17 9:14 Operator: lac
Sample : AZ51132W13 MS Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 9:16 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

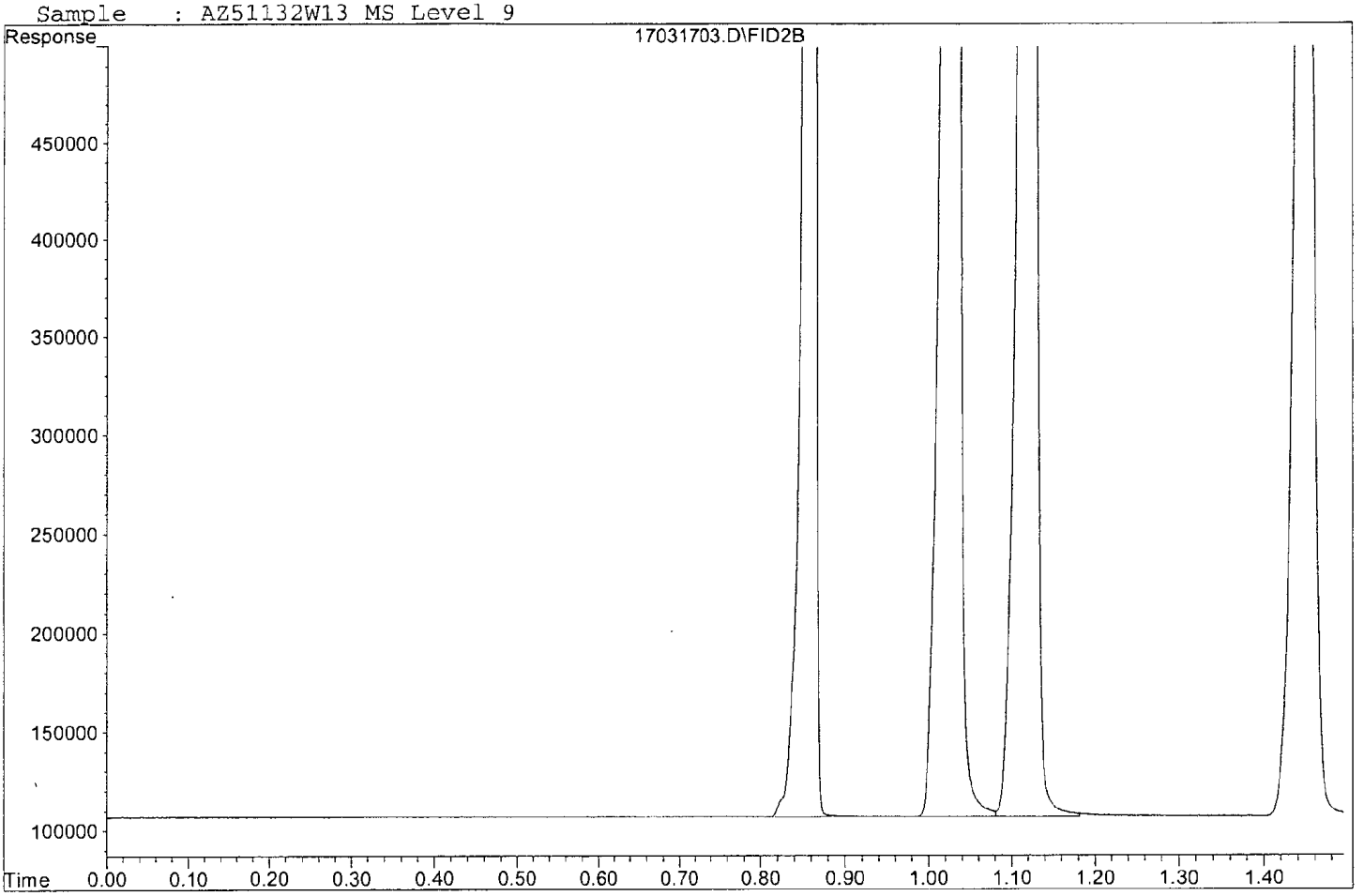
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1174054	581.932	ppb
2) ATM Ethane	1.03	2373191	1321.798	ppb
3) ATM Ethene	1.12	1846760	1197.200	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031703.D
Sample : AZ51132W13 MS Level 9



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031704.D Vial: 5
Acq On : 17 Mar 17 9:18 Operator: lac
Sample : AZ51132W14 MSD Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 17 9:20 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

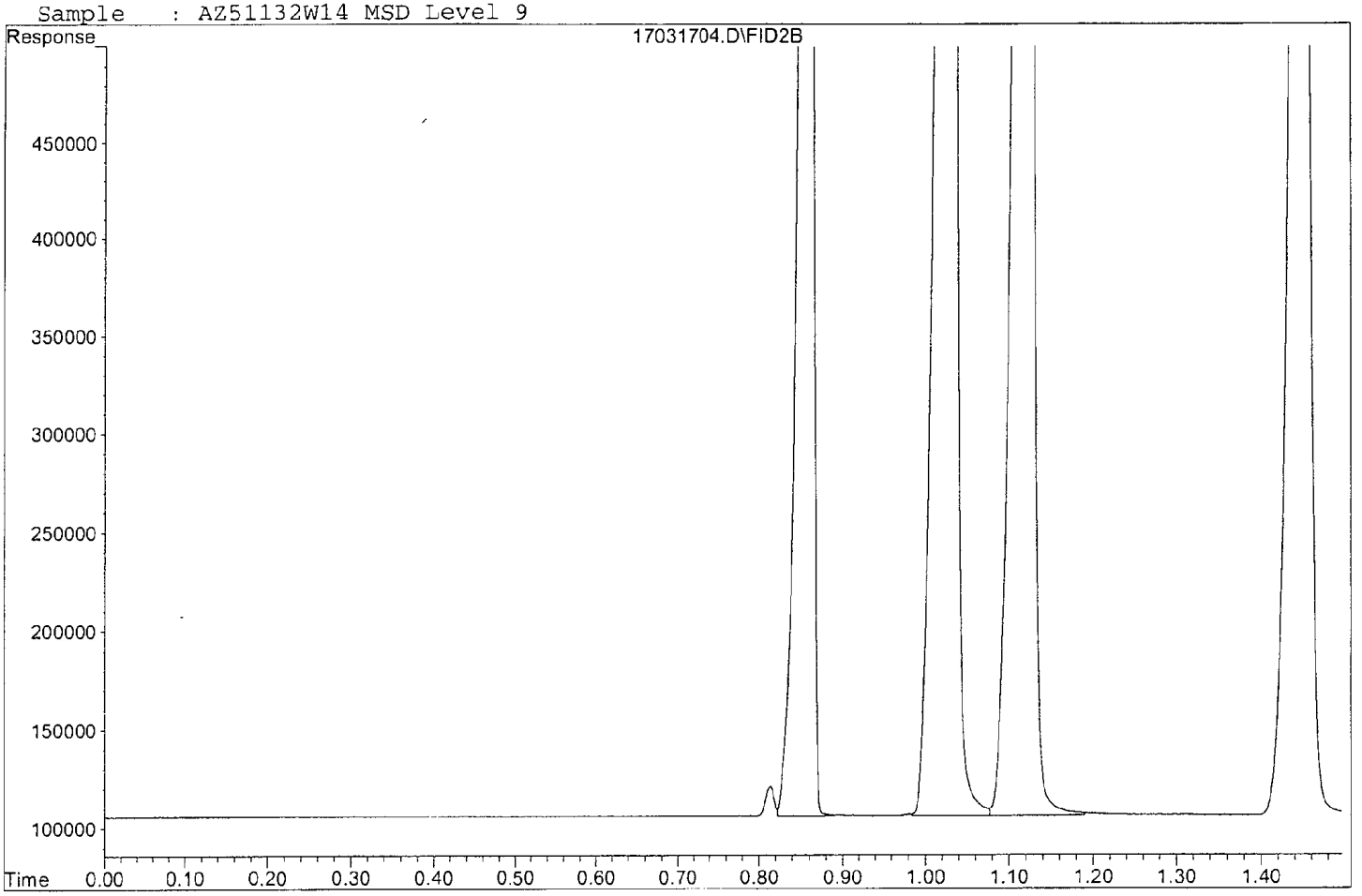
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	1262766	626.107 ppb
2) ATM Ethane	1.03	2569008	1431.185 ppb
3) ATM Ethene	1.12	2029512	1316.436 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031704.D
Sample : AZ51132W14 MSD Level 9



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 9 **Expires 04/10/17** CMM 03/10/17
1.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

CCV/LCS - Level 9 **Expires 04/17/17** CMM 03/17/17
1.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

AZ51132W13,14 MS/MD Level 9 **Expires 04/17/17** CMM 03/17/17
1.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

AZ51135W13,14 MS/MSD Level 9 **Expires 04/10/17** CMM 03/10/17
1.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	5	17031004.D	1	170310A LCS/CCV RSK Level 9		10 Mar 17 8:12
13	6	17031005.D	1	170310A Blk RSK		10 Mar 17 8:20
14	7	17031006.D	1	AZ51130W06		10 Mar 17 8:24
15	8	17031007.D	1	AZ51134W03		10 Mar 17 8:30
16	9	17031008.D	1	AZ51135W12		10 Mar 17 8:34
17	10	17031009.D	1	AZ51135W13 MS Level 9		10 Mar 17 8:37
18	11	17031010.D	1	AZ51135W14 MSD Level 9		10 Mar 17 8:41
19	13	17031012.D	1	AZ51137W03		10 Mar 17 8:48
20	14	17031013.D	1	AZ51139W06		10 Mar 17 8:51
21	15	17031014.D	1	AZ51140W06		10 Mar 17 8:55
22	16	17031015.D	1	AZ51141W06		10 Mar 17 8:58
23	25	17031024.D	1	Ending CCV RSK Level 9 03/10/17		10 Mar 17 10:00
24	1	17031700.D	1	170317A LCS/CCV RSK Level 9		17 Mar 17 9:03
25	2	17031701.D	1	170317A Blk RSK		17 Mar 17 9:06
26	3	17031702.D	1	AZ51132W12		17 Mar 17 9:10
27	4	17031703.D	1	AZ51132W13 MS Level 9		17 Mar 17 9:14
28	5	17031704.D	1	AZ51132W14 MSD Level 9		17 Mar 17 9:18
29	18	17031717.D	1	Ending RSK Level 9 03/17/17		17 Mar 17 10:37

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	#300WD-170314A-AZ51132
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	#300WD-170314A-AZ51132
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/08/17	03/08/17	#35FE-170308A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A-AZ51132
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A-AZ51132
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM3500Fe	FERROUS IRON	3.00	2.89	96.3	80-120	03/08/17	03/08/17	#35FE-170308A-AZ51132

Comments:

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.4	92.0	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **170313W-51132 MS - 216849**

Sample ID: AZ51132

Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	61.2	304	309	97.1	99.1	1.6	20	90-110	03/13/17	03/13/17	03/13/17	03/13/17	216849	AZ51132
SM 2320B	TOTAL ALKALINITY AS	250	61.2	304	309	97.1	99.1	1.6	20	90-110	03/13/17	03/13/17	03/13/17	03/13/17	216849	AZ51132
SM3500Fe	FERROUS IRON	3.00	0.077	2.99	2.95	97.1	95.8	1.3	20	80-120	03/08/17	03/08/17	03/08/17	03/08/17	216732	AZ51132

Comments: _____

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APPL MSD SCII

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH257

Sample Collection Date: 03/06/17

APPL ID: AZ51132

ARF: 82351

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	91.8	5.0	1.00	0.40	mg/L	5	03/14/17	03/14/17
EPA 300.0	NITRATE	2.8	0.5	0.18	0.04	mg/L	1	03/08/17	03/08/17
EPA 300.0	SULFATE	15.6	1.0	0.20	0.09	mg/L	1	03/08/17	03/08/17
SM 2320B	BICARBONATE AS CACO3	61.2	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	61.2	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/08/17	03/08/17

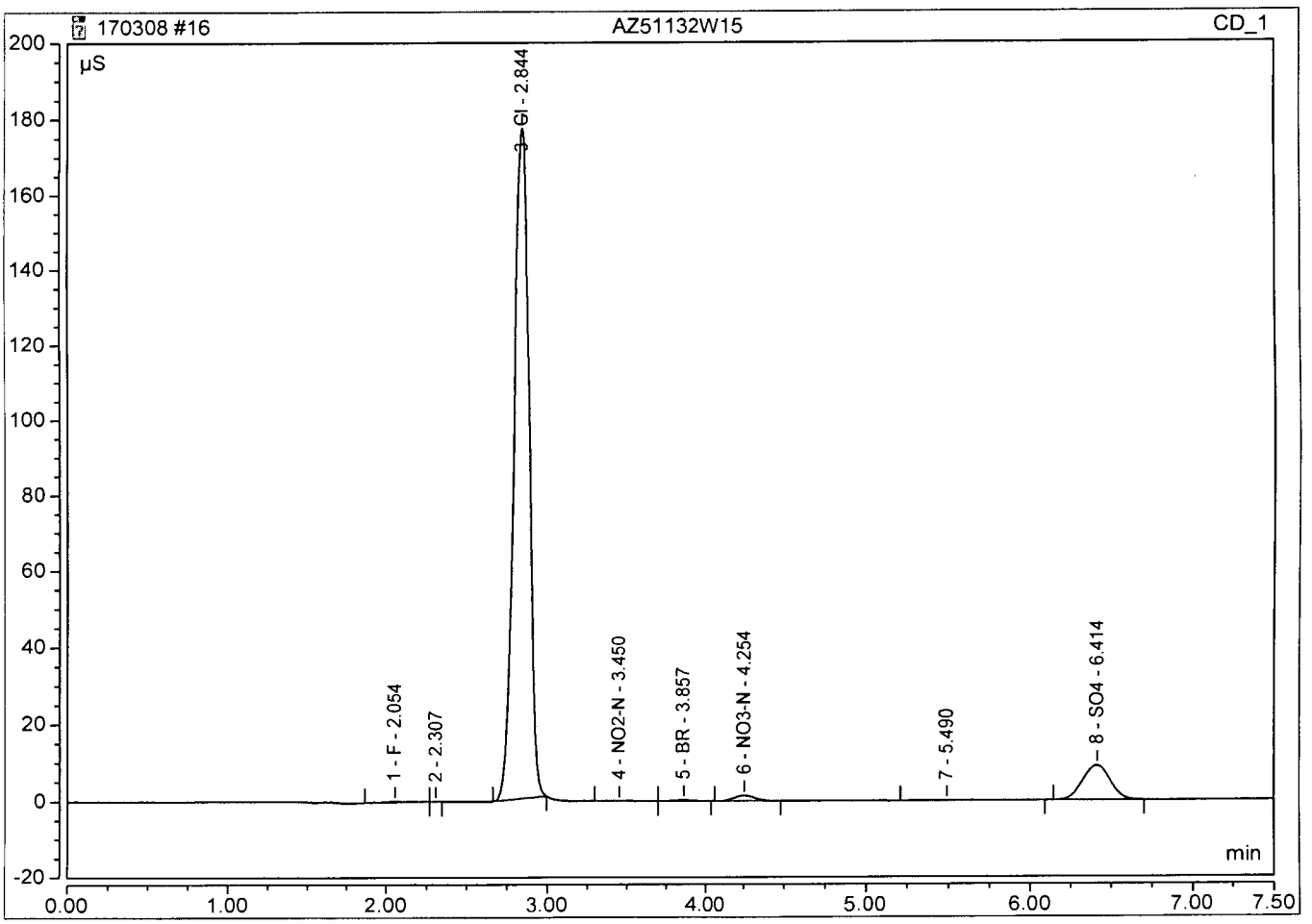
Printed: 03/15/17 10:21:48 AM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51132W15**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 13:38**	*Run Time:*	**7.50**

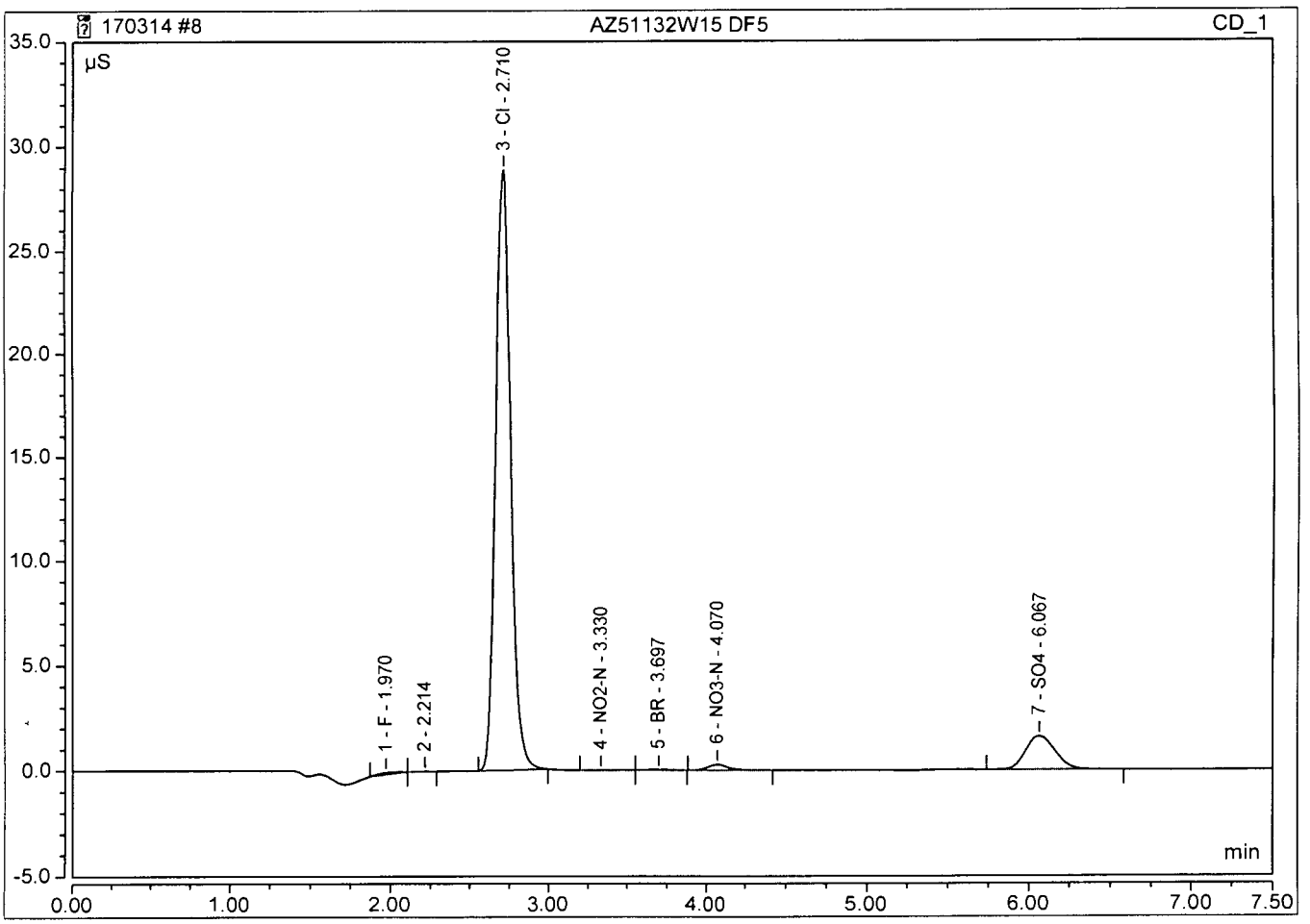
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.038	0.239	0.2327
3	2.84	Cl	BMB	19.129	176.950	107.1101
4	3.45	NO2-N	BMB	0.004	0.017	0.0462
5	3.86	BR	BMB	0.019	0.152	0.5222
6	4.25	NO3-N	BMB	0.194	1.365	0.6342
8	6.41	SO4	BMB	1.744	8.973	15.5943
TOTAL:				21.13	187.70	124.14



Peak Integration Report

Sample Name:	**AZ51132W15 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 10:48**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.012	0.091	0.5332
3	2.71	Cl	BMB	3.132	28.866	91.7986
4	3.33	NO2-N	BMB	0.001	0.005	0.1811
5	3.70	BR	BMB	0.004	0.028	1.3828
6	4.07	NO3-N	BMB	0.039	0.262	1.1570
7	6.07	SO4	BMB	0.333	1.579	17.0871
TOTAL:				3.52	30.83	112.14



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH262

Sample Collection Date: 03/06/17

APPL ID: AZ51135

ARF: 82351

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	159	5.0	1.00	0.40	mg/L	5	03/14/17	03/14/17
EPA 300.0	SULFATE	80.1	5.0	1.00	0.45	mg/L	5	03/14/17	03/14/17
EPA 300.0	NITRATE	2.7	0.5	0.18	0.04	mg/L	1	03/08/17	03/08/17
SM 2320B	BICARBONATE AS CACO3	80.8	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	80.8	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/08/17	03/08/17

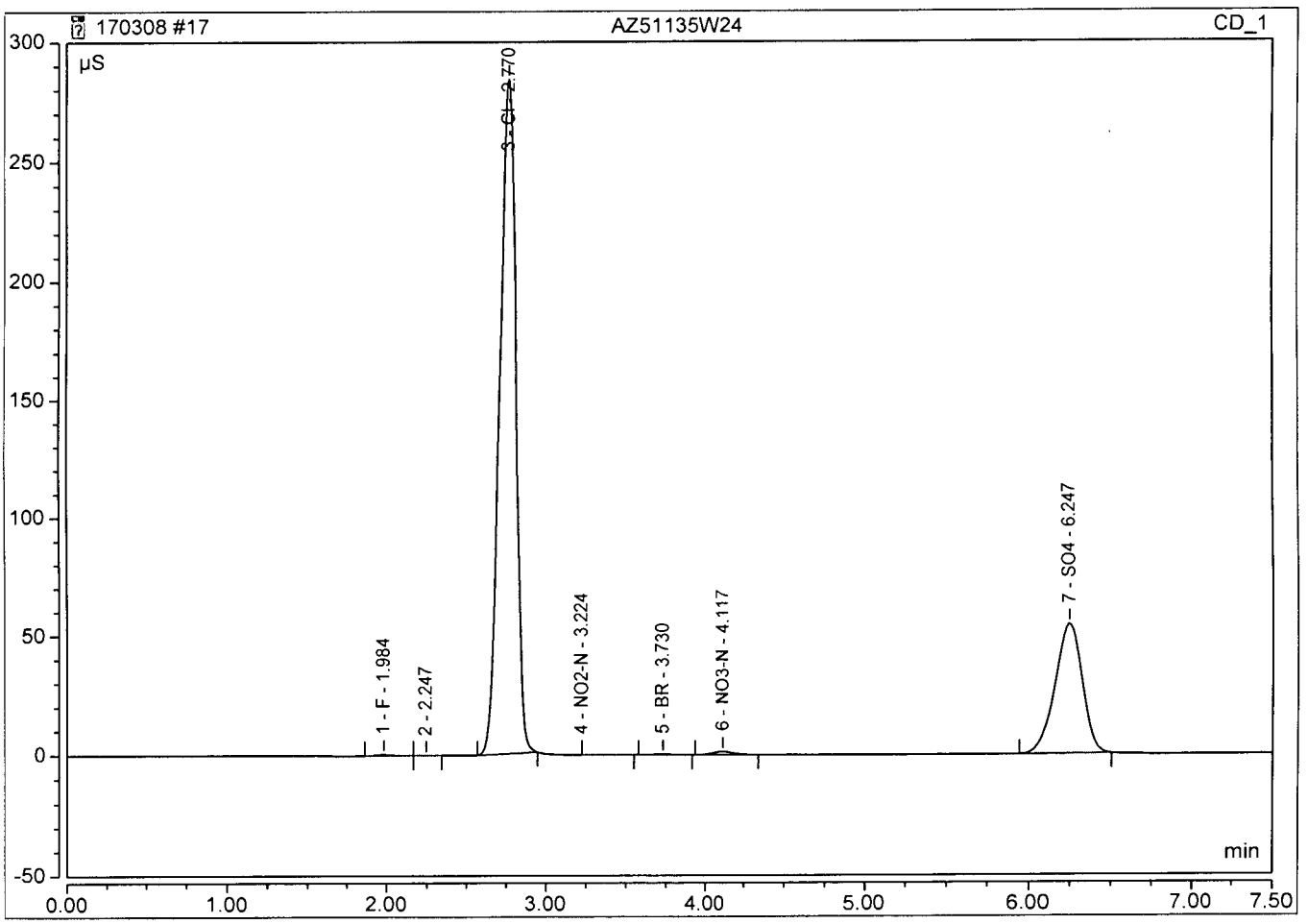
Printed: 03/15/17 10:21:48 AM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51135W24**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 13:52**	*Run Time:*	**7.50**

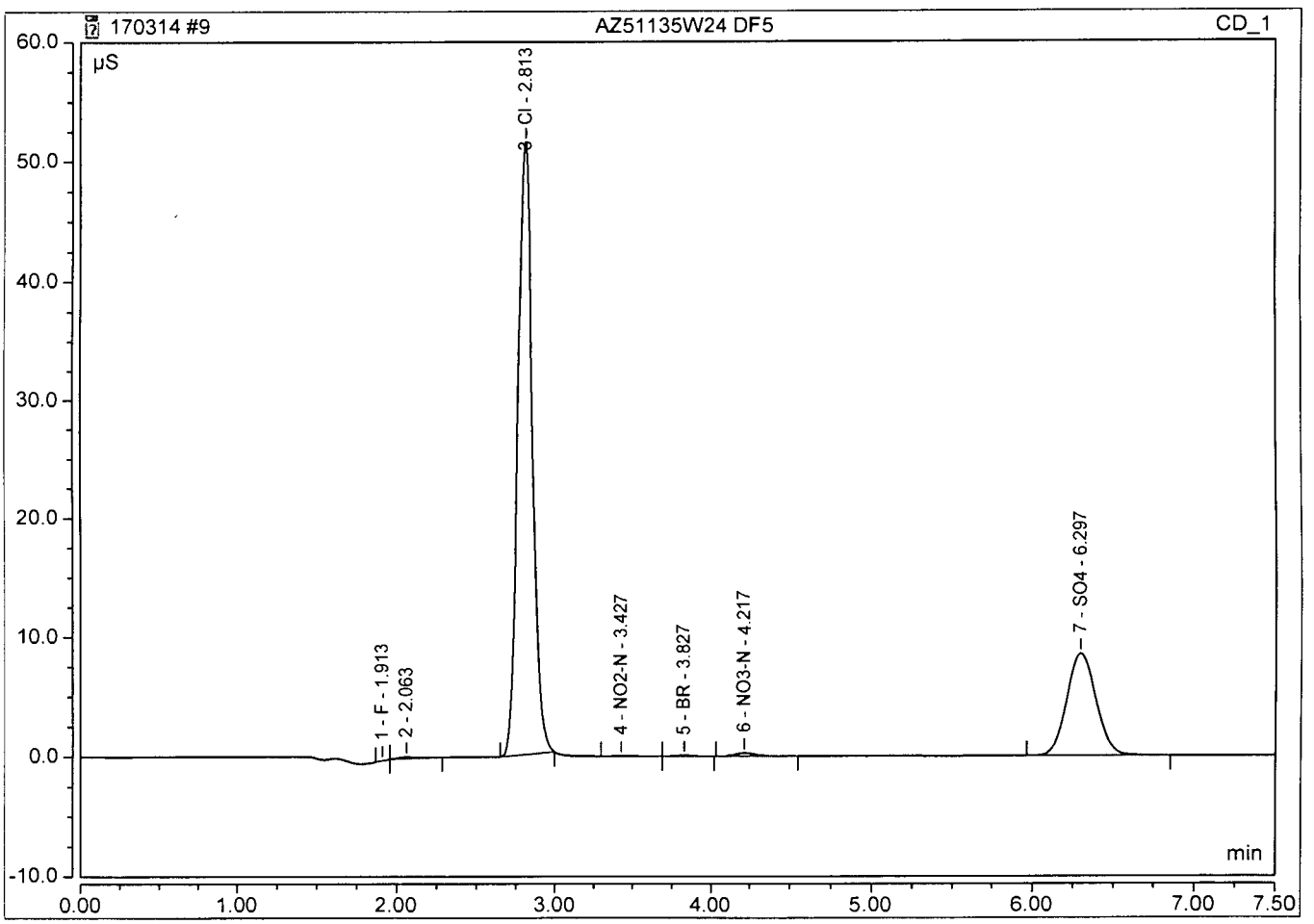
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.052	0.483	0.3025
3	2.77	Cl	BMB	33.228	283.573	185.3307
4	3.22	NO2-N	BMB	0.004	0.000	0.0448
5	3.73	BR	BMB	0.031	0.247	0.7041
6	4.12	NO3-N	BMB	0.185	1.326	0.6130
7	6.25	SO4	BMB	10.463	54.187	90.8140
TOTAL:				43.96	339.82	277.81



Peak Integration Report

Sample Name:	**AZ51135W24 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 11:02**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.91	F	BMB	0.000	0.008	0.2362
3	2.81	Cl	BMB	5.546	51.454	158.7618
4	3.43	NO2-N	BMB	0.002	0.007	0.1907
5	3.83	BR	BMB	0.006	0.045	1.5641
6	4.22	NO3-N	BMB	0.039	0.258	1.1525
7	6.30	SO4	BMB	1.793	8.534	80.0791
TOTAL:				7.39	60.31	241.98



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH268

Sample Collection Date: 03/07/17

APPL ID: AZ51139

ARF: 82351

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	47.2	1.0	0.20	0.08	mg/L	1	03/08/17	03/08/17
EPA 300.0	NITRATE	7.4	0.5	0.18	0.04	mg/L	1	03/08/17	03/08/17
EPA 300.0	SULFATE	46.8	1.0	0.20	0.09	mg/L	1	03/08/17	03/08/17
SM 2320B	BICARBONATE AS CACO3	289	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	289	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/08/17	03/08/17

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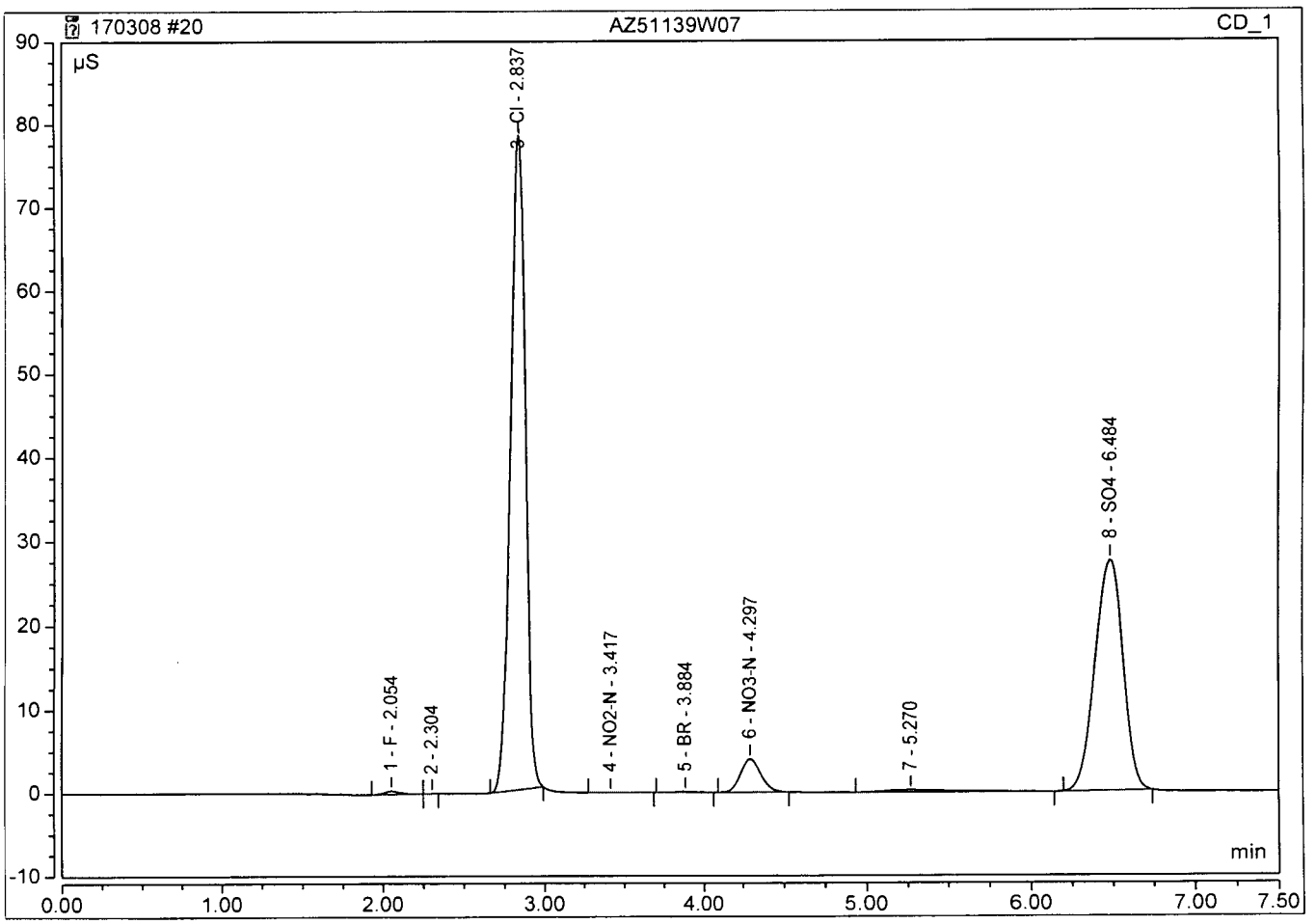
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51139W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 14:32**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.043	0.392	0.2576
3	2.84	Cl	BMB	8.326	78.242	47.1735
4	3.42	NO2-N	BMB	0.001	0.004	0.0358
5	3.88	BR	BMB	0.012	0.089	0.4008
6	4.30	NO3-N	BMB	0.588	4.005	1.6619
8	6.48	SO4	BMB	5.361	27.416	46.8006
		TOTAL:		14.33	110.15	96.33



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH270

Sample Collection Date: 03/07/17

APPL ID: AZ51141

ARF: 82351

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	454	10.0	2.00	0.80	mg/L	10	03/14/17	03/14/17
EPA 300.0	NITRATE	4.4	1.0	0.36	0.08	mg/L	2	03/08/17	03/08/17
EPA 300.0	SULFATE	68.8	2.0	0.40	0.18	mg/L	2	03/08/17	03/08/17
SM 2320B	BICARBONATE AS CACO3	118	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	118	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/08/17	03/08/17

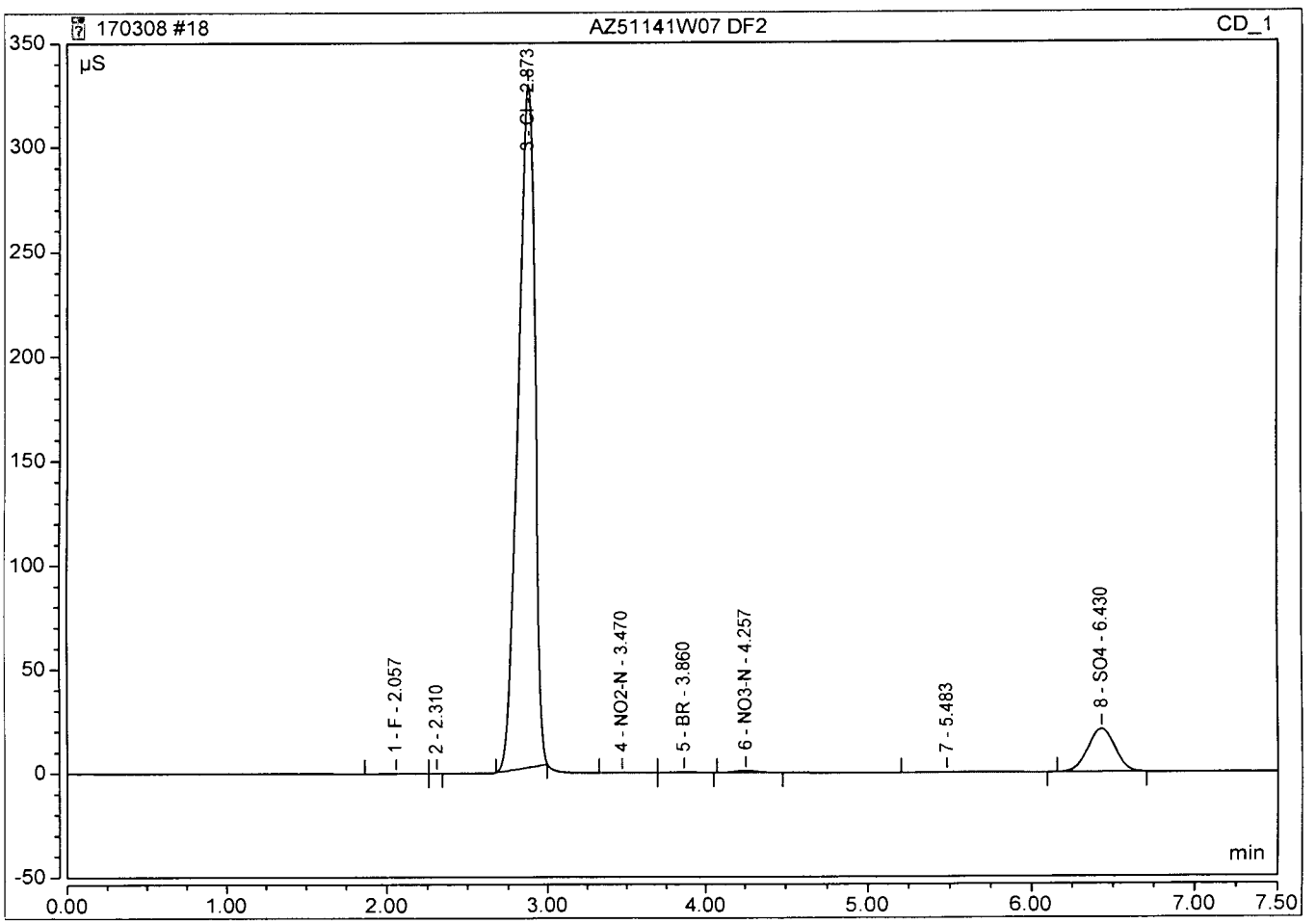
Printed: 03/15/17 10:21:48 AM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51141W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 14:05**	*Run Time:*	**7.50**

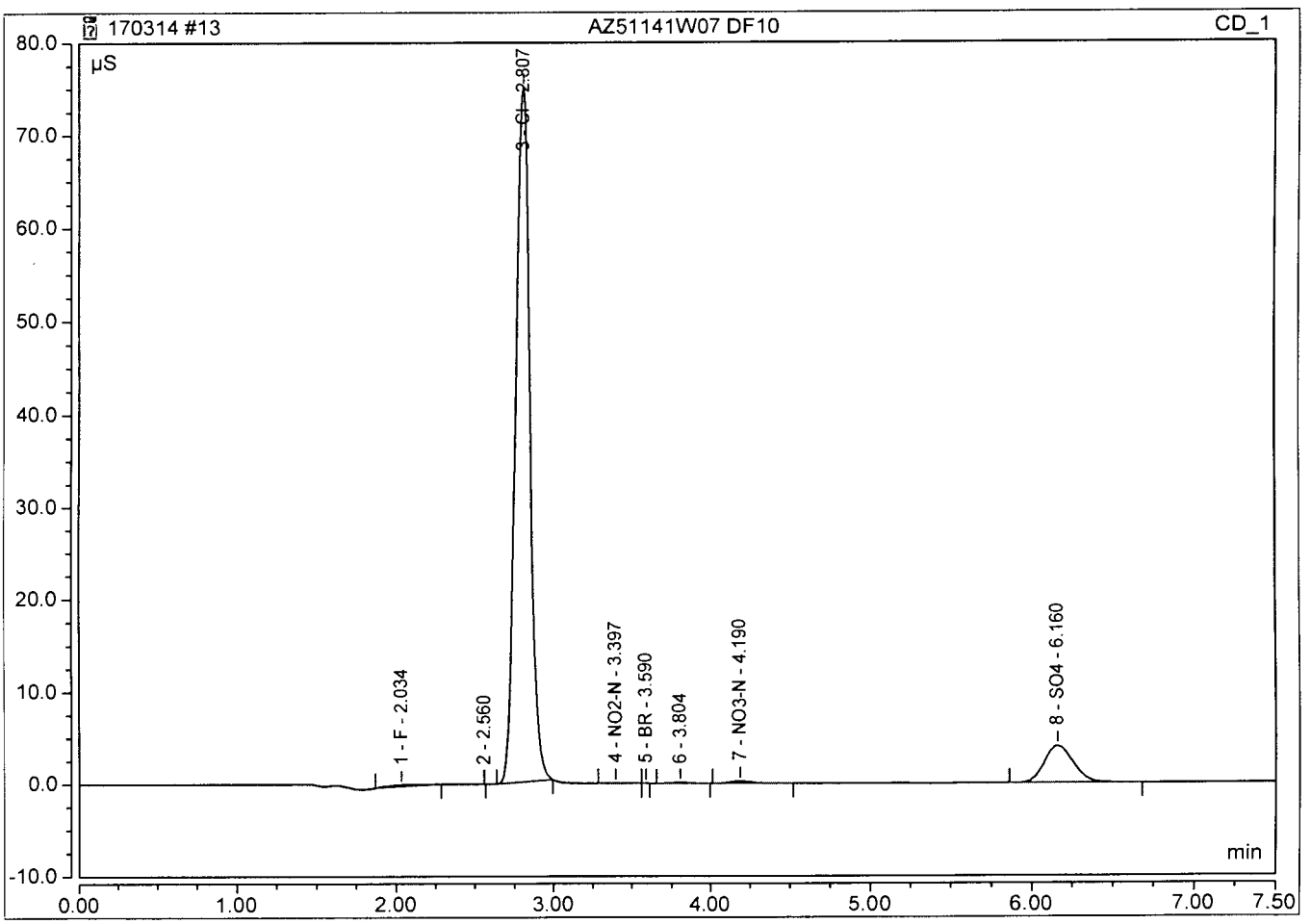
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.06	F	BMB	0.020	0.117	0.2832
3	2.87	Cl	BMB	39.978	327.089	445.5602
4	3.47	NO2-N	BMB	0.006	0.028	0.1063
5	3.86	BR	BMB	0.035	0.279	1.5500
6	4.26	NO3-N	BMB	0.142	1.006	0.9992
8	6.43	SO4	BMB	3.923	20.599	68.7785
		TOTAL:		44.10	349.12	517.28



Peak Integration Report

Sample Name:	**AZ51141W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 13:15**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.043	0.175	2.6028
3	2.81	Cl	BMB	8.005	74.903	453.9455
4	3.40	NO2-N	BMB	0.001	0.006	0.3566
5	3.59	BR	BMB	0.000	0.000	2.1917
7	4.19	NO3-N	BMB	0.034	0.229	2.1779
8	6.16	SO4	BMB	0.822	3.971	76.4179
TOTAL:				8.91	79.28	537.69



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82351 SDG: 82351
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 16:58	%R(1)	True CCV1	Found 17:30	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.71328	92.8	4	3.71328	92.8	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82351 SDG: 82351

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 03/08/17 17:01	C	CCB 03/08/17 17:32	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.36	98.9							
chloride	20	18.867	94.3							
fluoride	2.5	2.6632	107							
Nitrate(NO3)	22.1	21.9317	99.2							
Nitrate(NO3)-N	5	4.9523	99.0							
Nitrite(NO2)	9.98	10.3648	104							
Nitrite(NO2)-N	3.04	3.1556	104							
phosphate	15.3225	15.2743	99.7							
phosphate-p	5	4.9843	99.7							
sulfate	20	19.6588	98.3							

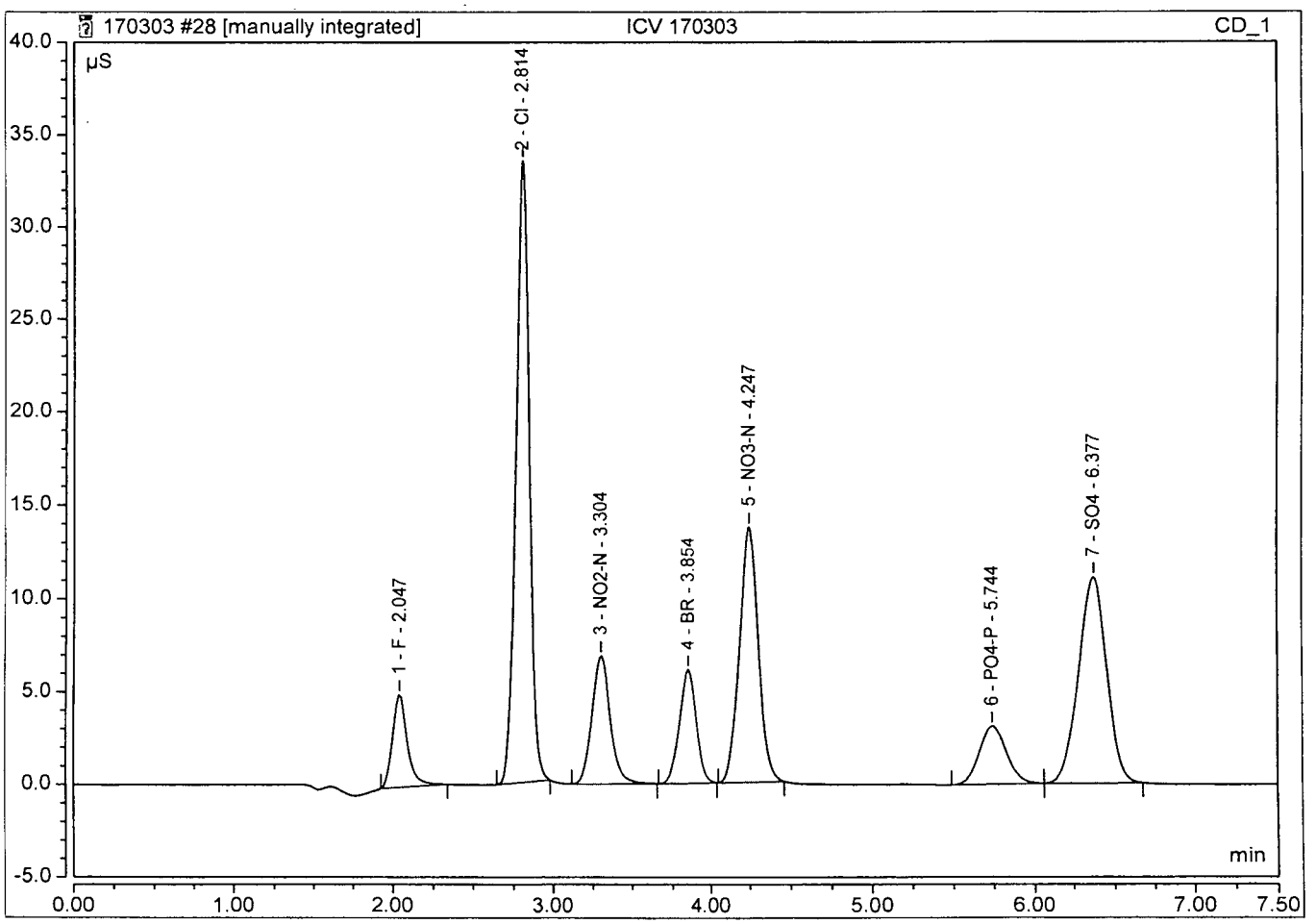
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm Check
y = .384x - .05
x = 4.95 ✓

y = Peak Area
x = Amount

MM 3/15/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

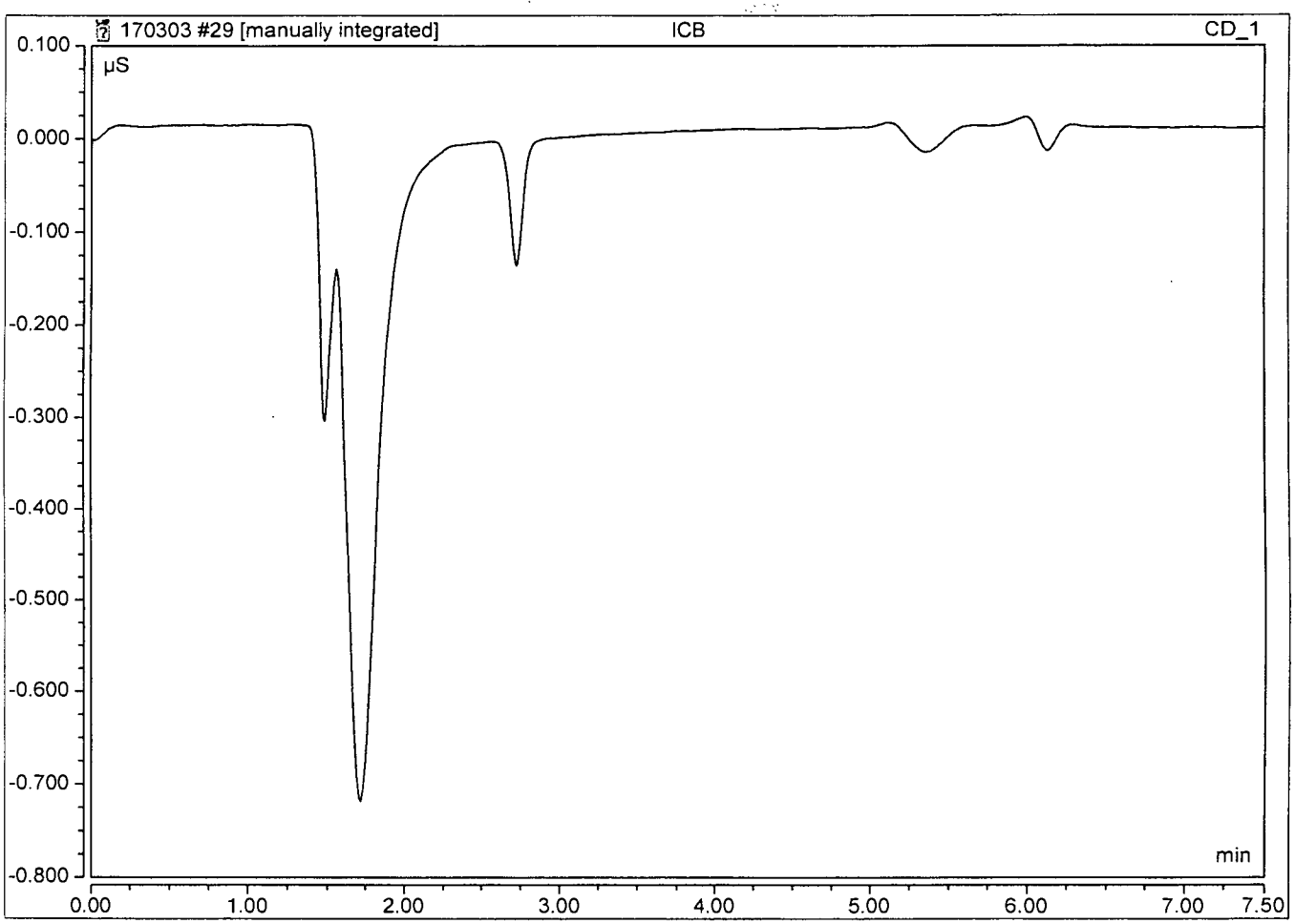
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82351 SDG: 82351
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/08/17

Analyte	Calibration Verification									M
	True CCV1	Found 11:40	%R(1)	True CCV1	Found 15:13	%R(1)	True	Found	%R(1)	
chloride	25	23.7572	95.0	25	23.7148	94.9				
Nitrate(NO3)	22.1	22.4445	102	22.1	22.3786	101				
sulfate	25	24.1177	96.5	25	24.1502	96.6				

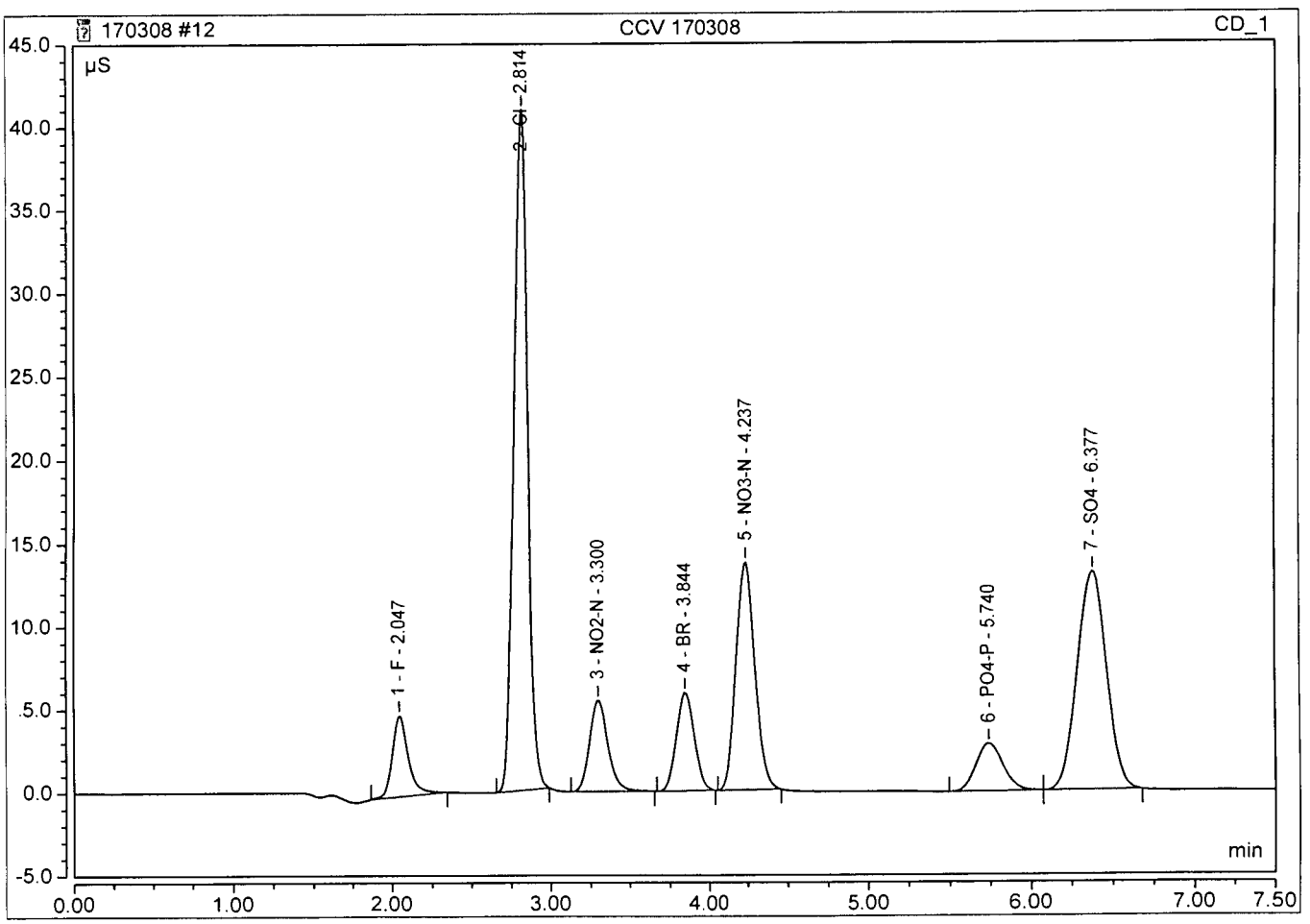
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170308**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 11:40**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.559	4.894	2.8137
2	2.81	Cl	BMB	4.105	40.899	23.7572
3	3.30	NO2-N	BMB	0.739	5.507	2.5512
4	3.84	BR	BMB	0.762	5.931	12.1746
5	4.24	NO3-N	BMB	1.894	13.772	5.0681
6	5.74	PO4-P	BMB	0.550	2.864	4.5595
7	6.38	SO4	BMB	2.732	13.186	24.1177
		TOTAL:		11.34	87.05	75.04



Algorithm Check

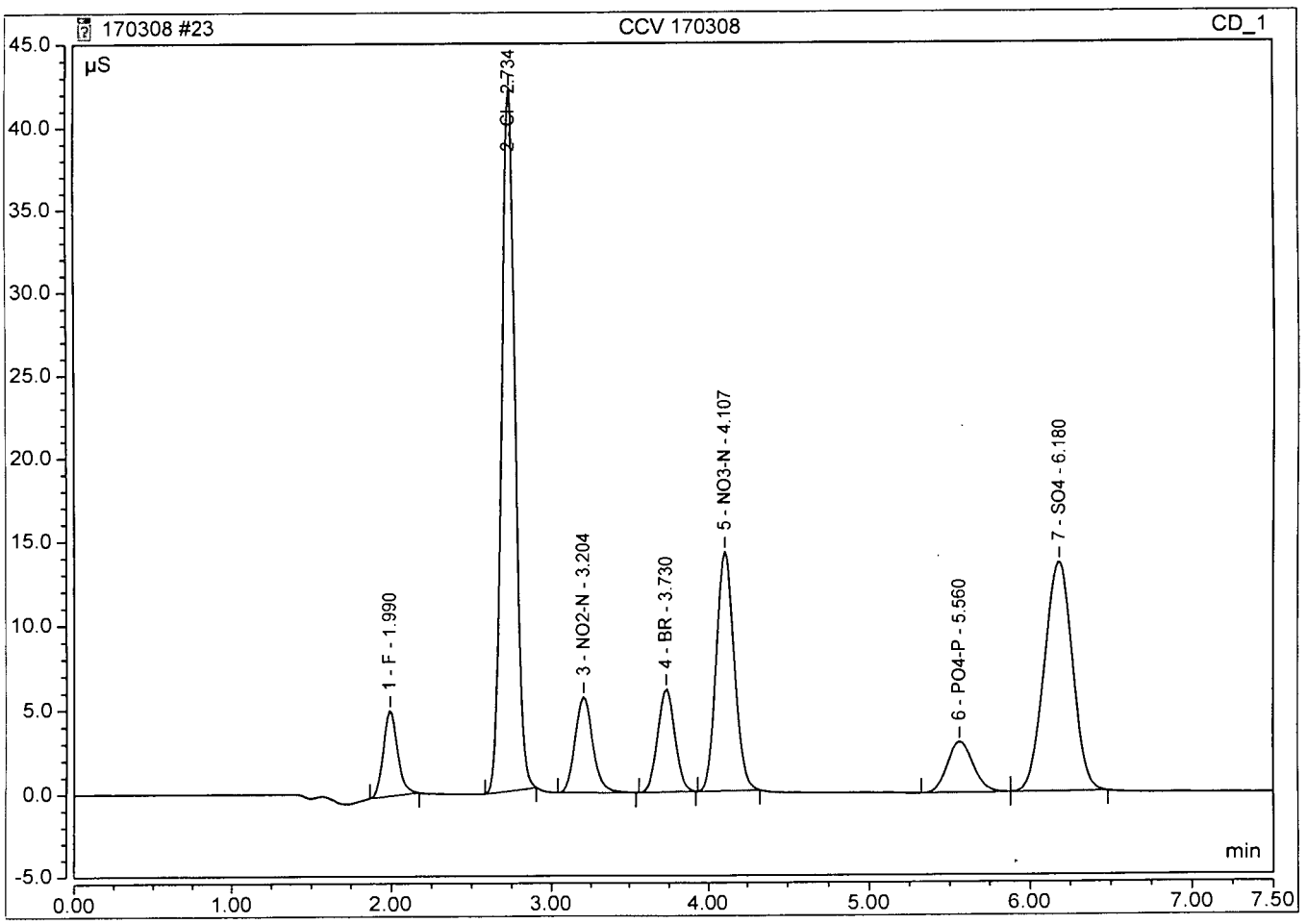
y = .384x − .05 y = Peak Area x = Amnt

x = 5.07 ✓ MM 3/15/17

Peak Integration Report

Sample Name:	**CCV 170308**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 15:13**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.519	5.064	2.6148
2	2.73	Cl	BMB	4.097	42.110	23.7148
3	3.20	NO2-N	BMB	0.738	5.656	2.5452
4	3.73	BR	BMB	0.757	6.079	12.1015
5	4.11	NO3-N	BMB	1.889	14.131	5.0532
6	5.56	PO4-P	BMB	0.560	2.985	4.6347
7	6.18	SO4	BMB	2.736	13.530	24.1502
		TOTAL:		11.30	89.55	74.81



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82351 SDG: 82351

Preparation Blank Matrix (soil/water): water

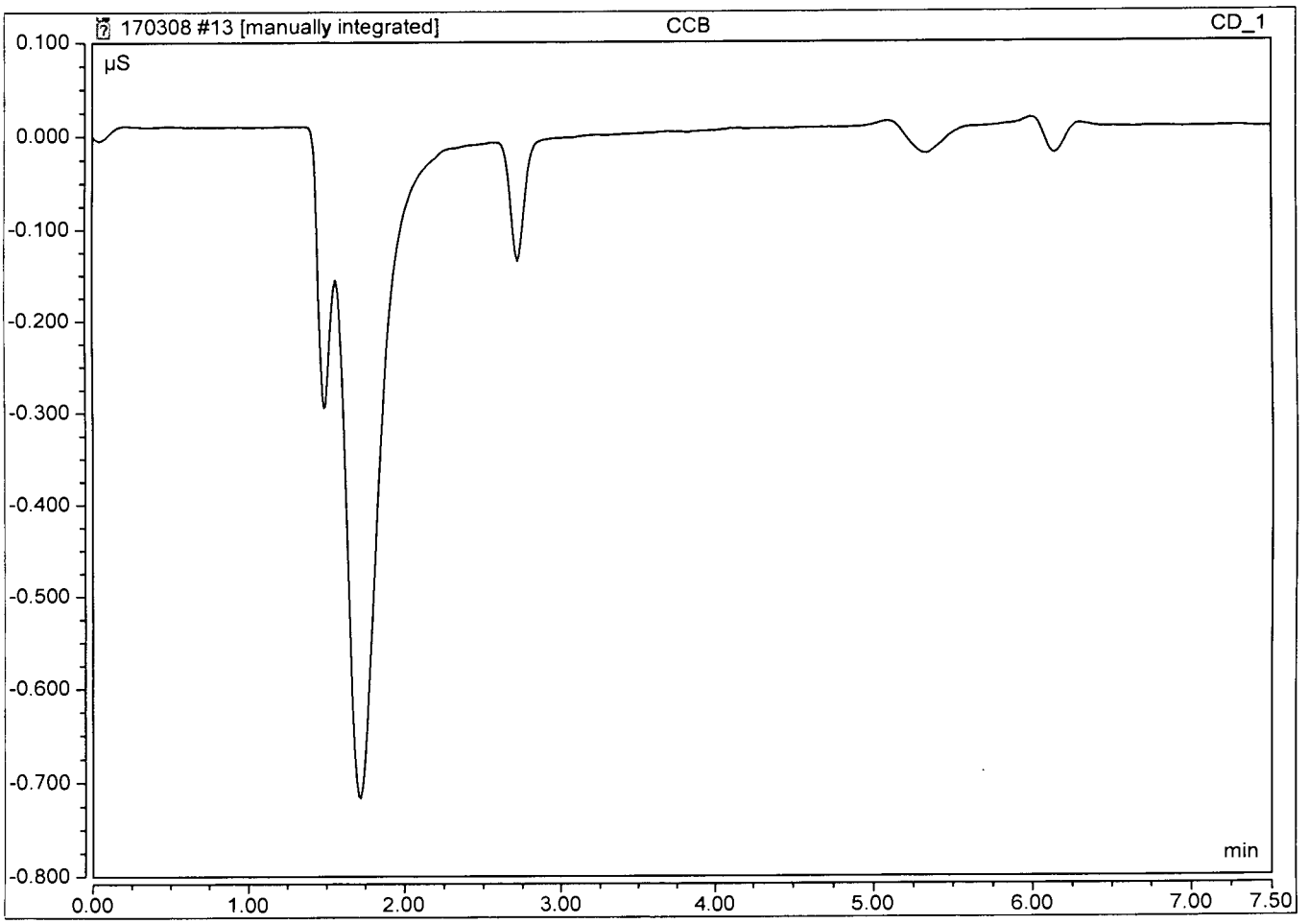
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/08/17 11:54	C	CCB 03/08/17 15:27	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 11:54**	*Run Time:*	**7.50**

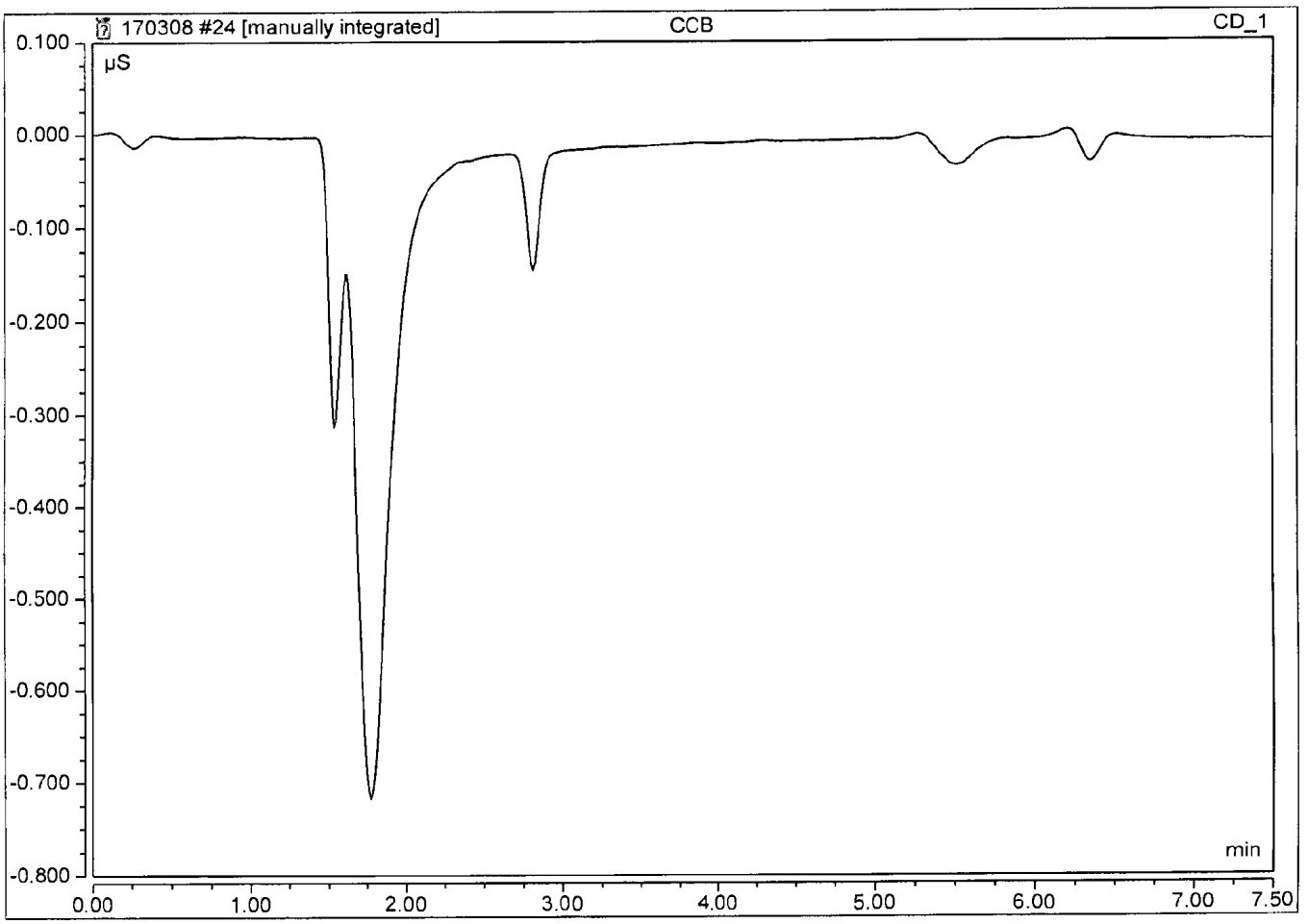
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 15:27**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82351 SDG: 82351
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/14/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:21	%R(1)	True CCV1	Found 15:06	%R(1)	True	Found	%R(1)	
chloride	25	23.4306	93.7	25	23.8262	95.3				
sulfate	25	24.2128	96.9	25	24.3826	97.5				

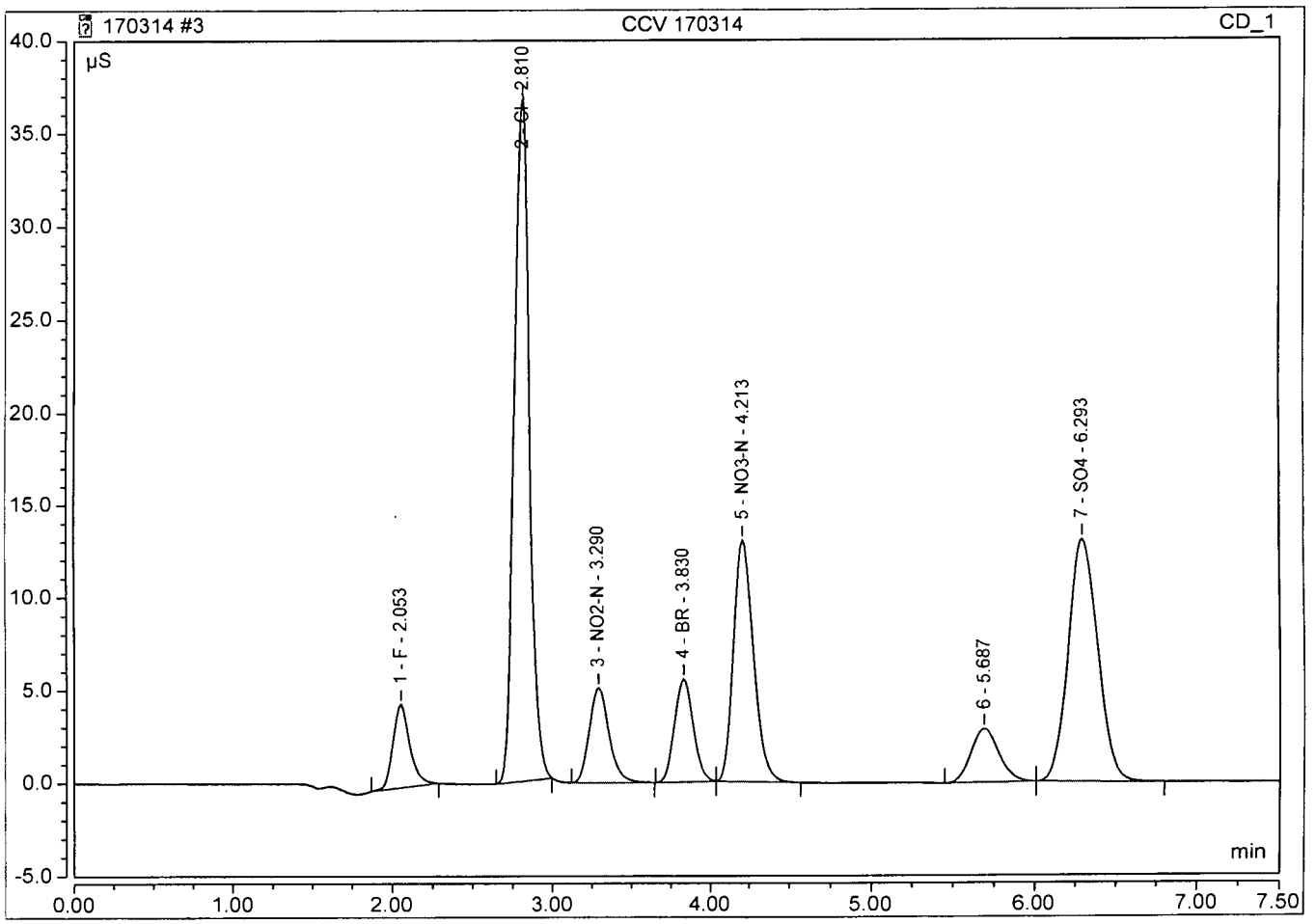
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:21**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.544	4.478	2.7410
2	2.81	Cl	BMB	4.046	36.691	23.4306
3	3.29	NO2-N	BMB	0.730	5.098	2.5182
4	3.83	BR	BMB	0.754	5.527	12.0555
5	4.21	NO3-N	BMB	1.903	12.984	5.0907
7	6.29	SO4	BMB	2.743	13.058	24.2128
		TOTAL:		10.72	77.84	70.05



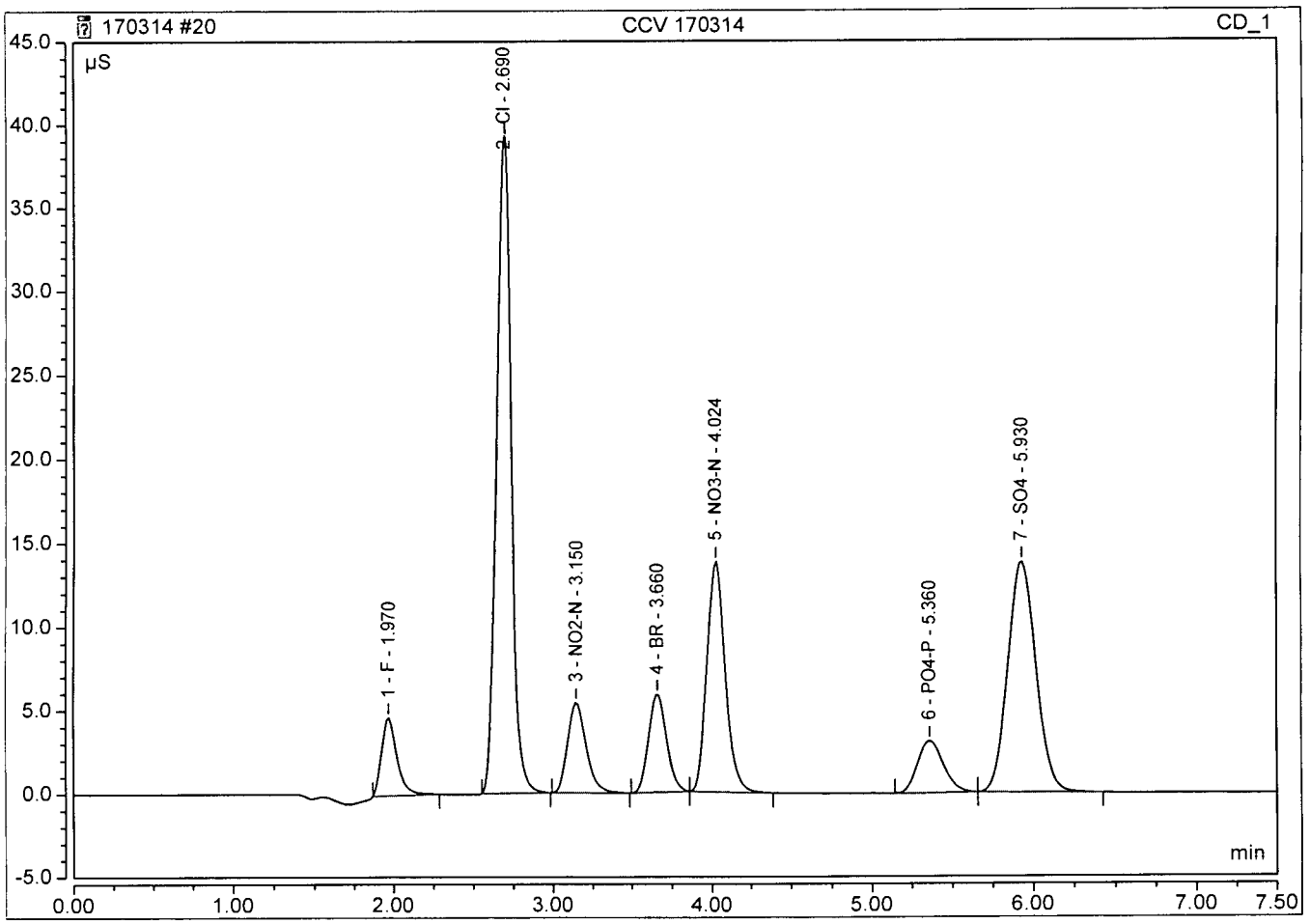
Algorithm Check

y = .384x - .05 y = Peak Area
x = 5.09✓ x = Amnt
mm 3/15/17

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 15:06**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.520	4.674	2.6221
2	2.69	Cl	BMB	4.117	39.233	23.8262
3	3.15	NO2-N	BMB	0.733	5.379	2.5298
4	3.66	BR	BMB	0.754	5.852	12.0541
5	4.02	NO3-N	BMB	1.914	13.759	5.1199
6	5.36	PO4-P	BMB	0.578	3.114	4.7802
7	5.93	SO4	BMB	2.763	13.785	24.3826
		TOTAL:		11.38	85.80	75.31



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82351 SDG: 82351

Preparation Blank Matrix (soil/water): water

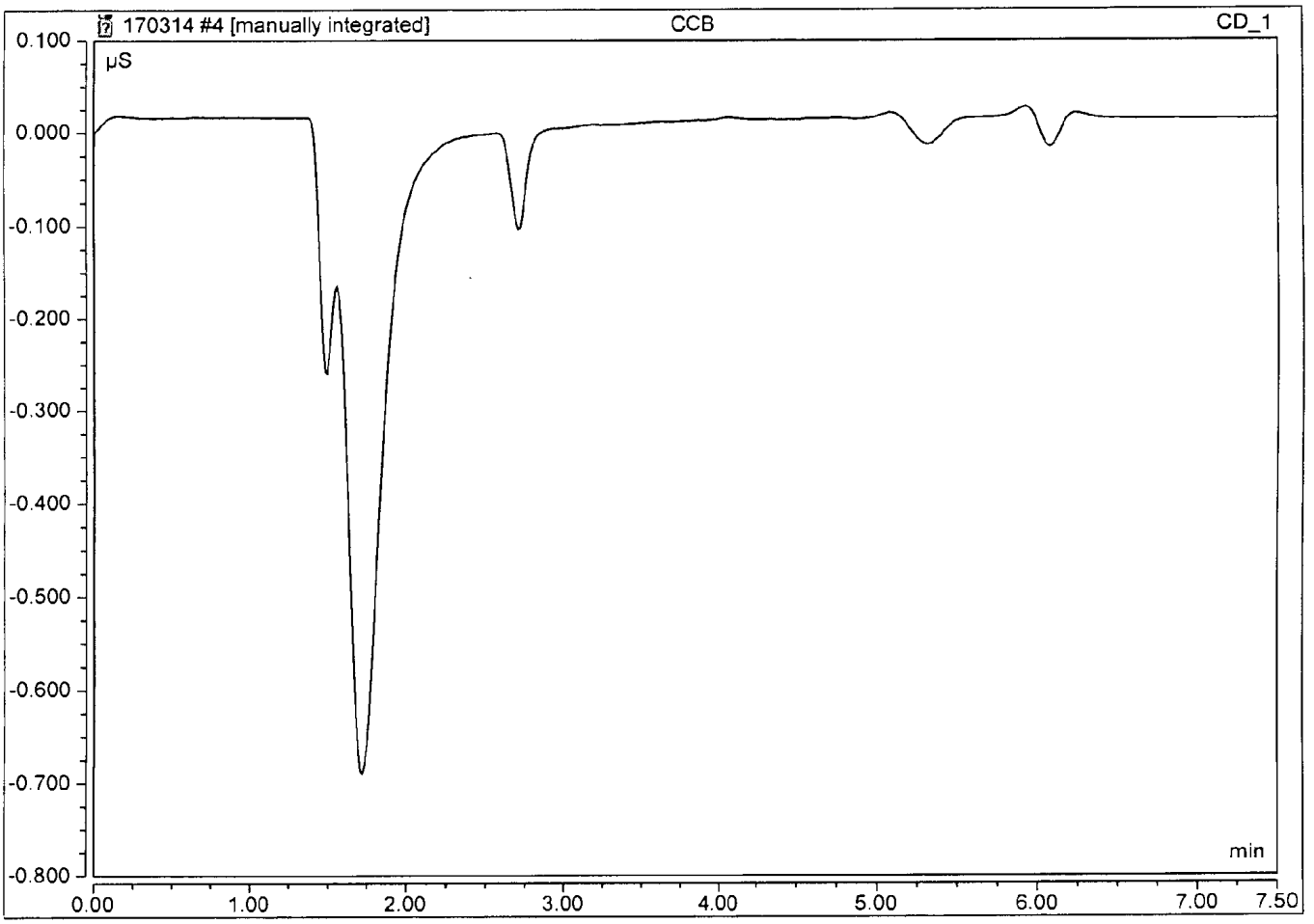
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/14/17 09:35	C	CCB 03/14/17 15:20	C		C		C		C	
chloride	1.000	U	1.000	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:35**	*Run Time:*	**7.50**

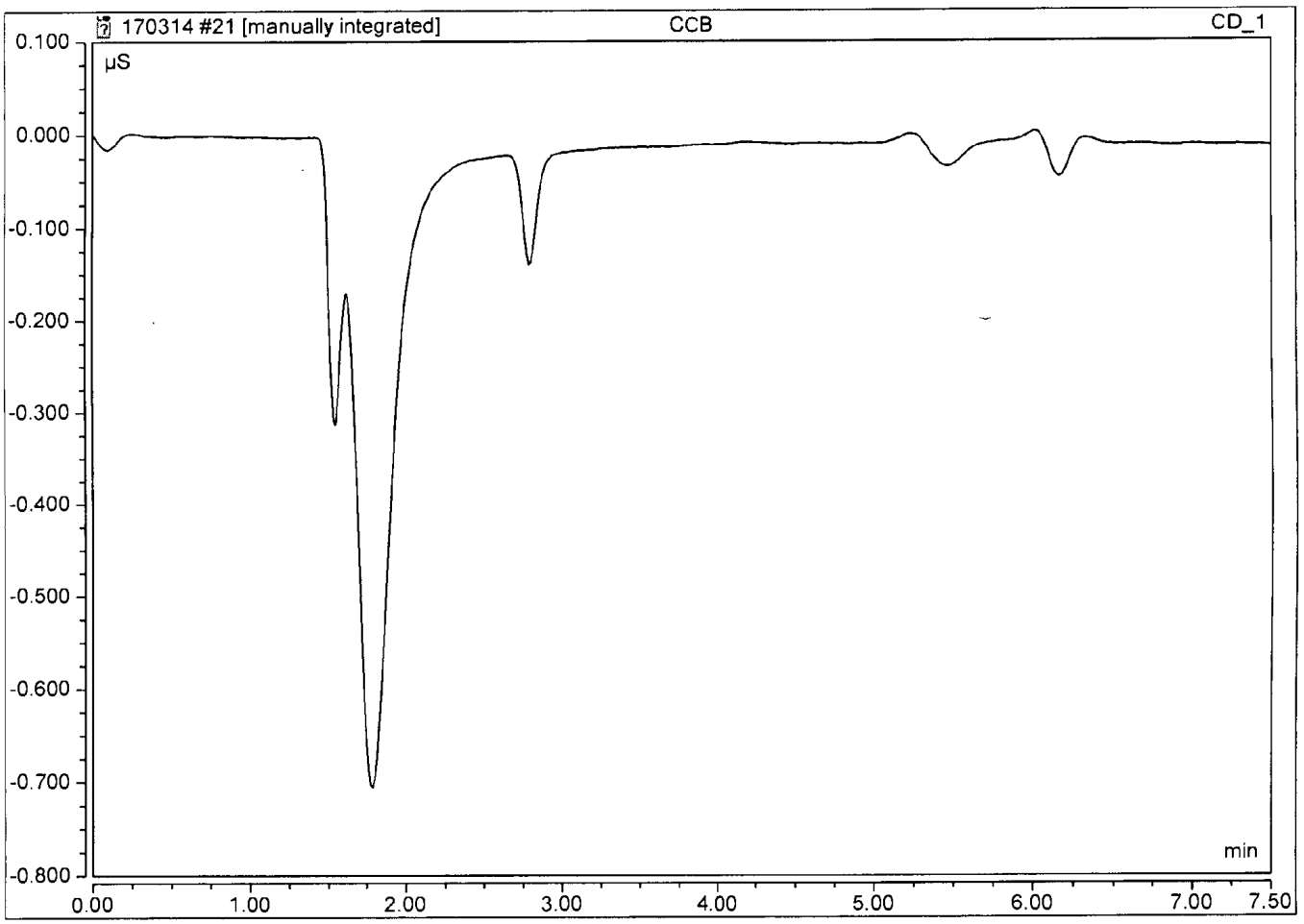
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



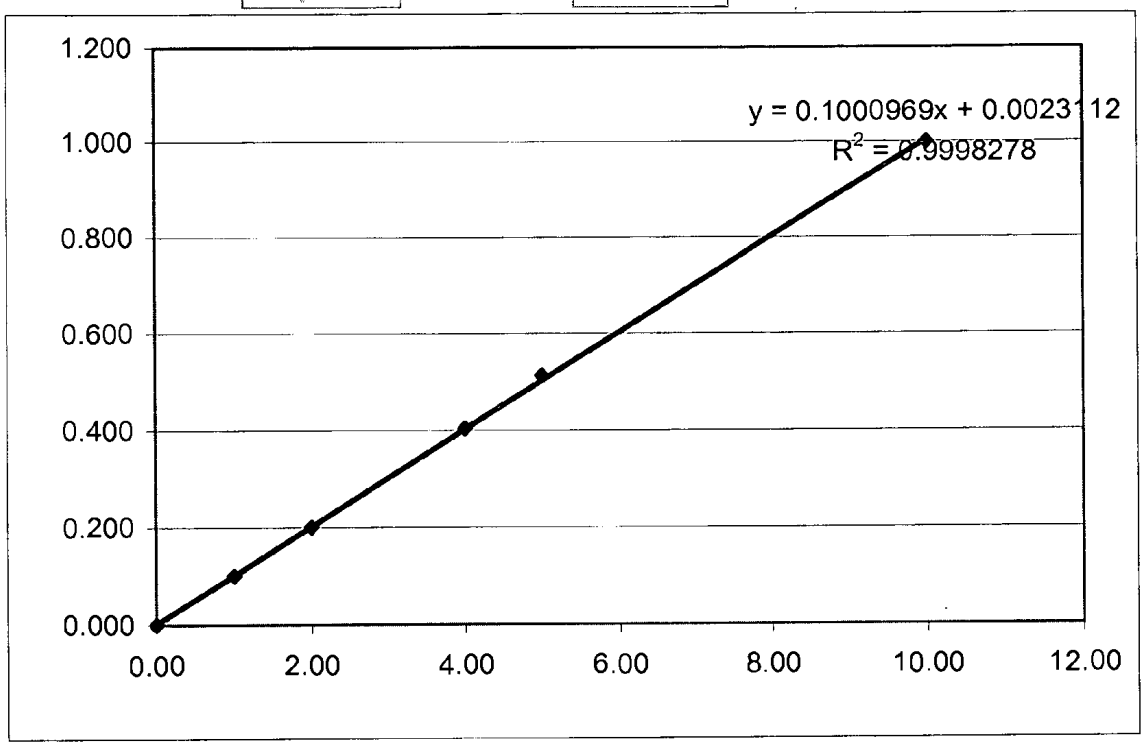
Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	14-Mar-2017 / 15:20	*Run Time:*	7.50

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170308A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.292	03/08/17	17:02
dilution=	1		
result (x)=	2.89 ✓		

MM 3/15/17

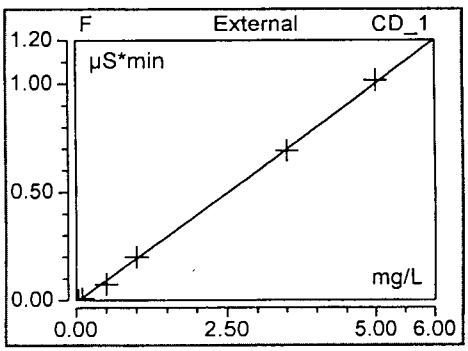
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

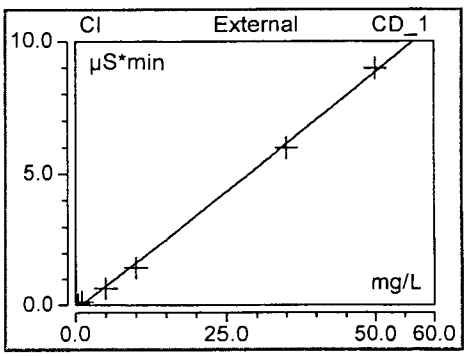
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

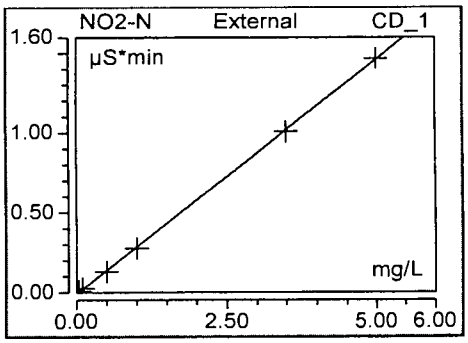
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



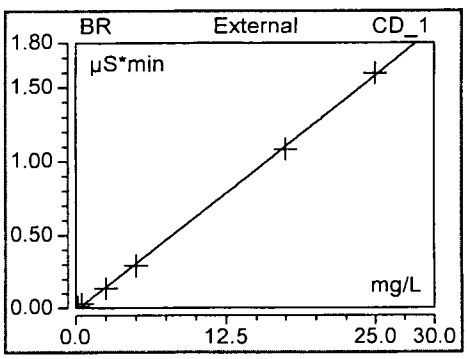
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



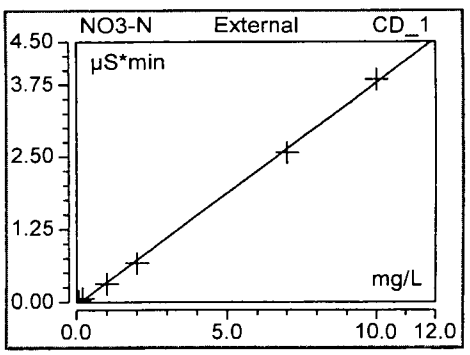
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



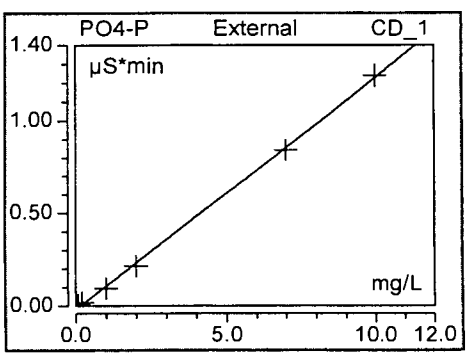
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



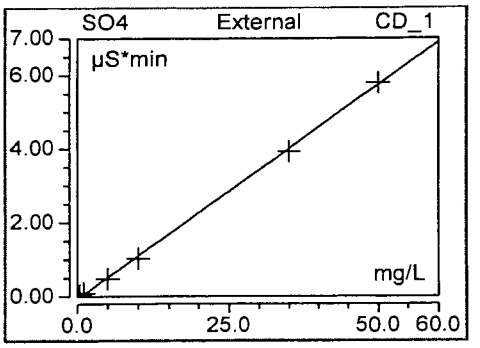
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



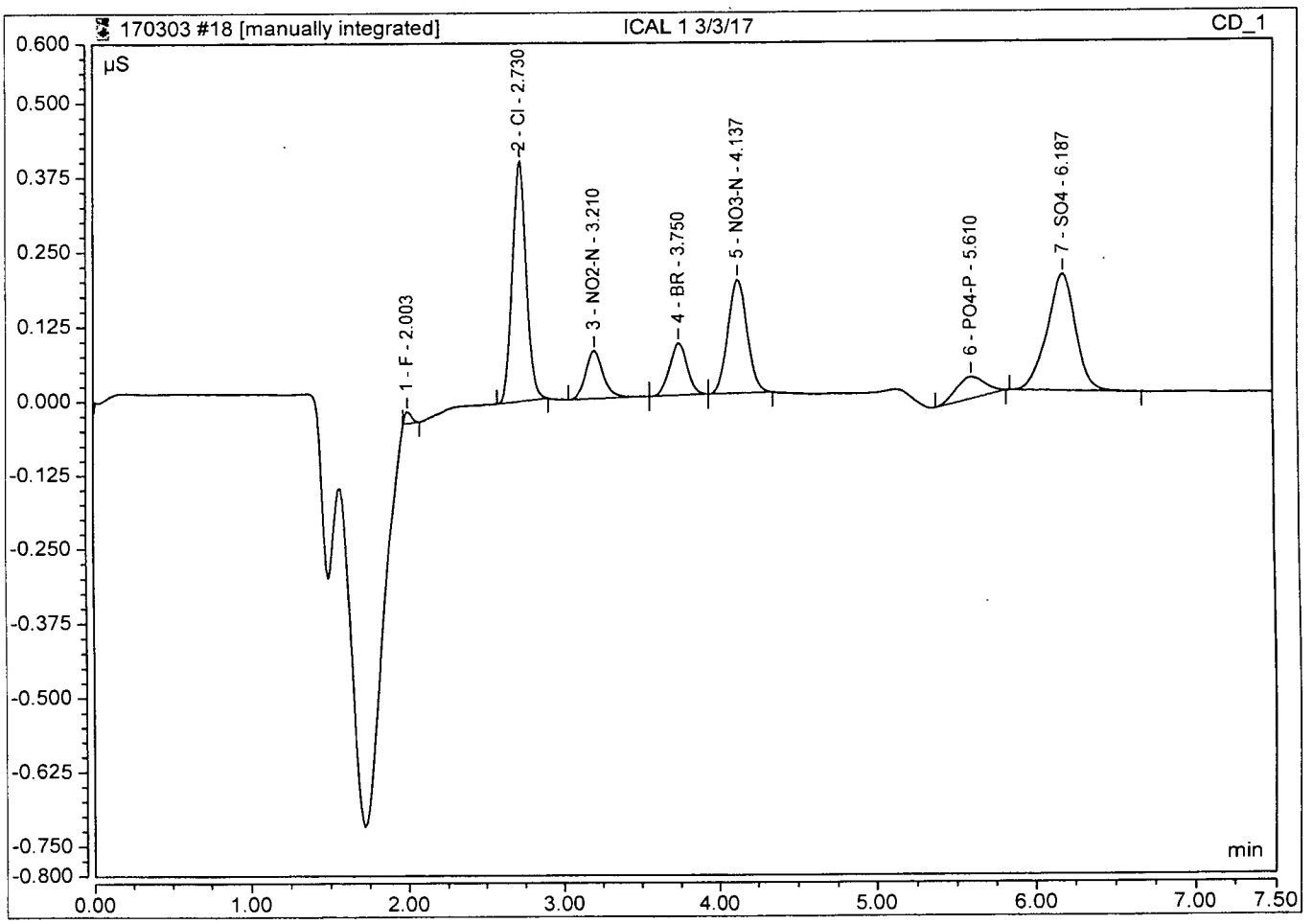
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7.50**

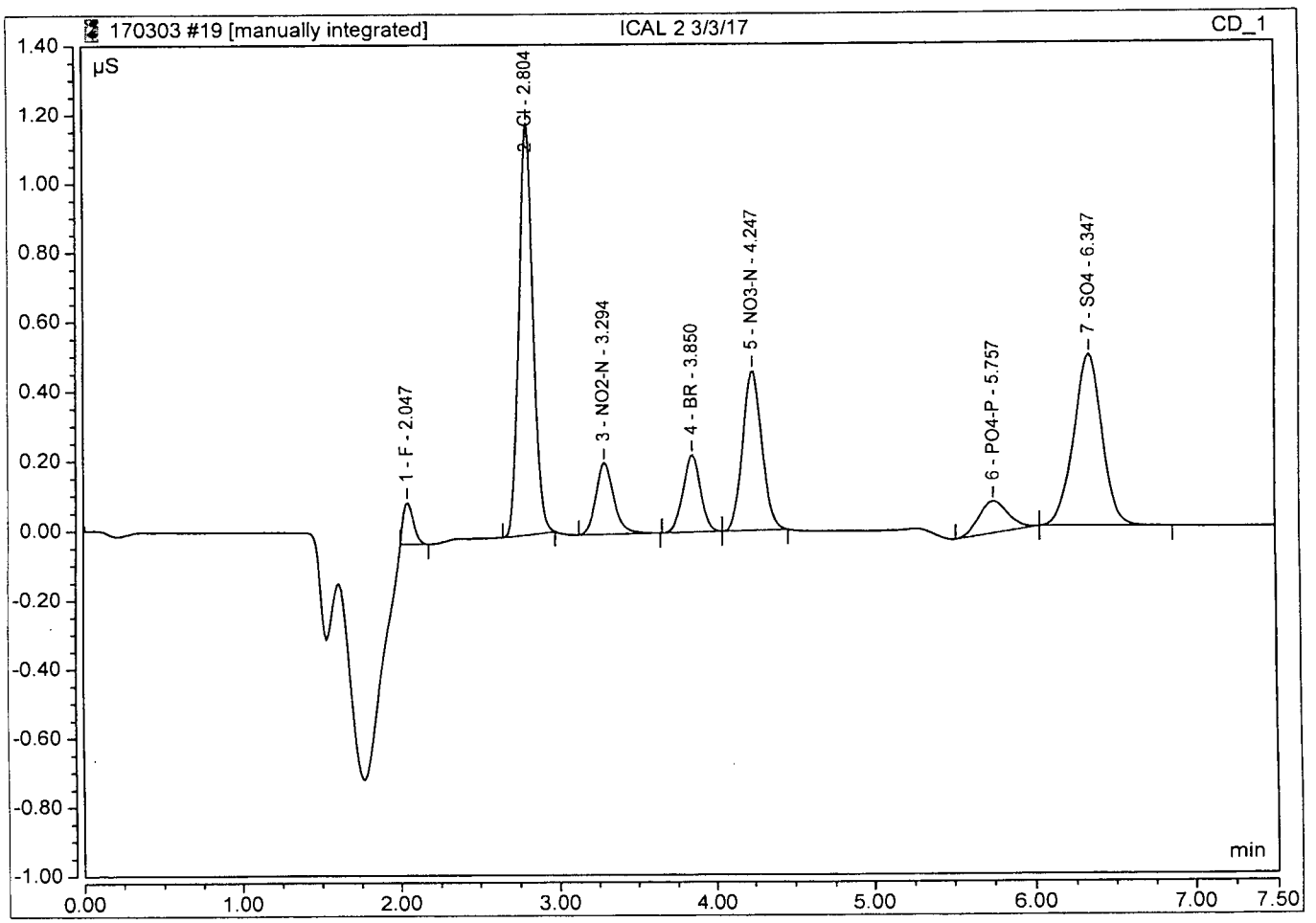
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

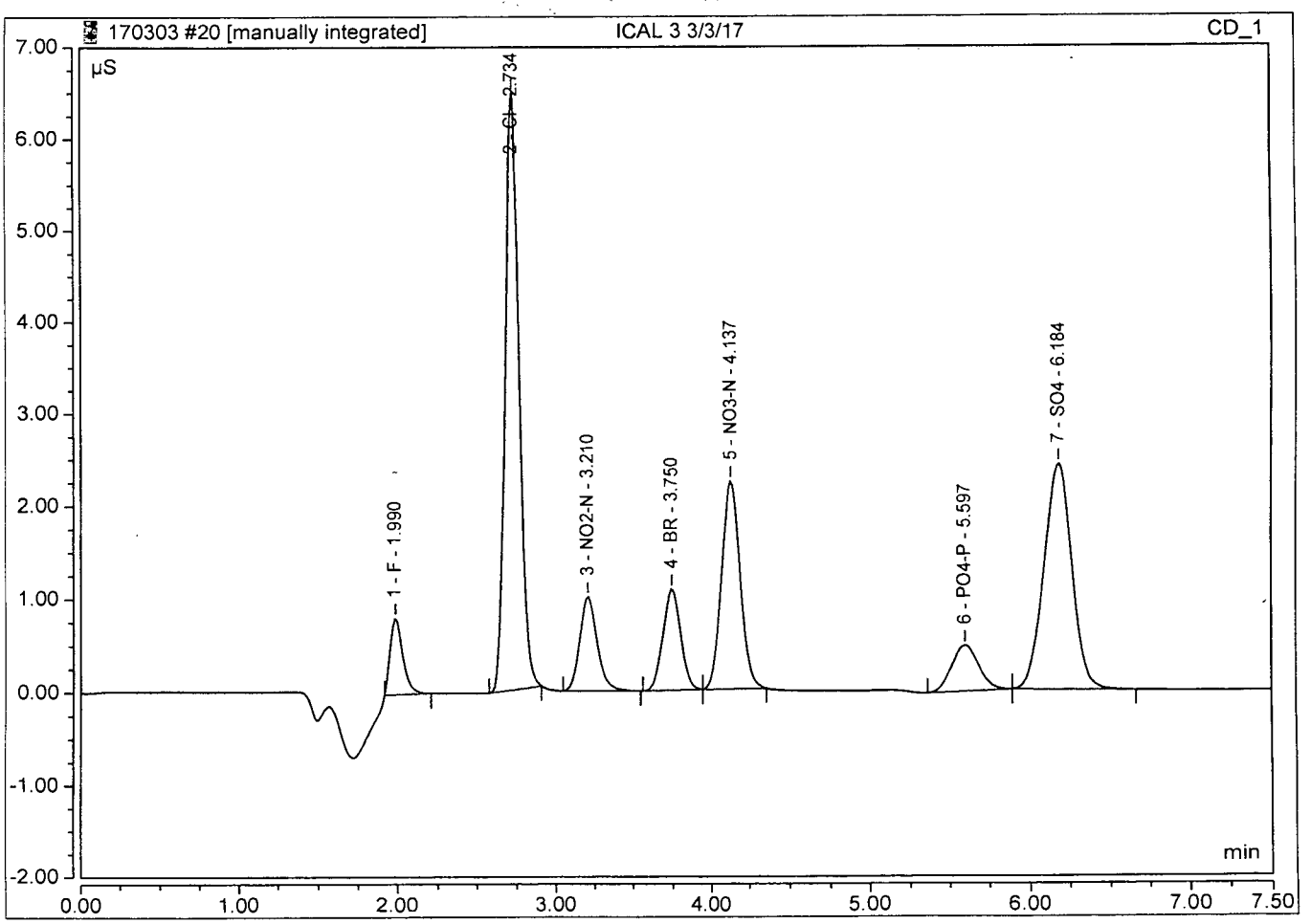
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

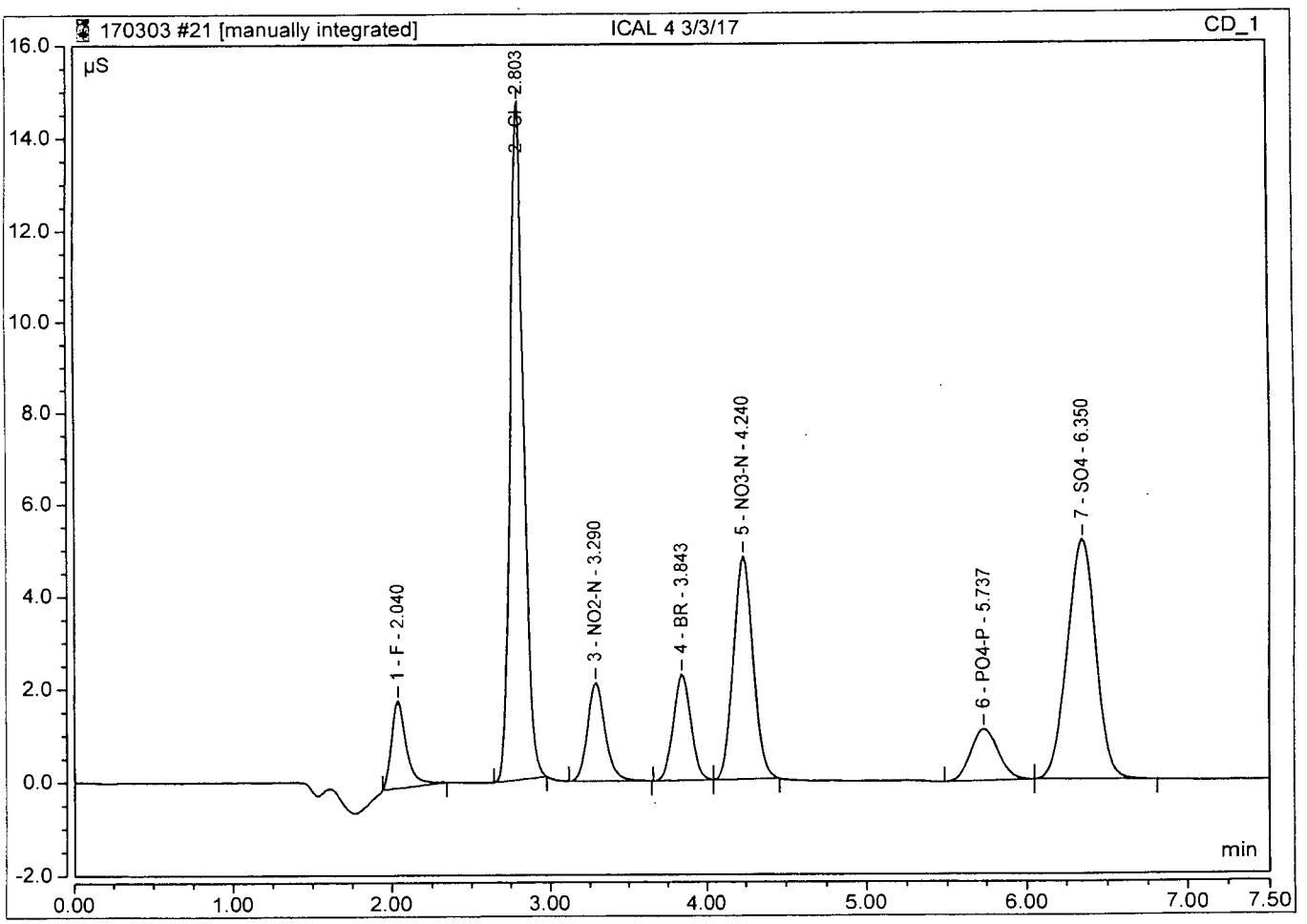
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

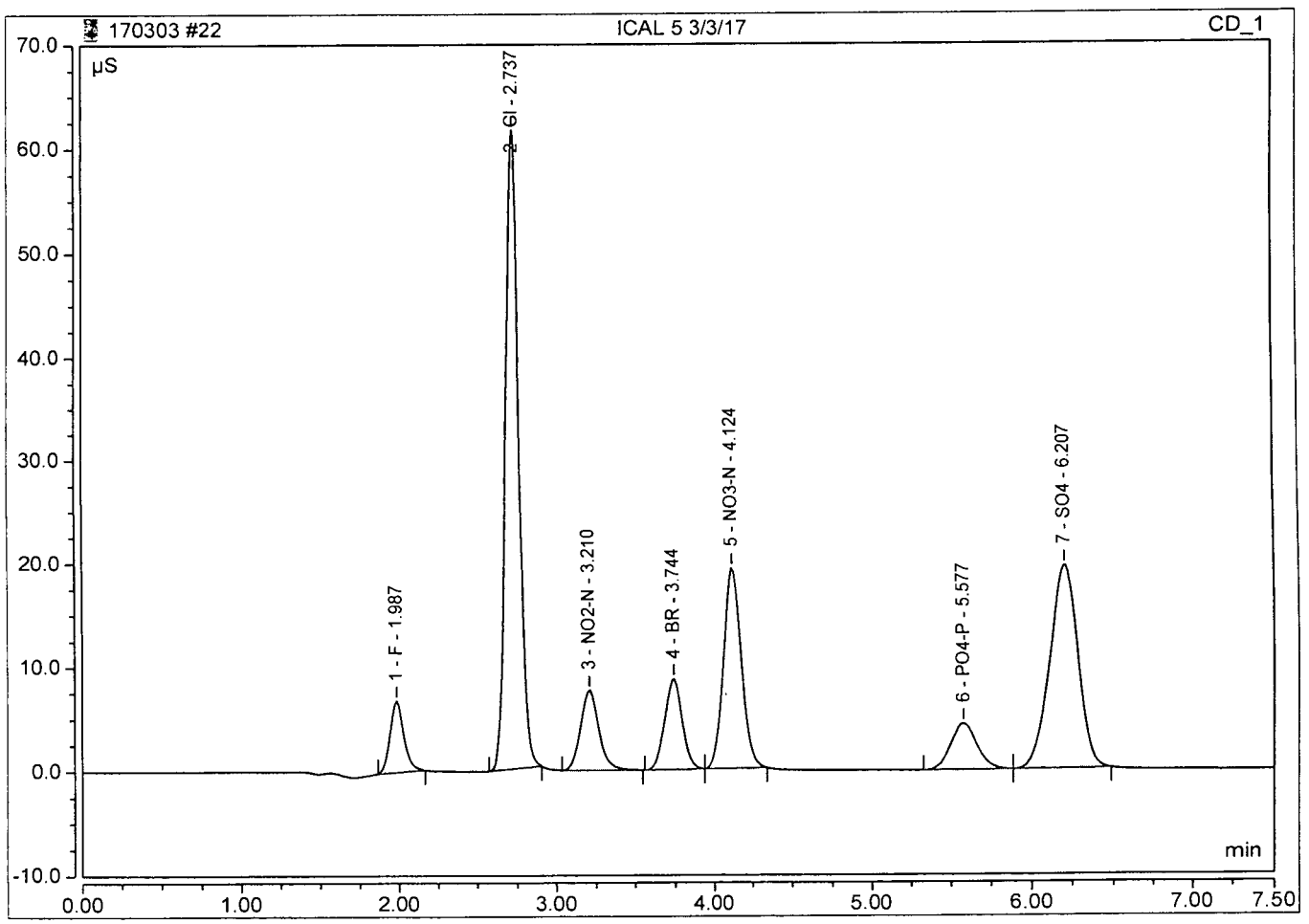
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

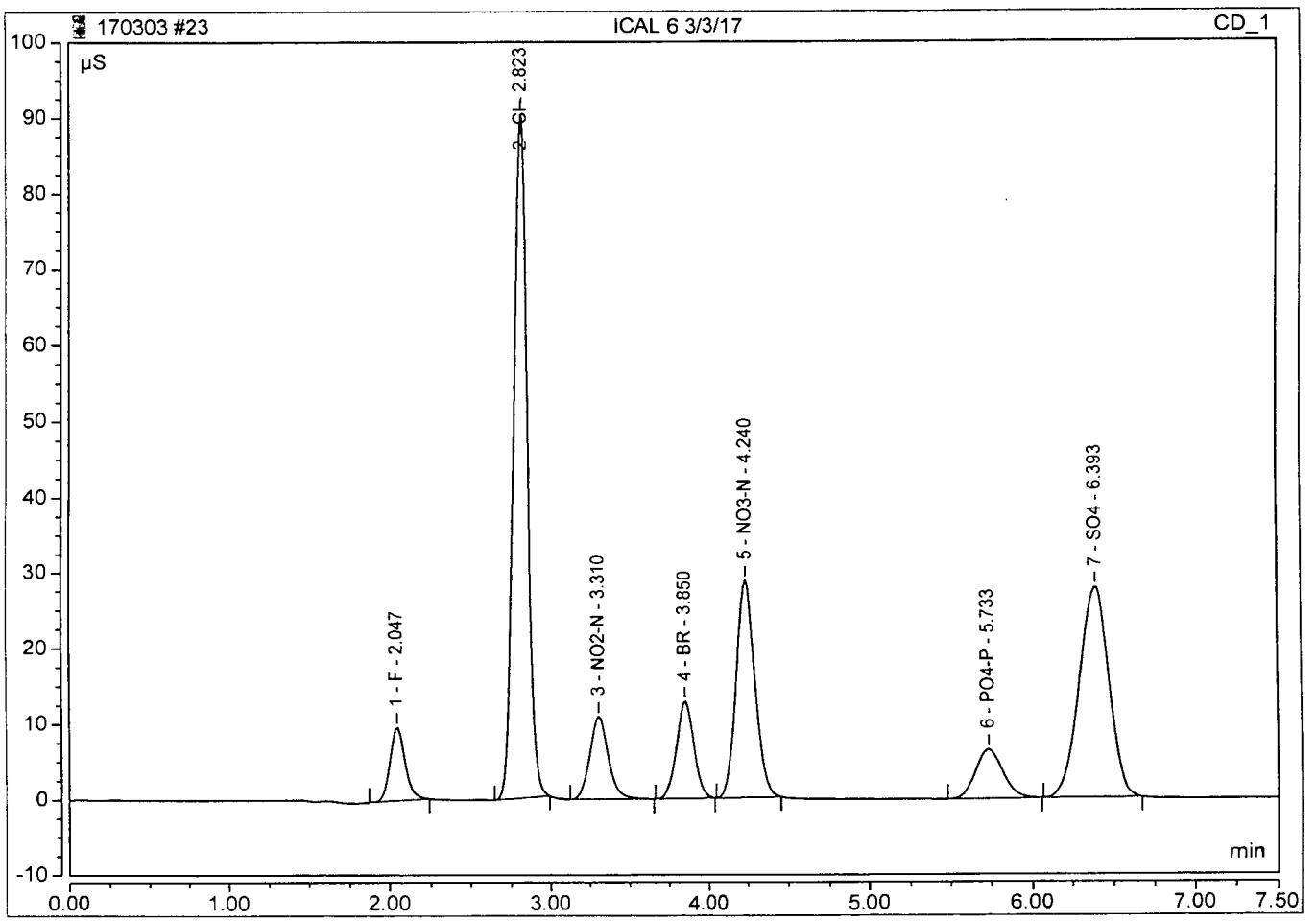
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	ICAL 6 3/3/17	*Inj. Vol.:*	25.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	03-Mar-2017 / 15:17	*Run Time:*	7.50

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

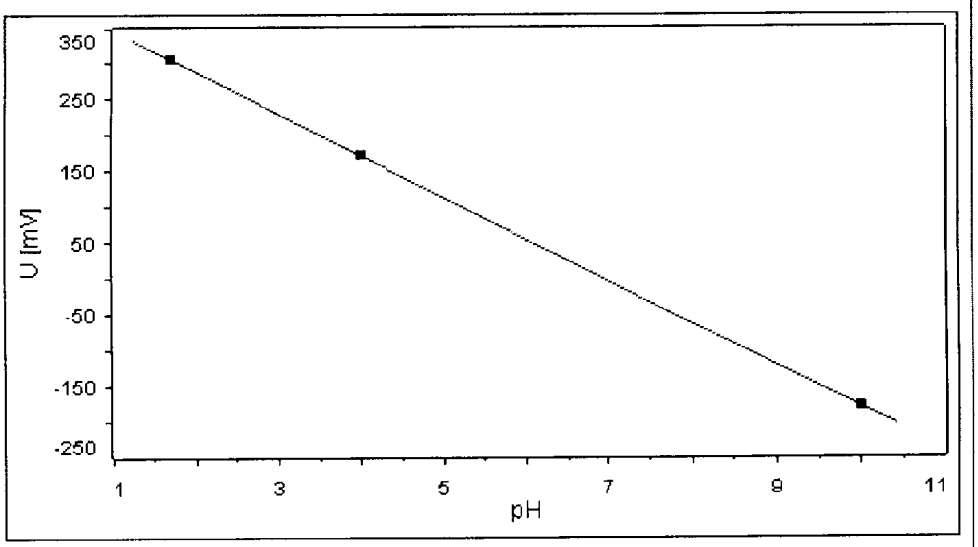


Tiamo Calibration Curve
03/13/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	307.5	22.2	44
Buffer 2:	4.000	172.0	21.7	20
Buffer 3:	10.000	-180.0	21.7	20

Slope:	100.1	%
pH	6.930	
Variance:	0.3	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	#300WD-170314A-AZ51132
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	#300WD-170314A-AZ51132
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/08/17	03/08/17	#35FE-170308A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/08/17	03/08/17	#300W-170308B-AZ51139

Wetlab SC-Blank-REG MDLs
Printed: 03/15/17 10:21:57 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

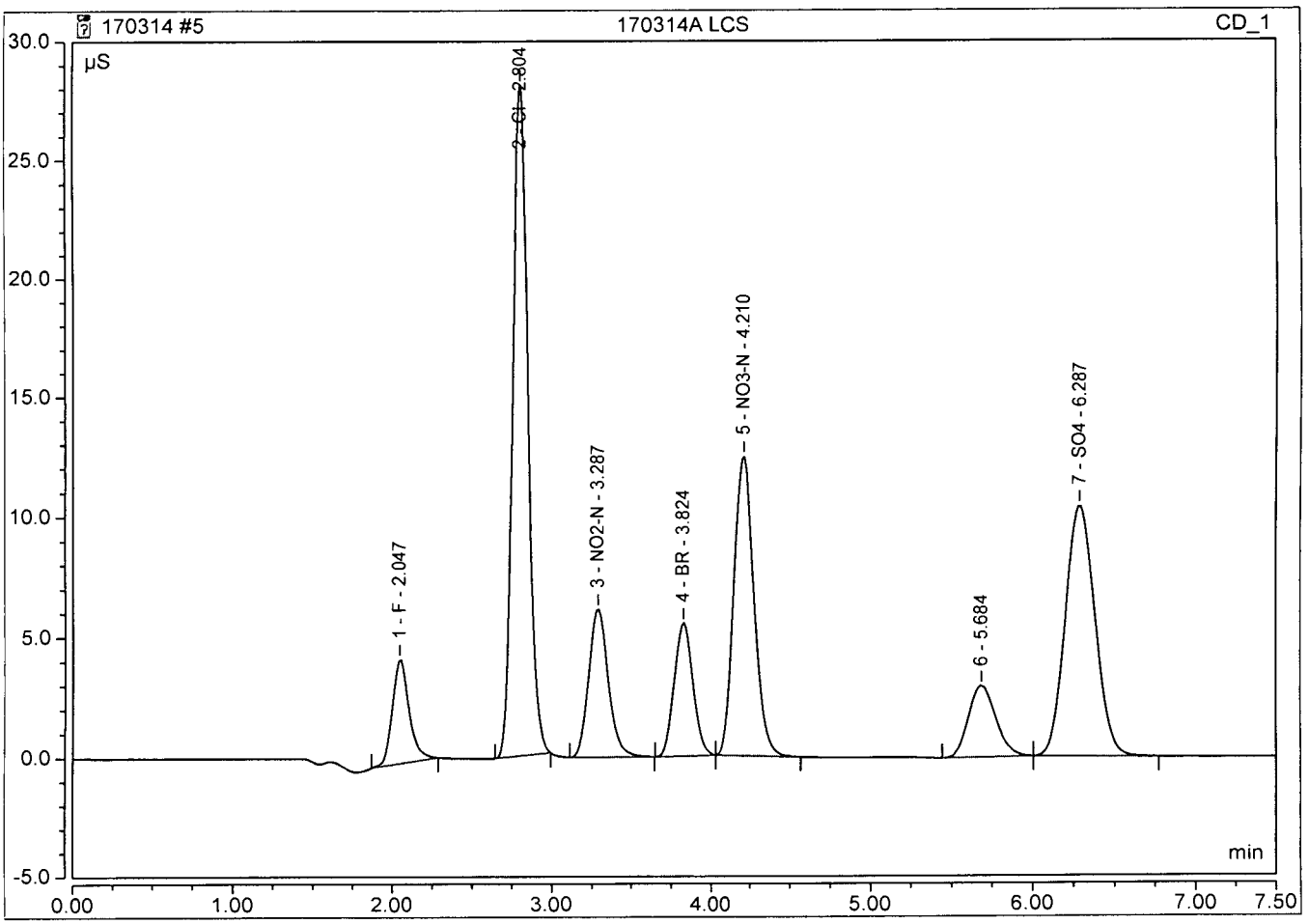
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A-AZ51132
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A-AZ51132
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM3500Fe	FERROUS IRON	3.00	2.89	96.3	80-120	03/08/17	03/08/17	#35FE-170308A-AZ51132

Comments: _____

Peak Integration Report

Sample Name:	**170314A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:49**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.525	4.327	2.6452
2	2.80	Cl	BMB	3.080	28.058	18.0703
3	3.29	NO2-N	BMB	0.877	6.129	3.0192
4	3.82	BR	BMB	0.746	5.498	11.9270
5	4.21	NO3-N	BMB	1.811	12.396	4.8504
7	6.29	SO4	BMB	2.171	10.345	19.2758
		TOTAL:		9.21	66.75	59.79



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

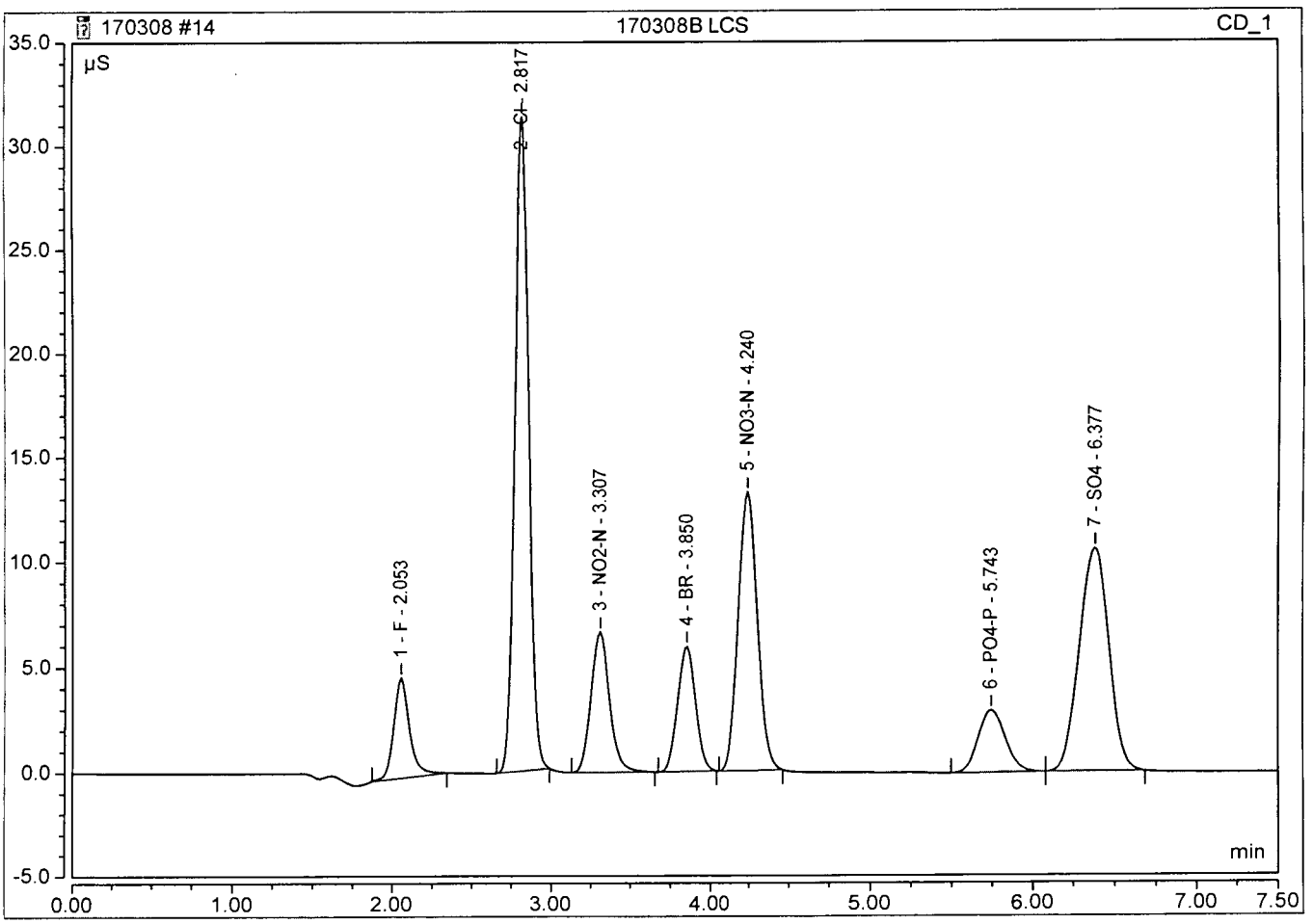
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.4	92.0	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/08/17	03/08/17	#300W-170308B-AZ51139

Comments: _____

Peak Integration Report

Sample Name:	**170308B LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**08-Mar-2017 / 12:07**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.541	4.749	2.7230
2	2.82	Cl	BMB	3.134	31.314	18.3694
3	3.31	NO2-N	BMB	0.889	6.608	3.0616
4	3.85	BR	BMB	0.755	5.899	12.0743
5	4.24	NO3-N	BMB	1.809	13.173	4.8448
6	5.74	PO4-P	BMB	0.562	2.932	4.6531
7	6.38	SO4	BMB	2.168	10.513	19.2525
		TOTAL:		9.86	75.19	64.98



Matrix Spike Recoveries

WETLAB

APPL ID: **170313W-51132 MS - 216849**

Sample ID: AZ51132

Client ID: ERH257

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	61.2	304	309	97.1	99.1	1.6	20	90-110	03/13/17	03/13/17	03/13/17	03/13/17	216849	AZ51132
SM 2320B	TOTAL ALKALINITY AS	250	61.2	304	309	97.1	99.1	1.6	20	90-110	03/13/17	03/13/17	03/13/17	03/13/17	216849	AZ51132
SM3500Fe	FERROUS IRON	3.00	0.077	2.99	2.95	97.1	95.8	1.3	20	80-120	03/08/17	03/08/17	03/08/17	03/08/17	216732	AZ51132

Comments: _____

Printed: 03/15/17 10:22:10 AM
APPL MSD SCII

SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170308A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
03/08/17	16:58	CCV 4.0 170308	1	0.374	25mL		3.71	3.713	4.000	*92.83*
03/08/17	17:01	CCB 170308	1	-0.002	25mL		-0.04	-0.043		
03/08/17	17:02	170308A LCS 3.0	1	0.292	25mL		2.89	2.894	3.000	*96.47*
03/08/17	17:04	1703080A LCSD 3.0	1	0.287	25mL		2.84	2.844	3.000	*94.80*
03/08/17	17:06	AZ51132W16	1	0.010	25mL		0.08	0.077		
03/08/17	17:11	AZ51132W16 MS	1	0.302	25mL		2.99	2.994	3.000	*99.80*
03/08/17	17:12	AZ51132W16 MSD	1	0.298	25mL		2.95	2.954	3.00	*98.47*
03/08/17	17:17	AZ51056W08	1	0.013	25mL		0.11	0.107		
03/08/17	17:18	AZ51123W04	1	0.023	25mL		0.21	0.207		
03/08/17	17:20	AZ51124W04	1	0.008	25mL		0.06	0.057		
03/08/17	17:22	AZ51125W04	1	-0.009	25mL		-0.11	-0.113		
03/08/17	17:24	AZ51135W25	1	-0.011	25mL		-0.13	-0.133		
03/08/17	17:25	AZ51139W08	1	-0.018	25mL		-0.20	-0.203		
03/08/17	17:26	AZ51141W08	1	-0.011	25mL		-0.13	-0.133		
03/08/17	17:30	CCV 4.0 170308	1	0.374	25mL		3.71	3.713	4.000	*92.83*
03/08/17	17:32	CCB 170308	1	-0.036	25mL		-0.38	-0.383		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ51141W07	2017-03-13 17:29:54 UTC-8	Alkalinity	0.000	2.806	0.00	0.00	117.85	117.85	mg/L	25 mL	0.0210	170313A	AH
AZ51139W07	2017-03-13 17:15:03 UTC-8	Alkalinity	0.000	6.876	0.00	0.00	288.79	288.79	mg/L	25 mL	0.0210	170313A	AH
AZ51135W24	2017-03-13 17:09:23 UTC-8	Alkalinity	0.000	1.924	0.00	0.00	80.81	80.81	mg/L	25 mL	0.0210	170313A	AH
AZ51132W15 MSD	2017-03-13 16:54:25 UTC-8	Alkalinity	0.000	7.362	0.00	0.00	309.20	309.20	mg/L	25 mL	0.0210	170313A	AH
AZ51132W15 MS	2017-03-13 16:39:32 UTC-8	Alkalinity	0.000	7.242	0.00	0.00	304.16	304.16	mg/L	25 mL	0.0210	170313A	AH
AZ51132W15	2017-03-13 16:34:40 UTC-8	Alkalinity	0.000	1.456	0.00	0.00	61.15	61.15	mg/L	25 mL	0.0210	170313A	AH
170313A LCS	2017-03-13 16:03:52 UTC-8	Alkalinity	0.126	5.982	0.00	10.58	240.66	251.24	mg/L	25 mL	0.0210	170313A	AH
170313A Blk	2017-03-13 15:47:25 UTC-8	Alkalinity	0.000	0.050	0.00	0.00	2.10	2.10	mg/L	25 mL	0.0210	170313A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 03/08/17
Exp Date: 03/09/17
Prep'd By: PW

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

170308 PW

		CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample: (mL)					25	

Anion Prep

QCG: 170314A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1N H_2SO_4 (prep 1/6/17)
Final vol 1L w/ DI water
Prep 3/8/17
Exp 1/6/18
AH 3/14/17

Inorganic Spiking Solution

7.0001g NaHCO3 BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	08 Mar 2017	16:58	CCV 4.0 170308		170308A	1.
2	08 Mar 2017	17:01	CCB 170308		170308A	1.
3	08 Mar 2017	17:02	170308A LCS 3.0		170308A	1.
5	08 Mar 2017	17:06	AZ51132W16		170308A	1.
6	08 Mar 2017	17:11	AZ51132W16 MS		170308A	1.
7	08 Mar 2017	17:12	AZ51132W16 MSD		170308A	1.
12	08 Mar 2017	17:24	AZ51135W25		170308A	1.
13	08 Mar 2017	17:25	AZ51139W08		170308A	1.
14	08 Mar 2017	17:26	AZ51141W08		170308A	1.
15	08 Mar 2017	17:30	CCV 4.0 170308		170308A	1.
16	08 Mar 2017	17:32	CCB 170308		170308A	1.
17	20 May 2016	12:37	0 BB 5/20/16		170308A	1.
18	20 May 2016	12:38	1		170308A	1.
19	20 May 2016	12:39	4		170308A	1.
20	20 May 2016	12:39	2		170308A	1.
21	20 May 2016	12:40	5		170308A	1.
22	20 May 2016	12:40	10		170308A	1.
23	20 May 2016	12:41	160520A ICV 3.0		170308A	1.
24	20 May 2016	12:42	160520A ICB		170308A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
12	08 Mar 2017	11:40	CCV 170308		170308	1.
13	08 Mar 2017	11:54	CCB		170308	1.
14	08 Mar 2017	12:07	170308B LCS		170308	1.
16	08 Mar 2017	13:38	AZ51132W15		170308	1.
17	08 Mar 2017	13:52	AZ51135W24		170308	1.
18	08 Mar 2017	14:05	AZ51141W07 DF2		170308	2.
20	08 Mar 2017	14:32	AZ51139W07		170308	1.
23	08 Mar 2017	15:13	CCV 170308		170308	1.
24	08 Mar 2017	15:27	CCB		170308	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	14 Mar 2017	09:21	CCV 170314		170314	1.
4	14 Mar 2017	09:35	CCB		170314	1.
5	14 Mar 2017	09:49	170314A LCS		170314	1.
7	14 Mar 2017	10:48	AZ51132W15 DF5		170314	5.
8	14 Mar 2017	11:02	AZ51135W24 DF5		170314	5.
12	14 Mar 2017	13:15	AZ51141W07 DF10		170314	10.
19	14 Mar 2017	15:06	CCV 170314		170314	1.
20	14 Mar 2017	15:20	CCB		170314	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Mar 2017	15:47	170313A Blk		170313A_AL	1.
2	13 Mar 2017	16:03	170313A LCS		170313A_AL	1.
4	13 Mar 2017	16:34	AZ51132W15		170313A_AL	1.
5	13 Mar 2017	16:39	AZ51132W15 MS		170313A_AL	1.
6	13 Mar 2017	16:54	AZ51132W15 MSD		170313A_AL	1.
7	13 Mar 2017	17:09	AZ51135W24		170313A_AL	1.
8	13 Mar 2017	17:15	AZ51139W07		170313A_AL	1.
9	13 Mar 2017	17:29	AZ51141W07		170313A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 27, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82369

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Nine water samples were received March 9, 2017. Written results for the requested analyses are being provided on this March 27, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 913

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82369

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	3
Sample Management Records	10
Method 8011 EDB	20
QC Summary	21
Sample Data	26
Calibration Data	33
Raw Data	56
Method 8015B TPH-E	73
QC Summary	74
Sample Data	79
Calibration Data	95
Raw Data	153
Method 8270D SIM	178
QC Summary	179
Sample Data	189
Calibration Data	208
Raw Data	230

Method 8270D SVOCs 250
QC Summary 251
Sample Data 262
Calibration Data 278
Raw Data 324
Method 8270D SVOCs (MEE) 344
QC Summary 345
Sample Data 354
Calibration Data 370
Raw Data 400
Method 8260B VOCs 417
QC Summary 418
Sample Data 449
Calibration Data 477
Raw Data 571
Method 8260B Gasoline 611
QC Summary 612
Sample Data 625
Calibration Data 662
Raw Data 791
Method RSK-175 Methane 759
QC Summary 760
Sample Data 763
Calibration Data 788
Raw Data 822

Inorganic Analyses 833

QC Summary 834

Sample Data 840

Calibration Data 852

Raw Data 888

CASE NARRATIVE

Case Narrative

ARF: 82369

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Nine water samples were received March 9, 2017, at 2.0°C, 2.0°C, 3.0°C, 1.0°C, and 1.3°C. The sample group was assigned Analytical Request Form (ARF) number 82369. The following discrepancies were noted and reported to the client: samples ERH265, ERH272, and ERH284 were received more than 24 hours after collection; vials labeled ERH279 and ERH264 were listed as a Trip Blank for EPA 8011, but this method was not listed on the COC; and the HCl preserved vials for sample ERH271 were not APPL prepared trip blanks. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to the method.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

Inorganic Analyses: Three samples were received more than 24 hours after collection and one was received close to 24 hours of collection; they were analyzed for ferrous iron as soon as possible on the day received.

In the method blank, alkalinity was detected above the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82369	03/09/17	ERH264	AZ51356	03/07/17	01:15 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH264	AZ51356	03/07/17	01:15 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH264	AZ51356	03/07/17	01:15 PM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	8270D-SIM	EPA 8270D SIM
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	EPA 8270D	EPA 8270D WATER
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	SM 2320B	Wetlab 2320B - Water
82369	03/09/17	ERH265	AZ51357	03/07/17	01:30 PM	WATER	SM3500FeB	Ferrous Iron
82369	03/09/17	ERH271	AZ51358	03/07/17	10:15 AM	WATER	8011	EPA 8011
82369	03/09/17	ERH271	AZ51358	03/07/17	10:15 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82369	03/09/17	ERH271	AZ51358	03/07/17	10:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH271	AZ51358	03/07/17	10:15 AM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	8011	EPA 8011
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	8270D-SIM	EPA 8270D SIM
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	EPA 8270D	EPA 8270D WATER
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	SM 2320B	Wetlab 2320B - Water
82369	03/09/17	ERH272	AZ51359	03/07/17	11:25 AM	WATER	SM3500FeB	Ferrous Iron
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	8270D-SIM	EPA 8270D SIM
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82369	03/09/17	ERH281	AZ51360	03/08/17	09:35 AM	WATER	EPA 8270D	EPA 8270D WATER
82369	03/09/17	ERH279	AZ51361	03/08/17	09:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH279	AZ51361	03/08/17	09:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH279	AZ51361	03/08/17	09:00 AM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	8270D-SIM	EPA 8270D SIM
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER

82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	EPA 8270D	EPA 8270D WATER
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	SM 2320B	Wetlab 2320B - Water
82369	03/09/17	ERH280	AZ51362	03/08/17	10:15 AM	WATER	SM3500FeB	Ferrous Iron
82369	03/09/17	ERH283	AZ51363	03/07/17	01:45 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH283	AZ51363	03/07/17	01:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH283	AZ51363	03/07/17	01:45 PM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	8270D-SIM	EPA 8270D SIM
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	EPA 8270D	EPA 8270D WATER
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	RSK 175	METHANE BY RSK 175
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	SM 2320B	Wetlab 2320B - Water
82369	03/09/17	ERH284	AZ51364	03/07/17	02:50 PM	WATER	SM3500FeB	Ferrous Iron

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82369

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 030817
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: 5 DAYS

Received by: CM
Date Received: 03/09/17 Time: 10:30
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 2X 2° 3° 1° 1.3°
Color: VOA/K-PURYEL/P-ORGGN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 03/14/17

Comments:
7-day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only; 8011: EDB only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 5-$87DC53W5, 5-$87DMEEW5, 5-$DOC53W5, 5-$SIMDOD5W, 2-$8011
Extractions: 5-_MWE2MEE, 5-_SEP004, 5-_SEP004S, 5-_SEP011LL, 2-_MWE012
VOA: 7-$86BTOTXDOD5W, 9-$GASBL, 9-$GRO86BW, 8-$RSKMETH, 2-$86BTOTXDCAW
Wetlab: 4-$232W(HCO3,CO3,ALK), 4-$300W(NO3,CL,SO4), 4-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH264	AZ51356W	03/07/17 13:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
2.	ERH265	AZ51357W	03/07/17 13:30	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
3.	ERH271	AZ51358W	03/07/17 10:15	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH272	AZ51359W	03/07/17 11:25	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
5.	ERH281	AZ51360W	03/08/17 09:35	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
6.	ERH279	AZ51361W	03/08/17 09:00	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
7.	ERH280	AZ51362W	03/08/17 10:15	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
8.	ERH283	AZ51363W	03/07/17 13:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
9.	ERH284	AZ51364W	03/07/17 14:50	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82369**

Sample	Container Type	Count	p
AZ51356	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51357	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51358	13 VOAs - HCL	3	NA
	15 VOAs - NP	5	NA
AZ51359	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	5	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51360	13 VOAs - HCL	5	NA
	17 Amber Liter	6	NA
AZ51361	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51362	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51363	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51364	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7

Sample	Container Type	Count	p

0-021

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

2.0, 3.0, 1.0, 1.3

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: AECOM	Phone: 808-356-5373	Company Name: AECOM	Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600 Honolulu, Hawaii 96813	Fax:	Address: 1001 Bishop St. Suite 1600 Honolulu, Hawaii 96813	Fax:
Attn: Margie Thach	Email: margie.thach@aecom.com	Attn: Mary Basano	Email: mary.basano@aecom.com

Project Name/Number	Sampler (Print)
CIV 53 / 60481245	TQ, KE, CB, MH, GM
Purchase Order Number	**Sampler (Signature)**
77265	MT for TQ, KE, CB, MH, GM

Date Shipped: 3/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH264	Trip Blank	3/7/17	1315	HST	6	✓				X								X			
ERH265	RHMW02	3/7/17	1330	HST	15	/				X		MT X	X		X	X	X	X	X	X	X

MT 3/8/17

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☑ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at Lab by:**
					3/9/17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE, CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH271	Trip Blank	3/7/17	1015	HST	8	✓				X	X	X						X			
ERH272	RHMW09	3/7/17	1125	HST	18	/				X	X	X	X		X	X	X	X	X	X	X

MT 3/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/8/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/9/17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE, CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH281	Field Blank	3/8/17	0935	HST	14	✓				X			X		X	X	X	X	MT 3/8/17			
ERH279	Trip Blank	3/8/17	0900	HST	6	/				X								X				
ERH280	HDMW2253-00	3/8/17	1015	HST	6	/				X								X				See other cooler for bottles

MT 3/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☑ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/9/17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

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Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM

Date Shipped: 3/5/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
~~ERH279~~	~~Trip Blank~~	~~3/8/17~~		~~HST~~	~~6~~	✓				X								X				MT 3/8/17
ERH280	HDMW2253-D3	3/8/17	1015	HST	15	✓				X MT 3/8/17			X		X	X	X	X MT 3/8/17	X	X	X	see other cooler for VOAs

MT 3/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/8/17	1500					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/9/17	1030	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
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Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
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Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TR, KE, CB, MH, GM
Sampler (Signature): MT for TR, KE, CB, MH, GM
Date Shipped: 3/8/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq.	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 283	Trip Blank	3/7/17	1345	HST	6	✓				X								X			
ERH 284	RHMW06	3/7/17	1450	HST	15	✓				X			X		X	X	X	X	X	X	X

MT 3/8/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Margie Thach AECOM	3/8/17	1500					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/9/17	1030	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82369**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 03/09/17

2) Coolers: Number of Coolers: 5

3) YES Were custody seals present and intact?
How many? 10 Name/Date on seal? see below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap ___ popcorn ___ foam X plastic bags
X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 2.0	2: 2.0	3: 3.0	4: 1.0	5: 1.3	6:
7:	8:	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation Hold time:

18) NO/Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) rp 3-10-17 Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

CUSTODY SEAL
AECOM (808) 523-8874
Initials: CB/AM/TQ/MH/GM/KE/KS/MT Date: 3/8/17

Notes/Deficiencies:

There were 5 Non preserved VOA Trip blanks for 8011 received for sample ERH271 and 3 VOAs w/HCl that were not lab created trip blanks. Aslo for samples ERH279 and ERH 264 there were 3 Non preserved lab created Trip blank received, with the analysis request on the label being 8011, but 8011 was not specified on the Coc for these samples.

Samples collected 3-7-17 were received more than 24 hrs after collection. rp 3-10-17

Personnel receiving samples: sm Second reviewer: JL
Personnel labeling samples: sm
Project manager notified: Date/Time of notification
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51135 - 216868**
Batch ID: #8011-170311A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	98.2	70-132			%	03/11/17	03/13/17

Quant Method:80110311.M
Run #:0309057
Instrument:Herbie
Sequence:170309
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 12:54:03 PM

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170311W-51135 LCS - 216868**
Batch ID: #8011-170311A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.229	91.6	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.247	98.8	70-132

Comments: _____

Primary	SPK
Quant Method :	80110311.M
Extraction Date :	03/11/17
Analysis Date :	03/13/17
Instrument :	Herbie
Run :	0309059
Initials :	RHA

Printed: 03/14/17 12:54:00 PM
APPL Standard LCS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A1-BLK	Blank	70-132	98.2				
170311A1-LCS	Lab Control Spike	70-132	98.8				
AZ51358	ERH271	70-132	102				
AZ51359	ERH272	70-132	95.5				

Comments: Batch: #8011-170311A1

Printed: 03/14/17 12:54:02 PM

Form 2 & 8, Surrogate Recovery Summary

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER
Blank ID: 170311A1-BLK

SDG No: 82369
Date Analyzed: 03/13/17
Instrument: Herbie
Time Analyzed: 1226

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A1-BLK	Blank	0309057	03/13/17 1226
170311A1-LCS	Lab Control Spike	0309059	03/13/17 1309
AZ51358	ERH271	0309068	03/13/17 1619
AZ51359	ERH272	0309069	03/13/17 1640

Comments: Batch: #8011-170311A1

Printed: 03/14/17 12:53:58 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH271
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51358
QCG: #8011-170311A1-216868

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	102	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309068
Instrument: Herbie
Sequence: 170309
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 12:53:55 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309068.D\ECD1A.CH Vial: 68
Signal #2 : G:\HERBIE\DATA\170309\0309068.D\ECD2B.CH
Acq On : 03-13-17 16:19:40 Operator: RH
Sample : AZ51358W05 2/34.55G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 16:39 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

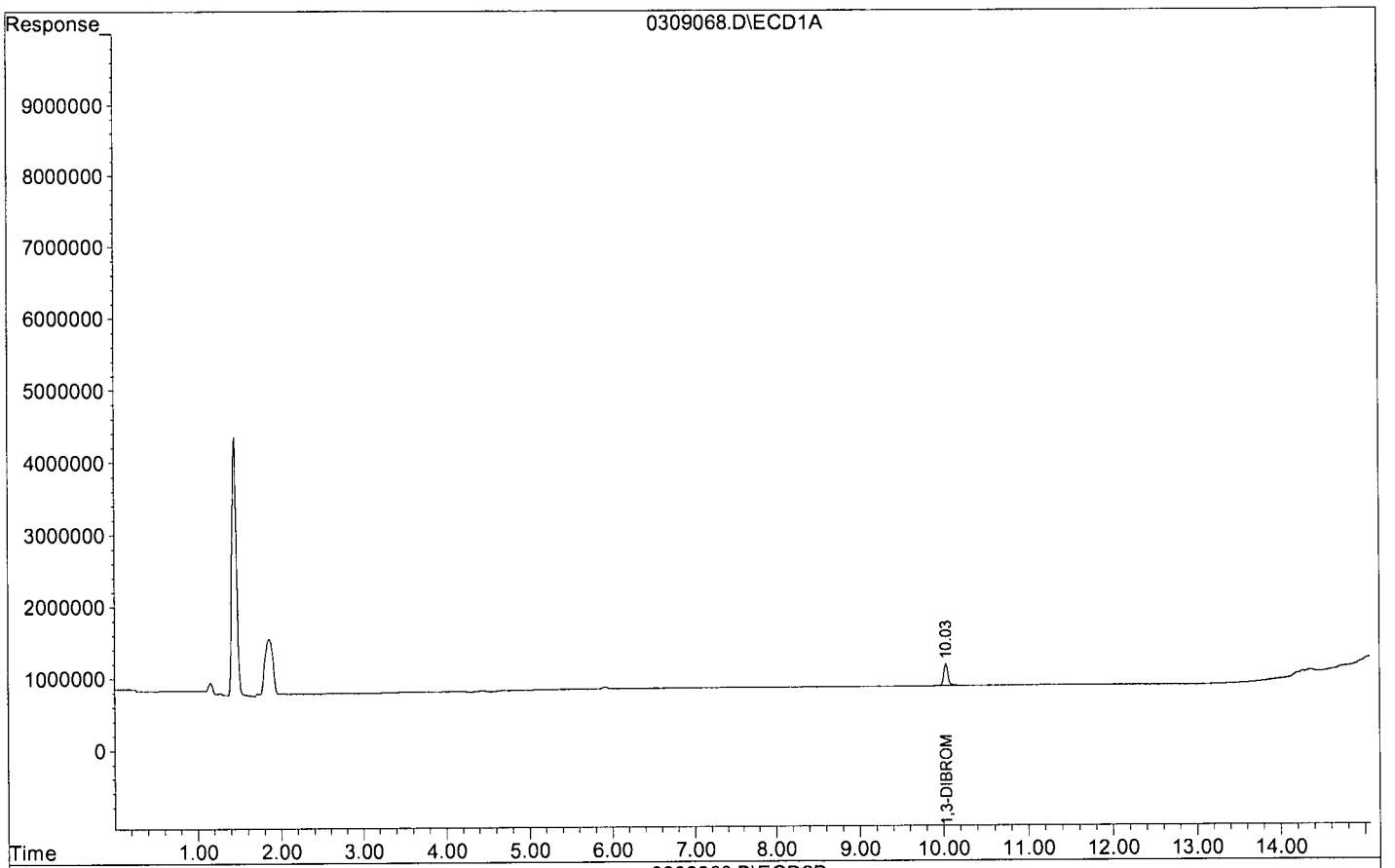
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	305046	568565	0.360	0.375
Spiked Amount 0.355			Recovery	=	101.53%	105.77%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

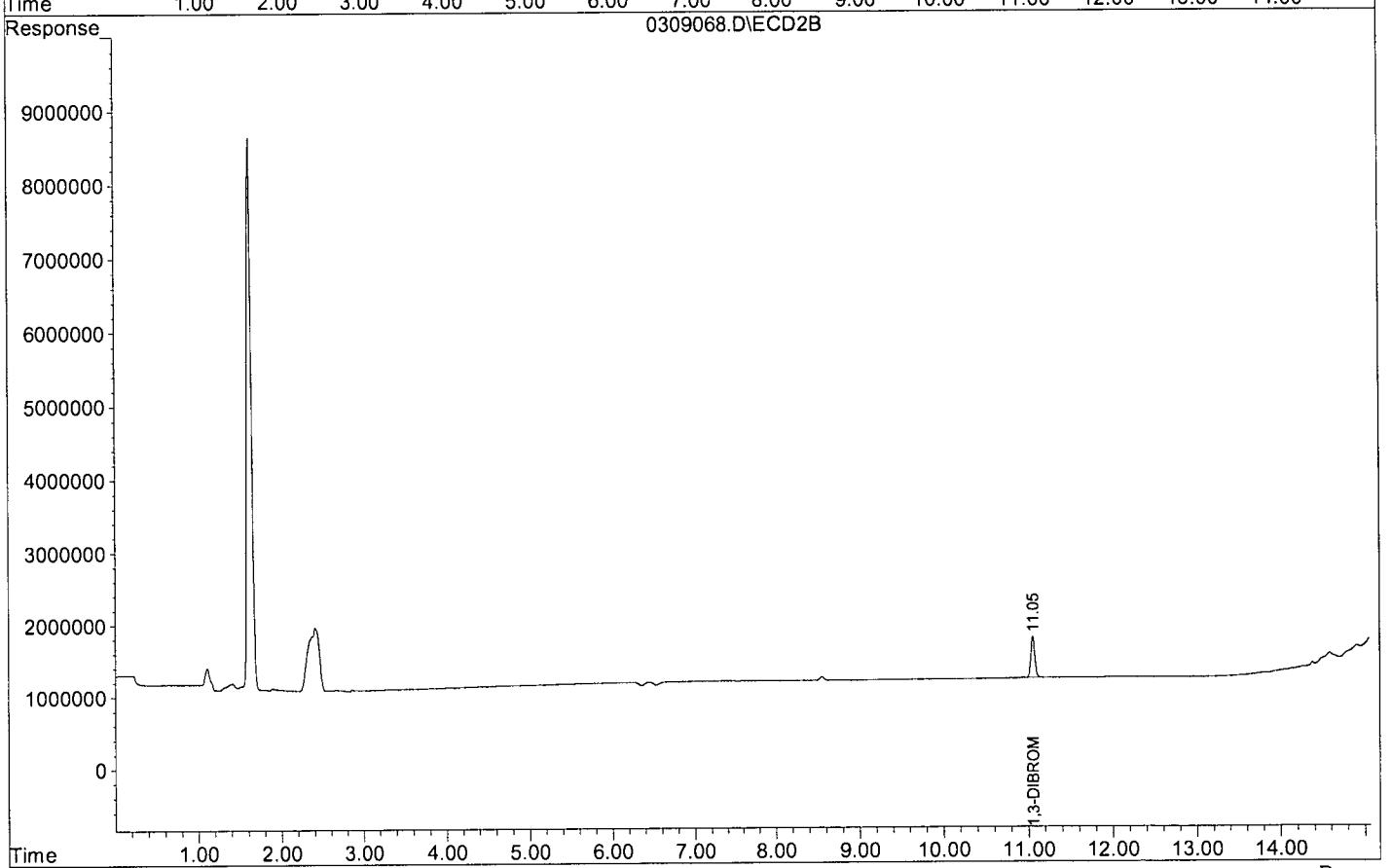
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309068.D
Acq On : 03-13-17 16:19:40
Sample : AZ51358W05 2/34.55G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 68
Operator: RH
Inst : Herbie
Multiplr: 1.01





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #8011-170311A1-216868

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	95.5	70-132			%	03/11/17	03/13/17

Quant Method: 80110311.M
Run #: 0309069
Instrument: Herbie
Sequence: 170309
Dilution Factor: 1
Initials: RHA

Printed: 03/14/17 12:53:55 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309069.D\ECD1A.CH Vial: 69
Signal #2 : G:\HERBIE\DATA\170309\0309069.D\ECD2B.CH
Acq On : 03-13-17 16:40:55 Operator: RH
Sample : AZ51359W08 2/35.25G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 17:20 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

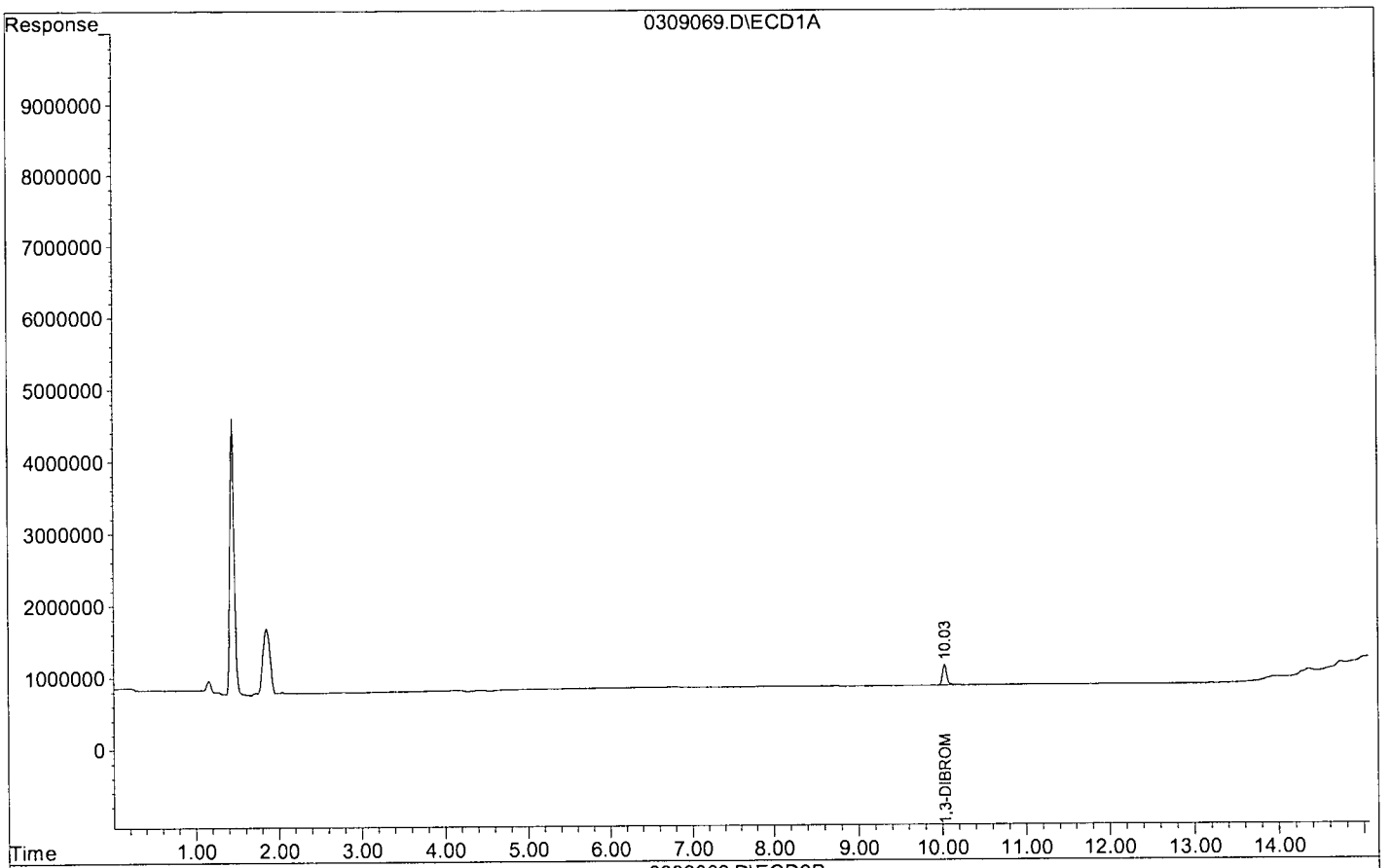
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	287103	518368	0.332	0.335
Spiked Amount 0.348			Recovery	=	95.53%	96.40%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

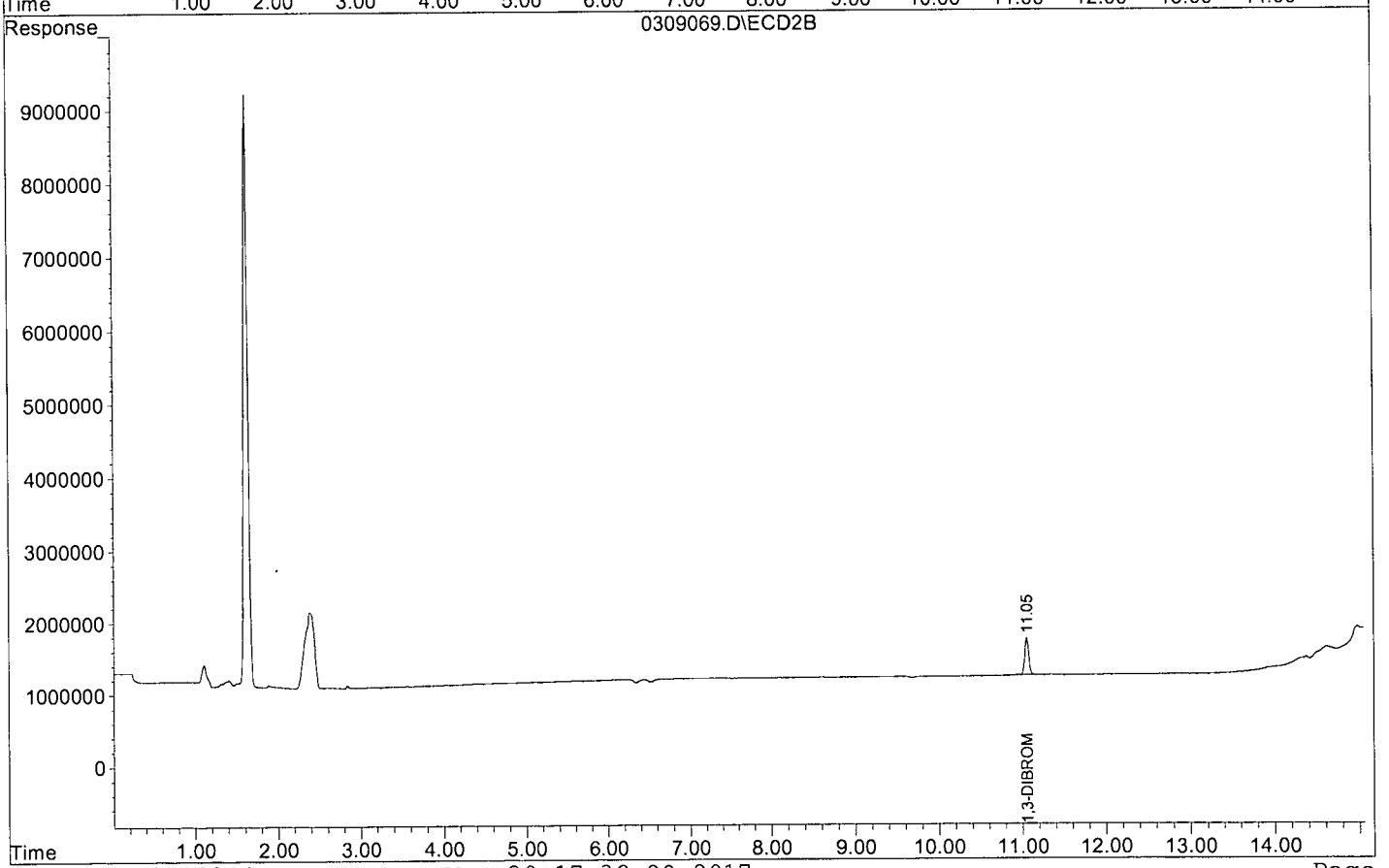
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309069.D
Acq On : 03-13-17 16:40:55
Sample : AZ51359W08 2/35.25G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 69
Operator: RH
Inst : Herbie
Multiplr: 0.99





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0309050.D	0309051.D	0309052.D	0309053.D	0309054.D	0309055.D								
1	TM	EDB	731925	680620	611072	531332	583957	469398					601384	16	TM	
2	TM	1,2,3-TCP	155600	141725	129914	121635	127627	102134					129772	14	TM	
3	S	1,3-DIBROMOPROPANE(S)	480175	479070	451462	408773	416710	337004					428866	13	S	
4	TM	DBCP	1582900	1477500	1414644	1329104	1387113	1124233					1385916	11	TM	
5		Signal #2											0	0		
6																
7																
8																
9																
10																
11																
12																
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32																
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35																

1.5348896

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/13/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0309050 D	0309051.D	0309052.D	0309053 D	0309054.D	0309055 D								
36	TM	EDB #2	1574000	1429075	1388940	1229074	1337817	1090437					1341557	12	TM	
37	TM	1,2,3-TCP #2	263075	236610	224004	203901	232093	189299					224830	12	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	898700	814185	785588	721550	763513	628887					768737	12	S	
39	TM	DBCP #2	3428225	3395465	3100362	3046925	3379353	2843457					3198964	7.4	TM	
40																
41																
42																
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68																
69																
70																

1.2343749

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309050.D\ECD1A.CH Vial: 50
Signal #2 : G:\HERBIE\DATA\170309\0309050.D\ECD2B.CH
Acq On : 03-13-17 9:59:00 Operator: RH
Sample : 8011 1 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

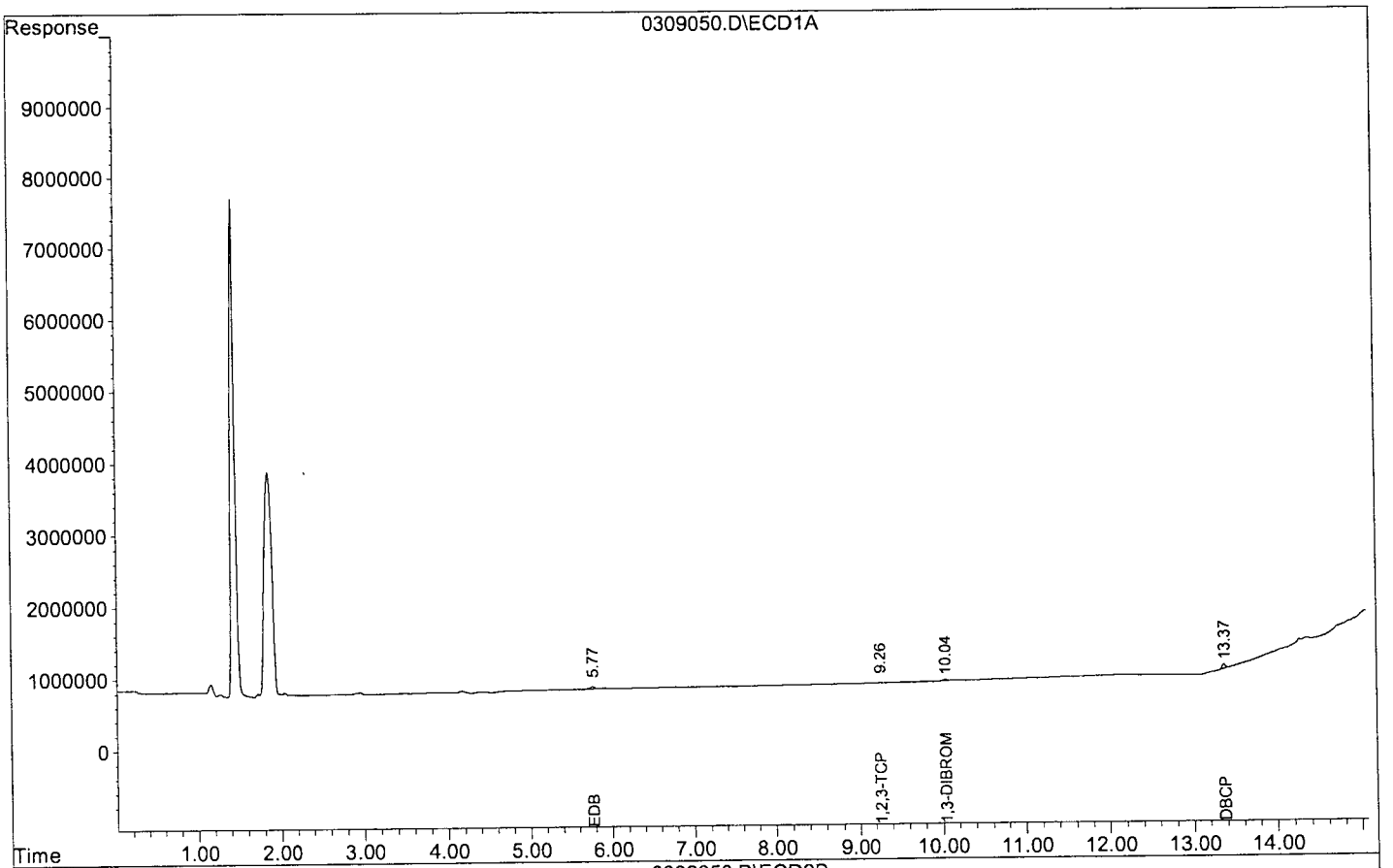
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.05	19207	35948	0.019	0.020
Spiked Amount 0.350			Recovery	=	5.43%	5.71%
Target Compounds						
1) TM EDB	5.77	7.22	29277	62960	0.022	0.019
2) TM 1,2,3-TCP	9.26	10.47	6224	10523	0.021	0.020
4) TM DBCP	13.37	14.10	63316	137129	0.018	0.016
Target Compounds						

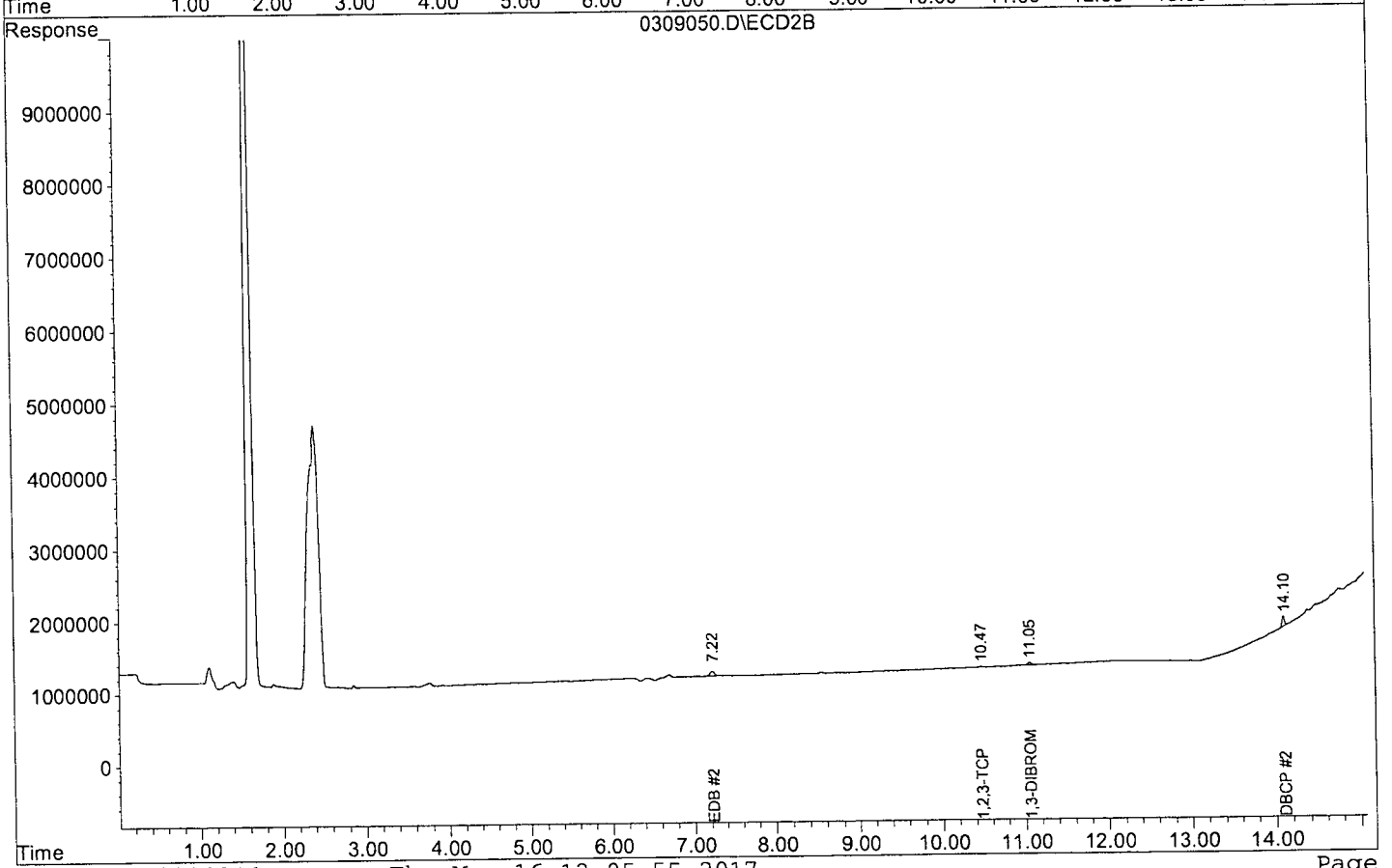
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309050.D
Acq On : 03-13-17 9:59:00
Sample : 8011 1 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 50
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309051.D\ECD1A.CH Vial: 51
Signal #2 : G:\HERBIE\DATA\170309\0309051.D\ECD2B.CH
Acq On : 03-13-17 10:19:53 Operator: RH
Sample : 8011 2 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	95814	162837	0.095	0.090
Spiked Amount 0.350			Recovery	=	27.14%	25.71%
Target Compounds						
1) TM EDB	5.77	7.22	136124	285815	0.101	0.088
2) TM 1,2,3-TCP	9.26	10.46	28345	47322	0.096	0.088
4) TM DBCP	13.37	14.10	295500	679093	0.084	0.080

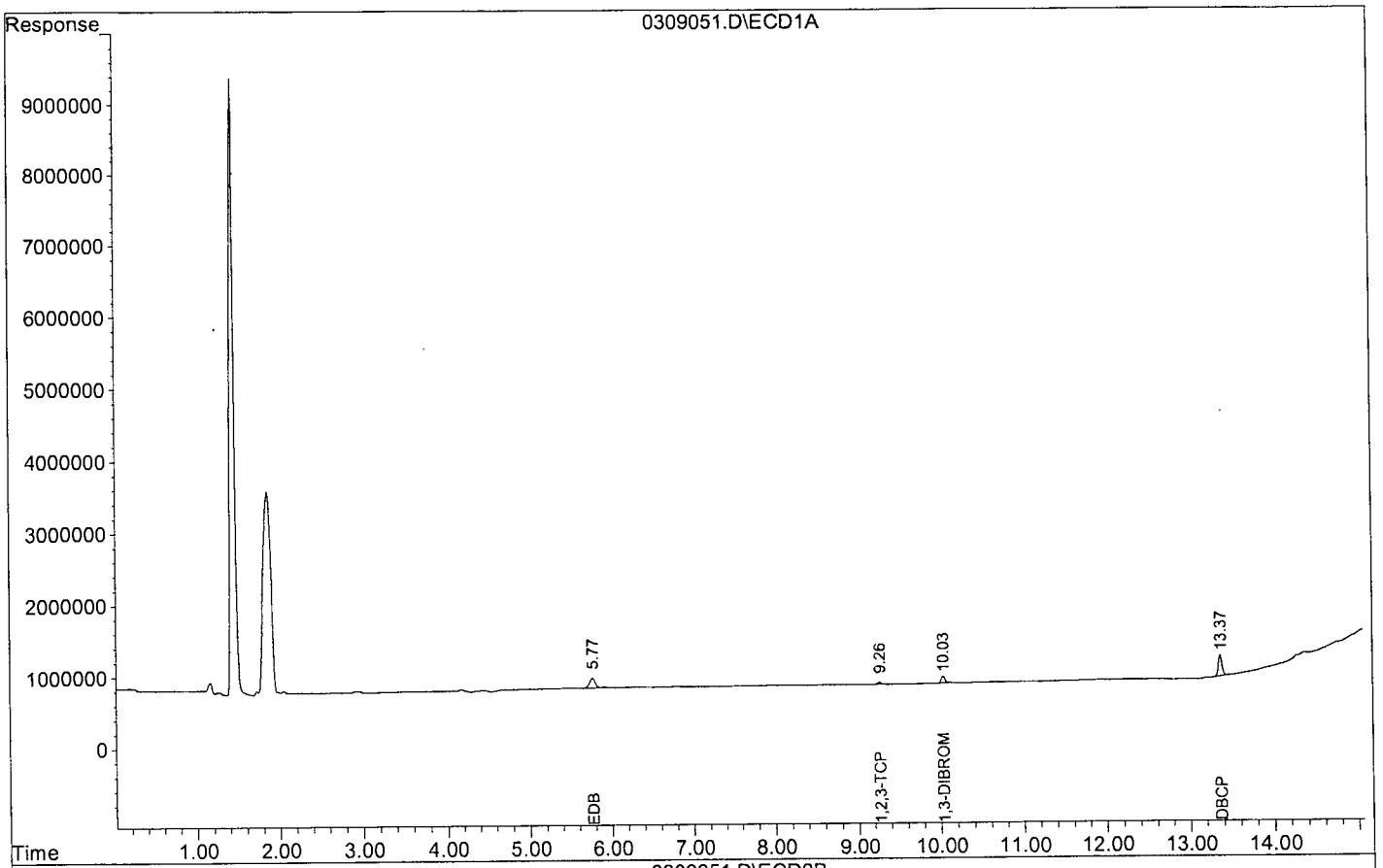
Target Compounds

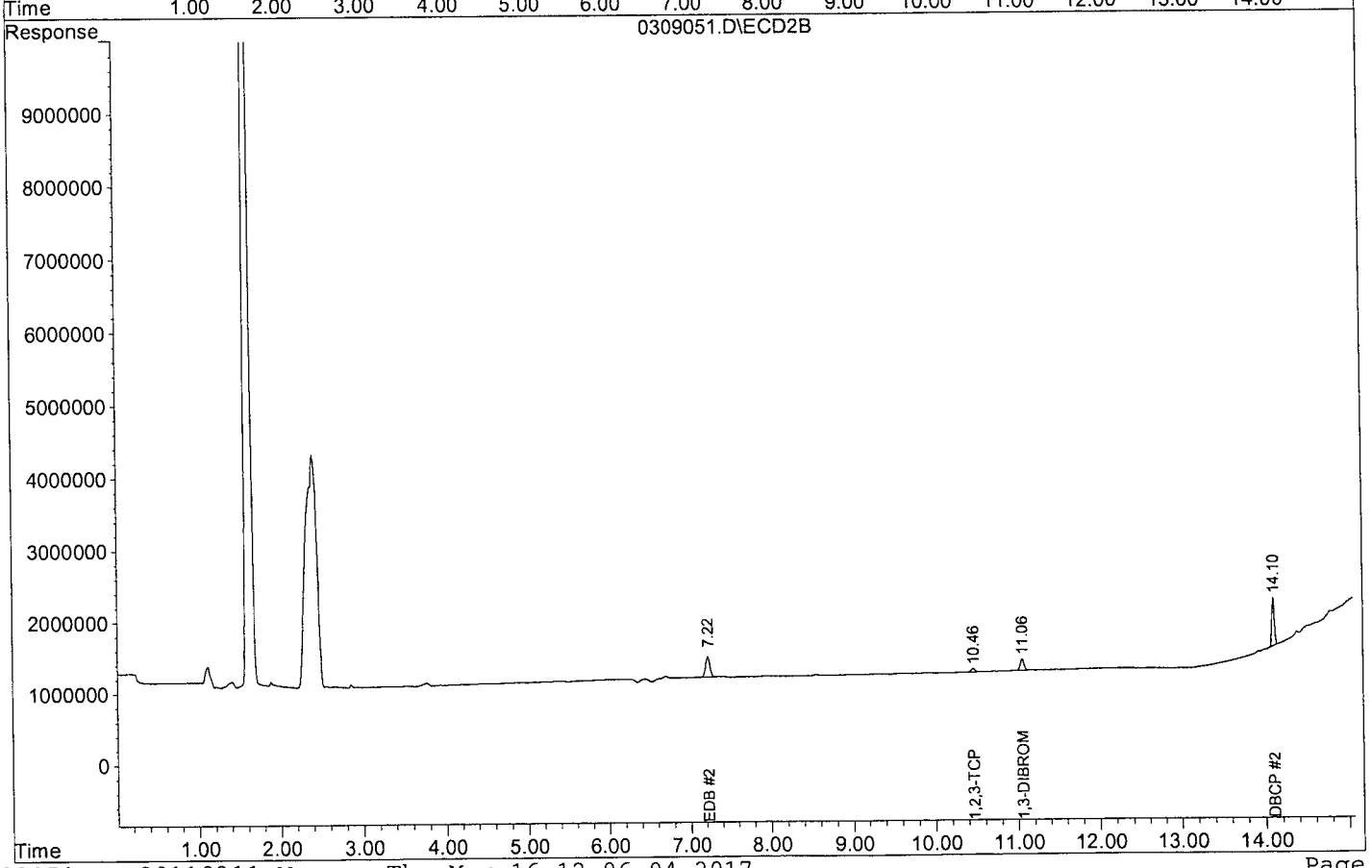
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309051.D
Acq On : 03-13-17 10:19:53
Sample : 8011 2 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 51
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309052.D\ECD1A.CH Vial: 52
Signal #2 : G:\HERBIE\DATA\170309\0309052.D\ECD2B.CH
Acq On : 03-13-17 10:40:57 Operator: RH
Sample : 8011 3 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3). S 1,3-DIBROMOPROPA	10.03	11.06	225731	392794	0.225	0.216
Spiked Amount 0.350			Recovery	=	64.29%	61.71%
Target Compounds						
1) TM EDB	5.76	7.22	305536	694470	0.226	0.214
2) TM 1,2,3-TCP	9.26	10.46	64957	112002	0.220	0.208
4) TM DBCP	13.36	14.10	707322	1550181	0.200	0.183

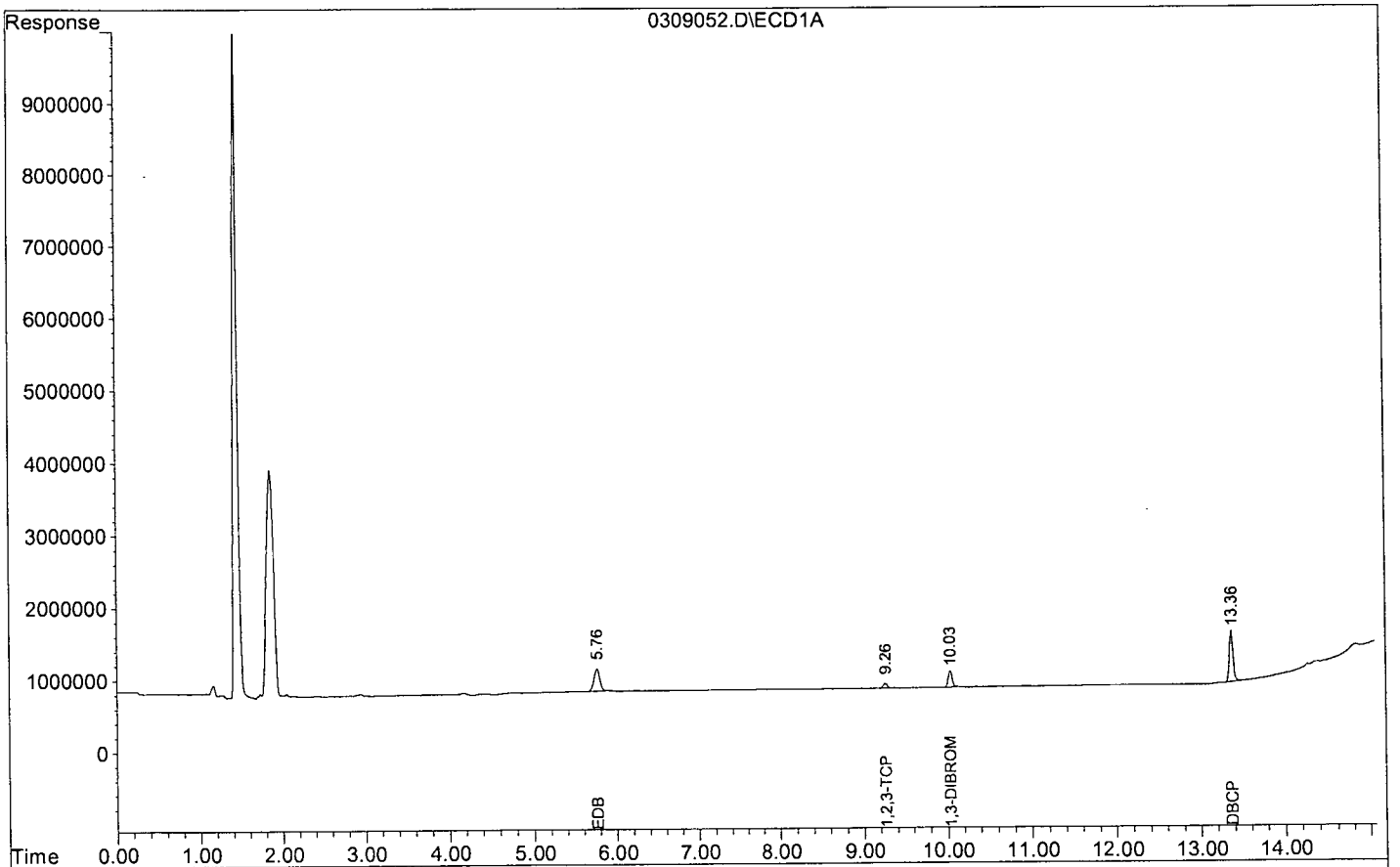
Target Compounds

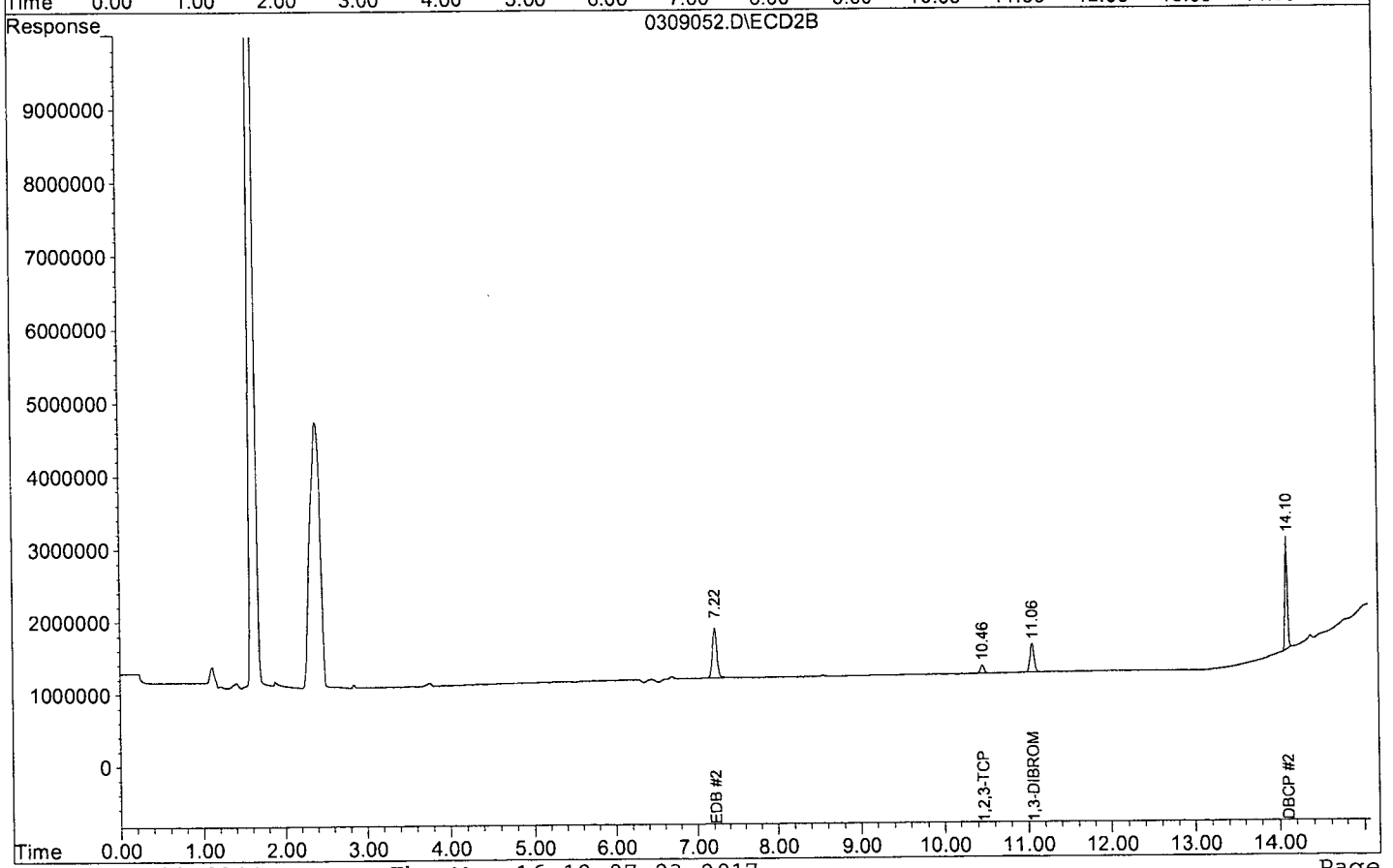
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309052.D
Acq On : 03-13-17 10:40:57
Sample : 8011 3 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 52
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309053.D\ECD1A.CH Vial: 53
Acq On : 03-13-17 11:02:05 Operator: RH
Sample : 8011 4 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint.p

Data File : G:\HERBIE\DATA\170309\0309053.D\ECD2B.CH Vial: 53
Acq On : 03-13-17 11:02:04 Operator: RH
Sample : 8011 4 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile : rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

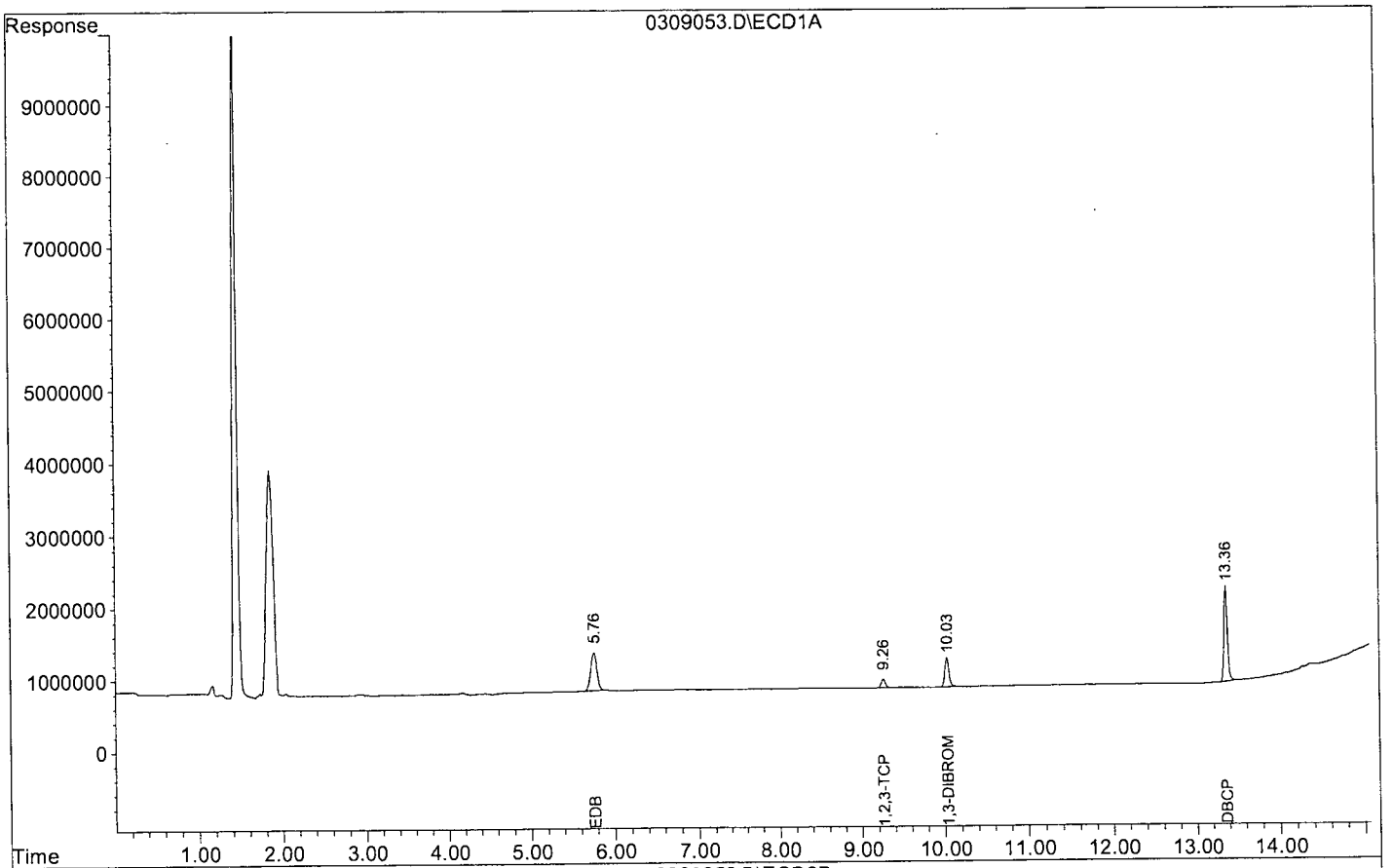
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	408773	721550	0.407	0.397
Spiked Amount 0.350			Recovery	=	116.29%	113.43%
Target Compounds						
1) TM EDB	5.76	7.22	531332	1229074	0.394	0.379
2) TM 1,2,3-TCP	9.26	10.46	121635	203901	0.413	0.379
4) TM DBCP	13.36	14.10	1329104	3046925	0.377	0.360
Target Compounds						

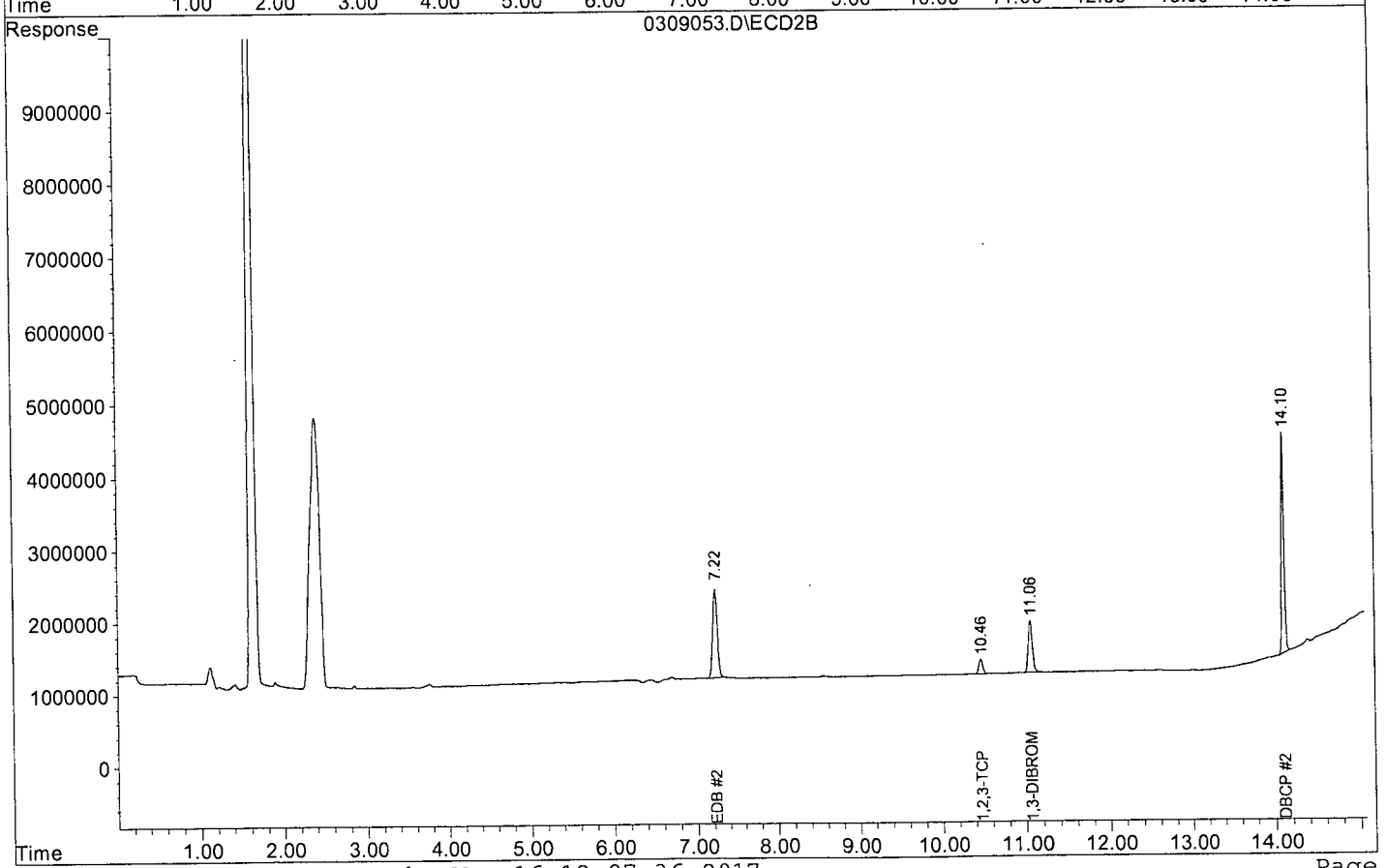
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309053.D
Acq On : 03-13-17 11:02:05
Sample : 8011 4 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 53
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309054.D\ECD1A.CH Vial: 54
Signal #2 : G:\HERBIE\DATA\170309\0309054.D\ECD2B.CH
Acq On : 03-13-17 11:23:12 Operator: RH
Sample : 8011 5 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

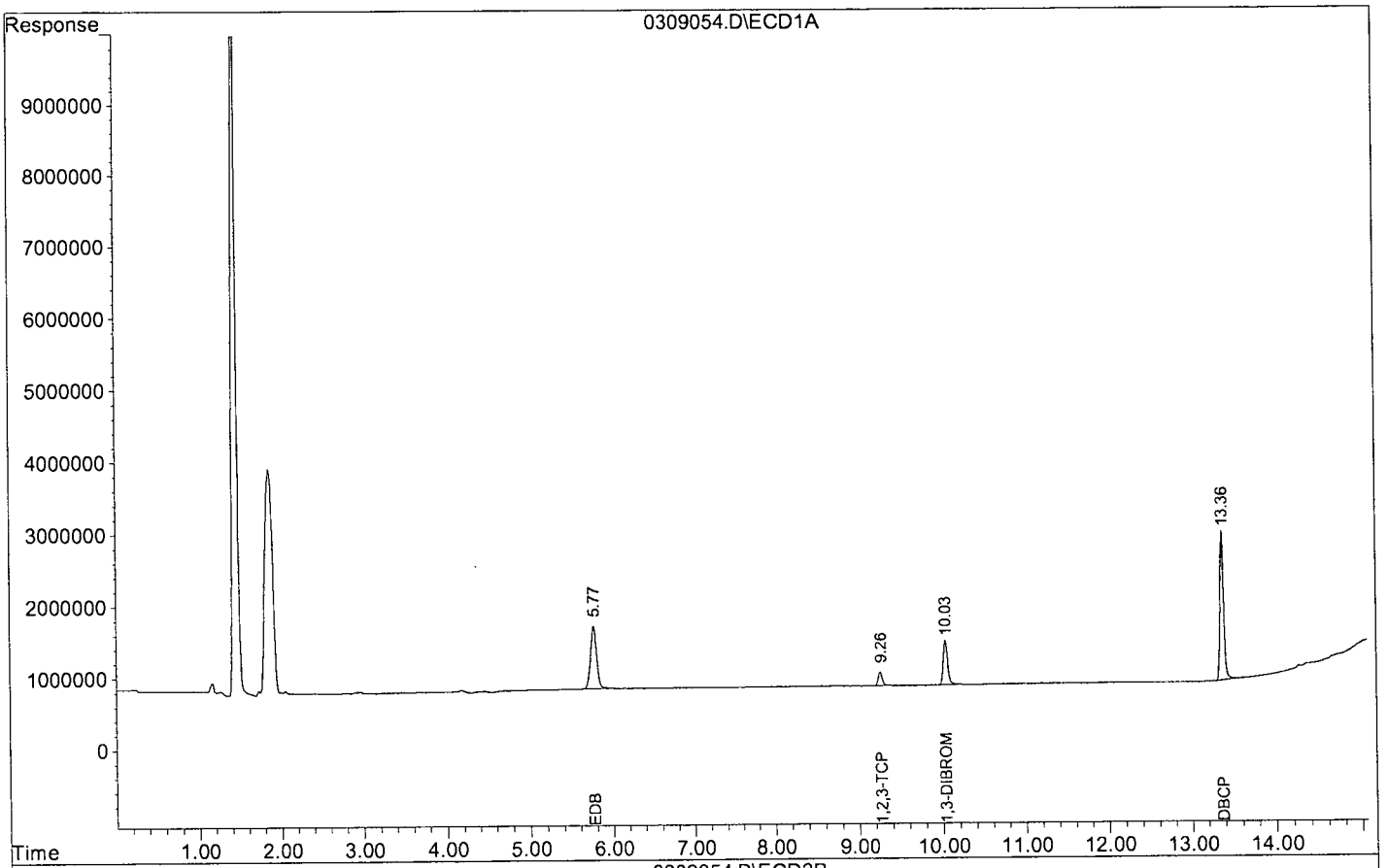
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	625065	1145269	0.622	0.630
Spiked Amount 0.350			Recovery	=	177.71%	180.00%
Target Compounds						
1) TM EDB	5.77	7.22	875935	2006726	0.649	0.618
2) TM 1,2,3-TCP	9.26	10.46	191441	348139	0.649	0.647
4) TM DBCP	13.36	14.10	2080669	5069029	0.590	0.599
Target Compounds						

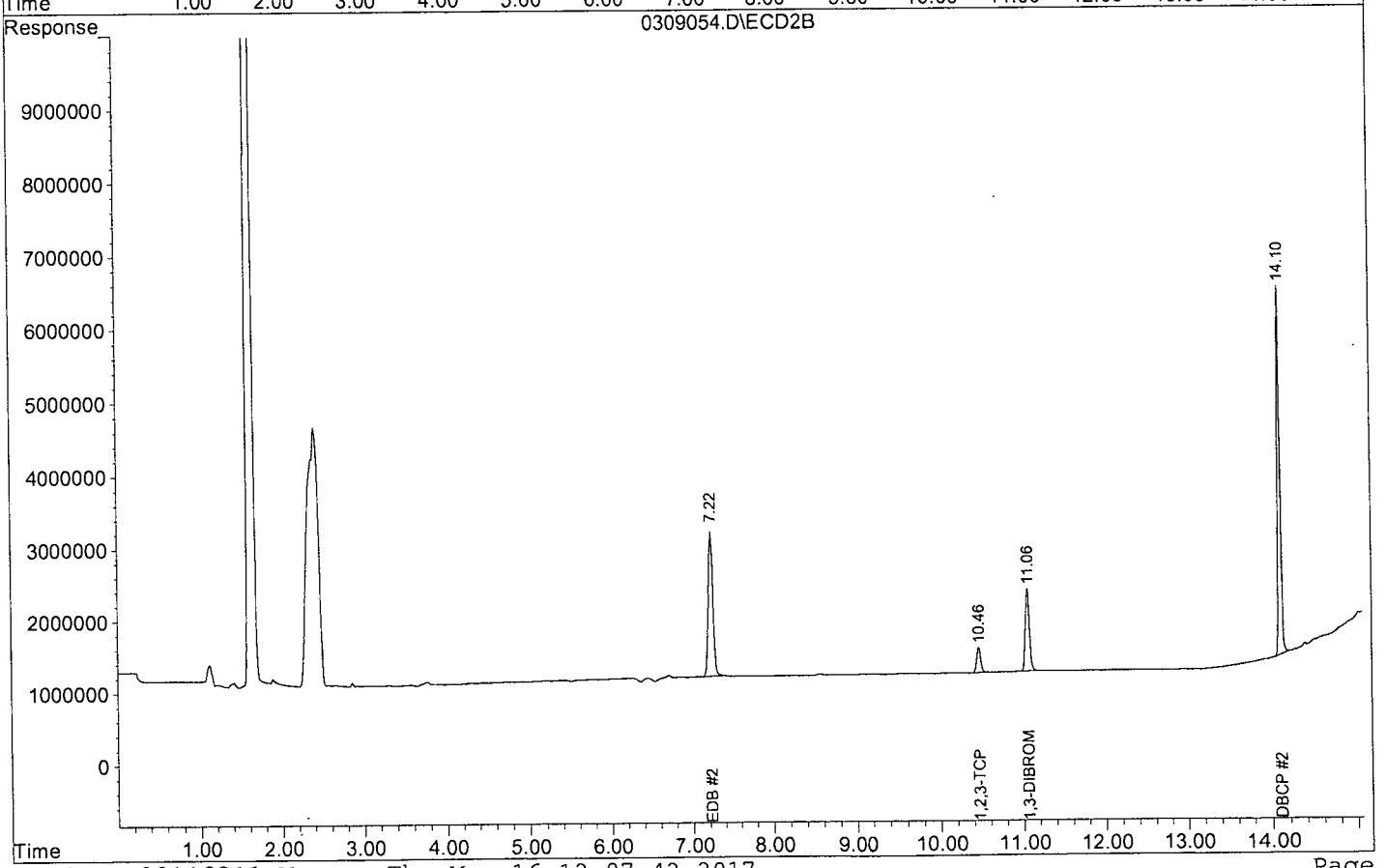
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309054.D
Acq On : 03-13-17 11:23:12
Sample : 8011 5 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 54
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309055.D\ECD1A.CH Vial: 55
Signal #2 : G:\HERBIE\DATA\170309\0309055.D\ECD2B.CH
Acq On : 03-13-17 11:44:25 Operator: RH
Sample : 8011 6 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 12:29 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	674007	1257774	0.671	0.692
Spiked Amount 0.350			Recovery	=	191.71%	197.71%
Target Compounds						
1) TM EDB	5.77	7.22	938795	2180874	0.696	0.672
2) TM 1,2,3-TCP	9.26	10.46	204267	378598	0.693	0.704
4) TM DBCP	13.36	14.10	2248465	5686914	0.637	0.672

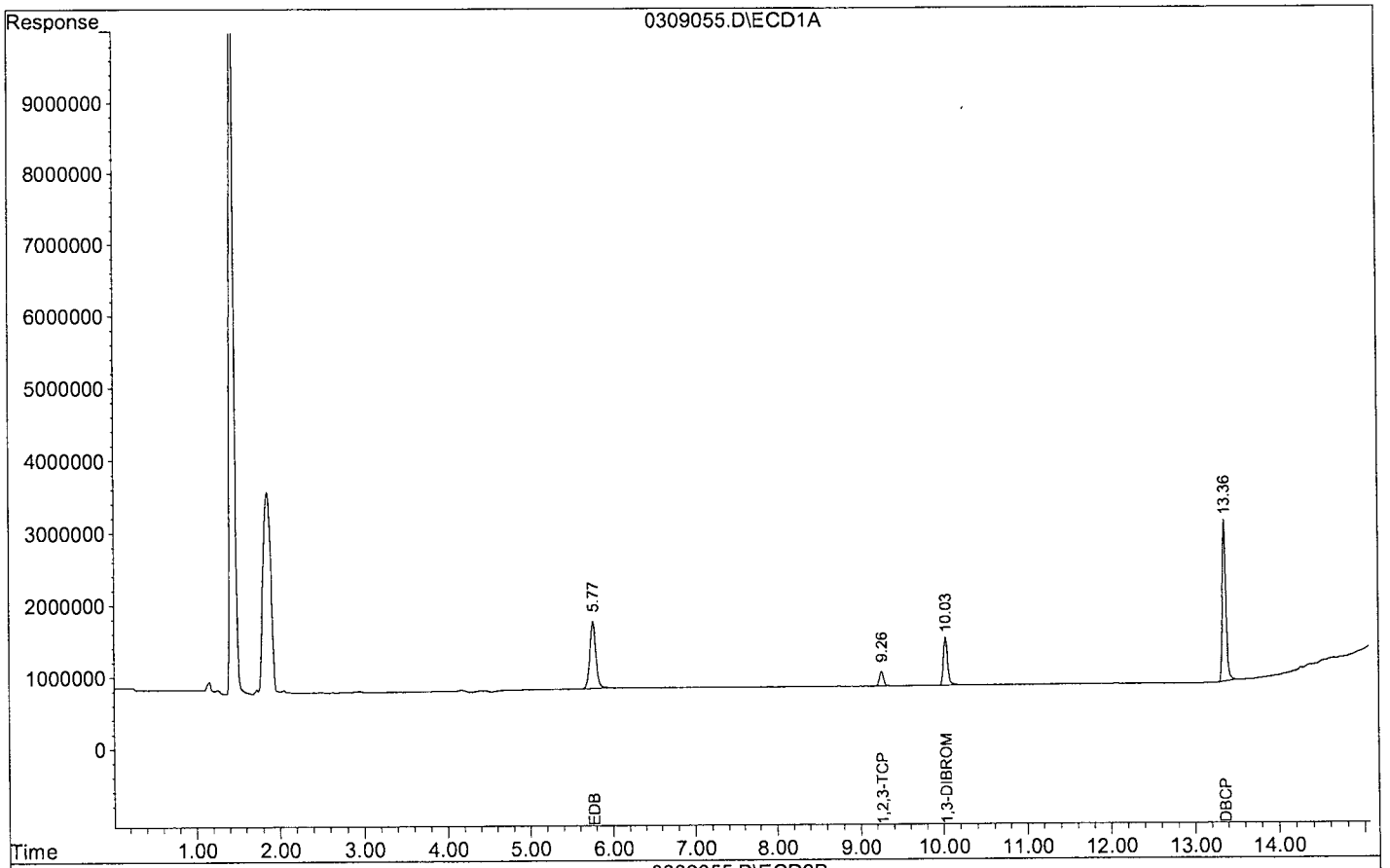
Target Compounds

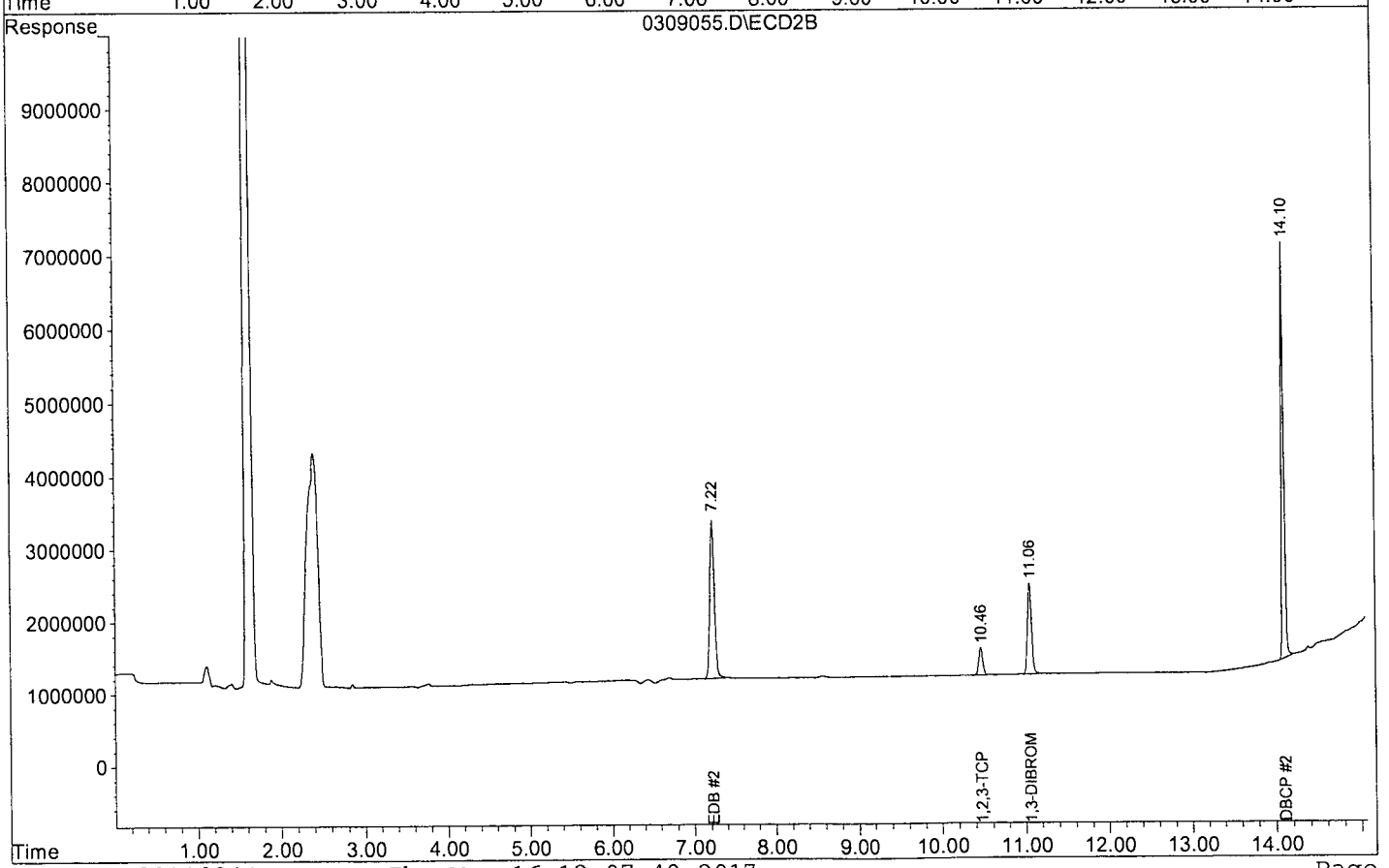
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309055.D
Acq On : 03-13-17 11:44:25
Sample : 8011 6 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 55
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Soil

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Initial Cal. Date: 03/13/17
Data File: 0309058.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	601384	578765	3.8	TM	
2	TM	1,2,3-TCP	129772	125500	3.3	TM	
3	TM	DBCP	1385920	1339430	3.4	TM	
4							
5							
6							
7							
8							
9							
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35							
36							
37							
38							
39							
40							
		Average			3.5		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: Soil

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Cal. Date: 03/13/17
Data File: 0309058.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1341560	1191680	11	TM	
42	TM	1,2,3-TCP	224830	209150	7.0	TM	
43	TM	DBCP	3198960	3160980	1.2	TM	
44							
45							
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78							
79							
80							
		Average			6.4		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309058.D\ECD1A.CH Vial: 58
Signal #2 : G:\HERBIE\DATA\170309\0309058.D\ECD2B.CH
Acq On : 03-13-17 12:48:05 Operator: RH
Sample : 170311A LCS-1 2/35.30G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:22 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	305738	563061	0.353	0.363
Spiked Amount 0.347			Recovery	=	101.72%	104.60%
Target Compounds						
1) TM EDB	5.76	7.22	115753	238336	0.095	0.088 ✓
2) TM 1,2,3-TCP	9.26	10.46	25100	41830	0.096	0.092
4) TM DBCP	13.36	14.10	267886	632196	0.096	0.098

Target Compounds

Algorithum check = $\frac{238336 * 0.99}{1341560 * 2} = \frac{235952.64}{2683120}$

= 0.0879 ✓

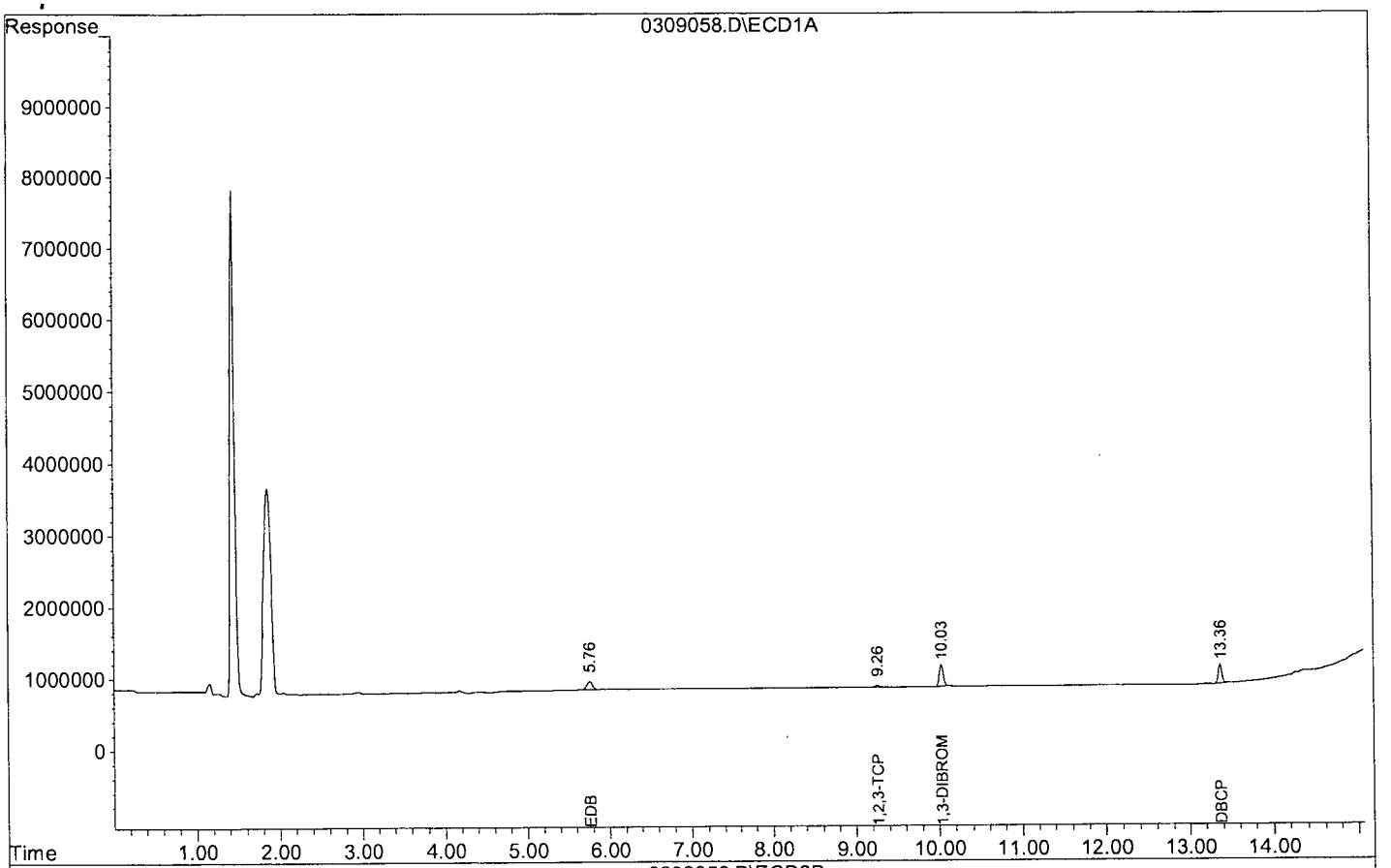
RH 3/16/17

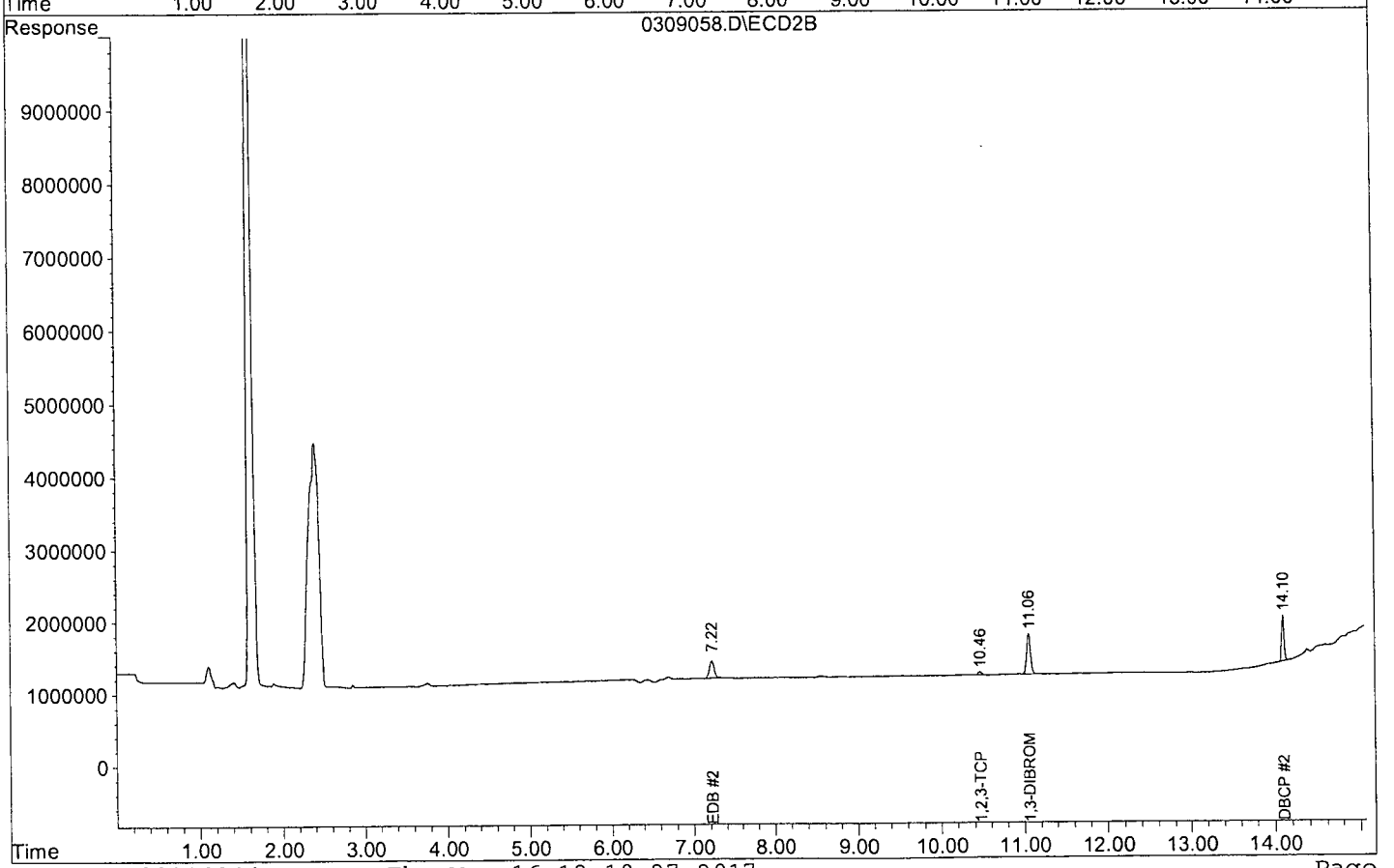
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0309058.D 80110311.M Thu Mar 16 12:10:26 2017

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309058.D
Acq On : 03-13-17 12:48:05
Sample : 170311A LCS-1 2/35.30G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 58
Operator: RH
Inst : Herbie
Multiplr: 0.99





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Initial Cal. Date: 03/13/17
Data File: 0309076.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	601384	624380	3.8	TM	
2	TM	1,2,3-TCP	129772	138108	6.4	TM	
3	S	1,3-DIBROMOPROPANE(S)	428866	476256	11	S	
4	TM	DBCP	1385920	1486950	7.3	TM	
5							
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36							
37							
38							
39							
40							
		Average			7.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Herbie
Cal. Date: 03/13/17
Data File: 0309076.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1341560	1435890	7.0	TM	
42	TM	1,2,3-TCP	224830	238200	5.9	TM	
43	S	1,3-DIBROMOPROPANE(S)	768737	848498	10	S	
44	TM	DBCP	3198960	3553100	11	TM	
45							
46							
47							
48							
49							
50							
51							
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79							
80							
		Average			8.5		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309076.D\ECD1A.CH Vial: 76
Signal #2 : G:\HERBIE\DATA\170309\0309076.D\ECD2B.CH
Acq On : 03-13-17 19:10:30 Operator: RH
Sample : 8011 3 3/11/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 14 11:32 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	238128	424249	0.278	0.276
Spiked Amount 0.350			Recovery	=	79.43%	78.86%
Target Compounds						
1) TM EDB	5.77	7.22	312190	717946	0.260	0.268
2) TM 1,2,3-TCP	9.26	10.46	69054	119100	0.266	0.265
4) TM DBCP	13.36	14.10	743473	1776548	0.268	0.278

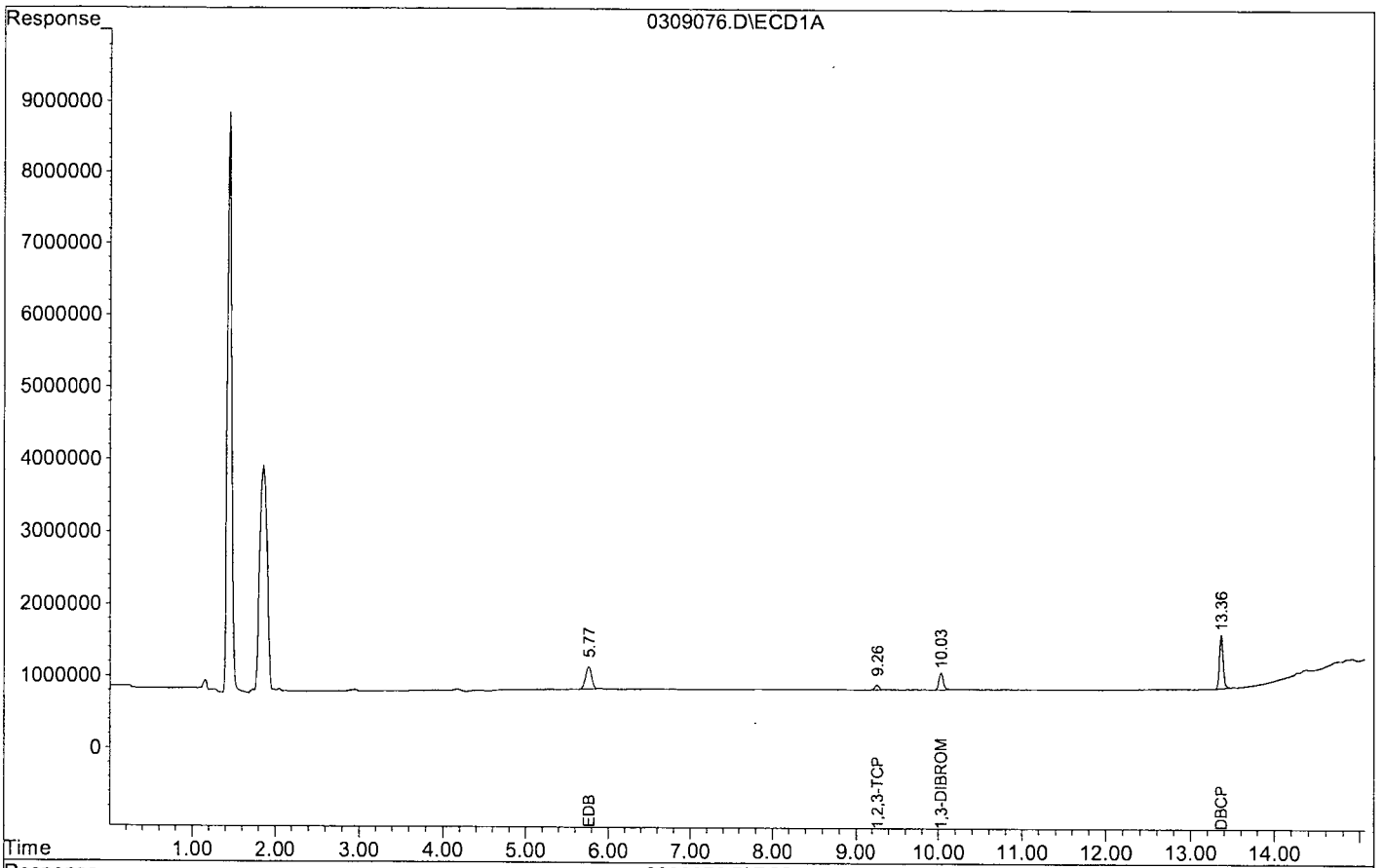
Target Compounds

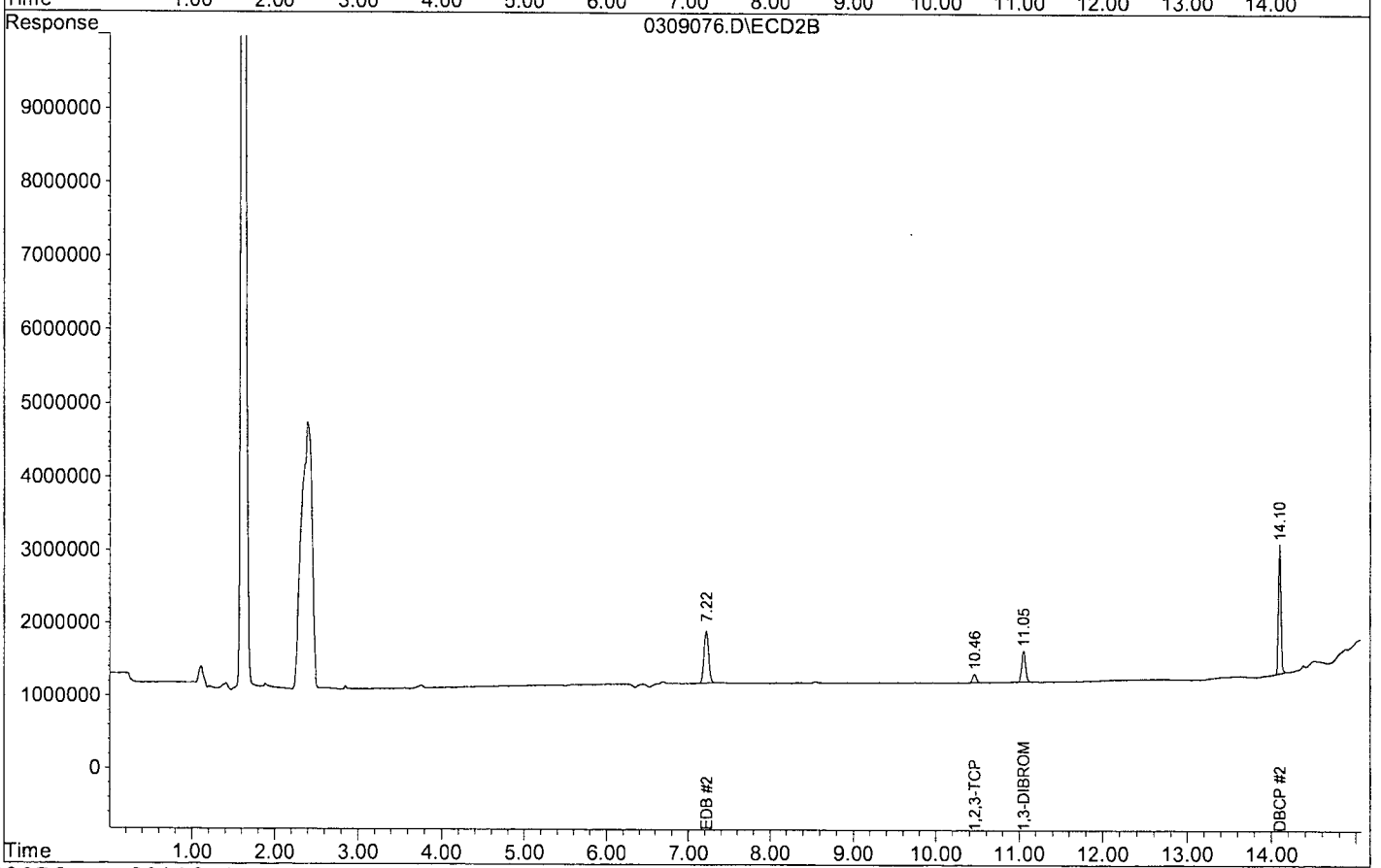
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309076.D
Acq On : 03-13-17 19:10:30
Sample : 8011 3 3/11/17
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 76
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51135 - 216868**
Batch ID: #8011-170311A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	03/11/17	03/13/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	98.2	70-132			%	03/11/17	03/13/17

Quant Method:80110311.M
Run #:0309057
Instrument:Herbie
Sequence:170309
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 12:54:03 PM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309057.D\ECD1A.CH Vial: 57
Signal #2 : G:\HERBIE\DATA\170309\0309057.D\ECD2B.CH
Acq On : 03-13-17 12:26:47 Operator: RH
Sample : 170311A BLK 2/35.27G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:28 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

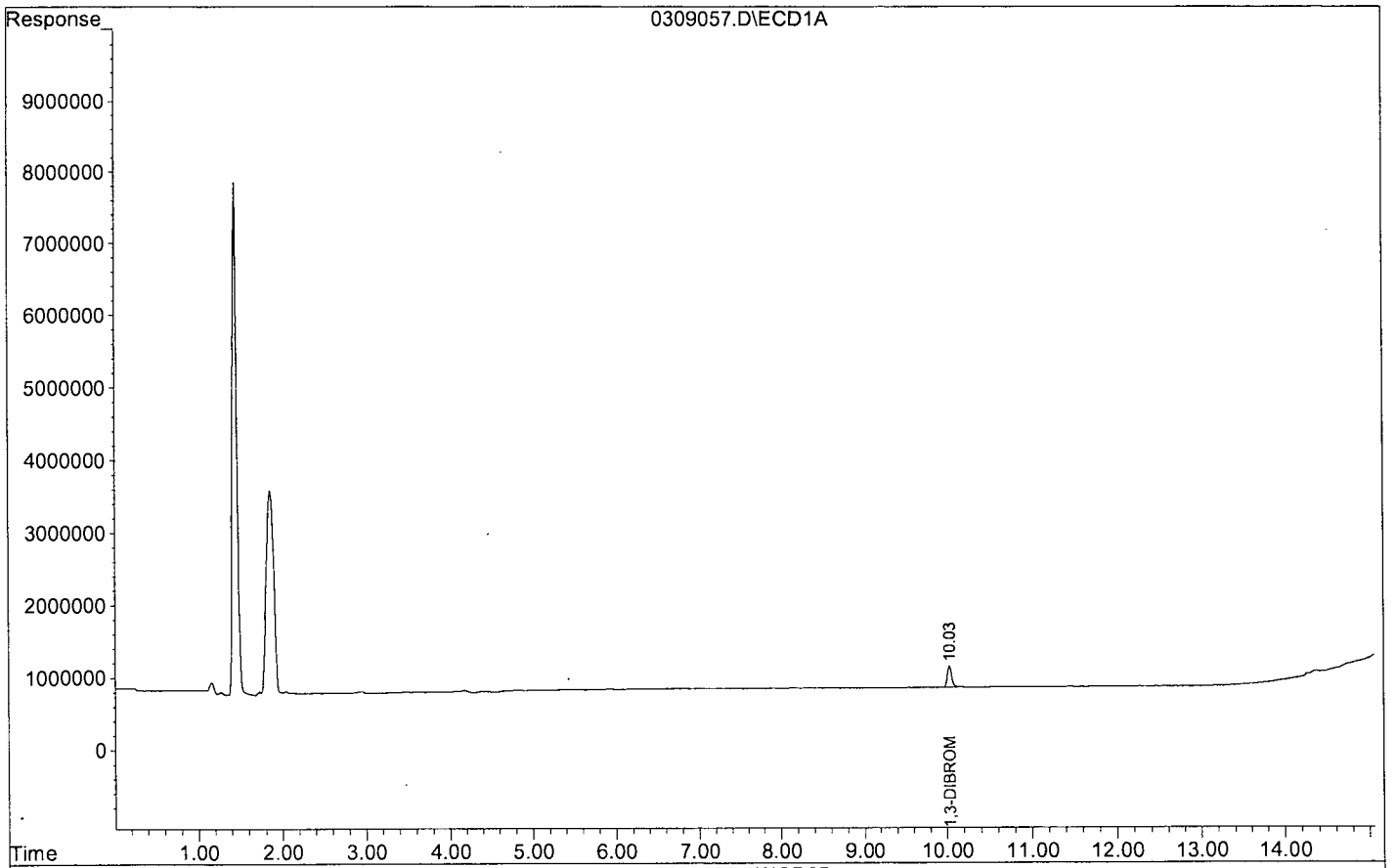
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	294844	522867	0.341	0.337
Spiked Amount 0.347			Recovery	=	98.18%	97.03%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

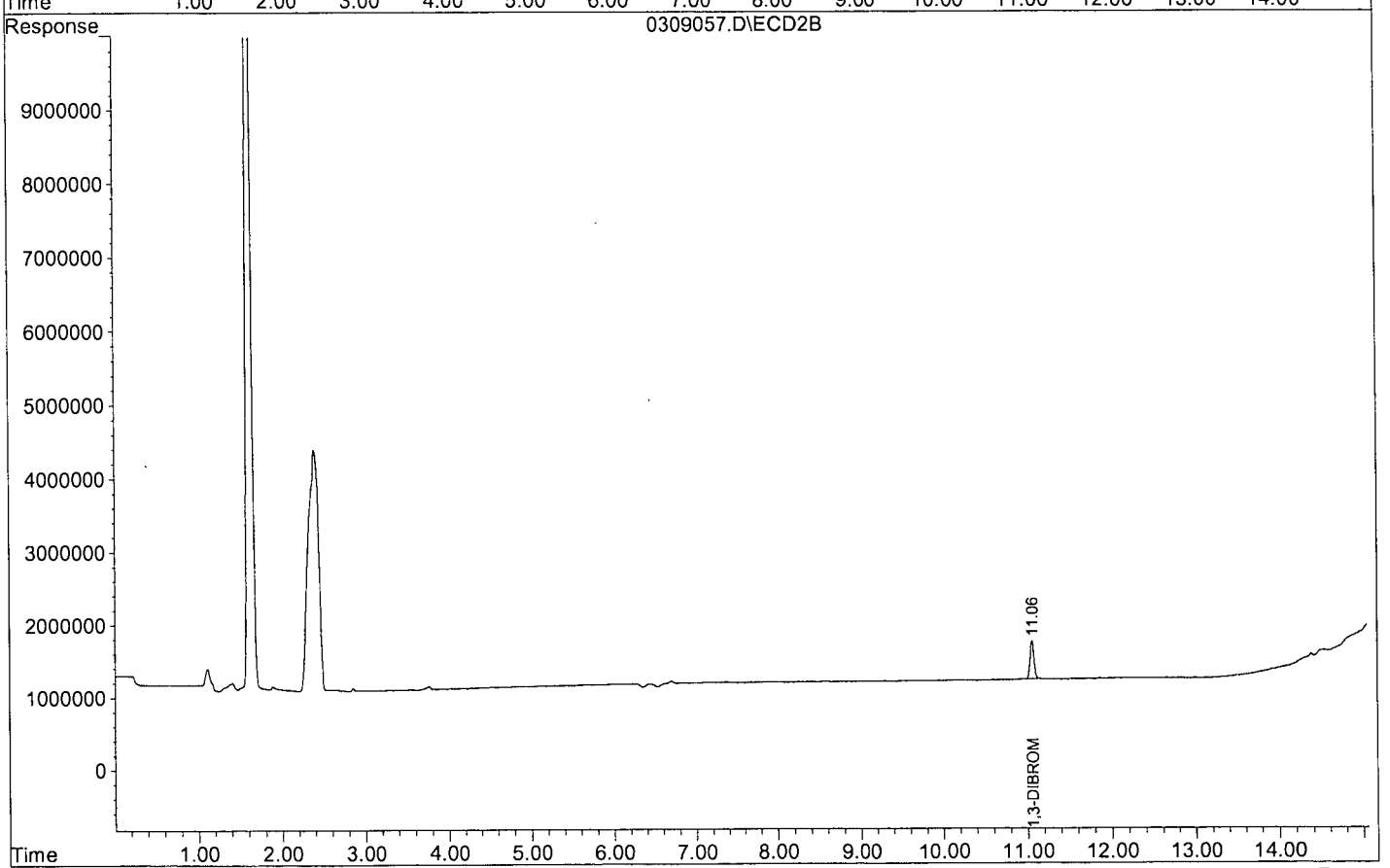
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170309\0309057.D
Acq On : 03-13-17 12:26:47
Sample : 170311A BLK 2/35.27G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 57
Operator: RH
Inst : Herbie
Multiplr: 0.99





Laboratory Control Spike Recovery

EPA 8011

APPL ID: **170311W-51135 LCS - 216868**
Batch ID: #8011-170311A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.229	91.6	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.250	0.247	98.8	70-132

Comments: _____

Primary	SPK
Quant Method :	80110311.M
Extraction Date :	03/11/17
Analysis Date :	03/13/17
Instrument :	Herbie
Run :	0309059
Initials :	RHA

Printed: 03/14/17 12:54:00 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170309\0309059.D\ECD1A.CH Vial: 59
Signal #2 : G:\HERBIE\DATA\170309\0309059.D\ECD2B.CH
Acq On : 03-13-17 13:09:13 Operator: RH
Sample : 170311A LCS-2 2/35.04G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Mar 13 14:22 2017 Quant Results File: 80110311.RES

Quant Method : G:\HERBIE\DATA\170309\80110311.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Mon Mar 13 12:27:43 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

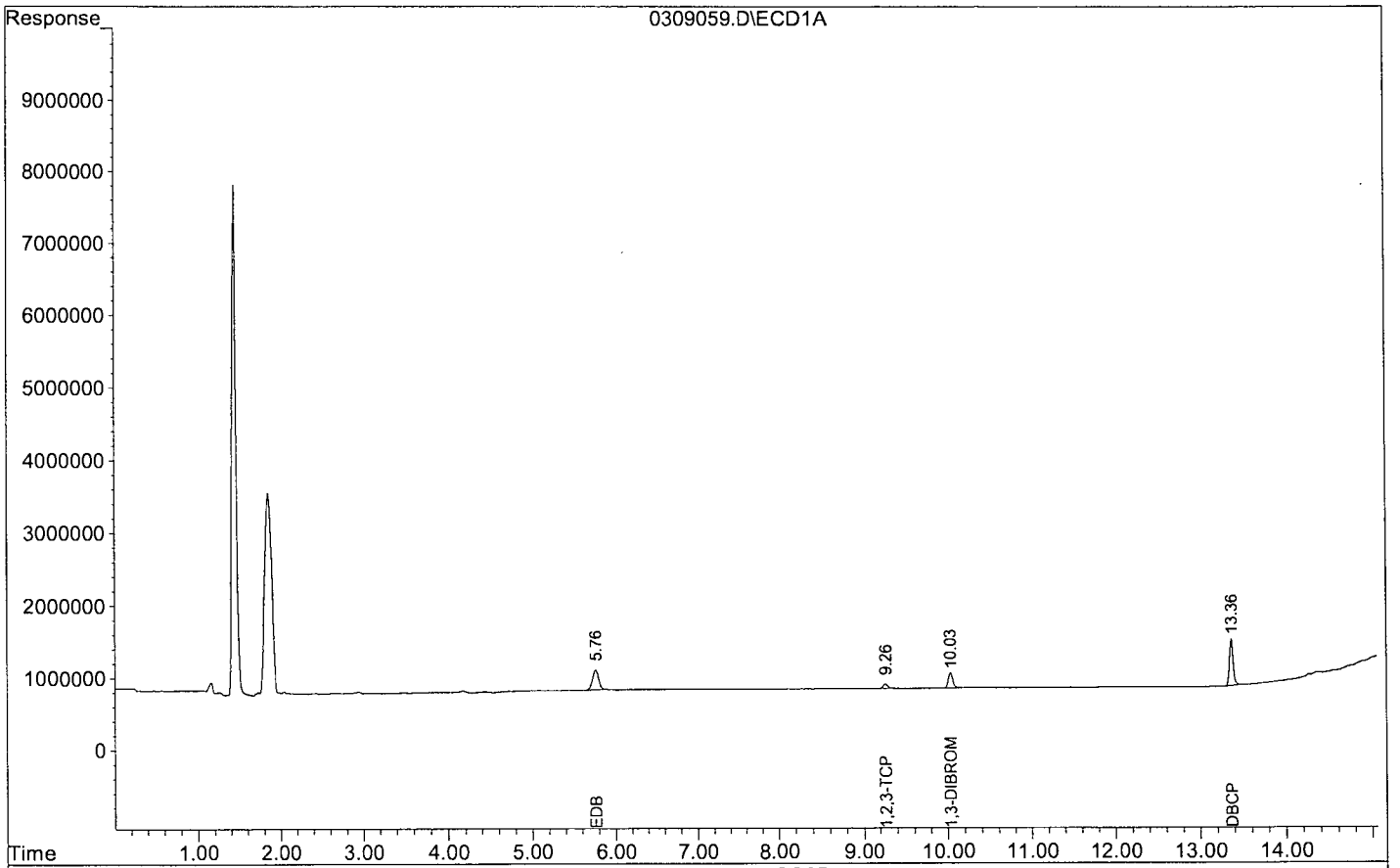
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	212048	369265	0.247	0.240
Spiked Amount 0.350			Recovery	=	70.65%	68.65%
Target Compounds						
1) TM EDB	5.76	7.22	275838	616358	0.229	0.229
2) TM 1,2,3-TCP	9.26	10.46	59583	104188	0.229	0.231
4) TM DBCP	13.36	14.10	653603	1517368	0.236	0.237
Target Compounds						

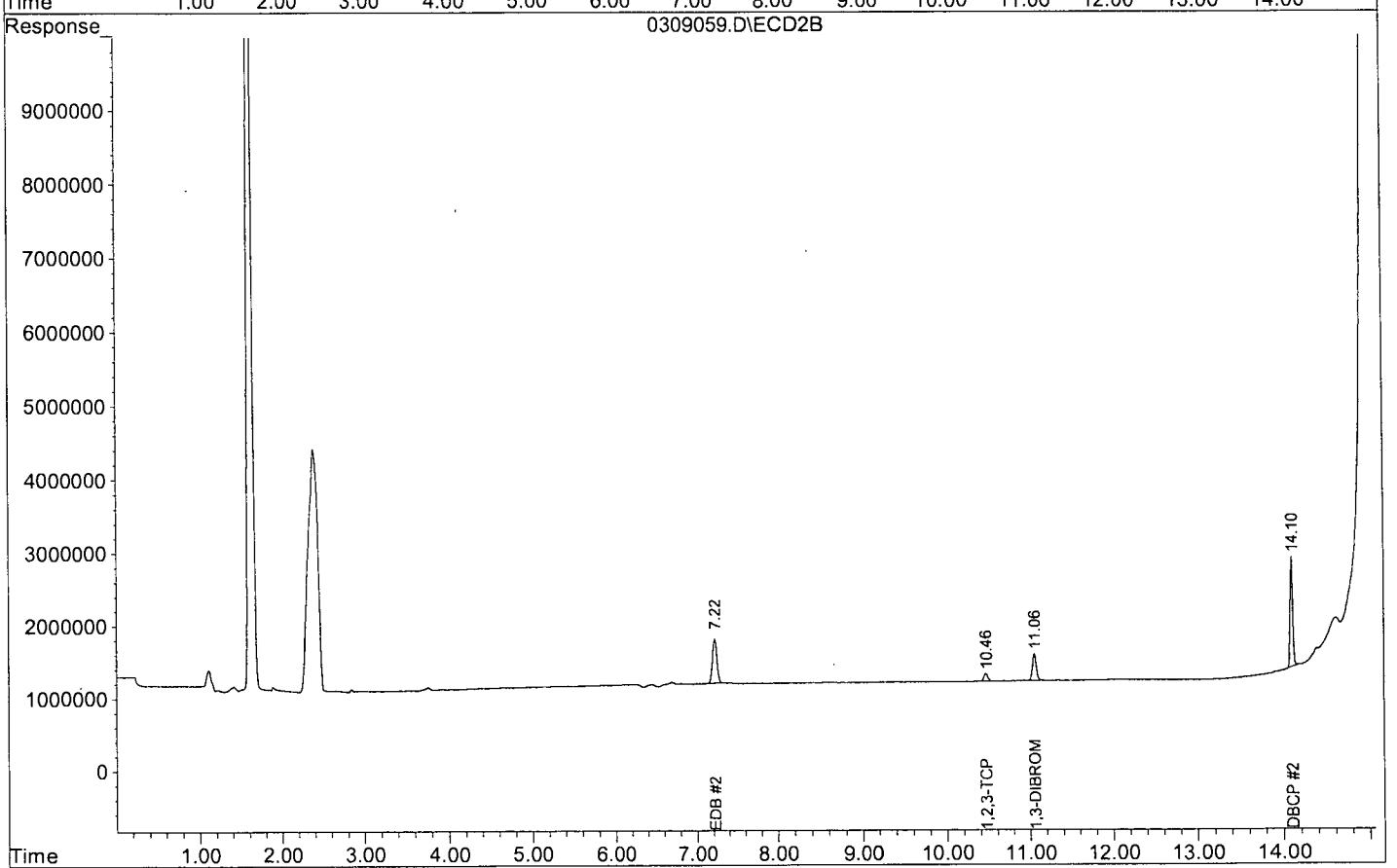
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170309\0309059.D
Acq On : 03-13-17 13:09:13
Sample : 170311A LCS-2 2/35.04G
Misc :
Quant Method : G:\HERBIE\DATA\170309\80110311.M

Vial: 59
Operator: RH
Inst : Herbie
Multiplr: 1.00





	504/8011 M STD					
Prep: 02/23/17 Exp: 04/08/17 RH						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB	0.35ug/mL	04/8011 M STD ST	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep.12/08/16				BDH1135-4LG
DBCP		exp: 04/08/17				
1,3 DBP						

504/8011 M STD STOCK						
Prep: 12/08/16-R.H.		Exp: 04/08/17				
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol
TCP		prep. 06/07/16				021915C
DBCP		exp: 06/07/17				
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL			
		prep.06/07/16				
		exp. 06/07/17				

504 DOHS STOCK prep: 6/7/16 Exp: 6/7/17 LH						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	1000ug/mL	O2SI	500uL	25mL	20ug/mL	Methanol
TCP	Cat:	130271-08				Lot # 021915C
DBCP	Lot:	270815-36134				
	Op:	06/07/16				
	Exp:	06/07/17				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 6/7/17						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

		504/8011 SS				
Prep: 02/10/17 RH Ex: 7/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 1/18/18				

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 1/18/18						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170311A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17	
Spiked ID 2	504.1 M. STD 2-23-17 exp 4-8-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/11/17 9:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:05	
			GC Requires Extract By:	**03/16/17 0:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 03/11/17 **Witnessed By:** CFM **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A Blk				0.035	1 equip	35.27g	2	7	03/11/17 9:15	
2	170311A LCS-1		0.1	1	0.035	1 equip	35.30g	2	7	03/11/17 9:15	
3	170311A LCS-2		0.250	2	0.035	NA equip	35.04g	2	7	03/11/17 9:15	
4	AZ50896	AZ50896W05			0.035	1 equip	34.95g	2	7	03/11/17 9:15	82312
5	AZ50898	AZ50898W05			0.035	1 equip	35.03g	2	7	03/11/17 9:15	82312
6	AZ50982	AZ50982W05			0.035	1 equip	34.67g	2	7	03/11/17 9:15	82330
7	AZ50994	AZ50994W04			0.035	1 equip	34.68g	2	7	03/11/17 9:15	82331
8	AZ51134	AZ51134W04			0.035	1 equip	34.90g	2	7	03/11/17 9:15	82351 5 DAYS
9	AZ51135 MS-1	AZ51135W19	0.1	1	0.035	1 equip	34.44g	2	7	03/11/17 9:15	82351 5 DAYS
10	AZ51135 MSD-1	AZ51135W20	0.1	1	0.035	1 equip	34.17g	2	7	03/11/17 9:15	82351 5 DAYS
11	AZ51135 MS-2	AZ51135W21	0.250	2	NA	NA equip	34.19g	2	7	03/11/17 9:15	82351 5 DAYS
12	AZ51135 MSD-2	AZ51135W22	0.250	2	NA	NA equip	34.45g	2	7	03/11/17 9:15	82351 5 DAYS
13	AZ51135	AZ51135W18			0.035	1 equip	34.33g	2	7	03/11/17 9:15	82351 5 DAYS
14	AZ51136	AZ51136W05			0.035	1 equip	34.71g	2	7	03/11/17 9:15	82351 5 DAYS
15	AZ51152	AZ51152W05			0.035	1 equip	34.68g	2	7	03/11/17 9:15	82353 3 DAYS
16	AZ51358	AZ51358W05			0.035	1 equip	34.55g	2	7	03/11/17 9:15	82369 5 DAYS

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:30
Refrigerator	Hubourt

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:14:01 AM

Reviewed By: 70 **Date** 3/11/17

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170311A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 7-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 6-7-17
Spiked ID 2	504.1 M. STD 2-23-17 exp 4-8-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/11/17 9:15
Spiked ID 8			Ext. End Time:	03/11/17 11:05
			GC Requires Extract By:	**03/16/17 0:00**

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 03/11/17 **Witnessed By:** CFM **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51359	AZ51359W08			0.035	1 equip	35.25g	2	7	03/11/17 9:15	82369 5 DAYS
18	M STD 1		0.020	2	NA	NA equip	35.27g	2	7	03/11/17 9:15	
19	M STD 2		0.1	2	NA	NA equip	35.20g	2	7	03/11/17 9:15	
20	M STD 3		0.250	2	NA	NA equip	30.14g	2	7	03/11/17 9:15	
21	M STD 4		0.5	2	NA	NA equip	30.19g	2	7	03/11/17 9:15	
22	M STD 5		0.750	2	NA	NA equip	34.47g	2	7	03/11/17 9:15	
23	M STD 6		1	2	NA	NA equip	34.44g	2	7	03/11/17 9:15	

3/11/17

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	DP966

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:14:01 AM

Reviewed By: **Date** 3/11/17

Injection Log

Directory: G:\HERBIE\DATA\170309\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	50	0309050.D	1	8011 1 3/11/17		03-13-17 9:59:00
2	51	0309051.D	1	8011 2 3/11/17		03-13-17 10:19:53
3	52	0309052.D	1	8011 3 3/11/17		03-13-17 10:40:57
4	53	0309053.D	1	8011 4 3/11/17		03-13-17 11:02:05
5	54	0309054.D	1	8011 5 3/11/17		03-13-17 11:23:12
6	55	0309055.D	1	8011 6 3/11/17		03-13-17 11:44:25
7	57	0309057.D	0.992345	170311A BLK 2/35.27G		03-13-17 12:26:47
8	58	0309058.D	0.991501	170311A LCS-1 2/35.30G		03-13-17 12:48:05
9	59	0309059.D	0.998858	170311A LCS-2 2/35.04G		03-13-17 13:09:13
10	68	0309068.D	1.01302	AZ51358W05 2/34.55G		03-13-17 16:19:40
11	69	0309069.D	0.992908	AZ51359W08 2/35.25G		03-13-17 16:40:55
12	76	0309076.D	1	8011 3 3/11/17		03-13-17 19:10:30

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315027
Instrument: Apollo
Sequence: 170315
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:27:56 AM

Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:27:53 AM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER

SDG No: 82369
Date Analyzed: 03/16/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310A1-BLK	Blank	60-142	92.4		56-125	78.1	
170310A1-LCS	Lab Control Spike	60-142	91.0		56-125	99.5	
AZ51357	ERH265	60-142	99.0		56-125	96.3	
AZ51359	ERH272	60-142	91.3		56-125	83.0	
AZ51360	ERH281	60-142	94.3		56-125	88.4	
AZ51362	ERH280	60-142	86.0		56-125	81.1	
AZ51364	ERH284	60-142	84.4		56-125	79.2	

Comments: Batch: #DOC53-170310A1

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER
Blank ID: 170310A1-BLK

SDG No: 82369
Date Analyzed: 03/16/17
Instrument: Apollo
Time Analyzed: 0004

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A1-BLK	Blank	315027	03/16/17 0004
170310A1-LCS	Lab Control Spike	315028	03/16/17 0025
AZ51357	ERH265	315043	03/16/17 0536
AZ51359	ERH272	315044	03/16/17 0557
AZ51360	ERH281	315045	03/16/17 0617
AZ51362	ERH280	315046	03/16/17 0638
AZ51364	ERH284	315047	03/16/17 0659

Comments: Batch: #DOC53-170310A1

Printed: 03/16/17 10:27:51 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	1200 ++	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	99.0	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	96.3	56-125			%	03/10/17	03/16/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0303.M
Run #: 315043
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:27:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315043.D Vial: 43
Acq On : 3-16-17 5:36:38 Operator: DP
Sample : AZ51357W09 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:08 2017 Quant Results File: DOC0303.RES

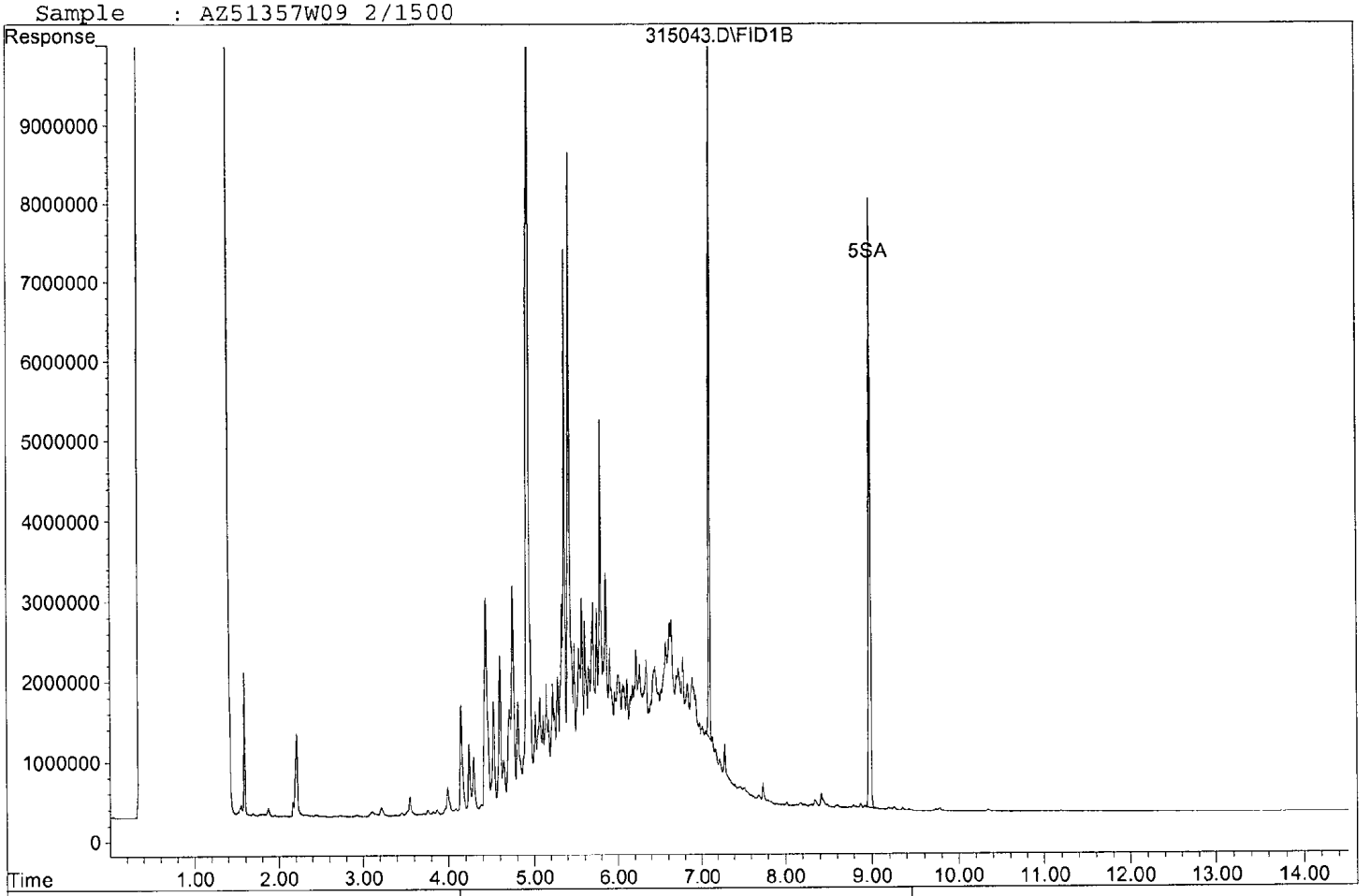
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

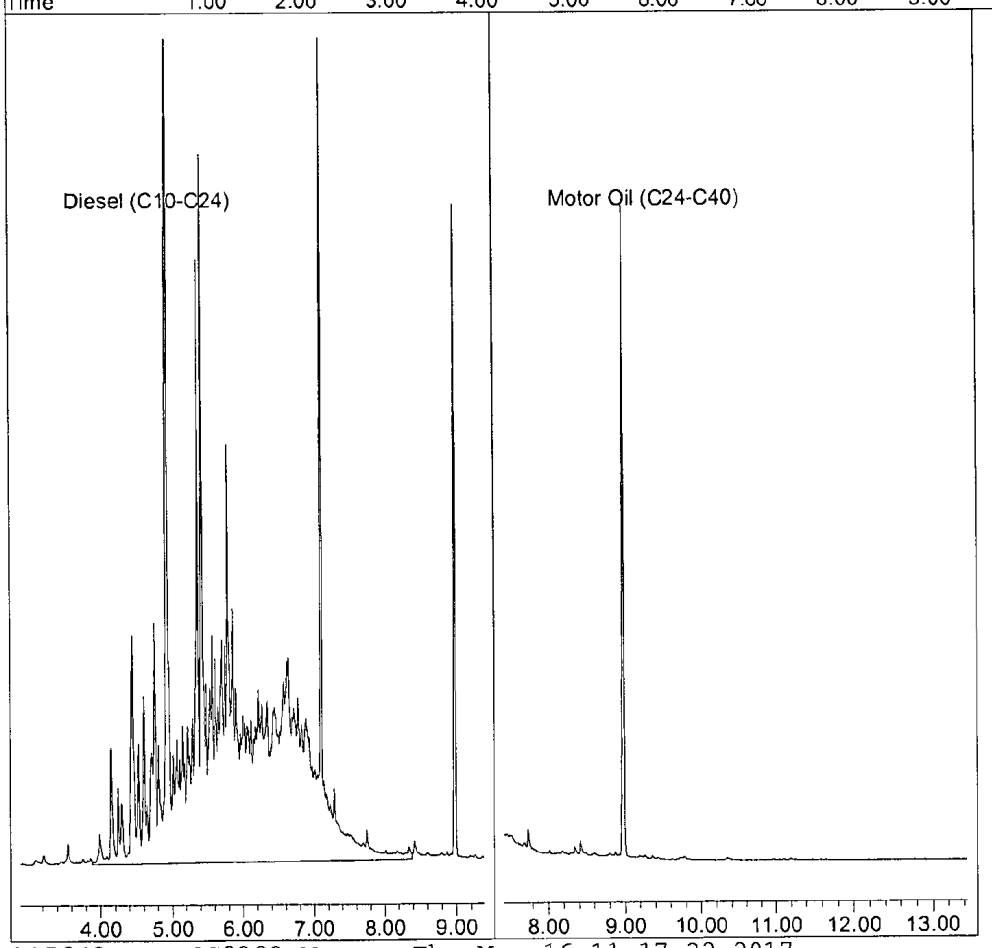
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	110707895	38.501 ppb
Surrogate Spike 40.000		Recovery =	96.25%
5) SA Octacosane(S)	8.98	96898061	39.605 ppb
Surrogate Spike 40.000		Recovery =	99.01%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2892447253	1180.448 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315043.D
Sample : AZ51357W09 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	91.3	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	83.0	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315044
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:27:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315044.D
Vial: 44
Acq On : 3-16-17 5:57:13
Operator: DP
Sample : AZ51359W11 2/1500
Inst : Apollo
Misc : water
Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:08 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

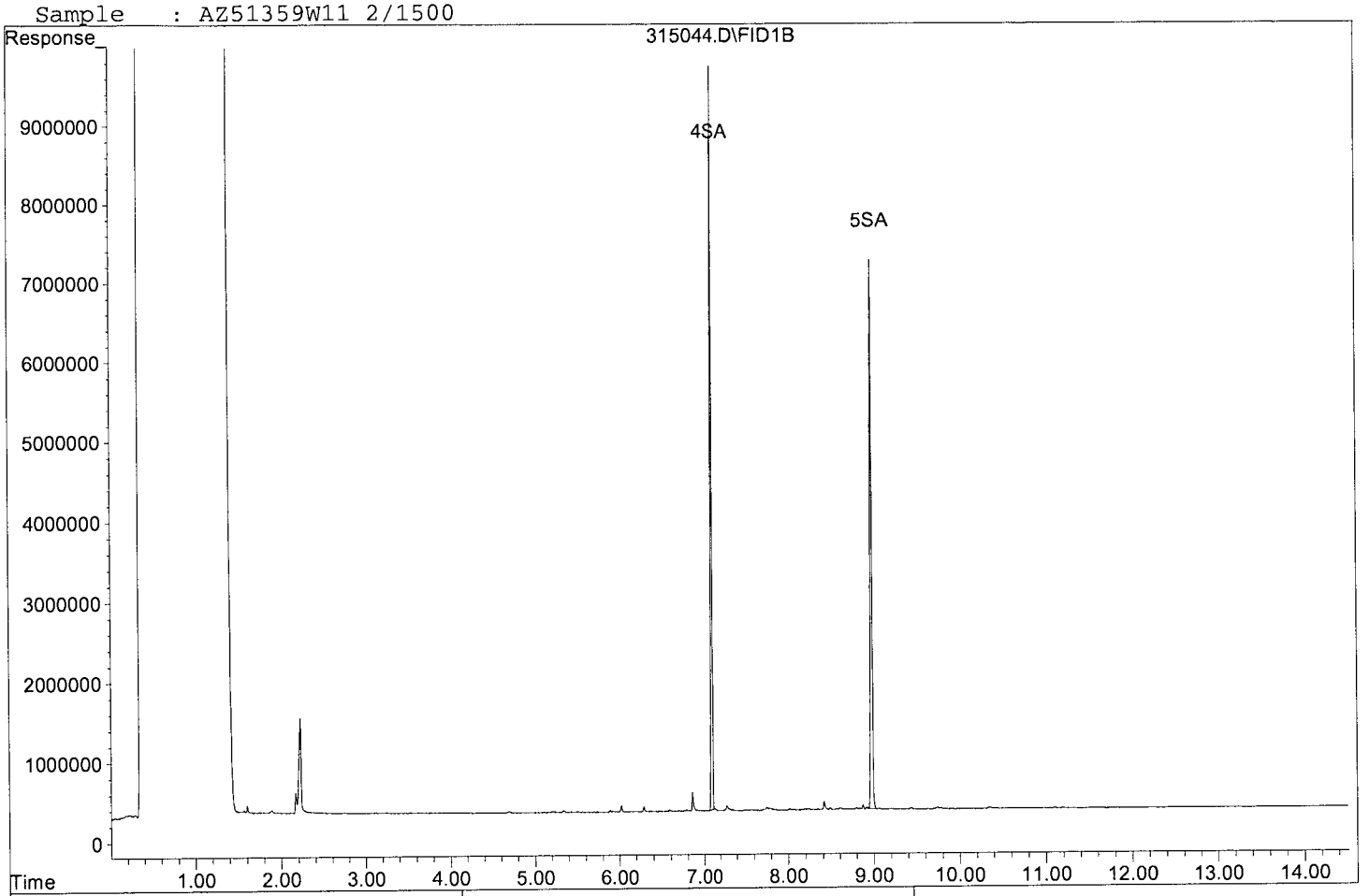
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

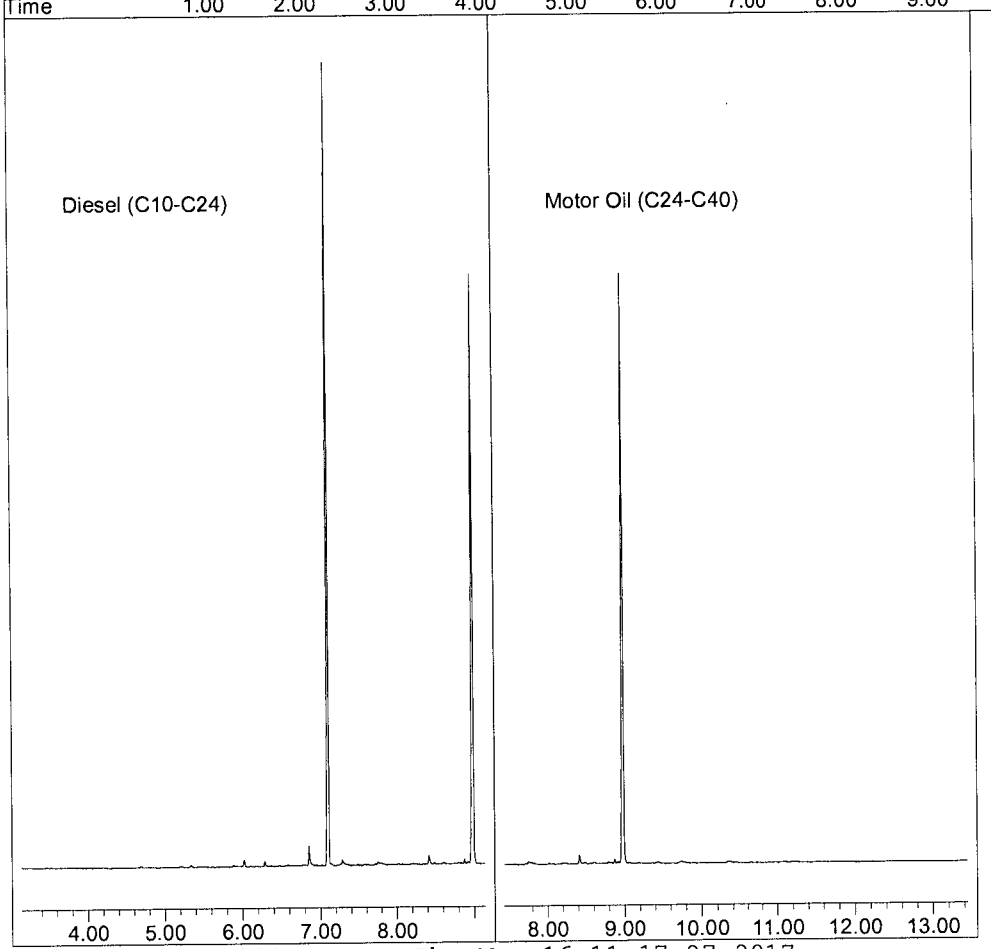
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	95485647	33.208 ppb
Surrogate Spike 40.000		Recovery =	83.02%
5) SA Octacosane(S)	8.98	89341001	36.517 ppb
Surrogate Spike 40.000		Recovery =	91.29%
Target Compounds			

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315044.D
Sample : AZ51359W11 2/1500





EPA 8015B TPH WATER

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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40 ++	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	94.3	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	88.4	56-125			%	03/10/17	03/16/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0303.M
Run #: 315045
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:27:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315045.D Vial: 45
Acq On : 3-16-17 6:17:50 Operator: DP
Sample : AZ51360W06 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:09 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

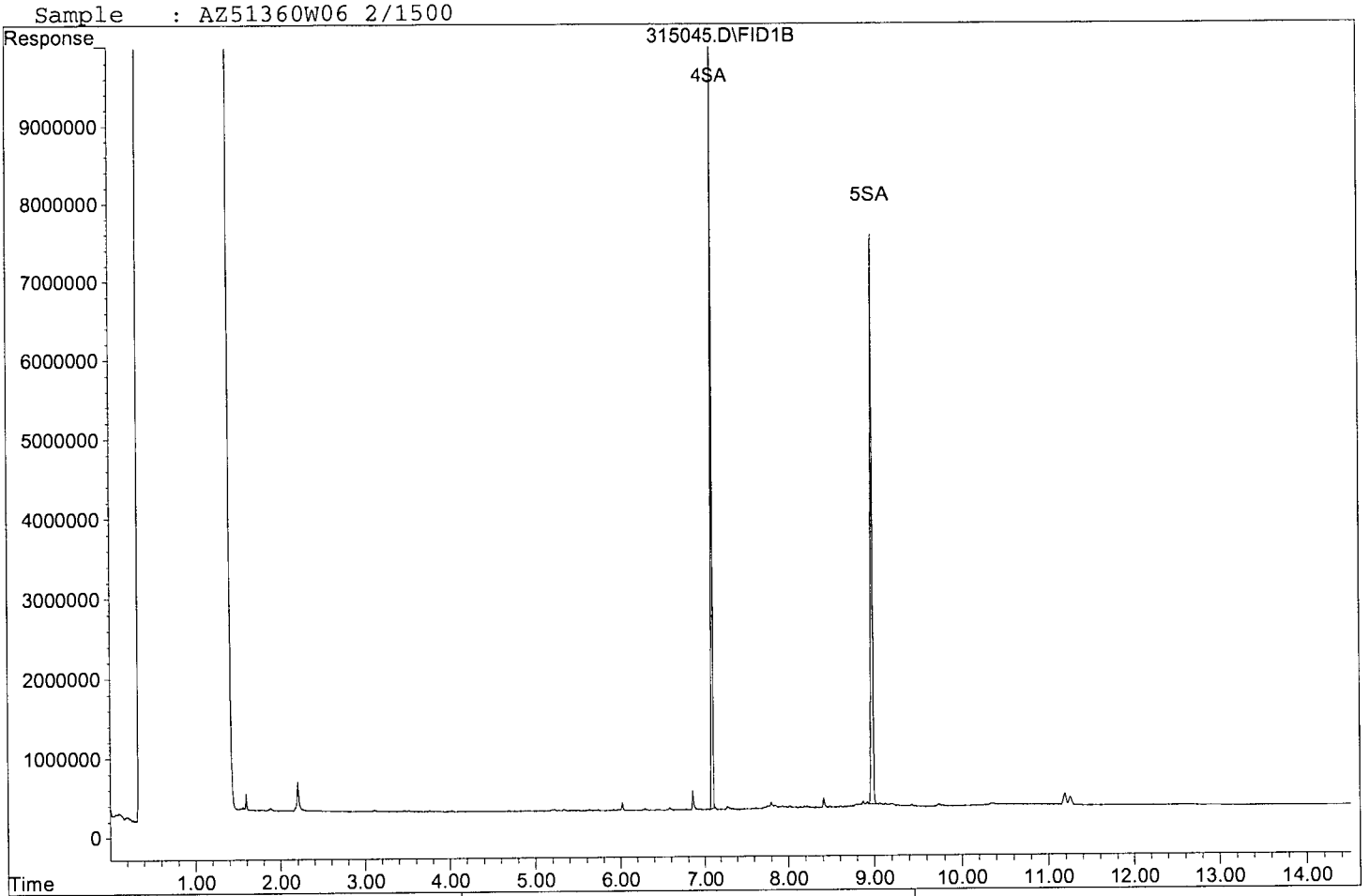
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

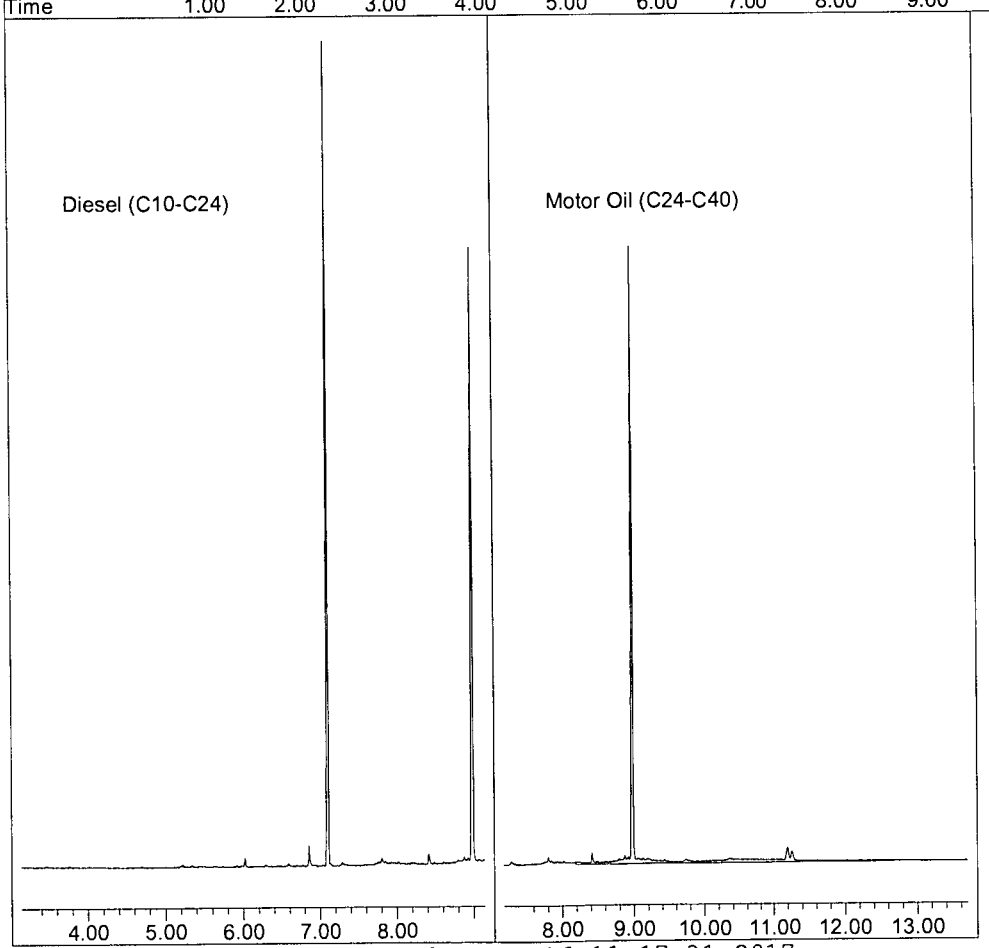
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	101613513	35.339 ppb
Surrogate Spike 40.000		Recovery =	88.35%
5) SA Octacosane(S)	8.98	92288351	37.721 ppb
Surrogate Spike 40.000		Recovery =	94.30%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	73536035	39.879 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315045.D
Sample : AZ51360W06 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	86.0	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	81.1	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315046
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:27:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315046.D
Acq On : 3-16-17 6:38:22
Sample : AZ51362W09 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 16 10:09 2017 Quant Results File: DOC0303.RES

Vial: 46
Operator: DP
Inst : Apollo
Multiplr: 1.33

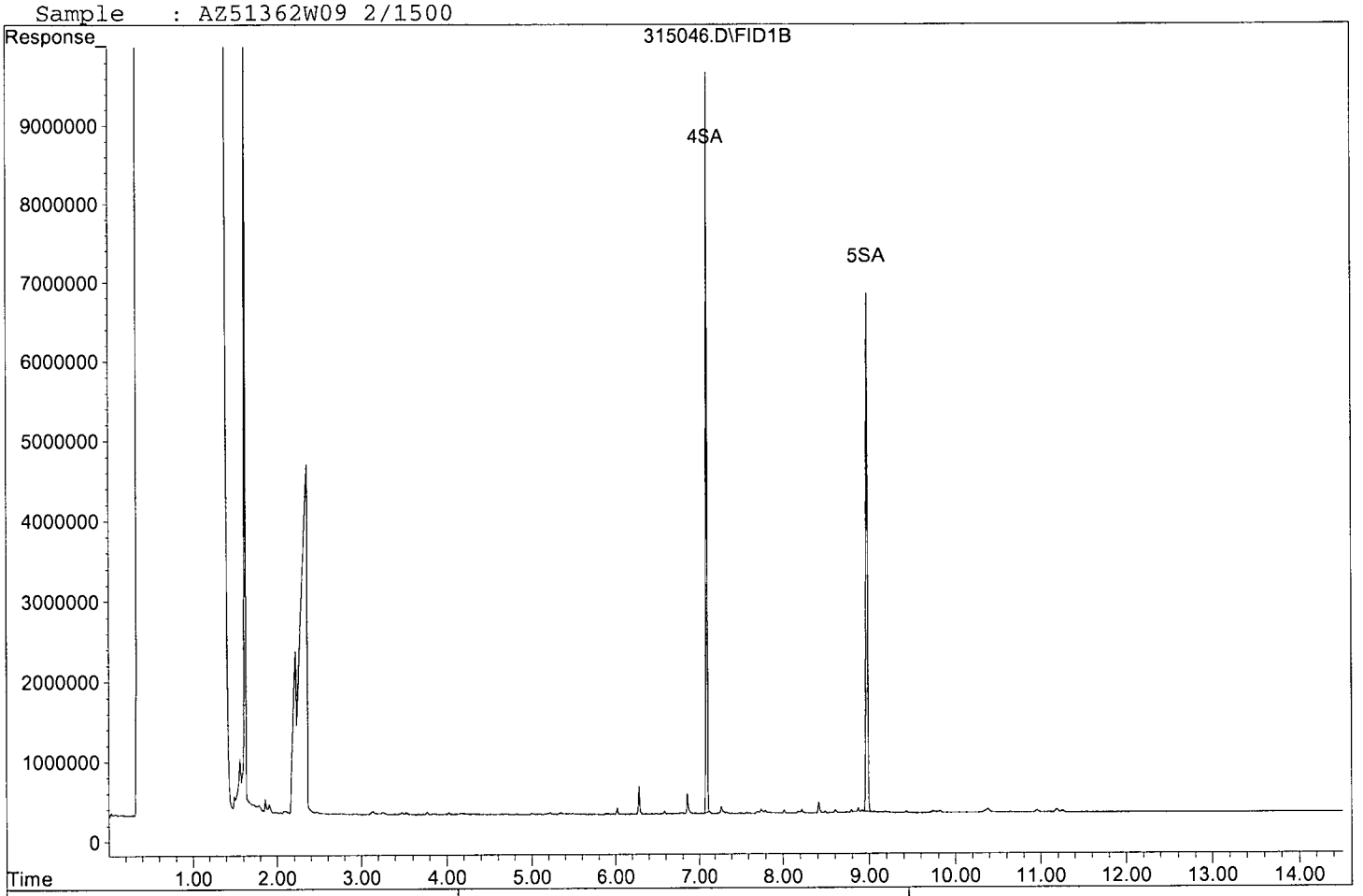
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

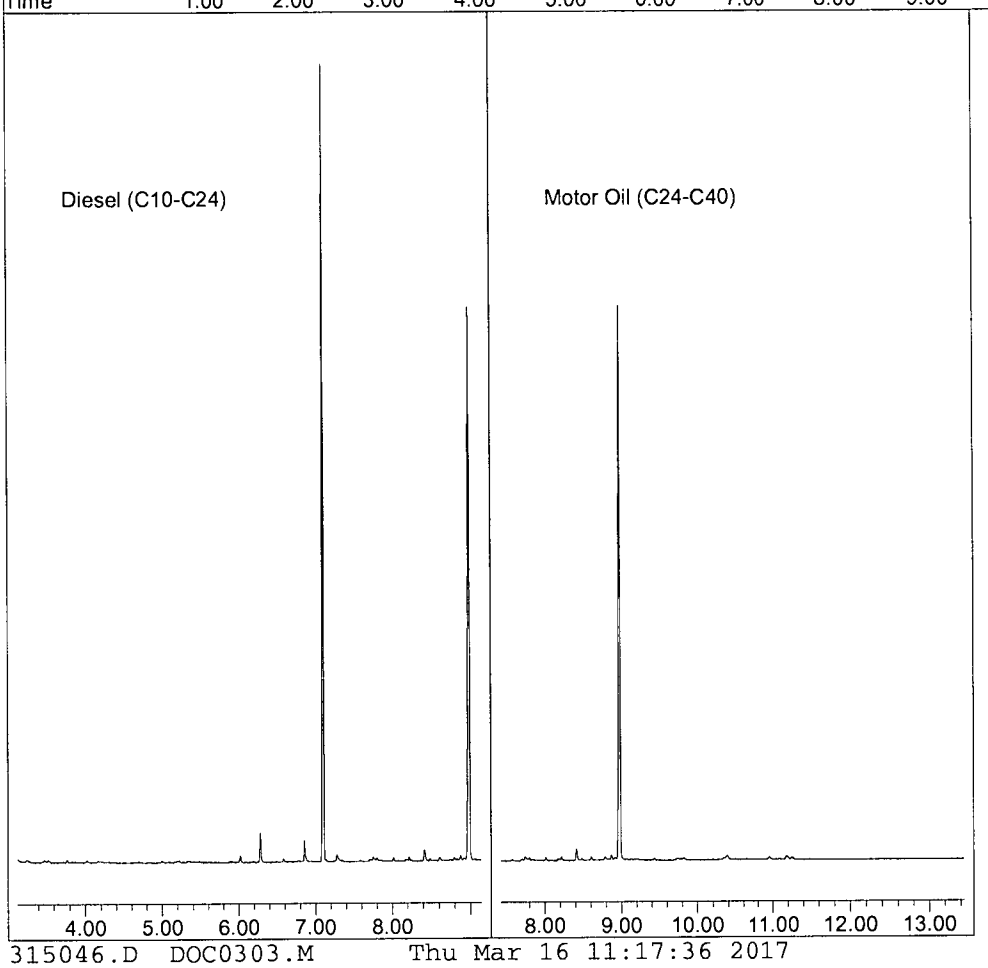
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	93247667	32.429 ppb
Surrogate Spike 40.000	Recovery	=	81.07%
5) SA Octacosane(S)	8.98	84137450	34.390 ppb
Surrogate Spike 40.000	Recovery	=	85.97%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315046.D
Sample : AZ51362W09 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	47 ++	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	84.4	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	79.2	56-125			%	03/10/17	03/16/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0303.M
Run #: 315047
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:27:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315047.D Vial: 47
Acq On : 3-16-17 6:59:04 Operator: DP
Sample : AZ51364W10 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:09 2017 Quant Results File: DOC0303.RES

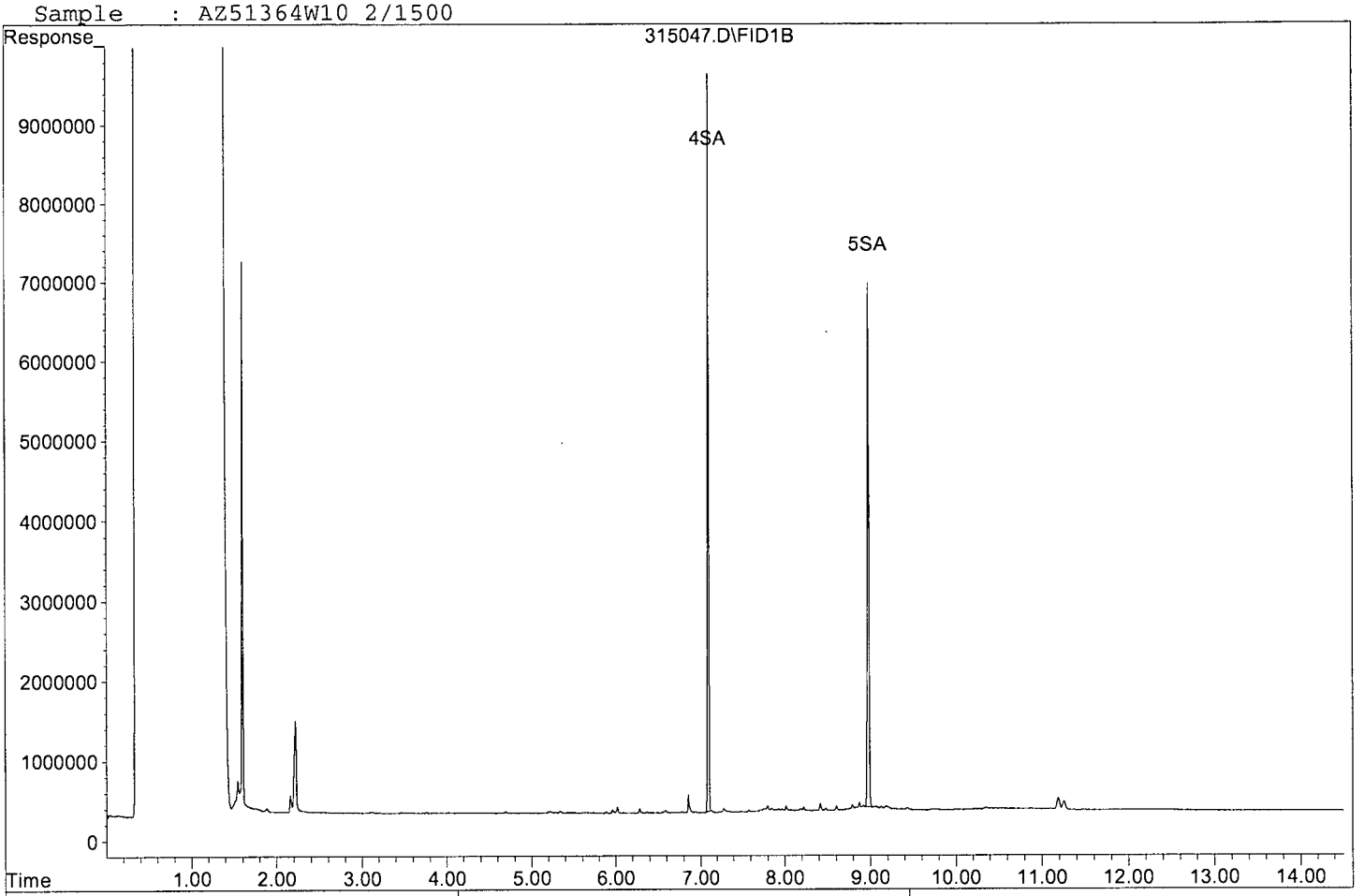
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

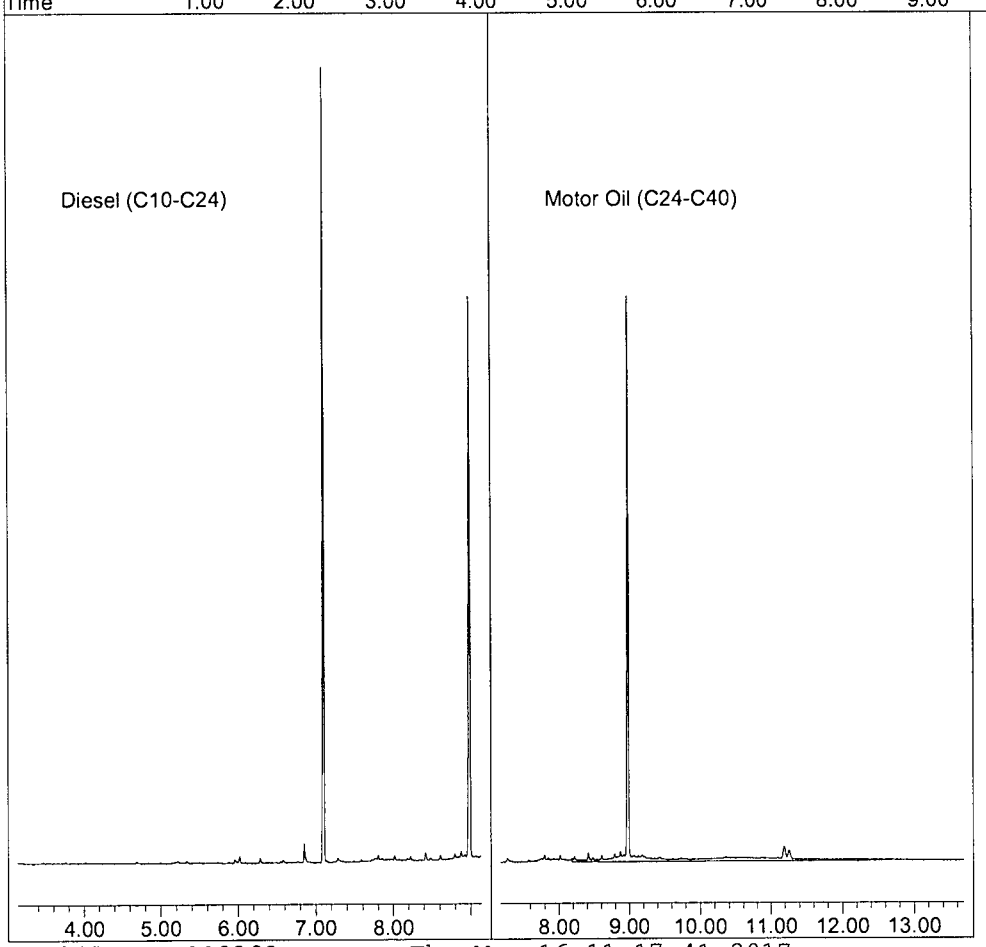
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	91075659	31.674 ppb
Surrogate Spike 40.000		Recovery =	79.18%
5) SA Octacosane(S)	8.98	82624860	33.772 ppb
Surrogate Spike 40.000		Recovery =	84.43%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	86770130	47.056 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315047.D
Sample : AZ51364W10 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0303

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/03/17
Instrument: Apollo

Initials:

Diesel:	207013.D	207014.D	207015.D	207016.D	207017.D	207018 D	
Motor Oil:	207020.D	207021.D	207022.D	207023.D	207024.D	207025.D	
Decanoic Acid:	220003.D	220004.D	220005.D	220006.D	220007.D	220008.D	
O-terphenyl / Octacosane:	303002.D	303003.D	303004.D	303005.D	303006.D	303007.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	1942562	2124223	1863439	1811326	1835034	1925070					1916942	5.9	SA	
5	SA	Octacosane(S)	1719138	1771274	1572423	1544203	1553239	1626037					1631052	5.8	SA	
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1.2098039

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

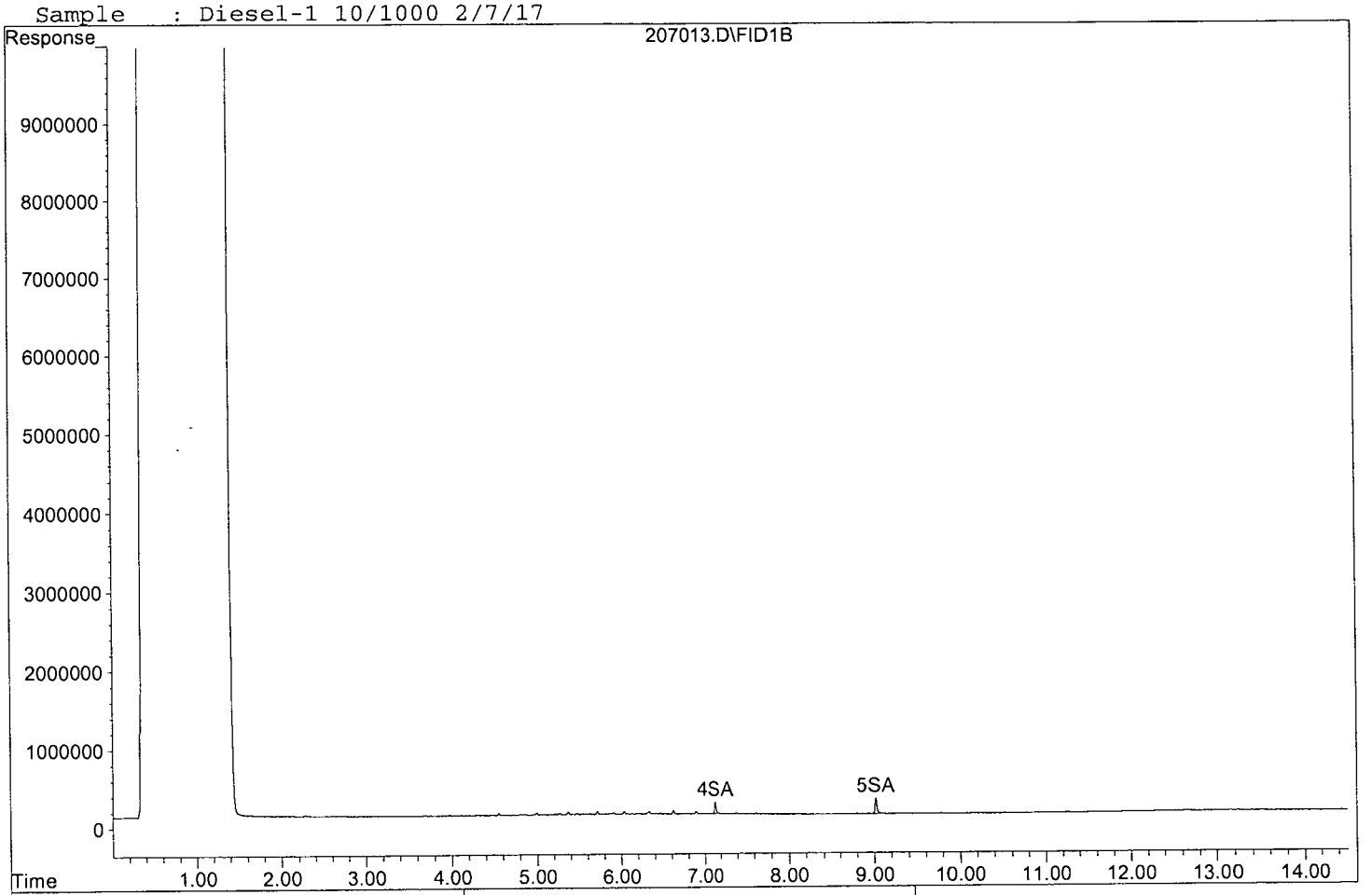
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

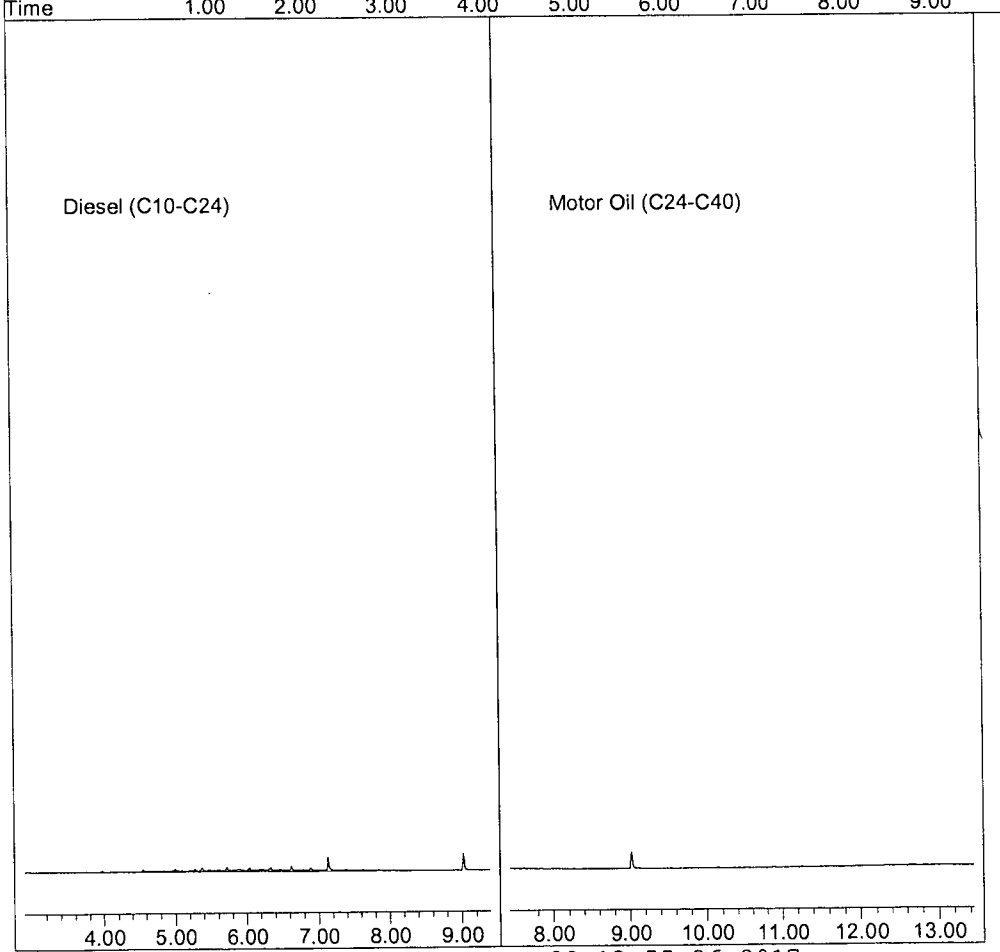
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

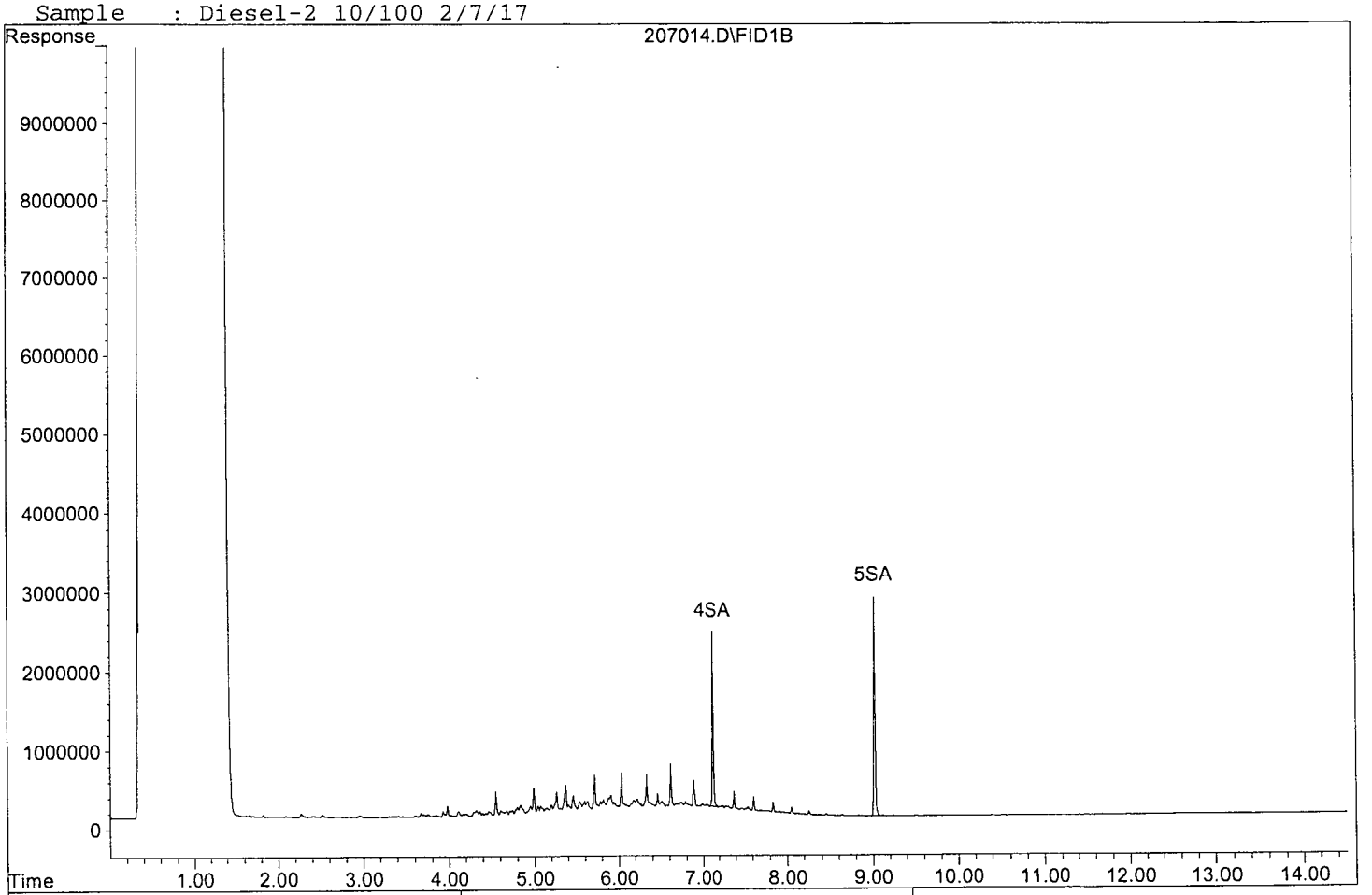
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

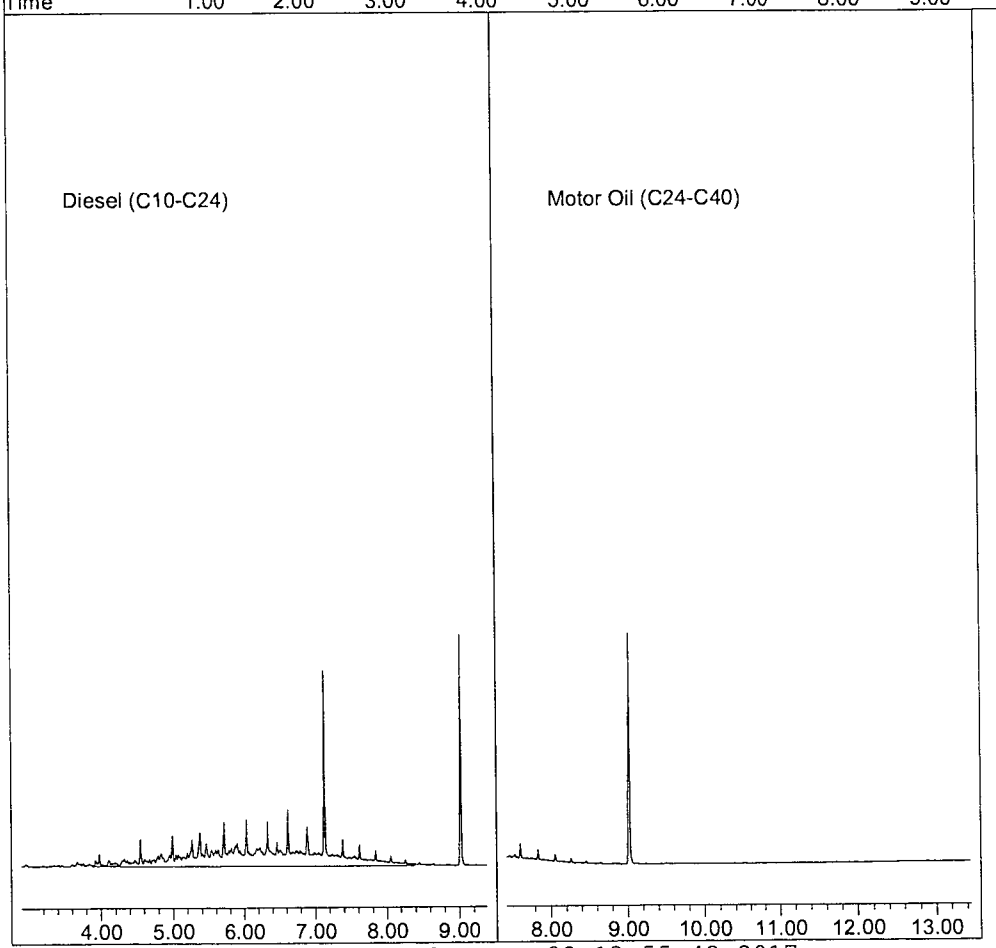
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000	Recovery =		16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000	Recovery =		17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

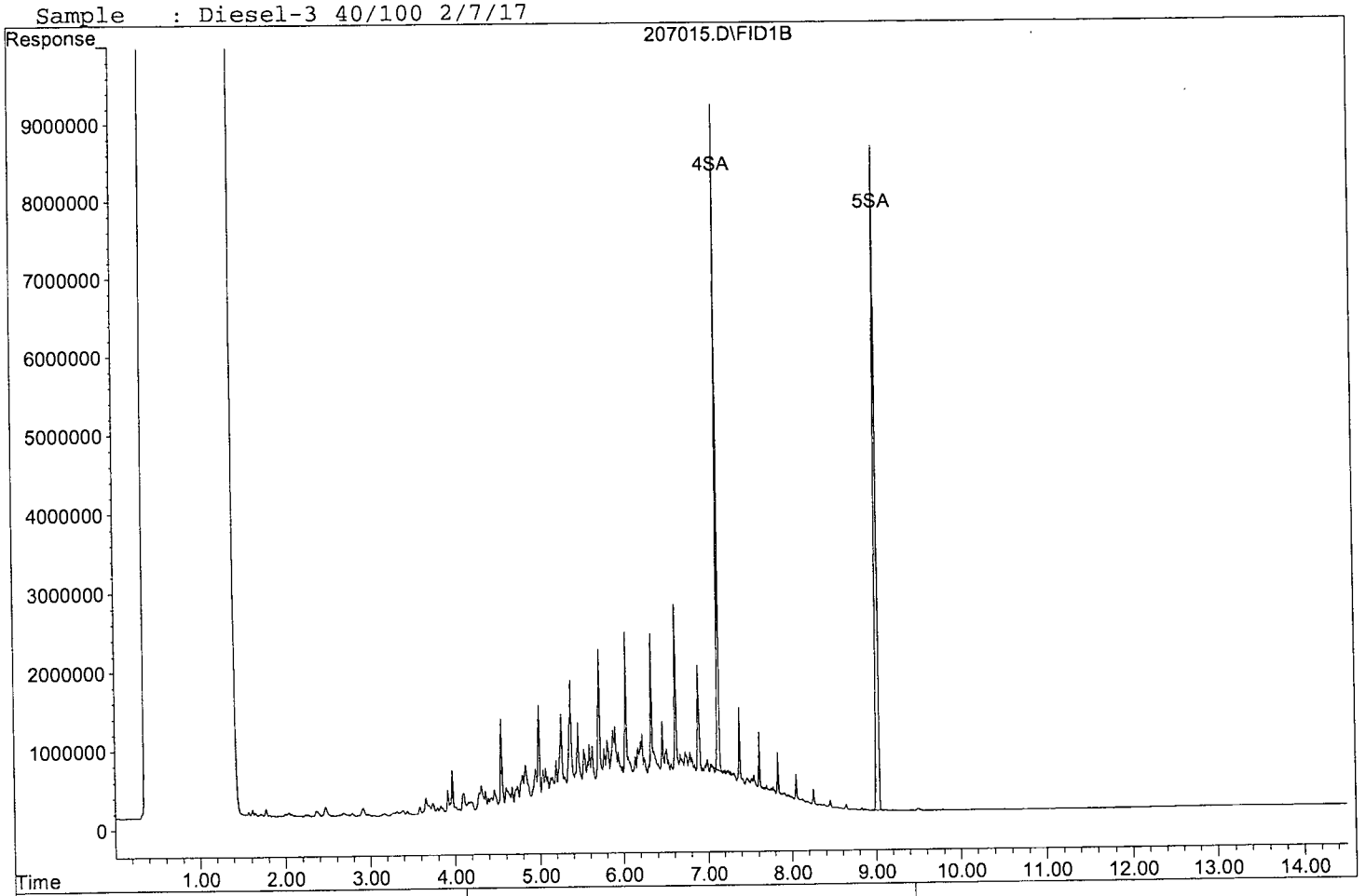
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

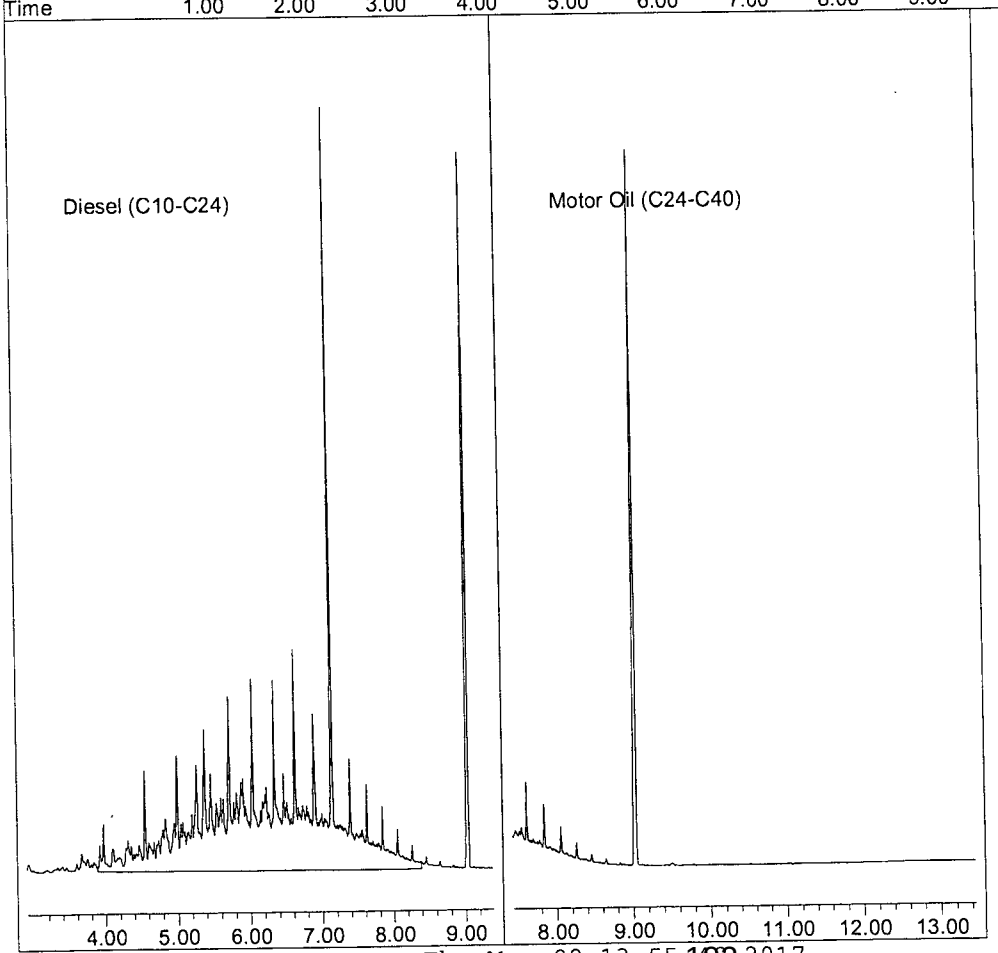
(f)=RT Delta > 1/2 Window (m)=manual int.

207015.D DOC0303.M Thu Mar 09 13:55:46 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

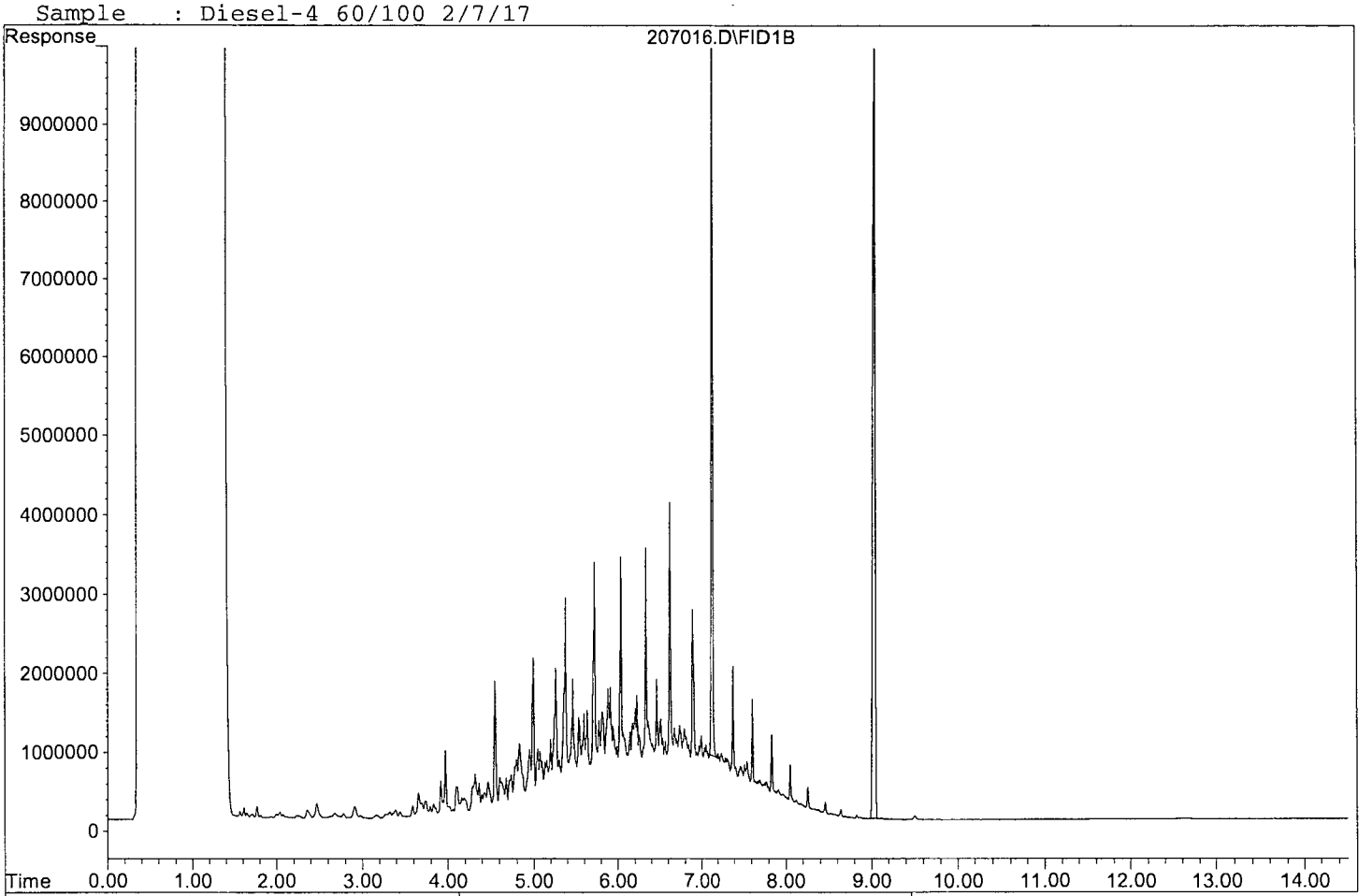
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

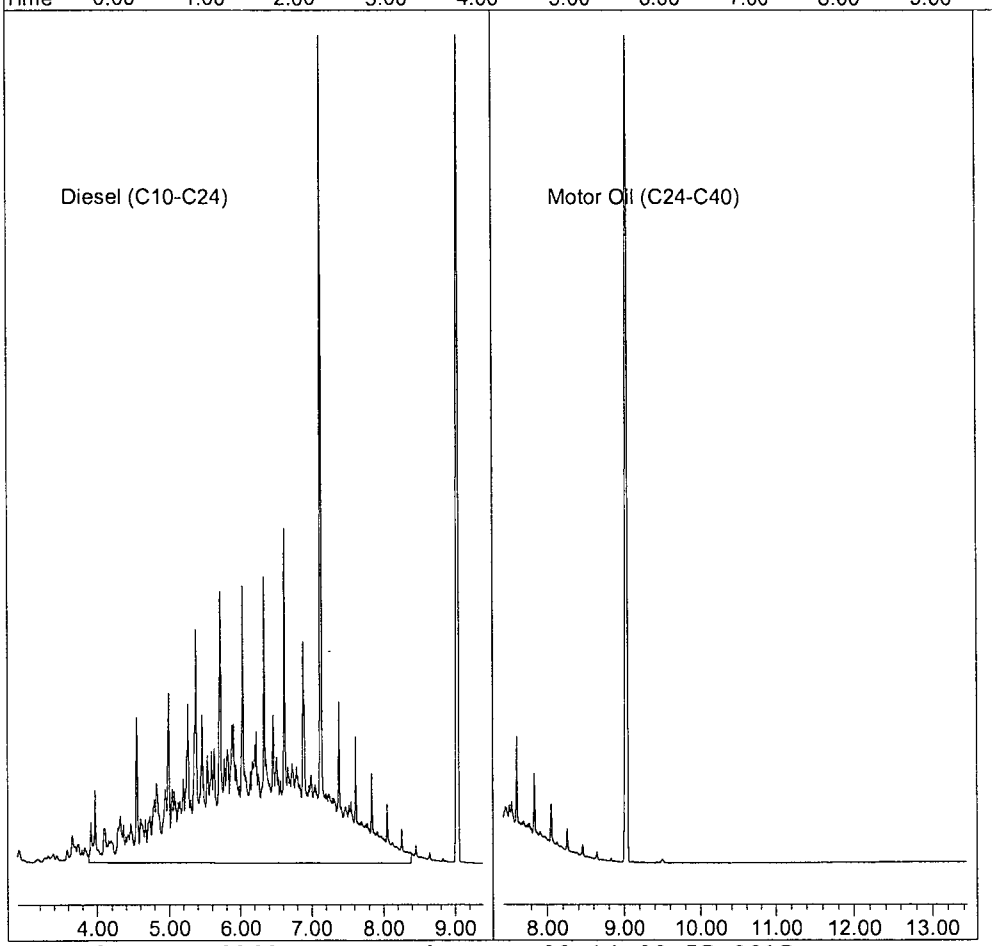
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	34.186 ppb
Surrogate Spike 30.000		Recovery =	113.95%
5) SA Octacosane(S)	9.04	190706691	58.461 ppb
Surrogate Spike 30.000		Recovery =	194.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D
Acq On : 2-7-17 15:16:16
Sample : Diesel-5 80/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

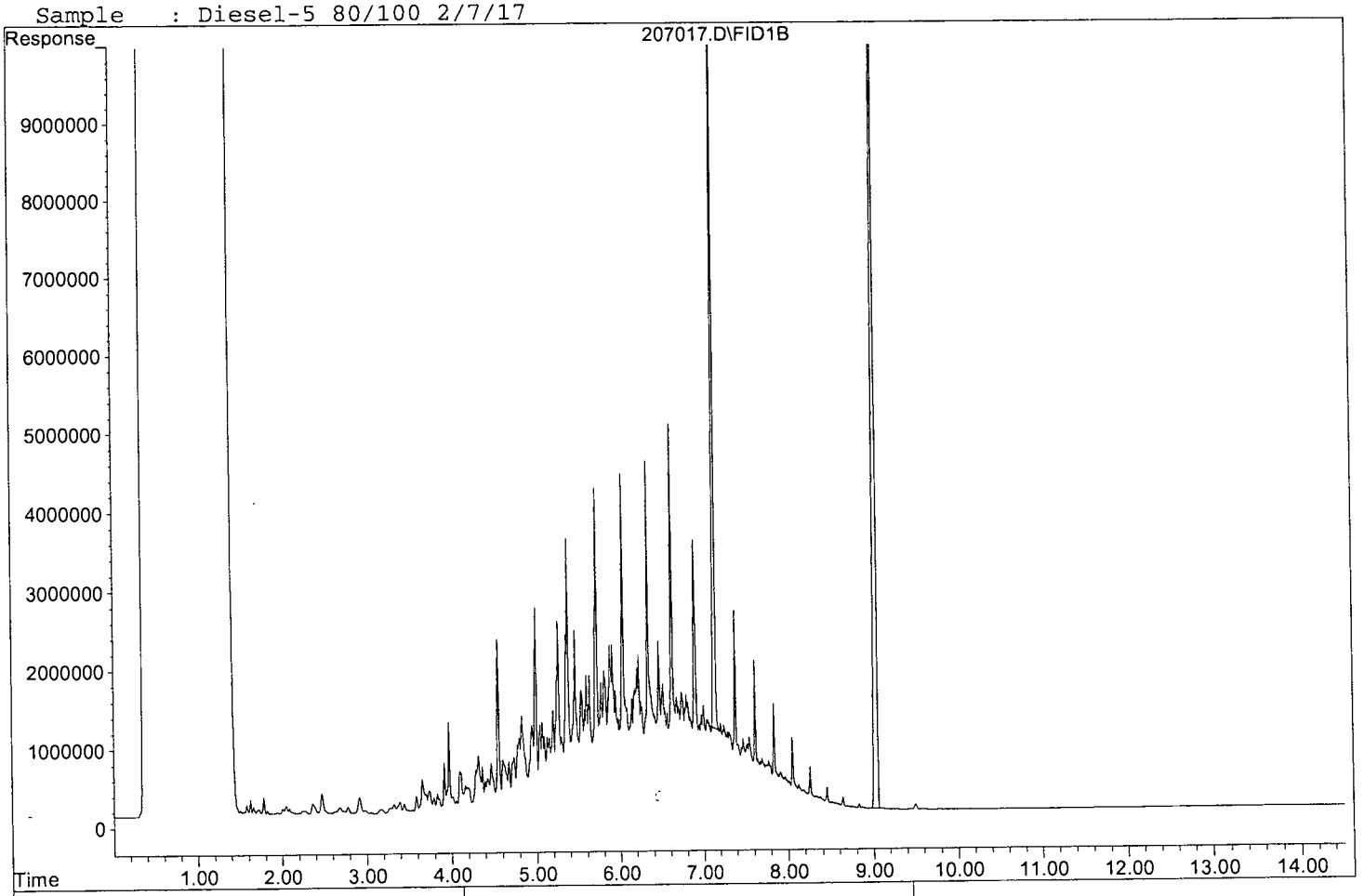
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

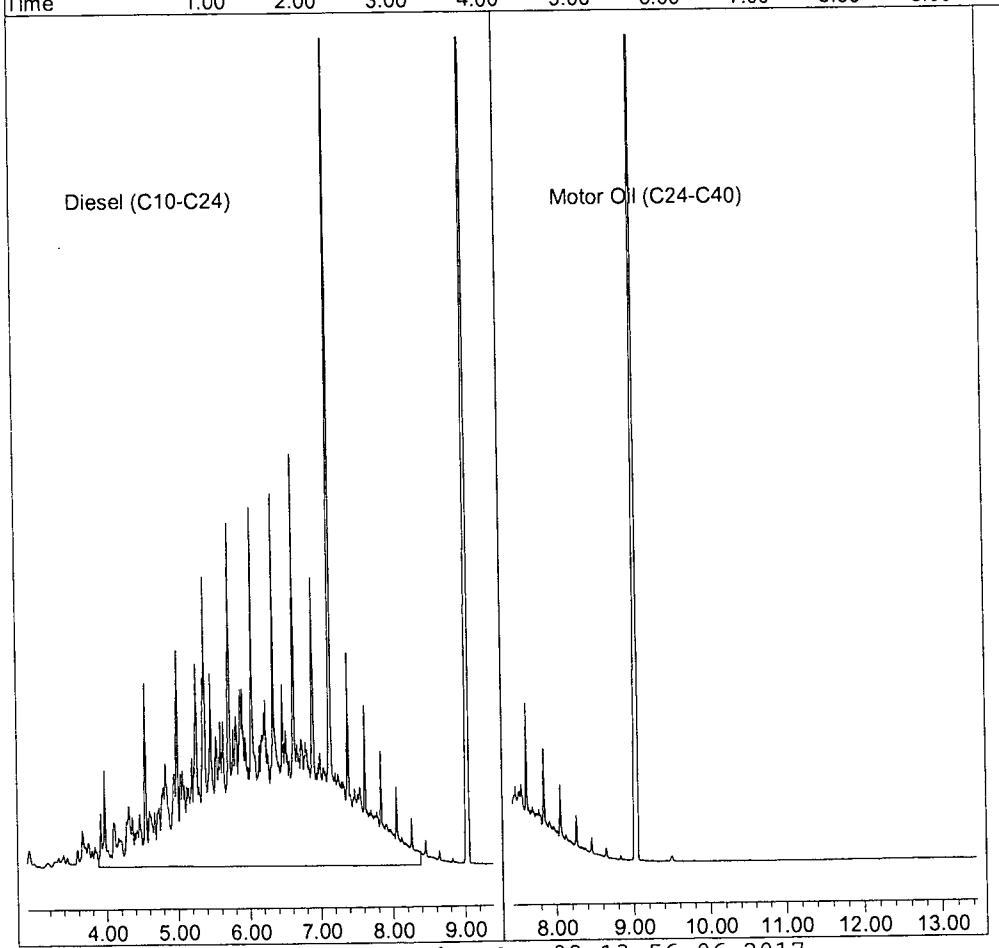
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D
Acq On : 2-7-17 15:36:59
Sample : Diesel-6 100/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

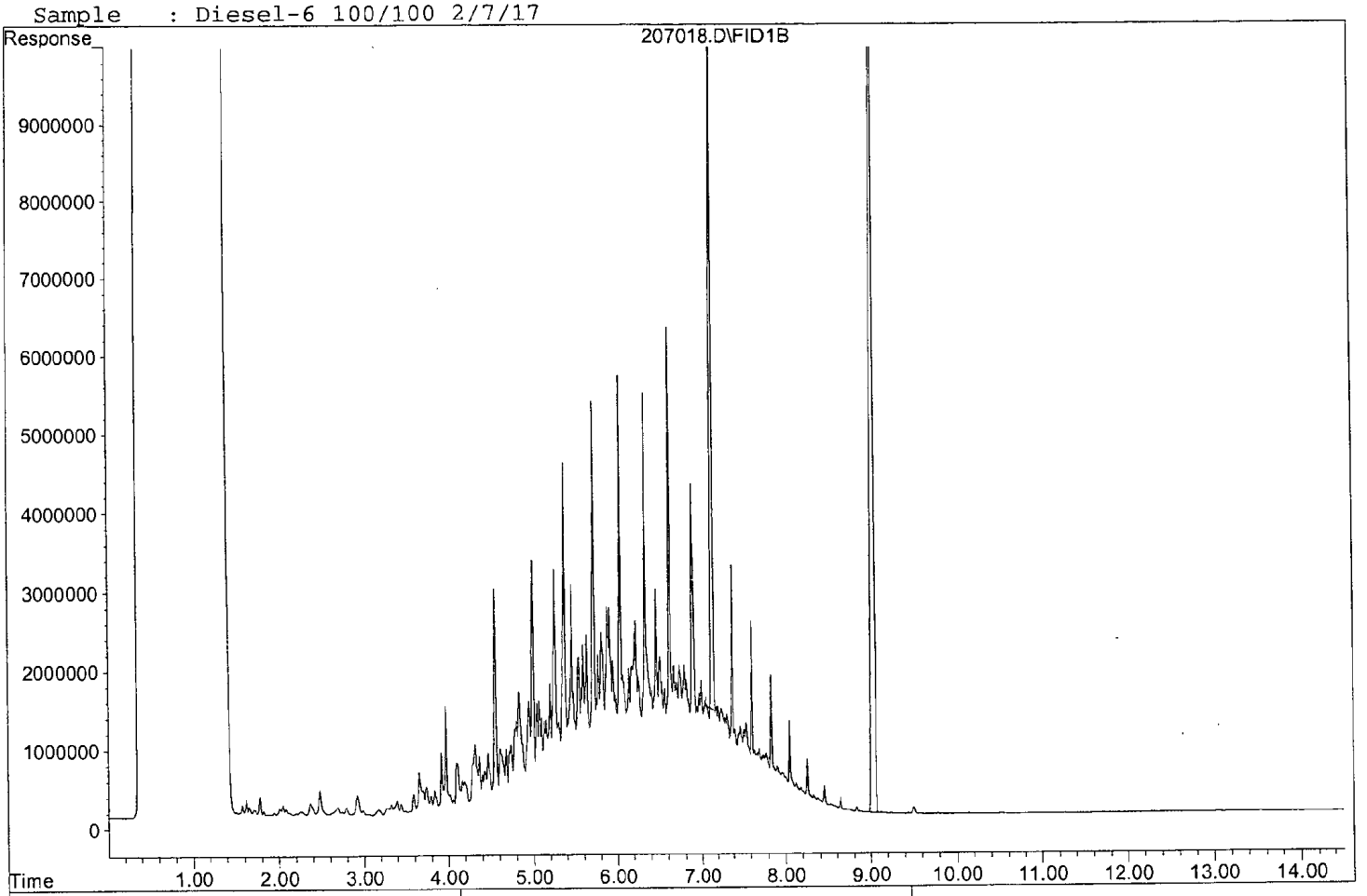
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

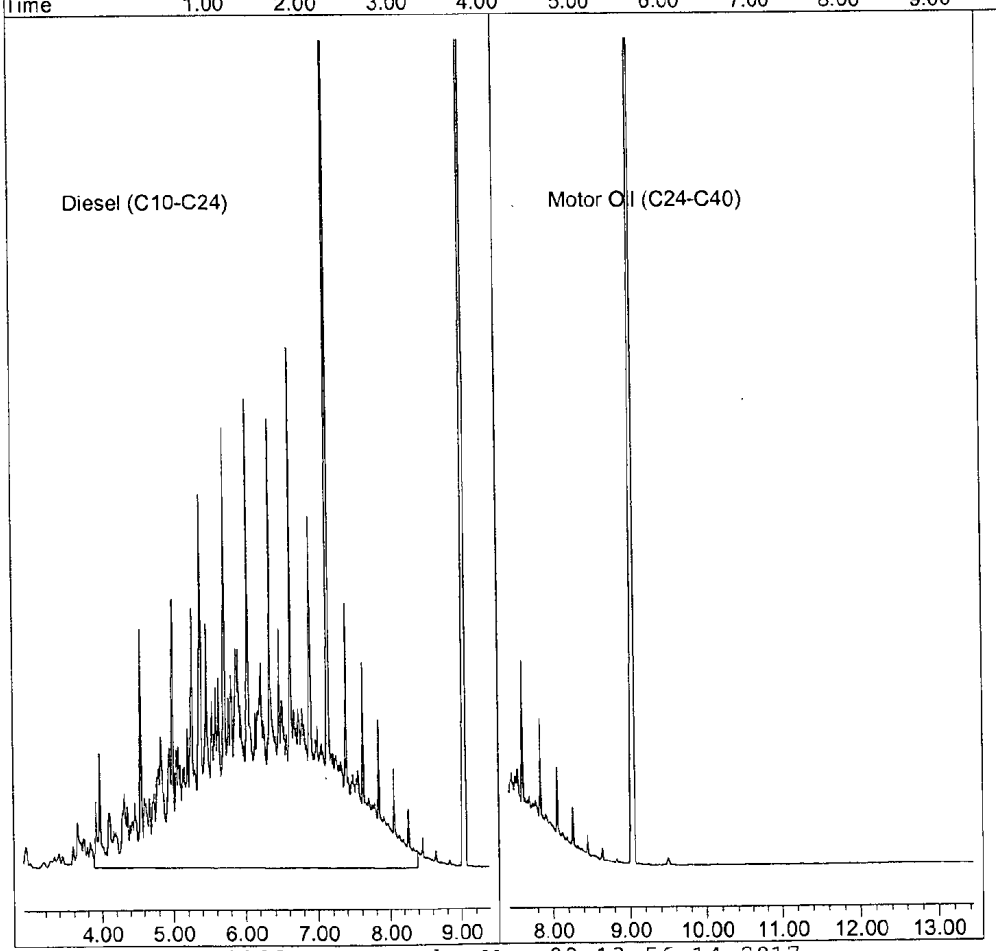
(f)=RT Delta > 1/2 Window (m)=manual int.

207018.D DOC0303.M Thu Mar 09 13:56:12 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

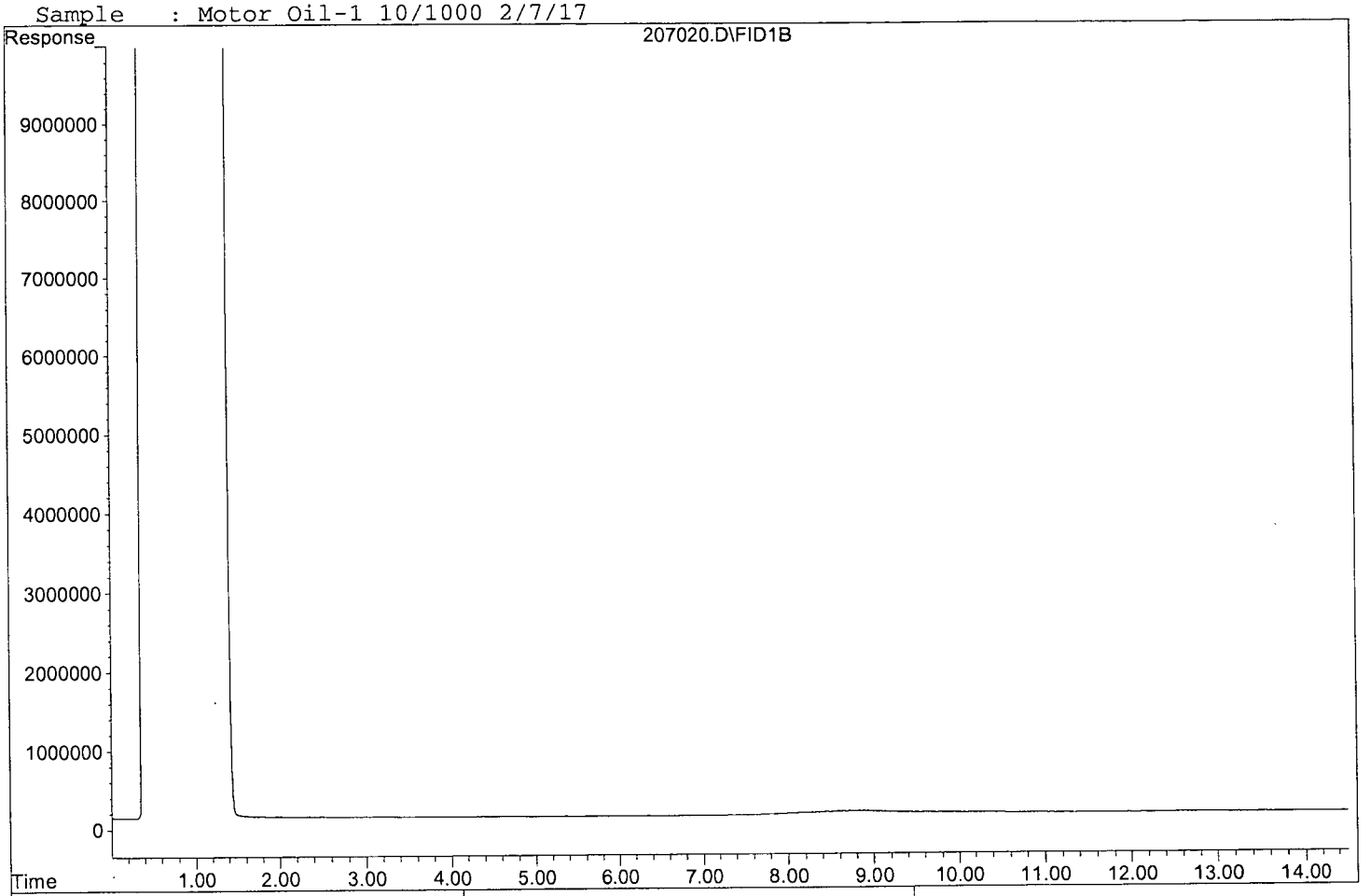
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

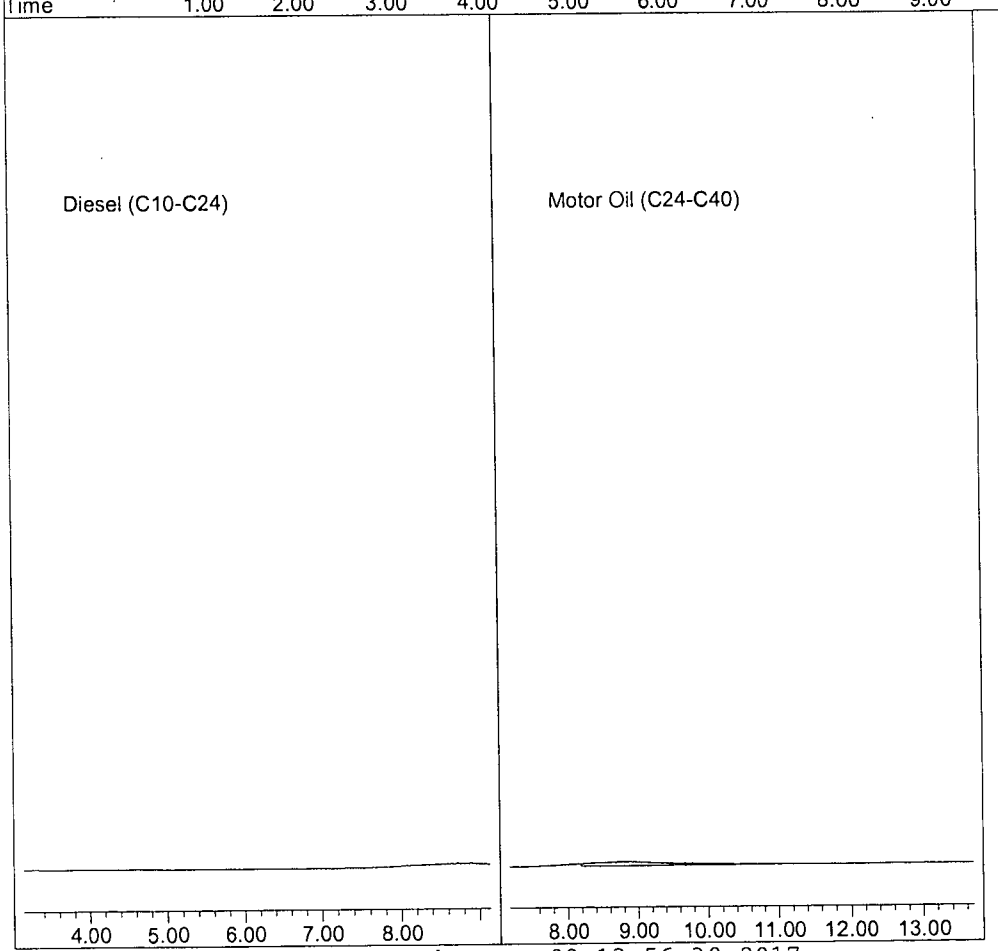
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

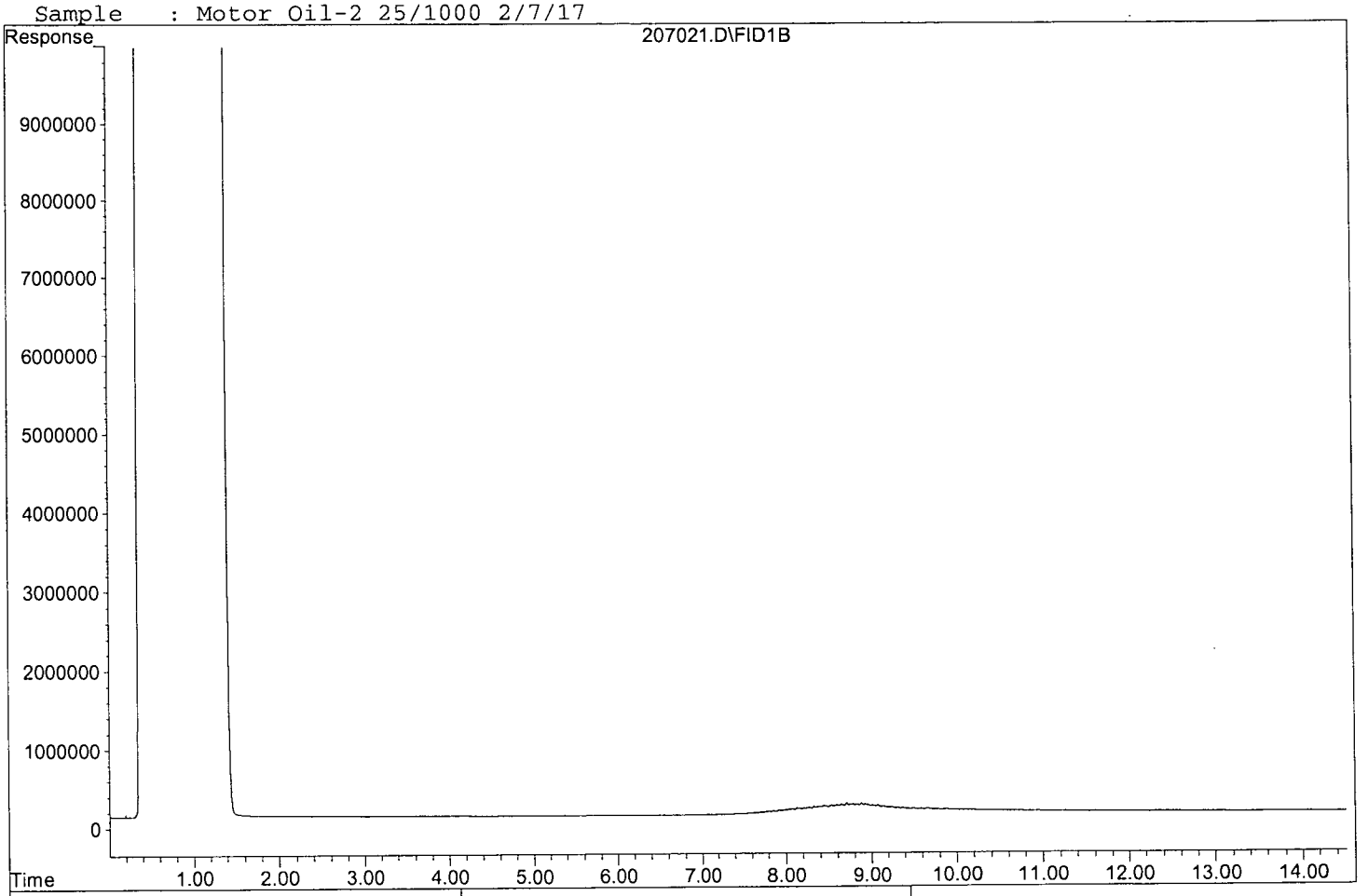
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

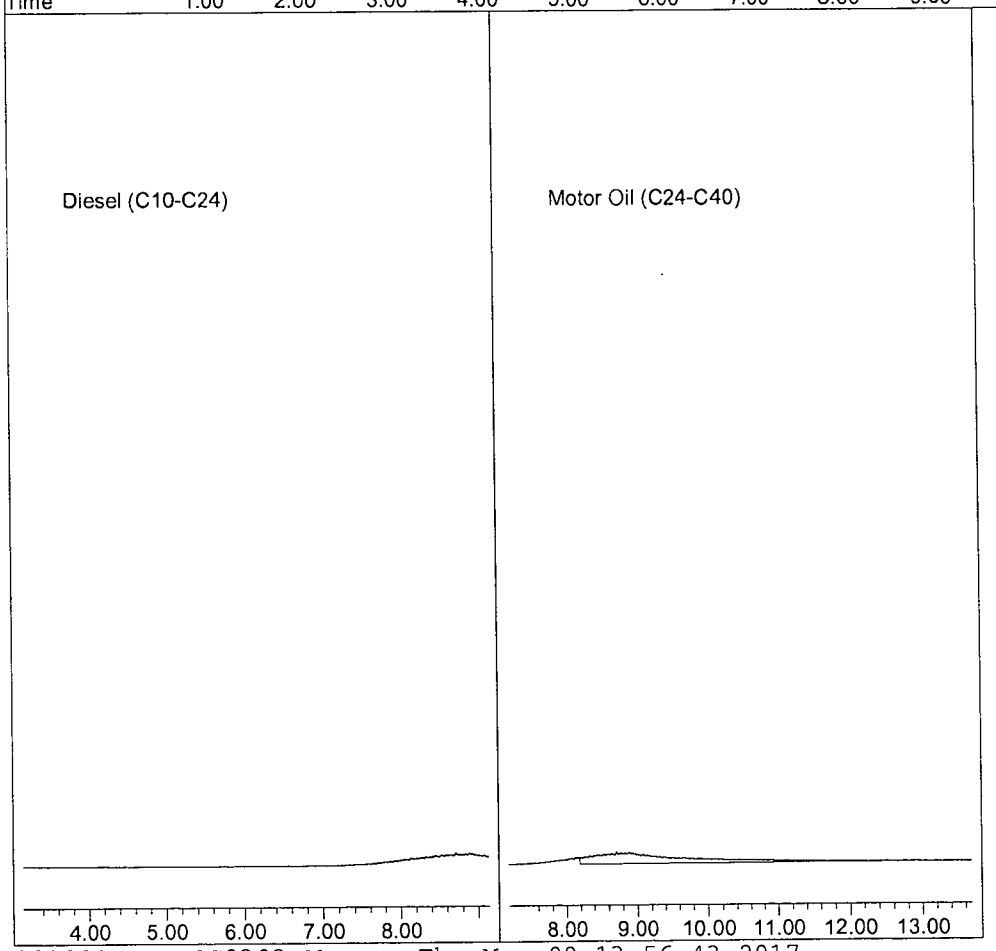
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

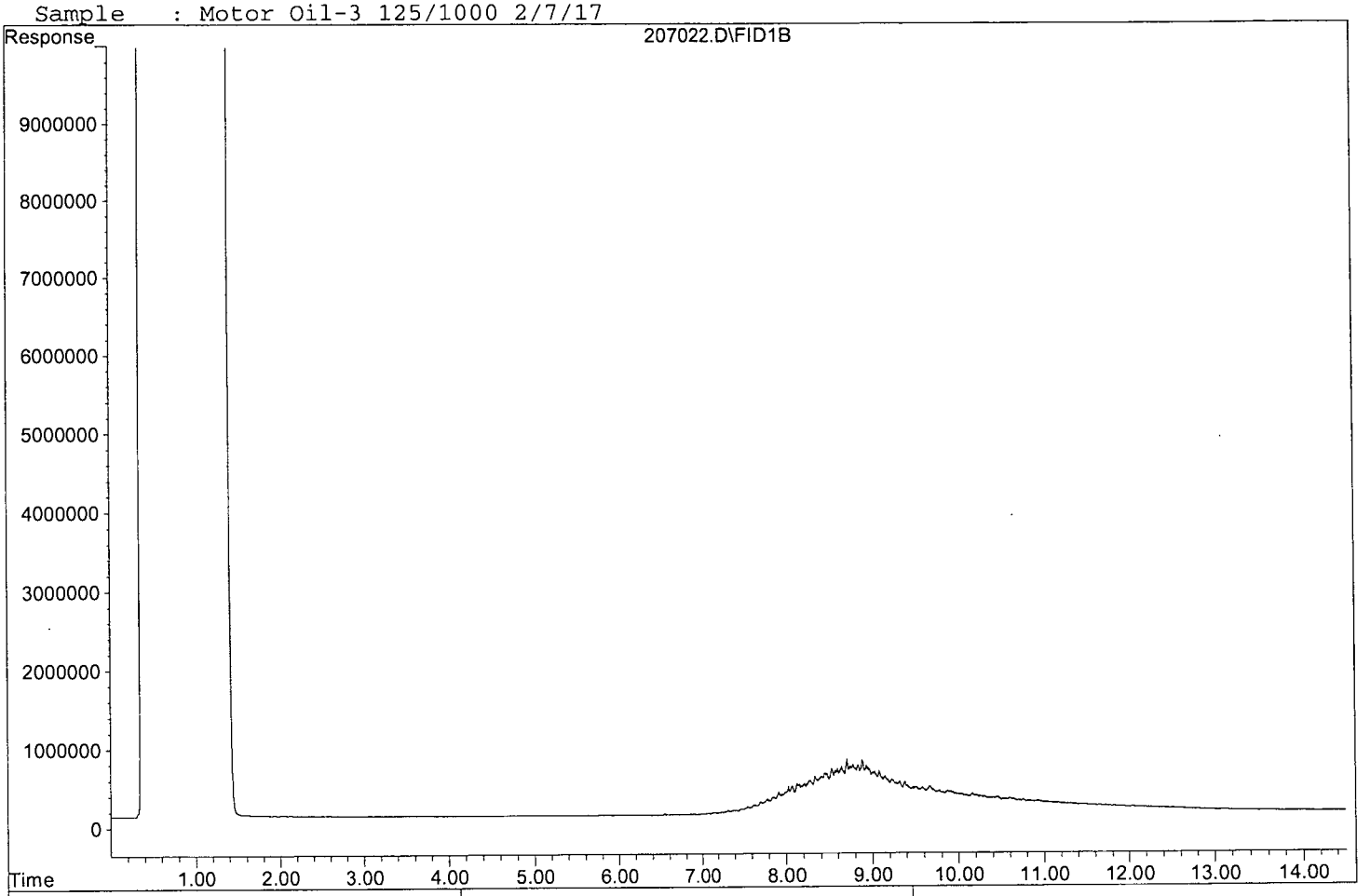
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

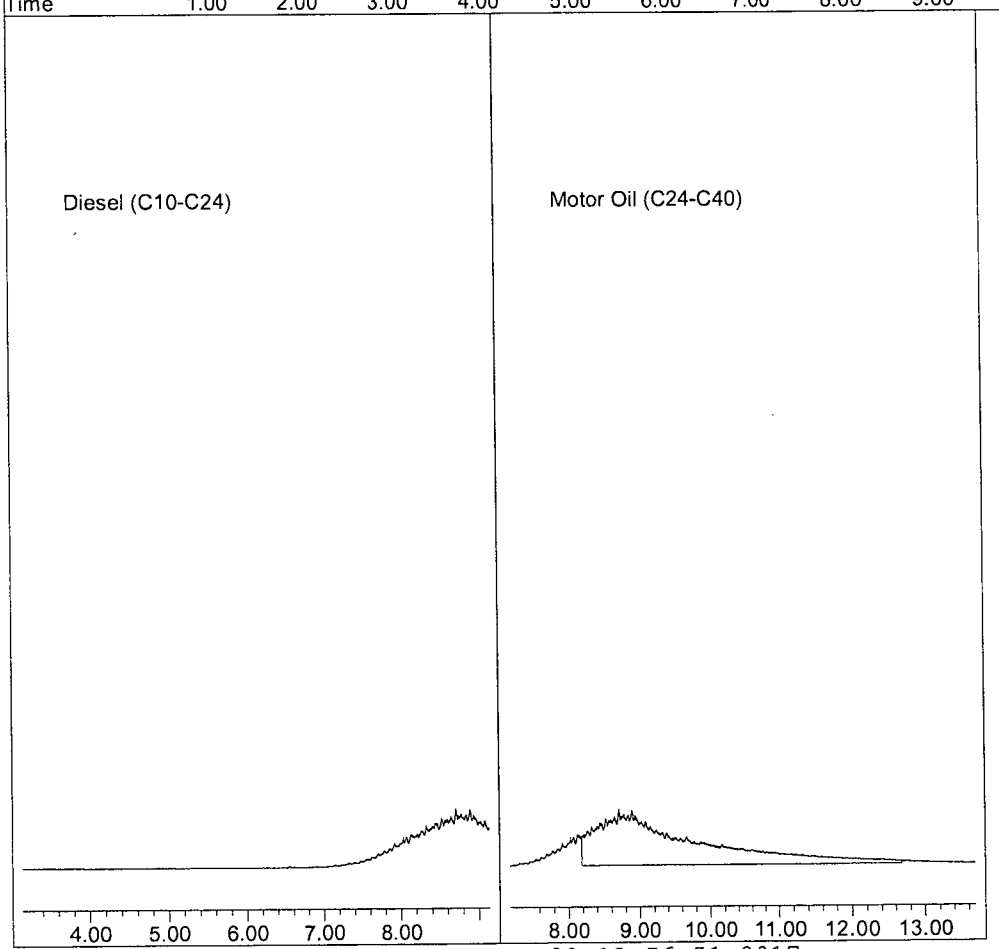
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

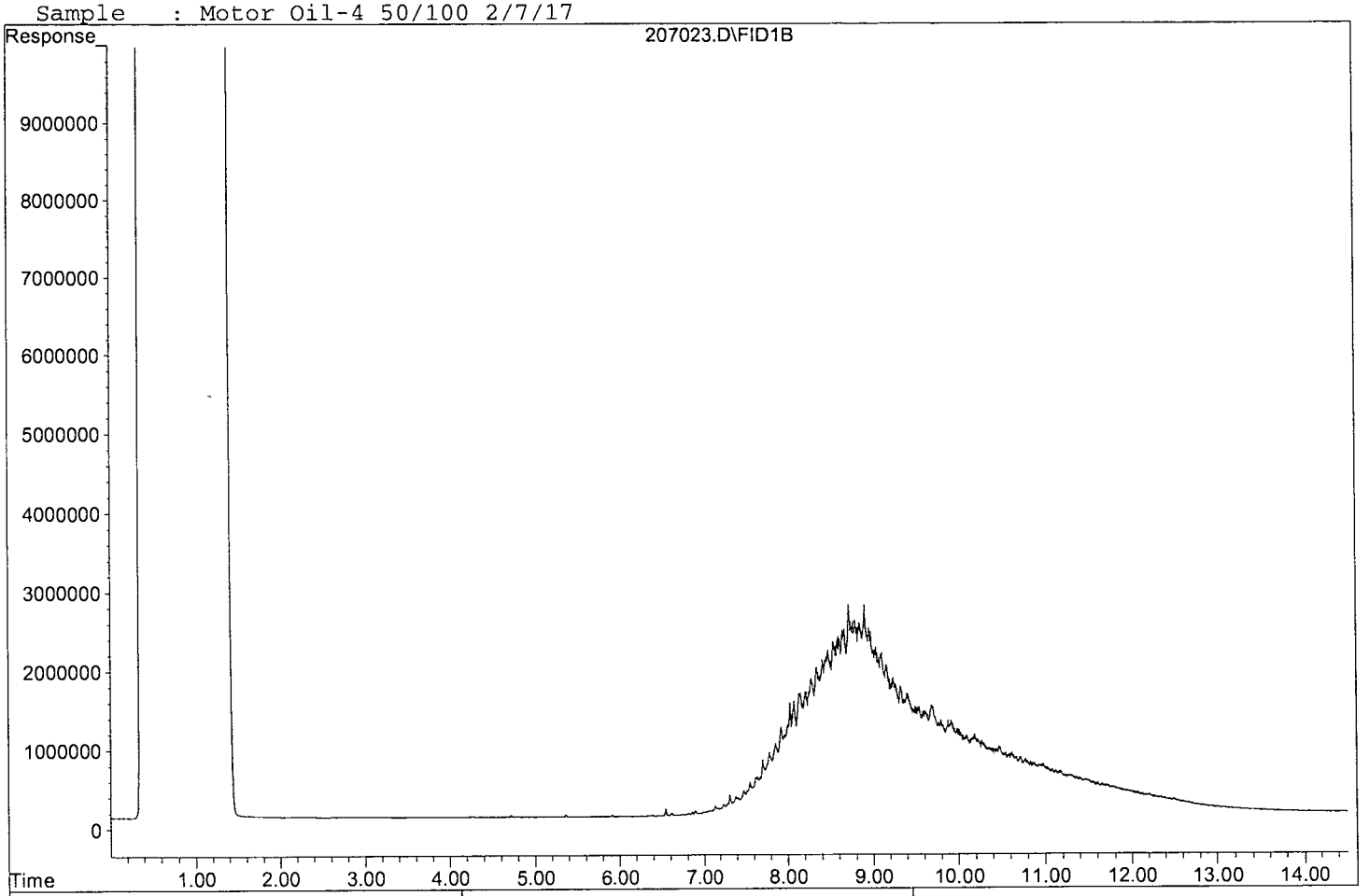
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

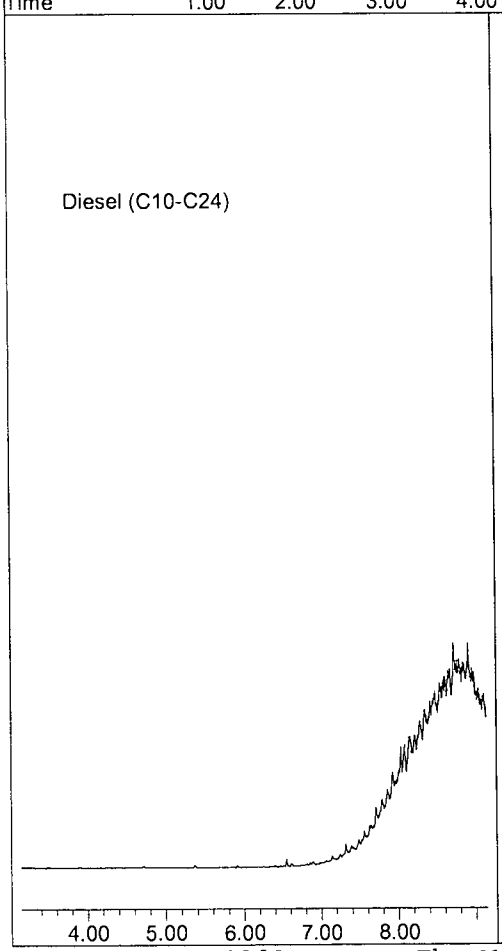
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

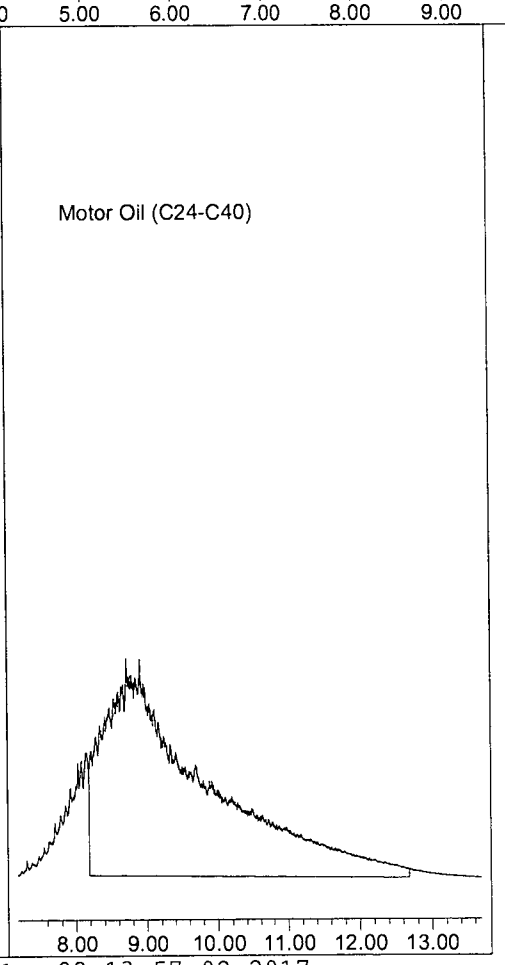
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

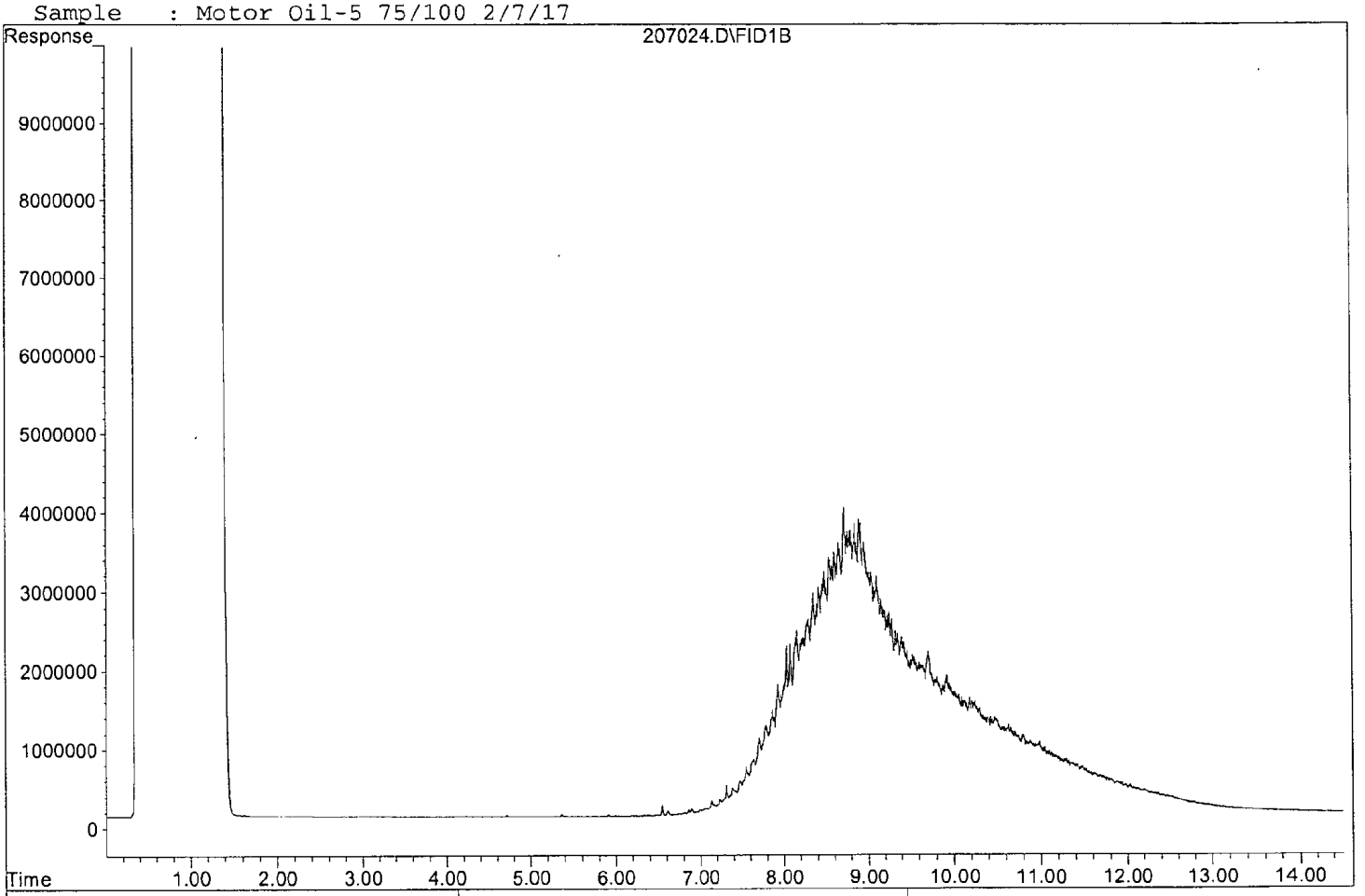
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

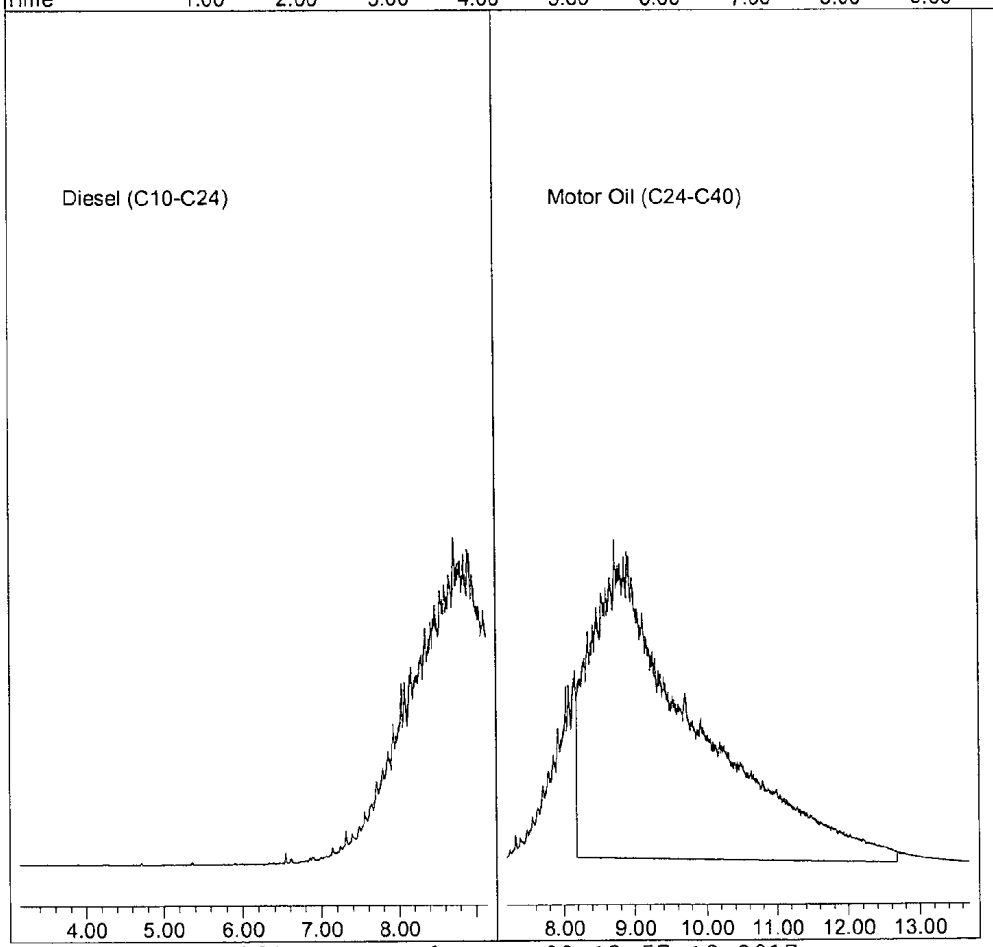
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D Vial: 25
Acq On : 2-7-17 18:01:11 Operator: DP
Sample : Motor Oil-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

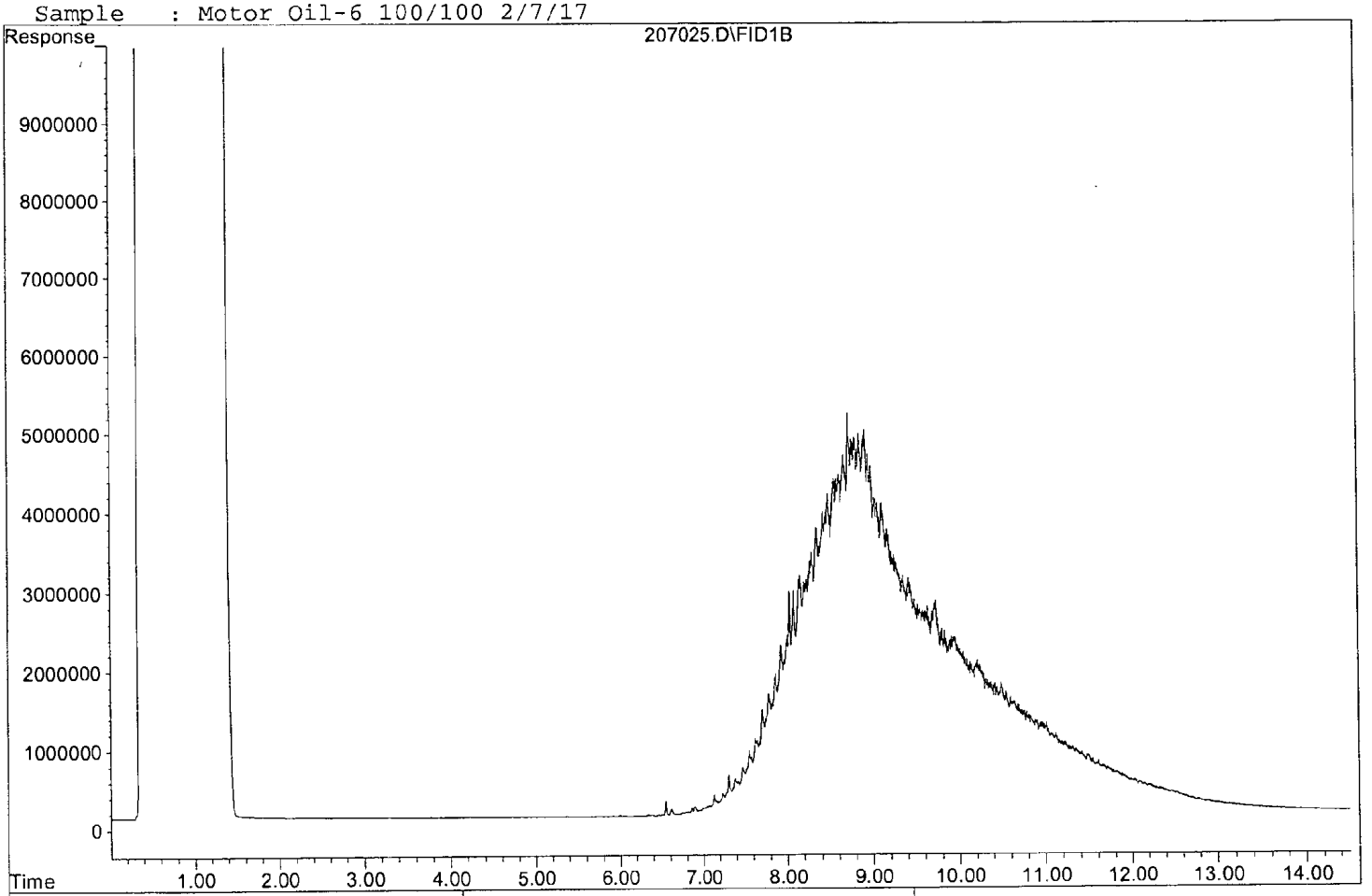
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

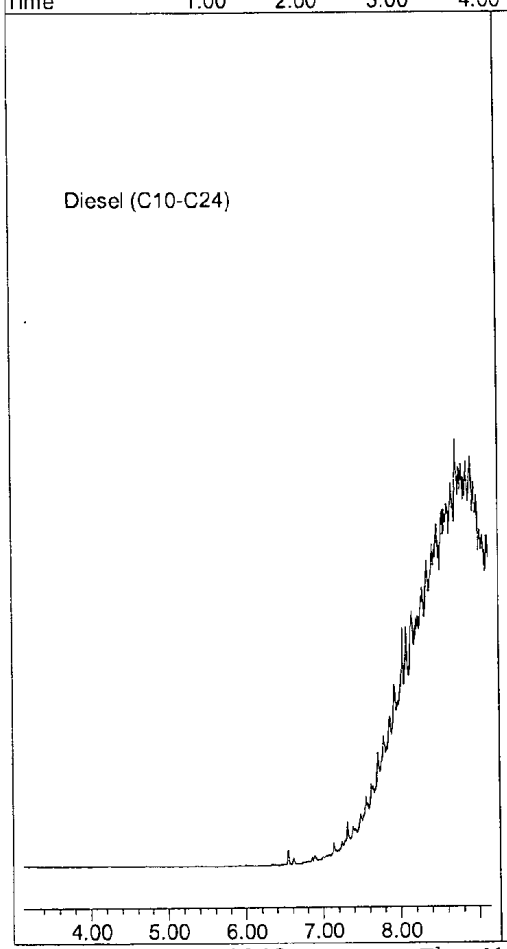
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

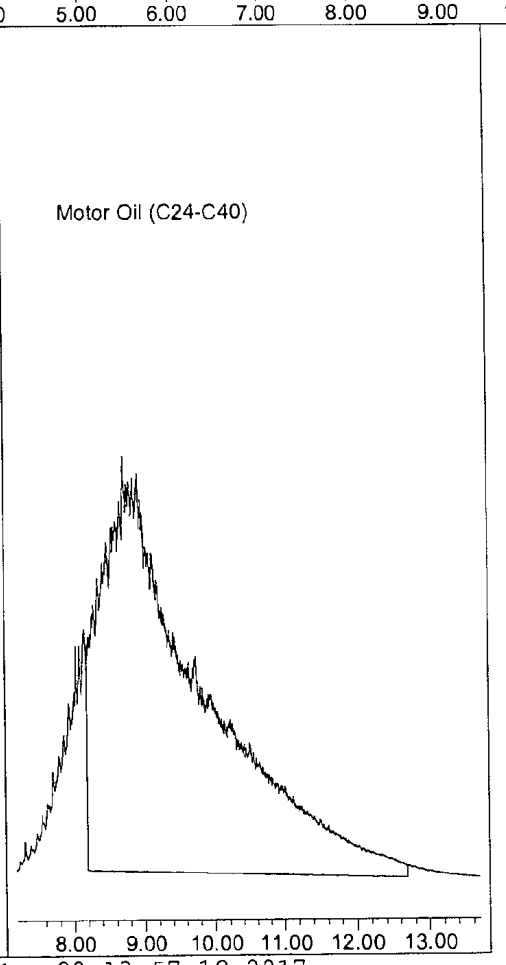
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961	ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303002.D Vial: 2
Acq On : 3-3-17 14:55:47 Operator: DP
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:03 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

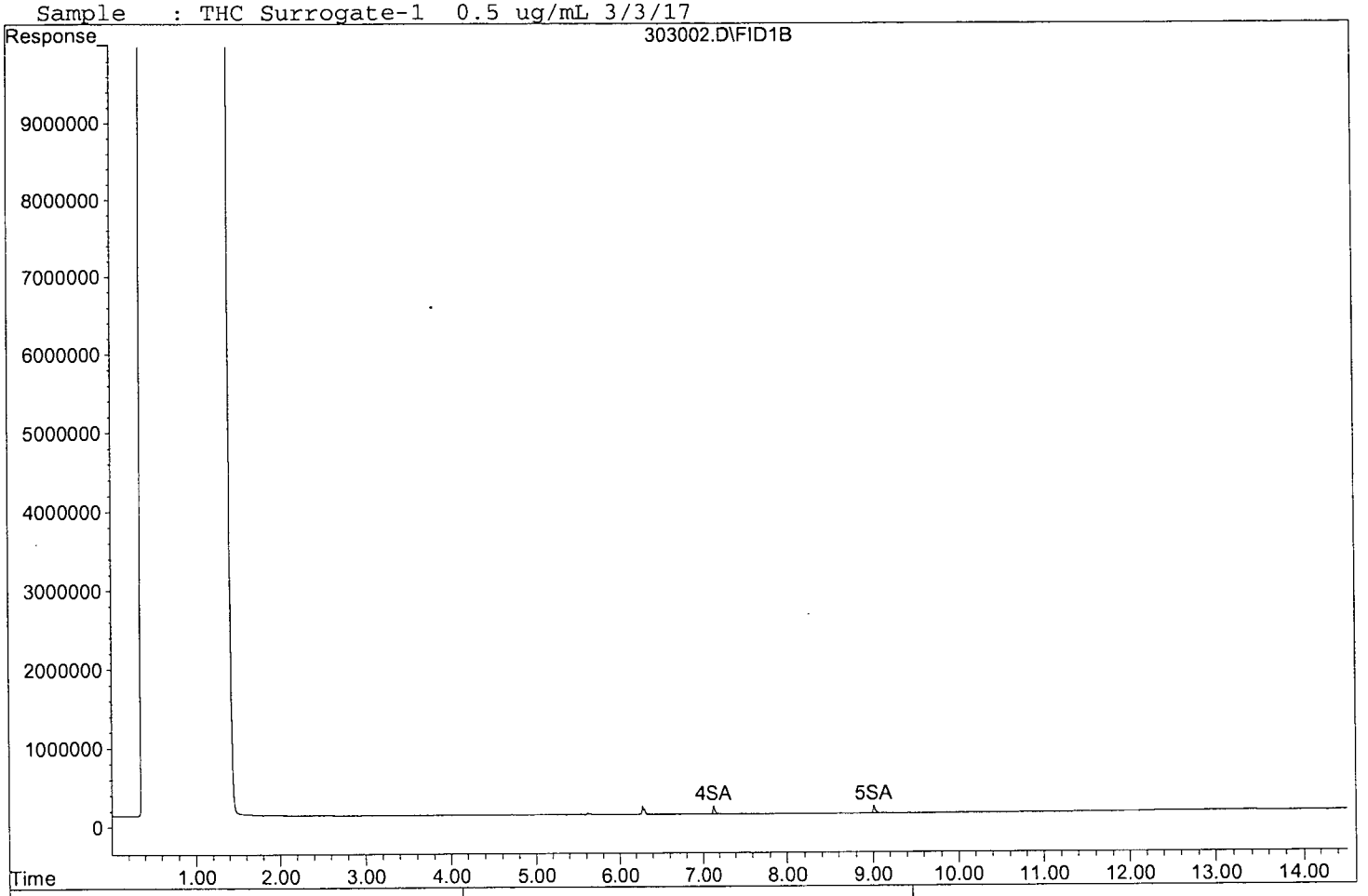
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

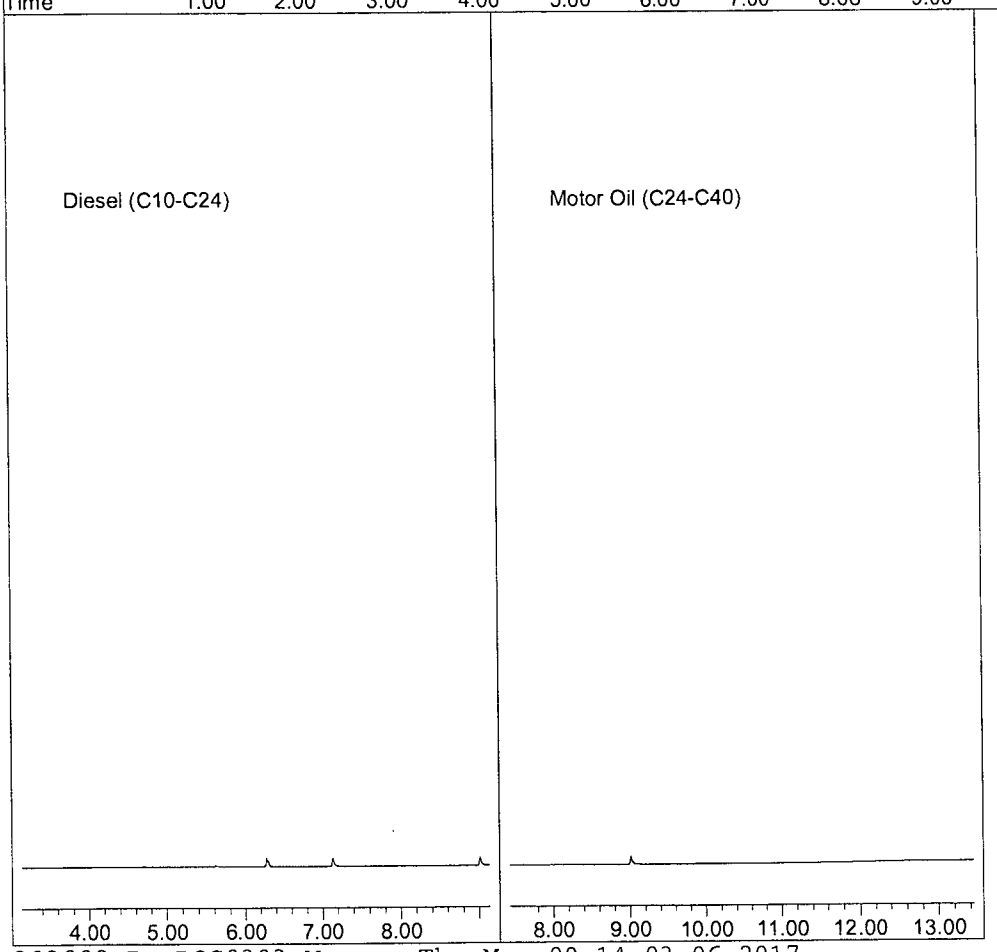
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	1942562	0.507 ppb
Surrogate Spike 30.000	Recovery	=	1.69%
5) SA Octacosane(S)	9.01	1719138	0.527 ppb
Surrogate Spike 30.000	Recovery	=	1.76%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303002.D
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303003.D Vial: 3
Acq On : 3-3-17 15:16:38 Operator: DP
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

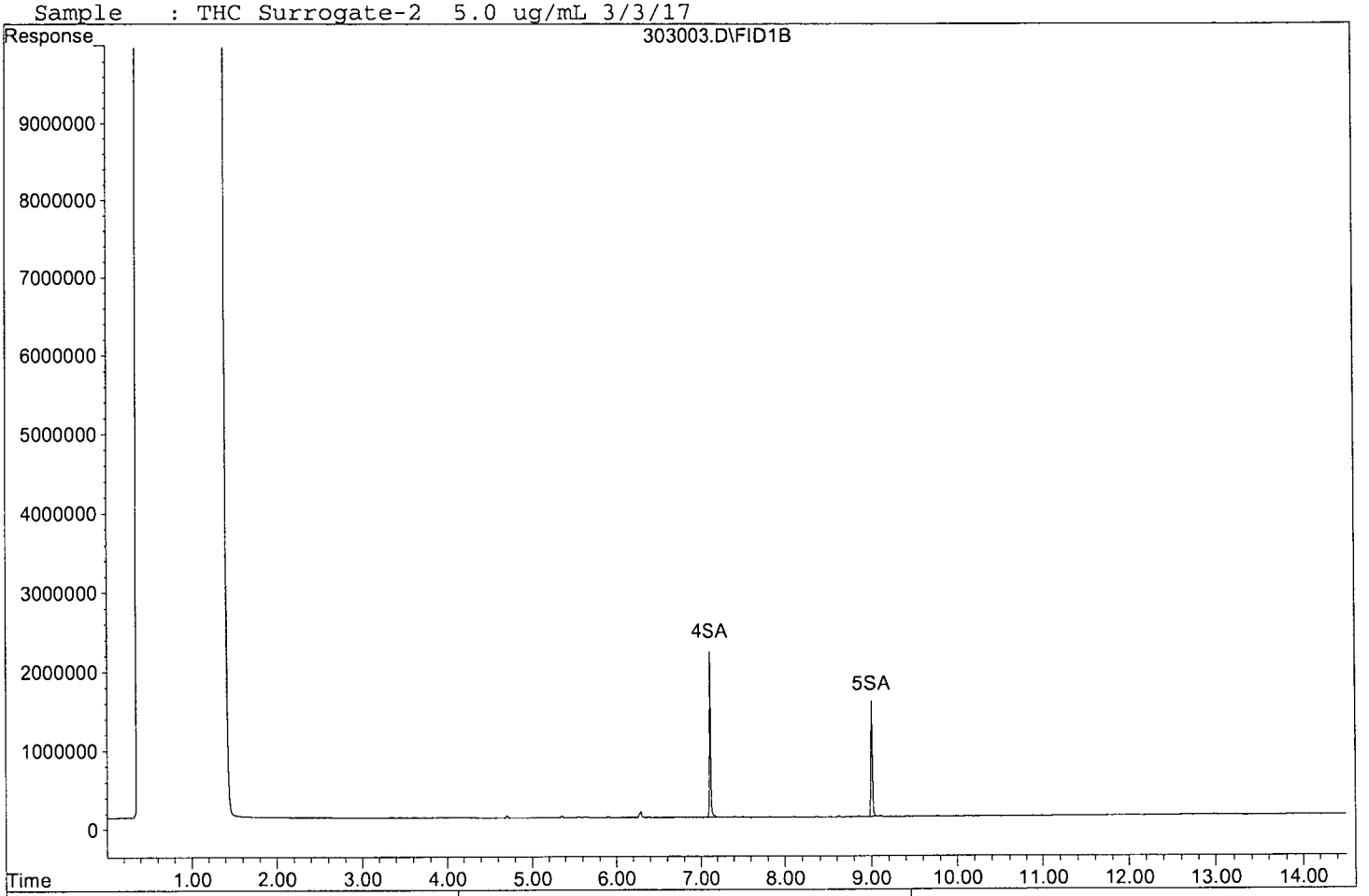
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

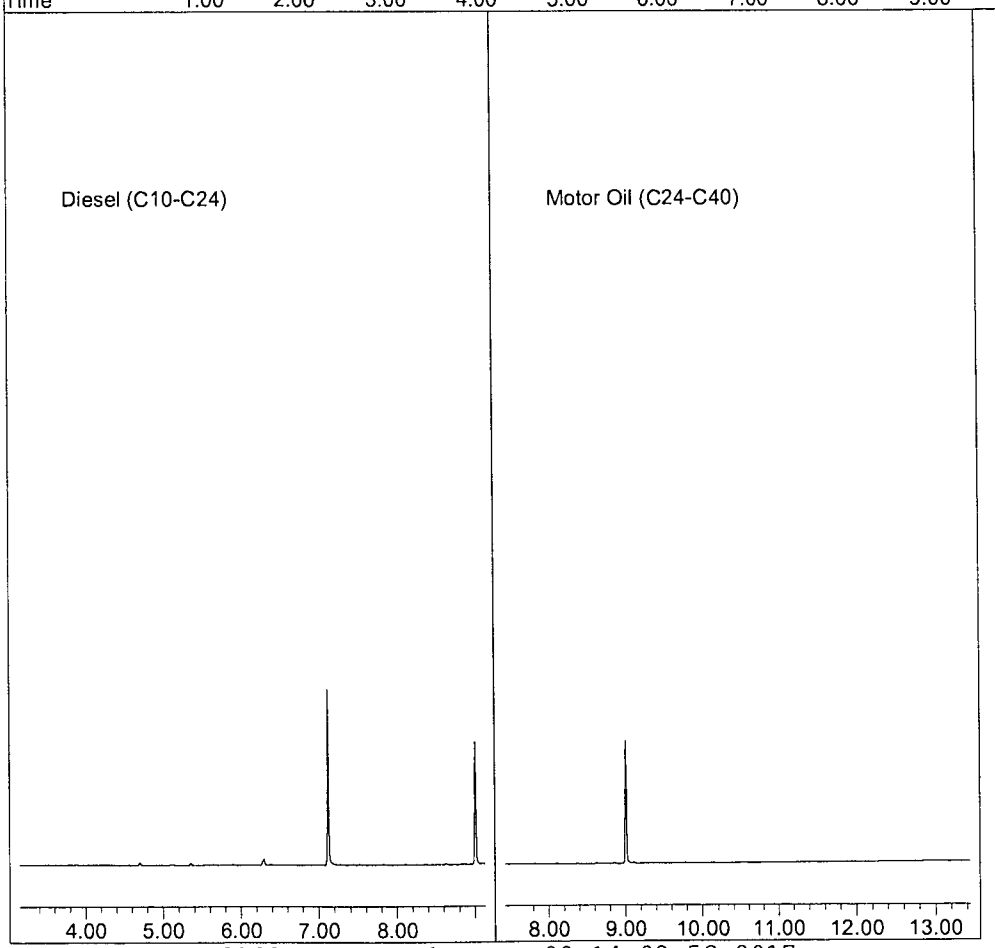
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	21242228	5.541 ppb
Surrogate Spike 30.000		Recovery =	18.47%
5) SA Octacosane(S)	9.01	17712742	5.430 ppb
Surrogate Spike 30.000		Recovery =	18.10%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303003.D
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303004.D Vial: 4
Acq On : 3-3-17 15:37:25 Operator: DP
Sample : THC Surrogate-3 20 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

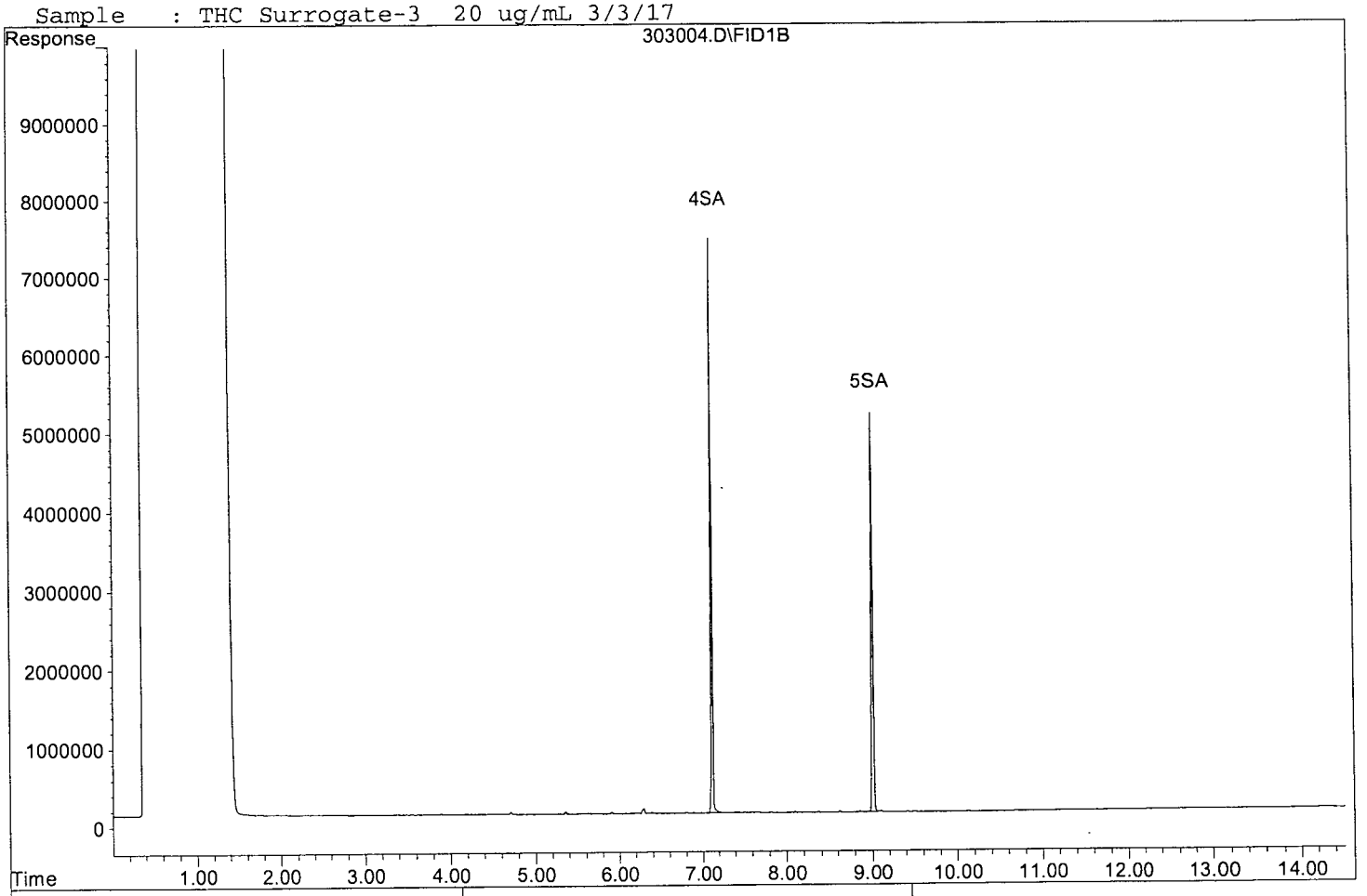
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

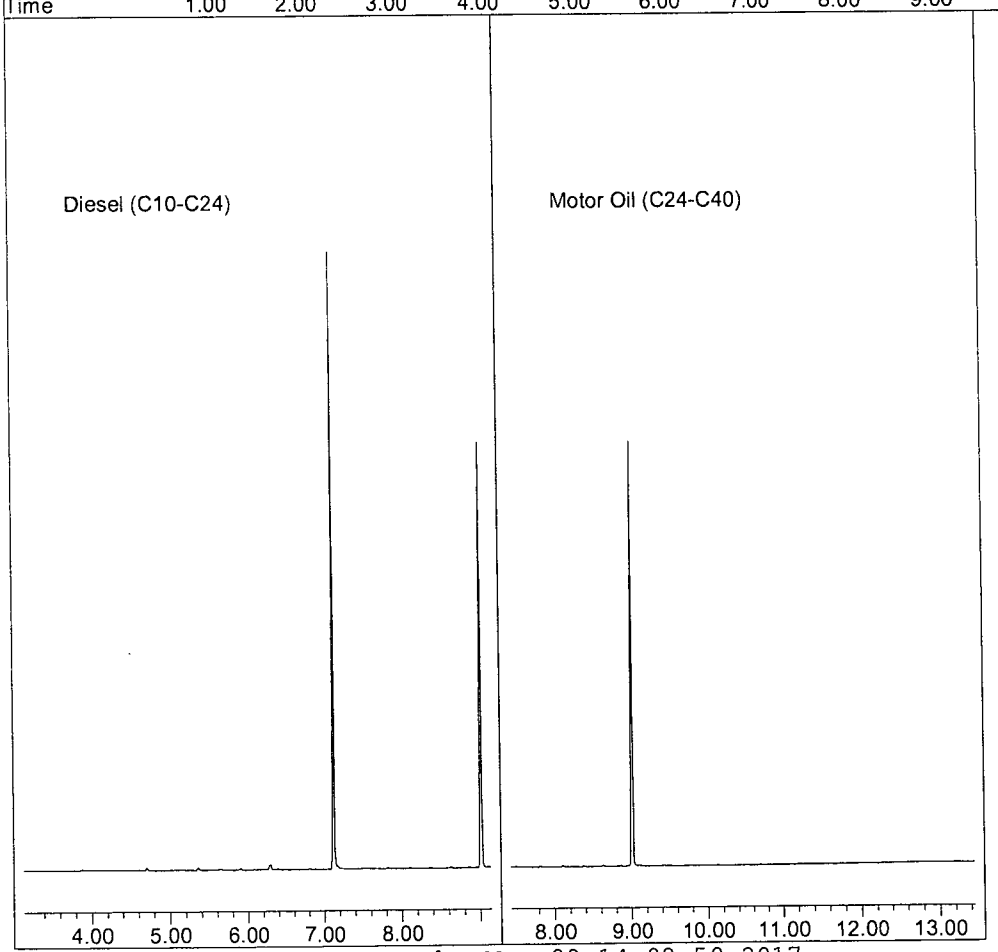
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	74537557	19.442 ppb
Surrogate Spike 30.000		Recovery =	64.81%
5) SA Octacosane(S)	9.01	62896901	19.281 ppb
Surrogate Spike 30.000		Recovery =	64.27%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303004.D
Sample : THC Surrogate-3 20 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303005.D Vial: 5
Acq On : 3-3-17 15:58:18 Operator: DP
Sample : THC Surrogate-4 30 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

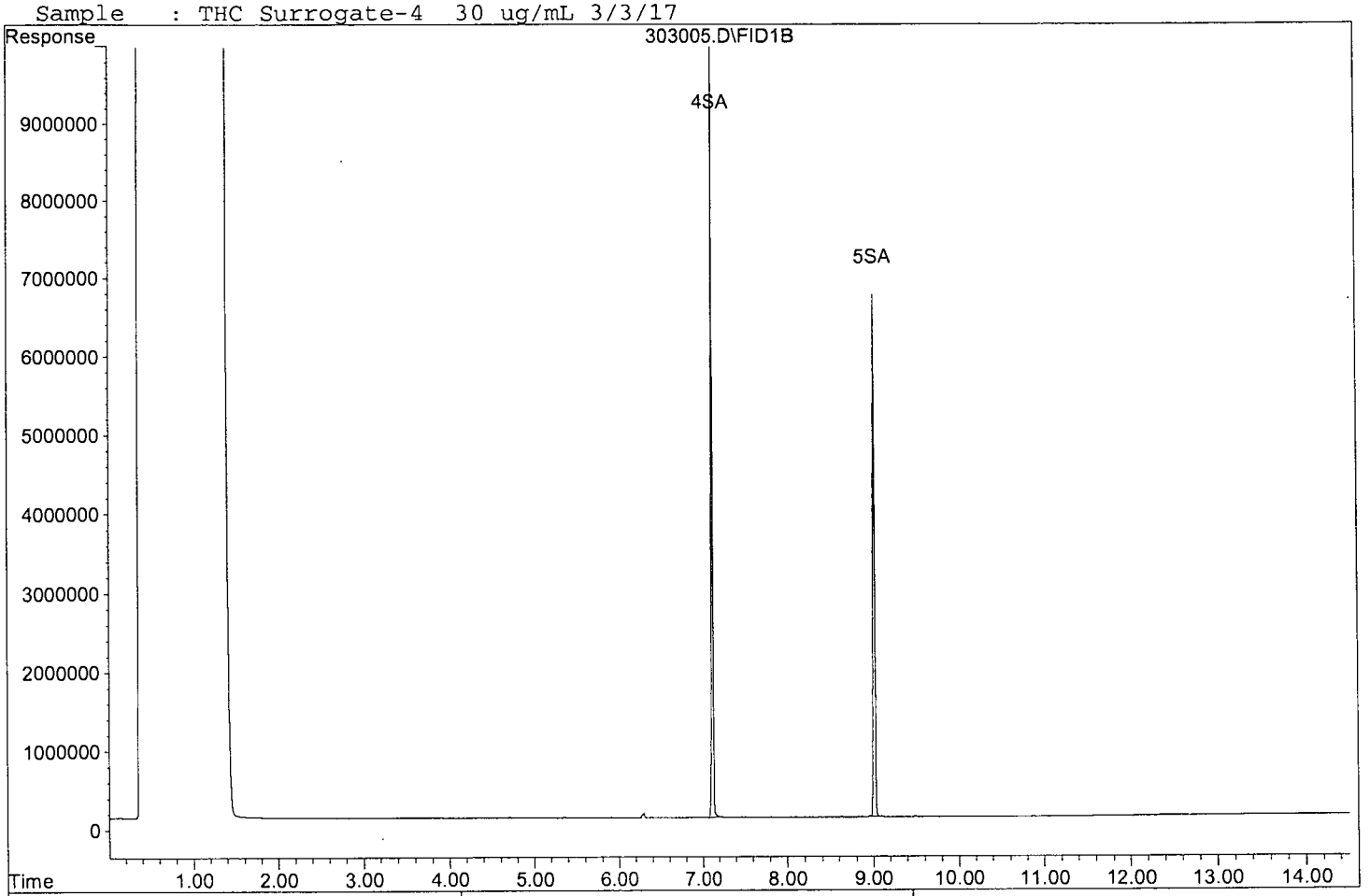
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

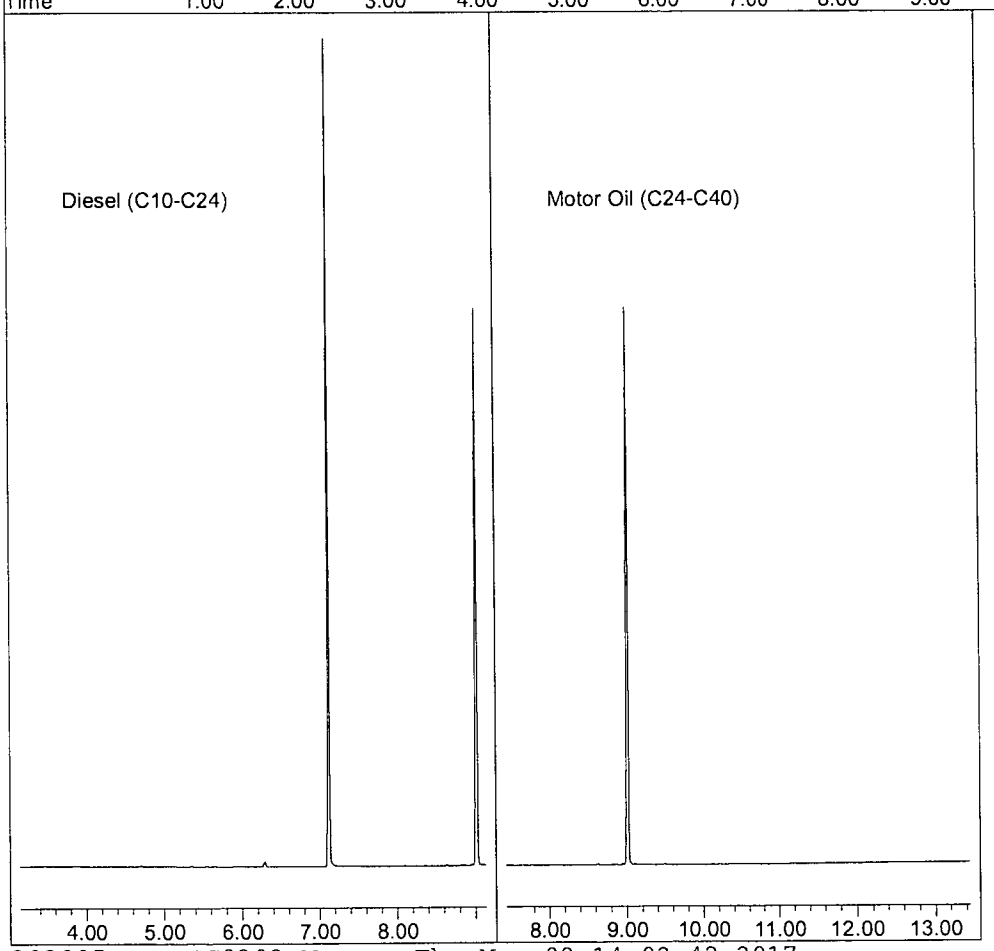
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	108679562	28.347 ppb
Surrogate Spike 30.000		Recovery =	94.49%
5) SA Octacosane(S)	9.02	92652170	28.403 ppb
Surrogate Spike 30.000		Recovery =	94.68%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303005.D
Sample : THC Surrogate-4 30 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303006.D Vial: 6
Acq On : 3-3-17 16:19:16 Operator: DP
Sample : THC Surrogate-5 40 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

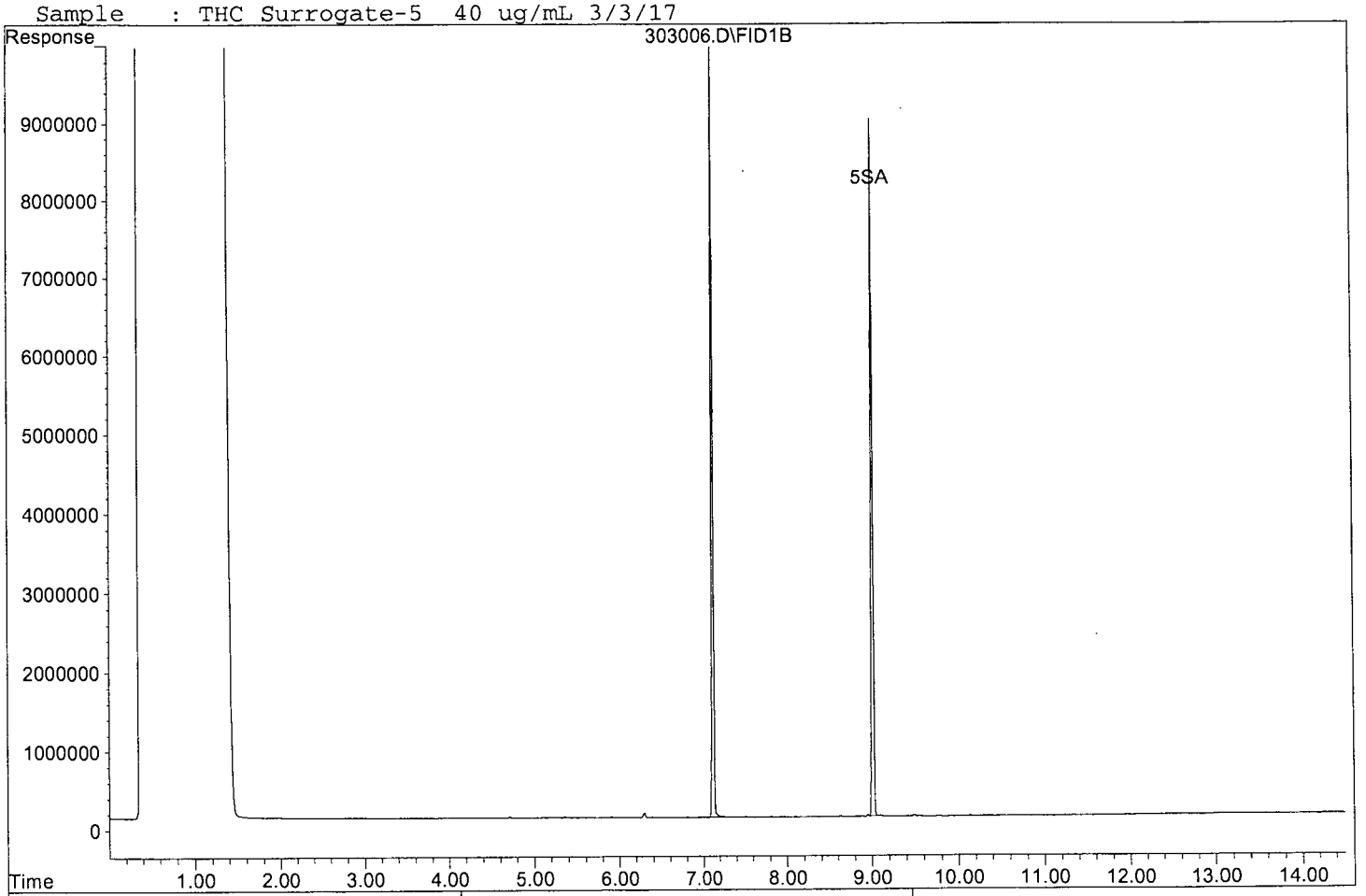
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

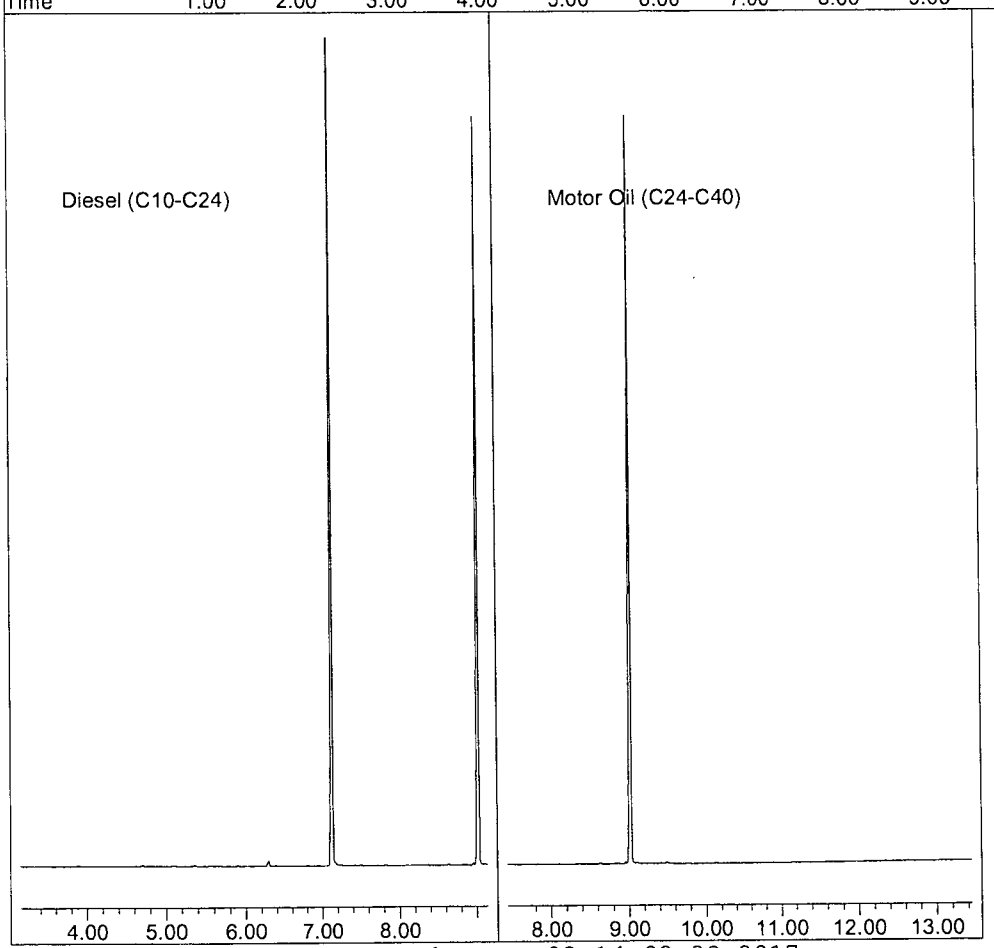
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	146802745	38.291 ppb
Surrogate Spike 30.000		Recovery =	127.64%
5) SA Octacosane(S)	9.02	124259114	38.092 ppb
Surrogate Spike 30.000		Recovery =	126.97%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303006.D
Sample : THC Surrogate-5 40 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303007.D Vial: 7
Acq On : 3-3-17 16:40:03 Operator: DP
Sample : THC Surrogate-6 50 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

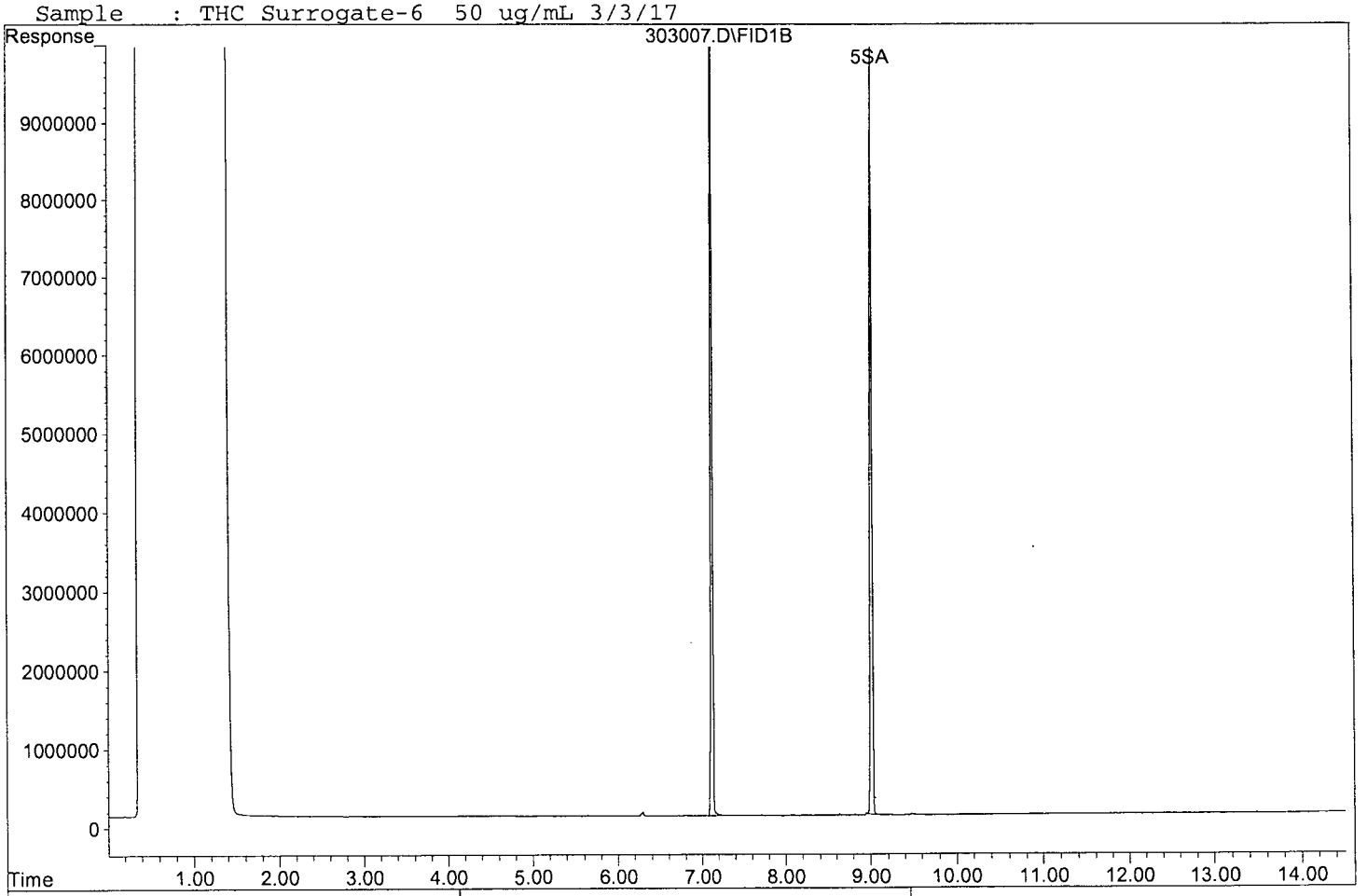
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

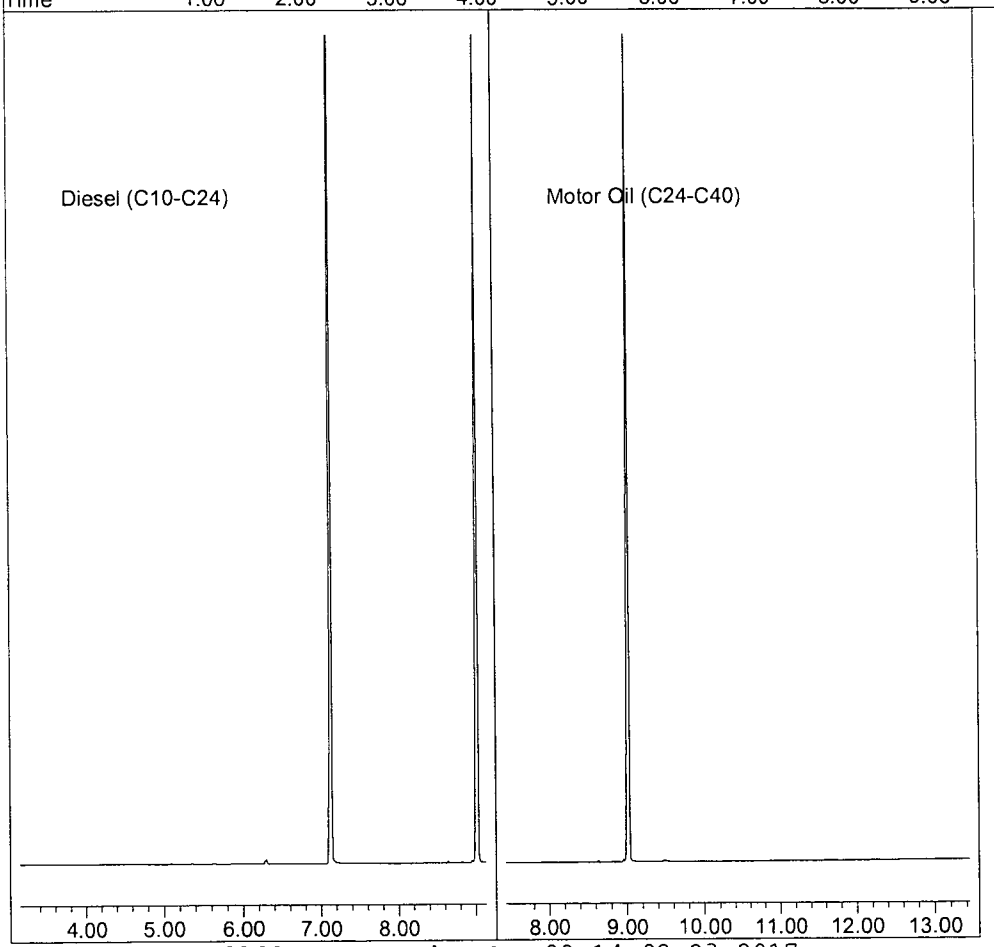
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	192507036	50.212 ppb
Surrogate Spike 30.000		Recovery =	167.37%
5) SA Octacosane(S)	9.03	162603738	49.846 ppb
Surrogate Spike 30.000		Recovery =	166.15%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303007.D
Sample : THC Surrogate-6 50 ug/mL 3/3/17





TPH Extractables
DOC0303

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 207019.D 207026.D
Diesel: Motor Oil:

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
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		Average			14.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D Vial: 19
Acq On : 2-7-17 15:57:38 Operator: DP
Sample : Diesel-2nd Src 8/1/16 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.888 ppb
Surrogate Spike 30.000		Recovery =	9.63%
5) SA Octacosane(S)	9.01	2024928	0.621 ppb
Surrogate Spike 30.000		Recovery =	2.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

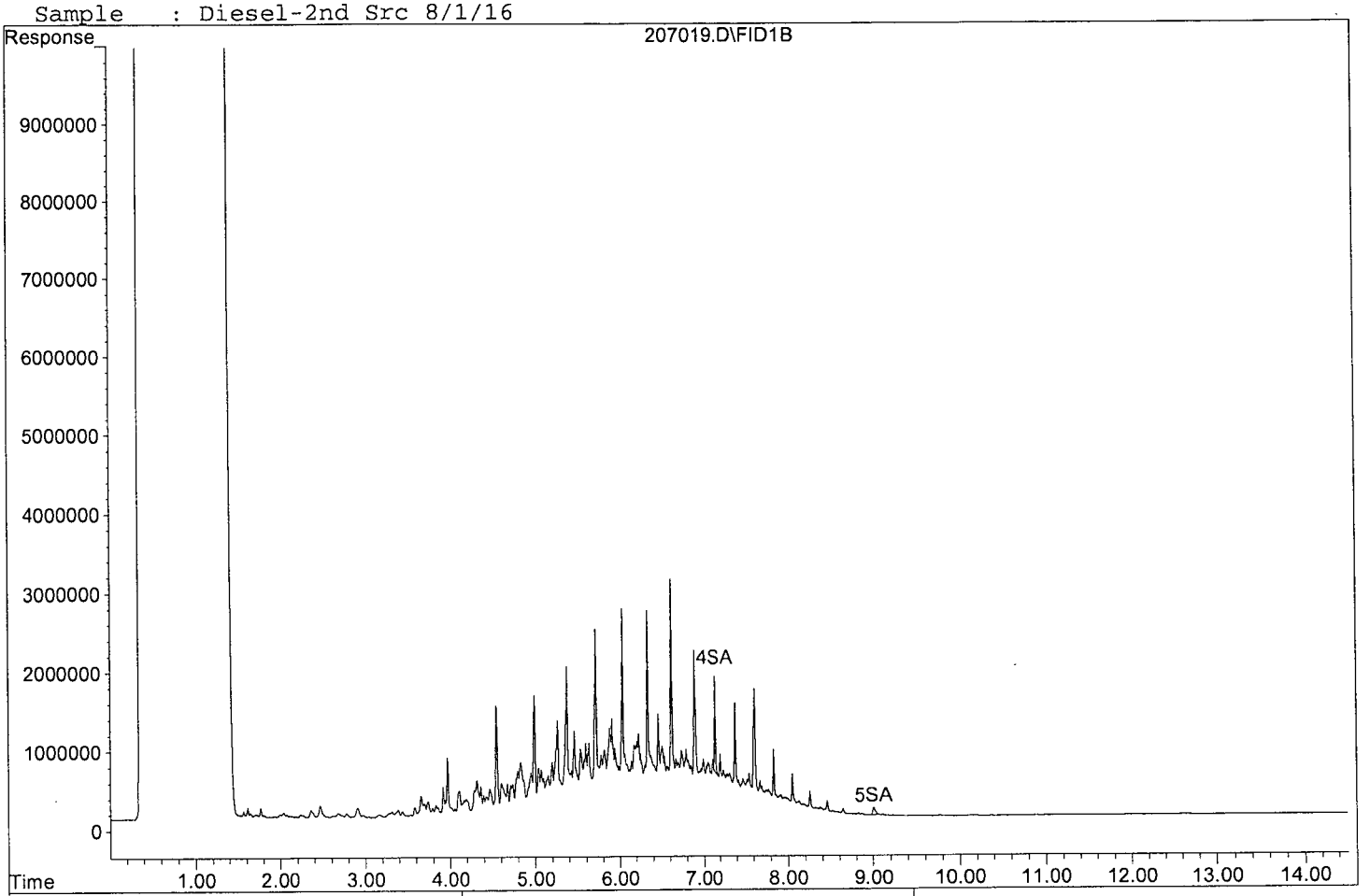
algorithm check
Diesel : $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

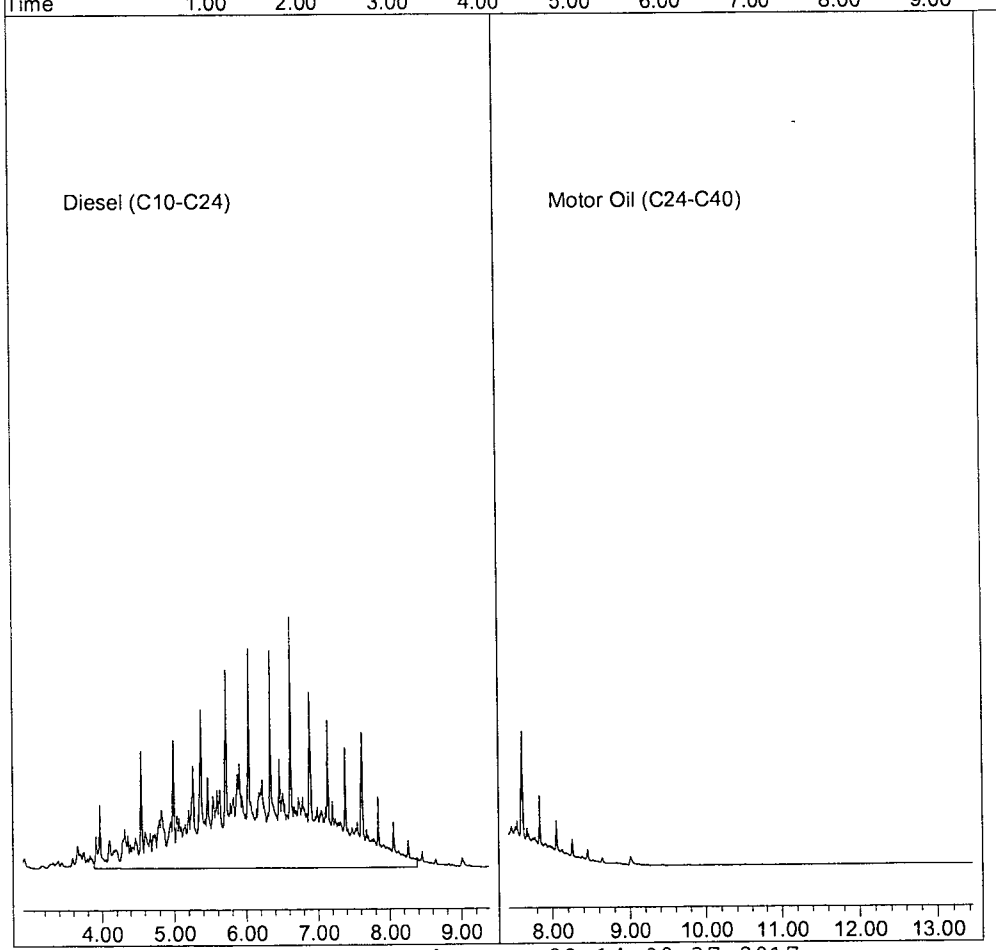
DP 3/9/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

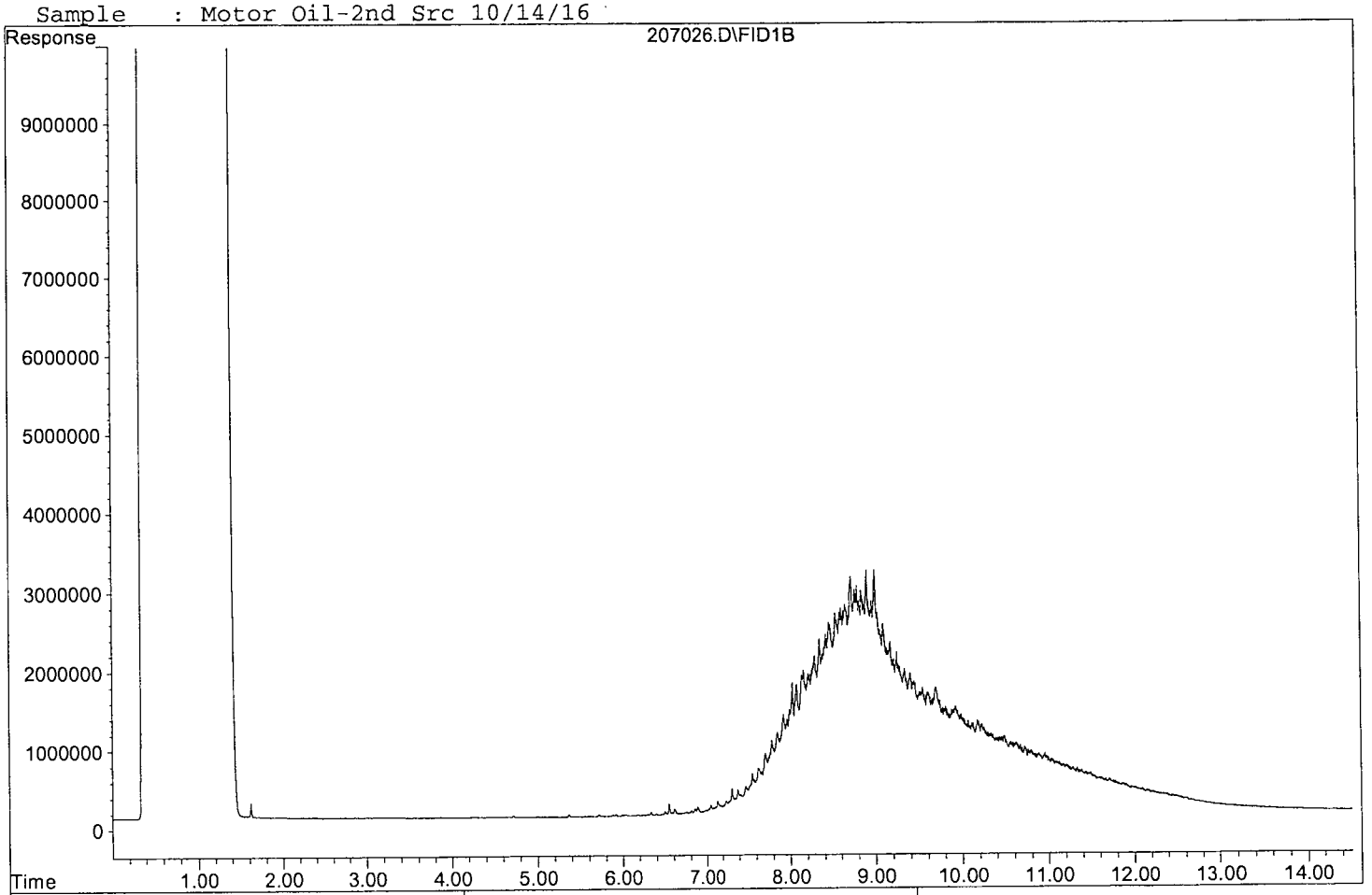
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

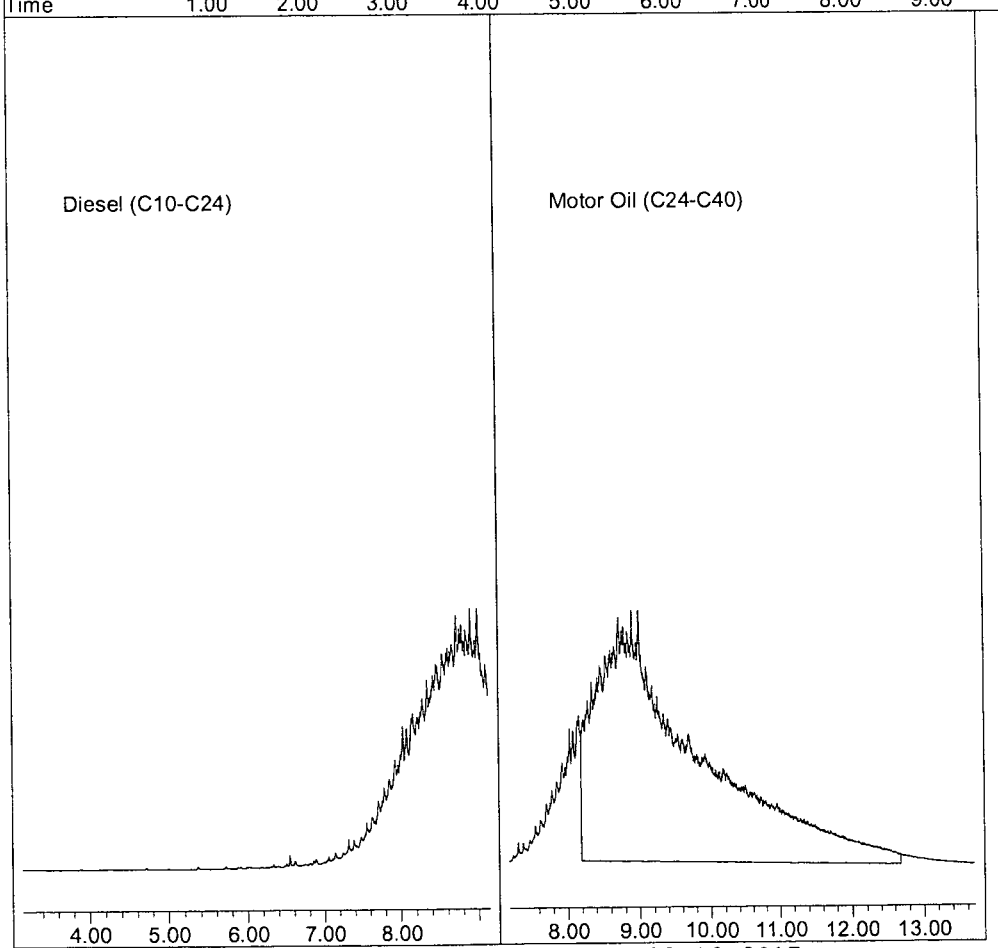
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

207026.D DOC0303.M Thu Mar 09 14:00:18 2017

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/15/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315018-19.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1661350	1.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1216850	1.0	HBTM	
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		Average			1.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315018.D
Vial: 18
Acq On : 3-15-17 20:55:24
Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17
Inst : Apollo
Misc : Mix(A)
Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:57 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

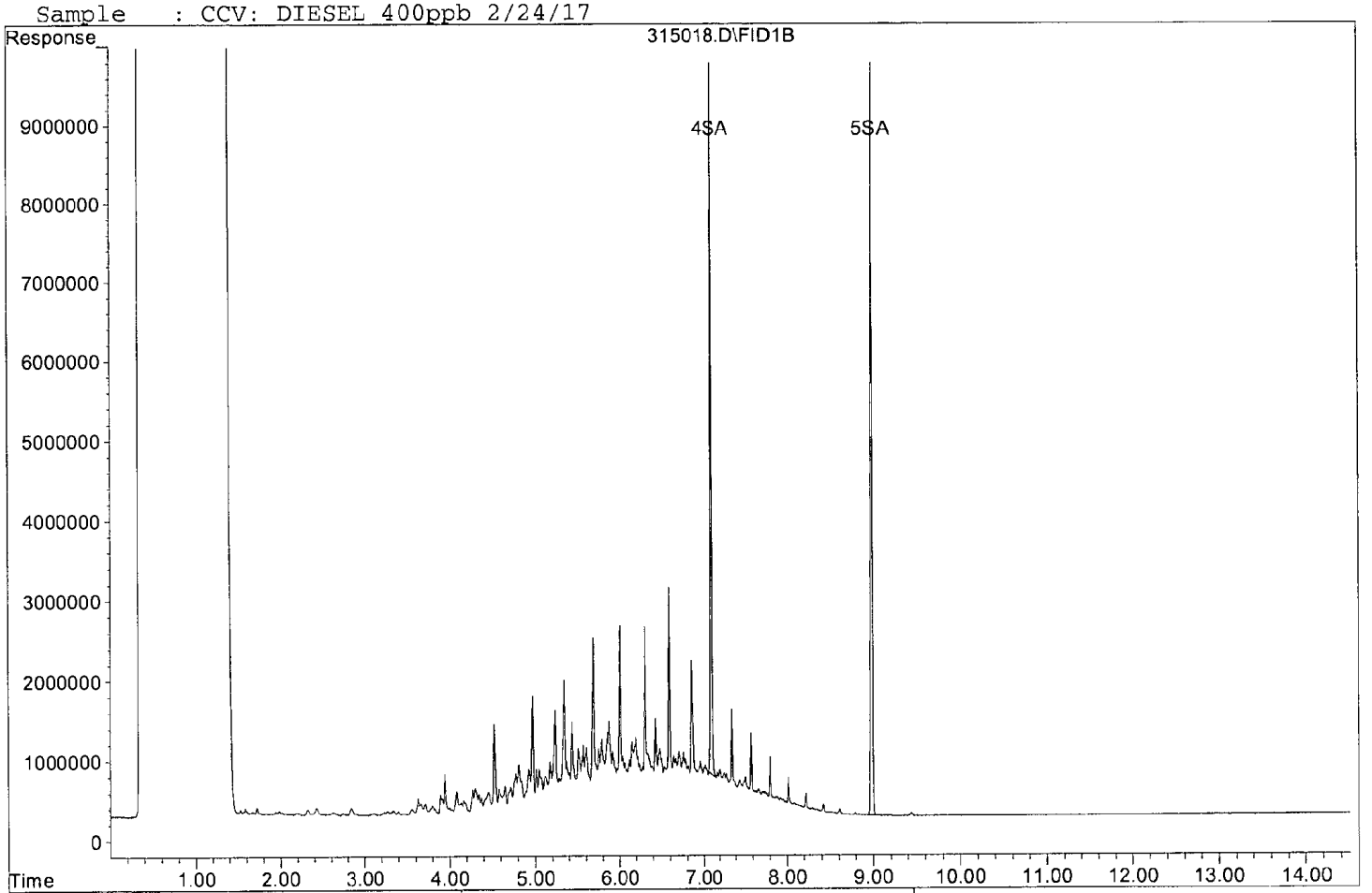
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

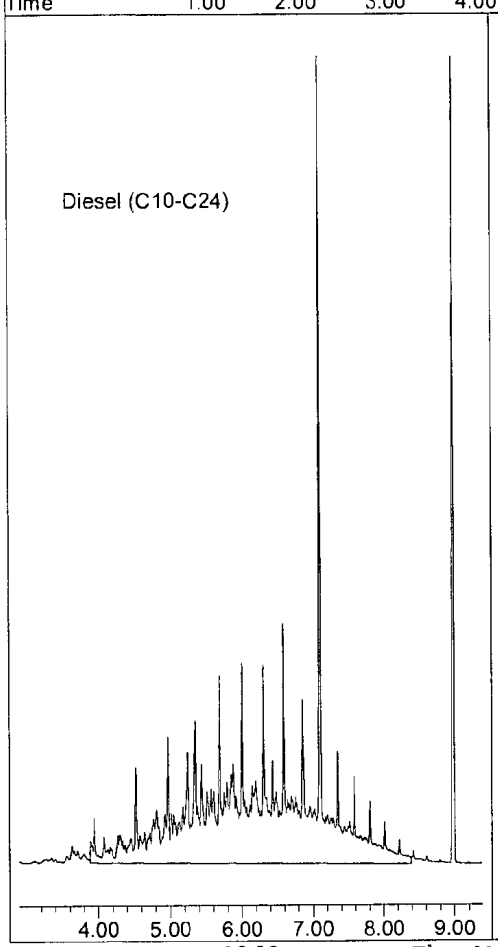
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90305202	23.554 ppb
Surrogate Spike 30.000		Recovery =	78.51%
5) SA Octacosane(S)	8.99	130318448	39.949 ppb
Surrogate Spike 30.000		Recovery =	133.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1329082184	406.814 ppb

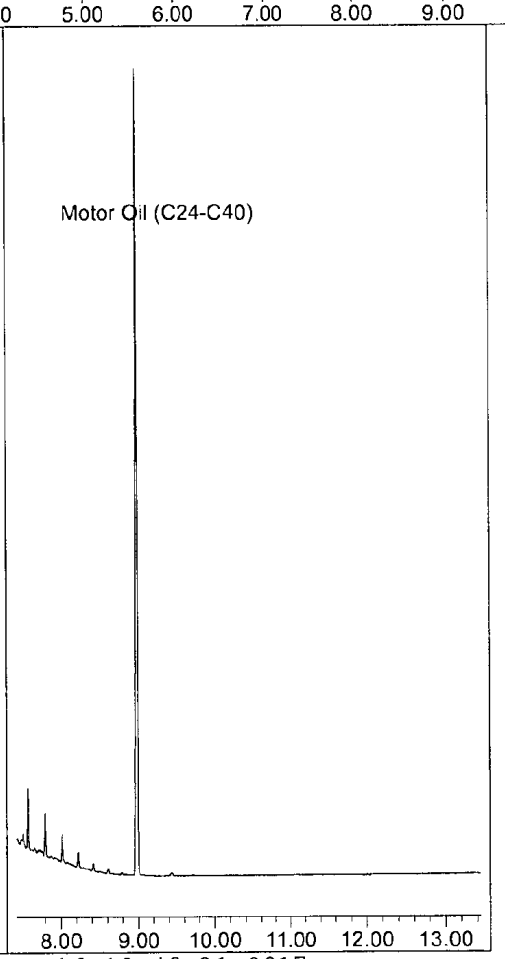
(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315018.D
Sample : CCV: DIESEL 400ppb 2/24/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315019.D Vial: 19
Acq On : 3-15-17 21:16:33 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:58 2017 Quant Results File: DOC0303.RES

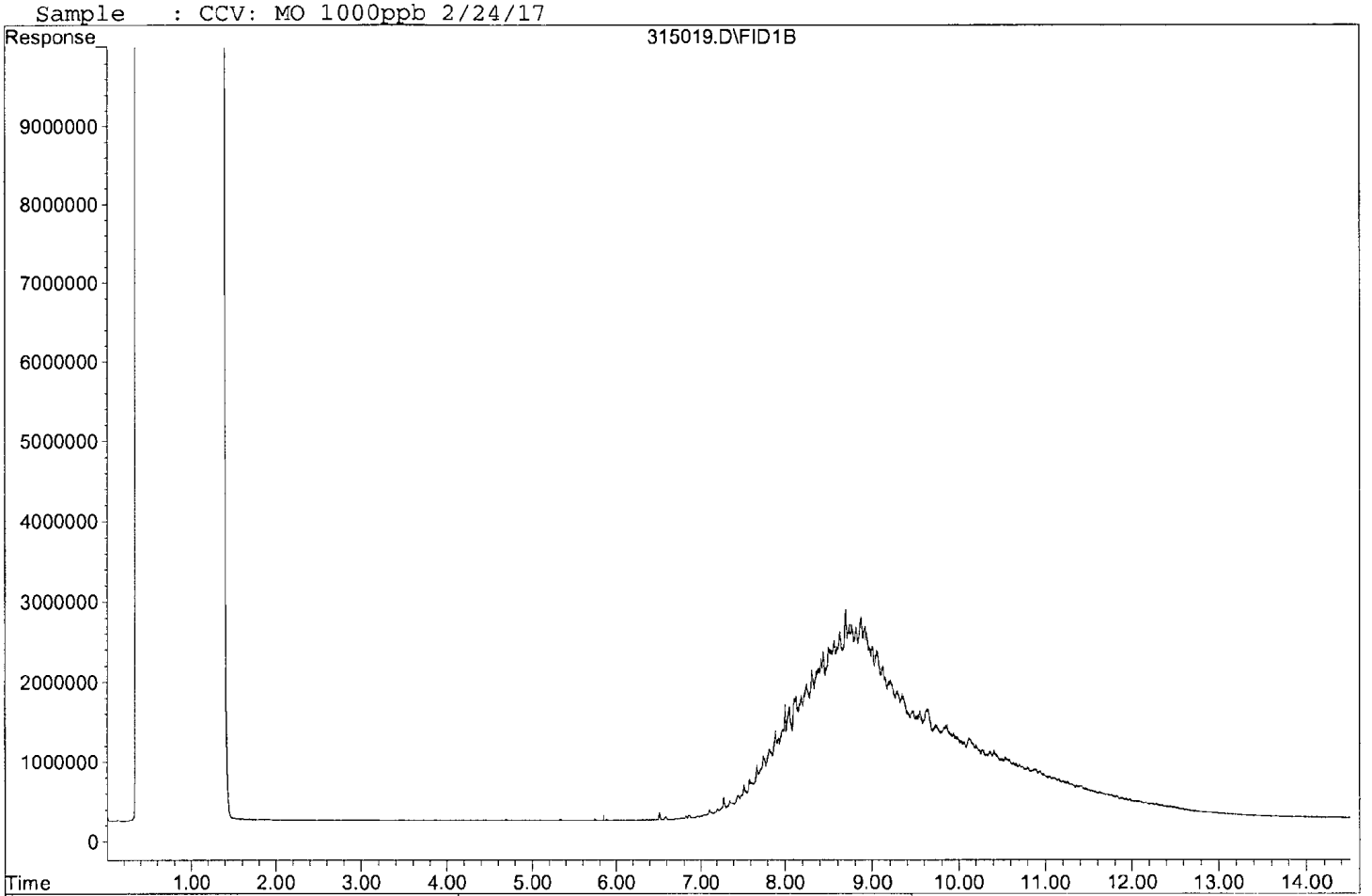
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

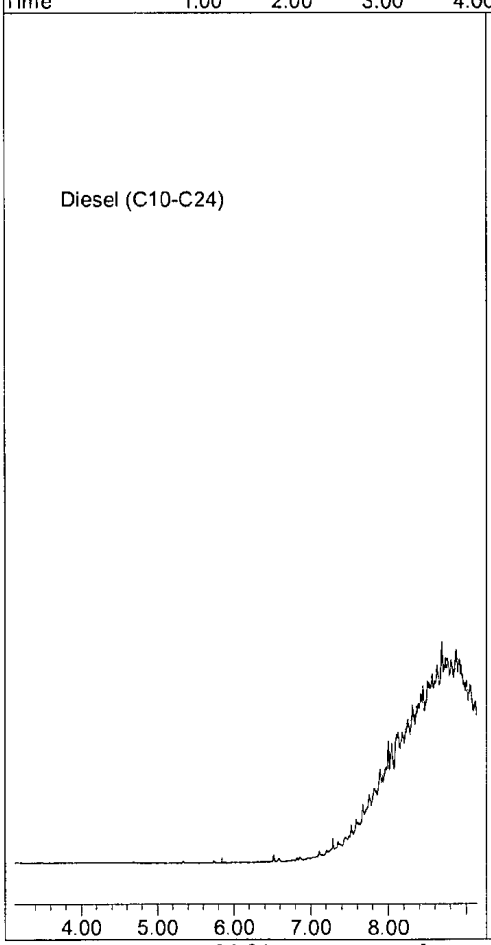
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

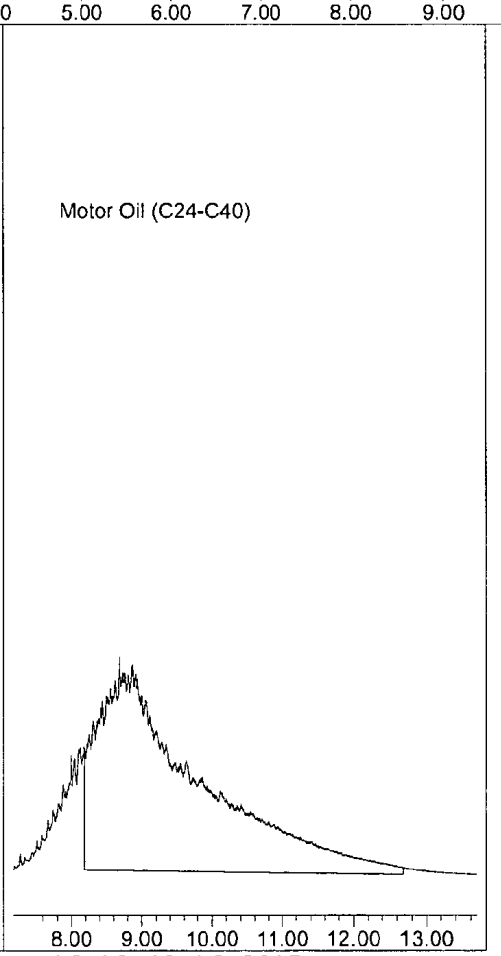
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2433694365	989.867 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315019.D
Sample : CCV: MO 1000ppb 2/24/17







TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315038-39.D

		Compound	MEAN	CCRF	%D	%Drift	
1	HATM	Diesel (C10-C24)	1633530	1678820	2.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1215680	1.1	HBTM	
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		Average			2.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315038.D Vial: 38
Acq On : 3-16-17 3:53:22 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:05 2017 Quant Results File: DOC0303.RES

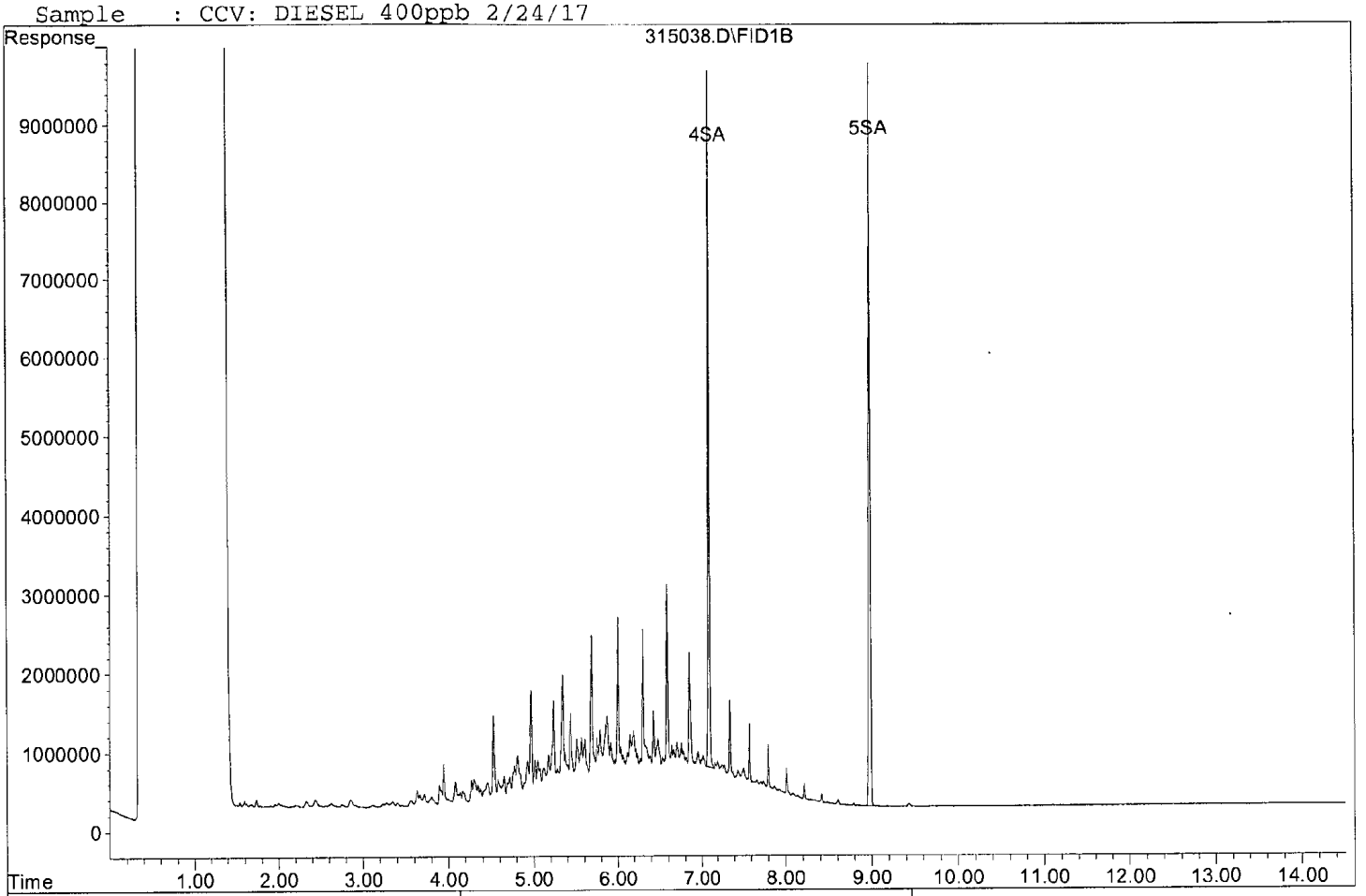
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

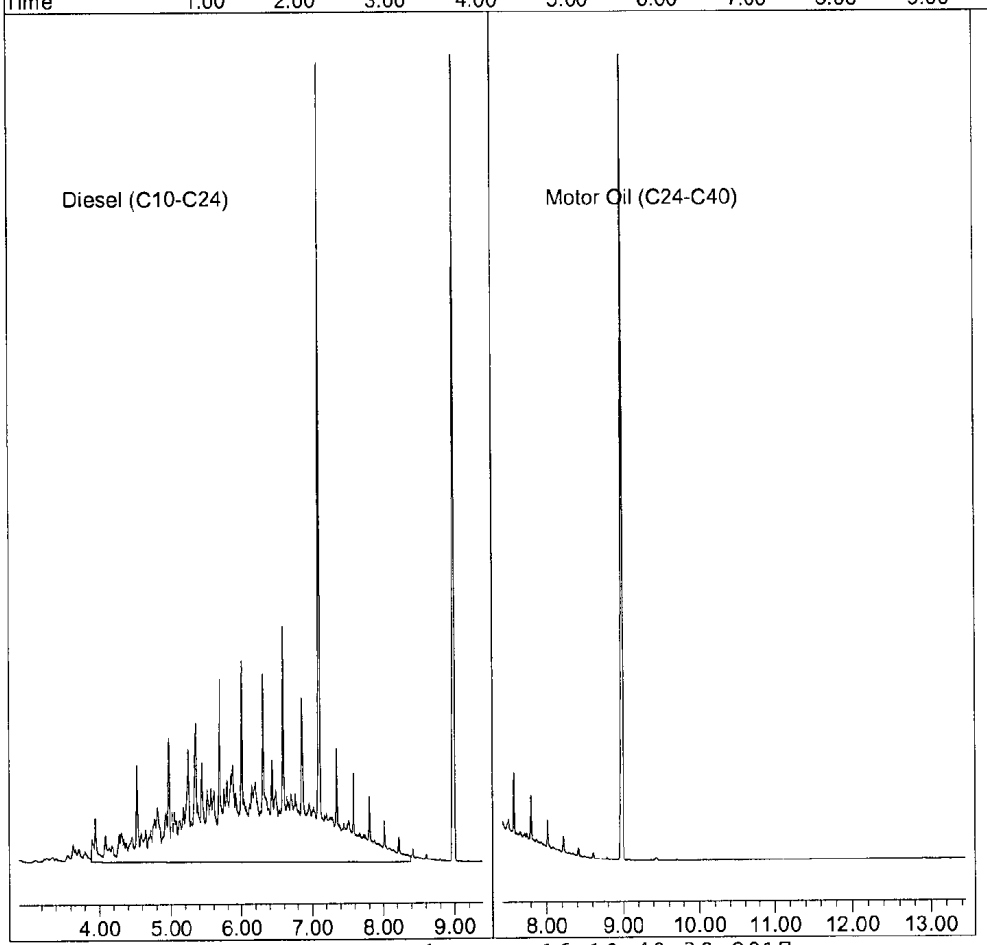
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	91861762	23.960 ppb
Surrogate Spike 30.000		Recovery =	79.87%
5) SA Octacosane(S)	8.99	130262003	39.932 ppb
Surrogate Spike 30.000		Recovery =	133.11%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1343059033	411.092 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315038.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315039.D Vial: 39
Acq On : 3-16-17 4:14:00 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:06 2017 Quant Results File: DOC0303.RES

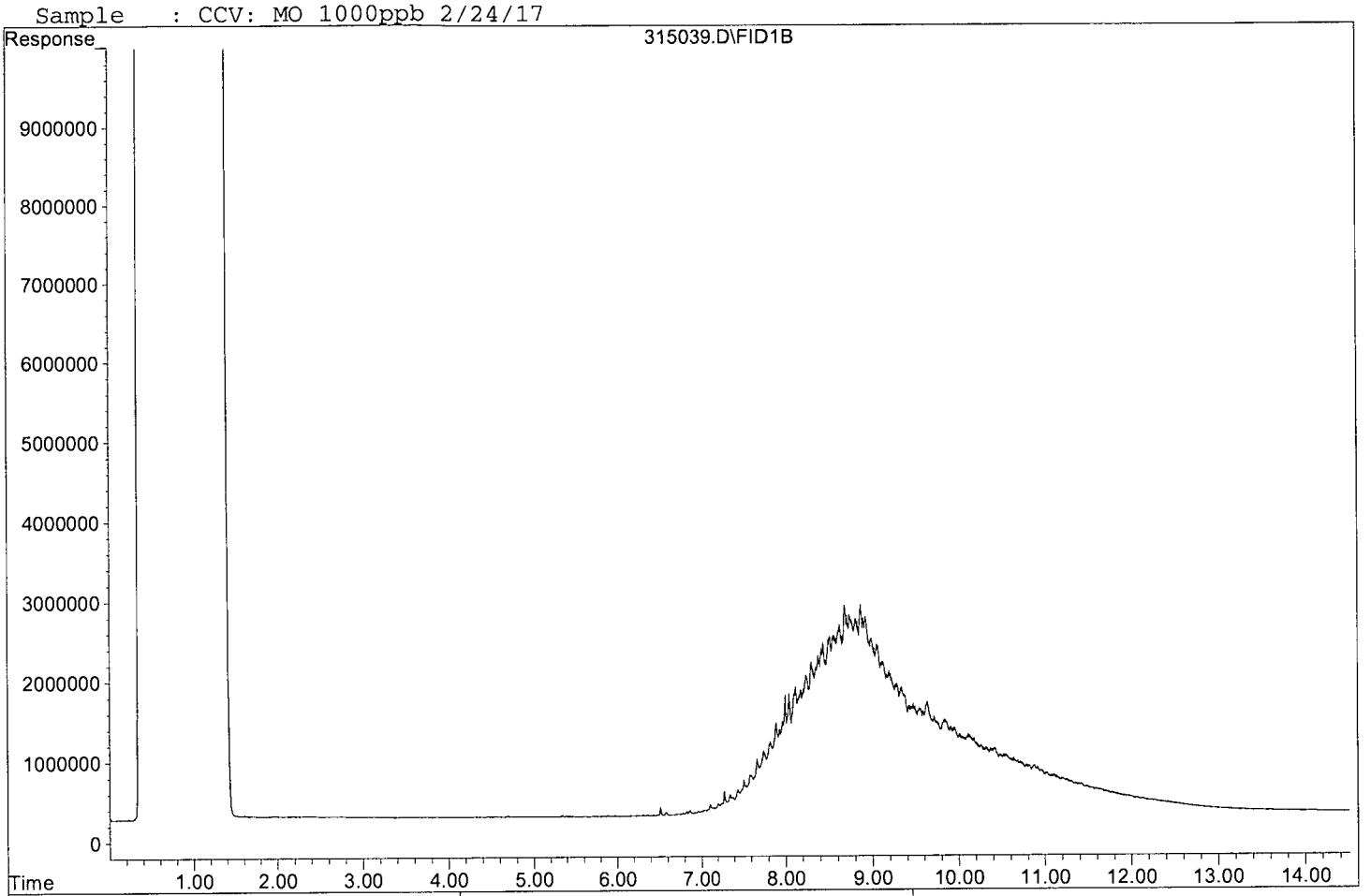
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

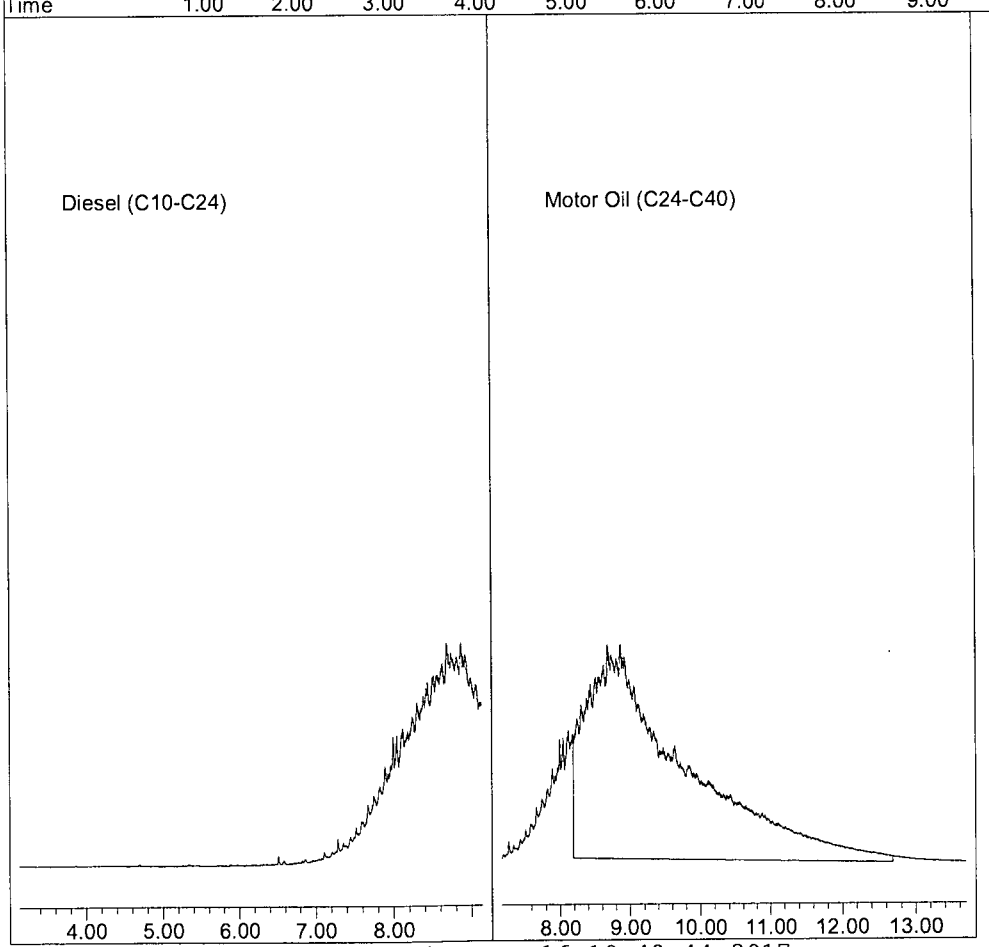
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2431366995	988.920 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315039.D
Sample : CCV: MO 1000ppb 2/24/17





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315051-52.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1687600	3.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1157030	5.9	HBTM	
3							
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40							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315051.D Vial: 51
Acq On : 3-16-17 8:21:33 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

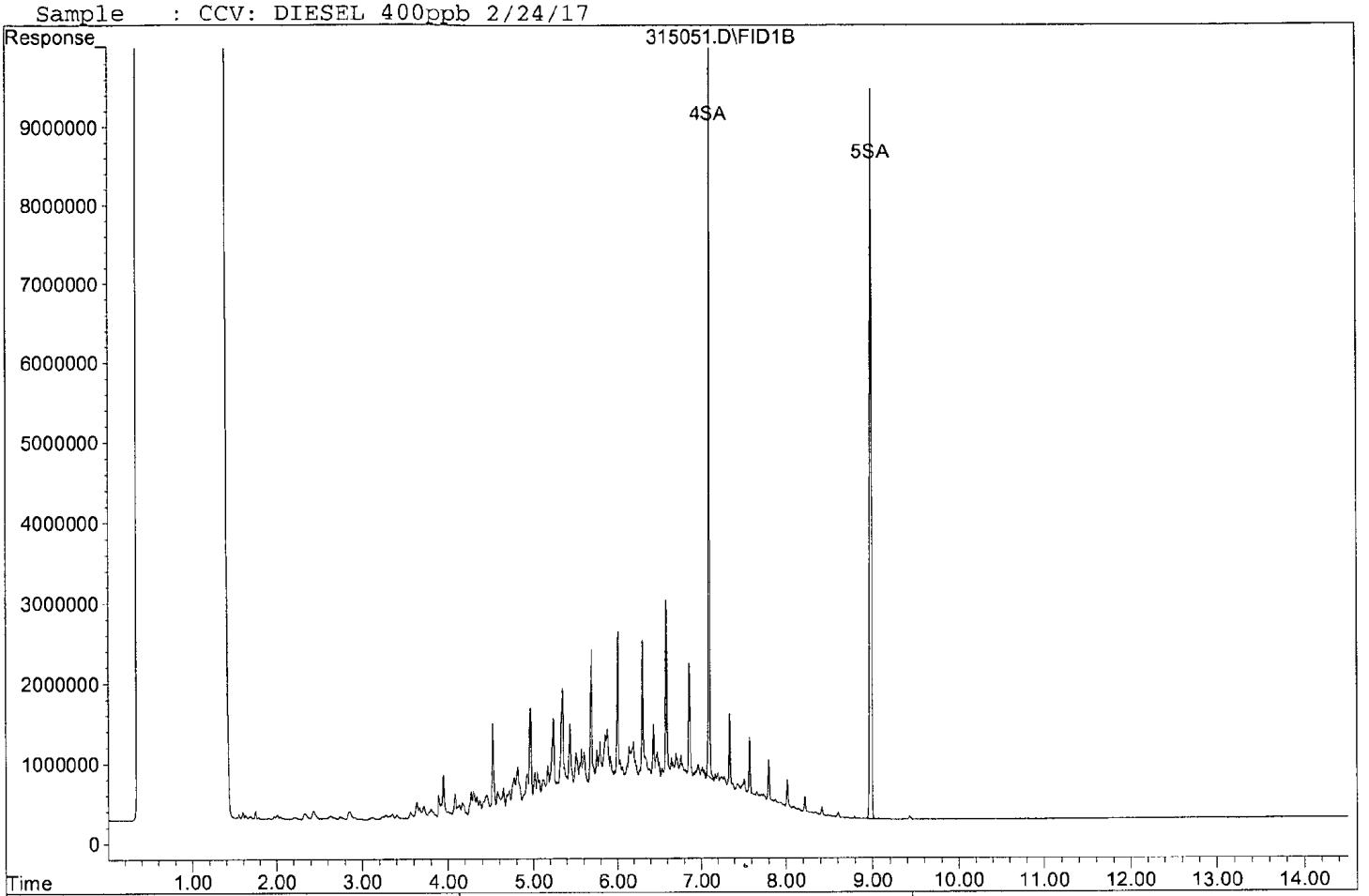
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

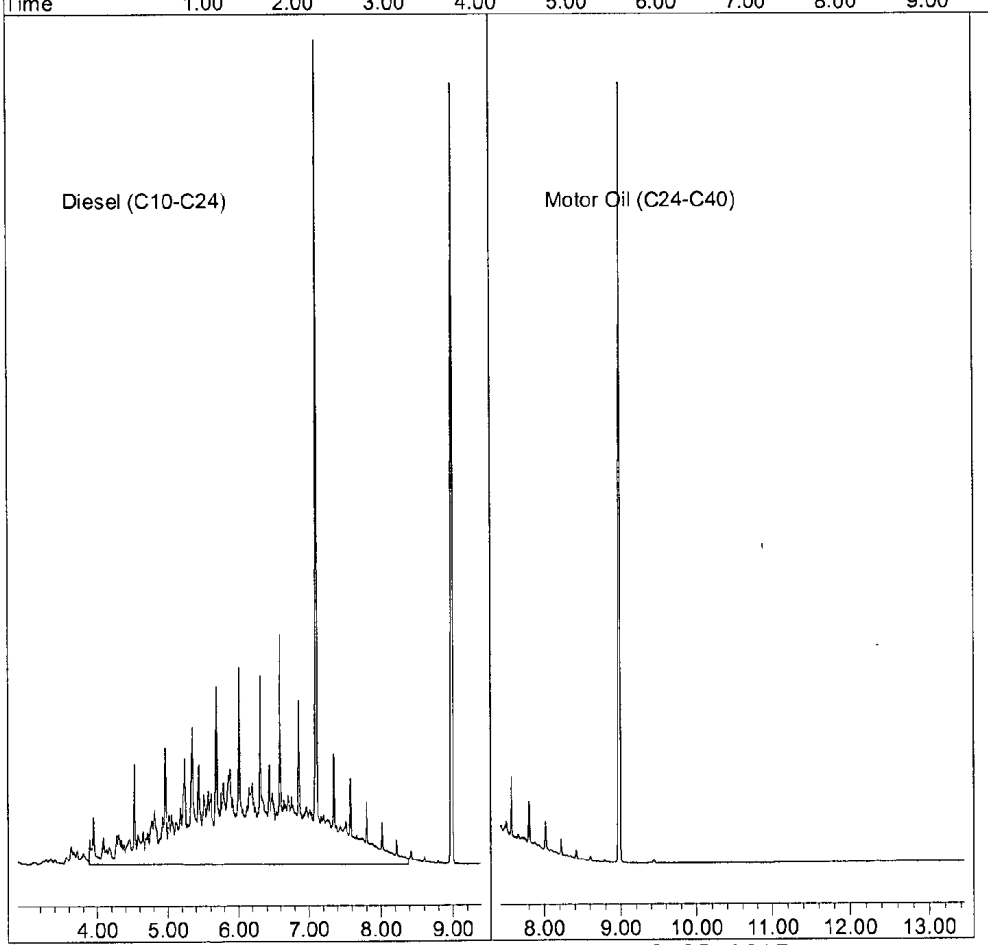
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90316172	23.557 ppb
Surrogate Spike 30.000		Recovery =	78.52%
5) SA Octacosane(S)	8.99	129879825	39.815 ppb
Surrogate Spike 30.000		Recovery =	132.72%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1350078927	413.241 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315051.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315052.D Vial: 52
Acq On : 3-16-17 8:42:09 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

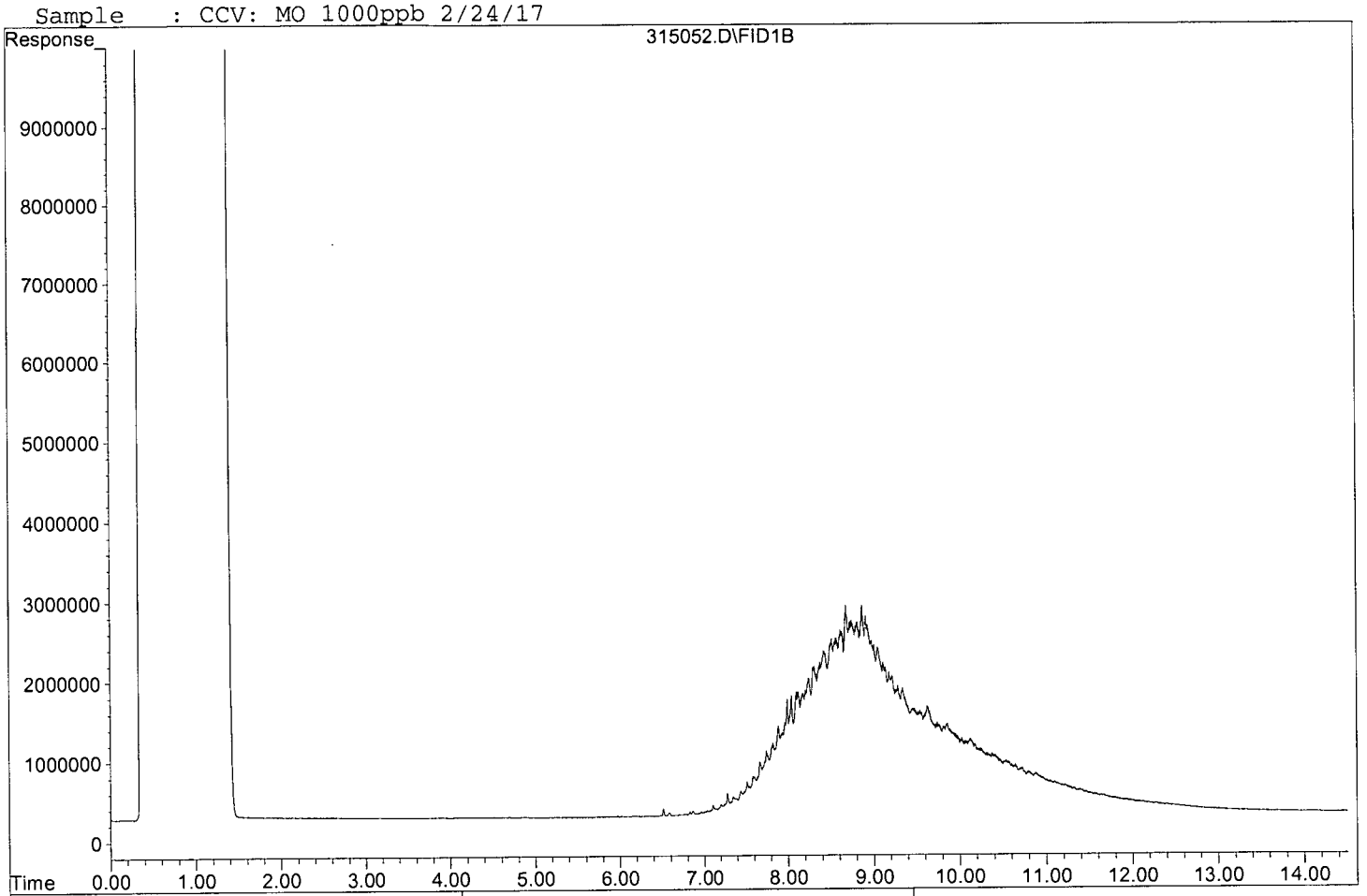
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

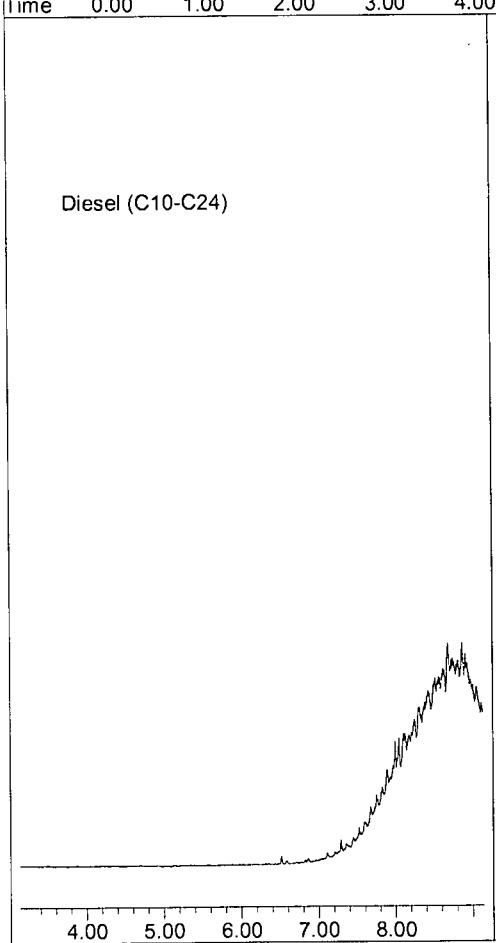
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2314052828	941.204 ppb

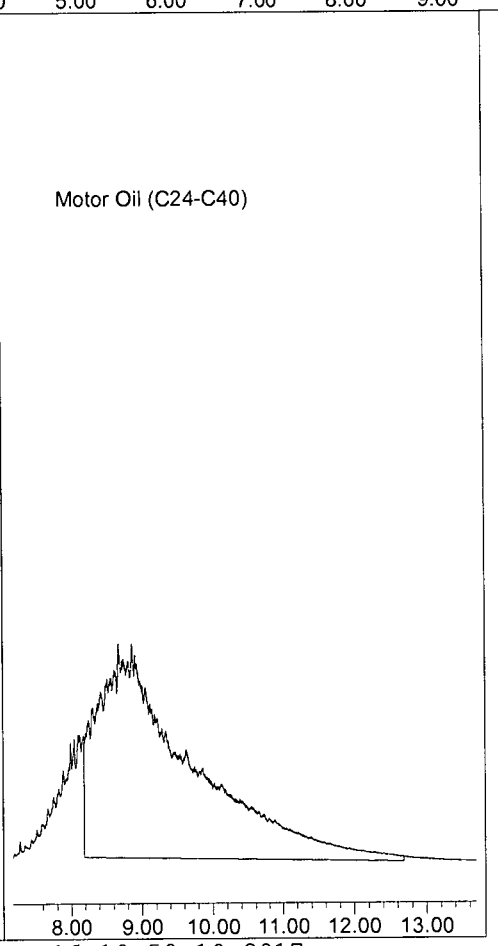
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315052.D
Sample : CCV: MO 1000ppb 2/24/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method:DOC0303.M
Run #:315027
Instrument:Apollo
Sequence:170315
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:27:55 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315027.D Vial: 27
Acq On : 3-16-17 0:04:51 Operator: DP
Sample : 170310A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

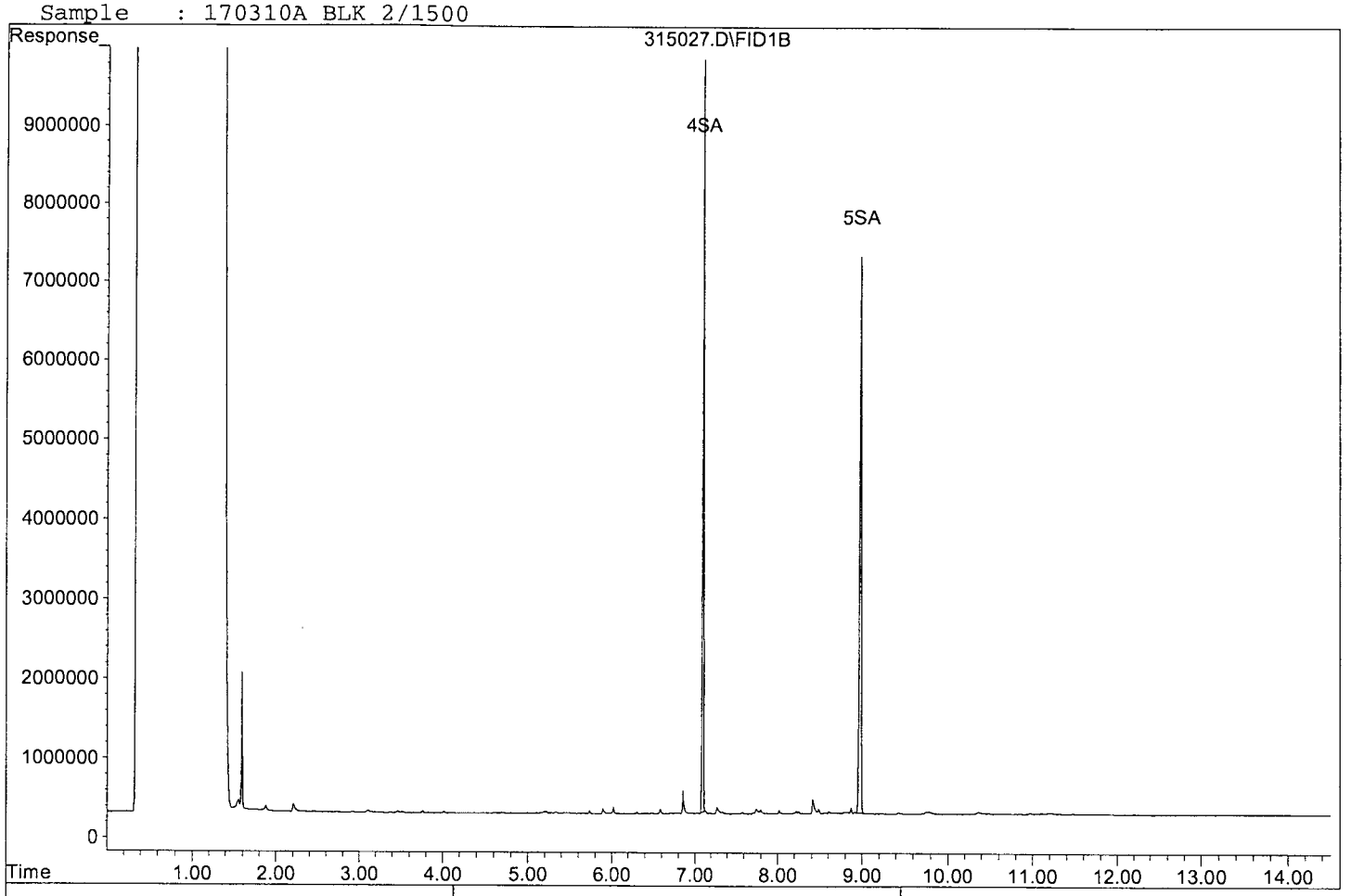
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

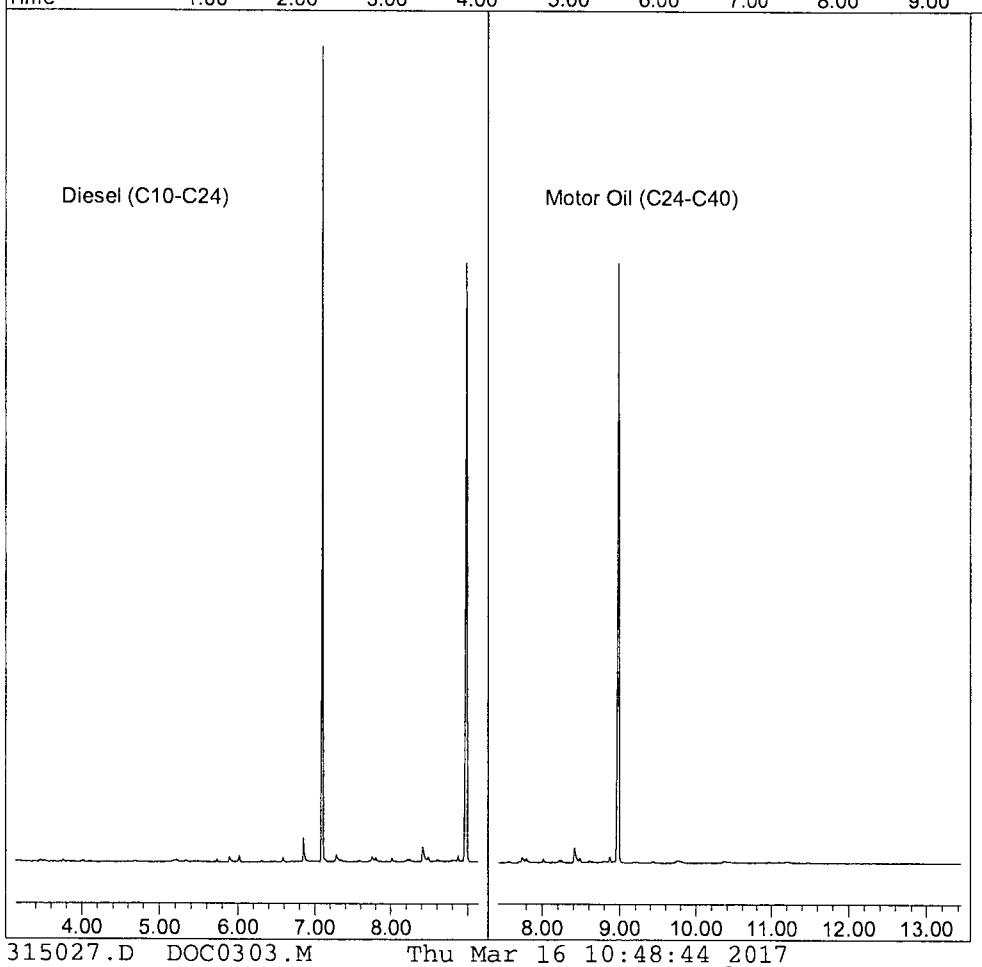
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89795582	31.229 ppb
Surrogate Spike 40.000		Recovery =	78.07%
5) SA Octacosane(S)	8.98	90467112	36.977 ppb
Surrogate Spike 40.000		Recovery =	92.44%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315027.D
Sample : 170310A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:27:52 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315028.D Vial: 28
Acq On : 3-16-17 0:25:45 Operator: DP
Sample : 170310A LCS-1 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

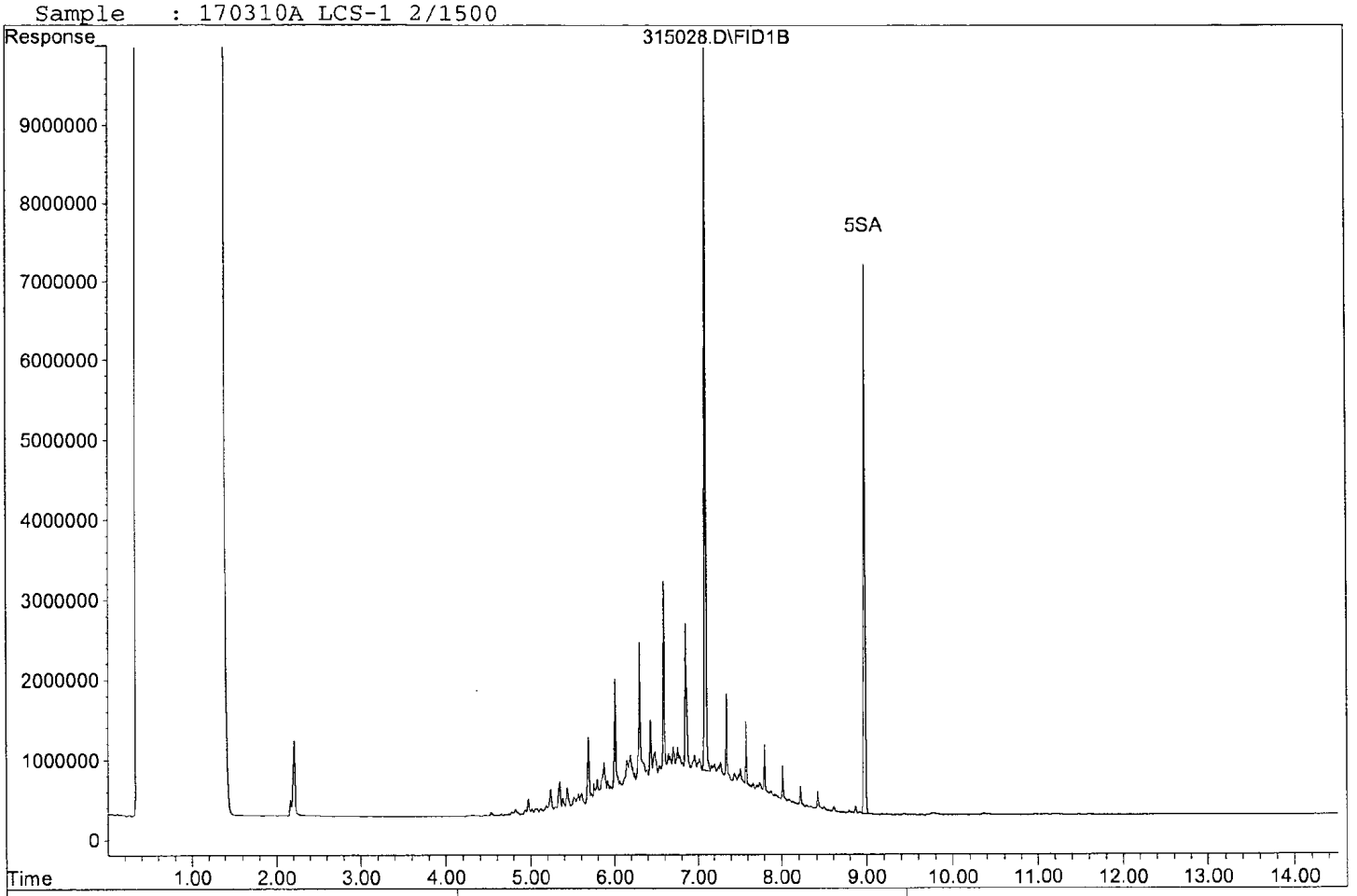
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

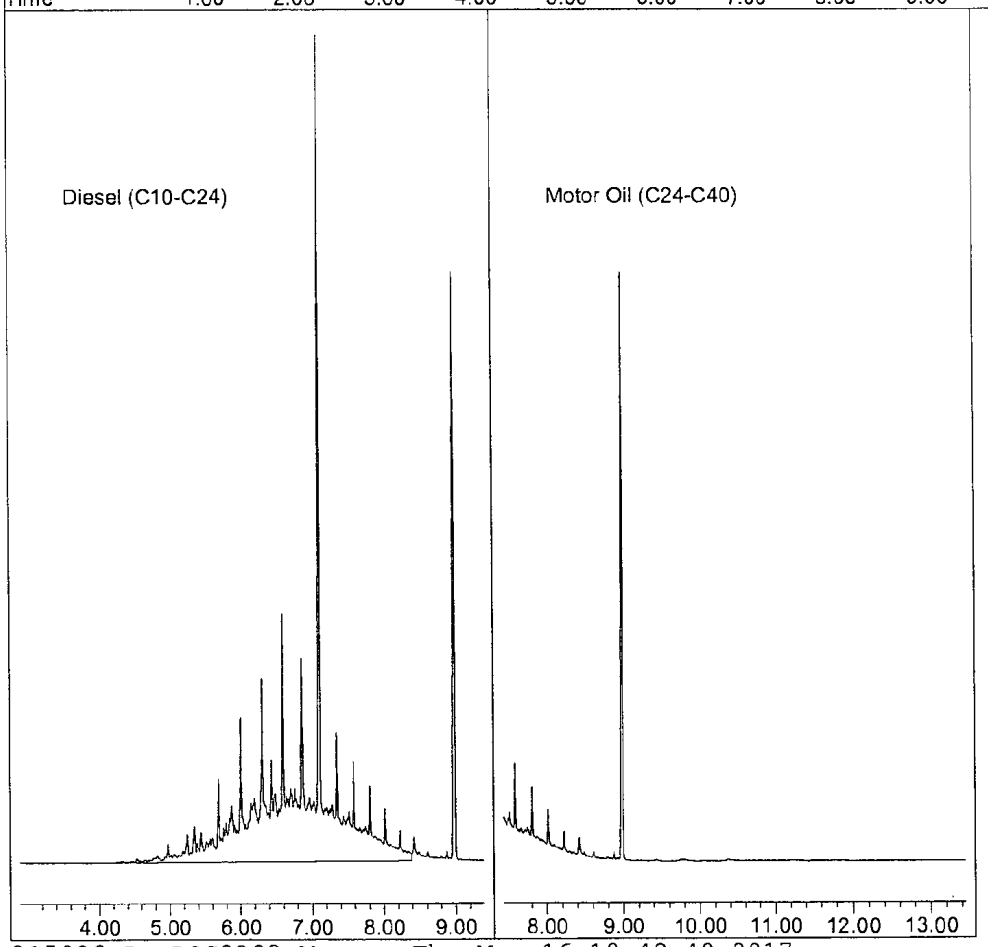
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	114375232	39.777 ppb
Surrogate Spike 40.000		Recovery =	99.44%
5) SA Octacosane(S)	8.99	89055147	36.400 ppb
Surrogate Spike 40.000		Recovery =	91.00%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	928608852	378.978 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315028.D
Sample : 170310A LCS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315029.D Vial: 29
Acq On : 3-16-17 0:46:40 Operator: DP
Sample : 170310A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:00 2017 Quant Results File: DOC0303.RES

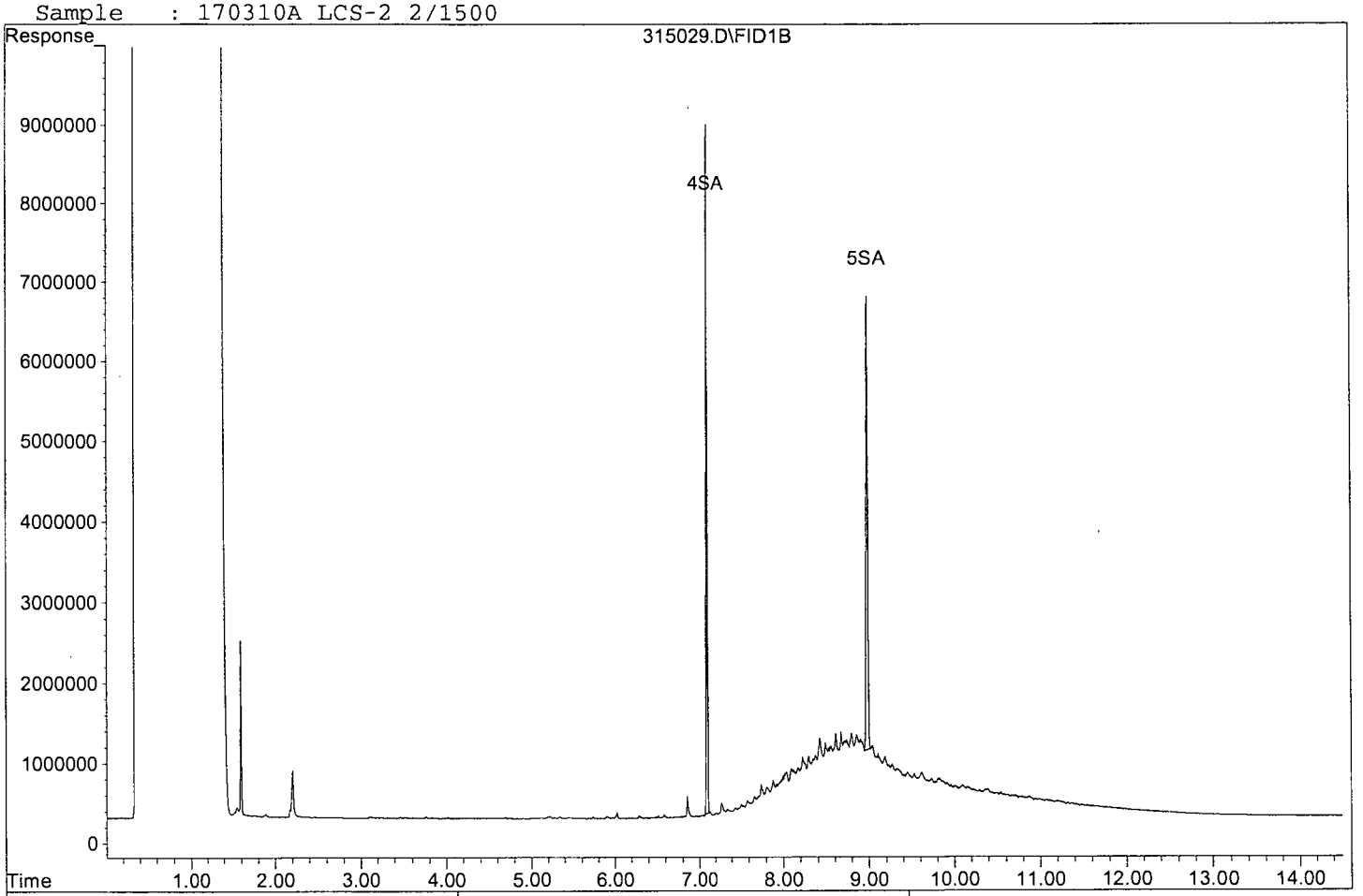
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

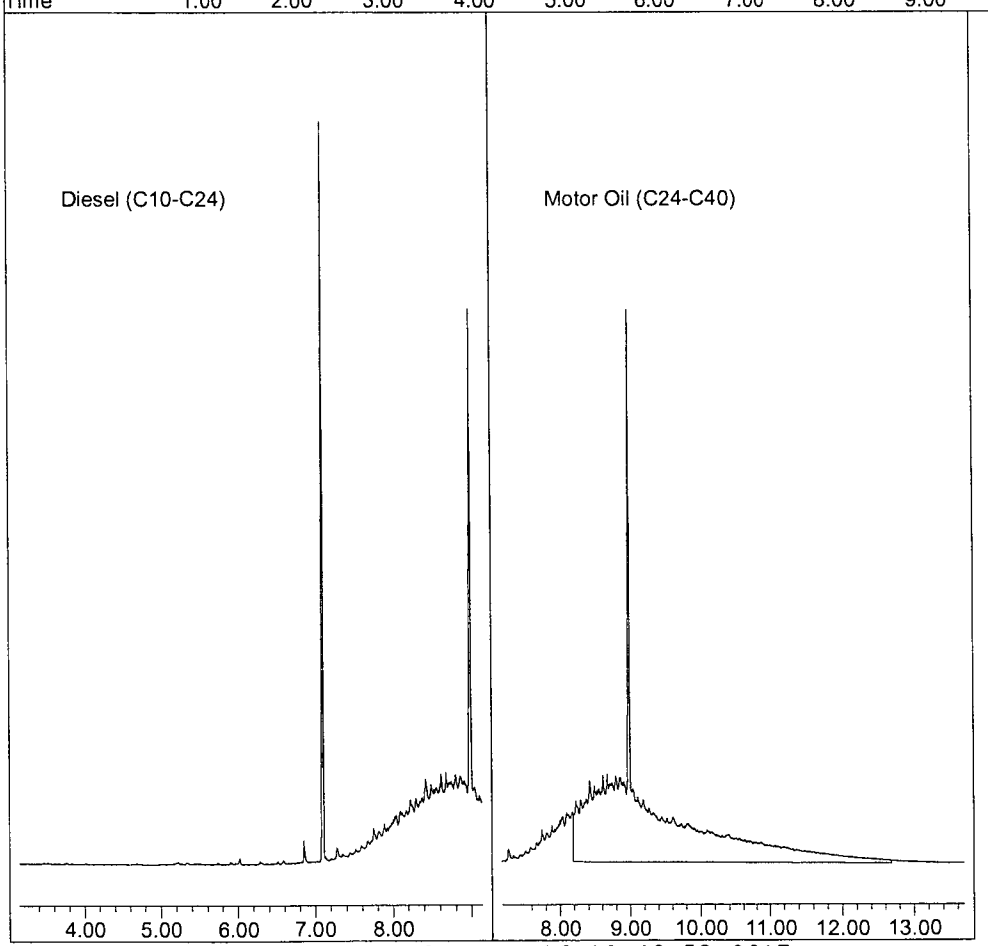
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	81533667	28.355 ppb
Surrogate Spike 40.000	Recovery	=	70.89%
5) SA Octacosane(S)	8.99	73029265	29.849 ppb
Surrogate Spike 40.000	Recovery	=	74.62%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	978632363	530.723 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315029.D
Sample : 170310A LCS-2 2/1500





DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

THC Surrogate Curve		prep: 03/03/17-D.P.		exp: 06/03/17		2	3	4	5	6
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
THC Surrogate Mix	600	295677 and 266278	03/02/17	03/02/18	10	10	40	60	80	83.33
MC	N/A	56153			990	90	60	40	20	916.67
				Final VOL.	1000	100	100	100	100	1000
				Conc (ug/mL)	0.5	5	20	30	40	50

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

DIESEL CCV 400ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	4000 µL	10 mL	400 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	02/07/18				

MOTOR OIL CCV 1000ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

Diesel Spike	
Cat:	011598-03
Lot:	280736-37355
Op:	02/23/17-D.P.
Exp:	02/23/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34440
Op: 02/23/17-D.P.
Exp: 11/09/17

THC Surrogate
Cat: 110316-05
Lot: 295677-37410
Op: 02/23/17-DP
Exp: 02/23/18

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 12:35	
Spiked ID 8			Ext. End Time:	03/14/17 13:45	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria 35,35,35 °
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB3				
2	170310A LCS-1		0.020	1	0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB1				
3	170310A LCS-2		0.020	2	0.1	1	1500	2	7	03/10/17 12:35	
						equip	E-WB2				
4	AZ51053	AZ51053W12			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB2				
5	AZ51054	AZ51054W08			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB3				
6	AZ51056	AZ51056W14			0.1	1	1500	2	7	03/10/17 12:35	82337 1 WEEK
						equip	E-WB1				
7	AZ51132 MS-1	AZ51132W23	0.020	1	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
8	AZ51132 MSD-1	AZ51132W31	0.020	1	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
9	AZ51132 MS-2	AZ51132W27	0.020	2	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB1				
10	AZ51132 MSD-2	AZ51132W20	0.020	2	0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB2				
11	AZ51132	AZ51132W29			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
12	AZ51133	AZ51133W07			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
13	AZ51135	AZ51135W27			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
14	AZ51136	AZ51136W10			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB1				
15	AZ51139	AZ51139W13			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				
16	AZ51141	AZ51141W12			0.1	1	1500	2	7	03/10/17 12:35	82351 5 DAYS
						equip	E-WB3				

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	3/14/17
Time	4:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: [illegible] **Date** 3/14/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/10/17 12:35
Spiked ID 8			Ext. End Time:	03/14/17 13:45
			GC Requires Extract By:	**03/13/17 0:00**
			pH1	
			pH2	
			pH3	

Water Bath Temp Criteria 35,35,35 °

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51357	AZ51357W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
18	AZ51359	AZ51359W11			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
19	AZ51360	AZ51360W06			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB2				
20	AZ51362	AZ51362W09			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB3				
21	AZ51364	AZ51364W10			0.1	1	1500	2	7	03/10/17 12:35	82369 5 DAYS
						equip	E-WB1				
22	AZ51530	AZ51530W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
23	AZ51533	AZ51533W13			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB1				
24	AZ51535	AZ51535W10			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB3				
25	AZ51536	AZ51536W06			0.1	1	1500	2	7	03/11/17 7:15	82389 5 DAYS
						equip	E-WB2				

KY 3/14/17

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: KY **Date** 3/14/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	303002.D	1	THC Surrogate-1 0.5 ug/mL 3/3/17	Mix(A)	3-3-17 14:55:47
16	3	303003.D	1	THC Surrogate-2 5.0 ug/mL 3/3/17	Mix(A)	3-3-17 15:16:38
17	4	303004.D	1	THC Surrogate-3 20 ug/mL 3/3/17	Mix(A)	3-3-17 15:37:25
18	5	303005.D	1	THC Surrogate-4 30 ug/mL 3/3/17	Mix(A)	3-3-17 15:58:18
19	6	303006.D	1	THC Surrogate-5 40 ug/mL 3/3/17	Mix(A)	3-3-17 16:19:16
20	7	303007.D	1	THC Surrogate-6 50 ug/mL 3/3/17	Mix(A)	3-3-17 16:40:03
21	18	315018.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-15-17 20:55:24
22	19	315019.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-15-17 21:16:33
23	27	315027.D	1.33333	170310A BLK 2/1500	water	3-16-17 0:04:51
24	28	315028.D	1.33333	170310A LCS-1 2/1500	water	3-16-17 0:25:45
25	29	315029.D	1.33333	170310A LCS-2 2/1500	water	3-16-17 0:46:40
26	38	315038.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 3:53:22
27	39	315039.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 4:14:00
28	43	315043.D	1.33333	AZ51357W09 2/1500	water	3-16-17 5:36:38
29	44	315044.D	1.33333	AZ51359W11 2/1500	water	3-16-17 5:57:13
30	45	315045.D	1.33333	AZ51360W06 2/1500	water	3-16-17 6:17:50
31	46	315046.D	1.33333	AZ51362W09 2/1500	water	3-16-17 6:38:22
32	47	315047.D	1.33333	AZ51364W10 2/1500	water	3-16-17 6:59:04
33	51	315051.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 8:21:33
34	52	315052.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 8:42:09

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216987**
Batch ID: #SIMDO-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	58.3	53-106			%	03/11/17	03/16/17
BLANK	SURROGATE: NITROBENZENE-	58.2	55-111			%	03/11/17	03/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.9	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L013
Instrument: Linus
Sequence: L170316
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 2:49:36 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170311W-51357 LCS - 216987**
Batch ID: #SIMDO-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.56	71.2	41-115
2-METHYLNAPHTHALENE	5.00	3.51	70.2	39-114
NAPHTHALENE	5.00	3.10	62.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.12	62.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	2.99	59.8	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.82	76.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0316P.M
Extraction Date :	03/11/17
Analysis Date :	03/16/17
Instrument :	Linus
Run :	0316L014
Initials :	RHA

Printed: 03/17/17 2:49:27 PM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/16/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	53-106	58.3		55-111	58.2	
170311A-LCS	Lab Control Spike	53-106	62.4		55-111	59.8	
AZ51357	ERH265	53-106	64.2		55-111	69.9	
AZ51359	ERH272	53-106	63.5		55-111	58.2	
AZ51360	ERH281	53-106	63.8		55-111	60.4	
AZ51362	ERH280	53-106	59.7		55-111	63.8	
AZ51364	ERH284	53-106	65.1		55-111	65.8	

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:36:19 PM

Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/16/17
Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	58-132	70.9				
170311A-LCS	Lab Control Spike	58-132	76.4				
AZ51357	ERH265	58-132	74.8				
AZ51359	ERH272	58-132	76.1				
AZ51360	ERH281	58-132	82.8				
AZ51362	ERH280	58-132	74.4				
AZ51364	ERH284	58-132	79.9				

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:36:19 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER
Blank ID: 170311A-BLK

SDG No: 82369
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 1726

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A-BLK	Blank	0316L013	03/16/17 1726
170311A-LCS	Lab Control Spike	0316L014	03/16/17 1758
AZ51357	ERH265	0316L016	03/16/17 1904
AZ51359	ERH272	0316L017	03/16/17 1937
AZ51360	ERH281	0316L018	03/16/17 2009
AZ51362	ERH280	0316L019	03/16/17 2042
AZ51364	ERH284	0316L020	03/16/17 2115

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:36:10 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82369
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 11:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/01/17	0316L003.D	03/16/17 12:08
2		0.2 SIM 03/01/17	0316L004.D	03/16/17 12:41
3		0.5 SIM 03/01/17	0316L005.D	03/16/17 13:13
4		1.0 SIM 03/01/17	0316L006.D	03/16/17 13:45
5		5.0 SIM 03/01/17	0316L007.D	03/16/17 14:17
6		10 SIM 03/01/17	0316L008.D	03/16/17 14:50
7		50 SIM 03/01/17	0316L009.D	03/16/17 15:23
8		100 SIM 03/01/17	0316L010.D	03/16/17 15:56
9		SS SIM 03/01/17	0316L011.D	03/16/17 16:29
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	47.0
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	49.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.1
441	0.01 - 100% of mass 443	87.7
442	40 - 150% of mass 198	59.5
443	17 - 23% of mass 442	18.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82369
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 17:08

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170311A BLK 1/1000	0316L013.D	03/16/17 17:26
2	Lab Control Spike	170311A LCS-1 1/1000	0316L014.D	03/16/17 17:58
3	ERH265	AZ51357W12 1/1000	0316L016.D	03/16/17 19:04
4	ERH272	AZ51359W14 1/1000	0316L017.D	03/16/17 19:37
5	ERH281	AZ51360W09 1/1070	0316L018.D	03/16/17 20:09
6	ERH280	AZ51362W14 1/1070	0316L019.D	03/16/17 20:42
7	ERH284	AZ51364W14 1/1070	0316L020.D	03/16/17 21:15
8		5.0 SIM 03/01/17	0316L035.D	03/17/17 4:50
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	51.0
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 30% of mass 198	21.0
365	1 - 100% of mass 198	2.4
441	0.01 - 100% of mass 443	94.3
442	40 - 150% of mass 198	60.4
443	17 - 23% of mass 442	18.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82369
Lab File ID (Standard): 0316L007.D
Date Analyzed: 03/16/17
Instrument ID: Linus
Time Analyzed: 14:17
GC Column:
ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	37034	5.79	18865	7.85	37568	9.75
	UPPER LIMIT	74068	6.29	37730	8.35	75136	10.25
	LOWER LIMIT	18517	5.29	9433	7.35	18784	9.25
	SAMPLE NO.						
01	170311A BLK 1/1000	38182	5.81	20484	7.85	40684	9.76
02	170311A LCS-1 1/1000	38852	5.81	19858	7.85	39838	9.75
03	AZ51357W12 1/1000	34042	5.79	17719	7.85	35470	9.75
04	AZ51359W14 1/1000	41171	5.81	19974	7.85	40184	9.76
05	AZ51360W09 1/1070	39320	5.81	19680	7.85	38988	9.76
06	AZ51362W14 1/1070	40869	5.81	19906	7.85	41142	9.76
07	AZ51364W14 1/1070	35025	5.81	18101	7.85	34971	9.76
08	5.0 SIM 03/01/17	36114	5.79	19108	7.85	38137	9.75
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82369
Lab File ID (Standard): 0316L007.D
Date Analyzed: 03/16/17
Instrument ID: Linus
Time Analyzed: 14:17
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	46460	16.68	39411	20.45		
	UPPER LIMIT	92920	17.18	78822	20.95		
	LOWER LIMIT	23230	16.18	19706	19.95		
	SAMPLE NO.						
01	170311A BLK 1/1000	46029	16.69	42521	20.47		
02	170311A LCS-1 1/1000	45495	16.67	38780	20.45		
03	AZ51357W12 1/1000	42881	16.68	39903	20.46		
04	AZ51359W14 1/1000	43918	16.69	40432	20.46		
05	AZ51360W09 1/1070	43368	16.69	36995	20.47		
06	AZ51362W14 1/1070	45415	16.69	42958	20.47		
07	AZ51364W14 1/1070	41774	16.69	32624	20.47		
08	5.0 SIM 03/01/17	46979	16.67	40298	20.44		
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	22	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	17	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	49	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	64.2	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	69.9	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	74.8	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L016
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:49:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L016.D Vial: 16
Acq On : 16 Mar 17 19:04 Operator: MA
Sample : AZ51357W12 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 8:56 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	34042	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	17719	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	35470	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	42881	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.46	264	39903	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	18299	3.49747 ppb	0.00
Spiked Amount 5.000			Recovery	= 69.940%	
7) Surrogate Recovery (FBP)	7.06	172	34163	3.20825 ppb	0.00
Spiked Amount 5.000			Recovery	= 64.160%	
17) Surrogate Recovery (TPH)	13.68	244	48910	3.73884 ppb	-0.01
Spiked Amount 5.000			Recovery	= 74.780%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	698276	49.10161 ppb	98
4) 2-Methylnaphthalene	6.64	142	134985	16.96393 ppb	99
5) 1-Methylnaphthalene	6.75	142	188470	21.90067 ppb	98
9) Acenaphthene	7.88	154	2582	0.30559 ppb	95
10) Fluorene	8.50	166	1673	0.17886 ppb	99

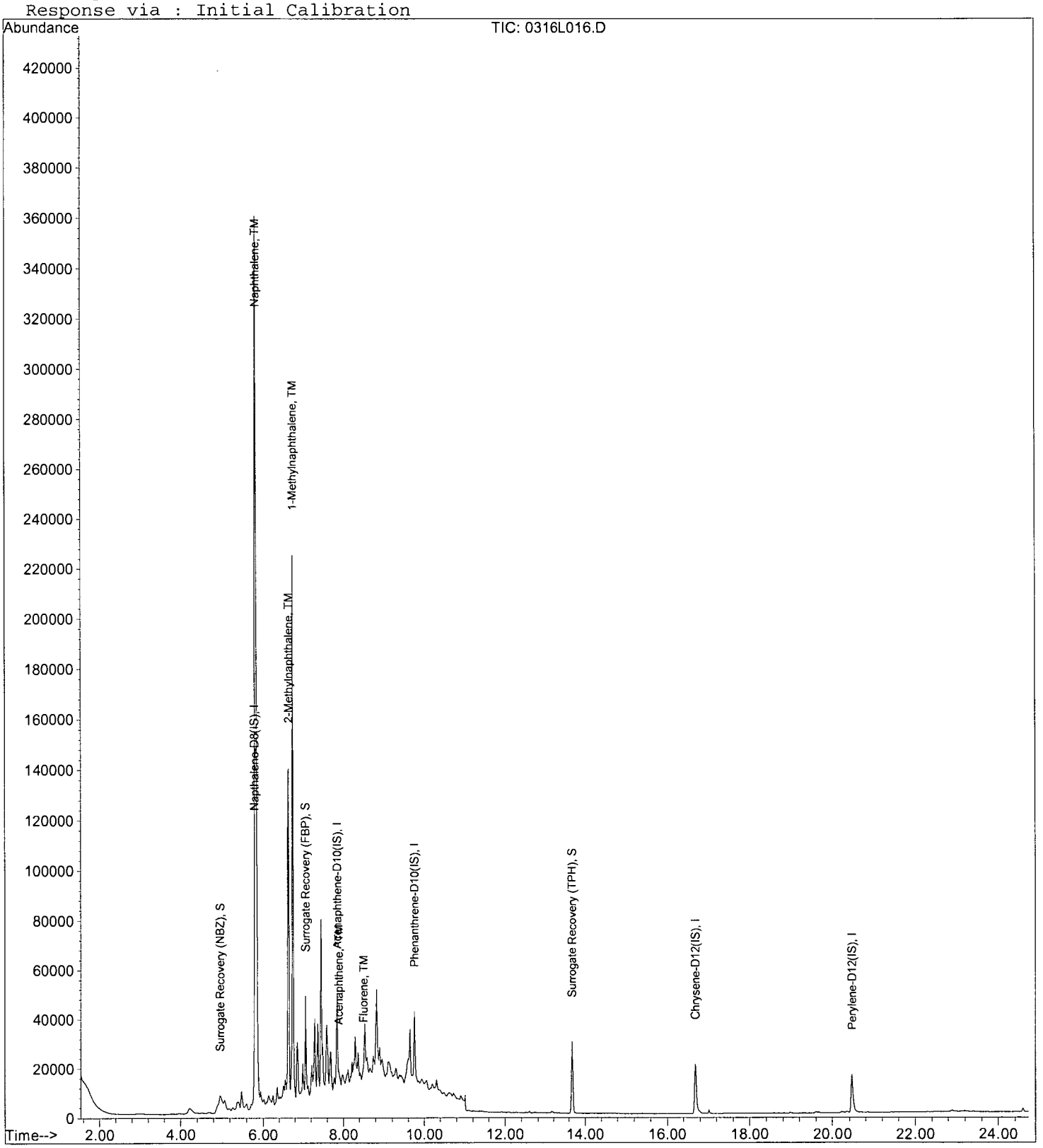
(#) = qualifier out of range (m) = manual integration

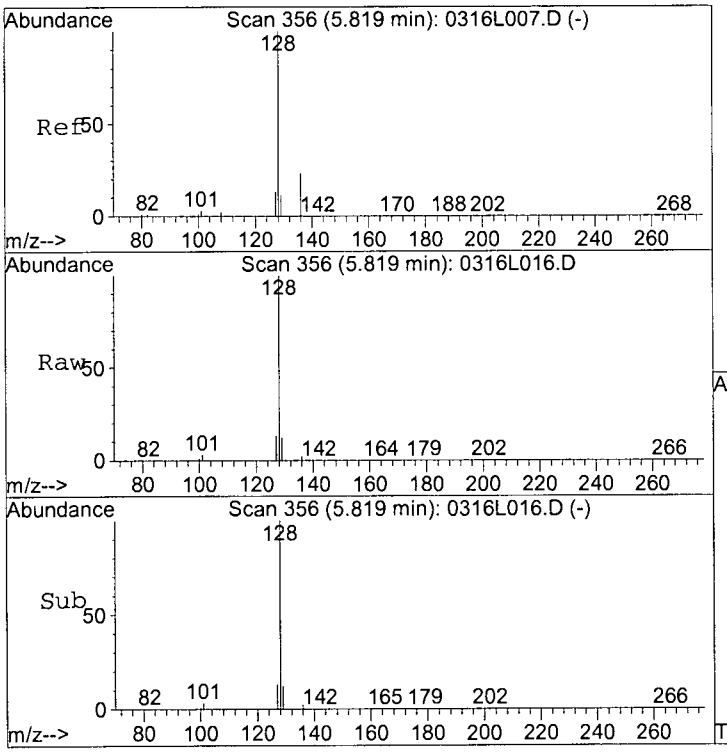
Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L016.D Vial: 16
Acq On : 16 Mar 17 19:04 Operator: MA
Sample : AZ51357W12 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 8:56 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration

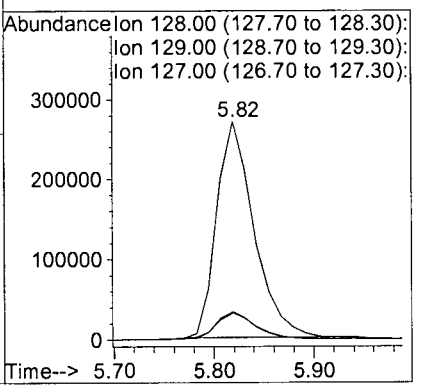


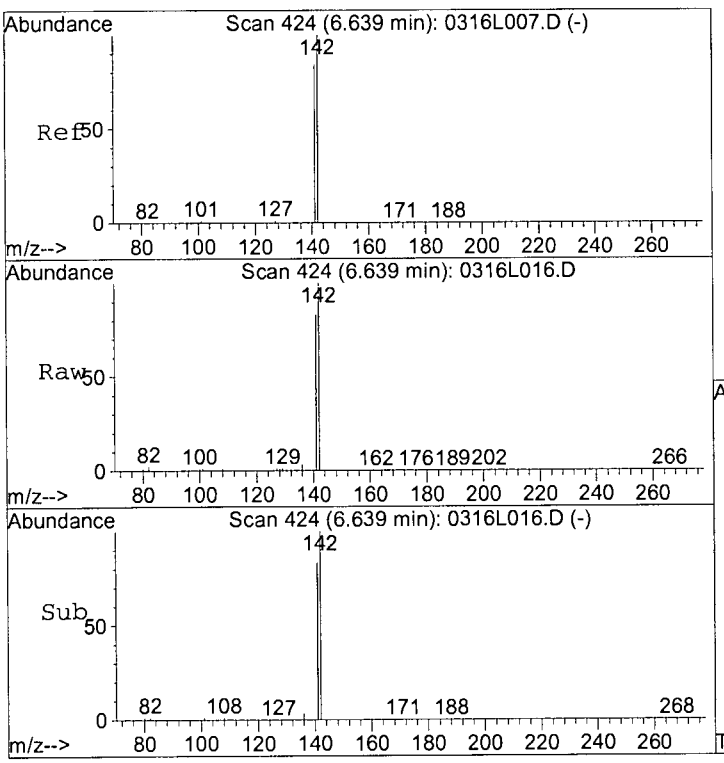


#3
Naphthalene
Concen: 49.10161 ppb
RT: 5.82 min Scan# 356
Delta R.T. -0.00 min
Lab File: 0316L016.D
Acq: 16 Mar 17 19:04

Tgt Ion:128 Resp: 698276

Ion	Ratio	Lower	Upper
128	100		
129	12.2	7.6	14.0
127	12.9	8.8	16.3

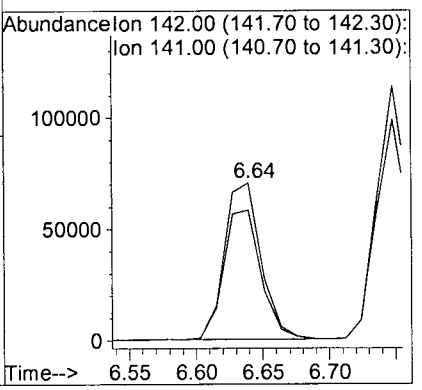


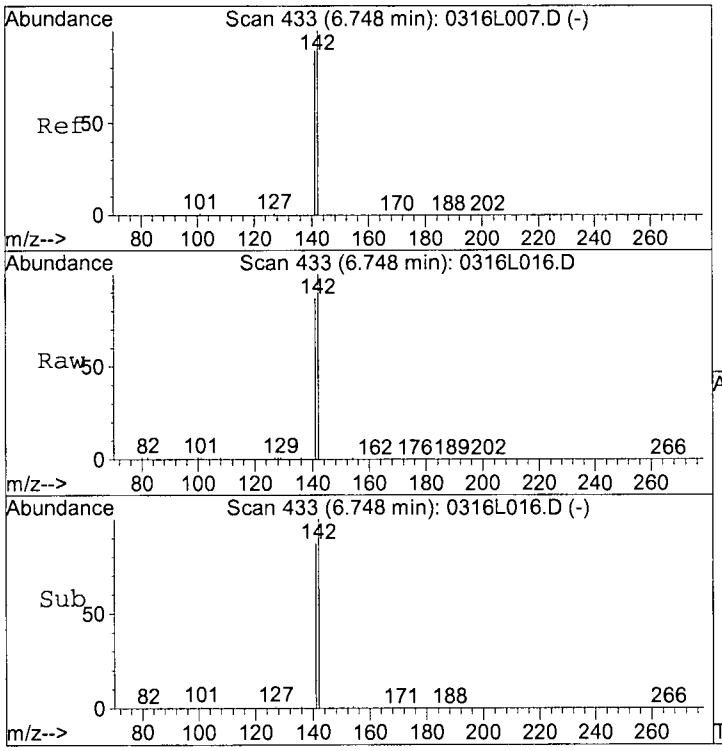


#4
2-Methylnaphthalene
Concen: 16.96393 ppb
RT: 6.64 min Scan# 424
Delta R.T. -0.00 min
Lab File: 0316L016.D
Acq: 16 Mar 17 19:04

Tgt Ion:142 Resp: 134985

Ion	Ratio	Lower	Upper
142	100		
141	82.6	58.5	108.6

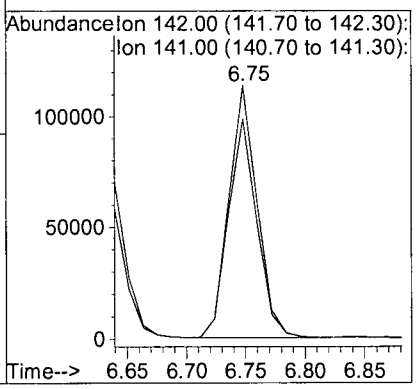


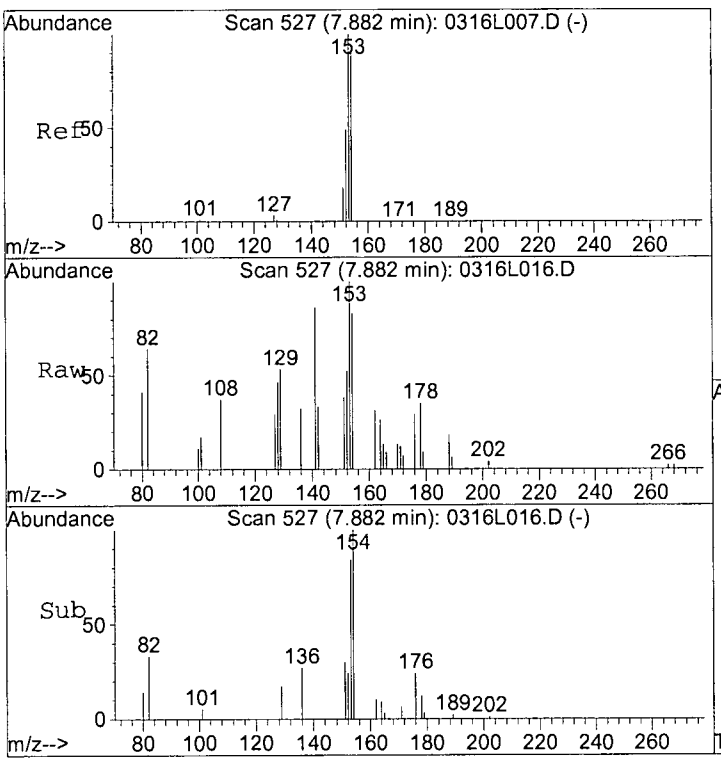


#5
1-Methylnaphthalene
Concen: 21.90067 ppb
RT: 6.75 min Scan# 433
Delta R.T. -0.00 min
Lab File: 0316L016.D
Acq: 16 Mar 17 19:04

Tgt Ion:142 Resp: 188470

Ion	Ratio	Lower	Upper
142	100		
141	86.6	61.9	114.9

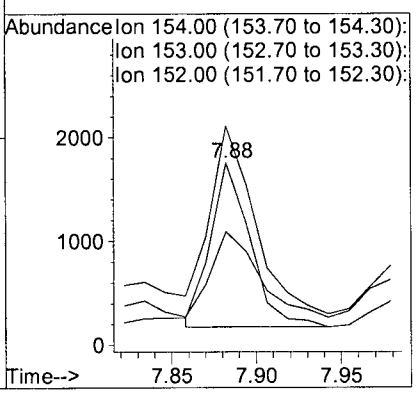


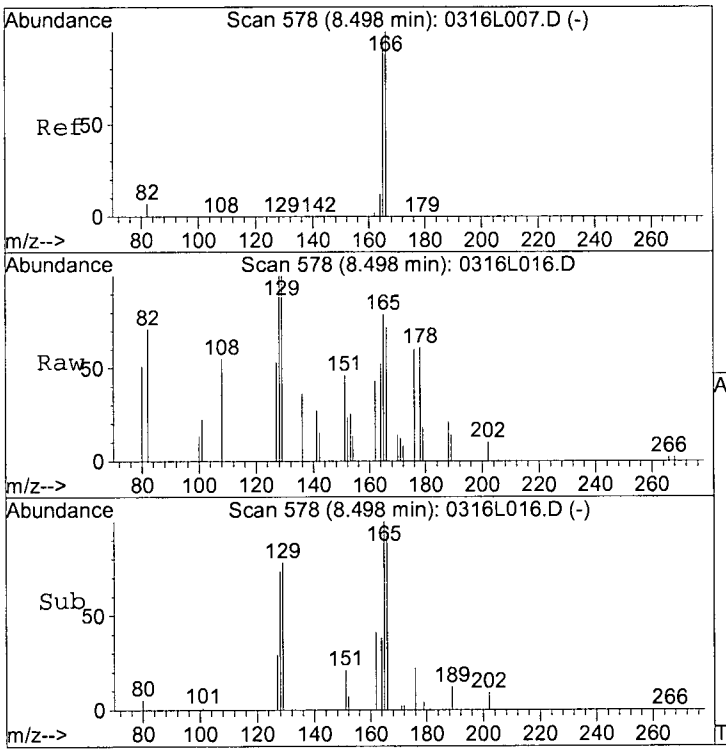


#9
Acenaphthene
Concen: 0.30559 ppb
RT: 7.88 min Scan# 527
Delta R.T. -0.00 min
Lab File: 0316L016.D
Acq: 16 Mar 17 19:04

Tgt Ion:154 Resp: 2582

Ion	Ratio	Lower	Upper
154	100		
153	114.5	75.5	140.3
152	52.2	36.9	68.5

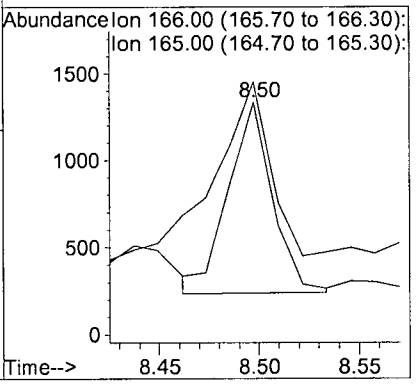




#10
Fluorene
Concen: 0.17886 ppb
RT: 8.50 min Scan# 578
Delta R.T. -0.00 min
Lab File: 0316L016.D
Acq: 16 Mar 17 19:04

Tgt Ion:166 Resp: 1673

Ion	Ratio	Lower	Upper
166	100		
165	91.8	63.7	118.3



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	63.5	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	58.2	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	76.1	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L017
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:49:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L017.D Vial: 17
Acq On : 16 Mar 17 19:37 Operator: MA
Sample : AZ51359W14 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 9:03 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	41171	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19974	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	40184	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	43918	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	40432	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	18366	2.91075 ppb	0.01
Spiked Amount 5.000			Recovery	= 58.220%	
7) Surrogate Recovery (FBP)	7.07	172	38124	3.17603 ppb	0.01
Spiked Amount 5.000			Recovery	= 63.520%	
17) Surrogate Recovery (TPH)	13.68	244	50959	3.80350 ppb	0.00
Spiked Amount 5.000			Recovery	= 76.060%	

Target Compounds Qvalue

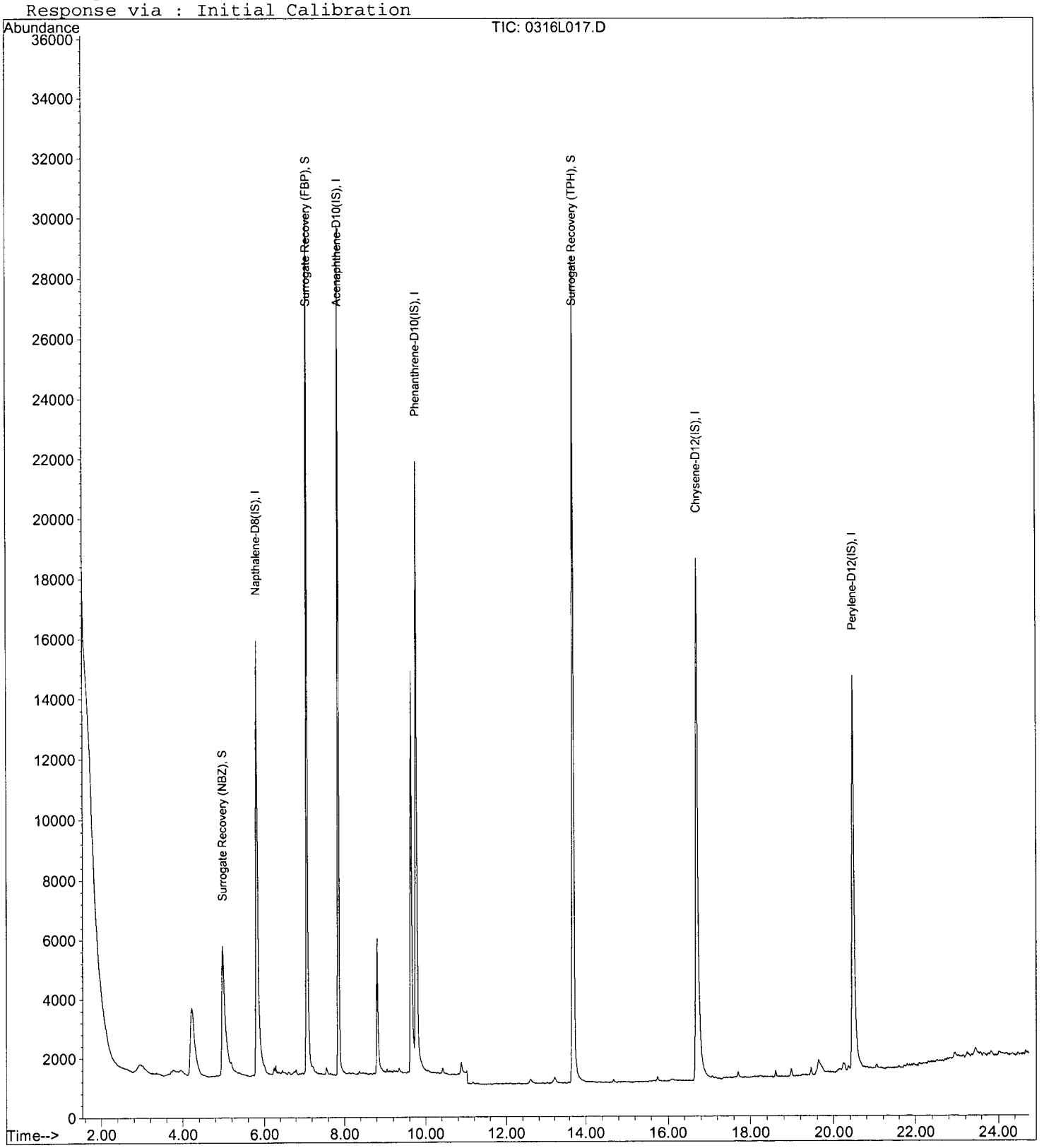
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L017.D Vial: 17
Acq On : 16 Mar 17 19:37 Operator: MA
Sample : AZ51359W14 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 9:03 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	63.8	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	60.4	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	82.8	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L018
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:49:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L018.D Vial: 18
Acq On : 16 Mar 17 20:09 Operator: MA
Sample : AZ51360W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:04 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	39320	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19680	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	38988	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	43368	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.47	264	36995	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	18220	2.82398 ppb	0.01
Spiked Amount 4.673			Recovery	= 60.434%	
7) Surrogate Recovery (FBP)	7.07	172	37737	2.98201 ppb	0.01
Spiked Amount 4.673			Recovery	= 63.815%	
17) Surrogate Recovery (TPH)	13.69	244	54801	3.87115 ppb	0.00
Spiked Amount 4.673			Recovery	= 82.839%	

Target Compounds Qvalue

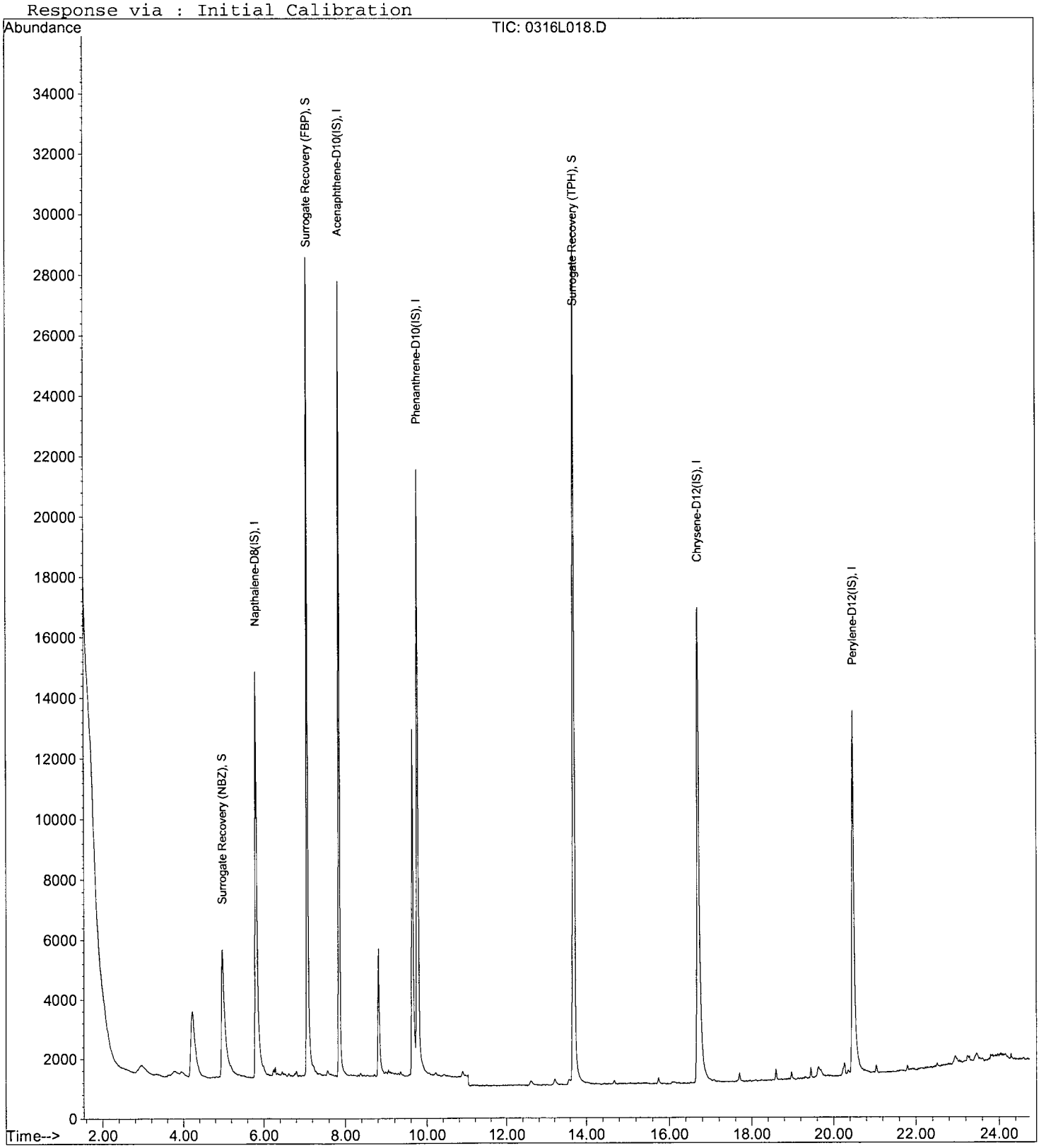
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L018.D Vial: 18
Acq On : 16 Mar 17 20:09 Operator: MA
Sample : AZ51360W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:04 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	59.7	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	63.8	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	74.4	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L019
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:49:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L019.D Vial: 19
Acq On : 16 Mar 17 20:42 Operator: MA
Sample : AZ51362W14 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 14:12 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	40869	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19906	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	41142	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	45415	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.47	264	42958	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	19993	2.97879 ppb	0.01
Spiked Amount 4.673			Recovery	= 63.751%	
7) Surrogate Recovery (FBP)	7.06	172	35740	2.79215 ppb	0.00
Spiked Amount 4.673			Recovery	= 59.749%	
17) Surrogate Recovery (TPH)	13.69	244	51528	3.47588 ppb	0.00
Spiked Amount 4.673			Recovery	= 74.386%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

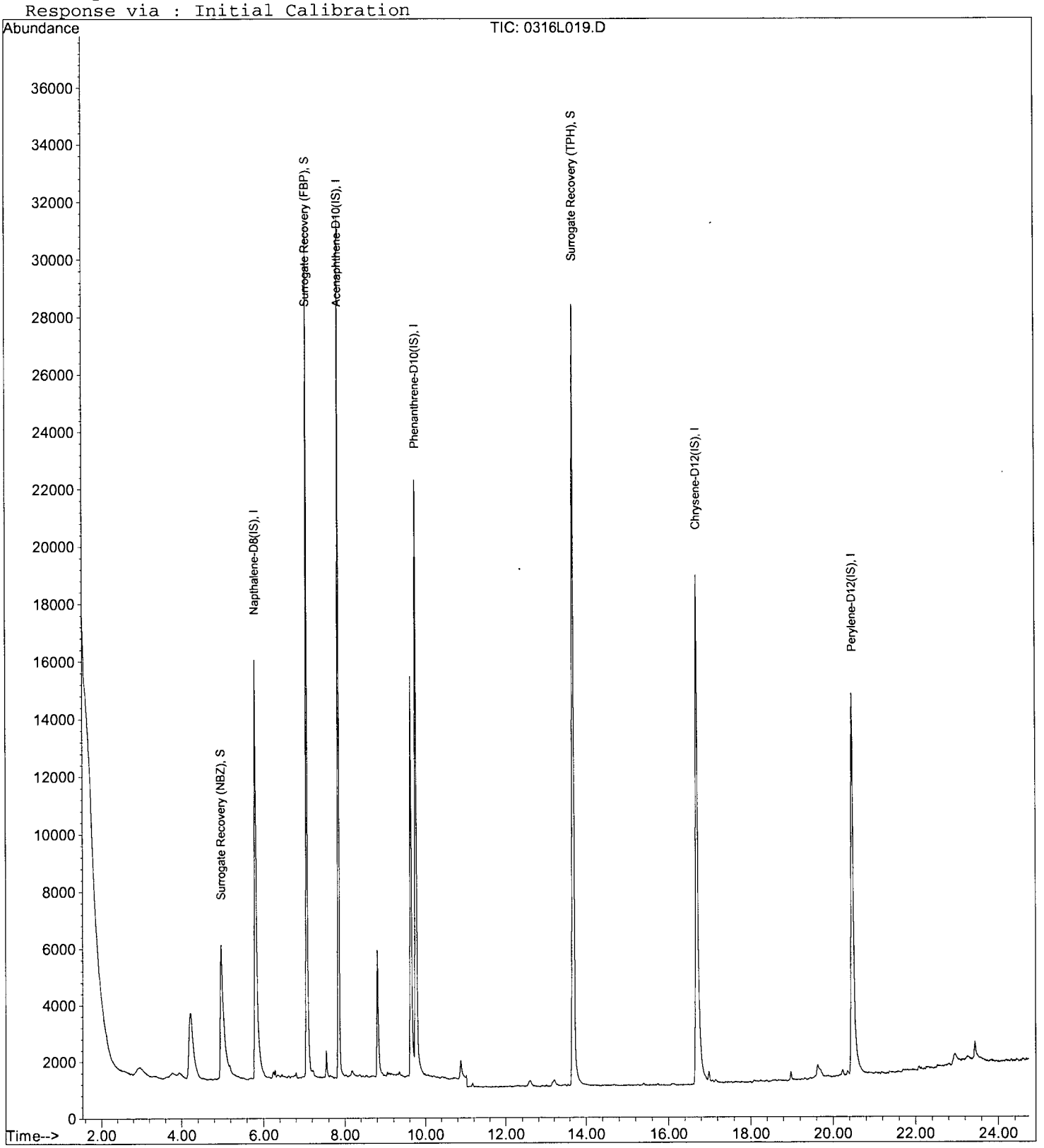
Data File : M:\LINUS\DATA\L170316\0316L019.D
Acq On : 16 Mar 17 20:42
Sample : AZ51362W14 1/1070
Misc : water

Vial: 19
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Mar 17 14:12 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	65.1	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	65.8	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	79.9	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L020
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:49:22 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L020.D Vial: 20
Acq On : 16 Mar 17 21:15 Operator: MA
Sample : AZ51364W14 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:19 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	35025	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	18101	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	34971	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	41774	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.47	264	32624	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	17689	3.07378 ppb	0.00
Spiked Amount 4.673			Recovery	= 65.784%	
7) Surrogate Recovery (FBP)	7.06	172	35387	3.04025 ppb	0.00
Spiked Amount 4.673			Recovery	= 65.056%	
17) Surrogate Recovery (TPH)	13.68	244	50896	3.73249 ppb	-0.01
Spiked Amount 4.673			Recovery	= 79.865%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

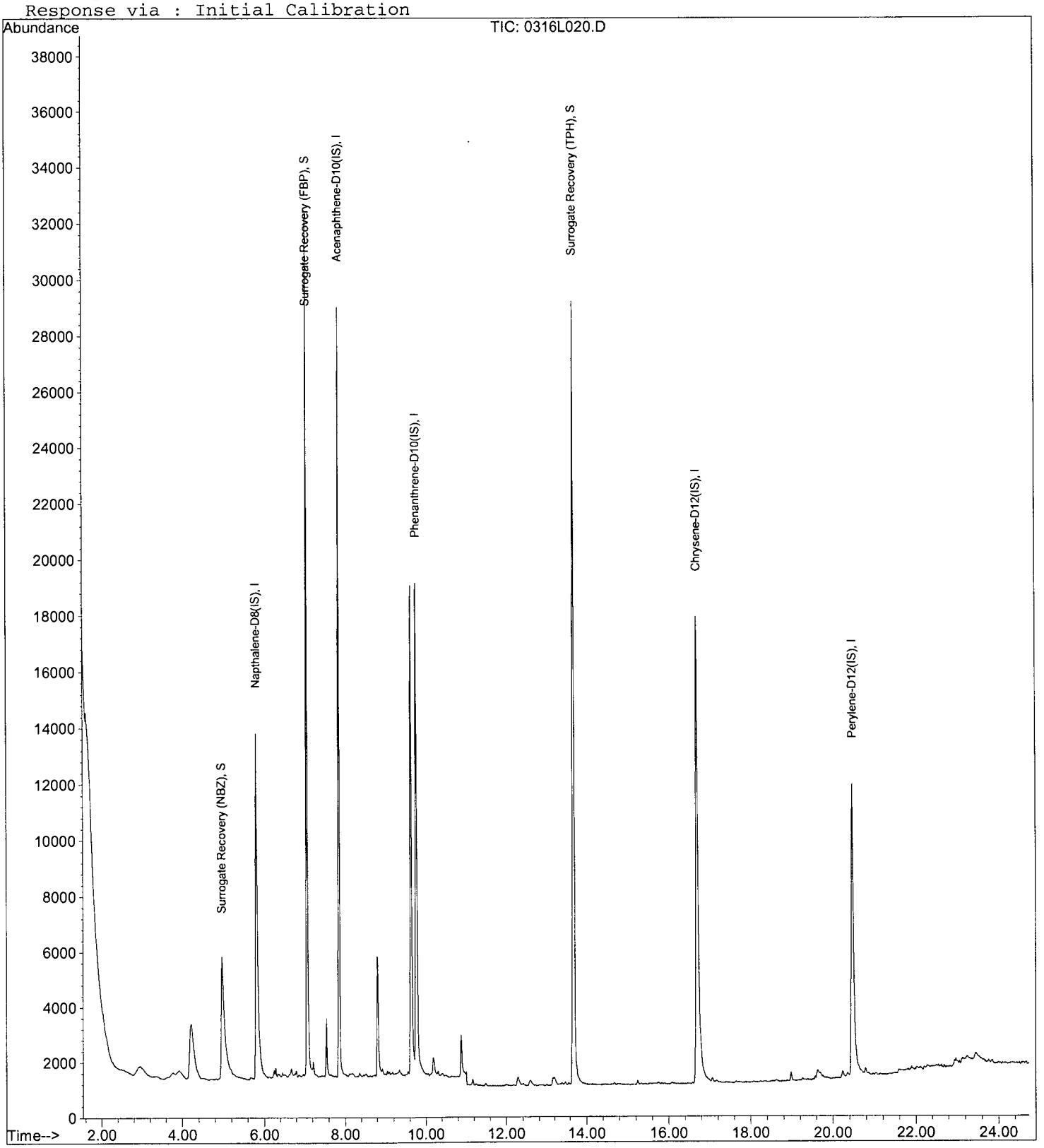
Data File : M:\LINUS\DATA\L170316\0316L020.D
Acq On : 16 Mar 17 21:15
Sample : AZ51364W14 1/1070
Misc : water

Vial: 20
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Mar 17 9:19 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/16/17
Matrix: Instrument: Linus Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0316L003 D	0316L004.D	0316L005.D	0316L006.D	0316L007.D	0316L008.D	0316L009 D	0316L010.D						
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)		0.2806	0.2531	0.3143	0.3879	0.3928	0.3873	0.3896			0.34	17	SL	1.00
3	TM	Naphthalene	1.071	1.076	1.151	1.107	1.110	1.033	0.9332	0.8737			1.0	9.1	TM	
4	TM	2-Methylnaphthalene	0.5531	0.5312	0.5901	0.6225	0.6611	0.6250	0.5690	0.5229			0.58	8.4	TM	
5	TM	1-Methylnaphthalene	0.6713	0.7154	0.6898	0.6793	0.6648	0.6107	0.5350	0.4897			0.63	13	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.565	1.500	1.611	1.551	1.581	1.576	1.367	1.268			1.5	8.1	S	
8	TM	Acenaphthylene	2.025	2.055	2.196	2.146	2.202	2.086	1.810	1.626			2.0	10.0	TM	
9	*TM	Acenaphthene	1.217	1.219	1.350	1.282	1.288	1.204	1.040	0.9364			1.2	12	*TM	
10	TM	Fluorene	1.313	1.317	1.447	1.443	1.459	1.368	1.161	1.049			1.3	11	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.053	1.011	1.108	1.059	1.089	1.031	0.9098	0.7957			1.0	10	TM	
13	TM	Anthracene	0.9831	0.9530	1.012	0.9979	1.066	1.010	0.8824	0.7414			0.96	11	TM	
14	*TM	Fluoranthene	1.840	1.675	1.653	1.693	1.758	1.708	1.562	1.393			1.7	8.1	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.633	1.513	1.478	1.445	1.482	1.385	1.347	1.171			1.4	9.5	TM	
17	S	Surrogate Recovery (TPH)	0.8254	0.7946	0.7927	0.7587	0.7533	0.7618	0.7197	0.6951			0.76	5.5	S	
18	TM	Benz (a) anthracene	1.633	1.387	1.269	1.218	1.225	1.171	1.158	1.035			1.3	14	TM	
19	TML	Chrysene	1.892	1.592	1.481	1.360	1.296	1.192	1.078	1.020			1.4	21	TML	0.999
20	TML	Indeno (1,2,3-cd) pyrene	1.522	1.378	1.405	1.233	1.156	0.8400	0.9689				1.2	20	TML	0.999
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.621	1.404	1.424	1.249	1.406	1.232	1.145	1.081			1.3	13	TM	
23	TM	Benzo (k) fluoranthene	1.419	1.142	1.157	1.193	1.226	1.176	1.054				1.2	9.4	TM	
24	*TM	Benzo (a) pyrene	1.501	1.276	1.323	1.280	1.272	1.159	1.098	0.9834			1.2	13	*TM	
25	TML	Dibenz (a,h) anthracene	1.144	1.084	1.277	1.089	1.094	0.9387	0.8106	0.7722			1.0	17	TML	0.999
26	TML	Benzo (g,h,i) perylene	1.729	1.383	1.534	1.156	1.112	0.9326	0.8430	0.7675			1.2	29	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L003.D
Acq On : 16 Mar 17 12:08
Sample : 0.1 SIM 03/01/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:06 2017
Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:06:25 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.79	136	43165	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	7.85	164	22390	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.75	188	43995	2.50000 ppb		0.00
15) Chrysene-D12(IS)	16.67	240	53309	2.50000 ppb		0.00
21) Perylene-D12(IS)	20.45	264	48316	2.50000 ppb		0.00
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.00	82	139	0.29693 ppb		0.00
Spiked Amount 5.000			Recovery	= 5.940%		
7) Surrogate Recovery (FBP)	7.07	172	701	0.05116 ppb		0.00
Spiked Amount 5.000			Recovery	= 1.020%		
17) Surrogate Recovery (TPH)	13.70	244	880	0.05270 ppb		0.00
Spiked Amount 5.000			Recovery	= 1.060%		
Target Compounds						Qvalue
3) Naphthalene	5.82	128	1849	0.10090 ppb	#	86
4) 2-Methylnaphthalene	6.65	142	955	0.09582 ppb		96
5) 1-Methylnaphthalene	6.76	142	1159	0.09931 ppb		98
8) Acenaphthylene	7.69	152	1814	0.09784 ppb		91
9) Acenaphthene	7.88	154	1090	0.09802 ppb		98
10) Fluorene	8.51	166	1176	0.09602 ppb		99
12) Phenanthrene	9.79	178	1853	0.10457 ppb		90
13) Anthracene	9.90	178	1730	0.10494 ppb		88
14) Fluoranthene	12.52	202	3238	0.11776 ppb	#	88
16) Pyrene	13.15	202	3483	0.12283 ppb		89
18) Benz (a) anthracene	16.65	228	3483	0.15640 ppb		95
19) Chrysene	16.75	228	4035	0.15319 ppb	#	94
20) Indeno (1,2,3-cd) pyrene	22.78	276	3246	0.16789 ppb	#	80
22) Benzo (b) fluoranthene	19.55	252	3133	0.10088 ppb	#	87
23) Benzo (k) fluoranthene	19.62	252	2742	0.11408 ppb	#	86
24) Benzo (a) pyrene	20.32	252	2900	0.14111 ppb	#	84
25) Dibenz (a,h) anthracene	22.82	278	2211	0.14010 ppb	#	80
26) Benzo (g,h,i) perylene	23.31	276	3342	0.20731 ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

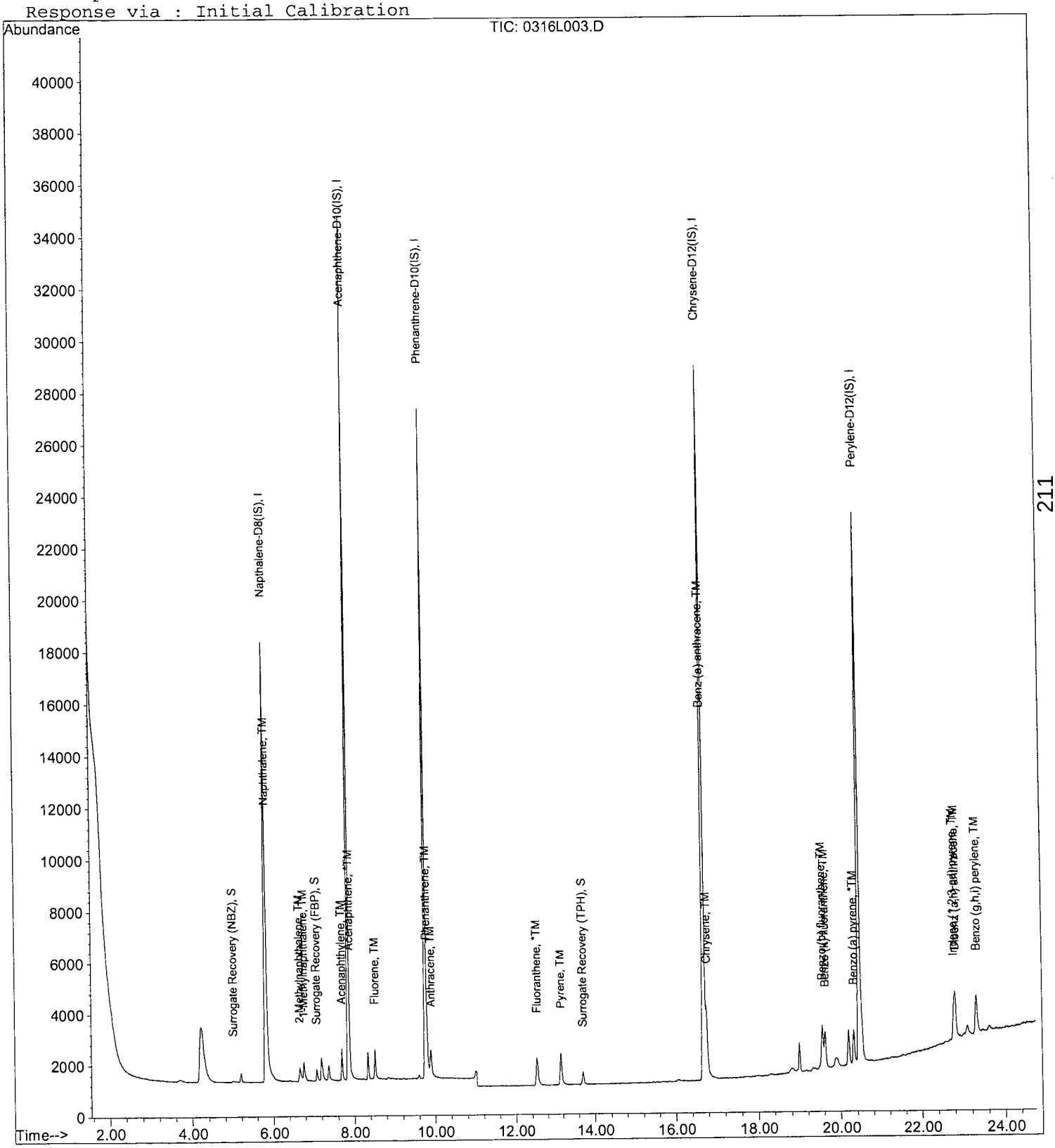
Data File : M:\LINUS\DATA\L170316\0316L003.D
Acq On : 16 Mar 17 12:08
Sample : 0.1 SIM 03/01/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:06 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



211

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L004.D
Acq On : 16 Mar 17 12:41
Sample : 0.2 SIM 03/01/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:11 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:11:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	40450	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	20928	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	41096	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	48890	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	44880	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.02	82	454	0.34747 ppb	0.00
Spiked Amount 5.000			Recovery	= 6.940%	
7) Surrogate Recovery (FBP)	7.09	172	1256	0.09808 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.960%	
17) Surrogate Recovery (TPH)	13.71	244	1554	0.10148 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.020%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	3481	0.20270 ppb	91
4) 2-Methylnaphthalene	6.66	142	1719	0.18405 ppb	98
5) 1-Methylnaphthalene	6.76	142	2315	0.21167 ppb	99
8) Acenaphthylene	7.70	152	3441	0.19855 ppb	95
9) Acenaphthene	7.88	154	2041	0.19636 ppb	98
10) Fluorene	8.51	166	2205	0.19261 ppb	99
12) Phenanthrene	9.79	178	3325	0.20087 ppb	94
13) Anthracene	9.90	178	3133	0.20345 ppb	93
14) Fluoranthene	12.53	202	5508	0.21446 ppb	93
16) Pyrene	13.15	202	5918	0.22757 ppb	94
18) Benz (a) anthracene	16.66	228	5426	0.26567 ppb	96
19) Chrysene	16.76	228	6227	0.25779 ppb	96
20) Indeno (1,2,3-cd) pyrene	22.79	276	5391	0.30404 ppb #	87
22) Benzo (b) fluoranthene	19.56	252	5041	0.20942 ppb #	92
23) Benzo (k) fluoranthene	19.62	252	4102	0.18373 ppb	91
24) Benzo (a) pyrene	20.32	252	4581	0.23997 ppb #	91
25) Dibenz (a,h) anthracene	22.83	278	3891	0.26544 ppb #	86
26) Benzo (g,h,i) perylene	23.32	276	4967	0.33169 ppb	90

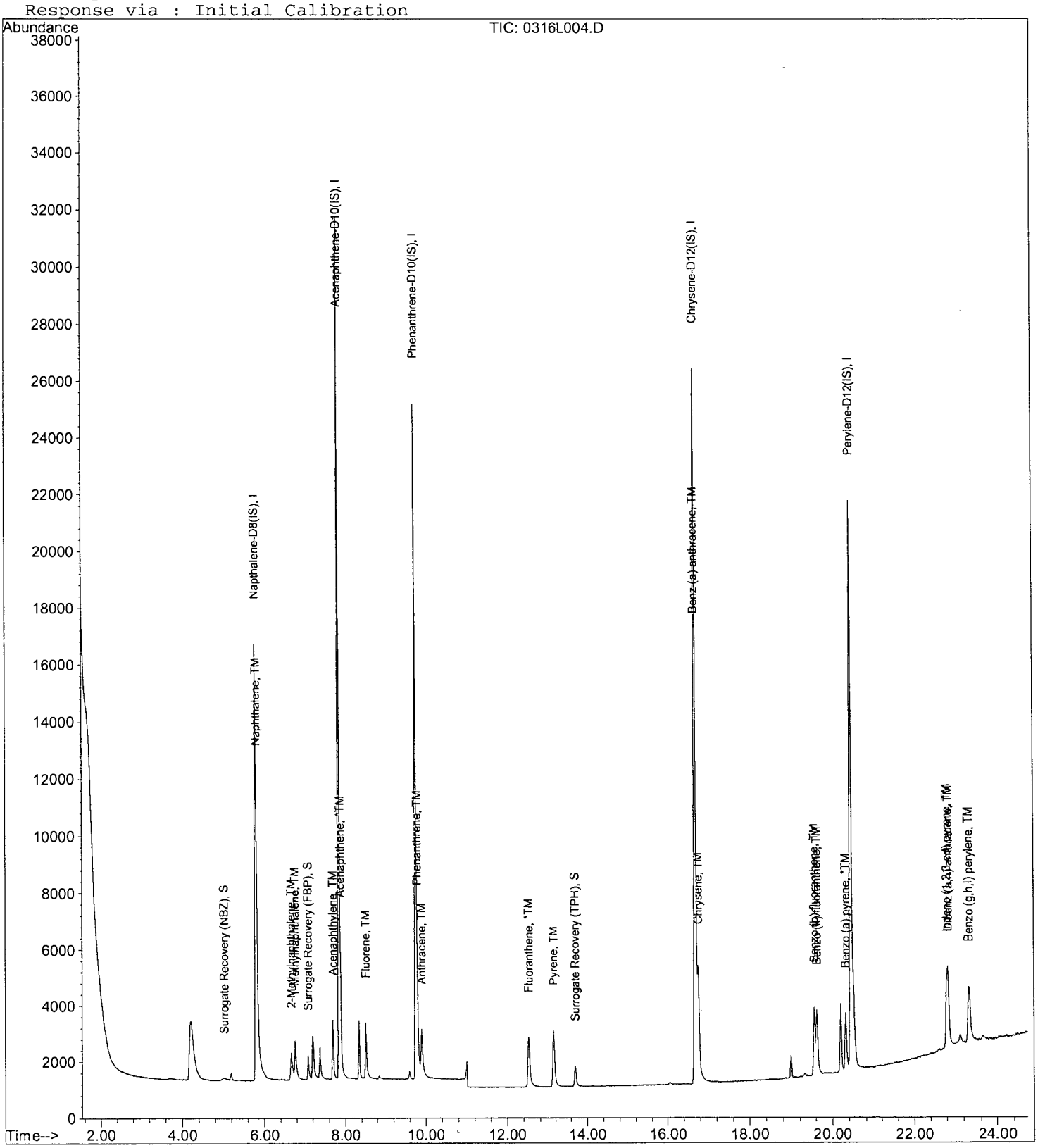
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L004.D Vial: 4
Acq On : 16 Mar 17 12:41 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:11 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L005.D Vial: 5
Acq On : 16 Mar 17 13:13 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:17 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	36665	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	18717	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	36980	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	39168	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	34602	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	928	0.43641 ppb	0.00
Spiked Amount 5.000			Recovery	= 8.720%	
7) Surrogate Recovery (FBP)	7.07	172	3015	0.26324 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.260%	
17) Surrogate Recovery (TPH)	13.71	244	3105	0.25310 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.060%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	8439	0.54213 ppb	96
4) 2-Methylnaphthalene	6.65	142	4327	0.51111 ppb	99
5) 1-Methylnaphthalene	6.76	142	5058	0.51022 ppb	99
8) Acenaphthylene	7.69	152	8219	0.53028 ppb	98
9) Acenaphthene	7.88	154	5052	0.54345 ppb	99
10) Fluorene	8.51	166	5416	0.52898 ppb	100
12) Phenanthrene	9.80	178	8193	0.55006 ppb	98
13) Anthracene	9.90	178	7487	0.54030 ppb	97
14) Fluoranthene	12.52	202	12227	0.52905 ppb	97
16) Pyrene	13.16	202	11578	0.55572 ppb	97
18) Benz (a) anthracene	16.66	228	9937	0.60730 ppb	98
19) Chrysene	16.76	228	11600	0.59941 ppb	98
20) Indeno (1,2,3-cd) pyrene	22.79	276	11004	0.77464 ppb #	95
22) Benzo (b) fluoranthene	19.56	252	9853	0.60360 ppb	97
23) Benzo (k) fluoranthene	19.62	252	8004	0.46499 ppb	96
24) Benzo (a) pyrene	20.32	252	9154	0.62195 ppb	95
25) Dibenz (a,h) anthracene	22.83	278	8835	0.78173 ppb	95
26) Benzo (g,h,i) perylene	23.32	276	10616	0.91951 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

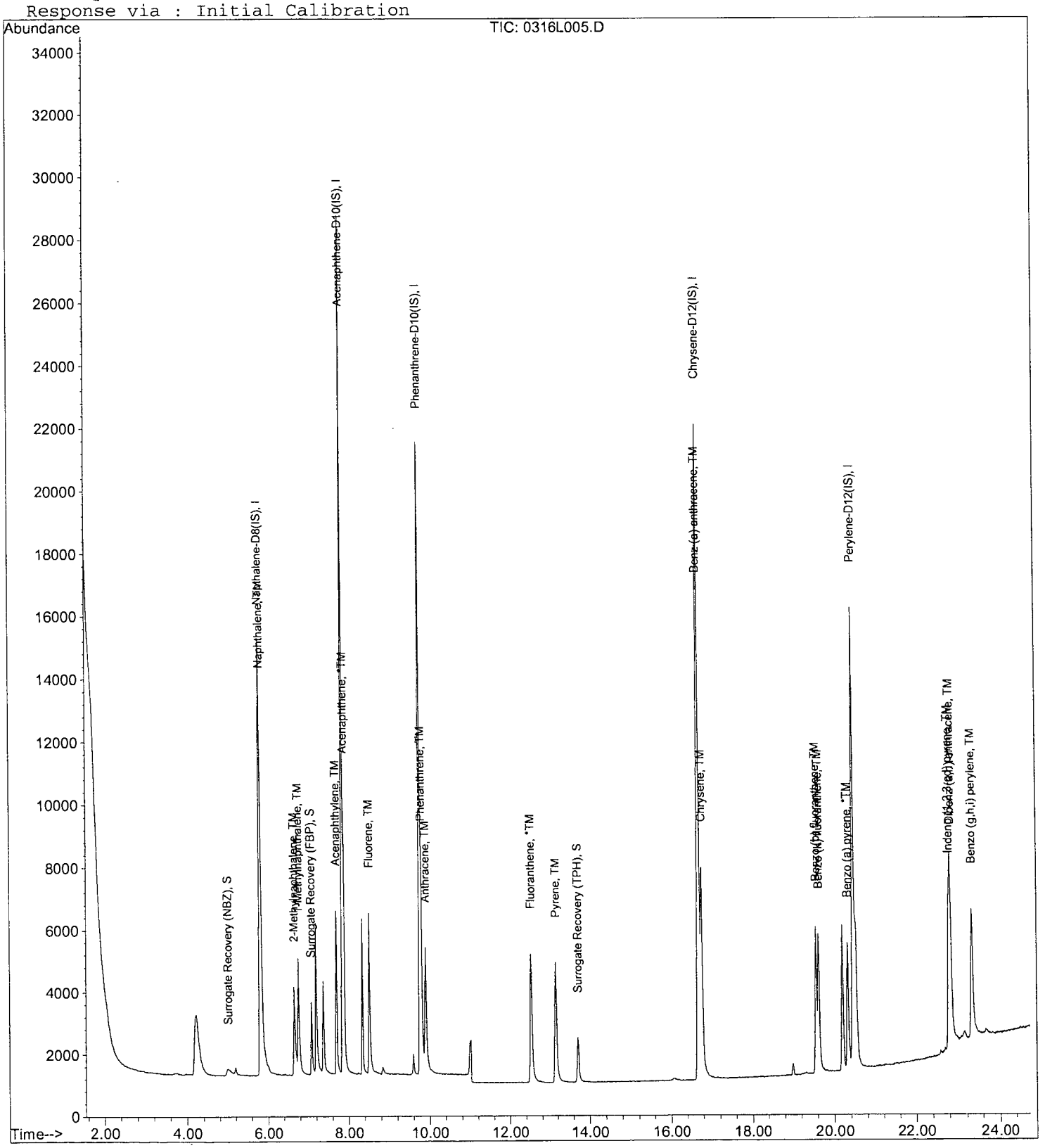
Data File : M:\LINUS\DATA\L170316\0316L005.D
Acq On : 16 Mar 17 13:13
Sample : 0.5 SIM 03/01/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:17 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L006.D Vial: 6
Acq On : 16 Mar 17 13:45 Operator: MA
Sample : 1.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	40854	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	21183	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	41819	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	51712	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	46262	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	2568	0.67351 ppb	-0.01
Spiked Amount 5.000			Recovery	= 13.480%	
7) Surrogate Recovery (FBP)	7.07	172	6571	0.50693 ppb	0.00
Spiked Amount 5.000			Recovery	= 10.140%	
17) Surrogate Recovery (TPH)	13.70	244	7847	0.48448 ppb	0.00
Spiked Amount 5.000			Recovery	= 9.680%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	18088	1.04285 ppb	95
4) 2-Methylnaphthalene	6.65	142	10172	1.07833 ppb	100
5) 1-Methylnaphthalene	6.76	142	11101	1.00498 ppb	100
8) Acenaphthylene	7.69	152	18182	1.03652 ppb	98
9) Acenaphthene	7.88	154	10866	1.03281 ppb	97
10) Fluorene	8.51	166	12231	1.05553 ppb	99
12) Phenanthrene	9.80	178	17713	1.05160 ppb	97
13) Anthracene	9.90	178	16693	1.06526 ppb	96
14) Fluoranthene	12.52	202	28312	1.08328 ppb	96
16) Pyrene	13.15	202	29899	1.08697 ppb	97
18) Benz (a) anthracene	16.66	228	25192	1.16614 ppb	98
19) Chrysene	16.75	228	28127	1.10086 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	25500	1.35966 ppb #	97
22) Benzo (b) fluoranthene	19.55	252	23116	1.09493 ppb	97
23) Benzo (k) fluoranthene	19.62	252	22081	0.95947 ppb	97
24) Benzo (a) pyrene	20.32	252	23682	1.20348 ppb	96
25) Dibenz (a,h) anthracene	22.82	278	20154	1.33379 ppb	97
26) Benzo (g,h,i) perylene	23.32	276	21388	1.38561 ppb	92

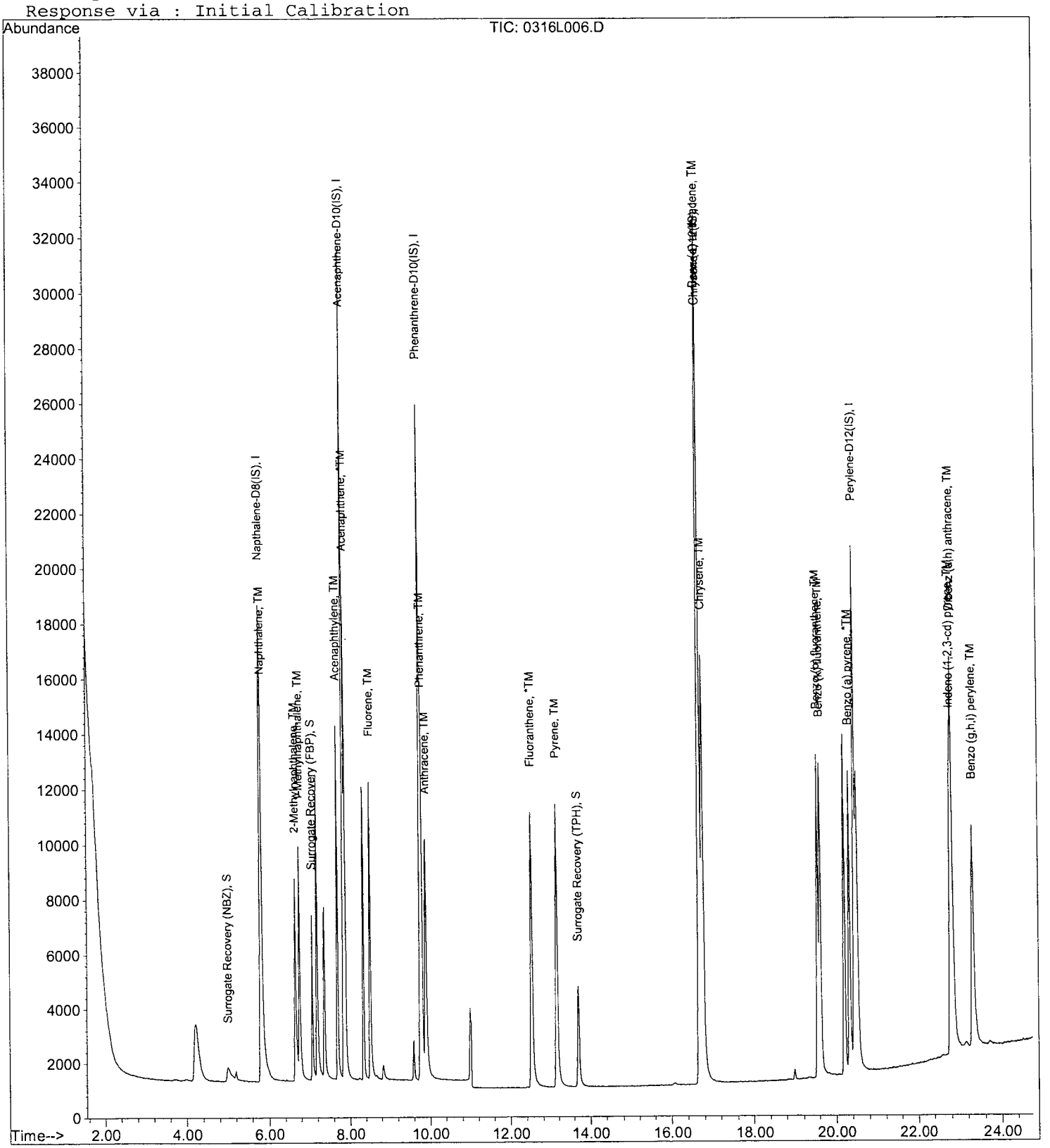
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L006.D Vial: 6
Acq On : 16 Mar 17 13:45 Operator: MA
Sample : 1.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L007.D Vial: 7
Acq On : 16 Mar 17 14:17 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	37034	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	18865	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	37568	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	46460	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	39411	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	14367	2.72621 ppb	-0.05
Spiked Amount 5.000			Recovery	= 54.520%	
7) Surrogate Recovery (FBP)	7.06	172	29817	2.58291 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.660%	
17) Surrogate Recovery (TPH)	13.69	244	34996	2.40493 ppb	-0.02
Spiked Amount 5.000			Recovery	= 48.100%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	82233	5.23014 ppb	94
4) 2-Methylnaphthalene	6.64	142	48969	5.72662 ppb	98
5) 1-Methylnaphthalene	6.75	142	49239	4.91745 ppb	100
8) Acenaphthylene	7.69	152	83071	5.31759 ppb	98
9) Acenaphthene	7.88	154	48611	5.18817 ppb	98
10) Fluorene	8.50	166	55059	5.33542 ppb	99
12) Phenanthrene	9.79	178	81841	5.40861 ppb	98
13) Anthracene	9.89	178	80128	5.69194 ppb	97
14) Fluoranthene	12.51	202	132088	5.62584 ppb	95
16) Pyrene	13.13	202	137720	5.57275 ppb	97
18) Benz (a) anthracene	16.65	228	113797	5.86316 ppb	100
19) Chrysene	16.75	228	120414	5.24562 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.76	276	107379	6.37269 ppb #	94
22) Benzo (b) fluoranthene	19.54	252	110842	6.38207 ppb	98
23) Benzo (k) fluoranthene	19.61	252	96625	4.92845 ppb	96
24) Benzo (a) pyrene	20.32	252	100231	5.97903 ppb	95
25) Dibenz (a,h) anthracene	22.80	278	86269	6.70177 ppb	98
26) Benzo (g,h,i) perylene	23.29	276	87623	6.66341 ppb	95

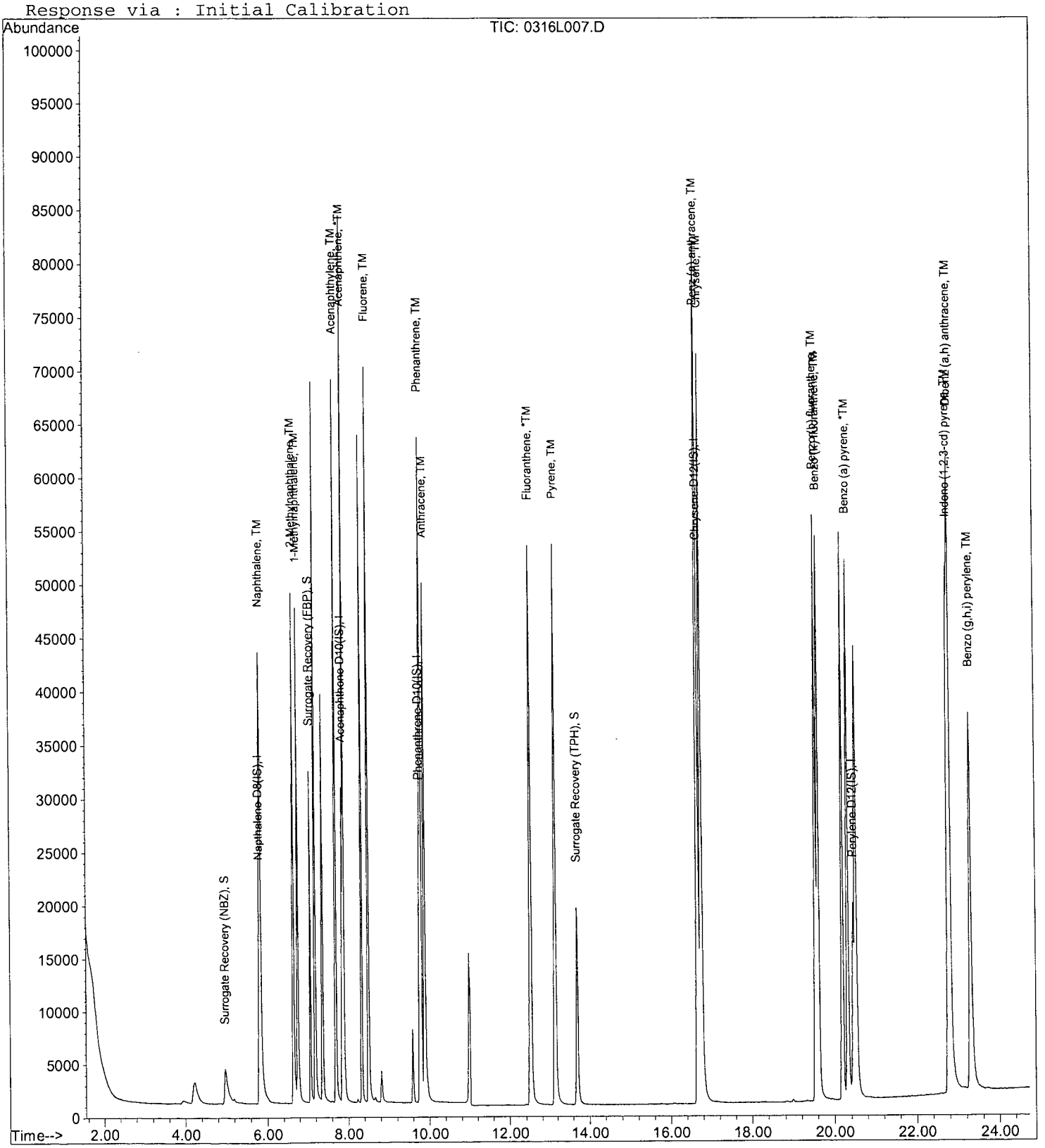
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L007.D Vial: 7
Acq On : 16 Mar 17 14:17 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L008.D Vial: 8
Acq On : 16 Mar 17 14:50 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:20 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	39322	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19903	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	38742	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.67	240	49161	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	35346	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	30895	5.23777 ppb	-0.05
Spiked Amount 5.000			Recovery	= 104.760%	
7) Surrogate Recovery (FBP)	7.06	172	62720	5.14980 ppb	-0.01
Spiked Amount 5.000			Recovery	= 103.000%	
17) Surrogate Recovery (TPH)	13.69	244	74903	4.86454 ppb	-0.02
Spiked Amount 5.000			Recovery	= 97.300%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	162554	9.73710 ppb		95
4) 2-Methylnaphthalene	6.64	142	98303	10.82703 ppb		98
5) 1-Methylnaphthalene	6.75	142	96053	9.03455 ppb		99
8) Acenaphthylene	7.69	152	166043	10.07451 ppb		98
9) Acenaphthene	7.88	154	95854	9.69679 ppb		99
10) Fluorene	8.50	166	108948	10.00685 ppb		98
12) Phenanthrene	9.79	178	159701	10.23430 ppb		98
13) Anthracene	9.87	178	156538	10.78281 ppb		97
14) Fluoranthene	12.50	202	264654	10.93046 ppb		96
16) Pyrene	13.14	202	272428	10.41796 ppb		97
18) Benz (a) anthracene	16.65	228	230233	11.21056 ppb		100
19) Chrysene	16.75	228	234417	9.65089 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	165172	9.26400 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	174219	11.22048 ppb		97
23) Benzo (k) fluoranthene	19.61	252	166240	9.45440 ppb		97
24) Benzo (a) pyrene	20.31	252	163884	10.90041 ppb		97
25) Dibenz (a,h) anthracene	22.81	278	132714	11.49552 ppb		95
26) Benzo (g,h,i) perylene	23.28	276	131854	11.18018 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

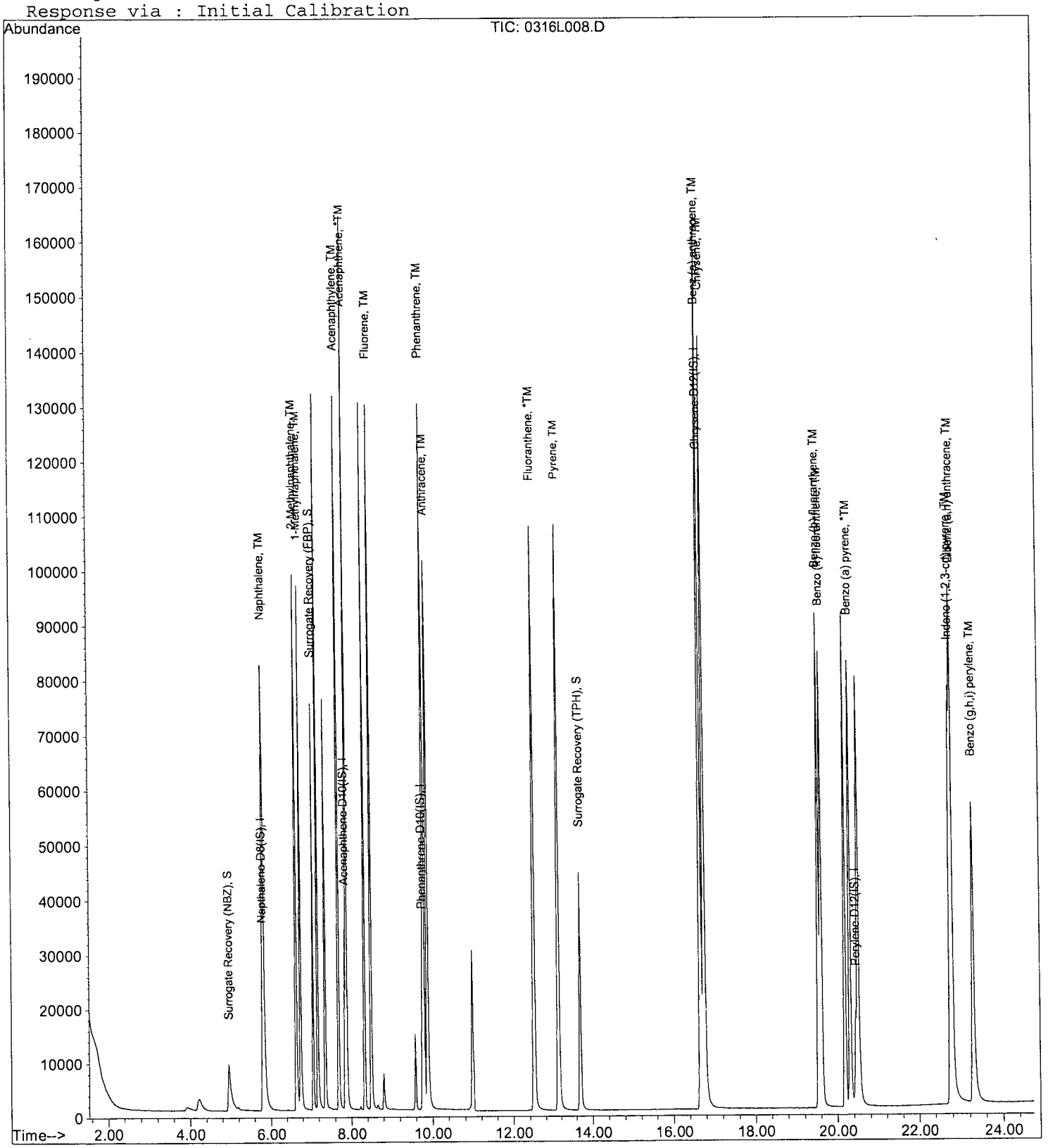
Data File : M:\LINUS\DATA\L170316\0316L008.D
Acq On : 16 Mar 17 14:50
Sample : 10 SIM 03/01/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:20 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L010.D
Acq On : 16 Mar 17 15:56
Sample : 100 SIM 03/01/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:06 2017
Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:05:37 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	38001	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19578	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	37007	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.72	240	45072	2.50000 ppb	0.04
21) Perylene-D12(IS)	20.48	264	39252	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.94	82	296115	50.04091 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1000.820%	
7) Surrogate Recovery (FBP)	7.06	172	496616	42.20884 ppb	0.00
Spiked Amount 5.000			Recovery	= 844.180%	
17) Surrogate Recovery (TPH)	13.71	244	626628	45.57299 ppb	0.02
Spiked Amount 5.000			Recovery	= 911.460%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	1328133	83.66238 ppb	99
4) 2-Methylnaphthalene	6.64	142	794862	89.48549 ppb	99
5) 1-Methylnaphthalene	6.75	142	744359	77.48499 ppb	99
8) Acenaphthylene	7.69	152	1273690	80.58557 ppb	98
9) Acenaphthene	7.89	154	733277	78.54492 ppb	97
10) Fluorene	8.51	166	821539	79.49052 ppb	98
12) Phenanthrene	9.81	178	1177816	79.01144 ppb	99
13) Anthracene	9.90	178	1097537	77.56993 ppb	99
14) Fluoranthene	12.54	202	2062591	83.92258 ppb	98
16) Pyrene	13.18	202	2112018	81.80888 ppb	99
18) Benz (a) anthracene	16.70	228	1866841	97.79097 ppb	99
19) Chrysene	16.81	228	1838850	98.93999 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.86	276	884129	50.79538 ppb	100
22) Benzo (b) fluoranthene	19.59	252	1696605	81.84727 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1072534	57.14890 ppb	97
24) Benzo (a) pyrene	20.39	252	1543949	79.53175 ppb	99
25) Dibenz (a,h) anthracene	22.89	278	1212407	99.06313 ppb	99
26) Benzo (g,h,i) perylene	23.36	276	1205067	98.18130 ppb	100

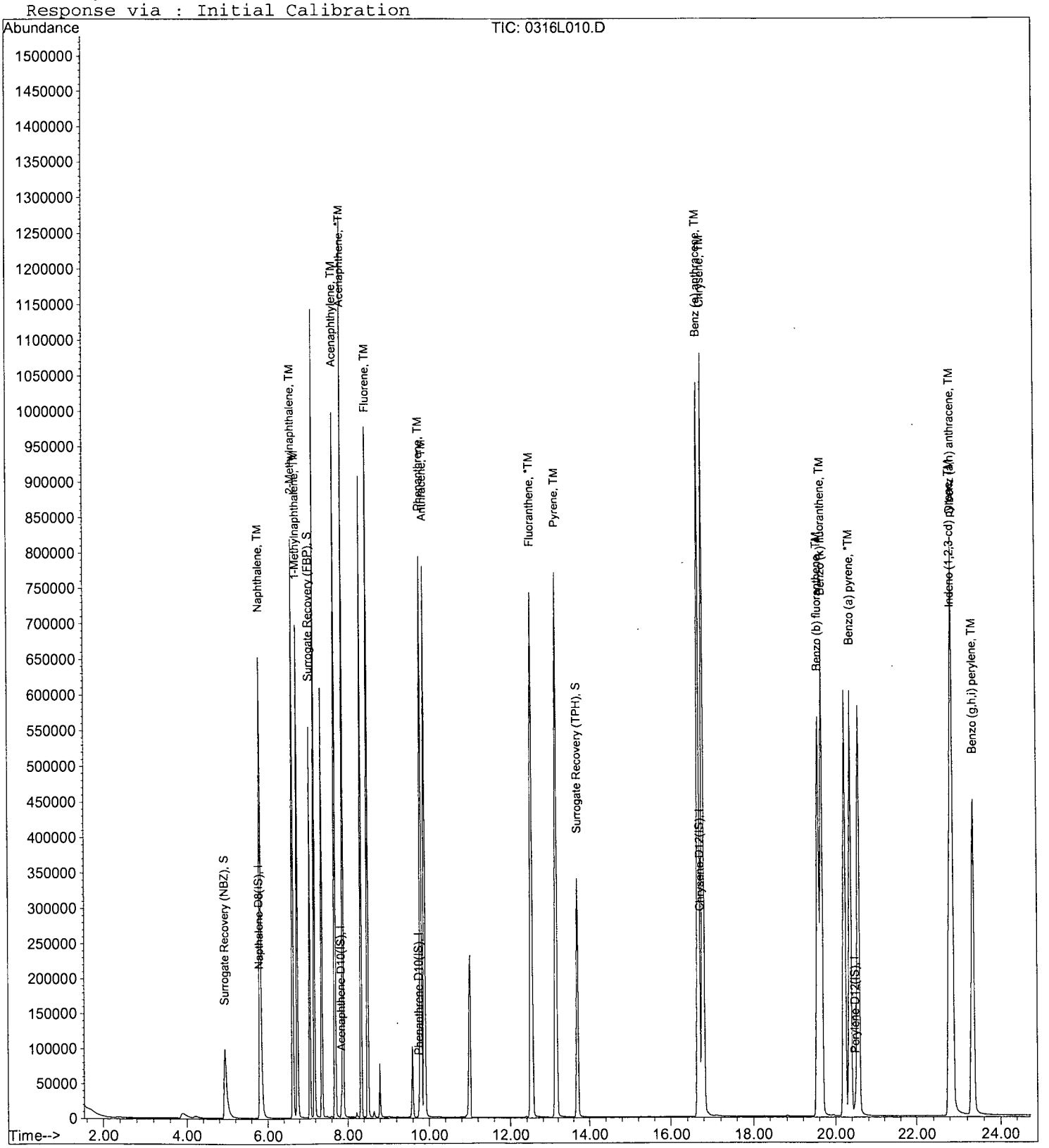
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L010.D Vial: 10
Acq On : 16 Mar 17 15:56 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 21 16:06 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



EPA 8270C SIM

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Linus
Initial Cal. Date: 03/16/17
Data File: 0316L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.044	1.054	0.90	TM	
2	TM	2-Methylnaphthalene	0.5844	0.6411	9.7	TM	
3	TM	1-Methylnaphthalene	0.6320	0.6758	6.9	TM	
4	TM	Acenaphthylene	2.018	2.029	0.54	TM	
5	*TM	Acenaphthene	1.192	1.241	4.1	*TM	
6	TM	Fluorene	1.320	1.403	6.3	TM	
7	TM	Phenanthrene	1.007	1.028	2.0	TM	
8	TM	Anthracene	0.9558	1.009	5.5	TM	
9	*TM	Fluoranthene	1.660	1.606	3.3	*TM	
10	TM	Pyrene	1.432	1.349	5.8	TM	
11	TM	Benz (a) anthracene	1.262	1.177	6.7	TM	
12	TML	Chrysene	1.364	1.179	14	TML	0.01
13	TML	Indeno (1,2,3-cd) pyrene	1.215	0.8164	33	TML	17
14	TM	Benzo (b) fluoranthene	1.320	1.286	2.6	TM	
15	TM	Benzo (k) fluoranthene	1.195	1.057	12	TM	
16	*TM	Benzo (a) pyrene	1.236	1.193	3.5	*TM	
17	TML	Dibenz (a,h) anthracene	1.026	1.009	1.7	TML	12
18	TML	Benzo (g,h,i) perylene	1.182	0.9725	18	TML	2.2
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L011.D Vial: 11
Acq On : 16 Mar 17 16:29 Operator: MA
Sample : SS SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 21 16:10 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	31927	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	17265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	33893	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	42615	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	28679	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	5	0.04983 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.000%	
7) Surrogate Recovery (FBP)	7.07	172	30	0.00289 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.060%	
17) Surrogate Recovery (TPH)	13.78	244	57	0.00438 ppb	0.09
Spiked Amount 5.000			Recovery	= 0.080%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	67290	5.04517 ppb	99
4) 2-Methylnaphthalene	6.64	142	40936	5.48534 ppb	99
5) 1-Methylnaphthalene	6.75	142	43154	5.34679 ppb	100
8) Acenaphthylene	7.69	152	70068	5.02707 ppb	100
9) Acenaphthene	7.88	154	42847	5.20442 ppb	99
10) Fluorene	8.50	166	48431	5.31389 ppb	100
12) Phenanthrene	9.79	178	69657	5.10213 ppb	100
13) Anthracene	9.89	178	68376	5.27657 ppb	99
14) Fluoranthene	12.51	202	108877	4.83700 ppb	99
16) Pyrene	13.13	202	114957	4.70958 ppb	99
18) Benz (a) anthracene	16.66	228	100305	4.66267 ppb	100
19) Chrysene	16.75	228	100488	4.99945 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.76	276	69579	4.14505 ppb #	91
22) Benzo (b) fluoranthene	19.54	252	73781	4.87153 ppb	100
23) Benzo (k) fluoranthene	19.61	252	60631	4.42170 ppb	100
24) Benzo (a) pyrene	20.32	252	68441	4.82527 ppb	100
25) Dibenz (a,h) anthracene	22.80	278	57860	5.57994 ppb	98
26) Benzo (g,h,i) perylene	23.30	276	55779	5.11036 ppb	96

$$\text{Algorithm} = \frac{67290 \times 2.5 \times 1}{31927 \times 1.044} = 5.05$$ MA 3/22/17

(#) = qualifier out of range (m) = manual integration

Quantitation Report

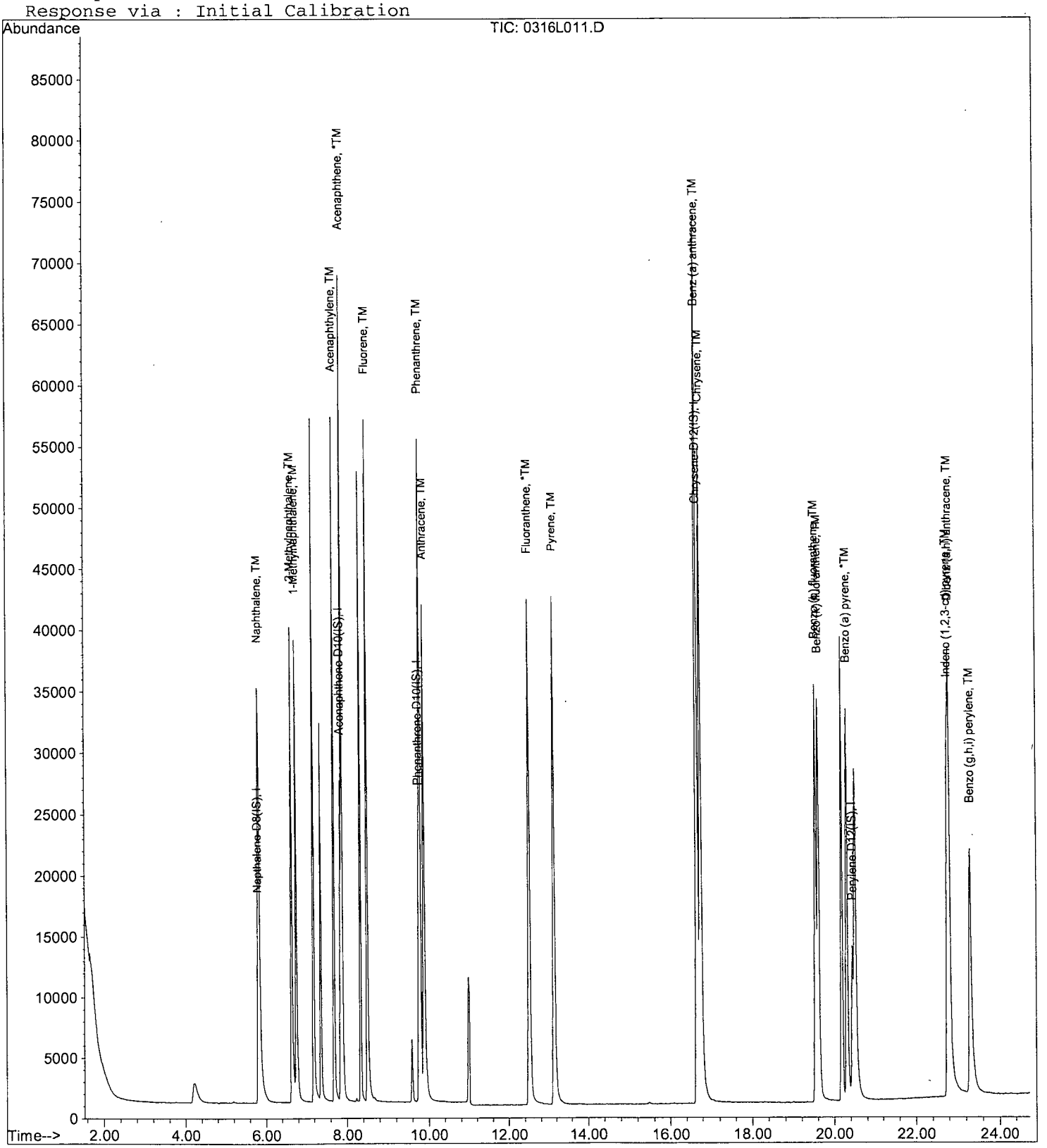
Data File : M:\LINUS\DATA\L170316\0316L011.D
Acq On : 16 Mar 17 16:29
Sample : SS SIM 03/01/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:10 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



EPA 8270C SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/17/17
Instrument: Linus
Initial Cal. Date: 03/16/17
Data File: 0316L035.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.3437	0.3652	6.3	SL	4.3
3	TM	Naphthalene	1.044	1.081	3.5	TM	
4	TM	2-Methylnaphthalene	0.5844	0.6450	10	TM	
5	TM	1-Methylnaphthalene	0.6320	0.6581	4.1	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.502	1.494	0.59	S	
8	TM	Acenaphthylene	2.018	2.108	4.5	TM	
9	*TM	Acenaphthene	1.192	1.226	2.9	*TM	
10	TM	Fluorene	1.320	1.413	7.1	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.036	2.8	TM	
13	TM	Anthracene	0.9558	1.000	4.6	TM	
14	*TM	Fluoranthene	1.660	1.668	0.44	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.432	1.399	2.3	TM	
17	S	Surrogate Recovery (TPH)	0.7627	0.7309	4.2	S	
18	TM	Benz (a) anthracene	1.262	1.150	8.9	TM	
19	TML	Chrysene	1.364	1.196	12	TML	1.7
20	TML	Indeno (1,2,3-cd) pyrene	1.215	0.9651	21	TML	1.7
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.320	1.237	6.3	TM	
23	TM	Benzo (k) fluoranthene	1.195	0.9849	18	TM	
24	*TM	Benzo (a) pyrene	1.236	1.188	3.9	*TM	
25	TML	Dibenz (a,h) anthracene	1.026	0.9240	10.0	TML	0.62
26	TML	Benzo (g,h,i) perylene	1.182	0.9155	23	TML	5.2
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.4		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L035.D
Acq On : 17 Mar 17 4:50
Sample : 5.0 SIM 03/01/17
Misc : soil

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:29 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	36114	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19108	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	38137	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	46979	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.44	264	40298	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	13190	2.39200 ppb	0.01
Spiked Amount 5.000			Recovery	= 47.840%	
7) Surrogate Recovery (FBP)	7.06	172	28539	2.48528 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.700%	
17) Surrogate Recovery (TPH)	13.68	244	34337	2.39587 ppb	0.00
Spiked Amount 5.000			Recovery	= 47.920%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	78076	5.17518 ppb		100
4) 2-Methylnaphthalene	6.64	142	46584	5.51845 ppb		100
5) 1-Methylnaphthalene	6.75	142	47533	5.20655 ppb		99
8) Acenaphthylene	7.69	152	80564	5.22261 ppb		100
9) Acenaphthene	7.88	154	46861	5.14298 ppb		97
10) Fluorene	8.50	166	53991	5.35256 ppb		100
12) Phenanthrene	9.79	178	78987	5.14169 ppb		100
13) Anthracene	9.87	178	76284	5.23173 ppb		100
14) Fluoranthene	12.50	202	127195	5.02196 ppb		100
16) Pyrene	13.13	202	131482	4.88621 ppb		99
18) Benz (a) anthracene	16.64	228	108016	4.55469 ppb		100
19) Chrysene	16.74	228	112406	5.08412 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	90679	4.91672 ppb	#	93
22) Benzo (b) fluoranthene	19.53	252	99701	4.68491 ppb		99
23) Benzo (k) fluoranthene	19.60	252	79379	4.11984 ppb		99
24) Benzo (a) pyrene	20.31	252	95724	4.80294 ppb		99
25) Dibenz (a,h) anthracene	22.80	278	74469	5.03094 ppb		98
26) Benzo (g,h,i) perylene	23.29	276	73785	4.74152 ppb		99

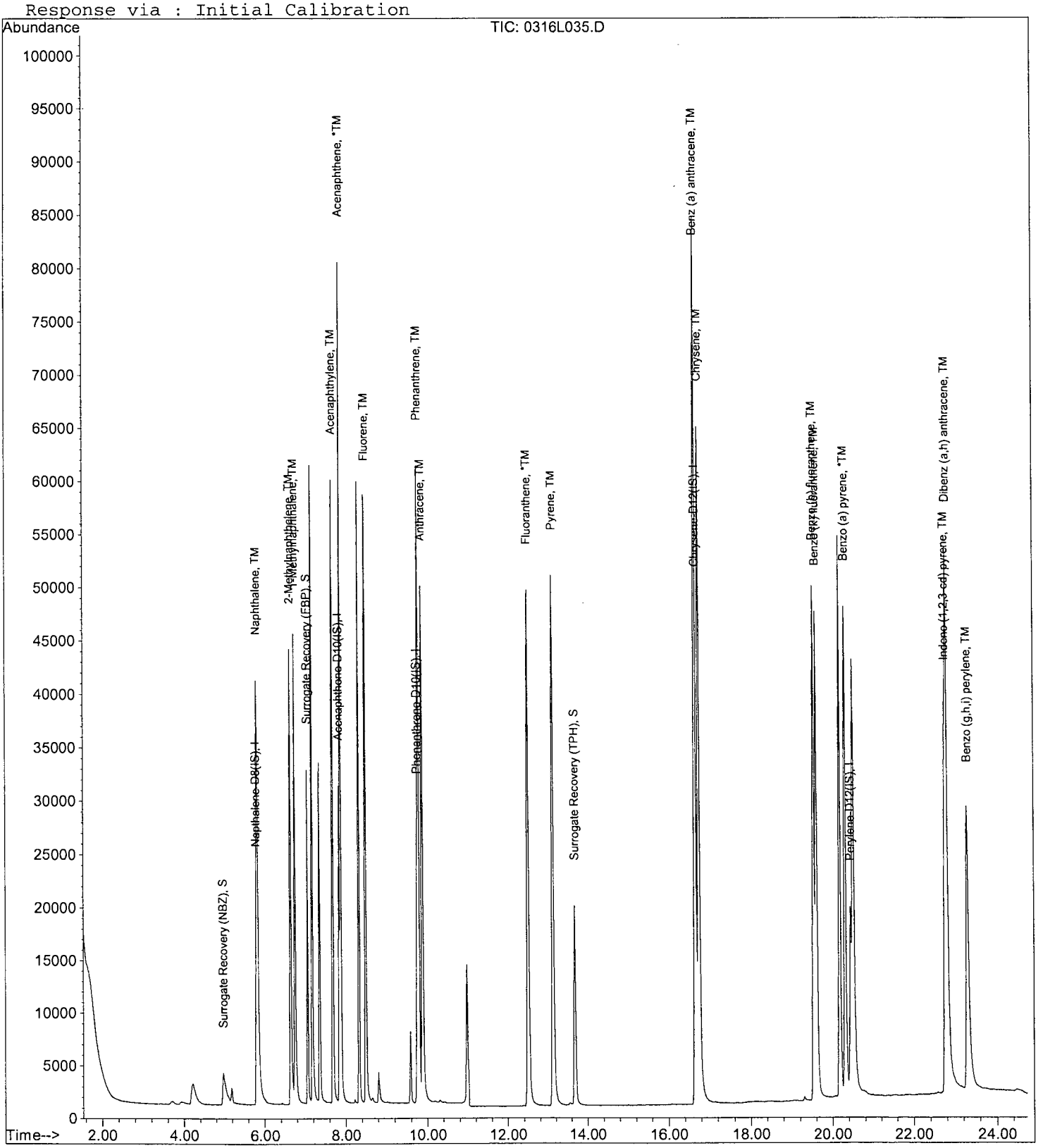
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L035.D Vial: 35
Acq On : 17 Mar 17 4:50 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : soil Multiplr: 1.00

Quant Time: Mar 21 16:29 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216987**
Batch ID: #SIMDO-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	58.3	53-106			%	03/11/17	03/16/17
BLANK	SURROGATE: NITROBENZENE-	58.2	55-111			%	03/11/17	03/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.9	58-132			%	03/11/17	03/16/17

Quant Method:L0316P.M
Run #:0316L013
Instrument:Linus
Sequence:L170316
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 2:49:36 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L013.D
Acq On : 16 Mar 17 17:26
Sample : 170311A BLK 1/1000
Misc : water

Vial: 13
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:51 2017
Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	38182	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	20484	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	40684	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	46029	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.47	264	42521	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	17035	2.91115 ppb	0.00
Spiked Amount 5.000			Recovery	= 58.220%	
7) Surrogate Recovery (FBP)	7.07	172	35882	2.91483 ppb	0.01
Spiked Amount 5.000			Recovery	= 58.300%	
17) Surrogate Recovery (TPH)	13.69	244	49761	3.54374 ppb	0.00
Spiked Amount 5.000			Recovery	= 70.880%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

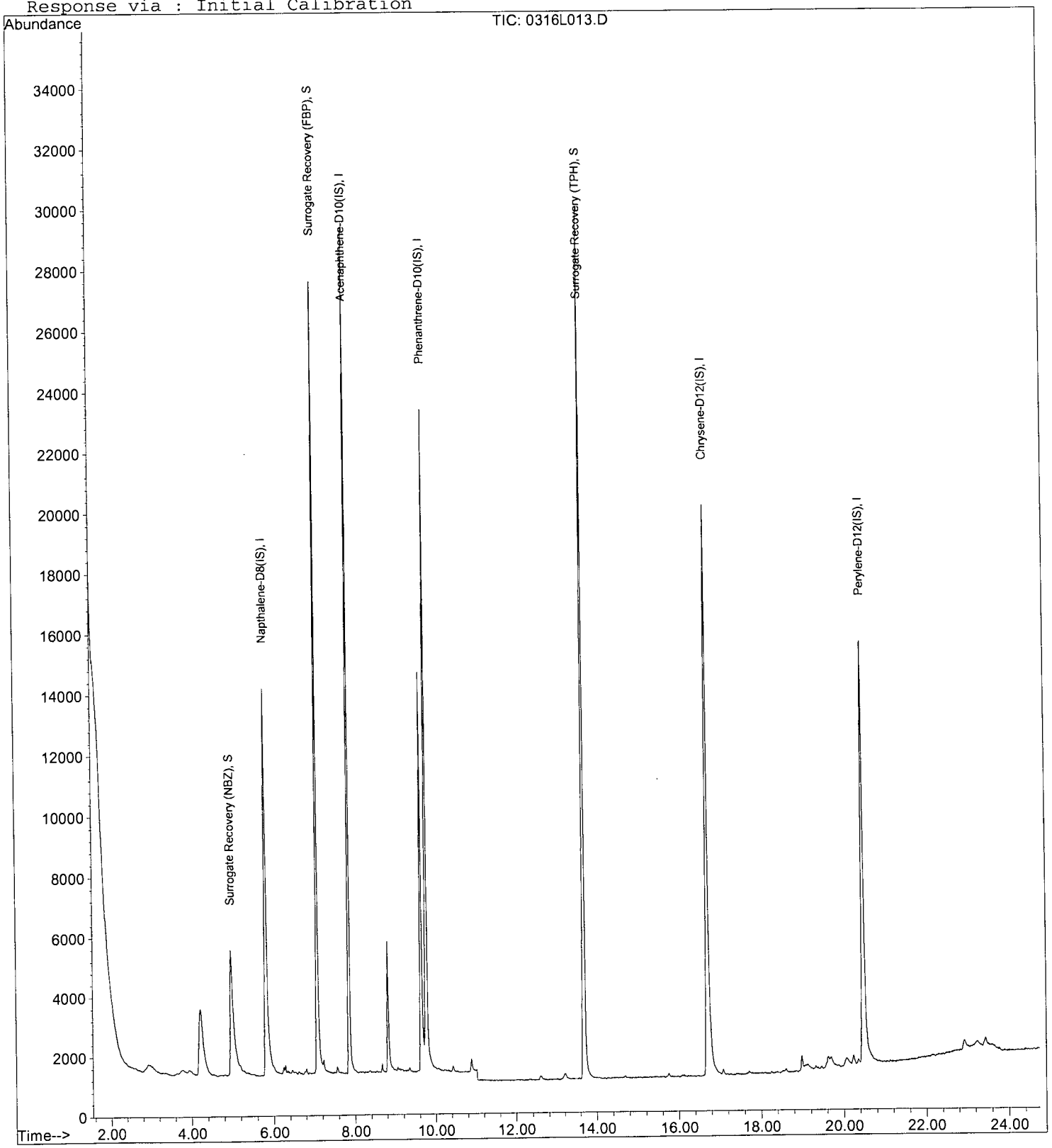
Data File : M:\LINUS\DATA\L170316\0316L013.D
Acq On : 16 Mar 17 17:26
Sample : 170311A BLK 1/1000
Misc : water

Vial: 13
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:51 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170311W-51357 LCS - 216987**
Batch ID: #SIMDO-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.56	71.2	41-115
2-METHYLNAPHTHALENE	5.00	3.51	70.2	39-114
NAPHTHALENE	5.00	3.10	62.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.12	62.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	2.99	59.8	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.82	76.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0316P.M
Extraction Date :	03/11/17
Analysis Date :	03/16/17
Instrument :	Linus
Run :	0316L014
Initials :	RHA

Printed: 03/17/17 2:49:27 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L014.D
Acq On : 16 Mar 17 17:58
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 14
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:32 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	38852	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19858	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	39838	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	45495	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	38780	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	17841	2.99489 ppb	0.01
Spiked Amount 5.000			Recovery	= 59.900%	
7) Surrogate Recovery (FBP)	7.06	172	37185	3.11590 ppb	0.00
Spiked Amount 5.000			Recovery	= 62.320%	
17) Surrogate Recovery (TPH)	13.69	244	53026	3.82058 ppb	0.00
Spiked Amount 5.000			Recovery	= 76.420%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	50379	3.10399 ppb		99
4) 2-Methylnaphthalene	6.64	142	31900	3.51264 ppb		98
5) 1-Methylnaphthalene	6.75	142	35012	3.56479 ppb		98
8) Acenaphthylene	7.69	152	54972	3.42900 ppb		100
9) Acenaphthene	7.88	154	33374	3.52445 ppb		99
10) Fluorene	8.50	166	40817	3.89369 ppb		100
12) Phenanthrene	9.79	178	64346	4.00978 ppb		100
13) Anthracene	9.89	178	61821	4.05879 ppb		100
14) Fluoranthene	12.51	202	107337	4.05697 ppb		100
16) Pyrene	13.14	202	108708	4.17165 ppb		99
18) Benz (a) anthracene	16.65	228	86182	3.75738 ppb		100
19) Chrysene	16.75	228	92305	4.19510 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.77	276	76628	4.27886 ppb	#	91
22) Benzo (b) fluoranthene	19.54	252	78631	3.83947 ppb		99
23) Benzo (k) fluoranthene	19.61	252	73821	4.20668 ppb		100
24) Benzo (a) pyrene	20.32	252	78491	4.09243 ppb		100
25) Dibenz (a,h) anthracene	22.81	278	65176	4.09444 ppb		99
26) Benzo (g,h,i) perylene	23.30	276	72398	4.85774 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

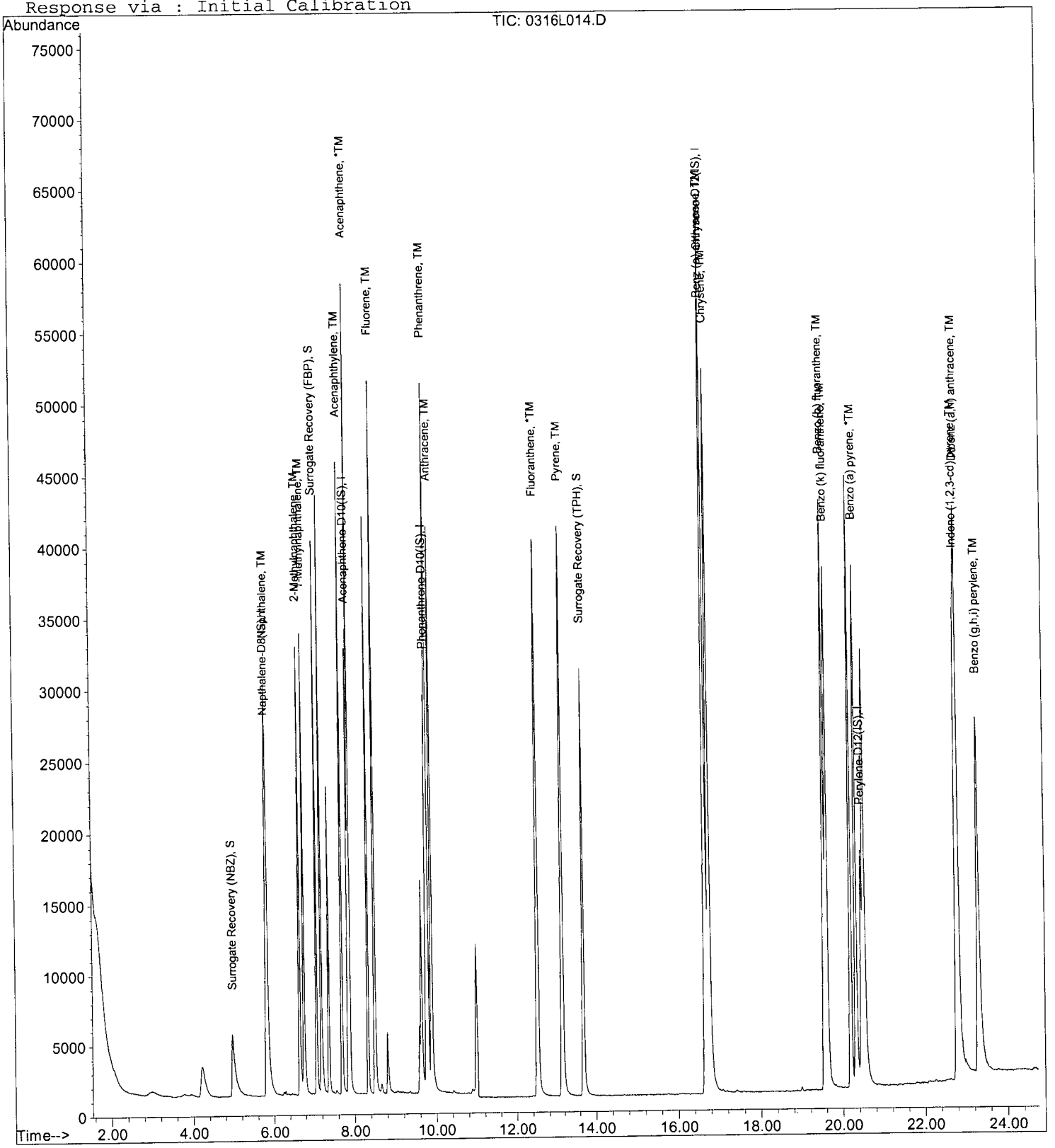
Data File : M:\LINUS\DATA\L170316\0316L014.D
Acq On : 16 Mar 17 17:58
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 14
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:32 2017

Quant Results File: L0316P.RES

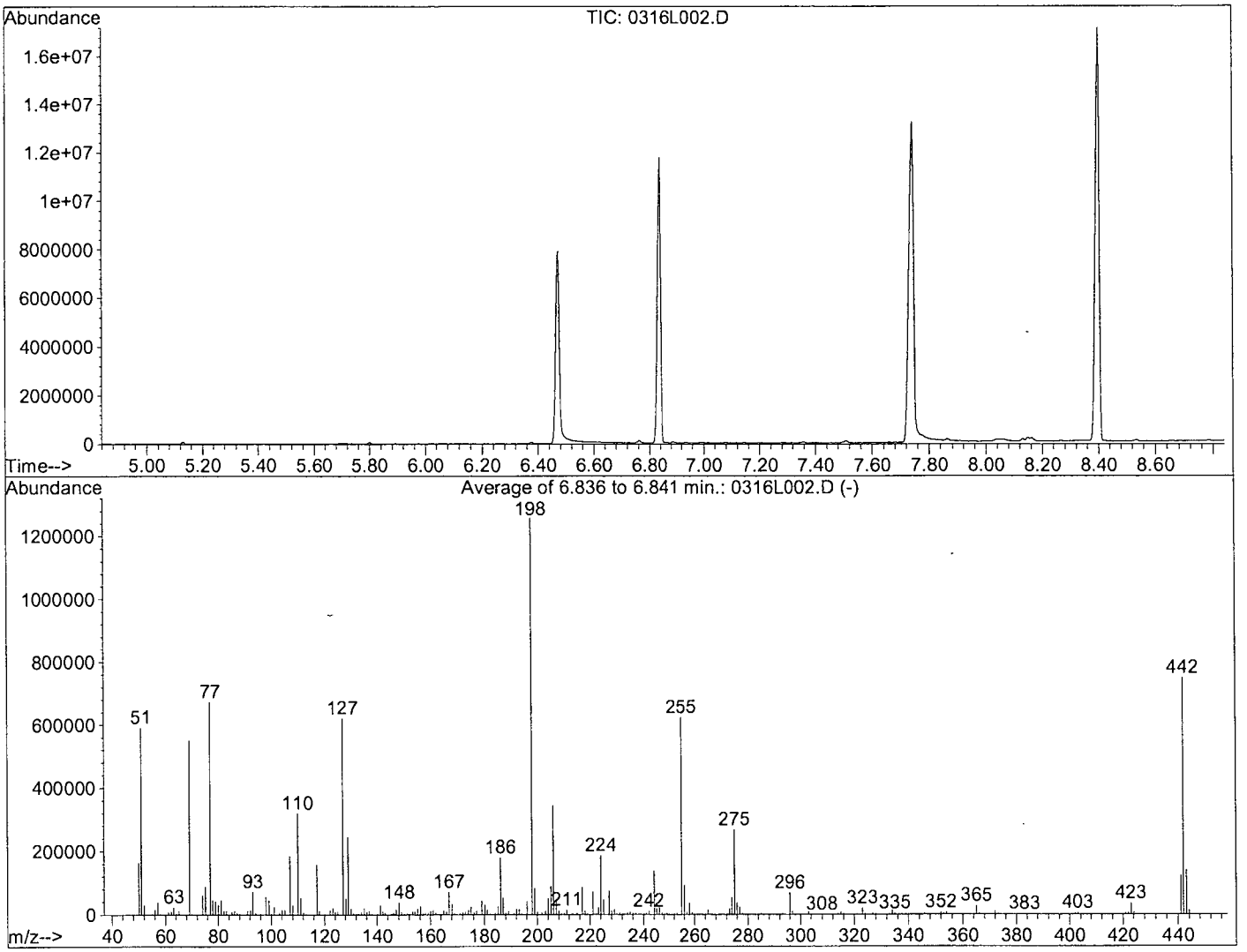
Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L170316\0316L002.D Vial: 2
Acq On : 16 Mar 17 11:50 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170316\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.836 to 6.841 min.

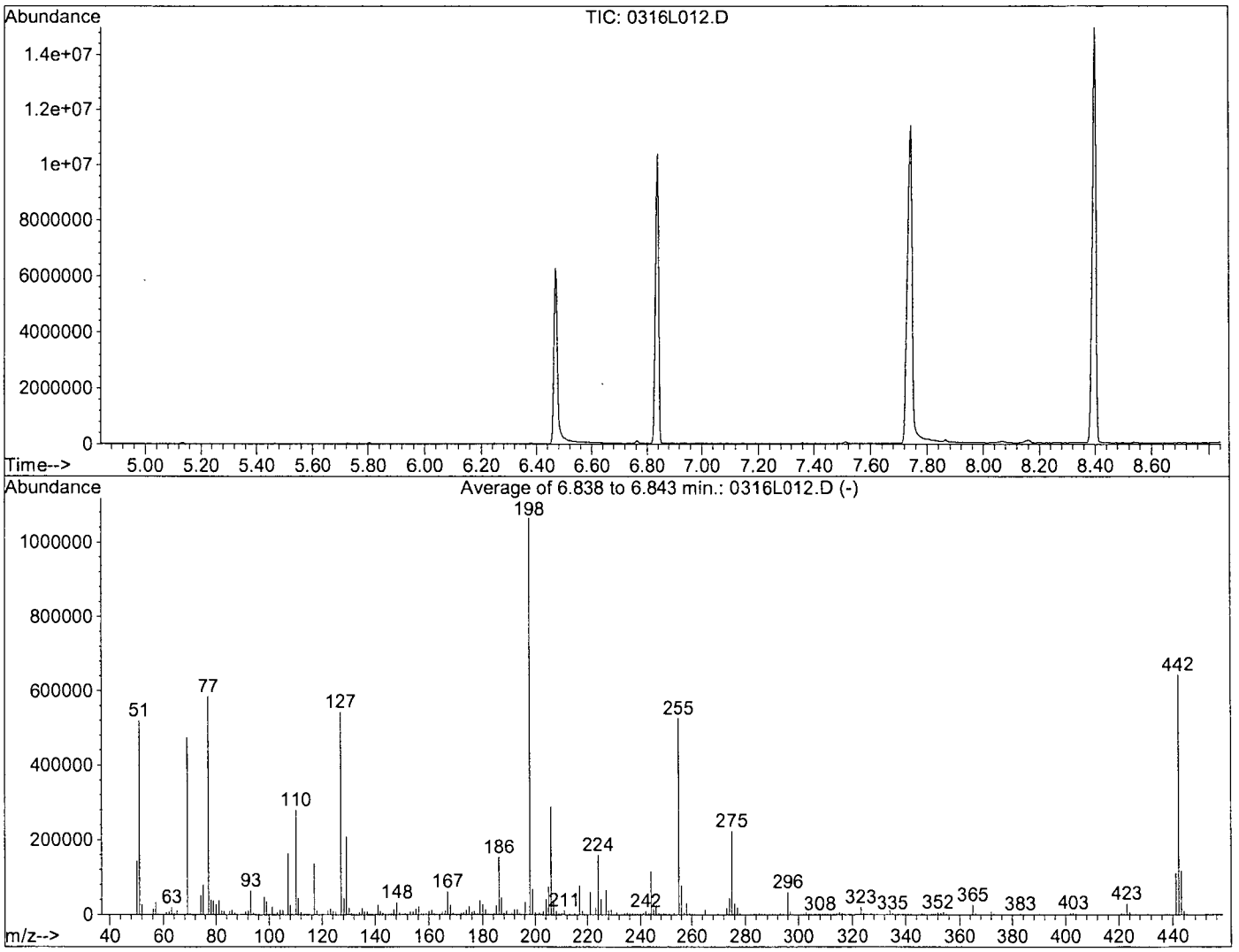
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.0	591613	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	551499	PASS
70	69	0.00	2	0.5	2561	PASS
127	198	40	60	49.3	620715	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1258667	PASS
199	198	5	9	6.5	82283	PASS
275	198	10	30	21.2	266624	PASS
365	198	1	100	2.1	26419	PASS
441	443	0.01	100	87.7	122555	PASS
442	198	40	150	59.5	749013	PASS
443	442	17	23	18.7	139768	PASS

0316L002.D DFTPP2.M Tue Mar 21 11:04:12 2017

DFTPP

Data File : M:\LINUS\DATA\L170316\0316L012.D Vial: 12
Acq On : 16 Mar 17 17:08 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170316\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.838 to 6.843 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	520252	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	474733	PASS
70	69	0.00	2	0.6	2679	PASS
127	198	40	60	51.0	543893	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1065557	PASS
199	198	5	9	6.5	69088	PASS
275	198	10	30	21.0	223573	PASS
365	198	1	100	2.4	25643	PASS
441	443	0.01	100	94.3	110344	PASS
442	198	40	150	60.4	643285	PASS
443	442	17	23	18.2	117019	PASS

0316L012.D DFTPP2.M Tue Mar 21 14:01:14 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/01/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**07/12/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/01/17	07/12/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/01/17	07/12/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		1/12/17	07/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 7/12/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 PAH SIM 2ND SRC			Prep: 03/01/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	200	01/24/17	06/21/17	25
	Methylene Chloride				75
o2si	SV Internal Standar	2000	10/10/16	10/10/17	2
LOT#	XA10079V-35507			Final Vol.	102

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					**5**
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-36992	9/12/16	9/12/17	1000
				Fin Vol.		1000

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Surrog Mix 100/200ppm						
Prep: 02/07/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 03/09/17 RH	
EX: 03/09/17	

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170311A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 3-9-17 EXP 3-9-18		Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	03/11/17 7:36	
Spiked ID 8			Ext. End Time:	03/13/17 12:05	
			GC Requires Extract By:	03/14/17 0:00	

pH1	2	03/11/17 7:50:00 AM	Water Bath Temp Criteria	70 °C
pH2	14	3/11/17 10:00:00 AM		
pH3				

Spiked By: DL **Date** 03/11/17 **Witnessed By:** JR **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A-Blk				0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
2	170311A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
3	170311A LCSD-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
4	AZ51357	AZ51357W12			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
5	AZ51359	AZ51359W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
6	AZ51360	AZ51360W09			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
7	AZ51362	AZ51362W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
8	AZ51364	AZ51364W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
9	AZ51530	AZ51530W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
10	AZ51533	AZ51533W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
11	AZ51535	AZ51535W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
12	AZ51536	AZ51536W10			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS

Ky 3/13/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-28-17
PH STRIP	HC 574756
MC	56258
A. Na2SO4	1-3-17
10N NaOH	1-14-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/13/17
Time	1:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL,JR
Extraction	KY,DL,JR
Concentration	DL

Modified	03/13/17 12:28:02 PM

Reviewed By: Ky248 **Date** 3/13/17

Injection Log

Directory: M:\LINUS\DATA\L170316\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0316L002.D	1	SV Tune 02/09/17	water	16 Mar 17 11:50
2	3	0316L003.D	1	0.1 SIM 03/01/17	water	16 Mar 17 12:08
3	4	0316L004.D	1	0.2 SIM 03/01/17	water	16 Mar 17 12:41
4	5	0316L005.D	1	0.5 SIM 03/01/17	water	16 Mar 17 13:13
5	6	0316L006.D	1	1.0 SIM 03/01/17	water	16 Mar 17 13:45
6	7	0316L007.D	1	5.0 SIM 03/01/17	water	16 Mar 17 14:17
7	8	0316L008.D	1	10 SIM 03/01/17	water	16 Mar 17 14:50
8	9	0316L009.D	1	50 SIM 03/01/17	water	16 Mar 17 15:23
9	10	0316L010.D	1	100 SIM 03/01/17	water	16 Mar 17 15:56
10	11	0316L011.D	1	SS SIM 03/01/17	water	16 Mar 17 16:29
11	12	0316L012.D	1	SV Tune 2/9/17	water	16 Mar 17 17:08
12	13	0316L013.D	1	170311A BLK 1/1000	water	16 Mar 17 17:26
13	14	0316L014.D	1	170311A LCS-1 1/1000	water	16 Mar 17 17:58
14	16	0316L016.D	1	AZ51357W12 1/1000	water	16 Mar 17 19:04
15	17	0316L017.D	1	AZ51359W14 1/1000	water	16 Mar 17 19:37
16	18	0316L018.D	0.93458	AZ51360W09 1/1070	water	16 Mar 17 20:09
17	19	0316L019.D	0.93458	AZ51362W14 1/1070	water	16 Mar 17 20:42
18	20	0316L020.D	0.93458	AZ51364W14 1/1070	water	16 Mar 17 21:15
19	35	0316L035.D	1	5.0 SIM 03/01/17	soil	17 Mar 17 4:50

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216940**
Batch ID: #87DC5-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	57.0	43-140			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	55.3	44-119			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.9	19-119			%	03/11/17	03/14/17
BLANK	SURROGATE: NITROBENZENE-	56.9	44-120			%	03/11/17	03/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	28.4	10-115			%	03/11/17	03/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	58.1	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y290
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 11:36:52 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER

SDG No: 82369
Date Analyzed: 03/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	43-140	57.0		44-119	55.3	
170311A-LCS	Lab Control Spike	43-140	55.5		44-119	52.7	
AZ51357	ERH265	43-140	65.7		44-119	63.7	
AZ51359	ERH272	43-140	67.9		44-119	65.5	
AZ51360	ERH281	43-140	64.1		44-119	61.9	
AZ51362	ERH280	43-140	62.1		44-119	60.0	
AZ51364	ERH284	43-140	59.9		44-119	59.3	

Comments: Batch: #87DC5-170311A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER

SDG No: 82369
Date Analyzed: 03/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	19-119	43.9		44-120	56.9	
170311A-LCS	Lab Control Spike	19-119	42.7		44-120	58.0	
AZ51357	ERH265	19-119	49.4		44-120	69.4	
AZ51359	ERH272	19-119	50.3		44-120	73.8	
AZ51360	ERH281	19-119	41.0		44-120	64.1	
AZ51362	ERH280	19-119	43.4		44-120	59.8	
AZ51364	ERH284	19-119	39.6		44-120	61.4	

Comments: Batch: #87DC5-170311A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/14/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	10-115	28.4		50-134	58.1	
170311A-LCS	Lab Control Spike	10-115	27.6		50-134	57.8	
AZ51357	ERH265	10-115	30.6		50-134	62.3	
AZ51359	ERH272	10-115	31.1		50-134	66.2	
AZ51360	ERH281	10-115	25.9		50-134	62.3	
AZ51362	ERH280	10-115	28.6		50-134	62.1	
AZ51364	ERH284	10-115	24.6		50-134	60.3	

Comments: Batch: #87DC5-170311A

Printed: 03/16/17 11:36:53 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170311W-51357 LCS - 216940**
Batch ID: #87DC5-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.0	38.0	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	111	55.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	52.7	52.7	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	85.4	42.7	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	58.0	58.0	44-120
SURROGATE: PHENOL-D6 (S)	200	55.2	27.6	10-115
SURROGATE: TERPHENYL-D14 (S)	100	57.8	57.8	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/11/17
Analysis Date :	03/14/17
Instrument :	Yoda
Run :	0123Y291
Initials :	MA

Printed: 03/16/17 11:36:54 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER
Blank ID: 170311A-BLK

SDG No: 82369
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 1003

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A-BLK	Blank	0123Y290	03/14/17 1003
170311A-LCS	Lab Control Spike	0123Y291	03/14/17 1033
AZ51357	ERH265	0123Y292	03/14/17 1104
AZ51359	ERH272	0123Y293	03/14/17 1135
AZ51360	ERH281	0123Y294	03/14/17 1206
AZ51362	ERH280	0123Y295	03/14/17 1237
AZ51364	ERH284	0123Y296	03/14/17 1308

Comments: Batch: #87DC5-170311A

Printed: 03/16/17 11:37:13 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: SV Tune 02/09/16

SDG No: 82369
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 7:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y287.D	03/14/17 8:01
2	Blank	170311A BLK 1/1000	0123Y290.D	03/14/17 10:03
3	Lab Control Spike	170311A LCS-1 1/1000	0123Y291.D	03/14/17 10:33
4	ERH265	AZ51357W11 1/1070	0123Y292.D	03/14/17 11:04
5	ERH272	AZ51359W16 1/1070	0123Y293.D	03/14/17 11:35
6	ERH281	AZ51360W11 1/1070	0123Y294.D	03/14/17 12:06
7	ERH280	AZ51362W11 1/1000	0123Y295.D	03/14/17 12:37
8	ERH284	AZ51364W12 1/1070	0123Y296.D	03/14/17 13:08
9		50ug/ml SVOC 3/02/17	0123Y302.D	03/14/17 16:14
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	55.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.4
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	84.0
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	19.6

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82369
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	148886	4.82	626658	6.24	373403	8.26
02	170311A BLK 1/1000	156534	4.82	667734	6.25	395844	8.26
03	170311A LCS-1 1/1000	144538	4.82	639616	6.25	381415	8.26
04	AZ51357W11 1/1070	153293	4.82	669678	6.25	402685	8.26
05	AZ51359W16 1/1070	144162	4.83	627633	6.26	379886	8.26
06	AZ51360W11 1/1070	170166	4.83	714610	6.25	409989	8.26
07	AZ51362W11 1/1000	151511	4.83	655400	6.26	373428	8.26
08	AZ51364W12 1/1070	151132	4.83	657425	6.25	382868	8.26
09	50ug/ml SVOC 3/02/17	148257	4.82	608139	6.25	361584	8.26
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82369
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	695280	9.99	671130	13.06	737668	14.69
02	170311A BLK 1/1000	730021	9.98	738810	13.06	767946	14.70
03	170311A LCS-1 1/1000	705712	9.98	703810	13.06	747749	14.70
04	AZ51357W11 1/1070	755627	9.99	754893	13.06	764740	14.69
05	AZ51359W16 1/1070	716353	9.98	712267	13.06	740290	14.69
06	AZ51360W11 1/1070	786334	9.99	770660	13.06	797100	14.69
07	AZ51362W11 1/1000	713736	9.98	711410	13.06	736143	14.69
08	AZ51364W12 1/1070	706694	9.98	709643	13.06	718389	14.70
09	50ug/ml SVOC 3/02/17	672725	9.99	649830	13.07	691935	14.70
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	65.7	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.7	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	49.4	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	69.4	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.6	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.3	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y292
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:37:14 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y292.D Vial: 92
Acq On : 14 Mar 17 11:04 Operator: MA
Sample : AZ51357W11 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Mar 16 11:12 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	153293	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	669678	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	402685	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	755627	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	754893	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	764740	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	477544	92.29770 ppb	-0.02
Spiked Amount 186.916			Recovery	= 49.379%	
5) Phenol-D6 (S)	4.46	99	393562	57.17301 ppb	0.00
Spiked Amount 186.916			Recovery	= 30.588%	
21) Nitrobenzene-D5(S)	5.46	82	471171	64.83753 ppb	0.00
Spiked Amount 93.458			Recovery	= 69.377%	
45) 2-Fluorobiphenyl(S)	7.49	172	822385	59.49649 ppb	0.00
Spiked Amount 93.458			Recovery	= 63.661%	
63) 2,4,6-Tribromophenol(S)	9.19	330	244821	122.75611 ppb	0.00
Spiked Amount 186.916			Recovery	= 65.674%	
81) Terphenyl-D14(S)	11.84	244	1012338	58.26912 ppb	0.00
Spiked Amount 93.458			Recovery	= 62.348%	
Target Compounds					Qvalue
31) Naphthalene	6.27	128	1048299	55.95565 ppb	99
39) 1-Methylnaphthalene	7.18	142	288551	24.06978 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

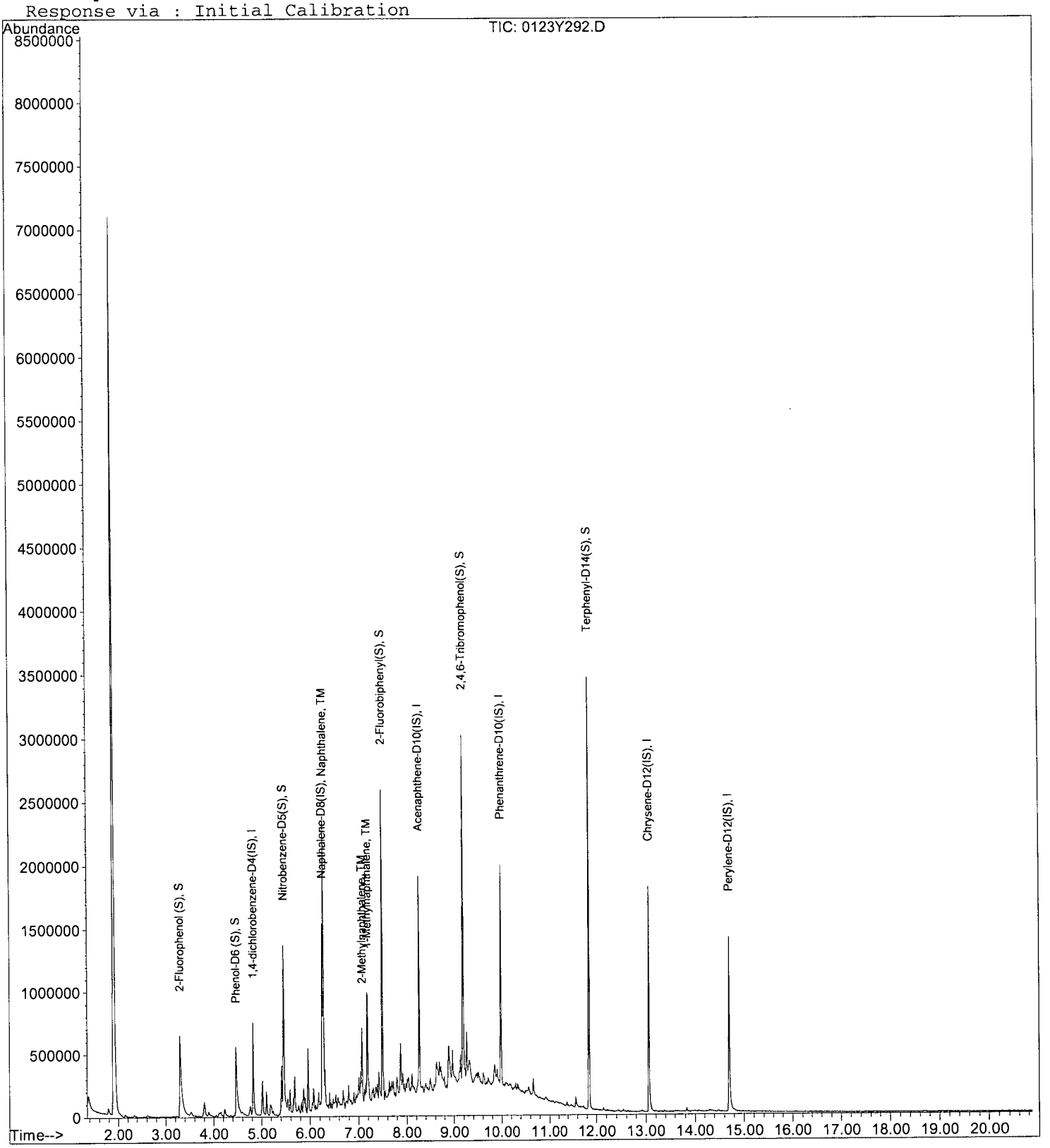
Data File : M:\YODA\DATA\Y170123\0123Y292.D
Acq On : 14 Mar 17 11:04
Sample : AZ51357W11 1/1070
Misc : water

Vial: 92
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 16 11:12 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	67.9	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	65.5	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	50.3	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	73.8	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	31.1	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	66.2	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y293
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:37:14 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y293.D
Acq On : 14 Mar 17 11:35
Sample : AZ51359W16 1/1070
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	144162	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	627633	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	379886	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	716353	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	712267	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	740290	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	457616	94.04814 ppb	-0.02
Spiked Amount 186.916			Recovery = 50.316%		
5) Phenol-D6 (S)	4.46	99	376340	58.13395 ppb	0.00
Spiked Amount 186.916			Recovery = 31.102%		
21) Nitrobenzene-D5(S)	5.46	82	469622	68.95355 ppb	0.00
Spiked Amount 93.458			Recovery = 73.781%		
45) 2-Fluorobiphenyl(S)	7.49	172	797729	61.17637 ppb	0.00
Spiked Amount 93.458			Recovery = 65.458%		
63) 2,4,6-Tribromophenol(S)	9.19	330	238671	126.85461 ppb	0.00
Spiked Amount 186.916			Recovery = 67.867%		
81) Terphenyl-D14(S)	11.84	244	1014760	61.90402 ppb	0.00
Spiked Amount 93.458			Recovery = 66.237%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y293.D Y0123.M Thu Mar 16 11:08:42 2017

Quantitation Report

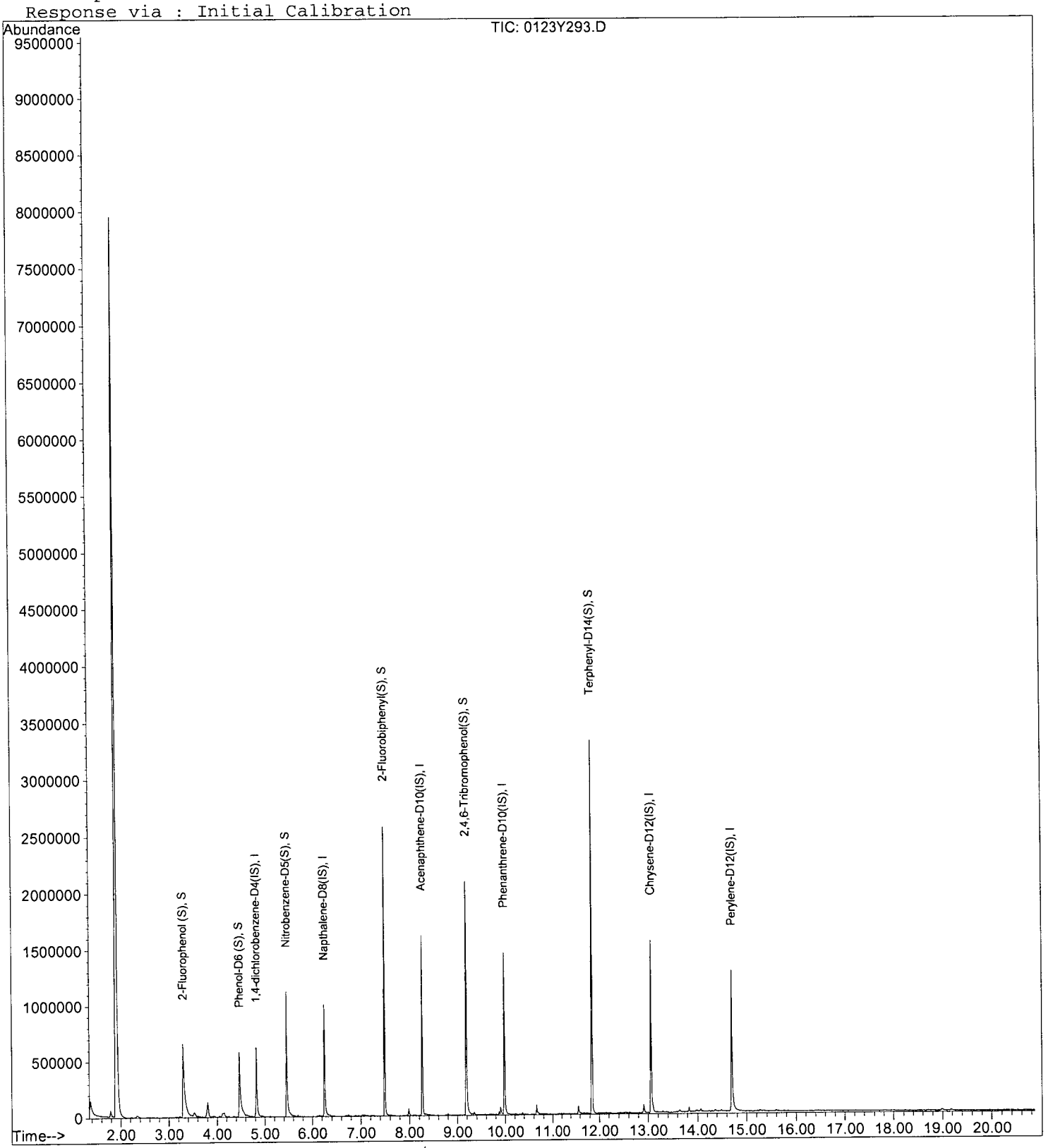
Data File : M:\YODA\DATA\Y170123\0123Y293.D
Acq On : 14 Mar 17 11:35
Sample : AZ51359W16 1/1070
Misc : water

Vial: 93
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	64.1	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	61.9	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	41.0	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	64.1	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.9	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.3	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y294
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:37:14 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y294.D Vial: 94
Acq On : 14 Mar 17 12:06 Operator: MA
Sample : AZ51360W11 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	170166	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	714610	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	409989	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	786334	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	770660	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	797100	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	439894	76.59053 ppb	-0.02
Spiked Amount 186.916			Recovery = 40.976%		
5) Phenol-D6 (S)	4.46	99	369596	48.36762 ppb	0.00
Spiked Amount 186.916			Recovery = 25.877%		
21) Nitrobenzene-D5(S)	5.46	82	464658	59.92090 ppb	0.00
Spiked Amount 93.458			Recovery = 64.115%		
45) 2-Fluorobiphenyl(S)	7.49	172	813611	57.81309 ppb	0.00
Spiked Amount 93.458			Recovery = 61.860%		
63) 2,4,6-Tribromophenol(S)	9.19	330	243177	119.75956 ppb	0.00
Spiked Amount 186.916			Recovery = 64.072%		
81) Terphenyl-D14(S)	11.84	244	1032007	58.18595 ppb	0.00
Spiked Amount 93.458			Recovery = 62.259%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

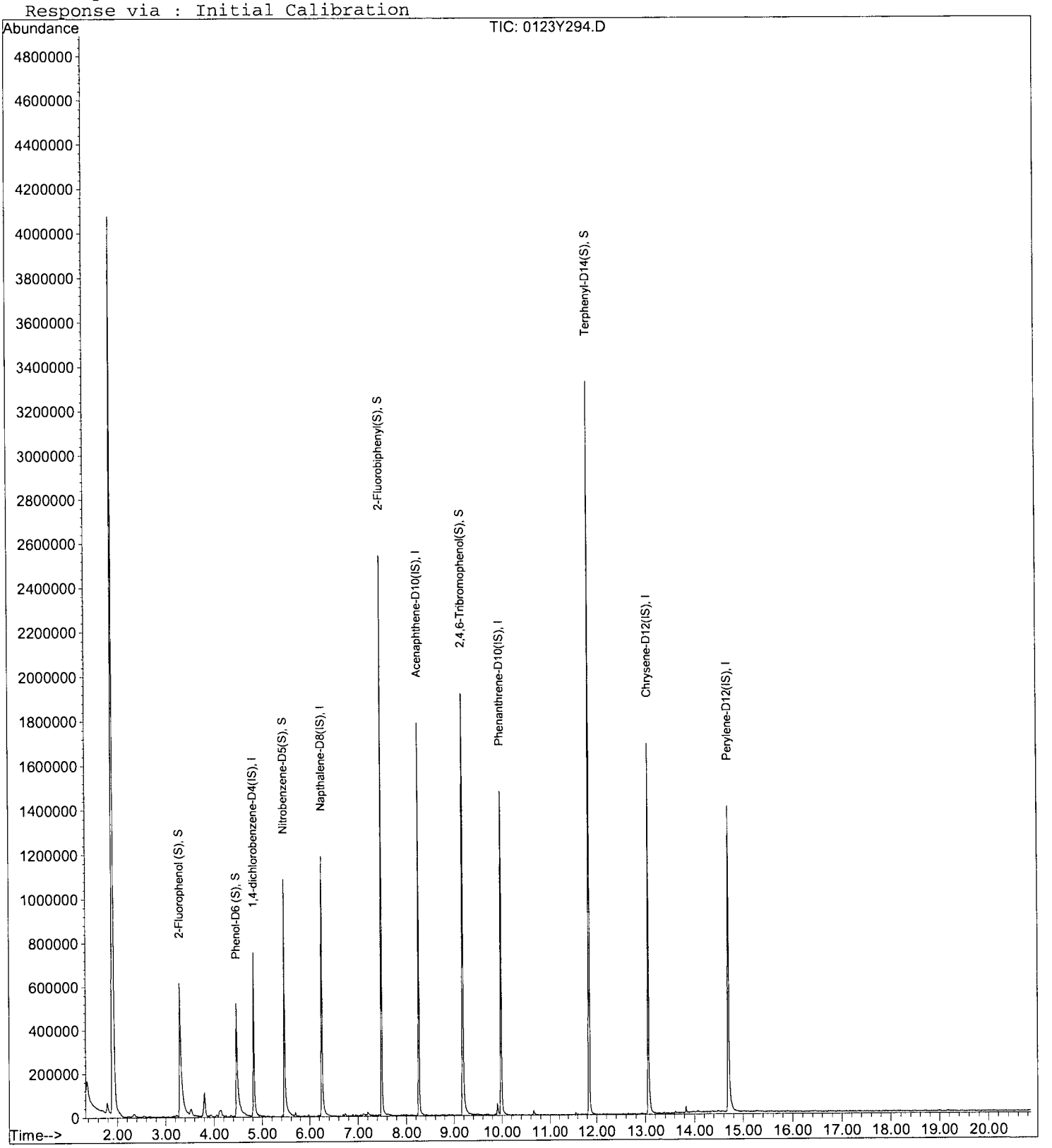
Data File : M:\YODA\DATA\Y170123\0123Y294.D
Acq On : 14 Mar 17 12:06
Sample : AZ51360W11 1/1070
Misc : water

Vial: 94
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.1	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	60.0	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	43.4	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	59.8	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.6	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.1	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y295
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:37:14 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y295.D Vial: 95
Acq On : 14 Mar 17 12:37 Operator: MA
Sample : AZ51362W11 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	151511	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	655400	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	713736	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	711410	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	736143	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	414414	86.71088 ppb	-0.02
Spiked Amount 200.000			Recovery = 43.356%		
5) Phenol-D6 (S)	4.46	99	363606	57.18348 ppb	0.00
Spiked Amount 200.000			Recovery = 28.592%		
21) Nitrobenzene-D5(S)	5.46	82	397290	59.77212 ppb	0.00
Spiked Amount 100.000			Recovery = 59.772%		
45) 2-Fluorobiphenyl(S)	7.49	172	719024	60.02078 ppb	0.00
Spiked Amount 100.000			Recovery = 60.021%		
63) 2,4,6-Tribromophenol(S)	9.19	330	214813	124.27881 ppb	0.00
Spiked Amount 200.000			Recovery = 62.140%		
81) Terphenyl-D14(S)	11.84	244	949623	62.06019 ppb	0.00
Spiked Amount 100.000			Recovery = 62.060%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y295.D Y0123.M Thu Mar 16 11:08:53 2017

Quantitation Report

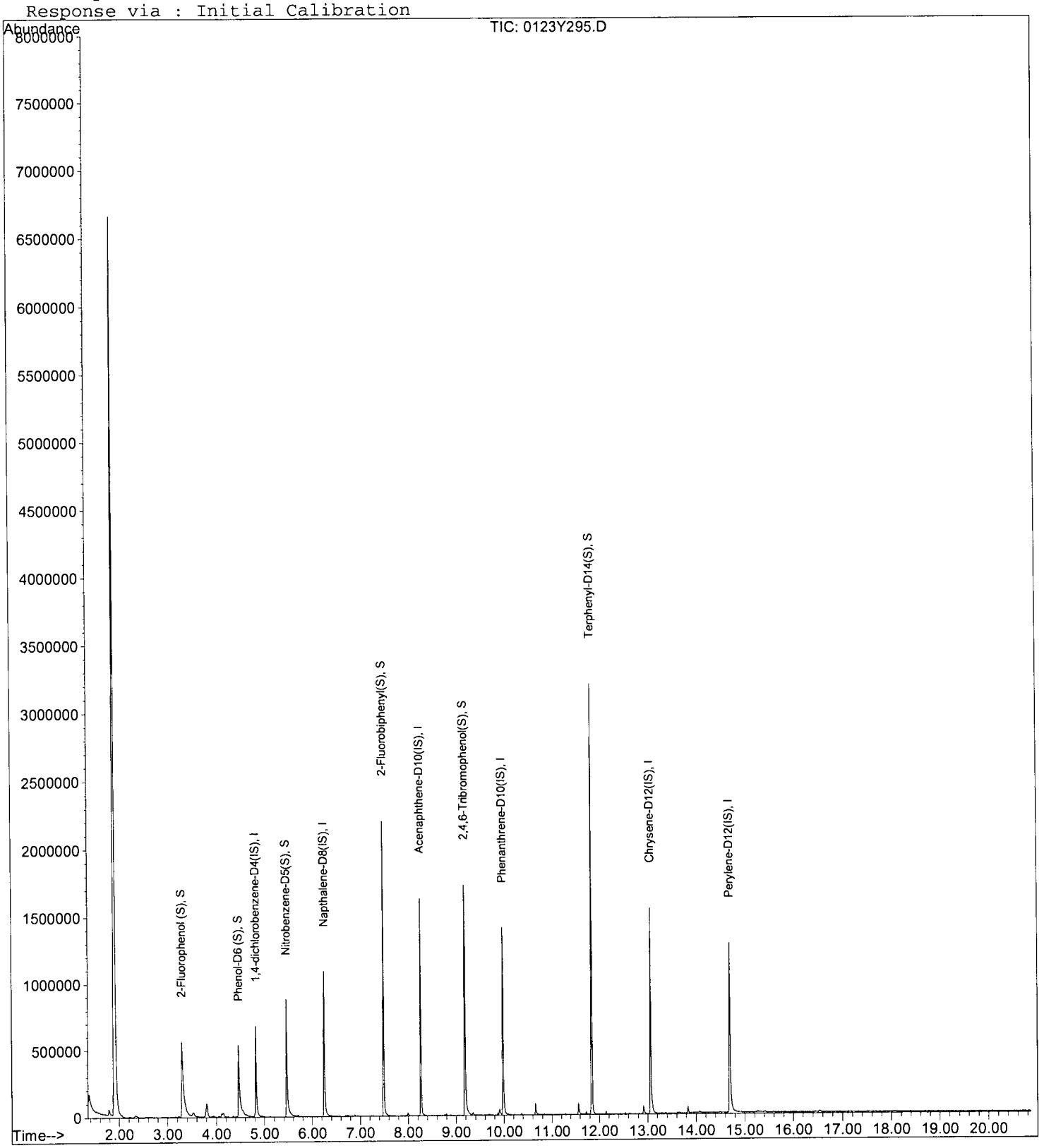
Data File : M:\YODA\DATA\Y170123\0123Y295.D
Acq On : 14 Mar 17 12:37
Sample : AZ51362W11 1/1000
Misc : water

Vial: 95
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.9	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	59.3	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	39.6	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	61.4	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	24.6	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	60.3	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y296
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:37:14 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y296.D Vial: 96
Acq On : 14 Mar 17 13:08 Operator: MA
Sample : AZ51364W12 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	151132	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	657425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	382868	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	706694	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	709643	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718389	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.29	112	377268	73.95940 ppb	-0.02
Spiked Amount 186.916			Recovery	= 39.568%	
5) Phenol-D6 (S)	4.46	99	312301	46.01688 ppb	0.00
Spiked Amount 186.916			Recovery	= 24.619%	
21) Nitrobenzene-D5(S)	5.46	82	409228	57.36316 ppb	0.00
Spiked Amount 93.458			Recovery	= 61.378%	
45) 2-Fluorobiphenyl(S)	7.49	172	728113	55.40275 ppb	0.00
Spiked Amount 93.458			Recovery	= 59.281%	
63) 2,4,6-Tribromophenol(S)	9.19	330	212347	111.98425 ppb	0.00
Spiked Amount 186.916			Recovery	= 59.911%	
81) Terphenyl-D14(S)	11.85	244	920000	56.33084 ppb	0.00
Spiked Amount 93.458			Recovery	= 60.274%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y296.D Y0123.M Thu Mar 16 11:08:58 2017

Quantitation Report

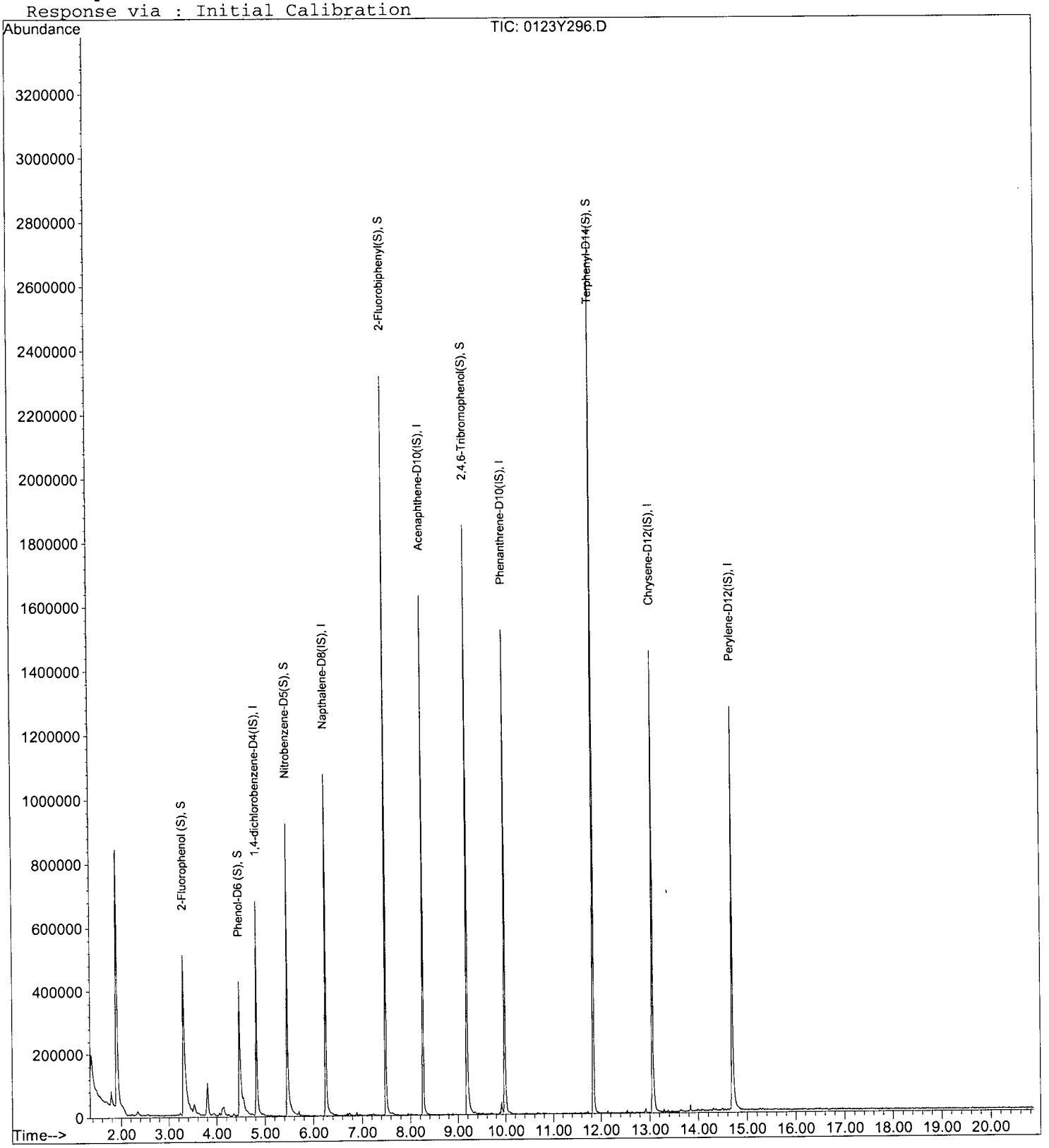
Data File : M:\YODA\DATA\Y170123\0123Y296.D
Acq On : 14 Mar 17 13:08
Sample : AZ51364W12 1/1070
Misc : water

Vial: 96
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	0123Y003.D 5	0123Y004.D 10	0123Y005.D 20	0123Y006.D 40	0123Y007.D 50	0123Y008.D 60	0123Y009.D 80	0123Y010.D 100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.19	142	59013	4.85644	ppb		96
41)	Hexachlorocyclopentadiene	7.25	237	1405	6.22737	ppb	#	75
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981	ppb		91
43)	2,4,6-Trichlorophenol	7.43	196	15908	4.54471	ppb		92
44)	2,4,5-Trichlorophenol	7.51	196	17938	4.67865	ppb		87
46)	1,1'-Biphenyl	7.61	154	77069	5.11687	ppb		97
47)	2-Chloronaphthalene	7.63	162	56714	4.90886	ppb		93
48)	2-Nitroaniline	7.80	65	17559	4.42395	ppb		96
49)	Dimethyl phthalate	7.97	163	68080	4.95956	ppb		97
50)	2,6-DNT	8.07	165	13516	4.34276	ppb		98
51)	Acenaphthylene	8.10	152	90270	4.94109	ppb		98
52)	3-Nitroaniline	8.28	138	15220	4.43288	ppb		85
53)	Acenaphthene	8.30	154	61118	5.27635	ppb		98
54)	2,4-Dinitrophenol	8.50	184	169	4.37820	ppb	#	30
55)	4-Nitrophenol	8.55	65	1469	5.72682	ppb	#	1
56)	Dibenzofuran	8.51	168	83980	5.14943	ppb		89
57)	2,4-DNT	8.55	165	18690	4.26757	ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109	ppb	#	89
59)	Diethyl phthalate	8.79	149	71558	4.99459	ppb		95
60)	4-Chlorophenyl phenyl ethe	8.90	204	32748	5.11558	ppb		97
61)	Fluorene	8.90	166	69616	5.27556	ppb		96
62)	4-Nitroaniline	8.99	138	14747	4.54180	ppb		92
65)	4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540	ppb	#	1
66)	Diphenyl amine	9.05	169	98605	9.56739	ppb		98
67)	n-Nitrosodiphenylamine	9.05	169	98605	9.56739	ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	74355	4.80104	ppb		99
69)	4-Bromophenyl phenyl ether	9.47	248	17941	4.71699	ppb		89
70)	Hexachlorobenzene	9.54	284	18706	4.75015	ppb	#	85
71)	Atrazine	9.68	200	7883	2.10443	ppb		92
72)	Pentachlorophenol	9.80	266	5220	8.60768	ppb		93
73)	Phenanthrene	10.02	178	99531	5.00174	ppb		99
74)	Anthracene	10.08	178	104078	5.06633	ppb		99
75)	Carbazol	10.29	167	87488	4.74701	ppb		100
76)	Di-n-butylphthalate	10.69	149	107331	4.48729	ppb		99
77)	Fluoranthene	11.40	202	106801	4.84818	ppb		99
79)	Benzidine	11.59	184	41695	5.01562	ppb		98
80)	Pyrene	11.66	202	111459	4.57558	ppb		97
82)	Butyl benzylphthalate	12.42	149	49664	4.27180	ppb		94
83)	3,3'-Dichlorobenzidine	13.03	252	33450	4.34312	ppb		91
84)	Benz (a) anthracene	13.05	228	110458	4.89311	ppb		98
85)	Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077	ppb	#	95
86)	Chrysene	13.10	228	115566	5.28777	ppb		99
87)	Di-n-octylphthalate	13.80	149	116268	4.07565	ppb		100
89)	Benzo (b) fluoranthene	14.25	252	112128	4.89068	ppb		98
90)	Benzo (k) fluoranthene	14.28	252	99670	4.67454	ppb		97
91)	Benzo (a) pyrene	14.64	252	95844	4.56113	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	99827	5.06969	ppb		96
94)	Benzo (g,h,i) perylene	16.71	276	98040	4.76623	ppb		94

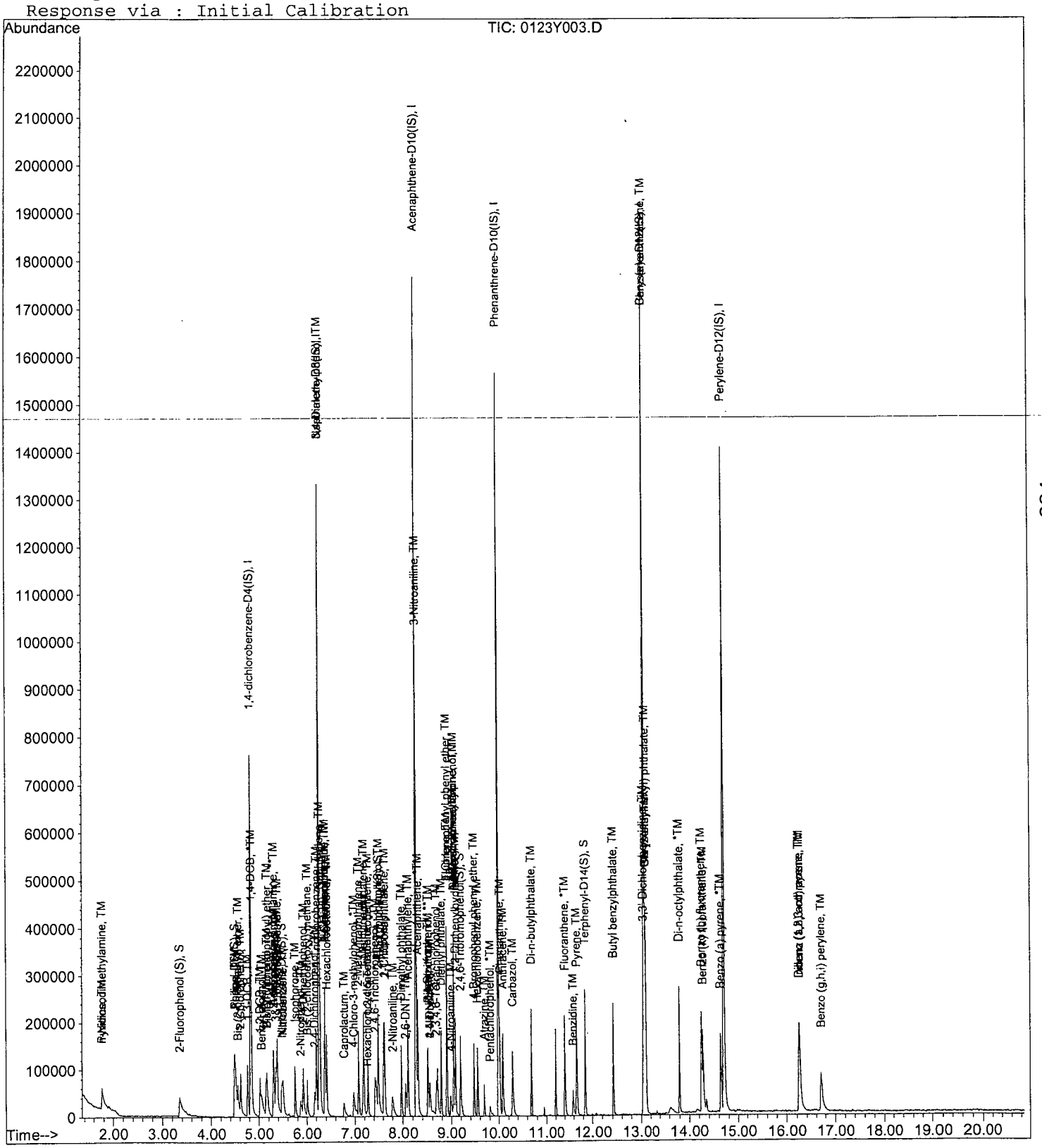
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



284

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery	= 9.327%	
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery	= 10.281%	
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery	= 10.089%	
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery	= 11.036%	
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery	= 9.921%	
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery	= 10.240%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933 ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860 ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861 ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944 ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646 ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318 ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796 ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690 ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723 ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118 ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937 ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420 ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425 ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231 ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926 ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904 ppb		86
61) Fluorene	8.90	166	136880	10.19080 ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103 ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238 ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238 ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657 ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736 ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230 ppb		89
71) Atrazine	9.69	200	17574	4.54512 ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148 ppb		93
73) Phenanthrene	10.01	178	207115	10.08340 ppb		100
74) Anthracene	10.08	178	215698	10.17215 ppb		99
75) Carbazol	10.28	167	186612	9.80942 ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533 ppb		100
77) Fluoranthene	11.40	202	215194	9.46381 ppb		99
79) Benzidine	11.58	184	88604	10.34478 ppb		98
80) Pyrene	11.66	202	225558	8.98704 ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716 ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727 ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157 ppb		98
86) Chrysene	13.10	228	218169	9.68864 ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023 ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764 ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396 ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464 ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

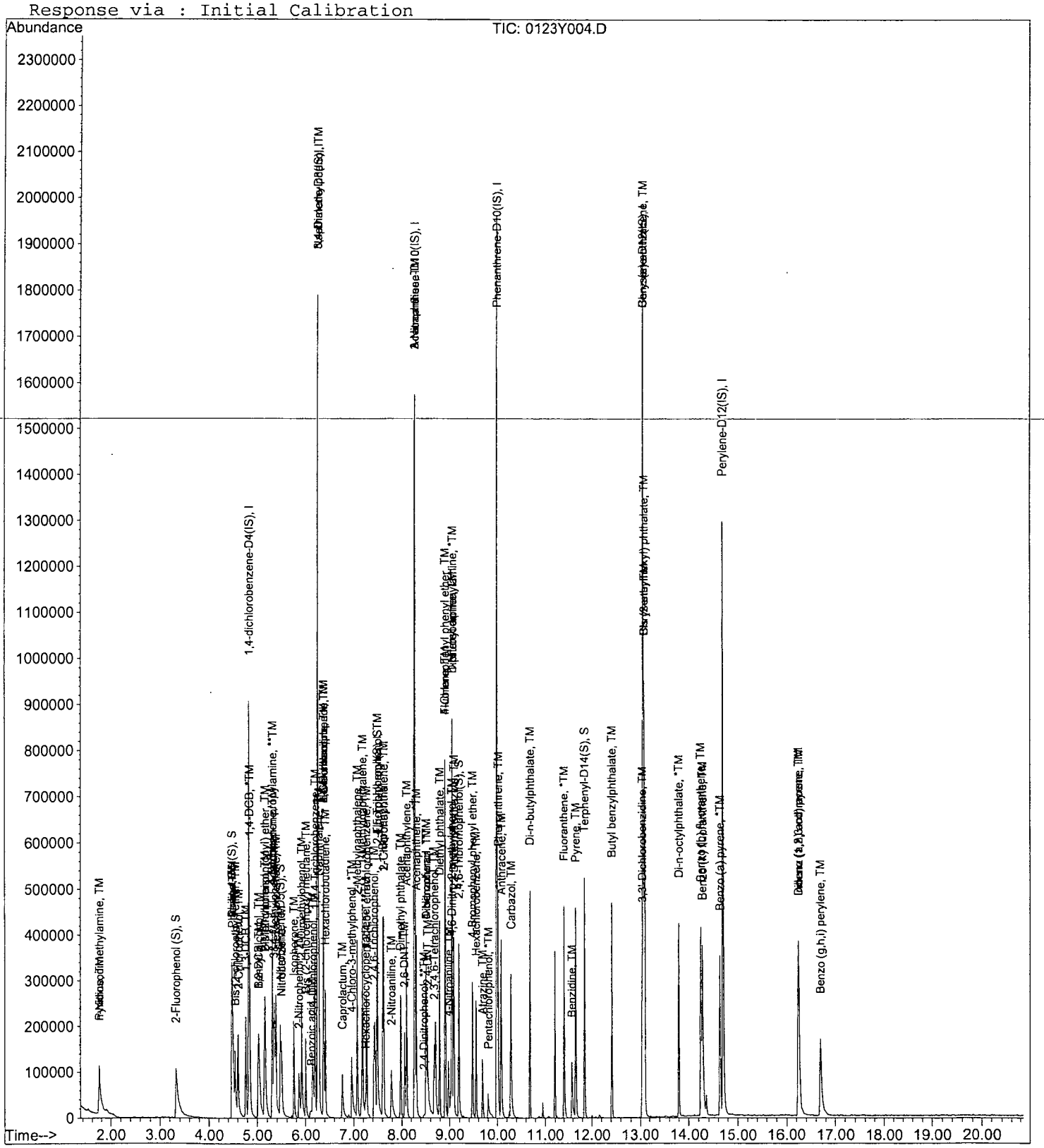
Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery = 19.524%		
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery = 20.517%		
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery = 20.165%		
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery = 21.167%		
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery = 18.758%		
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery = 19.925%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

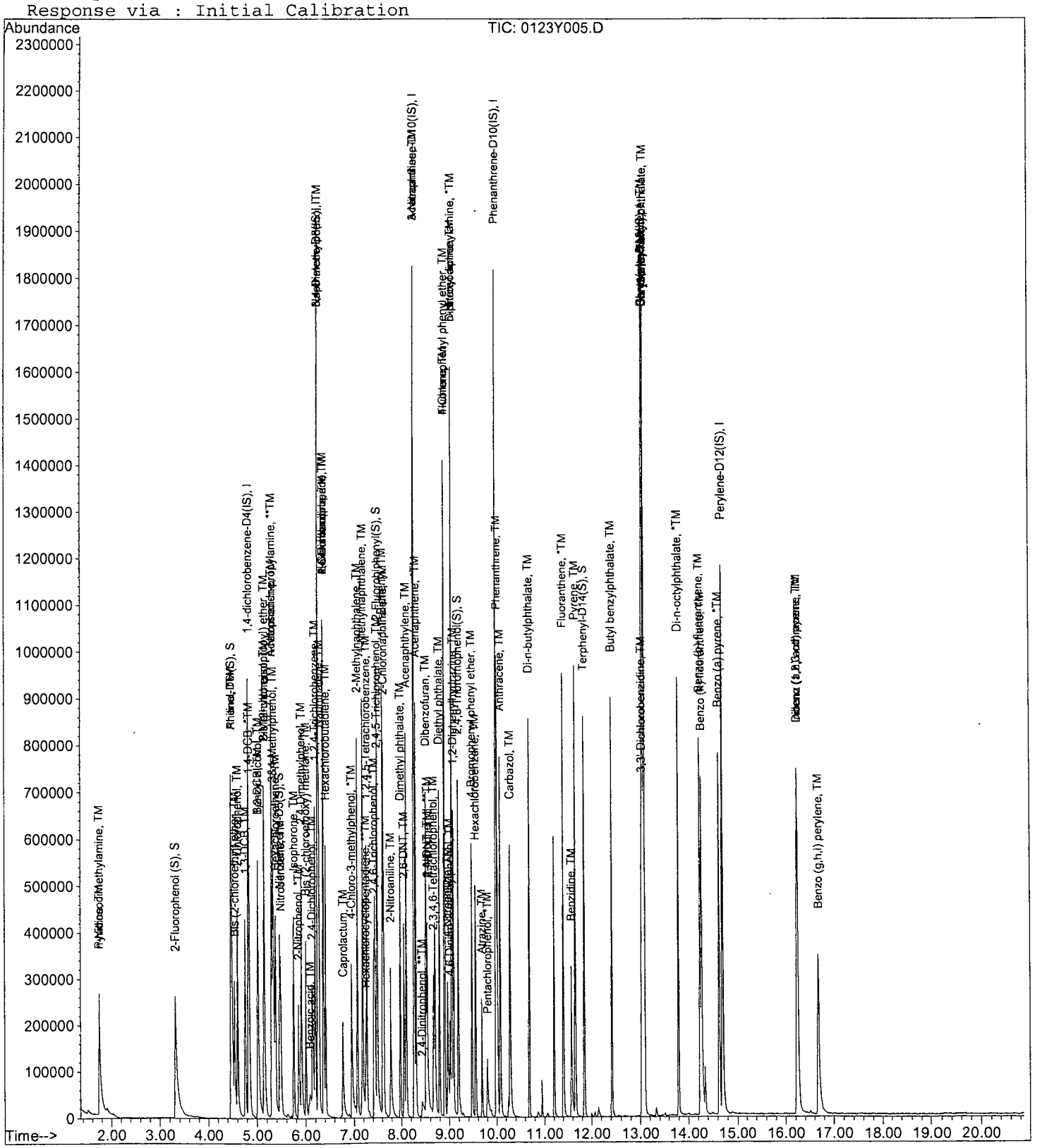
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D Vial: 6
Acq On : 23 Jan 17 12:02 Operator: MA
Sample : 40ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356 ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004 ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396 ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122 ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241 ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845 ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121 ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400 ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391 ppb		87
53) Acenaphthene	8.31	154	448599	38.96400 ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971 ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539 ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307 ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547 ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067 ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075 ppb		86
61) Fluorene	8.90	166	515360	39.29261 ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992 ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068 ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451 ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454 ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756 ppb	#	85
71) Atrazine	9.69	200	75092	20.23603 ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128 ppb		97
73) Phenanthrene	10.02	178	797163	40.43889 ppb		99
74) Anthracene	10.08	178	837248	41.14126 ppb		99
75) Carbazol	10.28	167	750665	41.11558 ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459 ppb		98
77) Fluoranthene	11.40	202	872131	39.96448 ppb		97
79) Benzidine	11.58	184	358107	43.08926 ppb		99
80) Pyrene	11.66	202	926965	38.06361 ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648 ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303 ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357 ppb		99
86) Chrysene	13.10	228	847601	38.79268 ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670 ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269 ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337 ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002 ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

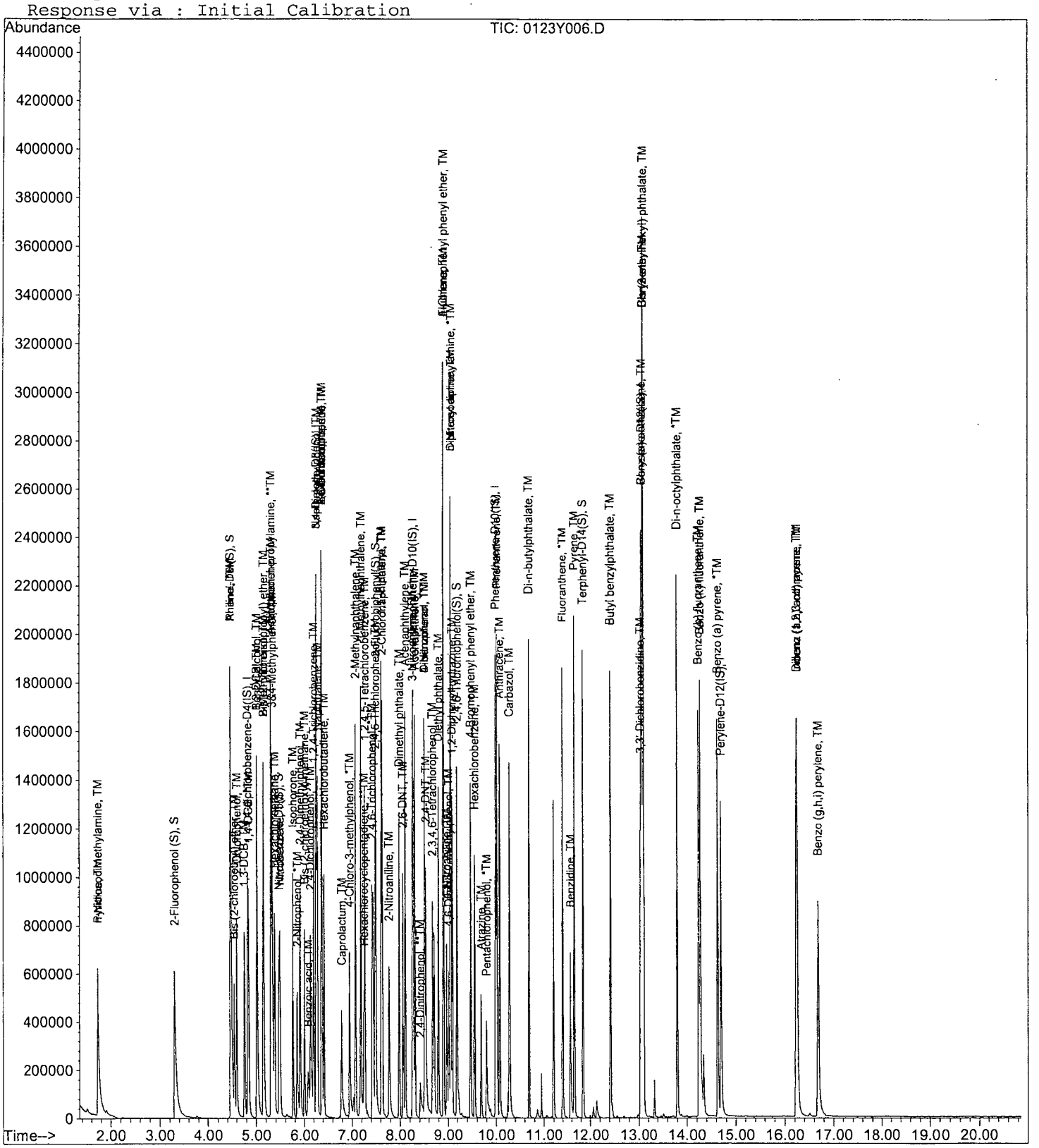
Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery	= 53.334%	
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.999%	
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.350%	
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery	= 50.791%	
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.033%	
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.829%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782	ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257	ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233	ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718	ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002	ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292	ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712	ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461	ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509	ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223	ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745	ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018	ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517	ppb	100
53) Acenaphthene	8.31	154	531832	50.55517	ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563	ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921	ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608	ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039	ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489	ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208	ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330	ppb	100
61) Fluorene	8.91	166	607907	50.72514	ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677	ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772	ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418	ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418	ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983	ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976	ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867	ppb	100
71) Atrazine	9.69	200	93292	25.41109	ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123	ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940	ppb	100
74) Anthracene	10.08	178	1072822	53.28421	ppb	100
75) Carbazol	10.28	167	961347	53.22159	ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166	ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006	ppb	100
79) Benzidine	11.57	184	449897	58.05903	ppb	100
80) Pyrene	11.66	202	1160046	51.08841	ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356	ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714	ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271	ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915	ppb	100
86) Chrysene	13.10	228	1002337	49.20084	ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316	ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771	ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665	ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837	ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785	ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432	ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

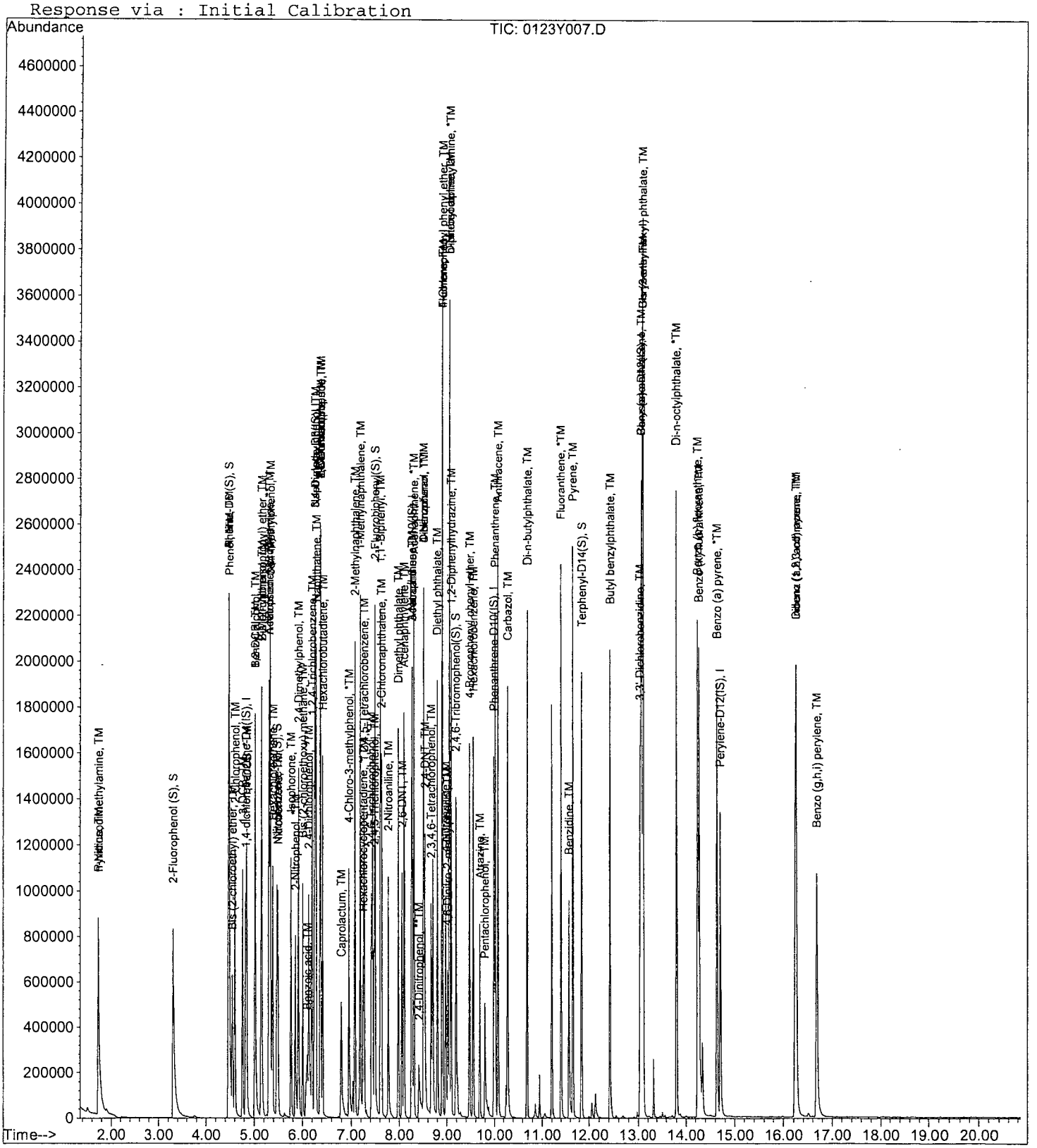
Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery	= 59.291%	
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.295%	
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery	= 60.529%	
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.203%	
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.820%	
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.189%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750	ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543	ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807	ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588	ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026	ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920	ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008	ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161	ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869	ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920	ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675	ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844	ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818	ppb		99
53) Acenaphthene	8.31	154	660528	56.10991	ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470	ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087	ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197	ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227	ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298	ppb		98
61) Fluorene	8.90	166	723357	53.93814	ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356	ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272	ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965	ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965	ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420	ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533	ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941	ppb		96
71) Atrazine	9.69	200	113418	29.34015	ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528	ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905	ppb		99
74) Anthracene	10.08	178	1251780	59.04733	ppb		100
75) Carbazol	10.28	167	1130326	59.43097	ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811	ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928	ppb		99
79) Benzidine	11.57	184	543076	64.22768	ppb		98
80) Pyrene	11.66	202	1386950	55.97742	ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935	ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200	ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540	ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820	ppb		98
86) Chrysene	13.10	228	1217719	54.77858	ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777	ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467	ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932	ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798	ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396	ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107	ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419	ppb		98

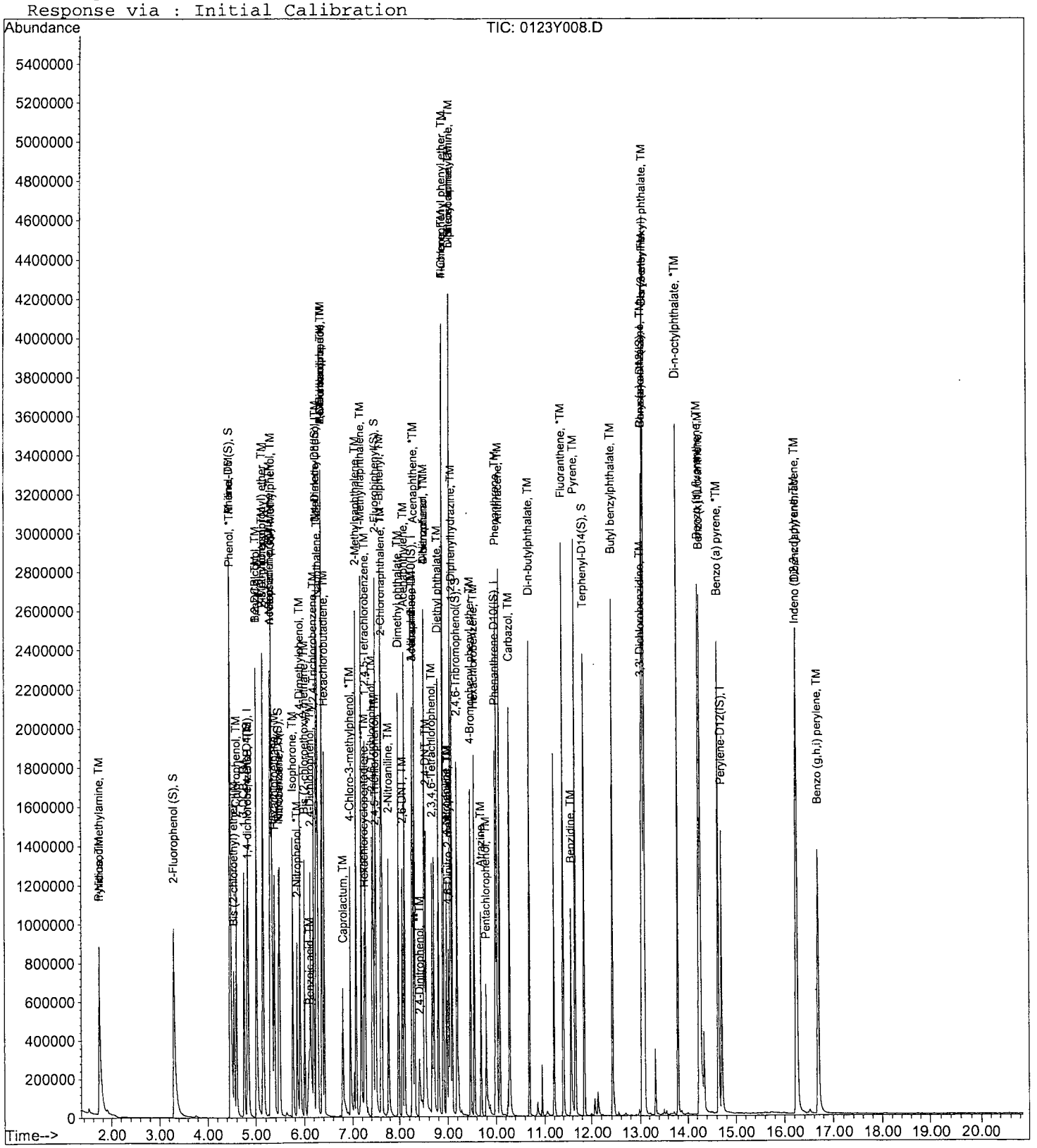
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb	98
3) Pyridine	1.73	79	634454	83.90277 ppb	100
6) Phenol	4.48	94	642315	77.49542 ppb	98
7) Aniline	4.48	66	611004	77.80712 ppb #	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb	91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb	99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb	99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb	96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb	93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb	99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb	96
16) Acetophenone	5.30	105	658013	77.62630 ppb	95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb	93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb	89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb	97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb	92
23) Isophorone	5.76	82	966459	84.20922 ppb	98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb	98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb	98
26) Benzoic acid	6.12	105	344797	79.06975 ppb	99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb	99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb	96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb	97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb	99
31) Naphthalene	6.28	128	1406137	78.62073 ppb	99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb	96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb	98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb	98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb	98
36) Caprolactum	6.82	55	245801	92.00545 ppb	98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

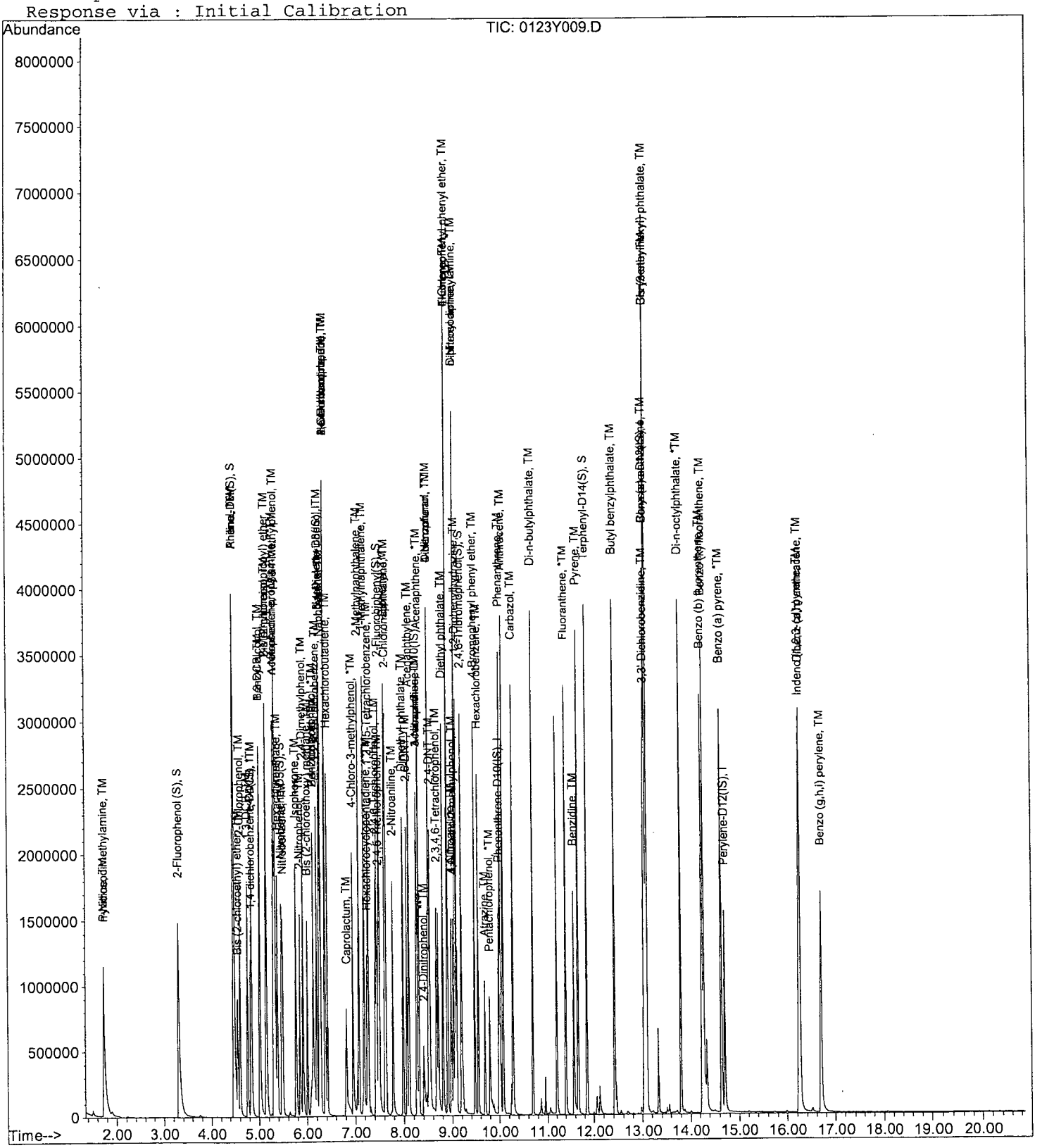
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	1069015	98.52562 ppb		100
39) 1-Methylnaphthalene	7.18	142	1086390	101.25946 ppb		97
41) Hexachlorocyclopentadiene	7.25	237	258114	95.27329 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351 ppb		99
43) 2,4,6-Trichlorophenol	7.43	196	331996	97.70336 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	355732	95.57756 ppb		98
46) 1,1'-Biphenyl	7.62	154	1386672	94.83843 ppb		97
47) 2-Chloronaphthalene	7.64	162	1055069	94.07130 ppb		95
48) 2-Nitroaniline	7.78	65	418092	108.50964 ppb		88
49) Dimethyl phthalate	7.99	163	1356658	101.80747 ppb		98
50) 2,6-DNT	8.07	165	316171	104.64681 ppb	#	71
51) Acenaphthylene	8.11	152	1797144	101.33230 ppb		99
52) 3-Nitroaniline	8.26	138	328647	98.60232 ppb		92
53) Acenaphthene	8.31	154	1086532	96.62576 ppb		98
54) 2,4-Dinitrophenol	8.41	184	176811	90.93521 ppb		94
55) 4-Nitrophenol	8.50	65	278056	94.80657 ppb		85
56) Dibenzofuran	8.51	168	1478712	93.40139 ppb		91
57) 2,4-DNT	8.54	165	432509	101.73091 ppb	#	76
58) 2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456 ppb		97
59) Diethyl phthalate	8.81	149	1309719	94.16860 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458 ppb		86
61) Fluorene	8.91	166	1259262	98.30180 ppb		98
62) 4-Nitroaniline	8.99	138	320532	101.69084 ppb		96
65) 4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202 ppb		97
66) Diphenyl amine	9.07	169	1764977	176.53801 ppb		98
67) n-Nitrosodiphenylamine	9.07	169	1764977	176.53801 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1833929	122.07107 ppb		92
69) 4-Bromophenyl phenyl ether	9.48	248	362735	98.31343 ppb		89
70) Hexachlorobenzene	9.55	284	374188	97.95365 ppb	#	85
71) Atrazine	9.70	200	186402	51.29770 ppb		96
72) Pentachlorophenol	9.80	266	184112	95.21807 ppb		98
73) Phenanthrene	10.03	178	1872148	96.98577 ppb		99
74) Anthracene	10.08	178	1948772	97.79130 ppb		100
75) Carbazol	10.29	167	1735219	97.05778 ppb		94
76) Di-n-butylphthalate	10.69	149	2308294	99.48443 ppb		98
77) Fluoranthene	11.41	202	2101591	98.34594 ppb	#	95
79) Benzidine	11.58	184	881021	112.09512 ppb		99
80) Pyrene	11.67	202	2238167	97.18146 ppb		99
82) Butyl benzylphthalate	12.43	149	1053918	95.88181 ppb		84
83) 3,3'-Dichlorobenzidine	13.04	252	620945	85.27441 ppb	#	97
84) Benz (a) anthracene	13.06	228	1997166	93.57548 ppb		99
85) Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876 ppb	#	98
86) Chrysene	13.11	228	2048269	99.12644 ppb		99
87) Di-n-octylphthalate	13.81	149	2523481	93.56142 ppb	#	90
89) Benzo (b) fluoranthene	14.26	252	2021244	95.29131 ppb		98
90) Benzo (k) fluoranthene	14.29	252	1924959	97.58324 ppb		98
91) Benzo (a) pyrene	14.65	252	1933997	99.48149 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950 ppb		98
93) Dibenz (a,h) anthracene	16.27	278	1774923	97.42985 ppb		98
94) Benzo (g,h,i) perylene	16.71	276	1733036	91.06647 ppb		95

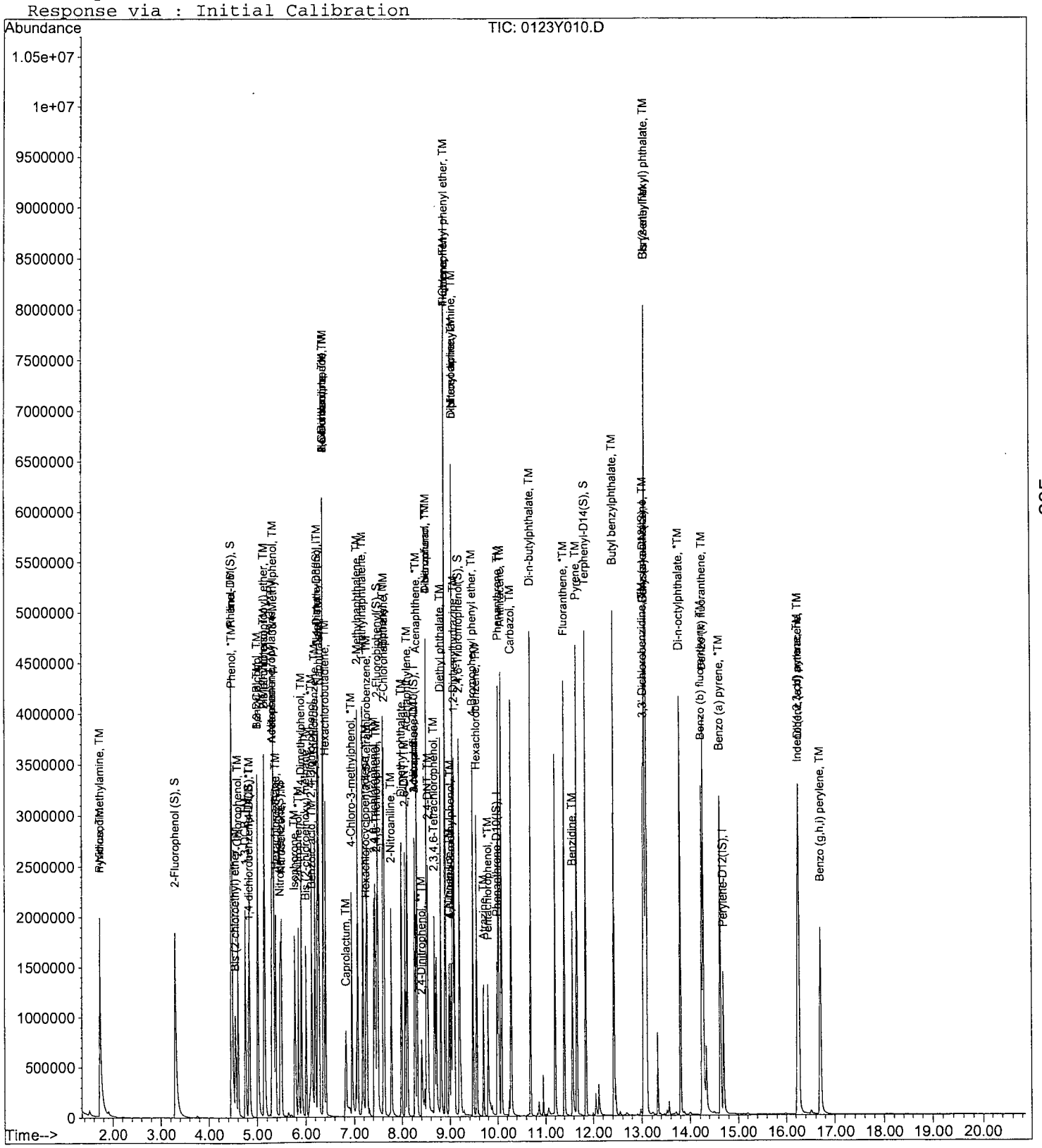
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



305

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
84							
85							
86							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.956}$ = 56.38 HA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	646439	48.57137 ppb		100
39) 1-Methylnaphthalene	7.19	142	602666	45.97150 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	121681	52.65785 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	193346	48.88713 ppb		97
44) 2,4,5-Trichlorophenol	7.47	196	209742	48.34739 ppb		97
46) 1,1'-Biphenyl	7.61	154	822806	47.07970 ppb		99
47) 2-Chloronaphthalene	7.63	162	692861	51.88332 ppb		96
48) 2-Nitroaniline	7.77	65	233738	49.08526 ppb		85
49) Dimethyl phthalate	7.98	163	766645	47.87741 ppb		99
50) 2,6-DNT	8.06	165	178567	49.95212 ppb	#	72
51) Acenaphthylene	8.10	152	982221	45.67988 ppb		99
52) 3-Nitroaniline	8.25	138	193766	49.56328 ppb		85
53) Acenaphthene	8.31	154	608874	45.93545 ppb		100
54) 2,4-Dinitrophenol	8.41	184	82560	48.59465 ppb		95
55) 4-Nitrophenol	8.50	65	144946	48.19129 ppb		77
56) Dibenzofuran	8.50	168	875323	46.77048 ppb		98
57) 2,4-DNT	8.54	165	249063	49.96847 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501 ppb	#	90
59) Diethyl phthalate	8.80	149	774517	47.76643 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651 ppb		86
61) Fluorene	8.90	166	658029	43.43306 ppb		96
62) 4-Nitroaniline	8.98	138	188537	50.69450 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398 ppb	#	80
66) Diphenyl amine	9.06	169	1101615	100.68261 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1101615	100.68261 ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1107522	57.98015 ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	213301	49.74664 ppb		85
70) Hexachlorobenzene	9.55	284	235108	52.56424 ppb		90
71) Atrazine	9.69	200	93523	22.08154 ppb		99
72) Pentachlorophenol	9.79	266	86715	45.18058 ppb		95
73) Phenanthrene	10.02	178	1072837	46.33434 ppb		100
74) Anthracene	10.08	178	1080433	44.73670 ppb		99
75) Carbazol	10.28	167	987284	46.17731 ppb		96
76) Di-n-butylphthalate	10.69	149	1336738	49.47728 ppb		99
77) Fluoranthene	11.40	202	1187541	47.24409 ppb		97
79) Benzidine	11.58	184	466479	44.95376 ppb		97
80) Pyrene	11.66	202	1231903	46.08479 ppb		98
82) Butyl benzylphthalate	12.42	149	620712	50.22071 ppb	#	78
83) 3,3'-Dichlorobenzidine	13.03	252	451989	53.92761 ppb		94
84) Benz (a) anthracene	13.05	228	1187024	47.21512 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640 ppb		99
86) Chrysene	13.10	228	1055130	42.79043 ppb		100
87) Di-n-octylphthalate	13.81	149	1488607	49.98751 ppb		97
89) Benzo (b) fluoranthene	14.25	252	1145100	44.79514 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1223330	51.92467 ppb		98
91) Benzo (a) pyrene	14.64	252	1142371	48.92994 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771 ppb		99
93) Dibenz (a,h) anthracene	16.26	278	1059706	47.56225 ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1051918	47.90166 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

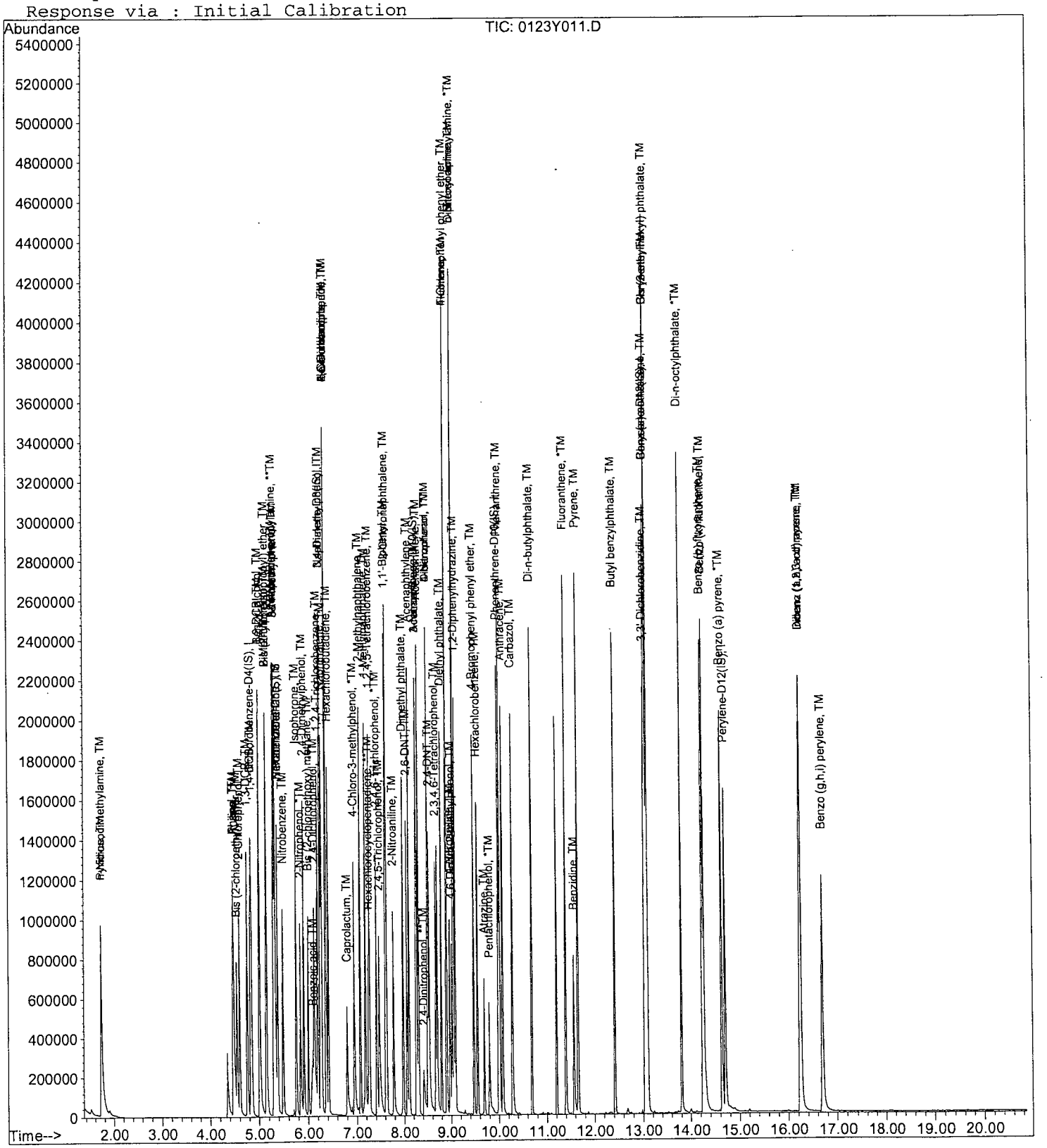
Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.070	12	TM	
3	TM	Pyridine	1.902	1.929	1.4	TM	
4	S	2-Fluorophenol (S)	1.262	1.272	0.83	S	
5	S	Phenol-D6 (S)	1.679	1.646	1.9	S	
6	*TM	Phenol	1.927	2.002	3.9	*TM	
7	TM	Aniline	1.829	1.824	0.28	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9570	1.5	TM	
9	TM	2-Chlorophenol	1.490	1.509	1.3	TM	
10	TM	1,3-DCB	1.572	1.588	1.0	TM	
11	*TM	1,4-DCB	1.615	1.620	0.27	*TM	
12	TM	Benzyl alcohol	0.8487	0.8840	4.2	TM	
13	TM	1,2-DCB	1.472	1.528	3.8	TM	
14	TM	2-Methylphenol	1.114	1.141	2.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.065	0.23	TM	
16	TM	Acetophenone	1.985	2.007	1.1	TM	
17	TM	3&4-Methylphenol	1.446	1.508	4.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.109	0.66	**TM	
19	TM	Hexachloroethane	0.6642	0.6669	0.40	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3826	5.7	S	
22	TM	Nitrobenzene	0.4049	0.4087	0.94	TM	
23	TM	Isophorone	0.6723	0.6834	1.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.1980	4.3	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3167	3.1	TM	
26	TML	Benzoic acid	0.1823	0.2457	35	TML	5.8
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.3883	0.25	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.2993	2.5	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3267	1.2	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4517	2.3	TM	
31	TM	Naphthalene	1.046	1.036	0.89	TM	
32	TM	4-Chloroaniline	0.3674	0.3583	2.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2613	3.4	TM	
34	TM	Hexachloropropene	0.2347	0.2250	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1871	2.3	*TM	
36	TM	Caprolactum	0.1663	0.1768	6.3	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3305	4.4	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.6907	1.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6780	1.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.4		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1620	1.4	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5298	2.1	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3447	1.5	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3767	1.1	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.151	10	S	
46	TM	1,1'-Biphenyl	1.501	1.486	0.97	TM	
47	TM	2-Chloronaphthalene	1.147	1.145	0.18	TM	
48	TM	2-Nitroaniline	0.4089	0.4041	1.2	TM	
49	TM	Dimethyl phthalate	1.375	1.344	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3143	2.4	TM	
51	TM	Acenaphthylene	1.846	1.791	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3400	1.3	TM	
53	*TM	Acenaphthene	1.138	1.106	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1730	32	**TMQ	13
55	**TML	4-Nitrophenol	0.2262	0.2239	1.0	**TML	12
56	TM	Dibenzofuran	1.607	1.602	0.29	TM	
57	TM	2,4-DNT	0.4280	0.4320	0.93	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2913	0.71	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5656	9.6	TM	
61	TM	Fluorene	1.301	1.181	9.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3285	2.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1726	6.8	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1404	6.2	TML	1.6
66	TM	Diphenyl amine	0.5157	0.5110	0.91	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5110	0.91	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.7947	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2038	0.82	TM	
70	TM	Hexachlorobenzene	0.2108	0.2076	1.5	TM	
71	TM	Atrazine	0.1996	0.2051	2.7	TM	
72	*TML	Pentachlorophenol	0.0838	0.1003	20	*TML	7.5
73	TM	Phenanthrene	1.091	1.066	2.3	TM	
74	TM	Anthracene	1.138	1.118	1.8	TM	
75	TM	Carbazol	1.008	0.9991	0.86	TM	
76	TM	Di-n-butylphthalate	1.273	1.297	1.8	TM	
77	*TM	Fluoranthene	1.185	1.198	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4636	6.9	TM	
80	TM	Pyrene	1.283	1.314	2.4	TM	
		Average			4.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8439	1.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6423	8.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4455	11	TM	
84	TM	Benz (a) anthracene	1.206	1.191	1.3	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8240	1.2	TM	
86	TM	Chrysene	1.183	1.149	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.523	6.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.135	8.9	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.134	1.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.083	4.8	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.156	9.4	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.001	7.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9879	7.6	TM	
95							
96							
97							
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117							
118							
119							
120							
		Average			5.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148886	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.24	136	626658	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373403	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	695280	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	671130	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	737668	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	473559	100.83320 ppb	0.00
Spiked Amount 200.000			Recovery	= 50.417%	
5) Phenol-D6 (S)	4.46	99	612723	98.06049 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.030%	
21) Nitrobenzene-D5(S)	5.46	82	299685	47.15545 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.155%	
45) 2-Fluorobiphenyl(S)	7.49	172	537257	44.85072 ppb	0.00
Spiked Amount 100.000			Recovery	= 44.851%	
63) 2,4,6-Tribromophenol(S)	9.19	330	161123	93.22302 ppb	0.00
Spiked Amount 200.000			Recovery	= 46.612%	
81) Terphenyl-D14(S)	11.84	244	707979	49.04509 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.045%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	199203	55.97876 ppb	97
3) Pyridine	1.73	79	359008	50.71720 ppb	96
6) Phenol	4.47	94	372679	51.96034 ppb	89
7) Aniline	4.47	66	339469	49.85834 ppb	81
8) Bis (2-chloroethyl) ether	4.54	63	178097	50.73293 ppb	95
9) 2-Chlorophenol	4.59	128	280823	50.62993 ppb	99
10) 1,3-DCB	4.75	146	295502	50.50318 ppb	99
11) 1,4-DCB	4.83	146	301436	50.13325 ppb	96
12) Benzyl alcohol	5.01	108	164527	52.07959 ppb	87
13) 1,2-DCB	5.00	146	284407	51.89616 ppb	98
14) 2-Methylphenol	5.15	107	212265	51.20765 ppb	93
15) Bis (2-chloroisopropyl) et	5.14	45	384246	49.88617 ppb	86
16) Acetophenone	5.29	105	373444	50.55667 ppb	99
17) 3&4-Methylphenol	5.33	107	561420	104.29840 ppb	93
18) n-Nitrosodi-n-propylamine	5.30	70	206385	50.33123 ppb	98
19) Hexachloroethane	5.37	117	124114	50.19987 ppb	89
22) Nitrobenzene	5.47	77	320147	50.46770 ppb	98
23) Isophorone	5.74	82	535327	50.82727 ppb	99
24) 2-Nitrophenol	5.84	139	155110	52.13446 ppb	99
25) 2,4-Dimethylphenol	5.90	122	248075	51.57205 ppb	98
26) Benzoic acid	6.10	105	192501	52.91544 ppb	96
27) Bis (2-chloroethoxy) metha	5.99	93	304135	49.87715 ppb	99
28) 2,4-Dichlorophenol	6.12	162	234483	51.22621 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	255875	50.58977 ppb	98
30) 3,4-Dimethylphenol	6.24	107	353817	48.85579 ppb	99
31) Naphthalene	6.27	128	811898	49.55406 ppb	99
32) 4-Chloroaniline	6.36	127	280648	48.76350 ppb	98
33) 2,6-Dichlorophenol	6.37	162	204719	48.32493 ppb	94
34) Hexachloropropene	6.37	213	176221	47.92912 ppb	96
35) Hexachlorobutadiene	6.41	225	146536	48.85878 ppb	99
36) Caprolactum	6.79	55	138528	53.17215 ppb	95
37) 4-Chloro-3-methylphenol	6.95	107	258881	52.19311 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	541039	50.83209 ppb		100
39) 1-Methylnaphthalene	7.17	142	531113	50.65887 ppb		99
41) Hexachlorocyclopentadiene	7.24	237	75609	43.99504 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247309	48.94668 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	160911	50.75533 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	175842	50.56463 ppb		99
46) 1,1'-Biphenyl	7.60	154	693703	49.51610 ppb		100
47) 2-Chloronaphthalene	7.63	162	534272	49.90921 ppb		99
48) 2-Nitroaniline	7.77	65	188638	49.41827 ppb		89
49) Dimethyl phthalate	7.97	163	627359	48.87526 ppb		99
50) 2,6-DNT	8.06	165	146684	51.18846 ppb		96
51) Acenaphthylene	8.10	152	835771	48.48860 ppb		99
52) 3-Nitroaniline	8.25	138	158685	50.63548 ppb		91
53) Acenaphthene	8.30	154	516184	48.58046 ppb		99
54) 2,4-Dinitrophenol	8.41	184	80743	56.42179 ppb		97
55) 4-Nitrophenol	8.53	65	104495	44.07362 ppb	#	53
56) Dibenzofuran	8.50	168	747927	49.85392 ppb		89
57) 2,4-DNT	8.53	165	201641	50.46640 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135978	49.64346 ppb		93
59) Diethyl phthalate	8.79	149	632069	48.62873 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	263984	45.17769 ppb		99
61) Fluorene	8.90	166	551262	45.39104 ppb		96
62) 4-Nitroaniline	8.97	138	153319	51.42767 ppb		84
65) 4,6-Dinitro-2-methylphenol	9.01	198	122045	49.19452 ppb		87
66) Diphenyl amine	9.05	169	888237	99.08538 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	888237	99.08538 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	690654	44.13099 ppb		98
69) 4-Bromophenyl phenyl ether	9.47	248	177080	50.40765 ppb		98
70) Hexachlorobenzene	9.54	284	180392	49.22621 ppb		95
71) Atrazine	9.68	200	89111	25.68019 ppb		97
72) Pentachlorophenol	9.79	266	87164	53.72555 ppb		94
73) Phenanthrene	10.00	178	926617	48.84561 ppb		99
74) Anthracene	10.07	178	971338	49.08995 ppb		99
75) Carbazol	10.27	167	868314	49.57006 ppb		99
76) Di-n-butylphthalate	10.68	149	1126885	50.90908 ppb		99
77) Fluoranthene	11.39	202	1040875	50.54213 ppb		98
79) Benzidine	11.57	184	388911	46.55010 ppb		98
80) Pyrene	11.66	202	1102134	51.20967 ppb		99
82) Butyl benzylphthalate	12.42	149	538821	54.14691 ppb		98
83) 3,3'-Dichlorobenzidine	13.03	252	373701	55.37886 ppb	#	96
84) Benz (a) anthracene	13.05	228	998865	49.34747 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	691274	49.38979 ppb		97
86) Chrysene	13.10	228	963540	48.53409 ppb		99
87) Di-n-octylphthalate	13.79	149	1277457	53.28000 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1046134	45.55603 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1045629	49.40590 ppb		98
91) Benzo (a) pyrene	14.63	252	998291	47.59877 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1065575	45.32058 ppb		100
93) Dibenz (a,h) anthracene	16.24	278	922912	46.11141 ppb		98
94) Benzo (g,h,i) perylene	16.68	276	910925	46.17664 ppb		97

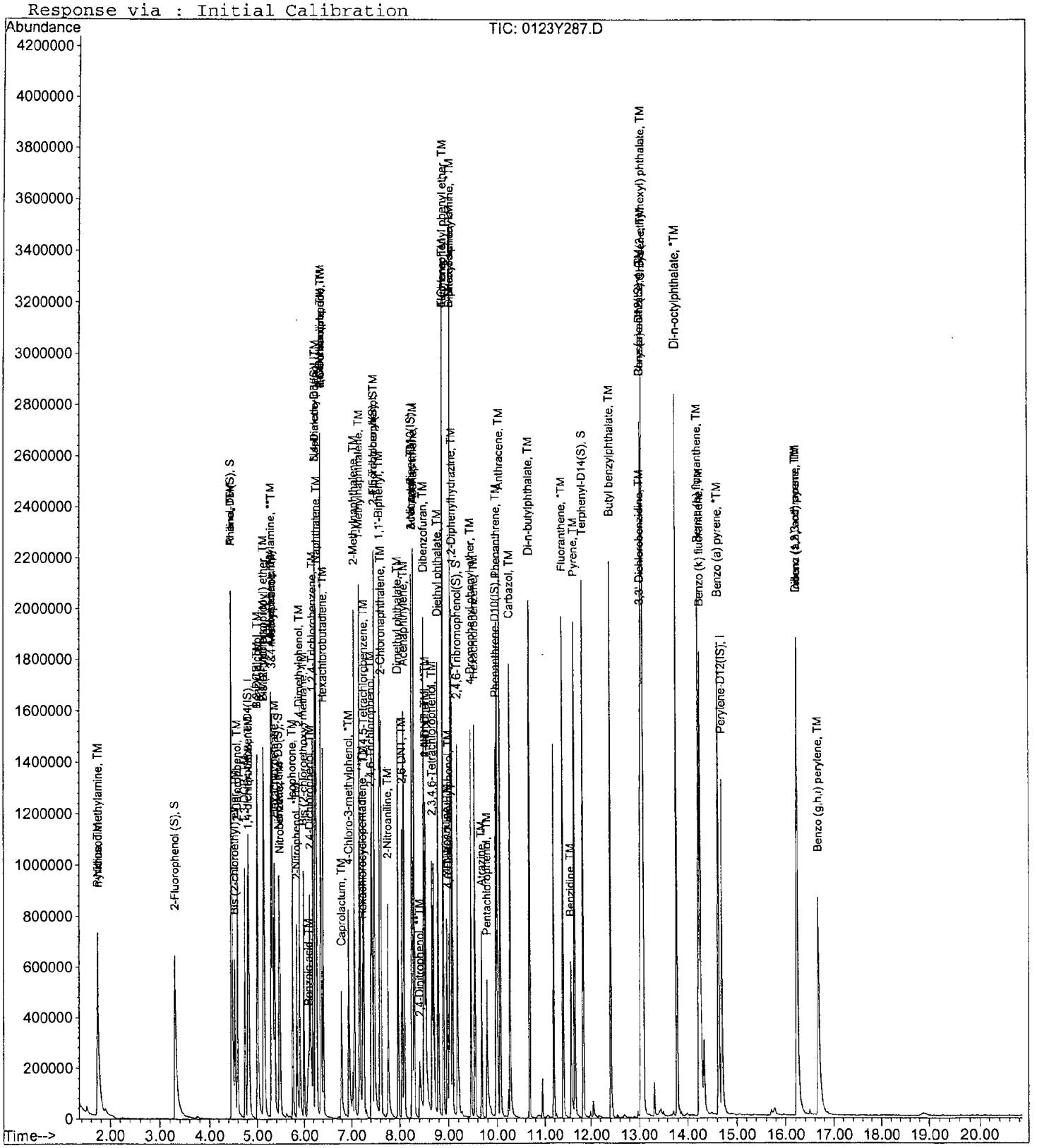
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.165	22	TM	
3	S	2-Fluorophenol (S)	1.262	1.226	2.9	S	
4	S	Phenol-D6 (S)	1.679	1.576	6.1	S	
5	*TM	Phenol	1.927	1.970	2.3	*TM	
6	TM	Aniline	1.829	1.770	3.2	TM	
7	TM	Bis (2-chloroethyl) ether	0.9431	0.9033	4.2	TM	
8	TM	2-Chlorophenol	1.490	1.512	1.5	TM	
9	TM	1,3-DCB	1.572	1.558	0.92	TM	
10	*TM	1,4-DCB	1.615	1.598	1.1	*TM	
11	TM	Benzyl alcohol	0.8487	0.8717	2.7	TM	
12	TM	1,2-DCB	1.472	1.484	0.76	TM	
13	TM	2-Methylphenol	1.114	1.140	2.3	TM	
14	TM	Bis (2-chloroisopropyl) ether	2.069	2.080	0.52	TM	
15	TM	Acetophenone	1.985	1.967	0.89	TM	
16	TM	3&4-Methylphenol	1.446	1.480	2.3	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.102	1.083	1.7	**TM	
18	TM	Hexachloroethane	0.6642	0.6695	0.79	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4057	0.3888	4.2	S	
21	TM	Nitrobenzene	0.4049	0.4058	0.22	TM	
22	TM	Isophorone	0.6723	0.6792	1.0	TM	
23	*TM	2-Nitrophenol	0.1899	0.2070	9.0	*TM	
24	TM	2,4-Dimethylphenol	0.3070	0.3231	5.2	TM	
25	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
26	TM	Bis (2-chloroethoxy) methane	0.3892	0.4037	3.7	TM	
27	*TM	2,4-Dichlorophenol	0.2922	0.3104	6.2	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3228	0.3295	2.1	TM	
29	TM	3,4-Dimethylphenol	0.4623	0.4555	1.5	TM	
30	TM	Naphthalene	1.046	1.065	1.9	TM	
31	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
32	TM	2,6-Dichlorophenol	0.2704	0.2587	4.3	TM	
33	TM	Hexachloropropene	0.2347	0.2263	3.6	TM	
34	*TM	Hexachlorobutadiene	0.1914	0.1926	0.62	*TM	
35	TM	Caprolactum	0.1663	0.1749	5.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3166	0.3204	1.2	*TM	
37	TM	2-Methylnaphthalene	0.6794	0.7018	3.3	TM	
38	TM	1-Methylnaphthalene	0.6692	0.6774	1.2	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1610	0.77	**TMQ	12
		Average			4.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5469	1.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3396	0.3444	1.4	*TM	
43	TM	2,4,5-Trichlorophenol	0.3725	0.3645	2.2	TM	
44	S	2-Fluorobiphenyl(S)	1.283	1.169	8.9	S	
45	TM	1,1'-Biphenyl	1.501	1.506	0.34	TM	
46	TM	2-Chloronaphthalene	1.147	1.148	0.10	TM	
47	TM	2-Nitroaniline	0.4089	0.4163	1.8	TM	
48	TM	Dimethyl phthalate	1.375	1.378	0.25	TM	
49	TM	2,6-DNT	0.3070	0.3165	3.1	TM	
50	TM	Acenaphthylene	1.846	1.825	1.2	TM	
51	TM	3-Nitroaniline	0.3357	0.3408	1.5	TM	
52	*TM	Acenaphthene	1.138	1.126	1.1	*TM	
53	**TMQ	2,4-Dinitrophenol	0.1314	0.1458	11	**TMQ	0.75
54	**TML	4-Nitrophenol	0.2262	0.2233	1.3	**TML	12
55	TM	Dibenzofuran	1.607	1.593	0.86	TM	
56	TM	2,4-DNT	0.4280	0.4413	3.1	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2938	0.12	TM	
58	TM	Diethyl phthalate	1.392	1.378	1.0	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6259	0.5693	9.1	TM	
60	TM	Fluorene	1.301	1.190	8.5	TM	
61	TM	4-Nitroaniline	0.3194	0.3223	0.91	TM	
62	S	2,4,6-Tribromophenol(S)	0.1851	0.1677	9.4	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1390	5.1	TML	2.5
65	TM	Diphenyl amine	0.5157	0.5262	2.0	TM	
66	*TM	n-Nitrosodiphenylamine	0.5157	0.5262	2.0	*TM	
67	TM	1,2-Diphenylhydrazine	0.9004	0.8228	8.6	TM	
68	TM	4-Bromophenyl phenyl ether	0.2021	0.2058	1.8	TM	
69	TM	Hexachlorobenzene	0.2108	0.2064	2.1	TM	
70	TM	Atrazine	0.1996	0.2058	3.1	TM	
71	*TML	Pentachlorophenol	0.0838	0.0888	5.9	*TML	3.2
72	TM	Phenanthrene	1.091	1.054	3.4	TM	
73	TM	Anthracene	1.138	1.108	2.7	TM	
74	TM	Carbazol	1.008	1.010	0.20	TM	
75	TM	Di-n-butylphthalate	1.273	1.269	0.37	TM	
76	*TM	Fluoranthene	1.185	1.186	0.14	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.4979	0.4575	8.1	TM	
79	TM	Pyrene	1.283	1.292	0.75	TM	
80	S	Terphenyl-D14(S)	0.8604	0.8333	3.1	S	
		Average			3.1		

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0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5931	0.6133	3.4	TM	
82	TM	3,3'-Dichlorobenzidine	0.4022	0.4322	7.5	TM	
83	TM	Benz (a) anthracene	1.206	1.202	0.35	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8280	0.74	TM	
85	TM	Chrysene	1.183	1.102	6.9	TM	
86	*TM	Di-n-octylphthalate	1.429	1.500	5.0	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.245	1.118	10	TM	
89	TM	Benzo (k) fluoranthene	1.148	1.185	3.3	TM	
90	*TM	Benzo (a) pyrene	1.137	1.084	4.7	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.275	1.165	8.6	TM	
92	TM	Dibenz (a,h) anthracene	1.085	0.9925	8.6	TM	
93	TM	Benzo (g,h,i) perylene	1.070	0.9961	6.9	TM	
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118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D Vial: 2
Acq On : 14 Mar 17 16:14 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148257	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	608139	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	361584	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	672725	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	649830	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	691935	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	454275	97.13751 ppb	-0.01
Spiked Amount 200.000			Recovery	= 48.569%	
5) Phenol-D6 (S)	4.46	99	584043	93.86709 ppb	0.00
Spiked Amount 200.000			Recovery	= 46.934%	
21) Nitrobenzene-D5(S)	5.46	82	295531	47.91789 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.918%	
45) 2-Fluorobiphenyl(S)	7.50	172	528519	45.56344 ppb	0.00
Spiked Amount 100.000			Recovery	= 45.563%	
63) 2,4,6-Tribromophenol(S)	9.19	330	151600	90.58023 ppb	0.00
Spiked Amount 200.000			Recovery	= 45.290%	
81) Terphenyl-D14(S)	11.84	244	676896	48.42883 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.429%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	215901	60.92853 ppb		99
6) Phenol	4.48	94	365165	51.12871 ppb		98
7) Aniline	4.47	66	327978	48.37501 ppb		98
8) Bis (2-chloroethyl) ether	4.55	63	167404	47.88923 ppb		94
9) 2-Chlorophenol	4.60	128	280274	50.74533 ppb		96
10) 1,3-DCB	4.75	146	288637	49.53919 ppb		97
11) 1,4-DCB	4.84	146	296059	49.44788 ppb		95
12) Benzyl alcohol	5.01	108	161552	51.35484 ppb		95
13) 1,2-DCB	5.01	146	274941	50.38174 ppb		97
14) 2-Methylphenol	5.15	107	211224	51.17271 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	385482	50.25897 ppb	#	67
16) Acetophenone	5.30	105	364514	49.55710 ppb		99
17) 3&4-Methylphenol	5.33	107	548565	102.34261 ppb		98
18) n-Nitrosodi-n-propylamine	5.30	70	200787	49.17379 ppb		89
19) Hexachloroethane	5.37	117	124068	50.39417 ppb		88
22) Nitrobenzene	5.48	77	308491	50.11114 ppb		95
23) Isophorone	5.75	82	516284	50.51194 ppb		94
24) 2-Nitrophenol	5.85	139	157373	54.50584 ppb		91
25) 2,4-Dimethylphenol	5.91	122	245580	52.60804 ppb		97
26) Benzoic acid	6.11	105	191000	53.96616 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	306851	51.85498 ppb		96
28) 2,4-Dichlorophenol	6.13	162	235931	53.11211 ppb		94
29) 1,2,4-Trichlorobenzene	6.20	180	250496	51.03444 ppb		99
30) 3,4-Dimethylphenol	6.24	107	346243	49.26586 ppb		97
31) Naphthalene	6.28	128	809847	50.93408 ppb		99
32) 4-Chloroaniline	6.37	127	271385	48.58996 ppb		96
33) 2,6-Dichlorophenol	6.37	162	196632	47.82941 ppb		98
34) Hexachloropropene	6.37	213	172008	48.20790 ppb		96
35) Hexachlorobutadiene	6.41	225	146427	50.30917 ppb		99
36) Caprolactum	6.79	55	132974	52.59460 ppb		95
37) 4-Chloro-3-methylphenol	6.95	107	243592	50.60620 ppb		98
38) 2-Methylnaphthalene	7.07	142	533455	51.64579 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.18	142	514932	50.61115 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	72755	43.79922 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247192	50.52267 ppb		96
43) 2,4,6-Trichlorophenol	7.41	196	155683	50.71141 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	164750	48.92358 ppb		97
46) 1,1'-Biphenyl	7.61	154	680621	50.17031 ppb		98
47) 2-Chloronaphthalene	7.63	162	518825	50.05042 ppb		97
48) 2-Nitroaniline	7.78	65	188153	50.90238 ppb		94
49) Dimethyl phthalate	7.98	163	623022	50.12391 ppb		99
50) 2,6-DNT	8.05	165	143063	51.55672 ppb	#	74
51) Acenaphthylene	8.10	152	824843	49.41880 ppb		100
52) 3-Nitroaniline	8.26	138	154037	50.75896 ppb	#	98
53) Acenaphthene	8.31	154	508979	49.46814 ppb		99
54) 2,4-Dinitrophenol	8.41	184	65909	49.62382 ppb		93
55) 4-Nitrophenol	8.54	65	100907	43.97163 ppb	#	49
56) Dibenzofuran	8.50	168	720114	49.56897 ppb		95
57) 2,4-DNT	8.54	165	199454	51.55073 ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.67	232	132775	50.05855 ppb	#	86
59) Diethyl phthalate	8.80	149	622798	49.48166 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.90	204	257297	45.47259 ppb		91
61) Fluorene	8.90	166	537811	45.73096 ppb		97
62) 4-Nitroaniline	8.97	138	145660	50.45565 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	116851	48.74719 ppb	#	53
66) Diphenyl amine	9.06	169	884922	102.02530 ppb		100
67) n-Nitrosodiphenylamine	9.06	169	884922	102.02530 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	691935	45.69520 ppb		96
69) 4-Bromophenyl phenyl ether	9.47	248	173078	50.92030 ppb		95
70) Hexachlorobenzene	9.55	284	173535	48.94275 ppb	#	84
71) Atrazine	9.69	200	86550	25.77841 ppb		96
72) Pentachlorophenol	9.79	266	74655	48.42095 ppb		99
73) Phenanthrene	10.01	178	886645	48.30557 ppb		100
74) Anthracene	10.07	178	931456	48.65268 ppb		99
75) Carbazol	10.27	167	849123	50.09973 ppb		98
76) Di-n-butylphthalate	10.68	149	1066862	49.81338 ppb		99
77) Fluoranthene	11.40	202	997705	50.07019 ppb		97
79) Benzidine	11.57	184	371603	45.93635 ppb		99
80) Pyrene	11.66	202	1049723	50.37316 ppb		99
82) Butyl benzylphthalate	12.42	149	498167	51.70244 ppb		88
83) 3,3'-Dichlorobenzidine	13.03	252	351103	53.73549 ppb		95
84) Benz (a) anthracene	13.05	228	976534	49.82558 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	672586	49.62971 ppb	#	97
86) Chrysene	13.10	228	895041	46.56150 ppb		99
87) Di-n-octylphthalate	13.79	149	1218354	52.48054 ppb		98
89) Benzo (b) fluoranthene	14.25	252	967168	44.90101 ppb		99
90) Benzo (k) fluoranthene	14.27	252	1025195	51.64203 ppb		99
91) Benzo (a) pyrene	14.63	252	937251	47.64201 ppb	#	96
92) Indeno (1,2,3-cd) pyrene	16.23	276	1007694	45.69154 ppb		97
93) Dibenz (a,h) anthracene	16.24	278	858392	45.72244 ppb		97
94) Benzo (g,h,i) perylene	16.69	276	861566	46.56118 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

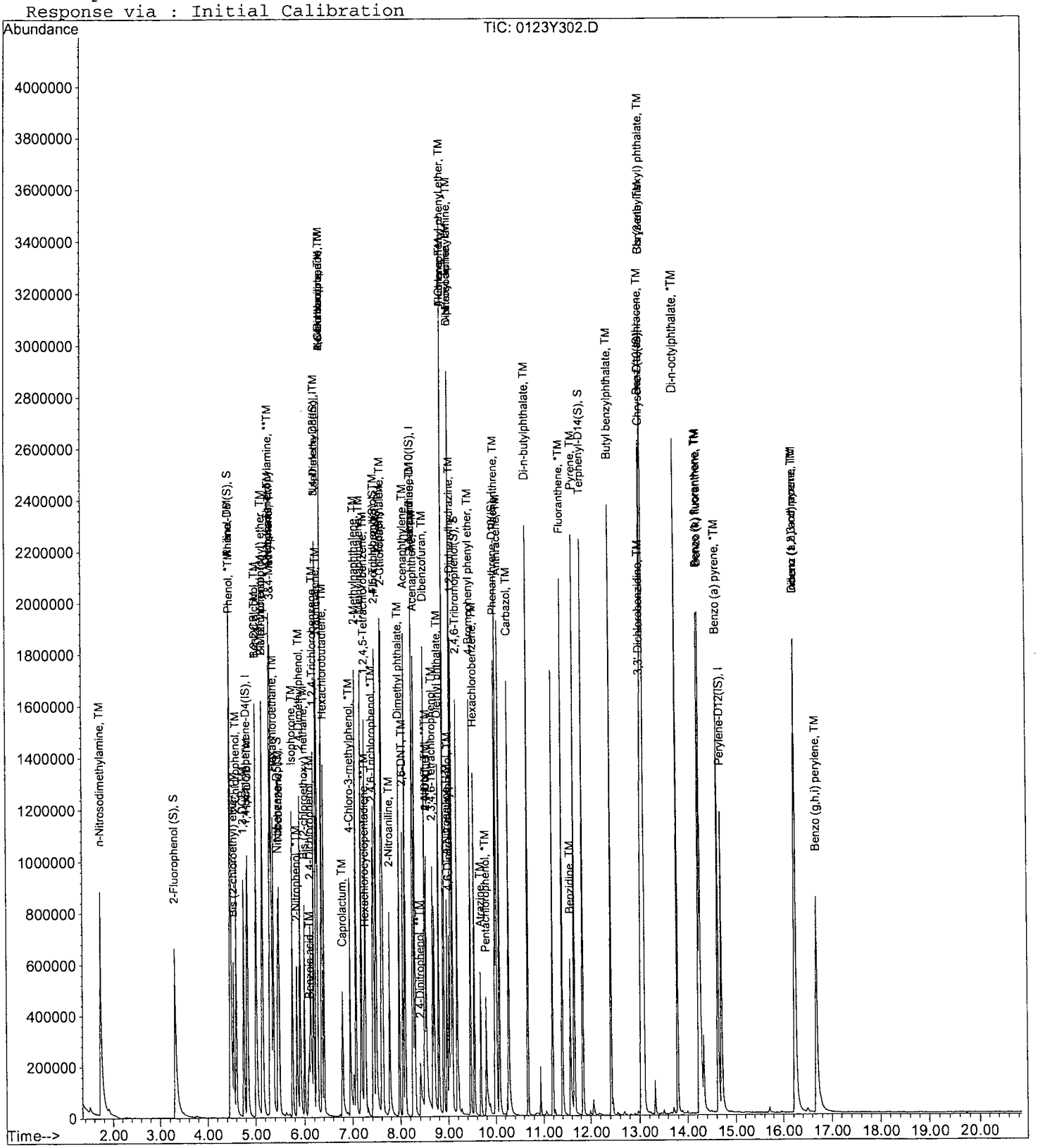
Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



323

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216940**
Batch ID: #87DC5-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	57.0	43-140			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	55.3	44-119			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.9	19-119			%	03/11/17	03/14/17
BLANK	SURROGATE: NITROBENZENE-	56.9	44-120			%	03/11/17	03/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	28.4	10-115			%	03/11/17	03/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	58.1	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y290
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 11:37:19 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y290.D Vial: 90
Acq On : 14 Mar 17 10:03 Operator: MA
Sample : 170311A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:35 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	156534	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	667734	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	395844	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	730021	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	738810	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	767946	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	433935	87.88188 ppb	-0.02
Spiked Amount 200.000			Recovery	= 43.941%	
5) Phenol-D6 (S)	4.46	99	372674	56.72887 ppb	0.00
Spiked Amount 200.000			Recovery	= 28.365%	
21) Nitrobenzene-D5(S)	5.46	82	385071	56.86366 ppb	0.00
Spiked Amount 100.000			Recovery	= 56.864%	
45) 2-Fluorobiphenyl(S)	7.49	172	702589	55.32767 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.328%	
63) 2,4,6-Tribromophenol(S)	9.19	330	208729	113.92057 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.961%	
81) Terphenyl-D14(S)	11.85	244	923225	58.09739 ppb	0.00
Spiked Amount 100.000			Recovery	= 58.097%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

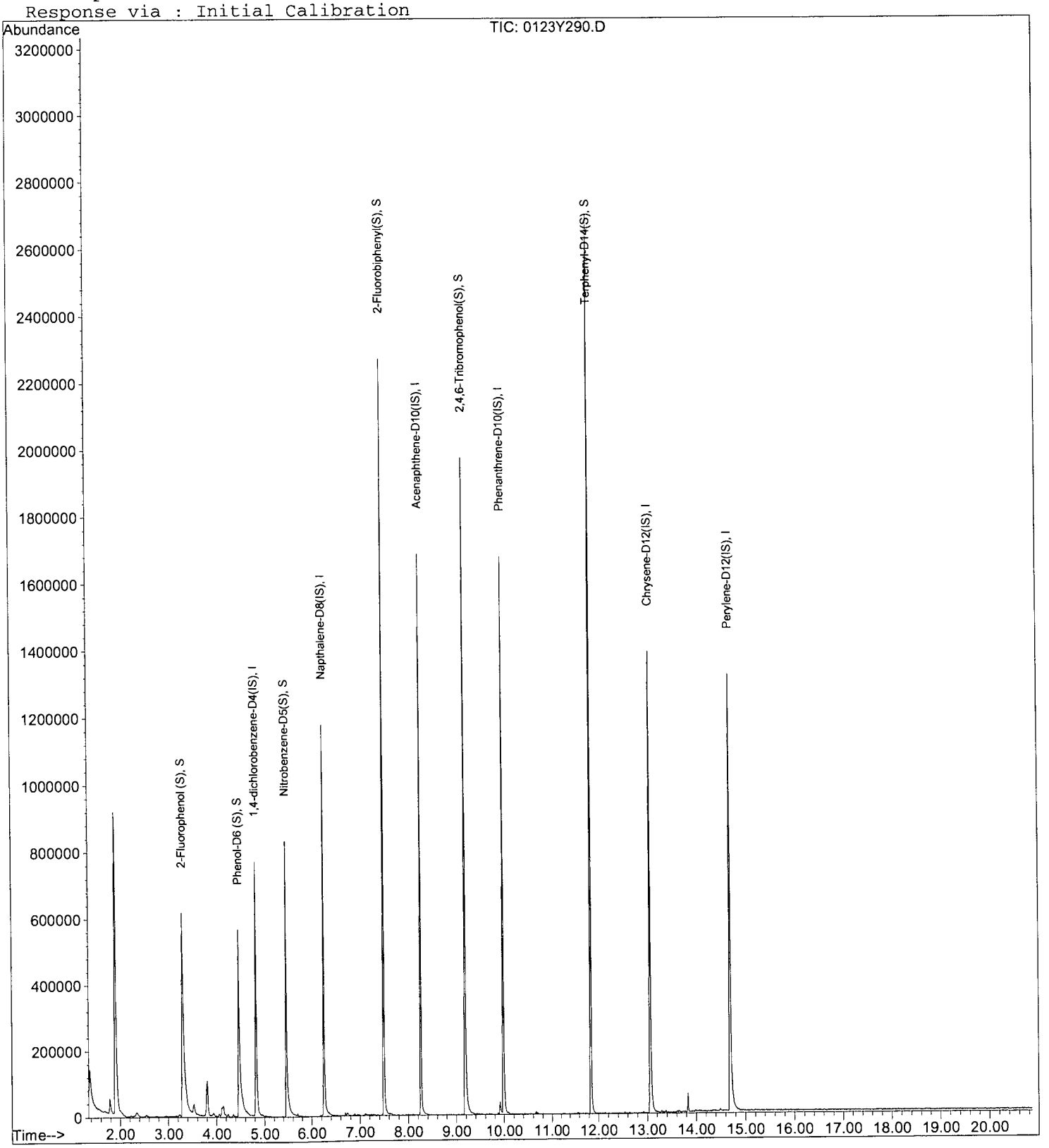
Data File : M:\YODA\DATA\Y170123\0123Y290.D
Acq On : 14 Mar 17 10:03
Sample : 170311A BLK 1/1000
Misc : water

Vial: 90
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:35 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170311W-51357 LCS - 216940**
Batch ID: #87DC5-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.0	38.0	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	111	55.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	52.7	52.7	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	85.4	42.7	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	58.0	58.0	44-120
SURROGATE: PHENOL-D6 (S)	200	55.2	27.6	10-115
SURROGATE: TERPHENYL-D14 (S)	100	57.8	57.8	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/11/17
Analysis Date :	03/14/17
Instrument :	Yoda
Run :	0123Y291
Initials :	MA

Printed: 03/16/17 11:37:19 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y291.D
Acq On : 14 Mar 17 10:33
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 91
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:49 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	144538	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	639616	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	381415	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	705712	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	703810	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	747749	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	389263	85.37769 ppb	-0.02
Spiked Amount 200.000			Recovery	= 42.689%	
5) Phenol-D6 (S)	4.47	99	334776	55.18944 ppb	0.00
Spiked Amount 200.000			Recovery	= 27.595%	
21) Nitrobenzene-D5(S)	5.46	82	376248	58.00325 ppb	0.00
Spiked Amount 100.000			Recovery	= 58.003%	
45) 2-Fluorobiphenyl(S)	7.49	172	644499	52.67319 ppb	0.00
Spiked Amount 100.000			Recovery	= 52.673%	
63) 2,4,6-Tribromophenol(S)	9.19	330	195471	110.72049 ppb	0.00
Spiked Amount 200.000			Recovery	= 55.360%	
81) Terphenyl-D14(S)	11.85	244	875227	57.81587 ppb	0.00
Spiked Amount 100.000			Recovery	= 57.816%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	115173	33.33880 ppb		100
3) Pyridine	1.74	79	187506	27.28589 ppb		92
6) Phenol	4.48	94	132306	19.00152 ppb	#	73
7) Aniline	4.47	66	173264	26.21307 ppb	#	47
8) Bis (2-chloroethyl) ether	4.54	63	123306	36.18173 ppb		97
9) 2-Chlorophenol	4.60	128	198917	36.94183 ppb		97
10) 1,3-DCB	4.75	146	164588	28.97532 ppb		97
11) 1,4-DCB	4.84	146	166410	28.50900 ppb		99
12) Benzyl alcohol	5.01	108	116263	37.90912 ppb		88
13) 1,2-DCB	5.01	146	163174	30.67028 ppb		94
14) 2-Methylphenol	5.15	107	136932	34.02775 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	279671	37.40159 ppb	#	82
16) Acetophenone	5.29	105	273326	38.11587 ppb		99
17) 3&4-Methylphenol	5.32	107	335859	64.27152 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	148808	37.38157 ppb		95
19) Hexachloroethane	5.38	117	62643	26.09914 ppb		99
22) Nitrobenzene	5.48	77	231541	35.76047 ppb		99
23) Isophorone	5.75	82	399189	37.13364 ppb		94
24) 2-Nitrophenol	5.84	139	114925	37.84520 ppb		98
25) 2,4-Dimethylphenol	5.90	122	150441	30.64142 ppb		99
26) Benzoic acid	6.07	105	46004	17.01874 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	228831	36.76727 ppb		99
28) 2,4-Dichlorophenol	6.13	162	174570	37.36472 ppb		97
29) 1,2,4-Trichlorobenzene	6.19	180	156681	30.35026 ppb		98
30) 3,4-Dimethylphenol	6.25	107	249534	33.75813 ppb		97
31) Naphthalene	6.28	128	556587	33.28297 ppb		98
32) 4-Chloroaniline	6.36	127	243080	41.38028 ppb		98
33) 2,6-Dichlorophenol	6.37	162	160761	37.17963 ppb		95
34) Hexachloropropene	6.37	213	90282	24.05771 ppb		96
35) Hexachlorobutadiene	6.42	225	79064	25.82785 ppb		99
37) 4-Chloro-3-methylphenol	6.94	107	185480	36.63712 ppb		99
38) 2-Methylnaphthalene	7.07	142	369591	34.02061 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y291.D
Acq On : 14 Mar 17 10:33
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 91
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:49 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) 1-Methylnaphthalene	7.18	142	368042	34.39357 ppb	99
41) Hexachlorocyclopentadiene	7.24	237	21364	18.43178 ppb	96
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	170813	33.09667 ppb	95
43) 2,4,6-Trichlorophenol	7.42	196	122187	37.73123 ppb	97
44) 2,4,5-Trichlorophenol	7.47	196	123909	34.88246 ppb	96
46) 1,1'-Biphenyl	7.60	154	495634	34.63490 ppb	99
47) 2-Chloronaphthalene	7.62	162	380696	34.81582 ppb	96
48) 2-Nitroaniline	7.77	65	142449	36.53405 ppb	94
49) Dimethyl phthalate	7.97	163	482673	36.81340 ppb	100
50) 2,6-DNT	8.06	165	109980	37.57362 ppb	95
51) Acenaphthylene	8.10	152	600699	34.11845 ppb	99
52) 3-Nitroaniline	8.25	138	121797	38.04834 ppb	93
53) Acenaphthene	8.30	154	372907	34.35878 ppb	96
54) 2,4-Dinitrophenol	8.41	184	44999	36.06795 ppb	95
56) Dibenzofuran	8.50	168	555594	36.25581 ppb	88
57) 2,4-DNT	8.53	165	153321	37.56688 ppb	94
58) 2,3,4,6-Tetrachlorophenol	8.67	232	100419	35.89131 ppb	97
59) Diethyl phthalate	8.79	149	489716	36.88525 ppb	96
60) 4-Chlorophenyl phenyl ethe	8.90	204	211860	35.49567 ppb	94
61) Fluorene	8.89	166	436803	35.21094 ppb	96
62) 4-Nitroaniline	8.97	138	111827	36.72211 ppb	98
65) 4,6-Dinitro-2-methylphenol	9.01	198	88871	37.10643 ppb	95
66) Diphenyl amine	9.05	169	676965	74.40106 ppb	98
67) n-Nitrosodiphenylamine	9.05	169	676965	74.40106 ppb	98
68) 1,2-Diphenylhydrazine	9.09	77	669489	42.14623 ppb	94
69) 4-Bromophenyl phenyl ether	9.47	248	132106	37.04944 ppb	88
70) Hexachlorobenzene	9.54	284	139588	37.52834 ppb	94
71) Atrazine	9.68	200	69974	19.86716 ppb	97
72) Pentachlorophenol	9.79	266	53439	35.42771 ppb	93
73) Phenanthrene	10.01	178	705044	36.61624 ppb	99
74) Anthracene	10.07	178	734056	36.54969 ppb	99
75) Carbazol	10.28	167	674104	37.91419 ppb	99
76) Di-n-butylphthalate	10.68	149	860676	38.30783 ppb	98
77) Fluoranthene	11.39	202	780858	37.35590 ppb	99
80) Pyrene	11.65	202	849344	37.63158 ppb	100
82) Butyl benzylphthalate	12.41	149	397593	38.09949 ppb	79
83) 3,3'-Dichlorobenzidine	13.03	252	290066	40.98905 ppb	94
84) Benz (a) anthracene	13.04	228	761958	35.89553 ppb	99
85) Bis (2-ethylhexyl) phthala	13.08	149	550070	37.47625 ppb	98
86) Chrysene	13.09	228	762243	36.61186 ppb	100
87) Di-n-octylphthalate	13.80	149	992705	39.48111 ppb	91
89) Benzo (b) fluoranthene	14.24	252	880087	37.80848 ppb	99
90) Benzo (k) fluoranthene	14.27	252	718687	33.50010 ppb	99
91) Benzo (a) pyrene	14.63	252	769705	36.20495 ppb	99
92) Indeno (1,2,3-cd) pyrene	16.24	276	830341	34.83959 ppb	98
93) Dibenz (a,h) anthracene	16.25	278	698411	34.42423 ppb	98
94) Benzo (g,h,i) perylene	16.68	276	694444	34.72818 ppb	98

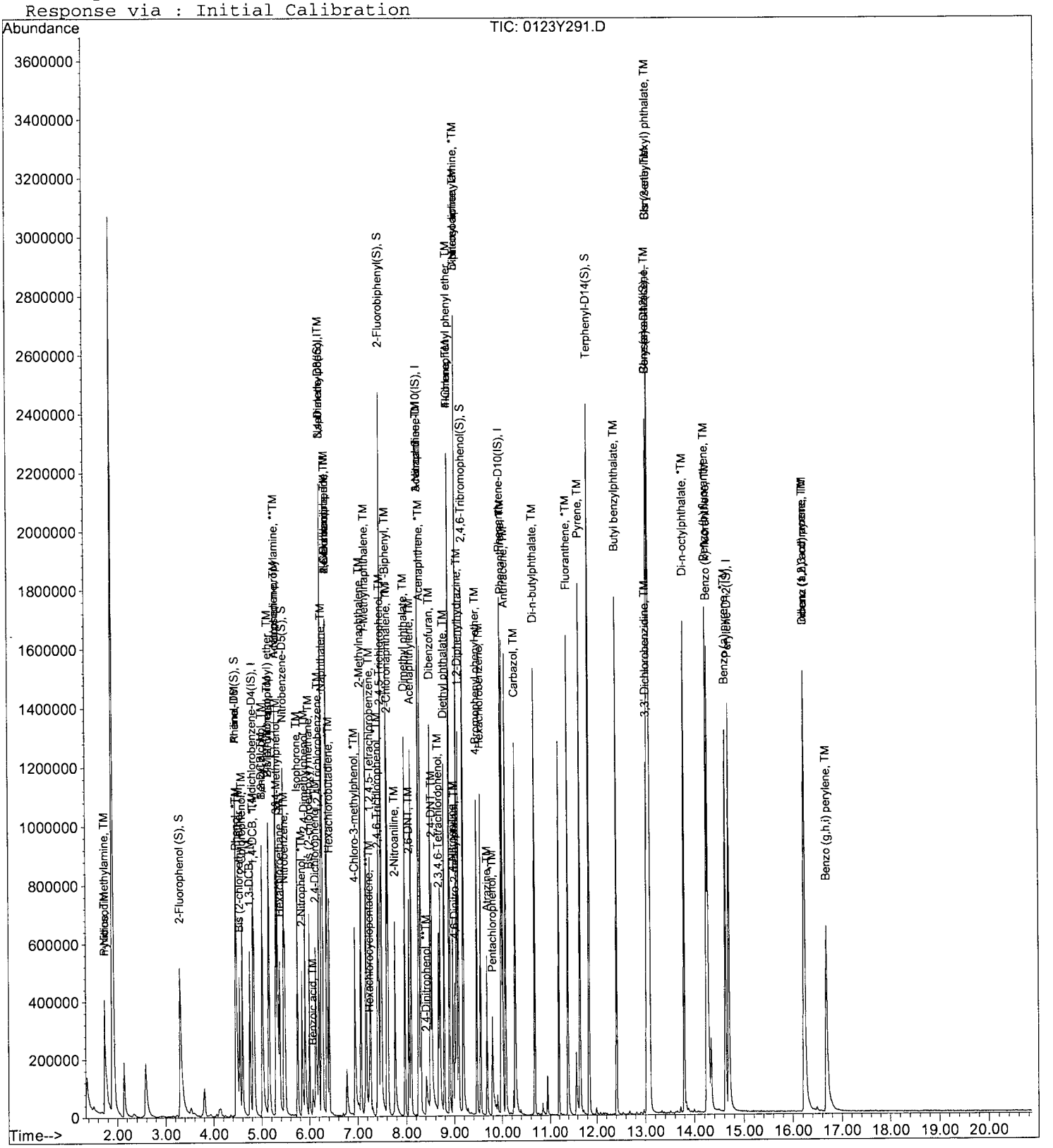
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y291.D Vial: 91
Acq On : 14 Mar 17 10:33 Operator: MA
Sample : 170311A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:49 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration

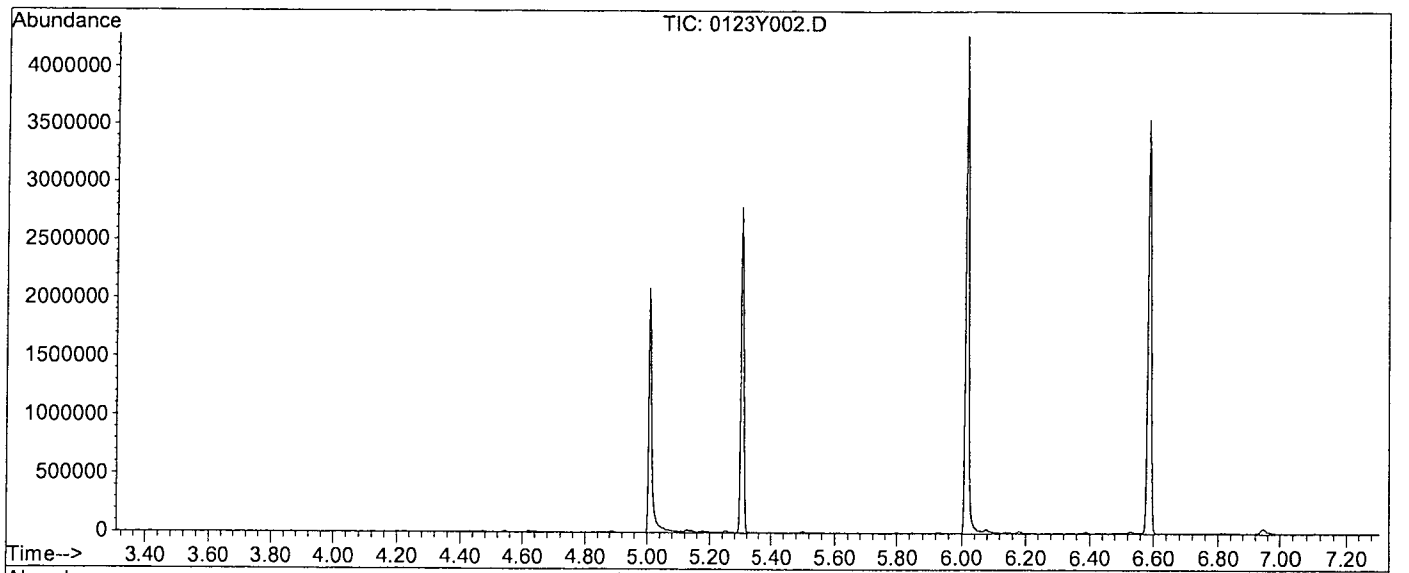


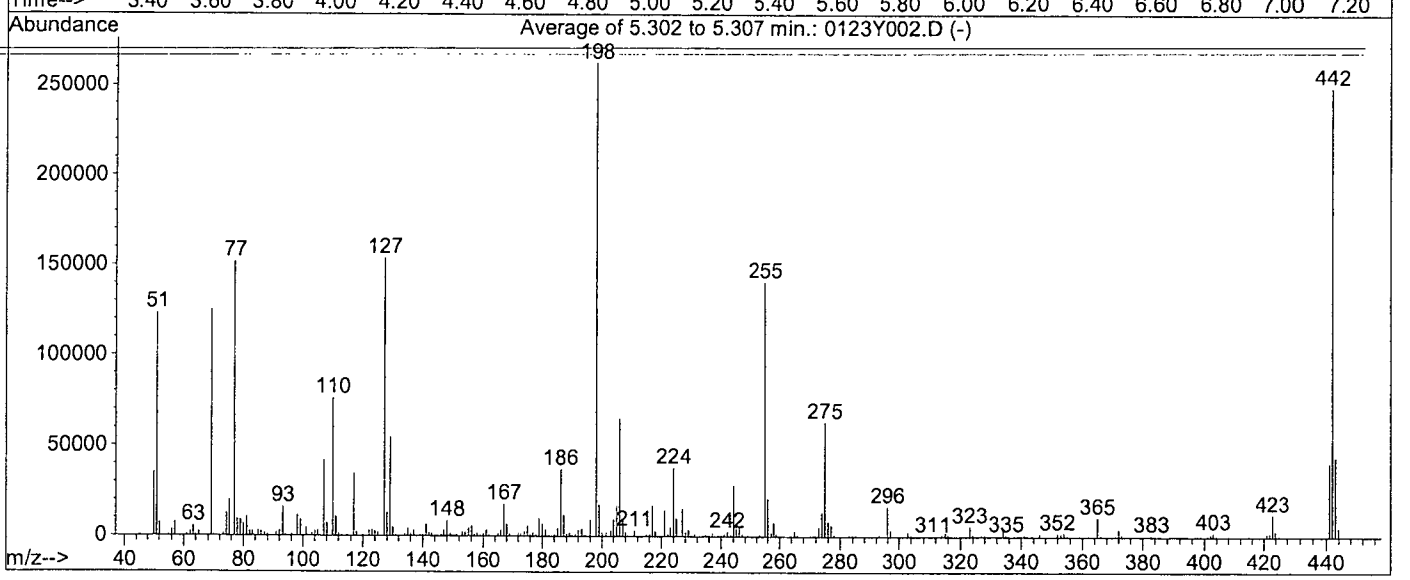
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

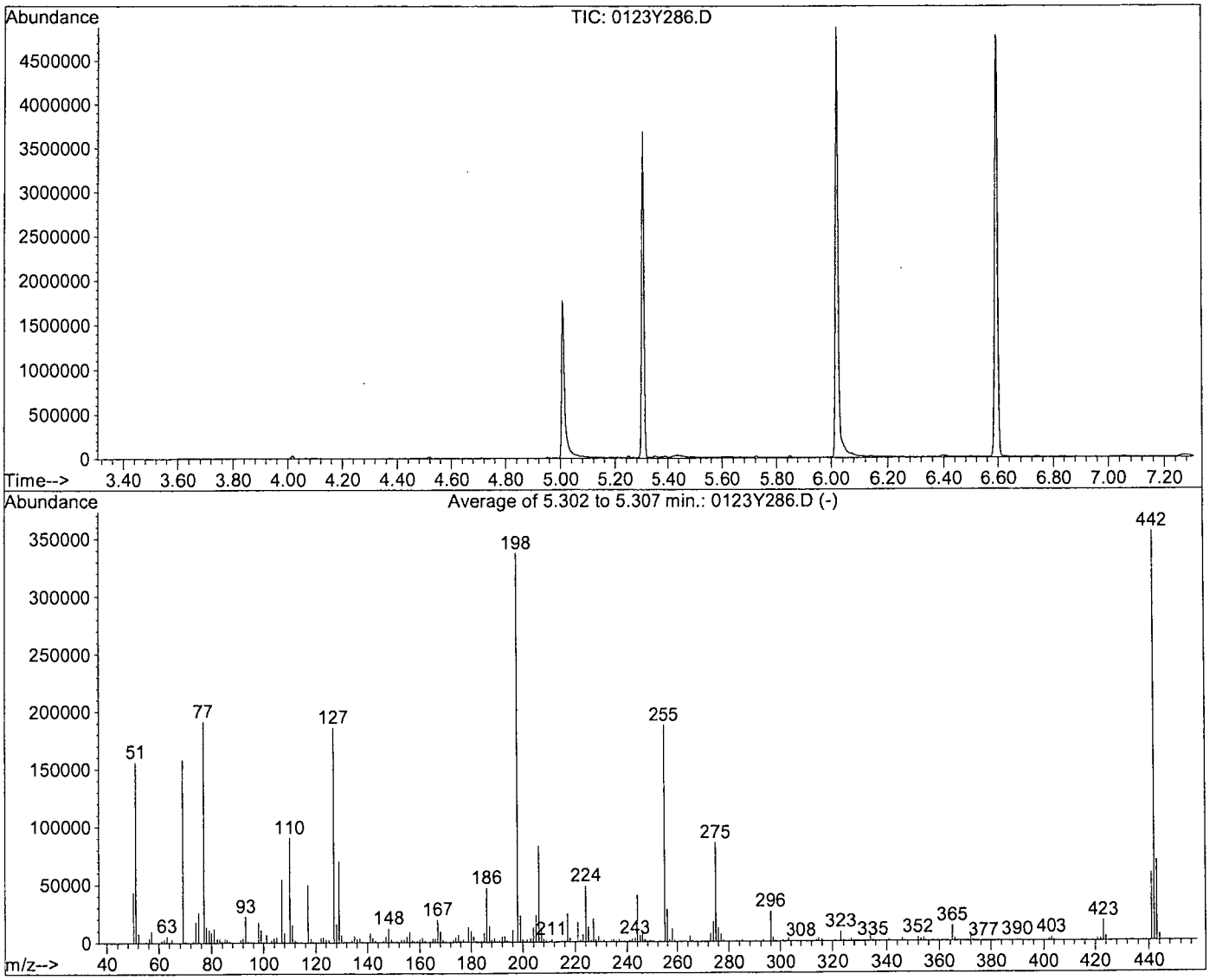
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

0123Y002.D Y0123.M Wed Mar 15 16:48:40 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y286.D Vial: 86
Acq On : 14 Mar 17 7:44 Operator: MA
Sample : SV Tune 02/09/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.3	156309	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1266	PASS
127	198	40	60	55.1	186048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	337408	PASS
199	198	5	9	6.7	22669	PASS
275	198	10	30	25.4	85576	PASS
365	198	1	100	3.9	13181	PASS
441	443	0.01	100	84.0	58536	PASS
442	198	50	150	105.4	355755	PASS
443	442	17	23	19.6	69672	PASS

0123Y286.D Y0123.M Wed Mar 15 16:18:20 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	53014-3713	01/19/17	05/30/17	1000
Absolute	10002	2000	62216-3714	01/19/17	01/19/18	1000
Absolute	10004	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	10005	2000	10314-3713	01/19/17	01/19/18	1000
Absolute	10006	2000	81216-3707	01/19/17	01/19/18	1000
Absolute	10007	2000	20515-3714	01/19/17	01/19/18	1000
Absolute	10018	2000	90216-3715	01/19/17	01/19/18	1000
Absolute	70023	1000	83121-3715	01/19/17	01/19/18	1000
Absolute	82705	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	94552	2000	42016-3686	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170311A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 2-14-17 EXP 5-30-17	Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2		Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	NO	
Spiked ID 7		Ext. Start Time:	03/11/17 7:36	
Spiked ID 8		Ext. End Time:	03/13/17 12:25	
		GC Requires Extract By:	03/14/17 0:00	

pH1	2	03/11/17 7:50:00 AM	Water Bath Temp Criteria	71 °C
pH2	14	3/11/17 10:00:00 AM		
pH3				

Spiked By: DL **Date** 03/11/17 **Witnessed By:** JR **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A Blk				1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
2	170311A LCS-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
3	170311A LCSD-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
4	AZ51357	AZ51357W11			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
5	AZ51359	AZ51359W16			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
6	AZ51360	AZ51360W11			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
7	AZ51362	AZ51362W11			1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
8	AZ51364	AZ51364W12			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
9	AZ51530	AZ51530W12			1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
10	AZ51533	AZ51533W12			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
11	AZ51535	AZ51535W13			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
12	AZ51536	AZ51536W08			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS

KY 3/13/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-14-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/13/17
Time	1:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL,JR
Extraction	KY,DL,JR
Concentration	DL

Modified	03/13/17 12:26:27 PM

Reviewed By: KY 342 **Date** 3/13/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
86	0123Y286.D	1	SV Tune 02/09/16	water	14 Mar 17 7:44
87	0123Y287.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 8:01
90	0123Y290.D	1	170311A BLK 1/1000	water	14 Mar 17 10:03
91	0123Y291.D	1	170311A LCS-1 1/1000	water	14 Mar 17 10:33
92	0123Y292.D	0.93458	AZ51357W11 1/1070	water	14 Mar 17 11:04
93	0123Y293.D	0.93458	AZ51359W16 1/1070	water	14 Mar 17 11:35
94	0123Y294.D	0.93458	AZ51360W11 1/1070	water	14 Mar 17 12:06
95	0123Y295.D	1	AZ51362W11 1/1000	water	14 Mar 17 12:37
96	0123Y296.D	0.93458	AZ51364W12 1/1070	water	14 Mar 17 13:08
2	0123Y302.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 16:14

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:38:52 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:38:53 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82369
Matrix: WATER
Blank ID: 170310A-BLK

SDG No: 82369
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 1034

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A-BLK	Blank	1220Y136	03/13/17 1034
170310A-LCS	Lab Control Spike	1220Y137	03/13/17 1104
AZ51357	ERH265	1220Y151	03/13/17 1842
AZ51359	ERH272	1220Y152	03/13/17 1912
AZ51360	ERH281	1220Y153	03/13/17 1943
AZ51362	ERH280	1220Y154	03/13/17 2013
AZ51364	ERH284	1220Y155	03/13/17 2044

Comments: Batch: #87DME-170310A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 11/15/16

SDG No: 82369
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82369
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 9:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y135.D	03/13/17 10:03
2	Blank	170310A BLK 2/500	1220Y136.D	03/13/17 10:34
3	Lab Control Spike	170310A LCS-1 2/500	1220Y137.D	03/13/17 11:04
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.2
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.1
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	84.2
442	50 - 150% of mass 197.95	95.9
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82369
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 17:54

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y150.D	03/13/17 18:11
2	ERH265	AZ51357W10 2/500	1220Y151.D	03/13/17 18:42
3	ERH272	AZ51359W12 2/500	1220Y152.D	03/13/17 19:12
4	ERH281	AZ51360W07 2/500	1220Y153.D	03/13/17 19:43
5	ERH280	AZ51362W10 2/500	1220Y154.D	03/13/17 20:13
6	ERH284	AZ51364W09 2/500	1220Y155.D	03/13/17 20:44
7		500ug/ml DEG 02/14/1	1220Y162.D	03/13/17 23:57
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.9
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	86.0
442	50 - 150% of mass 198	100.7
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82369

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	220710	4.87	916121	6.29	479952	8.31
	UPPER LIMIT	441420	5.37	1832242	6.79	959904	8.81
	LOWER LIMIT	110355	4.37	458061	5.79	239976	7.81
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	177553	4.84	746186	6.26	429159	8.26
02	170310A BLK 2/500	140695	4.83	637834	6.26	358479	8.26
03	170310A LCS-1 2/500	136004	4.82	614588	6.25	356092	8.26
04	500ug/ml DEG 02/14/17	178165	4.83	786911	6.25	435104	8.26
05	AZ51357W10 2/500	143389	4.83	644978	6.25	380702	8.26
06	AZ51359W12 2/500	150205	4.84	681072	6.25	397281	8.26
07	AZ51360W07 2/500	156855	4.83	677569	6.25	391857	8.26
08	AZ51362W10 2/500	146874	4.83	659198	6.25	382130	8.26
09	AZ51364W09 2/500	143791	4.83	643785	6.25	378625	8.26
10	500ug/ml DEG 02/14/17	172231	4.83	758796	6.25	417981	8.26
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82369

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	771605	9.99	734679	13.06	537954	14.69
02	170310A BLK 2/500	680715	9.99	651186	13.06	671686	14.69
03	170310A LCS-1 2/500	658238	9.99	636142	13.06	624209	14.69
04	500ug/ml DEG 02/14/17	815094	9.99	761306	13.06	583729	14.69
05	AZ51357W10 2/500	729034	9.99	685001	13.06	684502	14.69
06	AZ51359W12 2/500	739752	9.99	702292	13.06	679857	14.69
07	AZ51360W07 2/500	746115	9.99	701926	13.06	702485	14.69
08	AZ51362W10 2/500	703439	9.99	674619	13.06	676704	14.69
09	AZ51364W09 2/500	732287	9.99	692007	13.06	694487	14.69
10	500ug/ml DEG 02/14/17	787821	9.98	740065	13.06	545491	14.69
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y151
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:38:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y151.D Vial: 51
Acq On : 13 Mar 17 18:42 Operator: MA
Sample : AZ51357W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	143389	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	644978	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	380702	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	729034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	685001	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	684502	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

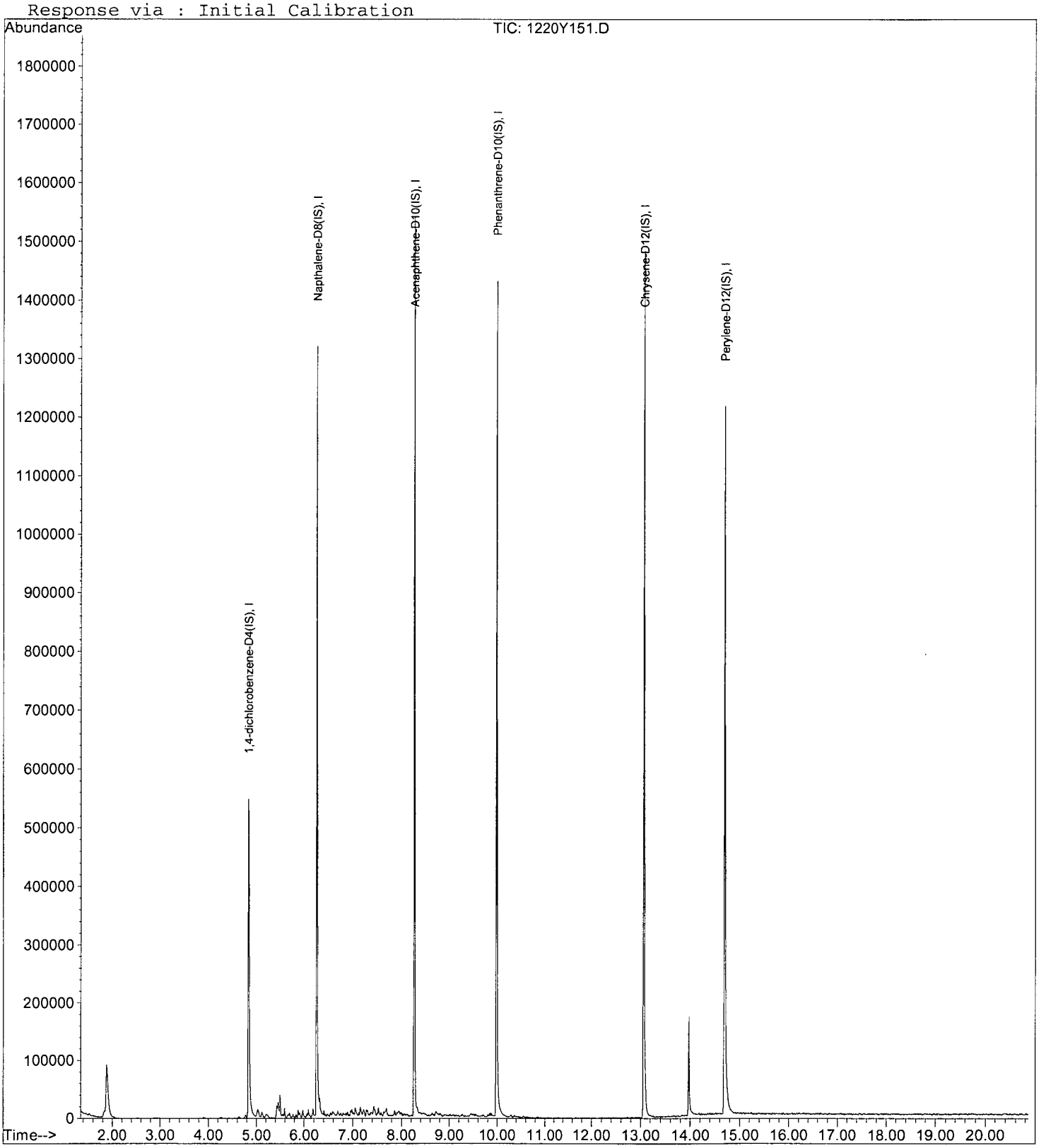
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y151.D Vial: 51
Acq On : 13 Mar 17 18:42 Operator: MA
Sample : AZ51357W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y152
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:38:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y152.D Vial: 52
Acq On : 13 Mar 17 19:12 Operator: MA
Sample : AZ51359W12 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	150205	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	681072	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	397281	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	739752	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	702292	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	679857	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

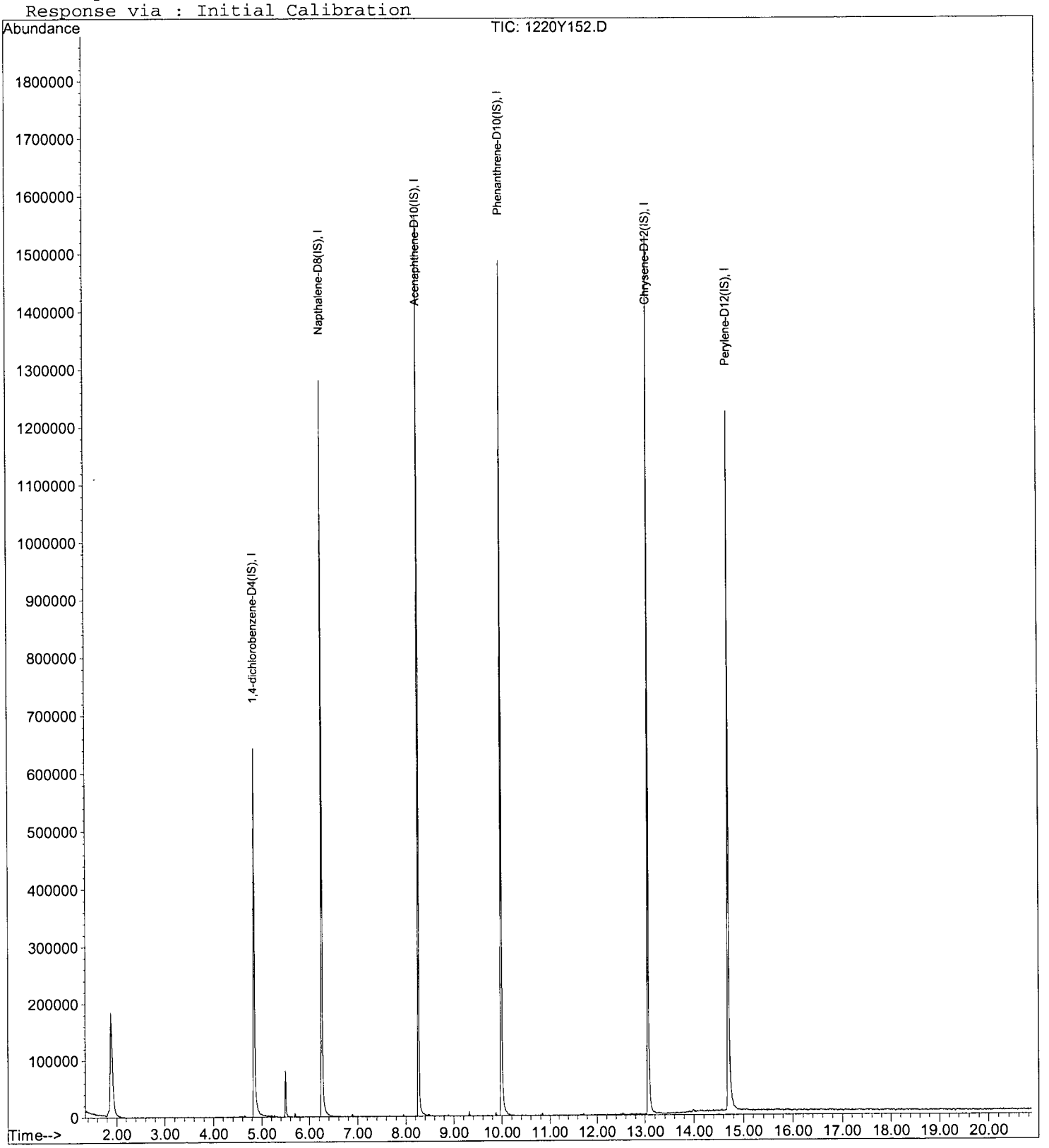
Data File : M:\YODA\DATA\Y161220G\1220Y152.D
Acq On : 13 Mar 17 19:12
Sample : AZ51359W12 2/500
Misc : water

Vial: 52
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y153
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:38:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y153.D Vial: 53
Acq On : 13 Mar 17 19:43 Operator: MA
Sample : AZ51360W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	156855	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	677569	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	391857	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	746115	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	701926	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	702485	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

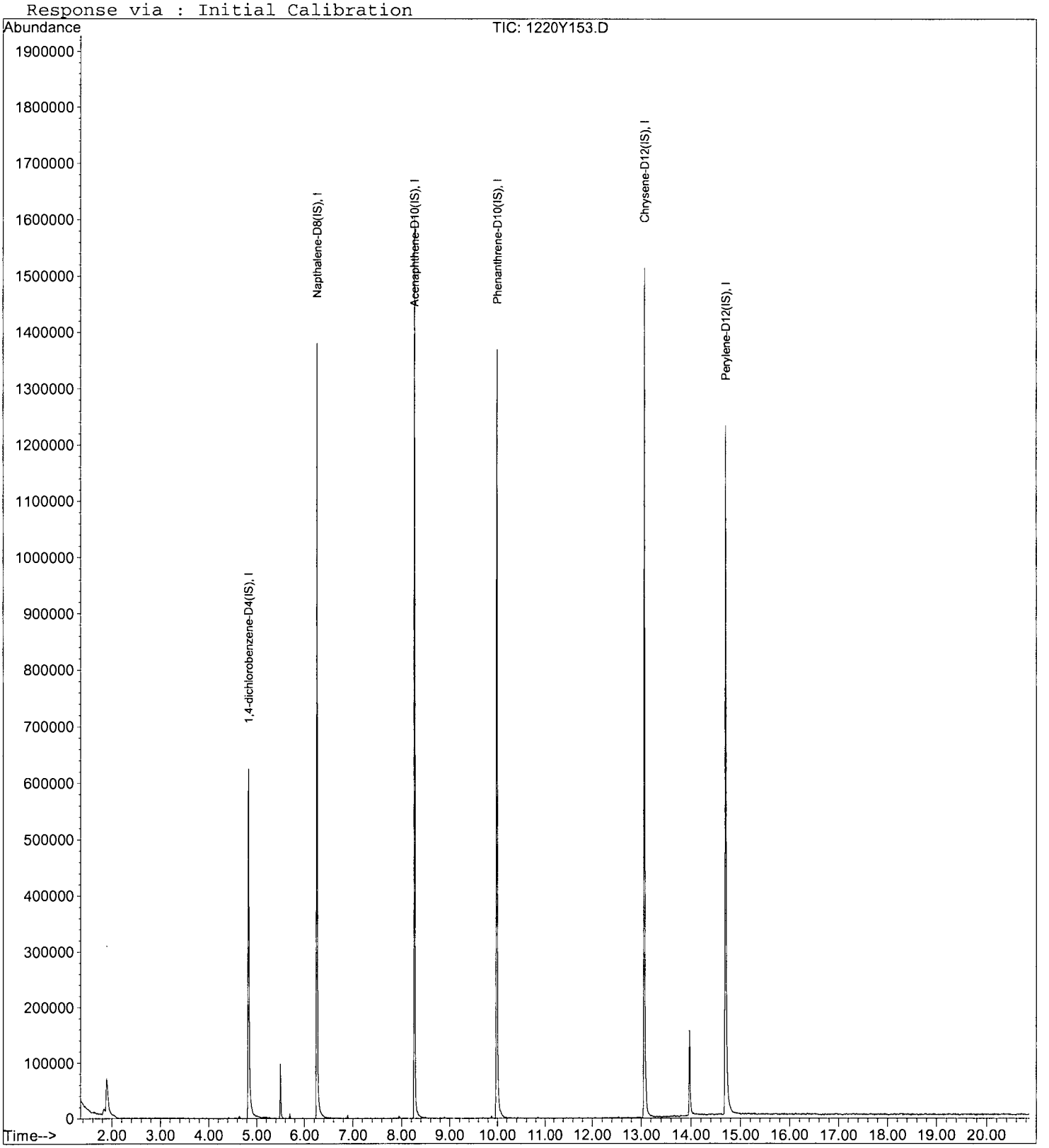
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y153.D Vial: 53
Acq On : 13 Mar 17 19:43 Operator: MA
Sample : AZ51360W07 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y154
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:38:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y154.D Vial: 54
Acq On : 13 Mar 17 20:13 Operator: MA
Sample : AZ51362W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:26 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	146874	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	659198	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	382130	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	703439	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	674619	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	676704	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

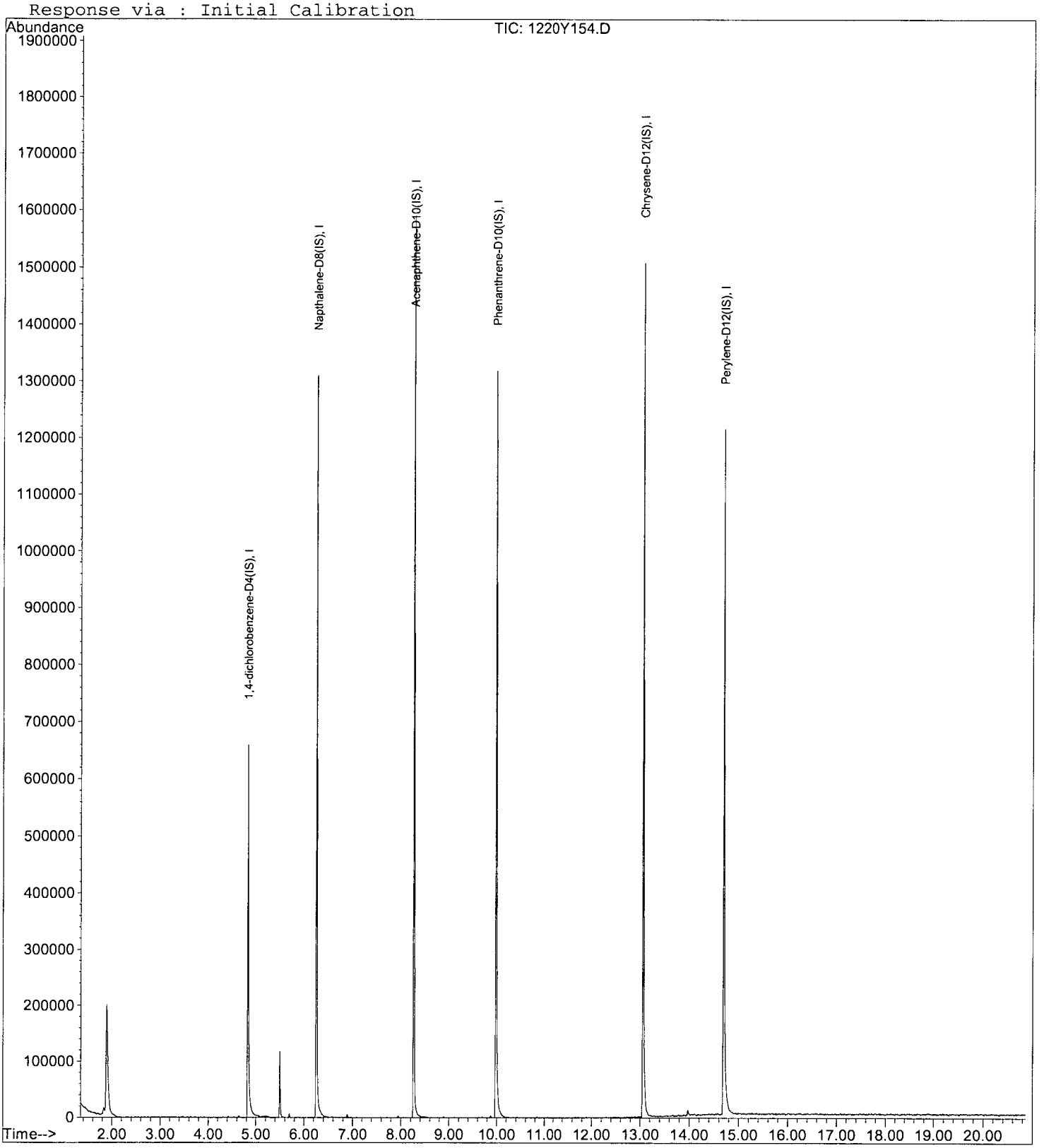
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y154.D Vial: 54
Acq On : 13 Mar 17 20:13 Operator: MA
Sample : AZ51362W10 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:26 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y155
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:38:55 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y155.D Vial: 55
Acq On : 13 Mar 17 20:44 Operator: MA
Sample : AZ51364W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	143791	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	643785	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	378625	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	732287	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	692007	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	694487	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

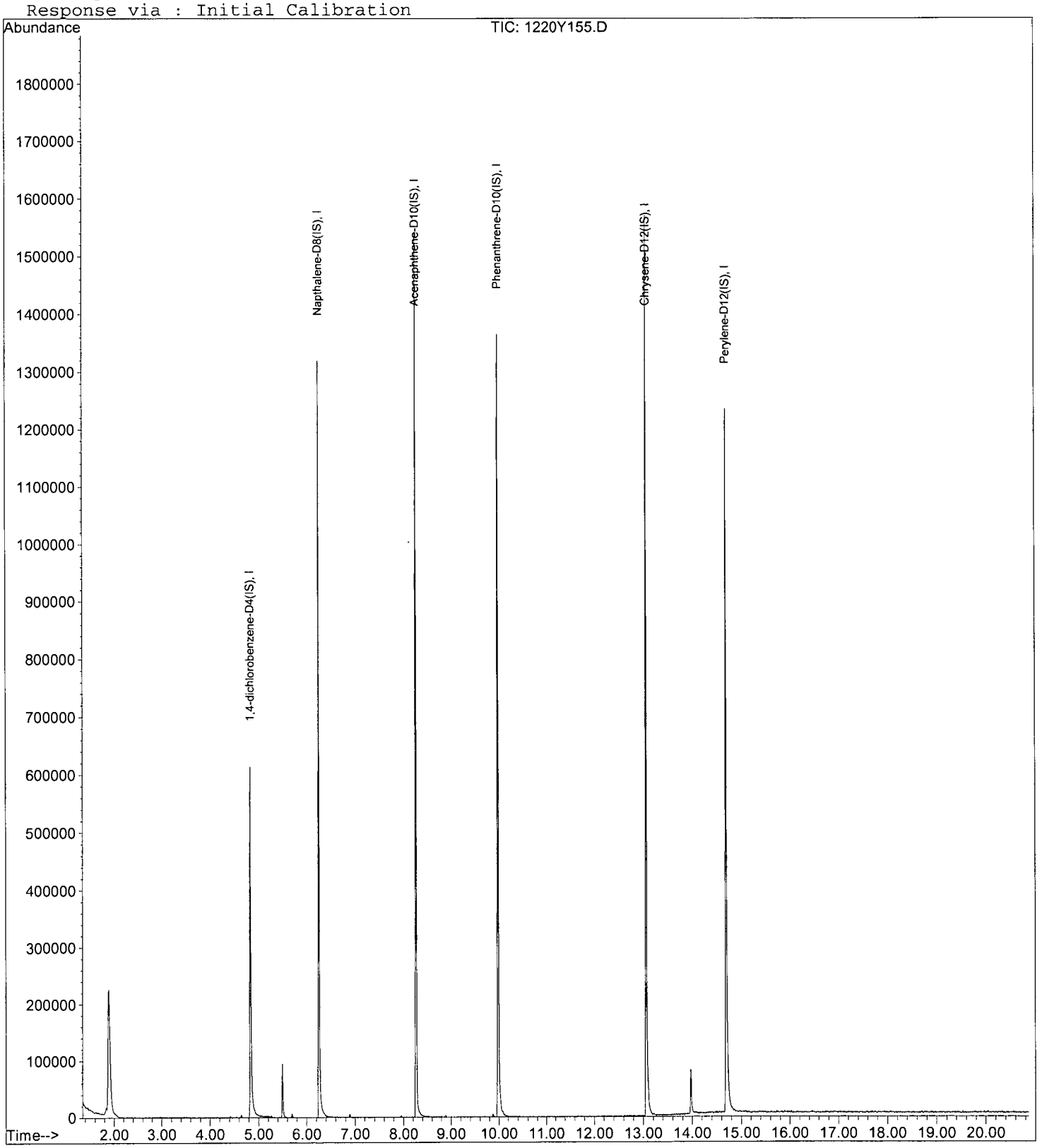
Data File : M:\YODA\DATA\Y161220G\1220Y155.D
Acq On : 13 Mar 17 20:44
Sample : AZ51364W09 2/500
Misc : water

Vial: 55
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

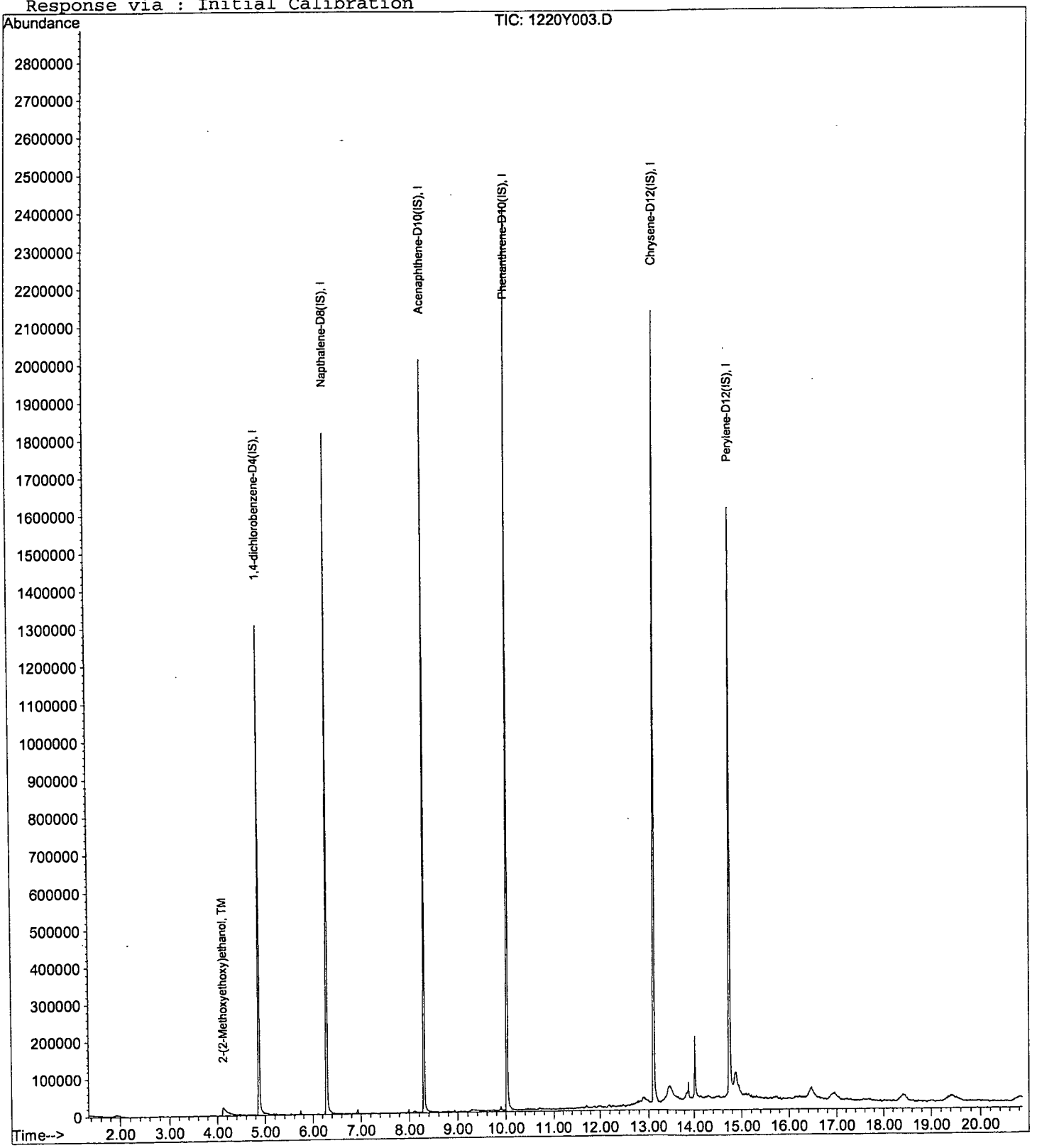
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

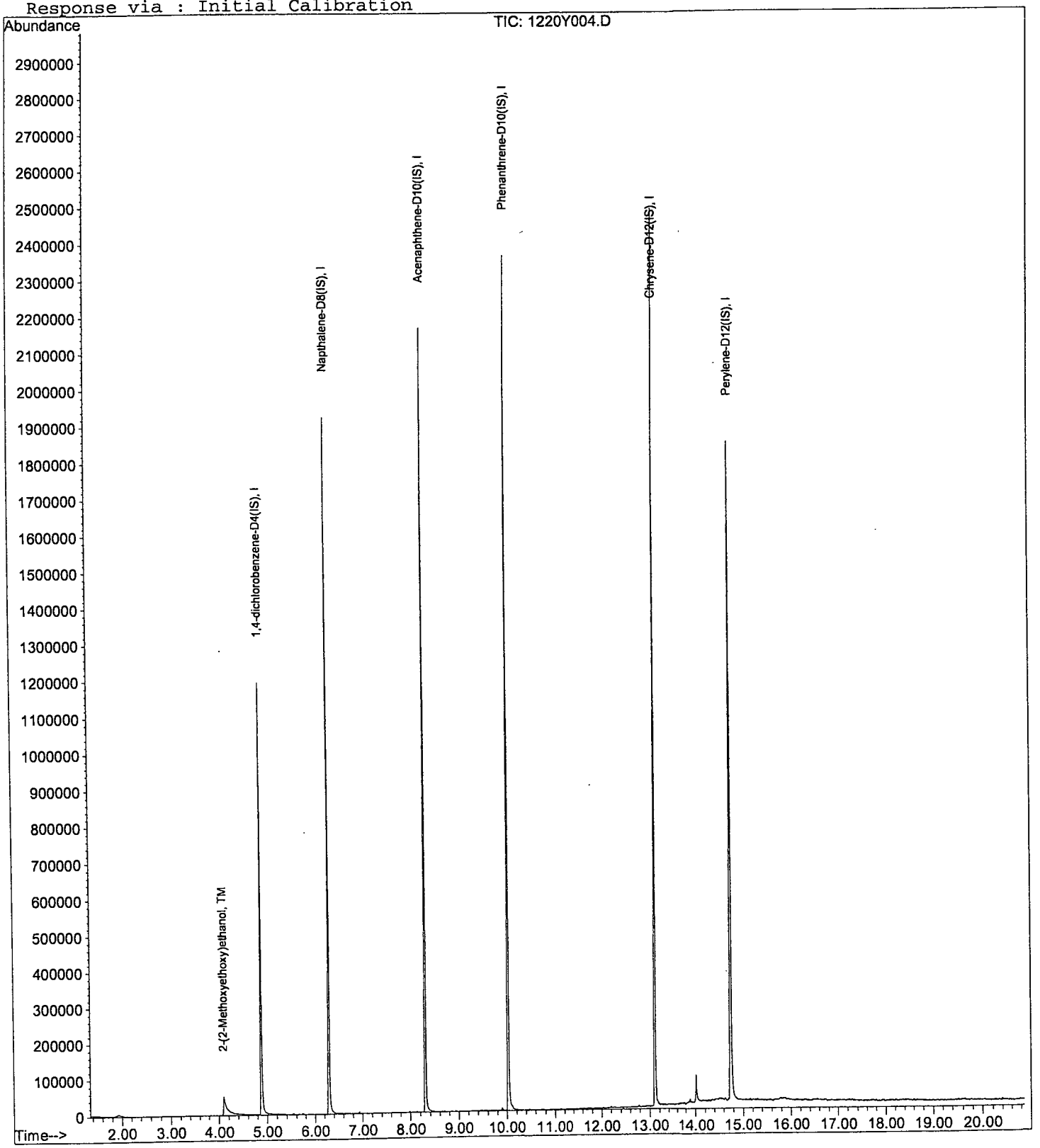
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y005.D Y0GLYCOL.M Thu Jan 19 15:31:38 2017

Quantitation Report

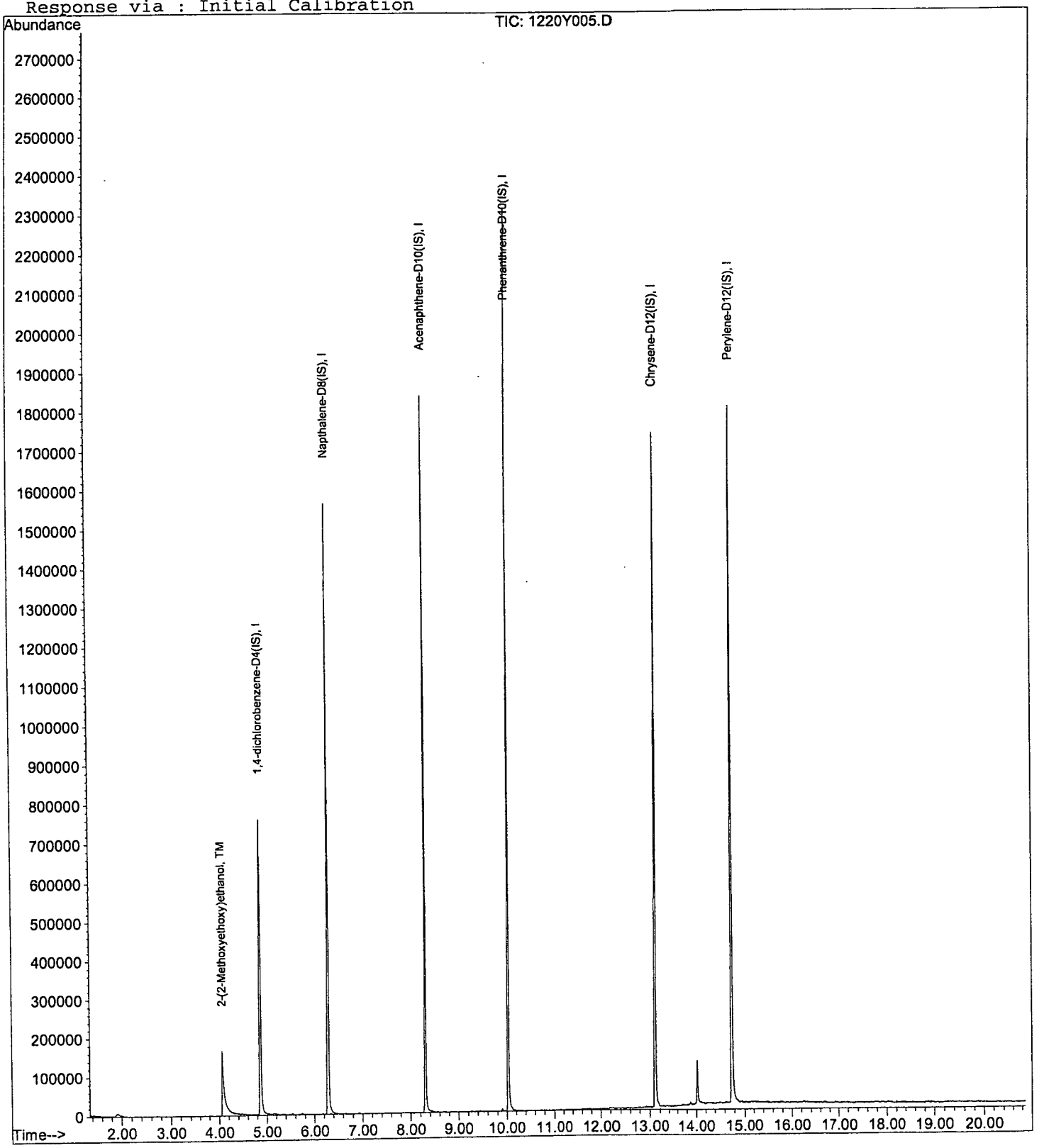
Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

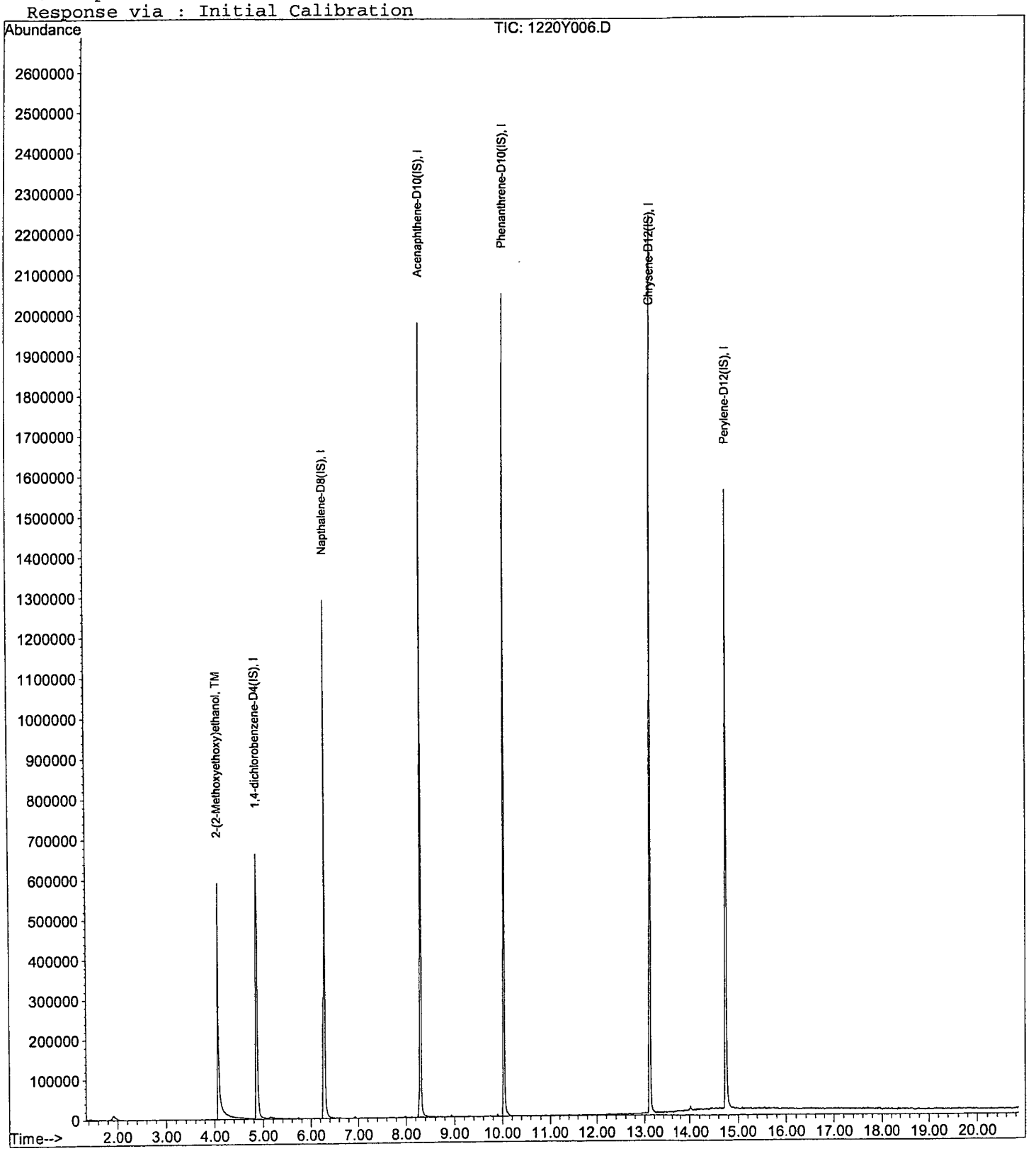
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration
1220Y007.D Y0GLYCOL.M Thu Jan 19 15:34:55 2017

Quantitation Report

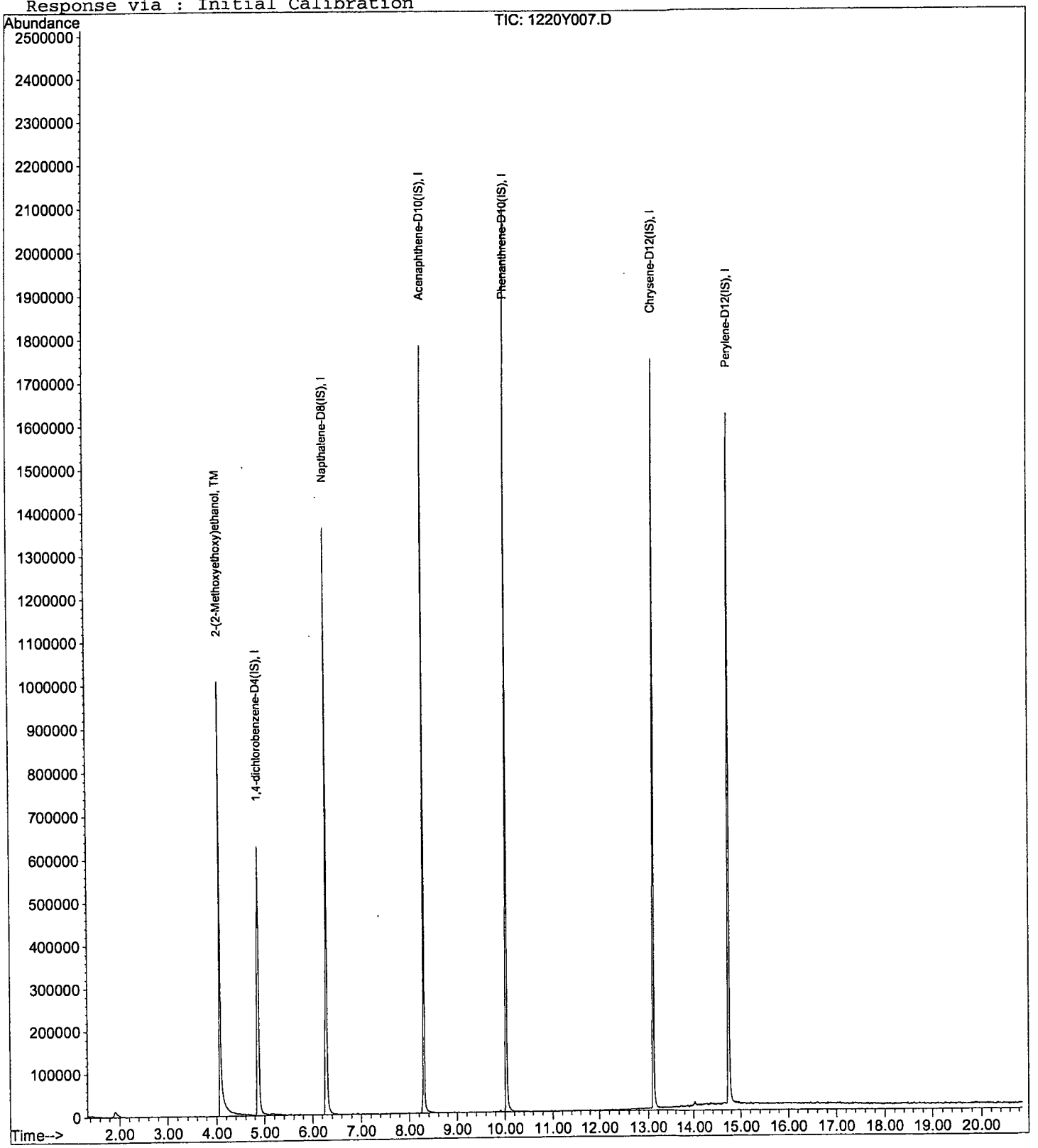
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

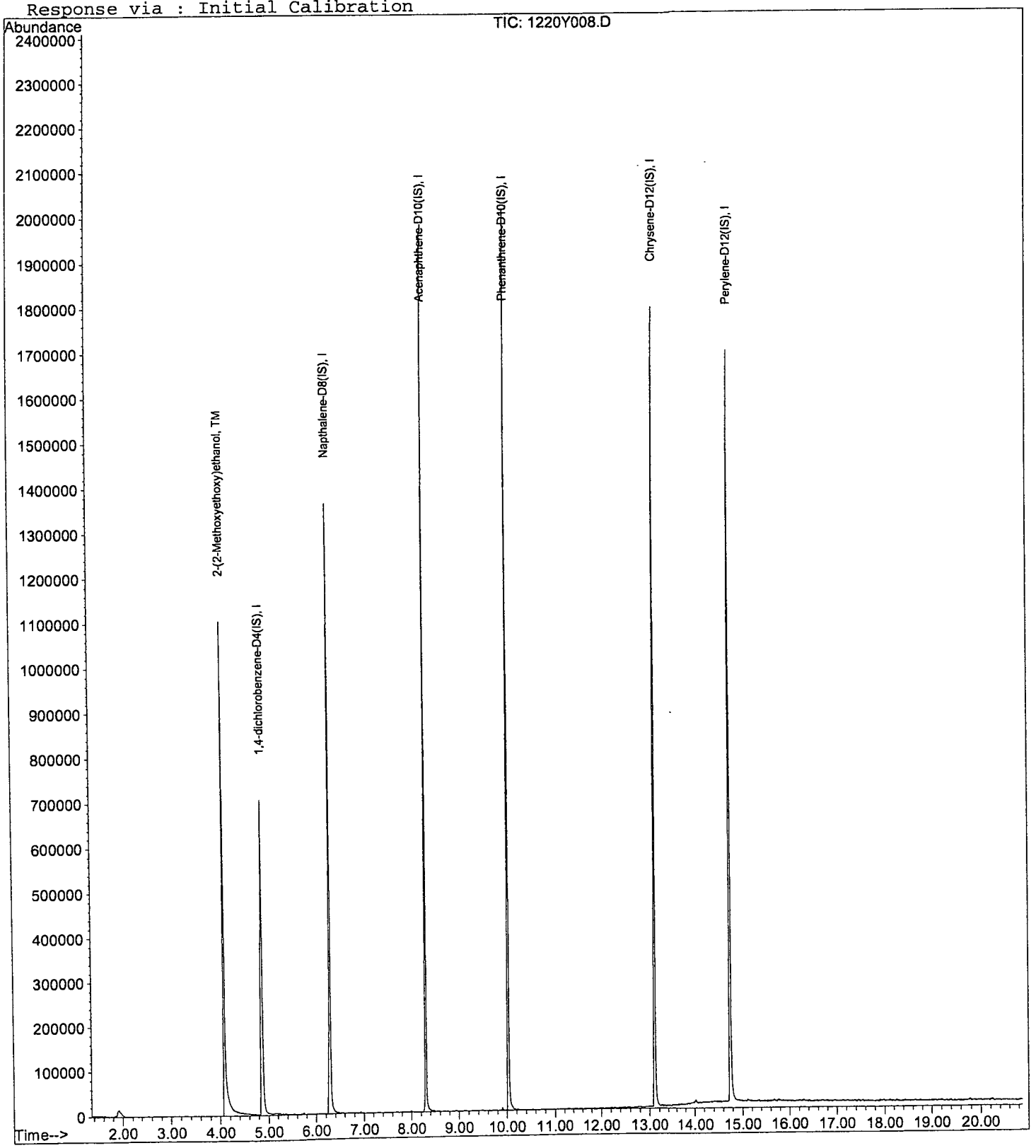
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

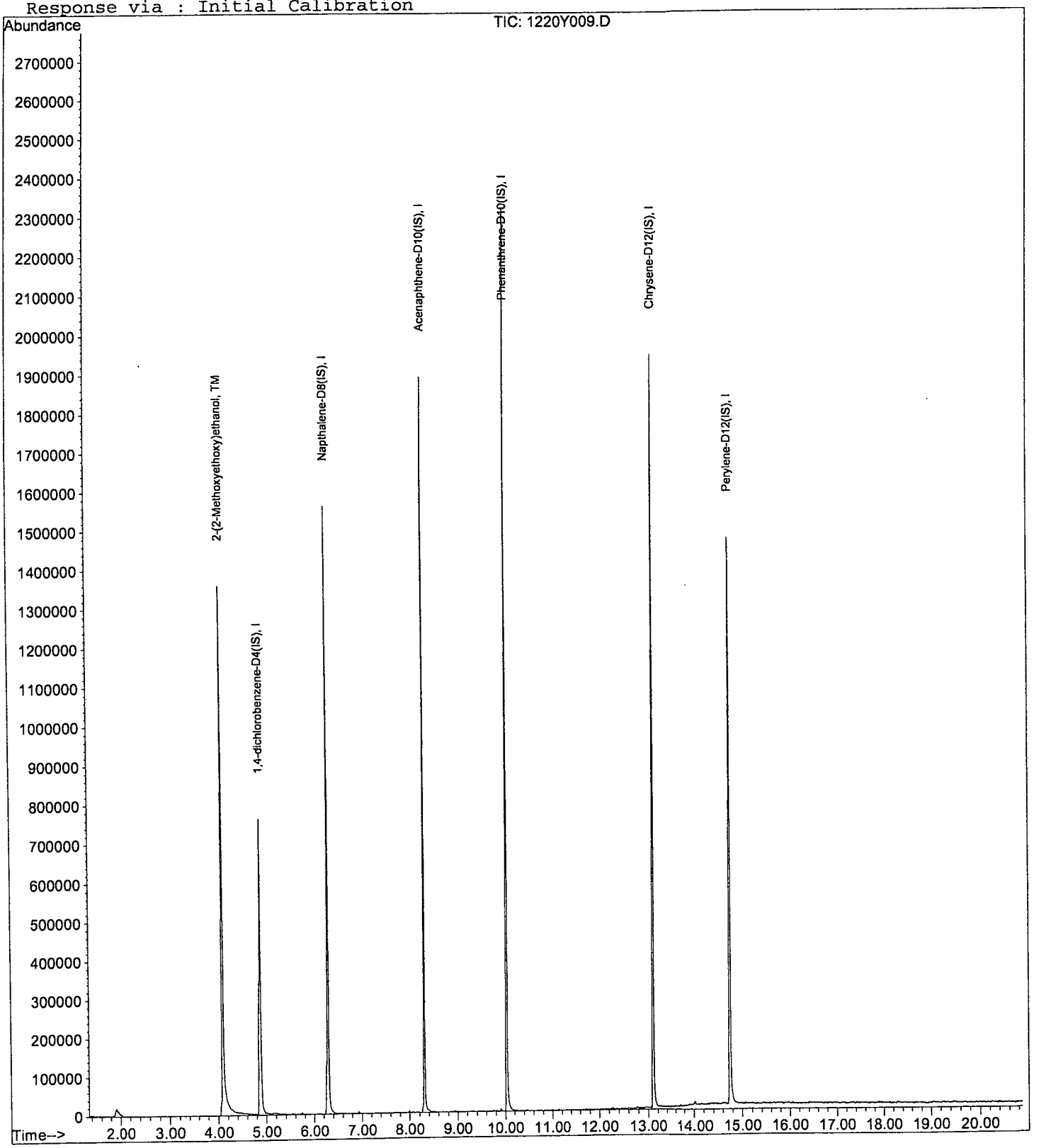
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

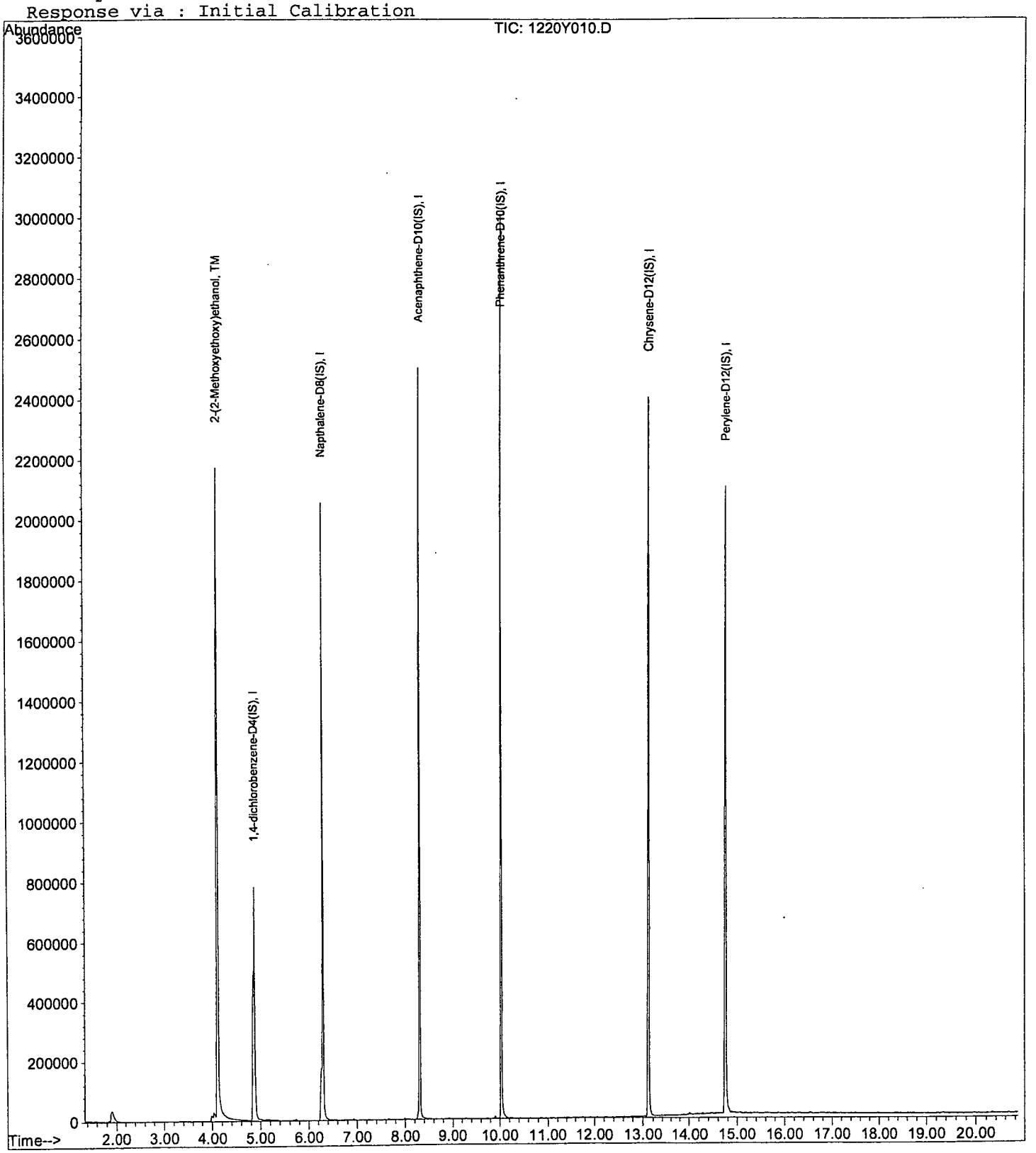
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

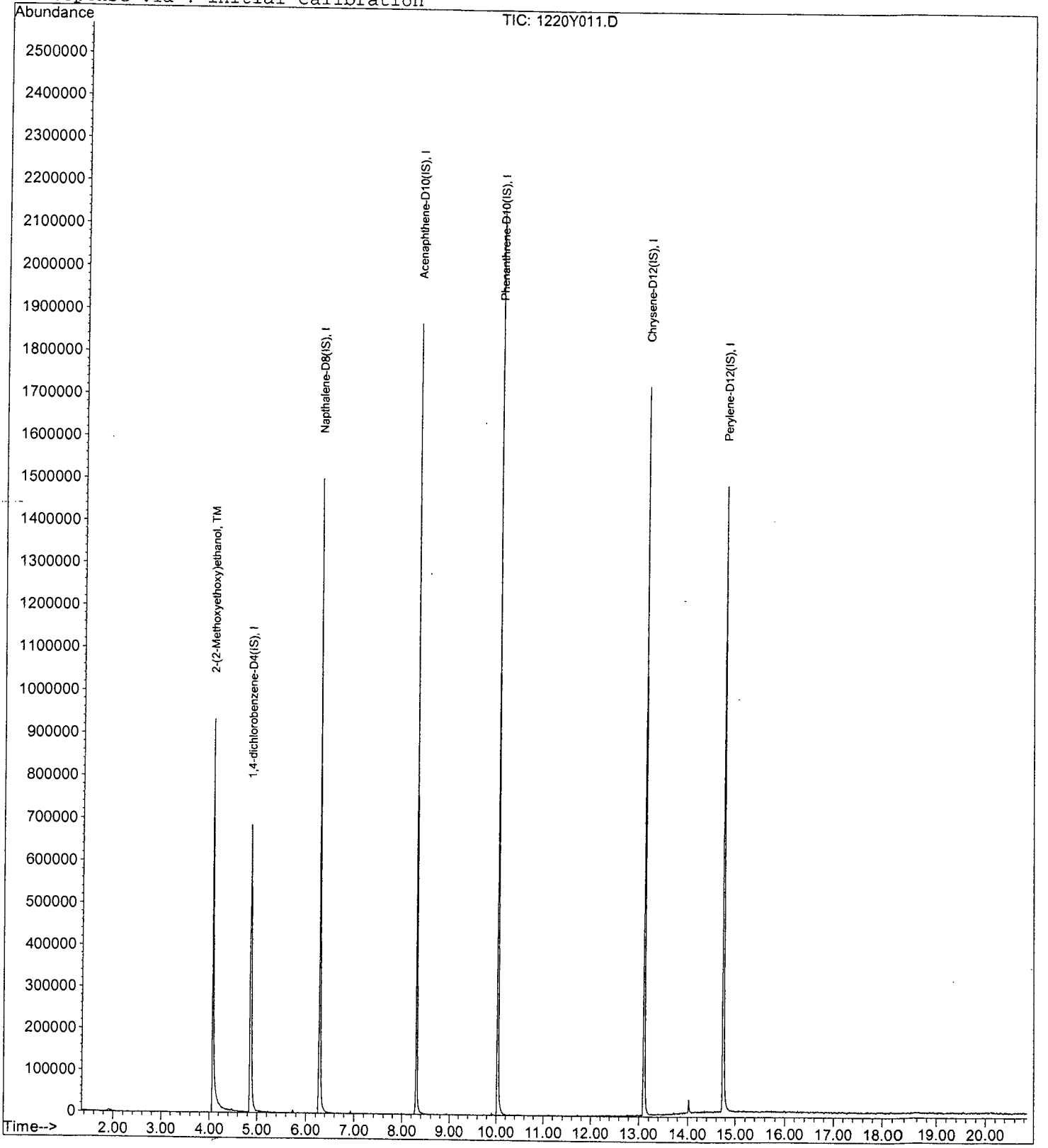
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y135.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2415	13	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	177553	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	746186	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	429159	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	771605	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	734679	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	537954	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	536004	563.14657 ppb	97

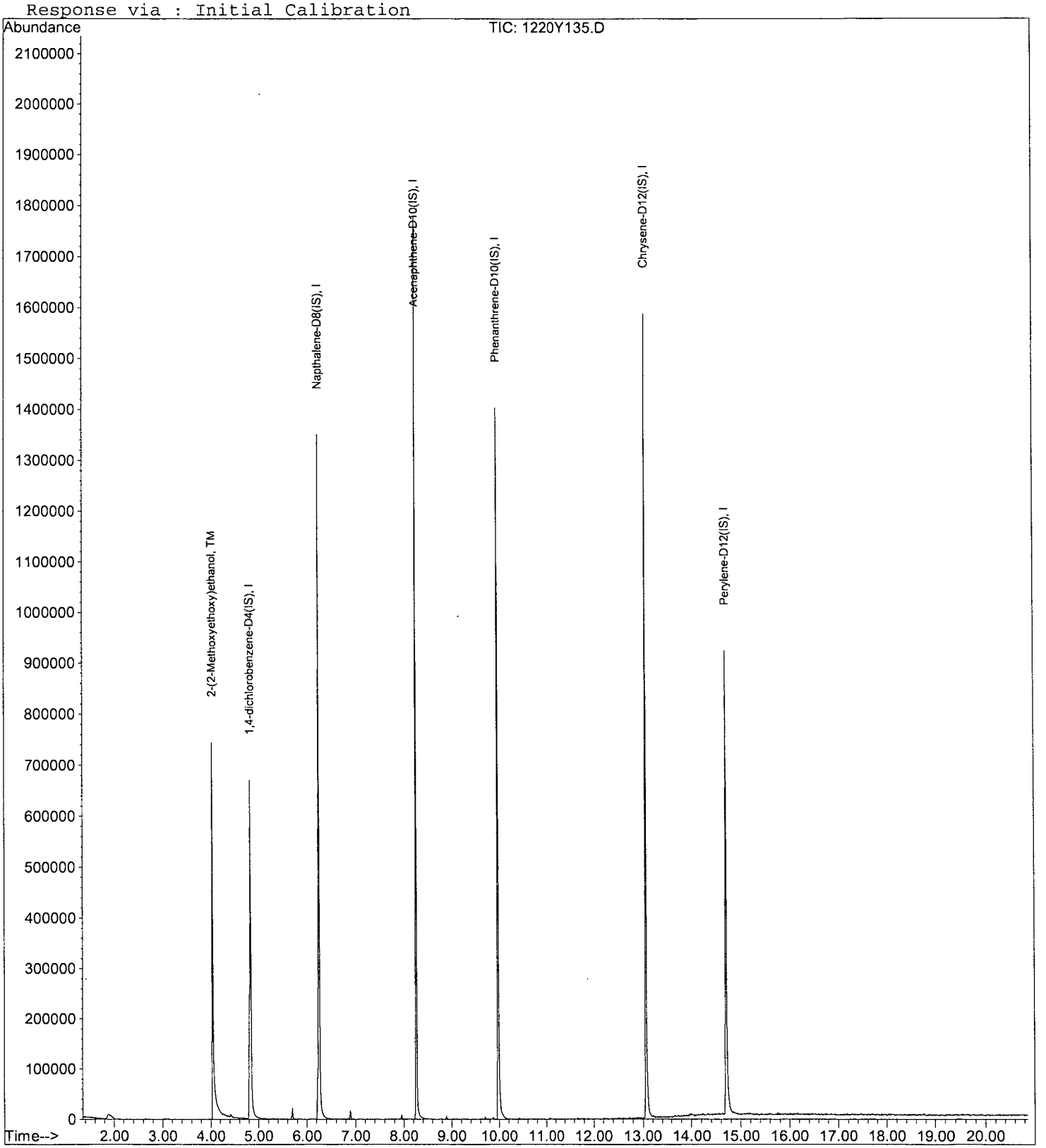
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y150.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2074	3.3	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.3		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	178165	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	786911	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	435104	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	815094	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	761306	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	583729	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	461787	483.50475 ppb	100

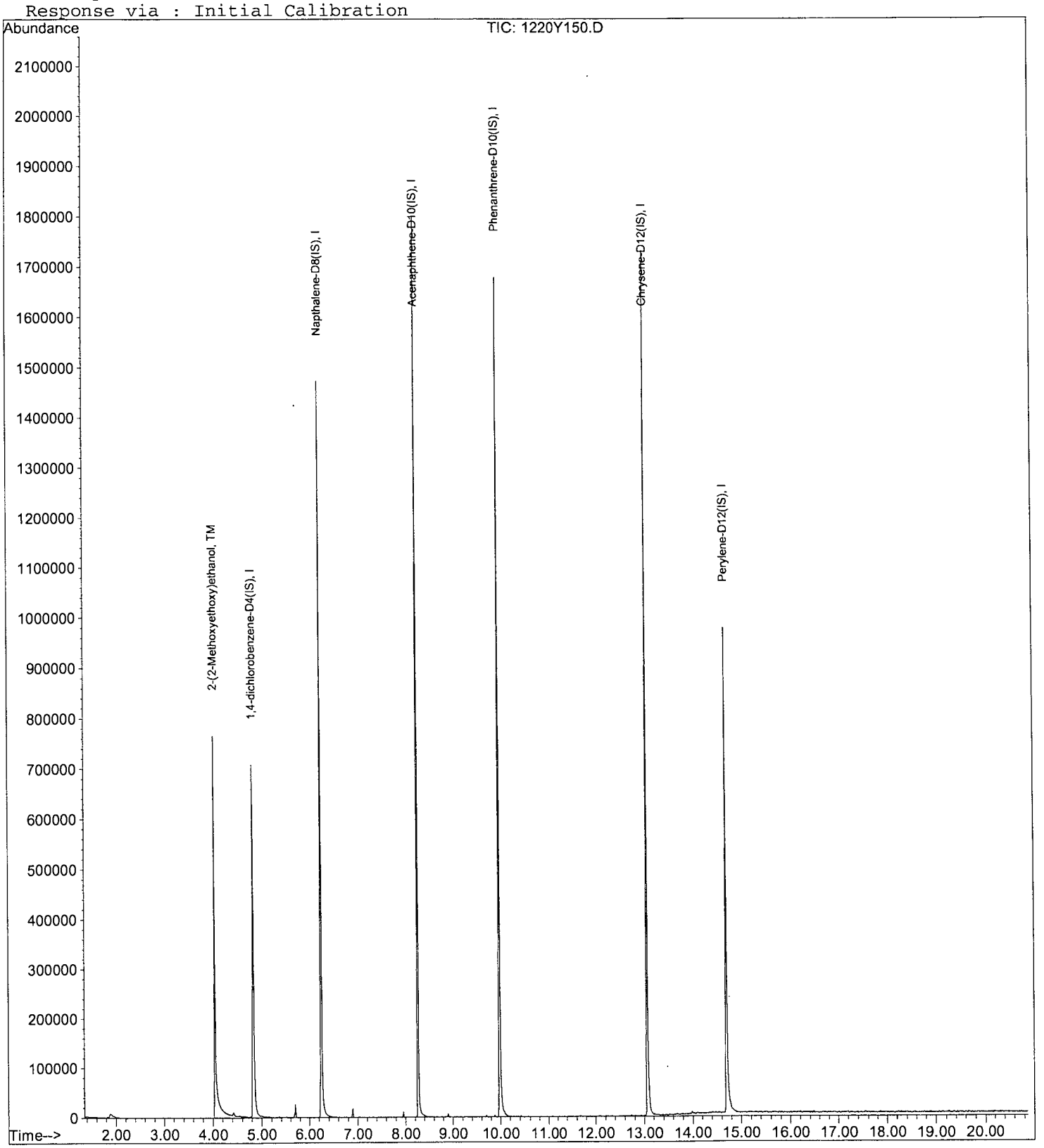
(#) = qualifier out of range (m) = manual integration
1220Y150.D Y0GLYCOL.M Thu Mar 16 14:49:24 2017

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y162.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2166	1.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y162.D
Acq On : 13 Mar 17 23:57
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:12 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	172231	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	758796	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	417981	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	787821	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	740065	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	545491	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	466308	505.06000 ppb	99

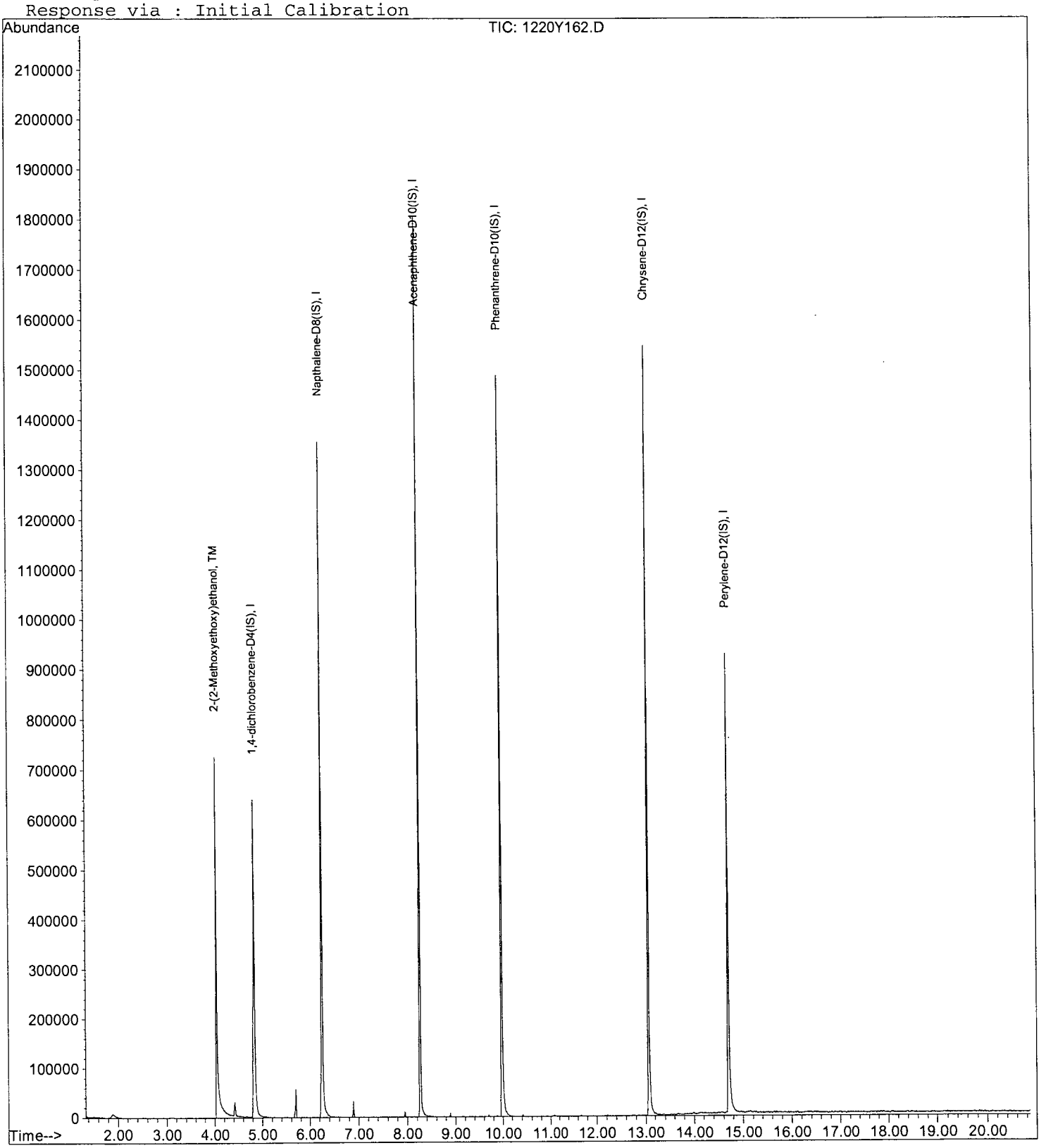
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y162.D Vial: 50
Acq On : 13 Mar 17 23:57 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:12 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:38:56 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	140695	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	637834	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	358479	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	680715	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	651186	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671686	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

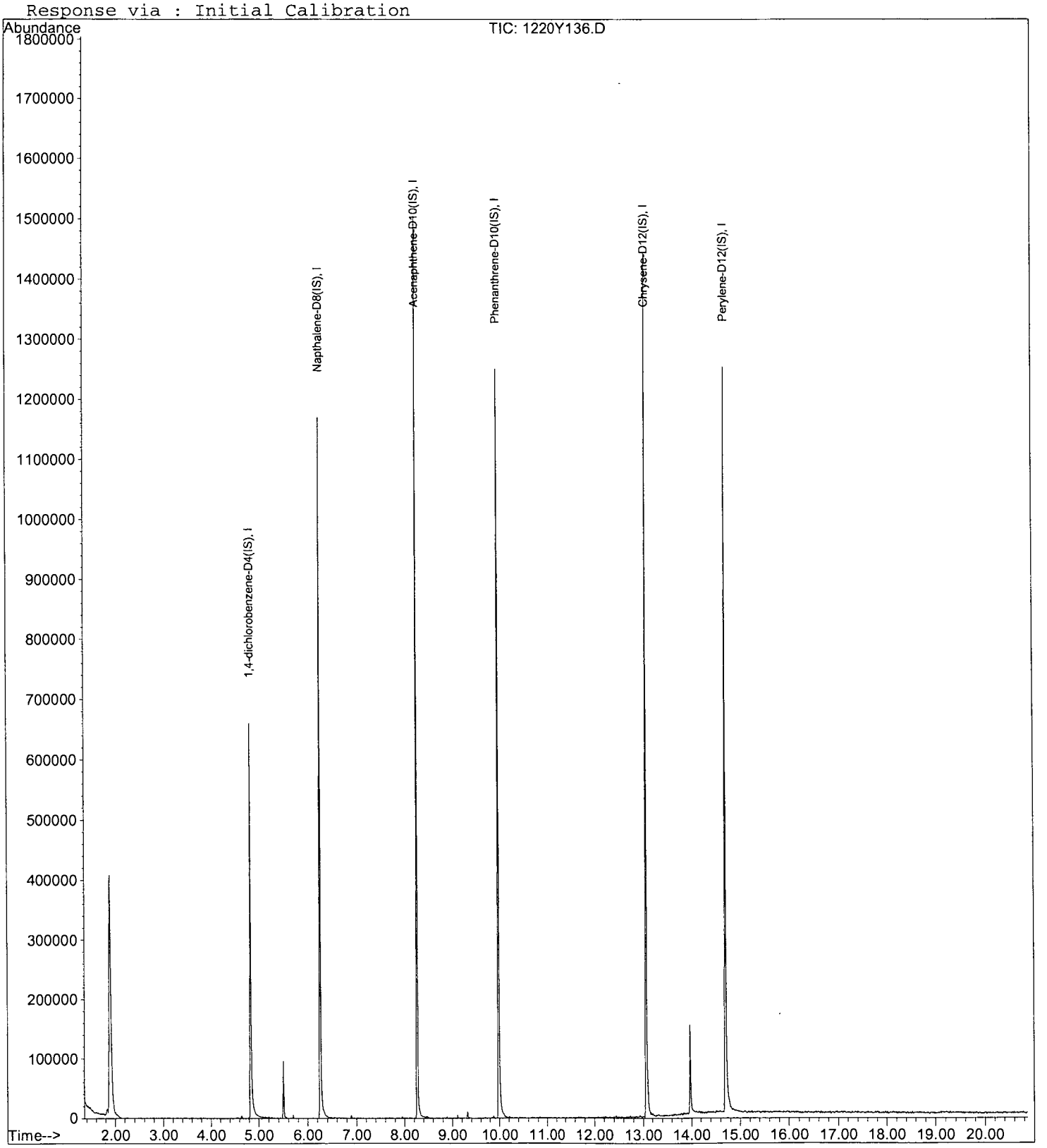
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y136.D Vial: 36
Acq On : 13 Mar 17 10:34 Operator: MA
Sample : 170310A BLK 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:18 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:38:57 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	136004	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	614588	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	356092	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	658238	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636142	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	624209	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	25618	35.13783 ppb	100

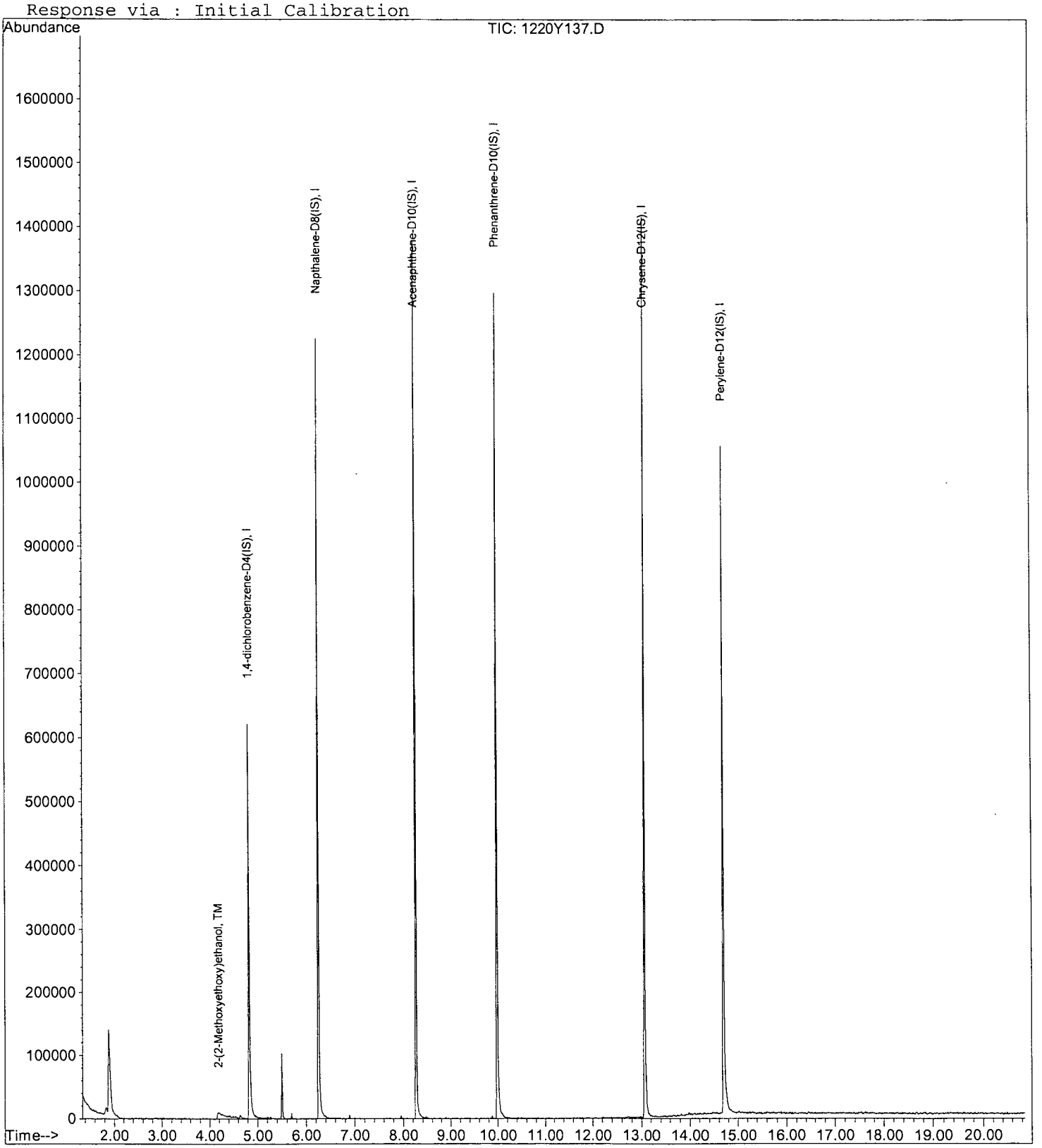
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

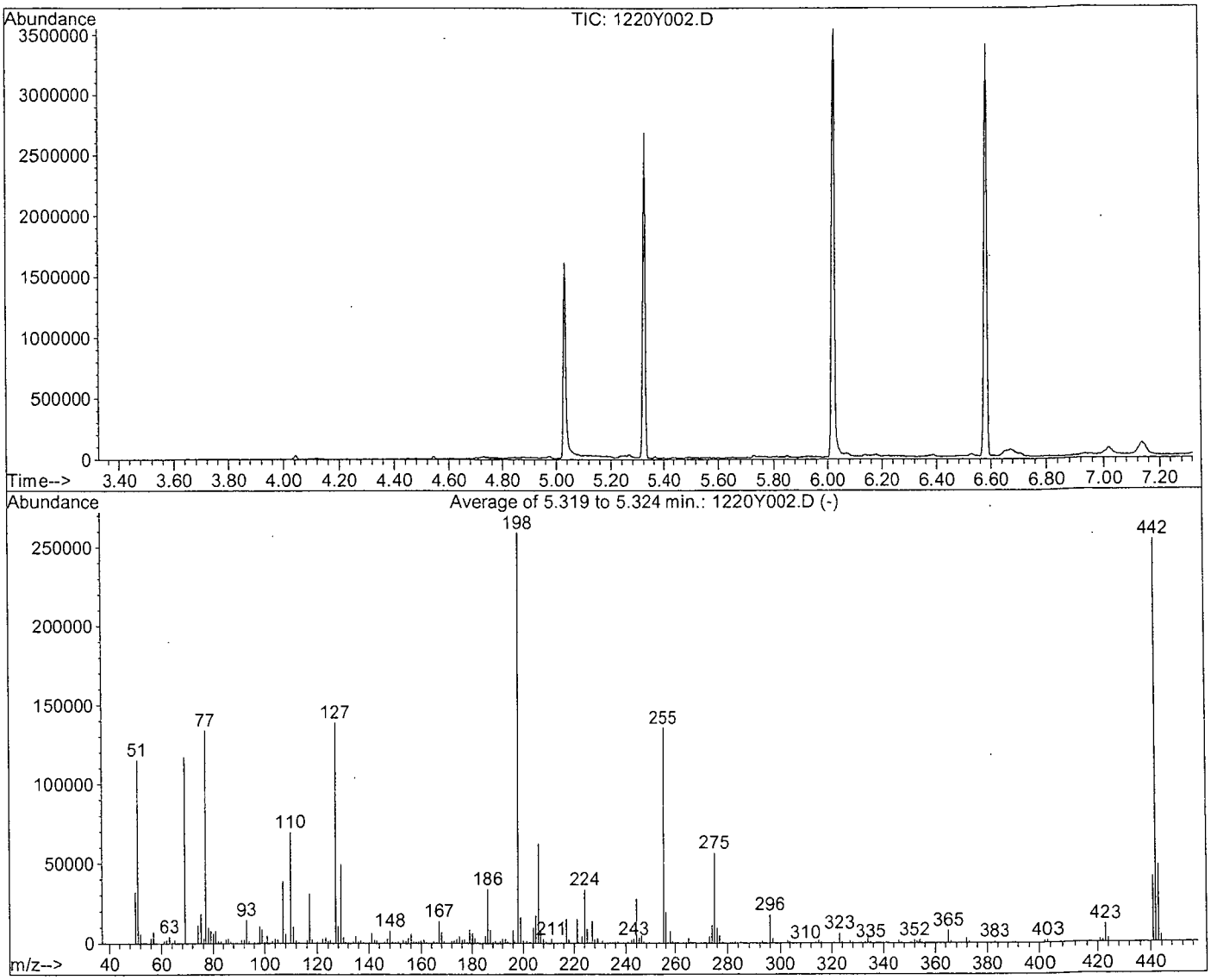
Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D Vial: 2
Acq On : 20 Dec 16 9:12 Operator: MA
Sample : SV Tune 11/15/16 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



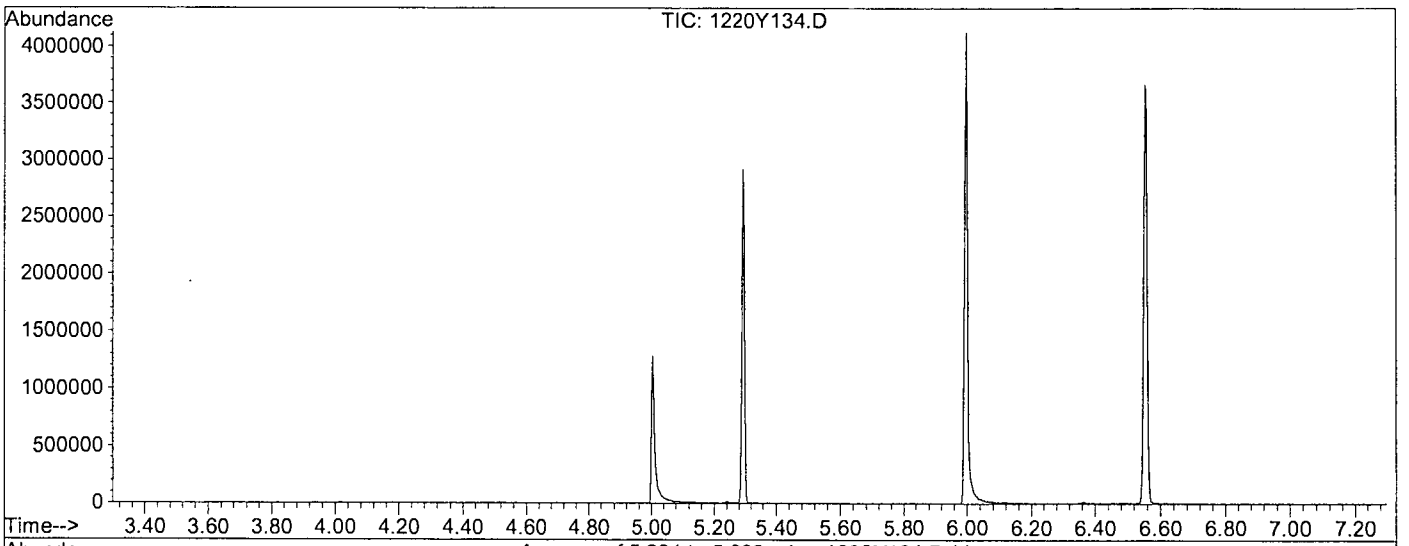
AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

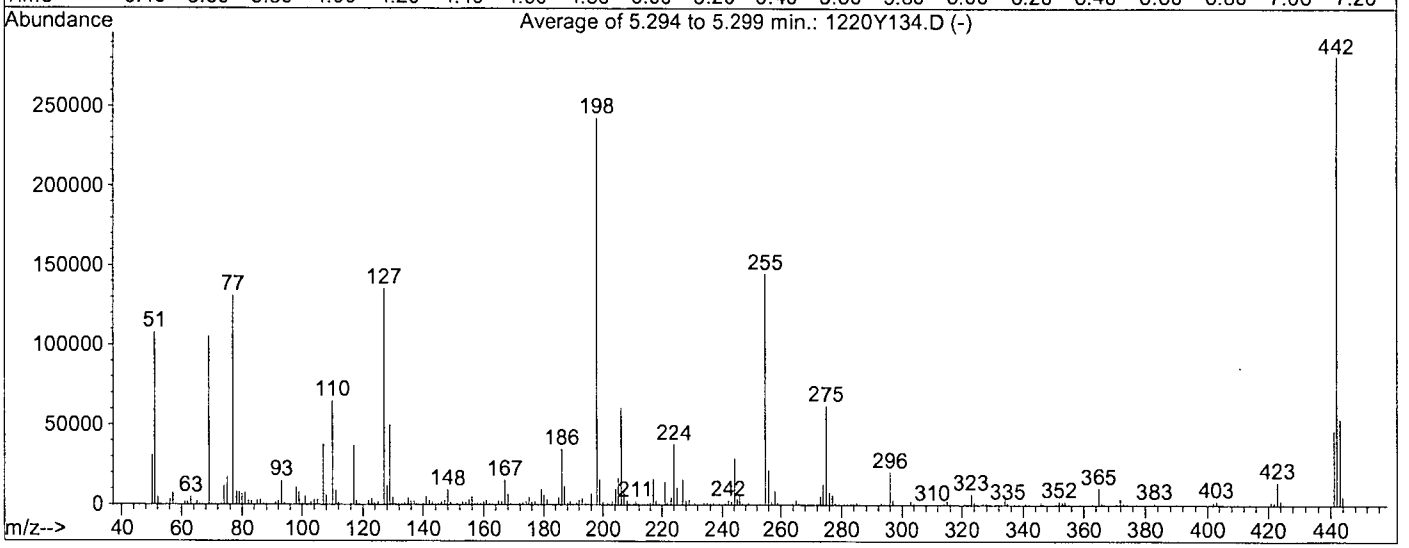
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y134.D Vial: 34
Acq On : 13 Mar 17 9:46 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 684, 685, 686; Background Corrected with Scan 676

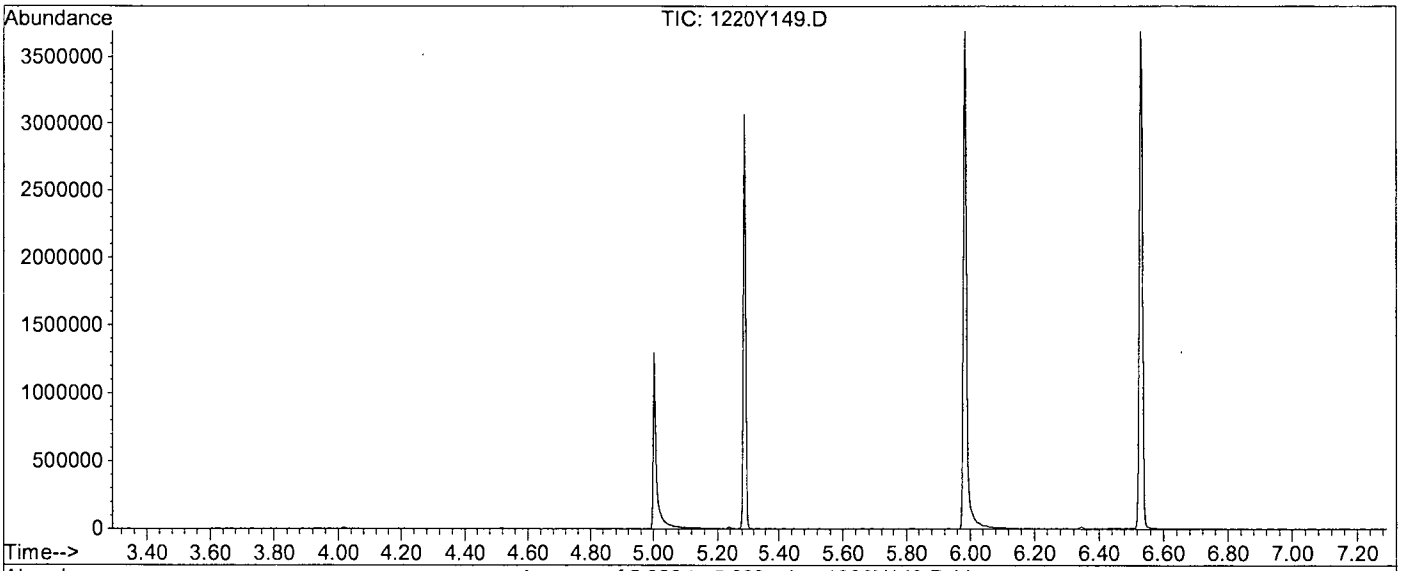
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	107921	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	105533	PASS
70	69	0.00	2	0.5	523	PASS
127	198	40	60	55.8	135376	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	242773	PASS
199	198	5	9	6.3	15412	PASS
275	198	10	30	25.5	61848	PASS
365	198	1	100	4.2	10300	PASS
441	443	0.01	100	86.3	46651	PASS
442	198	40	150	116.1	281963	PASS
443	442	17	23	19.2	54053	PASS

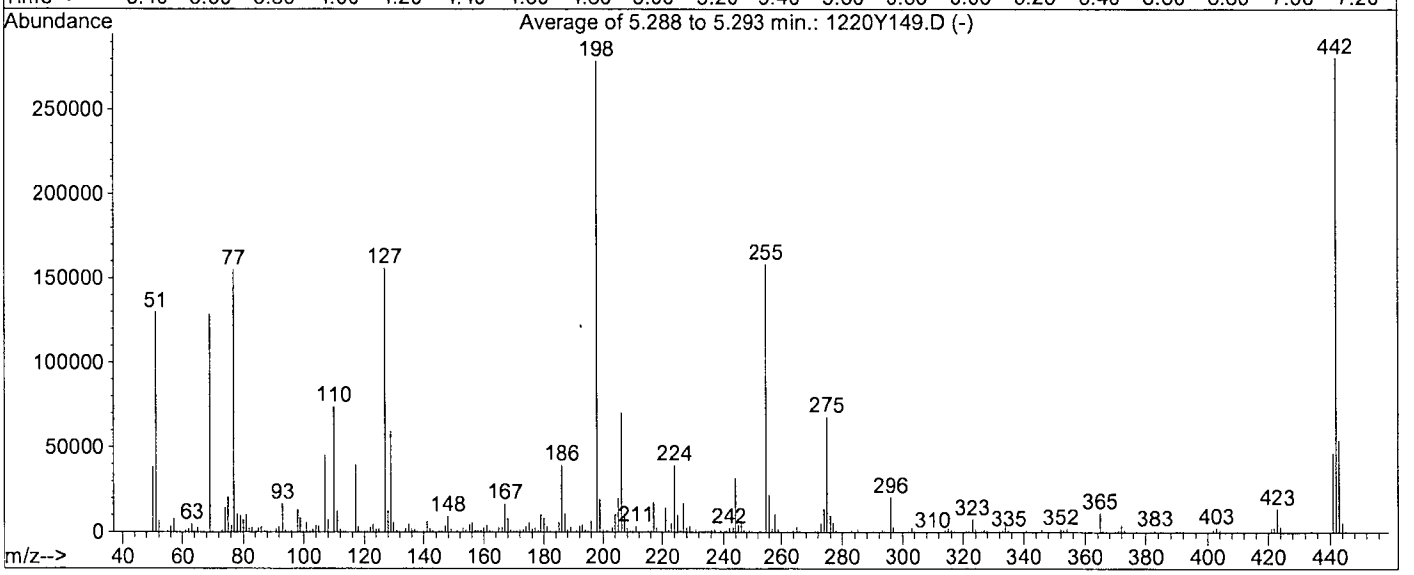
1220Y134.D DFTPP2.M Thu Mar 16 14:03:20 2017

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y149.D Vial: 49
Acq On : 13 Mar 17 17:54 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 681, 682, 683; Background Corrected with Scan 673

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.5	129784	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	659	PASS
127	198	40	60	55.9	155925	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	278912	PASS
199	198	5	9	6.9	19208	PASS
275	198	10	30	24.4	67931	PASS
365	198	1	100	4.0	11054	PASS
441	443	0.01	100	86.0	46427	PASS
442	198	50	150	100.7	280981	PASS
443	442	17	23	19.2	54005	PASS

1220Y149.D YOGLYCOL.M Thu Mar 16 14:01:54 2017

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-366C	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-366C	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	**03/13/17 0:00**	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				NA	NA equip	500	2	7	03/10/17 13:15	
2	170310A LCS-1		0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	
3	AZ51053	AZ51053W07			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
4	AZ51054	AZ51054W11			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
5	AZ51056	AZ51056W12			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
6	AZ51132 MS-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
7	AZ51132 MSD-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
8	AZ51132	AZ51132W22			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
9	AZ51133	AZ51133W08			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
10	AZ51135	AZ51135W26			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
11	AZ51136	AZ51136W13			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
12	AZ51139	AZ51139W14			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
13	AZ51141	AZ51141W09			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
14	AZ51357	AZ51357W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
15	AZ51359	AZ51359W12			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
16	AZ51360	AZ51360W07			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:30
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: CFM **Date** 3/11/17

414

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51362	AZ51362W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
18	AZ51364	AZ51364W09			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
19	AZ51530	AZ51530W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
20	AZ51533	AZ51533W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
21	AZ51535	AZ51535W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
22	AZ51536	AZ51536W09			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
23	ss		0.087	2	NA	NA equip	500	2	7	03/10/17 13:15	

3/11/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: **Date** 3/11/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
34	1220Y134.D	1	SV Tune 02/09/17	water	13 Mar 17 9:46
35	1220Y135.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 10:03
36	1220Y136.D	1	170310A BLK 2/500	water	13 Mar 17 10:34
37	1220Y137.D	1	170310A LCS-1 2/500	water	13 Mar 17 11:04
49	1220Y149.D	1	SV Tune 02/09/17	water	13 Mar 17 17:54
50	1220Y150.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 18:11
51	1220Y151.D	1	AZ51357W10 2/500	water	13 Mar 17 18:42
52	1220Y152.D	1	AZ51359W12 2/500	water	13 Mar 17 19:12
53	1220Y153.D	1	AZ51360W07 2/500	water	13 Mar 17 19:43
54	1220Y154.D	1	AZ51362W10 2/500	water	13 Mar 17 20:13
55	1220Y155.D	1	AZ51364W09 2/500	water	13 Mar 17 20:44
50	1220Y162.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 23:57

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216811**
Batch ID: #86BTO-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	03/11/17	03/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.9	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:13 PM

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170312W-51358 - 216822**
Batch ID: #86BTO-170312AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/12/17	03/12/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/12/17	03/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.3	85-114			%	03/12/17	03/12/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	03/12/17	03/12/17
BLANK	SURROGATE: TOLUENE-D8 (S)	99.6	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M12
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:13 PM

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170313W-51363 - 216859**
Batch ID: #86BTO-170313AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/13/17	03/13/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/13/17	03/13/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/13/17	03/13/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/13/17	03/13/17
BLANK	SURROGATE: 1,2-DICHLOROET	99.9	81-118			%	03/13/17	03/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/13/17	03/13/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	03/13/17	03/13/17
BLANK	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/13/17	03/13/17

Quant Method: MALLW.M
Run #: 0313M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:13 PM

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170314W-51357 - 216903**
Batch ID: #86BTO-170314AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/14/17	03/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/14/17	03/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/14/17	03/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/14/17	03/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	96.2	81-118			%	03/14/17	03/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/14/17	03/14/17
BLANK	SURROGATE: DIBROMOFLUOR	99.8	80-119			%	03/14/17	03/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.5	89-112			%	03/14/17	03/14/17

Quant Method: MALLW.M
Run #: 0314M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:13 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	81-118	99.6		85-114	98.4	
170311AM-BLK	Blank	81-118	101		85-114	98.9	
AZ51356	ERH264	81-118	100		85-114	99.0	

Comments: Batch: #86BTO-170311AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/11/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	80-119	99.2		89-112	98.8	
170311AM-BLK	Blank	80-119	104		89-112	97.9	
AZ51356	ERH264	80-119	103		89-112	98.3	

Comments: Batch: #86BTO-170311AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/12/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170312AM-LCS	Lab Control Spike	81-118	100		85-114	94.4	
170312AM-BLK	Blank	81-118	101		85-114	98.3	
AZ51358	ERH271	81-118	99.3		85-114	99.2	
AZ51359	ERH272	81-118	100		85-114	98.2	

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:17 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/12/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170312AM-LCS	Lab Control Spike	80-119	98.4		89-112	96.0	
170312AM-BLK	Blank	80-119	101		89-112	99.6	
AZ51358	ERH271	80-119	99.9		89-112	98.6	
AZ51359	ERH272	80-119	103		89-112	98.5	

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:17 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/12/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170312AM1-LCS	Lab Control Spike	81-118	100		85-114	94.4	
170312AM1-BLK	Blank	81-118	101		85-114	98.3	
AZ51360	ERH281	81-118	98.9		85-114	96.8	
AZ51361	ERH279	81-118	101		85-114	97.2	
AZ51362	ERH280	81-118	97.0		85-114	96.2	

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:17 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/12/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170312AM1-LCS	Lab Control Spike	80-119	98.4		89-112	96.0	
170312AM1-BLK	Blank	80-119	101		89-112	99.6	
AZ51360	ERH281	80-119	104		89-112	98.8	
AZ51361	ERH279	80-119	101		89-112	99.2	
AZ51362	ERH280	80-119	101		89-112	100	

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:17 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170313AM-LCS	Lab Control Spike	81-118	101		85-114	96.4	
170313AM-BLK	Blank	81-118	99.9		85-114	97.4	
AZ51363	ERH283	81-118	98.9		85-114	95.5	
AZ51364	ERH284	81-118	97.0		85-114	98.7	

Comments: Batch: #86BTO-170313AM

Printed: 03/15/17 1:54:17 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/13/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170313AM-LCS	Lab Control Spike	80-119	101		89-112	97.2	
170313AM-BLK	Blank	80-119	100		89-112	101	
AZ51363	ERH283	80-119	101		89-112	99.0	
AZ51364	ERH284	80-119	101		89-112	97.8	

Comments: Batch: #86BTO-170313AM

Printed: 03/15/17 1:54:17 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/14/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170314AM-LCS	Lab Control Spike	81-118	101		85-114	96.4	
170314AM-BLK	Blank	81-118	96.2		85-114	97.4	
AZ51357	ERH265	81-118	100		85-114	105	

Comments: Batch: #86BTO-170314AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/14/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170314AM-LCS	Lab Control Spike	80-119	102		89-112	99.2	
170314AM-BLK	Blank	80-119	99.8		89-112	98.5	
AZ51357	ERH265	80-119	102		89-112	101	

Comments: Batch: #86BTO-170314AM

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170311W-51356 LCS - 216811**
Batch ID: #86BTO-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.56	95.6	79-120
ETHYLBENZENE	10.00	9.88	98.8	79-121
TOLUENE	10.00	9.60	96.0	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M03
Initials :	SV

Printed: 03/15/17 1:54:24 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170312W-51358 LCS - 216822**
Batch ID: #86BTO-170312AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.69	96.9	73-128
BENZENE	10.00	9.83	98.3	79-120
ETHYLBENZENE	10.00	10.1	101	79-121
TOLUENE	10.00	9.74	97.4	80-121
XYLENES (TOTAL)	30.0	30.1	100	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.0	100	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	23.6	94.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.6	98.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.0	96.0	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/12/17
Analysis Date :	03/12/17
Instrument :	Max
Run :	0312M05
Initials :	SV

Printed: 03/15/17 1:59:40 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170313W-51363 LCS - 216859**
Batch ID: #86BTO-170313AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.61	96.1	79-120
ETHYLBENZENE	10.00	9.84	98.4	79-121
TOLUENE	10.00	9.55	95.5	80-121
XYLENES (TOTAL)	30.0	29.1	97.0	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.1	96.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.3	97.2	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/13/17
Analysis Date :	03/13/17
Instrument :	Max
Run :	0313M04
Initials :	SV

Printed: 03/15/17 1:54:24 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170314W-51357 LCS - 216903**
Batch ID: #86BTO-170314AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.71	97.1	79-120
ETHYLBENZENE	10.00	9.89	98.9	79-121
TOLUENE	10.00	9.87	98.7	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.1	96.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.6	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.8	99.2	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/14/17
Analysis Date :	03/14/17
Instrument :	Max
Run :	0314M04
Initials :	SV

Printed: 03/15/17 1:54:24 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82369
Case No: 82369
Date Analyzed: 03/11/17
Matrix: WATER
Instrument: Max
Blank ID: 170311AM-BLK
Time Analyzed: 1404

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311AM-LCS	Lab Control Spike	0311M03	03/11/17 1113
170311AM-BLK	Blank	0311M09	03/11/17 1404
AZ51356	ERH264	0311M19	03/11/17 1848

Comments: Batch: #86BTO-170311AM

Printed: 03/15/17 1:54:30 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82369
Case No: 82369
Date Analyzed: 03/12/17
Matrix: WATER
Instrument: Max
Blank ID: 170312AM-BLK
Time Analyzed: 1717

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170312AM-LCS	Lab Control Spike	0312M05	03/12/17 1358
170312AM-BLK	Blank	0312M12	03/12/17 1717
AZ51358	ERH271	0312M13	03/12/17 1746
AZ51359	ERH272	0312M14	03/12/17 1814

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:30 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82369
Case No: 82369
Date Analyzed: 03/12/17
Matrix: WATER
Instrument: Max
Blank ID: 170312AM1-BLK
Time Analyzed: 1718

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170312AM1-LCS	Lab Control Spike	0312M05	03/12/17 1359
170312AM1-BLK	Blank	0312M12	03/12/17 1718
AZ51360	ERH281	0312M15	03/12/17 1843
AZ51361	ERH279	0312M16	03/12/17 1911
AZ51362	ERH280	0312M17	03/12/17 1940

Comments: Batch: #86BTO-170312AM

Printed: 03/15/17 1:54:30 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82369
Case No: 82369
Date Analyzed: 03/13/17
Matrix: WATER
Instrument: Max
Blank ID: 170313AM-BLK
Time Analyzed: 1335

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170313AM-LCS	Lab Control Spike	0313M04	03/13/17 1016
170313AM-BLK	Blank	0313M11	03/13/17 1335
AZ51363	ERH283	0313M14	03/13/17 1500
AZ51364	ERH284	0313M15	03/13/17 1529

Comments: Batch: #86BTO-170313AM

Printed: 03/15/17 1:54:30 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/14/17

Matrix: WATER Instrument: Max

Blank ID: 170314AM-BLK Time Analyzed: 1307

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170314AM-LCS	Lab Control Spike	0314M04	03/14/17 0947
170314AM-BLK	Blank	0314M11	03/14/17 1307
AZ51357	ERH265	0314M12	03/14/17 1335

Comments: Batch: #86BTO-170314AM

Printed: 03/15/17 1:54:30 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82369
Date Analyzed: 03/08/17
Instrument: Max
Time Analyzed: 11:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 3/8/	0308M05.D	03/08/17 12:58
2		0.5ug/L VOC STD 3/8/	0308M06.D	03/08/17 13:26
3		1.0ug/L VOC STD 3/8/	0308M07.D	03/08/17 13:54
4		2.0ug/L VOC STD 3/8/	0308M08.D	03/08/17 14:23
5		5.0ug/L VOC STD 3/8/	0308M09.D	03/08/17 14:51
6		10ug/L VOC STD 3/8/1	0308M10.D	03/08/17 15:20
7		20ug/L VOC STD 3/8/1	0308M11.D	03/08/17 15:48
8		40ug/L VOC STD 3/8/1	0308M12.D	03/08/17 16:16
9		100ug/L VOC STD 3/8/	0308M13.D	03/08/17 16:45
10		(SS)10ug/L VOC STD 3	0308M18.D	03/08/17 19:07
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.3
75	30 - 60% of mass 95	48.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.9
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	90.6
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	97.3
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82369
Date Analyzed: 03/11/17
Instrument: Max
Time Analyzed: 9:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170311A CCV-1WM 10ug	0311M02.D	03/11/17 10:45
2	Lab Control Spike	170311A LCS-1WM 10ug	0311M03.D	03/11/17 11:13
3	Blank	170311A BLK-1WM	0311M09.D	03/11/17 14:04
4	ERH264	AZ51356W01	0311M19.D	03/11/17 18:48
5		Ending CCV 8260 10ug	0311M21.D	03/12/17 10:08
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.2
75	30 - 60% of mass 95	46.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.0
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	80.7
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	99.2
177	5 - 9% of mass 176	7.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82369
Date Analyzed: 03/12/17
Instrument: Max
Time Analyzed: 12:37

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170312A CCV-1WM 10ug	0312M04.D	03/12/17 13:30
2	Lab Control Spike	170312A LCS-1WM 10ug	0312M05.D	03/12/17 13:58
3	Blank	170312A BLK-1WM	0312M12.D	03/12/17 17:17
4	ERH271	AZ51358W01	0312M13.D	03/12/17 17:46
5	ERH272	AZ51359W01	0312M14.D	03/12/17 18:14
6	ERH281	AZ51360W01	0312M15.D	03/12/17 18:43
7	ERH279	AZ51361W01	0312M16.D	03/12/17 19:11
8	ERH280	AZ51362W01	0312M17.D	03/12/17 19:40
9		Ending CCV 8260 10ug	0312M25.D	03/12/17 23:28
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.5
75	30 - 60% of mass 95	47.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.9
173	0 - 2% of mass 174	0.1
174	50 - 100% of mass 95	76.7
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	96.3
177	5 - 9% of mass 176	7.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82369
Date Analyzed: 03/13/17
Instrument: Max
Time Analyzed: 8:55

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170313A CCV-1WM 10ug	0313M03.D	03/13/17 9:47
2	Lab Control Spike	170313A LCS-1WM 10ug	0313M04.D	03/13/17 10:16
3	Blank	170313A BLK-1WM	0313M11.D	03/13/17 13:35
4	ERH283	AZ51363W01	0313M14.D	03/13/17 15:00
5	ERH284	AZ51364W01	0313M15.D	03/13/17 15:29
6		Ending CCV 8260 10ug	0313M28.D	03/13/17 21:40
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	46.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	87.9
175	5 - 9% of mass 174	8.0
176	95.06 - 101% of mass 174	97.2
177	5 - 9% of mass 176	7.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82369
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82369
Date Analyzed: 03/14/17
Instrument: Max
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170314A CCV-1WM 10ug	0314M03.D	03/14/17 9:19
2	Lab Control Spike	170314A LCS-1WM 10ug	0314M04.D	03/14/17 9:47
3	Blank	170314A BLK-1WM	0314M11.D	03/14/17 13:07
4	ERH265	AZ51357W02	0314M12.D	03/14/17 13:35
5		Ending CCV 8260 10ug	0314M28.D	03/14/17 21:14
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	50.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	85.6
175	5 - 9% of mass 174	7.3
176	95.06 - 101% of mass 174	97.9
177	5 - 9% of mass 176	7.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82369

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.50	223972	9.14	113358	12.33
	UPPER LIMIT	646884	6.00	447944	9.64	226716	12.83
	LOWER LIMIT	161721	5.00	111986	8.64	56679	11.83
	SAMPLE NO.						
01	(SS)10ug/L VOC STD 3/	332241	5.50	230391	9.14	113881	12.34
02	170311A CCV-1WM 10u	306357	5.50	210384	9.14	105548	12.34
03	170311A LCS-1WM 10u	303692	5.50	213241	9.14	108532	12.34
04	170311A BLK-1WM	300047	5.51	212426	9.14	101351	12.34
05	AZ51356W01	281913	5.51	199326	9.14	96568	12.34
06	Ending CCV 8260 10ug/	316196	5.52	214445	9.14	103988	12.34
07	170312A CCV-1WM 10u	311334	5.51	216607	9.14	104570	12.34
08	170312A LCS-1WM 10u	313917	5.51	217951	9.14	107741	12.34
09	170312A BLK-1WM	295702	5.51	207279	9.14	95985	12.34
10	AZ51358W01	301627	5.51	210253	9.14	100061	12.34
11	AZ51359W01	291467	5.51	206014	9.14	96855	12.34
12	AZ51360W01	298065	5.51	210821	9.14	97792	12.34
13	AZ51361W01	289121	5.51	200038	9.14	95490	12.34
14	AZ51362W01	267566	5.51	190220	9.14	88704	12.34
15	Ending CCV 8260 10ug/	293362	5.51	200601	9.14	100182	12.34
16	170313A CCV-1WM 10u	272904	5.51	182769	9.14	92410	12.34
17	170313A LCS-1WM 10u	298983	5.50	205621	9.14	102076	12.34
18	170313A BLK-1WM	281982	5.51	196757	9.14	93592	12.34
19	AZ51363W01	279127	5.51	194289	9.14	91549	12.34
20	AZ51364W01	286375	5.50	201717	9.14	95534	12.34
21	Ending CCV 8260 10ug/	291340	5.51	204648	9.14	101515	12.34
22	170314A CCV-1WM 10u	283387	5.50	197038	9.14	97208	12.34

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82369

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.5004	223972	9.1361	113358	12.332
	UPPER LIMIT	646884	6.0004	447944	9.6361	226716	12.832
	LOWER LIMIT	161721	5.0004	111986	8.6361	56679	11.832
	SAMPLE NO.						
23	170314A LCS-1WM 10u	281993	5.50	201656	9.14	101023	12.34
24	170314A BLK-1WM	288012	5.50	195117	9.14	93871	12.34
25	AZ51357W02	278829	5.50	191891	9.14	97571	12.34
26	Ending CCV 8260 10ug/	265221	5.51	185912	9.14	93697	12.34
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82369

Sample ID: ERH264

APPL ID: AZ51356

Sample Collection Date: 03/07/17

QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.0	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.3	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M19
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M19.D Vial: 19
Acq On : 11 Mar 17 18:48 Operator: PM,DG,SV,CMM
Sample : AZ51356W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:45 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	281913	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	199326	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	96568	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	71343	25.68675 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.748%	
37) 1,2-DCA-D4(S)	5.12	65	55398	25.01246 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.048%	
57) Toluene-D8(S)	7.34	98	284437	24.57601 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.304%	
65) 4-Bromofluorobenzene(S)	10.73	95	94725	24.75887 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.036%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

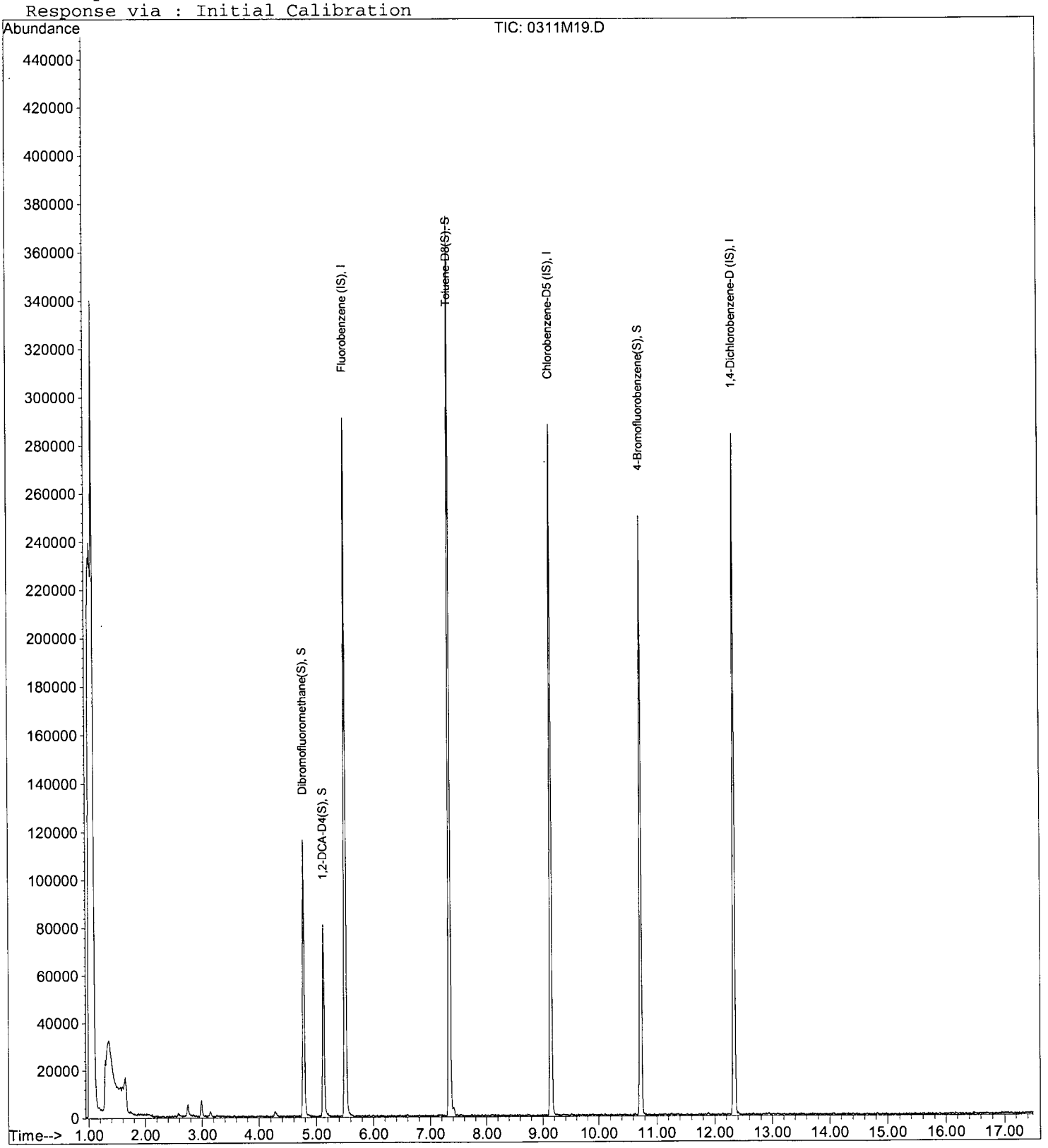
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M19.D
Acq On : 11 Mar 17 18:48
Sample : AZ51356W01
Misc : IS&S 02/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:45 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82369

Sample ID: ERH265

APPL ID: AZ51357

Sample Collection Date: 03/07/17

QCG: #86BTO-170314AM-216903

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/14/17	03/14/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/14/17	03/14/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/14/17	03/14/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/14/17	03/14/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	03/14/17	03/14/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	105	85-114			%	03/14/17	03/14/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	03/14/17	03/14/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/14/17	03/14/17

Quant Method: MALLW.M
Run #: 0314M12
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0314M12.D Vial: 11
Acq On : 14 Mar 17 13:35 Operator: PM,DG,SV,CMM
Sample : AZ51357W02 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 9:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	278829	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	191891	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97571	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	69872	25.43537 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.740%	
37) 1,2-DCA-D4(S)	5.12	65	55028	25.12020 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.480%	
57) Toluene-D8(S)	7.34	98	280044	25.13396 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.536%	
65) 4-Bromofluorobenzene(S)	10.73	95	96987	26.33232 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.328%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

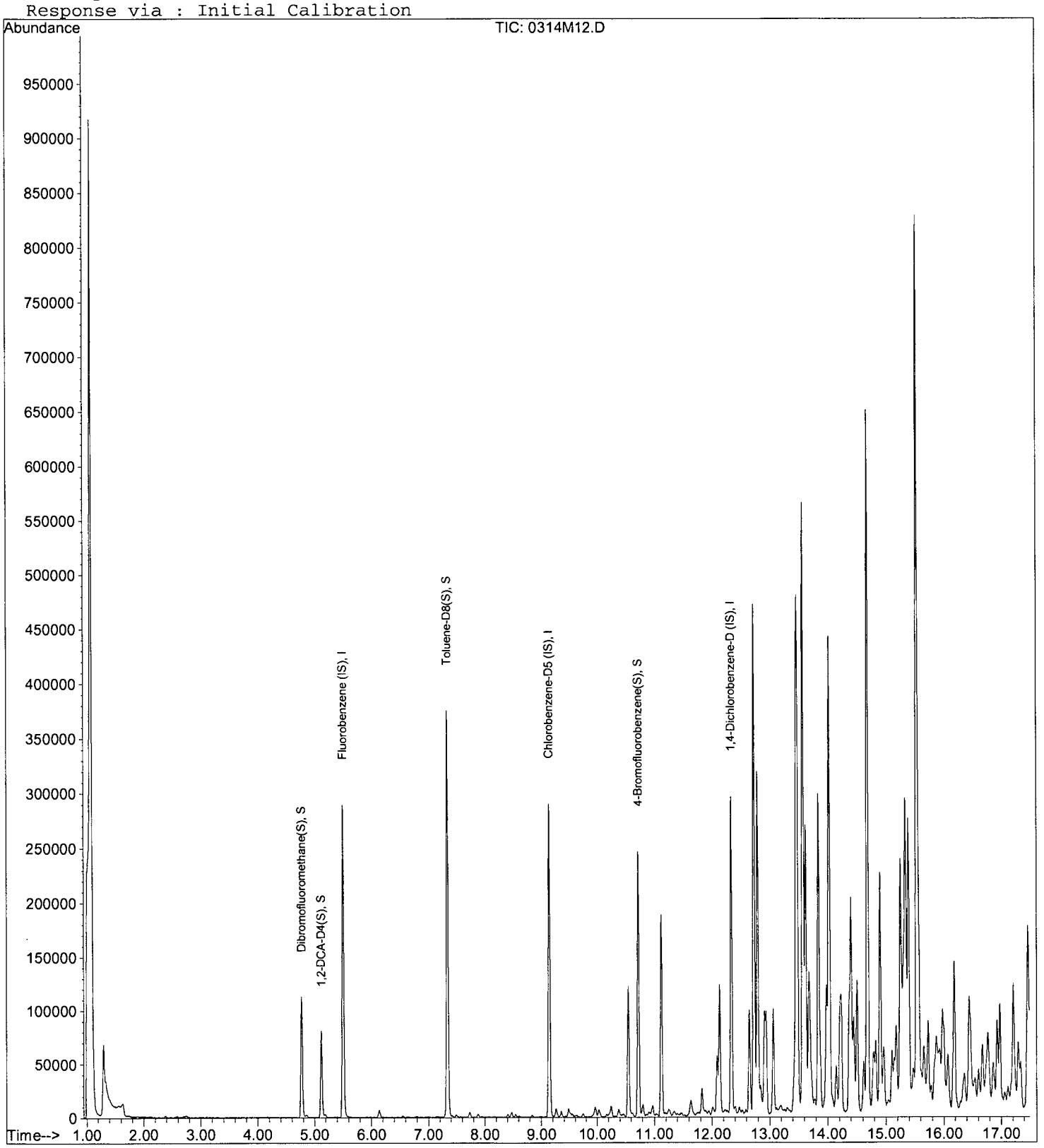
Data File : M:\MAX\DATA\M170308\0314M12.D
Acq On : 14 Mar 17 13:35
Sample : AZ51357W02
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH271
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51358
QCG: #86BTO-170312AM-216822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/12/17	03/12/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.3	81-118			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.2	85-114			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.9	80-119			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.6	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M13
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M13.D
Acq On : 12 Mar 17 17:46
Sample : AZ51358W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:19 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	301627	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	210253	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100061	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74203	24.97032 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.880%	
37) 1,2-DCA-D4(S)	5.13	65	58822	24.82258 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.292%	
57) Toluene-D8(S)	7.34	98	301066	24.66089 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.644%	
65) 4-Bromofluorobenzene(S)	10.73	95	100100	24.80402 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

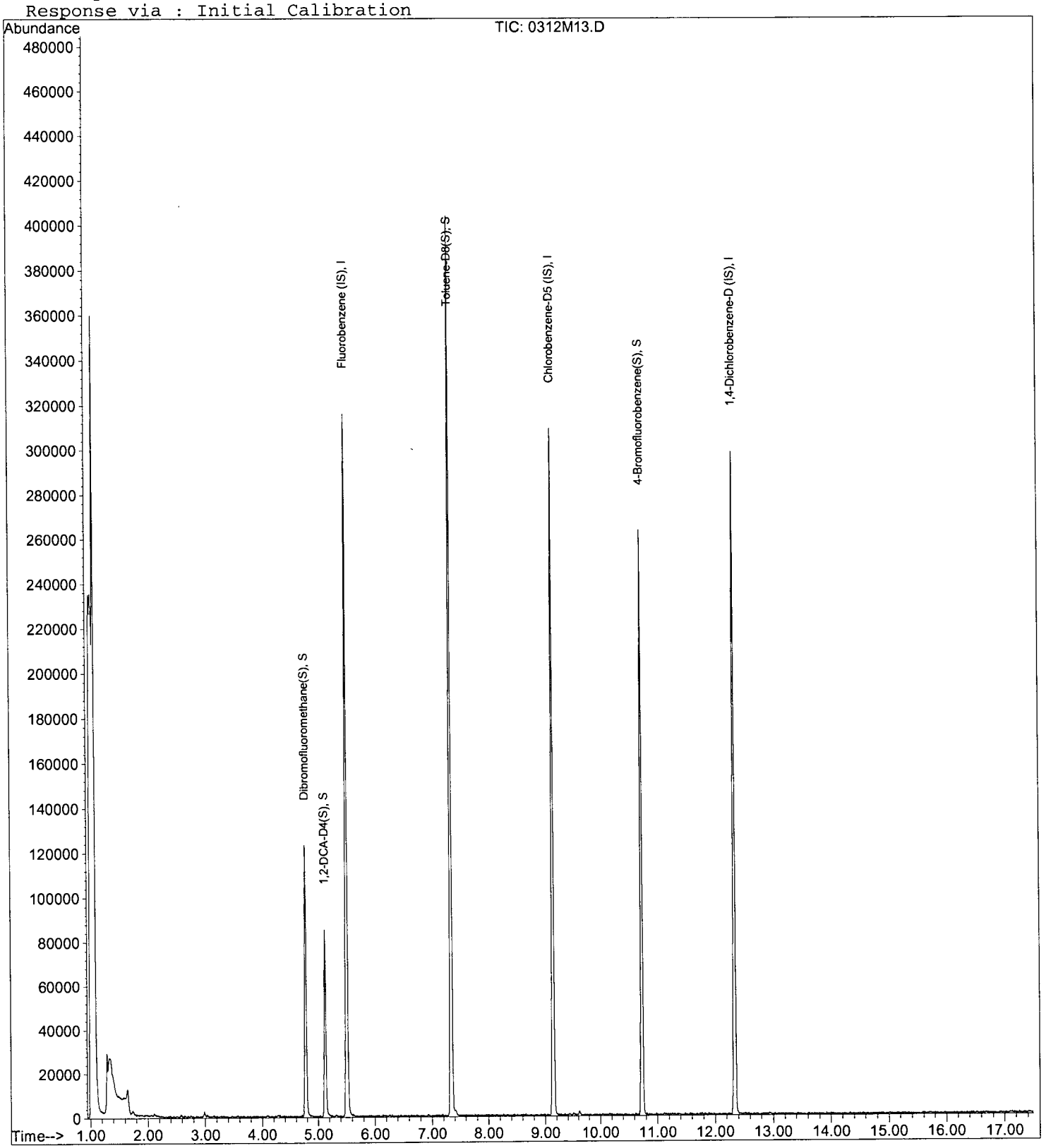
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M13.D
Acq On : 12 Mar 17 17:46
Sample : AZ51358W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:19 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82369

Sample ID: ERH272

APPL ID: AZ51359

Sample Collection Date: 03/07/17

QCG: #86BTO-170312AM-216822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/12/17	03/12/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.5	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M14.D
Acq On : 12 Mar 17 18:14
Sample : AZ51359W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:20 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	291467	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	206014	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	96855	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	73673	25.65617 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.624%	
37) 1,2-DCA-D4(S)	5.13	65	57347	25.04371 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.176%	
57) Toluene-D8(S)	7.34	98	294466	24.61658 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.468%	
65) 4-Bromofluorobenzene(S)	10.73	95	97063	24.54636 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

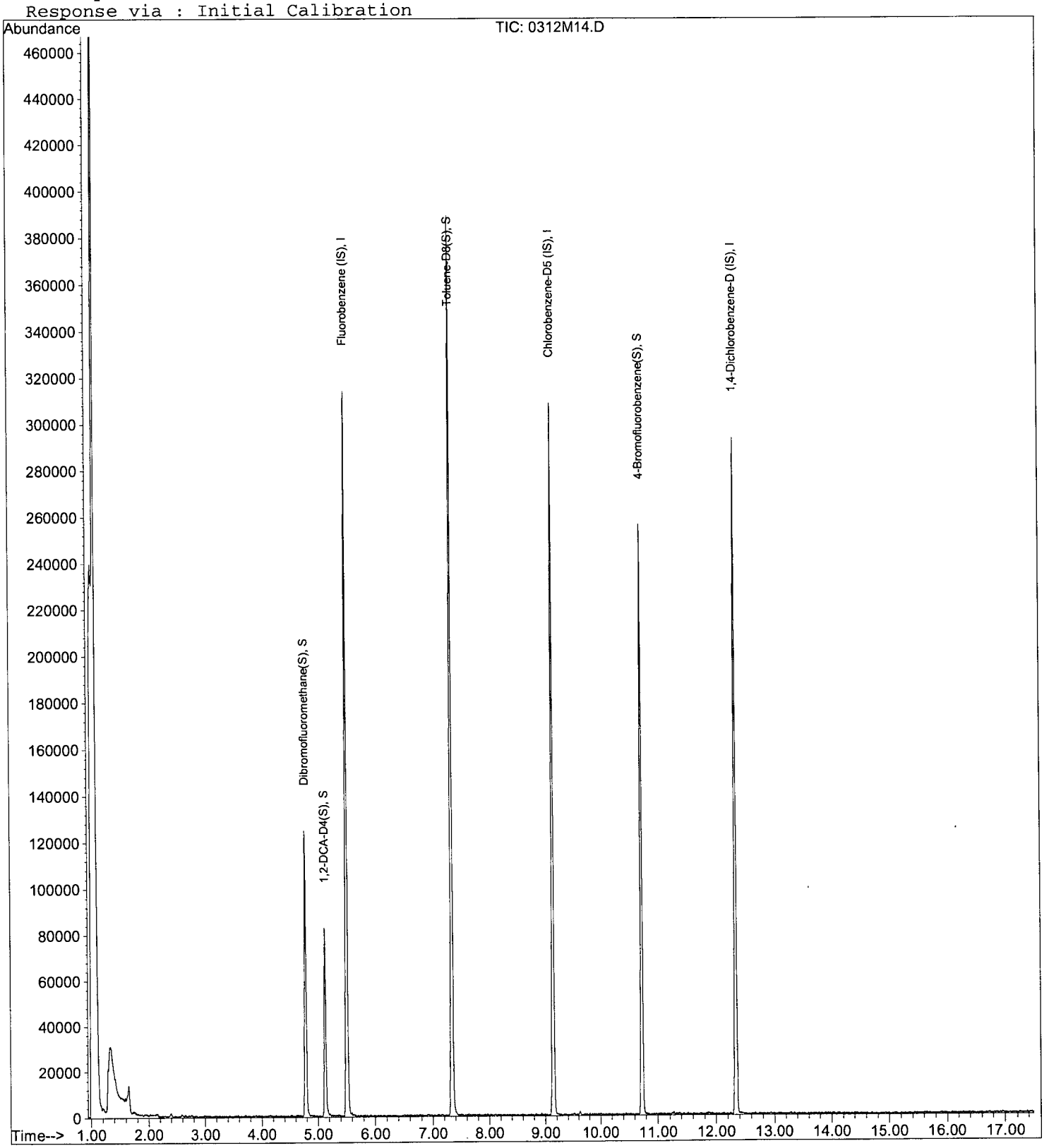
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M14.D
Acq On : 12 Mar 17 18:14
Sample : AZ51359W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #86BTO-170312AM1-21682

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.9	81-118			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.8	85-114			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.8	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M15.D
Acq On : 12 Mar 17 18:43
Sample : AZ51360W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:20 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	298065	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	210821	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97792	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76077	25.90689 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.628%	
37) 1,2-DCA-D4(S)	5.13	65	57916	24.73232 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.928%	
57) Toluene-D8(S)	7.34	98	302462	24.70849 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.832%	
65) 4-Bromofluorobenzene(S)	10.73	95	97889	24.19080 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

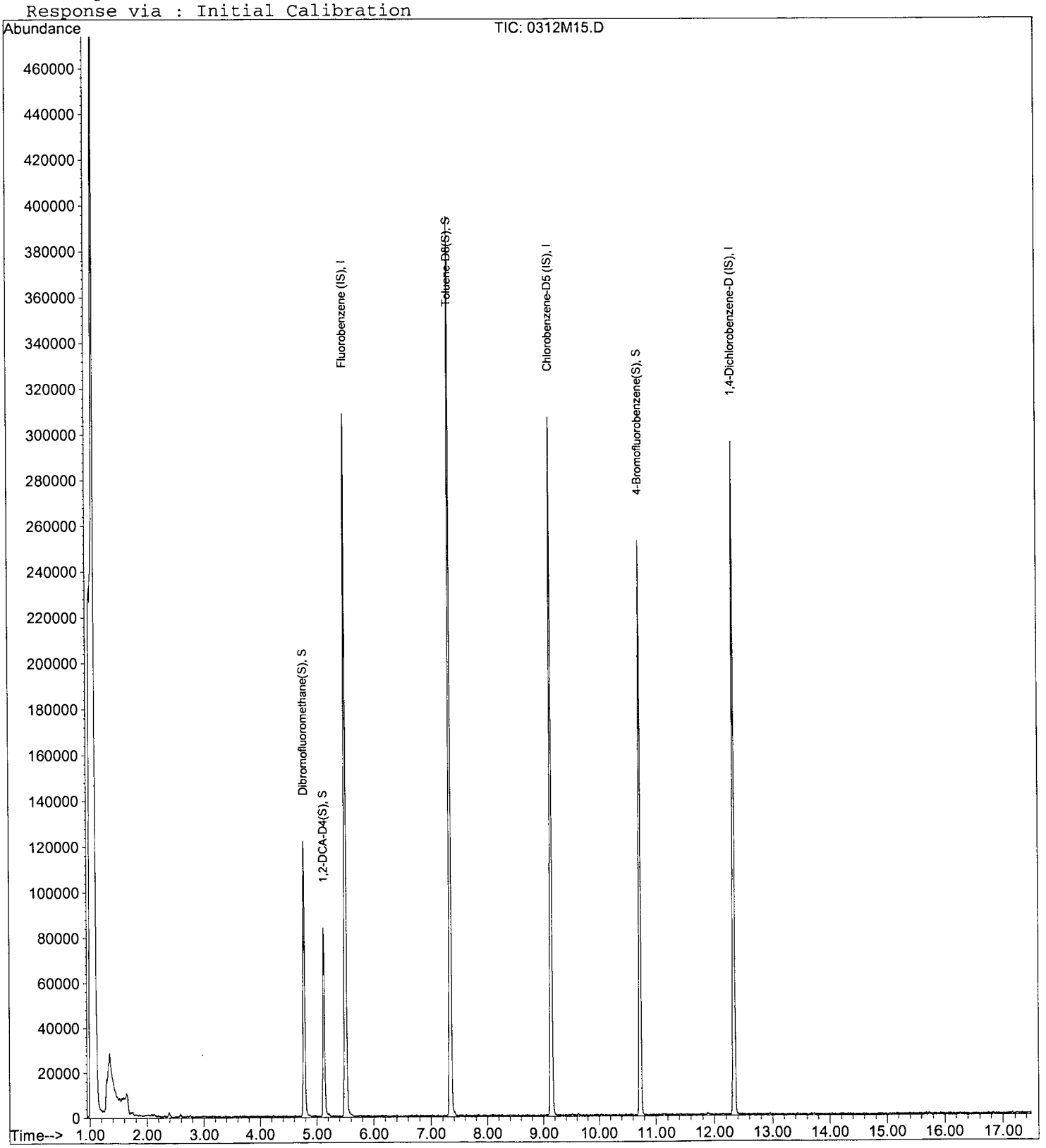
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M15.D
Acq On : 12 Mar 17 18:43
Sample : AZ51360W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH279
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51361
QCG: #86BTO-170312AM1-21682

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.2	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M16.D
Acq On : 12 Mar 17 19:11
Sample : AZ51361W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:21 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289121	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	200038	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	95490	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	72228	25.35705 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.428%	
37) 1,2-DCA-D4(S)	5.12	65	57240	25.19981 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.800%	
57) Toluene-D8(S)	7.34	98	288192	24.81182 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.248%	
65) 4-Bromofluorobenzene(S)	10.73	95	93317	24.30404 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

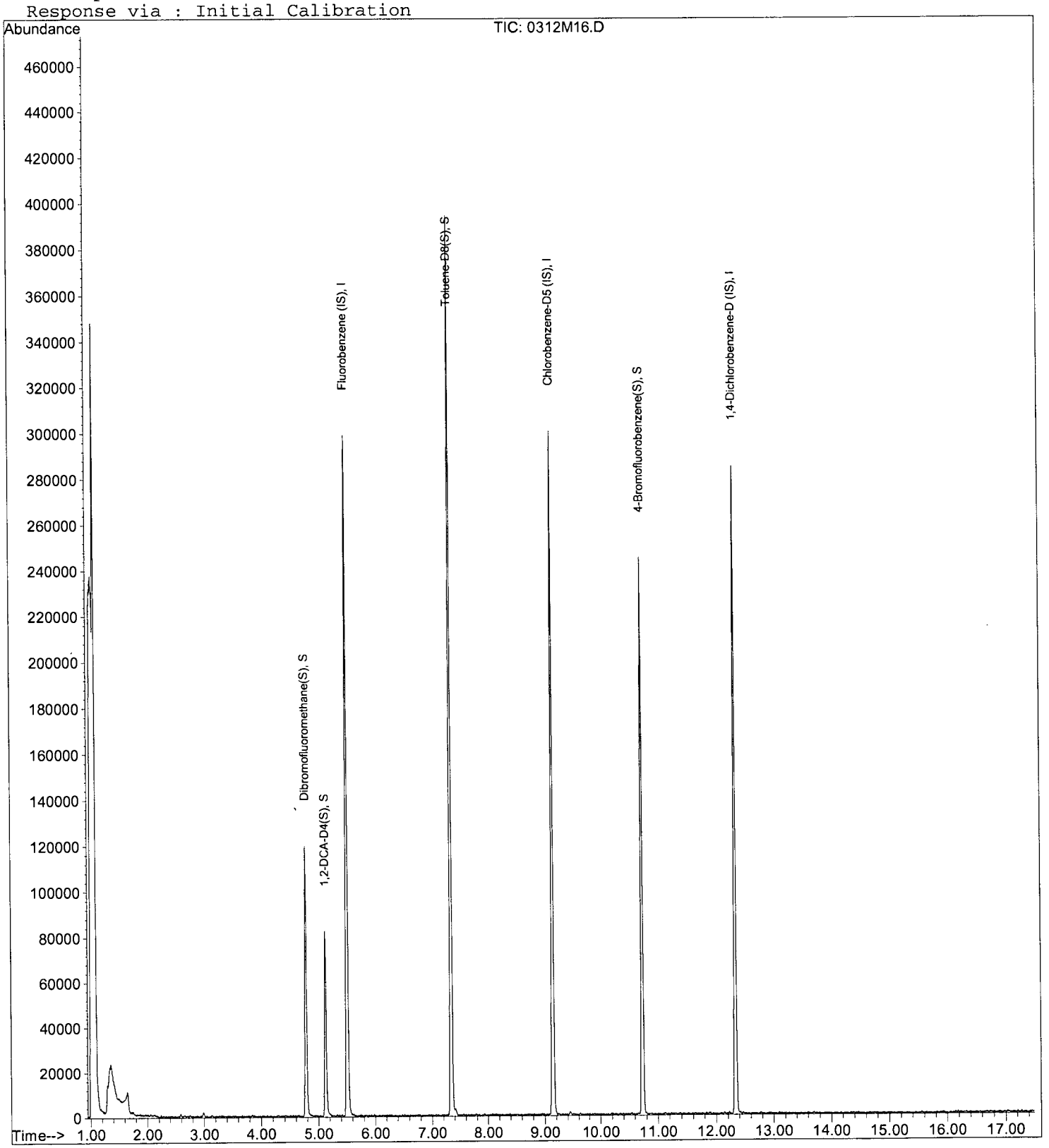
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M16.D
Acq On : 12 Mar 17 19:11
Sample : AZ51361W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:21 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82369

Sample ID: ERH280

APPL ID: AZ51362

Sample Collection Date: 03/08/17

QCG: #86BTO-170312AM1-21682

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	97.0	81-118			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/12/17	03/12/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M17.D
Acq On : 12 Mar 17 19:40
Sample : AZ51362W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:21 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	267566	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	190220	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	88704	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	66773	25.33044 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.320%	
37) 1,2-DCA-D4(S)	5.13	65	50982	24.25288 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.012%	
57) Toluene-D8(S)	7.34	98	277321	25.10821 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.432%	
65) 4-Bromofluorobenzene(S)	10.73	95	87773	24.04002 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.160%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

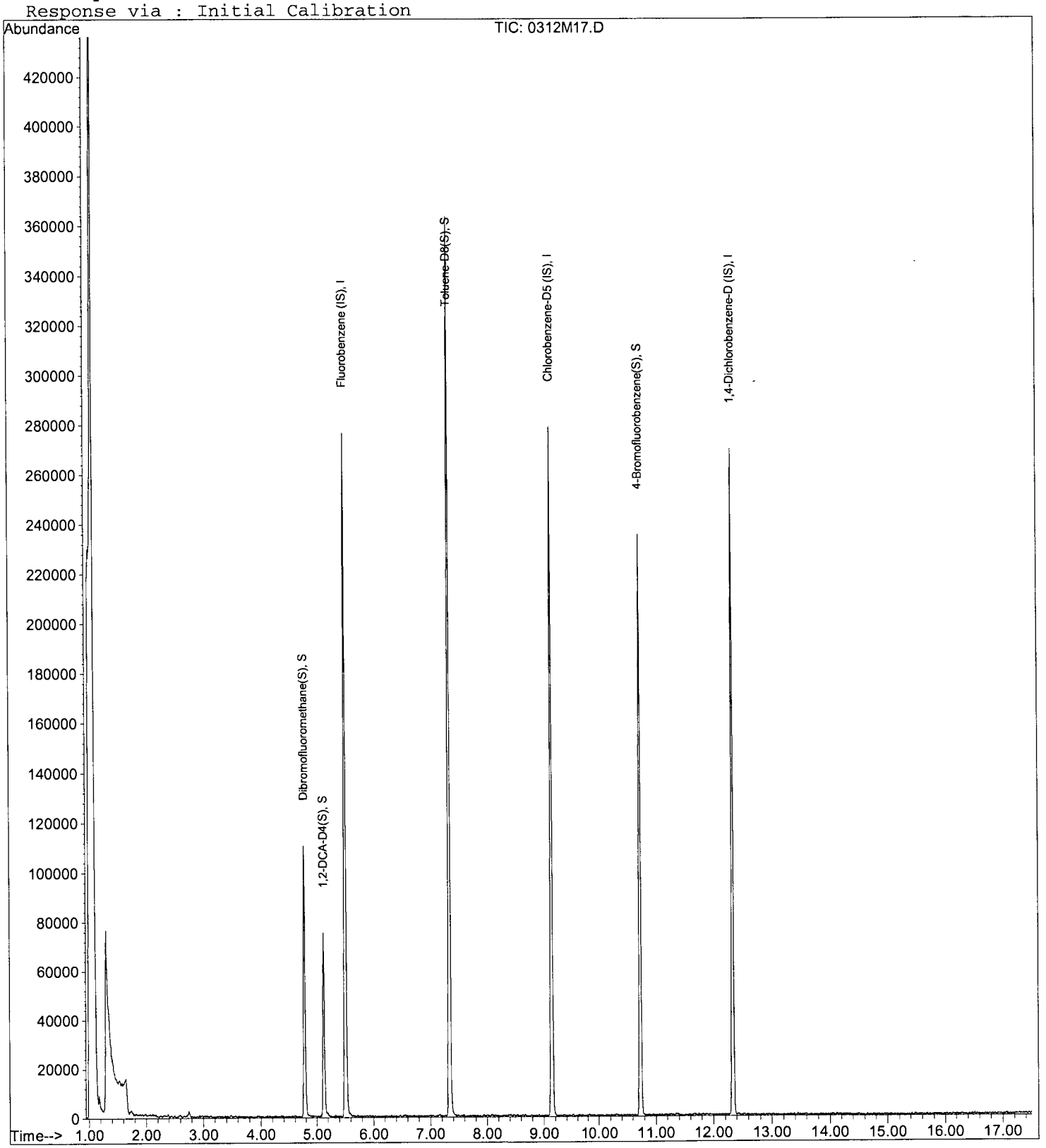
Data File : M:\MAX\DATA\M170308\0312M17.D
Acq On : 12 Mar 17 19:40
Sample : AZ51362W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:21 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH283
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51363
QCG: #86BTO-170313AM-216859

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/13/17	03/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/13/17	03/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/13/17	03/13/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/13/17	03/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	98.9	81-118			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.0	89-112			%	03/13/17	03/13/17

Quant Method: MALLW.M
Run #: 0313M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M14.D
Acq On : 13 Mar 17 15:00
Sample : AZ51363W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:11 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	279127	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	194289	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	91549	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	69341	25.21512 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.860%	
37) 1,2-DCA-D4(S)	5.13	65	54201	24.71626 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.864%	
57) Toluene-D8(S)	7.34	98	279119	24.74175 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.968%	
65) 4-Bromofluorobenzene(S)	10.73	95	89060	23.88167 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.528%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0313M14.D MALLW.M Tue Mar 14 10:32:17 2017

Quantitation Report

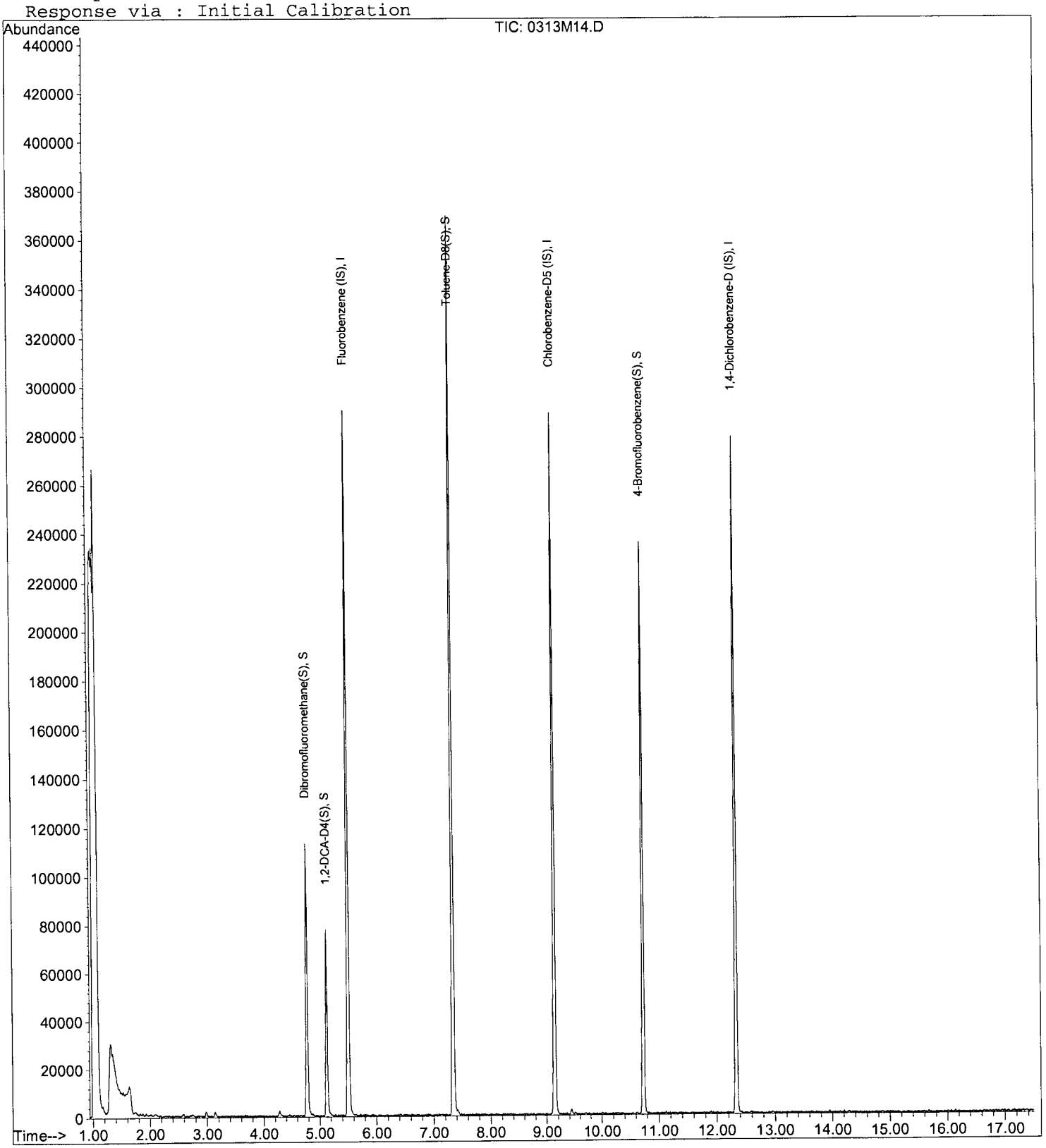
Data File : M:\MAX\DATA\M170308\0313M14.D
Acq On : 13 Mar 17 15:00
Sample : AZ51363W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:11 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #86BTO-170313AM-216859

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/13/17	03/13/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/13/17	03/13/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/13/17	03/13/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/13/17	03/13/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	97.0	81-118			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.7	85-114			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/13/17	03/13/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.8	89-112			%	03/13/17	03/13/17

Quant Method: MALLW.M
Run #: 0313M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:54:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M15.D
Acq On : 13 Mar 17 15:29
Sample : AZ51364W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:12 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	286375	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	201717	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	95534	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	70940	25.14369 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.576%	
37) 1,2-DCA-D4(S)	5.12	65	54573	24.25605 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.024%	
57) Toluene-D8(S)	7.34	98	286311	24.44470 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.780%	
65) 4-Bromofluorobenzene(S)	10.73	95	95510	24.66815 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.672%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

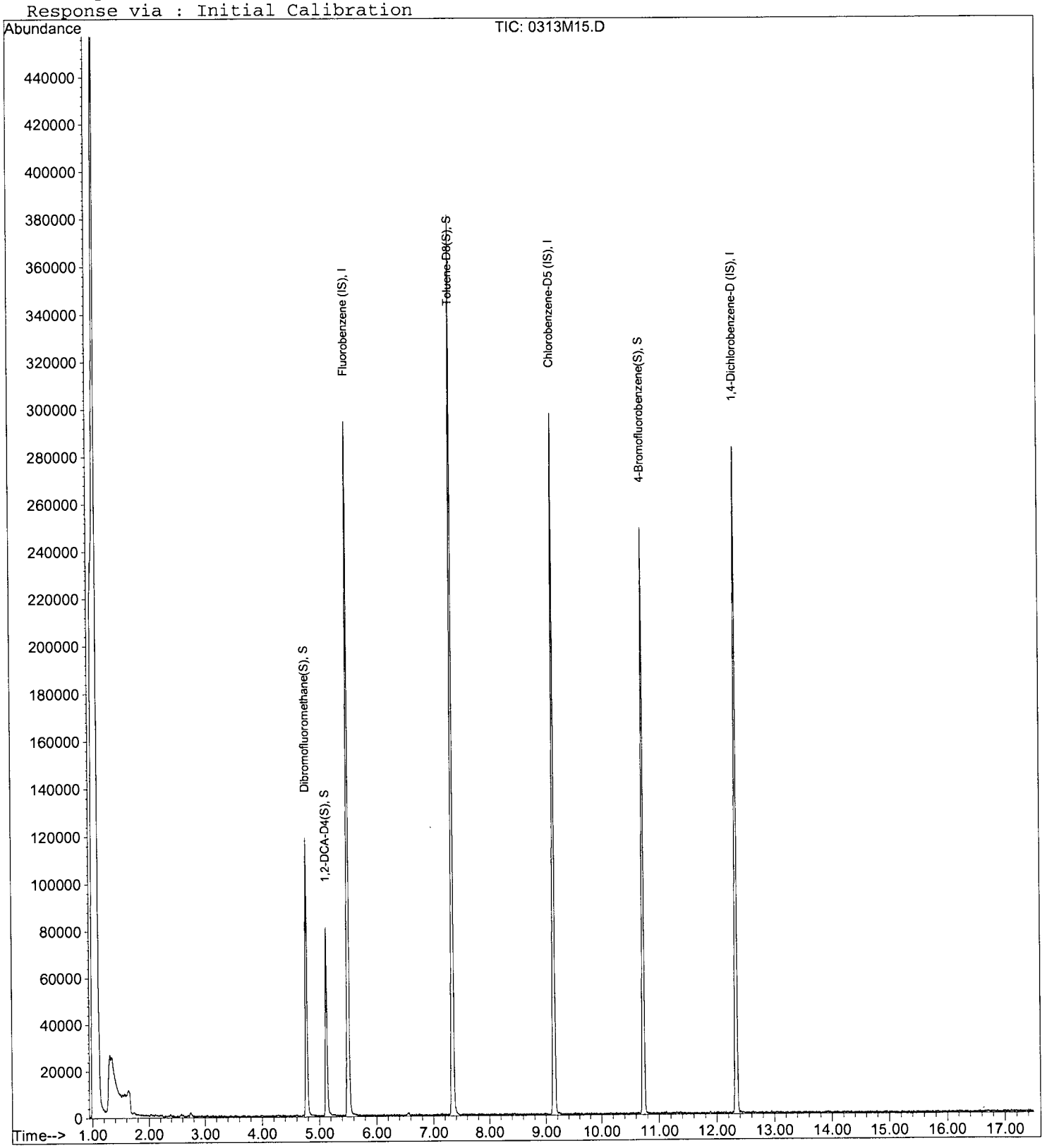
Data File : M:\MAX\DATA\M170308\0313M15.D
Acq On : 13 Mar 17 15:29
Sample : AZ51364W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:12 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	0308M05.D 1	0308M06.D 2	0308M07.D 3	0308M08.D 4	0308M09.D 5	0308M10.D 6	0308M11.D 7	0308M12.D 8	0308M13.D 9		Avg	%RSD		
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2744	0.2878	0.2645	0.2965	0.2979	0.3049	0.3003	0.3165		0.29	5.7	TM	
3	TM	Freon 114		0.4188	0.3802	0.4212	0.3968	0.4124	0.3881	0.4302	0.4375		0.41	5.0	TM	
4	TM**	Chloromethane		0.4256	0.4378	0.4038	0.4142	0.4230	0.4029	0.4063	0.4390		0.42	3.5	TM**	
5	TM*	Vinyl chloride		0.6090	0.5726	0.5330	0.6094	0.6125	0.5996	0.6032	0.6236		0.60	4.9	TM*	
6	TM	Bromomethane		0.4498	0.4294	0.3618	0.3692	0.3535	0.4171	0.4518	0.4590		0.41	11	TM	
7	TM	Chloroethane		0.3550	0.3445	0.3126	0.3696	0.3623	0.3454	0.3524			0.35	5.2	TM	
8	TM	Dichlorofluoromethane		0.8837	0.9336	0.8582	0.9014	0.9402	0.9002	0.9362	1.013		0.92	5.1	TM	
9	TM	Trichlorofluoromethane		0.6874	0.7107	0.6874	0.7259	0.7465	0.7356	0.7560	0.8058		0.73	5.3	TM	
10	TM	Acrolein	0.0226	0.0212	0.0216	0.0209	0.0218	0.0230	0.0229	0.0232	0.0237		0.02	4.3	TM	
11	TML	Acetone			0.0224	0.0183	0.0102	0.0122	0.0094	0.0094	0.0091		0.01	40	TML	0.999
12	TM	Freon-113		0.3835	0.4580	0.4093	0.4240	0.4273	0.4075	0.4432	0.4429		0.42	5.6	TM	
13	TM*	1,1-DCE		0.6038	0.6917	0.6350	0.6662	0.6837	0.6509	0.6872	0.7042		0.67	5.1	TM*	
14	TM	Acetonitrile		0.0192	0.0191	0.0196	0.0199	0.0207	0.0208	0.0212	0.0235		0.02	7.1	TM	
15	TM	t-Butanol	0.0084	0.0065	0.0061	0.0080	0.0072	0.0074	0.0083	0.0087			0.01	12	TM	
16	TM	Methyl Acetate		0.1430	0.1423	0.1334	0.1448	0.1356	0.1492	0.1557	0.1623		0.15	6.7	TM	
17	TML	Iodomethane		0.2096	0.2478	0.2817	0.4500	0.5371	0.5556	0.5911			0.41	39	TML	0.999
18	TM	Acrylonitrile		0.0530	0.0599	0.0633	0.0739	0.0726	0.0698	0.0732	0.0760		0.07	12	TM	
19	TM	Methylene chloride		0.5048	0.4895	0.4084	0.4391	0.4385	0.4192	0.4231	0.4342		0.44	7.7	TM	
20	TM	Carbon disulfide		1.326	1.382	1.234	1.355	1.391	1.339	1.383	1.462		1.4	4.8	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.7247	0.6909	0.6542	0.7461	0.7536	0.7299	0.7441	0.7761		0.73	5.3	TM	
22	TM	Trans-1,2-DCE		0.5246	0.4628	0.4867	0.5072	0.5314	0.4987	0.5061	0.5262		0.51	4.5	TM	
23	TM	Diisopropyl Ether		1.148	1.209	1.128	1.265	1.287	1.233	1.286	1.374		1.2	6.4	TM	
24	TM**	1,1-DCA		0.7550	0.8387	0.7566	0.8322	0.8297	0.8065	0.8216	0.8652		0.81	4.8	TM**	
25	TM	Vinyl Acetate		0.1976	0.2364	0.1839	0.2067	0.2166	0.2491				0.22	11	TM	
26	TM	Ethyl tert Butyl Ether		0.8137	0.7894	0.7450	0.8160	0.8427	0.8398	0.9050	0.9773		0.84	8.5	TM	
27	TML	MEK (2-Butanone)		0.1439	0.1340	0.0784	0.1257	0.1174	0.1047	0.0964	0.0965		0.11	20	TML	0.999
28	TM	Cis-1,2-DCE		0.4416	0.5323	0.5095	0.5459	0.5442	0.5138	0.5225	0.5469		0.52	6.7	TM	
29	TM	2,2-Dichloropropane		0.4389	0.4788	0.4320	0.4841	0.5278	0.5461	0.6026			0.50	12	TM	
30	TM*	Chloroform	0.7993	0.8306	0.7646	0.7467	0.8359	0.8252	0.8025	0.8094	0.8527		0.81	4.2	TM*	
31	TM	Bromochloromethane		0.1752	0.1996	0.1891	0.2052	0.2101	0.1980	0.2018	0.2119		0.20	6.0	TM	
32	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
33	TM	1,1,1-TCA		0.6662	0.6475	0.6071	0.6893	0.7078	0.7117	0.7698	0.8339		0.70	10	TM	
34	TM	Cyclohexane		0.4263	0.4257	0.4111	0.4171	0.4299	0.4086	0.4274	0.4445		0.42	2.7	TM	
35	TM	1,1-Dichloropropene	0.6412	0.6541	0.6477	0.6150	0.6739	0.6882	0.6549	0.6701	0.6979		0.66	3.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane	1.129	1.159	1.159	1.084	1.139	1.144	1.078	1.140	1.190		1.1	3.2	TM	
37	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
38	TM	Carbon Tetrachloride		0.5051	0.4805	0.4346	0.4939	0.5445	0.5449	0.6218			0.52	12	TM	
39	TM	Tert Amyl Methyl Ether		0.6588	0.6842	0.6704	0.7347	0.7549	0.7545	0.7958	0.8715		0.74	9.6	TM	
40	TM	1,2-DCA	0.4470	0.4687	0.4295	0.4107	0.4595	0.4419	0.4199	0.4282	0.4555		0.44	4.4	TM	
41	TM	Benzene	2.030	1.877	2.004	1.882	2.020	2.012	1.911	1.966	2.085		2.0	3.7	TM	
42	TM	TCE	0.5734	0.5357	0.5541	0.5142	0.5414	0.5511	0.5223	0.5383	0.5546		0.54	3.3	TM	
43	TM	2-Pentanone	0.1268	0.1098	0.1152	0.1166	0.1216	0.1281	0.1335	0.1430			0.12	8.7	TM	
44	TM*	1,2-Dichloropropane		0.3641	0.4105	0.4079	0.4225	0.4328	0.4120	0.4241	0.4526		0.42	6.1	TM*	
45	TM	Bromodichloromethane		0.3894	0.4187	0.4006	0.4371	0.4788	0.4824	0.5047	0.5539		0.46	12	TM	
46	TM	Methyl Cyclohexane	0.7863	0.7691	0.7727	0.6807	0.7277	0.7208	0.6971	0.7298	0.7732		0.74	5.0	TM	
47	TM	Dibromomethane		0.1667	0.1578	0.1581	0.1733	0.1791	0.1729	0.1782	0.1864		0.17	5.9	TM	
48	TM	MIBK (methyl isobutyl ketone)				0.2266	0.2208	0.2002	0.1959	0.1935	0.2038		0.21	6.6	TM	
49	TM	1-Bromo-2-chloroethane		0.3862	0.3885	0.3667	0.3872	0.4087	0.4076	0.4214			0.40	4.7	TM	
50	TM	2-Chloroethyl vinyl ether													TM	
51	TM	Cis-1,3-Dichloropropene		0.3960	0.4459	0.4416	0.4933	0.5207	0.5363	0.5786			0.49	13	TM	
52	TM*	Toluene		2.231	2.298	2.088	2.323	2.347	2.200	2.275	2.482		2.3	5.1	TM*	
53	TM	Trans-1,3-Dichloropropene		0.2769	0.2759	0.2631	0.3025	0.3409	0.3646				0.30	13	TM	
54	TM	1,1,2-TCA		0.1970	0.1903	0.1908	0.2120	0.2111	0.2110	0.2060	0.2186		0.20	5.2	TM	
55	TM	2-Hexanone			0.1005	0.1065	0.1088	0.1174	0.1212	0.1259	0.1335		0.12	10	TM	
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
58	TML	1,2-EDB		0.2051	0.2191	0.2161	0.2626	0.2999	0.3176	0.3356			0.27	20	TML	0.999
59	TM	Tetrachloroethene		0.7698	0.7932	0.7468	0.8056	0.8132	0.7400	0.7391	0.7496		0.77	4.0	TM	
60	TM	1-Chlorohexane		0.9365	0.9861	0.8758	0.9048	0.9834	0.9218	0.9575	1.001		0.95	4.6	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.4181	0.4353	0.3938	0.4635	0.5137	0.5389	0.5977			0.48	15	TM	
62	TM	m&p-Xylene		1.406	1.479	1.394	1.506	1.548	1.422	1.472	1.599		1.5	4.8	TM	
63	TM	o-Xylene	1.515	1.453	1.379	1.299	1.408	1.471	1.360	1.395	1.492		1.4	4.9	TM	
64	TM	Styrene		1.938	1.817	1.875	2.111	2.222	2.061	2.164	2.384		2.1	9.2	TM	
65	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
66	TM	1,3-Dichloropropane	0.6458	0.6038	0.5957	0.5973	0.6461	0.6467	0.6046	0.6225	0.6278		0.62	3.5	TM	
67	TM	Dibromochloromethane		0.2969	0.3247	0.2929	0.3595	0.4003	0.4015				0.35	14	TM	
68	TM**	Chlorobenzene	1.993	2.013	1.927	1.910	2.035	2.066	1.924	1.970	2.043		2.0	2.9	TM**	
69	TM*	Ethylbenzene	3.454	3.682	3.543	3.434	3.770	3.836	3.525	3.630	3.867		3.6	4.4	TM*	
70	TM**	Bromoform		0.1836	0.1677	0.1609	0.1745	0.1904	0.2078	0.2354			0.19	14	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene	7.892	6.828	7.477	7.193	7.555	7.571	7.009	7.160	7.465		7.4	4.5	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6540	0.6465	0.5771	0.6578	0.6746	0.6976	0.6648	0.6855	0.7160		0.66	5.9	TM**	
74	TM	1,2,3-Trichloropropane		0.2902	0.2232	0.2149	0.2456	0.2303	0.2290	0.2238	0.2290		0.24	10	TM	
75	TM	t-1,4-Dichloro-2-Butene			0.1156	0.1320	0.1245	0.1267	0.1298	0.1491			0.13	8.6	TM	
76	TM	Bromobenzene	1.651	1.594	1.609	1.601	1.710	1.653	1.543	1.564	1.605		1.6	3.1	TM	
77	TM	n-Propylbenzene	8.776	7.704	8.562	7.924	8.447	8.408	7.817	8.143	8.657		8.3	4.7	TM	
78	TM	4-Ethyltoluene	7.228	6.981	7.039	6.866	7.404	7.433	6.909	7.138	7.634		7.2	3.7	TM	
79	TM	2-Chlorotoluene	4.910	4.748	4.767	4.557	4.854	4.866	4.459	4.598	4.789		4.7	3.3	TM	
80	TM	1,3,5-Trimethylbenzene	6.470	6.007	6.463	5.786	6.269	6.137	5.717	5.950	6.415		6.1	4.7	TM	
81	TM	4-Chlorotoluene	6.041	5.482	5.683	5.105	5.562	5.544	5.195	5.374	5.801		5.5	5.3	TM	
82	TM	Tert-Butylbenzene	5.811	5.660	5.956	5.299	5.647	5.511	5.099	5.204	5.420		5.5	5.2	TM	
83	TM	1,2,4-Trimethylbenzene	5.788	5.267	5.839	5.258	5.928	5.971	5.677	5.865	6.340		5.8	5.9	TM	
84	TM	Sec-Butylbenzene	7.291	6.959	7.493	7.033	7.480	7.445	6.887	7.166	7.656		7.3	3.7	TM	
85	TM	p-Isopropyltoluene	6.399	5.976	6.377	5.880	6.460	6.540	6.062	6.369	6.900		6.3	5.0	TM	
86	TMQ	Benzyl Chloride		0.2386	0.3344	0.3529	0.4079	0.4509	0.4975	0.6875			0.42	34	TMQ	1.000
87	TM	1,3-DCB	3.488	3.117	3.369	3.134	3.394	3.339	3.180	3.231	3.413		3.3	4.1	TM	
88	TM	1,4-DCB	3.608	3.493	3.309	3.150	3.241	3.197	2.994	3.108	3.328		3.3	5.8	TM	
89	TM	n-Butylbenzene	4.808	4.642	4.910	4.745	5.112	5.278	4.957	5.229	5.667		5.0	6.3	TM	
90	TM	1,2-DCB	2.890	2.498	2.750	2.460	2.850	2.843	2.670	2.667	2.804		2.7	5.7	TM	
91	TM	Hexachloroethane		0.5053	0.4817	0.4738	0.5112	0.5344	0.5809				0.51	7.6	TM	
92	TML	1,2-Dibromo-3-chloropropane				0.0549	0.0615	0.0639	0.0839	0.1003	0.1127		0.08	29	TML	0.998
93	TML	1,2,4-Trichlorobenzene		0.7457	0.8406	1.089	1.392	1.492	1.540				1.2	29	TML	1.000
94	TM	Hexachlorobutadiene		0.9547	0.9198	0.8863	0.9662	0.9771	0.9129	0.9312	1.035		0.95	4.9	TM	
95	TMQ	Naphthalene		0.2935	0.2530	0.3526	0.5413	0.6777	0.8346				0.49	47	TMQ	1.000
96	TMQ	1,2,3-Trichlorobenzene	0.2813	0.3493	0.4853	0.6983	0.9014	1.061					0.63	49	TMQ	1.000
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
37) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
57) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
65) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1128	0.28873 ppb		99
3) Freon 114	1.29	85	1562	0.28513 ppb		87
4) Chloromethane	1.34	50	1995	0.35687 ppb		93
5) Vinyl chloride	1.42	62	2217	0.27914 ppb		98
6) Bromomethane	1.70	94	1828	0.33302 ppb		94
7) Chloroethane	1.79	64	1634	0.35113 ppb		97
8) Dichlorofluoromethane	1.97	67	3877	0.31564 ppb		99
9) Trichlorofluoromethane	2.02	101	2846	0.29147 ppb		100
10) Acrolein	2.41	56	3014	10.12344 ppb		86
11) Acetone	2.57	58	243	0.18567 ppb		89
12) Freon-113	2.53	101	1752	0.30941 ppb		90
13) 1,1-DCE	2.50	61	2829	0.31872 ppb		97
14) Acetonitrile	2.84	41	2867	23.27452 ppb	#	73
15) t-Butanol	3.14	59	1123	11.10336 ppb	#	39
16) Methyl Acetate	2.89	43	753	0.38721 ppb	#	52
17) Iodomethane	2.65	142	761	0.98685 ppb	#	79
18) Acrylonitrile	3.23	53	238	0.26341 ppb	#	64
19) Methylene chloride	2.98	84	2142	0.36115 ppb		91
20) Carbon disulfide	2.69	76	5773	0.31847 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	2952	0.30419 ppb	#	82
22) Trans-1,2-DCE	3.25	96	2177	0.32284 ppb		95
23) Diisopropyl Ether	3.79	45	5096	0.30776 ppb		98
24) 1,1-DCA	3.66	63	3550	0.32724 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	3487	0.31076 ppb		91
27) MEK (2-Butanone)	4.31	43	395	-0.56726 ppb	#	44
28) Cis-1,2-DCE	4.26	96	2315	0.33398 ppb		81
29) 2,2-Dichloropropane	4.26	77	2215	0.33111 ppb		96
30) Chloroform	4.60	83	3199	0.29698 ppb	#	68
31) Bromochloromethane	4.50	128	751	0.28307 ppb	#	83
33) 1,1,1-TCA	4.80	97	2342	0.24931 ppb		94
34) Cyclohexane	4.86	41	2116	0.37424 ppb		92
35) 1,1-Dichloropropene	4.97	75	2566	0.29129 ppb		95
36) 2,2,4-Trimethylpentane	5.32	57	4520	0.29829 ppb		93
38) Carbon Tetrachloride	4.97	117	2008	0.29064 ppb		87
39) Tert Amyl Methyl Ether	5.36	73	2900	0.29352 ppb		94
40) 1,2-DCA	5.20	62	1789	0.30471 ppb	#	84
41) Benzene	5.19	78	8123	0.30812 ppb		93
42) TCE	5.91	95	2295	0.31694 ppb		91
43) 2-Pentanone	6.15	43	16917	10.20004 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.15	63	1702	0.30682 ppb	#	81
45) Bromodichloromethane	6.48	83	1516	0.24801 ppb		87
46) Methyl Cyclohexane	6.14	83	3147	0.31891 ppb		95
47) Dibromomethane	6.28	93	656	0.28662 ppb		88
48) MIBK (methyl isobutyl ket	7.23	43	1155	0.41866 ppb	#	74
49) 1-Bromo-2-chloroethane	6.82	63	1383	0.26234 ppb		91
51) Cis-1,3-Dichloropropene	7.01	75	1854	0.28508 ppb	#	86
52) Toluene	7.41	91	9475	0.31142 ppb		89
53) Trans-1,3-Dichloropropene	7.70	75	1334	0.32897 ppb		87
54) 1,1,2-TCA	7.90	83	795	0.29125 ppb		82
55) 2-Hexanone	8.27	43	507	0.32692 ppb	#	81
58) 1,2-EDB	8.51	107	604	0.92605 ppb	#	73
59) Tetrachloroethene	8.09	164	2342	0.33251 ppb		93
60) 1-Chlorohexane	9.20	91	2409	0.27830 ppb	#	75
61) 1,1,1,2-Tetrachloroethane	9.29	131	1386	0.31544 ppb		84
62) m&p-Xylene	9.51	106	7914	0.58497 ppb		82
63) o-Xylene	10.02	106	4160	0.32032 ppb		78
64) Styrene	10.05	104	5601	0.29547 ppb		85
66) 1,3-Dichloropropane	8.11	76	1773	0.31192 ppb		96
67) Dibromochloromethane	8.39	129	909	0.28711 ppb		86
68) Chlorobenzene	9.17	112	5472	0.30095 ppb		97
69) Ethylbenzene	9.35	91	9482	0.28481 ppb		92
70) Bromoform	10.26	173	330	0.19120 ppb	#	29
72) Isopropylbenzene	10.55	105	10185	0.32213 ppb	#	87
73) 1,1,2,2-Tetrachloroethane	10.95	83	844	0.29559 ppb	#	75
74) 1,2,3-Trichloropropane	11.00	110	392	0.38655 ppb		86
75) t-1,4-Dichloro-2-Butene	11.05	53	189	0.33898 ppb	#	36
76) Bromobenzene	10.91	156	2131	0.30680 ppb		96
77) n-Propylbenzene	11.12	91	11325	0.31831 ppb		96
78) 4-Ethyltoluene	11.28	105	9328	0.30195 ppb		95
79) 2-Chlorotoluene	11.20	91	6336	0.31156 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	8350	0.31640 ppb		98
81) 4-Chlorotoluene	11.36	91	7796	0.32762 ppb		85
82) Tert-Butylbenzene	11.82	119	7499	0.31628 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	7469	0.30090 ppb		96
84) Sec-Butylbenzene	12.13	105	9409	0.30096 ppb		100
85) p-Isopropyltoluene	12.36	119	8258	0.30330 ppb		98
86) Benzyl Chloride	12.57	91	328	0.07140 ppb	#	60
87) 1,3-DCB	12.24	146	4501	0.31744 ppb		95
88) 1,4-DCB	12.37	146	4656	0.33102 ppb		95
89) n-Butylbenzene	12.94	91	6205	0.28628 ppb	#	91
90) 1,2-DCB	12.88	146	3730	0.31940 ppb		92
91) Hexachloroethane	13.26	117	526	0.23764 ppb	#	69
92) 1,2-Dibromo-3-chloropropan	14.12	75	23	3.54646 ppb	#	1
93) 1,2,4-Trichlorobenzene	15.21	180	713	0.58219 ppb		95
94) Hexachlorobutadiene	15.50	225	1504	0.36884 ppb		86
95) Naphthalene	15.53	128	374	0.68630 ppb	#	78
96) 1,2,3-Trichlorobenzene	15.89	180	363	0.40902 ppb	#	62

(#) = qualifier out of range (m) = manual integration

Quantitation Report

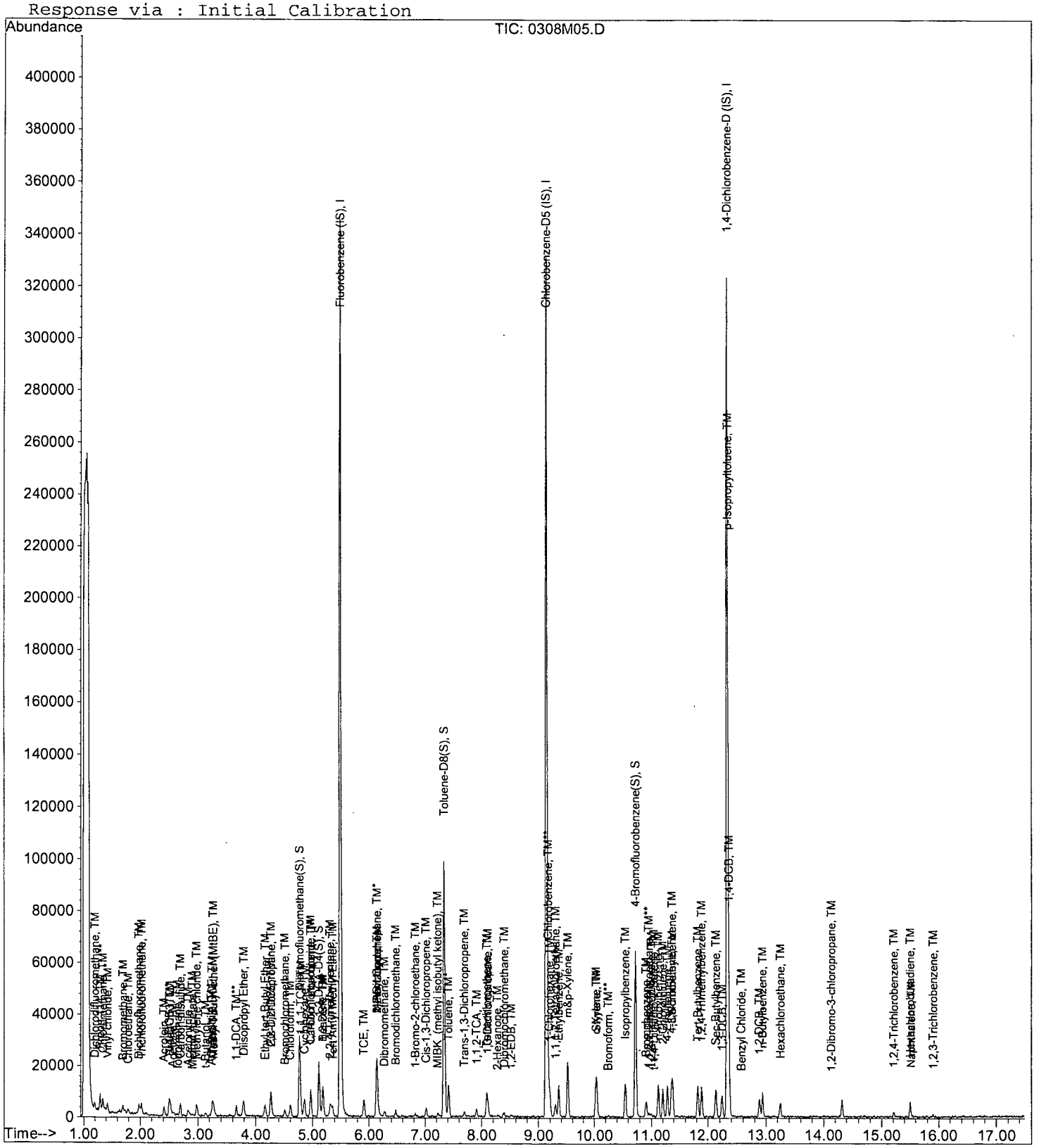
Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



483

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
37) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
57) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1812	0.46854 ppb		96
3) Freon 114	1.29	85	2765	0.50987 ppb		92
4) Chloromethane	1.34	50	2810	0.50778 ppb		96
5) Vinyl chloride	1.43	62	4021	0.51144 ppb		90
6) Bromomethane	1.70	94	2970	0.54659 ppb		79
7) Chloroethane	1.79	64	2344	0.50883 ppb		92
8) Dichlorofluoromethane	1.98	67	5835	0.47988 ppb		93
9) Trichlorofluoromethane	2.03	101	4539	0.46961 ppb		85
10) Acrolein	2.41	56	6998	23.74464 ppb		99
11) Acetone	2.59	58	245	0.22348 ppb	#	1
12) Freon-113	2.53	101	2532	0.45173 ppb		89
13) 1,1-DCE	2.50	61	3987	0.45376 ppb	#	94
14) Acetonitrile	2.83	41	6323	51.85409 ppb	#	93
15) t-Butanol	3.14	59	2148	21.45436 ppb		97
16) Methyl Acetate	2.89	43	944	0.49038 ppb		97
17) Iodomethane	2.65	142	1384	1.06656 ppb	#	83
18) Acrylonitrile	3.22	53	350	0.39132 ppb	#	62
19) Methylene chloride	2.98	84	3333	0.56769 ppb		97
20) Carbon disulfide	2.69	76	8753	0.48778 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	4785	0.49811 ppb		99
22) Trans-1,2-DCE	3.25	96	3464	0.51894 ppb		88
23) Diisopropyl Ether	3.79	45	7582	0.46257 ppb	#	92
24) 1,1-DCA	3.66	63	4985	0.46421 ppb	#	92
25) Vinyl Acetate	3.75	43	1305	0.45951 ppb		91
26) Ethyl tert Butyl Ether	4.16	59	5373	0.48372 ppb		95
27) MEK (2-Butanone)	4.29	43	950	-0.12539 ppb		87
28) Cis-1,2-DCE	4.27	96	2916	0.42497 ppb		86
29) 2,2-Dichloropropane	4.26	77	2898	0.43763 ppb	#	90
30) Chloroform	4.61	83	5484	0.51430 ppb		92
31) Bromochloromethane	4.51	128	1157	0.44054 ppb		85
33) 1,1,1-TCA	4.79	97	4399	0.47306 ppb	#	86
34) Cyclohexane	4.85	41	2815	0.50295 ppb		77
35) 1,1-Dichloropropene	4.97	75	4319	0.49528 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	7654	0.51026 ppb		94
38) Carbon Tetrachloride	4.97	117	3335	0.48764 ppb		99
39) Tert Amyl Methyl Ether	5.36	73	4350	0.44477 ppb		92
40) 1,2-DCA	5.20	62	3095	0.53253 ppb		99
41) Benzene	5.19	78	12392	0.47485 ppb		93
42) TCE	5.91	95	3537	0.49344 ppb		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D Vial: 5
Acq On : 8 Mar 17 13:26 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 3/8/17I Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	36243	22.07545	ppb		94
44)	1,2-Dichloropropane	6.15	63	2404	0.43779	ppb	#	92
45)	Bromodichloromethane	6.48	83	2571	0.42490	ppb		91
46)	Methyl Cyclohexane	6.14	83	5078	0.51984	ppb		100
47)	Dibromomethane	6.27	93	1101	0.48595	ppb		91
48)	MIBK (methyl isobutyl ket	7.23	43	1391	0.50935	ppb		93
49)	1-Bromo-2-chloroethane	6.83	63	2550	0.48863	ppb		85
51)	Cis-1,3-Dichloropropene	7.01	75	2615	0.40619	ppb	#	78
52)	Toluene	7.42	91	14733	0.48918	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	1828	0.45538	ppb		96
54)	1,1,2-TCA	7.91	83	1301	0.48148	ppb		86
55)	2-Hexanone	8.27	43	578	0.37651	ppb	#	84
58)	1,2-EDB	8.51	107	934	1.03398	ppb		81
59)	Tetrachloroethene	8.09	164	3506	0.50011	ppb	#	72
60)	1-Chlorohexane	9.19	91	4265	0.49503	ppb		95
61)	1,1,1,2-Tetrachloroethane	9.29	131	1904	0.43537	ppb		94
62)	m&p-Xylene	9.51	106	12809	0.95124	ppb		97
63)	o-Xylene	10.03	106	6617	0.51190	ppb		76
64)	Styrene	10.05	104	8826	0.46778	ppb		93
66)	1,3-Dichloropropane	8.11	76	2750	0.48607	ppb	#	76
67)	Dibromochloromethane	8.39	129	1352	0.42904	ppb		81
68)	Chlorobenzene	9.17	112	9166	0.50648	ppb		91
69)	Ethylbenzene	9.35	91	16770	0.50608	ppb		99
70)	Bromoform	10.25	173	836	0.48665	ppb	#	71
72)	Isopropylbenzene	10.55	105	14797	0.46448	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	1401	0.48697	ppb	#	88
74)	1,2,3-Trichloropropane	10.99	110	629	0.61559	ppb	#	72
75)	t-1,4-Dichloro-2-Butene	11.04	53	175	0.31151	ppb	#	36
76)	Bromobenzene	10.91	156	3455	0.49368	ppb		73
77)	n-Propylbenzene	11.12	91	16695	0.46571	ppb		99
78)	4-Ethyltoluene	11.29	105	15129	0.48605	ppb		100
79)	2-Chlorotoluene	11.20	91	10290	0.50219	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	13017	0.48954	ppb		95
81)	4-Chlorotoluene	11.36	91	11881	0.49553	ppb		87
82)	Tert-Butylbenzene	11.82	119	12267	0.51349	ppb		94
83)	1,2,4-Trimethylbenzene	11.89	105	11415	0.45642	ppb		96
84)	Sec-Butylbenzene	12.14	105	15082	0.47879	ppb		95
85)	p-Isopropyltoluene	12.36	119	12951	0.47210	ppb		97
86)	Benzyl Chloride	12.57	91	517	0.20130	ppb	#	60
87)	1,3-DCB	12.24	146	6756	0.47289	ppb		95
88)	1,4-DCB	12.36	146	7570	0.53415	ppb		91
89)	n-Butylbenzene	12.94	91	10059	0.46061	ppb		95
90)	1,2-DCB	12.88	146	5414	0.46011	ppb	#	88
91)	Hexachloroethane	13.25	117	1095	0.49100	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	1616	0.71384	ppb	#	59
94)	Hexachlorobutadiene	15.51	225	2069	0.50359	ppb		97
95)	Naphthalene	15.54	128	636	0.79228	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.90	180	757	0.51930	ppb	#	75

(#) = qualifier out of range (m) = manual integration

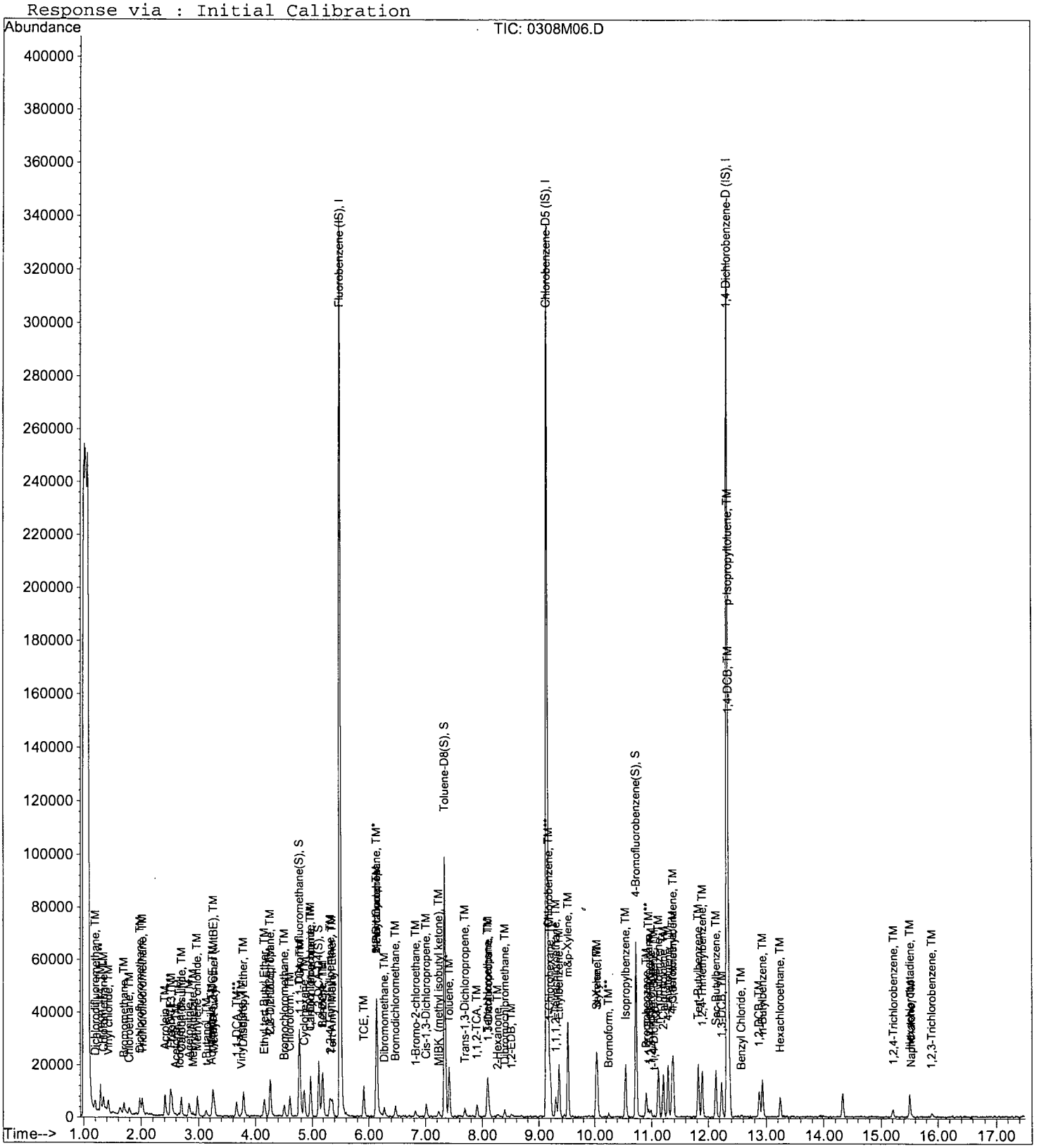
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D Vial: 6
Acq On : 8 Mar 17 13:54 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 3/8/17J Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
37) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
57) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
65) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	3641	0.98265 ppb	99
3) Freon 114	1.29	85	4811	0.92596 ppb	94
4) Chloromethane	1.34	50	5539	1.04472 ppb	89
5) Vinyl chloride	1.43	62	7245	0.96182 ppb	99
6) Bromomethane	1.70	94	5433	1.04361 ppb	95
7) Chloroethane	1.80	64	4359	0.98764 ppb	90
8) Dichlorofluoromethane	1.98	67	11812	1.01394 ppb	92
9) Trichlorofluoromethane	2.03	101	8992	0.97101 ppb	99
10) Acrolein	2.41	56	13657	48.36601 ppb	98
11) Acetone	2.56	58	283	0.65122 ppb	76
12) Freon-113	2.53	101	5795	1.07909 ppb	89
13) 1,1-DCE	2.50	61	8752	1.03964 ppb	99
14) Acetonitrile	2.83	41	12077	103.37422 ppb	91
15) t-Butanol	3.14	59	3877	40.41759 ppb #	84
16) Methyl Acetate	2.90	43	1800	0.97594 ppb	100
17) Iodomethane	2.64	142	3135	1.30521 ppb	87
18) Acrylonitrile	3.21	53	758	0.88455 ppb #	85
19) Methylene chloride	2.98	84	6193	1.10096 ppb	97
20) Carbon disulfide	2.70	76	17485	1.01701 ppb	99
21) Methyl t-butyl ether (MtBE	3.28	73	8741	0.94972 ppb #	87
22) Trans-1,2-DCE	3.25	96	5856	0.91566 ppb	92
23) Diisopropyl Ether	3.79	45	15301	0.97433 ppb	97
24) 1,1-DCA	3.67	63	10612	1.03143 ppb	93
25) Vinyl Acetate	3.75	43	2991	1.09924 ppb	92
26) Ethyl tert Butyl Ether	4.16	59	9988	0.93854 ppb	99
27) MEK (2-Butanone)	4.30	43	1696	0.52296 ppb	92
28) Cis-1,2-DCE	4.27	96	6735	1.02448 ppb	94
29) 2,2-Dichloropropane	4.26	77	6058	0.95483 ppb	98
30) Chloroform	4.61	83	9674	0.94694 ppb	97
31) Bromochloromethane	4.51	128	2526	1.00388 ppb	96
33) 1,1,1-TCA	4.79	97	8192	0.91948 ppb	96
34) Cyclohexane	4.86	41	5386	1.00440 ppb	97
35) 1,1-Dichloropropene	4.97	75	8195	0.98087 ppb	94
36) 2,2,4-Trimethylpentane	5.32	57	14666	1.02049 ppb	99
38) Carbon Tetrachloride	4.97	117	6080	0.92790 ppb	98
39) Tert Amyl Methyl Ether	5.36	73	8657	0.92387 ppb #	92
40) 1,2-DCA	5.21	62	5434	0.97588 ppb	96
41) Benzene	5.19	78	25361	1.01431 ppb	98
42) TCE	5.91	95	7011	1.02088 ppb	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	72878	46.33138	ppb		97
44)	1,2-Dichloropropane	6.15	63	5194	0.98724	ppb	#	81
45)	Bromodichloromethane	6.48	83	5297	0.91370	ppb		95
46)	Methyl Cyclohexane	6.14	83	9777	1.04466	ppb		87
47)	Dibromomethane	6.28	93	1997	0.91998	ppb		98
48)	MIBK (methyl isobutyl ket	7.23	43	3254	1.24366	ppb		93
49)	1-Bromo-2-chloroethane	6.83	63	4915	0.98302	ppb		93
51)	Cis-1,3-Dichloropropene	7.02	75	5642	0.91472	ppb		94
52)	Toluene	7.42	91	29081	1.00781	ppb		97
53)	Trans-1,3-Dichloropropene	7.69	75	3491	0.90771	ppb		84
54)	1,1,2-TCA	7.91	83	2408	0.93014	ppb		84
55)	2-Hexanone	8.27	43	1272	0.86482	ppb	#	61
58)	1,2-EDB	8.52	107	1918	1.37822	ppb		94
59)	Tetrachloroethene	8.09	164	6944	1.03055	ppb		94
60)	1-Chlorohexane	9.20	91	8633	1.04252	ppb		85
61)	1,1,1,2-Tetrachloroethane	9.29	131	3811	0.90665	ppb		95
62)	m&p-Xylene	9.51	106	25899	2.00109	ppb		95
63)	o-Xylene	10.03	106	12070	0.97149	ppb		97
64)	Styrene	10.05	104	15904	0.87699	ppb		86
66)	1,3-Dichloropropane	8.11	76	5215	0.95902	ppb		84
67)	Dibromochloromethane	8.39	129	2843	0.93865	ppb		97
68)	Chlorobenzene	9.18	112	16870	0.96985	ppb		91
69)	Ethylbenzene	9.35	91	31018	0.97389	ppb		96
70)	Bromoform	10.25	173	1468	0.88908	ppb		94
72)	Isopropylbenzene	10.55	105	30411	1.01728	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	2347	0.86936	ppb	#	97
74)	1,2,3-Trichloropropane	10.98	110	908	0.94699	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	470	0.89157	ppb	#	65
76)	Bromobenzene	10.90	156	6545	0.99662	ppb		91
77)	n-Propylbenzene	11.12	91	34824	1.03522	ppb		96
78)	4-Ethyltoluene	11.29	105	28629	0.98016	ppb		96
79)	2-Chlorotoluene	11.20	91	19387	1.00829	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	26287	1.05351	ppb		91
81)	4-Chlorotoluene	11.35	91	23112	1.02725	ppb		92
82)	Tert-Butylbenzene	11.82	119	24223	1.08054	ppb		93
83)	1,2,4-Trimethylbenzene	11.89	105	23748	1.01189	ppb		96
84)	Sec-Butylbenzene	12.13	105	30474	1.03094	ppb		98
85)	p-Isopropyltoluene	12.36	119	25938	1.00760	ppb		99
86)	Benzyl Chloride	12.57	91	1360	0.83753	ppb	#	88
87)	1,3-DCB	12.24	146	13704	1.02222	ppb		99
88)	1,4-DCB	12.37	146	13460	1.01212	ppb		93
89)	n-Butylbenzene	12.94	91	19968	0.97439	ppb		96
90)	1,2-DCB	12.88	146	11186	1.01308	ppb		97
91)	Hexachloroethane	13.25	117	1959	0.93610	ppb	#	82
92)	1,2-Dibromo-3-chloropropan	14.00	75	230	3.98985	ppb	#	58
93)	1,2,4-Trichlorobenzene	15.21	180	3419	1.01119	ppb		97
94)	Hexachlorobutadiene	15.50	225	3741	0.97035	ppb		96
95)	Naphthalene	15.53	128	1029	0.97910	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.89	180	1974	0.89237	ppb		82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

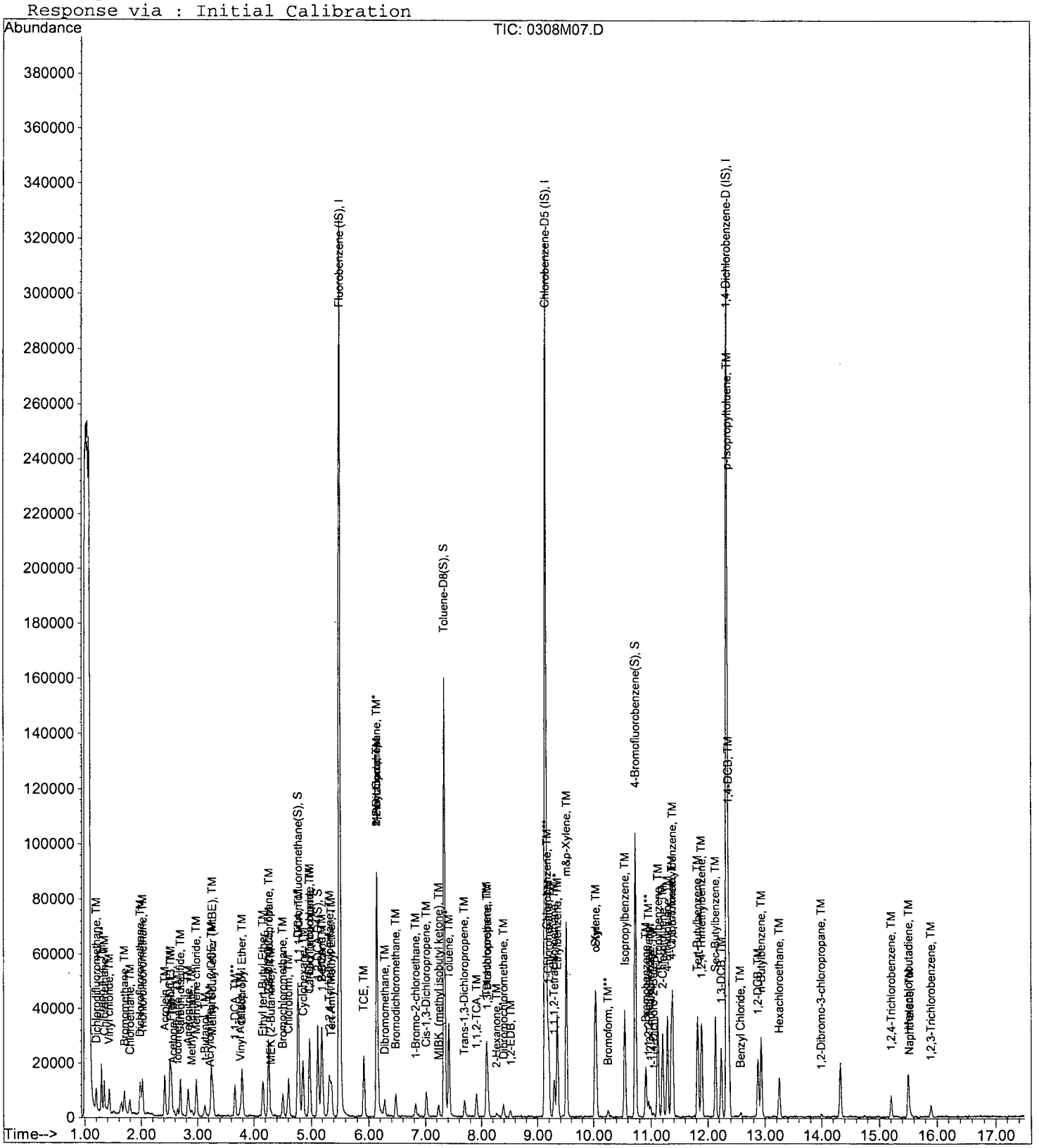
Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D Vial: 7
Acq On : 8 Mar 17 14:23 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 3/8/17K Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
37) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
57) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	7130	1.80650 ppb		97
3) Freon 114	1.29	85	11352	2.05115 ppb		99
4) Chloromethane	1.34	50	10884	1.92719 ppb		93
5) Vinyl chloride	1.43	62	14367	1.79056 ppb		95
6) Bromomethane	1.69	94	9753	1.75875 ppb		92
7) Chloroethane	1.79	64	8427	1.79247 ppb		98
8) Dichlorofluoromethane	1.98	67	23131	1.86403 ppb		97
9) Trichlorofluoromethane	2.03	101	18528	1.87829 ppb		99
10) Acrolein	2.41	56	21133	70.26113 ppb		98
11) Acetone	2.57	58	494	2.25314 ppb		89
12) Freon-113	2.53	101	11032	1.92853 ppb		91
13) 1,1-DCE	2.51	61	17117	1.90885 ppb		92
14) Acetonitrile	2.82	41	19795	159.06613 ppb		96
15) t-Butanol	3.14	59	8119	79.45957 ppb		95
16) Methyl Acetate	2.90	43	3595	1.82987 ppb		93
17) Iodomethane	2.64	142	7594	1.83214 ppb		97
18) Acrylonitrile	3.22	53	1707	1.87006 ppb	#	80
19) Methylene chloride	2.98	84	11009	1.83734 ppb		94
20) Carbon disulfide	2.69	76	33252	1.81571 ppb		96
21) Methyl t-butyl ether (MtBE	3.28	73	17634	1.79867 ppb		92
22) Trans-1,2-DCE	3.25	96	13119	1.92577 ppb		93
23) Diisopropyl Ether	3.79	45	30407	1.81773 ppb		96
24) 1,1-DCA	3.66	63	20393	1.86076 ppb		96
25) Vinyl Acetate	3.75	43	4958	1.71061 ppb		95
26) Ethyl tert Butyl Ether	4.16	59	20080	1.77136 ppb		100
27) MEK (2-Butanone)	4.30	43	2113	0.76031 ppb		94
28) Cis-1,2-DCE	4.26	96	13732	1.96095 ppb		98
29) 2,2-Dichloropropane	4.26	77	11643	1.72279 ppb		97
30) Chloroform	4.61	83	20128	1.84963 ppb		96
31) Bromochloromethane	4.50	128	5096	1.90128 ppb		93
33) 1,1,1-TCA	4.79	97	16365	1.72440 ppb		96
34) Cyclohexane	4.86	41	11080	1.93976 ppb		91
35) 1,1-Dichloropropene	4.97	75	16577	1.86267 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	29207	1.90789 ppb		100
38) Carbon Tetrachloride	4.97	117	11713	1.67816 ppb	#	79
39) Tert Amyl Methyl Ether	5.36	73	18071	1.81048 ppb		97
40) 1,2-DCA	5.20	62	11071	1.86653 ppb		100
41) Benzene	5.19	78	50729	1.90471 ppb		97
42) TCE	5.91	95	13861	1.89477 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	117833	70.32581	ppb		98
44)	1,2-Dichloropropane	6.15	63	10996	1.96212	ppb		100
45)	Bromodichloromethane	6.48	83	10799	1.74874	ppb		98
46)	Methyl Cyclohexane	6.14	83	18347	1.84035	ppb		98
47)	Dibromomethane	6.28	93	4261	1.84282	ppb		96
48)	MIBK (methyl isobutyl ket	7.23	43	6109	2.19190	ppb		94
49)	1-Bromo-2-chloroethane	6.83	63	9884	1.85583	ppb		86
51)	Cis-1,3-Dichloropropene	7.01	75	11904	1.81182	ppb		99
52)	Toluene	7.42	91	56278	1.83095	ppb		92
53)	Trans-1,3-Dichloropropene	7.70	75	7091	1.73090	ppb	#	82
54)	1,1,2-TCA	7.90	83	5144	1.86536	ppb		85
55)	2-Hexanone	8.27	43	2871	1.83248	ppb		90
58)	1,2-EDB	8.51	107	4029	2.00800	ppb		94
59)	Tetrachloroethene	8.09	164	13921	1.94068	ppb		92
60)	1-Chlorohexane	9.20	91	16326	1.85193	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.29	131	7340	1.64028	ppb		91
62)	m&p-Xylene	9.51	106	51956	3.77087	ppb		99
63)	o-Xylene	10.03	106	24216	1.83087	ppb		90
64)	Styrene	10.05	104	34945	1.81007	ppb		98
66)	1,3-Dichloropropane	8.12	76	11133	1.92314	ppb		93
67)	Dibromochloromethane	8.39	129	5460	1.69333	ppb		78
68)	Chlorobenzene	9.17	112	35608	1.92291	ppb		99
69)	Ethylbenzene	9.35	91	64013	1.88793	ppb		99
70)	Bromoform	10.26	173	2999	1.70614	ppb	#	78
72)	Isopropylbenzene	10.55	105	63462	1.95715	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.95	83	5804	1.98205	ppb		95
74)	1,2,3-Trichloropropane	10.99	110	1896	1.82305	ppb	#	71
75)	t-1,4-Dichloro-2-Butene	11.04	53	1165	2.03743	ppb		92
76)	Bromobenzene	10.91	156	14130	1.98363	ppb		86
77)	n-Propylbenzene	11.12	91	69919	1.91623	ppb		100
78)	4-Ethyltoluene	11.28	105	60584	1.91227	ppb		99
79)	2-Chlorotoluene	11.20	91	40206	1.92781	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	51051	1.88627	ppb		98
81)	4-Chlorotoluene	11.35	91	45039	1.84555	ppb		96
82)	Tert-Butylbenzene	11.82	119	46751	1.92266	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	46393	1.82246	ppb		95
84)	Sec-Butylbenzene	12.13	105	62057	1.93551	ppb		96
85)	p-Isopropyltoluene	12.36	119	51878	1.85794	ppb		96
86)	Benzyl Chloride	12.57	91	3114	1.88951	ppb		99
87)	1,3-DCB	12.24	146	27649	1.90140	ppb		98
88)	1,4-DCB	12.37	146	27796	1.92694	ppb		96
89)	n-Butylbenzene	12.94	91	41864	1.88338	ppb		98
90)	1,2-DCB	12.88	146	21703	1.81212	ppb		91
91)	Hexachloroethane	13.25	117	4180	1.84146	ppb		83
92)	1,2-Dibromo-3-chloropropan	13.99	75	484	4.45019	ppb	#	73
93)	1,2,4-Trichlorobenzene	15.21	180	9609	1.86138	ppb		93
94)	Hexachlorobutadiene	15.50	225	7820	1.87002	ppb		88
95)	Naphthalene	15.54	128	3111	1.75389	ppb		99
96)	1,2,3-Trichlorobenzene	15.89	180	6161	1.93426	ppb		88

(#) = qualifier out of range (m) = manual integration

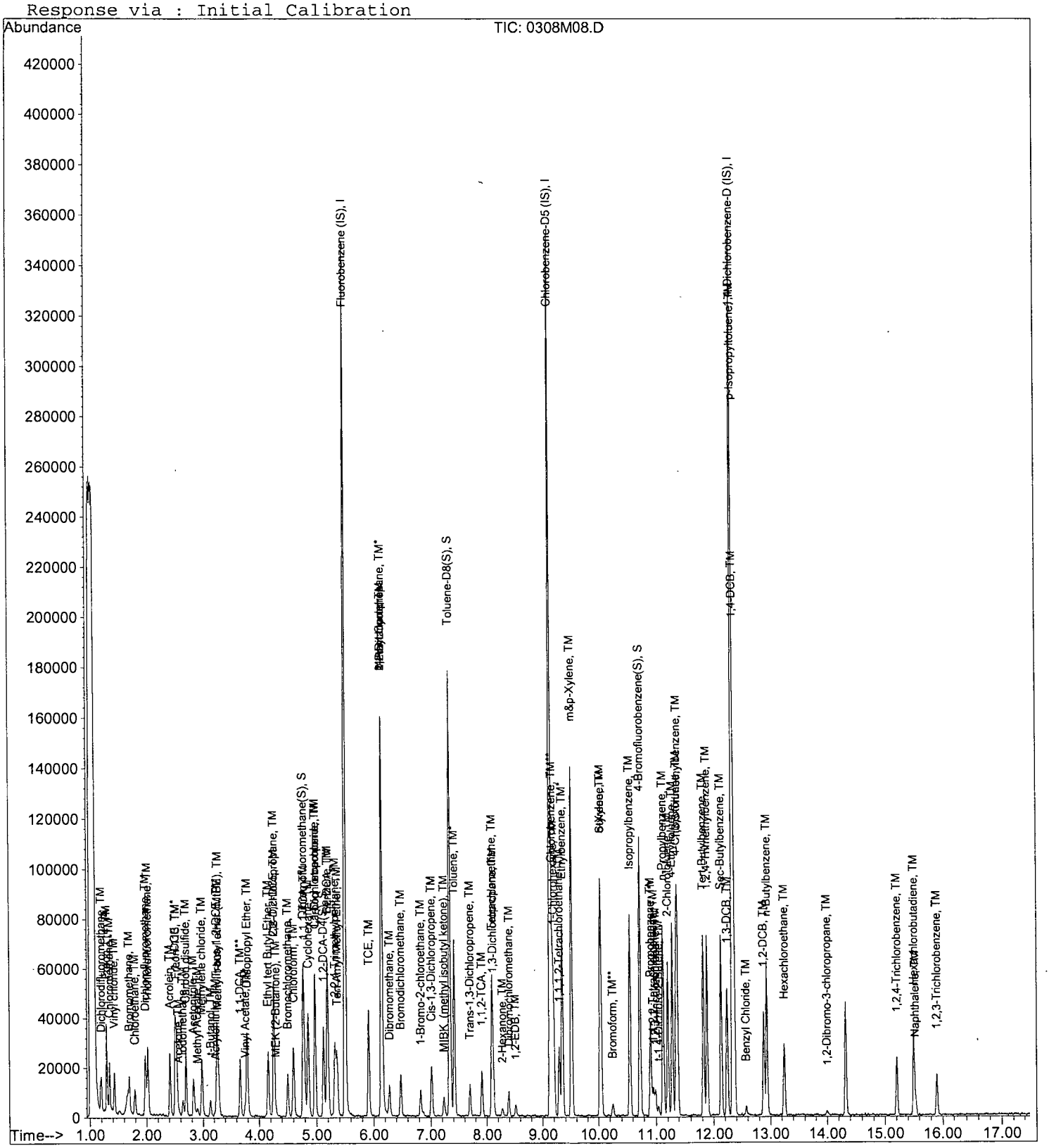
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



492

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
37) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
57) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
65) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	19696	5.06257 ppb		99
3) Freon 114	1.29	85	26358	4.83149 ppb		99
4) Chloromethane	1.34	50	27512	4.94200 ppb		93
5) Vinyl chloride	1.43	62	40477	5.11771 ppb		99
6) Bromomethane	1.69	94	24523	4.48626 ppb		96
7) Chloroethane	1.79	64	24551	5.29777 ppb		98
8) Dichlorofluoromethane	1.98	67	59875	4.89496 ppb		94
9) Trichlorofluoromethane	2.02	101	48220	4.95914 ppb		98
10) Acrolein	2.41	56	29001	97.81639 ppb		97
11) Acetone	2.57	58	676	3.84874 ppb	#	54
12) Freon-113	2.53	101	28162	4.99438 ppb		99
13) 1,1-DCE	2.50	61	44254	5.00657 ppb		100
14) Acetonitrile	2.82	41	26453	215.64621 ppb	#	95
15) t-Butanol	3.13	59	9567	94.98699 ppb		92
16) Methyl Acetate	2.90	43	9621	4.96805 ppb		99
17) Iodomethane	2.64	142	29893	4.64744 ppb		98
18) Acrylonitrile	3.21	53	4912	5.45914 ppb	#	90
19) Methylene chloride	2.98	84	29167	4.93830 ppb		96
20) Carbon disulfide	2.69	76	90024	4.98692 ppb		99
21) Methyl t-butyl ether (MtBE	3.27	73	49559	5.12825 ppb		99
22) Trans-1,2-DCE	3.25	96	33693	5.01751 ppb		98
23) Diisopropyl Ether	3.79	45	84005	5.09456 ppb		97
24) 1,1-DCA	3.66	63	55279	5.11700 ppb		99
25) Vinyl Acetate	3.75	43	13731	4.80608 ppb		94
26) Ethyl tert Butyl Ether	4.16	59	54203	4.85078 ppb		98
27) MEK (2-Butanone)	4.30	43	8352	5.68652 ppb		92
28) Cis-1,2-DCE	4.27	96	36263	5.25342 ppb		94
29) 2,2-Dichloropropane	4.26	77	32157	4.82711 ppb		94
30) Chloroform	4.61	83	55526	5.17638 ppb		100
31) Bromochloromethane	4.50	128	13632	5.15965 ppb		97
33) 1,1,1-TCA	4.79	97	45789	4.89471 ppb		97
34) Cyclohexane	4.86	41	27705	4.92052 ppb		96
35) 1,1-Dichloropropene	4.97	75	44766	5.10298 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	75632	5.01207 ppb		99
38) Carbon Tetrachloride	4.97	117	32804	4.76800 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	48800	4.95994 ppb		98
40) 1,2-DCA	5.20	62	30525	5.22093 ppb		100
41) Benzene	5.19	78	134181	5.11104 ppb		99
42) TCE	5.91	95	35961	4.98699 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	161594	97.84028 ppb		98
44)	1,2-Dichloropropane	6.15	63	28062	5.07990 ppb		96
45)	Bromodichloromethane	6.48	83	29031	4.76924 ppb		96
46)	Methyl Cyclohexane	6.14	83	48339	4.91902 ppb		95
47)	Dibromomethane	6.27	93	11511	5.05043 ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	14664	5.33763 ppb		92
49)	1-Bromo-2-chloroethane	6.82	63	25718	4.89878 ppb		91
51)	Cis-1,3-Dichloropropene	7.01	75	32767	5.05946 ppb		96
52)	Toluene	7.42	91	154314	5.09317 ppb		100
53)	Trans-1,3-Dichloropropene	7.69	75	20093	4.97570 ppb		96
54)	1,1,2-TCA	7.91	83	14081	5.18012 ppb		90
55)	2-Hexanone	8.27	43	7225	4.67832 ppb	#	85
58)	1,2-EDB	8.51	107	12196	4.60987 ppb		98
59)	Tetrachloroethene	8.09	164	37409	5.23328 ppb		99
60)	1-Chlorohexane	9.20	91	42017	4.78283 ppb		94
61)	1,1,1,2-Tetrachloroethane	9.29	131	21523	4.82657 ppb		98
62)	m&p-Xylene	9.51	106	139883	10.18792 ppb		99
63)	o-Xylene	10.03	106	65402	4.96204 ppb		98
64)	Styrene	10.05	104	98044	5.09618 ppb		100
66)	1,3-Dichloropropane	8.11	76	30003	5.20089 ppb		97
67)	Dibromochloromethane	8.39	129	16693	5.19514 ppb		99
68)	Chlorobenzene	9.17	112	94496	5.12081 ppb		100
69)	Ethylbenzene	9.35	91	175062	5.18112 ppb		100
70)	Bromoform	10.25	173	8103	4.62592 ppb		97
72)	Isopropylbenzene	10.55	105	171742	5.13966 ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	15335	5.08182 ppb		94
74)	1,2,3-Trichloropropane	10.98	110	5582	5.20833 ppb		95
75)	t-1,4-Dichloro-2-Butene	11.03	53	2830	4.80276 ppb		90
76)	Bromobenzene	10.90	156	38874	5.29573 ppb		91
77)	n-Propylbenzene	11.12	91	191998	5.10619 ppb		97
78)	4-Ethyltoluene	11.28	105	168291	5.15465 ppb		97
79)	2-Chlorotoluene	11.20	91	110347	5.13430 ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	142498	5.10922 ppb		95
81)	4-Chlorotoluene	11.35	91	126425	5.02711 ppb		97
82)	Tert-Butylbenzene	11.82	119	128351	5.12223 ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	134752	5.13676 ppb		93
84)	Sec-Butylbenzene	12.13	105	170020	5.14580 ppb		97
85)	p-Isopropyltoluene	12.36	119	146848	5.10346 ppb		97
86)	Benzyl Chloride	12.57	91	9273	5.28570 ppb		93
87)	1,3-DCB	12.24	146	77155	5.14880 ppb		99
88)	1,4-DCB	12.37	146	73669	4.95586 ppb		98
89)	n-Butylbenzene	12.94	91	116193	5.07252 ppb		97
90)	1,2-DCB	12.88	146	64782	5.24891 ppb		96
91)	Hexachloroethane	13.25	117	11621	4.96794 ppb		89
92)	1,2-Dibromo-3-chloropropan	13.99	75	1398	6.16302 ppb		88
93)	1,2,4-Trichlorobenzene	15.20	180	31638	4.90054 ppb		94
94)	Hexachlorobutadiene	15.51	225	21963	5.09659 ppb		97
95)	Naphthalene	15.54	128	12304	4.86337 ppb		96
96)	1,2,3-Trichlorobenzene	15.90	180	20490	5.05302 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

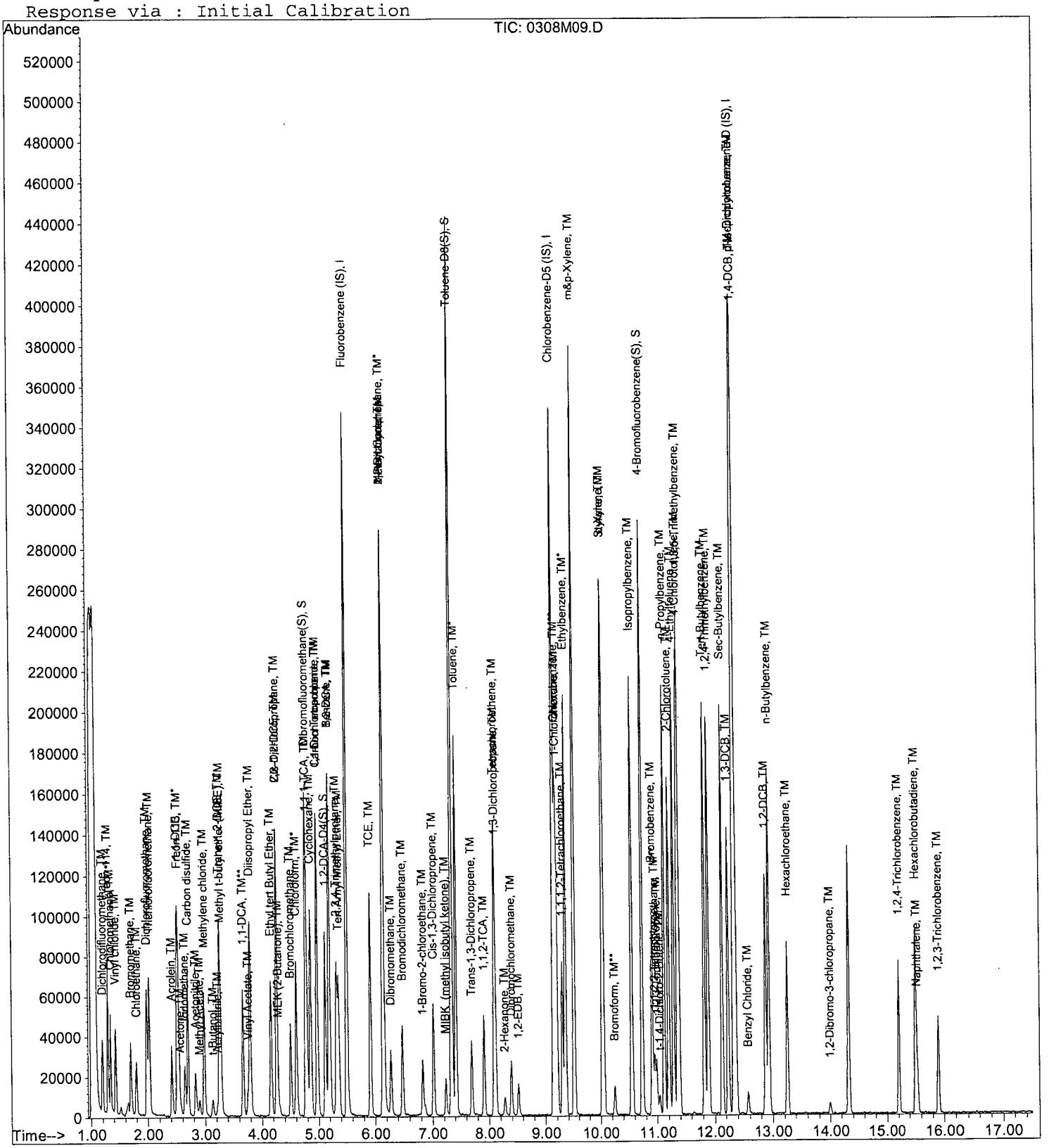
Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration


Abundance
TIC: 0308M09.D
Time-->
Fluorobenzene (IS), I
Chlorobenzene-D5 (IS), I
m&p-Xylene, TM
4-Bromofluorobenzene(S), S
Toluene-D8(S), S
1,4-DCB, TM
Bromoform, TM**
Isopropylbenzene, TM
Ethylbenzene, TM*
Toluene, TM*
TCE, TM
Dibromomethane, TM
Bromodichloromethane, TM
1-Bromo-2-chloroethane, TM
Cis-1,3-Dichloropropene, TM
MIBK (methyl isobutyl ketone), TM
Trans-1,3-Dichloropropene, TM
1,1,2-TCA, TM
2-Hexanone, TM
1,2-EDB, TM
Chloroform, TM
Diisopropyl Ether, TM
1,1-DCA, TM**
Methylene chloride, TM
Methyl t-butyl ether, TM
Vinyl Acetate, TM
Ethyl tert Butyl Ether, TM
Bromochloromethane, TM
Cyclohexane, TM*
1,2-DCA-D4(S), S
Carbon disulfide, TM
Acrylonitrile, TM
Acrolein, TM
Dichlorodifluoromethane, TM
Vinyl Chloride, TM
Chloroethane, TM
Bromomethane, TM
Dichlorofluoromethane, TM
Benzyl Chloride, TM
n-Butylbenzene, TM
Hexachloroethane, TM
1,2-DCB, TM
1,2-Dibromo-3-chloropropane, TM
1,2,4-Trichlorobenzene, TM
Hexachlorobutadiene, TM
Naphthalene, TM
1,2,3-Trichlorobenzene, TM
Sec-Butylbenzene, TM
1,3-DCB, TM
1,4-Dichlorobenzene-D4 (IS), I
1,2,4-Trimethylbenzene, TM
1,3,5-Trimethylbenzene, TM
2-Chlorotoluene, TM
4-Chlorotoluene, TM
Propylbenzene, TM
Bromobenzene, TM
1,4-Diethylbenzene, TM
1,4-Dichlorobenzene, TM
1,2-Dichlorobenzene, TM
1,2-Dichloroethane, TM
1,1,1,2-Tetrachloroethane, TM
1-Chlorohexane, TM
1,3-Dichloropropane, TM
Tetrachloroethene, TM
Chlorobenzene, TM
Bromofluoromethane(S), S
Styrene, TM
o-Xylene, TM
Tert-Butylbenzene, TM
Ethylbenzene, TM
Methylene Chloride, TM
Methyl Acetate, TM
Butanone, TM
Methyl Ethyl Ketone, TM
Methyl Acrylonitrile, TM
Butanol, TM
Methyl Methacrylate, TM
Propionitrile, TM
Ethyl Methacrylate, TM
Chloroprene, TM
Tert-Amyl methyl ether, TM
Methyl Acrylate, TM
Ethyl Acrylate, TM
Propionitrile, TM
Methacrylonitrile, TM
Isobutanol, TM
Methyl Methacrylate, TM
Ethyl Methacrylate, TM
Methacrylonitrile, TM
Propionitrile, TM
Methyl Acrylate, TM
Ethyl Acrylate

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D Vial: 9
Acq On : 8 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 3/8/17M Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
37) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
57) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
65) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	38536	10.17084 ppb	100
3) Freon 114	1.29	85	53360	10.04343 ppb	100
4) Chloromethane	1.34	50	54720	10.09309 ppb	100
5) Vinyl chloride	1.43	62	79237	10.28709 ppb	100
6) Bromomethane	1.69	94	45738	8.59183 ppb	100
7) Chloroethane	1.79	64	46870	10.38524 ppb	100
8) Dichlorofluoromethane	1.98	67	121644	10.21154 ppb	100
9) Trichlorofluoromethane	2.03	101	96578	10.19894 ppb	100
10) Acrolein	2.41	56	37177	128.75684 ppb	100
11) Acetone	2.57	58	1574	11.78426 ppb	100
12) Freon-113	2.53	101	55285	10.06752 ppb	100
13) 1,1-DCE	2.50	61	88460	10.27619 ppb	100
14) Acetonitrile	2.82	41	33552	280.85529 ppb	98
15) t-Butanol	3.14	59	11893	121.24869 ppb	100
16) Methyl Acetate	2.90	43	17540	9.30020 ppb	100
17) Iodomethane	2.64	142	69487	9.85630 ppb	100
18) Acrylonitrile	3.22	53	9397	10.72389 ppb	100
19) Methylene chloride	2.98	84	56734	9.86339 ppb	100
20) Carbon disulfide	2.69	76	180017	10.23965 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	97502	10.35994 ppb	100
22) Trans-1,2-DCE	3.25	96	68750	10.51280 ppb	100
23) Diisopropyl Ether	3.79	45	166490	10.36781 ppb	100
24) 1,1-DCA	3.66	63	107344	10.20305 ppb	100
25) Vinyl Acetate	3.75	43	28022	10.07129 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	109025	10.01870 ppb	100
27) MEK (2-Butanone)	4.30	43	15187	11.37752 ppb	100
28) Cis-1,2-DCE	4.26	96	70408	10.47364 ppb	100
29) 2,2-Dichloropropane	4.26	77	68282	10.52483 ppb	100
30) Chloroform	4.61	83	106763	10.21992 ppb	100
31) Bromochloromethane	4.51	128	27186	10.56583 ppb	100
33) 1,1,1-TCA	4.79	97	91578	10.05204 ppb	100
34) Cyclohexane	4.86	41	55624	10.14407 ppb	100
35) 1,1-Dichloropropene	4.97	75	89037	10.42182 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	148003	10.07116 ppb	100
38) Carbon Tetrachloride	4.97	117	70452	10.51478 ppb	100
39) Tert Amyl Methyl Ether	5.36	73	97669	10.19320 ppb	100
40) 1,2-DCA	5.20	62	57170	10.04055 ppb	100
41) Benzene	5.19	78	260293	10.18071 ppb	100
42) TCE	5.91	95	71302	10.15326 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D Vial: 9
Acq On : 8 Mar 17 15:20 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 3/8/17M Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.14	43	207103	128.75858 ppb	100
44) 1,2-Dichloropropane	6.15	63	55997	10.40875 ppb	100
45) Bromodichloromethane	6.48	83	61944	10.44923 ppb	100
46) Methyl Cyclohexane	6.14	83	93252	9.74398 ppb	100
47) Dibromomethane	6.27	93	23174	10.44031 ppb	100
48) MIBK (methyl isobutyl ket	7.23	43	25905	9.68227 ppb	100
49) 1-Bromo-2-chloroethane	6.83	63	52872	10.34127 ppb	100
51) Cis-1,3-Dichloropropene	7.02	75	67363	10.68037 ppb	100
52) Toluene	7.42	91	303587	10.28876 ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	44108	11.21563 ppb	100
54) 1,1,2-TCA	7.91	83	27309	10.31595 ppb	100
55) 2-Hexanone	8.27	43	15184	10.09567 ppb	100
58) 1,2-EDB	8.51	107	26864	9.58843 ppb	100
59) Tetrachloroethene	8.09	164	72854	10.56589 ppb	100
60) 1-Chlorohexane	9.20	91	88106	10.39730 ppb	100
61) 1,1,1,2-Tetrachloroethane	9.29	131	46021	10.69909 ppb	100
62) m&p-Xylene	9.51	106	277320	20.93906 ppb	100
63) o-Xylene	10.03	106	131825	10.36866 ppb	100
64) Styrene	10.05	104	199022	10.72458 ppb	100
66) 1,3-Dichloropropane	8.12	76	57935	10.41140 ppb	100
67) Dibromochloromethane	8.39	129	35866	11.57181 ppb	100
68) Chlorobenzene	9.17	112	185119	10.39995 ppb	100
69) Ethylbenzene	9.35	91	343652	10.54402 ppb	100
70) Bromoform	10.25	173	17056	10.09450 ppb	100
72) Isopropylbenzene	10.55	105	343300	10.30073 ppb	100
73) 1,1,2,2-Tetrachloroethane	10.95	83	31632	10.50989 ppb	100
74) 1,2,3-Trichloropropane	10.99	110	10443	9.76945 ppb	100
75) t-1,4-Dichloro-2-Butene	11.04	53	5745	9.77531 ppb	100
76) Bromobenzene	10.91	156	74945	10.23637 ppb	100
77) n-Propylbenzene	11.12	91	381263	10.16627 ppb	100
78) 4-Ethyltoluene	11.28	105	337049	10.35064 ppb	100
79) 2-Chlorotoluene	11.20	91	220636	10.29280 ppb	100
80) 1,3,5-Trimethylbenzene	11.38	105	278268	10.00336 ppb	100
81) 4-Chlorotoluene	11.36	91	251363	10.02128 ppb	100
82) Tert-Butylbenzene	11.82	119	249876	9.99818 ppb	100
83) 1,2,4-Trimethylbenzene	11.89	105	270745	10.34786 ppb	100
84) Sec-Butylbenzene	12.13	105	337560	10.24331 ppb	100
85) p-Isopropyltoluene	12.36	119	296542	10.33283 ppb	100
86) Benzyl Chloride	12.57	91	20444	10.54093 ppb	100
87) 1,3-DCB	12.24	146	151408	10.13042 ppb	100
88) 1,4-DCB	12.37	146	144958	9.77717 ppb	100
89) n-Butylbenzene	12.94	91	239309	10.47465 ppb	100
90) 1,2-DCB	12.88	146	128889	10.47049 ppb	100
91) Hexachloroethane	13.25	117	24230	10.38539 ppb	100
92) 1,2-Dibromo-3-chloropropan	13.99	75	2896	9.03081 ppb	100
93) 1,2,4-Trichlorobenzene	15.21	180	67649	9.96047 ppb	100
94) Hexachlorobutadiene	15.51	225	44303	10.30760 ppb	100
95) Naphthalene	15.54	128	30728	10.12963 ppb	100
96) 1,2,3-Trichlorobenzene	15.90	180	48097	9.99186 ppb	100

(#) = qualifier out of range (m) = manual integration

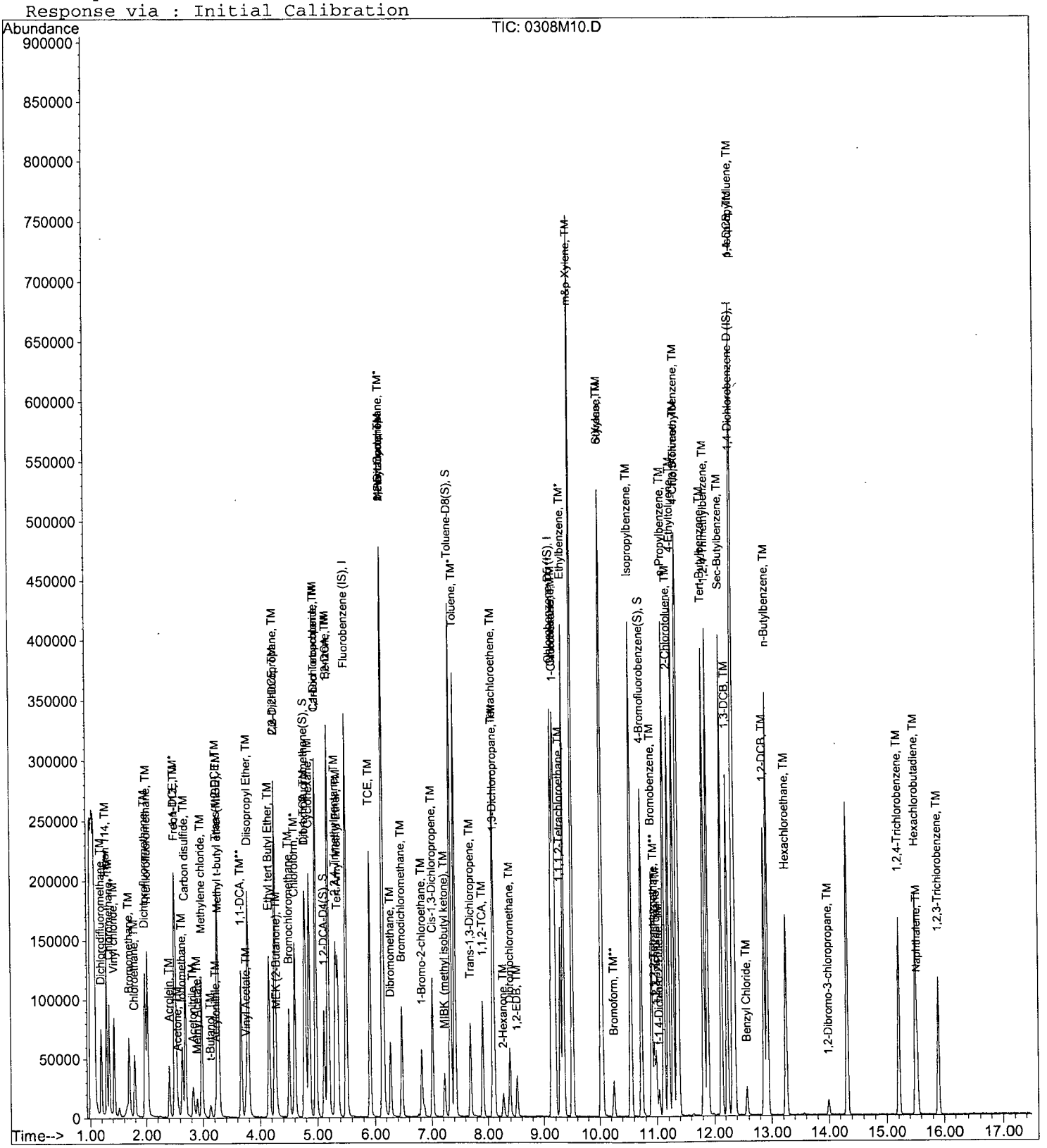
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



498

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D Vial: 10
Acq On : 8 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 3/8/17N Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
37) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
57) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	82536	20.82571 ppb		99
3) Freon 114	1.29	85	105039	18.90092 ppb		95
4) Chloromethane	1.34	50	109040	19.22781 ppb		96
5) Vinyl chloride	1.43	62	162282	20.14192 ppb		97
6) Bromomethane	1.69	94	112904	20.27607 ppb		98
7) Chloroethane	1.79	64	93486	19.80315 ppb		97
8) Dichlorofluoromethane	1.98	67	243658	19.55453 ppb		98
9) Trichlorofluoromethane	2.02	101	199107	20.10155 ppb		97
10) Acrolein	2.41	56	46391	153.60164 ppb		96
11) Acetone	2.56	58	2546	19.23758 ppb		74
12) Freon-113	2.53	101	110286	19.20002 ppb		99
13) 1,1-DCE	2.50	61	176159	19.56393 ppb		99
14) Acetonitrile	2.82	41	42213	337.81318 ppb		98
15) t-Butanol	3.14	59	16936	165.06791 ppb		96
16) Methyl Acetate	2.90	43	40381	20.46945 ppb		97
17) Iodomethane	2.64	142	150365	19.43735 ppb		100
18) Acrylonitrile	3.21	53	18882	20.60047 ppb	#	92
19) Methylene chloride	2.98	84	113454	18.85683 ppb		97
20) Carbon disulfide	2.69	76	362330	19.70344 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	197541	20.06628 ppb		99
22) Trans-1,2-DCE	3.25	96	134967	19.73057 ppb		96
23) Diisopropyl Ether	3.79	45	333748	19.86936 ppb		100
24) 1,1-DCA	3.66	63	218288	19.83573 ppb		97
25) Vinyl Acetate	3.75	43	67410	23.16202 ppb		99
26) Ethyl tert Butyl Ether	4.16	59	227306	19.96929 ppb		94
27) MEK (2-Butanone)	4.30	43	28339	20.98374 ppb		96
28) Cis-1,2-DCE	4.26	96	139061	19.77640 ppb		97
29) 2,2-Dichloropropane	4.26	77	147798	21.77929 ppb		100
30) Chloroform	4.61	83	217210	19.87800 ppb		96
31) Bromochloromethane	4.50	128	53602	19.91615 ppb		98
33) 1,1,1-TCA	4.79	97	192630	20.21403 ppb		98
34) Cyclohexane	4.86	41	110588	19.28076 ppb		99
35) 1,1-Dichloropropene	4.97	75	177262	19.83603 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	291841	18.98548 ppb		99
38) Carbon Tetrachloride	4.97	117	147477	21.04249 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	204211	20.37508 ppb		98
40) 1,2-DCA	5.20	62	113636	19.07970 ppb		98
41) Benzene	5.19	78	517130	19.33666 ppb		99
42) TCE	5.91	95	141353	19.24311 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	270975	161.05907	ppb	97
44)	1,2-Dichloropropane	6.15	63	111509	19.81572	ppb	97
45)	Bromodichloromethane	6.48	83	130578	21.05819	ppb	99
46)	Methyl Cyclohexane	6.14	83	188675	18.84772	ppb	93
47)	Dibromomethane	6.28	93	46792	20.15348	ppb	93
48)	MIBK (methyl isobutyl ket	7.23	43	53010	18.94163	ppb	95
49)	1-Bromo-2-chloroethane	6.83	63	110325	20.62948	ppb	91
51)	Cis-1,3-Dichloropropene	7.01	75	145159	22.00265	ppb	94
52)	Toluene	7.42	91	595547	19.29577	ppb	98
53)	Trans-1,3-Dichloropropene	7.70	75	98676	23.98745	ppb	96
54)	1,1,2-TCA	7.91	83	57122	20.62876	ppb	94
55)	2-Hexanone	8.27	43	32801	20.84982	ppb	95
58)	1,2-EDB	8.51	107	61003	19.49274	ppb	97
59)	Tetrachloroethene	8.09	164	142137	19.22858	ppb	96
60)	1-Chlorohexane	9.20	91	177057	19.49016	ppb	99
61)	1,1,1,2-Tetrachloroethane	9.29	131	103520	22.44927	ppb	99
62)	m&p-Xylene	9.51	106	546456	38.48737	ppb	98
63)	o-Xylene	10.03	106	261203	19.16418	ppb	99
64)	Styrene	10.05	104	395903	19.90010	ppb	100
66)	1,3-Dichloropropane	8.11	76	116126	19.46636	ppb	99
67)	Dibromochloromethane	8.39	129	77114	23.20805	ppb	94
68)	Chlorobenzene	9.17	112	369605	19.36892	ppb	98
69)	Ethylbenzene	9.35	91	677197	19.38160	ppb	98
70)	Bromoform	10.25	173	39915	22.03591	ppb	99
72)	Isopropylbenzene	10.55	105	684017	19.07216	ppb	99
73)	1,1,2,2-Tetrachloroethane	10.95	83	64879	20.03154	ppb	96
74)	1,2,3-Trichloropropane	10.99	110	22347	19.42687	ppb	95
75)	t-1,4-Dichloro-2-Butene	11.04	53	12666	20.02713	ppb	98
76)	Bromobenzene	10.91	156	150596	19.11417	ppb	99
77)	n-Propylbenzene	11.12	91	762837	18.90198	ppb	98
78)	4-Ethyltoluene	11.28	105	674284	19.24225	ppb	98
79)	2-Chlorotoluene	11.20	91	435112	18.86239	ppb	99
80)	1,3,5-Trimethylbenzene	11.38	105	557956	18.63893	ppb	99
81)	4-Chlorotoluene	11.35	91	506971	18.78208	ppb	98
82)	Tert-Butylbenzene	11.82	119	497598	18.50179	ppb	99
83)	1,2,4-Trimethylbenzene	11.89	105	554034	19.67728	ppb	98
84)	Sec-Butylbenzene	12.13	105	672062	18.95123	ppb	99
85)	p-Isopropyltoluene	12.36	119	591623	19.15652	ppb	99
86)	Benzyl Chloride	12.57	91	48553	19.64493	ppb	96
87)	1,3-DCB	12.24	146	310354	19.29632	ppb	98
88)	1,4-DCB	12.37	146	292154	18.31139	ppb	99
89)	n-Butylbenzene	12.94	91	483760	19.67655	ppb	100
90)	1,2-DCB	12.88	146	260576	19.67090	ppb	99
91)	Hexachloroethane	13.25	117	56694	22.58110	ppb	94
92)	1,2-Dibromo-3-chloropropan	13.99	75	8186	18.02756	ppb	92
93)	1,2,4-Trichlorobenzene	15.21	180	150268	20.05259	ppb	98
94)	Hexachlorobutadiene	15.51	225	89094	19.26246	ppb	97
95)	Naphthalene	15.54	128	81448	19.98249	ppb	99
96)	1,2,3-Trichlorobenzene	15.90	180	109392	17.37893	ppb	100

(#) = qualifier out of range (m) = manual integration

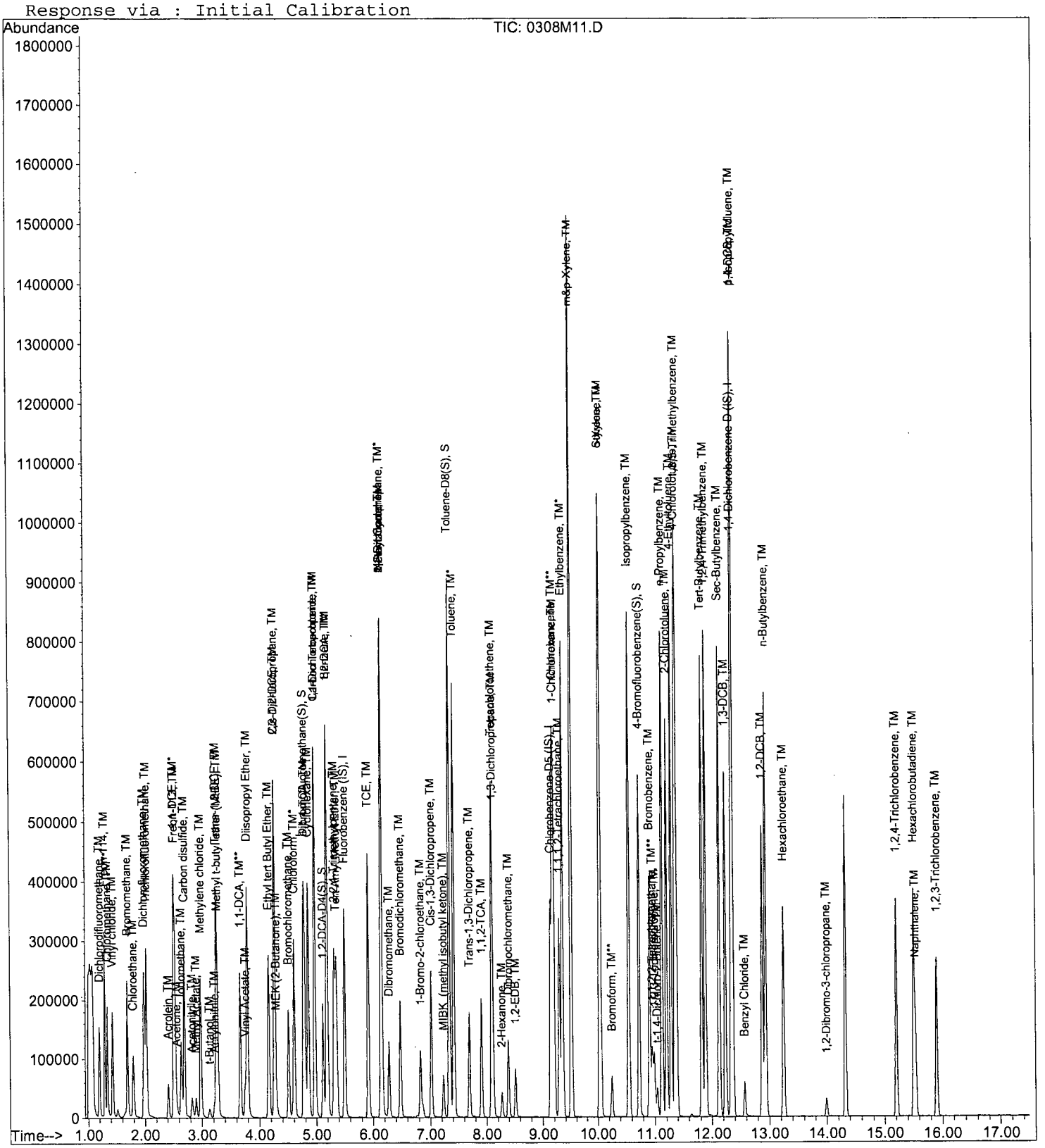
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



501

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
37) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
57) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
65) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	160128	41.01765 ppb		99
3) Freon 114	1.29	85	229384	41.90276 ppb		98
4) Chloromethane	1.34	50	216631	38.78035 ppb		97
5) Vinyl chloride	1.43	62	321641	40.52742 ppb		99
6) Bromomethane	1.69	94	240925	43.92416 ppb		98
7) Chloroethane	1.78	64	187907	40.40897 ppb		99
8) Dichlorofluoromethane	1.98	67	499178	40.66953 ppb		100
9) Trichlorofluoromethane	2.02	101	403115	41.31608 ppb		96
10) Acrolein	2.41	56	54202	182.18998 ppb		98
11) Acetone	2.57	58	5015	40.32503 ppb	#	60
12) Freon-113	2.52	101	236325	41.76746 ppb		96
13) 1,1-DCE	2.50	61	366446	41.31505 ppb		99
14) Acetonitrile	2.82	41	49440	401.65751 ppb		98
15) t-Butanol	3.14	59	20222	200.08889 ppb	#	90
16) Methyl Acetate	2.89	43	83027	42.72632 ppb		99
17) Iodomethane	2.63	142	315174	40.35500 ppb		99
18) Acrylonitrile	3.21	53	39046	43.24669 ppb	#	93
19) Methylene chloride	2.97	84	225581	38.06259 ppb		99
20) Carbon disulfide	2.69	76	737216	40.69862 ppb		100
21) Methyl t-butyl ether (MtBE	3.27	73	396779	40.91716 ppb		100
22) Trans-1,2-DCE	3.25	96	269880	40.05251 ppb		99
23) Diisopropyl Ether	3.79	45	685512	41.43118 ppb		98
24) 1,1-DCA	3.66	63	438099	40.41454 ppb		99
25) Vinyl Acetate	3.75	43	152885	53.32907 ppb		98
26) Ethyl tert Butyl Ether	4.16	59	482569	43.03860 ppb		97
27) MEK (2-Butanone)	4.29	43	51412	39.38413 ppb		95
28) Cis-1,2-DCE	4.26	96	278622	40.22578 ppb		97
29) 2,2-Dichloropropane	4.26	77	321304	48.06604 ppb		98
30) Chloroform	4.60	83	431609	40.09871 ppb		99
31) Bromochloromethane	4.50	128	107612	40.59122 ppb		96
33) 1,1,1-TCA	4.79	97	410471	43.72790 ppb		97
34) Cyclohexane	4.86	41	227909	40.33896 ppb		98
35) 1,1-Dichloropropene	4.97	75	357325	40.59286 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	608071	40.15842 ppb		99
38) Carbon Tetrachloride	4.97	117	331527	48.02184 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	424338	42.98126 ppb		94
40) 1,2-DCA	5.20	62	228317	38.91713 ppb		100
41) Benzene	5.19	78	1048073	39.78508 ppb		98
42) TCE	5.91	95	287026	39.66783 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D Vial: 11
Acq On : 8 Mar 17 16:16 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 3/8/17O Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	333666	201.33300	ppb		95
44)	1,2-Dichloropropane	6.15	63	226140	40.79665	ppb		95
45)	Bromodichloromethane	6.48	83	269125	44.06077	ppb		98
46)	Methyl Cyclohexane	6.14	83	389155	39.46519	ppb		92
47)	Dibromomethane	6.28	93	95006	41.54096	ppb		97
48)	MIBK (methyl isobutyl ket	7.23	43	103159	37.42087	ppb		95
49)	1-Bromo-2-chloroethane	6.82	63	224717	42.65768	ppb		94
51)	Cis-1,3-Dichloropropene	7.01	75	308535	47.47692	ppb		96
52)	Toluene	7.42	91	1213140	39.90286	ppb		99
53)	Trans-1,3-Dichloropropene	7.69	75	222031	54.79403	ppb		96
54)	1,1,2-TCA	7.91	83	109838	40.26887	ppb		93
55)	2-Hexanone	8.27	43	67133	43.32098	ppb		95
58)	1,2-EDB	8.51	107	127578	40.38876	ppb		98
59)	Tetrachloroethene	8.09	164	280935	38.41292	ppb		99
60)	1-Chlorohexane	9.20	91	363948	40.49236	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.29	131	227168	49.79166	ppb		99
62)	m&p-Xylene	9.51	106	1119123	79.66588	ppb		98
63)	o-Xylene	10.03	106	530105	39.31022	ppb		99
64)	Styrene	10.05	104	822689	41.79589	ppb		100
66)	1,3-Dichloropropane	8.11	76	236614	40.08918	ppb		99
67)	Dibromochloromethane	8.39	129	169501	51.55957	ppb		91
68)	Chlorobenzene	9.17	112	748821	39.66222	ppb		98
69)	Ethylbenzene	9.35	91	1379859	39.91542	ppb		99
70)	Bromoform	10.25	173	89473	49.92502	ppb		97
72)	Isopropylbenzene	10.55	105	1394640	38.96697	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	133522	41.31091	ppb		95
74)	1,2,3-Trichloropropane	10.99	110	43583	37.96665	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.04	53	29039	46.01109	ppb	#	80
76)	Bromobenzene	10.91	156	304679	38.75129	ppb		96
77)	n-Propylbenzene	11.12	91	1586120	39.38340	ppb		99
78)	4-Ethyltoluene	11.29	105	1390370	39.75987	ppb		97
79)	2-Chlorotoluene	11.20	91	895508	38.90154	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	1158897	38.79427	ppb		98
81)	4-Chlorotoluene	11.36	91	1046787	38.86160	ppb		99
82)	Tert-Butylbenzene	11.82	119	1013596	37.76605	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	1142256	40.65311	ppb		99
84)	Sec-Butylbenzene	12.14	105	1395739	39.43972	ppb		99
85)	p-Isopropyltoluene	12.36	119	1240518	40.25096	ppb		100
86)	Benzyl Chloride	12.57	91	133909	40.03984	ppb		97
87)	1,3-DCB	12.24	146	629318	39.20928	ppb		99
88)	1,4-DCB	12.37	146	605287	38.01653	ppb		99
89)	n-Butylbenzene	12.94	91	1018528	41.51391	ppb		99
90)	1,2-DCB	12.88	146	519552	39.30253	ppb		99
91)	Hexachloroethane	13.25	117	140867	56.22363	ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	19535	38.24028	ppb		98
93)	1,2,4-Trichlorobenzene	15.21	180	324344	42.81768	ppb		97
94)	Hexachlorobutadiene	15.51	225	181372	39.29480	ppb		96
95)	Naphthalene	15.54	128	185280	35.29479	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	241088	29.78847	ppb		97

(#) = qualifier out of range (m) = manual integration

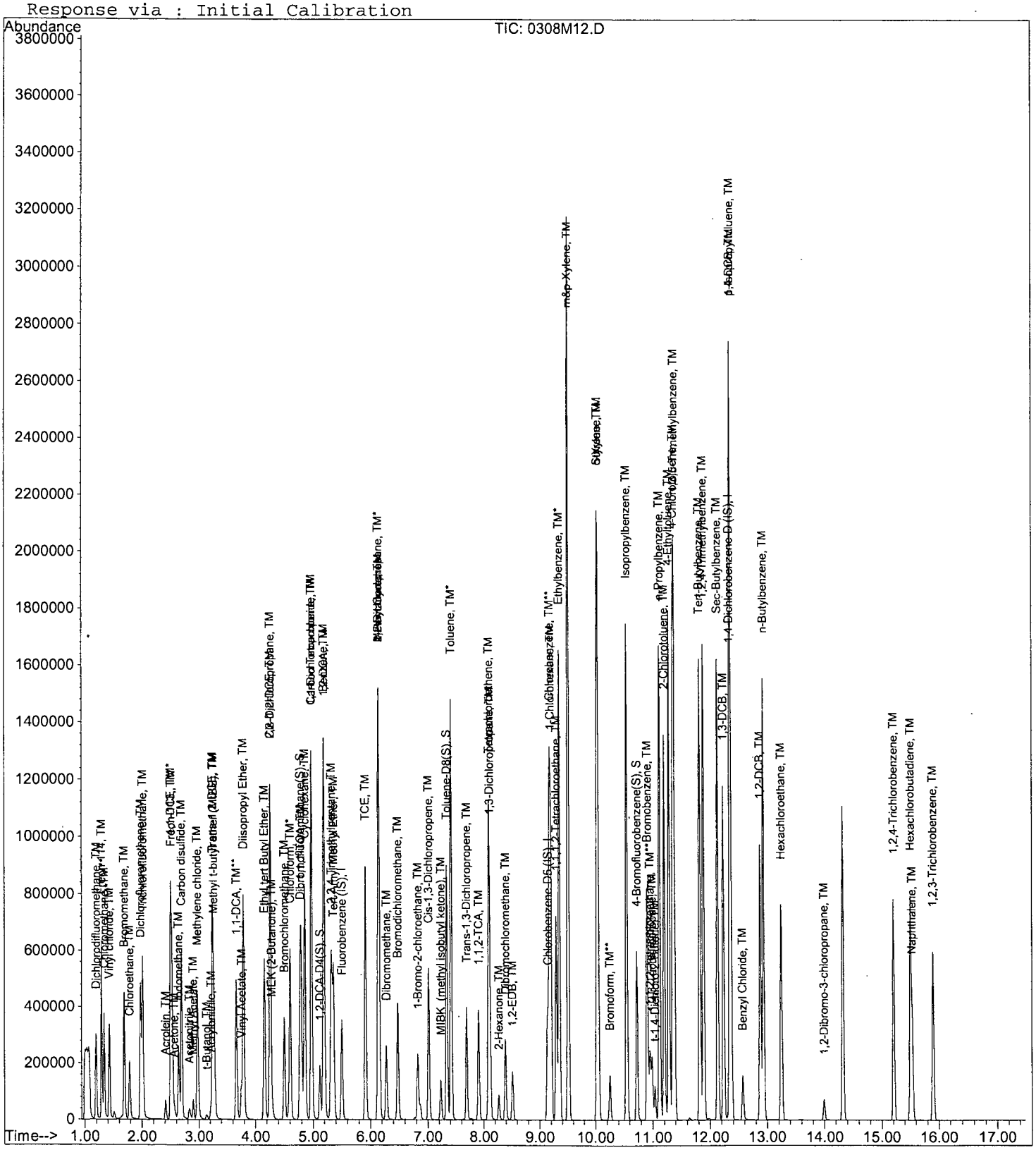
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D Vial: 12
Acq On : 8 Mar 17 16:45 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 3/8/17P Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
37) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
57) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
65) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	406656	108.06985 ppb		99
3) Freon 114	1.29	85	562201	106.54791 ppb		99
4) Chloromethane	1.34	50	564019	104.75113 ppb		96
5) Vinyl chloride	1.43	62	801310	104.74951 ppb		98
6) Bromomethane	1.68	94	589757	111.54973 ppb		98
7) Chloroethane	1.77	64	673195	150.19296 ppb		98
8) Dichlorofluoromethane	1.97	67	1300985	109.96637 ppb		98
9) Trichlorofluoromethane	2.01	101	1035374	110.09339 ppb		98
10) Acrolein	2.41	56	60817	212.08406 ppb		90
11) Acetone	2.57	58	11661	99.90003 ppb	#	65
12) Freon-113	2.52	101	569035	104.33769 ppb		96
13) 1,1-DCE	2.50	61	904864	105.84138 ppb		99
14) Acetonitrile	2.83	41	60471	509.68098 ppb		99
15) t-Butanol	3.15	59	27346	280.71559 ppb		97
16) Methyl Acetate	2.90	43	208491	111.31079 ppb		99
17) Iodomethane	2.63	142	815411	106.81559 ppb		98
18) Acrylonitrile	3.22	53	97677	112.23865 ppb	#	94
19) Methylene chloride	2.97	84	557876	97.65790 ppb		96
20) Carbon disulfide	2.69	76	1877954	107.55824 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	997179	106.68510 ppb		98
22) Trans-1,2-DCE	3.25	96	676073	104.09420 ppb		99
23) Diisopropyl Ether	3.79	45	1765022	110.67160 ppb		99
24) 1,1-DCA	3.66	63	1111654	106.39199 ppb		98
25) Vinyl Acetate	3.75	43	466056	168.65961 ppb		97
26) Ethyl tert Butyl Ether	4.16	59	1255702	116.18743 ppb		95
27) MEK (2-Butanone)	4.30	43	124055	99.91021 ppb		93
28) Cis-1,2-DCE	4.26	96	702743	105.25904 ppb		95
29) 2,2-Dichloropropane	4.26	77	887004	137.66441 ppb		99
30) Chloroform	4.60	83	1095662	105.60643 ppb		99
31) Bromochloromethane	4.50	128	272224	106.52993 ppb		99
33) 1,1,1-TCA	4.79	97	1071428	118.41670 ppb		97
34) Cyclohexane	4.86	41	571159	104.88033 ppb		99
35) 1,1-Dichloropropene	4.97	75	896738	105.68799 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	1529522	104.79773 ppb		98
38) Carbon Tetrachloride	4.97	117	902697	135.65498 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	1119806	117.67490 ppb	#	91
40) 1,2-DCA	5.20	62	585241	103.49305 ppb		99
41) Benzene	5.19	78	2678437	105.48337 ppb		98
42) TCE	5.91	95	712662	102.18205 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	418965	262.27361	ppb	92
44) 1,2-Dichloropropane	6.15	63	581609	108.85592	ppb	95
45) Bromodichloromethane	6.48	83	711756	120.89353	ppb	100
46) Methyl Cyclohexane	6.14	83	993474	104.52541	ppb	95
47) Dibromomethane	6.28	93	239489	108.63879	ppb	96
48) MIBK (methyl isobutyl ket	7.23	43	261915	98.56913	ppb	93
49) 1-Bromo-2-chloroethane	6.82	63	579550	114.13691	ppb	94
51) Cis-1,3-Dichloropropene	7.01	75	817057	130.43807	ppb	96
52) Toluene	7.42	91	3189759	108.84910	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	607645	155.57629	ppb	98
54) 1,1,2-TCA	7.91	83	280906	106.84437	ppb	96
55) 2-Hexanone	8.27	43	171506	114.81942	ppb	95
58) 1,2-EDB	8.51	107	332321	104.76805	ppb	95
59) Tetrachloroethene	8.09	164	707231	97.38930	ppb	99
60) 1-Chlorohexane	9.20	91	944519	105.83344	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.29	131	628350	138.70418	ppb	96
62) m&p-Xylene	9.51	106	3017730	216.34827	ppb	95
63) o-Xylene	10.03	106	1407682	105.12998	ppb	94
64) Styrene	10.05	104	2249213	115.08189	ppb	99
66) 1,3-Dichloropropane	8.11	76	592302	101.06677	ppb	99
67) Dibromochloromethane	8.39	129	469876	143.94572	ppb	95
68) Chlorobenzene	9.17	112	1927952	102.84276	ppb	97
69) Ethylbenzene	9.35	91	3648904	106.30334	ppb	97
70) Bromoform	10.25	173	265551	149.22883	ppb	99
72) Isopropylbenzene	10.55	105	3763658	101.56516	ppb	98
73) 1,1,2,2-Tetrachloroethane	10.96	83	360976	107.86742	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	115429	97.11810	ppb	98
75) t-1,4-Dichloro-2-Butene	11.04	53	85546	130.91235	ppb	83
76) Bromobenzene	10.91	156	809384	99.42561	ppb	97
77) n-Propylbenzene	11.12	91	4364476	104.66689	ppb	98
78) 4-Ethyltoluene	11.29	105	3848783	106.30118	ppb	95
79) 2-Chlorotoluene	11.20	91	2414645	101.30963	ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	3234072	104.56166	ppb	96
81) 4-Chlorotoluene	11.36	91	2924658	104.86667	ppb	97
82) Tert-Butylbenzene	11.82	119	2732669	98.33854	ppb	98
83) 1,2,4-Trimethylbenzene	11.90	105	3196357	109.87164	ppb	98
84) Sec-Butylbenzene	12.14	105	3860121	105.34904	ppb	99
85) p-Isopropyltoluene	12.36	119	3478678	109.01530	ppb	99
86) Benzyl Chloride	12.57	91	461920	84.59637	ppb	97
87) 1,3-DCB	12.24	146	1720511	103.53239	ppb	99
88) 1,4-DCB	12.37	146	1677905	101.78379	ppb	99
89) n-Butylbenzene	12.94	91	2857282	112.47963	ppb	99
90) 1,2-DCB	12.88	146	1413926	103.30425	ppb	99
91) Hexachloroethane	13.25	117	448836	173.02041	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	56817	101.08814	ppb	94
93) 1,2,4-Trichlorobenzene	15.21	180	906456	114.76478	ppb	96
94) Hexachlorobutadiene	15.51	225	521806	109.18776	ppb	96
95) Naphthalene	15.54	128	501120	64.71172	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	631498	53.17018	ppb	98

(#) = qualifier out of range (m) = manual integration

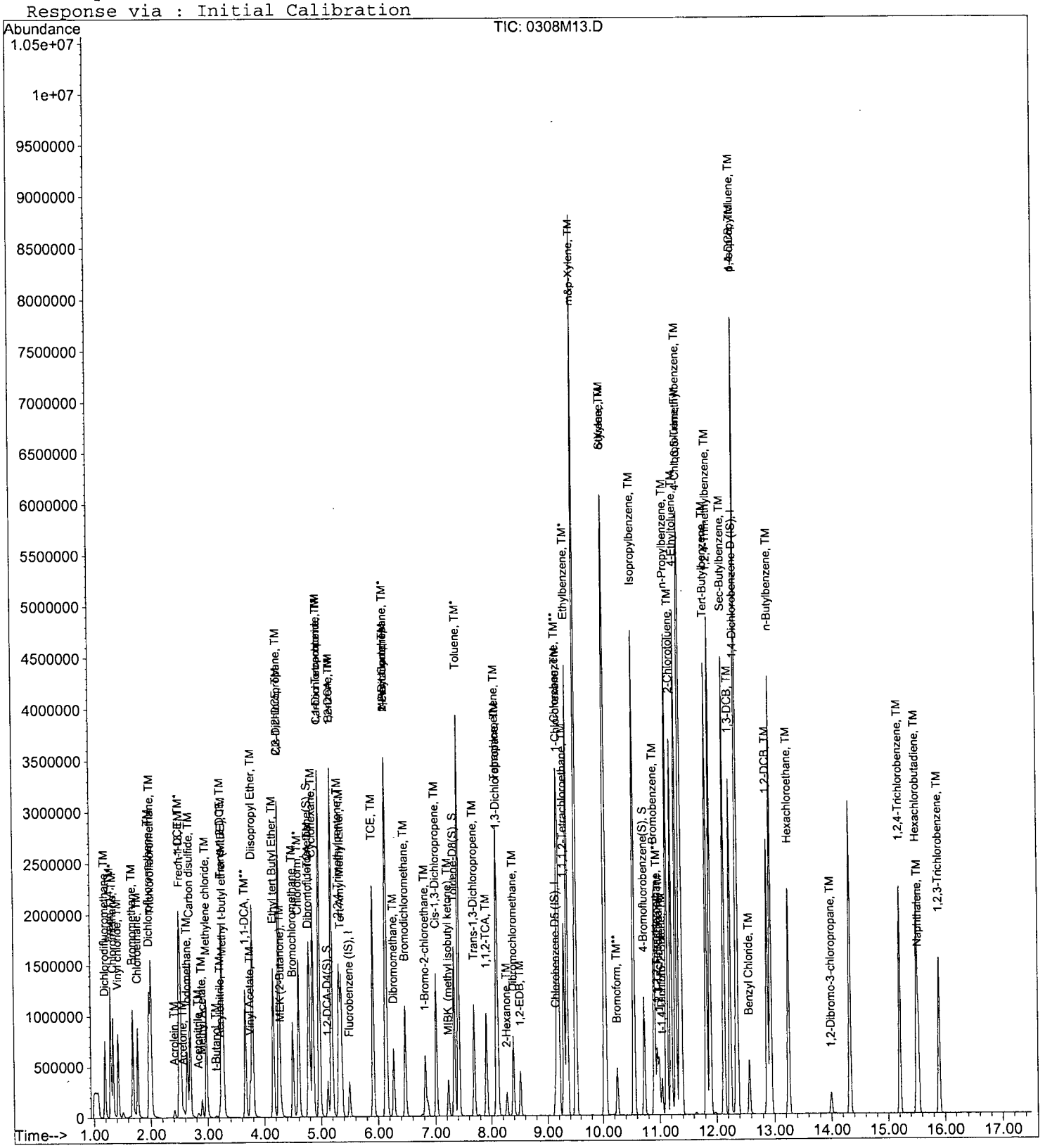
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

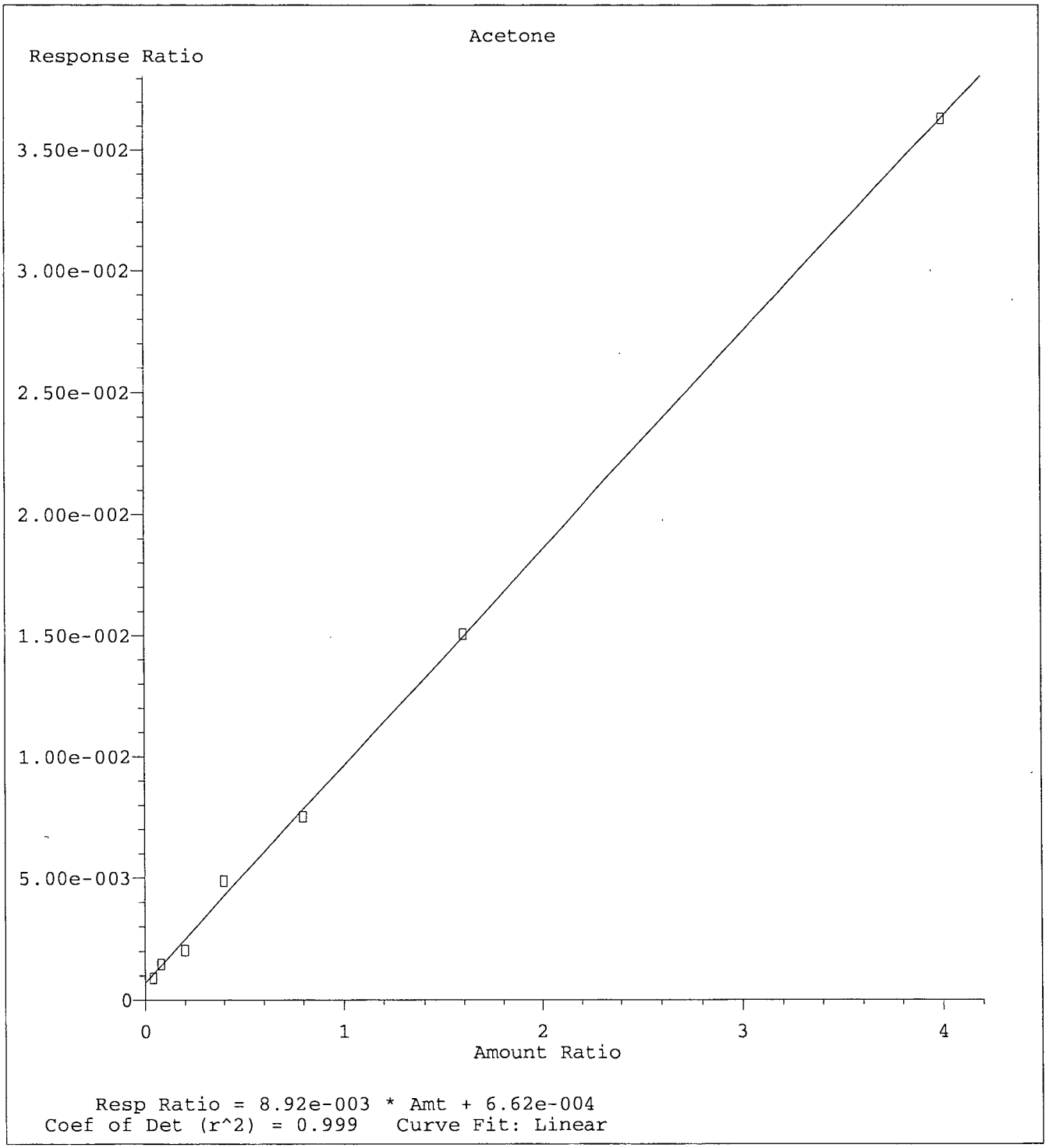
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

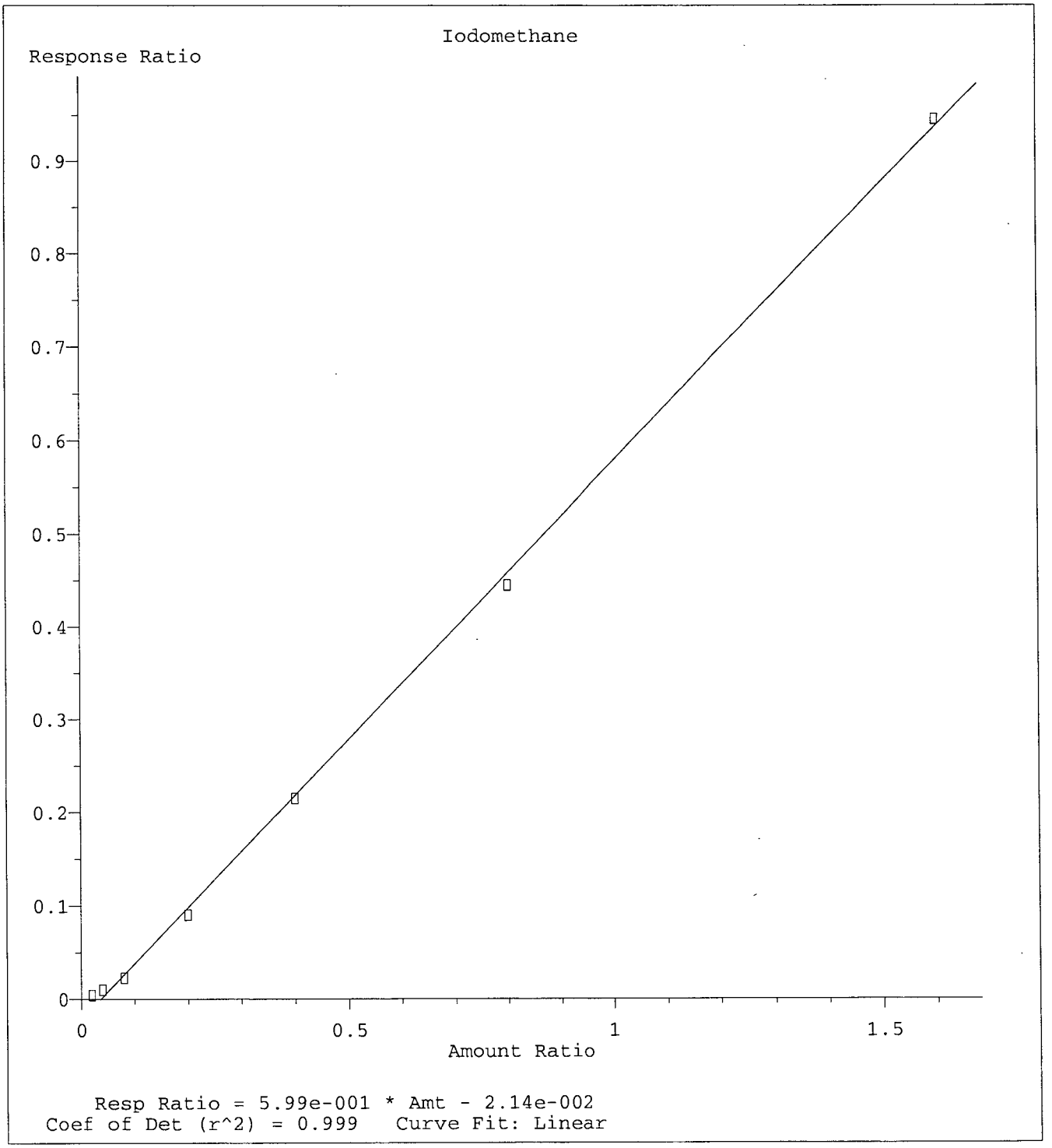
Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



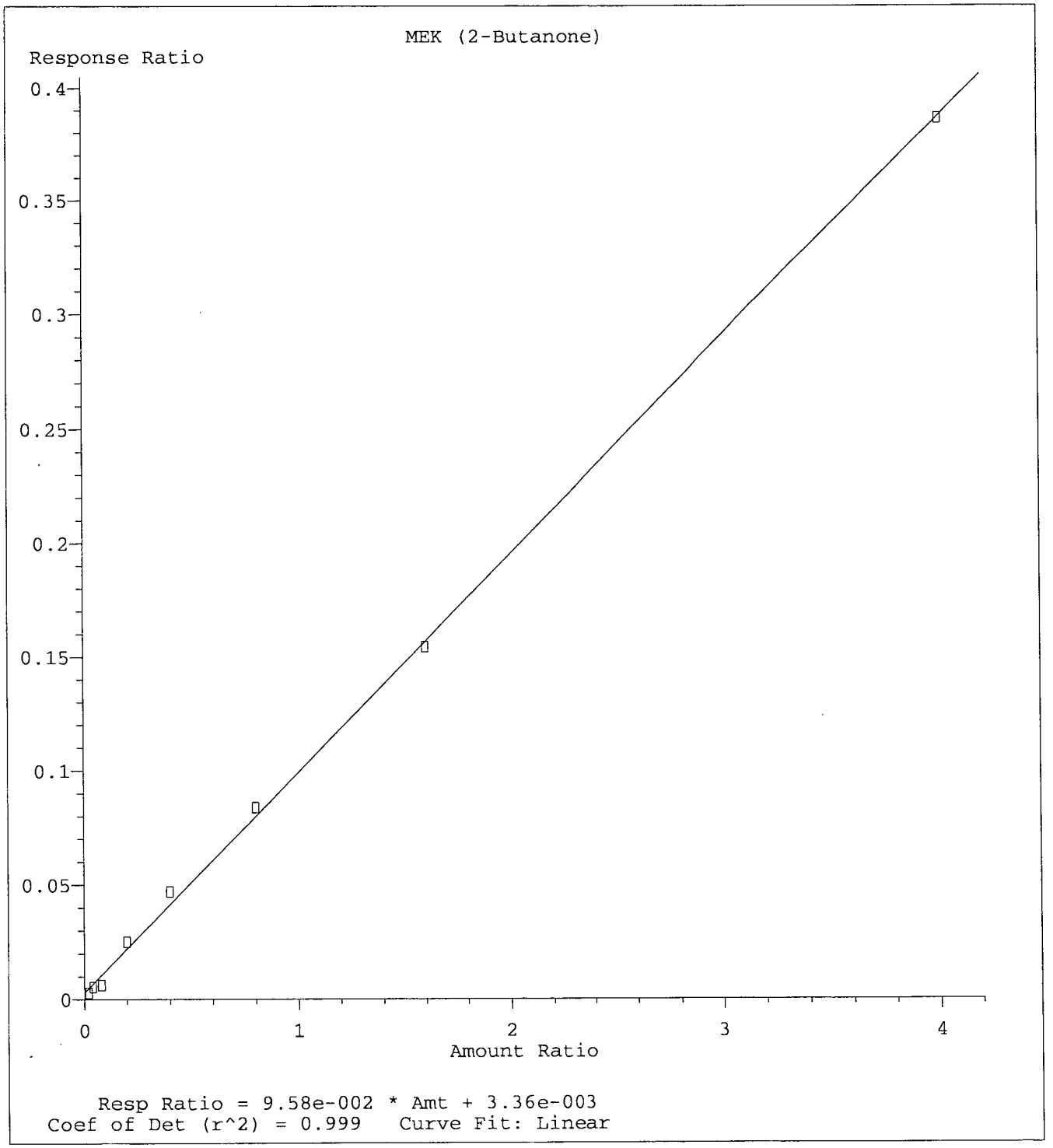
507



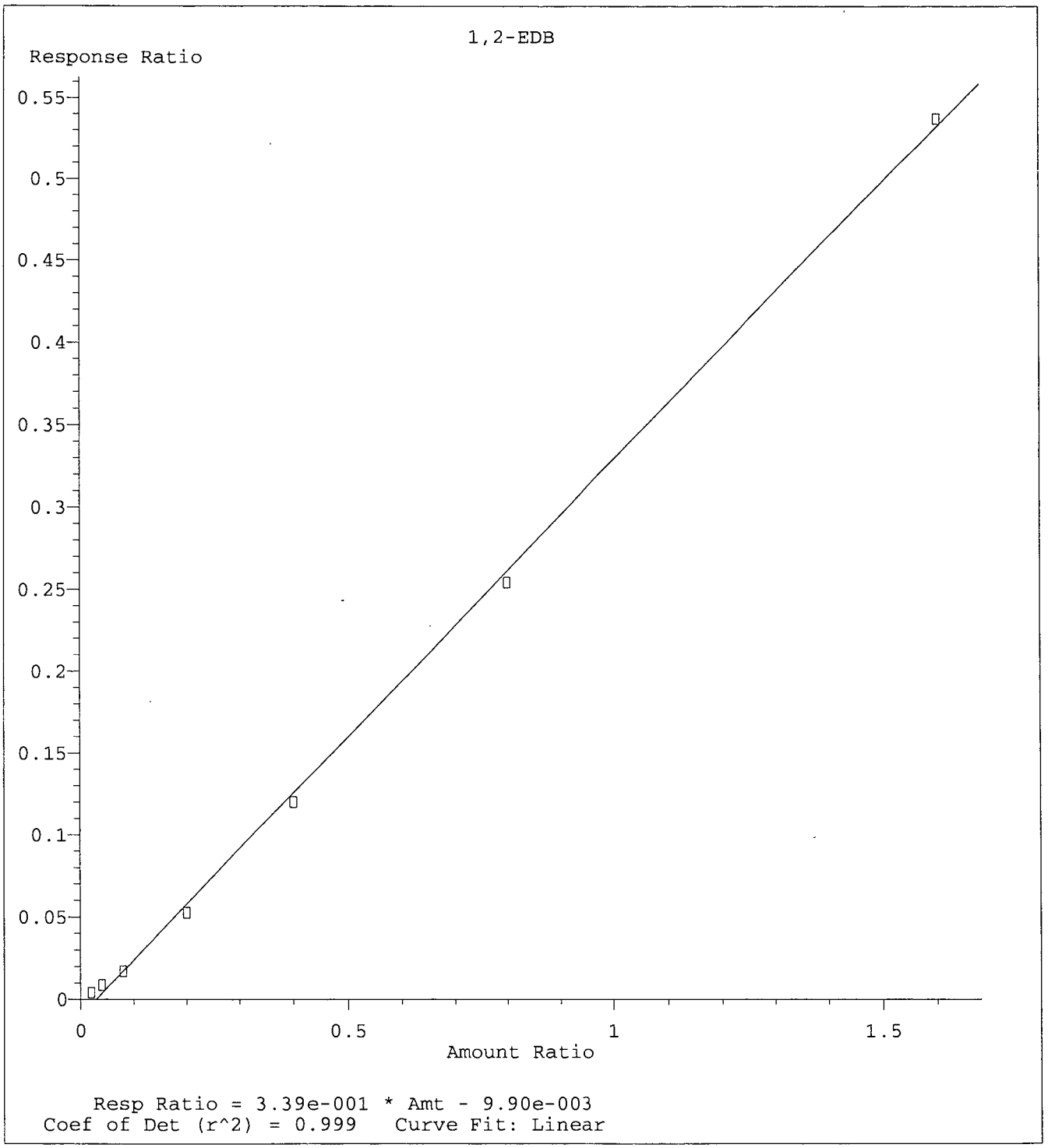
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



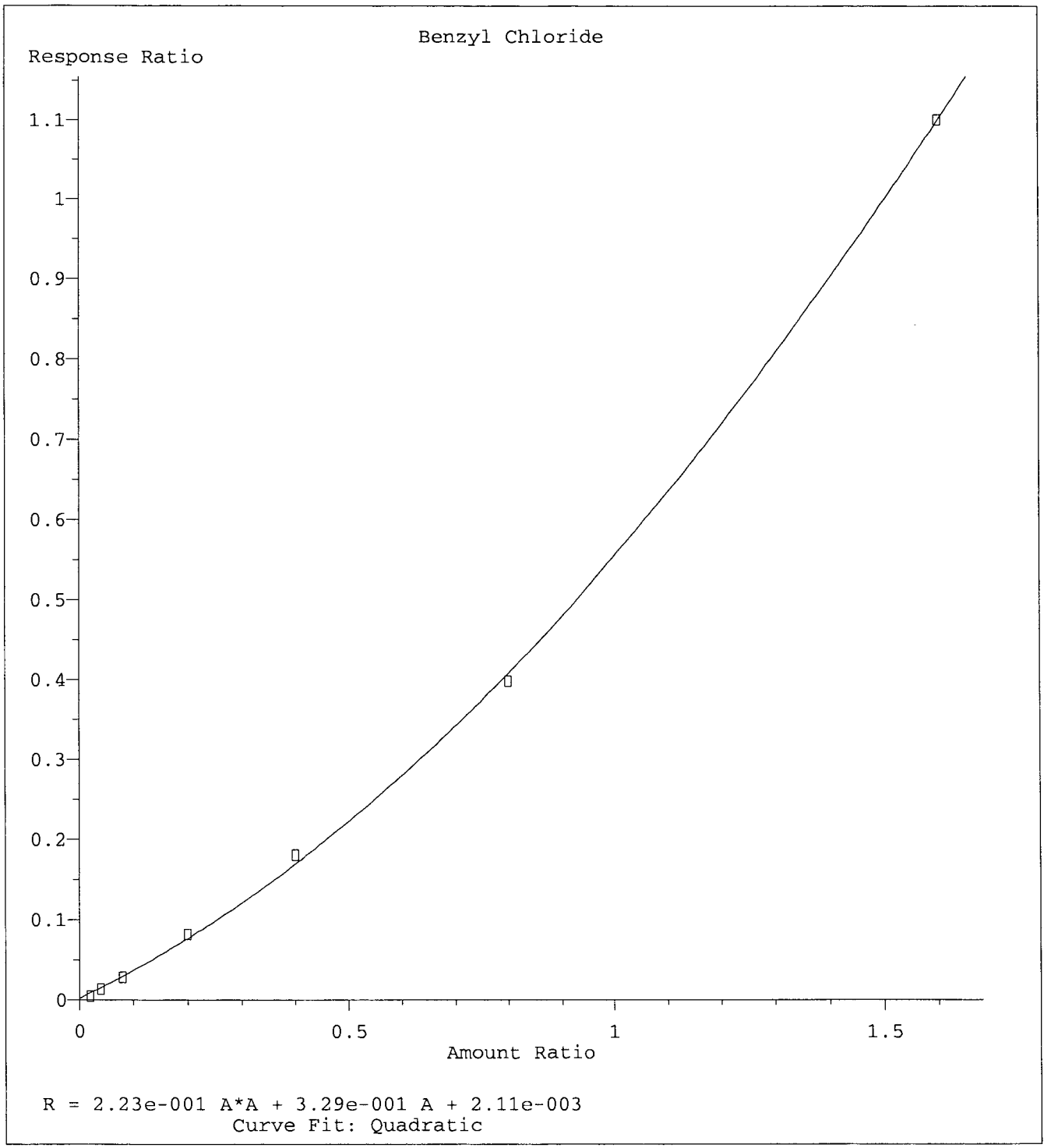
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



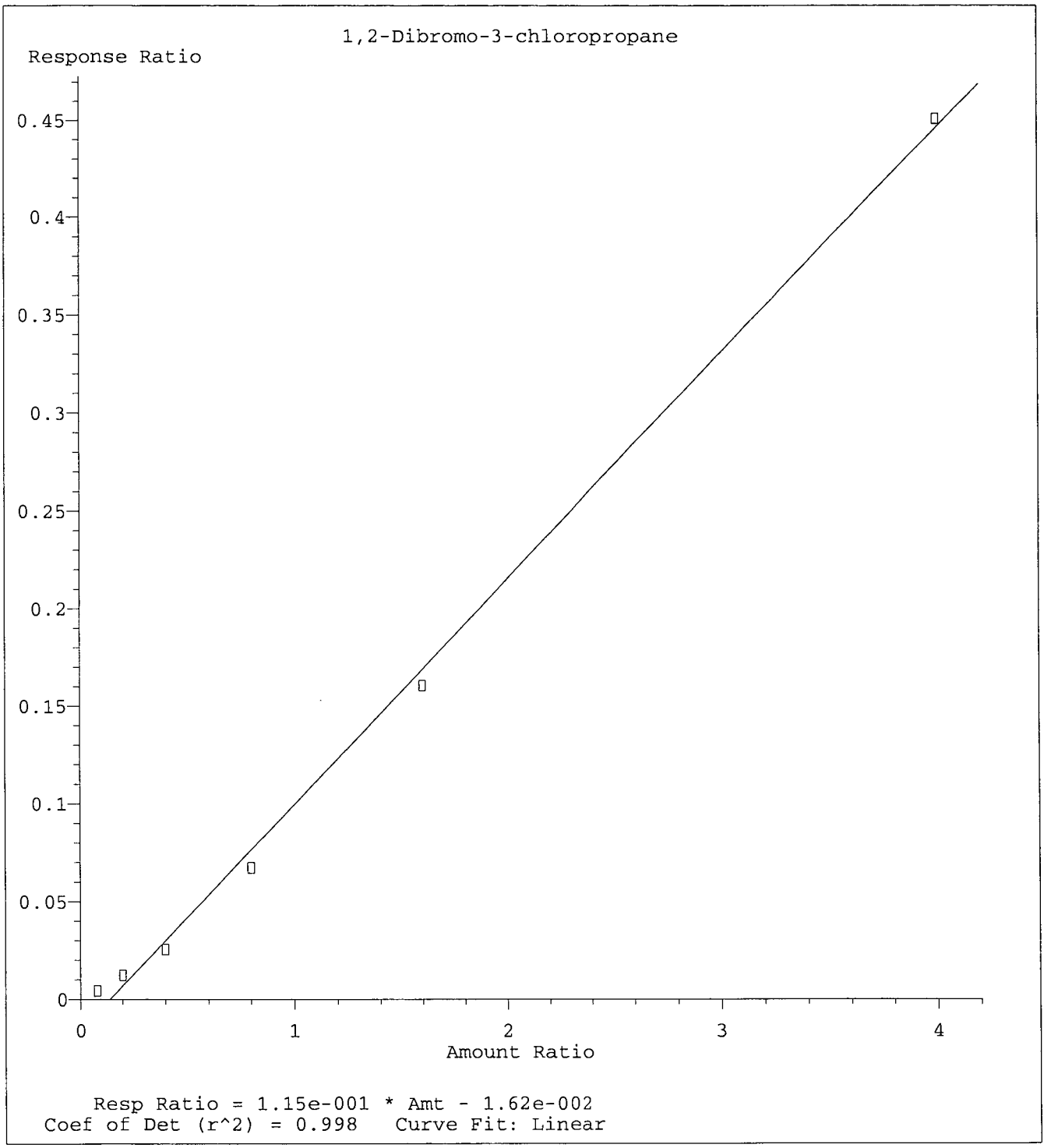
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



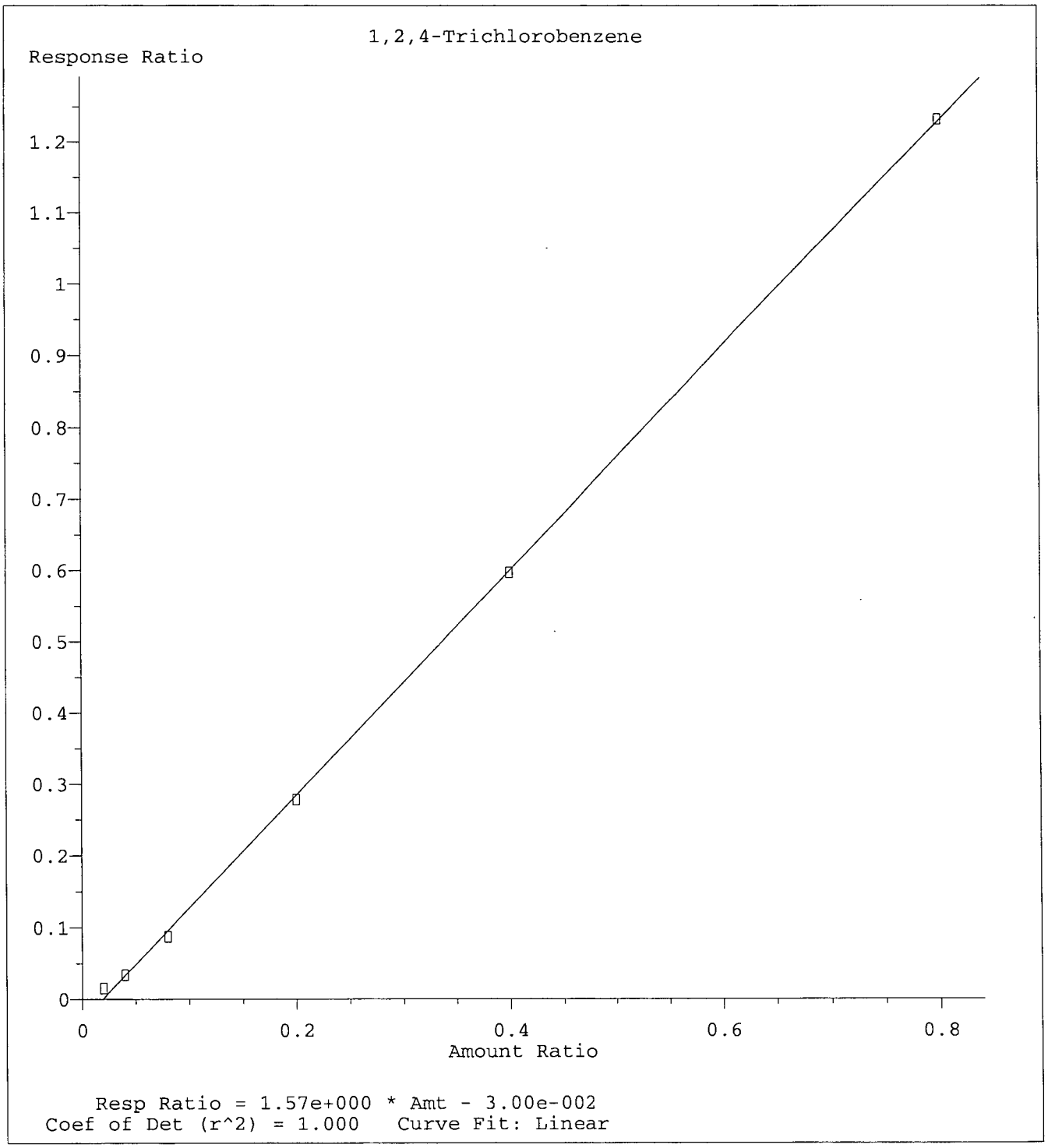
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



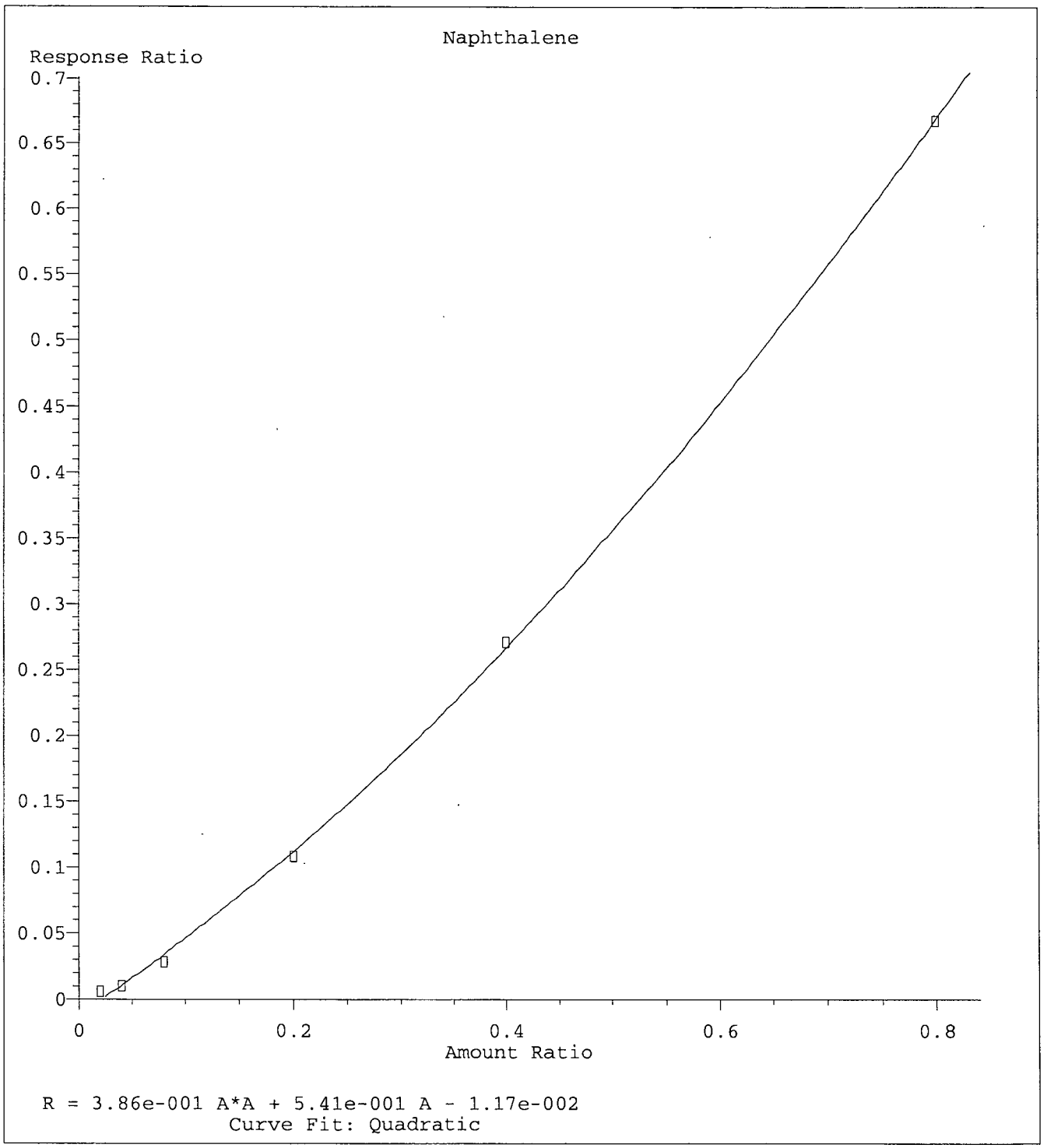
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



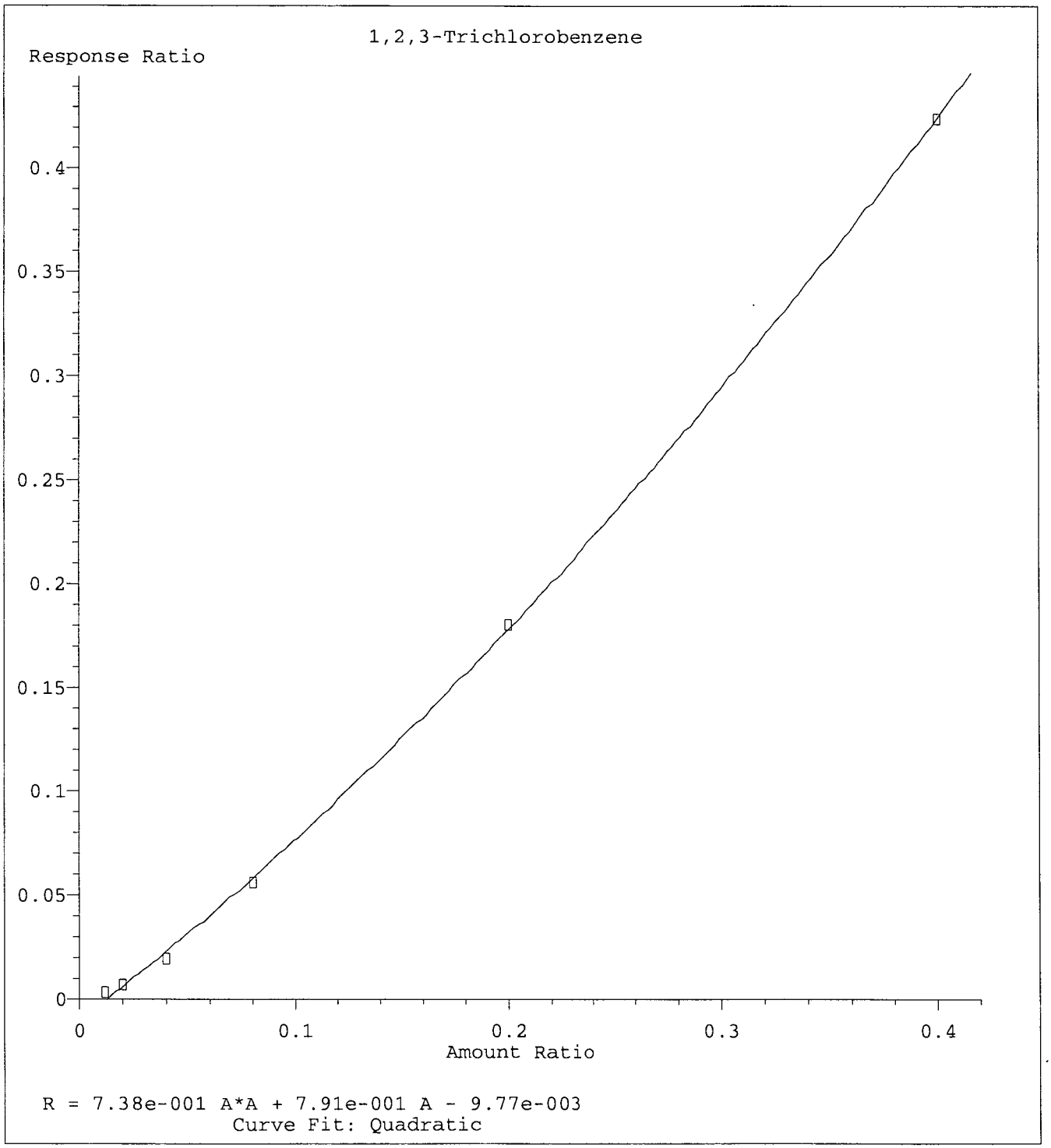
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2929	0.2661	9.1	TM		
2	TM	Freon 114	0.4107	0.3572	13	TM		
3	TM**	Chloromethane	0.4190	0.3946	5.8	TM**		
4	TM*	Vinyl chloride	0.5954	0.5872	1.4	TM*		
5	TM	Bromomethane	0.4115	0.3356	18	TM		
6	TM	Chloroethane	0.3488	0.3338	4.3	TM		
7	TM	Dichlorofluoromethane	0.9208	0.8857	3.8	TM		
8	TM	Trichlorofluoromethane	0.7319	0.7560	3.3	TM		
9	TM	Acrolein	0.0223	0.0203	8.9	TM		
10	TML	Acetone	0.0130	0.0135	4.1	TML	33	*
11	TM	Freon-113	0.4245	0.4336	2.2	TM		
12	TM*	1,1-DCE	0.6654	0.6019	9.5	TM*		
13	TM	Acetonitrile	0.0205	0.0224	9.1	TM		
14	TM	t-Butanol	0.0076	0.0090	18	TM		
15	TM	Methyl Acetate	0.1458	0.1513	3.8	TM		
16	TML	Iodomethane	0.4104	0.2661	35	TML	47	nt
17	TM	Acrylonitrile	0.0677	0.0710	4.8	TM		
18	TM	Methylene chloride	0.4446	0.3809	14	TM		
19	TM	Carbon disulfide	1.359	1.137	16	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7603	4.5	TM		
21	TM	Trans-1,2-DCE	0.5055	0.4613	8.7	TM		
22	TM	Diisopropyl Ether	1.241	1.219	1.8	TM		
23	TM**	1,1-DCA	0.8132	0.7216	11	TM**		
24	TM	Vinyl Acetate	0.2151	0.2197	2.1	TM		
25	TM	Ethyl tert Butyl Ether	0.8411	0.9358	11	TM		
26	TML	MEK (2-Butanone)	0.1121	0.0928	17	TML	12	
27	TM	Cis-1,2-DCE	0.5196	0.4831	7.0	TM		
28	TM	2,2-Dichloropropane	0.5015	0.4825	3.8	TM		
29	TM*	Chloroform	0.8075	0.7137	12	TM*		
30	TM	Bromochloromethane	0.1989	0.1817	8.7	TM		
31	TM	1,1,1-TCA	0.7042	0.6740	4.3	TM		
32	TM	Cyclohexane	0.4238	0.3864	8.8	TM		
33	TM	1,1-Dichloropropene	0.6603	0.5800	12	TM		
34	TM	2,2,4-Trimethylpentane	1.136	1.017	10	TM		
35	TM	Carbon Tetrachloride	0.5179	0.5425	4.8	TM		
36	TM	Tert Amyl Methyl Ether	0.7406	0.7592	2.5	TM		
37	TM	1,2-DCA	0.4401	0.3855	12	TM		
38	TM	Benzene	1.976	1.759	11	TM		
39	TM	TCE	0.5428	0.4797	12	TM		
40	TM	2-Pentanone	0.1243	0.1385	11	TM		
		Average			9.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4158	0.3666	12	TM*	
42	TM	Bromodichloromethane	0.4582	0.4410	3.8	TM	
43	TM	Methyl Cyclohexane	0.7397	0.6718	9.2	TM	
44	TM	Dibromomethane	0.1716	0.1528	11	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2053	0.70	TM	
46	TM	1-Bromo-2-chloroethane	0.3952	0.3867	2.1	TM	
47	TM	Cis-1,3-Dichloropropene	0.4875	0.4772	2.1	TM	
48	TM*	Toluene	2.281	1.998	12	TM*	
49	TM	Trans-1,3-Dichloropropene	0.3040	0.3459	14	TM	
50	TM	1,1,2-TCA	0.2046	0.1833	10	TM	
51	TM	2-Hexanone	0.1163	0.1300	12	TM	
52	TML	1,2-EDB	0.2651	0.2844	7.2	TML	8.7
53	TM	Tetrachloroethene	0.7696	0.6912	10	TM	
54	TM	1-Chlorohexane	0.9459	0.9434	0.26	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5101	6.2	TM	
56	TM	m&p-Xylene	1.478	1.296	12	TM	
57	TM	o-Xylene	1.419	1.227	14	TM	
58	TM	Styrene	2.071	1.826	12	TM	
59	TM	1,3-Dichloropropane	0.6211	0.5613	9.6	TM	
60	TM	Dibromochloromethane	0.3460	0.3772	9.0	TM	
61	TM**	Chlorobenzene	1.987	1.746	12	TM**	
62	TM*	Ethylbenzene	3.638	3.245	11	TM*	
63	TM**	Bromoform	0.1886	0.1804	4.3	TM**	
64	TM	Isopropylbenzene	7.350	6.599	10	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6170	7.1	TM**	
66	TM	1,2,3-Trichloropropane	0.2357	0.2197	6.8	TM	
67	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1145	12	TM	
68	TM	Bromobenzene	1.615	1.430	11	TM	
69	TM	n-Propylbenzene	8.271	7.307	12	TM	
70	TM	4-Ethyltoluene	7.181	7.139	0.59	TM	
71	TM	2-Chlorotoluene	4.727	4.145	12	TM	
72	TM	1,3,5-Trimethylbenzene	6.135	5.368	12	TM	
73	TM	4-Chlorotoluene	5.532	4.775	14	TM	
74	TM	Tert-Butylbenzene	5.512	4.775	13	TM	
75	TM	1,2,4-Trimethylbenzene	5.770	5.198	9.9	TM	
76	TM	Sec-Butylbenzene	7.268	6.414	12	TM	
77	TM	p-Isopropyltoluene	6.329	5.502	13	TM	
78	TMQ	Benzyl Chloride	0.4242	0.3942	7.1	TMQ	5.8
79	TM	1,3-DCB	3.296	2.912	12	TM	
80	TM	1,4-DCB	3.270	2.785	15	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	5.039	4.392	13	TM	
82	TM	1,2-DCB	2.715	2.346	14	TM	
83	TM	Hexachloroethane	0.5145	0.6085	18	TM	
84	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0805	1.2	TML	4.7
85	TML	1,2,4-Trichlorobenzene	1.183	1.208	2.1	TML	18
86	TM	Hexachlorobutadiene	0.9479	0.8306	12	TM	
87	TMQ	Naphthalene	0.4921	0.5544	13	TMQ	14
88	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8227	31	TMQ	18
89							
90							
91							
92							
93							
94							
95							
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109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332241	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	230391	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113881	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	81347	24.85199 ppb	0.00
Spiked Amount 25.000			Recovery = 99.408%		
37) 1,2-DCA-D4(S)	5.12	65	62763	24.04517 ppb	0.00
Spiked Amount 25.000			Recovery = 96.180%		
57) Toluene-D8(S)	7.34	98	329558	24.63517 ppb	0.00
Spiked Amount 25.000			Recovery = 98.540%		
65) 4-Bromofluorobenzene(S)	10.72	95	109282	24.71231 ppb	0.00
Spiked Amount 25.000			Recovery = 98.848%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	35368	9.08749 ppb	94
3) Freon 114	1.29	85	47467	8.69764 ppb	99
4) Chloromethane	1.34	50	52440	9.41638 ppb	97
5) Vinyl chloride	1.43	62	78035	9.86273 ppb	99
6) Bromomethane	1.69	94	44603	8.15672 ppb	98
7) Chloroethane	1.79	64	44365	9.56985 ppb	97
8) Dichlorofluoromethane	1.98	67	117711	9.61968 ppb	98
9) Trichlorofluoromethane	2.02	101	100472	10.32916 ppb	96
10) Acrolein	2.41	56	33786	113.91369 ppb	95
11) Acetone	2.56	58	1797	13.30442 ppb #	64
12) Freon-113	2.53	101	57630	10.21661 ppb	95
13) 1,1-DCE	2.51	61	79991	9.04627 ppb	96
14) Acetonitrile	2.83	41	37164	136.40801 ppb	99
15) t-Butanol	3.13	59	14924	148.12013 ppb	96
16) Methyl Acetate	2.90	43	20102	10.37637 ppb	99
17) Iodomethane	2.64	142	35358	5.33244 ppb	94
18) Acrylonitrile	3.21	53	9433	10.47987 ppb	92
19) Methylene chloride	2.98	84	50624	8.56806 ppb	94
20) Carbon disulfide	2.69	76	151159	8.37045 ppb	99
21) Methyl t-butyl ether (MtBE	3.27	73	101046	10.45216 ppb	95
22) Trans-1,2-DCE	3.25	96	61301	9.12550 ppb	99
23) Diisopropyl Ether	3.79	45	161982	9.81994 ppb	99
24) 1,1-DCA	3.66	63	95898	8.87370 ppb	97
25) Vinyl Acetate	3.75	43	29195	10.21498 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	124366	11.12578 ppb	94
27) MEK (2-Butanone)	4.30	43	12332	8.81039 ppb	84
28) Cis-1,2-DCE	4.26	96	64204	9.29782 ppb	98
29) 2,2-Dichloropropane	4.26	77	64129	9.62292 ppb	98
30) Chloroform	4.60	83	94844	8.83852 ppb	95
31) Bromochloromethane	4.50	128	24142	9.13429 ppb	96
33) 1,1,1-TCA	4.79	97	89571	9.57136 ppb	97
34) Cyclohexane	4.86	41	51350	9.11661 ppb	99
35) 1,1-Dichloropropene	4.97	75	77076	8.78285 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	135152	8.95313 ppb	99
38) Carbon Tetrachloride	4.97	117	72098	10.47546 ppb	96
39) Tert Amyl Methyl Ether	5.36	73	100899	10.25142 ppb	100
40) 1,2-DCA	5.20	62	51233	8.75956 ppb	100
41) Benzene	5.19	78	233760	8.90080 ppb	98
42) TCE	5.91	95	63744	8.83663 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	230098	139.26623 ppb		98
44) 1,2-Dichloropropane	6.15	63	48717	8.81572 ppb	#	93
45) Bromodichloromethane	6.48	83	58602	9.62366 ppb		100
46) Methyl Cyclohexane	6.14	83	89281	9.08198 ppb		90
47) Dibromomethane	6.28	93	20309	8.90726 ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	27290	9.92979 ppb		92
49) 1-Bromo-2-chloroethane	6.83	63	51390	9.78520 ppb		94
51) Cis-1,3-Dichloropropene	7.01	75	63419	9.78876 ppb		97
52) Toluene	7.42	91	265582	8.76237 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	45965	11.37829 ppb		95
54) 1,1,2-TCA	7.91	83	24362	8.95900 ppb		95
55) 2-Hexanone	8.27	43	17271	11.17917 ppb	#	94
58) 1,2-EDB	8.51	107	26206	9.13075 ppb		96
59) Tetrachloroethene	8.09	164	63702	8.98120 ppb		96
60) 1-Chlorohexane	9.20	91	86937	9.97351 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.29	131	47008	10.62407 ppb		97
62) m&p-Xylene	9.51	106	238921	17.53713 ppb		97
63) o-Xylene	10.03	106	113036	8.64311 ppb		100
64) Styrene	10.05	104	168299	8.81635 ppb		97
66) 1,3-Dichloropropane	8.11	76	51729	9.03713 ppb		96
67) Dibromochloromethane	8.39	129	34762	10.90313 ppb		90
68) Chlorobenzene	9.17	112	160861	8.78536 ppb		99
69) Ethylbenzene	9.35	91	299056	8.92007 ppb		100
70) Bromoform	10.25	173	16625	9.56528 ppb		87
72) Isopropylbenzene	10.55	105	300578	8.97744 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	28104	9.29481 ppb		91
74) 1,2,3-Trichloropropane	10.99	110	10010	9.32137 ppb		95
75) t-1,4-Dichloro-2-Butene	11.03	53	5218	8.83783 ppb		87
76) Bromobenzene	10.91	156	65137	8.85589 ppb		99
77) n-Propylbenzene	11.12	91	332862	8.83491 ppb		99
78) 4-Ethyltoluene	11.28	105	325192	9.94066 ppb		98
79) 2-Chlorotoluene	11.20	91	188836	8.76885 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	244530	8.75015 ppb		99
81) 4-Chlorotoluene	11.35	91	217506	8.63166 ppb		100
82) Tert-Butylbenzene	11.82	119	217514	8.66332 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	236796	9.00877 ppb		98
84) Sec-Butylbenzene	12.13	105	292153	8.82471 ppb		95
85) p-Isopropyltoluene	12.36	119	250635	8.69312 ppb		98
86) Benzyl Chloride	12.57	91	17956	9.42206 ppb		99
87) 1,3-DCB	12.24	146	132636	8.83366 ppb		99
88) 1,4-DCB	12.37	146	126869	8.51780 ppb		99
89) n-Butylbenzene	12.94	91	200062	8.71658 ppb		99
90) 1,2-DCB	12.88	146	106888	8.64333 ppb		98
91) Hexachloroethane	13.25	117	27720	11.82670 ppb		94
92) 1,2-Dibromo-3-chloropropan	13.99	75	3665	10.46727 ppb		82
93) 1,2,4-Trichlorobenzene	15.21	180	55019	8.15446 ppb		95
94) Hexachlorobutadiene	15.51	225	37836	8.76255 ppb		99
95) Naphthalene	15.54	128	25256	8.64720 ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	37478	8.19983 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

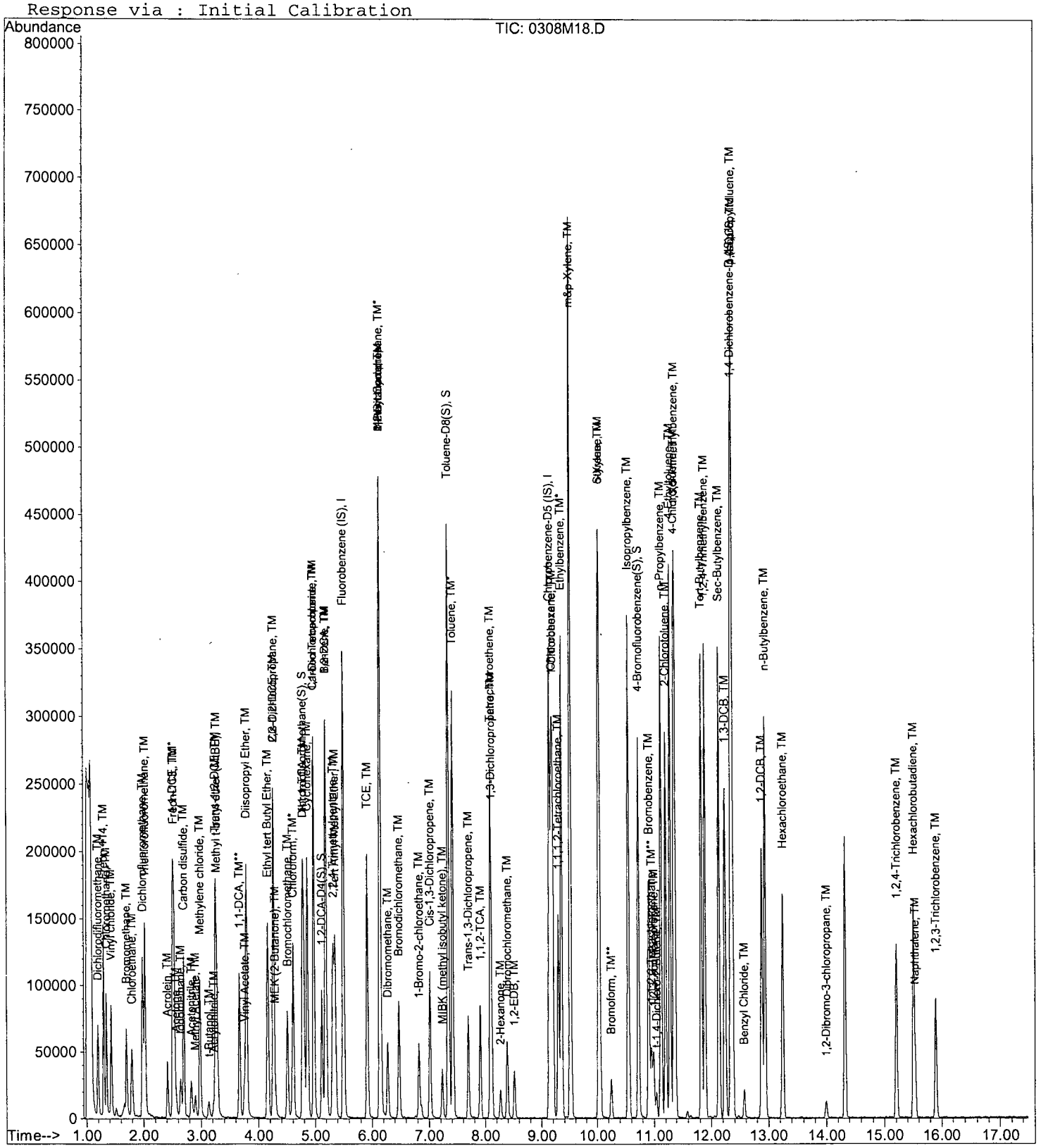
Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



522

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.3006	2.6	TM		
3	TM	Freon 114	0.4107	0.4030	1.9	TM		
4	TM**	Chloromethane	0.4190	0.3277	22	TM**		nt
5	TM*	Vinyl chloride	0.5954	0.5596	6.0	TM*		
6	TM	Bromomethane	0.4115	0.3057	26	TM		nt
7	TM	Chloroethane	0.3488	0.3365	3.5	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9245	0.41	TM		
9	TM	Trichlorofluoromethane	0.7319	0.7286	0.46	TM		
10	TM	Acrolein	0.0223	0.0204	8.6	TM		
11	TML	Acetone	0.0130	0.0085	35	TML	24	nt
12	TM	Freon-113	0.4245	0.4420	4.1	TM		
13	TM*	1,1-DCE	0.6654	0.6731	1.2	TM*		
14	TM	Acetonitrile	0.0205	0.0189	7.9	TM		
15	TM	t-Butanol	0.0076	0.0094	24	TM		nt
16	TM	Methyl Acetate	0.1458	0.1414	3.0	TM		
17	TML	Iodomethane	0.4104	0.2716	34	TML	46	nt
18	TM	Acrylonitrile	0.0677	0.0681	0.51	TM		
19	TM	Methylene chloride	0.4446	0.4156	6.5	TM		
20	TM	Carbon disulfide	1.359	1.357	0.13	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7012	3.6	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5079	0.48	TM		
23	TM	Diisopropyl Ether	1.241	1.215	2.1	TM		
24	TM**	1,1-DCA	0.8132	0.8098	0.41	TM**		
25	TM	Vinyl Acetate	0.2151	0.2963	38	TM		nt
26	TM	Ethyl tert Butyl Ether	0.8411	0.8197	2.5	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0755	33	TML	30	nt
28	TM	Cis-1,2-DCE	0.5196	0.5323	2.4	TM		
29	TM	2,2-Dichloropropane	0.5015	0.6457	29	TM		nt
30	TM*	Chloroform	0.8075	0.8268	2.4	TM*		
31	TM	Bromochloromethane	0.1989	0.1930	3.0	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2458	0.20	S		
33	TM	1,1,1-TCA	0.7042	0.8087	15	TM		
34	TM	Cyclohexane	0.4238	0.4180	1.4	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6790	2.8	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.193	5.1	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1978	0.70	S		
38	TM	Carbon Tetrachloride	0.5179	0.6315	22	TM		nt
39	TM	Tert Amyl Methyl Ether	0.7406	0.7181	3.0	TM		
40	TM	1,2-DCA	0.4401	0.4162	5.4	TM		
		Average			9.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D	%Drift		
41	TM	Benzene	1.976	1.950	1.3	TM		
42	TM	TCE	0.5428	0.5272	2.9	TM		
43	TM	2-Pentanone	0.1243	0.1181	5.0	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.4115	1.0	TM*		
45	TM	Bromodichloromethane	0.4582	0.5083	11	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7129	3.6	TM		
47	TM	Dibromomethane	0.1716	0.1676	2.3	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1986	3.9	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.3787	4.2	TM		
50	TM	2-Chloroethyl vinyl ether	0.0000	0.0060	0.00	TM		
51	TM	Cis-1,3-Dichloropropene	0.4875	0.5407	11	TM		
52	TM*	Toluene	2.281	2.251	1.3	TM*		
53	TM	Trans-1,3-Dichloropropene	0.3040	0.3682	21	TM		nt
54	TM	1,1,2-TCA	0.2046	0.1975	3.5	TM		
55	TM	2-Hexanone	0.1163	0.1195	2.8	TM		
56	I	Chlorobenzene-D5 (IS)	ISTD			I		
57	S	Toluene-D8(S)	1.452	1.453	0.12	S		
58	TML	1,2-EDB	0.2651	0.3260	23	TML	3.6	
59	TM	Tetrachloroethene	0.7696	0.8125	5.6	TM		
60	TM	1-Chlorohexane	0.9459	0.9725	2.8	TM		
61	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6170	29	TM		nt
62	TM	m&p-Xylene	1.478	1.530	3.5	TM		
63	TM	o-Xylene	1.419	1.400	1.3	TM		
64	TM	Styrene	2.071	2.113	2.0	TM		
65	S	4-Bromofluorobenzene(S)	0.4799	0.4810	0.23	S		
66	TM	1,3-Dichloropropane	0.6211	0.5983	3.7	TM		
67	TM	Dibromochloromethane	0.3460	0.4497	30	TM		nt
68	TM**	Chlorobenzene	1.987	2.008	1.1	TM**		
69	TM*	Ethylbenzene	3.638	3.739	2.8	TM*		
70	TM**	Bromoform	0.1886	0.2244	19	TM**		
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
72	TM	Isopropylbenzene	7.350	7.398	0.65	TM		
73	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7030	5.9	TM**		
74	TM	1,2,3-Trichloropropane	0.2357	0.2247	4.7	TM		
75	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1331	2.7	TM		
76	TM	Bromobenzene	1.615	1.578	2.3	TM		
77	TM	n-Propylbenzene	8.271	8.452	2.2	TM		
78	TM	4-Ethyltoluene	7.181	7.409	3.2	TM		
79	TM	2-Chlorotoluene	4.727	4.733	0.12	TM		
80	TM	1,3,5-Trimethylbenzene	6.135	6.144	0.14	TM		
		Average			5.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Chlorotoluene	5.532	5.556	0.43	TM	
82	TM	Tert-Butylbenzene	5.512	5.459	0.97	TM	
83	TM	1,2,4-Trimethylbenzene	5.770	6.037	4.6	TM	
84	TM	Sec-Butylbenzene	7.268	7.437	2.3	TM	
85	TM	p-Isopropyltoluene	6.329	6.576	3.9	TM	
86	TMQ	Benzyl Chloride	0.4242	0.4192	1.2	TMQ	0.78
87	TM	1,3-DCB	3.296	3.309	0.39	TM	
88	TM	1,4-DCB	3.270	3.183	2.7	TM	
89	TM	n-Butylbenzene	5.039	5.350	6.2	TM	
90	TM	1,2-DCB	2.715	2.698	0.62	TM	
91	TM	Hexachloroethane	0.5145	0.6129	19	TM	
92	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0899	13	TML	13
93	TML	1,2,4-Trichlorobenzene	1.183	1.471	24	TML	1.7
94	TM	Hexachlorobutadiene	0.9479	1.048	11	TM	
95	TMQ	Naphthalene	0.4921	0.6871	40	TMQ	2.4
96	TMQ	1,2,3-Trichlorobenzene	0.6294	1.013	61	TMQ	3.6
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M02.D
Acq On : 11 Mar 17 10:45
Sample : 170311A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306357	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	210384	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	105548	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75302	24.94891 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.796%	
37) 1,2-DCA-D4(S)	5.12	65	60594	25.17556 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.704%	
57) Toluene-D8(S)	7.34	98	305751	25.02905 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.116%	
65) 4-Bromofluorobenzene(S)	10.72	95	101187	25.05776 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.232%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	36832	10.26323 ppb		98
3) Freon 114	1.30	85	49385	9.81364 ppb		94
4) Chloromethane	1.34	50	40161	7.82080 ppb		96
5) Vinyl chloride	1.43	62	68581	9.40019 ppb	#	81
6) Bromomethane	1.70	94	37466	7.43044 ppb		97
7) Chloroethane	1.80	64	41237	9.64667 ppb		99
8) Dichlorofluoromethane	1.99	67	113291	10.04071 ppb		97
9) Trichlorofluoromethane	2.03	101	89282	9.95427 ppb		95
10) Acrolein	2.42	56	31250	114.26536 ppb		93
11) Acetone	2.58	58	1039	7.64988 ppb		95
12) Freon-113	2.53	101	54159	10.41249 ppb		96
13) 1,1-DCE	2.51	61	82489	10.11695 ppb		98
14) Acetonitrile	2.83	41	28911	115.08162 ppb		99
15) t-Butanol	3.14	59	14401	155.00543 ppb		97
16) Methyl Acetate	2.90	43	17326	9.69906 ppb		89
17) Iodomethane	2.64	142	33287	5.42555 ppb		97
18) Acrylonitrile	3.22	53	8342	10.05083 ppb	#	90
19) Methylene chloride	2.98	84	50925	9.34722 ppb		97
20) Carbon disulfide	2.70	76	166300	9.98694 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	85926	9.63911 ppb		98
22) Trans-1,2-DCE	3.25	96	62239	10.04794 ppb		98
23) Diisopropyl Ether	3.79	45	148936	9.79191 ppb		99
24) 1,1-DCA	3.67	63	99238	9.95861 ppb		97
25) Vinyl Acetate	3.75	43	36306	13.77631 ppb		99
26) Ethyl tert Butyl Ether	4.16	59	100447	9.74521 ppb		95
27) MEK (2-Butanone)	4.30	43	9256	7.00849 ppb		100
28) Cis-1,2-DCE	4.26	96	65225	10.24374 ppb		99
29) 2,2-Dichloropropane	4.26	77	79122	12.87582 ppb		99
30) Chloroform	4.61	83	101314	10.23917 ppb		100
31) Bromochloromethane	4.51	128	23650	9.70416 ppb		96
33) 1,1,1-TCA	4.80	97	99098	11.48408 ppb		96
34) Cyclohexane	4.86	41	51228	9.86338 ppb		96
35) 1,1-Dichloropropene	4.98	75	83205	10.28232 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	146249	10.50680 ppb		98
38) Carbon Tetrachloride	4.97	117	77384	12.19345 ppb		92
39) Tert Amyl Methyl Ether	5.36	73	88000	9.69628 ppb		98
40) 1,2-DCA	5.20	62	51004	9.45719 ppb		97
41) Benzene	5.19	78	238986	9.86862 ppb		98
42) TCE	5.91	95	64599	9.71177 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M02.D Vial: 2
Acq On : 11 Mar 17 10:45 Operator: PM,DG,SV,CMM
Sample : 170311A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	180916	118.75048	ppb	97
44) 1,2-Dichloropropane	6.15	63	50422	9.89515	ppb	96
45) Bromodichloromethane	6.48	83	62283	11.09233	ppb	97
46) Methyl Cyclohexane	6.14	83	87356	9.63695	ppb	98
47) Dibromomethane	6.28	93	20534	9.76685	ppb	98
48) MIBK (methyl isobutyl ket	7.23	43	24341	9.60507	ppb	90
49) 1-Bromo-2-chloroethane	6.83	63	46409	9.58338	ppb	98
51) Cis-1,3-Dichloropropene	7.01	75	66254	11.09036	ppb	94
52) Toluene	7.42	91	275887	9.87142	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	45125	12.11413	ppb	97
54) 1,1,2-TCA	7.91	83	24206	9.65373	ppb	93
55) 2-Hexanone	8.27	43	14645	10.28033	ppb	90
58) 1,2-EDB	8.52	107	27435	10.36092	ppb	96
59) Tetrachloroethene	8.09	164	68374	10.55662	ppb	96
60) 1-Chlorohexane	9.20	91	81839	10.28150	ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	51926	12.85159	ppb	95
62) m&p-Xylene	9.51	106	257588	20.70535	ppb	100
63) o-Xylene	10.03	106	117821	9.86572	ppb	99
64) Styrene	10.05	104	177807	10.20021	ppb	97
66) 1,3-Dichloropropane	8.12	76	50352	9.63310	ppb	95
67) Dibromochloromethane	8.39	129	37845	12.99894	ppb	96
68) Chlorobenzene	9.17	112	168990	10.10700	ppb	98
69) Ethylbenzene	9.35	91	314617	10.27663	ppb	98
70) Bromoform	10.25	173	18883	11.89761	ppb	100
72) Isopropylbenzene	10.55	105	312324	10.06472	ppb	100
73) 1,1,2,2-Tetrachloroethane	10.95	83	29680	10.59102	ppb	97
74) 1,2,3-Trichloropropane	10.99	110	9485	9.52981	ppb	94
75) t-1,4-Dichloro-2-Butene	11.04	53	5618	10.26655	ppb	99
76) Bromobenzene	10.91	156	66622	9.77289	ppb	95
77) n-Propylbenzene	11.12	91	356832	10.21887	ppb	100
78) 4-Ethyltoluene	11.28	105	312805	10.31692	ppb	99
79) 2-Chlorotoluene	11.20	91	199823	10.01163	ppb	98
80) 1,3,5-Trimethylbenzene	11.38	105	259380	10.01431	ppb	100
81) 4-Chlorotoluene	11.36	91	234558	10.04325	ppb	98
82) Tert-Butylbenzene	11.82	119	230455	9.90341	ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	254880	10.46232	ppb	98
84) Sec-Butylbenzene	12.13	105	313999	10.23340	ppb	97
85) p-Isopropyltoluene	12.36	119	277631	10.38970	ppb	99
86) Benzyl Chloride	12.57	91	17700	9.92205	ppb	99
87) 1,3-DCB	12.24	146	139699	10.03862	ppb	98
88) 1,4-DCB	12.37	146	134376	9.73408	ppb	95
89) n-Butylbenzene	12.94	91	225857	10.61735	ppb	98
90) 1,2-DCB	12.88	146	113902	9.93767	ppb	99
91) Hexachloroethane	13.25	117	25878	11.91248	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	3796	11.28601	ppb	86
93) 1,2,4-Trichlorobenzene	15.21	180	62094	9.82583	ppb	97
94) Hexachlorobutadiene	15.51	225	44246	11.05607	ppb	96
95) Naphthalene	15.54	128	29008	10.23951	ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	42760	9.64221	ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

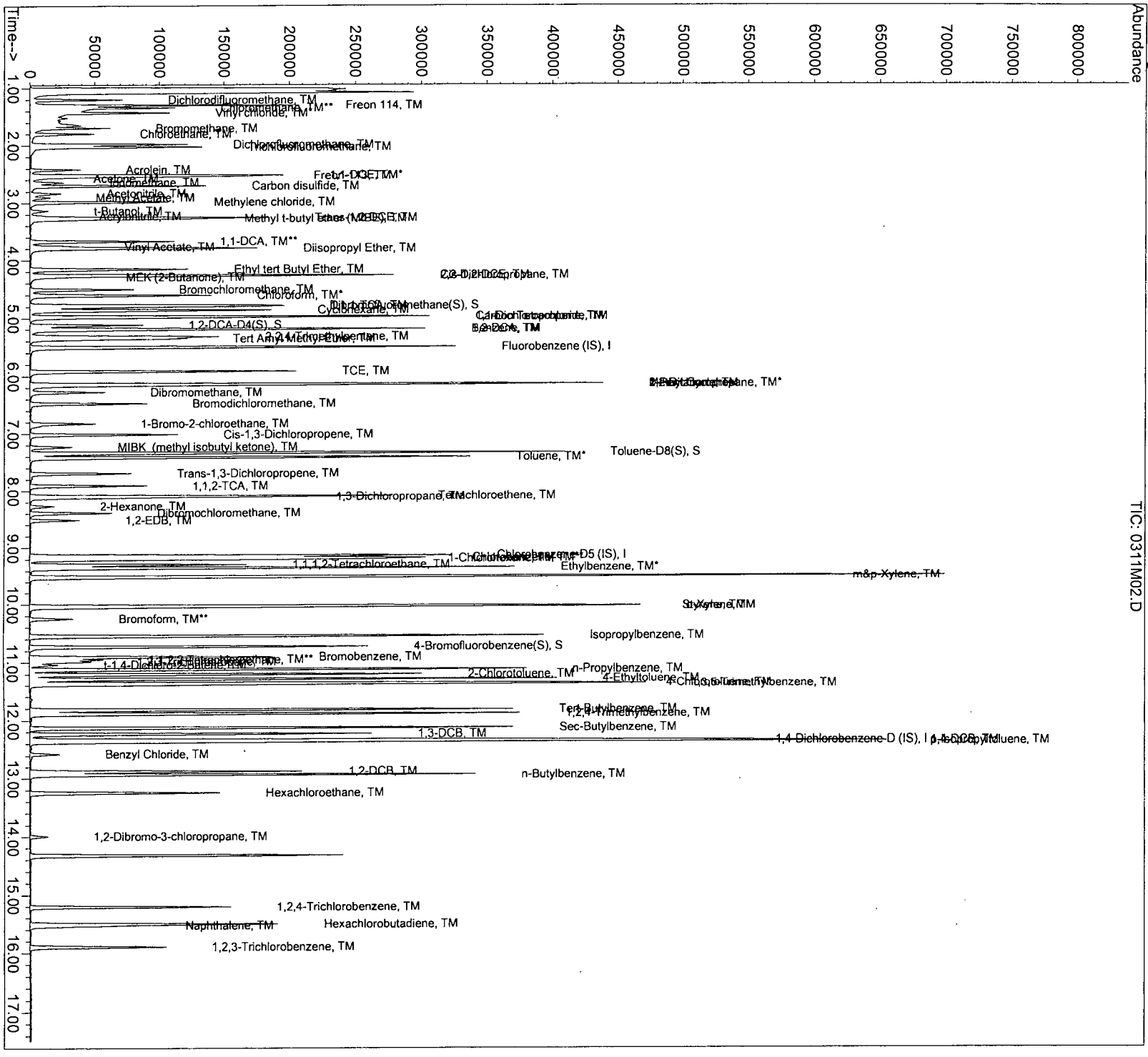
Data File : M:\MAX\DATA\M170308\0311M02.D
Acq On : 11 Mar 17 10:45
Sample : 170311A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.1318	55	TM		nt
3	TM	Freon 114	0.4107	0.3617	12	TM		
4	TM**	Chloromethane	0.4190	0.0948	77	TM**		nt
5	TM*	Vinyl chloride	0.5954	0.4132	31	TM*		
6	TM	Bromomethane	0.4115	0.0896	78	TM		nt
7	TM	Chloroethane	0.3488	0.2979	15	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9009	2.2	TM		
9	TM	Trichlorofluoromethane	0.7319	0.0075	99	TM		nt
10	TM	Acrolein	0.0223	0.0207	7.2	TM		
11	TML	Acetone	0.0130	0.0044	66	TML	69	nt
12	TM	Freon-113	0.4245	0.3418	19	TM		
13	TM*	1,1-DCE	0.6654	1.168	75	TM*		nt
14	TM	Acetonitrile	0.0205	0.0181	12	TM		
15	TM	t-Butanol	0.0076	0.0000	99	TM		nt
16	TM	Methyl Acetate	0.1458	0.0020	99	TM		nt
17	TML	Iodomethane	0.4104	0.0422	90	TML	84	nt
18	TM	Acrylonitrile	0.0677	0.0538	21	TM		
19	TM	Methylene chloride	0.4446	0.4199	5.6	TM		
20	TM	Carbon disulfide	1.359	1.327	2.4	TM		
21	TM	Trans-1,2-DCE	0.5055	0.3238	36	TM		
22	TM	Diisopropyl Ether	1.241	0.7128	43	TM		
23	TM**	1,1-DCA	0.8132	0.7710	5.2	TM**		
24	TM	Ethyl tert Butyl Ether	0.8411	0.0005	100	TM		nt
25	TML	MEK (2-Butanone)	0.1121	0.0152	86	TML	93	nt
26	TM	Cis-1,2-DCE	0.5196	0.4786	7.9	TM		
27	TM	2,2-Dichloropropane	0.5015	0.0002	100	TM		nt
28	TM*	Chloroform	0.8075	0.8129	0.67	TM*		
29	TM	Bromochloromethane	0.1989	0.0964	52	TM		nt
30	S	Dibromofluoromethane(S)	0.2463	0.2107	14	S		
31	TM	1,1,1-TCA	0.7042	0.1806	74	TM		nt
32	TM	Cyclohexane	0.4238	0.3870	8.7	TM		
33	TM	1,1-Dichloropropene	0.6603	0.6677	1.1	TM		
34	TM	2,2,4-Trimethylpentane	1.136	0.9477	17	TM		
35	S	1,2-DCA-D4(S)	0.1964	0.1519	23	S		
36	TM	Carbon Tetrachloride	0.5179	0.0298	94	TM		nt
37	TM	Tert Amyl Methyl Ether	0.7406	0.0013	100	TM		nt
38	TM	1,2-DCA	0.4401	0.4222	4.1	TM		
39	TM	Benzene	1.976	2.106	6.6	TM		
40	TM	TCE	0.5428	0.6286	16	TM		
		Average			42.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	2-Pentanone	0.1243	0.0800	36	TM		
42	TM*	1,2-Dichloropropane	0.4158	0.3683	11	TM*		
43	TM	Bromodichloromethane	0.4582	0.2273	50	TM		
44	TM	Methyl Cyclohexane	0.7397	0.7233	2.2	TM		
45	TM	Dibromomethane	0.1716	0.0574	67	TM		nt
46	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1526	26	TM		
47	TM	1-Bromo-2-chloroethane	0.3952	0.1483	62	TM		nt
48	TM	2-Chloroethyl vinyl ether	0.0000	0.0002	0.00	TM		
49	TM	Cis-1,3-Dichloropropene	0.4875	0.0323	93	TM		nt
50	TM*	Toluene	2.281	2.370	3.9	TM*		
51	TM	Trans-1,3-Dichloropropene	0.3040	0.0073	98	TM		nt
52	TM	1,1,2-TCA	0.2046	0.2039	0.37	TM		
53	TM	2-Hexanone	0.1163	0.0744	36	TM		
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	1.452	1.441	0.75	S		
56	TML	1,2-EDB	0.2651	0.0287	89	TML	84	nt
57	TM	Tetrachloroethene	0.7696	1.307	70	TM		nt
58	TM	1-Chlorohexane	0.9459	0.6117	35	TM		
59	TM	1,1,1,2-Tetrachloroethane	0.4801	0.1934	60	TM		nt
60	TM	m&p-Xylene	1.478	1.590	7.5	TM		
61	TM	o-Xylene	1.419	1.489	5.0	TM		
62	TM	Styrene	2.071	2.255	8.9	TM		
63	S	4-Bromofluorobenzene(S)	0.4799	0.4709	1.9	S		
64	TM	1,3-Dichloropropane	0.6211	0.2746	56	TM		nt
65	TM	Dibromochloromethane	0.3460	0.1664	52	TM		nt
66	TM**	Chlorobenzene	1.987	2.098	5.6	TM**		
67	TM*	Ethylbenzene	3.638	3.873	6.4	TM*		
68	TM**	Bromoform	0.1886	0.0623	67	TM**		nt
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TM	Isopropylbenzene	7.350	8.081	9.9	TM		
71	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.5340	20	TM**		
72	TM	1,2,3-Trichloropropane	0.2357	0.2316	1.8	TM		
73	TM	t-1,4-Dichloro-2-Butene	0.1296	0.0005	100	TM		nt
74	TM	Bromobenzene	1.615	1.744	8.0	TM		
75	TM	n-Propylbenzene	8.271	9.001	8.8	TM		
76	TM	4-Ethyltoluene	7.181	7.935	10	TM		
77	TM	2-Chlorotoluene	4.727	5.174	9.4	TM		
78	TM	1,3,5-Trimethylbenzene	6.135	6.663	8.6	TM		
79	TM	4-Chlorotoluene	5.532	5.924	7.1	TM		
80	TM	Tert-Butylbenzene	5.512	5.905	7.1	TM		
		Average			30.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D	%Drift		
81	TM	1,2,4-Trimethylbenzene	5.770	6.540	13	TM		
82	TM	Sec-Butylbenzene	7.268	7.883	8.5	TM		
83	TM	p-Isopropyltoluene	6.329	7.055	11	TM		
84	TMQ	Benzyl Chloride	0.4242	0.0560	87	TMQ	85	nt
85	TM	1,3-DCB	3.296	3.497	6.1	TM		
86	TM	1,4-DCB	3.270	3.374	3.2	TM		
87	TM	n-Butylbenzene	5.039	5.620	12	TM		
88	TM	1,2-DCB	2.715	2.835	4.4	TM		
89	TM	Hexachloroethane	0.5145	0.0019	100	TM		nt
90	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0295	63	TML	39	
91	TML	1,2,4-Trichlorobenzene	1.183	1.643	39	TML	9.2	
92	TM	Hexachlorobutadiene	0.9479	0.9850	3.9	TM		
93	TMQ	Naphthalene	0.4921	1.201	144	TMQ	57	nt
94	TMQ	1,2,3-Trichlorobenzene	0.6294	1.160	84	TMQ	7.0	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			41.4			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M21.D Vial: 21
Acq On : 12 Mar 17 10:08 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/11/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	316196	25.00000 ppb	0.02
56) Chlorobenzene-D5 (IS)	9.14	117	214445	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	103988	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	66635	21.39040 ppb	0.02
Spiked Amount 25.000			Recovery	= 85.560%	
37) 1,2-DCA-D4(S)	5.14	65	48032	19.33533 ppb	0.03
Spiked Amount 25.000			Recovery	= 77.340%	
57) Toluene-D8(S)	7.34	98	308950	24.81199 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.248%	
65) 4-Bromofluorobenzene(S)	10.73	95	100987	24.53464 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.140%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.23	85	16664	4.49893 ppb		98
3) Freon 114	1.33	85	45746	8.80764 ppb		88
4) Chloromethane	1.39	50	11994	2.26299 ppb		99
5) Vinyl chloride	1.46	62	52263	6.94063 ppb	#	66
6) Bromomethane	1.73	94	11331	2.17729 ppb		95
7) Chloroethane	1.83	64	37672	8.53848 ppb		95
8) Dichlorofluoromethane	2.02	67	113949	9.78478 ppb		99
9) Trichlorofluoromethane	2.01	101	947	0.10230 ppb		95
10) Acrolein	2.46	56	32736	115.97426 ppb	#	83
11) Acetone	2.66	58	558	3.08998 ppb		87
12) Freon-113	2.56	101	43224	8.05156 ppb		97
13) 1,1-DCE	2.54	61	147670	17.54759 ppb		97
14) Acetonitrile	3.00	41	28610	110.33979 ppb		89
15) t-Butanol	3.22	59	67	0.69872 ppb	#	56
16) Methyl Acetate	2.90	43	257	0.13939 ppb	#	52
17) Iodomethane	2.67	142	5334	1.59556 ppb	#	79
18) Acrylonitrile	3.28	53	6803	7.94152 ppb		98
19) Methylene chloride	3.01	84	53102	9.44351 ppb		97
20) Carbon disulfide	2.73	76	167804	9.76369 ppb		99
22) Trans-1,2-DCE	3.28	96	40955	6.40609 ppb		97
23) Diisopropyl Ether	3.82	45	90148	5.74242 ppb		96
24) 1,1-DCA	3.70	63	97509	9.48062 ppb		99
27) MEK (2-Butanone)	4.34	43	1923	0.71080 ppb		97
28) Cis-1,2-DCE	4.29	96	60528	9.21027 ppb		93
30) Chloroform	4.63	83	102809	10.06695 ppb		100
31) Bromochloromethane	4.53	128	12190	4.84621 ppb		86
33) 1,1,1-TCA	4.82	97	22847	2.56526 ppb		97
34) Cyclohexane	4.88	41	48948	9.13114 ppb		92
35) 1,1-Dichloropropene	4.99	75	84454	10.11191 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	119863	8.34323 ppb		92
38) Carbon Tetrachloride	4.99	117	3770	0.57556 ppb		86
40) 1,2-DCA	5.22	62	53400	9.59336 ppb		96
41) Benzene	5.21	78	266345	10.65614 ppb		98
42) TCE	5.93	95	79500	11.58007 ppb		99
43) 2-Pentanone	6.16	43	126437	80.40888 ppb		99
44) 1,2-Dichloropropane	6.16	63	46577	8.85616 ppb	#	93
45) Bromodichloromethane	6.49	83	28747	4.96041 ppb		98
46) Methyl Cyclohexane	6.15	83	91484	9.77830 ppb		91
47) Dibromomethane	6.29	93	7266	3.34848 ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M21.D Vial: 21
Acq On : 12 Mar 17 10:08 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/11/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
48)	MIBK (methyl isobutyl ket	7.24	43	19306	7.38118	ppb		99
49)	1-Bromo-2-chloroethane	6.84	63	18760	3.75337	ppb		94
51)	Cis-1,3-Dichloropropene	7.02	75	4084	0.66235	ppb	#	89
52)	Toluene	7.42	91	299794	10.39305	ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	924	0.24034	ppb	#	70
54)	1,1,2-TCA	7.92	83	25785	9.96347	ppb		88
55)	2-Hexanone	8.28	43	9415	6.40338	ppb		98
58)	1,2-EDB	8.52	107	2458	1.57752	ppb	#	78
59)	Tetrachloroethene	8.10	164	112105	16.98070	ppb		98
60)	1-Chlorohexane	9.20	91	52472	6.46726	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.30	131	16587	4.02751	ppb		97
62)	m&p-Xylene	9.51	106	272714	21.50608	ppb		99
63)	o-Xylene	10.03	106	127763	10.49561	ppb		95
64)	Styrene	10.05	104	193433	10.88648	ppb		98
66)	1,3-Dichloropropane	8.12	76	23558	4.42165	ppb		98
67)	Dibromochloromethane	8.39	129	14276	4.81064	ppb		92
68)	Chlorobenzene	9.18	112	179969	10.55981	ppb		96
69)	Ethylbenzene	9.35	91	332185	10.64499	ppb		99
70)	Bromoform	10.25	173	5343	3.30271	ppb		97
72)	Isopropylbenzene	10.55	105	336129	10.99434	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	22210	8.04432	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	9633	9.82371	ppb		86
76)	Bromobenzene	10.91	156	72536	10.80005	ppb		96
77)	n-Propylbenzene	11.12	91	374413	10.88320	ppb		98
78)	4-Ethyltoluene	11.28	105	330074	11.04980	ppb		98
79)	2-Chlorotoluene	11.20	91	215217	10.94467	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	277141	10.86056	ppb		99
81)	4-Chlorotoluene	11.36	91	246405	10.70879	ppb		98
82)	Tert-Butylbenzene	11.82	119	245608	10.71292	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	272015	11.33318	ppb		99
84)	Sec-Butylbenzene	12.13	105	327882	10.84616	ppb		98
85)	p-Isopropyltoluene	12.36	119	293441	11.14609	ppb		99
86)	Benzyl Chloride	12.58	91	2330	1.48351	ppb	#	93
87)	1,3-DCB	12.24	146	145477	10.61064	ppb		99
88)	1,4-DCB	12.37	146	140342	10.31876	ppb		98
89)	n-Butylbenzene	12.94	91	233766	11.15400	ppb		99
90)	1,2-DCB	12.88	146	117942	10.44452	ppb		98
92)	1,2-Dibromo-3-chloropropan	13.99	75	1227	6.05457	ppb	#	78
93)	1,2,4-Trichlorobenzene	15.21	180	68331	10.91923	ppb		99
94)	Hexachlorobutadiene	15.51	225	40971	10.39130	ppb		88
95)	Naphthalene	15.54	128	49952	15.69513	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	48231	10.69671	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

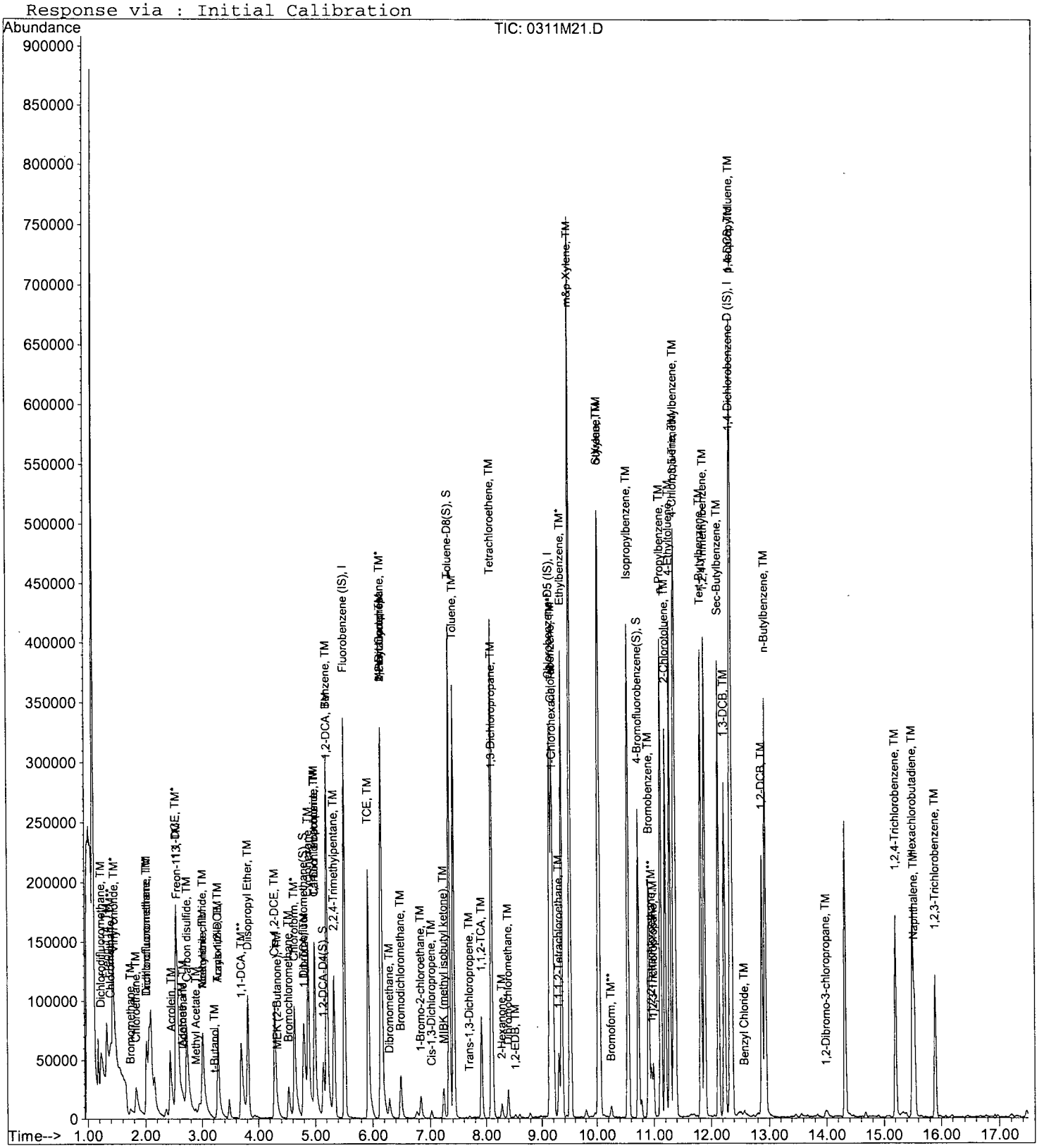
Data File : M:\MAX\DATA\M170308\0311M21.D
Acq On : 12 Mar 17 10:08
Sample : Ending CCV 8260 10ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



534

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0312M04.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.3543	21	TM		nt
3	TM	Freon 114	0.4107	0.4032	1.8	TM		
4	TM**	Chloromethane	0.4190	0.3527	16	TM**		
5	TM*	Vinyl chloride	0.5954	0.5443	8.6	TM*		
6	TM	Bromomethane	0.4115	0.3795	7.8	TM		
7	TM	Chloroethane	0.3488	0.3082	12	TM		
8	TM	Dichlorofluoromethane	0.9208	0.8888	3.5	TM		
9	TM	Trichlorofluoromethane	0.7319	0.6967	4.8	TM		
10	TM	Acrolein	0.0223	0.0193	13	TM		
11	TML	Acetone	0.0130	0.0073	44	TML	36	nt
12	TM	Freon-113	0.4245	0.4279	0.81	TM		
13	TM*	1,1-DCE	0.6654	0.6316	5.1	TM*		
14	TM	Acetonitrile	0.0205	0.0173	16	TM		
15	TM	t-Butanol	0.0076	0.0074	2.3	TM		
16	TM	Methyl Acetate	0.1458	0.1298	11	TM		
17	TML	Iodomethane	0.4104	0.1726	58	TML	62	nt
18	TM	Acrylonitrile	0.0677	0.0674	0.49	TM		
19	TM	Methylene chloride	0.4446	0.4029	9.4	TM		
20	TM	Carbon disulfide	1.359	1.246	8.3	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6579	9.6	TM		
22	TM	Trans-1,2-DCE	0.5055	0.4845	4.1	TM		
23	TM	Diisopropyl Ether	1.241	1.145	7.7	TM		
24	TM**	1,1-DCA	0.8132	0.7753	4.7	TM**		
25	TM	Vinyl Acetate	0.2151	0.2442	14	TM		
26	TM	Ethyl tert Butyl Ether	0.8411	0.7720	8.2	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0712	36	TML	34	nt
28	TM	Cis-1,2-DCE	0.5196	0.5019	3.4	TM		
29	TM	2,2-Dichloropropane	0.5015	0.5608	12	TM		
30	TM*	Chloroform	0.8075	0.8039	0.44	TM*		
31	TM	Bromochloromethane	0.1989	0.1985	0.21	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2450	0.52	S		
33	TM	1,1,1-TCA	0.7042	0.7423	5.4	TM		
34	TM	Cyclohexane	0.4238	0.3990	5.8	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6643	0.60	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.197	5.4	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1970	0.32	S		
38	TM	Carbon Tetrachloride	0.5179	0.6026	16	TM		
39	TM	Tert Amyl Methyl Ether	0.7406	0.6898	6.9	TM		
40	TM	1,2-DCA	0.4401	0.4228	3.9	TM		
		Average			10.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0312M04.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	Benzene	1.976	1.901	3.8	TM	
42	TM	TCE	0.5428	0.5164	4.9	TM	
43	TM	2-Pentanone	0.1243	0.1157	6.9	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4097	1.5	TM*	
45	TM	Bromodichloromethane	0.4582	0.4898	6.9	TM	
46	TM	Methyl Cyclohexane	0.7397	0.7254	1.9	TM	
47	TM	Dibromomethane	0.1716	0.1689	1.6	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1874	9.4	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.3778	4.4	TM	
50	TM	2-Chloroethyl vinyl ether	0.0000	0.0042	0.00	TM	
51	TM	Cis-1,3-Dichloropropene	0.4875	0.5191	6.5	TM	
52	TM*	Toluene	2.281	2.163	5.2	TM*	
53	TM	Trans-1,3-Dichloropropene	0.3040	0.3433	13	TM	
54	TM	1,1,2-TCA	0.2046	0.1992	2.7	TM	
55	TM	2-Hexanone	0.1163	0.1020	12	TM	
56	I	Chlorobenzene-D5 (IS)	ISTD			I	
57	S	Toluene-D8(S)	1.452	1.429	1.6	S	
58	TML	1,2-EDB	0.2651	0.3210	21	TML	2.1
59	TM	Tetrachloroethene	0.7696	0.7877	2.3	TM	
60	TM	1-Chlorohexane	0.9459	0.9272	2.0	TM	
61	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5734	19	TM	
62	TM	m&p-Xylene	1.478	1.424	3.6	TM	
63	TM	o-Xylene	1.419	1.354	4.6	TM	
64	TM	Styrene	2.071	2.044	1.3	TM	
65	S	4-Bromofluorobenzene(S)	0.4799	0.4738	1.3	S	
66	TM	1,3-Dichloropropane	0.6211	0.5990	3.6	TM	
67	TM	Dibromochloromethane	0.3460	0.4314	25	TM	nt
68	TM**	Chlorobenzene	1.987	1.949	1.9	TM**	
69	TM*	Ethylbenzene	3.638	3.581	1.6	TM*	
70	TM**	Bromoform	0.1886	0.2058	9.1	TM**	
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
72	TM	Isopropylbenzene	7.350	7.281	0.94	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7127	7.4	TM**	
74	TM	1,2,3-Trichloropropane	0.2357	0.2231	5.4	TM	
75	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1208	6.8	TM	
76	TM	Bromobenzene	1.615	1.593	1.3	TM	
77	TM	n-Propylbenzene	8.271	8.277	0.08	TM	
78	TM	4-Ethyltoluene	7.181	7.217	0.49	TM	
79	TM	2-Chlorotoluene	4.727	4.682	0.96	TM	
80	TM	1,3,5-Trimethylbenzene	6.135	6.095	0.64	TM	
		Average			5.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0312M04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Chlorotoluene	5.532	5.401	2.4	TM	
82	TM	Tert-Butylbenzene	5.512	5.345	3.0	TM	
83	TM	1,2,4-Trimethylbenzene	5.770	5.904	2.3	TM	
84	TM	Sec-Butylbenzene	7.268	7.176	1.3	TM	
85	TM	p-Isopropyltoluene	6.329	6.471	2.2	TM	
86	TMQ	Benzyl Chloride	0.4242	0.4213	0.69	TMQ	0.37
87	TM	1,3-DCB	3.296	3.261	1.1	TM	
88	TM	1,4-DCB	3.270	3.111	4.9	TM	
89	TM	n-Butylbenzene	5.039	5.220	3.6	TM	
90	TM	1,2-DCB	2.715	2.644	2.6	TM	
91	TM	Hexachloroethane	0.5145	0.5978	16	TM	
92	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0818	2.9	TML	5.9
93	TML	1,2,4-Trichlorobenzene	1.183	1.486	26	TML	0.78
94	TM	Hexachlorobutadiene	0.9479	0.9878	4.2	TM	
95	TMQ	Naphthalene	0.4921	0.6216	26	TMQ	5.3
96	TMQ	1,2,3-Trichlorobenzene	0.6294	0.9778	55	TMQ	6.2
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			9.6		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M04.D Vial: 2
Acq On : 12 Mar 17 13:30 Operator: PM,DG,SV,CMM
Sample : 170312A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	311334	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	216607	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	104570	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76285	24.87055 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.484%	
37) 1,2-DCA-D4(S)	5.13	65	61344	25.07973 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.320%	
57) Toluene-D8(S)	7.34	98	309526	24.61013 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.440%	
65) 4-Bromofluorobenzene(S)	10.73	95	102629	24.68469 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.740%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	44120	12.09750 ppb		98
3) Freon 114	1.30	85	50213	9.81866 ppb		94
4) Chloromethane	1.35	50	43919	8.41589 ppb		95
5) Vinyl chloride	1.44	62	67789	9.14310 ppb		90
6) Bromomethane	1.70	94	47265	9.22397 ppb		96
7) Chloroethane	1.80	64	38383	8.83549 ppb		93
8) Dichlorofluoromethane	1.99	67	110681	9.65258 ppb		99
9) Trichlorofluoromethane	2.03	101	86765	9.51900 ppb		100
10) Acrolein	2.42	56	30107	108.32615 ppb		99
11) Acetone	2.58	58	912	6.35446 ppb	#	38
12) Freon-113	2.54	101	53285	10.08068 ppb		98
13) 1,1-DCE	2.52	61	78656	9.49264 ppb		98
14) Acetonitrile	2.84	41	26960	105.60002 ppb		98
15) t-Butanol	3.15	59	11526	122.07708 ppb		96
16) Methyl Acetate	2.91	43	16165	8.90448 ppb		99
17) Iodomethane	2.65	142	21497	3.77287 ppb		99
18) Acrylonitrile	3.23	53	8393	9.95062 ppb	#	91
19) Methylene chloride	2.99	84	50169	9.06125 ppb		98
20) Carbon disulfide	2.71	76	155231	9.17318 ppb		100
21) Methyl t-butyl ether (MtBE	3.29	73	81929	9.04380 ppb		97
22) Trans-1,2-DCE	3.26	96	60341	9.58580 ppb		99
23) Diisopropyl Ether	3.80	45	142639	9.22799 ppb		98
24) 1,1-DCA	3.67	63	96557	9.53467 ppb		100
25) Vinyl Acetate	3.76	43	30411	11.35498 ppb		99
26) Ethyl tert Butyl Ether	4.17	59	96141	9.17834 ppb		100
27) MEK (2-Butanone)	4.30	43	8868	6.55720 ppb		88
28) Cis-1,2-DCE	4.27	96	62504	9.65947 ppb		98
29) 2,2-Dichloropropane	4.27	77	69844	11.18428 ppb		97
30) Chloroform	4.61	83	100117	9.95645 ppb		97
31) Bromochloromethane	4.51	128	24714	9.97863 ppb		97
33) 1,1,1-TCA	4.80	97	92442	10.54149 ppb		98
34) Cyclohexane	4.87	41	49695	9.41526 ppb		93
35) 1,1-Dichloropropene	4.98	75	82730	10.06018 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	149091	10.53975 ppb		97
38) Carbon Tetrachloride	4.98	117	75042	11.63539 ppb		99
39) Tert Amyl Methyl Ether	5.36	73	85904	9.31402 ppb		96
40) 1,2-DCA	5.21	62	52647	9.60579 ppb		99
41) Benzene	5.20	78	236739	9.61956 ppb		97
42) TCE	5.92	95	64304	9.51288 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M04.D
Acq On : 12 Mar 17 13:30
Sample : 170312A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.15	43	180102	116.32637 ppb		98
44)	1,2-Dichloropropane	6.16	63	51021	9.85264 ppb	#	94
45)	Bromodichloromethane	6.48	83	61000	10.69017 ppb		98
46)	Methyl Cyclohexane	6.14	83	90336	9.80639 ppb		92
47)	Dibromomethane	6.28	93	21034	9.84473 ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	23337	9.06167 ppb		98
49)	1-Bromo-2-chloroethane	6.83	63	47052	9.56084 ppb		97
51)	Cis-1,3-Dichloropropene	7.02	75	64645	10.64804 ppb		96
52)	Toluene	7.42	91	269391	9.48490 ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	42758	11.29519 ppb		98
54)	1,1,2-TCA	7.91	83	24806	9.73487 ppb		96
55)	2-Hexanone	8.27	43	12698	8.77110 ppb		88
58)	1,2-EDB	8.51	107	27809	10.21177 ppb		95
59)	Tetrachloroethene	8.09	164	68248	10.23444 ppb		96
60)	1-Chlorohexane	9.20	91	80339	9.80309 ppb		97
61)	1,1,1,2-Tetrachloroethane	9.29	131	49681	11.94270 ppb		93
62)	m&p-Xylene	9.51	106	246838	19.27122 ppb		98
63)	o-Xylene	10.03	106	117289	9.53901 ppb		98
64)	Styrene	10.05	104	177101	9.86783 ppb		97
66)	1,3-Dichloropropane	8.12	76	51896	9.64325 ppb		94
67)	Dibromochloromethane	8.39	129	37380	12.47036 ppb		96
68)	Chlorobenzene	9.17	112	168902	9.81152 ppb		99
69)	Ethylbenzene	9.35	91	310272	9.84354 ppb		99
70)	Bromoform	10.25	173	17832	10.91262 ppb		94
72)	Isopropylbenzene	10.55	105	304543	9.90576 ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	29809	10.73653 ppb		95
74)	1,2,3-Trichloropropane	10.99	110	9333	9.46480 ppb		96
75)	t-1,4-Dichloro-2-Butene	11.04	53	5054	9.32225 ppb		84
76)	Bromobenzene	10.91	156	66642	9.86726 ppb		96
77)	n-Propylbenzene	11.12	91	346229	10.00796 ppb		98
78)	4-Ethyltoluene	11.28	105	301871	10.04941 ppb		100
79)	2-Chlorotoluene	11.20	91	195851	9.90439 ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	254959	9.93569 ppb		99
81)	4-Chlorotoluene	11.35	91	225900	9.76300 ppb		97
82)	Tert-Butylbenzene	11.82	119	223559	9.69692 ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	246941	10.23124 ppb		98
84)	Sec-Butylbenzene	12.13	105	300144	9.87334 ppb		97
85)	p-Isopropyltoluene	12.36	119	270678	10.22424 ppb		99
86)	Benzyl Chloride	12.57	91	17623	9.96316 ppb		99
87)	1,3-DCB	12.24	146	136413	9.89417 ppb		100
88)	1,4-DCB	12.37	146	130119	9.51386 ppb		98
89)	n-Butylbenzene	12.94	91	218350	10.36045 ppb		98
90)	1,2-DCB	12.88	146	110600	9.73983 ppb		100
91)	Hexachloroethane	13.25	117	25003	11.61733 ppb		95
92)	1,2-Dibromo-3-chloropropan	13.99	75	3423	10.58662 ppb		88
93)	1,2,4-Trichlorobenzene	15.21	180	62151	9.92193 ppb		98
94)	Hexachlorobutadiene	15.51	225	41317	10.42074 ppb		97
95)	Naphthalene	15.54	128	26000	9.46510 ppb		97
96)	1,2,3-Trichlorobenzene	15.90	180	40898	9.38314 ppb		96

(#) = qualifier out of range (m) = manual integration

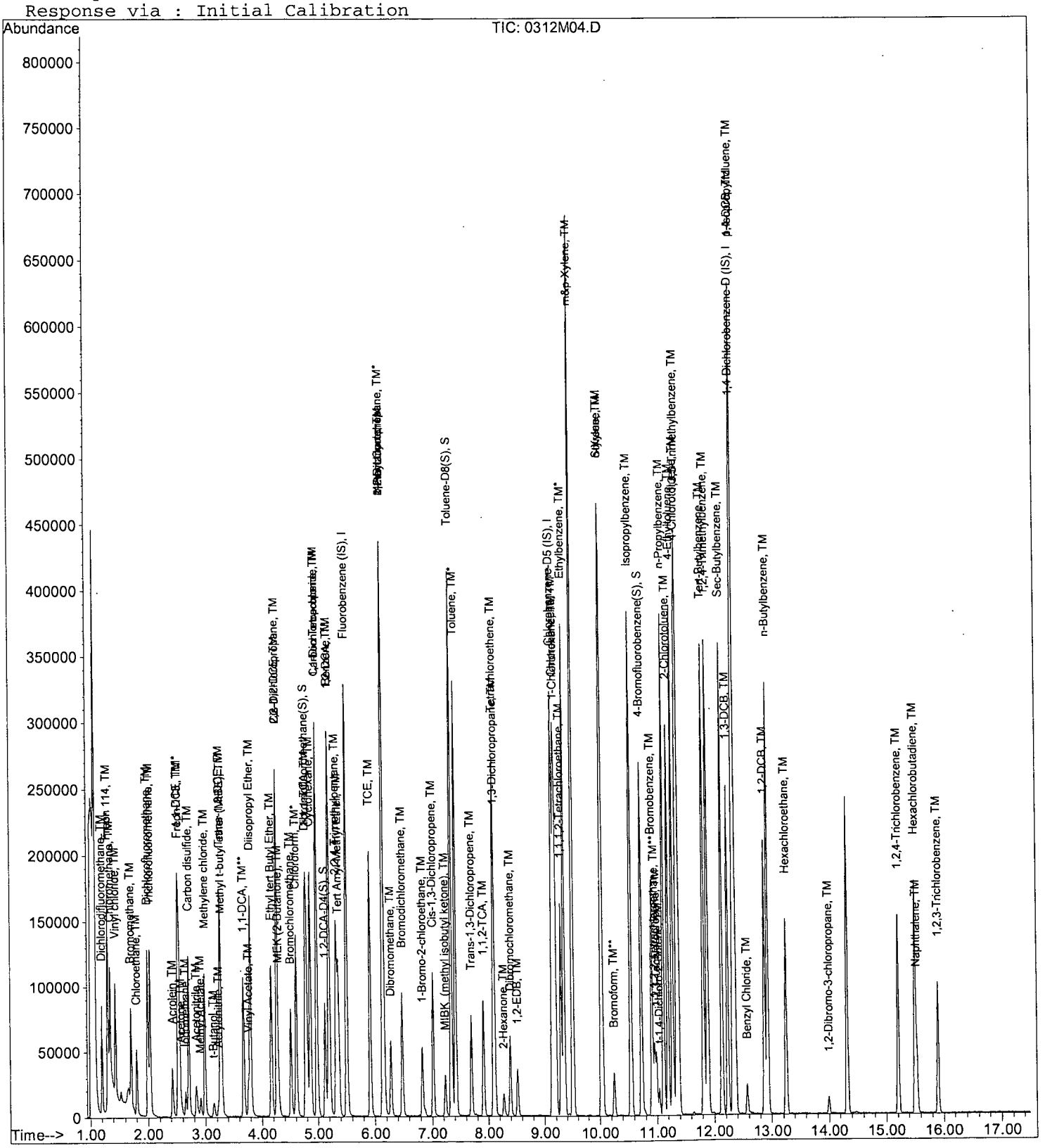
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M04.D
Acq On : 12 Mar 17 13:30
Sample : 170312A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



540

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0312M25.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2929	0.3416	17	TM	
3	TM	Freon 114	0.4107	0.3966	3.4	TM	
4	TM**	Chloromethane	0.4190	0.4390	4.8	TM**	
5	TM*	Vinyl chloride	0.5954	0.6120	2.8	TM*	
6	TM	Bromomethane	0.4115	0.3151	23	TM	
7	TM	Chloroethane	0.3488	0.4099	18	TM	
8	TM	Dichlorofluoromethane	0.9208	1.072	16	TM	
9	TM	Trichlorofluoromethane	0.7319	0.7244	1.0	TM	
10	TM	Acrolein	0.0223	0.0184	18	TM	
11	TML	Acetone	0.0130	0.0077	40	TML	32
12	TM	Freon-113	0.4245	0.4446	4.7	TM	
13	TM*	1,1-DCE	0.6654	0.7181	7.9	TM*	
14	TM	Acetonitrile	0.0205	0.0187	8.7	TM	
15	TM	t-Butanol	0.0076	0.0079	3.9	TM	
16	TM	Methyl Acetate	0.1458	0.1446	0.79	TM	
17	TML	Iodomethane	0.4104	0.4849	18	TML	10
18	TM	Acrylonitrile	0.0677	0.0712	5.1	TM	
19	TM	Methylene chloride	0.4446	0.5117	15	TM	
20	TM	Carbon disulfide	1.359	1.551	14	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7358	1.1	TM	
22	TM	Trans-1,2-DCE	0.5055	0.5919	17	TM	
23	TM	Diisopropyl Ether	1.241	1.400	13	TM	
24	TM**	1,1-DCA	0.8132	0.9808	21	TM**	
25	TM	Vinyl Acetate	0.2151	0.1558	28	TM	
26	TM	Ethyl tert Butyl Ether	0.8411	0.8224	2.2	TM	
27	TML	MEK (2-Butanone)	0.1121	0.0831	26	TML	22
28	TM	Cis-1,2-DCE	0.5196	0.6297	21	TM	
29	TM	2,2-Dichloropropane	0.5015	0.4788	4.5	TM	
30	TM*	Chloroform	0.8075	1.018	26	TM*	
31	TM	Bromochloromethane	0.1989	0.2380	20	TM	
32	S	Dibromofluoromethane(S)	0.2463	0.2454	0.36	S	
33	TM	1,1,1-TCA	0.7042	0.8502	21	TM	
34	TM	Cyclohexane	0.4238	0.4188	1.2	TM	
35	TM	1,1-Dichloropropene	0.6603	0.7512	14	TM	
36	TM	2,2,4-Trimethylpentane	1.136	1.086	4.4	TM	
37	S	1,2-DCA-D4(S)	0.1964	0.1961	0.15	S	
38	TM	Carbon Tetrachloride	0.5179	0.6644	28	TM	
39	TM	Tert Amyl Methyl Ether	0.7406	0.7443	0.50	TM	
40	TM	1,2-DCA	0.4401	0.5067	15	TM	
		Average			12.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0312M25.D

		Compound	MEAN	CCRF	%D	%Drift		
41	TM	Benzene	1.976	2.400	21	TM		
42	TM	TCE	0.5428	0.6627	22	TM		
43	TM	2-Pentanone	0.1243	0.1174	5.6	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.5066	22	TM*		
45	TM	Bromodichloromethane	0.4582	0.6141	34	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7451	0.73	TM		
47	TM	Dibromomethane	0.1716	0.2025	18	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2012	2.7	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.4420	12	TM		
50	TM	2-Chloroethyl vinyl ether	0.0000	0.0002	0.00	TM		
51	TM	Cis-1,3-Dichloropropene	0.4875	0.5866	20	TM		
52	TM*	Toluene	2.281	2.704	19	TM*		
53	TM	Trans-1,3-Dichloropropene	0.3040	0.3825	26	TM		
54	TM	1,1,2-TCA	0.2046	0.2342	14	TM		
55	TM	2-Hexanone	0.1163	0.1153	0.78	TM		
56	I	Chlorobenzene-D5 (IS)	ISTD			I		
57	S	Toluene-D8(S)	1.452	1.474	1.5	S		
58	TML	1,2-EDB	0.2651	0.3697	39	TML	17	
59	TM	Tetrachloroethene	0.7696	0.9323	21	TM		
60	TM	1-Chlorohexane	0.9459	1.026	8.5	TM		
61	TM	1,1,1,2-Tetrachloroethane	0.4801	0.7287	52	TM		nt
62	TM	m&p-Xylene	1.478	1.799	22	TM		
63	TM	o-Xylene	1.419	1.718	21	TM		
64	TM	Styrene	2.071	2.581	25	TM		
65	S	4-Bromofluorobenzene(S)	0.4799	0.4769	0.62	S		
66	TM	1,3-Dichloropropane	0.6211	0.7195	16	TM		
67	TM	Dibromochloromethane	0.3460	0.5355	55	TM		nt
68	TM**	Chlorobenzene	1.987	2.498	26	TM**		
69	TM*	Ethylbenzene	3.638	4.486	23	TM*		
70	TM**	Bromoform	0.1886	0.2425	29	TM**		
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
72	TM	Isopropylbenzene	7.350	8.645	18	TM		
73	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7347	11	TM**		
74	TM	1,2,3-Trichloropropane	0.2357	0.2700	15	TM		
75	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1107	15	TM		
76	TM	Bromobenzene	1.615	1.927	19	TM		
77	TM	n-Propylbenzene	8.271	9.632	16	TM		
78	TM	4-Ethyltoluene	7.181	8.675	21	TM		
79	TM	2-Chlorotoluene	4.727	5.785	22	TM		
80	TM	1,3,5-Trimethylbenzene	6.135	7.205	17	TM		
		Average			18.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0312M25.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Chlorotoluene	5.532	6.647	20	TM	
82	TM	Tert-Butylbenzene	5.512	6.276	14	TM	
83	TM	1,2,4-Trimethylbenzene	5.770	7.157	24	TM	
84	TM	Sec-Butylbenzene	7.268	8.288	14	TM	
85	TM	p-Isopropyltoluene	6.329	7.378	17	TM	
86	TMQ	Benzyl Chloride	0.4242	0.2744	35	TMQ	31
87	TM	1,3-DCB	3.296	3.992	21	TM	
88	TM	1,4-DCB	3.270	3.764	15	TM	
89	TM	n-Butylbenzene	5.039	5.882	17	TM	
90	TM	1,2-DCB	2.715	3.301	22	TM	
91	TM	Hexachloroethane	0.5145	0.6402	24	TM	
92	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0873	9.8	TML	11
93	TML	1,2,4-Trichlorobenzene	1.183	1.777	50	TML	18
94	TM	Hexachlorobutadiene	0.9479	1.091	15	TM	
95	TMQ	Naphthalene	0.4921	0.8071	64	TMQ	16
96	TMQ	1,2,3-Trichlorobenzene	0.6294	1.225	95	TMQ	11
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
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108							
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110							
111							
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113							
114							
115							
116							
117							
118							
119							
120							
		Average			28.6		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M25.D Vial: 23
Acq On : 12 Mar 17 23:28 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/12/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	293362	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	200601	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100182	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	71995	24.90986 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.640%	
37) 1,2-DCA-D4(S)	5.13	65	57531	24.96177 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.848%	
57) Toluene-D8(S)	7.34	98	295688	25.38574 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.544%	
65) 4-Bromofluorobenzene(S)	10.73	95	95658	24.84382 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.376%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	40088	11.66534 ppb		98
3) Freon 114	1.30	85	46540	9.65796 ppb		95
4) Chloromethane	1.35	50	51518	10.47682 ppb		96
5) Vinyl chloride	1.44	62	71816	10.27965 ppb	#	73
6) Bromomethane	1.70	94	36975	7.65789 ppb		98
7) Chloroethane	1.80	64	48100	11.75058 ppb		100
8) Dichlorofluoromethane	1.99	67	125850	11.64786 ppb		98
9) Trichlorofluoromethane	2.03	101	84999	9.89654 ppb		97
10) Acrolein	2.42	56	26975	103.00302 ppb		97
11) Acetone	2.57	58	909	6.82883 ppb		74
12) Freon-113	2.54	101	52173	10.47499 ppb		96
13) 1,1-DCE	2.52	61	84265	10.79257 ppb		98
14) Acetonitrile	2.84	41	27444	114.08123 ppb		96
15) t-Butanol	3.14	59	11559	129.92672 ppb	#	84
16) Methyl Acetate	2.90	43	16971	9.92117 ppb		91
17) Iodomethane	2.64	142	56898	8.98483 ppb		97
18) Acrylonitrile	3.22	53	8357	10.51492 ppb	#	89
19) Methylene chloride	2.99	84	60043	11.50900 ppb		98
20) Carbon disulfide	2.71	76	181972	11.41218 ppb		100
21) Methyl t-butyl ether (MtBE	3.29	73	86338	10.11435 ppb		99
22) Trans-1,2-DCE	3.26	96	69451	11.70892 ppb		99
23) Diisopropyl Ether	3.80	45	164271	11.27853 ppb		97
24) 1,1-DCA	3.67	63	115096	12.06160 ppb		97
25) Vinyl Acetate	3.76	43	18285	7.24558 ppb	#	89
26) Ethyl tert Butyl Ether	4.17	59	96508	9.77780 ppb		92
27) MEK (2-Butanone)	4.30	43	9751	7.79812 ppb		91
28) Cis-1,2-DCE	4.27	96	73895	12.11946 ppb		98
29) 2,2-Dichloropropane	4.27	77	56185	9.54821 ppb		96
30) Chloroform	4.61	83	119441	12.60587 ppb		99
31) Bromochloromethane	4.51	128	27924	11.96543 ppb		96
33) 1,1,1-TCA	4.80	97	99765	12.07351 ppb		96
34) Cyclohexane	4.86	41	49143	9.88107 ppb		96
35) 1,1-Dichloropropene	4.98	75	88147	11.37557 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	127458	9.56244 ppb		99
38) Carbon Tetrachloride	4.98	117	77964	12.82902 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	87343	10.05020 ppb	#	91
40) 1,2-DCA	5.21	62	59455	11.51252 ppb		100
41) Benzene	5.20	78	281661	12.14604 ppb		98
42) TCE	5.92	95	77767	12.20933 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M25.D
Acq On : 12 Mar 17 23:28
Sample : Ending CCV 8260 10ug/L 03/12/17
Misc : IS&S 02/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:27 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	172213	118.04518 ppb		99
44) 1,2-Dichloropropane	6.16	63	59451	12.18388 ppb		99
45) Bromodichloromethane	6.48	83	72065	13.40299 ppb		97
46) Methyl Cyclohexane	6.14	83	87435	10.07294 ppb		93
47) Dibromomethane	6.28	93	23765	11.80437 ppb		91
48) MIBK (methyl isobutyl ket	7.23	43	23606	9.72766 ppb		92
49) 1-Bromo-2-chloroethane	6.83	63	51865	11.18446 ppb		96
51) Cis-1,3-Dichloropropene	7.02	75	68830	12.03193 ppb		97
52) Toluene	7.42	91	317263	11.85474 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	44880	12.58206 ppb		97
54) 1,1,2-TCA	7.91	83	27484	11.44659 ppb		97
55) 2-Hexanone	8.27	43	13535	9.92201 ppb		95
58) 1,2-EDB	8.51	107	29662	11.65037 ppb		97
59) Tetrachloroethene	8.09	164	74807	12.11311 ppb		97
60) 1-Chlorohexane	9.20	91	82339	10.84879 ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	58473	15.17773 ppb		91
62) m&p-Xylene	9.51	106	288677	24.33598 ppb		99
63) o-Xylene	10.03	106	137843	12.10515 ppb		98
64) Styrene	10.05	104	207103	12.46024 ppb		98
66) 1,3-Dichloropropane	8.12	76	57733	11.58385 ppb		98
67) Dibromochloromethane	8.39	129	42969	15.47869 ppb		90
68) Chlorobenzene	9.17	112	200404	12.57035 ppb		100
69) Ethylbenzene	9.35	91	359941	12.33046 ppb		99
70) Bromoform	10.26	173	19455	12.85581 ppb		95
72) Isopropylbenzene	10.55	105	346419	11.76138 ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	29440	11.06807 ppb	#	91
74) 1,2,3-Trichloropropane	10.99	110	10820	11.45341 ppb		92
75) t-1,4-Dichloro-2-Butene	11.04	53	4437	8.54265 ppb		94
76) Bromobenzene	10.91	156	77209	11.93256 ppb		92
77) n-Propylbenzene	11.12	91	385976	11.64554 ppb		99
78) 4-Ethyltoluene	11.28	105	347637	12.07988 ppb		98
79) 2-Chlorotoluene	11.20	91	231836	12.23772 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	288733	11.74468 ppb		100
81) 4-Chlorotoluene	11.35	91	266377	12.01659 ppb		99
82) Tert-Butylbenzene	11.82	119	251482	11.38586 ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	286788	12.40262 ppb		97
84) Sec-Butylbenzene	12.14	105	332127	11.40397 ppb		100
85) p-Isopropyltoluene	12.36	119	295643	11.65636 ppb		99
86) Benzyl Chloride	12.57	91	10995	6.89549 ppb		93
87) 1,3-DCB	12.24	146	159956	12.10993 ppb		99
88) 1,4-DCB	12.37	146	150833	11.51144 ppb		99
89) n-Butylbenzene	12.94	91	235719	11.67448 ppb		99
90) 1,2-DCB	12.88	146	132282	12.15946 ppb		99
91) Hexachloroethane	13.25	117	25655	12.44239 ppb		90
92) 1,2-Dibromo-3-chloropropan	13.99	75	3500	11.06340 ppb	#	80
93) 1,2,4-Trichlorobenzene	15.21	180	71197	11.77057 ppb		100
94) Hexachlorobutadiene	15.51	225	43728	11.51189 ppb		95
95) Naphthalene	15.54	128	32344	11.60574 ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	49070	11.14931 ppb		99

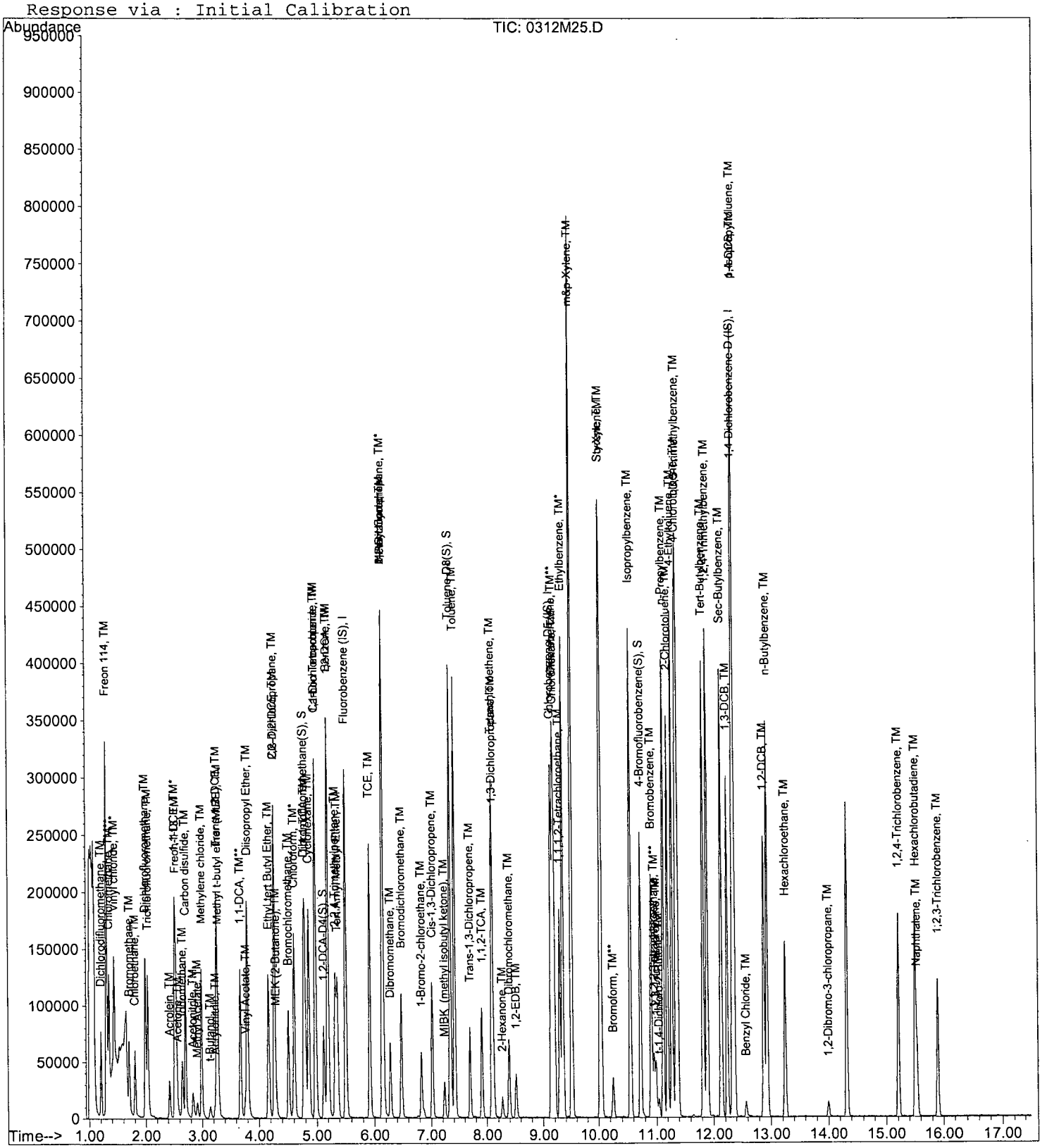
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M25.D Vial: 23
Acq On : 12 Mar 17 23:28 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/12/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:27 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



546

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0313M03.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.3164	8.1	TM		
3	TM	Freon 114	0.4107	0.4529	10	TM		
4	TM**	Chloromethane	0.4190	0.3874	7.6	TM**		
5	TM*	Vinyl chloride	0.5954	0.6083	2.2	TM*		
6	TM	Bromomethane	0.4115	0.2713	34	TM		nt
7	TM	Chloroethane	0.3488	0.3733	7.0	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9929	7.8	TM		
9	TM	Trichlorofluoromethane	0.7319	0.8357	14	TM		
10	TM	Acrolein	0.0223	0.0220	1.6	TM		
11	TML	Acetone	0.0130	0.0089	31	TML	18	
12	TM	Freon-113	0.4245	0.4736	12	TM		
13	TM*	1,1-DCE	0.6654	0.7222	8.5	TM*		
14	TM	Acetonitrile	0.0205	0.0215	5.0	TM		
15	TM	t-Butanol	0.0076	0.0076	0.11	TM		
16	TM	Methyl Acetate	0.1458	0.1360	6.7	TM		
17	TML	Iodomethane	0.4104	0.2959	28	TML	42	nt
18	TM	Acrylonitrile	0.0677	0.0632	6.8	TM		
19	TM	Methylene chloride	0.4446	0.4264	4.1	TM		
20	TM	Carbon disulfide	1.359	1.450	6.7	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6691	8.0	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5427	7.4	TM		
23	TM	Diisopropyl Ether	1.241	1.227	1.1	TM		
24	TM**	1,1-DCA	0.8132	0.8796	8.2	TM**		
25	TM	Vinyl Acetate	0.2151	0.2483	15	TM		
26	TM	Ethyl tert Butyl Ether	0.8411	0.7549	10	TM		
27	TML	MEK (2-Butanone)	0.1121	0.1020	9.1	TML	2.3	
28	TM	Cis-1,2-DCE	0.5196	0.5575	7.3	TM		
29	TM	2,2-Dichloropropane	0.5015	0.5847	17	TM		
30	TM*	Chloroform	0.8075	0.8786	8.8	TM*		
31	TM	Bromochloromethane	0.1989	0.2121	6.7	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2408	2.2	S		
33	TM	1,1,1-TCA	0.7042	0.7991	13	TM		
34	TM	Cyclohexane	0.4238	0.4472	5.5	TM		
35	TM	1,1-Dichloropropene	0.6603	0.7458	13	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.331	17	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1856	5.5	S		
38	TM	Carbon Tetrachloride	0.5179	0.6466	25	TM		nt
39	TM	Tert Amyl Methyl Ether	0.7406	0.6775	8.5	TM		
40	TM	1,2-DCA	0.4401	0.4597	4.5	TM		
		Average			10.1			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0313M03.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	Benzene	1.976	2.110	6.8	TM		
42	TM	TCE	0.5428	0.5930	9.2	TM		
43	TM	2-Pentanone	0.1243	0.1233	0.83	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.4498	8.2	TM*		
45	TM	Bromodichloromethane	0.4582	0.5294	16	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7992	8.0	TM		
47	TM	Dibromomethane	0.1716	0.1826	6.4	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1878	9.2	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.4054	2.6	TM		
50	TM	2-Chloroethyl vinyl ether	0.0000	0.0060	0.00	TM		
51	TM	Cis-1,3-Dichloropropene	0.4875	0.5433	11	TM		
52	TM*	Toluene	2.281	2.423	6.2	TM*		
53	TM	Trans-1,3-Dichloropropene	0.3040	0.3447	13	TM		
54	TM	1,1,2-TCA	0.2046	0.2223	8.7	TM		
55	TM	2-Hexanone	0.1163	0.1028	12	TM		
56	I	Chlorobenzene-D5 (IS)	ISTD			I		
57	S	Toluene-D8(S)	1.452	1.451	0.07	S		
58	TML	1,2-EDB	0.2651	0.3298	24	TML	4.7	
59	TM	Tetrachloroethene	0.7696	0.9251	20	TM		
60	TM	1-Chlorohexane	0.9459	1.059	12	TM		
61	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6165	28	TM		nt
62	TM	m&p-Xylene	1.478	1.665	13	TM		
63	TM	o-Xylene	1.419	1.536	8.3	TM		
64	TM	Styrene	2.071	2.329	12	TM		
65	S	4-Bromofluorobenzene(S)	0.4799	0.4712	1.8	S		
66	TM	1,3-Dichloropropane	0.6211	0.6746	8.6	TM		
67	TM	Dibromochloromethane	0.3460	0.4710	36	TM		nt
68	TM**	Chlorobenzene	1.987	2.230	12	TM**		
69	TM*	Ethylbenzene	3.638	4.110	13	TM*		
70	TM**	Bromoform	0.1886	0.2177	15	TM**		
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
72	TM	Isopropylbenzene	7.350	8.032	9.3	TM		
73	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7526	13	TM**		
74	TM	1,2,3-Trichloropropane	0.2357	0.2291	2.8	TM		
75	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1140	12	TM		
76	TM	Bromobenzene	1.615	1.698	5.2	TM		
77	TM	n-Propylbenzene	8.271	9.139	10	TM		
78	TM	4-Ethyltoluene	7.181	8.072	12	TM		
79	TM	2-Chlorotoluene	4.727	5.164	9.2	TM		
80	TM	1,3,5-Trimethylbenzene	6.135	6.639	8.2	TM		
		Average			10.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0313M03.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	4-Chlorotoluene	5.532	5.936	7.3	TM		
82	TM	Tert-Butylbenzene	5.512	5.849	6.1	TM		
83	TM	1,2,4-Trimethylbenzene	5.770	6.501	13	TM		
84	TM	Sec-Butylbenzene	7.268	8.160	12	TM		
85	TM	p-Isopropyltoluene	6.329	7.192	14	TM		
86	TMQ	Benzyl Chloride	0.4242	0.4133	2.6	TMQ	2.0	
87	TM	1,3-DCB	3.296	3.564	8.1	TM		
88	TM	1,4-DCB	3.270	3.271	0.05	TM		
89	TM	n-Butylbenzene	5.039	5.837	16	TM		
90	TM	1,2-DCB	2.715	2.826	4.1	TM		
91	TM	Hexachloroethane	0.5145	0.6305	23	TM		nt
92	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0823	3.5	TML	6.3	
93	TML	1,2,4-Trichlorobenzene	1.183	1.539	30	TML	2.6	
94	TM	Hexachlorobutadiene	0.9479	1.108	17	TM		
95	TMQ	Naphthalene	0.4921	0.6525	33	TMQ	1.7	
96	TMQ	1,2,3-Trichlorobenzene	0.6294	1.009	60	TMQ	3.8	
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			15.6			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M03.D Vial: 2
Acq On : 13 Mar 17 9:47 Operator: PM,DG,SV,CMM
Sample : 170313A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 9:58 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	272904	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	182769	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	92410	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	65716	24.44185 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.768%	
37) 1,2-DCA-D4(S)	5.12	65	50638	23.61805 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.472%	
57) Toluene-D8(S)	7.34	98	265134	24.98343 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.932%	
65) 4-Bromofluorobenzene(S)	10.73	95	86120	24.54888 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.196%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	34544	10.80561 ppb		95
3) Freon 114	1.30	85	49441	11.02910 ppb		94
4) Chloromethane	1.34	50	42288	9.24446 ppb		96
5) Vinyl chloride	1.43	62	66406	10.21782 ppb	#	82
6) Bromomethane	1.70	94	29619	6.59425 ppb		98
7) Chloroethane	1.80	64	40755	10.70259 ppb		96
8) Dichlorofluoromethane	1.99	67	108387	10.78361 ppb		98
9) Trichlorofluoromethane	2.03	101	91222	11.41729 ppb		97
10) Acrolein	2.42	56	29959	122.97300 ppb		98
11) Acetone	2.57	58	976	8.16811 ppb		99
12) Freon-113	2.53	101	51701	11.15837 ppb		97
13) 1,1-DCE	2.51	61	78833	10.85375 ppb		98
14) Acetonitrile	2.83	41	29360	131.19485 ppb		96
15) t-Butanol	3.14	59	10334	124.86497 ppb	#	86
16) Methyl Acetate	2.90	43	14842	9.32700 ppb		91
17) Iodomethane	2.64	142	32303	5.83087 ppb		98
18) Acrylonitrile	3.22	53	6894	9.32440 ppb		90
19) Methylene chloride	2.98	84	46551	9.59176 ppb		97
20) Carbon disulfide	2.70	76	158247	10.66826 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	73040	9.19795 ppb		92
22) Trans-1,2-DCE	3.25	96	59247	10.73739 ppb		95
23) Diisopropyl Ether	3.79	45	133984	9.88868 ppb		99
24) 1,1-DCA	3.67	63	96014	10.81616 ppb		97
25) Vinyl Acetate	3.75	43	27109	11.54745 ppb		96
26) Ethyl tert Butyl Ether	4.16	59	82401	8.97438 ppb		95
27) MEK (2-Butanone)	4.30	43	11129	9.76615 ppb		93
28) Cis-1,2-DCE	4.27	96	60863	10.73039 ppb		99
29) 2,2-Dichloropropane	4.26	77	63828	11.66022 ppb		98
30) Chloroform	4.61	83	95914	10.88166 ppb		96
31) Bromochloromethane	4.51	128	23156	10.66616 ppb		95
33) 1,1,1-TCA	4.79	97	87235	11.34854 ppb		99
34) Cyclohexane	4.86	41	48814	10.55069 ppb		95
35) 1,1-Dichloropropene	4.98	75	81408	11.29345 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	145259	11.71490 ppb		96
38) Carbon Tetrachloride	4.98	117	70582	12.48496 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	73962	9.14848 ppb	#	90
40) 1,2-DCA	5.21	62	50185	10.44600 ppb		99
41) Benzene	5.19	78	230378	10.67931 ppb		97
42) TCE	5.92	95	64728	10.92402 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M03.D
Acq On : 13 Mar 17 9:47
Sample : 170313A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 9:58 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	168239	123.96611	ppb		97
44)	1,2-Dichloropropane	6.15	63	49106	10.81820	ppb		97
45)	Bromodichloromethane	6.48	83	57788	11.55338	ppb		97
46)	Methyl Cyclohexane	6.14	83	87244	10.80439	ppb		94
47)	Dibromomethane	6.28	93	19930	10.64158	ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	20497	9.07967	ppb		94
49)	1-Bromo-2-chloroethane	6.83	63	44255	10.25881	ppb		93
51)	Cis-1,3-Dichloropropene	7.02	75	59307	11.14442	ppb		96
52)	Toluene	7.42	91	264512	10.62458	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	37632	11.34097	ppb		98
54)	1,1,2-TCA	7.91	83	24270	10.86575	ppb		94
55)	2-Hexanone	8.27	43	11221	8.84234	ppb		94
58)	1,2-EDB	8.52	107	24112	10.47330	ppb		98
59)	Tetrachloroethene	8.09	164	67631	12.01960	ppb		98
60)	1-Chlorohexane	9.20	91	77428	11.19707	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.29	131	45068	12.83957	ppb		98
62)	m&p-Xylene	9.51	106	243470	22.52748	ppb		99
63)	o-Xylene	10.03	106	112329	10.82700	ppb		98
64)	Styrene	10.05	104	170253	11.24256	ppb		95
66)	1,3-Dichloropropane	8.11	76	49319	10.86109	ppb		95
67)	Dibromochloromethane	8.39	129	34431	13.61317	ppb		96
68)	Chlorobenzene	9.17	112	162995	11.22137	ppb		98
69)	Ethylbenzene	9.35	91	300459	11.29702	ppb		100
70)	Bromoform	10.25	173	15916	11.54338	ppb		98
72)	Isopropylbenzene	10.55	105	296910	10.92829	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	27819	11.33826	ppb		93
74)	1,2,3-Trichloropropane	10.99	110	8467	9.71645	ppb		94
75)	t-1,4-Dichloro-2-Butene	11.04	53	4214	8.79566	ppb		84
76)	Bromobenzene	10.91	156	62778	10.51826	ppb		100
77)	n-Propylbenzene	11.12	91	337811	11.04953	ppb		98
78)	4-Ethyltoluene	11.28	105	298361	11.23957	ppb		99
79)	2-Chlorotoluene	11.20	91	190874	10.92288	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	245393	10.82126	ppb		99
81)	4-Chlorotoluene	11.36	91	219434	10.73147	ppb		98
82)	Tert-Butylbenzene	11.82	119	216211	10.61225	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	240299	11.26614	ppb		98
84)	Sec-Butylbenzene	12.14	105	301618	11.22742	ppb		99
85)	p-Isopropyltoluene	12.36	119	265842	11.36291	ppb		99
86)	Benzyl Chloride	12.57	91	15277	9.80420	ppb		90
87)	1,3-DCB	12.24	146	131728	10.81159	ppb		99
88)	1,4-DCB	12.37	146	120926	10.00515	ppb		96
89)	n-Butylbenzene	12.94	91	215754	11.58437	ppb		99
90)	1,2-DCB	12.88	146	104456	10.40921	ppb		96
91)	Hexachloroethane	13.25	117	23307	12.25431	ppb		95
92)	1,2-Dibromo-3-chloropropan	13.99	75	3042	10.62656	ppb	#	91
93)	1,2,4-Trichlorobenzene	15.20	180	56873	10.25715	ppb		93
94)	Hexachlorobutadiene	15.51	225	40971	11.69323	ppb		94
95)	Naphthalene	15.54	128	24120	9.83363	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	37313	9.61744	ppb		95

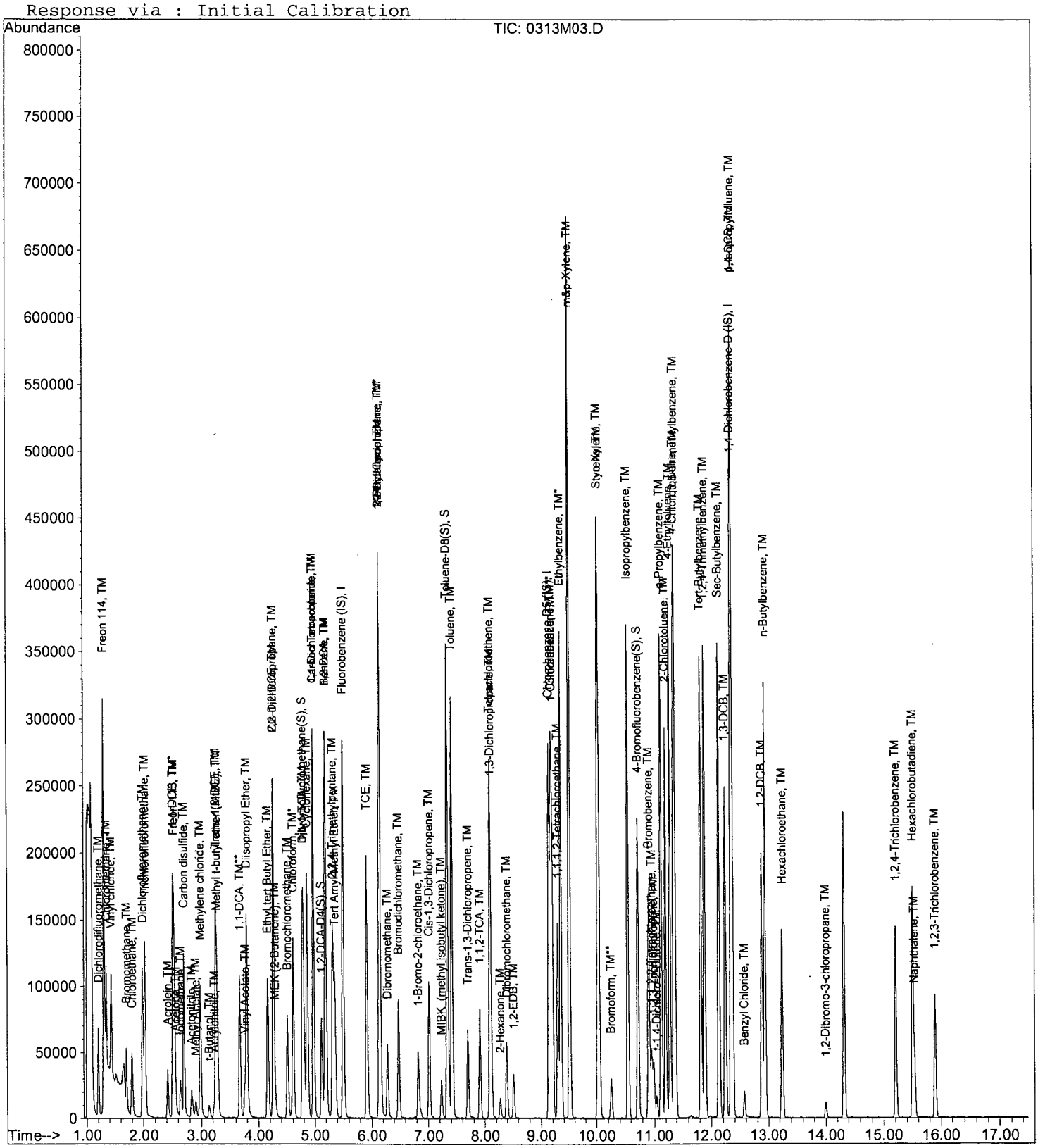
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M03.D Vial: 2
Acq On : 13 Mar 17 9:47 Operator: PM,DG,SV,CMM
Sample : 170313A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 9:58 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



552

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0313M28.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2929	0.3064	4.6	TM	
3	TM	Freon 114	0.4107	0.3975	3.2	TM	
4	TM**	Chloromethane	0.4190	0.3328	21	TM**	
5	TM*	Vinyl chloride	0.5954	0.5318	11	TM*	
6	TM	Bromomethane	0.4115	0.2431	41	TM	
7	TM	Chloroethane	0.3488	0.3392	2.8	TM	
8	TM	Dichlorofluoromethane	0.9208	0.9189	0.20	TM	
9	TM	Trichlorofluoromethane	0.7319	0.7022	4.1	TM	
10	TM	Acrolein	0.0223	0.0203	9.1	TM	
11	TML	Acetone	0.0130	0.0087	33	TML	21
12	TM	Freon-113	0.4245	0.4350	2.5	TM	
13	TM*	1,1-DCE	0.6654	0.6400	3.8	TM*	
14	TM	Acetonitrile	0.0205	0.0203	0.95	TM	
15	TM	t-Butanol	0.0076	0.0082	8.4	TM	
16	TM	Methyl Acetate	0.1458	0.1368	6.1	TM	
17	TML	Iodomethane	0.4104	0.3193	22	TML	38
18	TM	Acrylonitrile	0.0677	0.0716	5.7	TM	
19	TM	Methylene chloride	0.4446	0.4204	5.4	TM	
20	TM	Carbon disulfide	1.359	1.342	1.3	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6717	7.7	TM	
22	TM	Trans-1,2-DCE	0.5055	0.4938	2.3	TM	
23	TM	Diisopropyl Ether	1.241	1.205	2.9	TM	
24	TM**	1,1-DCA	0.8132	0.7964	2.1	TM**	
25	TM	Vinyl Acetate	0.2151	0.2050	4.7	TM	
26	TM	Ethyl tert Butyl Ether	0.8411	0.7290	13	TM	
27	TML	MEK (2-Butanone)	0.1121	0.0714	36	TML	34
28	TM	Cis-1,2-DCE	0.5196	0.5168	0.54	TM	
29	TM	2,2-Dichloropropane	0.5015	0.4333	14	TM	
30	TM*	Chloroform	0.8075	0.8078	0.04	TM*	
31	TM	Bromochloromethane	0.1989	0.2017	1.4	TM	
32	S	Dibromofluoromethane(S)	0.2463	0.2494	1.3	S	
33	TM	1,1,1-TCA	0.7042	0.7277	3.3	TM	
34	TM	Cyclohexane	0.4238	0.3972	6.3	TM	
35	TM	1,1-Dichloropropene	0.6603	0.6517	1.3	TM	
36	TM	2,2,4-Trimethylpentane	1.136	1.040	8.4	TM	
37	S	1,2-DCA-D4(S)	0.1964	0.1990	1.3	S	
38	TM	Carbon Tetrachloride	0.5179	0.5838	13	TM	
39	TM	Tert Amyl Methyl Ether	0.7406	0.6414	13	TM	
40	TM	1,2-DCA	0.4401	0.4276	2.8	TM	
		Average			8.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0313M28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.976	1.913	3.2	TM	
42	TM	TCE	0.5428	0.5193	4.3	TM	
43	TM	2-Pentanone	0.1243	0.1243	0.00	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4111	1.1	TM*	
45	TM	Bromodichloromethane	0.4582	0.4932	7.6	TM	
46	TM	Methyl Cyclohexane	0.7397	0.6823	7.8	TM	
47	TM	Dibromomethane	0.1716	0.1777	3.5	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2014	2.6	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.3532	11	TM	
50	TM	Cis-1,3-Dichloropropene	0.4875	0.4908	0.67	TM	
51	TM*	Toluene	2.281	2.182	4.3	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3247	6.8	TM	
53	TM	1,1,2-TCA	0.2046	0.2063	0.83	TM	
54	TM	2-Hexanone	0.1163	0.1109	4.6	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.452	1.417	2.4	S	
57	TML	1,2-EDB	0.2651	0.3236	22	TML	2.9
58	TM	Tetrachloroethene	0.7696	0.7790	1.2	TM	
59	TM	1-Chlorohexane	0.9459	0.8960	5.3	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5696	19	TM	
61	TM	m&p-Xylene	1.478	1.448	2.1	TM	
62	TM	o-Xylene	1.419	1.356	4.5	TM	
63	TM	Styrene	2.071	2.071	0.03	TM	
64	S	4-Bromofluorobenzene(S)	0.4799	0.4761	0.78	S	
65	TM	1,3-Dichloropropane	0.6211	0.6019	3.1	TM	
66	TM	Dibromochloromethane	0.3460	0.4283	24	TM	
67	TM**	Chlorobenzene	1.987	1.946	2.1	TM**	
68	TM*	Ethylbenzene	3.638	3.553	2.3	TM*	
69	TM**	Bromoform	0.1886	0.2111	12	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.350	7.210	1.9	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7197	8.4	TM**	
73	TM	1,2,3-Trichloropropane	0.2357	0.2250	4.5	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1021	21	TM	
75	TM	Bromobenzene	1.615	1.578	2.2	TM	
76	TM	n-Propylbenzene	8.271	8.046	2.7	TM	
77	TM	4-Ethyltoluene	7.181	7.099	1.2	TM	
78	TM	2-Chlorotoluene	4.727	4.646	1.7	TM	
79	TM	1,3,5-Trimethylbenzene	6.135	5.865	4.4	TM	
80	TM	4-Chlorotoluene	5.532	5.363	3.0	TM	
		Average			5.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0313M28.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.174	6.1	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	5.850	1.4	TM	
83	TM	Sec-Butylbenzene	7.268	7.050	3.0	TM	
84	TM	p-Isopropyltoluene	6.329	6.277	0.83	TM	
85	TMQ	Benzyl Chloride	0.4242	0.2743	35	TMQ	31
86	TM	1,3-DCB	3.296	3.181	3.5	TM	
87	TM	1,4-DCB	3.270	3.044	6.9	TM	
88	TM	n-Butylbenzene	5.039	4.933	2.1	TM	
89	TM	1,2-DCB	2.715	2.663	1.9	TM	
90	TM	Hexachloroethane	0.5145	0.5334	3.7	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0815	2.5	TML	5.6
92	TML	1,2,4-Trichlorobenzene	1.183	1.463	24	TML	2.2
93	TM	Hexachlorobutadiene	0.9479	0.9241	2.5	TM	
94	TMQ	Naphthalene	0.4921	0.7376	50	TMQ	8.2
95	TMQ	1,2,3-Trichlorobenzene	0.6294	1.033	64	TMQ	2.1
96							
97							
98							
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115							
116							
117							
118							
119							
120							
		Average			13.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M28.D Vial: 27
Acq On : 13 Mar 17 21:40 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/13/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 9:59 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	291340	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	204648	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101515	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	72656	25.31304 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.252%	
37) 1,2-DCA-D4(S)	5.12	65	57971	25.32725 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.308%	
57) Toluene-D8(S)	7.34	98	289916	24.39798 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.592%	
65) 4-Bromofluorobenzene(S)	10.73	95	97432	24.80415 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.216%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	35712	10.46407 ppb		99
3) Freon 114	1.30	85	46321	9.67922 ppb		93
4) Chloromethane	1.34	50	38789	7.94297 ppb		94
5) Vinyl chloride	1.43	62	61976	8.93273 ppb	#	83
6) Bromomethane	1.70	94	28327	5.90752 ppb		97
7) Chloroethane	1.80	64	39530	9.72400 ppb		98
8) Dichlorofluoromethane	1.99	67	107085	9.97988 ppb		98
9) Trichlorofluoromethane	2.03	101	81829	9.59357 ppb		99
10) Acrolein	2.42	56	29537	113.56870 ppb		93
11) Acetone	2.58	58	1013	7.88973 ppb		97
12) Freon-113	2.53	101	50691	10.24808 ppb		92
13) 1,1-DCE	2.51	61	74583	9.61881 ppb		99
14) Acetonitrile	2.83	41	29579	123.80951 ppb		97
15) t-Butanol	3.14	59	11976	135.54819 ppb	#	89
16) Methyl Acetate	2.90	43	15946	9.38666 ppb		98
17) Iodomethane	2.64	142	37211	6.22128 ppb		99
18) Acrylonitrile	3.22	53	8343	10.57016 ppb		93
19) Methylene chloride	2.98	84	48997	9.45689 ppb		97
20) Carbon disulfide	2.70	76	156367	9.87445 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	78281	9.23413 ppb		98
22) Trans-1,2-DCE	3.26	96	57548	9.76950 ppb		98
23) Diisopropyl Ether	3.80	45	140384	9.70539 ppb		99
24) 1,1-DCA	3.67	63	92813	9.79394 ppb		99
25) Vinyl Acetate	3.75	43	23887	9.53112 ppb		91
26) Ethyl tert Butyl Ether	4.17	59	84949	8.66643 ppb		97
27) MEK (2-Butanone)	4.30	43	8321	6.57737 ppb		87
28) Cis-1,2-DCE	4.27	96	60224	9.94585 ppb		99
29) 2,2-Dichloropropane	4.27	77	50494	8.64062 ppb		99
30) Chloroform	4.61	83	94135	10.00401 ppb		98
31) Bromochloromethane	4.51	128	23508	10.14309 ppb		94
33) 1,1,1-TCA	4.80	97	84805	10.33429 ppb		97
34) Cyclohexane	4.86	41	46286	9.37122 ppb		97
35) 1,1-Dichloropropene	4.98	75	75941	9.86837 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	121241	9.15914 ppb		99
38) Carbon Tetrachloride	4.98	117	68037	11.27322 ppb		93
39) Tert Amyl Methyl Ether	5.36	73	74751	8.66099 ppb	#	89
40) 1,2-DCA	5.21	62	49836	9.71693 ppb		99
41) Benzene	5.19	78	222972	9.68193 ppb		98
42) TCE	5.92	95	60512	9.56625 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M28.D
Acq On : 13 Mar 17 21:40
Sample : Ending CCV 8260 10ug/L 03/13/17
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 9:59 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	181097	124.99635 ppb		99
44) 1,2-Dichloropropane	6.16	63	47906	9.88599 ppb		96
45) Bromodichloromethane	6.48	83	57479	10.76441 ppb		99
46) Methyl Cyclohexane	6.14	83	79510	9.22351 ppb		97
47) Dibromomethane	6.28	93	20703	10.35480 ppb		97
48) MIBK (methyl isobutyl ket	7.23	43	23466	9.73708 ppb	#	89
49) 1-Bromo-2-chloroethane	6.83	63	41155	8.93649 ppb		97
51) Cis-1,3-Dichloropropene	7.02	75	57193	10.06709 ppb		93
52) Toluene	7.42	91	254283	9.56739 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	37836	10.68090 ppb		96
54) 1,1,2-TCA	7.91	83	24044	10.08339 ppb		97
55) 2-Hexanone	8.27	43	12926	9.54134 ppb		97
58) 1,2-EDB	8.52	107	26493	10.29092 ppb		96
59) Tetrachloroethene	8.09	164	63772	10.12207 ppb		97
60) 1-Chlorohexane	9.20	91	73344	9.47253 ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	46627	11.86355 ppb		98
62) m&p-Xylene	9.51	106	237044	19.58805 ppb		99
63) o-Xylene	10.03	106	110968	9.55232 ppb		100
64) Styrene	10.05	104	169516	9.99715 ppb		96
66) 1,3-Dichloropropane	8.12	76	49267	9.68970 ppb		100
67) Dibromochloromethane	8.39	129	35064	12.38130 ppb		93
68) Chlorobenzene	9.17	112	159284	9.79352 ppb		99
69) Ethylbenzene	9.35	91	290815	9.76541 ppb		100
70) Bromoform	10.25	173	17279	11.19212 ppb		95
72) Isopropylbenzene	10.55	105	292785	9.80991 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	29226	10.84334 ppb		98
74) 1,2,3-Trichloropropane	10.99	110	9138	9.54592 ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	4145	7.87566 ppb	#	78
76) Bromobenzene	10.91	156	64094	9.77558 ppb		99
77) n-Propylbenzene	11.12	91	326717	9.72816 ppb		98
78) 4-Ethyltoluene	11.28	105	288247	9.88464 ppb		98
79) 2-Chlorotoluene	11.20	91	188672	9.82848 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	238138	9.55945 ppb		100
81) 4-Chlorotoluene	11.36	91	217775	9.69509 ppb		99
82) Tert-Butylbenzene	11.82	119	210103	9.38751 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	237557	10.13864 ppb		99
84) Sec-Butylbenzene	12.13	105	286266	9.70021 ppb		98
85) p-Isopropyltoluene	12.36	119	254872	9.91692 ppb		98
86) Benzyl Chloride	12.57	91	11137	6.89314 ppb		95
87) 1,3-DCB	12.24	146	129154	9.64958 ppb		97
88) 1,4-DCB	12.37	146	123616	9.31038 ppb		97
89) n-Butylbenzene	12.94	91	200304	9.79021 ppb		97
90) 1,2-DCB	12.88	146	108149	9.81060 ppb		98
91) Hexachloroethane	13.25	117	21659	10.36644 ppb		95
92) 1,2-Dibromo-3-chloropropan	13.99	75	3309	10.55677 ppb		99
93) 1,2,4-Trichlorobenzene	15.21	180	59409	9.77693 ppb		100
94) Hexachlorobutadiene	15.51	225	37522	9.74838 ppb		97
95) Naphthalene	15.54	128	29952	10.82275 ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	41951	9.79107 ppb		91

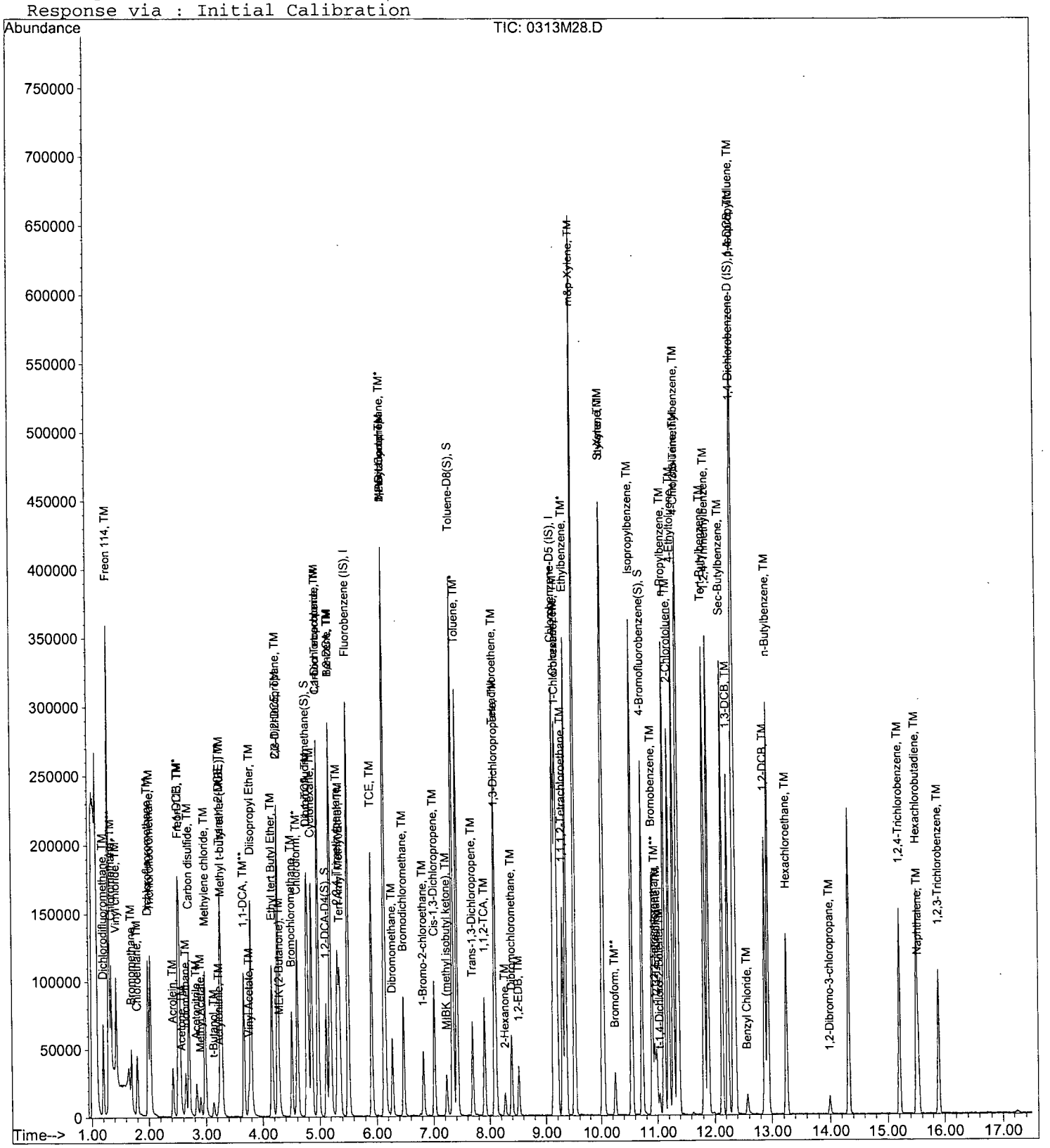
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M28.D Vial: 27
Acq On : 13 Mar 17 21:40 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 03/13/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 9:59 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



558

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0314M03.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.2652	9.4	TM		
3	TM	Freon 114	0.4107	0.4266	3.9	TM		
4	TM**	Chloromethane	0.4190	0.3432	18	TM**		
5	TM*	Vinyl chloride	0.5954	0.5793	2.7	TM*		
6	TM	Bromomethane	0.4115	0.3000	27	TM		nt
7	TM	Chloroethane	0.3488	0.3563	2.1	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9736	5.7	TM		
9	TM	Trichlorofluoromethane	0.7319	0.7775	6.2	TM		
10	TM	Acrolein	0.0223	0.0201	10	TM		
11	TML	Acetone	0.0130	0.0073	44	TML	36	nt
12	TM	Freon-113	0.4245	0.4608	8.6	TM		
13	TM*	1,1-DCE	0.6654	0.6846	2.9	TM*		
14	TM	Acetonitrile	0.0205	0.0179	13	TM		
15	TM	t-Butanol	0.0076	0.0074	1.8	TM		
16	TM	Methyl Acetate	0.1458	0.1284	12	TM		
17	TML	Iodomethane	0.4104	0.3336	19	TML	35	nt
18	TM	Acrylonitrile	0.0677	0.0678	0.10	TM		
19	TM	Methylene chloride	0.4446	0.4222	5.0	TM		
20	TM	Carbon disulfide	1.359	1.397	2.8	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6481	11	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5076	0.41	TM		
23	TM	Diisopropyl Ether	1.241	1.186	4.5	TM		
24	TM**	1,1-DCA	0.8132	0.8171	0.49	TM**		
25	TM	Vinyl Acetate	0.2151	0.2490	16	TM		
26	TM	Ethyl tert Butyl Ether	0.8411	0.7076	16	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0904	19	TML	14	
28	TM	Cis-1,2-DCE	0.5196	0.5365	3.3	TM		
29	TM	2,2-Dichloropropane	0.5015	0.5609	12	TM		
30	TM*	Chloroform	0.8075	0.8321	3.1	TM*		
31	TM	Bromochloromethane	0.1989	0.2073	4.2	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2511	2.0	S		
33	TM	1,1,1-TCA	0.7042	0.7720	9.6	TM		
34	TM	Cyclohexane	0.4238	0.4114	2.9	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6945	5.2	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.238	9.0	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1958	0.31	S		
38	TM	Carbon Tetrachloride	0.5179	0.6382	23	TM		nt
39	TM	Tert Amyl Methyl Ether	0.7406	0.6347	14	TM		
40	TM	1,2-DCA	0.4401	0.4153	5.6	TM		
		Average			9.1			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0314M03.D

		Compound	MEAN	CCRF	%D	%Drift		
41	TM	Benzene	1.976	2.010	1.7	TM		
42	TM	TCE	0.5428	0.5428	0.01	TM		
43	TM	2-Pentanone	0.1243	0.1131	9.0	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.4284	3.0	TM*		
45	TM	Bromodichloromethane	0.4582	0.5123	12	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7384	0.18	TM		
47	TM	Dibromomethane	0.1716	0.1738	1.3	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1800	13	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.3781	4.3	TM		
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5257	7.8	TM		
51	TM*	Toluene	2.281	2.297	0.73	TM*		
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3444	13	TM		
53	TM	1,1,2-TCA	0.2046	0.1892	7.5	TM		
54	TM	2-Hexanone	0.1163	0.1012	13	TM		
55	I	Chlorobenzene-D5 (IS)	ISTD			I		
56	S	Toluene-D8(S)	1.452	1.442	0.66	S		
57	TML	1,2-EDB	0.2651	0.3086	16	TML	1.5	
58	TM	Tetrachloroethene	0.7696	0.8064	4.8	TM		
59	TM	1-Chlorohexane	0.9459	1.005	6.3	TM		
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5980	25	TM		nt
61	TM	m&p-Xylene	1.478	1.557	5.3	TM		
62	TM	o-Xylene	1.419	1.469	3.5	TM		
63	TM	Styrene	2.071	2.120	2.3	TM		
64	S	4-Bromofluorobenzene(S)	0.4799	0.4661	2.9	S		
65	TM	1,3-Dichloropropane	0.6211	0.6099	1.8	TM		
66	TM	Dibromochloromethane	0.3460	0.4439	28	TM		nt
67	TM**	Chlorobenzene	1.987	2.034	2.4	TM**		
68	TM*	Ethylbenzene	3.638	3.772	3.7	TM*		
69	TM**	Bromoform	0.1886	0.2148	14	TM**		
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
71	TM	Isopropylbenzene	7.350	7.720	5.0	TM		
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6759	1.8	TM**		
73	TM	1,2,3-Trichloropropane	0.2357	0.2302	2.4	TM		
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1207	6.9	TM		
75	TM	Bromobenzene	1.615	1.584	1.9	TM		
76	TM	n-Propylbenzene	8.271	8.709	5.3	TM		
77	TM	4-Ethyltoluene	7.181	7.604	5.9	TM		
78	TM	2-Chlorotoluene	4.727	4.914	3.9	TM		
79	TM	1,3,5-Trimethylbenzene	6.135	6.371	3.9	TM		
80	TM	4-Chlorotoluene	5.532	5.646	2.1	TM		
		Average			6.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0314M03.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.636	2.2	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	6.225	7.9	TM	
83	TM	Sec-Butylbenzene	7.268	7.675	5.6	TM	
84	TM	p-Isopropyltoluene	6.329	6.809	7.6	TM	
85	TMQ	Benzyl Chloride	0.4242	0.3915	7.7	TMQ	6.3
86	TM	1,3-DCB	3.296	3.390	2.8	TM	
87	TM	1,4-DCB	3.270	3.201	2.1	TM	
88	TM	n-Butylbenzene	5.039	5.596	11	TM	
89	TM	1,2-DCB	2.715	2.735	0.74	TM	
90	TM	Hexachloroethane	0.5145	0.6152	20	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0817	2.8	TML	5.8
92	TML	1,2,4-Trichlorobenzene	1.183	1.476	25	TML	1.4
93	TM	Hexachlorobutadiene	0.9479	1.067	13	TM	
94	TMQ	Naphthalene	0.4921	0.6547	33	TMQ	1.4
95	TMQ	1,2,3-Trichlorobenzene	0.6294	0.9812	56	TMQ	5.9
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117							
118							
119							
120							
		Average			13.2		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M03.D Vial: 2
Acq On : 14 Mar 17 9:19 Operator: PM,DG,SV,CMM
Sample : 170314A CCV-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 9:32 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	283387	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	197038	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97208	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	71172	25.49189 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.968%	
37) 1,2-DCA-D4(S)	5.12	65	55486	24.92188 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.688%	
57) Toluene-D8(S)	7.34	98	284139	24.83534 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.340%	
65) 4-Bromofluorobenzene(S)	10.73	95	91831	24.28116 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.124%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	30064	9.05636 ppb		99
3) Freon 114	1.29	85	48358	10.38846 ppb		100
4) Chloromethane	1.34	50	38908	8.19093 ppb		97
5) Vinyl chloride	1.43	62	65662	9.72960 ppb		93
6) Bromomethane	1.69	94	34012	7.29217 ppb		96
7) Chloroethane	1.79	64	40390	10.21438 ppb		100
8) Dichlorofluoromethane	1.98	67	110357	10.57345 ppb		98
9) Trichlorofluoromethane	2.03	101	88133	10.62263 ppb		99
10) Acrolein	2.41	56	28449	112.45518 ppb		94
11) Acetone	2.56	58	830	6.35314 ppb		98
12) Freon-113	2.53	101	52234	10.85638 ppb		96
13) 1,1-DCE	2.51	61	77599	10.28863 ppb		96
14) Acetonitrile	2.83	41	25393	109.27095 ppb	#	95
15) t-Butanol	3.14	59	10547	122.72445 ppb		96
16) Methyl Acetate	2.90	43	14557	8.80950 ppb		94
17) Iodomethane	2.64	142	37814	6.45964 ppb		96
18) Acrylonitrile	3.22	53	7685	10.00975 ppb	#	92
19) Methylene chloride	2.98	84	47856	9.49589 ppb		99
20) Carbon disulfide	2.70	76	158341	10.27973 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	73461	8.90875 ppb		99
22) Trans-1,2-DCE	3.25	96	57534	10.04123 ppb		97
23) Diisopropyl Ether	3.79	45	134413	9.55337 ppb		99
24) 1,1-DCA	3.67	63	92626	10.04851 ppb		99
25) Vinyl Acetate	3.75	43	28231	11.58054 ppb		93
26) Ethyl tert Butyl Ether	4.16	59	80212	8.41281 ppb		95
27) MEK (2-Butanone)	4.30	43	10252	8.56483 ppb		96
28) Cis-1,2-DCE	4.27	96	60818	10.32582 ppb		97
29) 2,2-Dichloropropane	4.27	77	63580	11.18526 ppb		99
30) Chloroform	4.61	83	94321	10.30508 ppb		97
31) Bromochloromethane	4.51	128	23495	10.42198 ppb		92
33) 1,1,1-TCA	4.79	97	87505	10.96257 ppb		97
34) Cyclohexane	4.86	41	46632	9.70623 ppb		96
35) 1,1-Dichloropropene	4.98	75	78720	10.51658 ppb		100
36) 2,2,4-Trimethylpentane	5.32	57	140372	10.90200 ppb		97
38) Carbon Tetrachloride	4.97	117	72344	12.32326 ppb		100
39) Tert Amyl Methyl Ether	5.36	73	71941	8.56933 ppb		93
40) 1,2-DCA	5.21	62	47078	9.43678 ppb		99
41) Benzene	5.19	78	227839	10.17092 ppb		97
42) TCE	5.91	95	61533	10.00066 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M03.D
Acq On : 14 Mar 17 9:19
Sample : 170314A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:32 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	160254	113.71432	ppb		98
44) 1,2-Dichloropropane	6.15	63	48566	10.30345	ppb	#	94
45) Bromodichloromethane	6.48	83	58070	11.18029	ppb		98
46) Methyl Cyclohexane	6.14	83	83697	9.98170	ppb		93
47) Dibromomethane	6.28	93	19698	10.12863	ppb		93
48) MIBK (methyl isobutyl ket	7.23	43	20407	8.70541	ppb		93
49) 1-Bromo-2-chloroethane	6.83	63	42865	9.56902	ppb		95
51) Cis-1,3-Dichloropropene	7.02	75	59591	10.78356	ppb		95
52) Toluene	7.42	91	260412	10.07297	ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	39037	11.32920	ppb		92
54) 1,1,2-TCA	7.91	83	21451	9.24842	ppb		98
55) 2-Hexanone	8.27	43	11474	8.70724	ppb		92
58) 1,2-EDB	8.52	107	24324	9.84724	ppb		95
59) Tetrachloroethene	8.09	164	63556	10.47739	ppb		97
60) 1-Chlorohexane	9.20	91	79220	10.62658	ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	47128	12.45414	ppb		90
62) m&p-Xylene	9.51	106	245461	21.06698	ppb		100
63) o-Xylene	10.03	106	115756	10.34933	ppb		98
64) Styrene	10.05	104	167083	10.23423	ppb		98
66) 1,3-Dichloropropane	8.12	76	48071	9.81963	ppb		98
67) Dibromochloromethane	8.39	129	34985	12.83051	ppb		93
68) Chlorobenzene	9.17	112	160296	10.23639	ppb		99
69) Ethylbenzene	9.35	91	297261	10.36738	ppb		100
70) Bromoform	10.25	173	16929	11.38893	ppb		99
72) Isopropylbenzene	10.55	105	300182	10.50338	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	26283	10.18349	ppb		97
74) 1,2,3-Trichloropropane	10.99	110	8951	9.76487	ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	4694	9.31395	ppb		93
76) Bromobenzene	10.91	156	61581	9.80845	ppb		96
77) n-Propylbenzene	11.12	91	338621	10.52933	ppb		99
78) 4-Ethyltoluene	11.28	105	295650	10.58772	ppb		100
79) 2-Chlorotoluene	11.20	91	191076	10.39473	ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	247738	10.38545	ppb		98
81) 4-Chlorotoluene	11.36	91	219523	10.20592	ppb		98
82) Tert-Butylbenzene	11.82	119	219133	10.22479	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	242053	10.78824	ppb		99
84) Sec-Butylbenzene	12.14	105	298424	10.56023	ppb		98
85) p-Isopropyltoluene	12.36	119	264757	10.75797	ppb		99
86) Benzyl Chloride	12.57	91	15223	9.36810	ppb		97
87) 1,3-DCB	12.24	146	131801	10.28365	ppb		99
88) 1,4-DCB	12.37	146	124483	9.79109	ppb		98
89) n-Butylbenzene	12.94	91	217578	11.10569	ppb		98
90) 1,2-DCB	12.88	146	106345	10.07438	ppb		96
91) Hexachloroethane	13.25	117	23922	11.95686	ppb		96
92) 1,2-Dibromo-3-chloropropan	13.98	75	3178	10.57769	ppb	#	82
93) 1,2,4-Trichlorobenzene	15.21	180	57385	9.85811	ppb		99
94) Hexachlorobutadiene	15.51	225	41500	11.25960	ppb		97
95) Naphthalene	15.54	128	25456	9.85908	ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	38153	9.40881	ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

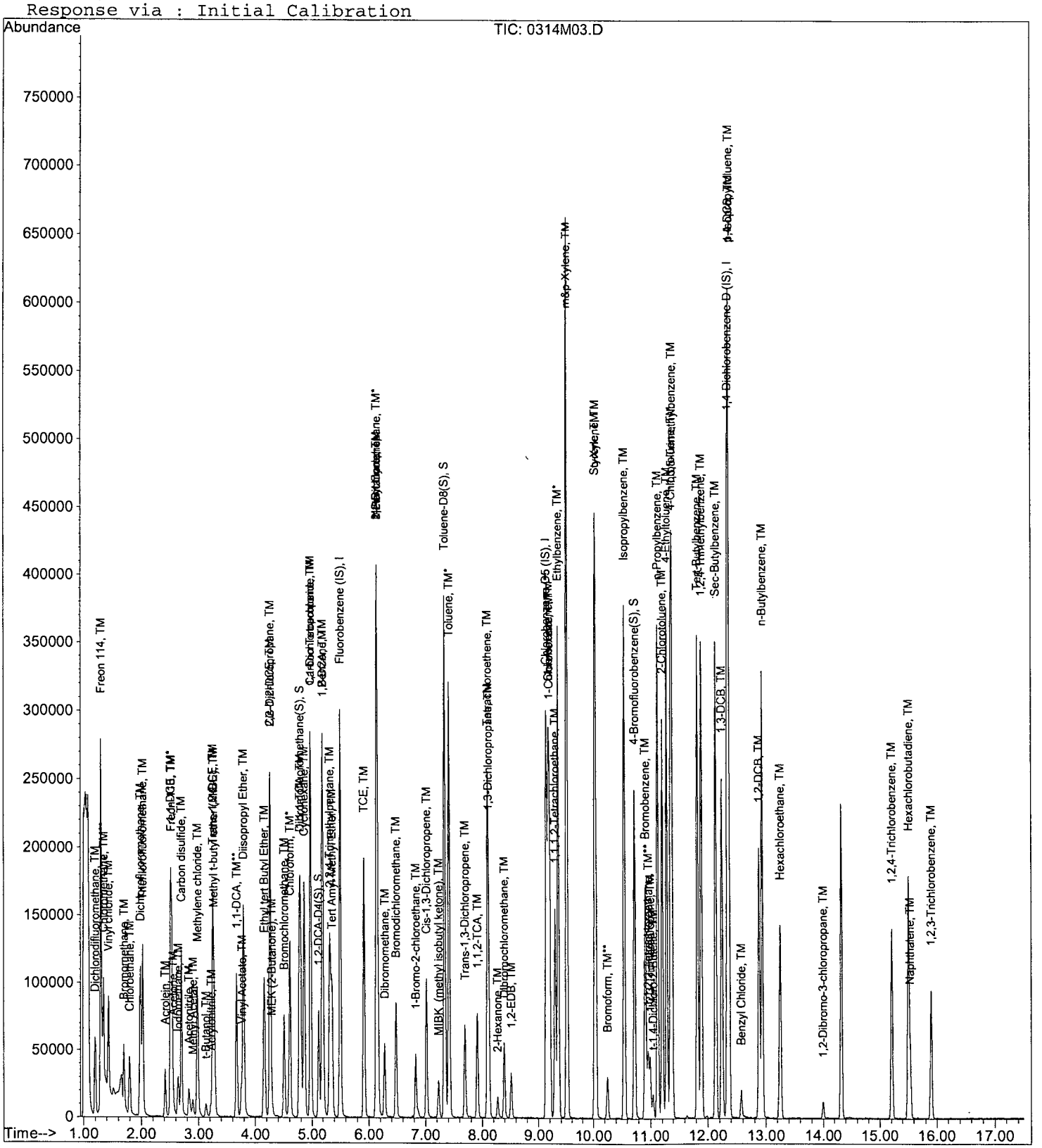
Data File : M:\MAX\DATA\M170308\0314M03.D
Acq On : 14 Mar 17 9:19
Sample : 170314A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:32 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



564

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0314M28.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.2929	0.3223	10	TM	
3	TM	Freon 114	0.4107	0.4145	0.94	TM	
4	TM**	Chloromethane	0.4190	0.3765	10	TM**	
5	TM*	Vinyl chloride	0.5954	0.5642	5.2	TM*	
6	TM	Bromomethane	0.4115	0.2477	40	TM	
7	TM	Chloroethane	0.3488	0.3692	5.8	TM	
8	TM	Dichlorofluoromethane	0.9208	0.9917	7.7	TM	
9	TM	Trichlorofluoromethane	0.7319	0.7500	2.5	TM	
10	TM	Acrolein	0.0223	0.0195	13	TM	
11	TML	Acetone	0.0130	0.0096	26	TML	11
12	TM	Freon-113	0.4245	0.4544	7.1	TM	
13	TM*	1,1-DCE	0.6654	0.6913	3.9	TM*	
14	TM	Acetonitrile	0.0205	0.0202	1.4	TM	
15	TM	t-Butanol	0.0076	0.0080	5.5	TM	
16	TM	Methyl Acetate	0.1458	0.1429	2.0	TM	
17	TML	Iodomethane	0.4104	0.3247	21	TML	37
18	TM	Acrylonitrile	0.0677	0.0739	9.1	TM	
19	TM	Methylene chloride	0.4446	0.4460	0.33	TM	
20	TM	Carbon disulfide	1.359	1.373	1.1	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.6950	4.5	TM	
22	TM	Trans-1,2-DCE	0.5055	0.5370	6.2	TM	
23	TM	Diisopropyl Ether	1.241	1.294	4.3	TM	
24	TM**	1,1-DCA	0.8132	0.8610	5.9	TM**	
25	TM	Vinyl Acetate	0.2151	0.1433	33	TM	
26	TM	Ethyl tert Butyl Ether	0.8411	0.7434	12	TM	
27	TML	MEK (2-Butanone)	0.1121	0.1073	4.3	TML	3.3
28	TM	Cis-1,2-DCE	0.5196	0.5611	8.0	TM	
29	TM	2,2-Dichloropropane	0.5015	0.3829	24	TM	
30	TM*	Chloroform	0.8075	0.8983	11	TM*	
31	TM	Bromochloromethane	0.1989	0.2172	9.2	TM	
32	S	Dibromofluoromethane(S)	0.2463	0.2529	2.7	S	
33	TM	1,1,1-TCA	0.7042	0.7740	9.9	TM	
34	TM	Cyclohexane	0.4238	0.4178	1.4	TM	
35	TM	1,1-Dichloropropene	0.6603	0.7112	7.7	TM	
36	TM	2,2,4-Trimethylpentane	1.136	1.081	4.9	TM	
37	S	1,2-DCA-D4(S)	0.1964	0.1968	0.22	S	
38	TM	Carbon Tetrachloride	0.5179	0.6128	18	TM	
39	TM	Tert Amyl Methyl Ether	0.7406	0.6569	11	TM	
40	TM	1,2-DCA	0.4401	0.4652	5.7	TM	
		Average			9.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0314M28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.976	2.080	5.3	TM	
42	TM	TCE	0.5428	0.6147	13	TM	
43	TM	2-Pentanone	0.1243	0.1273	2.4	TM	
44	TM*	1,2-Dichloropropane	0.4158	0.4476	7.6	TM*	
45	TM	Bromodichloromethane	0.4582	0.5499	20	TM	
46	TM	Methyl Cyclohexane	0.7397	0.7459	0.84	TM	
47	TM	Dibromomethane	0.1716	0.1824	6.3	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1884	8.9	TM	
49	TM	1-Bromo-2-chloroethane	0.3952	0.4007	1.4	TM	
50	TM	Cis-1,3-Dichloropropene	0.4875	0.5135	5.3	TM	
51	TM*	Toluene	2.281	2.411	5.7	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3040	0.3255	7.1	TM	
53	TM	1,1,2-TCA	0.2046	0.2264	11	TM	
54	TM	2-Hexanone	0.1163	0.1139	2.0	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.452	1.462	0.74	S	
57	TML	1,2-EDB	0.2651	0.3403	28	TML	7.8
58	TM	Tetrachloroethene	0.7696	0.8377	8.8	TM	
59	TM	1-Chlorohexane	0.9459	0.9389	0.73	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6187	29	TM	
61	TM	m&p-Xylene	1.478	1.604	8.5	TM	
62	TM	o-Xylene	1.419	1.500	5.7	TM	
63	TM	Styrene	2.071	2.210	6.7	TM	
64	S	4-Bromofluorobenzene(S)	0.4799	0.4748	1.1	S	
65	TM	1,3-Dichloropropane	0.6211	0.6555	5.5	TM	
66	TM	Dibromochloromethane	0.3460	0.4740	37	TM	
67	TM**	Chlorobenzene	1.987	2.149	8.2	TM**	
68	TM*	Ethylbenzene	3.638	3.841	5.6	TM*	
69	TM**	Bromoform	0.1886	0.2248	19	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.350	7.697	4.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7056	6.3	TM**	
73	TM	1,2,3-Trichloropropane	0.2357	0.2516	6.7	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1261	2.7	TM	
75	TM	Bromobenzene	1.615	1.664	3.0	TM	
76	TM	n-Propylbenzene	8.271	8.663	4.7	TM	
77	TM	4-Ethyltoluene	7.181	7.576	5.5	TM	
78	TM	2-Chlorotoluene	4.727	5.011	6.0	TM	
79	TM	1,3,5-Trimethylbenzene	6.135	6.317	3.0	TM	
80	TM	4-Chlorotoluene	5.532	5.778	4.4	TM	
		Average			8.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0314M28.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.512	5.538	0.48	TM	
82	TM	1,2,4-Trimethylbenzene	5.770	6.292	9.0	TM	
83	TM	Sec-Butylbenzene	7.268	7.542	3.8	TM	
84	TM	p-Isopropyltoluene	6.329	6.607	4.4	TM	
85	TMQ	Benzyl Chloride	0.4242	0.2558	40	TMQ	35
86	TM	1,3-DCB	3.296	3.475	5.4	TM	
87	TM	1,4-DCB	3.270	3.261	0.27	TM	
88	TM	n-Butylbenzene	5.039	5.309	5.4	TM	
89	TM	1,2-DCB	2.715	2.876	5.9	TM	
90	TM	Hexachloroethane	0.5145	0.5641	9.6	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0880	11	TML	11
92	TML	1,2,4-Trichlorobenzene	1.183	1.551	31	TML	3.4
93	TM	Hexachlorobutadiene	0.9479	0.9886	4.3	TM	
94	TMQ	Naphthalene	0.4921	0.7787	58	TMQ	13
95	TMQ	1,2,3-Trichlorobenzene	0.6294	1.076	71	TMQ	1.0
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
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108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			17.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M28.D
Acq On : 14 Mar 17 21:14
Sample : Ending CCV 8260 10ug/L 03/14/17
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:17 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	265221	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	185912	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	93697	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	67084	25.67343 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.692%	
37) 1,2-DCA-D4(S)	5.12	65	52206	25.05474 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.220%	
57) Toluene-D8(S)	7.34	98	271869	25.18498 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.740%	
65) 4-Bromofluorobenzene(S)	10.73	95	88273	24.73720 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.948%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	34192	11.00534 ppb		98
3) Freon 114	1.30	85	43977	10.09440 ppb		92
4) Chloromethane	1.34	50	39947	8.98567 ppb		98
5) Vinyl chloride	1.43	62	59858	9.47709 ppb		96
6) Bromomethane	1.70	94	26279	6.02013 ppb		100
7) Chloroethane	1.80	64	39170	10.58434 ppb		99
8) Dichlorofluoromethane	1.99	67	105204	10.77014 ppb		99
9) Trichlorofluoromethane	2.03	101	79568	10.24717 ppb		99
10) Acrolein	2.42	56	25824	109.07067 ppb		96
11) Acetone	2.58	58	1018	8.90241 ppb		81
12) Freon-113	2.54	101	48208	10.70589 ppb		97
13) 1,1-DCE	2.51	61	73336	10.38941 ppb		98
14) Acetonitrile	2.83	41	26805	123.24762 ppb		92
15) t-Butanol	3.14	59	10606	131.86386 ppb	#	89
16) Methyl Acetate	2.91	43	15158	9.80152 ppb		93
17) Iodomethane	2.64	142	34443	6.31065 ppb		96
18) Acrylonitrile	3.22	53	7838	10.90829 ppb	#	92
19) Methylene chloride	2.98	84	47320	10.03266 ppb		98
20) Carbon disulfide	2.70	76	145690	10.10625 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	73731	9.55393 ppb		99
22) Trans-1,2-DCE	3.26	96	56974	10.62456 ppb		96
23) Diisopropyl Ether	3.80	45	137279	10.42537 ppb		98
24) 1,1-DCA	3.67	63	91337	10.58735 ppb		96
25) Vinyl Acetate	3.76	43	15202	6.66308 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	78870	8.83865 ppb		94
27) MEK (2-Butanone)	4.30	43	11385	10.32635 ppb		86
28) Cis-1,2-DCE	4.27	96	59524	10.79833 ppb		99
29) 2,2-Dichloropropane	4.27	77	40624	7.63625 ppb		91
30) Chloroform	4.61	83	95295	11.12462 ppb		98
31) Bromochloromethane	4.51	128	23040	10.92016 ppb		95
33) 1,1,1-TCA	4.80	97	82112	10.99153 ppb		93
34) Cyclohexane	4.86	41	44328	9.85863 ppb		98
35) 1,1-Dichloropropene	4.98	75	75446	10.76955 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	114652	9.51435 ppb		99
38) Carbon Tetrachloride	4.98	117	65009	11.83229 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	69689	8.86965 ppb	#	87
40) 1,2-DCA	5.21	62	49353	10.57040 ppb		100
41) Benzene	5.20	78	220707	10.52738 ppb		99
42) TCE	5.91	95	65216	11.32522 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M28.D
Acq On : 14 Mar 17 21:14
Sample : Ending CCV 8260 10ug/L 03/14/17
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:17 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43) 2-Pentanone	6.15	43	168813	127.99240	ppb		98
44) 1,2-Dichloropropane	6.15	63	47481	10.76322	ppb		94
45) Bromodichloromethane	6.48	83	58337	12.00100	ppb		98
46) Methyl Cyclohexane	6.14	83	79133	10.08381	ppb		92
47) Dibromomethane	6.28	93	19353	10.63284	ppb		93
48) MIBK (methyl isobutyl ket	7.23	43	19983	9.10841	ppb	#	92
49) 1-Bromo-2-chloroethane	6.83	63	42513	10.14048	ppb		97
51) Cis-1,3-Dichloropropene	7.01	75	54476	10.53316	ppb		94
52) Toluene	7.42	91	255748	10.57014	ppb		96
53) Trans-1,3-Dichloropropene	7.70	75	34529	10.70727	ppb		99
54) 1,1,2-TCA	7.91	83	24017	11.06397	ppb		89
55) 2-Hexanone	8.27	43	12085	9.79905	ppb		99
58) 1,2-EDB	8.51	107	25310	10.78445	ppb		96
59) Tetrachloroethene	8.09	164	62292	10.88357	ppb		96
60) 1-Chlorohexane	9.20	91	69823	9.92659	ppb		99
61) 1,1,1,2-Tetrachloroethane	9.29	131	46012	12.88689	ppb		96
62) m&p-Xylene	9.51	106	238612	21.70474	ppb		96
63) o-Xylene	10.03	106	111577	10.57270	ppb		99
64) Styrene	10.05	104	164354	10.66954	ppb		100
66) 1,3-Dichloropropane	8.12	76	48745	10.55321	ppb		97
67) Dibromochloromethane	8.39	129	35251	13.70175	ppb		96
68) Chlorobenzene	9.17	112	159800	10.81542	ppb		99
69) Ethylbenzene	9.35	91	285609	10.55712	ppb		100
70) Bromoform	10.26	173	16716	11.91863	ppb		99
72) Isopropylbenzene	10.55	105	288461	10.47147	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	26446	10.63061	ppb		94
74) 1,2,3-Trichloropropane	10.99	110	9428	10.67065	ppb		97
75) t-1,4-Dichloro-2-Butene	11.04	53	4727	9.73089	ppb		97
76) Bromobenzene	10.91	156	62351	10.30323	ppb		96
77) n-Propylbenzene	11.12	91	324675	10.47399	ppb		99
78) 4-Ethyltoluene	11.28	105	283955	10.54995	ppb		96
79) 2-Chlorotoluene	11.20	91	187792	10.59890	ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	236746	10.29655	ppb		100
81) 4-Chlorotoluene	11.36	91	216548	10.44486	ppb		99
82) Tert-Butylbenzene	11.82	119	207572	10.04828	ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	235822	10.90438	ppb		97
84) Sec-Butylbenzene	12.14	105	282659	10.37716	ppb		99
85) p-Isopropyltoluene	12.36	119	247624	10.43884	ppb		99
86) Benzyl Chloride	12.57	91	9588	6.48140	ppb		93
87) 1,3-DCB	12.24	146	130231	10.54191	ppb		97
88) 1,4-DCB	12.37	146	122215	9.97291	ppb		98
89) n-Butylbenzene	12.94	91	198978	10.53688	ppb		99
90) 1,2-DCB	12.88	146	107785	10.59341	ppb		99
91) Hexachloroethane	13.25	117	21142	10.96331	ppb		97
92) 1,2-Dibromo-3-chloropropan	14.00	75	3297	11.11784	ppb	#	81
93) 1,2,4-Trichlorobenzene	15.21	180	58131	10.33617	ppb		99
94) Hexachlorobutadiene	15.51	225	37053	10.42976	ppb		96
95) Naphthalene	15.54	128	29184	11.28781	ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	40333	10.10328	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

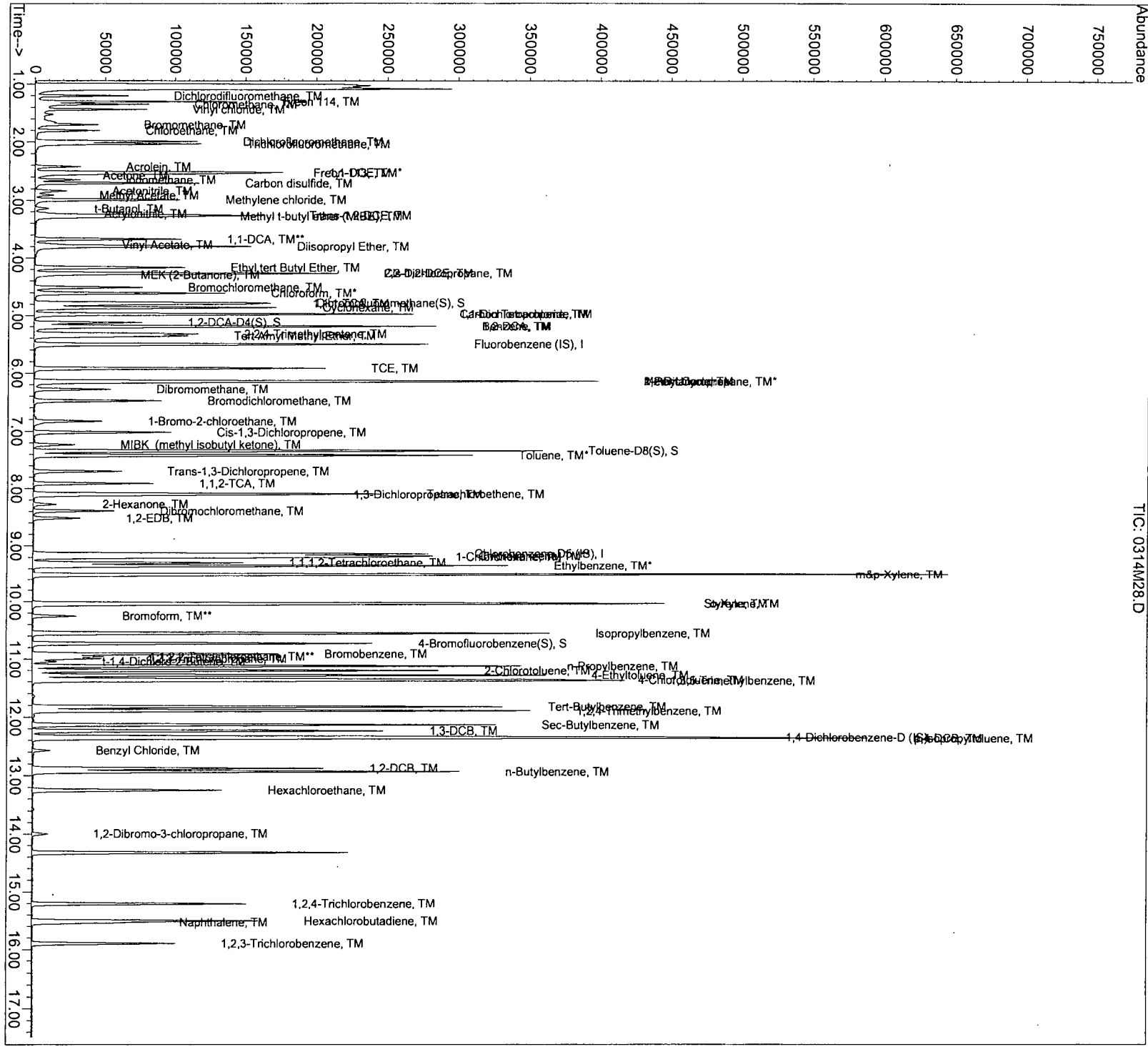
Data File : M:\MAX\DATA\M170308\0314M28.D
Acq On : 14 Mar 17 21:14
Sample : Ending CCV 8260 10ug/L 03/14/17
Misc : IS&S 02/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:17 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216811**
Batch ID: #86BTO-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	03/11/17	03/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.9	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	300047	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	212426	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101351	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76660	25.93298 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.732%	
37) 1,2-DCA-D4(S)	5.12	65	59341	25.17346 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.692%	
57) Toluene-D8(S)	7.34	98	302036	24.48727 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.948%	
65) 4-Bromofluorobenzene(S)	10.73	95	100789	24.71927 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.876%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

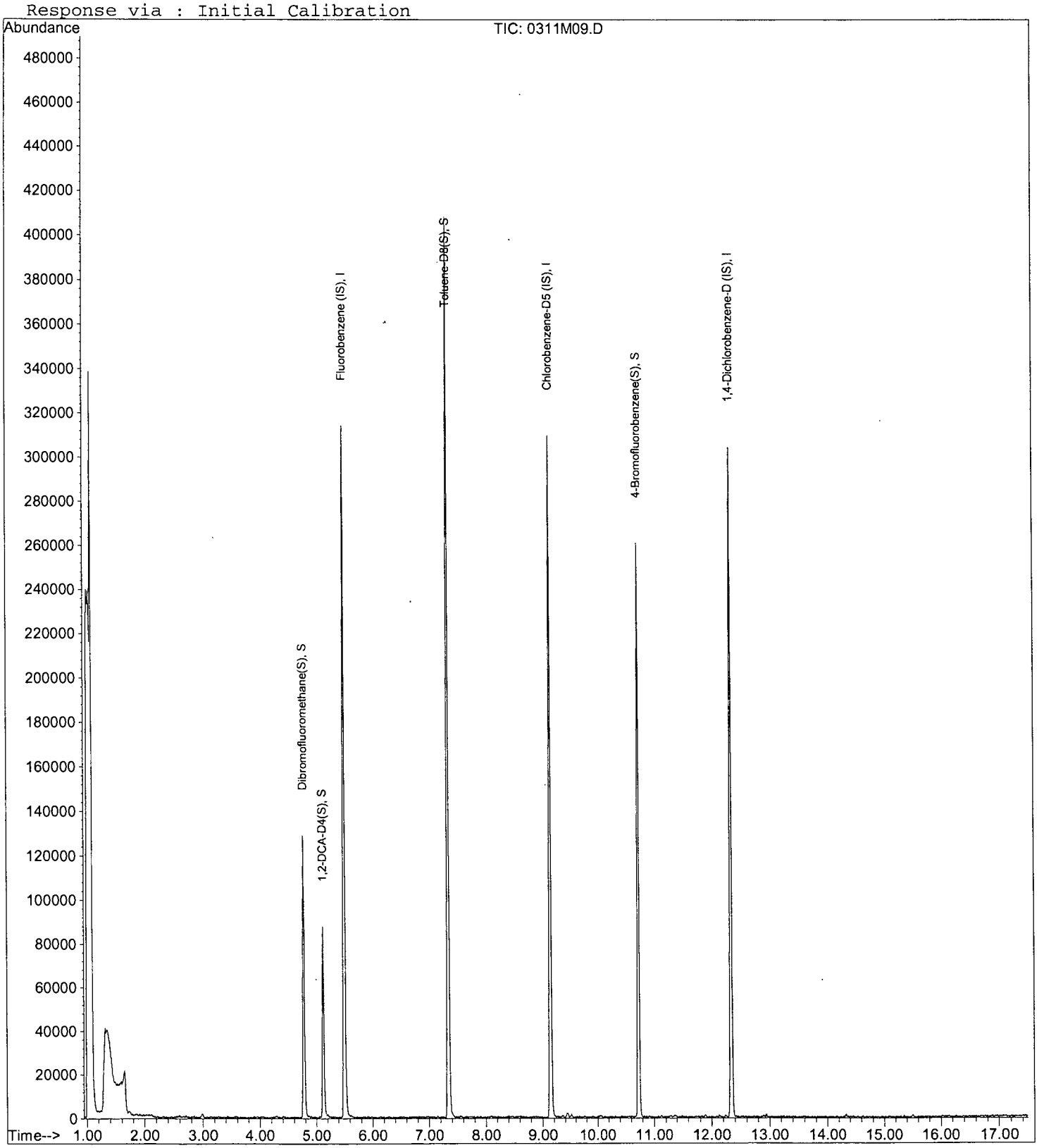
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:35 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170312W-51361 - 216823**
Batch ID: #86BTO-170312AM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/12/17	03/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.3	85-114			%	03/12/17	03/12/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	03/12/17	03/12/17
BLANK	SURROGATE: TOLUENE-D8 (S)	99.6	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M12
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:38 PM

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170312W-51358 - 216822**
Batch ID: #86BTO-170312AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	03/12/17	03/12/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/12/17	03/12/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/12/17	03/12/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/12/17	03/12/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/12/17	03/12/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/12/17	03/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.3	85-114			%	03/12/17	03/12/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	03/12/17	03/12/17
BLANK	SURROGATE: TOLUENE-D8 (S)	99.6	89-112			%	03/12/17	03/12/17

Quant Method: MALLW.M
Run #: 0312M12
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M12.D
Acq On : 12 Mar 17 17:17
Sample : 170312A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	295702	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	207279	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	95985	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	73864	25.35429 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.416%	
37) 1,2-DCA-D4(S)	5.12	65	58663	25.25151 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.008%	
57) Toluene-D8(S)	7.34	98	299747	24.90513 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.620%	
65) 4-Bromofluorobenzene(S)	10.73	95	97770	24.57426 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.296%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

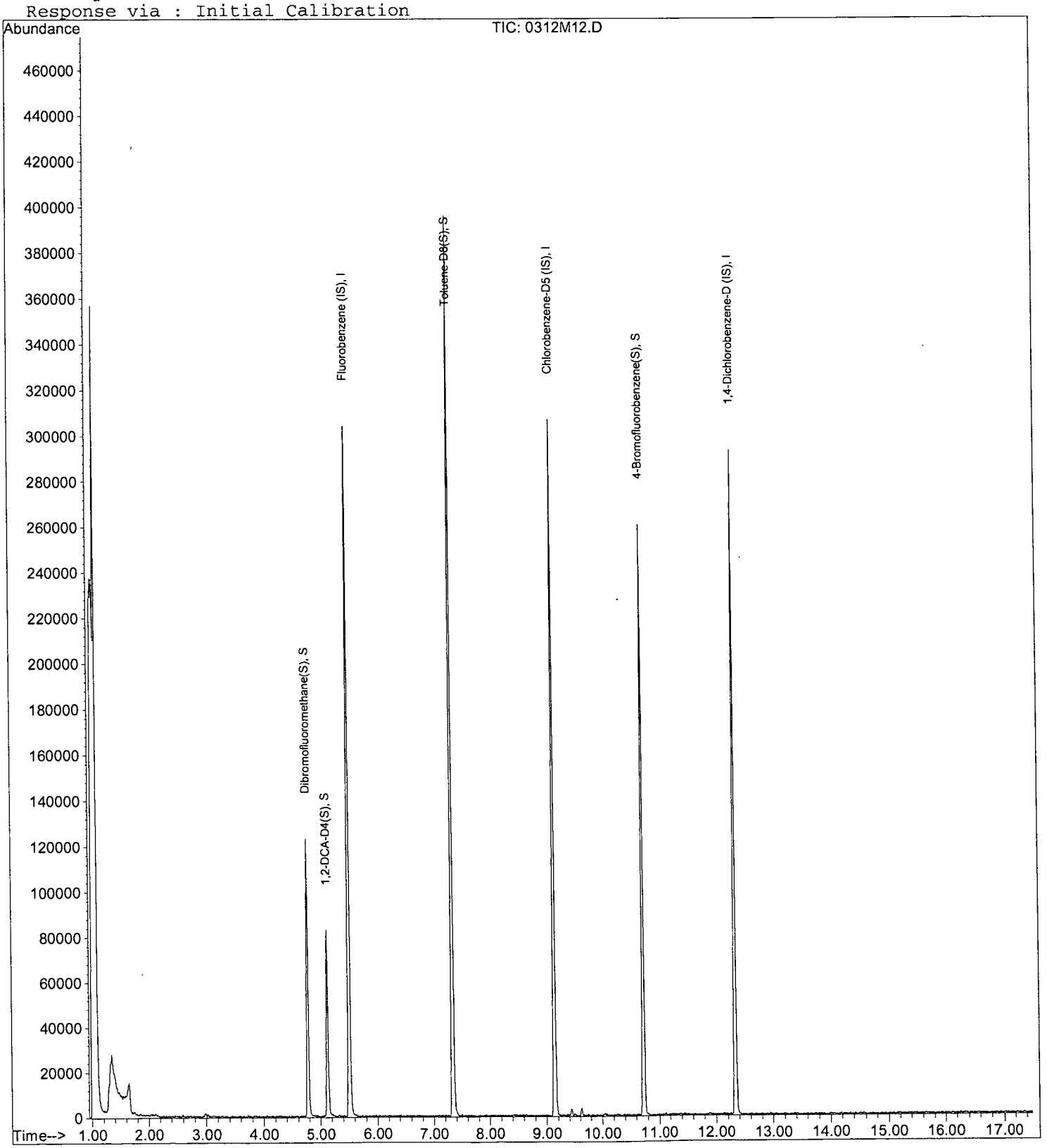
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M12.D
Acq On : 12 Mar 17 17:17
Sample : 170312A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:15 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



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EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170313W-51363 - 216859**
Batch ID: #86BTO-170313AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/13/17	03/13/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/13/17	03/13/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/13/17	03/13/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/13/17	03/13/17
BLANK	SURROGATE: 1,2-DICHLOROET	99.9	81-118			%	03/13/17	03/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/13/17	03/13/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	03/13/17	03/13/17
BLANK	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/13/17	03/13/17

Quant Method: MALLW.M
Run #: 0313M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M11.D
Acq On : 13 Mar 17 13:35
Sample : 170313A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:04 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	281982	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	196757	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	93592	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	69794	25.12289 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.492%	
37) 1,2-DCA-D4(S)	5.12	65	55320	24.97113 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.884%	
57) Toluene-D8(S)	7.34	98	288767	25.27590 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.104%	
65) 4-Bromofluorobenzene(S)	10.73	95	91962	24.35053 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.404%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

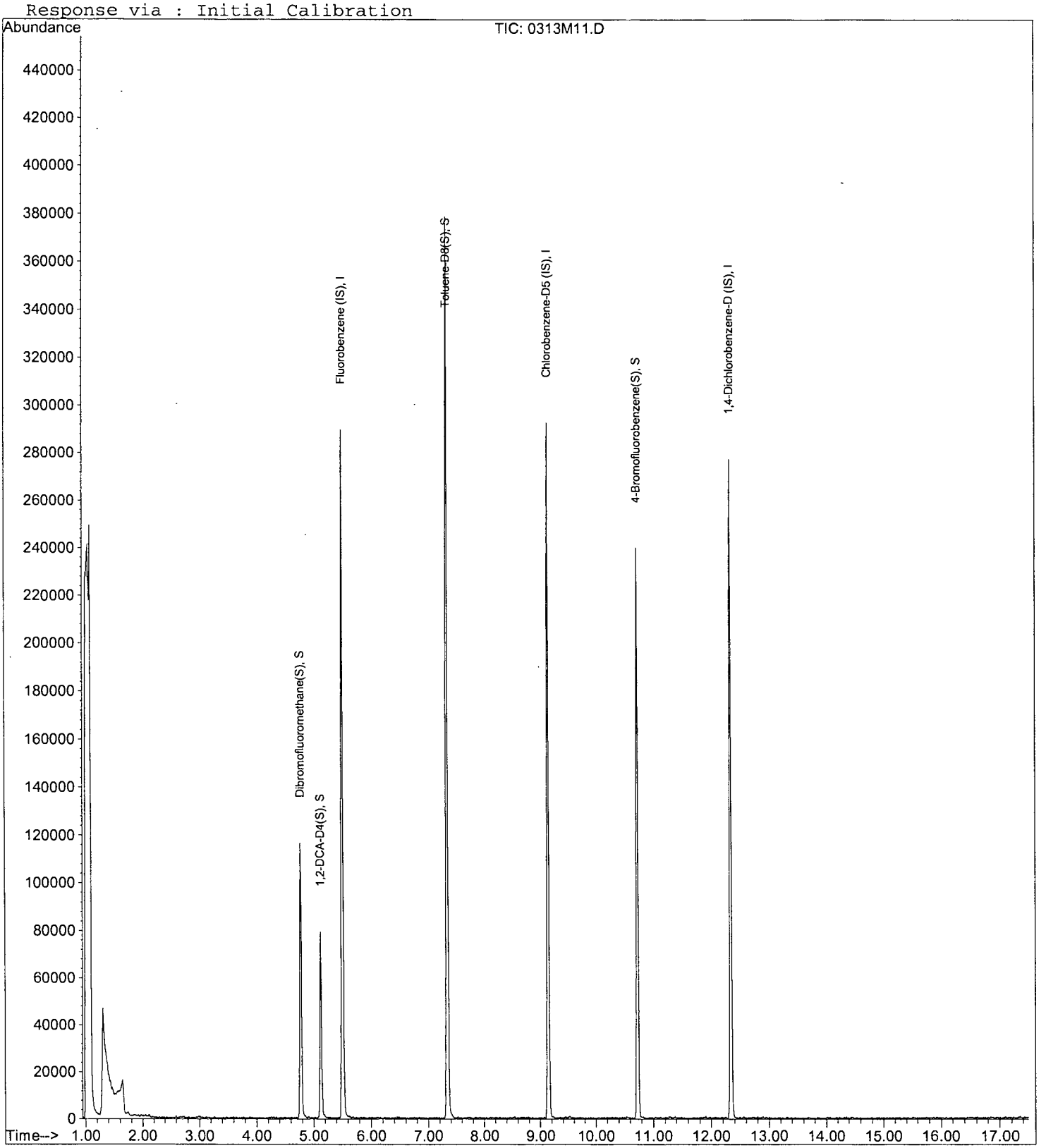
Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M11.D
Acq On : 13 Mar 17 13:35
Sample : 170313A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:04 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170314W-51357 - 216903**
Batch ID: #86BTO-170314AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/14/17	03/14/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/14/17	03/14/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/14/17	03/14/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/14/17	03/14/17
BLANK	SURROGATE: 1,2-DICHLOROET	96.2	81-118			%	03/14/17	03/14/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/14/17	03/14/17
BLANK	SURROGATE: DIBROMOFLUOR	99.8	80-119			%	03/14/17	03/14/17
BLANK	SURROGATE: TOLUENE-D8 (S)	98.5	89-112			%	03/14/17	03/14/17

Quant Method: MALLW.M
Run #: 0314M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:54:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0314M11.D
Acq On : 14 Mar 17 13:07
Sample : 170314A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:31 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	288012	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	195117	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	93871	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	70807	24.95390 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.816%	
37) 1,2-DCA-D4(S)	5.12	65	54404	24.04349 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.172%	
57) Toluene-D8(S)	7.34	98	278856	24.61354 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.456%	
65) 4-Bromofluorobenzene(S)	10.73	95	91181	24.34666 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.388%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

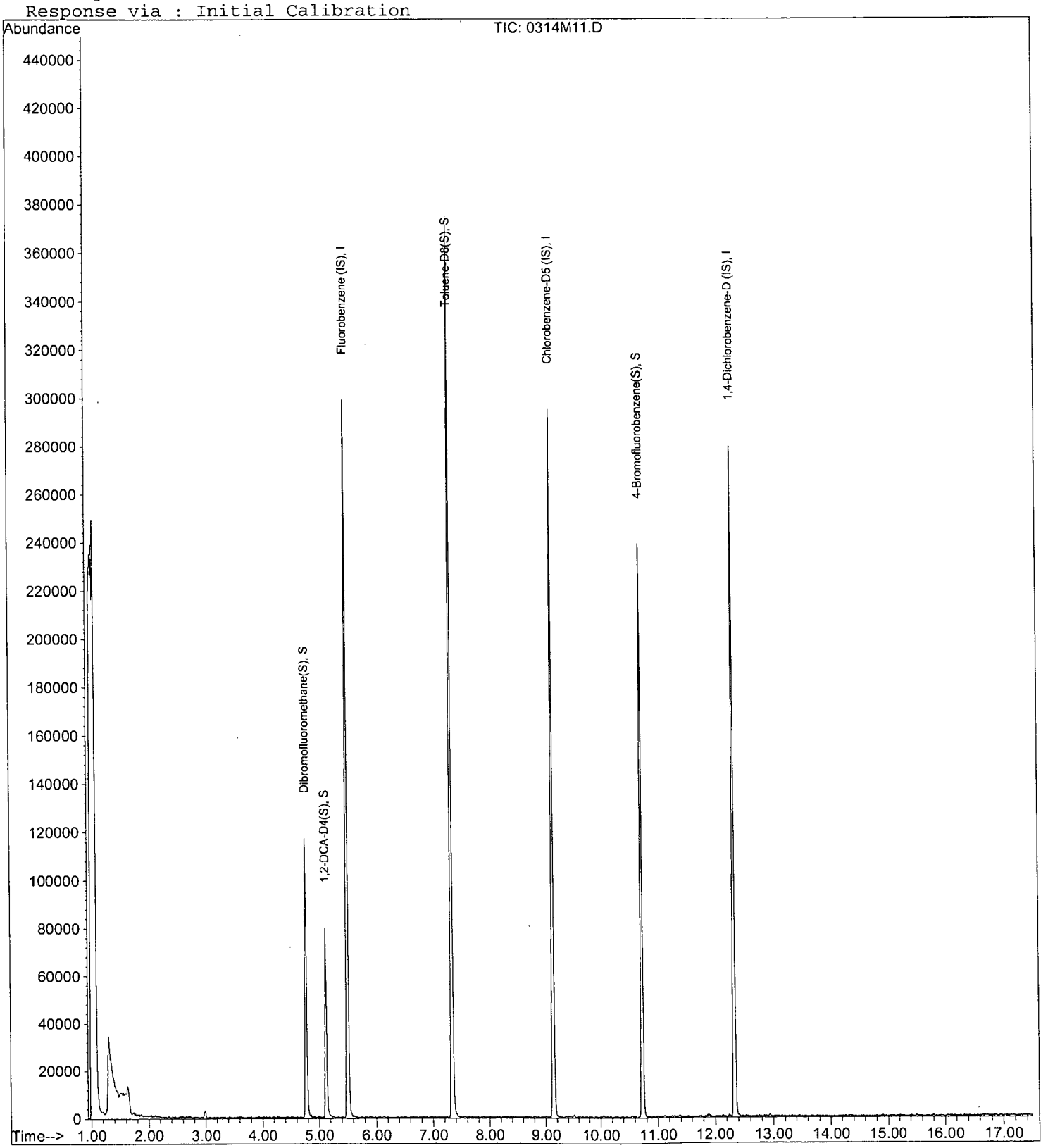
Quantitation Report

Data File : M:\MAX\DATA\M170308\0314M11.D
Acq On : 14 Mar 17 13:07
Sample : 170314A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:31 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170311W-51356 LCS - 216811**
Batch ID: #86BTO-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.56	95.6	79-120
ETHYLBENZENE	10.00	9.88	98.8	79-121
TOLUENE	10.00	9.60	96.0	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M03
Initials :	SV

Printed: 03/15/17 1:54:41 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	303692	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	213241	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108532	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74210	24.80287 ppb	0.00
Spiked Amount 25.000			Recovery = 99.212%		
37) 1,2-DCA-D4(S)	5.12	65	59463	24.92245 ppb	0.00
Spiked Amount 25.000			Recovery = 99.688%		
57) Toluene-D8(S)	7.34	98	306398	24.74597 ppb	0.00
Spiked Amount 25.000			Recovery = 98.984%		
65) 4-Bromofluorobenzene(S)	10.72	95	100619	24.58326 ppb	0.00
Spiked Amount 25.000			Recovery = 98.332%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	35400	9.95077 ppb		98
3) Freon 114	1.30	85	48981	9.81877 ppb		97
4) Chloromethane	1.34	50	42680	8.38427 ppb		95
5) Vinyl chloride	1.43	62	65328	9.03289 ppb	#	78
6) Bromomethane	1.70	94	34869	6.97607 ppb		98
7) Chloroethane	1.80	64	43274	10.21202 ppb		98
8) Dichlorofluoromethane	1.99	67	107360	9.59856 ppb		100
9) Trichlorofluoromethane	2.03	101	86286	9.70466 ppb		100
10) Acrolein	2.42	56	32997	121.71202 ppb		100
11) Acetone	2.57	58	1050	7.83483 ppb		74
12) Freon-113	2.54	101	54797	10.62760 ppb		95
13) 1,1-DCE	2.51	61	80627	9.97536 ppb		99
14) Acetonitrile	2.83	41	28637	114.99126 ppb		96
15) t-Butanol	3.14	59	15914	172.79376 ppb	#	89
16) Methyl Acetate	2.90	43	18440	10.41326 ppb		100
17) Iodomethane	2.64	142	35291	5.74070 ppb		94
18) Acrylonitrile	3.22	53	8713	10.58995 ppb		99
19) Methylene chloride	2.98	84	49472	9.16020 ppb		99
20) Carbon disulfide	2.70	76	158648	9.61102 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	85727	9.70117 ppb		98
22) Trans-1,2-DCE	3.26	96	60211	9.80584 ppb		97
23) Diisopropyl Ether	3.79	45	148149	9.82564 ppb		98
24) 1,1-DCA	3.67	63	95741	9.69200 ppb		98
25) Vinyl Acetate	3.75	43	35130	13.44705 ppb		99
26) Ethyl tert Butyl Ether	4.17	59	101491	9.93290 ppb		98
27) MEK (2-Butanone)	4.30	43	11444	8.95792 ppb		84
28) Cis-1,2-DCE	4.27	96	61618	9.76217 ppb		98
29) 2,2-Dichloropropane	4.26	77	76874	12.61977 ppb		98
30) Chloroform	4.61	83	98701	10.06262 ppb		100
31) Bromochloromethane	4.51	128	23783	9.84437 ppb		91
33) 1,1,1-TCA	4.80	97	94999	11.10568 ppb		97
34) Cyclohexane	4.86	41	48507	9.42144 ppb		96
35) 1,1-Dichloropropene	4.98	75	81064	10.10565 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	136133	9.86587 ppb		99
38) Carbon Tetrachloride	4.98	117	76070	12.09158 ppb		97
39) Tert Amyl Methyl Ether	5.36	73	90992	10.11394 ppb		96
40) 1,2-DCA	5.21	62	51434	9.62061 ppb		99
41) Benzene	5.19	78	229470	9.55882 ppb		98
42) TCE	5.91	95	62239	9.43908 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	188873	125.06124	ppb		99
44)	1,2-Dichloropropane	6.16	63	49418	9.78323	ppb	#	94
45)	Bromodichloromethane	6.48	83	63096	11.33574	ppb		95
46)	Methyl Cyclohexane	6.14	83	84324	9.38410	ppb		92
47)	Dibromomethane	6.28	93	20616	9.89190	ppb		99
48)	MIBK (methyl isobutyl ket	7.23	43	23832	9.48674	ppb		98
49)	1-Bromo-2-chloroethane	6.83	63	46533	9.69331	ppb		93
51)	Cis-1,3-Dichloropropene	7.02	75	65639	11.08383	ppb		97
52)	Toluene	7.42	91	266078	9.60399	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	45765	12.39376	ppb		97
54)	1,1,2-TCA	7.91	83	25762	10.36445	ppb		84
55)	2-Hexanone	8.27	43	13593	9.62559	ppb		98
58)	1,2-EDB	8.51	107	28213	10.50133	ppb		97
59)	Tetrachloroethene	8.09	164	66552	10.13764	ppb		98
60)	1-Chlorohexane	9.20	91	81205	10.06517	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	50638	12.36489	ppb		98
62)	m&p-Xylene	9.51	106	247101	19.59627	ppb		98
63)	o-Xylene	10.03	106	116378	9.61433	ppb		99
64)	Styrene	10.05	104	176746	10.00350	ppb		99
66)	1,3-Dichloropropane	8.11	76	52407	9.89192	ppb		100
67)	Dibromochloromethane	8.39	129	37460	12.69431	ppb		88
68)	Chlorobenzene	9.17	112	164347	9.69762	ppb		98
69)	Ethylbenzene	9.35	91	306428	9.87504	ppb		99
70)	Bromoform	10.25	173	18910	11.75499	ppb		98
72)	Isopropylbenzene	10.55	105	305538	9.57533	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	31144	10.80788	ppb		100
74)	1,2,3-Trichloropropane	10.99	110	9735	9.51207	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.04	53	4652	8.26751	ppb	#	58
76)	Bromobenzene	10.91	156	65587	9.35654	ppb		100
77)	n-Propylbenzene	11.12	91	345286	9.61635	ppb		98
78)	4-Ethyltoluene	11.28	105	307455	9.86166	ppb		99
79)	2-Chlorotoluene	11.20	91	195877	9.54410	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	252360	9.47540	ppb		100
81)	4-Chlorotoluene	11.35	91	223875	9.32228	ppb		96
82)	Tert-Butylbenzene	11.82	119	223356	9.33444	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	247544	9.88182	ppb		99
84)	Sec-Butylbenzene	12.13	105	303814	9.62923	ppb		98
85)	p-Isopropyltoluene	12.36	119	273225	9.94369	ppb		99
86)	Benzyl Chloride	12.57	91	19844	10.66123	ppb		98
87)	1,3-DCB	12.24	146	137229	9.59000	ppb		99
88)	1,4-DCB	12.37	146	131860	9.28920	ppb		97
89)	n-Butylbenzene	12.94	91	224604	10.26815	ppb		99
90)	1,2-DCB	12.88	146	112757	9.56729	ppb		99
91)	Hexachloroethane	13.25	117	25260	11.30829	ppb		90
92)	1,2-Dibromo-3-chloropropan	13.99	75	3976	11.43098	ppb		86
93)	1,2,4-Trichlorobenzene	15.21	180	63764	9.81332	ppb		98
94)	Hexachlorobutadiene	15.51	225	42413	10.30666	ppb		96
95)	Naphthalene	15.54	128	29272	10.08974	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	43425	9.54993	ppb		98

(#) = qualifier out of range (m) = manual integration

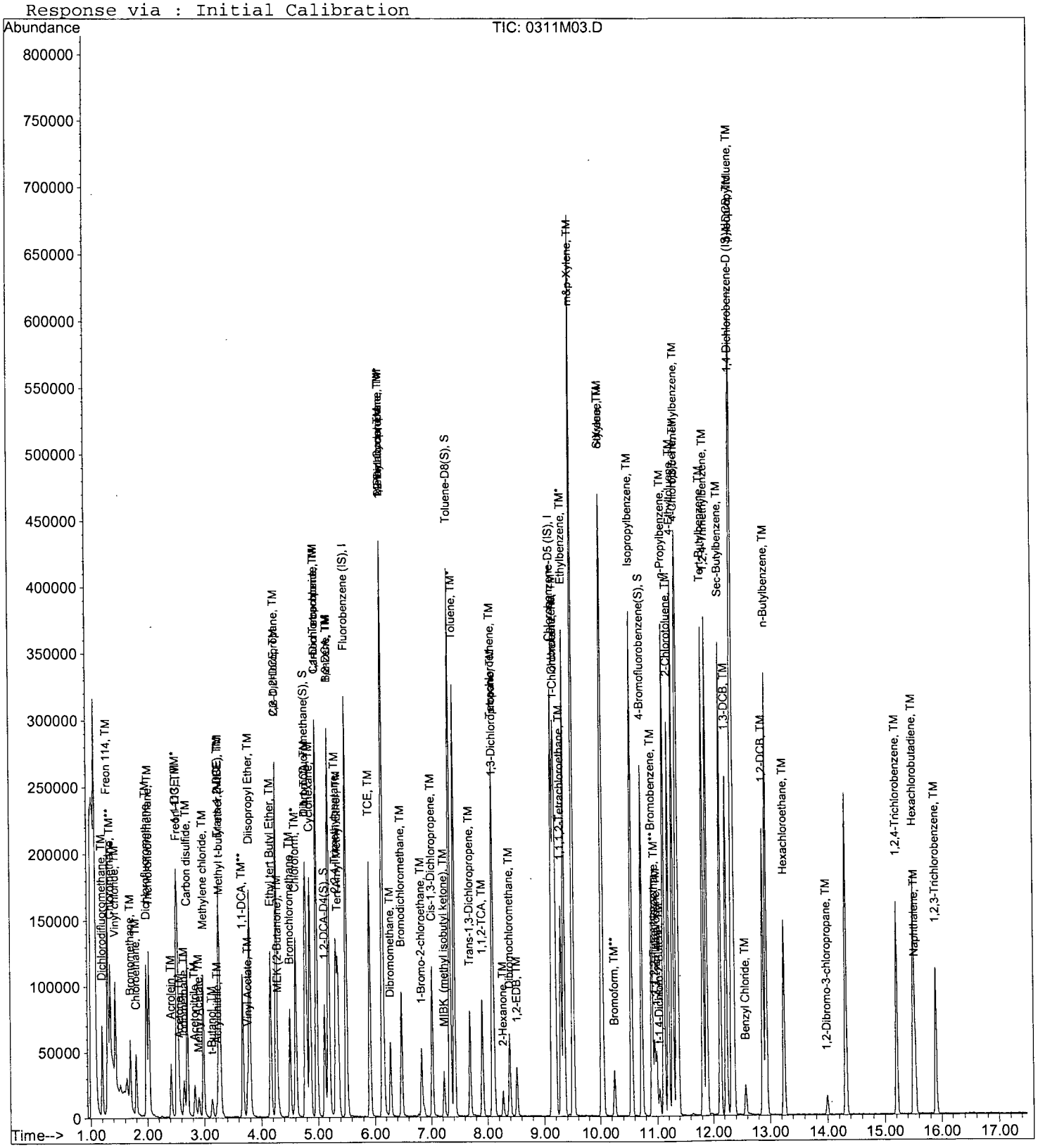
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170312W-51361 LCS - 216823**
Batch ID: #86BTO-170312AM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.83	98.3	79-120
ETHYLBENZENE	10.00	10.1	101	79-121
TOLUENE	10.00	9.74	97.4	80-121
XYLENES (TOTAL)	30.0	30.1	100	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.0	100	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	23.6	94.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.6	98.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.0	96.0	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/12/17
Analysis Date :	03/12/17
Instrument :	Max
Run :	0312M05
Initials :	SV

Printed: 03/15/17 1:54:41 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170312W-51358 LCS - 216822**
Batch ID: #86BTO-170312AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.69	96.9	73-128
BENZENE	10.00	9.83	98.3	79-120
ETHYLBENZENE	10.00	10.1	101	79-121
TOLUENE	10.00	9.74	97.4	80-121
XYLENES (TOTAL)	30.0	30.1	100	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.0	100	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	23.6	94.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.6	98.4	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.0	96.0	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/12/17
Analysis Date :	03/12/17
Instrument :	Max
Run :	0312M05
Initials :	SV

Printed: 03/15/17 1:59:42 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M05.D
Acq On : 12 Mar 17 13:58
Sample : 170312A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	313917	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	217951	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107741	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76099	24.60577 ppb	0.00
Spiked Amount 25.000			Recovery = 98.424%		
37) 1,2-DCA-D4(S)	5.12	65	61752	25.03880 ppb	0.00
Spiked Amount 25.000			Recovery = 100.156%		
57) Toluene-D8(S)	7.34	98	303250	23.96245 ppb	0.00
Spiked Amount 25.000			Recovery = 95.848%		
65) 4-Bromofluorobenzene(S)	10.73	95	98660	23.58372 ppb	0.00
Spiked Amount 25.000			Recovery = 94.336%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	44664	12.14589 ppb		92
3) Freon 114	1.30	85	51451	9.97796 ppb		99
4) Chloromethane	1.35	50	47523	9.03157 ppb		97
5) Vinyl chloride	1.44	62	71726	9.59450 ppb		90
6) Bromomethane	1.70	94	47692	9.23072 ppb		97
7) Chloroethane	1.80	64	44056	10.05792 ppb		96
8) Dichlorofluoromethane	1.99	67	113965	9.85720 ppb		97
9) Trichlorofluoromethane	2.03	101	93256	10.14694 ppb		96
10) Acrolein	2.42	56	31994	114.16844 ppb		95
11) Acetone	2.58	58	1036	7.39414 ppb	#	52
12) Freon-113	2.54	101	56608	10.62122 ppb		94
13) 1,1-DCE	2.52	61	84313	10.09163 ppb		99
14) Acetonitrile	2.83	41	31791	123.49802 ppb		97
15) t-Butanol	3.14	59	13110	137.71141 ppb		93
16) Methyl Acetate	2.91	43	17702	9.67090 ppb		94
17) Iodomethane	2.65	142	29713	4.84129 ppb		96
18) Acrylonitrile	3.23	53	9139	10.74591 ppb	#	92
19) Methylene chloride	2.99	84	52283	9.36537 ppb		99
20) Carbon disulfide	2.70	76	166551	9.76114 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	87109	9.53648 ppb		99
22) Trans-1,2-DCE	3.26	96	64011	10.08514 ppb		98
23) Diisopropyl Ether	3.80	45	150603	9.66305 ppb		99
24) 1,1-DCA	3.67	63	102333	10.02189 ppb		98
25) Vinyl Acetate	3.76	43	34476	12.76687 ppb		99
26) Ethyl tert Butyl Ether	4.17	59	100830	9.54678 ppb		100
27) MEK (2-Butanone)	4.31	43	11516	8.69745 ppb		86
28) Cis-1,2-DCE	4.27	96	66652	10.21576 ppb		100
29) 2,2-Dichloropropane	4.27	77	73316	11.64366 ppb		96
30) Chloroform	4.61	83	102772	10.13638 ppb		97
31) Bromochloromethane	4.51	128	25430	10.18324 ppb		94
33) 1,1,1-TCA	4.80	97	97326	11.00711 ppb		94
34) Cyclohexane	4.86	41	51443	9.66625 ppb		92
35) 1,1-Dichloropropene	4.98	75	87016	10.49430 ppb		95
36) 2,2,4-Trimethylpentane	5.33	57	152627	10.70094 ppb		99
38) Carbon Tetrachloride	4.98	117	77937	11.98483 ppb		96
39) Tert Amyl Methyl Ether	5.36	73	88373	9.50288 ppb		98
40) 1,2-DCA	5.21	62	53558	9.69160 ppb		97
41) Benzene	5.20	78	244030	9.83423 ppb		99
42) TCE	5.92	95	67335	9.87930 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M05.D Vial: 3
Acq On : 12 Mar 17 13:58 Operator: PM,DG,SV,CMM
Sample : 170312A LCS-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	190210	121.84415	ppb		97
44)	1,2-Dichloropropane	6.15	63	53738	10.29193	ppb		97
45)	Bromodichloromethane	6.48	83	63569	11.04872	ppb		97
46)	Methyl Cyclohexane	6.14	83	93893	10.10865	ppb		91
47)	Dibromomethane	6.28	93	21775	10.10769	ppb		97
48)	MIBK (methyl isobutyl ket	7.23	43	24673	9.50161	ppb		91
49)	1-Bromo-2-chloroethane	6.83	63	48057	9.68470	ppb		97
51)	Cis-1,3-Dichloropropene	7.02	75	65591	10.71496	ppb		99
52)	Toluene	7.42	91	278938	9.74023	ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	45392	11.89234	ppb		99
54)	1,1,2-TCA	7.91	83	26502	10.31487	ppb		95
55)	2-Hexanone	8.27	43	14236	9.75256	ppb	#	89
58)	1,2-EDB	8.52	107	29218	10.63070	ppb		99
59)	Tetrachloroethene	8.09	164	69338	10.33378	ppb		97
60)	1-Chlorohexane	9.20	91	86114	10.44296	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.30	131	52755	12.60345	ppb		100
62)	m&p-Xylene	9.51	106	260737	20.23082	ppb		98
63)	o-Xylene	10.03	106	122134	9.87180	ppb		96
64)	Styrene	10.05	104	183071	10.13757	ppb		96
66)	1,3-Dichloropropane	8.12	76	53607	9.89976	ppb		96
67)	Dibromochloromethane	8.39	129	39114	12.96837	ppb		95
68)	Chlorobenzene	9.17	112	173478	10.01520	ppb		98
69)	Ethylbenzene	9.35	91	320563	10.10731	ppb		100
70)	Bromoform	10.26	173	19094	11.61287	ppb		98
72)	Isopropylbenzene	10.55	105	321637	10.15387	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.95	83	30991	10.83374	ppb		97
74)	1,2,3-Trichloropropane	10.98	110	9852	9.69707	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.04	53	6089	10.90078	ppb		98
76)	Bromobenzene	10.91	156	69039	9.92131	ppb		99
77)	n-Propylbenzene	11.12	91	363331	10.19320	ppb		100
78)	4-Ethyltoluene	11.28	105	318529	10.29187	ppb		98
79)	2-Chlorotoluene	11.20	91	206907	10.15555	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	262065	9.91203	ppb		99
81)	4-Chlorotoluene	11.35	91	237995	9.98300	ppb		100
82)	Tert-Butylbenzene	11.82	119	236598	9.96044	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	260813	10.48795	ppb		100
84)	Sec-Butylbenzene	12.13	105	318880	10.18094	ppb		98
85)	p-Isopropyltoluene	12.36	119	282170	10.34463	ppb		99
86)	Benzyl Chloride	12.57	91	20052	10.81852	ppb		93
87)	1,3-DCB	12.24	146	143098	10.07356	ppb		99
88)	1,4-DCB	12.37	146	137611	9.76552	ppb		98
89)	n-Butylbenzene	12.94	91	230203	10.60138	ppb		98
90)	1,2-DCB	12.88	146	118045	10.08951	ppb		98
91)	Hexachloroethane	13.25	117	26511	11.95547	ppb		96
92)	1,2-Dibromo-3-chloropropan	13.99	75	3513	10.55889	ppb		86
93)	1,2,4-Trichlorobenzene	15.21	180	64771	10.03039	ppb		98
94)	Hexachlorobutadiene	15.51	225	44184	10.81585	ppb		95
95)	Naphthalene	15.54	128	31368	10.71097	ppb		97
96)	1,2,3-Trichlorobenzene	15.90	180	47097	10.22315	ppb		100

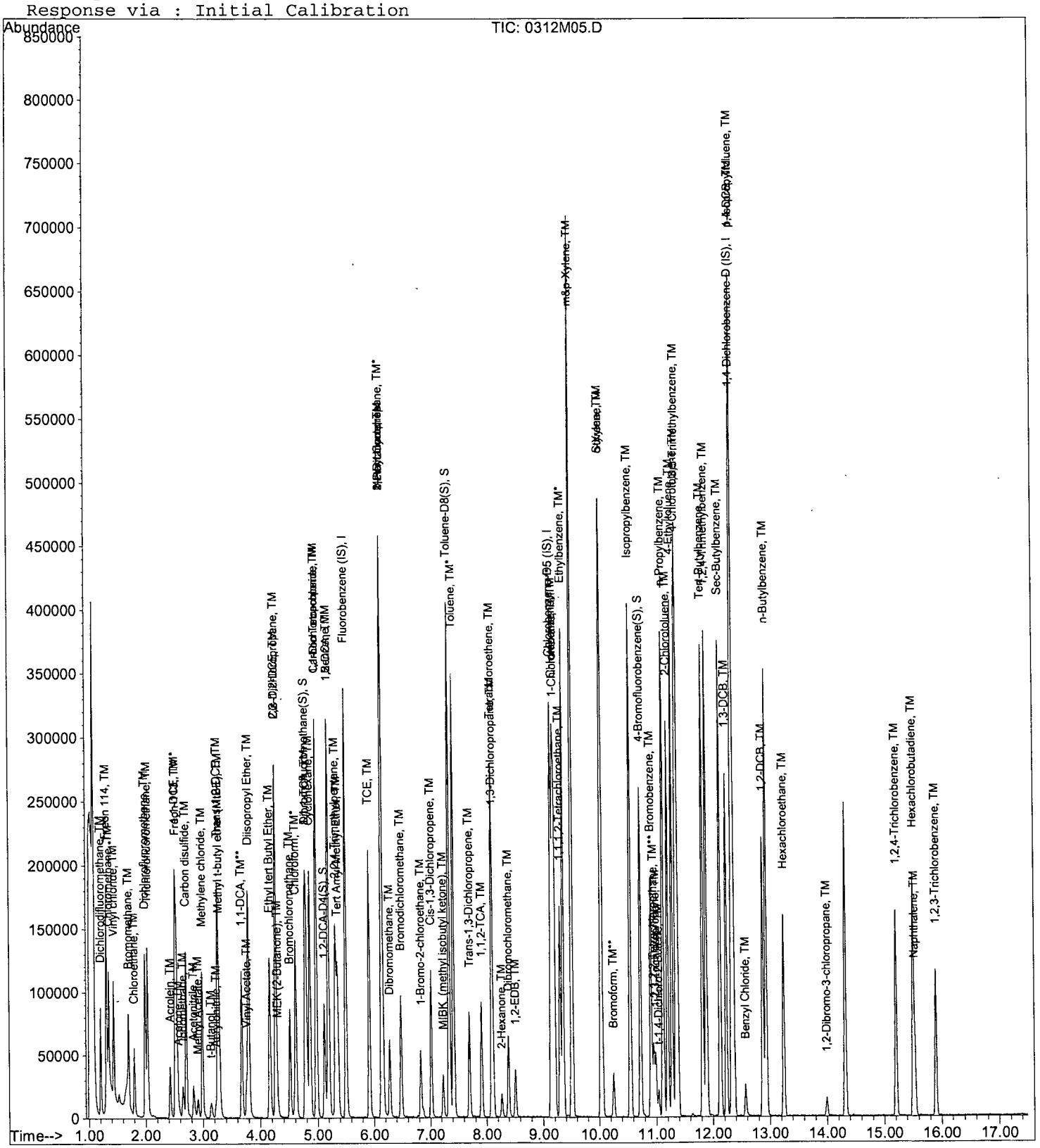
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M05.D Vial: 3
Acq On : 12 Mar 17 13:58 Operator: PM,DG,SV,CMM
Sample : 170312A LCS-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



593

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170313W-51363 LCS - 216859**
Batch ID: #86BTO-170313AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.61	96.1	79-120
ETHYLBENZENE	10.00	9.84	98.4	79-121
TOLUENE	10.00	9.55	95.5	80-121
XYLENES (TOTAL)	30.0	29.1	97.0	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.1	96.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.3	97.2	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/13/17
Analysis Date :	03/13/17
Instrument :	Max
Run :	0313M04
Initials :	SV

Printed: 03/15/17 1:54:41 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M04.D Vial: 3
Acq On : 13 Mar 17 10:16 Operator: PM,DG,SV,CMM
Sample : 170313A LCS-1WM 10ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 10:05 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	298983	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	205621	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	102076	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	74146	25.17179 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.688%	
37) 1,2-DCA-D4(S)	5.12	65	59324	25.25581 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.024%	
57) Toluene-D8(S)	7.34	98	290245	24.31009 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.240%	
65) 4-Bromofluorobenzene(S)	10.73	95	94920	24.05030 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.200%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	34056	9.72375 ppb		95
3) Freon 114	1.30	85	48481	9.87160 ppb		99
4) Chloromethane	1.34	50	39393	7.86044 ppb		95
5) Vinyl chloride	1.43	62	63673	8.94272 ppb	#	83
6) Bromomethane	1.69	94	32129	6.52913 ppb		95
7) Chloroethane	1.80	64	40456	9.69738 ppb		95
8) Dichlorofluoromethane	1.99	67	105843	9.61197 ppb		100
9) Trichlorofluoromethane	2.03	101	86708	9.90572 ppb		94
10) Acrolein	2.41	56	31547	118.19632 ppb		98
11) Acetone	2.57	58	1050	7.98747 ppb		87
12) Freon-113	2.53	101	51847	10.21383 ppb		98
13) 1,1-DCE	2.51	61	76960	9.67164 ppb		98
14) Acetonitrile	2.83	41	28314	115.48495 ppb		98
15) t-Butanol	3.14	59	12434	137.13441 ppb	#	86
16) Methyl Acetate	2.90	43	16207	9.29641 ppb		90
17) Iodomethane	2.64	142	35355	5.82600 ppb		97
18) Acrylonitrile	3.22	53	8555	10.56168 ppb	#	85
19) Methylene chloride	2.98	84	48996	9.21495 ppb		97
20) Carbon disulfide	2.70	76	158293	9.74055 ppb		98
21) Methyl t-butyl ether (MtBE	3.28	73	80056	9.20211 ppb		99
22) Trans-1,2-DCE	3.25	96	58947	9.75119 ppb		99
23) Diisopropyl Ether	3.79	45	139680	9.40986 ppb		99
24) 1,1-DCA	3.67	63	94992	9.76763 ppb		99
25) Vinyl Acetate	3.75	43	32216	12.52586 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	89836	8.93071 ppb		98
27) MEK (2-Butanone)	4.30	43	11589	9.23937 ppb		92
28) Cis-1,2-DCE	4.27	96	62204	10.01023 ppb		98
29) 2,2-Dichloropropane	4.26	77	63310	10.55677 ppb		98
30) Chloroform	4.61	83	93488	9.68127 ppb		96
31) Bromochloromethane	4.51	128	22943	9.64625 ppb		98
33) 1,1,1-TCA	4.80	97	86652	10.28943 ppb		97
34) Cyclohexane	4.86	41	46820	9.23701 ppb		94
35) 1,1-Dichloropropene	4.98	75	77395	9.80022 ppb		94
36) 2,2,4-Trimethylpentane	5.32	57	138965	10.22974 ppb		98
38) Carbon Tetrachloride	4.97	117	71098	11.47926 ppb		97
39) Tert Amyl Methyl Ether	5.36	73	77900	8.79511 ppb	#	91
40) 1,2-DCA	5.20	62	50242	9.54567 ppb		98
41) Benzene	5.19	78	227143	9.61092 ppb		98
42) TCE	5.91	95	61498	9.47360 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M04.D
Acq On : 13 Mar 17 10:16
Sample : 170313A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:05 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	182677	122.86369	ppb		98
44)	1,2-Dichloropropane	6.15	63	47428	9.53715	ppb		97
45)	Bromodichloromethane	6.48	83	58212	10.62300	ppb		97
46)	Methyl Cyclohexane	6.14	83	83794	9.47199	ppb		100
47)	Dibromomethane	6.28	93	20063	9.77818	ppb		96
48)	MIBK (methyl isobutyl ket	7.23	43	22439	9.07292	ppb	#	89
49)	1-Bromo-2-chloroethane	6.83	63	45471	9.62127	ppb		99
51)	Cis-1,3-Dichloropropene	7.01	75	62168	10.66306	ppb		94
52)	Toluene	7.42	91	260463	9.54939	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	40810	11.22595	ppb		98
54)	1,1,2-TCA	7.91	83	24614	10.05856	ppb		89
55)	2-Hexanone	8.27	43	12643	9.09388	ppb		94
58)	1,2-EDB	8.51	107	26263	10.16308	ppb		99
59)	Tetrachloroethene	8.09	164	63134	9.97338	ppb		98
60)	1-Chlorohexane	9.20	91	74162	9.53285	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.29	131	47310	11.98037	ppb		95
62)	m&p-Xylene	9.51	106	237681	19.54775	ppb		99
63)	o-Xylene	10.03	106	111443	9.54782	ppb		99
64)	Styrene	10.05	104	167943	9.85752	ppb		98
66)	1,3-Dichloropropane	8.12	76	49034	9.59824	ppb		95
67)	Dibromochloromethane	8.39	129	35594	12.50897	ppb		98
68)	Chlorobenzene	9.17	112	158155	9.67809	ppb		99
69)	Ethylbenzene	9.35	91	294452	9.84075	ppb		100
70)	Bromoform	10.25	173	18165	11.71034	ppb		100
72)	Isopropylbenzene	10.55	105	291222	9.70391	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	28881	10.65645	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	9804	10.18537	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	5233	9.88826	ppb		90
76)	Bromobenzene	10.91	156	63699	9.66194	ppb		99
77)	n-Propylbenzene	11.12	91	333525	9.87629	ppb		97
78)	4-Ethyltoluene	11.29	105	290934	9.92196	ppb		97
79)	2-Chlorotoluene	11.20	91	188488	9.76493	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	241626	9.64616	ppb		97
81)	4-Chlorotoluene	11.35	91	217601	9.63411	ppb		99
82)	Tert-Butylbenzene	11.82	119	216150	9.60462	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	238477	10.12197	ppb		100
84)	Sec-Butylbenzene	12.13	105	293605	9.89421	ppb		100
85)	p-Isopropyltoluene	12.36	119	260631	10.08527	ppb		99
86)	Benzyl Chloride	12.57	91	16717	9.72726	ppb		94
87)	1,3-DCB	12.24	146	134870	10.02126	ppb		98
88)	1,4-DCB	12.37	146	126263	9.45748	ppb		100
89)	n-Butylbenzene	12.94	91	214333	10.41833	ppb		99
90)	1,2-DCB	12.88	146	107396	9.68875	ppb		98
91)	Hexachloroethane	13.25	117	23999	11.42328	ppb		90
92)	1,2-Dibromo-3-chloropropan	14.00	75	3394	10.69826	ppb		92
93)	1,2,4-Trichlorobenzene	15.21	180	60929	9.96246	ppb		98
94)	Hexachlorobutadiene	15.51	225	40420	10.44358	ppb		92
95)	Naphthalene	15.54	128	27960	10.21271	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	42619	9.86896	ppb		97

(#) = qualifier out of range (m) = manual integration

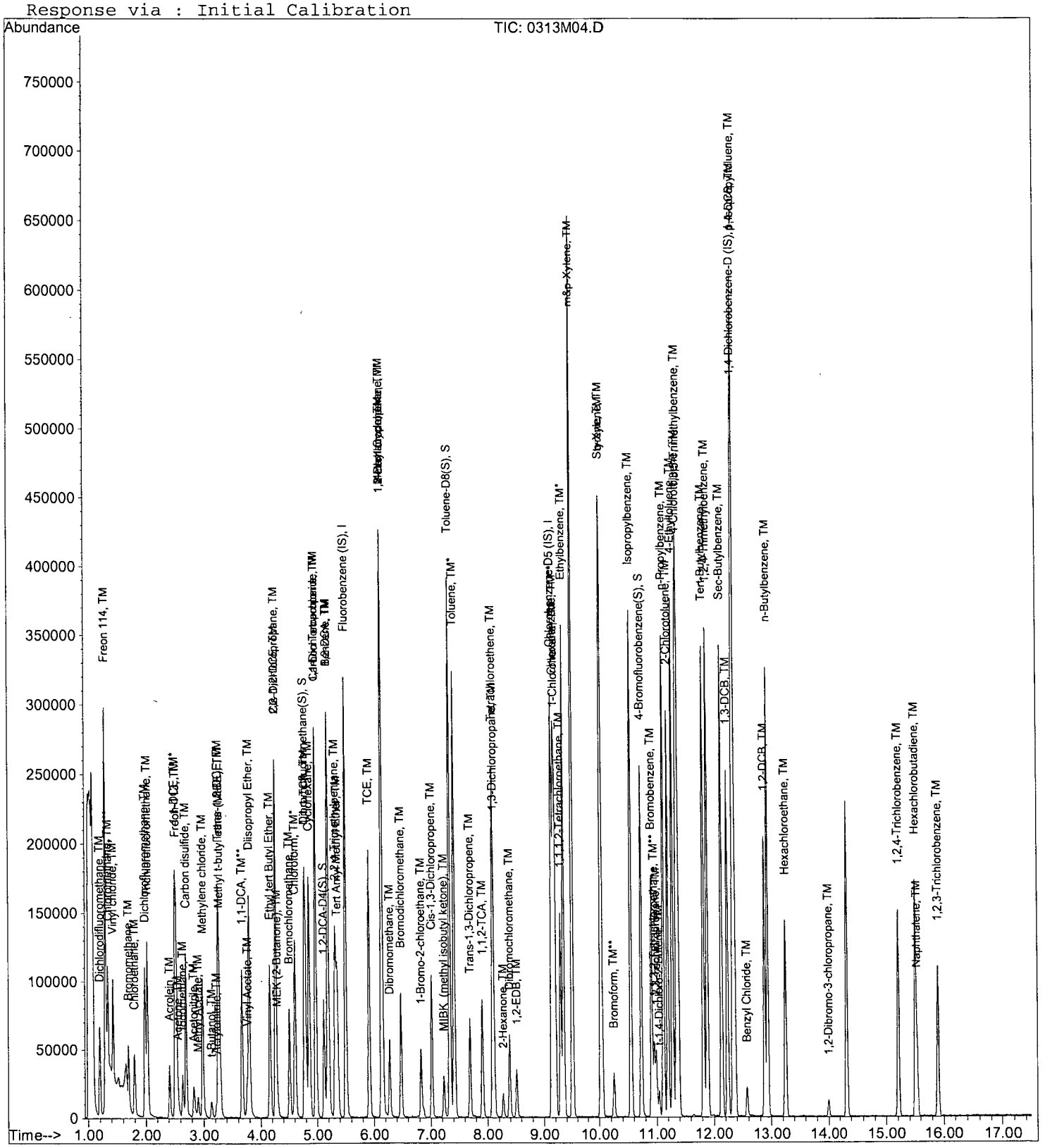
Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M04.D
Acq On : 13 Mar 17 10:16
Sample : 170313A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:05 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170314W-51357 LCS - 216903**
Batch ID: #86BTO-170314AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.71	97.1	79-120
ETHYLBENZENE	10.00	9.89	98.9	79-121
TOLUENE	10.00	9.87	98.7	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	25.3	101	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.1	96.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.6	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.8	99.2	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/14/17
Analysis Date :	03/14/17
Instrument :	Max
Run :	0314M04
Initials :	SV

Printed: 03/15/17 1:54:41 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M04.D
Acq On : 14 Mar 17 9:47
Sample : 170314A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:32 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	281993	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	201656	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101023	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	71120	25.59919 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.396%	
37) 1,2-DCA-D4(S)	5.12	65	55958	25.25813 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.032%	
57) Toluene-D8(S)	7.34	98	290596	24.81805 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.272%	
65) 4-Bromofluorobenzene(S)	10.73	95	93195	24.07751 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.312%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	30512	9.23675 ppb		100
3) Freon 114	1.29	85	46115	9.95558 ppb		100
4) Chloromethane	1.34	50	37221	7.87452 ppb		95
5) Vinyl chloride	1.43	62	62181	9.25934 ppb		90
6) Bromomethane	1.69	94	33343	7.18408 ppb		98
7) Chloroethane	1.79	64	39159	9.95202 ppb		98
8) Dichlorofluoromethane	1.98	67	107215	10.32320 ppb		99
9) Trichlorofluoromethane	2.03	101	83469	10.11021 ppb		96
10) Acrolein	2.41	56	30932	122.87458 ppb		99
11) Acetone	2.57	58	1277	10.83702 ppb		73
12) Freon-113	2.53	101	49926	10.42798 ppb		96
13) 1,1-DCE	2.51	61	75775	10.09646 ppb		99
14) Acetonitrile	2.83	41	29815	128.93390 ppb		97
15) t-Butanol	3.13	59	11823	138.25200 ppb	#	81
16) Methyl Acetate	2.90	43	15660	9.52385 ppb		97
17) Iodomethane	2.64	142	39579	6.74834 ppb		96
18) Acrylonitrile	3.22	53	7865	10.29485 ppb	#	85
19) Methylene chloride	2.98	84	47990	9.56955 ppb		97
20) Carbon disulfide	2.70	76	153728	10.02958 ppb		98
21) Methyl t-butyl ether (MtBE	3.28	73	75811	9.23919 ppb		96
22) Trans-1,2-DCE	3.25	96	56562	9.92039 ppb		97
23) Diisopropyl Ether	3.79	45	133565	9.54003 ppb		97
24) 1,1-DCA	3.67	63	91169	9.93934 ppb		99
25) Vinyl Acetate	3.75	43	31694	13.06535 ppb		98
26) Ethyl tert Butyl Ether	4.16	59	84475	8.90373 ppb		94
27) MEK (2-Butanone)	4.30	43	11291	9.57306 ppb	#	82
28) Cis-1,2-DCE	4.26	96	59372	10.13014 ppb		99
29) 2,2-Dichloropropane	4.26	77	64475	11.39878 ppb		98
30) Chloroform	4.61	83	91476	10.04366 ppb		95
31) Bromochloromethane	4.51	128	23120	10.30633 ppb		86
33) 1,1,1-TCA	4.79	97	85197	10.72618 ppb		96
34) Cyclohexane	4.86	41	44615	9.33231 ppb		98
35) 1,1-Dichloropropene	4.97	75	76322	10.24662 ppb		95
36) 2,2,4-Trimethylpentane	5.32	57	132250	10.32198 ppb		98
38) Carbon Tetrachloride	4.97	117	70758	12.11268 ppb		100
39) Tert Amyl Methyl Ether	5.36	73	76787	9.19178 ppb		91
40) 1,2-DCA	5.21	62	46631	9.39339 ppb		96
41) Benzene	5.19	78	216366	9.70650 ppb		99
42) TCE	5.91	95	58191	9.50425 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0314M04.D
Acq On : 14 Mar 17 9:47
Sample : 170314A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:32 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	173755	123.90396	ppb		98
44)	1,2-Dichloropropane	6.15	63	45703	9.74399	ppb		96
45)	Bromodichloromethane	6.48	83	57883	11.19938	ppb		97
46)	Methyl Cyclohexane	6.14	83	79865	9.57178	ppb		93
47)	Dibromomethane	6.28	93	19122	9.88106	ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	21843	9.36405	ppb	#	86
49)	1-Bromo-2-chloroethane	6.83	63	44434	9.96831	ppb		95
51)	Cis-1,3-Dichloropropene	7.01	75	60783	11.05364	ppb		94
52)	Toluene	7.42	91	253923	9.87052	ppb		95
53)	Trans-1,3-Dichloropropene	7.70	75	41420	12.08021	ppb		99
54)	1,1,2-TCA	7.91	83	23528	10.19405	ppb		87
55)	2-Hexanone	8.27	43	11741	8.95390	ppb		94
58)	1,2-EDB	8.52	107	25916	10.22147	ppb		99
59)	Tetrachloroethene	8.09	164	62089	10.00115	ppb		95
60)	1-Chlorohexane	9.20	91	75982	9.95883	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.29	131	47284	12.20921	ppb		93
62)	m&p-Xylene	9.51	106	234666	19.67926	ppb		100
63)	o-Xylene	10.03	106	108446	9.47373	ppb		99
64)	Styrene	10.05	104	163768	9.80146	ppb		99
66)	1,3-Dichloropropane	8.11	76	48558	9.69196	ppb		98
67)	Dibromochloromethane	8.39	129	35317	12.65566	ppb		92
68)	Chlorobenzene	9.17	112	156370	9.75700	ppb		98
69)	Ethylbenzene	9.35	91	290221	9.89006	ppb		99
70)	Bromoform	10.25	173	17791	11.69474	ppb		91
72)	Isopropylbenzene	10.55	105	289486	9.74661	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	27889	10.39768	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	8727	9.16098	ppb		98
75)	t-1,4-Dichloro-2-Butene	11.04	53	4445	8.48681	ppb		91
76)	Bromobenzene	10.91	156	63074	9.66686	ppb		97
77)	n-Propylbenzene	11.12	91	327013	9.78439	ppb		100
78)	4-Ethyltoluene	11.28	105	289832	9.98740	ppb		98
79)	2-Chlorotoluene	11.20	91	185250	9.69722	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	242495	9.78176	ppb		99
81)	4-Chlorotoluene	11.36	91	214798	9.60913	ppb		97
82)	Tert-Butylbenzene	11.82	119	213007	9.56362	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	240293	10.30536	ppb		99
84)	Sec-Butylbenzene	12.14	105	291600	9.92907	ppb		97
85)	p-Isopropyltoluene	12.36	119	257813	10.08021	ppb		99
86)	Benzyl Chloride	12.57	91	16084	9.49936	ppb		94
87)	1,3-DCB	12.24	146	130537	9.80040	ppb		96
88)	1,4-DCB	12.37	146	124532	9.42505	ppb		99
89)	n-Butylbenzene	12.94	91	215183	10.56867	ppb		99
90)	1,2-DCB	12.88	146	106980	9.75182	ppb		99
91)	Hexachloroethane	13.25	117	24769	11.91269	ppb		90
92)	1,2-Dibromo-3-chloropropan	13.99	75	3342	10.66186	ppb		98
93)	1,2,4-Trichlorobenzene	15.21	180	60347	9.96978	ppb		97
94)	Hexachlorobutadiene	15.51	225	41505	10.83570	ppb		91
95)	Naphthalene	15.54	128	26616	9.90613	ppb		98
96)	1,2,3-Trichlorobenzene	15.90	180	42881	9.99502	ppb		96

(#) = qualifier out of range (m) = manual integration

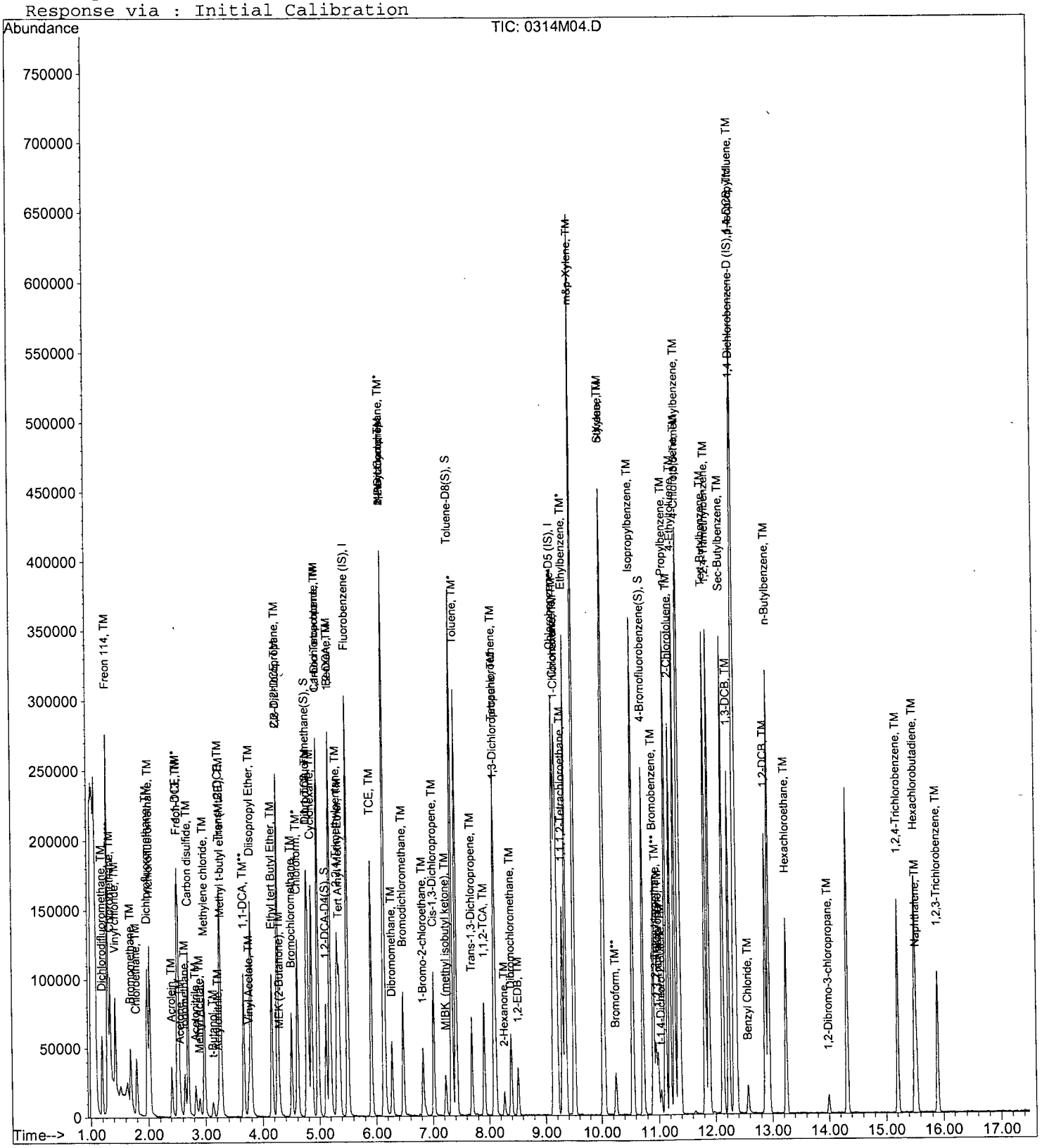
Quantitation Report

Data File : M:\MAX\DATA\M170308\0314M04.D
Acq On : 14 Mar 17 9:47
Sample : 170314A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 9:32 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



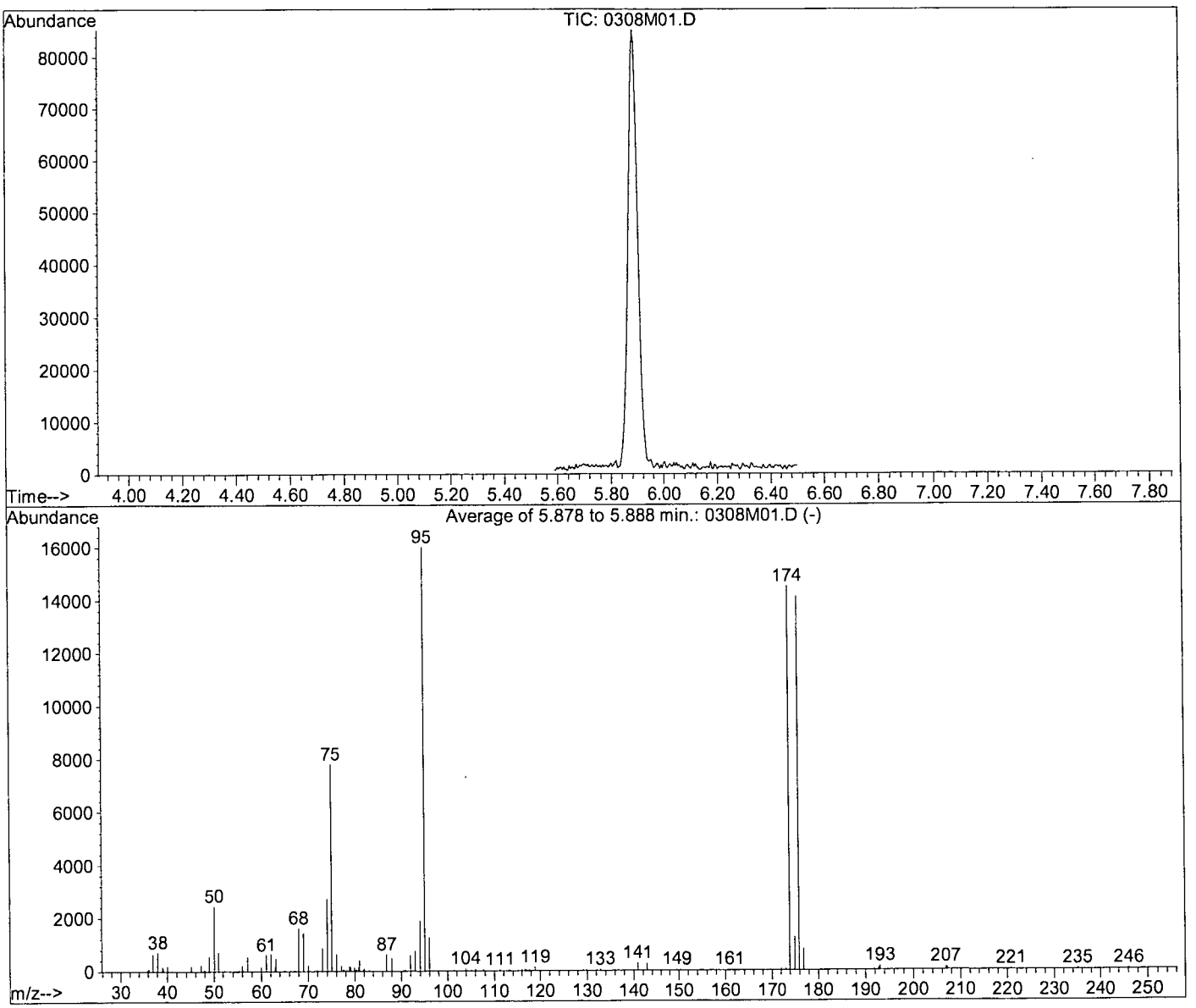
601

BFB

Data File : M:\MAX\DATA\M170308\0308M01.D
Acq On : 8 Mar 17 11:09
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	2448	PASS
75	95	30	60	48.6	7787	PASS
95	95	100	100	100.0	16012	PASS
96	95	5	9	7.9	1263	PASS
173	174	0.00	2	0.5	72	PASS
174	95	50	100	90.6	14507	PASS
175	174	5	9	8.6	1245	PASS
176	174	95	101	97.3	14113	PASS
177	176	5	9	5.6	793	PASS

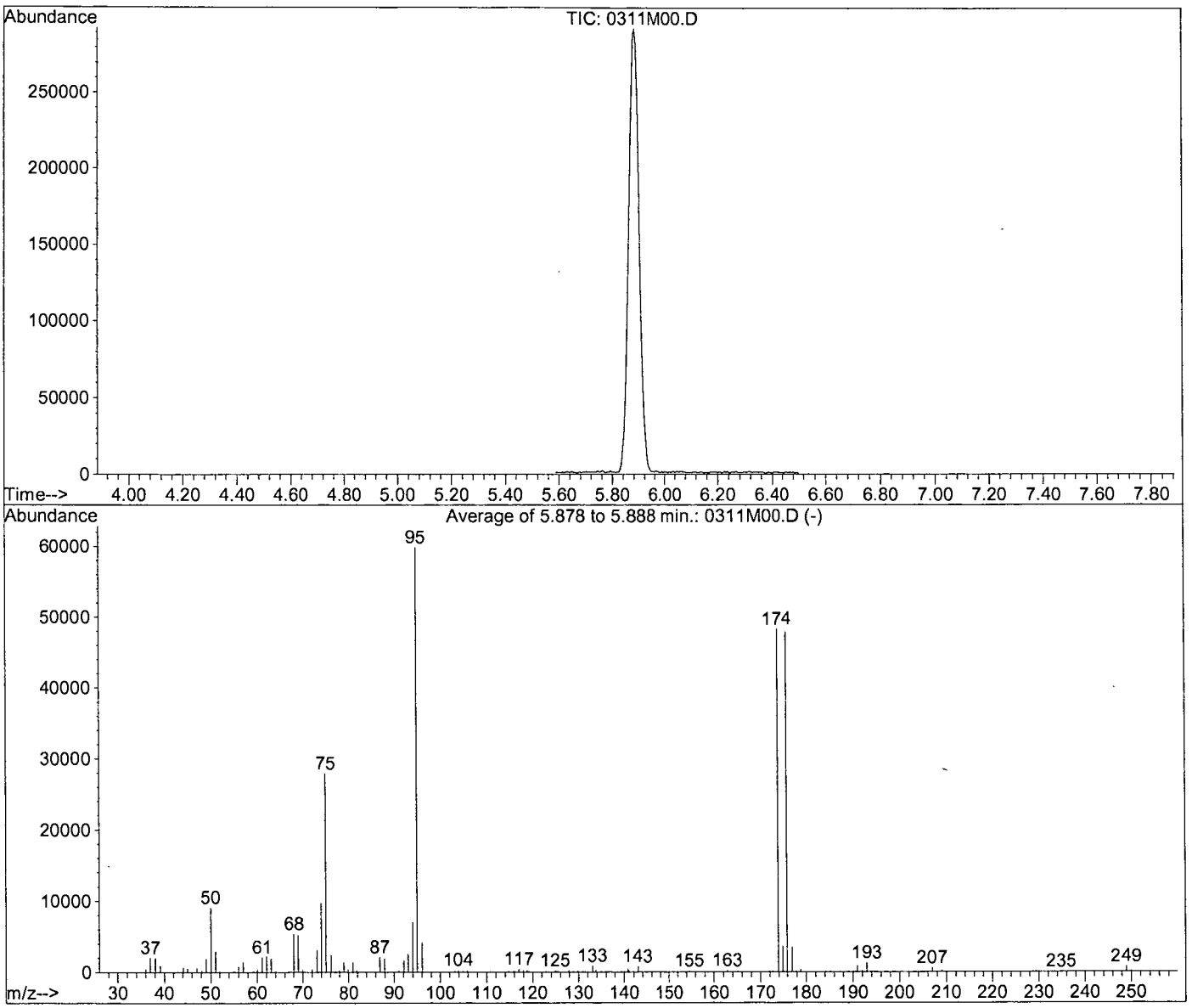
0308M01.D MALLW.M Thu Mar 09 08:26:49 2017

BFB

Data File : M:\MAX\DATA\M170308\0311M00.D
Acq On : 11 Mar 17 9:53
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.2	9076	PASS
75	95	30	60	46.6	27912	PASS
95	95	100	100	100.0	59837	PASS
96	95	5	9	7.0	4169	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	48309	PASS
175	174	5	9	7.5	3626	PASS
176	174	95	101	99.2	47899	PASS
177	176	5	9	7.3	3475	PASS

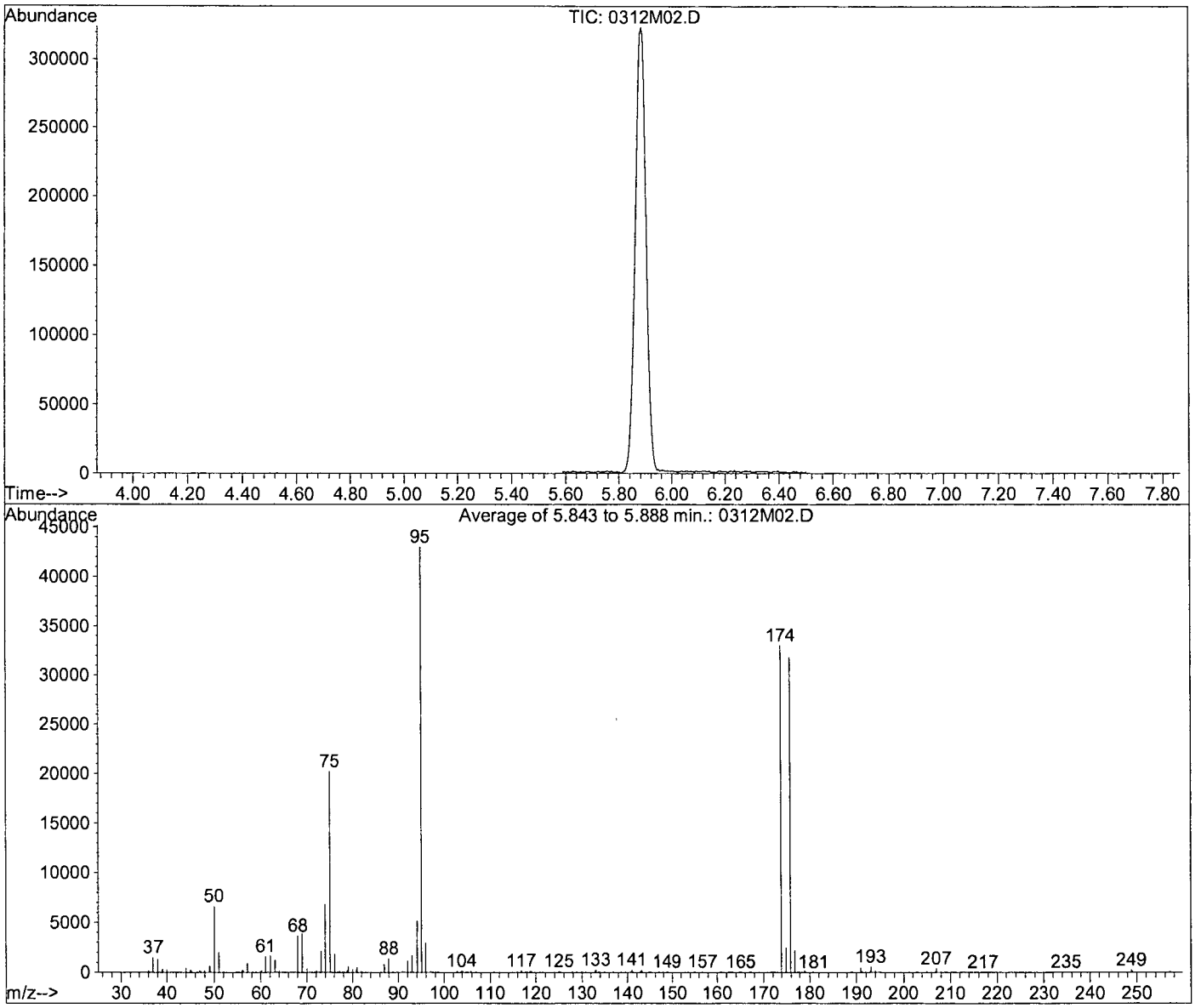
0311M00.D MALLW.M Mon Mar 13 11:32:38 2017

BFB

Data File : M:\MAX\DATA\M170308\0312M02.D
Acq On : 12 Mar 17 12:37
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.843 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.5	6654	PASS
75	95	30	60	47.0	20218	PASS
95	95	100	100	100.0	43000	PASS
96	95	5	9	6.9	2957	PASS
173	174	0.00	2	0.1	49	PASS
174	95	50	100	76.7	32998	PASS
175	174	5	9	7.5	2471	PASS
176	174	95	101	96.3	31793	PASS
177	176	5	9	7.0	2227	PASS

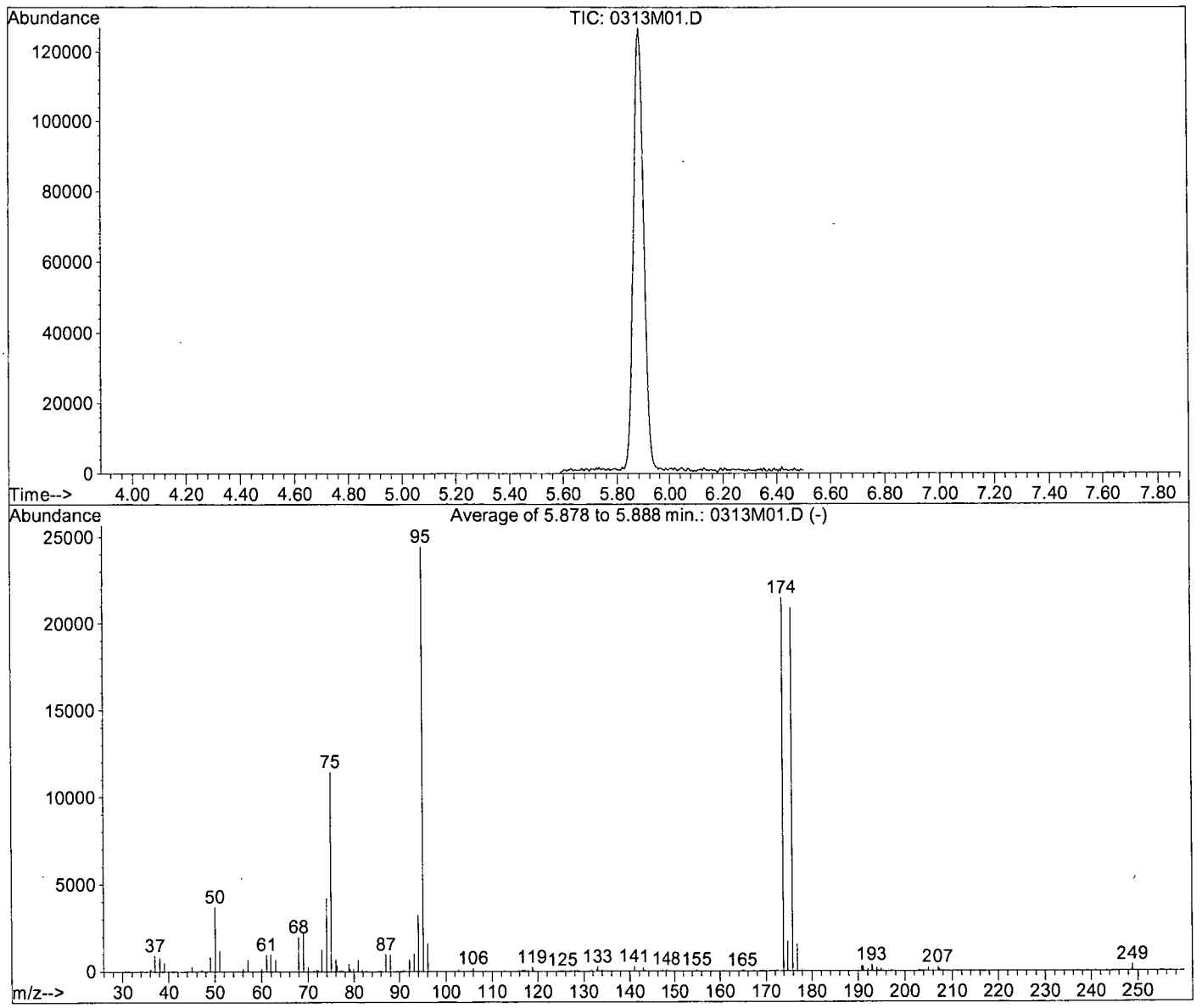
0312M02.D MALLW.M Mon Mar 13 12:14:13 2017

BFB

Data File : M:\MAX\DATA\M170308\0313M01.D
Acq On : 13 Mar 17 8:55
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	3698	PASS
75	95	30	60	46.8	11442	PASS
95	95	100	100	100.0	24448	PASS
96	95	5	9	6.6	1616	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	87.9	21480	PASS
175	174	5	9	8.0	1721	PASS
176	174	95	101	97.2	20881	PASS
177	176	5	9	7.5	1556	PASS

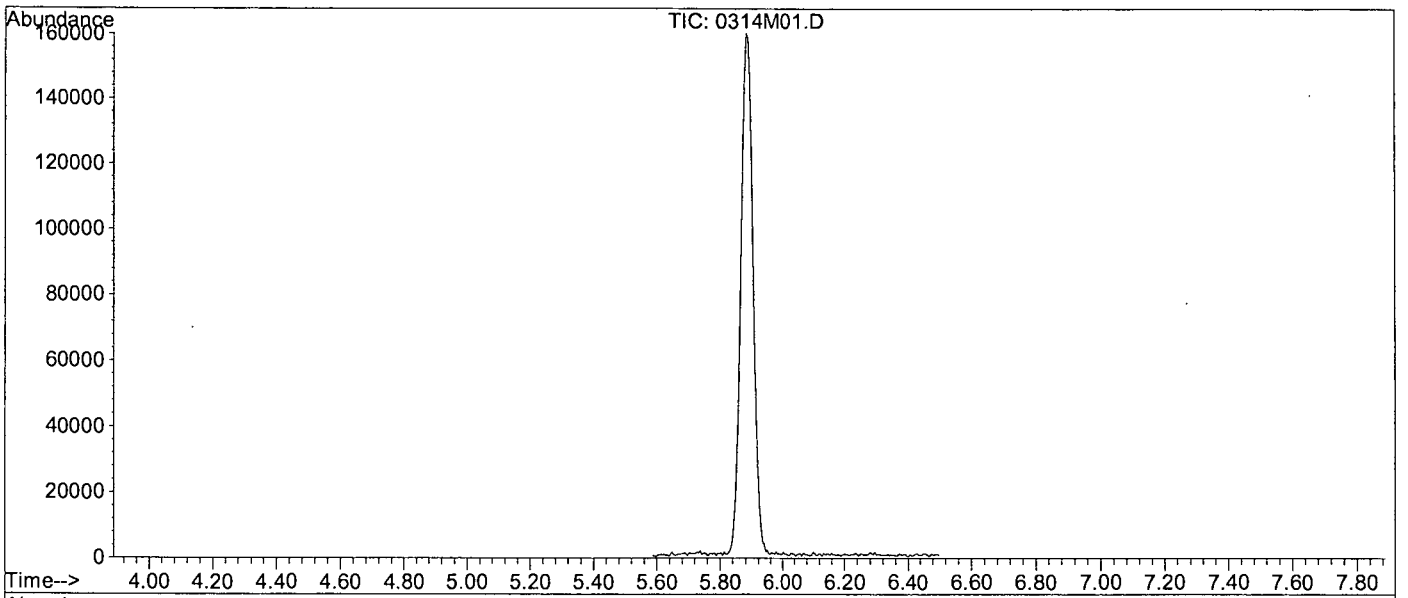
0313M01.D MALLW.M Tue Mar 14 10:01:56 2017

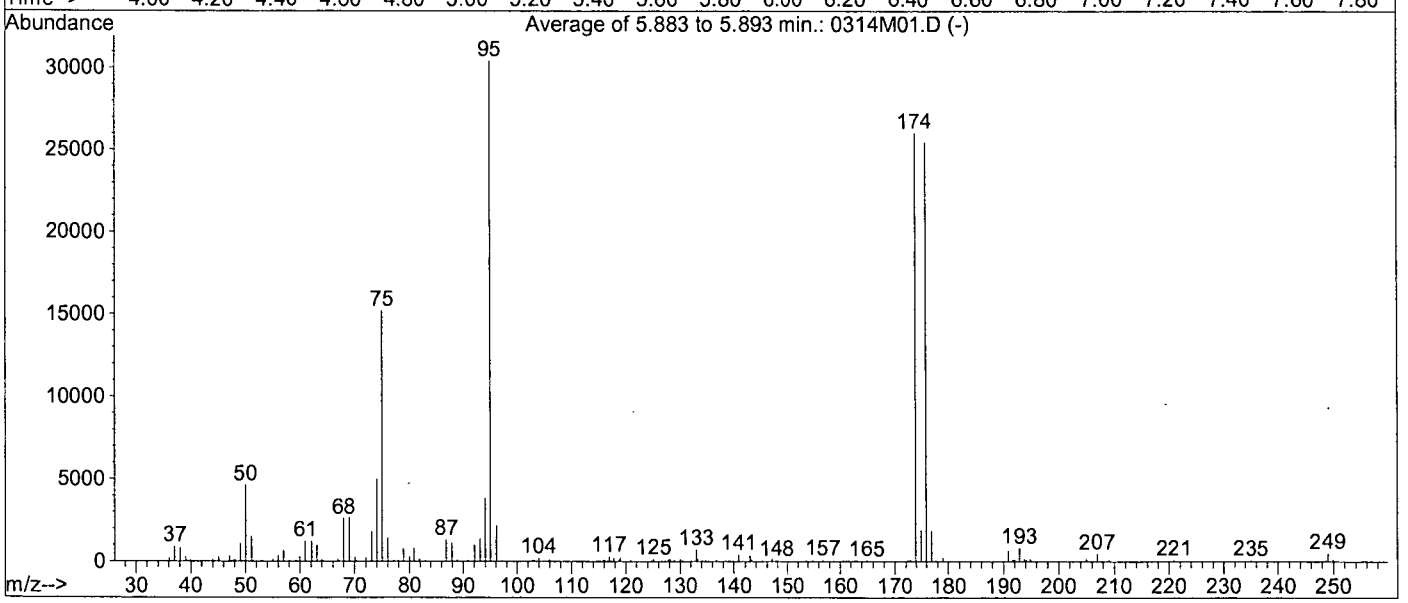
BFB

Data File : M:\MAX\DATA\M170308\0314M01.D
Acq On : 14 Mar 17 8:25
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.883 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	4598	PASS
75	95	30	60	50.0	15192	PASS
95	95	100	100	100.0	30408	PASS
96	95	5	9	7.2	2189	PASS
173	174	0.00	2	0.5	128	PASS
174	95	50	100	85.6	26019	PASS
175	174	5	9	7.3	1900	PASS
176	174	95	101	97.9	25472	PASS
177	176	5	9	7.2	1829	PASS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	03/09/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/07/17K	03/07/17L	03/07/17M	03/07/17G	03/07/17I	03/07/17H	03/07/17J	03/07/17N	Final Vol
	Conc.	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
03/08/17H-CMM	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
03/08/17I-CMM	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
03/08/17J-CMM	1	10	10	10	n/a	n/a	n/a	n/a	10	50
03/08/17K-CMM	2	20	20	20	n/a	n/a	n/a	n/a	15	50
03/08/17L-CMM	5	n/a	n/a	n/a	5	5	5	5	20	50
03/08/17M-CMM	10	n/a	n/a	n/a	10	10	10	10	25	50
03/08/17N-CMM	20	n/a	n/a	n/a	20	20	20	20	30	50
03/08/17O-CMM	40	n/a	n/a	n/a	40	40	40	40	35	50
03/08/17P-CMM	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

03/07/17G							
50ug/ml Vol Work Std #7							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	279822-36640	030717A-CMM	21919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37448	022317E-DG	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36575	022317F-DG	52418	200
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3500
03/07/17H							
50ug/ml Vol Work Std #1							
Exp:04/07/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37216	022317G-DG	91919	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17I							
50ug/ml Vol Work Std #8							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37170	022317H-DG	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-365582	022317I-DG	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37439	022317K-DG	41017	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3700
03/07/17J							
50ug/ml Vol Work Std #2							
Exp:04/07/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36074	022317J-DG	81717	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3900
		03/07/17K					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/07/17G**	Exp:04/07/17	200	
		50ug/ml Vol Work Std #8		**03/07/17I**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1600	
		03/07/17L					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/07/17H**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
		03/07/17M					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/07/17J**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
03/07/17N							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37455	030717B-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	298515-37587	030717C-CMM	31417	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3400

SECONDARY SOURCE

03/07/17O							
50ug/ml VOC Std#4							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37376	030717D-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17P							
50ug/ml VOC Std#5							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37380	022317N-DG	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35382	022317O-DG	62117	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1900
03/07/17Q							

50ug/ml VOC Std#6							
Exp:04/07/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35932	022317P-DG	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37442	022317Q-DG	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37385	022317R-DG	121918	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1800
03/07/17R							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37236	030717E-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	298516-37589	030717F-CMM	31417	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170308\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0308M01.D	1	25ug/ml BFB STD 3/02/17	2ul	8 Mar 17 11:09
2	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
3	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
4	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
5	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
6	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
7	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
8	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
9	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
10	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
11	17	0308M18.D	1	(SS)10ug/L VOC STD 3/8/17	IS&S 02/23/17	8 Mar 17 19:07
12	1	0311M00.D	1	25ug/ml BFB STD 3/02/17	2ul	11 Mar 17 9:53
13	2	0311M02.D	1	170311A CCV-1WM 10ug/L	IS&S 02/23/17	11 Mar 17 10:45
14	3	0311M03.D	1	170311A LCS-1WM 10ug/L	IS&S 02/23/17	11 Mar 17 11:13
15	9	0311M09.D	1	170311A BLK-1WM	IS&S 02/23/17	11 Mar 17 14:04
16	19	0311M19.D	1	AZ51356W01	IS&S 02/23/17	11 Mar 17 18:48
17	21	0311M21.D	1	Ending CCV 8260 10ug/L 03/11	IS&S 02/23/17	12 Mar 17 10:08
18	1	0312M02.D	1	25ug/ml BFB STD 3/02/17	2ul	12 Mar 17 12:37
19	2	0312M04.D	1	170312A CCV-1WM 10ug/L	IS&S 02/23/17	12 Mar 17 13:30
20	3	0312M05.D	1	170312A LCS-1WM 10ug/L	IS&S 02/23/17	12 Mar 17 13:58
21	10	0312M12.D	1	170312A BLK-1WM	IS&S 02/23/17	12 Mar 17 17:17
22	11	0312M13.D	1	AZ51358W01	IS&S 02/23/17	12 Mar 17 17:46
23	12	0312M14.D	1	AZ51359W01	IS&S 02/23/17	12 Mar 17 18:14
24	13	0312M15.D	1	AZ51360W01	IS&S 02/23/17	12 Mar 17 18:43
25	14	0312M16.D	1	AZ51361W01	IS&S 02/23/17	12 Mar 17 19:11
26	15	0312M17.D	1	AZ51362W01	IS&S 02/23/17	12 Mar 17 19:40
27	23	0312M25.D	1	Ending CCV 8260 10ug/L 03/12	IS&S 02/23/17	12 Mar 17 23:28
28	1	0313M01.D	1	25ug/ml BFB STD 3/02/17	2ul	13 Mar 17 8:55
29	2	0313M03.D	1	170313A CCV-1WM 10ug/L	IS&S 02/23/17	13 Mar 17 9:47
30	3	0313M04.D	1	170313A LCS-1WM 10ug/L	IS&S 02/23/17	13 Mar 17 10:16
31	10	0313M11.D	1	170313A BLK-1WM	IS&S 02/23/17	13 Mar 17 13:35
32	13	0313M14.D	1	AZ51363W01	IS&S 02/23/17	13 Mar 17 15:00
33	14	0313M15.D	1	AZ51364W01	IS&S 02/23/17	13 Mar 17 15:29
34	27	0313M28.D	1	Ending CCV 8260 10ug/L 03/13	IS&S 02/23/17	13 Mar 17 21:40
35	1	0314M01.D	1	25ug/ml BFB STD 3/02/17	2ul	14 Mar 17 8:25
36	2	0314M03.D	1	170314A CCV-1WM 10ug/L	IS&S 02/23/17	14 Mar 17 9:19
37	3	0314M04.D	1	170314A LCS-1WM 10ug/L	IS&S 02/23/17	14 Mar 17 9:47
38	10	0314M11.D	1	170314A BLK-1WM	IS&S 02/23/17	14 Mar 17 13:07
39	11	0314M12.D	1	AZ51357W02	IS&S 02/23/17	14 Mar 17 13:35
40	27	0314M28.D	1	Ending CCV 8260 10ug/L 03/14	IS&S 02/23/17	14 Mar 17 21:14

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216816**
Batch ID: #GRO86-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:56:51 PM

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170312W-51358 - 216825**
Batch ID: #GRO86-170312AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.3	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.
Run #: 0312M12
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:56:51 PM

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170313W-51363 - 216862**
Batch ID: #GRO86-170313AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/13/17	03/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/13/17	03/13/17

Quant Method: MGAS6302.
Run #: 0313M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:56:51 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/11/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	85-114	98.0				
170311AM-BLK	Blank	85-114	98.9				
AZ51356	ERH264	85-114	99.0				
AZ51357	ERH265	85-114	114				

Comments: Batch: #GRO86-170311A

Printed: 03/15/17 1:56:54 PM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/12/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170312AM-LCS	Lab Control Spike	85-114	99.2				
170312AM-BLK	Blank	85-114	98.3				
AZ51358	ERH271	85-114	99.2				
AZ51359	ERH272	85-114	98.2				
AZ51360	ERH281	85-114	96.8				
AZ51361	ERH279	85-114	97.2				
AZ51362	ERH280	85-114	96.2				

Comments: Batch: #GRO86-170312A

Printed: 03/15/17 1:56:55 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82369
Case No: 82369 Date Analyzed: 03/13/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170313AM-LCS	Lab Control Spike	85-114	98.0				
170313AM-BLK	Blank	85-114	97.4				
AZ51363	ERH283	85-114	95.5				
AZ51364	ERH284	85-114	98.7				

Comments: Batch: #GRO86-170313A

Printed: 03/15/17 1:56:55 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170311W-51356 LCS - 216816**
Batch ID: #GRO86-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	280	93.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M06
Initials :	SV

Printed: 03/15/17 1:56:59 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170312W-51358 LCS - 216825**
Batch ID: #GRO86-170312AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	305	102	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.8	99.2	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/12/17
Analysis Date :	03/12/17
Instrument :	Max
Run :	0312M07
Initials :	SV

Printed: 03/15/17 1:56:59 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170313W-51363 LCS - 216862**
Batch ID: #GRO86-170313AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	301	100	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/13/17
Analysis Date :	03/13/17
Instrument :	Max
Run :	0313M07
Initials :	SV

Comments:

Printed: 03/15/17 1:56:59 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82369
Case No: 82369
Date Analyzed: 03/11/17
Matrix: WATER
Instrument: Max
Blank ID: 170311AM-BLK
Time Analyzed: 1404

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311AM-LCS	Lab Control Spike	0311M06	03/11/17 1238
170311AM-BLK	Blank	0311M09	03/11/17 1404
AZ51356	ERH264	0311M19	03/11/17 1848
AZ51357	ERH265	0311M20	03/12/17 0940

Comments: Batch: #GRO86-170311A

Printed: 03/15/17 1:57:02 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/12/17

Matrix: WATER Instrument: Max

Blank ID: 170312AM-BLK Time Analyzed: 1717

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170312AM-LCS	Lab Control Spike	0312M07	03/12/17 1455
170312AM-BLK	Blank	0312M12	03/12/17 1717
AZ51358	ERH271	0312M13	03/12/17 1746
AZ51359	ERH272	0312M14	03/12/17 1814
AZ51360	ERH281	0312M15	03/12/17 1843
AZ51361	ERH279	0312M16	03/12/17 1911
AZ51362	ERH280	0312M17	03/12/17 1940

Comments: Batch: #GRO86-170312A

Printed: 03/15/17 1:57:03 PM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82369

Case No: 82369 Date Analyzed: 03/13/17

Matrix: WATER Instrument: Max

Blank ID: 170313AM-BLK Time Analyzed: 1335

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170313AM-LCS	Lab Control Spike	0313M07	03/13/17 1141
170313AM-BLK	Blank	0313M11	03/13/17 1335
AZ51363	ERH283	0313M14	03/13/17 1500
AZ51364	ERH284	0313M15	03/13/17 1529

Comments: Batch: #GRO86-170313A

Printed: 03/15/17 1:57:03 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH264
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51356
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.0	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M19
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:06 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M19.D
Acq On : 11 Mar 17 18:48
Sample : AZ51356W01
Misc : IS&S 02/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	291246	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

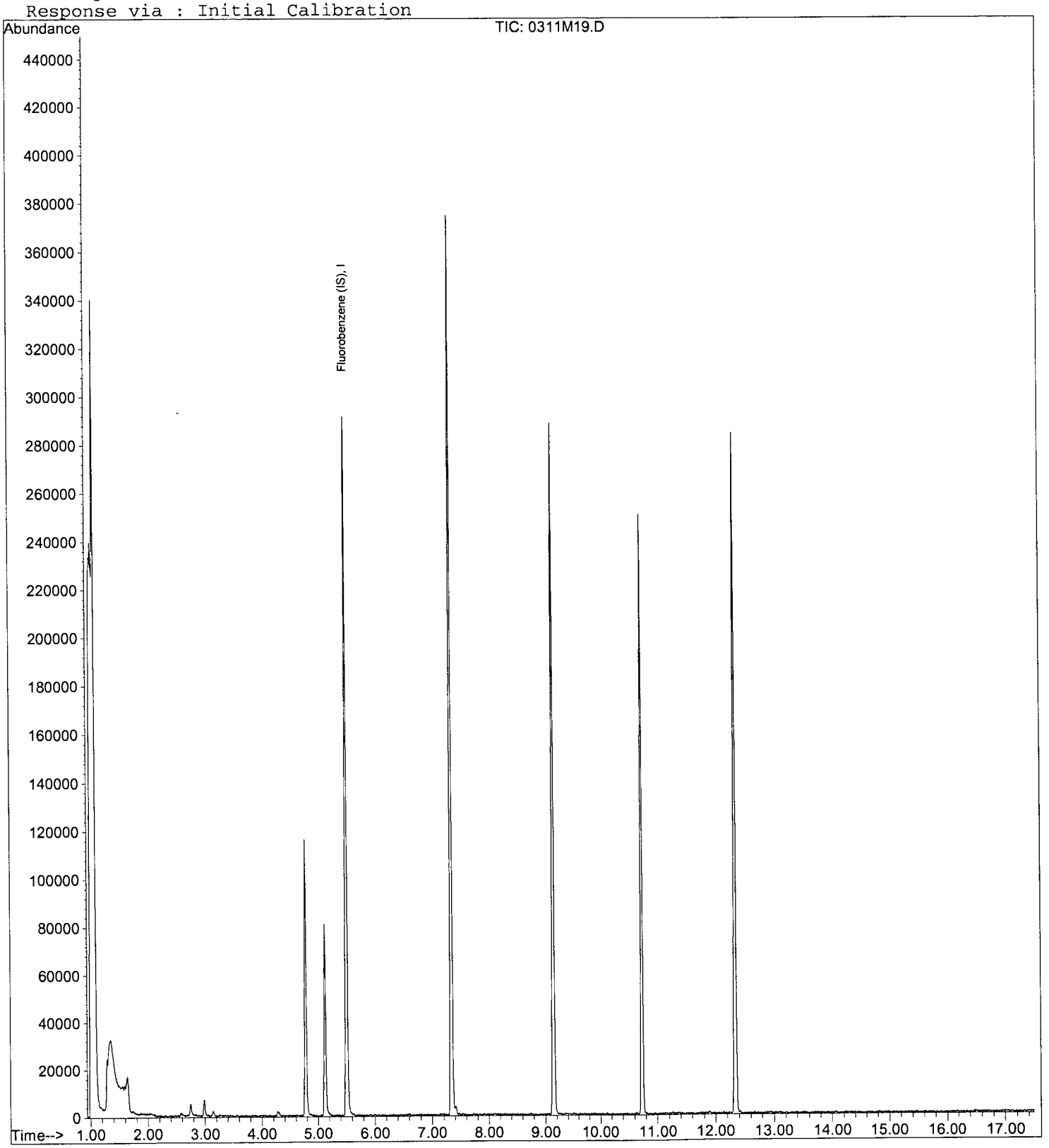
Data File : M:\MAX\DATA\M170308\0311M19.D
Acq On : 11 Mar 17 18:48
Sample : AZ51356W01
Misc : IS&S 02/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M19.D
Acq On : 11 Mar 17 18:48
Sample : AZ51356W01
Misc : IS&S 02/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	281913	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	199326	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	96568	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	71343	25.68675 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.748%	
3) 1,2-DCA-D4(S)	5.12	65	55398	25.01246 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.048%	
5) Toluene-D8(S)	7.34	98	284437	24.57601 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.304%	
6) 4-Bromofluorobenzene(S)	10.73	95	94725	24.75887 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.036%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	73 ++	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	114	85-114			%	03/12/17	03/12/17

++(G1) The analyst has noted that the chromatogram of this sample includes a wide range of hydrocarbons which does not match our gasoline standard.

Quant Method:	MGAS6302.M
Run #:	0311M20
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M20.D
Acq On : 12 Mar 17 9:40
Sample : AZ51357W01
Misc : IS&S 02/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.54	TIC	171747	25.00000 ppb	0.04

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.36	TIC	2393388m	72.57553 ppb	100

(#) = qualifier out of range (m) = manual integration
0311M20.D MGAS6302.M Mon Mar 13 12:01:27 2017

Quantitation Report

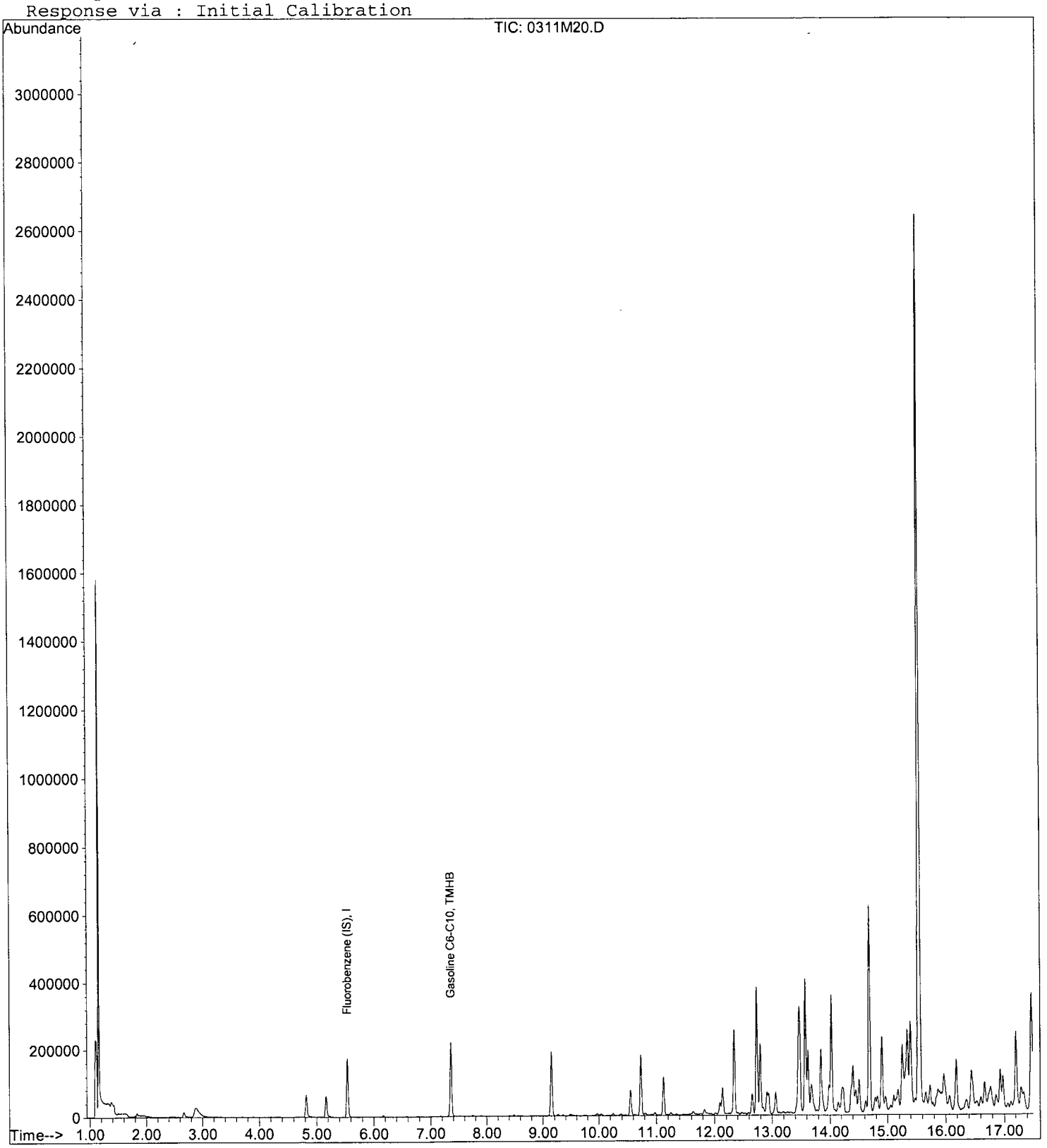
Data File : M:\MAX\DATA\M170308\0311M20.D
Acq On : 12 Mar 17 9:40
Sample : AZ51357W01
Misc : IS&S 02/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M20.D Vial: 20
Acq On : 12 Mar 17 9:40 Operator: PM,DG,SV,CMM
Sample : AZ51357W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 14:52 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.54	96	159161	25.00000 ppb	0.04
4) Chlorobenzene-D5 (IS)	9.15	117	129099	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	84247	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.82	111	41511	26.47277 ppb	0.04
Spiked Amount 25.000			Recovery	= 105.892%	
3) 1,2-DCA-D4(S)	5.16	65	43774	35.00716 ppb	0.04
Spiked Amount 25.000			Recovery	= 140.028%	
5) Toluene-D8(S)	7.36	98	162309	21.65255 ppb	0.02
Spiked Amount 25.000			Recovery	= 86.612%	
6) 4-Bromofluorobenzene(S)	10.73	95	70388	28.40573 ppb	0.00
Spiked Amount 25.000			Recovery	= 113.624%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH271
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51358
QCG: #GRO86-170312AM-216825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.2	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.M
Run #: 0312M13
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M13.D
Acq On : 12 Mar 17 17:46
Sample : AZ51358W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	315362	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

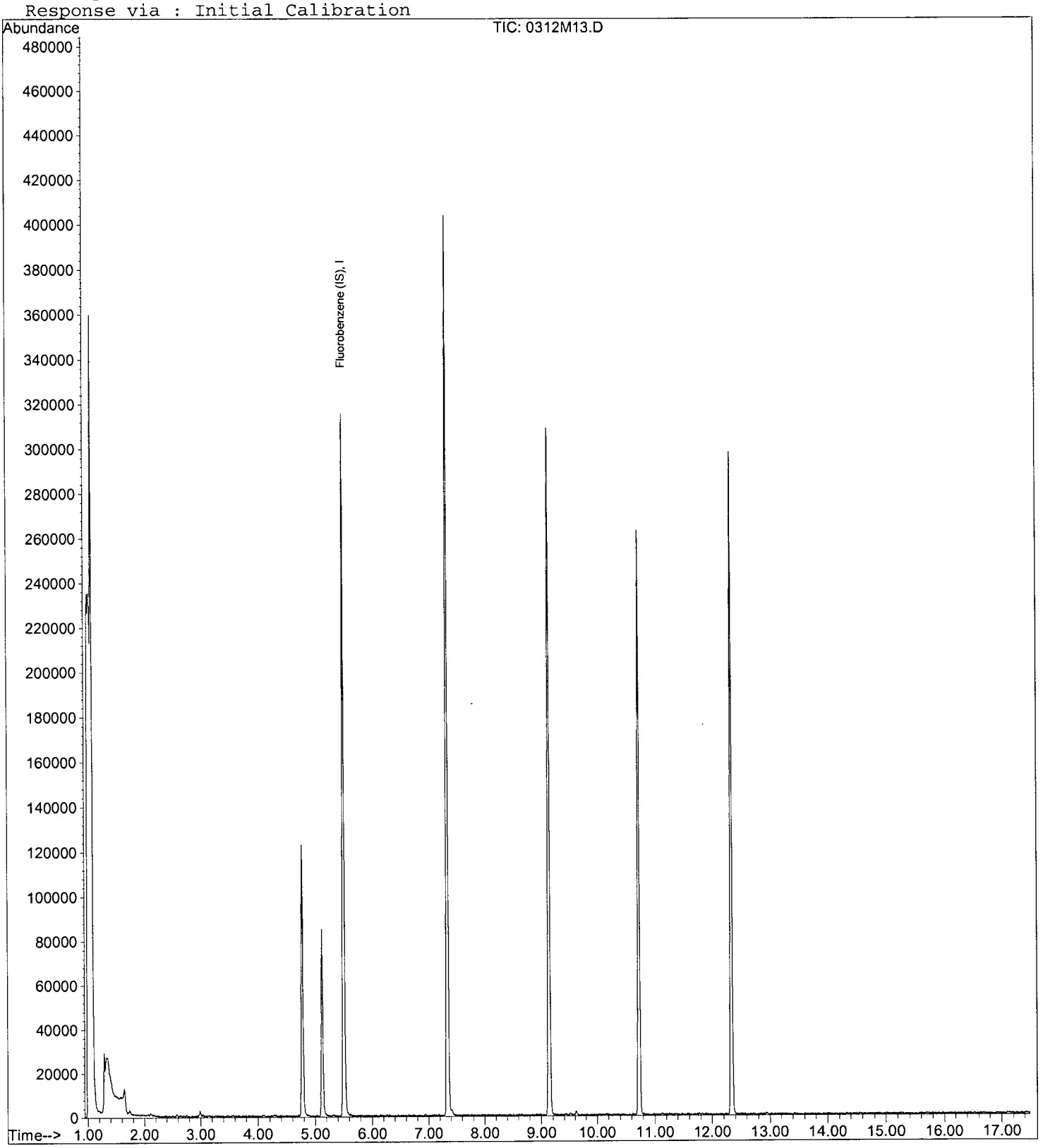
Data File : M:\MAX\DATA\M170308\0312M13.D
Acq On : 12 Mar 17 17:46
Sample : AZ51358W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M13.D
Acq On : 12 Mar 17 17:46
Sample : AZ51358W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	301627	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	210253	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	100061	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	74203	24.97032 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.880%	
3) 1,2-DCA-D4(S)	5.13	65	58822	24.82258 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.292%	
5) Toluene-D8(S)	7.34	98	301066	24.66089 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.644%	
6) 4-Bromofluorobenzene(S)	10.73	95	100100	24.80402 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #GRO86-170312AM-216825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.M
Run #: 0312M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M14.D
Acq On : 12 Mar 17 18:14
Sample : AZ51359W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	313778	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

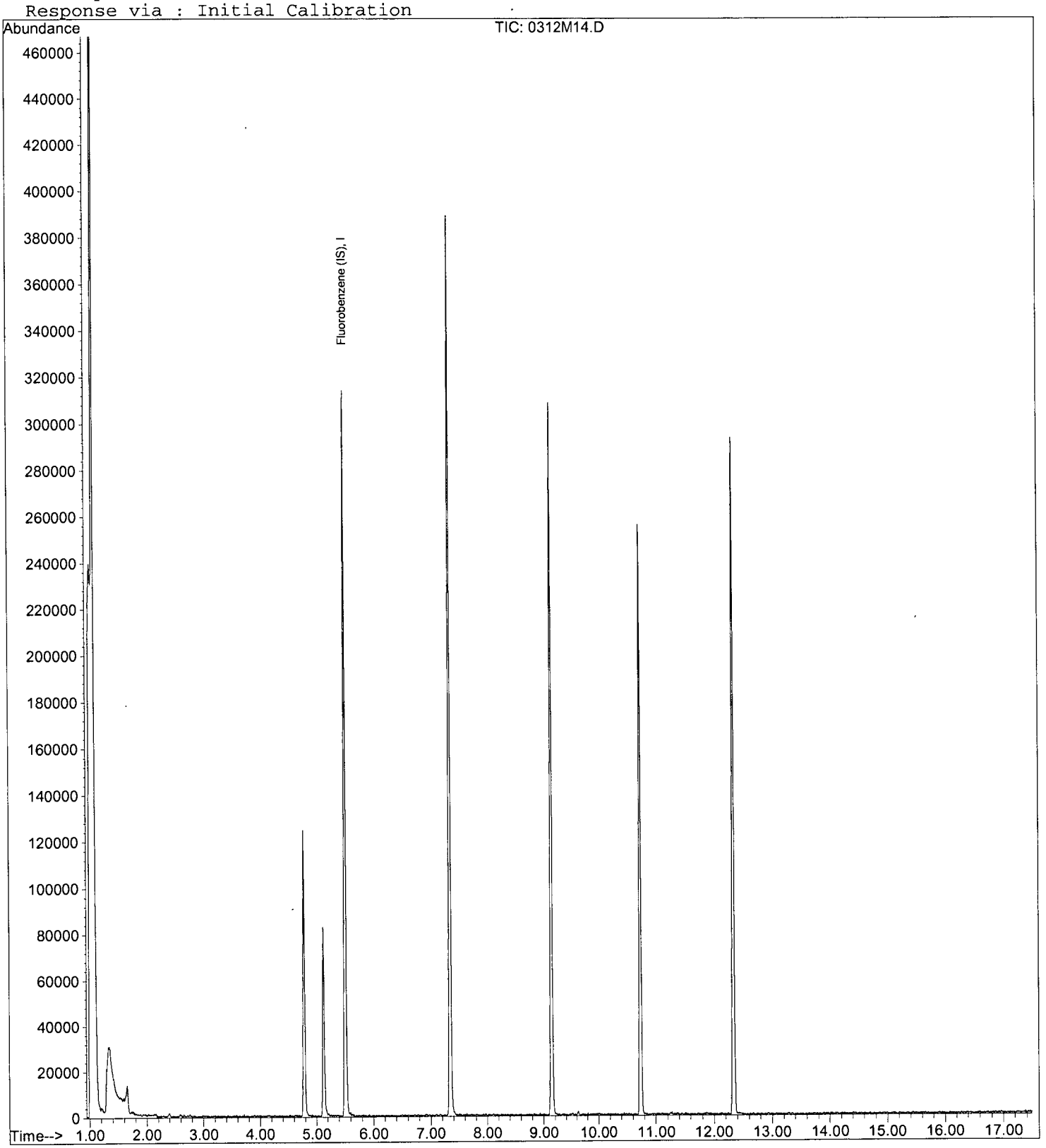
Data File : M:\MAX\DATA\M170308\0312M14.D
Acq On : 12 Mar 17 18:14
Sample : AZ51359W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M14.D
Acq On : 12 Mar 17 18:14
Sample : AZ51359W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	291467	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	206014	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	96855	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73673	25.65617 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.624%	
3) 1,2-DCA-D4(S)	5.13	65	57347	25.04371 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.176%	
5) Toluene-D8(S)	7.34	98	294466	24.61658 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.468%	
6) 4-Bromofluorobenzene(S)	10.73	95	97063	24.54636 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.184%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH281
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51360
QCG: #GRO86-170312AM-216825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.8	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.M
Run #: 0312M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M15.D
Acq On : 12 Mar 17 18:43
Sample : AZ51360W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	308687	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

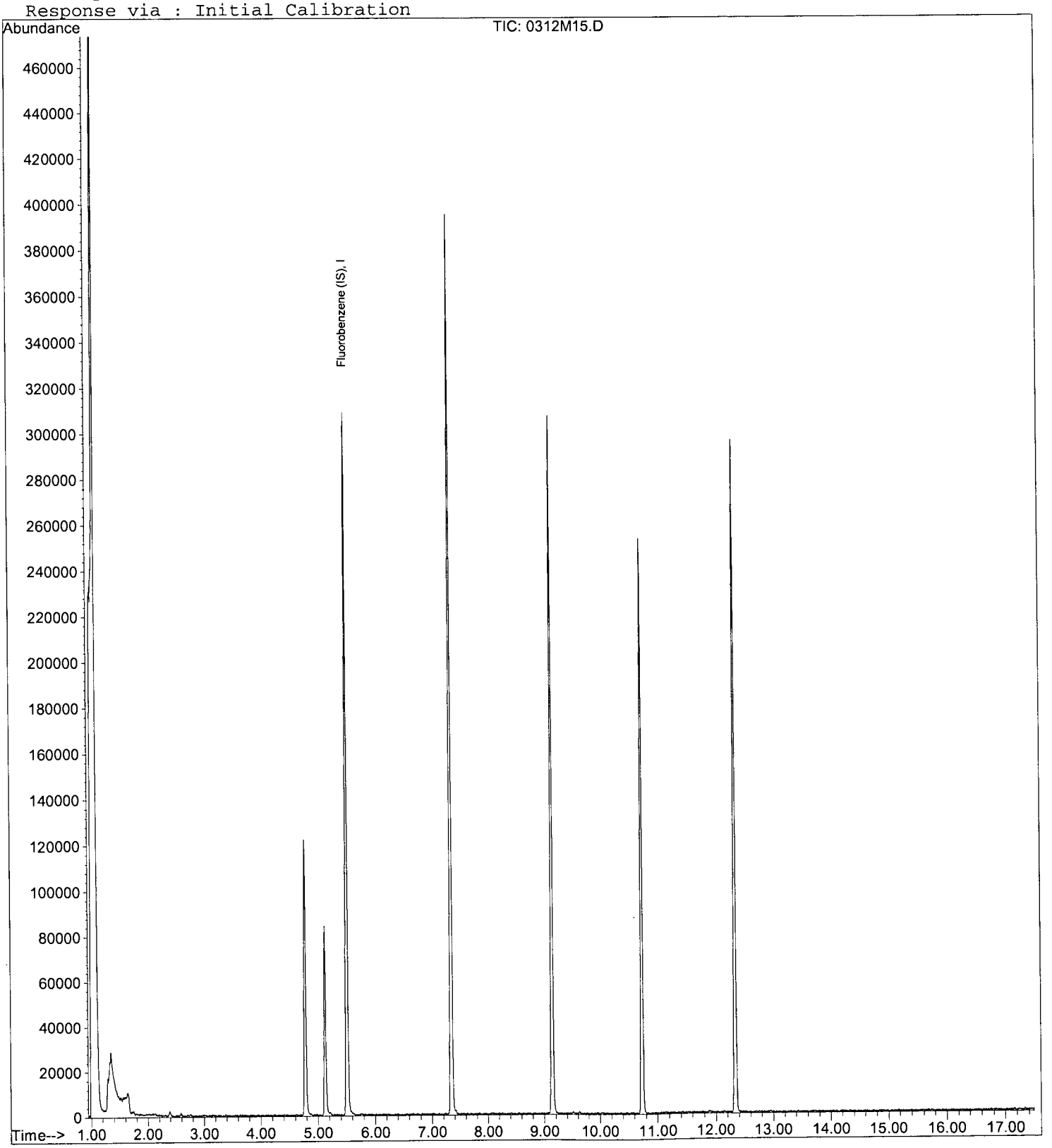
Data File : M:\MAX\DATA\M170308\0312M15.D
Acq On : 12 Mar 17 18:43
Sample : AZ51360W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M15.D
Acq On : 12 Mar 17 18:43
Sample : AZ51360W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	298065	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	210821	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	97792	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76077	25.90689 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.628%	
3) 1,2-DCA-D4(S)	5.13	65	57916	24.73232 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.928%	
5) Toluene-D8(S)	7.34	98	302462	24.70849 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.832%	
6) 4-Bromofluorobenzene(S)	10.73	95	97889	24.19080 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH279
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51361
QCG: #GRO86-170312AM-216825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.M
Run #: 0312M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M16.D
Acq On : 12 Mar 17 19:11
Sample : AZ51361W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	298433	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

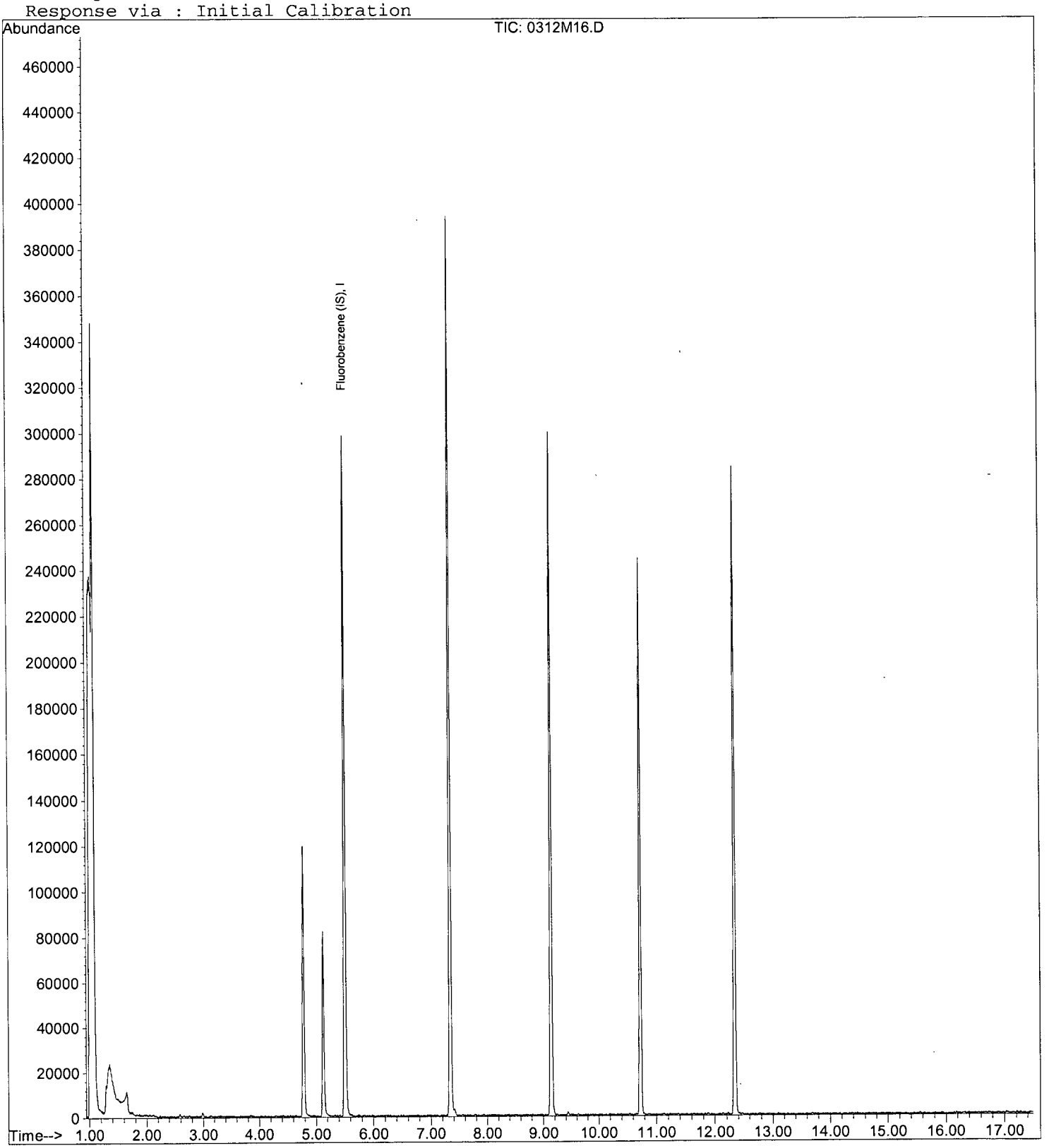
Data File : M:\MAX\DATA\M170308\0312M16.D
Acq On : 12 Mar 17 19:11
Sample : AZ51361W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M16.D
Acq On : 12 Mar 17 19:11
Sample : AZ51361W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289121	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	200038	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	95490	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	72228	25.35705 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.428%	
3) 1,2-DCA-D4(S)	5.12	65	57240	25.19981 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.800%	
5) Toluene-D8(S)	7.34	98	288192	24.81182 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.248%	
6) 4-Bromofluorobenzene(S)	10.73	95	93317	24.30404 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #GRO86-170312AM-216825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.M
Run #: 0312M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M17.D
Acq On : 12 Mar 17 19:40
Sample : AZ51362W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:53 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	276345	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

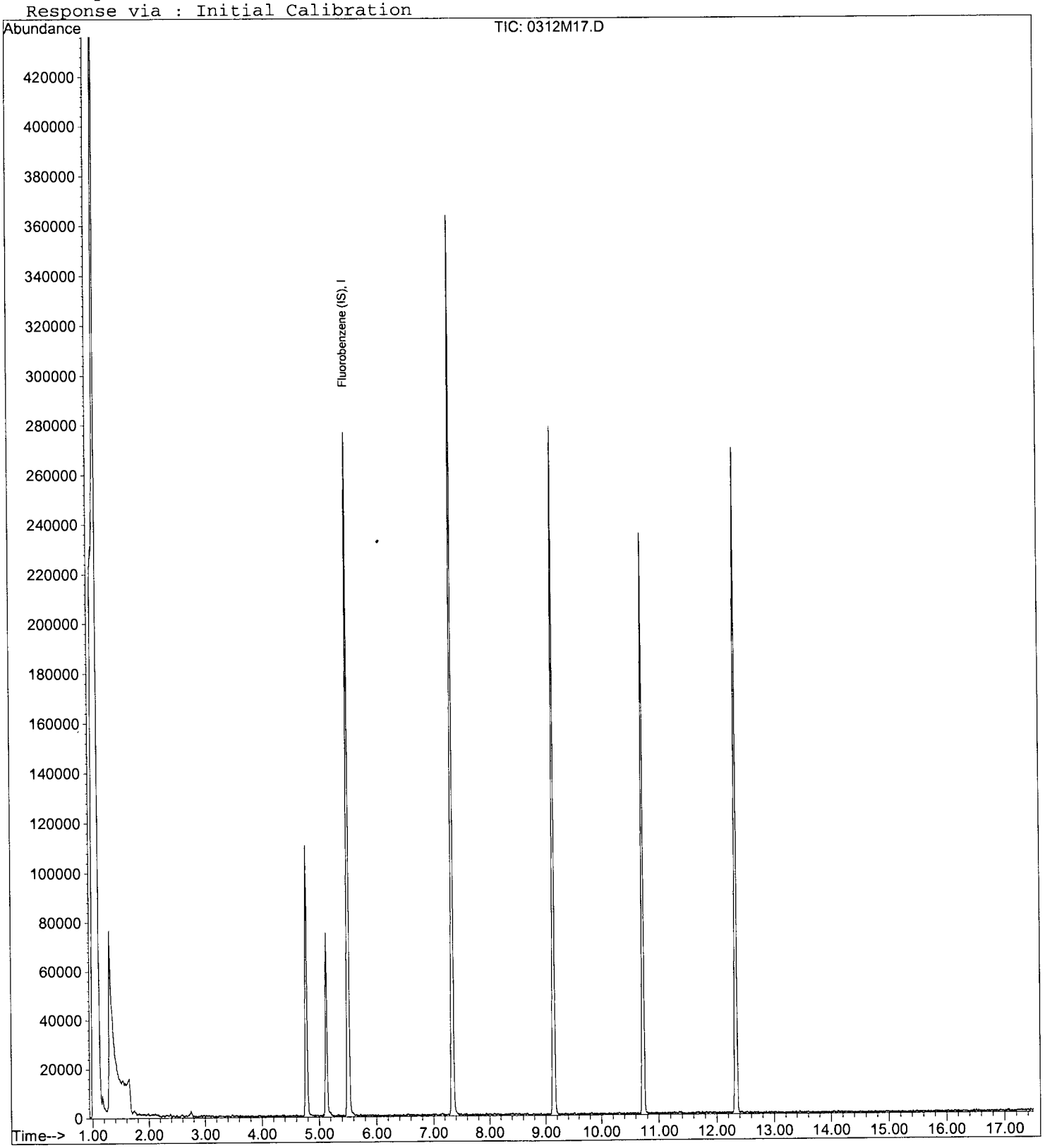
Data File : M:\MAX\DATA\M170308\0312M17.D
Acq On : 12 Mar 17 19:40
Sample : AZ51362W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:53 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M17.D
Acq On : 12 Mar 17 19:40
Sample : AZ51362W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	267566	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	190220	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	88704	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	66773	25.33044 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.320%	
3) 1,2-DCA-D4(S)	5.13	65	50982	24.25288 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.012%	
5) Toluene-D8(S)	7.34	98	277321	25.10821 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.432%	
6) 4-Bromofluorobenzene(S)	10.73	95	87773	24.04002 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.160%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH283
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51363
QCG: #GRO86-170313AM-216862

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/13/17	03/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	03/13/17	03/13/17

Quant Method: MGAS6302.M
Run #: 0313M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M14.D
Acq On : 13 Mar 17 15:00
Sample : AZ51363W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:24 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	289972	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0313M14.D MGAS6302.M Tue Mar 14 10:30:13 2017

Quantitation Report

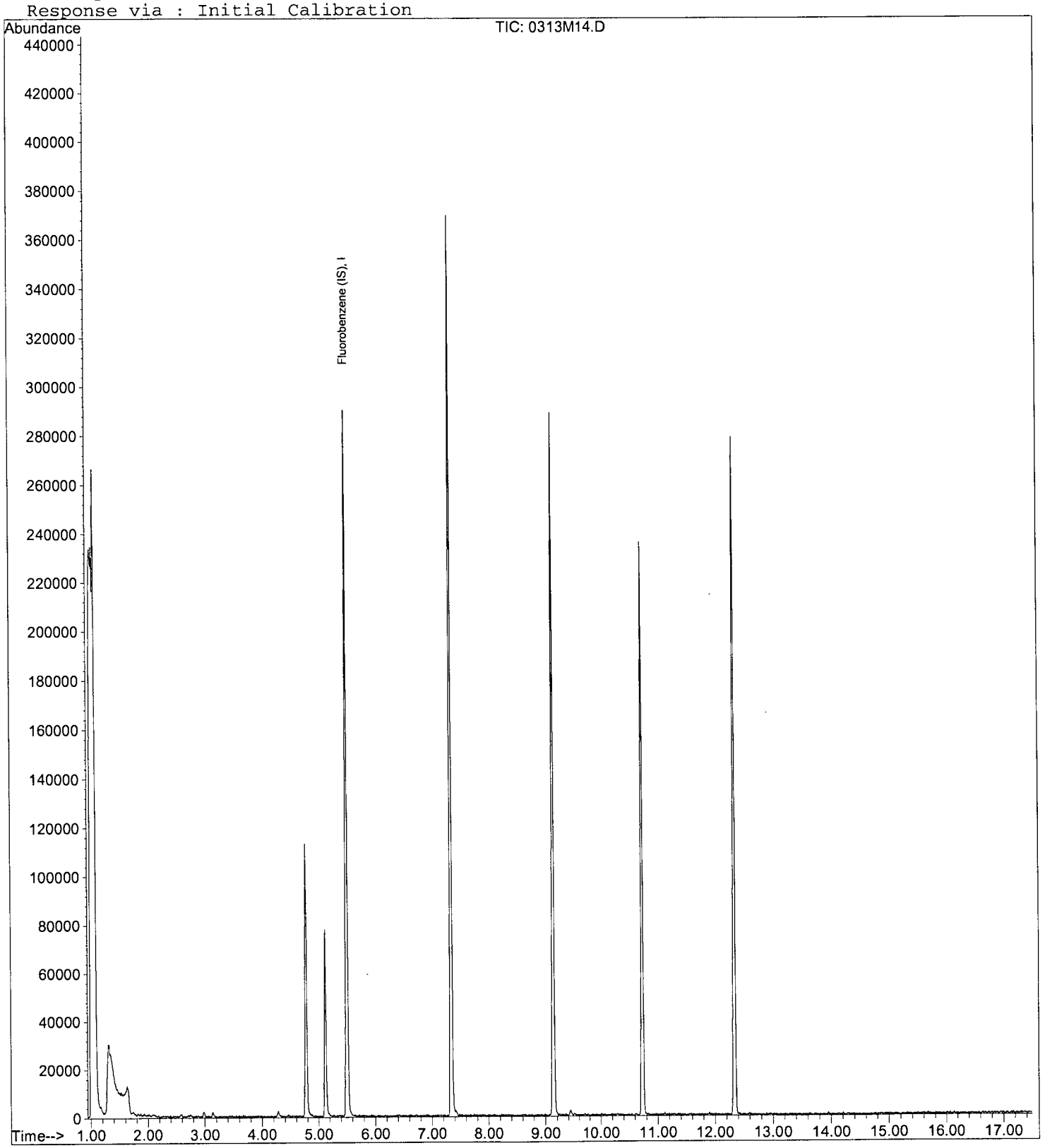
Data File : M:\MAX\DATA\M170308\0313M14.D
Acq On : 13 Mar 17 15:00
Sample : AZ51363W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:24 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M14.D
Acq On : 13 Mar 17 15:00
Sample : AZ51363W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:35 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	279127	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	194289	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	91549	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	69341	25.21512 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.860%	
3) 1,2-DCA-D4(S)	5.13	65	54201	24.71626 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.864%	
5) Toluene-D8(S)	7.34	98	279119	24.74175 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.968%	
6) 4-Bromofluorobenzene(S)	10.73	95	89060	23.88167 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.528%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #GRO86-170313AM-216862

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/13/17	03/13/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.7	85-114			%	03/13/17	03/13/17

Quant Method: MGAS6302.M
Run #: 0313M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/15/17 1:57:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M15.D
Acq On : 13 Mar 17 15:29
Sample : AZ51364W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:24 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	294175	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0313M15.D MGAS6302.M Tue Mar 14 10:30:17 2017

Quantitation Report

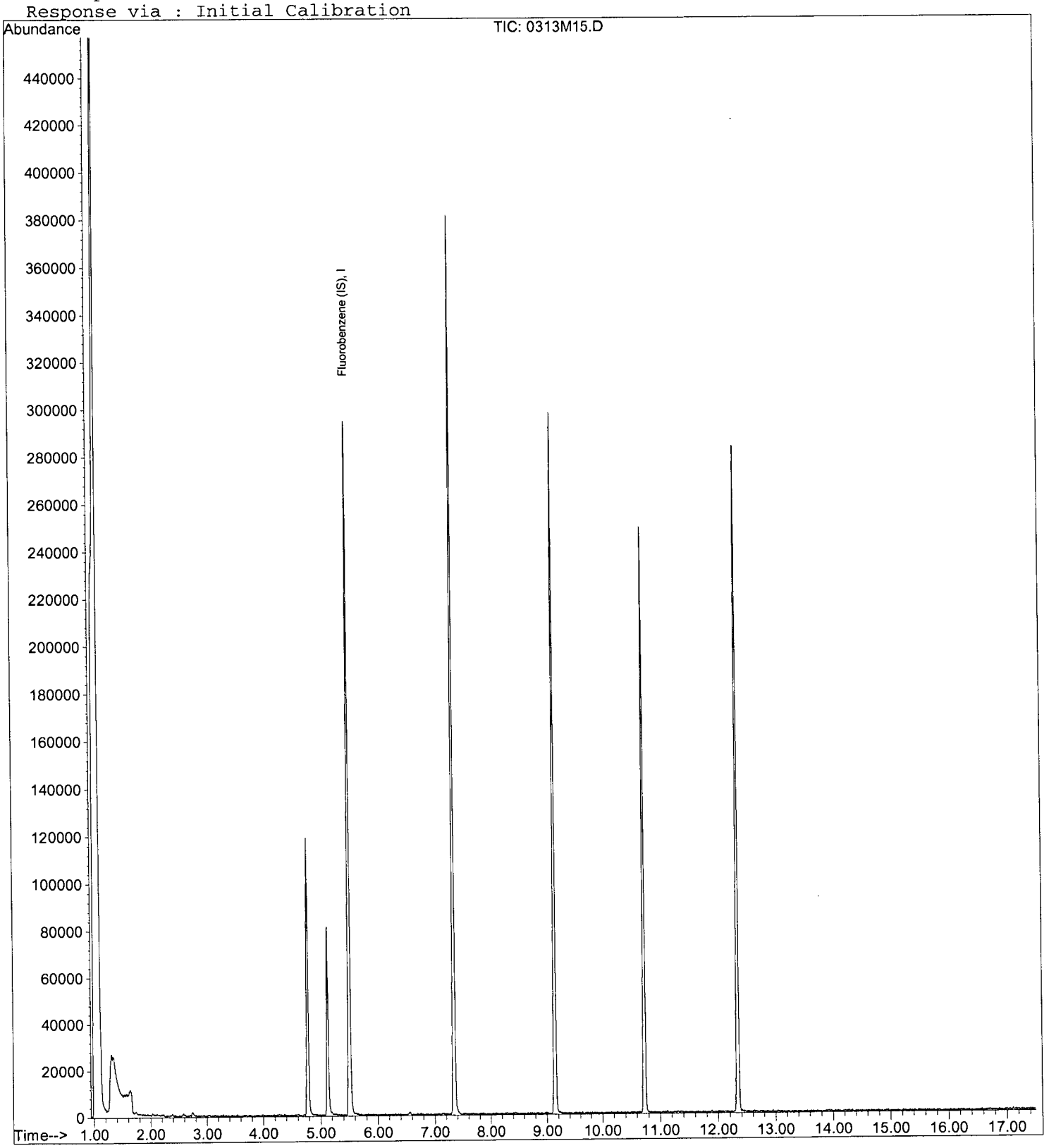
Data File : M:\MAX\DATA\M170308\0313M15.D
Acq On : 13 Mar 17 15:29
Sample : AZ51364W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:24 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M15.D
Acq On : 13 Mar 17 15:29
Sample : AZ51364W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	286375	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	201717	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	95534	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	70940	25.14369 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.576%	
3) 1,2-DCA-D4(S)	5.12	65	54573	24.25605 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.024%	
5) Toluene-D8(S)	7.34	98	286311	24.44470 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.780%	
6) 4-Bromofluorobenzene(S)	10.73	95	95510	24.66815 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.672%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
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33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D Vial: 5
Acq On : 2 Mar 17 9:26 Operator: PM,DG,SV,CMM
Sample : 20ppb GAS STD 03/02/17A Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

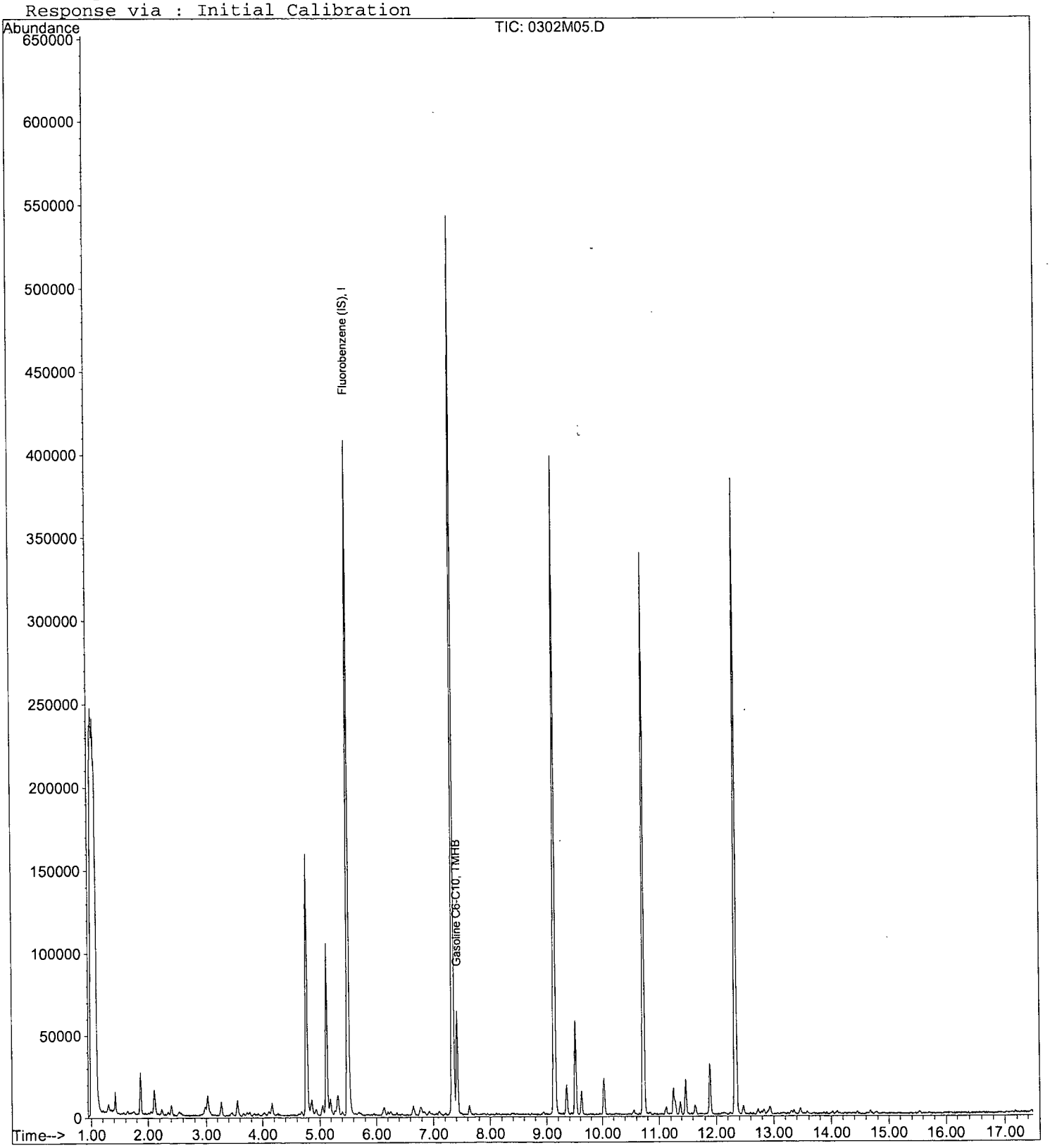
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D Vial: 6
Acq On : 2 Mar 17 9:54 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 03/02/17B Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

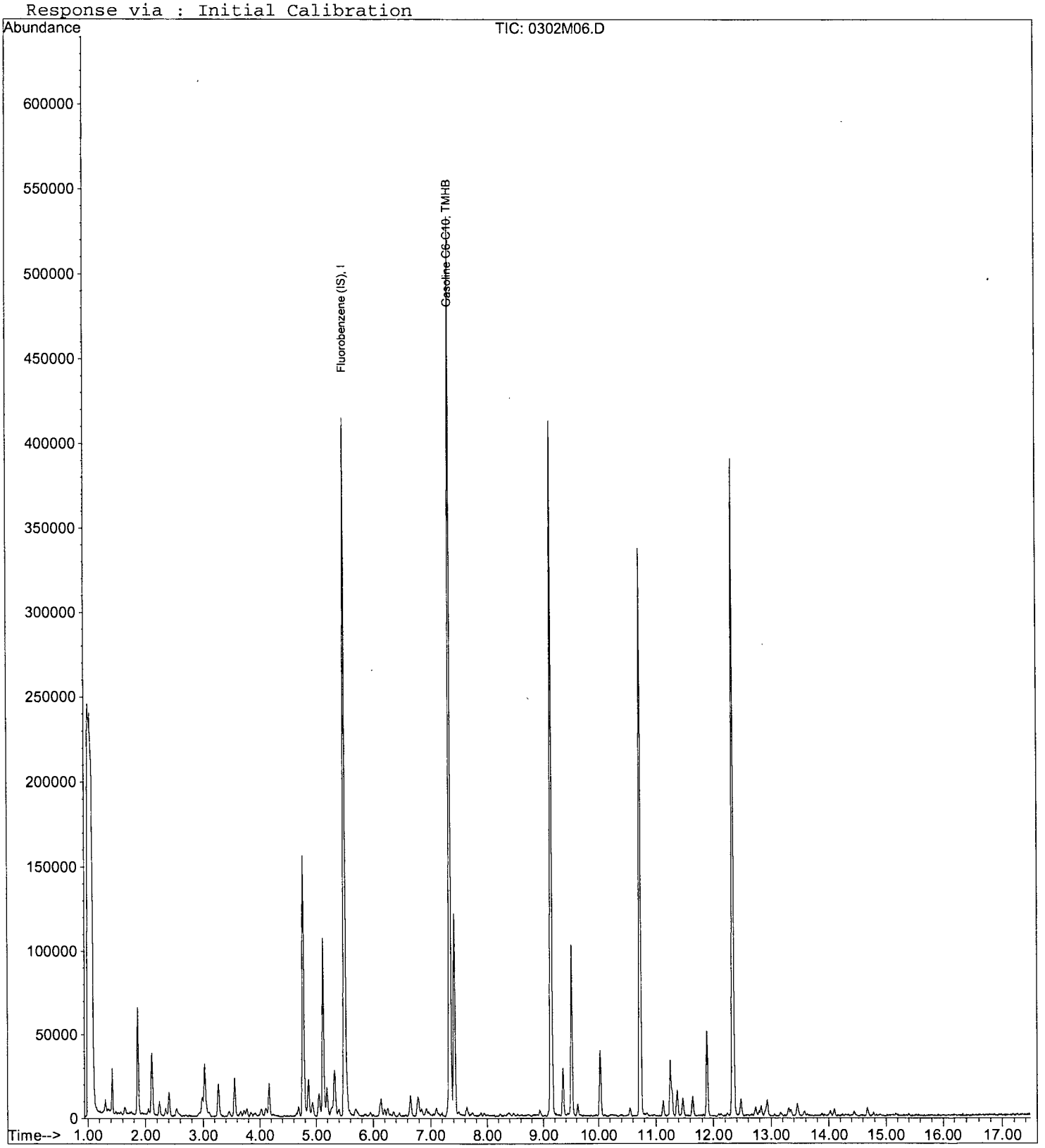
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D Vial: 7
Acq On : 2 Mar 17 10:23 Operator: PM,DG,SV,CMM
Sample : 100ppb GAS STD 03/02/17C Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration

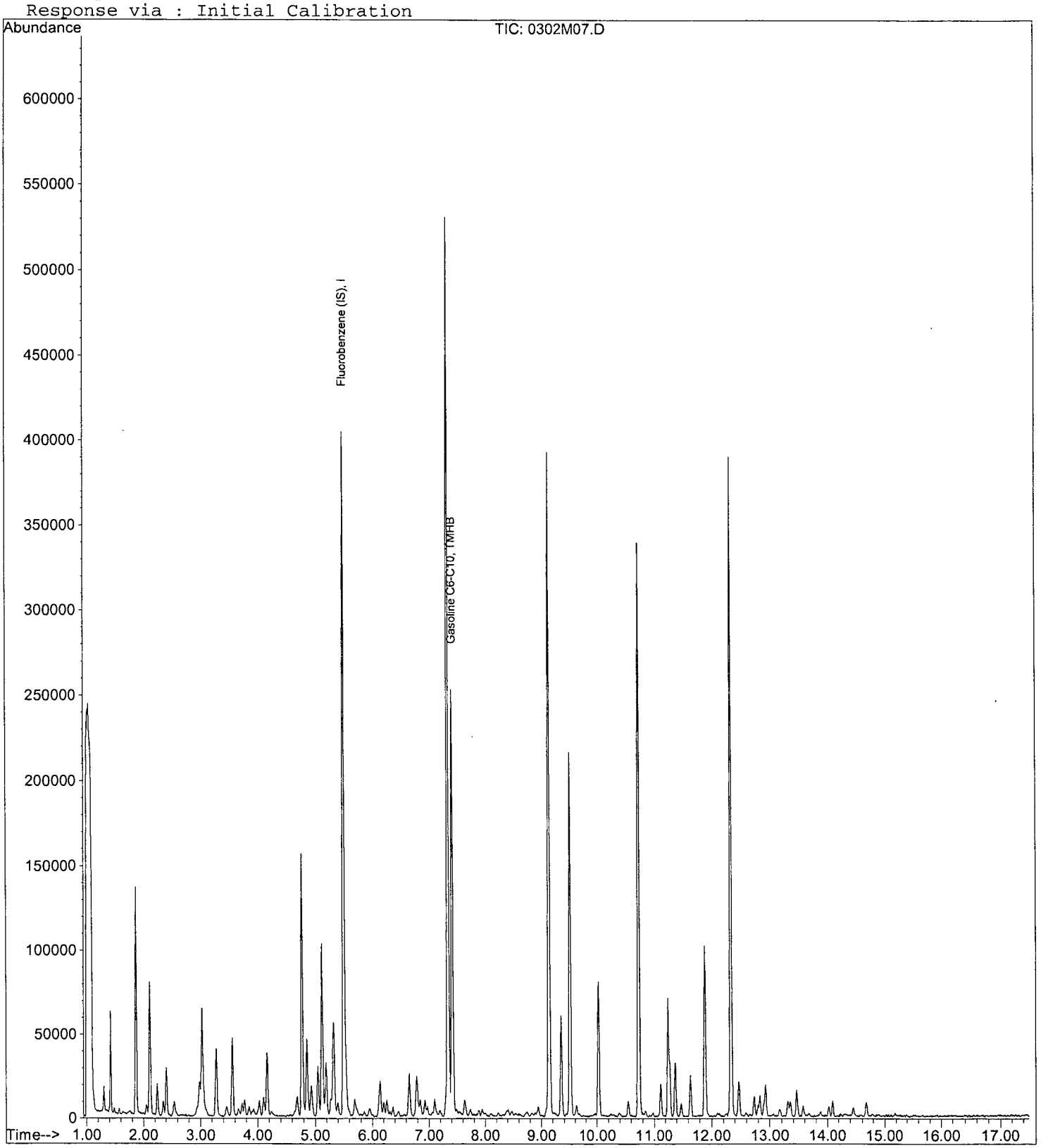
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D Vial: 8
Acq On : 2 Mar 17 10:51 Operator: PM,DG,SV,CMM
Sample : 300ppb GAS STD 03/02/17D Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration

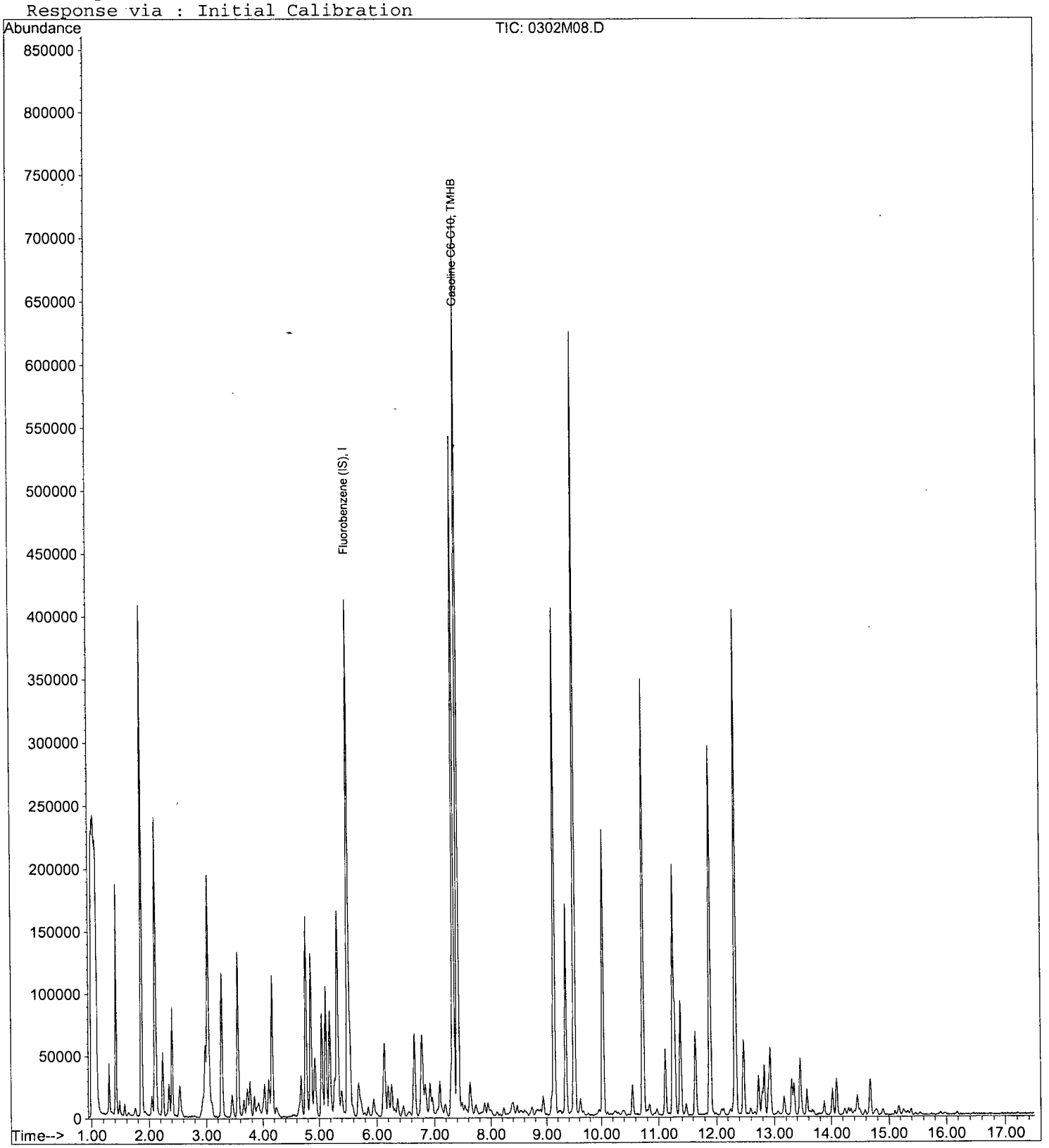
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D Vial: 9
Acq On : 2 Mar 17 11:19 Operator: PM,DG,SV,CMM
Sample : 600ppb GAS STD 03/02/17E Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration

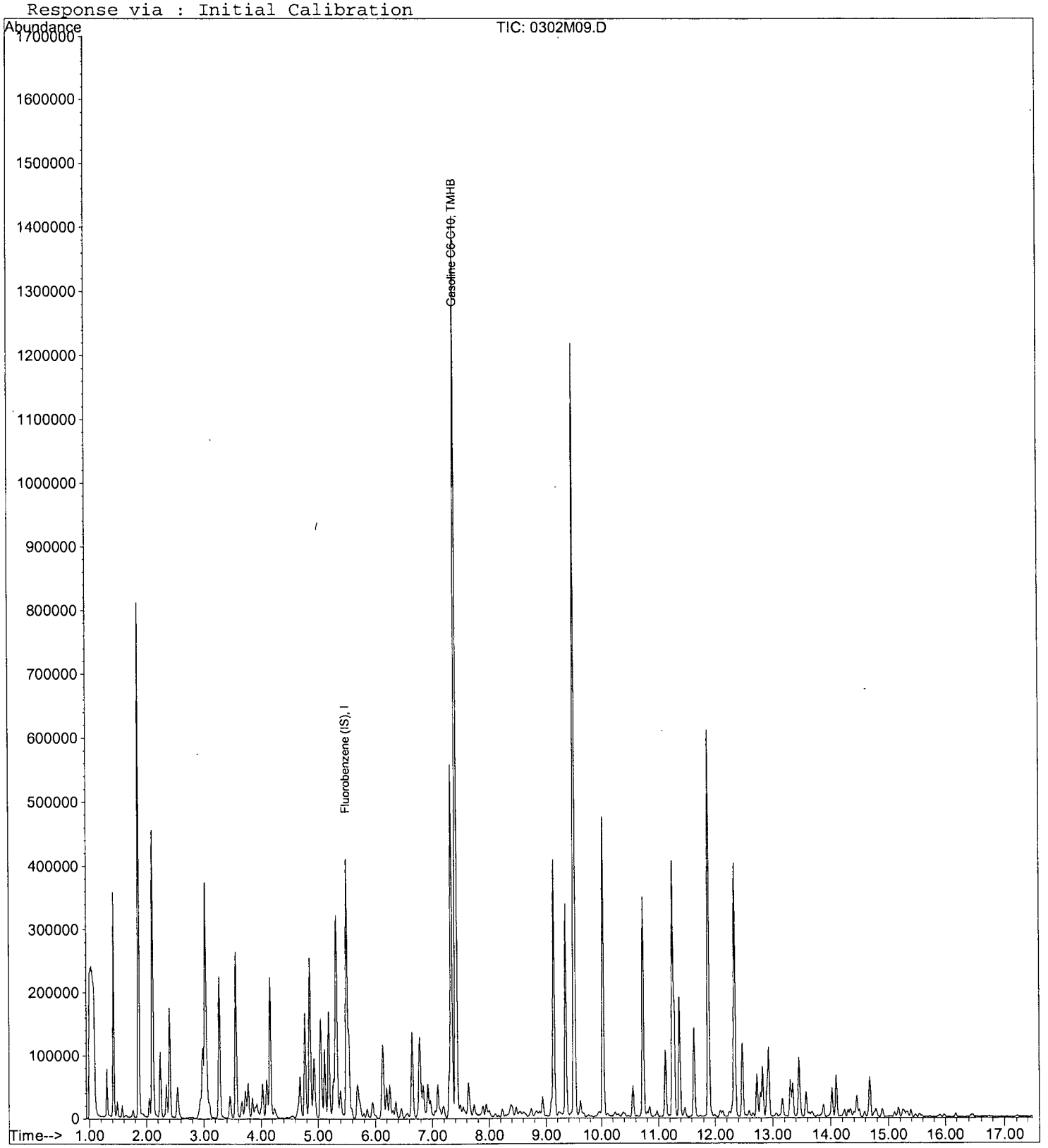
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D Vial: 10
Acq On : 2 Mar 17 11:47 Operator: PM,DG,SV,CMM
Sample : 800ppb GAS STD 03/02/17F Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration

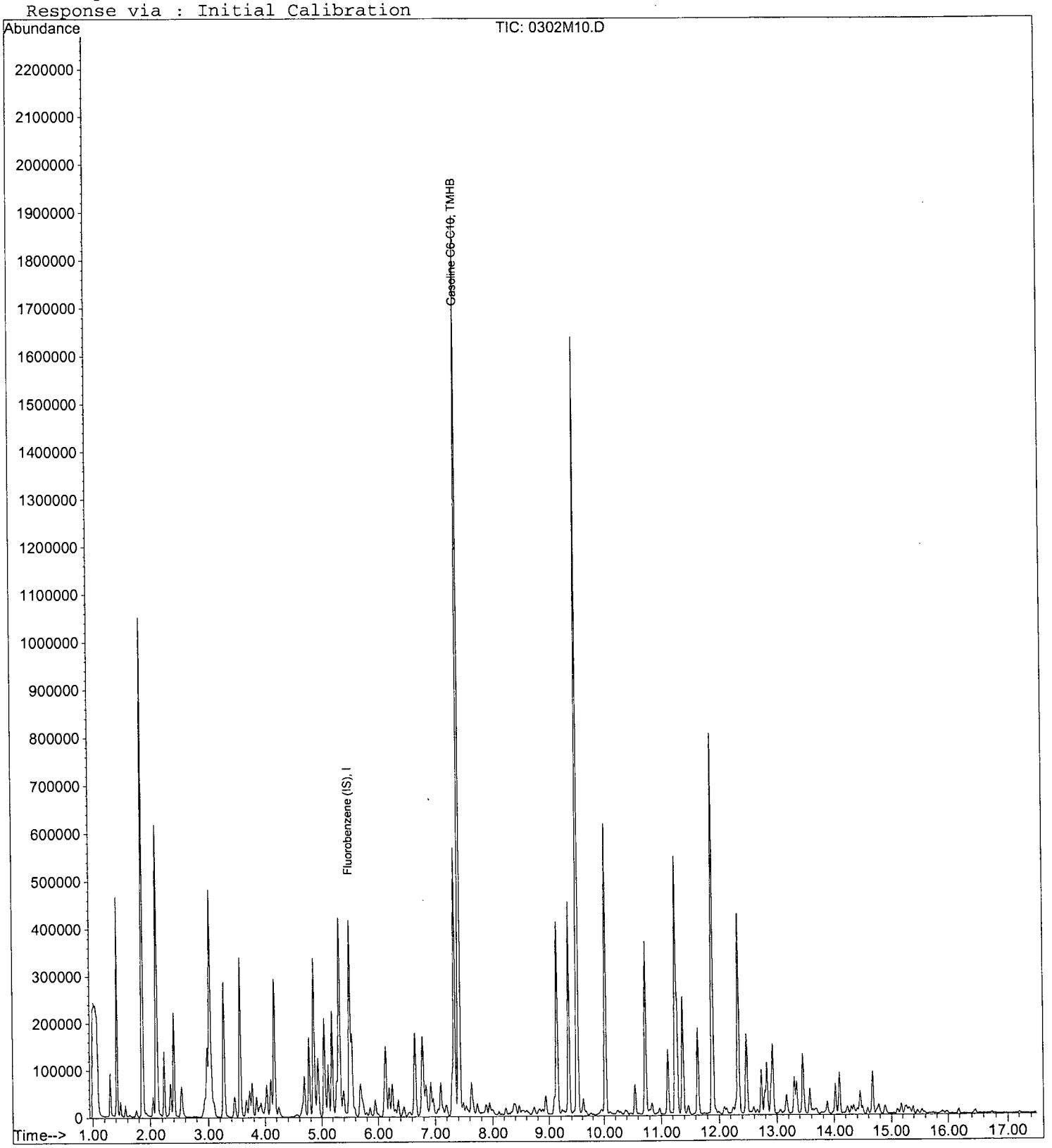
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D Vial: 11
Acq On : 2 Mar 17 12:16 Operator: PM,DG,SV,CMM
Sample : 1000ppb GAS STD 03/02/17A Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration

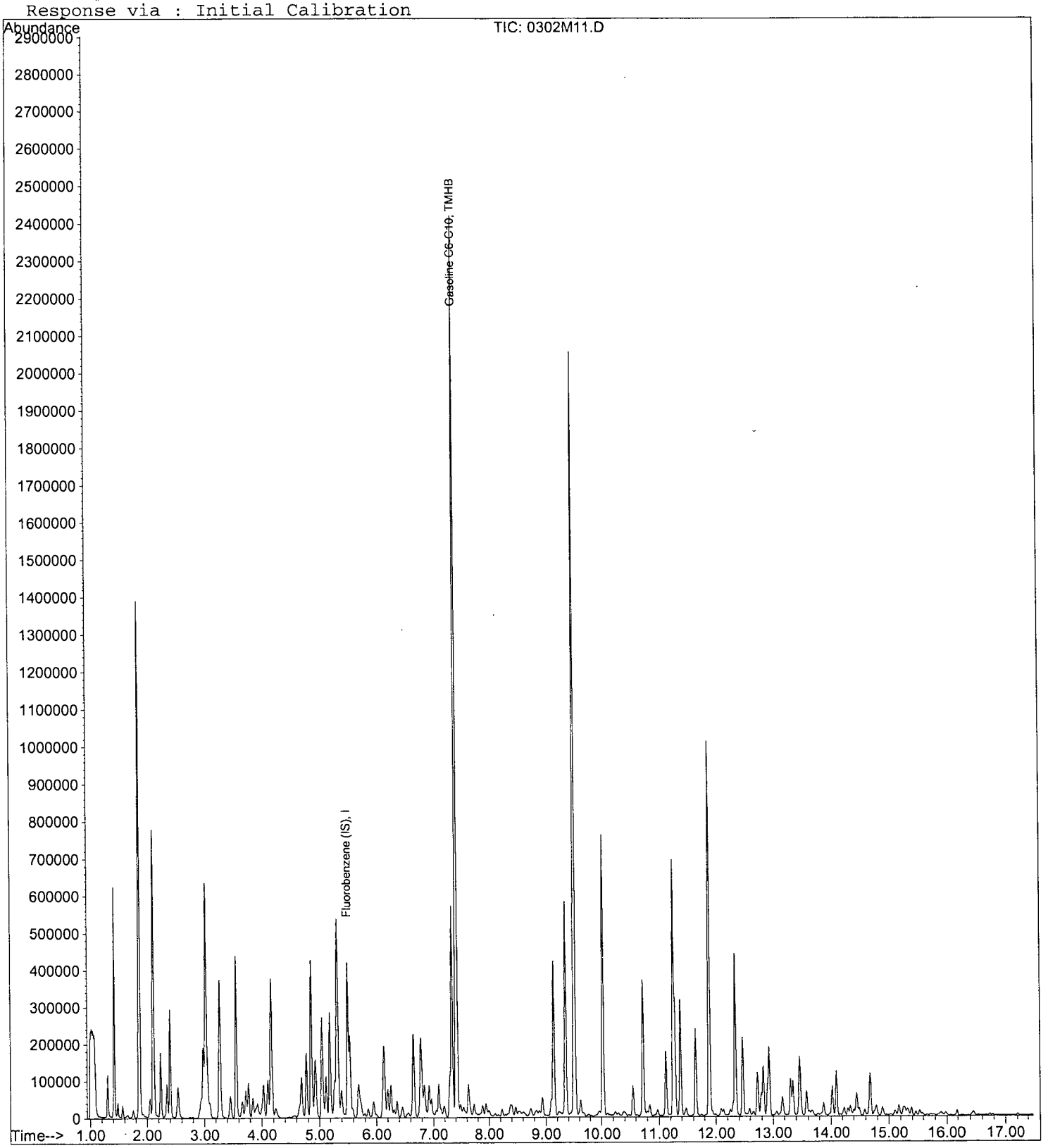
Quantitation Report

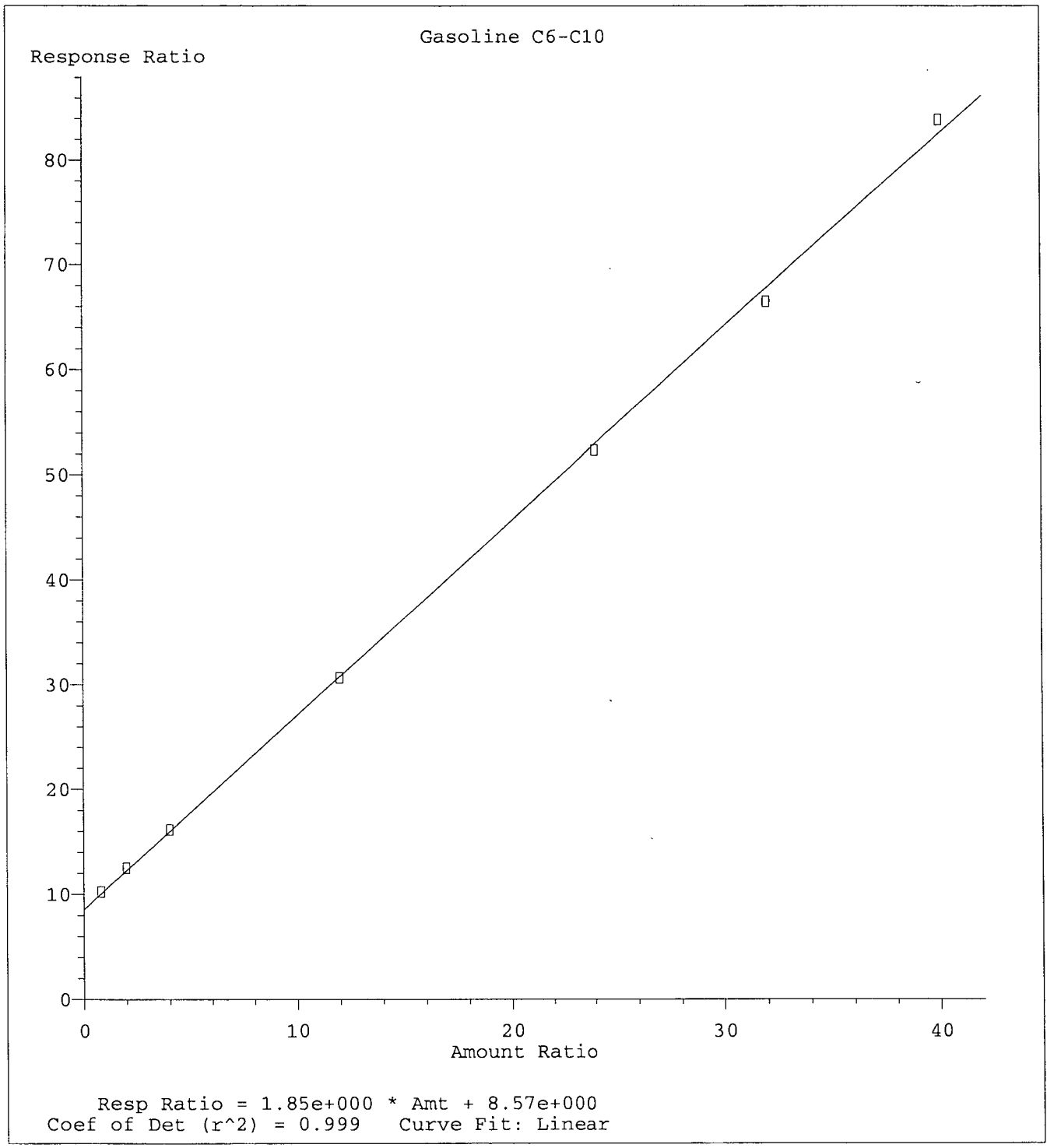
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
7							
8							
9							
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11							
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35							
36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D Vial: 13
Acq On : 2 Mar 17 13:13 Operator: PM,DG,SV,CMM
Sample : (SS) 300ppb GAS STD 03/02/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

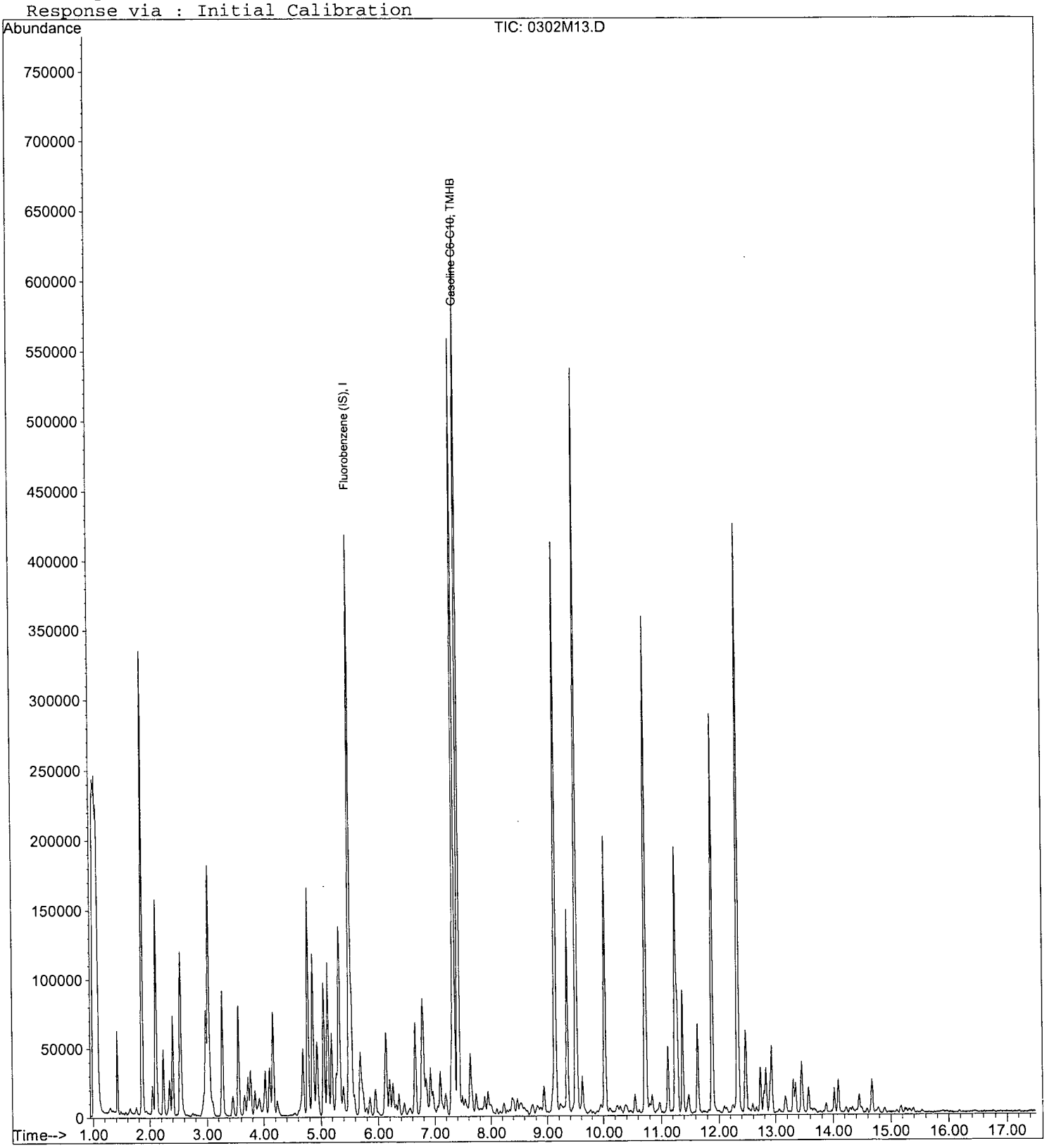
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09.D	0308M10.D	0308M11.D	0308M12.D	0308M13.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
3	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
6	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
3) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
5) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
6) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

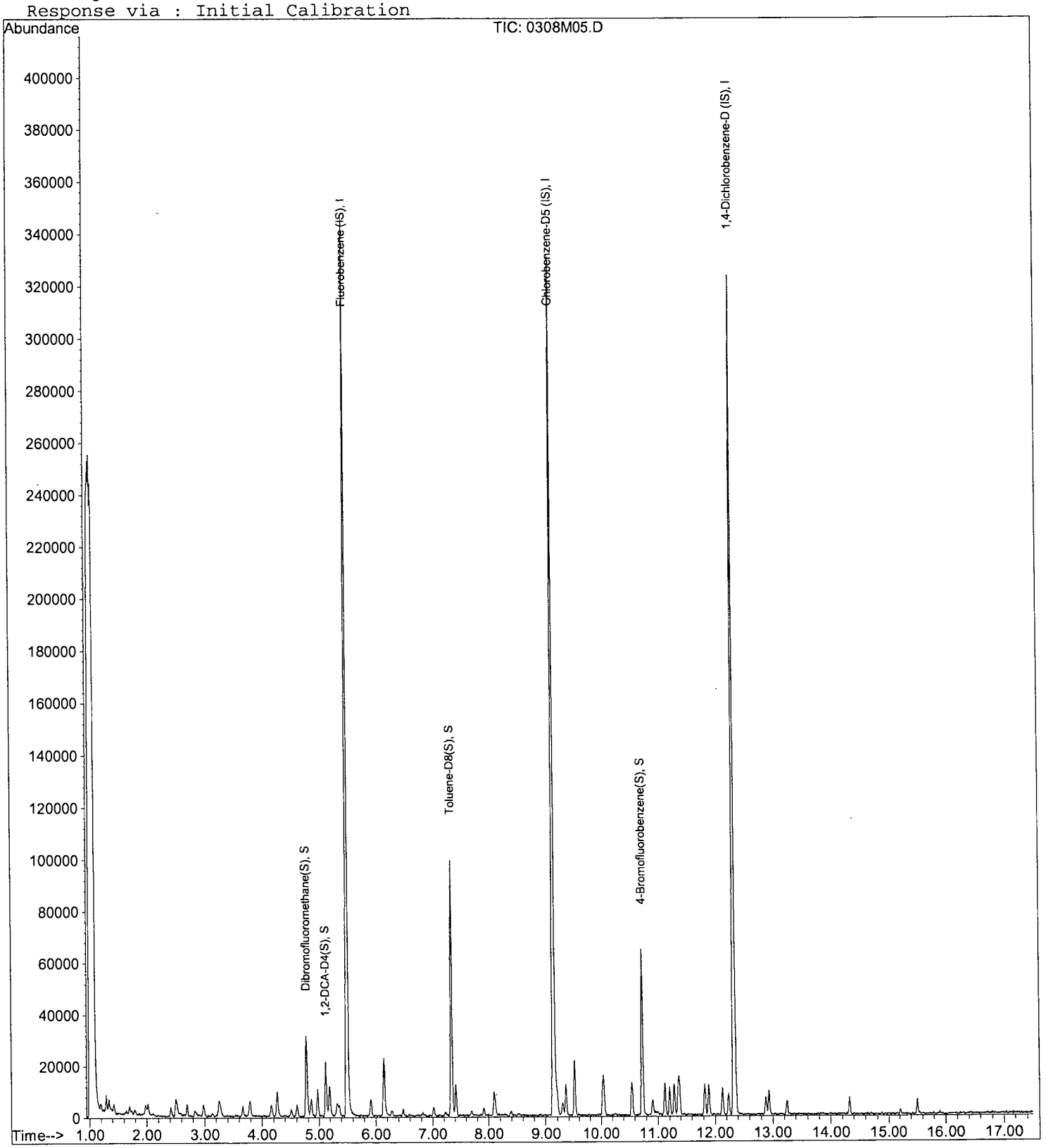
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D Vial: 5
Acq On : 8 Mar 17 13:26 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 3/8/17I Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
3) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
5) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
6) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

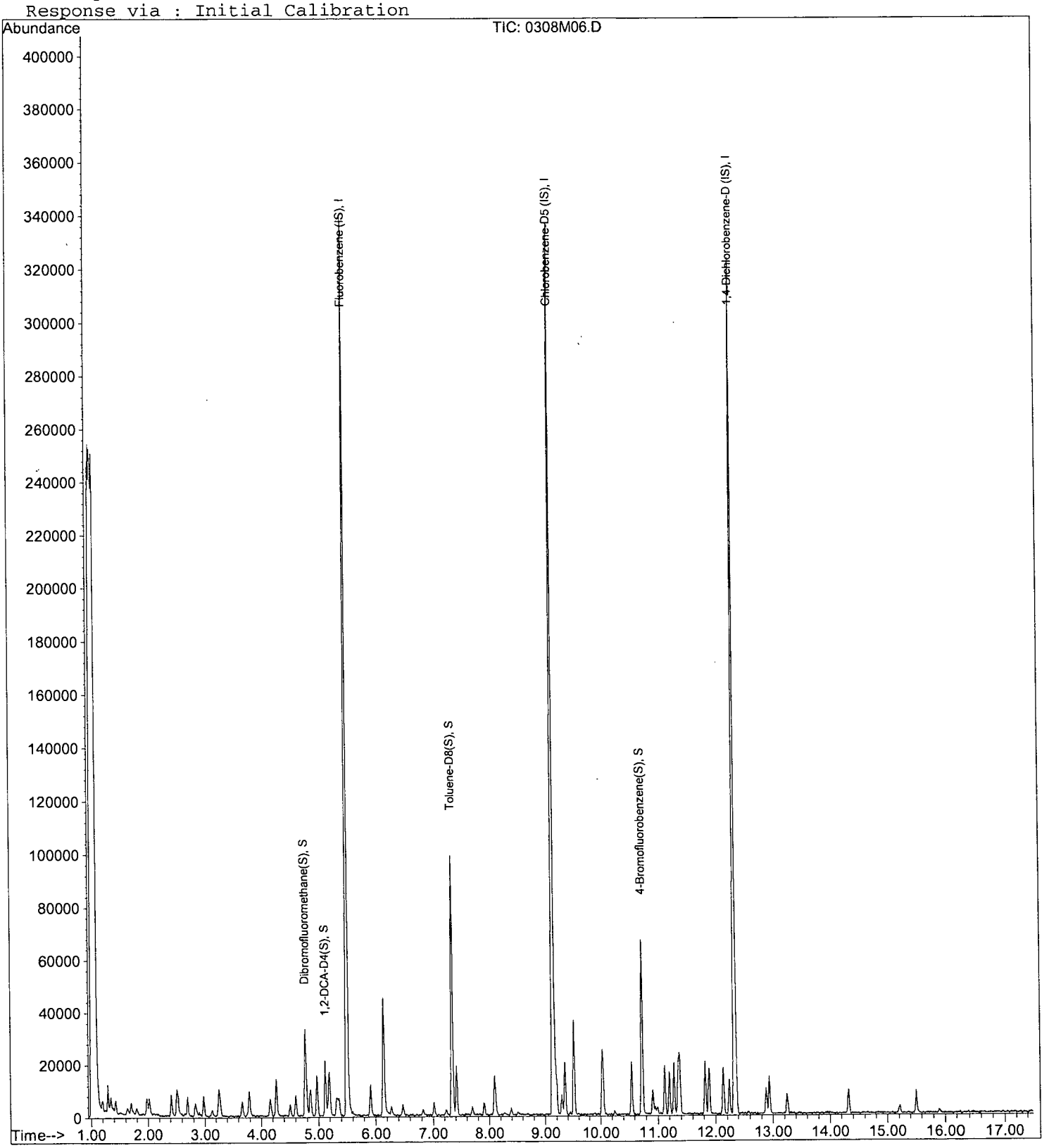
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
3) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
5) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
6) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

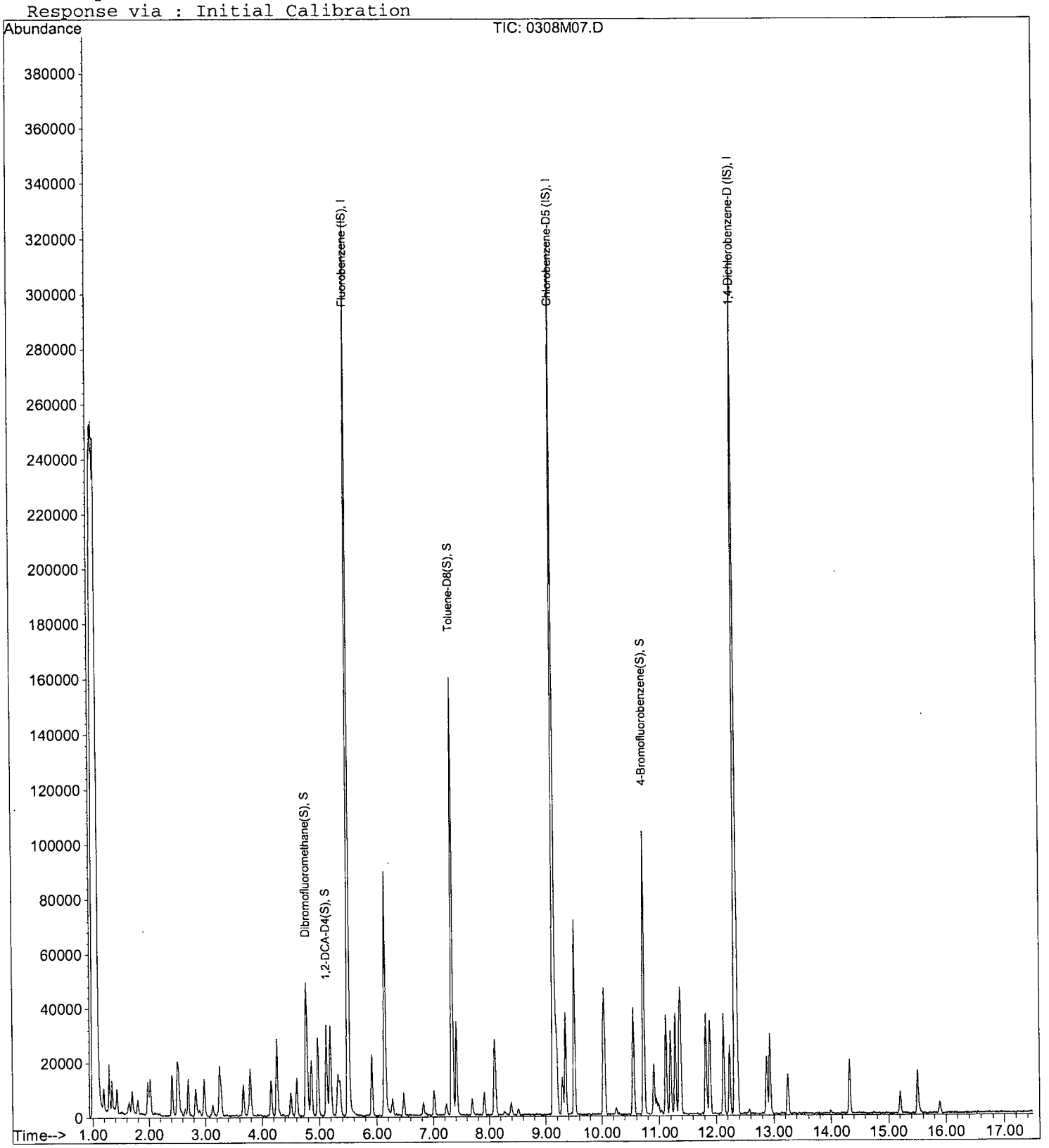
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017
Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
3) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
5) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

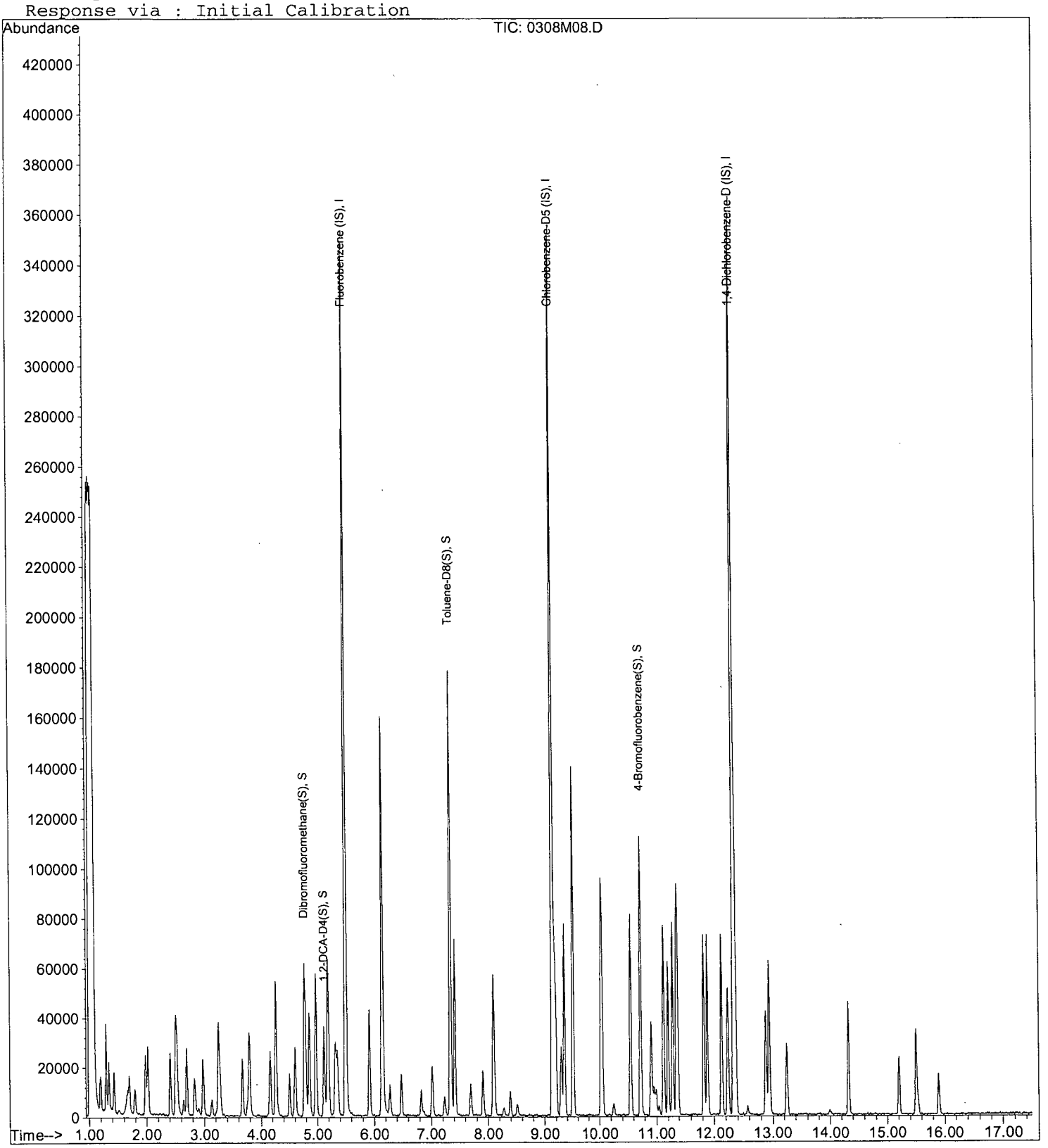
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D Vial: 8
Acq On : 8 Mar 17 14:51 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 3/8/17L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
3) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
5) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
6) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

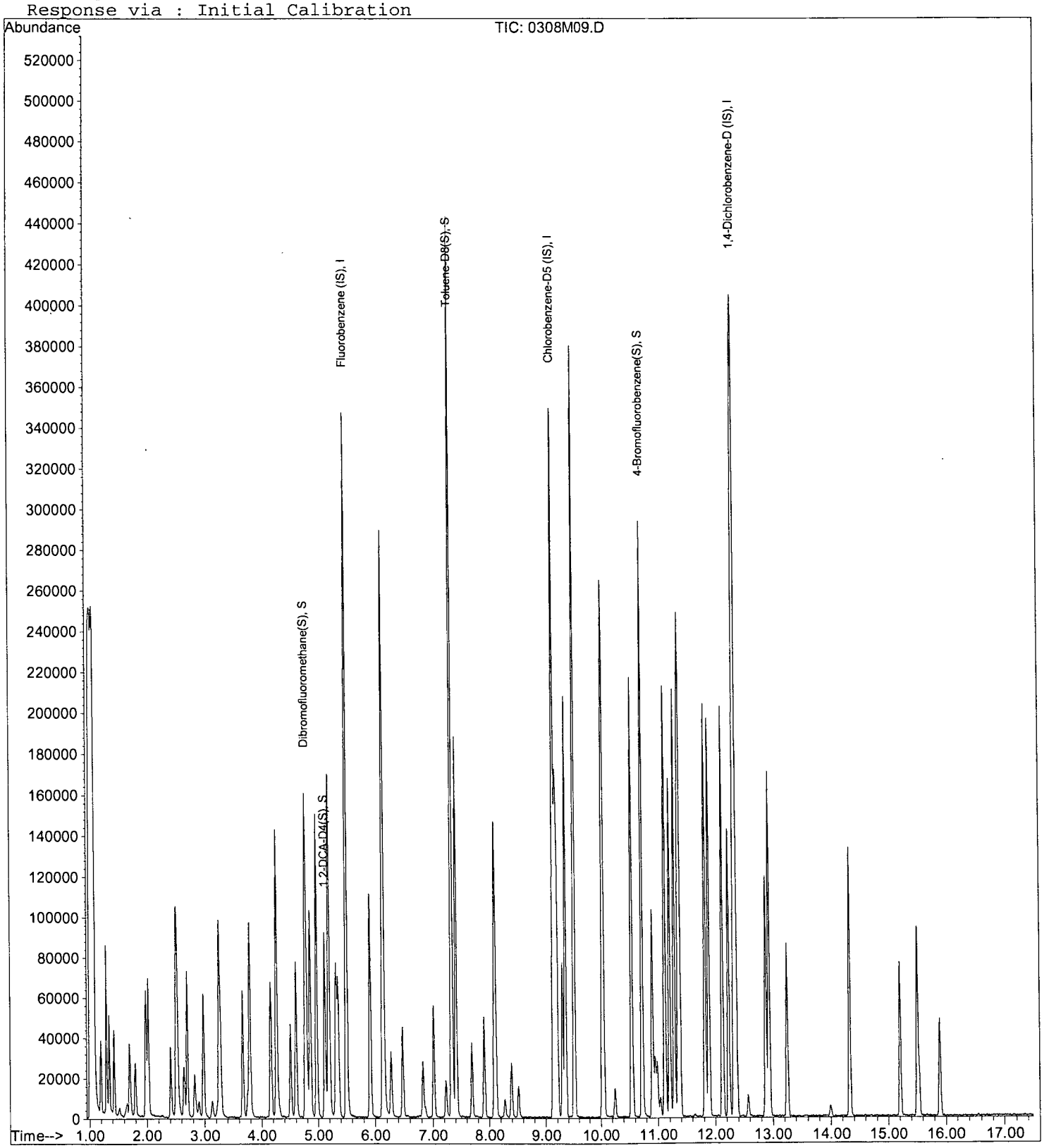
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
3) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
5) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
6) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

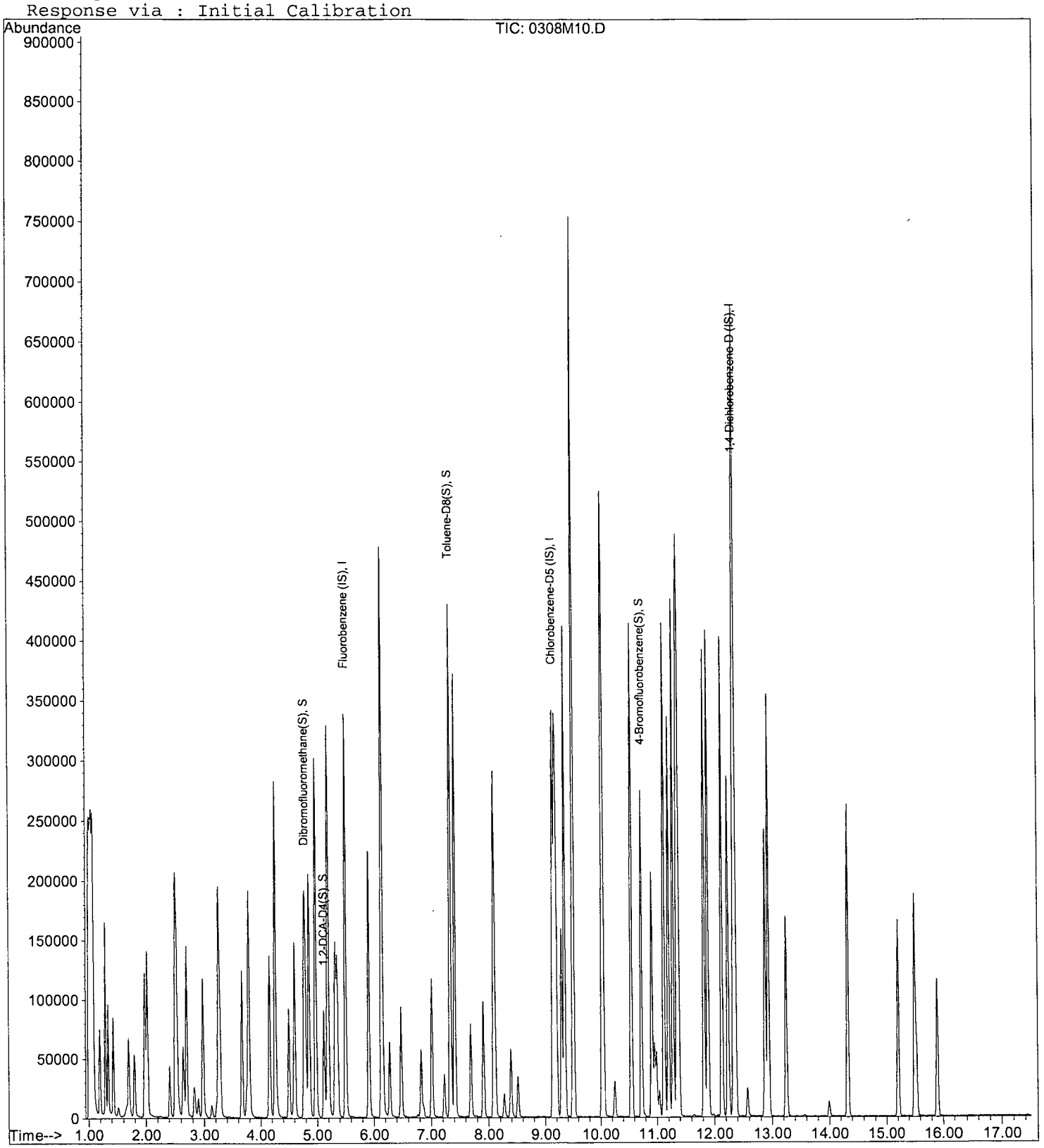
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D Vial: 10
Acq On : 8 Mar 17 15:48 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 3/8/17N Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
3) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
5) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

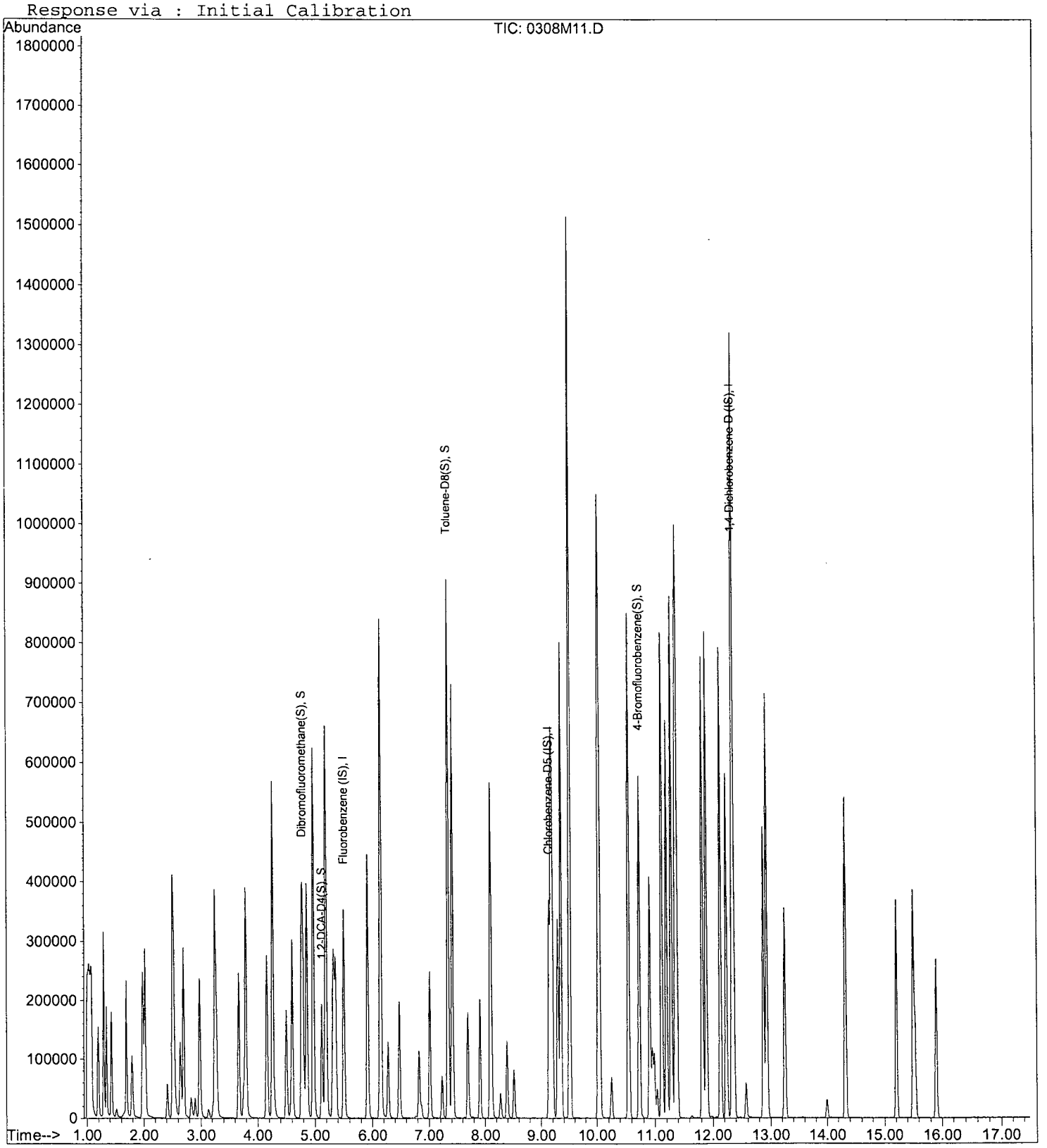
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D Vial: 11
Acq On : 8 Mar 17 16:16 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 3/8/17O Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
3) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
5) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
6) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M12.D MSUR308.M Thu Mar 09 11:52:57 2017

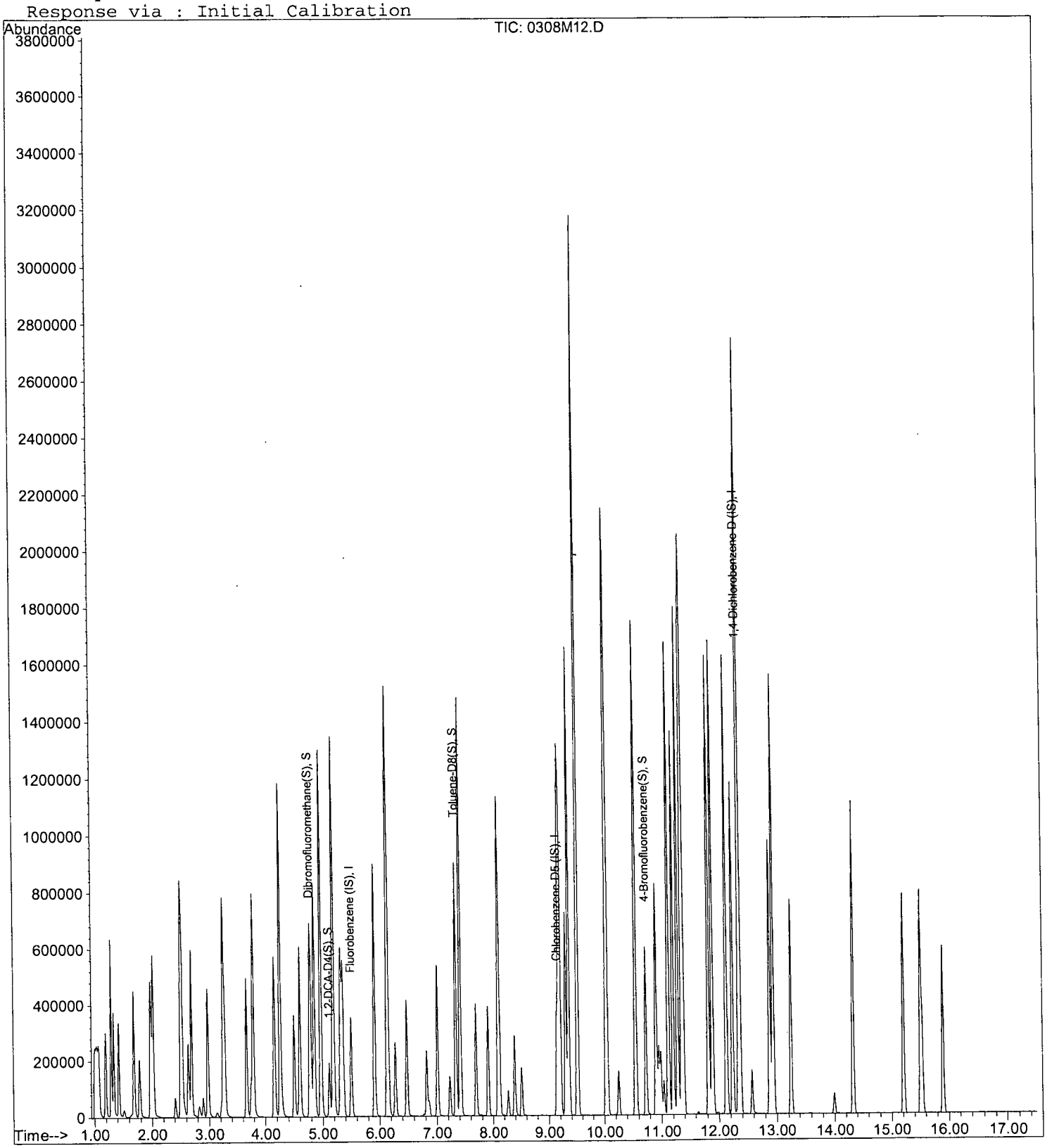
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
3) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
5) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

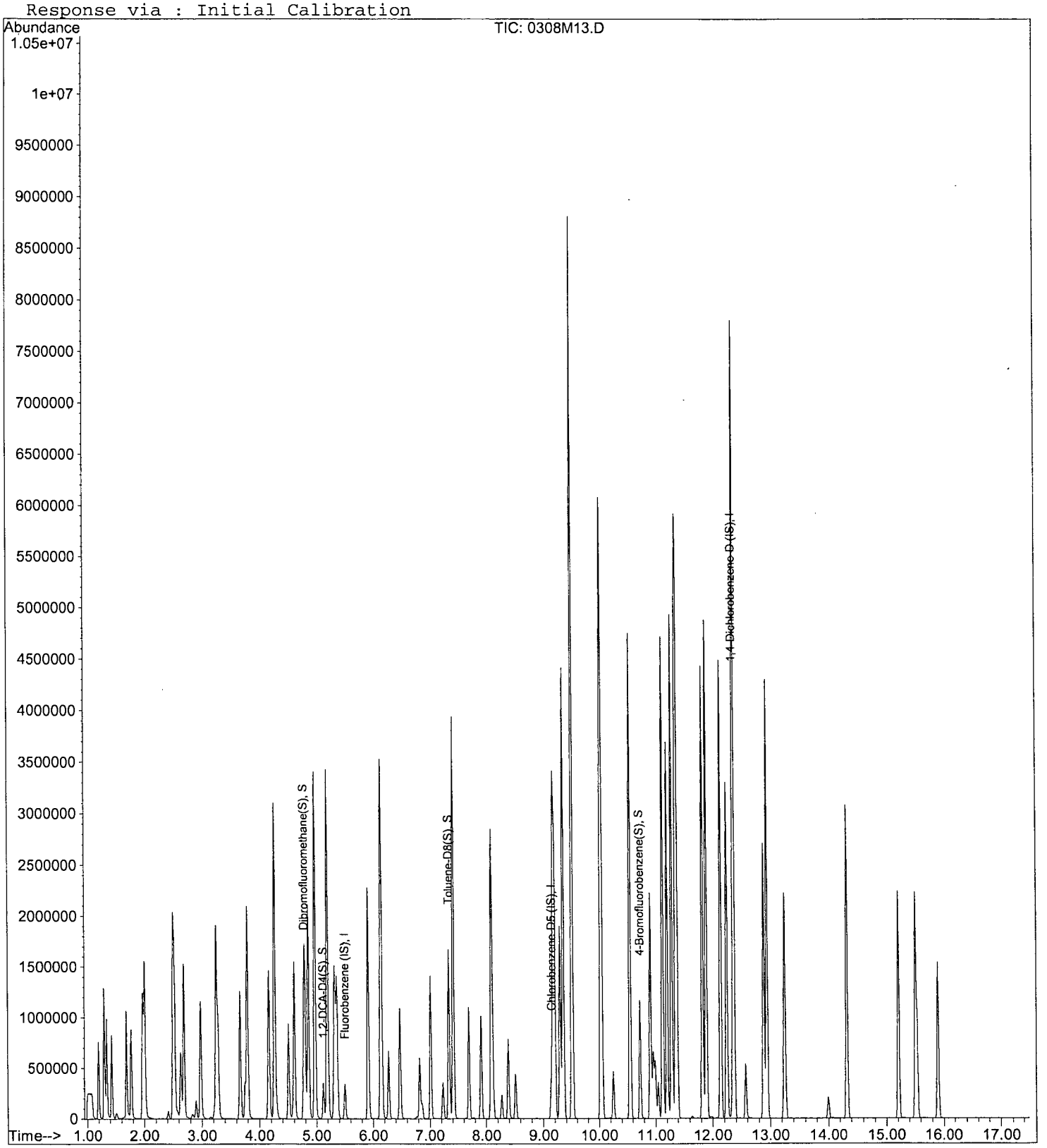
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0311M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.405	47	TMHBL	8.5
3							
4							
5							
6							
7							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M05.D Vial: 5
Acq On : 11 Mar 17 12:10 Operator: PM,DG,SV,CMM
Sample : 170311A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:55 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	318387	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9190401m	274.43448 ppb	100

(#) = qualifier out of range (m) = manual integration

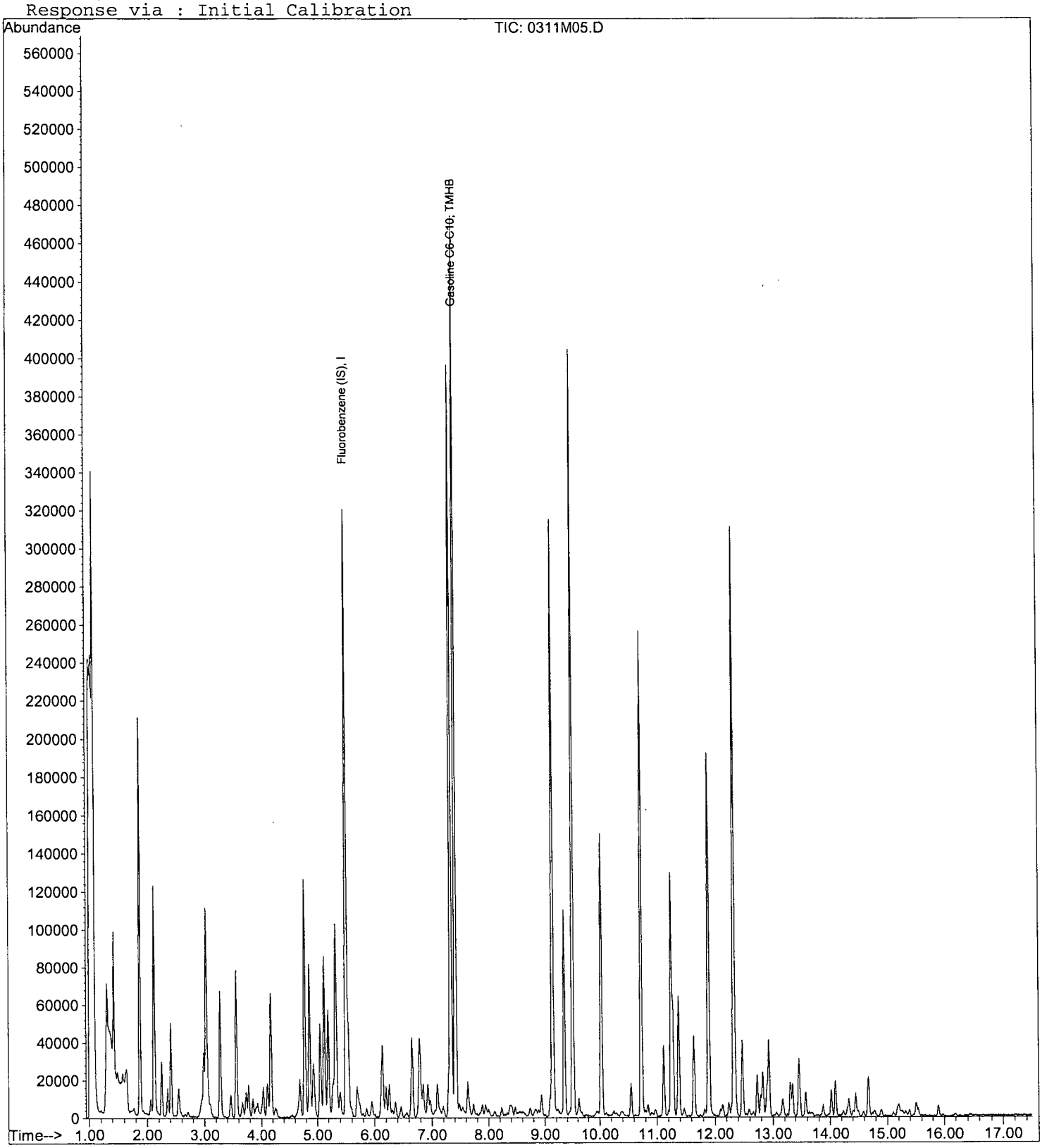
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M05.D
Acq On : 11 Mar 17 12:10
Sample : 170311A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:55 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M05.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2445	0.74	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1918	2.4	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.402	3.4	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4583	4.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
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14							
15							
16							
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34							
35							
36							
37							
38							
39							
40							
		Average			2.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M05.D Vial: 5
Acq On : 11 Mar 17 12:10 Operator: PM,DG,SV,CMM
Sample : 170311A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 14:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305542	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213078	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102004	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	74695	24.81381 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.256%	
3) 1,2-DCA-D4(S)	5.13	65	58589	24.40746 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.628%	
5) Toluene-D8(S)	7.34	98	298641	24.13793 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.552%	
6) 4-Bromofluorobenzene(S)	10.73	95	97657	23.87783 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.512%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0311M22.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.218	51	TMHBL	19
3							
4							
5							
6							
7							
8							
9							
10							
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36							
37							
38							
39							
40							
		Average			51.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M22.D
Acq On : 12 Mar 17 10:37
Sample : Ending CCV GAS 300ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	325556	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8665299m	244.03278 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

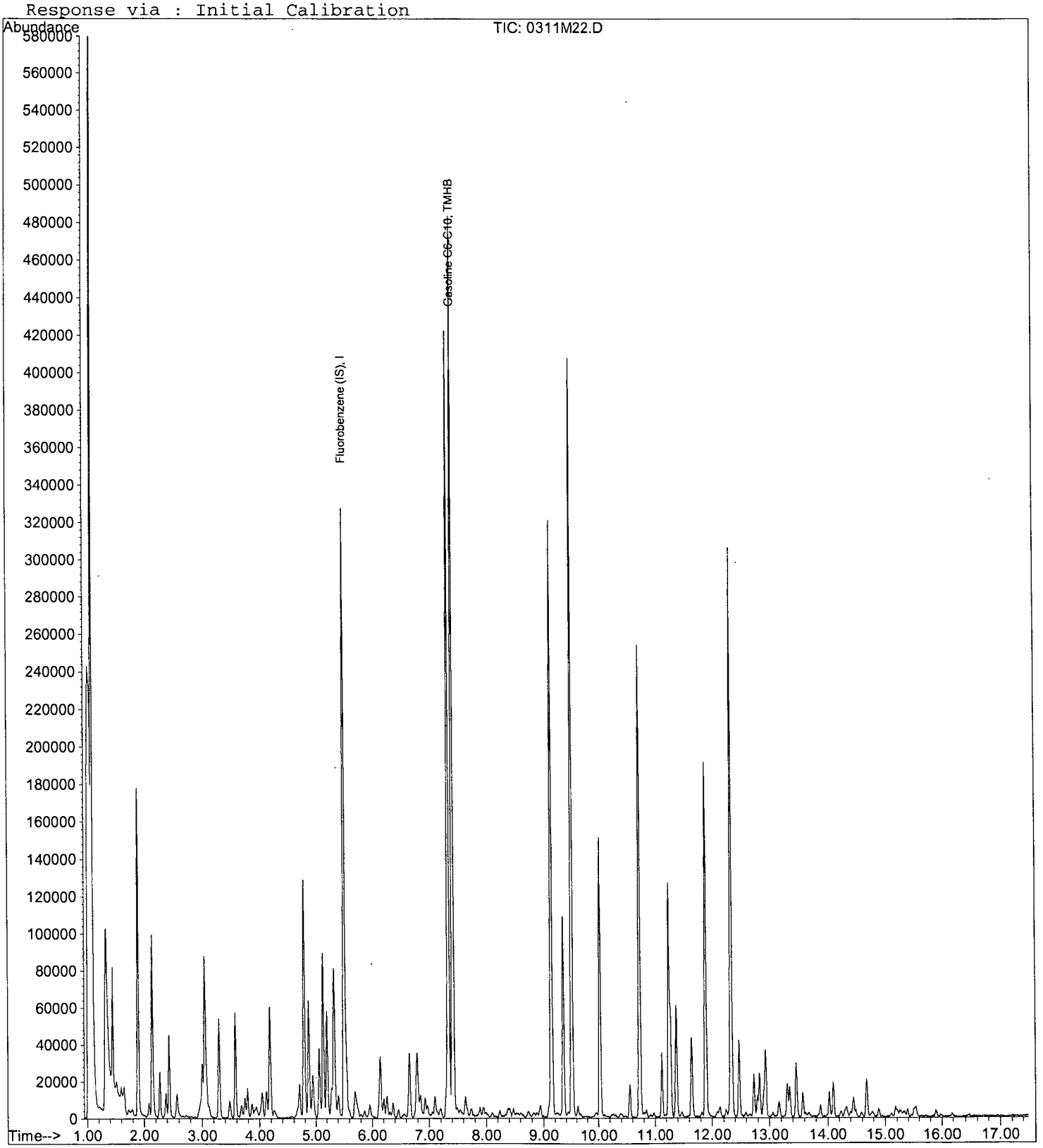
Data File : M:\MAX\DATA\M170308\0311M22.D
Acq On : 12 Mar 17 10:37
Sample : Ending CCV GAS 300ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M22.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2442	0.87	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1934	1.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.440	0.78	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4599	4.2	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
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14							
15							
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34							
35							
36							
37							
38							
39							
40							
		Average			1.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M22.D Vial: 22
Acq On : 12 Mar 17 10:37 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 03/11/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 14:52 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	310604	25.00000 ppb	0.01
4) Chlorobenzene-D5 (IS)	9.14	117	215572	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	98320	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75835	24.78195 ppb	0.01
Spiked Amount 25.000			Recovery	= 99.128%	
3) 1,2-DCA-D4(S)	5.13	65	60082	24.62151 ppb	0.02
Spiked Amount 25.000			Recovery	= 98.488%	
5) Toluene-D8(S)	7.34	98	310494	24.80562 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	99140	23.95999 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0312M06.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.283	50	TMHBL	15
3							
4							
5							
6							
7							
8							
9							
10							
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33							
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35							
36							
37							
38							
39							
40							
		Average			50.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M06.D
Acq On : 12 Mar 17 14:27
Sample : 170312A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:50 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	322243	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	8826958m	254.51539	ppb	100

(#) = qualifier out of range (m) = manual integration

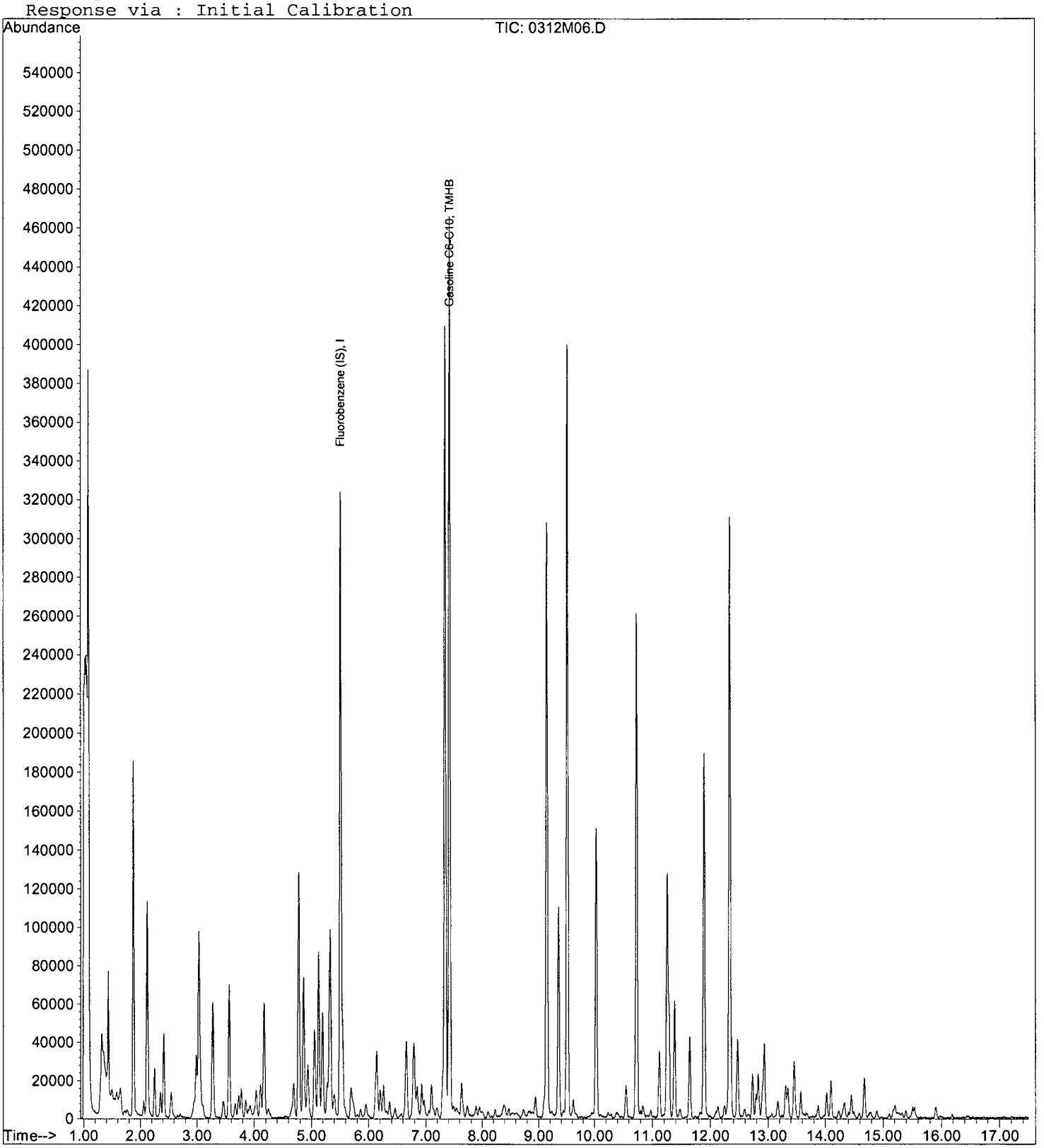
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M06.D
Acq On : 12 Mar 17 14:27
Sample : 170312A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:50 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0312M06.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2444	0.79	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1949	0.78	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.462	0.70	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4658	2.9	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
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12							
13							
14							
15							
16							
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35							
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37							
38							
39							
40							
		Average			1.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M06.D Vial: 4
Acq On : 12 Mar 17 14:27 Operator: PM,DG,SV,CMM
Sample : 170312A CCV-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 13:39 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307480	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	209668	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	99692	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75133	24.80200 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.208%	
3) 1,2-DCA-D4(S)	5.13	65	59918	24.80377 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.216%	
5) Toluene-D8(S)	7.34	98	306479	25.17432 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.696%	
6) 4-Bromofluorobenzene(S)	10.73	95	97654	24.26543 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.060%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0312M06.D MSUR308.M Mon Mar 13 13:40:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0312M26.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.380	48	TMHBL	9.9
3							
4							
5							
6							
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39							
40							
		Average			48.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M26.D
Acq On : 12 Mar 17 23:56
Sample : Ending CCV GAS 300ug/L 03/12/17
Misc : IS&S 02/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:54 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	305223	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8716189m	270.26055 ppb	100

(#) = qualifier out of range (m) = manual integration
0312M26.D MGAS6302.M Mon Mar 13 12:55:57 2017

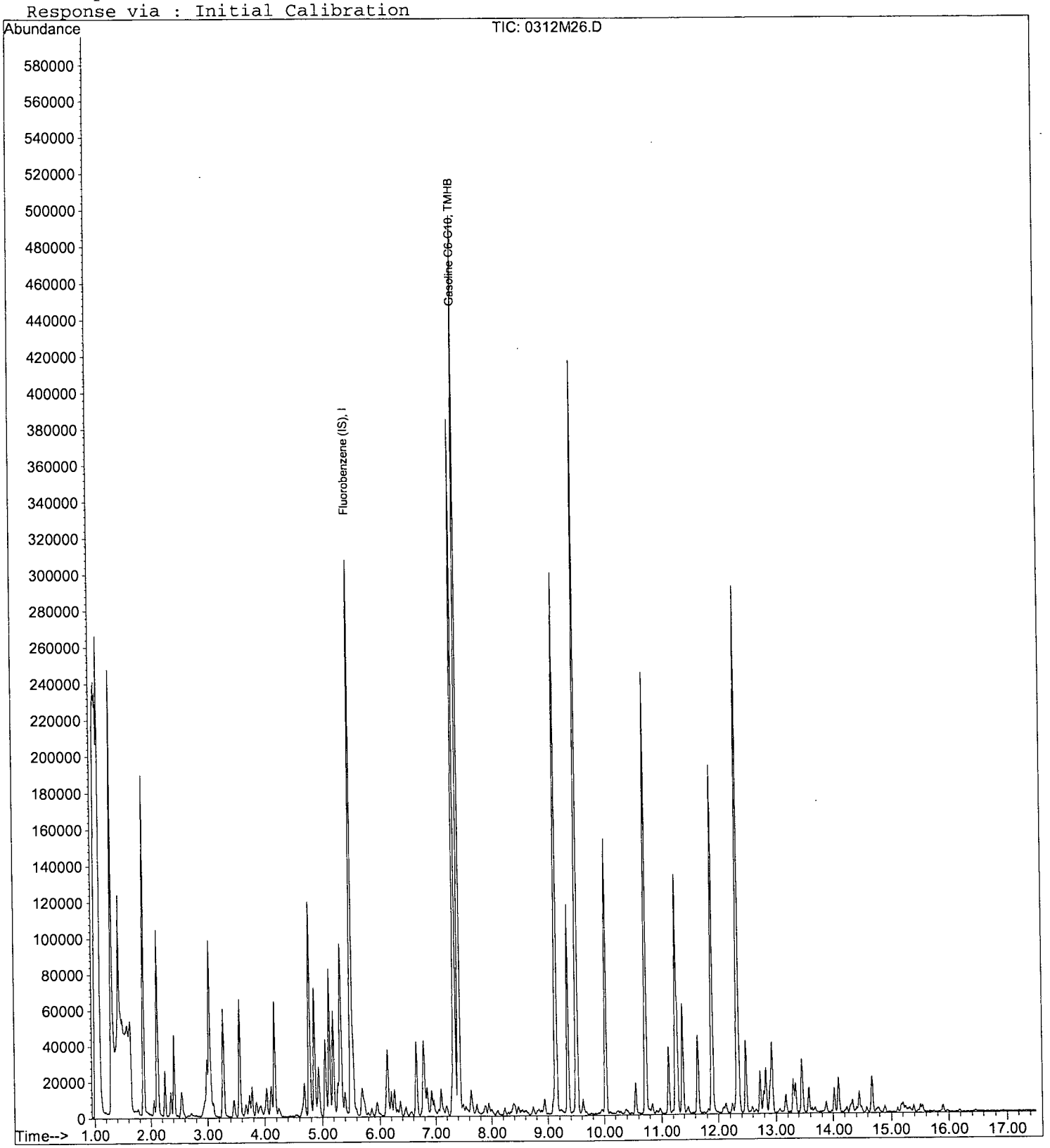
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M26.D
Acq On : 12 Mar 17 23:56
Sample : Ending CCV GAS 300ug/L 03/12/17
Misc : IS&S 02/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:54 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0312M26.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2444	0.77	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1945	0.95	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.421	2.1	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4488	6.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
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14							
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37							
38							
39							
40							
		Average			2.6		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M26.D
Acq On : 12 Mar 17 23:56
Sample : Ending CCV GAS 300ug/L 03/12/17
Misc : IS&S 02/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	288791	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	202121	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	96399	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	70585	24.80856 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.236%	
3) 1,2-DCA-D4(S)	5.12	65	56182	24.76229 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.048%	
5) Toluene-D8(S)	7.34	98	287251	24.47594 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.904%	
6) 4-Bromofluorobenzene(S)	10.73	95	90721	23.38442 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.536%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0313M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.561	44	TMHBL	0.10
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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15							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			44.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M06.D
Acq On : 13 Mar 17 11:13
Sample : 170313A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:22 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	284107	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8732057m	299.71217 ppb	100

(#) = qualifier out of range (m) = manual integration
0313M06.D MGAS6302.M Tue Mar 14 10:29:55 2017

Quantitation Report

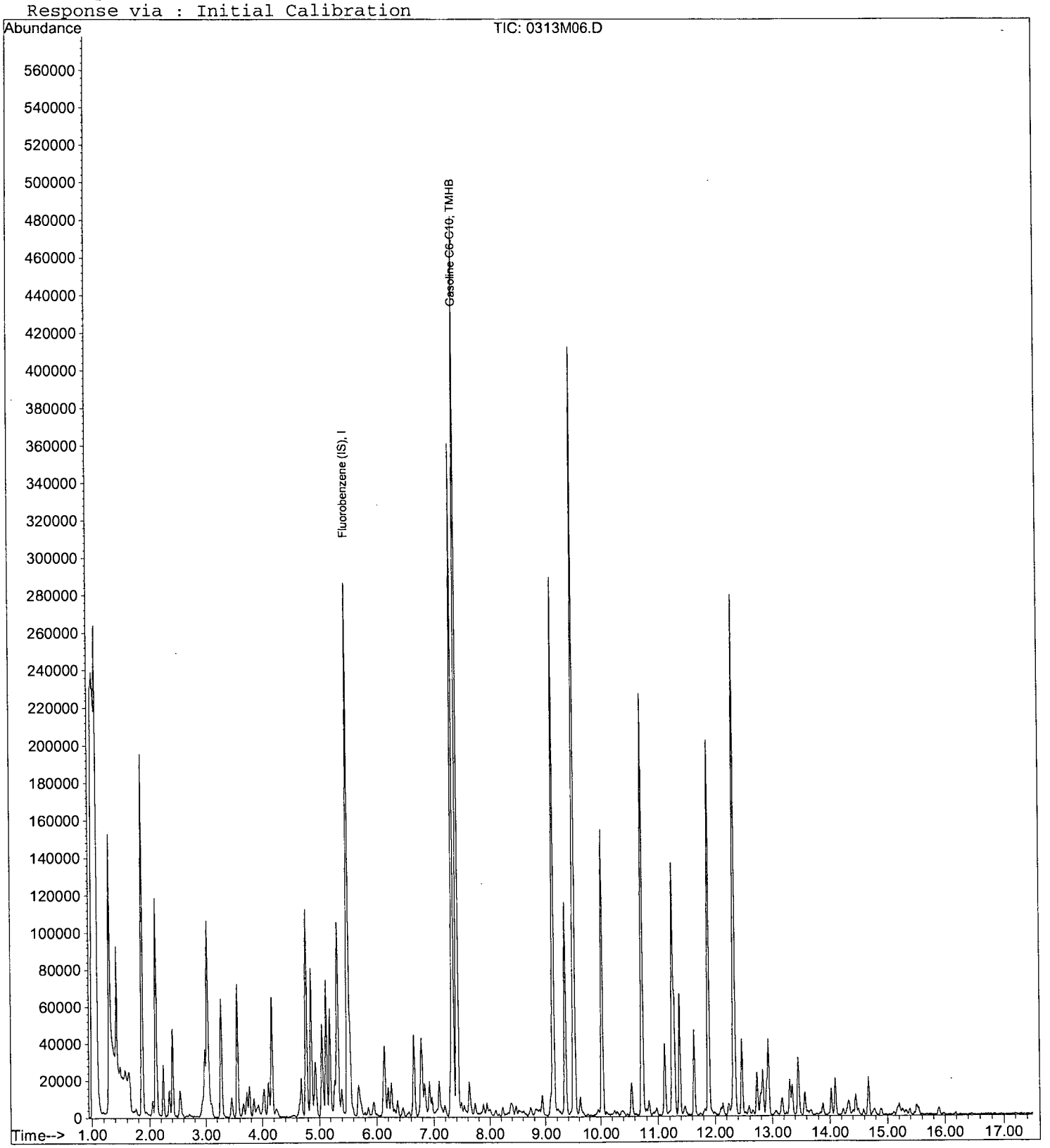
Data File : M:\MAX\DATA\M170308\0313M06.D
Acq On : 13 Mar 17 11:13
Sample : 170313A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:22 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0313M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2424	1.6	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1836	6.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.426	1.8	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4591	4.3	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.6		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M06.D
Acq On : 13 Mar 17 11:13
Sample : 170313A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	273057	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	189033	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	90234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	66178	24.59989 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.400%	
3) 1,2-DCA-D4(S)	5.12	65	50139	23.37221 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.488%	
5) Toluene-D8(S)	7.34	98	269488	24.55224 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.208%	
6) 4-Bromofluorobenzene(S)	10.73	95	86777	23.91647 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.664%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0313M29.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.329	49	TMHBL	13
3							
4							
5							
6							
7							
8							
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38							
39							
40							
		Average			49.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M29.D Vial: 28
Acq On : 13 Mar 17 22:08 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 03/13/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 10:29 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	302838	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8464202m	262.05115 ppb	100

(#) = qualifier out of range (m) = manual integration
0313M29.D MGAS6302.M Tue Mar 14 10:30:57 2017

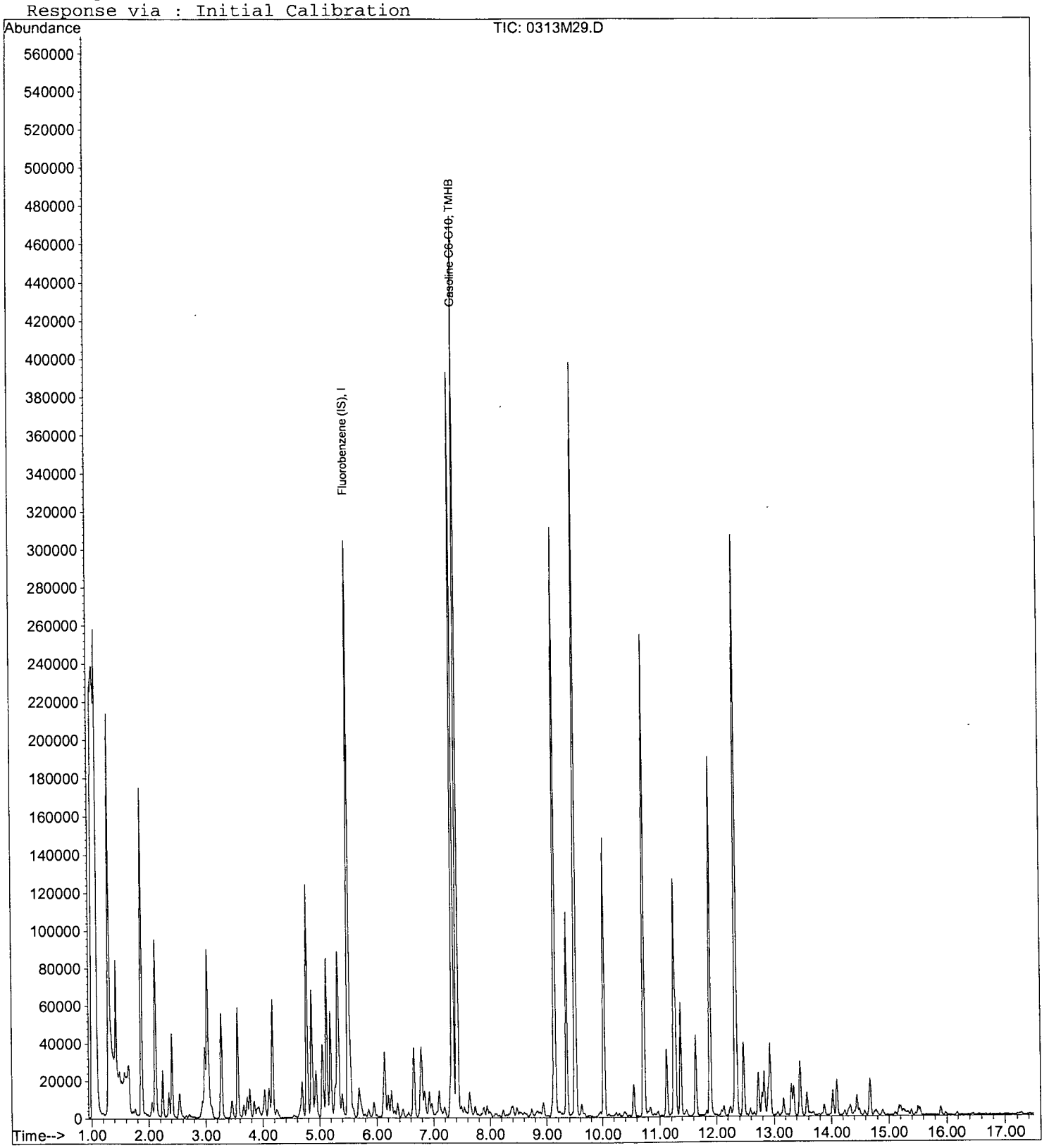
Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M29.D
Acq On : 13 Mar 17 22:08
Sample : Ending CCV GAS 300ug/L 03/13/17
Misc : IS&S 02/23/17

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:29 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0313M29.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2514	2.1	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1974	0.48	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.402	3.4	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4718	1.7	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
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34							
35							
36							
37							
38							
39							
40							
		Average			1.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M29.D
Acq On : 13 Mar 17 22:08
Sample : Ending CCV GAS 300ug/L 03/13/17
Misc : IS&S 02/23/17

Vial: 28
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	291459	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	204417	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101527	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73259	25.51270 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.052%	
3) 1,2-DCA-D4(S)	5.13	65	57520	25.11995 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.480%	
5) Toluene-D8(S)	7.34	98	286563	24.14306 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.572%	
6) 4-Bromofluorobenzene(S)	10.73	95	96451	24.58215 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.328%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0313M29.D MSUR308.M Tue Mar 14 10:36:16 2017

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216816**
Batch ID: #GRO86-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:57:11 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D Vial: 9
Acq On : 11 Mar 17 14:04 Operator: PM,DG,SV,CMM
Sample : 170311A BLK-1WM Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	313706	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

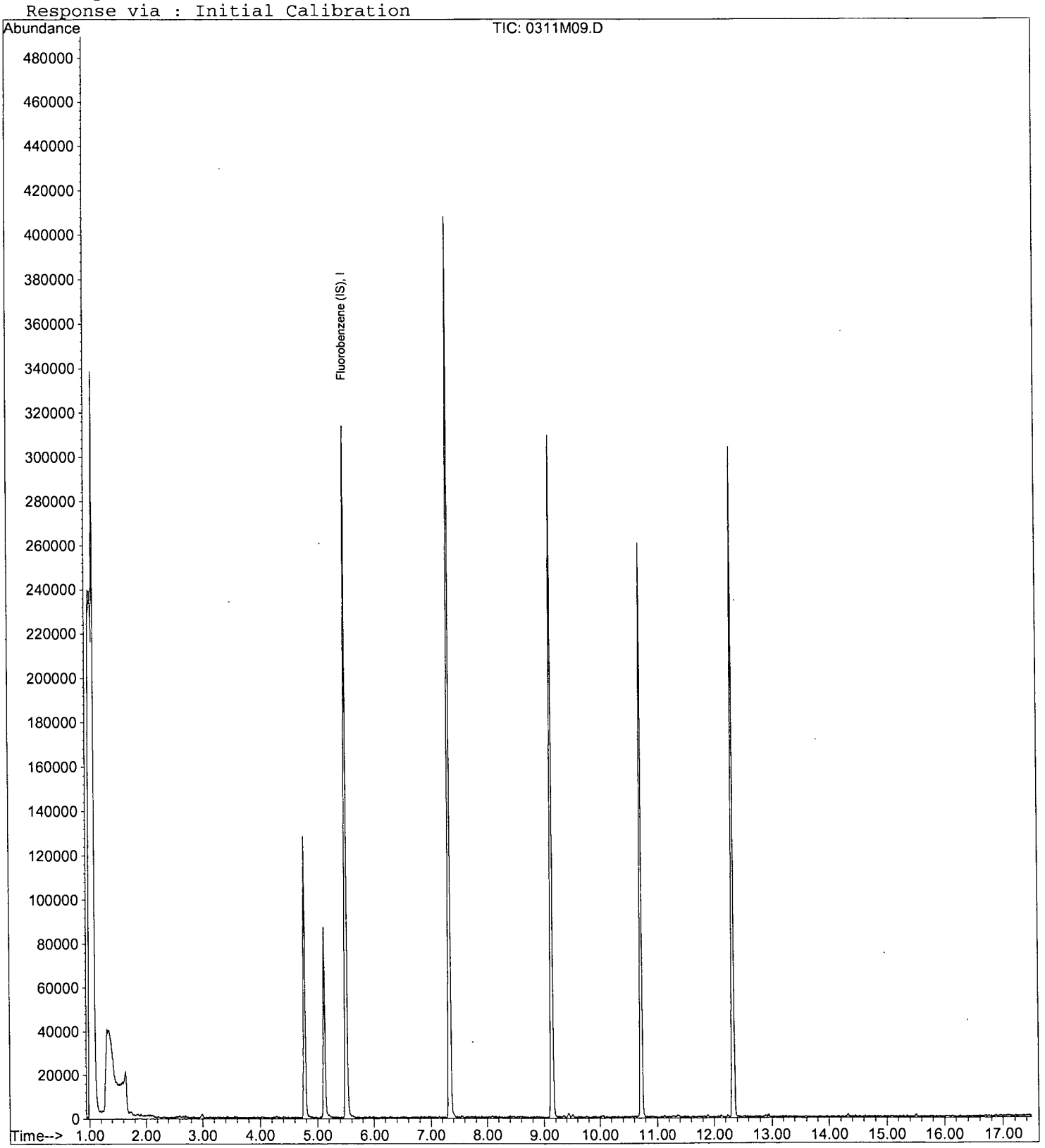
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D Vial: 9
Acq On : 11 Mar 17 14:04 Operator: PM,DG,SV,CMM
Sample : 170311A BLK-1WM Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 15 14:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	300047	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212426	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101351	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76660	25.93298 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.732%	
3) 1,2-DCA-D4(S)	5.12	65	59341	25.17346 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.692%	
5) Toluene-D8(S)	7.34	98	302036	24.48727 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.948%	
6) 4-Bromofluorobenzene(S)	10.73	95	100789	24.71927 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.876%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170312W-51358 - 216825**
Batch ID: #GRO86-170312AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/12/17	03/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.3	85-114			%	03/12/17	03/12/17

Quant Method: MGAS6302.
Run #: 0312M12
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:57:12 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M12.D
Acq On : 12 Mar 17 17:17
Sample : 170312A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	303818	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

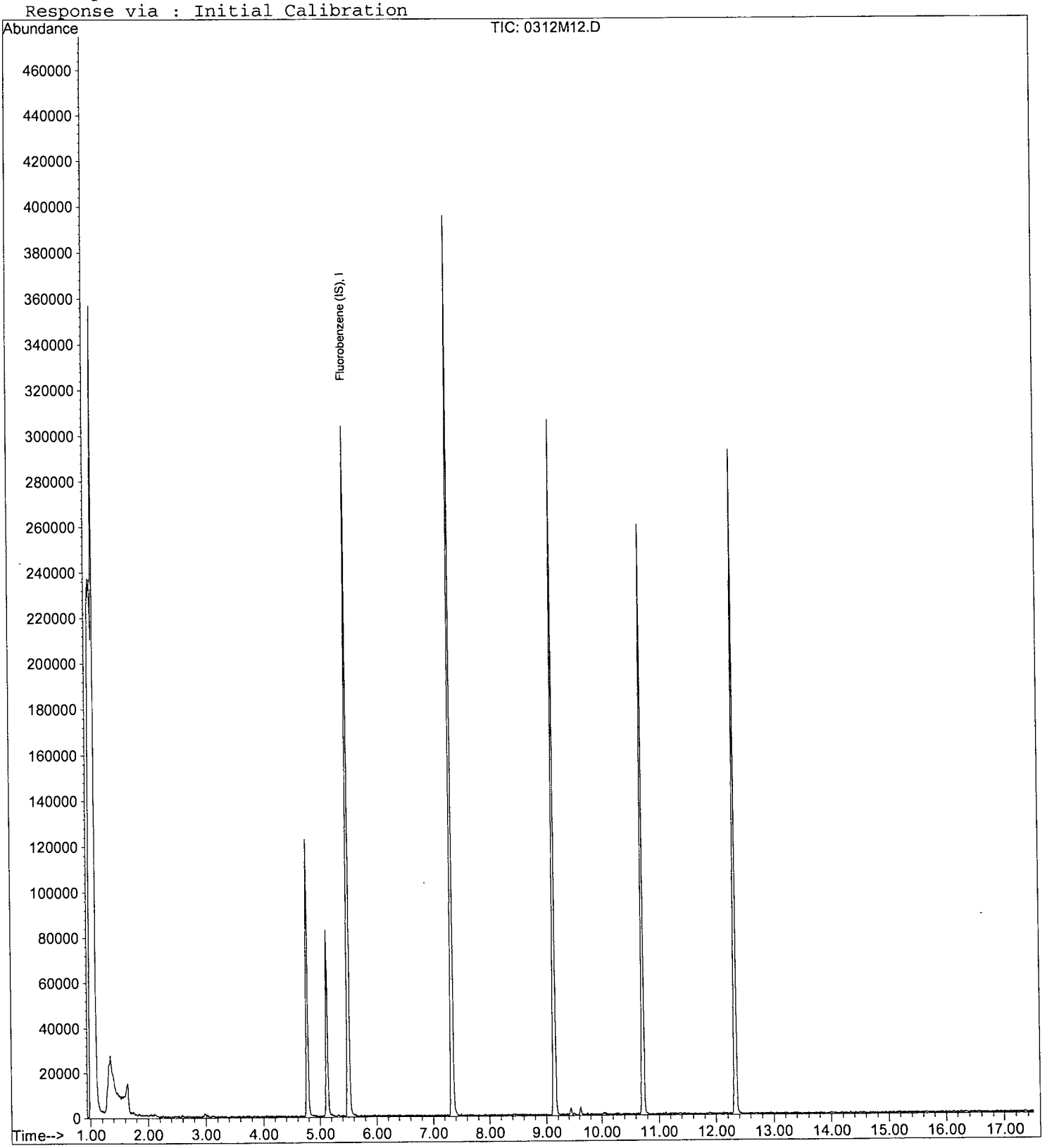
Data File : M:\MAX\DATA\M170308\0312M12.D
Acq On : 12 Mar 17 17:17
Sample : 170312A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:52 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M12.D
Acq On : 12 Mar 17 17:17
Sample : 170312A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 13:39 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	295702	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	207279	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	95985	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	73864	25.35429 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.416%	
3) 1,2-DCA-D4(S)	5.12	65	58663	25.25151 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.008%	
5) Toluene-D8(S)	7.34	98	299747	24.90513 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.620%	
6) 4-Bromofluorobenzene(S)	10.73	95	97770	24.57426 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.296%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170313W-51363 - 216862**
Batch ID: #GRO86-170313AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/13/17	03/13/17
BLANK	SURROGATE: 4-BROMOFLUOR	97.4	85-114			%	03/13/17	03/13/17

Quant Method: MGAS6302.
Run #: 0313M11
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/15/17 1:57:12 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M11.D
Acq On : 13 Mar 17 13:35
Sample : 170313A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:23 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	289617	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

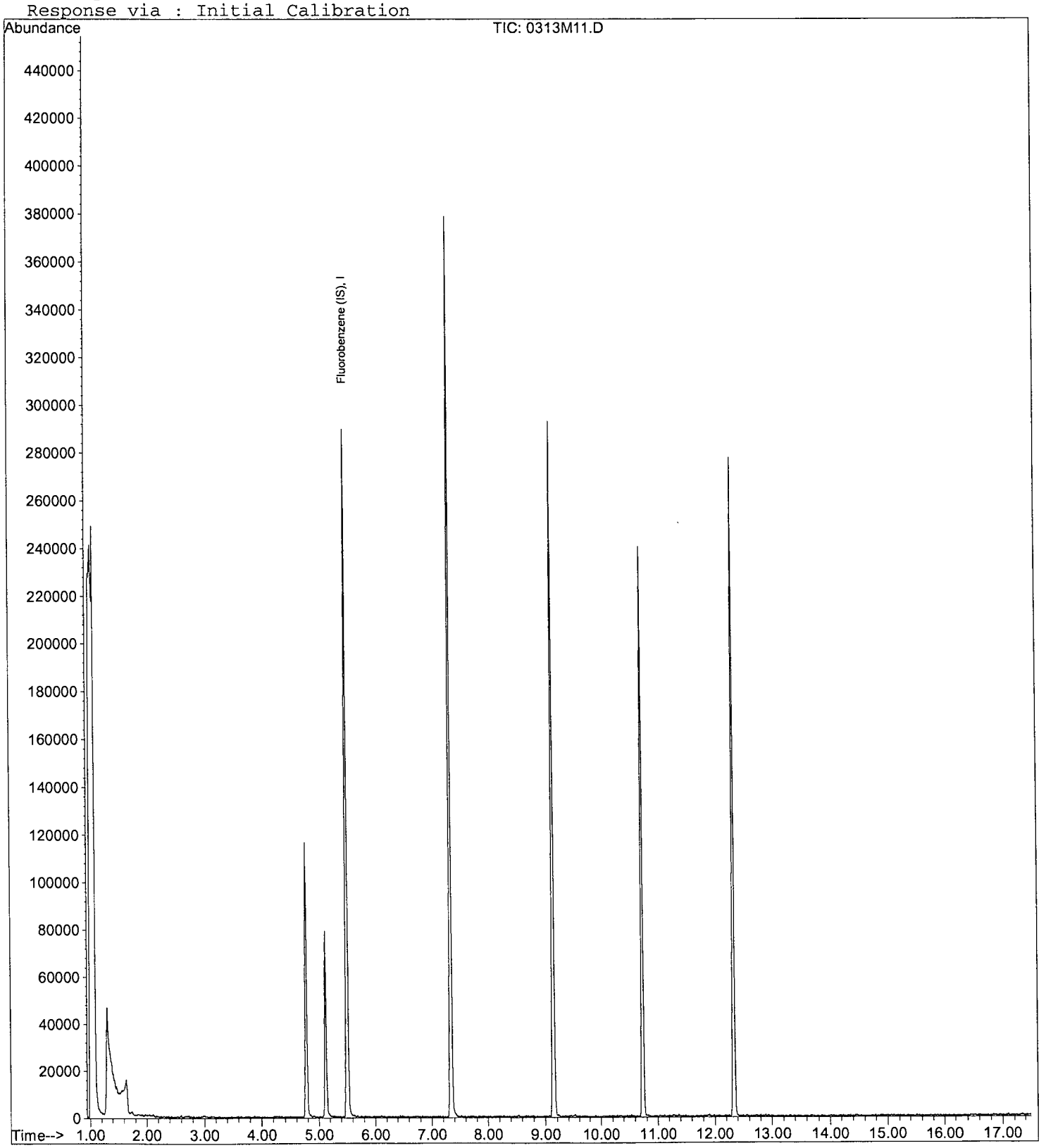
Quantitation Report

Data File : M:\MAX\DATA\M170308\0313M11.D
Acq On : 13 Mar 17 13:35
Sample : 170313A BLK-1WM
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:23 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M11.D Vial: 10
Acq On : 13 Mar 17 13:35 Operator: PM,DG,SV,CMM
Sample : 170313A BLK-1WM Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 14 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	281982	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	196757	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	93592	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	69794	25.12289 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.492%	
3) 1,2-DCA-D4(S)	5.12	65	55320	24.97113 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.884%	
5) Toluene-D8(S)	7.34	98	288767	25.27590 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.104%	
6) 4-Bromofluorobenzene(S)	10.73	95	91962	24.35053 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.404%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170311W-51356 LCS - 216816**
Batch ID: #GRO86-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	280	93.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M06
Initials :	SV

Printed: 03/15/17 1:57:14 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	323410	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9472880m	280.18225 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

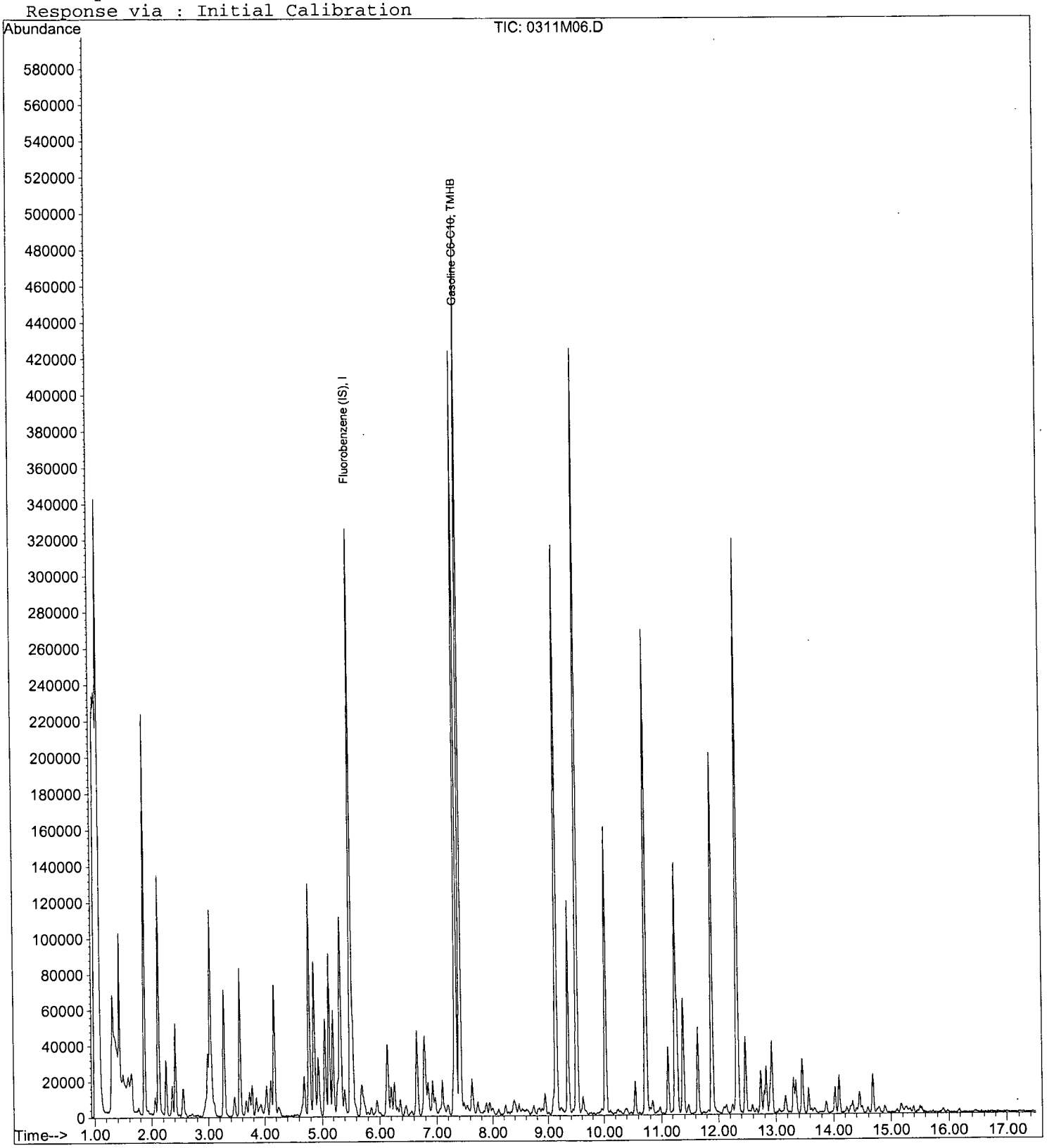
Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307813	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213932	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	105441	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75638	24.94169 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.768%	
3) 1,2-DCA-D4(S)	5.13	65	61239	25.32319 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.292%	
5) Toluene-D8(S)	7.34	98	305995	24.63360 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.536%	
6) 4-Bromofluorobenzene(S)	10.73	95	100704	24.52455 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.100%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170312W-51358 LCS - 216825**
Batch ID: #GRO86-170312AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	305	102	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.8	99.2	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/12/17
Analysis Date :	03/12/17
Instrument :	Max
Run :	0312M07
Initials :	SV

Printed: 03/15/17 1:57:15 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0312M07.D Vial: 5
Acq On : 12 Mar 17 14:55 Operator: PM,DG,SV,CMM
Sample : 170312A LCS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	286547	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8919409m	305.01367 ppb	100

(#) = qualifier out of range (m) = manual integration
0312M07.D MGAS6302.M Mon Mar 13 12:55:25 2017

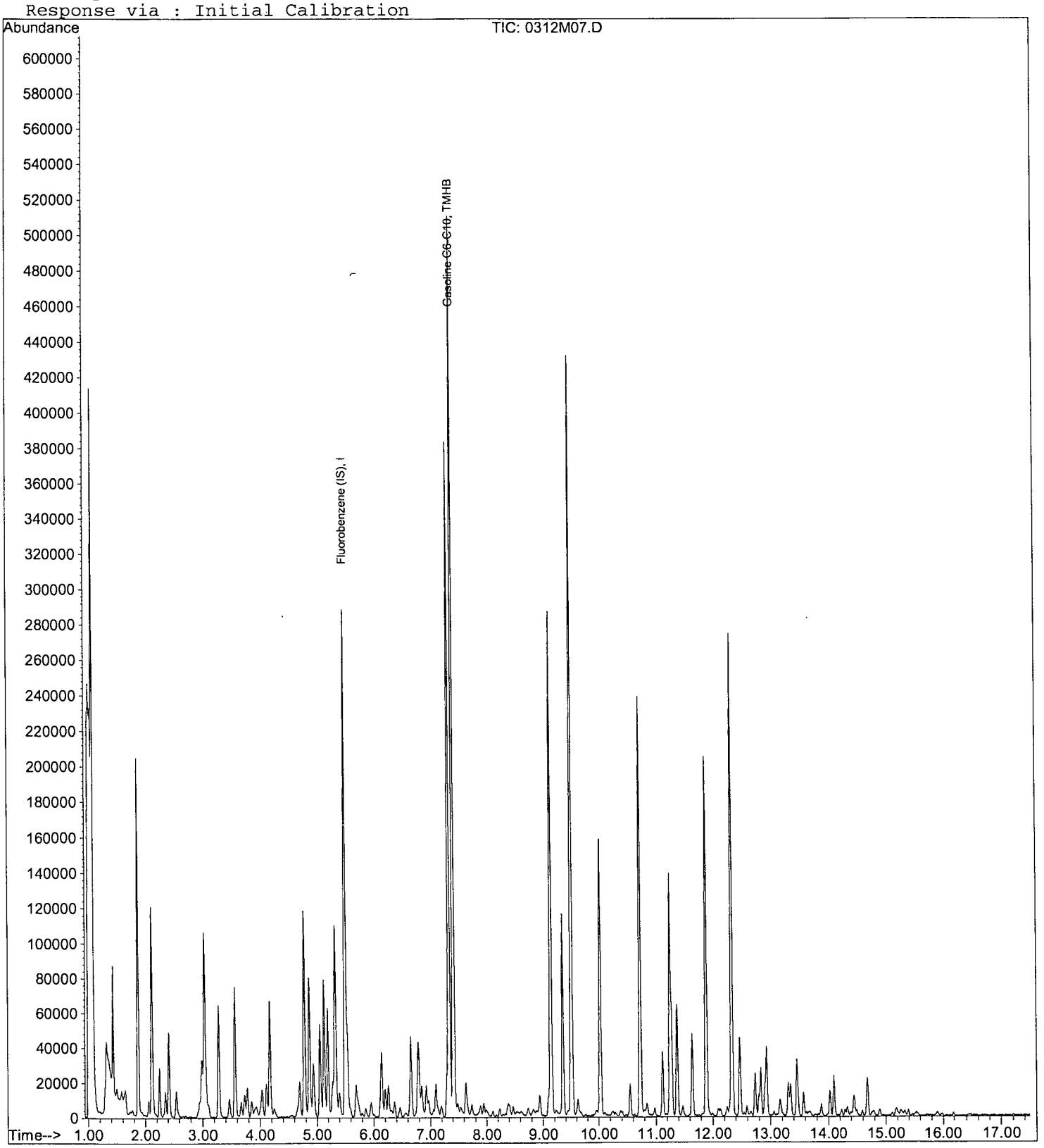
Quantitation Report

Data File : M:\MAX\DATA\M170308\0312M07.D
Acq On : 12 Mar 17 14:55
Sample : 170312A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 12:51 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0312M07.D Vial: 5
Acq On : 12 Mar 17 14:55 Operator: PM,DG,SV,CMM
Sample : 170312A LCS-1WM 300ug/L Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 13:39 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	275252	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	190234	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	92305	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	68849	25.38867 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.556%	
3) 1,2-DCA-D4(S)	5.13	65	53817	24.88664 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.548%	
5) Toluene-D8(S)	7.34	98	280077	25.35587 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.424%	
6) 4-Bromofluorobenzene(S)	10.73	95	90515	24.78920 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.156%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170313W-51363 LCS - 216862**
Batch ID: #GRO86-170313AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	301	100	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/13/17
Analysis Date :	03/13/17
Instrument :	Max
Run :	0313M07
Initials :	SV

Printed: 03/15/17 1:57:15 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0313M07.D
Acq On : 13 Mar 17 11:41
Sample : 170313A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:23 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	282281	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8712575m	301.46712 ppb	100

(#) = qualifier out of range (m) = manual integration
0313M07.D MGAS6302.M Tue Mar 14 10:29:58 2017

Quantitation Report

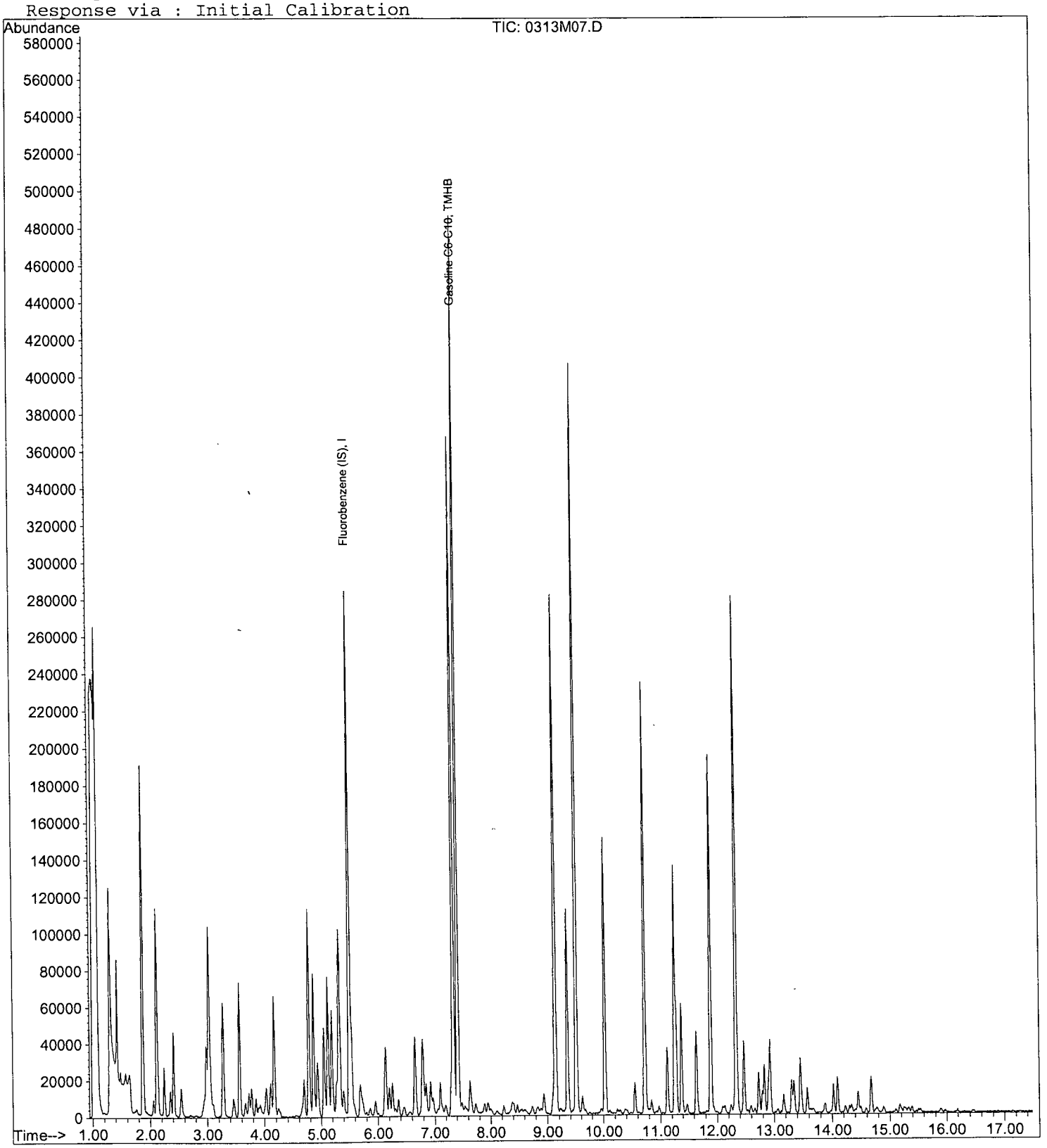
Data File : M:\MAX\DATA\M170308\0313M07.D
Acq On : 13 Mar 17 11:41
Sample : 170313A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:23 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0313M07.D
Acq On : 13 Mar 17 11:41
Sample : 170313A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 14 10:35 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	274294	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	188226	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	91455	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	67371	24.93042 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.720%	
3) 1,2-DCA-D4(S)	5.13	65	52678	24.44502 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.780%	
5) Toluene-D8(S)	7.34	98	269143	24.62594 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.504%	
6) 4-Bromofluorobenzene(S)	10.73	95	88471	24.48790 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.952%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
10	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
11	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
12	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
13	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
14	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
15	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
16	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
17	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
18	5	0311M05.D	1	170311A CCV-1WM 300ug/L	IS&S 02/23/17	11 Mar 17 12:10
19	6	0311M06.D	1	170311A LCS-1WM 300ug/L	IS&S 02/23/17	11 Mar 17 12:38
20	9	0311M09.D	1	170311A BLK-1WM	IS&S 02/23/17	11 Mar 17 14:04
21	19	0311M19.D	1	AZ51356W01	IS&S 02/23/17	11 Mar 17 18:48
22	20	0311M20.D	1	AZ51357W01	IS&S 02/23/17	12 Mar 17 9:40
23	22	0311M22.D	1	Ending CCV GAS 300ug/L 03/11/17	IS&S 02/23/17	12 Mar 17 10:37
24	4	0312M06.D	1	170312A CCV-1WM 300ug/L	IS&S 02/23/17	12 Mar 17 14:27
25	5	0312M07.D	1	170312A LCS-1WM 300ug/L	IS&S 02/23/17	12 Mar 17 14:55
26	10	0312M12.D	1	170312A BLK-1WM	IS&S 02/23/17	12 Mar 17 17:17
27	11	0312M13.D	1	AZ51358W01	IS&S 02/23/17	12 Mar 17 17:46
28	12	0312M14.D	1	AZ51359W01	IS&S 02/23/17	12 Mar 17 18:14
29	13	0312M15.D	1	AZ51360W01	IS&S 02/23/17	12 Mar 17 18:43
30	14	0312M16.D	1	AZ51361W01	IS&S 02/23/17	12 Mar 17 19:11
31	15	0312M17.D	1	AZ51362W01	IS&S 02/23/17	12 Mar 17 19:40
32	24	0312M26.D	1	Ending CCV GAS 300ug/L 03/12/17	IS&S 02/23/17	12 Mar 17 23:56
33	5	0313M06.D	1	170313A CCV-1WM 300ug/L	IS&S 02/23/17	13 Mar 17 11:13
34	6	0313M07.D	1	170313A LCS-1WM 300ug/L	IS&S 02/23/17	13 Mar 17 11:41
35	10	0313M11.D	1	170313A BLK-1WM	IS&S 02/23/17	13 Mar 17 13:35
36	13	0313M14.D	1	AZ51363W01	IS&S 02/23/17	13 Mar 17 15:00
37	14	0313M15.D	1	AZ51364W01	IS&S 02/23/17	13 Mar 17 15:29
38	28	0313M29.D	1	Ending CCV GAS 300ug/L 03/13/17	IS&S 02/23/17	13 Mar 17 22:08

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216799**
Batch ID: #RSKME-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031101
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/11/17 2:10:47 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170311W-51356 LCS - 216799**
Batch ID: #RSKME-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	637	95.4	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Rocky
Run :	17031100
Initials :	CMO

Printed: 03/11/17 2:10:29 PM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH264
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51356
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031102
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031102.D Vial: 3
Acq On : 11 Mar 17 12:53 Operator: lac
Sample : AZ51356W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:55 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

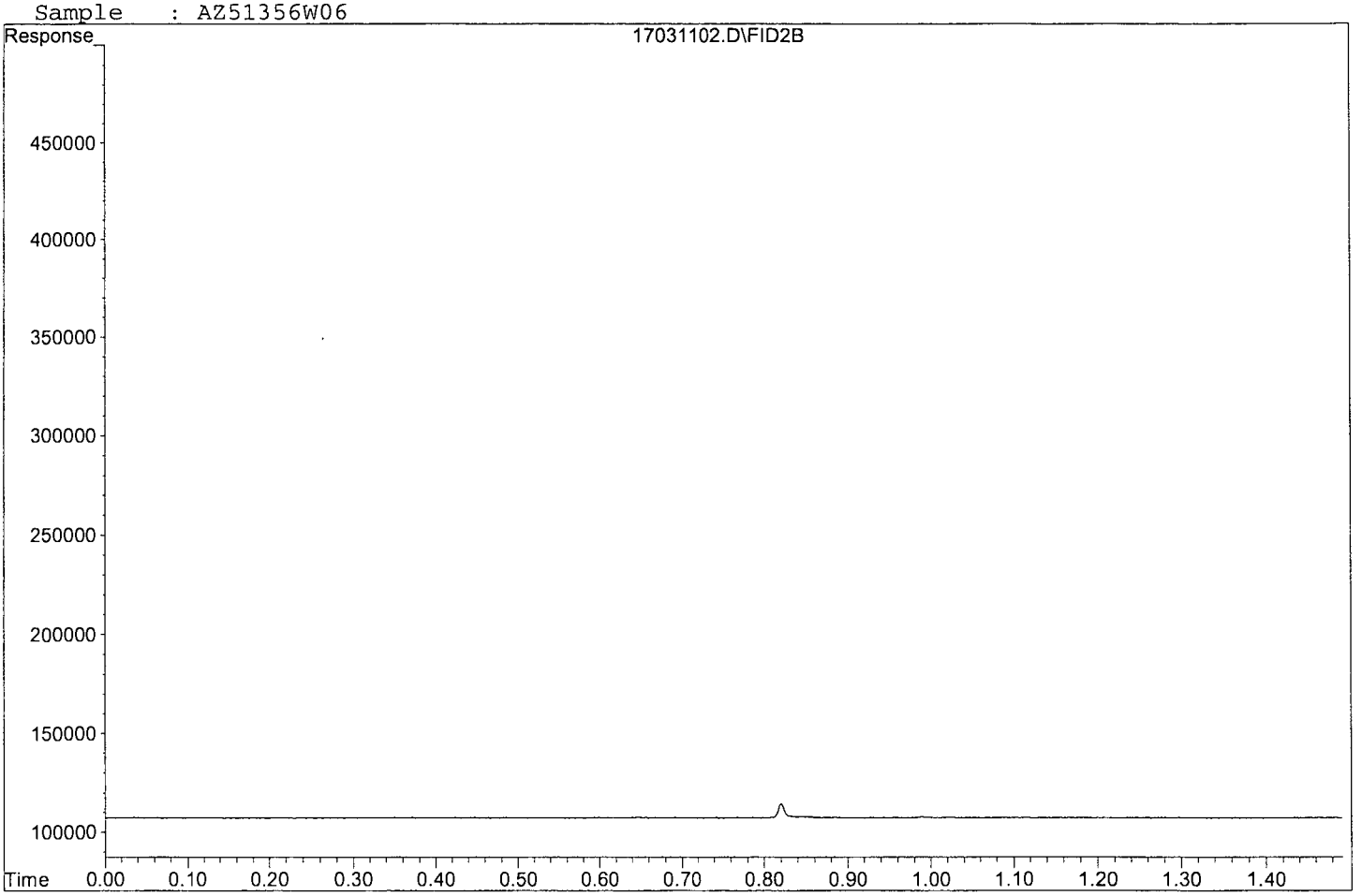
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	401	N.D.	ppb
2) ATM Ethane	1.03	446	N.D.	ppb
3) ATM Ethene	1.12	333	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031102.D
Sample : AZ51356W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH265
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51357
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	5700	250.0	50.00	12.50	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031104
Instrument: Rocky
Sequence: 170225
Dilution Factor: 50
Initials: CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031104.D Vial: 5
Acq On : 11 Mar 17 13:00 Operator: lac
Sample : AZ51357W06 DF50 Inst : 7890
Misc : Multiplr: 50.00
IntFile : autoint1.e
Quant Time: Mar 11 13:03 2017 Quant Results File: RSK0225.RES

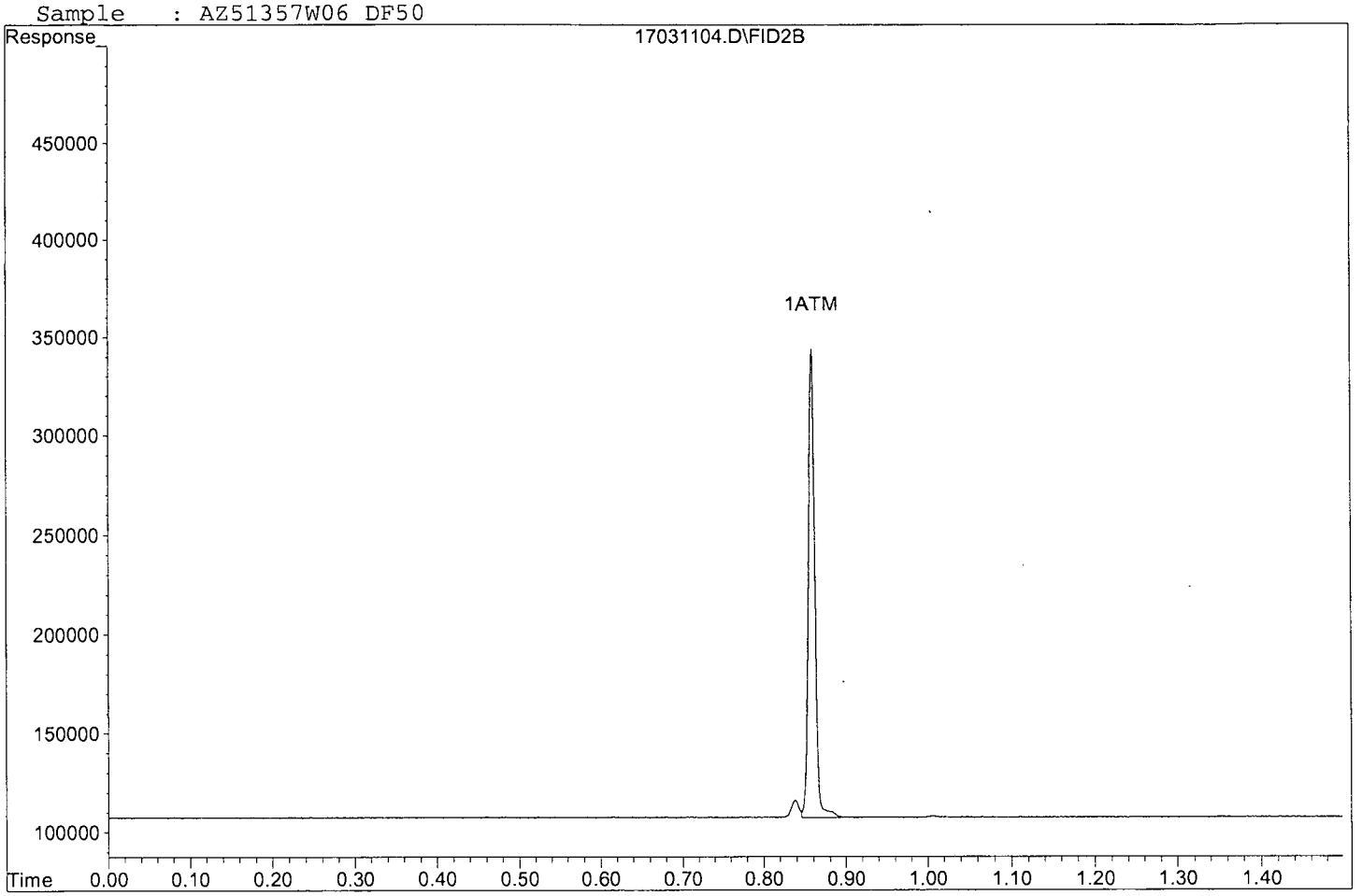
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	236135	5744.125	ppb
Target Compounds				
2) ATM Ethane	1.03	253	N.D.	ppb
3) ATM Ethene	1.12	279	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031104.D
Sample : AZ51357W06 DF50



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH271
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51358
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031105
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031105.D Vial: 6
Acq On : 11 Mar 17 13:04 Operator: lac
Sample : AZ51358W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:07 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

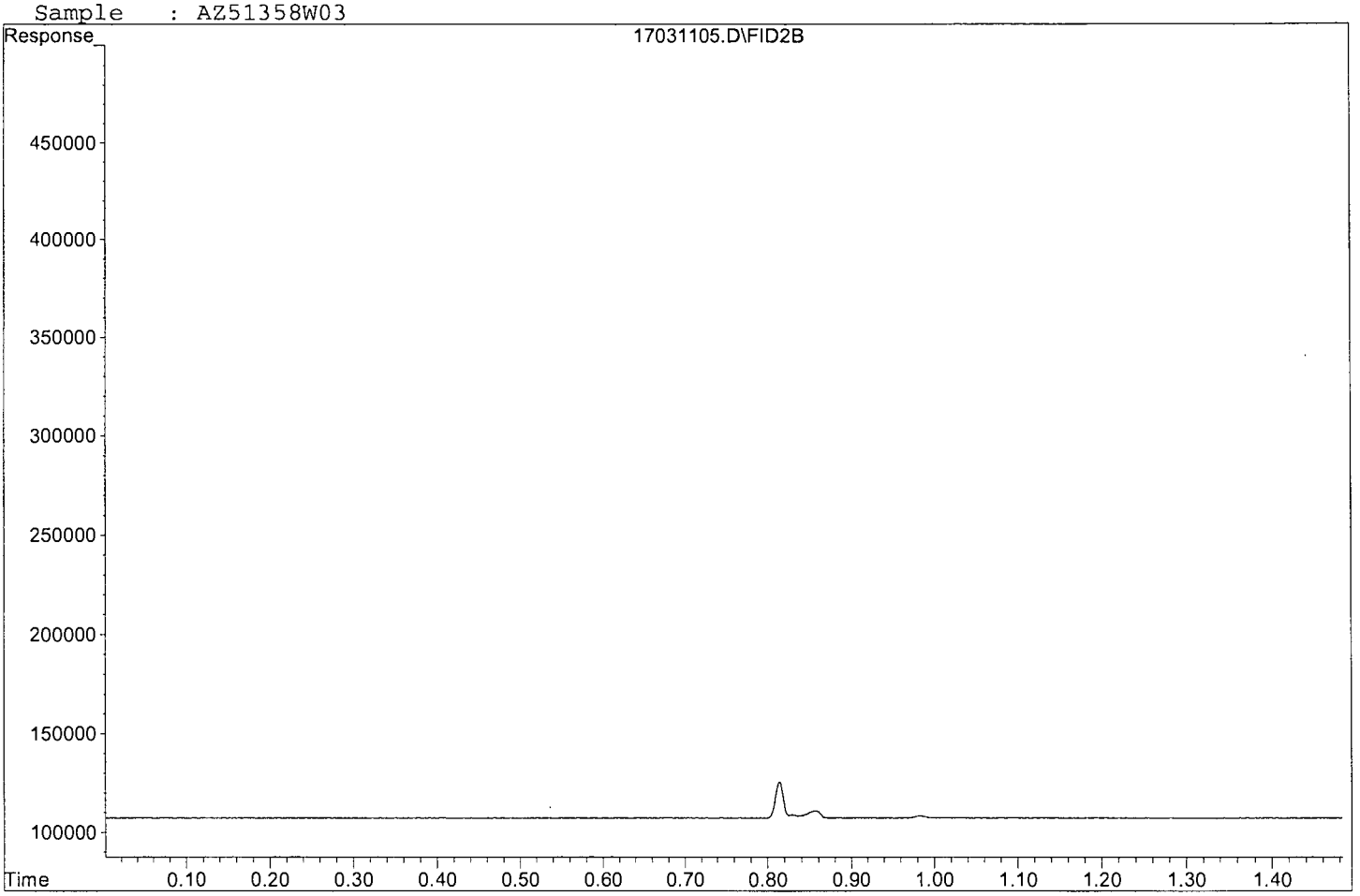
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	3729	N.D.	ppb
2) ATM Ethane	1.03	295	N.D.	ppb
3) ATM Ethene	1.12	243	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031105.D
Sample : AZ51358W03



METHANE

AECOM
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH272
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51359
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031106
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031106.D Vial: 7
Acq On : 11 Mar 17 13:08 Operator: lac
Sample : AZ51359W05 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:14 2017 Quant Results File: RSK0225.RES

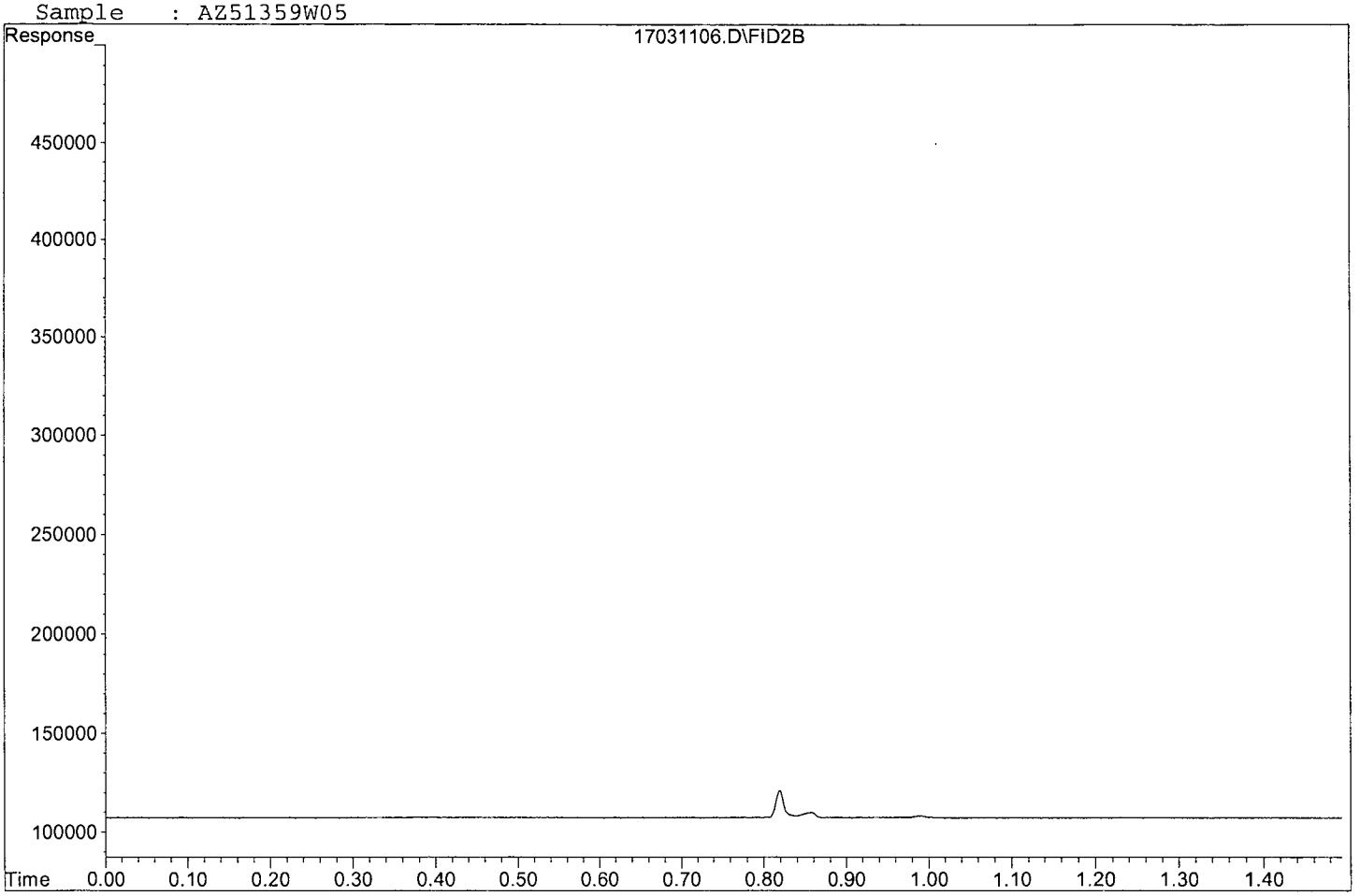
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	2775	N.D.	ppb
2) ATM Ethane	1.03	202	N.D.	ppb
3) ATM Ethene	1.12	247	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031106.D
Sample : AZ51359W05



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH279
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51361
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031107
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031107.D Vial: 8
Acq On : 11 Mar 17 13:15 Operator: lac
Sample : AZ51361W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:18 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

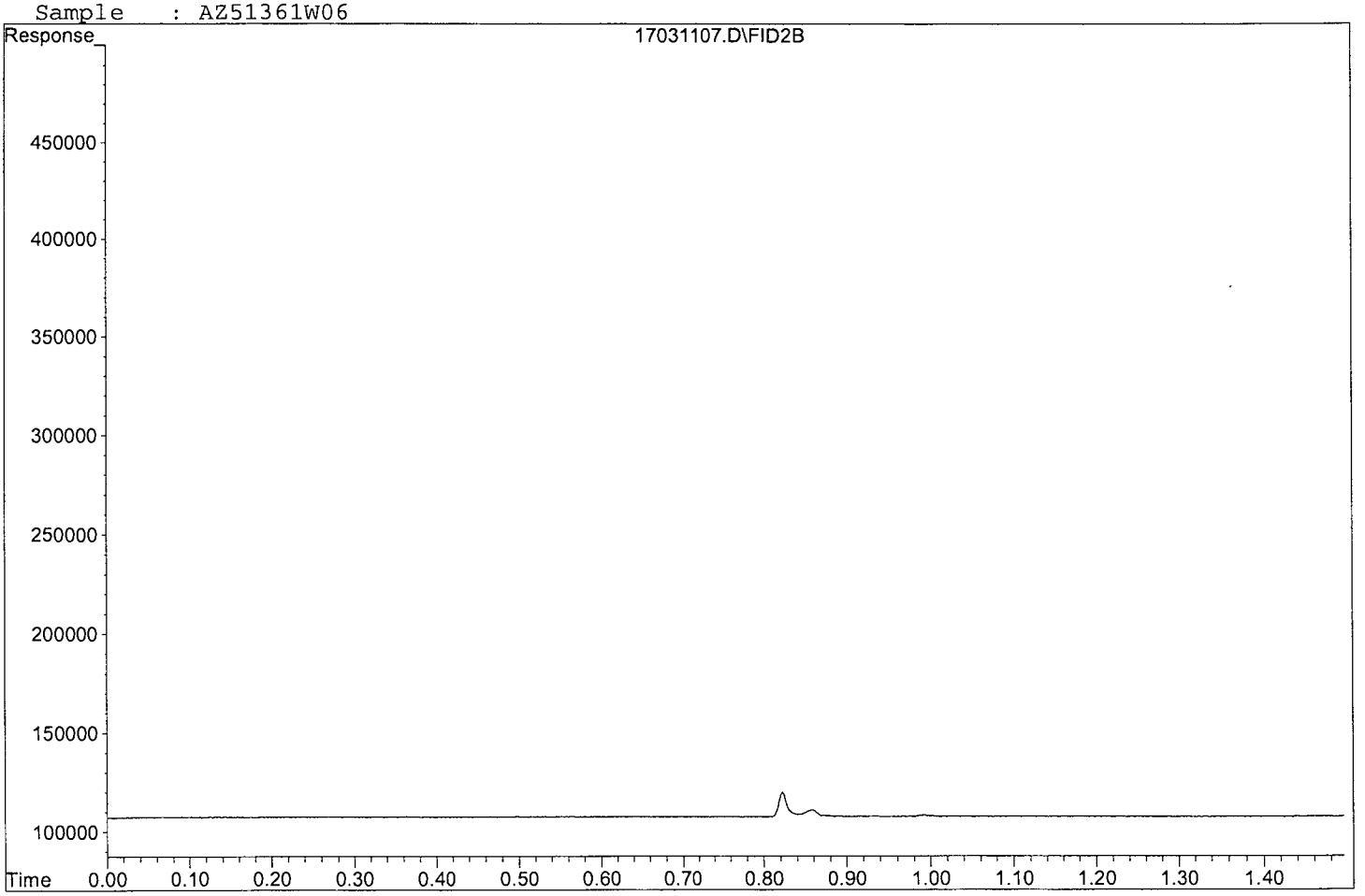
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	3526	N.D.	ppb
2) ATM Ethane	1.02	347	N.D.	ppb
3) ATM Ethene	1.12	283	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031107.D
Sample : AZ51361W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH280
Sample Collection Date: 03/08/17

ARF: 82369
APPL ID: AZ51362
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031108
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031108.D Vial: 9
Acq On : 11 Mar 17 13:19 Operator: lac
Sample : AZ51362W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:21 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

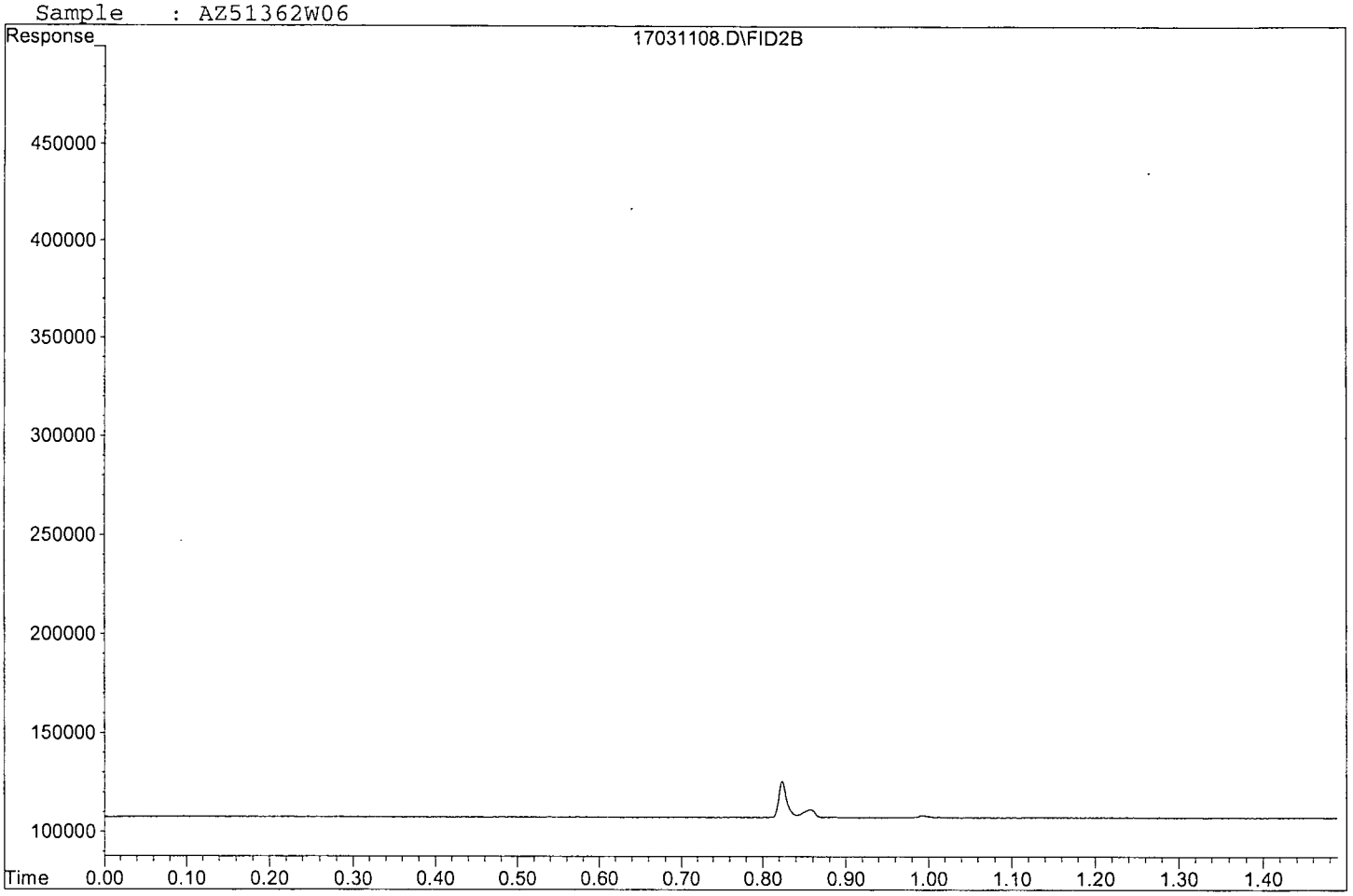
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4177	N.D.	ppb
2) ATM Ethane	1.03	324	N.D.	ppb
3) ATM Ethene	1.12	247	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031108.D
Sample : AZ51362W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH283
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51363
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031109
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031109.D Vial: 10
Acq On : 11 Mar 17 13:22 Operator: lac
Sample : AZ51363W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:24 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

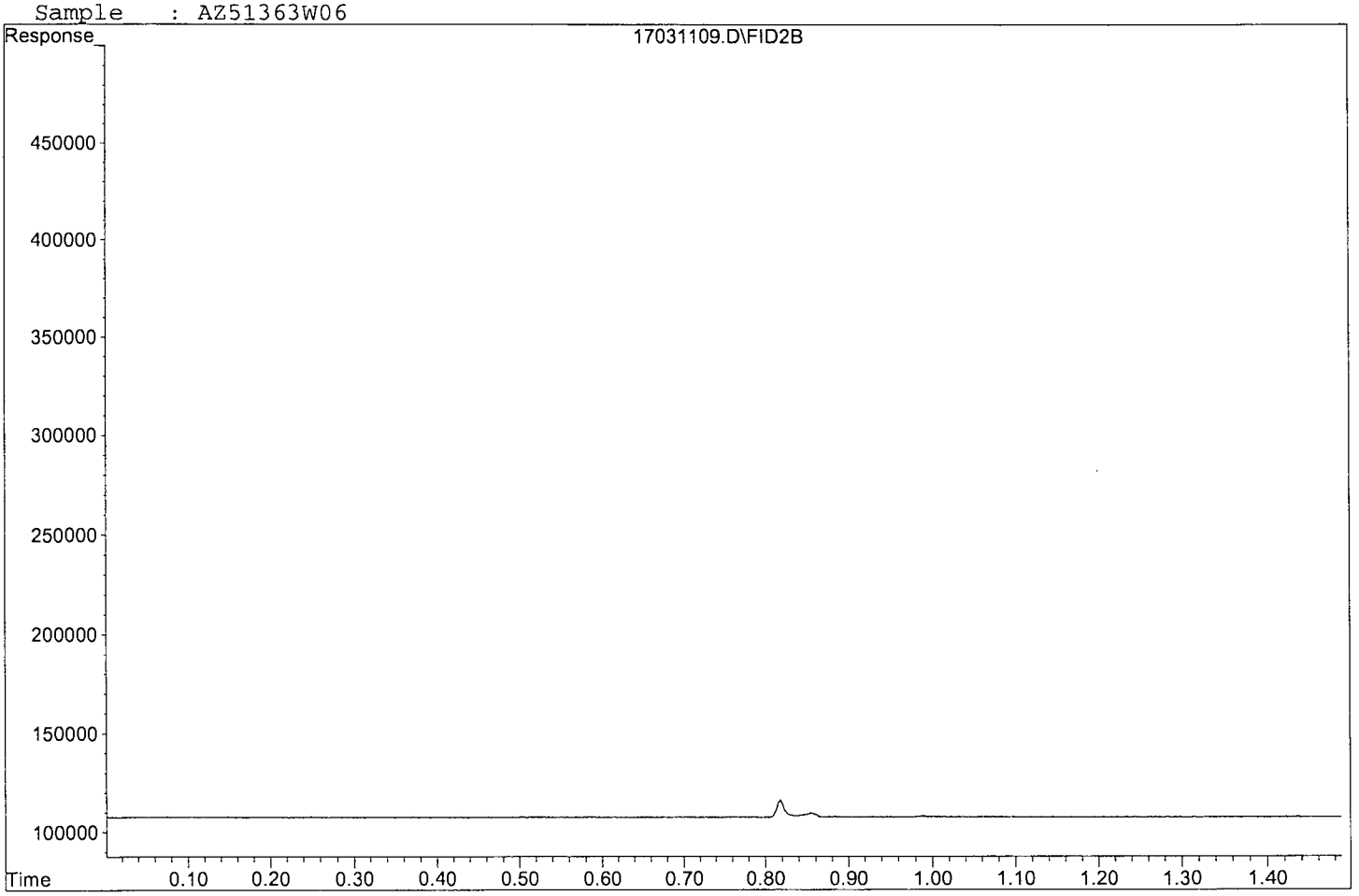
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	2562	N.D.	ppb
2) ATM Ethane	1.02	405	N.D.	ppb
3) ATM Ethene	1.12	341	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031109.D
Sample : AZ51363W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH284
Sample Collection Date: 03/07/17

ARF: 82369
APPL ID: AZ51364
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031110
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:10:41 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031110.D Vial: 11
Acq On : 11 Mar 17 13:25 Operator: lac
Sample : AZ51364W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:27 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

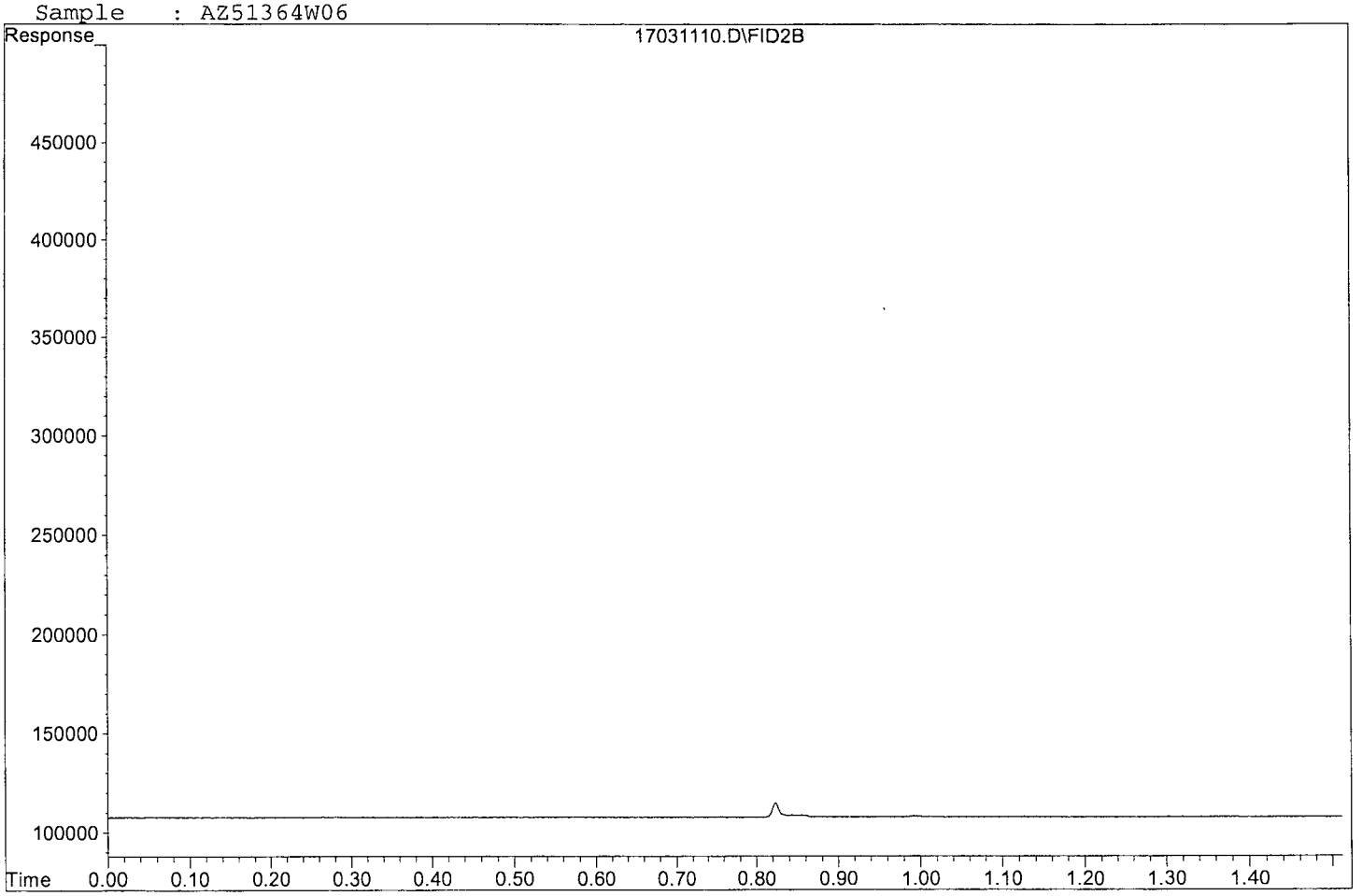
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1147	N.D.	ppb
2) ATM Ethane	1.04	322	N.D.	ppb
3) ATM Ethene	1.12	294	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031110.D
Sample : AZ51364W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
4																
5																
6																
7																
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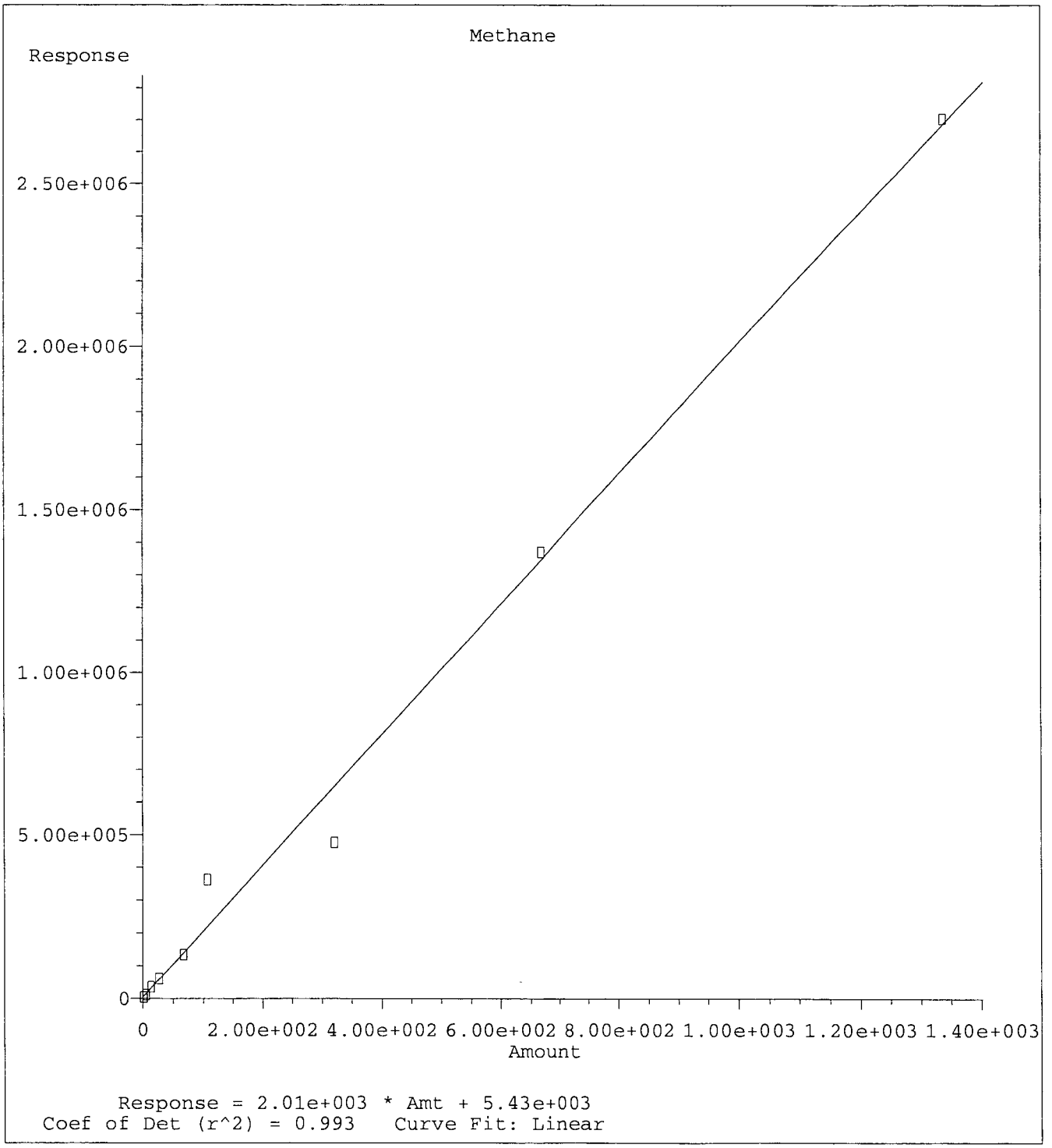
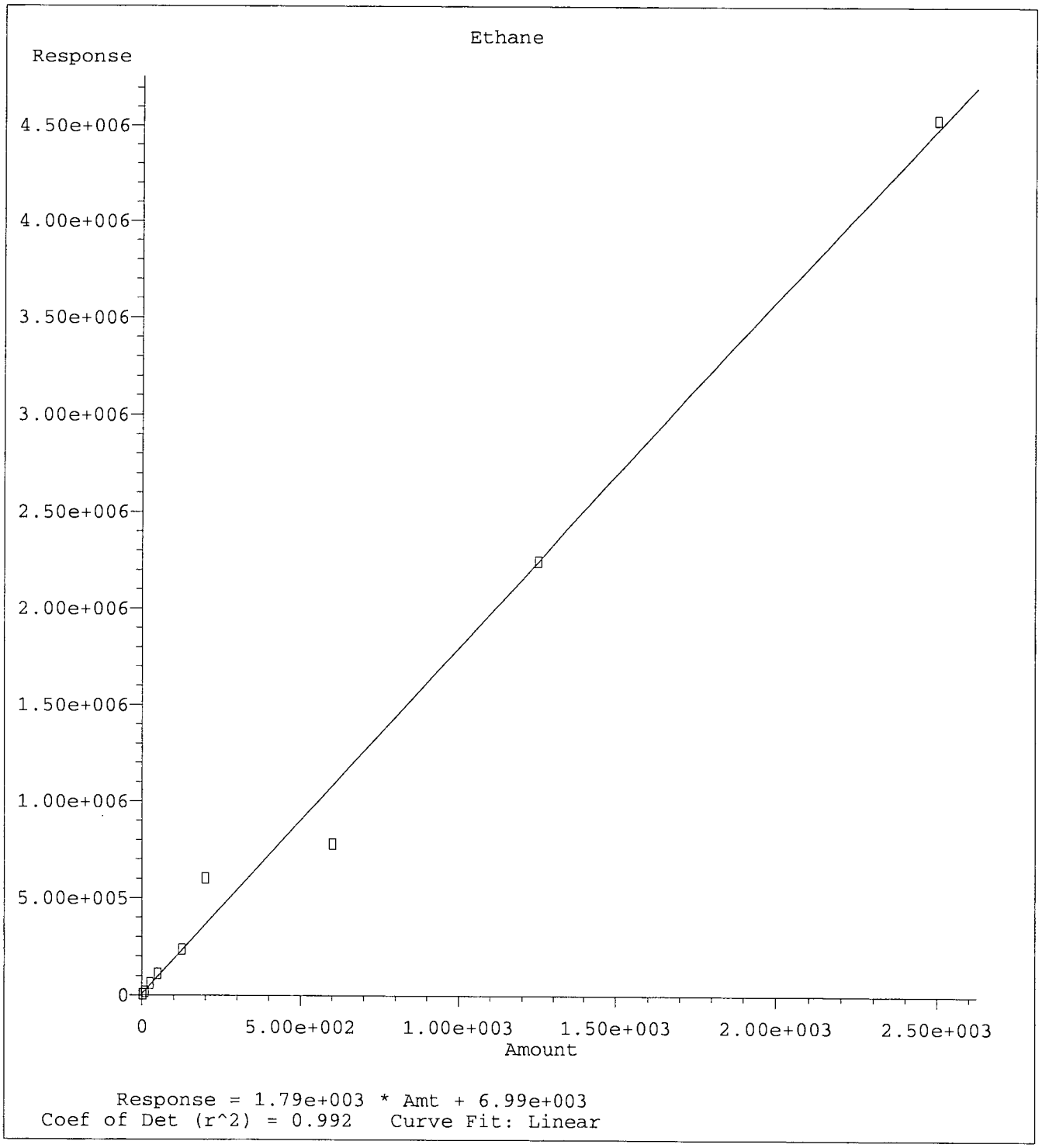
35																

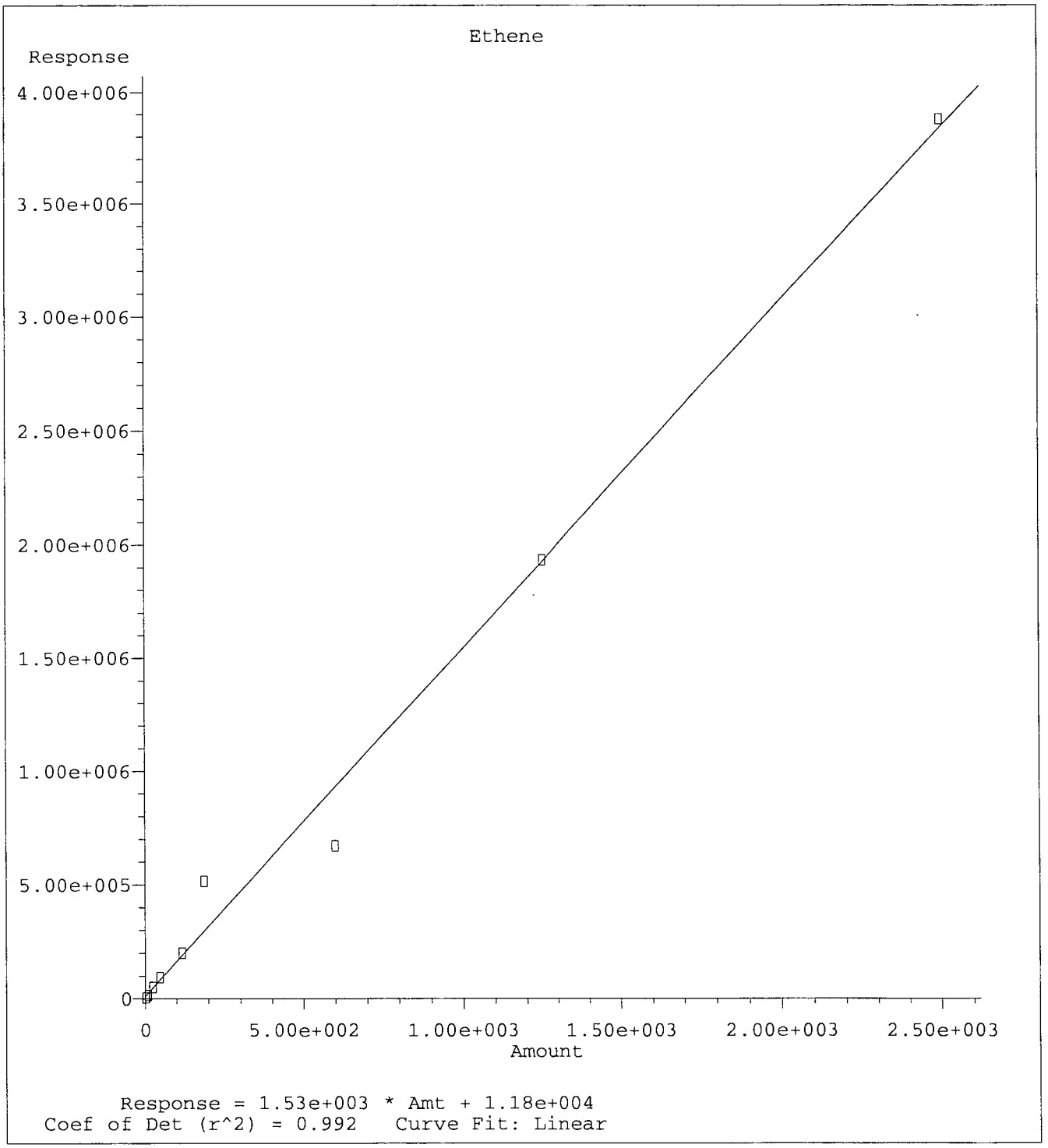
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

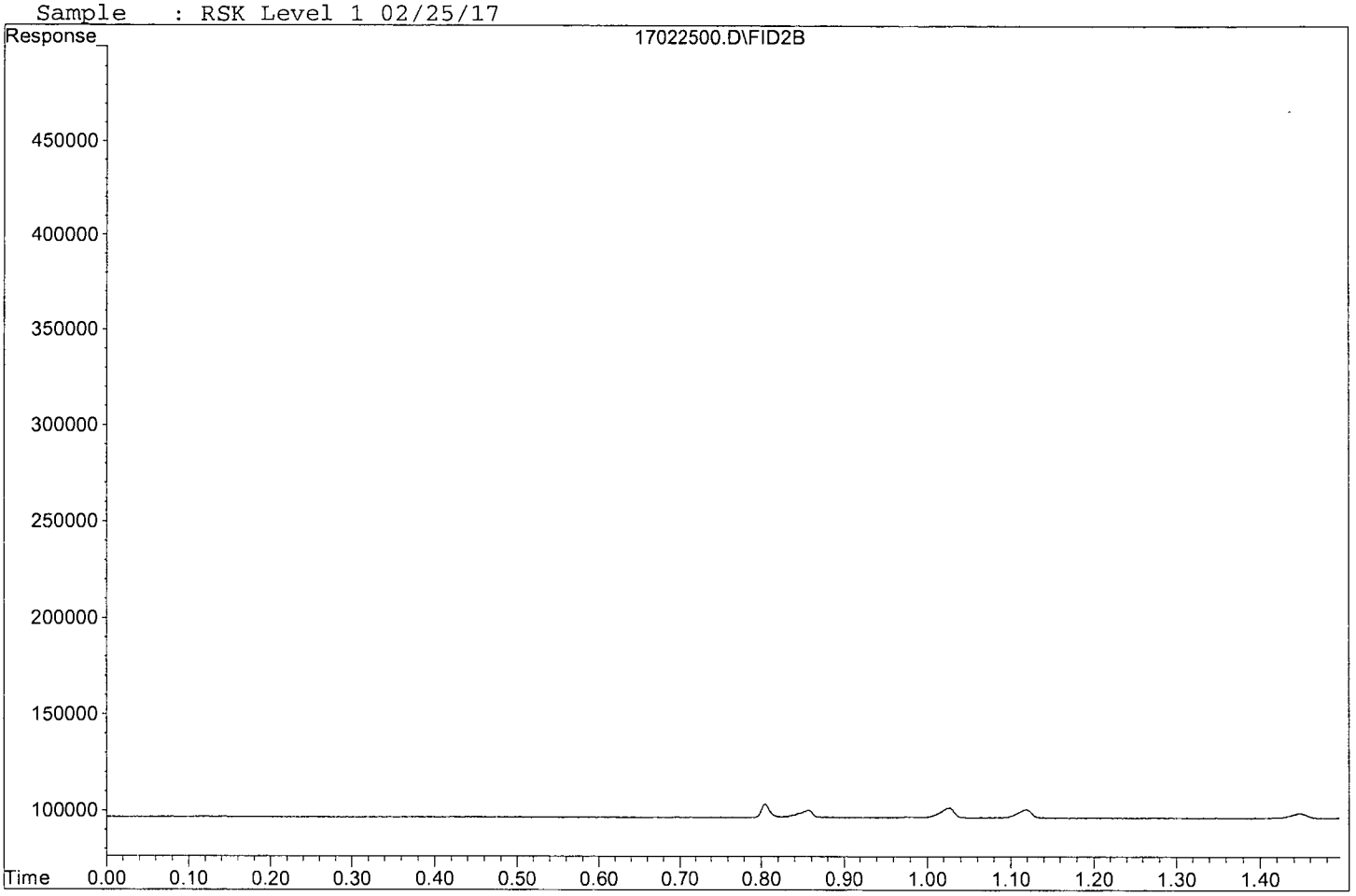
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

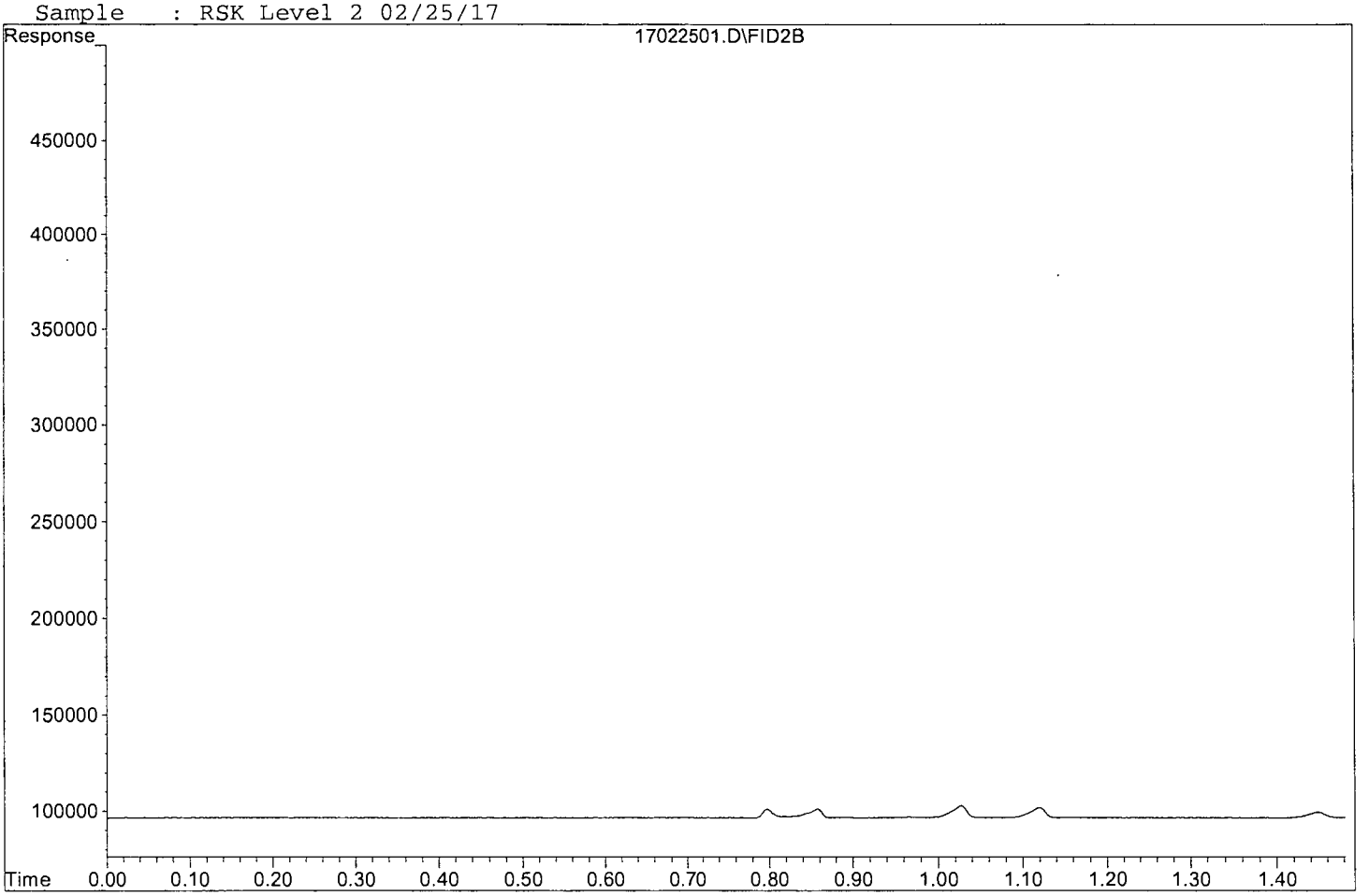
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

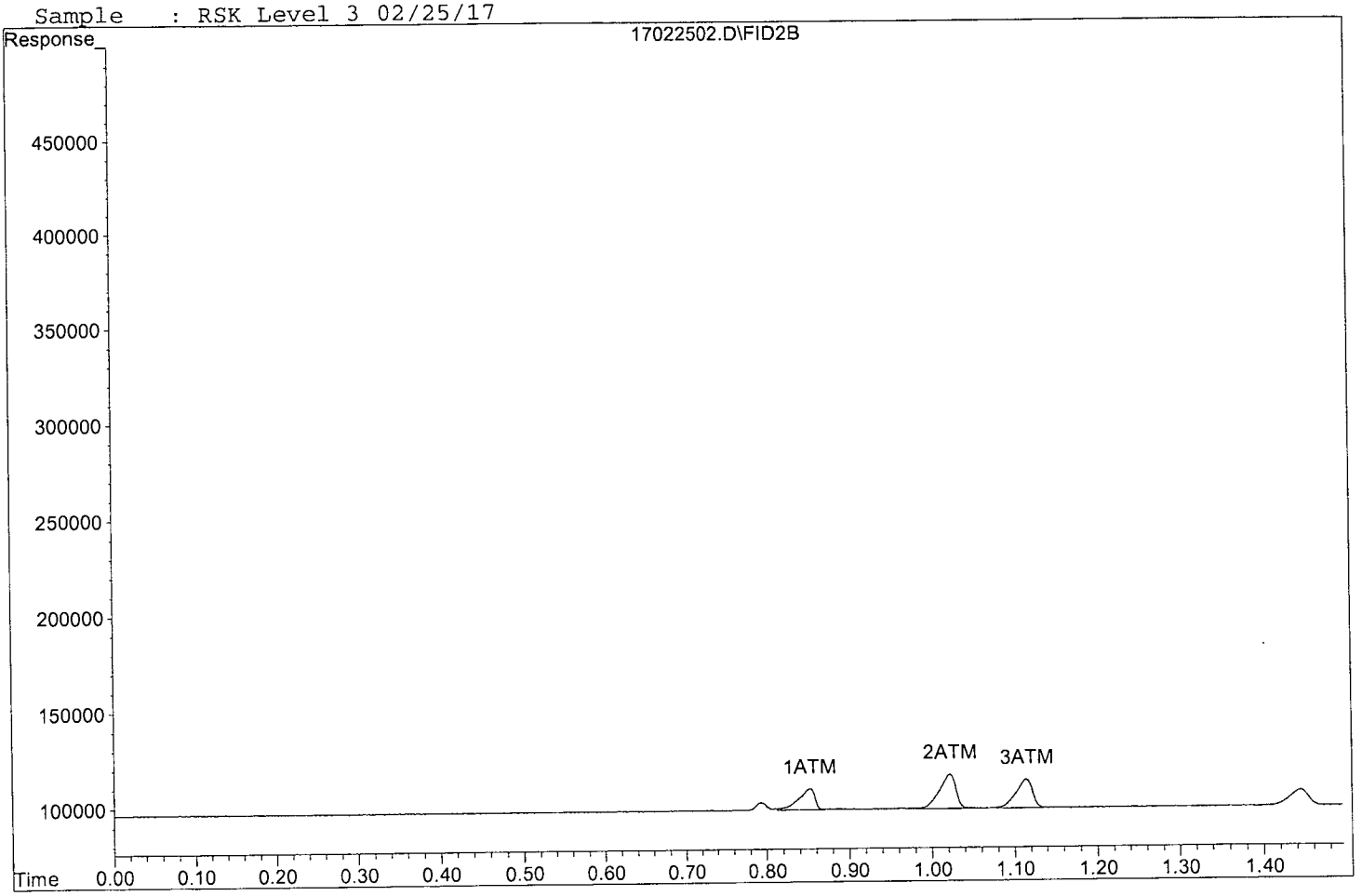
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D Vial: 4
Acq On : 25 Feb 17 11:17 Operator: lac
Sample : RSK Level 4 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

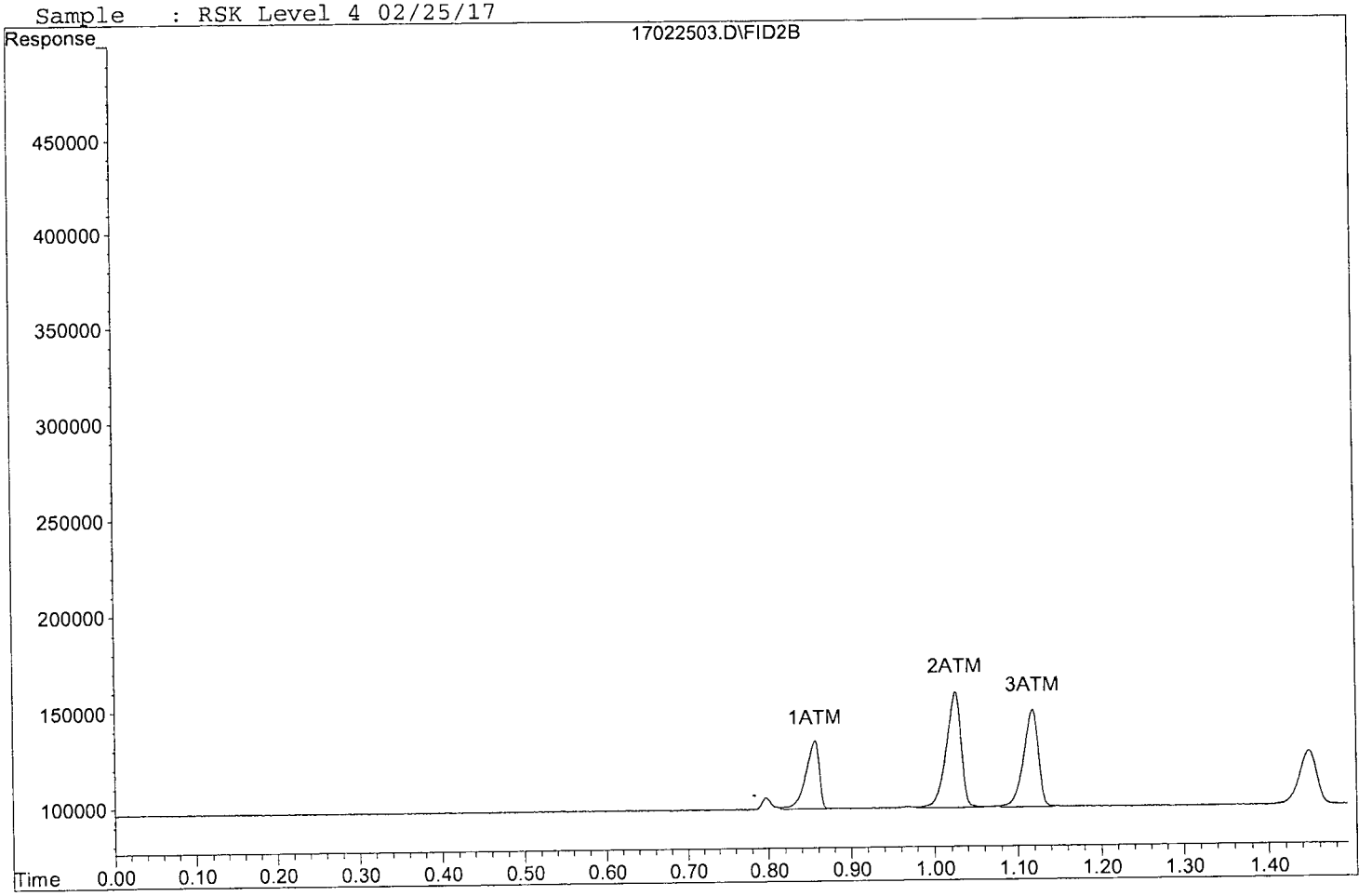
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

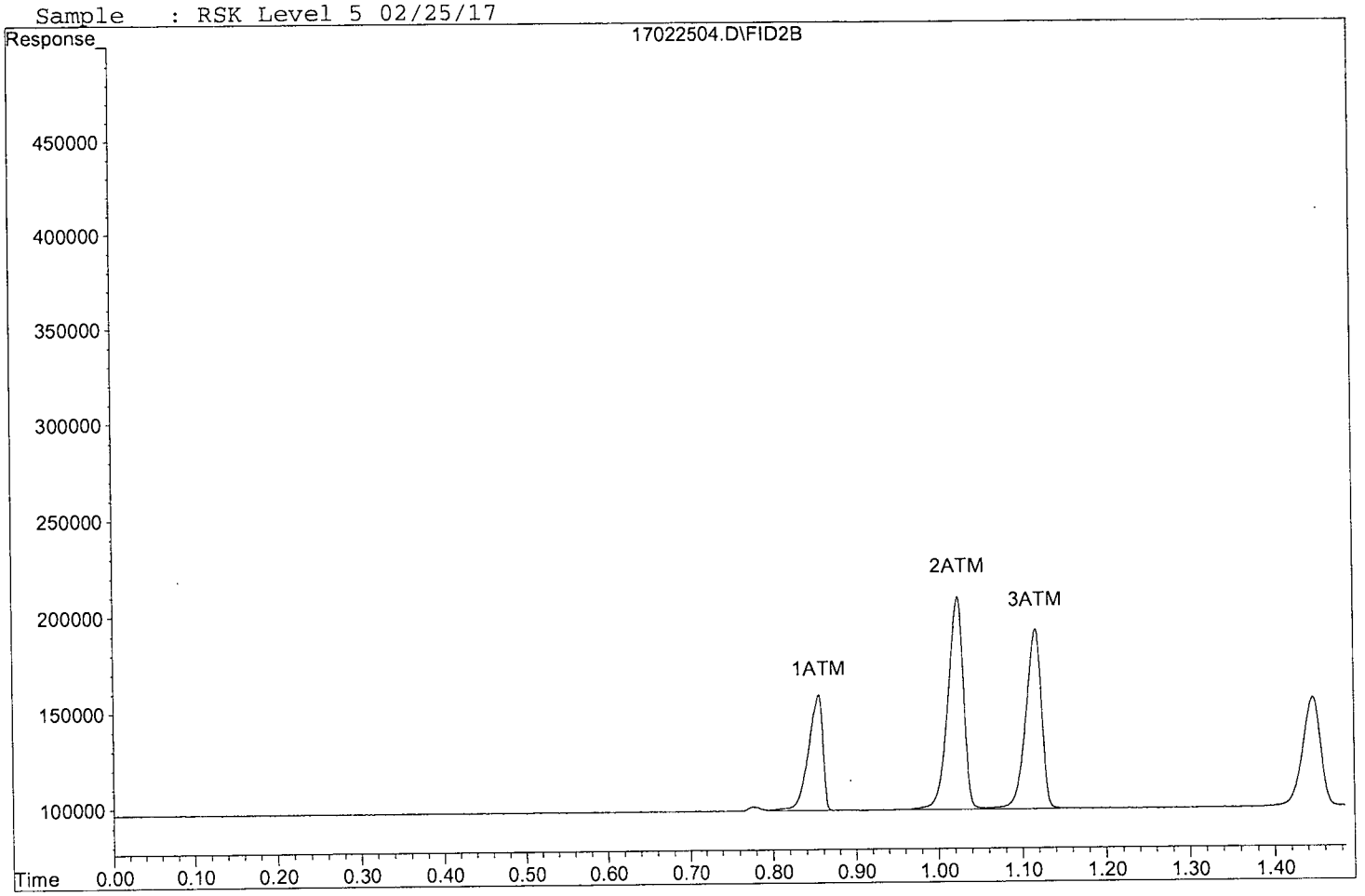
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Vial: 6
Acq On : 25 Feb 17 11:23
Operator: lac
Sample : RSK Level 6 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

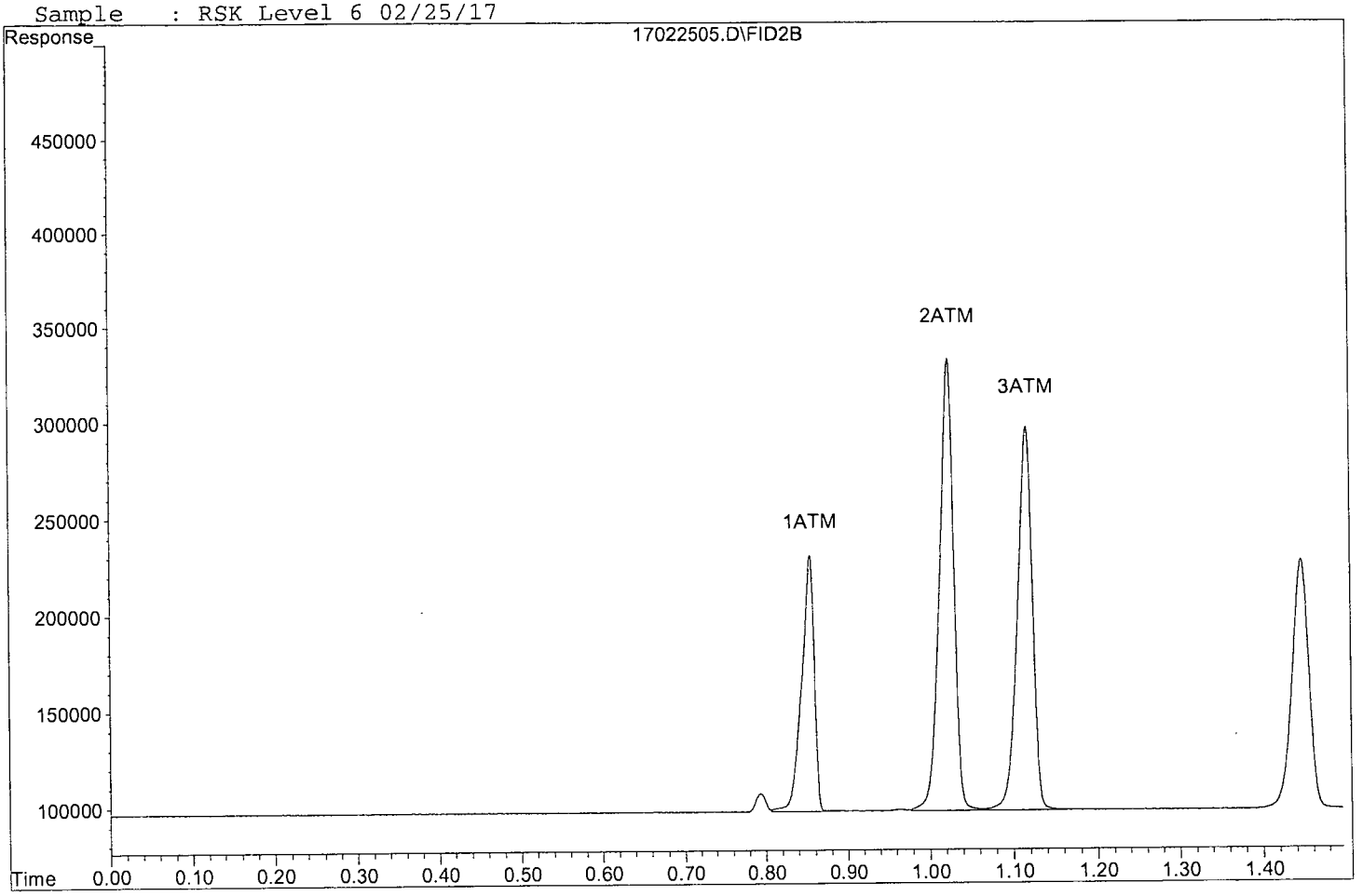
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

Target Compounds

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D
Acq On : 25 Feb 17 11:25
Sample : RSK Level 7 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 7
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

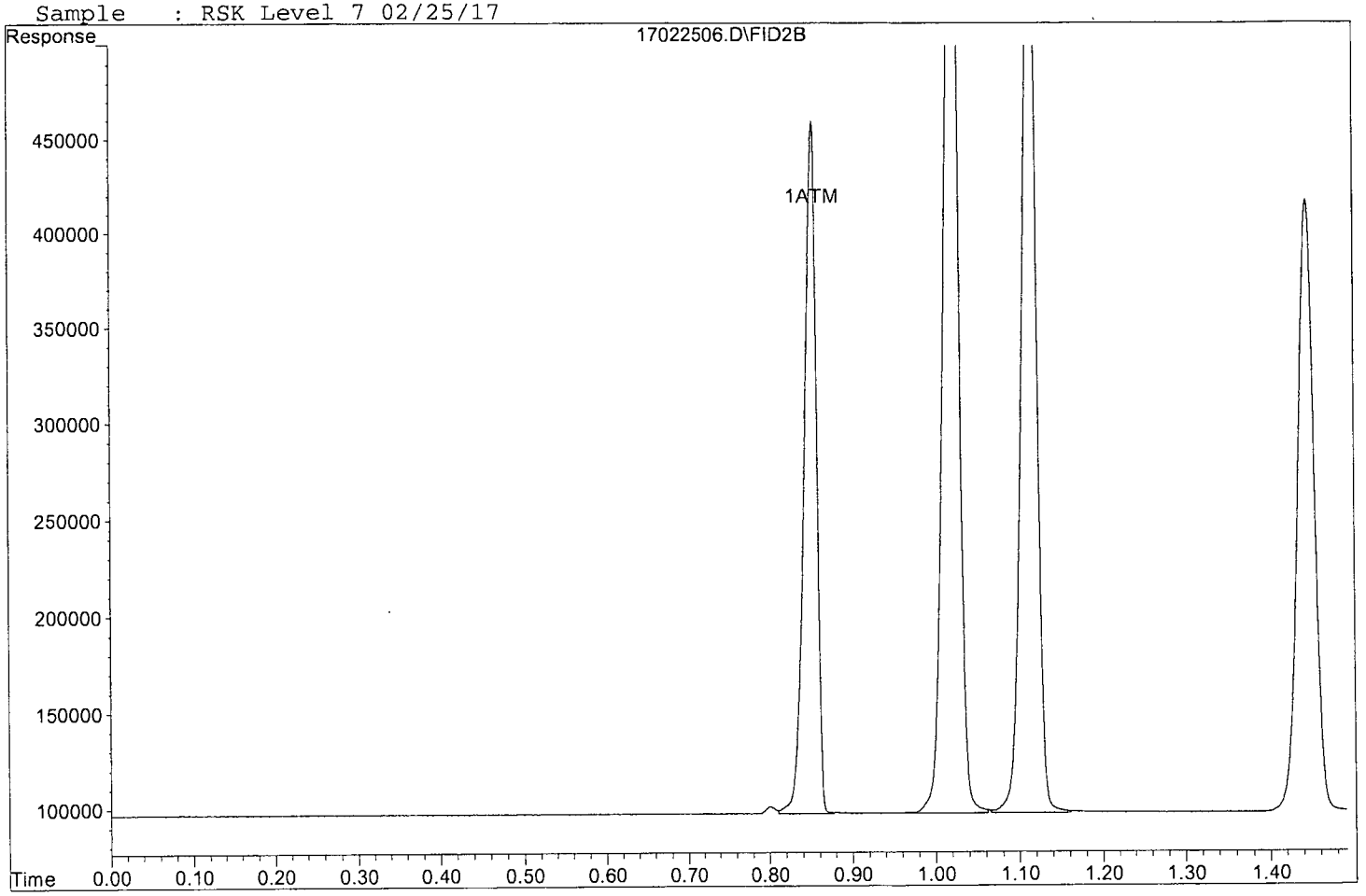
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D Vial: 8
Acq On : 25 Feb 17 11:27 Operator: lac
Sample : RSK Level 8 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

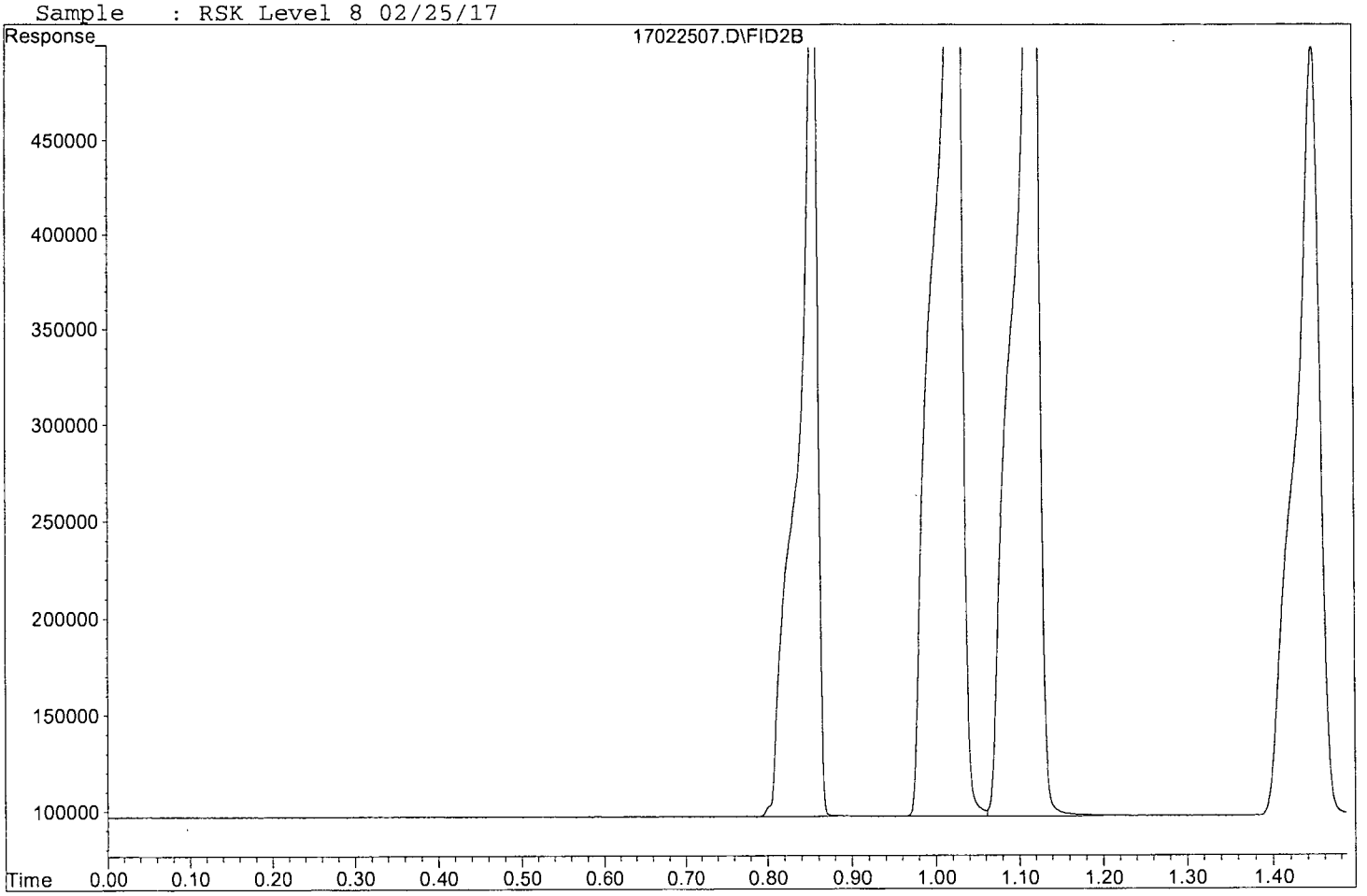
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D Vial: 9
Acq On : 25 Feb 17 11:30 Operator: lac
Sample : RSK Level 9 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

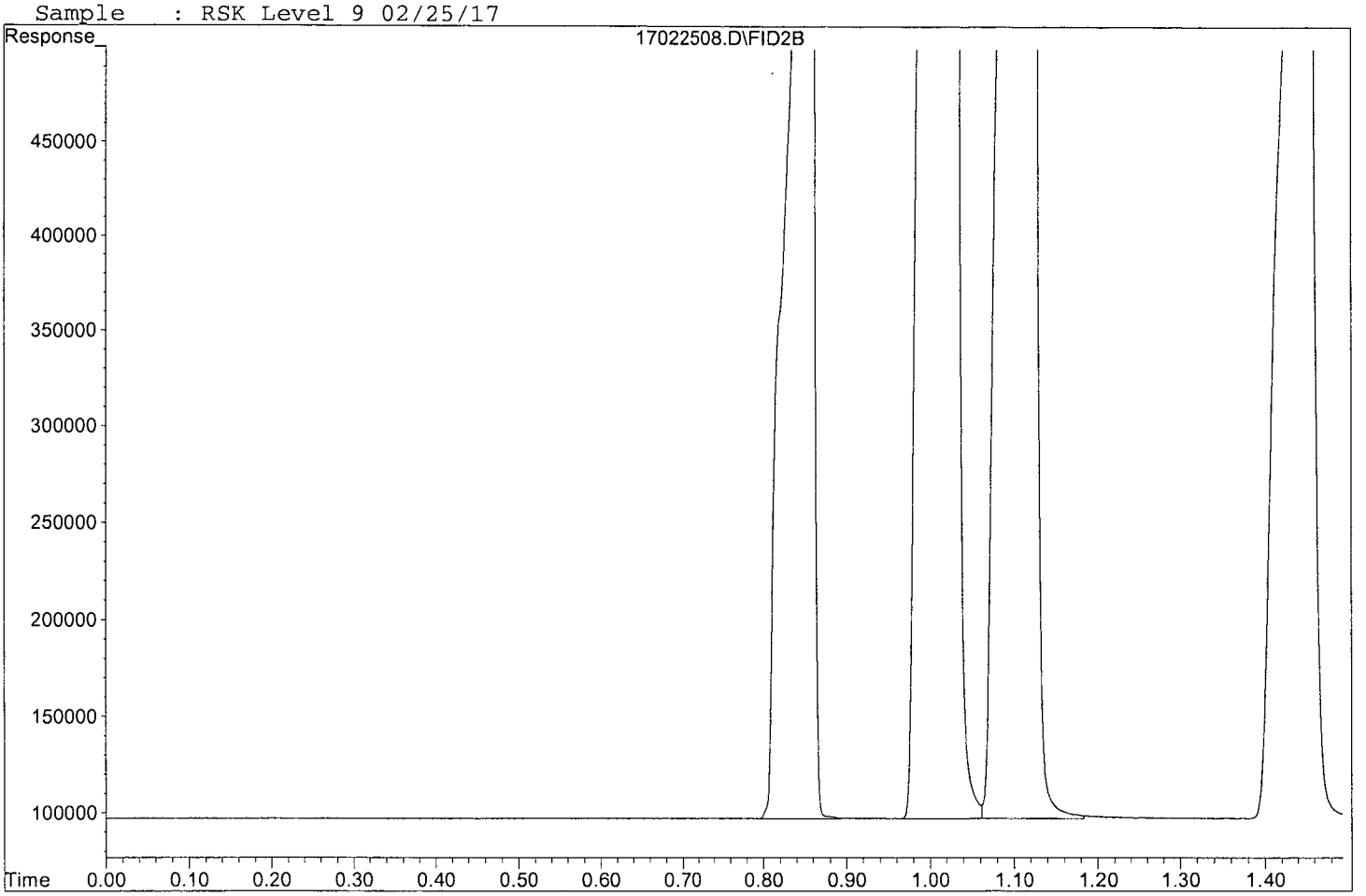
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	1370511	679.760 ppb
2) ATM Ethane	1.03	2246413	1250.978 ppb
3) ATM Ethene	1.12	1934164	1254.226 ppb

Target Compounds

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D
Acq On : 25 Feb 17 11:32
Sample : RSK Level 10 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

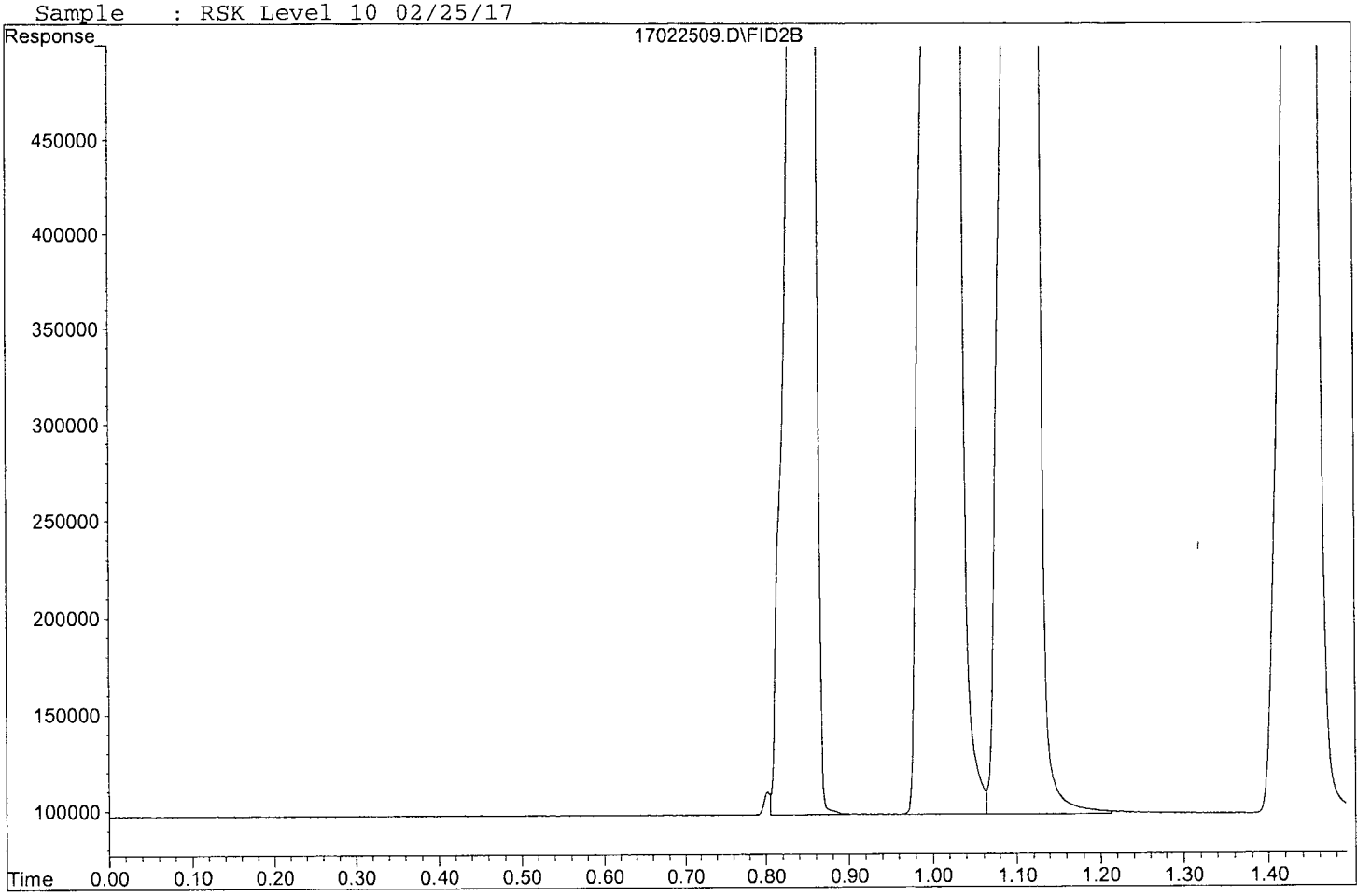
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

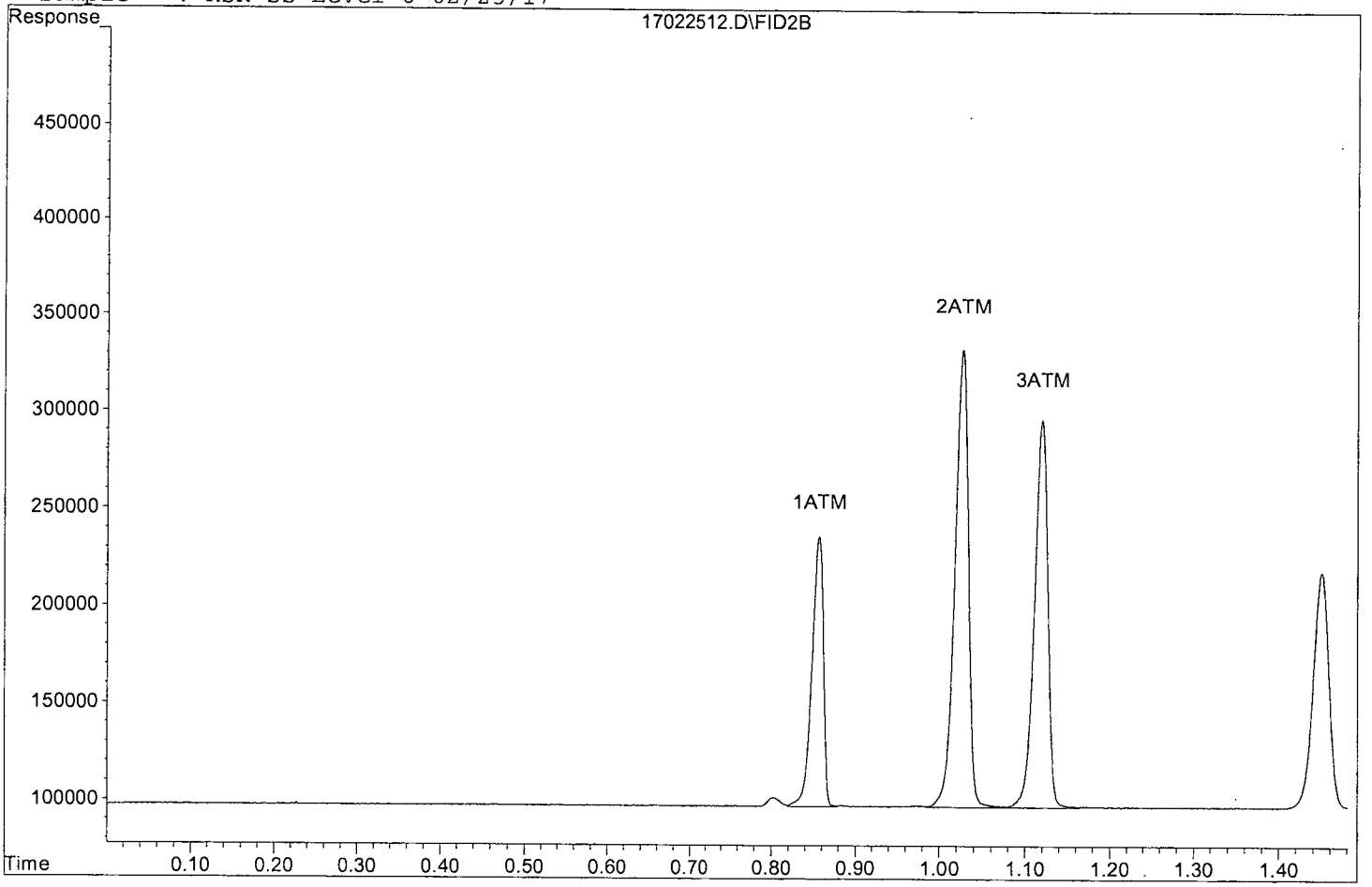
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031100.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1924	24	ATML	4.6
2	ATML	Ethane	2140	1888	12	ATML	5.2
3	ATML	Ethene	1905	1550	19	ATML	0.48
4							
5							
6							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031100.D Vial: 1
Acq On : 11 Mar 17 12:44 Operator: lac
Sample : 170311A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:48 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

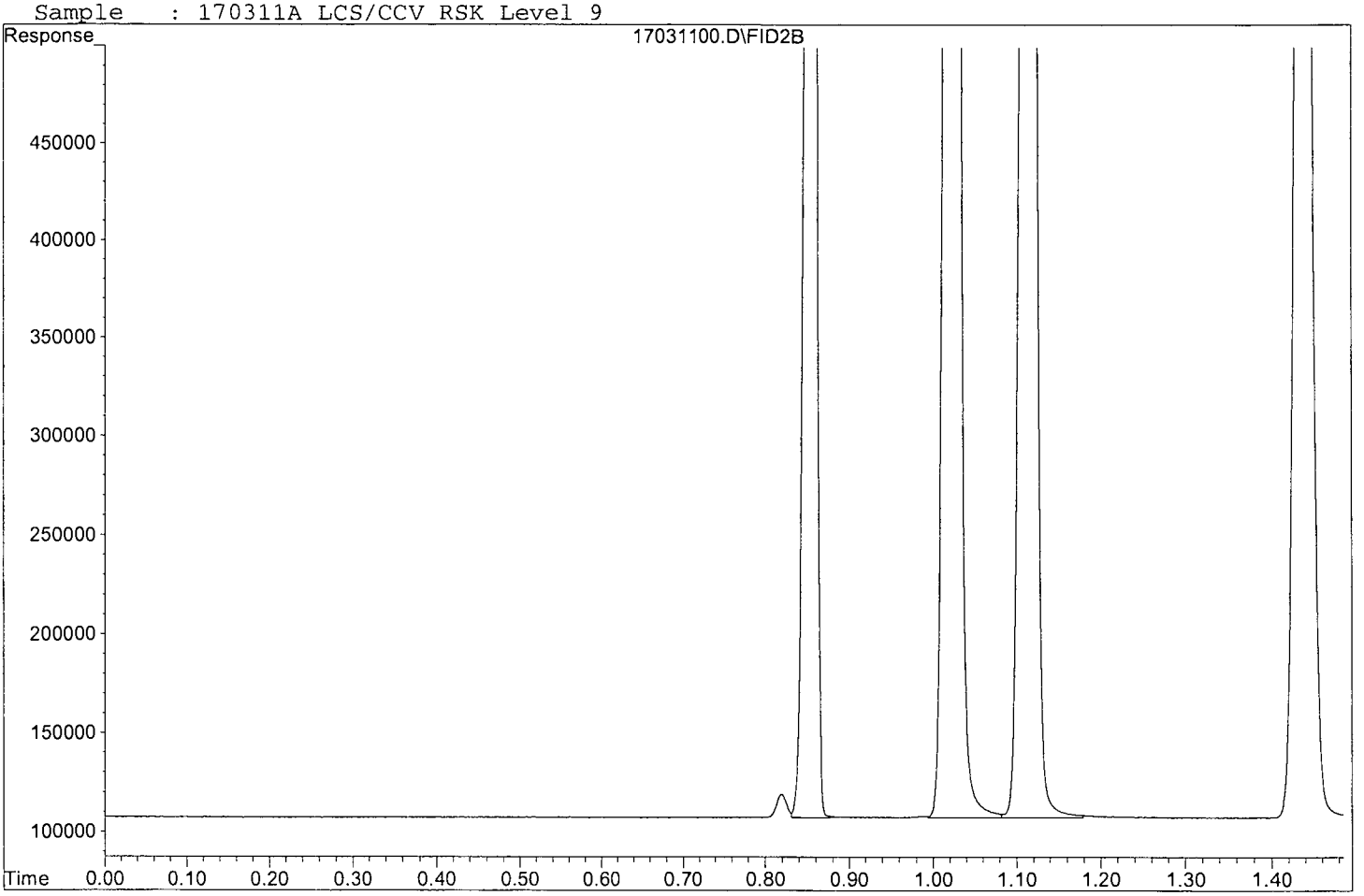
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1284527	636.943	ppb
2) ATM Ethane	1.02	2360252	1314.570	ppb
3) ATM Ethene	1.11	1934338	1254.340	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031100.D
Sample : 170311A LCS/CCV RSK Level 9



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031118.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1775	30	ATML	12
2	ATML	Ethane	2140	1775	17	ATML	1.1
3	ATML	Ethene	1905	1463	23	ATML	5.2
4							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			23.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031118.D Vial: 19
Acq On : 11 Mar 17 13:52 Operator: lac
Sample : Ending CCV RSK Level 9 03/11/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:54 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

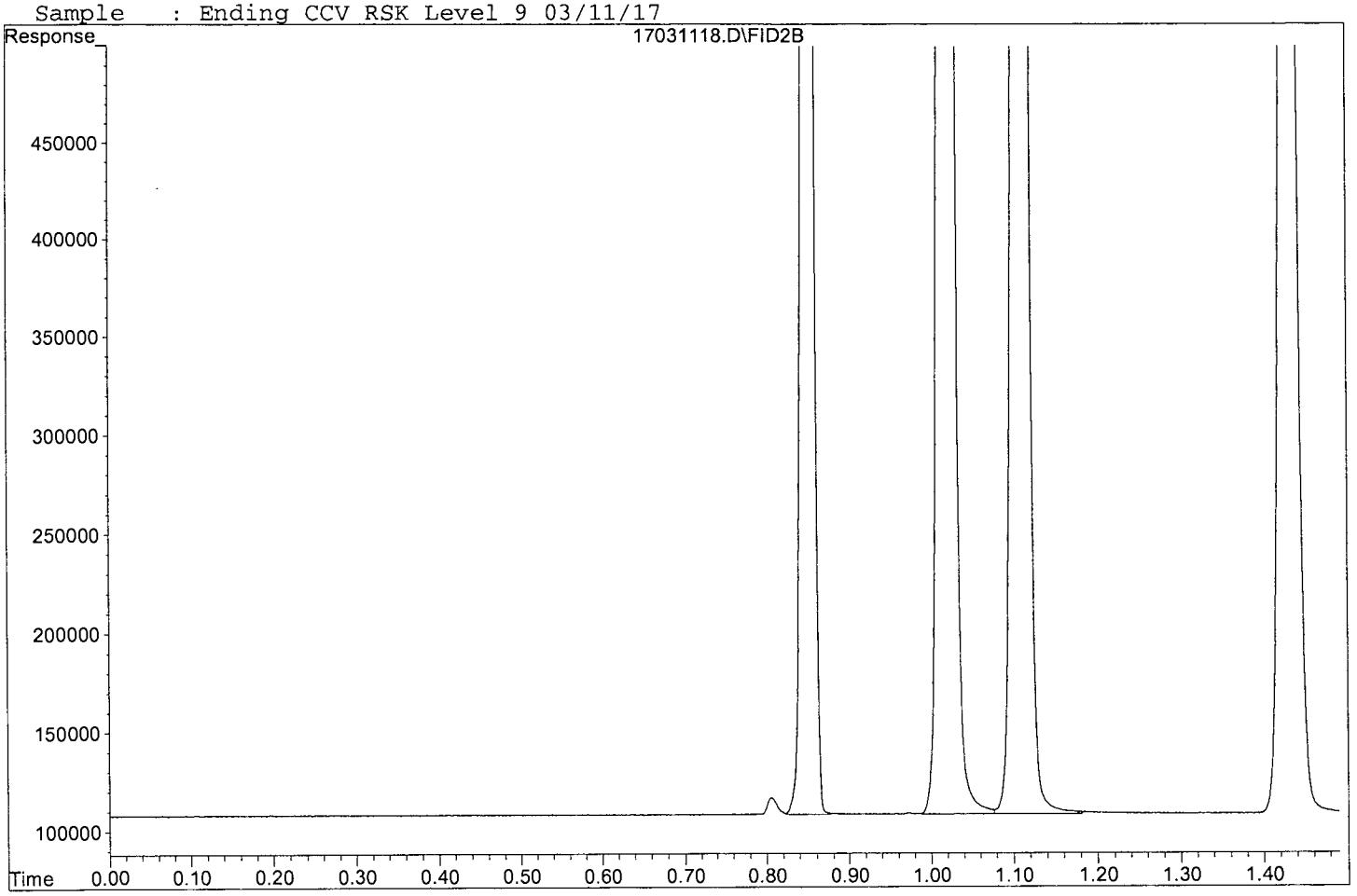
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1184570	587.169	ppb
2) ATM Ethane	1.02	2218945	1235.633	ppb
3) ATM Ethene	1.11	1825941	1183.617	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031118.D
Sample : Ending CCV RSK Level 9 03/11/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216799**
Batch ID: #RSKME-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031101
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/11/17 2:10:45 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031101.D Vial: 2
Acq On : 11 Mar 17 12:50 Operator: lac
Sample : 170311A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:52 2017 Quant Results File: RSK0225.RES

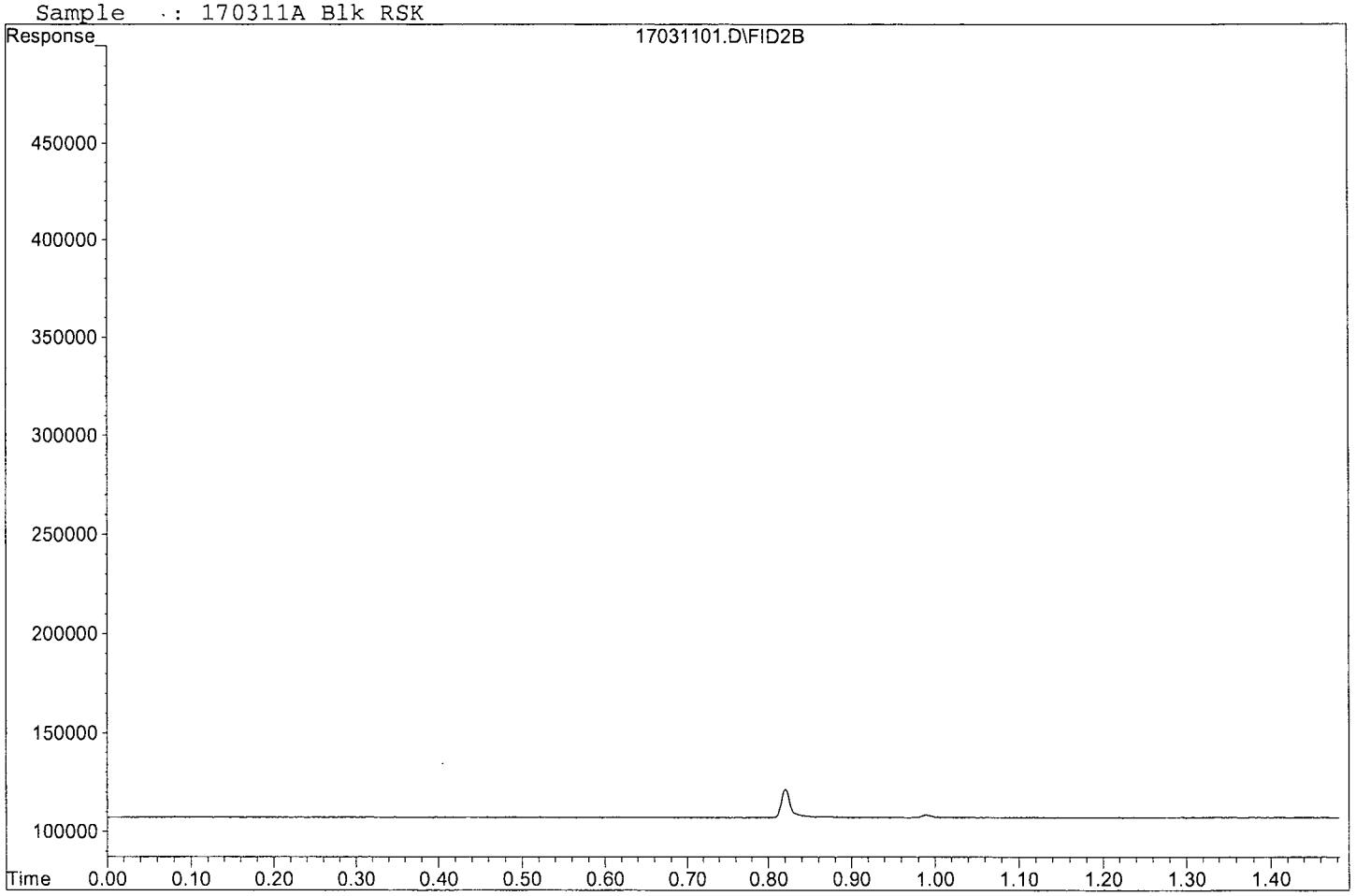
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	699	N.D.	ppb
2) ATM Ethane	1.03	288	N.D.	ppb
3) ATM Ethene	1.12	274	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031101.D
Sample : 170311A Blk RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170311W-51356 LCS - 216799**
Batch ID: #RSKME-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	637	95.4	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Rocky
Run :	17031100
Initials :	CMO

Printed: 03/11/17 2:10:31 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031100.D Vial: 1
Acq On : 11 Mar 17 12:44 Operator: lac
Sample : 170311A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:48 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

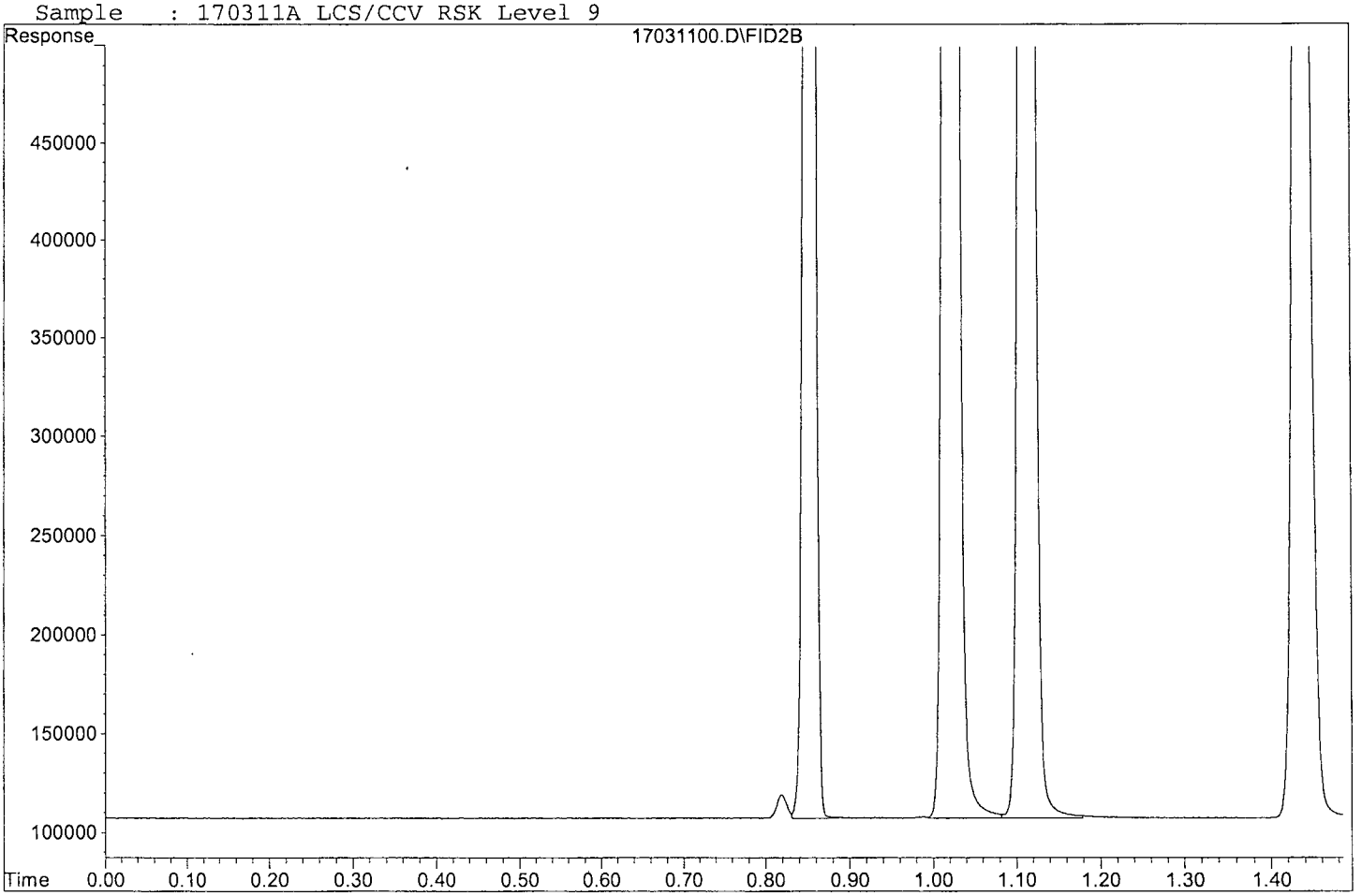
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1284527	636.943	ppb
2) ATM Ethane	1.02	2360252	1314.570	ppb
3) ATM Ethene	1.11	1934338	1254.340	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031100.D
Sample : 170311A LCS/CCV RSK Level 9



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031101.D Vial: 2
Acq On : 11 Mar 17 12:50 Operator: lac
Sample : 170311A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:52 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

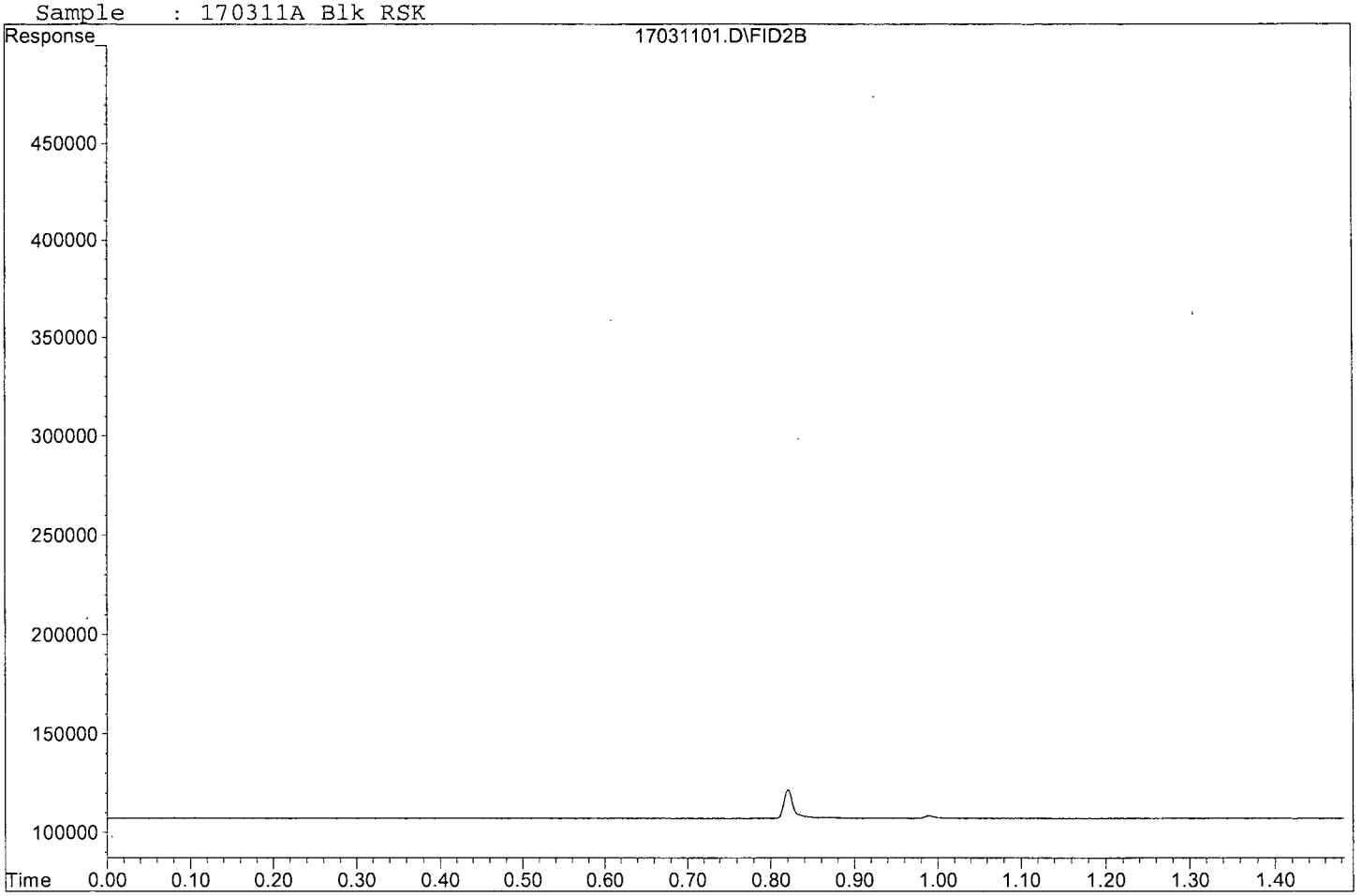
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	699	N.D.	ppb
2) ATM Ethane	1.03	288	N.D.	ppb
3) ATM Ethene	1.12	274	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031101.D
Sample : 170311A Blk RSK



imary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17

;K Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

:ermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

epared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

;K Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

ıalye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
:thane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
ıane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
ıene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
ɔck Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
ɔck Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
ɔck Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
al Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

:cond Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17

;K Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

ermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

epared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

:cond Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17

.0mL of Intermediate SS stock 02/25/17 into 10mL P&T water

al conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

:V/LCS - Level 9 **Expires 04/11/17** CMM 03/11/17

)0mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

al conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	1	17031100.D	1	170311A LCS/CCV RSK Level 9		11 Mar 17 12:44
13	2	17031101.D	1	170311A Blk RSK		11 Mar 17 12:50
14	3	17031102.D	1	AZ51356W06		11 Mar 17 12:53
15	5	17031104.D	50	AZ51357W06 DF50		11 Mar 17 13:00
16	6	17031105.D	1	AZ51358W03		11 Mar 17 13:04
17	7	17031106.D	1	AZ51359W05		11 Mar 17 13:08
18	8	17031107.D	1	AZ51361W06		11 Mar 17 13:15
19	9	17031108.D	1	AZ51362W06		11 Mar 17 13:19
20	10	17031109.D	1	AZ51363W06		11 Mar 17 13:22
21	11	17031110.D	1	AZ51364W06		11 Mar 17 13:25
22	19	17031118.D	1	Ending CCV RSK Level 9 03/11/17		11 Mar 17 13:52

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/13/17	03/13/17	#300WD-170313A-AZ51359
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/09/17	03/09/17	#35FE-170309A-AZ51362
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	¥300WD-170314A1-AZ51364
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	¥300WD-170314A1-AZ51364

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.2	91.0	90-110	03/13/17	03/13/17	#300WD-170313A-AZ51359

Comments:

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A1-AZ51364
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A1-AZ51364

Comments:

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.55	85.0	80-120	03/09/17	03/09/17	#35FE-170309A-AZ51362

Comments:

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH265

APPL ID: AZ51357

Sample Collection Date: 03/07/17

ARF: 82369

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.4	1.0	0.20	0.08	mg/L	1	03/09/17	03/09/17
EPA 300.0	NITRATE	0.60	0.5	0.18	0.04	mg/L	1	03/09/17	03/09/17
EPA 300.0	SULFATE	1.1	1.0	0.20	0.09	mg/L	1	03/09/17	03/09/17
SM 2320B	BICARBONATE AS CACO3	204	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	204	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	3.0	1.0	0.32	0.16	mg/L	1	03/09/17	03/09/17

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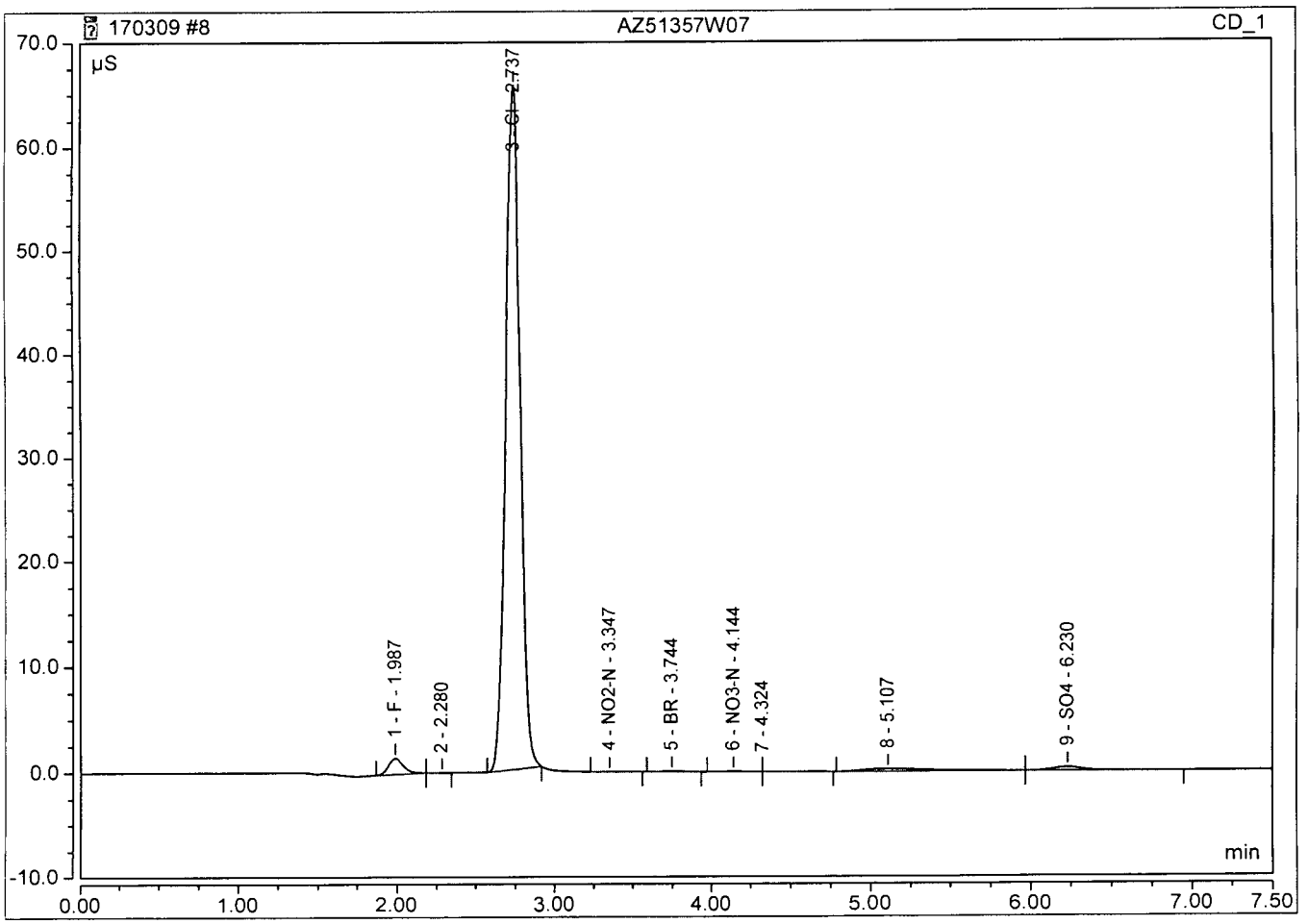
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51357W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 11:37**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.163	1.528	0.8544
3	2.74	Cl	BMB	6.929	65.638	39.4273
4	3.35	NO2-N	BMB	0.001	0.003	0.0347
5	3.74	BR	BMB	0.008	0.065	0.3511
6	4.14	NO3-N	BMB	0.002	0.017	0.1360
9	6.23	SO4	BMB	0.066	0.312	1.1169
TOTAL:				7.17	67.56	41.92



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH272

Sample Collection Date: 03/07/17

APPL ID: AZ51359

ARF: 82369

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	51.3	2.0	0.40	0.16	mg/L	2	03/13/17	03/13/17
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	03/09/17	03/09/17
EPA 300.0	SULFATE	9.8	1.0	0.20	0.09	mg/L	1	03/09/17	03/09/17
SM 2320B	BICARBONATE AS CACO3	67.4	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	67.4	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/09/17	03/09/17

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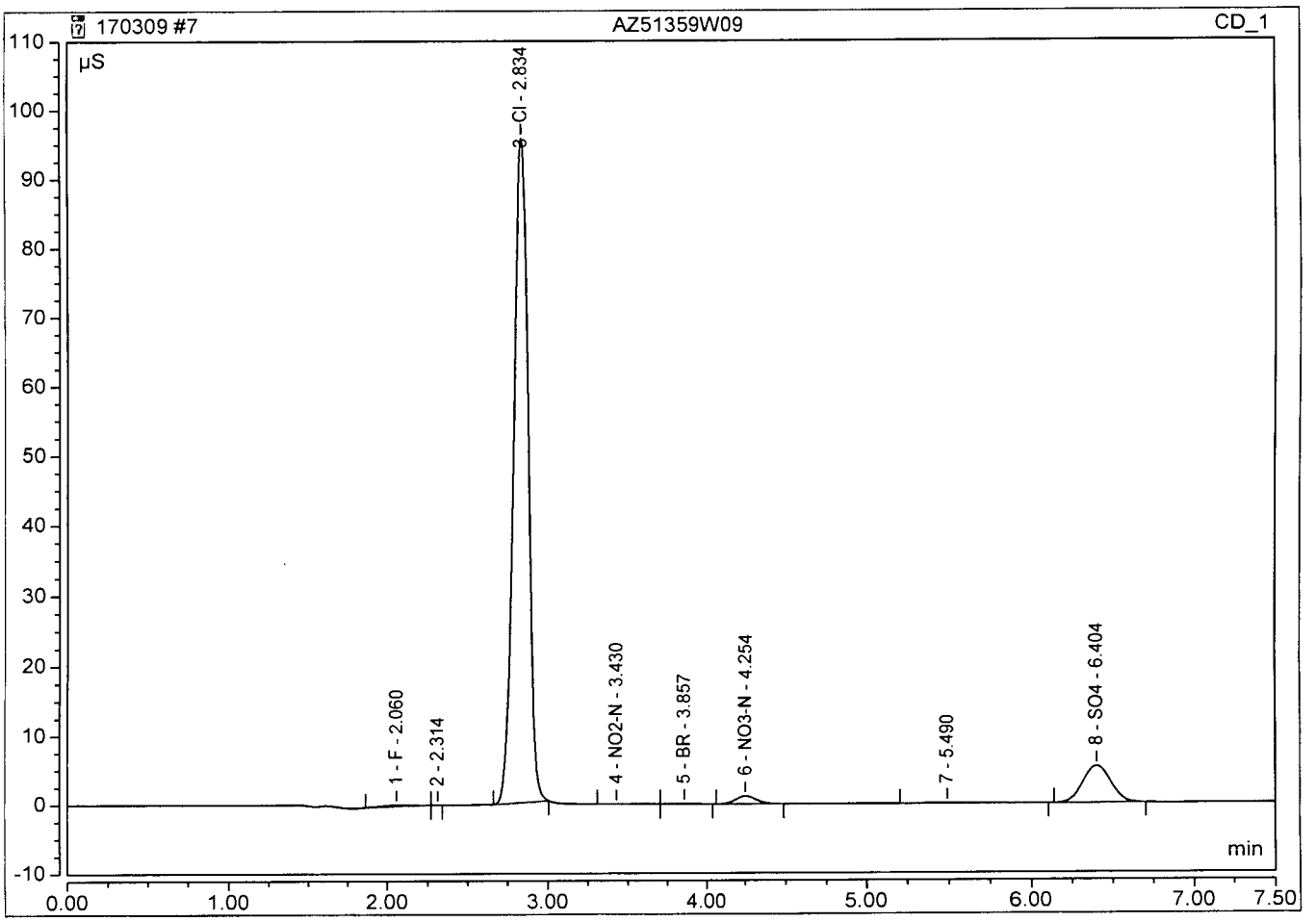
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51359W09**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 11:24**	*Run Time:*	**7.50**

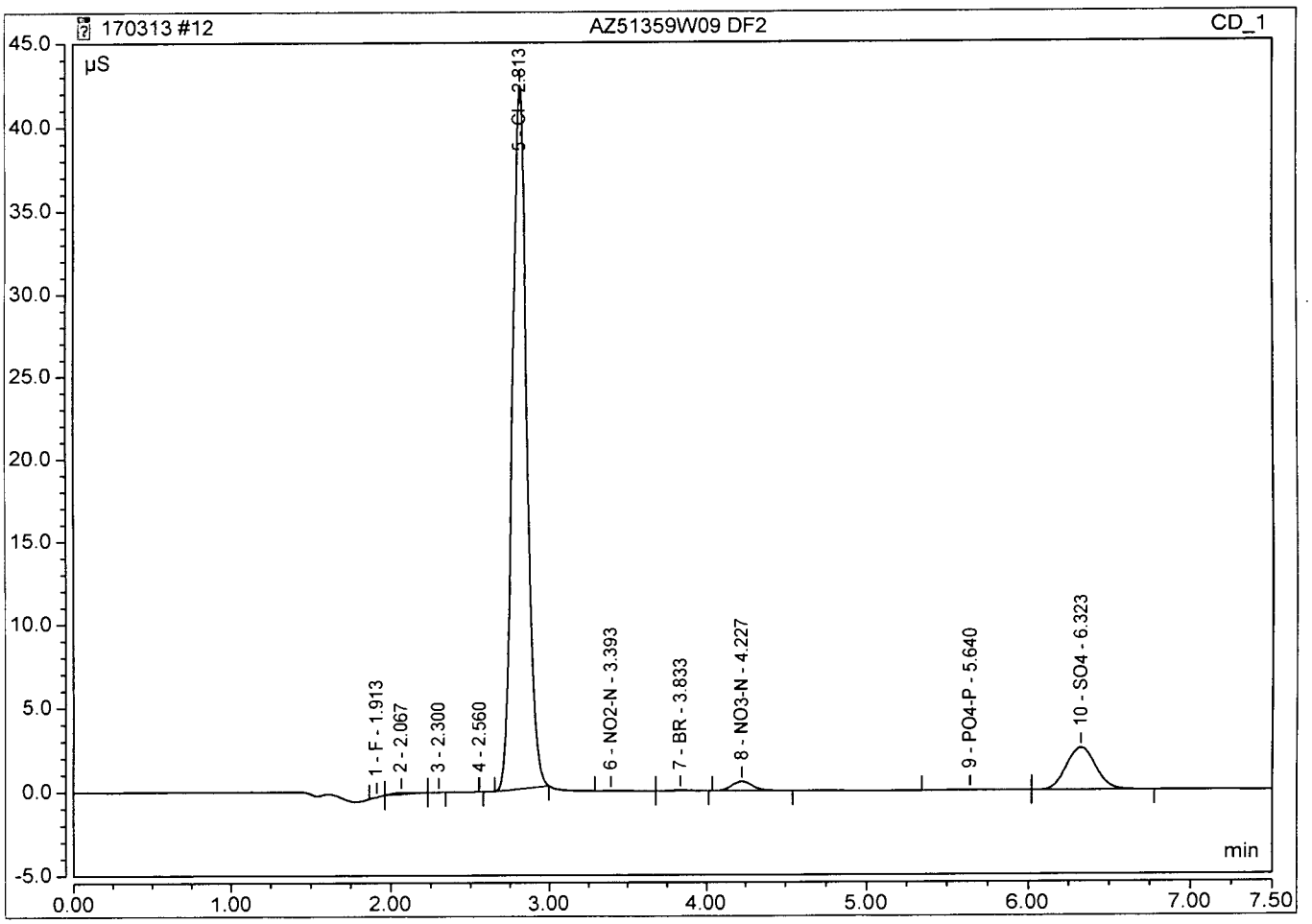
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.06	F	BMB	0.042	0.243	0.2545
3	2.83	Cl	BMB	9.931	95.563	56.0823
4	3.43	NO2-N	BMB	0.002	0.007	0.0389
5	3.86	BR	BMB	0.011	0.082	0.3858
6	4.25	NO3-N	BMB	0.166	1.149	0.5633
8	6.40	SO4	BMB	1.068	5.387	9.7577
TOTAL:				11.22	102.43	67.08



Peak Integration Report

Sample Name:	**AZ51359W09 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 17:02**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.91	F	BMB	0.001	0.009	0.0952
5	2.81	Cl	BMB	4.445	42.286	51.2826
6	3.39	NO2-N	BMB	0.001	0.005	0.0736
7	3.83	BR	BMB	0.005	0.039	0.6009
8	4.23	NO3-N	BMB	0.083	0.557	0.6902
9	5.64	PO4-P	BMB	0.011	0.033	0.4602
10	6.32	SO4	BMB	0.521	2.483	10.0895
TOTAL:				5.07	45.41	63.29



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH280

Sample Collection Date: 03/08/17

APPL ID: AZ51362

ARF: 82369

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	86.2	5.0	1.00	0.40	mg/L	5	03/13/17	03/13/17
EPA 300.0	NITRATE	1.4	0.5	0.18	0.04	mg/L	1	03/09/17	03/09/17
EPA 300.0	SULFATE	30.7	1.0	0.20	0.09	mg/L	1	03/09/17	03/09/17
SM 2320B	BICARBONATE AS CACO3	49.0	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	49.0	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.53 J	1.0	0.32	0.16	mg/L	1	03/09/17	03/09/17

J = Estimated value.

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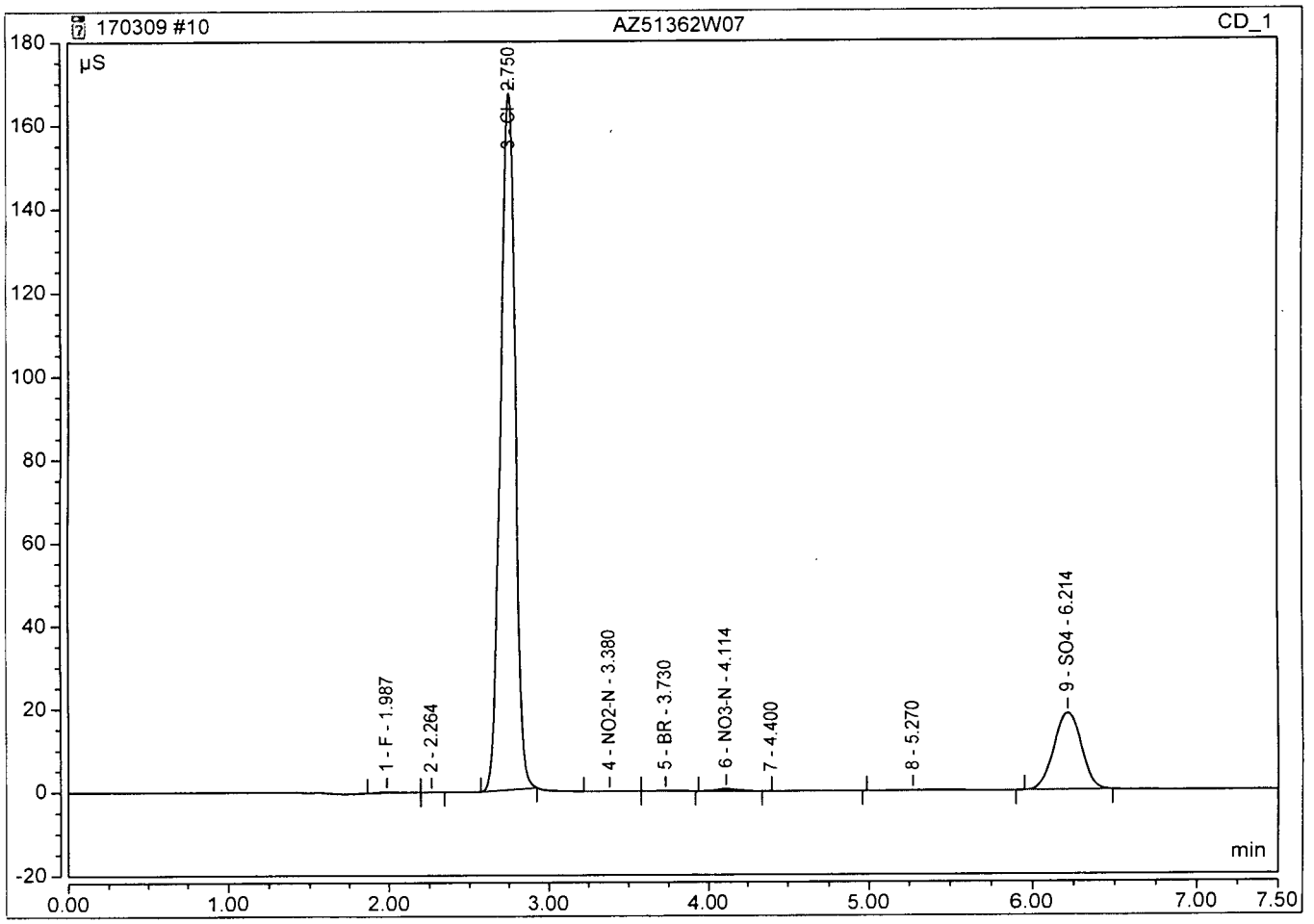
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51362W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 12:04**	*Run Time:*	**7.50**

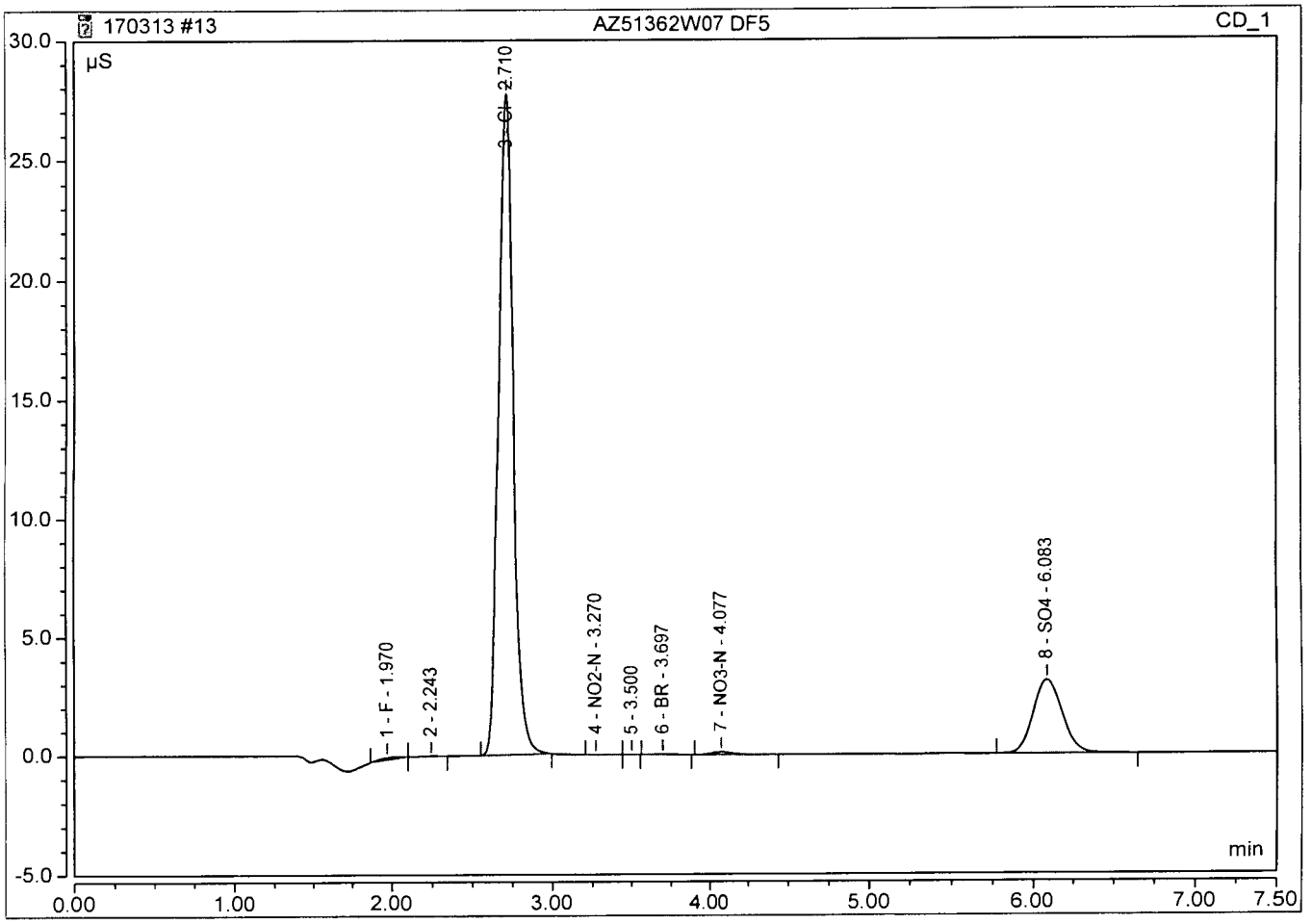
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	**F**	BMB	0.029	0.237	0.1904
3	2.75	**Cl**	BMB	17.974	166.964	100.7040
4	3.38	**NO2-N**	BMB	0.002	0.011	0.0397
5	3.73	**BR**	BMB	0.015	0.122	0.4619
6	4.11	**NO3-N**	BMB	0.075	0.529	0.3259
9	6.21	**SO4**	BMB	3.498	18.447	30.7231
		TOTAL:		21.59	186.31	132.45



Peak Integration Report

Sample Name:	**AZ51362W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 17:16**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.013	0.097	0.5517
3	2.71	Cl	BMB	2.930	27.716	86.1879
4	3.27	NO2-N	BMB	0.000	0.001	0.1661
6	3.70	BR	BMB	0.003	0.023	1.3290
7	4.08	NO3-N	BMB	0.015	0.103	0.8470
8	6.08	SO4	BMB	0.642	3.082	30.4197
		TOTAL:		3.60	31.02	119.50



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH284

Sample Collection Date: 03/07/17

APPL ID: AZ51364

ARF: 82369

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	413	10.0	2.00	0.80	mg/L	10	03/14/17	03/14/17
EPA 300.0	SULFATE	92.0	10.0	2.00	0.90	mg/L	10	03/14/17	03/14/17
EPA 300.0	NITRATE	3.5	0.5	0.18	0.04	mg/L	1	03/09/17	03/09/17
SM 2320B	BICARBONATE AS CACO3	112	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	112	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/09/17	03/09/17

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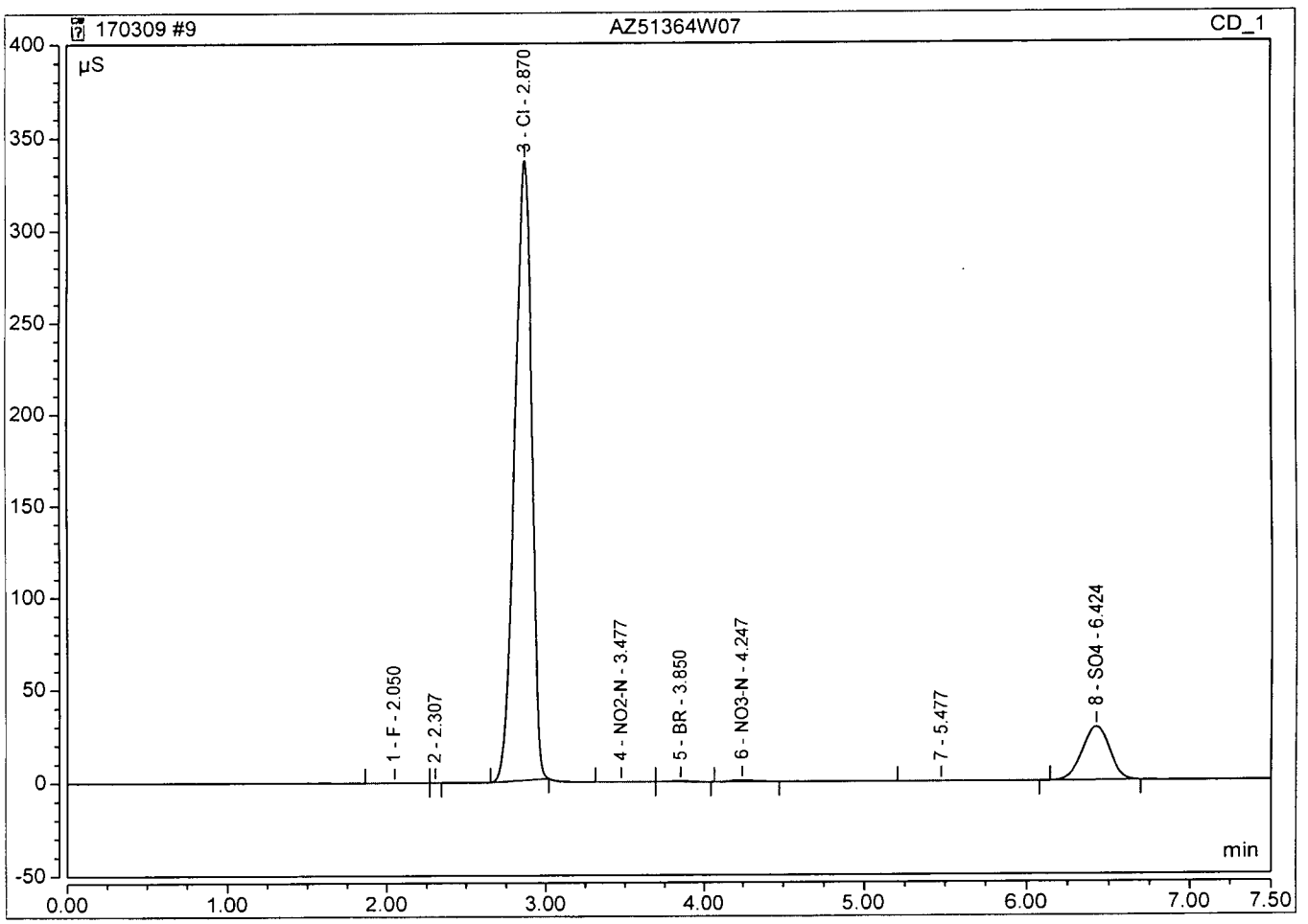
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51364W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 11:51**	*Run Time:*	**7.50**

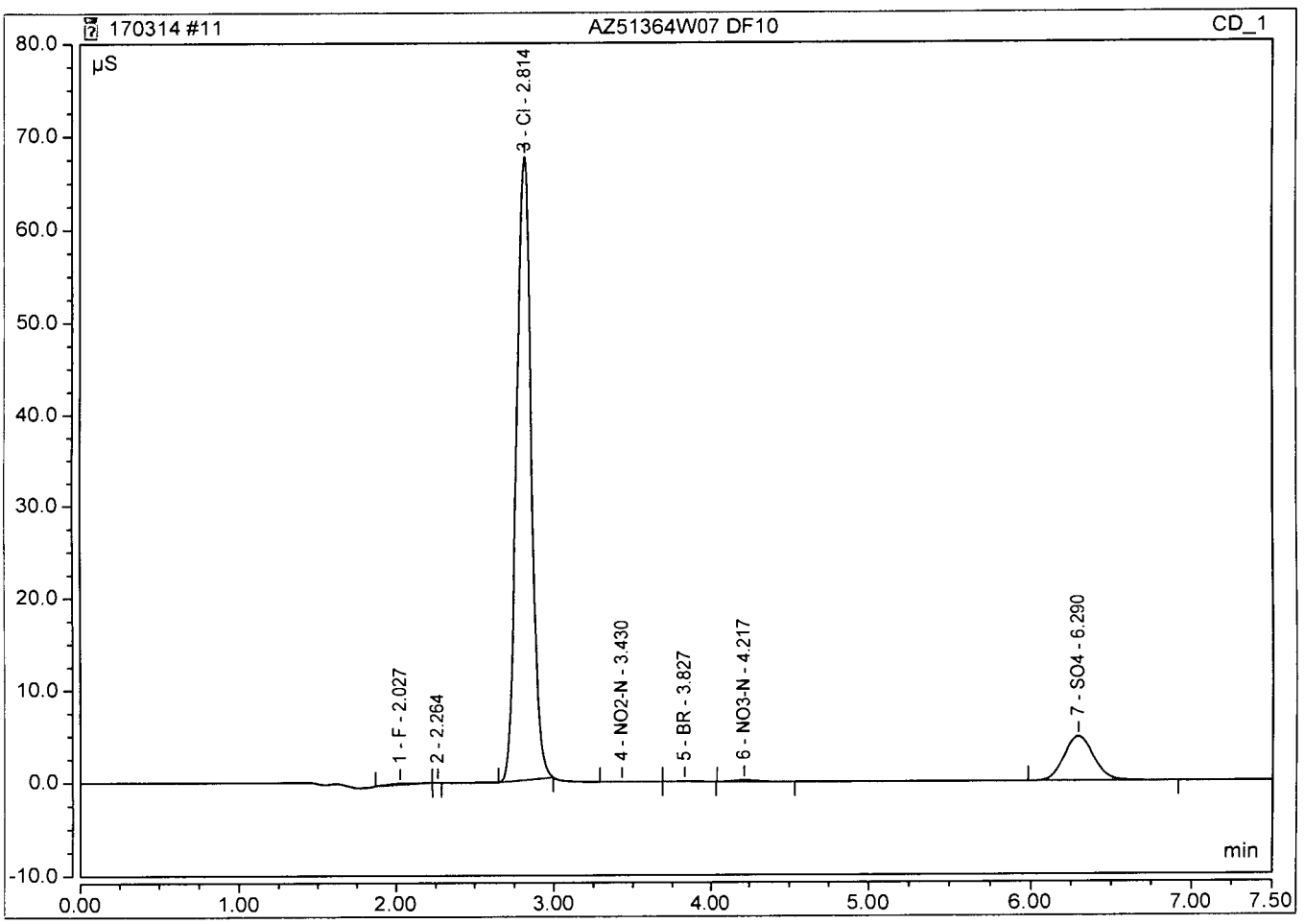
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.020	0.126	0.2838
3	2.87	Cl	BMB	41.660	335.882	464.2200
4	3.48	NO2-N	BMB	0.007	0.033	0.1122
5	3.85	BR	BMB	0.036	0.281	1.5749
6	4.25	NO3-N	BMB	0.100	0.695	0.7798
8	6.42	SO4	BMB	5.440	28.465	94.9514
TOTAL:				47.26	365.48	561.92



Peak Integration Report

Sample Name:	**AZ51364W07 DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 11:29**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.031	0.145	2.0048
3	2.81	Cl	BMB	7.263	67.482	412.7612
4	3.43	NO2-N	BMB	0.002	0.008	0.3854
5	3.83	BR	BMB	0.007	0.054	3.3137
6	4.22	NO3-N	BMB	0.021	0.143	1.8540
7	6.29	SO4	BMB	1.003	4.751	92.0235
TOTAL:				8.33	72.58	512.34



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82369 SDG: 82369
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 13:33	%R(1)	True CCV1	Found 13:55	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.77323	94.3	4	3.66333	91.6	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82369 SDG: 82369

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 03/09/17 13:35	C	CCB 03/09/17 13:57	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.36	98.9							
chloride	20	18.867	94.3							
fluoride	2.5	2.6632	107							
Nitrate(NO3)	22.1	21.9317	99.2							
Nitrate(NO3)-N	5	4.9523	99.0							
Nitrite(NO2)	9.98	10.3648	104							
Nitrite(NO2)-N	3.04	3.1556	104							
phosphate	15.3225	15.2743	99.7							
phosphate-p	5	4.9843	99.7							
sulfate	20	19.6588	98.3							

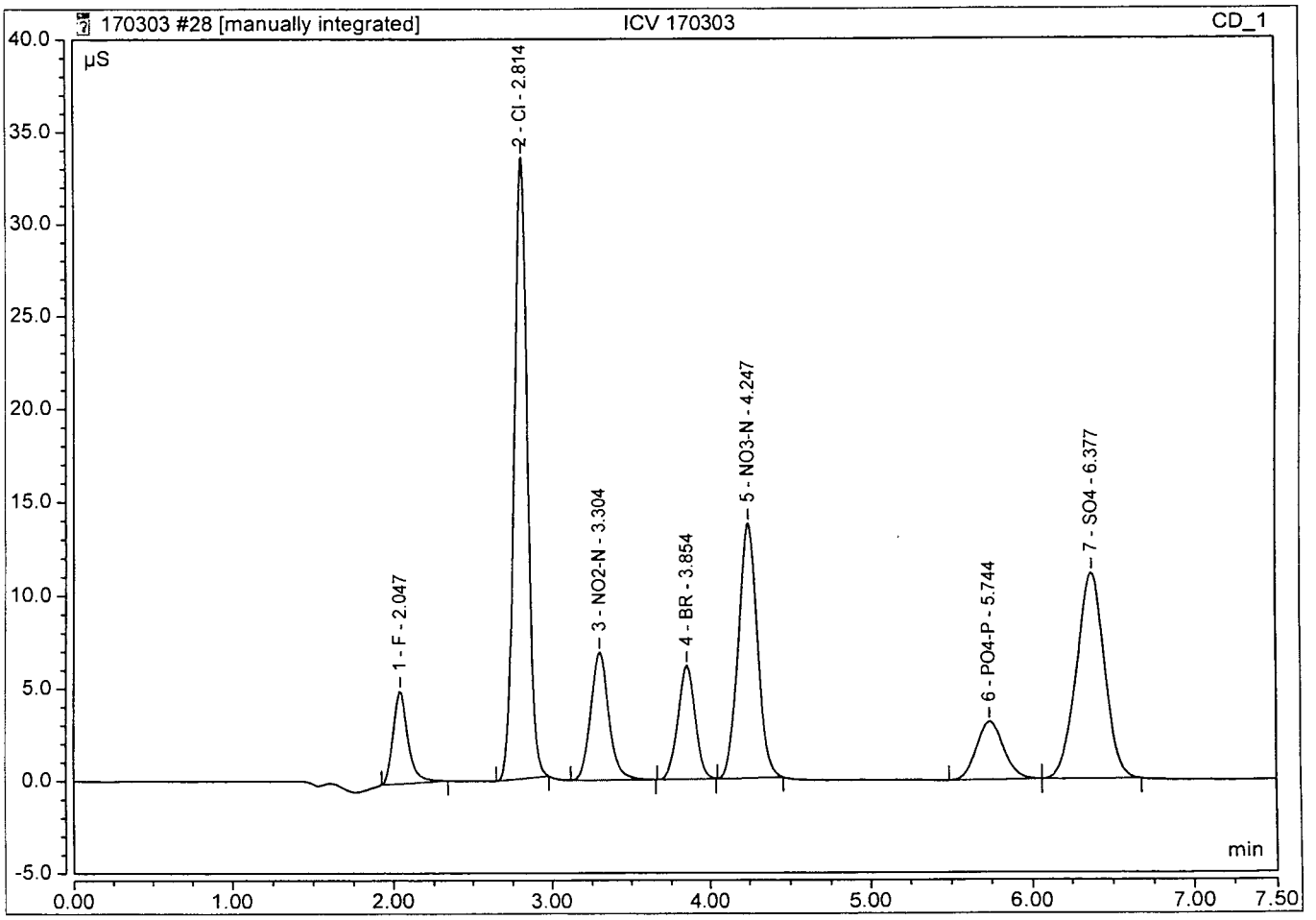
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303-ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm check

y= .384x -.05 y=Peak Area
x=Amnt

X= 4.95✓ MM 3/16/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

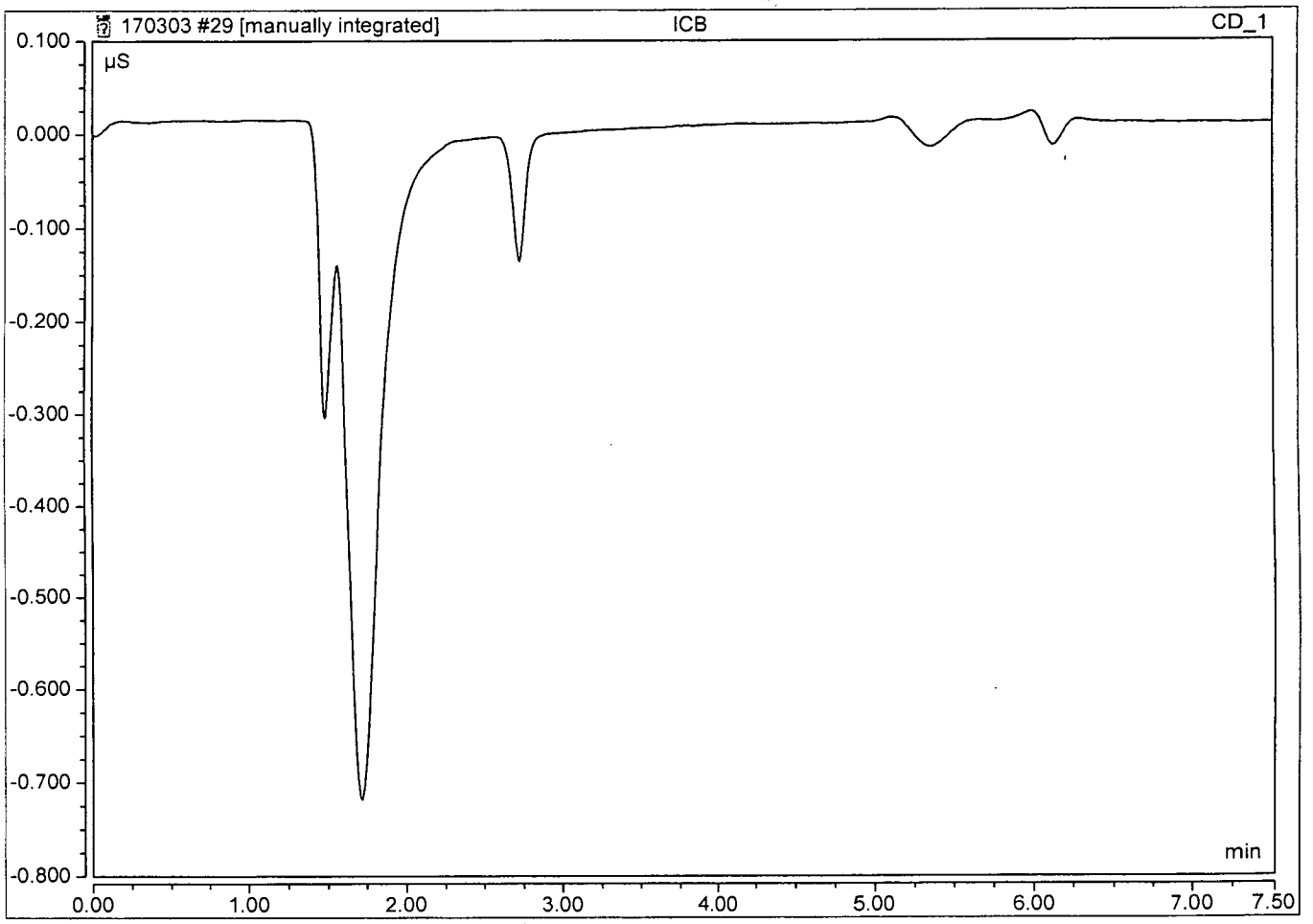
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82369 SDG: 82369
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/09/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:55	%R(1)	True CCV1	Found 18:19	%R(1)	True	Found	%R(1)	
chloride	25	23.6956	94.8	25	23.3675	93.5				
Nitrate(NO3)	22.1	22.4437	102	22.1	22.3724	101				
sulfate	25	24.1044	96.4	25	24.0982	96.4				

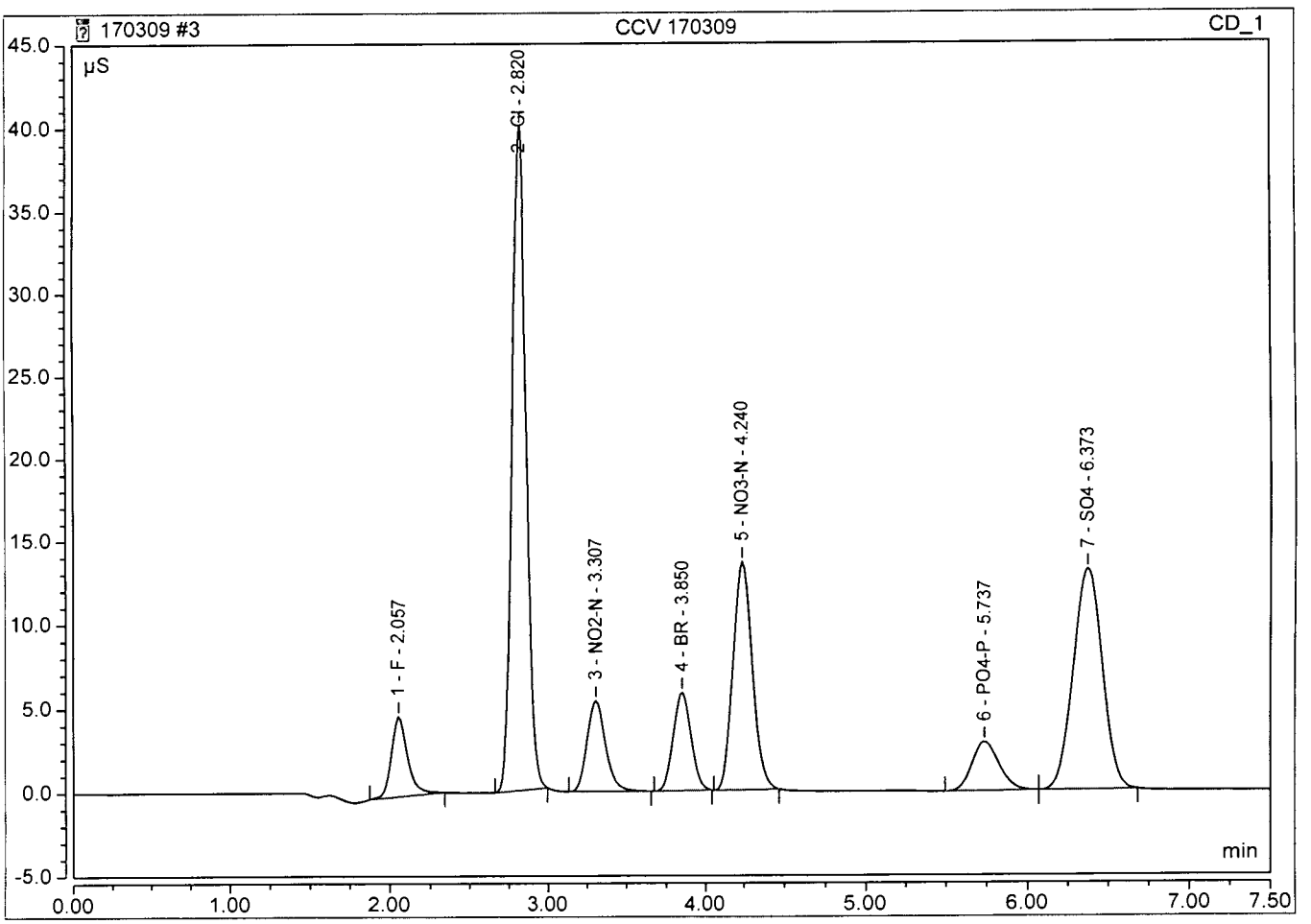
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170309**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 09:55**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.06	F	BMB	0.556	4.771	2.7980
2	2.82	Cl	BMB	4.094	39.977	23.6956
3	3.31	NO2-N	BMB	0.733	5.380	2.5308
4	3.85	BR	BMB	0.760	5.828	12.1506
5	4.24	NO3-N	BMB	1.894	13.547	5.0679
6	5.74	PO4-P	BMB	0.566	2.897	4.6880
7	6.37	SO4	BMB	2.731	13.104	24.1044
		TOTAL:		11.33	85.50	75.04



Algorithm Check

y = .384x - .05

x = 5.07 ✓

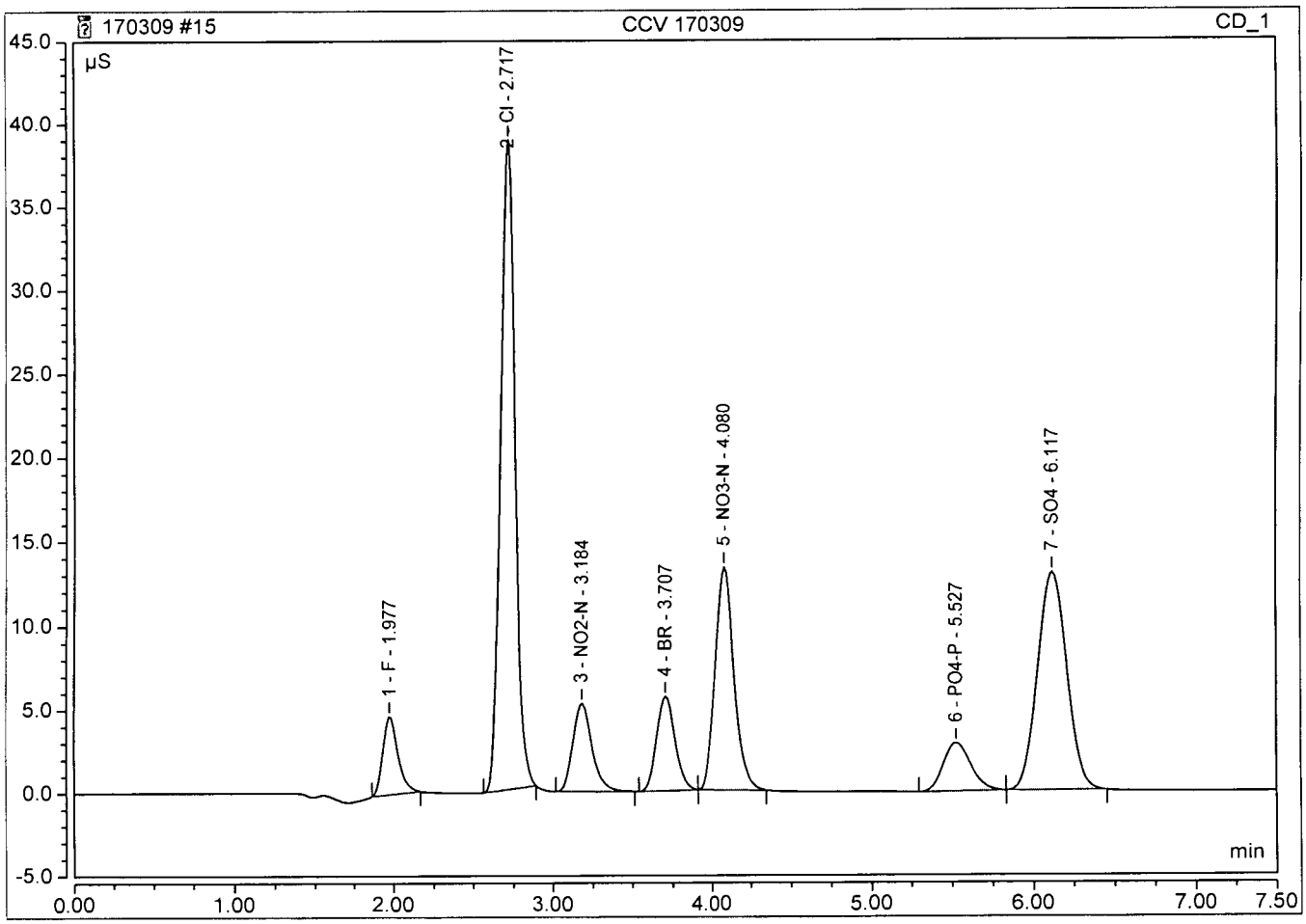
y = Peak Area
x = Amount

MM 3/16/17

Peak Integration Report

Sample Name:	**CCV 170309**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 18:19**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.512	4.719	2.5804
2	2.72	Cl	BMB	4.035	38.792	23.3675
3	3.18	NO2-N	BMB	0.733	5.316	2.5284
4	3.71	BR	BMB	0.750	5.694	11.9847
5	4.08	NO3-N	BMB	1.888	13.305	5.0518
6	5.53	PO4-P	BMB	0.570	2.898	4.7193
7	6.12	SO4	BMB	2.730	13.037	24.0982
		TOTAL:		11.22	83.76	74.33



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82369 SDG: 82369

Preparation Blank Matrix (soil/water): water

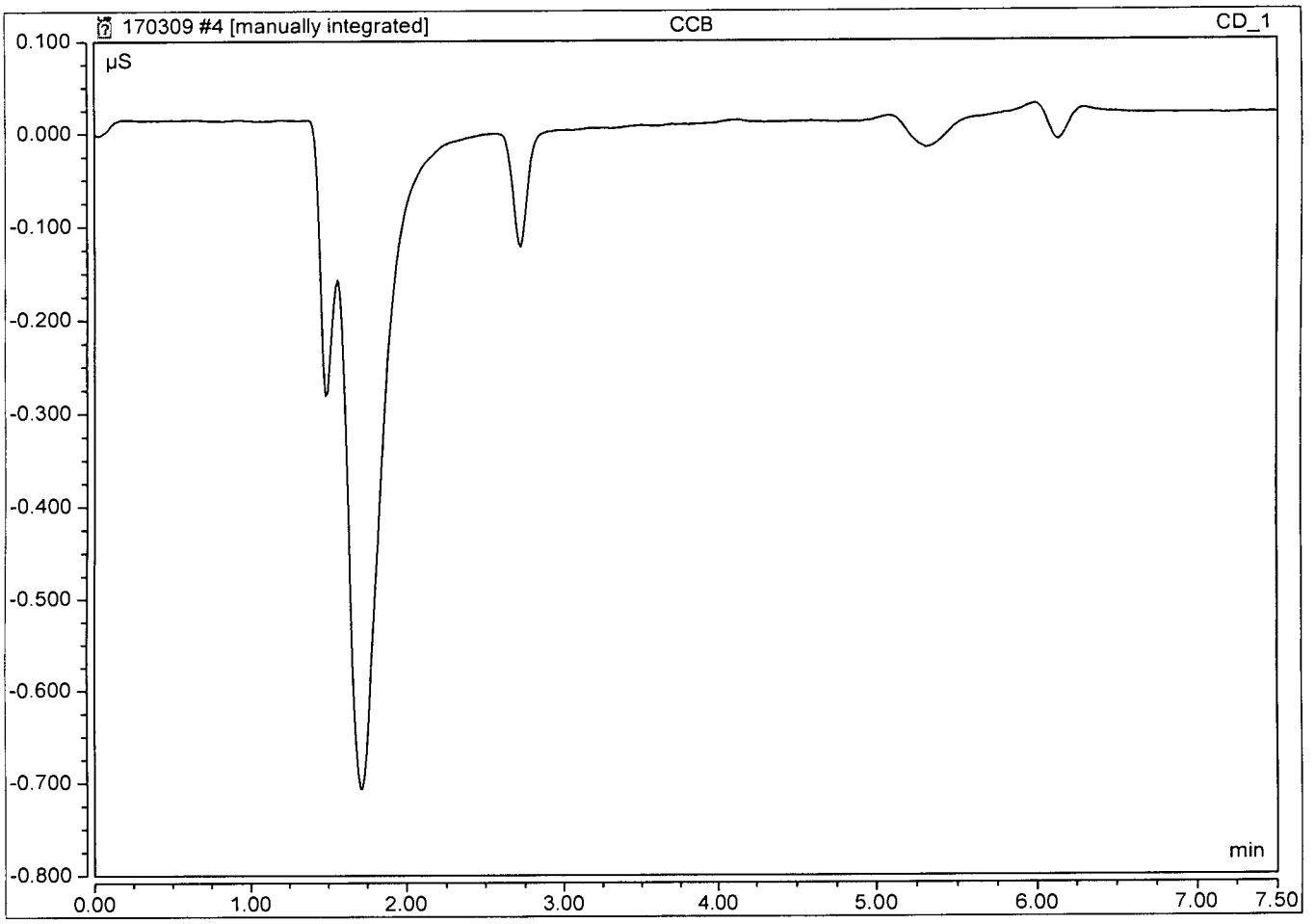
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/09/17 10:08	C	CCB 03/09/17 18:33	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 10:08**	*Run Time:*	**7.50**

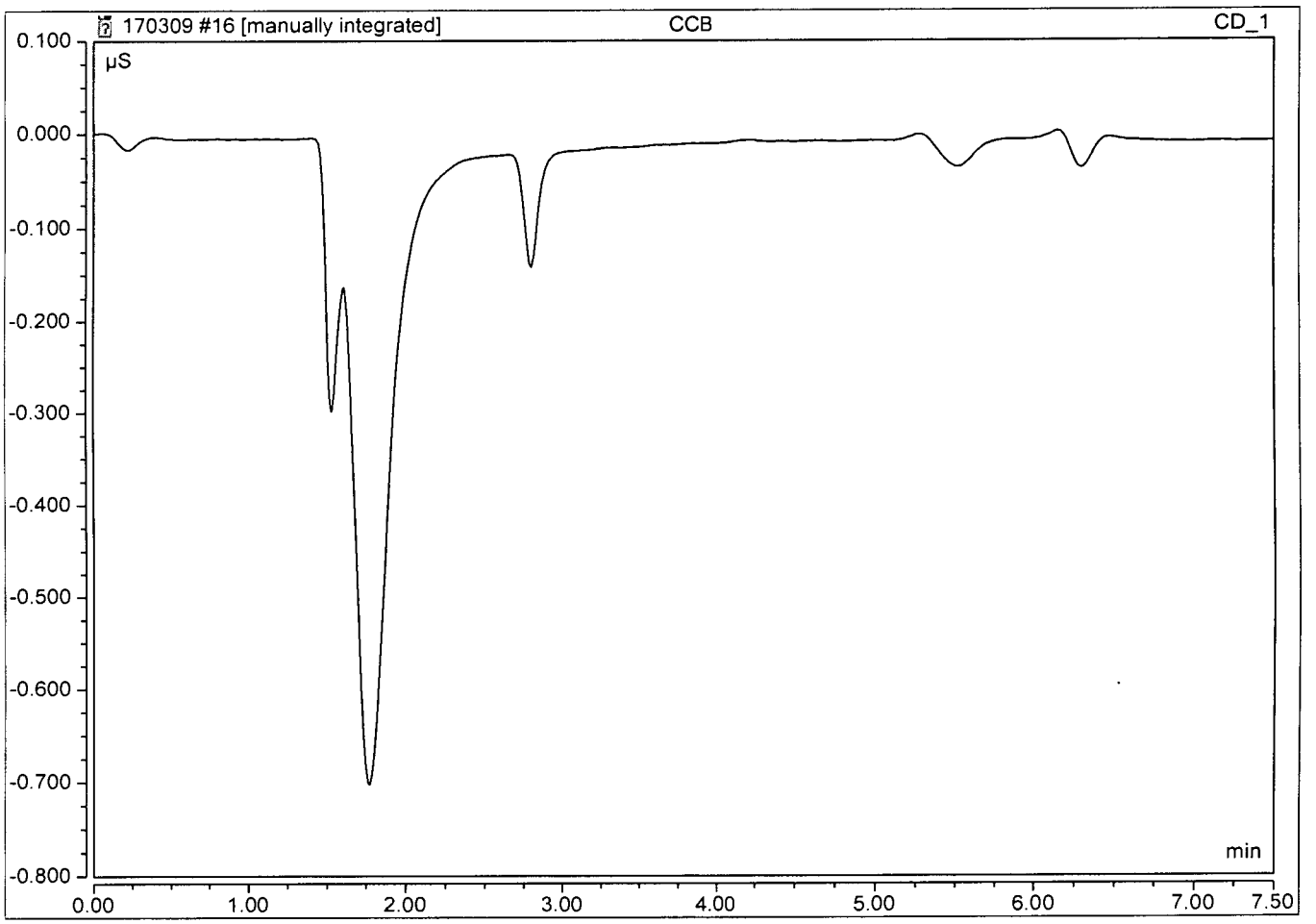
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 18:33**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82369 SDG: 82369
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/13/17

Analyte	Calibration Verification									M
	True CCV1	Found 10:39	%R(1)	True CCV1	Found 17:43	%R(1)	True	Found	%R(1)	
chloride	25	23.6576	94.6	25	23.852	95.4				

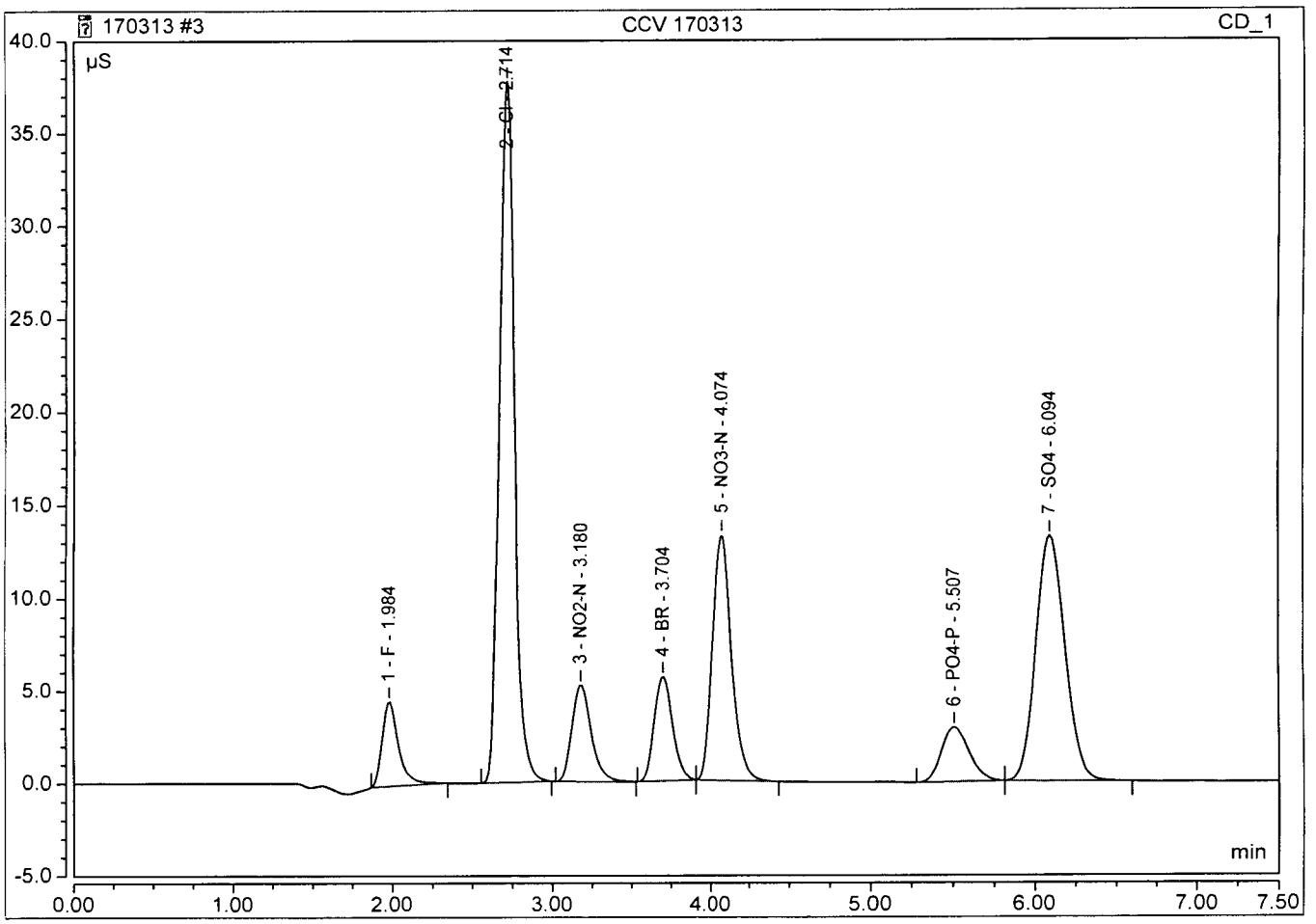
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170313**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 10:39**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.546	4.578	2.7467
2	2.71	Cl	BMB	4.087	37.730	23.6576
3	3.18	NO2-N	BMB	0.729	5.237	2.5149
4	3.70	BR	BMB	0.746	5.631	11.9289
5	4.07	NO3-N	BMB	1.895	13.269	5.0695
6	5.51	PO4-P	BMB	0.572	2.954	4.7354
7	6.09	SO4	BMB	2.743	13.266	24.2133
		TOTAL:		11.32	82.66	74.87



Algorithm Check

y = .384x - .05 y = Peak Area

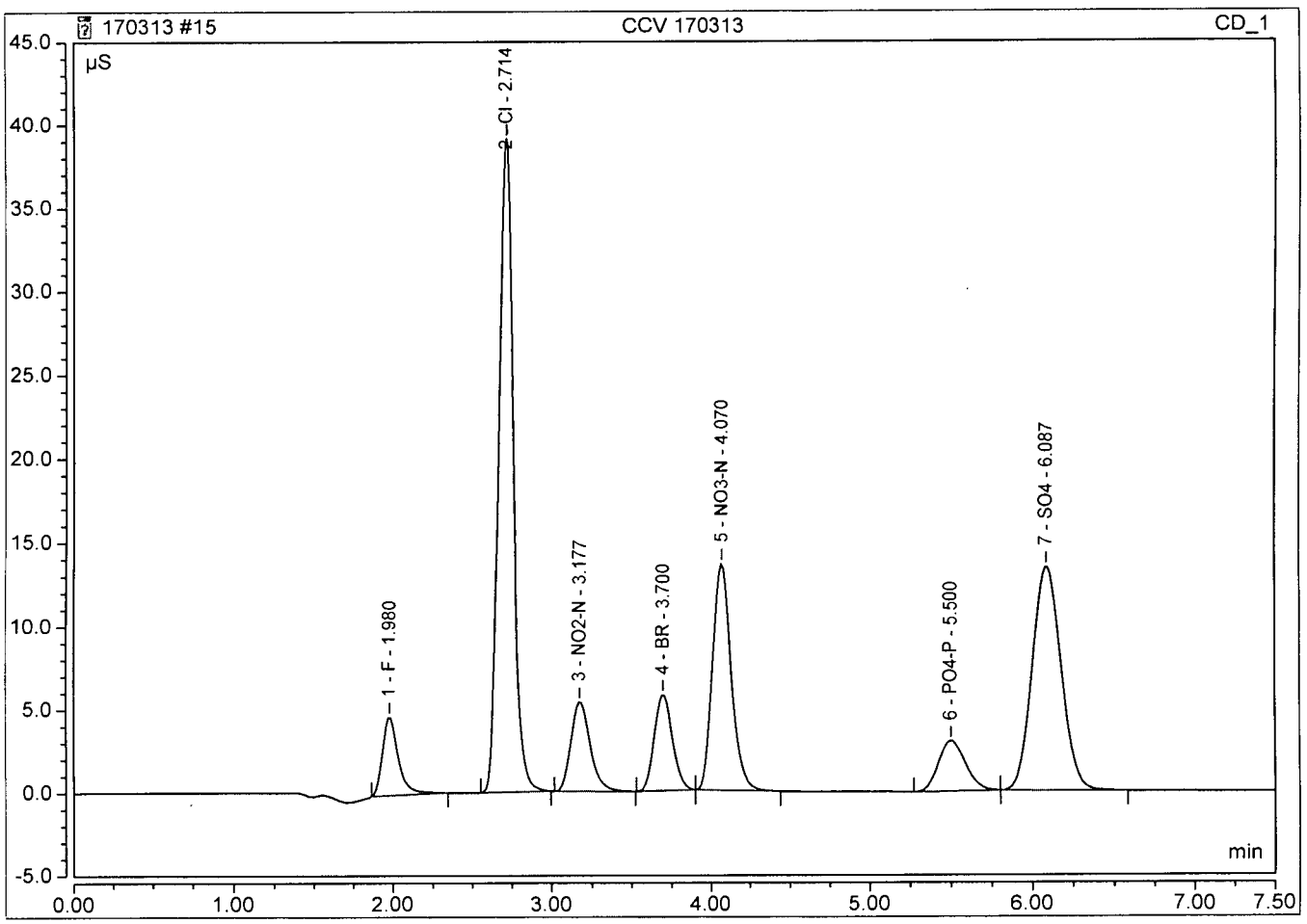
x = 5.07 ✓ x = Amt

MM 3/16/17

Peak Integration Report

Sample Name:	**CCV 170313**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 17:43**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.548	4.739	2.7583
2	2.71	Cl	BMB	4.122	39.103	23.8520
3	3.18	NO2-N	BMB	0.735	5.378	2.5375
4	3.70	BR	BMB	0.753	5.795	12.0409
5	4.07	NO3-N	BMB	1.910	13.631	5.1083
6	5.50	PO4-P	BMB	0.581	3.034	4.8093
7	6.09	SO4	BMB	2.759	13.470	24.3469
		TOTAL:		11.41	85.15	75.45



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82369 SDG: 82369

Preparation Blank Matrix (soil/water): water

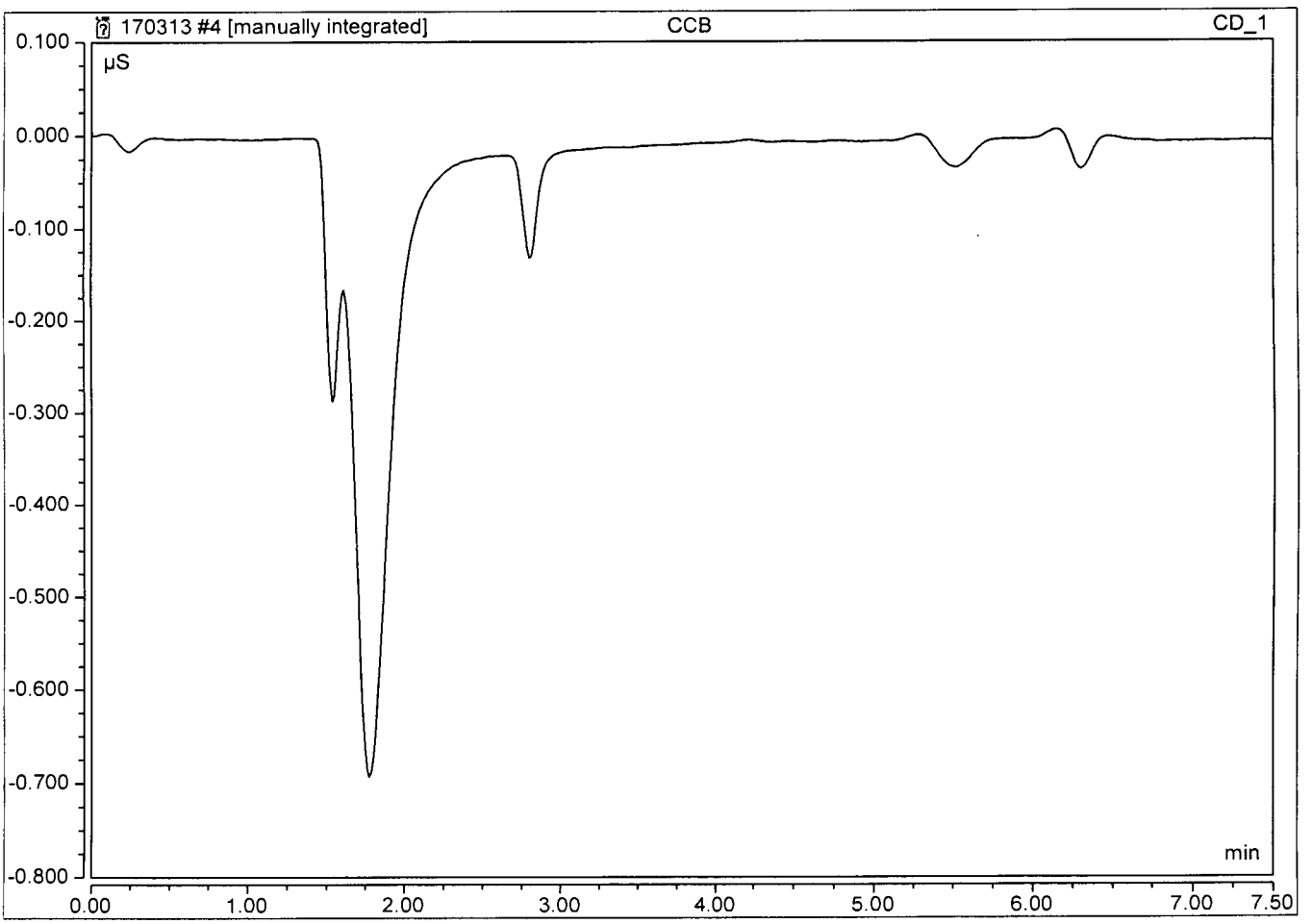
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/13/17 10:52	C	CCB 03/13/17 17:57	C		C		C		C	
chloride	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 10:52**	*Run Time:*	**7.50**

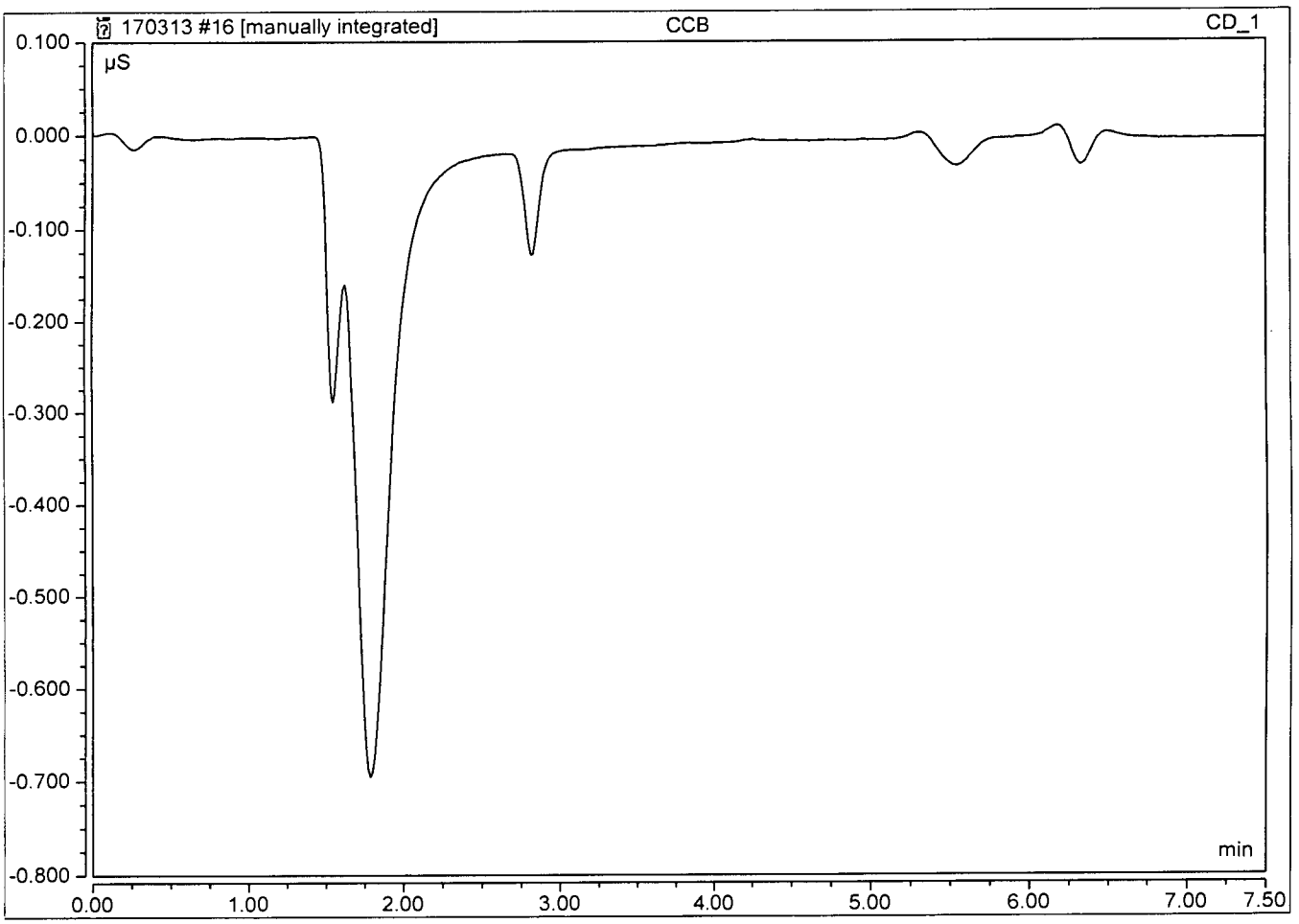
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 17:57**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82369 SDG: 82369
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/14/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:21	%R(1)	True CCV1	Found 15:06	%R(1)	True	Found	%R(1)	
chloride	25	23.4306	93.7	25	23.8262	95.3				
sulfate	25	24.2128	96.9	25	24.3826	97.5				

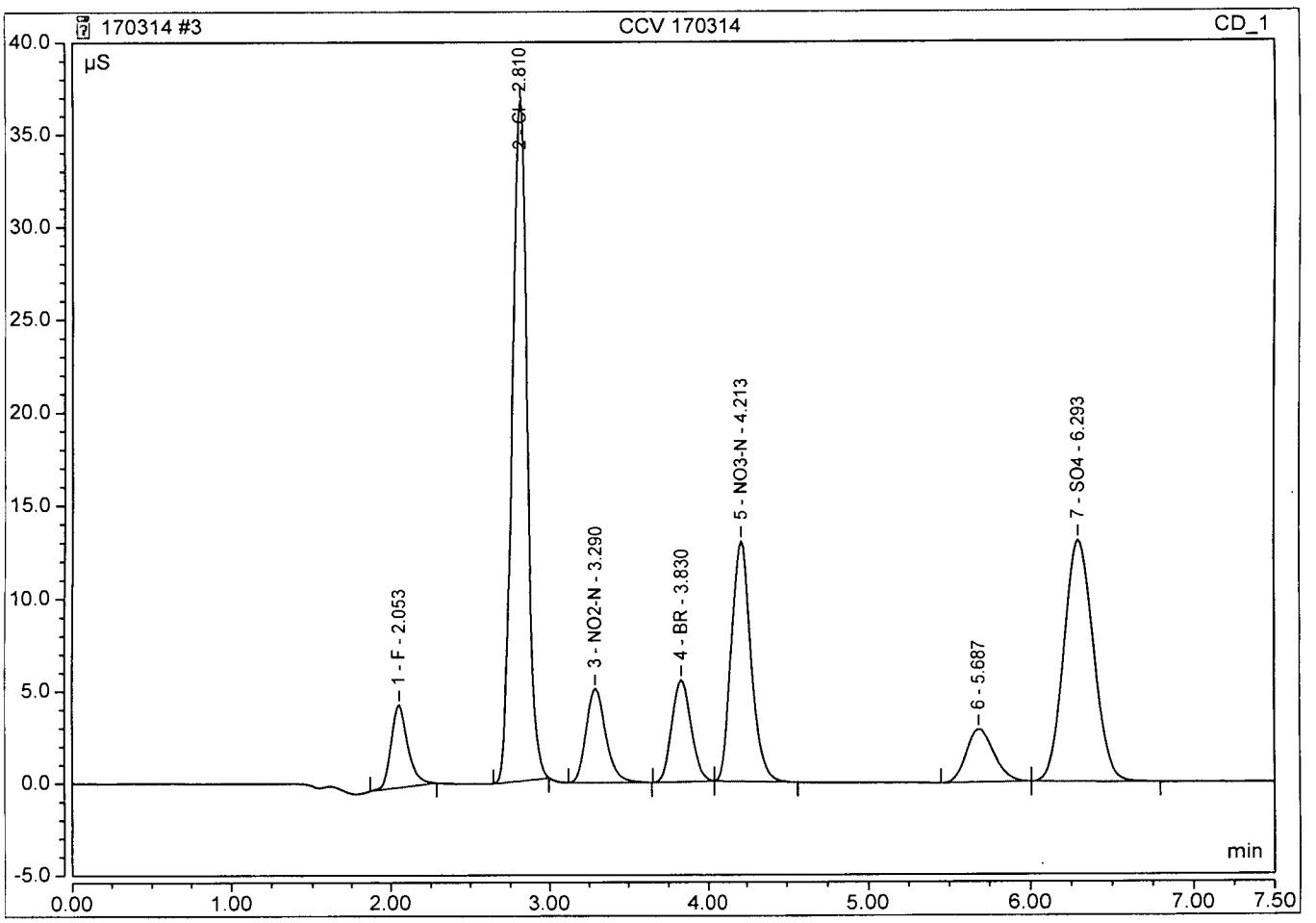
(1) Control Limits: 90-110

1LM02.0

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:21**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.544	4.478	2.7410
2	2.81	Cl	BMB	4.046	36.691	23.4306
3	3.29	NO2-N	BMB	0.730	5.098	2.5182
4	3.83	BR	BMB	0.754	5.527	12.0555
5	4.21	NO3-N	BMB	1.903	12.984	5.0907
7	6.29	SO4	BMB	2.743	13.058	24.2128
TOTAL:				10.72	77.84	70.05



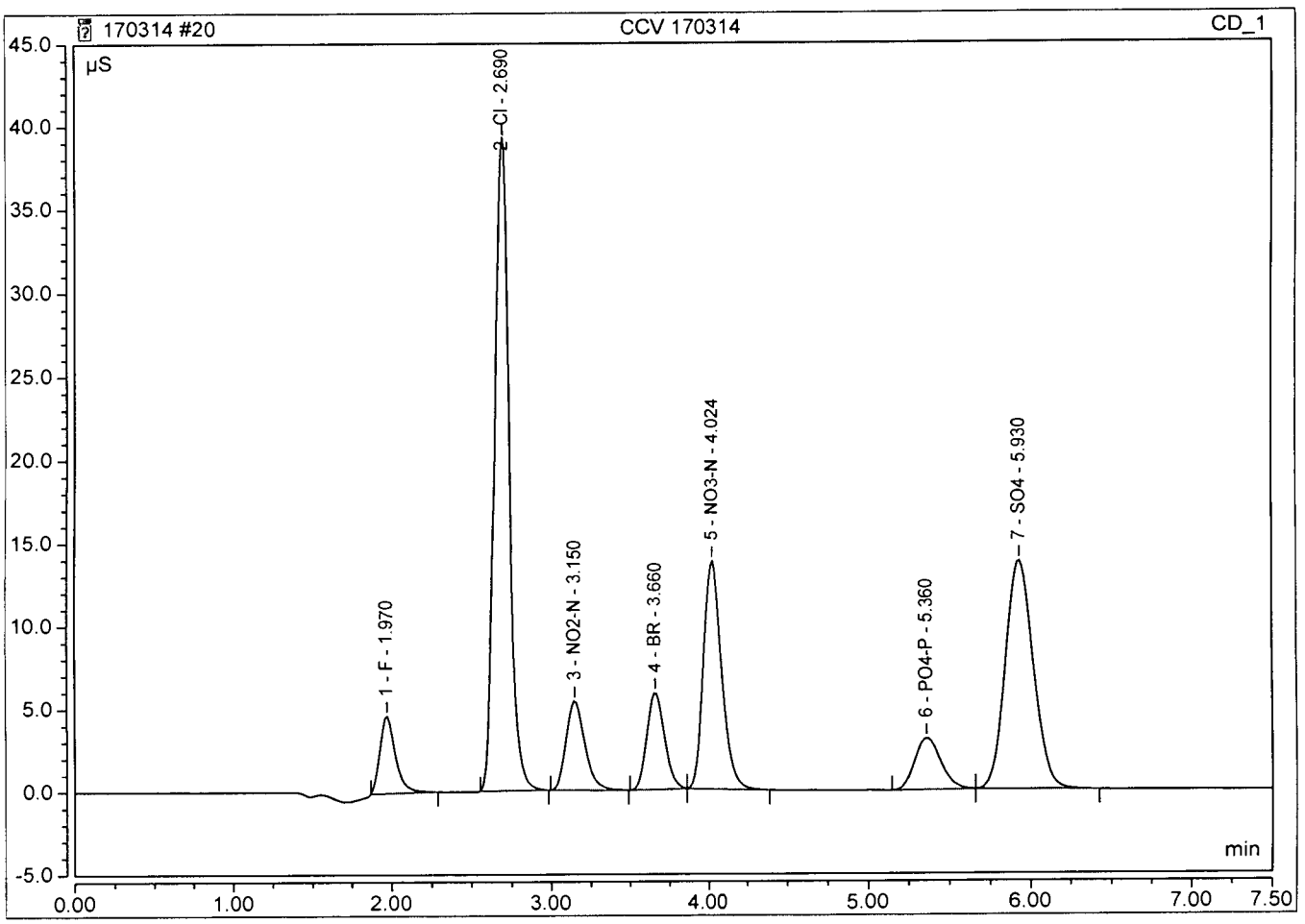
Algorithm Check

y = .384x - .05 y = Peak Area
x = 5.09 ✓ x = Amnt
MM 3/16/17

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 15:06**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.520	4.674	2.6221
2	2.69	Cl	BMB	4.117	39.233	23.8262
3	3.15	NO2-N	BMB	0.733	5.379	2.5298
4	3.66	BR	BMB	0.754	5.852	12.0541
5	4.02	NO3-N	BMB	1.914	13.759	5.1199
6	5.36	PO4-P	BMB	0.578	3.114	4.7802
7	5.93	SO4	BMB	2.763	13.785	24.3826
		TOTAL:		11.38	85.80	75.31



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82369 SDG: 82369

Preparation Blank Matrix (soil/water): water

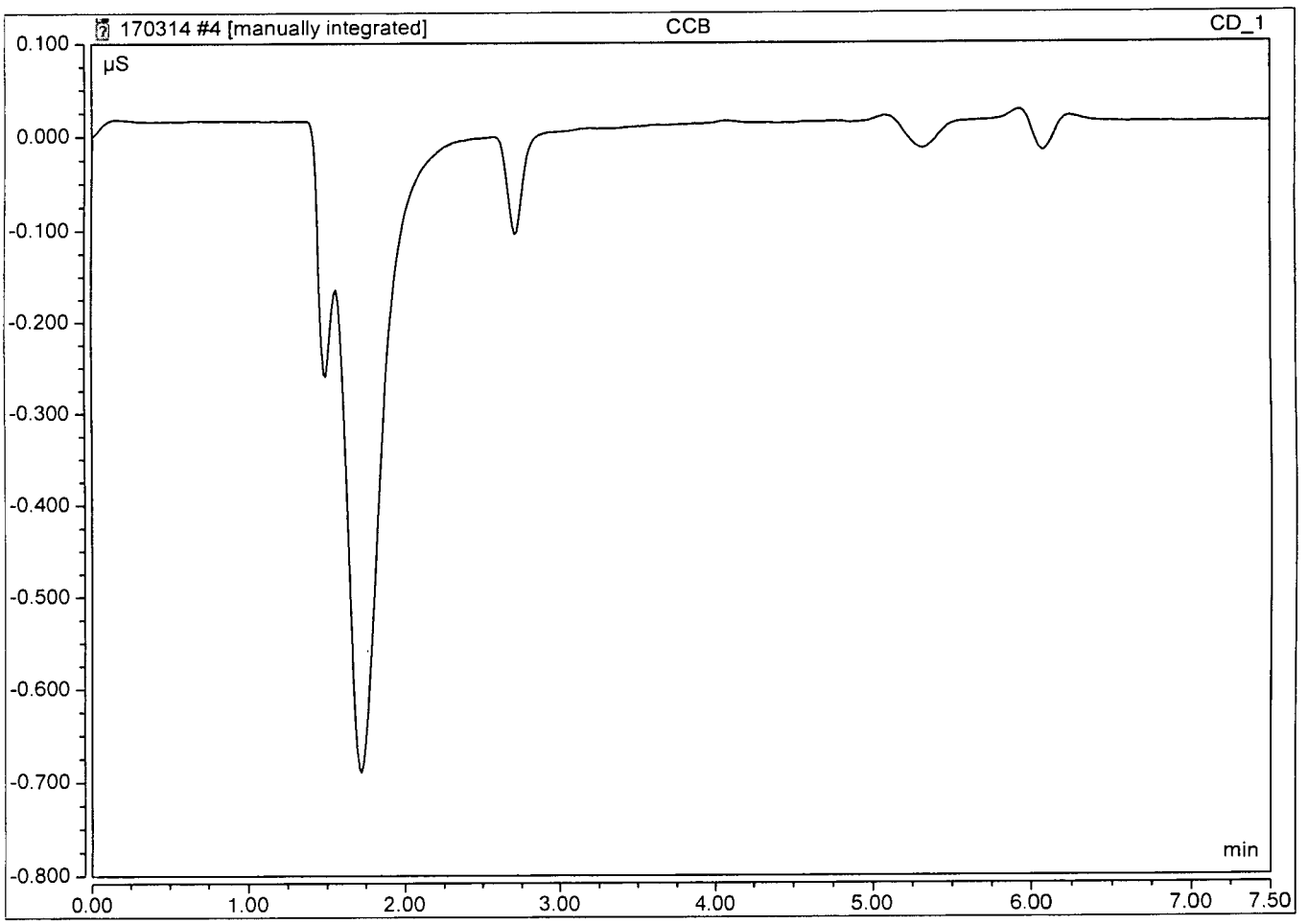
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/14/17 09:35	C	CCB 03/14/17 15:20	C		C		C		C	
chloride	1.000	U	1.000	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:35**	*Run Time:*	**7.50**

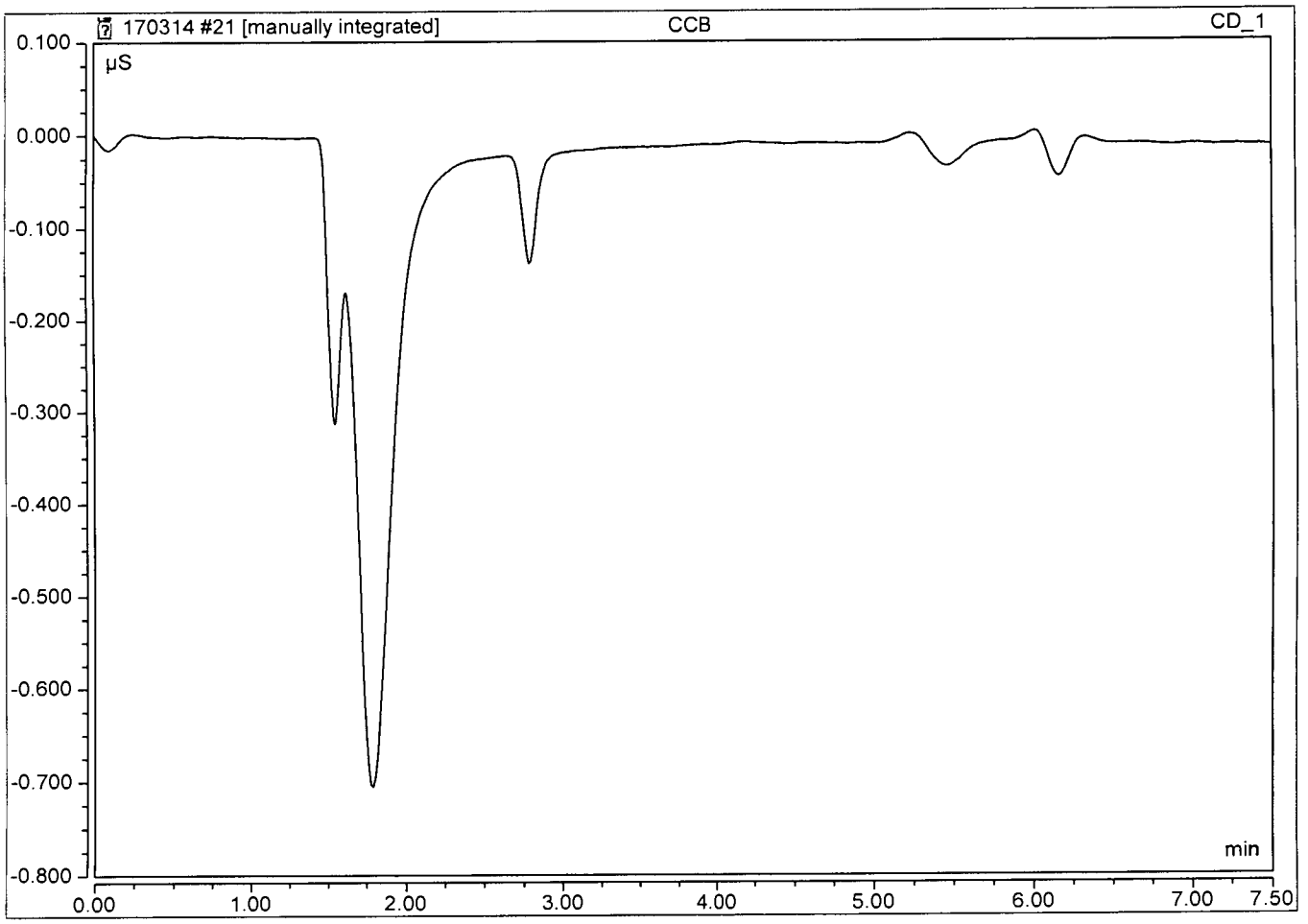
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



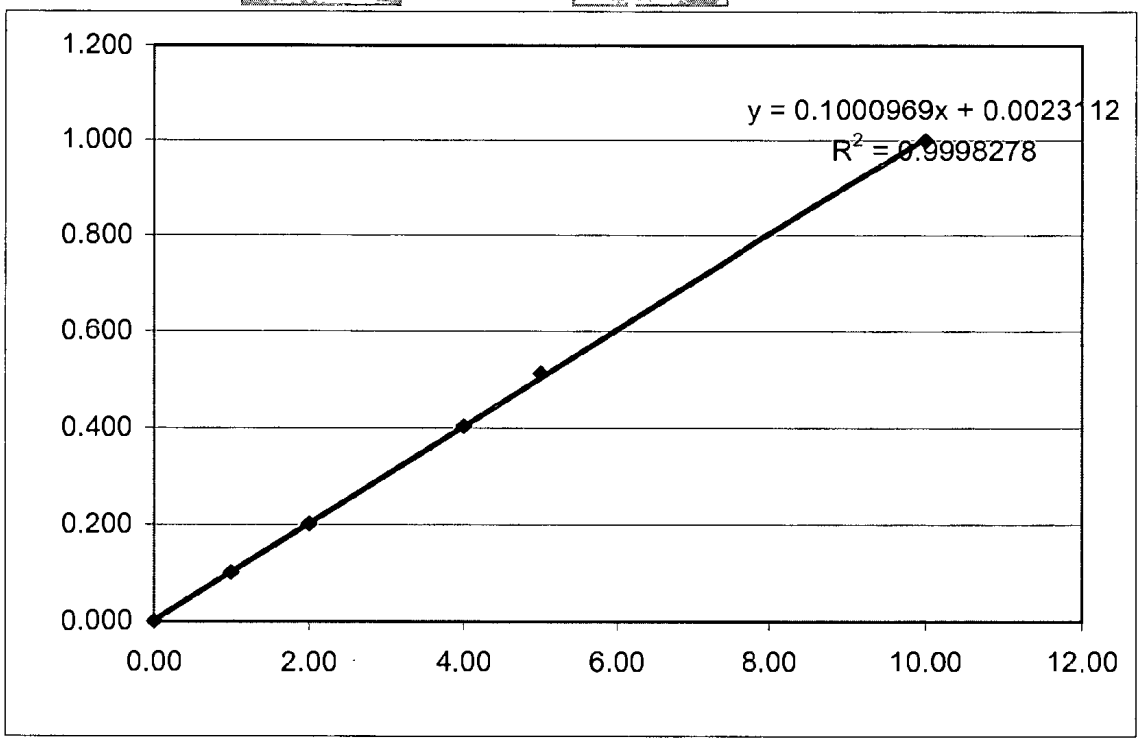
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 15:20**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170309A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.258	03/09/17	13:36
dilution=	1		
result (x)=	2.55		

mm 3/16/17

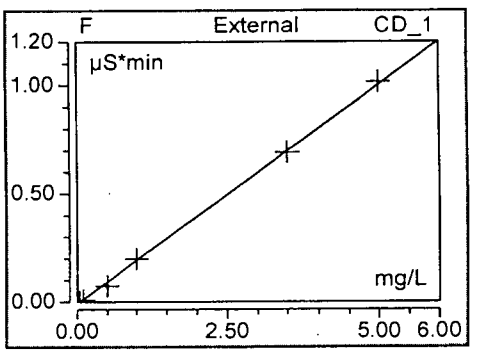
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

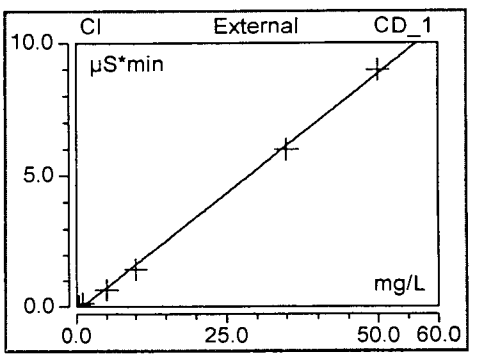
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

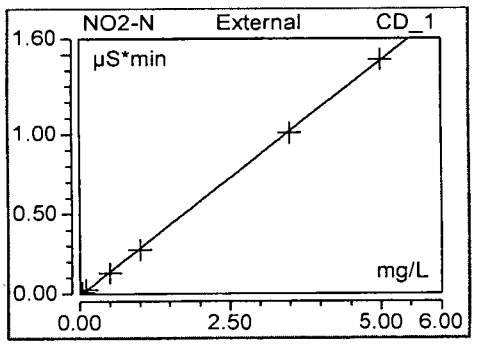
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



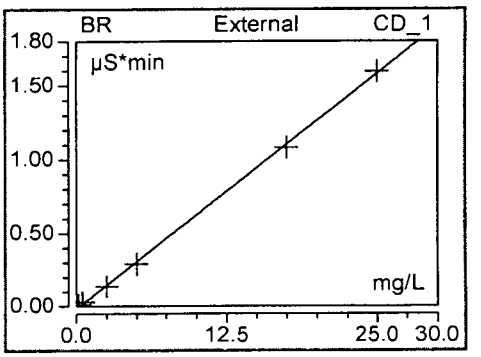
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



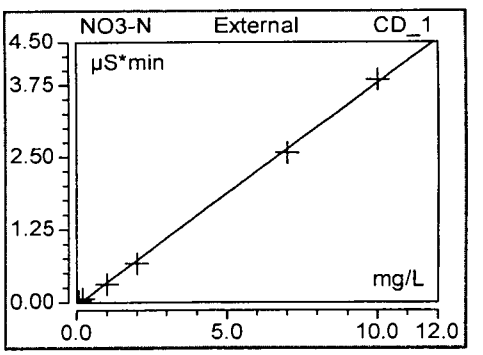
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



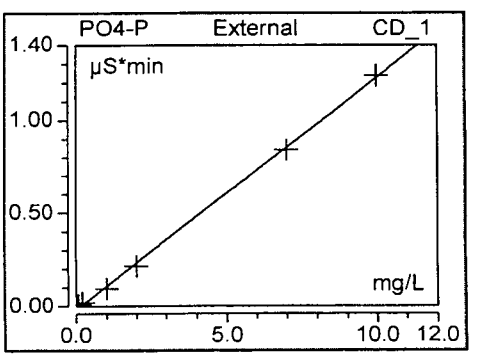
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



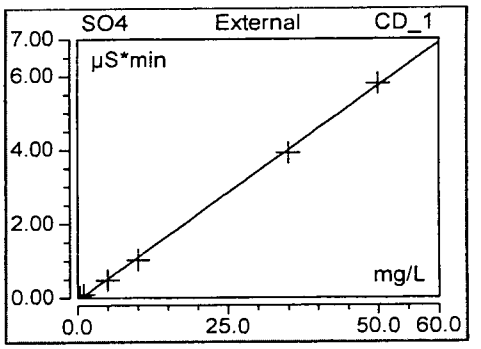
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



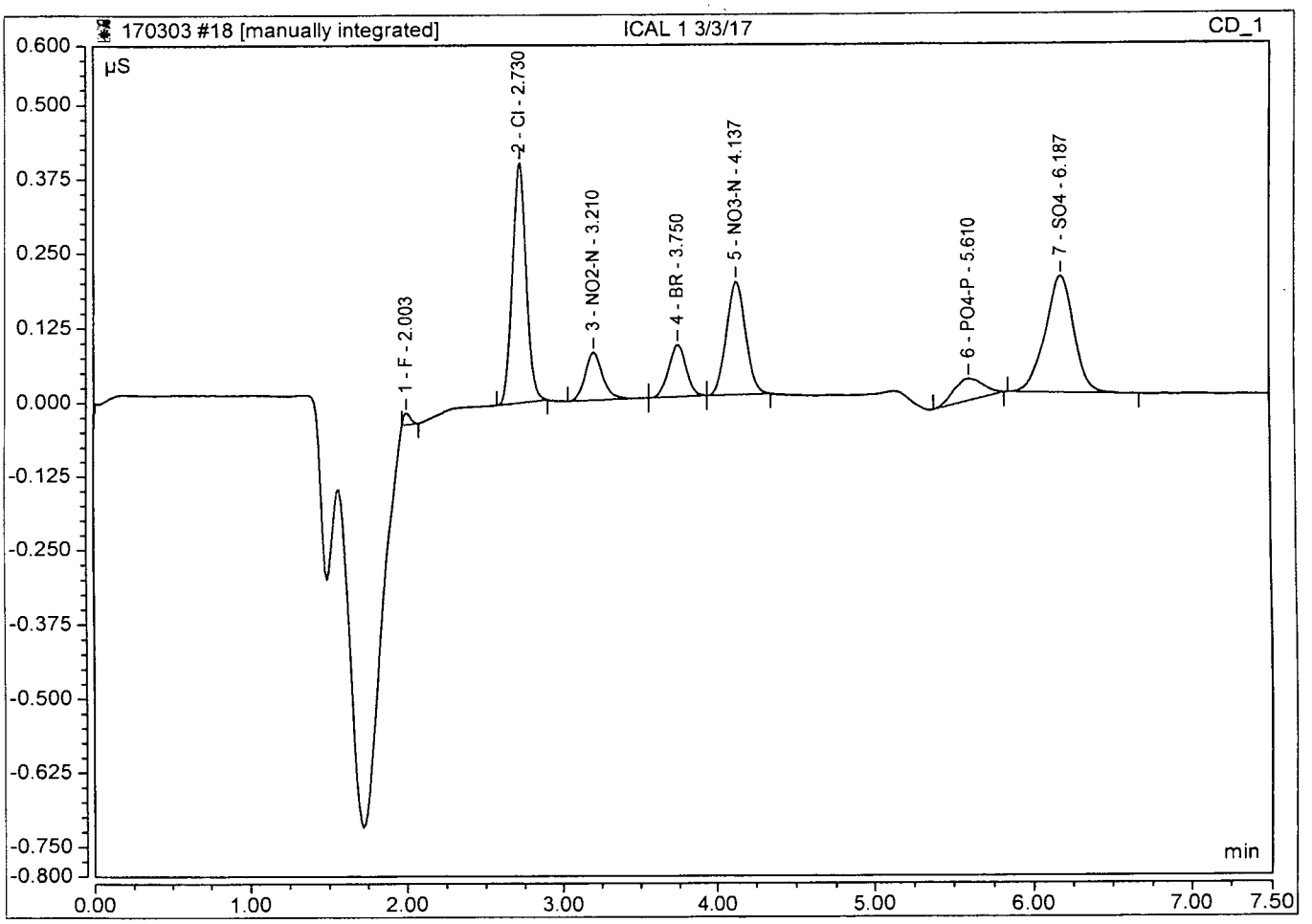
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7:50**

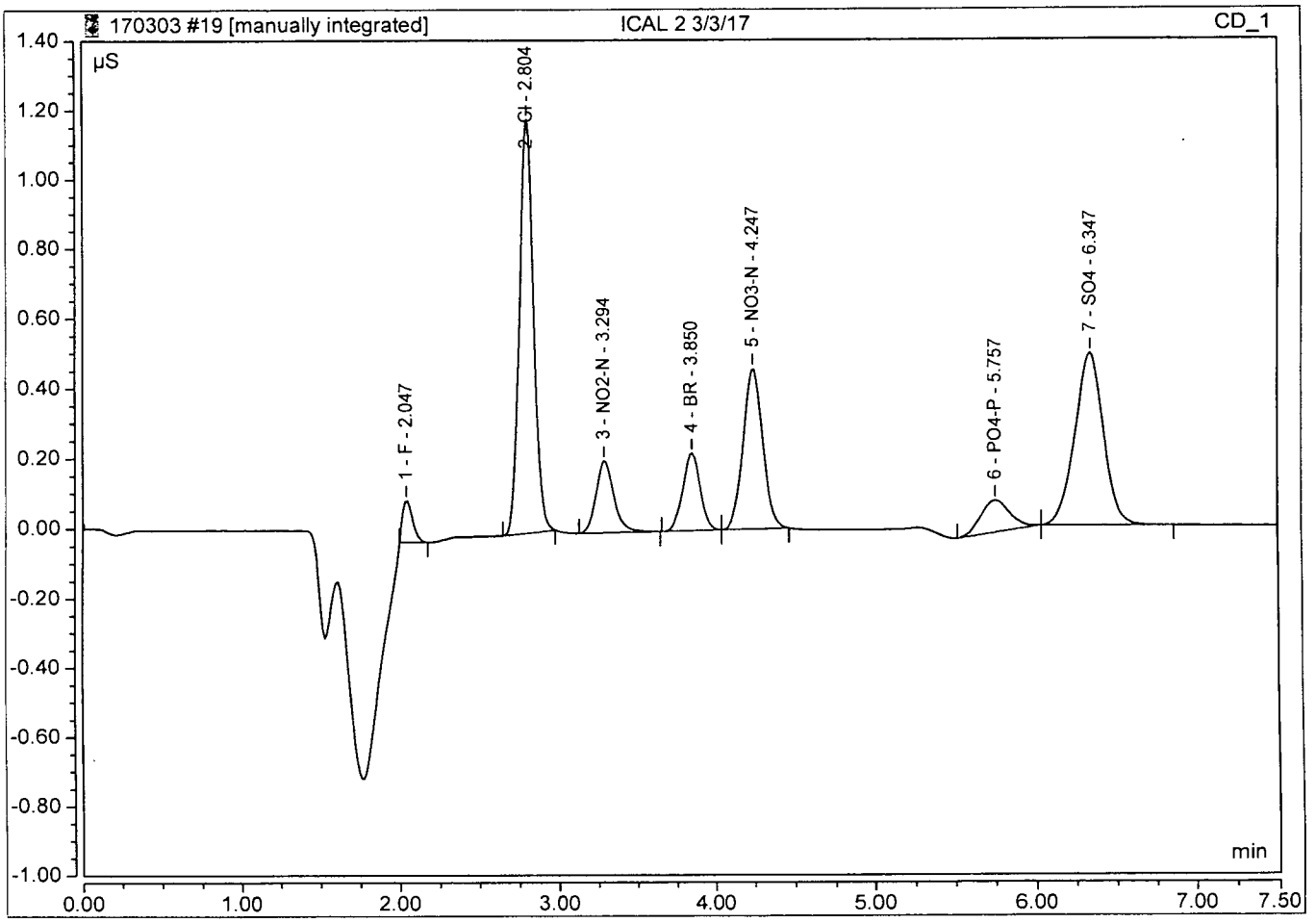
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

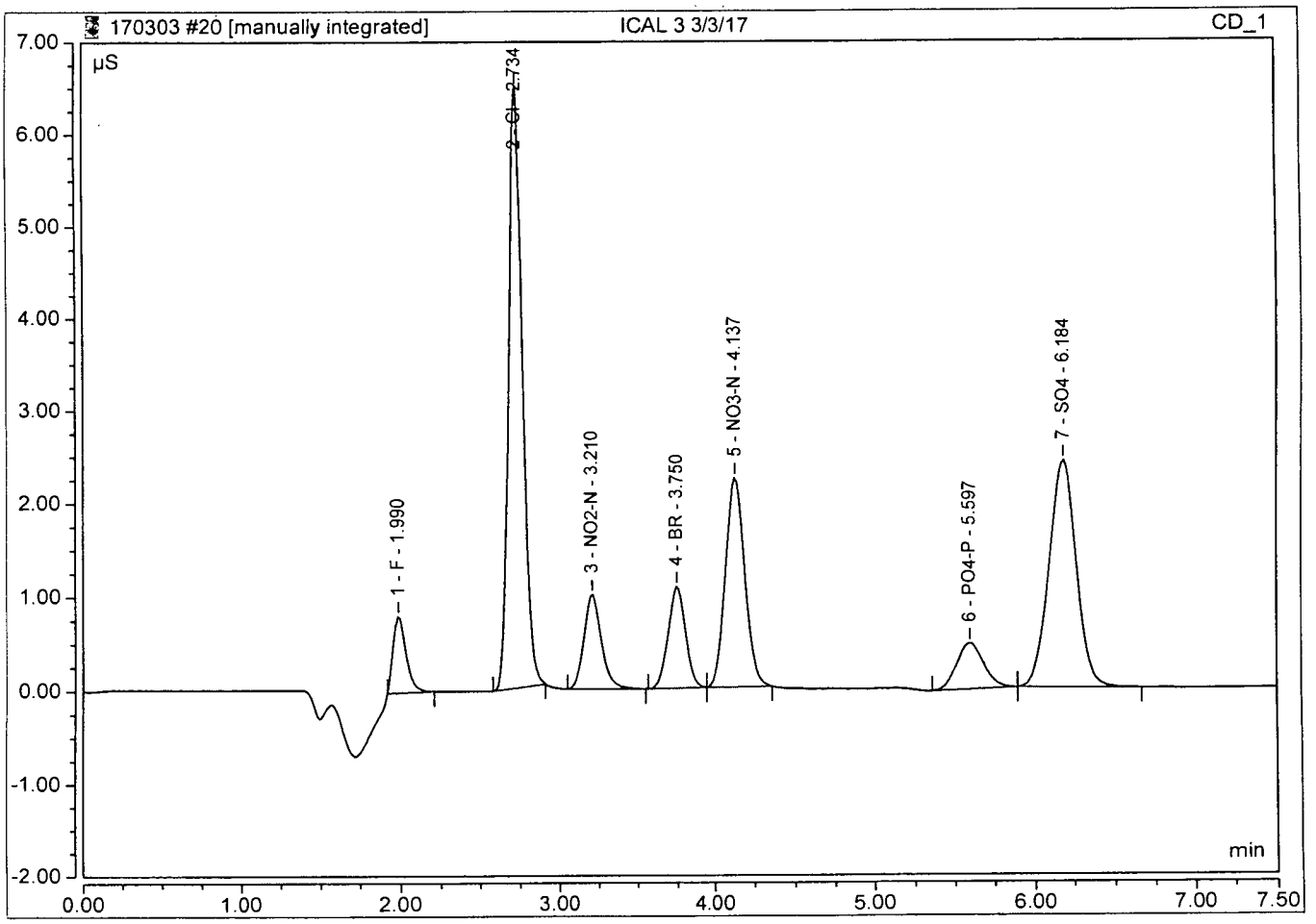
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

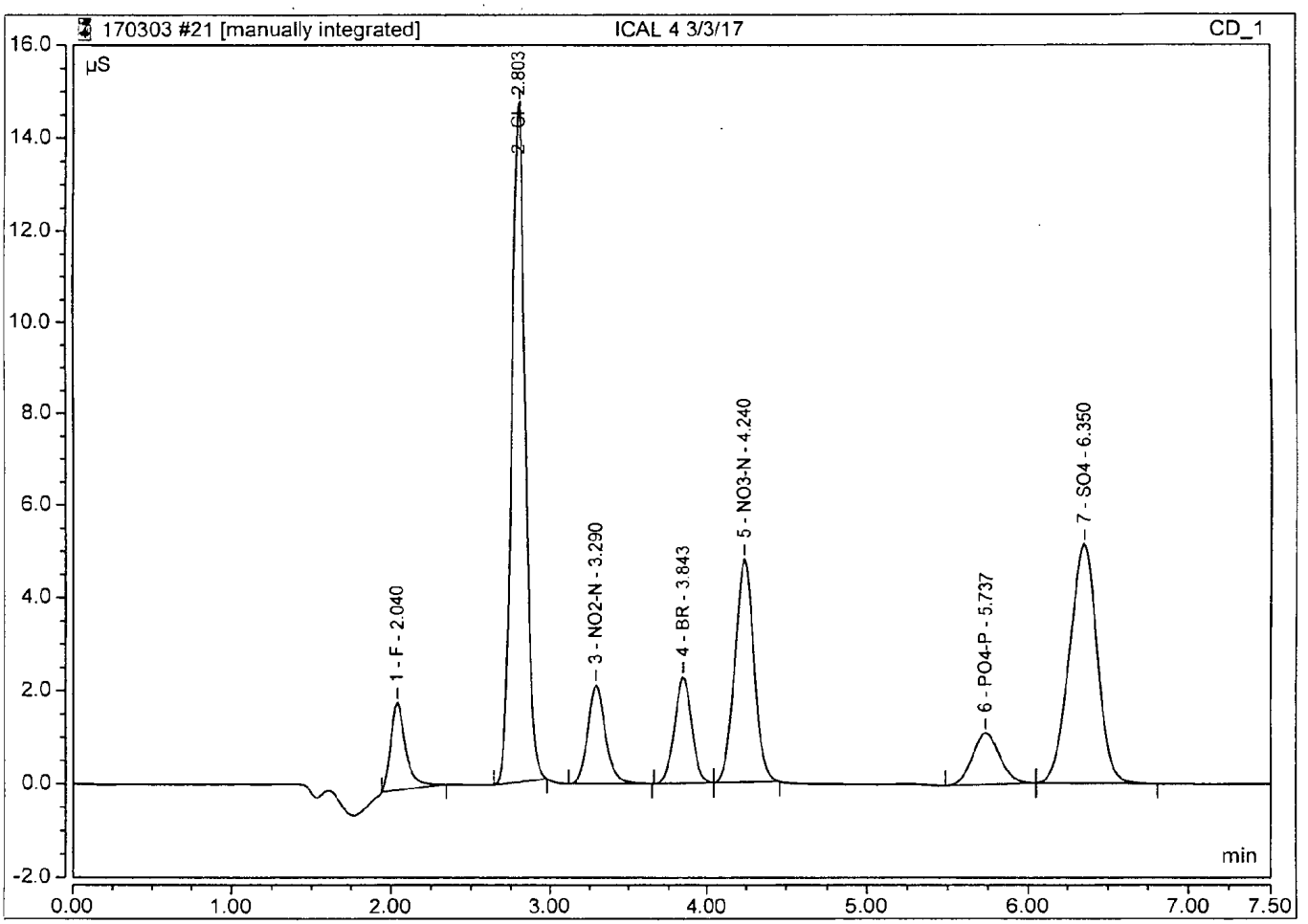
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

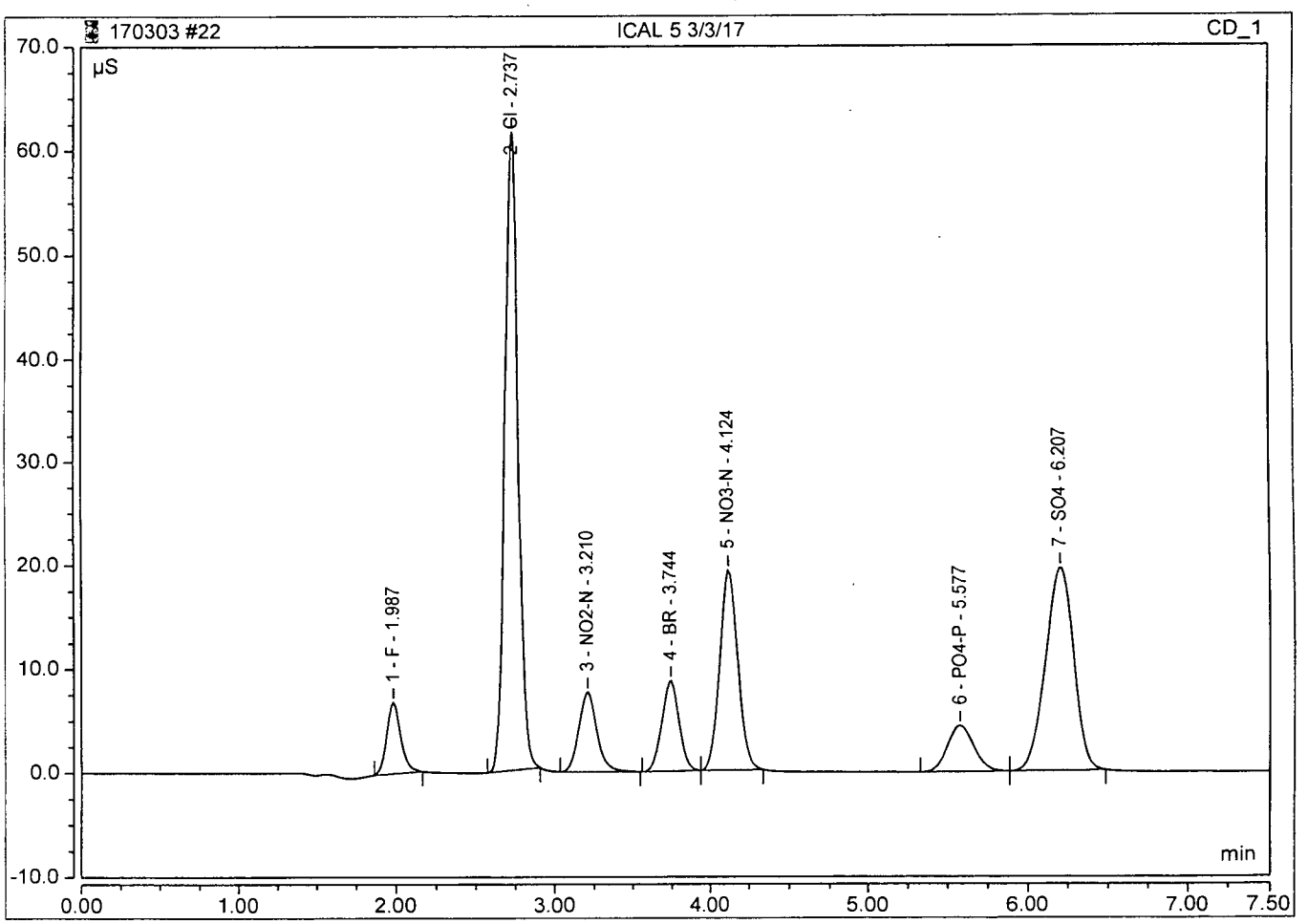
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

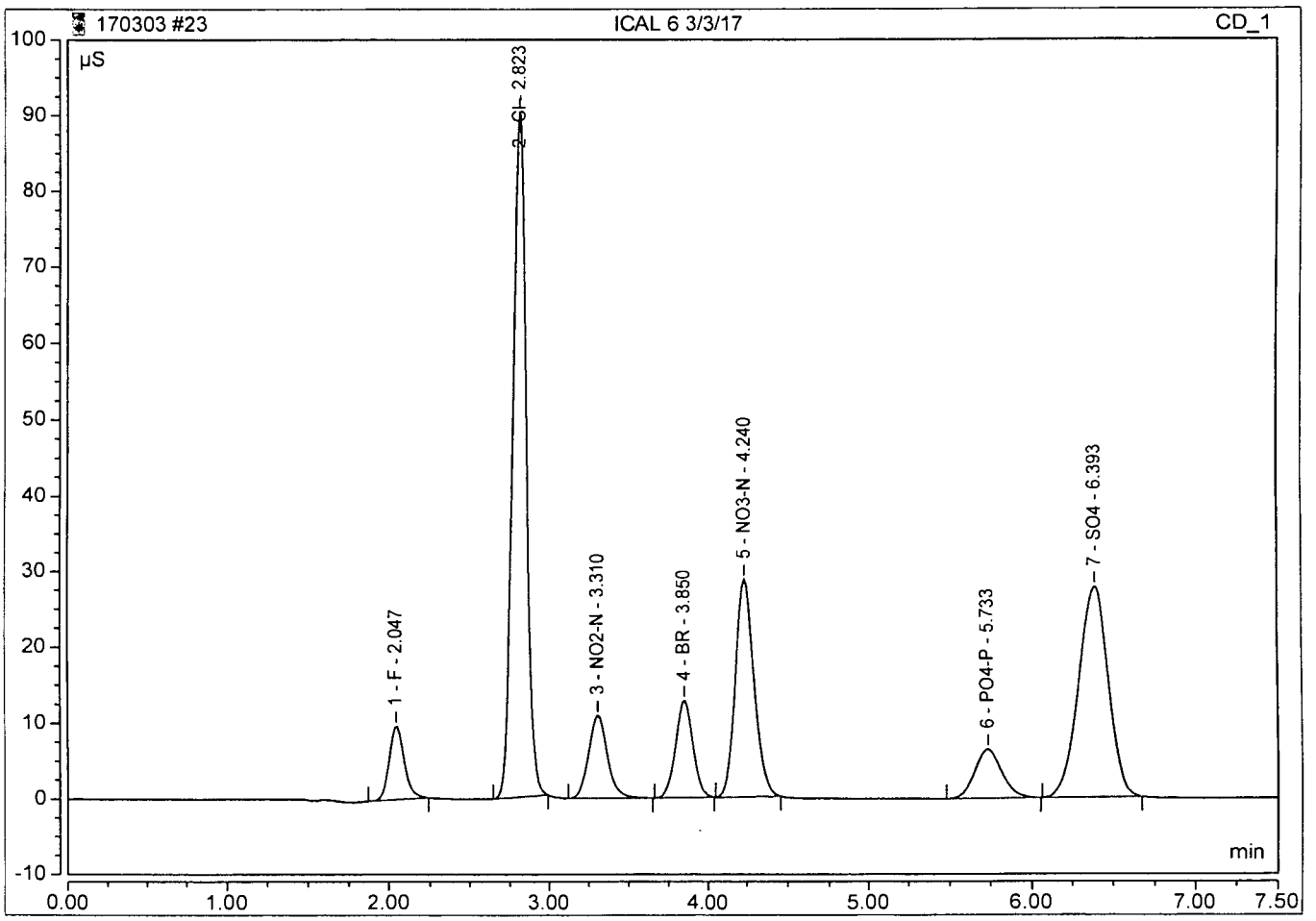
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

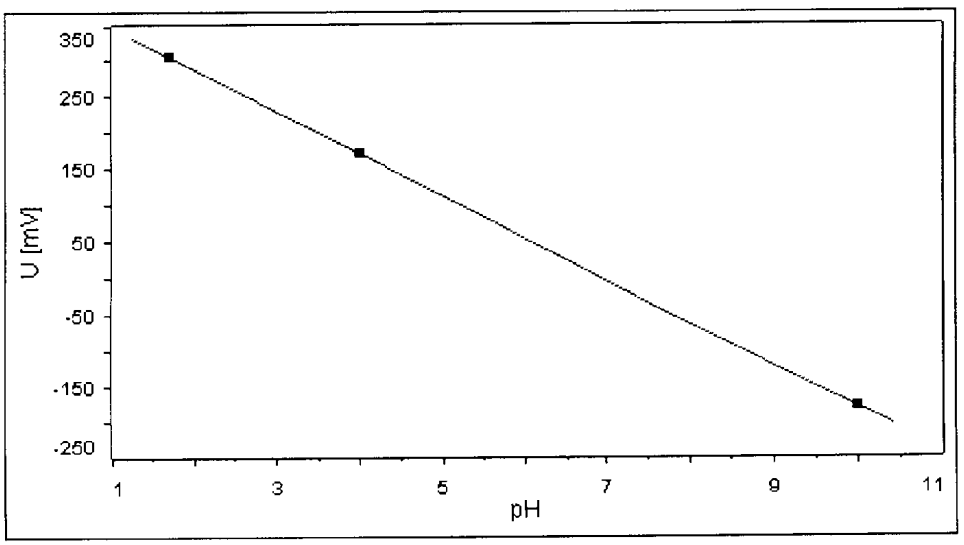


Tiamo Calibration Curve
03/13/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	307.5	22.2	44
Buffer 2:	4.000	172.0	21.7	20
Buffer 3:	10.000	-180.0	21.7	20

Slope: 100.1 %
pH 6.930
Variance: 0.3

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/13/17	03/13/17	#300WD-170313A-AZ51359
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/09/17	03/09/17	#35FE-170309A-AZ51362
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	#300WD-170314A1-AZ51364
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	#300WD-170314A1-AZ51364

Wetlab SC-Blank-REG MDLs
Printed: 03/16/17 2:48:51 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.55	85.0	80-120	03/09/17	03/09/17	#35FE-170309A-AZ51362

Comments:

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

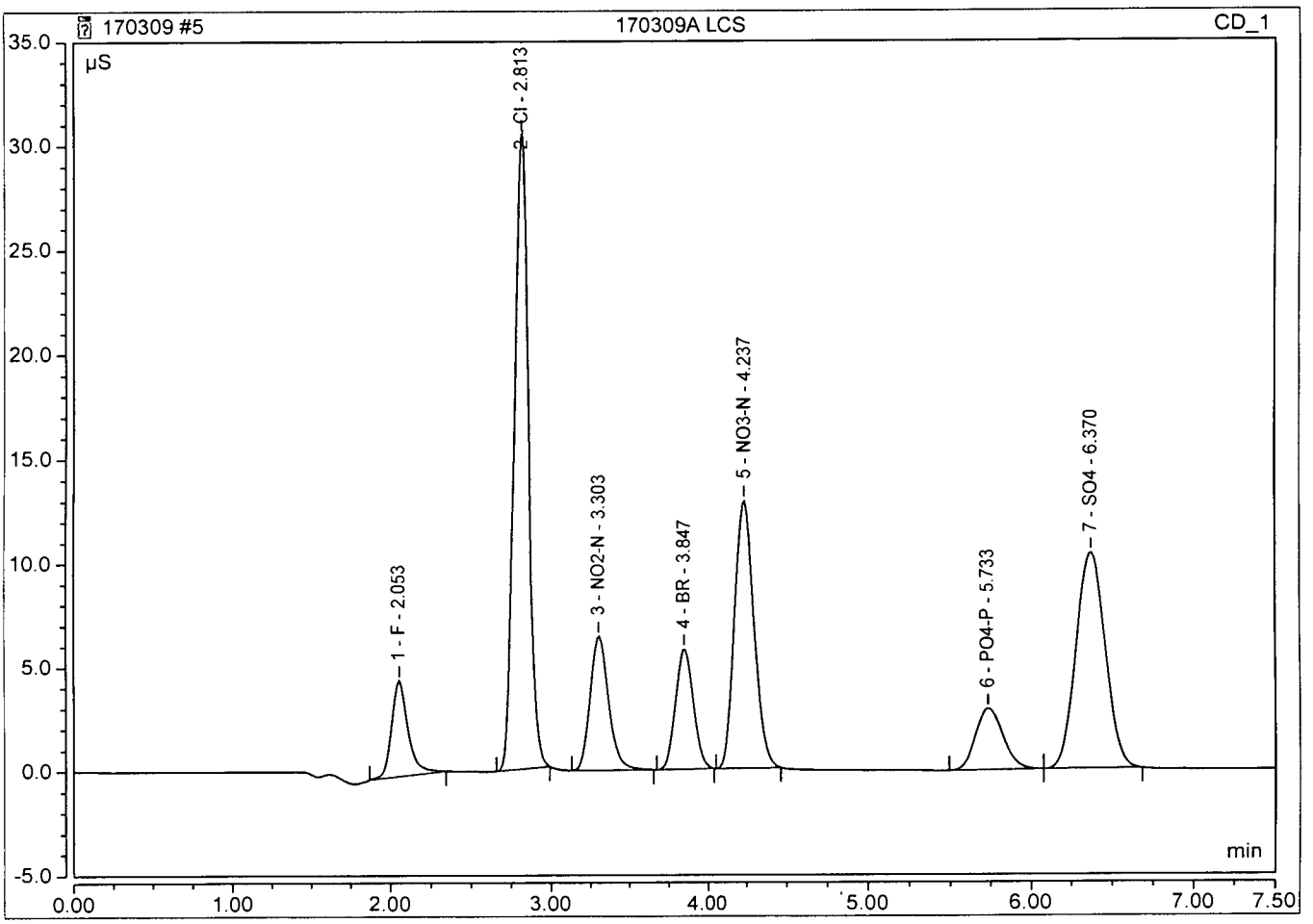
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/09/17	03/09/17	#300W-170309A-AZ51357
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132

Comments: _____

Peak Integration Report

Sample Name:	**170309A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**09-Mar-2017 / 10:22**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.539	4.606	2.7142
2	2.81	Cl	BMB	3.116	30.436	18.2689
3	3.30	NO2-N	BMB	0.880	6.443	3.0317
4	3.85	BR	BMB	0.753	5.781	12.0294
5	4.24	NO3-N	BMB	1.804	12.917	4.8331
6	5.73	PO4-P	BMB	0.575	2.947	4.7620
7	6.37	SO4	BMB	2.163	10.405	19.2036
		TOTAL:		9.83	73.53	64.84



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

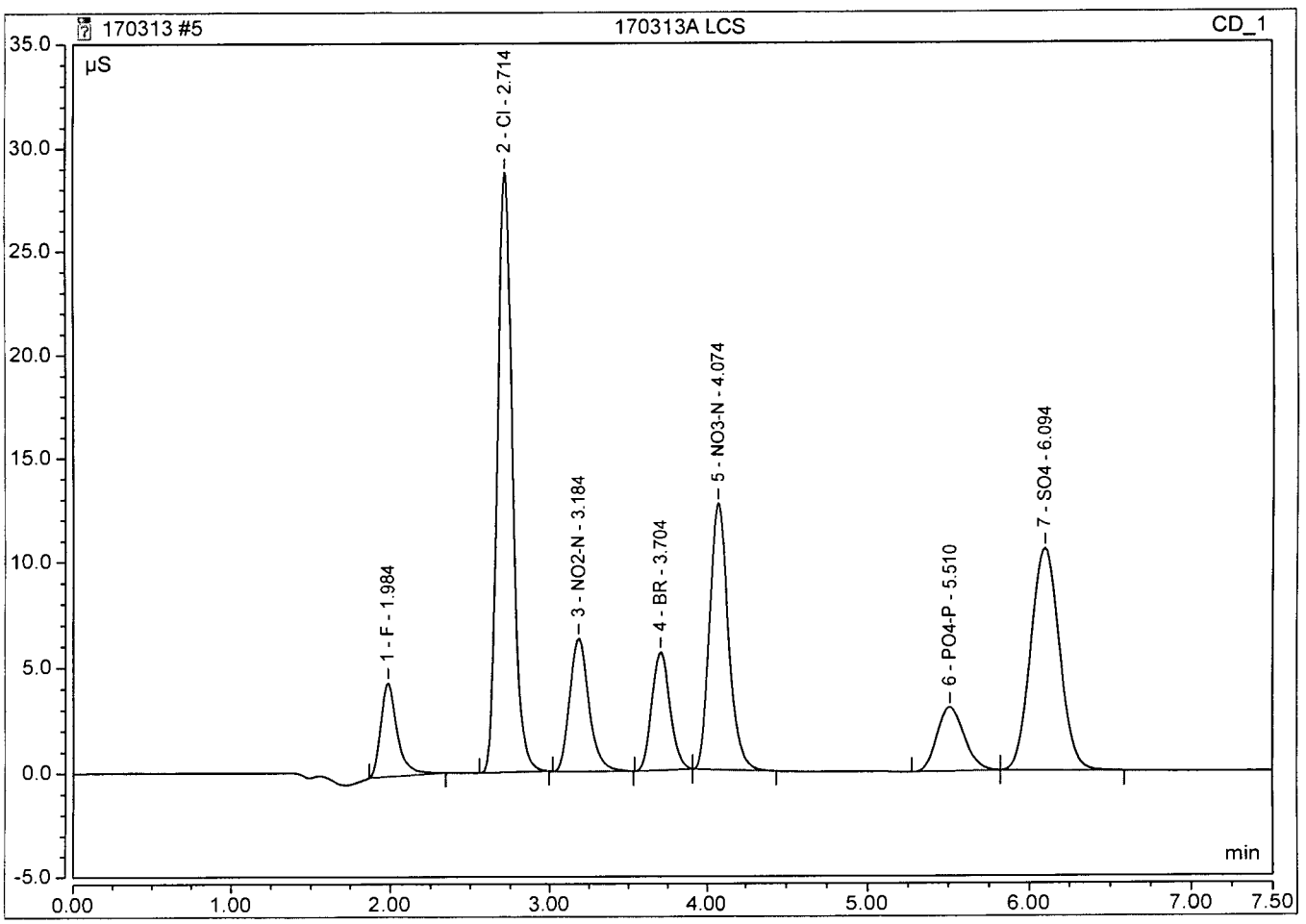
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.2	91.0	90-110	03/13/17	03/13/17	#300WD-170313A-AZ51359

Comments:

Peak Integration Report

Sample Name:	**170313A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Mar-2017 / 11:06**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.528	4.445	2.6620
2	2.71	Cl	BMB	3.111	28.780	18.2438
3	3.18	NO2-N	BMB	0.877	6.285	3.0190
4	3.70	BR	BMB	0.738	5.588	11.7955
5	4.07	NO3-N	BMB	1.801	12.630	4.8260
6	5.51	PO4-P	BMB	0.584	3.017	4.8273
7	6.09	SO4	BMB	2.169	10.506	19.2614
		TOTAL:		9.81	71.25	64.63



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

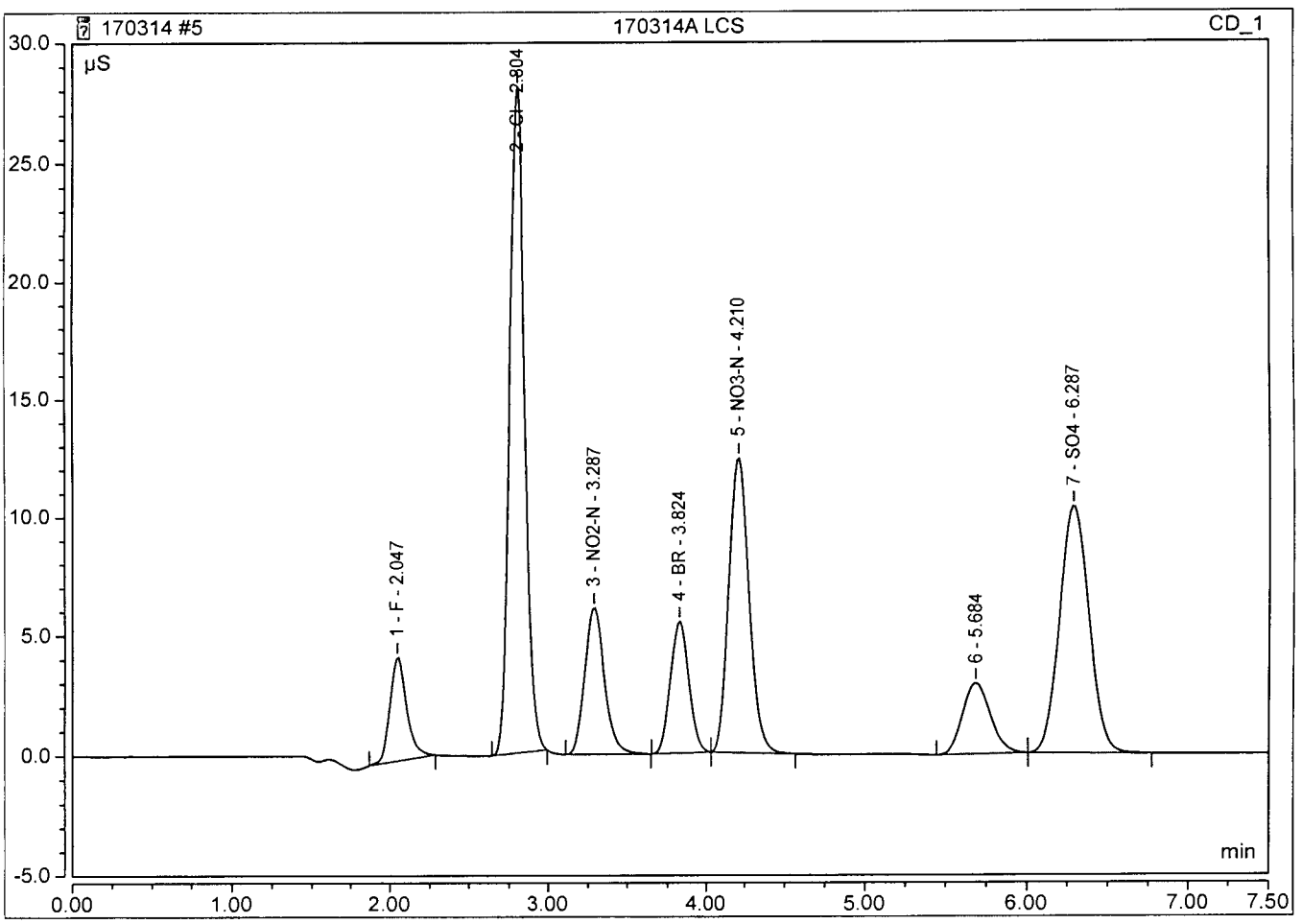
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A1-AZ51364
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A1-AZ51364

Comments: _____

Peak Integration Report

Sample Name:	**170314A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:49**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.525	4.327	2.6452
2	2.80	Cl	BMB	3.080	28.058	18.0703
3	3.29	NO2-N	BMB	0.877	6.129	3.0192
4	3.82	BR	BMB	0.746	5.498	11.9270
5	4.21	NO3-N	BMB	1.811	12.396	4.8504
7	6.29	SO4	BMB	2.171	10.345	19.2758
TOTAL:				9.21	66.75	59.79



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170309A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
03/09/17	13:33	CCV 4.0 170309	1	0.380	25mL		3.77	3.773	4.000	*94.33*
03/09/17	13:35	CCB 170309	1	-0.005	25mL		-0.07	-0.073		
03/09/17	13:36	170309A LCS/DOC1 3.0	1	0.258	25mL		2.55	2.554	3.000	*85.15*
03/09/17	13:38	170309A LCSD/DOC2 3.0	1	0.279	25mL		2.76	2.764	3.000	*92.14*
03/09/17	13:40	AZ51359W10	1	0.011	25mL		0.09	0.087		
03/09/17	13:42	DOC3	1	0.288	25mL		2.85	2.854	3.000	*95.14*
03/09/17	13:44	DOC4	1	0.286	25mL		2.83	2.834	3.00	*94.47*
03/09/17	13:45	AZ51357W08	1	0.302	25mL		2.99	2.994		
03/09/17	13:48	AZ51364W08	1	0.017	25mL		0.15	0.147		
03/09/17	13:49	AZ51362W08	1	0.055	25mL		0.53	0.526		
03/09/17	13:51	AZ51362W08 MS	1	0.339	25mL		3.36	3.364	3.00	*112.12*
03/09/17	13:53	AZ51362W08 MSD	1	0.339	25mL		3.36	3.364	3.000	*112.12*
03/09/17	13:55	CCV 4.0 170309	1	0.369	25mL		3.66	3.663	4.00	*91.58*
03/09/17	13:57	CCB 170309	1	-0.009	25mL		-0.11	-0.113		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ51364W07	2017-03-13 17:58:26 UTC-8	Alkalinity	0.000	2.678	0.00	0.00	112.48	112.48	mg/L	25 mL	0.0210	170313A	AH
AZ51362W07	2017-03-13 17:53:40 UTC-8	Alkalinity	0.000	1.166	0.00	0.00	48.97	48.97	mg/L	25 mL	0.0210	170313A	AH
AZ51359W09	2017-03-13 17:48:36 UTC-8	Alkalinity	0.000	1.604	0.00	0.00	67.37	67.37	mg/L	25 mL	0.0210	170313A	AH
AZ51357W07	2017-03-13 17:37:10 UTC-8	Alkalinity	0.000	4.846	0.00	0.00	203.53	203.53	mg/L	25 mL	0.0210	170313A	AH
170313A LCS	2017-03-13 16:03:52 UTC-8	Alkalinity	0.126	5.982	0.00	10.58	240.66	251.24	mg/L	25 mL	0.0210	170313A	AH
170313A Blk	2017-03-13 15:47:25 UTC-8	Alkalinity	0.000	0.050	0.00	0.00	2.10	2.10	mg/L	25 mL	0.0210	170313A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 03/09/17
Exp Date: 03/10/17
Prep'd By: PW

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

Anion Prep

QCG: 170309A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16l148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170313A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170314A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056 — **ICV LCS MS**

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1N H_2SO_4 (prep 1/6/17)
Final vol 1L w/ DI water
Prep 3/8/17
Exp 1/6/18
AH 3/14/17

Inorganic Spiking Solution

7.0001g NaHCO3 BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	09 Mar 2017	13:33	CCV 4.0 170309		170309A	1.
2	09 Mar 2017	13:35	CCB 170309		170309A	1.
3	09 Mar 2017	13:36	170309A LCS/DOC1 3.0		170309A	1.
5	09 Mar 2017	13:40	AZ51359W10		170309A	1.
8	09 Mar 2017	13:45	AZ51357W08		170309A	1.
9	09 Mar 2017	13:48	AZ51364W08		170309A	1.
10	09 Mar 2017	13:49	AZ51362W08		170309A	1.
13	09 Mar 2017	13:55	CCV 4.0 170309		170309A	1.
14	09 Mar 2017	13:57	CCB 170309		170309A	1.
15	20 May 2016	12:37	0 BB 5/20/16		170309A	1.
16	20 May 2016	12:38	1		170309A	1.
17	20 May 2016	12:39	4		170309A	1.
18	20 May 2016	12:39	2		170309A	1.
19	20 May 2016	12:40	10		170309A	1.
20	20 May 2016	12:40	5		170309A	1.
21	20 May 2016	12:41	160520A ICV 3.0		170309A	1.
22	20 May 2016	12:42	160520A ICB		170309A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	09 Mar 2017	09:55	CCV 170309		170309	1.
4	09 Mar 2017	10:08	CCB		170309	1.
5	09 Mar 2017	10:22	170309A LCS		170309	1.
7	09 Mar 2017	11:24	AZ51359W09		170309	1.
8	09 Mar 2017	11:37	AZ51357W07		170309	1.
9	09 Mar 2017	11:51	AZ51364W07		170309	1.
10	09 Mar 2017	12:04	AZ51362W07		170309	1.
15	09 Mar 2017	18:19	CCV 170309		170309	1.
16	09 Mar 2017	18:33	CCB		170309	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	13 Mar 2017	10:39	CCV 170313		170313	1.
4	13 Mar 2017	10:52	CCB		170313	1.
5	13 Mar 2017	11:06	170313A LCS		170313	1.
12	13 Mar 2017	17:02	AZ51359W09 DF2		170313	2.
13	13 Mar 2017	17:16	AZ51362W07 DF5		170313	5.
15	13 Mar 2017	17:43	CCV 170313		170313	1.
16	13 Mar 2017	17:57	CCB		170313	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	14 Mar 2017	09:21	CCV 170314		170314	1.
4	14 Mar 2017	09:35	CCB		170314	1.
5	14 Mar 2017	09:49	170314A LCS		170314	1.
10	14 Mar 2017	11:29	AZ51364W07 DF10		170314	10.
19	14 Mar 2017	15:06	CCV 170314		170314	1.
20	14 Mar 2017	15:20	CCB		170314	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Mar 2017	15:47	170313A Blk		170313A_AL	1.
2	13 Mar 2017	16:03	170313A LCS		170313A_AL	1.
10	13 Mar 2017	17:37	AZ51357W07		170313A_AL	1.
11	13 Mar 2017	17:48	AZ51359W09		170313A_AL	1.
12	13 Mar 2017	17:53	AZ51362W07		170313A_AL	1.
13	13 Mar 2017	17:58	AZ51364W07		170313A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

March 30, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82389

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Nine water samples were received March 10, 2017. Written results for the requested analyses are being provided on this March 30, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 698

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82389

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	8
Method 8015B TPH-E	17
QC Summary	18
Sample Data	23
Calibration Data	36
Raw Data	99
Method 8270D SIM	124
QC Summary	125
Sample Data	136
Calibration Data	149
Raw Data	176
Method 8270D SVOCs	197
QC Summary	198
Sample Data	209
Calibration Data	222
Raw Data	268

Method 8270D SVOCs (MEE) 288
QC Summary 289
Sample Data 298
Calibration Data 311
Raw Data 341
Method 8260B VOCs 358
QC Summary 358
Sample Data 369
Calibration Data 397
Raw Data 455
Method 8260B Gasoline 471
QC Summary 472
Sample Data 477
Calibration Data 499
Raw Data 548
Method RSK-175 Methane 564
QC Summary 565
Sample Data 568
Calibration Data 587
Raw Data 621
Inorganic Analyses 632
QC Summary 633
Sample Data 638
Calibration Data 647
Raw Data 677

CASE NARRATIVE

Case Narrative

ARF: 82389

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Nine water samples were received March 10, 2017, at 4.0°C, 4.0°C, 4.0°C, and 3.5°C. The sample group was assigned Analytical Request Form (ARF) number 82389. The following discrepancies were noted and reported to the client: samples ERH275, ERH278, and ERH286 were received more than 24 hours after collection; samples ERH273, ERH276, and ERH285 were listed on the label as a Trip Blank for EPA method 8011, but this method was not listed on the COC. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

Inorganic Analyses: The samples were received more than 24 hours after collection; they were analyzed for ferrous iron as soon as possible on the day received.

In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82389	03/10/17	ERH273	AZ51528	03/08/17	10:10 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH273	AZ51528	03/08/17	10:10 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH273	AZ51528	03/08/17	10:10 AM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH274	AZ51529	03/08/17	12:05 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	8270D-SIM	EPA 8270D SIM
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	EPA 8270D	EPA 8270D WATER
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	SM 2320B	Wetlab 2320B - Water
82389	03/10/17	ERH275	AZ51530	03/08/17	11:20 AM	WATER	SM3500FeB	Ferrous Iron
82389	03/10/17	ERH276	AZ51531	03/08/17	03:00 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH276	AZ51531	03/08/17	03:00 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH276	AZ51531	03/08/17	03:00 PM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH277	AZ51532	03/08/17	03:35 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	8270D-SIM	EPA 8270D SIM
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	EPA 8270D	EPA 8270D WATER
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	SM 2320B	Wetlab 2320B - Water
82389	03/10/17	ERH278	AZ51533	03/08/17	03:10 PM	WATER	SM3500FeB	Ferrous Iron
82389	03/10/17	ERH285	AZ51534	03/08/17	11:55 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH285	AZ51534	03/08/17	11:55 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH285	AZ51534	03/08/17	11:55 AM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	8270D-SIM	EPA 8270D SIM
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	EPA 8270D	EPA 8270D WATER
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	RSK 175	METHANE BY RSK 175
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	SM 2320B	Wetlab 2320B - Water
82389	03/10/17	ERH286	AZ51535	03/08/17	03:05 PM	WATER	SM3500FeB	Ferrous Iron
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	8270D-SIM	EPA 8270D SIM
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82389	03/10/17	ERH282	AZ51536	03/08/17	12:10 PM	WATER	EPA 8270D	EPA 8270D WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82389

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 030917
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 03/10/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 3X 4.0° 3.5°C
Color: VOA/C-BLK
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 03/17/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 4-$87DC53W5, 4-$87DMEEW5, 4-$DOC53W5, 4-$SIMDOD5W
Extractions: 4-_MWE2MEE, 4-_SEP004, 4-_SEP004S, 4-_SEP011LL
VOA: 9-$86BTOTXDOD5W, 7-$GASBL, 7-$GRO86BW, 6-$RSKMETH
Wetlab: 3-$232W(HCO3,CO3,ALK), 3-$300W(NO3,CL,SO4), 3-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH273	AZ51528W	03/08/17 10:10	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
2.	ERH274	AZ51529W	03/08/17 12:05	$86BTOTXDOD5W -- BTEX only
3.	ERH275	AZ51530W	03/08/17 11:20	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH276	AZ51531W	03/08/17	15:00	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
5.	ERH277	AZ51532W	03/08/17	15:35	$86BTOTXDOD5W -- BTEX only
6.	ERH278	AZ51533W	03/08/17	15:10	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
7.	ERH285	AZ51534W	03/08/17	11:55	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH -- unpreserved vials
8.	ERH286	AZ51535W	03/08/17	15:05	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
9.	ERH282	AZ51536W	03/08/17	12:10	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82389**

Sample	Container Type	Count	p
AZ51528	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51529	13 VOAs - HCL	5	NA
AZ51530	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51531	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51532	13 VOAs - HCL	5	NA
AZ51533	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51534	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ51535	3 PL 250mL	1	NA
	6 PL 500mL - HNO3	1	1.7
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ51536	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	p

0409 4.0

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TR, KE, CB, MH, GM
Sampler (Signature): MT for TR, KE, CB, MH, GM
Date Shipped: 3/9/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 273	Trip Blank	3/8/17	1010	HST	6	✓				X								X				
ERH 274	Ambient Blank	3/8/17	1205	HST	5	/				X*												* BTEX only
ERH 275	RHMW01	3/8/17	1120	HST	15	/				X			X		X	X	X	X	X	X	X	

MT

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	3/9/17	1300					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/10/17	11:00	Yang

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

4.1

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, KE, CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT [signature] for TQ, KE, CB, MH, GM
Date Shipped: 3/9/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 276	Trip Blank	3/8/17	1500	HST	6	✓				X								X				
ERH 277	Ambient Blank	3/8/17	1535	HST	5	/				X*												*BTEX only
ERH 278	RHMW05	3/8/17	1510	HST	15	/				X			X		X	X	X	X	X	X	X	

KS 3/9/17

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shigi Aecom	3/9/17	1700					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
	KS				3/10/17	11:00	[signature]

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

4.0

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, KE, CB, MH, GM
Sampler (Signature): MT for TQ, KE, CB, MH, GM
Date Shipped: 3/9/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 285	Trip Blank	3/8/17	1155	HST	6	✓				X								X			
ERH 286	OWDFMW01	3/8/17	1505	HST	15	/				X			X		X	X	X	X	X	X	X
ERH 282	Equip Blank	3/8/17	1210	HST	4	/				X											

FS

3/9/17

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Paola Shiigi AECOM	3/9/17	1300					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					3/10/17	11:00	Yang Z

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

3.5

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT

Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TD, KE, CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for TD, KE, CB, MH, GM

Date Shipped: 3/9/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb., carb)
ERH282	Equip Blank	3/8/17	1210	HST	6	✓							X		X	X	X				

3/9/17 KS

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kelly Shigi AECOM	3/9/17	1300					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					3/10/17	11:00	Yang Zo

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82389**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 03/10/17

2) Coolers: Number of Coolers: 4

3) YES Were custody seals present and intact?
How many? 8 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __popcorn __foam X plastic bags
X wet ice __dry ice __no ice __other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 4.0	2: 4.0	3: 4.0	4: 3.5	5:	6:
7:	8:	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) NA Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea:

Preservation Hold time:

18) ~~Yes~~ No Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container? YP 3-10-17

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

For Samples ERH273, ERH276 and ERH285 we received 3 unpreserved trip blanks with the analsysis in the label specifying EDB 8011, but that analysis was not requested on the COC

Samples were received more than 24 hrs after collection. YP 3-10-17

CUSTODY SEAL
AECOM (808) 523-8874
Initials: CB/AM/TQ/MH/GM/KE/KS/MT Date: 8/9/17

Personnel receiving samples: SM Second reviewer: YL
Personnel labeling samples: SM
Project manager notified: Date/Time of notification
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method:DOC0303.M
Run #:315027
Instrument:Apollo
Sequence:170315
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:31:37 AM

Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:31:33 AM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER

SDG No: 82389
Date Analyzed: 03/16/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170310A1-BLK	Blank	60-142	92.4		56-125	78.1	
170310A1-LCS	Lab Control Spike	60-142	91.0		56-125	99.5	
AZ51530	ERH275	60-142	88.4		56-125	82.7	
AZ51533	ERH278	60-142	96.1		56-125	90.0	
AZ51535	ERH286	60-142	93.7		56-125	87.1	
AZ51536	ERH282	60-142	82.1		56-125	72.7	

Comments: Batch: #DOC53-170310A1

Printed: 03/16/17 10:31:35 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER
Blank ID: 170310A1-BLK

SDG No: 82389
Date Analyzed: 03/16/17
Instrument: Apollo
Time Analyzed: 0004

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A1-BLK	Blank	315027	03/16/17 0004
170310A1-LCS	Lab Control Spike	315028	03/16/17 0025
AZ51530	ERH275	315048	03/16/17 0719
AZ51533	ERH278	315049	03/16/17 0740
AZ51535	ERH286	315050	03/16/17 0800
AZ51536	ERH282	315054	03/16/17 0923

Comments: Batch: #DOC53-170310A1

Printed: 03/16/17 10:31:32 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	83 ++	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	88.4	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	82.7	56-125			%	03/10/17	03/16/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0303.M
Run #: 315048
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:31:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315048.D Vial: 48
Acq On : 3-16-17 7:19:39 Operator: DP
Sample : AZ51530W13 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:10 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

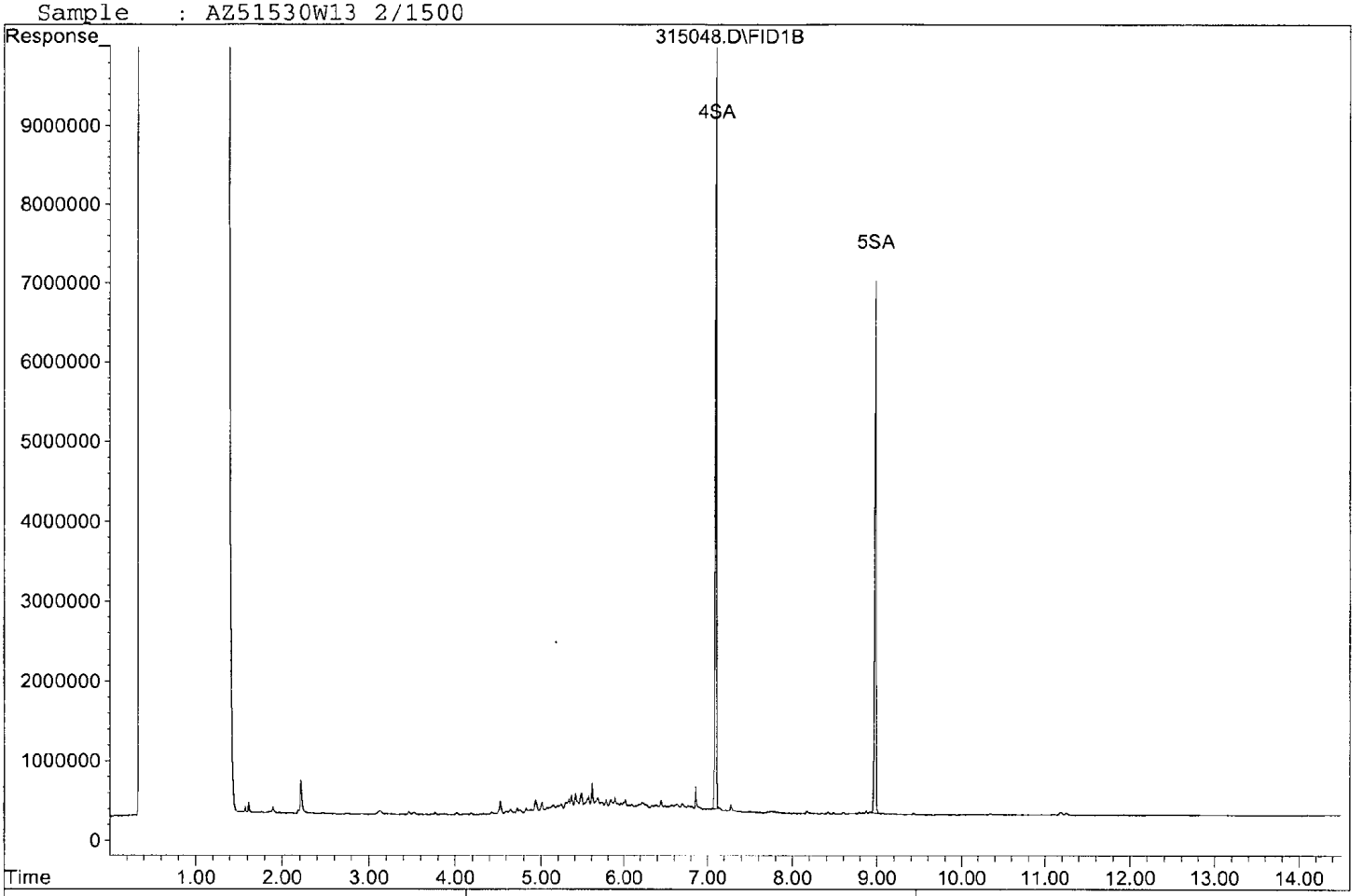
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

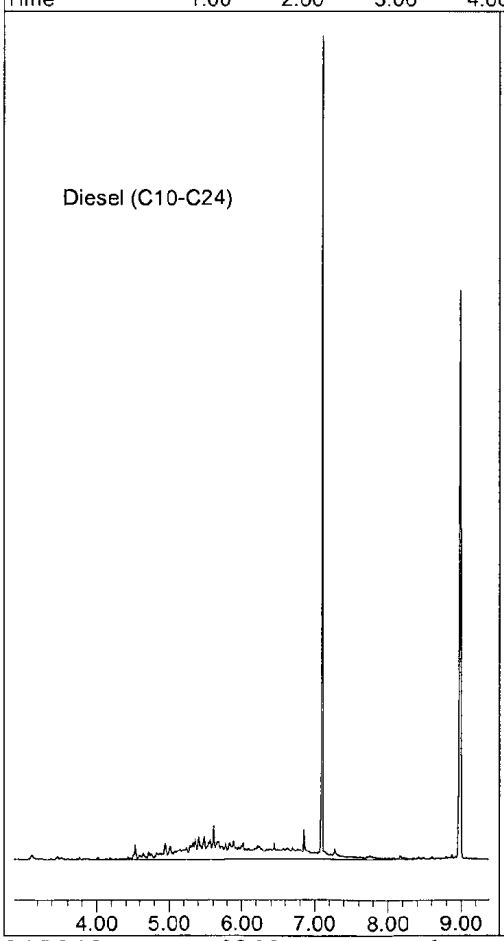
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	95083230	33.068 ppb
Surrogate Spike 40.000		Recovery =	82.67%
5) SA Octacosane(S)	8.98	86532784	35.369 ppb
Surrogate Spike 40.000		Recovery =	88.42%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	204522224	83.468 ppb

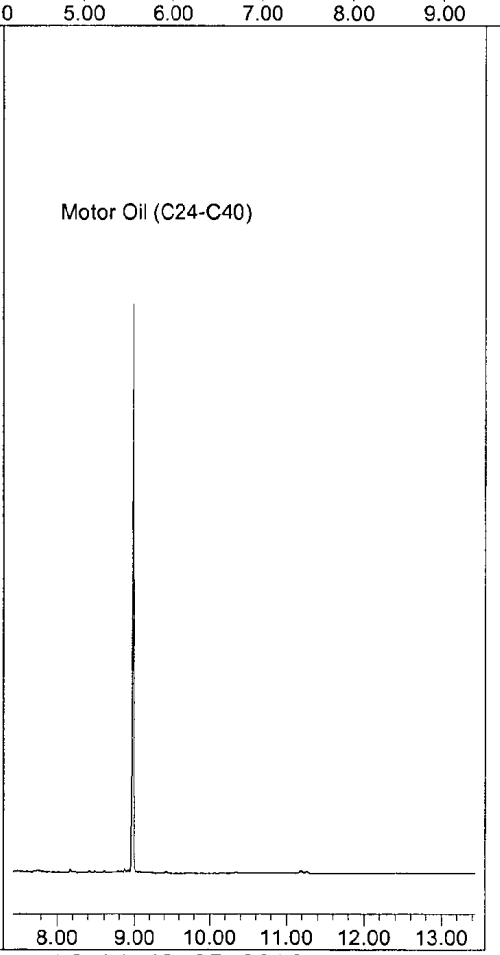
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315048.D
Sample : AZ51530W13 2/1500







EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	96.1	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	90.0	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315049
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:31:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

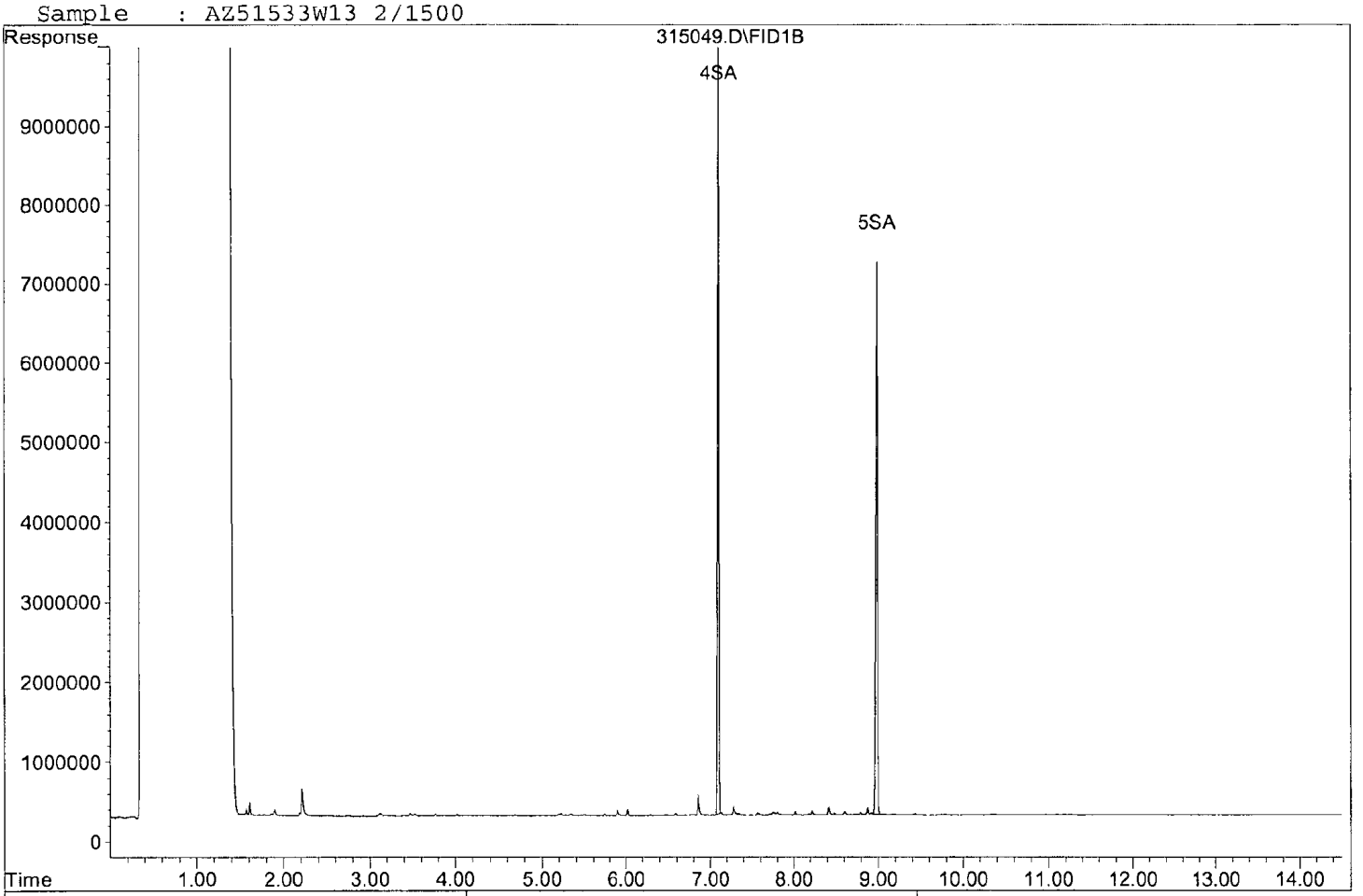
Data File : G:\APOLLO\DATA\170315\315049.D Vial: 49
Acq On : 3-16-17 7:40:18 Operator: DP
Sample : AZ51533W13 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:10 2017 Quant Results File: DOC0303.RES

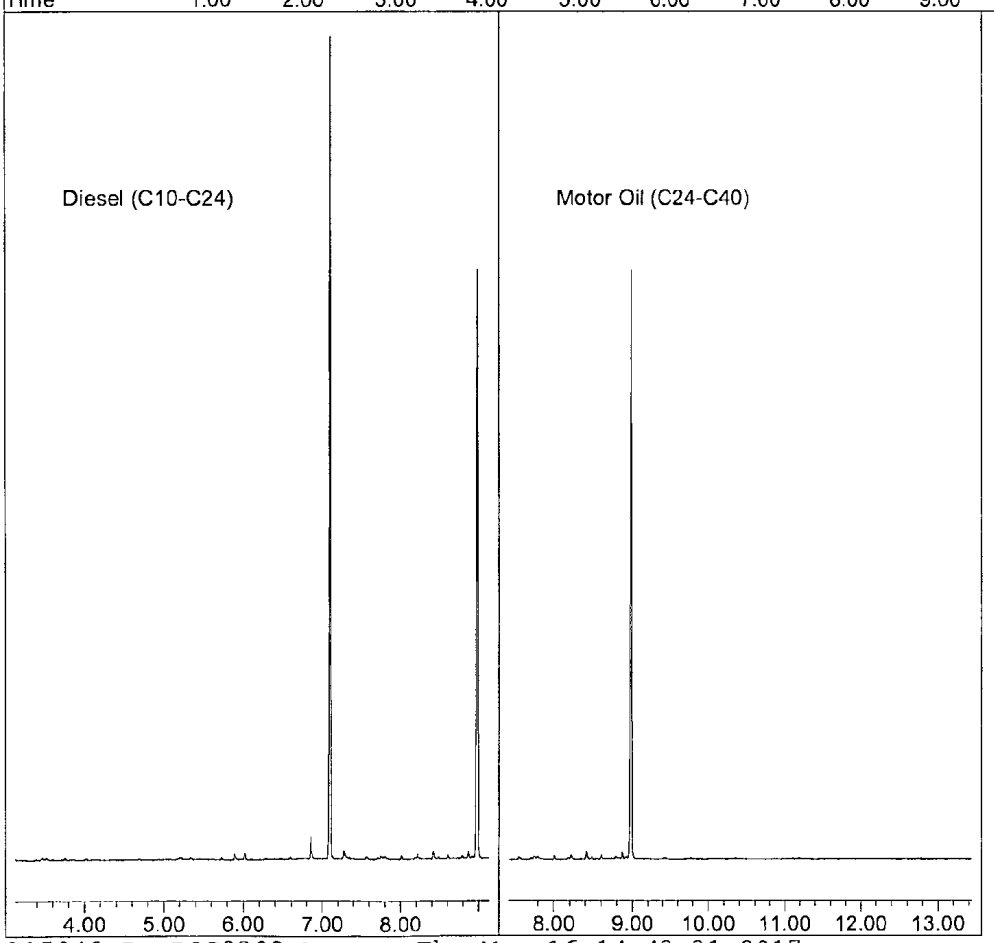
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	103484922	35.989 ppb
Surrogate Spike 40.000		Recovery =	89.97%
5) SA Octacosane(S)	8.98	94067735	38.449 ppb
Surrogate Spike 40.000		Recovery =	96.12%
Target Compounds			

Data File: G:\APOLLO\DATA\170315\315049.D
Sample : AZ51533W13 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	93.7	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	87.1	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315050
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:31:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315050.D Vial: 50
Acq On : 3-16-17 8:00:54 Operator: DP
Sample : AZ51535W10 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:10 2017 Quant Results File: DOC0303.RES

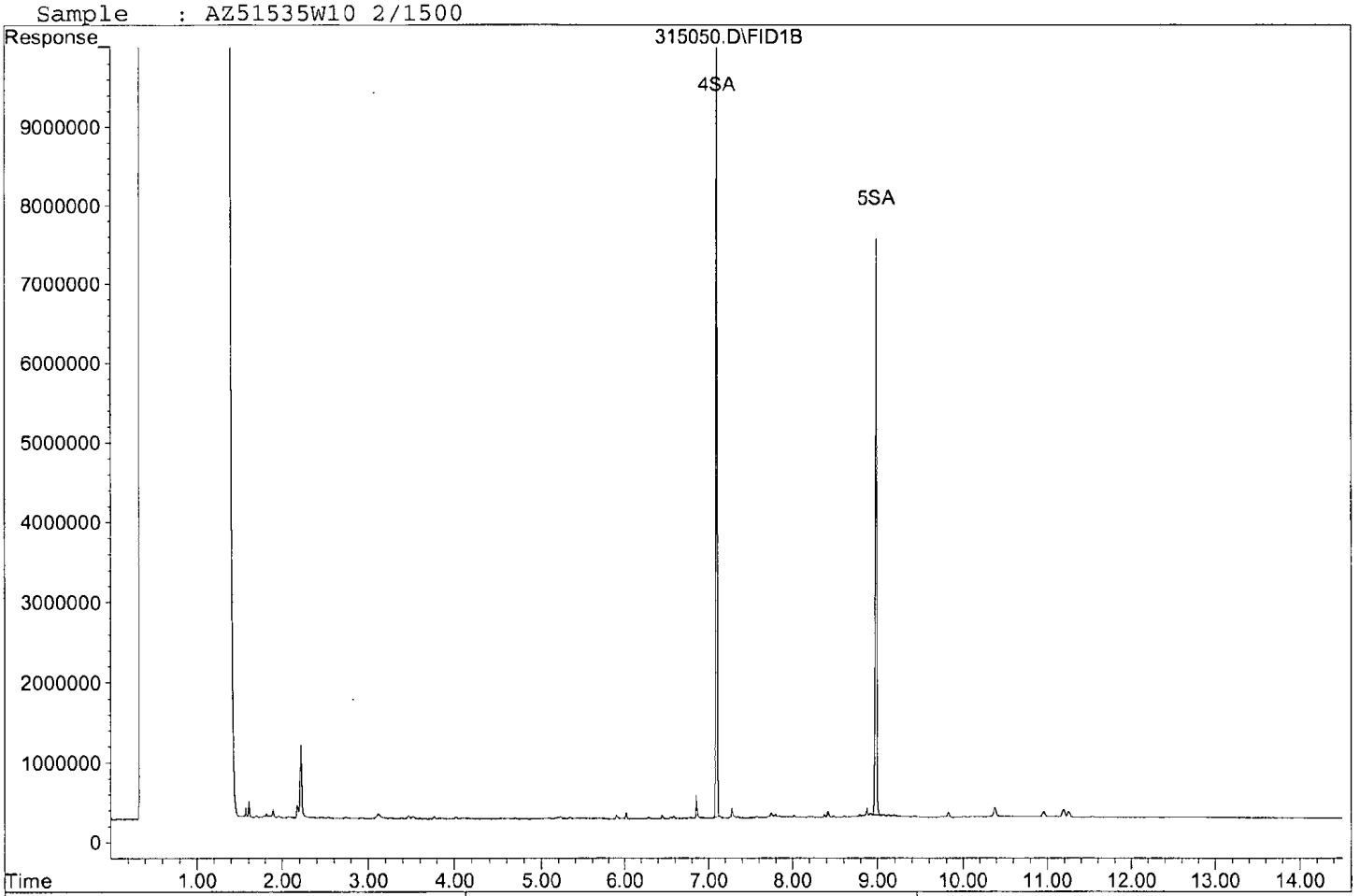
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

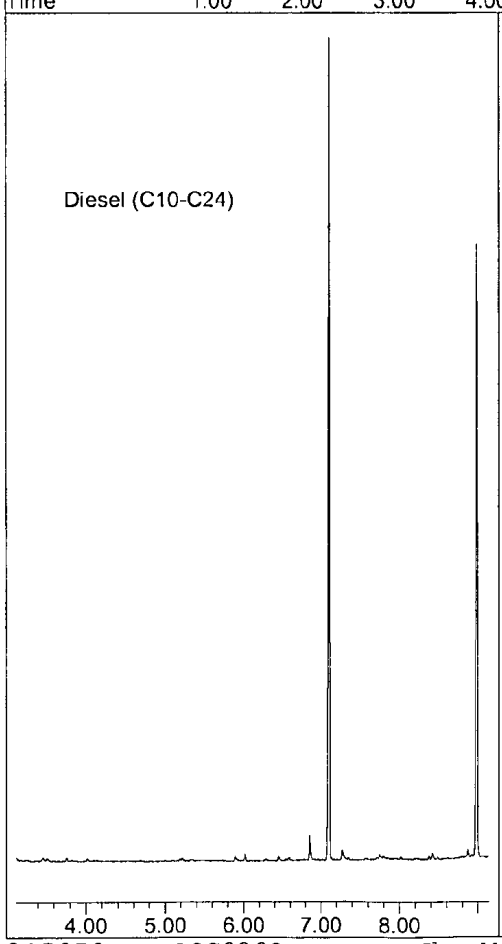
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

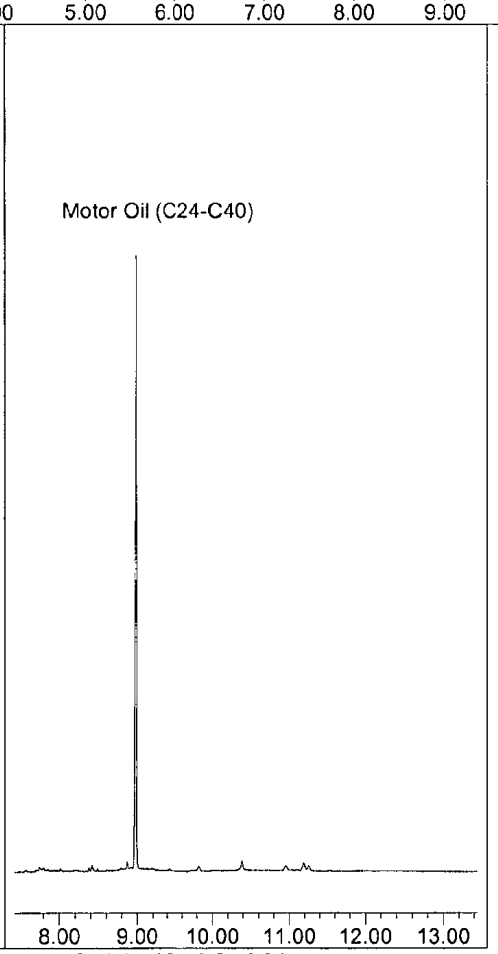
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	100211441	34.851 ppb
Surrogate Spike 40.000		Recovery =	87.13%
5) SA Octacosane(S)	8.98	91701230	37.481 ppb
Surrogate Spike 40.000		Recovery =	93.70%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315050.D
Sample : AZ51535W10 2/1500







EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH282
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51536
QCG: #DOC53-170310A1-216933

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	82.1	60-142			%	03/10/17	03/16/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	72.7	56-125			%	03/10/17	03/16/17

Quant Method: DOC0303.M
Run #: 315054
Instrument: Apollo
Sequence: 170315
Dilution Factor: 1
Initials: DPO

Printed: 03/16/17 10:31:31 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

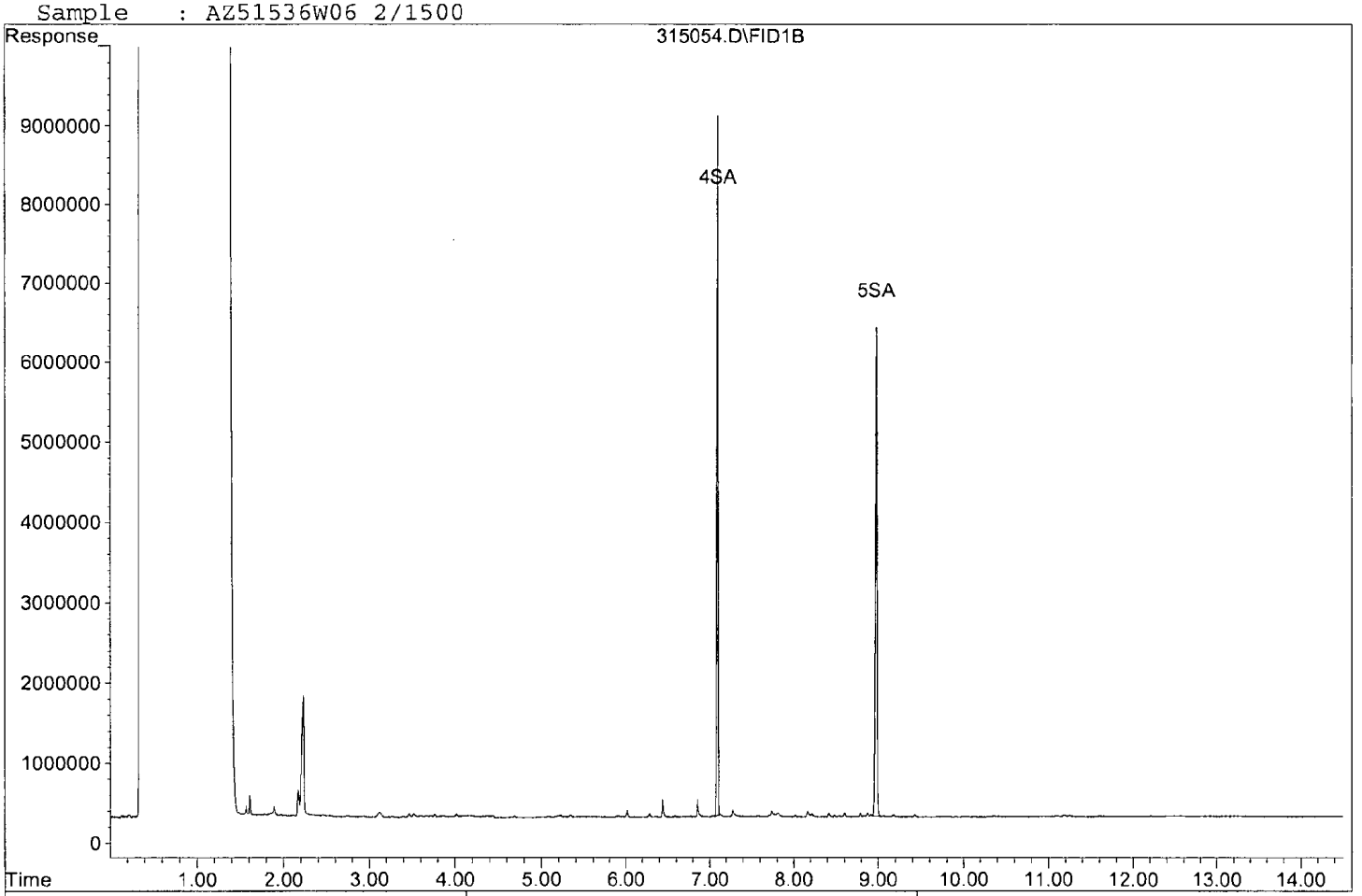
Data File : G:\APOLLO\DATA\170315\315054.D Vial: 54
Acq On : 3-16-17 9:23:33 Operator: DP
Sample : AZ51536W06 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:12 2017 Quant Results File: DOC0303.RES

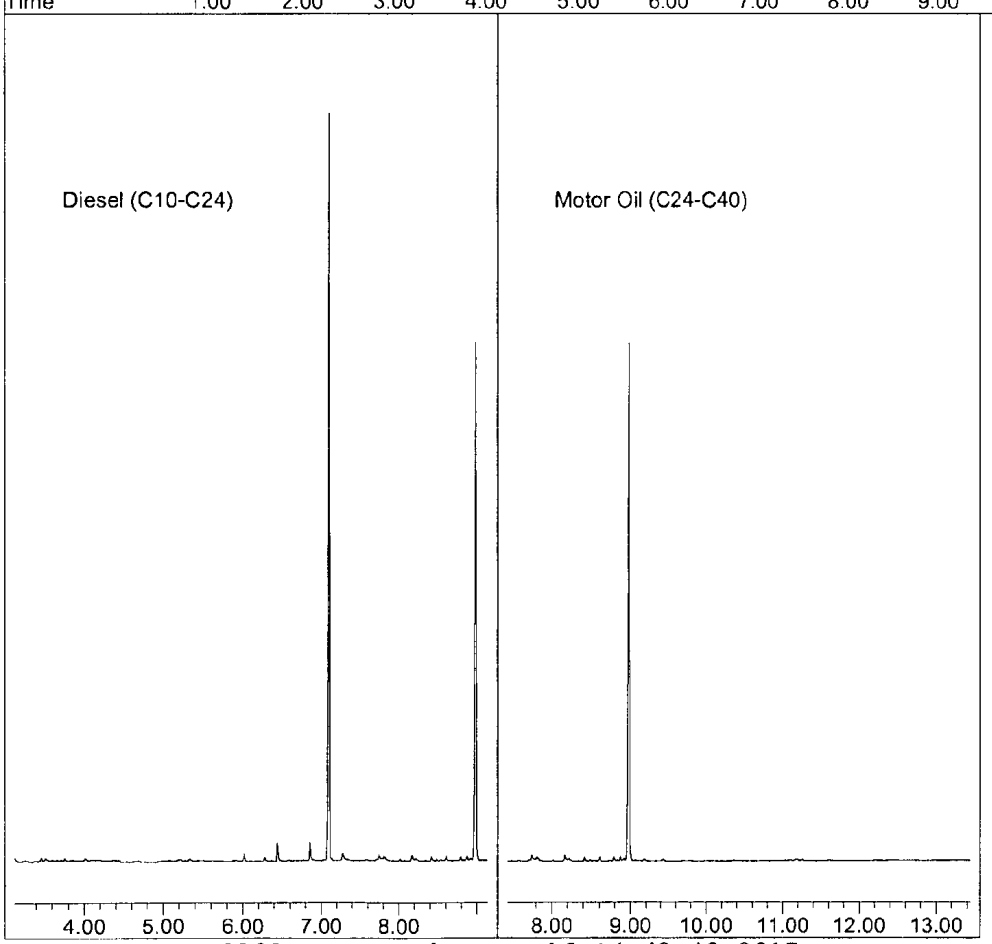
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	83587313	29.070 ppb
Surrogate Spike 40.000		Recovery =	72.68%
5) SA Octacosane(S)	8.98	80376656	32.853 ppb
Surrogate Spike 40.000		Recovery =	82.13%
Target Compounds			

Data File: G:\APOLLO\DATA\170315\315054.D
Sample : AZ51536W06 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0303

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/03/17
Instrument: Apollo

Initials:

Diesel:	207013.D	207014.D	207015.D	207016.D	207017.D	207018.D	
Motor Oil:	207020.D	207021.D	207022.D	207023.D	207024.D	207025.D	
Decanoic Acid:	220003.D	220004.D	220005.D	220006.D	220007.D	220008.D	
O-terphenyl / Octacosane:	303002.D	303003.D	303004.D	303005.D	303006.D	303007.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	1653943	1617126	1638880	1660919	1616983	1613307					1633526	1.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1181313	1260218	1252820	1262965	1219962	1198547					1229304	2.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	1942562	2124223	1863439	1811326	1835034	1925070					1916942	5.9	SA	
5	SA	Octacosane(S)	1719138	1771274	1572423	1544203	1553239	1626037					1631052	5.8	SA	
6																
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1.2098039

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207013.D Vial: 13
Acq On : 2-7-17 13:53:40 Operator: DP
Sample : Diesel-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

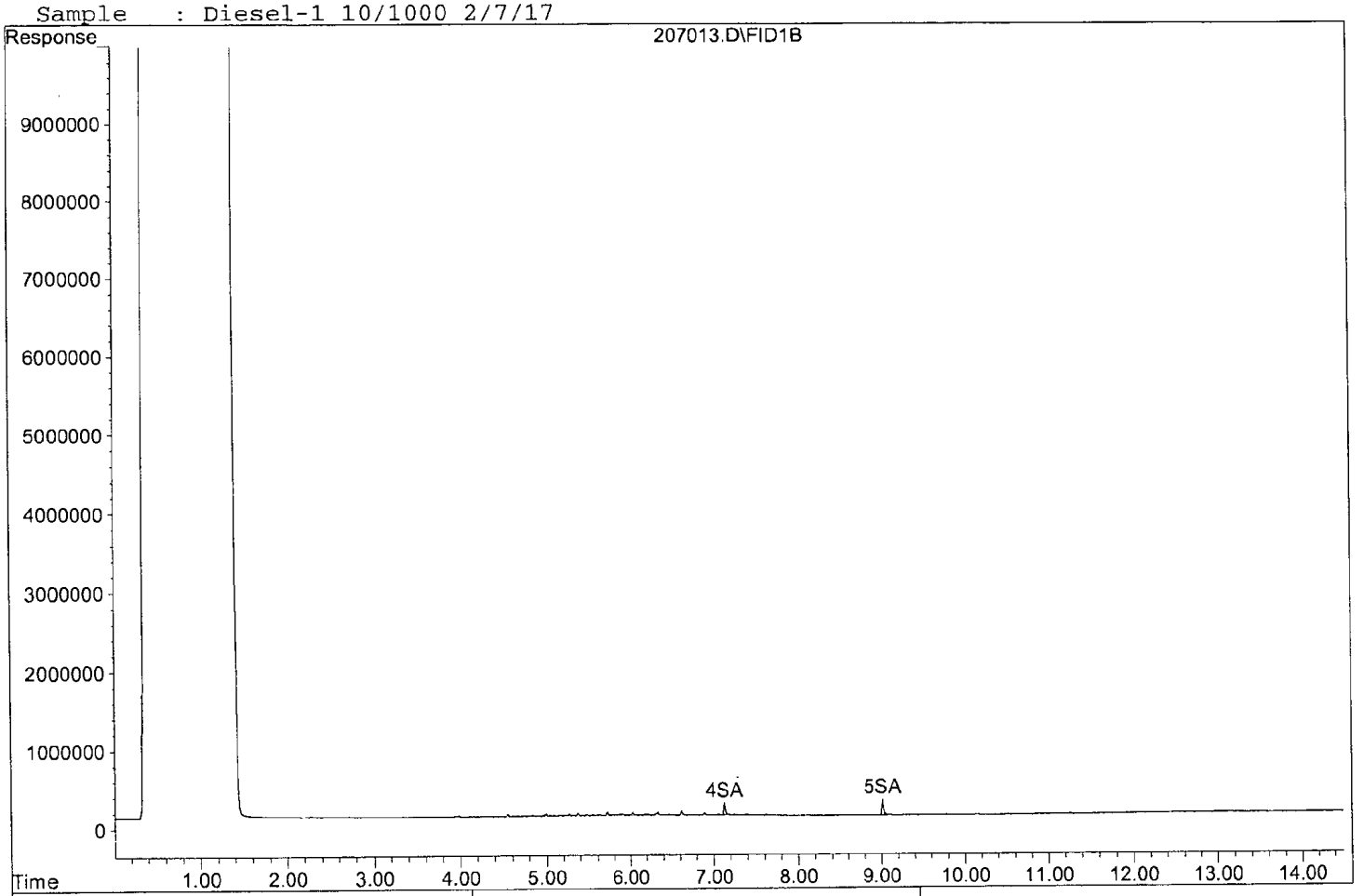
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

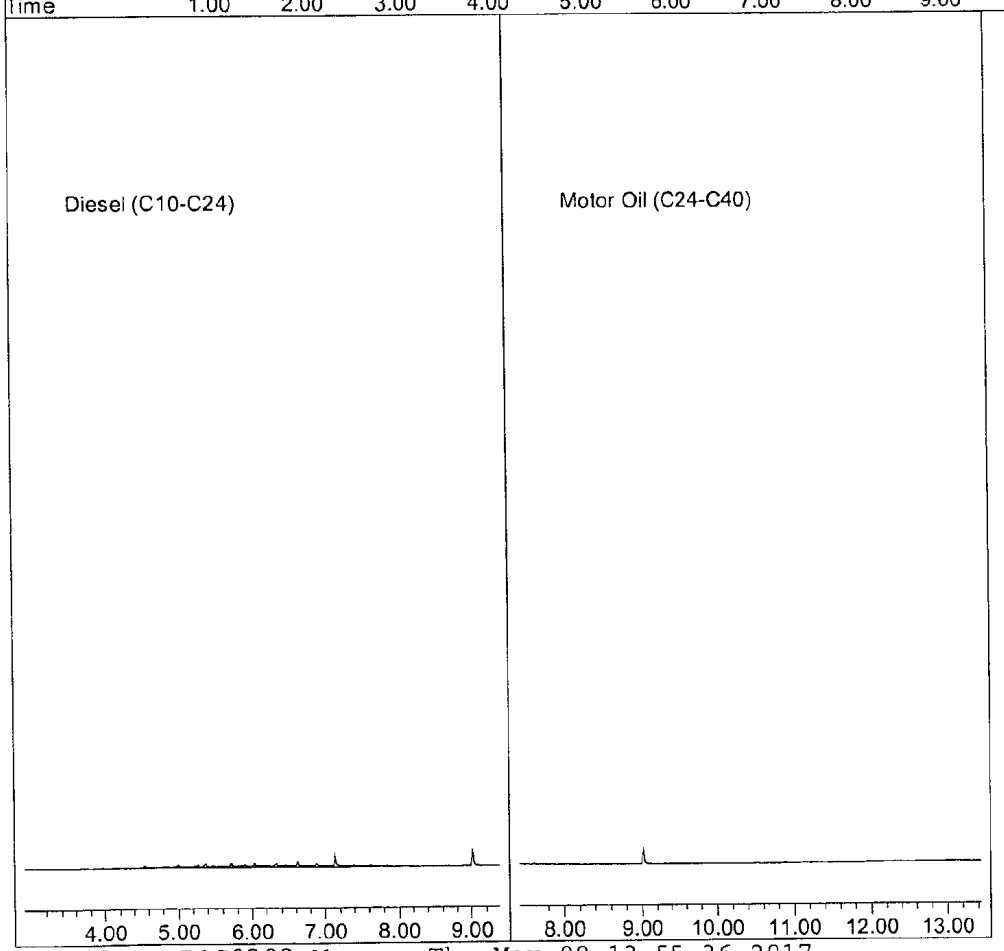
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	2112818	0.494 ppb
Surrogate Spike 30.000	Recovery	=	1.65%
5) SA Octacosane(S)	9.02	3130783	0.499 ppb
Surrogate Spike 30.000	Recovery	=	1.66%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	33078859	10.125 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207013.D
Sample : Diesel-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207014.D Vial: 14
Acq On : 2-7-17 14:14:13 Operator: DP
Sample : Diesel-2 10/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

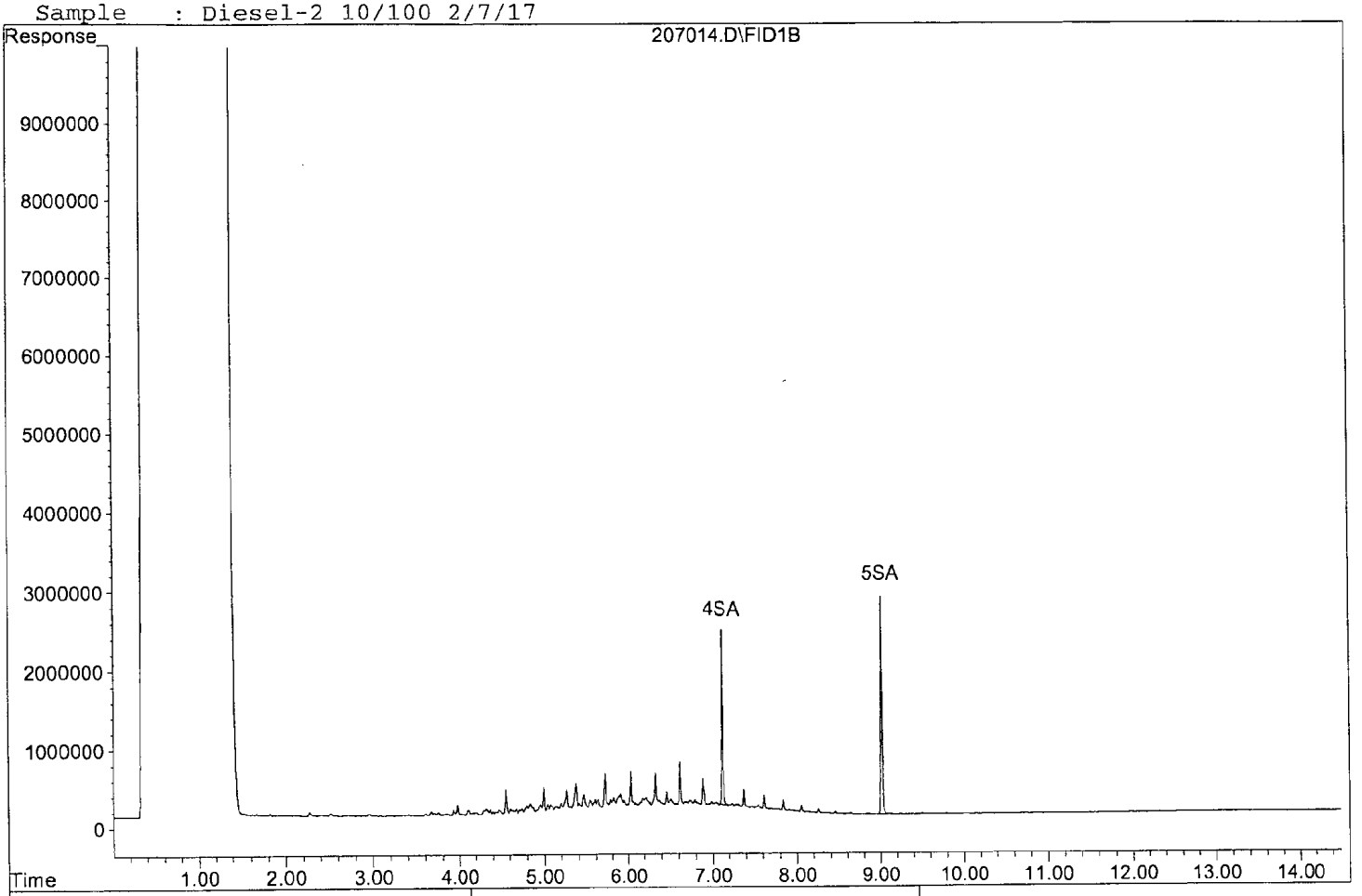
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

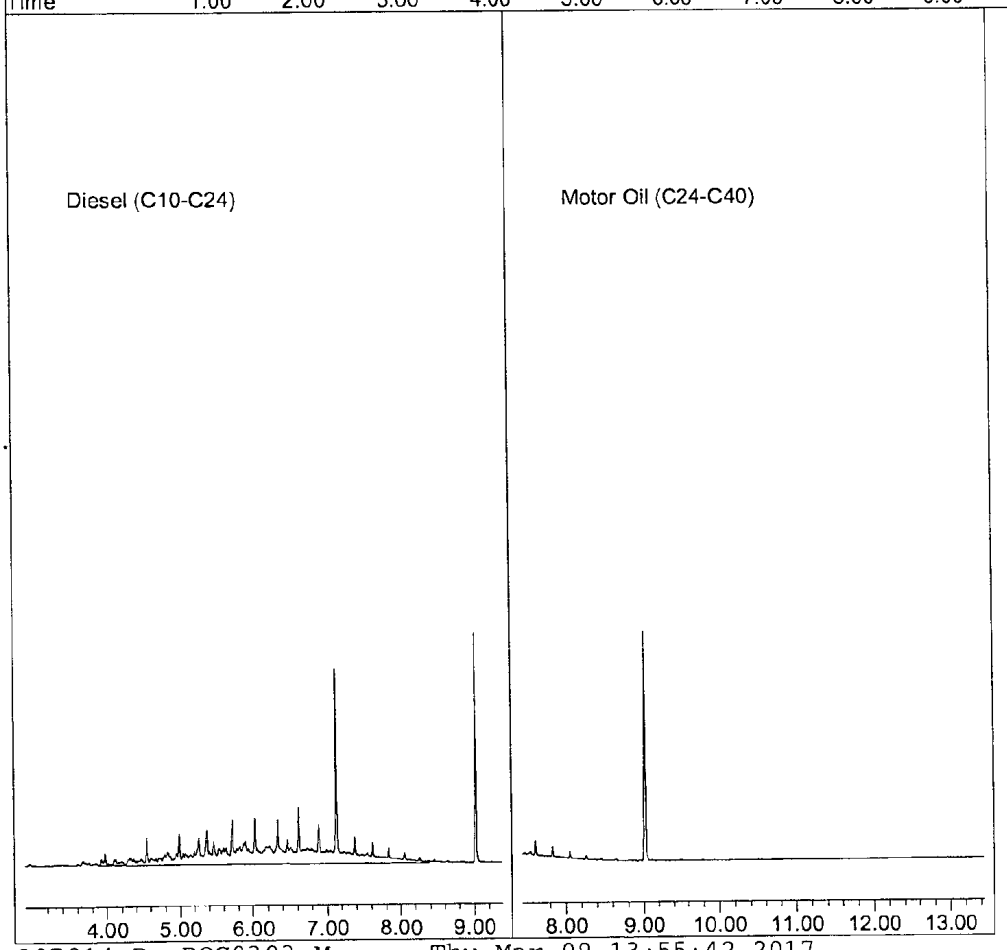
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	21602036	5.054 ppb
Surrogate Spike 30.000		Recovery =	16.85%
5) SA Octacosane(S)	9.02	32148701	5.119 ppb
Surrogate Spike 30.000		Recovery =	17.06%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	323425181	98.996 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207014.D
Sample : Diesel-2 10/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207015.D Vial: 15
Acq On : 2-7-17 14:34:48 Operator: DP
Sample : Diesel-3 40/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

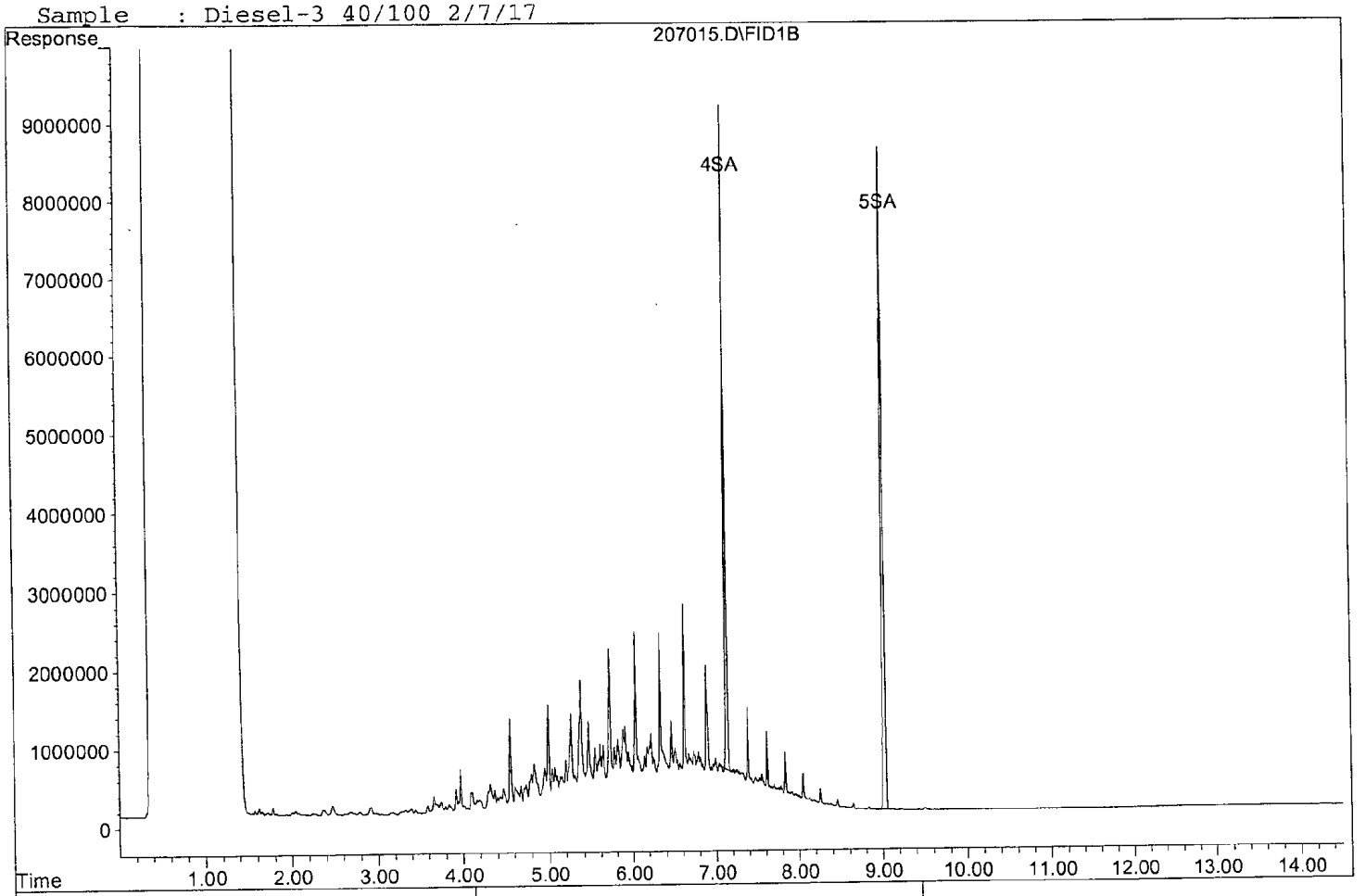
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	85432234	19.989 ppb
Surrogate Spike 30.000		Recovery =	66.63%
5) SA Octacosane(S)	9.03	125467821	19.979 ppb
Surrogate Spike 30.000		Recovery =	66.60%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1311103852	401.311 ppb

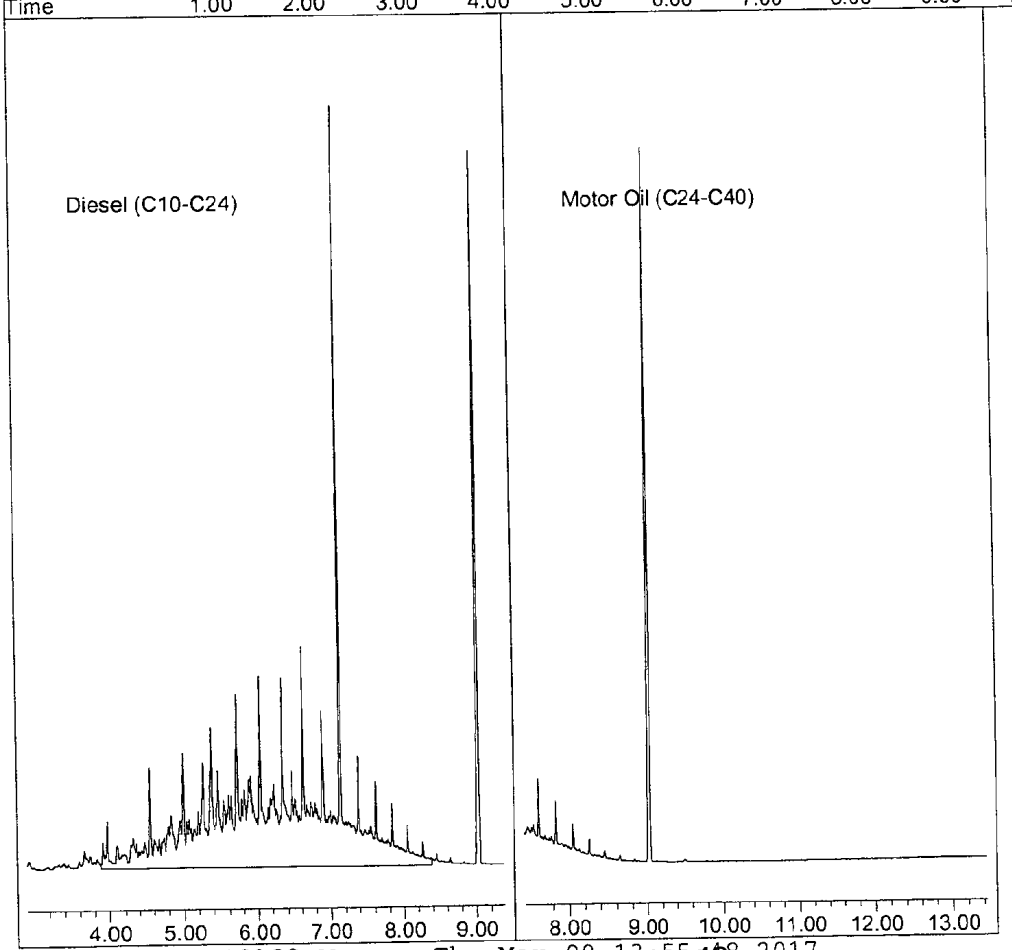
(f)=RT Delta > 1/2 Window (m)=manual int.

207015.D DOC0303.M Thu Mar 09 13:55:46 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207015.D
Sample : Diesel-3 40/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207016.D Vial: 16
Acq On : 2-7-17 14:55:35 Operator: DP
Sample : Diesel-4 60/100 2/7/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

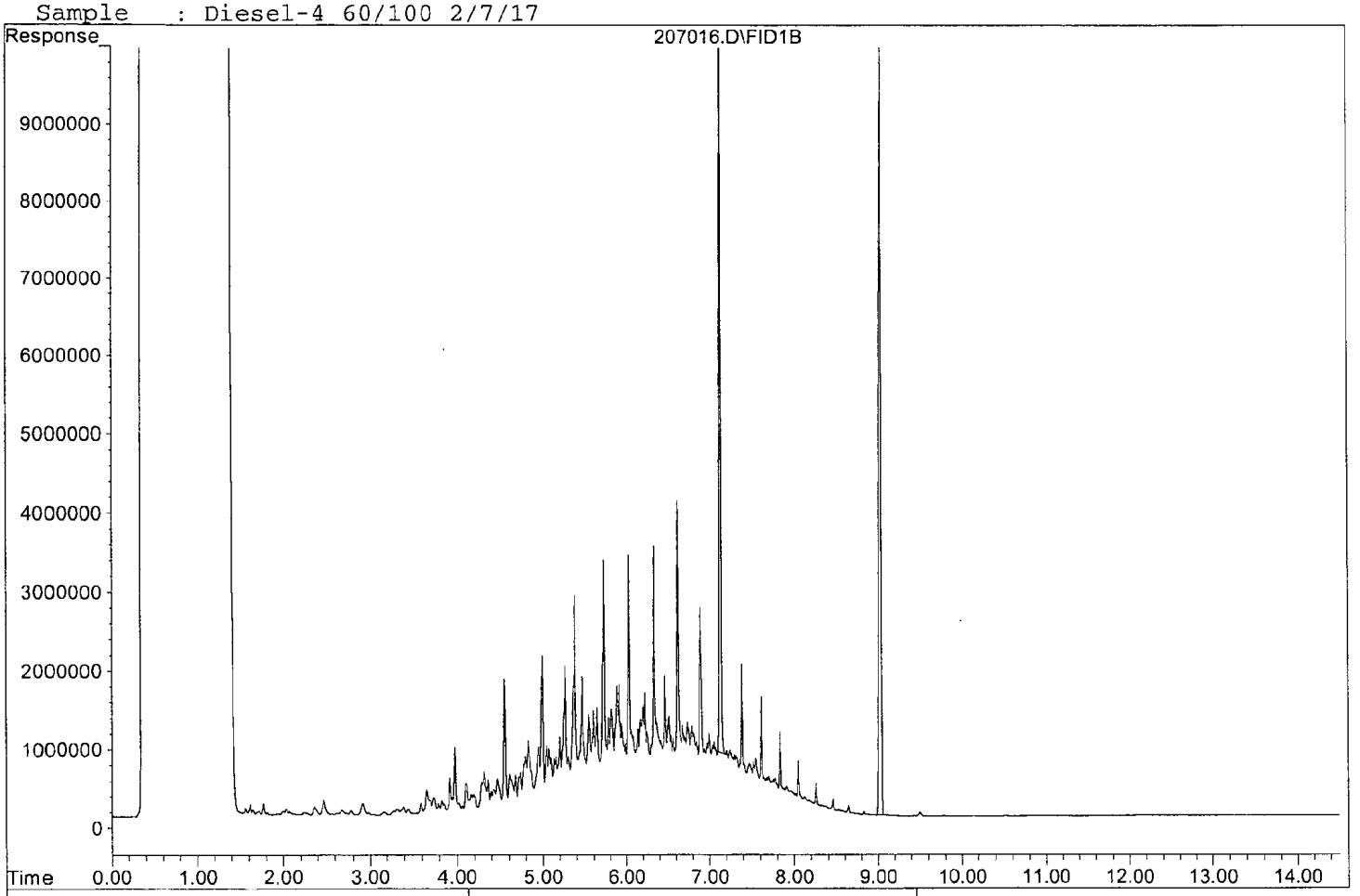
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

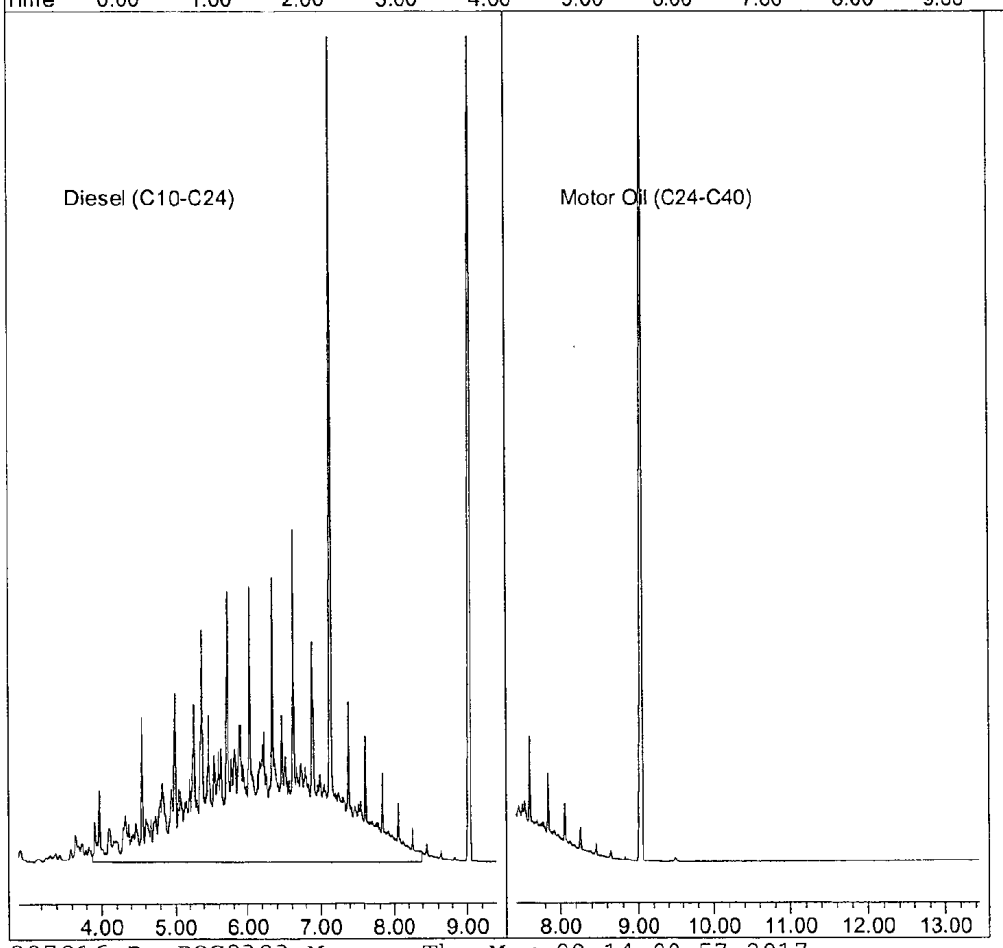
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	131066816	34.186 ppb
Surrogate Spike 30.000		Recovery =	113.95%
5) SA Octacosane(S)	9.04	190706691	58.461 ppb
Surrogate Spike 30.000		Recovery =	194.87%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1993102817	610.061 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207016.D
Sample : Diesel-4 60/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207017.D
Acq On : 2-7-17 15:16:16
Sample : Diesel-5 80/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

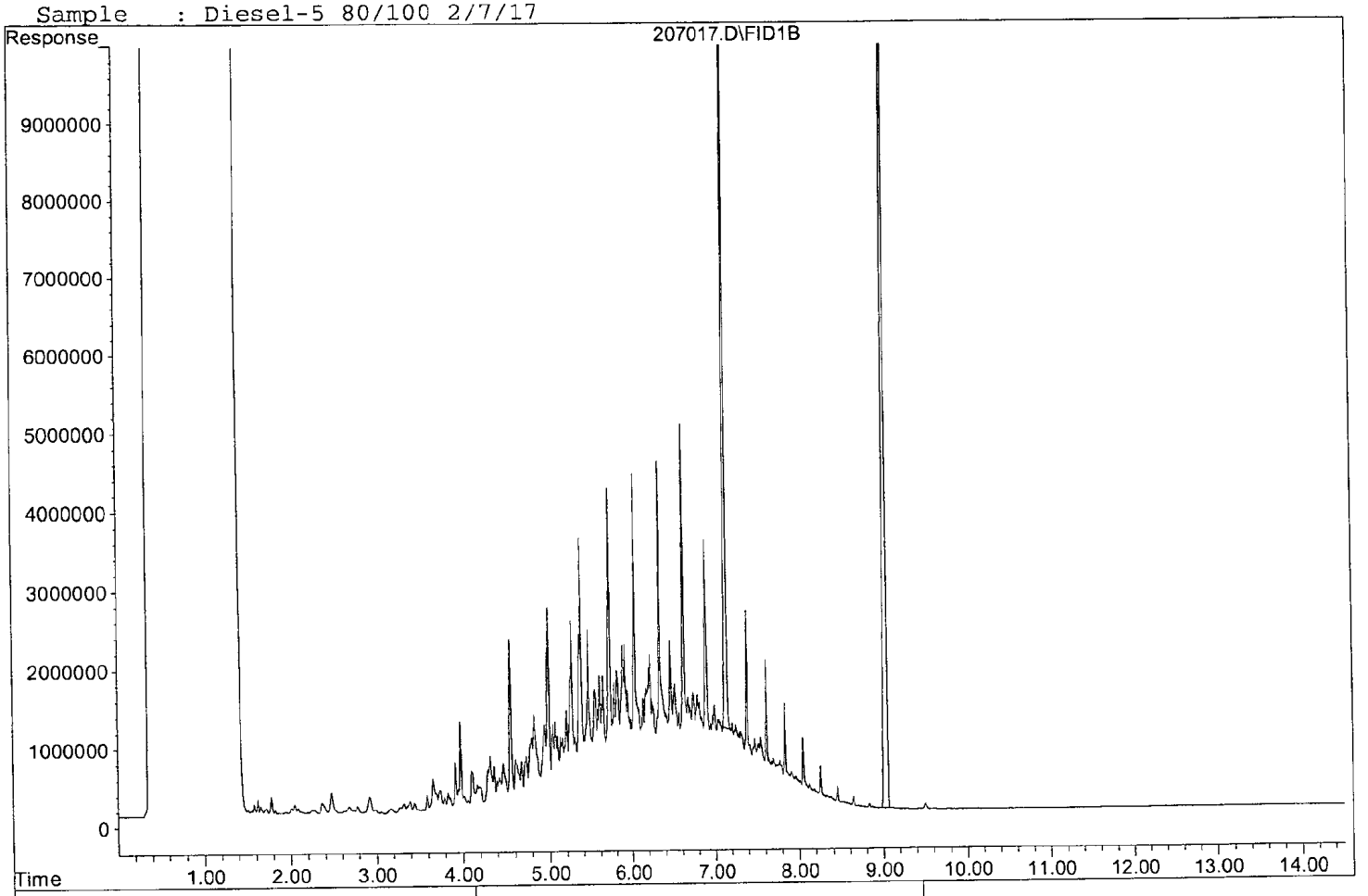
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

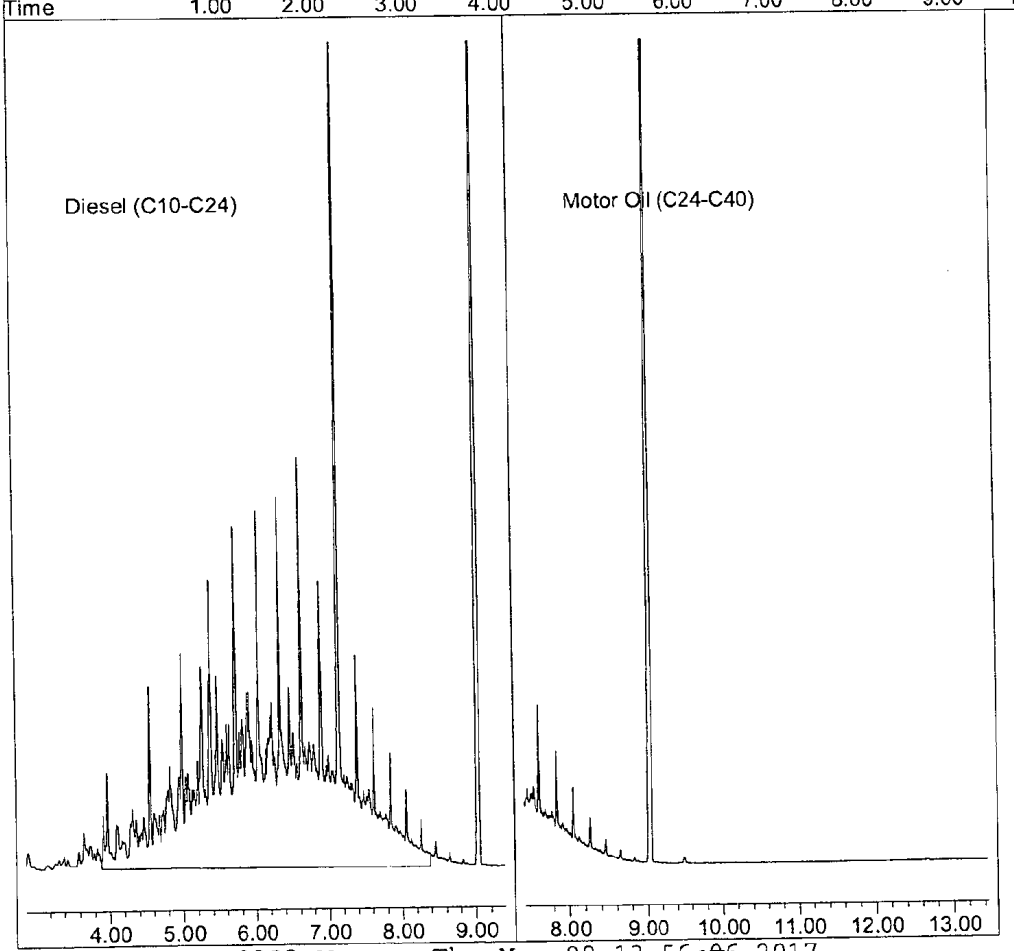
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	169684151	39.702 ppb
Surrogate Spike 30.000		Recovery =	132.34%
5) SA Octacosane(S)	9.05	247312017	39.382 ppb
Surrogate Spike 30.000		Recovery =	131.27%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	2587172877	791.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207017.D
Sample : Diesel-5 80/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207018.D
Acq On : 2-7-17 15:36:59
Sample : Diesel-6 100/100 2/7/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

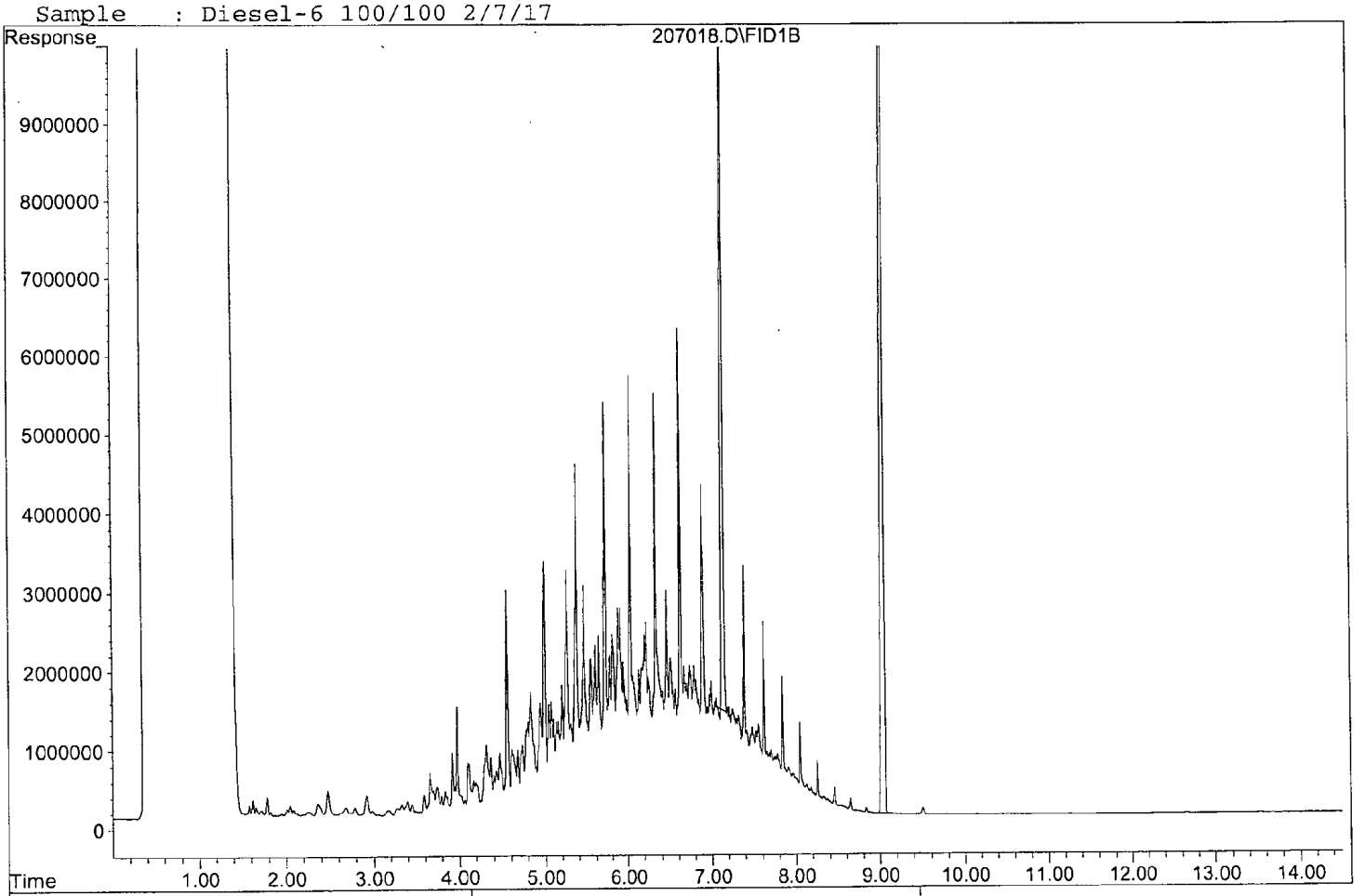
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

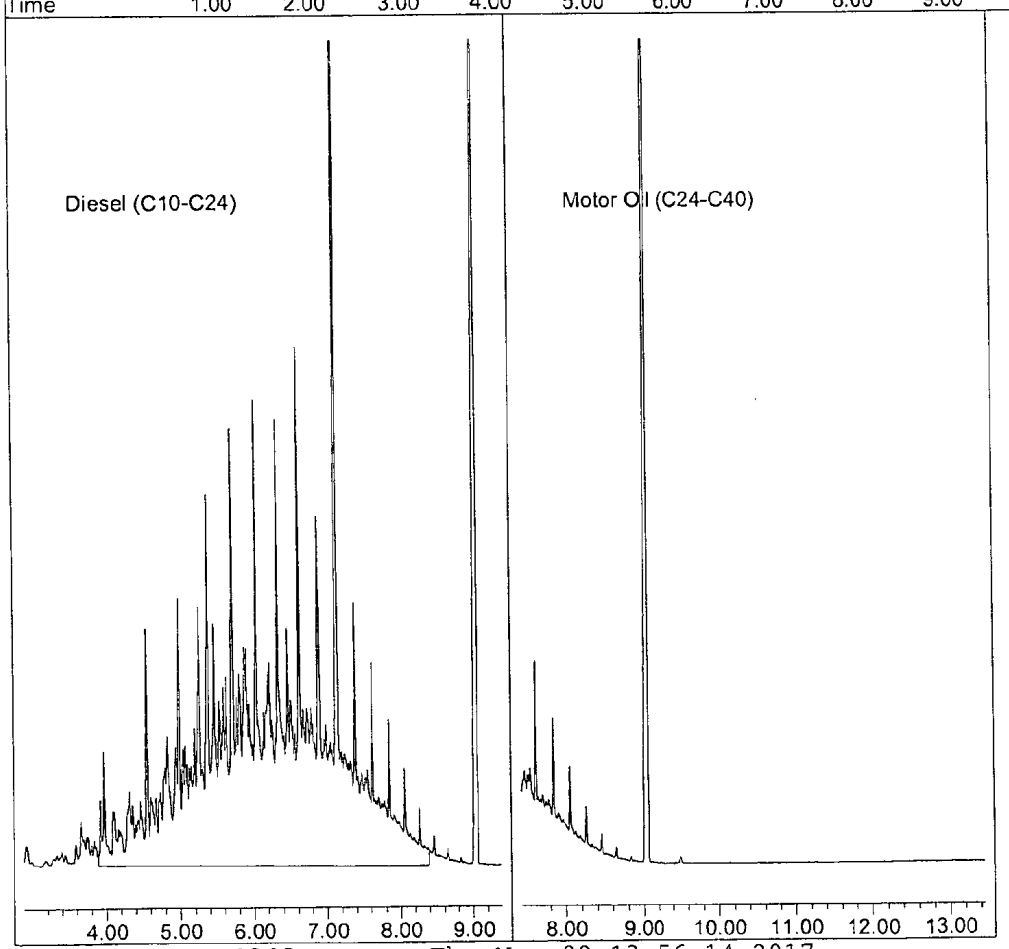
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.15	210756751	49.312 ppb
Surrogate Spike 30.000		Recovery =	164.37%
5) SA Octacosane(S)	9.05	308735346	49.163 ppb
Surrogate Spike 30.000		Recovery =	163.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	3226614051	987.622 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207018.D
Sample : Diesel-6 100/100 2/7/17





Quamtitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207020.D Vial: 20
Acq On : 2-7-17 16:18:18 Operator: DP
Sample : Motor Oil-1 10/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

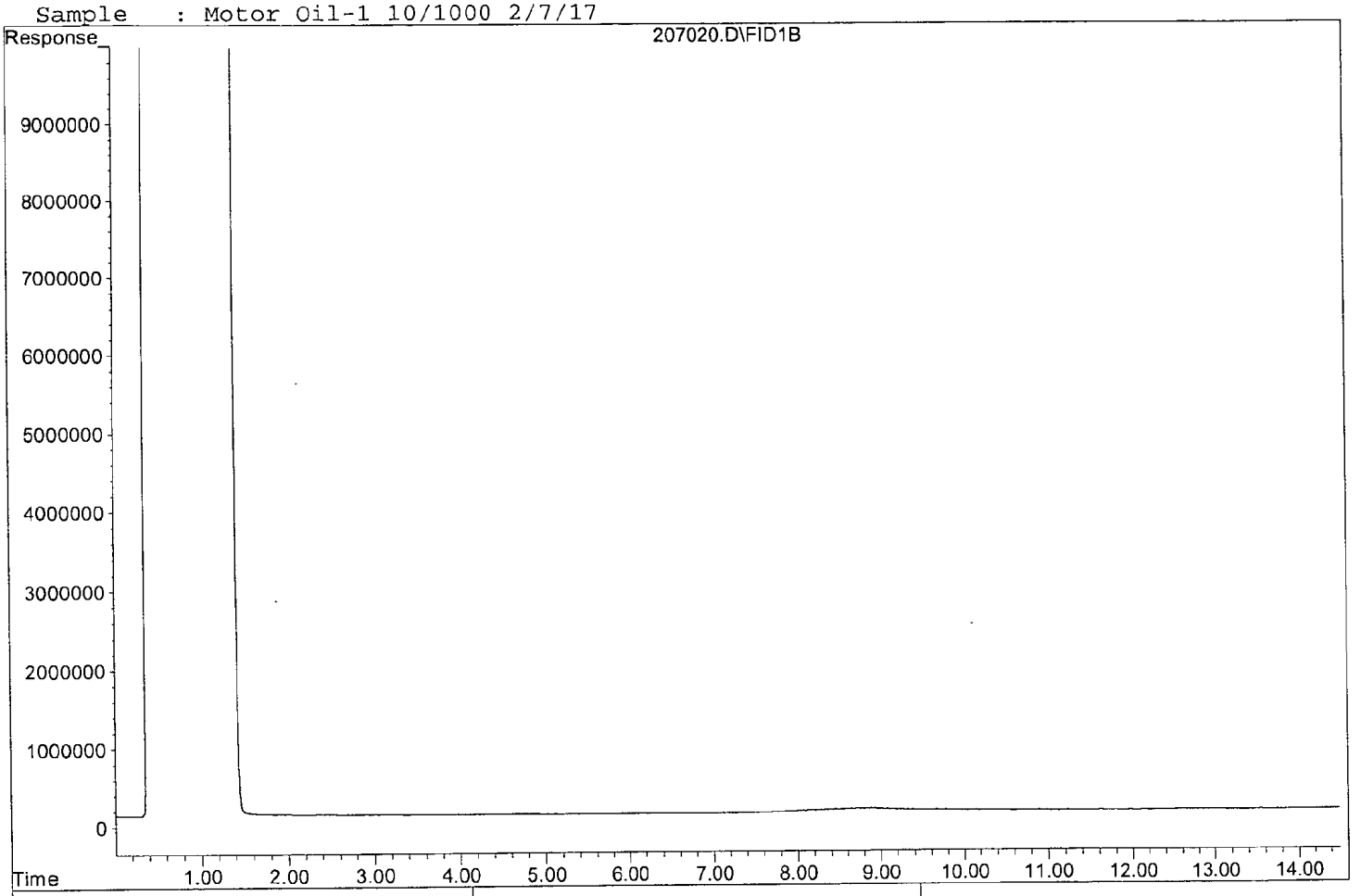
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

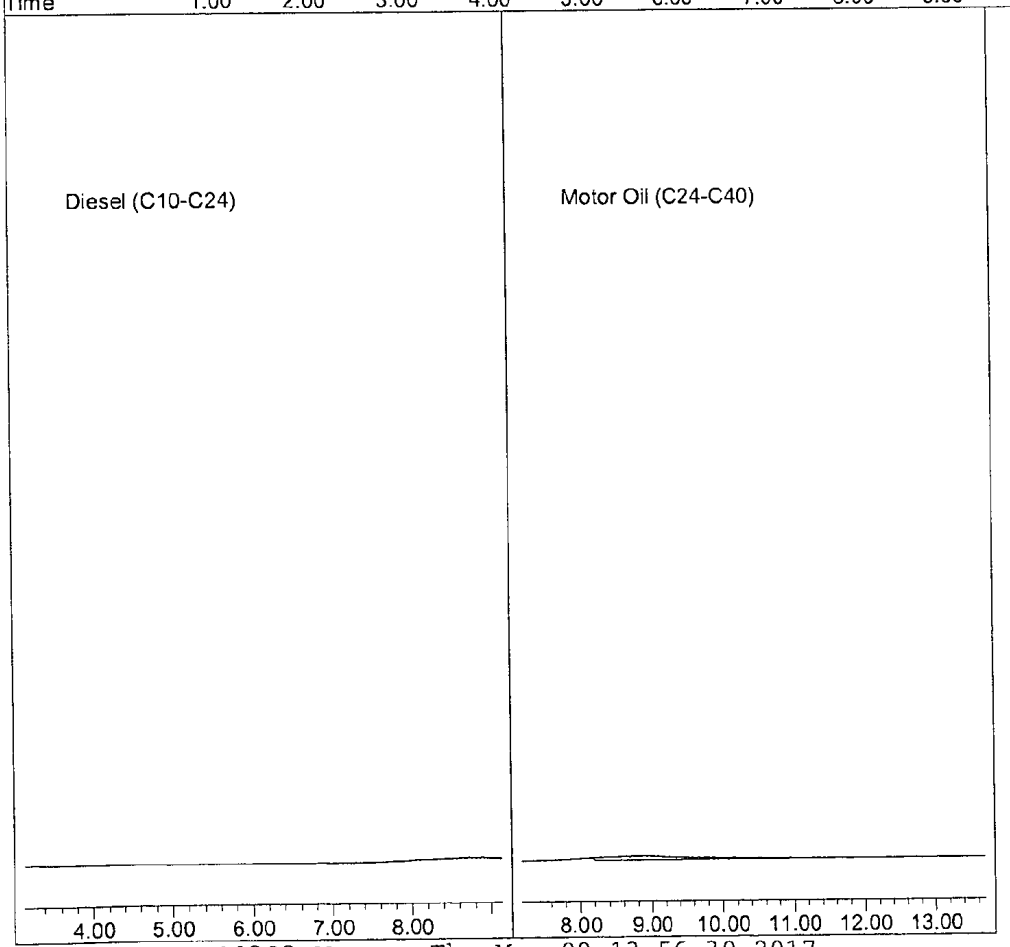
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	47252507	19.219 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207020.D
Sample : Motor Oil-1 10/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207021.D Vial: 21
Acq On : 2-7-17 16:39:03 Operator: DP
Sample : Motor Oil-2 25/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

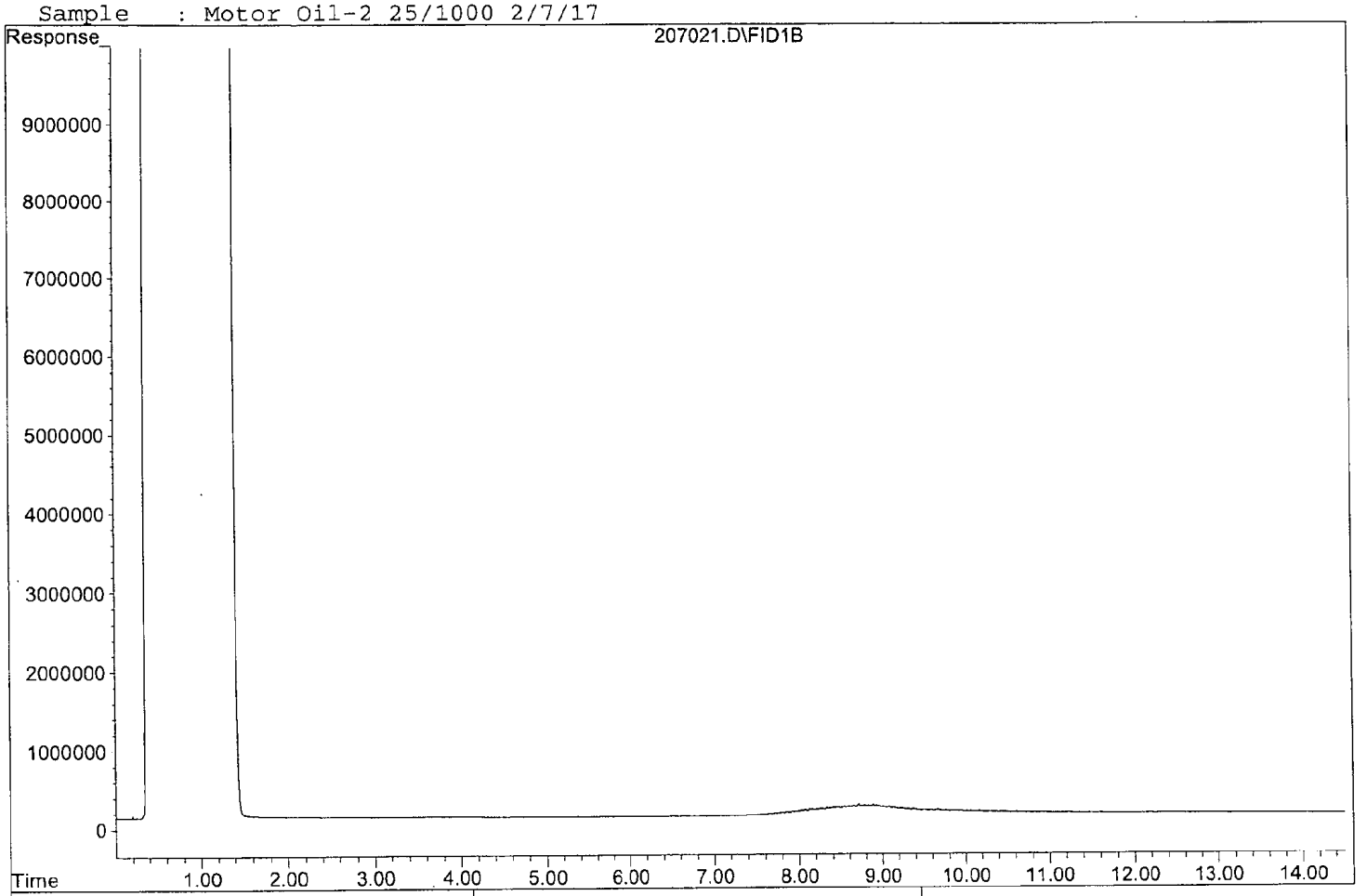
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

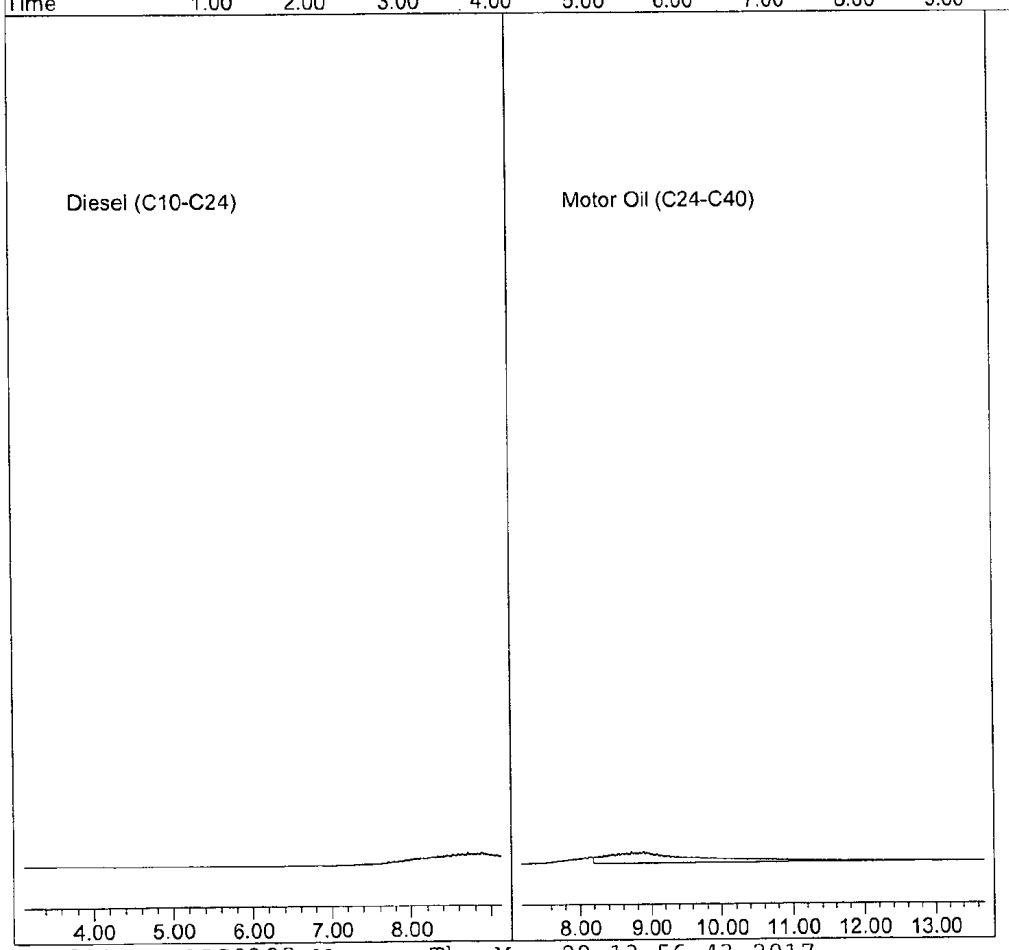
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	126021770	51.257 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207021.D
Sample : Motor Oil-2 25/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207022.D Vial: 22
Acq On : 2-7-17 16:59:39 Operator: DP
Sample : Motor Oil-3 125/1000 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

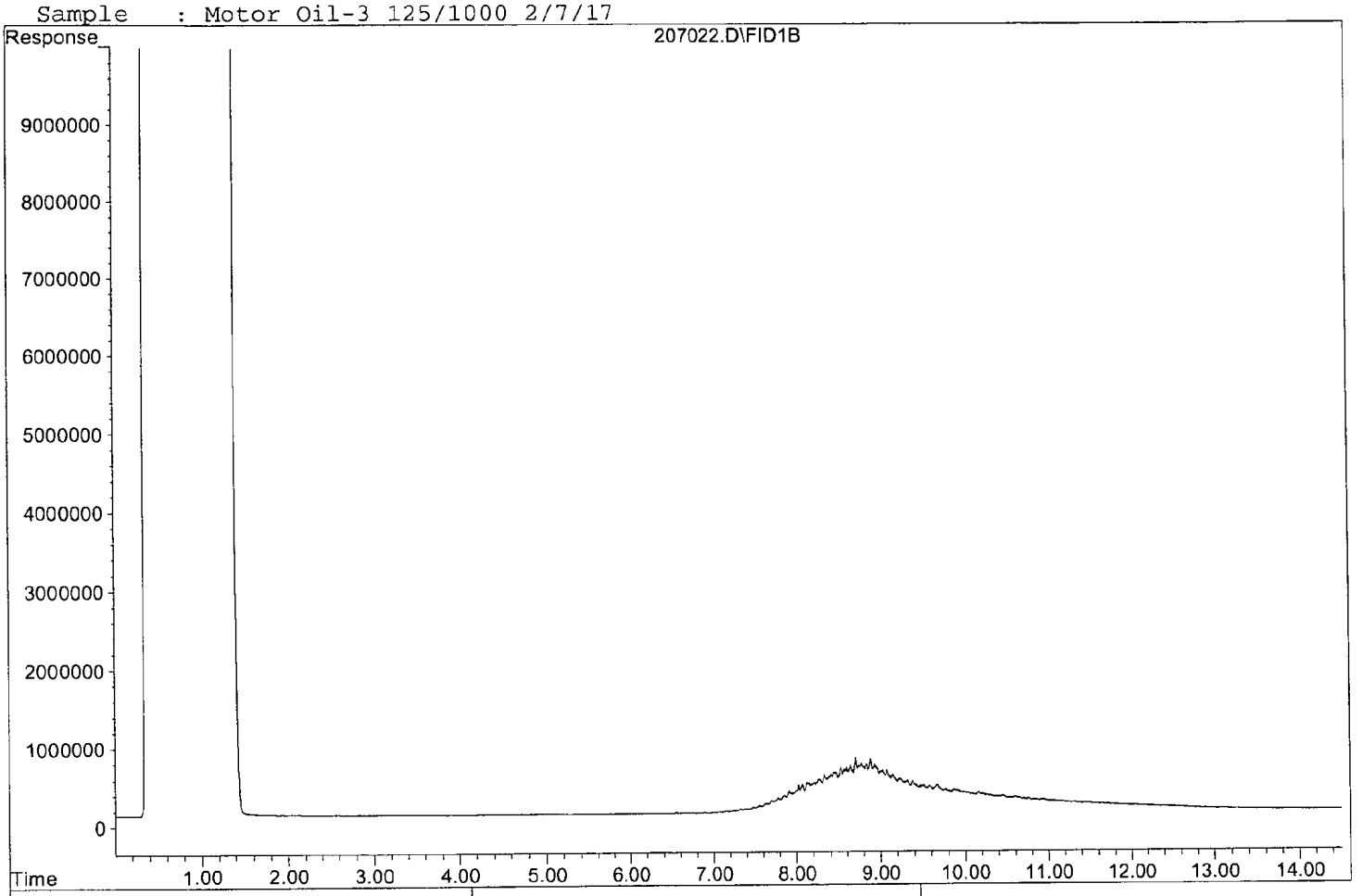
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

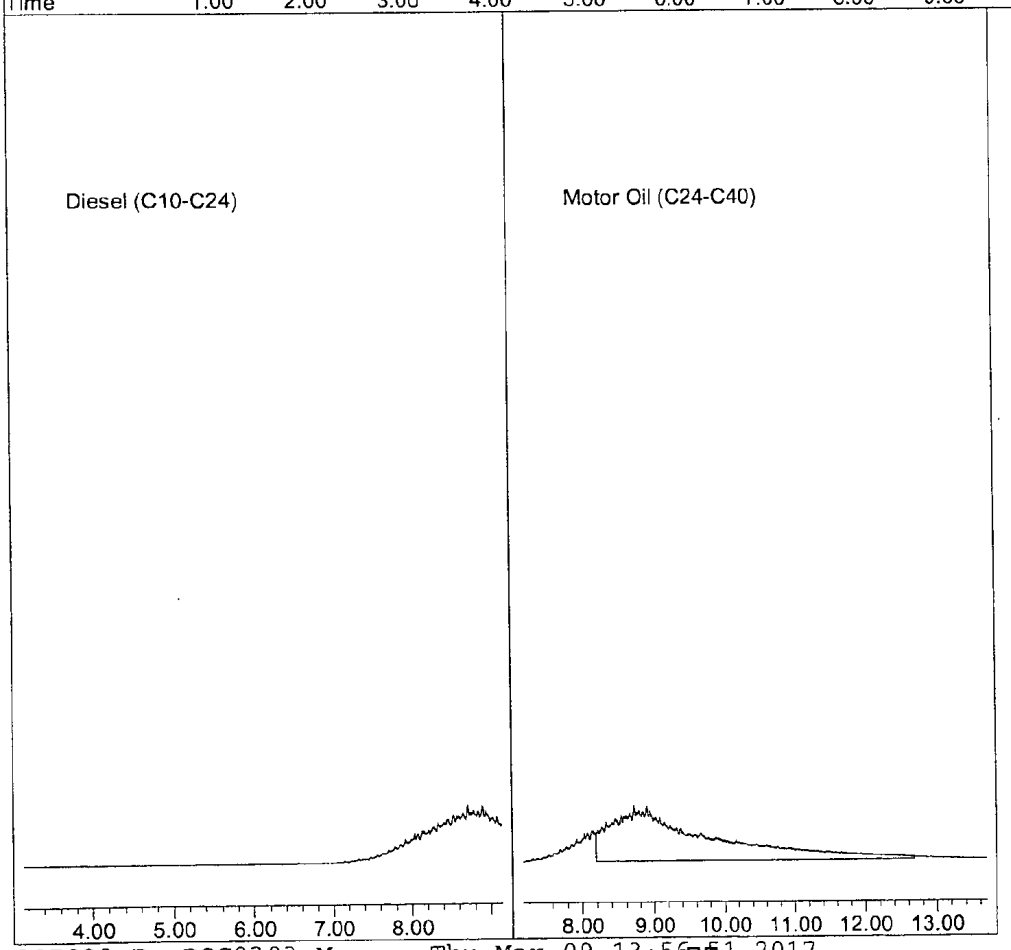
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	626410111	254.782 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207022.D
Sample : Motor Oil-3 125/1000 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207023.D Vial: 23
Acq On : 2-7-17 17:20:17 Operator: DP
Sample : Motor Oil-4 50/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

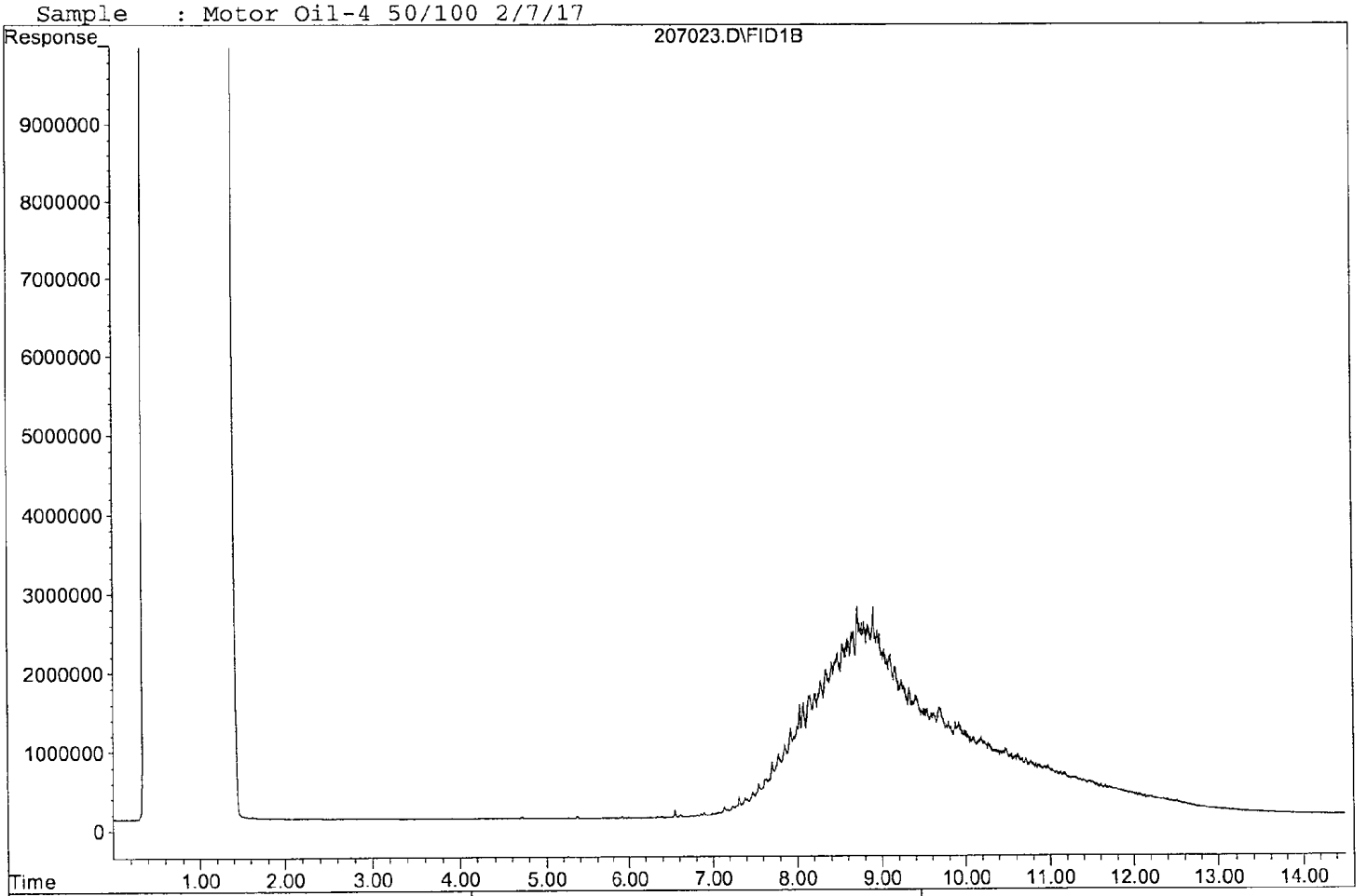
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

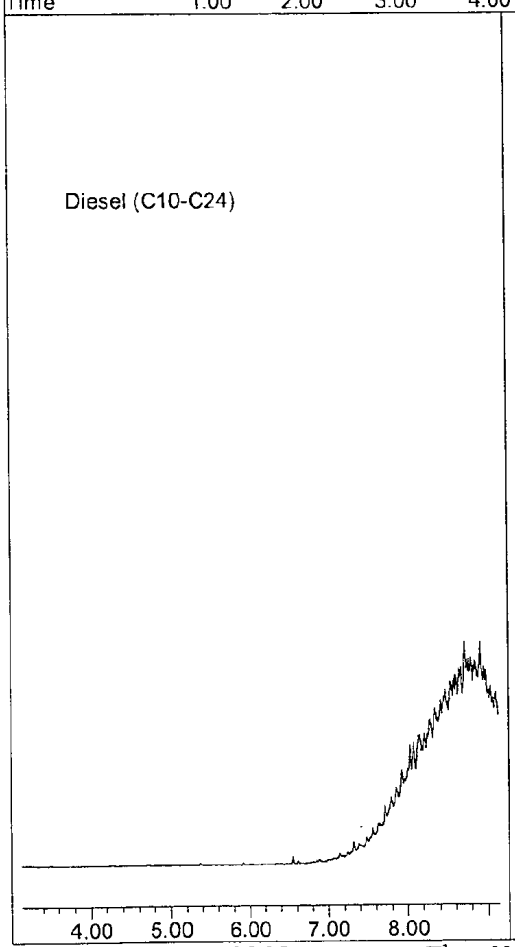
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

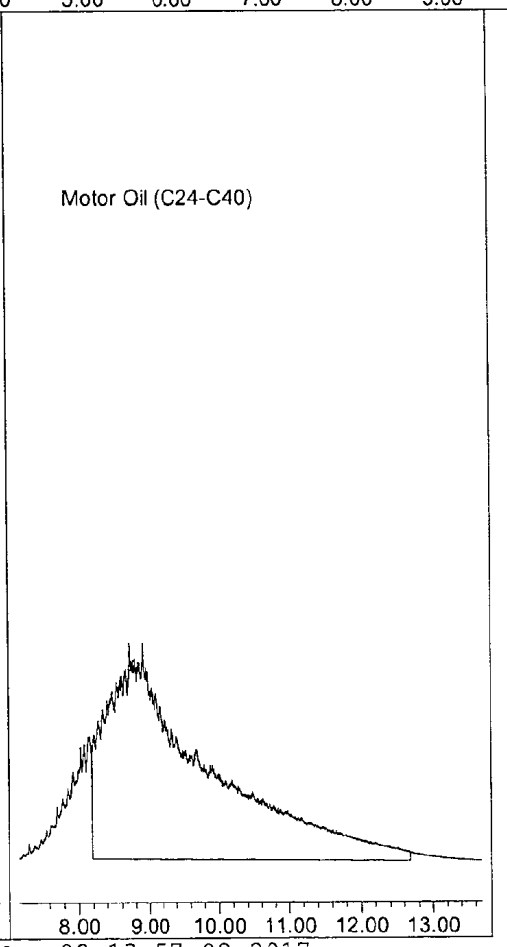
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2525930184	1027.382 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207023.D
Sample : Motor Oil-4 50/100 2/7/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207024.D Vial: 24
Acq On : 2-7-17 17:40:44 Operator: DP
Sample : Motor Oil-5 75/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

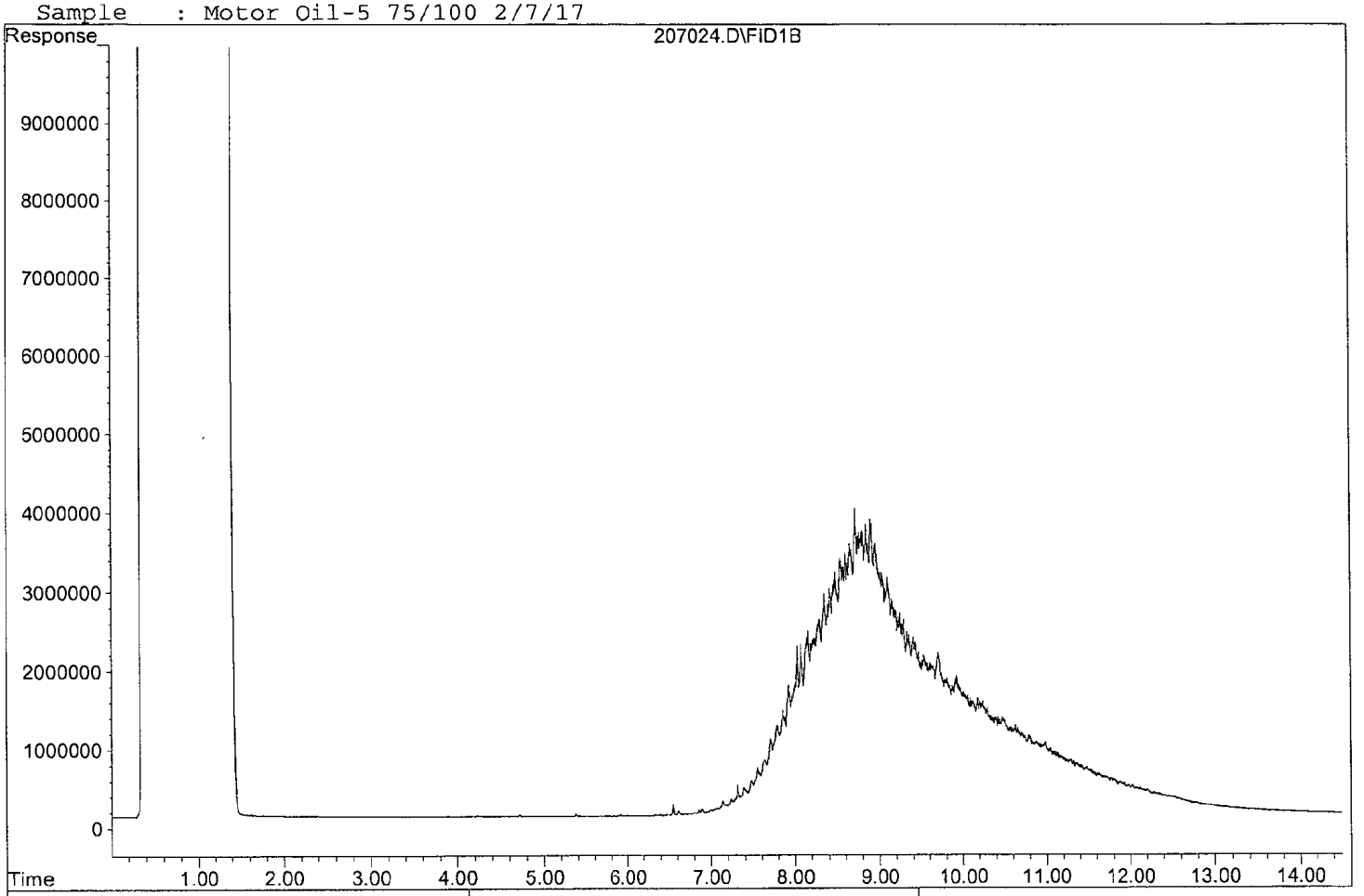
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

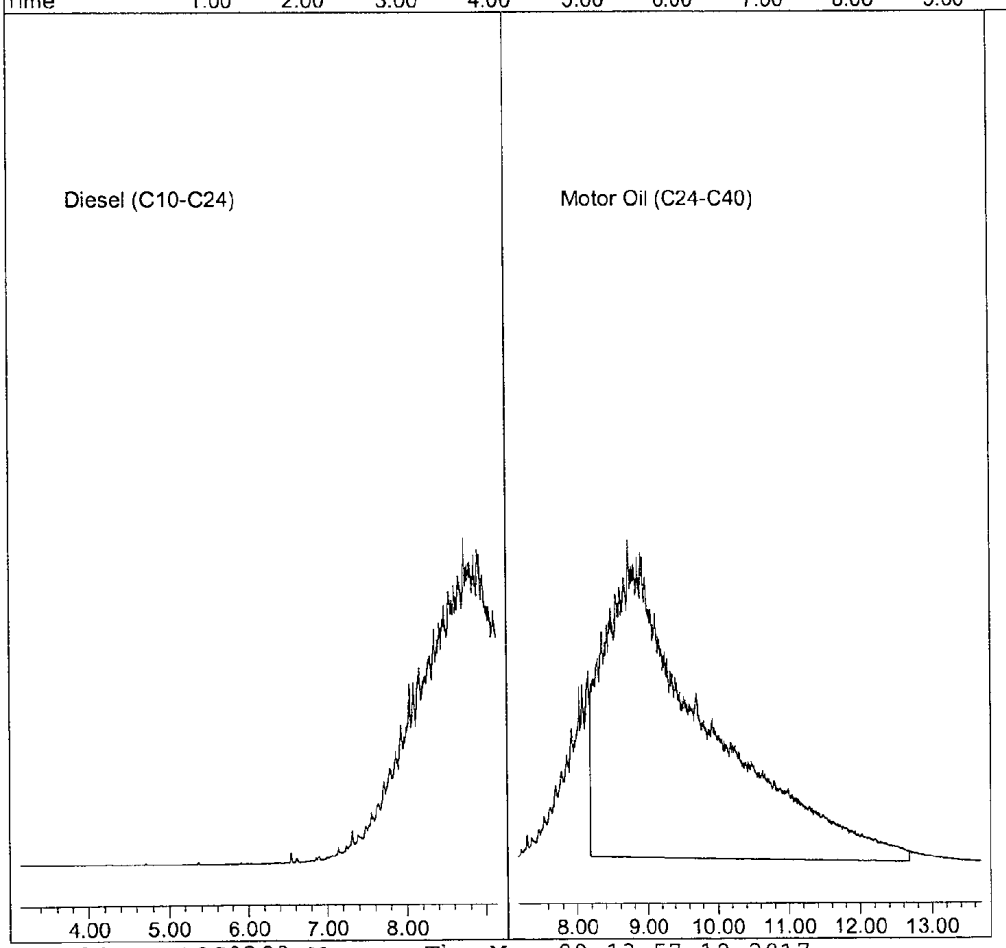
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	3659885736	1488.601 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207024.D
Sample : Motor Oil-5 75/100 2/7/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207025.D Vial: 25
Acq On : 2-7-17 18:01:11 Operator: DP
Sample : Motor Oil-6 100/100 2/7/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:56 2017 Quant Results File: DOC0303.RES

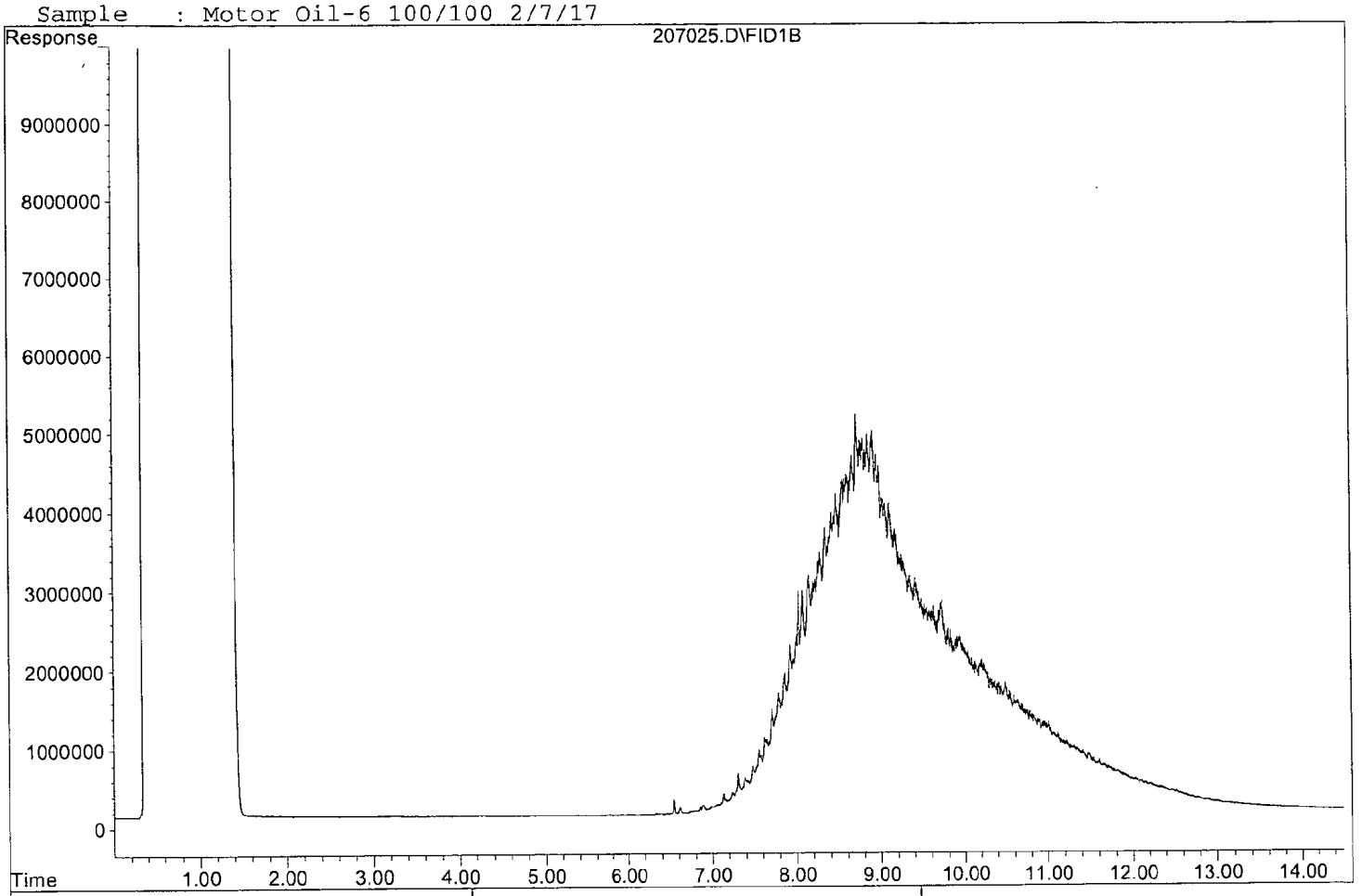
Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

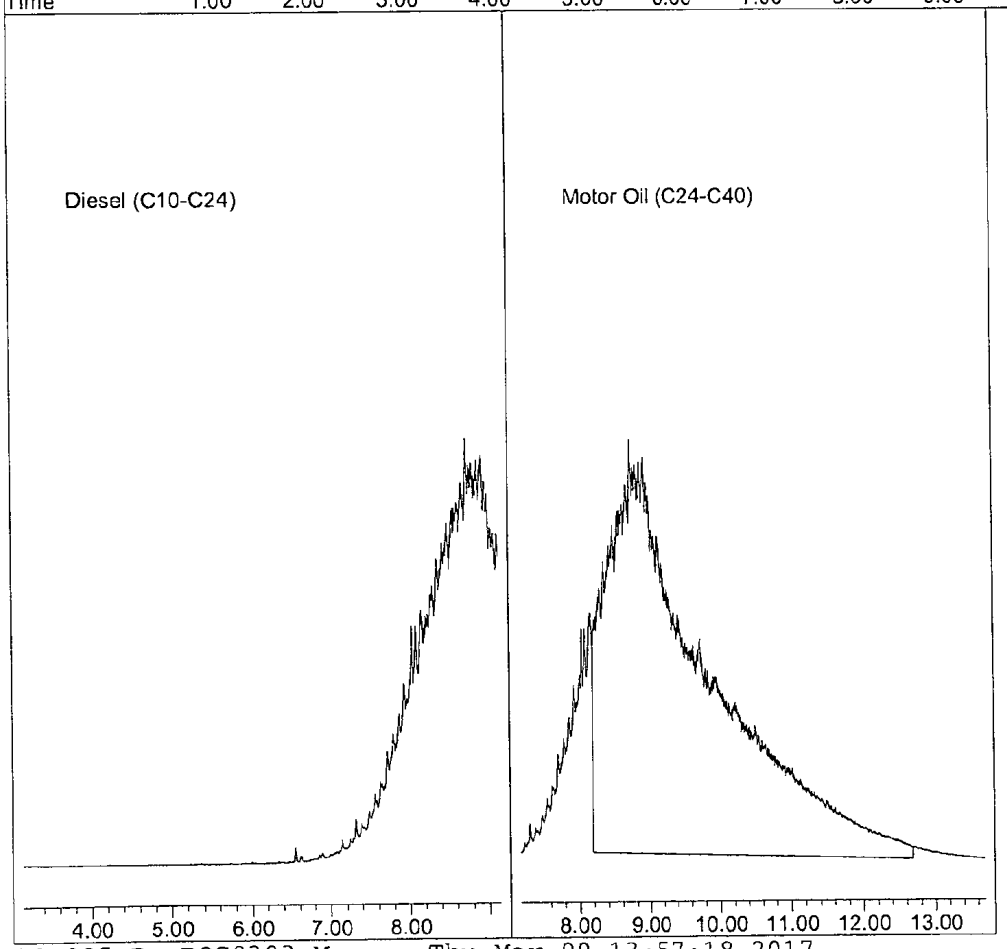
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	4794189212	1949.961 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207025.D
Sample : Motor Oil-6 100/100 2/7/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303002.D Vial: 2
Acq On : 3-3-17 14:55:47 Operator: DP
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:03 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

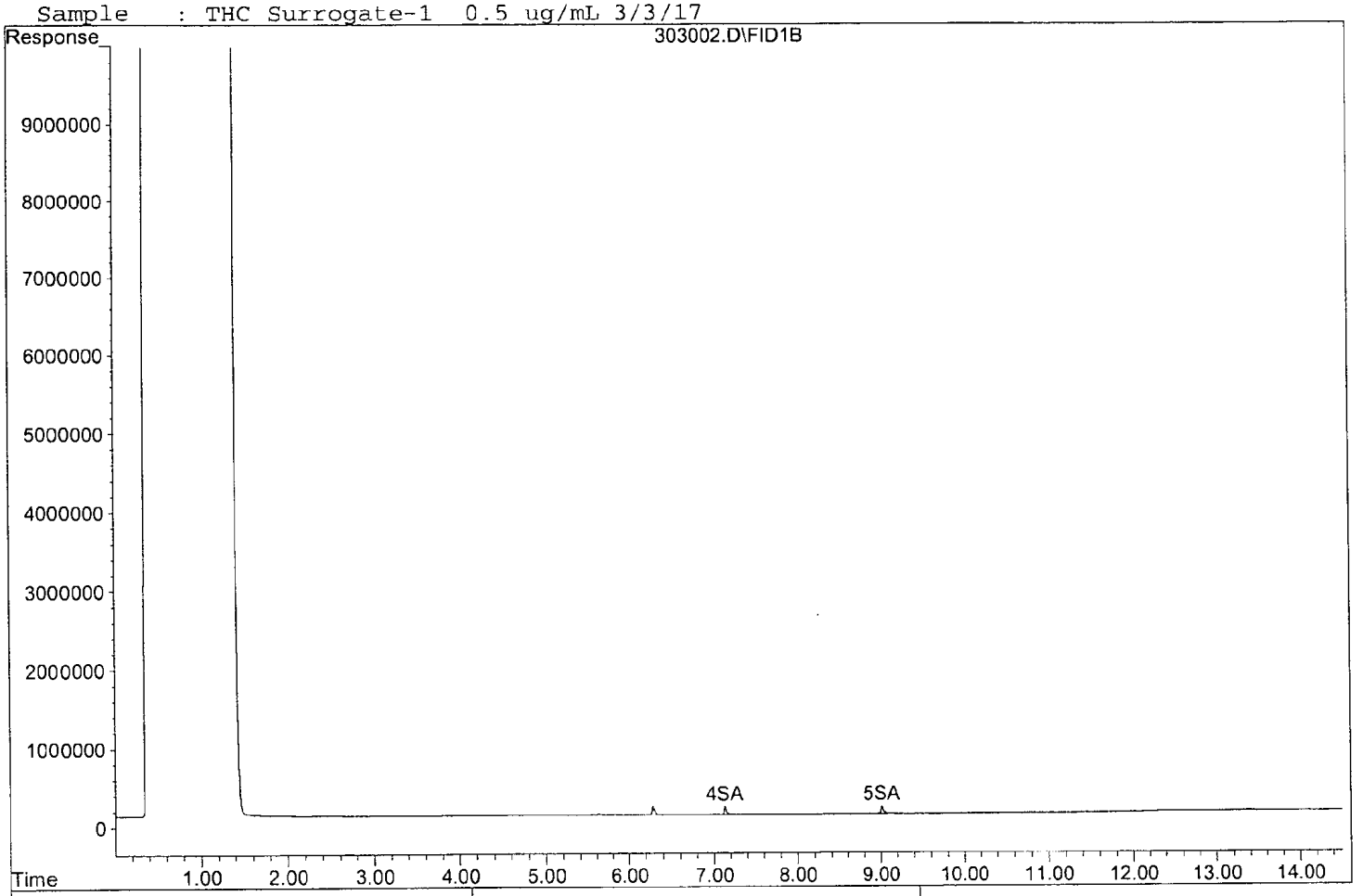
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	1942562	0.507 ppb
Surrogate Spike 30.000		Recovery =	1.69%
5) SA Octacosane(S)	9.01	1719138	0.527 ppb
Surrogate Spike 30.000		Recovery =	1.76%

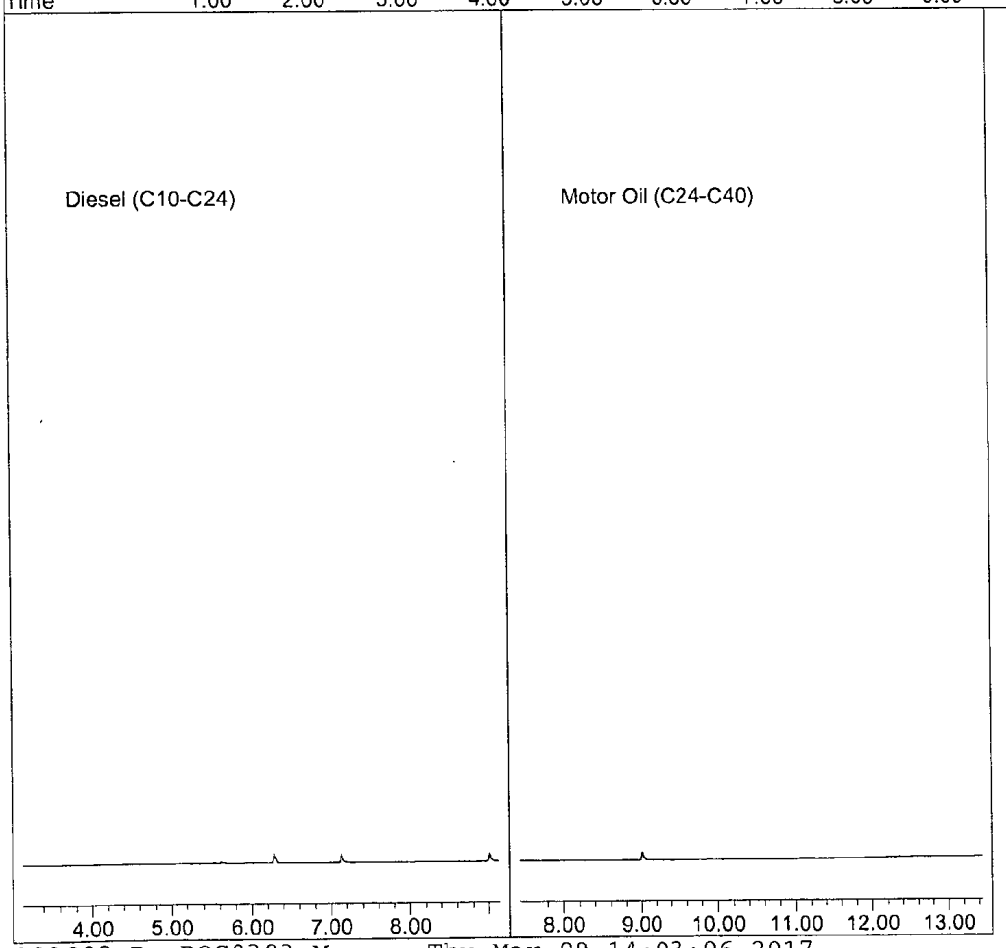
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303002.D
Sample : THC Surrogate-1 0.5 ug/mL 3/3/17





303002.D DOC0303.M Thu Mar 09 14:03:06 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303003.D Vial: 3
Acq On : 3-3-17 15:16:38 Operator: DP
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

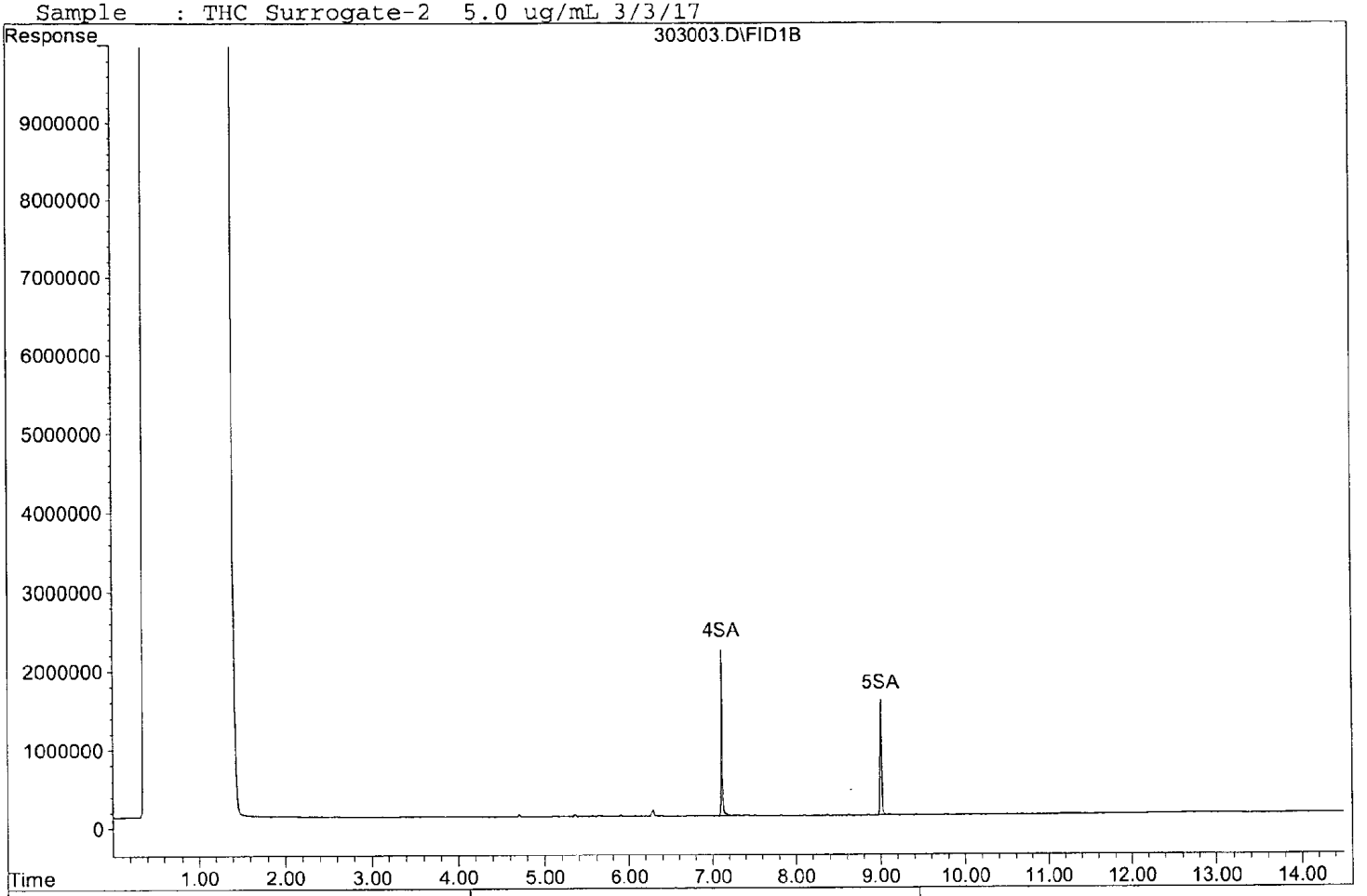
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

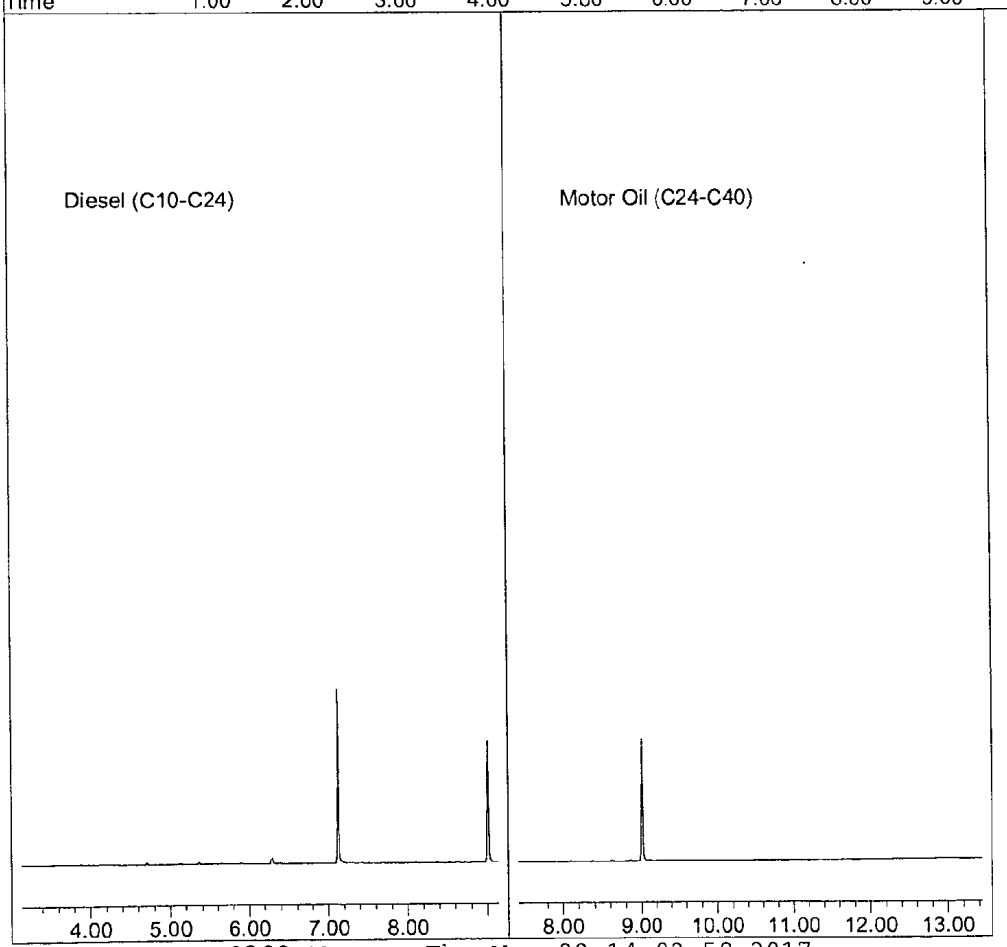
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.12	21242228	5.541 ppb
Surrogate Spike 30.000	Recovery	=	18.47%
5) SA Octacosane(S)	9.01	17712742	5.430 ppb
Surrogate Spike 30.000	Recovery	=	18.10%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303003.D
Sample : THC Surrogate-2 5.0 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303004.D Vial: 4
Acq On : 3-3-17 15:37:25 Operator: DP
Sample : THC Surrogate-3 20 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

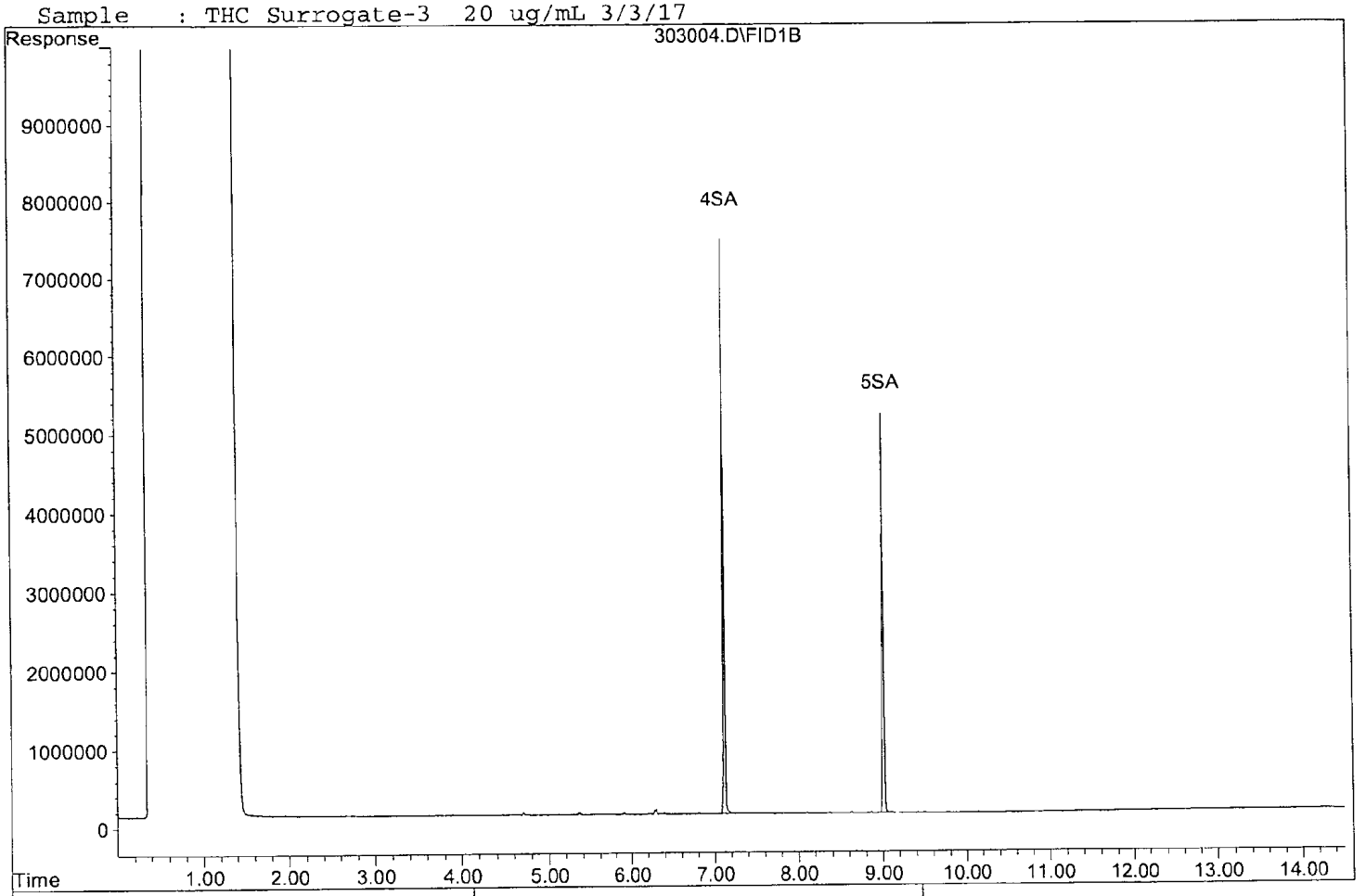
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

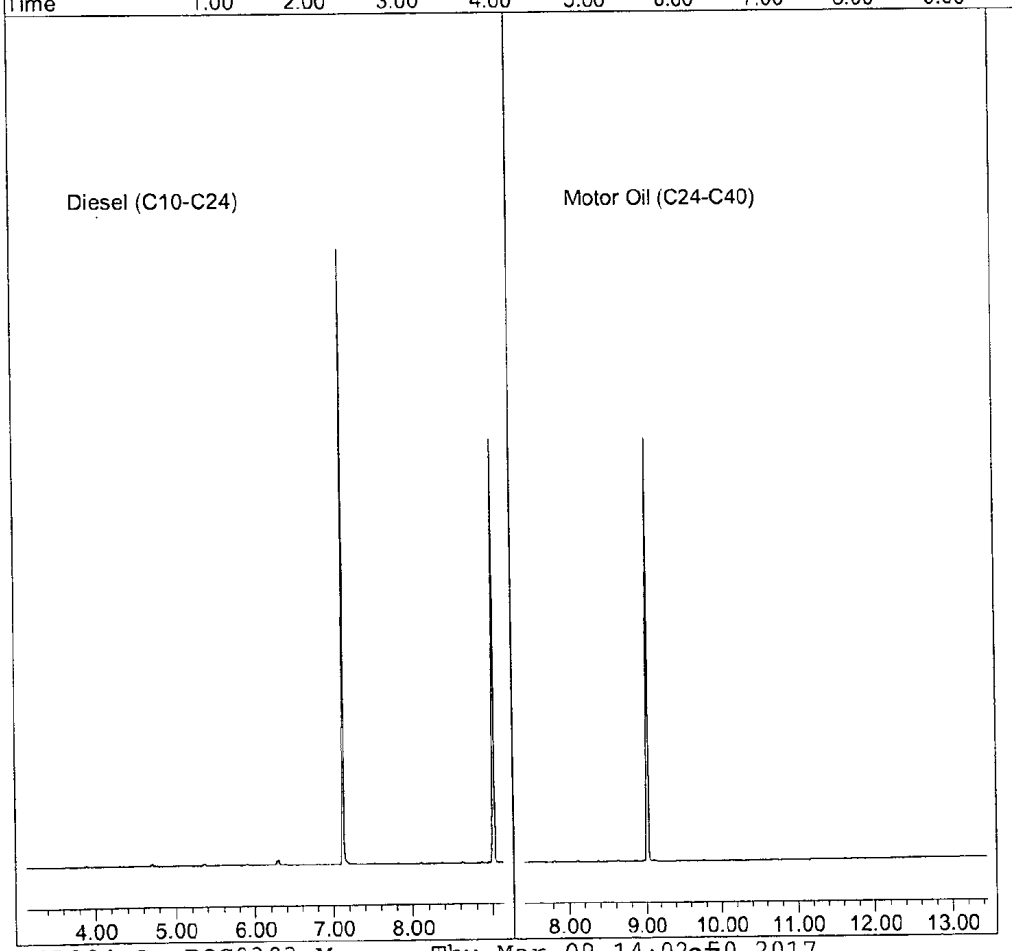
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	74537557	19.442 ppb
Surrogate Spike 30.000		Recovery =	64.81%
5) SA Octacosane(S)	9.01	62896901	19.281 ppb
Surrogate Spike 30.000		Recovery =	64.27%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303004.D
Sample : THC Surrogate-3 20 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303005.D Vial: 5
Acq On : 3-3-17 15:58:18 Operator: DP
Sample : THC Surrogate-4 30 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

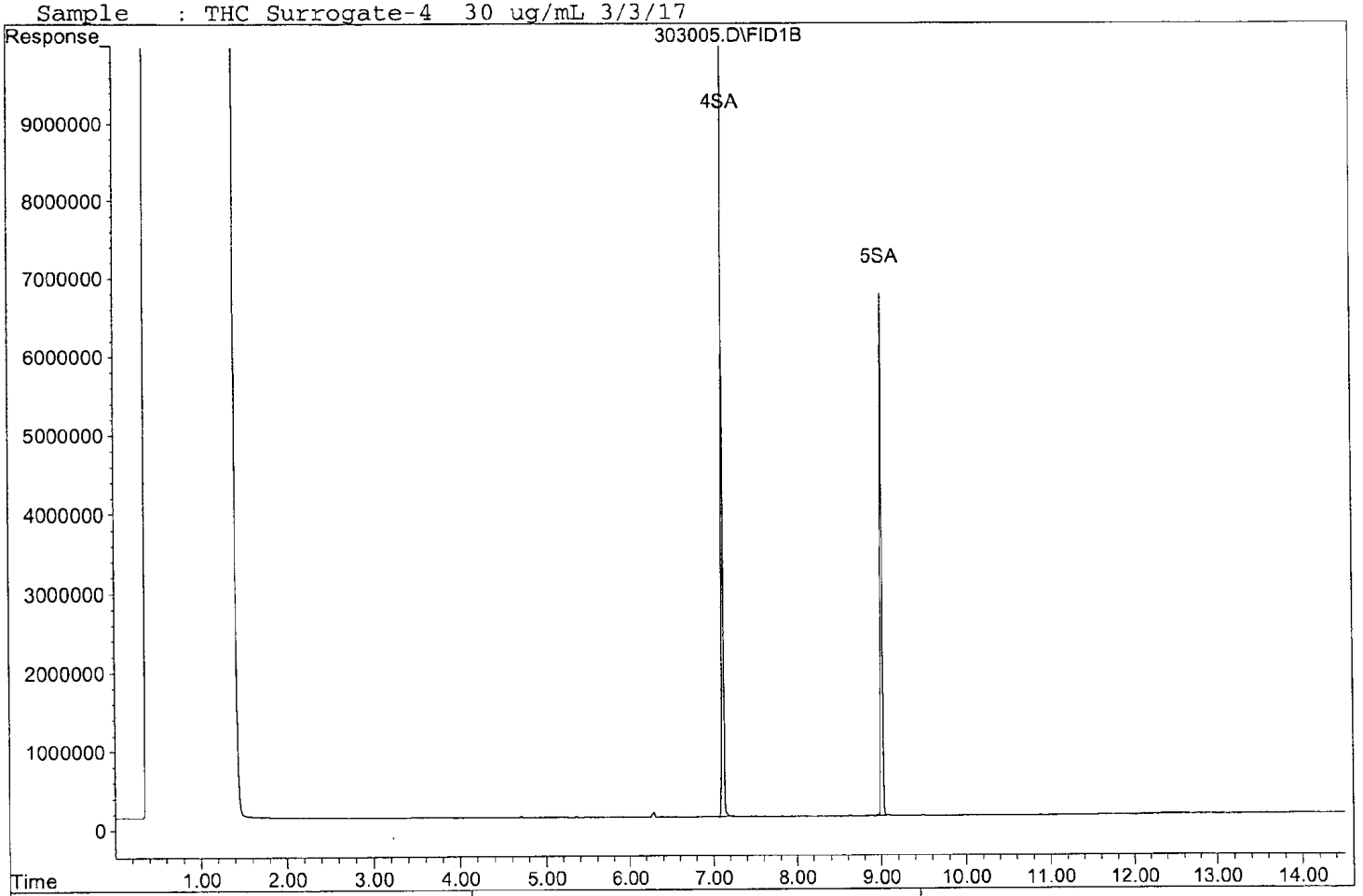
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

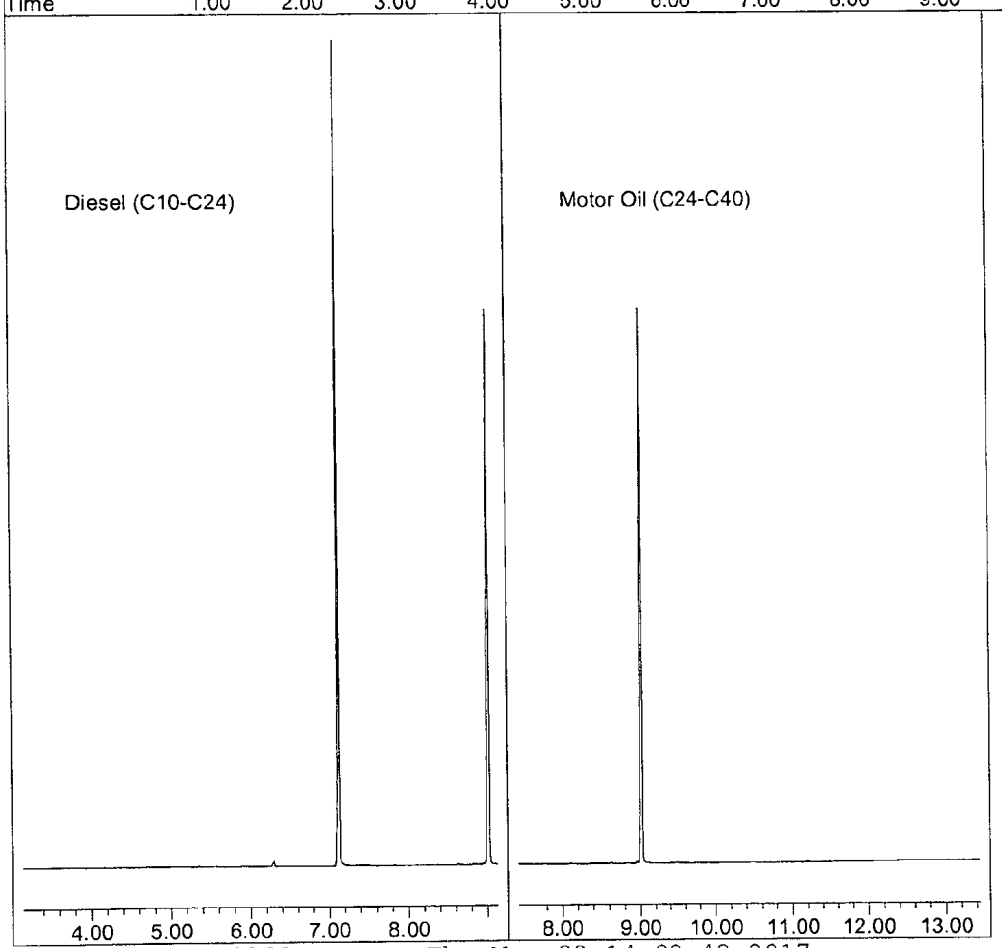
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	108679562	28.347 ppb
Surrogate Spike 30.000		Recovery =	94.49%
5) SA Octacosane(S)	9.02	92652170	28.403 ppb
Surrogate Spike 30.000		Recovery =	94.68%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303005.D
Sample : THC Surrogate-4 30 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303006.D Vial: 6
Acq On : 3-3-17 16:19:16 Operator: DP
Sample : THC Surrogate-5 40 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

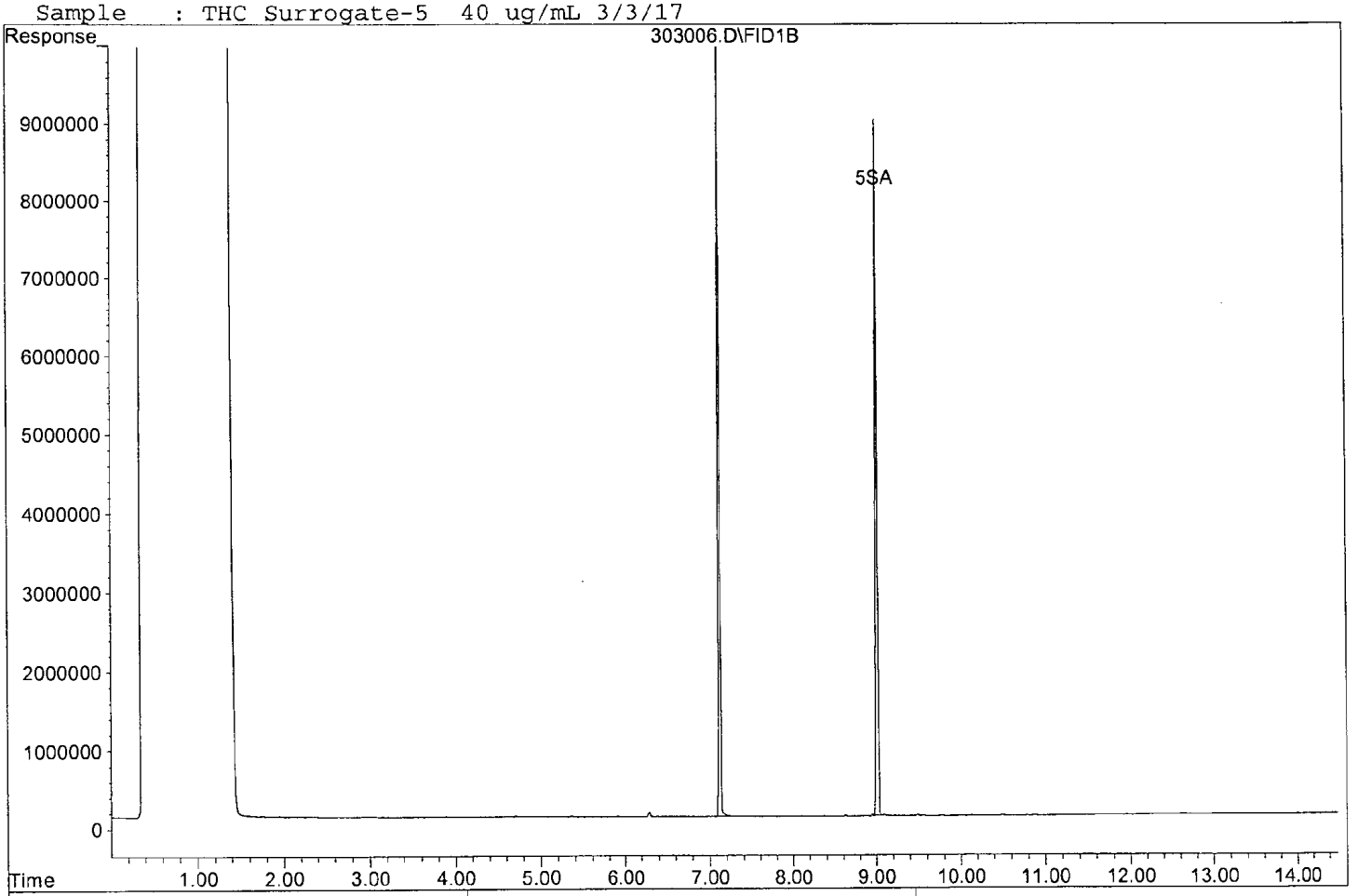
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

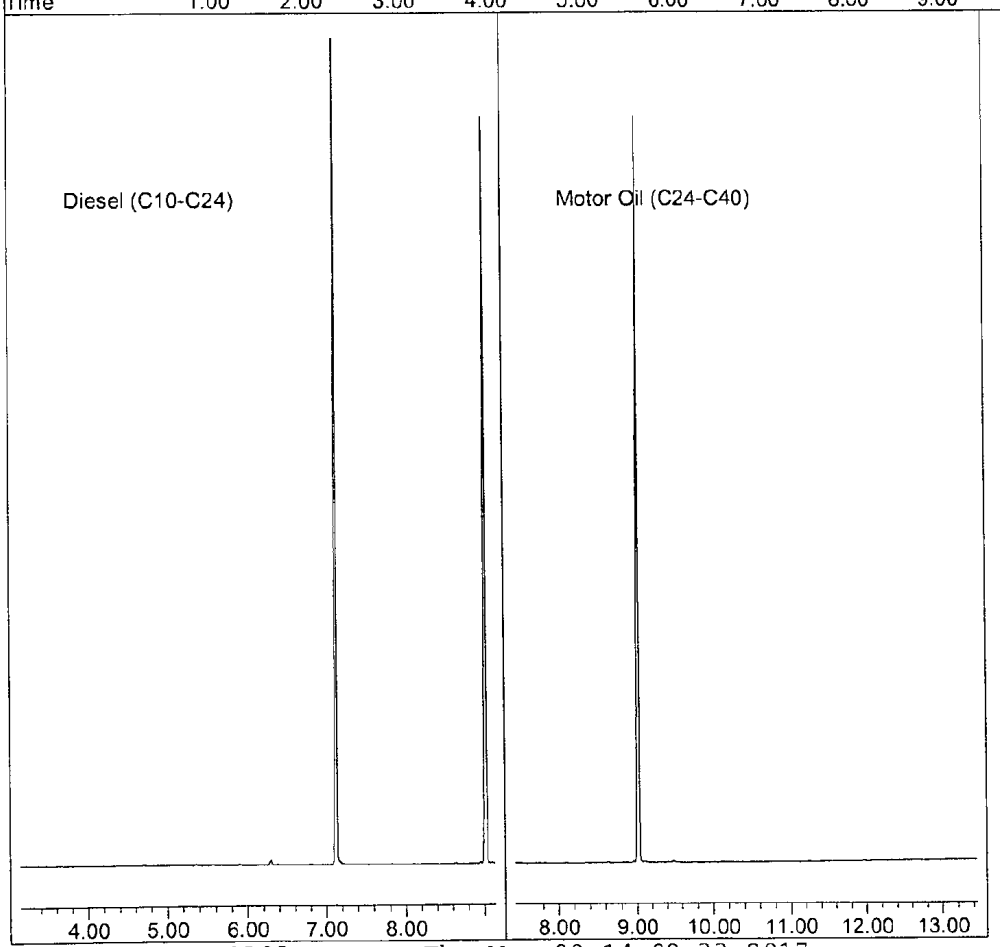
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.13	146802745	38.291 ppb
Surrogate Spike 30.000		Recovery =	127.64%
5) SA Octacosane(S)	9.02	124259114	38.092 ppb
Surrogate Spike 30.000		Recovery =	126.97%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303006.D
Sample : THC Surrogate-5 40 ug/mL 3/3/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170303\303007.D Vial: 7
Acq On : 3-3-17 16:40:03 Operator: DP
Sample : THC Surrogate-6 50 ug/mL 3/3/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:02 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

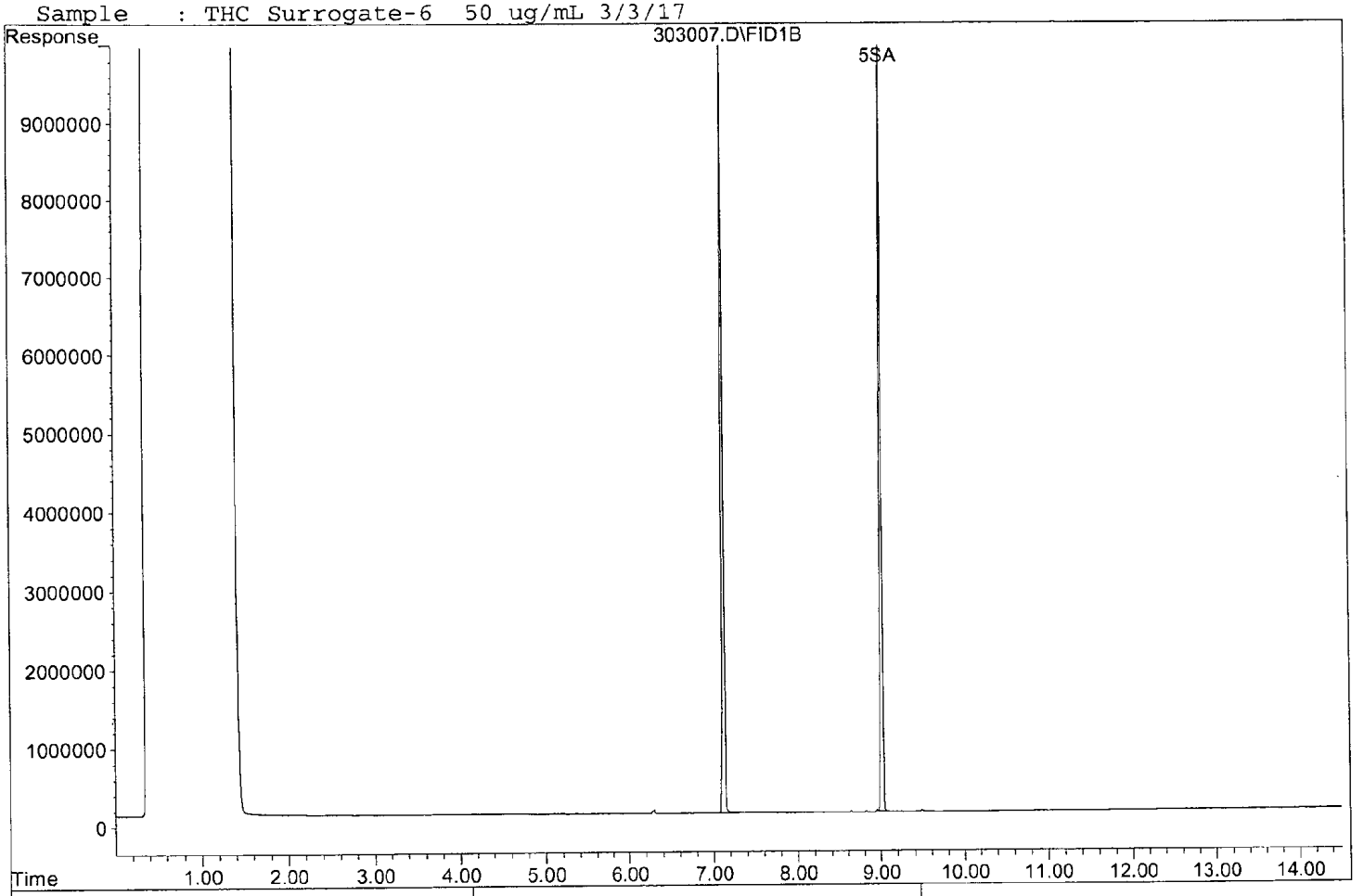
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	192507036	50.212 ppb
Surrogate Spike 30.000		Recovery =	167.37%
5) SA Octacosane(S)	9.03	162603738	49.846 ppb
Surrogate Spike 30.000		Recovery =	166.15%

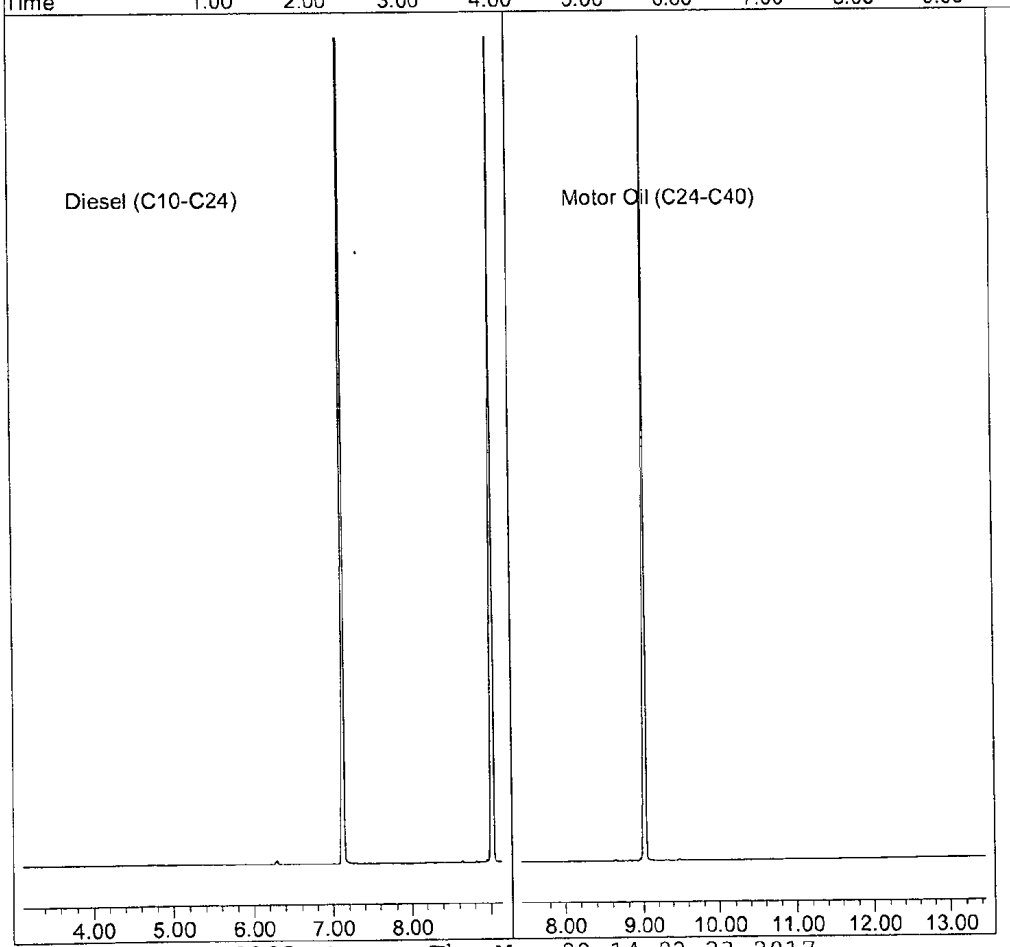
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170303\303007.D
Sample : THC Surrogate-6 50 ug/mL 3/3/17





TPH Extractables
DOC0303

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/07/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 207019.D 207026.D
Diesel: Motor Oil:

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1808750	11	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1445710	18	HBTM	
3							
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40							
		Average			14.5		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170207\207019.D Vial: 19
Acq On : 2-7-17 15:57:38 Operator: DP
Sample : Diesel-2nd Src 8/1/16 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.14	11071745	2.888 ppb
Surrogate Spike 30.000	Recovery	=	9.63%
5) SA Octacosane(S)	9.01	2024928	0.621 ppb
Surrogate Spike 30.000	Recovery	=	2.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1447001049	442.907 ppb

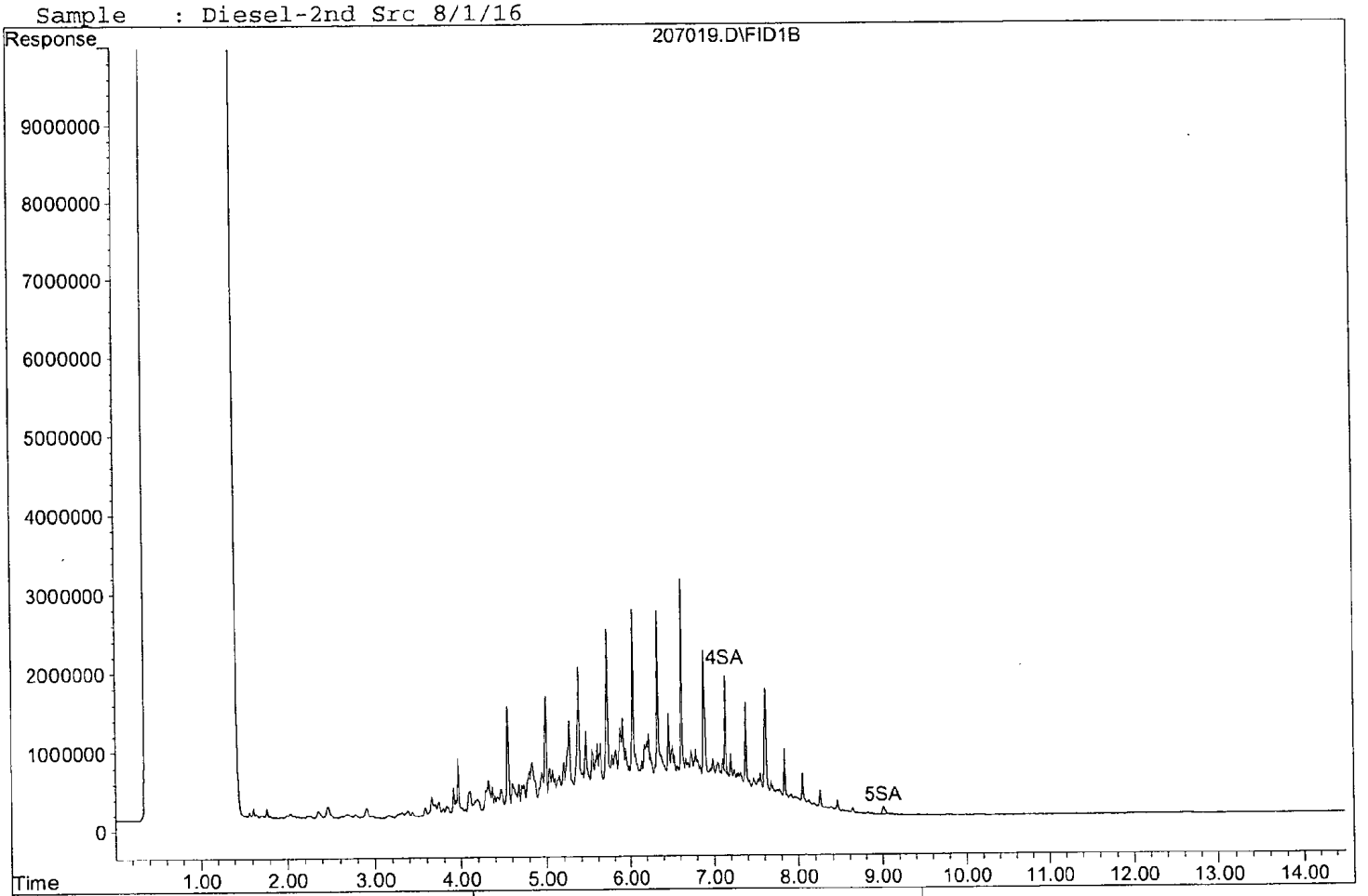
algorithm check
Diesel : $\frac{1447001049 \times 1}{1633526 \times 2} = 442.9072598$

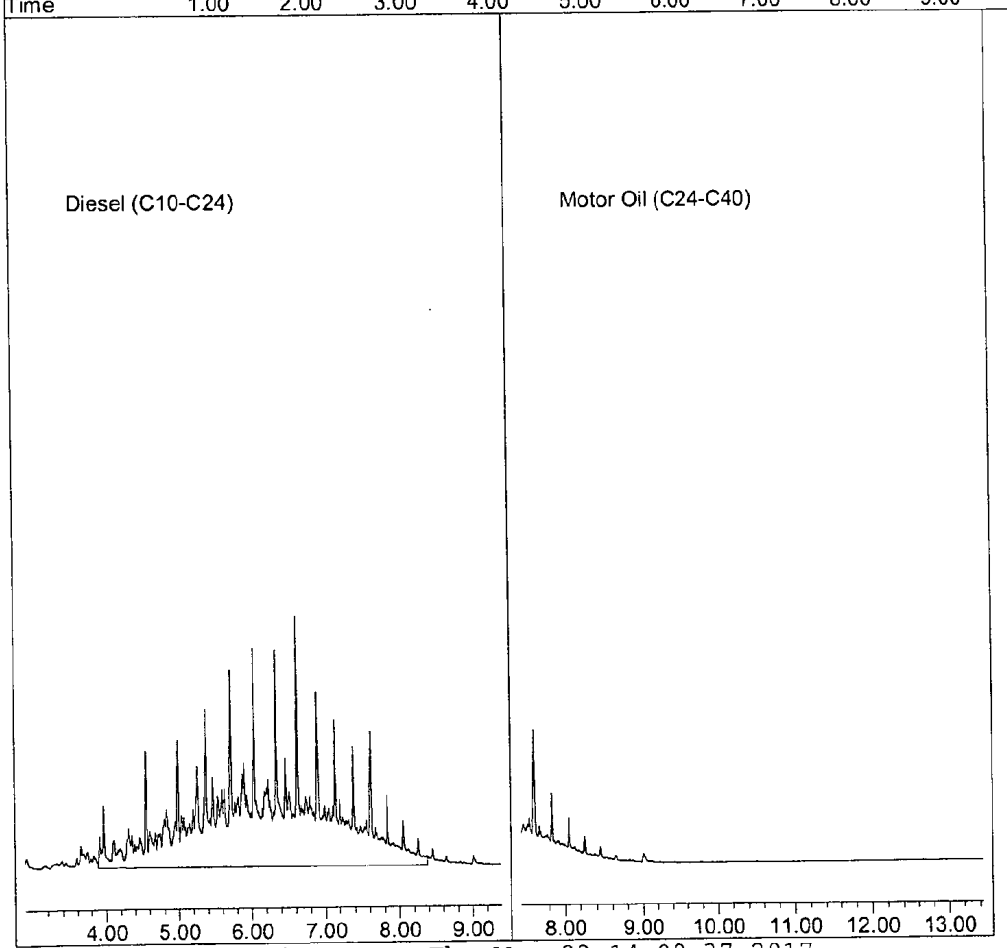
DP 3/9/17

(f)=RT Delta > 1/2 Window (m)=manual int.
207019.D DOC0303.M Thu Mar 09 14:00:35 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207019.D
Sample : Diesel-2nd Src 8/1/16





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170207\207026.D Vial: 26
Acq On : 2-7-17 18:21:35 Operator: DP
Sample : Motor Oil-2nd Src 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 9 14:00 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170309\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 09 10:45:38 2017
Response via : Multiple Level Calibration

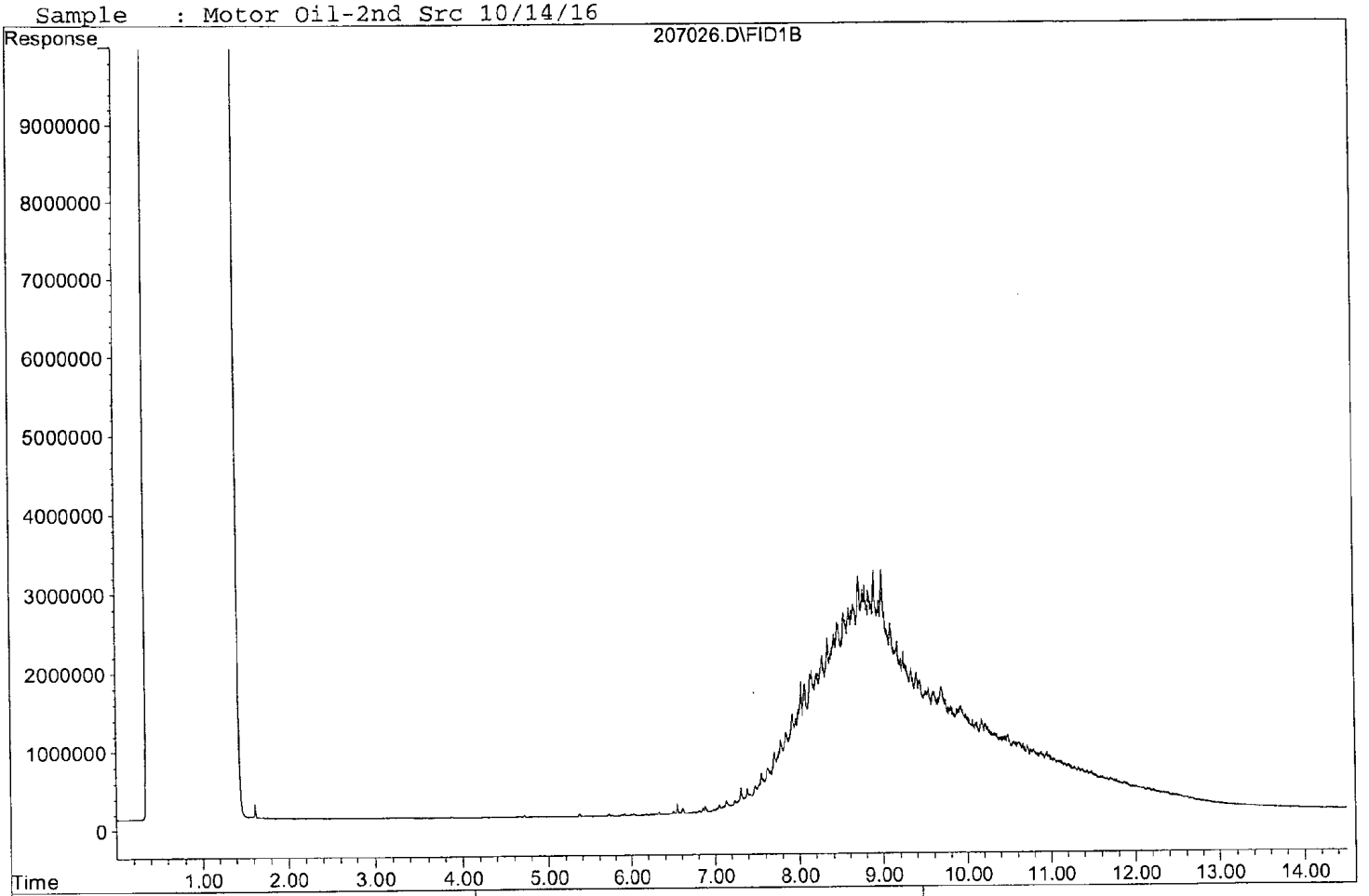
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

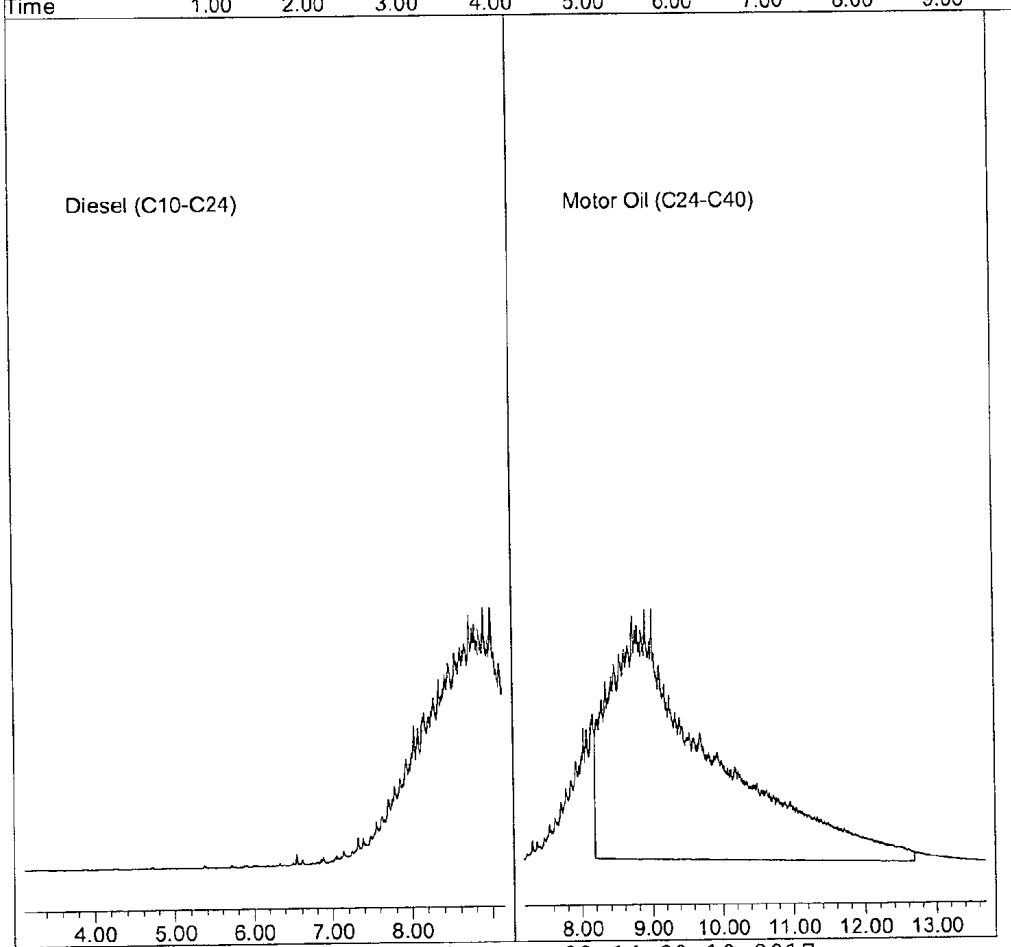
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2891424803	1176.041 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170207\207026.D
Sample : Motor Oil-2nd Src 10/14/16





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/15/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315018-19.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1661350	1.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1216850	1.0	HBTM	
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40							
		Average			1.4		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315018.D Vial: 18
Acq On : 3-15-17 20:55:24 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:57 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

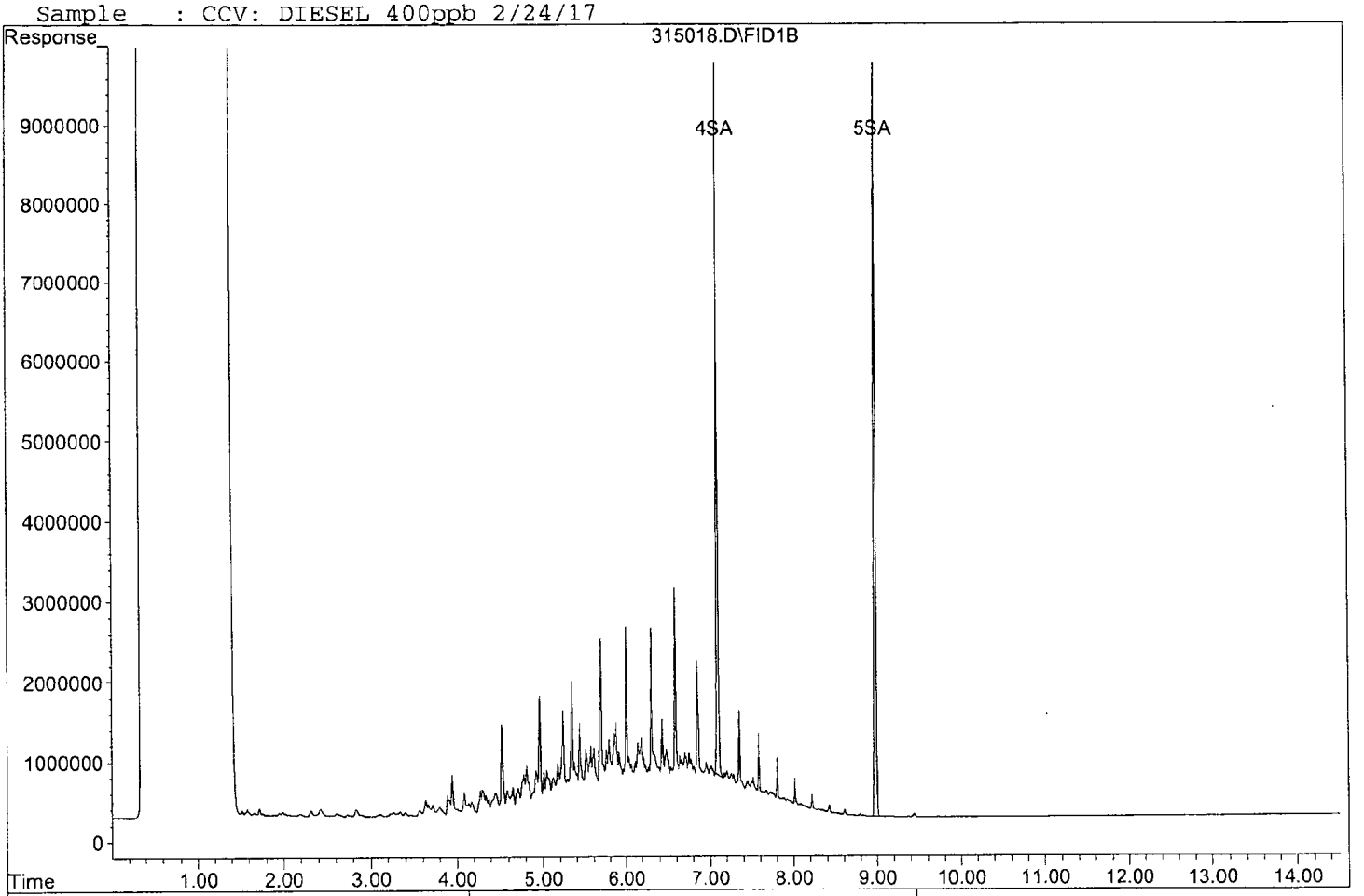
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

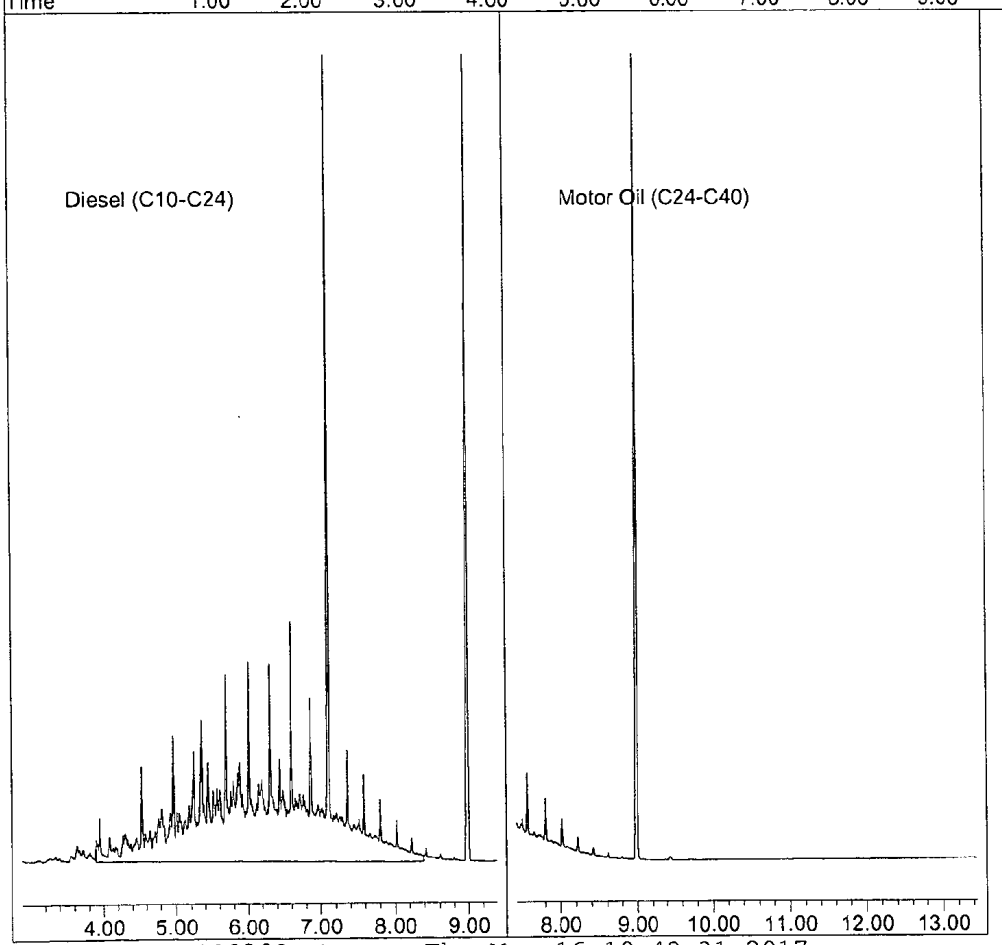
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90305202	23.554 ppb
Surrogate Spike 30.000		Recovery =	78.51%
5) SA Octacosane(S)	8.99	130318448	39.949 ppb
Surrogate Spike 30.000		Recovery =	133.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1329082184	406.814 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315018.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315019.D Vial: 19
Acq On : 3-15-17 21:16:33 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 9:58 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

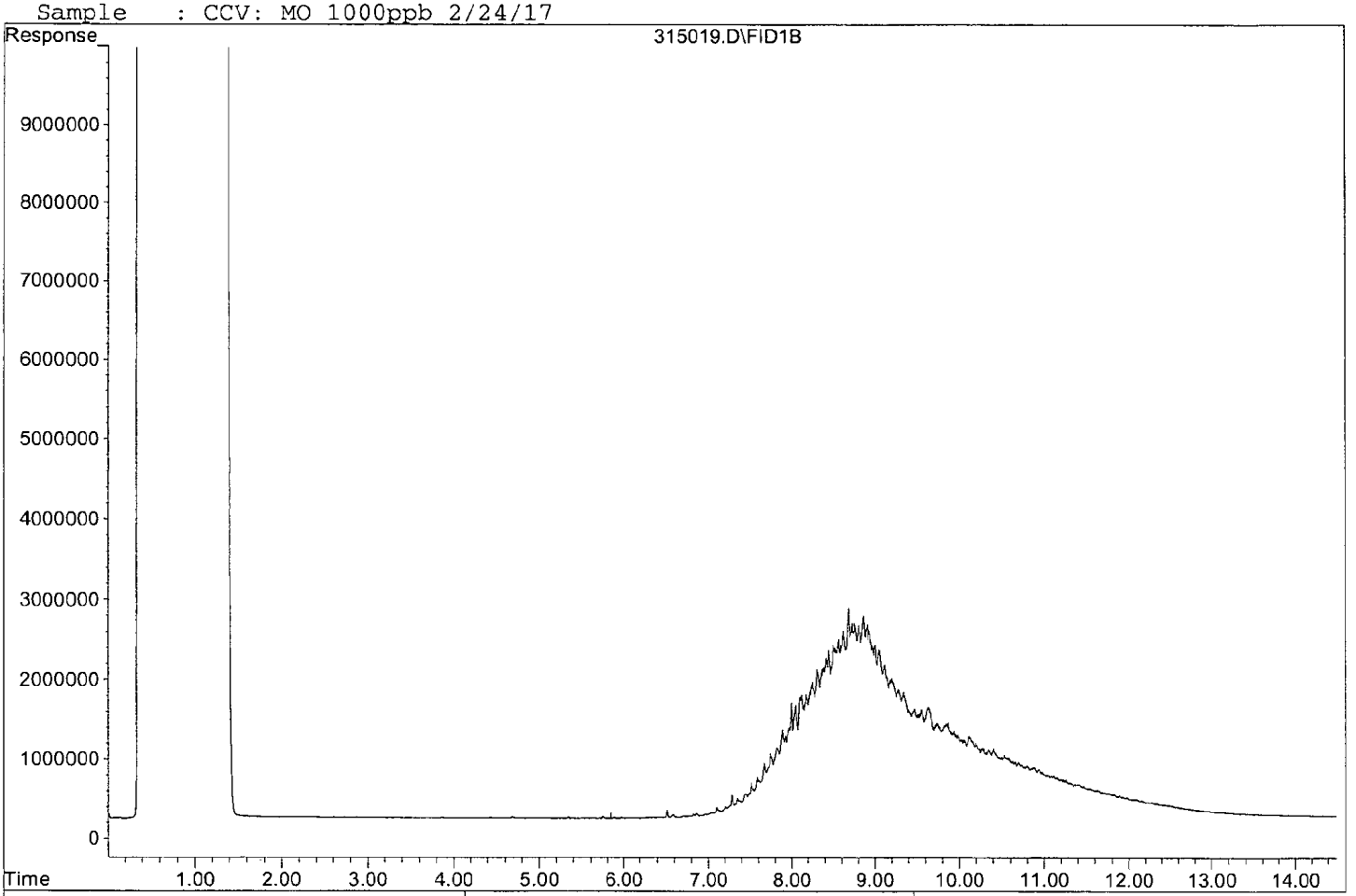
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2433694365	989.867 ppb

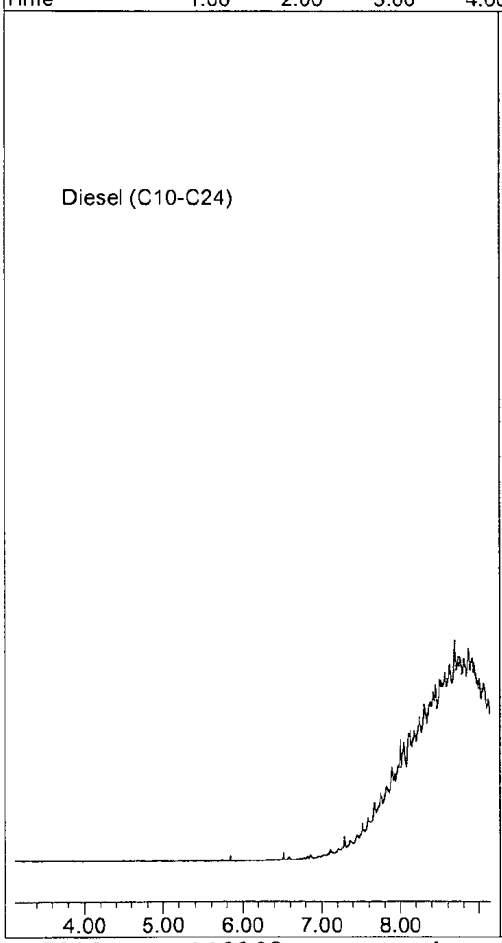
(f)=RT Delta > 1/2 Window (m)=manual int.

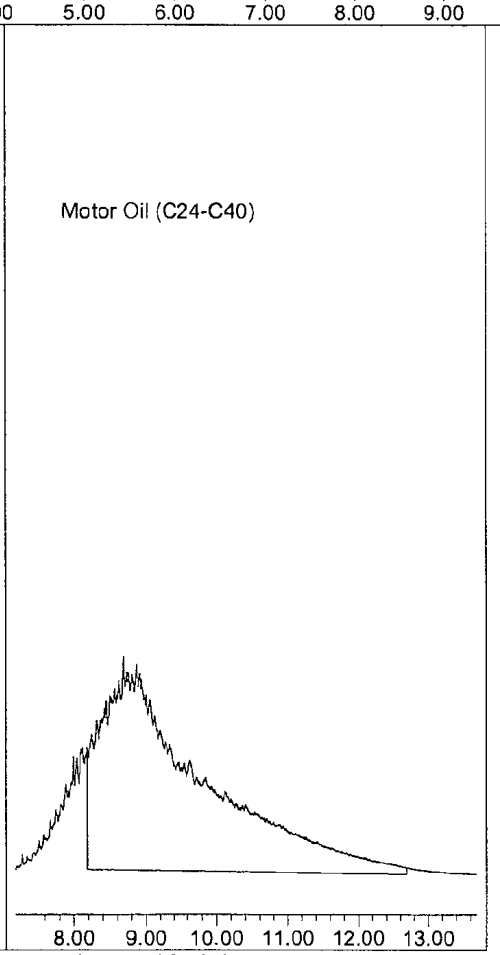
315019.D DOC0303.M Thu Mar 16 10:48:34 2017 Page 1

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315019.D
Sample : CCV: MO 1000ppb 2/24/17







TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315038-39.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1678820	2.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1215680	1.1	HBTM	
3							
4							
5							
6							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315038.D
Acq On : 3-16-17 3:53:22
Sample : CCV: DIESEL 400ppb 2/24/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 16 10:05 2017 Quant Results File: DOC0303.RES

Vial: 38
Operator: DP
Inst : Apollo
Multiplr: 1.00

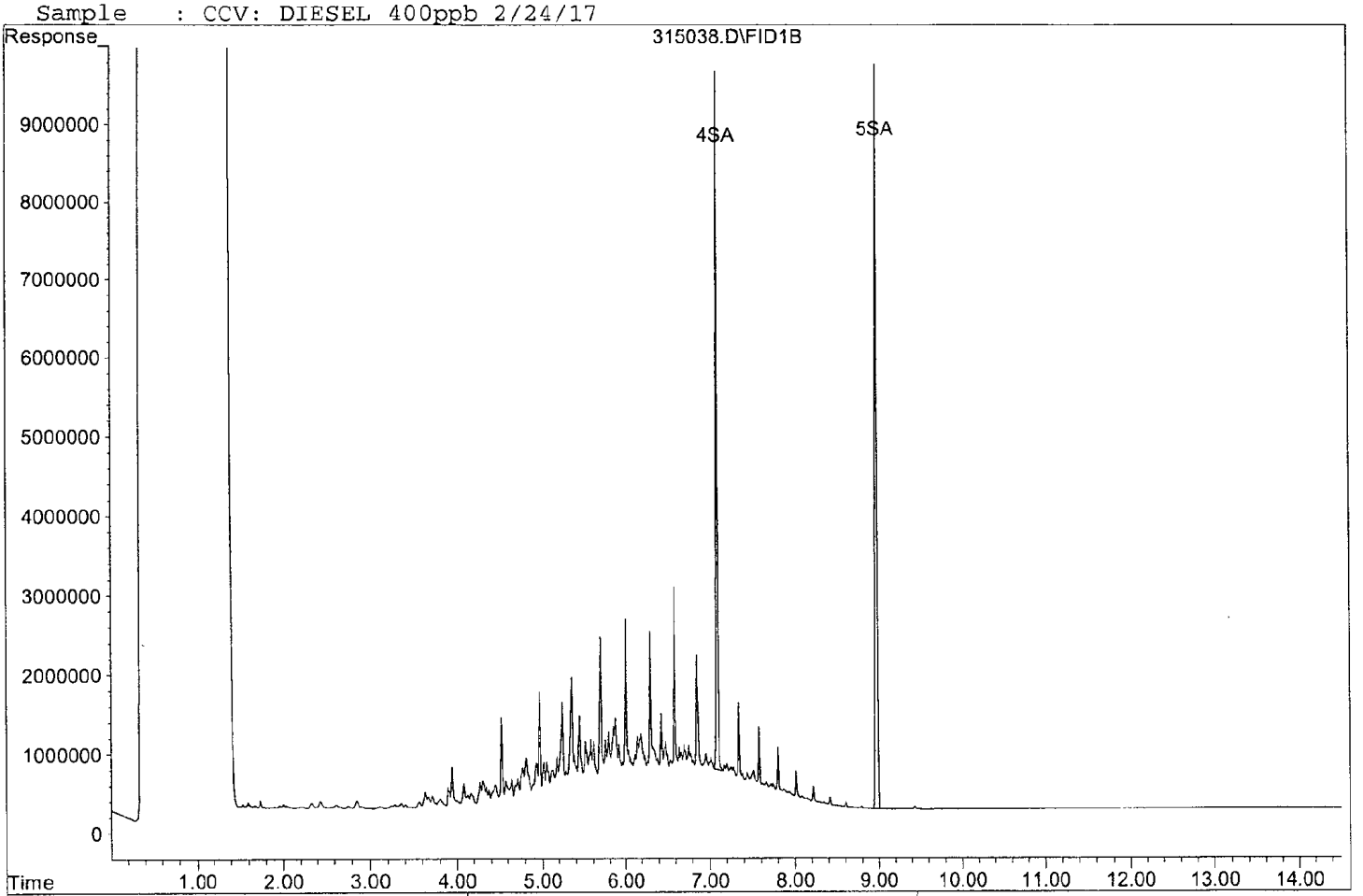
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

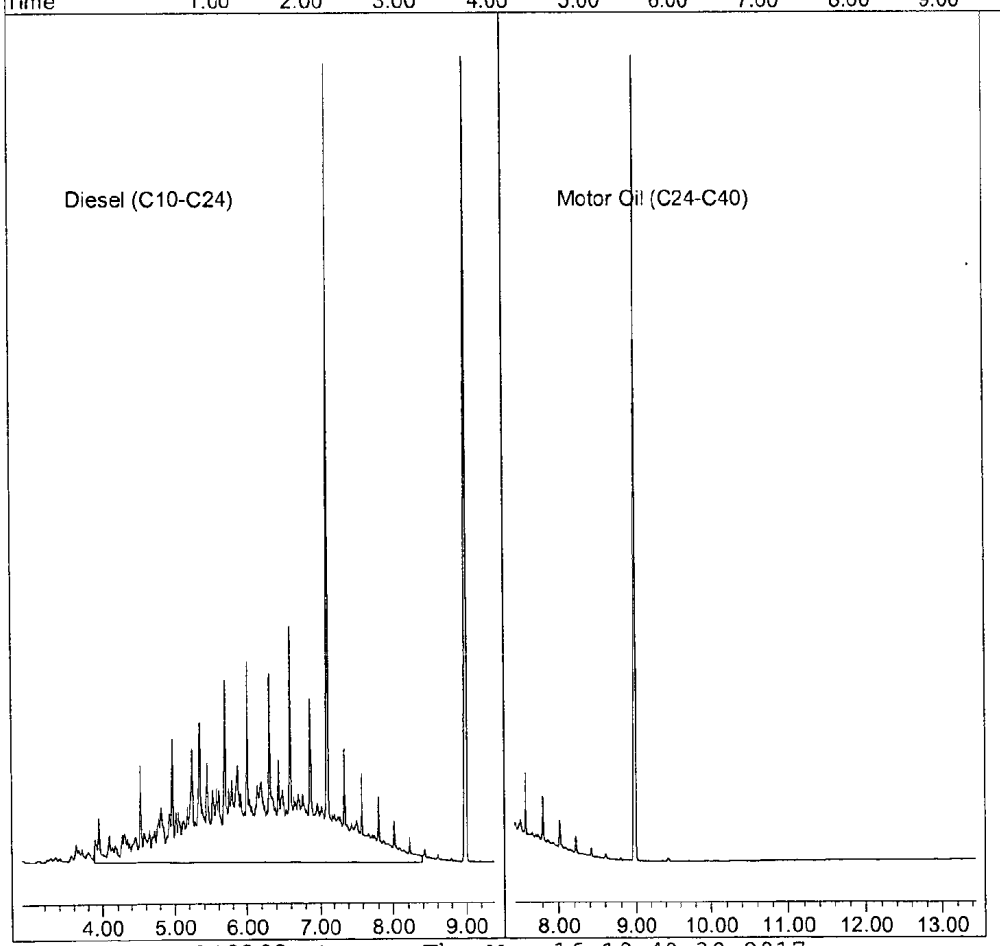
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	91861762	23.960 ppb
Surrogate Spike 30.000		Recovery =	79.87%
5) SA Octacosane(S)	8.99	130262003	39.932 ppb
Surrogate Spike 30.000		Recovery =	133.11%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1343059033	411.092 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315038.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315039.D Vial: 39
Acq On : 3-16-17 4:14:00 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:06 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

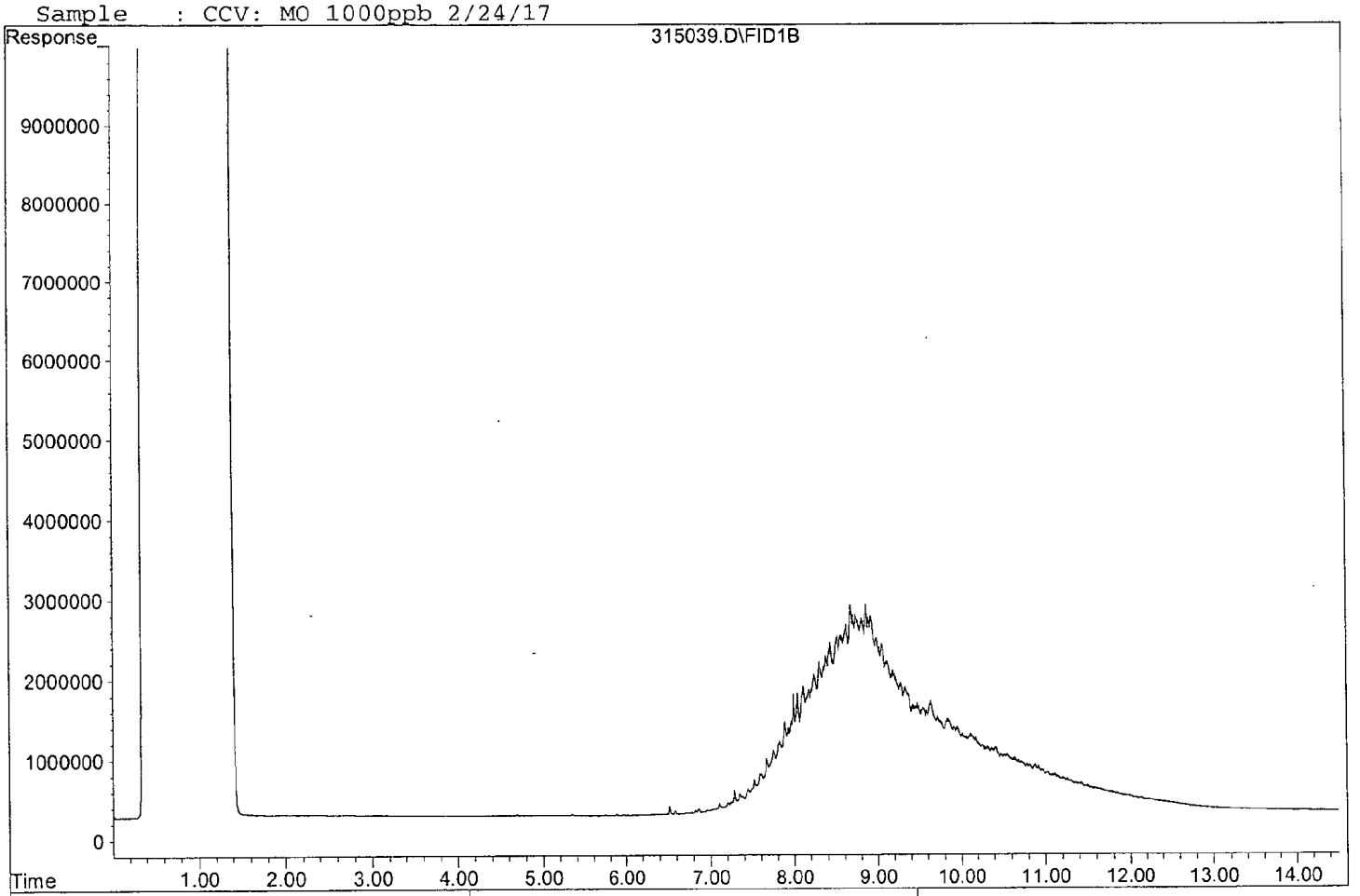
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

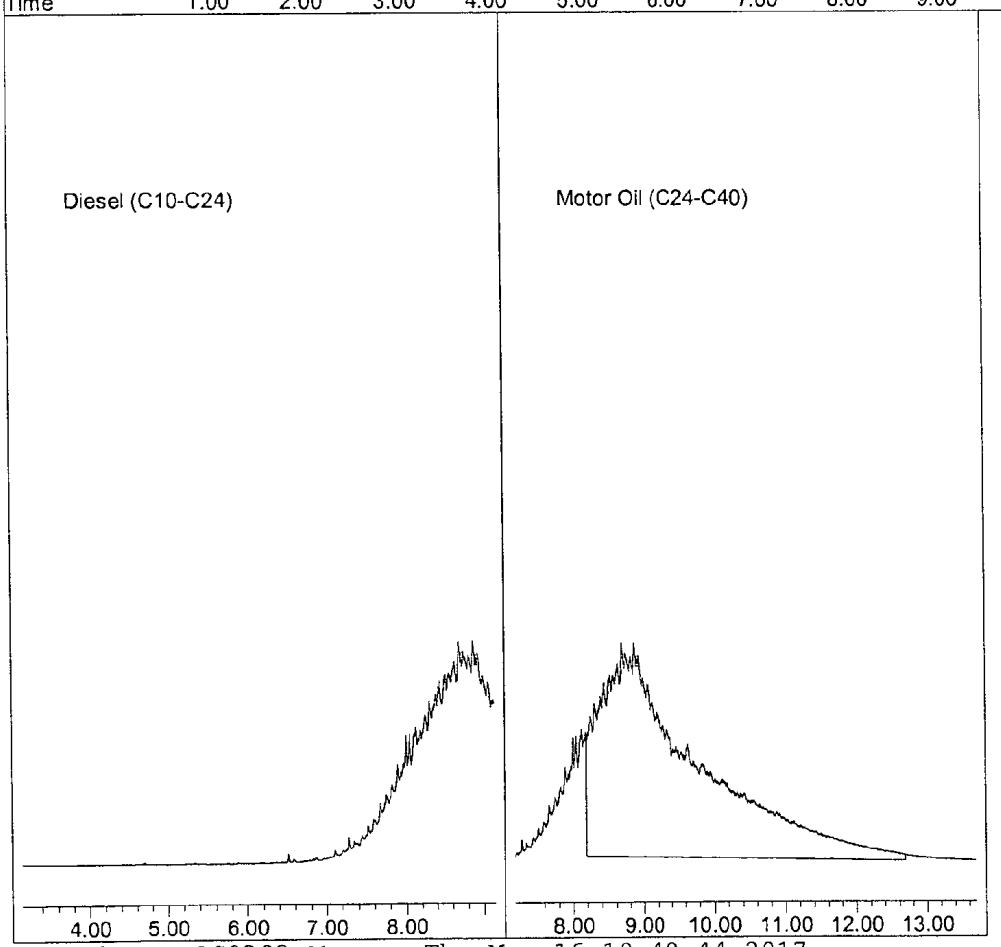
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2431366995	988.920 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315039.D
Sample : CCV: MO 1000ppb 2/24/17





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315051-52.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1687600	3.3	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1157030	5.9	HBTM	
3							
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38							
39							
40							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315051.D Vial: 51
Acq On : 3-16-17 8:21:33 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

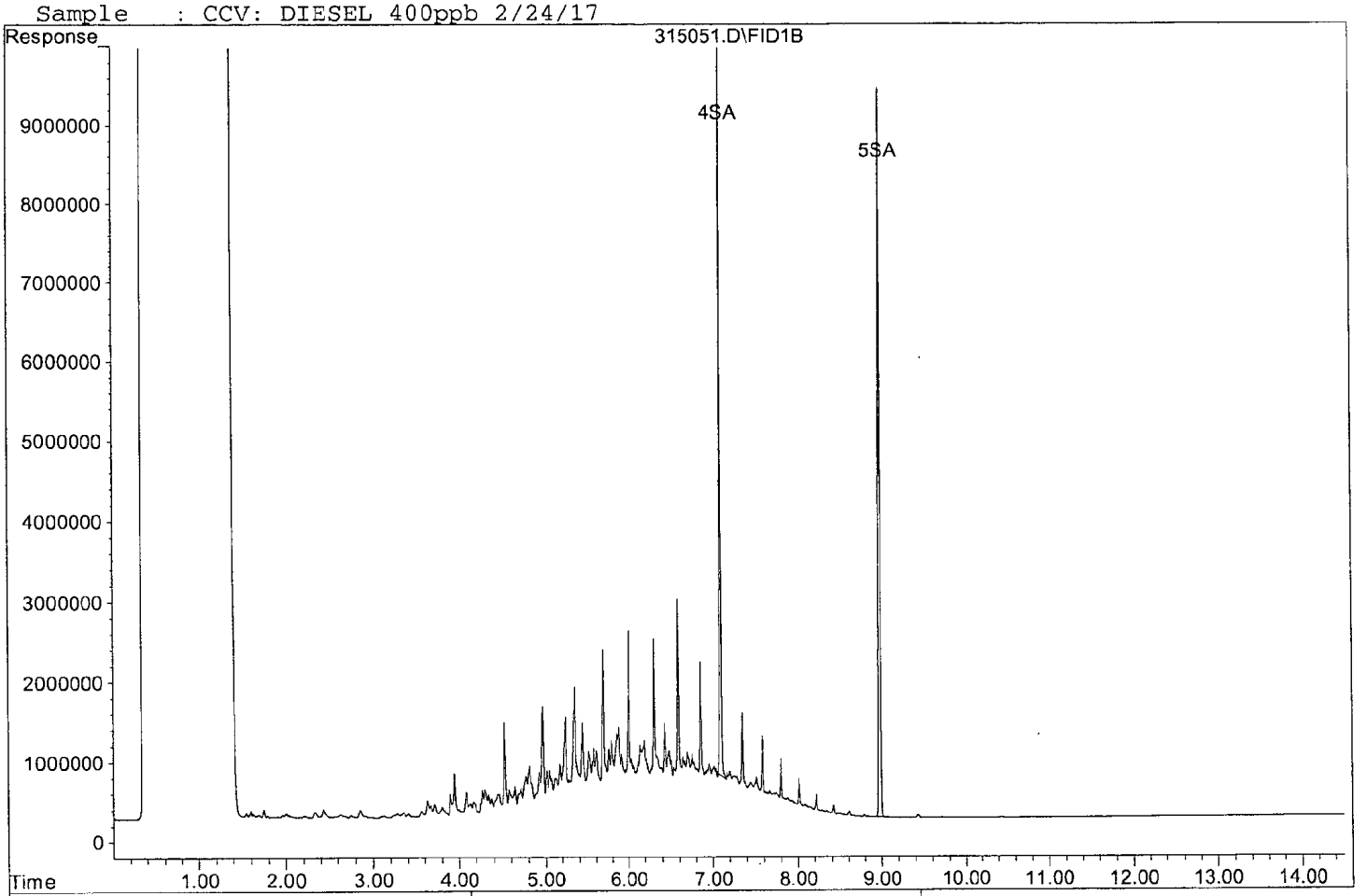
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

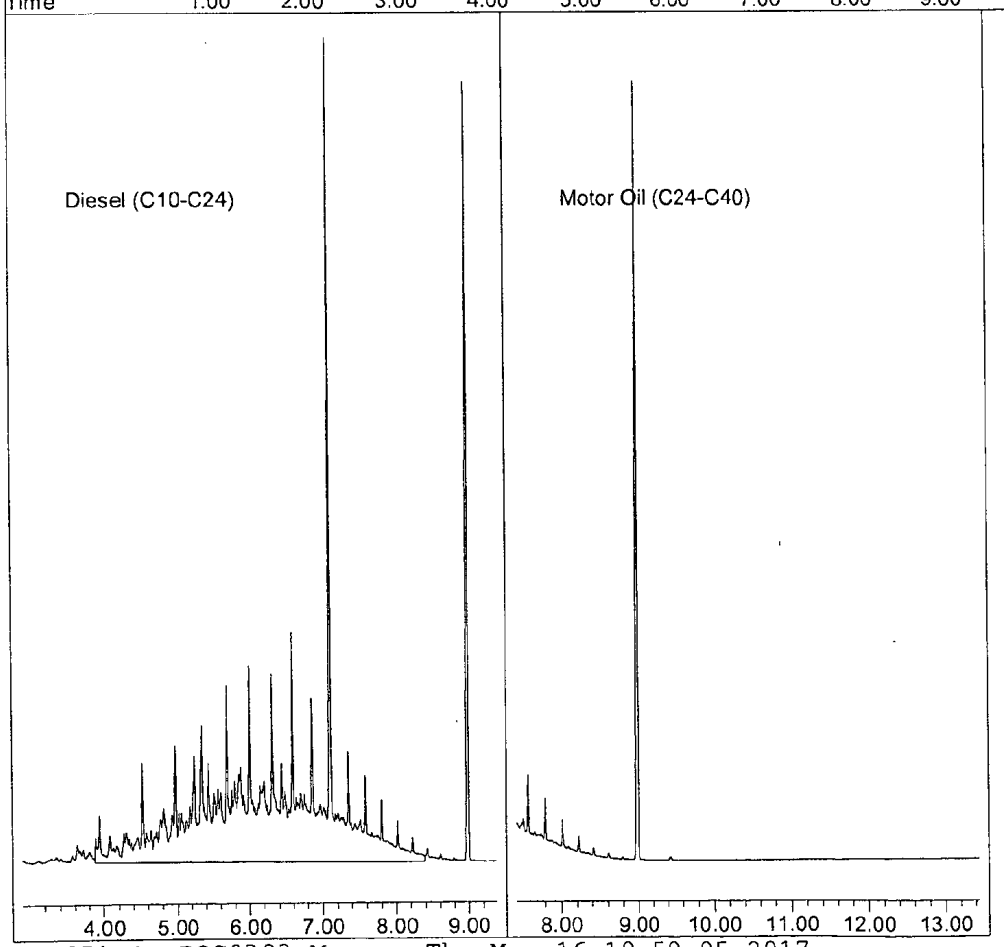
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	90316172	23.557 ppb
Surrogate Spike 30.000		Recovery =	78.52%
5) SA Octacosane(S)	8.99	129879825	39.815 ppb
Surrogate Spike 30.000		Recovery =	132.72%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1350078927	413.241 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315051.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315052.D Vial: 52
Acq On : 3-16-17 8:42:09 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 10:11 2017 Quant Results File: DOC0303.RES

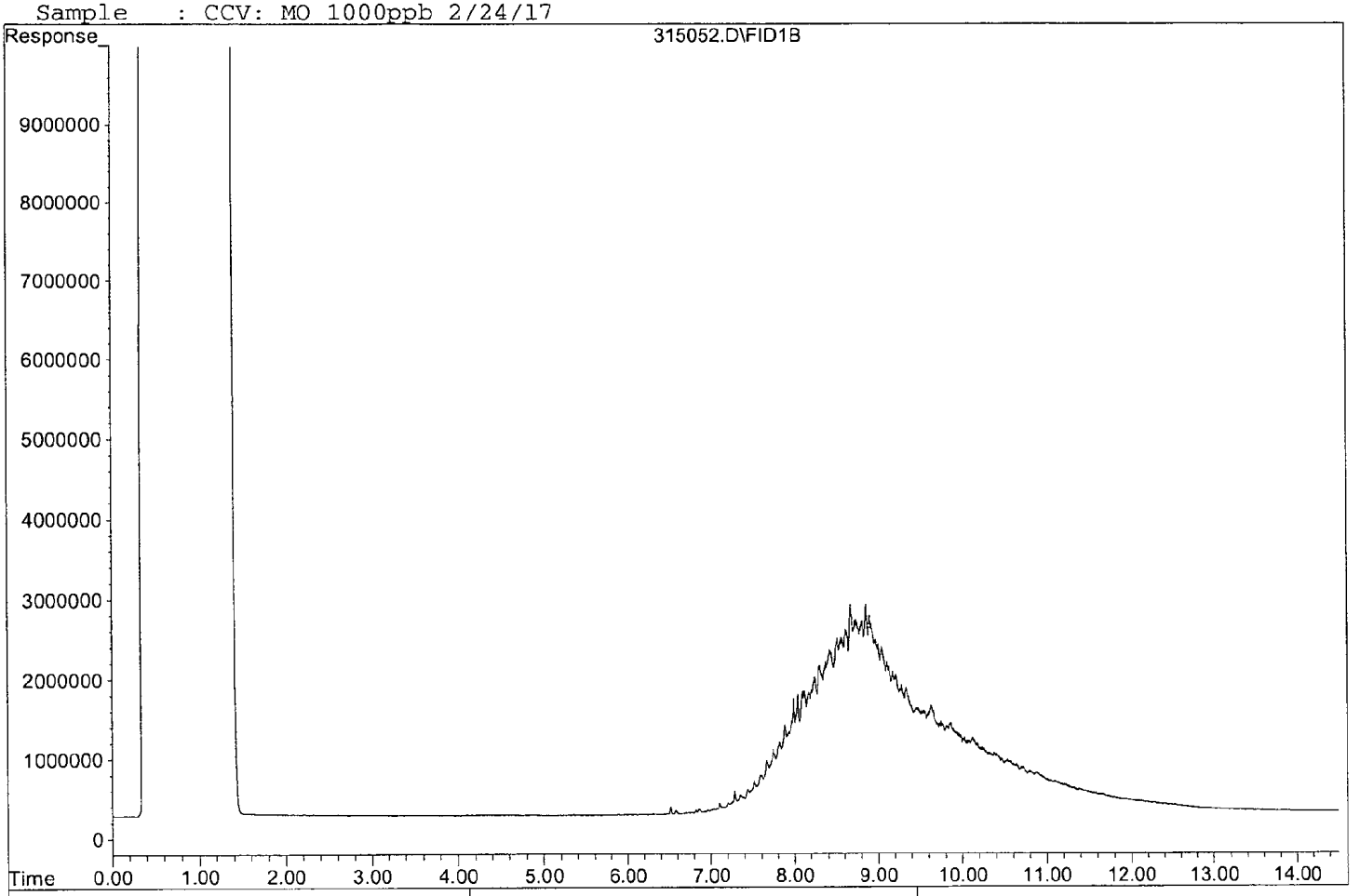
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

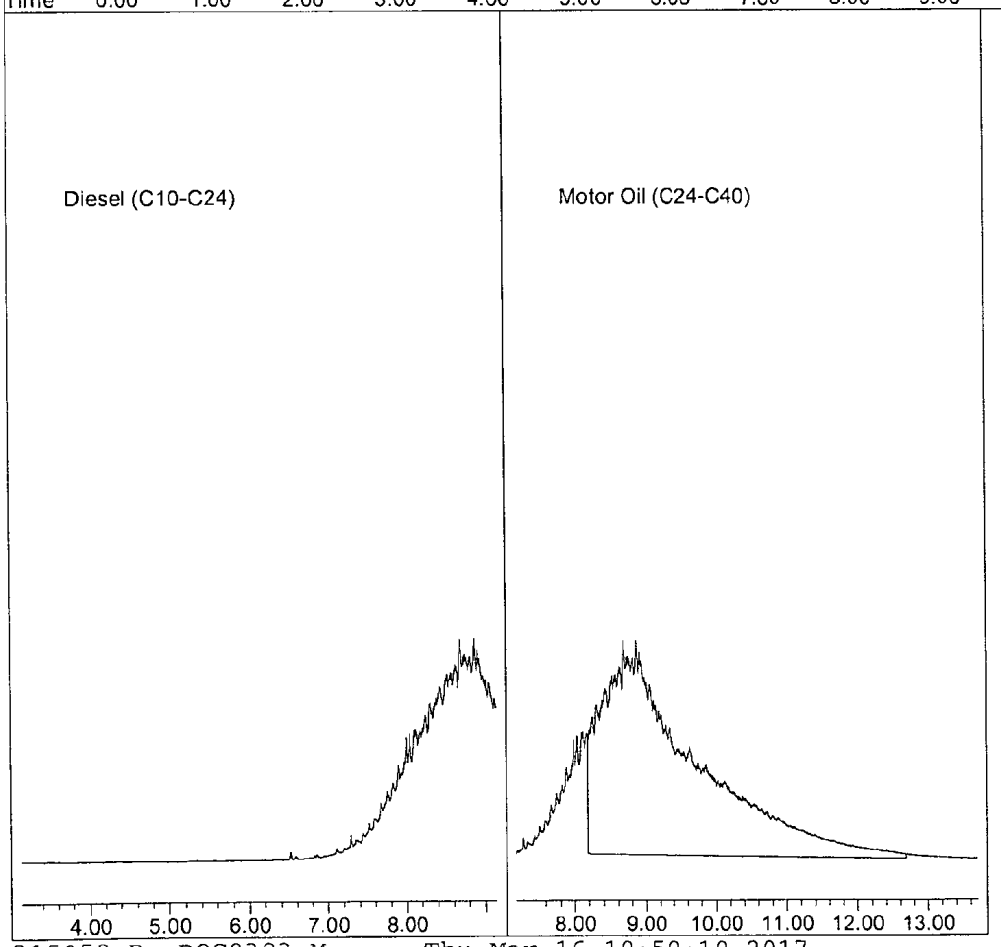
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2314052828	941.204 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170315\315052.D
Sample : CCV: MO 1000ppb 2/24/17





TPH Extractables
DOC0303

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Apollo
Initial Cal. Date: 03/03/17
Data File: 315070-71.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1633530	1743060	6.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229300	1166940	5.1	HBTM	
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40							
		Average			5.9		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170315\315070.D Vial: 70
Acq On : 3-16-17 15:01:02 Operator: DP
Sample : CCV: DIESEL 400ppb 2/24/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 15:40 2017 Quant Results File: DOC0303.RES

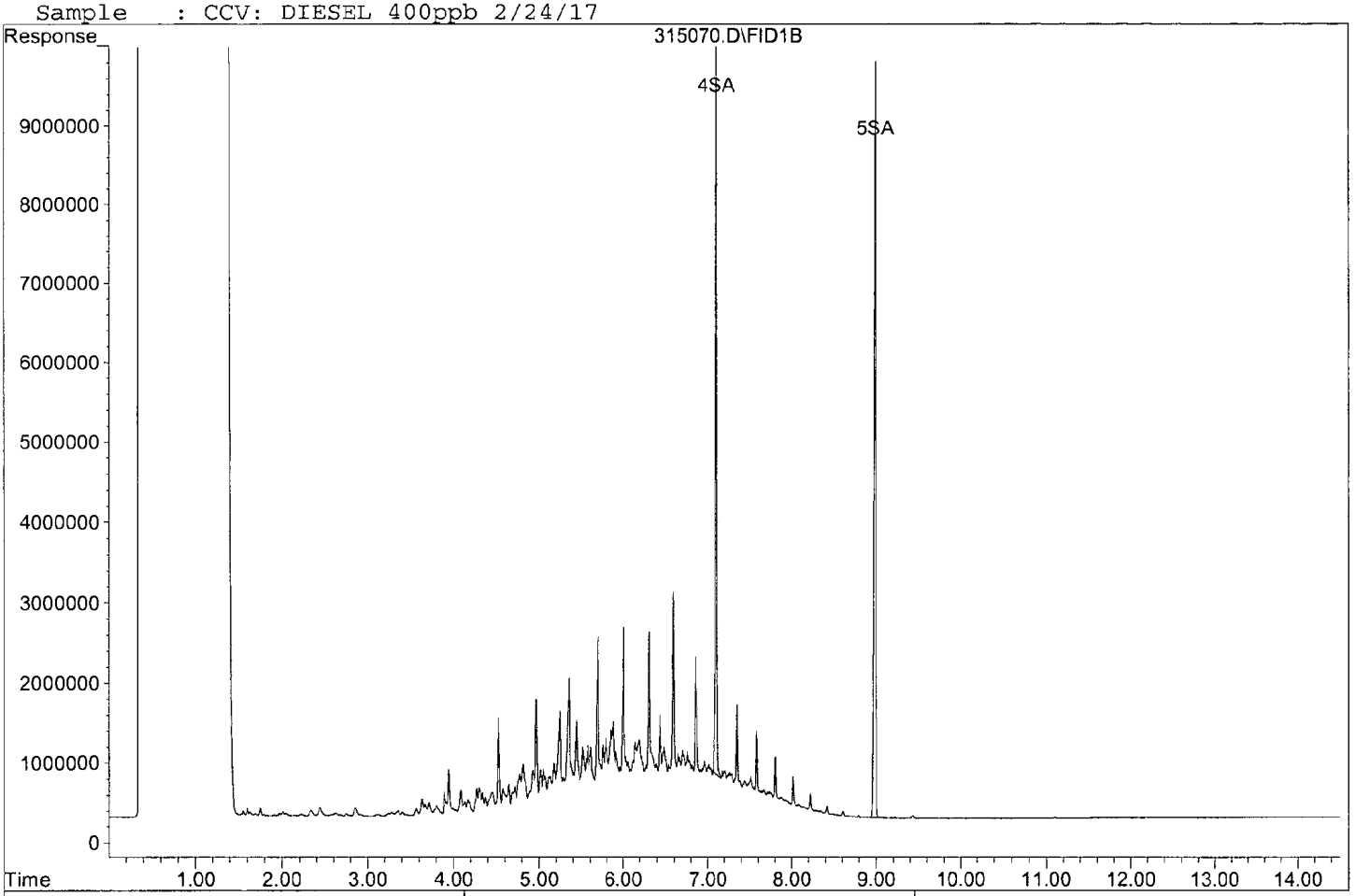
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

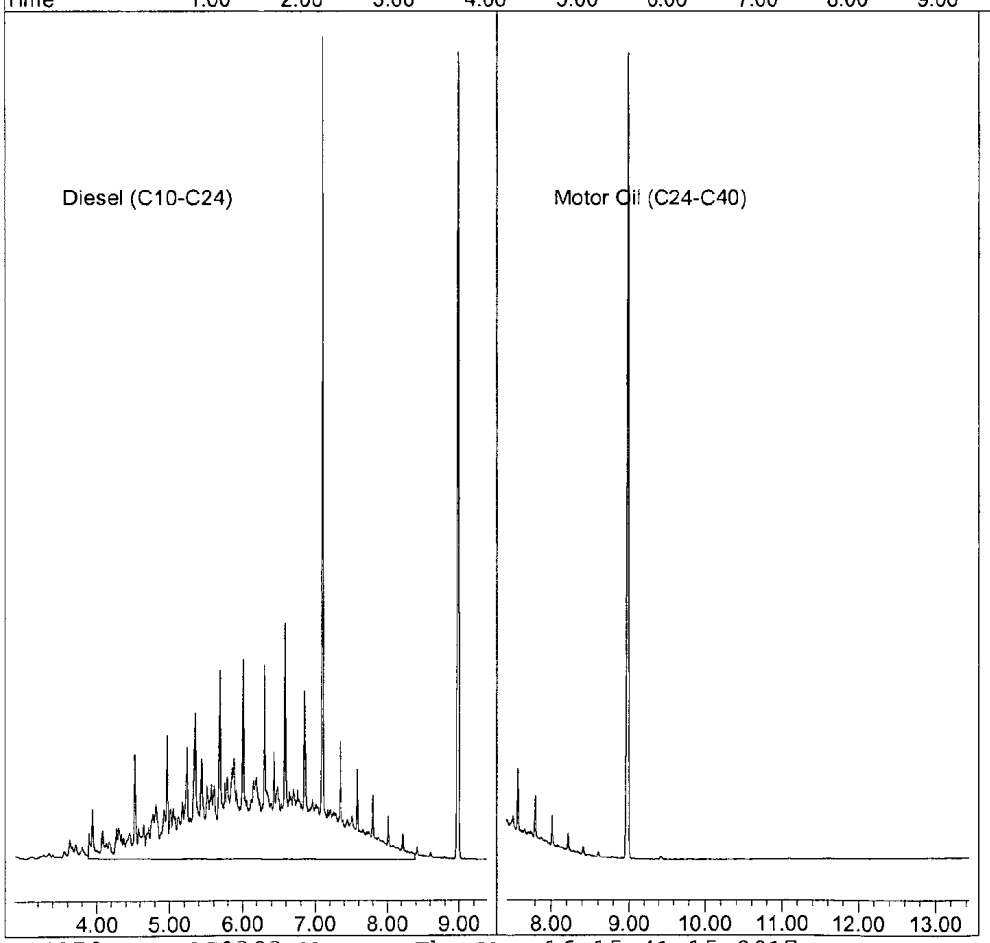
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	93784919	24.462 ppb
Surrogate Spike 30.000		Recovery =	81.54%
5) SA Octacosane(S)	8.99	134871615	41.345 ppb
Surrogate Spike 30.000		Recovery =	137.82%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	1394444530	426.820 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315070.D
Sample : CCV: DIESEL 400ppb 2/24/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315071.D Vial: 71
Acq On : 3-16-17 15:21:54 Operator: DP
Sample : CCV: MO 1000ppb 2/24/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 16 15:40 2017 Quant Results File: DOC0303.RES

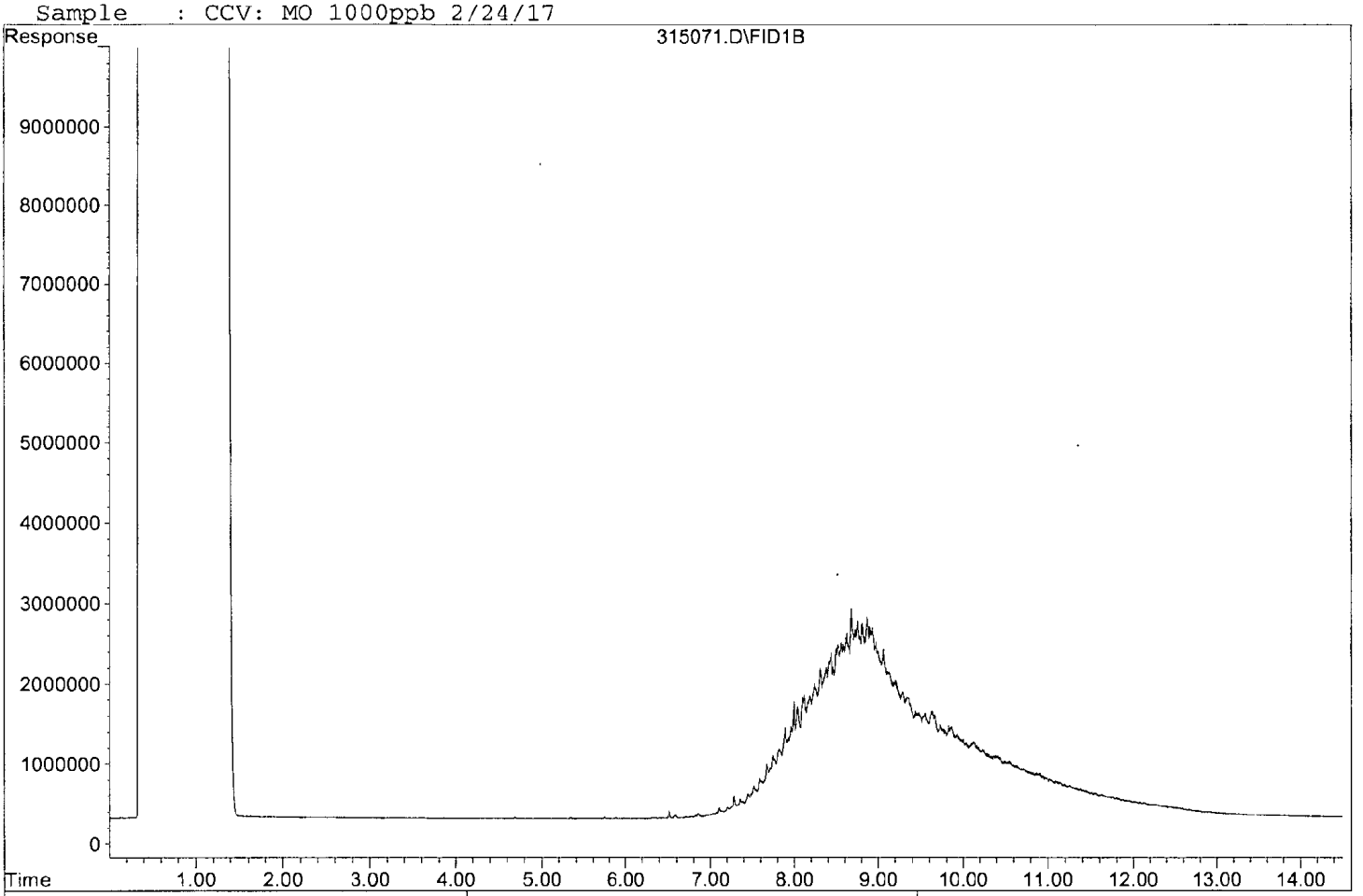
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

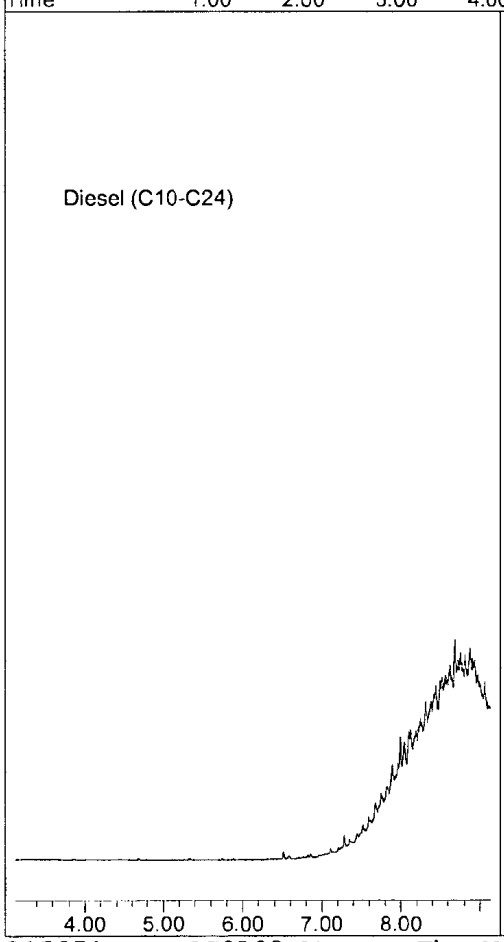
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

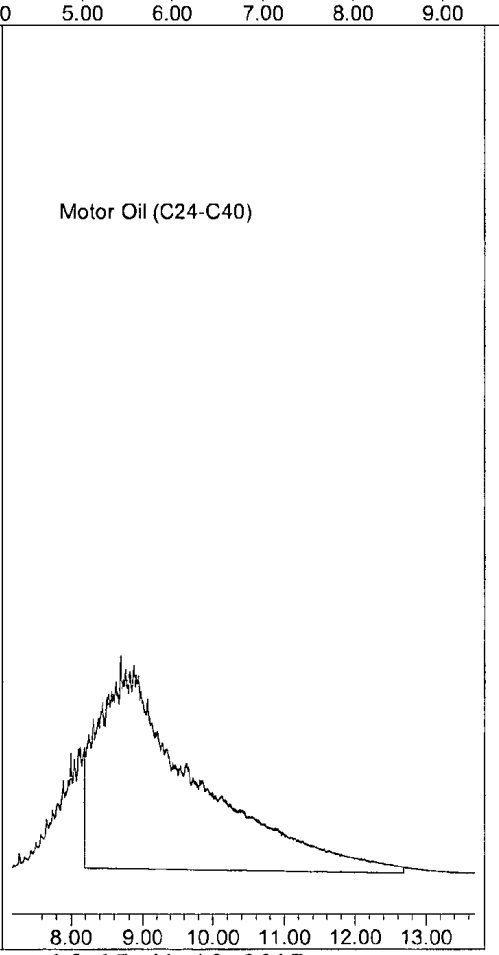
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	2333872989	949.266 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315071.D
Sample : CCV: MO 1000ppb 2/24/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216933**
Batch ID: #DOC53-170310A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	03/10/17	03/16/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	03/10/17	03/16/17
BLANK	SURROGATE: OCTACOSANE (S)	92.4	60-142			%	03/10/17	03/16/17
BLANK	SURROGATE: ORTHO-TERPHEN	78.1	56-125			%	03/10/17	03/16/17

Quant Method:DOC0303.M
Run #:315027
Instrument:Apollo
Sequence:170315
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 10:31:36 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315027.D
Acq On : 3-16-17 0:04:51
Sample : 170310A BLK 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Vial: 27
Operator: DP
Inst : Apollo
Multiplr: 1.33

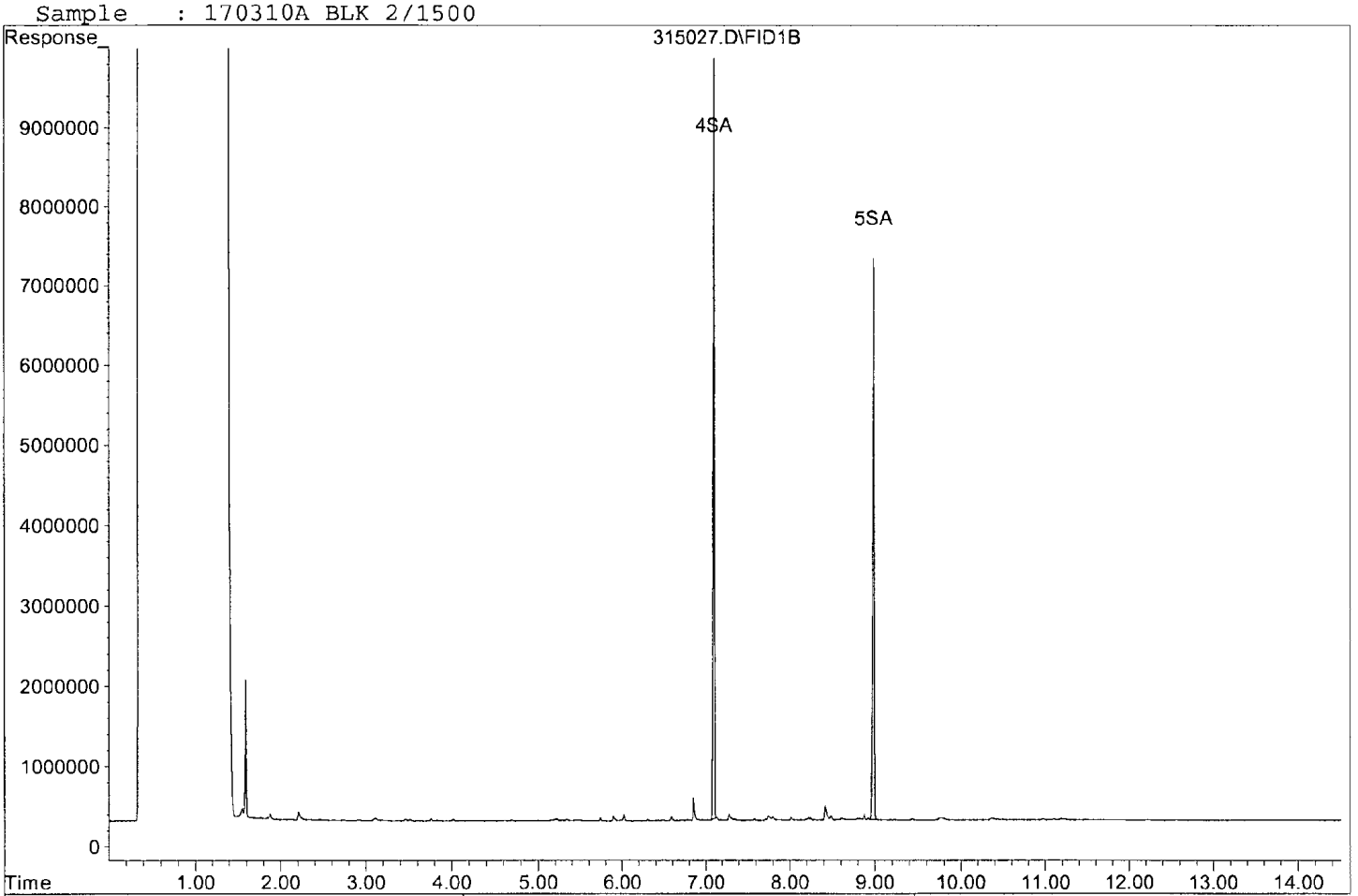
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

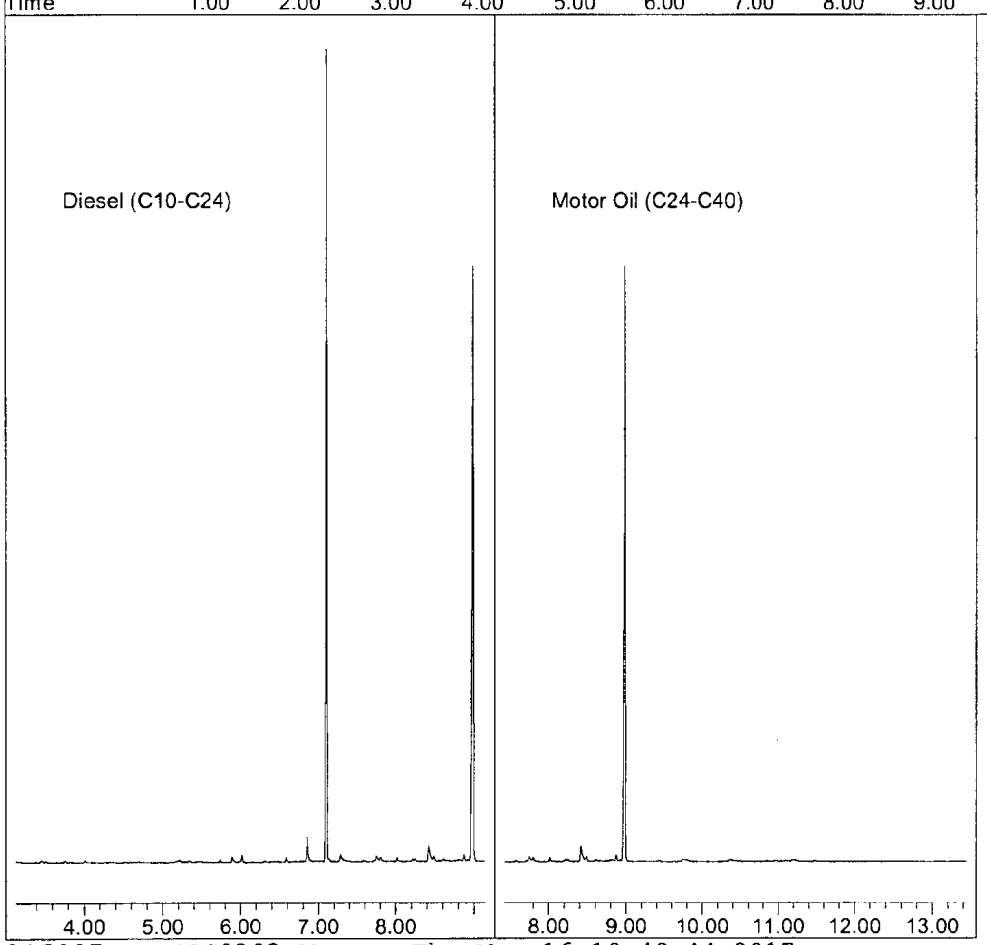
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89795582	31.229 ppb
Surrogate Spike 40.000		Recovery =	78.07%
5) SA Octacosane(S)	8.98	90467112	36.977 ppb
Surrogate Spike 40.000		Recovery =	92.44%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315027.D
Sample : 170310A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170310W-51132 LCS - 216933**
Batch ID: #DOC53-170310A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	379	56.8	36-132
OIL (C24-C40)	667	531	79.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	36.4	91.0	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	39.8	99.5	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0303.M
Extraction Date :	03/10/17
Analysis Date :	03/16/17
Instrument :	Apollo
Run :	315028
Initials :	DPO

Printed: 03/16/17 10:31:34 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315028.D
Acq On : 3-16-17 0:25:45
Sample : 170310A LCS-1 2/1500
Misc : water
IntFile : events.e
Quant Time: Mar 16 9:59 2017 Quant Results File: DOC0303.RES

Vial: 28
Operator: DP
Inst : Apollo
Multiplr: 1.33

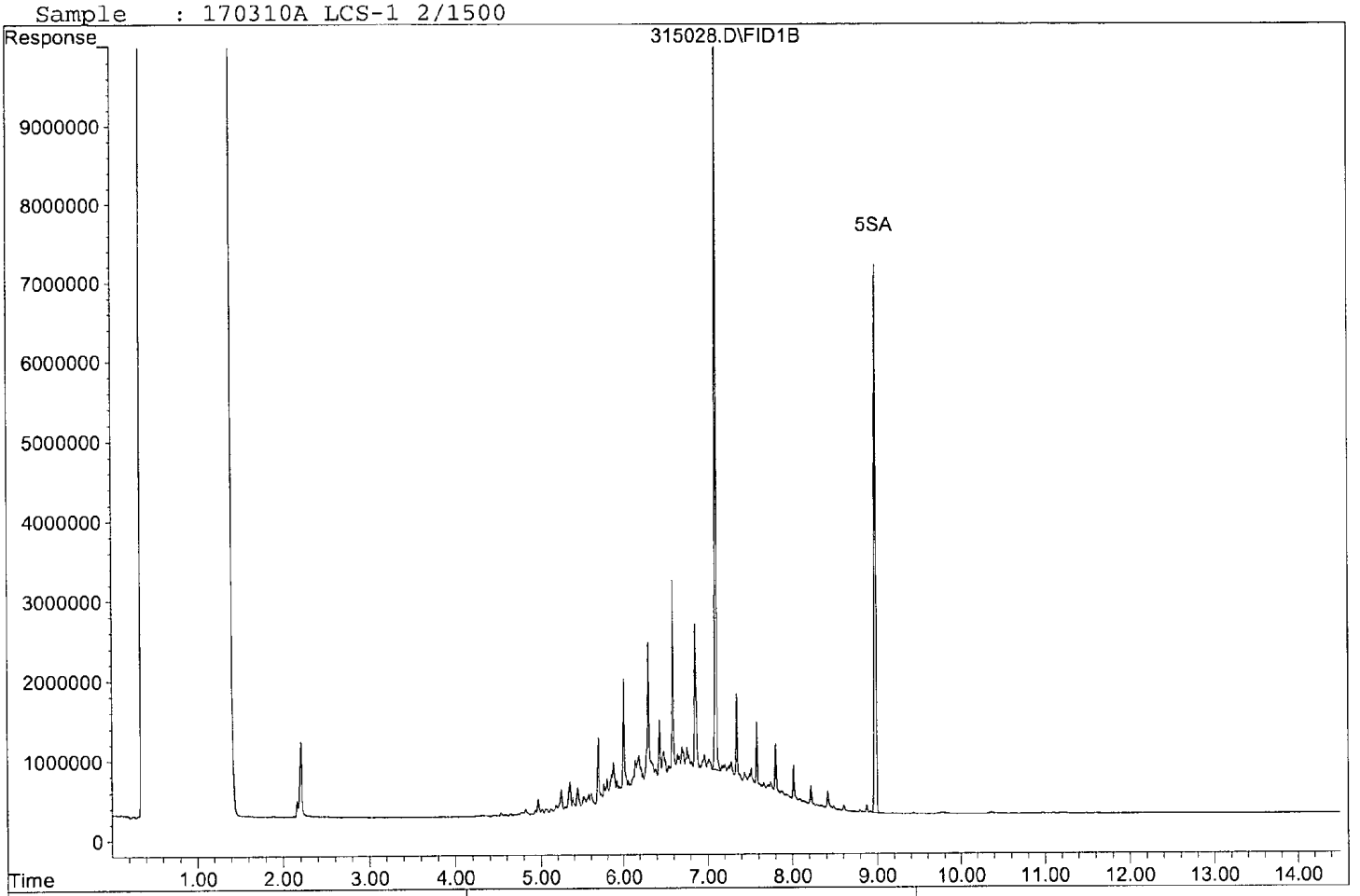
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

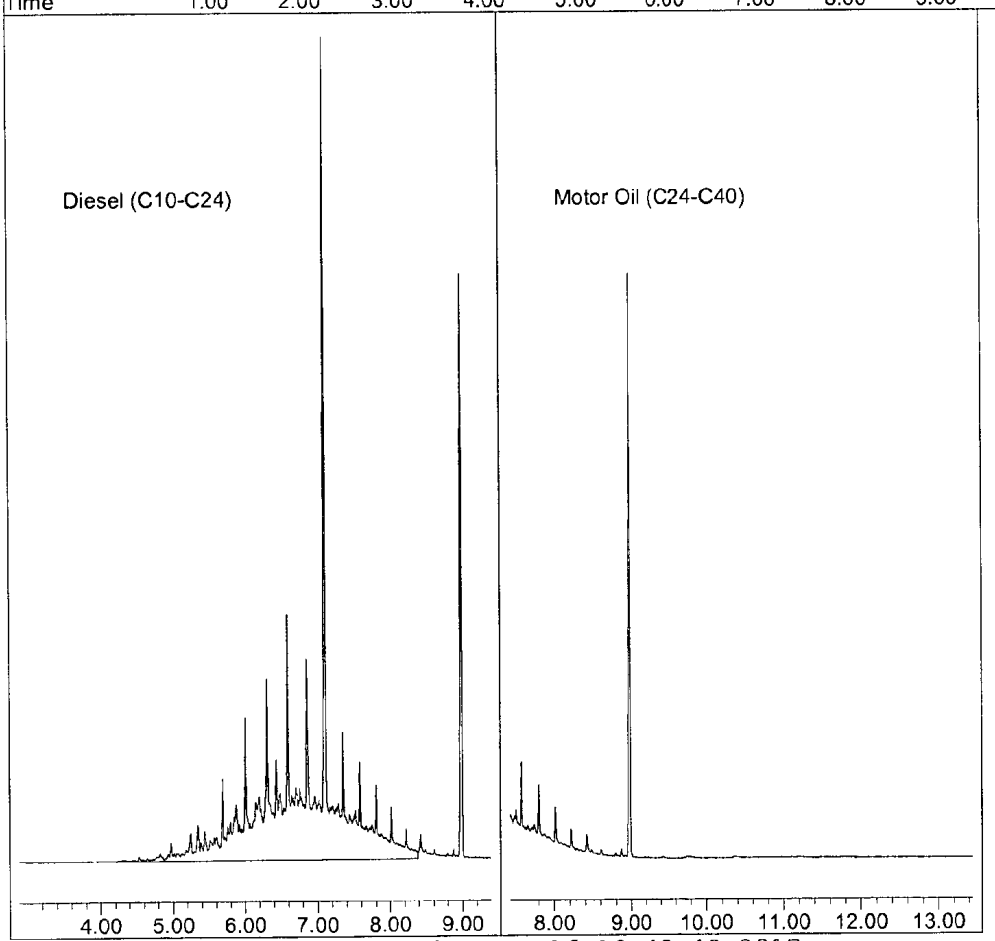
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	114375232	39.777 ppb
Surrogate Spike 40.000		Recovery =	99.44%
5) SA Octacosane(S)	8.99	89055147	36.400 ppb
Surrogate Spike 40.000		Recovery =	91.00%
Target Compounds			
1) HATM Diesel (C10-C24)	6.14	928608852	378.978 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315028.D
Sample : 170310A LCS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170315\315029.D Vial: 29
Acq On : 3-16-17 0:46:40 Operator: DP
Sample : 170310A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Mar 16 10:00 2017 Quant Results File: DOC0303.RES

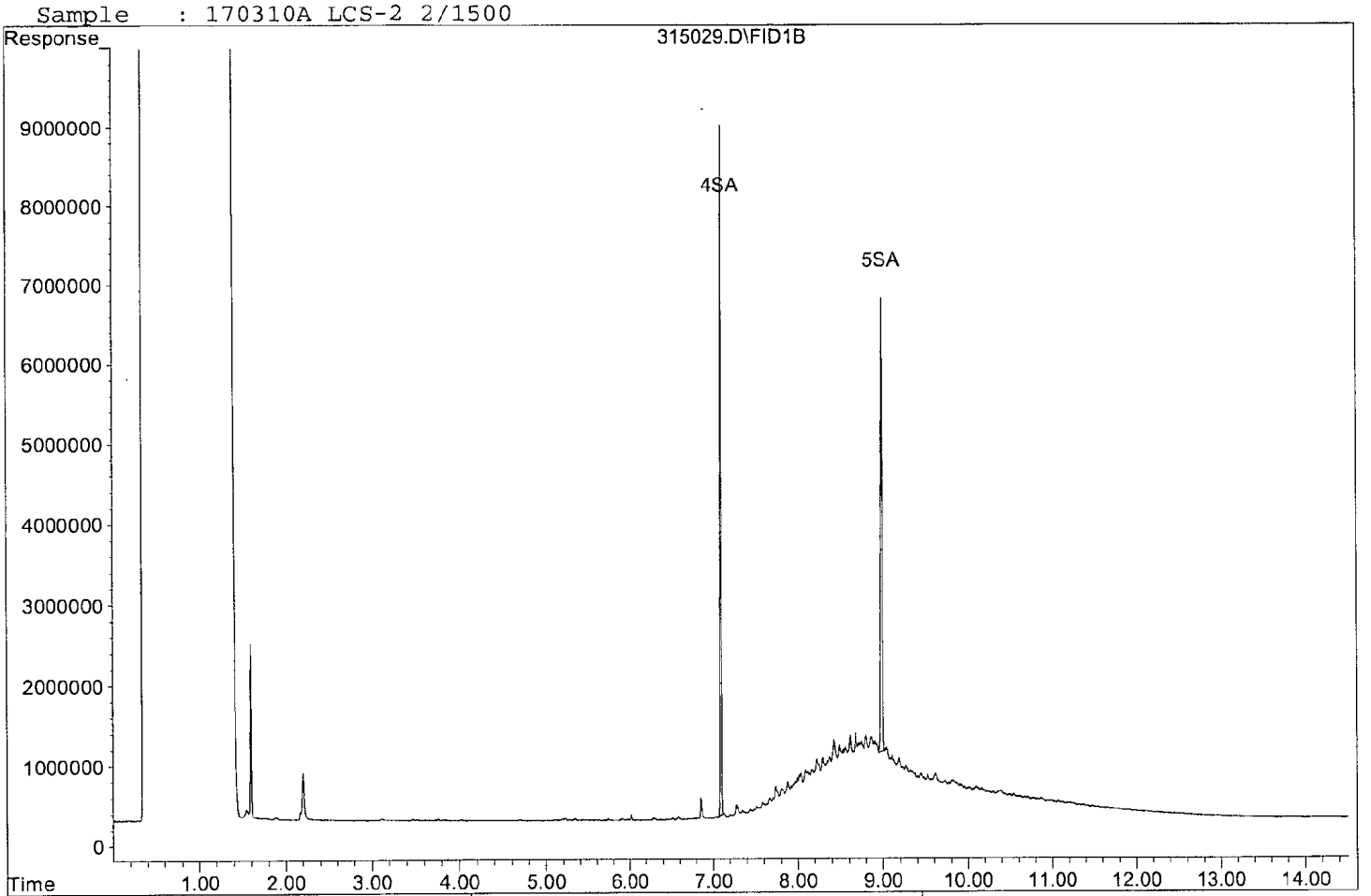
Method : G:\APOLLO\DATA\170315\DOC0303.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Thu Mar 16 09:57:08 2017
Response via : Multiple Level Calibration

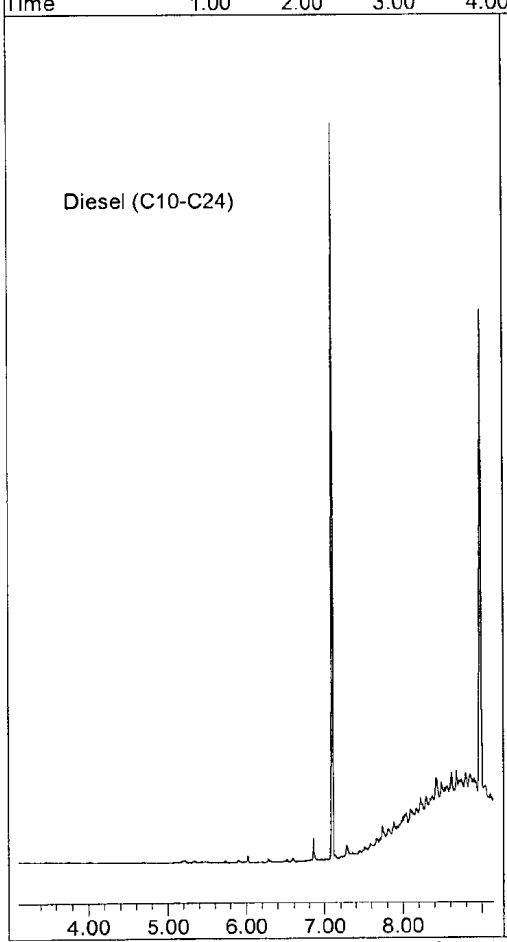
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

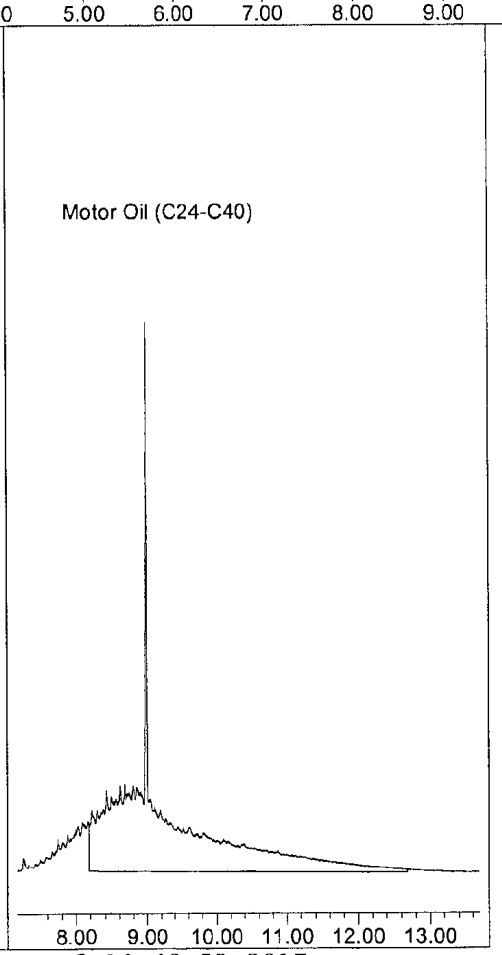
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	81533667	28.355 ppb
Surrogate Spike 40.000	Recovery	=	70.89%
5) SA Octacosane(S)	8.99	73029265	29.849 ppb
Surrogate Spike 40.000	Recovery	=	74.62%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.44	978632363	530.723 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170315\315029.D
Sample : 170310A LCS-2 2/1500







DIESEL CURVE		prep: 02/07/17-D.P.		ex: 08/07/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
DIESEL	1000	280736-37354	02/07/17	02/07/18	10	10	40	60	80	100
MC	N/A	56098			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppm	10	100	400	600	800	1000

Prep: 02/07/17-D.P. Exp: 02/07/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37354 OP: 02/07/17 EXP: 02/07/18	500 µL	25 mL	1000ug/mL	MC LOT# 56098
O-TERPHENYL OCTACOSANE	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37411 OP: 02/07/17 EXP: 02/07/18	2080 µL		50ug/mL	

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL CURVE		prep: 02/07/17-D.P.		ex: 11/09/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
MOTOR OIL	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56098			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppm	20	50	250	1000	1500	2000

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP: 07/06/16 Exp 07/06/17	200uL	10mL	1000ug/mL	MC #56061

THC Surrogate Curve		prep: 03/03/17-D.P.		exp: 06/03/17		2	3	4	5	6
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
THC Surrogate Mix	600	295677 and 266278	03/02/17	03/02/18	10	10	40	60	80	83.33
MC	N/A	56153			990	90	60	40	20	916.67
				Final VOL.	1000	100	100	100	100	1000
				Conc (ug/mL)	0.5	5	20	30	40	50

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

DIESEL CCV 400ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
DIESEL STD.	1000 µg/mL	Diesel Std.	4000 µL	10 mL	400 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	02/07/18				

MOTOR OIL CCV 1000ppb						
Prep: 02/24/17-D.P. Ex: 05/24/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MO STD.	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

Diesel Spike	
Cat:	011598-03
Lot:	280736-37355
Op:	02/23/17-D.P.
Exp:	02/23/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34440
Op: 02/23/17-D.P.
Exp: 11/09/17

THC Surrogate	
Cat:	110316-05
Lot:	295677-37410
Op:	02/23/17-DP
Exp:	02/23/18

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 12:35	
Spiked ID 8			Ext. End Time:	03/14/17 13:45	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria 35,35,35 °
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	
2	170310A LCS-1		0.020	1	0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	
3	170310A LCS-2		0.020	2	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	
4	AZ51053	AZ51053W12			0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82337 1 WEEK
5	AZ51054	AZ51054W08			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82337 1 WEEK
6	AZ51056	AZ51056W14			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82337 1 WEEK
7	AZ51132 MS-1	AZ51132W23	0.020	1	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
8	AZ51132 MSD-1	AZ51132W31	0.020	1	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
9	AZ51132 MS-2	AZ51132W27	0.020	2	0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82351 5 DAYS
10	AZ51132 MSD-2	AZ51132W20	0.020	2	0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82351 5 DAYS
11	AZ51132	AZ51132W29			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
12	AZ51133	AZ51133W07			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
13	AZ51135	AZ51135W27			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
14	AZ51136	AZ51136W10			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82351 5 DAYS
15	AZ51139	AZ51139W13			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS
16	AZ51141	AZ51141W12			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82351 5 DAYS

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	3/14/17
Time	4:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: [illegible] **Date** 3/14/17

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170310A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 2-23-17 exp 2-23-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 2-23-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 12:35	
Spiked ID 8			Ext. End Time:	03/14/17 13:45	
			GC Requires Extract By:	**03/13/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35 °
pH2				
pH3				

Spiked By: KY **Date** 03/10/17 **Witnessed By:** JR **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51357	AZ51357W09			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82369 5 DAYS
18	AZ51359	AZ51359W11			0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82369 5 DAYS
19	AZ51360	AZ51360W06			0.1	1 equip	1500 E-WB2	2	7	03/10/17 12:35	82369 5 DAYS
20	AZ51362	AZ51362W09			0.1	1 equip	1500 E-WB3	2	7	03/10/17 12:35	82369 5 DAYS
21	AZ51364	AZ51364W10			0.1	1 equip	1500 E-WB1	2	7	03/10/17 12:35	82369 5 DAYS
22	AZ51530	AZ51530W13			0.1	1 equip	1500 E-WB3	2	7	03/11/17 7:15	82389 5 DAYS
23	AZ51533	AZ51533W13			0.1	1 equip	1500 E-WB1	2	7	03/11/17 7:15	82389 5 DAYS
24	AZ51535	AZ51535W10			0.1	1 equip	1500 E-WB3	2	7	03/11/17 7:15	82389 5 DAYS
25	AZ51536	AZ51536W06			0.1	1 equip	1500 E-WB2	2	7	03/11/17 7:15	82389 5 DAYS

Ky 3/14/17

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	JR
Sample Preparation	JR,KY,DL
Extraction	JR,KY,DL
Concentration	MP

Modified	03/14/17 1:55:58 PM

Reviewed By: Ky **Date** 3/14/17

Injection Log

Directory: G:\APOLLO\DATA\170207\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	13	207013.D	1	Diesel-1 10/1000 2/7/17	Mix(A)	2-7-17 13:53:40
2	14	207014.D	1	Diesel-2 10/100 2/7/17	Mix(A)	2-7-17 14:14:13
3	15	207015.D	1	Diesel-3 40/100 2/7/17	Mix(A)	2-7-17 14:34:48
4	16	207016.D	1	Diesel-4 60/100 2/7/17	Mix(A)	2-7-17 14:55:35
5	17	207017.D	1	Diesel-5 80/100 2/7/17	Mix(A)	2-7-17 15:16:16
6	18	207018.D	1	Diesel-6 100/100 2/7/17	Mix(A)	2-7-17 15:36:59
7	19	207019.D	1	Diesel-2nd Src 8/1/16	Mix(A)	2-7-17 15:57:38
8	20	207020.D	1	Motor Oil-1 10/1000 2/7/17	Mix(B)	2-7-17 16:18:18
9	21	207021.D	1	Motor Oil-2 25/1000 2/7/17	Mix(B)	2-7-17 16:39:03
10	22	207022.D	1	Motor Oil-3 125/1000 2/7/17	Mix(B)	2-7-17 16:59:39
11	23	207023.D	1	Motor Oil-4 50/100 2/7/17	Mix(B)	2-7-17 17:20:17
12	24	207024.D	1	Motor Oil-5 75/100 2/7/17	Mix(B)	2-7-17 17:40:44
13	25	207025.D	1	Motor Oil-6 100/100 2/7/17	Mix(B)	2-7-17 18:01:11
14	26	207026.D	1	Motor Oil-2nd Src 10/14/16	Mix(B)	2-7-17 18:21:35
15	2	303002.D	1	THC Surrogate-1 0.5 ug/mL 3/3/17	Mix(A)	3-3-17 14:55:47
16	3	303003.D	1	THC Surrogate-2 5.0 ug/mL 3/3/17	Mix(A)	3-3-17 15:16:38
17	4	303004.D	1	THC Surrogate-3 20 ug/mL 3/3/17	Mix(A)	3-3-17 15:37:25
18	5	303005.D	1	THC Surrogate-4 30 ug/mL 3/3/17	Mix(A)	3-3-17 15:58:18
19	6	303006.D	1	THC Surrogate-5 40 ug/mL 3/3/17	Mix(A)	3-3-17 16:19:16
20	7	303007.D	1	THC Surrogate-6 50 ug/mL 3/3/17	Mix(A)	3-3-17 16:40:03
21	18	315018.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-15-17 20:55:24
22	19	315019.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-15-17 21:16:33
23	27	315027.D	1.33333	170310A BLK 2/1500	water	3-16-17 0:04:51
24	28	315028.D	1.33333	170310A LCS-1 2/1500	water	3-16-17 0:25:45
25	29	315029.D	1.33333	170310A LCS-2 2/1500	water	3-16-17 0:46:40
26	38	315038.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 3:53:22
27	39	315039.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 4:14:00
28	48	315048.D	1.33333	AZ51530W13 2/1500	water	3-16-17 7:19:39
29	49	315049.D	1.33333	AZ51533W13 2/1500	water	3-16-17 7:40:18
30	50	315050.D	1.33333	AZ51535W10 2/1500	water	3-16-17 8:00:54
31	51	315051.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 8:21:33
32	52	315052.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 8:42:09
33	54	315054.D	1.33333	AZ51536W06 2/1500	water	3-16-17 9:23:33
34	70	315070.D	1	CCV: DIESEL 400ppb 2/24/17	Mix(A)	3-16-17 15:01:02
35	71	315071.D	1	CCV: MO 1000ppb 2/24/17	Mix(B)	3-16-17 15:21:54

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216987**
Batch ID: #SIMDO-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	58.3	53-106			%	03/11/17	03/16/17
BLANK	SURROGATE: NITROBENZENE-	58.2	55-111			%	03/11/17	03/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.9	58-132			%	03/11/17	03/16/17

Quant Method:L0316P.M
Run #:0316L013
Instrument:Linus
Sequence:L170316
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 2:54:16 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170311W-51357 LCS - 216987**
Batch ID: #SIMDO-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.56	71.2	41-115
2-METHYLNAPHTHALENE	5.00	3.51	70.2	39-114
NAPHTHALENE	5.00	3.10	62.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.12	62.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	2.99	59.8	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.82	76.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0316P.M
Extraction Date :	03/11/17
Analysis Date :	03/16/17
Instrument :	Linus
Run :	0316L014
Initials :	RHA

Printed: 03/17/17 2:54:09 PM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82389
Case No: 82389 Date Analyzed: 03/16/17
Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	53-106	58.3		55-111	58.2	
170311A-LCS	Lab Control Spike	53-106	62.4		55-111	59.8	
AZ51530	ERH275	53-106	64.0		55-111	57.8	
AZ51533	ERH278	53-106	54.5		55-111	59.5	
AZ51535	ERH286	53-106	60.2		55-111	58.0	
AZ51536	ERH282	53-106	69.5		55-111	68.6	

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:38:37 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82389
Case No: 82389 Date Analyzed: 03/16/17
Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	58-132	70.9				
170311A-LCS	Lab Control Spike	58-132	76.4				
AZ51530	ERH275	58-132	85.4				
AZ51533	ERH278	58-132	67.5				
AZ51535	ERH286	58-132	78.2				
AZ51536	ERH282	58-132	84.0				

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:38:37 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER
Blank ID: 170311A-BLK

SDG No: 82389
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 1726

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A-BLK	Blank	0316L013	03/16/17 1726
170311A-LCS	Lab Control Spike	0316L014	03/16/17 1758
AZ51530	ERH275	0316L021	03/16/17 2147
AZ51533	ERH278	0316L022	03/16/17 2220
AZ51535	ERH286	0316L023	03/16/17 2252
AZ51536	ERH282	0316L050	03/17/17 1257

Comments: Batch: #SIMDO-170311A

Printed: 03/17/17 2:38:26 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82389
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 11:50

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/01/17	0316L003.D	03/16/17 12:08
2		0.2 SIM 03/01/17	0316L004.D	03/16/17 12:41
3		0.5 SIM 03/01/17	0316L005.D	03/16/17 13:13
4		1.0 SIM 03/01/17	0316L006.D	03/16/17 13:45
5		5.0 SIM 03/01/17	0316L007.D	03/16/17 14:17
6		10 SIM 03/01/17	0316L008.D	03/16/17 14:50
7		50 SIM 03/01/17	0316L009.D	03/16/17 15:23
8		100 SIM 03/01/17	0316L010.D	03/16/17 15:56
9		SS SIM 03/01/17	0316L011.D	03/16/17 16:29
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	47.0
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	49.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.1
441	0.01 - 100% of mass 443	87.7
442	40 - 150% of mass 198	59.5
443	17 - 23% of mass 442	18.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82389
Date Analyzed: 03/16/17
Instrument: Linus
Time Analyzed: 17:08

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170311A BLK 1/1000	0316L013.D	03/16/17 17:26
2	Lab Control Spike	170311A LCS-1 1/1000	0316L014.D	03/16/17 17:58
3	ERH275	AZ51530W14 1/1000	0316L021.D	03/16/17 21:47
4	ERH278	AZ51533W14 1/1000	0316L022.D	03/16/17 22:20
5	ERH286	AZ51535W14 1/1070	0316L023.D	03/16/17 22:52
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	48.8
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	51.0
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.5
275	10 - 30% of mass 198	21.0
365	1 - 100% of mass 198	2.4
441	0.01 - 100% of mass 443	94.3
442	40 - 150% of mass 198	60.4
443	17 - 23% of mass 442	18.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 2/9/17

SDG No: 82389
Date Analyzed: 03/17/17
Instrument: Linus
Time Analyzed: 4:32

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 03/01/17	0316L035.D	03/17/17 4:50
2	ERH282	AZ51536W10 1/1070	0316L050.D	03/17/17 12:57
3		5.0 SIM 03/01/17	0316L054.D	03/17/17 14:42
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	46.7
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	50.8
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	22.4
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	84.0
442	40 - 150% of mass 198	62.8
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82389
Lab File ID (Standard): 0316L007.D
Date Analyzed: 03/16/17
Instrument ID: Linus
Time Analyzed: 14:17
GC Column:
ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	37034	5.79	18865	7.85	37568	9.75
	UPPER LIMIT	74068	6.29	37730	8.35	75136	10.25
	LOWER LIMIT	18517	5.29	9433	7.35	18784	9.25
	SAMPLE NO.						
01	170311A BLK 1/1000	38182	5.81	20484	7.85	40684	9.76
02	170311A LCS-1 1/1000	38852	5.81	19858	7.85	39838	9.75
03	AZ51530W14 1/1000	37182	5.81	17699	7.85	37587	9.75
04	AZ51533W14 1/1000	40222	5.81	20399	7.85	38368	9.75
05	AZ51535W14 1/1070	37929	5.81	19959	7.85	37694	9.76
06	5.0 SIM 03/01/17	36114	5.79	19108	7.85	38137	9.75
07	AZ51536W10 1/1070	37866	5.82	19591	7.86	36261	9.78
08	5.0 SIM 03/01/17	35875	5.81	19116	7.86	29312	9.76
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82389
Lab File ID (Standard): 0316L007.D
Date Analyzed: 03/16/17
Instrument ID: Linus
Time Analyzed: 14:17
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	46460	16.68	39411	20.45		
	UPPER LIMIT	92920	17.18	78822	20.95		
	LOWER LIMIT	23230	16.18	19706	19.95		
	SAMPLE NO.						
01	170311A BLK 1/1000	46029	16.69	42521	20.47		
02	170311A LCS-1 1/1000	45495	16.67	38780	20.45		
03	AZ51530W14 1/1000	42803	16.68	30102	20.46		
04	AZ51533W14 1/1000	45051	16.69	41656	20.47		
05	AZ51535W14 1/1070	43497	16.69	40027	20.46		
06	5.0 SIM 03/01/17	46979	16.67	40298	20.44		
07	AZ51536W10 1/1070	35924	16.72	33362	20.50		
08	5.0 SIM 03/01/17	35395	16.72	26092	20.49		
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	64.0	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	57.8	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	85.4	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L021
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:54:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L021.D Vial: 21
Acq On : 16 Mar 17 21:47 Operator: MA
Sample : AZ51530W14 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 9:20 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	37182	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	17699	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	37587	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	42803	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.46	264	30102	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	16464	2.88961 ppb	0.01
Spiked Amount 5.000			Recovery	= 57.800%	
7) Surrogate Recovery (FBP)	7.06	172	34063	3.20247 ppb	0.00
Spiked Amount 5.000			Recovery	= 64.040%	
17) Surrogate Recovery (TPH)	13.68	244	55746	4.26918 ppb	0.00
Spiked Amount 5.000			Recovery	= 85.380%	

Target Compounds Qvalue

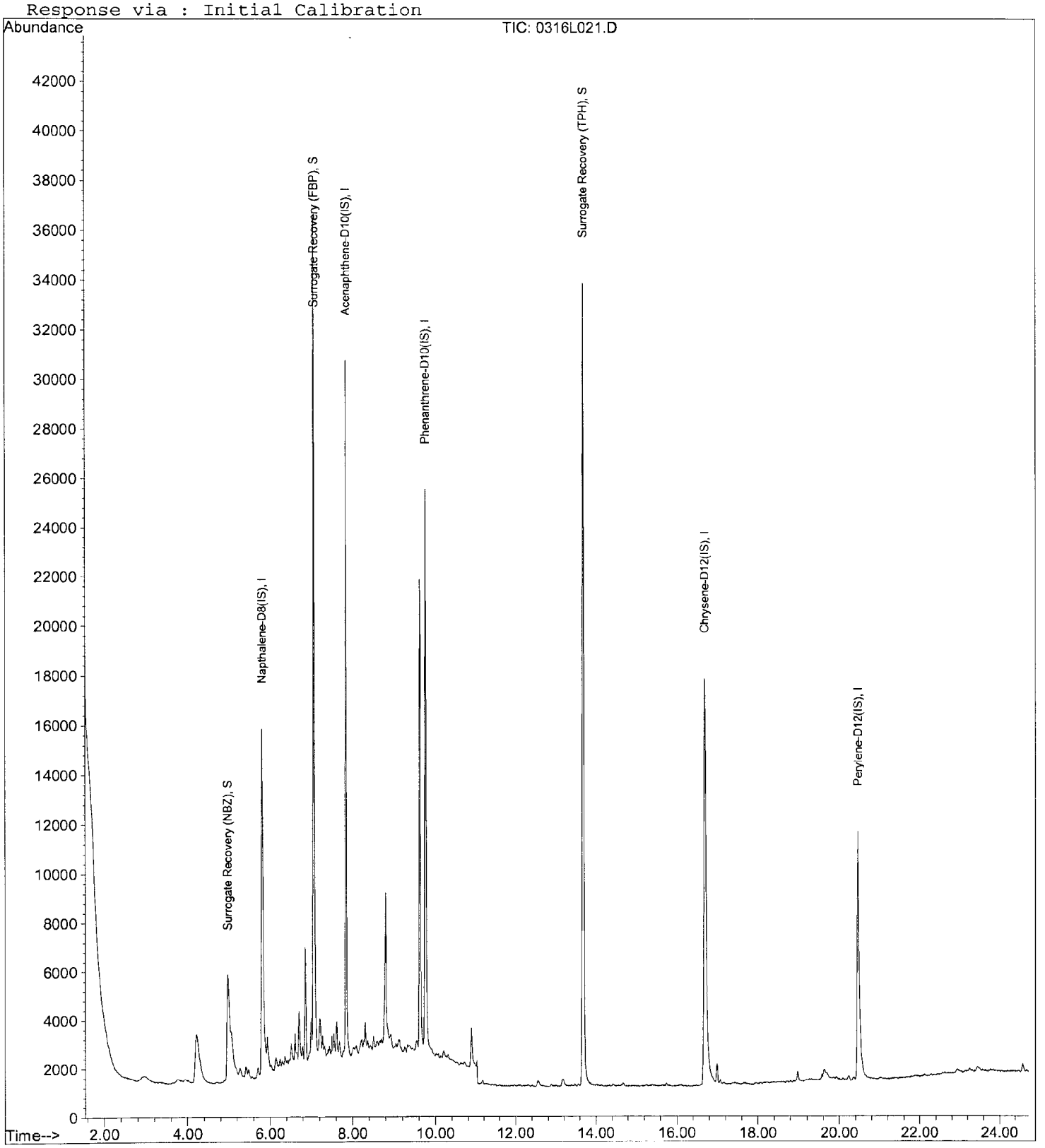
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L021.D Vial: 21
Acq On : 16 Mar 17 21:47 Operator: MA
Sample : AZ51530W14 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 9:20 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	54.5	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	59.5	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	67.5	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L022
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:54:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L022.D
Acq On : 16 Mar 17 22:20
Sample : AZ51533W14 1/1000
Misc : water

Vial: 22
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 9:21 2017
Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	40222	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	20399	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	38368	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.69	240	45051	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.47	264	41656	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	18361	2.97748 ppb	0.01
Spiked Amount 5.000			Recovery	= 59.540%	
7) Surrogate Recovery (FBP)	7.06	172	33419	2.72606 ppb	0.00
Spiked Amount 5.000			Recovery	= 54.520%	
17) Surrogate Recovery (TPH)	13.68	244	46400	3.37612 ppb	-0.01
Spiked Amount 5.000			Recovery	= 67.520%	

Target Compounds Qvalue

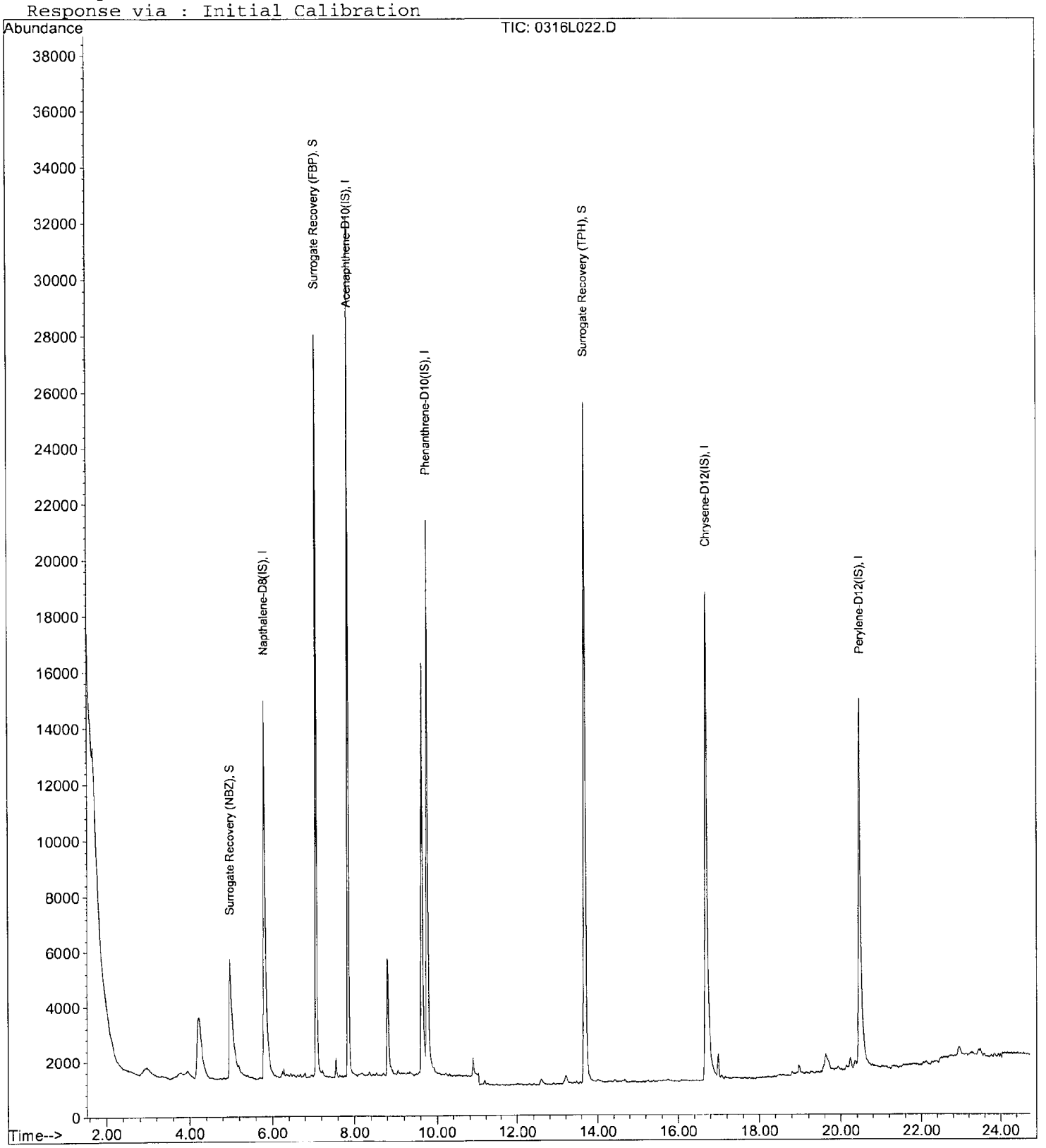
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L022.D Vial: 22
Acq On : 16 Mar 17 22:20 Operator: MA
Sample : AZ51533W14 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 17 9:21 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	60.2	53-106			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	58.0	55-111			%	03/11/17	03/16/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	78.2	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L023
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:54:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L023.D Vial: 23
Acq On : 16 Mar 17 22:52 Operator: MA
Sample : AZ51535W14 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:22 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	37929	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19959	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	37694	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	43497	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	40027	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	16855	2.71009 ppb	0.01
Spiked Amount 4.673			Recovery	= 57.994%	
7) Surrogate Recovery (FBP)	7.06	172	36101	2.81286 ppb	0.00
Spiked Amount 4.673			Recovery	= 60.198%	
17) Surrogate Recovery (TPH)	13.68	244	51872	3.65338 ppb	0.00
Spiked Amount 4.673			Recovery	= 78.174%	

Target Compounds Qvalue

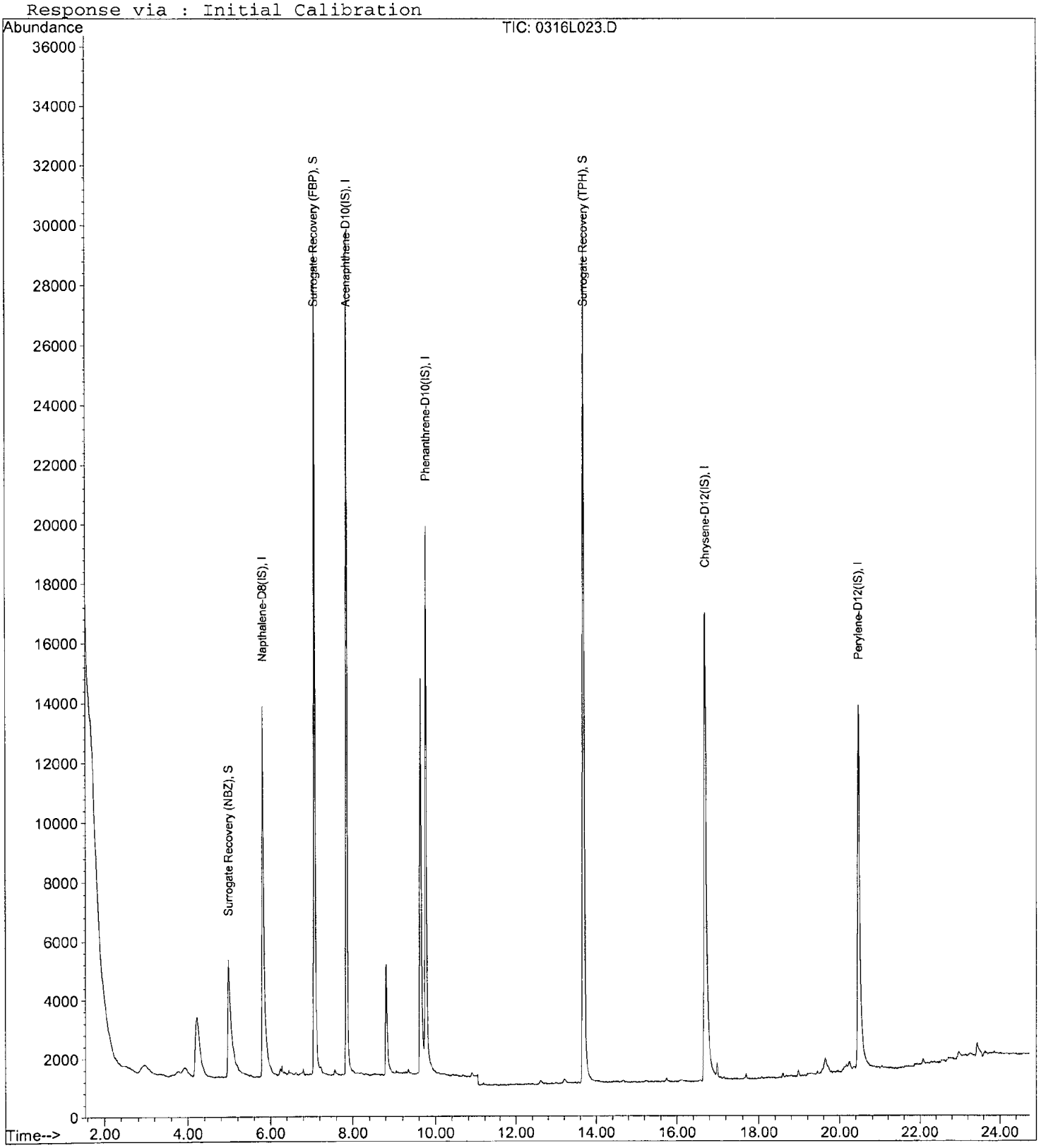
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L023.D Vial: 23
Acq On : 16 Mar 17 22:52 Operator: MA
Sample : AZ51535W14 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:22 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH282
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51536
QCG: #SIMDO-170311A-216987

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/17/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/17/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/17/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	69.5	53-106			%	03/11/17	03/17/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	68.6	55-111			%	03/11/17	03/17/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	84.0	58-132			%	03/11/17	03/17/17

Quant Method: L0316P.M
Run #: 0316L050
Instrument: Linus
Sequence: L170316
Dilution Factor: 1
Initials: RHA

Printed: 03/17/17 2:54:02 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L024.D Vial: 24
Acq On : 16 Mar 17 23:25 Operator: MA
Sample : AZ51536W10 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:23 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	41104	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	21413	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	41172	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	50235	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	39117	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	15831	2.35491 ppb	0.01
Spiked Amount 4.673			Recovery	= 50.397%	
7) Surrogate Recovery (FBP)	7.06	172	36435	2.64612 ppb	0.00
Spiked Amount 4.673			Recovery	= 56.624%	
17) Surrogate Recovery (TPH)	13.68	244	55086	3.35935 ppb	0.00
Spiked Amount 4.673			Recovery	= 71.883%	

Target Compounds Qvalue

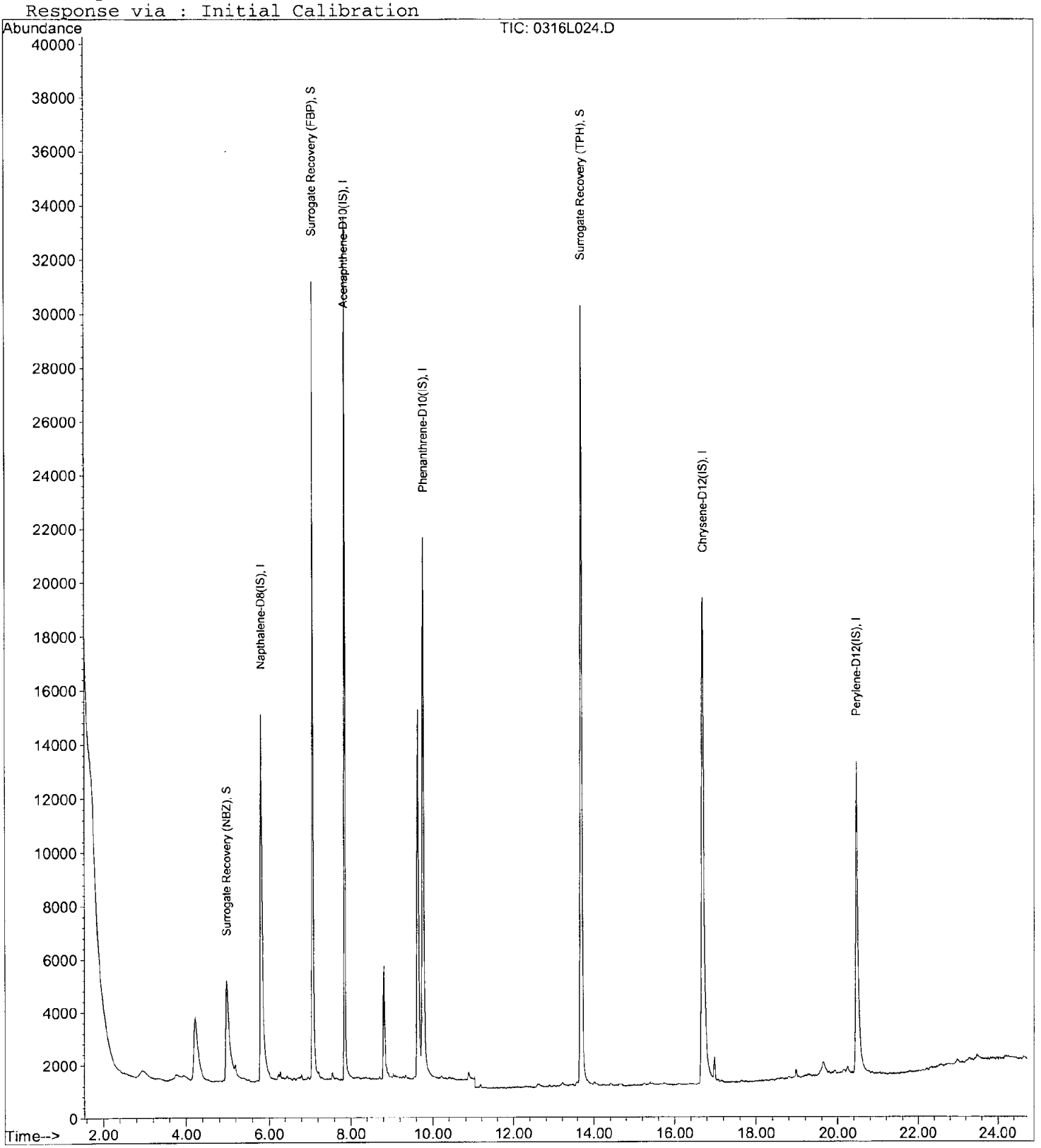
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L024.D Vial: 24
Acq On : 16 Mar 17 23:25 Operator: MA
Sample : AZ51536W10 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Mar 17 9:23 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/16/17
Instrument: Linus

Initials:

		Compound	0316L003.D 0.1	0316L004.D 0.2	0316L005.D 0.5	0316L006.D 1	0316L007.D 5	0316L008.D 10	0316L009.D 50	0316L010.D 100			Avg	%RSD		
1	I	Napthalene-D8(IS)														
2	SL	Surrogate Recovery (NBZ)		0.2806	0.2531	0.3143	0.3879	0.3928	0.3873	0.3896			0.34	17	SL	1.00
3	TM	Naphthalene	1.071	1.076	1.151	1.107	1.110	1.033	0.9332	0.8737			1.0	9.1	TM	
4	TM	2-Methylnaphthalene	0.5531	0.5312	0.5901	0.6225	0.6611	0.6250	0.5690	0.5229			0.58	8.4	TM	
5	TM	1-Methylnaphthalene	0.6713	0.7154	0.6898	0.6793	0.6648	0.6107	0.5350	0.4897			0.63	13	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.565	1.500	1.611	1.551	1.581	1.576	1.367	1.268			1.5	8.1	S	
8	TM	Acenaphthylene	2.025	2.055	2.196	2.146	2.202	2.086	1.810	1.626			2.0	10.0	TM	
9	*TM	Acenaphthene	1.217	1.219	1.350	1.282	1.288	1.204	1.040	0.9364			1.2	12	*TM	
10	TM	Fluorene	1.313	1.317	1.447	1.443	1.459	1.368	1.161	1.049			1.3	11	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.053	1.011	1.108	1.059	1.089	1.031	0.9098	0.7957			1.0	10	TM	
13	TM	Anthracene	0.9831	0.9530	1.012	0.9979	1.066	1.010	0.8824	0.7414			0.96	11	TM	
14	*TM	Fluoranthene	1.840	1.675	1.653	1.693	1.758	1.708	1.562	1.393			1.7	8.1	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.633	1.513	1.478	1.445	1.482	1.385	1.347	1.171			1.4	9.5	TM	
17	S	Surrogate Recovery (TPH)	0.8254	0.7946	0.7927	0.7587	0.7533	0.7618	0.7197	0.6951			0.76	5.5	S	
18	TM	Benz (a) anthracene	1.633	1.387	1.269	1.218	1.225	1.171	1.158	1.035			1.3	14	TM	
19	TML	Chrysene	1.892	1.592	1.481	1.360	1.296	1.192	1.078	1.020			1.4	21	TML	0.999
20	TML	Indeno (1,2,3-cd) pyrene	1.522	1.378	1.405	1.233	1.156	0.8400	0.9689				1.2	20	TML	0.999
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.621	1.404	1.424	1.249	1.406	1.232	1.145	1.081			1.3	13	TM	
23	TM	Benzo (k) fluoranthene	1.419	1.142	1.157	1.193	1.226	1.176	1.054				1.2	9.4	TM	
24	*TM	Benzo (a) pyrene	1.501	1.276	1.323	1.280	1.272	1.159	1.098	0.9834			1.2	13	*TM	
25	TML	Dibenz (a,h) anthracene	1.144	1.084	1.277	1.089	1.094	0.9387	0.8106	0.7722			1.0	17	TML	0.999
26	TML	Benzo (g,h,i) perylene	1.729	1.383	1.534	1.156	1.112	0.9326	0.8430	0.7675			1.2	29	TML	0.998
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L003.D Vial: 3
Acq On : 16 Mar 17 12:08 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:06 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:06:25 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	43165	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	22390	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	43995	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	53309	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	48316	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	139	0.29693 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.940%	
7) Surrogate Recovery (FBP)	7.07	172	701	0.05116 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.020%	
17) Surrogate Recovery (TPH)	13.70	244	880	0.05270 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.060%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	1849	0.10090 ppb	#	86
4) 2-Methylnaphthalene	6.65	142	955	0.09582 ppb		96
5) 1-Methylnaphthalene	6.76	142	1159	0.09931 ppb		98
8) Acenaphthylene	7.69	152	1814	0.09784 ppb		91
9) Acenaphthene	7.88	154	1090	0.09802 ppb		98
10) Fluorene	8.51	166	1176	0.09602 ppb		99
12) Phenanthrene	9.79	178	1853	0.10457 ppb		90
13) Anthracene	9.90	178	1730	0.10494 ppb		88
14) Fluoranthene	12.52	202	3238	0.11776 ppb	#	88
16) Pyrene	13.15	202	3483	0.12283 ppb		89
18) Benz (a) anthracene	16.65	228	3483	0.15640 ppb		95
19) Chrysene	16.75	228	4035	0.15319 ppb	#	94
20) Indeno (1,2,3-cd) pyrene	22.78	276	3246	0.16789 ppb	#	80
22) Benzo (b) fluoranthene	19.55	252	3133	0.10088 ppb	#	87
23) Benzo (k) fluoranthene	19.62	252	2742	0.11408 ppb	#	86
24) Benzo (a) pyrene	20.32	252	2900	0.14111 ppb	#	84
25) Dibenz (a,h) anthracene	22.82	278	2211	0.14010 ppb	#	80
26) Benzo (g,h,i) perylene	23.31	276	3342	0.20731 ppb	#	85

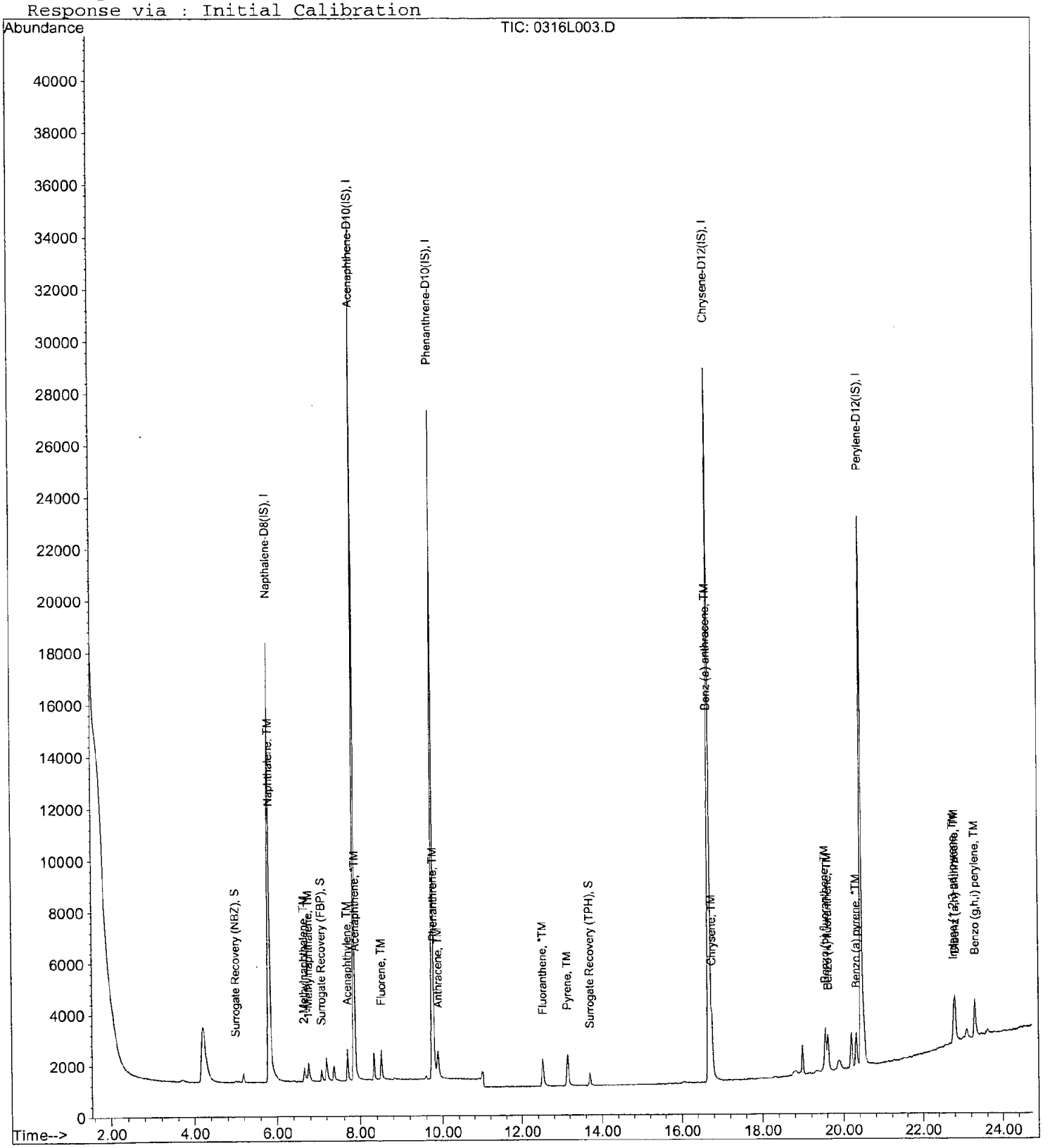
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L003.D Vial: 3
Acq On : 16 Mar 17 12:08 Operator: MA
Sample : 0.1 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:06 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L004.D Vial: 4
Acq On : 16 Mar 17 12:41 Operator: MA
Sample : 0.2 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:11 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:11:49 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	40450	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	20928	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	41096	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	48890	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	44880	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.02	82	454	0.34747 ppb	0.00
Spiked Amount 5.000			Recovery	= 6.940%	
7) Surrogate Recovery (FBP)	7.09	172	1256	0.09808 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.960%	
17) Surrogate Recovery (TPH)	13.71	244	1554	0.10148 ppb	0.00
Spiked Amount 5.000			Recovery	= 2.020%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	3481	0.20270 ppb	91
4) 2-Methylnaphthalene	6.66	142	1719	0.18405 ppb	98
5) 1-Methylnaphthalene	6.76	142	2315	0.21167 ppb	99
8) Acenaphthylene	7.70	152	3441	0.19855 ppb	95
9) Acenaphthene	7.88	154	2041	0.19636 ppb	98
10) Fluorene	8.51	166	2205	0.19261 ppb	99
12) Phenanthrene	9.79	178	3325	0.20087 ppb	94
13) Anthracene	9.90	178	3133	0.20345 ppb	93
14) Fluoranthene	12.53	202	5508	0.21446 ppb	93
16) Pyrene	13.15	202	5918	0.22757 ppb	94
18) Benz (a) anthracene	16.66	228	5426	0.26567 ppb	96
19) Chrysene	16.76	228	6227	0.25779 ppb	96
20) Indeno (1,2,3-cd) pyrene	22.79	276	5391	0.30404 ppb #	87
22) Benzo (b) fluoranthene	19.56	252	5041	0.20942 ppb #	92
23) Benzo (k) fluoranthene	19.62	252	4102	0.18373 ppb	91
24) Benzo (a) pyrene	20.32	252	4581	0.23997 ppb #	91
25) Dibenz (a,h) anthracene	22.83	278	3891	0.26544 ppb #	86
26) Benzo (g,h,i) perylene	23.32	276	4967	0.33169 ppb	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

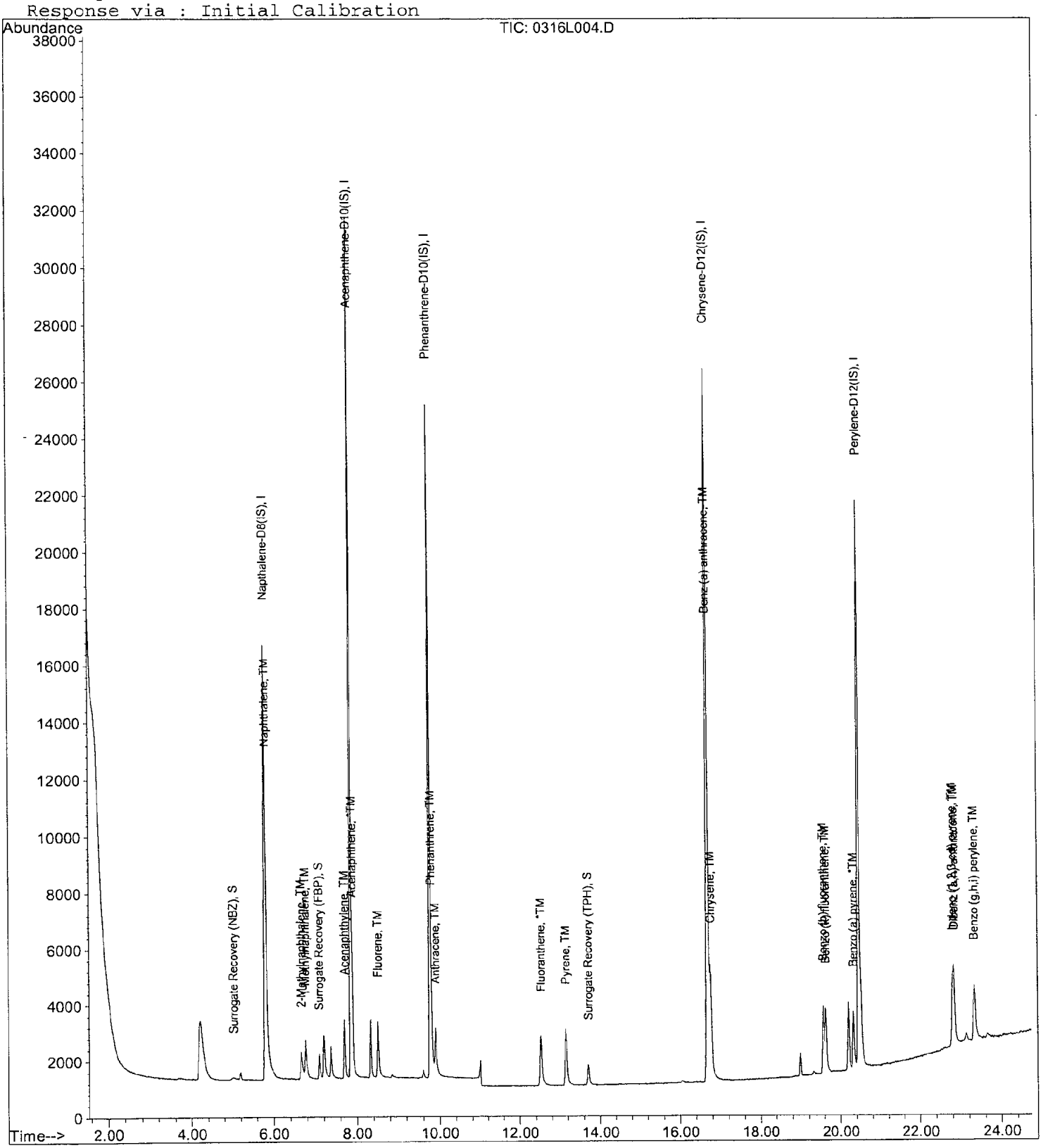
Data File : M:\LINUS\DATA\L170316\0316L004.D
Acq On : 16 Mar 17 12:41
Sample : 0.2 SIM 03/01/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:11 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L005.D Vial: 5
Acq On : 16 Mar 17 13:13 Operator: MA
Sample : 0.5 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:17 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	36665	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	18717	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	36980	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	39168	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	34602	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.01	82	928	0.43641 ppb	0.00
Spiked Amount 5.000			Recovery	= 8.720%	
7) Surrogate Recovery (FBP)	7.07	172	3015	0.26324 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.260%	
17) Surrogate Recovery (TPH)	13.71	244	3105	0.25310 ppb	0.00
Spiked Amount 5.000			Recovery	= 5.060%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	8439	0.54213 ppb	96
4) 2-Methylnaphthalene	6.65	142	4327	0.51111 ppb	99
5) 1-Methylnaphthalene	6.76	142	5058	0.51022 ppb	99
8) Acenaphthylene	7.69	152	8219	0.53028 ppb	98
9) Acenaphthene	7.88	154	5052	0.54345 ppb	99
10) Fluorene	8.51	166	5416	0.52898 ppb	100
12) Phenanthrene	9.80	178	8193	0.55006 ppb	98
13) Anthracene	9.90	178	7487	0.54030 ppb	97
14) Fluoranthene	12.52	202	12227	0.52905 ppb	97
16) Pyrene	13.16	202	11578	0.55572 ppb	97
18) Benz (a) anthracene	16.66	228	9937	0.60730 ppb	98
19) Chrysene	16.76	228	11600	0.59941 ppb	98
20) Indeno (1,2,3-cd) pyrene	22.79	276	11004	0.77464 ppb #	95
22) Benzo (b) fluoranthene	19.56	252	9853	0.60360 ppb	97
23) Benzo (k) fluoranthene	19.62	252	8004	0.46499 ppb	96
24) Benzo (a) pyrene	20.32	252	9154	0.62195 ppb	95
25) Dibenz (a,h) anthracene	22.83	278	8835	0.78173 ppb	95
26) Benzo (g,h,i) perylene	23.32	276	10616	0.91951 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

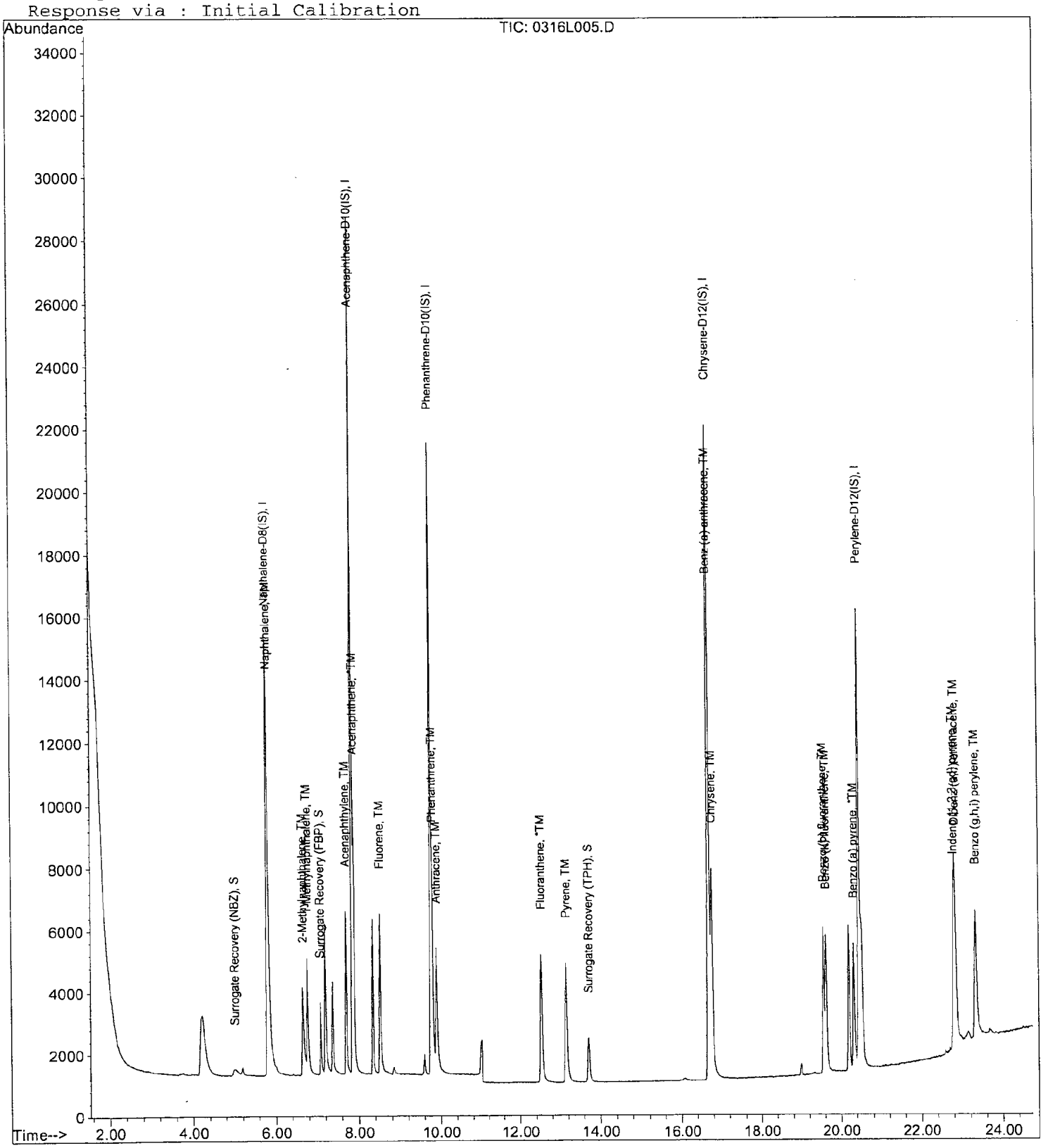
Data File : M:\LINUS\DATA\L170316\0316L005.D
Acq On : 16 Mar 17 13:13
Sample : 0.5 SIM 03/01/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:17 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L006.D Vial: 6
Acq On : 16 Mar 17 13:45 Operator: MA
Sample : 1.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	40854	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	21183	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	41819	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	51712	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	46262	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.00	82	2568	0.67351 ppb	-0.01
Spiked Amount 5.000			Recovery	= 13.480%	
7) Surrogate Recovery (FBP)	7.07	172	6571	0.50693 ppb	0.00
Spiked Amount 5.000			Recovery	= 10.140%	
17) Surrogate Recovery (TPH)	13.70	244	7847	0.48448 ppb	0.00
Spiked Amount 5.000			Recovery	= 9.680%	
Target Compounds					Qvalue
3) Naphthalene	5.83	128	18088	1.04285 ppb	95
4) 2-Methylnaphthalene	6.65	142	10172	1.07833 ppb	100
5) 1-Methylnaphthalene	6.76	142	11101	1.00498 ppb	100
8) Acenaphthylene	7.69	152	18182	1.03652 ppb	98
9) Acenaphthene	7.88	154	10866	1.03281 ppb	97
10) Fluorene	8.51	166	12231	1.05553 ppb	99
12) Phenanthrene	9.80	178	17713	1.05160 ppb	97
13) Anthracene	9.90	178	16693	1.06526 ppb	96
14) Fluoranthene	12.52	202	28312	1.08328 ppb	96
16) Pyrene	13.15	202	29899	1.08697 ppb	97
18) Benz (a) anthracene	16.66	228	25192	1.16614 ppb	98
19) Chrysene	16.75	228	28127	1.10086 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.79	276	25500	1.35966 ppb #	97
22) Benzo (b) fluoranthene	19.55	252	23116	1.09493 ppb	97
23) Benzo (k) fluoranthene	19.62	252	22081	0.95947 ppb	97
24) Benzo (a) pyrene	20.32	252	23682	1.20348 ppb	96
25) Dibenz (a,h) anthracene	22.82	278	20154	1.33379 ppb	97
26) Benzo (g,h,i) perylene	23.32	276	21388	1.38561 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

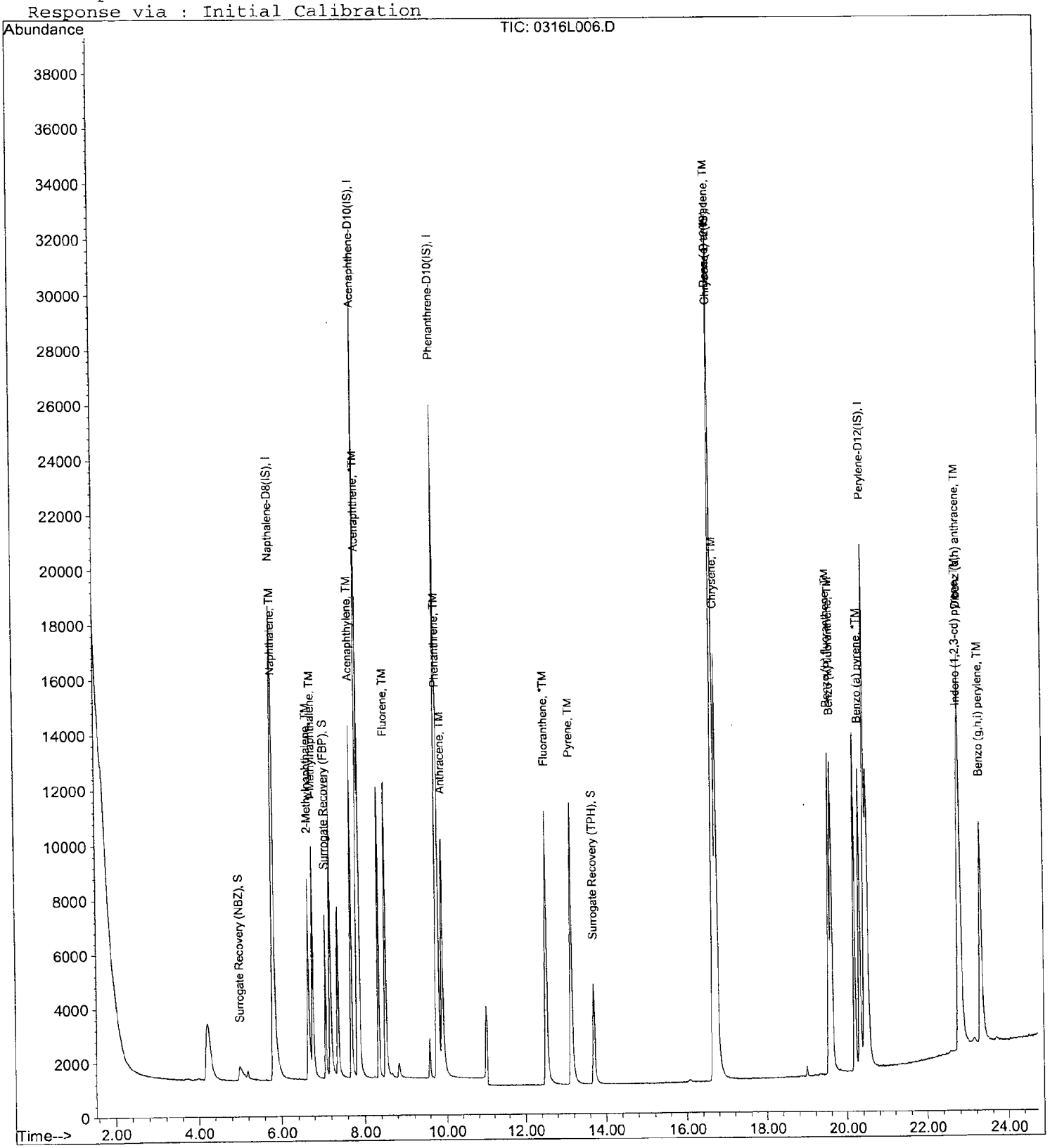
Data File : M:\LINUS\DATA\L170316\0316L006.D
Acq On : 16 Mar 17 13:45
Sample : 1.0 SIM 03/01/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 16 16:19 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L007.D Vial: 7
Acq On : 16 Mar 17 14:17 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	37034	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	18865	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	37568	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.68	240	46460	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	39411	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	14367	2.72621 ppb	-0.05
Spiked Amount 5.000			Recovery	= 54.520%	
7) Surrogate Recovery (FBP)	7.06	172	29817	2.58291 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.660%	
17) Surrogate Recovery (TPH)	13.69	244	34996	2.40493 ppb	-0.02
Spiked Amount 5.000			Recovery	= 48.100%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	82233	5.23014 ppb	94
4) 2-Methylnaphthalene	6.64	142	48969	5.72662 ppb	98
5) 1-Methylnaphthalene	6.75	142	49239	4.91745 ppb	100
8) Acenaphthylene	7.69	152	83071	5.31759 ppb	98
9) Acenaphthene	7.88	154	48611	5.18817 ppb	98
10) Fluorene	8.50	166	55059	5.33542 ppb	99
12) Phenanthrene	9.79	178	81841	5.40861 ppb	98
13) Anthracene	9.89	178	80128	5.69194 ppb	97
14) Fluoranthene	12.51	202	132088	5.62584 ppb	95
16) Pyrene	13.13	202	137720	5.57275 ppb	97
18) Benz (a) anthracene	16.65	228	113797	5.86316 ppb	100
19) Chrysene	16.75	228	120414	5.24562 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.76	276	107379	6.37269 ppb #	94
22) Benzo (b) fluoranthene	19.54	252	110842	6.38207 ppb	98
23) Benzo (k) fluoranthene	19.61	252	96625	4.92845 ppb	96
24) Benzo (a) pyrene	20.32	252	100231	5.97903 ppb	95
25) Dibenz (a,h) anthracene	22.80	278	86269	6.70177 ppb	98
26) Benzo (g,h,i) perylene	23.29	276	87623	6.66341 ppb	95

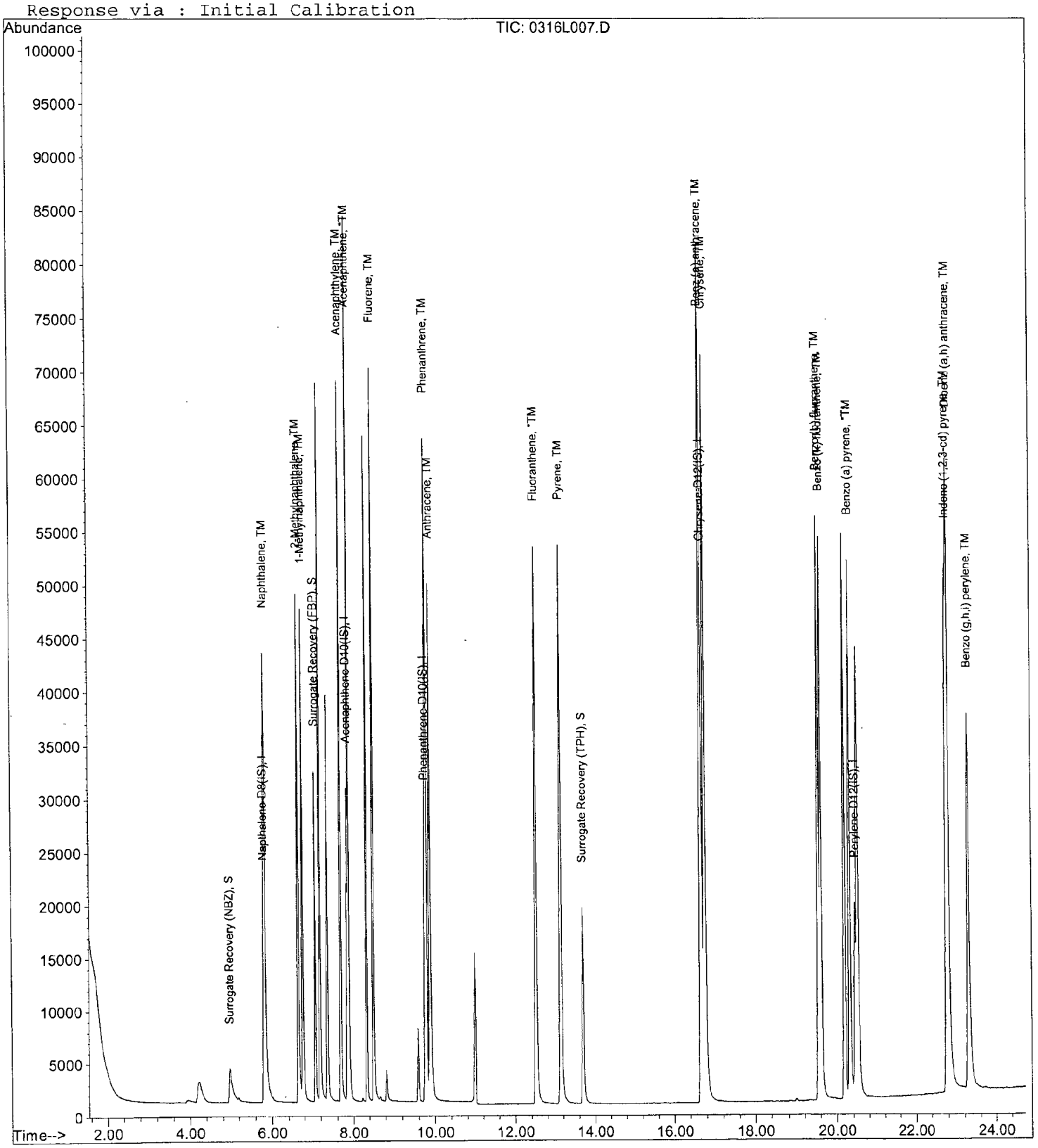
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L007.D Vial: 7
Acq On : 16 Mar 17 14:17 Operator: MA
Sample : 5.0 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:19 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L008.D Vial: 8
Acq On : 16 Mar 17 14:50 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:20 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	39322	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19903	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	38742	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.67	240	49161	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.45	264	35346	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	30895	5.23777 ppb	-0.05
Spiked Amount 5.000			Recovery	= 104.760%	
7) Surrogate Recovery (FBP)	7.06	172	62720	5.14980 ppb	-0.01
Spiked Amount 5.000			Recovery	= 103.000%	
17) Surrogate Recovery (TPH)	13.69	244	74903	4.86454 ppb	-0.02
Spiked Amount 5.000			Recovery	= 97.300%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	162554	9.73710 ppb		95
4) 2-Methylnaphthalene	6.64	142	98303	10.82703 ppb		98
5) 1-Methylnaphthalene	6.75	142	96053	9.03455 ppb		99
8) Acenaphthylene	7.69	152	166043	10.07451 ppb		98
9) Acenaphthene	7.88	154	95854	9.69679 ppb		99
10) Fluorene	8.50	166	108948	10.00685 ppb		98
12) Phenanthrene	9.79	178	159701	10.23430 ppb		98
13) Anthracene	9.87	178	156538	10.78281 ppb		97
14) Fluoranthene	12.50	202	264654	10.93046 ppb		96
16) Pyrene	13.14	202	272428	10.41796 ppb		97
18) Benz (a) anthracene	16.65	228	230233	11.21056 ppb		100
19) Chrysene	16.75	228	234417	9.65089 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	165172	9.26400 ppb	#	95
22) Benzo (b) fluoranthene	19.54	252	174219	11.22048 ppb		97
23) Benzo (k) fluoranthene	19.61	252	166240	9.45440 ppb		97
24) Benzo (a) pyrene	20.31	252	163884	10.90041 ppb		97
25) Dibenz (a,h) anthracene	22.81	278	132714	11.49552 ppb		95
26) Benzo (g,h,i) perylene	23.28	276	131854	11.18018 ppb		94

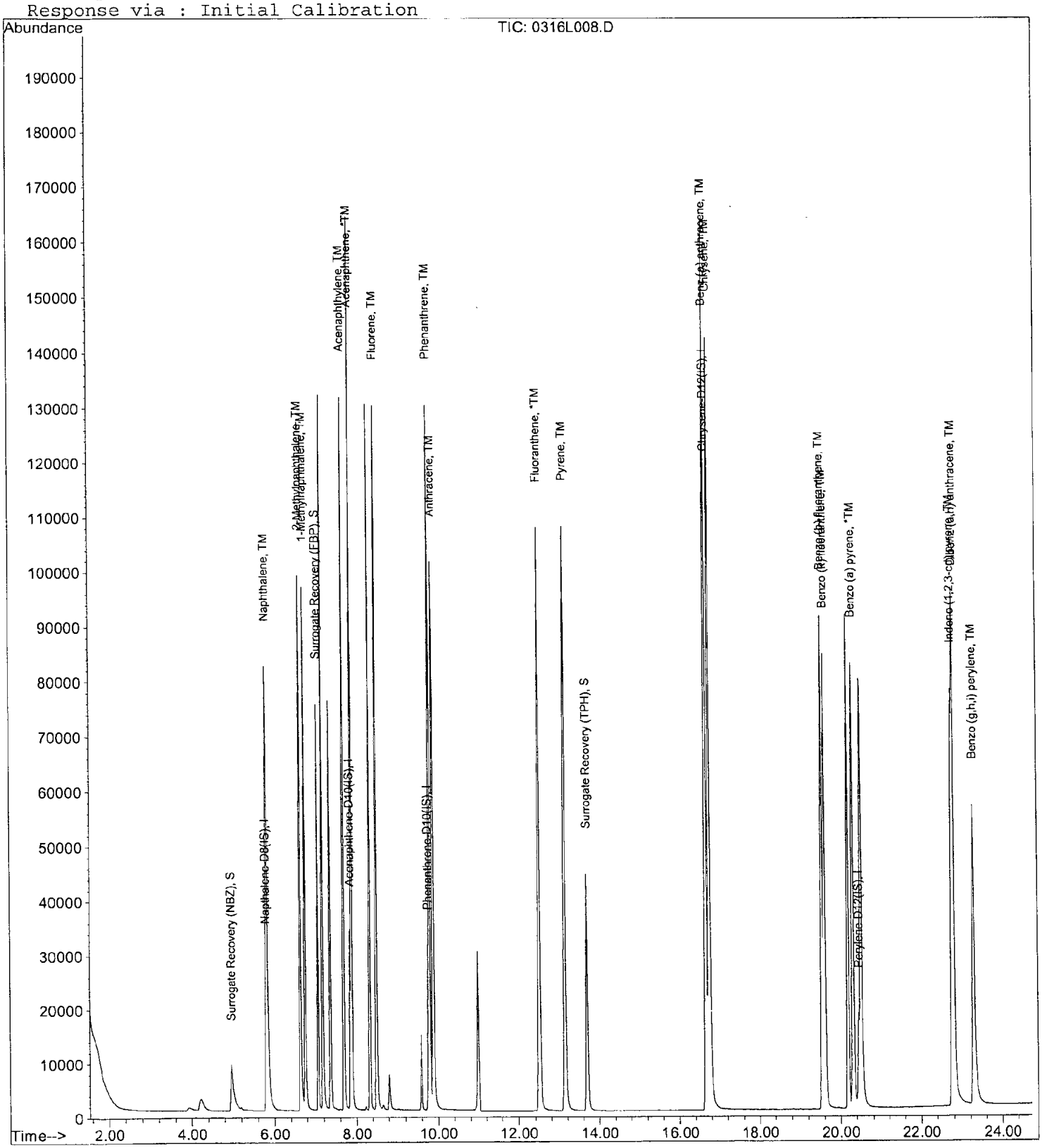
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L008.D Vial: 8
Acq On : 16 Mar 17 14:50 Operator: MA
Sample : 10 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:20 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L009.D Vial: 9
Acq On : 16 Mar 17 15:23 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:20 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 16:17:12 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	35668	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	18273	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	35321	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.69	240	42095	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.46	264	38266	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.95	82	138150	24.73364 ppb	-0.06
Spiked Amount 5.000			Recovery	= 494.680%	
7) Surrogate Recovery (FBP)	7.06	172	249819	22.34180 ppb	-0.01
Spiked Amount 5.000			Recovery	= 446.840%	
17) Surrogate Recovery (TPH)	13.69	244	302941	22.97686 ppb	-0.02
Spiked Amount 5.000			Recovery	= 459.540%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	665734	43.96323 ppb	95
4) 2-Methylnaphthalene	6.64	142	405916	49.28734 ppb	97
5) 1-Methylnaphthalene	6.75	142	381674	39.57719 ppb	98
8) Acenaphthylene	7.69	152	661545	43.71912 ppb	98
9) Acenaphthene	7.88	154	380131	41.88512 ppb	99
10) Fluorene	8.50	166	424147	42.43296 ppb	99
12) Phenanthrene	9.80	178	642722	45.17757 ppb	98
13) Anthracene	9.89	178	623344	47.09654 ppb	98
14) Fluoranthene	12.51	202	1103644	49.99631 ppb	97
16) Pyrene	13.15	202	1133814	50.63642 ppb	99
18) Benz (a) anthracene	16.67	228	974982	55.44295 ppb	100
19) Chrysene	16.77	228	907179	43.61757 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.80	276	815736	53.43208 ppb #	96
22) Benzo (b) fluoranthene	19.56	252	876167	52.29572 ppb	98
23) Benzo (k) fluoranthene	19.64	252	806957	42.39121 ppb	97
24) Benzo (a) pyrene	20.35	252	840614	51.64520 ppb	96
25) Dibenz (a,h) anthracene	22.84	278	620360	49.63440 ppb	97
26) Benzo (g,h,i) perylene	23.32	276	645177	50.53141 ppb	92

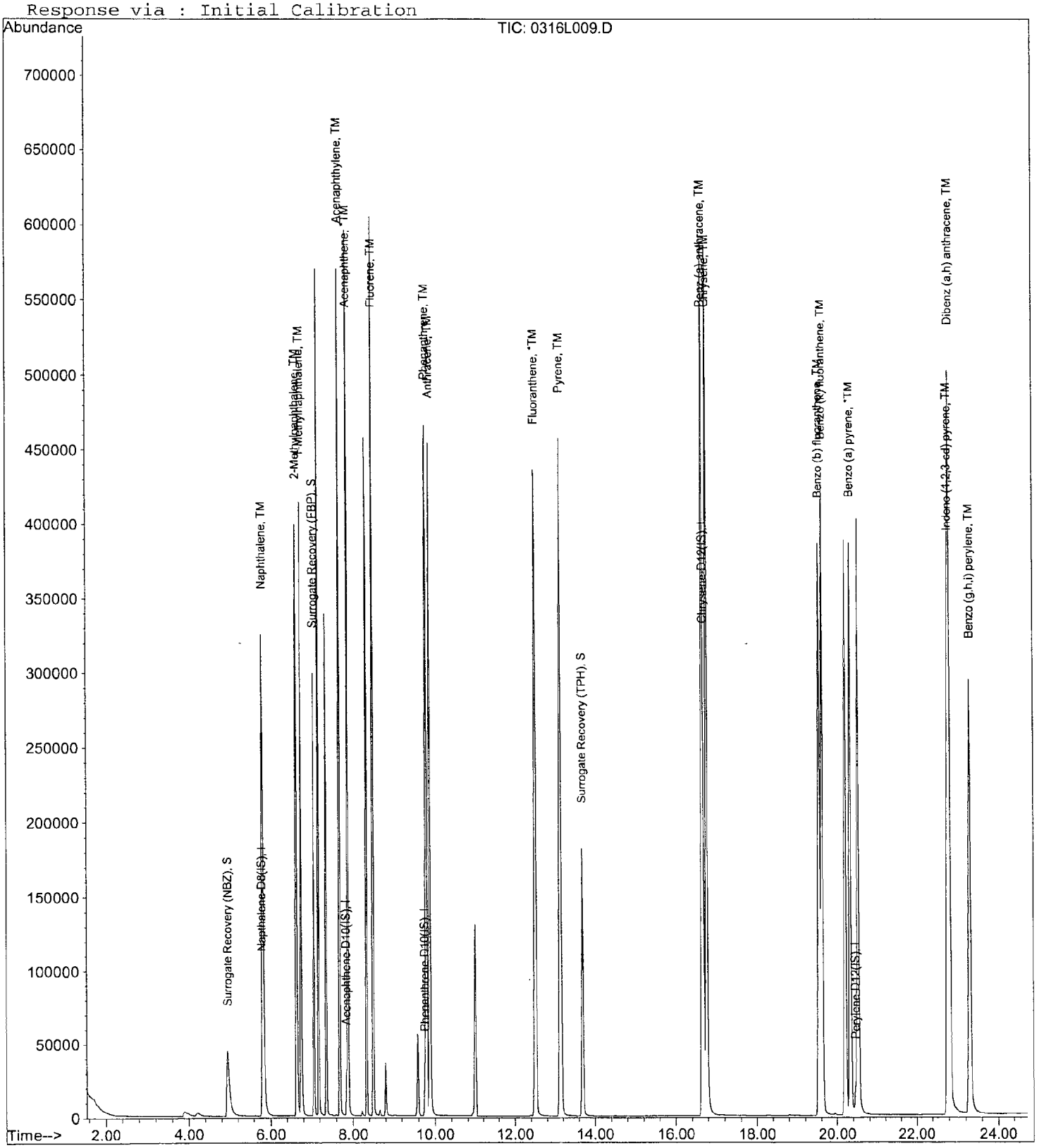
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L009.D Vial: 9
Acq On : 16 Mar 17 15:23 Operator: MA
Sample : 50 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 16 16:20 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L010.D Vial: 10
Acq On : 16 Mar 17 15:56 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 21 16:06 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:05:37 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	38001	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19578	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	37007	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.72	240	45072	2.50000 ppb	0.04
21) Perylene-D12(IS)	20.48	264	39252	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.94	82	296115	50.04091 ppb	-0.02
Spiked Amount 5.000			Recovery	= 1000.820%	
7) Surrogate Recovery (FBP)	7.06	172	496616	42.20884 ppb	0.00
Spiked Amount 5.000			Recovery	= 844.180%	
17) Surrogate Recovery (TPH)	13.71	244	626628	45.57299 ppb	0.02
Spiked Amount 5.000			Recovery	= 911.460%	
Target Compounds					Qvalue
3) Naphthalene	5.82	128	1328133	83.66238 ppb	99
4) 2-Methylnaphthalene	6.64	142	794862	89.48549 ppb	99
5) 1-Methylnaphthalene	6.75	142	744359	77.48499 ppb	99
8) Acenaphthylene	7.69	152	1273690	80.58557 ppb	98
9) Acenaphthene	7.89	154	733277	78.54492 ppb	97
10) Fluorene	8.51	166	821539	79.49052 ppb	98
12) Phenanthrene	9.81	178	1177816	79.01144 ppb	99
13) Anthracene	9.90	178	1097537	77.56993 ppb	99
14) Fluoranthene	12.54	202	2062591	83.92258 ppb	98
16) Pyrene	13.18	202	2112018	81.80888 ppb	99
18) Benz (a) anthracene	16.70	228	1866841	97.79097 ppb	99
19) Chrysene	16.81	228	1838850	98.93999 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.86	276	884129	50.79538 ppb	100
22) Benzo (b) fluoranthene	19.59	252	1696605	81.84727 ppb	99
23) Benzo (k) fluoranthene	19.68	252	1072534	57.14890 ppb	97
24) Benzo (a) pyrene	20.39	252	1543949	79.53175 ppb	99
25) Dibenz (a,h) anthracene	22.89	278	1212407	99.06313 ppb	99
26) Benzo (g,h,i) perylene	23.36	276	1205067	98.18130 ppb	100

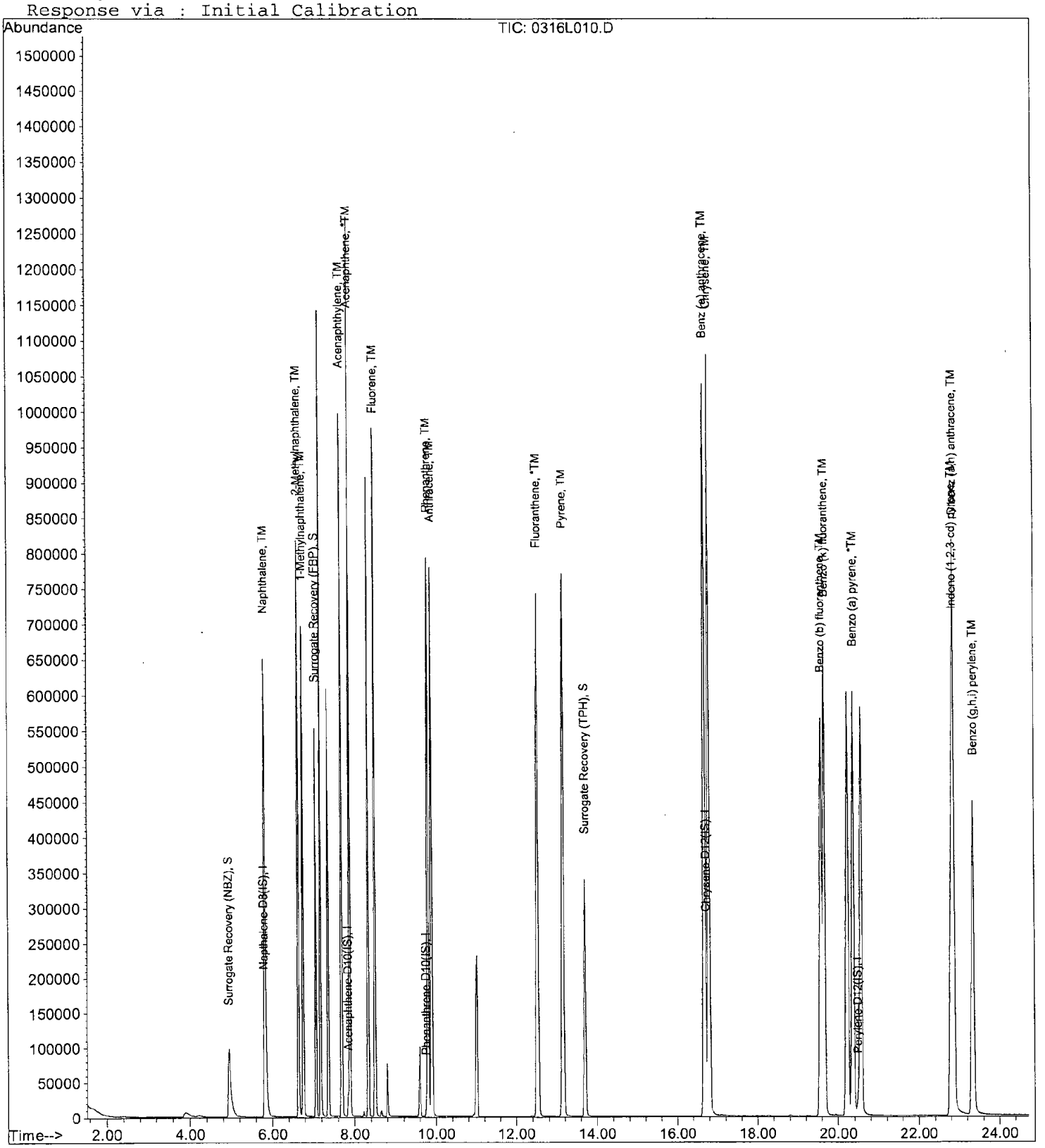
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170316\0316L010.D Vial: 10
Acq On : 16 Mar 17 15:56 Operator: MA
Sample : 100 SIM 03/01/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 21 16:06 2017 Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/16/17
Instrument: Linus
Initial Cal. Date: 03/16/17
Data File: 0316L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	1.044	1.054	0.90	TM	
2	TM	2-Methylnaphthalene	0.5844	0.6411	9.7	TM	
3	TM	1-Methylnaphthalene	0.6320	0.6758	6.9	TM	
4	TM	Acenaphthylene	2.018	2.029	0.54	TM	
5	*TM	Acenaphthene	1.192	1.241	4.1	*TM	
6	TM	Fluorene	1.320	1.403	6.3	TM	
7	TM	Phenanthrene	1.007	1.028	2.0	TM	
8	TM	Anthracene	0.9558	1.009	5.5	TM	
9	*TM	Fluoranthene	1.660	1.606	3.3	*TM	
10	TM	Pyrene	1.432	1.349	5.8	TM	
11	TM	Benz (a) anthracene	1.262	1.177	6.7	TM	
12	TML	Chrysene	1.364	1.179	14	TML	0.01
13	TML	Indeno (1,2,3-cd) pyrene	1.215	0.8164	33	TML	17
14	TM	Benzo (b) fluoranthene	1.320	1.286	2.6	TM	
15	TM	Benzo (k) fluoranthene	1.195	1.057	12	TM	
16	*TM	Benzo (a) pyrene	1.236	1.193	3.5	*TM	
17	TML	Dibenz (a,h) anthracene	1.026	1.009	1.7	TML	12
18	TML	Benzo (g,h,i) perylene	1.182	0.9725	18	TML	2.2
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L011.D
Acq On : 16 Mar 17 16:29
Sample : SS SIM 03/01/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:10 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	31927	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	17265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	33893	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.68	240	42615	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	28679	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	5	0.04983 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.000%	
7) Surrogate Recovery (FBP)	7.07	172	30	0.00289 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.060%	
17) Surrogate Recovery (TPH)	13.78	244	57	0.00438 ppb	0.09
Spiked Amount 5.000			Recovery	= 0.080%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	67290	5.04517 ppb	99
4) 2-Methylnaphthalene	6.64	142	40936	5.48534 ppb	99
5) 1-Methylnaphthalene	6.75	142	43154	5.34679 ppb	100
8) Acenaphthylene	7.69	152	70068	5.02707 ppb	100
9) Acenaphthene	7.88	154	42847	5.20442 ppb	99
10) Fluorene	8.50	166	48431	5.31389 ppb	100
12) Phenanthrene	9.79	178	69657	5.10213 ppb	100
13) Anthracene	9.89	178	68376	5.27657 ppb	99
14) Fluoranthene	12.51	202	108877	4.83700 ppb	99
16) Pyrene	13.13	202	114957	4.70958 ppb	99
18) Benz (a) anthracene	16.66	228	100305	4.66267 ppb	100
19) Chrysene	16.75	228	100488	4.99945 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.76	276	69579	4.14505 ppb #	91
22) Benzo (b) fluoranthene	19.54	252	73781	4.87153 ppb	100
23) Benzo (k) fluoranthene	19.61	252	60631	4.42170 ppb	100
24) Benzo (a) pyrene	20.32	252	68441	4.82527 ppb	100
25) Dibenz (a,h) anthracene	22.80	278	57860	5.57994 ppb	98
26) Benzo (g,h,i) perylene	23.30	276	55779	5.11036 ppb	96

$$\text{Algorithm} = \frac{67290 \times 2.5 \times 1}{31927 \times 1.044} = 5.05$$ MA 3/22/17

(#) = qualifier out of range (m) = manual integration

Quantitation Report

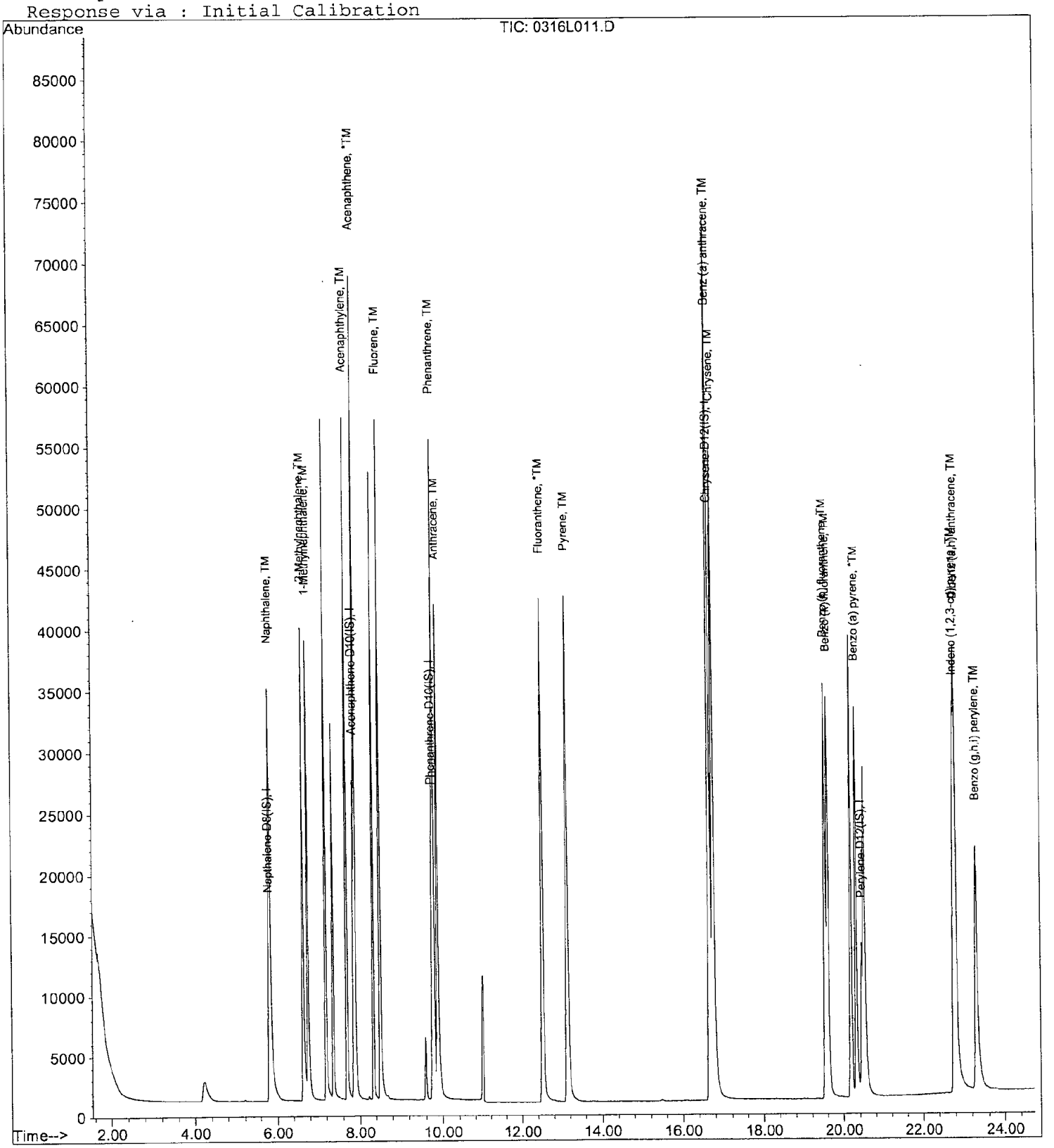
Data File : M:\LINUS\DATA\L170316\0316L011.D
Acq On : 16 Mar 17 16:29
Sample : SS SIM 03/01/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:10 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



EPA 8270C SIM

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/17/17
Instrument: Linus
Initial Cal. Date: 03/16/17
Data File: 0316L035.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.3437	0.3652	6.3	SL	4.3
3	TM	Naphthalene	1.044	1.081	3.5	TM	
4	TM	2-Methylnaphthalene	0.5844	0.6450	10	TM	
5	TM	1-Methylnaphthalene	0.6320	0.6581	4.1	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.502	1.494	0.59	S	
8	TM	Acenaphthylene	2.018	2.108	4.5	TM	
9	*TM	Acenaphthene	1.192	1.226	2.9	*TM	
10	TM	Fluorene	1.320	1.413	7.1	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.036	2.8	TM	
13	TM	Anthracene	0.9558	1.000	4.6	TM	
14	*TM	Fluoranthene	1.660	1.668	0.44	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.432	1.399	2.3	TM	
17	S	Surrogate Recovery (TPH)	0.7627	0.7309	4.2	S	
18	TM	Benz (a) anthracene	1.262	1.150	8.9	TM	
19	TML	Chrysene	1.364	1.196	12	TML	1.7
20	TML	Indeno (1,2,3-cd) pyrene	1.215	0.9651	21	TML	1.7
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.320	1.237	6.3	TM	
23	TM	Benzo (k) fluoranthene	1.195	0.9849	18	TM	
24	*TM	Benzo (a) pyrene	1.236	1.188	3.9	*TM	
25	TML	Dibenz (a,h) anthracene	1.026	0.9240	10.0	TML	0.62
26	TML	Benzo (g,h,i) perylene	1.182	0.9155	23	TML	5.2
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.4		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L035.D
Acq On : 17 Mar 17 4:50
Sample : 5.0 SIM 03/01/17
Misc : soil

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:29 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.79	136	36114	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.85	164	19108	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	38137	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	46979	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.44	264	40298	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	13190	2.39200 ppb	0.01
Spiked Amount 5.000			Recovery	= 47.840%	
7) Surrogate Recovery (FBP)	7.06	172	28539	2.48528 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.700%	
17) Surrogate Recovery (TPH)	13.68	244	34337	2.39587 ppb	0.00
Spiked Amount 5.000			Recovery	= 47.920%	

Target Compounds						Qvalue
3) Naphthalene	5.82	128	78076	5.17518 ppb		100
4) 2-Methylnaphthalene	6.64	142	46584	5.51845 ppb		100
5) 1-Methylnaphthalene	6.75	142	47533	5.20655 ppb		99
8) Acenaphthylene	7.69	152	80564	5.22261 ppb		100
9) Acenaphthene	7.88	154	46861	5.14298 ppb		97
10) Fluorene	8.50	166	53991	5.35256 ppb		100
12) Phenanthrene	9.79	178	78987	5.14169 ppb		100
13) Anthracene	9.87	178	76284	5.23173 ppb		100
14) Fluoranthene	12.50	202	127195	5.02196 ppb		100
16) Pyrene	13.13	202	131482	4.88621 ppb		99
18) Benz (a) anthracene	16.64	228	108016	4.55469 ppb		100
19) Chrysene	16.74	228	112406	5.08412 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.76	276	90679	4.91672 ppb	#	93
22) Benzo (b) fluoranthene	19.53	252	99701	4.68491 ppb		99
23) Benzo (k) fluoranthene	19.60	252	79379	4.11984 ppb		99
24) Benzo (a) pyrene	20.31	252	95724	4.80294 ppb		99
25) Dibenz (a,h) anthracene	22.80	278	74469	5.03094 ppb		98
26) Benzo (g,h,i) perylene	23.29	276	73785	4.74152 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

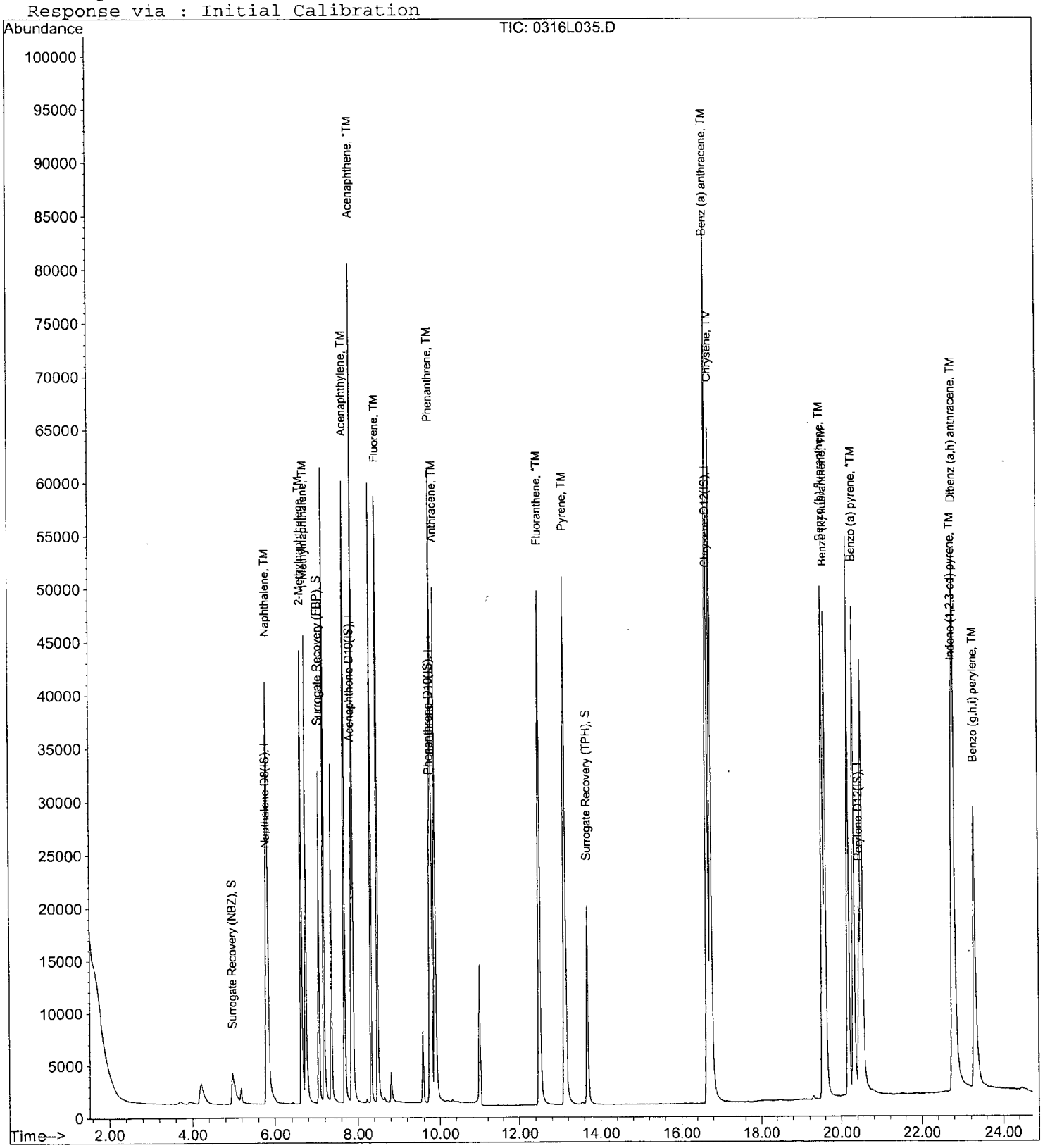
Data File : M:\LINUS\DATA\L170316\0316L035.D
Acq On : 17 Mar 17 4:50
Sample : 5.0 SIM 03/01/17
Misc : soil

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:29 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/17/17
Instrument: Linus
Initial Cal. Date: 03/16/17
Data File: 0316L054.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.3437	0.3705	7.8	SL	3.0
3	TM	Naphthalene	1.044	1.071	2.6	TM	
4	TM	2-Methylnaphthalene	0.5844	0.6575	13	TM	
5	TM	1-Methylnaphthalene	0.6320	0.6489	2.7	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.502	1.475	1.8	S	
8	TM	Acenaphthylene	2.018	2.090	3.6	TM	
9	*TM	Acenaphthene	1.192	1.202	0.84	*TM	
10	TM	Fluorene	1.320	1.375	4.2	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.007	1.030	2.3	TM	
13	TM	Anthracene	0.9558	1.017	6.4	TM	
14	*TM	Fluoranthene	1.660	1.680	1.2	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.432	1.460	2.0	TM	
17	S	Surrogate Recovery (TPH)	0.7627	0.7874	3.2	S	
18	TM	Benz (a) anthracene	1.262	1.213	3.9	TM	
19	TML	Chrysene	1.364	1.202	12	TML	2.2
20	TML	Indeno (1,2,3-cd) pyrene	1.215	0.7986	34	TML	19
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.320	1.654	25	TM	
23	TM	Benzo (k) fluoranthene	1.195	1.479	24	TM	
24	*TM	Benzo (a) pyrene	1.236	1.218	1.5	*TM	
25	TML	Dibenz (a,h) anthracene	1.026	0.8845	14	TML	4.5
26	TML	Benzo (g,h,i) perylene	1.182	1.026	13	TML	9.1
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.5		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L054.D
Acq On : 17 Mar 17 14:42
Sample : 5.0 SIM 03/01/17
Misc : soil

Vial: 54
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:29 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	35875	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.86	164	19116	2.50000 ppb	0.01
11) Phenanthrene-D10(IS)	9.76	188	29312	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.72	240	35395	2.50000 ppb	0.04
21) Perylene-D12(IS)	20.49	264	26092	2.50000 ppb	0.04
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	13290	2.42549 ppb	0.01
Spiked Amount 5.000			Recovery	= 48.500%	
7) Surrogate Recovery (FBP)	7.07	172	28199	2.45464 ppb	0.01
Spiked Amount 5.000			Recovery	= 49.100%	
17) Surrogate Recovery (TPH)	13.72	244	27869	2.58098 ppb	0.03
Spiked Amount 5.000			Recovery	= 51.620%	

Target Compounds					Qvalue
3) Naphthalene	5.83	128	76863	5.12872 ppb	100
4) 2-Methylnaphthalene	6.65	142	47179	5.62617 ppb	100
5) 1-Methylnaphthalene	6.76	142	46561	5.13406 ppb	98
8) Acenaphthylene	7.70	152	79919	5.17863 ppb	100
9) Acenaphthene	7.89	154	45959	5.04187 ppb	98
10) Fluorene	8.51	166	52552	5.20772 ppb	99
12) Phenanthrene	9.81	178	60393	5.11490 ppb	99
13) Anthracene	9.90	178	59633	5.32107 ppb	99
14) Fluoranthene	12.54	202	98509	5.06034 ppb	99
16) Pyrene	13.16	202	103369	5.09868 ppb	99
18) Benz (a) anthracene	16.69	228	85857	4.80516 ppb	100
19) Chrysene	16.79	228	85064	5.11000 ppb	98
20) Indeno (1,2,3-cd) pyrene	22.81	276	56534	4.05295 ppb #	87
22) Benzo (b) fluoranthene	19.58	252	86294	6.26265 ppb	100
23) Benzo (k) fluoranthene	19.65	252	77156	6.18473 ppb	99
24) Benzo (a) pyrene	20.36	252	63569	4.92615 ppb	100
25) Dibenz (a,h) anthracene	22.85	278	46159	4.77556 ppb	96
26) Benzo (g,h,i) perylene	23.35	276	53517	5.45391 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

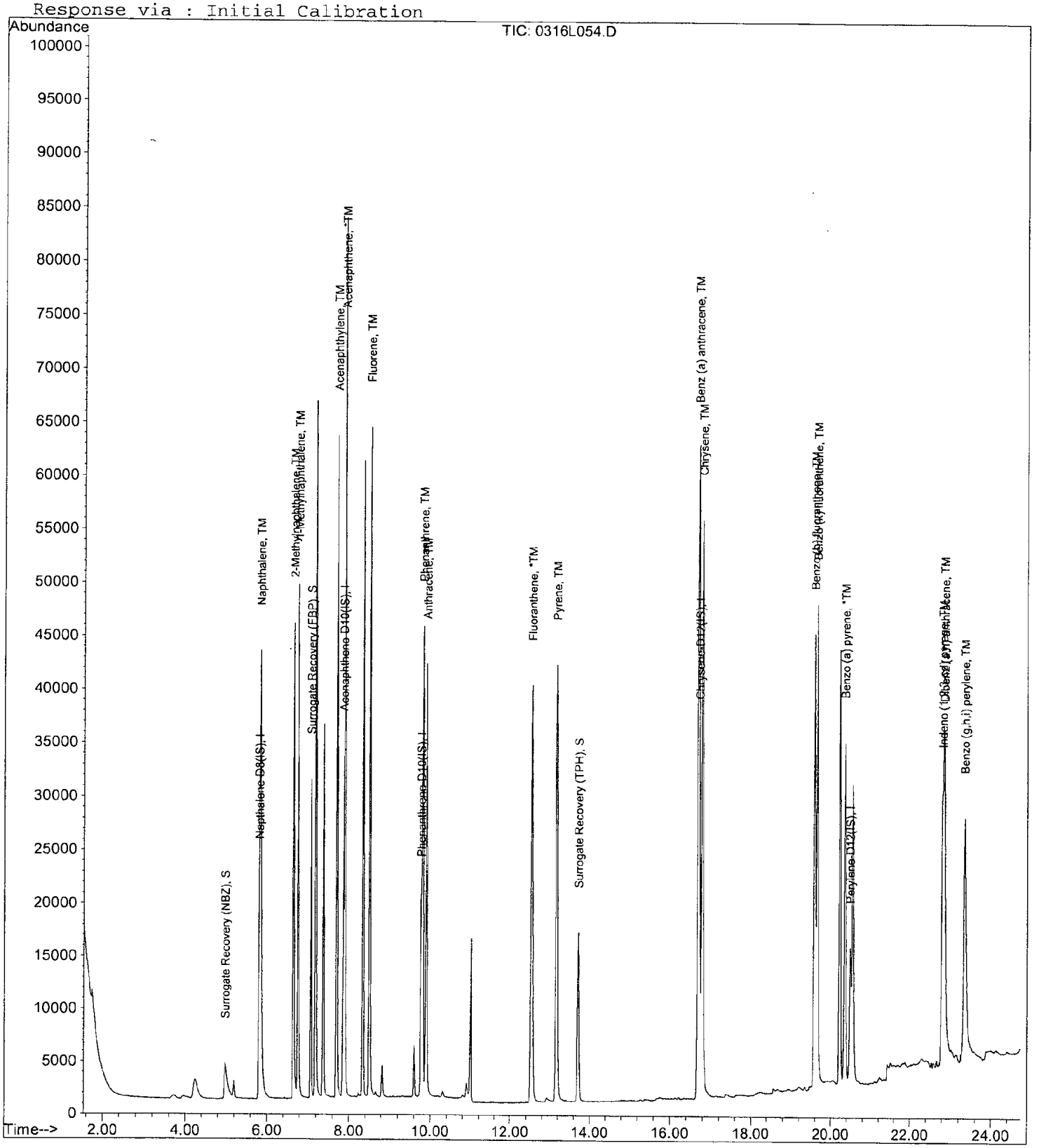
Data File : M:\LINUS\DATA\L170316\0316L054.D
Acq On : 17 Mar 17 14:42
Sample : 5.0 SIM 03/01/17
Misc : soil

Vial: 54
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 21 16:29 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Tue Mar 21 16:08:59 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216987**
Batch ID: #SIMDO-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	03/11/17	03/16/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	03/11/17	03/16/17
BLANK	SURROGATE: 2-FLUORBIPHENY	58.3	53-106			%	03/11/17	03/16/17
BLANK	SURROGATE: NITROBENZENE-	58.2	55-111			%	03/11/17	03/16/17
BLANK	SURROGATE: TERPHENYL-D14 (	70.9	58-132			%	03/11/17	03/16/17

Quant Method: L0316P.M
Run #: 0316L013
Instrument: Linus
Sequence: L170316
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 2:54:16 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L013.D
Acq On : 16 Mar 17 17:26
Sample : 170311A BLK 1/1000
Misc : water

Vial: 13
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:51 2017

Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	38182	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	20484	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.76	188	40684	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.69	240	46029	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.47	264	42521	2.50000 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.96	82	17035	2.91115 ppb	0.00
Spiked Amount 5.000			Recovery	= 58.220%	
7) Surrogate Recovery (FBP)	7.07	172	35882	2.91483 ppb	0.01
Spiked Amount 5.000			Recovery	= 58.300%	
17) Surrogate Recovery (TPH)	13.69	244	49761	3.54374 ppb	0.00
Spiked Amount 5.000			Recovery	= 70.880%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0316L013.D L0316P.M Fri Mar 17 08:51:31 2017

Quantitation Report

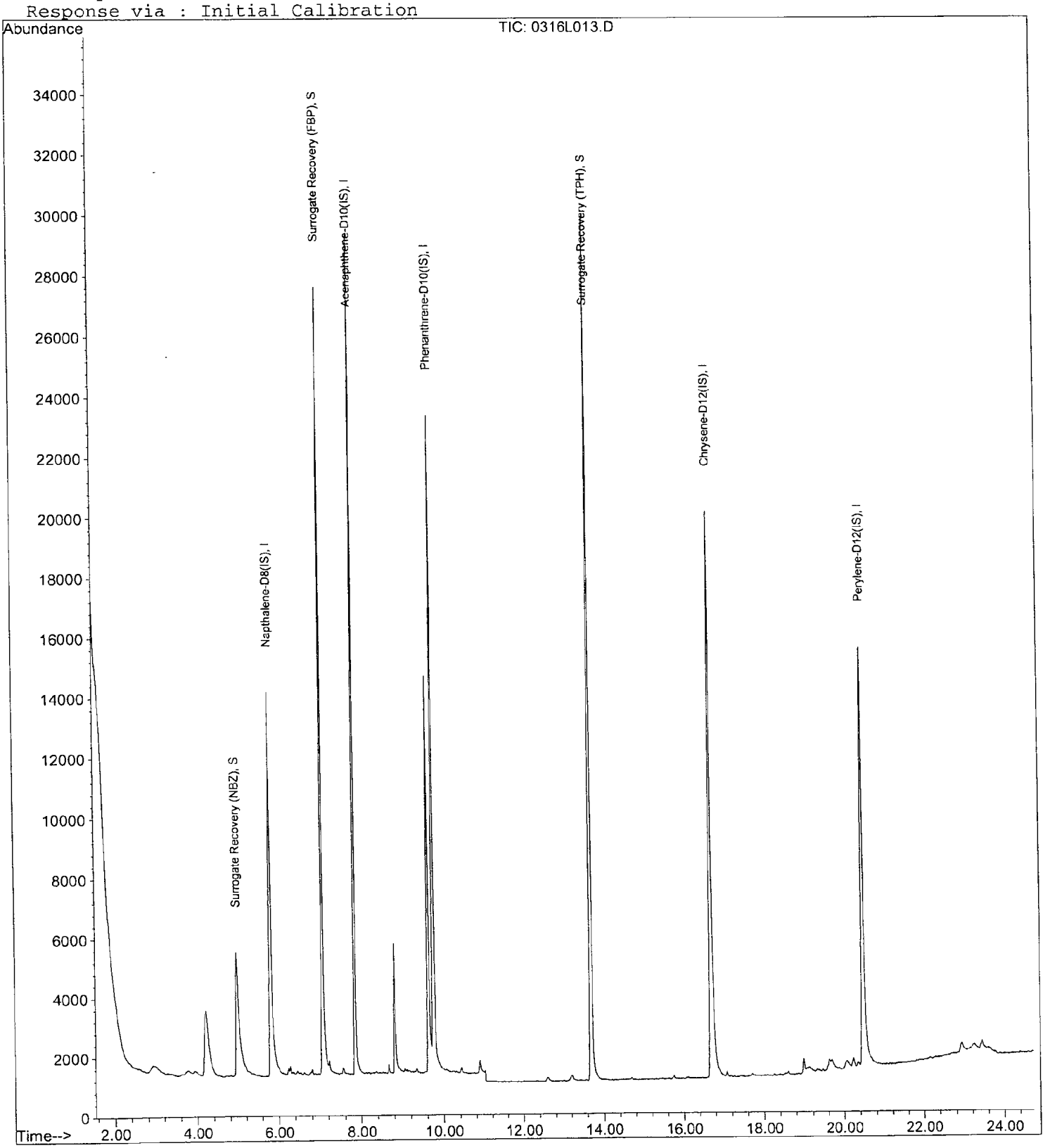
Data File : M:\LINUS\DATA\L170316\0316L013.D
Acq On : 16 Mar 17 17:26
Sample : 170311A BLK 1/1000
Misc : water

Vial: 13
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:51 2017

Quant Results File: L0316P.RES

Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170311W-51357 LCS - 216987**
Batch ID: #SIMDO-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.56	71.2	41-115
2-METHYLNAPHTHALENE	5.00	3.51	70.2	39-114
NAPHTHALENE	5.00	3.10	62.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.12	62.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	2.99	59.8	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	3.82	76.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0316P.M
Extraction Date :	03/11/17
Analysis Date :	03/16/17
Instrument :	Linus
Run :	0316L014
Initials :	RHA

Printed: 03/17/17 2:54:09 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170316\0316L014.D
Acq On : 16 Mar 17 17:58
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 14
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:32 2017 Quant Results File: L0316P.RES

Quant Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.81	136	38852	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.85	164	19858	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.75	188	39838	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.67	240	45495	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.45	264	38780	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.97	82	17841	2.99489 ppb	0.01
Spiked Amount 5.000			Recovery	= 59.900%	
7) Surrogate Recovery (FBP)	7.06	172	37185	3.11590 ppb	0.00
Spiked Amount 5.000			Recovery	= 62.320%	
17) Surrogate Recovery (TPH)	13.69	244	53026	3.82058 ppb	0.00
Spiked Amount 5.000			Recovery	= 76.420%	

Target Compounds					Qvalue
3) Naphthalene	5.82	128	50379	3.10399 ppb	99
4) 2-Methylnaphthalene	6.64	142	31900	3.51264 ppb	98
5) 1-Methylnaphthalene	6.75	142	35012	3.56479 ppb	98
8) Acenaphthylene	7.69	152	54972	3.42900 ppb	100
9) Acenaphthene	7.88	154	33374	3.52445 ppb	99
10) Fluorene	8.50	166	40817	3.89369 ppb	100
12) Phenanthrene	9.79	178	64346	4.00978 ppb	100
13) Anthracene	9.89	178	61821	4.05879 ppb	100
14) Fluoranthene	12.51	202	107337	4.05697 ppb	100
16) Pyrene	13.14	202	108708	4.17165 ppb	99
18) Benz (a) anthracene	16.65	228	86182	3.75738 ppb	100
19) Chrysene	16.75	228	92305	4.19510 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.77	276	76628	4.27886 ppb #	91
22) Benzo (b) fluoranthene	19.54	252	78631	3.83947 ppb	99
23) Benzo (k) fluoranthene	19.61	252	73821	4.20668 ppb	100
24) Benzo (a) pyrene	20.32	252	78491	4.09243 ppb	100
25) Dibenz (a,h) anthracene	22.81	278	65176	4.09444 ppb	99
26) Benzo (g,h,i) perylene	23.30	276	72398	4.85774 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

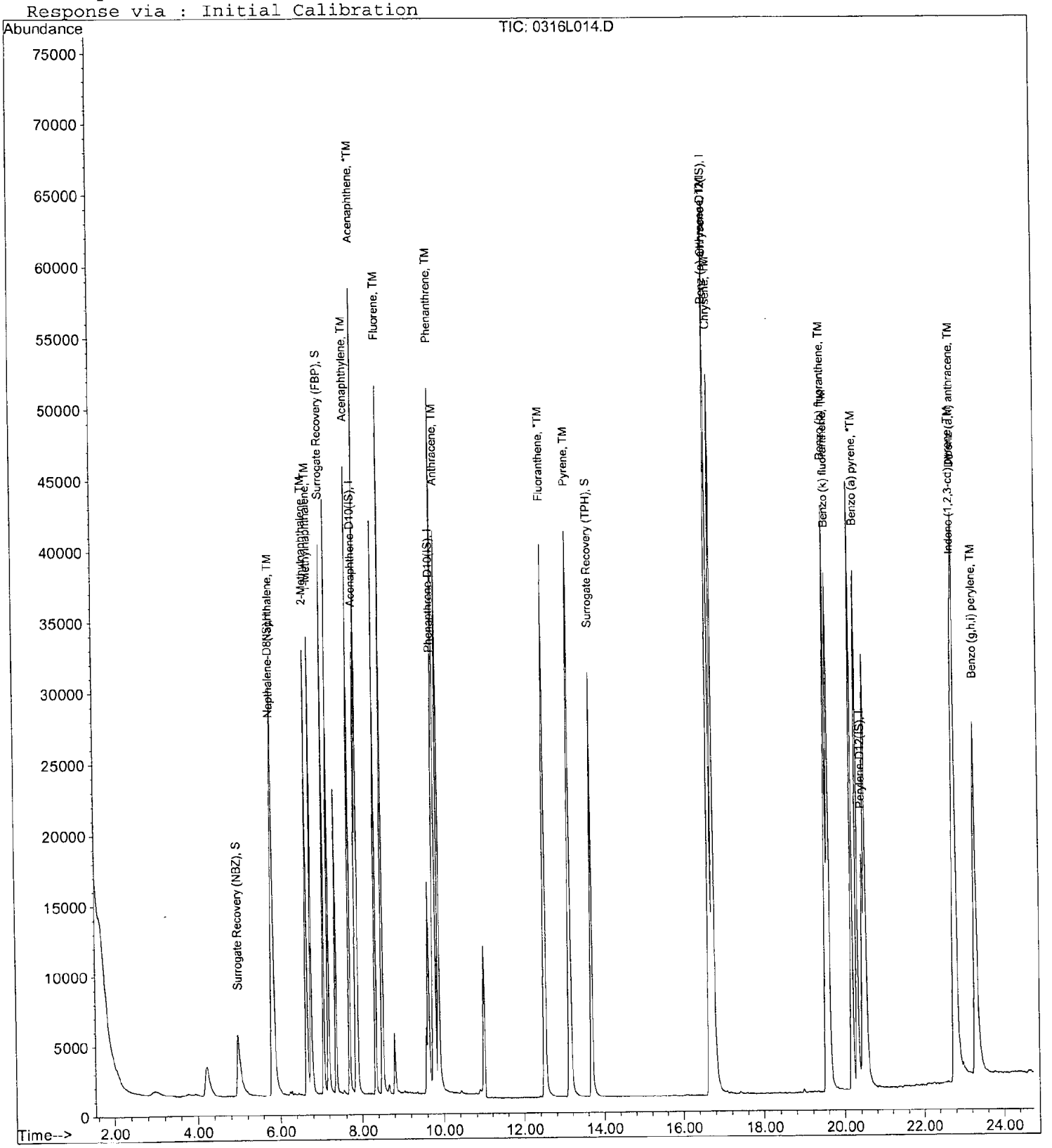
Data File : M:\LINUS\DATA\L170316\0316L014.D
Acq On : 16 Mar 17 17:58
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 14
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 17 8:32 2017

Quant Results File: L0316P.RES

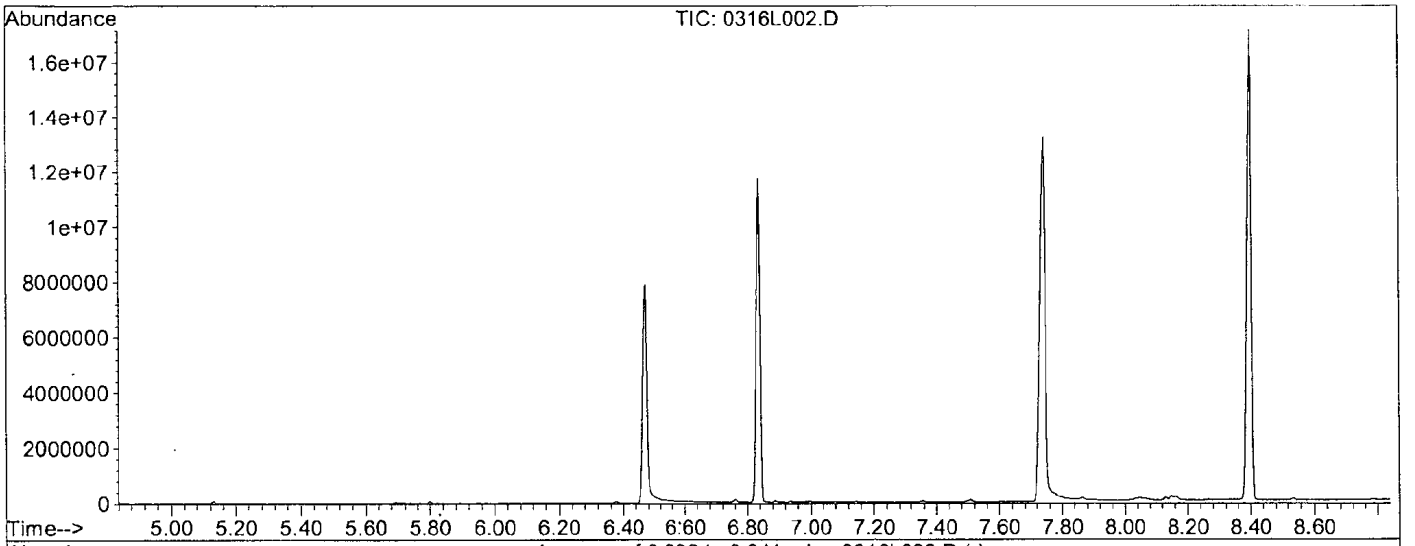
Method : M:\LINUS\DATA\L170316\L0316P.M (RTE Integrator)
Title : EPA 8270
Last Update : Thu Mar 16 17:00:13 2017
Response via : Initial Calibration

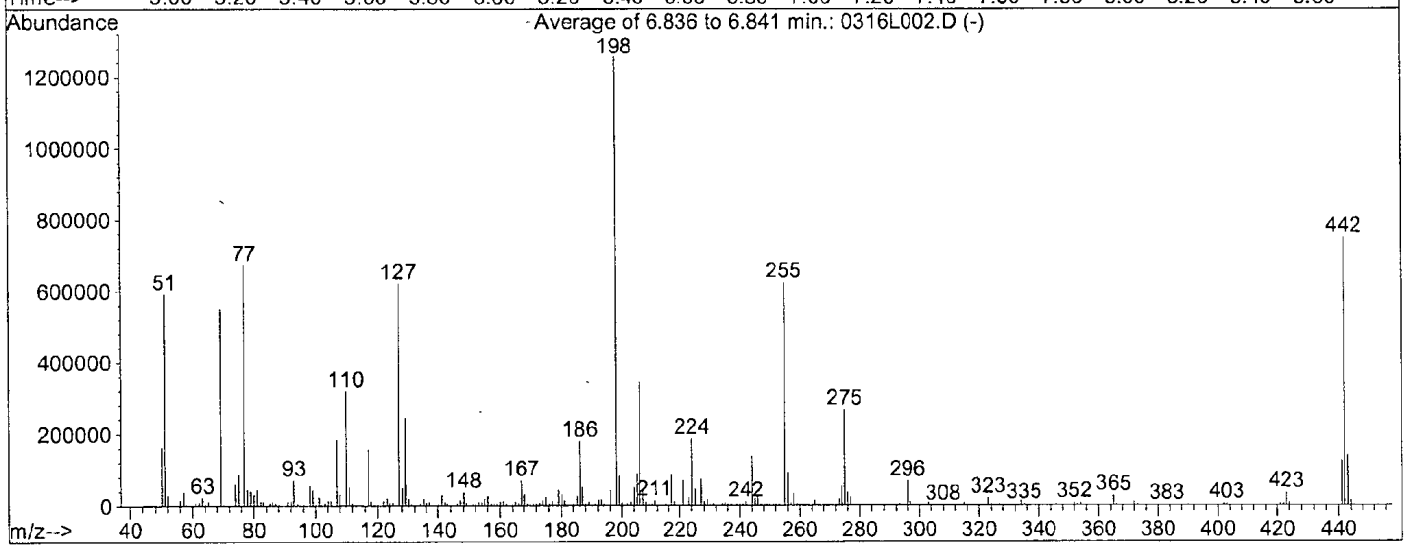


DFTPP

Data File : M:\LINUS\DATA\L170316\0316L002.D Vial: 2
Acq On : 16 Mar 17 11:50 Operator: MA
Sample : SV Tune 02/09/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170316\DFTPP2.M (Chemstation Integrator)
Title :





Spectrum Information: Average of 6.836 to 6.841 min.

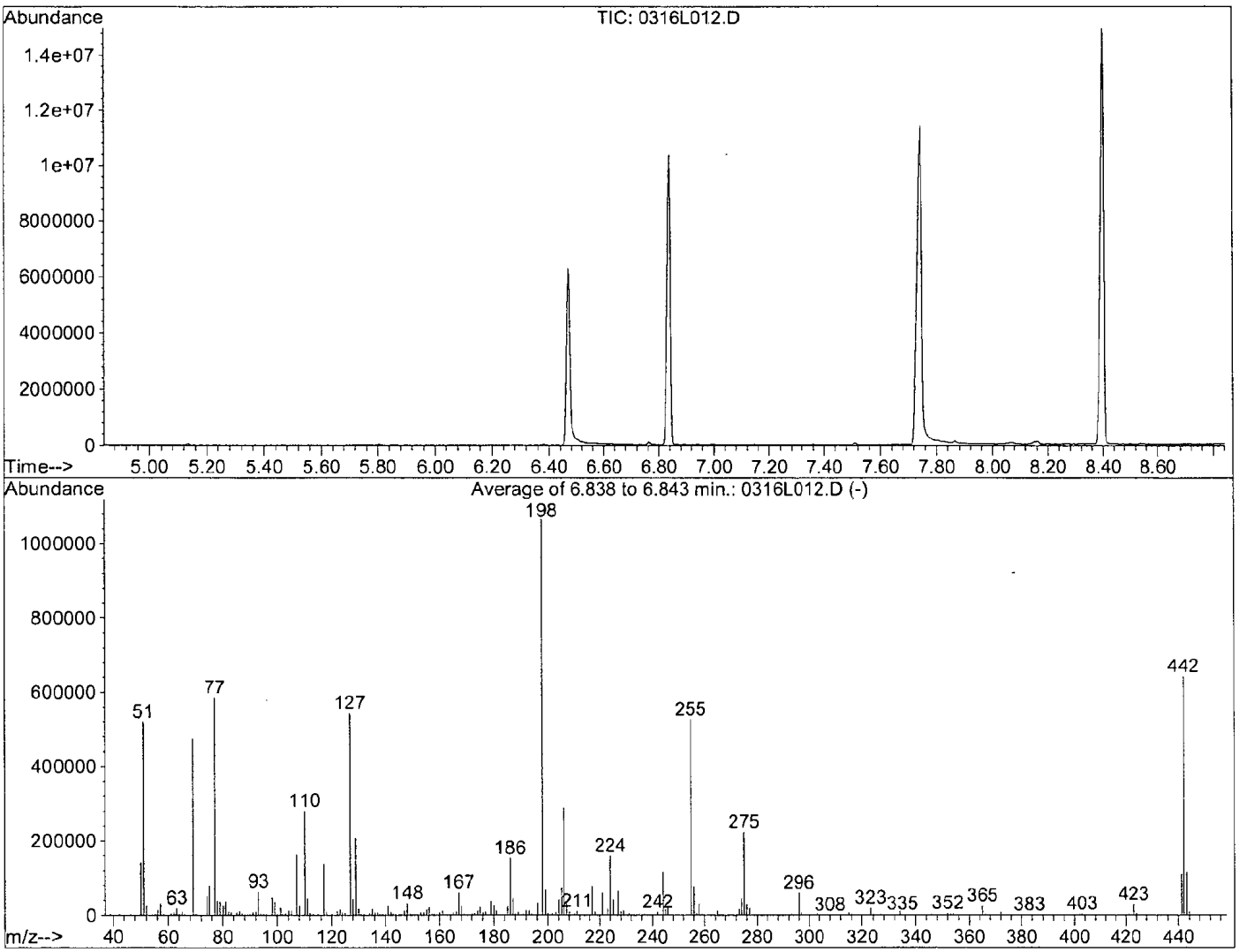
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.0	591613	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	551499	PASS
70	69	0.00	2	0.5	2561	PASS
127	198	40	60	49.3	620715	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1258667	PASS
199	198	5	9	6.5	82283	PASS
275	198	10	30	21.2	266624	PASS
365	198	1	100	2.1	26419	PASS
441	443	0.01	100	87.7	122555	PASS
442	198	40	150	59.5	749013	PASS
443	442	17	23	18.7	139768	PASS

0316L002.D DFTPP2.M Tue Mar 21 11:04:12 2017

DFTPP

Data File : M:\LINUS\DATA\L170316\0316L012.D Vial: 12
Acq On : 16 Mar 17 17:08 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170316\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.838 to 6.843 min.

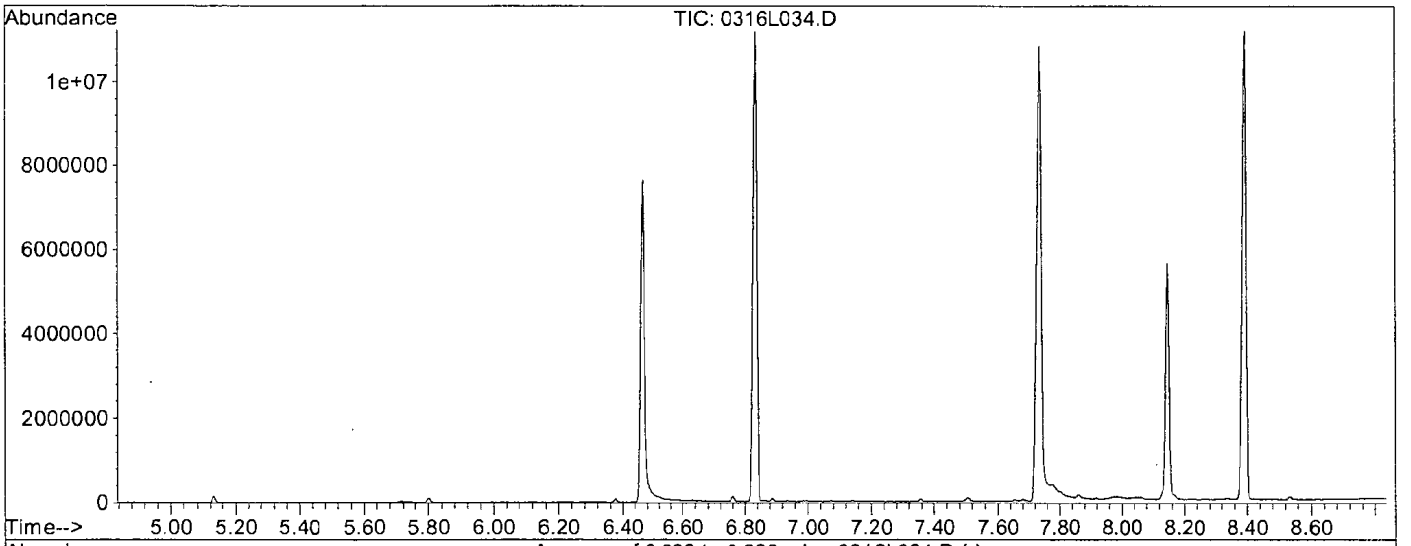
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.8	520252	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	474733	PASS
70	69	0.00	2	0.6	2679	PASS
127	198	40	60	51.0	543893	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1065557	PASS
199	198	5	9	6.5	69088	PASS
275	198	10	30	21.0	223573	PASS
365	198	1	100	2.4	25643	PASS
441	443	0.01	100	94.3	110344	PASS
442	198	40	150	60.4	643285	PASS
443	442	17	23	18.2	117019	PASS

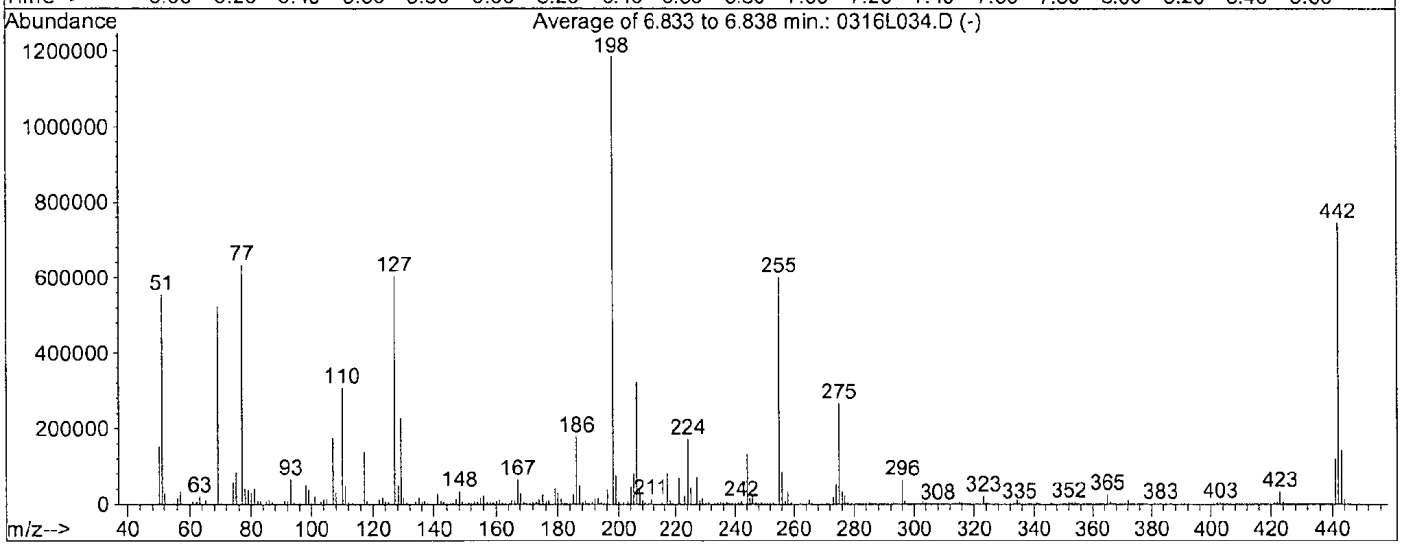
0316L012.D DFTPP2.M Tue Mar 21 14:01:14 2017

DFTPP

Data File : M:\LINUS\DATA\L170316\0316L034.D Vial: 34
Acq On : 17 Mar 17 4:32 Operator: MA
Sample : SV Tune 2/9/17 Inst : Linus
Misc : soil Multiplr: 1.00

Method : M:\LINUS\DATA\L170316\DFTPP2.M (Chemstation Integrator)
Title :





Spectrum Information: Average of 6.833 to 6.838 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.7	554567	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	522982	PASS
70	69	0.00	2	0.6	3082	PASS
127	198	40	60	50.8	603797	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1188011	PASS
199	198	5	9	6.4	76363	PASS
275	198	10	30	22.4	265813	PASS
365	198	1	100	2.2	25864	PASS
441	443	0.01	100	84.0	120360	PASS
442	198	40	150	62.8	745664	PASS
443	442	17	23	19.2	143325	PASS

0316L034.D DFTPP2.M Tue Mar 21 14:01:46 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/01/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**07/12/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	278353-36992	9/12/16	9/12/17	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/01/17	07/12/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/01/17	07/12/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		1/12/17	07/12/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 7/12/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 PAH SIM 2ND SRC			Prep: 03/01/17 Exp 06/24/17 RH		
Supplier	**Standard**	**Conc.**	**Prep**	**Exp**	**µL**
O2SI	8270 2ND SRC	200	01/24/17	06/21/17	25
	Methylene Chloride				75
o2si	SV Internal Standar	2000	10/10/16	10/10/17	2
LOT#	XA10079V-35507			Final Vol.	102

8270 PAH SIM SS						
PREP DATE:	01/24/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp. DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

PAH SIM STD prep: 09/12/16-R.H.						
Exp:	9/12/17					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	278353-35992	9/12/16	9/12/17	1000
				Fin Vol.		1000

Semivolatile (SV) Tuning Solution -G.A.						
PREP DATE:	02/09/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile GC/MS Tu	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Surrog Mix 100/200ppm						
Prep: 02/07/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37
OP: 03/09/17 RH	
EX: 03/09/17	

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170311A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 3-9-17 EXP 3-9-18		Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	03/11/17 7:36	
Spiked ID 8			Ext. End Time:	03/13/17 12:05	
			GC Requires Extract By:	**03/14/17 0:00**	

pH1	2	03/11/17 7:50:00 AM	Water Bath Temp Criteria	70 °C
pH2	14	3/11/17 10:00:00 AM		
pH3				

Spiked By: DL **Date** 03/11/17 **Witnessed By:** JR **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A-Blk				0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
2	170311A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
3	170311A LCSD-1		0.0250	1	0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	
4	AZ51357	AZ51357W12			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
5	AZ51359	AZ51359W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
6	AZ51360	AZ51360W09			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
7	AZ51362	AZ51362W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
8	AZ51364	AZ51364W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82369 5 DAYS
9	AZ51530	AZ51530W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
10	AZ51533	AZ51533W14			0.050	1 equip	1000 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
11	AZ51535	AZ51535W14			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS
12	AZ51536	AZ51536W10			0.050	1 equip	1070 E-WB6	1	2/1	03/11/17 7:36	82389 5 DAYS

KY 3/13/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-28-17
PH STRIP	HC 574756
MC	56258
A. Na2SO4	1-3-17
10N NaOH	1-14-17
B. Na2SO4	16C255214
FILTER PAPER	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/13/17
Time	1:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL,JR
Extraction	KY,DL,JR
Concentration	DL
Modified	03/13/17 12:28:02 PM

Reviewed By: KY **Date** 3/13/17

Injection Log

Directory: M:\LINUS\DATA\L170316\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0316L002.D	1	SV Tune 02/09/17	water	16 Mar 17 11:50
2	3	0316L003.D	1	0.1 SIM 03/01/17	water	16 Mar 17 12:08
3	4	0316L004.D	1	0.2 SIM 03/01/17	water	16 Mar 17 12:41
4	5	0316L005.D	1	0.5 SIM 03/01/17	water	16 Mar 17 13:13
5	6	0316L006.D	1	1.0 SIM 03/01/17	water	16 Mar 17 13:45
6	7	0316L007.D	1	5.0 SIM 03/01/17	water	16 Mar 17 14:17
7	8	0316L008.D	1	10 SIM 03/01/17	water	16 Mar 17 14:50
8	9	0316L009.D	1	50 SIM 03/01/17	water	16 Mar 17 15:23
9	10	0316L010.D	1	100 SIM 03/01/17	water	16 Mar 17 15:56
10	11	0316L011.D	1	SS SIM 03/01/17	water	16 Mar 17 16:29
11	12	0316L012.D	1	SV Tune 2/9/17	water	16 Mar 17 17:08
12	13	0316L013.D	1	170311A BLK 1/1000	water	16 Mar 17 17:26
13	14	0316L014.D	1	170311A LCS-1 1/1000	water	16 Mar 17 17:58
14	21	0316L021.D	1	AZ51530W14 1/1000	water	16 Mar 17 21:47
15	22	0316L022.D	1	AZ51533W14 1/1000	water	16 Mar 17 22:20
16	23	0316L023.D	0.93458	AZ51535W14 1/1070	water	16 Mar 17 22:52
17	34	0316L034.D	1	SV Tune 2/9/17	water	17 Mar 17 4:32
18	35	0316L035.D	1	5.0 SIM 03/01/17	water	17 Mar 17 4:50
19	50	0316L050.D	0.934579	AZ51536W10 1/1070	water	17 Mar 17 12:57
20	54	0316L054.D	1	5.0 SIM 03/01/17	water	17 Mar 17 14:42

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216940**
Batch ID: #87DC5-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	57.0	43-140			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	55.3	44-119			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.9	19-119			%	03/11/17	03/14/17
BLANK	SURROGATE: NITROBENZENE-	56.9	44-120			%	03/11/17	03/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	28.4	10-115			%	03/11/17	03/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	58.1	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y290
Instrument: Yoda
Sequence: Y170123
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 11:39:49 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER

SDG No: 82389
Date Analyzed: 03/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	43-140	57.0		44-119	55.3	
170311A-LCS	Lab Control Spike	43-140	55.5		44-119	52.7	
AZ51530	ERH275	43-140	59.8		44-119	57.1	
AZ51533	ERH278	43-140	62.6		44-119	56.7	
AZ51535	ERH286	43-140	64.8		44-119	64.1	
AZ51536	ERH282	43-140	59.5		44-119	61.5	

Comments: Batch: #87DC5-170311A

Printed: 03/16/17 11:39:50 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER

SDG No: 82389
Date Analyzed: 03/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	19-119	43.9		44-120	56.9	
170311A-LCS	Lab Control Spike	19-119	42.7		44-120	58.0	
AZ51530	ERH275	19-119	45.9		44-120	63.5	
AZ51533	ERH278	19-119	36.0		44-120	55.7	
AZ51535	ERH286	19-119	40.5		44-120	64.2	
AZ51536	ERH282	19-119	42.5		44-120	64.4	

Comments: Batch: #87DC5-170311A

Printed: 03/16/17 11:39:50 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER

SDG No: 82389
Date Analyzed: 03/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311A-BLK	Blank	10-115	28.4		50-134	58.1	
170311A-LCS	Lab Control Spike	10-115	27.6		50-134	57.8	
AZ51530	ERH275	10-115	29.1		50-134	61.3	
AZ51533	ERH278	10-115	22.7		50-134	60.5	
AZ51535	ERH286	10-115	25.9		50-134	65.2	
AZ51536	ERH282	10-115	26.4		50-134	62.0	

Comments: Batch: #87DC5-170311A

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170311W-51357 LCS - 216940**
Batch ID: #87DC5-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.0	38.0	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	111	55.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	52.7	52.7	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	85.4	42.7	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	58.0	58.0	44-120
SURROGATE: PHENOL-D6 (S)	200	55.2	27.6	10-115
SURROGATE: TERPHENYL-D14 (S)	100	57.8	57.8	50-134

Comments:

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/11/17
Analysis Date :	03/14/17
Instrument :	Yoda
Run :	0123Y291
Initials :	MA

Printed: 03/16/17 11:39:51 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER
Blank ID: 170311A-BLK

SDG No: 82389
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 1003

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311A-BLK	Blank	0123Y290	03/14/17 1003
170311A-LCS	Lab Control Spike	0123Y291	03/14/17 1033
AZ51530	ERH275	0123Y297	03/14/17 1339
AZ51533	ERH278	0123Y298	03/14/17 1410
AZ51535	ERH286	0123Y299	03/14/17 1441
AZ51536	ERH282	0123Y300	03/14/17 1512

Comments: Batch: #87DC5-170311A

Printed: 03/16/17 11:39:52 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 10/19/16

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Time Analyzed: 10:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 1/19/17	0123Y003.D	01/23/17 10:29
2		10ug/ml SVOC 1/19/17	0123Y004.D	01/23/17 11:02
3		20ug/ml SVOC 1/19/17	0123Y005.D	01/23/17 11:32
4		40ug/ml SVOC 1/19/17	0123Y006.D	01/23/17 12:02
5		50ug/ml SVOC 1/19/17	0123Y007.D	01/23/17 12:32
6		60ug/ml SVOC 1/19/17	0123Y008.D	01/23/17 13:02
7		80ug/ml SVOC 1/19/17	0123Y009.D	01/23/17 13:32
8		100ug/ml SVOC 1/19/1	0123Y010.D	01/23/17 14:02
9		2ND SRC SVOC 1/19/17	0123Y011.D	01/23/17 15:32
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.9
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.0
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	92.3
442	50 - 150% of mass 197.95	94.9
443	17 - 23% of mass 442	17.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 02/09/16

SDG No: 82389
Date Analyzed: 03/14/17
Instrument: Yoda
Time Analyzed: 7:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 3/02/17	0123Y287.D	03/14/17 8:01
2	Blank	170311A BLK 1/1000	0123Y290.D	03/14/17 10:03
3	Lab Control Spike	170311A LCS-1 1/1000	0123Y291.D	03/14/17 10:33
4	ERH275	AZ51530W12 1/1000	0123Y297.D	03/14/17 13:39
5	ERH278	AZ51533W12 1/1070	0123Y298.D	03/14/17 14:10
6	ERH286	AZ51535W13 1/1070	0123Y299.D	03/14/17 14:41
7	ERH282	AZ51536W08 1/1070	0123Y300.D	03/14/17 15:12
8		50ug/ml SVOC 3/02/17	0123Y302.D	03/14/17 16:14
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.8
127	40 - 60% of mass 198	55.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	25.4
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	84.0
442	50 - 150% of mass 198	105.4
443	17 - 23% of mass 442	19.6

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82389

Lab File ID (Standard): 0123Y007.D Date Analyzed: 01/23/17

Instrument ID: Yoda Time Analyzed: 12:32

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	150765	4.82	640333	6.25	362522	8.27
	UPPER LIMIT	301530	5.32	1280666	6.75	725044	8.77
	LOWER LIMIT	75383	4.32	320167	5.75	181261	7.77
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	148886	4.82	626658	6.24	373403	8.26
02	170311A BLK 1/1000	156534	4.82	667734	6.25	395844	8.26
03	170311A LCS-1 1/1000	144538	4.82	639616	6.25	381415	8.26
04	AZ51530W12 1/1000	150511	4.83	662164	6.25	398063	8.26
05	AZ51533W12 1/1070	149088	4.82	636738	6.25	367333	8.26
06	AZ51535W13 1/1070	149566	4.82	646086	6.25	378289	8.26
07	AZ51536W08 1/1070	147549	4.82	649454	6.25	373720	8.26
08	50ug/ml SVOC 3/02/17	148257	4.82	608139	6.25	361584	8.26
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82389
Lab File ID (Standard): 0123Y007.D
Date Analyzed: 01/23/17
Instrument ID: Yoda
Time Analyzed: 12:32
GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	715900	9.99	672727	13.07	667170	14.70
	UPPER LIMIT	1431800	10.49	1345454	13.57	1334340	15.20
	LOWER LIMIT	357950	9.49	336364	12.57	333585	14.20
	SAMPLE NO.						
01	50ug/ml SVOC 3/02/17	695280	9.99	671130	13.06	737668	14.69
02	170311A BLK 1/1000	730021	9.98	738810	13.06	767946	14.70
03	170311A LCS-1 1/1000	705712	9.98	703810	13.06	747749	14.70
04	AZ51530W12 1/1000	732266	9.98	724866	13.06	743869	14.70
05	AZ51533W12 1/1070	695831	9.98	685410	13.06	694348	14.70
06	AZ51535W13 1/1070	695279	9.99	693980	13.06	715035	14.69
07	AZ51536W08 1/1070	697197	9.99	683564	13.06	688734	14.69
08	50ug/ml SVOC 3/02/17	672725	9.99	649830	13.07	691935	14.70
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.8	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	57.1	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	45.9	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	63.5	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	61.3	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y297
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:39:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y297.D
Acq On : 14 Mar 17 13:39
Sample : AZ51530W12 1/1000
Misc : water

Vial: 97
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	150511	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	662164	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	398063	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	732266	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	724866	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	743869	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	436142	91.86350 ppb	-0.02
Spiked Amount 200.000			Recovery = 45.932%		
5) Phenol-D6 (S)	4.47	99	368015	58.26141 ppb	0.00
Spiked Amount 200.000			Recovery = 29.131%		
21) Nitrobenzene-D5(S)	5.46	82	426402	63.49670 ppb	0.00
Spiked Amount 100.000			Recovery = 63.497%		
45) 2-Fluorobiphenyl(S)	7.49	172	728613	57.05717 ppb	0.00
Spiked Amount 100.000			Recovery = 57.057%		
63) 2,4,6-Tribromophenol(S)	9.19	330	220312	119.57207 ppb	0.00
Spiked Amount 200.000			Recovery = 59.786%		
81) Terphenyl-D14(S)	11.85	244	955426	61.28034 ppb	0.00
Spiked Amount 100.000			Recovery = 61.280%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y297.D Y0123.M Thu Mar 16 11:09:03 2017

Quantitation Report

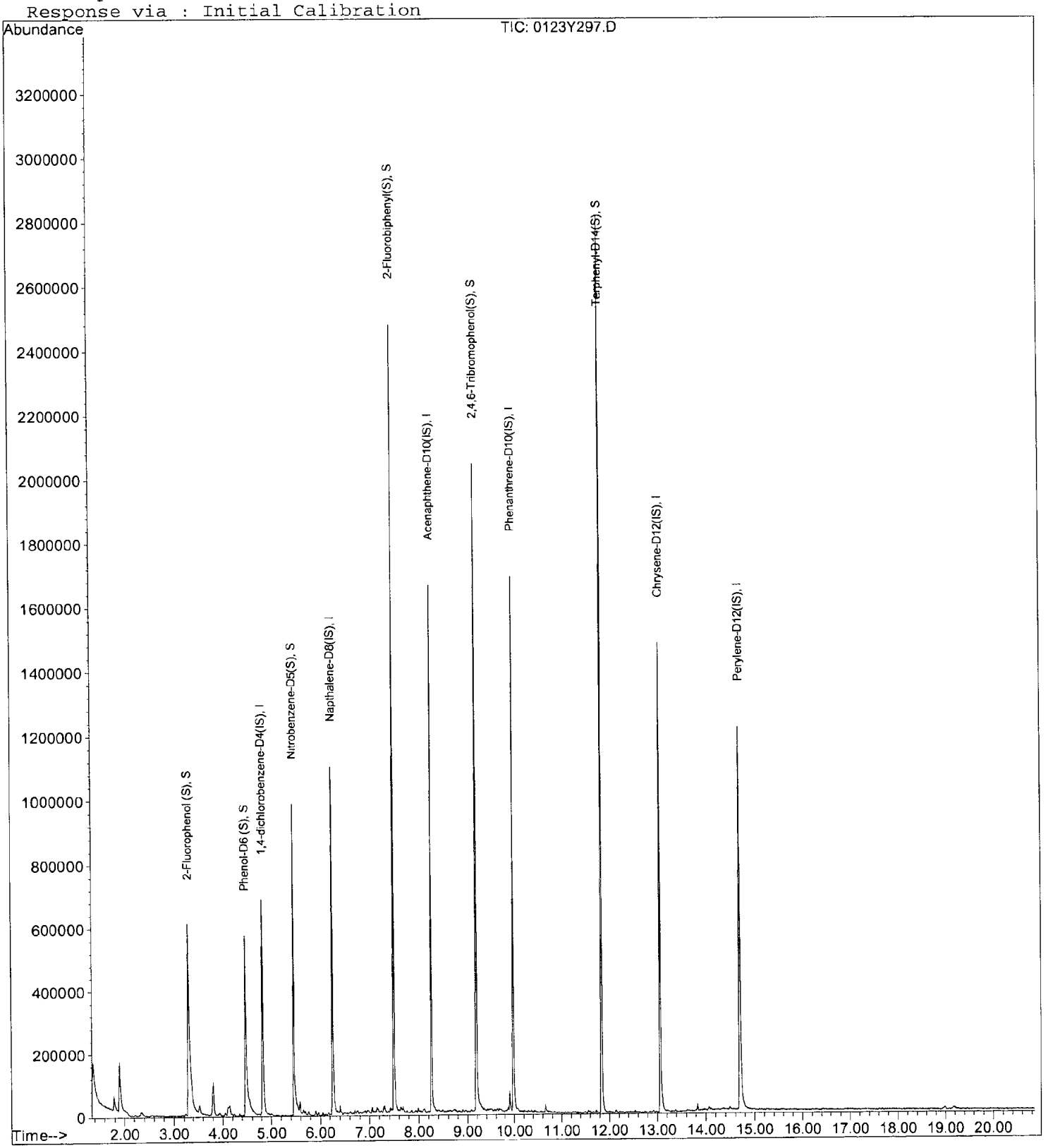
Data File : M:\YODA\DATA\Y170123\0123Y297.D
Acq On : 14 Mar 17 13:39
Sample : AZ51530W12 1/1000
Misc : water

Vial: 97
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.6	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	56.7	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	36.0	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	55.7	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.7	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	60.5	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y298
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:39:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y298.D
Acq On : 14 Mar 17 14:10
Sample : AZ51533W12 1/1070
Misc : water

Vial: 98
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	149088	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	636738	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	367333	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	695831	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	685410	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	694348	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	338450	67.25919 ppb	0.00
Spiked Amount 186.916			Recovery	= 35.984%	
5) Phenol-D6 (S)	4.47	99	284585	42.50789 ppb	0.01
Spiked Amount 186.916			Recovery	= 22.742%	
21) Nitrobenzene-D5(S)	5.46	82	359697	52.05830 ppb	0.00
Spiked Amount 93.458			Recovery	= 55.702%	
45) 2-Fluorobiphenyl(S)	7.49	172	667685	52.95333 ppb	0.00
Spiked Amount 93.458			Recovery	= 56.660%	
63) 2,4,6-Tribromophenol(S)	9.19	330	212757	116.94558 ppb	0.00
Spiked Amount 186.916			Recovery	= 62.566%	
81) Terphenyl-D14(S)	11.85	244	891985	56.54646 ppb	0.00
Spiked Amount 93.458			Recovery	= 60.504%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

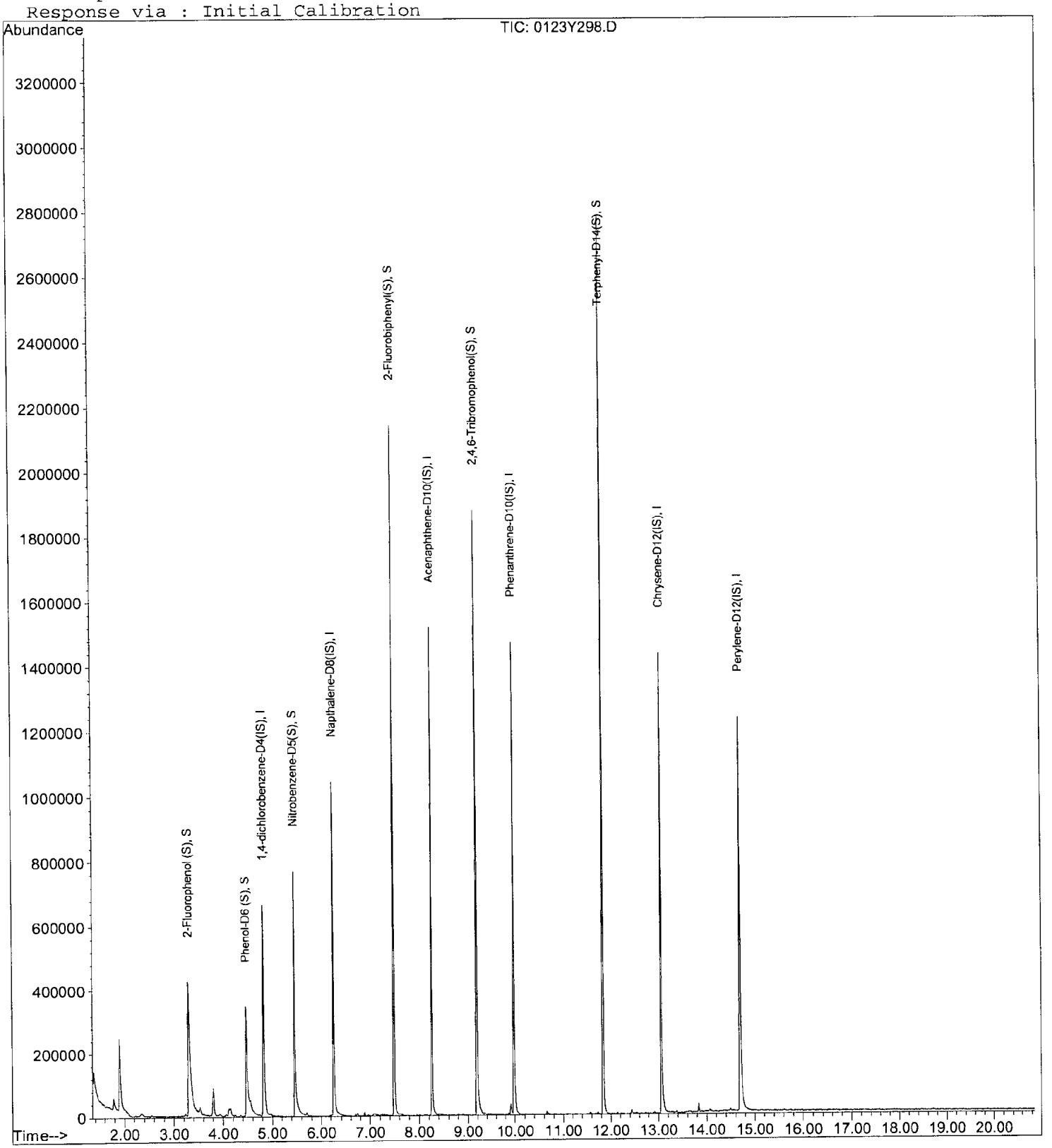
Data File : M:\YODA\DATA\Y170123\0123Y298.D
Acq On : 14 Mar 17 14:10
Sample : AZ51533W12 1/1070
Misc : water

Vial: 98
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	64.8	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	64.1	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	40.5	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	64.2	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.9	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	65.2	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y299
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:39:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y299.D
Acq On : 14 Mar 17 14:41
Sample : AZ51535W13 1/1070
Misc : water

Vial: 99
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	149566	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	646086	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	378289	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	695279	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	693980	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	715035	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	381994	75.66996 ppb	-0.01
Spiked Amount 186.916			Recovery = 40.483%		
5) Phenol-D6 (S)	4.47	99	325688	48.49189 ppb	0.00
Spiked Amount 186.916			Recovery = 25.943%		
21) Nitrobenzene-D5(S)	5.46	82	420852	60.02788 ppb	0.00
Spiked Amount 93.458			Recovery = 64.230%		
45) 2-Fluorobiphenyl(S)	7.50	172	777628	59.88662 ppb	0.00
Spiked Amount 93.458			Recovery = 64.079%		
63) 2,4,6-Tribromophenol(S)	9.19	330	226820	121.06470 ppb	0.00
Spiked Amount 186.916			Recovery = 64.770%		
81) Terphenyl-D14(S)	11.84	244	973896	60.97670 ppb	0.00
Spiked Amount 93.458			Recovery = 65.245%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

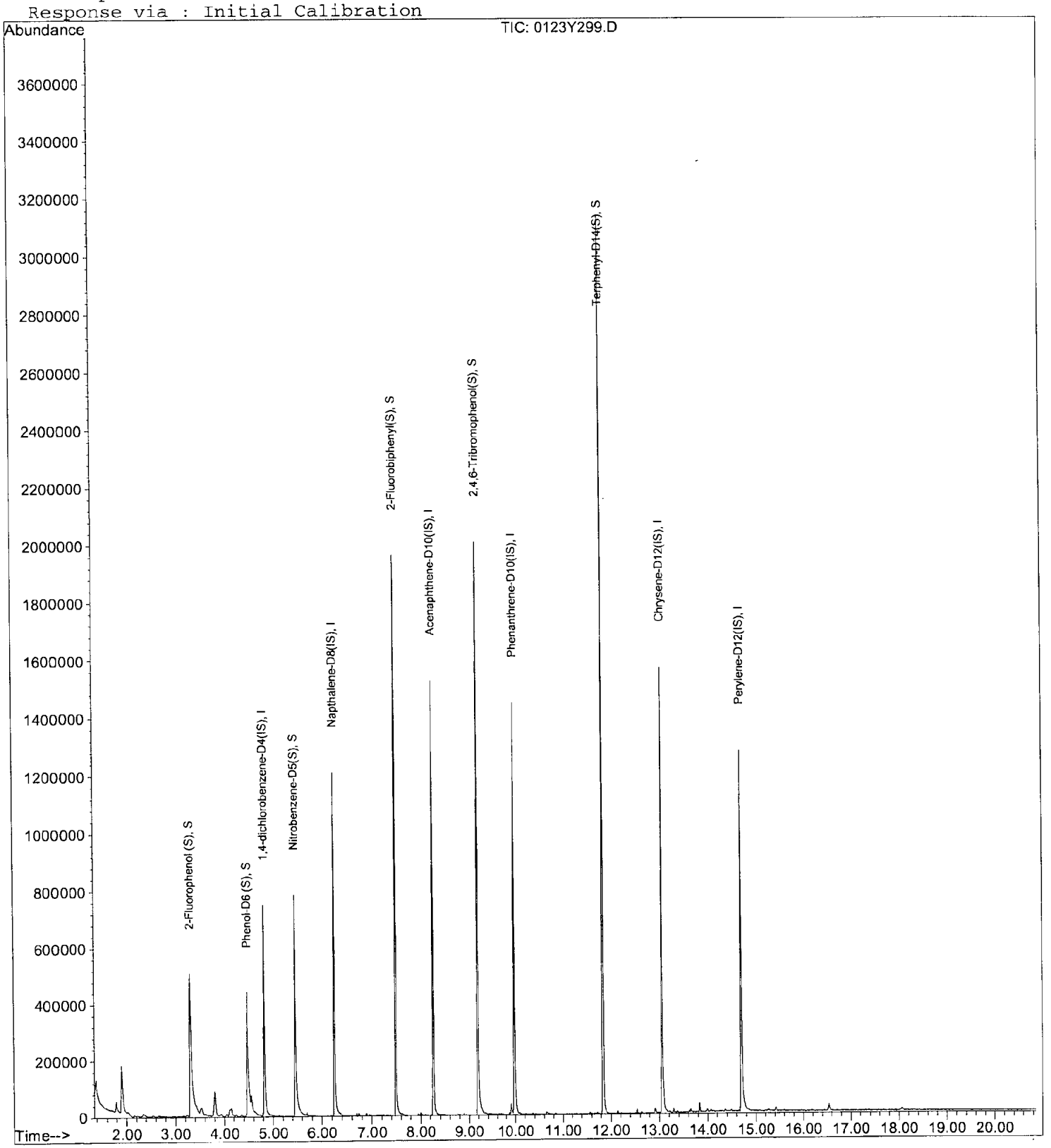
Data File : M:\YODA\DATA\Y170123\0123Y299.D
Acq On : 14 Mar 17 14:41
Sample : AZ51535W13 1/1070
Misc : water

Vial: 99
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH282
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51536
QCG: #87DC5-170311A-216940

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	59.5	43-140			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	61.5	44-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.5	19-119			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	64.4	44-120			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	26.4	10-115			%	03/11/17	03/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.0	50-134			%	03/11/17	03/14/17

Quant Method: Y0123.M
Run #: 0123Y300
Instrument: Yoda
Sequence: Y170123
Dilution Factor: 1
Initials: MA

Printed: 03/16/17 11:39:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y300.D
Acq On : 14 Mar 17 15:12
Sample : AZ51536W08 1/1070
Misc : water

Vial: 100
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	147549	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	649454	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373720	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	697197	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	683564	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	688734	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	395851	79.48677 ppb	0.00
Spiked Amount 186.916			Recovery = 42.526%		
5) Phenol-D6 (S)	4.47	99	326866	49.33251 ppb	0.00
Spiked Amount 186.916			Recovery = 26.393%		
21) Nitrobenzene-D5(S)	5.46	82	424469	60.22975 ppb	0.00
Spiked Amount 93.458			Recovery = 64.446%		
45) 2-Fluorobiphenyl(S)	7.49	172	737794	57.51352 ppb	0.00
Spiked Amount 93.458			Recovery = 61.540%		
63) 2,4,6-Tribromophenol(S)	9.19	330	205996	111.29403 ppb	0.00
Spiked Amount 186.916			Recovery = 59.542%		
81) Terphenyl-D14(S)	11.84	244	912267	57.98833 ppb	0.00
Spiked Amount 93.458			Recovery = 62.047%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

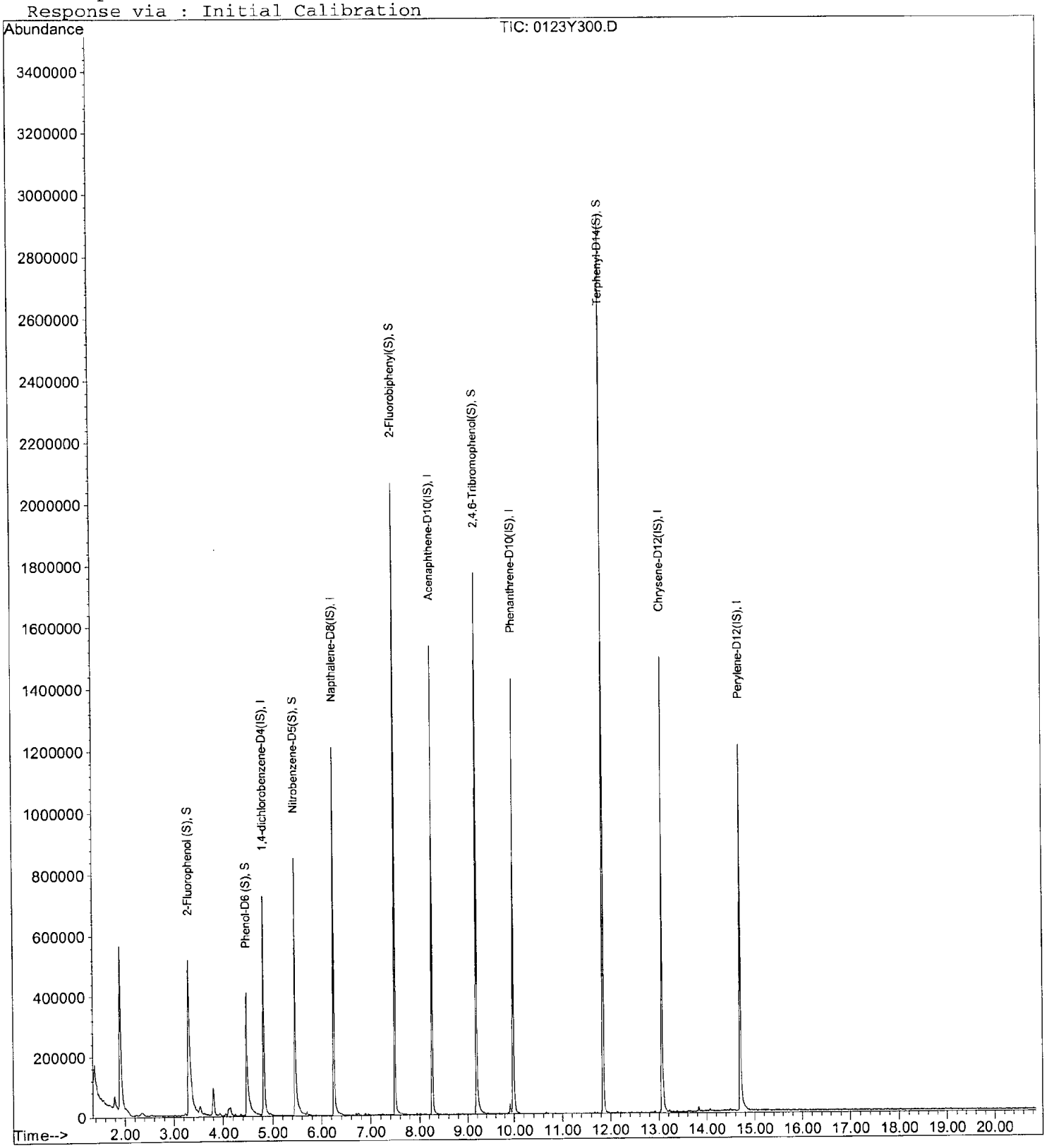
Data File : M:\YODA\DATA\Y170123\0123Y300.D
Acq On : 14 Mar 17 15:12
Sample : AZ51536W08 1/1070
Misc : water

Vial: 100
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Mar 14 16:26 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0123Y003.D	0123Y004.D	0123Y005.D	0123Y006.D	0123Y007.D	0123Y008.D	0123Y009.D	0123Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	0.8609	0.9269	0.8795	0.9102	1.078	0.8745	0.9881	1.130			0.96	11	TM	
3	TM	Pyridine	1.530	1.586	1.849	1.937	2.234	1.784	1.906	2.387			1.9	15	TM	
4	S	2-Fluorophenol (S)	0.9381	1.225	1.282	1.275	1.400	1.297	1.333	1.344			1.3	11	S	
5	S	Phenol-D6 (S)	1.717	1.790	1.786	1.653	1.741	1.634	1.566	1.543			1.7	5.7	S	
6	*TM	Phenol	1.786	1.807	1.952	1.948	2.115	1.944	1.930	1.933			1.9	5.2	*TM	
7	TM	Aniline	1.670	1.741	1.817	1.804	2.025	1.821	1.836	1.921			1.8	5.9	TM	
8	TM	Bis (2-chloroethyl) ether	0.8073	0.9110	0.9478	0.9134	1.046	0.9696	0.9668	0.9827			0.94	7.4	TM	
9	TM	2-Chlorophenol	1.450	1.409	1.483	1.494	1.623	1.480	1.487	1.496			1.5	4.1	TM	
10	TM	1,3-DCB	1.523	1.580	1.606	1.525	1.694	1.555	1.524	1.570			1.6	3.7	TM	
11	*TM	1,4-DCB	1.766	1.577	1.605	1.576	1.663	1.564	1.591	1.582			1.6	4.2	*TM	
12	TM	Benzyl alcohol	0.7089	0.7776	0.8667	0.8681	0.9325	0.8723	0.8689	0.8949			0.85	8.4	TM	
13	TM	1,2-DCB	1.577	1.394	1.518	1.455	1.539	1.435	1.424	1.437			1.5	4.4	TM	
14	TM	2-Methylphenol	1.104	1.065	1.133	1.113	1.156	1.115	1.105	1.118			1.1	2.3	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.106	2.093	2.143	2.072	2.120	2.051	2.016	1.953			2.1	3.0	TM	
16	TM	Acetophenone	1.944	1.979	1.977	1.995	2.041	1.948	1.977	2.016			2.0	1.6	TM	
17	TM	3&4-Methylphenol	1.368	1.426	1.480	1.474	1.515	1.468	1.420	1.420			1.4	3.2	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.171	1.053	1.129	1.106	1.140	1.091	1.108	1.014			1.1	4.5	**TM	
19	TM	Hexachloroethane	0.6794	0.6460	0.6323	0.6551	0.6980	0.6487	0.6720	0.6824			0.66	3.3	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3943	0.4073	0.4070	0.3940	0.3985	0.4073	0.4156	0.4213			0.41	2.4	S	
22	TM	Nitrobenzene	0.3775	0.3791	0.4047	0.4072	0.4155	0.3979	0.4275	0.4299			0.40	4.9	TM	
23	TM	Isophorone	0.6239	0.6142	0.6610	0.6813	0.6759	0.6724	0.7097	0.7399			0.67	6.1	TM	
24	*TM	2-Nitrophenol	0.1561	0.1630	0.1836	0.1969	0.2021	0.1957	0.2092	0.2127			0.19	11	*TM	
25	TM	2,4-Dimethylphenol	0.3016	0.2870	0.3059	0.3059	0.3240	0.3033	0.3092	0.3196			0.31	3.7	TM	
26	TML	Benzoic acid	0.0172	0.0997	0.1680	0.2082	0.2375	0.2327	0.2532	0.2415			0.18	46	TML	0.998
27	TM	Bis (2-chloroethoxy) methane	0.3602	0.3707	0.3905	0.3970	0.3919	0.3939	0.4000	0.4095			0.39	4.1	TM	
28	*TM	2,4-Dichlorophenol	0.2547	0.2691	0.2940	0.2942	0.3216	0.2907	0.3018	0.3114			0.29	7.4	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3092	0.3073	0.3262	0.3188	0.3418	0.3163	0.3263	0.3369			0.32	3.8	TM	
30	TM	3,4-Dimethylphenol	0.4645	0.4509	0.4679	0.4500	0.4820	0.4463	0.4587	0.4779			0.46	2.9	TM	
31	TM	Naphthalene	1.056	0.9981	1.064	1.055	1.082	1.020	1.033	1.059			1.0	2.6	TM	
32	TM	4-Chloroaniline	0.3560	0.3831	0.4174	0.3881	0.3873	0.3495	0.3334	0.3241			0.37	8.6	TM	
33	TM	2,6-Dichlorophenol	0.2843	0.2773	0.2786	0.2756	0.2767	0.2524	0.2535	0.2649			0.27	4.5	TM	
34	TM	Hexachloropropene	0.2039	0.2116	0.2264	0.2341	0.2552	0.2351	0.2426	0.2685			0.23	9.1	TM	
35	*TM	Hexachlorobutadiene	0.1741	0.1857	0.2003	0.1950	0.1974	0.1911	0.1886	0.1992			0.19	4.6	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 01/23/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1334	0.1435	0.1643	0.1737	0.1771	0.1740	0.1805	0.1839			0.17	11	TM	
37	*TM	4-Chloro-3-methylphenol	0.2770	0.3039	0.3098	0.3188	0.3381	0.3137	0.3317	0.3399			0.32	6.6	*TM	
38	TM	2-Methylnaphthalene	0.6475	0.6704	0.6963	0.6872	0.7135	0.6645	0.6755	0.6803			0.68	3.0	TM	
39	TM	1-Methylnaphthalene	0.6631	0.6434	0.6722	0.6755	0.6971	0.6523	0.6587	0.6913			0.67	2.8	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0282	0.0573	0.1011	0.1730	0.2103	0.2072	0.2345	0.2664			0.16	55	**TMQ	0.999
42	TM	1,2,4,5-Tetrachlorobenzene	0.5561	0.5428	0.5599	0.5460	0.5715	0.5261	0.5083	0.5193			0.54	4.0	TM	
43	*TM	2,4,6-Trichlorophenol	0.3188	0.3146	0.3404	0.3430	0.3678	0.3397	0.3499	0.3427			0.34	5.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3595	0.3734	0.3582	0.3800	0.3920	0.3804	0.3695	0.3672			0.37	3.1	TM	
45	S	2-Fluorobiphenyl(S)	1.475	1.396	1.338	1.261	1.285	1.185	1.167	1.159			1.3	8.9	S	
46	TM	1,1'-Biphenyl	1.545	1.514	1.561	1.517	1.573	1.441	1.425	1.431			1.5	4.0	TM	
47	TM	2-Chloronaphthalene	1.137	1.162	1.170	1.157	1.218	1.143	1.099	1.089			1.1	3.6	TM	
48	TM	2-Nitroaniline	0.3519	0.3831	0.4047	0.4269	0.4445	0.4115	0.4171	0.4316			0.41	7.2	TM	
49	TM	Dimethyl phthalate	1.364	1.388	1.363	1.389	1.412	1.330	1.354	1.400			1.4	2.0	TM	
50	TM	2,6-DNT	0.2709	0.2956	0.3068	0.3121	0.3215	0.3132	0.3093	0.3264			0.31	5.6	TM	
51	TM	Acenaphthylene	1.809	1.881	1.908	1.840	1.909	1.795	1.775	1.855			1.8	2.8	TM	
52	TM	3-Nitroaniline	0.3050	0.3238	0.3399	0.3481	0.3621	0.3380	0.3295	0.3392			0.34	5.0	TM	
53	*TM	Acenaphthene	1.225	1.137	1.149	1.131	1.174	1.085	1.083	1.122			1.1	4.1	*TM	
54	**TMQ	2,4-Dinitrophenol		0.0279	0.0963	0.1338	0.1608	0.1388	0.1796	0.1825			0.13	41	**TMQ	0.996
55	**TML	4-Nitrophenol		0.0153	0.2338	0.2472	0.2742	0.2589	0.2670	0.2870			0.23	42	**TML	0.997
56	TM	Dibenzofuran	1.683	1.638	1.664	1.607	1.664	1.586	1.489	1.526			1.6	4.3	TM	
57	TM	2,4-DNT	0.3746	0.3979	0.4186	0.4416	0.4612	0.4473	0.4364	0.4465			0.43	6.8	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2372	0.2782	0.2790	0.2974	0.3341	0.3081	0.3010	0.3124			0.29	9.9	TM	
59	TM	Diethyl phthalate	1.434	1.375	1.414	1.393	1.488	1.339	1.345	1.352			1.4	3.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6563	0.6466	0.6516	0.6218	0.6617	0.5758	0.5693	0.6246			0.63	5.7	TM	
61	TM	Fluorene	1.395	1.348	1.355	1.299	1.342	1.189	1.181	1.300			1.3	6.0	TM	
62	TM	4-Nitroaniline	0.2956	0.3157	0.3216	0.3151	0.3512	0.3121	0.3127	0.3309			0.32	5.1	TM	
63	S	2,4,6-Tribromophenol(S)	0.1982	0.1966	0.1859	0.1808	0.1864	0.1778	0.1732	0.1823			0.19	4.7	S	
64	I	Phenanthrene-D10(IS)														
65	TML	4,6-Dinitro-2-methylphenol		0.0820	0.1246	0.1310	0.1405	0.1417	0.1463	0.1593			0.13	19	TML	0.997
66	TM	Diphenyl amine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	TM	
67	*TM	n-Nitrosodiphenylamine	0.5400	0.5182	0.5492	0.5318	0.5114	0.4929	0.4842	0.4982			0.52	4.5	*TM	
68	TM	1,2-Diphenylhydrazine	0.8144	0.7995	0.8365	0.8325	0.9784	0.9614	0.9450	1.035			0.90	10.0	TM	
69	TM	4-Bromophenyl phenyl ether	0.1965	0.1918	0.2070	0.2097	0.2082	0.2036	0.1953	0.2048			0.20	3.3	TM	
70	TM	Hexachlorobenzene	0.2049	0.2069	0.2141	0.2170	0.2234	0.2065	0.2026	0.2112			0.21	3.3	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 01/23/17
Matrix: Instrument: Yoda Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.1727	0.1865	0.2048	0.2076	0.2085	0.2006	0.2060	0.2105			0.20	6.6	TM	
72	*TML	Pentachlorophenol		0.0521	0.0667	0.0845	0.0937	0.0901	0.0954	0.1039			0.08	22	*TML	0.997
73	TM	Phenanthrene	1.090	1.099	1.140	1.102	1.145	1.050	1.048	1.057			1.1	3.5	TM	
74	TM	Anthracene	1.140	1.144	1.178	1.157	1.199	1.107	1.081	1.100			1.1	3.5	TM	
75	TM	Carbazol	0.9582	0.9900	1.034	1.037	1.074	0.9997	0.9893	0.9796			1.0	3.7	TM	
76	TM	Di-n-butylphthalate	1.176	1.219	1.292	1.303	1.374	1.278	1.243	1.303			1.3	4.8	TM	
77	*TM	Fluoranthene	1.170	1.142	1.229	1.205	1.231	1.155	1.160	1.186			1.2	2.9	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.4622	0.4766	0.5161	0.4963	0.5350	0.4932	0.4876	0.5165			0.50	4.7	TM	
80	TM	Pyrene	1.236	1.213	1.335	1.285	1.380	1.260	1.242	1.312			1.3	4.4	TM	
81	S	Terphenyl-D14(S)	0.9140	0.9212	0.8963	0.8427	0.8606	0.8275	0.7851	0.8356			0.86	5.5	S	
82	TM	Butyl benzylphthalate	0.5505	0.5218	0.6082	0.6089	0.6301	0.6146	0.5928	0.6178			0.59	6.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.3708	0.4268	0.4314	0.4138	0.4385	0.4005	0.3718	0.3640			0.40	7.4	TM	
84	TM	Benz (a) anthracene	1.224	1.164	1.262	1.201	1.281	1.191	1.158	1.171			1.2	3.8	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.7777	0.7759	0.8701	0.8238	0.8754	0.7852	0.8474	0.9181			0.83	6.3	TM	
86	TM	Chrysene	1.281	1.174	1.222	1.175	1.192	1.106	1.116	1.201			1.2	4.7	TM	
87	*TM	Di-n-octylphthalate	1.289	1.274	1.422	1.466	1.576	1.446	1.478	1.479			1.4	7.1	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.243	1.259	1.157	1.199	1.363	1.320	1.209	1.211			1.2	5.4	TM	
90	TM	Benzo (k) fluoranthene	1.105	1.082	1.239	1.253	1.155	1.052	1.142	1.153			1.1	6.1	TM	
91	*TM	Benzo (a) pyrene	1.063	1.073	1.166	1.165	1.197	1.139	1.137	1.159			1.1	4.1	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.294	1.245	1.279	1.304	1.347	1.250	1.232	1.247			1.3	3.0	TM	
93	TM	Dibenz (a,h) anthracene	1.107	1.050	1.079	1.099	1.154	1.069	1.061	1.063			1.1	3.1	TM	
94	TM	Benzo (g,h,i) perylene	1.087	1.028	1.074	1.090	1.104	1.072	1.064	1.038			1.1	2.4	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	163044	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	711946	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	399173	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	730447	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	721697	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	721646	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.35	112	38237	7.14488 ppb	0.04
Spiked Amount 200.000			Recovery	= 3.573%	
5) Phenol-D6 (S)	4.48	99	69994	9.86259 ppb	0.02
Spiked Amount 200.000			Recovery	= 4.932%	
21) Nitrobenzene-D5(S)	5.48	82	35091	4.88374 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.884%	
45) 2-Fluorobiphenyl(S)	7.50	172	73589	5.83065 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.831%	
63) 2,4,6-Tribromophenol(S)	9.19	330	19779	9.99998 ppb	0.00
Spiked Amount 200.000			Recovery	= 5.000%	
81) Terphenyl-D14(S)	11.85	244	82456	5.08006 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.080%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.75	42	17545	5.23385 ppb		84
3) Pyridine	1.76	79	31183	4.20867 ppb		95
6) Phenol	4.50	94	36403	4.48246 ppb	#	74
7) Aniline	4.49	66	34032	4.42297 ppb		89
8) Bis (2-chloroethyl) ether	4.56	63	16453	4.53726 ppb		87
9) 2-Chlorophenol	4.62	128	29548	4.56094 ppb		91
10) 1,3-DCB	4.76	146	31034	4.64666 ppb		95
11) 1,4-DCB	4.85	146	35985	5.25857 ppb		95
12) Benzyl alcohol	5.05	108	14447	4.05689 ppb		87
13) 1,2-DCB	5.02	146	32135	5.15206 ppb		92
14) 2-Methylphenol	5.17	107	22497	4.91833 ppb	#	73
15) Bis (2-chloroisopropyl) et	5.15	45	42924	5.94730 ppb	#	63
16) Acetophenone	5.31	105	39615	4.76964 ppb		96
17) 3&4-Methylphenol	5.35	107	55757	9.22426 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	23871	5.52229 ppb		93
19) Hexachloroethane	5.38	117	13846	5.04559 ppb		88
22) Nitrobenzene	5.50	77	33595	4.62600 ppb		98
23) Isophorone	5.75	82	55521	4.62689 ppb		98
24) 2-Nitrophenol	5.87	139	13889	3.84734 ppb		96
25) 2,4-Dimethylphenol	5.92	122	26838	4.65491 ppb		91
27) Bis (2-chloroethoxy) metha	6.01	93	32054	4.66476 ppb		95
28) 2,4-Dichlorophenol	6.16	162	22670	4.13141 ppb		95
29) 1,2,4-Trichlorobenzene	6.20	180	27516	4.62045 ppb		94
30) 3,4-Dimethylphenol	6.27	107	41333	4.71886 ppb		95
31) Naphthalene	6.28	128	93976	5.02554 ppb		98
32) 4-Chloroaniline	6.38	127	31683	4.58552 ppb		95
33) 2,6-Dichlorophenol	6.38	162	25300	4.81235 ppb		96
34) Hexachloropropene	6.38	213	18149	3.83930 ppb		92
35) Hexachlorobutadiene	6.42	225	15491	4.12154 ppb		86
36) Caprolactum	6.77	55	11868	4.24877 ppb		97
37) 4-Chloro-3-methylphenol	6.97	107	24648	4.06565 ppb		90
38) 2-Methylnaphthalene	7.07	142	57620	4.68877 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y003.D
Acq On : 23 Jan 17 10:29
Sample : 5ug/ml SVOC 1/19/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:46 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:39:36 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	1-Methylnaphthalene	7.19	142	59013	4.85644 ppb		96
41)	Hexachlorocyclopentadiene	7.25	237	1405	6.22737 ppb	#	75
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	27745	5.09981 ppb		91
43)	2,4,6-Trichlorophenol	7.43	196	15908	4.54471 ppb		92
44)	2,4,5-Trichlorophenol	7.51	196	17938	4.67865 ppb		87
46)	1,1'-Biphenyl	7.61	154	77069	5.11687 ppb		97
47)	2-Chloronaphthalene	7.63	162	56714	4.90886 ppb		93
48)	2-Nitroaniline	7.80	65	17559	4.42395 ppb		96
49)	Dimethyl phthalate	7.97	163	68080	4.95956 ppb		97
50)	2,6-DNT	8.07	165	13516	4.34276 ppb		98
51)	Acenaphthylene	8.10	152	90270	4.94109 ppb		98
52)	3-Nitroaniline	8.28	138	15220	4.43288 ppb		85
53)	Acenaphthene	8.30	154	61118	5.27635 ppb		98
54)	2,4-Dinitrophenol	8.50	184	169	4.37820 ppb	#	30
55)	4-Nitrophenol	8.55	65	1469	5.72682 ppb	#	1
56)	Dibenzofuran	8.51	168	83980	5.14943 ppb		89
57)	2,4-DNT	8.55	165	18690	4.26757 ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.68	232	11833	3.83109 ppb	#	89
59)	Diethyl phthalate	8.79	149	71558	4.99459 ppb		95
60)	4-Chloropheny1 pheny1 ethe	8.90	204	32748	5.11558 ppb		97
61)	Fluorene	8.90	166	69616	5.27556 ppb		96
62)	4-Nitroaniline	8.99	138	14747	4.54180 ppb		92
65)	4,6-Dinitro-2-methylphenol	9.04	198	4613	1.71540 ppb	#	1
66)	Diphenyl amine	9.05	169	98605	9.56739 ppb		98
67)	n-Nitrosodiphenylamine	9.05	169	98605	9.56739 ppb		98
68)	1,2-Diphenylhydrazine	9.09	77	74355	4.80104 ppb		99
69)	4-Bromophenyl phenyl ether	9.47	248	17941	4.71699 ppb		89
70)	Hexachlorobenzene	9.54	284	18706	4.75015 ppb	#	85
71)	Atrazine	9.68	200	7883	2.10443 ppb		92
72)	Pentachlorophenol	9.80	266	5220	8.60768 ppb		93
73)	Phenanthrene	10.02	178	99531	5.00174 ppb		99
74)	Anthracene	10.08	178	104078	5.06633 ppb		99
75)	Carbazol	10.29	167	87488	4.74701 ppb		100
76)	Di-n-butylphthalate	10.69	149	107331	4.48729 ppb		99
77)	Fluoranthene	11.40	202	106801	4.84818 ppb		99
79)	Benzidine	11.59	184	41695	5.01562 ppb		98
80)	Pyrene	11.66	202	111459	4.57558 ppb		97
82)	Butyl benzylphthalate	12.42	149	49664	4.27180 ppb		94
83)	3,3'-Dichlorobenzidine	13.03	252	33450	4.34312 ppb		91
84)	Benz (a) anthracene	13.05	228	110458	4.89311 ppb		98
85)	Bis (2-ethylhexyl) phthala	13.09	149	70155	4.29077 ppb	#	95
86)	Chrysene	13.10	228	115566	5.28777 ppb		99
87)	Di-n-octylphthalate	13.80	149	116268	4.07565 ppb		100
89)	Benzo (b) fluoranthene	14.25	252	112128	4.89068 ppb		98
90)	Benzo (k) fluoranthene	14.28	252	99670	4.67454 ppb		97
91)	Benzo (a) pyrene	14.64	252	95844	4.56113 ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.25	276	116705	5.00128 ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	99827	5.06969 ppb		96
94)	Benzo (g,h,i) perylene	16.71	276	98040	4.76623 ppb		94

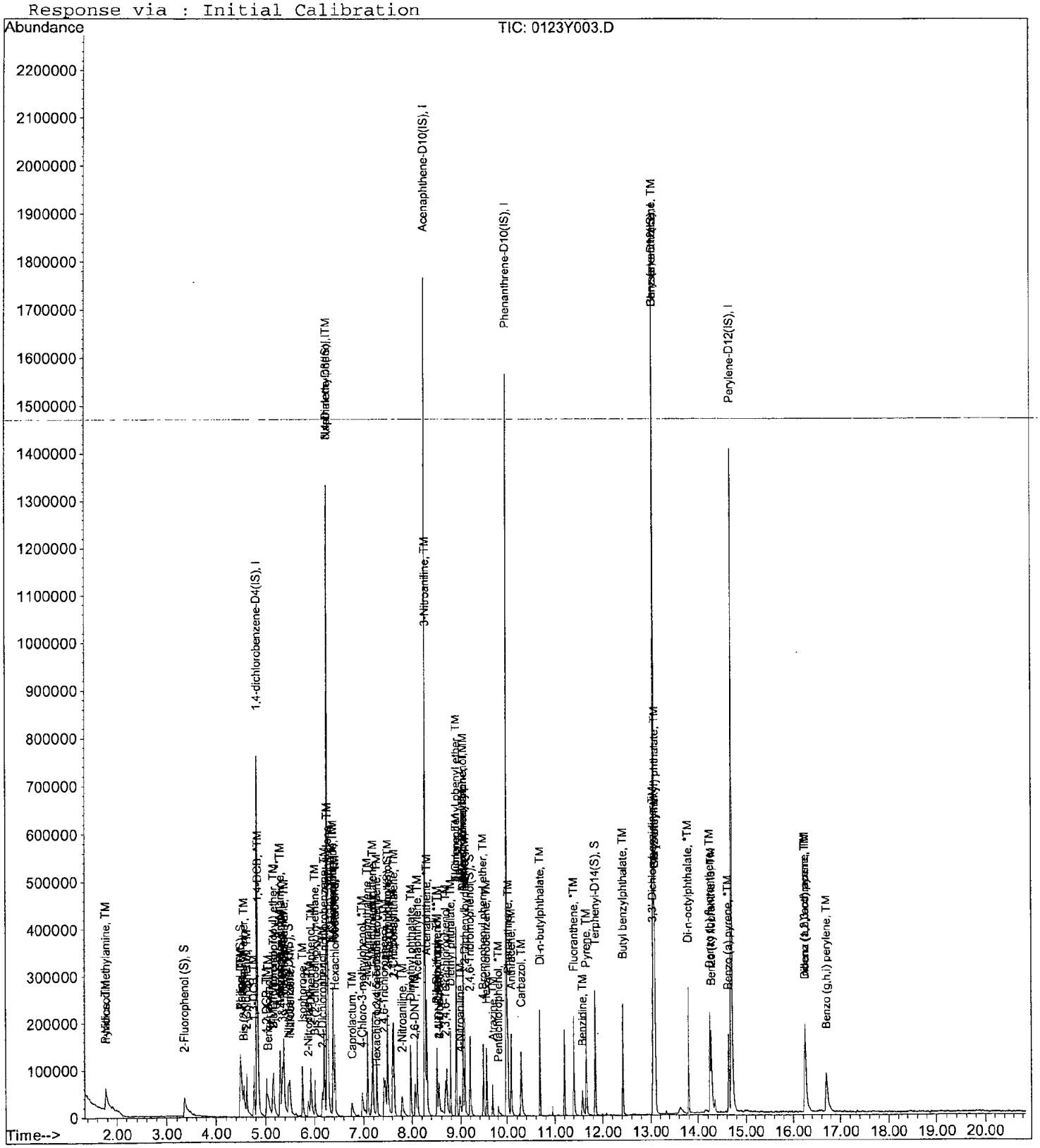
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y003.D Vial: 3
Acq On : 23 Jan 17 10:29 Operator: MA
Sample : 5ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:46 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	166547	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	726241	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	406305	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753974	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	743580	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	718157	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.32	112	101974	18.65386 ppb	0.00
Spiked Amount 200.000			Recovery	= 9.327%	
5) Phenol-D6 (S)	4.47	99	149057	20.56130 ppb	0.00
Spiked Amount 200.000			Recovery	= 10.281%	
21) Nitrobenzene-D5(S)	5.47	82	73948	10.08903 ppb	0.00
Spiked Amount 100.000			Recovery	= 10.089%	
45) 2-Fluorobiphenyl(S)	7.50	172	141774	11.03595 ppb	0.00
Spiked Amount 100.000			Recovery	= 11.036%	
63) 2,4,6-Tribromophenol(S)	9.19	330	39947	19.84211 ppb	0.00
Spiked Amount 200.000			Recovery	= 9.921%	
81) Terphenyl-D14(S)	11.84	244	171252	10.24022 ppb	-0.01
Spiked Amount 100.000			Recovery	= 10.240%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.74	42	38595	11.27112 ppb		93
3) Pyridine	1.75	79	66022	8.72336 ppb		92
6) Phenol	4.49	94	75248	9.07073 ppb		87
7) Aniline	4.48	66	72483	9.22212 ppb		99
8) Bis (2-chloroethyl) ether	4.55	63	37931	10.24025 ppb		98
9) 2-Chlorophenol	4.61	128	58648	8.86232 ppb		93
10) 1,3-DCB	4.76	146	65779	9.64181 ppb		99
11) 1,4-DCB	4.84	146	65647	9.39138 ppb		95
12) Benzyl alcohol	5.03	108	32378	8.90089 ppb		97
13) 1,2-DCB	5.02	146	58059	9.11255 ppb		96
14) 2-Methylphenol	5.16	107	44332	9.48809 ppb		96
15) Bis (2-chloroisopropyl) et	5.14	45	87162	11.82265 ppb	#	62
16) Acetophenone	5.30	105	82386	9.71062 ppb		97
17) 3&4-Methylphenol	5.34	107	118719	19.22740 ppb		96
18) n-Nitrosodi-n-propylamine	5.30	70	43857	9.93243 ppb		98
19) Hexachloroethane	5.37	117	26897	9.59532 ppb		88
22) Nitrobenzene	5.48	77	68829	9.29113 ppb		99
23) Isophorone	5.74	82	111515	9.11028 ppb		95
24) 2-Nitrophenol	5.86	139	29593	8.03608 ppb		97
25) 2,4-Dimethylphenol	5.91	122	52103	8.85911 ppb		95
26) Benzoic acid	6.11	105	18107	8.27766 ppb		91
27) Bis (2-chloroethoxy) metha	6.00	93	67307	9.60226 ppb		99
28) 2,4-Dichlorophenol	6.15	162	48858	8.72869 ppb		93
29) 1,2,4-Trichlorobenzene	6.20	180	55794	9.18444 ppb		94
30) 3,4-Dimethylphenol	6.25	107	81863	9.16209 ppb		88
31) Naphthalene	6.28	128	181219	9.50026 ppb		99
32) 4-Chloroaniline	6.38	127	69556	9.86877 ppb		94
33) 2,6-Dichlorophenol	6.38	162	50338	9.38640 ppb		93
34) Hexachloropropene	6.38	213	38421	7.96772 ppb		94
35) Hexachlorobutadiene	6.42	225	33720	8.79497 ppb		98
36) Caprolactum	6.77	55	26053	9.14345 ppb		99
37) 4-Chloro-3-methylphenol	6.96	107	55172	8.92140 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	121713	9.70933 ppb		98
39) 1-Methylnaphthalene	7.18	142	116813	9.42384 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	5817	8.40521 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.28	216	55132	9.95593 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	31954	8.96860 ppb		97
44) 2,4,5-Trichlorophenol	7.49	196	37927	9.71861 ppb		94
46) 1,1'-Biphenyl	7.61	154	153760	10.02944 ppb		98
47) 2-Chloronaphthalene	7.63	162	118027	10.03646 ppb		94
48) 2-Nitroaniline	7.78	65	38918	9.63318 ppb	#	74
49) Dimethyl phthalate	7.98	163	140952	10.08796 ppb		99
50) 2,6-DNT	8.07	165	30022	9.47690 ppb		93
51) Acenaphthylene	8.10	152	191112	10.27723 ppb		99
52) 3-Nitroaniline	8.27	138	32890	9.41118 ppb	#	62
53) Acenaphthene	8.31	154	115538	9.79937 ppb		98
54) 2,4-Dinitrophenol	8.46	184	2831	6.12420 ppb	#	73
55) 4-Nitrophenol	8.50	65	1552	5.74425 ppb	#	42
56) Dibenzofuran	8.51	168	166370	10.02231 ppb		86
57) 2,4-DNT	8.54	165	40421	9.06750 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.68	232	28261	8.98926 ppb		94
59) Diethyl phthalate	8.79	149	139653	9.57637 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.91	204	65675	10.07904 ppb		86
61) Fluorene	8.90	166	136880	10.19080 ppb		98
62) 4-Nitroaniline	8.98	138	32068	9.70298 ppb		95
65) 4,6-Dinitro-2-methylphenol	9.03	198	15464	5.57103 ppb	#	87
66) Diphenyl amine	9.05	169	195345	18.36238 ppb		97
67) n-Nitrosodiphenylamine	9.05	169	195345	18.36238 ppb		97
68) 1,2-Diphenylhydrazine	9.09	77	150694	9.42657 ppb		95
69) 4-Bromophenyl phenyl ether	9.48	248	36148	9.20736 ppb		91
70) Hexachlorobenzene	9.55	284	38991	9.59230 ppb		89
71) Atrazine	9.69	200	17574	4.54512 ppb		96
72) Pentachlorophenol	9.80	266	9818	10.62148 ppb		93
73) Phenanthrene	10.01	178	207115	10.08340 ppb		100
74) Anthracene	10.08	178	215698	10.17215 ppb		99
75) Carbazol	10.28	167	186612	9.80942 ppb		98
76) Di-n-butylphthalate	10.68	149	229742	9.30533 ppb		100
77) Fluoranthene	11.40	202	215194	9.46381 ppb		99
79) Benzidine	11.58	184	88604	10.34478 ppb		98
80) Pyrene	11.66	202	225558	8.98704 ppb		98
82) Butyl benzylphthalate	12.42	149	96992	8.09716 ppb		80
83) 3,3'-Dichlorobenzidine	13.03	252	79332	9.99727 ppb		95
84) Benz (a) anthracene	13.05	228	216329	9.30101 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	144228	8.56157 ppb		98
86) Chrysene	13.10	228	218169	9.68864 ppb		98
87) Di-n-octylphthalate	13.80	149	236910	8.06023 ppb		93
89) Benzo (b) fluoranthene	14.25	252	226053	9.90764 ppb		99
90) Benzo (k) fluoranthene	14.28	252	194236	9.15396 ppb		98
91) Benzo (a) pyrene	14.64	252	192696	9.21478 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.23	276	223599	9.62867 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	188602	9.62464 ppb		95
94) Benzo (g,h,i) perylene	16.69	276	184639	9.01986 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

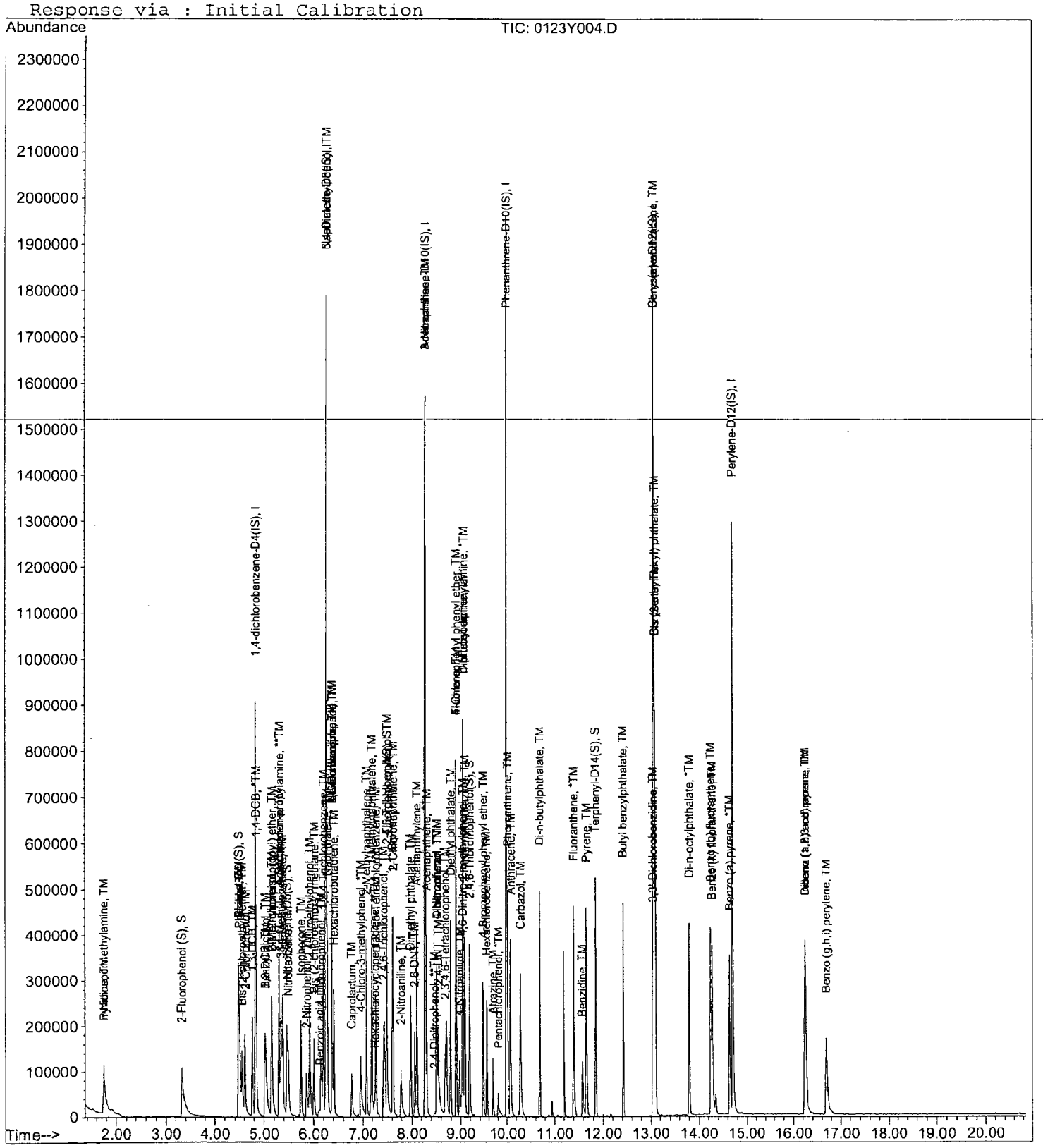
Data File : M:\YODA\DATA\Y170123\0123Y004.D
Acq On : 23 Jan 17 11:02
Sample : 10ug/ml SVOC 1/19/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D
Acq On : 23 Jan 17 11:32
Sample : 20ug/ml SVOC 1/19/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	158983	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	665425	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	385358	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	696571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	668763	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	677068	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.31	112	203764	39.04747 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.524%	
5) Phenol-D6 (S)	4.46	99	283957	41.03334 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.517%	
21) Nitrobenzene-D5(S)	5.46	82	135421	20.16464 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.165%	
45) 2-Fluorobiphenyl(S)	7.50	172	257898	21.16650 ppb	0.00
Spiked Amount 100.000			Recovery	= 21.167%	
63) 2,4,6-Tribromophenol(S)	9.19	330	71635	37.51603 ppb	0.00
Spiked Amount 200.000			Recovery	= 18.758%	
81) Terphenyl-D14(S)	11.84	244	299691	19.92520 ppb	-0.01
Spiked Amount 100.000			Recovery	= 19.925%	
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.73	42	69916	21.38942 ppb	93
3) Pyridine	1.74	79	147016	20.34914 ppb	93
6) Phenol	4.48	94	155148	19.59203 ppb	86
7) Aniline	4.47	66	144442	19.25192 ppb	86
8) Bis (2-chloroethyl) ether	4.55	63	75344	21.30842 ppb	96
9) 2-Chlorophenol	4.60	128	117915	18.66592 ppb	96
10) 1,3-DCB	4.76	146	127639	19.59932 ppb	98
11) 1,4-DCB	4.84	146	127608	19.12399 ppb	99
12) Benzyl alcohol	5.02	108	68898	19.84158 ppb	93
13) 1,2-DCB	5.02	146	120635	19.83489 ppb	93
14) 2-Methylphenol	5.15	107	90097	20.20030 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	170340	24.20418 ppb	90
16) Acetophenone	5.30	105	157142	19.40314 ppb	97
17) 3&4-Methylphenol	5.33	107	235225	39.90892 ppb	99
18) n-Nitrosodi-n-propylamine	5.30	70	89728	21.28779 ppb	97
19) Hexachloroethane	5.38	117	50261	18.78334 ppb	90
22) Nitrobenzene	5.48	77	134661	19.83903 ppb	95
23) Isophorone	5.75	82	219911	19.60772 ppb	93
24) 2-Nitrophenol	5.85	139	61093	18.10625 ppb	93
25) 2,4-Dimethylphenol	5.91	122	101761	18.88384 ppb	100
26) Benzoic acid	6.10	105	55903	16.96491 ppb	88
27) Bis (2-chloroethoxy) metha	6.00	93	129925	20.22961 ppb	99
28) 2,4-Dichlorophenol	6.13	162	97828	19.07472 ppb	98
29) 1,2,4-Trichlorobenzene	6.20	180	108540	19.50010 ppb	96
30) 3,4-Dimethylphenol	6.25	107	155676	19.01561 ppb	98
31) Naphthalene	6.28	128	354163	20.26360 ppb	98
32) 4-Chloroaniline	6.37	127	138868	21.50366 ppb	95
33) 2,6-Dichlorophenol	6.37	162	92693	18.86391 ppb	98
34) Hexachloropropene	6.37	213	75325	17.04851 ppb	97
35) Hexachlorobutadiene	6.42	225	66656	18.97438 ppb	97
36) Caprolactum	6.77	55	54657	20.93532 ppb	92
37) 4-Chloro-3-methylphenol	6.95	107	103063	18.18857 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	231683	20.17102	ppb		99
39)	1-Methylnaphthalene	7.18	142	223662	19.69293	ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	19473	15.34526	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	107879	20.54010	ppb		97
43)	2,4,6-Trichlorophenol	7.42	196	65597	19.41205	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	69021	18.64768	ppb		94
46)	1,1'-Biphenyl	7.61	154	300719	20.68151	ppb		99
47)	2-Chloronaphthalene	7.63	162	225399	20.20873	ppb		96
48)	2-Nitroaniline	7.78	65	77977	20.35043	ppb		98
49)	Dimethyl phthalate	7.98	163	262594	19.81549	ppb		100
50)	2,6-DNT	8.06	165	59117	19.67556	ppb	#	69
51)	Acenaphthylene	8.10	152	367584	20.84166	ppb		99
52)	3-Nitroaniline	8.26	138	65497	19.76012	ppb	#	95
53)	Acenaphthene	8.31	154	221335	19.79298	ppb		99
54)	2,4-Dinitrophenol	8.44	184	18550	16.50658	ppb		84
55)	4-Nitrophenol	8.53	65	45052	19.85590	ppb	#	49
56)	Dibenzofuran	8.51	168	320527	20.35847	ppb		88
57)	2,4-DNT	8.54	165	80650	19.07537	ppb		99
58)	2,3,4,6-Tetrachlorophenol	8.68	232	53761	18.02983	ppb		94
59)	Diethyl phthalate	8.79	149	272376	19.69280	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.91	204	125546	20.31466	ppb		89
61)	Fluorene	8.90	166	261042	20.49116	ppb		97
62)	4-Nitroaniline	8.96	138	61967	19.76886	ppb	#	86
65)	4,6-Dinitro-2-methylphenol	9.01	198	43409	16.92716	ppb	#	70
66)	Diphenyl amine	9.05	169	382578	38.92582	ppb		100
67)	n-Nitrosodiphenylamine	9.05	169	382578	38.92582	ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	291352	19.72726	ppb		91
69)	4-Bromophenyl phenyl ether	9.48	248	72096	19.87711	ppb		91
70)	Hexachlorobenzene	9.55	284	74556	19.85327	ppb		87
71)	Atrazine	9.69	200	35669	9.98520	ppb		97
72)	Pentachlorophenol	9.80	266	23246	17.59668	ppb		95
73)	Phenanthrene	10.01	178	397013	20.92142	ppb		100
74)	Anthracene	10.08	178	410432	20.95072	ppb		99
75)	Carbazol	10.28	167	360002	20.48328	ppb		99
76)	Di-n-butylphthalate	10.68	149	450123	19.73394	ppb		98
77)	Fluoranthene	11.40	202	427993	20.37340	ppb		98
79)	Benzidine	11.57	184	172576	22.40287	ppb		100
80)	Pyrene	11.66	202	446464	19.77881	ppb		100
82)	Butyl benzylphthalate	12.42	149	203384	18.87857	ppb		81
83)	3,3'-Dichlorobenzidine	13.03	252	144253	20.21219	ppb		95
84)	Benz (a) anthracene	13.05	228	422033	20.17517	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	290955	19.20371	ppb		99
86)	Chrysene	13.10	228	408549	20.17296	ppb		99
87)	Di-n-octylphthalate	13.80	149	475570	17.99012	ppb		92
89)	Benzo (b) fluoranthene	14.25	252	391685	18.20892	ppb		96
90)	Benzo (k) fluoranthene	14.28	252	419442	20.96710	ppb		97
91)	Benzo (a) pyrene	14.63	252	394651	20.01762	ppb		96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	433132	19.78353	ppb		98
93)	Dibenz (a,h) anthracene	16.24	278	365316	19.77397	ppb		99
94)	Benzo (g,h,i) perylene	16.68	276	363676	18.84422	ppb		99

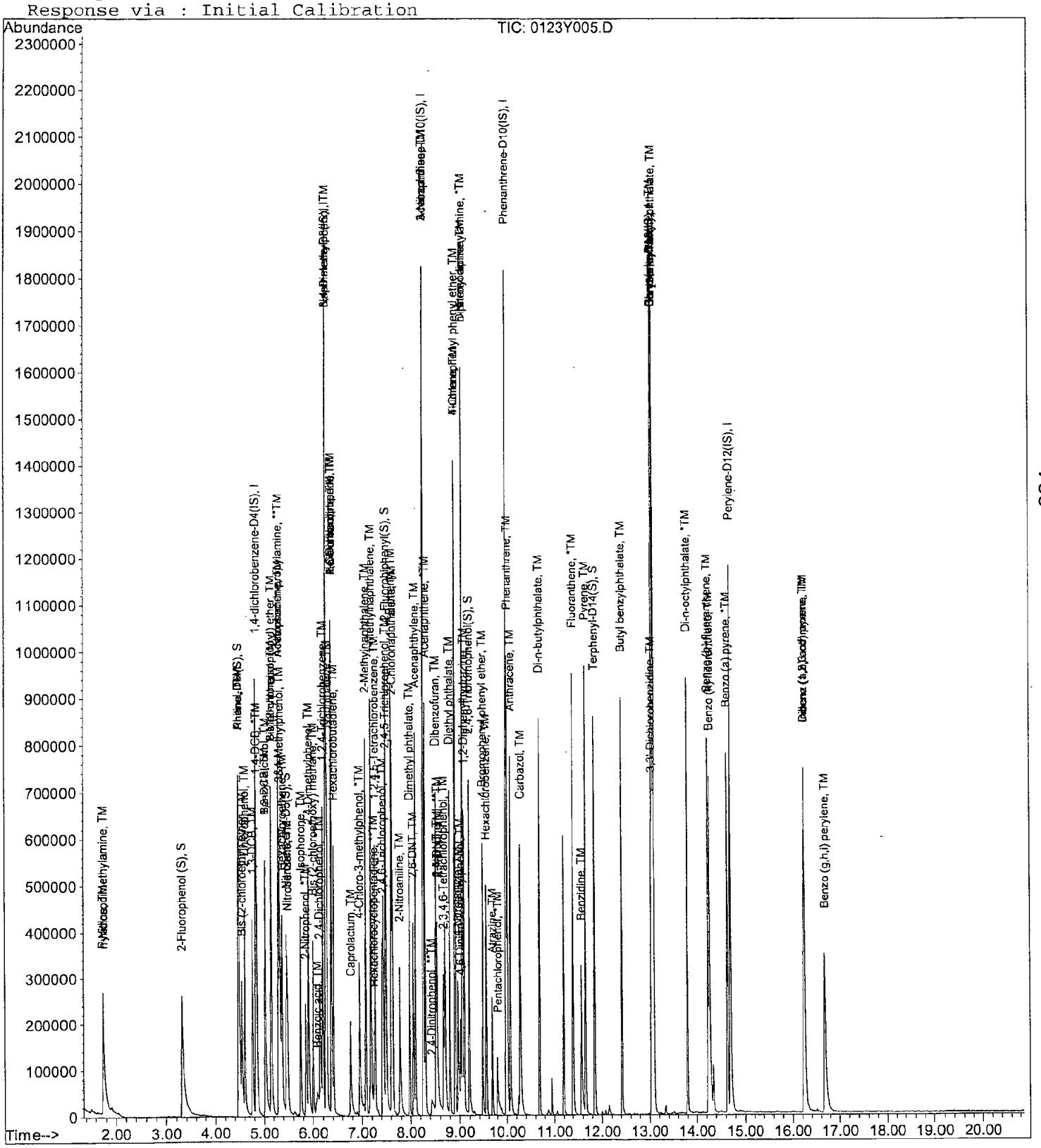
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y005.D Vial: 5
Acq On : 23 Jan 17 11:32 Operator: MA
Sample : 20ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	165714	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	685800	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	396753	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	723602	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	721505	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	722391	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	422542	77.68315 ppb	-0.01
Spiked Amount 200.000			Recovery = 38.842%		
5) Phenol-D6 (S)	4.46	99	547685	75.92882 ppb	0.00
Spiked Amount 200.000			Recovery = 37.965%		
21) Nitrobenzene-D5(S)	5.47	82	270236	39.04355 ppb	0.00
Spiked Amount 100.000			Recovery = 39.044%		
45) 2-Fluorobiphenyl(S)	7.50	172	500207	39.87448 ppb	0.00
Spiked Amount 100.000			Recovery = 39.874%		
63) 2,4,6-Tribromophenol(S)	9.19	330	143442	72.96457 ppb	0.00
Spiked Amount 200.000			Recovery = 36.483%		
81) Terphenyl-D14(S)	11.84	244	607980	37.46720 ppb	-0.01
Spiked Amount 100.000			Recovery = 37.467%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	150835	44.27066 ppb		96
3) Pyridine	1.74	79	320947	42.61929 ppb		99
6) Phenol	4.47	94	322851	39.11351 ppb	#	77
7) Aniline	4.47	66	298868	38.21655 ppb		92
8) Bis (2-chloroethyl) ether	4.55	63	151360	41.06815 ppb		97
9) 2-Chlorophenol	4.60	128	247513	37.58978 ppb		95
10) 1,3-DCB	4.76	146	252729	37.23095 ppb		99
11) 1,4-DCB	4.85	146	261133	37.54515 ppb		95
12) Benzyl alcohol	5.01	108	143854	39.74505 ppb		94
13) 1,2-DCB	5.01	146	241189	38.04568 ppb		98
14) 2-Methylphenol	5.15	107	184365	39.65678 ppb		97
15) Bis (2-chloroisopropyl) et	5.14	45	343313	46.80103 ppb	#	77
16) Acetophenone	5.30	105	330668	39.17088 ppb		93
17) 3&4-Methylphenol	5.33	107	488363	79.49151 ppb		97
18) n-Nitrosodi-n-propylamine	5.30	70	183250	41.70980 ppb		96
19) Hexachloroethane	5.37	117	108557	38.92163 ppb		82
22) Nitrobenzene	5.49	77	279235	39.91628 ppb		92
23) Isophorone	5.75	82	467246	40.42290 ppb		96
24) 2-Nitrophenol	5.85	139	135011	38.82467 ppb		97
25) 2,4-Dimethylphenol	5.91	122	209776	37.77168 ppb		97
26) Benzoic acid	6.09	105	142798	35.22948 ppb		95
27) Bis (2-chloroethoxy) metha	6.01	93	272295	41.13733 ppb		99
28) 2,4-Dichlorophenol	6.13	162	201746	38.16819 ppb		97
29) 1,2,4-Trichlorobenzene	6.20	180	218618	38.10961 ppb		96
30) 3,4-Dimethylphenol	6.25	107	308616	36.57705 ppb		96
31) Naphthalene	6.28	128	723272	40.15288 ppb		99
32) 4-Chloroaniline	6.37	127	266164	39.99090 ppb		95
33) 2,6-Dichlorophenol	6.37	162	188998	37.32018 ppb		97
34) Hexachloropropene	6.38	213	160577	35.26405 ppb		98
35) Hexachlorobutadiene	6.42	225	133757	36.94422 ppb		97
36) Caprolactum	6.79	55	119107	44.26626 ppb		99
37) 4-Chloro-3-methylphenol	6.95	107	218628	37.43718 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	471298	39.81356 ppb		99
39) 1-Methylnaphthalene	7.18	142	463278	39.57870 ppb		98
41) Hexachlorocyclopentadiene	7.25	237	68649	35.76014 ppb		95
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	216618	40.05940 ppb		97
43) 2,4,6-Trichlorophenol	7.42	196	136083	39.11428 ppb		99
44) 2,4,5-Trichlorophenol	7.48	196	150754	39.56004 ppb		96
46) 1,1'-Biphenyl	7.61	154	601871	40.20396 ppb		99
47) 2-Chloronaphthalene	7.63	162	458889	39.96122 ppb		96
48) 2-Nitroaniline	7.77	65	169369	42.93241 ppb		80
49) Dimethyl phthalate	7.98	163	551189	40.39845 ppb		98
50) 2,6-DNT	8.06	165	123834	40.03121 ppb		78
51) Acenaphthylene	8.10	152	729863	40.19400 ppb		100
52) 3-Nitroaniline	8.25	138	138122	40.47391 ppb		87
53) Acenaphthene	8.31	154	448599	38.96400 ppb		97
54) 2,4-Dinitrophenol	8.41	184	53096	35.57971 ppb		98
55) 4-Nitrophenol	8.51	65	98082	36.11539 ppb		90
56) Dibenzofuran	8.50	168	637740	39.34307 ppb		99
57) 2,4-DNT	8.53	165	175188	40.24547 ppb		83
58) 2,3,4,6-Tetrachlorophenol	8.67	232	118011	38.44067 ppb	#	88
59) Diethyl phthalate	8.80	149	552666	38.81017 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	246691	38.77075 ppb		86
61) Fluorene	8.90	166	515360	39.29261 ppb		97
62) 4-Nitroaniline	8.97	138	125024	38.73992 ppb		90
65) 4,6-Dinitro-2-methylphenol	9.01	198	94786	35.58068 ppb	#	81
66) Diphenyl amine	9.06	169	769687	75.38719 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	769687	75.38719 ppb		98
68) 1,2-Diphenylhydrazine	9.09	77	602401	39.26451 ppb		93
69) 4-Bromophenyl phenyl ether	9.48	248	151748	40.27454 ppb	#	85
70) Hexachlorobenzene	9.55	284	157048	40.25756 ppb	#	85
71) Atrazine	9.69	200	75092	20.23603 ppb		96
72) Pentachlorophenol	9.79	266	61166	35.13128 ppb		97
73) Phenanthrene	10.02	178	797163	40.43889 ppb		99
74) Anthracene	10.08	178	837248	41.14126 ppb		99
75) Carbazol	10.28	167	750665	41.11558 ppb		97
76) Di-n-butylphthalate	10.68	149	942922	39.79459 ppb		98
77) Fluoranthene	11.40	202	872131	39.96448 ppb		97
79) Benzidine	11.58	184	358107	43.08926 ppb		99
80) Pyrene	11.66	202	926965	38.06361 ppb		99
82) Butyl benzylphthalate	12.42	149	439305	37.79648 ppb		82
83) 3,3'-Dichlorobenzidine	13.03	252	298544	38.77303 ppb		95
84) Benz (a) anthracene	13.05	228	866195	38.38127 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	594394	36.36357 ppb		99
86) Chrysene	13.10	228	847601	38.79268 ppb		97
87) Di-n-octylphthalate	13.80	149	1057993	37.09670 ppb		93
89) Benzo (b) fluoranthene	14.25	252	866215	37.74269 ppb		98
90) Benzo (k) fluoranthene	14.28	252	905053	42.40337 ppb		98
91) Benzo (a) pyrene	14.63	252	841726	40.01565 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.24	276	941984	40.32616 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	794168	40.29002 ppb		96
94) Benzo (g,h,i) perylene	16.68	276	787314	38.23592 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

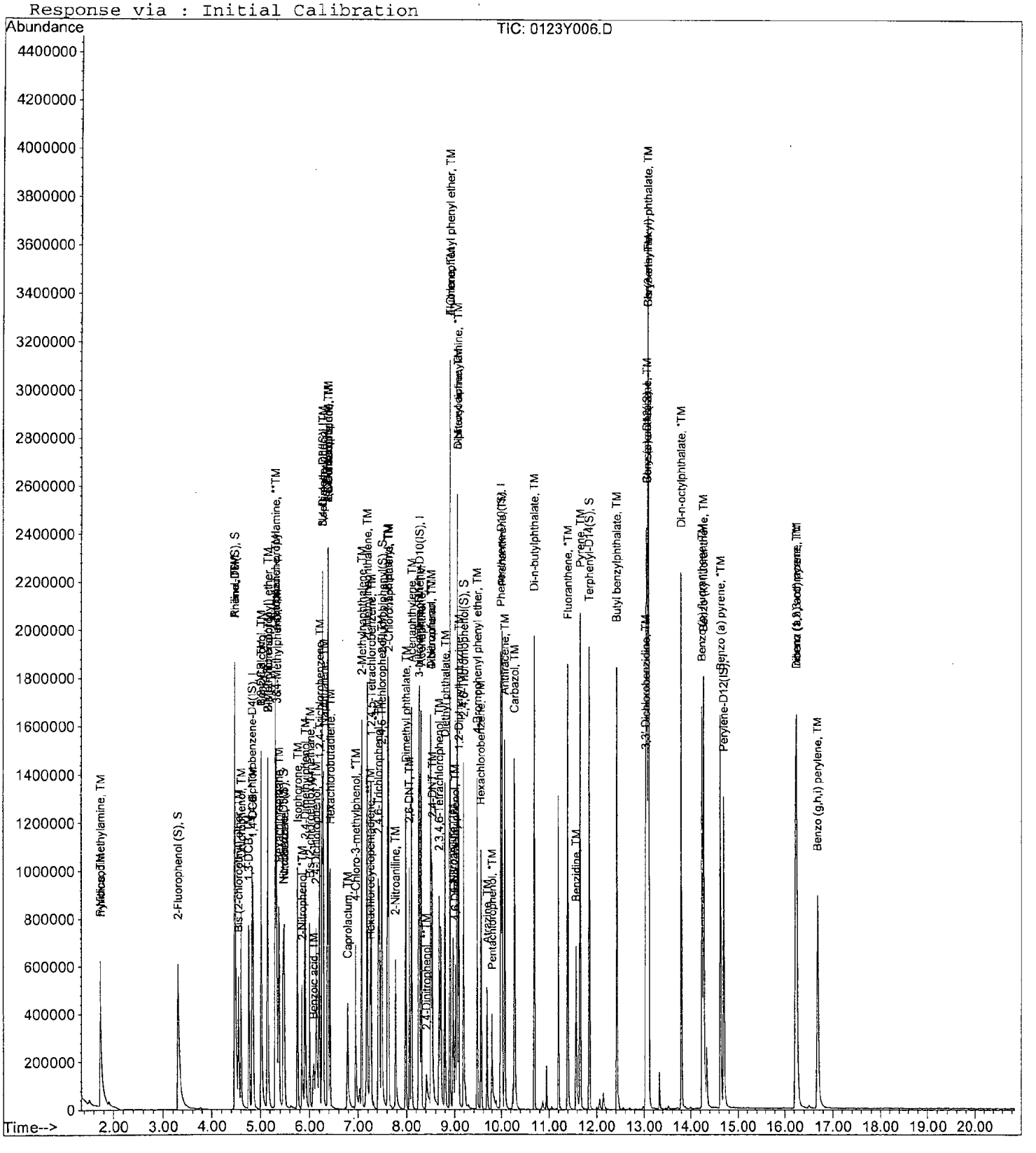
Data File : M:\YODA\DATA\Y170123\0123Y006.D
Acq On : 23 Jan 17 12:02
Sample : 40ug/ml SVOC 1/19/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D Vial: 7
Acq On : 23 Jan 17 12:32 Operator: MA
Sample : 50ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	150765	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	640333	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	362522	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	715900	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	672727	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667170	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	527854	106.66684 ppb	-0.01
Spiked Amount 200.000			Recovery = 53.334%		
5) Phenol-D6 (S)	4.46	99	656227	99.99737 ppb	0.00
Spiked Amount 200.000			Recovery = 49.999%		
21) Nitrobenzene-D5(S)	5.46	82	318928	49.35036 ppb	0.00
Spiked Amount 100.000			Recovery = 49.350%		
45) 2-Fluorobiphenyl(S)	7.50	172	582176	50.79084 ppb	0.00
Spiked Amount 100.000			Recovery = 50.791%		
63) 2,4,6-Tribromophenol(S)	9.20	330	168969	94.06512 ppb	0.00
Spiked Amount 200.000			Recovery = 47.033%		
81) Terphenyl-D14(S)	11.85	244	723649	47.82890 ppb	0.00
Spiked Amount 100.000			Recovery = 47.829%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	203122	65.52839 ppb	100
3) Pyridine	1.73	79	421060	61.45760 ppb	100
6) Phenol	4.48	94	398568	53.07449 ppb	100
7) Aniline	4.47	66	381670	53.64370 ppb	100
8) Bis (2-chloroethyl) ether	4.55	63	197212	58.81471 ppb	100
9) 2-Chlorophenol	4.60	128	305844	51.05407 ppb	100
10) 1,3-DCB	4.76	146	319170	51.68086 ppb	100
11) 1,4-DCB	4.84	146	313383	49.52519 ppb	100
12) Benzyl alcohol	5.01	108	175742	53.36977 ppb	100
13) 1,2-DCB	5.01	146	290033	50.28680 ppb	100
14) 2-Methylphenol	5.15	107	217836	51.50238 ppb	100
15) Bis (2-chloroisopropyl) et	5.15	45	399613	59.87747 ppb	100
16) Acetophenone	5.30	105	384618	50.07943 ppb	100
17) 3&4-Methylphenol	5.33	107	571033	102.16399 ppb	100
18) n-Nitrosodi-n-propylamine	5.31	70	214854	53.75221 ppb	100
19) Hexachloroethane	5.38	117	131535	51.83621 ppb	100
22) Nitrobenzene	5.48	77	332600	50.92067 ppb	100
23) Isophorone	5.75	82	541031	50.12976 ppb	100
24) 2-Nitrophenol	5.85	139	161751	49.81695 ppb	100
25) 2,4-Dimethylphenol	5.91	122	259357	50.01497 ppb	100
26) Benzoic acid	6.10	105	190117	48.26985 ppb	100
27) Bis (2-chloroethoxy) metha	6.00	93	313692	50.75648 ppb	100
28) 2,4-Dichlorophenol	6.12	162	257399	52.15489 ppb	100
29) 1,2,4-Trichlorobenzene	6.20	180	273582	51.07727 ppb	100
30) 3,4-Dimethylphenol	6.25	107	385815	48.97347 ppb	100
31) Naphthalene	6.28	128	866103	51.49632 ppb	100
32) 4-Chloroaniline	6.37	127	310022	49.88798 ppb	100
33) 2,6-Dichlorophenol	6.37	162	221507	46.84525 ppb	100
34) Hexachloropropene	6.37	213	204253	48.04065 ppb	100
35) Hexachlorobutadiene	6.42	225	158030	46.74779 ppb	100
36) Caprolactum	6.79	55	141781	56.43456 ppb	100
37) 4-Chloro-3-methylphenol	6.95	107	270636	49.63346 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	571075	51.66782	ppb	100
39) 1-Methylnaphthalene	7.18	142	557964	51.05257	ppb	100
41) Hexachlorocyclopentadiene	7.25	237	95299	48.68233	ppb	100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	258987	52.41718	ppb	100
43) 2,4,6-Trichlorophenol	7.42	196	166672	52.43002	ppb	100
44) 2,4,5-Trichlorophenol	7.48	196	177626	51.01292	ppb	100
46) 1,1'-Biphenyl	7.61	154	712764	52.10712	ppb	100
47) 2-Chloronaphthalene	7.64	162	551959	52.60461	ppb	100
48) 2-Nitroaniline	7.78	65	201410	55.87509	ppb	100
49) Dimethyl phthalate	7.98	163	639692	51.31223	ppb	100
50) 2,6-DNT	8.06	165	145701	51.54745	ppb	100
51) Acenaphthylene	8.10	152	864935	52.13018	ppb	100
52) 3-Nitroaniline	8.26	138	164095	52.62517	ppb	100
53) Acenaphthene	8.31	154	531832	50.55517	ppb	100
54) 2,4-Dinitrophenol	8.41	184	72867	48.82563	ppb	100
55) 4-Nitrophenol	8.51	65	124232	48.02921	ppb	100
56) Dibenzofuran	8.51	168	754127	50.91608	ppb	100
57) 2,4-DNT	8.54	165	209015	52.55039	ppb	100
58) 2,3,4,6-Tetrachlorophenol	8.68	232	151376	53.96489	ppb	100
59) Diethyl phthalate	8.80	149	674159	51.81208	ppb	100
60) 4-Chlorophenyl phenyl ethe	8.91	204	299839	51.57330	ppb	100
61) Fluorene	8.91	166	607907	50.72514	ppb	100
62) 4-Nitroaniline	8.97	138	159168	53.97677	ppb	100
65) 4,6-Dinitro-2-methylphenol	9.02	198	125713	47.69772	ppb	100
66) Diphenyl amine	9.06	169	915203	90.60418	ppb	100
67) n-Nitrosodiphenylamine	9.06	169	915203	90.60418	ppb	100
68) 1,2-Diphenylhydrazine	9.09	77	875512	57.67983	ppb	100
69) 4-Bromophenyl phenyl ether	9.47	248	186274	49.96976	ppb	100
70) Hexachlorobenzene	9.55	284	199920	51.79867	ppb	100
71) Atrazine	9.69	200	93292	25.41109	ppb	100
72) Pentachlorophenol	9.80	266	83887	46.32123	ppb	100
73) Phenanthrene	10.01	178	1025064	52.55940	ppb	100
74) Anthracene	10.08	178	1072822	53.28421	ppb	100
75) Carbazol	10.28	167	961347	53.22159	ppb	100
76) Di-n-butylphthalate	10.69	149	1229365	52.44166	ppb	100
77) Fluoranthene	11.40	202	1101542	51.02006	ppb	100
79) Benzidine	11.57	184	449897	58.05903	ppb	100
80) Pyrene	11.66	202	1160046	51.08841	ppb	100
82) Butyl benzylphthalate	12.43	149	529866	48.89356	ppb	100
83) 3,3'-Dichlorobenzidine	13.03	252	368705	51.35714	ppb	100
84) Benz (a) anthracene	13.06	228	1076798	51.17271	ppb	100
85) Bis (2-ethylhexyl) phthala	13.09	149	736117	48.29915	ppb	100
86) Chrysene	13.10	228	1002337	49.20084	ppb	100
87) Di-n-octylphthalate	13.80	149	1325417	49.84316	ppb	100
89) Benzo (b) fluoranthene	14.25	252	1136913	53.63771	ppb	100
90) Benzo (k) fluoranthene	14.27	252	962881	48.84665	ppb	100
91) Benzo (a) pyrene	14.64	252	998126	51.37837	ppb	100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1123502	52.07785	ppb	100
93) Dibenz (a,h) anthracene	16.25	278	962005	52.84432	ppb	100
94) Benzo (g,h,i) perylene	16.69	276	920904	48.42546	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

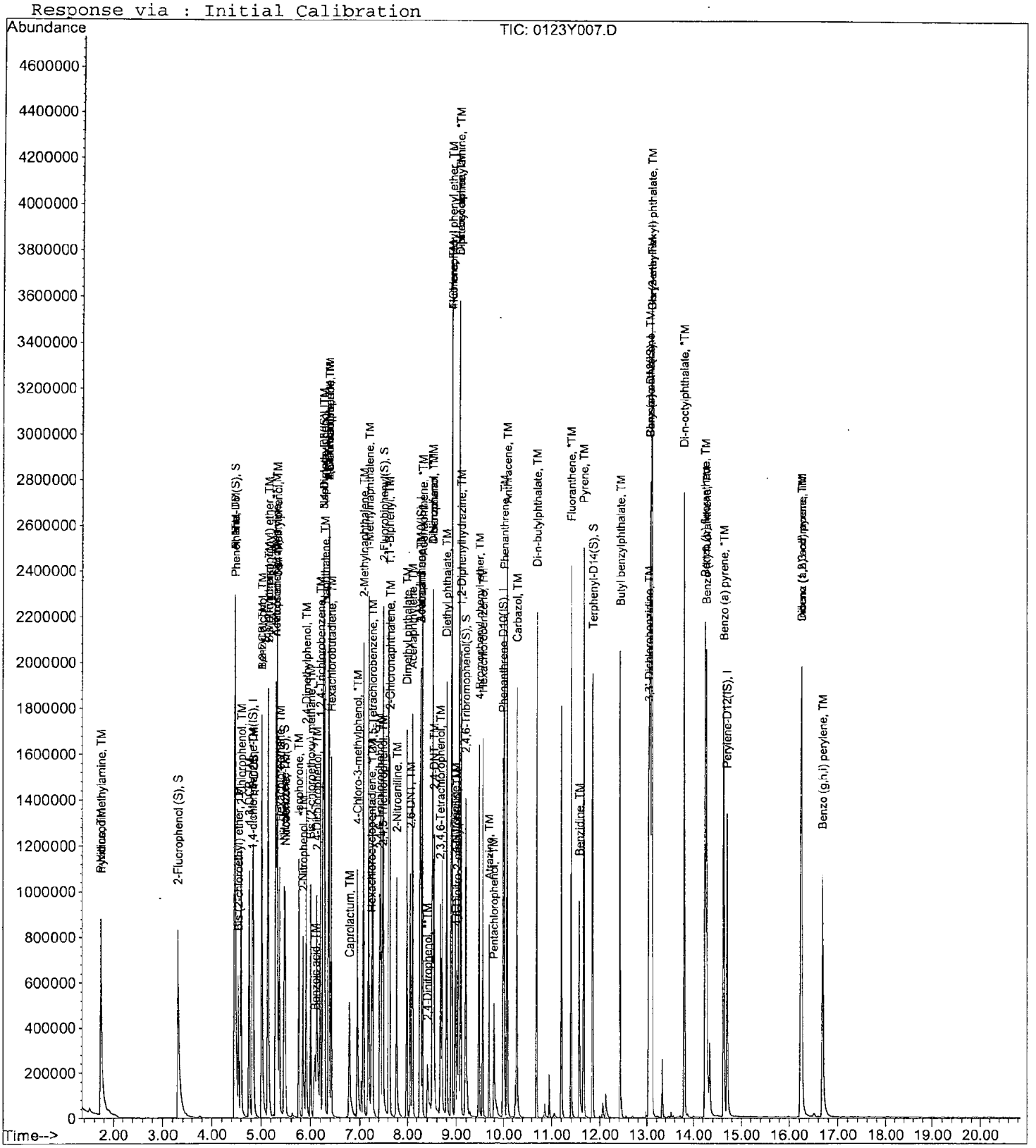
Data File : M:\YODA\DATA\Y170123\0123Y007.D
Acq On : 23 Jan 17 12:32
Sample : 50ug/ml SVOC 1/19/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



240

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	164722	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	694917	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	405674	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	753791	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	734064	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	733315	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	641143	118.58219 ppb	-0.01
Spiked Amount 200.000			Recovery = 59.291%		
5) Phenol-D6 (S)	4.46	99	807260	112.58922 ppb	0.00
Spiked Amount 200.000			Recovery = 56.295%		
21) Nitrobenzene-D5(S)	5.47	82	424514	60.52888 ppb	0.00
Spiked Amount 100.000			Recovery = 60.529%		
45) 2-Fluorobiphenyl(S)	7.50	172	720888	56.20256 ppb	0.00
Spiked Amount 100.000			Recovery = 56.203%		
63) 2,4,6-Tribromophenol(S)	9.20	330	216369	107.64003 ppb	0.00
Spiked Amount 200.000			Recovery = 53.820%		
81) Terphenyl-D14(S)	11.85	244	911137	55.18881 ppb	0.00
Spiked Amount 100.000			Recovery = 55.189%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	216084	63.80343 ppb	99
3) Pyridine	1.73	79	440792	58.88629 ppb	97
6) Phenol	4.48	94	480327	58.54223 ppb	94
7) Aniline	4.47	66	449827	57.86622 ppb	93
8) Bis (2-chloroethyl) ether	4.55	63	239576	65.39505 ppb	98
9) 2-Chlorophenol	4.60	128	365640	55.86413 ppb	96
10) 1,3-DCB	4.76	146	384183	56.93702 ppb	99
11) 1,4-DCB	4.84	146	386398	55.89005 ppb	99
12) Benzyl alcohol	5.01	108	215530	59.90684 ppb	97
13) 1,2-DCB	5.01	146	354563	56.26637 ppb	98
14) 2-Methylphenol	5.15	107	275551	59.62777 ppb	97
15) Bis (2-chloroisopropyl) et	5.15	45	506765	69.49913 ppb	99
16) Acetophenone	5.30	105	481205	57.34676 ppb	99
17) 3&4-Methylphenol	5.33	107	725427	118.78984 ppb	98
18) n-Nitrosodi-n-propylamine	5.31	70	269678	61.75147 ppb	98
19) Hexachloroethane	5.38	117	160294	57.81734 ppb	93
22) Nitrobenzene	5.48	77	414774	58.51353 ppb	98
23) Isophorone	5.75	82	700897	59.84124 ppb	99
24) 2-Nitrophenol	5.85	139	203948	57.87921 ppb	97
25) 2,4-Dimethylphenol	5.91	122	316124	56.17363 ppb	98
26) Benzoic acid	6.11	105	242531	55.93150 ppb	95
27) Bis (2-chloroethoxy) metha	6.00	93	410622	61.22139 ppb	99
28) 2,4-Dichlorophenol	6.13	162	302967	56.56613 ppb	97
29) 1,2,4-Trichlorobenzene	6.20	180	329671	56.71447 ppb	99
30) 3,4-Dimethylphenol	6.26	107	465219	54.41419 ppb	100
31) Naphthalene	6.28	128	1063081	58.24330 ppb	100
32) 4-Chloroaniline	6.37	127	364283	54.01511 ppb	100
33) 2,6-Dichlorophenol	6.37	162	263067	51.26458 ppb	99
34) Hexachloropropene	6.38	213	245032	53.10509 ppb	97
35) Hexachlorobutadiene	6.42	225	199176	54.29146 ppb	99
36) Caprolactum	6.80	55	181410	66.53671 ppb	96
37) 4-Chloro-3-methylphenol	6.95	107	326982	55.25681 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y008.D Vial: 8
Acq On : 23 Jan 17 13:02 Operator: MA
Sample : 60ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:40 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	692681	57.74750 ppb		99
39) 1-Methylnaphthalene	7.18	142	679928	57.32543 ppb		99
41) Hexachlorocyclopentadiene	7.25	237	126085	55.06807 ppb		100
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	320162	57.90588 ppb		98
43) 2,4,6-Trichlorophenol	7.42	196	206718	58.11026 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	231485	59.40920 ppb		94
46) 1,1'-Biphenyl	7.61	154	876636	57.27008 ppb		99
47) 2-Chloronaphthalene	7.63	162	695589	59.24161 ppb		94
48) 2-Nitroaniline	7.78	65	250408	62.07869 ppb		98
49) Dimethyl phthalate	7.98	163	809263	58.00920 ppb		99
50) 2,6-DNT	8.07	165	190560	60.24675 ppb		97
51) Acenaphthylene	8.10	152	1092256	58.82844 ppb		99
52) 3-Nitroaniline	8.26	138	205656	58.93818 ppb		99
53) Acenaphthene	8.31	154	660528	56.10991 ppb		99
54) 2,4-Dinitrophenol	8.41	184	84459	50.17470 ppb		91
55) 4-Nitrophenol	8.50	65	157556	53.73087 ppb		84
56) Dibenzofuran	8.51	168	964982	58.22197 ppb		95
57) 2,4-DNT	8.54	165	272217	61.16049 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.67	232	187467	59.72227 ppb	#	91
59) Diethyl phthalate	8.80	149	814621	55.94760 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.91	204	350361	53.85298 ppb		98
61) Fluorene	8.90	166	723357	53.93814 ppb		97
62) 4-Nitroaniline	8.98	138	189917	57.55356 ppb		97
65) 4,6-Dinitro-2-methylphenol	9.02	198	160215	57.73272 ppb		99
66) Diphenyl amine	9.06	169	1114622	104.79965 ppb		98
67) n-Nitrosodiphenylamine	9.06	169	1114622	104.79965 ppb		98
68) 1,2-Diphenylhydrazine	9.10	77	1087017	68.01420 ppb		98
69) 4-Bromophenyl phenyl ether	9.48	248	230185	58.64533 ppb		90
70) Hexachlorobenzene	9.55	284	233465	57.44941 ppb		96
71) Atrazine	9.69	200	113418	29.34015 ppb		99
72) Pentachlorophenol	9.79	266	101861	52.47528 ppb		99
73) Phenanthrene	10.02	178	1187121	57.80905 ppb		99
74) Anthracene	10.08	178	1251780	59.04733 ppb		100
75) Carbazol	10.28	167	1130326	59.43097 ppb		99
76) Di-n-butylphthalate	10.69	149	1444666	58.52811 ppb		99
77) Fluoranthene	11.40	202	1306455	57.46928 ppb		99
79) Benzidine	11.57	184	543076	64.22768 ppb		98
80) Pyrene	11.66	202	1386950	55.97742 ppb		99
82) Butyl benzylphthalate	12.43	149	676750	57.22935 ppb		99
83) 3,3'-Dichlorobenzidine	13.03	252	440981	56.29200 ppb		99
84) Benz (a) anthracene	13.05	228	1311427	57.11540 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	864584	51.98820 ppb		98
86) Chrysene	13.10	228	1217719	54.77858 ppb		99
87) Di-n-octylphthalate	13.80	149	1592640	54.88777 ppb		98
89) Benzo (b) fluoranthene	14.25	252	1451782	62.31467 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1157418	53.41932 ppb		100
91) Benzo (a) pyrene	14.64	252	1253165	58.68798 ppb		100
92) Indeno (1,2,3-cd) pyrene	16.24	276	1375411	58.00396 ppb		99
93) Dibenz (a,h) anthracene	16.25	278	1175371	58.74107 ppb		98
94) Benzo (g,h,i) perylene	16.69	276	1178979	56.40419 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

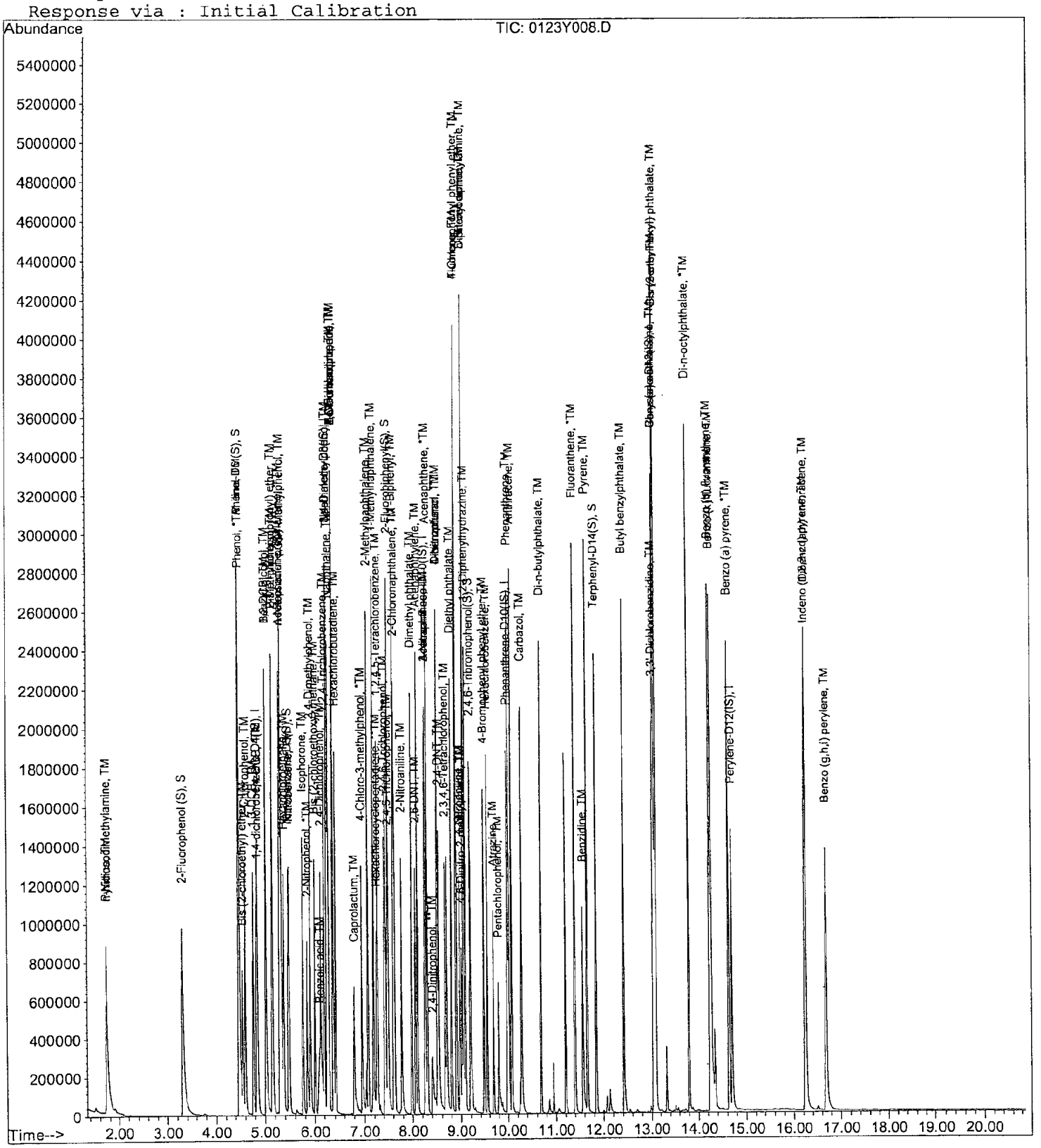
Data File : M:\YODA\DATA\Y170123\0123Y008.D
Acq On : 23 Jan 17 13:02
Sample : 60ug/ml SVOC 1/19/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:40 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	166401	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	680931	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	414592	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	10.00	188	762118	40.00000 ppb	0.01
78) Chrysene-D12(IS)	13.07	240	746776	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	732521	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	887403	162.47297 ppb	-0.01
Spiked Amount 200.000			Recovery	= 81.237%	
5) Phenol-D6 (S)	4.47	99	1042626	143.94866 ppb	0.00
Spiked Amount 200.000			Recovery	= 71.975%	
21) Nitrobenzene-D5(S)	5.47	82	566041	82.36607 ppb	0.00
Spiked Amount 100.000			Recovery	= 82.366%	
45) 2-Fluorobiphenyl(S)	7.50	172	967977	73.84304 ppb	0.00
Spiked Amount 100.000			Recovery	= 73.843%	
63) 2,4,6-Tribromophenol(S)	9.20	330	287224	139.81564 ppb	0.00
Spiked Amount 200.000			Recovery	= 69.908%	
81) Terphenyl-D14(S)	11.85	244	1172531	69.81283 ppb	0.00
Spiked Amount 100.000			Recovery	= 69.813%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	328831	96.11471 ppb	98
3) Pyridine	1.73	79	634454	83.90277 ppb	100
6) Phenol	4.48	94	642315	77.49542 ppb	98
7) Aniline	4.48	66	611004	77.80712 ppb #	63
8) Bis (2-chloroethyl) ether	4.56	63	321748	86.93869 ppb	91
9) 2-Chlorophenol	4.60	128	494954	74.85828 ppb	99
10) 1,3-DCB	4.76	146	507087	74.39346 ppb	99
11) 1,4-DCB	4.84	146	529424	75.80519 ppb	96
12) Benzyl alcohol	5.02	108	289157	79.56060 ppb	93
13) 1,2-DCB	5.01	146	473749	74.42168 ppb	99
14) 2-Methylphenol	5.15	107	367805	78.78797 ppb	98
15) Bis (2-chloroisopropyl) et	5.15	45	671024	91.09751 ppb	96
16) Acetophenone	5.30	105	658013	77.62630 ppb	95
17) 3&4-Methylphenol	5.34	107	945108	153.20138 ppb	93
18) n-Nitrosodi-n-propylamine	5.31	70	368772	83.59020 ppb	89
19) Hexachloroethane	5.38	117	223653	79.85668 ppb	97
22) Nitrobenzene	5.49	77	582149	83.81250 ppb	92
23) Isophorone	5.76	82	966459	84.20922 ppb	98
24) 2-Nitrophenol	5.85	139	284944	82.52632 ppb	98
25) 2,4-Dimethylphenol	5.91	122	421023	76.35029 ppb	98
26) Benzoic acid	6.12	105	344797	79.06975 ppb	99
27) Bis (2-chloroethoxy) metha	6.00	93	544730	82.88427 ppb	99
28) 2,4-Dichlorophenol	6.12	162	410990	78.31090 ppb	96
29) 1,2,4-Trichlorobenzene	6.20	180	444336	78.01075 ppb	97
30) 3,4-Dimethylphenol	6.25	107	624634	74.56074 ppb	99
31) Naphthalene	6.28	128	1406137	78.62073 ppb	99
32) 4-Chloroaniline	6.37	127	454078	68.71264 ppb	96
33) 2,6-Dichlorophenol	6.38	162	345298	68.67125 ppb	98
34) Hexachloropropene	6.38	213	330407	73.07897 ppb	98
35) Hexachlorobutadiene	6.42	225	256825	71.44332 ppb	98
36) Caprolactum	6.82	55	245801	92.00545 ppb	98
37) 4-Chloro-3-methylphenol	6.95	107	451745	77.90855 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y009.D Vial: 9
Acq On : 23 Jan 17 13:32 Operator: MA
Sample : 80ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	919893	78.26491	ppb		99
39)	1-Methylnaphthalene	7.18	142	897049	77.18455	ppb		99
41)	Hexachlorocyclopentadiene	7.25	237	194418	74.26731	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	421491	74.59290	ppb		99
43)	2,4,6-Trichlorophenol	7.42	196	290096	79.79443	ppb		98
44)	2,4,5-Trichlorophenol	7.48	196	306423	76.94998	ppb		99
46)	1,1'-Biphenyl	7.62	154	1181653	75.53613	ppb		98
47)	2-Chloronaphthalene	7.64	162	910982	75.91721	ppb		97
48)	2-Nitroaniline	7.78	65	345825	83.88938	ppb		93
49)	Dimethyl phthalate	7.99	163	1122736	78.74828	ppb		98
50)	2,6-DNT	8.06	165	256478	79.34293	ppb		79
51)	Acenaphthylene	8.11	152	1471485	77.54879	ppb		100
52)	3-Nitroaniline	8.26	138	273180	76.60560	ppb		90
53)	Acenaphthene	8.31	154	898264	74.66354	ppb		99
54)	2,4-Dinitrophenol	8.41	184	148912	76.11185	ppb		93
55)	4-Nitrophenol	8.50	65	221376	71.89679	ppb		87
56)	Dibenzofuran	8.51	168	1234240	72.86577	ppb		94
57)	2,4-DNT	8.54	165	361878	79.55622	ppb		87
58)	2,3,4,6-Tetrachlorophenol	8.68	232	249605	77.80742	ppb		98
59)	Diethyl phthalate	8.81	149	1115233	74.94587	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.91	204	472055	70.99747	ppb		86
61)	Fluorene	8.91	166	979437	71.46214	ppb		98
62)	4-Nitroaniline	8.98	138	259276	76.88240	ppb		99
65)	4,6-Dinitro-2-methylphenol	9.02	198	223043	79.49433	ppb	#	66
66)	Diphenyl amine	9.07	169	1475950	137.25639	ppb		99
67)	n-Nitrosodiphenylamine	9.07	169	1475950	137.25639	ppb		99
68)	1,2-Diphenylhydrazine	9.10	77	1440438	89.14286	ppb		95
69)	4-Bromophenyl phenyl ether	9.48	248	297743	75.02858	ppb		91
70)	Hexachlorobenzene	9.55	284	308879	75.17630	ppb		88
71)	Atrazine	9.70	200	156978	40.16501	ppb		97
72)	Pentachlorophenol	9.80	266	145464	71.57922	ppb		96
73)	Phenanthrene	10.02	178	1597898	76.96241	ppb		99
74)	Anthracene	10.08	178	1647829	76.87995	ppb		100
75)	Carbazol	10.28	167	1507963	78.42030	ppb		97
76)	Di-n-butylphthalate	10.69	149	1895065	75.93638	ppb		99
77)	Fluoranthene	11.41	202	1768341	76.93714	ppb		95
79)	Benzidine	11.57	184	728269	84.66366	ppb		99
80)	Pyrene	11.67	202	1854714	73.58218	ppb		99
82)	Butyl benzylphthalate	12.43	149	885385	73.59805	ppb		93
83)	3,3'-Dichlorobenzidine	13.04	252	555360	69.68590	ppb	#	93
84)	Benz (a) anthracene	13.06	228	1729756	74.05212	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.10	149	1265647	74.80898	ppb	#	98
86)	Chrysene	13.11	228	1666992	73.71244	ppb		100
87)	Di-n-octylphthalate	13.80	149	2207923	74.79722	ppb		97
89)	Benzo (b) fluoranthene	14.25	252	1771769	76.13187	ppb		99
90)	Benzo (k) fluoranthene	14.28	252	1673415	77.31829	ppb		98
91)	Benzo (a) pyrene	14.64	252	1665071	78.06280	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.24	276	1805563	76.22690	ppb		98
93)	Dibenz (a,h) anthracene	16.26	278	1554905	77.79313	ppb		100
94)	Benzo (g,h,i) perylene	16.70	276	1558479	74.64088	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

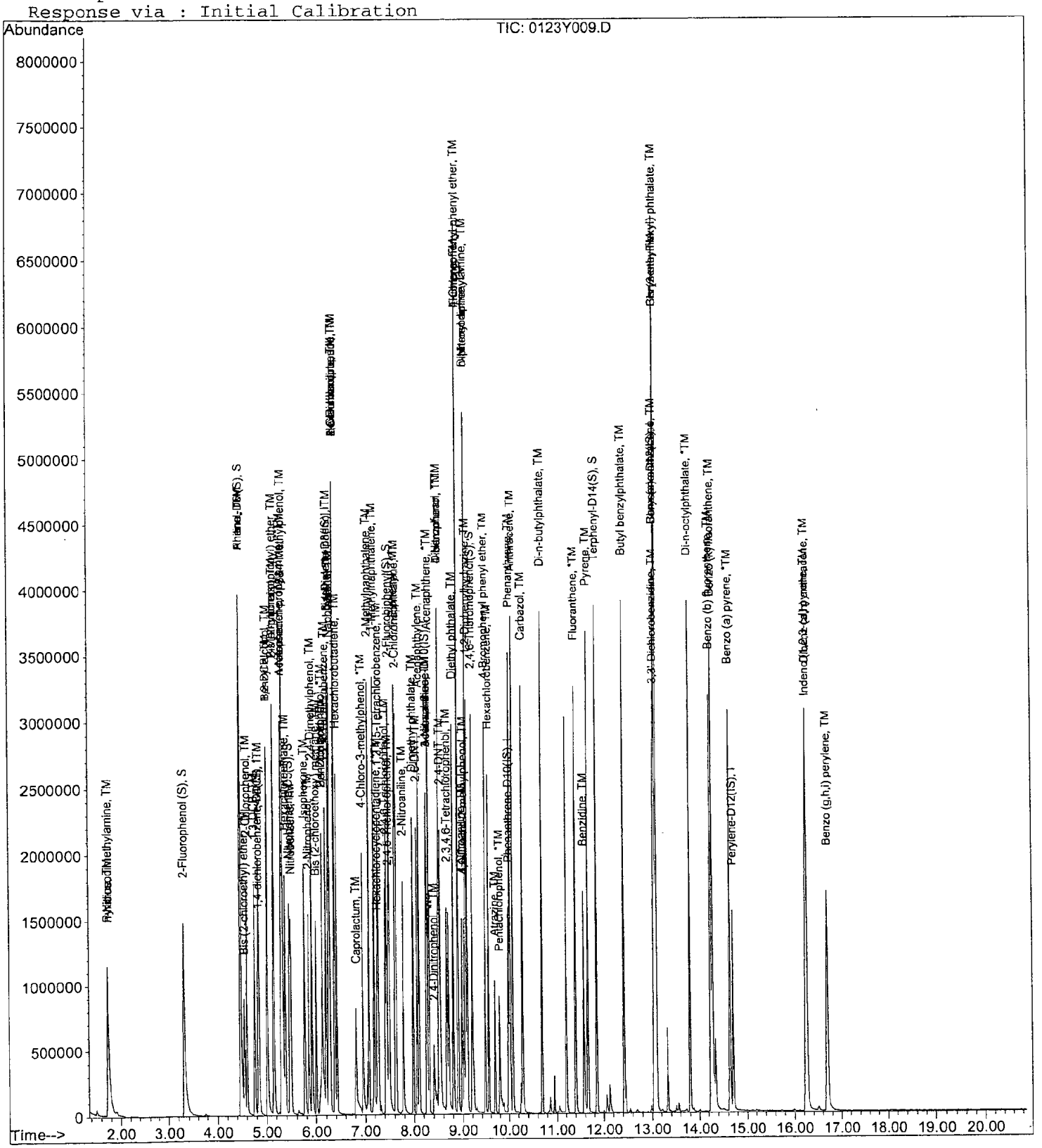
Data File : M:\YODA\DATA\Y170123\0123Y009.D
Acq On : 23 Jan 17 13:32
Sample : 80ug/ml SVOC 1/19/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D Vial: 10
Acq On : 23 Jan 17 14:02 Operator: MA
Sample : 100ug/ml SVOC 1/19/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jan 23 14:41 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	155220	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.27	136	628590	40.00000 ppb	0.01
40) Acenaphthene-D10(IS)	8.27	164	387503	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	708572	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	682331	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	667644	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	1042865	204.68998 ppb	-0.01
Spiked Amount 200.000			Recovery	= 102.345%	
5) Phenol-D6 (S)	4.47	99	1197435	177.23083 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.616%	
21) Nitrobenzene-D5(S)	5.47	82	662011	104.35212 ppb	0.00
Spiked Amount 100.000			Recovery	= 104.352%	
45) 2-Fluorobiphenyl(S)	7.50	172	1122811	91.64253 ppb	0.00
Spiked Amount 100.000			Recovery	= 91.643%	
63) 2,4,6-Tribromophenol(S)	9.20	330	353129	183.91377 ppb	0.00
Spiked Amount 200.000			Recovery	= 91.957%	
81) Terphenyl-D14(S)	11.85	244	1425363	92.88201 ppb	0.00
Spiked Amount 100.000			Recovery	= 92.882%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.72	42	438639	137.44616 ppb		83
3) Pyridine	1.73	79	926468	131.34540 ppb		93
6) Phenol	4.49	94	750184	97.02955 ppb		86
7) Aniline	4.48	66	745384	101.75684 ppb	#	64
8) Bis (2-chloroethyl) ether	4.55	63	381338	110.46268 ppb		99
9) 2-Chlorophenol	4.60	128	580495	94.11996 ppb		99
10) 1,3-DCB	4.76	146	609375	95.83963 ppb		99
11) 1,4-DCB	4.85	146	613930	94.23721 ppb		97
12) Benzyl alcohol	5.02	108	347279	102.43565 ppb		94
13) 1,2-DCB	5.01	146	557663	93.91420 ppb		99
14) 2-Methylphenol	5.15	107	433988	99.66169 ppb		98
15) Bis (2-chloroisopropyl) et	5.14	45	757865	110.29823 ppb	#	69
16) Acetophenone	5.31	105	782209	98.92486 ppb		97
17) 3&4-Methylphenol	5.34	107	1101845	191.47409 ppb		97
18) n-Nitrosodi-n-propylamine	5.32	70	393666	95.66071 ppb		96
19) Hexachloroethane	5.38	117	264821	101.36714 ppb		97
22) Nitrobenzene	5.50	77	675605	105.36664 ppb		91
23) Isophorone	5.76	82	1162729	109.74642 ppb		99
24) 2-Nitrophenol	5.85	139	334328	104.89176 ppb		99
25) 2,4-Dimethylphenol	5.91	122	502243	98.66302 ppb		98
26) Benzoic acid	6.14	105	379456	93.37746 ppb		96
27) Bis (2-chloroethoxy) metha	6.01	93	643480	106.06242 ppb		100
28) 2,4-Dichlorophenol	6.13	162	489303	100.99607 ppb		96
29) 1,2,4-Trichlorobenzene	6.20	180	529466	100.69703 ppb		100
30) 3,4-Dimethylphenol	6.26	107	751004	97.10967 ppb		95
31) Naphthalene	6.28	128	1663871	100.77776 ppb		99
32) 4-Chloroaniline	6.37	127	509285	83.48390 ppb	#	91
33) 2,6-Dichlorophenol	6.38	162	416218	89.66798 ppb		97
34) Hexachloropropene	6.38	213	421983	101.10527 ppb		97
35) Hexachlorobutadiene	6.42	225	313109	94.35296 ppb		100
36) Caprolactum	6.83	55	289004	117.18429 ppb		97
37) 4-Chloro-3-methylphenol	6.95	107	534163	99.79326 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:40:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	7.07	142	1069015	98.52562	ppb		100
39)	1-Methylnaphthalene	7.18	142	1086390	101.25946	ppb		97
41)	Hexachlorocyclopentadiene	7.25	237	258114	95.27329	ppb		100
42)	1,2,4,5-Tetrachlorobenzene	7.28	216	503120	95.26351	ppb		99
43)	2,4,6-Trichlorophenol	7.43	196	331996	97.70336	ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	355732	95.57756	ppb		98
46)	1,1'-Biphenyl	7.62	154	1386672	94.83843	ppb		97
47)	2-Chloronaphthalene	7.64	162	1055069	94.07130	ppb		95
48)	2-Nitroaniline	7.78	65	418092	108.50964	ppb		88
49)	Dimethyl phthalate	7.99	163	1356658	101.80747	ppb		98
50)	2,6-DNT	8.07	165	316171	104.64681	ppb	#	71
51)	Acenaphthylene	8.11	152	1797144	101.33230	ppb		99
52)	3-Nitroaniline	8.26	138	328647	98.60232	ppb		92
53)	Acenaphthene	8.31	154	1086532	96.62576	ppb		98
54)	2,4-Dinitrophenol	8.41	184	176811	90.93521	ppb		94
55)	4-Nitrophenol	8.50	65	278056	94.80657	ppb		85
56)	Dibenzofuran	8.51	168	1478712	93.40139	ppb		91
57)	2,4-DNT	8.54	165	432509	101.73091	ppb	#	76
58)	2,3,4,6-Tetrachlorophenol	8.68	232	302610	100.92456	ppb		97
59)	Diethyl phthalate	8.81	149	1309719	94.16860	ppb		99
60)	4-Chlorophenyl phenyl ethe	8.91	204	605069	97.36458	ppb		86
61)	Fluorene	8.91	166	1259262	98.30180	ppb		98
62)	4-Nitroaniline	8.99	138	320532	101.69084	ppb		96
65)	4,6-Dinitro-2-methylphenol	9.03	198	282208	108.18202	ppb		97
66)	Diphenyl amine	9.07	169	1764977	176.53801	ppb		98
67)	n-Nitrosodiphenylamine	9.07	169	1764977	176.53801	ppb		98
68)	1,2-Diphenylhydrazine	9.10	77	1833929	122.07107	ppb		92
69)	4-Bromophenyl phenyl ether	9.48	248	362735	98.31343	ppb		89
70)	Hexachlorobenzene	9.55	284	374188	97.95365	ppb	#	85
71)	Atrazine	9.70	200	186402	51.29770	ppb		96
72)	Pentachlorophenol	9.80	266	184112	95.21807	ppb		98
73)	Phenanthrene	10.03	178	1872148	96.98577	ppb		99
74)	Anthracene	10.08	178	1948772	97.79130	ppb		100
75)	Carbazol	10.29	167	1735219	97.05778	ppb		94
76)	Di-n-butylphthalate	10.69	149	2308294	99.48443	ppb		98
77)	Fluoranthene	11.41	202	2101591	98.34594	ppb	#	95
79)	Benzidine	11.58	184	881021	112.09512	ppb		99
80)	Pyrene	11.67	202	2238167	97.18146	ppb		99
82)	Butyl benzylphthalate	12.43	149	1053918	95.88181	ppb		84
83)	3,3'-Dichlorobenzidine	13.04	252	620945	85.27441	ppb	#	97
84)	Benz (a) anthracene	13.06	228	1997166	93.57548	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.10	149	1566068	101.30876	ppb	#	98
86)	Chrysene	13.11	228	2048269	99.12644	ppb		99
87)	Di-n-octylphthalate	13.81	149	2523481	93.56142	ppb	#	90
89)	Benzo (b) fluoranthene	14.26	252	2021244	95.29131	ppb		98
90)	Benzo (k) fluoranthene	14.29	252	1924959	97.58324	ppb		98
91)	Benzo (a) pyrene	14.65	252	1933997	99.48149	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.25	276	2081153	96.39950	ppb		98
93)	Dibenz (a,h) anthracene	16.27	278	1774923	97.42985	ppb		98
94)	Benzo (g,h,i) perylene	16.71	276	1733036	91.06647	ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

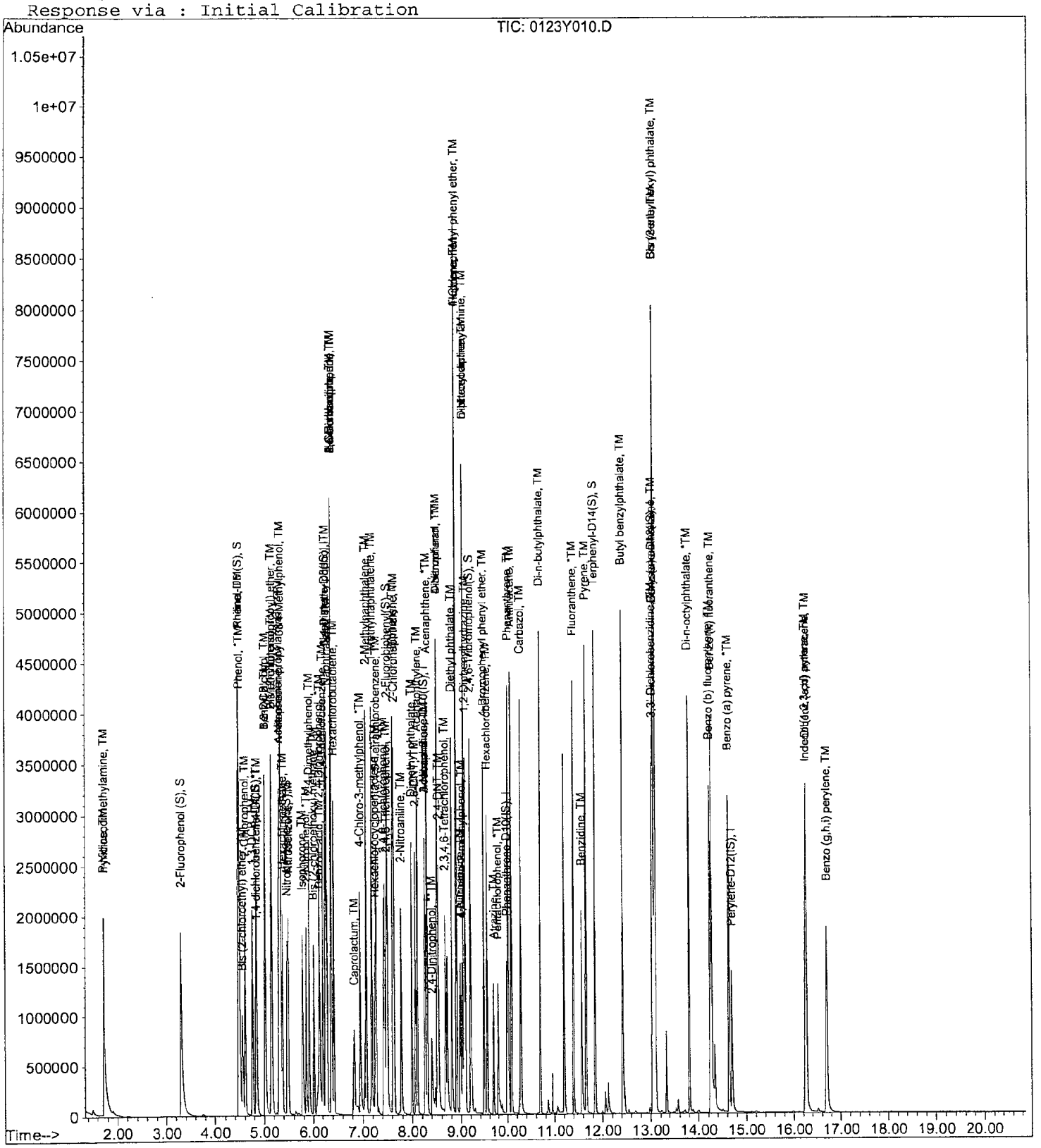
Data File : M:\YODA\DATA\Y170123\0123Y010.D
Acq On : 23 Jan 17 14:02
Sample : 100ug/ml SVOC 1/19/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 14:41 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	n-Nitrosodimethylamine	0.9560	1.078	13	TM	
2	TM	Pyridine	1.902	2.032	6.9	TM	
3	*TM	Phenol	1.927	1.954	1.4	*TM	
4	TM	Aniline	1.829	1.658	9.4	TM	
5	TM	Bis (2-chloroethyl) ether	0.9431	0.9838	4.3	TM	
6	TM	2-Chlorophenol	1.490	1.438	3.5	TM	
7	TM	1,3-DCB	1.572	1.699	8.1	TM	
8	*TM	1,4-DCB	1.615	1.763	9.1	*TM	
9	TM	Benzyl alcohol	0.8487	0.9289	9.4	TM	
10	TM	1,2-DCB	1.472	1.568	6.5	TM	
11	TM	2-Methylphenol	1.114	1.052	5.6	TM	
12	TM	Bis (2-chloroisopropyl) ether	2.069	2.153	4.0	TM	
13	TM	Acetophenone	1.985	2.026	2.1	TM	
14	TM	3&4-Methylphenol	1.446	1.465	1.3	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.102	1.097	0.39	**TM	
16	TM	Hexachloroethane	0.6642	0.7312	10	TM	
17	TM	Nitrobenzene	0.4049	0.4143	2.3	TM	
18	TM	Isophorone	0.6723	0.7612	13	TM	
19	*TM	2-Nitrophenol	0.1899	0.1909	0.53	*TM	
20	TM	2,4-Dimethylphenol	0.3070	0.2995	2.4	TM	
21	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
22	TM	Bis (2-chloroethoxy) methane	0.3892	0.4099	5.3	TM	
23	*TM	2,4-Dichlorophenol	0.2922	0.2780	4.8	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3228	0.3493	8.2	TM	
25	TM	3,4-Dimethylphenol	0.4623	0.4342	6.1	TM	
26	TM	Naphthalene	1.046	0.9901	5.3	TM	
27	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
28	TM	2,6-Dichlorophenol	0.2704	0.2659	1.7	TM	
29	TM	Hexachloropropene	0.2347	0.2309	1.6	TM	
30	*TM	Hexachlorobutadiene	0.1914	0.2101	9.7	*TM	
31	TM	Caprolactum	0.1663	0.1556	6.4	TM	
32	*TM	4-Chloro-3-methylphenol	0.3166	0.3057	3.4	*TM	
33	TM	2-Methylnaphthalene	0.6794	0.6600	2.9	TM	
34	TM	1-Methylnaphthalene	0.6692	0.6153	8.1	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1597	0.2090	31	**TMQ	5.3
36	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5092	5.9	TM	
37	*TM	2,4,6-Trichlorophenol	0.3396	0.3321	2.2	*TM	
38	TM	2,4,5-Trichlorophenol	0.3725	0.3602	3.3	TM	
39	TM	1,1'-Biphenyl	1.501	1.413	5.8	TM	
40	TM	2-Chloronaphthalene	1.147	1.190	3.8	TM	
		Average			6.7		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.4089	0.4014	1.8	TM	
42	TM	Dimethyl phthalate	1.375	1.317	4.2	TM	
43	TM	2,6-DNT	0.3070	0.3067	0.10	TM	
44	TM	Acenaphthylene	1.846	1.687	8.6	TM	
45	TM	3-Nitroaniline	0.3357	0.3328	0.87	TM	
46	*TM	Acenaphthene	1.138	1.046	8.1	*TM	
47	**TMQ	2,4-Dinitrophenol	0.1314	0.1418	7.9	**TMQ	2.8
48	**TML	4-Nitrophenol	0.2262	0.2489	10	**TML	3.6
49	TM	Dibenzofuran	1.607	1.503	6.5	TM	
50	TM	2,4-DNT	0.4280	0.4277	0.06	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2919	0.51	TM	
52	TM	Diethyl phthalate	1.392	1.330	4.5	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6259	0.5873	6.2	TM	
54	TM	Fluorene	1.301	1.130	13	TM	
55	TM	4-Nitroaniline	0.3194	0.3238	1.4	TM	
56	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1368	3.5	TML	3.8
57	TM	Diphenyl amine	0.5157	0.5192	0.68	TM	
58	*TM	n-Nitrosodiphenylamine	0.5157	0.5192	0.68	*TM	
59	TM	1,2-Diphenylhydrazine	0.9004	1.044	16	TM	
60	TM	4-Bromophenyl phenyl ether	0.2021	0.2011	0.51	TM	
61	TM	Hexachlorobenzene	0.2108	0.2216	5.1	TM	
62	TM	Atrazine	0.1996	0.1763	12	TM	
63	*TML	Pentachlorophenol	0.0838	0.0817	2.4	*TML	9.6
64	TM	Phenanthrene	1.091	1.011	7.3	TM	
65	TM	Anthracene	1.138	1.019	11	TM	
66	TM	Carbazol	1.008	0.9307	7.6	TM	
67	TM	Di-n-butylphthalate	1.273	1.260	1.0	TM	
68	*TM	Fluoranthene	1.185	1.119	5.5	*TM	
69	TM	Benzidine	0.4979	0.4477	10	TM	
70	TM	Pyrene	1.283	1.182	7.8	TM	
71	TM	Butyl benzylphthalate	0.5931	0.5957	0.44	TM	
72	TM	3,3'-Dichlorobenzidine	0.4022	0.4338	7.9	TM	
73	TM	Benz (a) anthracene	1.206	1.139	5.6	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.7757	7.0	TM	
75	TM	Chrysene	1.183	1.013	14	TM	
76	*TM	Di-n-octylphthalate	1.429	1.429	0.02	*TM	
77	TM	Benzo (b) fluoranthene	1.245	1.116	10	TM	
78	TM	Benzo (k) fluoranthene	1.148	1.192	3.8	TM	
79	*TM	Benzo (a) pyrene	1.137	1.113	2.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.275	1.232	3.3	TM	
		Average			5.5		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 01/23/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y011.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.085	1.032	4.9	TM	
82	TM	Benzo (g,h,i) perylene	1.070	1.025	4.2	TM	
83							
84							
85							
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111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	183587	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.26	136	783587	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.27	164	465816	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	848625	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	833572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.71	264	821168	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.38	82	56608	7.12341 ppb	-0.09
Spiked Amount 100.000			Recovery	= 7.123%	
45) 2-Fluorobiphenyl(S)	7.51	172	112	0.00749 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.007%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	11.86	244	523	0.02917 ppb	0.01
Spiked Amount 100.000			Recovery	= 0.029%	

Algorithm = $\frac{247372 \times 40 \times 1}{183587 \times 0.456}$ = 56.38 HA 1/25/16

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	247372	56.37543 ppb	89
3) Pyridine	1.73	79	466372	53.43128 ppb	84
6) Phenol	4.48	94	448495	50.71151 ppb	94
7) Aniline	4.48	66	380461	45.31686 ppb	88
8) Bis (2-chloroethyl) ether	4.54	63	225769	52.15664 ppb	97
9) 2-Chlorophenol	4.60	128	329955	48.24378 ppb	94
10) 1,3-DCB	4.75	146	389826	54.03075 ppb	98
11) 1,4-DCB	4.85	146	404477	54.55525 ppb	96
12) Benzyl alcohol	5.01	108	213164	54.72127 ppb	87
13) 1,2-DCB	5.01	146	359833	53.24856 ppb	96
14) 2-Methylphenol	5.14	107	241310	47.21106 ppb	95
15) Bis (2-chloroisopropyl) et	5.14	45	494083	52.02147 ppb	90
16) Acetophenone	5.29	105	464889	51.04042 ppb	98
17) 3&4-Methylphenol	5.32	107	672564	101.32936 ppb	100
18) n-Nitrosodi-n-propylamine	5.30	70	251825	49.80469 ppb	93
19) Hexachloroethane	5.38	117	167798	55.04027 ppb	90
22) Nitrobenzene	5.49	77	405788	51.15719 ppb	94
23) Isophorone	5.76	82	745622	56.61607 ppb	98
24) 2-Nitrophenol	5.84	139	187007	50.26738 ppb	95
25) 2,4-Dimethylphenol	5.90	122	293383	48.77639 ppb	98
26) Benzoic acid	6.10	105	246142	53.97366 ppb	94
27) Bis (2-chloroethoxy) metha	6.01	93	401460	52.65273 ppb	98
28) 2,4-Dichlorophenol	6.13	162	272313	47.57651 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	342141	54.09826 ppb	97
30) 3,4-Dimethylphenol	6.25	107	425263	46.96110 ppb	98
31) Naphthalene	6.29	128	969828	47.33865 ppb	99
32) 4-Chloroaniline	6.37	127	349672	48.58891 ppb	95
33) 2,6-Dichlorophenol	6.37	162	260434	49.16478 ppb	97
34) Hexachloropropene	6.38	213	226184	49.19795 ppb	98
35) Hexachlorobutadiene	6.42	225	205781	54.87151 ppb	99
36) Caprolactum	6.80	55	152386	46.77730 ppb	95
37) 4-Chloro-3-methylphenol	6.94	107	299467	48.28423 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.07	142	646439	48.57137 ppb		100
39) 1-Methylnaphthalene	7.19	142	602666	45.97150 ppb		100
41) Hexachlorocyclopentadiene	7.25	237	121681	52.65785 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	296483	47.03775 ppb		99
43) 2,4,6-Trichlorophenol	7.42	196	193346	48.88713 ppb		97
44) 2,4,5-Trichlorophenol	7.47	196	209742	48.34739 ppb		97
46) 1,1'-Biphenyl	7.61	154	822806	47.07970 ppb		99
47) 2-Chloronaphthalene	7.63	162	692861	51.88332 ppb		96
48) 2-Nitroaniline	7.77	65	233738	49.08526 ppb		85
49) Dimethyl phthalate	7.98	163	766645	47.87741 ppb		99
50) 2,6-DNT	8.06	165	178567	49.95212 ppb	#	72
51) Acenaphthylene	8.10	152	982221	45.67988 ppb		99
52) 3-Nitroaniline	8.25	138	193766	49.56328 ppb		85
53) Acenaphthene	8.31	154	608874	45.93545 ppb		100
54) 2,4-Dinitrophenol	8.41	184	82560	48.59465 ppb		95
55) 4-Nitrophenol	8.50	65	144946	48.19129 ppb		77
56) Dibenzofuran	8.50	168	875323	46.77048 ppb		98
57) 2,4-DNT	8.54	165	249063	49.96847 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	169978	49.74501 ppb	#	90
59) Diethyl phthalate	8.80	149	774517	47.76643 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.91	204	341992	46.91651 ppb		86
61) Fluorene	8.90	166	658029	43.43306 ppb		96
62) 4-Nitroaniline	8.98	138	188537	50.69450 ppb		89
65) 4,6-Dinitro-2-methylphenol	9.01	198	145095	48.08398 ppb	#	80
66) Diphenyl amine	9.06	169	1101615	100.68261 ppb		99
67) n-Nitrosodiphenylamine	9.06	169	1101615	100.68261 ppb		99
68) 1,2-Diphenylhydrazine	9.10	77	1107522	57.98015 ppb		91
69) 4-Bromophenyl phenyl ether	9.48	248	213301	49.74664 ppb		85
70) Hexachlorobenzene	9.55	284	235108	52.56424 ppb		90
71) Atrazine	9.69	200	93523	22.08154 ppb		99
72) Pentachlorophenol	9.79	266	86715	45.18058 ppb		95
73) Phenanthrene	10.02	178	1072837	46.33434 ppb		100
74) Anthracene	10.08	178	1080433	44.73670 ppb		99
75) Carbazol	10.28	167	987284	46.17731 ppb		96
76) Di-n-butylphthalate	10.69	149	1336738	49.47728 ppb		99
77) Fluoranthene	11.40	202	1187541	47.24409 ppb		97
79) Benzidine	11.58	184	466479	44.95376 ppb		97
80) Pyrene	11.66	202	1231903	46.08479 ppb		98
82) Butyl benzylphthalate	12.42	149	620712	50.22071 ppb	#	78
83) 3,3'-Dichlorobenzidine	13.03	252	451989	53.92761 ppb		94
84) Benz (a) anthracene	13.05	228	1187024	47.21512 ppb		99
85) Bis (2-ethylhexyl) phthala	13.09	149	808293	46.49640 ppb		99
86) Chrysene	13.10	228	1055130	42.79043 ppb		100
87) Di-n-octylphthalate	13.81	149	1488607	49.98751 ppb		97
89) Benzo (b) fluoranthene	14.25	252	1145100	44.79514 ppb		99
90) Benzo (k) fluoranthene	14.28	252	1223330	51.92467 ppb		98
91) Benzo (a) pyrene	14.64	252	1142371	48.92994 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.25	276	1264899	48.32771 ppb		99
93) Dibenz (a,h) anthracene	16.26	278	1059706	47.56225 ppb		99
94) Benzo (g,h,i) perylene	16.69	276	1051918	47.90166 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

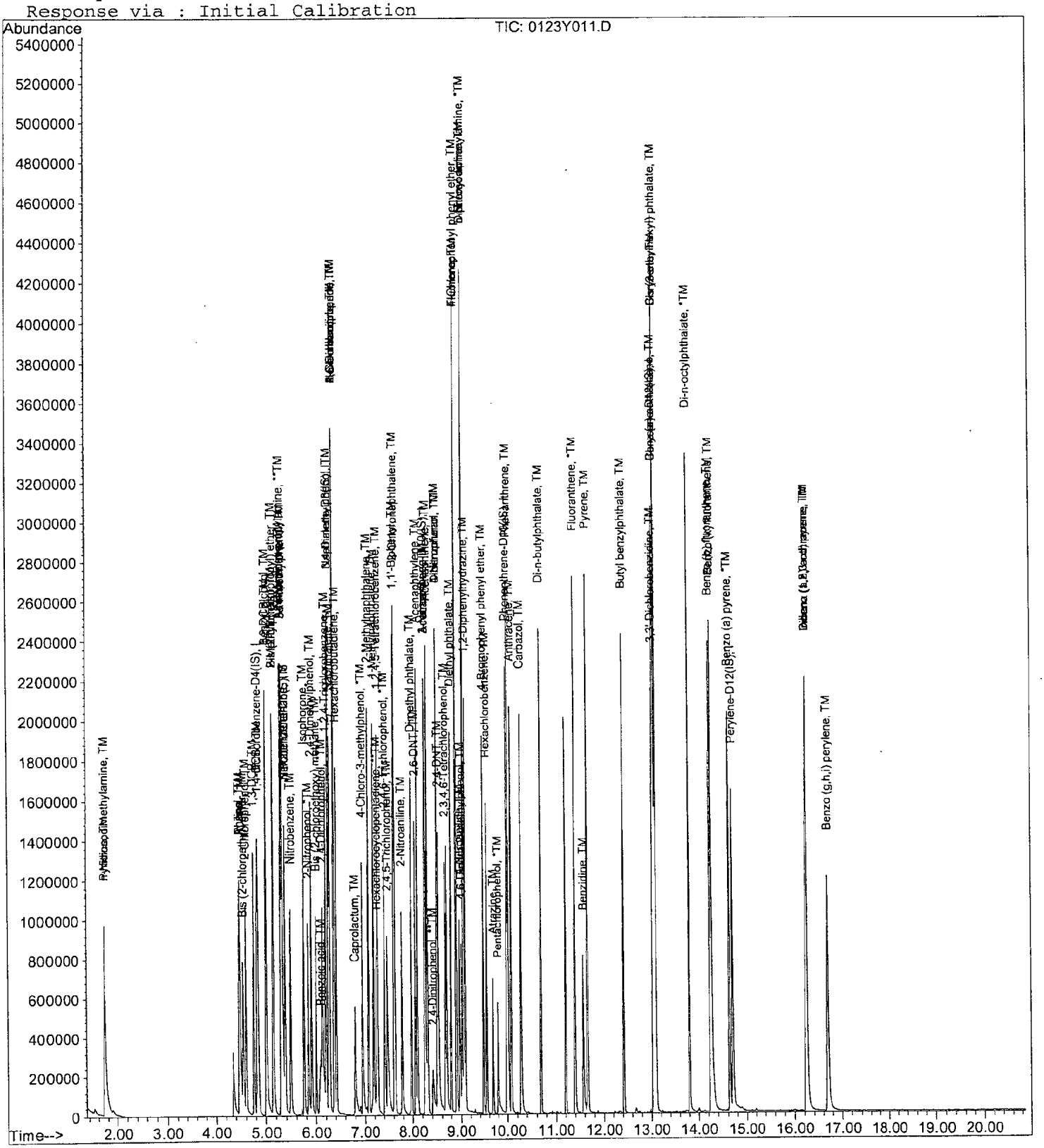
Data File : M:\YODA\DATA\Y170123\0123Y011.D
Acq On : 23 Jan 17 15:32
Sample : 2ND SRC SVOC 1/19/17
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 23 15:47 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Jan 23 14:55:31 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.070	12	TM	
3	TM	Pyridine	1.902	1.929	1.4	TM	
4	S	2-Fluorophenol (S)	1.262	1.272	0.83	S	
5	S	Phenol-D6 (S)	1.679	1.646	1.9	S	
6	*TM	Phenol	1.927	2.002	3.9	*TM	
7	TM	Aniline	1.829	1.824	0.28	TM	
8	TM	Bis (2-chloroethyl) ether	0.9431	0.9570	1.5	TM	
9	TM	2-Chlorophenol	1.490	1.509	1.3	TM	
10	TM	1,3-DCB	1.572	1.588	1.0	TM	
11	*TM	1,4-DCB	1.615	1.620	0.27	*TM	
12	TM	Benzyl alcohol	0.8487	0.8840	4.2	TM	
13	TM	1,2-DCB	1.472	1.528	3.8	TM	
14	TM	2-Methylphenol	1.114	1.141	2.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	2.069	2.065	0.23	TM	
16	TM	Acetophenone	1.985	2.007	1.1	TM	
17	TM	3&4-Methylphenol	1.446	1.508	4.3	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.102	1.109	0.66	**TM	
19	TM	Hexachloroethane	0.6642	0.6669	0.40	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4057	0.3826	5.7	S	
22	TM	Nitrobenzene	0.4049	0.4087	0.94	TM	
23	TM	Isophorone	0.6723	0.6834	1.7	TM	
24	*TM	2-Nitrophenol	0.1899	0.1980	4.3	*TM	
25	TM	2,4-Dimethylphenol	0.3070	0.3167	3.1	TM	
26	TML	Benzoic acid	0.1823	0.2457	35	TML	5.8
27	TM	Bis (2-chloroethoxy) methane	0.3892	0.3883	0.25	TM	
28	*TM	2,4-Dichlorophenol	0.2922	0.2993	2.5	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3228	0.3267	1.2	TM	
30	TM	3,4-Dimethylphenol	0.4623	0.4517	2.3	TM	
31	TM	Naphthalene	1.046	1.036	0.89	TM	
32	TM	4-Chloroaniline	0.3674	0.3583	2.5	TM	
33	TM	2,6-Dichlorophenol	0.2704	0.2613	3.4	TM	
34	TM	Hexachloropropene	0.2347	0.2250	4.1	TM	
35	*TM	Hexachlorobutadiene	0.1914	0.1871	2.3	*TM	
36	TM	Caprolactum	0.1663	0.1768	6.3	TM	
37	*TM	4-Chloro-3-methylphenol	0.3166	0.3305	4.4	*TM	
38	TM	2-Methylnaphthalene	0.6794	0.6907	1.7	TM	
39	TM	1-Methylnaphthalene	0.6692	0.6780	1.3	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.4		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D	%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1620	1.4	**TMQ	12
42	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5298	2.1	TM	
43	*TM	2,4,6-Trichlorophenol	0.3396	0.3447	1.5	*TM	
44	TM	2,4,5-Trichlorophenol	0.3725	0.3767	1.1	TM	
45	S	2-Fluorobiphenyl(S)	1.283	1.151	10	S	
46	TM	1,1'-Biphenyl	1.501	1.486	0.97	TM	
47	TM	2-Chloronaphthalene	1.147	1.145	0.18	TM	
48	TM	2-Nitroaniline	0.4089	0.4041	1.2	TM	
49	TM	Dimethyl phthalate	1.375	1.344	2.2	TM	
50	TM	2,6-DNT	0.3070	0.3143	2.4	TM	
51	TM	Acenaphthylene	1.846	1.791	3.0	TM	
52	TM	3-Nitroaniline	0.3357	0.3400	1.3	TM	
53	*TM	Acenaphthene	1.138	1.106	2.8	*TM	
54	**TMQ	2,4-Dinitrophenol	0.1314	0.1730	32	**TMQ	13
55	**TML	4-Nitrophenol	0.2262	0.2239	1.0	**TML	12
56	TM	Dibenzofuran	1.607	1.602	0.29	TM	
57	TM	2,4-DNT	0.4280	0.4320	0.93	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2913	0.71	TM	
59	TM	Diethyl phthalate	1.392	1.354	2.7	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6259	0.5656	9.6	TM	
61	TM	Fluorene	1.301	1.181	9.2	TM	
62	TM	4-Nitroaniline	0.3194	0.3285	2.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1851	0.1726	6.8	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1404	6.2	TML	1.6
66	TM	Diphenyl amine	0.5157	0.5110	0.91	TM	
67	*TM	n-Nitrosodiphenylamine	0.5157	0.5110	0.91	*TM	
68	TM	1,2-Diphenylhydrazine	0.9004	0.7947	12	TM	
69	TM	4-Bromophenyl phenyl ether	0.2021	0.2038	0.82	TM	
70	TM	Hexachlorobenzene	0.2108	0.2076	1.5	TM	
71	TM	Atrazine	0.1996	0.2051	2.7	TM	
72	*TML	Pentachlorophenol	0.0838	0.1003	20	*TML	7.5
73	TM	Phenanthrene	1.091	1.066	2.3	TM	
74	TM	Anthracene	1.138	1.118	1.8	TM	
75	TM	Carbazol	1.008	0.9991	0.86	TM	
76	TM	Di-n-butylphthalate	1.273	1.297	1.8	TM	
77	*TM	Fluoranthene	1.185	1.198	1.1	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.4979	0.4636	6.9	TM	
80	TM	Pyrene	1.283	1.314	2.4	TM	
		Average			4.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y287.D

		Compound	MEAN	CCRF	%D		%Drift
81	S	Terphenyl-D14(S)	0.8604	0.8439	1.9	S	
82	TM	Butyl benzylphthalate	0.5931	0.6423	8.3	TM	
83	TM	3,3'-Dichlorobenzidine	0.4022	0.4455	11	TM	
84	TM	Benz (a) anthracene	1.206	1.191	1.3	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8240	1.2	TM	
86	TM	Chrysene	1.183	1.149	2.9	TM	
87	*TM	Di-n-octylphthalate	1.429	1.523	6.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.245	1.135	8.9	TM	
90	TM	Benzo (k) fluoranthene	1.148	1.134	1.2	TM	
91	*TM	Benzo (a) pyrene	1.137	1.083	4.8	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.275	1.156	9.4	TM	
93	TM	Dibenz (a,h) anthracene	1.085	1.001	7.8	TM	
94	TM	Benzo (g,h,i) perylene	1.070	0.9879	7.6	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.6		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148886	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.24	136	626658	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	373403	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	695280	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	671130	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.69	264	737668	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	473559	100.83320 ppb	0.00
Spiked Amount 200.000			Recovery = 50.417%		
5) Phenol-D6 (S)	4.46	99	612723	98.06049 ppb	0.00
Spiked Amount 200.000			Recovery = 49.030%		
21) Nitrobenzene-D5(S)	5.46	82	299685	47.15545 ppb	0.00
Spiked Amount 100.000			Recovery = 47.155%		
45) 2-Fluorobiphenyl(S)	7.49	172	537257	44.85072 ppb	0.00
Spiked Amount 100.000			Recovery = 44.851%		
63) 2,4,6-Tribromophenol(S)	9.19	330	161123	93.22302 ppb	0.00
Spiked Amount 200.000			Recovery = 46.612%		
81) Terphenyl-D14(S)	11.84	244	707979	49.04509 ppb	0.00
Spiked Amount 100.000			Recovery = 49.045%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	199203	55.97876 ppb	97
3) Pyridine	1.73	79	359008	50.71720 ppb	96
6) Phenol	4.47	94	372679	51.96034 ppb	89
7) Aniline	4.47	66	339469	49.85834 ppb	81
8) Bis (2-chloroethyl) ether	4.54	63	178097	50.73293 ppb	95
9) 2-Chlorophenol	4.59	128	280823	50.62993 ppb	99
10) 1,3-DCB	4.75	146	295502	50.50318 ppb	99
11) 1,4-DCB	4.83	146	301436	50.13325 ppb	96
12) Benzyl alcohol	5.01	108	164527	52.07959 ppb	87
13) 1,2-DCB	5.00	146	284407	51.89616 ppb	98
14) 2-Methylphenol	5.15	107	212265	51.20765 ppb	93
15) Bis (2-chloroisopropyl) et	5.14	45	384246	49.88617 ppb	86
16) Acetophenone	5.29	105	373444	50.55667 ppb	99
17) 3&4-Methylphenol	5.33	107	561420	104.29840 ppb	93
18) n-Nitrosodi-n-propylamine	5.30	70	206385	50.33123 ppb	98
19) Hexachloroethane	5.37	117	124114	50.19987 ppb	89
22) Nitrobenzene	5.47	77	320147	50.46770 ppb	98
23) Isophorone	5.74	82	535327	50.82727 ppb	99
24) 2-Nitrophenol	5.84	139	155110	52.13446 ppb	99
25) 2,4-Dimethylphenol	5.90	122	248075	51.57205 ppb	98
26) Benzoic acid	6.10	105	192501	52.91544 ppb	96
27) Bis (2-chloroethoxy) metha	5.99	93	304135	49.87715 ppb	99
28) 2,4-Dichlorophenol	6.12	162	234483	51.22621 ppb	96
29) 1,2,4-Trichlorobenzene	6.19	180	255875	50.58977 ppb	98
30) 3,4-Dimethylphenol	6.24	107	353817	48.85579 ppb	99
31) Naphthalene	6.27	128	811898	49.55406 ppb	99
32) 4-Chloroaniline	6.36	127	280648	48.76350 ppb	98
33) 2,6-Dichlorophenol	6.37	162	204719	48.32493 ppb	94
34) Hexachloropropene	6.37	213	176221	47.92912 ppb	96
35) Hexachlorobutadiene	6.41	225	146536	48.85878 ppb	99
36) Caprolactum	6.79	55	138528	53.17215 ppb	95
37) 4-Chloro-3-methylphenol	6.95	107	258881	52.19311 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y287.D Vial: 87
Acq On : 14 Mar 17 8:01 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 9:45 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	7.06	142	541039	50.83209 ppb		100
39) 1-Methylnaphthalene	7.17	142	531113	50.65887 ppb		99
41) Hexachlorocyclopentadiene	7.24	237	75609	43.99504 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	247309	48.94668 ppb		98
43) 2,4,6-Trichlorophenol	7.41	196	160911	50.75533 ppb		97
44) 2,4,5-Trichlorophenol	7.48	196	175842	50.56463 ppb		99
46) 1,1'-Biphenyl	7.60	154	693703	49.51610 ppb		100
47) 2-Chloronaphthalene	7.63	162	534272	49.90921 ppb		99
48) 2-Nitroaniline	7.77	65	188638	49.41827 ppb		89
49) Dimethyl phthalate	7.97	163	627359	48.87526 ppb		99
50) 2,6-DNT	8.06	165	146684	51.18846 ppb		96
51) Acenaphthylene	8.10	152	835771	48.48860 ppb		99
52) 3-Nitroaniline	8.25	138	158685	50.63548 ppb		91
53) Acenaphthene	8.30	154	516184	48.58046 ppb		99
54) 2,4-Dinitrophenol	8.41	184	80743	56.42179 ppb		97
55) 4-Nitrophenol	8.53	65	104495	44.07362 ppb	#	53
56) Dibenzofuran	8.50	168	747927	49.85392 ppb		89
57) 2,4-DNT	8.53	165	201641	50.46640 ppb		89
58) 2,3,4,6-Tetrachlorophenol	8.67	232	135978	49.64346 ppb		93
59) Diethyl phthalate	8.79	149	632069	48.62873 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.90	204	263984	45.17769 ppb		99
61) Fluorene	8.90	166	551262	45.39104 ppb		96
62) 4-Nitroaniline	8.97	138	153319	51.42767 ppb		84
65) 4,6-Dinitro-2-methylphenol	9.01	198	122045	49.19452 ppb		87
66) Diphenyl amine	9.05	169	888237	99.08538 ppb		100
67) n-Nitrosodiphenylamine	9.05	169	888237	99.08538 ppb		100
68) 1,2-Diphenylhydrazine	9.09	77	690654	44.13099 ppb		98
69) 4-Bromophenyl phenyl ether	9.47	248	177080	50.40765 ppb		98
70) Hexachlorobenzene	9.54	284	180392	49.22621 ppb		95
71) Atrazine	9.68	200	89111	25.68019 ppb		97
72) Pentachlorophenol	9.79	266	87164	53.72555 ppb		94
73) Phenanthrene	10.00	178	926617	48.84561 ppb		99
74) Anthracene	10.07	178	971338	49.08995 ppb		99
75) Carbazol	10.27	167	868314	49.57006 ppb		99
76) Di-n-butylphthalate	10.68	149	1126885	50.90908 ppb		99
77) Fluoranthene	11.39	202	1040875	50.54213 ppb		98
79) Benzidine	11.57	184	388911	46.55010 ppb		98
80) Pyrene	11.66	202	1102134	51.20967 ppb		99
82) Butyl benzylphthalate	12.42	149	538821	54.14691 ppb		98
83) 3,3'-Dichlorobenzidine	13.03	252	373701	55.37886 ppb	#	96
84) Benz (a) anthracene	13.05	228	998865	49.34747 ppb		99
85) Bis (2-ethylhexyl) phthala	13.08	149	691274	49.38979 ppb		97
86) Chrysene	13.10	228	963540	48.53409 ppb		99
87) Di-n-octylphthalate	13.79	149	1277457	53.28000 ppb		99
89) Benzo (b) fluoranthene	14.24	252	1046134	45.55603 ppb		98
90) Benzo (k) fluoranthene	14.28	252	1045629	49.40590 ppb		98
91) Benzo (a) pyrene	14.63	252	998291	47.59877 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.23	276	1065575	45.32058 ppb		100
93) Dibenz (a,h) anthracene	16.24	278	922912	46.11141 ppb		98
94) Benzo (g,h,i) perylene	16.68	276	910925	46.17664 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

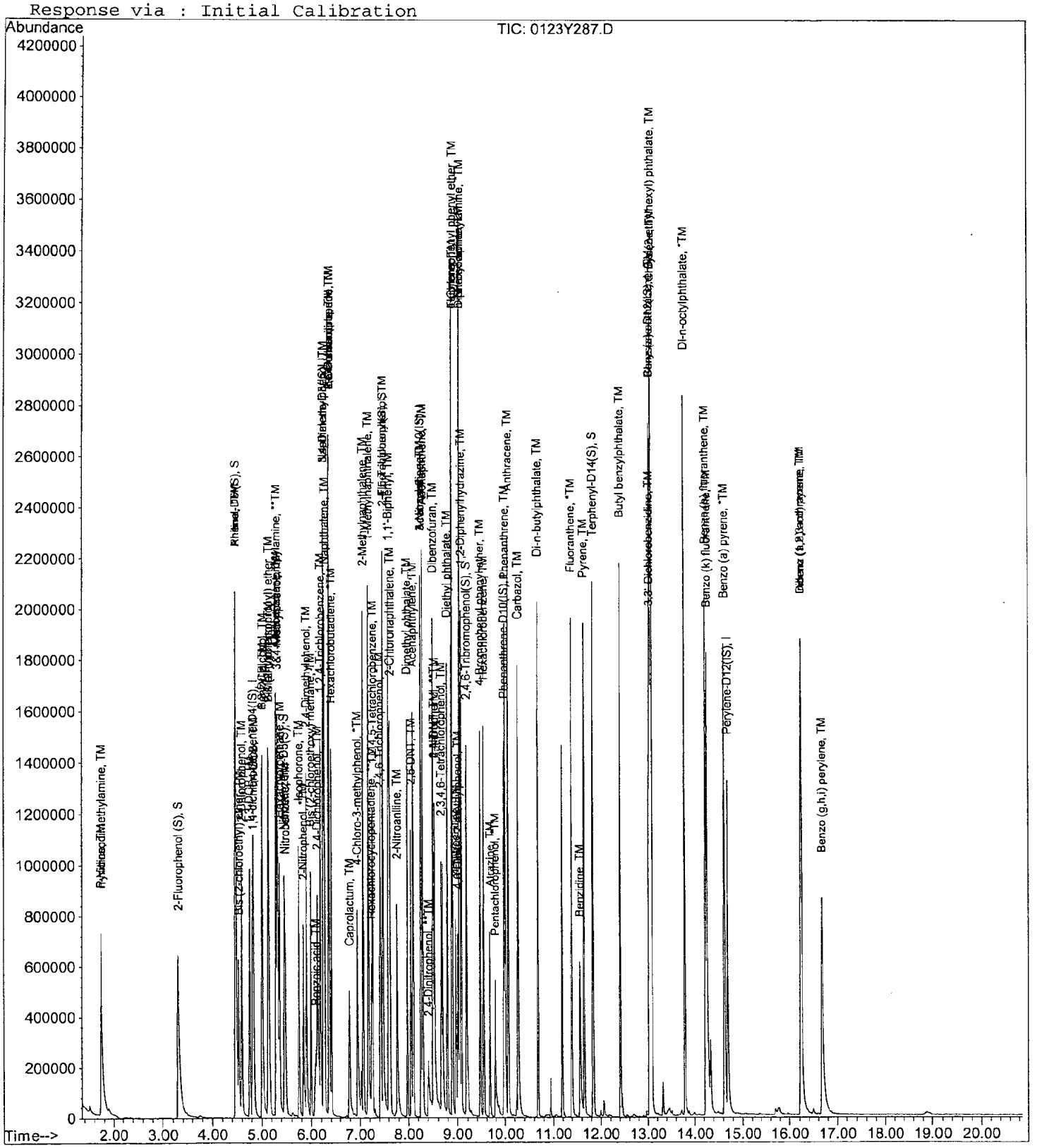
Data File : M:\YODA\DATA\Y170123\0123Y287.D
Acq On : 14 Mar 17 8:01
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 87
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 9:45 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Initial Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	0.9560	1.165	22	TM	
3	S	2-Fluorophenol (S)	1.262	1.226	2.9	S	
4	S	Phenol-D6 (S)	1.679	1.576	6.1	S	
5	*TM	Phenol	1.927	1.970	2.3	*TM	
6	TM	Aniline	1.829	1.770	3.2	TM	
7	TM	Bis (2-chloroethyl) ether	0.9431	0.9033	4.2	TM	
8	TM	2-Chlorophenol	1.490	1.512	1.5	TM	
9	TM	1,3-DCB	1.572	1.558	0.92	TM	
10	*TM	1,4-DCB	1.615	1.598	1.1	*TM	
11	TM	Benzyl alcohol	0.8487	0.8717	2.7	TM	
12	TM	1,2-DCB	1.472	1.484	0.76	TM	
13	TM	2-Methylphenol	1.114	1.140	2.3	TM	
14	TM	Bis (2-chloroisopropyl) ether	2.069	2.080	0.52	TM	
15	TM	Acetophenone	1.985	1.967	0.89	TM	
16	TM	3&4-Methylphenol	1.446	1.480	2.3	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.102	1.083	1.7	**TM	
18	TM	Hexachloroethane	0.6642	0.6695	0.79	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4057	0.3888	4.2	S	
21	TM	Nitrobenzene	0.4049	0.4058	0.22	TM	
22	TM	Isophorone	0.6723	0.6792	1.0	TM	
23	*TM	2-Nitrophenol	0.1899	0.2070	9.0	*TM	
24	TM	2,4-Dimethylphenol	0.3070	0.3231	5.2	TM	
25	TML	Benzoic acid	0.1823	0.2513	38	TML	7.9
26	TM	Bis (2-chloroethoxy) methane	0.3892	0.4037	3.7	TM	
27	*TM	2,4-Dichlorophenol	0.2922	0.3104	6.2	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3228	0.3295	2.1	TM	
29	TM	3,4-Dimethylphenol	0.4623	0.4555	1.5	TM	
30	TM	Naphthalene	1.046	1.065	1.9	TM	
31	TM	4-Chloroaniline	0.3674	0.3570	2.8	TM	
32	TM	2,6-Dichlorophenol	0.2704	0.2587	4.3	TM	
33	TM	Hexachloropropene	0.2347	0.2263	3.6	TM	
34	*TM	Hexachlorobutadiene	0.1914	0.1926	0.62	*TM	
35	TM	Caprolactum	0.1663	0.1749	5.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3166	0.3204	1.2	*TM	
37	TM	2-Methylnaphthalene	0.6794	0.7018	3.3	TM	
38	TM	1-Methylnaphthalene	0.6692	0.6774	1.2	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1597	0.1610	0.77	**TMQ	12
		Average			4.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5413	0.5469	1.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3396	0.3444	1.4	*TM	
43	TM	2,4,5-Trichlorophenol	0.3725	0.3645	2.2	TM	
44	S	2-Fluorobiphenyl(S)	1.283	1.169	8.9	S	
45	TM	1,1'-Biphenyl	1.501	1.506	0.34	TM	
46	TM	2-Chloronaphthalene	1.147	1.148	0.10	TM	
47	TM	2-Nitroaniline	0.4089	0.4163	1.8	TM	
48	TM	Dimethyl phthalate	1.375	1.378	0.25	TM	
49	TM	2,6-DNT	0.3070	0.3165	3.1	TM	
50	TM	Acenaphthylene	1.846	1.825	1.2	TM	
51	TM	3-Nitroaniline	0.3357	0.3408	1.5	TM	
52	*TM	Acenaphthene	1.138	1.126	1.1	*TM	
53	**TMQ	2,4-Dinitrophenol	0.1314	0.1458	11	**TMQ	0.75
54	**TML	4-Nitrophenol	0.2262	0.2233	1.3	**TML	12
55	TM	Dibenzofuran	1.607	1.593	0.86	TM	
56	TM	2,4-DNT	0.4280	0.4413	3.1	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.2934	0.2938	0.12	TM	
58	TM	Diethyl phthalate	1.392	1.378	1.0	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6259	0.5693	9.1	TM	
60	TM	Fluorene	1.301	1.190	8.5	TM	
61	TM	4-Nitroaniline	0.3194	0.3223	0.91	TM	
62	S	2,4,6-Tribromophenol(S)	0.1851	0.1677	9.4	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TML	4,6-Dinitro-2-methylphenol	0.1322	0.1390	5.1	TML	2.5
65	TM	Diphenyl amine	0.5157	0.5262	2.0	TM	
66	*TM	n-Nitrosodiphenylamine	0.5157	0.5262	2.0	*TM	
67	TM	1,2-Diphenylhydrazine	0.9004	0.8228	8.6	TM	
68	TM	4-Bromophenyl phenyl ether	0.2021	0.2058	1.8	TM	
69	TM	Hexachlorobenzene	0.2108	0.2064	2.1	TM	
70	TM	Atrazine	0.1996	0.2058	3.1	TM	
71	*TML	Pentachlorophenol	0.0838	0.0888	5.9	*TML	3.2
72	TM	Phenanthrene	1.091	1.054	3.4	TM	
73	TM	Anthracene	1.138	1.108	2.7	TM	
74	TM	Carbazol	1.008	1.010	0.20	TM	
75	TM	Di-n-butylphthalate	1.273	1.269	0.37	TM	
76	*TM	Fluoranthene	1.185	1.186	0.14	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.4979	0.4575	8.1	TM	
79	TM	Pyrene	1.283	1.292	0.75	TM	
80	S	Terphenyl-D14(S)	0.8604	0.8333	3.1	S	
		Average			3.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/14/17
Instrument: Yoda
Cal. Date: 01/23/17
Data File: 0123Y302.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5931	0.6133	3.4	TM	
82	TM	3,3'-Dichlorobenzidine	0.4022	0.4322	7.5	TM	
83	TM	Benz (a) anthracene	1.206	1.202	0.35	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8342	0.8280	0.74	TM	
85	TM	Chrysene	1.183	1.102	6.9	TM	
86	*TM	Di-n-octylphthalate	1.429	1.500	5.0	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.245	1.118	10	TM	
89	TM	Benzo (k) fluoranthene	1.148	1.185	3.3	TM	
90	*TM	Benzo (a) pyrene	1.137	1.084	4.7	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.275	1.165	8.6	TM	
92	TM	Dibenz (a,h) anthracene	1.085	0.9925	8.6	TM	
93	TM	Benzo (g,h,i) perylene	1.070	0.9961	6.9	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D Vial: 2
Acq On : 14 Mar 17 16:14 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	148257	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	608139	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	361584	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.99	188	672725	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.07	240	649830	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	691935	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	454275	97.13751 ppb	-0.01
Spiked Amount 200.000			Recovery = 48.569%		
5) Phenol-D6 (S)	4.46	99	584043	93.86709 ppb	0.00
Spiked Amount 200.000			Recovery = 46.934%		
21) Nitrobenzene-D5(S)	5.46	82	295531	47.91789 ppb	0.00
Spiked Amount 100.000			Recovery = 47.918%		
45) 2-Fluorobiphenyl(S)	7.50	172	528519	45.56344 ppb	0.00
Spiked Amount 100.000			Recovery = 45.563%		
63) 2,4,6-Tribromophenol(S)	9.19	330	151600	90.58023 ppb	0.00
Spiked Amount 200.000			Recovery = 45.290%		
81) Terphenyl-D14(S)	11.84	244	676896	48.42883 ppb	0.00
Spiked Amount 100.000			Recovery = 48.429%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.72	42	215901	60.92853 ppb	99
6) Phenol	4.48	94	365165	51.12871 ppb	98
7) Aniline	4.47	66	327978	48.37501 ppb	98
8) Bis (2-chloroethyl) ether	4.55	63	167404	47.88923 ppb	94
9) 2-Chlorophenol	4.60	128	280274	50.74533 ppb	96
10) 1,3-DCB	4.75	146	288637	49.53919 ppb	97
11) 1,4-DCB	4.84	146	296059	49.44788 ppb	95
12) Benzyl alcohol	5.01	108	161552	51.35484 ppb	95
13) 1,2-DCB	5.01	146	274941	50.38174 ppb	97
14) 2-Methylphenol	5.15	107	211224	51.17271 ppb	94
15) Bis (2-chloroisopropyl) et	5.14	45	385482	50.25897 ppb #	67
16) Acetophenone	5.30	105	364514	49.55710 ppb	99
17) 3&4-Methylphenol	5.33	107	548565	102.34261 ppb	98
18) n-Nitrosodi-n-propylamine	5.30	70	200787	49.17379 ppb	89
19) Hexachloroethane	5.37	117	124068	50.39417 ppb	88
22) Nitrobenzene	5.48	77	308491	50.11114 ppb	95
23) Isophorone	5.75	82	516284	50.51194 ppb	94
24) 2-Nitrophenol	5.85	139	157373	54.50584 ppb	91
25) 2,4-Dimethylphenol	5.91	122	245580	52.60804 ppb	97
26) Benzoic acid	6.11	105	191000	53.96616 ppb	91
27) Bis (2-chloroethoxy) metha	6.00	93	306851	51.85498 ppb	96
28) 2,4-Dichlorophenol	6.13	162	235931	53.11211 ppb	94
29) 1,2,4-Trichlorobenzene	6.20	180	250496	51.03444 ppb	99
30) 3,4-Dimethylphenol	6.24	107	346243	49.26586 ppb	97
31) Naphthalene	6.28	128	809847	50.93408 ppb	99
32) 4-Chloroaniline	6.37	127	271385	48.58996 ppb	96
33) 2,6-Dichlorophenol	6.37	162	196632	47.82941 ppb	98
34) Hexachloropropene	6.37	213	172008	48.20790 ppb	96
35) Hexachlorobutadiene	6.41	225	146427	50.30917 ppb	99
36) Caprolactum	6.79	55	132974	52.59460 ppb	95
37) 4-Chloro-3-methylphenol	6.95	107	243592	50.60620 ppb	98
38) 2-Methylnaphthalene	7.07	142	533455	51.64579 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y302.D
Acq On : 14 Mar 17 16:14
Sample : 50ug/ml SVOC 3/02/17
Misc : water

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	1-Methylnaphthalene	7.18	142	514932	50.61115 ppb		98
41)	Hexachlorocyclopentadiene	7.25	237	72755	43.79922 ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.27	216	247192	50.52267 ppb		96
43)	2,4,6-Trichlorophenol	7.41	196	155683	50.71141 ppb		99
44)	2,4,5-Trichlorophenol	7.48	196	164750	48.92358 ppb		97
46)	1,1'-Biphenyl	7.61	154	680621	50.17031 ppb		98
47)	2-Chloronaphthalene	7.63	162	518825	50.05042 ppb		97
48)	2-Nitroaniline	7.78	65	188153	50.90238 ppb		94
49)	Dimethyl phthalate	7.98	163	623022	50.12391 ppb		99
50)	2,6-DNT	8.05	165	143063	51.55672 ppb	#	74
51)	Acenaphthylene	8.10	152	824843	49.41880 ppb		100
52)	3-Nitroaniline	8.26	138	154037	50.75896 ppb	#	98
53)	Acenaphthene	8.31	154	508979	49.46814 ppb		99
54)	2,4-Dinitrophenol	8.41	184	65909	49.62382 ppb		93
55)	4-Nitrophenol	8.54	65	100907	43.97163 ppb	#	49
56)	Dibenzofuran	8.50	168	720114	49.56897 ppb		95
57)	2,4-DNT	8.54	165	199454	51.55073 ppb		94
58)	2,3,4,6-Tetrachlorophenol	8.67	232	132775	50.05855 ppb	#	86
59)	Diethyl phthalate	8.80	149	622798	49.48166 ppb		97
60)	4-Chlorophenyl phenyl ethe	8.90	204	257297	45.47259 ppb		91
61)	Fluorene	8.90	166	537811	45.73096 ppb		97
62)	4-Nitroaniline	8.97	138	145660	50.45565 ppb		89
65)	4,6-Dinitro-2-methylphenol	9.01	198	116851	48.74719 ppb	#	53
66)	Diphenyl amine	9.06	169	884922	102.02530 ppb		100
67)	n-Nitrosodiphenylamine	9.06	169	884922	102.02530 ppb		100
68)	1,2-Diphenylhydrazine	9.09	77	691935	45.69520 ppb		96
69)	4-Bromophenyl phenyl ether	9.47	248	173078	50.92030 ppb		95
70)	Hexachlorobenzene	9.55	284	173535	48.94275 ppb	#	84
71)	Atrazine	9.69	200	86550	25.77841 ppb		96
72)	Pentachlorophenol	9.79	266	74655	48.42095 ppb		99
73)	Phenanthrene	10.01	178	886645	48.30557 ppb		100
74)	Anthracene	10.07	178	931456	48.65268 ppb		99
75)	Carbazol	10.27	167	849123	50.09973 ppb		98
76)	Di-n-butylphthalate	10.68	149	1066862	49.81338 ppb		99
77)	Fluoranthene	11.40	202	997705	50.07019 ppb		97
79)	Benzidine	11.57	184	371603	45.93635 ppb		99
80)	Pyrene	11.66	202	1049723	50.37316 ppb		99
82)	Butyl benzylphthalate	12.42	149	498167	51.70244 ppb		88
83)	3,3'-Dichlorobenzidine	13.03	252	351103	53.73549 ppb		95
84)	Benz (a) anthracene	13.05	228	976534	49.82558 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.09	149	672586	49.62971 ppb	#	97
86)	Chrysene	13.10	228	895041	46.56150 ppb		99
87)	Di-n-octylphthalate	13.79	149	1218354	52.48054 ppb		98
89)	Benzo (b) fluoranthene	14.25	252	967168	44.90101 ppb		99
90)	Benzo (k) fluoranthene	14.27	252	1025195	51.64203 ppb		99
91)	Benzo (a) pyrene	14.63	252	937251	47.64201 ppb	#	96
92)	Indeno (1,2,3-cd) pyrene	16.23	276	1007694	45.69154 ppb		97
93)	Dibenz (a,h) anthracene	16.24	278	858392	45.72244 ppb		97
94)	Benzo (g,h,i) perylene	16.69	276	861566	46.56118 ppb		99

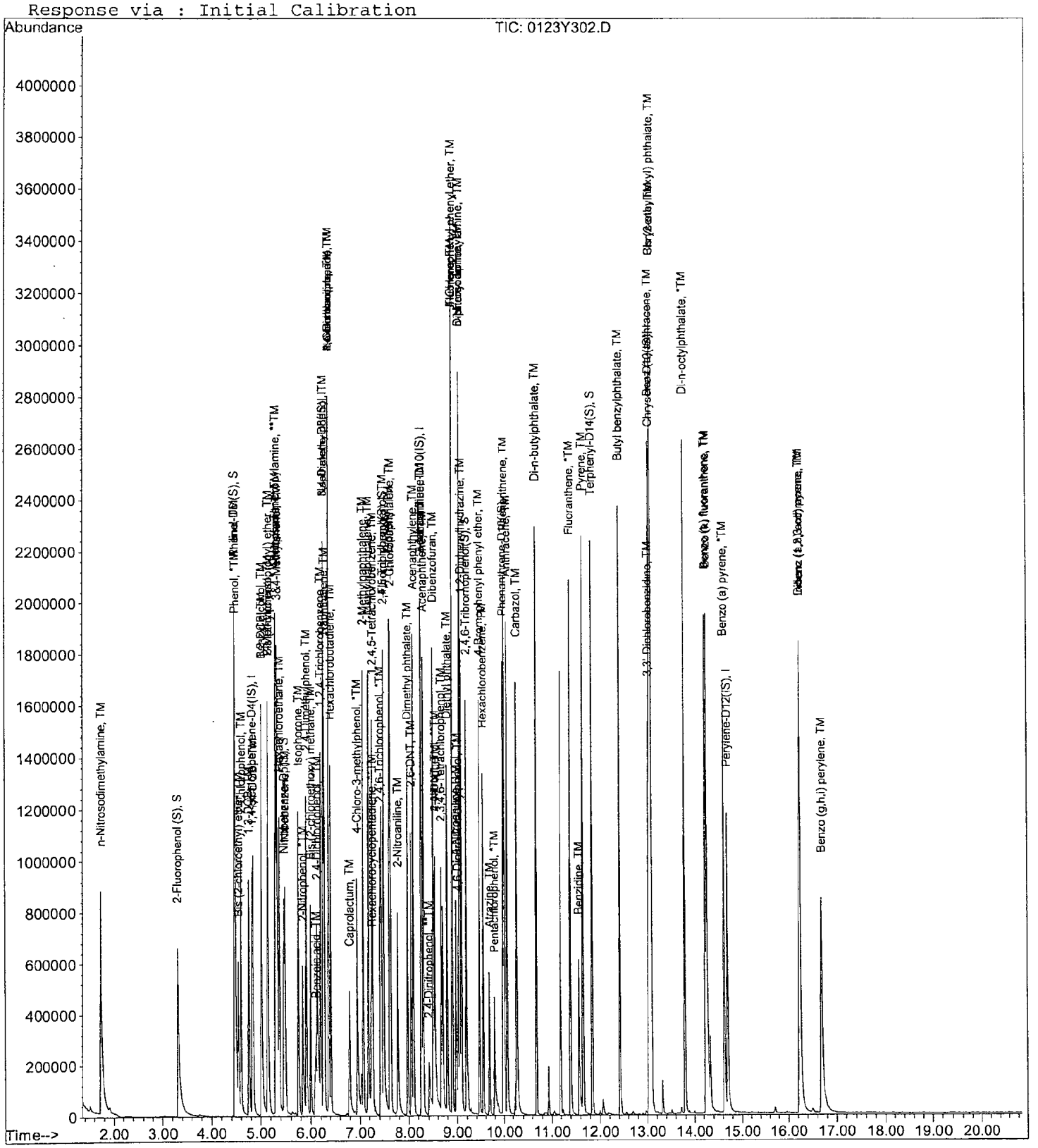
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y302.D Vial: 2
Acq On : 14 Mar 17 16:14 Operator: MA
Sample : 50ug/ml SVOC 3/02/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 17:29 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51357 - 216940**
Batch ID: #87DC5-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	03/11/17	03/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	57.0	43-140			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	55.3	44-119			%	03/11/17	03/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	43.9	19-119			%	03/11/17	03/14/17
BLANK	SURROGATE: NITROBENZENE-	56.9	44-120			%	03/11/17	03/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	28.4	10-115			%	03/11/17	03/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	58.1	50-134			%	03/11/17	03/14/17

Quant Method:Y0123.M
Run #:0123Y290
Instrument:Yoda
Sequence:Y170123
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/16/17 11:39:54 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y290.D
Acq On : 14 Mar 17 10:03
Sample : 170311A BLK 1/1000
Misc : water

Vial: 90
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:35 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	156534	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.25	136	667734	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.26	164	395844	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.98	188	730021	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.06	240	738810	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.70	264	767946	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.30	112	433935	87.88188 ppb	-0.02
Spiked Amount 200.000			Recovery = 43.941%		
5) Phenol-D6 (S)	4.46	99	372674	56.72887 ppb	0.00
Spiked Amount 200.000			Recovery = 28.365%		
21) Nitrobenzene-D5(S)	5.46	82	385071	56.86366 ppb	0.00
Spiked Amount 100.000			Recovery = 56.864%		
45) 2-Fluorobiphenyl(S)	7.49	172	702589	55.32767 ppb	0.00
Spiked Amount 100.000			Recovery = 55.328%		
63) 2,4,6-Tribromophenol(S)	9.19	330	208729	113.92057 ppb	0.00
Spiked Amount 200.000			Recovery = 56.961%		
81) Terphenyl-D14(S)	11.85	244	923225	58.09739 ppb	0.00
Spiked Amount 100.000			Recovery = 58.097%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0123Y290.D Y0123.M Thu Mar 16 11:08:25 2017

Quantitation Report

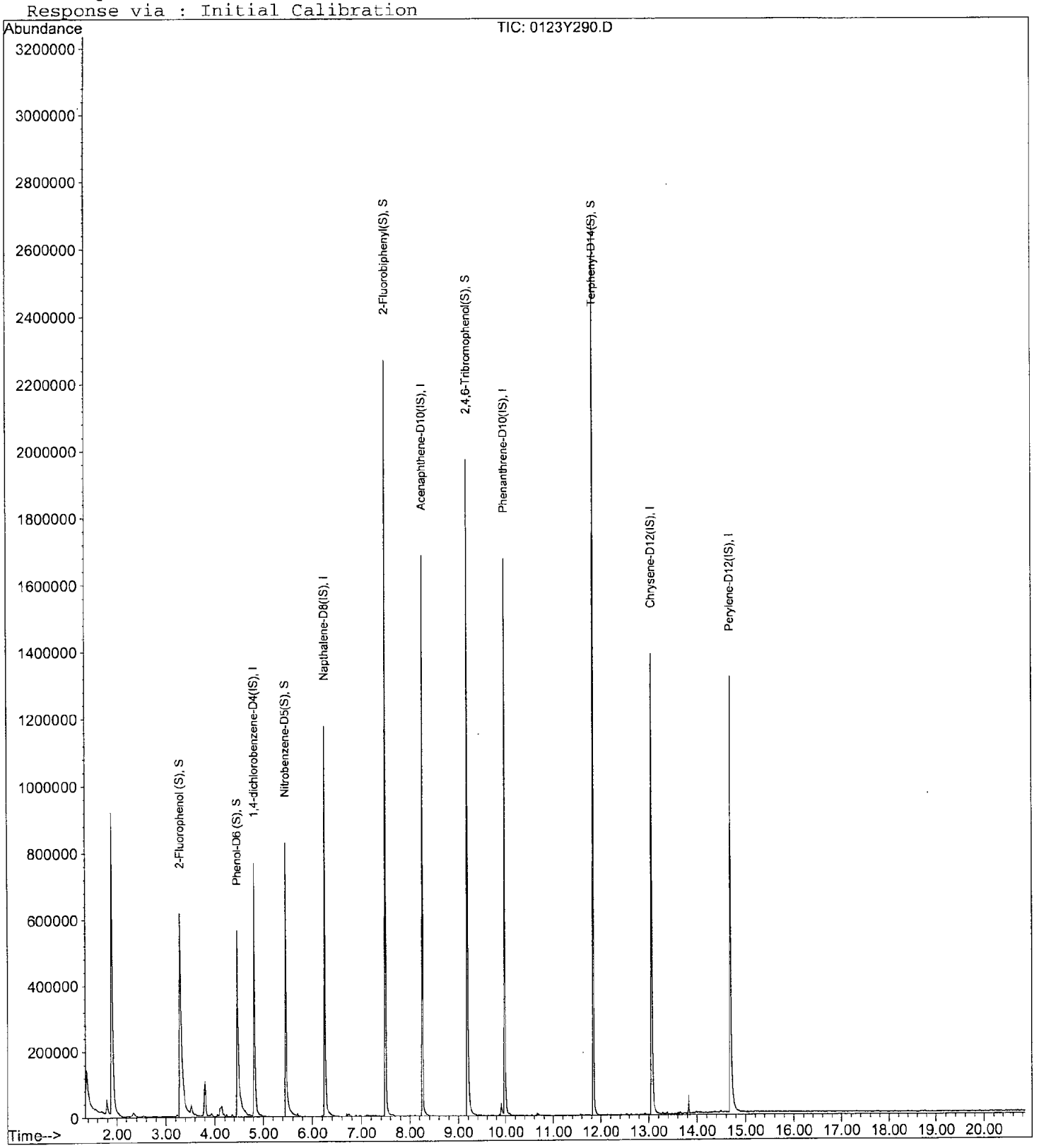
Data File : M:\YODA\DATA\Y170123\0123Y290.D
Acq On : 14 Mar 17 10:03
Sample : 170311A BLK 1/1000
Misc : water

Vial: 90
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:35 2017

Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170311W-51357 LCS - 216940**
Batch ID: #87DC5-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.0	38.0	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	111	55.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	52.7	52.7	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	85.4	42.7	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	58.0	58.0	44-120
SURROGATE: PHENOL-D6 (S)	200	55.2	27.6	10-115
SURROGATE: TERPHENYL-D14 (S)	100	57.8	57.8	50-134

Comments:

Primary	SPK
Quant Method :	Y0123.M
Extraction Date :	03/11/17
Analysis Date :	03/14/17
Instrument :	Yoda
Run :	0123Y291
Initials :	MA

Printed: 03/16/17 11:39:55 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y291.D
Acq On : 14 Mar 17 10:33
Sample : 170311A LCS-1 1/1000
Misc : water

Vial: 91
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 11:49 2017
Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	144538	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.25	136	639616	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.26	164	381415	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.98	188	705712	40.00000 ppb		0.00
78) Chrysene-D12(IS)	13.06	240	703810	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.70	264	747749	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.30	112	389263	85.37769 ppb		-0.02
Spiked Amount 200.000			Recovery = 42.689%			
5) Phenol-D6 (S)	4.47	99	334776	55.18944 ppb		0.00
Spiked Amount 200.000			Recovery = 27.595%			
21) Nitrobenzene-D5(S)	5.46	82	376248	58.00325 ppb		0.00
Spiked Amount 100.000			Recovery = 58.003%			
45) 2-Fluorobiphenyl(S)	7.49	172	644499	52.67319 ppb		0.00
Spiked Amount 100.000			Recovery = 52.673%			
63) 2,4,6-Tribromophenol(S)	9.19	330	195471	110.72049 ppb		0.00
Spiked Amount 200.000			Recovery = 55.360%			
81) Terphenyl-D14(S)	11.85	244	875227	57.81587 ppb		0.00
Spiked Amount 100.000			Recovery = 57.816%			
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.73	42	115173	33.33880 ppb		100
3) Pyridine	1.74	79	187506	27.28589 ppb		92
6) Phenol	4.48	94	132306	19.00152 ppb	#	73
7) Aniline	4.47	66	173264	26.21307 ppb	#	47
8) Bis (2-chloroethyl) ether	4.54	63	123306	36.18173 ppb		97
9) 2-Chlorophenol	4.60	128	198917	36.94183 ppb		97
10) 1,3-DCB	4.75	146	164588	28.97532 ppb		97
11) 1,4-DCB	4.84	146	166410	28.50900 ppb		99
12) Benzyl alcohol	5.01	108	116263	37.90912 ppb		88
13) 1,2-DCB	5.01	146	163174	30.67028 ppb		94
14) 2-Methylphenol	5.15	107	136932	34.02775 ppb		94
15) Bis (2-chloroisopropyl) et	5.14	45	279671	37.40159 ppb	#	82
16) Acetophenone	5.29	105	273326	38.11587 ppb		99
17) 3&4-Methylphenol	5.32	107	335859	64.27152 ppb		99
18) n-Nitrosodi-n-propylamine	5.30	70	148808	37.38157 ppb		95
19) Hexachloroethane	5.38	117	62643	26.09914 ppb		99
22) Nitrobenzene	5.48	77	231541	35.76047 ppb		99
23) Isophorone	5.75	82	399189	37.13364 ppb		94
24) 2-Nitrophenol	5.84	139	114925	37.84520 ppb		98
25) 2,4-Dimethylphenol	5.90	122	150441	30.64142 ppb		99
26) Benzoic acid	6.07	105	46004	17.01874 ppb		97
27) Bis (2-chloroethoxy) metha	6.00	93	228831	36.76727 ppb		99
28) 2,4-Dichlorophenol	6.13	162	174570	37.36472 ppb		97
29) 1,2,4-Trichlorobenzene	6.19	180	156681	30.35026 ppb		98
30) 3,4-Dimethylphenol	6.25	107	249534	33.75813 ppb		97
31) Naphthalene	6.28	128	556587	33.28297 ppb		98
32) 4-Chloroaniline	6.36	127	243080	41.38028 ppb		98
33) 2,6-Dichlorophenol	6.37	162	160761	37.17963 ppb		95
34) Hexachloropropene	6.37	213	90282	24.05771 ppb		96
35) Hexachlorobutadiene	6.42	225	79064	25.82785 ppb		99
37) 4-Chloro-3-methylphenol	6.94	107	185480	36.63712 ppb		99
38) 2-Methylnaphthalene	7.07	142	369591	34.02061 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170123\0123Y291.D Vial: 91
Acq On : 14 Mar 17 10:33 Operator: MA
Sample : 170311A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:49 2017 Quant Results File: Y0123.RES

Quant Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.18	142	368042	34.39357	ppb	99
41) Hexachlorocyclopentadiene	7.24	237	21364	18.43178	ppb	96
42) 1,2,4,5-Tetrachlorobenzene	7.27	216	170813	33.09667	ppb	95
43) 2,4,6-Trichlorophenol	7.42	196	122187	37.73123	ppb	97
44) 2,4,5-Trichlorophenol	7.47	196	123909	34.88246	ppb	96
46) 1,1'-Biphenyl	7.60	154	495634	34.63490	ppb	99
47) 2-Chloronaphthalene	7.62	162	380696	34.81582	ppb	96
48) 2-Nitroaniline	7.77	65	142449	36.53405	ppb	94
49) Dimethyl phthalate	7.97	163	482673	36.81340	ppb	100
50) 2,6-DNT	8.06	165	109980	37.57362	ppb	95
51) Acenaphthylene	8.10	152	600699	34.11845	ppb	99
52) 3-Nitroaniline	8.25	138	121797	38.04834	ppb	93
53) Acenaphthene	8.30	154	372907	34.35878	ppb	96
54) 2,4-Dinitrophenol	8.41	184	44999	36.06795	ppb	95
56) Dibenzofuran	8.50	168	555594	36.25581	ppb	88
57) 2,4-DNT	8.53	165	153321	37.56688	ppb	94
58) 2,3,4,6-Tetrachlorophenol	8.67	232	100419	35.89131	ppb	97
59) Diethyl phthalate	8.79	149	489716	36.88525	ppb	96
60) 4-Chlorophenyl phenyl ethe	8.90	204	211860	35.49567	ppb	94
61) Fluorene	8.89	166	436803	35.21094	ppb	96
62) 4-Nitroaniline	8.97	138	111827	36.72211	ppb	98
65) 4,6-Dinitro-2-methylphenol	9.01	198	88871	37.10643	ppb	95
66) Diphenyl amine	9.05	169	676965	74.40106	ppb	98
67) n-Nitrosodiphenylamine	9.05	169	676965	74.40106	ppb	98
68) 1,2-Diphenylhydrazine	9.09	77	669489	42.14623	ppb	94
69) 4-Bromophenyl phenyl ether	9.47	248	132106	37.04944	ppb	88
70) Hexachlorobenzene	9.54	284	139588	37.52834	ppb	94
71) Atrazine	9.68	200	69974	19.86716	ppb	97
72) Pentachlorophenol	9.79	266	53439	35.42771	ppb	93
73) Phenanthrene	10.01	178	705044	36.61624	ppb	99
74) Anthracene	10.07	178	734056	36.54969	ppb	99
75) Carbazol	10.28	167	674104	37.91419	ppb	99
76) Di-n-butylphthalate	10.68	149	860676	38.30783	ppb	98
77) Fluoranthene	11.39	202	780858	37.35590	ppb	99
80) Pyrene	11.65	202	849344	37.63158	ppb	100
82) Butyl benzylphthalate	12.41	149	397593	38.09949	ppb	79
83) 3,3'-Dichlorobenzidine	13.03	252	290066	40.98905	ppb	94
84) Benz (a) anthracene	13.04	228	761958	35.89553	ppb	99
85) Bis (2-ethylhexyl) phthala	13.08	149	550070	37.47625	ppb	98
86) Chrysene	13.09	228	762243	36.61186	ppb	100
87) Di-n-octylphthalate	13.80	149	992705	39.48111	ppb	91
89) Benzo (b) fluoranthene	14.24	252	880087	37.80848	ppb	99
90) Benzo (k) fluoranthene	14.27	252	718687	33.50010	ppb	99
91) Benzo (a) pyrene	14.63	252	769705	36.20495	ppb	99
92) Indeno (1,2,3-cd) pyrene	16.24	276	830341	34.83959	ppb	98
93) Dibenz (a,h) anthracene	16.25	278	698411	34.42423	ppb	98
94) Benzo (g,h,i) perylene	16.68	276	694444	34.72818	ppb	98

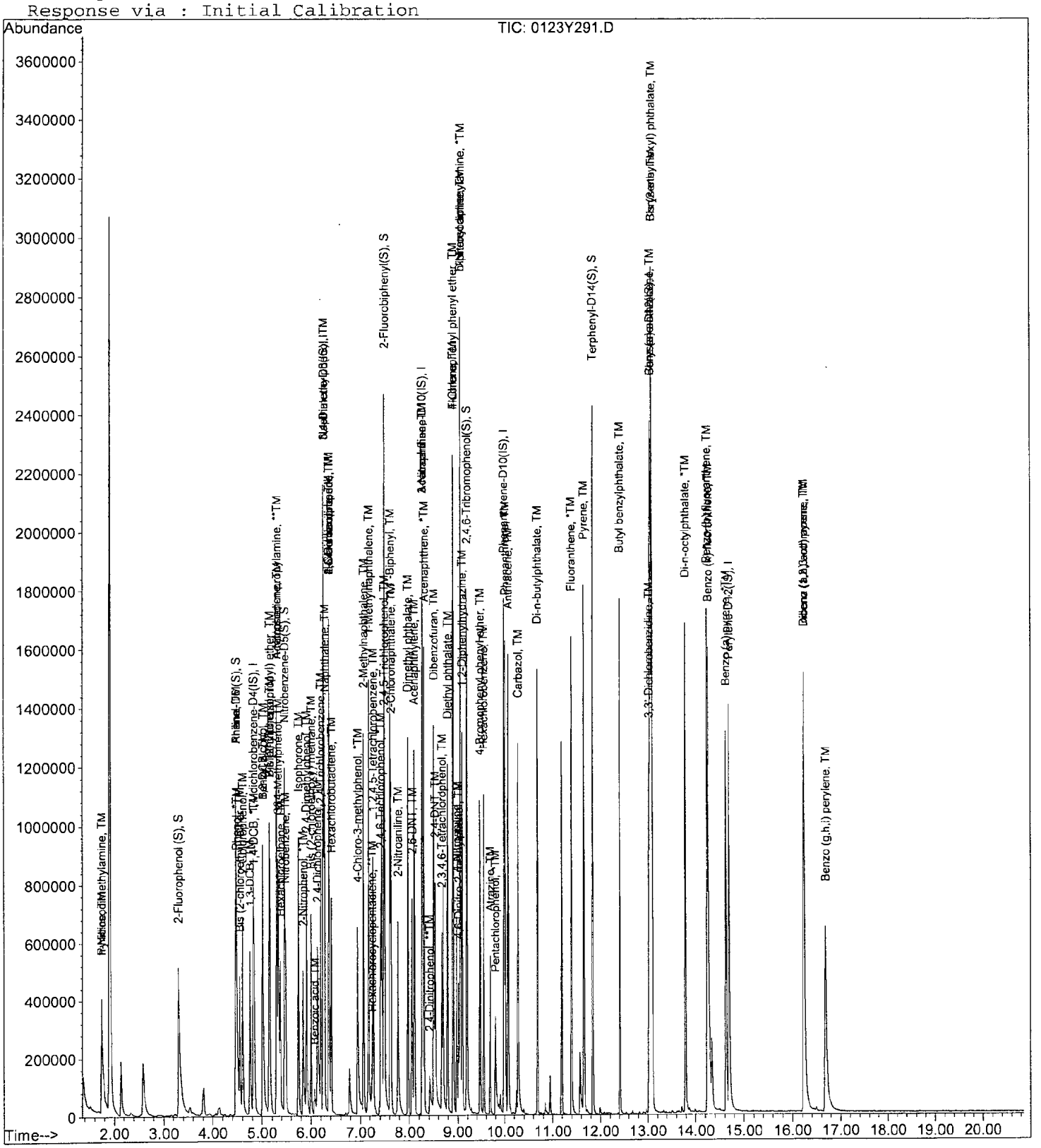
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170123\0123Y291.D Vial: 91
Acq On : 14 Mar 17 10:33 Operator: MA
Sample : 170311A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 11:49 2017 Quant Results File: Y0123.RES

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 07 15:48:59 2017
Response via : Initial Calibration

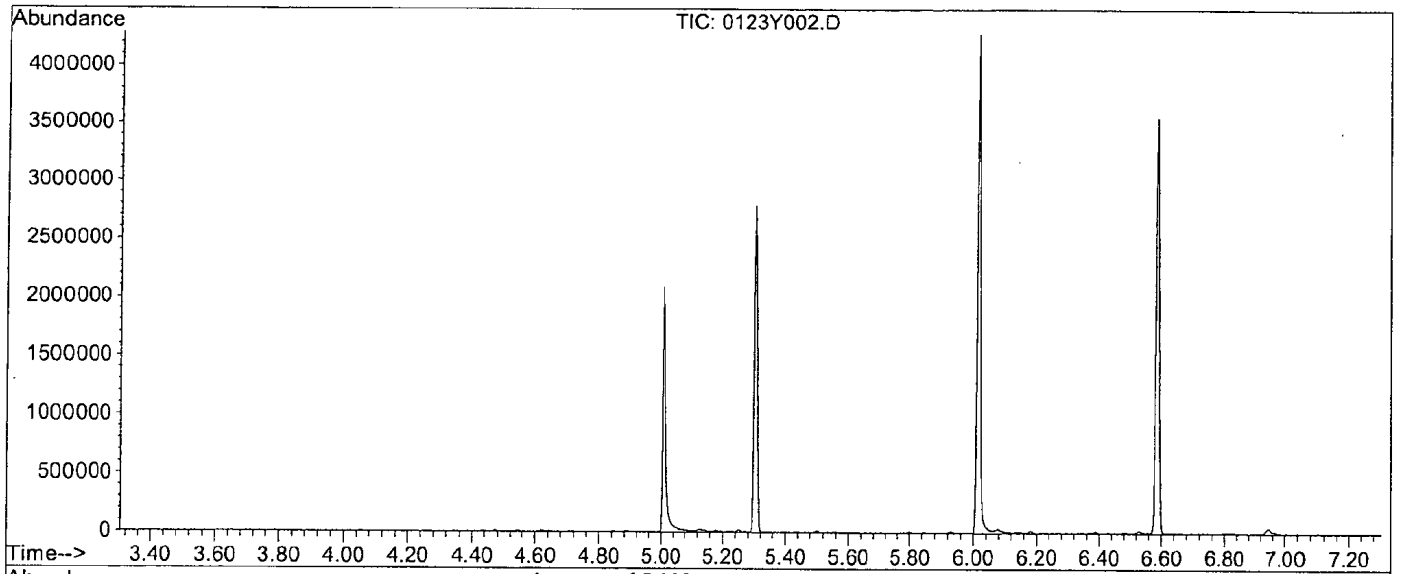


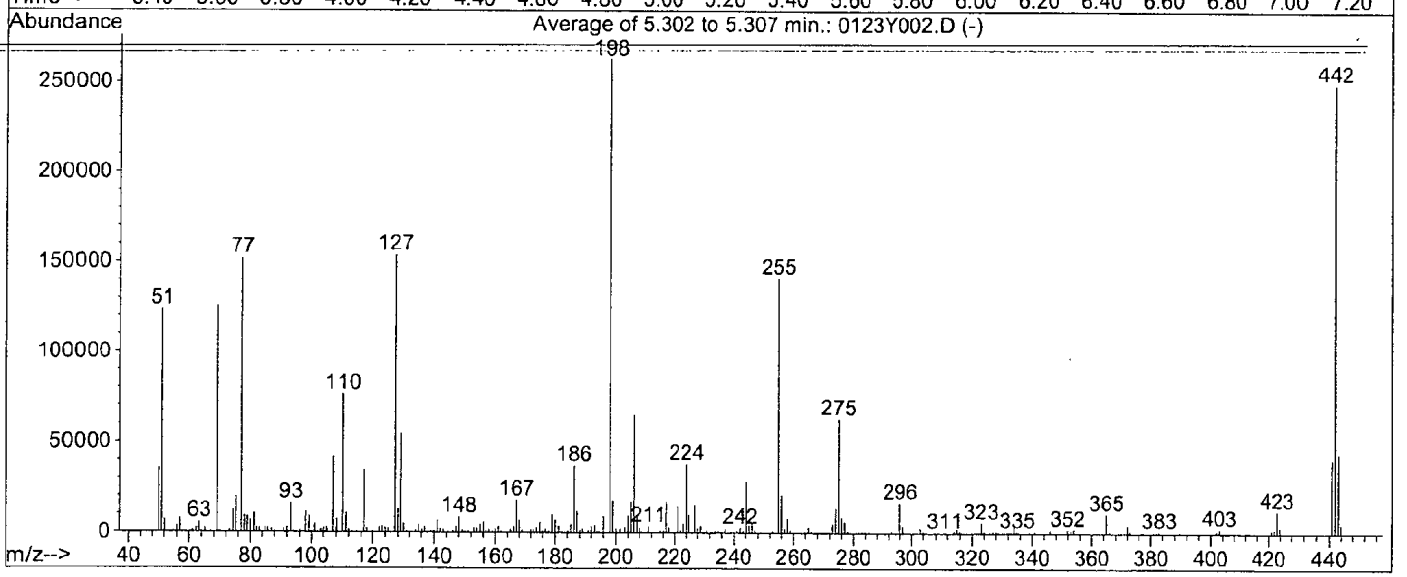
DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y002.D
Acq On : 23 Jan 17 10:12
Sample : SV Tune 10/19/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

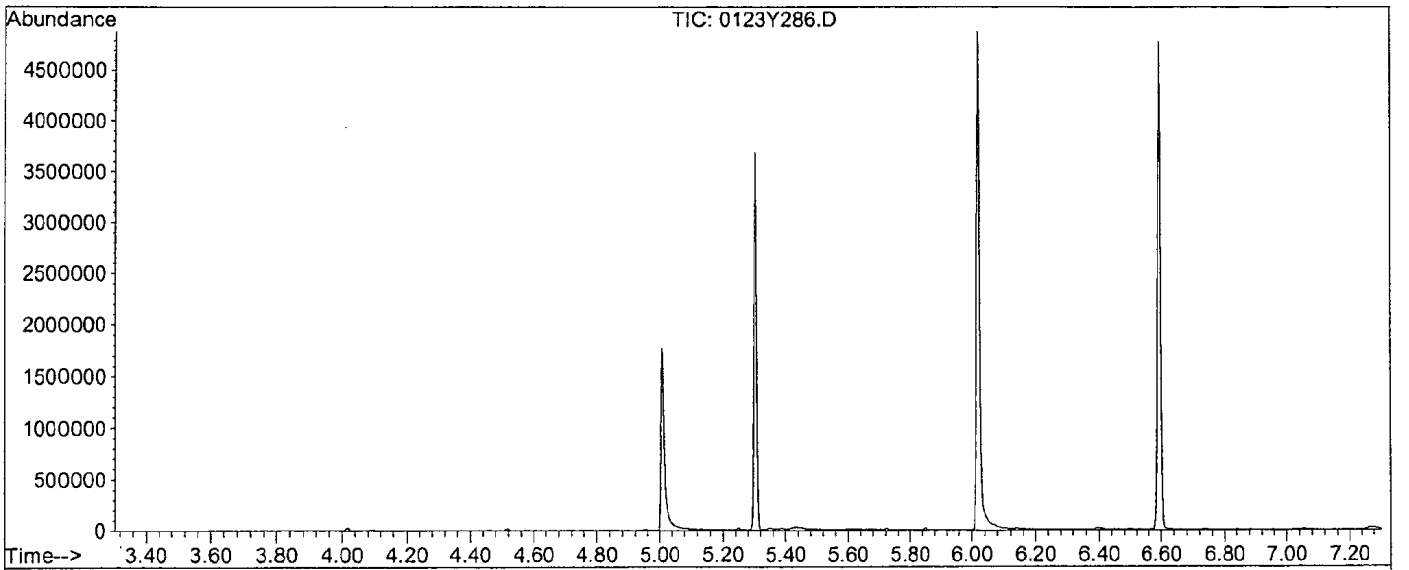
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.9	123145	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	642	PASS
127	198	40	60	58.5	153664	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	262699	PASS
199	198	5	9	6.6	17256	PASS
275	198	10	30	24.0	62979	PASS
365	198	1	100	4.0	10454	PASS
441	443	0.01	100	92.3	40541	PASS
442	198	50	150	94.9	249344	PASS
443	442	17	23	17.6	43941	PASS

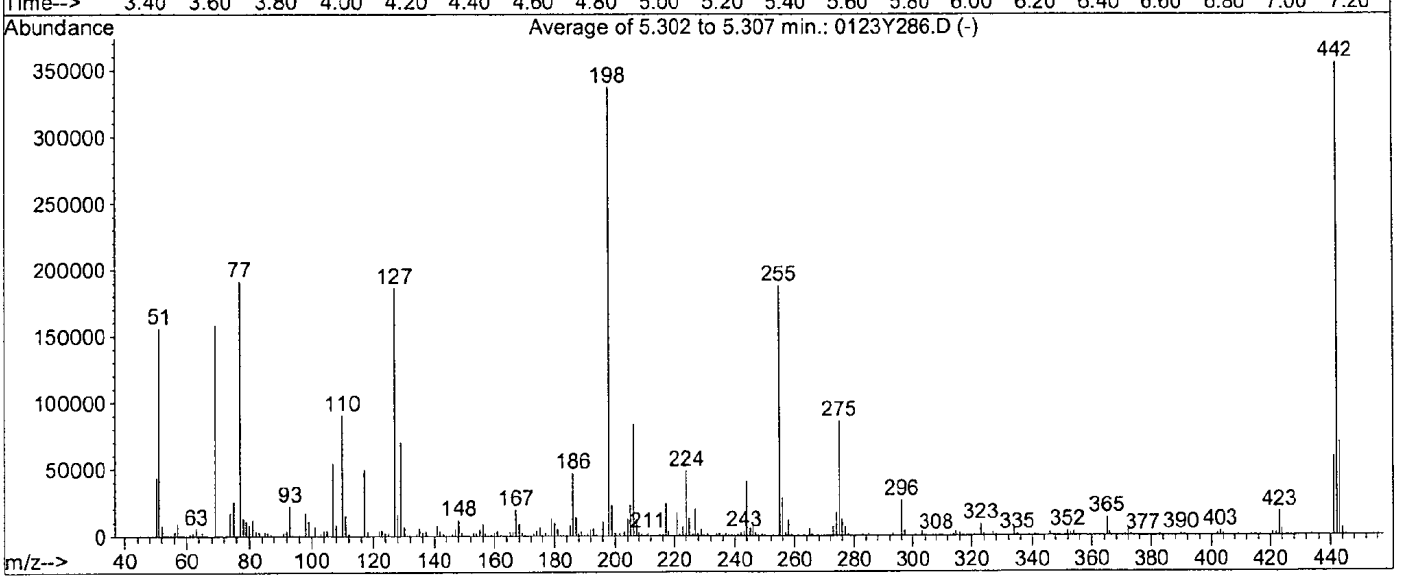
0123Y002.D Y0123.M Wed Mar 15 16:48:40 2017

DFTPP

Data File : M:\YODA\DATA\Y170123\0123Y286.D Vial: 86
Acq On : 14 Mar 17 7:44 Operator: MA
Sample : SV Tune 02/09/16 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170123\Y0123.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 686, 687, 688; Background Corrected with Scan 678

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.3	156309	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.8	1266	PASS
127	198	40	60	55.1	186048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	337408	PASS
199	198	5	9	6.7	22669	PASS
275	198	10	30	25.4	85576	PASS
365	198	1	100	3.9	13181	PASS
441	443	0.01	100	84.0	58536	PASS
442	198	50	150	105.4	355755	PASS
443	442	17	23	19.6	69672	PASS

0123Y286.D Y0123.M Wed Mar 15 16:18:20 2017

Semivolatile (SV) Tuning Solution -G.A.

PREP DATE:	10/19/16	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	01/19/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37012	08/23/16	8/23/17	200
EM Science	Methylene Chloride		55098			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	01/19/17 RH							
8270 Standard Curve								
Exp:	04/19/17					**5**	**10**	**20**
		Conc.		Date				
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL
Absolute	8270 Stock	200	VAR	12/08/16	12/08/17	5	5	10
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10
EM Science	Methylene Chloride		56098			190	90	80
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	4	2	2
				Final Vol.		204	102	102

40	**50**	**60**	**80**	**100**
µL	µL	µL	µL	µL
20	50	30	40	50
20	50	30	40	50
60	100	40	20	0
2	4	2	2	2
102	204	102	102	102

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	100 ug/mL	MC

SV Internal Standard Stock Prep: 01/13/17 RH EXP: 01/13/17						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36761	01/13/17	01/13/18	1000
					fin vol.	1000

8270 Full Scan Second Source (SS)						
PREP DATE:	01/19/17 RH					
Exp:	04/19/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock S	200	VAR	07/08/16	07/08/17	25
EM Science	Methylene Chloride		56098			75
Supelco	SV Internal	2000	A14020V-3676	01/13/17	01/13/18	2
				Final Vol.		102

8270 Surrog Mix 100/200ppm						
Prep: 01/12/17 -RH Ex: 3/08/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	01/19/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	53014-3713	01/19/17	05/30/17	1000
Absolute	10002	2000	62216-3714	01/19/17	01/19/18	1000
Absolute	10004	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	10005	2000	10314-3713	01/19/17	01/19/18	1000
Absolute	10006	2000	81216-3707	01/19/17	01/19/18	1000
Absolute	10007	2000	20515-3714	01/19/17	01/19/18	1000
Absolute	10018	2000	90216-3715	01/19/17	01/19/18	1000
Absolute	70023	1000	83121-3715	01/19/17	01/19/18	1000
Absolute	82705	2000	12516-3714	01/19/17	01/19/18	1000
Absolute	94552	2000	42016-3686	01/19/17	01/19/18	1000
				Final Vol.		10000

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170311A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 2-14-17 EXP 5-30-17		Surrogate ID 1	8270 Surrogate 2-7-17 EXP 11-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	03/11/17 7:36	
Spiked ID 8			Ext. End Time:	03/13/17 12:25	
			GC Requires Extract By:	03/14/17 0:00	

pH1	2	03/11/17 7:50:00 AM	Water Bath Temp Criteria	71 °C
pH2	14	3/11/17 10:00:00 AM		
pH3				

Spiked By: DL **Date** 03/11/17 **Witnessed By:** JR **Date** 03/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170311A Blk				1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
2	170311A LCS-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
3	170311A LCSD-1		0.250	1	1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	
4	AZ51357	AZ51357W11			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
5	AZ51359	AZ51359W16			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
6	AZ51360	AZ51360W11			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
7	AZ51362	AZ51362W11			1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
8	AZ51364	AZ51364W12			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82369 5 DAYS
9	AZ51530	AZ51530W12			1	1 equip	1000 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
10	AZ51533	AZ51533W12			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
11	AZ51535	AZ51535W13			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS
12	AZ51536	AZ51536W08			1	1 equip	1070 E-WB7	1	2/1	03/11/17 7:36	82389 5 DAYS

KY 3/13/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	1-3-17
B.Na2SO4	16C255214
10N NaOH	1-14-17
ph strips	HC 574756
Filter Paper	400112

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	3/13/17
Time	1:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL,JR
Extraction	KY,DL,JR
Concentration	DL

Modified	03/13/17 12:26:27 PM

Reviewed By: KY 286 **Date** 3/13/17

Injection Log

Directory: M:\YODA\DATA\Y170123\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0123Y002.D	1	SV Tune 10/19/16		23 Jan 17 10:12
3	0123Y003.D	1	5ug/ml SVOC 1/19/17		23 Jan 17 10:29
4	0123Y004.D	1	10ug/ml SVOC 1/19/17		23 Jan 17 11:02
5	0123Y005.D	1	20ug/ml SVOC 1/19/17		23 Jan 17 11:32
6	0123Y006.D	1	40ug/ml SVOC 1/19/17		23 Jan 17 12:02
7	0123Y007.D	1	50ug/ml SVOC 1/19/17		23 Jan 17 12:32
8	0123Y008.D	1	60ug/ml SVOC 1/19/17		23 Jan 17 13:02
9	0123Y009.D	1	80ug/ml SVOC 1/19/17		23 Jan 17 13:32
10	0123Y010.D	1	100ug/ml SVOC 1/19/17		23 Jan 17 14:02
11	0123Y011.D	1	2ND SRC SVOC 1/19/17		23 Jan 17 15:32
86	0123Y286.D	1	SV Tune 02/09/16	water	14 Mar 17 7:44
87	0123Y287.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 8:01
90	0123Y290.D	1	170311A BLK 1/1000	water	14 Mar 17 10:03
91	0123Y291.D	1	170311A LCS-1 1/1000	water	14 Mar 17 10:33
97	0123Y297.D	1	AZ51530W12 1/1000	water	14 Mar 17 13:39
98	0123Y298.D	0.93458	AZ51533W12 1/1070	water	14 Mar 17 14:10
99	0123Y299.D	0.93458	AZ51535W13 1/1070	water	14 Mar 17 14:41
100	0123Y300.D	0.934579	AZ51536W08 1/1070	water	14 Mar 17 15:12
2	0123Y302.D	1	50ug/ml SVOC 3/02/17	water	14 Mar 17 16:14

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:40:23 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:40:24 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82389
Matrix: WATER
Blank ID: 170310A-BLK

SDG No: 82389
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 1034

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170310A-BLK	Blank	1220Y136	03/13/17 1034
170310A-LCS	Lab Control Spike	1220Y137	03/13/17 1104
AZ51530	ERH275	1220Y156	03/13/17 2114
AZ51533	ERH278	1220Y157	03/13/17 2144
AZ51535	ERH286	1220Y158	03/13/17 2214
AZ51536	ERH282	1220Y159	03/13/17 2244

Comments: Batch: #87DME-170310A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 11/15/16

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 11/22/16	1220Y003.D	12/20/16 9:32
2		100ug/ml DEG 11/22/1	1220Y004.D	12/20/16 10:02
3		200ug/ml DEG 11/22/1	1220Y005.D	12/20/16 11:27
4		400ug/ml DEG 11/22/1	1220Y006.D	12/20/16 11:57
5		500ug/ml DEG 11/22/1	1220Y007.D	12/20/16 12:27
6		600ug/ml DEG 11/22/1	1220Y008.D	12/20/16 12:57
7		800ug/ml DEG 11/22/1	1220Y009.D	12/20/16 13:28
8		1000ug/ml DEG 11/22/	1220Y010.D	12/20/16 13:58
9		SS2 DEG 11/22/16	1220Y011.D	12/20/16 15:01
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.4
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.0
127	40 - 60% of mass 198	53.6
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.3
275	10 - 30% of mass 198	21.8
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	85.0
442	50 - 150% of mass 197.95	98.0
443	17 - 23% of mass 442	19.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82389
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 9:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y135.D	03/13/17 10:03
2	Blank	170310A BLK 2/500	1220Y136.D	03/13/17 10:34
3	Lab Control Spike	170310A LCS-1 2/500	1220Y137.D	03/13/17 11:04
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.2
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	58.5
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	24.1
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	84.2
442	50 - 150% of mass 197.95	95.9
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: SV Tune 02/09/17

SDG No: 82389
Date Analyzed: 03/13/17
Instrument: Yoda
Time Analyzed: 17:54

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 02/14/1	1220Y150.D	03/13/17 18:11
2	ERH275	AZ51530W11 2/500	1220Y156.D	03/13/17 21:14
3	ERH278	AZ51533W11 2/500	1220Y157.D	03/13/17 21:44
4	ERH286	AZ51535W11 2/500	1220Y158.D	03/13/17 22:14
5	ERH282	AZ51536W09 2/500	1220Y159.D	03/13/17 22:44
6		500ug/ml DEG 02/14/1	1220Y162.D	03/13/17 23:57
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	46.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.9
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.0
441	0.01 - 100% of mass 443	86.0
442	50 - 150% of mass 198	100.7
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82389

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)			Napthalene-D8(IS)			Acenaphthene-D10(IS)		
		AREA	#	RT	AREA	#	RT	AREA	#	RT
	12 HOUR STD	220710		4.87	916121		6.29	479952		8.31
	UPPER LIMIT	441420		5.37	1832242		6.79	959904		8.81
	LOWER LIMIT	110355		4.37	458061		5.79	239976		7.81
	SAMPLE NO.									
01	500ug/ml DEG 02/14/17	177553		4.84	746186		6.26	429159		8.26
02	170310A BLK 2/500	140695		4.83	637834		6.26	358479		8.26
03	170310A LCS-1 2/500	136004		4.82	614588		6.25	356092		8.26
04	500ug/ml DEG 02/14/17	178165		4.83	786911		6.25	435104		8.26
05	AZ51530W11 2/500	133866		4.84	630374		6.26	365742		8.26
06	AZ51533W11 2/500	144983		4.83	649294		6.25	380796		8.26
07	AZ51535W11 2/500	143227		4.84	661183		6.25	377441		8.26
08	AZ51536W09 2/500	136144		4.83	619485		6.25	355161		8.26
09	500ug/ml DEG 02/14/17	172231		4.83	758796		6.25	417981		8.26
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82389

Lab File ID (Standard): 1220Y007.D Date Analyzed: 12/20/16

Instrument ID: Yoda Time Analyzed: 12:27

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	893005	10.02	850646	13.11	931322	14.75
	UPPER LIMIT	1786010	10.52	1701292	13.61	1862644	15.25
	LOWER LIMIT	446503	9.52	425323	12.61	465661	14.25
	SAMPLE NO.						
01	500ug/ml DEG 02/14/17	771605	9.99	734679	13.06	537954	14.69
02	170310A BLK 2/500	680715	9.99	651186	13.06	671686	14.69
03	170310A LCS-1 2/500	658238	9.99	636142	13.06	624209	14.69
04	500ug/ml DEG 02/14/17	815094	9.99	761306	13.06	583729	14.69
05	AZ51530W11 2/500	683446	9.98	643687	13.06	963834	14.69
06	AZ51533W11 2/500	714445	9.98	665416	13.06	1097220	14.69
07	AZ51535W11 2/500	710441	9.99	657059	13.06	718340	14.69
08	AZ51536W09 2/500	684076	9.98	635698	13.06	609044	14.69
09	500ug/ml DEG 02/14/17	787821	9.98	740065	13.06	545491	14.69
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y156
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:40:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y156.D
Acq On : 13 Mar 17 21:14
Sample : AZ51530W11 2/500
Misc : water

Vial: 56
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	133866	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	630374	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	365742	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	683446	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	643687	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	963834	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

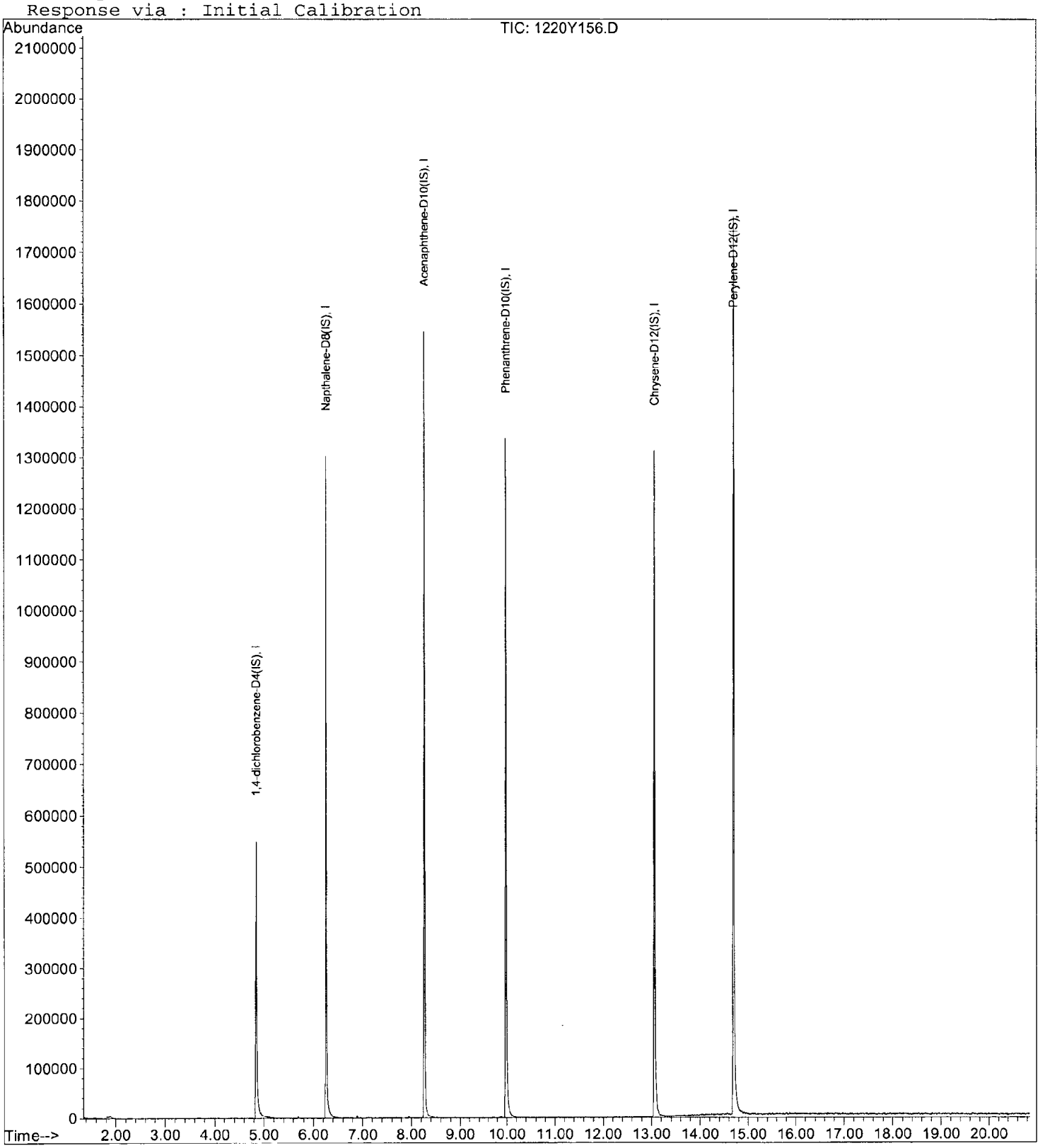
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y156.D Vial: 56
Acq On : 13 Mar 17 21:14 Operator: MA
Sample : AZ51530W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y157
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:40:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y157.D Vial: 57
Acq On : 13 Mar 17 21:44 Operator: MA
Sample : AZ51533W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	144983	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	649294	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	380796	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	714445	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	665416	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	1097222	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

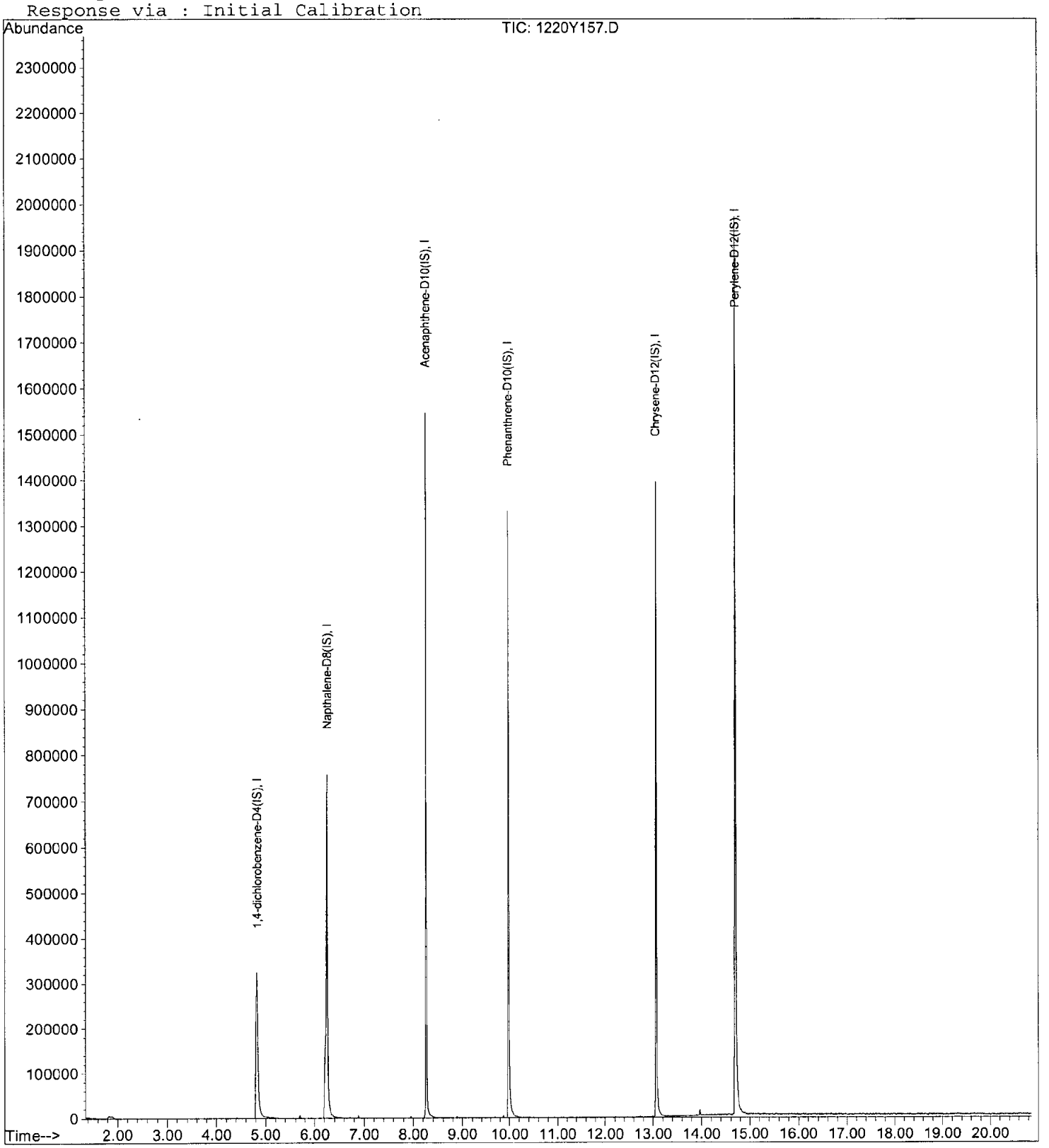
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y157.D Vial: 57
Acq On : 13 Mar 17 21:44 Operator: MA
Sample : AZ51533W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y158
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:40:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y158.D Vial: 58
Acq On : 13 Mar 17 22:14 Operator: MA
Sample : AZ51535W11 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	143227	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	661183	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	377441	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	710441	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	657059	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	718340	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

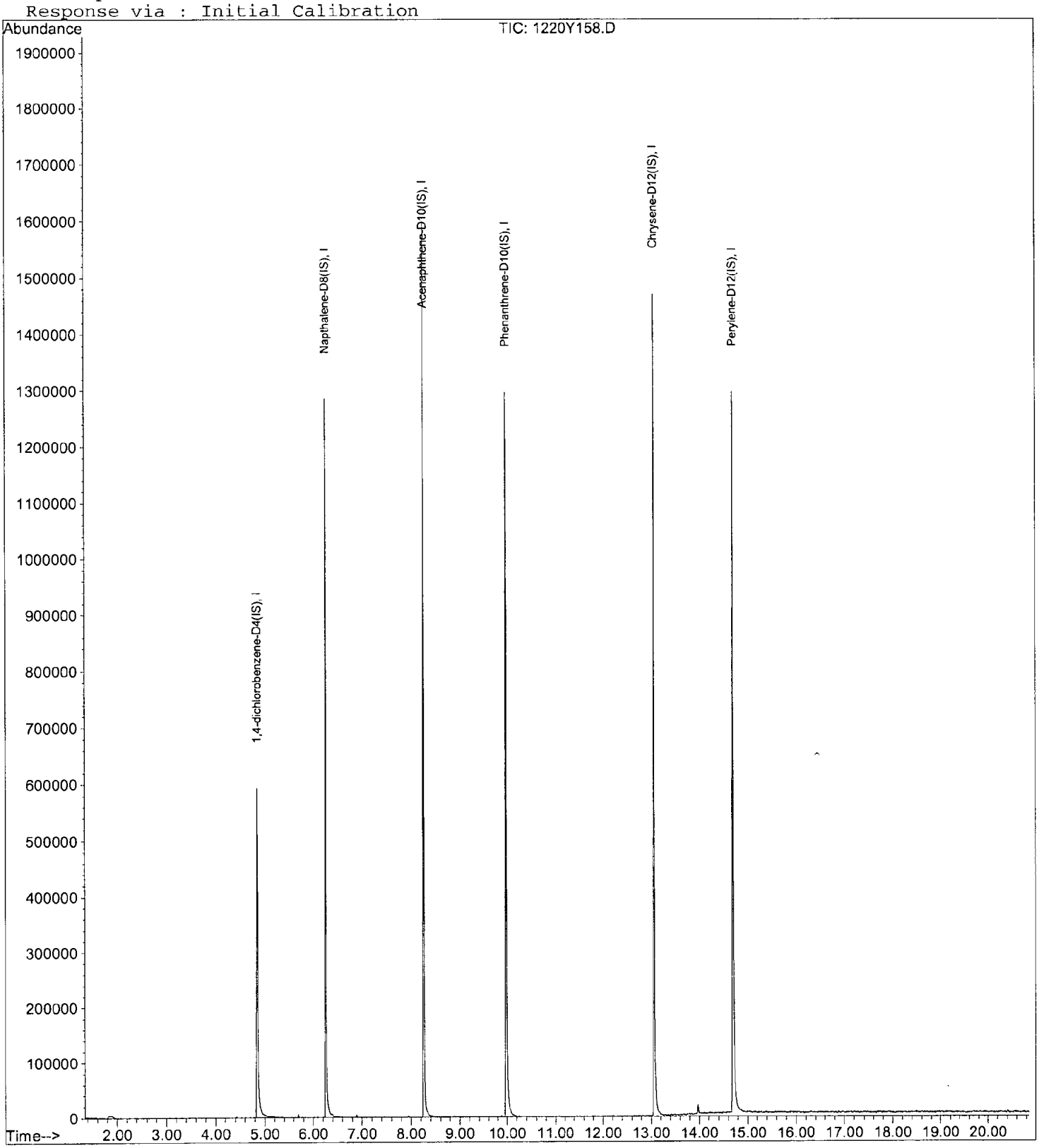
Data File : M:\YODA\DATA\Y161220G\1220Y158.D
Acq On : 13 Mar 17 22:14
Sample : AZ51535W11 2/500
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:13 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH282
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51536
QCG: #87DME-170310A-216866

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.M
Run #: 1220Y159
Instrument: Yoda
Sequence: Y161220G
Dilution Factor: 1
Initials: MA

Printed: 03/14/17 11:40:27 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y159.D Vial: 59
Acq On : 13 Mar 17 22:44 Operator: MA
Sample : AZ51536W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	136144	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.25	136	619485	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	355161	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	684076	40.00000	ppb	0.00
6) Chrysene-D12(IS)	13.06	240	635698	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.69	264	609044	40.00000	ppb	-0.06

System Monitoring Compounds

Target Compounds Qvalue

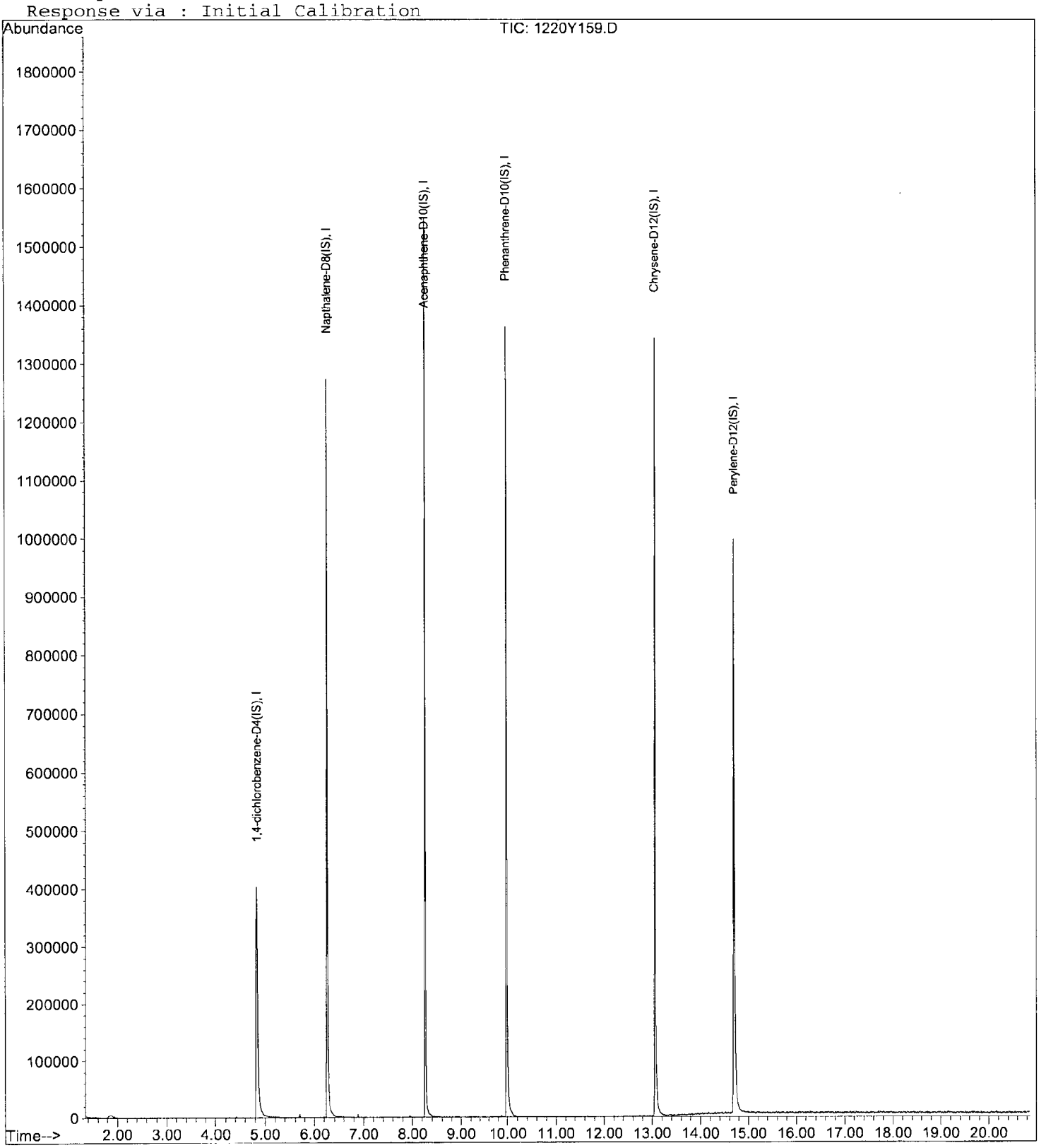
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y159.D Vial: 59
Acq On : 13 Mar 17 22:44 Operator: MA
Sample : AZ51536W09 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:13 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 12/20/16
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			1220Y003.D	1220Y004.D	1220Y005.D	1220Y006.D	1220Y007.D	1220Y008.D	1220Y009.D	1220Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol	0.1800	0.1823	0.2140	0.2253	0.2267	0.2342	0.2268	0.2261			0.21	9.9	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	235296	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1020104	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	566383	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1039128	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	951820	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	863918	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	52929	41.96 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

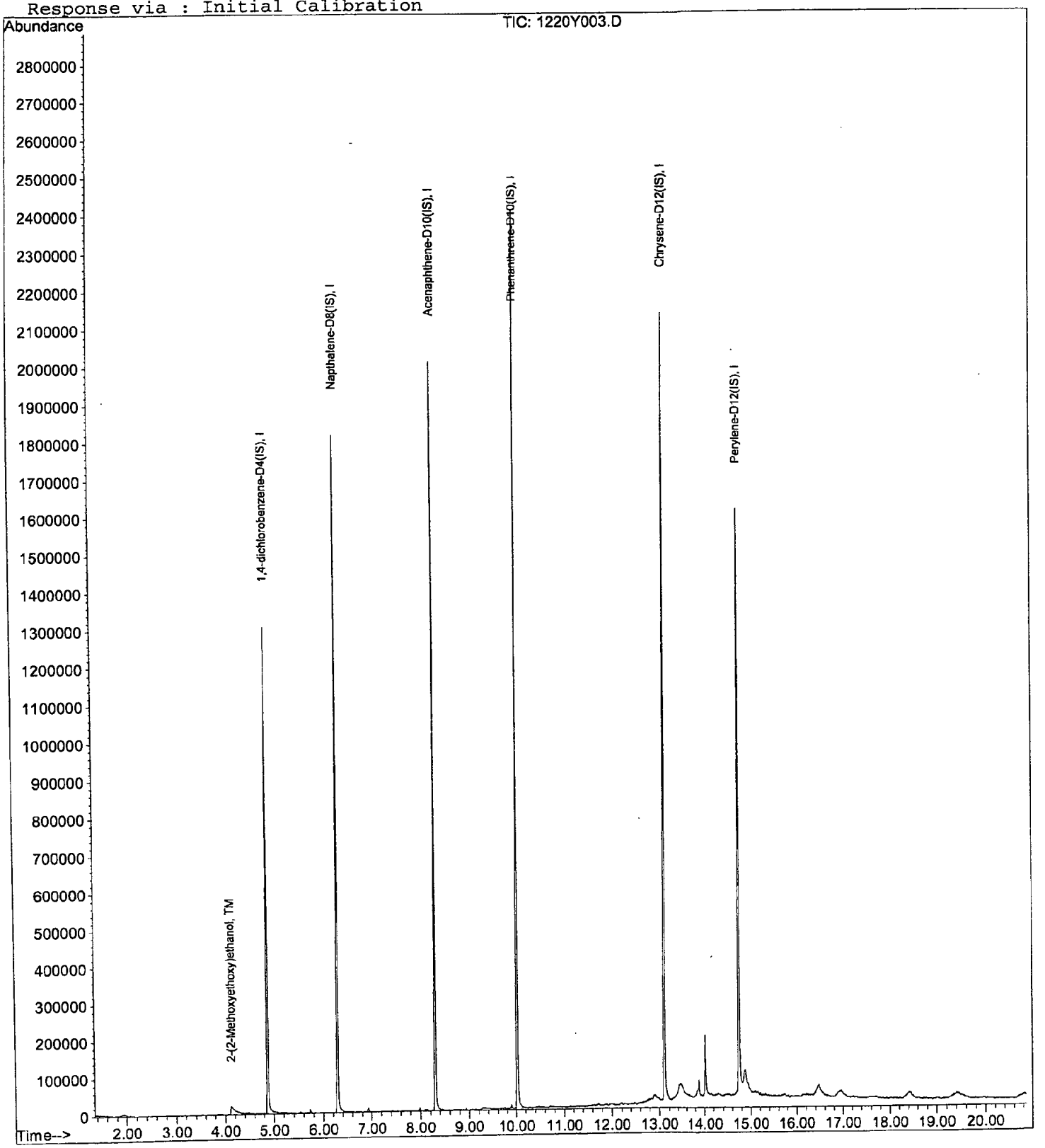
Data File : M:\YODA\DATA\Y161220G\1220Y003.D
Acq On : 20 Dec 16 9:32
Sample : 50ug/ml DEG 12/20/16
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:24 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:24:33 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	236538	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1021117	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	569209	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1067696	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	1009921	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	992895	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	107826	85.04 ppb	92

(#) = qualifier out of range (m) = manual integration
1220Y004.D Y0GLYCOL.M Thu Jan 19 15:28:11 2017

Quantitation Report

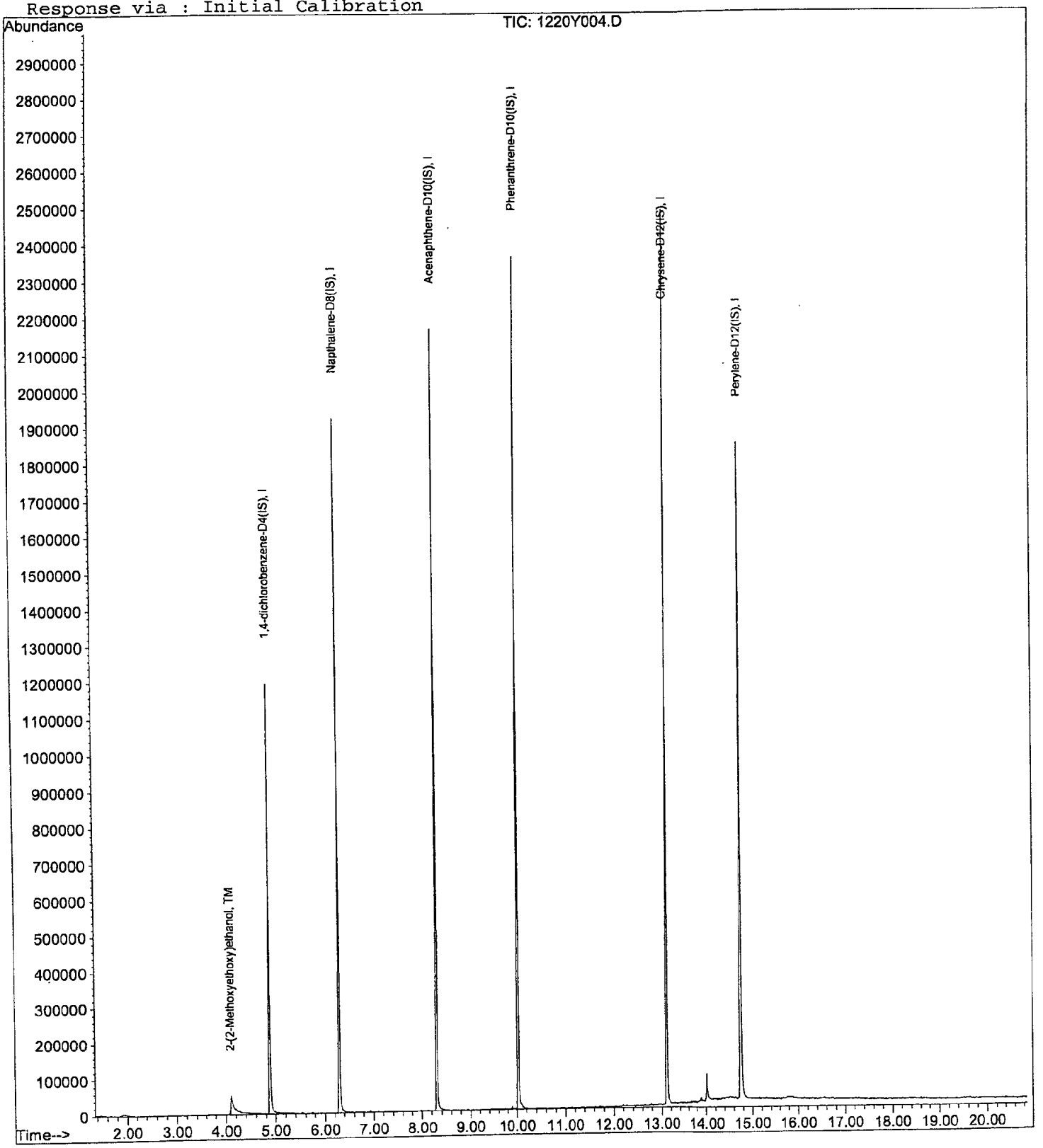
Data File : M:\YODA\DATA\Y161220G\1220Y004.D
Acq On : 20 Dec 16 10:02
Sample : 100ug/ml DEG 12/20/16
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:28 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	219199	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	935952	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	541303	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	969145	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850962	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	955898	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.06	45	234542	199.60 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y005.D Y0GLYCOL.M Thu Jan 19 15:31:38 2017

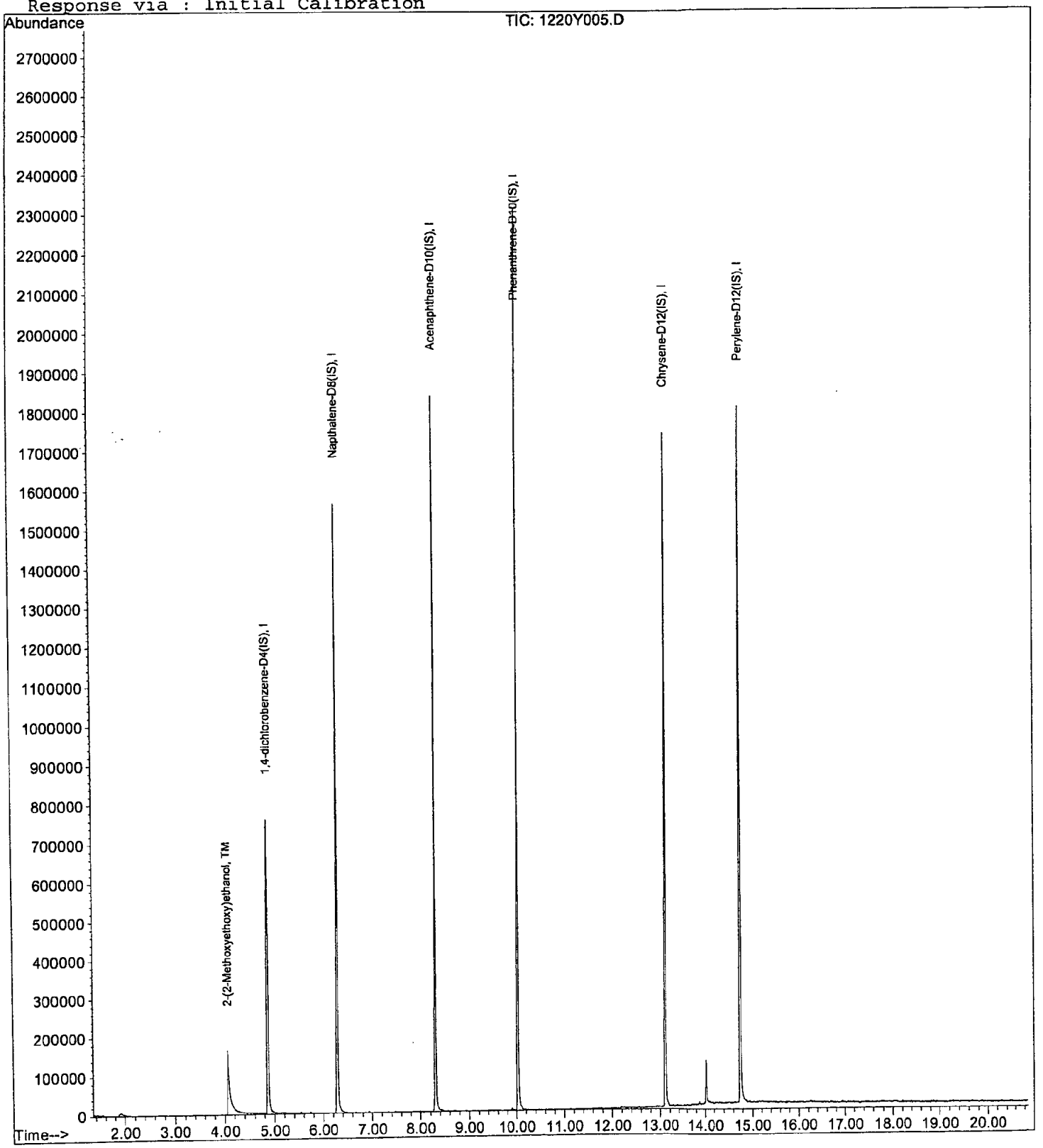
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y005.D
Acq On : 20 Dec 16 11:27
Sample : 200ug/ml DEG 12/20/16
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.86	152	219938	40.00 ppb	-0.02
3) Napthalene-D8(IS)	6.29	136	934708	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.30	164	524564	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	930250	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	927639	40.00 ppb	0.00
7) Perylene-D12(IS)	14.74	264	801484	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	495610	420.36 ppb	98

(#) = qualifier out of range (m) = manual integration
1220Y006.D Y0GLYCOL.M Thu Jan 19 15:32:08 2017

Quantitation Report

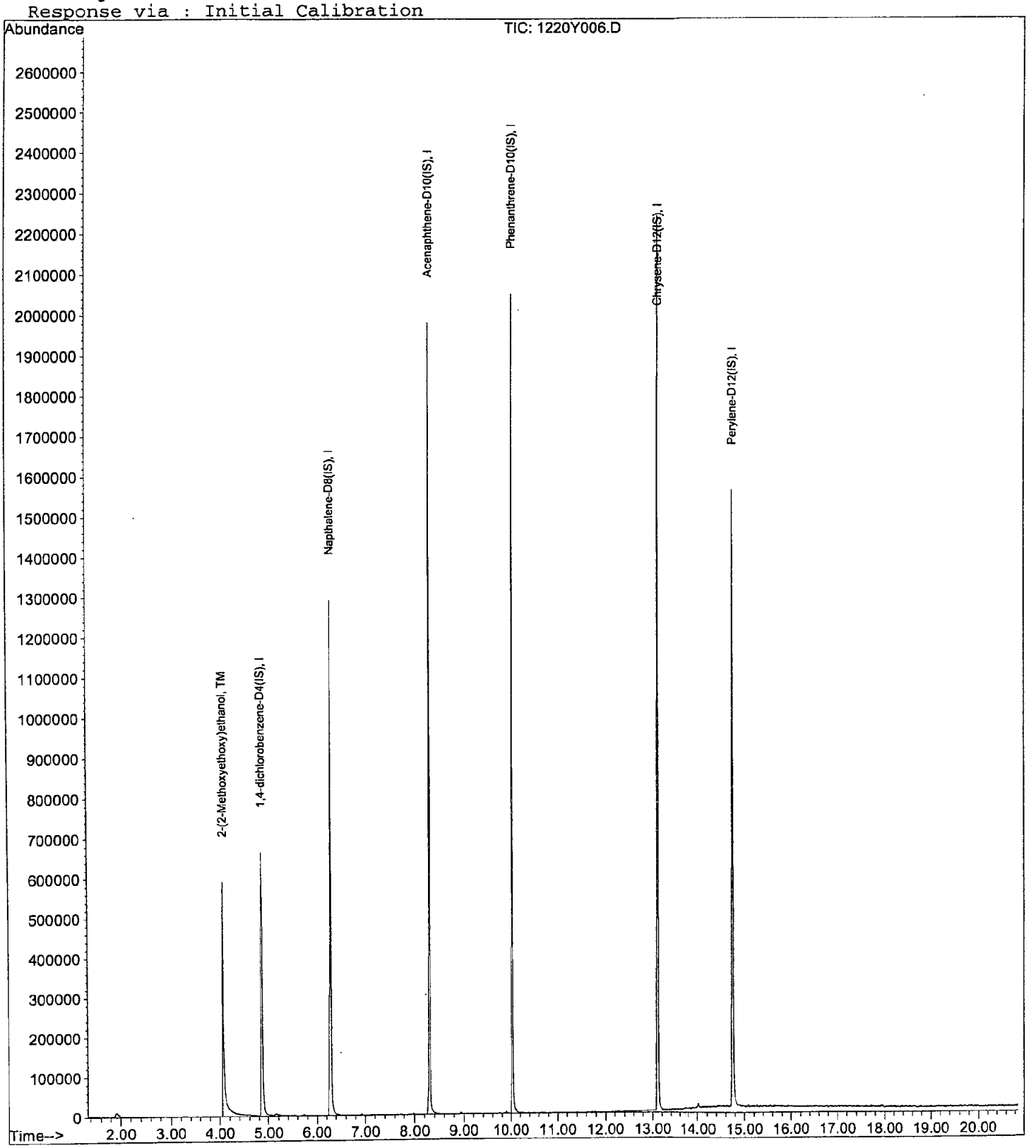
Data File : M:\YODA\DATA\Y161220G\1220Y006.D
Acq On : 20 Dec 16 11:57
Sample : 400ug/ml DEG 12/20/16
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:31 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:27:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	220710	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	916121	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	479952	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	893005	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	850646	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	931322	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	625337	528.53 ppb	100

(#) = qualifier out of range (m) = manual integration
1220Y007.D YOGLYCOL.M Thu Jan 19 15:34:55 2017

Quantitation Report

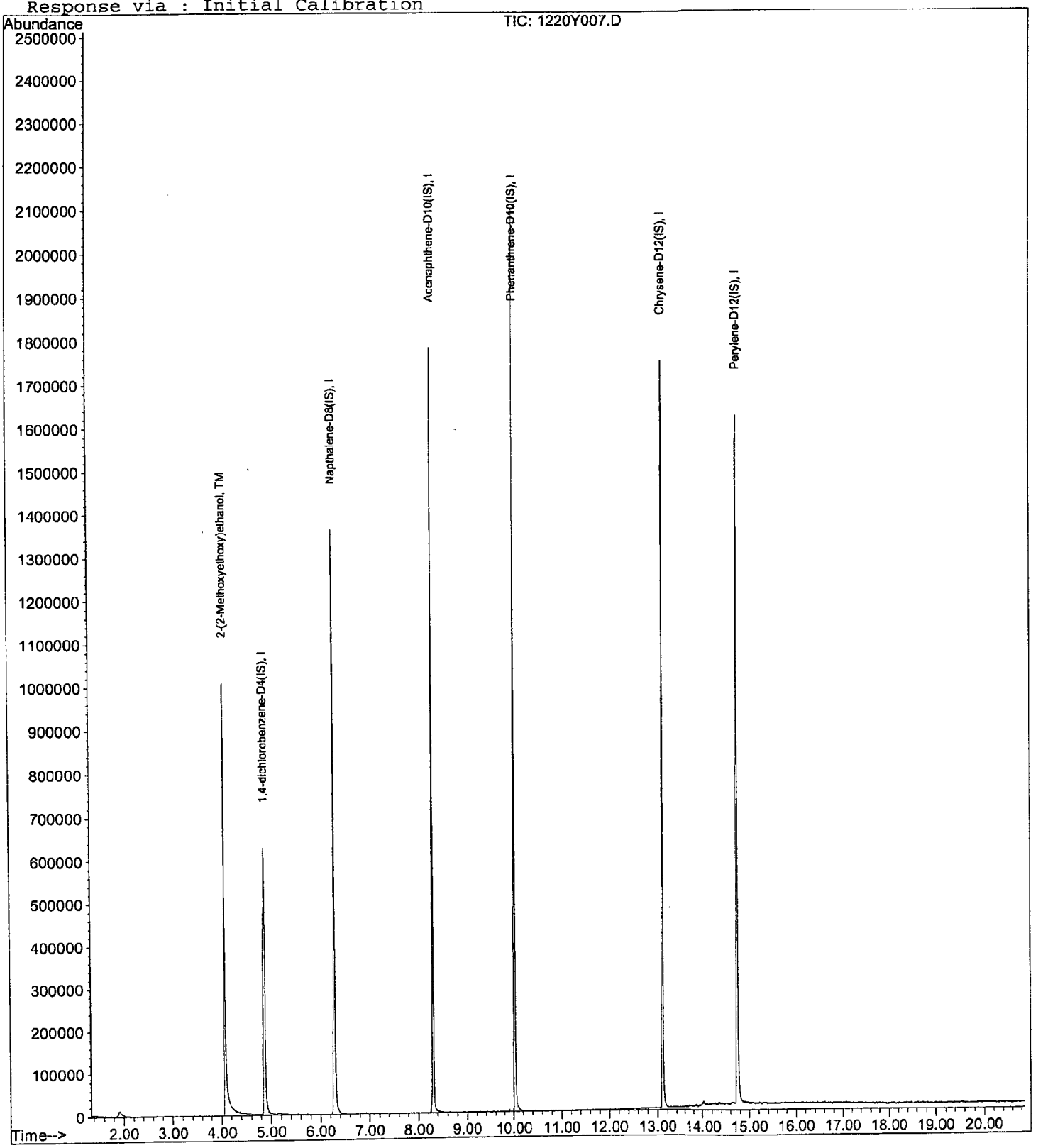
Data File : M:\YODA\DATA\Y161220G\1220Y007.D
Acq On : 20 Dec 16 12:27
Sample : 500ug/ml DEG 12/20/16
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:34 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:34:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	218598	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	918286	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	502491	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	904865	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	875224	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	907883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	767935	655.33 ppb	99

(#) = qualifier out of range (m) = manual integration
1220Y008.D Y0GLYCOL.M Thu Jan 19 15:36:02 2017

Quantitation Report

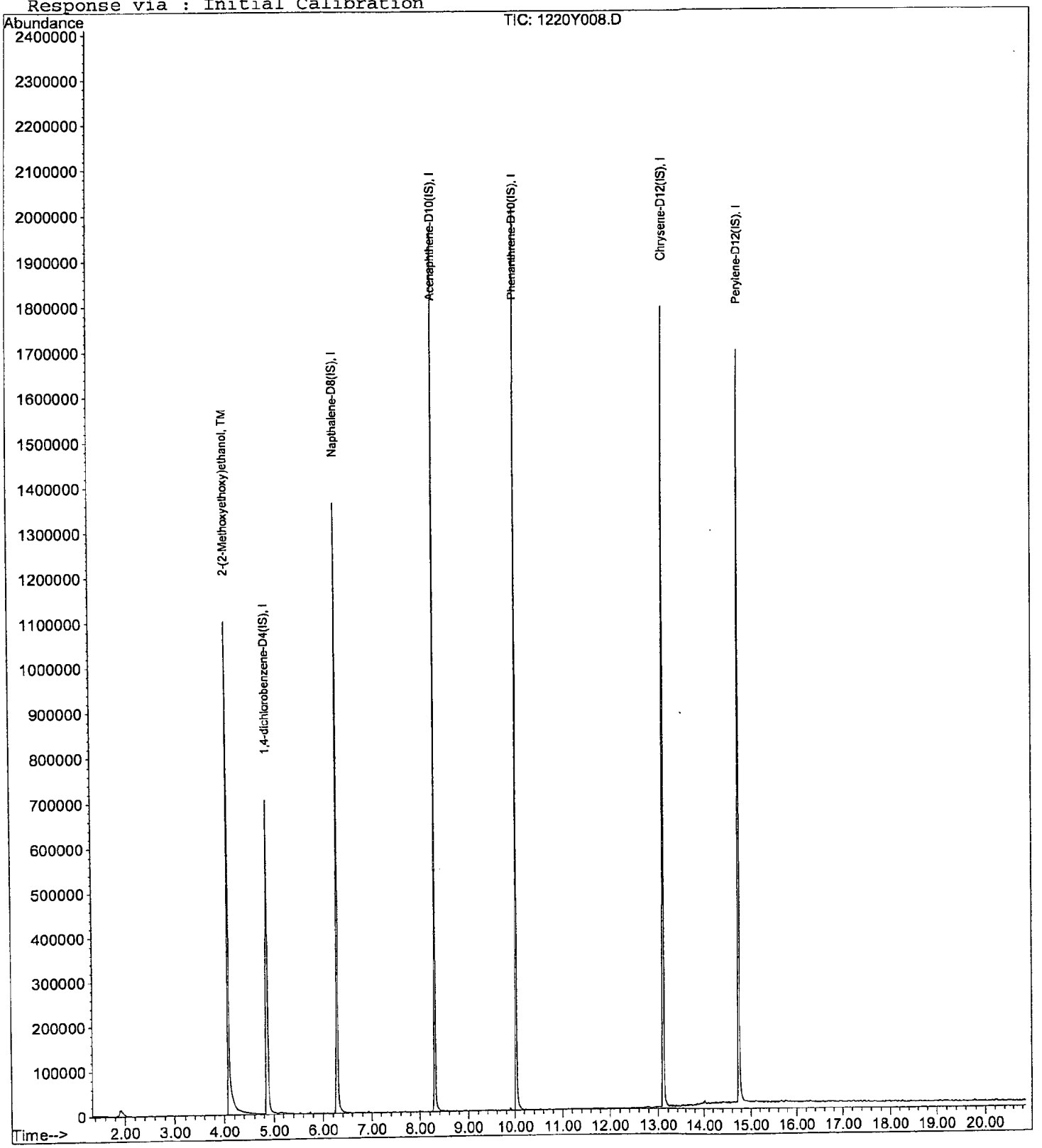
Data File : M:\YODA\DATA\Y161220G\1220Y008.D
Acq On : 20 Dec 16 12:57
Sample : 600ug/ml DEG 12/20/16
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:35 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	224351	40.00 ppb	0.01
3) Napthalene-D8(IS)	6.29	136	955028	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	537186	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	1003381	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.10	240	910308	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853883	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	1017711	846.21 ppb	98

(#) = qualifier out of range (m) = manual integration

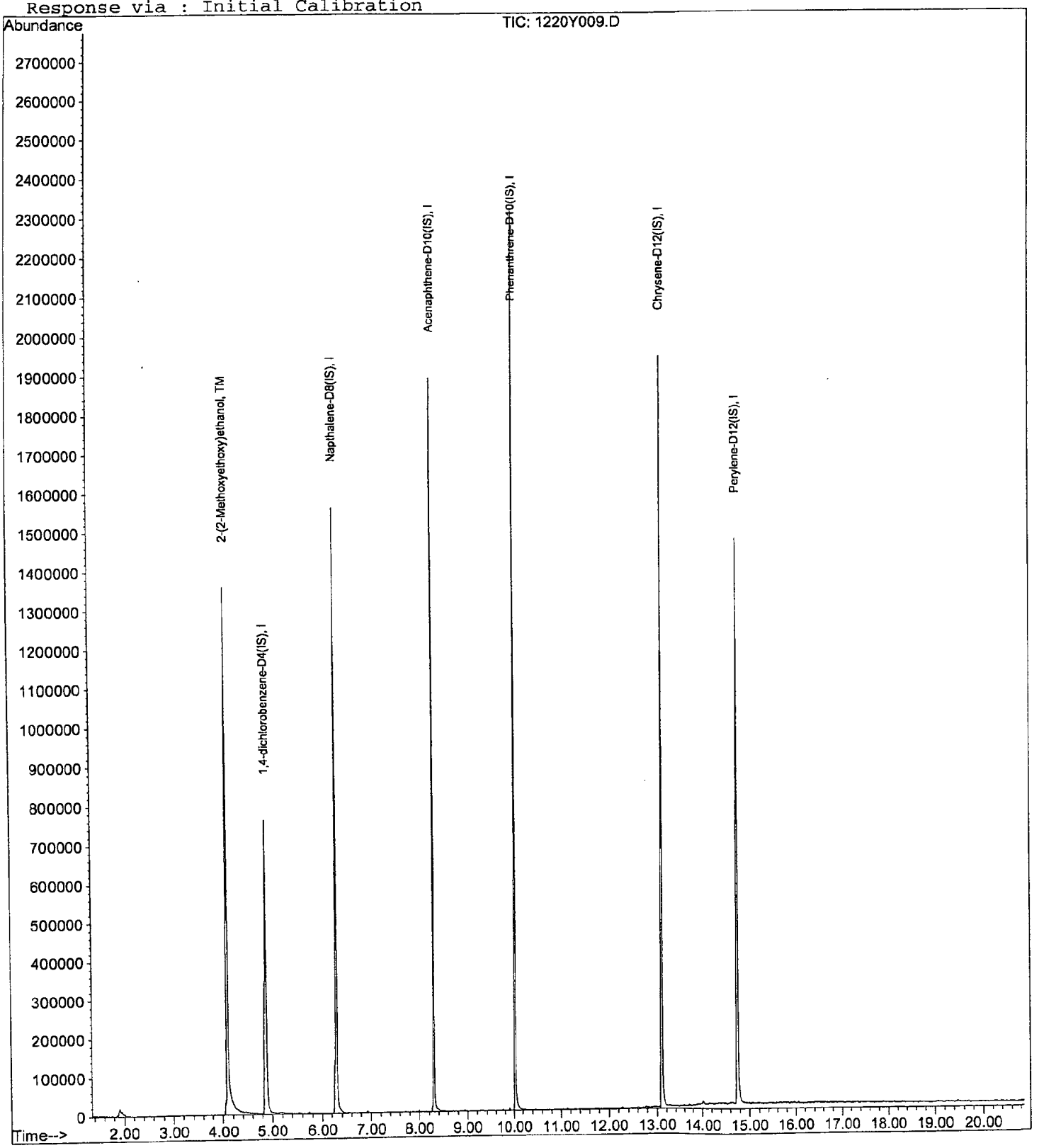
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y009.D
Acq On : 20 Dec 16 13:28
Sample : 800ug/ml DEG 12/20/16
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:36 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.87	152	283148	40.00 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	1210963	40.00 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	689185	40.00 ppb	0.00
5) Phenanthrene-D10(IS)	10.03	188	1234610	40.00 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	1201158	40.00 ppb	0.00
7) Perylene-D12(IS)	14.75	264	1162204	40.00 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.12	45	1600487	1054.44 ppb	99

(#) = qualifier out of range (m) = manual integration

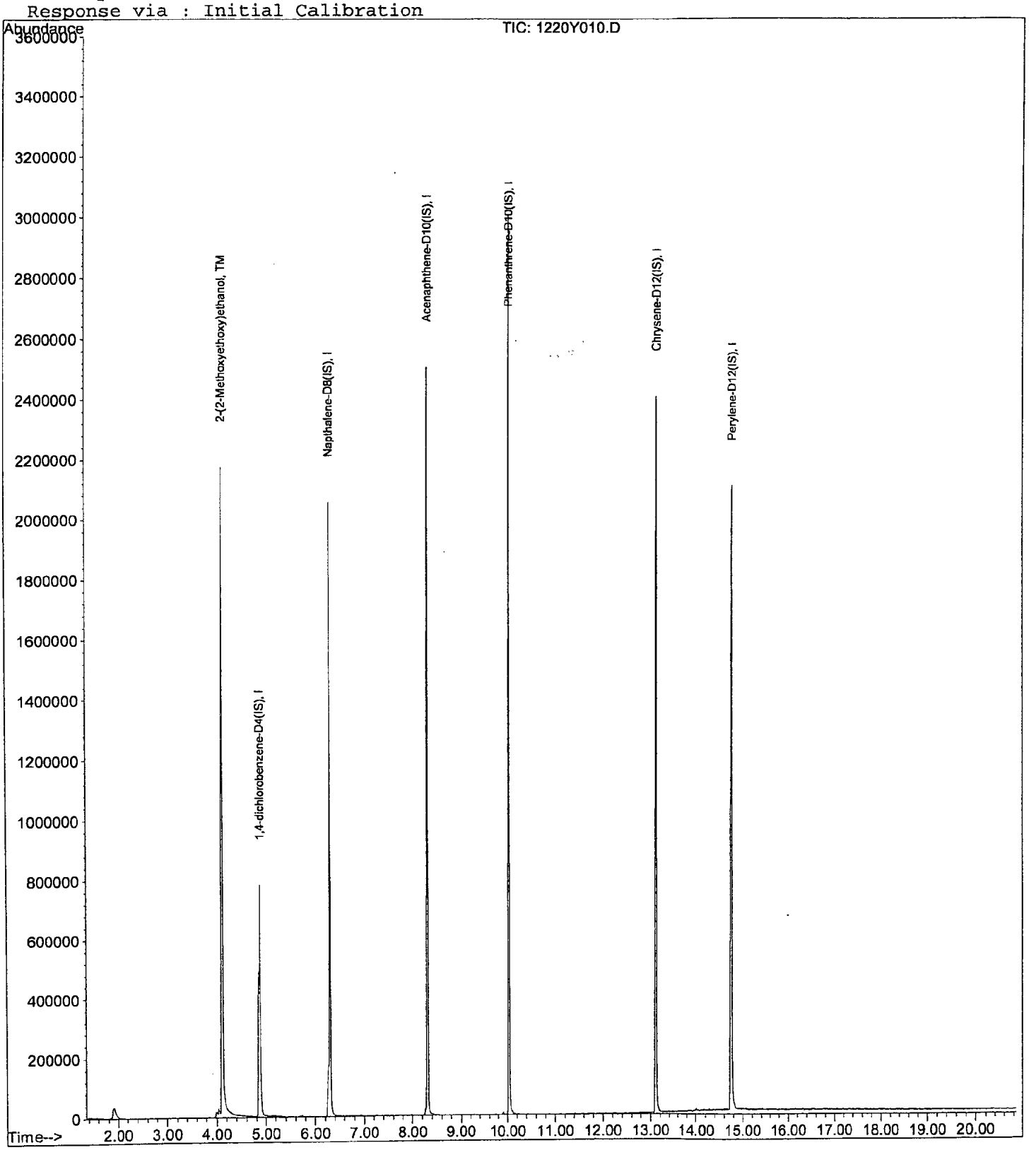
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y010.D
Acq On : 20 Dec 16 13:58
Sample : 1000ug/ml DEG 12/20/16
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Jan 19 15:37 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Jan 19 15:35:45 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 12/20/16
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2388	11	TM	
2							
3							
4							
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38							
39							
40							
		Average			11.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Dec 20 14:47:54 2016
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.88	152	226449	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.29	136	946039	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.31	164	498527	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	10.02	188	939012	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.11	240	865583	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.75	264	853444	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	676019	556.89065 ppb	99

$$\text{Algorithm} = \frac{676019 \times 40 \times 1}{226449 \times 0.2144} = 556.9$$

MA 12/29/16

(#) = qualifier out of range (m) = manual integration
1220Y011.D Y0GLYCOL.M Wed Dec 21 12:44:47 2016

Quantitation Report

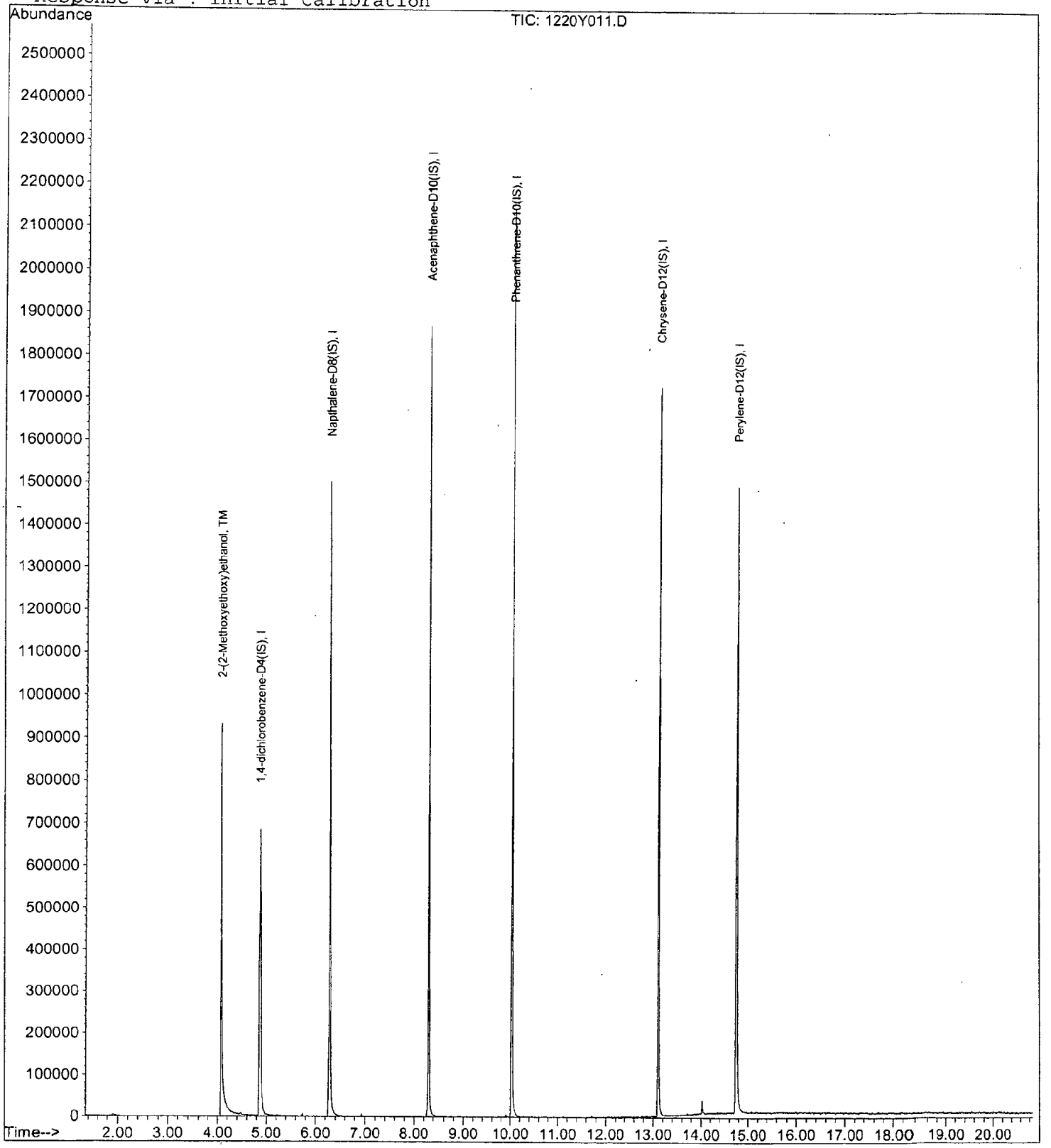
Data File : M:\YODA\DATA\Y161220G\1220Y011.D
Acq On : 20 Dec 16 15:01
Sample : SS2 DEG 12/20/16
Misc :

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Dec 20 15:16 2016

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Dec 21 10:52:52 2016
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y135.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2415	13	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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21							
22							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.84	152	177553	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.26	136	746186	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	429159	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	771605	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	734679	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	537954	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	536004	563.14657 ppb	97

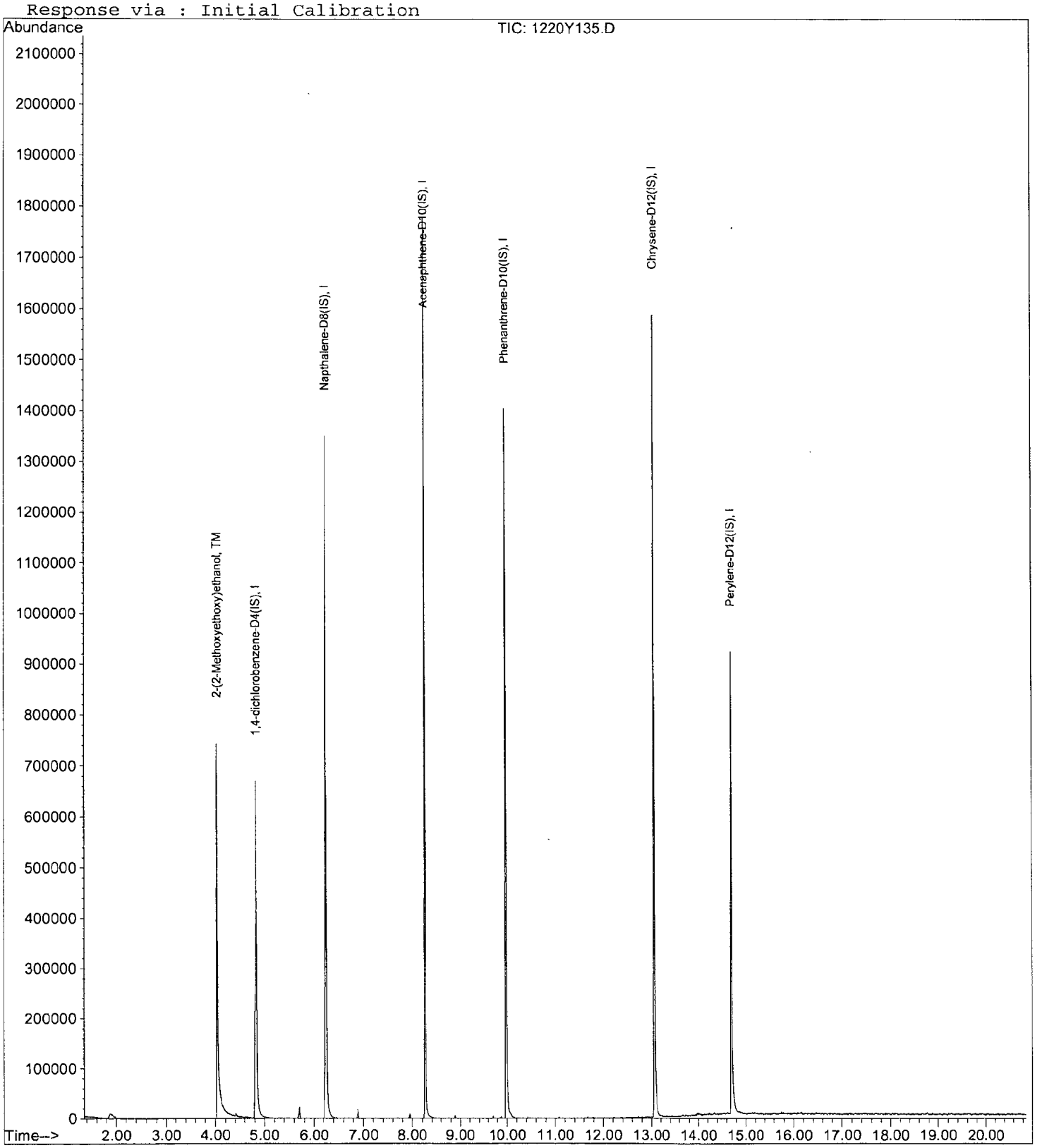
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y135.D Vial: 35
Acq On : 13 Mar 17 10:03 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 11:20 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y150.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2074	3.3	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.3		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	178165	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	786911	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	435104	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	815094	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	761306	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	583729	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	461787	483.50475 ppb	100

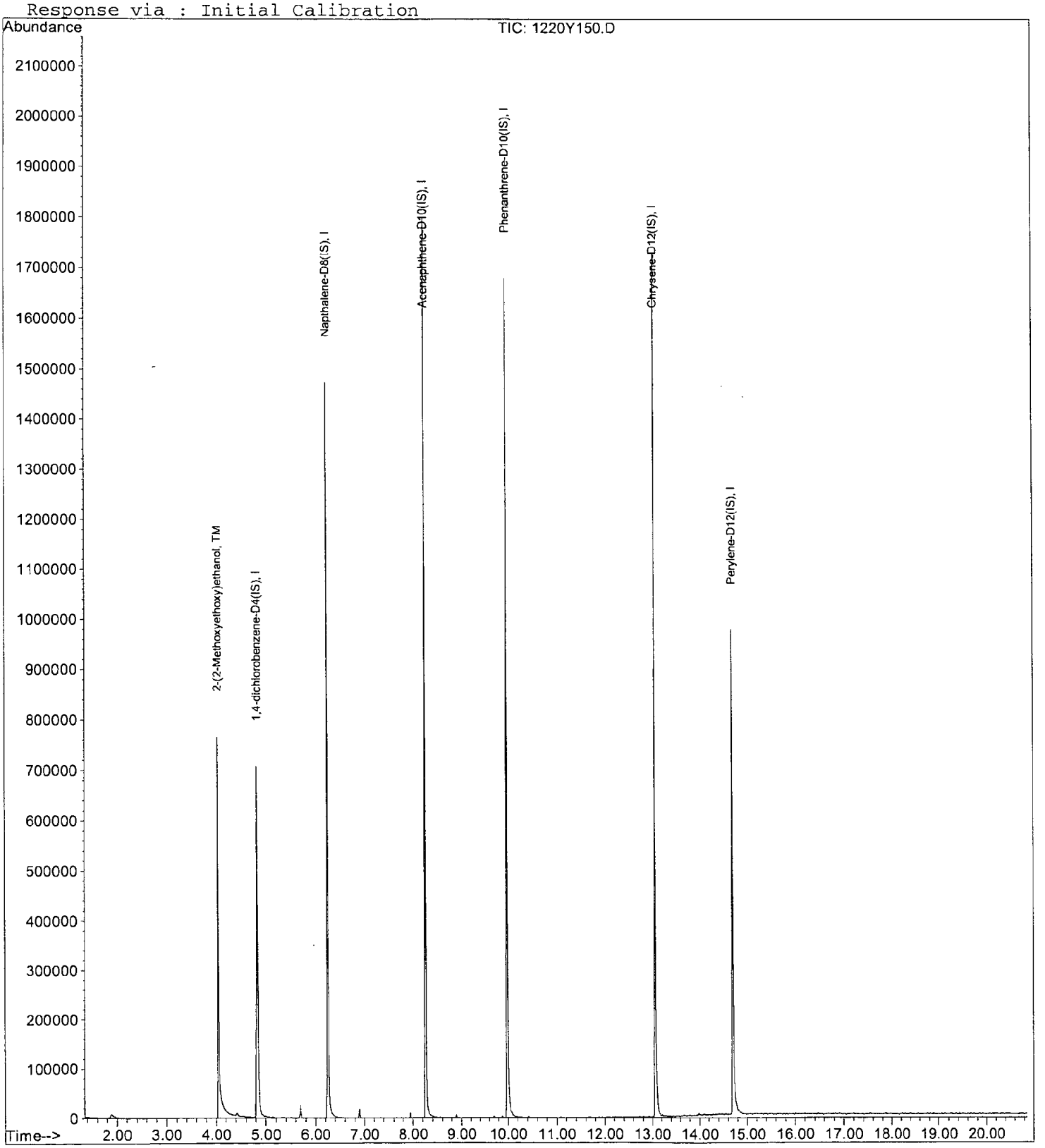
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y150.D Vial: 50
Acq On : 13 Mar 17 18:11 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:11 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/13/17
Instrument: Yoda
Initial Cal. Date: 12/20/16
Data File: 1220Y162.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2144	0.2166	1.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y162.D Vial: 50
Acq On : 13 Mar 17 23:57 Operator: MA
Sample : 500ug/ml DEG 02/14/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 14 8:12 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	172231	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.25	136	758796	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	417981	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.98	188	787821	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	740065	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	545491	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.05	45	466308	505.06000 ppb	99

(#) = qualifier out of range (m) = manual integration

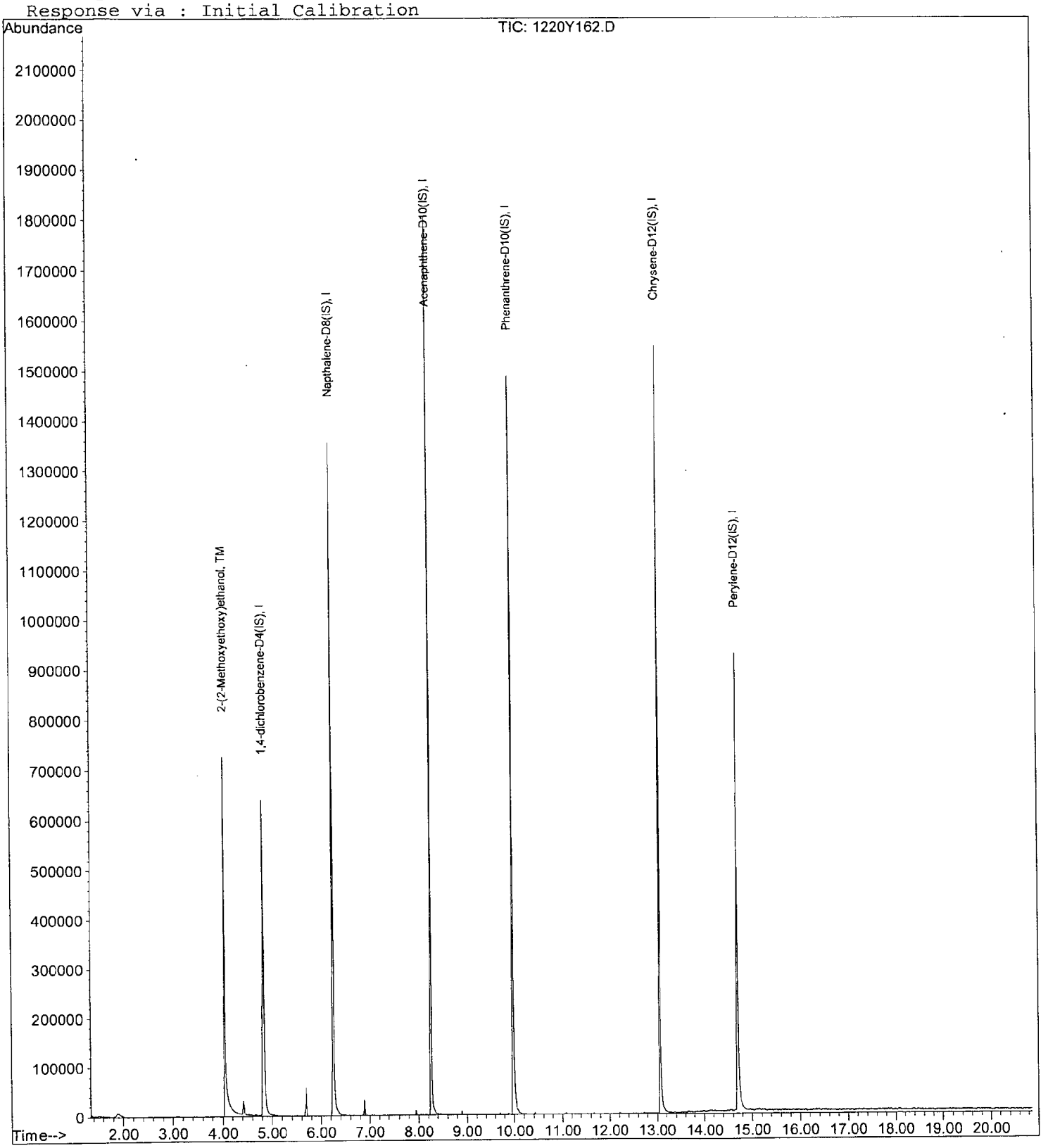
Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y162.D
Acq On : 13 Mar 17 23:57
Sample : 500ug/ml DEG 02/14/17
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 14 8:12 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170310W-51132 - 216866**
Batch ID: #87DME-170310A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	03/10/17	03/13/17

Quant Method: Y0GLYCOL.
Run #: 1220Y136
Instrument: Yoda
Sequence: Y161220G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 03/14/17 11:40:28 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y136.D
Acq On : 13 Mar 17 10:34
Sample : 170310A BLK 2/500
Misc : water

Vial: 36
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 12:18 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Feb 16 17:58:26 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.83	152	140695	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.26	136	637834	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	358479	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	680715	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	651186	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	671686	40.00000 ppb	-0.05

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

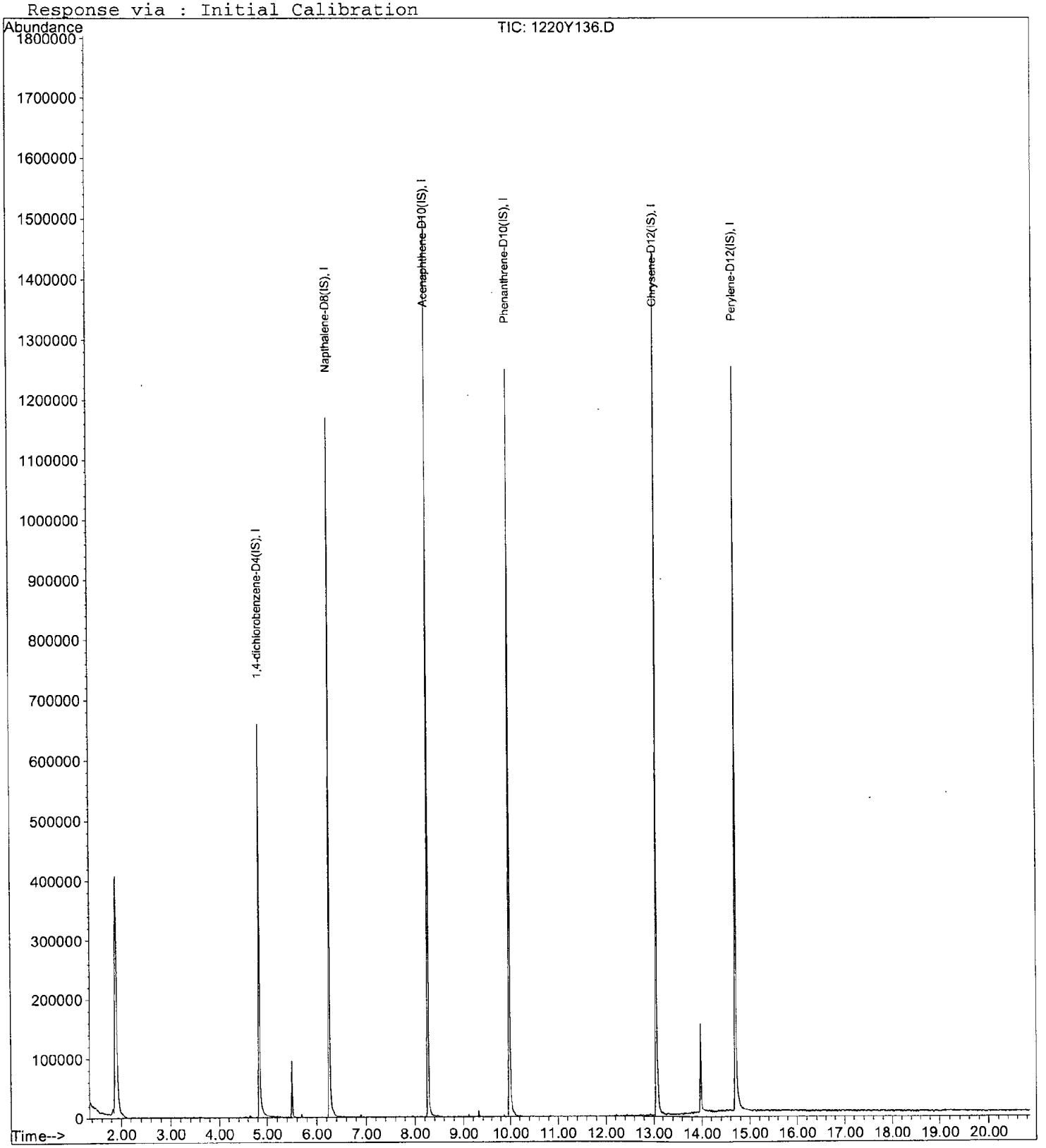
Data File : M:\YODA\DATA\Y161220G\1220Y136.D
Acq On : 13 Mar 17 10:34
Sample : 170310A BLK 2/500
Misc : water

Vial: 36
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 12:18 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170310W-51132 LCS - 216866**
Batch ID: #87DME-170310A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	35.1	43.9	30-130

Comments:

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	03/10/17
Analysis Date :	03/13/17
Instrument :	Yoda
Run :	1220Y137
Initials :	MA

Printed: 03/14/17 11:40:28 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y161220G\1220Y137.D
Acq On : 13 Mar 17 11:04
Sample : 170310A LCS-1 2/500
Misc : water

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Mar 13 12:19:59 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.82	152	136004	40.00000 ppb	-0.02
3) Napthalene-D8(IS)	6.25	136	614588	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.26	164	356092	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.99	188	658238	40.00000 ppb	0.00
6) Chrysene-D12(IS)	13.06	240	636142	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.69	264	624209	40.00000 ppb	-0.06

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.18	45	25618	35.13783 ppb	100

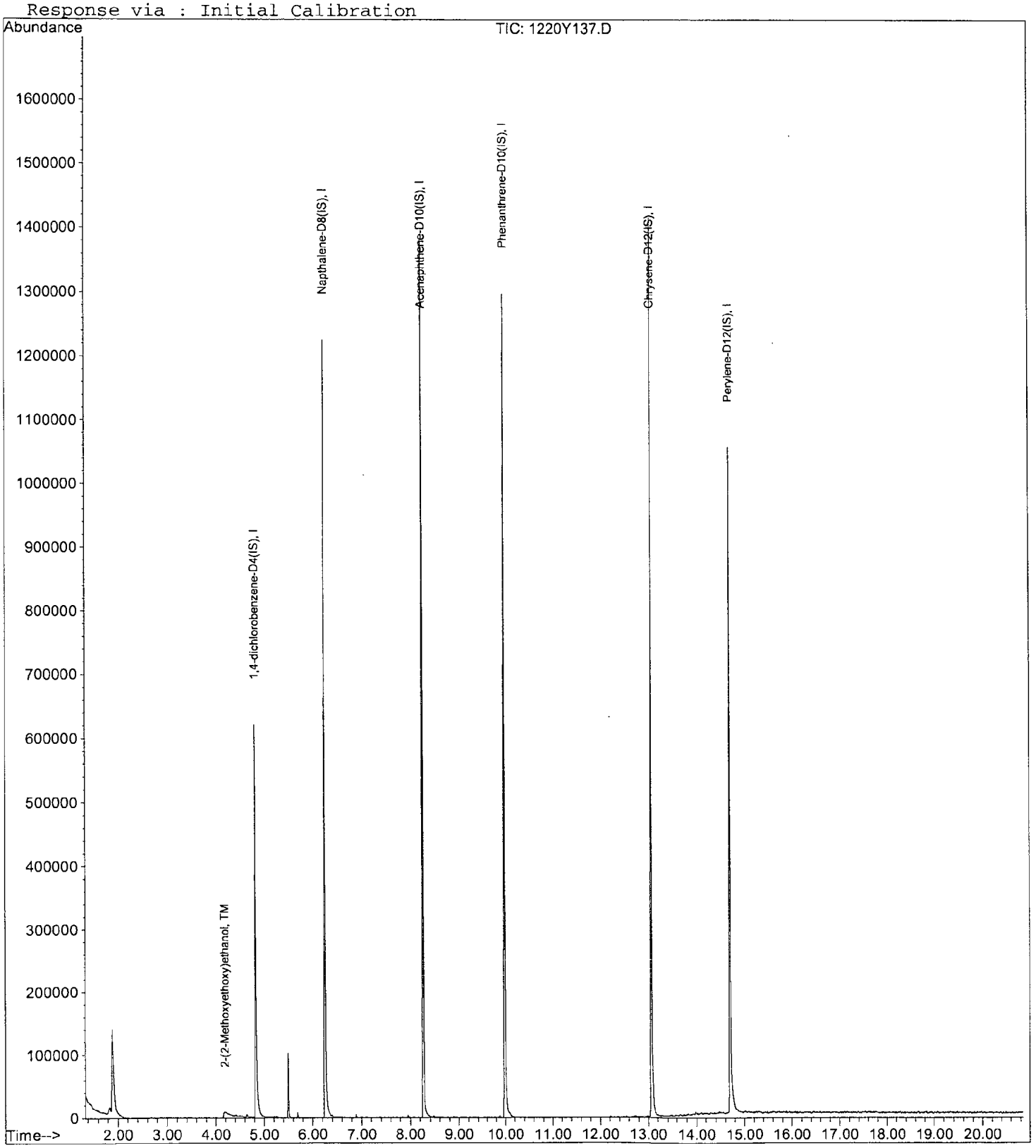
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y161220G\1220Y137.D Vial: 37
Acq On : 13 Mar 17 11:04 Operator: MA
Sample : 170310A LCS-1 2/500 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Mar 13 12:20 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Mar 14 08:10:48 2017
Response via : Initial Calibration

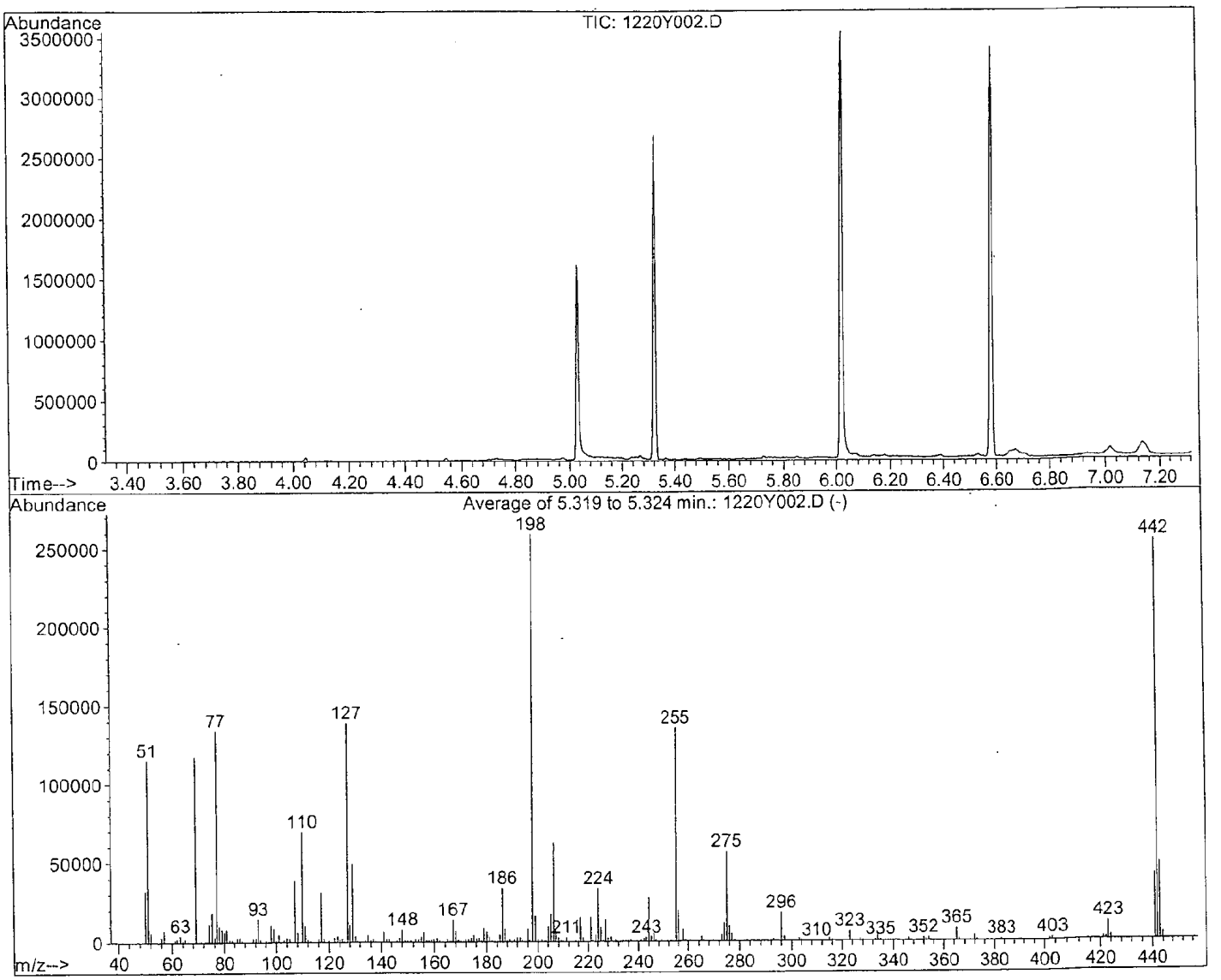


DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y002.D
Acq On : 20 Dec 16 9:12
Sample : SV Tune 11/15/16
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 694, 695, 696; Background Corrected with Scan 686

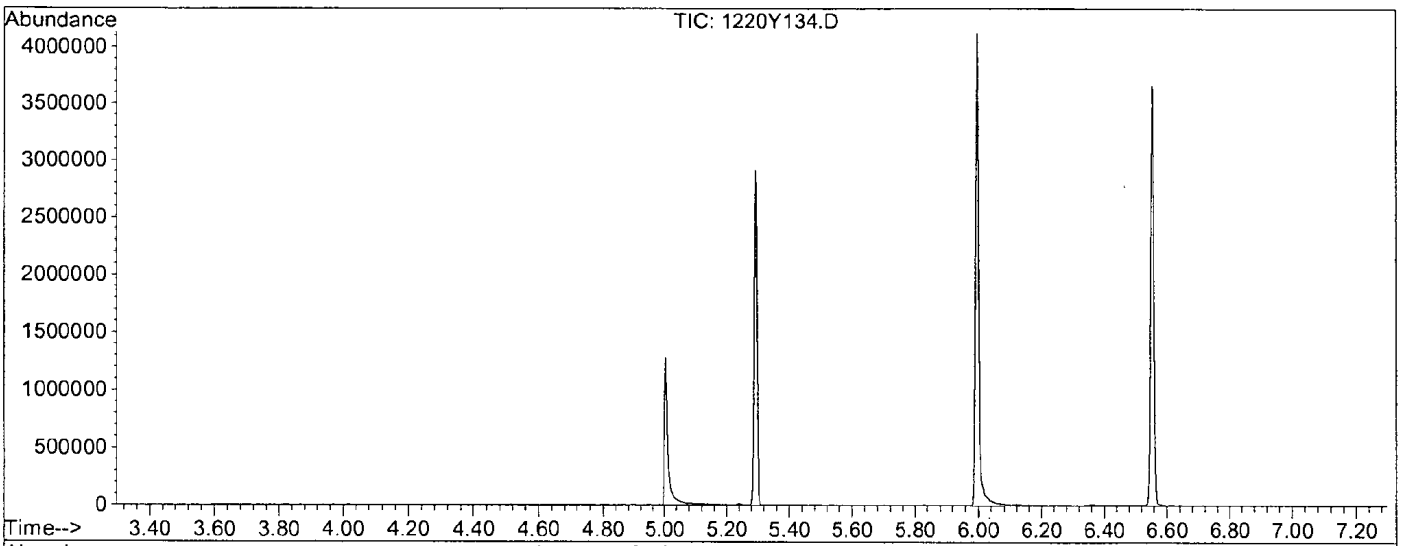
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	115264	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	40	60	53.6	139077	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	259413	PASS
199	198	5	9	6.3	16297	PASS
275	198	10	30	21.8	56493	PASS
365	198	1	100	3.0	7796	PASS
441	443	0.01	100	85.0	41237	PASS
442	198	50	150	98.0	254272	PASS
443	442	17	23	19.1	48539	PASS

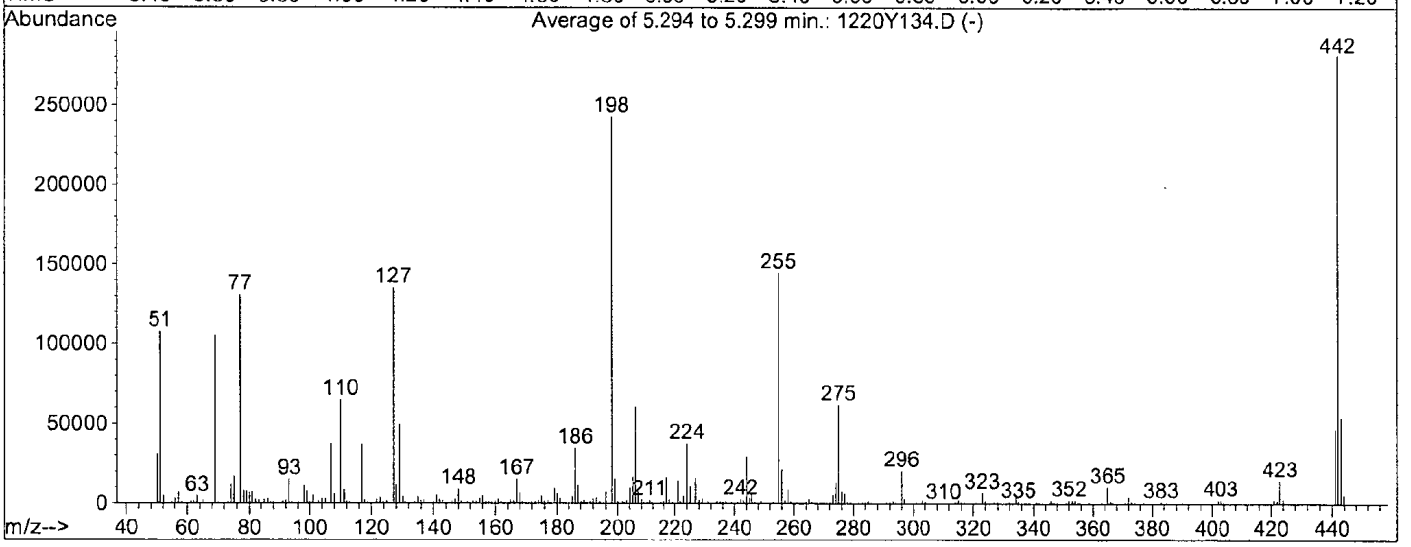
1220Y002.D Y0GLYCOL.M Tue Dec 20 09:18:08 2016

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y134.D Vial: 34
Acq On : 13 Mar 17 9:46 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 684, 685, 686; Background Corrected with Scan 676

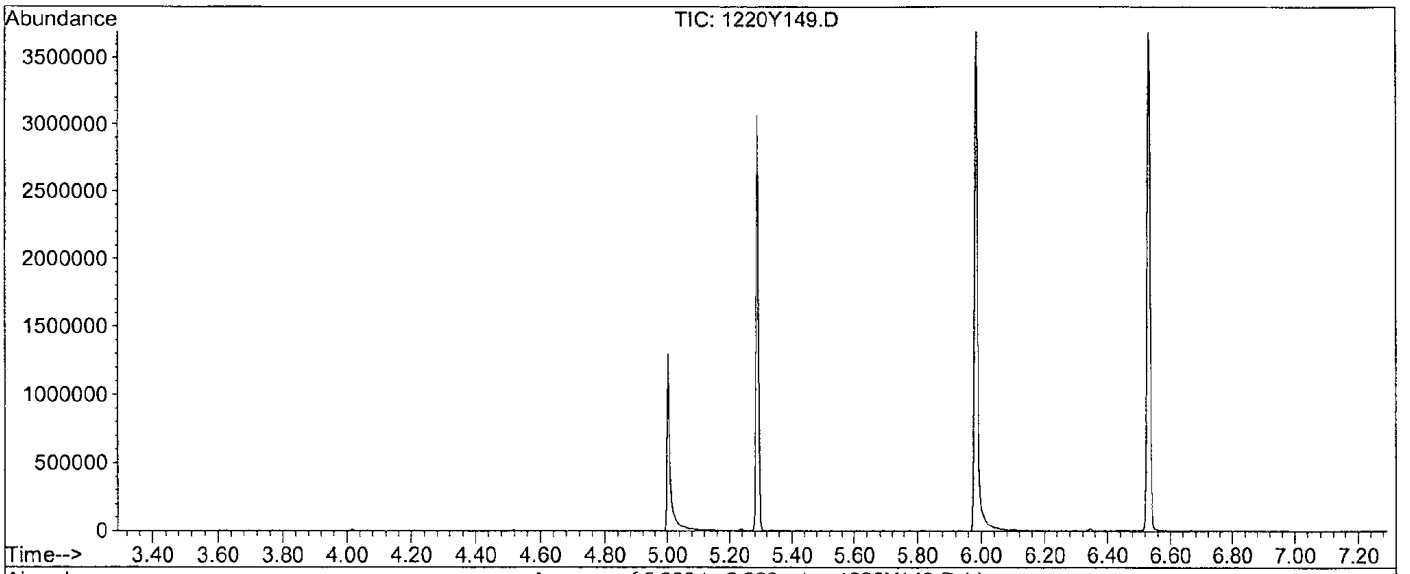
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.5	107921	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	105533	PASS
70	69	0.00	2	0.5	523	PASS
127	198	40	60	55.8	135376	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	242773	PASS
199	198	5	9	6.3	15412	PASS
275	198	10	30	25.5	61848	PASS
365	198	1	100	4.2	10300	PASS
441	443	0.01	100	86.3	46651	PASS
442	198	40	150	116.1	281963	PASS
443	442	17	23	19.2	54053	PASS

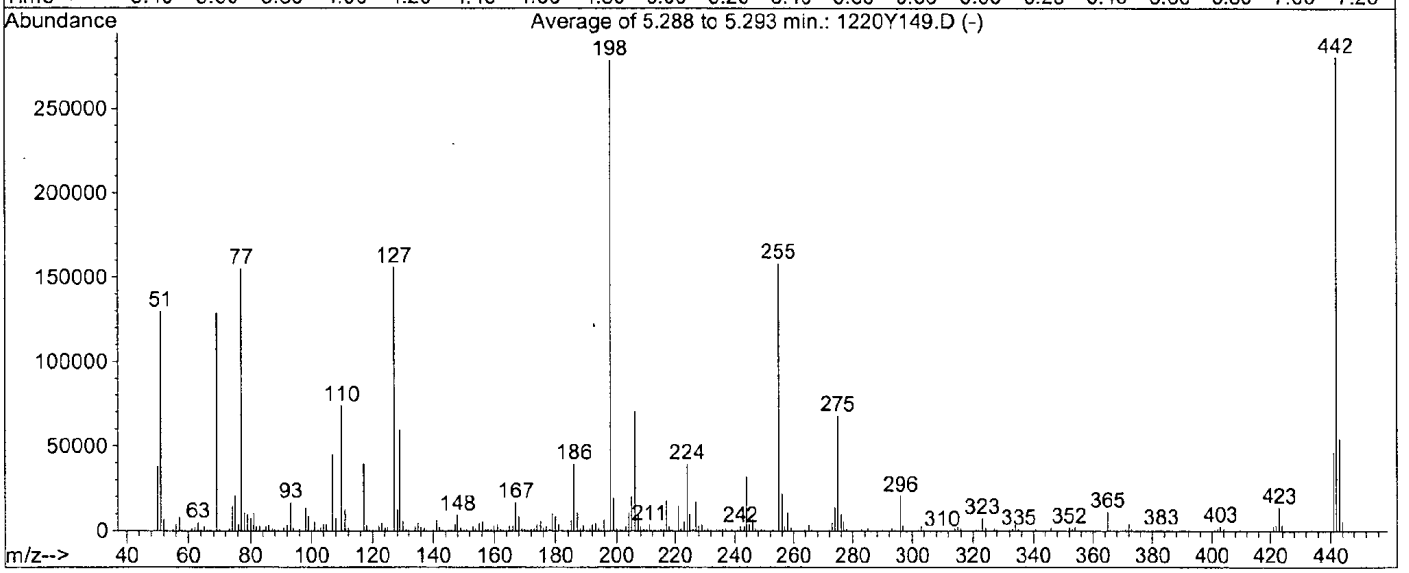
1220Y134.D DFTPP2.M Thu Mar 16 14:03:20 2017

DFTPP

Data File : M:\YODA\DATA\Y161220G\1220Y149.D Vial: 49
Acq On : 13 Mar 17 17:54 Operator: MA
Sample : SV Tune 02/09/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y161220G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 681, 682, 683; Background Corrected with Scan 673

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	46.5	129784	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	659	PASS
127	198	40	60	55.9	155925	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	278912	PASS
199	198	5	9	6.9	19208	PASS
275	198	10	30	24.4	67931	PASS
365	198	1	100	4.0	11054	PASS
441	443	0.01	100	86.0	46427	PASS
442	198	50	150	100.7	280981	PASS
443	442	17	23	19.2	54005	PASS

1220Y149.D YOGLYCOL.M Thu Mar 16 14:01:54 2017

GED Curve

PREP DATE:	12/20/16 RH												
8270 Standard Curve													
Exp:	2/11/17					**50**	**100**	**200**	**400**	**500**	**600**	**800**	**1000**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
	GED MSTD St	2000	VAR	12/19/16	11/18/17	5	5	10	20	50	30	40	50
EM Science	Methanol		010616			195	95	90	80	150	70	60	50
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4	2	2	2	4	2	2	2
				Final Vol.		204	102	102	102	204	102	102	102

GED Second Source (SS)

PREP DATE:	12/20/16 RH					**500**
Exp:	1/18/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Sto	2000	VAR	12/19/16	10/27/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	A14020V-3660	11/09/16	11/09/17	4
				Final Vol.		204

Diethylene Glycol						
Prep: 11/18/16 -GA Ex: 11/18/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37091 and 37092 Op: 11/18/16 EX: 11/1817	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 10/27/16. Final concentration is 2000ug/ml

GED CCV						
PREP DATE:	2/14/17 MA					
8270 Standard Curve						
Exp:	5/14/17					**500**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSTD Std	2000	VAR	12/19/16	11/18/17	50
EM Science	Methanol		010616			150
Supelco	SV Internal	2000	XA14020V-36609	11/09/16	11/09/17	4
				Final Vol.		204

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	03/10/17 13:15
Spiked ID 8			Ext. End Time:	03/11/17 11:00
			GC Requires Extract By:	03/13/17 0:00
			pH1	
			pH2	
			pH3	

Water Bath Temp Criteria

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170310A Blk				NA	NA equip	500	2	7	03/10/17 13:15	
2	170310A LCS-1		0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	
3	AZ51053	AZ51053W07			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
4	AZ51054	AZ51054W11			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
5	AZ51056	AZ51056W12			NA	NA equip	500	2	7	03/10/17 13:15	82337 1 WEEK
6	AZ51132 MS-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
7	AZ51132 MSD-1	AZ51132W28	0.040	1	NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
8	AZ51132	AZ51132W22			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
9	AZ51133	AZ51133W08			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
10	AZ51135	AZ51135W26			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
11	AZ51136	AZ51136W13			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
12	AZ51139	AZ51139W14			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
13	AZ51141	AZ51141W09			NA	NA equip	500	2	7	03/10/17 13:15	82351 5 DAYS
14	AZ51357	AZ51357W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
15	AZ51359	AZ51359W12			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
16	AZ51360	AZ51360W07			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	DP
Date	3/13/17
Time	8:30
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: CFM **Date** 3/11/17

355

03/11/17 11:43:32 AM Ext_ID 54243

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170310A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 11/18/16 exp 11/18/17		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 exp 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	03/10/17 13:15	
Spiked ID 8			Ext. End Time:	03/11/17 11:00	
			GC Requires Extract By:	03/13/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 03/10/17 **Witnessed By:** CFM **Date** 03/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ51362	AZ51362W10			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
18	AZ51364	AZ51364W09			NA	NA equip	500	2	7	03/10/17 13:15	82369 5 DAYS
19	AZ51530	AZ51530W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
20	AZ51533	AZ51533W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
21	AZ51535	AZ51535W11			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
22	AZ51536	AZ51536W09			NA	NA equip	500	2	7	03/11/17 8:30	82389 5 DAYS
23	ss		0.087	2	NA	NA equip	500	2	7	03/10/17 13:15	

CFM 3/11/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	6757104
PH Strip	HC 574756
Di Water	3-10-17
Dichloromethane	56258
Methanol	080816A

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY
Concentration	----------

Modified	03/11/17 11:19:57 AM

Reviewed By: CFM 356 **Date** 3/11/17

Injection Log

Directory: M:\YODA\DATA\Y161220G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	1220Y002.D	1	SV Tune 11/15/16		20 Dec 16 9:12
3	1220Y003.D	1	50ug/ml DEG 12/20/16		20 Dec 16 9:32
4	1220Y004.D	1	100ug/ml DEG 12/20/16		20 Dec 16 10:02
5	1220Y005.D	1	200ug/ml DEG 12/20/16		20 Dec 16 11:27
6	1220Y006.D	1	400ug/ml DEG 12/20/16		20 Dec 16 11:57
7	1220Y007.D	1	500ug/ml DEG 12/20/16		20 Dec 16 12:27
8	1220Y008.D	1	600ug/ml DEG 12/20/16		20 Dec 16 12:57
9	1220Y009.D	1	800ug/ml DEG 12/20/16		20 Dec 16 13:28
10	1220Y010.D	1	1000ug/ml DEG 12/20/16		20 Dec 16 13:58
11	1220Y011.D	1	SS2 DEG 12/20/16		20 Dec 16 15:01
34	1220Y134.D	1	SV Tune 02/09/17	water	13 Mar 17 9:46
35	1220Y135.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 10:03
36	1220Y136.D	1	170310A BLK 2/500	water	13 Mar 17 10:34
37	1220Y137.D	1	170310A LCS-1 2/500	water	13 Mar 17 11:04
49	1220Y149.D	1	SV Tune 02/09/17	water	13 Mar 17 17:54
50	1220Y150.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 18:11
56	1220Y156.D	1	AZ51530W11 2/500	water	13 Mar 17 21:14
57	1220Y157.D	1	AZ51533W11 2/500	water	13 Mar 17 21:44
58	1220Y158.D	1	AZ51535W11 2/500	water	13 Mar 17 22:14
59	1220Y159.D	1	AZ51536W09 2/500	water	13 Mar 17 22:44
50	1220Y162.D	1	500ug/ml DEG 02/14/17	water	13 Mar 17 23:57

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216811**
Batch ID: #86BTO-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	03/11/17	03/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.9	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 11:12:37 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82389

Case No: 82389 Date Analyzed: 03/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	81-118	99.6		85-114	98.4	
170311AM-BLK	Blank	81-118	101		85-114	98.9	
AZ51528	ERH273	81-118	99.3		85-114	95.5	
AZ51529	ERH274	81-118	96.8		85-114	97.0	
AZ51530	ERH275	81-118	102		85-114	100	
AZ51531	ERH276	81-118	101		85-114	95.6	
AZ51532	ERH277	81-118	99.2		85-114	98.0	
AZ51533	ERH278	81-118	101		85-114	96.0	
AZ51534	ERH285	81-118	101		85-114	97.4	
AZ51535	ERH286	81-118	102		85-114	98.4	
AZ51536	ERH282	81-118	102		85-114	94.5	

Comments: Batch: #86BTO-170311AM

Printed: 03/17/17 11:12:42 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82389

Case No: 82389 Date Analyzed: 03/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	80-119	99.2		89-112	98.8	
170311AM-BLK	Blank	80-119	104		89-112	97.9	
AZ51528	ERH273	80-119	97.6		89-112	96.4	
AZ51529	ERH274	80-119	97.6		89-112	98.0	
AZ51530	ERH275	80-119	106		89-112	99.8	
AZ51531	ERH276	80-119	101		89-112	97.8	
AZ51532	ERH277	80-119	104		89-112	99.2	
AZ51533	ERH278	80-119	102		89-112	101	
AZ51534	ERH285	80-119	103		89-112	97.9	
AZ51535	ERH286	80-119	105		89-112	97.8	
AZ51536	ERH282	80-119	103		89-112	97.5	

Comments: Batch: #86BTO-170311AM

Printed: 03/17/17 11:12:42 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170311W-51356 LCS - 216811**
Batch ID: #86BTO-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.56	95.6	79-120
ETHYLBENZENE	10.00	9.88	98.8	79-121
TOLUENE	10.00	9.60	96.0	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M03
Initials :	SV

Printed: 03/17/17 11:12:47 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82389
Case No: 82389
Date Analyzed: 03/11/17
Matrix: WATER
Instrument: Max
Blank ID: 170311AM-BLK
Time Analyzed: 1404

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311AM-LCS	Lab Control Spike	0311M03	03/11/17 1113
170311AM-BLK	Blank	0311M09	03/11/17 1404
AZ51528	ERH273	0311M10	03/11/17 1432
AZ51529	ERH274	0311M11	03/11/17 1500
AZ51530	ERH275	0311M12	03/11/17 1529
AZ51531	ERH276	0311M13	03/11/17 1557
AZ51532	ERH277	0311M14	03/11/17 1626
AZ51533	ERH278	0311M15	03/11/17 1654
AZ51534	ERH285	0311M16	03/11/17 1722
AZ51535	ERH286	0311M17	03/11/17 1751
AZ51536	ERH282	0311M18	03/11/17 1819

Comments: Batch: #86BTO-170311AM

Printed: 03/17/17 11:12:54 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~0308M01.D~~ 82389
Matrix: Water np 3-3017
ID: 25ug/ml BFB STD 3/02/17

SDG No: np 3-3017 ~~Max~~ 82389
Date Analyzed: 03/08/17
Instrument: Max
Time Analyzed: 11:09

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 3/8/	0308M05.D	03/08/17 12:58
2		0.5ug/L VOC STD 3/8/	0308M06.D	03/08/17 13:26
3		1.0ug/L VOC STD 3/8/	0308M07.D	03/08/17 13:54
4		2.0ug/L VOC STD 3/8/	0308M08.D	03/08/17 14:23
5		5.0ug/L VOC STD 3/8/	0308M09.D	03/08/17 14:51
6		10ug/L VOC STD 3/8/1	0308M10.D	03/08/17 15:20
7		20ug/L VOC STD 3/8/1	0308M11.D	03/08/17 15:48
8		40ug/L VOC STD 3/8/1	0308M12.D	03/08/17 16:16
9		100ug/L VOC STD 3/8/	0308M13.D	03/08/17 16:45
10		(SS)10ug/L VOC STD 3	0308M18.D	03/08/17 19:07
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.3
75	30 - 60% of mass 95	48.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.9
173	0 - 2% of mass 174	0.5
174	50 - 100% of mass 95	90.6
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	97.3
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82389
Matrix: Water
ID: 25ug/ml BFB STD 3/02/17

SDG No: 82389
Date Analyzed: 03/11/17
Instrument: Max
Time Analyzed: 9:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170311A CCV-1WM 10ug	0311M02.D	03/11/17 10:45
2	Lab Control Spike	170311A LCS-1WM 10ug	0311M03.D	03/11/17 11:13
3	Blank	170311A BLK-1WM	0311M09.D	03/11/17 14:04
4	ERH273	AZ51528W01	0311M10.D	03/11/17 14:32
5	ERH274	AZ51529W01	0311M11.D	03/11/17 15:00
6	ERH275	AZ51530W01	0311M12.D	03/11/17 15:29
7	ERH276	AZ51531W01	0311M13.D	03/11/17 15:57
8	ERH277	AZ51532W01	0311M14.D	03/11/17 16:26
9	ERH278	AZ51533W01	0311M15.D	03/11/17 16:54
10	ERH285	AZ51534W01	0311M16.D	03/11/17 17:22
11	ERH286	AZ51535W01	0311M17.D	03/11/17 17:51
12	ERH282	AZ51536W01	0311M18.D	03/11/17 18:19
13		Ending CCV 8260 10ug	0311M21.D	03/12/17 10:08
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.2
75	30 - 60% of mass 95	46.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.0
173	0 - 2% of mass 174	0.0
174	50 - 100% of mass 95	80.7
175	5 - 9% of mass 174	7.5
176	95.06 - 101% of mass 174	99.2
177	5 - 9% of mass 176	7.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82389

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.50	223972	9.14	113358	12.33
	UPPER LIMIT	646884	6.00	447944	9.64	226716	12.83
	LOWER LIMIT	161721	5.00	111986	8.64	56679	11.83
	SAMPLE NO.						
01	0.3ug/L VOC STD 3/8/1	333509	5.50	228786	9.14	107543	12.34
02	0.5ug/L VOC STD 3/8/1	330142	5.50	227716	9.14	108357	12.34
03	1.0ug/L VOC STD 3/8/1	316306	5.50	218870	9.14	101680	12.34
04	2.0ug/L VOC STD 3/8/1	336929	5.50	233004	9.14	110290	12.34
05	5.0ug/L VOC STD 3/8/1	332119	5.50	232193	9.14	113655	12.34
06	10ug/L VOC STD 3/8/17	323442	5.50	223972	9.14	113358	12.33
07	20ug/L VOC STD 3/8/17	338322	5.50	240108	9.14	121987	12.34
08	40ug/L VOC STD 3/8/17	333260	5.50	237561	9.14	121734	12.34
09	100ug/L VOC STD 3/8/1	321225	5.50	235883	9.14	126041	12.34
10	(SS)10ug/L VOC STD 3/	332241	5.50	230391	9.14	113881	12.34
11	170311A CCV-1WM 10u	306357	5.50	210384	9.14	105548	12.34
12	170311A LCS-1WM 10u	303692	5.50	213241	9.14	108532	12.34
13	170311A BLK-1WM	300047	5.51	212426	9.14	101351	12.34
14	AZ51528W01	295531	5.51	206358	9.14	97487	12.34
15	AZ51529W01	298557	5.50	209712	9.14	100028	12.34
16	AZ51530W01	281599	5.50	202919	9.14	94922	12.34
17	AZ51531W01	288129	5.51	204820	9.14	97814	12.34
18	AZ51532W01	292079	5.51	207879	9.14	98484	12.34
19	AZ51533W01	285902	5.51	201378	9.14	94508	12.34
20	AZ51534W01	286951	5.51	205194	9.14	96336	12.34
21	AZ51535W01	290743	5.51	209263	9.14	96744	12.34
22	AZ51536W01	290600	5.51	206980	9.14	97483	12.34

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82389

Lab File ID (Standard): 0308M10.D Date Analyzed: 8 Mar 17 15:20

Instrument ID: Max Time Analyzed: 8 Mar 17 15:20

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	323442	5.5004	223972	9.1361	113358	12.332
	UPPER LIMIT	646884	6.0004	447944	9.6361	226716	12.832
	LOWER LIMIT	161721	5.0004	111986	8.6361	56679	11.832
	SAMPLE NO.						
23	Ending CCV 8260 10ug/	316196	5.52	214445	9.14	103988	12.34
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH273
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51528
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.3	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	97.6	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	96.4	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M10
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M10.D
Acq On : 11 Mar 17 14:32
Sample : AZ51528W01
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:42 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	295531	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	206358	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97487	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	71018	24.39149 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.564%	
37) 1,2-DCA-D4(S)	5.12	65	57664	24.83585 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.344%	
57) Toluene-D8(S)	7.34	98	288716	24.09566 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.384%	
65) 4-Bromofluorobenzene(S)	10.73	95	94573	23.87679 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.508%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

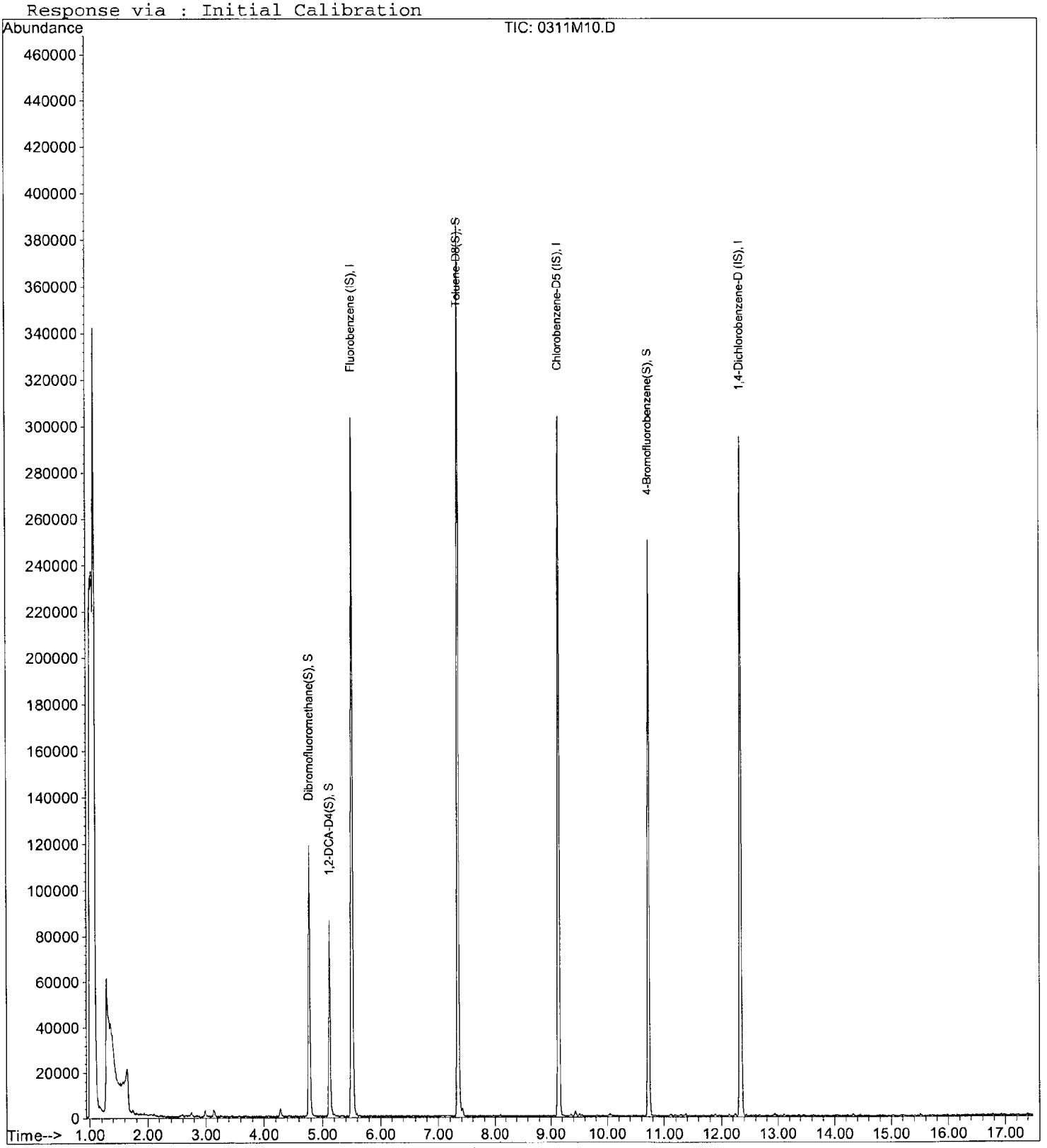
Data File : M:\MAX\DATA\M170308\0311M10.D
Acq On : 11 Mar 17 14:32
Sample : AZ51528W01
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:42 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH274
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51529
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	96.8	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.0	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	97.6	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	98.0	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M11
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M11.D Vial: 11
Acq On : 11 Mar 17 15:00 Operator: PM,DG,SV,CMM
Sample : AZ51529W01 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 13 11:42 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	298557	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	209712	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	100028	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	71743	24.39075 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.564%	
37) 1,2-DCA-D4(S)	5.13	65	56757	24.19745 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.788%	
57) Toluene-D8(S)	7.34	98	298410	24.50639 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.024%	
65) 4-Bromofluorobenzene(S)	10.73	95	97609	24.24916 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.996%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

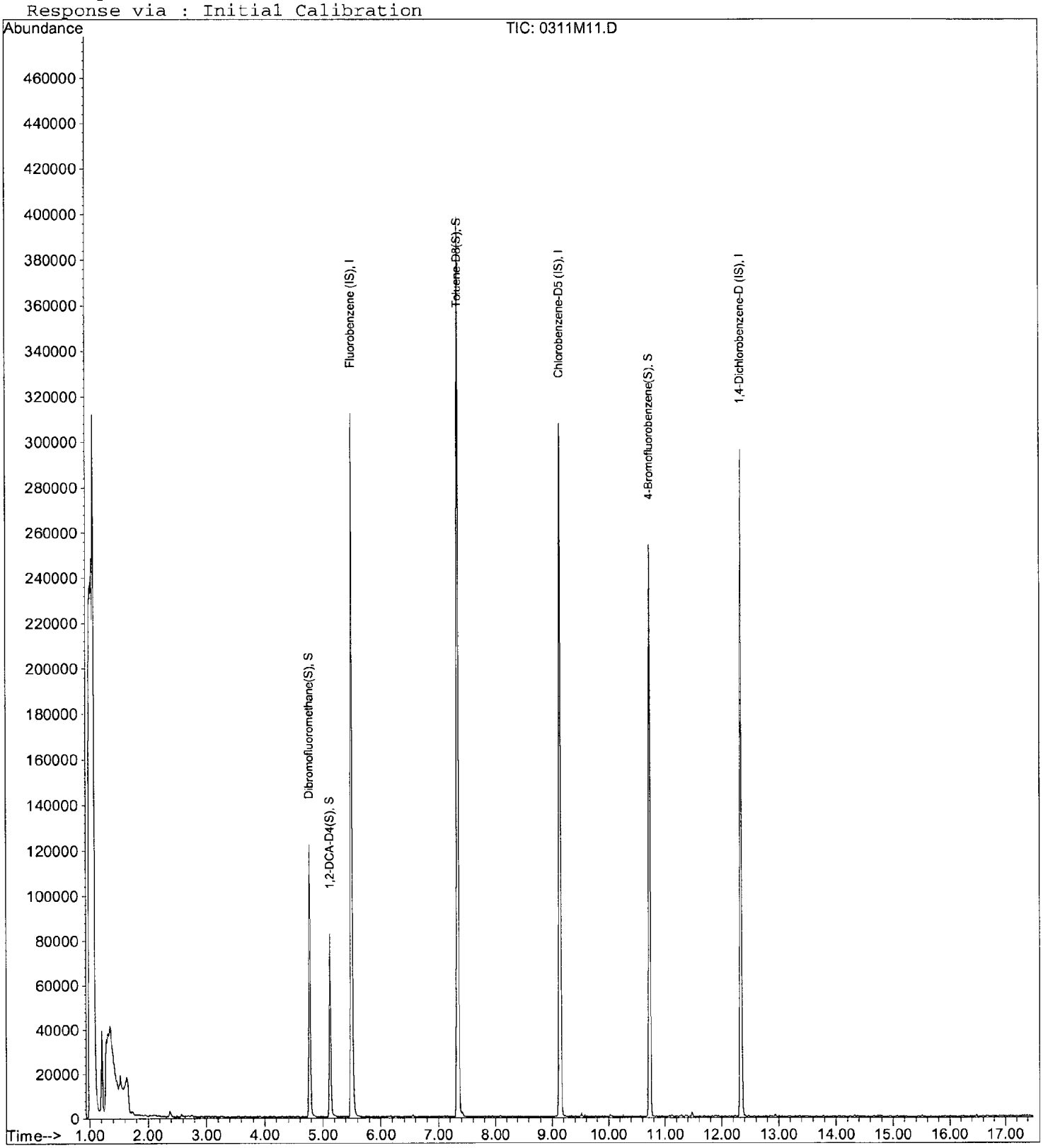
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M11.D
Acq On : 11 Mar 17 15:00
Sample : AZ51529W01
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:42 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82389

Sample ID: ERH275

APPL ID: AZ51530

Sample Collection Date: 03/08/17

QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.8	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M12
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M12.D
Acq On : 11 Mar 17 15:29
Sample : AZ51530W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:42 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	281599	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202919	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	94922	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	73313	26.42547 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.700%	
37) 1,2-DCA-D4(S)	5.12	65	56302	25.44896 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.796%	
57) Toluene-D8(S)	7.34	98	293972	24.95011 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.800%	
65) 4-Bromofluorobenzene(S)	10.73	95	97802	25.11049 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.440%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

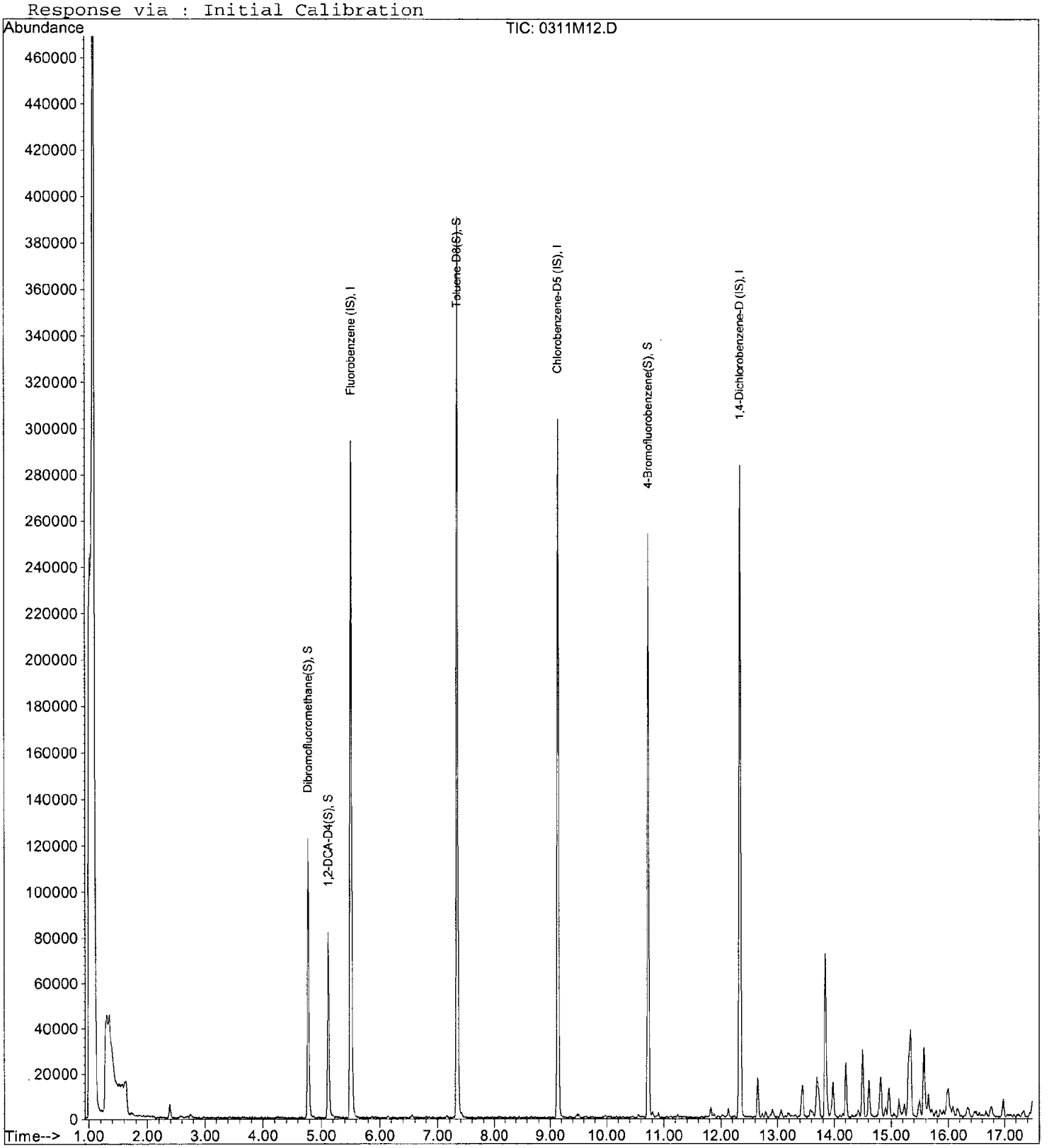
Data File : M:\MAX\DATA\M170308\0311M12.D
Acq On : 11 Mar 17 15:29
Sample : AZ51530W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:42 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH276
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51531
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.6	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.8	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M13
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M13.D
Acq On : 11 Mar 17 15:57
Sample : AZ51531W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:43 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	288129	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	204820	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97814	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	71987	25.35946 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.436%	
37) 1,2-DCA-D4(S)	5.12	65	56998	25.17967 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.720%	
57) Toluene-D8(S)	7.34	98	290747	24.44737 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.788%	
65) 4-Bromofluorobenzene(S)	10.73	95	93934	23.89355 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.576%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

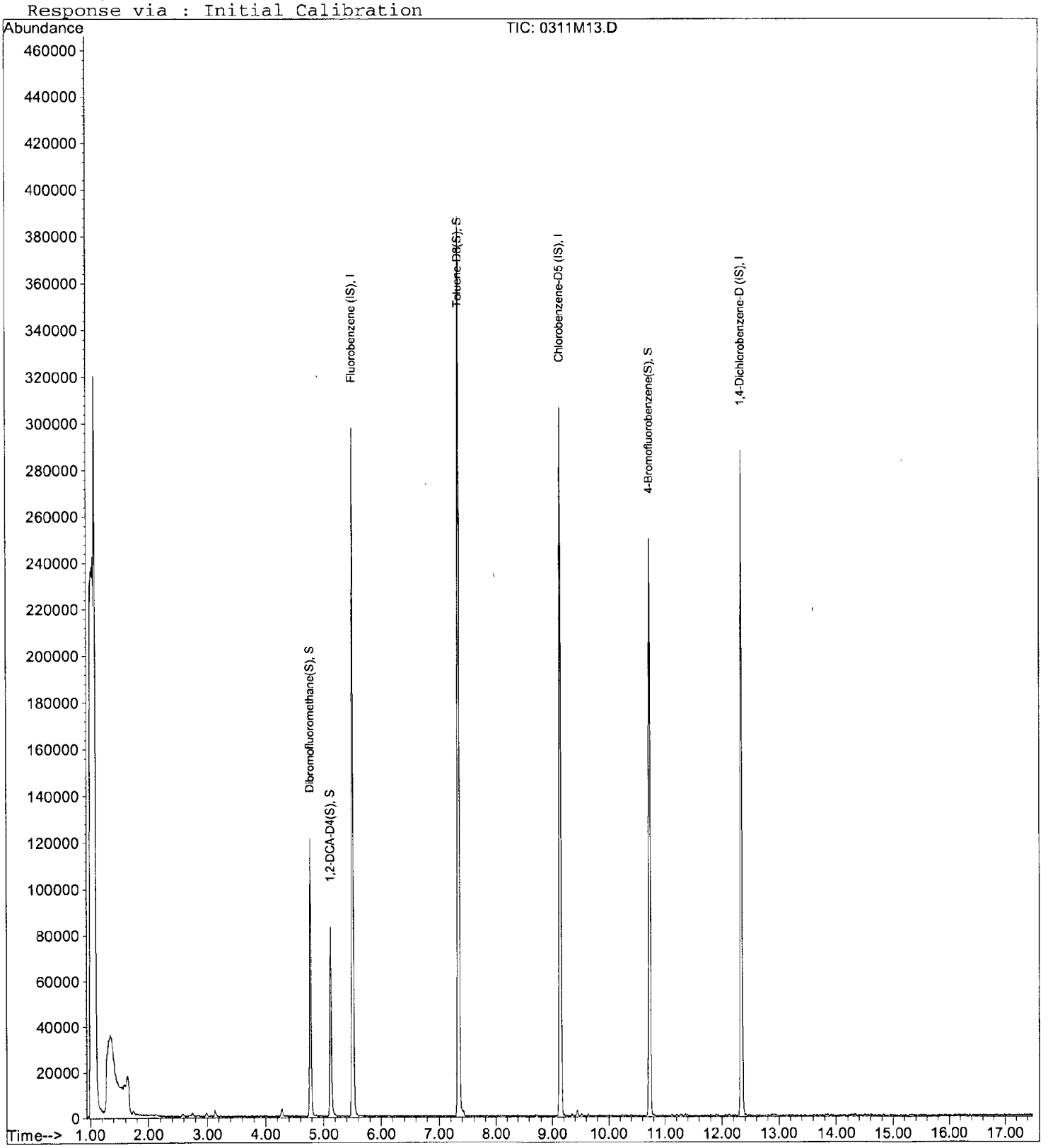
Data File : M:\MAX\DATA\M170308\0311M13.D
Acq On : 11 Mar 17 15:57
Sample : AZ51531W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:43 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH277
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51532
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.2	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.0	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	99.2	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M14
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M14.D
Acq On : 11 Mar 17 16:26
Sample : AZ51532W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:43 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	292079	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	207879	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	98484	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74498	25.88911 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.556%	
37) 1,2-DCA-D4(S)	5.12	65	56932	24.81038 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.240%	
57) Toluene-D8(S)	7.34	98	299205	24.78834 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.152%	
65) 4-Bromofluorobenzene(S)	10.73	95	97745	24.49707 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.988%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

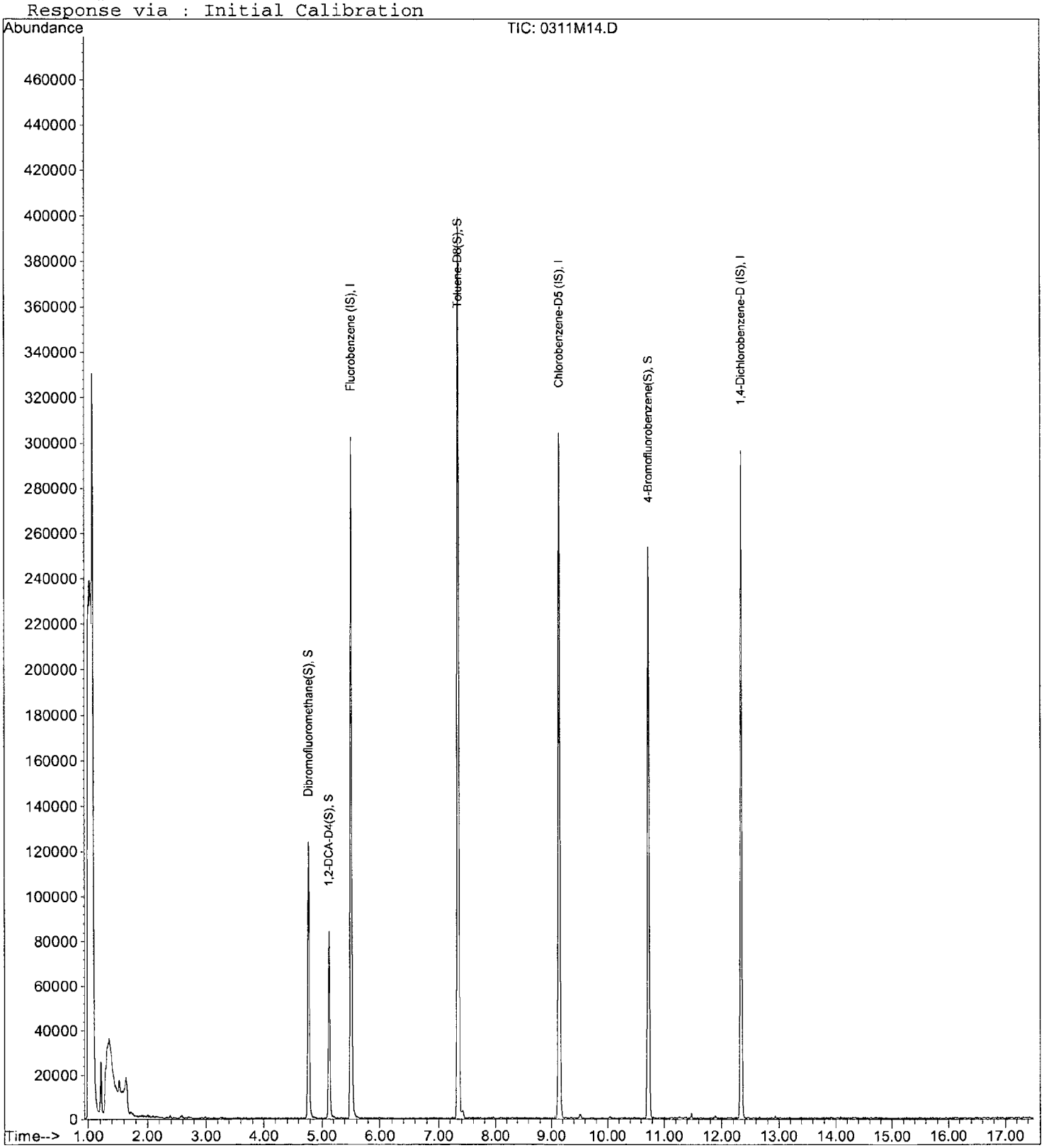
Data File : M:\MAX\DATA\M170308\0311M14.D
Acq On : 11 Mar 17 16:26
Sample : AZ51532W01
Misc : IS&S 02/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:43 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.0	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M15.D
Acq On : 11 Mar 17 16:54
Sample : AZ51533W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	285902	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	201378	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	94508	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	71523	25.39226 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.568%	
37) 1,2-DCA-D4(S)	5.12	65	56903	25.33351 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.336%	
57) Toluene-D8(S)	7.34	98	296401	25.34877 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.396%	
65) 4-Bromofluorobenzene(S)	10.73	95	92805	24.00985 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.040%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

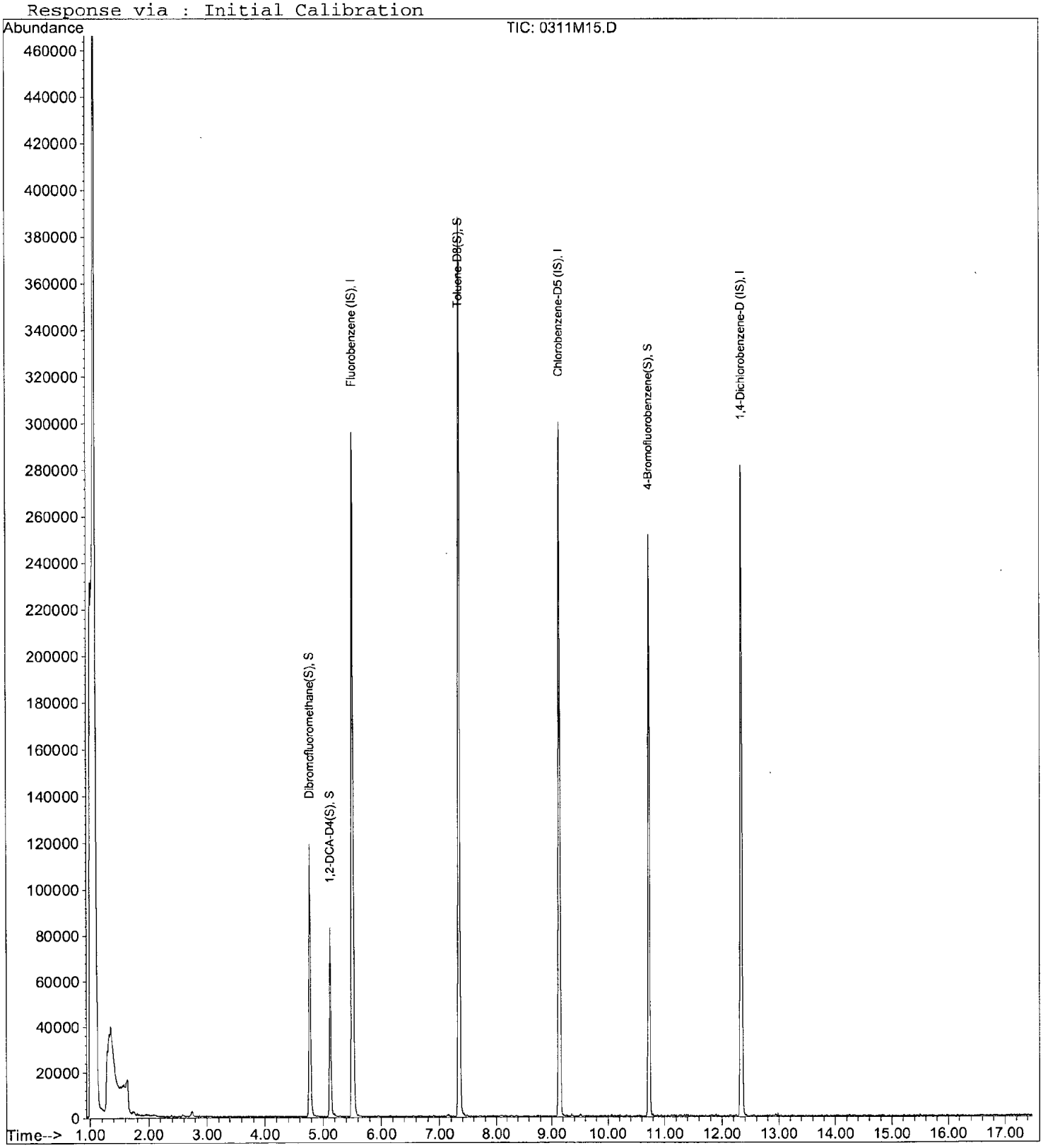
Data File : M:\MAX\DATA\M170308\0311M15.D
Acq On : 11 Mar 17 16:54
Sample : AZ51533W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH285
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51534
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.4	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.9	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M16
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M16.D
Acq On : 11 Mar 17 17:22
Sample : AZ51534W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	286951	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	205194	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	96336	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	73111	25.86115 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.444%	
37) 1,2-DCA-D4(S)	5.12	65	57039	25.30122 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.204%	
57) Toluene-D8(S)	7.34	98	291528	24.46836 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.872%	
65) 4-Bromofluorobenzene(S)	10.73	95	95911	24.35196 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.408%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

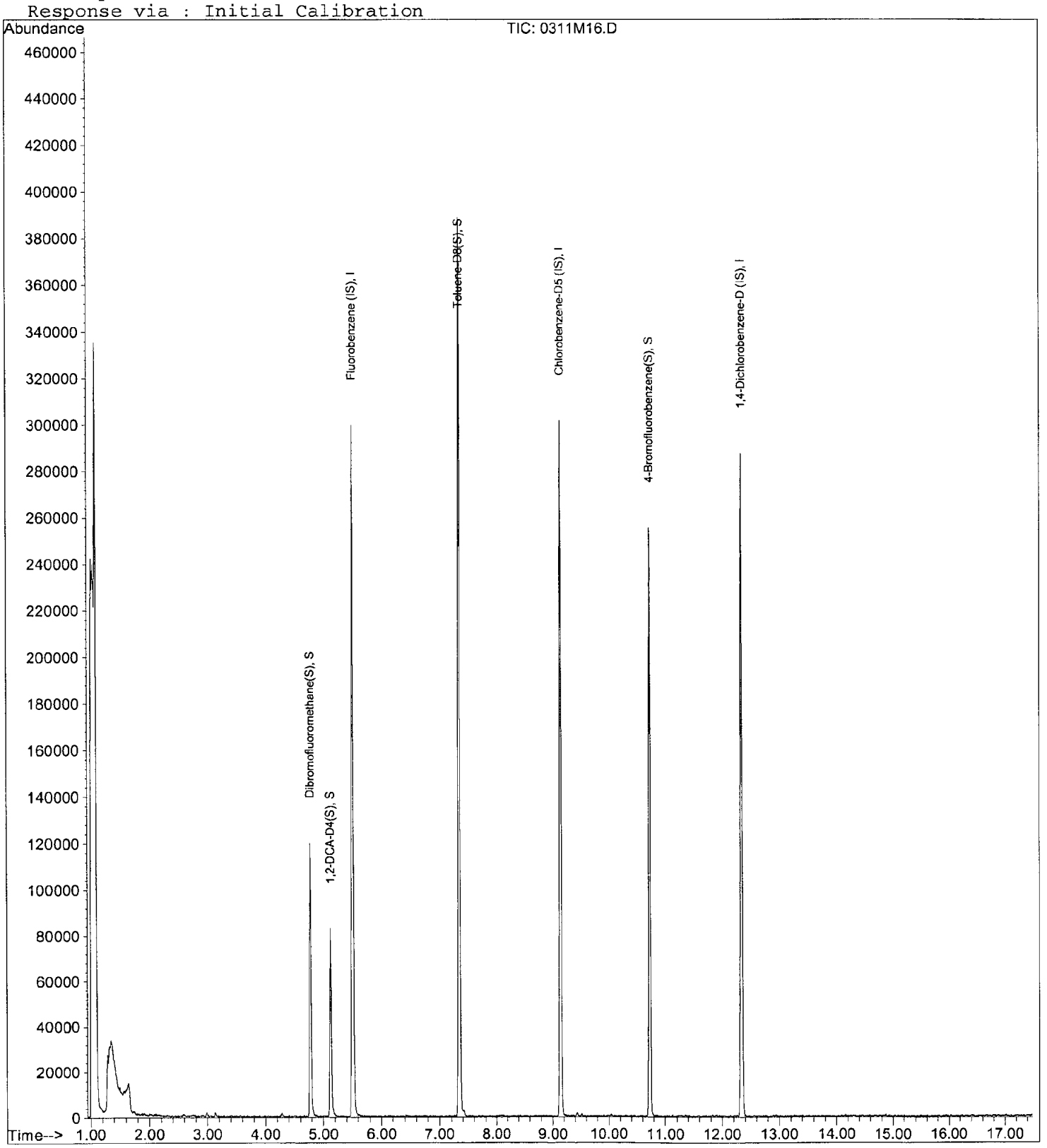
Data File : M:\MAX\DATA\M170308\0311M16.D
Acq On : 11 Mar 17 17:22
Sample : AZ51534W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.4	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.8	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M17.D
Acq On : 11 Mar 17 17:51
Sample : AZ51535W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	290743	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	209263	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	96744	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74882	26.14213 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.568%	
37) 1,2-DCA-D4(S)	5.12	65	58061	25.41866 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.676%	
57) Toluene-D8(S)	7.34	98	296941	24.43807 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.752%	
65) 4-Bromofluorobenzene(S)	10.73	95	98808	24.59970 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.400%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

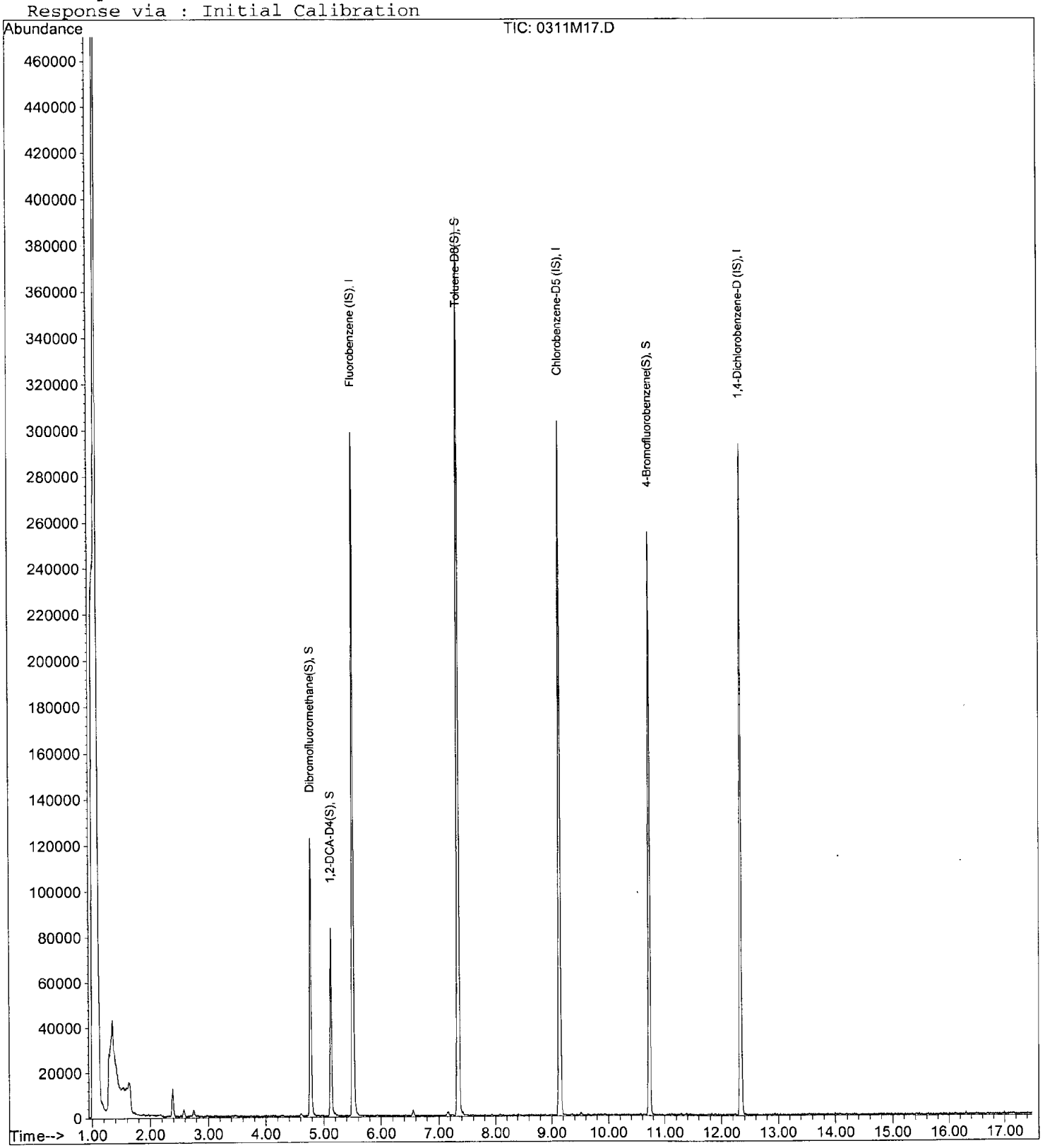
Data File : M:\MAX\DATA\M170308\0311M17.D
Acq On : 11 Mar 17 17:51
Sample : AZ51535W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:44 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82389

Sample ID: ERH282

APPL ID: AZ51536

Sample Collection Date: 03/08/17

QCG: #86BTO-170311AM-216811

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.5	85-114			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	03/11/17	03/11/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	97.5	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M18
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:12:59 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M18.D
Acq On : 11 Mar 17 18:19
Sample : AZ51536W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:45 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	290600	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	206980	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	97483	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	73797	25.77603 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.104%	
37) 1,2-DCA-D4(S)	5.12	65	58003	25.40576 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.624%	
57) Toluene-D8(S)	7.34	98	292919	24.37297 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.492%	
65) 4-Bromofluorobenzene(S)	10.73	95	93870	23.62809 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.512%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

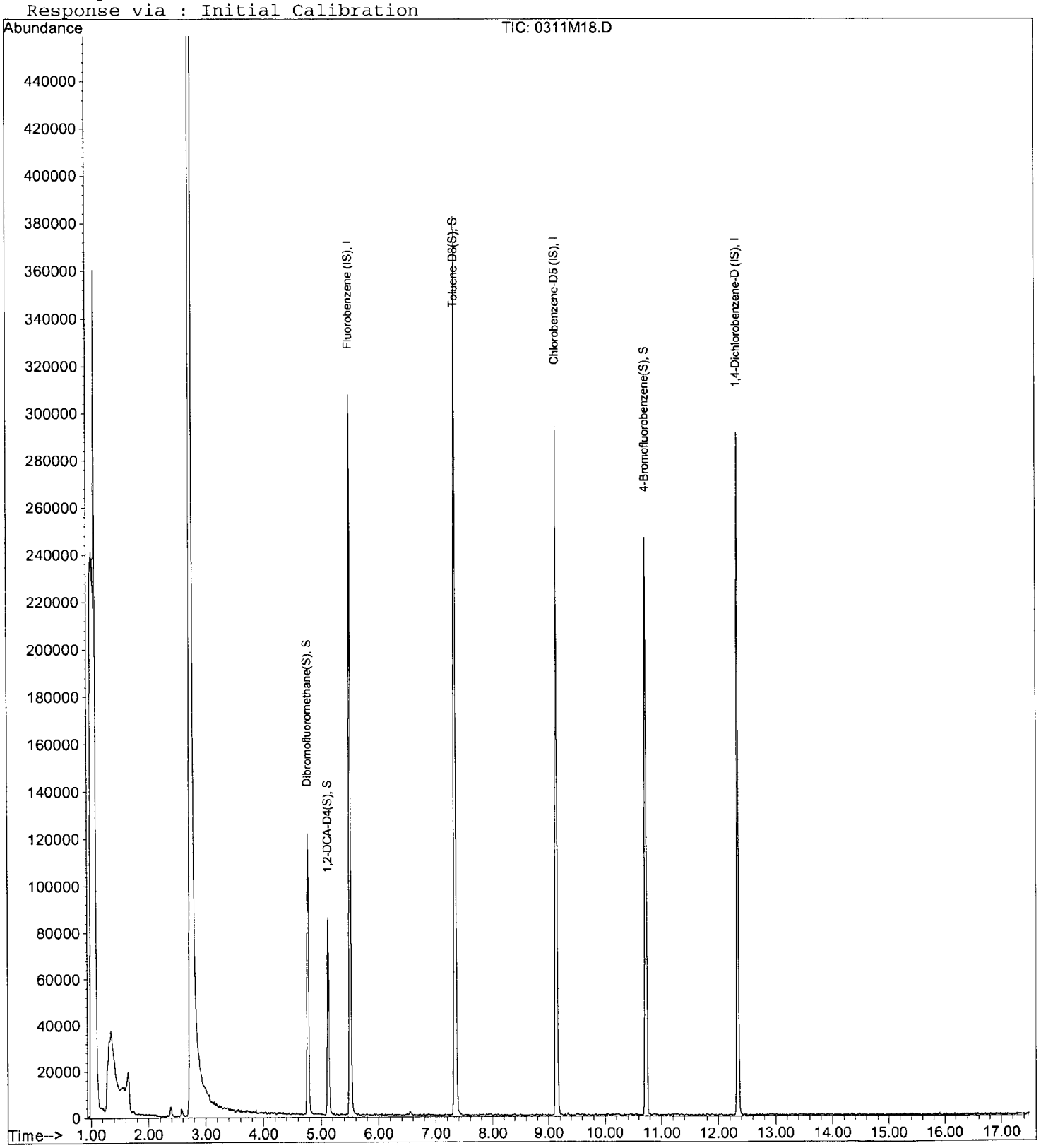
Data File : M:\MAX\DATA\M170308\0311M18.D
Acq On : 11 Mar 17 18:19
Sample : AZ51536W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:45 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	0308M05.D 1	0308M06.D 2	0308M07.D 3	0308M08.D 4	0308M09.D 5	0308M10.D 6	0308M11.D 7	0308M12.D 8	0308M13.D 9		Avg	%RSD		
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.2744	0.2878	0.2645	0.2965	0.2979	0.3049	0.3003	0.3165		0.29	5.7	TM	
3	TM	Freon 114		0.4188	0.3802	0.4212	0.3968	0.4124	0.3881	0.4302	0.4375		0.41	5.0	TM	
4	TM**	Chloromethane		0.4256	0.4378	0.4038	0.4142	0.4230	0.4029	0.4063	0.4390		0.42	3.5	TM**	
5	TM*	Vinyl chloride		0.6090	0.5726	0.5330	0.6094	0.6125	0.5996	0.6032	0.6236		0.60	4.9	TM*	
6	TM	Bromomethane		0.4498	0.4294	0.3618	0.3692	0.3535	0.4171	0.4518	0.4590		0.41	11	TM	
7	TM	Chloroethane		0.3550	0.3445	0.3126	0.3696	0.3623	0.3454	0.3524			0.35	5.2	TM	
8	TM	Dichlorofluoromethane		0.8837	0.9336	0.8582	0.9014	0.9402	0.9002	0.9362	1.013		0.92	5.1	TM	
9	TM	Trichlorofluoromethane		0.6874	0.7107	0.6874	0.7259	0.7465	0.7356	0.7560	0.8058		0.73	5.3	TM	
10	TM	Acrolein	0.0226	0.0212	0.0216	0.0209	0.0218	0.0230	0.0229	0.0232	0.0237		0.02	4.3	TM	
11	TML	Acetone			0.0224	0.0183	0.0102	0.0122	0.0094	0.0094	0.0091		0.01	40	TML	0.999
12	TM	Freon-113		0.3835	0.4580	0.4093	0.4240	0.4273	0.4075	0.4432	0.4429		0.42	5.6	TM	
13	TM*	1,1-DCE		0.6038	0.6917	0.6350	0.6662	0.6837	0.6509	0.6872	0.7042		0.67	5.1	TM*	
14	TM	Acetonitrile		0.0192	0.0191	0.0196	0.0199	0.0207	0.0208	0.0212	0.0235		0.02	7.1	TM	
15	TM	t-Butanol	0.0084	0.0065	0.0061	0.0080	0.0072	0.0074	0.0083	0.0087			0.01	12	TM	
16	TM	Methyl Acetate		0.1430	0.1423	0.1334	0.1448	0.1356	0.1492	0.1557	0.1623		0.15	6.7	TM	
17	TML	Iodomethane		0.2096	0.2478	0.2817	0.4500	0.5371	0.5556	0.5911			0.41	39	TML	0.999
18	TM	Acrylonitrile		0.0530	0.0599	0.0633	0.0739	0.0726	0.0698	0.0732	0.0760		0.07	12	TM	
19	TM	Methylene chloride		0.5048	0.4895	0.4084	0.4391	0.4385	0.4192	0.4231	0.4342		0.44	7.7	TM	
20	TM	Carbon disulfide		1.326	1.382	1.234	1.355	1.391	1.339	1.383	1.462		1.4	4.8	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.7247	0.6909	0.6542	0.7461	0.7536	0.7299	0.7441	0.7761		0.73	5.3	TM	
22	TM	Trans-1,2-DCE		0.5246	0.4628	0.4867	0.5072	0.5314	0.4987	0.5061	0.5262		0.51	4.5	TM	
23	TM	Diisopropyl Ether		1.148	1.209	1.128	1.265	1.287	1.233	1.286	1.374		1.2	6.4	TM	
24	TM**	1,1-DCA		0.7550	0.8387	0.7566	0.8322	0.8297	0.8065	0.8216	0.8652		0.81	4.8	TM**	
25	TM	Vinyl Acetate		0.1976	0.2364	0.1839	0.2067	0.2166	0.2491				0.22	11	TM	
26	TM	Ethyl tert Butyl Ether		0.8137	0.7894	0.7450	0.8160	0.8427	0.8398	0.9050	0.9773		0.84	8.5	TM	
27	TML	MEK (2-Butanone)		0.1439	0.1340	0.0784	0.1257	0.1174	0.1047	0.0964	0.0965		0.11	20	TML	0.999
28	TM	Cis-1,2-DCE		0.4416	0.5323	0.5095	0.5459	0.5442	0.5138	0.5225	0.5469		0.52	6.7	TM	
29	TM	2,2-Dichloropropane		0.4389	0.4788	0.4320	0.4841	0.5278	0.5461	0.6026			0.50	12	TM	
30	TM*	Chloroform	0.7993	0.8306	0.7646	0.7467	0.8359	0.8252	0.8025	0.8094	0.8527		0.81	4.2	TM*	
31	TM	Bromochloromethane		0.1752	0.1996	0.1891	0.2052	0.2101	0.1980	0.2018	0.2119		0.20	6.0	TM	
32	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
33	TM	1,1,1-TCA		0.6662	0.6475	0.6071	0.6893	0.7078	0.7117	0.7698	0.8339		0.70	10	TM	
34	TM	Cyclohexane		0.4263	0.4257	0.4111	0.4171	0.4299	0.4086	0.4274	0.4445		0.42	2.7	TM	
35	TM	1,1-Dichloropropene	0.6412	0.6541	0.6477	0.6150	0.6739	0.6882	0.6549	0.6701	0.6979		0.66	3.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane	1.129	1.159	1.159	1.084	1.139	1.144	1.078	1.140	1.190		1.1	3.2	TM	
37	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
38	TM	Carbon Tetrachloride		0.5051	0.4805	0.4346	0.4939	0.5445	0.5449	0.6218			0.52	12	TM	
39	TM	Tert Amyl Methyl Ether		0.6588	0.6842	0.6704	0.7347	0.7549	0.7545	0.7958	0.8715		0.74	9.6	TM	
40	TM	1,2-DCA	0.4470	0.4687	0.4295	0.4107	0.4595	0.4419	0.4199	0.4282	0.4555		0.44	4.4	TM	
41	TM	Benzene	2.030	1.877	2.004	1.882	2.020	2.012	1.911	1.966	2.085		2.0	3.7	TM	
42	TM	TCE	0.5734	0.5357	0.5541	0.5142	0.5414	0.5511	0.5223	0.5383	0.5546		0.54	3.3	TM	
43	TM	2-Pentanone	0.1268	0.1098	0.1152	0.1166	0.1216	0.1281	0.1335	0.1430			0.12	8.7	TM	
44	TM*	1,2-Dichloropropane		0.3641	0.4105	0.4079	0.4225	0.4328	0.4120	0.4241	0.4526		0.42	6.1	TM*	
45	TM	Bromodichloromethane		0.3894	0.4187	0.4006	0.4371	0.4788	0.4824	0.5047	0.5539		0.46	12	TM	
46	TM	Methyl Cyclohexane	0.7863	0.7691	0.7727	0.6807	0.7277	0.7208	0.6971	0.7298	0.7732		0.74	5.0	TM	
47	TM	Dibromomethane		0.1667	0.1578	0.1581	0.1733	0.1791	0.1729	0.1782	0.1864		0.17	5.9	TM	
48	TM	MIBK (methyl isobutyl ketone)				0.2266	0.2208	0.2002	0.1959	0.1935	0.2038		0.21	6.6	TM	
49	TM	1-Bromo-2-chloroethane		0.3862	0.3885	0.3667	0.3872	0.4087	0.4076	0.4214			0.40	4.7	TM	
50	TM	2-Chloroethyl vinyl ether													TM	
51	TM	Cis-1,3-Dichloropropene		0.3960	0.4459	0.4416	0.4933	0.5207	0.5363	0.5786			0.49	13	TM	
52	TM*	Toluene		2.231	2.298	2.088	2.323	2.347	2.200	2.275	2.482		2.3	5.1	TM*	
53	TM	Trans-1,3-Dichloropropene		0.2769	0.2759	0.2631	0.3025	0.3409	0.3646				0.30	13	TM	
54	TM	1,1,2-TCA		0.1970	0.1903	0.1908	0.2120	0.2111	0.2110	0.2060	0.2186		0.20	5.2	TM	
55	TM	2-Hexanone			0.1005	0.1065	0.1088	0.1174	0.1212	0.1259	0.1335		0.12	10	TM	
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
58	TML	1,2-EDB		0.2051	0.2191	0.2161	0.2626	0.2999	0.3176	0.3356			0.27	20	TML	0.999
59	TM	Tetrachloroethene		0.7698	0.7932	0.7468	0.8056	0.8132	0.7400	0.7391	0.7496		0.77	4.0	TM	
60	TM	1-Chlorohexane		0.9365	0.9861	0.8758	0.9048	0.9834	0.9218	0.9575	1.001		0.95	4.6	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.4181	0.4353	0.3938	0.4635	0.5137	0.5389	0.5977			0.48	15	TM	
62	TM	m&p-Xylene		1.406	1.479	1.394	1.506	1.548	1.422	1.472	1.599		1.5	4.8	TM	
63	TM	o-Xylene	1.515	1.453	1.379	1.299	1.408	1.471	1.360	1.395	1.492		1.4	4.9	TM	
64	TM	Styrene		1.938	1.817	1.875	2.111	2.222	2.061	2.164	2.384		2.1	9.2	TM	
65	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
66	TM	1,3-Dichloropropane	0.6458	0.6038	0.5957	0.5973	0.6461	0.6467	0.6046	0.6225	0.6278		0.62	3.5	TM	
67	TM	Dibromochloromethane		0.2969	0.3247	0.2929	0.3595	0.4003	0.4015				0.35	14	TM	
68	TM**	Chlorobenzene	1.993	2.013	1.927	1.910	2.035	2.066	1.924	1.970	2.043		2.0	2.9	TM**	
69	TM*	Ethylbenzene	3.454	3.682	3.543	3.434	3.770	3.836	3.525	3.630	3.867		3.6	4.4	TM*	
70	TM**	Bromoform		0.1836	0.1677	0.1609	0.1745	0.1904	0.2078	0.2354			0.19	14	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene	7.892	6.828	7.477	7.193	7.555	7.571	7.009	7.160	7.465		7.4	4.5	TM	
73	TM**	1,1,2,2-Tetrachloroethane	0.6540	0.6465	0.5771	0.6578	0.6746	0.6976	0.6648	0.6855	0.7160		0.66	5.9	TM**	
74	TM	1,2,3-Trichloropropane		0.2902	0.2232	0.2149	0.2456	0.2303	0.2290	0.2238	0.2290		0.24	10	TM	
75	TM	t-1,4-Dichloro-2-Butene			0.1156	0.1320	0.1245	0.1267	0.1298	0.1491			0.13	8.6	TM	
76	TM	Bromobenzene	1.651	1.594	1.609	1.601	1.710	1.653	1.543	1.564	1.605		1.6	3.1	TM	
77	TM	n-Propylbenzene	8.776	7.704	8.562	7.924	8.447	8.408	7.817	8.143	8.657		8.3	4.7	TM	
78	TM	4-Ethyltoluene	7.228	6.981	7.039	6.866	7.404	7.433	6.909	7.138	7.634		7.2	3.7	TM	
79	TM	2-Chlorotoluene	4.910	4.748	4.767	4.557	4.854	4.866	4.459	4.598	4.789		4.7	3.3	TM	
80	TM	1,3,5-Trimethylbenzene	6.470	6.007	6.463	5.786	6.269	6.137	5.717	5.950	6.415		6.1	4.7	TM	
81	TM	4-Chlorotoluene	6.041	5.482	5.683	5.105	5.562	5.544	5.195	5.374	5.801		5.5	5.3	TM	
82	TM	Tert-Butylbenzene	5.811	5.660	5.956	5.299	5.647	5.511	5.099	5.204	5.420		5.5	5.2	TM	
83	TM	1,2,4-Trimethylbenzene	5.788	5.267	5.839	5.258	5.928	5.971	5.677	5.865	6.340		5.8	5.9	TM	
84	TM	Sec-Butylbenzene	7.291	6.959	7.493	7.033	7.480	7.445	6.887	7.166	7.656		7.3	3.7	TM	
85	TM	p-Isopropyltoluene	6.399	5.976	6.377	5.880	6.460	6.540	6.062	6.369	6.900		6.3	5.0	TM	
86	TMQ	Benzyl Chloride		0.2386	0.3344	0.3529	0.4079	0.4509	0.4975	0.6875			0.42	34	TMQ	1.000
87	TM	1,3-DCB	3.488	3.117	3.369	3.134	3.394	3.339	3.180	3.231	3.413		3.3	4.1	TM	
88	TM	1,4-DCB	3.608	3.493	3.309	3.150	3.241	3.197	2.994	3.108	3.328		3.3	5.8	TM	
89	TM	n-Butylbenzene	4.808	4.642	4.910	4.745	5.112	5.278	4.957	5.229	5.667		5.0	6.3	TM	
90	TM	1,2-DCB	2.890	2.498	2.750	2.460	2.850	2.843	2.670	2.667	2.804		2.7	5.7	TM	
91	TM	Hexachloroethane		0.5053	0.4817	0.4738	0.5112	0.5344	0.5809				0.51	7.6	TM	
92	TML	1,2-Dibromo-3-chloropropane				0.0549	0.0615	0.0639	0.0839	0.1003	0.1127		0.08	29	TML	0.998
93	TML	1,2,4-Trichlorobenzene		0.7457	0.8406	1.089	1.392	1.492	1.540				1.2	29	TML	1.000
94	TM	Hexachlorobutadiene		0.9547	0.9198	0.8863	0.9662	0.9771	0.9129	0.9312	1.035		0.95	4.9	TM	
95	TMQ	Naphthalene		0.2935	0.2530	0.3526	0.5413	0.6777	0.8346				0.49	47	TMQ	1.000
96	TMQ	1,2,3-Trichlorobenzene	0.2813	0.3493	0.4853	0.6983	0.9014	1.061					0.63	49	TMQ	1.000
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
37) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
57) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
65) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	1128	0.28873 ppb		99
3) Freon 114	1.29	85	1562	0.28513 ppb		87
4) Chloromethane	1.34	50	1995	0.35687 ppb		93
5) Vinyl chloride	1.42	62	2217	0.27914 ppb		98
6) Bromomethane	1.70	94	1828	0.33302 ppb		94
7) Chloroethane	1.79	64	1634	0.35113 ppb		97
8) Dichlorofluoromethane	1.97	67	3877	0.31564 ppb		99
9) Trichlorofluoromethane	2.02	101	2846	0.29147 ppb		100
10) Acrolein	2.41	56	3014	10.12344 ppb		86
11) Acetone	2.57	58	243	0.18567 ppb		89
12) Freon-113	2.53	101	1752	0.30941 ppb		90
13) 1,1-DCE	2.50	61	2829	0.31872 ppb		97
14) Acetonitrile	2.84	41	2867	23.27452 ppb	#	73
15) t-Butanol	3.14	59	1123	11.10336 ppb	#	39
16) Methyl Acetate	2.89	43	753	0.38721 ppb	#	52
17) Iodomethane	2.65	142	761	0.98685 ppb	#	79
18) Acrylonitrile	3.23	53	238	0.26341 ppb	#	64
19) Methylene chloride	2.98	84	2142	0.36115 ppb		91
20) Carbon disulfide	2.69	76	5773	0.31847 ppb		97
21) Methyl t-butyl ether (MtBE	3.28	73	2952	0.30419 ppb	#	82
22) Trans-1,2-DCE	3.25	96	2177	0.32284 ppb		95
23) Diisopropyl Ether	3.79	45	5096	0.30776 ppb		98
24) 1,1-DCA	3.66	63	3550	0.32724 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	3487	0.31076 ppb		91
27) MEK (2-Butanone)	4.31	43	395	-0.56726 ppb	#	44
28) Cis-1,2-DCE	4.26	96	2315	0.33398 ppb		81
29) 2,2-Dichloropropane	4.26	77	2215	0.33111 ppb		96
30) Chloroform	4.60	83	3199	0.29698 ppb	#	68
31) Bromochloromethane	4.50	128	751	0.28307 ppb	#	83
33) 1,1,1-TCA	4.80	97	2342	0.24931 ppb		94
34) Cyclohexane	4.86	41	2116	0.37424 ppb		92
35) 1,1-Dichloropropene	4.97	75	2566	0.29129 ppb		95
36) 2,2,4-Trimethylpentane	5.32	57	4520	0.29829 ppb		93
38) Carbon Tetrachloride	4.97	117	2008	0.29064 ppb		87
39) Tert Amyl Methyl Ether	5.36	73	2900	0.29352 ppb		94
40) 1,2-DCA	5.20	62	1789	0.30471 ppb	#	84
41) Benzene	5.19	78	8123	0.30812 ppb		93
42) TCE	5.91	95	2295	0.31694 ppb		91
43) 2-Pentanone	6.15	43	16917	10.20004 ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.15	63	1702	0.30682 ppb	#	81
45) Bromodichloromethane	6.48	83	1516	0.24801 ppb		87
46) Methyl Cyclohexane	6.14	83	3147	0.31891 ppb		95
47) Dibromomethane	6.28	93	656	0.28662 ppb		88
48) MIBK (methyl isobutyl ket	7.23	43	1155	0.41866 ppb	#	74
49) 1-Bromo-2-chloroethane	6.82	63	1383	0.26234 ppb		91
51) Cis-1,3-Dichloropropene	7.01	75	1854	0.28508 ppb	#	86
52) Toluene	7.41	91	9475	0.31142 ppb		89
53) Trans-1,3-Dichloropropene	7.70	75	1334	0.32897 ppb		87
54) 1,1,2-TCA	7.90	83	795	0.29125 ppb		82
55) 2-Hexanone	8.27	43	507	0.32692 ppb	#	81
58) 1,2-EDB	8.51	107	604	0.92605 ppb	#	73
59) Tetrachloroethene	8.09	164	2342	0.33251 ppb		93
60) 1-Chlorohexane	9.20	91	2409	0.27830 ppb	#	75
61) 1,1,1,2-Tetrachloroethane	9.29	131	1386	0.31544 ppb		84
62) m&p-Xylene	9.51	106	7914	0.58497 ppb		82
63) o-Xylene	10.02	106	4160	0.32032 ppb		78
64) Styrene	10.05	104	5601	0.29547 ppb		85
66) 1,3-Dichloropropane	8.11	76	1773	0.31192 ppb		96
67) Dibromochloromethane	8.39	129	909	0.28711 ppb		86
68) Chlorobenzene	9.17	112	5472	0.30095 ppb		97
69) Ethylbenzene	9.35	91	9482	0.28481 ppb		92
70) Bromoform	10.26	173	330	0.19120 ppb	#	29
72) Isopropylbenzene	10.55	105	10185	0.32213 ppb	#	87
73) 1,1,2,2-Tetrachloroethane	10.95	83	844	0.29559 ppb	#	75
74) 1,2,3-Trichloropropane	11.00	110	392	0.38655 ppb		86
75) t-1,4-Dichloro-2-Butene	11.05	53	189	0.33898 ppb	#	36
76) Bromobenzene	10.91	156	2131	0.30680 ppb		96
77) n-Propylbenzene	11.12	91	11325	0.31831 ppb		96
78) 4-Ethyltoluene	11.28	105	9328	0.30195 ppb		95
79) 2-Chlorotoluene	11.20	91	6336	0.31156 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	8350	0.31640 ppb		98
81) 4-Chlorotoluene	11.36	91	7796	0.32762 ppb		85
82) Tert-Butylbenzene	11.82	119	7499	0.31628 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	7469	0.30090 ppb		96
84) Sec-Butylbenzene	12.13	105	9409	0.30096 ppb		100
85) p-Isopropyltoluene	12.36	119	8258	0.30330 ppb		98
86) Benzyl Chloride	12.57	91	328	0.07140 ppb	#	60
87) 1,3-DCB	12.24	146	4501	0.31744 ppb		95
88) 1,4-DCB	12.37	146	4656	0.33102 ppb		95
89) n-Butylbenzene	12.94	91	6205	0.28628 ppb	#	91
90) 1,2-DCB	12.88	146	3730	0.31940 ppb		92
91) Hexachloroethane	13.26	117	526	0.23764 ppb	#	69
92) 1,2-Dibromo-3-chloropropan	14.12	75	23	3.54646 ppb	#	1
93) 1,2,4-Trichlorobenzene	15.21	180	713	0.58219 ppb		95
94) Hexachlorobutadiene	15.50	225	1504	0.36884 ppb		86
95) Naphthalene	15.53	128	374	0.68630 ppb	#	78
96) 1,2,3-Trichlorobenzene	15.89	180	363	0.40902 ppb	#	62

(#) = qualifier out of range (m) = manual integration

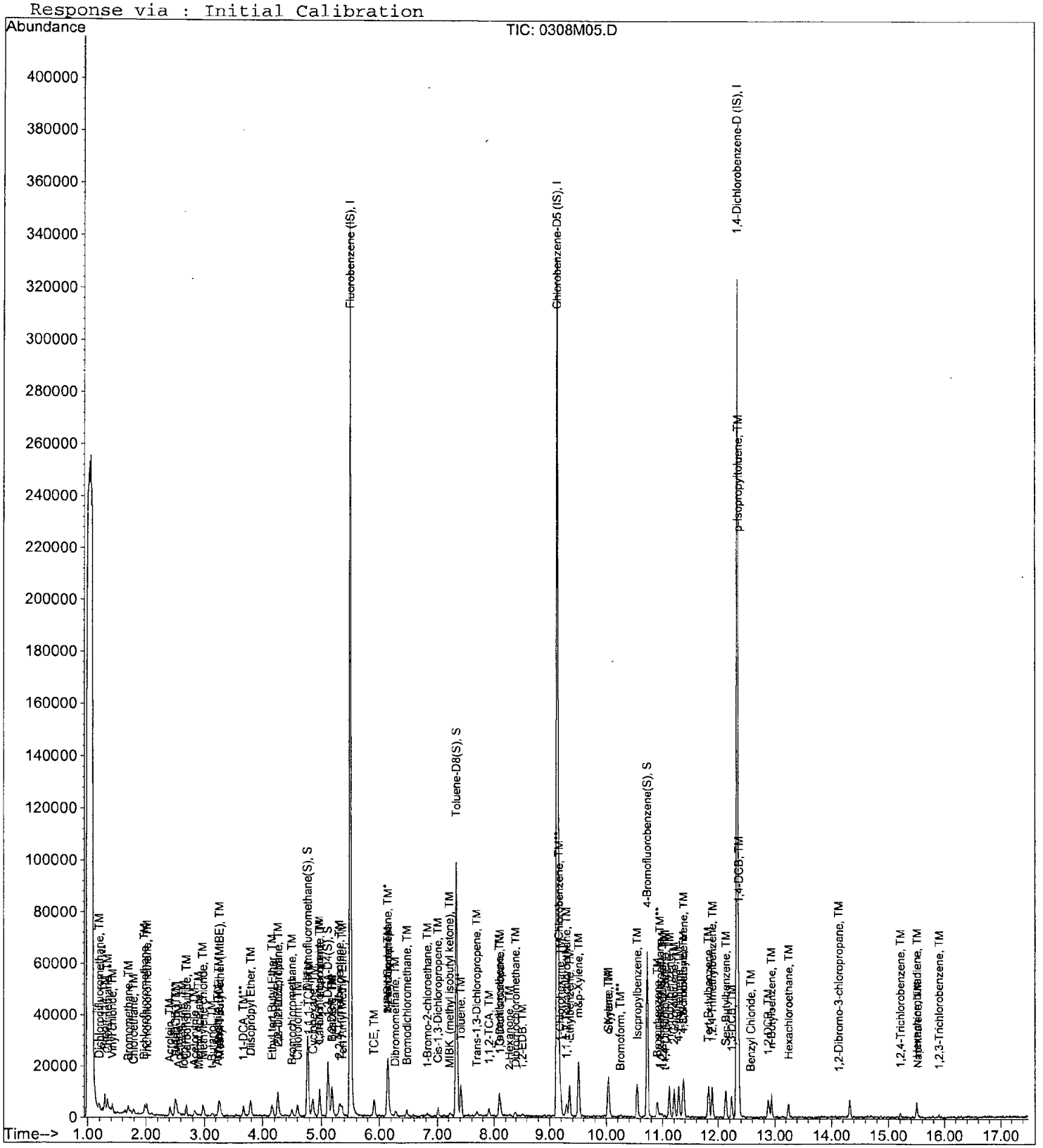
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



403

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
37) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
57) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	1812	0.46854 ppb	96
3) Freon 114	1.29	85	2765	0.50987 ppb	92
4) Chloromethane	1.34	50	2810	0.50778 ppb	96
5) Vinyl chloride	1.43	62	4021	0.51144 ppb	90
6) Bromomethane	1.70	94	2970	0.54659 ppb	79
7) Chloroethane	1.79	64	2344	0.50883 ppb	92
8) Dichlorofluoromethane	1.98	67	5835	0.47988 ppb	93
9) Trichlorofluoromethane	2.03	101	4539	0.46961 ppb	85
10) Acrolein	2.41	56	6998	23.74464 ppb	99
11) Acetone	2.59	58	245	0.22348 ppb #	1
12) Freon-113	2.53	101	2532	0.45173 ppb	89
13) 1,1-DCE	2.50	61	3987	0.45376 ppb #	94
14) Acetonitrile	2.83	41	6323	51.85409 ppb #	93
15) t-Butanol	3.14	59	2148	21.45436 ppb	97
16) Methyl Acetate	2.89	43	944	0.49038 ppb	97
17) Iodomethane	2.65	142	1384	1.06656 ppb #	83
18) Acrylonitrile	3.22	53	350	0.39132 ppb #	62
19) Methylene chloride	2.98	84	3333	0.56769 ppb	97
20) Carbon disulfide	2.69	76	8753	0.48778 ppb	97
21) Methyl t-butyl ether (MtBE	3.28	73	4785	0.49811 ppb	99
22) Trans-1,2-DCE	3.25	96	3464	0.51894 ppb	88
23) Diisopropyl Ether	3.79	45	7582	0.46257 ppb #	92
24) 1,1-DCA	3.66	63	4985	0.46421 ppb #	92
25) Vinyl Acetate	3.75	43	1305	0.45951 ppb	91
26) Ethyl tert Butyl Ether	4.16	59	5373	0.48372 ppb	95
27) MEK (2-Butanone)	4.29	43	950	-0.12539 ppb	87
28) Cis-1,2-DCE	4.27	96	2916	0.42497 ppb	86
29) 2,2-Dichloropropane	4.26	77	2898	0.43763 ppb #	90
30) Chloroform	4.61	83	5484	0.51430 ppb	92
31) Bromochloromethane	4.51	128	1157	0.44054 ppb	85
33) 1,1,1-TCA	4.79	97	4399	0.47306 ppb #	86
34) Cyclohexane	4.85	41	2815	0.50295 ppb	77
35) 1,1-Dichloropropene	4.97	75	4319	0.49528 ppb	96
36) 2,2,4-Trimethylpentane	5.32	57	7654	0.51026 ppb	94
38) Carbon Tetrachloride	4.97	117	3335	0.48764 ppb	99
39) Tert Amyl Methyl Ether	5.36	73	4350	0.44477 ppb	92
40) 1,2-DCA	5.20	62	3095	0.53253 ppb	99
41) Benzene	5.19	78	12392	0.47485 ppb	93
42) TCE	5.91	95	3537	0.49344 ppb	87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	36243	22.07545	ppb		94
44) 1,2-Dichloropropane	6.15	63	2404	0.43779	ppb	#	92
45) Bromodichloromethane	6.48	83	2571	0.42490	ppb		91
46) Methyl Cyclohexane	6.14	83	5078	0.51984	ppb		100
47) Dibromomethane	6.27	93	1101	0.48595	ppb		91
48) MIBK (methyl isobutyl ket	7.23	43	1391	0.50935	ppb		93
49) 1-Bromo-2-chloroethane	6.83	63	2550	0.48863	ppb		85
51) Cis-1,3-Dichloropropene	7.01	75	2615	0.40619	ppb	#	78
52) Toluene	7.42	91	14733	0.48918	ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	1828	0.45538	ppb		96
54) 1,1,2-TCA	7.91	83	1301	0.48148	ppb		86
55) 2-Hexanone	8.27	43	578	0.37651	ppb	#	84
58) 1,2-EDB	8.51	107	934	1.03398	ppb		81
59) Tetrachloroethene	8.09	164	3506	0.50011	ppb	#	72
60) 1-Chlorohexane	9.19	91	4265	0.49503	ppb		95
61) 1,1,1,2-Tetrachloroethane	9.29	131	1904	0.43537	ppb		94
62) m&p-Xylene	9.51	106	12809	0.95124	ppb		97
63) o-Xylene	10.03	106	6617	0.51190	ppb		76
64) Styrene	10.05	104	8826	0.46778	ppb		93
66) 1,3-Dichloropropane	8.11	76	2750	0.48607	ppb	#	76
67) Dibromochloromethane	8.39	129	1352	0.42904	ppb		81
68) Chlorobenzene	9.17	112	9166	0.50648	ppb		91
69) Ethylbenzene	9.35	91	16770	0.50608	ppb		99
70) Bromoform	10.25	173	836	0.48665	ppb	#	71
72) Isopropylbenzene	10.55	105	14797	0.46448	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	1401	0.48697	ppb	#	88
74) 1,2,3-Trichloropropane	10.99	110	629	0.61559	ppb	#	72
75) t-1,4-Dichloro-2-Butene	11.04	53	175	0.31151	ppb	#	36
76) Bromobenzene	10.91	156	3455	0.49368	ppb		73
77) n-Propylbenzene	11.12	91	16695	0.46571	ppb		99
78) 4-Ethyltoluene	11.29	105	15129	0.48605	ppb		100
79) 2-Chlorotoluene	11.20	91	10290	0.50219	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	13017	0.48954	ppb		95
81) 4-Chlorotoluene	11.36	91	11881	0.49553	ppb		87
82) Tert-Butylbenzene	11.82	119	12267	0.51349	ppb		94
83) 1,2,4-Trimethylbenzene	11.89	105	11415	0.45642	ppb		96
84) Sec-Butylbenzene	12.14	105	15082	0.47879	ppb		95
85) p-Isopropyltoluene	12.36	119	12951	0.47210	ppb		97
86) Benzyl Chloride	12.57	91	517	0.20130	ppb	#	60
87) 1,3-DCB	12.24	146	6756	0.47289	ppb		95
88) 1,4-DCB	12.36	146	7570	0.53415	ppb		91
89) n-Butylbenzene	12.94	91	10059	0.46061	ppb		95
90) 1,2-DCB	12.88	146	5414	0.46011	ppb	#	88
91) Hexachloroethane	13.25	117	1095	0.49100	ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	1616	0.71384	ppb	#	59
94) Hexachlorobutadiene	15.51	225	2069	0.50359	ppb		97
95) Naphthalene	15.54	128	636	0.79228	ppb	#	78
96) 1,2,3-Trichlorobenzene	15.90	180	757	0.51930	ppb	#	75

(#) = qualifier out of range (m) = manual integration

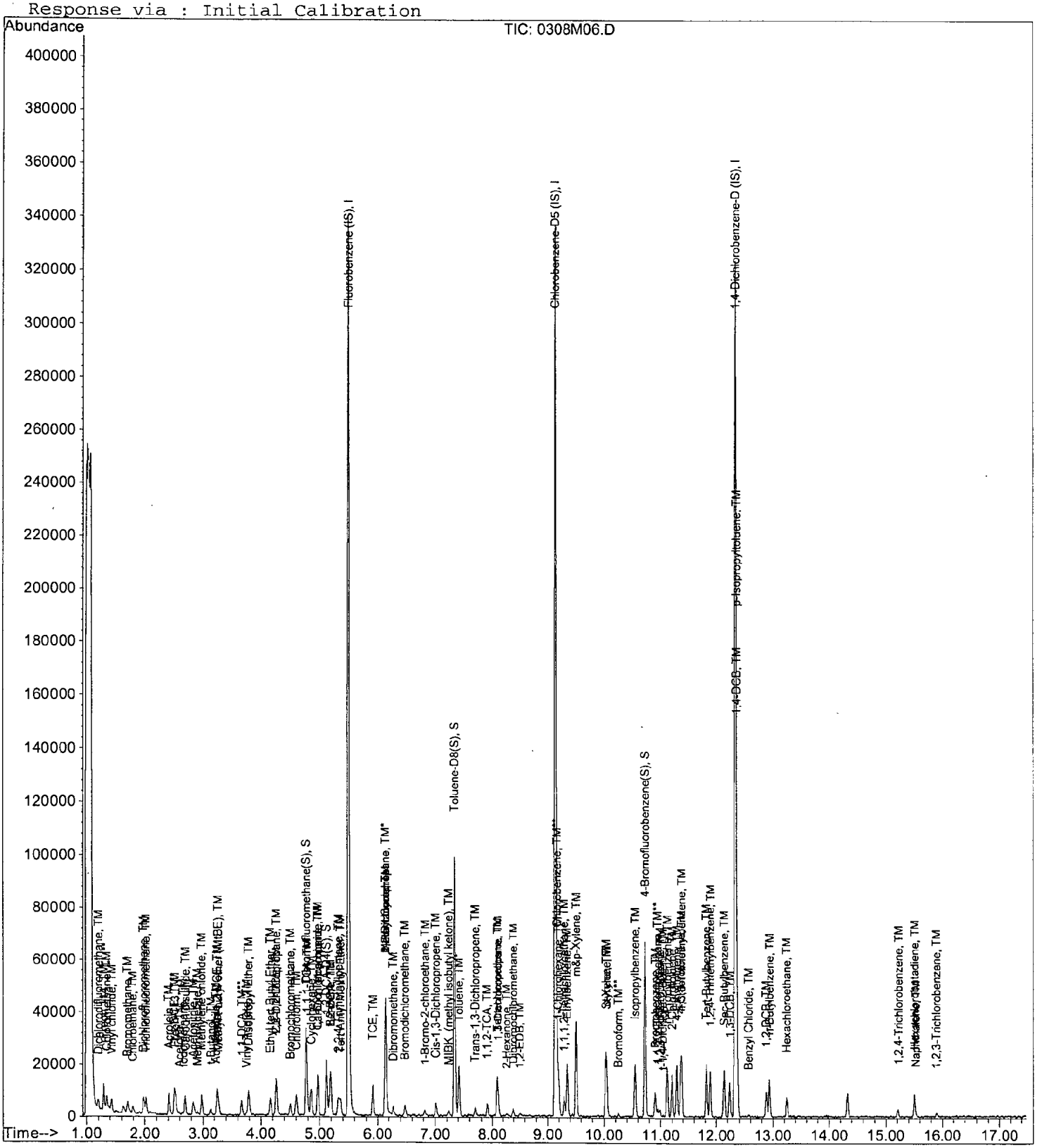
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



406

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
37) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
57) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
65) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	3641	0.98265 ppb	99
3) Freon 114	1.29	85	4811	0.92596 ppb	94
4) Chloromethane	1.34	50	5539	1.04472 ppb	89
5) Vinyl chloride	1.43	62	7245	0.96182 ppb	99
6) Bromomethane	1.70	94	5433	1.04361 ppb	95
7) Chloroethane	1.80	64	4359	0.98764 ppb	90
8) Dichlorofluoromethane	1.98	67	11812	1.01394 ppb	92
9) Trichlorofluoromethane	2.03	101	8992	0.97101 ppb	99
10) Acrolein	2.41	56	13657	48.36601 ppb	98
11) Acetone	2.56	58	283	0.65122 ppb	76
12) Freon-113	2.53	101	5795	1.07909 ppb	89
13) 1,1-DCE	2.50	61	8752	1.03964 ppb	99
14) Acetonitrile	2.83	41	12077	103.37422 ppb	91
15) t-Butanol	3.14	59	3877	40.41759 ppb #	84
16) Methyl Acetate	2.90	43	1800	0.97594 ppb	100
17) Iodomethane	2.64	142	3135	1.30521 ppb	87
18) Acrylonitrile	3.21	53	758	0.88455 ppb #	85
19) Methylene chloride	2.98	84	6193	1.10096 ppb	97
20) Carbon disulfide	2.70	76	17485	1.01701 ppb	99
21) Methyl t-butyl ether (MtBE	3.28	73	8741	0.94972 ppb #	87
22) Trans-1,2-DCE	3.25	96	5856	0.91566 ppb	92
23) Diisopropyl Ether	3.79	45	15301	0.97433 ppb	97
24) 1,1-DCA	3.67	63	10612	1.03143 ppb	93
25) Vinyl Acetate	3.75	43	2991	1.09924 ppb	92
26) Ethyl tert Butyl Ether	4.16	59	9988	0.93854 ppb	99
27) MEK (2-Butanone)	4.30	43	1696	0.52296 ppb	92
28) Cis-1,2-DCE	4.27	96	6735	1.02448 ppb	94
29) 2,2-Dichloropropane	4.26	77	6058	0.95483 ppb	98
30) Chloroform	4.61	83	9674	0.94694 ppb	97
31) Bromochloromethane	4.51	128	2526	1.00388 ppb	96
33) 1,1,1-TCA	4.79	97	8192	0.91948 ppb	96
34) Cyclohexane	4.86	41	5386	1.00440 ppb	97
35) 1,1-Dichloropropene	4.97	75	8195	0.98087 ppb	94
36) 2,2,4-Trimethylpentane	5.32	57	14666	1.02049 ppb	99
38) Carbon Tetrachloride	4.97	117	6080	0.92790 ppb	98
39) Tert Amyl Methyl Ether	5.36	73	8657	0.92387 ppb #	92
40) 1,2-DCA	5.21	62	5434	0.97588 ppb	96
41) Benzene	5.19	78	25361	1.01431 ppb	98
42) TCE	5.91	95	7011	1.02088 ppb	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	72878	46.33138	ppb		97
44)	1,2-Dichloropropane	6.15	63	5194	0.98724	ppb	#	81
45)	Bromodichloromethane	6.48	83	5297	0.91370	ppb		95
46)	Methyl Cyclohexane	6.14	83	9777	1.04466	ppb		87
47)	Dibromomethane	6.28	93	1997	0.91998	ppb		98
48)	MIBK (methyl isobutyl ket	7.23	43	3254	1.24366	ppb		93
49)	1-Bromo-2-chloroethane	6.83	63	4915	0.98302	ppb		93
51)	Cis-1,3-Dichloropropene	7.02	75	5642	0.91472	ppb		94
52)	Toluene	7.42	91	29081	1.00781	ppb		97
53)	Trans-1,3-Dichloropropene	7.69	75	3491	0.90771	ppb		84
54)	1,1,2-TCA	7.91	83	2408	0.93014	ppb		84
55)	2-Hexanone	8.27	43	1272	0.86482	ppb	#	61
58)	1,2-EDB	8.52	107	1918	1.37822	ppb		94
59)	Tetrachloroethene	8.09	164	6944	1.03055	ppb		94
60)	1-Chlorohexane	9.20	91	8633	1.04252	ppb		85
61)	1,1,1,2-Tetrachloroethane	9.29	131	3811	0.90665	ppb		95
62)	m&p-Xylene	9.51	106	25899	2.00109	ppb		95
63)	o-Xylene	10.03	106	12070	0.97149	ppb		97
64)	Styrene	10.05	104	15904	0.87699	ppb		86
66)	1,3-Dichloropropane	8.11	76	5215	0.95902	ppb		84
67)	Dibromochloromethane	8.39	129	2843	0.93865	ppb		97
68)	Chlorobenzene	9.18	112	16870	0.96985	ppb		91
69)	Ethylbenzene	9.35	91	31018	0.97389	ppb		96
70)	Bromoform	10.25	173	1468	0.88908	ppb		94
72)	Isopropylbenzene	10.55	105	30411	1.01728	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	2347	0.86936	ppb	#	97
74)	1,2,3-Trichloropropane	10.98	110	908	0.94699	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	470	0.89157	ppb	#	65
76)	Bromobenzene	10.90	156	6545	0.99662	ppb		91
77)	n-Propylbenzene	11.12	91	34824	1.03522	ppb		96
78)	4-Ethyltoluene	11.29	105	28629	0.98016	ppb		96
79)	2-Chlorotoluene	11.20	91	19387	1.00829	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	26287	1.05351	ppb		91
81)	4-Chlorotoluene	11.35	91	23112	1.02725	ppb		92
82)	Tert-Butylbenzene	11.82	119	24223	1.08054	ppb		93
83)	1,2,4-Trimethylbenzene	11.89	105	23748	1.01189	ppb		96
84)	Sec-Butylbenzene	12.13	105	30474	1.03094	ppb		98
85)	p-Isopropyltoluene	12.36	119	25938	1.00760	ppb		99
86)	Benzyl Chloride	12.57	91	1360	0.83753	ppb	#	88
87)	1,3-DCB	12.24	146	13704	1.02222	ppb		99
88)	1,4-DCB	12.37	146	13460	1.01212	ppb		93
89)	n-Butylbenzene	12.94	91	19968	0.97439	ppb		96
90)	1,2-DCB	12.88	146	11186	1.01308	ppb		97
91)	Hexachloroethane	13.25	117	1959	0.93610	ppb	#	82
92)	1,2-Dibromo-3-chloropropan	14.00	75	230	3.98985	ppb	#	58
93)	1,2,4-Trichlorobenzene	15.21	180	3419	1.01119	ppb		97
94)	Hexachlorobutadiene	15.50	225	3741	0.97035	ppb		96
95)	Naphthalene	15.53	128	1029	0.97910	ppb	#	78
96)	1,2,3-Trichlorobenzene	15.89	180	1974	0.89237	ppb		82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

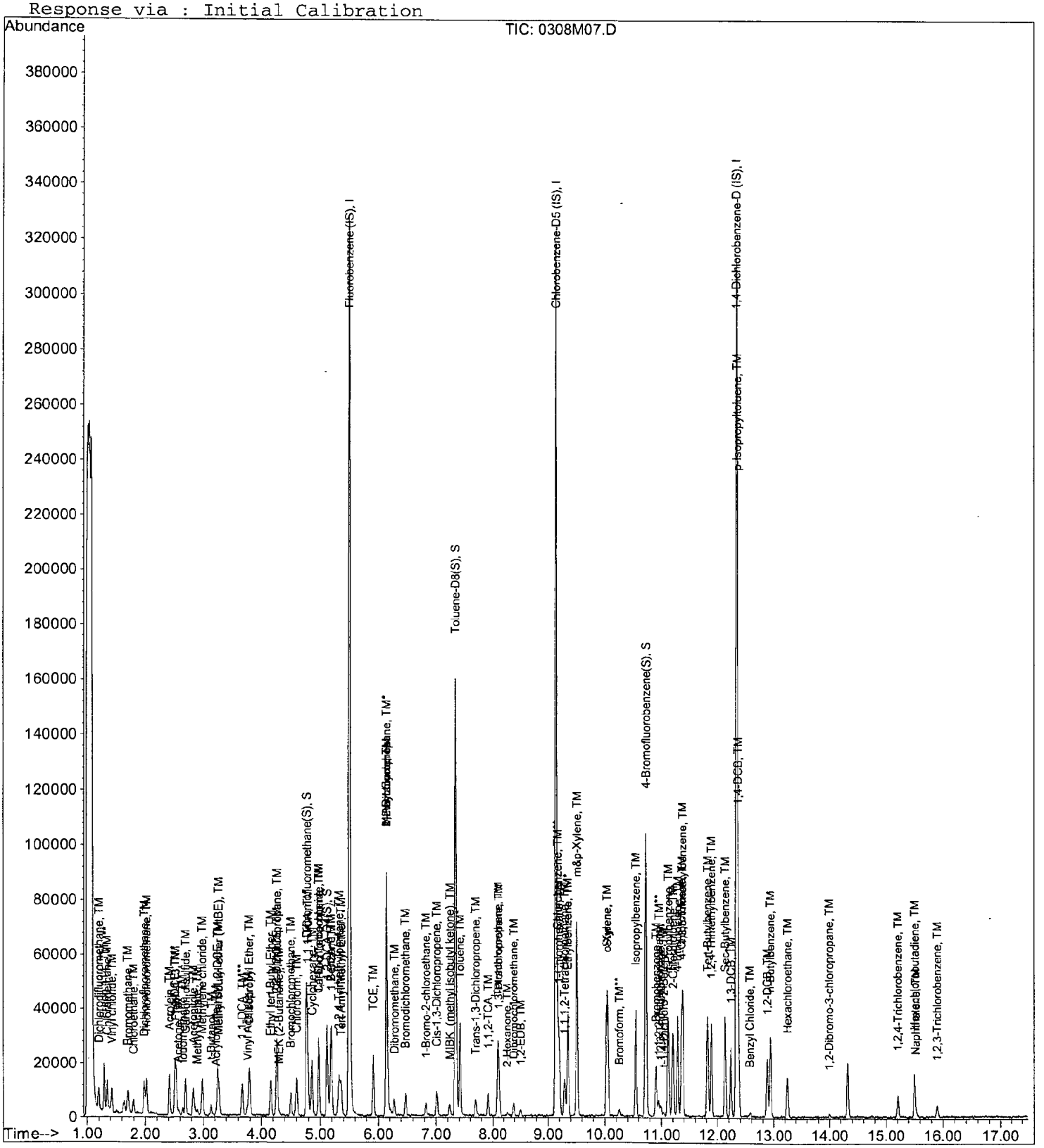
Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



409

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
37) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
57) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	7130	1.80650 ppb		97
3) Freon 114	1.29	85	11352	2.05115 ppb		99
4) Chloromethane	1.34	50	10884	1.92719 ppb		93
5) Vinyl chloride	1.43	62	14367	1.79056 ppb		95
6) Bromomethane	1.69	94	9753	1.75875 ppb		92
7) Chloroethane	1.79	64	8427	1.79247 ppb		98
8) Dichlorofluoromethane	1.98	67	23131	1.86403 ppb		97
9) Trichlorofluoromethane	2.03	101	18528	1.87829 ppb		99
10) Acrolein	2.41	56	21133	70.26113 ppb		98
11) Acetone	2.57	58	494	2.25314 ppb		89
12) Freon-113	2.53	101	11032	1.92853 ppb		91
13) 1,1-DCE	2.51	61	17117	1.90885 ppb		92
14) Acetonitrile	2.82	41	19795	159.06613 ppb		96
15) t-Butanol	3.14	59	8119	79.45957 ppb		95
16) Methyl Acetate	2.90	43	3595	1.82987 ppb		93
17) Iodomethane	2.64	142	7594	1.83214 ppb		97
18) Acrylonitrile	3.22	53	1707	1.87006 ppb	#	80
19) Methylene chloride	2.98	84	11009	1.83734 ppb		94
20) Carbon disulfide	2.69	76	33252	1.81571 ppb		96
21) Methyl t-butyl ether (MtBE	3.28	73	17634	1.79867 ppb		92
22) Trans-1,2-DCE	3.25	96	13119	1.92577 ppb		93
23) Diisopropyl Ether	3.79	45	30407	1.81773 ppb		96
24) 1,1-DCA	3.66	63	20393	1.86076 ppb		96
25) Vinyl Acetate	3.75	43	4958	1.71061 ppb		95
26) Ethyl tert Butyl Ether	4.16	59	20080	1.77136 ppb		100
27) MEK (2-Butanone)	4.30	43	2113	0.76031 ppb		94
28) Cis-1,2-DCE	4.26	96	13732	1.96095 ppb		98
29) 2,2-Dichloropropane	4.26	77	11643	1.72279 ppb		97
30) Chloroform	4.61	83	20128	1.84963 ppb		96
31) Bromochloromethane	4.50	128	5096	1.90128 ppb		93
33) 1,1,1-TCA	4.79	97	16365	1.72440 ppb		96
34) Cyclohexane	4.86	41	11080	1.93976 ppb		91
35) 1,1-Dichloropropene	4.97	75	16577	1.86267 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	29207	1.90789 ppb		100
38) Carbon Tetrachloride	4.97	117	11713	1.67816 ppb	#	79
39) Tert Amyl Methyl Ether	5.36	73	18071	1.81048 ppb		97
40) 1,2-DCA	5.20	62	11071	1.86653 ppb		100
41) Benzene	5.19	78	50729	1.90471 ppb		97
42) TCE	5.91	95	13861	1.89477 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	117833	70.32581 ppb		98
44) 1,2-Dichloropropane	6.15	63	10996	1.96212 ppb		100
45) Bromodichloromethane	6.48	83	10799	1.74874 ppb		98
46) Methyl Cyclohexane	6.14	83	18347	1.84035 ppb		98
47) Dibromomethane	6.28	93	4261	1.84282 ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	6109	2.19190 ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	9884	1.85583 ppb		86
51) Cis-1,3-Dichloropropene	7.01	75	11904	1.81182 ppb		99
52) Toluene	7.42	91	56278	1.83095 ppb		92
53) Trans-1,3-Dichloropropene	7.70	75	7091	1.73090 ppb	#	82
54) 1,1,2-TCA	7.90	83	5144	1.86536 ppb		85
55) 2-Hexanone	8.27	43	2871	1.83248 ppb		90
58) 1,2-EDB	8.51	107	4029	2.00800 ppb		94
59) Tetrachloroethene	8.09	164	13921	1.94068 ppb		92
60) 1-Chlorohexane	9.20	91	16326	1.85193 ppb		96
61) 1,1,1,2-Tetrachloroethane	9.29	131	7340	1.64028 ppb		91
62) m&p-Xylene	9.51	106	51956	3.77087 ppb		99
63) o-Xylene	10.03	106	24216	1.83087 ppb		90
64) Styrene	10.05	104	34945	1.81007 ppb		98
66) 1,3-Dichloropropane	8.12	76	11133	1.92314 ppb		93
67) Dibromochloromethane	8.39	129	5460	1.69333 ppb		78
68) Chlorobenzene	9.17	112	35608	1.92291 ppb		99
69) Ethylbenzene	9.35	91	64013	1.88793 ppb		99
70) Bromoform	10.26	173	2999	1.70614 ppb	#	78
72) Isopropylbenzene	10.55	105	63462	1.95715 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.95	83	5804	1.98205 ppb		95
74) 1,2,3-Trichloropropane	10.99	110	1896	1.82305 ppb	#	71
75) t-1,4-Dichloro-2-Butene	11.04	53	1165	2.03743 ppb		92
76) Bromobenzene	10.91	156	14130	1.98363 ppb		86
77) n-Propylbenzene	11.12	91	69919	1.91623 ppb		100
78) 4-Ethyltoluene	11.28	105	60584	1.91227 ppb		99
79) 2-Chlorotoluene	11.20	91	40206	1.92781 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	51051	1.88627 ppb		98
81) 4-Chlorotoluene	11.35	91	45039	1.84555 ppb		96
82) Tert-Butylbenzene	11.82	119	46751	1.92266 ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	46393	1.82246 ppb		95
84) Sec-Butylbenzene	12.13	105	62057	1.93551 ppb		96
85) p-Isopropyltoluene	12.36	119	51878	1.85794 ppb		96
86) Benzyl Chloride	12.57	91	3114	1.88951 ppb		99
87) 1,3-DCB	12.24	146	27649	1.90140 ppb		98
88) 1,4-DCB	12.37	146	27796	1.92694 ppb		96
89) n-Butylbenzene	12.94	91	41864	1.88338 ppb		98
90) 1,2-DCB	12.88	146	21703	1.81212 ppb		91
91) Hexachloroethane	13.25	117	4180	1.84146 ppb		83
92) 1,2-Dibromo-3-chloropropan	13.99	75	484	4.45019 ppb	#	73
93) 1,2,4-Trichlorobenzene	15.21	180	9609	1.86138 ppb		93
94) Hexachlorobutadiene	15.50	225	7820	1.87002 ppb		88
95) Naphthalene	15.54	128	3111	1.75389 ppb		99
96) 1,2,3-Trichlorobenzene	15.89	180	6161	1.93426 ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

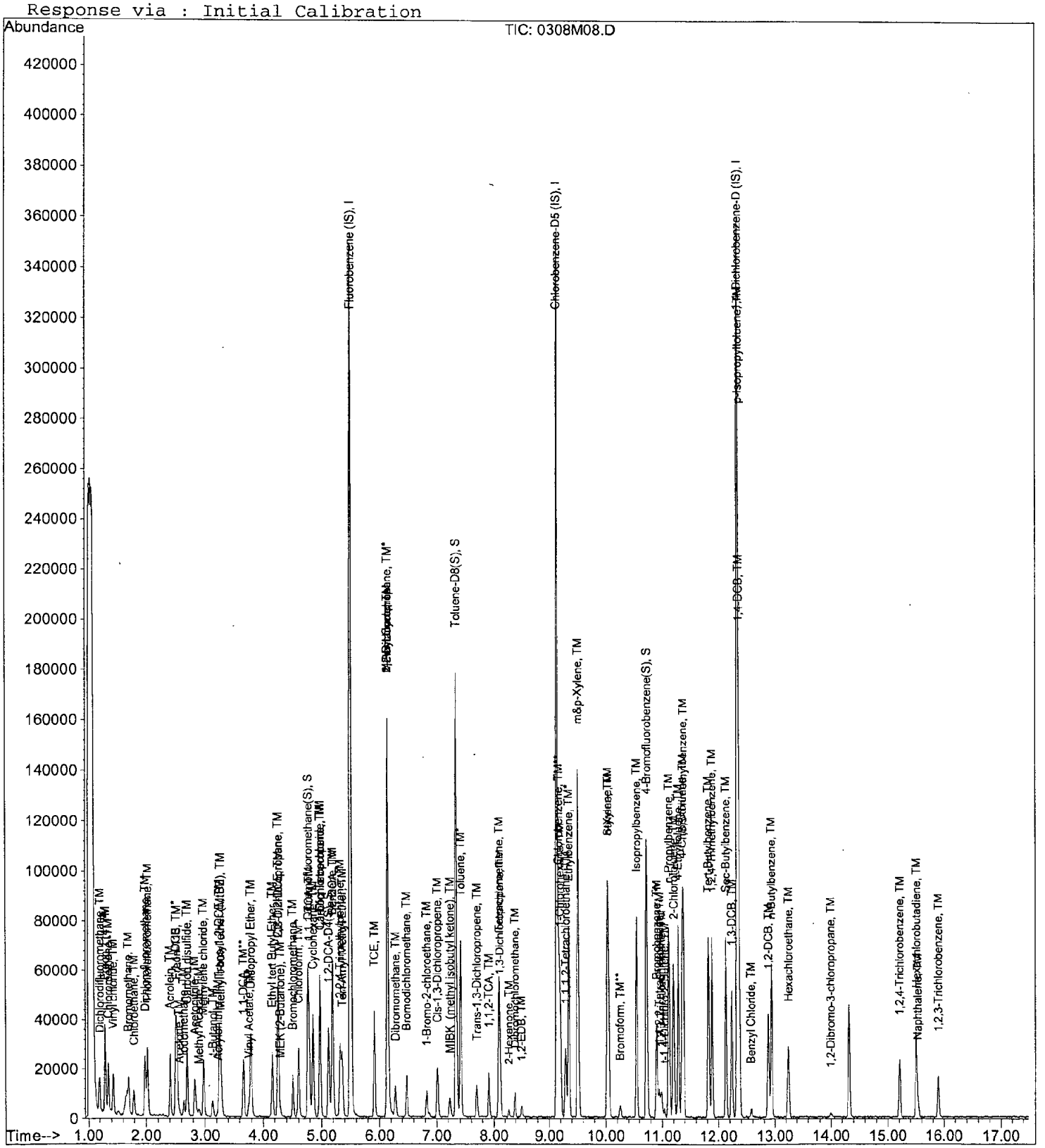
Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



412

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
37) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
57) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
65) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	19696	5.06257 ppb		99
3) Freon 114	1.29	85	26358	4.83149 ppb		99
4) Chloromethane	1.34	50	27512	4.94200 ppb		93
5) Vinyl chloride	1.43	62	40477	5.11771 ppb		99
6) Bromomethane	1.69	94	24523	4.48626 ppb		96
7) Chloroethane	1.79	64	24551	5.29777 ppb		98
8) Dichlorofluoromethane	1.98	67	59875	4.89496 ppb		94
9) Trichlorofluoromethane	2.02	101	48220	4.95914 ppb		98
10) Acrolein	2.41	56	29001	97.81639 ppb		97
11) Acetone	2.57	58	676	3.84874 ppb	#	54
12) Freon-113	2.53	101	28162	4.99438 ppb		99
13) 1,1-DCE	2.50	61	44254	5.00657 ppb		100
14) Acetonitrile	2.82	41	26453	215.64621 ppb	#	95
15) t-Butanol	3.13	59	9567	94.98699 ppb		92
16) Methyl Acetate	2.90	43	9621	4.96805 ppb		99
17) Iodomethane	2.64	142	29893	4.64744 ppb		98
18) Acrylonitrile	3.21	53	4912	5.45914 ppb	#	90
19) Methylene chloride	2.98	84	29167	4.93830 ppb		96
20) Carbon disulfide	2.69	76	90024	4.98692 ppb		99
21) Methyl t-butyl ether (MtBE	3.27	73	49559	5.12825 ppb		99
22) Trans-1,2-DCE	3.25	96	33693	5.01751 ppb		98
23) Diisopropyl Ether	3.79	45	84005	5.09456 ppb		97
24) 1,1-DCA	3.66	63	55279	5.11700 ppb		99
25) Vinyl Acetate	3.75	43	13731	4.80608 ppb		94
26) Ethyl tert Butyl Ether	4.16	59	54203	4.85078 ppb		98
27) MEK (2-Butanone)	4.30	43	8352	5.68652 ppb		92
28) Cis-1,2-DCE	4.27	96	36263	5.25342 ppb		94
29) 2,2-Dichloropropane	4.26	77	32157	4.82711 ppb		94
30) Chloroform	4.61	83	55526	5.17638 ppb		100
31) Bromochloromethane	4.50	128	13632	5.15965 ppb		97
33) 1,1,1-TCA	4.79	97	45789	4.89471 ppb		97
34) Cyclohexane	4.86	41	27705	4.92052 ppb		96
35) 1,1-Dichloropropene	4.97	75	44766	5.10298 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	75632	5.01207 ppb		99
38) Carbon Tetrachloride	4.97	117	32804	4.76800 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	48800	4.95994 ppb		98
40) 1,2-DCA	5.20	62	30525	5.22093 ppb		100
41) Benzene	5.19	78	134181	5.11104 ppb		99
42) TCE	5.91	95	35961	4.98699 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.14	43	161594	97.84028	ppb		98
44)	1,2-Dichloropropane	6.15	63	28062	5.07990	ppb		96
45)	Bromodichloromethane	6.48	83	29031	4.76924	ppb		96
46)	Methyl Cyclohexane	6.14	83	48339	4.91902	ppb		95
47)	Dibromomethane	6.27	93	11511	5.05043	ppb		94
48)	MIBK (methyl isobutyl ket	7.23	43	14664	5.33763	ppb		92
49)	1-Bromo-2-chloroethane	6.82	63	25718	4.89878	ppb		91
51)	Cis-1,3-Dichloropropene	7.01	75	32767	5.05946	ppb		96
52)	Toluene	7.42	91	154314	5.09317	ppb		100
53)	Trans-1,3-Dichloropropene	7.69	75	20093	4.97570	ppb		96
54)	1,1,2-TCA	7.91	83	14081	5.18012	ppb		90
55)	2-Hexanone	8.27	43	7225	4.67832	ppb	#	85
58)	1,2-EDB	8.51	107	12196	4.60987	ppb		98
59)	Tetrachloroethene	8.09	164	37409	5.23328	ppb		99
60)	1-Chlorohexane	9.20	91	42017	4.78283	ppb		94
61)	1,1,1,2-Tetrachloroethane	9.29	131	21523	4.82657	ppb		98
62)	m&p-Xylene	9.51	106	139883	10.18792	ppb		99
63)	o-Xylene	10.03	106	65402	4.96204	ppb		98
64)	Styrene	10.05	104	98044	5.09618	ppb		100
66)	1,3-Dichloropropane	8.11	76	30003	5.20089	ppb		97
67)	Dibromochloromethane	8.39	129	16693	5.19514	ppb		99
68)	Chlorobenzene	9.17	112	94496	5.12081	ppb		100
69)	Ethylbenzene	9.35	91	175062	5.18112	ppb		100
70)	Bromoform	10.25	173	8103	4.62592	ppb		97
72)	Isopropylbenzene	10.55	105	171742	5.13966	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	15335	5.08182	ppb		94
74)	1,2,3-Trichloropropane	10.98	110	5582	5.20833	ppb		95
75)	t-1,4-Dichloro-2-Butene	11.03	53	2830	4.80276	ppb		90
76)	Bromobenzene	10.90	156	38874	5.29573	ppb		91
77)	n-Propylbenzene	11.12	91	191998	5.10619	ppb		97
78)	4-Ethyltoluene	11.28	105	168291	5.15465	ppb		97
79)	2-Chlorotoluene	11.20	91	110347	5.13430	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	142498	5.10922	ppb		95
81)	4-Chlorotoluene	11.35	91	126425	5.02711	ppb		97
82)	Tert-Butylbenzene	11.82	119	128351	5.12223	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	134752	5.13676	ppb		93
84)	Sec-Butylbenzene	12.13	105	170020	5.14580	ppb		97
85)	p-Isopropyltoluene	12.36	119	146848	5.10346	ppb		97
86)	Benzyl Chloride	12.57	91	9273	5.28570	ppb		93
87)	1,3-DCB	12.24	146	77155	5.14880	ppb		99
88)	1,4-DCB	12.37	146	73669	4.95586	ppb		98
89)	n-Butylbenzene	12.94	91	116193	5.07252	ppb		97
90)	1,2-DCB	12.88	146	64782	5.24891	ppb		96
91)	Hexachloroethane	13.25	117	11621	4.96794	ppb		89
92)	1,2-Dibromo-3-chloropropan	13.99	75	1398	6.16302	ppb		88
93)	1,2,4-Trichlorobenzene	15.20	180	31638	4.90054	ppb		94
94)	Hexachlorobutadiene	15.51	225	21963	5.09659	ppb		97
95)	Naphthalene	15.54	128	12304	4.86337	ppb		96
96)	1,2,3-Trichlorobenzene	15.90	180	20490	5.05302	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

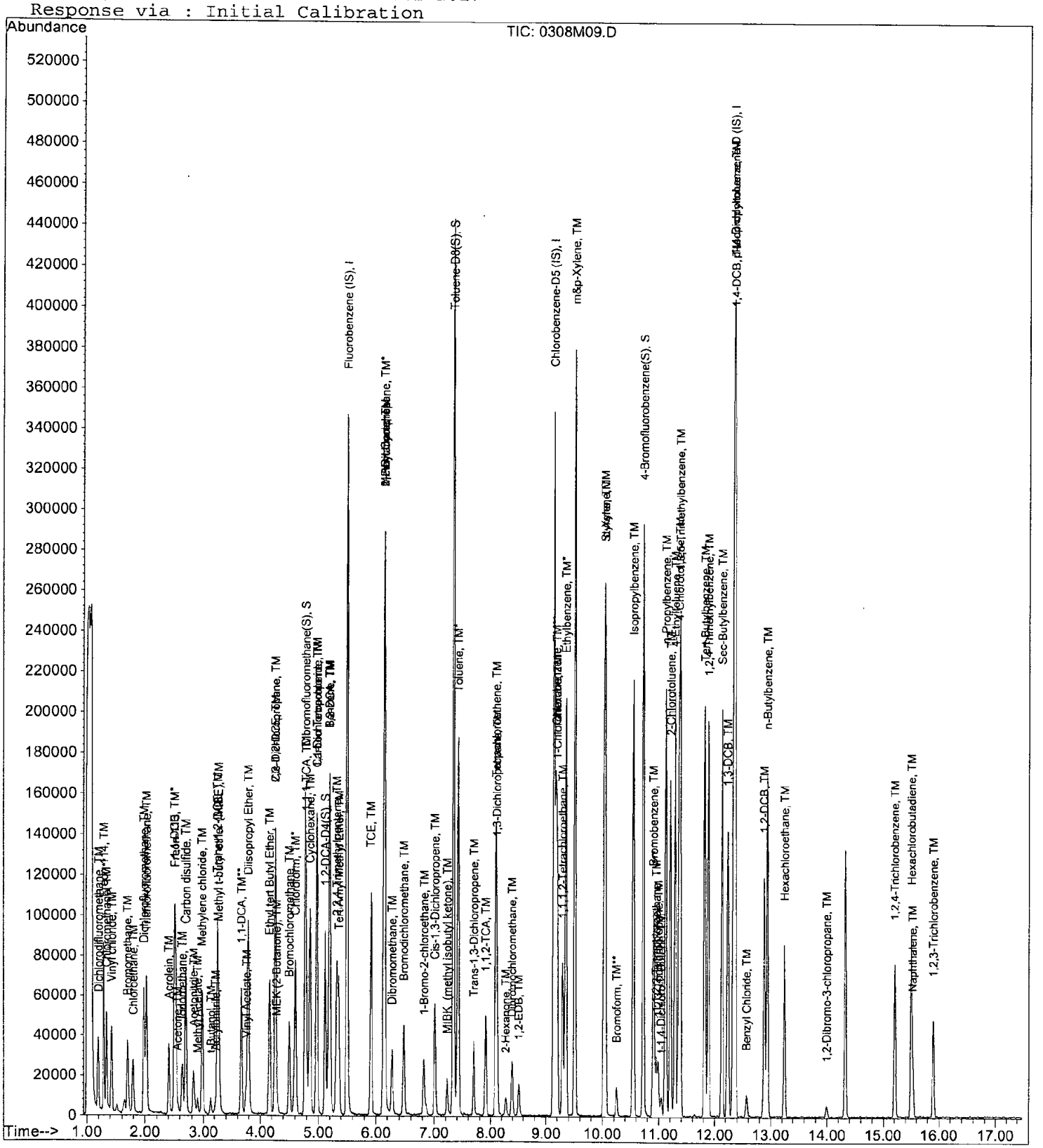
Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



415

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery = 96.764%		
37) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery = 94.584%		
57) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery = 98.068%		
65) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery = 97.652%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	38536	10.17084 ppb	100
3) Freon 114	1.29	85	53360	10.04343 ppb	100
4) Chloromethane	1.34	50	54720	10.09309 ppb	100
5) Vinyl chloride	1.43	62	79237	10.28709 ppb	100
6) Bromomethane	1.69	94	45738	8.59183 ppb	100
7) Chloroethane	1.79	64	46870	10.38524 ppb	100
8) Dichlorofluoromethane	1.98	67	121644	10.21154 ppb	100
9) Trichlorofluoromethane	2.03	101	96578	10.19894 ppb	100
10) Acrolein	2.41	56	37177	128.75684 ppb	100
11) Acetone	2.57	58	1574	11.78426 ppb	100
12) Freon-113	2.53	101	55285	10.06752 ppb	100
13) 1,1-DCE	2.50	61	88460	10.27619 ppb	100
14) Acetonitrile	2.82	41	33552	280.85529 ppb	98
15) t-Butanol	3.14	59	11893	121.24869 ppb	100
16) Methyl Acetate	2.90	43	17540	9.30020 ppb	100
17) Iodomethane	2.64	142	69487	9.85630 ppb	100
18) Acrylonitrile	3.22	53	9397	10.72389 ppb	100
19) Methylene chloride	2.98	84	56734	9.86339 ppb	100
20) Carbon disulfide	2.69	76	180017	10.23965 ppb	100
21) Methyl t-butyl ether (MtBE	3.28	73	97502	10.35994 ppb	100
22) Trans-1,2-DCE	3.25	96	68750	10.51280 ppb	100
23) Diisopropyl Ether	3.79	45	166490	10.36781 ppb	100
24) 1,1-DCA	3.66	63	107344	10.20305 ppb	100
25) Vinyl Acetate	3.75	43	28022	10.07129 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	109025	10.01870 ppb	100
27) MEK (2-Butanone)	4.30	43	15187	11.37752 ppb	100
28) Cis-1,2-DCE	4.26	96	70408	10.47364 ppb	100
29) 2,2-Dichloropropane	4.26	77	68282	10.52483 ppb	100
30) Chloroform	4.61	83	106763	10.21992 ppb	100
31) Bromochloromethane	4.51	128	27186	10.56583 ppb	100
33) 1,1,1-TCA	4.79	97	91578	10.05204 ppb	100
34) Cyclohexane	4.86	41	55624	10.14407 ppb	100
35) 1,1-Dichloropropene	4.97	75	89037	10.42182 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	148003	10.07116 ppb	100
38) Carbon Tetrachloride	4.97	117	70452	10.51478 ppb	100
39) Tert Amyl Methyl Ether	5.36	73	97669	10.19320 ppb	100
40) 1,2-DCA	5.20	62	57170	10.04055 ppb	100
41) Benzene	5.19	78	260293	10.18071 ppb	100
42) TCE	5.91	95	71302	10.15326 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	2-Pentanone	6.14	43	207103	128.75858	ppb	100
44)	1,2-Dichloropropane	6.15	63	55997	10.40875	ppb	100
45)	Bromodichloromethane	6.48	83	61944	10.44923	ppb	100
46)	Methyl Cyclohexane	6.14	83	93252	9.74398	ppb	100
47)	Dibromomethane	6.27	93	23174	10.44031	ppb	100
48)	MIBK (methyl isobutyl ket	7.23	43	25905	9.68227	ppb	100
49)	1-Bromo-2-chloroethane	6.83	63	52872	10.34127	ppb	100
51)	Cis-1,3-Dichloropropene	7.02	75	67363	10.68037	ppb	100
52)	Toluene	7.42	91	303587	10.28876	ppb	100
53)	Trans-1,3-Dichloropropene	7.70	75	44108	11.21563	ppb	100
54)	1,1,2-TCA	7.91	83	27309	10.31595	ppb	100
55)	2-Hexanone	8.27	43	15184	10.09567	ppb	100
58)	1,2-EDB	8.51	107	26864	9.58843	ppb	100
59)	Tetrachloroethene	8.09	164	72854	10.56589	ppb	100
60)	1-Chlorohexane	9.20	91	88106	10.39730	ppb	100
61)	1,1,1,2-Tetrachloroethane	9.29	131	46021	10.69909	ppb	100
62)	m&p-Xylene	9.51	106	277320	20.93906	ppb	100
63)	o-Xylene	10.03	106	131825	10.36866	ppb	100
64)	Styrene	10.05	104	199022	10.72458	ppb	100
66)	1,3-Dichloropropane	8.12	76	57935	10.41140	ppb	100
67)	Dibromochloromethane	8.39	129	35866	11.57181	ppb	100
68)	Chlorobenzene	9.17	112	185119	10.39995	ppb	100
69)	Ethylbenzene	9.35	91	343652	10.54402	ppb	100
70)	Bromoform	10.25	173	17056	10.09450	ppb	100
72)	Isopropylbenzene	10.55	105	343300	10.30073	ppb	100
73)	1,1,2,2-Tetrachloroethane	10.95	83	31632	10.50989	ppb	100
74)	1,2,3-Trichloropropane	10.99	110	10443	9.76945	ppb	100
75)	t-1,4-Dichloro-2-Butene	11.04	53	5745	9.77531	ppb	100
76)	Bromobenzene	10.91	156	74945	10.23637	ppb	100
77)	n-Propylbenzene	11.12	91	381263	10.16627	ppb	100
78)	4-Ethyltoluene	11.28	105	337049	10.35064	ppb	100
79)	2-Chlorotoluene	11.20	91	220636	10.29280	ppb	100
80)	1,3,5-Trimethylbenzene	11.38	105	278268	10.00336	ppb	100
81)	4-Chlorotoluene	11.36	91	251363	10.02128	ppb	100
82)	Tert-Butylbenzene	11.82	119	249876	9.99818	ppb	100
83)	1,2,4-Trimethylbenzene	11.89	105	270745	10.34786	ppb	100
84)	Sec-Butylbenzene	12.13	105	337560	10.24331	ppb	100
85)	p-Isopropyltoluene	12.36	119	296542	10.33283	ppb	100
86)	Benzyl Chloride	12.57	91	20444	10.54093	ppb	100
87)	1,3-DCB	12.24	146	151408	10.13042	ppb	100
88)	1,4-DCB	12.37	146	144958	9.77717	ppb	100
89)	n-Butylbenzene	12.94	91	239309	10.47465	ppb	100
90)	1,2-DCB	12.88	146	128889	10.47049	ppb	100
91)	Hexachloroethane	13.25	117	24230	10.38539	ppb	100
92)	1,2-Dibromo-3-chloropropan	13.99	75	2896	9.03081	ppb	100
93)	1,2,4-Trichlorobenzene	15.21	180	67649	9.96047	ppb	100
94)	Hexachlorobutadiene	15.51	225	44303	10.30760	ppb	100
95)	Naphthalene	15.54	128	30728	10.12963	ppb	100
96)	1,2,3-Trichlorobenzene	15.90	180	48097	9.99186	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

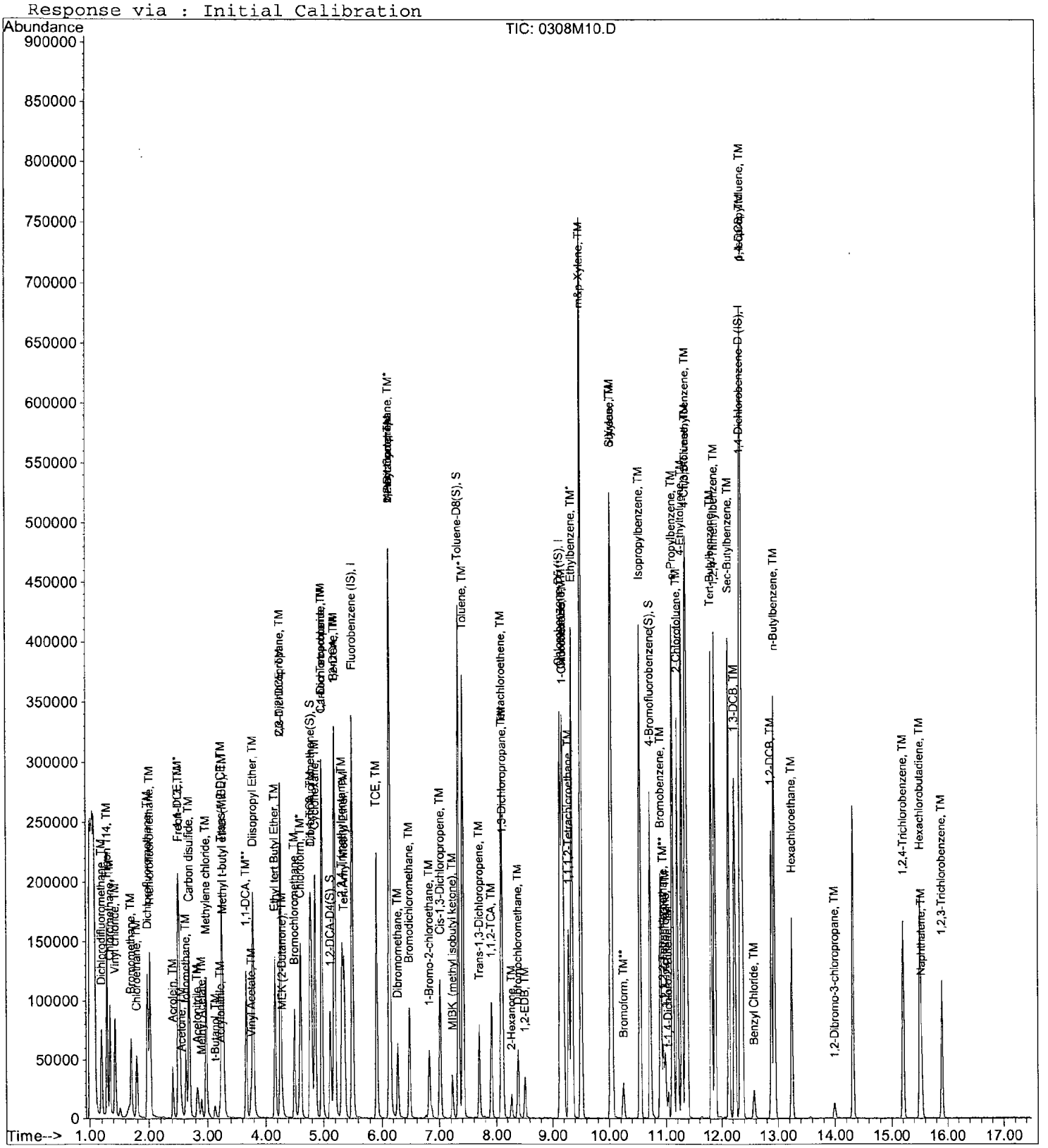
Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



418

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
37) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
57) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
65) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	82536	20.82571 ppb		99
3) Freon 114	1.29	85	105039	18.90092 ppb		95
4) Chloromethane	1.34	50	109040	19.22781 ppb		96
5) Vinyl chloride	1.43	62	162282	20.14192 ppb		97
6) Bromomethane	1.69	94	112904	20.27607 ppb		98
7) Chloroethane	1.79	64	93486	19.80315 ppb		97
8) Dichlorofluoromethane	1.98	67	243658	19.55453 ppb		98
9) Trichlorofluoromethane	2.02	101	199107	20.10155 ppb		97
10) Acrolein	2.41	56	46391	153.60164 ppb		96
11) Acetone	2.56	58	2546	19.23758 ppb		74
12) Freon-113	2.53	101	110286	19.20002 ppb		99
13) 1,1-DCE	2.50	61	176159	19.56393 ppb		99
14) Acetonitrile	2.82	41	42213	337.81318 ppb		98
15) t-Butanol	3.14	59	16936	165.06791 ppb		96
16) Methyl Acetate	2.90	43	40381	20.46945 ppb		97
17) Iodomethane	2.64	142	150365	19.43735 ppb		100
18) Acrylonitrile	3.21	53	18882	20.60047 ppb	#	92
19) Methylene chloride	2.98	84	113454	18.85683 ppb		97
20) Carbon disulfide	2.69	76	362330	19.70344 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	197541	20.06628 ppb		99
22) Trans-1,2-DCE	3.25	96	134967	19.73057 ppb		96
23) Diisopropyl Ether	3.79	45	333748	19.86936 ppb		100
24) 1,1-DCA	3.66	63	218288	19.83573 ppb		97
25) Vinyl Acetate	3.75	43	67410	23.16202 ppb		99
26) Ethyl tert Butyl Ether	4.16	59	227306	19.96929 ppb		94
27) MEK (2-Butanone)	4.30	43	28339	20.98374 ppb		96
28) Cis-1,2-DCE	4.26	96	139061	19.77640 ppb		97
29) 2,2-Dichloropropane	4.26	77	147798	21.77929 ppb		100
30) Chloroform	4.61	83	217210	19.87800 ppb		96
31) Bromochloromethane	4.50	128	53602	19.91615 ppb		98
33) 1,1,1-TCA	4.79	97	192630	20.21403 ppb		98
34) Cyclohexane	4.86	41	110588	19.28076 ppb		99
35) 1,1-Dichloropropene	4.97	75	177262	19.83603 ppb		98
36) 2,2,4-Trimethylpentane	5.32	57	291841	18.98548 ppb		99
38) Carbon Tetrachloride	4.97	117	147477	21.04249 ppb		94
39) Tert Amyl Methyl Ether	5.36	73	204211	20.37508 ppb		98
40) 1,2-DCA	5.20	62	113636	19.07970 ppb		98
41) Benzene	5.19	78	517130	19.33666 ppb		99
42) TCE	5.91	95	141353	19.24311 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	270975	161.05907	ppb	97
44)	1,2-Dichloropropane	6.15	63	111509	19.81572	ppb	97
45)	Bromodichloromethane	6.48	83	130578	21.05819	ppb	99
46)	Methyl Cyclohexane	6.14	83	188675	18.84772	ppb	93
47)	Dibromomethane	6.28	93	46792	20.15348	ppb	93
48)	MIBK (methyl isobutyl ket	7.23	43	53010	18.94163	ppb	95
49)	1-Bromo-2-chloroethane	6.83	63	110325	20.62948	ppb	91
51)	Cis-1,3-Dichloropropene	7.01	75	145159	22.00265	ppb	94
52)	Toluene	7.42	91	595547	19.29577	ppb	98
53)	Trans-1,3-Dichloropropene	7.70	75	98676	23.98745	ppb	96
54)	1,1,2-TCA	7.91	83	57122	20.62876	ppb	94
55)	2-Hexanone	8.27	43	32801	20.84982	ppb	95
58)	1,2-EDB	8.51	107	61003	19.49274	ppb	97
59)	Tetrachloroethene	8.09	164	142137	19.22858	ppb	96
60)	1-Chlorohexane	9.20	91	177057	19.49016	ppb	99
61)	1,1,1,2-Tetrachloroethane	9.29	131	103520	22.44927	ppb	99
62)	m&p-Xylene	9.51	106	546456	38.48737	ppb	98
63)	o-Xylene	10.03	106	261203	19.16418	ppb	99
64)	Styrene	10.05	104	395903	19.90010	ppb	100
66)	1,3-Dichloropropane	8.11	76	116126	19.46636	ppb	99
67)	Dibromochloromethane	8.39	129	77114	23.20805	ppb	94
68)	Chlorobenzene	9.17	112	369605	19.36892	ppb	98
69)	Ethylbenzene	9.35	91	677197	19.38160	ppb	98
70)	Bromoform	10.25	173	39915	22.03591	ppb	99
72)	Isopropylbenzene	10.55	105	684017	19.07216	ppb	99
73)	1,1,2,2-Tetrachloroethane	10.95	83	64879	20.03154	ppb	96
74)	1,2,3-Trichloropropane	10.99	110	22347	19.42687	ppb	95
75)	t-1,4-Dichloro-2-Butene	11.04	53	12666	20.02713	ppb	98
76)	Bromobenzene	10.91	156	150596	19.11417	ppb	99
77)	n-Propylbenzene	11.12	91	762837	18.90198	ppb	98
78)	4-Ethyltoluene	11.28	105	674284	19.24225	ppb	98
79)	2-Chlorotoluene	11.20	91	435112	18.86239	ppb	99
80)	1,3,5-Trimethylbenzene	11.38	105	557956	18.63893	ppb	99
81)	4-Chlorotoluene	11.35	91	506971	18.78208	ppb	98
82)	Tert-Butylbenzene	11.82	119	497598	18.50179	ppb	99
83)	1,2,4-Trimethylbenzene	11.89	105	554034	19.67728	ppb	98
84)	Sec-Butylbenzene	12.13	105	672062	18.95123	ppb	99
85)	p-Isopropyltoluene	12.36	119	591623	19.15652	ppb	99
86)	Benzyl Chloride	12.57	91	48553	19.64493	ppb	96
87)	1,3-DCB	12.24	146	310354	19.29632	ppb	98
88)	1,4-DCB	12.37	146	292154	18.31139	ppb	99
89)	n-Butylbenzene	12.94	91	483760	19.67655	ppb	100
90)	1,2-DCB	12.88	146	260576	19.67090	ppb	99
91)	Hexachloroethane	13.25	117	56694	22.58110	ppb	94
92)	1,2-Dibromo-3-chloropropan	13.99	75	8186	18.02756	ppb	92
93)	1,2,4-Trichlorobenzene	15.21	180	150268	20.05259	ppb	98
94)	Hexachlorobutadiene	15.51	225	89094	19.26246	ppb	97
95)	Naphthalene	15.54	128	81448	19.98249	ppb	99
96)	1,2,3-Trichlorobenzene	15.90	180	109392	17.37893	ppb	100

(#) = qualifier out of range (m) = manual integration

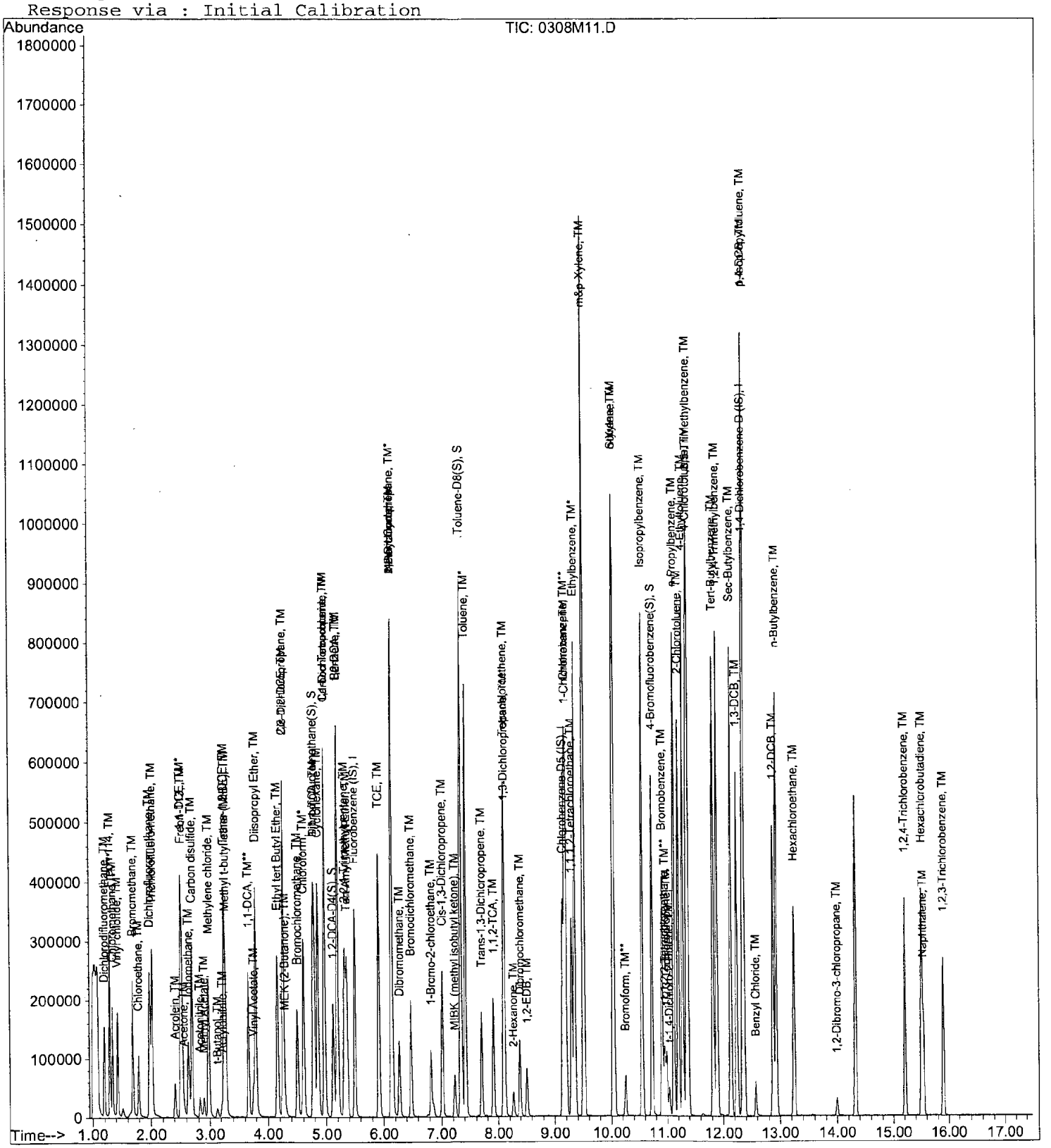
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/170
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
37) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
57) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
65) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.19	85	160128	41.01765 ppb	99
3) Freon 114	1.29	85	229384	41.90276 ppb	98
4) Chloromethane	1.34	50	216631	38.78035 ppb	97
5) Vinyl chloride	1.43	62	321641	40.52742 ppb	99
6) Bromomethane	1.69	94	240925	43.92416 ppb	98
7) Chloroethane	1.78	64	187907	40.40897 ppb	99
8) Dichlorofluoromethane	1.98	67	499178	40.66953 ppb	100
9) Trichlorofluoromethane	2.02	101	403115	41.31608 ppb	96
10) Acrolein	2.41	56	54202	182.18998 ppb	98
11) Acetone	2.57	58	5015	40.32503 ppb #	60
12) Freon-113	2.52	101	236325	41.76746 ppb	96
13) 1,1-DCE	2.50	61	366446	41.31505 ppb	99
14) Acetonitrile	2.82	41	49440	401.65751 ppb	98
15) t-Butanol	3.14	59	20222	200.08889 ppb #	90
16) Methyl Acetate	2.89	43	83027	42.72632 ppb	99
17) Iodomethane	2.63	142	315174	40.35500 ppb	99
18) Acrylonitrile	3.21	53	39046	43.24669 ppb #	93
19) Methylene chloride	2.97	84	225581	38.06259 ppb	99
20) Carbon disulfide	2.69	76	737216	40.69862 ppb	100
21) Methyl t-butyl ether (MtBE	3.27	73	396779	40.91716 ppb	100
22) Trans-1,2-DCE	3.25	96	269880	40.05251 ppb	99
23) Diisopropyl Ether	3.79	45	685512	41.43118 ppb	98
24) 1,1-DCA	3.66	63	438099	40.41454 ppb	99
25) Vinyl Acetate	3.75	43	152885	53.32907 ppb	98
26) Ethyl tert Butyl Ether	4.16	59	482569	43.03860 ppb	97
27) MEK (2-Butanone)	4.29	43	51412	39.38413 ppb	95
28) Cis-1,2-DCE	4.26	96	278622	40.22578 ppb	97
29) 2,2-Dichloropropane	4.26	77	321304	48.06604 ppb	98
30) Chloroform	4.60	83	431609	40.09871 ppb	99
31) Bromochloromethane	4.50	128	107612	40.59122 ppb	96
33) 1,1,1-TCA	4.79	97	410471	43.72790 ppb	97
34) Cyclohexane	4.86	41	227909	40.33896 ppb	98
35) 1,1-Dichloropropene	4.97	75	357325	40.59286 ppb	97
36) 2,2,4-Trimethylpentane	5.32	57	608071	40.15842 ppb	99
38) Carbon Tetrachloride	4.97	117	331527	48.02184 ppb	98
39) Tert Amyl Methyl Ether	5.36	73	424338	42.98126 ppb	94
40) 1,2-DCA	5.20	62	228317	38.91713 ppb	100
41) Benzene	5.19	78	1048073	39.78508 ppb	98
42) TCE	5.91	95	287026	39.66783 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/170
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.14	43	333666	201.33300 ppb		95
44)	1,2-Dichloropropane	6.15	63	226140	40.79665 ppb		95
45)	Bromodichloromethane	6.48	83	269125	44.06077 ppb		98
46)	Methyl Cyclohexane	6.14	83	389155	39.46519 ppb		92
47)	Dibromomethane	6.28	93	95006	41.54096 ppb		97
48)	MIBK (methyl isobutyl ket	7.23	43	103159	37.42087 ppb		95
49)	1-Bromo-2-chloroethane	6.82	63	224717	42.65768 ppb		94
51)	Cis-1,3-Dichloropropene	7.01	75	308535	47.47692 ppb		96
52)	Toluene	7.42	91	1213140	39.90286 ppb		99
53)	Trans-1,3-Dichloropropene	7.69	75	222031	54.79403 ppb		96
54)	1,1,2-TCA	7.91	83	109838	40.26887 ppb		93
55)	2-Hexanone	8.27	43	67133	43.32098 ppb		95
58)	1,2-EDB	8.51	107	127578	40.38876 ppb		98
59)	Tetrachloroethene	8.09	164	280935	38.41292 ppb		99
60)	1-Chlorohexane	9.20	91	363948	40.49236 ppb		99
61)	1,1,1,2-Tetrachloroethane	9.29	131	227168	49.79166 ppb		99
62)	m&p-Xylene	9.51	106	1119123	79.66588 ppb		98
63)	o-Xylene	10.03	106	530105	39.31022 ppb		99
64)	Styrene	10.05	104	822689	41.79589 ppb		100
66)	1,3-Dichloropropane	8.11	76	236614	40.08918 ppb		99
67)	Dibromochloromethane	8.39	129	169501	51.55957 ppb		91
68)	Chlorobenzene	9.17	112	748821	39.66222 ppb		98
69)	Ethylbenzene	9.35	91	1379859	39.91542 ppb		99
70)	Bromoform	10.25	173	89473	49.92502 ppb		97
72)	Isopropylbenzene	10.55	105	1394640	38.96697 ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	133522	41.31091 ppb		95
74)	1,2,3-Trichloropropane	10.99	110	43583	37.96665 ppb		95
75)	t-1,4-Dichloro-2-Butene	11.04	53	29039	46.01109 ppb	#	80
76)	Bromobenzene	10.91	156	304679	38.75129 ppb		96
77)	n-Propylbenzene	11.12	91	1586120	39.38340 ppb		99
78)	4-Ethyltoluene	11.29	105	1390370	39.75987 ppb		97
79)	2-Chlorotoluene	11.20	91	895508	38.90154 ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	1158897	38.79427 ppb		98
81)	4-Chlorotoluene	11.36	91	1046787	38.86160 ppb		99
82)	Tert-Butylbenzene	11.82	119	1013596	37.76605 ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	1142256	40.65311 ppb		99
84)	Sec-Butylbenzene	12.14	105	1395739	39.43972 ppb		99
85)	p-Isopropyltoluene	12.36	119	1240518	40.25096 ppb		100
86)	Benzyl Chloride	12.57	91	133909	40.03984 ppb		97
87)	1,3-DCB	12.24	146	629318	39.20928 ppb		99
88)	1,4-DCB	12.37	146	605287	38.01653 ppb		99
89)	n-Butylbenzene	12.94	91	1018528	41.51391 ppb		99
90)	1,2-DCB	12.88	146	519552	39.30253 ppb		99
91)	Hexachloroethane	13.25	117	140867	56.22363 ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	19535	38.24028 ppb		98
93)	1,2,4-Trichlorobenzene	15.21	180	324344	42.81768 ppb		97
94)	Hexachlorobutadiene	15.51	225	181372	39.29480 ppb		96
95)	Naphthalene	15.54	128	185280	35.29479 ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	241088	29.78847 ppb		97

(#) = qualifier out of range (m) = manual integration

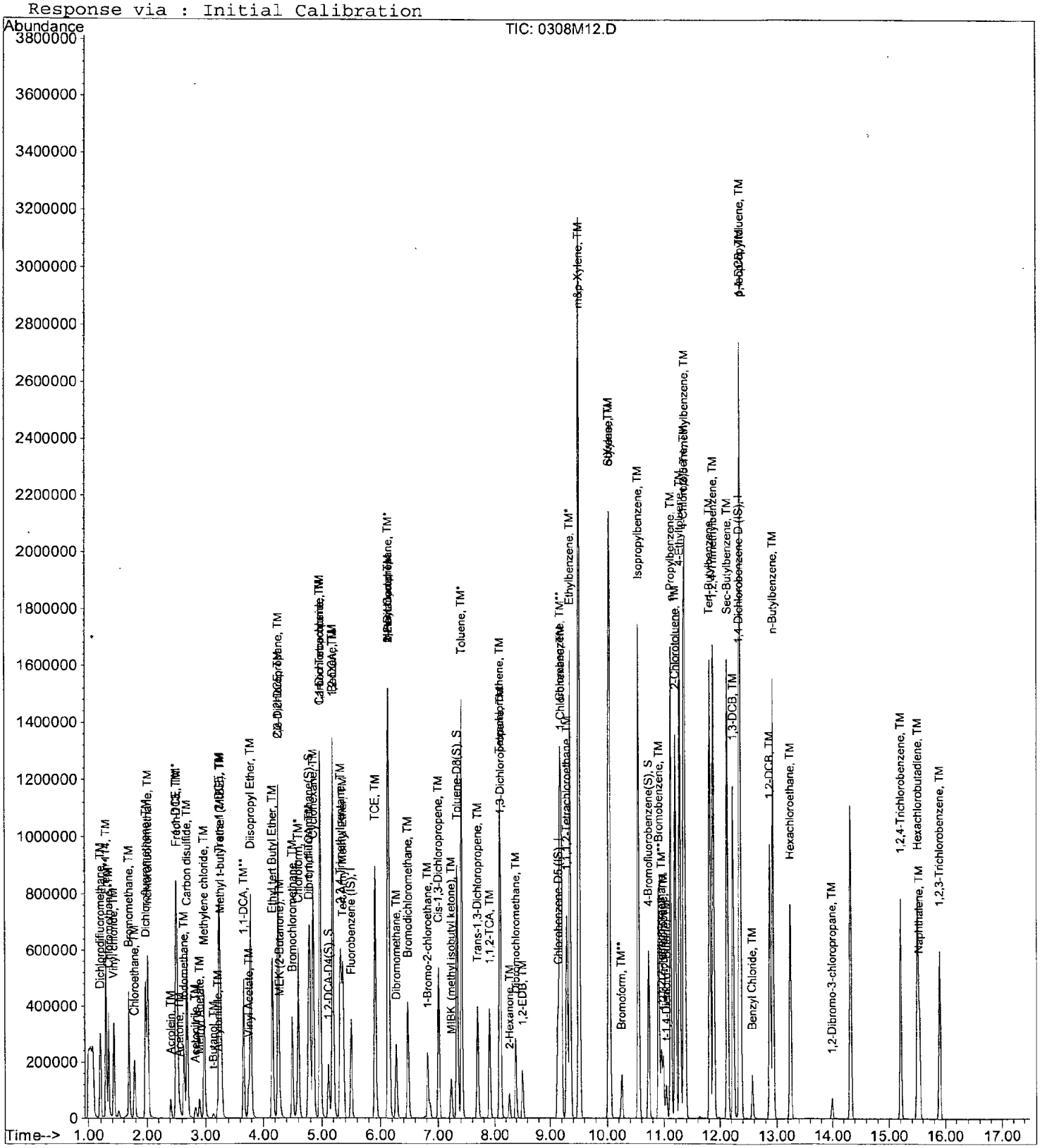
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/170
Misc : IS&S 02/23/17

Via1: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



424

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
37) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
57) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
65) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.19	85	406656	108.06985 ppb		99
3) Freon 114	1.29	85	562201	106.54791 ppb		99
4) Chloromethane	1.34	50	564019	104.75113 ppb		96
5) Vinyl chloride	1.43	62	801310	104.74951 ppb		98
6) Bromomethane	1.68	94	589757	111.54973 ppb		98
7) Chloroethane	1.77	64	673195	150.19296 ppb		98
8) Dichlorofluoromethane	1.97	67	1300985	109.96637 ppb		98
9) Trichlorofluoromethane	2.01	101	1035374	110.09339 ppb		98
10) Acrolein	2.41	56	60817	212.08406 ppb		90
11) Acetone	2.57	58	11661	99.90003 ppb	#	65
12) Freon-113	2.52	101	569035	104.33769 ppb		96
13) 1,1-DCE	2.50	61	904864	105.84138 ppb		99
14) Acetonitrile	2.83	41	60471	509.68098 ppb		99
15) t-Butanol	3.15	59	27346	280.71559 ppb		97
16) Methyl Acetate	2.90	43	208491	111.31079 ppb		99
17) Iodomethane	2.63	142	815411	106.81559 ppb		98
18) Acrylonitrile	3.22	53	97677	112.23865 ppb	#	94
19) Methylene chloride	2.97	84	557876	97.65790 ppb		96
20) Carbon disulfide	2.69	76	1877954	107.55824 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	997179	106.68510 ppb		98
22) Trans-1,2-DCE	3.25	96	676073	104.09420 ppb		99
23) Diisopropyl Ether	3.79	45	1765022	110.67160 ppb		99
24) 1,1-DCA	3.66	63	1111654	106.39199 ppb		98
25) Vinyl Acetate	3.75	43	466056	168.65961 ppb		97
26) Ethyl tert Butyl Ether	4.16	59	1255702	116.18743 ppb		95
27) MEK (2-Butanone)	4.30	43	124055	99.91021 ppb		93
28) Cis-1,2-DCE	4.26	96	702743	105.25904 ppb		95
29) 2,2-Dichloropropane	4.26	77	887004	137.66441 ppb		99
30) Chloroform	4.60	83	1095662	105.60643 ppb		99
31) Bromochloromethane	4.50	128	272224	106.52993 ppb		99
33) 1,1,1-TCA	4.79	97	1071428	118.41670 ppb		97
34) Cyclohexane	4.86	41	571159	104.88033 ppb		99
35) 1,1-Dichloropropene	4.97	75	896738	105.68799 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	1529522	104.79773 ppb		98
38) Carbon Tetrachloride	4.97	117	902697	135.65498 ppb		98
39) Tert Amyl Methyl Ether	5.36	73	1119806	117.67490 ppb	#	91
40) 1,2-DCA	5.20	62	585241	103.49305 ppb		99
41) Benzene	5.19	78	2678437	105.48337 ppb		98
42) TCE	5.91	95	712662	102.18205 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:07:40 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	418965	262.27361	ppb	92
44) 1,2-Dichloropropane	6.15	63	581609	108.85592	ppb	95
45) Bromodichloromethane	6.48	83	711756	120.89353	ppb	100
46) Methyl Cyclohexane	6.14	83	993474	104.52541	ppb	95
47) Dibromomethane	6.28	93	239489	108.63879	ppb	96
48) MIBK (methyl isobutyl ket	7.23	43	261915	98.56913	ppb	93
49) 1-Bromo-2-chloroethane	6.82	63	579550	114.13691	ppb	94
51) Cis-1,3-Dichloropropene	7.01	75	817057	130.43807	ppb	96
52) Toluene	7.42	91	3189759	108.84910	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	607645	155.57629	ppb	98
54) 1,1,2-TCA	7.91	83	280906	106.84437	ppb	96
55) 2-Hexanone	8.27	43	171506	114.81942	ppb	95
58) 1,2-EDB	8.51	107	332321	104.76805	ppb	95
59) Tetrachloroethene	8.09	164	707231	97.38930	ppb	99
60) 1-Chlorohexane	9.20	91	944519	105.83344	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.29	131	628350	138.70418	ppb	96
62) m&p-Xylene	9.51	106	3017730	216.34827	ppb	95
63) o-Xylene	10.03	106	1407682	105.12998	ppb	94
64) Styrene	10.05	104	2249213	115.08189	ppb	99
66) 1,3-Dichloropropane	8.11	76	592302	101.06677	ppb	99
67) Dibromochloromethane	8.39	129	469876	143.94572	ppb	95
68) Chlorobenzene	9.17	112	1927952	102.84276	ppb	97
69) Ethylbenzene	9.35	91	3648904	106.30334	ppb	97
70) Bromoform	10.25	173	265551	149.22883	ppb	99
72) Isopropylbenzene	10.55	105	3763658	101.56516	ppb	98
73) 1,1,2,2-Tetrachloroethane	10.96	83	360976	107.86742	ppb	96
74) 1,2,3-Trichloropropane	10.99	110	115429	97.11810	ppb	98
75) t-1,4-Dichloro-2-Butene	11.04	53	85546	130.91235	ppb	83
76) Bromobenzene	10.91	156	809384	99.42561	ppb	97
77) n-Propylbenzene	11.12	91	4364476	104.66689	ppb	98
78) 4-Ethyltoluene	11.29	105	3848783	106.30118	ppb	95
79) 2-Chlorotoluene	11.20	91	2414645	101.30963	ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	3234072	104.56166	ppb	96
81) 4-Chlorotoluene	11.36	91	2924658	104.86667	ppb	97
82) Tert-Butylbenzene	11.82	119	2732669	98.33854	ppb	98
83) 1,2,4-Trimethylbenzene	11.90	105	3196357	109.87164	ppb	98
84) Sec-Butylbenzene	12.14	105	3860121	105.34904	ppb	99
85) p-Isopropyltoluene	12.36	119	3478678	109.01530	ppb	99
86) Benzyl Chloride	12.57	91	461920	84.59637	ppb	97
87) 1,3-DCB	12.24	146	1720511	103.53239	ppb	99
88) 1,4-DCB	12.37	146	1677905	101.78379	ppb	99
89) n-Butylbenzene	12.94	91	2857282	112.47963	ppb	99
90) 1,2-DCB	12.88	146	1413926	103.30425	ppb	99
91) Hexachloroethane	13.25	117	448836	173.02041	ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	56817	101.08814	ppb	94
93) 1,2,4-Trichlorobenzene	15.21	180	906456	114.76478	ppb	96
94) Hexachlorobutadiene	15.51	225	521806	109.18776	ppb	96
95) Naphthalene	15.54	128	501120	64.71172	ppb	99
96) 1,2,3-Trichlorobenzene	15.90	180	631498	53.17018	ppb	98

(#) = qualifier out of range (m) = manual integration

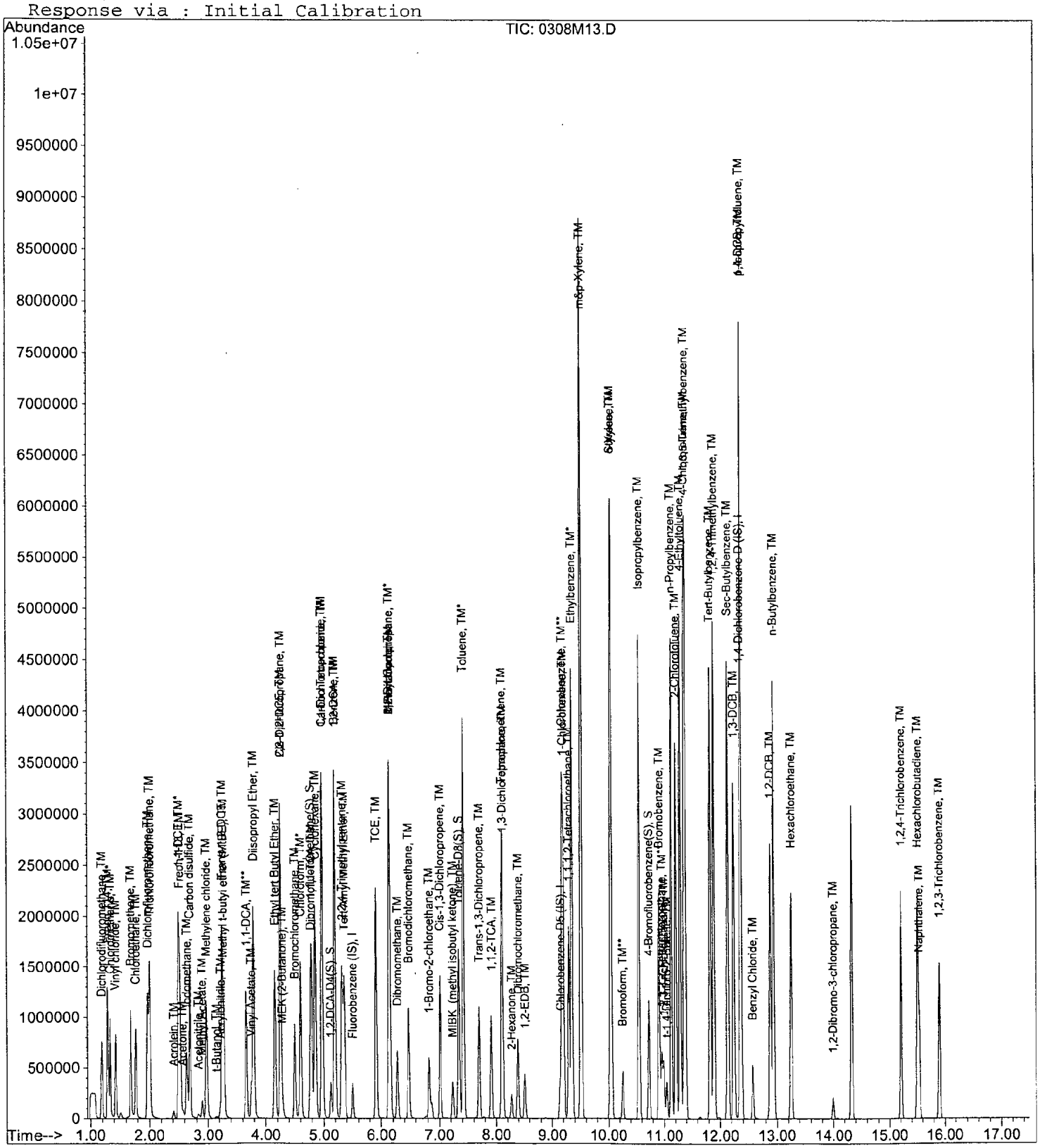
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

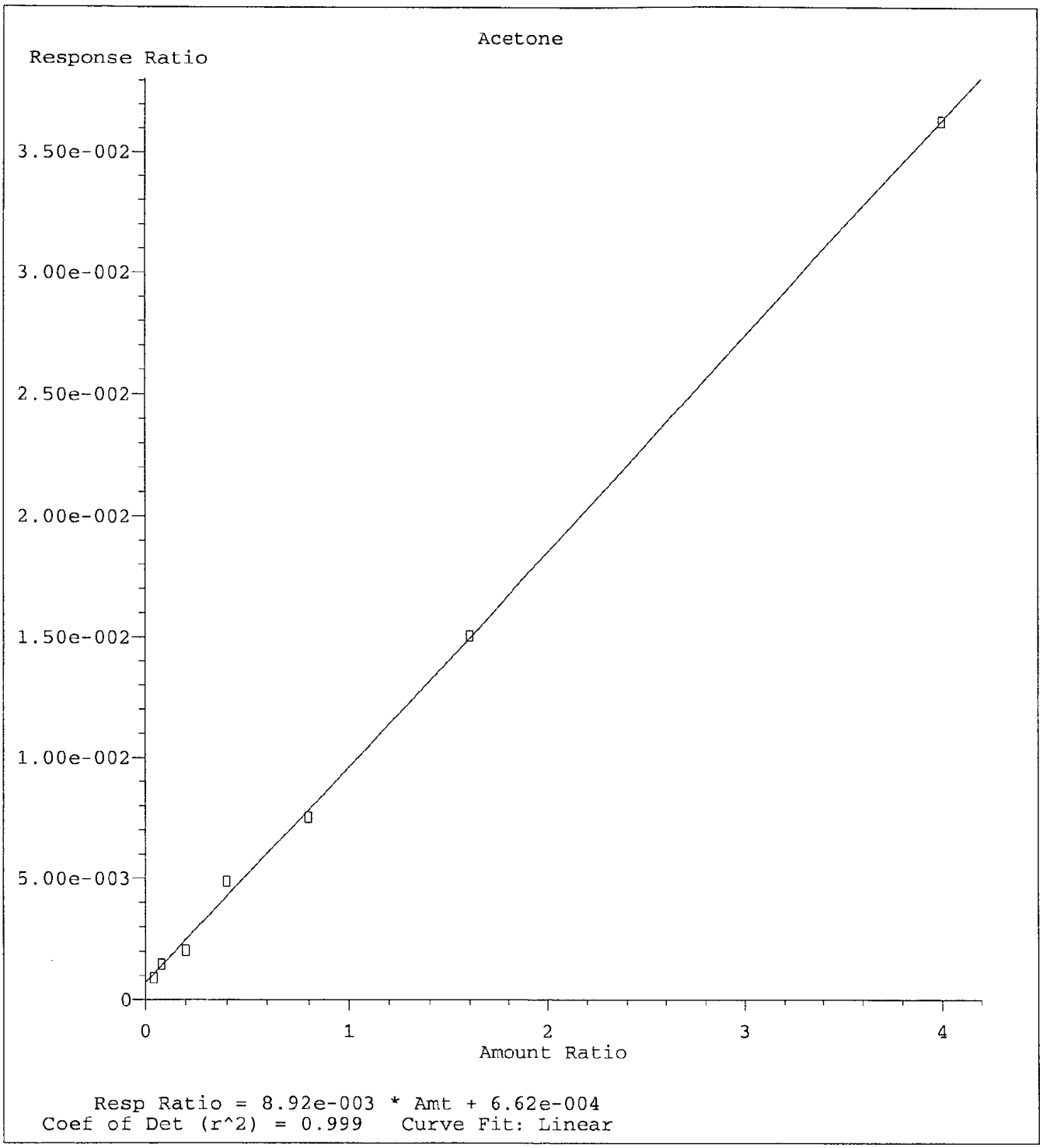
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:08 2017 Quant Results File: MALLW.RES

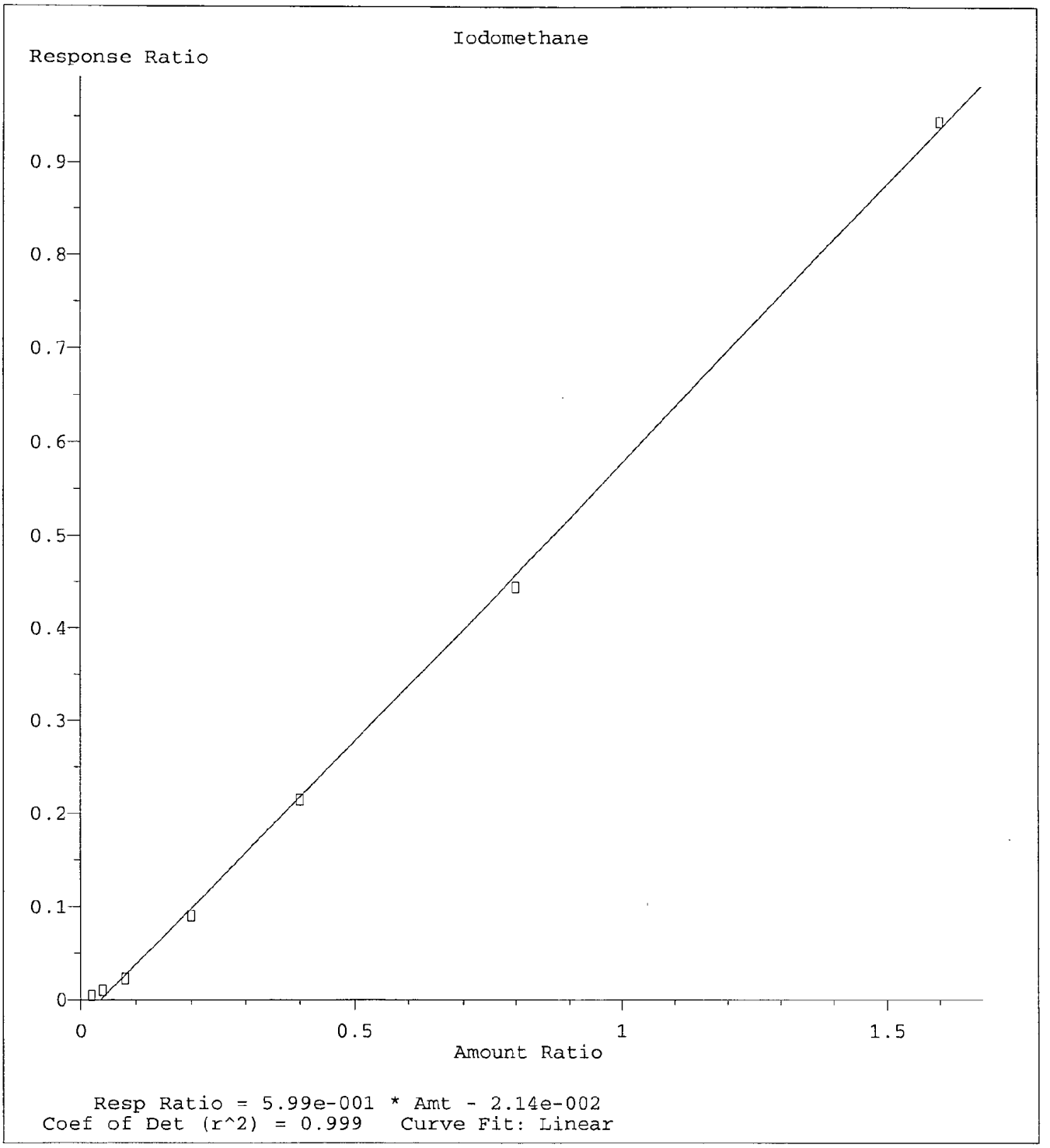
Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



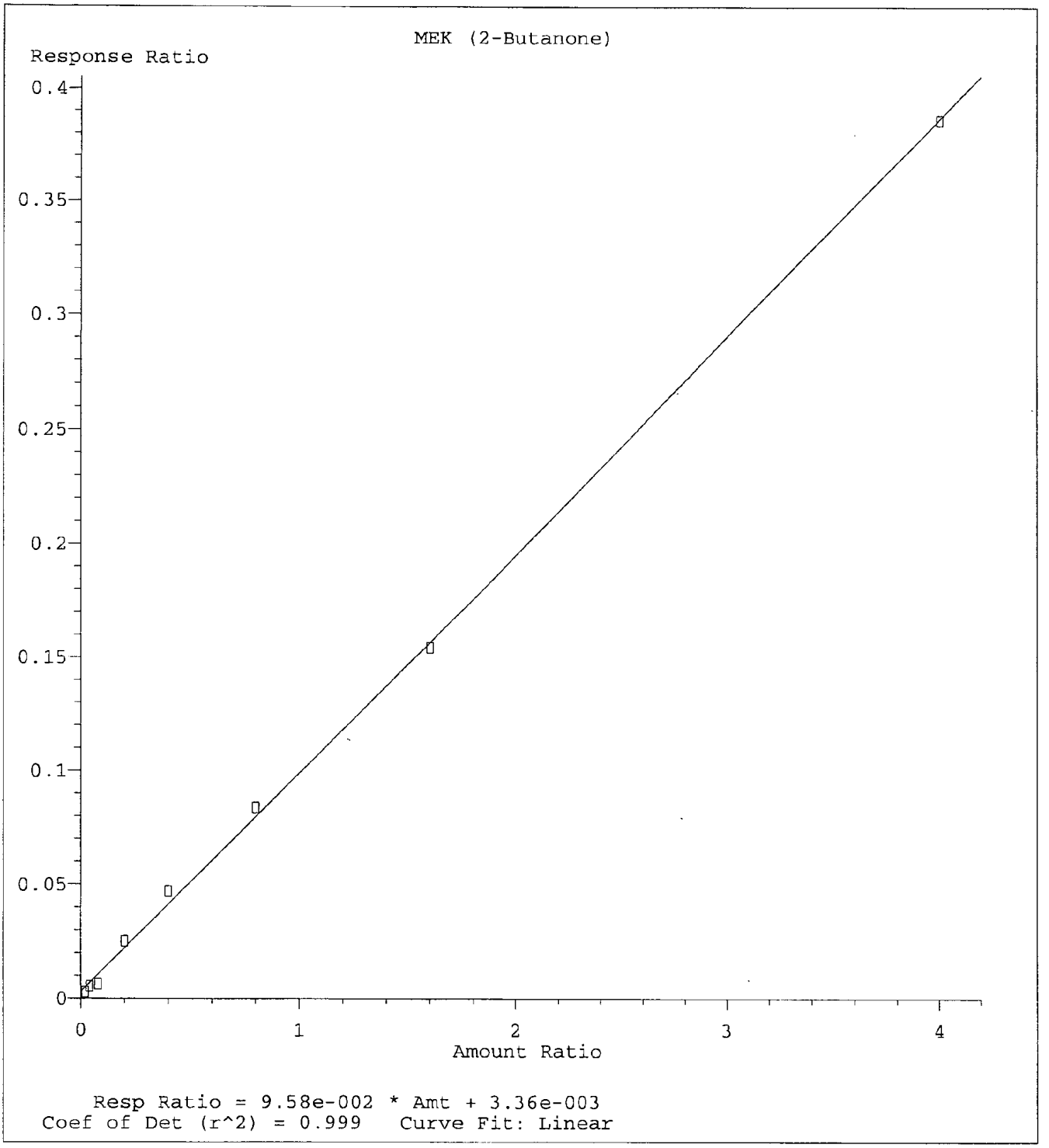
427



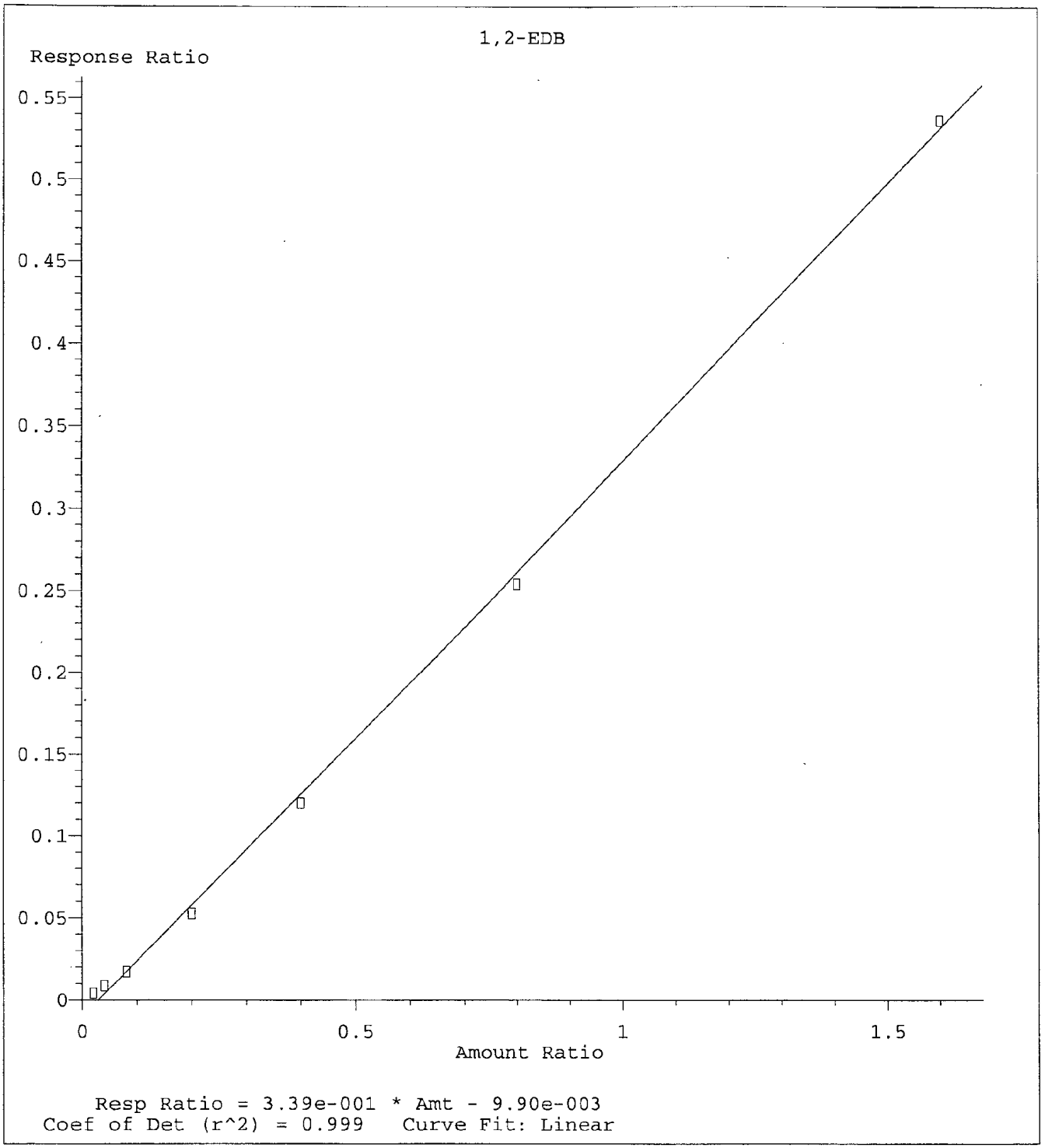
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



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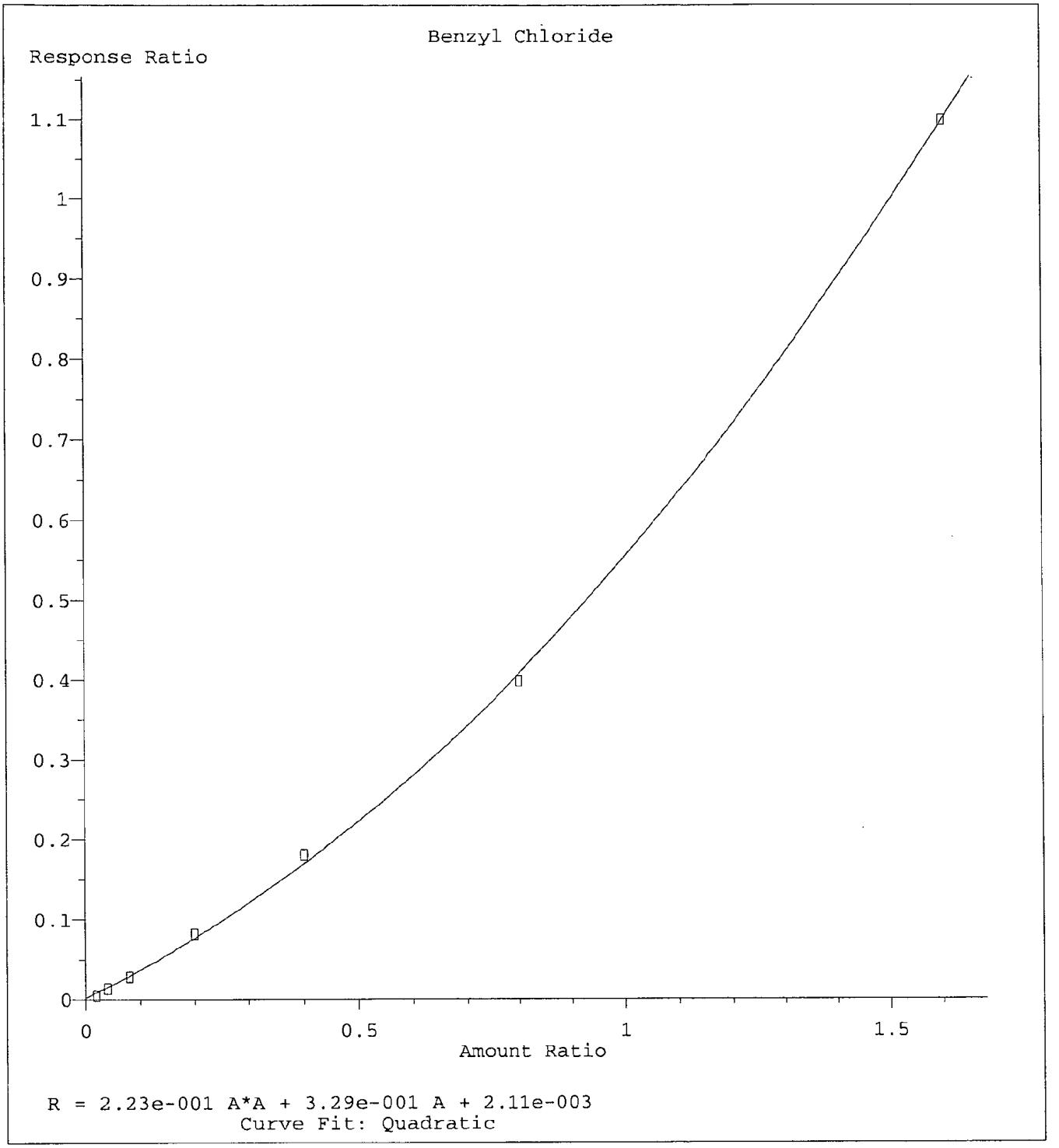
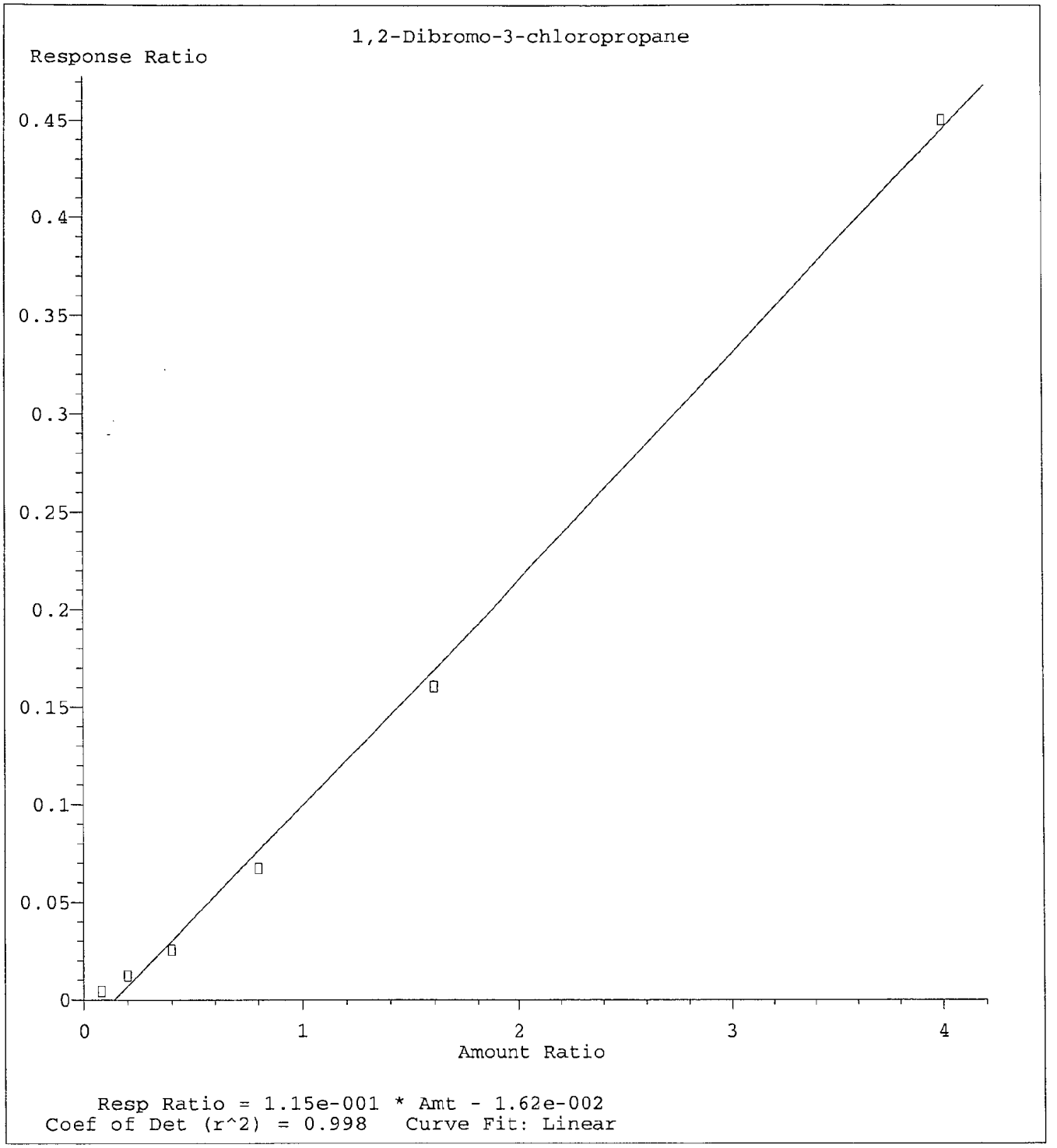
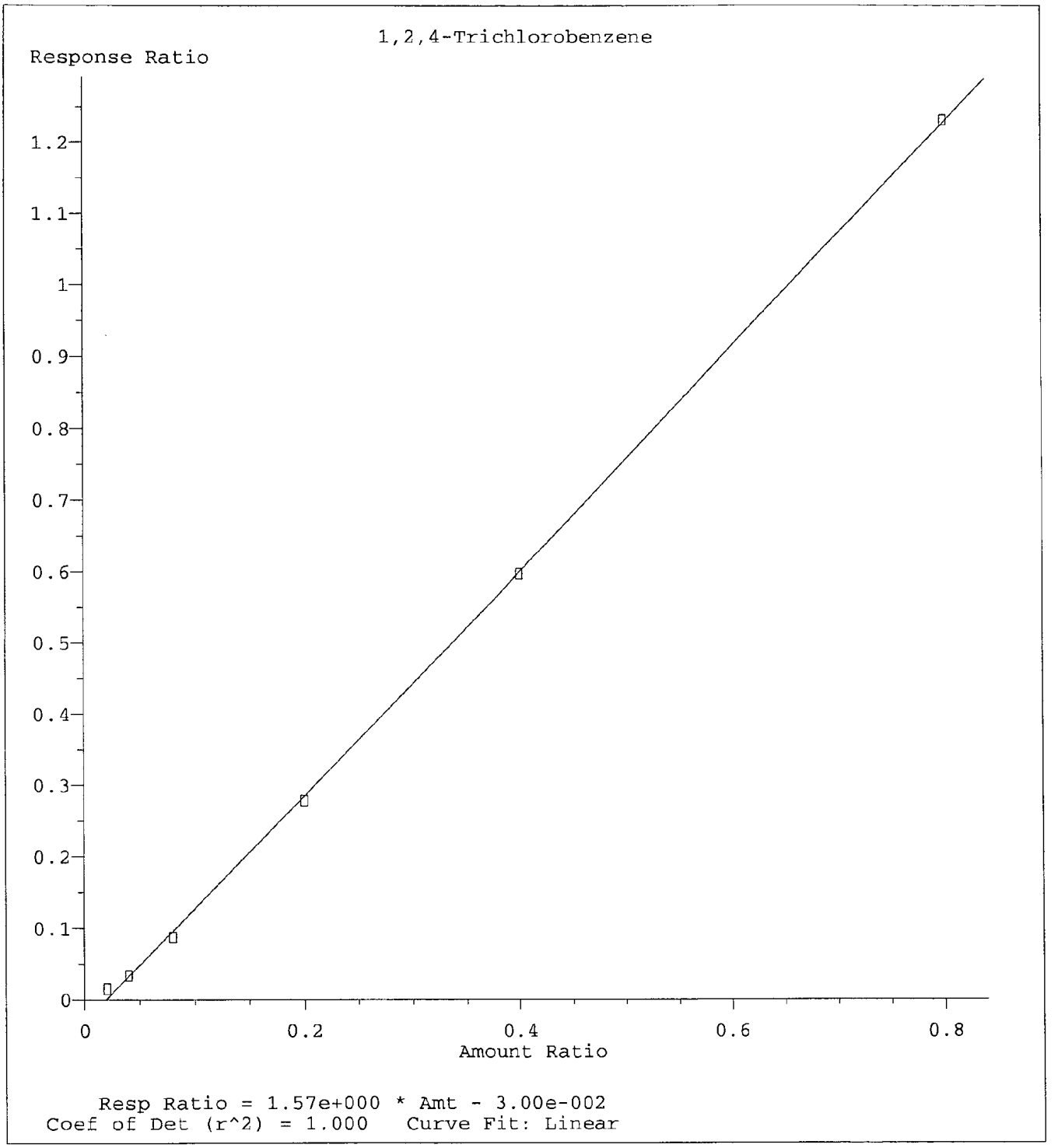
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



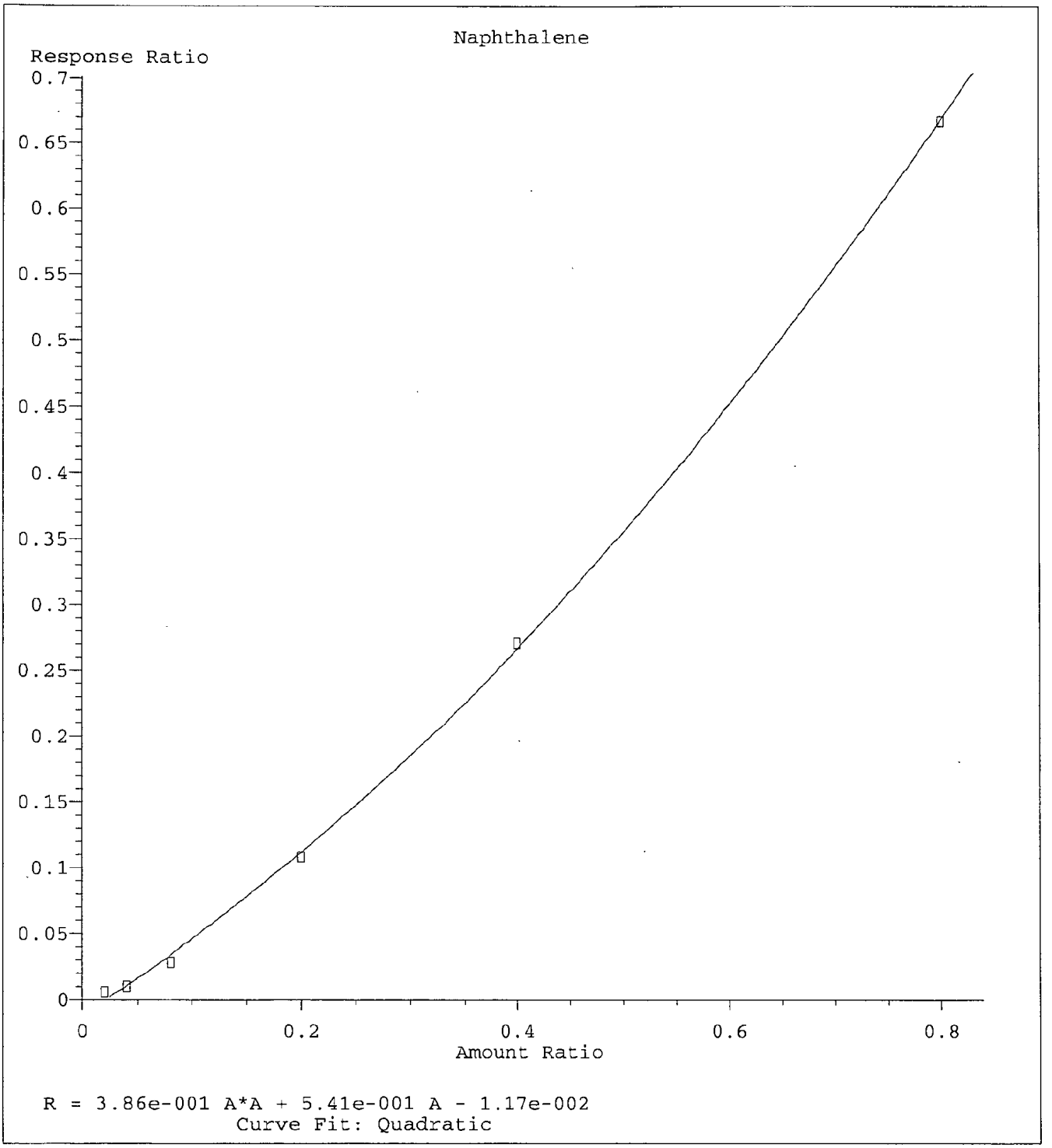
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



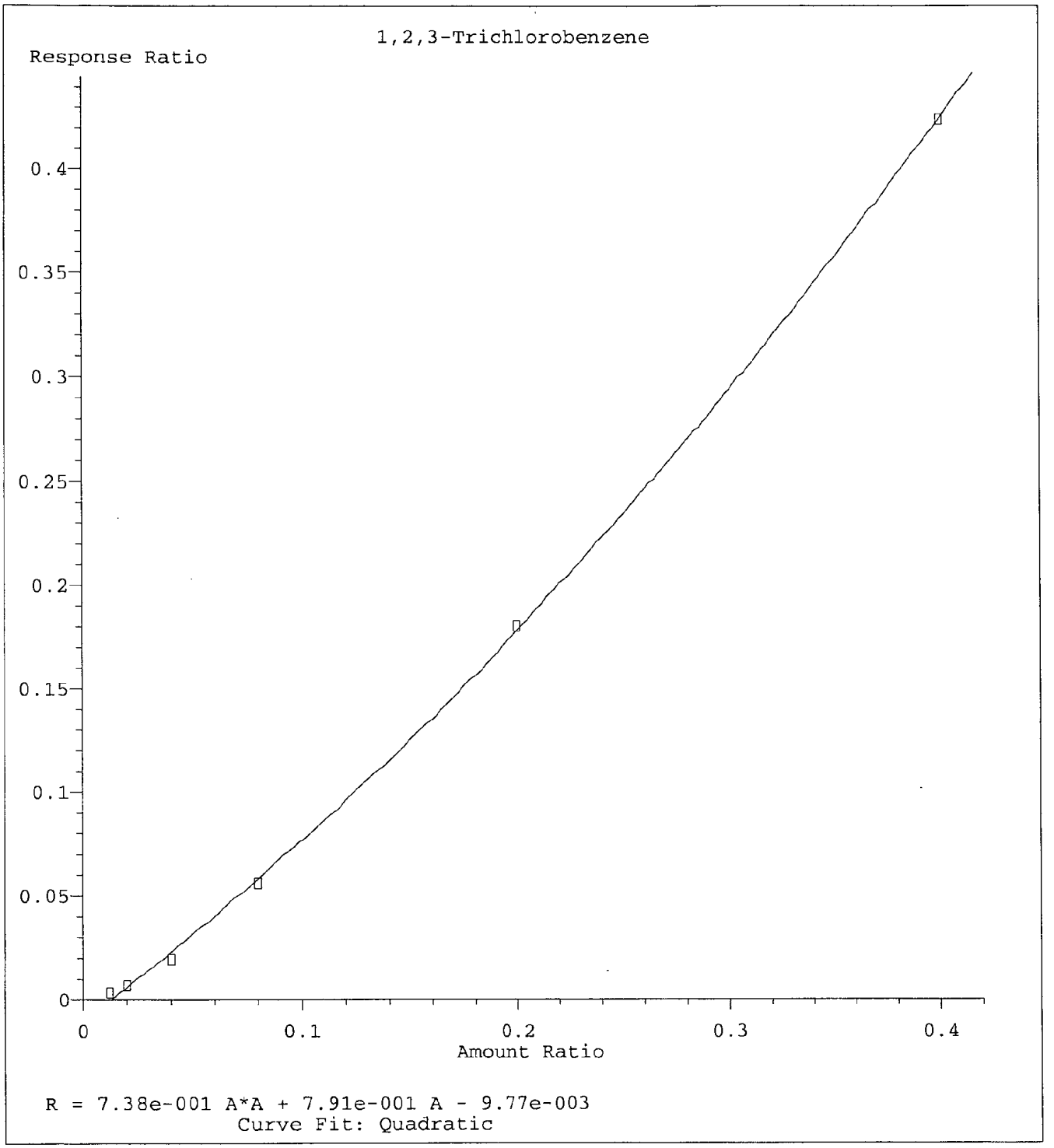
Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017



Method Name: M:\MAX\DATA\M170308\MALLW.M
Calibration Table Last Updated: Thu Mar 09 08:20:09 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	Dichlorodifluoromethane	0.2929	0.2661	9.1	TM		
2	TM	Freon 114	0.4107	0.3572	13	TM		
3	TM**	Chloromethane	0.4190	0.3946	5.8	TM**		
4	TM*	Vinyl chloride	0.5954	0.5872	1.4	TM*		
5	TM	Bromomethane	0.4115	0.3356	18	TM		
6	TM	Chloroethane	0.3488	0.3338	4.3	TM		
7	TM	Dichlorofluoromethane	0.9208	0.8857	3.8	TM		
8	TM	Trichlorofluoromethane	0.7319	0.7560	3.3	TM		
9	TM	Acrolein	0.0223	0.0203	8.9	TM		
10	TML	Acetone	0.0130	0.0135	4.1	TML	33	*
11	TM	Freon-113	0.4245	0.4336	2.2	TM		
12	TM*	1,1-DCE	0.6654	0.6019	9.5	TM*		
13	TM	Acetonitrile	0.0205	0.0224	9.1	TM		
14	TM	t-Butanol	0.0076	0.0090	18	TM		
15	TM	Methyl Acetate	0.1458	0.1513	3.8	TM		
16	TML	Iodomethane	0.4104	0.2661	35	TML	47	nt
17	TM	Acrylonitrile	0.0677	0.0710	4.8	TM		
18	TM	Methylene chloride	0.4446	0.3809	14	TM		
19	TM	Carbon disulfide	1.359	1.137	16	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7603	4.5	TM		
21	TM	Trans-1,2-DCE	0.5055	0.4613	8.7	TM		
22	TM	Diisopropyl Ether	1.241	1.219	1.8	TM		
23	TM**	1,1-DCA	0.8132	0.7216	11	TM**		
24	TM	Vinyl Acetate	0.2151	0.2197	2.1	TM		
25	TM	Ethyl tert Butyl Ether	0.8411	0.9358	11	TM		
26	TML	MEK (2-Butanone)	0.1121	0.0928	17	TML	12	
27	TM	Cis-1,2-DCE	0.5196	0.4831	7.0	TM		
28	TM	2,2-Dichloropropane	0.5015	0.4825	3.8	TM		
29	TM*	Chloroform	0.8075	0.7137	12	TM*		
30	TM	Bromochloromethane	0.1989	0.1817	8.7	TM		
31	TM	1,1,1-TCA	0.7042	0.6740	4.3	TM		
32	TM	Cyclohexane	0.4238	0.3864	8.8	TM		
33	TM	1,1-Dichloropropene	0.6603	0.5800	12	TM		
34	TM	2,2,4-Trimethylpentane	1.136	1.017	10	TM		
35	TM	Carbon Tetrachloride	0.5179	0.5425	4.8	TM		
36	TM	Tert Amyl Methyl Ether	0.7406	0.7592	2.5	TM		
37	TM	1,2-DCA	0.4401	0.3855	12	TM		
38	TM	Benzene	1.976	1.759	11	TM		
39	TM	TCE	0.5428	0.4797	12	TM		
40	TM	2-Pentanone	0.1243	0.1385	11	TM		
		Average			9.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4158	0.3666	12	TM*	
42	TM	Bromodichloromethane	0.4582	0.4410	3.8	TM	
43	TM	Methyl Cyclohexane	0.7397	0.6718	9.2	TM	
44	TM	Dibromomethane	0.1716	0.1528	11	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2068	0.2053	0.70	TM	
46	TM	1-Bromo-2-chloroethane	0.3952	0.3867	2.1	TM	
47	TM	Cis-1,3-Dichloropropene	0.4875	0.4772	2.1	TM	
48	TM*	Toluene	2.281	1.998	12	TM*	
49	TM	Trans-1,3-Dichloropropene	0.3040	0.3459	14	TM	
50	TM	1,1,2-TCA	0.2046	0.1833	10	TM	
51	TM	2-Hexanone	0.1163	0.1300	12	TM	
52	TML	1,2-EDB	0.2651	0.2844	7.2	TML	8.7
53	TM	Tetrachloroethene	0.7696	0.6912	10	TM	
54	TM	1-Chlorohexane	0.9459	0.9434	0.26	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.4801	0.5101	6.2	TM	
56	TM	m&p-Xylene	1.478	1.296	12	TM	
57	TM	o-Xylene	1.419	1.227	14	TM	
58	TM	Styrene	2.071	1.826	12	TM	
59	TM	1,3-Dichloropropane	0.6211	0.5613	9.6	TM	
60	TM	Dibromochloromethane	0.3460	0.3772	9.0	TM	
61	TM**	Chlorobenzene	1.987	1.746	12	TM**	
62	TM*	Ethylbenzene	3.638	3.245	11	TM*	
63	TM**	Bromoform	0.1886	0.1804	4.3	TM**	
64	TM	Isopropylbenzene	7.350	6.599	10	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.6170	7.1	TM**	
66	TM	1,2,3-Trichloropropane	0.2357	0.2197	6.8	TM	
67	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1145	12	TM	
68	TM	Bromobenzene	1.615	1.430	11	TM	
69	TM	n-Propylbenzene	8.271	7.307	12	TM	
70	TM	4-Ethyltoluene	7.181	7.139	0.59	TM	
71	TM	2-Chlorotoluene	4.727	4.145	12	TM	
72	TM	1,3,5-Trimethylbenzene	6.135	5.368	12	TM	
73	TM	4-Chlorotoluene	5.532	4.775	14	TM	
74	TM	Tert-Butylbenzene	5.512	4.775	13	TM	
75	TM	1,2,4-Trimethylbenzene	5.770	5.198	9.9	TM	
76	TM	Sec-Butylbenzene	7.268	6.414	12	TM	
77	TM	p-Isopropyltoluene	6.329	5.502	13	TM	
78	TMQ	Benzyl Chloride	0.4242	0.3942	7.1	TMQ	5.8
79	TM	1,3-DCB	3.296	2.912	12	TM	
80	TM	1,4-DCB	3.270	2.785	15	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Mar 17 19:07
Instrument: Max
Cal. Date: 03/08/17
Data File: 0308M18.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	5.039	4.392	13	TM	
82	TM	1,2-DCB	2.715	2.346	14	TM	
83	TM	Hexachloroethane	0.5145	0.6085	18	TM	
84	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0805	1.2	TML	4.7
85	TML	1,2,4-Trichlorobenzene	1.183	1.208	2.1	TML	18
86	TM	Hexachlorobutadiene	0.9479	0.8306	12	TM	
87	TMQ	Naphthalene	0.4921	0.5544	13	TMQ	14
88	TMQ	1,2,3-Trichlorobenzene	0.6294	0.8227	31	TMQ	18
89							
90							
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111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332241	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	230391	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113881	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.77	111	81347	24.85199 ppb	0.00
Spiked Amount 25.000			Recovery = 99.408%		
37) 1,2-DCA-D4(S)	5.12	65	62763	24.04517 ppb	0.00
Spiked Amount 25.000			Recovery = 96.180%		
57) Toluene-D8(S)	7.34	98	329558	24.63517 ppb	0.00
Spiked Amount 25.000			Recovery = 98.540%		
65) 4-Bromofluorobenzene(S)	10.72	95	109282	24.71231 ppb	0.00
Spiked Amount 25.000			Recovery = 98.848%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.20	85	35368	9.08749 ppb	94
3) Freon 114	1.29	85	47467	8.69764 ppb	99
4) Chloromethane	1.34	50	52440	9.41638 ppb	97
5) Vinyl chloride	1.43	62	78035	9.86273 ppb	99
6) Bromomethane	1.69	94	44603	8.15672 ppb	98
7) Chloroethane	1.79	64	44365	9.56985 ppb	97
8) Dichlorofluoromethane	1.98	67	117711	9.61968 ppb	98
9) Trichlorofluoromethane	2.02	101	100472	10.32916 ppb	96
10) Acrolein	2.41	56	33786	113.91369 ppb	95
11) Acetone	2.56	58	1797	13.30442 ppb #	64
12) Freon-113	2.53	101	57630	10.21661 ppb	95
13) 1,1-DCE	2.51	61	79991	9.04627 ppb	96
14) Acetonitrile	2.83	41	37164	136.40801 ppb	99
15) t-Butanol	3.13	59	14924	148.12013 ppb	96
16) Methyl Acetate	2.90	43	20102	10.37637 ppb	99
17) Iodomethane	2.64	142	35358	5.33244 ppb	94
18) Acrylonitrile	3.21	53	9433	10.47987 ppb	92
19) Methylene chloride	2.98	84	50624	8.56806 ppb	94
20) Carbon disulfide	2.69	76	151159	8.37045 ppb	99
21) Methyl t-butyl ether (MtBE	3.27	73	101046	10.45216 ppb	95
22) Trans-1,2-DCE	3.25	96	61301	9.12550 ppb	99
23) Diisopropyl Ether	3.79	45	161982	9.81994 ppb	99
24) 1,1-DCA	3.66	63	95898	8.87370 ppb	97
25) Vinyl Acetate	3.75	43	29195	10.21498 ppb	100
26) Ethyl tert Butyl Ether	4.16	59	124366	11.12578 ppb	94
27) MEK (2-Butanone)	4.30	43	12332	8.81039 ppb	84
28) Cis-1,2-DCE	4.26	96	64204	9.29782 ppb	98
29) 2,2-Dichloropropane	4.26	77	64129	9.62292 ppb	98
30) Chloroform	4.60	83	94844	8.83852 ppb	95
31) Bromochloromethane	4.50	128	24142	9.13429 ppb	96
33) 1,1,1-TCA	4.79	97	89571	9.57136 ppb	97
34) Cyclohexane	4.86	41	51350	9.11661 ppb	99
35) 1,1-Dichloropropene	4.97	75	77076	8.78285 ppb	100
36) 2,2,4-Trimethylpentane	5.32	57	135152	8.95313 ppb	99
38) Carbon Tetrachloride	4.97	117	72098	10.47546 ppb	96
39) Tert Amyl Methyl Ether	5.36	73	100899	10.25142 ppb	100
40) 1,2-DCA	5.20	62	51233	8.75956 ppb	100
41) Benzene	5.19	78	233760	8.90080 ppb	98
42) TCE	5.91	95	63744	8.83663 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.14	43	230098	139.26623 ppb		98
44) 1,2-Dichloropropane	6.15	63	48717	8.81572 ppb	#	93
45) Bromodichloromethane	6.48	83	58602	9.62366 ppb		100
46) Methyl Cyclohexane	6.14	83	89281	9.08198 ppb		90
47) Dibromomethane	6.28	93	20309	8.90726 ppb		96
48) MIBK (methyl isobutyl ket	7.23	43	27290	9.92979 ppb		92
49) 1-Bromo-2-chloroethane	6.83	63	51390	9.78520 ppb		94
51) Cis-1,3-Dichloropropene	7.01	75	63419	9.78876 ppb		97
52) Toluene	7.42	91	265582	8.76237 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	45965	11.37829 ppb		95
54) 1,1,2-TCA	7.91	83	24362	8.95900 ppb		95
55) 2-Hexanone	8.27	43	17271	11.17917 ppb	#	94
58) 1,2-EDB	8.51	107	26206	9.13075 ppb		96
59) Tetrachloroethene	8.09	164	63702	8.98120 ppb		96
60) 1-Chlorohexane	9.20	91	86937	9.97351 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.29	131	47008	10.62407 ppb		97
62) m&p-Xylene	9.51	106	238921	17.53713 ppb		97
63) o-Xylene	10.03	106	113036	8.64311 ppb		100
64) Styrene	10.05	104	168299	8.81635 ppb		97
66) 1,3-Dichloropropane	8.11	76	51729	9.03713 ppb		96
67) Dibromochloromethane	8.39	129	34762	10.90313 ppb		90
68) Chlorobenzene	9.17	112	160861	8.78536 ppb		99
69) Ethylbenzene	9.35	91	299056	8.92007 ppb		100
70) Bromoform	10.25	173	16625	9.56528 ppb		87
72) Isopropylbenzene	10.55	105	300578	8.97744 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	28104	9.29481 ppb		91
74) 1,2,3-Trichloropropane	10.99	110	10010	9.32137 ppb		95
75) t-1,4-Dichloro-2-Butene	11.03	53	5218	8.83783 ppb		87
76) Bromobenzene	10.91	156	65137	8.85589 ppb		99
77) n-Propylbenzene	11.12	91	332862	8.83491 ppb		99
78) 4-Ethyltoluene	11.28	105	325192	9.94066 ppb		98
79) 2-Chlorotoluene	11.20	91	188836	8.76885 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	244530	8.75015 ppb		99
81) 4-Chlorotoluene	11.35	91	217506	8.63166 ppb		100
82) Tert-Butylbenzene	11.82	119	217514	8.66332 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	236796	9.00877 ppb		98
84) Sec-Butylbenzene	12.13	105	292153	8.82471 ppb		95
85) p-Isopropyltoluene	12.36	119	250635	8.69312 ppb		98
86) Benzyl Chloride	12.57	91	17956	9.42206 ppb		99
87) 1,3-DCB	12.24	146	132636	8.83366 ppb		99
88) 1,4-DCB	12.37	146	126869	8.51780 ppb		99
89) n-Butylbenzene	12.94	91	200062	8.71658 ppb		99
90) 1,2-DCB	12.88	146	106888	8.64333 ppb		98
91) Hexachloroethane	13.25	117	27720	11.82670 ppb		94
92) 1,2-Dibromo-3-chloropropan	13.99	75	3665	10.46727 ppb		82
93) 1,2,4-Trichlorobenzene	15.21	180	55019	8.15446 ppb		95
94) Hexachlorobutadiene	15.51	225	37836	8.76255 ppb		99
95) Naphthalene	15.54	128	25256	8.64720 ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	37478	8.19983 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

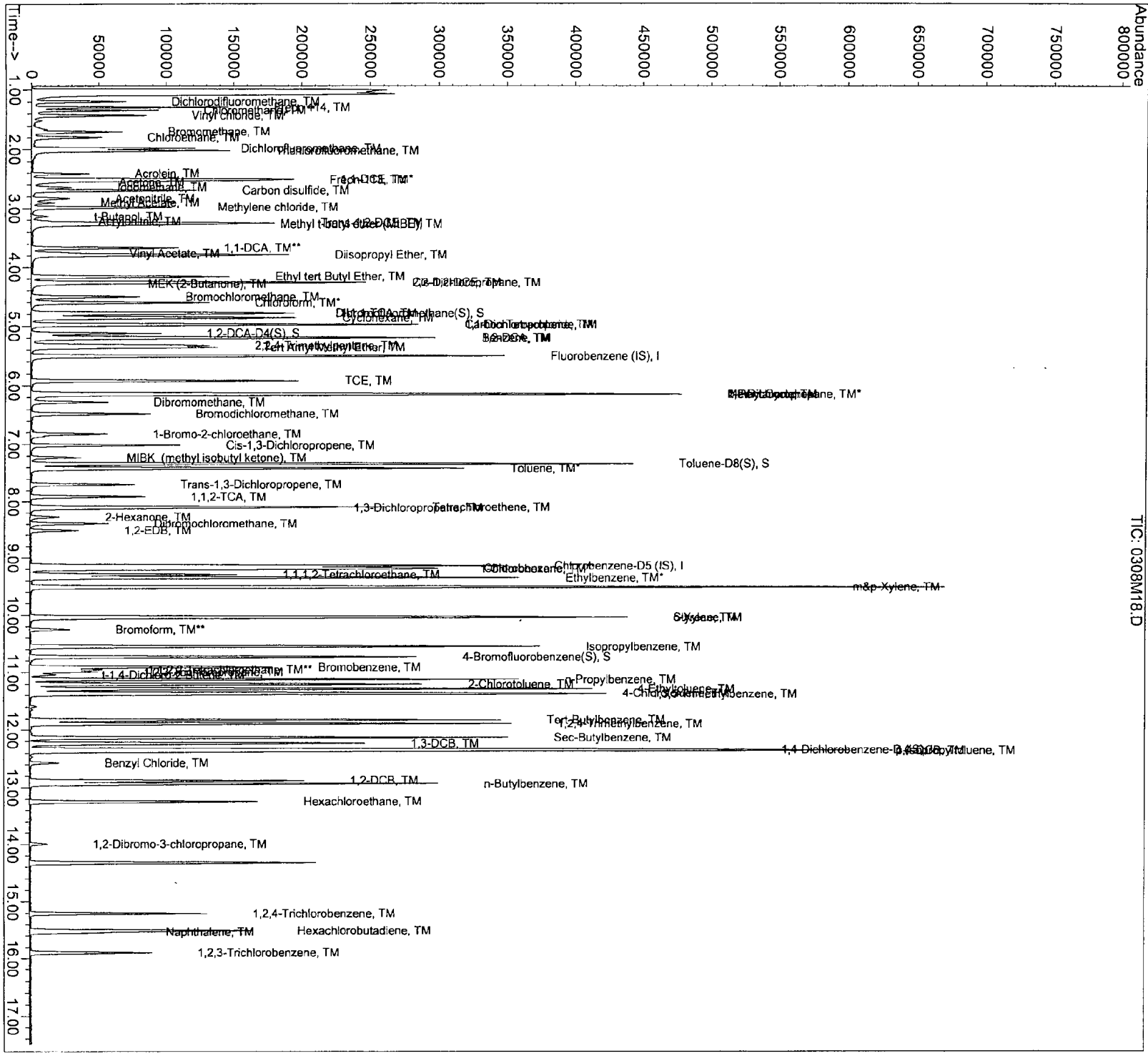
Data File : M:\MAX\DATA\M170308\0308M18.D
Acq On : 8 Mar 17 19:07
Sample : (SS)10ug/L VOC STD 3/8/17
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 10:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:17:41 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.3006	2.6	TM		
3	TM	Freon 114	0.4107	0.4030	1.9	TM		
4	TM**	Chloromethane	0.4190	0.3277	22	TM**		nt
5	TM*	Vinyl chloride	0.5954	0.5596	6.0	TM*		
6	TM	Bromomethane	0.4115	0.3057	26	TM		nt
7	TM	Chloroethane	0.3488	0.3365	3.5	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9245	0.41	TM		
9	TM	Trichlorofluoromethane	0.7319	0.7286	0.46	TM		
10	TM	Acrolein	0.0223	0.0204	8.6	TM		
11	TML	Acetone	0.0130	0.0085	35	TML	24	nt
12	TM	Freon-113	0.4245	0.4420	4.1	TM		
13	TM*	1,1-DCE	0.6654	0.6731	1.2	TM*		
14	TM	Acetonitrile	0.0205	0.0189	7.9	TM		
15	TM	t-Butanol	0.0076	0.0094	24	TM		nt
16	TM	Methyl Acetate	0.1458	0.1414	3.0	TM		
17	TML	Iodomethane	0.4104	0.2716	34	TML	46	nt
18	TM	Acrylonitrile	0.0677	0.0681	0.51	TM		
19	TM	Methylene chloride	0.4446	0.4156	6.5	TM		
20	TM	Carbon disulfide	1.359	1.357	0.13	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.7274	0.7012	3.6	TM		
22	TM	Trans-1,2-DCE	0.5055	0.5079	0.48	TM		
23	TM	Diisopropyl Ether	1.241	1.215	2.1	TM		
24	TM**	1,1-DCA	0.8132	0.8098	0.41	TM**		
25	TM	Vinyl Acetate	0.2151	0.2963	38	TM		nt
26	TM	Ethyl tert Butyl Ether	0.8411	0.8197	2.5	TM		
27	TML	MEK (2-Butanone)	0.1121	0.0755	33	TML	30	nt
28	TM	Cis-1,2-DCE	0.5196	0.5323	2.4	TM		
29	TM	2,2-Dichloropropane	0.5015	0.6457	29	TM		nt
30	TM*	Chloroform	0.8075	0.8268	2.4	TM*		
31	TM	Bromochloromethane	0.1989	0.1930	3.0	TM		
32	S	Dibromofluoromethane(S)	0.2463	0.2458	0.20	S		
33	TM	1,1,1-TCA	0.7042	0.8087	15	TM		
34	TM	Cyclohexane	0.4238	0.4180	1.4	TM		
35	TM	1,1-Dichloropropene	0.6603	0.6790	2.8	TM		
36	TM	2,2,4-Trimethylpentane	1.136	1.193	5.1	TM		
37	S	1,2-DCA-D4(S)	0.1964	0.1978	0.70	S		
38	TM	Carbon Tetrachloride	0.5179	0.6315	22	TM		nt
39	TM	Tert Amyl Methyl Ether	0.7406	0.7181	3.0	TM		
40	TM	1,2-DCA	0.4401	0.4162	5.4	TM		
		Average			9.2			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	Benzene	1.976	1.950	1.3	TM		
42	TM	TCE	0.5428	0.5272	2.9	TM		
43	TM	2-Pentanone	0.1243	0.1181	5.0	TM		
44	TM*	1,2-Dichloropropane	0.4158	0.4115	1.0	TM*		
45	TM	Bromodichloromethane	0.4582	0.5083	11	TM		
46	TM	Methyl Cyclohexane	0.7397	0.7129	3.6	TM		
47	TM	Dibromomethane	0.1716	0.1676	2.3	TM		
48	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1986	3.9	TM		
49	TM	1-Bromo-2-chloroethane	0.3952	0.3787	4.2	TM		
50	TM	2-Chloroethyl vinyl ether	0.0000	0.0060	0.00	TM		
51	TM	Cis-1,3-Dichloropropene	0.4875	0.5407	11	TM		
52	TM*	Toluene	2.281	2.251	1.3	TM*		
53	TM	Trans-1,3-Dichloropropene	0.3040	0.3682	21	TM		nt
54	TM	1,1,2-TCA	0.2046	0.1975	3.5	TM		
55	TM	2-Hexanone	0.1163	0.1195	2.8	TM		
56	I	Chlorobenzene-D5 (IS)	ISTD			I		
57	S	Toluene-D8(S)	1.452	1.453	0.12	S		
58	TML	1,2-EDB	0.2651	0.3260	23	TML	3.6	
59	TM	Tetrachloroethene	0.7696	0.8125	5.6	TM		
60	TM	1-Chlorohexane	0.9459	0.9725	2.8	TM		
61	TM	1,1,1,2-Tetrachloroethane	0.4801	0.6170	29	TM		nt
62	TM	m&p-Xylene	1.478	1.530	3.5	TM		
63	TM	o-Xylene	1.419	1.400	1.3	TM		
64	TM	Styrene	2.071	2.113	2.0	TM		
65	S	4-Bromofluorobenzene(S)	0.4799	0.4810	0.23	S		
66	TM	1,3-Dichloropropane	0.6211	0.5983	3.7	TM		
67	TM	Dibromochloromethane	0.3460	0.4497	30	TM		nt
68	TM**	Chlorobenzene	1.987	2.008	1.1	TM**		
69	TM*	Ethylbenzene	3.638	3.739	2.8	TM*		
70	TM**	Bromoform	0.1886	0.2244	19	TM**		
71	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
72	TM	Isopropylbenzene	7.350	7.398	0.65	TM		
73	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.7030	5.9	TM**		
74	TM	1,2,3-Trichloropropane	0.2357	0.2247	4.7	TM		
75	TM	t-1,4-Dichloro-2-Butene	0.1296	0.1331	2.7	TM		
76	TM	Bromobenzene	1.615	1.578	2.3	TM		
77	TM	n-Propylbenzene	8.271	8.452	2.2	TM		
78	TM	4-Ethyltoluene	7.181	7.409	3.2	TM		
79	TM	2-Chlorotoluene	4.727	4.733	0.12	TM		
80	TM	1,3,5-Trimethylbenzene	6.135	6.144	0.14	TM		
		Average			5.8			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M02.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	4-Chlorotoluene	5.532	5.556	0.43	TM	
82	TM	Tert-Butylbenzene	5.512	5.459	0.97	TM	
83	TM	1,2,4-Trimethylbenzene	5.770	6.037	4.6	TM	
84	TM	Sec-Butylbenzene	7.268	7.437	2.3	TM	
85	TM	p-Isopropyltoluene	6.329	6.576	3.9	TM	
86	TMQ	Benzyl Chloride	0.4242	0.4192	1.2	TMQ	0.78
87	TM	1,3-DCB	3.296	3.309	0.39	TM	
88	TM	1,4-DCB	3.270	3.183	2.7	TM	
89	TM	n-Butylbenzene	5.039	5.350	6.2	TM	
90	TM	1,2-DCB	2.715	2.698	0.62	TM	
91	TM	Hexachloroethane	0.5145	0.6129	19	TM	
92	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0899	13	TML	13
93	TML	1,2,4-Trichlorobenzene	1.183	1.471	24	TML	1.7
94	TM	Hexachlorobutadiene	0.9479	1.048	11	TM	
95	TMQ	Naphthalene	0.4921	0.6871	40	TMQ	2.4
96	TMQ	1,2,3-Trichlorobenzene	0.6294	1.013	61	TMQ	3.6
97							
98							
99							
100							
101							
102							
103							
104							
105							
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107							
108							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			12.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M02.D
Acq On : 11 Mar 17 10:45
Sample : 170311A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	306357	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	210384	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	105548	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75302	24.94891 ppb	0.00
Spiked Amount 25.000			Recovery = 99.796%		
37) 1,2-DCA-D4(S)	5.12	65	60594	25.17556 ppb	0.00
Spiked Amount 25.000			Recovery = 100.704%		
57) Toluene-D8(S)	7.34	98	305751	25.02905 ppb	0.00
Spiked Amount 25.000			Recovery = 100.116%		
65) 4-Bromofluorobenzene(S)	10.72	95	101187	25.05776 ppb	0.00
Spiked Amount 25.000			Recovery = 100.232%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	36832	10.26323 ppb		98
3) Freon 114	1.30	85	49385	9.81364 ppb		94
4) Chloromethane	1.34	50	40161	7.82080 ppb		96
5) Vinyl chloride	1.43	62	68581	9.40019 ppb	#	81
6) Bromomethane	1.70	94	37466	7.43044 ppb		97
7) Chloroethane	1.80	64	41237	9.64667 ppb		99
8) Dichlorofluoromethane	1.99	67	113291	10.04071 ppb		97
9) Trichlorofluoromethane	2.03	101	89282	9.95427 ppb		95
10) Acrolein	2.42	56	31250	114.26536 ppb		93
11) Acetone	2.58	58	1039	7.64988 ppb		95
12) Freon-113	2.53	101	54159	10.41249 ppb		96
13) 1,1-DCE	2.51	61	82489	10.11695 ppb		98
14) Acetonitrile	2.83	41	28911	115.08162 ppb		99
15) t-Butanol	3.14	59	14401	155.00543 ppb		97
16) Methyl Acetate	2.90	43	17326	9.69906 ppb		89
17) Iodomethane	2.64	142	33287	5.42555 ppb		97
18) Acrylonitrile	3.22	53	8342	10.05083 ppb	#	90
19) Methylene chloride	2.98	84	50925	9.34722 ppb		97
20) Carbon disulfide	2.70	76	166300	9.98694 ppb		99
21) Methyl t-butyl ether (MtBE	3.28	73	85926	9.63911 ppb		98
22) Trans-1,2-DCE	3.25	96	62239	10.04794 ppb		98
23) Diisopropyl Ether	3.79	45	148936	9.79191 ppb		99
24) 1,1-DCA	3.67	63	99238	9.95861 ppb		97
25) Vinyl Acetate	3.75	43	36306	13.77631 ppb		99
26) Ethyl tert Butyl Ether	4.16	59	100447	9.74521 ppb		95
27) MEK (2-Butanone)	4.30	43	9256	7.00849 ppb		100
28) Cis-1,2-DCE	4.26	96	65225	10.24374 ppb		99
29) 2,2-Dichloropropane	4.26	77	79122	12.87582 ppb		99
30) Chloroform	4.61	83	101314	10.23917 ppb		100
31) Bromochloromethane	4.51	128	23650	9.70416 ppb		96
33) 1,1,1-TCA	4.80	97	99098	11.48408 ppb		96
34) Cyclohexane	4.86	41	51228	9.86338 ppb		96
35) 1,1-Dichloropropene	4.98	75	83205	10.28232 ppb		97
36) 2,2,4-Trimethylpentane	5.32	57	146249	10.50680 ppb		98
38) Carbon Tetrachloride	4.97	117	77384	12.19345 ppb		92
39) Tert Amyl Methyl Ether	5.36	73	88000	9.69628 ppb		98
40) 1,2-DCA	5.20	62	51004	9.45719 ppb		97
41) Benzene	5.19	78	238986	9.86862 ppb		98
42) TCE	5.91	95	64599	9.71177 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M02.D
Acq On : 11 Mar 17 10:45
Sample : 170311A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.14	43	180916	118.75048 ppb	97
44) 1,2-Dichloropropane	6.15	63	50422	9.89515 ppb	96
45) Bromodichloromethane	6.48	83	62283	11.09233 ppb	97
46) Methyl Cyclohexane	6.14	83	87356	9.63695 ppb	98
47) Dibromomethane	6.28	93	20534	9.76685 ppb	98
48) MIBK (methyl isobutyl ket	7.23	43	24341	9.60507 ppb	90
49) 1-Bromo-2-chloroethane	6.83	63	46409	9.58338 ppb	98
51) Cis-1,3-Dichloropropene	7.01	75	66254	11.09036 ppb	94
52) Toluene	7.42	91	275887	9.87142 ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	45125	12.11413 ppb	97
54) 1,1,2-TCA	7.91	83	24206	9.65373 ppb	93
55) 2-Hexanone	8.27	43	14645	10.28033 ppb	90
58) 1,2-EDB	8.52	107	27435	10.36092 ppb	96
59) Tetrachloroethene	8.09	164	68374	10.55662 ppb	96
60) 1-Chlorohexane	9.20	91	81839	10.28150 ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	51926	12.85159 ppb	95
62) m&p-Xylene	9.51	106	257588	20.70535 ppb	100
63) o-Xylene	10.03	106	117821	9.86572 ppb	99
64) Styrene	10.05	104	177807	10.20021 ppb	97
66) 1,3-Dichloropropane	8.12	76	50352	9.63310 ppb	95
67) Dibromochloromethane	8.39	129	37845	12.99894 ppb	96
68) Chlorobenzene	9.17	112	168990	10.10700 ppb	98
69) Ethylbenzene	9.35	91	314617	10.27663 ppb	98
70) Bromoform	10.25	173	18883	11.89761 ppb	100
72) Isopropylbenzene	10.55	105	312324	10.06472 ppb	100
73) 1,1,2,2-Tetrachloroethane	10.95	83	29680	10.59102 ppb	97
74) 1,2,3-Trichloropropane	10.99	110	9485	9.52981 ppb	94
75) t-1,4-Dichloro-2-Butene	11.04	53	5618	10.26655 ppb	99
76) Bromobenzene	10.91	156	66622	9.77289 ppb	95
77) n-Propylbenzene	11.12	91	356832	10.21887 ppb	100
78) 4-Ethyltoluene	11.28	105	312805	10.31692 ppb	99
79) 2-Chlorotoluene	11.20	91	199823	10.01163 ppb	98
80) 1,3,5-Trimethylbenzene	11.38	105	259380	10.01431 ppb	100
81) 4-Chlorotoluene	11.36	91	234558	10.04325 ppb	98
82) Tert-Butylbenzene	11.82	119	230455	9.90341 ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	254880	10.46232 ppb	98
84) Sec-Butylbenzene	12.13	105	313999	10.23340 ppb	97
85) p-Isopropyltoluene	12.36	119	277631	10.38970 ppb	99
86) Benzyl Chloride	12.57	91	17700	9.92205 ppb	99
87) 1,3-DCB	12.24	146	139699	10.03862 ppb	98
88) 1,4-DCB	12.37	146	134376	9.73408 ppb	95
89) n-Butylbenzene	12.94	91	225857	10.61735 ppb	98
90) 1,2-DCB	12.88	146	113902	9.93767 ppb	99
91) Hexachloroethane	13.25	117	25878	11.91248 ppb	96
92) 1,2-Dibromo-3-chloropropan	13.99	75	3796	11.28601 ppb	86
93) 1,2,4-Trichlorobenzene	15.21	180	62094	9.82583 ppb	97
94) Hexachlorobutadiene	15.51	225	44246	11.05607 ppb	96
95) Naphthalene	15.54	128	29008	10.23951 ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	42760	9.64221 ppb	98

(#) = qualifier out of range (m) = manual integration

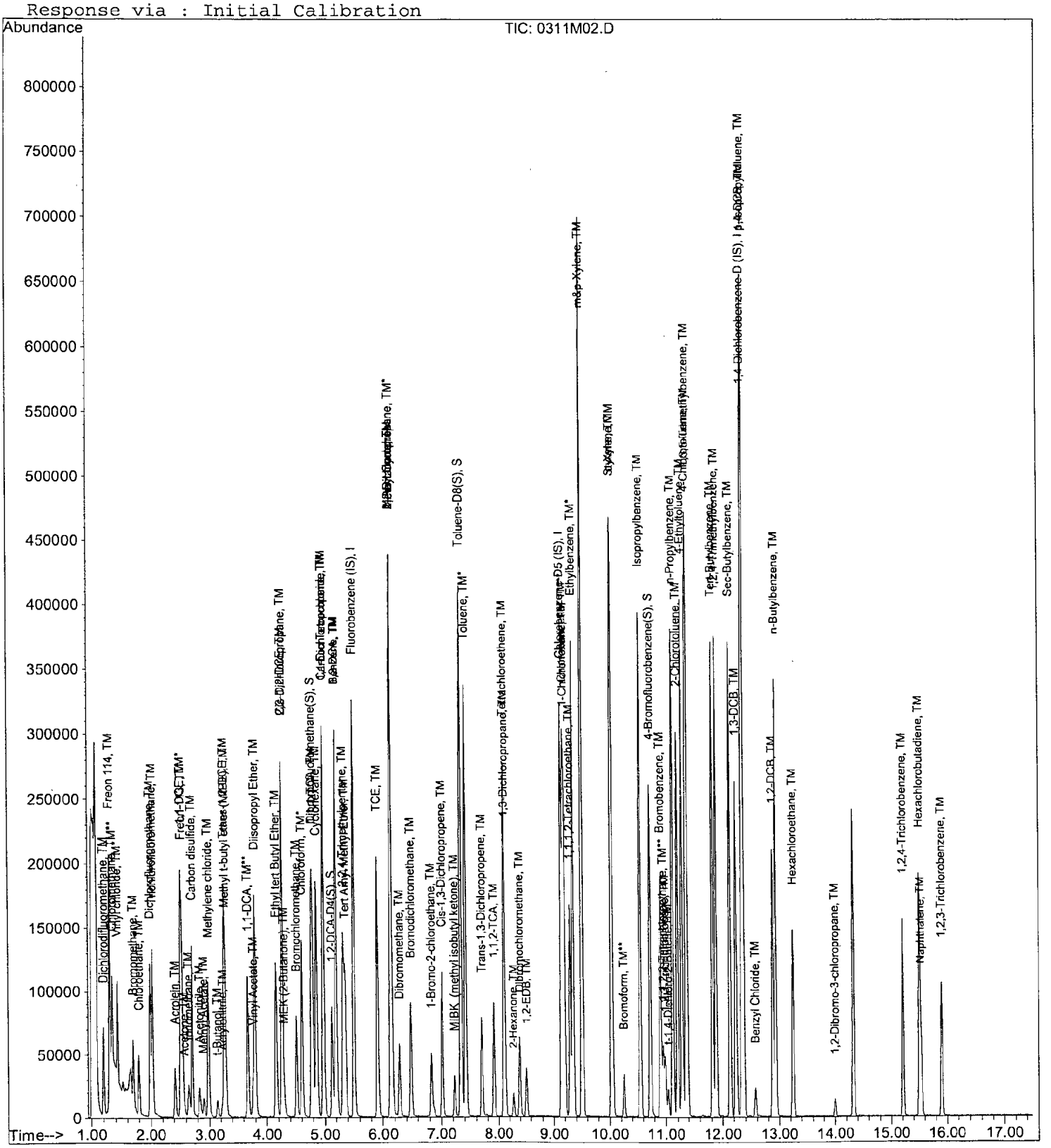
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M02.D
Acq On : 11 Mar 17 10:45
Sample : 170311A CCV-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



448

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.2929	0.1318	55	TM		nt
3	TM	Freon 114	0.4107	0.3617	12	TM		
4	TM**	Chloromethane	0.4190	0.0948	77	TM**		nt
5	TM*	Vinyl chloride	0.5954	0.4132	31	TM*		
6	TM	Bromomethane	0.4115	0.0896	78	TM		nt
7	TM	Chloroethane	0.3488	0.2979	15	TM		
8	TM	Dichlorofluoromethane	0.9208	0.9009	2.2	TM		
9	TM	Trichlorofluoromethane	0.7319	0.0075	99	TM		nt
10	TM	Acrolein	0.0223	0.0207	7.2	TM		
11	TML	Acetone	0.0130	0.0044	66	TML	69	nt
12	TM	Freon-113	0.4245	0.3418	19	TM		
13	TM*	1,1-DCE	0.6654	1.168	75	TM*		nt
14	TM	Acetonitrile	0.0205	0.0181	12	TM		
15	TM	t-Butanol	0.0076	0.0000	99	TM		nt
16	TM	Methyl Acetate	0.1458	0.0020	99	TM		nt
17	TML	Iodomethane	0.4104	0.0422	90	TML	84	nt
18	TM	Acrylonitrile	0.0677	0.0538	21	TM		
19	TM	Methylene chloride	0.4446	0.4199	5.6	TM		
20	TM	Carbon disulfide	1.359	1.327	2.4	TM		
21	TM	Trans-1,2-DCE	0.5055	0.3238	36	TM		
22	TM	Diisopropyl Ether	1.241	0.7128	43	TM		
23	TM**	1,1-DCA	0.8132	0.7710	5.2	TM**		
24	TM	Ethyl tert Butyl Ether	0.8411	0.0005	100	TM		nt
25	TML	MEK (2-Butanone)	0.1121	0.0152	86	TML	93	nt
26	TM	Cis-1,2-DCE	0.5196	0.4786	7.9	TM		
27	TM	2,2-Dichloropropane	0.5015	0.0002	100	TM		nt
28	TM*	Chloroform	0.8075	0.8129	0.67	TM*		
29	TM	Bromochloromethane	0.1989	0.0964	52	TM		nt
30	S	Dibromofluoromethane(S)	0.2463	0.2107	14	S		
31	TM	1,1,1-TCA	0.7042	0.1806	74	TM		nt
32	TM	Cyclohexane	0.4238	0.3870	8.7	TM		
33	TM	1,1-Dichloropropene	0.6603	0.6677	1.1	TM		
34	TM	2,2,4-Trimethylpentane	1.136	0.9477	17	TM		
35	S	1,2-DCA-D4(S)	0.1964	0.1519	23	S		
36	TM	Carbon Tetrachloride	0.5179	0.0298	94	TM		nt
37	TM	Tert Amyl Methyl Ether	0.7406	0.0013	100	TM		nt
38	TM	1,2-DCA	0.4401	0.4222	4.1	TM		
39	TM	Benzene	1.976	2.106	6.6	TM		
40	TM	TCE	0.5428	0.6286	16	TM		
		Average			42.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM	2-Pentanone	0.1243	0.0800	36	TM		
42	TM*	1,2-Dichloropropane	0.4158	0.3683	11	TM*		
43	TM	Bromodichloromethane	0.4582	0.2273	50	TM		
44	TM	Methyl Cyclohexane	0.7397	0.7233	2.2	TM		
45	TM	Dibromomethane	0.1716	0.0574	67	TM		nt
46	TM	MIBK (methyl isobutyl ketone)	0.2068	0.1526	26	TM		
47	TM	1-Bromo-2-chloroethane	0.3952	0.1483	62	TM		nt
48	TM	2-Chloroethyl vinyl ether	0.0000	0.0002	0.00	TM		
49	TM	Cis-1,3-Dichloropropene	0.4875	0.0323	93	TM		nt
50	TM*	Toluene	2.281	2.370	3.9	TM*		
51	TM	Trans-1,3-Dichloropropene	0.3040	0.0073	98	TM		nt
52	TM	1,1,2-TCA	0.2046	0.2039	0.37	TM		
53	TM	2-Hexanone	0.1163	0.0744	36	TM		
54	I	Chlorobenzene-D5 (IS)	ISTD			I		
55	S	Toluene-D8(S)	1.452	1.441	0.75	S		
56	TML	1,2-EDB	0.2651	0.0287	89	TML	84	nt
57	TM	Tetrachloroethene	0.7696	1.307	70	TM		nt
58	TM	1-Chlorohexane	0.9459	0.6117	35	TM		
59	TM	1,1,1,2-Tetrachloroethane	0.4801	0.1934	60	TM		nt
60	TM	m&p-Xylene	1.478	1.590	7.5	TM		
61	TM	o-Xylene	1.419	1.489	5.0	TM		
62	TM	Styrene	2.071	2.255	8.9	TM		
63	S	4-Bromofluorobenzene(S)	0.4799	0.4709	1.9	S		
64	TM	1,3-Dichloropropane	0.6211	0.2746	56	TM		nt
65	TM	Dibromochloromethane	0.3460	0.1664	52	TM		nt
66	TM**	Chlorobenzene	1.987	2.098	5.6	TM**		
67	TM*	Ethylbenzene	3.638	3.873	6.4	TM*		
68	TM**	Bromoform	0.1886	0.0623	67	TM**		nt
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
70	TM	Isopropylbenzene	7.350	8.081	9.9	TM		
71	TM**	1,1,2,2-Tetrachloroethane	0.6638	0.5340	20	TM**		
72	TM	1,2,3-Trichloropropane	0.2357	0.2316	1.8	TM		
73	TM	t-1,4-Dichloro-2-Butene	0.1296	0.0005	100	TM		nt
74	TM	Bromobenzene	1.615	1.744	8.0	TM		
75	TM	n-Propylbenzene	8.271	9.001	8.8	TM		
76	TM	4-Ethyltoluene	7.181	7.935	10	TM		
77	TM	2-Chlorotoluene	4.727	5.174	9.4	TM		
78	TM	1,3,5-Trimethylbenzene	6.135	6.663	8.6	TM		
79	TM	4-Chlorotoluene	5.532	5.924	7.1	TM		
80	TM	Tert-Butylbenzene	5.512	5.905	7.1	TM		
		Average			30.0			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Cal. Date: 03/08/17
Data File: 0311M21.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,2,4-Trimethylbenzene	5.770	6.540	13	TM		
82	TM	Sec-Butylbenzene	7.268	7.883	8.5	TM		
83	TM	p-Isopropyltoluene	6.329	7.055	11	TM		
84	TMQ	Benzyl Chloride	0.4242	0.0560	87	TMQ	85	nt
85	TM	1,3-DCB	3.296	3.497	6.1	TM		
86	TM	1,4-DCB	3.270	3.374	3.2	TM		
87	TM	n-Butylbenzene	5.039	5.620	12	TM		
88	TM	1,2-DCB	2.715	2.835	4.4	TM		
89	TM	Hexachloroethane	0.5145	0.0019	100	TM		nt
90	TML	1,2-Dibromo-3-chloropropane	0.0795	0.0295	63	TML	39	
91	TML	1,2,4-Trichlorobenzene	1.183	1.643	39	TML	9.2	
92	TM	Hexachlorobutadiene	0.9479	0.9850	3.9	TM		
93	TMQ	Naphthalene	0.4921	1.201	144	TMQ	57	nt
94	TMQ	1,2,3-Trichlorobenzene	0.6294	1.160	84	TMQ	7.0	
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			41.4			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M21.D
Acq On : 12 Mar 17 10:08
Sample : Ending CCV 8260 10ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	316196	25.00000 ppb	0.02
56) Chlorobenzene-D5 (IS)	9.14	117	214445	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	103988	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	66635	21.39040 ppb	0.02
Spiked Amount 25.000			Recovery = 85.560%		
37) 1,2-DCA-D4(S)	5.14	65	48032	19.33533 ppb	0.03
Spiked Amount 25.000			Recovery = 77.340%		
57) Toluene-D8(S)	7.34	98	308950	24.81199 ppb	0.00
Spiked Amount 25.000			Recovery = 99.248%		
65) 4-Bromofluorobenzene(S)	10.73	95	100987	24.53464 ppb	0.00
Spiked Amount 25.000			Recovery = 98.140%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.23	85	16664	4.49893 ppb		98
3) Freon 114	1.33	85	45746	8.80764 ppb		88
4) Chloromethane	1.39	50	11994	2.26299 ppb		99
5) Vinyl chloride	1.46	62	52263	6.94063 ppb	#	66
6) Bromomethane	1.73	94	11331	2.17729 ppb		95
7) Chloroethane	1.83	64	37672	8.53848 ppb		95
8) Dichlorofluoromethane	2.02	67	113949	9.78478 ppb		99
9) Trichlorofluoromethane	2.01	101	947	0.10230 ppb		95
10) Acrolein	2.46	56	32736	115.97426 ppb	#	83
11) Acetone	2.66	58	558	3.08998 ppb		87
12) Freon-113	2.56	101	43224	8.05156 ppb		97
13) 1,1-DCE	2.54	61	147670	17.54759 ppb		97
14) Acetonitrile	3.00	41	28610	110.33979 ppb		89
15) t-Butanol	3.22	59	67	0.69872 ppb	#	56
16) Methyl Acetate	2.90	43	257	0.13939 ppb	#	52
17) Iodomethane	2.67	142	5334	1.59556 ppb	#	79
18) Acrylonitrile	3.28	53	6803	7.94152 ppb		98
19) Methylene chloride	3.01	84	53102	9.44351 ppb		97
20) Carbon disulfide	2.73	76	167804	9.76369 ppb		99
22) Trans-1,2-DCE	3.28	96	40955	6.40609 ppb		97
23) Diisopropyl Ether	3.82	45	90148	5.74242 ppb		96
24) 1,1-DCA	3.70	63	97509	9.48062 ppb		99
27) MEK (2-Butanone)	4.34	43	1923	0.71080 ppb		97
28) Cis-1,2-DCE	4.29	96	60528	9.21027 ppb		93
30) Chloroform	4.63	83	102809	10.06695 ppb		100
31) Bromochloromethane	4.53	128	12190	4.84621 ppb		86
33) 1,1,1-TCA	4.82	97	22847	2.56526 ppb		97
34) Cyclohexane	4.88	41	48948	9.13114 ppb		92
35) 1,1-Dichloropropene	4.99	75	84454	10.11191 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	119863	8.34323 ppb		92
38) Carbon Tetrachloride	4.99	117	3770	0.57556 ppb		86
40) 1,2-DCA	5.22	62	53400	9.59336 ppb		96
41) Benzene	5.21	78	266345	10.65614 ppb		98
42) TCE	5.93	95	79500	11.58007 ppb		99
43) 2-Pentanone	6.16	43	126437	80.40888 ppb		99
44) 1,2-Dichloropropane	6.16	63	46577	8.85616 ppb	#	93
45) Bromodichloromethane	6.49	83	28747	4.96041 ppb		98
46) Methyl Cyclohexane	6.15	83	91484	9.77830 ppb		91
47) Dibromomethane	6.29	93	7266	3.34848 ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M21.D
Acq On : 12 Mar 17 10:08
Sample : Ending CCV 8260 10ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
48) MIBK (methyl isobutyl ket	7.24	43	19306	7.38118 ppb		99
49) 1-Bromo-2-chloroethane	6.84	63	18760	3.75337 ppb		94
51) Cis-1,3-Dichloropropene	7.02	75	4084	0.66235 ppb	#	89
52) Toluene	7.42	91	299794	10.39305 ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	924	0.24034 ppb	#	70
54) 1,1,2-TCA	7.92	83	25785	9.96347 ppb		88
55) 2-Hexanone	8.28	43	9415	6.40338 ppb		98
58) 1,2-EDB	8.52	107	2458	1.57752 ppb	#	78
59) Tetrachloroethene	8.10	164	112105	16.98070 ppb		98
60) 1-Chlorohexane	9.20	91	52472	6.46726 ppb		99
61) 1,1,1,2-Tetrachloroethane	9.30	131	16587	4.02751 ppb		97
62) m&p-Xylene	9.51	106	272714	21.50608 ppb		99
63) o-Xylene	10.03	106	127763	10.49561 ppb		95
64) Styrene	10.05	104	193433	10.88648 ppb		98
66) 1,3-Dichloropropane	8.12	76	23558	4.42165 ppb		98
67) Dibromochloromethane	8.39	129	14276	4.81064 ppb		92
68) Chlorobenzene	9.18	112	179969	10.55981 ppb		96
69) Ethylbenzene	9.35	91	332185	10.64499 ppb		99
70) Bromoform	10.25	173	5343	3.30271 ppb		97
72) Isopropylbenzene	10.55	105	336129	10.99434 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.96	83	22210	8.04432 ppb		97
74) 1,2,3-Trichloropropane	10.99	110	9633	9.82371 ppb		86
76) Bromobenzene	10.91	156	72536	10.80005 ppb		96
77) n-Propylbenzene	11.12	91	374413	10.88320 ppb		98
78) 4-Ethyltoluene	11.28	105	330074	11.04980 ppb		98
79) 2-Chlorotoluene	11.20	91	215217	10.94467 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	277141	10.86056 ppb		99
81) 4-Chlorotoluene	11.36	91	246405	10.70879 ppb		98
82) Tert-Butylbenzene	11.82	119	245608	10.71292 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	272015	11.33318 ppb		99
84) Sec-Butylbenzene	12.13	105	327882	10.84616 ppb		98
85) p-Isopropyltoluene	12.36	119	293441	11.14609 ppb		99
86) Benzyl Chloride	12.58	91	2330	1.48351 ppb	#	93
87) 1,3-DCB	12.24	146	145477	10.61064 ppb		99
88) 1,4-DCB	12.37	146	140342	10.31876 ppb		98
89) n-Butylbenzene	12.94	91	233766	11.15400 ppb		99
90) 1,2-DCB	12.88	146	117942	10.44452 ppb		98
92) 1,2-Dibromo-3-chloropropan	13.99	75	1227	6.05457 ppb	#	78
93) 1,2,4-Trichlorobenzene	15.21	180	68331	10.91923 ppb		99
94) Hexachlorobutadiene	15.51	225	40971	10.39130 ppb		88
95) Naphthalene	15.54	128	49952	15.69513 ppb		99
96) 1,2,3-Trichlorobenzene	15.90	180	48231	10.69671 ppb		96

(#) = qualifier out of range (m) = manual integration

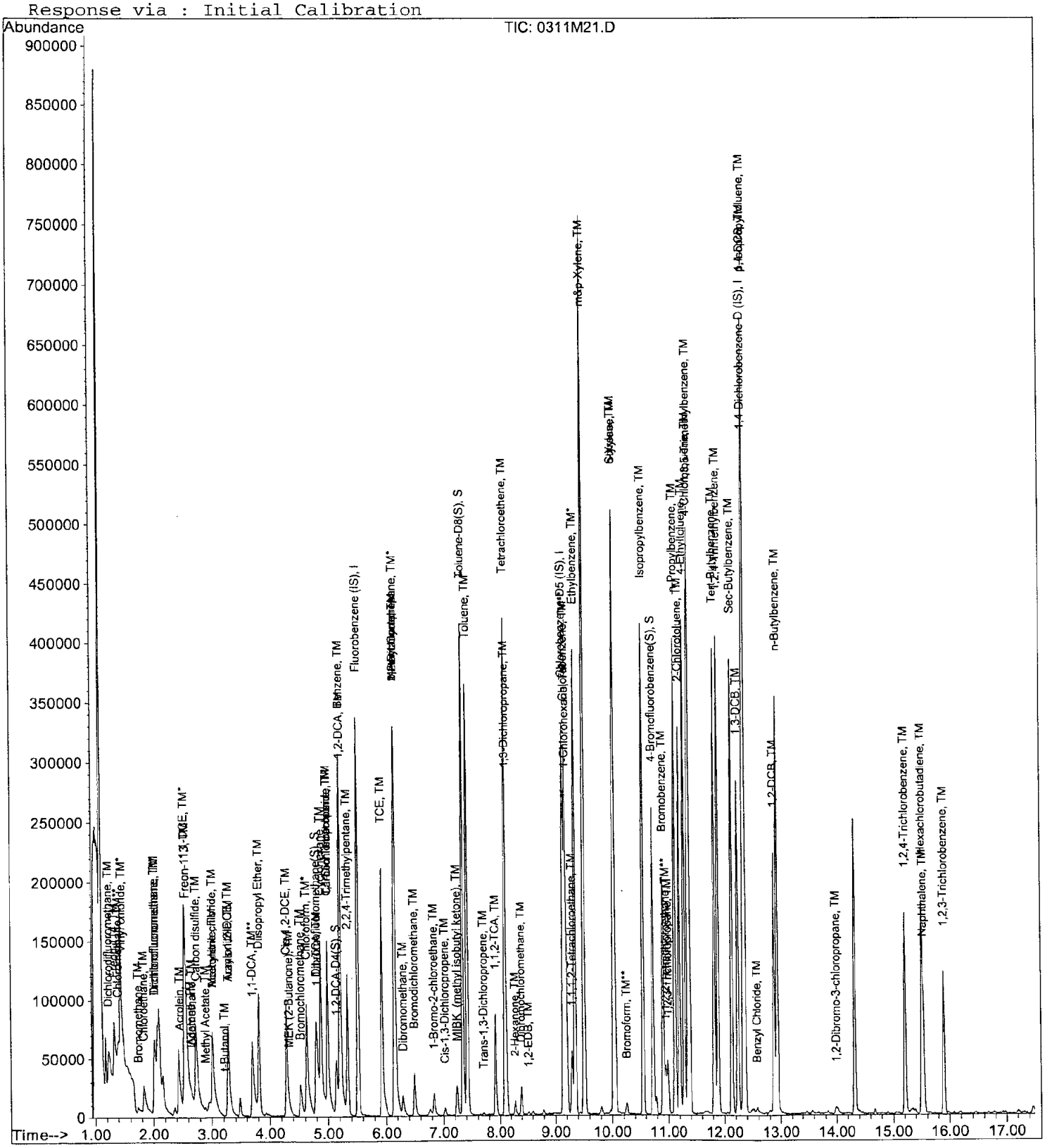
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M21.D
Acq On : 12 Mar 17 10:08
Sample : Ending CCV 8260 10ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:26 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216811**
Batch ID: #86BTO-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	03/11/17	03/11/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	03/11/17	03/11/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	03/11/17	03/11/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 1,2-DICHLOROET	101	81-118			%	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17
BLANK	SURROGATE: DIBROMOFLUOR	104	80-119			%	03/11/17	03/11/17
BLANK	SURROGATE: TOLUENE-D8 (S)	97.9	89-112			%	03/11/17	03/11/17

Quant Method: MALLW.M
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 11:13:03 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:35 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	300047	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	212426	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	101351	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	76660	25.93298 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.732%	
37) 1,2-DCA-D4(S)	5.12	65	59341	25.17346 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.692%	
57) Toluene-D8(S)	7.34	98	302036	24.48727 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.948%	
65) 4-Bromofluorobenzene(S)	10.73	95	100789	24.71927 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.876%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

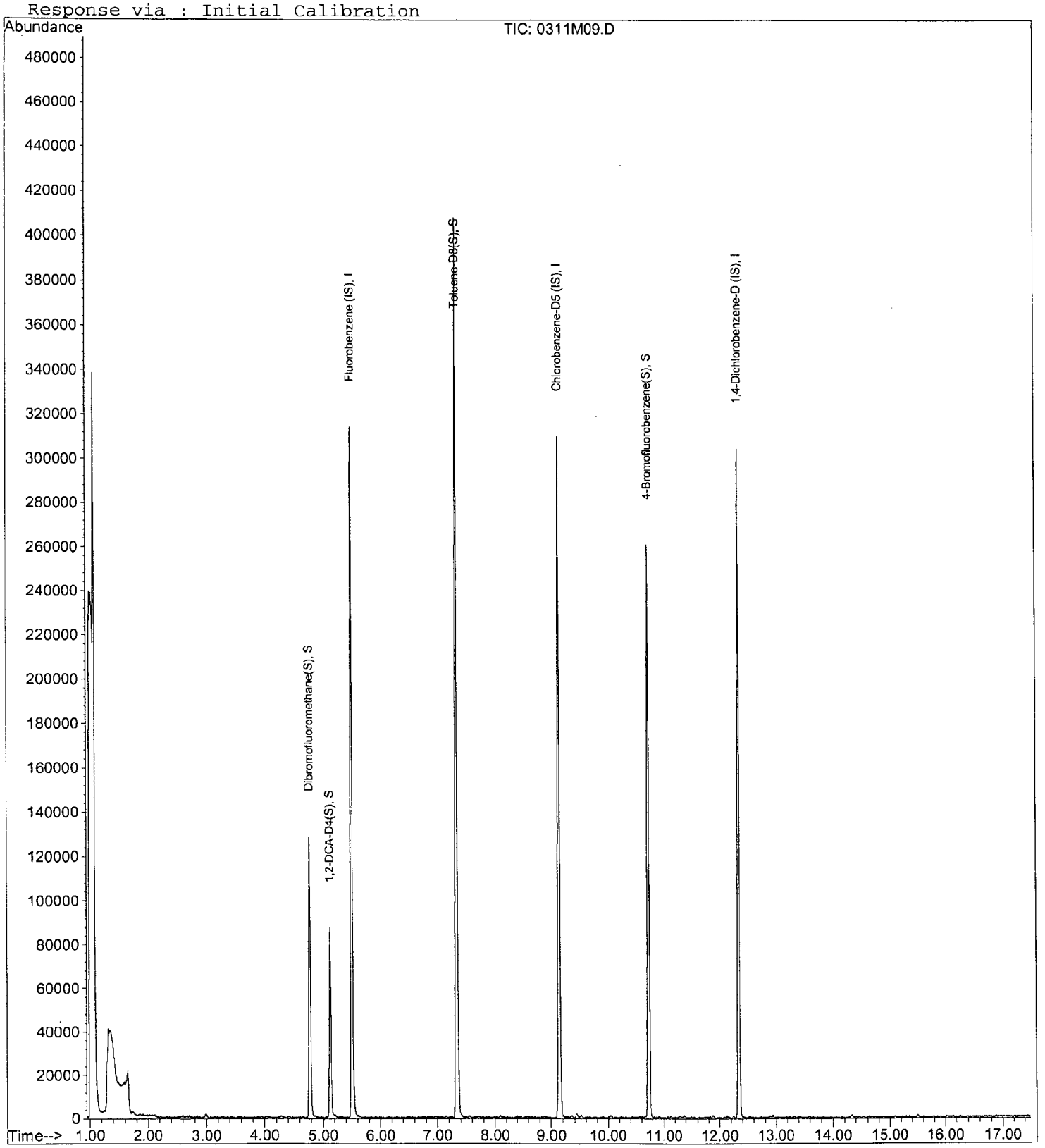
Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170311W-51356 LCS - 216811**
Batch ID: #86BTO-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.56	95.6	79-120
ETHYLBENZENE	10.00	9.88	98.8	79-121
TOLUENE	10.00	9.60	96.0	80-121
XYLENES (TOTAL)	30.0	29.2	97.3	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.8	99.2	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M03
Initials :	SV

Printed: 03/17/17 11:13:07 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	303692	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	213241	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108532	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74210	24.80287 ppb	0.00
Spiked Amount 25.000			Recovery = 99.212%		
37) 1,2-DCA-D4(S)	5.12	65	59463	24.92245 ppb	0.00
Spiked Amount 25.000			Recovery = 99.688%		
57) Toluene-D8(S)	7.34	98	306398	24.74597 ppb	0.00
Spiked Amount 25.000			Recovery = 98.984%		
65) 4-Bromofluorobenzene(S)	10.72	95	100619	24.58326 ppb	0.00
Spiked Amount 25.000			Recovery = 98.332%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.20	85	35400	9.95077 ppb		98
3) Freon 114	1.30	85	48981	9.81877 ppb		97
4) Chloromethane	1.34	50	42680	8.38427 ppb		95
5) Vinyl chloride	1.43	62	65328	9.03289 ppb	#	78
6) Bromomethane	1.70	94	34869	6.97607 ppb		98
7) Chloroethane	1.80	64	43274	10.21202 ppb		98
8) Dichlorofluoromethane	1.99	67	107360	9.59856 ppb		100
9) Trichlorofluoromethane	2.03	101	86286	9.70466 ppb		100
10) Acrolein	2.42	56	32997	121.71202 ppb		100
11) Acetone	2.57	58	1050	7.83483 ppb		74
12) Freon-113	2.54	101	54797	10.62760 ppb		95
13) 1,1-DCE	2.51	61	80627	9.97536 ppb		99
14) Acetonitrile	2.83	41	28637	114.99126 ppb		96
15) t-Butanol	3.14	59	15914	172.79376 ppb	#	89
16) Methyl Acetate	2.90	43	18440	10.41326 ppb		100
17) Iodomethane	2.64	142	35291	5.74070 ppb		94
18) Acrylonitrile	3.22	53	8713	10.58995 ppb		99
19) Methylene chloride	2.98	84	49472	9.16020 ppb		99
20) Carbon disulfide	2.70	76	158648	9.61102 ppb		100
21) Methyl t-butyl ether (MtBE	3.28	73	85727	9.70117 ppb		98
22) Trans-1,2-DCE	3.26	96	60211	9.80584 ppb		97
23) Diisopropyl Ether	3.79	45	148149	9.82564 ppb		98
24) 1,1-DCA	3.67	63	95741	9.69200 ppb		98
25) Vinyl Acetate	3.75	43	35130	13.44705 ppb		99
26) Ethyl tert Butyl Ether	4.17	59	101491	9.93290 ppb		98
27) MEK (2-Butanone)	4.30	43	11444	8.95792 ppb		84
28) Cis-1,2-DCE	4.27	96	61618	9.76217 ppb		98
29) 2,2-Dichloropropane	4.26	77	76874	12.61977 ppb		98
30) Chloroform	4.61	83	98701	10.06262 ppb		100
31) Bromochloromethane	4.51	128	23783	9.84437 ppb		91
33) 1,1,1-TCA	4.80	97	94999	11.10568 ppb		97
34) Cyclohexane	4.86	41	48507	9.42144 ppb		96
35) 1,1-Dichloropropene	4.98	75	81064	10.10565 ppb		96
36) 2,2,4-Trimethylpentane	5.32	57	136133	9.86587 ppb		99
38) Carbon Tetrachloride	4.98	117	76070	12.09158 ppb		97
39) Tert Amyl Methyl Ether	5.36	73	90992	10.11394 ppb		96
40) 1,2-DCA	5.21	62	51434	9.62061 ppb		99
41) Benzene	5.19	78	229470	9.55882 ppb		98
42) TCE	5.91	95	62239	9.43908 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.14	43	188873	125.06124	ppb		99
44) 1,2-Dichloropropane	6.16	63	49418	9.78323	ppb	#	94
45) Bromodichloromethane	6.48	83	63096	11.33574	ppb		95
46) Methyl Cyclohexane	6.14	83	84324	9.38410	ppb		92
47) Dibromomethane	6.28	93	20616	9.89190	ppb		99
48) MIBK (methyl isobutyl ket	7.23	43	23832	9.48674	ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	46533	9.69331	ppb		93
51) Cis-1,3-Dichloropropene	7.02	75	65639	11.08383	ppb		97
52) Toluene	7.42	91	266078	9.60399	ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	45765	12.39376	ppb		97
54) 1,1,2-TCA	7.91	83	25762	10.36445	ppb		84
55) 2-Hexanone	8.27	43	13593	9.62559	ppb		98
58) 1,2-EDB	8.51	107	28213	10.50133	ppb		97
59) Tetrachloroethene	8.09	164	66552	10.13764	ppb		98
60) 1-Chlorohexane	9.20	91	81205	10.06517	ppb		96
61) 1,1,1,2-Tetrachloroethane	9.30	131	50638	12.36489	ppb		98
62) m&p-Xylene	9.51	106	247101	19.59627	ppb		98
63) o-Xylene	10.03	106	116378	9.61433	ppb		99
64) Styrene	10.05	104	176746	10.00350	ppb		99
66) 1,3-Dichloropropane	8.11	76	52407	9.89192	ppb		100
67) Dibromochloromethane	8.39	129	37460	12.69431	ppb		88
68) Chlorobenzene	9.17	112	164347	9.69762	ppb		98
69) Ethylbenzene	9.35	91	306428	9.87504	ppb		99
70) Bromoform	10.25	173	18910	11.75499	ppb		98
72) Isopropylbenzene	10.55	105	305538	9.57533	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	31144	10.80788	ppb		100
74) 1,2,3-Trichloropropane	10.99	110	9735	9.51207	ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	4652	8.26751	ppb	#	58
76) Bromobenzene	10.91	156	65587	9.35654	ppb		100
77) n-Propylbenzene	11.12	91	345286	9.61635	ppb		98
78) 4-Ethyltoluene	11.28	105	307455	9.86166	ppb		99
79) 2-Chlorotoluene	11.20	91	195877	9.54410	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	252360	9.47540	ppb		100
81) 4-Chlorotoluene	11.35	91	223875	9.32228	ppb		96
82) Tert-Butylbenzene	11.82	119	223356	9.33444	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	247544	9.88182	ppb		99
84) Sec-Butylbenzene	12.13	105	303814	9.62923	ppb		98
85) p-Isopropyltoluene	12.36	119	273225	9.94369	ppb		99
86) Benzyl Chloride	12.57	91	19844	10.66123	ppb		98
87) 1,3-DCB	12.24	146	137229	9.59000	ppb		99
88) 1,4-DCB	12.37	146	131860	9.28920	ppb		97
89) n-Butylbenzene	12.94	91	224604	10.26815	ppb		99
90) 1,2-DCB	12.88	146	112757	9.56729	ppb		99
91) Hexachloroethane	13.25	117	25260	11.30829	ppb		90
92) 1,2-Dibromo-3-chloropropan	13.99	75	3976	11.43098	ppb		86
93) 1,2,4-Trichlorobenzene	15.21	180	63764	9.81332	ppb		98
94) Hexachlorobutadiene	15.51	225	42413	10.30666	ppb		96
95) Naphthalene	15.54	128	29272	10.08974	ppb		99
96) 1,2,3-Trichlorobenzene	15.90	180	43425	9.54993	ppb		98

(#) = qualifier out of range (m) = manual integration

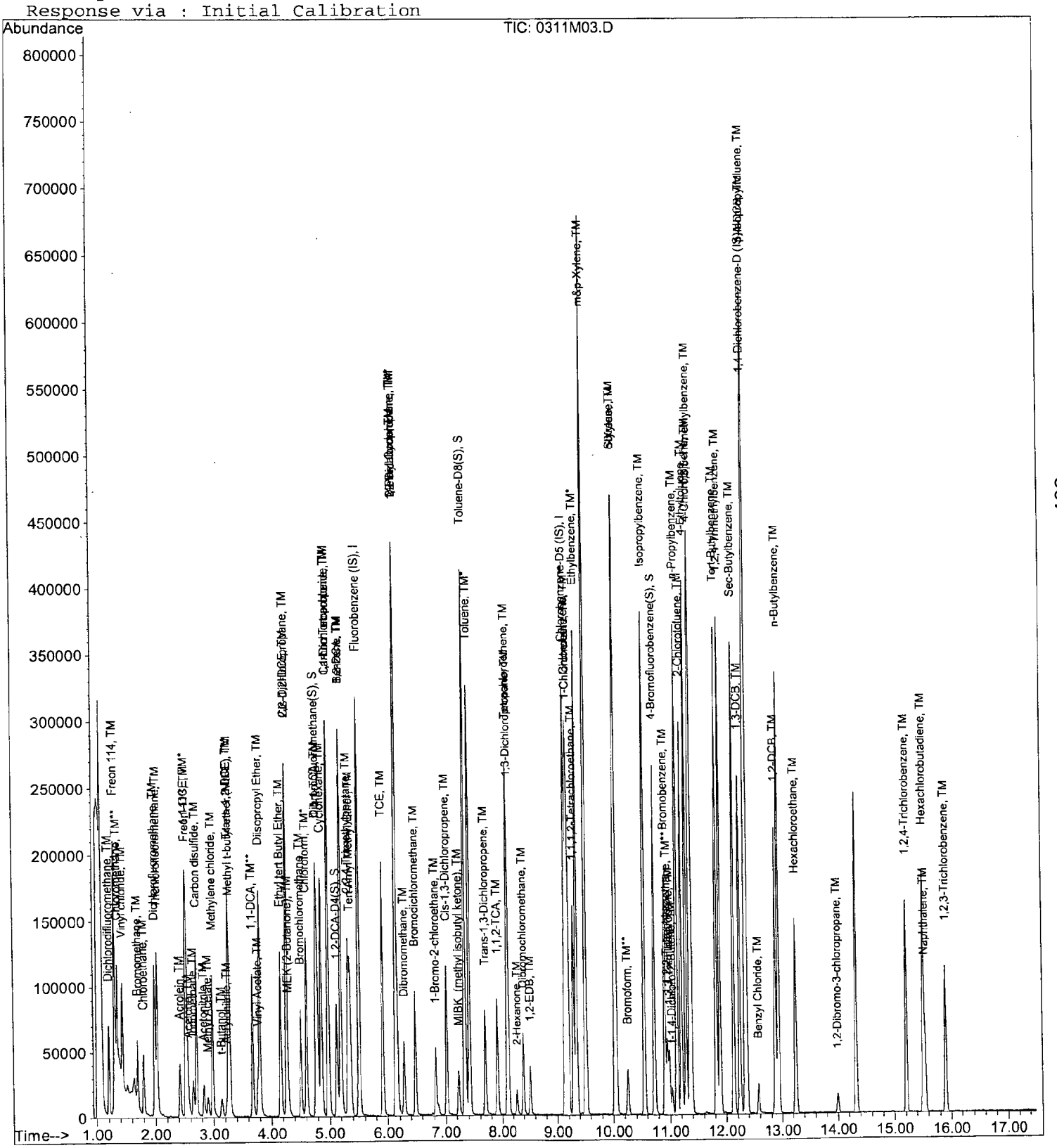
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M03.D
Acq On : 11 Mar 17 11:13
Sample : 170311A LCS-1WM 10ug/L
Misc : IS&S 02/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:25 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



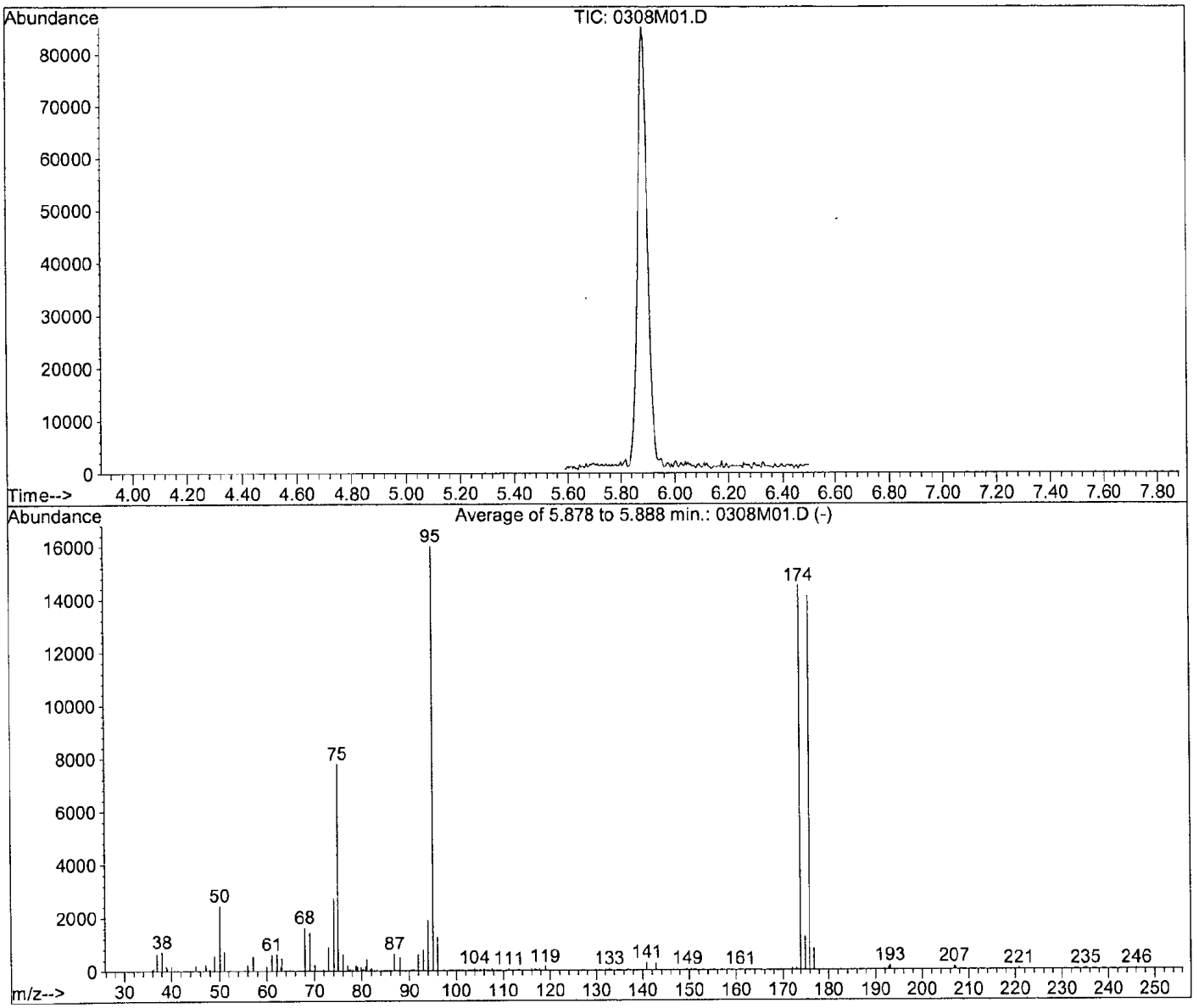
462

BFB

Data File : M:\MAX\DATA\M170308\0308M01.D
Acq On : 8 Mar 17 11:09
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	2448	PASS
75	95	30	60	48.6	7787	PASS
95	95	100	100	100.0	16012	PASS
96	95	5	9	7.9	1263	PASS
173	174	0.00	2	0.5	72	PASS
174	95	50	100	90.6	14507	PASS
175	174	5	9	8.6	1245	PASS
176	174	95	101	97.3	14113	PASS
177	176	5	9	5.6	793	PASS

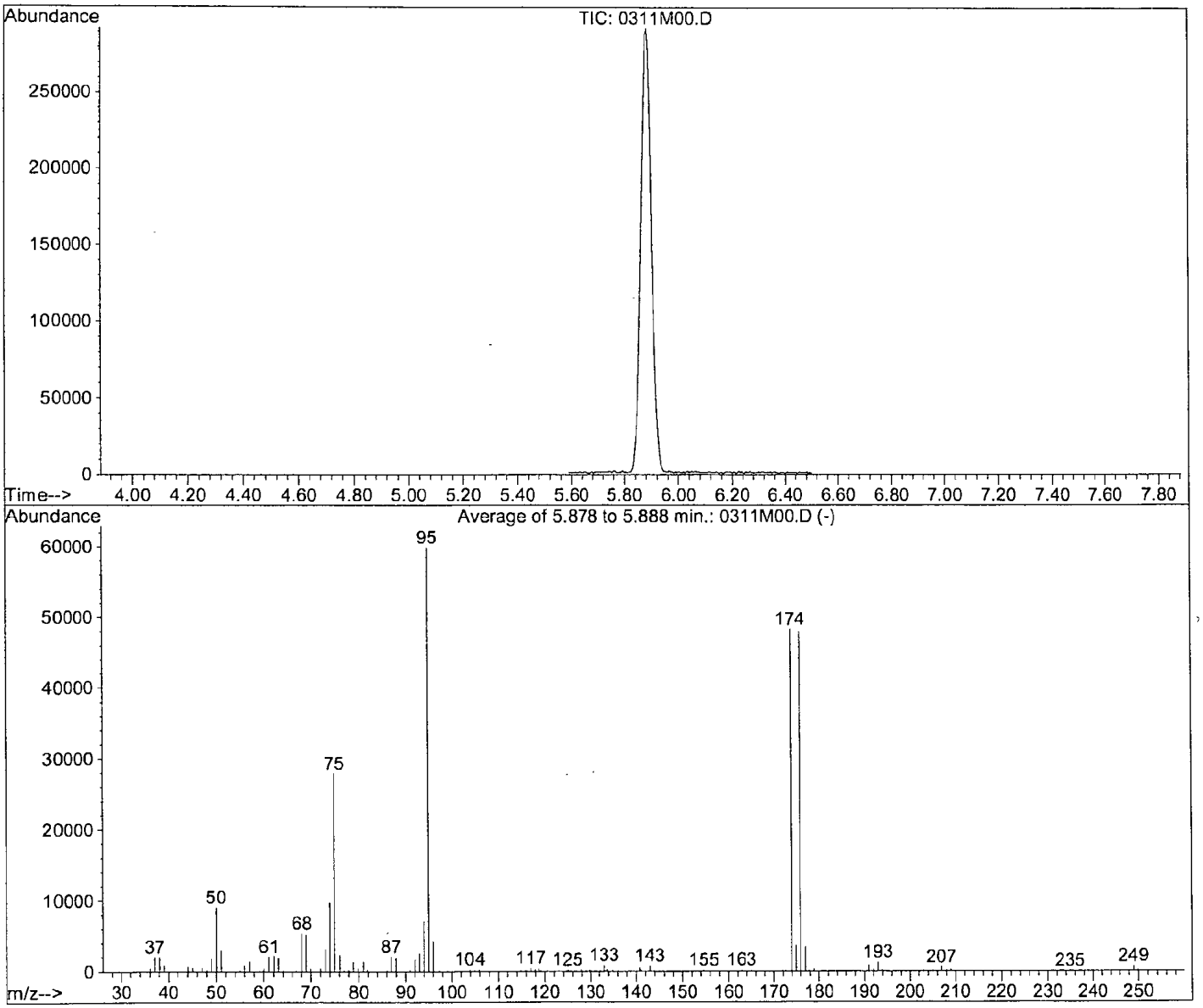
0308M01.D MALLW.M Thu Mar 09 08:26:49 2017

BFB

Data File : M:\MAX\DATA\M170308\0311M00.D
Acq On : 11 Mar 17 9:53
Sample : 25ug/ml BFB STD 3/02/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170308\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.878 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.2	9076	PASS
75	95	30	60	46.6	27912	PASS
95	95	100	100	100.0	59837	PASS
96	95	5	9	7.0	4169	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	80.7	48309	PASS
175	174	5	9	7.5	3626	PASS
176	174	95	101	99.2	47899	PASS
177	176	5	9	7.3	3475	PASS

0311M00.D MALLW.M Mon Mar 13 11:32:38 2017

MAX

02/23/17B

50ug/ml 8260 Internal Standard - Max			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120004-02	Internal Standard Mix	2000	258562-36601	02/23/17A	03/16/19	375
J.T Baker		Purge & Trap MeOH		55344-00868	02/11/17	02/11/18	14625

02/23/16C

50ug/ml 8260 Surrogate - Max			Conc.		Date	Exp.	
O2SI	120002-01	Surrogate Standard	2000	248817-35850	07/1816A	04/11/16	375
J.T Baker		Purge & Trap MeOH		55344-00858	10/18/16/	10/18/17	14625

	STANDARD BFB						
30217							
25ug/ml BFB STD			Conc.		Date	EXP:	
EXP 02/16/18			ug/ml	Lot#	CODE	Date	ul
02SI	020135-03	4-Bromofluorobenzene	2500	245492-35146	12/15/16ADG	02/16/18	20
OmniSolv		Purge & Trap MeOH		55344-00968	02/11/17	02/11/18	1980

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	03/09/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/07/17K	03/07/17L	03/07/17M	03/07/17G	03/07/17I	03/07/17H	03/07/17J	03/07/17N	Final Vol
	Conc.	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
03/08/17H-CMM	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
03/08/17I-CMM	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
03/08/17J-CMM	1	10	10	10	n/a	n/a	n/a	n/a	10	50
03/08/17K-CMM	2	20	20	20	n/a	n/a	n/a	n/a	15	50
03/08/17L-CMM	5	n/a	n/a	n/a	5	5	5	5	20	50
03/08/17M-CMM	10	n/a	n/a	n/a	10	10	10	10	25	50
03/08/17N-CMM	20	n/a	n/a	n/a	20	20	20	20	30	50
03/08/17O-CMM	40	n/a	n/a	n/a	40	40	40	40	35	50
03/08/17P-CMM	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

03/07/17G							
50ug/ml Vol Work Std #7							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	279822-36640	030717A-CMM	21919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37448	022317E-DG	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36575	022317F-DG	52418	200
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3500
03/07/17H							
50ug/ml Vol Work Std #1							
Exp:04/07/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37216	022317G-DG	91919	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17I							
50ug/ml Vol Work Std #8							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37170	022317H-DG	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-365582	022317I-DG	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37439	022317K-DG	41017	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3700
03/07/17J							
50ug/ml Vol Work Std #2							
Exp:04/07/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36074	022317J-DG	81717	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3900
		03/07/17K					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/07/17G**	Exp:04/07/17	200	
		50ug/ml Vol Work Std #8		**03/07/17I**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1600	
		03/07/17L					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/07/17H**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
		03/07/17M					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/07/17J**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
03/07/17N							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37455	030717B-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	298515-37587	030717C-CMM	31417	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3400

SECONDARY SOURCE

03/07/17O							
50ug/ml VOC Std#4							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37376	030717D-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17P							
50ug/ml VOC Std#5							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37380	022317N-DG	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35382	022317O-DG	62117	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1900
03/07/17Q							

50ug/ml VOC Std#6							
Exp:04/07/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35932	022317P-DG	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37442	022317Q-DG	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37385	022317R-DG	121918	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1800
03/07/17R							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37236	030717E-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	298516-37589	030717F-CMM	31417	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170308\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0308M01.D	1	25ug/ml BFB STD 3/02/17	2ul	8 Mar 17 11:09
2	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
3	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
4	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
5	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
6	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
7	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
8	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
9	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
10	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
11	17	0308M18.D	1	(SS)10ug/L VOC STD 3/8/17	IS&S 02/23/17	8 Mar 17 19:07
12	1	0311M00.D	1	25ug/ml BFB STD 3/02/17	2ul	11 Mar 17 9:53
13	2	0311M02.D	1	170311A CCV-1WM 10ug/L	IS&S 02/23/17	11 Mar 17 10:45
14	3	0311M03.D	1	170311A LCS-1WM 10ug/L	IS&S 02/23/17	11 Mar 17 11:13
15	9	0311M09.D	1	170311A BLK-1WM	IS&S 02/23/17	11 Mar 17 14:04
16	10	0311M10.D	1	AZ51528W01	IS&S 02/23/17	11 Mar 17 14:32
17	11	0311M11.D	1	AZ51529W01	IS&S 02/23/17	11 Mar 17 15:00
18	12	0311M12.D	1	AZ51530W01	IS&S 02/23/17	11 Mar 17 15:29
19	13	0311M13.D	1	AZ51531W01	IS&S 02/23/17	11 Mar 17 15:57
20	14	0311M14.D	1	AZ51532W01	IS&S 02/23/17	11 Mar 17 16:26
21	15	0311M15.D	1	AZ51533W01	IS&S 02/23/17	11 Mar 17 16:54
22	16	0311M16.D	1	AZ51534W01	IS&S 02/23/17	11 Mar 17 17:22
23	17	0311M17.D	1	AZ51535W01	IS&S 02/23/17	11 Mar 17 17:51
24	18	0311M18.D	1	AZ51536W01	IS&S 02/23/17	11 Mar 17 18:19
25	21	0311M21.D	1	Ending CCV 8260 10ug/L 03/11/	IS&S 02/23/17	12 Mar 17 10:08

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216816**
Batch ID: #GRO86-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 11:14:33 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82389

Case No: 82389 Date Analyzed: 03/11/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170311AM-LCS	Lab Control Spike	85-114	98.0				
170311AM-BLK	Blank	85-114	98.9				
AZ51528	ERH273	85-114	95.5				
AZ51530	ERH275	85-114	100				
AZ51531	ERH276	85-114	95.6				
AZ51533	ERH278	85-114	96.0				
AZ51534	ERH285	85-114	97.4				
AZ51535	ERH286	85-114	98.4				
AZ51536	ERH282	85-114	94.5				

Comments: Batch: #GRO86-170311A

Printed: 03/17/17 11:14:37 AM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170311W-51356 LCS - 216816**
Batch ID: #GRO86-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	280	93.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M06
Initials :	SV

Printed: 03/17/17 11:14:42 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82389
Case No: 82389
Date Analyzed: 03/11/17
Matrix: WATER
Instrument: Max
Blank ID: 170311AM-BLK
Time Analyzed: 1404

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170311AM-LCS	Lab Control Spike	0311M06	03/11/17 1238
170311AM-BLK	Blank	0311M09	03/11/17 1404
AZ51528	ERH273	0311M10	03/11/17 1432
AZ51530	ERH275	0311M12	03/11/17 1529
AZ51531	ERH276	0311M13	03/11/17 1557
AZ51533	ERH278	0311M15	03/11/17 1654
AZ51534	ERH285	0311M16	03/11/17 1722
AZ51535	ERH286	0311M17	03/11/17 1751
AZ51536	ERH282	0311M18	03/11/17 1819

Comments: Batch: #GRO86-170311A

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH273
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51528
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	03/11/17	03/11/17

Quant Method:	MGAS6302.M
Run #:	0311M10
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M10.D
Acq On : 11 Mar 17 14:32
Sample : AZ51528W01
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	303252	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

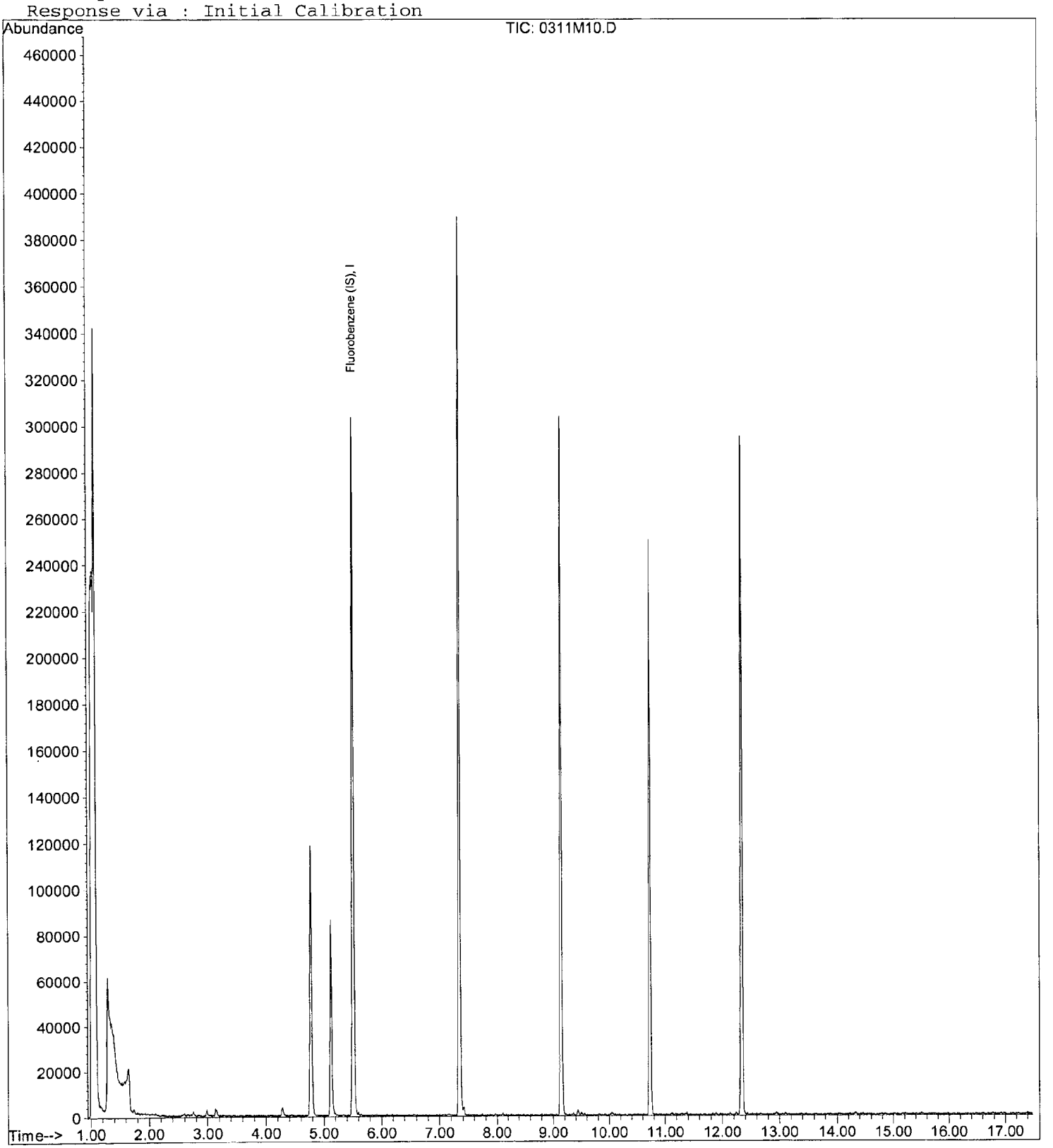
Data File : M:\MAX\DATA\M170308\0311M10.D
Acq On : 11 Mar 17 14:32
Sample : AZ51528W01
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	100	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M12
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M12.D
Acq On : 11 Mar 17 15:29
Sample : AZ51530W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	294661	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

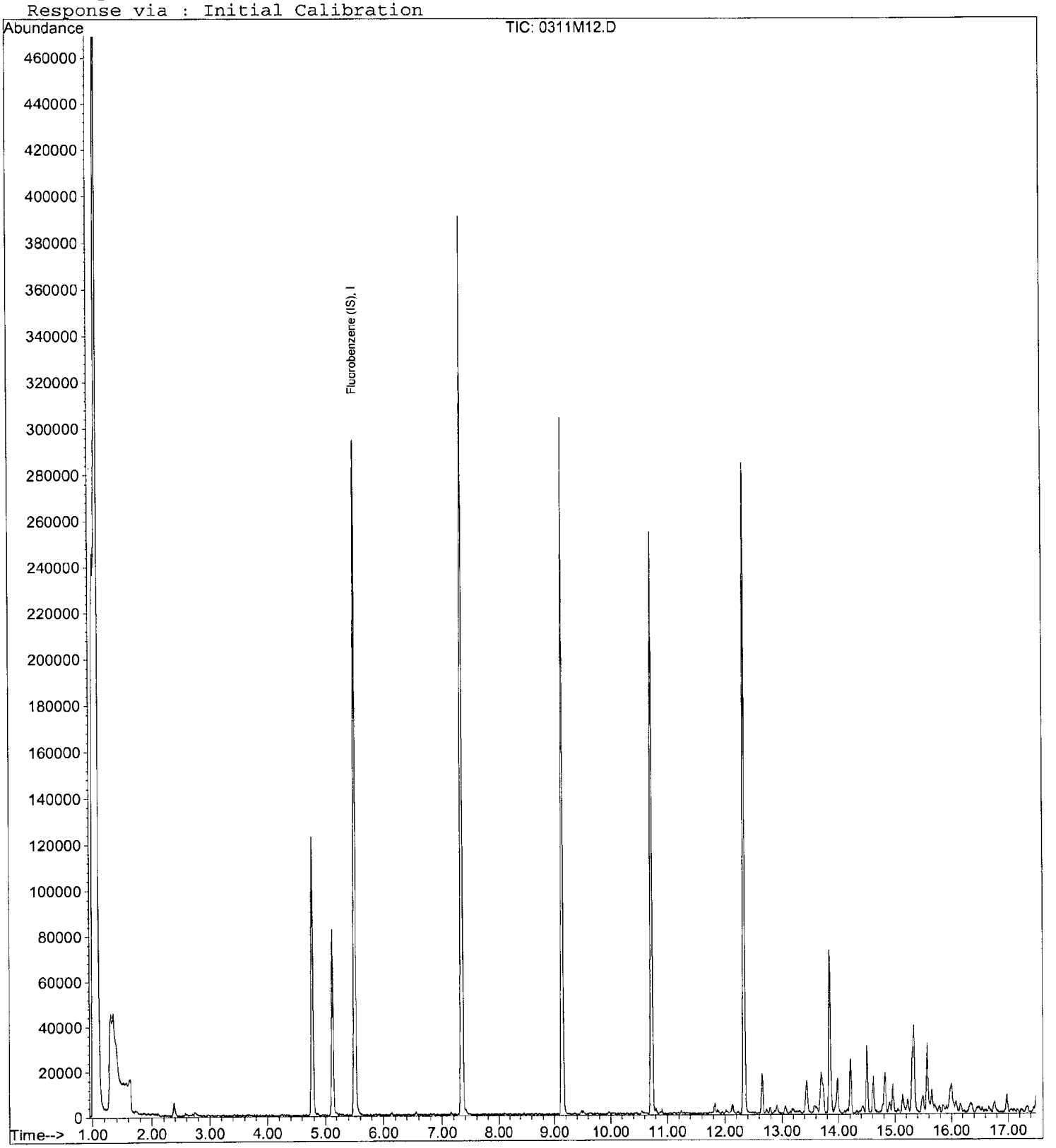
Data File : M:\MAX\DATA\M170308\0311M12.D
Acq On : 11 Mar 17 15:29
Sample : AZ51530W01
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH276
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51531
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.6	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M13
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M13.D
Acq On : 11 Mar 17 15:57
Sample : AZ51531W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	297616	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0311M13.D MGAS6302.M Mon Mar 13 12:01:02 2017

Quantitation Report

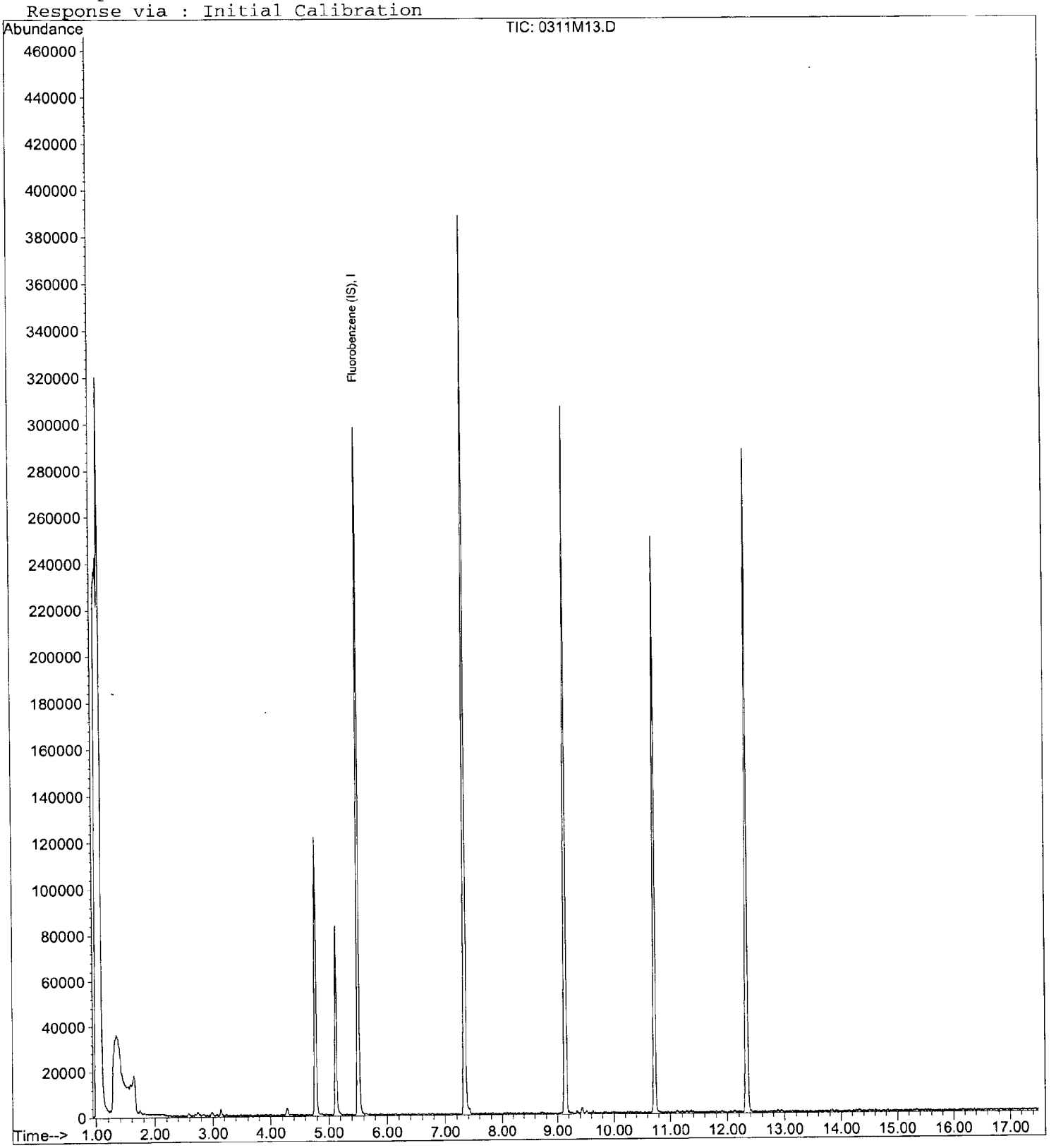
Data File : M:\MAX\DATA\M170308\0311M13.D
Acq On : 11 Mar 17 15:57
Sample : AZ51531W01
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.0	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M15
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M15.D
Acq On : 11 Mar 17 16:54
Sample : AZ51533W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	296053	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

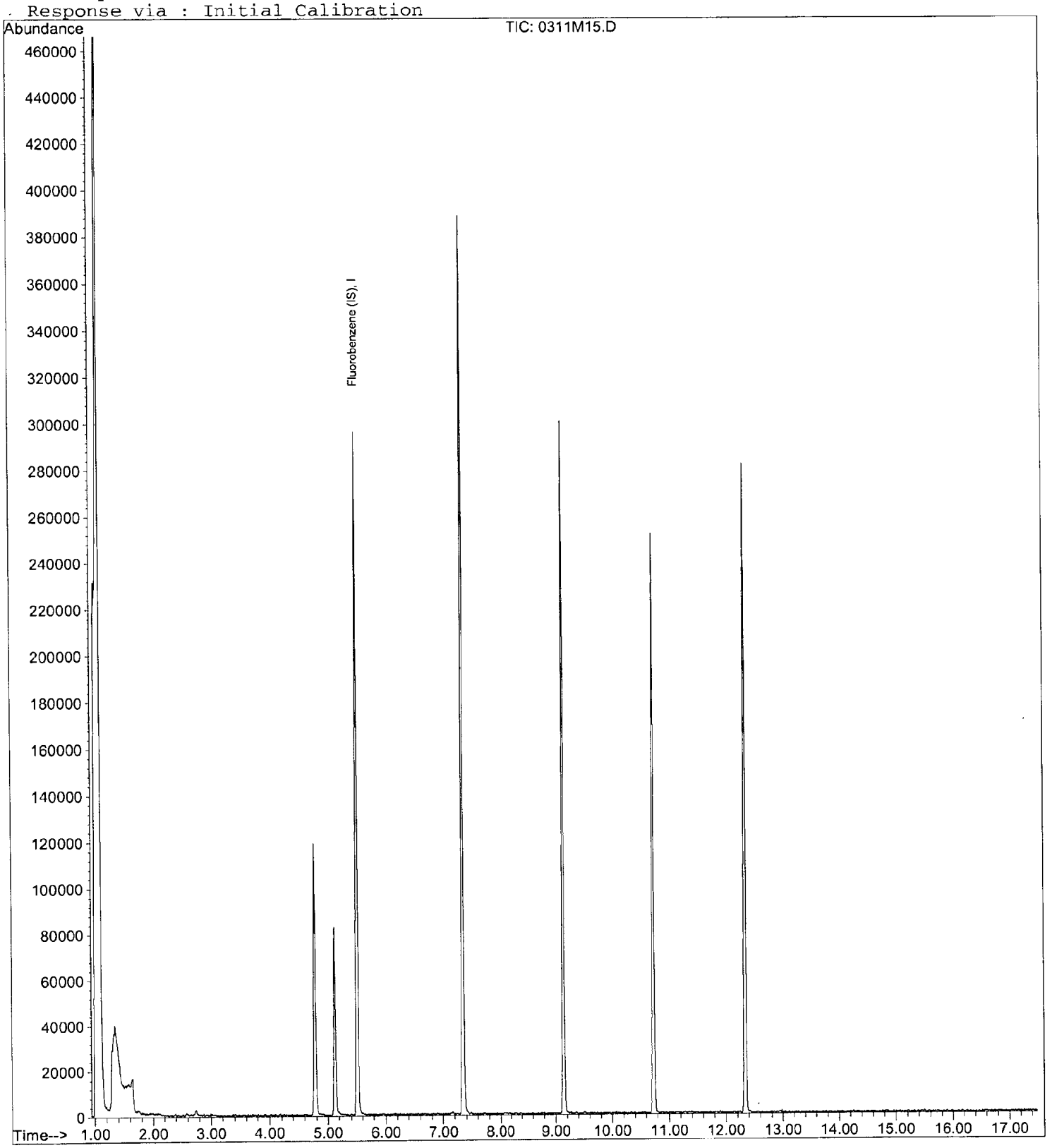
Data File : M:\MAX\DATA\M170308\0311M15.D
Acq On : 11 Mar 17 16:54
Sample : AZ51533W01
Misc : IS&S 02/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:57 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH285
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51534
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.4	85-114			%	03/11/17	03/11/17

Quant Method:	MGAS6302.M
Run #:	0311M16
Instrument:	Max
Sequence:	M170308
Dilution Factor:	1
Initials:	SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M16.D
Acq On : 11 Mar 17 17:22
Sample : AZ51534W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	299350	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0311M16.D MGAS6302.M Mon Mar 13 12:01:13 2017

Quantitation Report

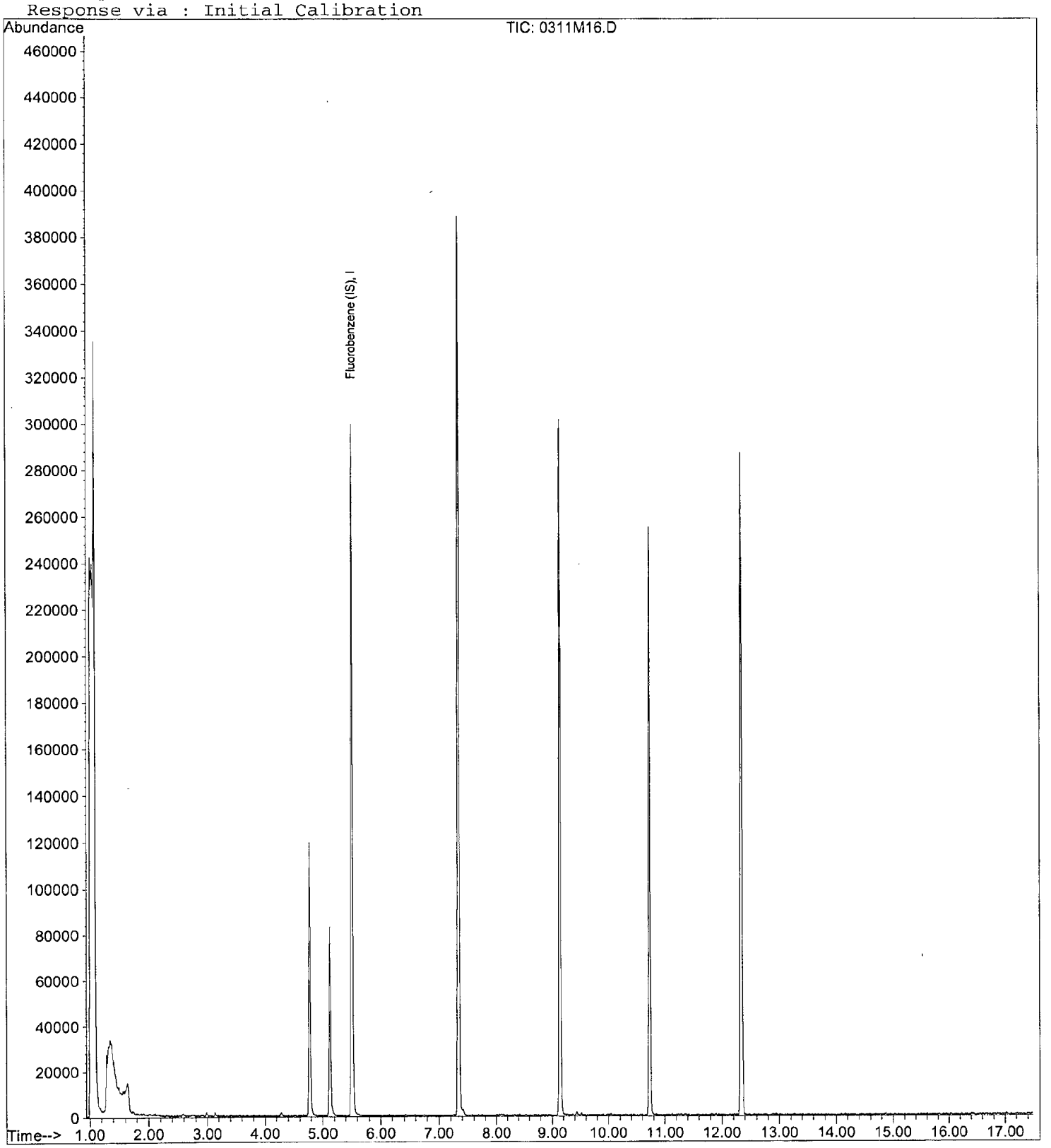
Data File : M:\MAX\DATA\M170308\0311M16.D
Acq On : 11 Mar 17 17:22
Sample : AZ51534W01
Misc : IS&S 02/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.4	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M17
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M17.D
Acq On : 11 Mar 17 17:51
Sample : AZ51535W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	298440	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

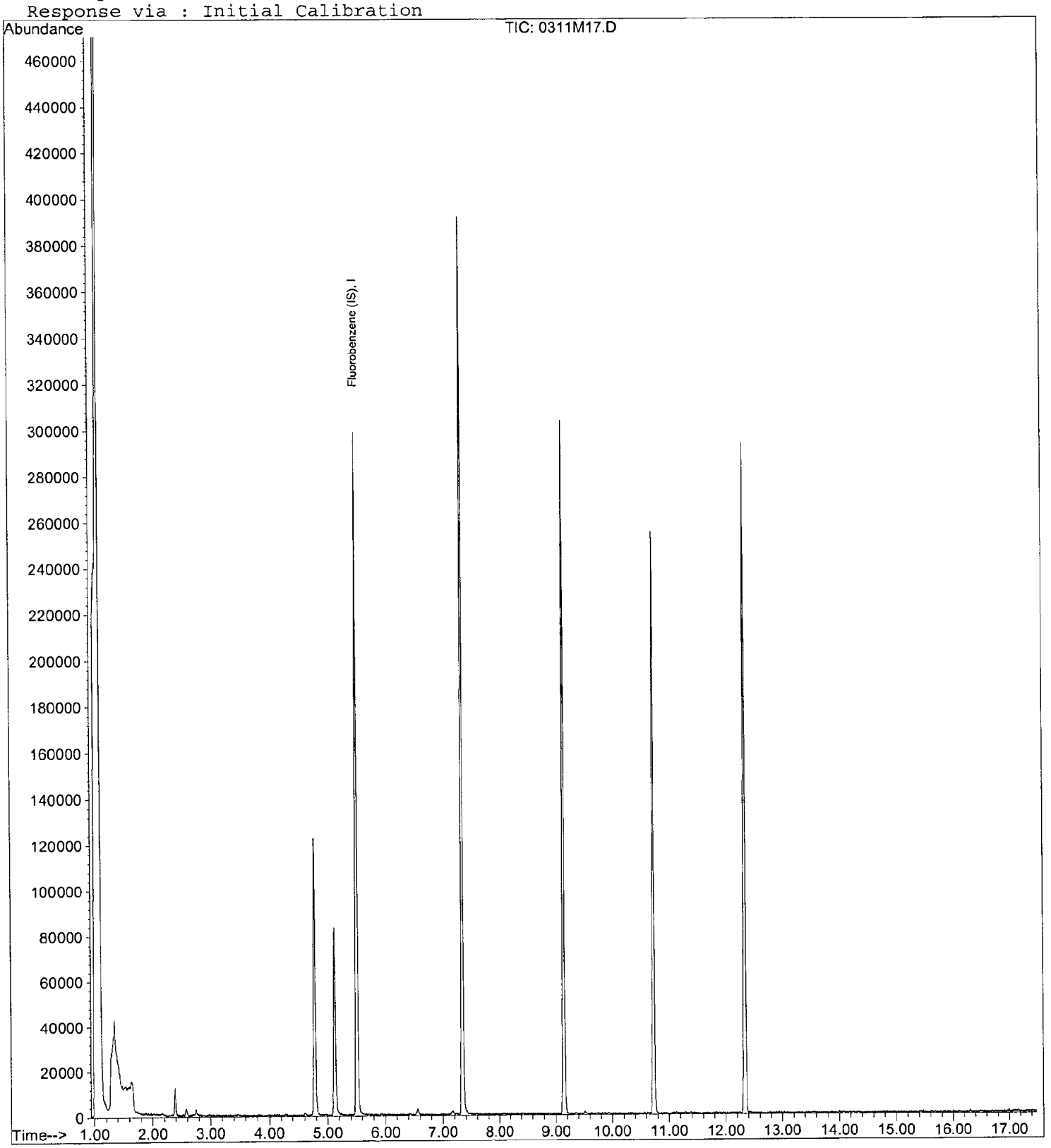
Data File : M:\MAX\DATA\M170308\0311M17.D
Acq On : 11 Mar 17 17:51
Sample : AZ51535W01
Misc : IS&S 02/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH282
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51536
QCG: #GRO86-170311AM-216816

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.5	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.M
Run #: 0311M18
Instrument: Max
Sequence: M170308
Dilution Factor: 1
Initials: SV

Printed: 03/17/17 11:14:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M18.D
Acq On : 11 Mar 17 18:19
Sample : AZ51536W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	306916	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

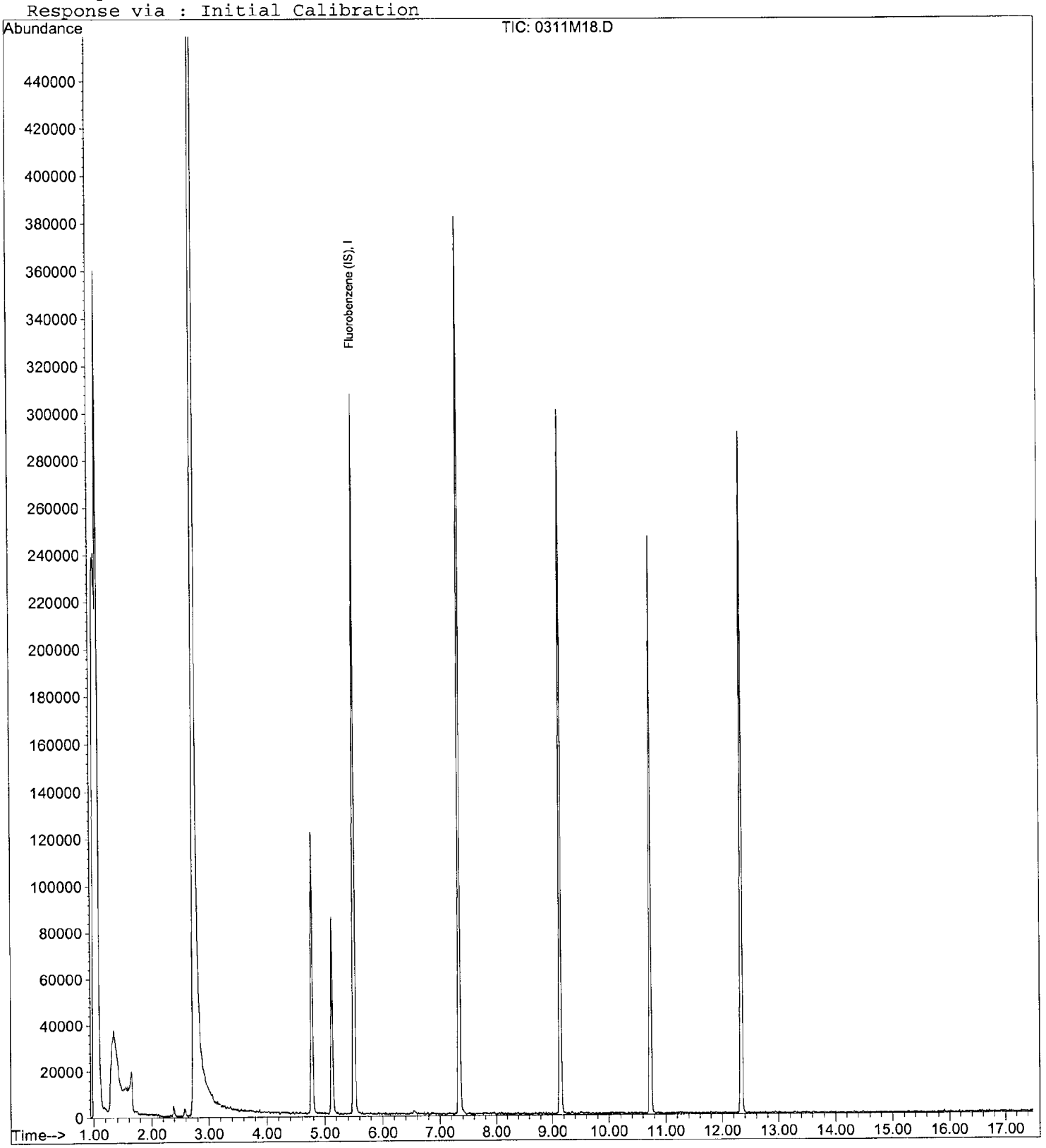
Data File : M:\MAX\DATA\M170308\0311M18.D
Acq On : 11 Mar 17 18:19
Sample : AZ51536W01
Misc : IS&S 02/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:58 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
7																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

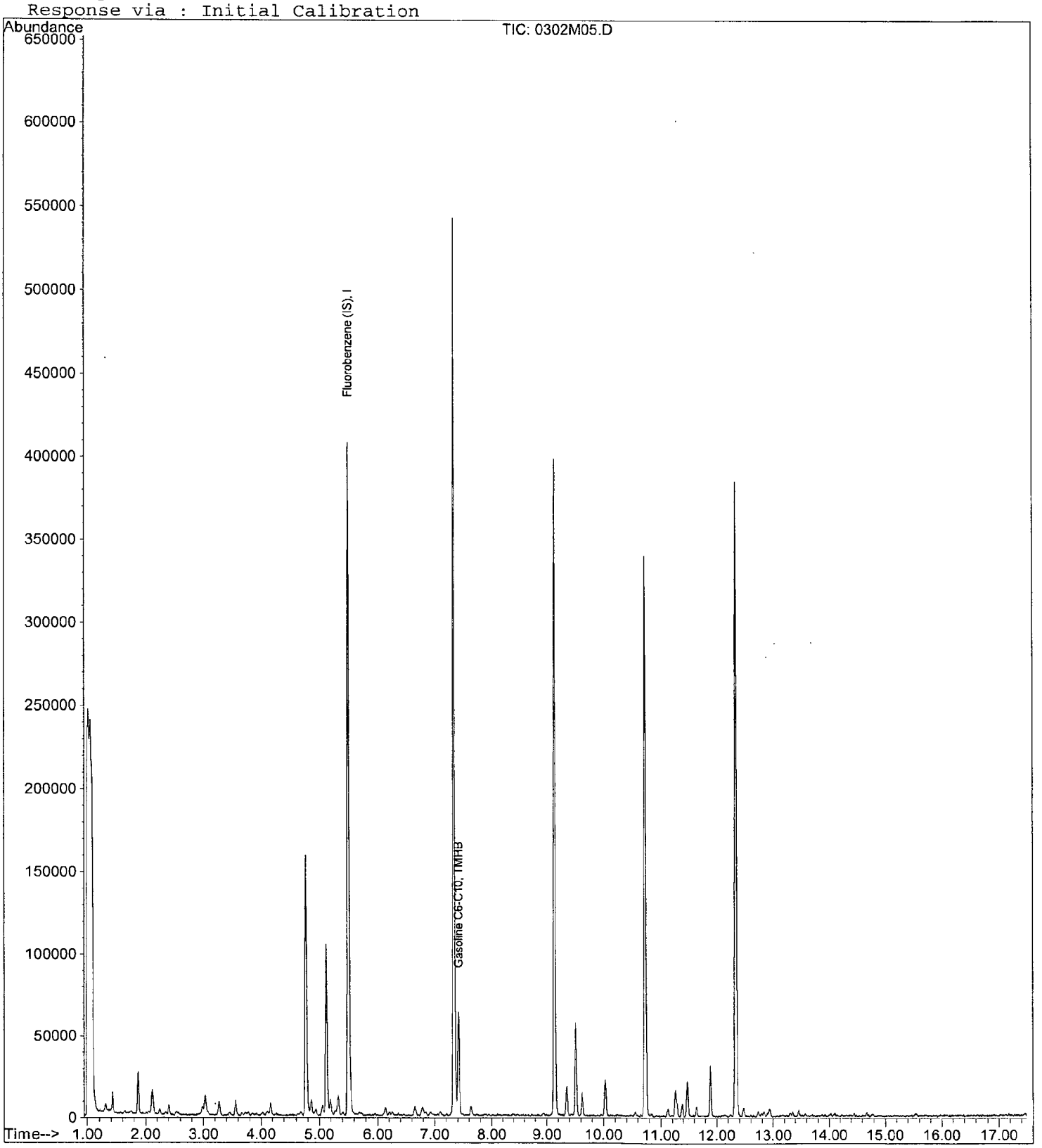
Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

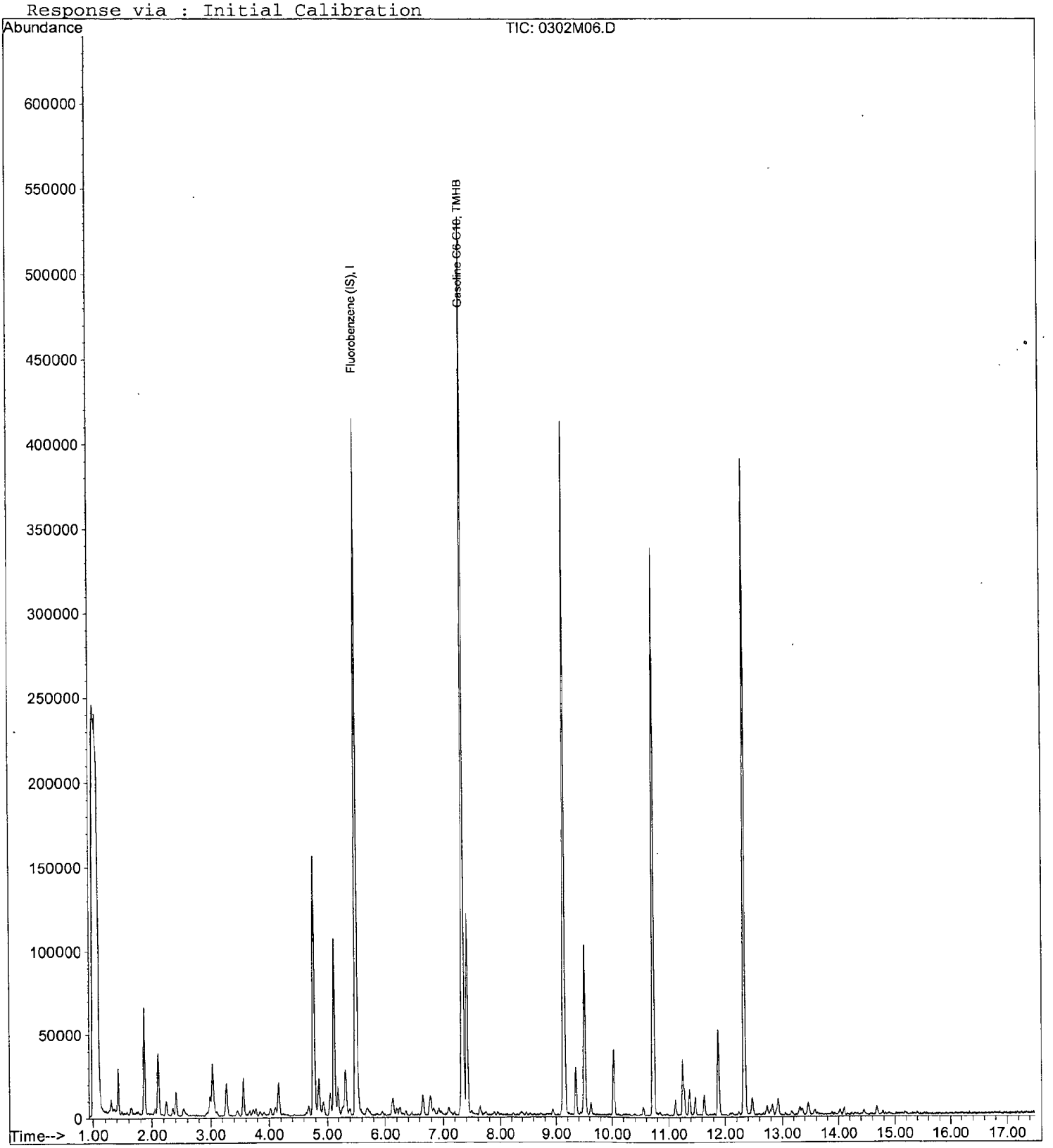
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration

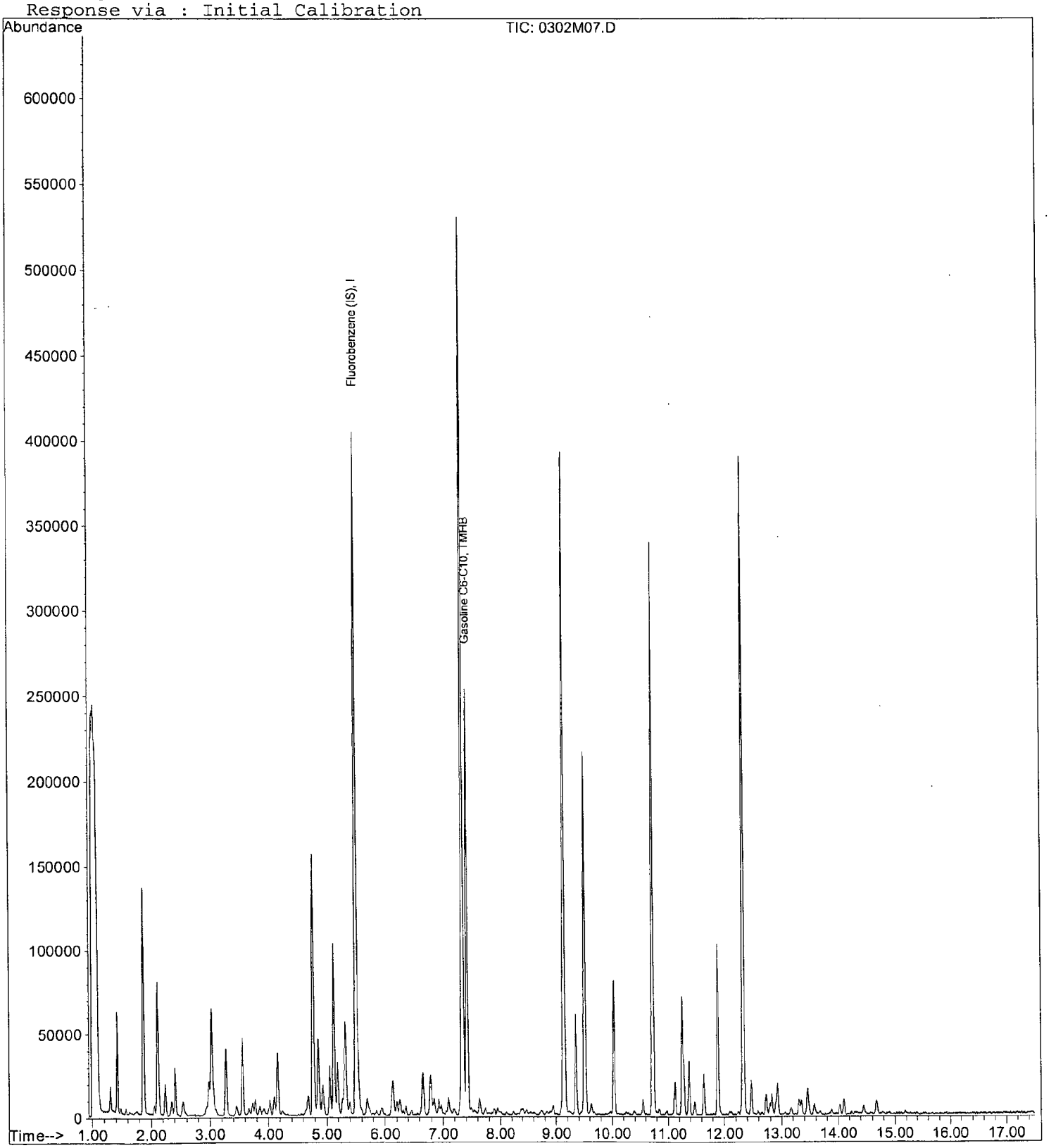
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

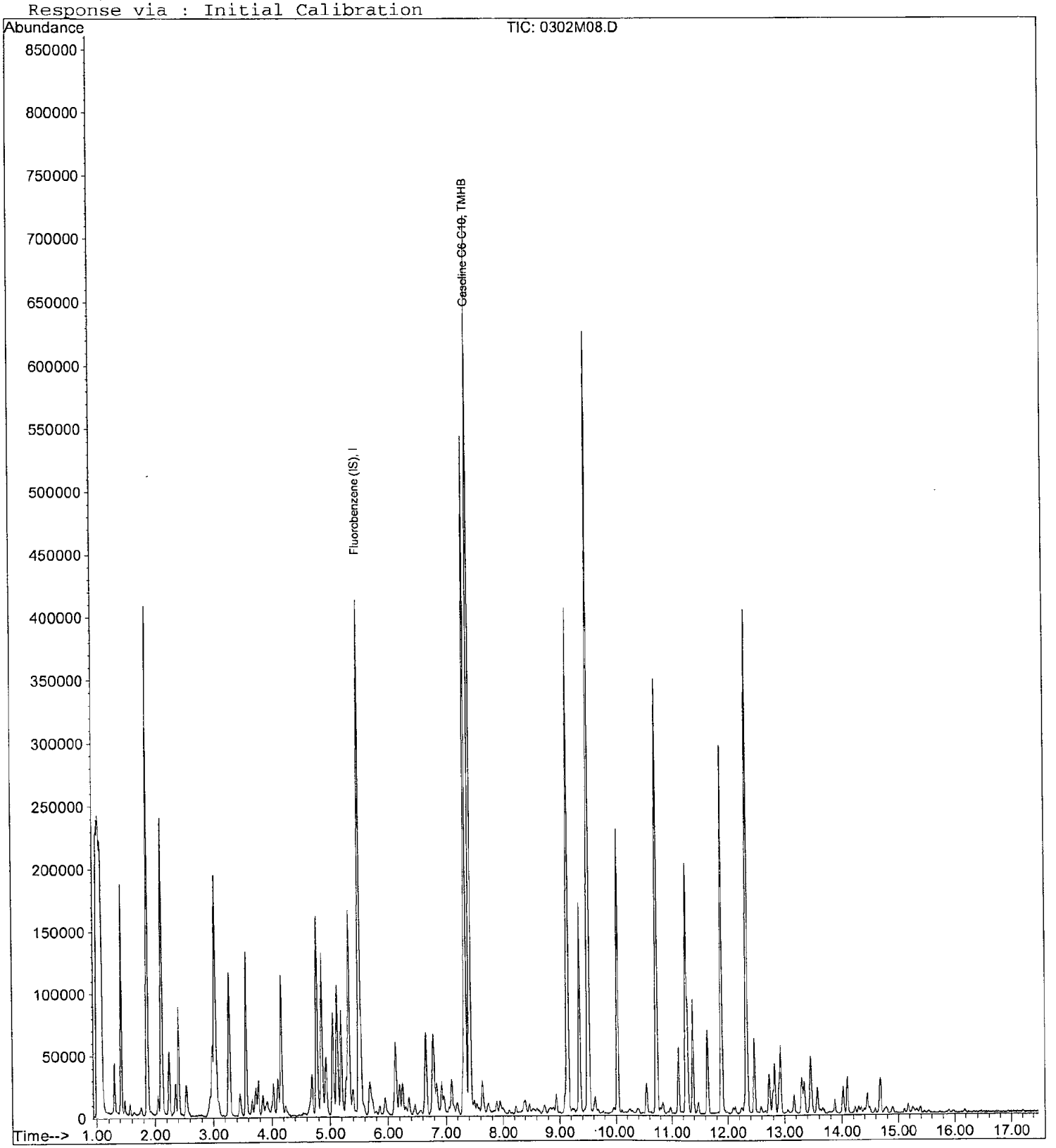
Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration

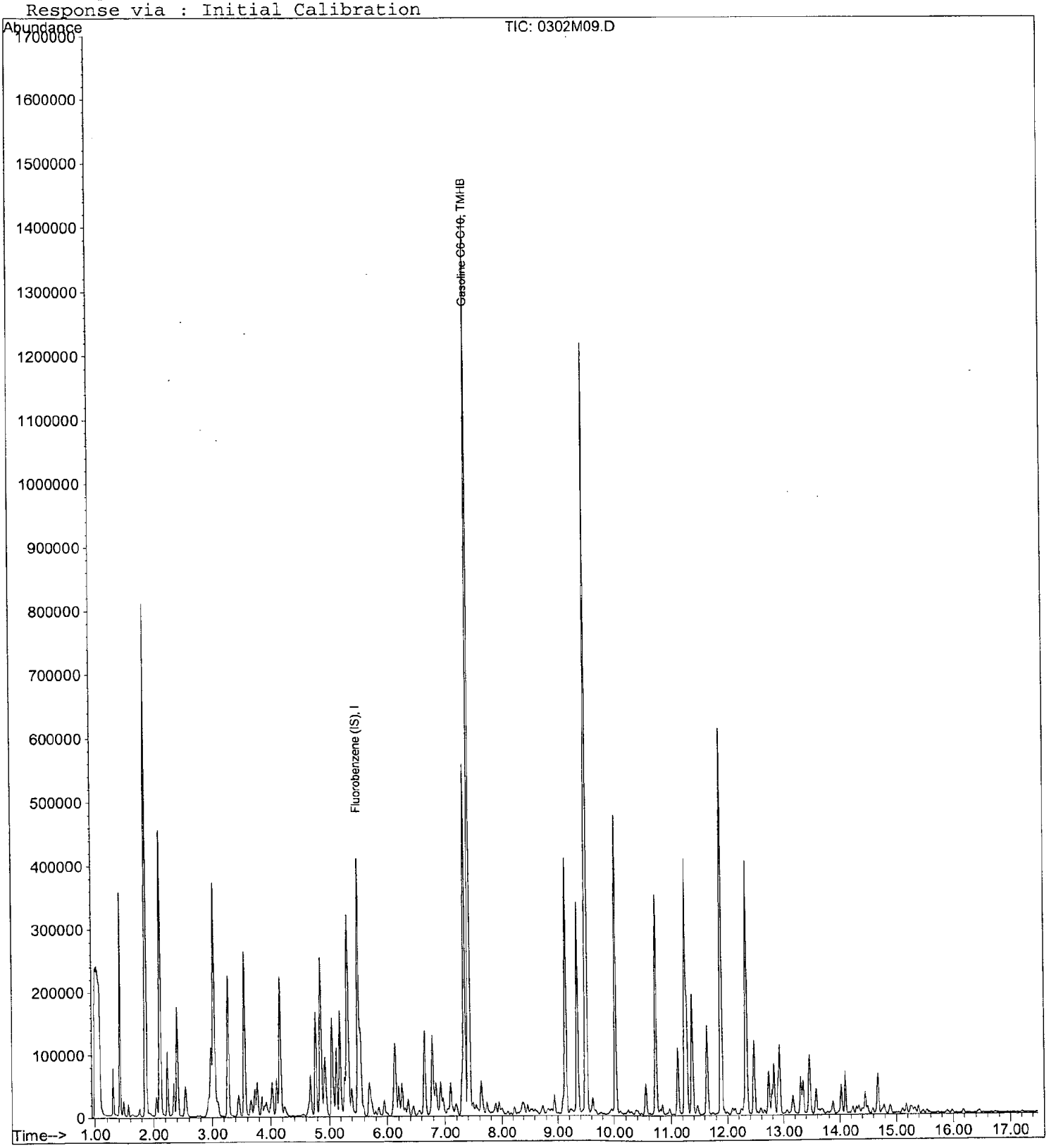
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M10.D MGAS6302.M Mon Mar 06 11:54:46 2017

Quantitation Report

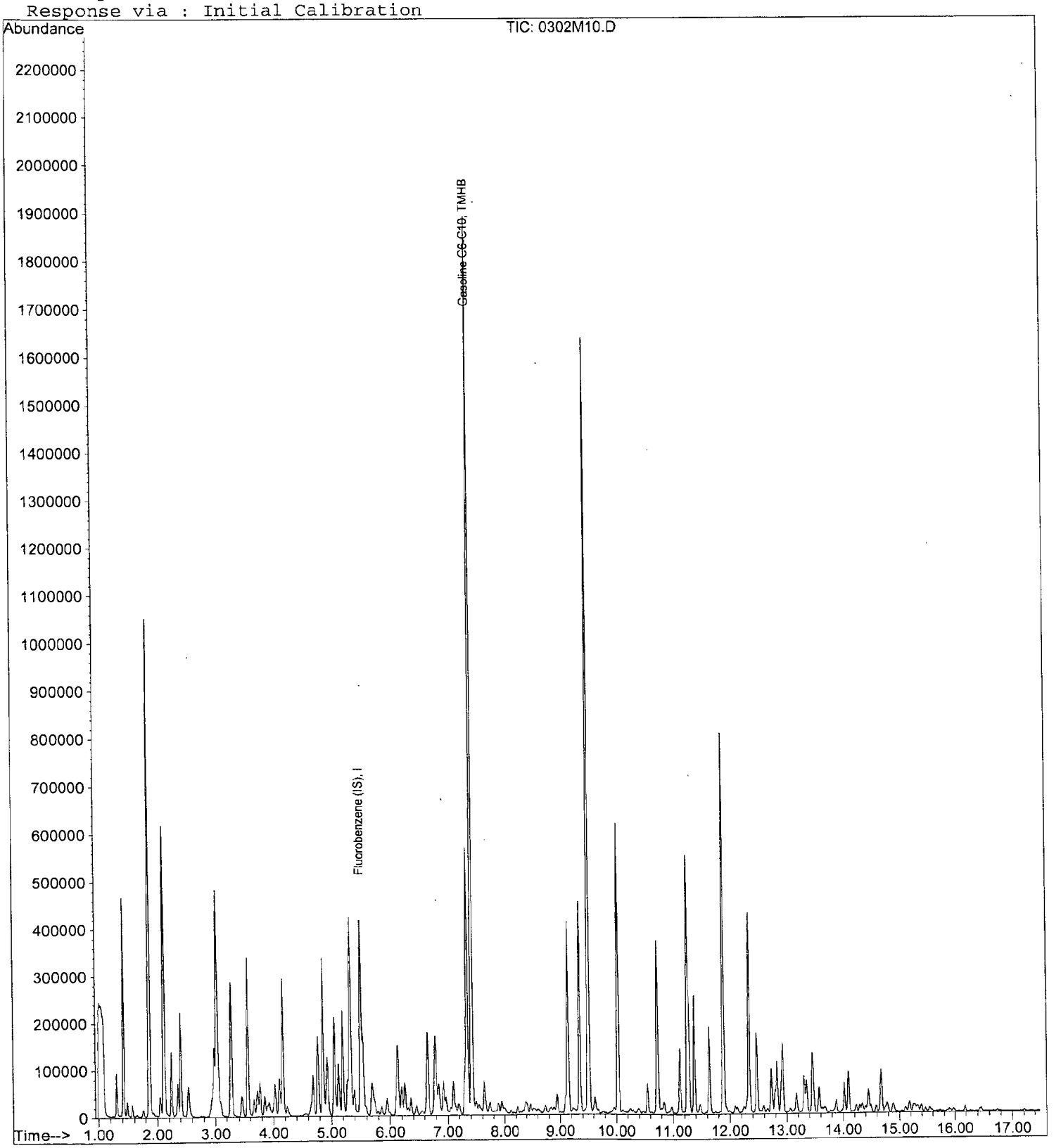
Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration

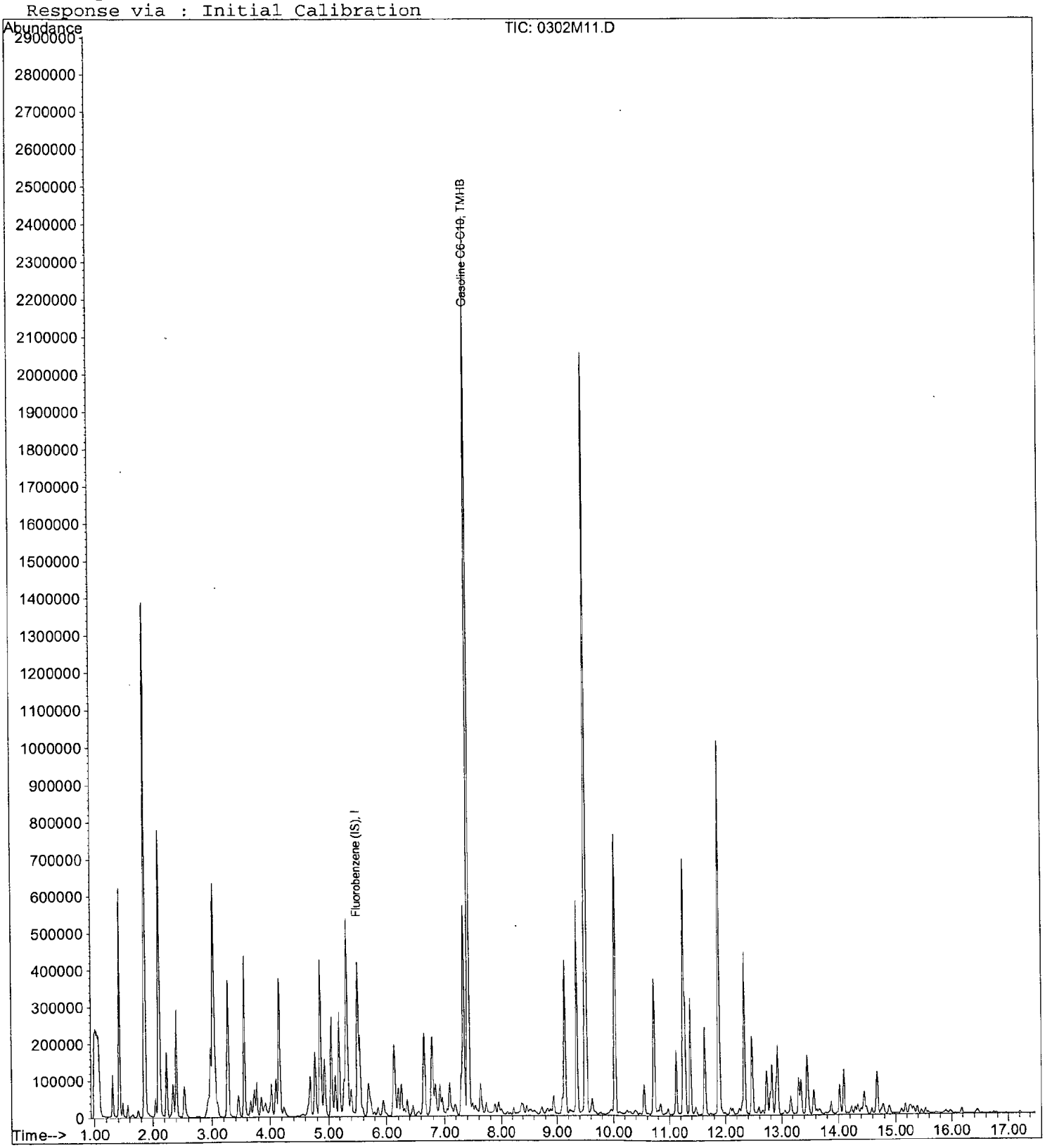
Quantitation Report

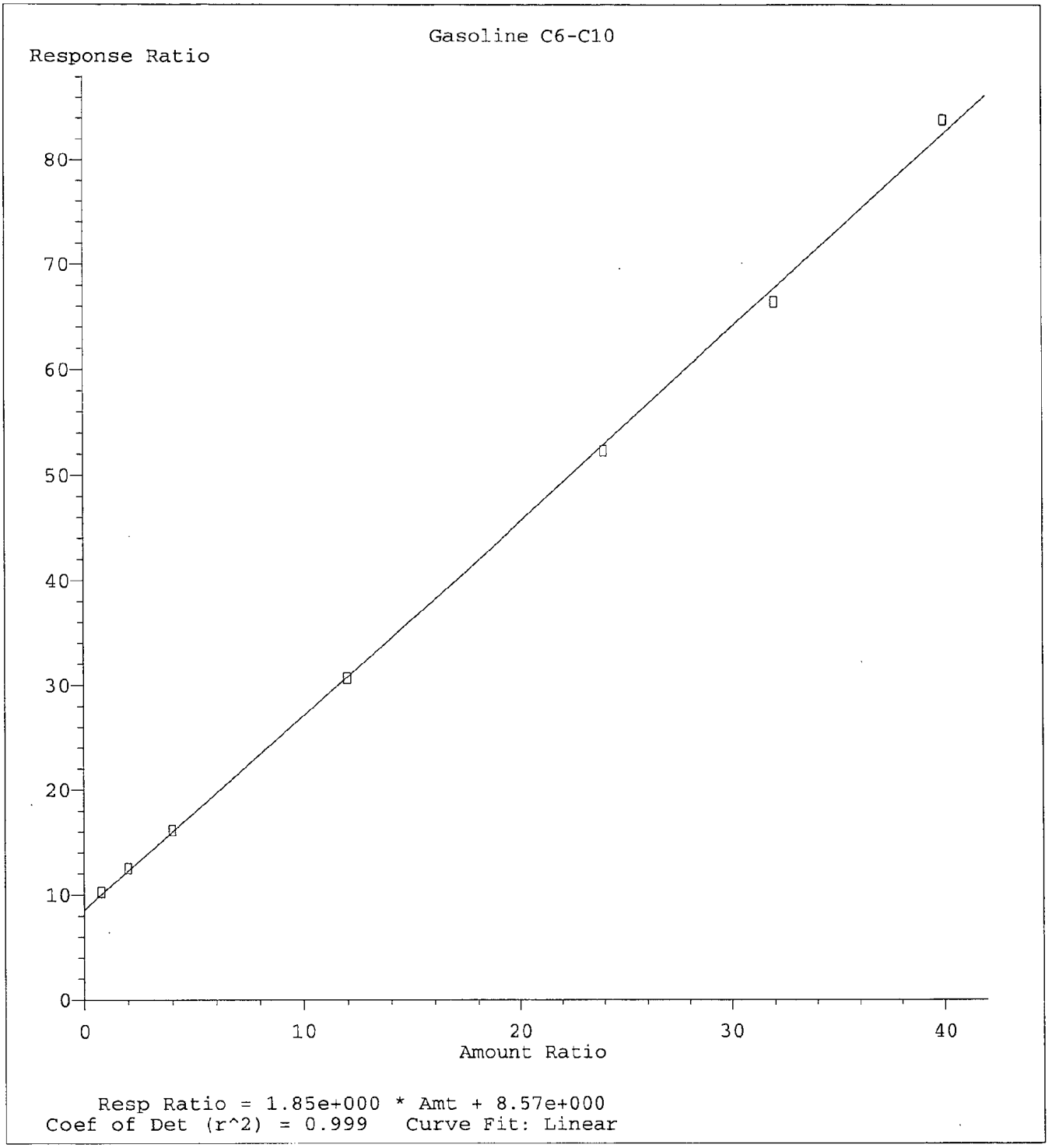
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
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36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

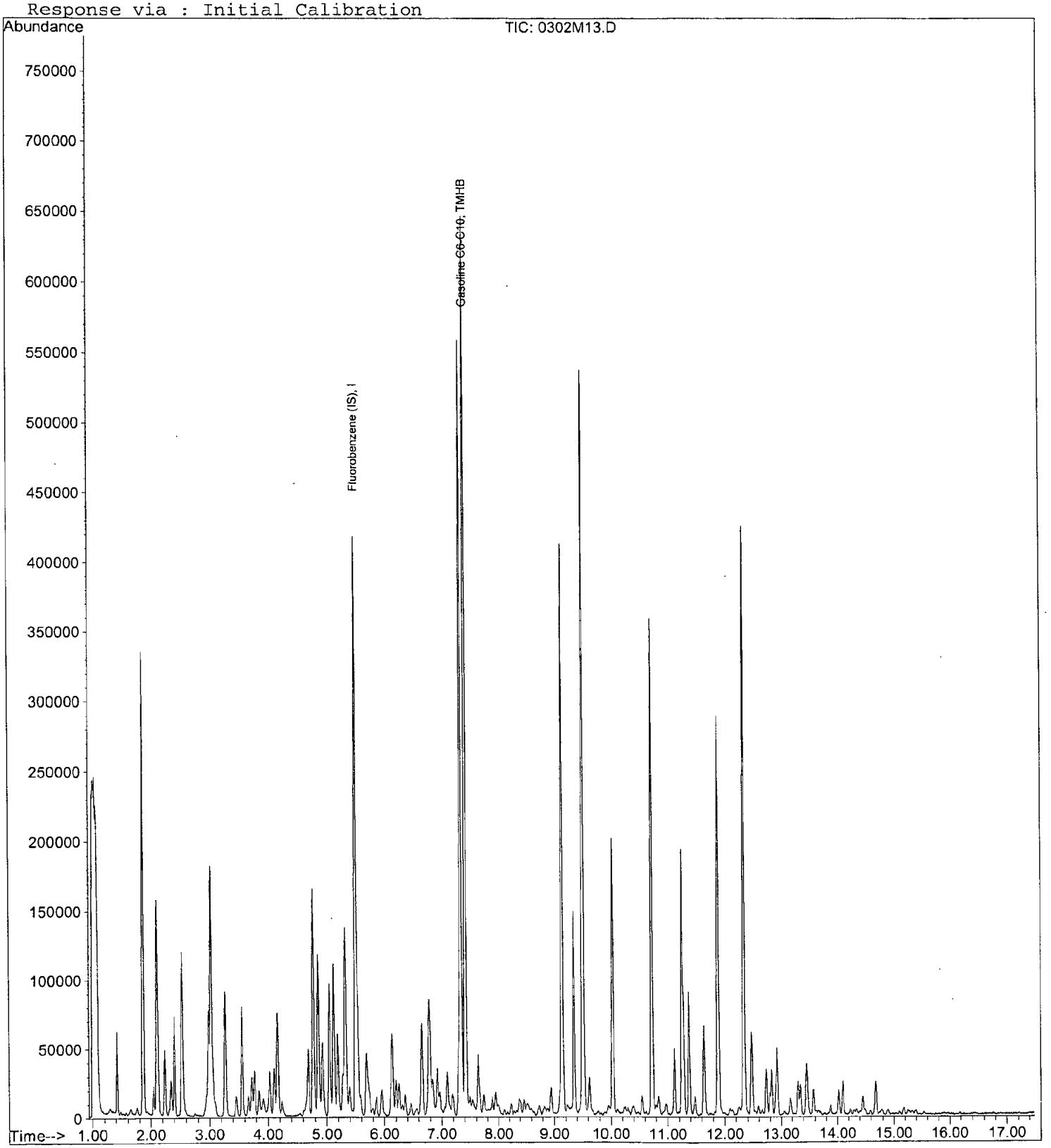
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/08/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0308M05.D	0308M06.D	0308M07.D	0308M08.D	0308M09.D	0308M10.D	0308M11.D	0308M12.D	0308M13.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2697	0.2866	0.2215	0.2323	0.2478	0.2383	0.2437	0.2427	0.2341		0.25	8.1	S	
3	S	1,2-DCA-D4(S)	0.2172	0.2170	0.1847	0.1859	0.1953	0.1858	0.1978	0.2034	0.1807		0.20	7.0	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.629	1.672	1.350	1.429	1.438	1.424	1.389	1.402	1.333		1.5	8.2	S	
6	S	4-Bromofluorobenzene(S)	0.5508	0.5559	0.4560	0.4499	0.4685	0.4686	0.4550	0.4688	0.4452		0.48	8.9	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333509	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	228786	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	107543	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	17987	5.47424 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.896%	
3) 1,2-DCA-D4(S)	5.12	65	14486	5.52864 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.116%	
5) Toluene-D8(S)	7.34	98	74539	5.61104 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.444%	
6) 4-Bromofluorobenzene(S)	10.72	95	25202	5.73899 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

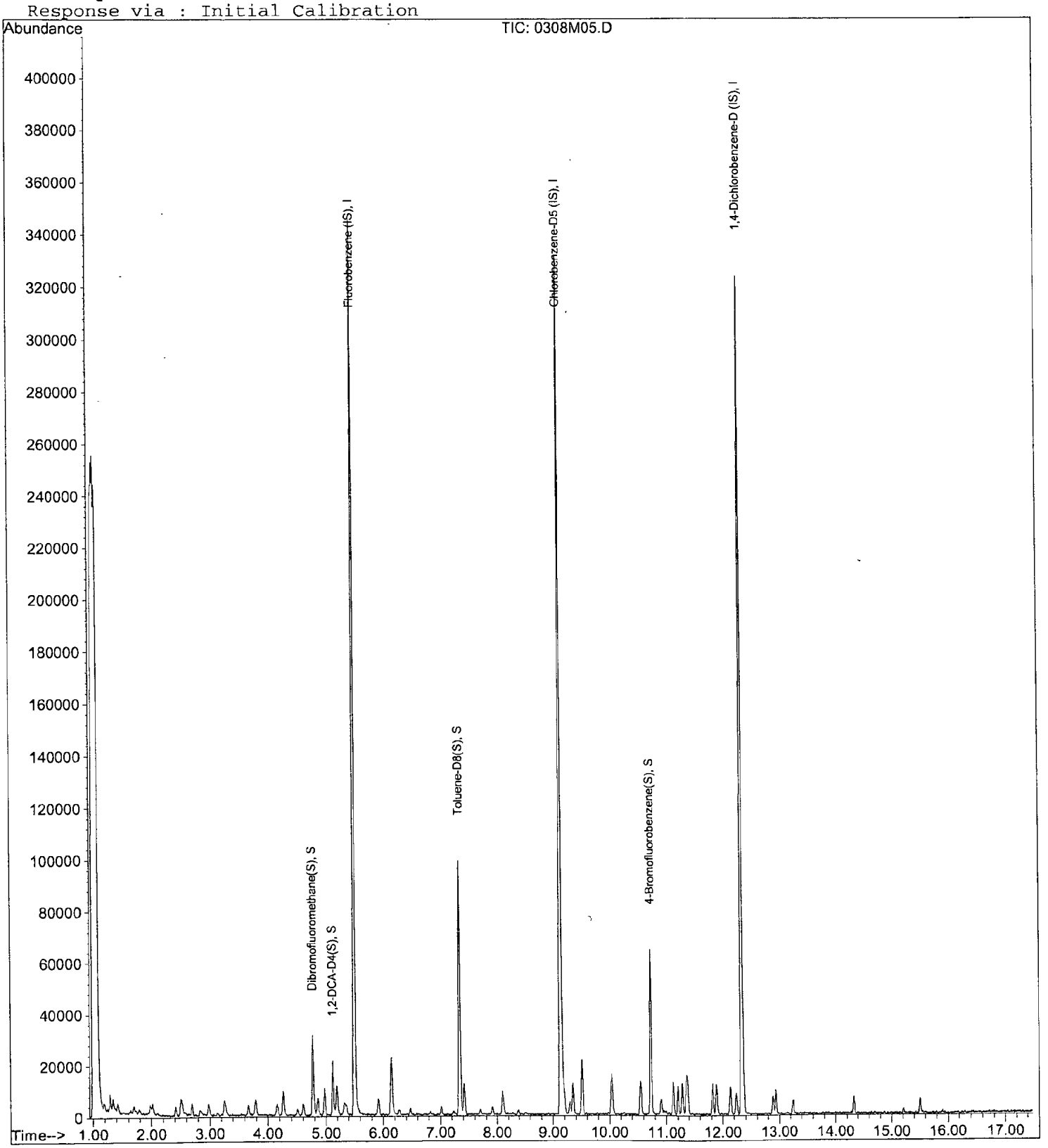
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M05.D
Acq On : 8 Mar 17 12:58
Sample : 0.3ug/L VOC STD 3/8/17H
Misc : IS&S 02/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	330142	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	227716	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	108357	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	18925	5.81846 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.272%	
3) 1,2-DCA-D4(S)	5.12	65	14325	5.52295 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.092%	
5) Toluene-D8(S)	7.34	98	76143	5.75872 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.036%	
6) 4-Bromofluorobenzene(S)	10.73	95	25319	5.79273 ppb	0.00
Spiked Amount 25.000			Recovery	= 23.172%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M06.D MSUR308.M Thu Mar 09 11:52:34 2017

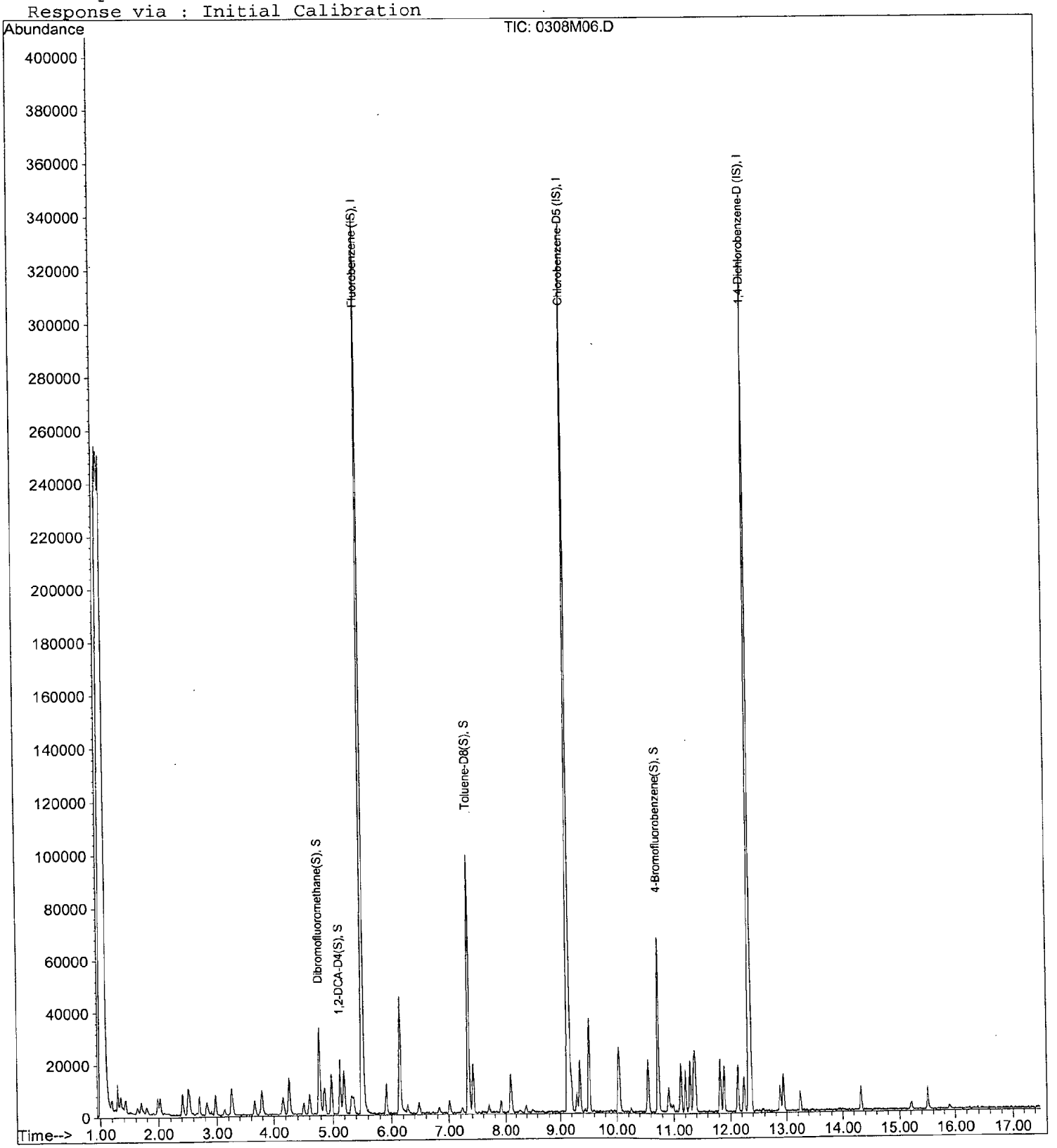
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M06.D
Acq On : 8 Mar 17 13:26
Sample : 0.5ug/L VOC STD 3/8/17I
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	316306	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	218870	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101680	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	28029	8.99442 ppb	0.00
Spiked Amount 25.000			Recovery	= 35.976%	
3) 1,2-DCA-D4(S)	5.12	65	23372	9.40515 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.620%	
5) Toluene-D8(S)	7.34	98	118187	9.29978 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.200%	
6) 4-Bromofluorobenzene(S)	10.72	95	39924	9.50338 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M07.D MSUR308.M Thu Mar 09 11:52:38 2017

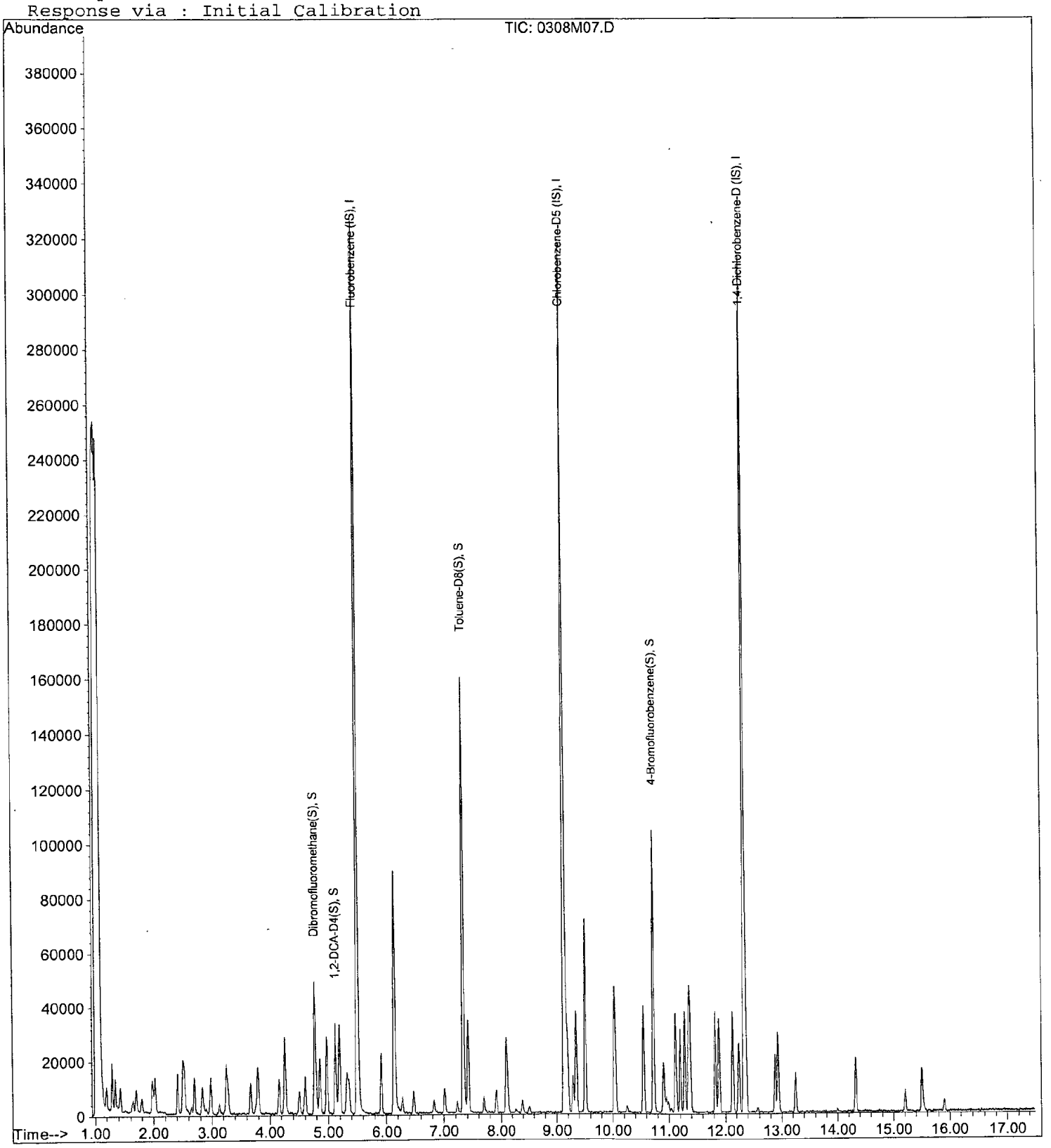
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M07.D
Acq On : 8 Mar 17 13:54
Sample : 1.0ug/L VOC STD 3/8/17J
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	336929	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	233004	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	110290	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	31304	9.43049 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.720%	
3) 1,2-DCA-D4(S)	5.12	65	25048	9.46263 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.852%	
5) Toluene-D8(S)	7.34	98	133155	9.84200 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	41928	9.37499 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.500%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

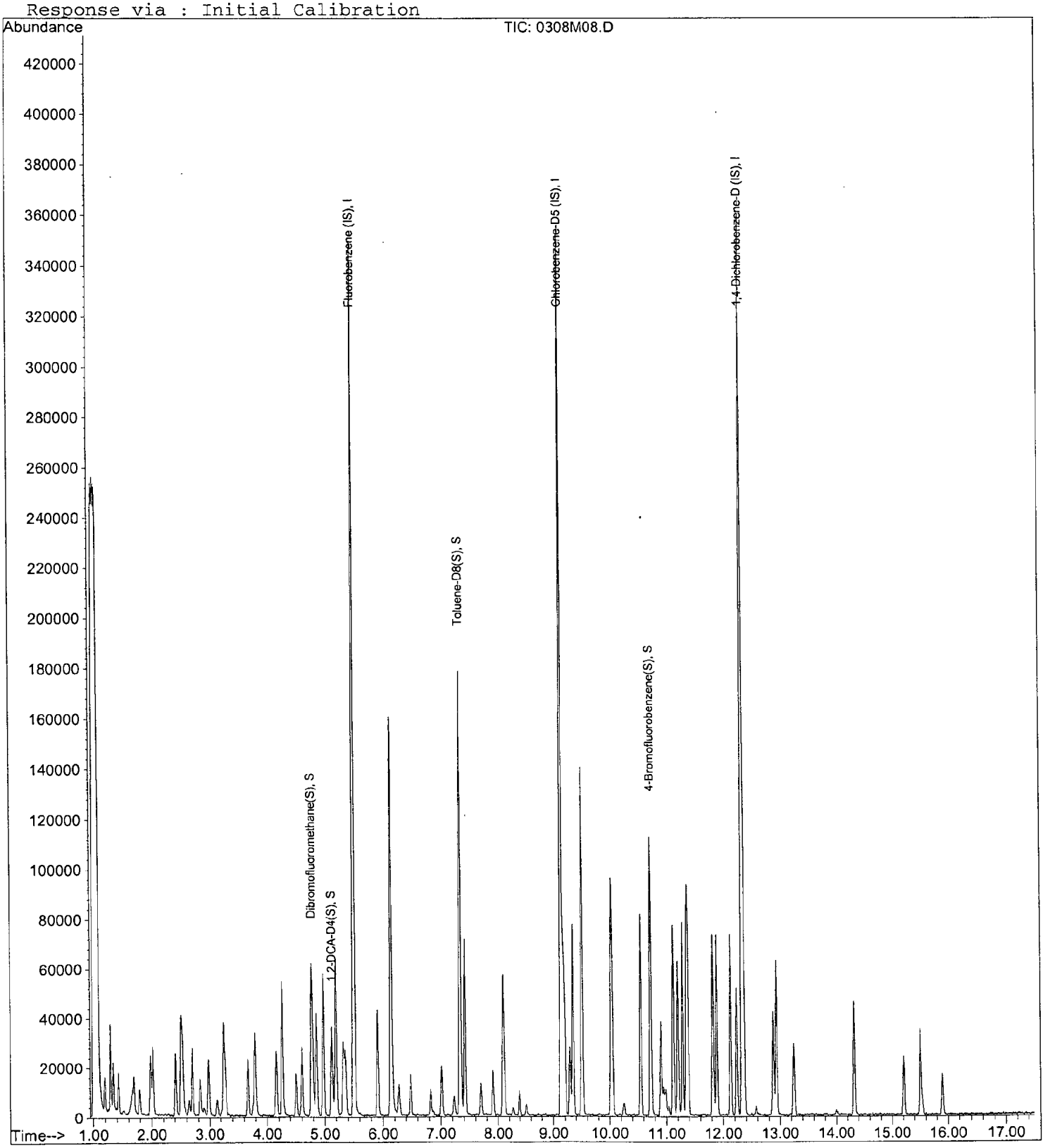
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M08.D
Acq On : 8 Mar 17 14:23
Sample : 2.0ug/L VOC STD 3/8/17K
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	332119	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	232193	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	113655	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	82311	25.15573 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.624%	
3) 1,2-DCA-D4(S)	5.12	65	64865	24.85959 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.440%	
5) Toluene-D8(S)	7.34	98	333797	24.75840 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.032%	
6) 4-Bromofluorobenzene(S)	10.73	95	108771	24.40586 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.624%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M09.D MSUR308.M Thu Mar 09 11:52:45 2017

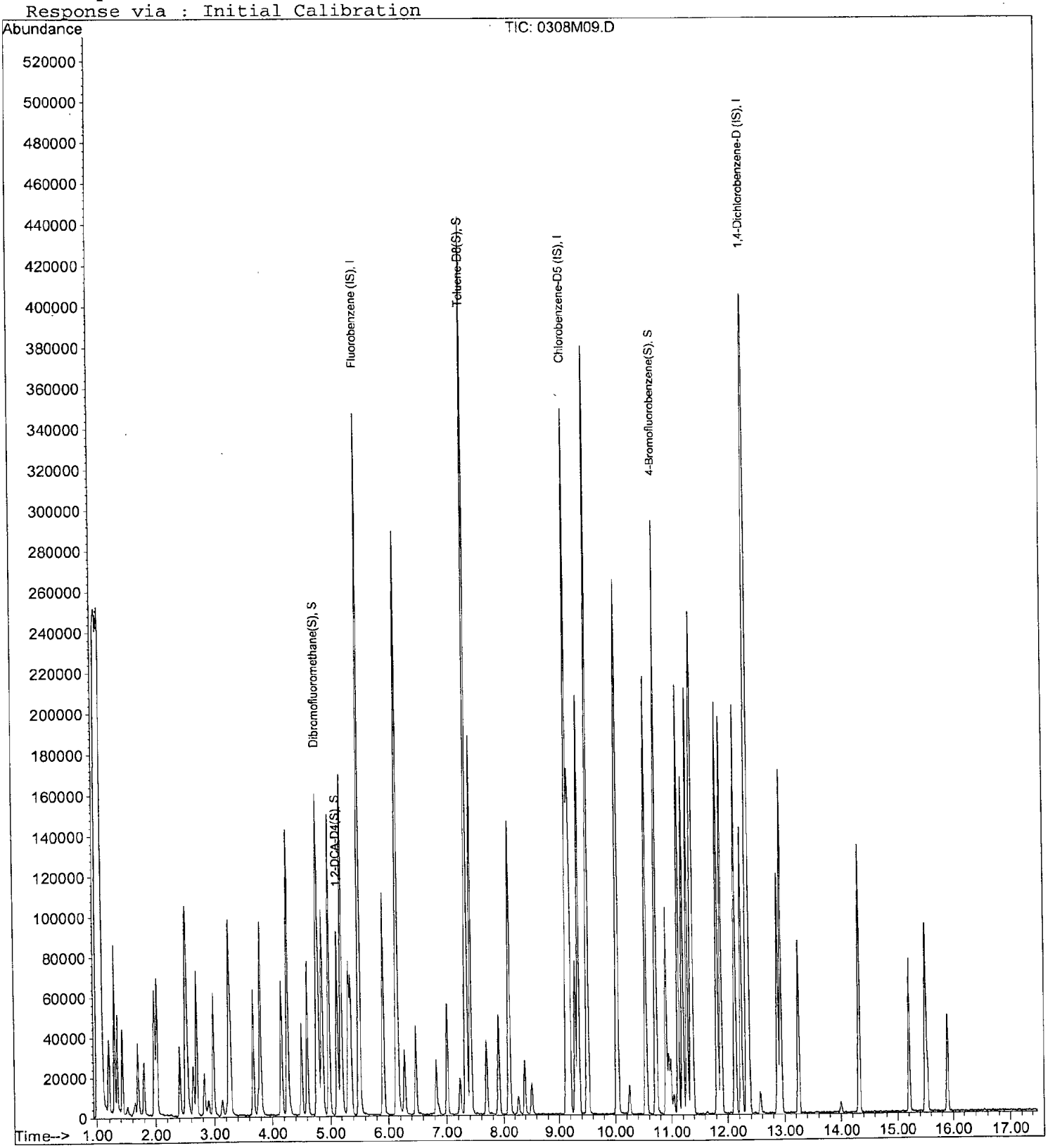
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M09.D
Acq On : 8 Mar 17 14:51
Sample : 5.0ug/L VOC STD 3/8/17L
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	323442	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	223972	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.33	152	113358	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	77087	24.19121 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.764%	
3) 1,2-DCA-D4(S)	5.12	65	60086	23.64581 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.584%	
5) Toluene-D8(S)	7.34	98	318838	24.51690 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.068%	
6) 4-Bromofluorobenzene(S)	10.73	95	104952	24.41334 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M10.D MSUR308.M Thu Mar 09 11:52:49 2017

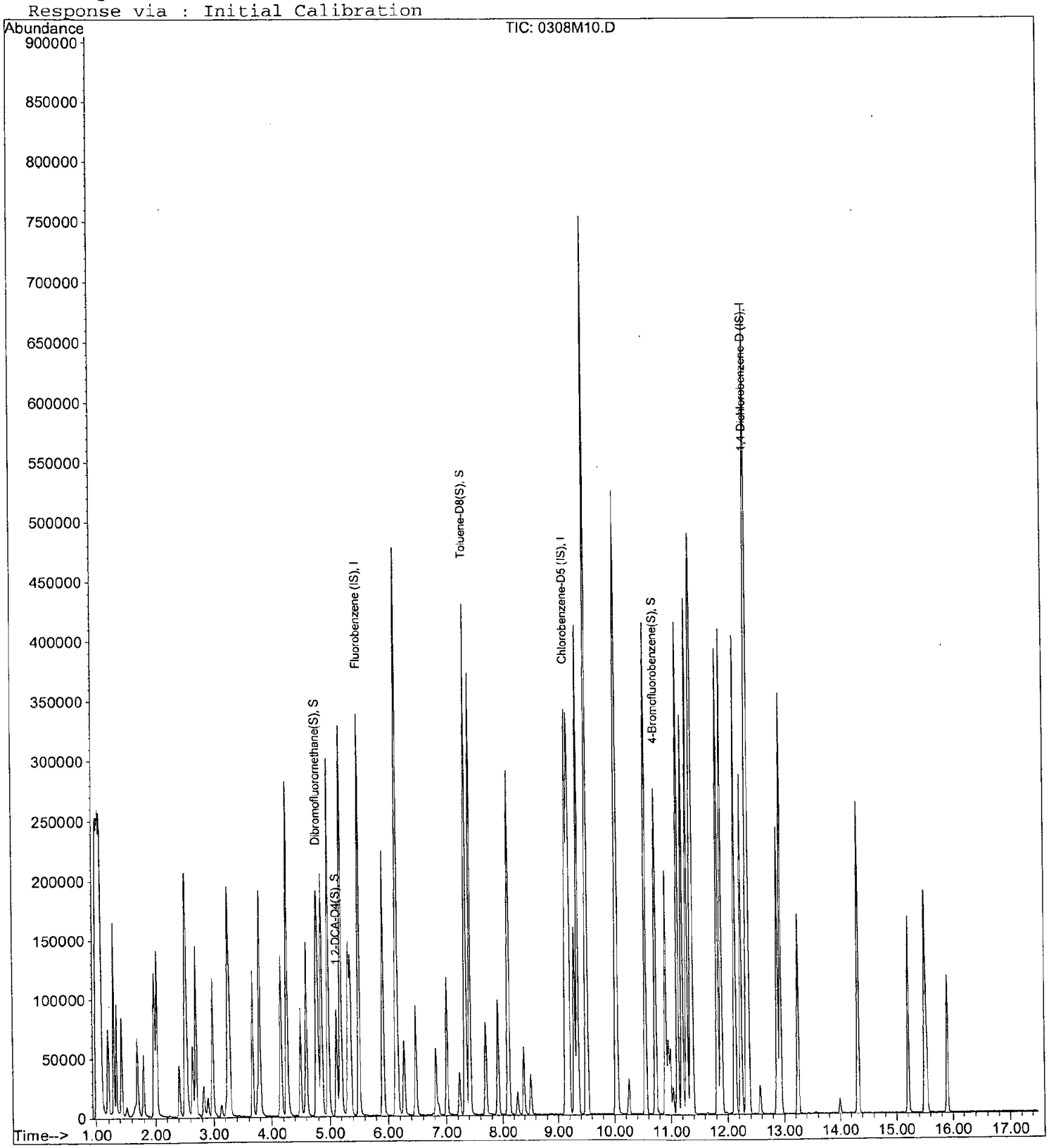
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M10.D
Acq On : 8 Mar 17 15:20
Sample : 10ug/L VOC STD 3/8/17M
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	338322	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	240108	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121987	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	164883	49.46733 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.868%	
3) 1,2-DCA-D4(S)	5.12	65	133840	50.35389 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.416%	
5) Toluene-D8(S)	7.34	98	667005	47.84226 ppb	0.00
Spiked Amount 25.000			Recovery	= 191.368%	
6) 4-Bromofluorobenzene(S)	10.73	95	218504	47.41141 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.644%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

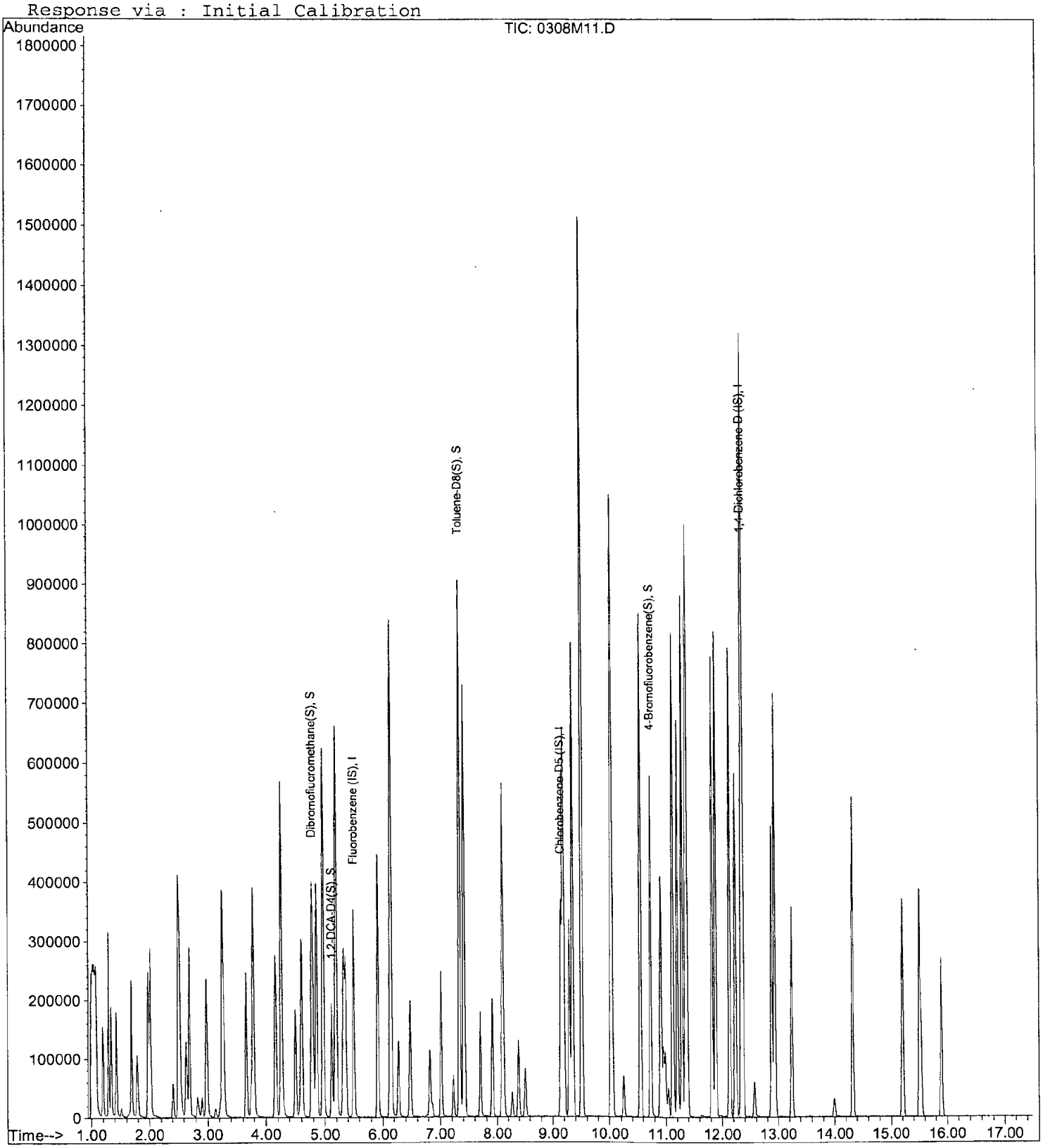
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M11.D
Acq On : 8 Mar 17 15:48
Sample : 20ug/L VOC STD 3/8/17N
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/17O
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	333260	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237561	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	121734	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	161734	49.25961 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.040%	
3) 1,2-DCA-D4(S)	5.12	65	135552	51.77261 ppb	0.00
Spiked Amount 25.000			Recovery	= 207.092%	
5) Toluene-D8(S)	7.34	98	666210	48.29757 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.192%	
6) 4-Bromofluorobenzene(S)	10.73	95	222740	48.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.396%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M12.D MSUR308.M Thu Mar 09 11:52:57 2017

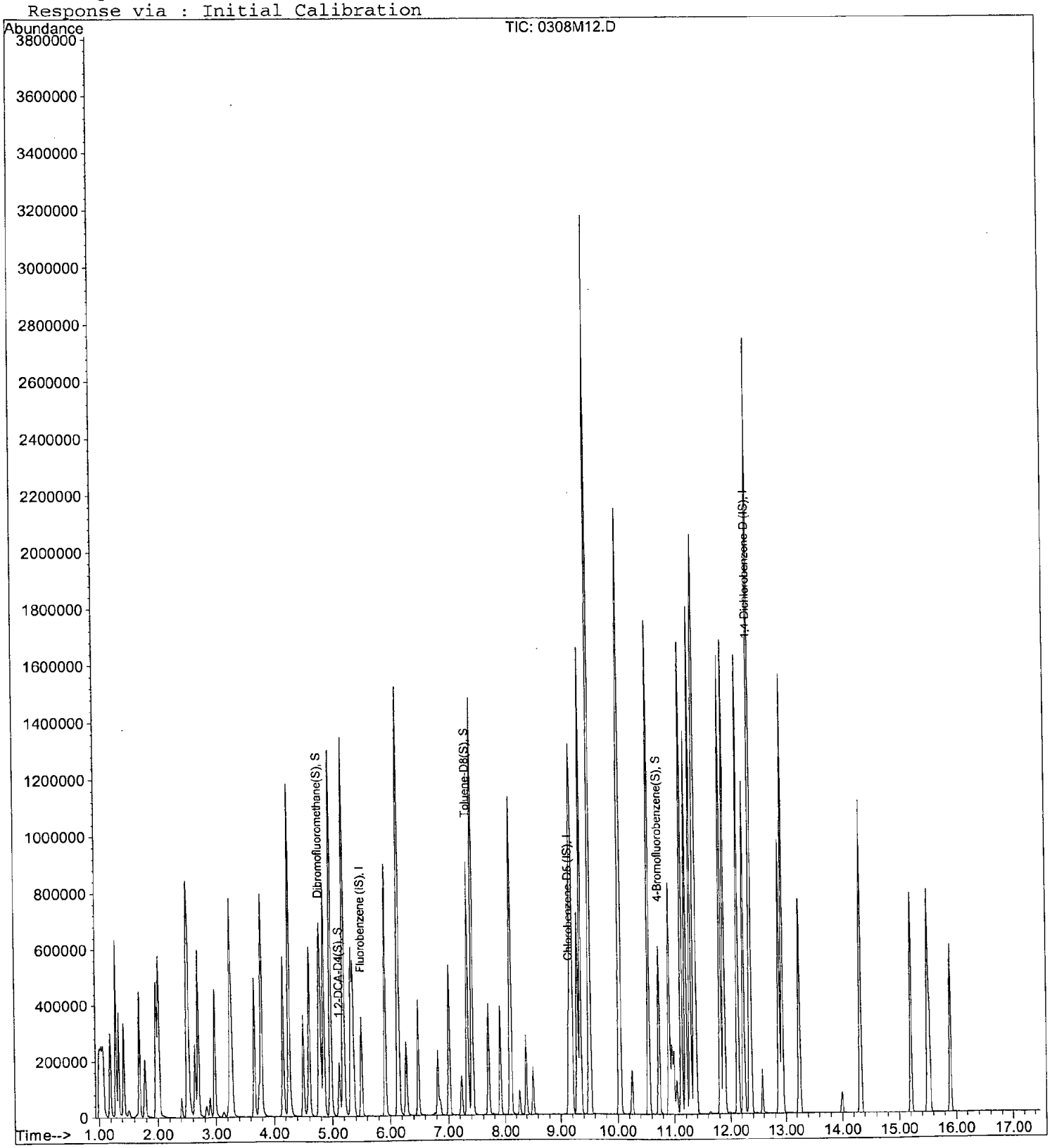
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M12.D
Acq On : 8 Mar 17 16:16
Sample : 40ug/L VOC STD 3/8/170
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0308M13.D Vial: 12
Acq On : 8 Mar 17 16:45 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 3/8/17P Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	96	321225	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	235883	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	126041	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.77	111	300824	95.05523 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.220%	
3) 1,2-DCA-D4(S)	5.12	65	232217	92.01572 ppb	0.00
Spiked Amount 25.000			Recovery	= 368.064%	
5) Toluene-D8(S)	7.34	98	1257417	91.80619 ppb	0.00
Spiked Amount 25.000			Recovery	= 367.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	420091	92.78481 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.140%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0308M13.D MSUR308.M Thu Mar 09 11:53:01 2017

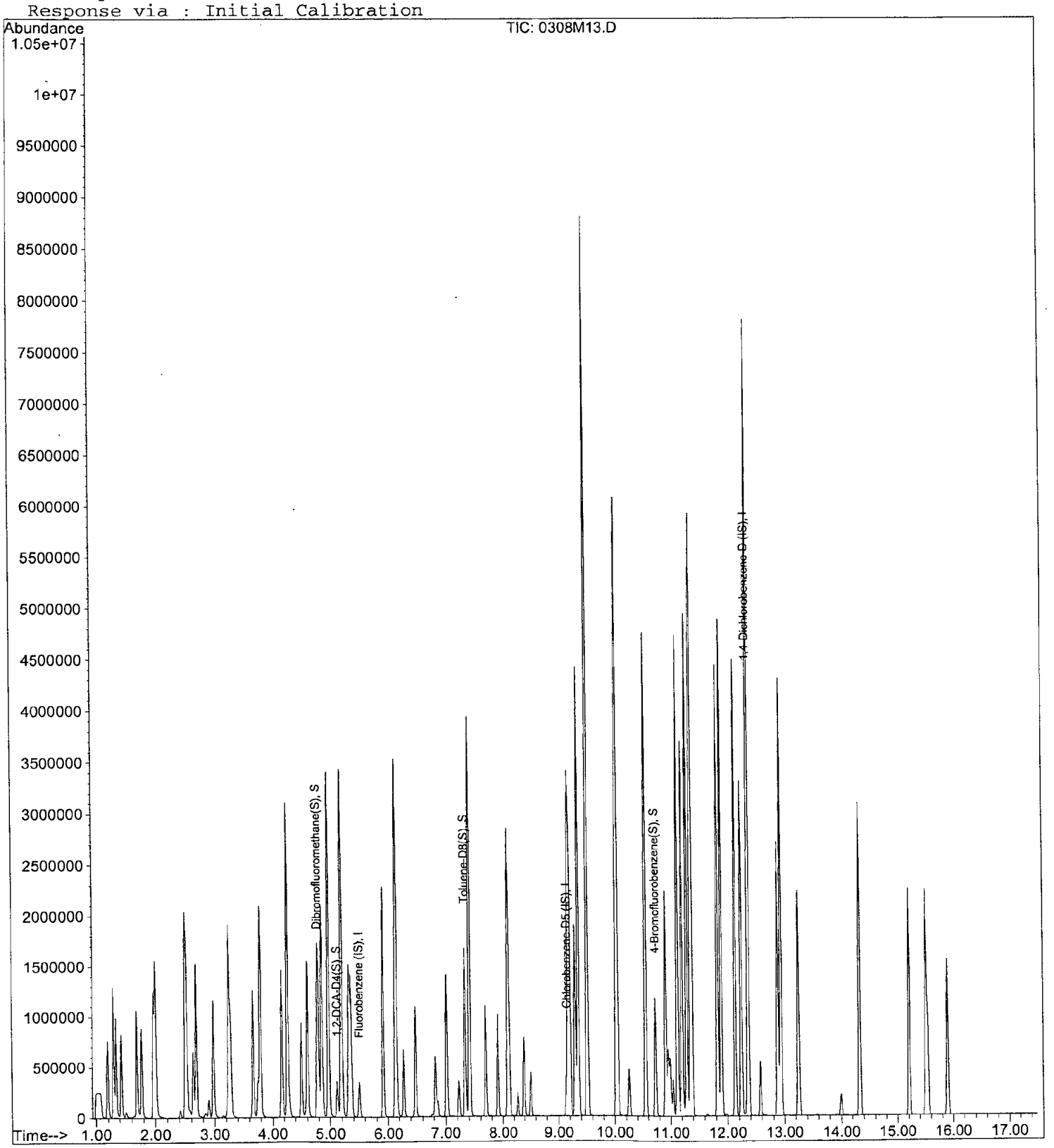
Quantitation Report

Data File : M:\MAX\DATA\M170308\0308M13.D
Acq On : 8 Mar 17 16:45
Sample : 100ug/L VOC STD 3/8/17P
Misc : IS&S 02/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 9 11:51 2017 Quant Results File: MSUR308.RES

Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0311M05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.405	47	TMHBL	8.5
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M05.D
Acq On : 11 Mar 17 12:10
Sample : 170311A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:55 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	318387	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9190401m	274.43448 ppb	100

(#) = qualifier out of range (m) = manual integration

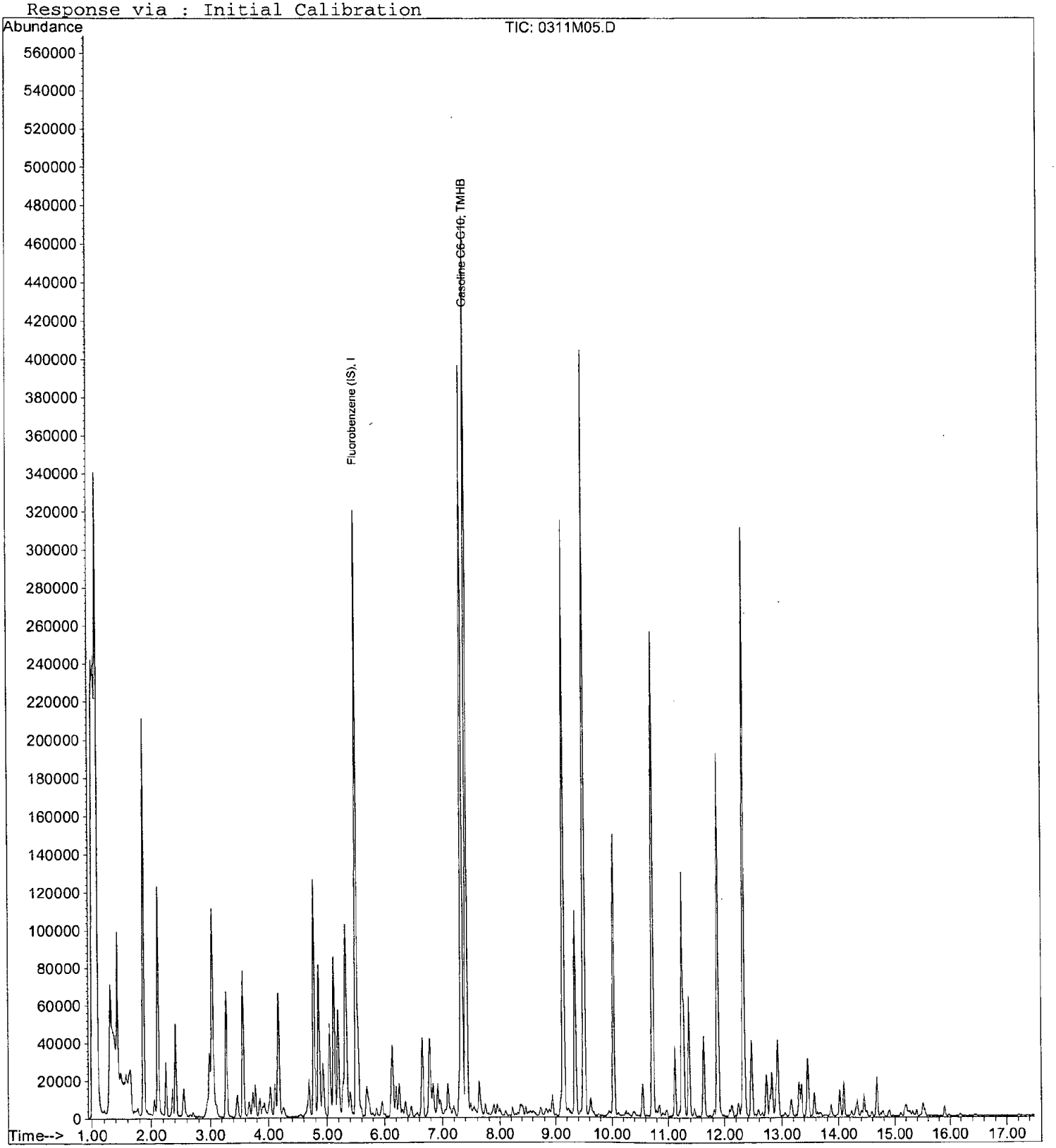
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M05.D
Acq On : 11 Mar 17 12:10
Sample : 170311A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:55 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2445	0.74	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1918	2.4	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.402	3.4	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4583	4.5	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M05.D
Acq On : 11 Mar 17 12:10
Sample : 170311A CCV-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	305542	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213078	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	102004	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	74695	24.81381 ppb	0.00
Spiked Amount 25.000			Recovery = 99.256%		
3) 1,2-DCA-D4(S)	5.13	65	58589	24.40746 ppb	0.00
Spiked Amount 25.000			Recovery = 97.628%		
5) Toluene-D8(S)	7.34	98	298641	24.13793 ppb	0.00
Spiked Amount 25.000			Recovery = 96.552%		
6) 4-Bromofluorobenzene(S)	10.73	95	97657	23.87783 ppb	0.00
Spiked Amount 25.000			Recovery = 95.512%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0311M22.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.218	51	TMHBL	19
3							
4							
5							
6							
7							
8							
9							
10							
11							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			51.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M22.D
Acq On : 12 Mar 17 10:37
Sample : Ending CCV GAS 300ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	325556	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8665299m	244.03278 ppb	100

(#) = qualifier out of range (m) = manual integration
0311M22.D MGAS6302.M Mon Mar 13 12:01:31 2017

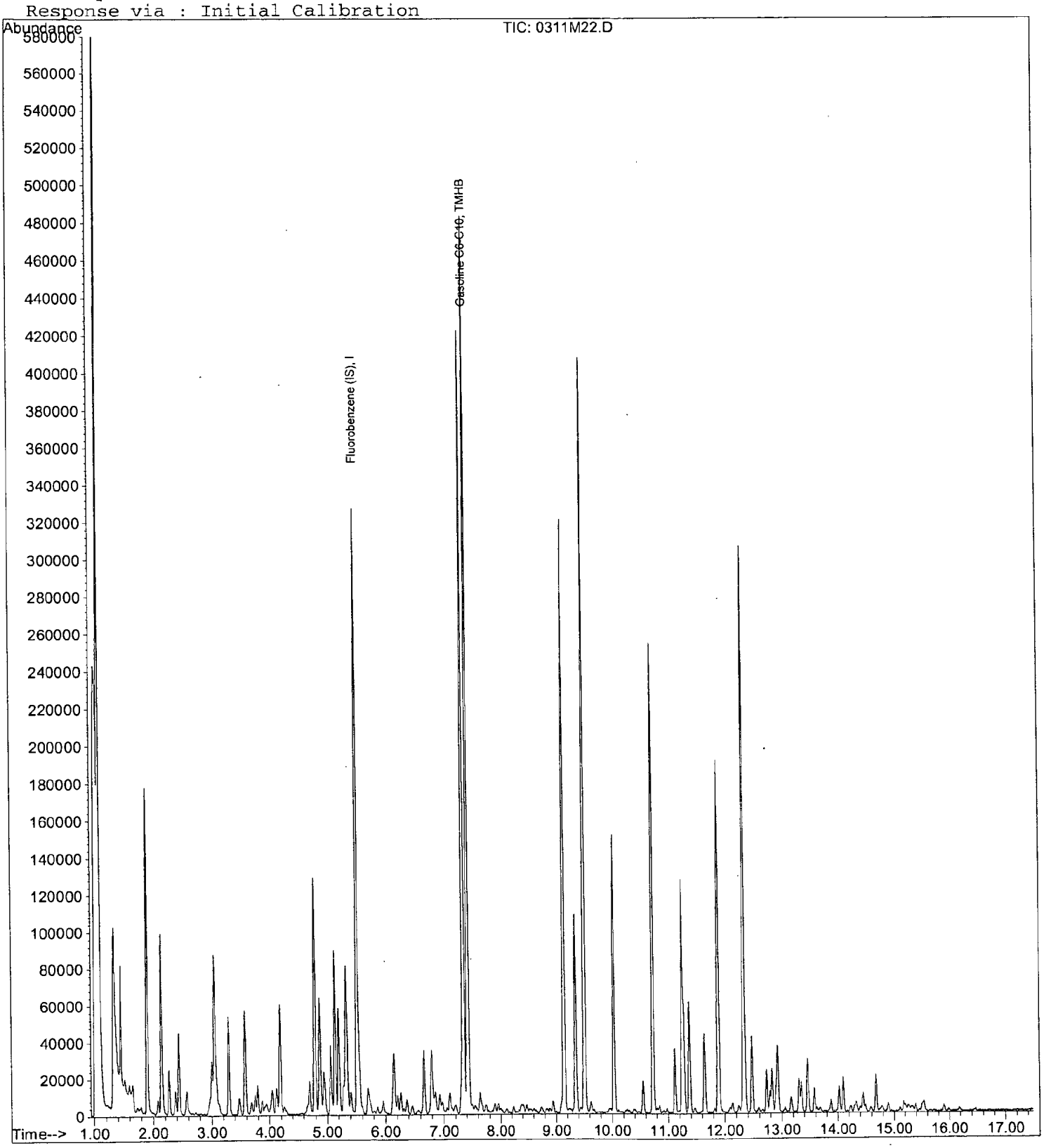
Quantitation Report

Data File : M:\MAX\DATA\M170308\0311M22.D
Acq On : 12 Mar 17 10:37
Sample : Ending CCV GAS 300ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:59 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M22.D
Acq On : 12 Mar 17 10:37
Sample : Ending CCV GAS 300ug/L 03/11/17
Misc : IS&S 02/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:52 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	310604	25.00000 ppb	0.01
4) Chlorobenzene-D5 (IS)	9.14	117	215572	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	98320	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75835	24.78195 ppb	0.01
Spiked Amount 25.000			Recovery	= 99.128%	
3) 1,2-DCA-D4(S)	5.13	65	60082	24.62151 ppb	0.02
Spiked Amount 25.000			Recovery	= 98.488%	
5) Toluene-D8(S)	7.34	98	310494	24.80562 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	99140	23.95999 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/12/17
Instrument: Max
Initial Cal. Date: 03/08/17
Data File: 0311M22.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2463	0.2442	0.87	S	
3	S	1,2-DCA-D4(S)	0.1964	0.1934	1.5	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.452	1.440	0.78	S	
6	S	4-Bromofluorobenzene(S)	0.4799	0.4599	4.2	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.8		

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216816**
Batch ID: #GRO86-170311AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	03/11/17	03/11/17
BLANK	SURROGATE: 4-BROMOFLUOR	98.9	85-114			%	03/11/17	03/11/17

Quant Method: MGAS6302.
Run #: 0311M09
Instrument: Max
Sequence: M170308
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 03/17/17 11:14:55 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	313706	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

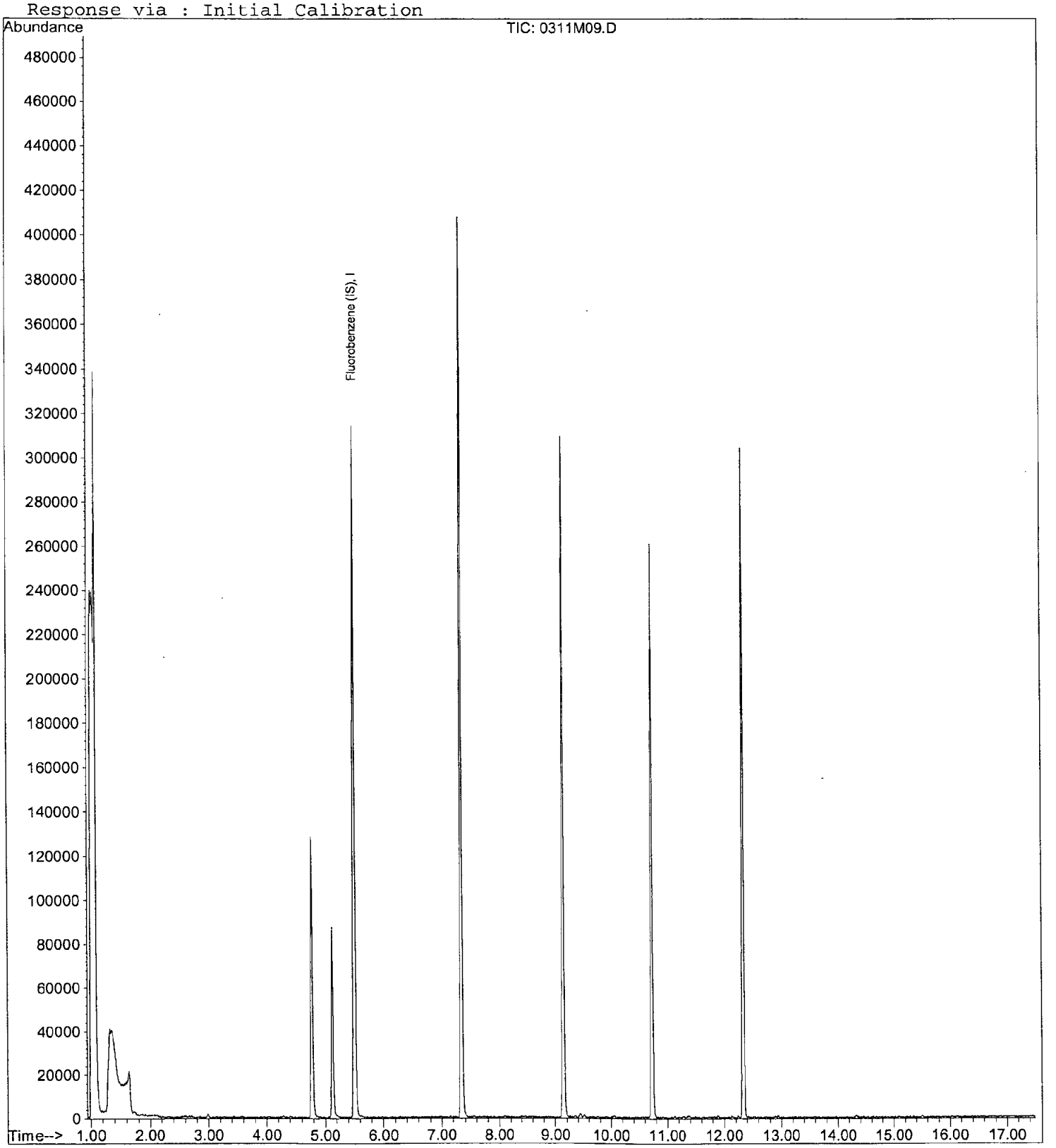
Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M09.D
Acq On : 11 Mar 17 14:04
Sample : 170311A BLK-1WM
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:51 2017

Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	300047	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	212426	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	101351	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	76660	25.93298 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.732%	
3) 1,2-DCA-D4(S)	5.12	65	59341	25.17346 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.692%	
5) Toluene-D8(S)	7.34	98	302036	24.48727 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.948%	
6) 4-Bromofluorobenzene(S)	10.73	95	100789	24.71927 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.876%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery

EPA 8260B GRO WATER

APPL ID: **170311W-51356 LCS - 216816**
Batch ID: #GRO86-170311AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	280	93.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Max
Run :	0311M06
Initials :	SV

Printed: 03/17/17 11:14:58 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	323410	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	9472880m	280.18225 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

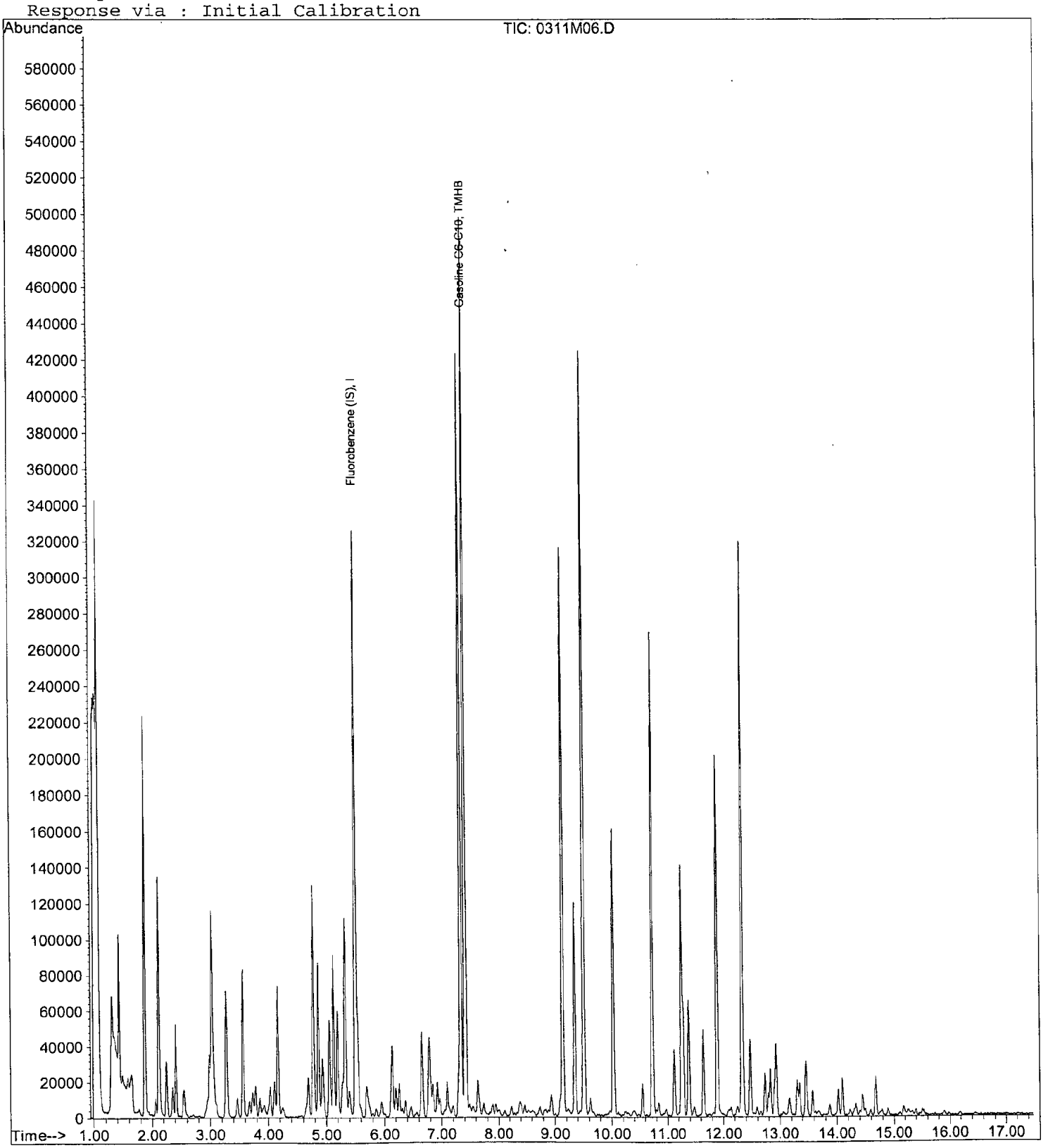
Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 13 11:56 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170308\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170308\0311M06.D
Acq On : 11 Mar 17 12:38
Sample : 170311A LCS-1WM 300ug/L
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 15 14:51 2017 Quant Results File: MSUR308.RES

Quant Method : M:\MAX\DATA\M170308\MSUR308.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 09 10:42:38 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	307813	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	213932	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	105441	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	75638	24.94169 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.768%	
3) 1,2-DCA-D4(S)	5.13	65	61239	25.32319 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.292%	
5) Toluene-D8(S)	7.34	98	305995	24.63360 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.536%	
6) 4-Bromofluorobenzene(S)	10.73	95	100704	24.52455 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.100%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	03/09/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/07/17K	03/07/17L	03/07/17M	03/07/17G	03/07/17I	03/07/17H	03/07/17J	03/07/17N	Final Vol
	Conc.	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	04/07/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
03/08/17H-CMM	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
03/08/17I-CMM	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
03/08/17J-CMM	1	10	10	10	n/a	n/a	n/a	n/a	10	50
03/08/17K-CMM	2	20	20	20	n/a	n/a	n/a	n/a	15	50
03/08/17L-CMM	5	n/a	n/a	n/a	5	5	5	5	20	50
03/08/17M-CMM	10	n/a	n/a	n/a	10	10	10	10	25	50
03/08/17N-CMM	20	n/a	n/a	n/a	20	20	20	20	30	50
03/08/17O-CMM	40	n/a	n/a	n/a	40	40	40	40	35	50
03/08/17P-CMM	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

03/07/17G							
50ug/ml Vol Work Std #7							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	279822-36640	030717A-CMM	21919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37448	022317E-DG	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36575	022317F-DG	52418	200
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3500
03/07/17H							
50ug/ml Vol Work Std #1							
Exp:04/07/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37216	022317G-DG	91919	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17I							
50ug/ml Vol Work Std #8							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37170	022317H-DG	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-365582	022317I-DG	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37439	022317K-DG	41017	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3700
03/07/17J							
50ug/ml Vol Work Std #2							
Exp:04/07/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36074	022317J-DG	81717	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3900
		03/07/17K					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/07/17G**	Exp:04/07/17	200	
		50ug/ml Vol Work Std #8		**03/07/17I**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1600	
		03/07/17L					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/07/17H**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
		03/07/17M					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/07/17J**	Exp:04/07/17	200	
		J&T Brand		30717	30718	1800	
03/07/17N							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37455	030717B-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	298515-37587	030717C-CMM	31417	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	3400

SECONDARY SOURCE

03/07/17O							
50ug/ml VOC Std#4							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37376	030717D-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1950
03/07/17P							
50ug/ml VOC Std#5							
Exp:04/07/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37380	022317N-DG	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35382	022317O-DG	62117	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1900
03/07/17Q							

50ug/ml VOC Std#6							
Exp:04/07/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35932	022317P-DG	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37442	022317Q-DG	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37385	022317R-DG	121918	100
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1800
03/07/17R							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/07/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37236	030717E-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	298516-37589	030717F-CMM	31417	50
J&T Brand		Purge & Trap MeOH		56029-00869	30717	30718	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

MAX

02/23/17B

50ug/ml 8260 Internal Standard - Max			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120004-02	Internal Standard Mix	2000	258562-36601	02/23/17A	03/16/19	375
J.T Baker		Purge & Trap MeOH		55344-00868	02/11/17	02/11/18	14625

02/23/16C

50ug/ml 8260 Surrogate - Max			Conc.		Date	Exp.	
O2SI	120002-01	Surrogate Standard	2000	248817-35850	07/1816A	04/11/16	375
J.T Baker		Purge & Trap MeOH		55344-00858	10/18/16/	10/18/17	14625

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date.	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date.	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0308M05.D	1	0.3ug/L VOC STD 3/8/17H	IS&S 02/23/17	8 Mar 17 12:58
10	5	0308M06.D	1	0.5ug/L VOC STD 3/8/17I	IS&S 02/23/17	8 Mar 17 13:26
11	6	0308M07.D	1	1.0ug/L VOC STD 3/8/17J	IS&S 02/23/17	8 Mar 17 13:54
12	7	0308M08.D	1	2.0ug/L VOC STD 3/8/17K	IS&S 02/23/17	8 Mar 17 14:23
13	8	0308M09.D	1	5.0ug/L VOC STD 3/8/17L	IS&S 02/23/17	8 Mar 17 14:51
14	9	0308M10.D	1	10ug/L VOC STD 3/8/17M	IS&S 02/23/17	8 Mar 17 15:20
15	10	0308M11.D	1	20ug/L VOC STD 3/8/17N	IS&S 02/23/17	8 Mar 17 15:48
16	11	0308M12.D	1	40ug/L VOC STD 3/8/17O	IS&S 02/23/17	8 Mar 17 16:16
17	12	0308M13.D	1	100ug/L VOC STD 3/8/17P	IS&S 02/23/17	8 Mar 17 16:45
18	5	0311M05.D	1	170311A CCV-1WM 300ug/L	IS&S 02/23/17	11 Mar 17 12:10
19	6	0311M06.D	1	170311A LCS-1WM 300ug/L	IS&S 02/23/17	11 Mar 17 12:38
20	9	0311M09.D	1	170311A BLK-1WM	IS&S 02/23/17	11 Mar 17 14:04
21	10	0311M10.D	1	AZ51528W01	IS&S 02/23/17	11 Mar 17 14:32
22	12	0311M12.D	1	AZ51530W01	IS&S 02/23/17	11 Mar 17 15:29
23	13	0311M13.D	1	AZ51531W01	IS&S 02/23/17	11 Mar 17 15:57
24	15	0311M15.D	1	AZ51533W01	IS&S 02/23/17	11 Mar 17 16:54
25	16	0311M16.D	1	AZ51534W01	IS&S 02/23/17	11 Mar 17 17:22
26	17	0311M17.D	1	AZ51535W01	IS&S 02/23/17	11 Mar 17 17:51
27	18	0311M18.D	1	AZ51536W01	IS&S 02/23/17	11 Mar 17 18:19
28	22	0311M22.D	1	Ending CCV GAS 300ug/L 03/11/17	IS&S 02/23/17	12 Mar 17 10:37

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216799**
Batch ID: #RSKME-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031101
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/11/17 2:12:15 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170311W-51356 LCS - 216799**
Batch ID: #RSKME-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	637	95.4	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Rocky
Run :	17031100
Initials :	CMO

Printed: 03/11/17 2:11:54 PM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH273
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51528
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031111
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031111.D Vial: 12
Acq On : 11 Mar 17 13:28 Operator: lac
Sample : AZ51528W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:30 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

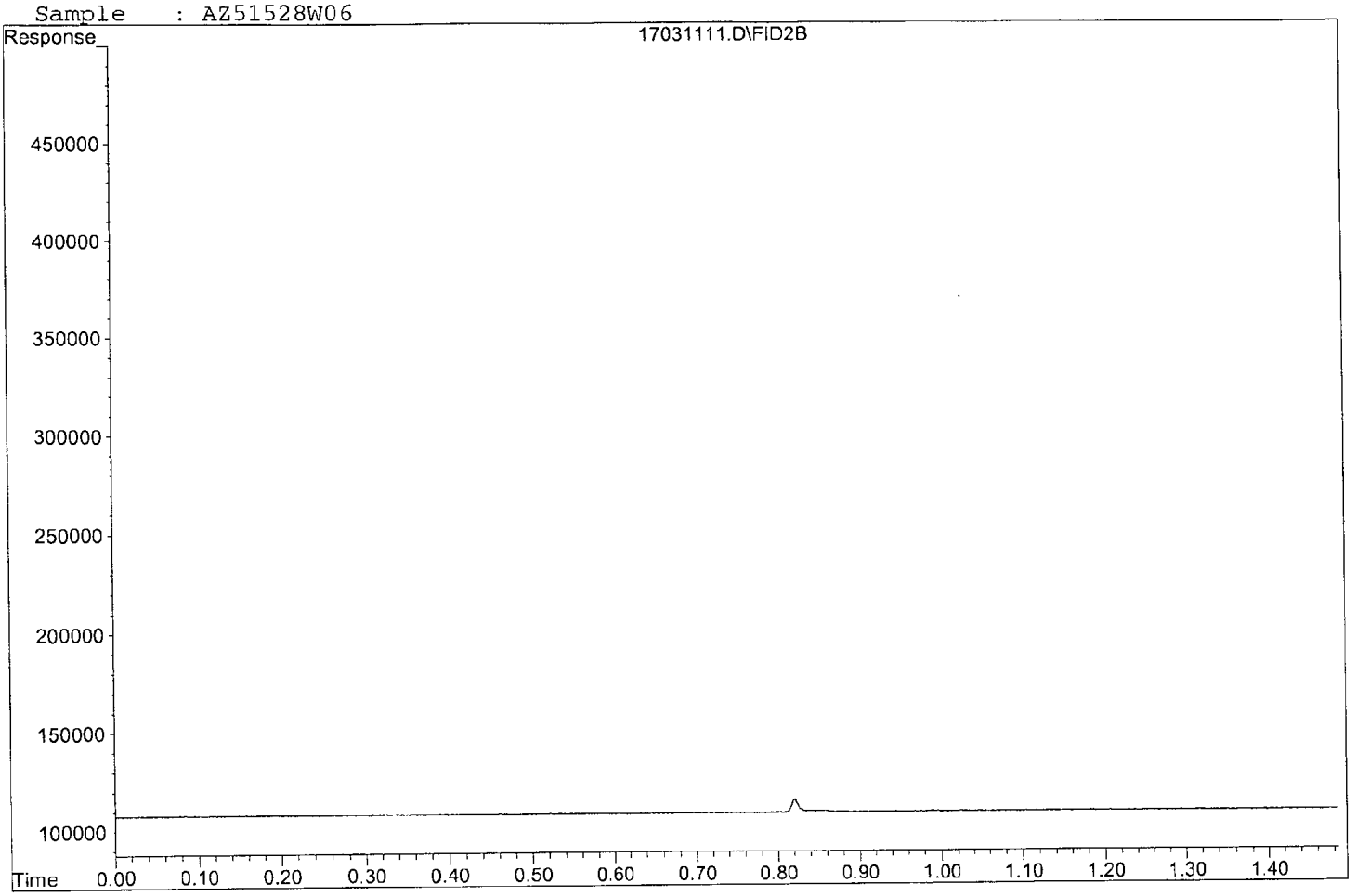
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	986	N.D.	ppb
2) ATM Ethane	1.03	362	N.D.	ppb
3) ATM Ethene	1.12	295	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031111.D
Sample : AZ51528W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH275
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51530
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	470	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031112
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031112.D Vial: 13
Acq On : 11 Mar 17 13:32 Operator: lac
Sample : AZ51530W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:34 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

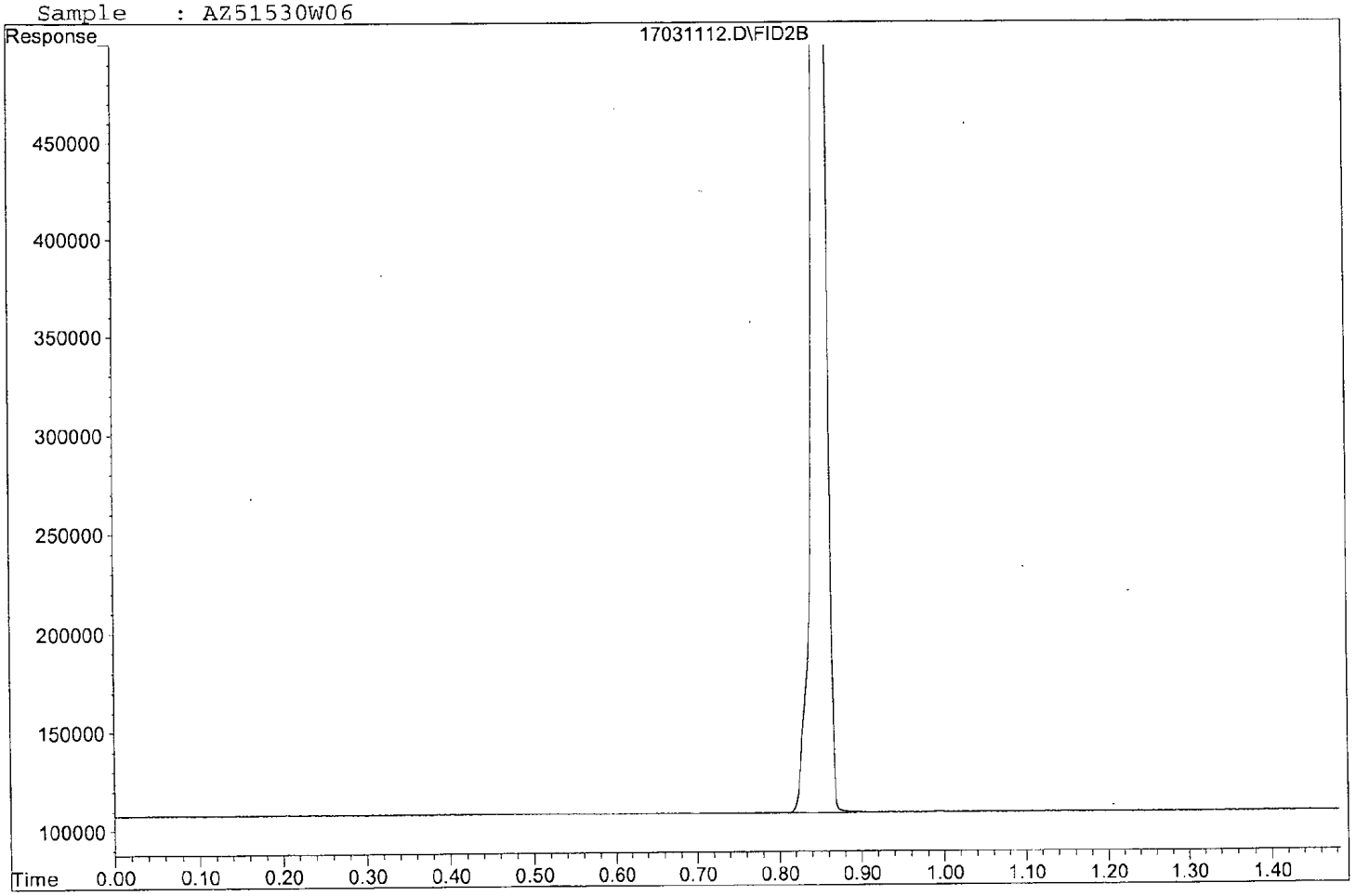
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	952893	471.802	ppb
Target Compounds				
2) ATM Ethane	1.03	252	N.D.	ppb
3) ATM Ethene	1.13	327	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031112.D
Sample : AZ51530W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH276
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51531
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031113
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031113.D Vial: 14
Acq On : 11 Mar 17 13:36 Operator: lac
Sample : AZ51531W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:39 2017 Quant Results File: RSK0225.RES

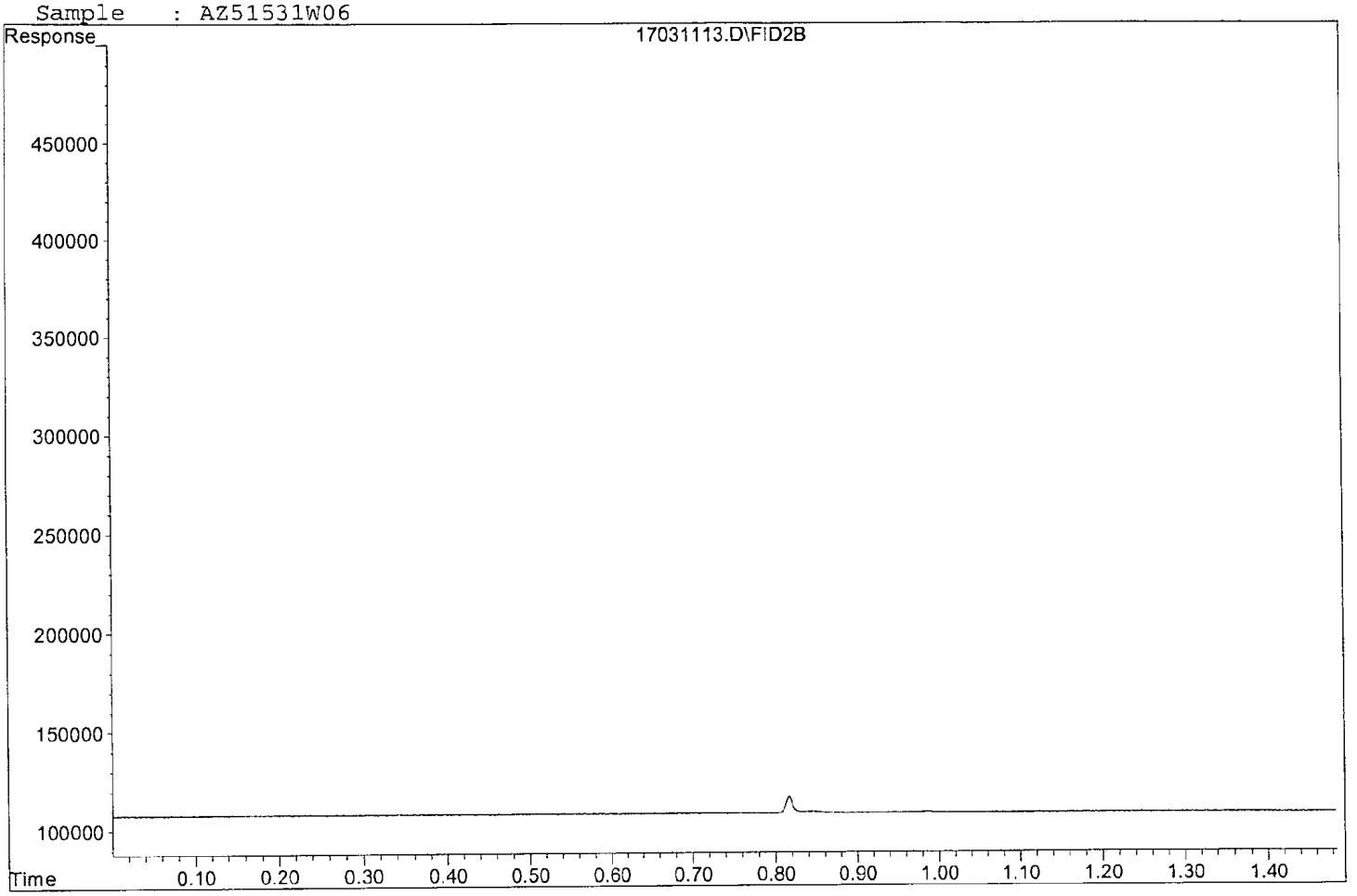
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	500	N.D.	ppb
2) ATM Ethane	1.03	419	N.D.	ppb
3) ATM Ethene	1.12	355	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031113.D
Sample : AZ51531W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH278
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51533
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031114
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031114.D
Acq On : 11 Mar 17 13:40
Sample : AZ51533W06
Misc :
IntFile : autoint1.e
Quant Time: Mar 11 13:42 2017 Quant Results File: RSK0225.RES

Vial: 15
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

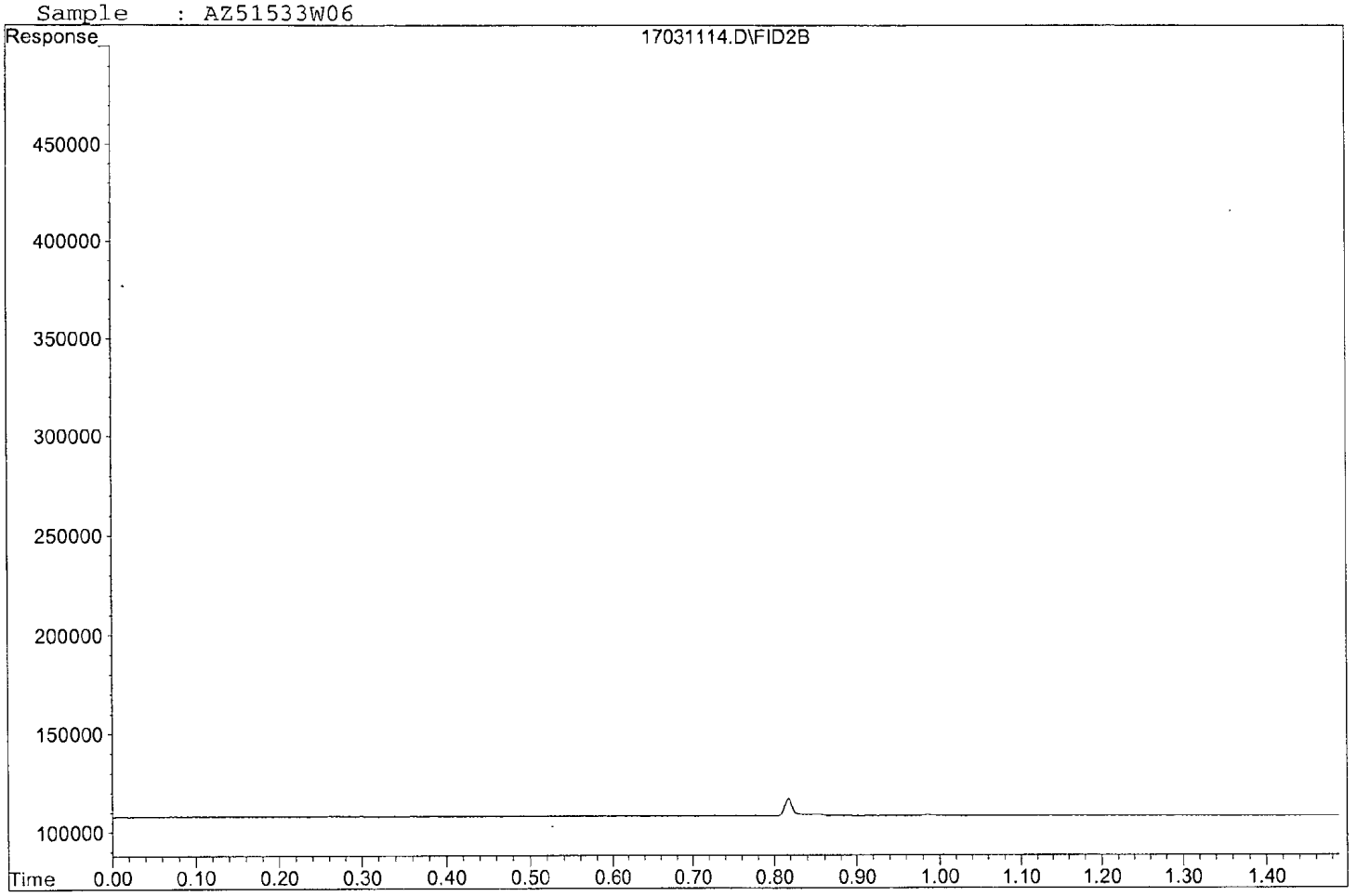
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	1055	N.D.	ppb
2) ATM Ethane	1.03	305	N.D.	ppb
3) ATM Ethene	1.12	286	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031114.D
Sample : AZ51533W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH285
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51534
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method:	RSK0225.M
Run #:	17031115
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031115.D Vial: 16
Acq On : 11 Mar 17 13:43 Operator: lac
Sample : AZ51534W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:45 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

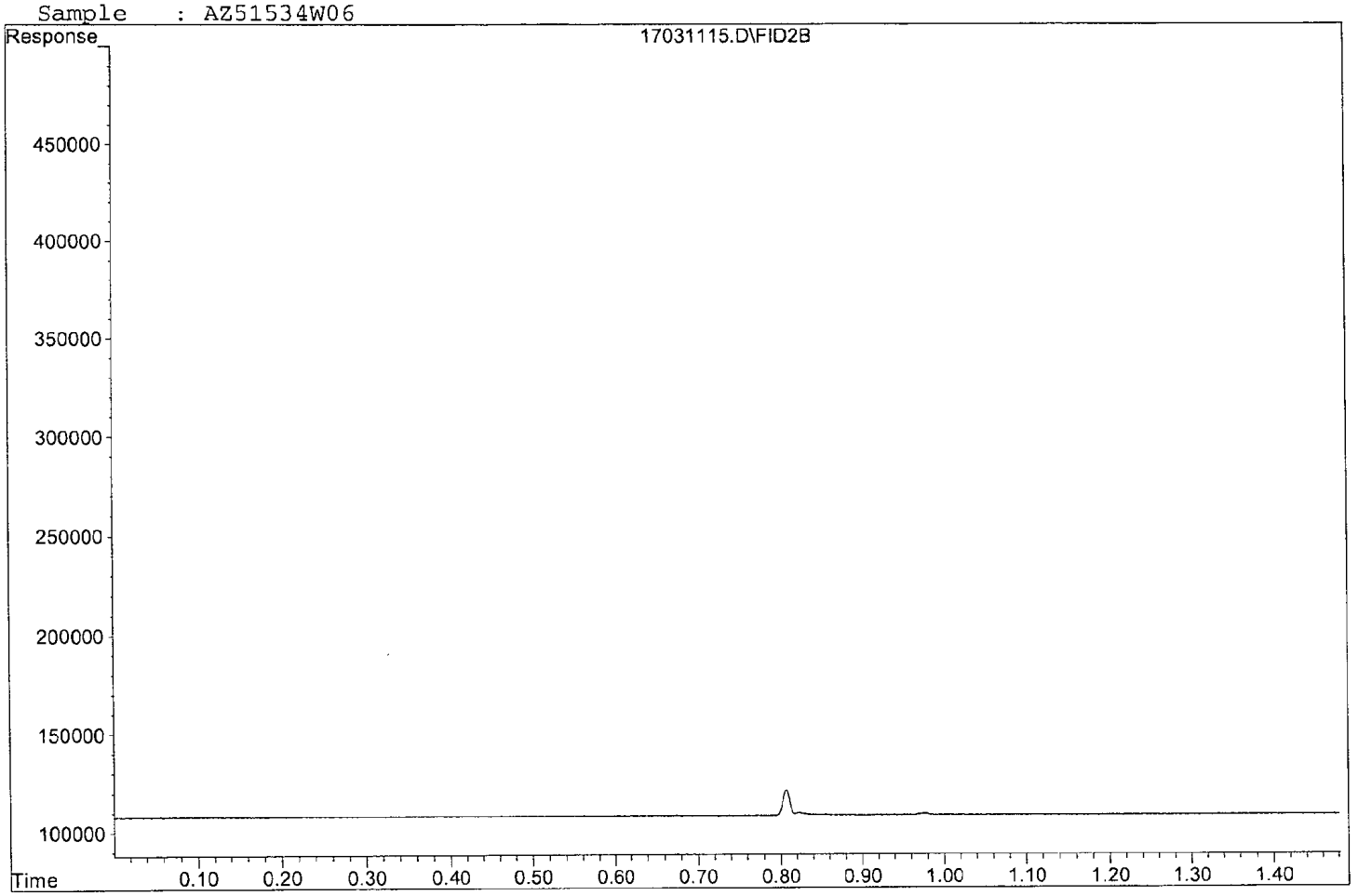
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	637	N.D.	ppb
2) ATM Ethane	1.03	337	N.D.	ppb
3) ATM Ethene	1.13	217	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031115.D
Sample : AZ51534W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH286
Sample Collection Date: 03/08/17

ARF: 82389
APPL ID: AZ51535
QCG: #RSKME-170311A-216799

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031116
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 03/11/17 2:12:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031116.D Vial: 17
Acq On : 11 Mar 17 13:46 Operator: lac
Sample : AZ51535W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:48 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

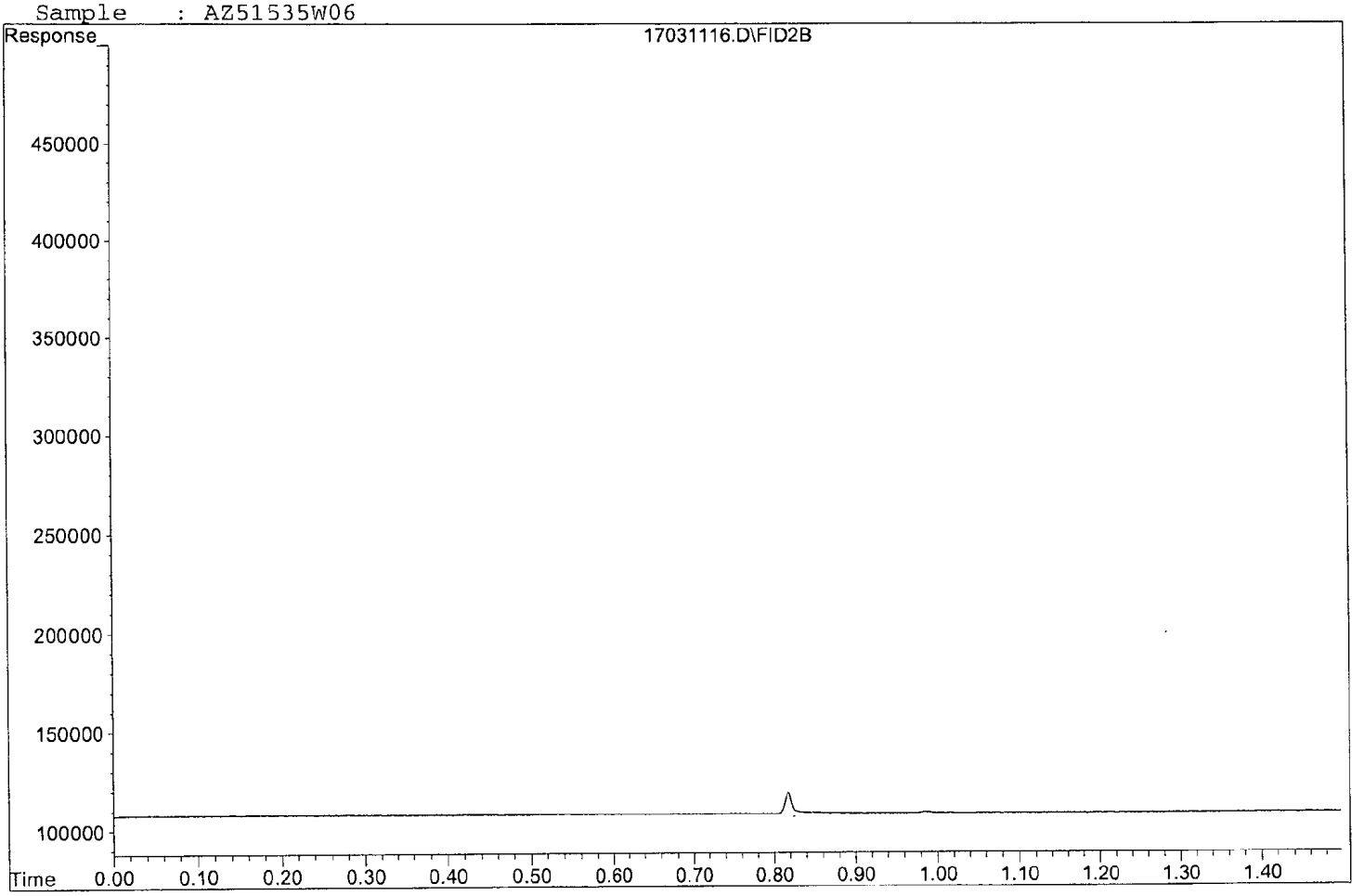
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	991	N.D.	ppb
2) ATM Ethane	1.01	287	N.D.	ppb
3) ATM Ethene	1.13	304	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031116.D
Sample : AZ51535W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502 D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509 D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
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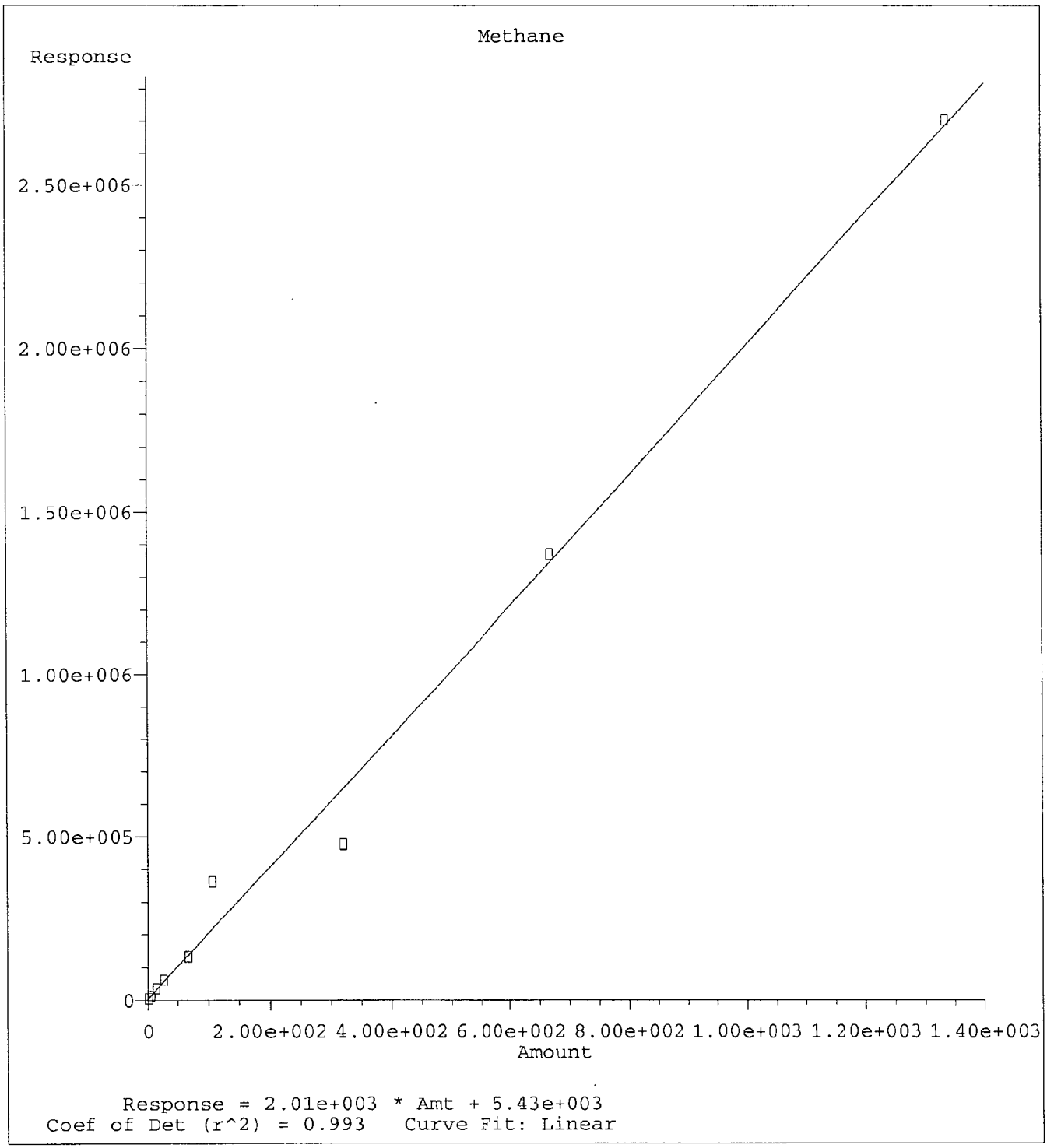
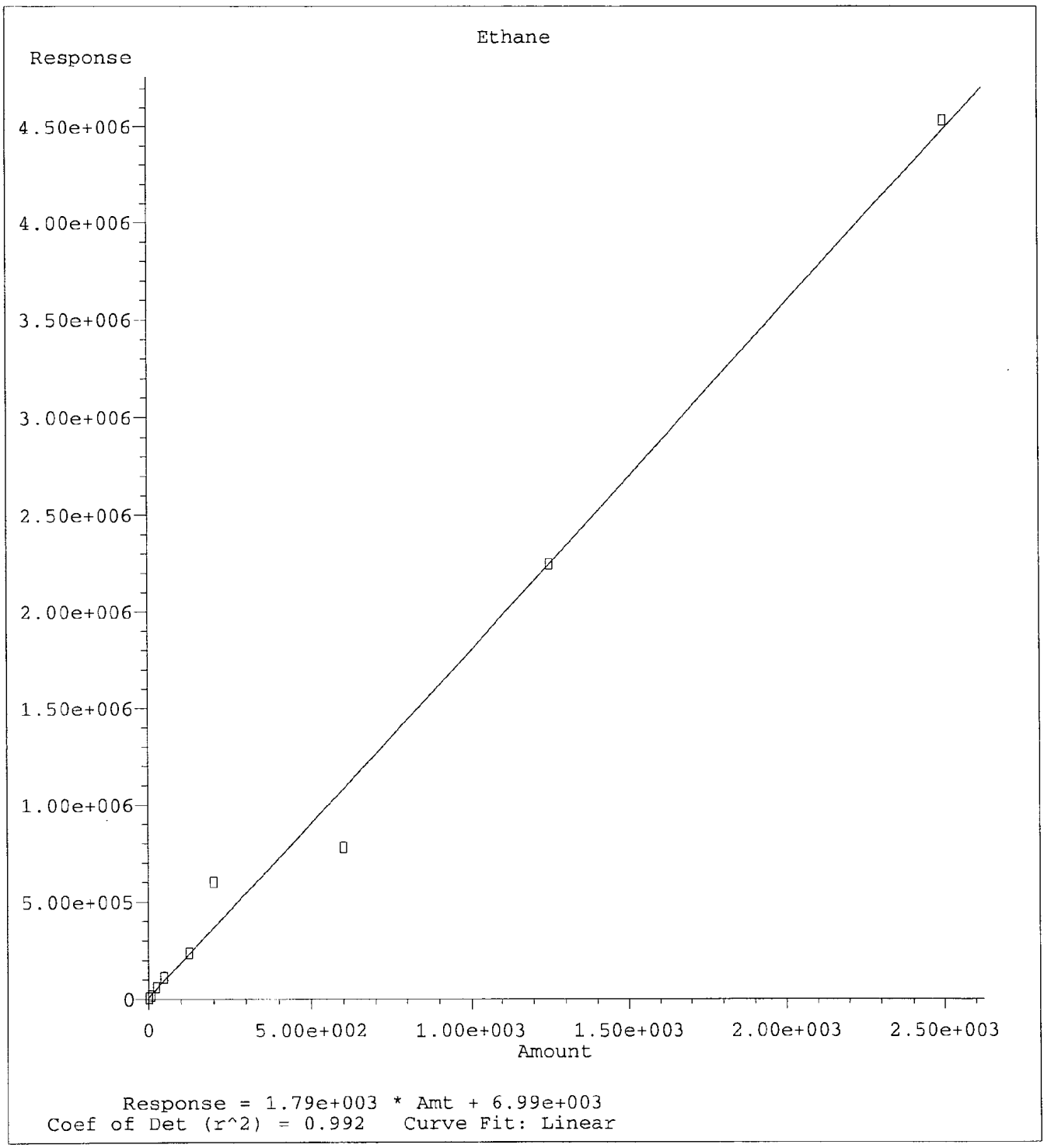
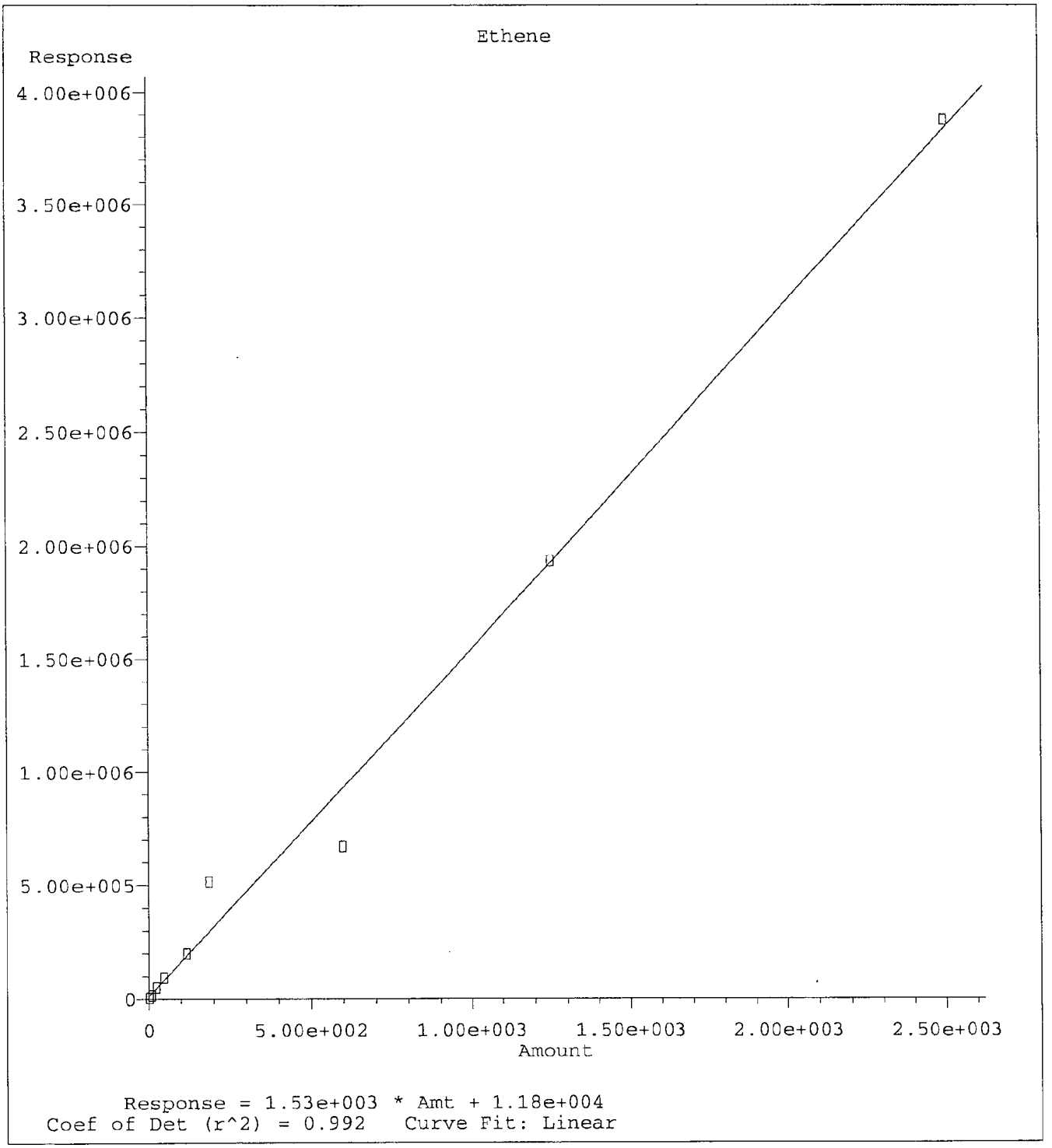
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

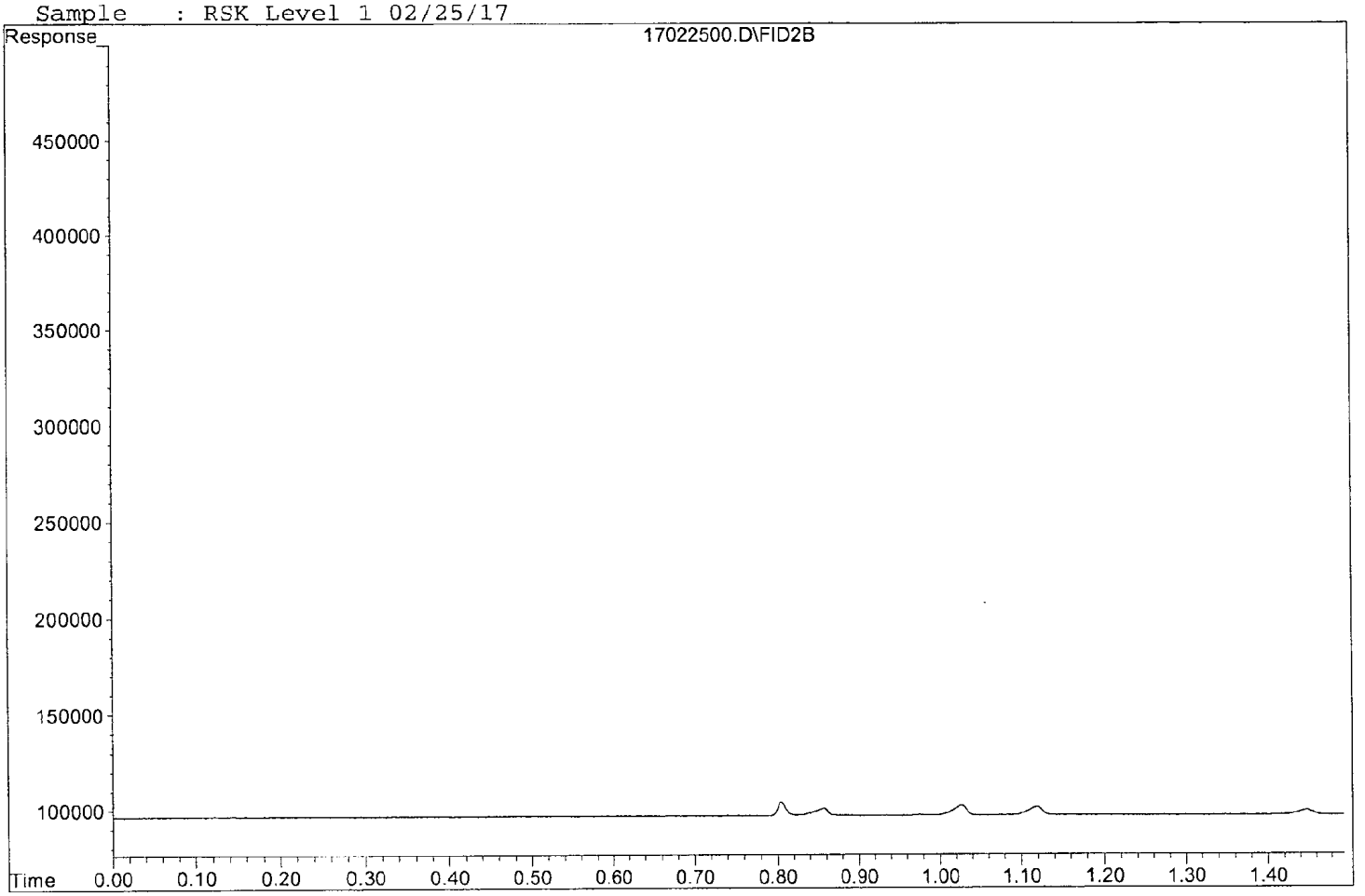
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

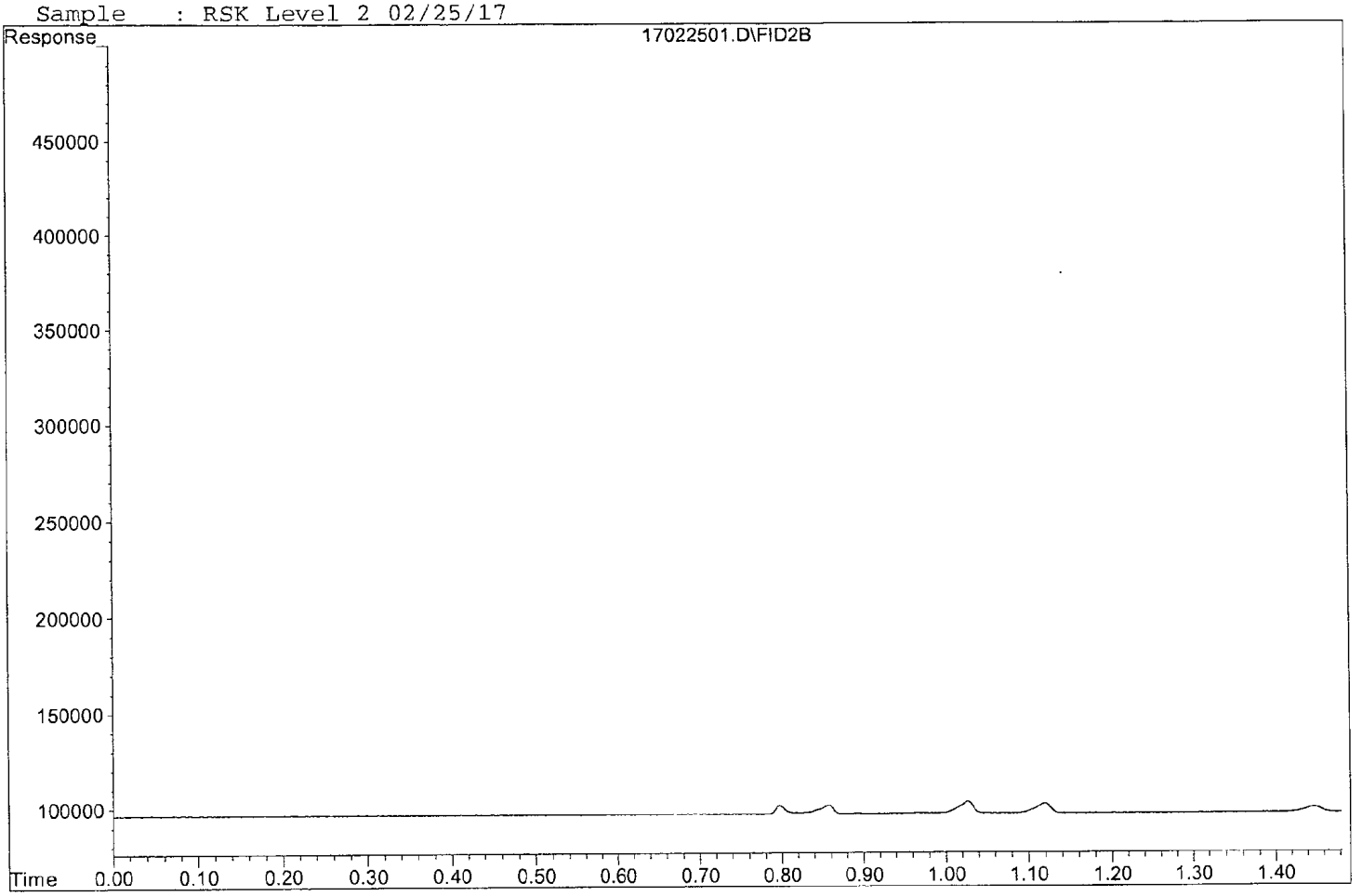
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.
17022501.D RSK0225.M Sat Feb 25 12:50:51 2017

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

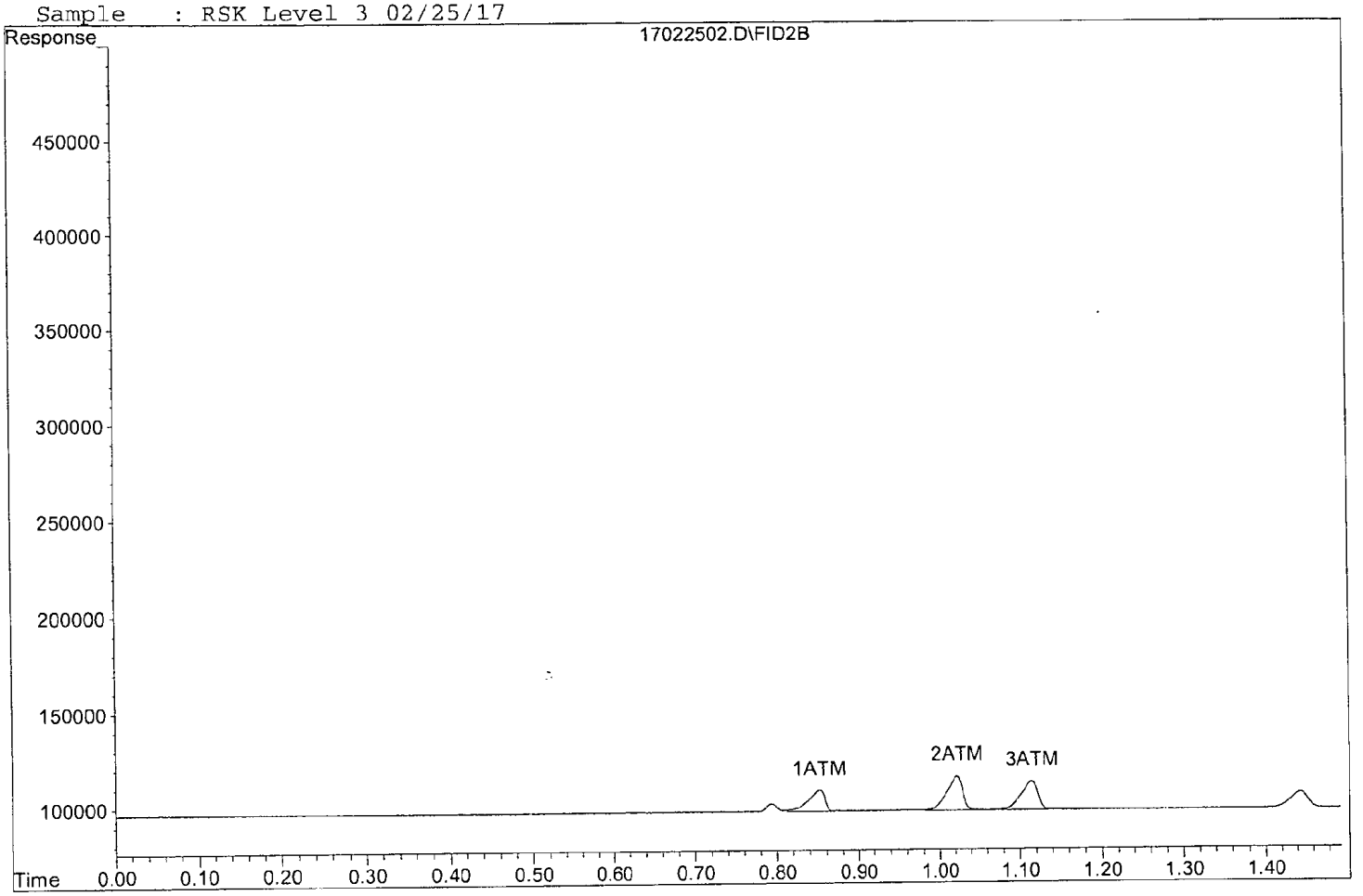
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D Vial: 4
Acq On : 25 Feb 17 11:17 Operator: lac
Sample : RSK Level 4 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

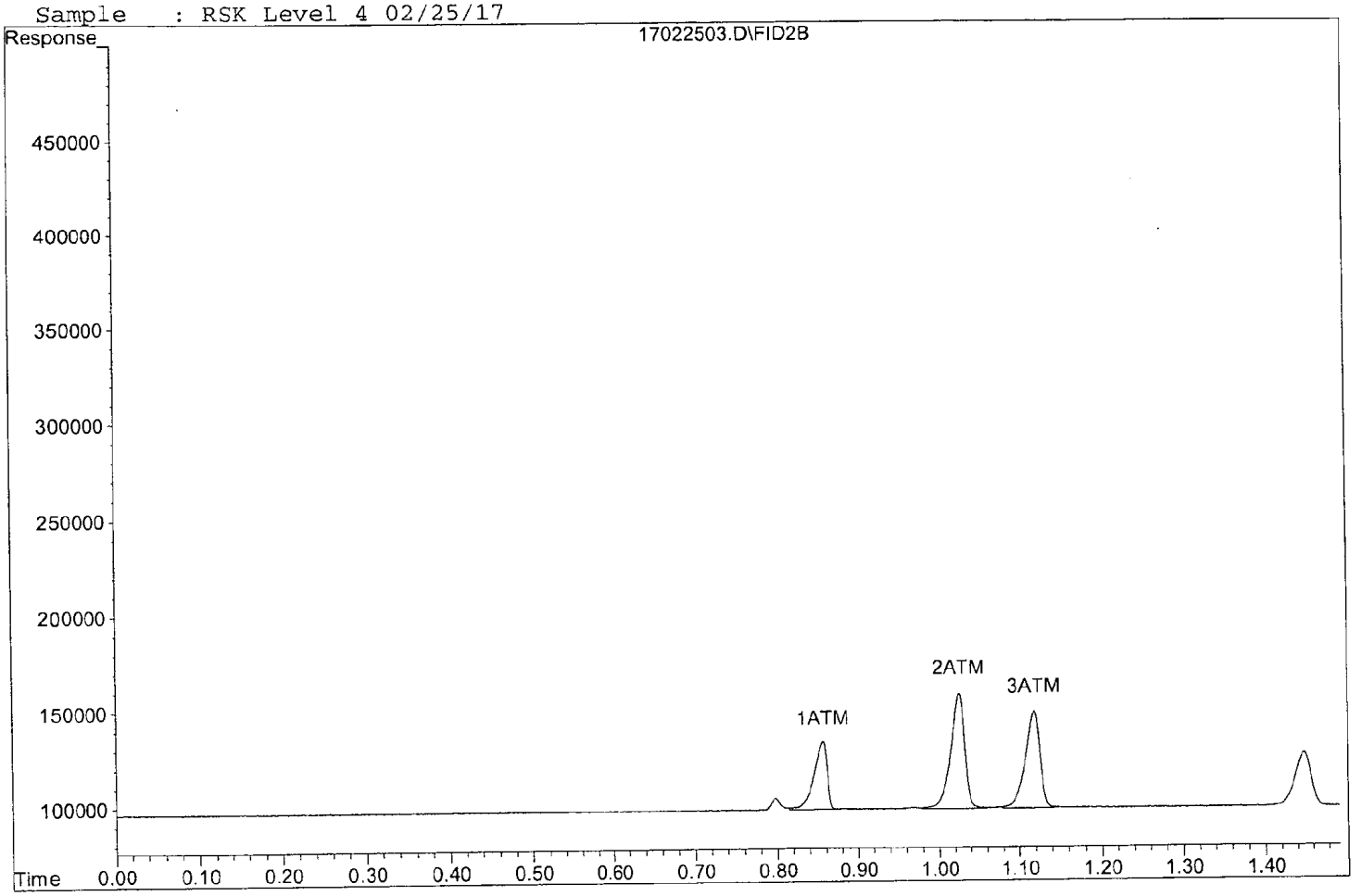
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

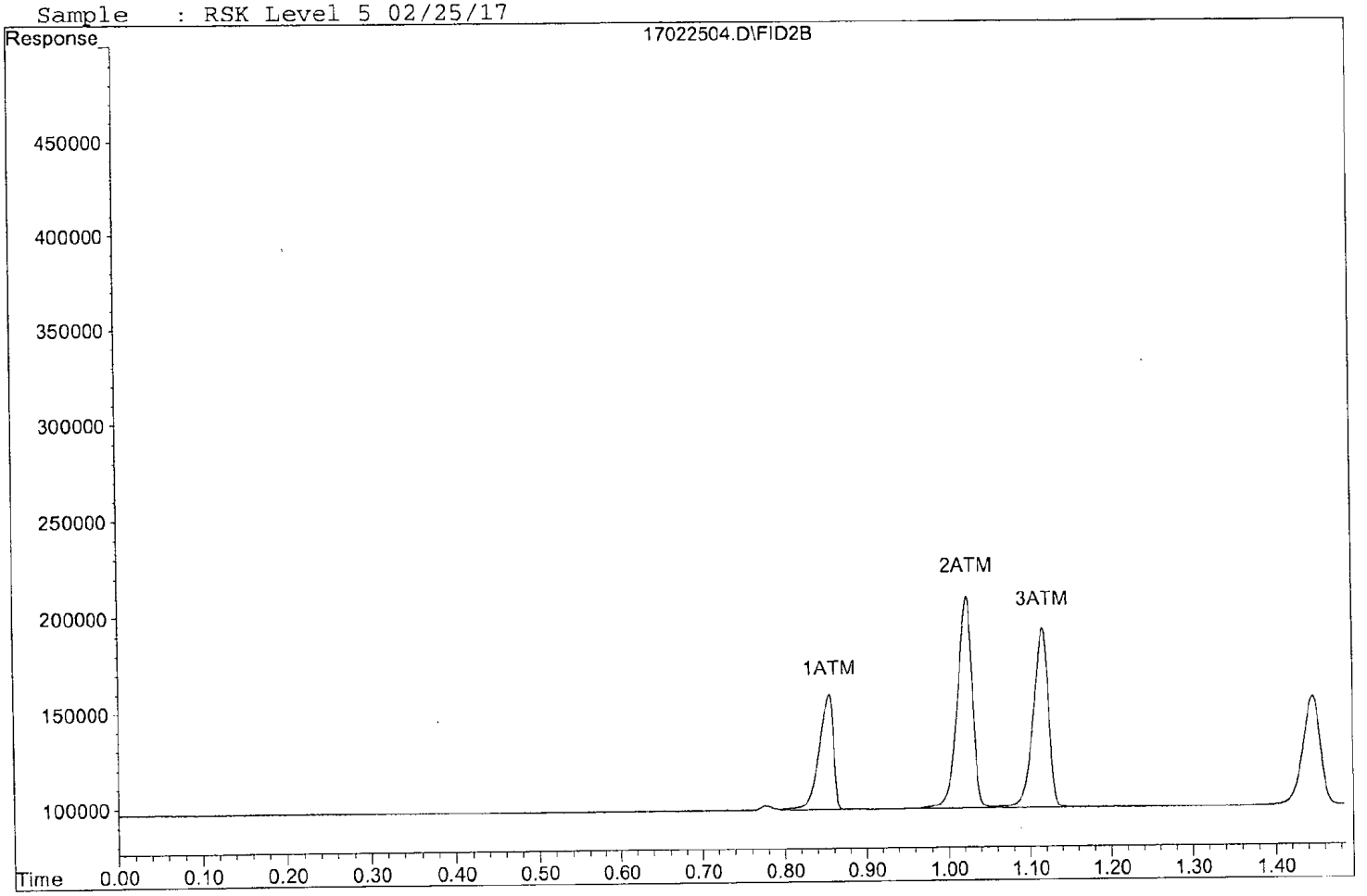
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D Vial: 6
Acq On : 25 Feb 17 11:23 Operator: lac
Sample : RSK Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

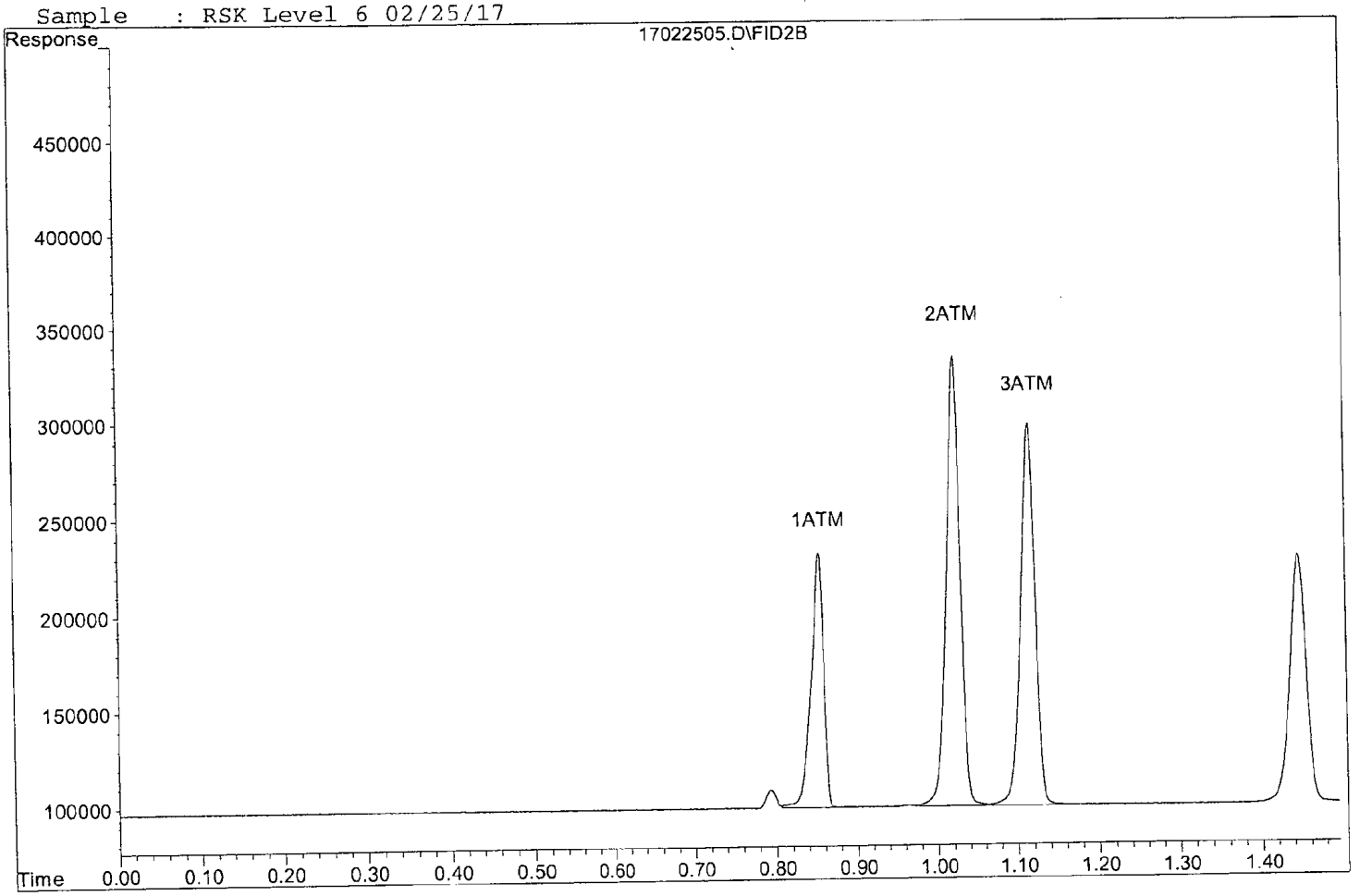
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022505.D RSK0225.M Sat Feb 25 12:50:59 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D Vial: 7
Acq On : 25 Feb 17 11:25 Operator: lac
Sample : RSK Level 7 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

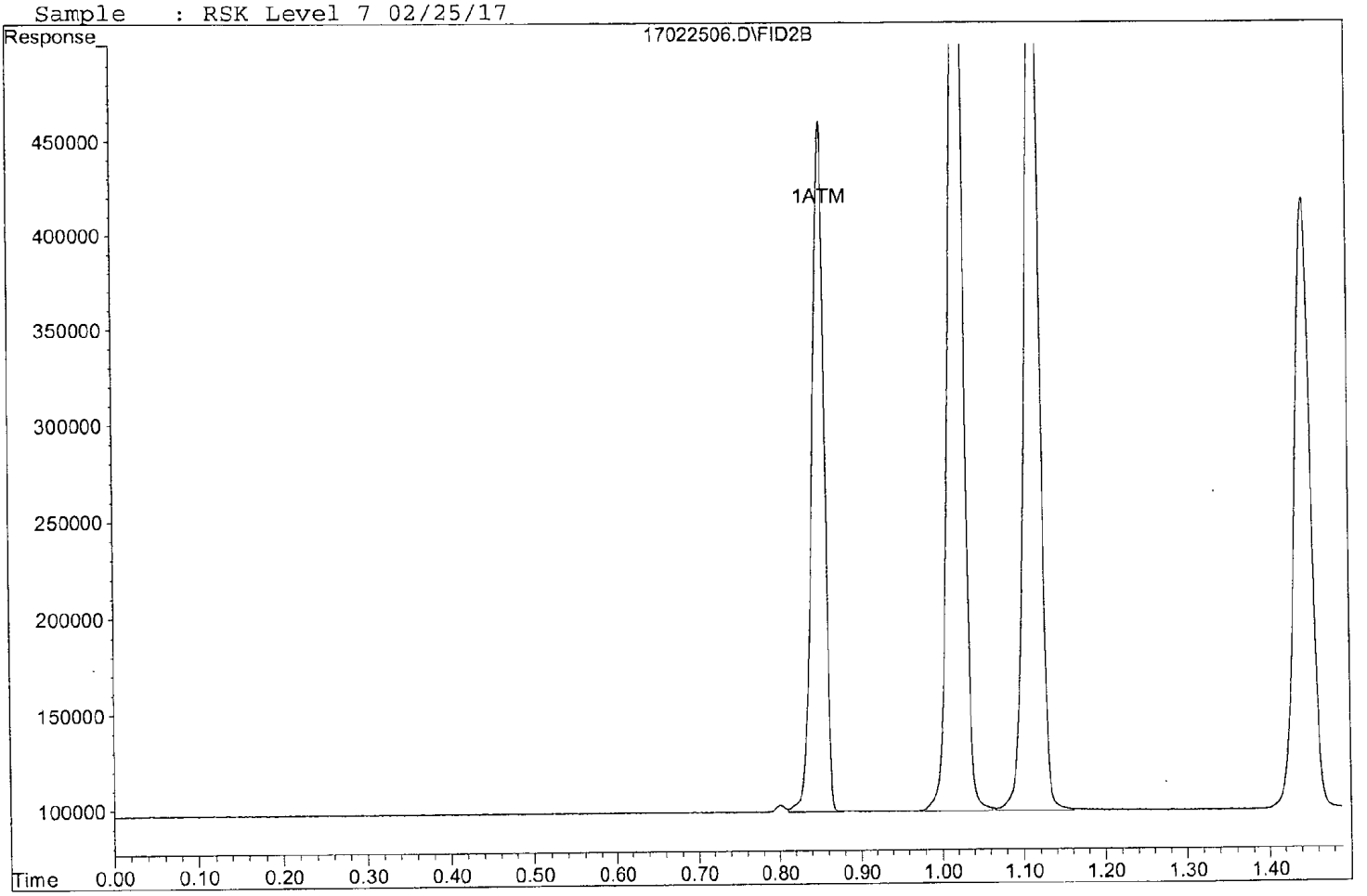
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D Vial: 8
Acq On : 25 Feb 17 11:27 Operator: lac
Sample : RSK Level 8 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

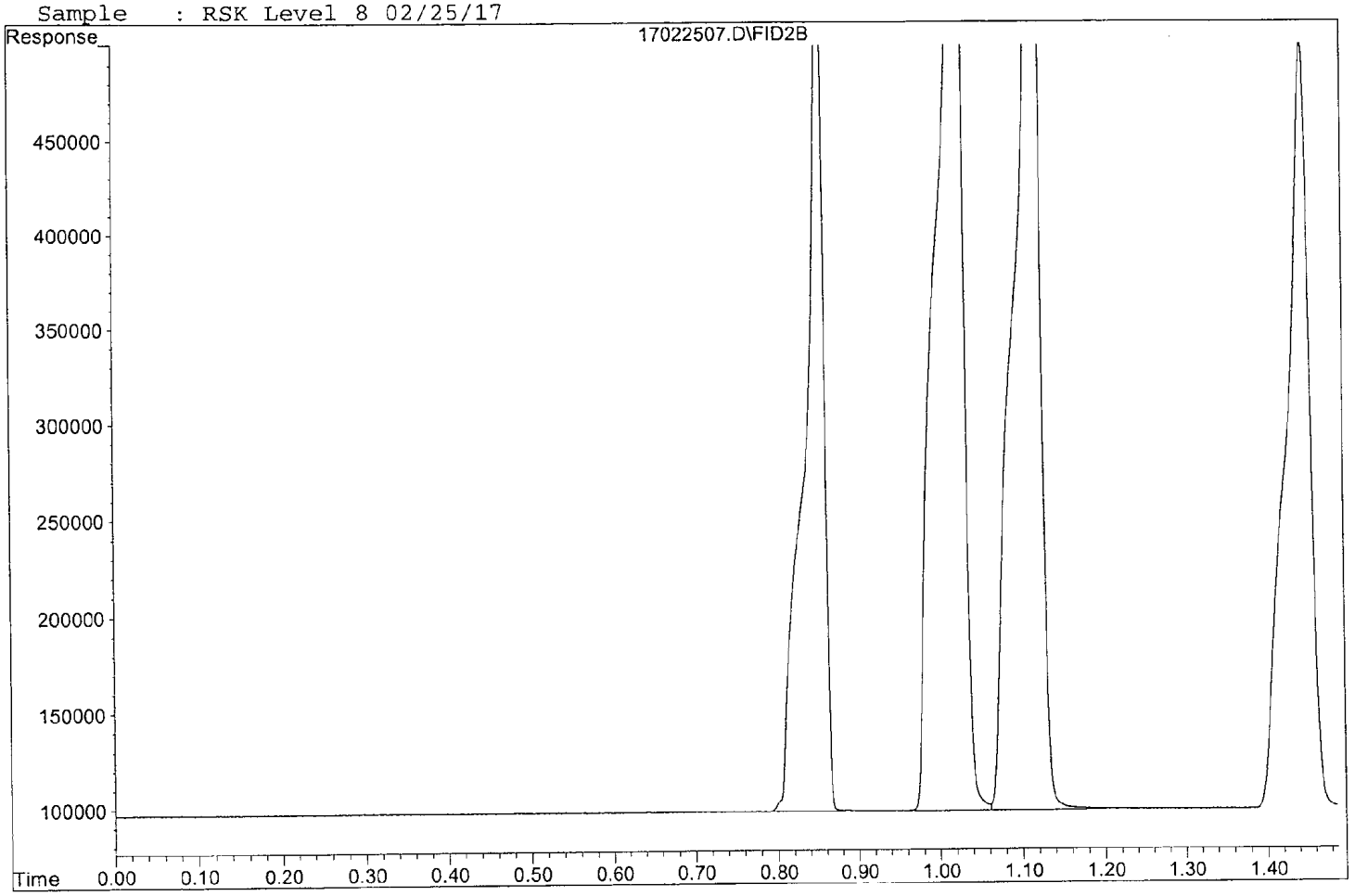
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D
Acq On : 25 Feb 17 11:30
Sample : RSK Level 9 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 9
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1370511	679.760	ppb
2) ATM Ethane	1.03	2246413	1250.978	ppb
3) ATM Ethene	1.12	1934164	1254.226	ppb

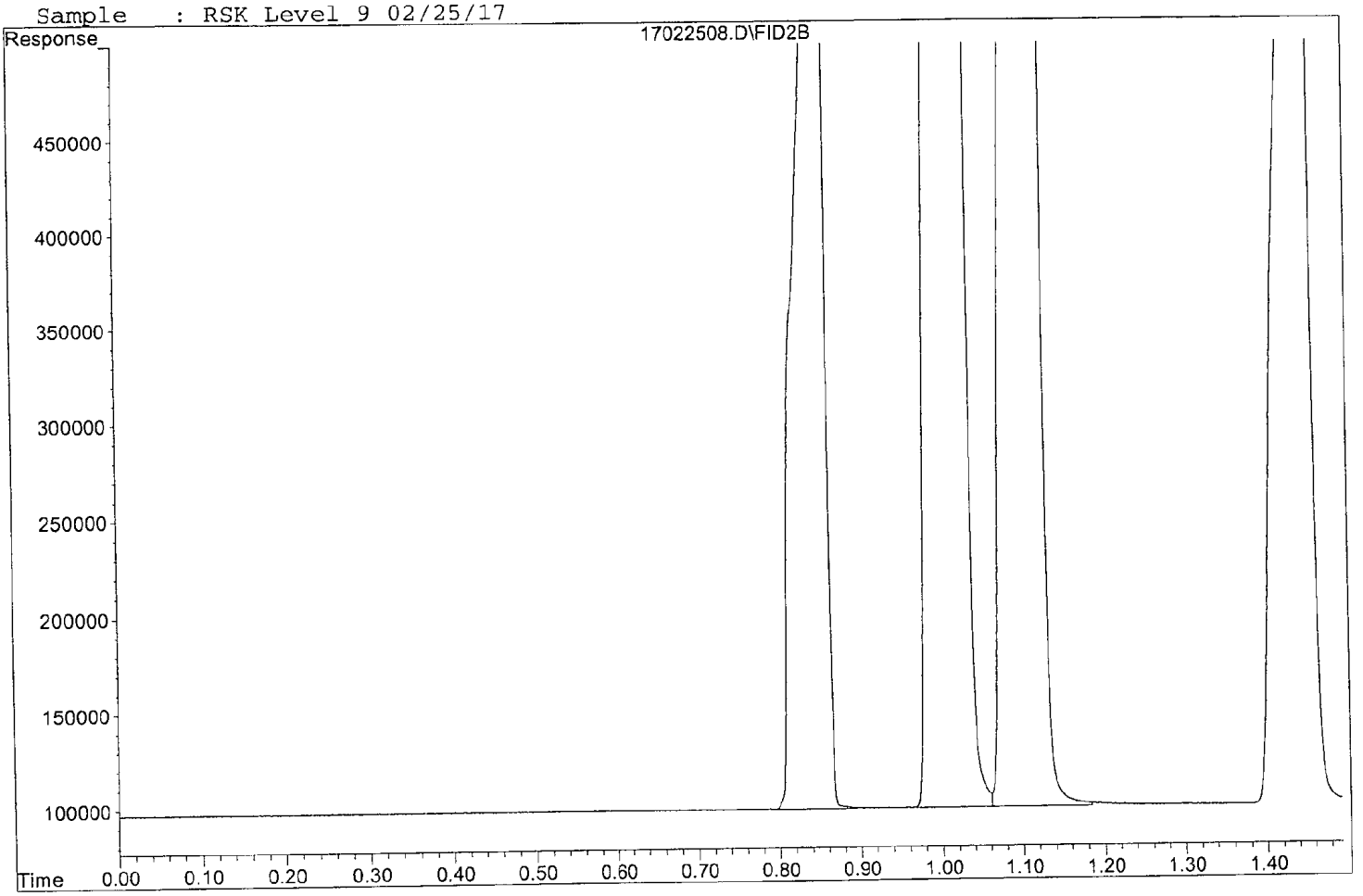
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022508.D RSK0225.M Sat Feb 25 12:51:04 2017

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D Vial: 10
Acq On : 25 Feb 17 11:32 Operator: lac
Sample : RSK Level 10 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

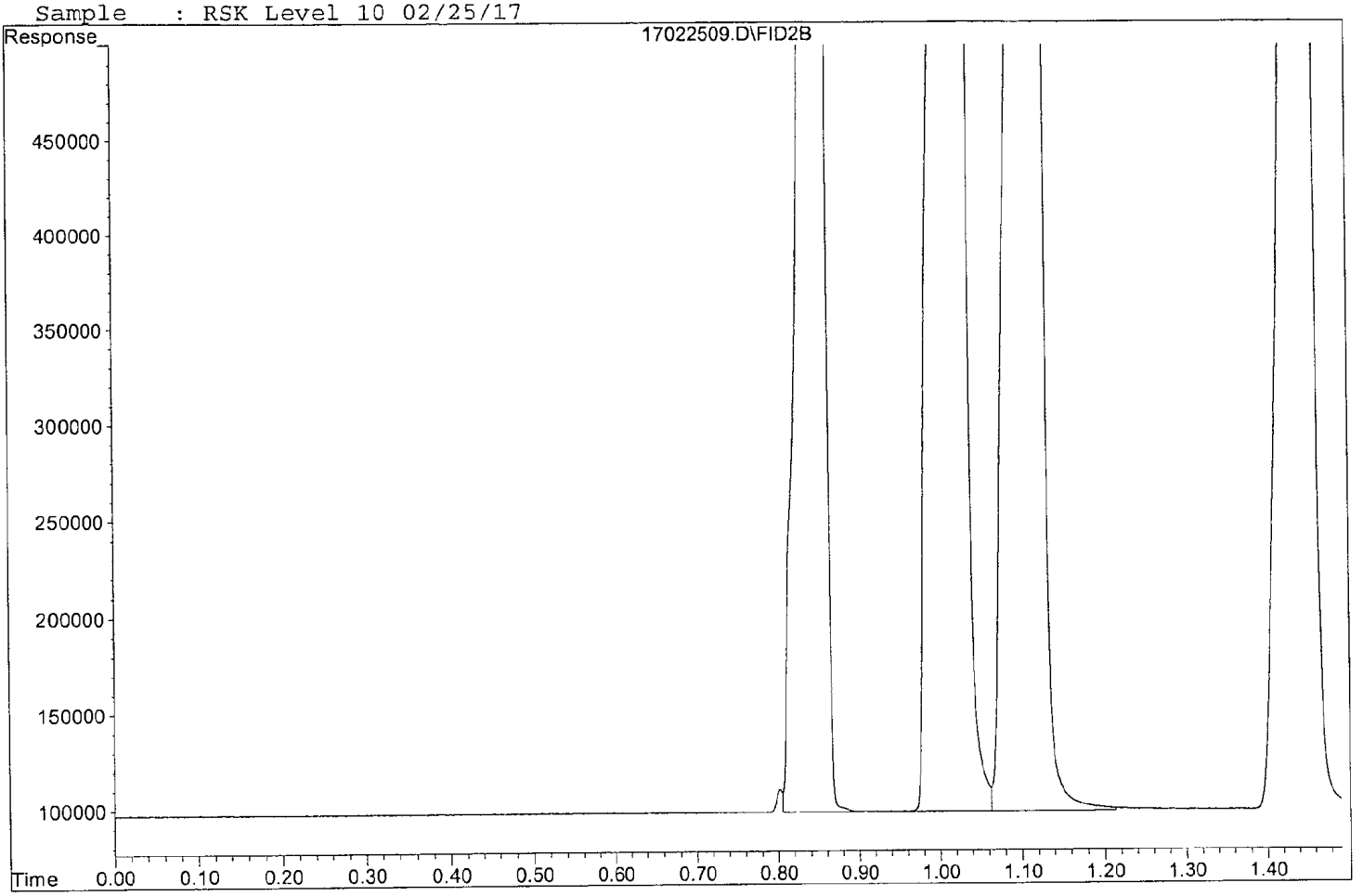
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

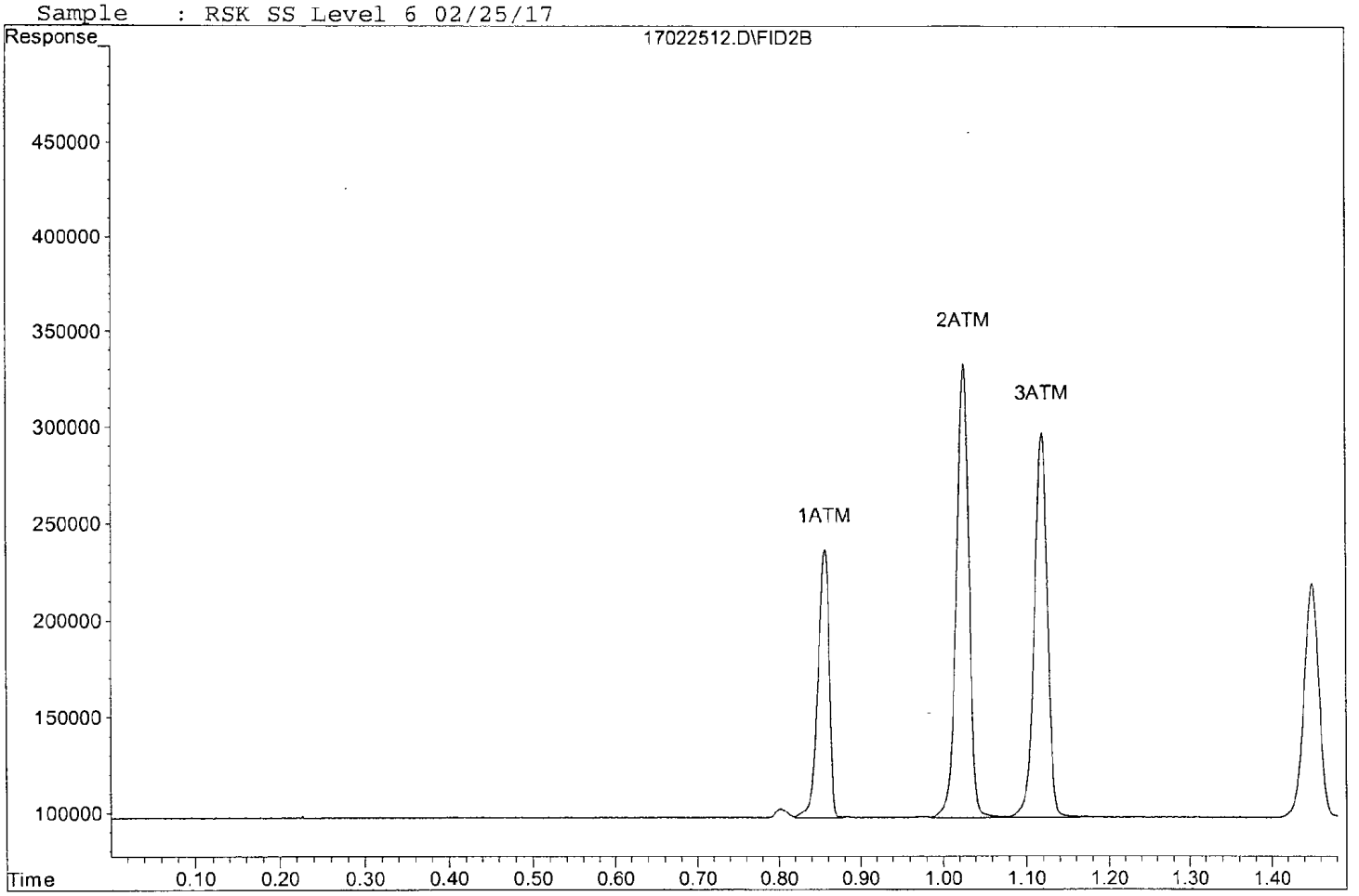
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031100.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1924	24	ATML	4.6
2	ATML	Ethane	2140	1888	12	ATML	5.2
3	ATML	Ethene	1905	1550	19	ATML	0.48
4							
5							
6							
7							
8							
9							
10							
11							
12							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			18.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031100.D Vial: 1
Acq On : 11 Mar 17 12:44 Operator: lac
Sample : 170311A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:48 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

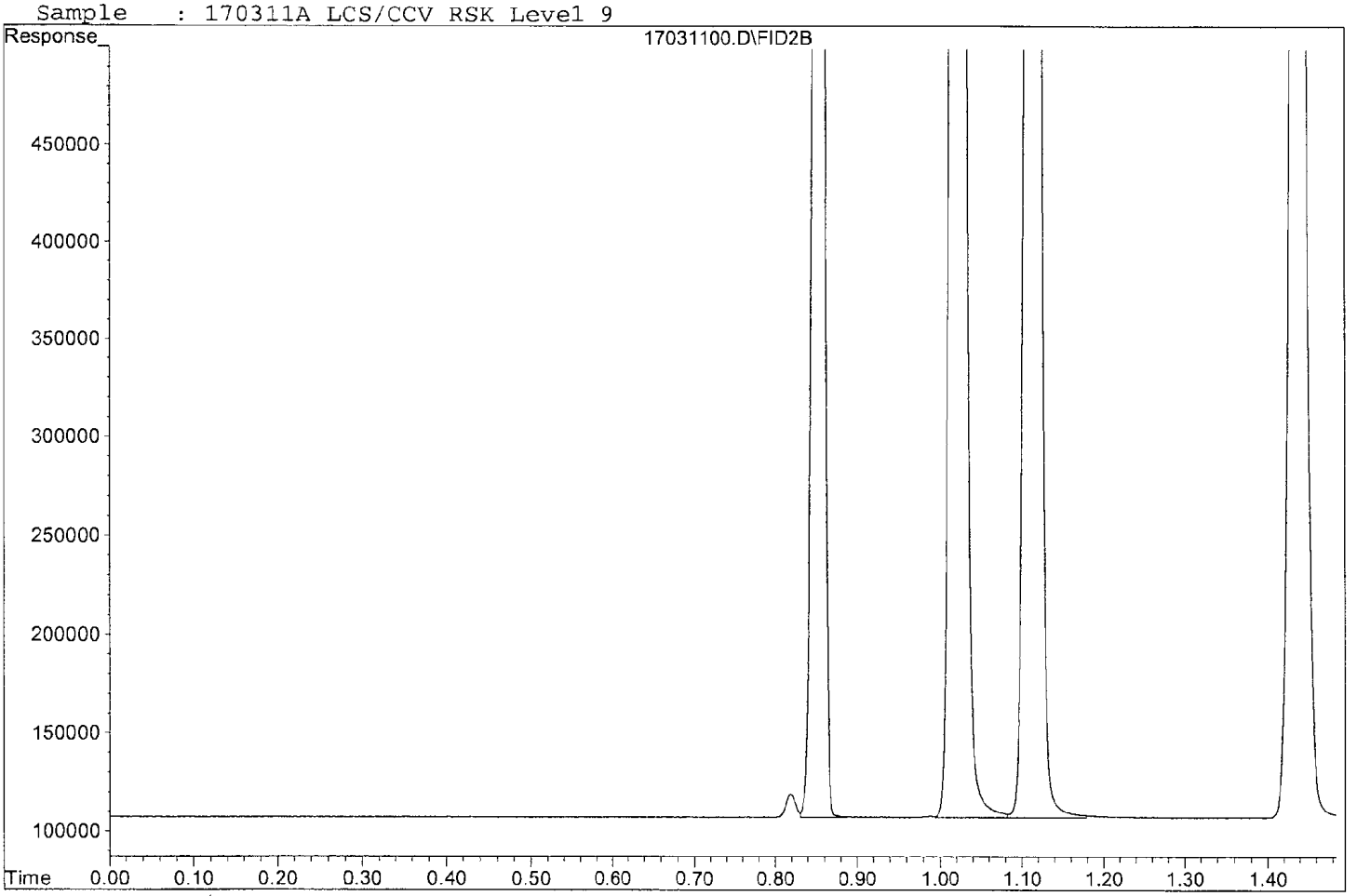
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1284527	636.943	ppb
2) ATM Ethane	1.02	2360252	1314.570	ppb
3) ATM Ethene	1.11	1934338	1254.340	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031100.D
Sample : 170311A LCS/CCV RSK Level 9



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/11/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17031118.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	1775	30	ATML	12
2	ATML	Ethane	2140	1775	17	ATML	1.1
3	ATML	Ethene	1905	1463	23	ATML	5.2
4							
5							
6							
7							
8							
9							
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29							
30							
31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			23.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031118.D Vial: 19
Acq On : 11 Mar 17 13:52 Operator: lac
Sample : Ending CCV RSK Level 9 03/11/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 13:54 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

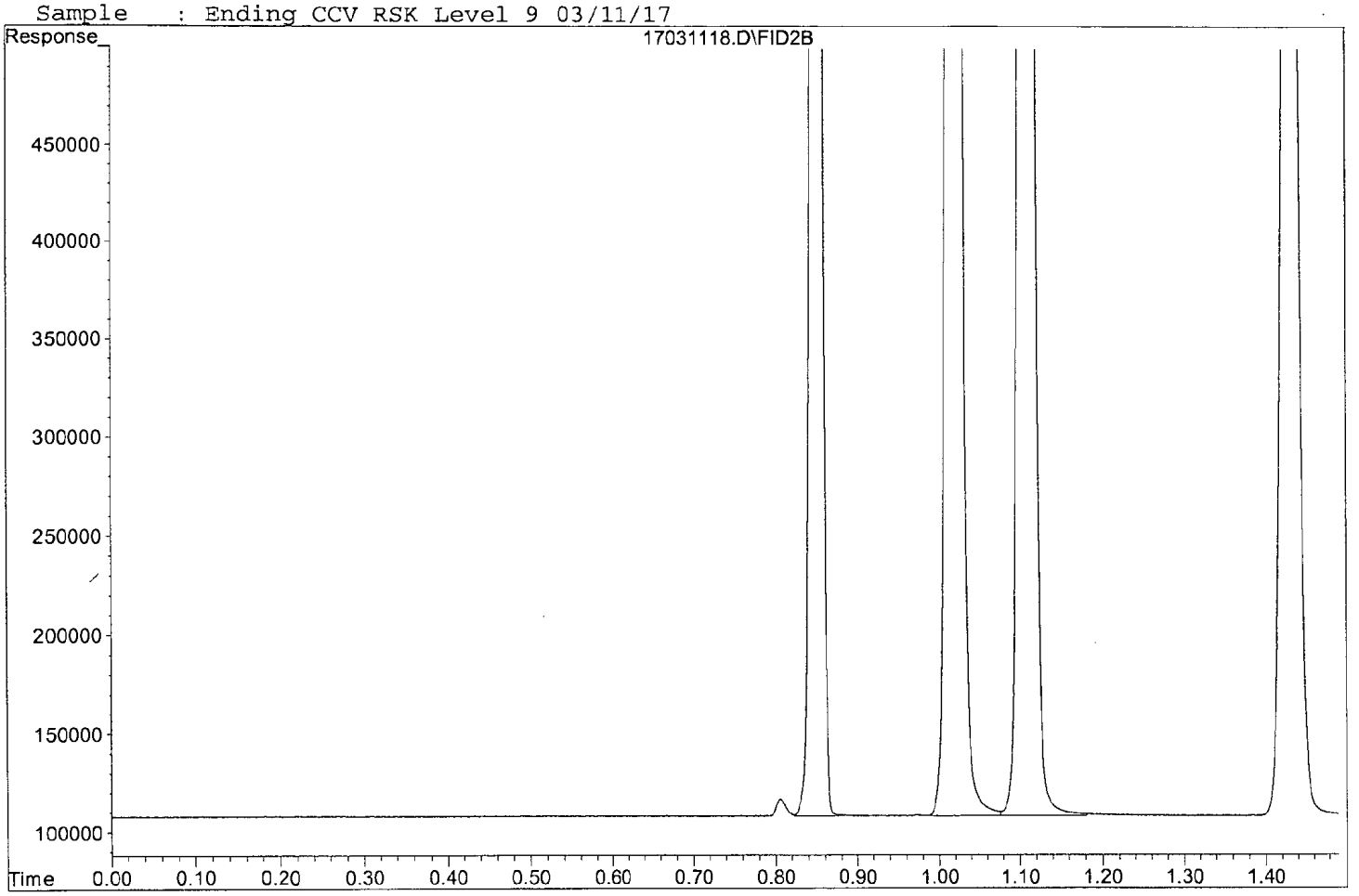
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1184570	587.169	ppb
2) ATM Ethane	1.02	2218945	1235.633	ppb
3) ATM Ethene	1.11	1825941	1183.617	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031118.D
Sample : Ending CCV RSK Level 9 03/11/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170311W-51356 - 216799**
Batch ID: #RSKME-170311A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	03/11/17	03/11/17

Quant Method: RSK0225.M
Run #: 17031101
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 03/11/17 2:12:13 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031101.D Vial: 2
Acq On : 11 Mar 17 12:50 Operator: lac
Sample : 170311A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:52 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

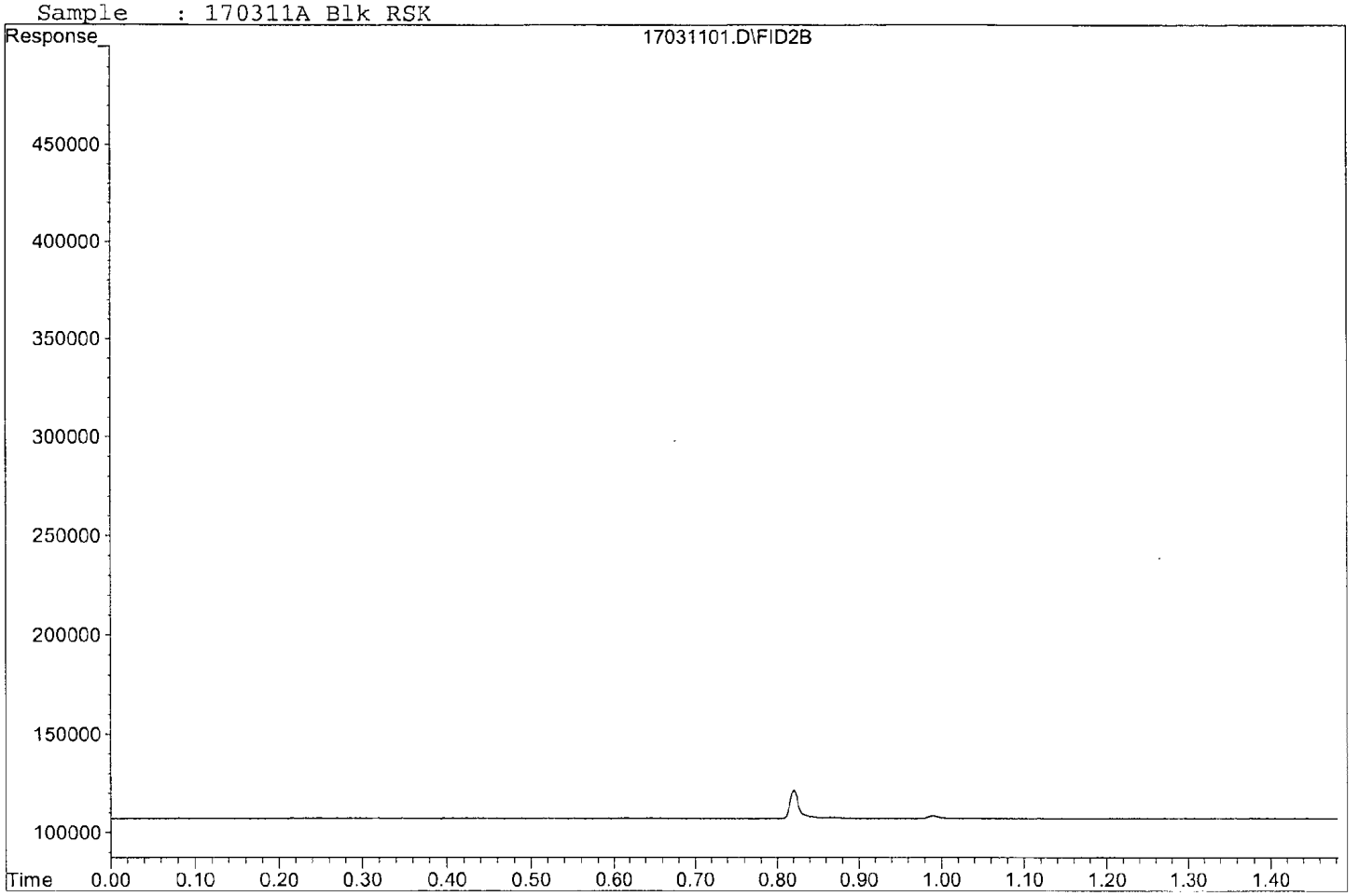
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	699	N.D.	ppb
2) ATM Ethane	1.03	288	N.D.	ppb
3) ATM Ethene	1.12	274	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031101.D
Sample : 170311A Blk RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170311W-51356 LCS - 216799**
Batch ID: #RSKME-170311A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	668	637	95.4	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	03/11/17
Analysis Date :	03/11/17
Instrument :	Rocky
Run :	17031100
Initials :	CMO

Printed: 03/11/17 2:11:57 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031100.D Vial: 1
Acq On : 11 Mar 17 12:44 Operator: lac
Sample : 170311A LCS/CCV RSK Level 9 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:48 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

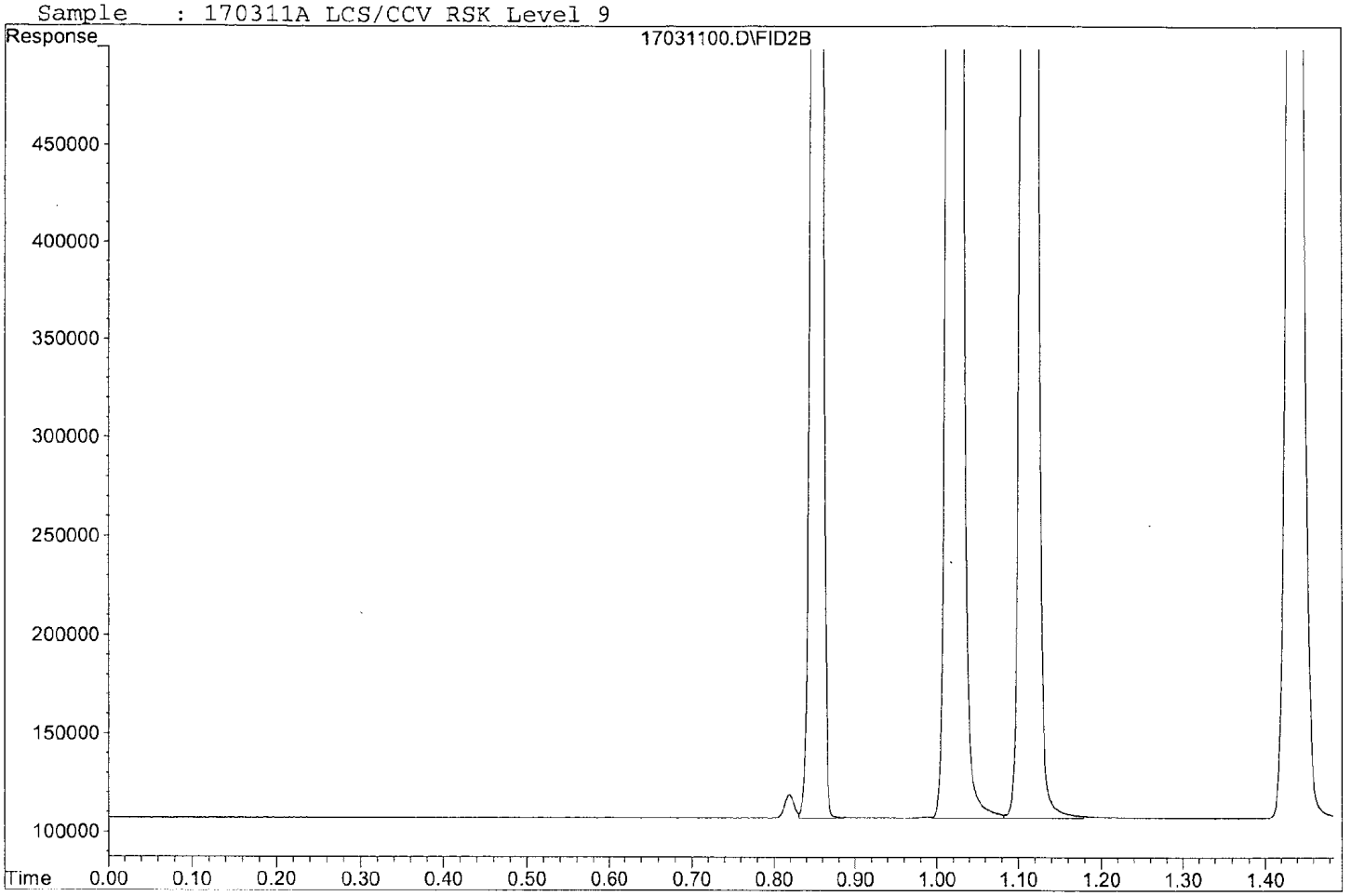
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	1284527	636.943	ppb
2) ATM Ethane	1.02	2360252	1314.570	ppb
3) ATM Ethene	1.11	1934338	1254.340	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17031100.D
Sample : 170311A LCS/CCV RSK Level 9



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17031101.D Vial: 2
Acq On : 11 Mar 17 12:50 Operator: lac
Sample : 170311A Blk RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Mar 11 12:52 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

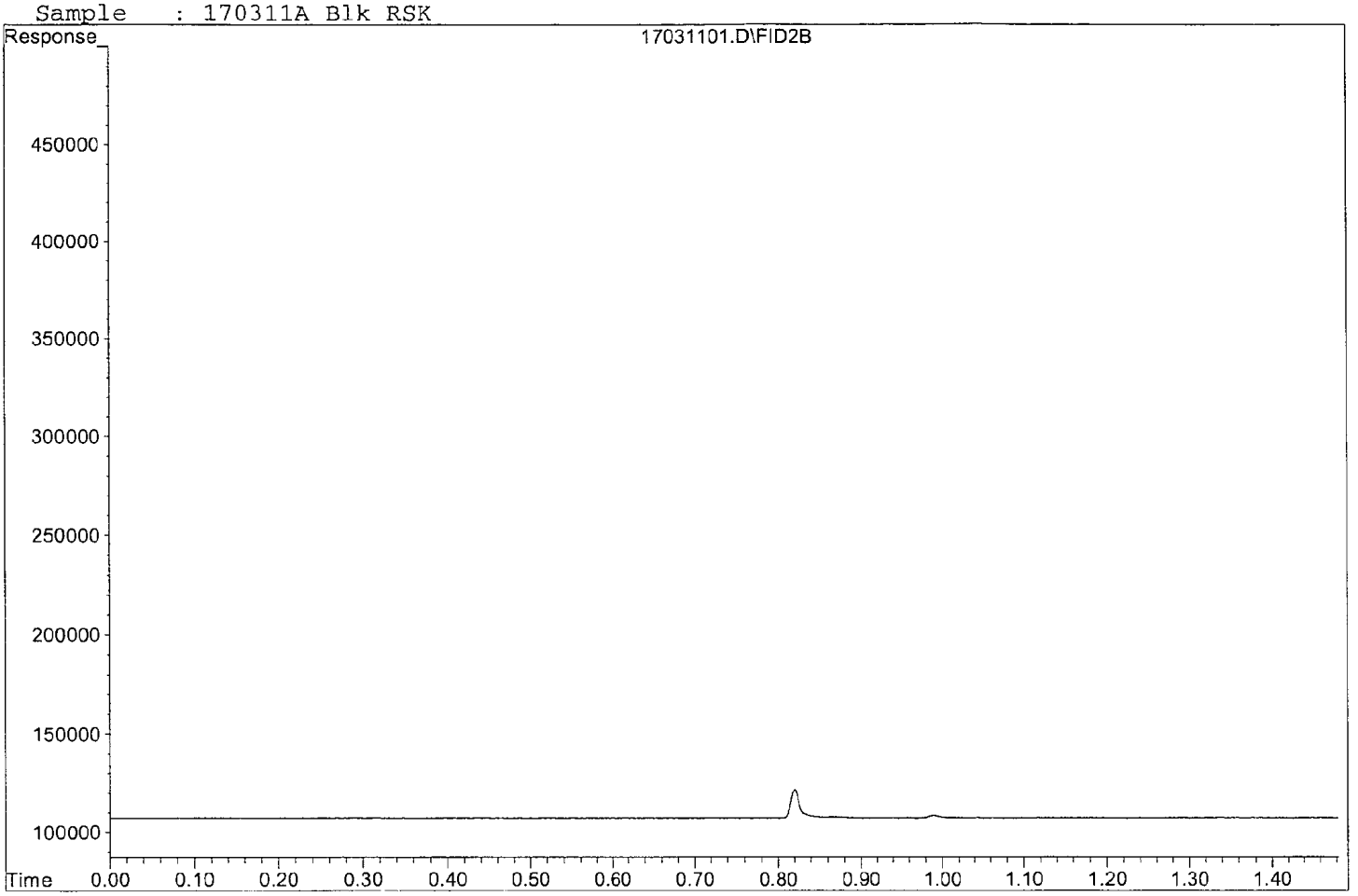
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	699	N.D.	ppb
2) ATM Ethane	1.03	288	N.D.	ppb
3) ATM Ethene	1.12	274	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17031101.D
Sample : 170311A Blk RSK



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17

10.0mL of Intermediate SS stock 02/25/17 into 10mL P&T water

final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 9 **Expires 04/11/17** CMM 03/11/17

1.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

final conc: 667.5 ppb Methane, 1250.0 ppb Ethane, and 1248.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	1	17031100.D	1	170311A LCS/CCV RSK Level 9		11 Mar 17 12:44
13	2	17031101.D	1	170311A Blk RSK		11 Mar 17 12:50
14	12	17031111.D	1	AZ51528W06		11 Mar 17 13:28
15	13	17031112.D	1	AZ51530W06		11 Mar 17 13:32
16	14	17031113.D	1	AZ51531W06		11 Mar 17 13:36
17	15	17031114.D	1	AZ51533W06		11 Mar 17 13:40
18	16	17031115.D	1	AZ51534W06		11 Mar 17 13:43
19	17	17031116.D	1	AZ51535W06		11 Mar 17 13:46
20	19	17031118.D	1	Ending CCV RSK Level 9 03/11/17		11 Mar 17 13:52

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	¥300WD-170314A2-AZ51533
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	¥300WD-170314A2-AZ51533
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/10/17	03/10/17	#35FE-170310A-AZ51535

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132

Comments: _____

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APPL Standard LCS

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A2-AZ51533
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A2-AZ51533

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.84	94.7	80-120	03/10/17	03/10/17	#35FE-170310A-AZ51535

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH275

Sample Collection Date: 03/08/17

APPL ID: AZ51530

ARF: 82389

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.9	1.0	0.20	0.08	mg/L	1	03/10/17	03/10/17
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	1	03/10/17	03/10/17
EPA 300.0	SULFATE	5.1	1.0	0.20	0.09	mg/L	1	03/10/17	03/10/17
SM 2320B	BICARBONATE AS CACO3	92.7	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	92.7	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.52 J	1.0	0.32	0.16	mg/L	1	03/10/17	03/10/17

J = Estimated value.

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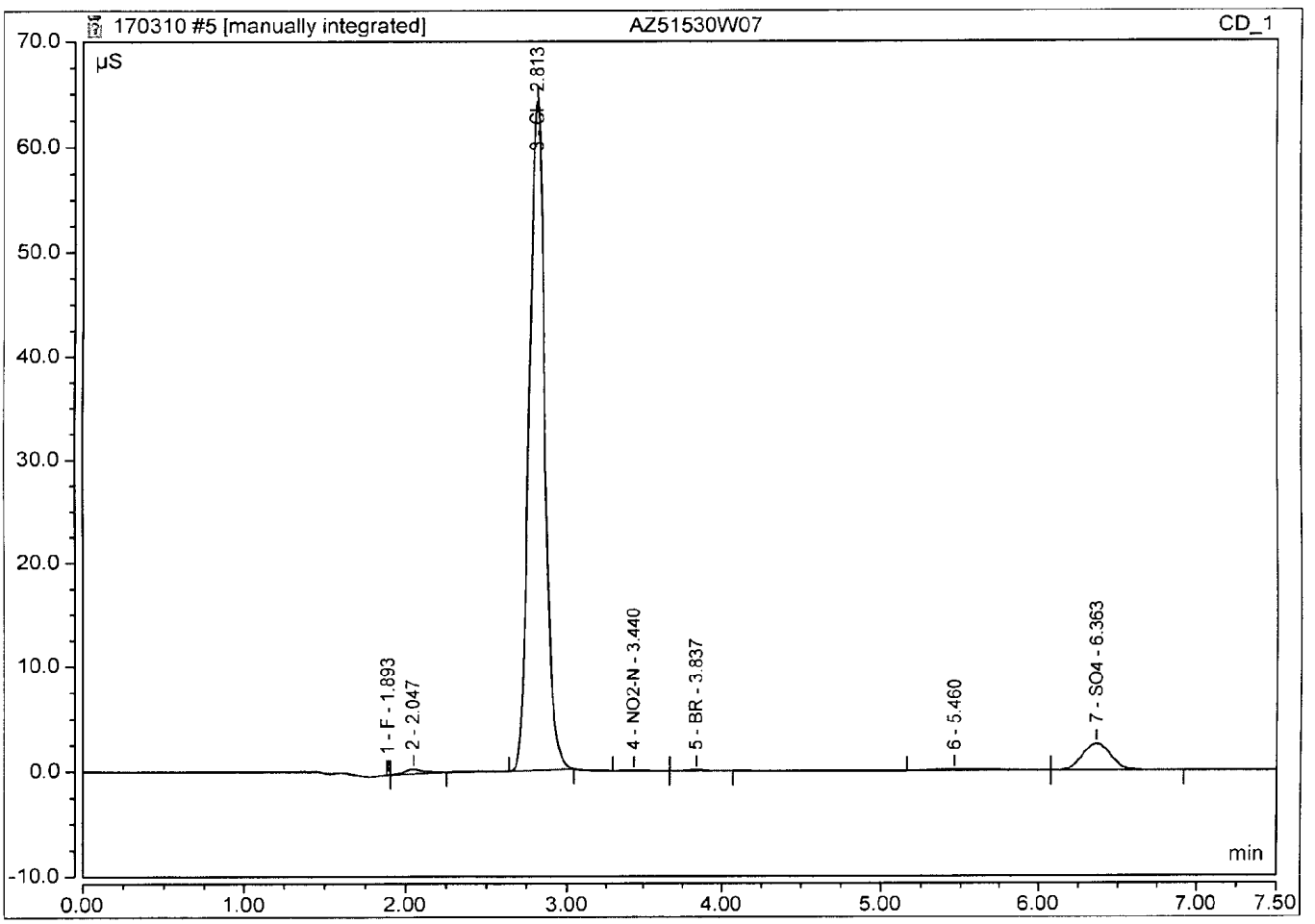
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51530W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 13:06**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.89	F	BMB	0.000	0.001	0.0450
3	2.81	Cl	BMB	7.017	64.234	39.9142
4	3.44	NO2-N	BMB	0.002	0.008	0.0390
5	3.84	BR	BMB	0.008	0.062	0.3512
7	6.36	SO4	BMB	0.528	2.521	5.1023
TOTAL:				7.56	66.83	45.45



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH278

Sample Collection Date: 03/08/17

APPL ID: AZ51533

ARF: 82389

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	161	5.0	1.00	0.40	mg/L	5	03/14/17	03/14/17
EPA 300.0	SULFATE	49.6	5.0	1.00	0.45	mg/L	5	03/14/17	03/14/17
EPA 300.0	NITRATE	4.5	0.5	0.18	0.04	mg/L	1	03/10/17	03/10/17
SM 2320B	BICARBONATE AS CACO3	103	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	103	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/10/17	03/10/17

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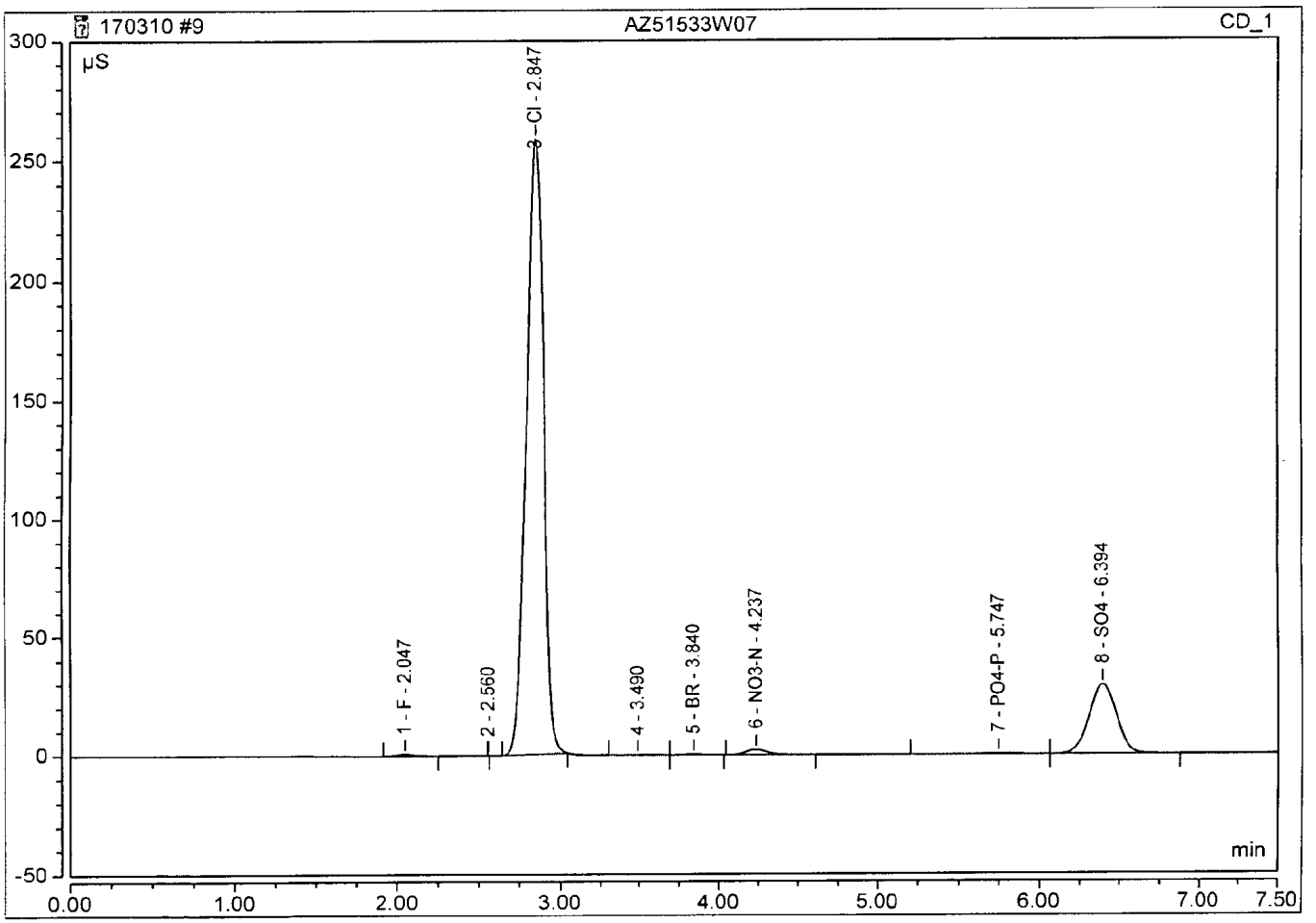
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51533W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 14:01**	*Run Time:*	**7.50**

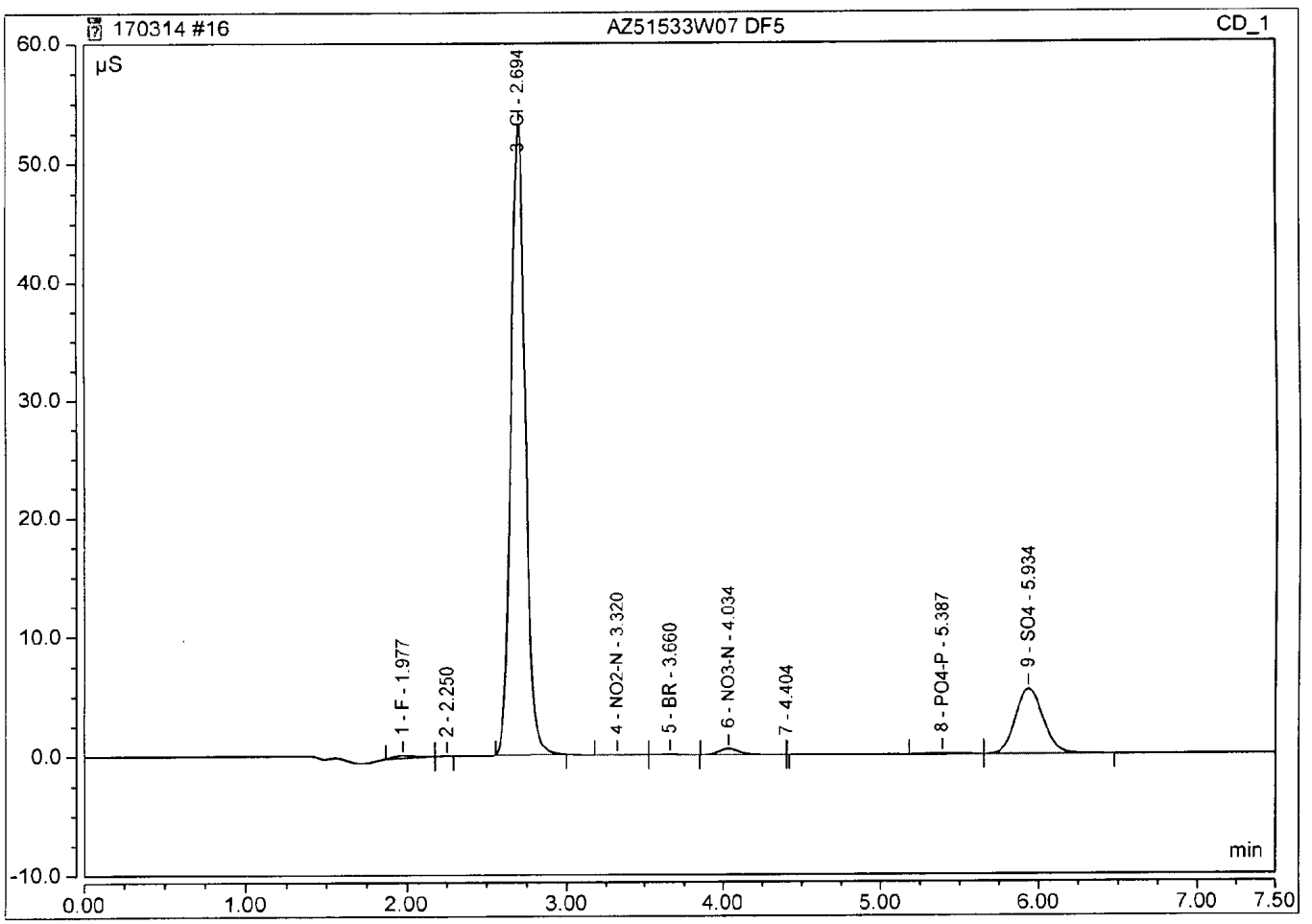
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.080	0.702	0.4418
3	2.85	Cl	BMB	31.271	258.178	174.4713
5	3.84	BR	BMB	0.029	0.222	0.6817
6	4.24	NO3-N	BMB	0.341	2.265	1.0176
7	5.75	PO4-P	BMB	0.091	0.311	0.8690
8	6.39	SO4	BMB	5.759	29.112	50.2302
TOTAL:				37.57	290.79	227.71



Peak Integration Report

Sample Name:	**AZ51533W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 13:56**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.030	0.219	0.9655
3	2.69	Cl	BMB	5.613	53.126	160.6260
4	3.32	NO2-N	BMB	0.001	0.007	0.1836
5	3.66	BR	BMB	0.006	0.049	1.5969
6	4.03	NO3-N	BMB	0.073	0.501	1.6031
8	5.39	PO4-P	BMB	0.014	0.067	1.2535
9	5.93	SO4	BMB	1.085	5.405	49.5553
		TOTAL:		6.82	59.37	215.78



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH286

Sample Collection Date: 03/08/17

APPL ID: AZ51535

ARF: 82389

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	1000	50.0	10.00	4.00	mg/L	50	03/14/17	03/14/17
EPA 300.0	SULFATE	333	50.0	10.00	4.50	mg/L	50	03/14/17	03/14/17
EPA 300.0	NITRATE	9.1	2.5	0.90	0.20	mg/L	5	03/10/17	03/10/17
SM 2320B	BICARBONATE AS CACO3	165	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM 2320B	TOTAL ALKALINITY AS CACO3	165	2.0	1.70	0.85	mg/L	1	03/13/17	03/13/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	03/10/17	03/10/17

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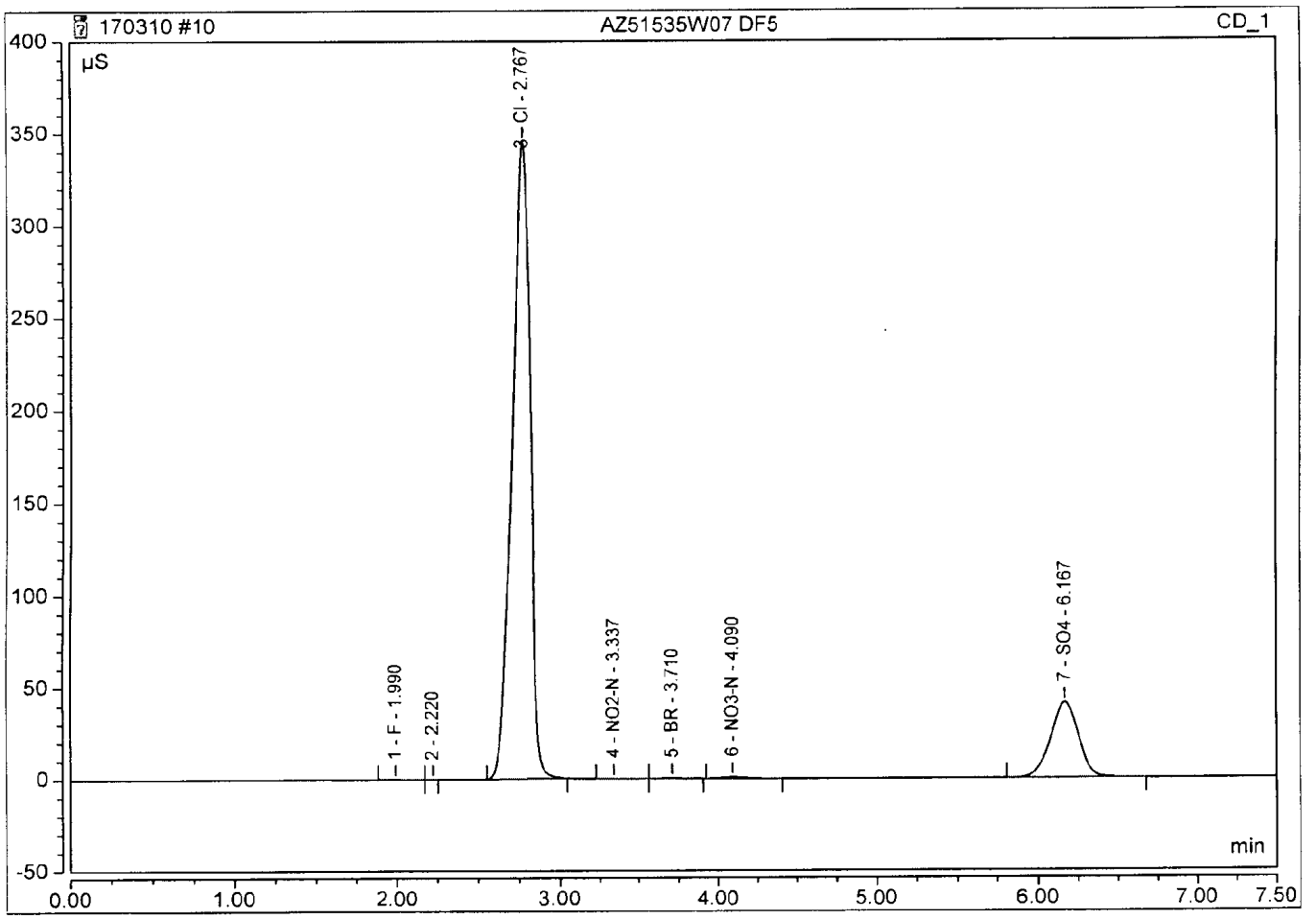
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ51535W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 14:14**	*Run Time:*	**7.50**

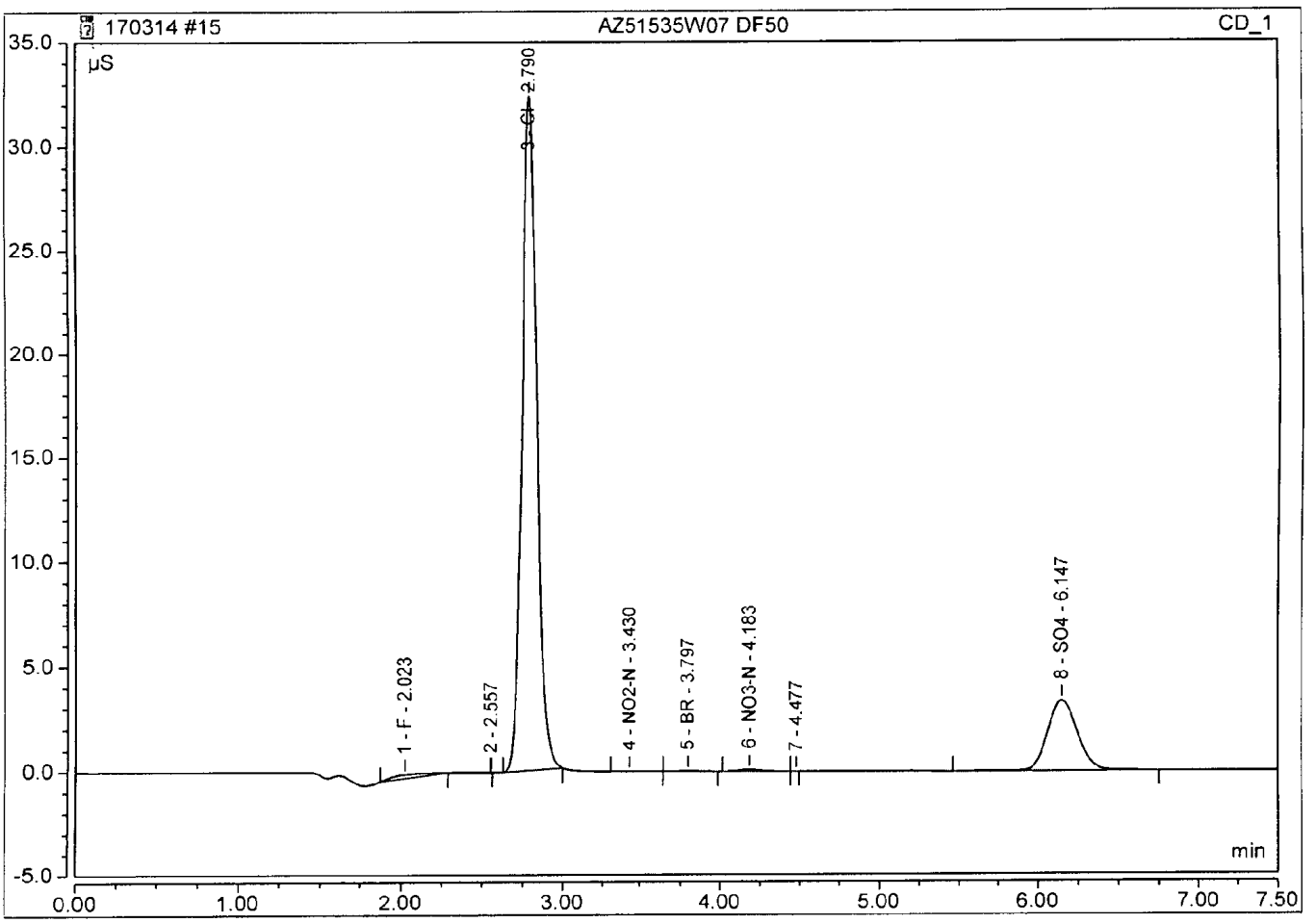
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.008	0.056	0.4288
3	2.77	Cl	BMB	43.541	345.151	1212.7372
4	3.34	NO2-N	BMB	0.005	0.021	0.2461
5	3.71	BR	BMB	0.032	0.248	3.6281
6	4.09	NO3-N	BMB	0.108	0.736	2.0563
7	6.17	SO4	BMB	8.160	41.037	354.7409
		TOTAL:		51.85	387.25	1573.84



Peak Integration Report

Sample Name:	**AZ51535W07 DF50**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**50.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 13:42**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.046	0.178	13.5652
3	2.79	Cl	BMB	3.439	32.348	1003.0865
4	3.43	NO2-N	BMB	0.001	0.004	1.7597
5	3.80	BR	BMB	0.003	0.025	13.5412
6	4.18	NO3-N	BMB	0.011	0.077	7.9458
8	6.15	SO4	BMB	0.709	3.316	333.1440
TOTAL:				4.21	35.95	1373.04



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82389 SDG: 82389
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 17:33	%R(1)	True CCV1	Found 18:06	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.76323	94.1	4	3.73326	93.3	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82389 SDG: 82389

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 03/10/17 17:35	C	CCB 03/10/17 18:08	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract:
ARF No: SDG:
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.36	98.9							
chloride	20	18.867	94.3							
fluoride	2.5	2.6632	107							
Nitrate(NO3)	22.1	21.9317	99.2							
Nitrate(NO3)-N	5	4.9523	99.0							
Nitrite(NO2)	9.98	10.3648	104							
Nitrite(NO2)-N	3.04	3.1556	104							
phosphate	15.3225	15.2743	99.7							
phosphate-p	5	4.9843	99.7							
sulfate	20	19.6588	98.3							

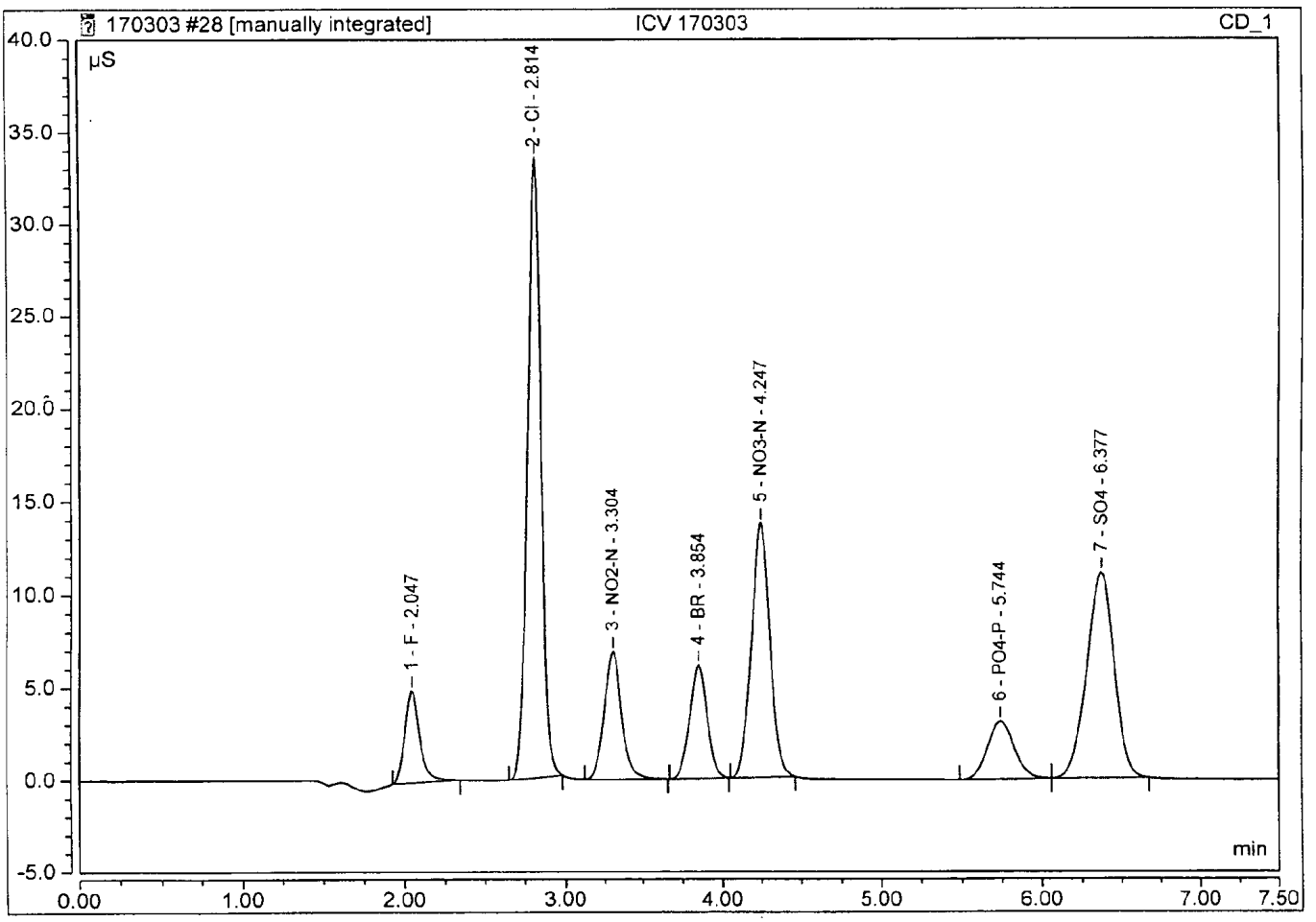
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm Check

y = .384X - .05

X = 4.95 ✓

y = Peak Area

X = Amnt

MM 3/18/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract:

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

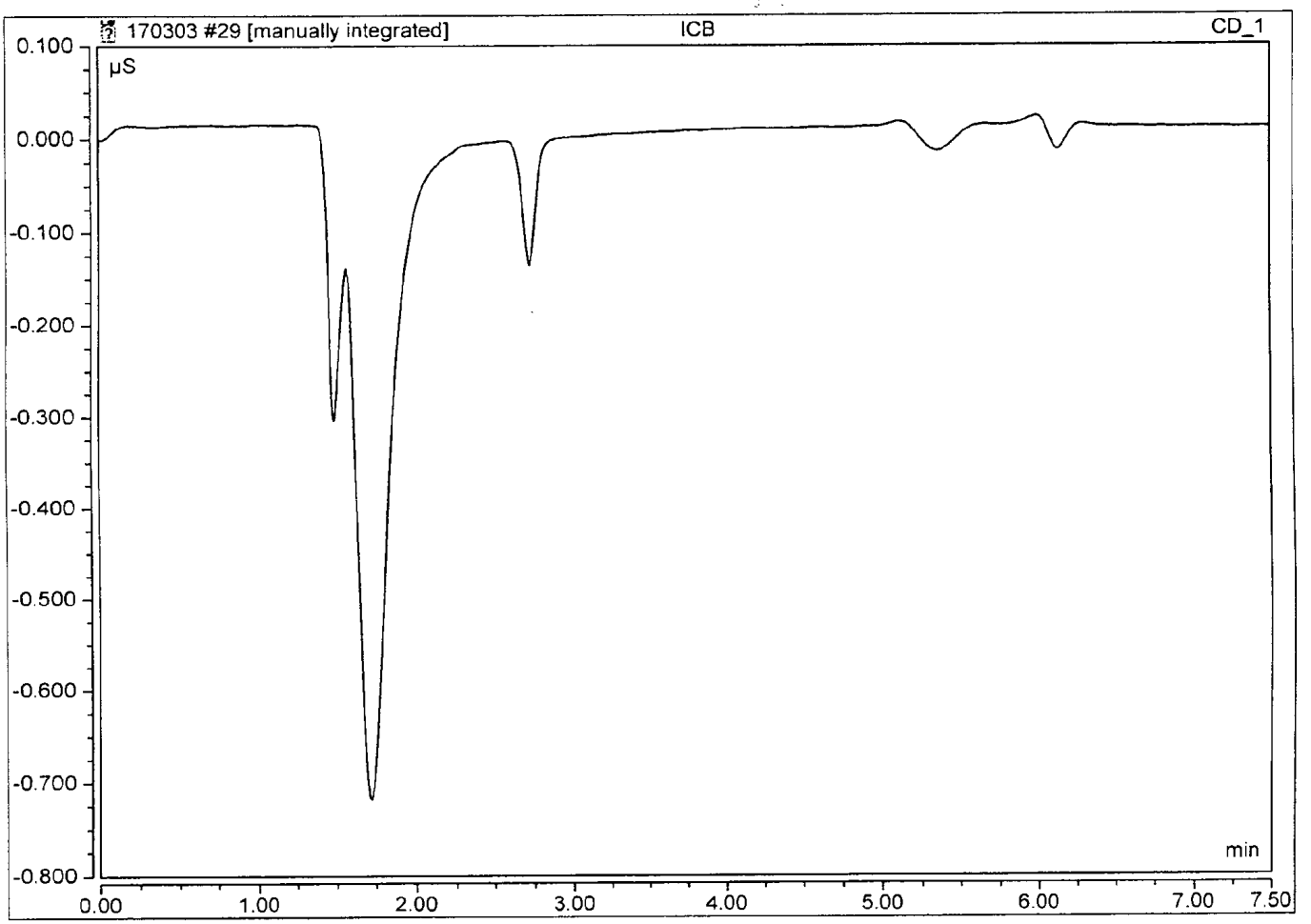
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)	.300	U									
Nitrite(NO2)-N	.100	U									
phosphate	.600	U									
phosphate-p	.200	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82389 SDG: 82389
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/10/17

Analyte	Calibration Verification									M
	True CCV1	Found 12:39	%R(1)	True CCV1	Found 19:00	%R(1)	True	Found	%R(1)	
chloride	25	23.618	94.5	25	23.7257	94.9				
Nitrate(NO3)	22.1	22.5034	102	22.1	22.5894	102				
sulfate	25	24.1672	96.7	25	24.2122	96.8				

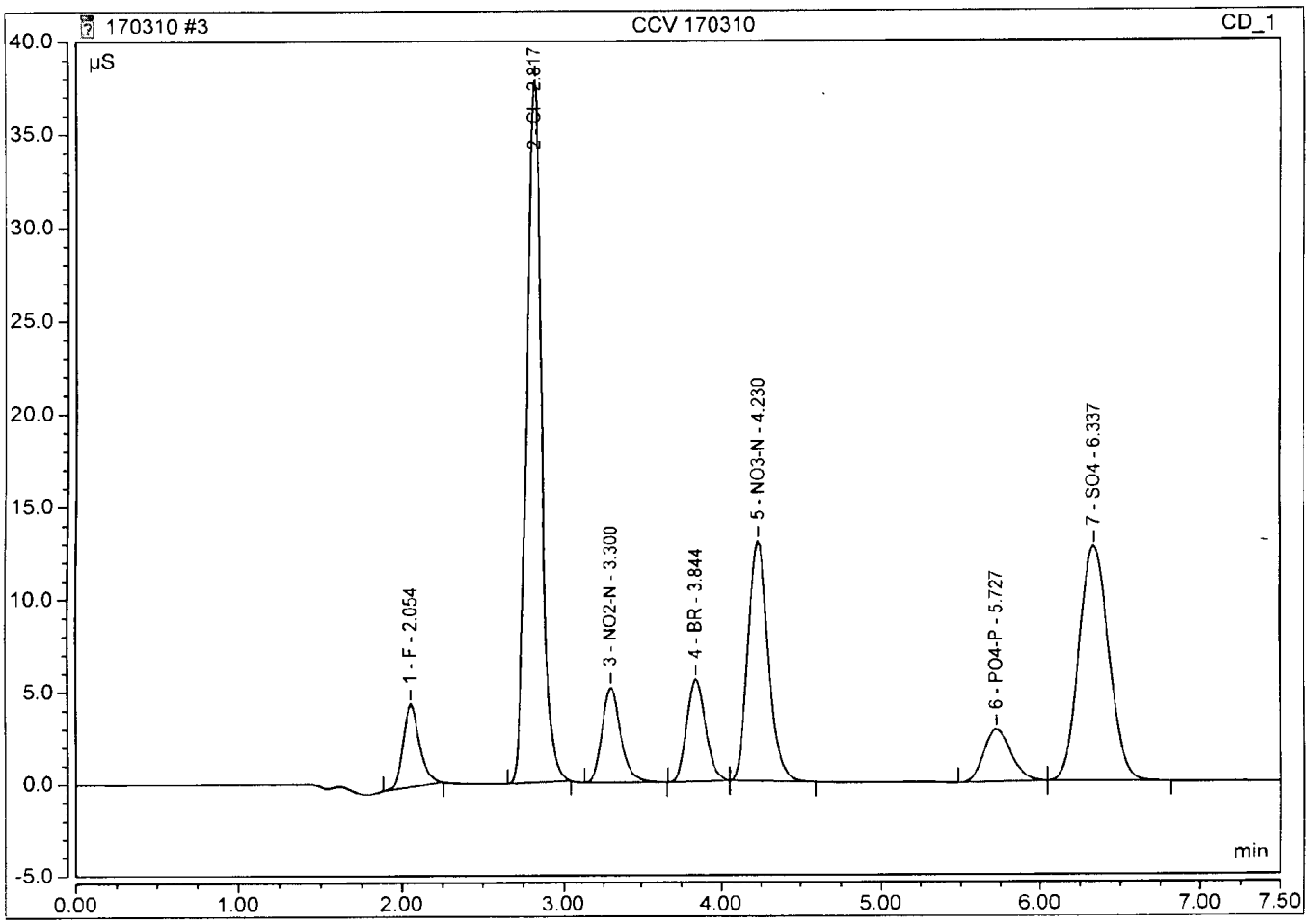
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170310**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 12:39**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.521	4.519	2.6228
2	2.82	Cl	BMB	4.080	37.844	23.6180
3	3.30	NO2-N	BMB	0.731	5.163	2.5228
4	3.84	BR	BMB	0.752	5.568	12.0239
5	4.23	NO3-N	BMB	1.899	13.015	5.0814
6	5.73	PO4-P	BMB	0.567	2.836	4.6955
7	6.34	SO4	BMB	2.738	12.725	24.1672
		TOTAL:		11.29	81.67	74.73

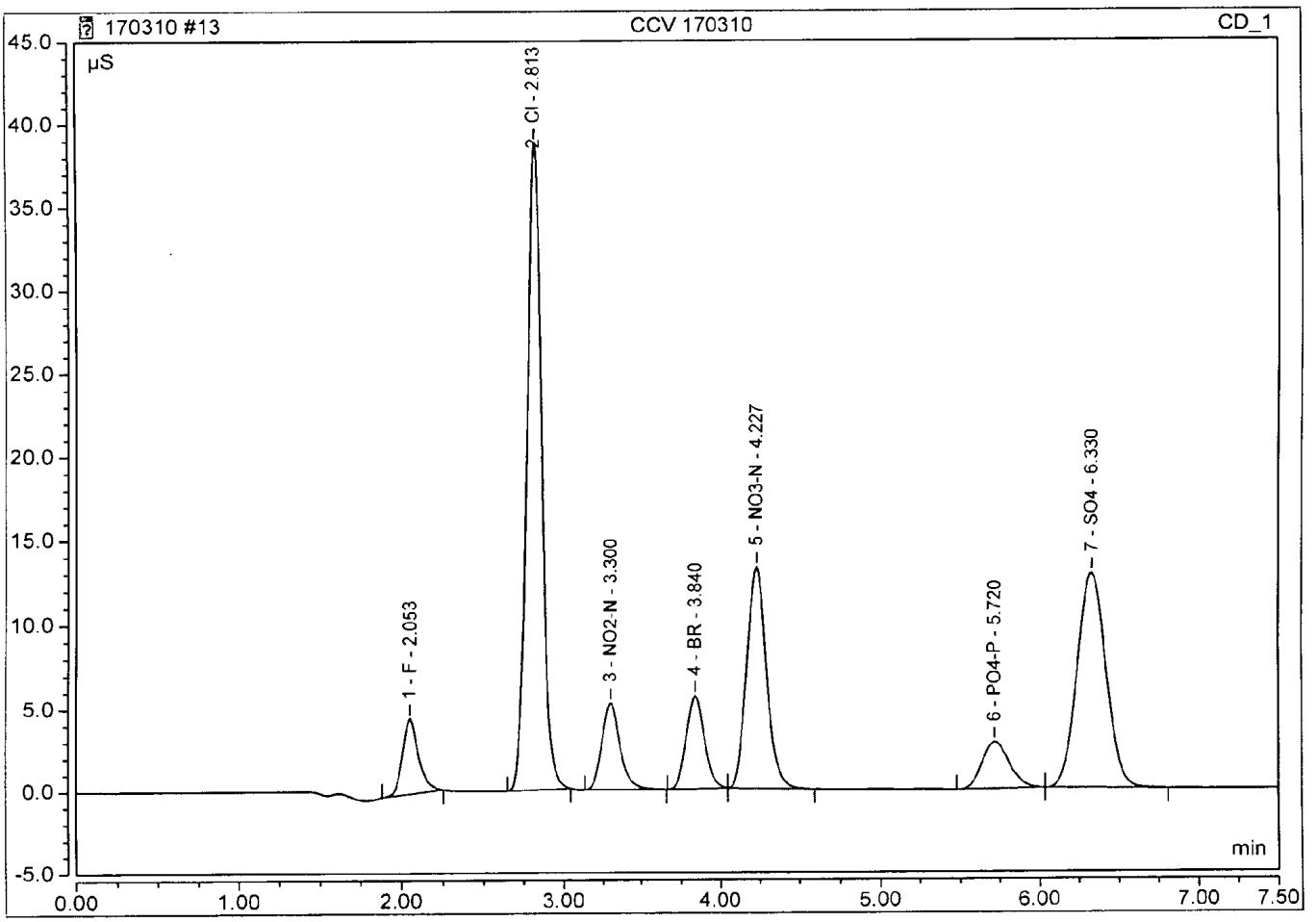


Algorithm Check
y = .384x − .05
x = 5.08 ✓
y = Peak Area
x = Amount
MM 3/16/17

Peak Integration Report

Sample Name:	**CCV 170310**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 19:00**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.521	4.595	2.6271
2	2.81	Cl	BMB	4.099	38.804	23.7257
3	3.30	NO2-N	BMB	0.739	5.284	2.5496
4	3.84	BR	BMB	0.756	5.673	12.0775
5	4.23	NO3-N	BMB	1.907	13.245	5.1008
6	5.72	PO4-P	BMB	0.570	2.851	4.7208
7	6.33	SO4	BMB	2.743	12.844	24.2122
TOTAL:				11.34	83.30	75.01



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82389 SDG: 82389

Preparation Blank Matrix (soil/water): water

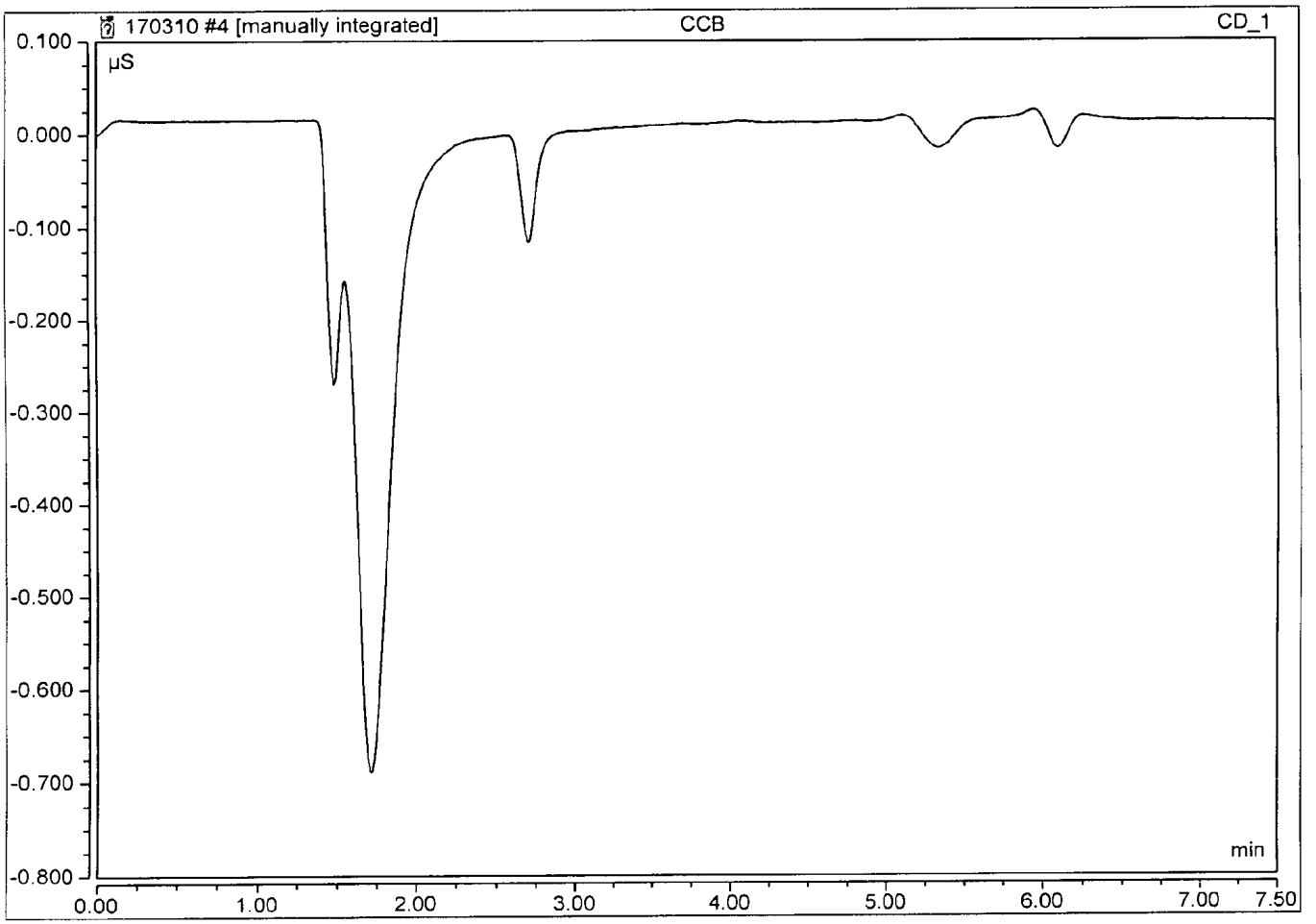
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/10/17 12:53	C	CCB 03/10/17 19:13	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 12:53**	*Run Time:*	**7.50**

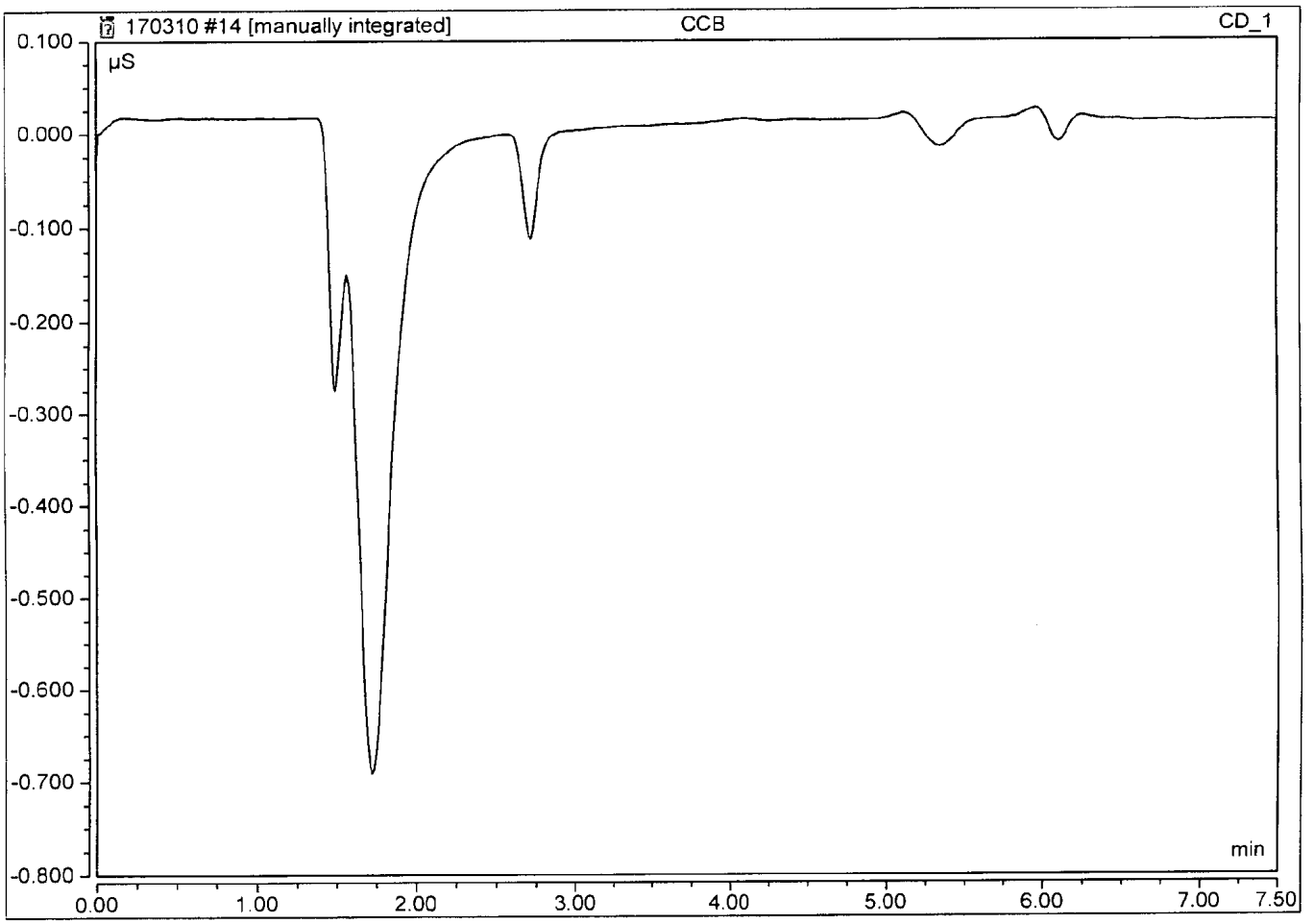
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 19:13**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82389 SDG: 82389
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/14/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:21	%R(1)	True CCV1	Found 15:06	%R(1)	True	Found	%R(1)	
chloride	25	23.4306	93.7	25	23.8262	95.3				
sulfate	25	24.2128	96.9	25	24.3826	97.5				

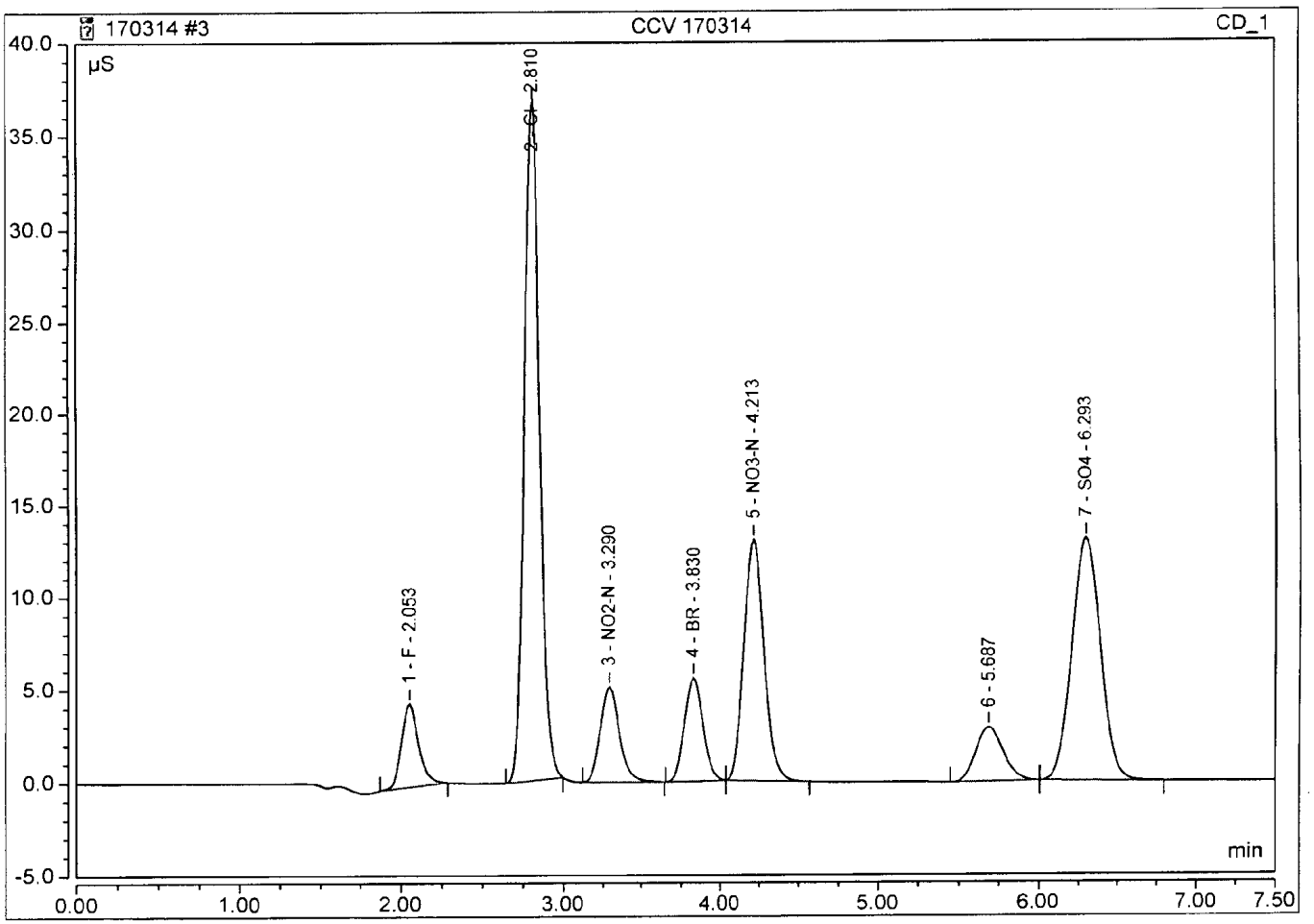
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:21**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.544	4.478	2.7410
2	2.81	Cl	BMB	4.046	36.691	23.4306
3	3.29	NO2-N	BMB	0.730	5.098	2.5182
4	3.83	BR	BMB	0.754	5.527	12.0555
5	4.21	NO3-N	BMB	1.903	12.984	5.0907
7	6.29	SO4	BMB	2.743	13.058	24.2128
TOTAL:				10.72	77.84	70.05

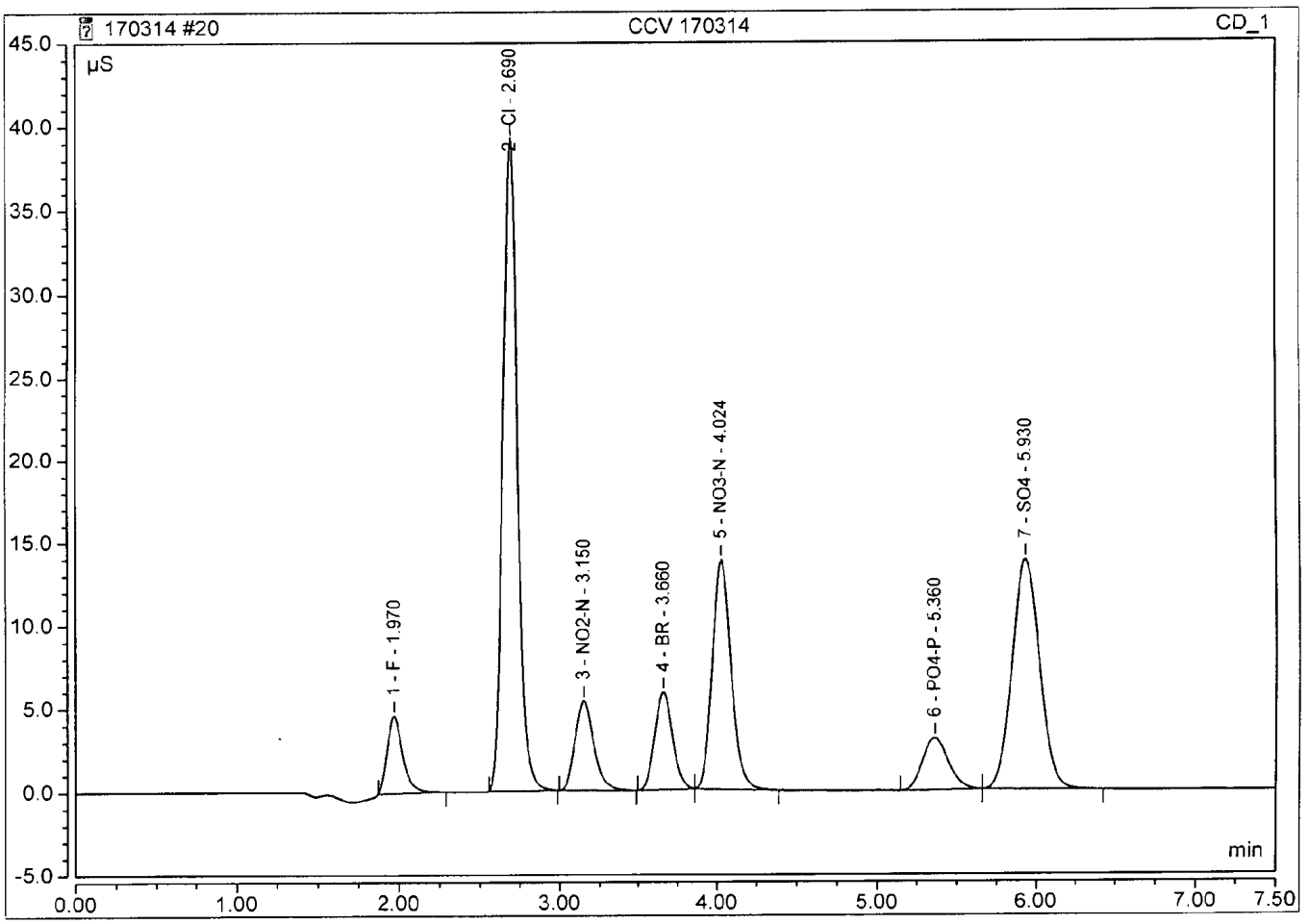


Algorithm Check
y = .584x - .05
x = 5.09
y = Peak Area
x = Amt
MM 3/18/17

Peak Integration Report

Sample Name:	**CCV 170314**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 15:06**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.520	4.674	2.6221
2	2.69	Cl	BMB	4.117	39.233	23.8262
3	3.15	NO2-N	BMB	0.733	5.379	2.5298
4	3.66	BR	BMB	0.754	5.852	12.0541
5	4.02	NO3-N	BMB	1.914	13.759	5.1199
6	5.36	PO4-P	BMB	0.578	3.114	4.7802
7	5.93	SO4	BMB	2.763	13.785	24.3826
		TOTAL:		11.38	85.80	75.31



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82389 SDG: 82389

Preparation Blank Matrix (soil/water): water

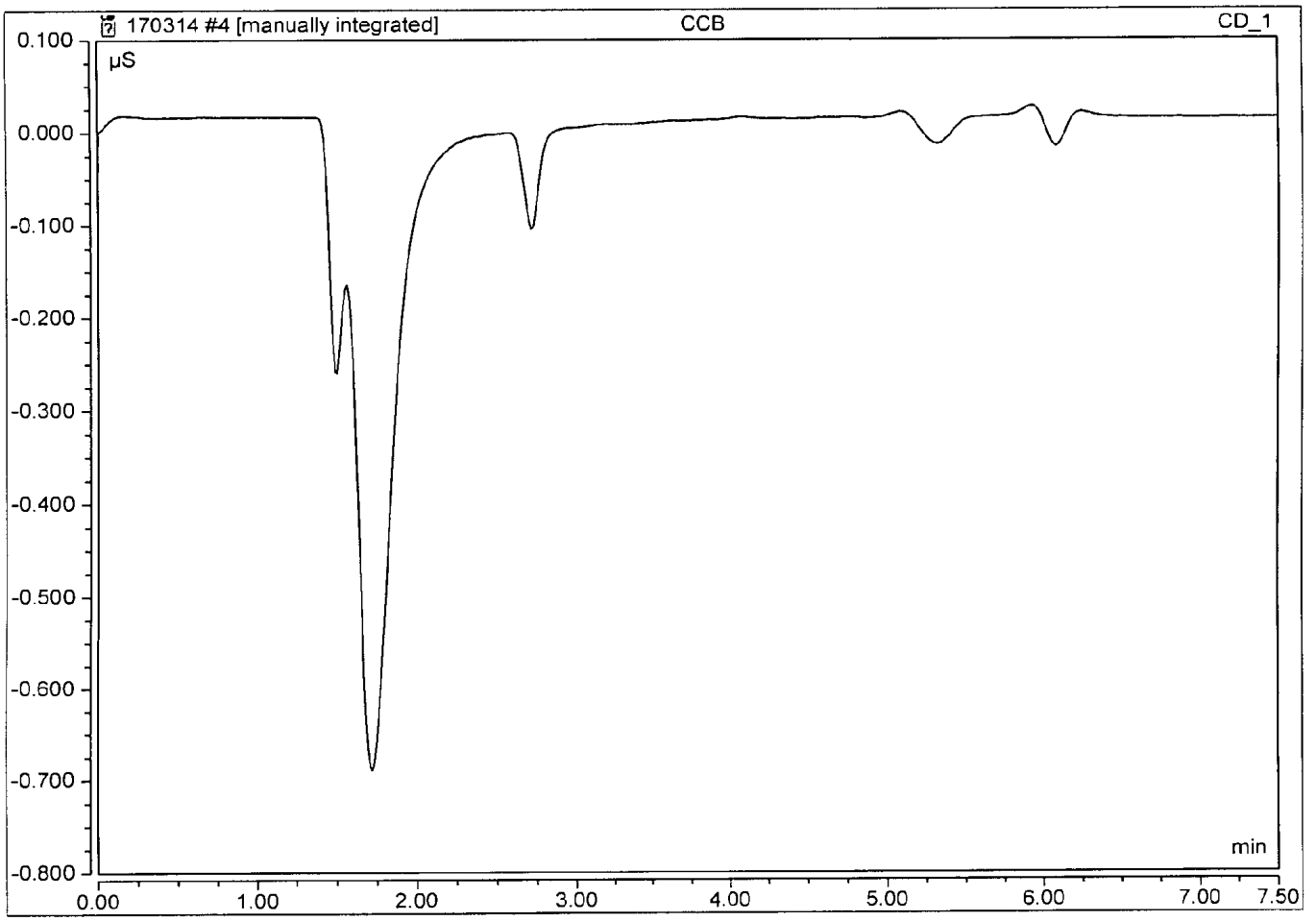
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 03/14/17 09:35	C	CCB 03/14/17 15:20	C		C		C		C	
chloride	1.000	U	1.000	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:35**	*Run Time:*	**7.50**

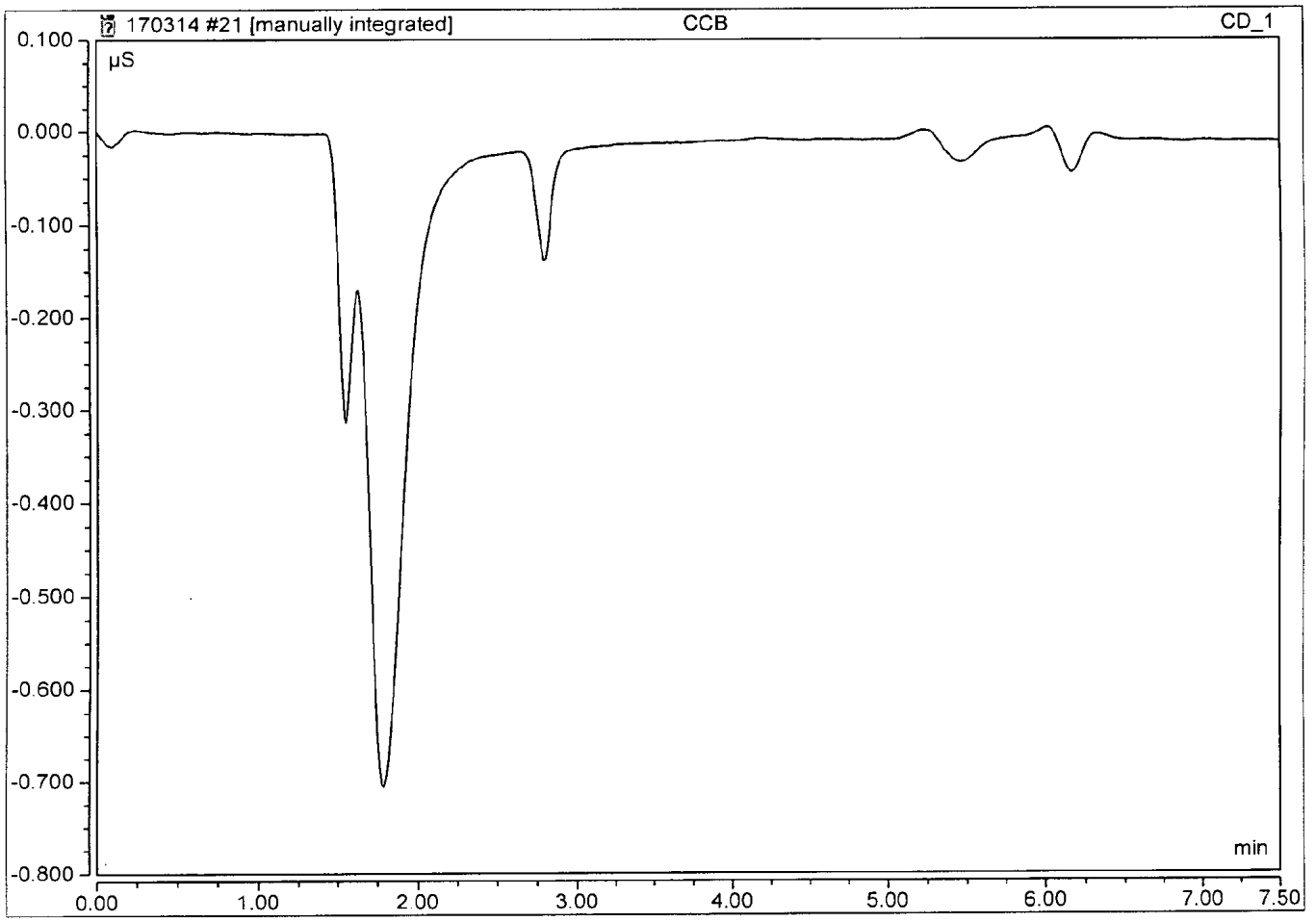
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



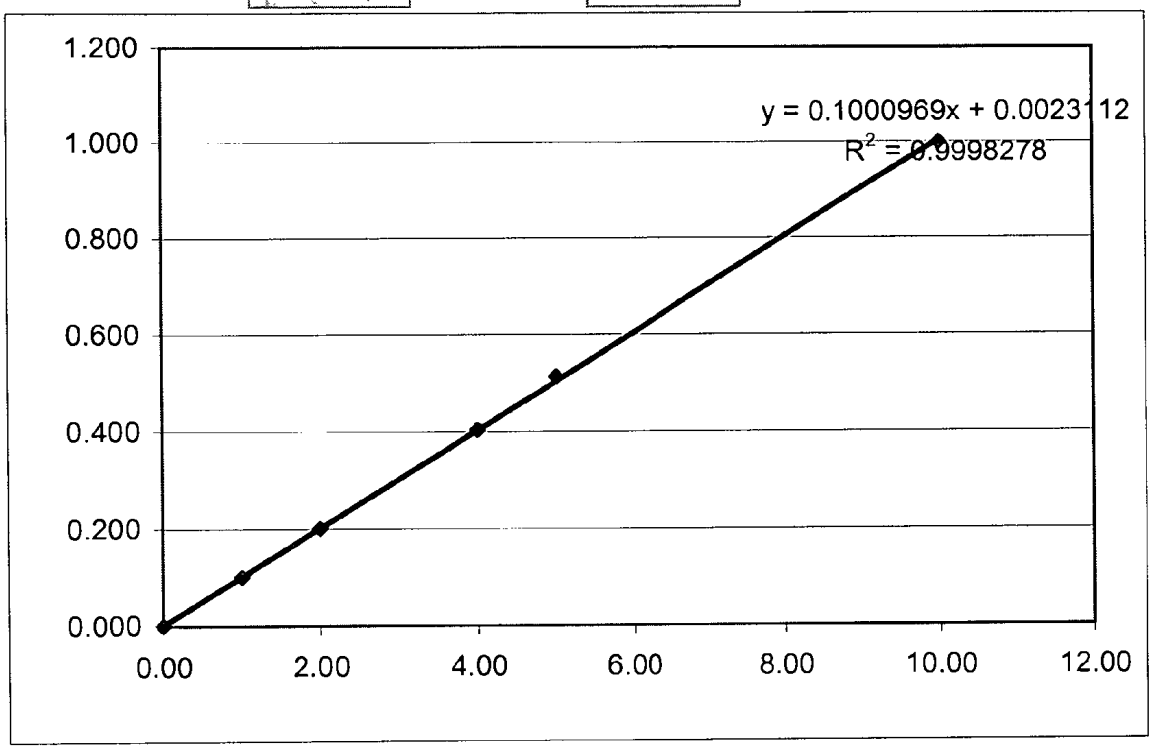
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 15:20**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Ferrous Iron **170310A**



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check

reading (y)=	0.287	03/10/17	17:37
dilution=	1		
result (x)=	2.84 ✓		

mm 3/18/17

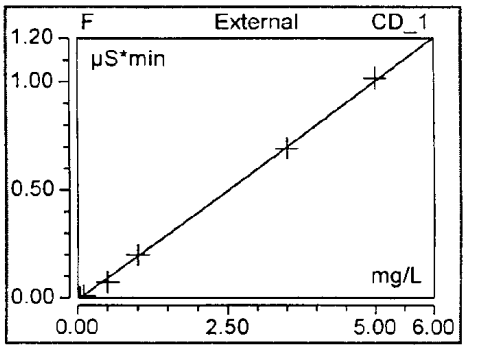
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

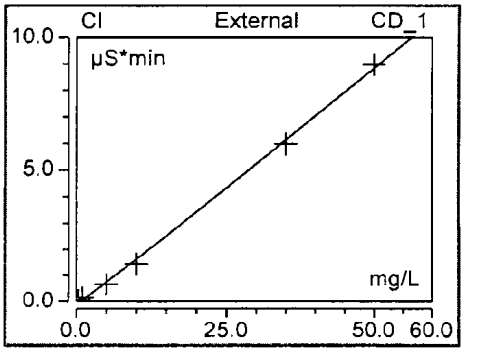
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

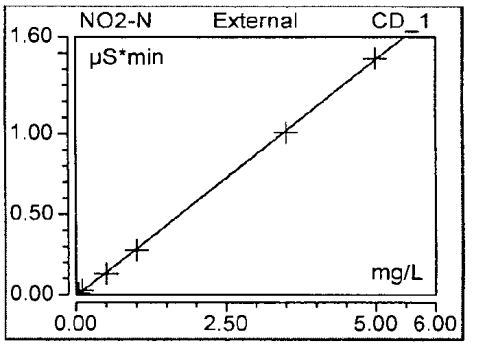
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



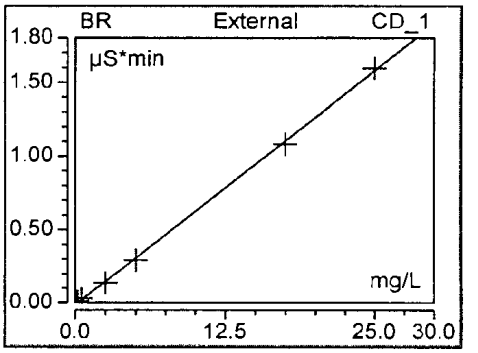
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



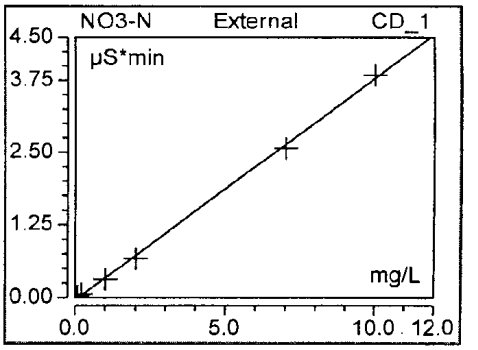
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



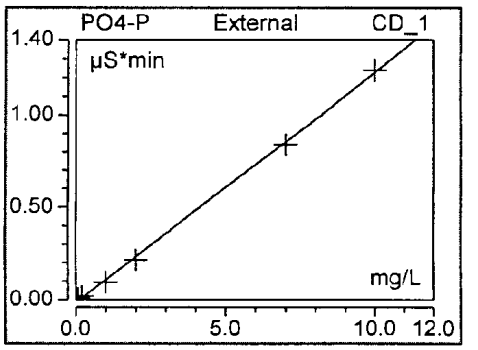
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



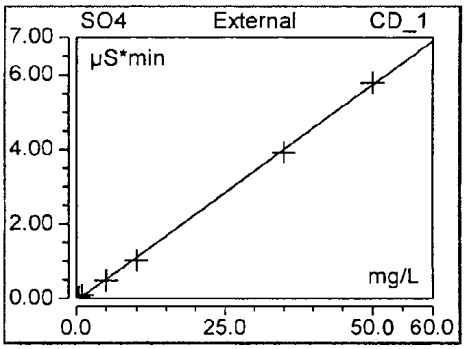
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



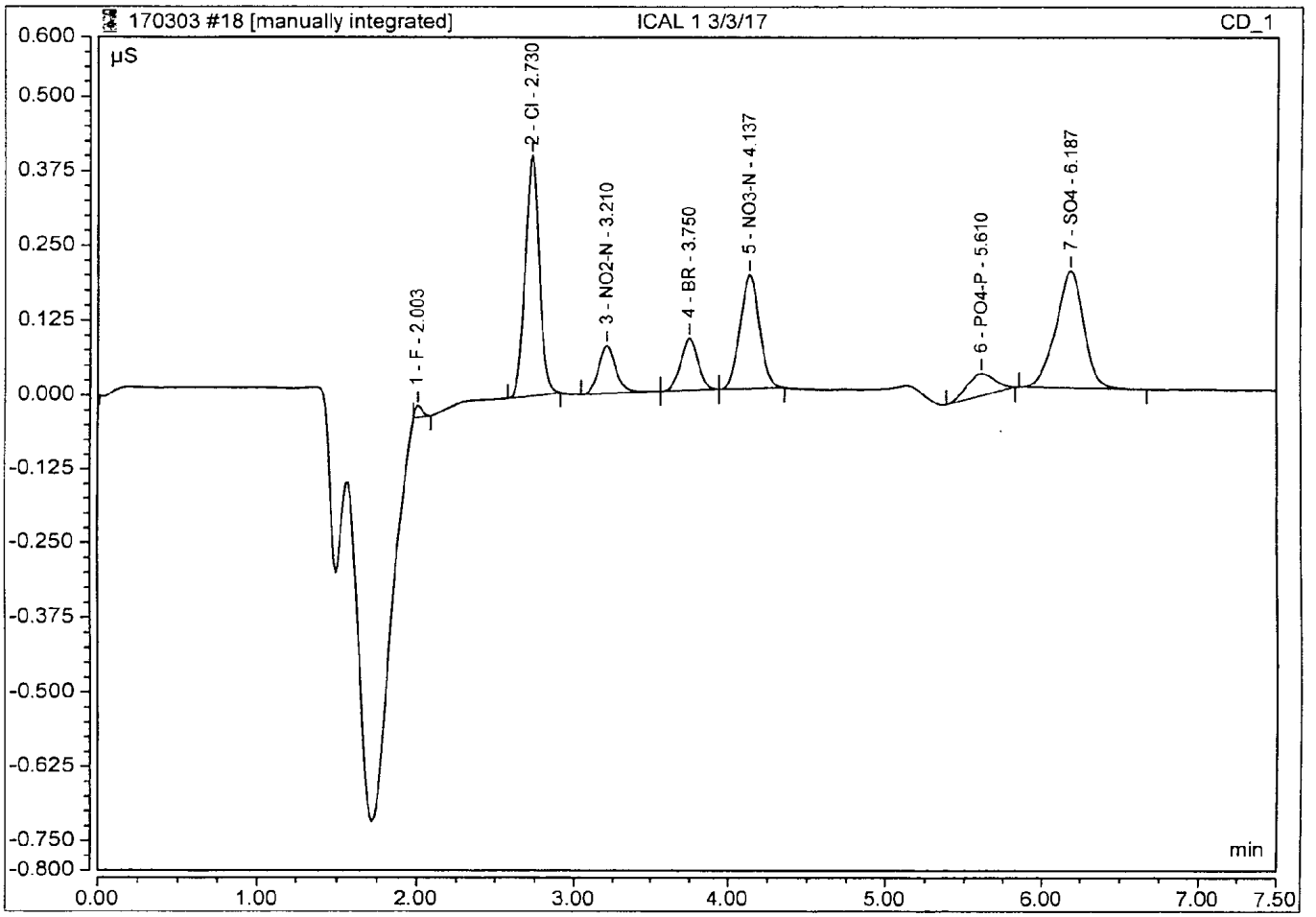
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7:50**

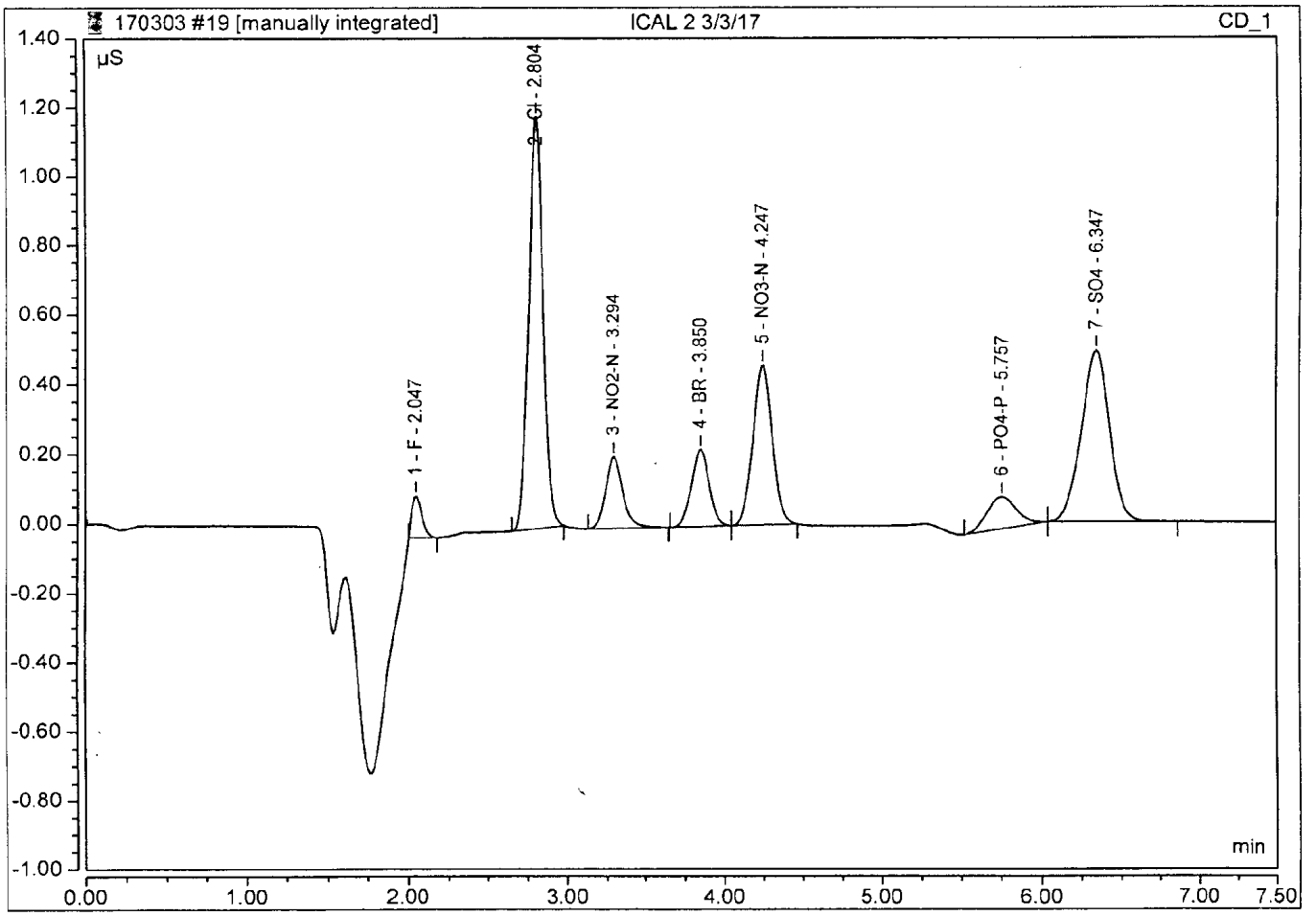
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

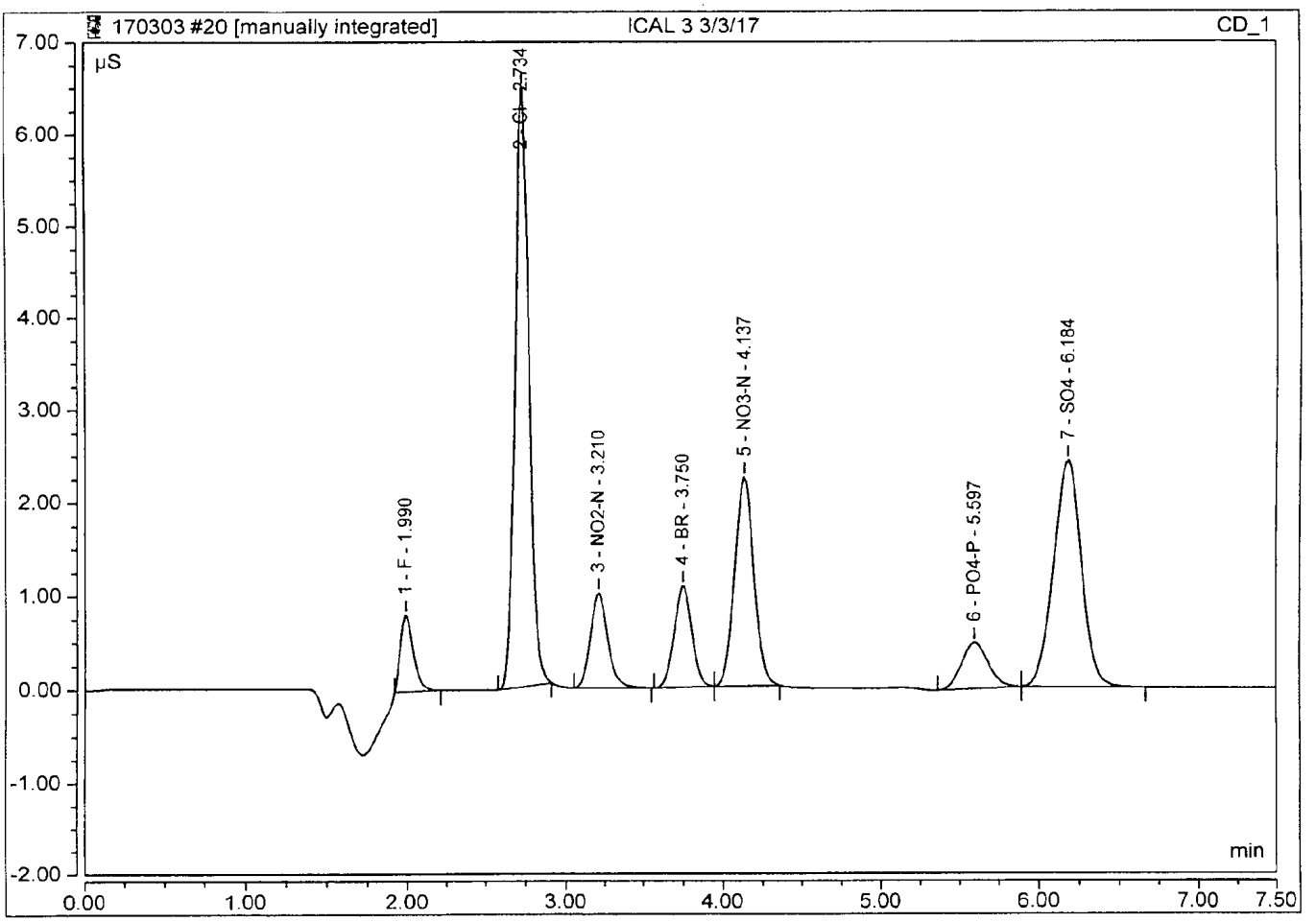
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

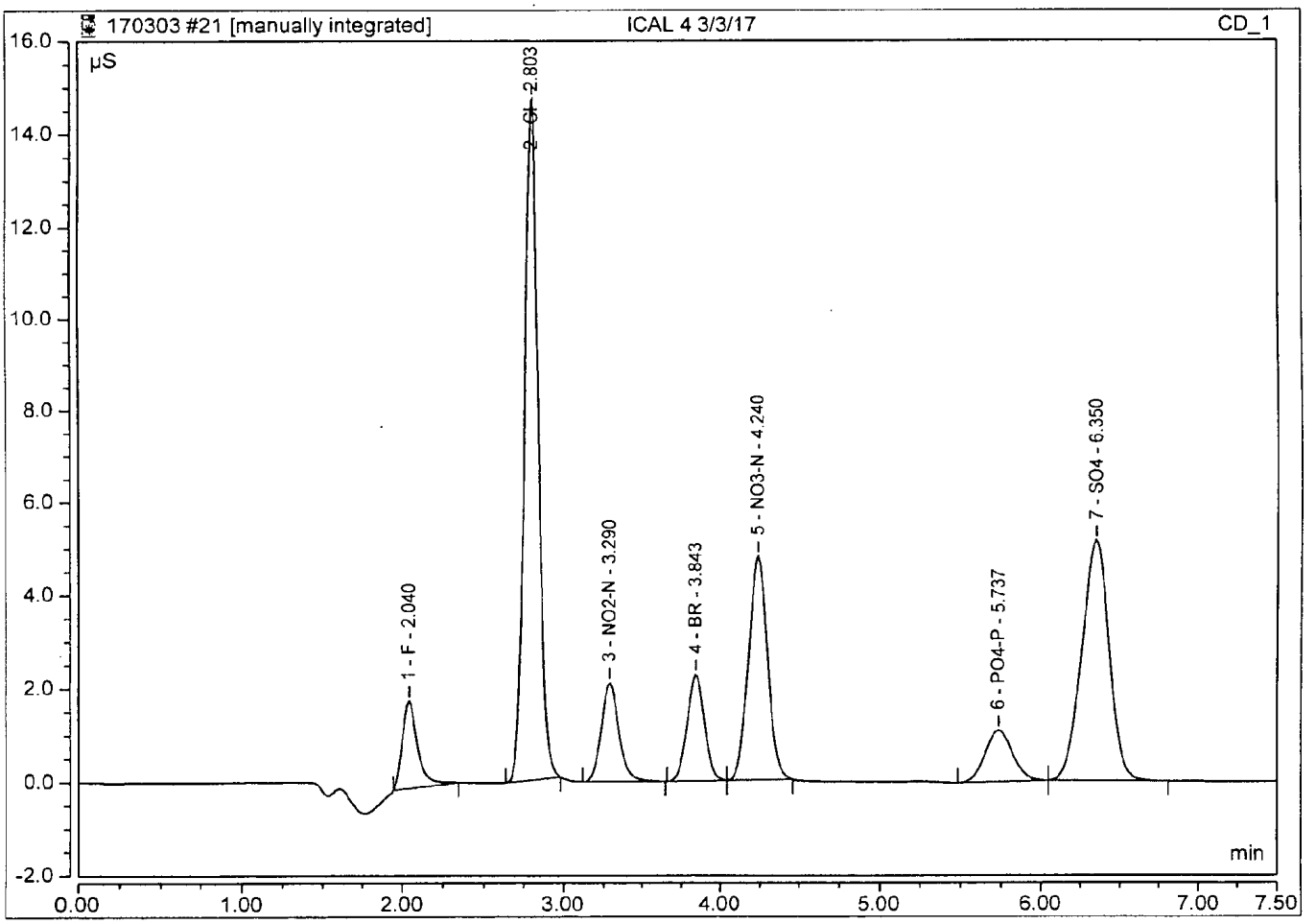
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	**F**	BMB*	0.075	0.816	0.4160
2	2.73	**Cl**	BMB	0.644	6.468	4.5572
3	3.21	**NO2-N**	BMB	0.130	1.007	0.4766
4	3.75	**BR**	BMB	0.138	1.078	2.3810
5	4.14	**NO3-N**	BMB	0.310	2.224	0.9380
6	5.60	**PO4-P**	BMB	0.096	0.487	0.9084
7	6.18	**SO4**	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

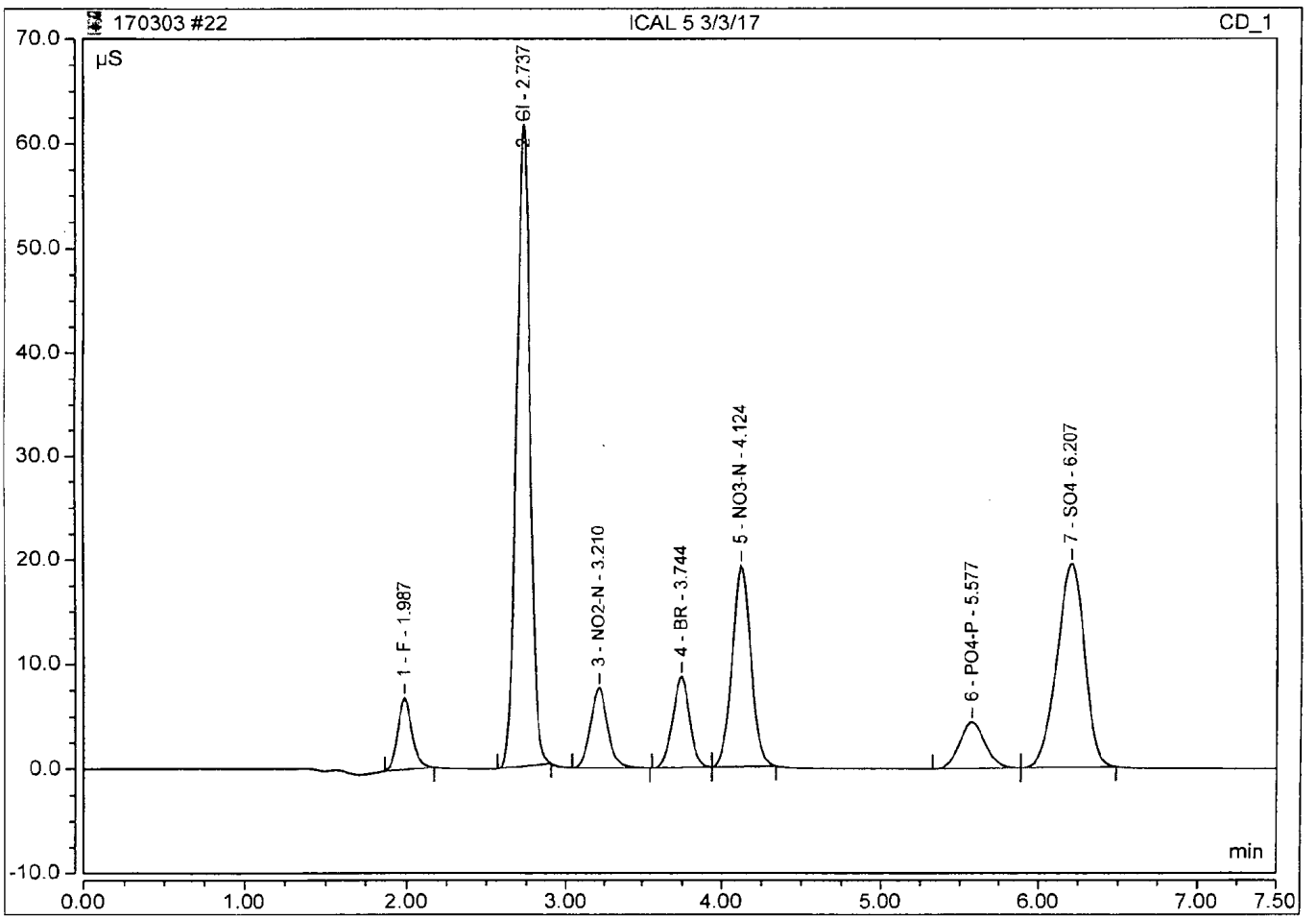
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

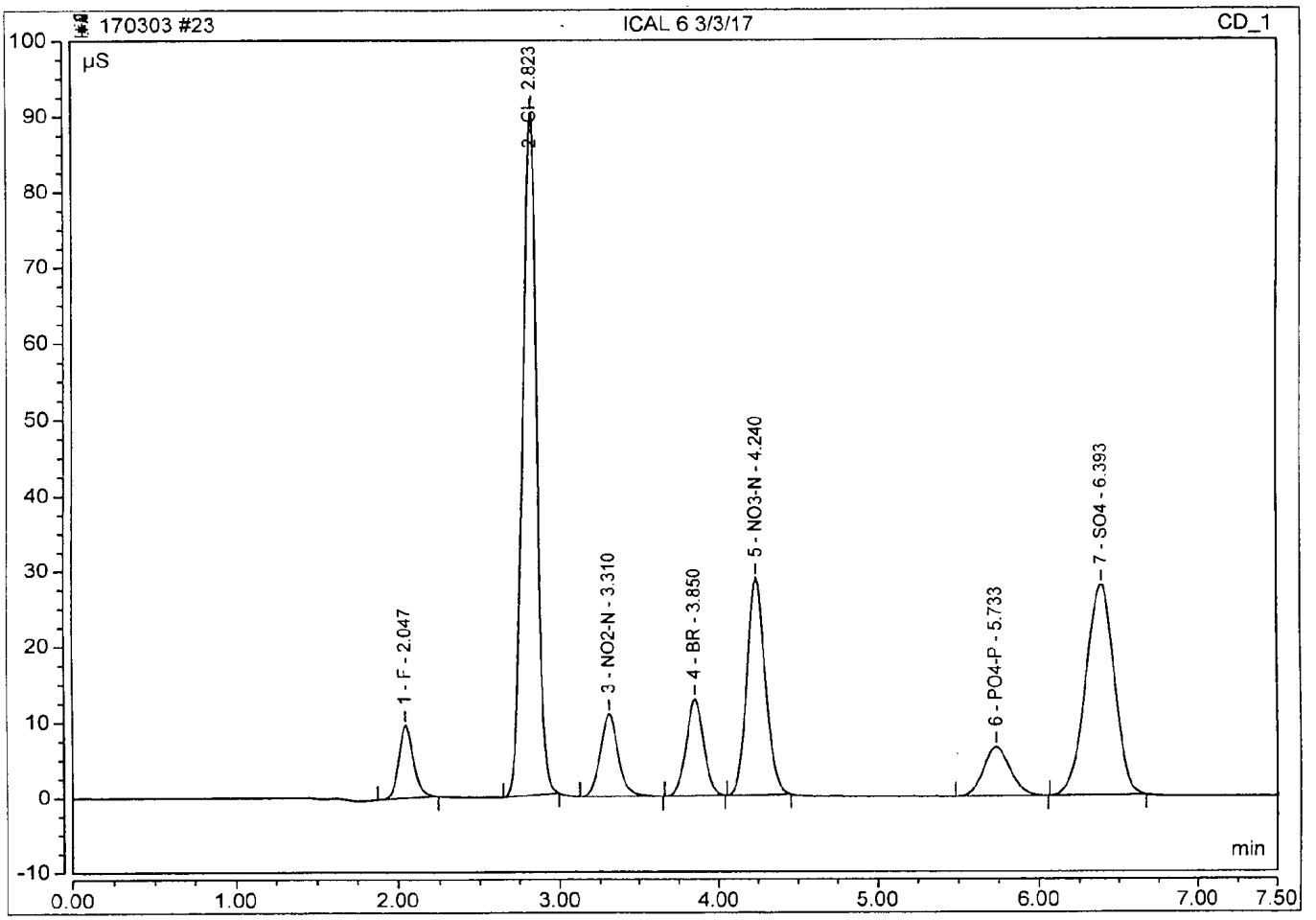
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

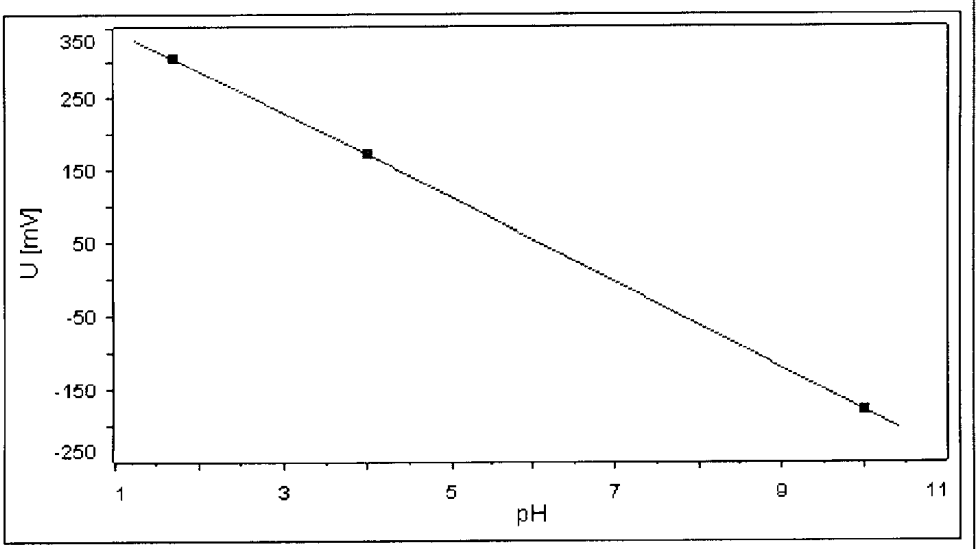


Tiamo Calibration Curve
03/13/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	307.5	22.2	44
Buffer 2:	4.000	172.0	21.7	20
Buffer 3:	10.000	-180.0	21.7	20

Slope:	100.1	%
pH	6.930	
Variance:	0.3	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY	2.1	2.0	1.70	0.85	mg/L	03/13/17	03/13/17	#232W-170313A-AZ51132
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	03/14/17	03/14/17	¥300WD-170314A2-AZ51533
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	03/14/17	03/14/17	¥300WD-170314A2-AZ51533
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	03/10/17	03/10/17	#35FE-170310A-AZ51535

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.84	94.7	80-120	03/10/17	03/10/17	#35FE-170310A-AZ51535

Comments:

Printed: 03/17/17 5:11:42 PM
APPL Standard LCS

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.3	91.5	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	NITRATE	22.1	21.4	96.8	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	03/10/17	03/10/17	#300W-170310A1-AZ51530
SM 2320B	BICARBONATE AS CACO3	250	241	96.4	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132
SM 2320B	TOTAL ALKALINITY AS CACO3	250	251	100	90-110	03/13/17	03/13/17	#232W-170313A-AZ51132

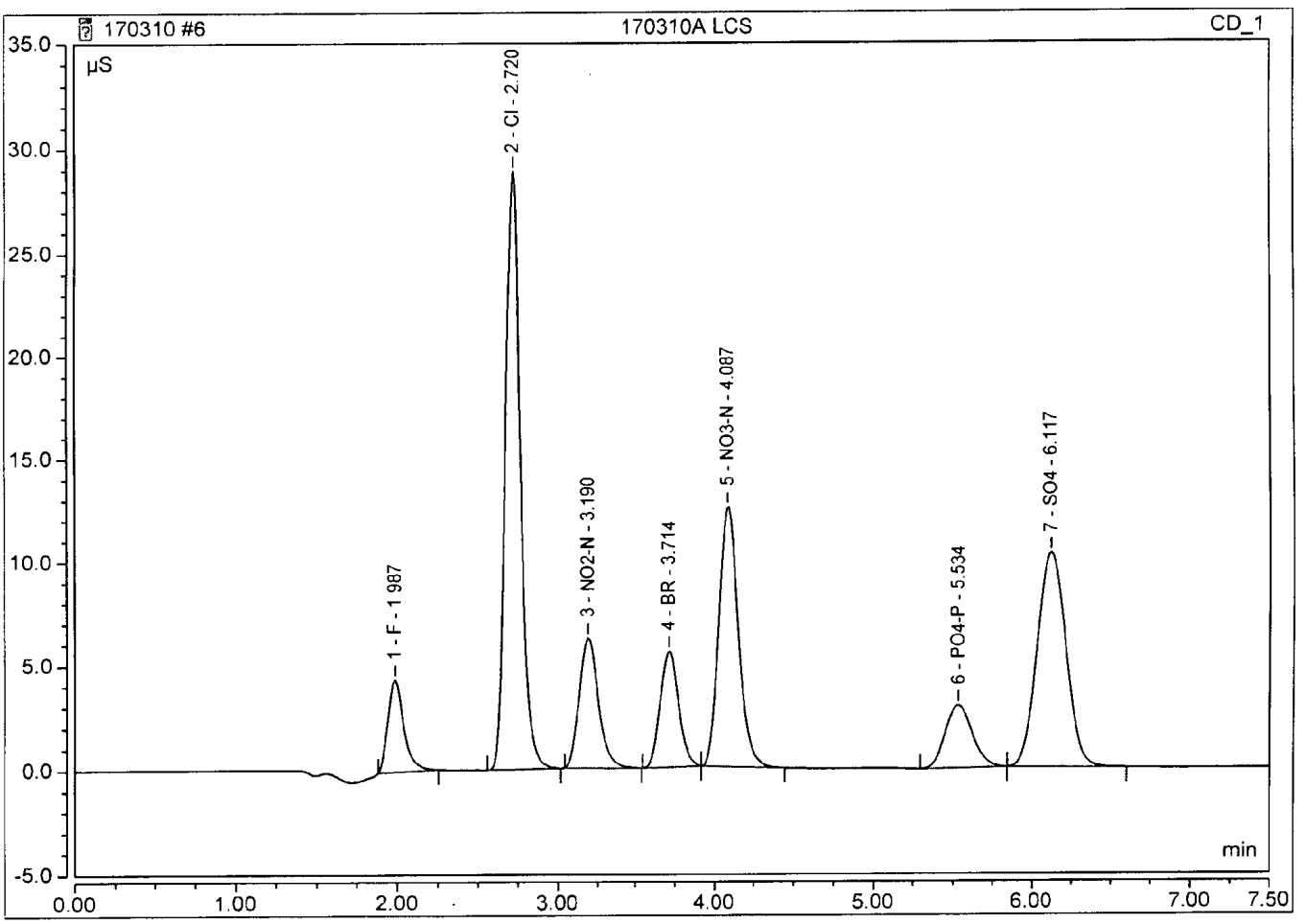
Comments: _____

Printed: 03/17/17 5:11:42 PM
APPL Standard LCS

Peak Integration Report

Sample Name:	**170310A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Mar-2017 / 13:20**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.499	4.426	2.5146
2	2.72	Cl	BMB	3.117	28.892	18.2760
3	3.19	NO2-N	BMB	0.869	6.229	2.9941
4	3.71	BR	BMB	0.738	5.547	11.7969
5	4.09	NO3-N	BMB	1.800	12.503	4.8234
6	5.53	PO4-P	BMB	0.585	2.981	4.8400
7	6.12	SO4	BMB	2.168	10.294	19.2480
		TOTAL:		9.78	70.87	64.49



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

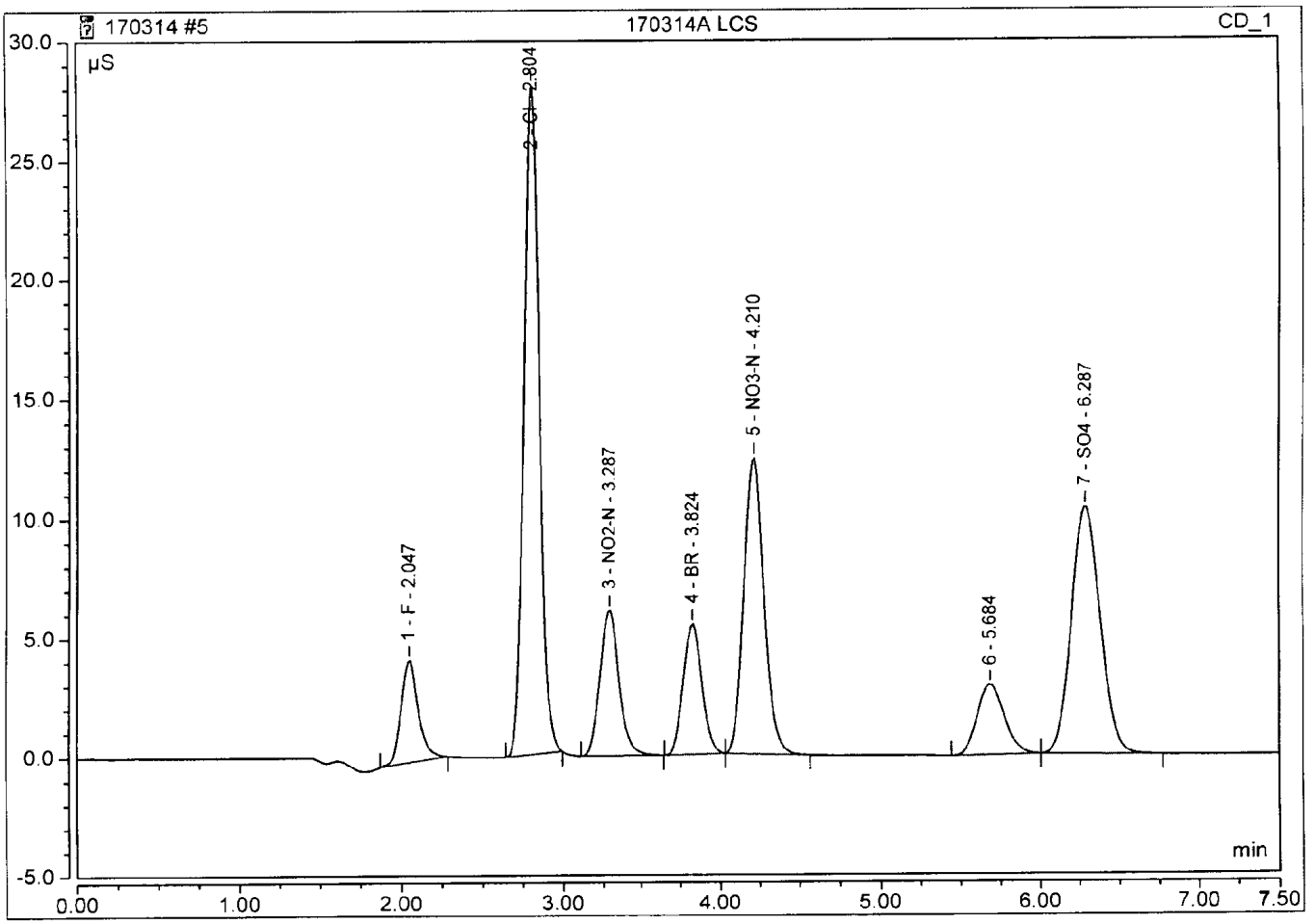
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.1	90.5	90-110	03/14/17	03/14/17	#300WD-170314A2-AZ51533
EPA 300.0	SULFATE	20.0	19.3	96.5	90-110	03/14/17	03/14/17	#300WD-170314A2-AZ51533

Comments: _____

Peak Integration Report

Sample Name:	**170314A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**14-Mar-2017 / 09:49**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.525	4.327	2.6452
2	2.80	Cl	BMB	3.080	28.058	18.0703
3	3.29	NO2-N	BMB	0.877	6.129	3.0192
4	3.82	BR	BMB	0.746	5.498	11.9270
5	4.21	NO3-N	BMB	1.811	12.396	4.8504
7	6.29	SO4	BMB	2.171	10.345	19.2758
TOTAL:				9.21	66.75	59.79



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170310A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (2/8/17)
BUFFER (2/7/17)

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%
05/20/16	12:37	0 BB 5/20/16	1	0.000						
05/20/16	12:38	1	1	0.101						
05/20/16	12:39	2	1	0.201						
05/20/16	12:39	4	1	0.403						
05/20/16	12:40	5	1	0.512						
05/20/16	12:40	10	1	0.999						
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02		
03/10/17	17:33	CCV 4.0 170310	1	0.379	25mL		3.76	3.763	4.000	*94.08*
03/10/17	17:35	CCB 170310	1	0.001	25mL		-0.01	-0.013		
03/10/17	17:37	170310A LCS	1	0.287	25mL		2.84	2.844	3.000	*94.80*
03/10/17	17:38	170310A LCSD	1	0.287	25mL		2.84	2.844	3.000	*94.80*
03/10/17	17:41	AZ51488W04	1	0.018	25mL		0.16	0.157		
03/10/17	17:42	AZ51489W04	1	0.016	25mL		0.14	0.137		
03/10/17	17:45	AZ51490W04	1	0.028	25mL		0.26	0.257		
03/10/17	17:46	AZ51491W04	1	0.013	25mL		0.11	0.107		
03/10/17	17:48	AZ51495W04	1	0.414	25mL		4.11	4.113		
03/10/17	17:51	AZ51496W04	1	0.391	25mL		3.88	3.883		
03/10/17	17:52	AZ51497W04	1	0.125	25mL		1.23	1.226		
03/10/17	17:55	AZ51530W08	1	0.054	25mL		0.52	0.516		
03/10/17	17:57	AZ51533W08	1	0.011	25mL		0.09	0.087		
03/10/17	17:59	AZ51535W08	1	0.012	25mL		0.10	0.097		
03/10/17	18:00	AZ51535W08 MS	1	0.293	25mL		2.90	2.904	3.00	*96.80*
03/10/17	18:03	AZ51535W08 MSD	1	0.305	25mL		3.02	3.024	3.000	*100.80*
03/10/17	18:06	CCV 4.0 170310	1	0.376	25mL		3.73	3.733	4.00	*93.33*
03/10/17	18:08	CCB 170310	1	-0.003	25mL		-0.05	-0.053		

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ51535W07	2017-03-13 19:34:13 UTC-8	Alkalinity	0.000	3.940	0.00	0.00	165.48	165.48	mg/L	25 mL	0.0210	170313A	AH
AZ51533W07	2017-03-13 19:27:51 UTC-8	Alkalinity	0.000	2.458	0.00	0.00	103.24	103.24	mg/L	25 mL	0.0210	170313A	AH
AZ51530W07	2017-03-13 19:21:44 UTC-8	Alkalinity	0.000	2.206	0.00	0.00	92.65	92.65	mg/L	25 mL	0.0210	170313A	AH
170313A LCS	2017-03-13 16:03:52 UTC-8	Alkalinity	0.126	5.982	0.00	10.58	240.66	251.24	mg/L	25 mL	0.0210	170313A	AH
170313A Blk	2017-03-13 15:47:25 UTC-8	Alkalinity	0.000	0.050	0.00	0.00	2.10	2.10	mg/L	25 mL	0.0210	170313A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 03/10/17
Exp Date: 03/11/17
Prep'd By: PW

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

PW 03/03/17

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50
Brought up with milipore water to Final Volume of:						25

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
			Final Conc F (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Cl (mg/L):	0.4	1	5	10	35	50
			Final Conc NO2-N (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Br (mg/L):	0.2	0.5	2.5	5	17.5	25
			Final Conc NO3-N (mg/L):	0.08	0.2	1	2	7	10
			Final Conc PO4-P (mg/L):	0.08	0.2	1	2	7	10
			Final Conc SO4 (mg/L):	0.4	1	5	10	35	50

Anion Prep

QCG: 170310A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170314A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1N H_2SO_4 (prep 1/6/17)
Final vol 1L w/ DI water
Prep 3/8/17
Exp 1/6/18
AH 3/14/17

Inorganic Spiking Solution

7.0001g NaHCO3 BDH lot#1575C510
Final vol 1L w/DI water
Prep: 12/28/16
Exp: 05/28/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	10 Mar 2017	17:33	CCV 4.0 170310		170310A	1.
2	10 Mar 2017	17:35	CCB 170310		170310A	1.
3	10 Mar 2017	17:37	170310A LCS		170310A	1.
12	10 Mar 2017	17:55	AZ51530W08		170310A	1.
13	10 Mar 2017	17:57	AZ51533W08		170310A	1.
14	10 Mar 2017	17:59	AZ51535W08		170310A	1.
17	10 Mar 2017	18:06	CCV 4.0 170310		170310A	1.
18	10 Mar 2017	18:08	CCB 170310		170310A	1.
19	20 May 2016	12:37	0 BB 5/20/16		170310A	1.
20	20 May 2016	12:38	1		170310A	1.
21	20 May 2016	12:39	2		170310A	1.
22	20 May 2016	12:39	4		170310A	1.
23	20 May 2016	12:40	10		170310A	1.
24	20 May 2016	12:40	5		170310A	1.
25	20 May 2016	12:41	160520A ICV 3.0		170310A	1.
26	20 May 2016	12:42	160520A ICB		170310A	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	10 Mar 2017	12:39	CCV 170310		170310	1.
4	10 Mar 2017	12:53	CCB		170310	1.
5	10 Mar 2017	13:06	AZ51530W07		170310	1.
6	10 Mar 2017	13:20	170310A LCS		170310	1.
9	10 Mar 2017	14:01	AZ51533W07		170310	1.
10	10 Mar 2017	14:14	AZ51535W07 DF5		170310	5.
13	10 Mar 2017	19:00	CCV 170310		170310	1.
14	10 Mar 2017	19:13	CCB		170310	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
3	14 Mar 2017	09:21	CCV 170314		170314	1.
4	14 Mar 2017	09:35	CCB		170314	1.
5	14 Mar 2017	09:49	170314A LCS		170314	1.
14	14 Mar 2017	13:42	AZ51535W07 DF50		170314	50.
15	14 Mar 2017	13:56	AZ51533W07 DF5		170314	5.
19	14 Mar 2017	15:06	CCV 170314		170314	1.
20	14 Mar 2017	15:20	CCB		170314	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Mar 2017	15:47	170313A Blk		170313A_AL	1.
2	13 Mar 2017	16:03	170313A LCS		170313A_AL	1.
18	13 Mar 2017	19:21	AZ51530W07		170313A_AL	1.
19	13 Mar 2017	19:27	AZ51533W07		170313A_AL	1.
20	13 Mar 2017	19:34	AZ51535W07		170313A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

April 26, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82577

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Eight water samples were received April 4, 2017. Written results for the requested analyses are being provided on this April 26, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 746

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82577

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	9
Method 8015B TPH-E	21
QC Summary	22
Sample Data	28
Calibration Data	44
Raw Data	85
Method 8270D SIM	117
QC Summary	118
Sample Data	129
Calibration Data	145
Raw Data	172
Method 8270D SVOCs	195
QC Summary	196
Sample Data	210
Calibration Data	226
Raw Data	286

Method 8270D SVOCs (MEE) 317
QC Summary 318
Sample Data 327
Calibration Data 343
Raw Data 367
Method 8260B VOCs 392
QC Summary 393
Sample Data 403
Calibration Data 428
Raw Data 485
Method 8260B Gasoline 506
QC Summary 507
Sample Data 513
Calibration Data 546
Raw Data 595
Method RSK-175 Methane 614
QC Summary 615
Sample Data 620
Calibration Data 633
Raw Data 667
Inorganic Analyses 681
QC Summary 682
Sample Data 686
Calibration Data 693
Raw Data 725

CASE NARRATIVE

Case Narrative

ARF: 82577

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Eight water samples were received April 4, 2017, at 2.0°C, 3.0°C, 3.0°C, 3.5°C, 3.5°C, 4.0°C, and 4.5°C. The sample group was assigned Analytical Request Form (ARF) number 82577. The following discrepancies were noted and reported to the client: samples ERH290, ERH294, and ERH287 were listed on the label as a Trip Blank for EPA method 8011, but this method was not listed on the COC. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

APPL SOP ANA2MEE: Manual integrations were performed in accordance with APPL's SOP. 2-(2-Methoxyethoxy)ethanol was manually integrated in the MS and MSD. Chromatograms of before and after manual integration are included.

RSK-175: In the MS/MSD, Methane recovered above the 125% upper control limit. Corrective action: the client was notified.

Inorganic Analyses: The samples were received more than 24 hours after collection; they were analyzed for ferrous iron as soon as possible.

In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the samples exceeds the blank concentration by ten-fold or more.

tblCOC_APPLCaseNarrative

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82577	04/04/17	ERH290	AZ53058	04/03/17	09:45 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH290	AZ53058	04/03/17	09:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH290	AZ53058	04/03/17	09:45 AM	WATER	RSK 175	METHANE BY RSK 175
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	8270D-SIM	EPA 8270D SIM
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	EPA 8270D	EPA 8270D WATER
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	RSK 175	METHANE BY RSK 175
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	SM 2320B	Wetlab 2320B - Water
82577	04/04/17	ERH292	AZ53059	04/03/17	10:00 AM	WATER	SM3500FeB	Ferrous Iron
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	8270D-SIM	EPA 8270D SIM
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82577	04/04/17	ERH293	AZ53060	04/03/17	10:00 AM	WATER	EPA 8270D	EPA 8270D WATER
82577	04/04/17	ERH294	AZ53061	04/03/17	09:55 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH294	AZ53061	04/03/17	09:55 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH294	AZ53061	04/03/17	09:55 AM	WATER	RSK 175	METHANE BY RSK 175
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	8270D-SIM	EPA 8270D SIM
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	EPA 8270D	EPA 8270D WATER
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	RSK 175	METHANE BY RSK 175
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	SM 2320B	Wetlab 2320B - Water
82577	04/04/17	ERH295	AZ53062	04/03/17	10:05 AM	WATER	SM3500FeB	Ferrous Iron
82577	04/04/17	ERH287	AZ53063	04/03/17	08:10 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH287	AZ53063	04/03/17	08:10 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	8270D-SIM	EPA 8270D SIM
82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	EPA 8260B	EPA 8260B GRO WATER

82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82577	04/04/17	ERH288	AZ53064	04/03/17	08:30 AM	WATER	EPA 8270D	EPA 8270D WATER
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	8270D-SIM	EPA 8270D SIM
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82577	04/04/17	ERH316	AZ53065	04/03/17	09:25 AM	WATER	EPA 8270D	EPA 8270D WATER

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82577

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 040317
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 04/04/17 Time: 10:30
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 2,2X3.0,2X3.5,4,5°C
Color: VOA/J-PURBLK
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 04/11/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 5-$87DC53W5, 5-$87DMEEW5, 5-$DOC53W5, 5-$SIMDOD5W
Extractions: 5-_MWE2MEE, 5-_SEP004, 5-_SEP004S, 5-_SEP011LL
VOA: 8-$86BTOTXDOD5W, 8-$GASBL, 8-$GRO86BW, 4-$RSKMETH
Wetlab: 2-$232W(HCO3,CO3,ALK), 2-$300W(NO3,CL,SO4), 2-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

Client ID	APPL ID	Sampled	Analyses Requested
1. ERH290	AZ53058W	04/03/17 09:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
2. ERH292	AZ53059W ms/msd	04/03/17 10:00	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb; no RSK & WL MS/MSD

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH293	AZ53060W	04/03/17 10:00	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
4.	ERH294	AZ53061W	04/03/17 09:55	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
5.	ERH295	AZ53062W	04/03/17 10:05	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
6.	ERH287	AZ53063W	04/03/17 08:10	$86BTOTXDOD5W, $GASBL, $GRO86BW
7.	ERH288	AZ53064W	04/03/17 08:30	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
8.	ERH316	AZ53065W	04/03/17 09:25	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# 82577

Sample	Container Type	Count	pH
AZ53058	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53059	3 PL 250mL	1	NA
	13 VOAs - HCL	14	NA
	17 Amber Liter	19	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53060	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ53061	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53062	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53063	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53064	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ53065	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	pH

213.0, 213.5, 82577
4.0, 5.0, 2.0

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM
Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Fax:
Attn: Margie Thach
Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM
Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Fax:
Attn: Mary Basano
Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TQ, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT for TQ, AM, FK, RJ

Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8260B/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH 290	Trip Blank	4/3/17	0945	HST	5	✓				X								X				
~~ERH 291~~	~~Ambient Blank~~			HST	5	X				X*												~~*BTEX only~~ KS 4/3/17
ERH 292	RHMW2254-01	4/3/17	1000	HST	18	X				X			X		X	X	X	X	X	X	X	MS/MSD; see other coolers
ERH 293	RHMW2254-01	4/3/17	1000	HST	4	X				X												see other cooler for other bottles

KS

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaua Shillin	4/3/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4-4-17	10:32	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

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Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT for TR, AM, FK, RJ
Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Analysis Requested/Method Number
ERH292	RHMW22[illegible]-01	4/3/17	1000	HST	8	✓							X		X	X	X					MS/MSD see other coolers for other bottles

Shuttle Temperature:
Turnaround Requested: Check one ☐ Standard 2-3 wk ☐ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Karla Shiigi AECOM	4/3/17	1400					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4-4-17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
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Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT [signature] for TR, AM, FK, RJ

Date Shipped:
Carrier: FedEx
Tracking No.: 4/3/17
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alk/Toty (total, bicarb, carb)	Date Shipped
ERH292	RHMW2291-01	4/3/17	1000	HST	8	✓							X		X	X	X					MS/MSD
																						see other coolers for other labs

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	4/3/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4.4.17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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C.O.C.

PLEASE PRINT

Report to:
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Margie Thach
Phone: 808-356-5373
Fax:
Email: margie.thach@aecom.com

Invoice to:
Company Name: AECOM
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Attn: Mary Basano
Phone: 808-356-7249
Fax:
Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TR, AM, FK, RJ
Sampler (Signature): MT for TR, AM, FK, RJ
Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8280C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	6A23128 Alkalinity (tech, bicarb, carb)	
ERH293	RHMW2254-01	4/3/17	1000	HST	6	✓							X		X	X	X					See other cooler for VOAs

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☒ Disposal by Lab (30-day retention)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Paola Shiigi AECOM	4/3/17	1400					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4-4-17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
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Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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Report to: PLEASE PRINT
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Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT for CB, MH, GM

Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 294	Trip Blank	4/3/17	~~1005~~ 0155	HST	~~5~~ 6	✓				X								X			
ERH 295	RAMW 04	4/3/17	1005	HST	14	X				X			X		X	X	X	X	X	X	X

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	4/3/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4-4-17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
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Clovis, CA 93611

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Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, AM, FK, CB, MH, GM, RJ
Sampler (Signature): MT for TQ, AM, FK, CB, MH, GM, RJ
Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH287	Trip Blank	4/3/17	0810	HST	~~5~~ 6	✓ KB 4/3/17				X			X									
ERH288	Equip Blank	4/3/17	0830	HST	10	X				X			X		X	X	X					
~~ERH289~~	~~Equip Blank~~			~~HST~~	~~4~~	~~X~~				~~X~~			~~X~~		~~X~~	~~X~~	~~X~~	BG 4/3/17	ES 4/3/17			~~see other water for other tests~~
ERH316	Field Blank	4/3/17	0925	HST	4	X				X												
	ES																					

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Falla Shiigi AECOM	4/3/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					10:30	4.4A	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
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Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT for CB, MH, GM

Date Shipped: 4/3/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/ow SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	
EKH316	Field Blank	4/3/17	0925	MST	6	✓							X		X	X	X					
~~EKH317~~ MT 3/4/17																						

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Carla Shirai AECOM	4/3/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received ~~at lab~~ by:**
					4/4/17	10:30	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82577**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 04/04/17

2) Coolers: Number of Coolers: 7

3) YES Were custody seals present and intact?
How many? 14 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: YC 4/5/17 X bubble wrap ___ popcorn ___ foam YC 4/5/17 X plastic bags
YC 4/5/17 X wet ice ___ dry ice ___ no ice ___ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use ~~M8~~ YC 4/5/17 M65283

8) Cooler temp(s): In °C

1: 2.0	2: 3.0	3: 3.0	4: 3.5	5: 3.5	6: 5.0
7: 4.0	8:	9:	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ53058W01-6, AZ53061W01-7,AZ53063W01-6

Preservation Hold time:

18) ~~Yes~~ Was a sufficient amount of holding time remaining to analyze the samples?

19) YC 4/5/17 ~~Yes~~ Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) YC 4/5/17 ~~Yes~~ Was the pH of acid preserved non-VOA samples < 2?

21) YC 4/5/17 NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NA Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

Unpreserved Voas were received for samples ERH2~~09~~ 90 rp 4-5-17, ERH294 and ERH28~~0~~ 7 rp 4-5-17 with the analysis requested on the label as 8011, although on the COC there is no request for this analysis

CUSTODY SEAL
AECOM (808) 523-8874
Initials KS Date 4/5/17

Personnel receiving samples: SM Second reviewer: YC
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 4/5/17
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411004
Instrument: Apollo
Sequence: 170411
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:31:59 PM

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER

SDG No: 82577
Date Analyzed: 04/11/17
Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	60-142	106		56-125	93.1	
170407A-LCS	Lab Control Spike	60-142	93.5		56-125	93.8	
AZ53059	ERH292	60-142	94.4		56-125	80.5	
AZ53059-MS	Matrix Spike	60-142	99.3		56-125	99.8	
AZ53059-MSD	Matrix SpikeD	60-142	95.8		56-125	97.8	
AZ53060	ERH293	60-142	66.2		56-125	55.8	
AZ53062	ERH295	60-142	106		56-125	88.2	
AZ53064	ERH288	60-142	117		56-125	97.3	
AZ53065	ERH316	60-142	109		56-125	94.6	

Comments: Batch: #DOC53-170407A

Printed: 04/11/17 2:31:55 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/11/17 4:10:54 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170407W-53059 MS - 217734**
Batch ID: #DOC53-170407A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	459	459	68.8	68.8	36-132	0.0	30
OIL (C24-C40)	667	ND	652	611	97.8	91.6	41-113	6.5	30
SURROGATE: OCTACOSANE (S)	40.0	NA	39.7	38.3	99.3	95.8	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	39.9	39.1	99.8	97.8	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0320.M	DOC0320.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Apollo	Apollo
Run :	411010	411011
Initials :	DPO	

Printed: 04/11/17 2:31:48 PM
APPL MSD SCII

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82577
Date Analyzed: 04/11/17
Instrument: Apollo
Time Analyzed: 1002

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	411004	04/11/17 1002
170407A-LCS	Lab Control Spike	411005	04/11/17 1023
AZ53059	ERH292	411007	04/11/17 1105
170407A-MS	Matrix Spike	411010	04/11/17 1207
170407A-MSD	Matrix SpikeD	411011	04/11/17 1228
AZ53060	ERH293	411012	04/11/17 1250
AZ53062	ERH295	411013	04/11/17 1311
AZ53064	ERH288	411014	04/11/17 1332
AZ53065	ERH316	411015	04/11/17 1353

Comments: Batch: #DOC53-170407A

Printed: 04/11/17 2:31:44 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	94.4	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	80.5	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411007
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/11/17 2:31:42 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411007.D Vial: 7
Acq On : 4-11-17 11:05:21 Operator: DP
Sample : AZ53059W28 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 14:20 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

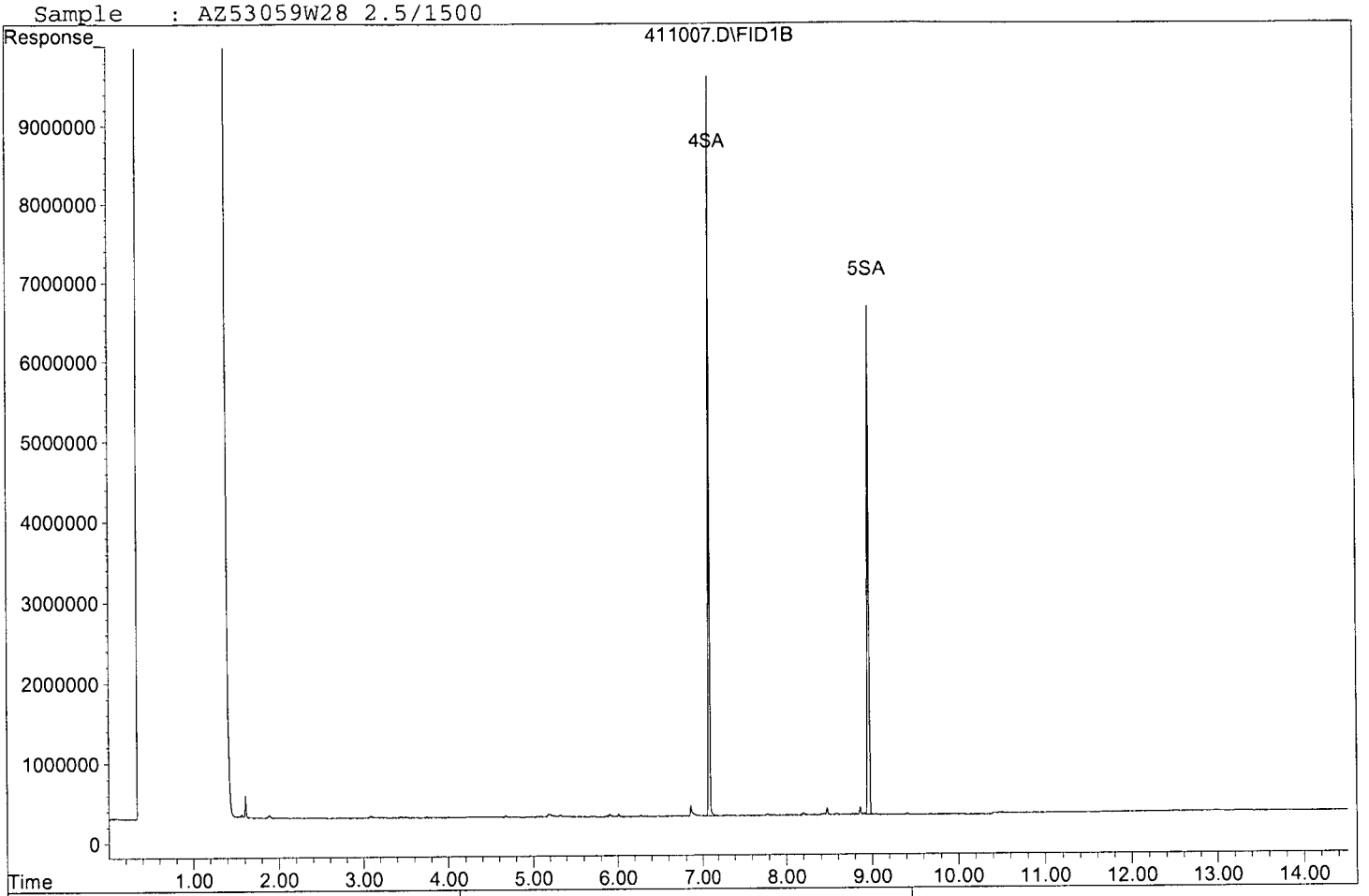
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

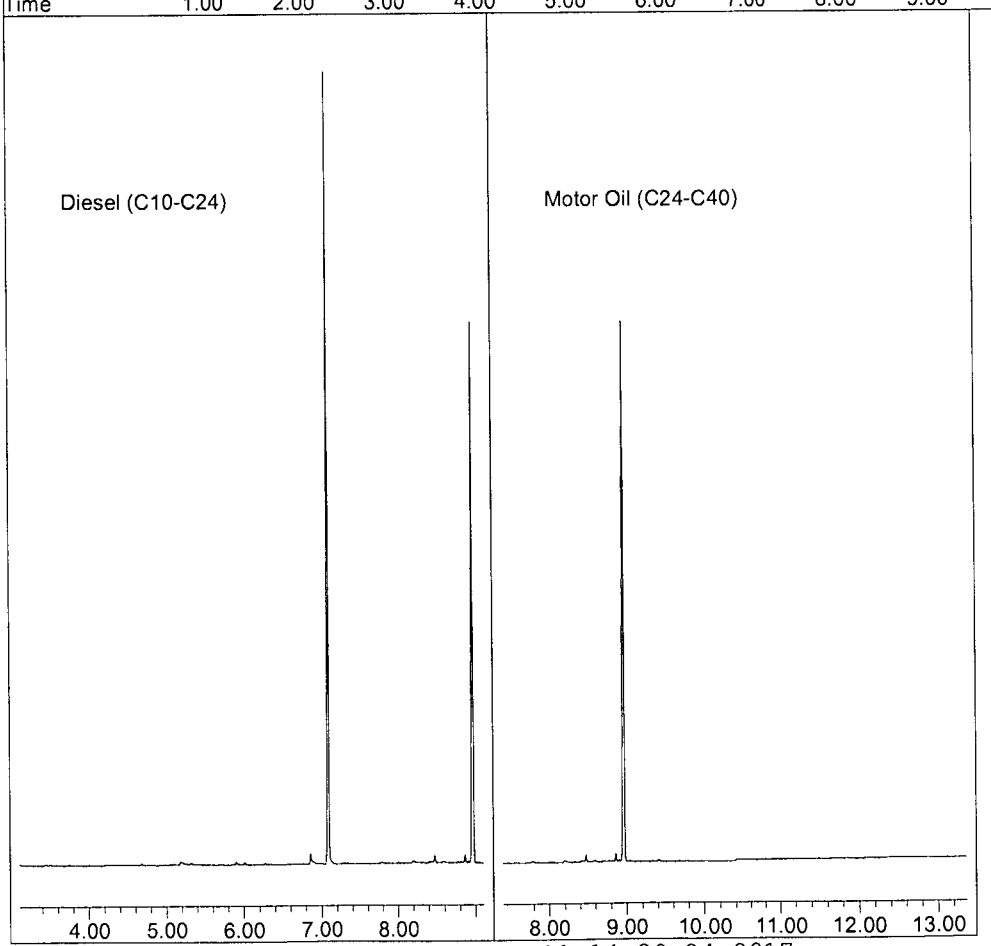
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	88532641	32.196 ppb
Surrogate Spike 40.000		Recovery =	80.49%
5) SA Octacosane(S)	8.97	78310226	37.741 ppb
Surrogate Spike 40.000		Recovery =	94.35%

Target Compounds

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411007.D
Sample : AZ53059W28 2.5/1500





411007.D DOC0320.M Tue Apr 11 14:20:24 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	66.2	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	55.8	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411012
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/11/17 2:31:42 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411012.D
Acq On : 4-11-17 12:50:05
Sample : AZ53060W05 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:22 2017 Quant Results File: DOC0320.RES

Vial: 12
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

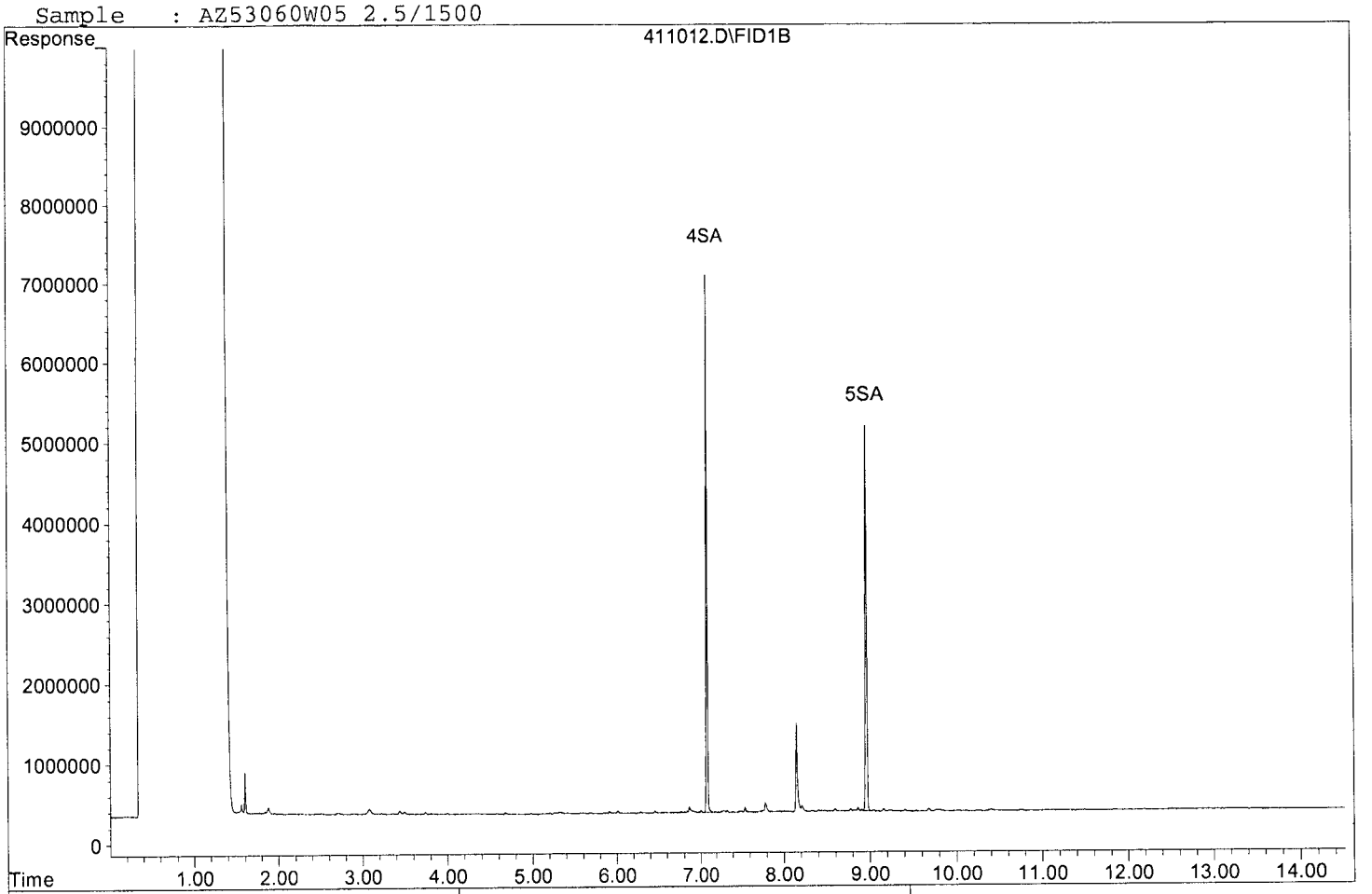
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

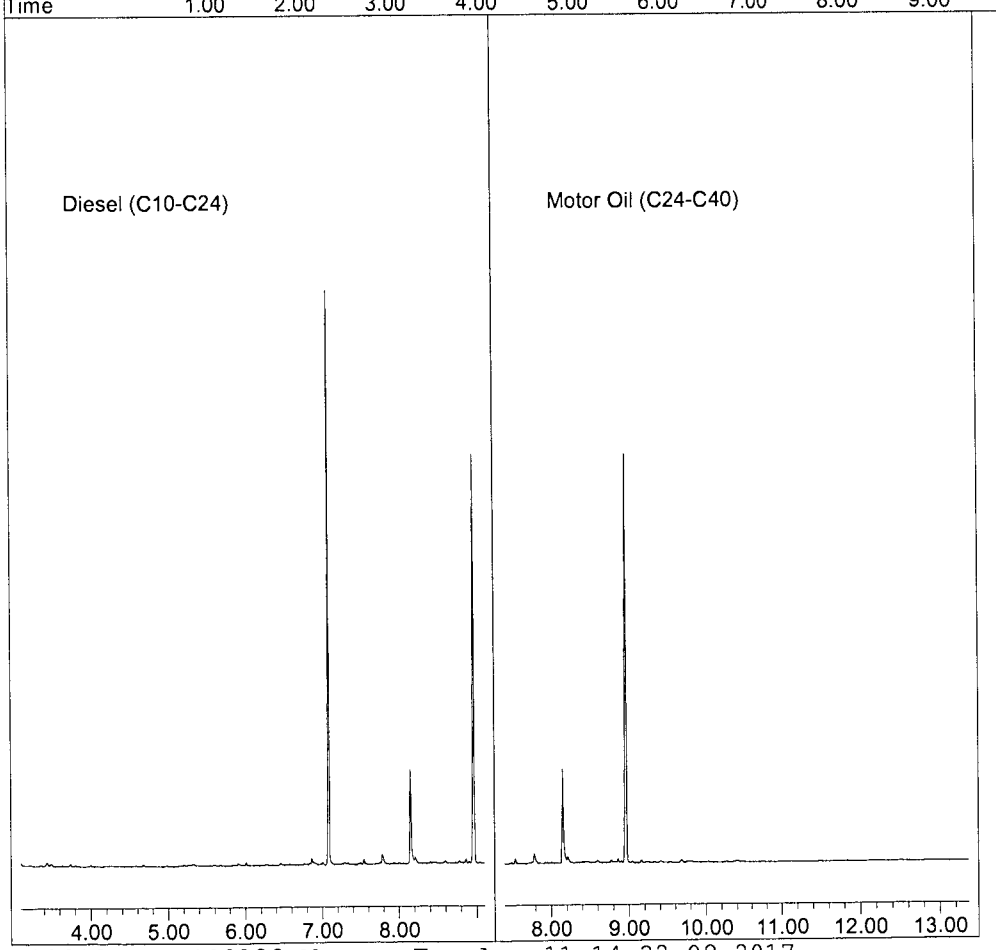
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	61323901	22.301 ppb
Surrogate Spike 40.000		Recovery =	55.75%
5) SA Octacosane(S)	8.96	54946857	26.481 ppb
Surrogate Spike 40.000		Recovery =	66.20%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411012.D
Sample : AZ53060W05 2.5/1500





411012.D DOC0320.M Tue Apr 11 14:22:08 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	88.2	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411013
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/11/17 2:31:42 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411013.D
Acq On : 4-11-17 13:11:16
Sample : AZ53062W10 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:22 2017 Quant Results File: DOC0320.RES

Vial: 13
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

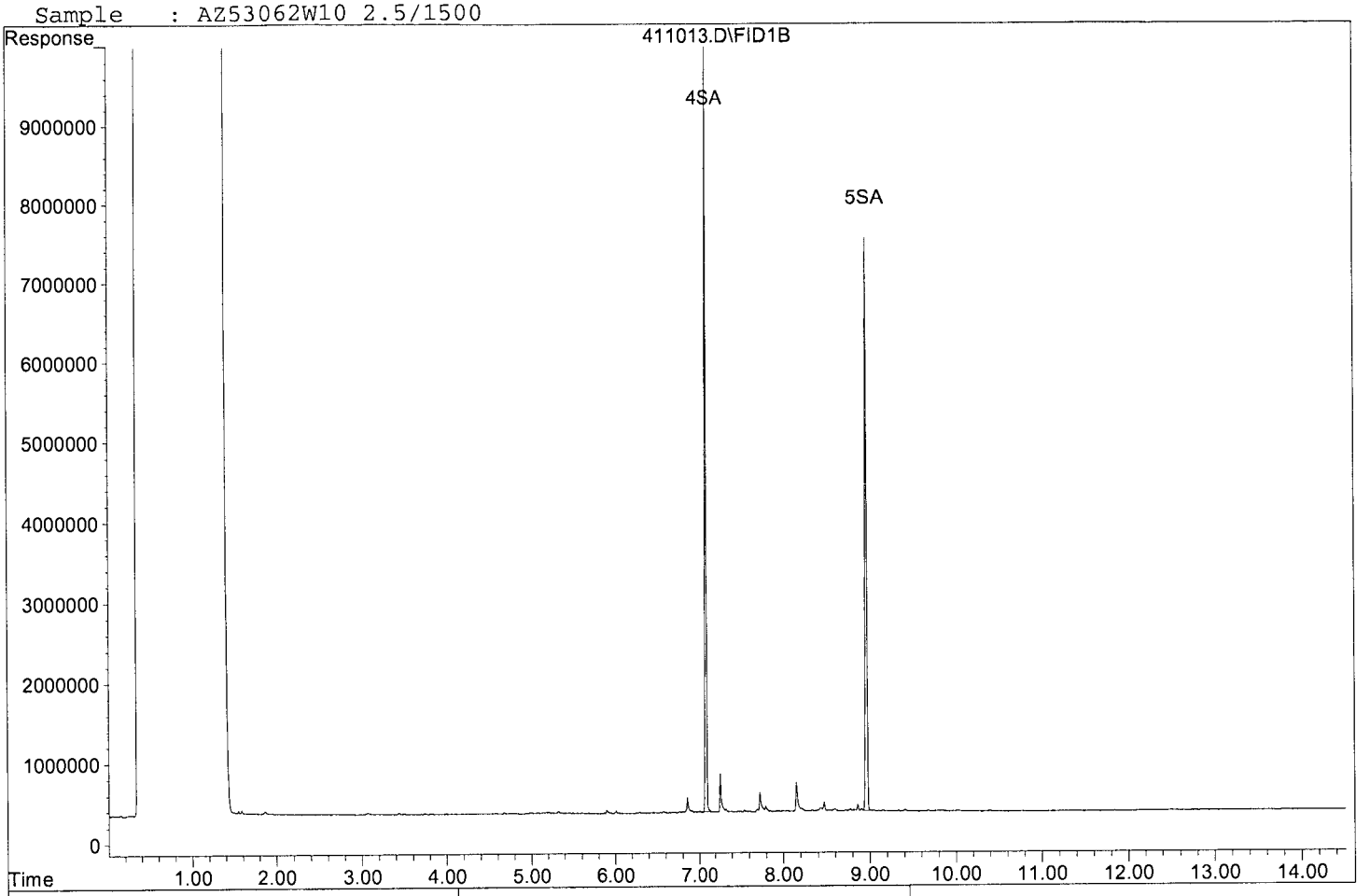
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

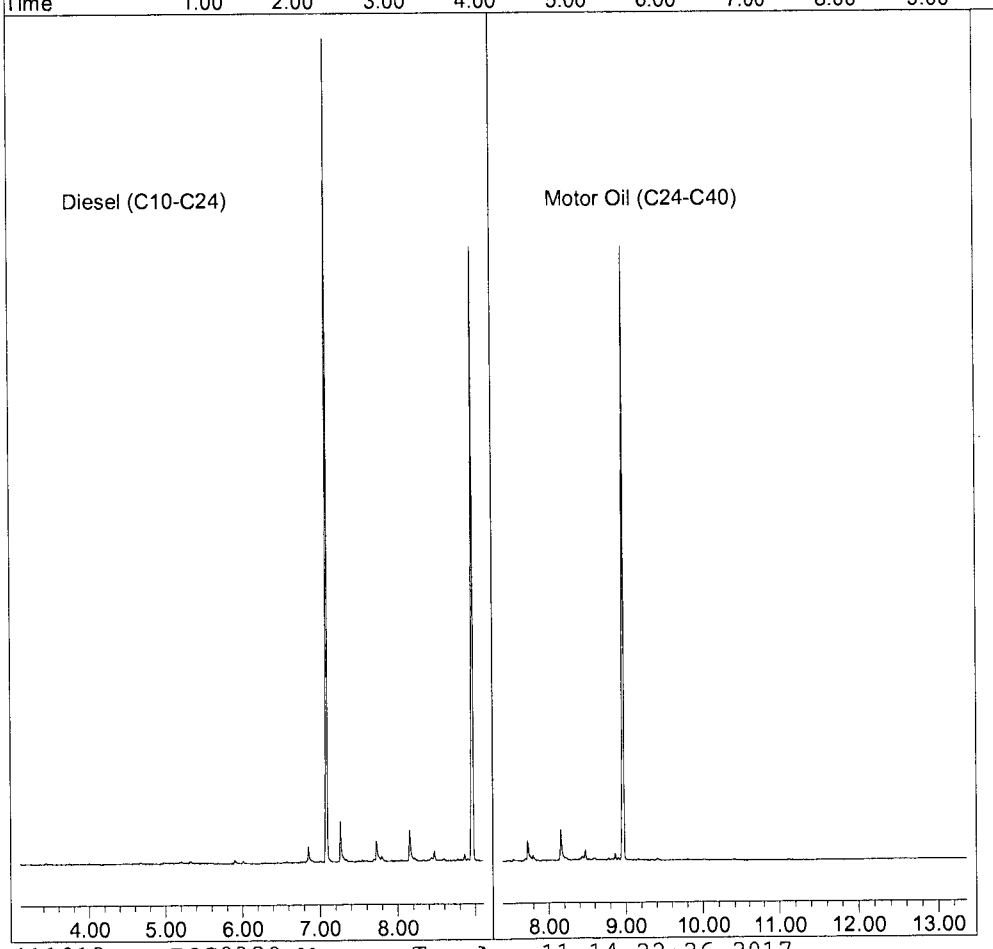
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	97058405	35.296 ppb
Surrogate Spike 40.000		Recovery =	88.24%
5) SA Octacosane(S)	8.97	88057341	42.438 ppb
Surrogate Spike 40.000		Recovery =	106.10%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411013.D
Sample : AZ53062W10 2.5/1500





411013.D DOC0320.M Tue Apr 11 14:22:26 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	117	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	97.3	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411014
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/11/17 4:16:16 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411014.D Vial: 14
Acq On : 4-11-17 13:32:02 Operator: DP
Sample : AZ53064W08 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 16:14 2017 Quant Results File: DOC0320.RES

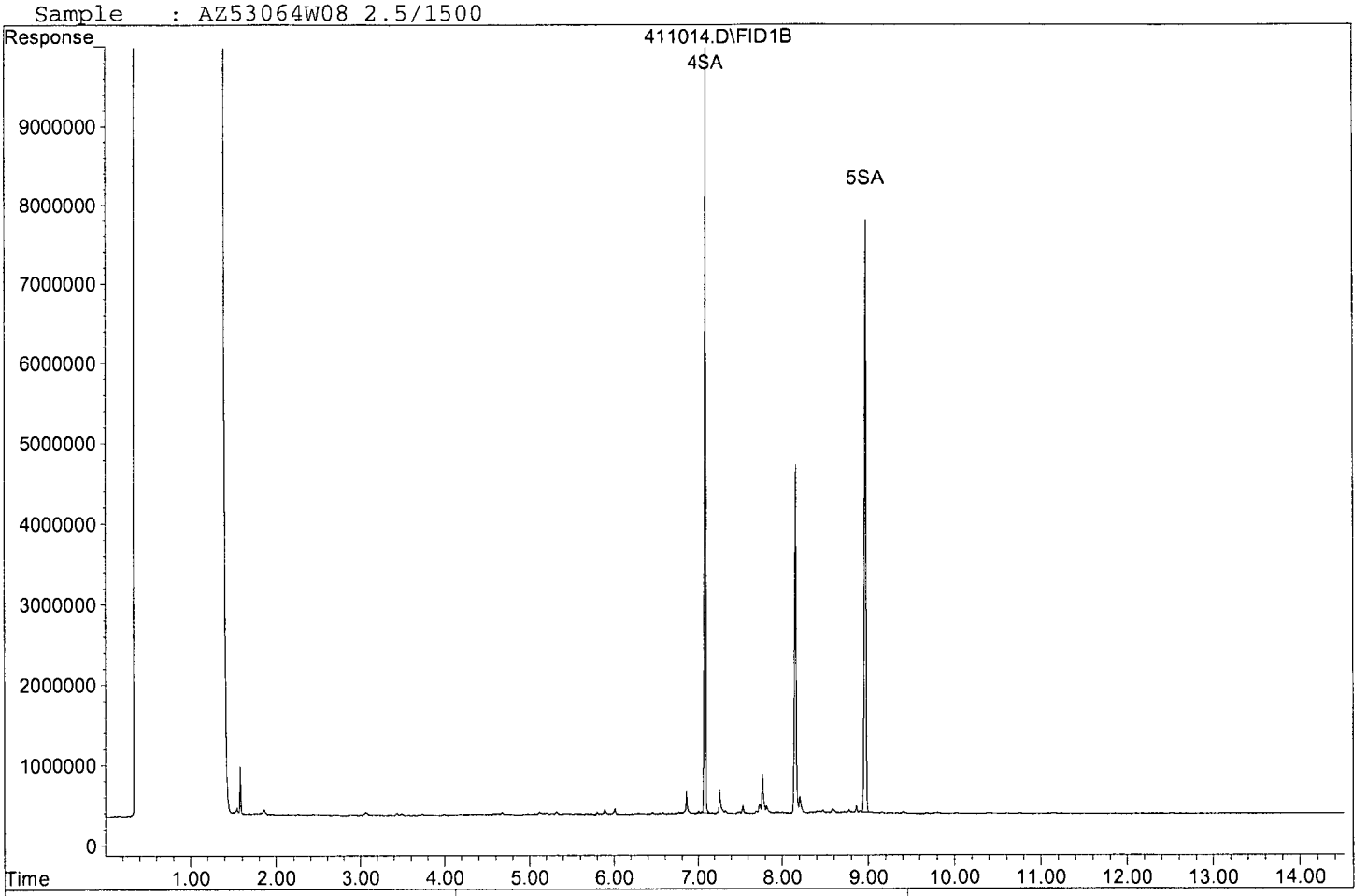
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

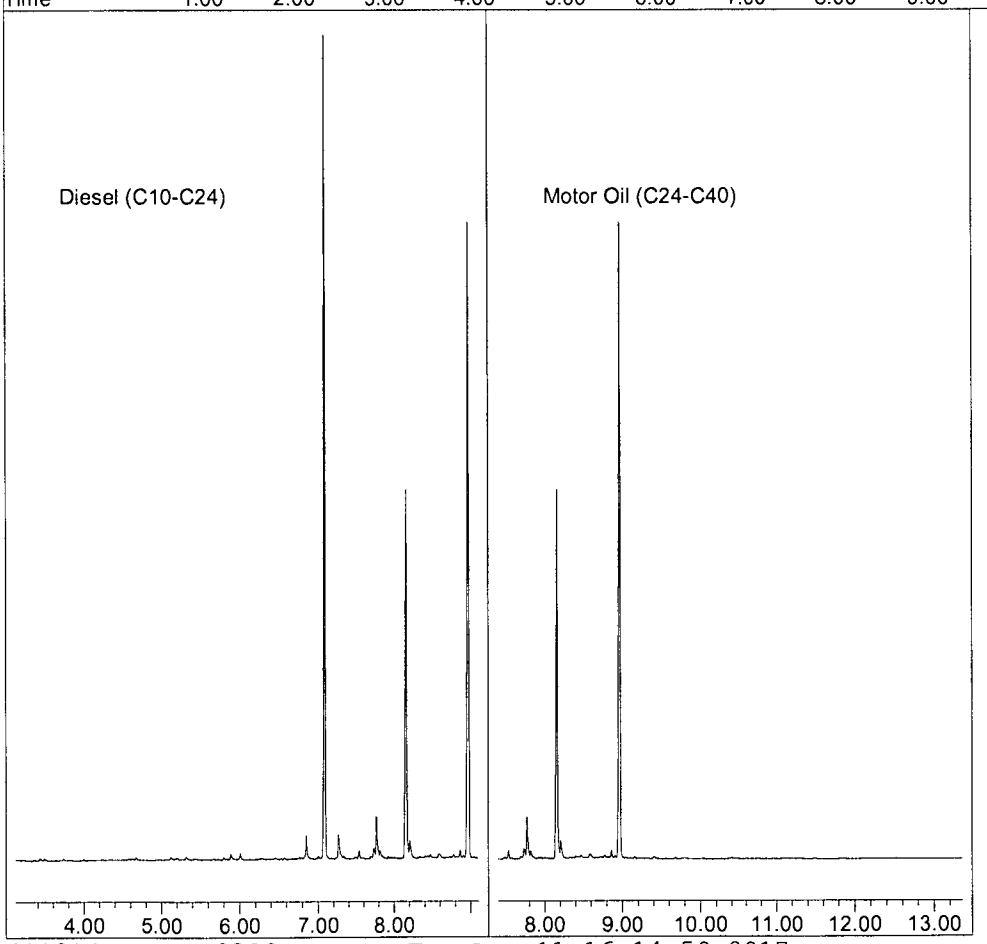
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
4) SA Ortho-Terphenyl(S)	7.09	107044802	38.928	ppb
Surrogate Spike 40.000		Recovery =	97.32%	
5) SA Octacosane(S)	8.97	96798150	46.651	ppb
Surrogate Spike 40.000		Recovery =	116.63%	
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411014.D
Sample : AZ53064W08 2.5/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	109	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	94.6	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411015
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/11/17 2:31:42 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411015.D
Acq On : 4-11-17 13:53:21
Sample : AZ53065W08 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:22 2017 Quant Results File: DOC0320.RES

Vial: 15
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

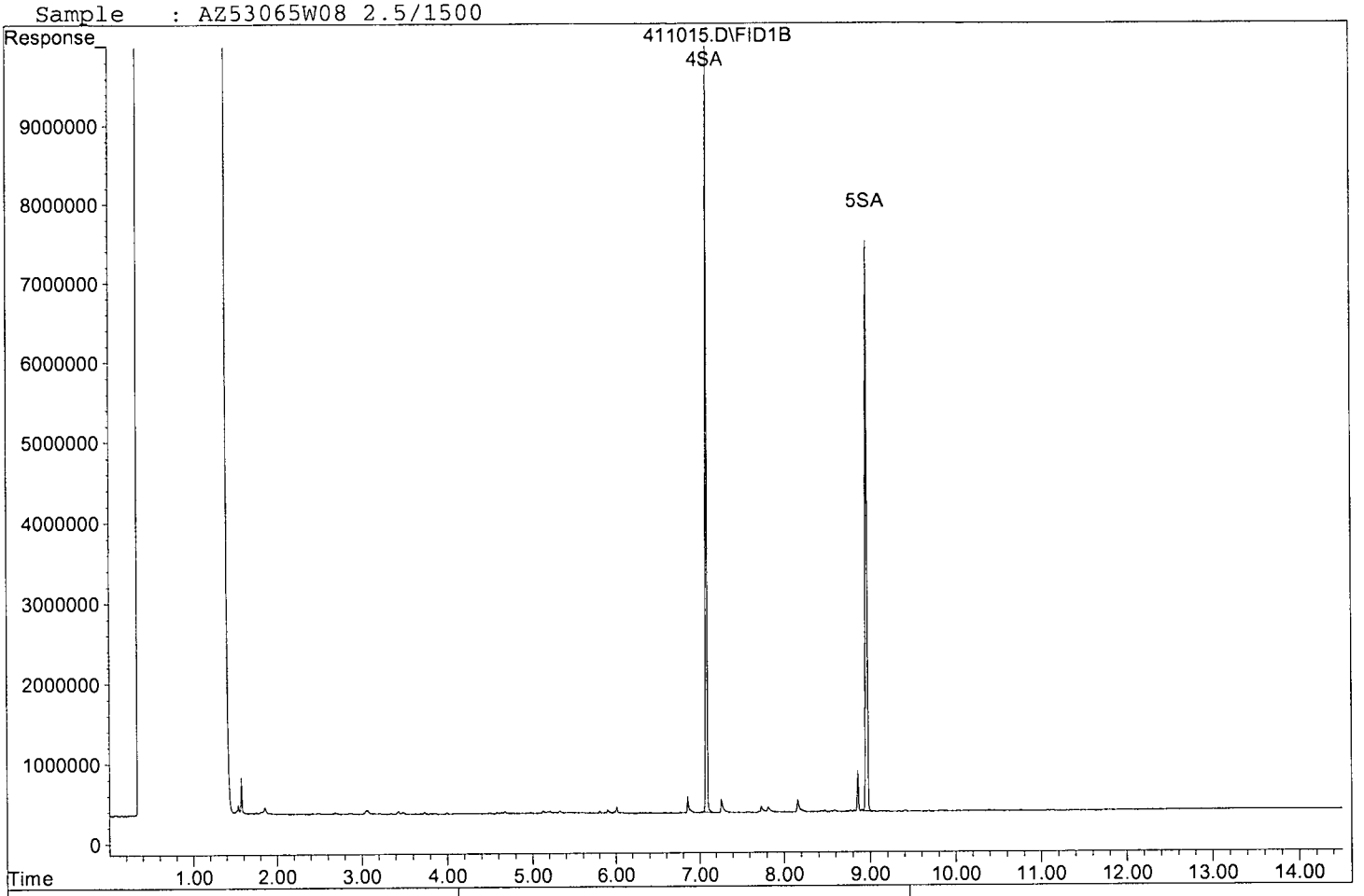
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

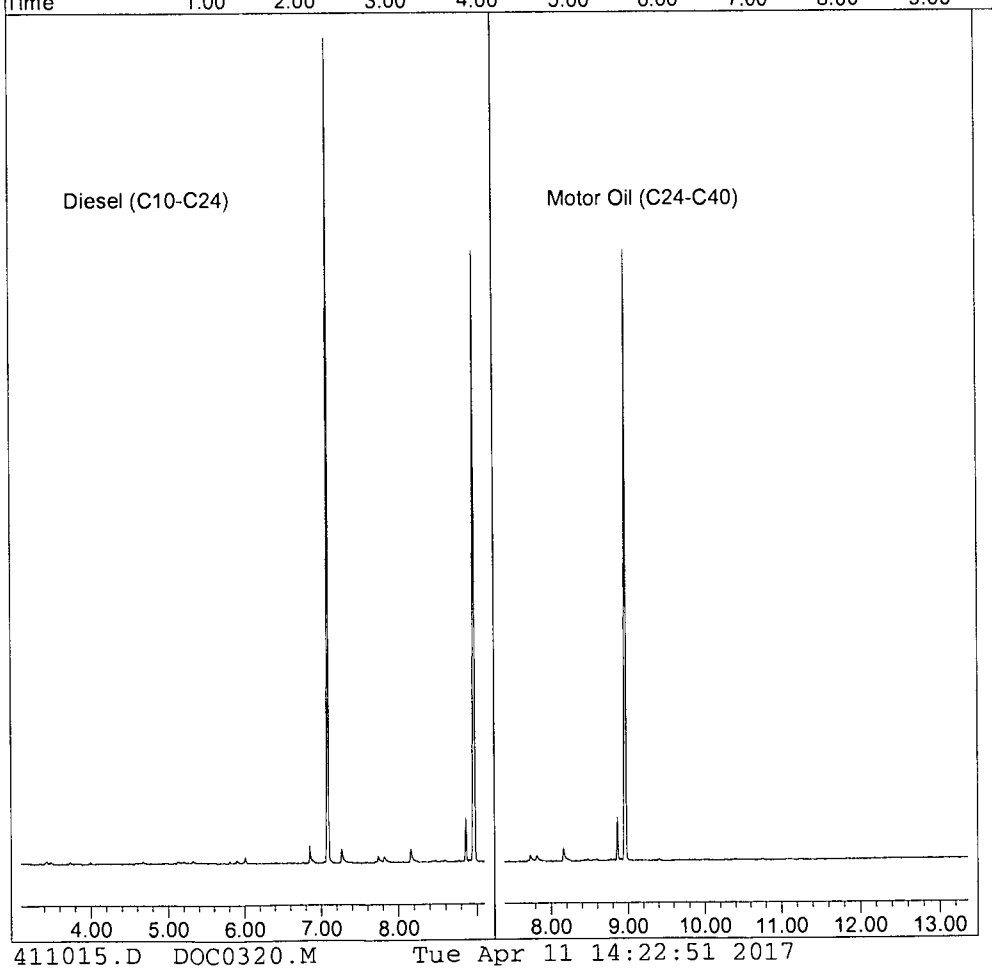
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	104051787	37.839 ppb
Surrogate Spike 40.000		Recovery =	94.60%
5) SA Octacosane(S)	8.97	90788063	43.754 ppb
Surrogate Spike 40.000		Recovery =	109.39%

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411015.D
Sample : AZ53065W08 2.5/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0320

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/20/17
Instrument: Apollo

Initials:

Diesel:	320016 D	320017 D	320018.D	320019 D	320020.D	320021.D	
Motor Oil:	320023.D	320024.D	320025.D	320026.D	320027.D	320028.D	
Decanoic Acid:	220003 D	220004.D	220005.D	220006.D	220007.D	220008.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	2540018	1886778	1624943	1628033	1615252	1595966					1815165	20	HATM	
2	HBTM	Motor Oil (C24-C40)	1333385	1248250	1216530	1228953	1179824	1167345					1229048	4.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2396524	2485788	2239469	2213466	2206282	2207643					2291529	5.2	SA	
5	SA	Octacosane(S)	1838724	1898084	1682686	1662435	1654563	1638330					1729137	6.4	SA	
6																
7																
8																
9																
10																
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35														1.8134515		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320016.D
Acq On : 3-20-17 15:15:13
Sample : Diesel-1 10ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

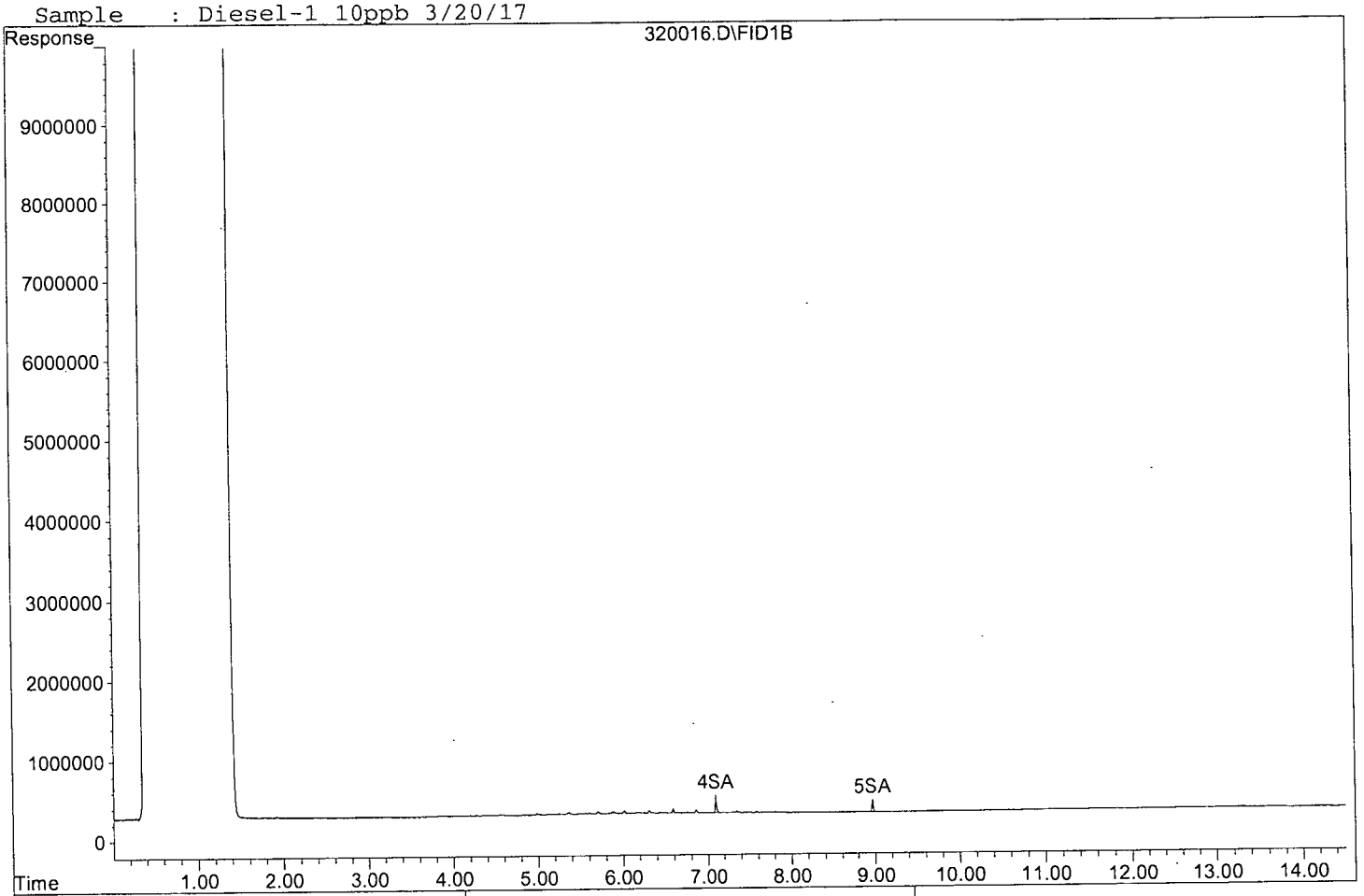
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	2396524	0.523 ppb
Surrogate Spike 30.000	Recovery	=	1.74%
5) SA Octacosane(S)	8.97	1838724	0.532 ppb
Surrogate Spike 30.000	Recovery	=	1.77%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	50800352	13.993 ppb

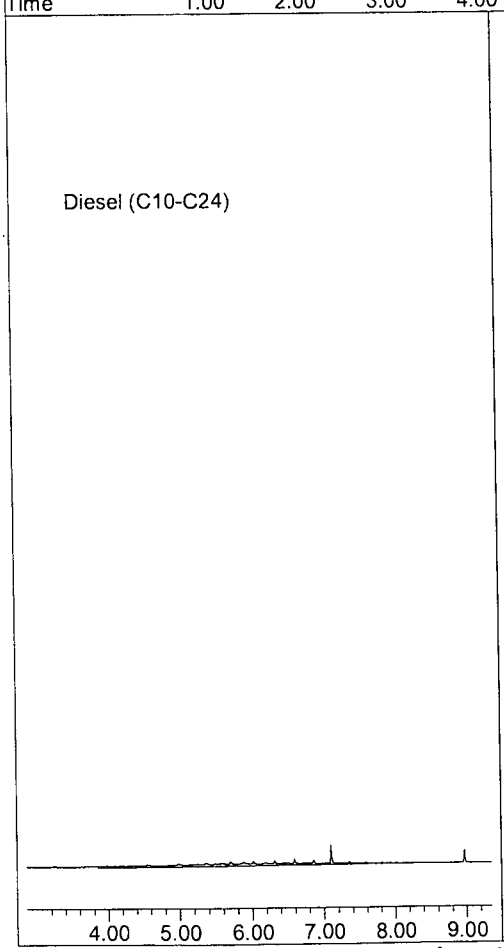
(f)=RT Delta > 1/2 Window (m)=manual int.

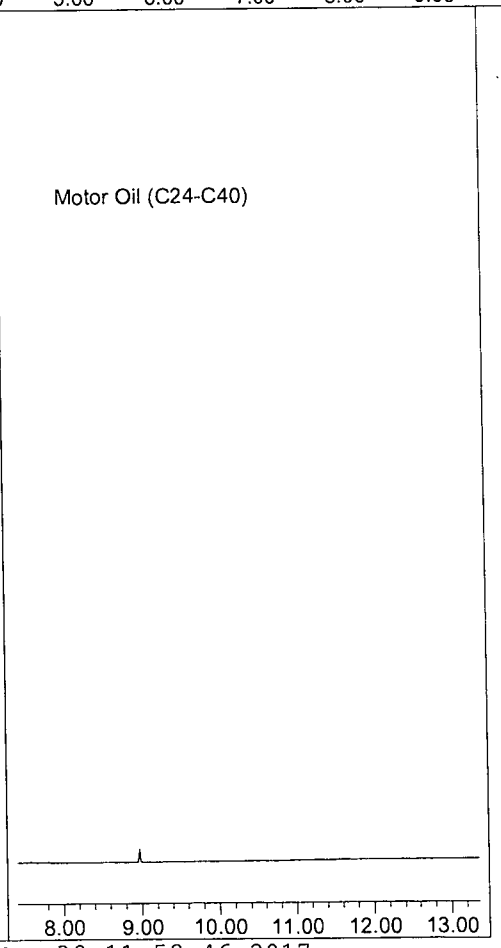
320016.D DOC0320.M Thu Mar 30 11:58:44 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320016.D
Sample : Diesel-1 10ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320017.D
Acq On : 3-20-17 15:36:08
Sample : Diesel-2 100ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

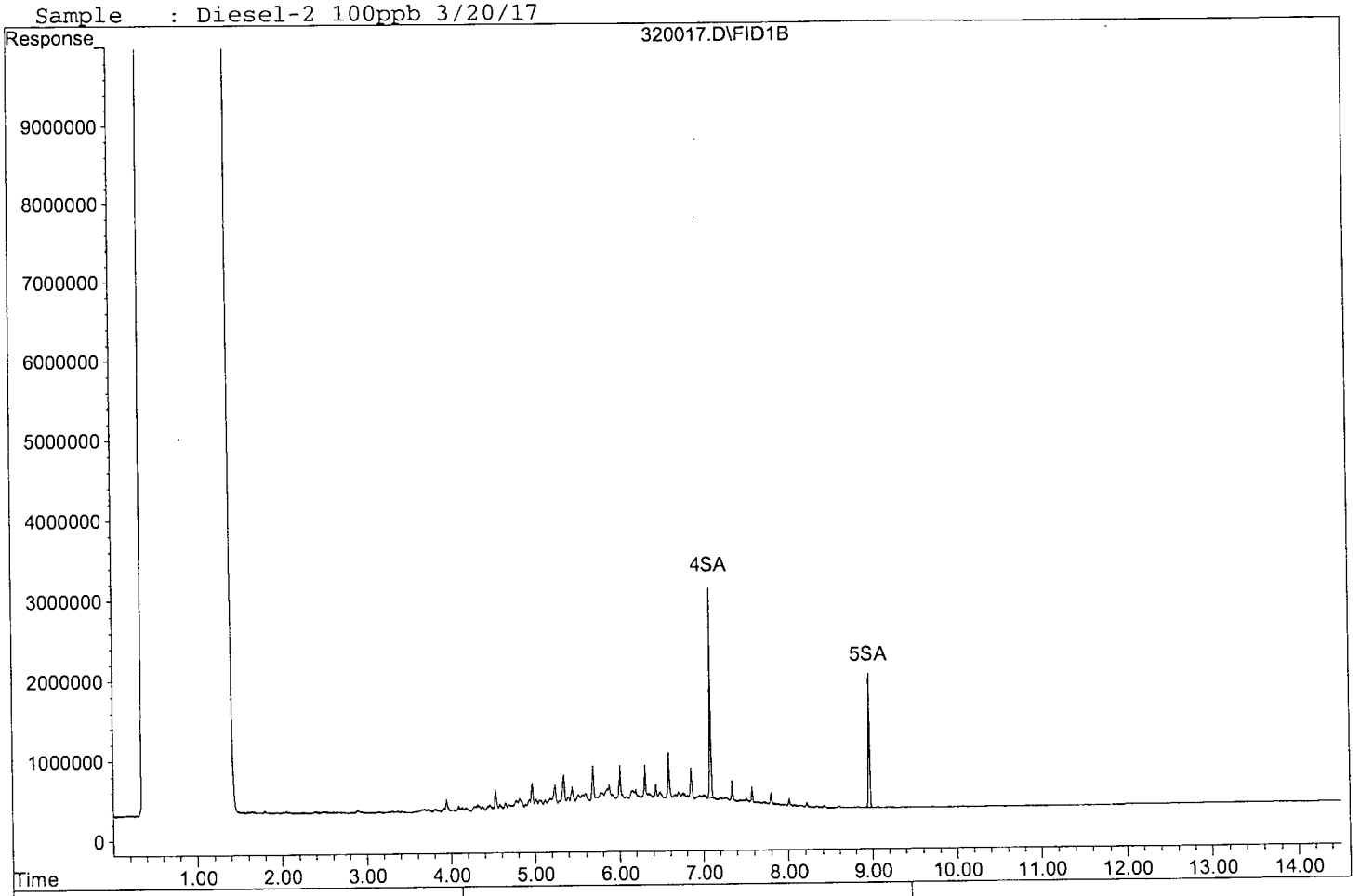
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	24857883	5.424 ppb
Surrogate Spike 30.000	Recovery =		18.08%
5) SA Octacosane(S)	8.97	18980841	5.489 ppb
Surrogate Spike 30.000	Recovery =		18.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	377355582	103.945 ppb

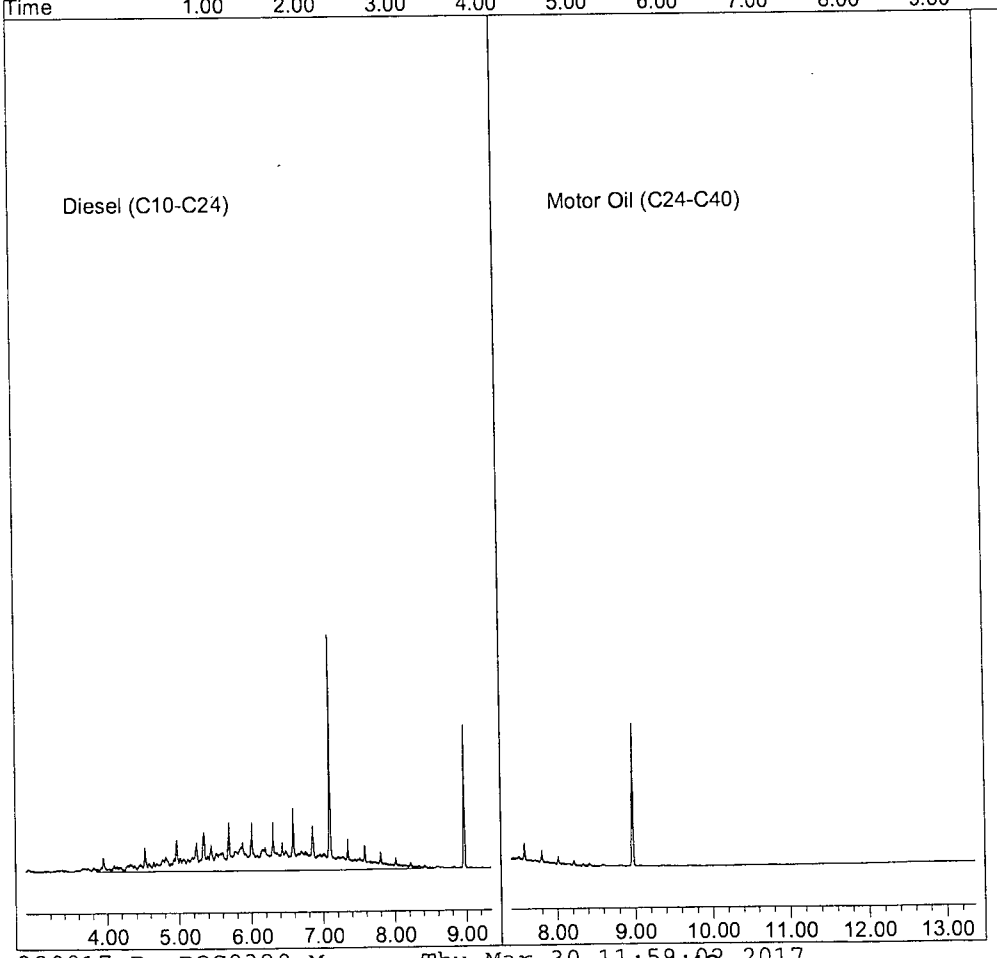
(f)=RT Delta > 1/2 Window (m)=manual int.

320017.D DOC0320.M Thu Mar 30 11:59:00 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320017.D
Sample : Diesel-2 100ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320018.D
Acq On : 3-20-17 15:57:14
Sample : Diesel-3 400ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

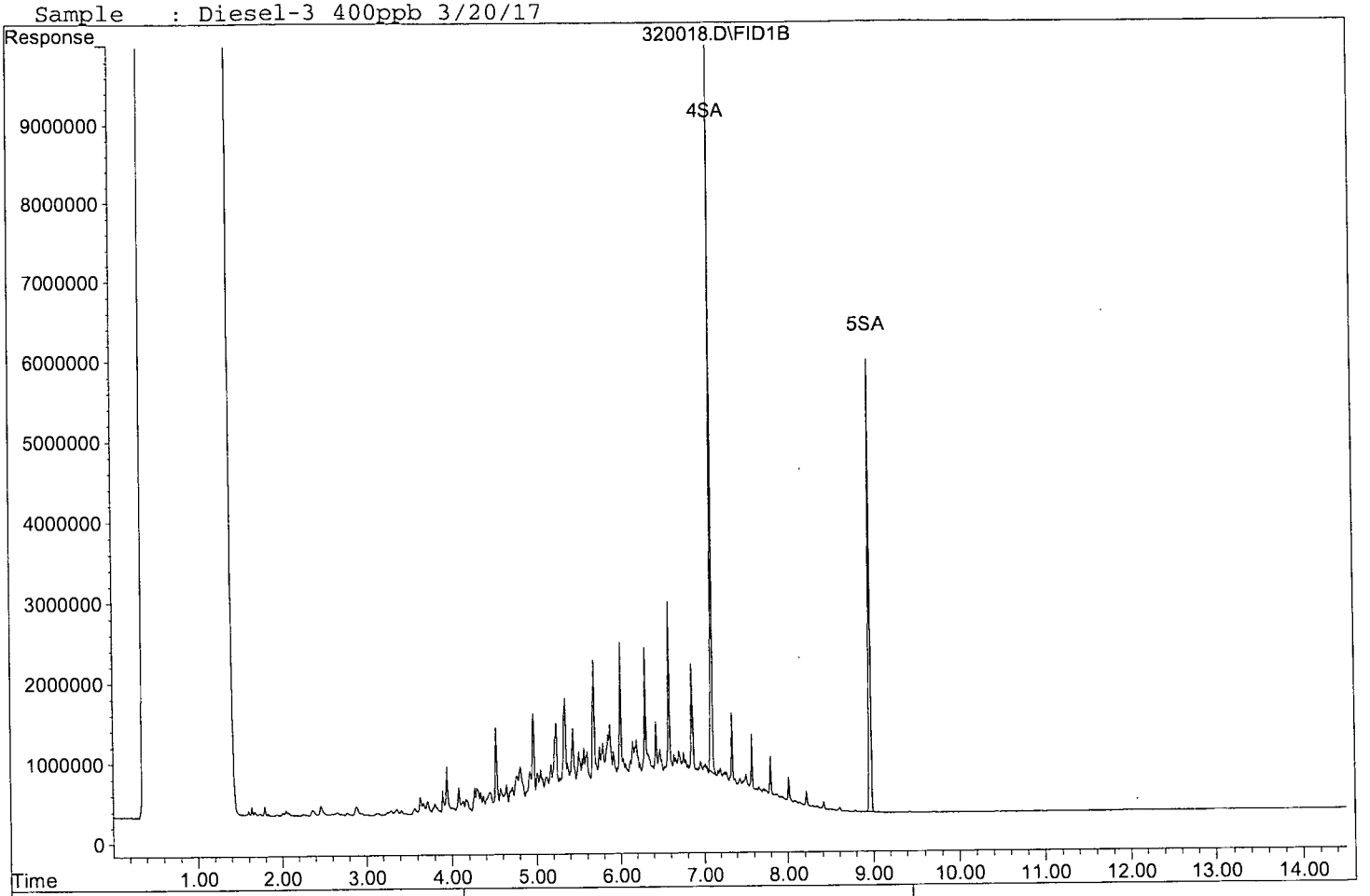
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

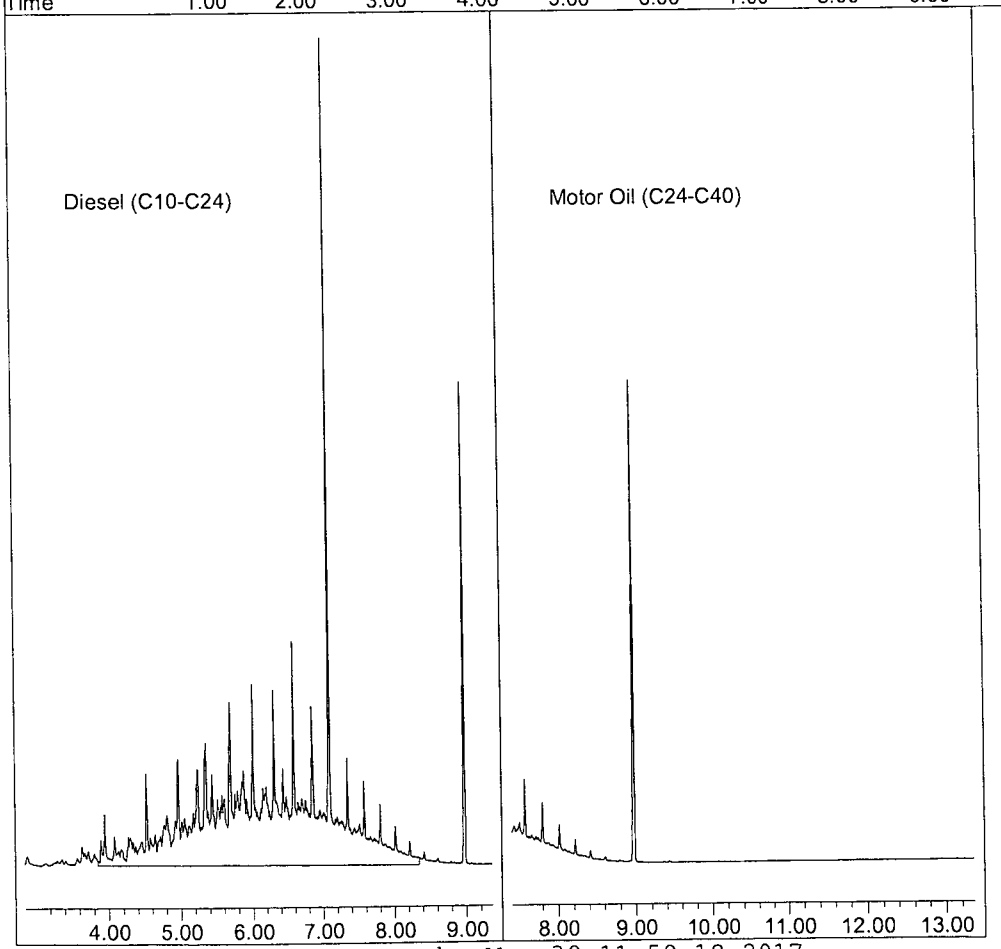
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89578741	19.546 ppb
Surrogate Spike 30.000	Recovery	=	65.15%
5) SA Octacosane(S)	8.98	67307425	19.463 ppb
Surrogate Spike 30.000	Recovery	=	64.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1299954214	358.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320018.D
Sample : Diesel-3 400ppb 3/20/17





320018.D DOC0320.M Thu Mar 30 11:59:18 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320019.D
Acq On : 3-20-17 16:18:15
Sample : Diesel-4 600ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

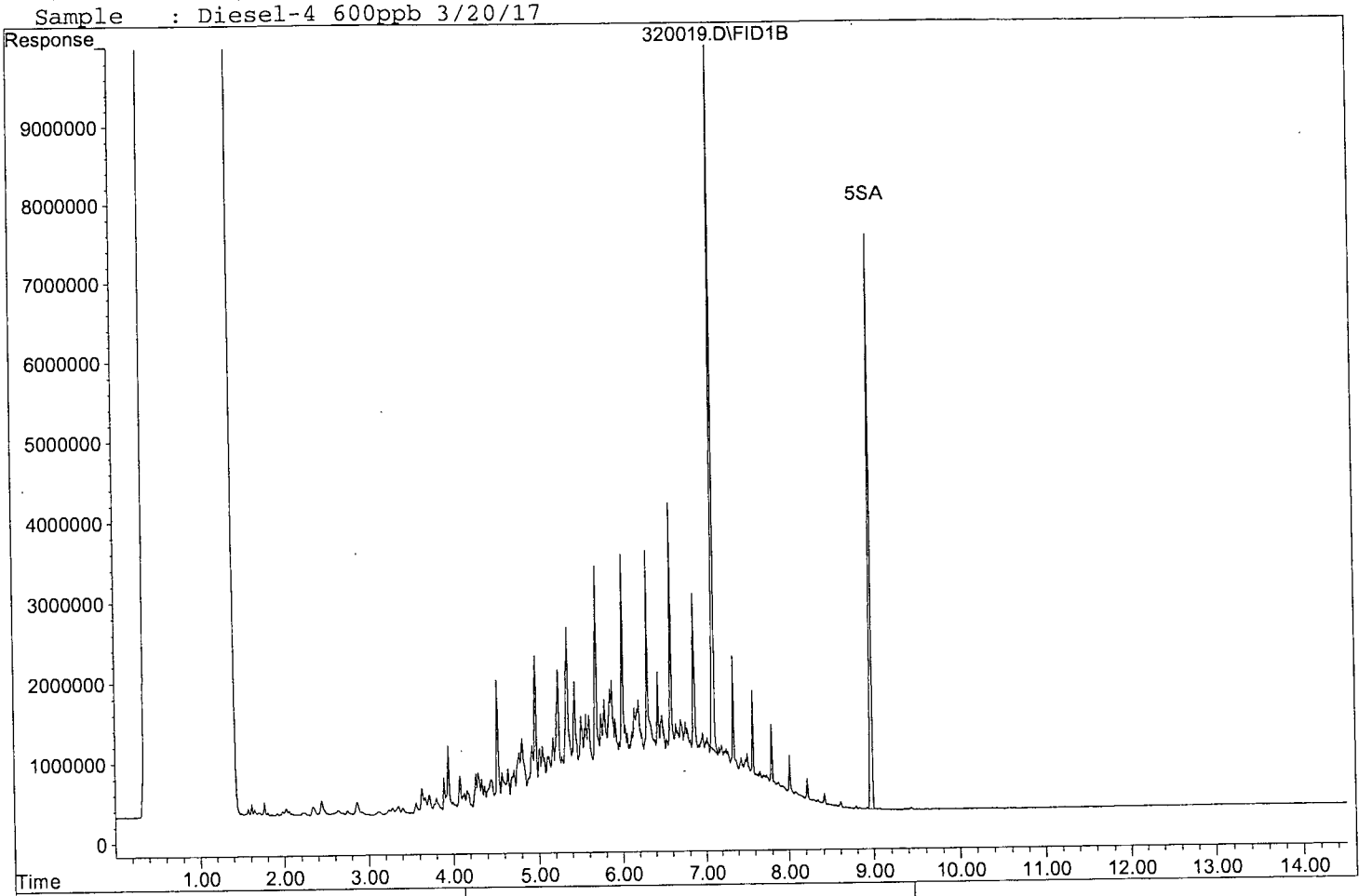
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

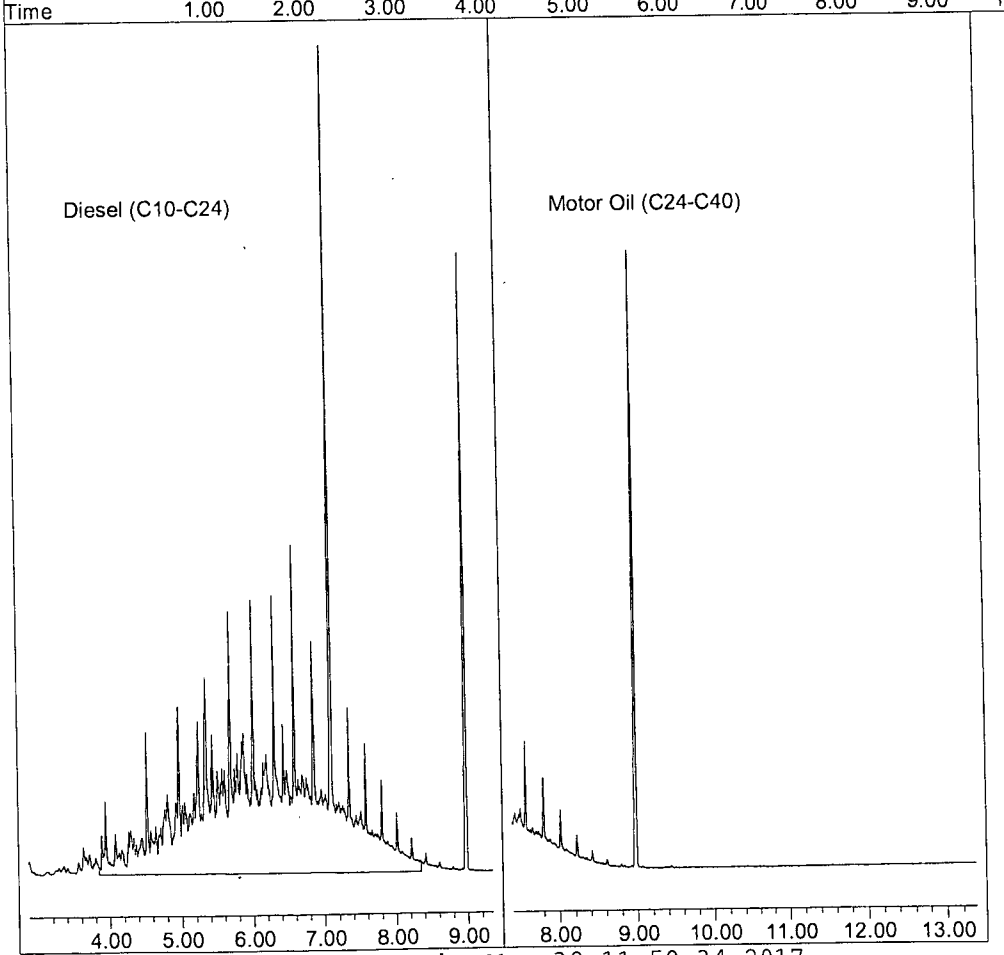
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	132807937	28.978 ppb
Surrogate Spike 30.000		Recovery =	96.59%
5) SA Octacosane(S)	8.98	99746088	28.843 ppb
Surrogate Spike 30.000		Recovery =	96.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1953639090	538.144 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320019.D
Sample : Diesel-4 600ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320020.D Vial: 20
Acq On : 3-20-17 16:39:27 Operator: DP
Sample : Diesel-5 800ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

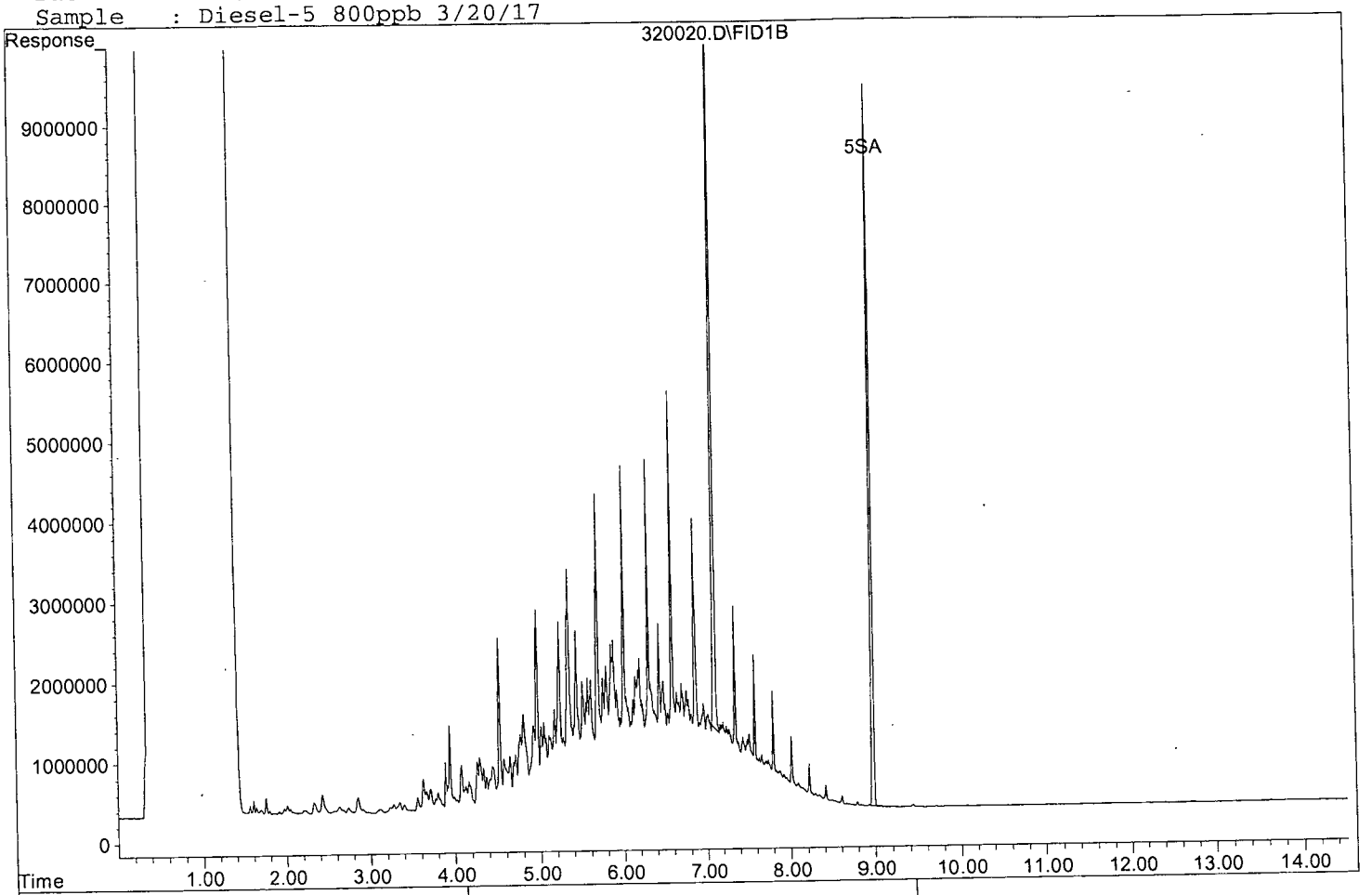
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

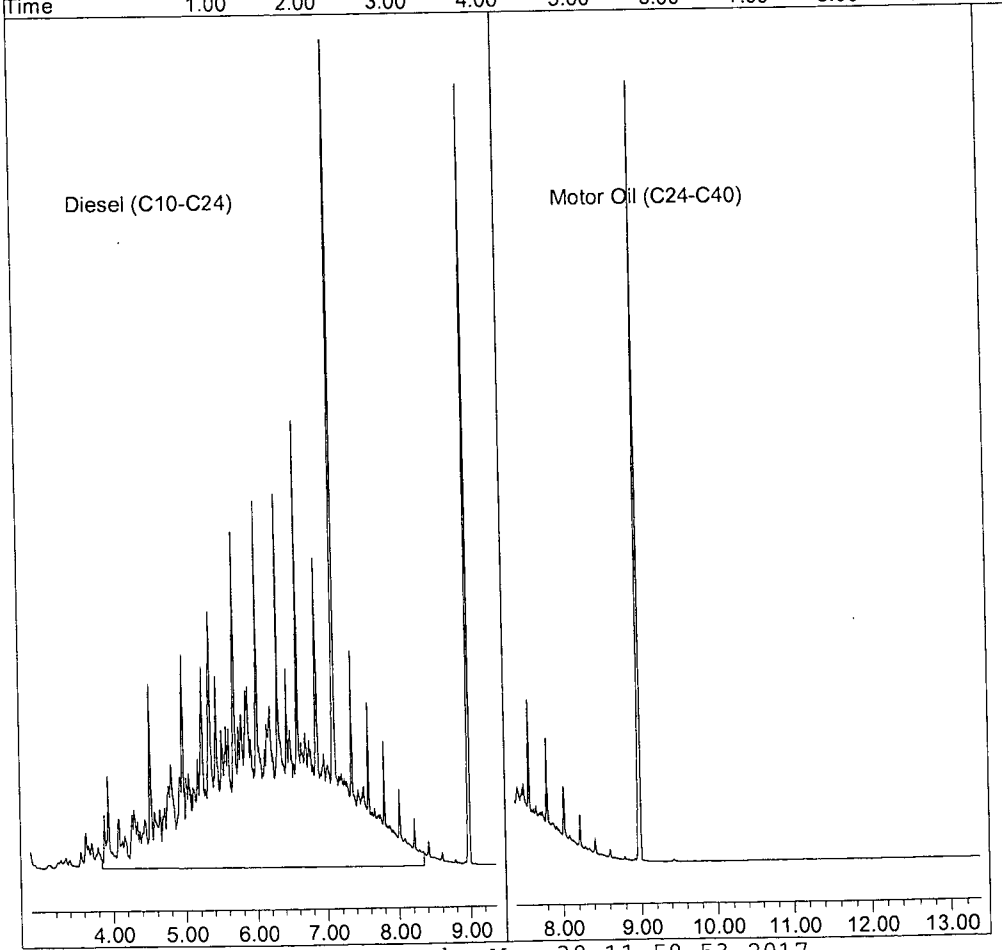
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	176502561	38.512 ppb
Surrogate Spike 30.000		Recovery =	128.37%
5) SA Octacosane(S)	8.99	132365021	38.275 ppb
Surrogate Spike 30.000		Recovery =	127.58%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	2584402595	711.892 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320020.D
Sample : Diesel-5 800ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320021.D Vial: 21
Acq On : 3-20-17 17:00:36 Operator: DP
Sample : Diesel-6 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

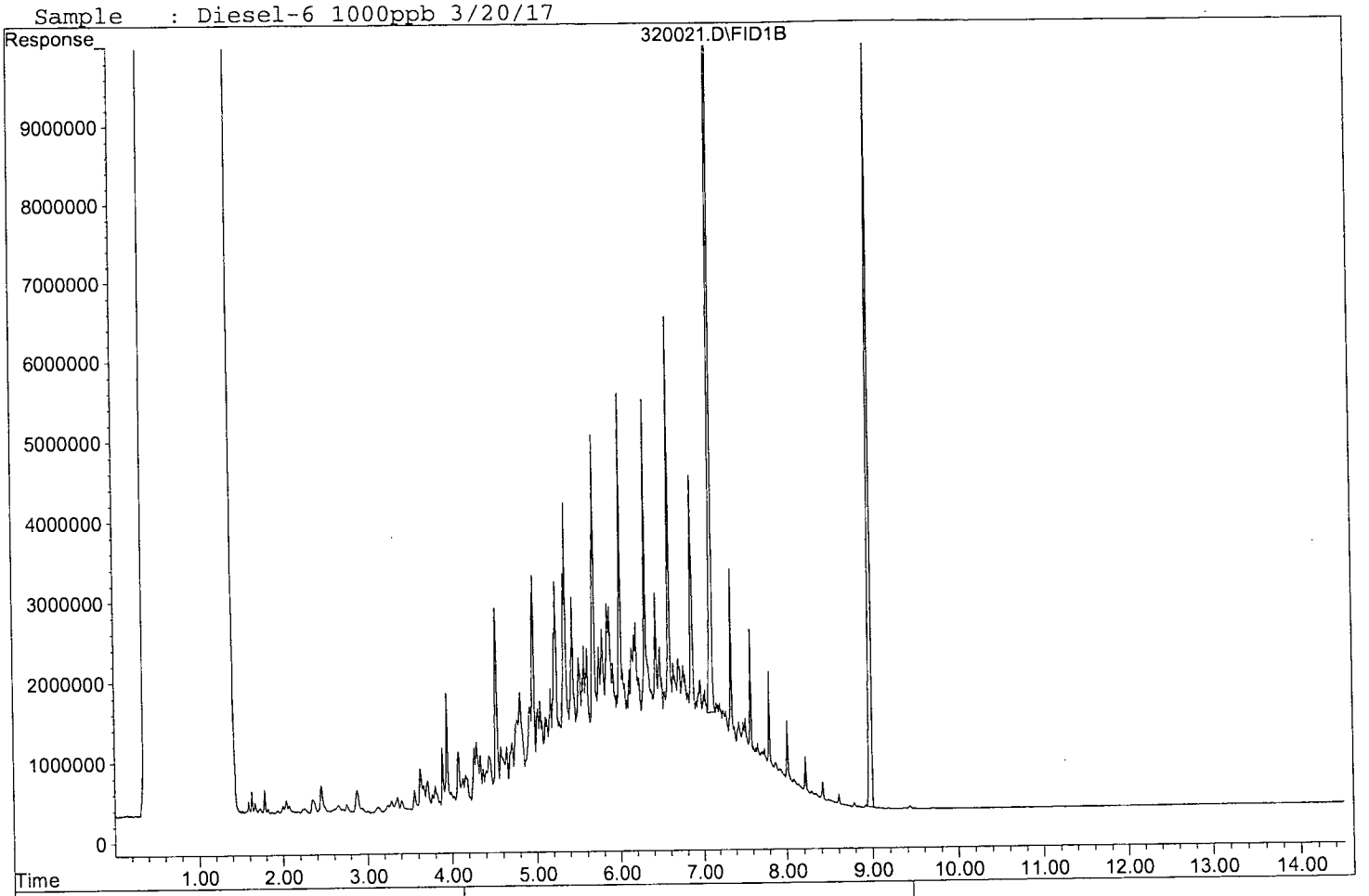
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

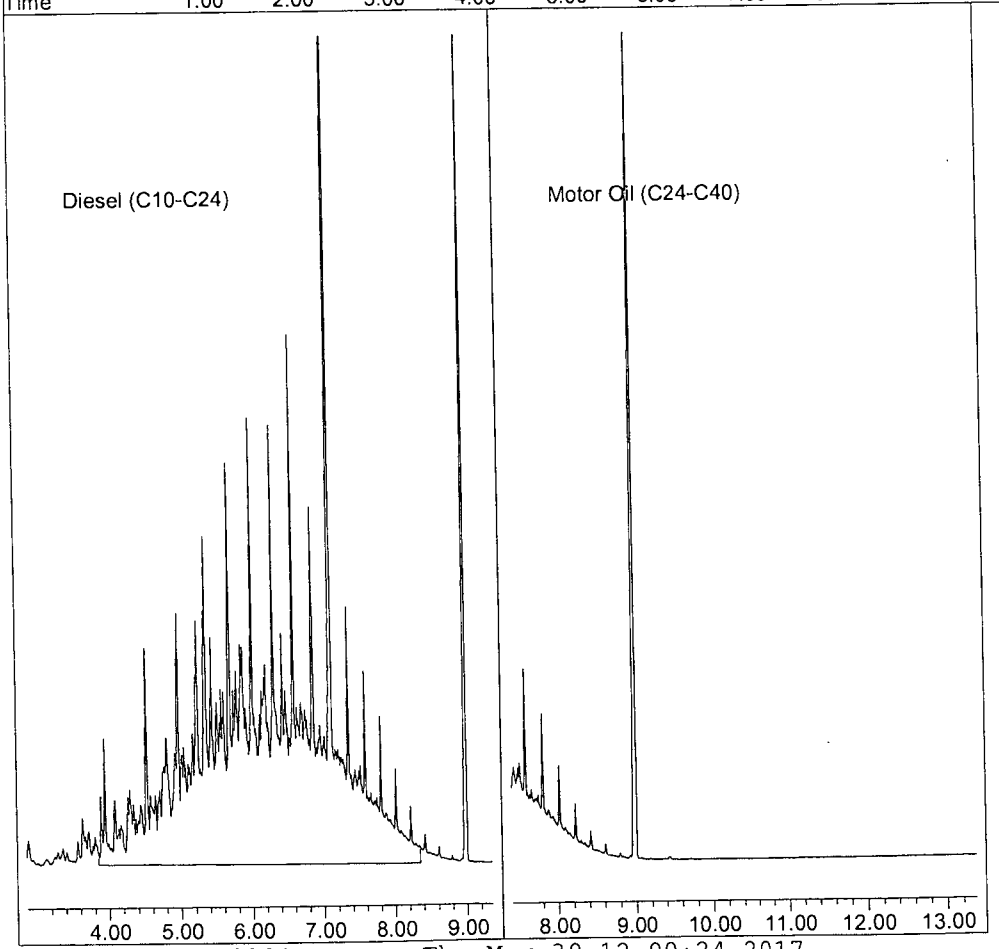
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	220764307	48.170 ppb
Surrogate Spike 30.000		Recovery =	160.57%
5) SA Octacosane(S)	8.99	163833005	47.374 ppb
Surrogate Spike 30.000		Recovery =	157.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	3191932577	879.240 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320021.D
Sample : Diesel-6 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320023.D
Acq On : 3-20-17 17:42:35
Sample : Motor Oil-1 20ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 23
Operator: DP
Inst : Apollo
Multiplr: 1.00

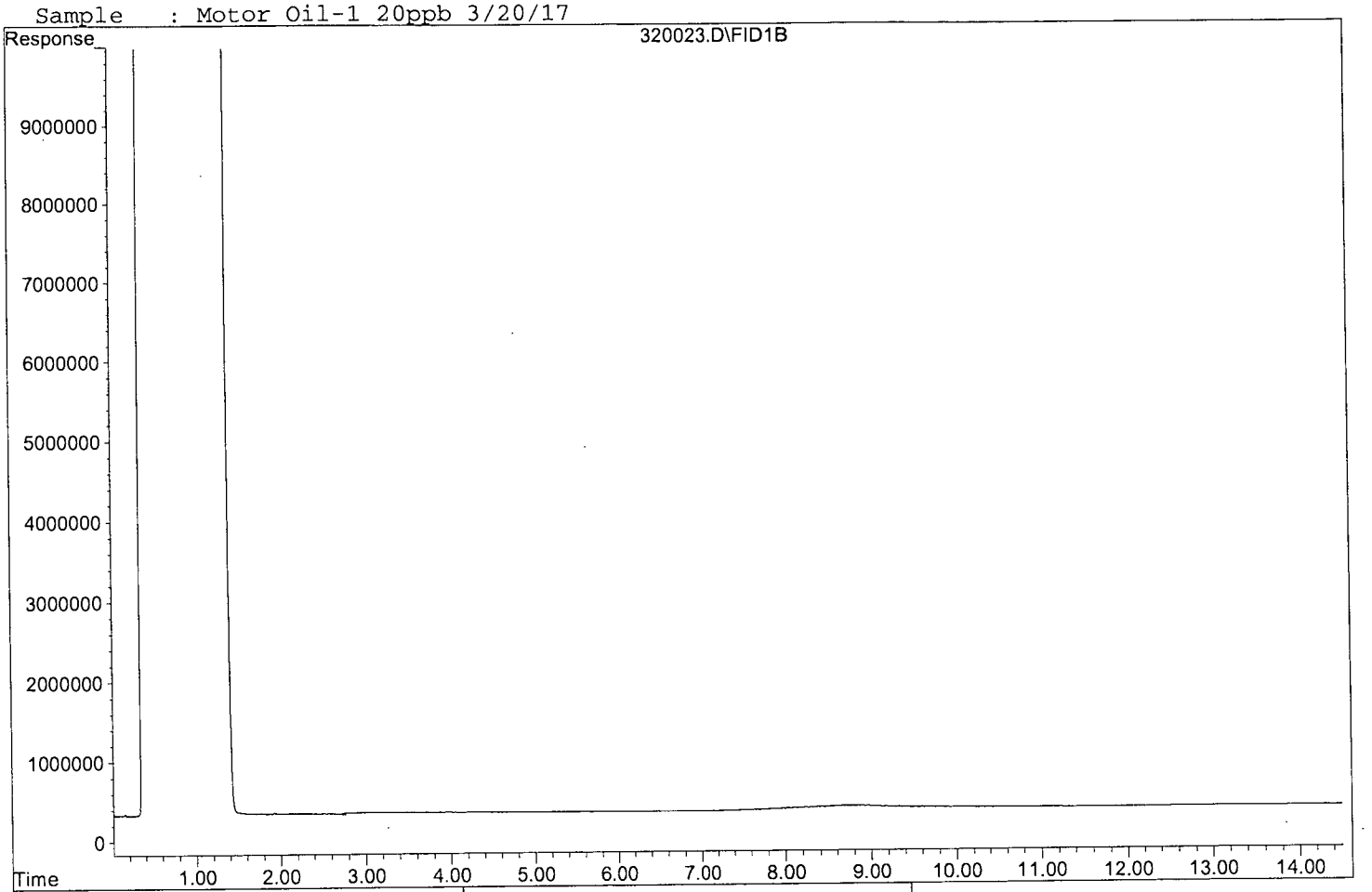
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

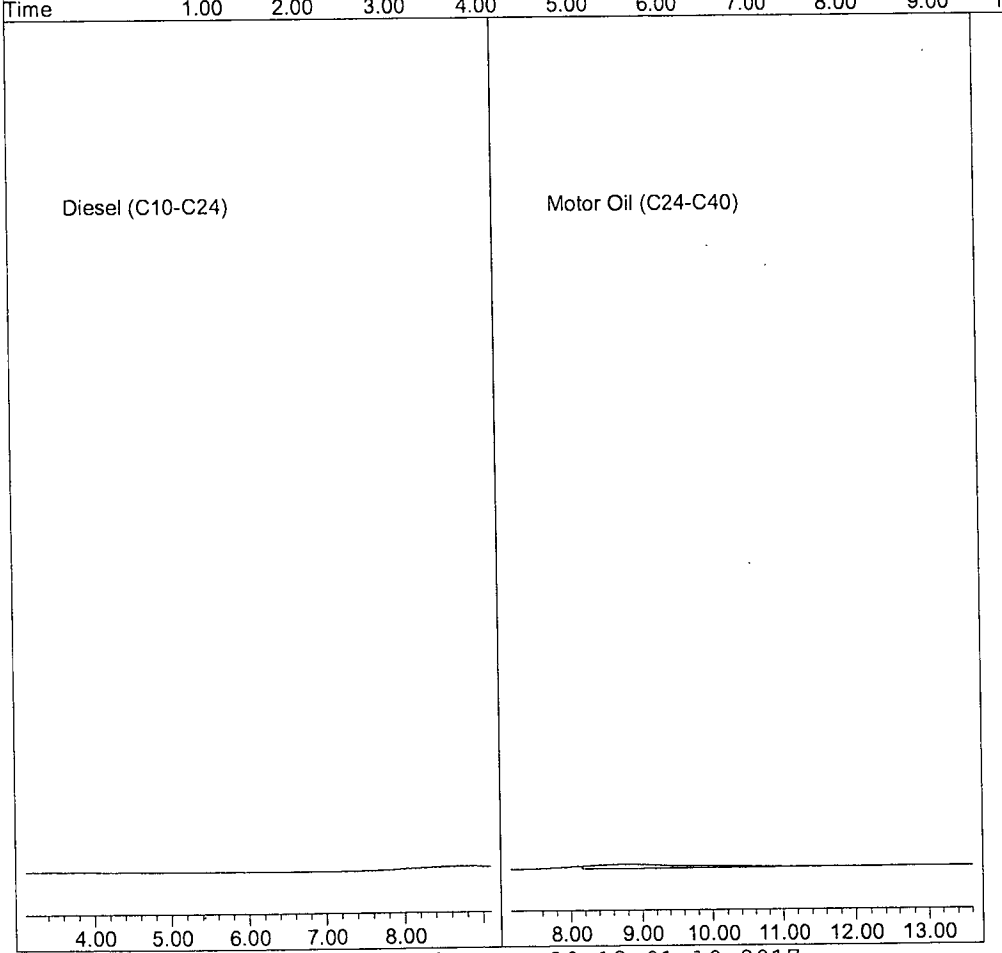
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	53335418	21.698 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320023.D
Sample : Motor Oil-1 20ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320024.D
Acq On : 3-20-17 18:03:37
Sample : Motor Oil-2 50ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 24
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

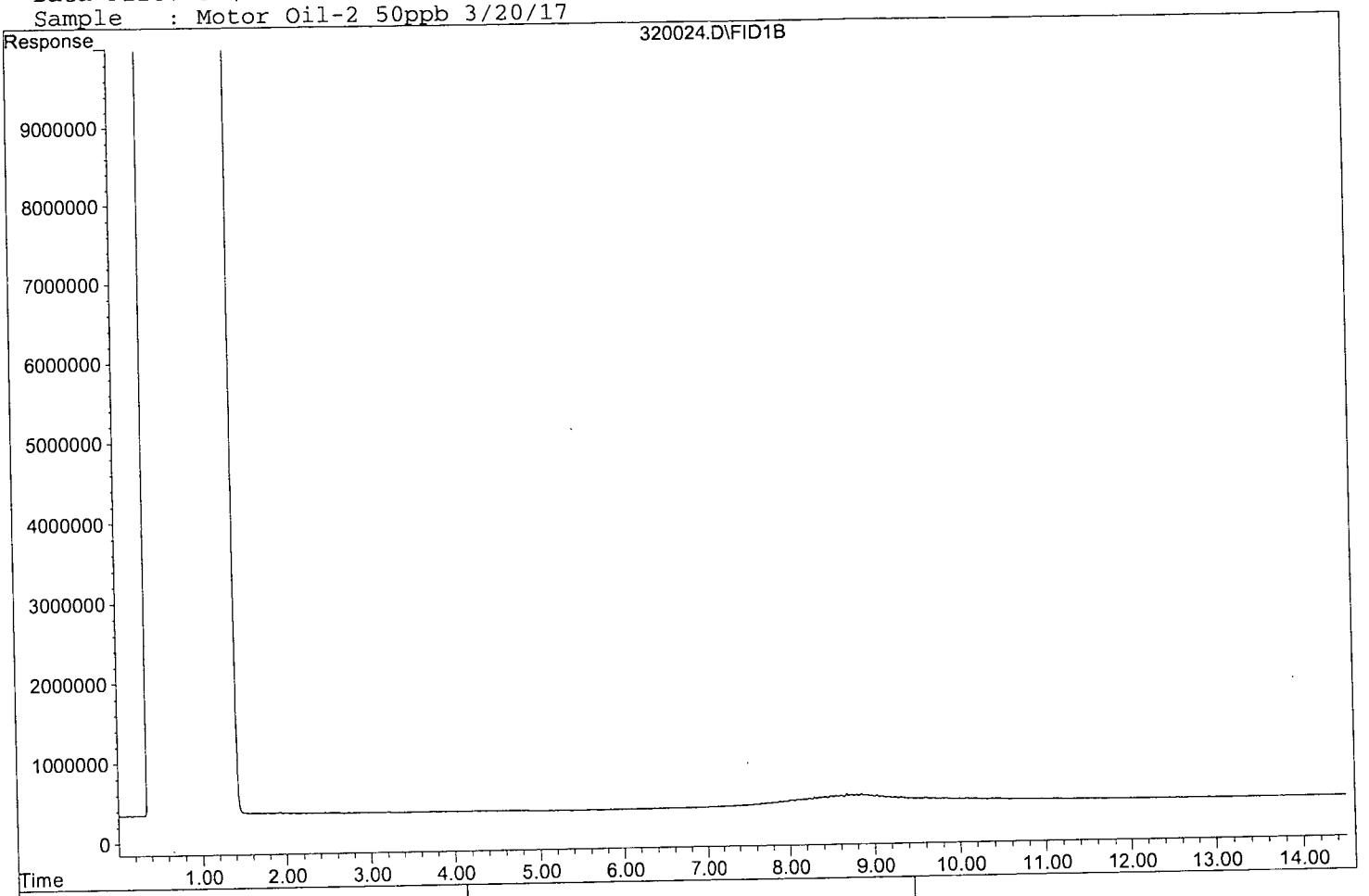
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

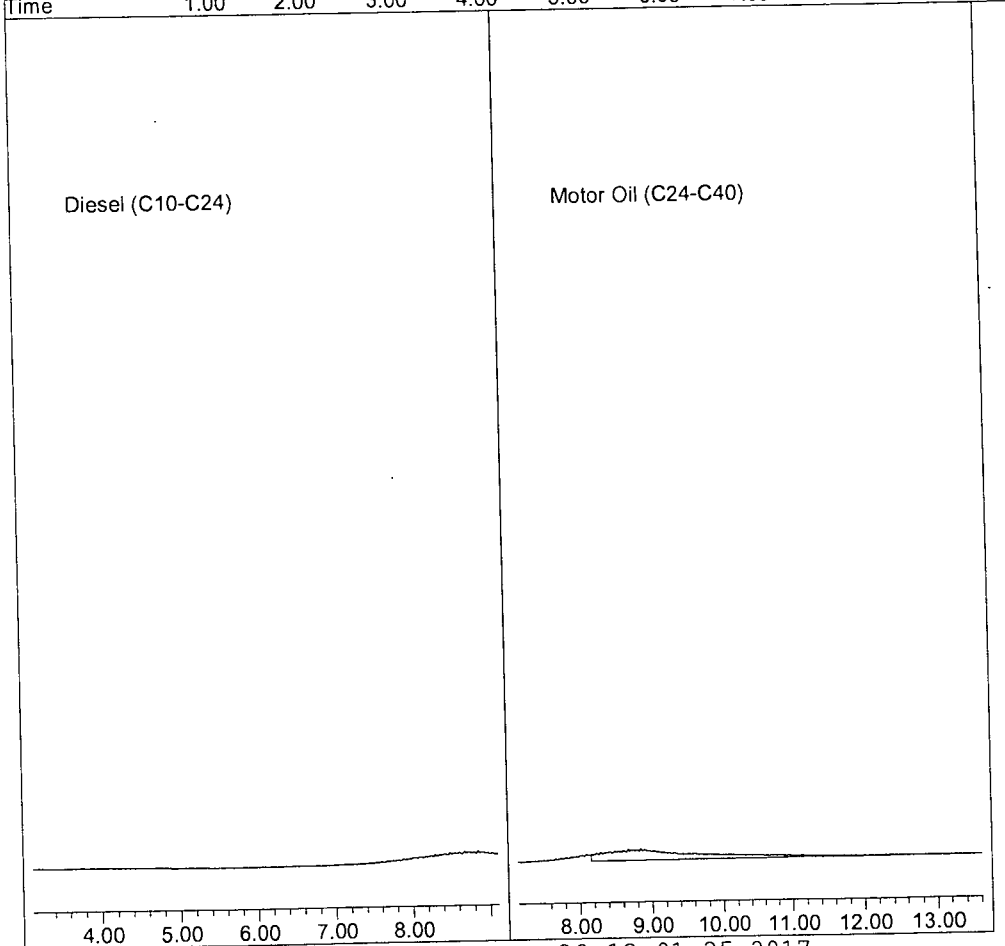
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	124824954	50.781 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320024.D
Sample : Motor Oil-2 50ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320025.D
Acq On : 3-20-17 18:24:46
Sample : Motor Oil-3 250ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

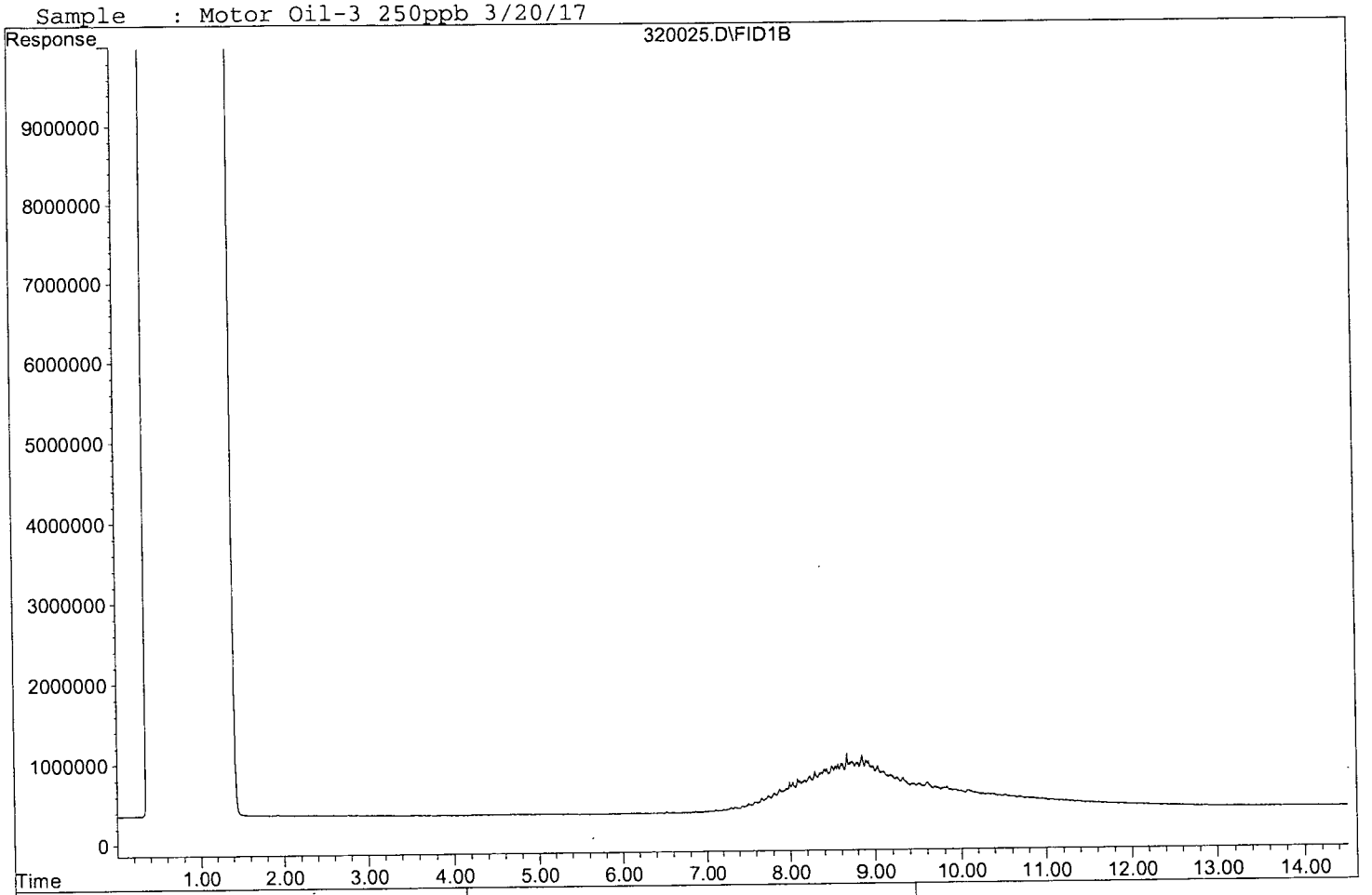
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

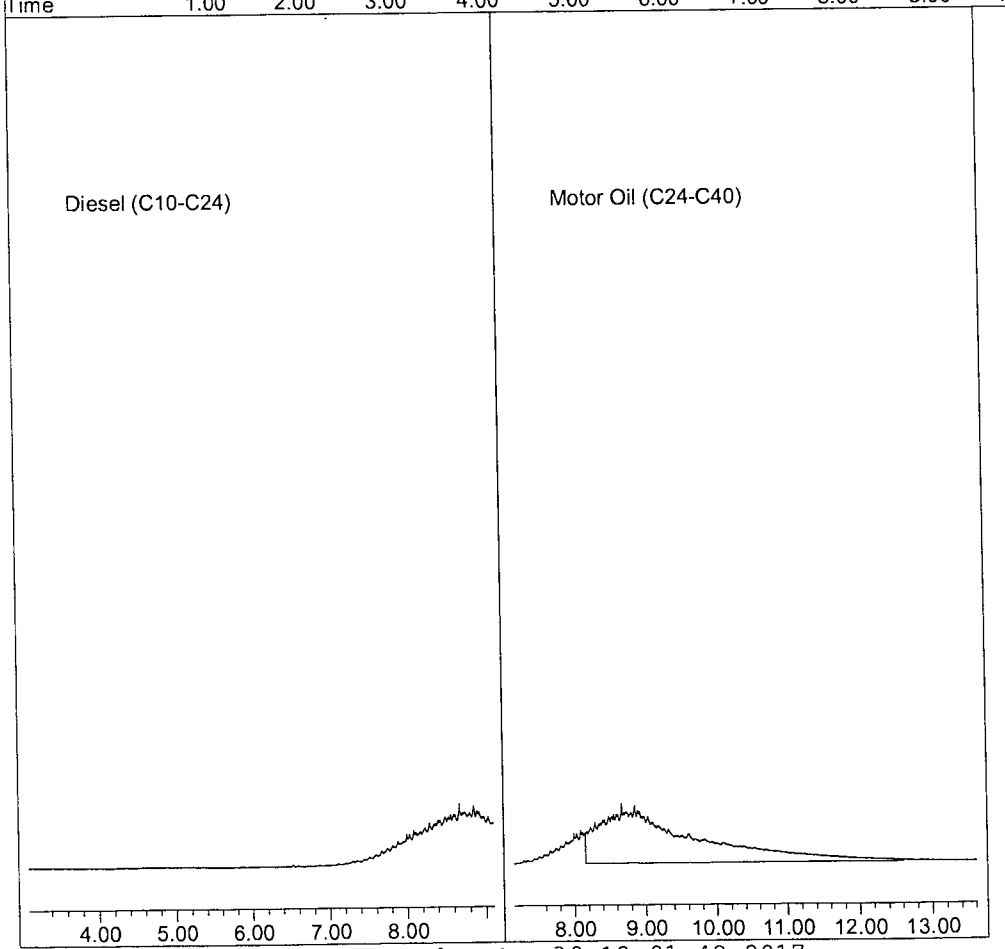
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	608264904	247.454 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320025.D
Sample : Motor Oil-3 250ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320026.D
Acq On : 3-20-17 18:45:44
Sample : Motor Oil-4 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

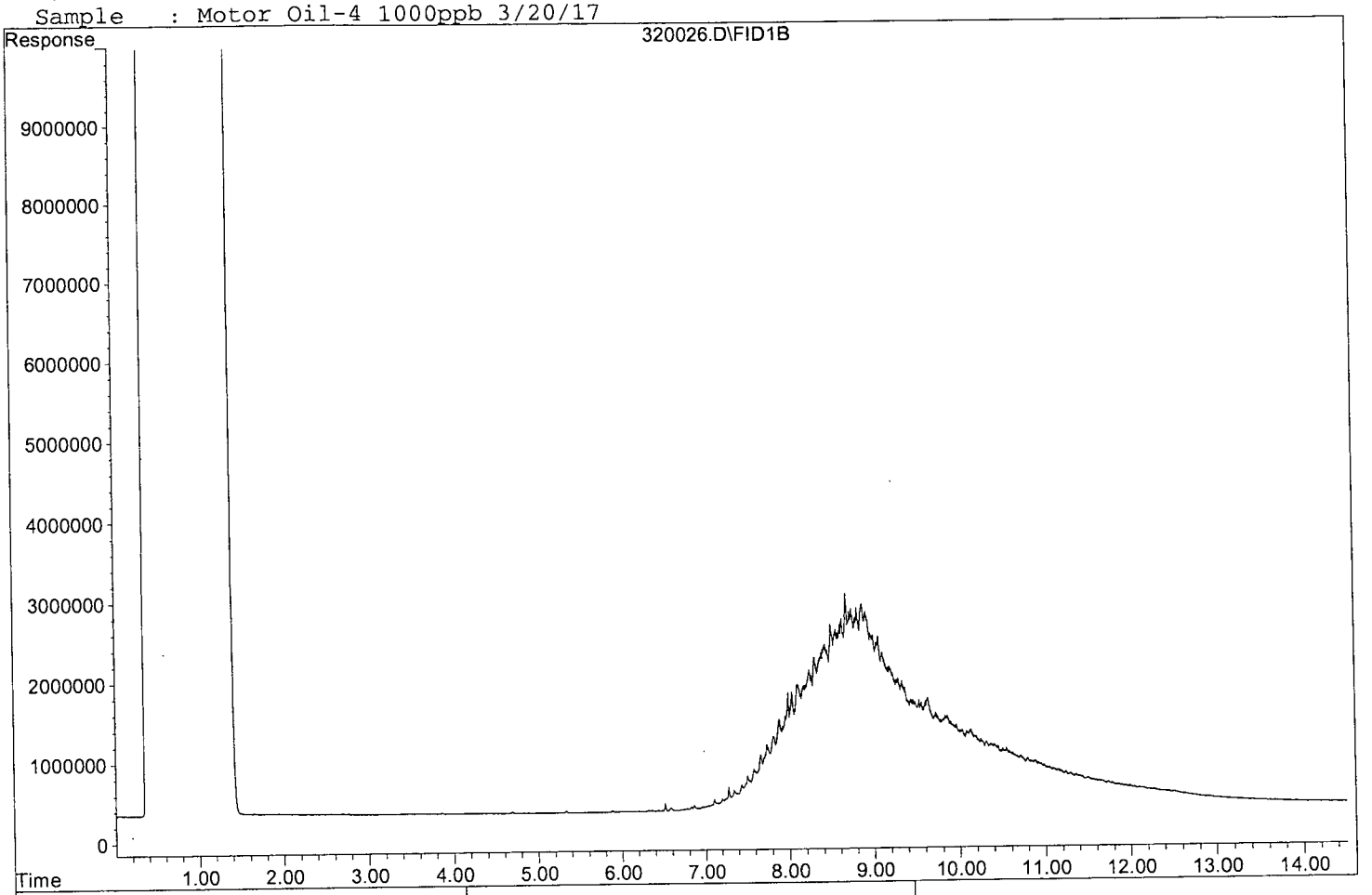
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

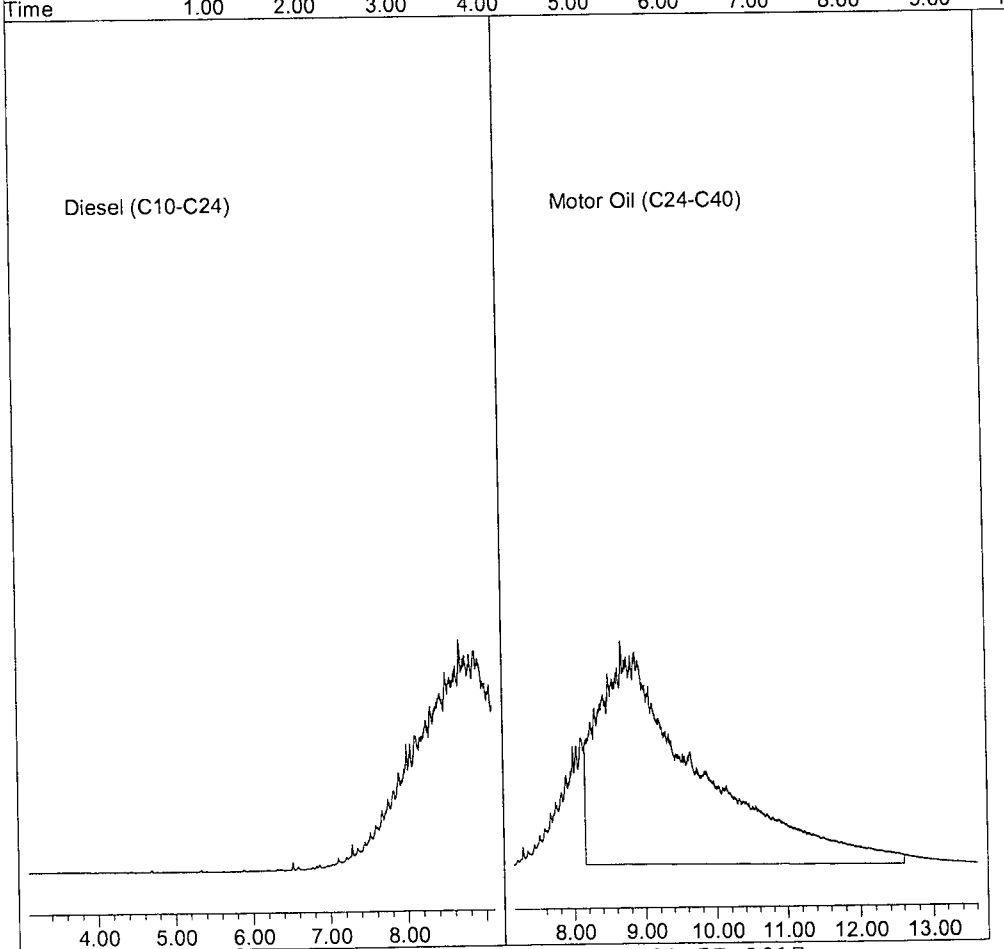
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2457905997	999.923 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320026.D
Sample : Motor Oil-4 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320027.D
Acq On : 3-20-17 19:06:49
Sample : Motor Oil-5 1500ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 27
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

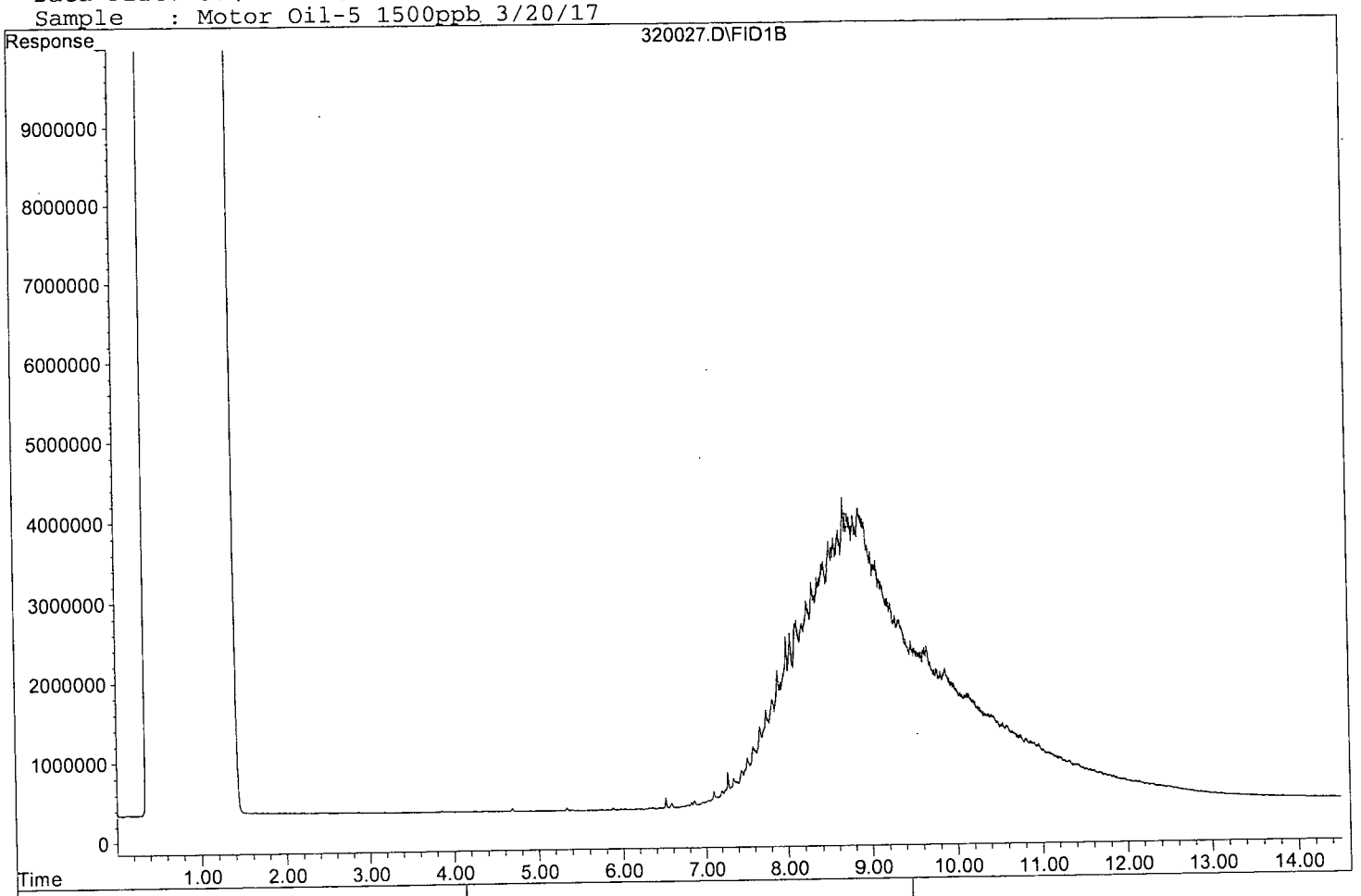
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

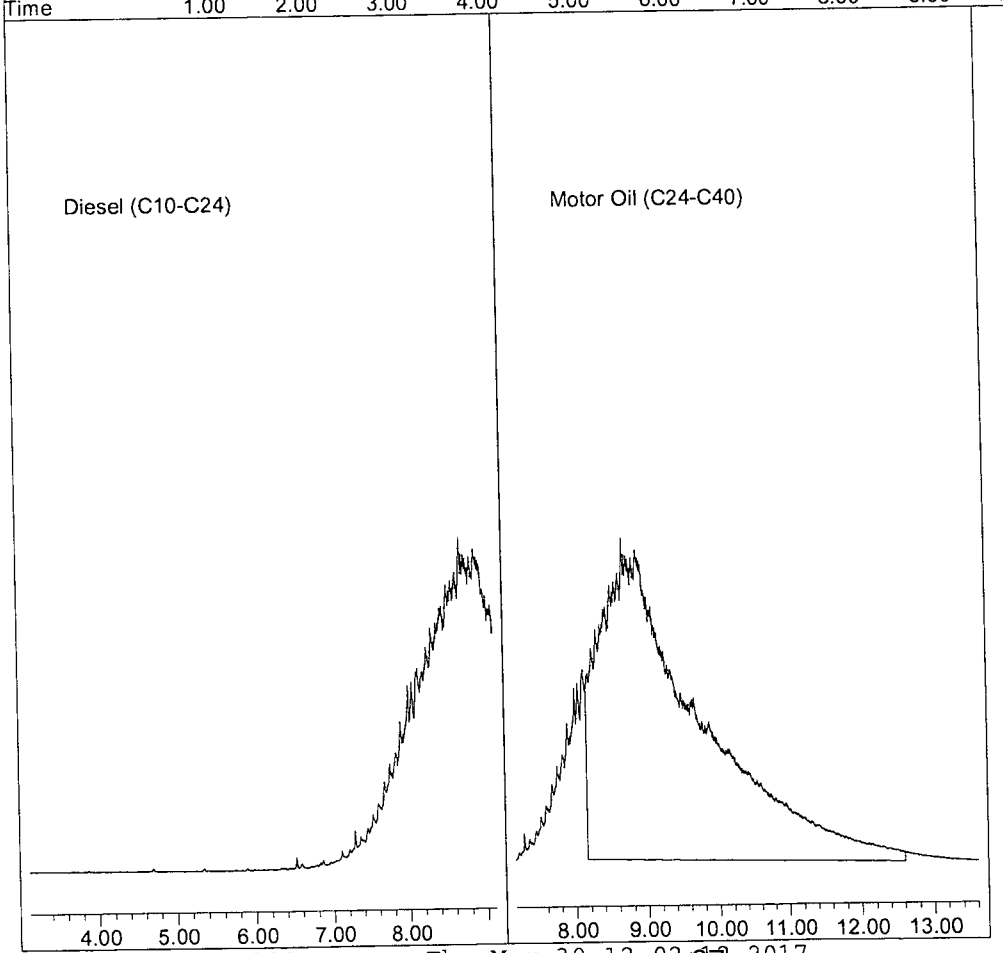
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	3539471418	1439.924 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320027.D
Sample : Motor Oil-5 1500ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320028.D Vial: 28
Acq On : 3-20-17 19:27:55 Operator: DP
Sample : Motor Oil-6 2000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

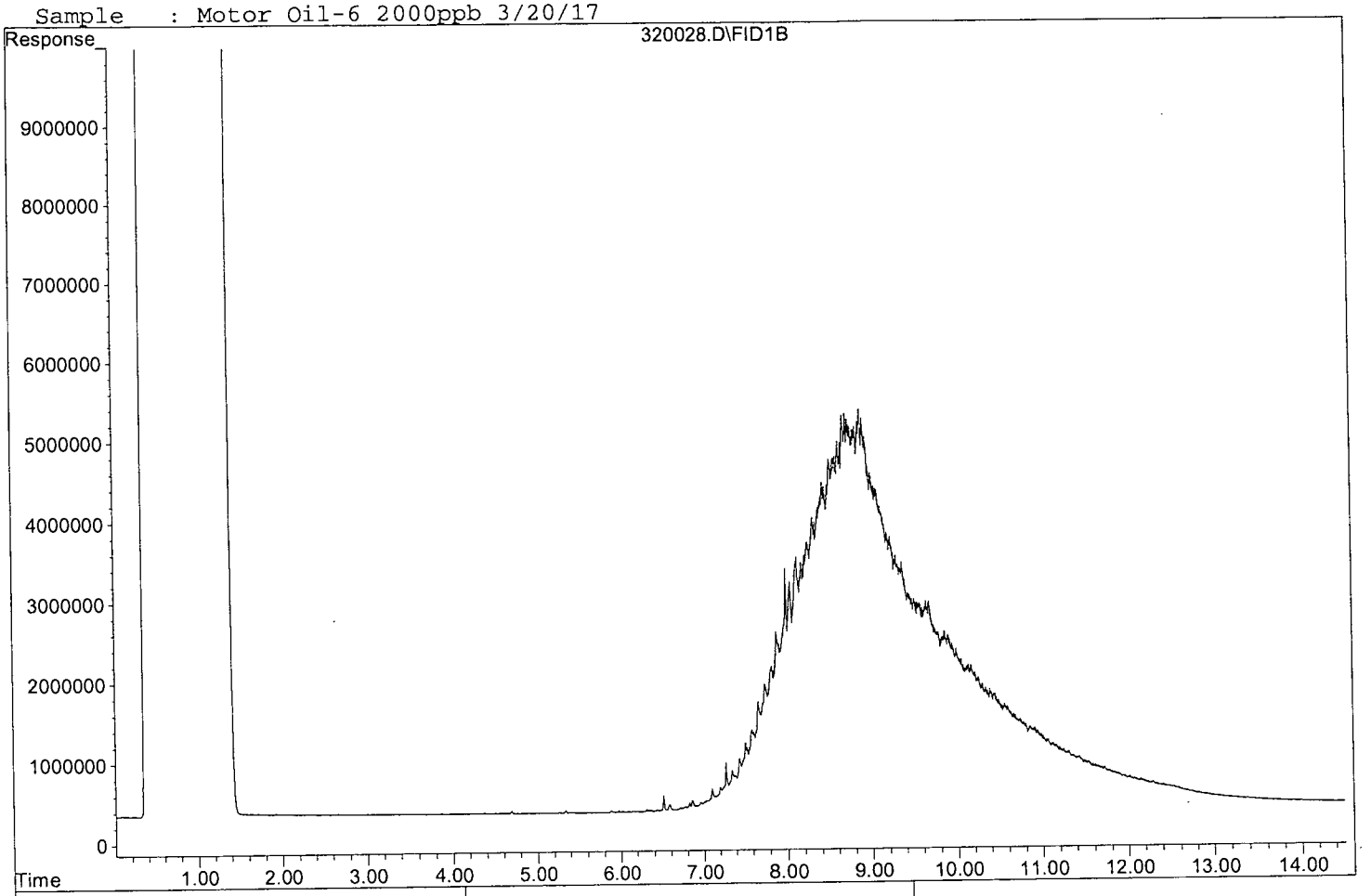
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

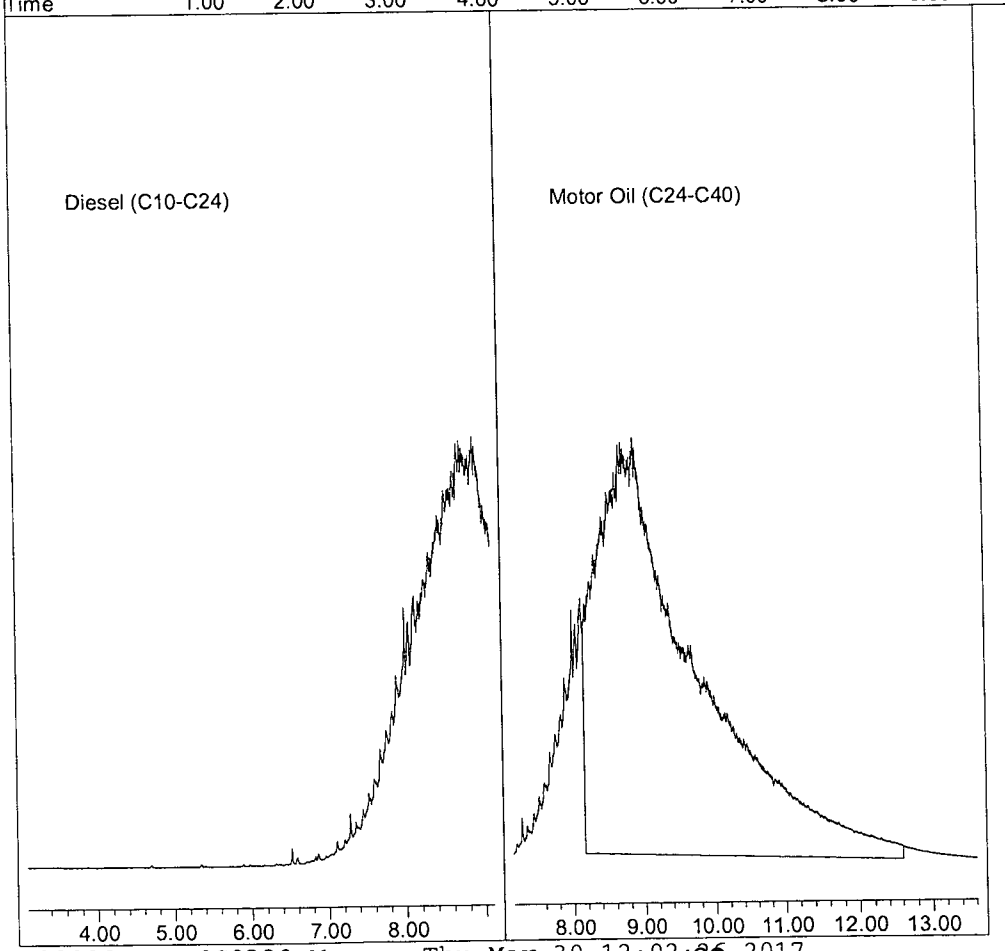
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	4669380911	1899.593 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320028.D
Sample : Motor Oil-6 2000ppb 3/20/17





TPH Extractables
DOC0320

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/20/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 320022.D (Diesel) 320029.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1884580	3.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1452540	18	HBTM	
3							
4							
5							
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38							
39							
40							
		Average			10.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320022.D
Acq On : 3-20-17 17:21:37
Sample : Diesel-2nd Src 400ppb 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

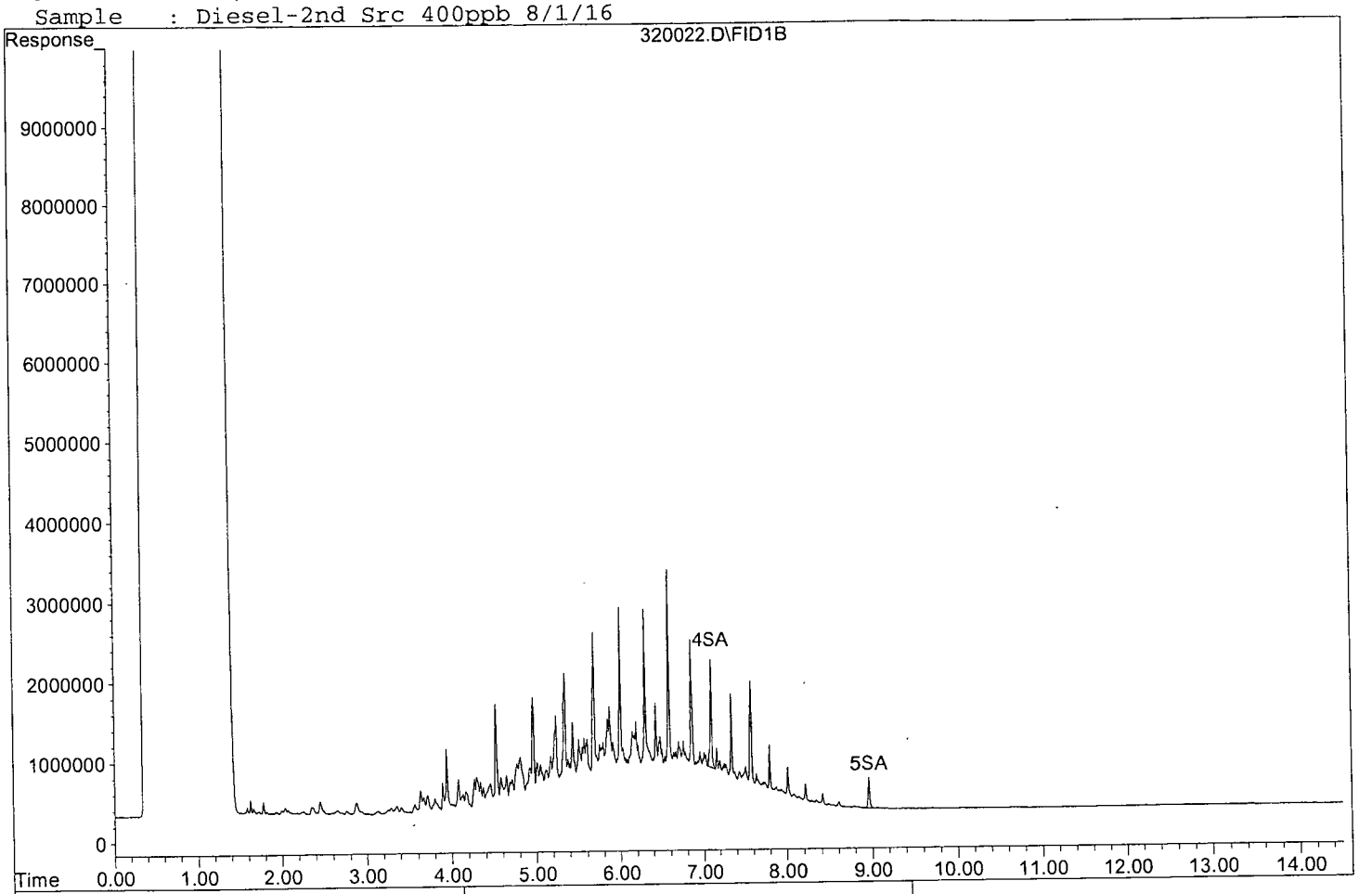
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

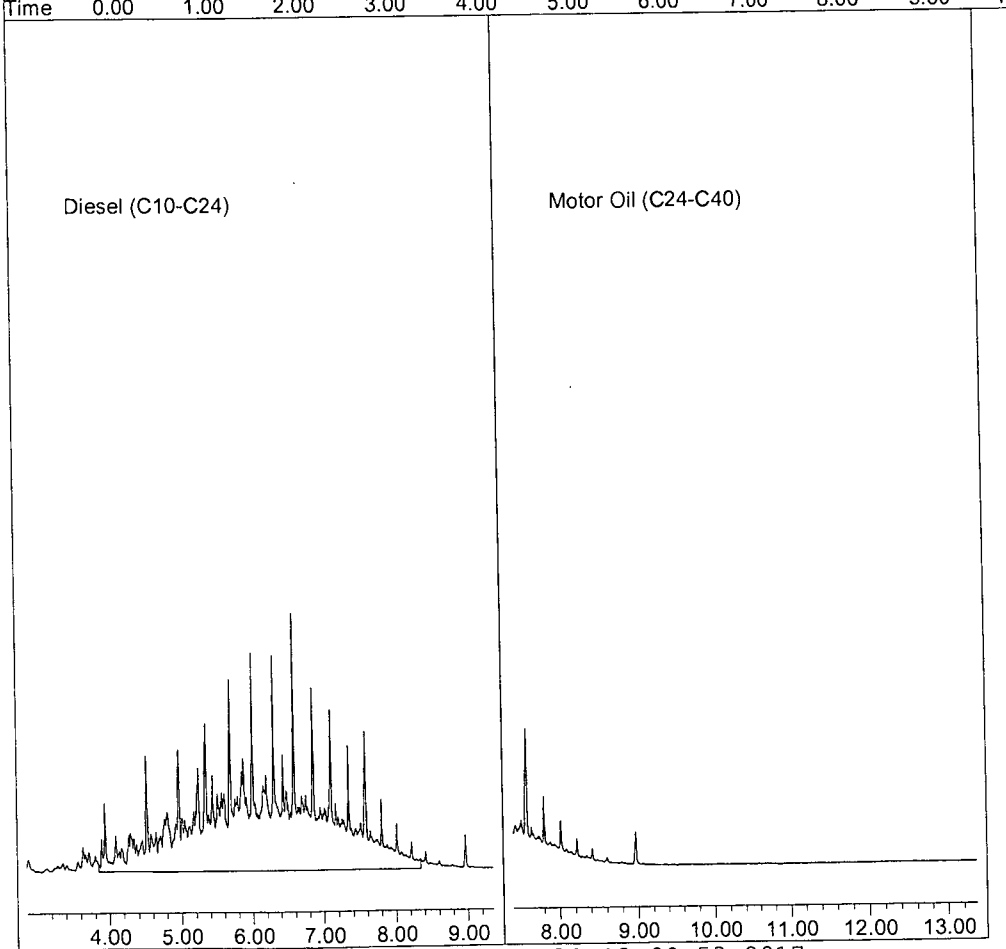
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	18760456	4.093 ppb
Surrogate Spike 30.000		Recovery =	13.64%
5) SA Octacosane(S)	8.97	5160434	1.492 ppb
Surrogate Spike 30.000		Recovery =	4.97%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1507663254	415.297 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320022.D
Sample : Diesel-2nd Src 400ppb 8/1/16





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320029.D
Acq On : 3-20-17 19:48:56
Sample : Motor Oil-2nd Src 1000ppb 10/14/16
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 29
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

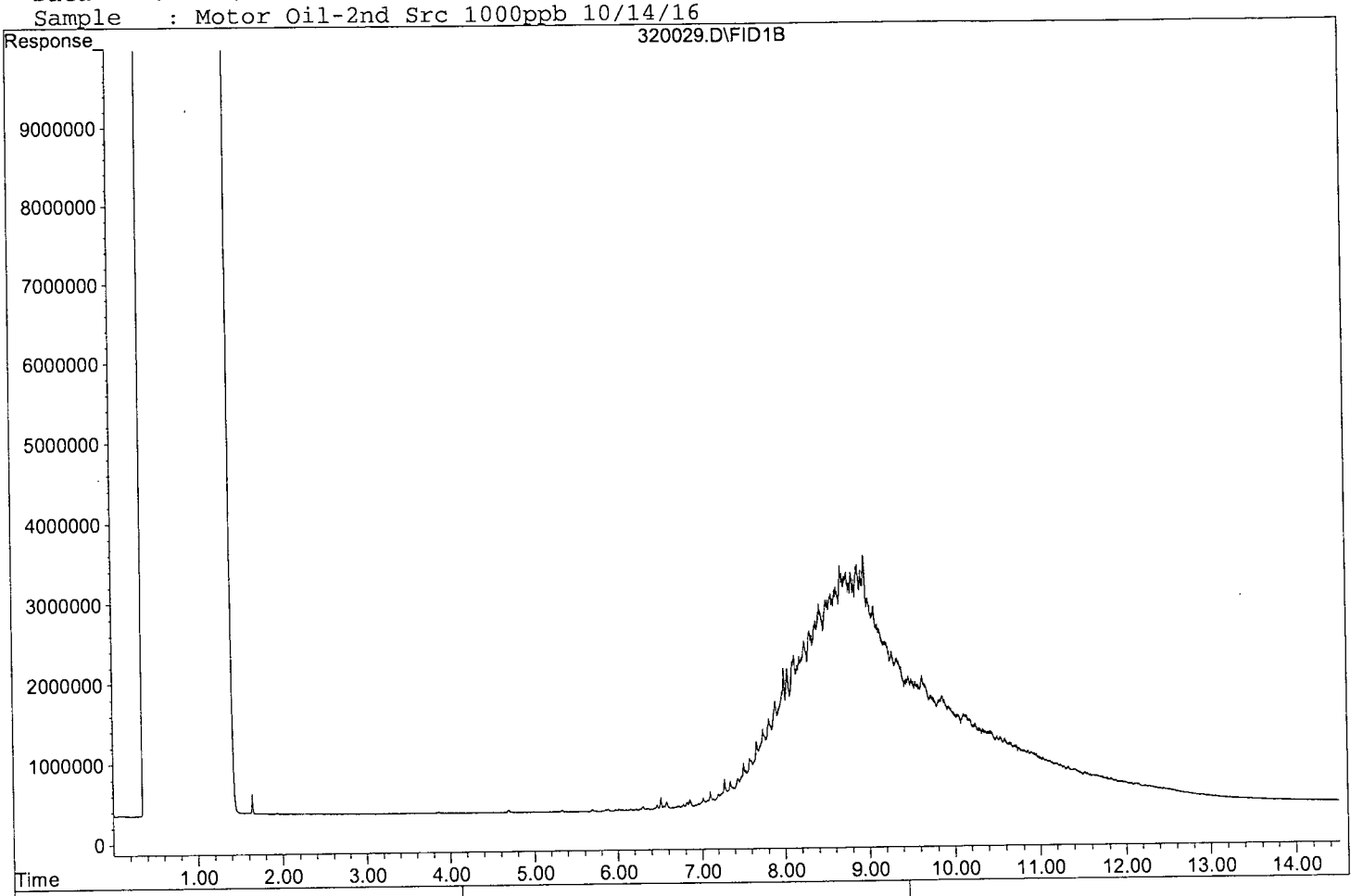
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

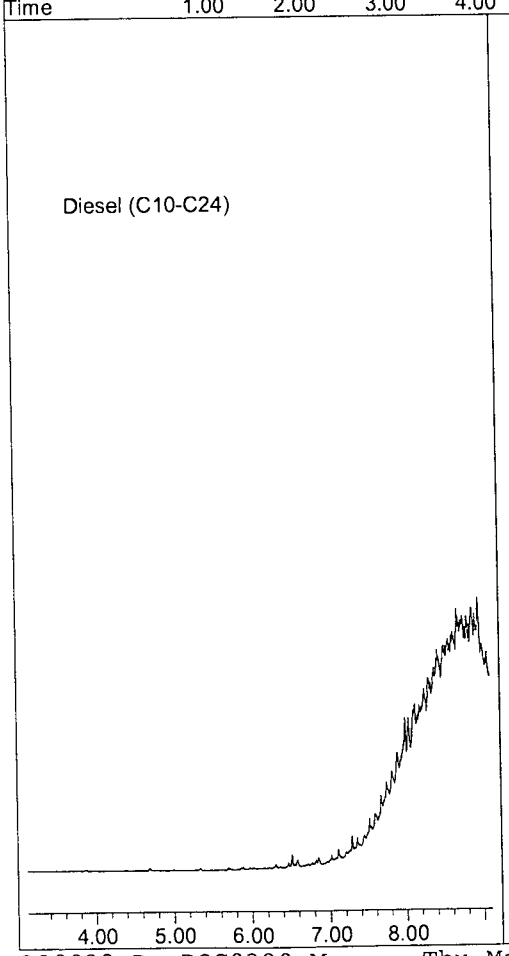
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2905079308	1181.841 ppb

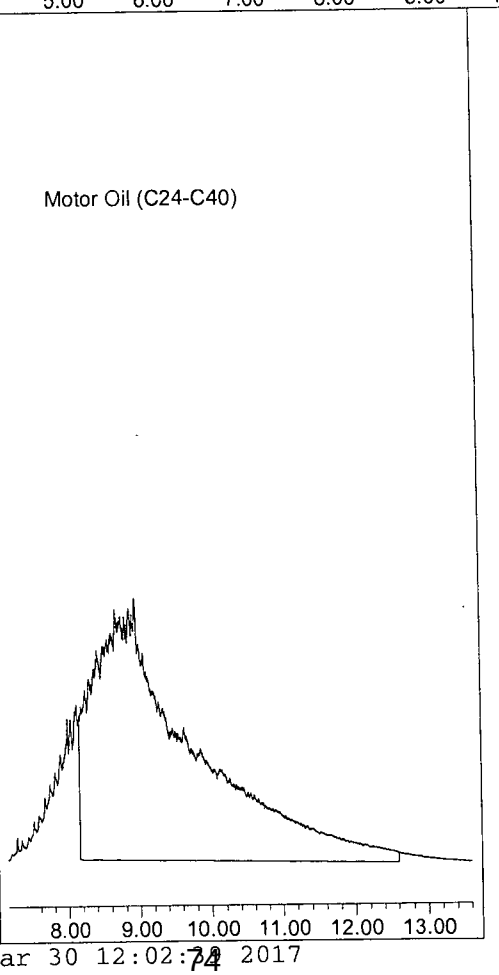
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320029.D
Sample : Motor Oil-2nd Src 1000ppb 10/14/16







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411002-3.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1692060	6.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1205340	1.9	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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21							
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25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.4		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411002.D
Acq On : 4-11-17 9:21:47
Sample : CCV: Diesel 400ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

Vial: 2
Operator: DP
Inst : Apollo
Multiplr: 1.00

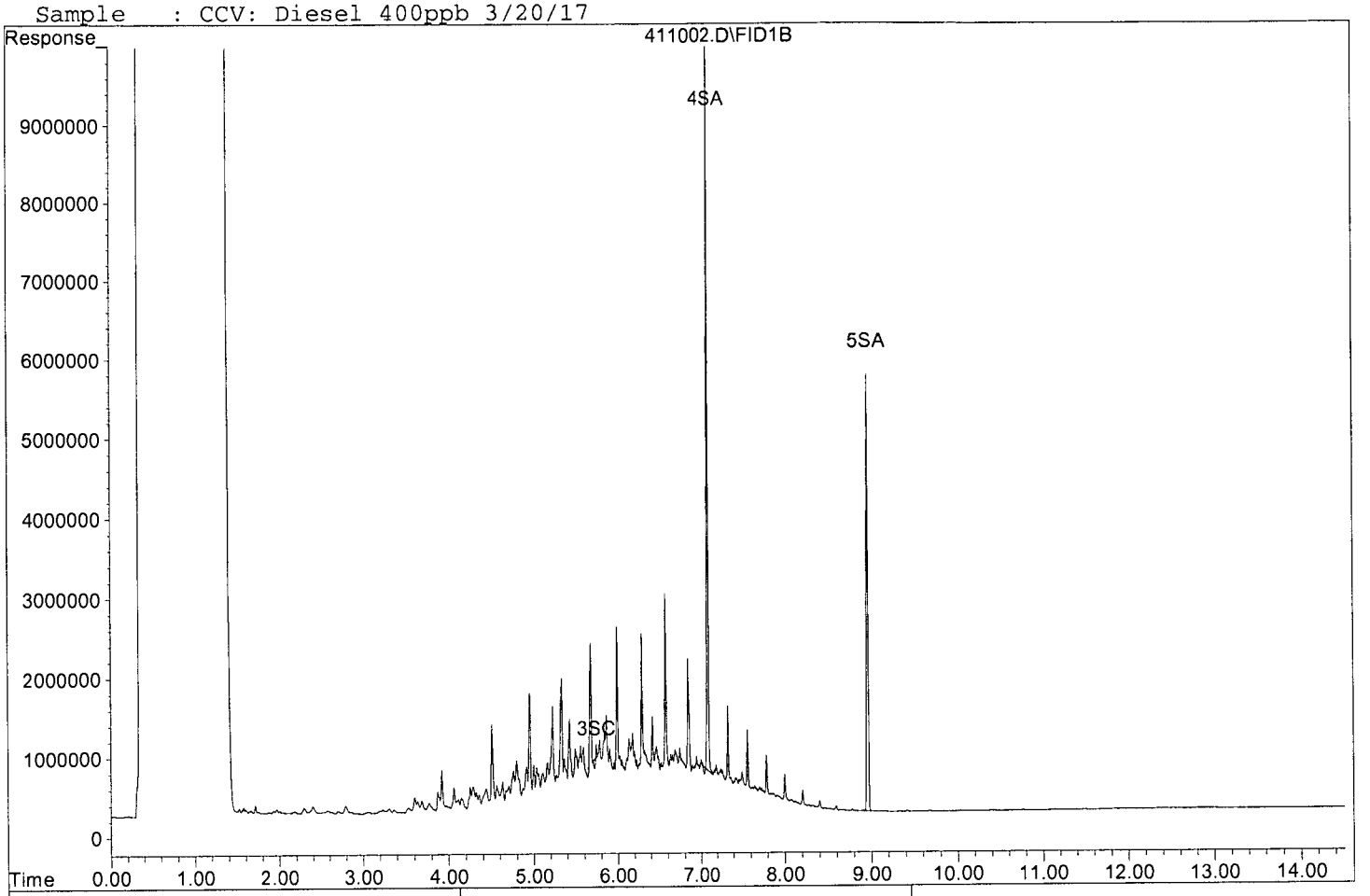
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Apr 10 13:39:55 2017
Response via : Multiple Level Calibration

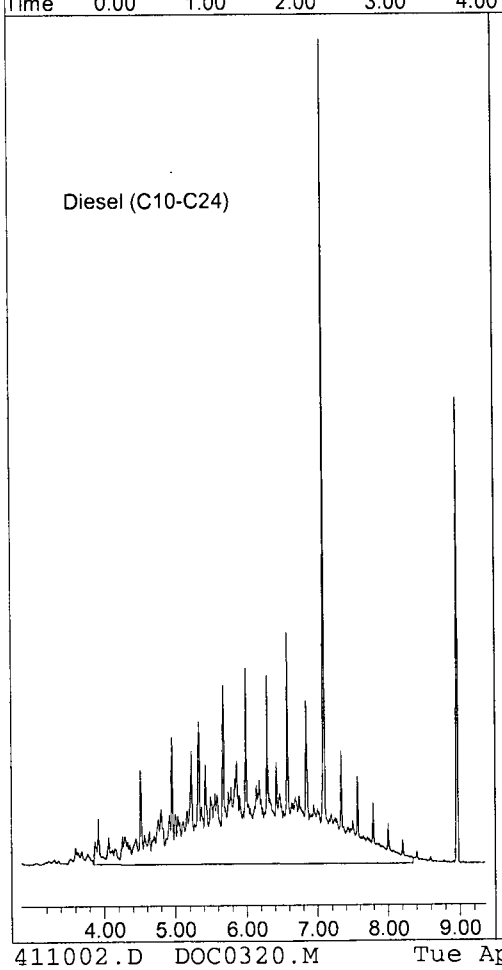
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

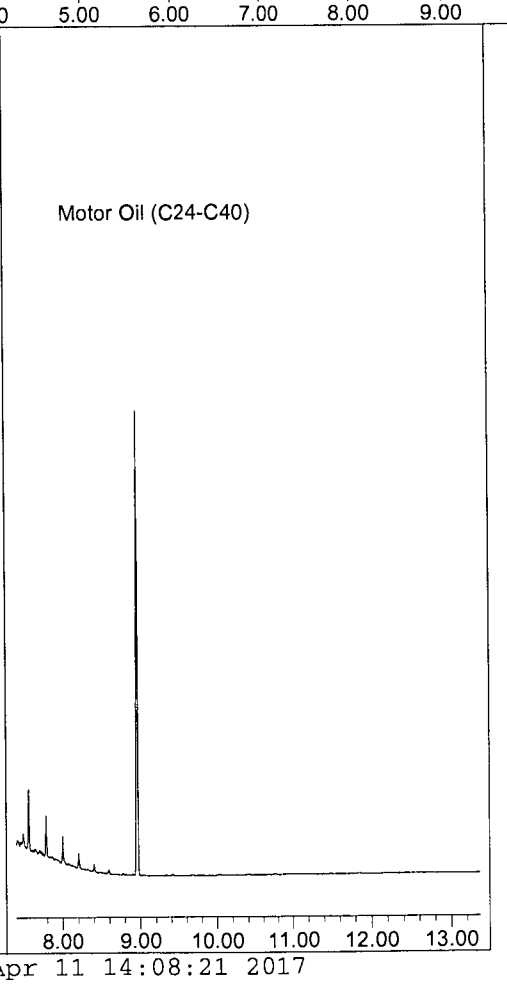
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-56811	2.065 ppb
Surrogate Spike 24.000		Recovery =	8.60%
4) SA Ortho-Terphenyl(S)	7.09	90108655	19.661 ppb
Surrogate Spike 30.000		Recovery =	65.54%
5) SA Octacosane(S)	8.97	65271836	18.874 ppb
Surrogate Spike 30.000		Recovery =	62.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1353649106	372.872 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411002.D
Sample : CCV: Diesel 400ppb 3/20/17







Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411003.D
Acq On : 4-11-17 9:42:20
Sample : CCV: MO 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

Vial: 3
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Mon Apr 10 13:39:55 2017
Response via : Multiple Level Calibration

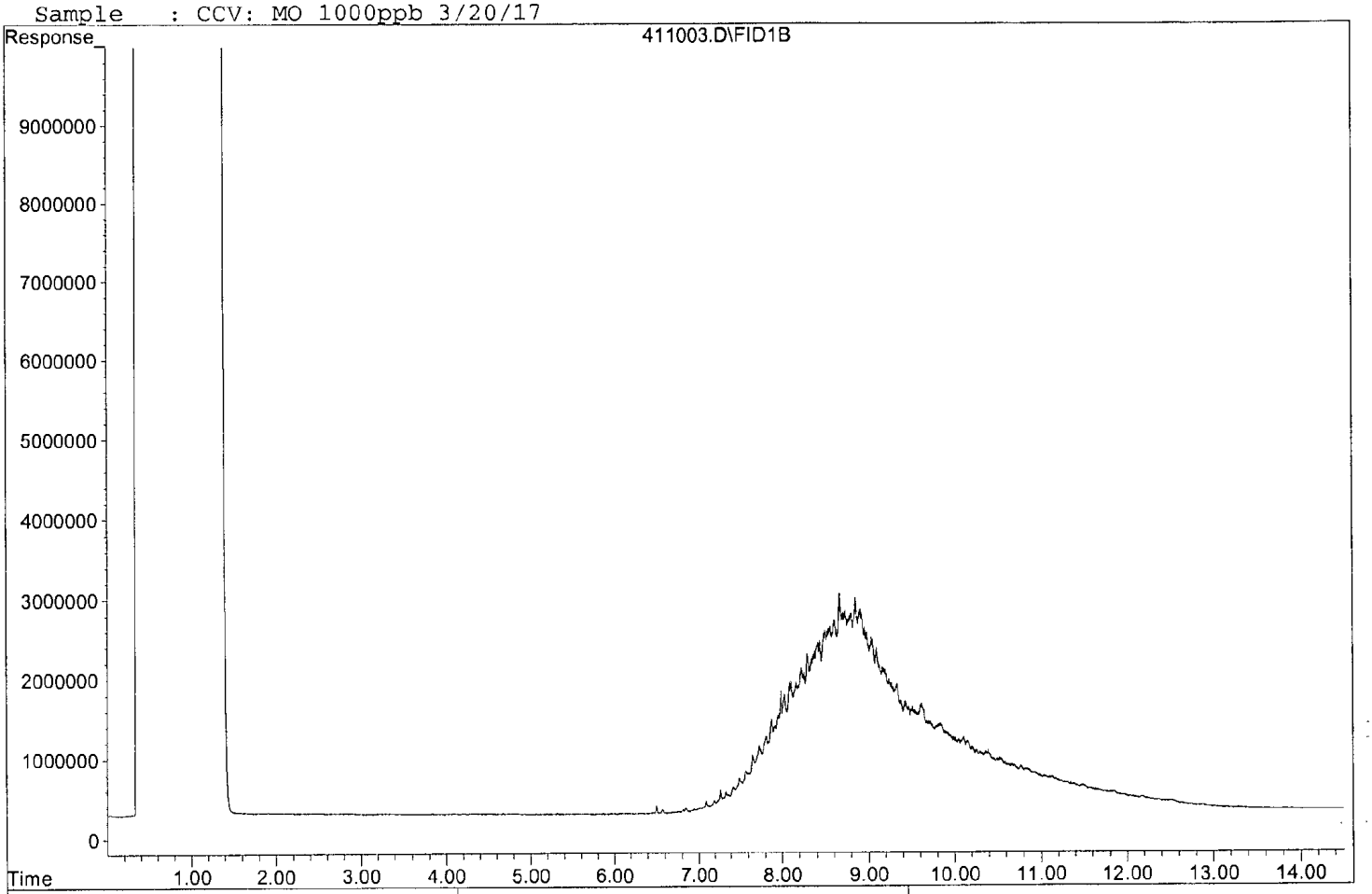
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

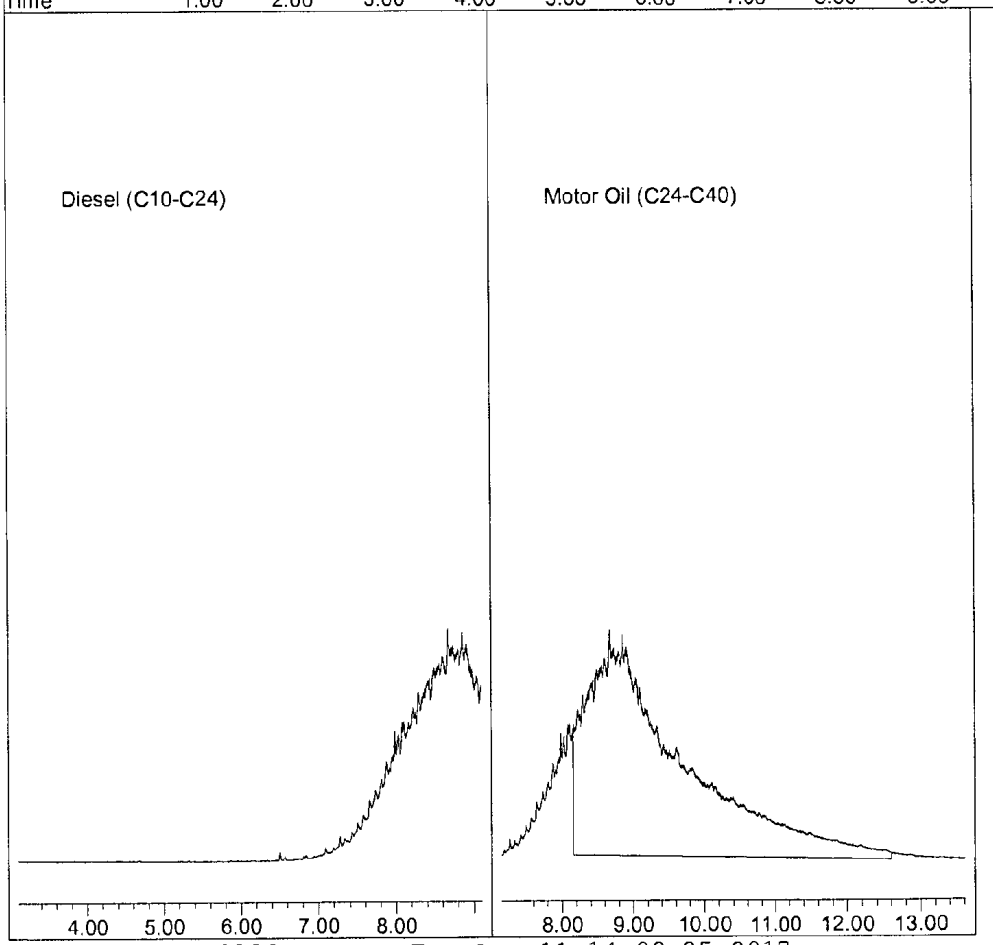
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2410671656	980.707 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411003.D
Sample : CCV: MO 1000ppb 3/20/17





TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411016-17.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1712120	5.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1162680	5.4	HBTM	
3							
4							
5							
6							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.7		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411016.D Vial: 16
Acq On : 4-11-17 14:29:07 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 14:45 2017 Quant Results File: DOC0320.RES

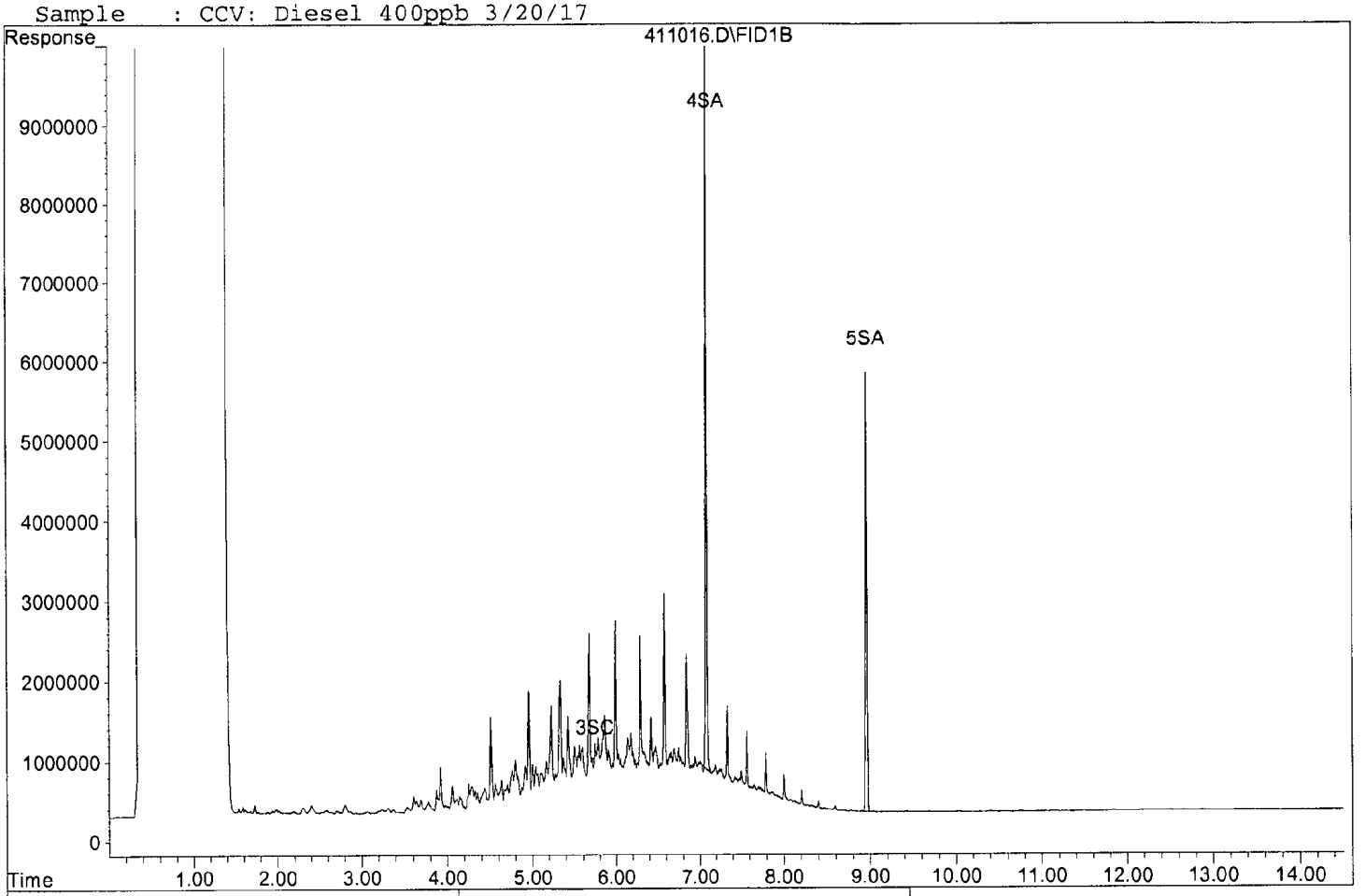
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

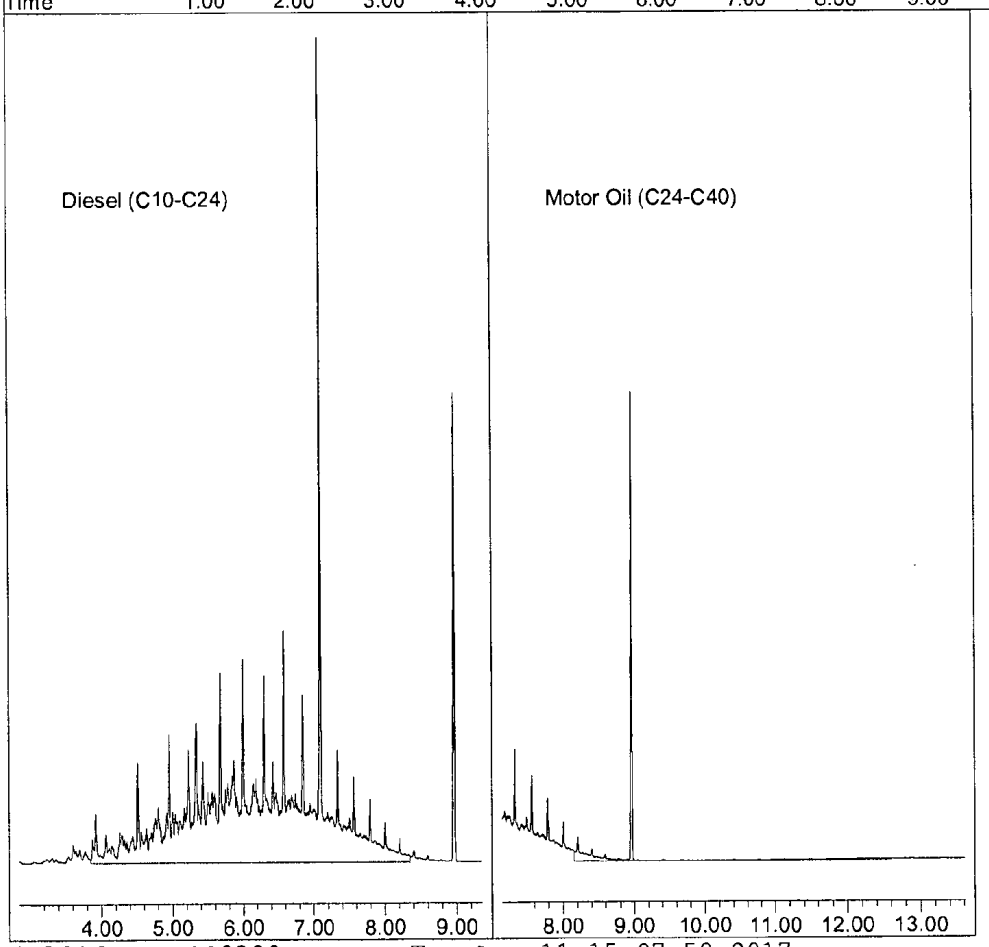
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-22244	2.078 ppb
Surrogate Spike 24.000		Recovery =	8.66%
4) SA Ortho-Terphenyl(S)	7.09	90230131	19.688 ppb
Surrogate Spike 24.000		Recovery =	82.03%
5) SA Octacosane(S)	8.97	64924495	18.774 ppb
Surrogate Spike 24.000		Recovery =	78.22%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1369694800	377.292 ppb
2) HBTM Motor Oil (C24-C40)	10.38	36048406	14.665 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411016.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411017.D Vial: 17
Acq On : 4-11-17 14:50:11 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 15:04 2017 Quant Results File: DOC0320.RES

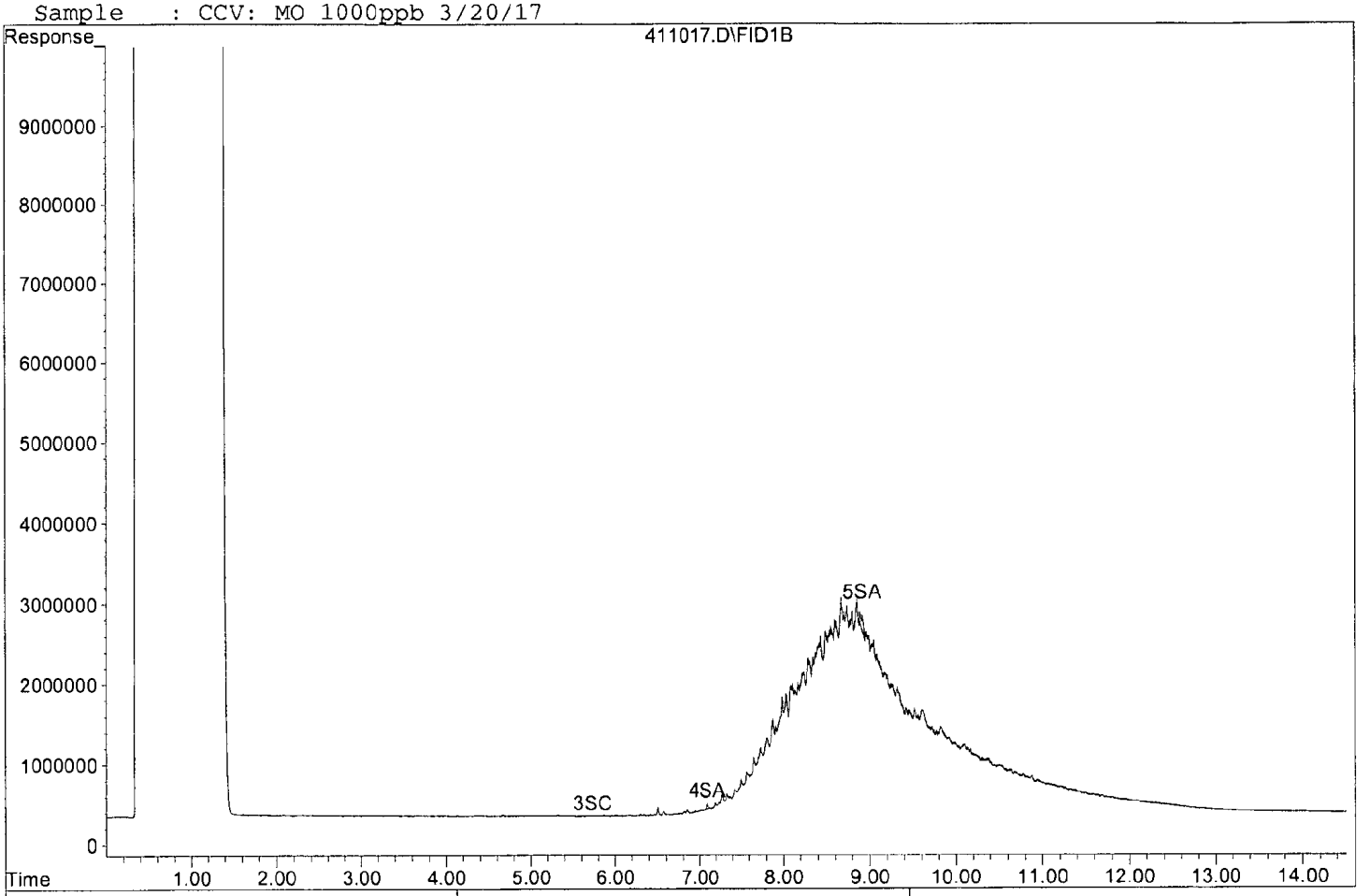
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

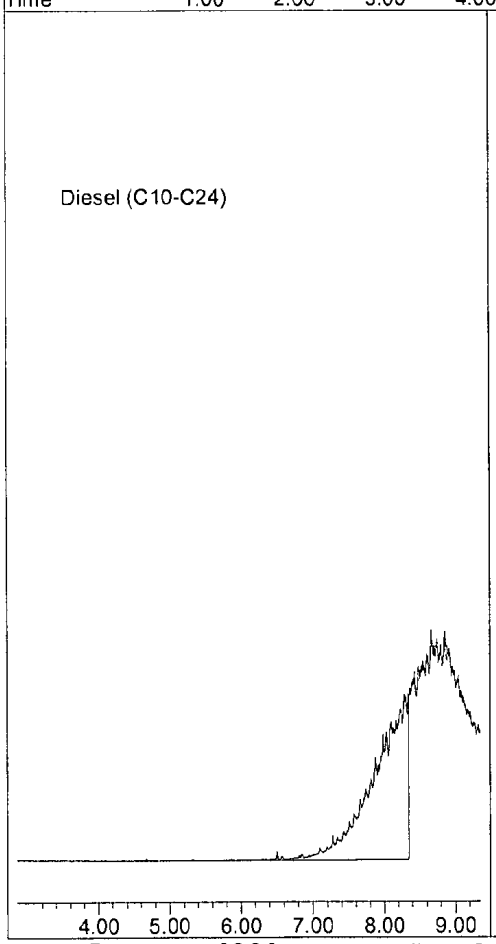
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

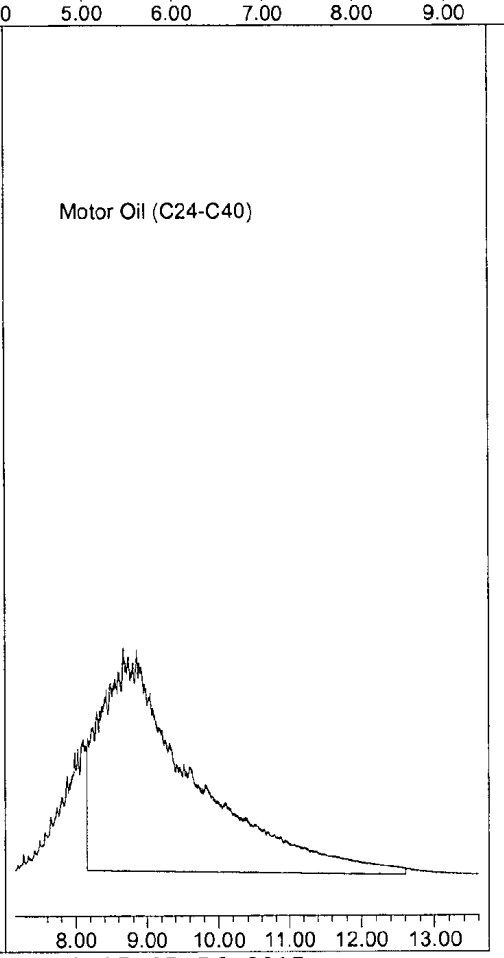
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	10529	2.091 ppb
Surrogate Spike 24.000		Recovery =	8.71%
4) SA Ortho-Terphenyl(S)	7.09	672993	0.147 ppb
Surrogate Spike 24.000		Recovery =	0.61%
5) SA Octacosane(S)	8.92	4070534	1.177 ppb
Surrogate Spike 24.000		Recovery =	4.90%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	651621587	179.494 ppb
2) HBTM Motor Oil (C24-C40)	10.38	2325366745	946.003 ppb

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411017.D
Sample : CCV: MO 1000ppb 3/20/17







411017.D DOC0320.M Tue Apr 11 15:07:56 2017

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411004
Instrument: Apollo
Sequence: 170411
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:31:59 PM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411004.D
Acq On : 4-11-17 10:02:59
Sample : 170407A BLK 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:19 2017 Quant Results File: DOC0320.RES

Vial: 4
Operator: DP
Inst : Apollo
Multiplr: 1.67

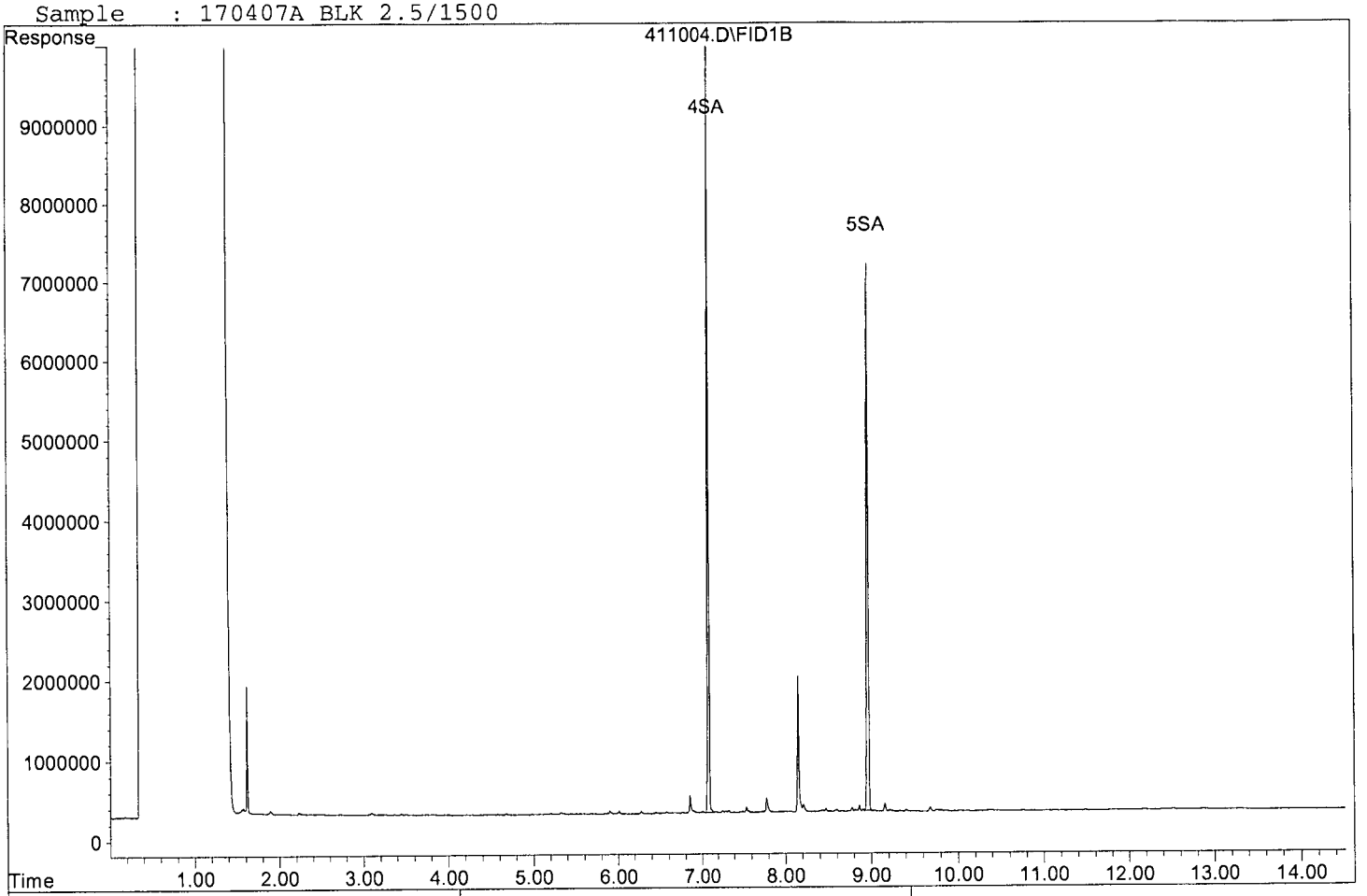
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

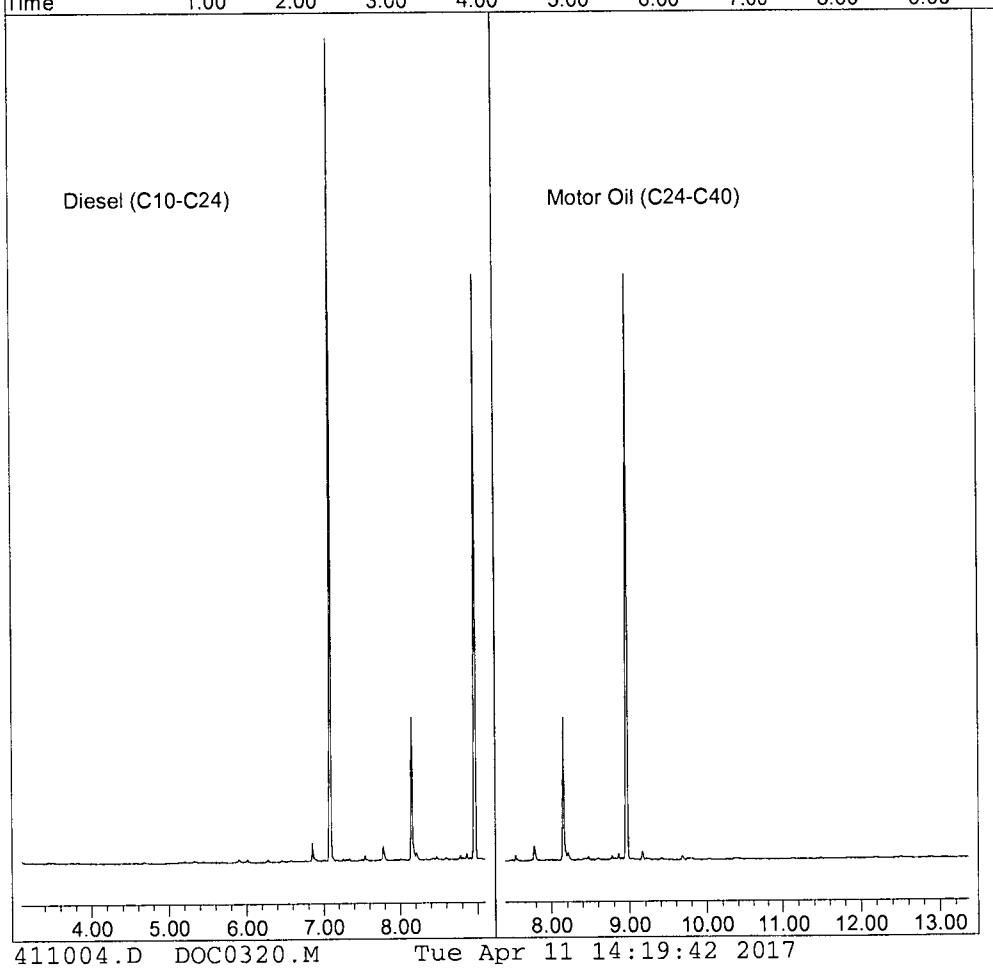
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	102369803	37.228 ppb
Surrogate Spike 40.000		Recovery =	93.07%
5) SA Octacosane(S)	8.97	87971576	42.397 ppb
Surrogate Spike 40.000		Recovery =	105.99%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411004.D
Sample : 170407A BLK 2.5/1500





Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/11/17 4:10:55 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411005.D
Acq On : 4-11-17 10:23:44
Sample : 170407A LCS-1 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:19 2017 Quant Results File: DOC0320.RES

Vial: 5
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	103000368	37.457 ppb
Surrogate Spike 40.000		Recovery =	93.64%
5) SA Octacosane(S)	8.97	77584686	37.391 ppb
Surrogate Spike 40.000		Recovery =	93.48%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	912228874	418.801 ppb

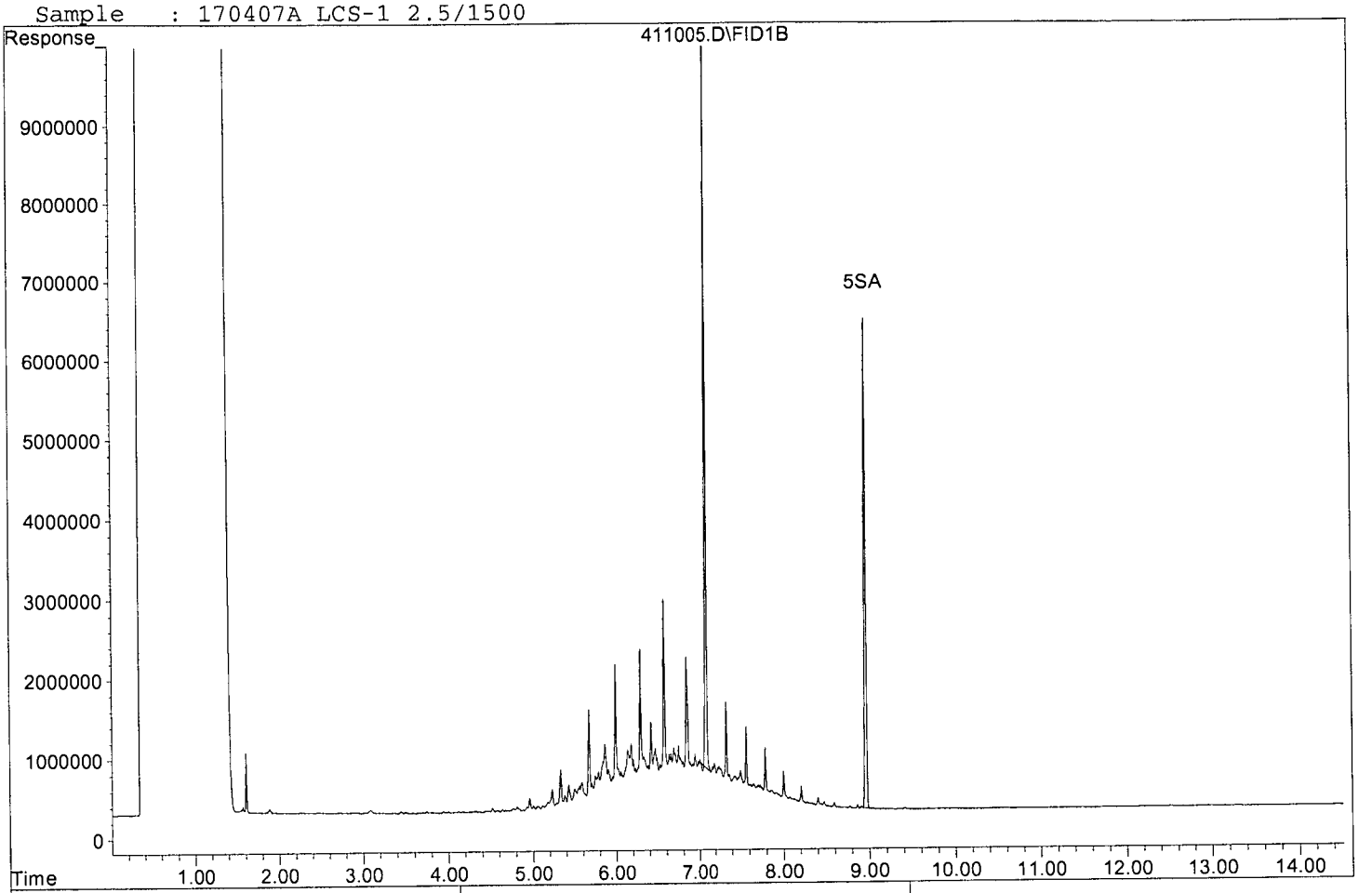
algorithm check Diesel: $\frac{912228874 \times 1.67}{1815165 \times 2} = 419.6373937$

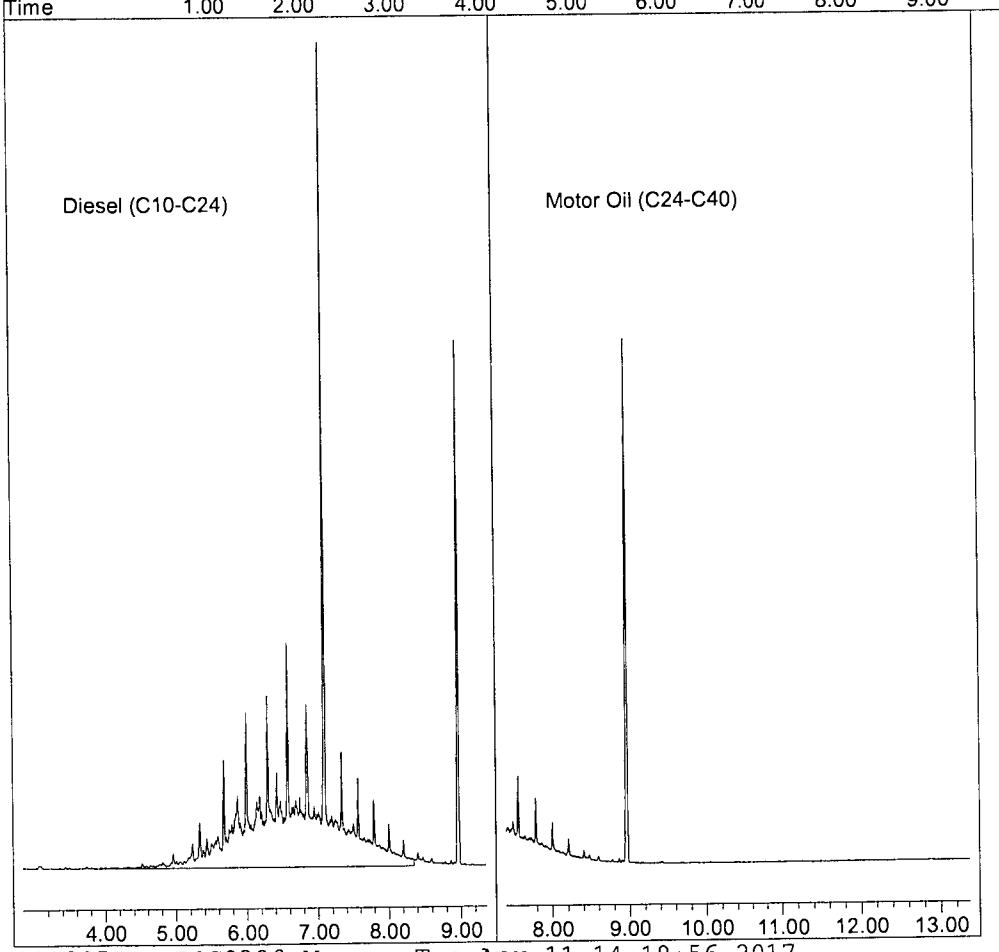
DP 4/11/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411005.D
Sample : 170407A LCS-1 2.5/1500





411005.D DOC0320.M Tue Apr 11 14:19:56 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411006.D Vial: 6
Acq On : 4-11-17 10:44:31 Operator: DP
Sample : 170407A LCS-2 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 15:48 2017 Quant Results File: DOC0320.RES

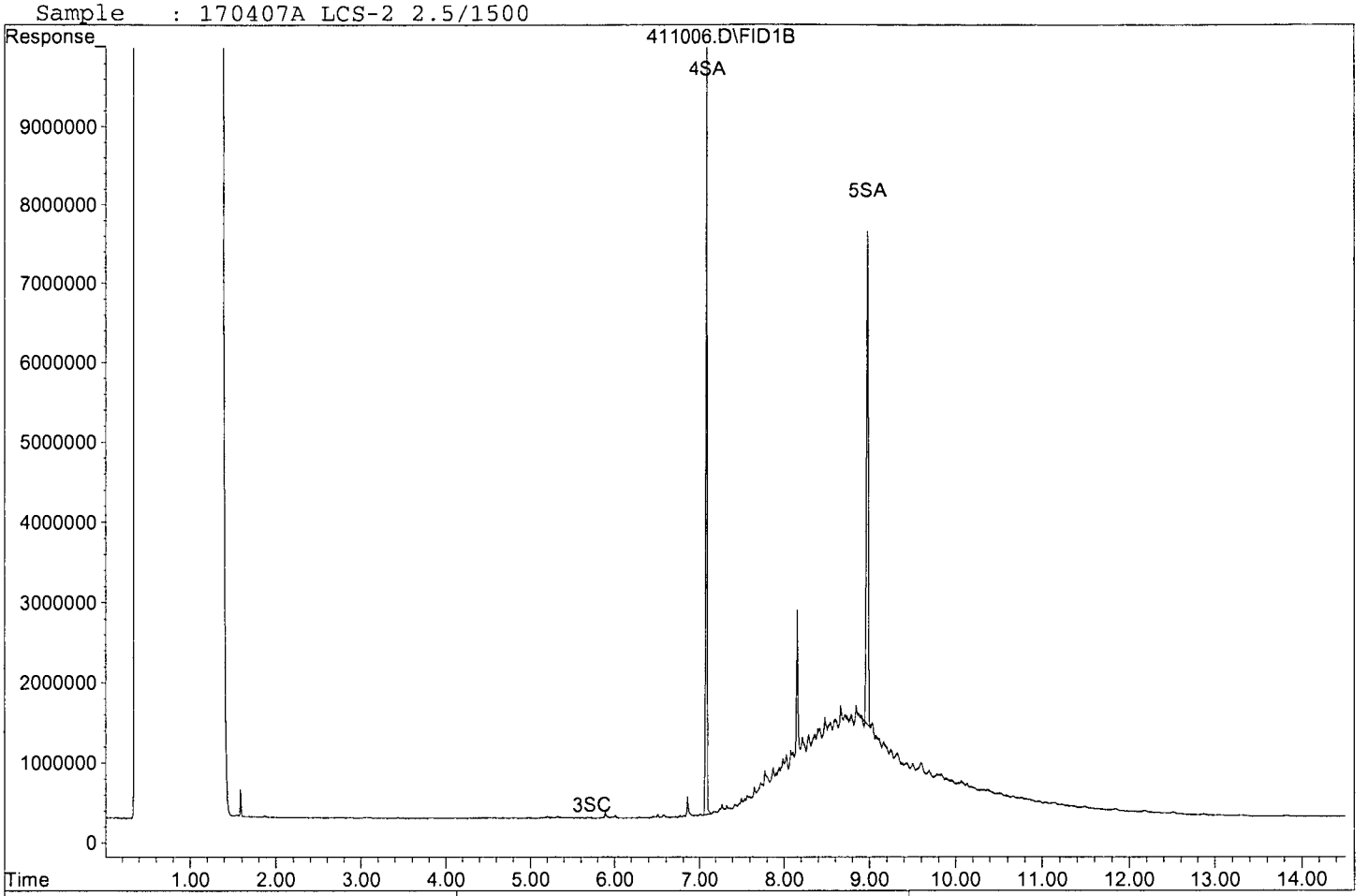
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

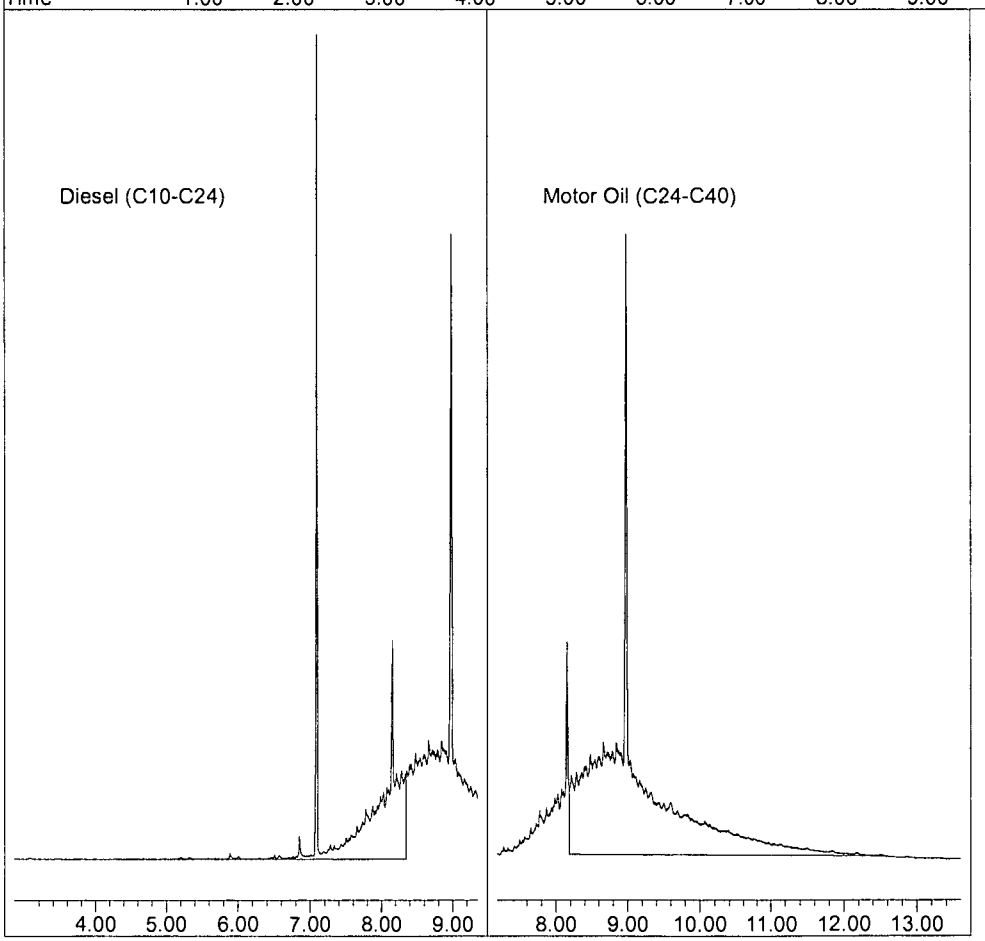
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	121929	3.559 ppb
Surrogate Spike 40.000		Recovery =	8.90%
4) SA Ortho-Terphenyl(S)	7.09	107978907	39.268 ppb
Surrogate Spike 40.000		Recovery =	98.17%
5) SA Octacosane(S)	8.98	89774179	43.265 ppb
Surrogate Spike 40.000		Recovery =	108.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	380929492	174.883 ppb
2) HBTM Motor Oil (C24-C40)	10.38	1086250901	736.514 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411006.D
Sample : 170407A LCS-2 2.5/1500





Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170407W-53059 MS - 217734**
Batch ID: #DOC53-170407A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	459	459	68.8	68.8	36-132	0.0	30
OIL (C24-C40)	667	ND	652	611	97.8	91.6	41-113	6.5	30
SURROGATE: OCTACOSANE (S)	40.0	NA	39.7	38.3	99.3	95.8	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	39.9	39.1	99.8	97.8	56-125		

Comments: _____

Primary	SPK	DUP
Quant Method :	DOC0320.M	DOC0320.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Apollo	Apollo
Run :	411010	411011
Initials :	DPO	

Printed: 04/11/17 2:31:48 PM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411008.D
Vial: 8
Acq On : 4-11-17 11:26:14
Operator: DP
Sample : AZ53059W32 MS-1 2.5/1500
Inst : Apollo
Misc : water
Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 14:20 2017 Quant Results File: DOC0320.RES

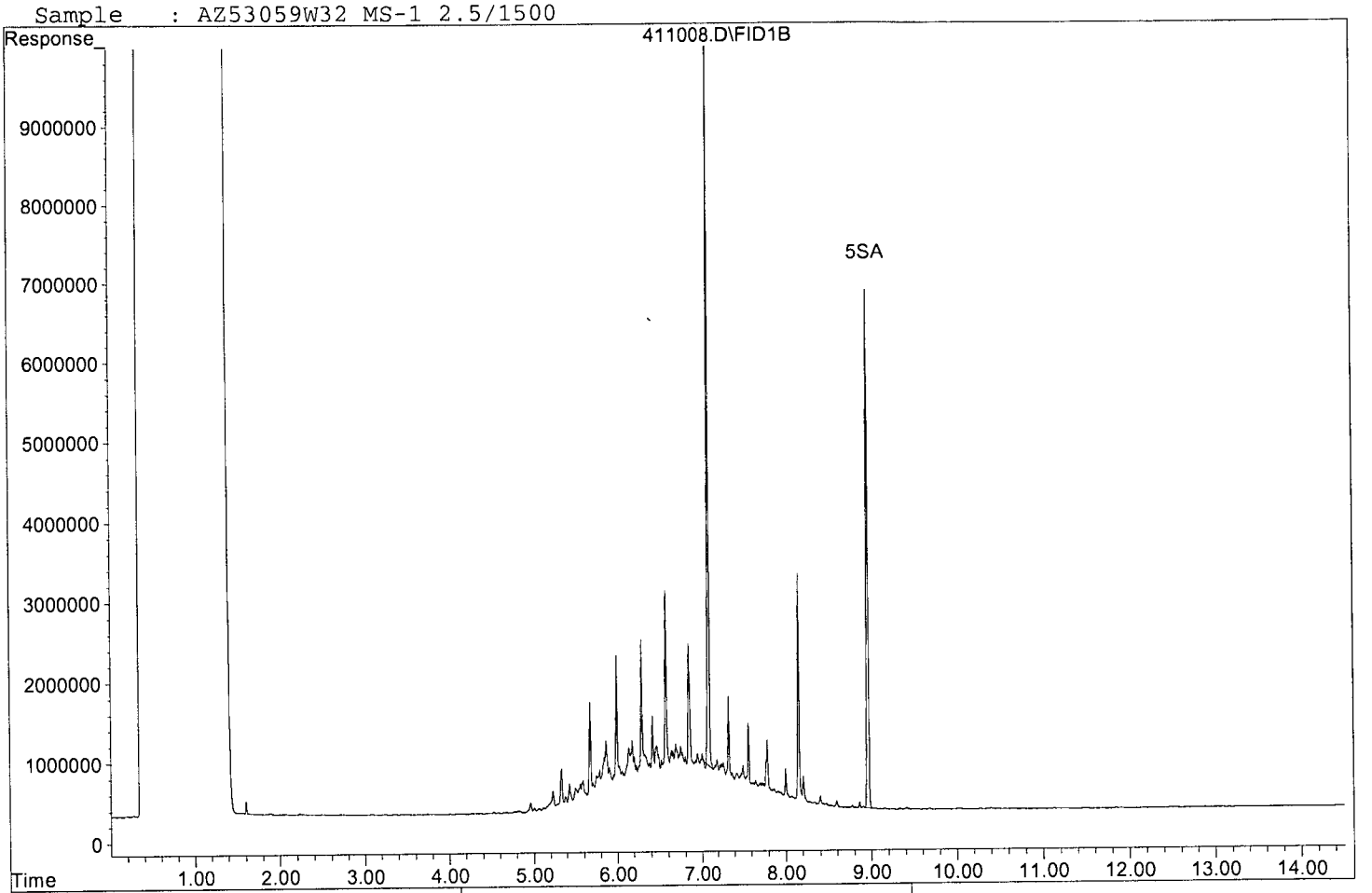
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

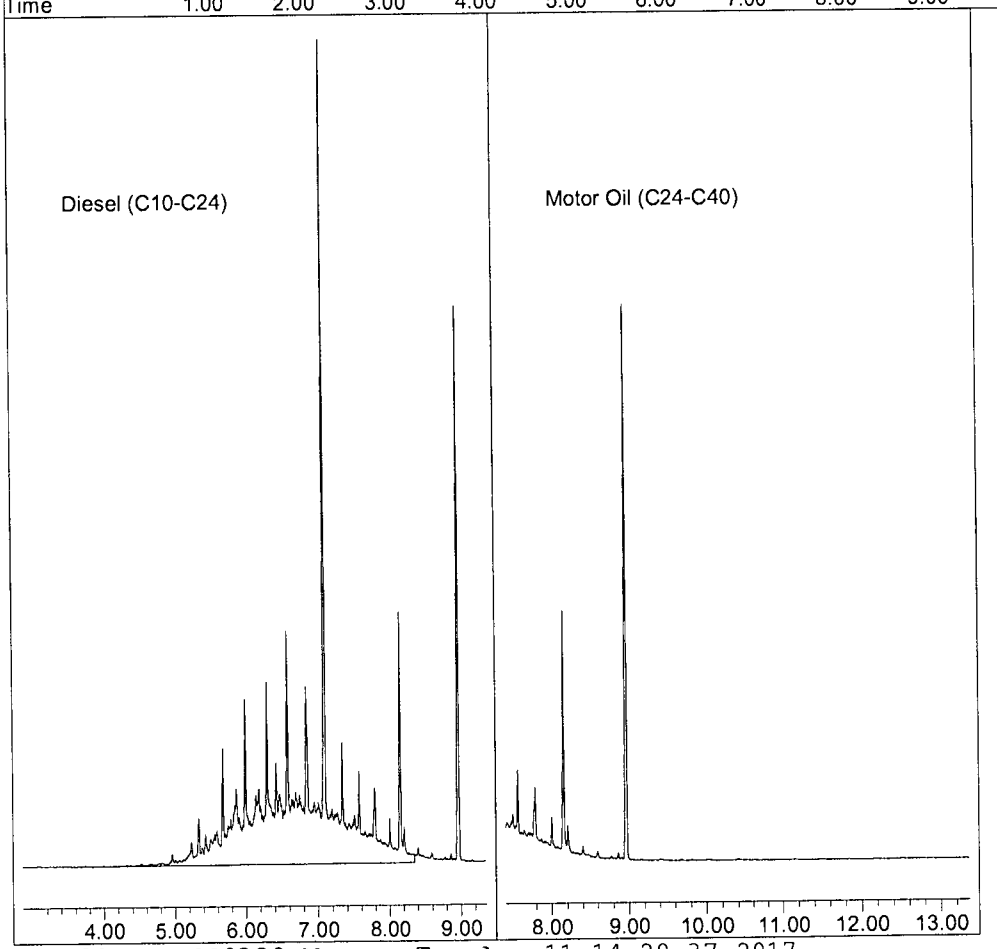
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	109760688	39.915 ppb
Surrogate Spike 40.000		Recovery =	99.79%
5) SA Octacosane(S)	8.97	82401643	39.712 ppb
Surrogate Spike 40.000		Recovery =	99.28%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	999124262	458.694 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411008.D
Sample : AZ53059W32 MS-1 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411009.D
Acq On : 4-11-17 11:47:03
Sample : AZ53059W26 MSD-1 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:20 2017 Quant Results File: DOC0320.RES

Vial: 9
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

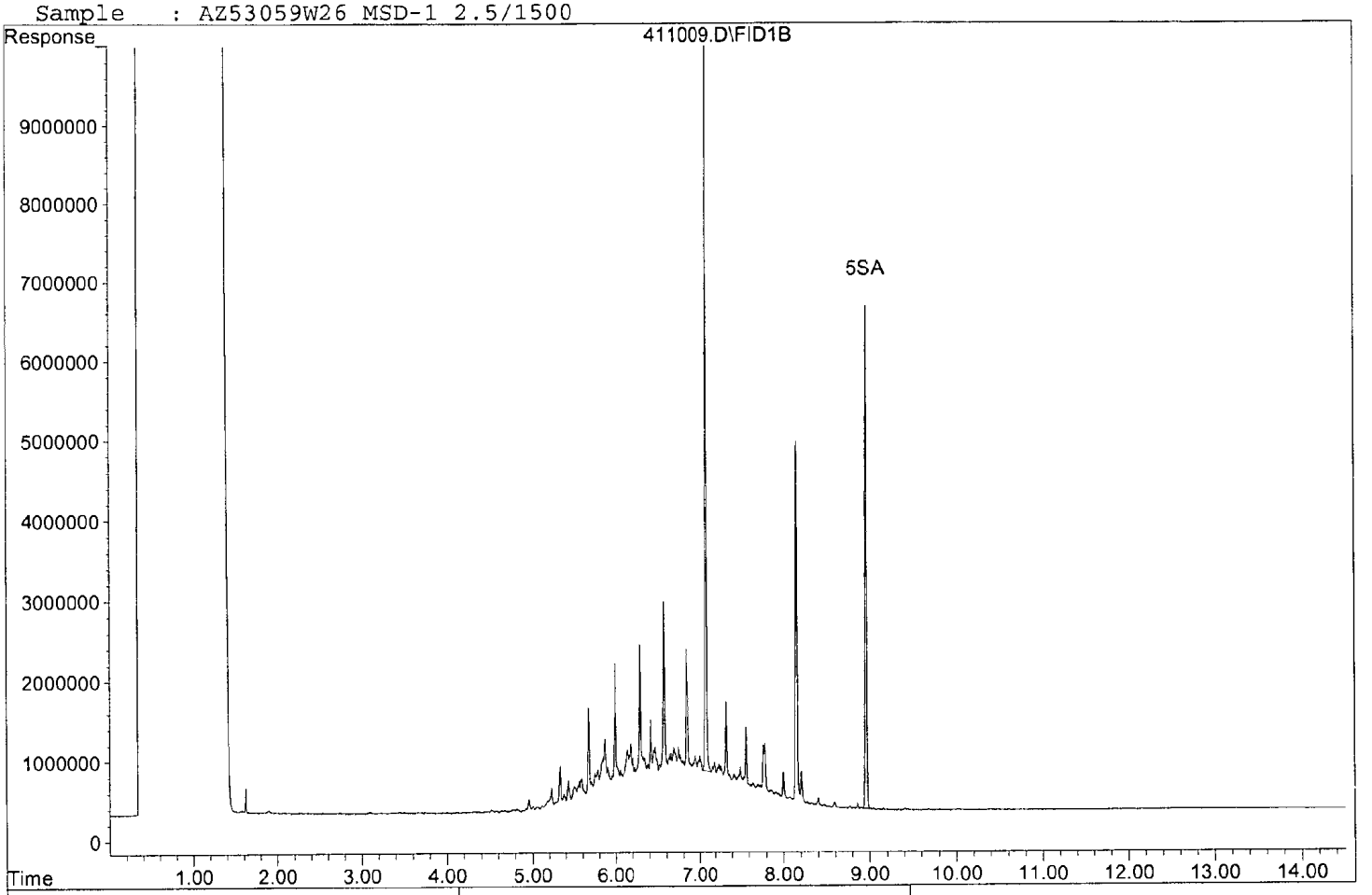
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

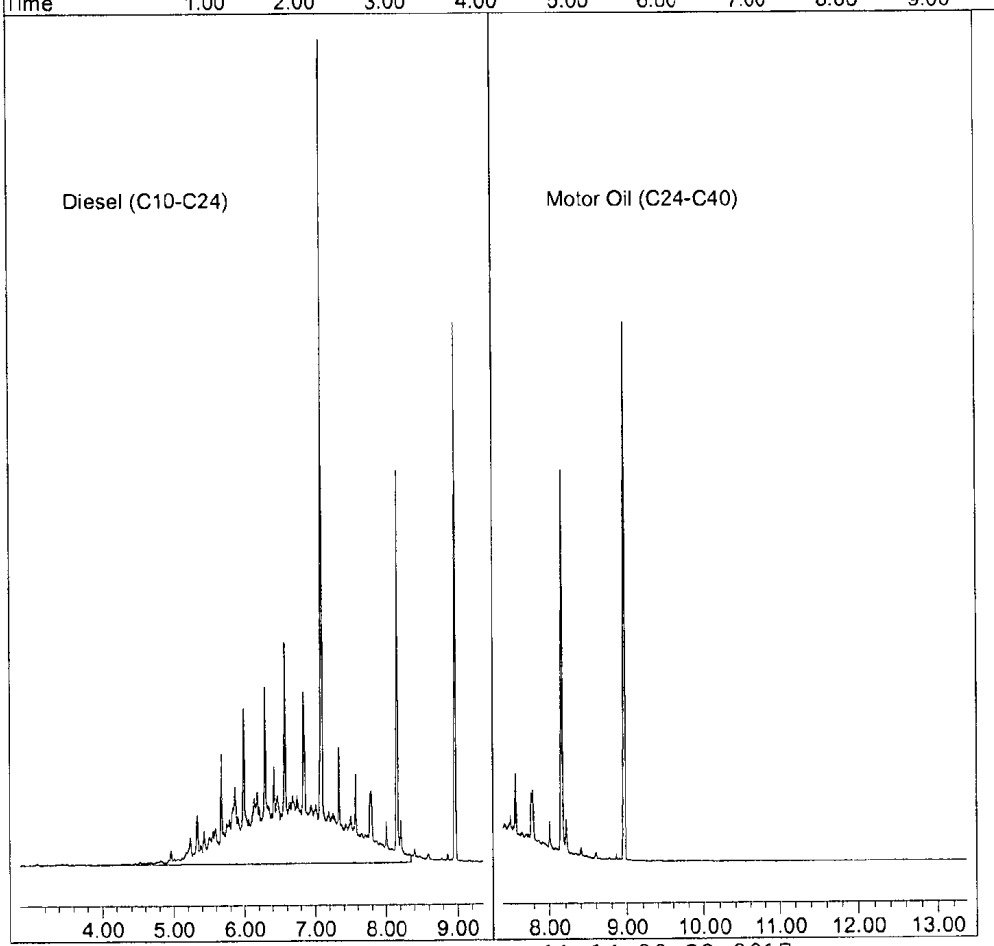
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	107520459	39.101 ppb
Surrogate Spike 40.000		Recovery =	97.75%
5) SA Octacosane(S)	8.97	79369149	38.251 ppb
Surrogate Spike 40.000		Recovery =	95.63%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1000060551	459.124 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411009.D
Sample : AZ53059W26 MSD-1 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411010.D Vial: 10
Acq On : 4-11-17 12:07:58 Operator: DP
Sample : AZ53059W24 MS-2 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 14:21 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

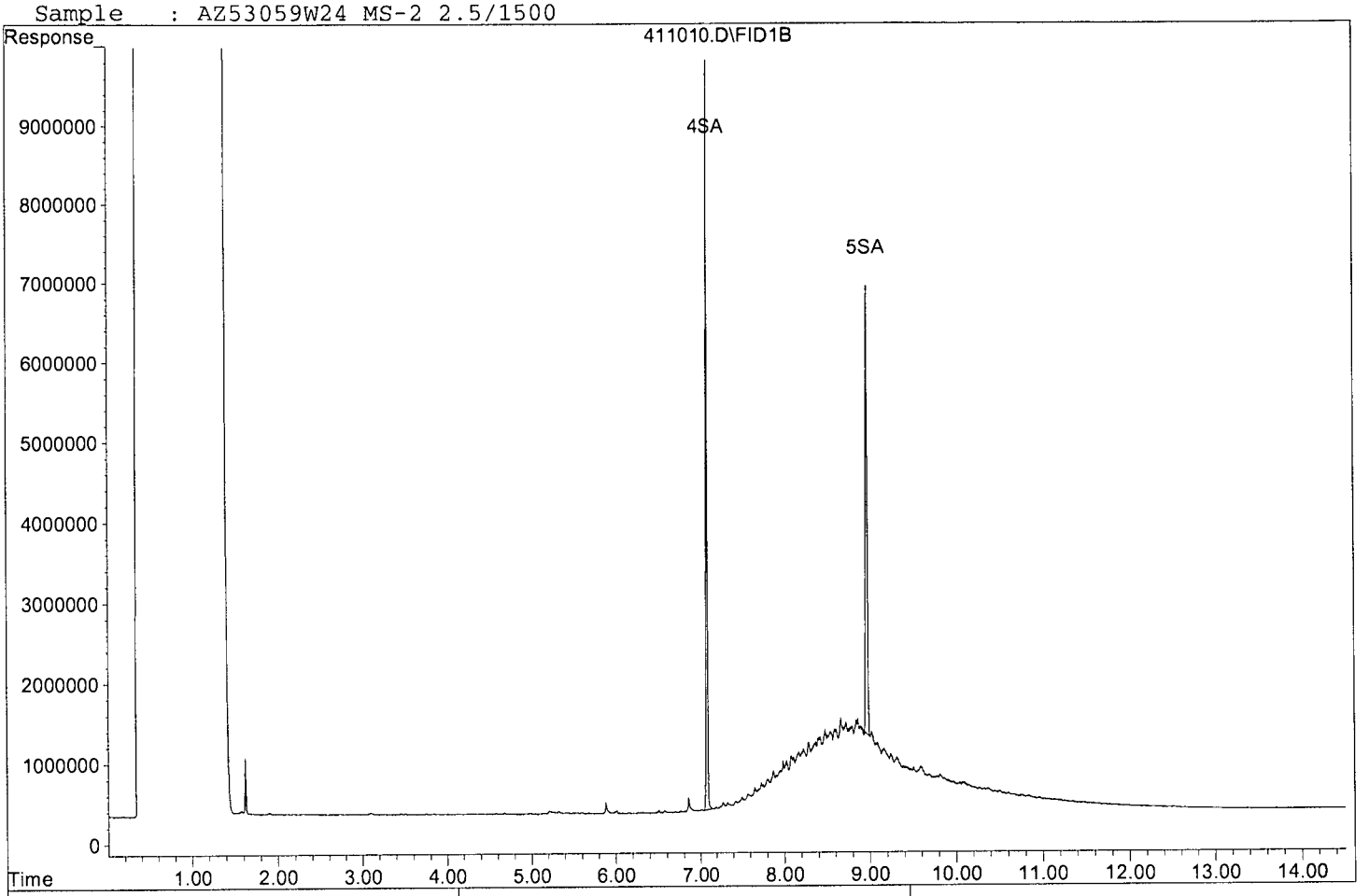
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

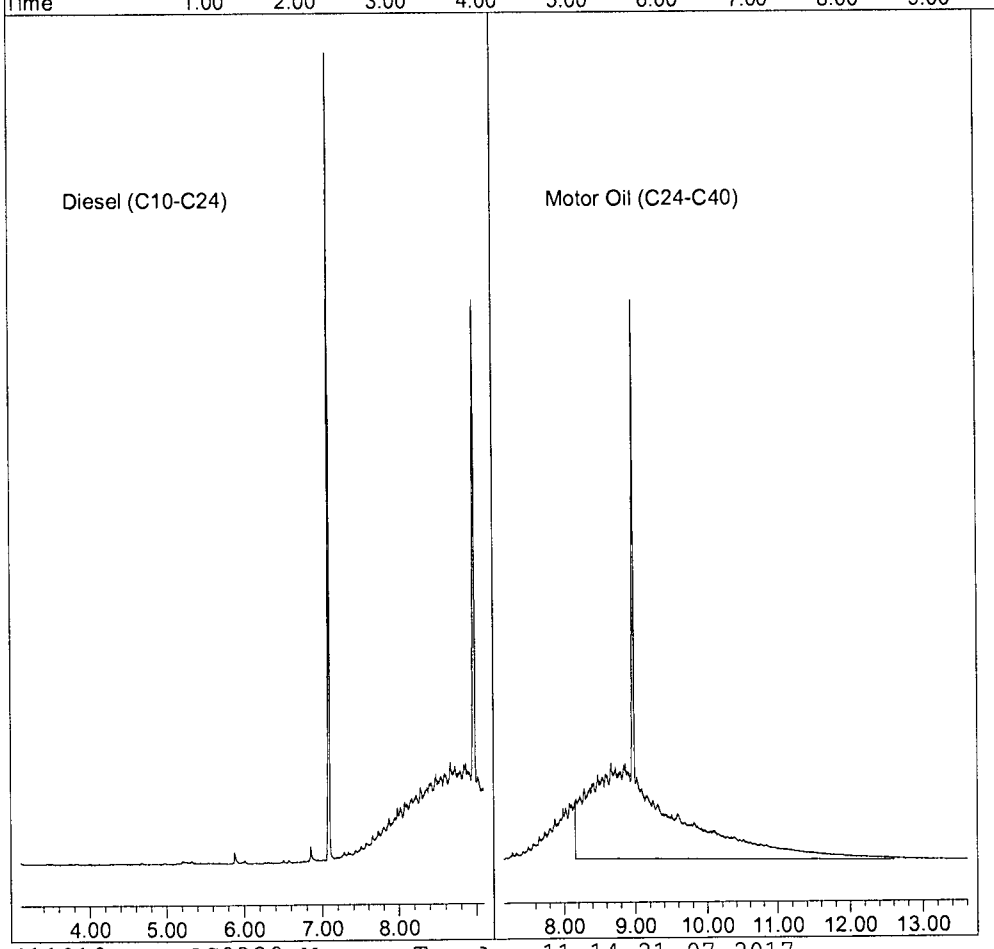
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	93773225	34.101 ppb
Surrogate Spike 40.000		Recovery =	85.25%
5) SA Octacosane(S)	8.98	77288625	37.248 ppb
Surrogate Spike 40.000		Recovery =	93.12%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	961496351	651.926 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411010.D
Sample : AZ53059W24 MS-2 2.5/1500





411010.D DOC0320.M Tue Apr 11 14:21:07 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411011.D Vial: 11
Acq On : 4-11-17 12:28:56 Operator: DP
Sample : AZ53059W25 MSD-2 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 14:21 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

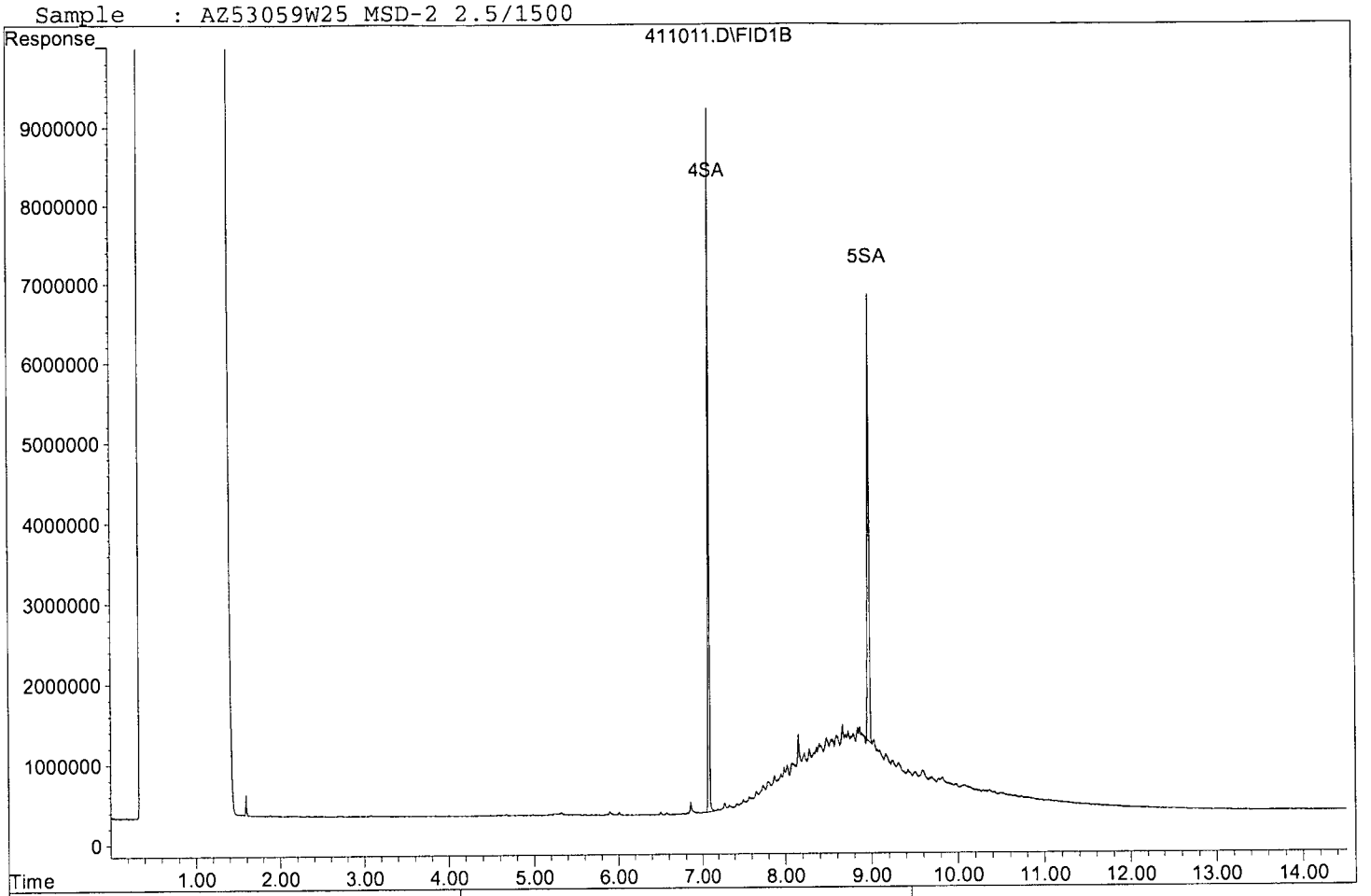
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

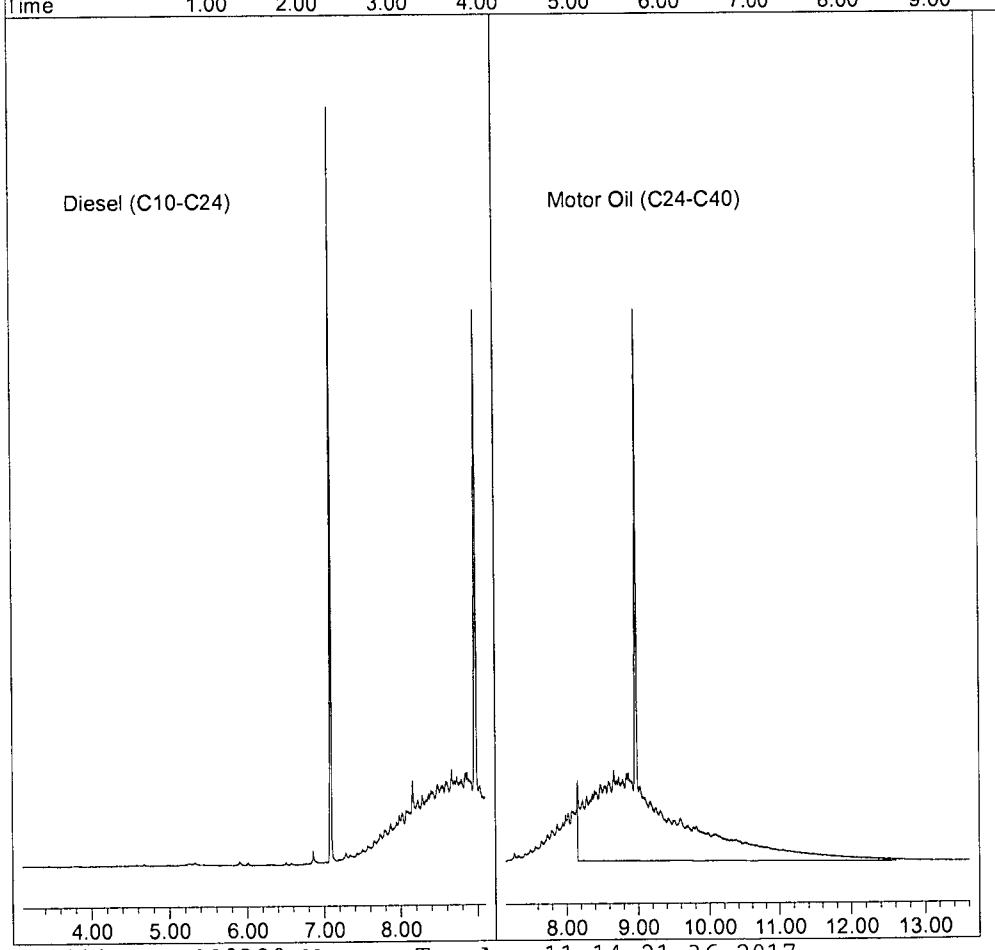
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	86606022	31.495 ppb
Surrogate Spike 40.000		Recovery =	78.74%
5) SA Octacosane(S)	8.97	72296677	34.842 ppb
Surrogate Spike 40.000		Recovery =	87.11%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	900823143	610.788 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411011.D
Sample : AZ53059W25 MSD-2 2.5/1500





411011.D DOC0320.M Tue Apr 11 14:21:36 2017

DIESEL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Diesel Cal STD	1000	280736-37656	03/20/17	03/02/18	10	10	40	60	80	100
MC	N/A	56153			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppb	10	100	400	600	800	1000

MOTOR OIL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Motor Oil STD	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56153			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppb	20	50	250	1000	1500	2000

Prep: 03/20/17-DP Exp: 03/02/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37656 OP: 03/20/17 EXP: 03/20/18	500 µL	25 mL	1000ug/mL	MC LOT# 56153
THC Surrogate Mix	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37404-37409 OP: 03/02/17 EXP: 03/02/18 O2SI CAT#110316-05 LOT#266278-37114-37116 OP: 03/02/17 EXP: 03/02/18	2080 µL		50ug/mL	

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 08/01/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP:07/06/16 Exp:07/06/17	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diesel Cal STD	1000 µg/mL	Diesel Cal STD	4000 µL	10 mL	400 µg/ml	MC
	Prep:	03/20/17				56153
	Exp:	03/02/18				

MOTOR OIL CCV 1000ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Motor Oil STD	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

Diesel Spike	
Cat:	011598-03
Lot:	280736-37657
Op:	03/31/17-DP
Exp:	03/31/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34444
Op: 03/13/17-D.P.
Exp: 11/09/17

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18	
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 11:10	
Spiked ID 8			Ext. End Time:	04/08/17 9:30	
			GC Requires Extract By:	**04/11/17 0:00**	
			pH1		Water Bath Temp Criteria 35,35,35,3
			pH2		
			pH3		

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	e-wb1				
2	170407A LCS-1		0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	E-WB2				
3	170407A LCS-2		0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	E-WB3				
4	AZ53059 MS-1	AZ53059W32	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
5	AZ53059 MSD-1	AZ53059W26	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB1				
6	AZ53059 MS-2	AZ53059W24	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB2				
7	AZ53059 MSD-2	AZ53059W25	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB3				
8	AZ53059	AZ53059W28			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
9	AZ53060	AZ53060W05			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB1				
10	AZ53062	AZ53062W10			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB2				
11	AZ53064	AZ53064W08			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB3				
12	AZ53065	AZ53065W08			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
13	AZ53168 MS-1	AZ53168W40	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB1				
14	AZ53168 MSD-1	AZ53168W31	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB2				
15	AZ53168 MS-2	AZ53168W45	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB3				
16	AZ53168 MSD-2	AZ53168W32	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB4				

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	4/11/17
Time	9:60
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18	
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 11:10	
Spiked ID 8			Ext. End Time:	04/08/17 9:30	
			GC Requires Extract By:	**04/11/17 0:00**	
			pH1		Water Bath Temp Criteria 35,35,35,3
			pH2		
			pH3		

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53168	AZ53168W46			0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82619 1 week
18	AZ53169	AZ53169W14			0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82619 1 week
19	AZ53170	AZ53170W16			0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82619 1 week
20	AZ53172	AZ53172W12			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82596 1 week
21	AZ53174	AZ53174W09			0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82596 1 week
22	AZ53176	AZ53176W13			0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82596 1 week
23	AZ53178	AZ53178W11			0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82596 1 week
24	AZ53180	AZ53180W11			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82596 1 week

KY 4/10/17

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: G:\APOLLO\DATA\170320\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	16	320016.D	1	Diesel-1 10ppb 3/20/17	Mix(A)	3-20-17 15:15:13
2	17	320017.D	1	Diesel-2 100ppb 3/20/17	Mix(A)	3-20-17 15:36:08
3	18	320018.D	1	Diesel-3 400ppb 3/20/17	Mix(A)	3-20-17 15:57:14
4	19	320019.D	1	Diesel-4 600ppb 3/20/17	Mix(A)	3-20-17 16:18:15
5	20	320020.D	1	Diesel-5 800ppb 3/20/17	Mix(A)	3-20-17 16:39:27
6	21	320021.D	1	Diesel-6 1000ppb 3/20/17	Mix(A)	3-20-17 17:00:36
7	22	320022.D	1	Diesel-2nd Src 400ppb 8/1/16	Mix(A)	3-20-17 17:21:37
8	23	320023.D	1	Motor Oil-1 20ppb 3/20/17	Mix(B)	3-20-17 17:42:35
9	24	320024.D	1	Motor Oil-2 50ppb 3/20/17	Mix(B)	3-20-17 18:03:37
10	25	320025.D	1	Motor Oil-3 250ppb 3/20/17	Mix(B)	3-20-17 18:24:46
11	26	320026.D	1	Motor Oil-4 1000ppb 3/20/17	Mix(B)	3-20-17 18:45:44
12	27	320027.D	1	Motor Oil-5 1500ppb 3/20/17	Mix(B)	3-20-17 19:06:49
13	28	320028.D	1	Motor Oil-6 2000ppb 3/20/17	Mix(B)	3-20-17 19:27:55
14	29	320029.D	1	Motor Oil-2nd Src 1000ppb 10/14/16	Mix(B)	3-20-17 19:48:56
15	2	411002.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 9:21:47
16	3	411003.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 9:42:20
17	4	411004.D	1.66667	170407A BLK 2.5/1500	water	4-11-17 10:02:59
18	5	411005.D	1.66667	170407A LCS-1 2.5/1500	water	4-11-17 10:23:44
19	6	411006.D	1.66667	170407A LCS-2 2.5/1500	water	4-11-17 10:44:31
20	7	411007.D	1.66667	AZ53059W28 2.5/1500	water	4-11-17 11:05:21
21	8	411008.D	1.66667	AZ53059W32 MS-1 2.5/1500	water	4-11-17 11:26:14
22	9	411009.D	1.66667	AZ53059W26 MSD-1 2.5/1500	water	4-11-17 11:47:03
23	10	411010.D	1.66667	AZ53059W24 MS-2 2.5/1500	water	4-11-17 12:07:58
24	11	411011.D	1.66667	AZ53059W25 MSD-2 2.5/1500	water	4-11-17 12:28:56
25	12	411012.D	1.66667	AZ53060W05 2.5/1500	water	4-11-17 12:50:05
26	13	411013.D	1.66667	AZ53062W10 2.5/1500	water	4-11-17 13:11:16
27	14	411014.D	1.66667	AZ53064W08 2.5/1500	water	4-11-17 13:32:02
28	15	411015.D	1.66667	AZ53065W08 2.5/1500	water	4-11-17 13:53:21
29	16	411016.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 14:29:07
30	17	411017.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 14:50:11

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217676**
Batch ID: #SIMDO-170406A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
BLANK	SURROGATE: 2-FLUORBIPHENY	70.2	53-106			%	04/06/17	04/07/17
BLANK	SURROGATE: NITROBENZENE-	78.4	55-111			%	04/06/17	04/07/17
BLANK	SURROGATE: TERPHENYL-D14 (	93.3	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L037
Instrument: Linus
Sequence: L170331
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/10/17 1:43:51 PM

Laboratory Control Spike Recovery

EPA 8270D SIM

APPL ID: **170406W-53059 LCS - 217676**
Batch ID: #SIMDO-170406A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.73	74.6	41-115
2-METHYLNAPHTHALENE	5.00	3.92	78.4	39-114
NAPHTHALENE	5.00	4.09	81.8	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.58	71.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.85	77.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.67	93.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/06/17
Analysis Date :	04/07/17
Instrument :	Linus
Run :	0331L038
Initials :	RHA

Printed: 04/10/17 1:43:45 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170406W-53059 MS - 217676**
Batch ID: #SIMDO-170406A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.60	3.28	72.0	65.6	41-115	9.3	20
2-METHYLNAPHTHALENE	5.00	ND	3.75	3.43	75.0	68.6	39-114	8.9	20
NAPHTHALENE	5.00	ND	3.94	3.53	78.8	70.6	43-114	11.0	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.44	3.24	68.8	64.8	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.51	3.09	70.2	61.8	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.25	4.19	85.0	83.8	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0331P.M	L0331P.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/07/17	04/07/17
Instrument :	Linus	Linus
Run :	0331L042	0331L043
Initials :	RHA	

Printed: 04/10/17 1:43:43 PM
APPL MSD SCII

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170406A-BLK	Blank	53-106	70.2		55-111	78.4	
170406A-LCS	Lab Control Spike	53-106	71.6		55-111	77.0	
AZ53059-MS	Matrix Spike	53-106	68.8		55-111	70.2	
AZ53059-MSD	Matrix SpikeD	53-106	64.8		55-111	61.8	
AZ53059	ERH292	53-106	66.3		55-111	66.2	
AZ53060	ERH293	53-106	79.1		55-111	78.0	
AZ53062	ERH295	53-106	74.2		55-111	75.6	
AZ53064	ERH288	53-106	70.7		55-111	71.8	
AZ53065	ERH316	53-106	66.4		55-111	67.2	

Comments: Batch: #SIMDO-170406A

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170406A-BLK	Blank	58-132	93.3				
170406A-LCS	Lab Control Spike	58-132	93.4				
AZ53059-MS	Matrix Spike	58-132	85.0				
AZ53059-MSD	Matrix SpikeD	58-132	83.8				
AZ53059	ERH292	58-132	81.4				
AZ53060	ERH293	58-132	95.2				
AZ53062	ERH295	58-132	95.0				
AZ53064	ERH288	58-132	86.5				
AZ53065	ERH316	58-132	83.5				

Comments: Batch: #SIMDO-170406A

Printed: 04/10/17 1:43:49 PM

Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER
Blank ID: 170406A-BLK

SDG No: 82577
Date Analyzed: 04/07/17
Instrument: Linus
Time Analyzed: 1112

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170406A-BLK	Blank	0331L037	04/07/17 1112
170406A-LCS	Lab Control Spike	0331L038	04/07/17 1143
170406A-MS	Matrix Spike	0331L042	04/07/17 1353
170406A-MSD	Matrix SpikeD	0331L043	04/07/17 1425
AZ53059	ERH292	0331L044	04/07/17 1457
AZ53060	ERH293	0331L045	04/07/17 1530
AZ53062	ERH295	0331L046	04/07/17 1602
AZ53064	ERH288	0331L047	04/07/17 1635
AZ53065	ERH316	0331L048	04/07/17 1707

Comments: Batch: #SIMDO-170406A

Printed: 04/10/17 1:43:39 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82577
Date Analyzed: 03/31/17
Instrument: Linus
Time Analyzed: 12:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/31/17	0331L003.D	03/31/17 13:02
2		0.2 SIM 03/31/17	0331L004.D	03/31/17 13:34
3		0.5 SIM 03/31/17	0331L005.D	03/31/17 14:07
4		1.0 SIM 03/31/17	0331L006.D	03/31/17 14:40
5		5.0 SIM 03/31/17	0331L007.D	03/31/17 15:12
6		10 SIM 03/31/17	0331L008.D	03/31/17 15:45
7		50 SIM 03/31/17	0331L009.D	03/31/17 16:17
8		100 SIM 03/31/17	0331L010.D	03/31/17 16:50
9		SS SIM 03/31/17	0331L011.D	03/31/17 17:23
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	50.5
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	52.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	20.9
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	88.1
442	40 - 150% of mass 198	58.2
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82577
Date Analyzed: 04/07/17
Instrument: Linus
Time Analyzed: 10:21

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 03/31/17	0331L036.D	04/07/17 10:39
2	Blank	170406A BLK 1/1000	0331L037.D	04/07/17 11:12
3	Lab Control Spike	170406A LCS-1 1/1000	0331L038.D	04/07/17 11:43
4		AZ53059W29 MS-1 1/10	0331L042.D	04/07/17 13:53
5		AZ53059W16 MSD-1 1/1	0331L043.D	04/07/17 14:25
6	ERH292	AZ53059W19 1/1060	0331L044.D	04/07/17 14:57
7	ERH293	AZ53060W08 1/1070	0331L045.D	04/07/17 15:30
8	ERH295	AZ53062W12 1/1070	0331L046.D	04/07/17 16:02
9	ERH288	AZ53064W07 1/1070	0331L047.D	04/07/17 16:35
10	ERH316	AZ53065W05 1/1070	0331L048.D	04/07/17 17:07
11		5.0 SIM 03/31/17	0331L058.D	04/07/17 22:00
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	52.9
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	52.8
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	21.0
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	87.3
442	40 - 150% of mass 198	56.8
443	17 - 23% of mass 442	18.8

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82577
Lab File ID (Standard): 0331L007.D
Date Analyzed: 03/31/17
Instrument ID: Linus
Time Analyzed: 15:12
GC Column:
ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	31142	5.65	15272	7.70	29598	9.56
	UPPER LIMIT	62284	6.15	30544	8.20	59196	10.06
	LOWER LIMIT	15571	5.15	7636	7.20	14799	9.06
	SAMPLE NO.						
01	5.0 SIM 03/31/17	32329	5.64	16400	7.70	32453	9.55
02	170406A BLK 1/1000	30813	5.65	15401	7.70	30494	9.56
03	170406A LCS-1 1/1000	31964	5.64	15960	7.70	31161	9.55
04	AZ53059W29 MS-1 1/1(	33212	5.65	16285	7.70	31803	9.56
05	AZ53059W16 MSD-1 1/	33355	5.65	16262	7.70	32227	9.56
06	AZ53059W19 1/1060	33898	5.65	16798	7.70	32805	9.56
07	AZ53060W08 1/1070	32151	5.65	15683	7.70	30627	9.56
08	AZ53062W12 1/1070	31995	5.65	15635	7.70	30529	9.56
09	AZ53064W07 1/1070	32371	5.65	15886	7.70	30975	9.56
10	AZ53065W05 1/1070	34433	5.65	16868	7.70	32969	9.56
11	5.0 SIM 03/31/17	33409	5.65	16502	7.70	32206	9.56
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82577
Lab File ID (Standard): 0331L007.D
Date Analyzed: 03/31/17
Instrument ID: Linus
Time Analyzed: 15:12
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)					
		AREA #	RT #	AREA #	RT #	AREA #	RT #		
	12 HOUR STD	34075	16.41	30220	20.19				
	UPPER LIMIT	68150	16.91	60440	20.69				
	LOWER LIMIT	17038	15.91	15110	19.69				
	SAMPLE NO.								
01	5.0 SIM 03/31/17	37112	16.39	32629	20.17				
02	170406A BLK 1/1000	34626	16.40	29951	20.18				
03	170406A LCS-1 1/1000	35906	16.40	30638	20.18				
04	AZ53059W29 MS-1 1/1(	37243	16.40	31990	20.18				
05	AZ53059W16 MSD-1 1/	37378	16.40	32280	20.18				
06	AZ53059W19 1/1060	37730	16.41	33492	20.19				
07	AZ53060W08 1/1070	35506	16.41	31486	20.19				
08	AZ53062W12 1/1070	34851	16.41	30741	20.19				
09	AZ53064W07 1/1070	35244	16.41	31420	20.19				
10	AZ53065W05 1/1070	37822	16.41	34608	20.19				
11	5.0 SIM 03/31/17	37318	16.40	32925	20.18				
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #SIMDO-170406A-217676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	66.3	53-106			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	66.2	55-111			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	81.4	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L044
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/10/17 1:43:36 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L044.D Vial: 44
Acq On : 7 Apr 17 14:57 Operator: MA
Sample : AZ53059W19 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 7 16:43 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33898	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16798	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	32805	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	37730	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	33492	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16309	3.12408 ppb	0.00
Spiked Amount 4.717			Recovery	= 66.229%	
7) Surrogate Recovery (FBP)	6.92	172	33999	3.12592 ppb	0.00
Spiked Amount 4.717			Recovery	= 66.271%	
17) Surrogate Recovery (TPH)	13.40	244	48968	3.83879 ppb	-0.01
Spiked Amount 4.717			Recovery	= 81.387%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

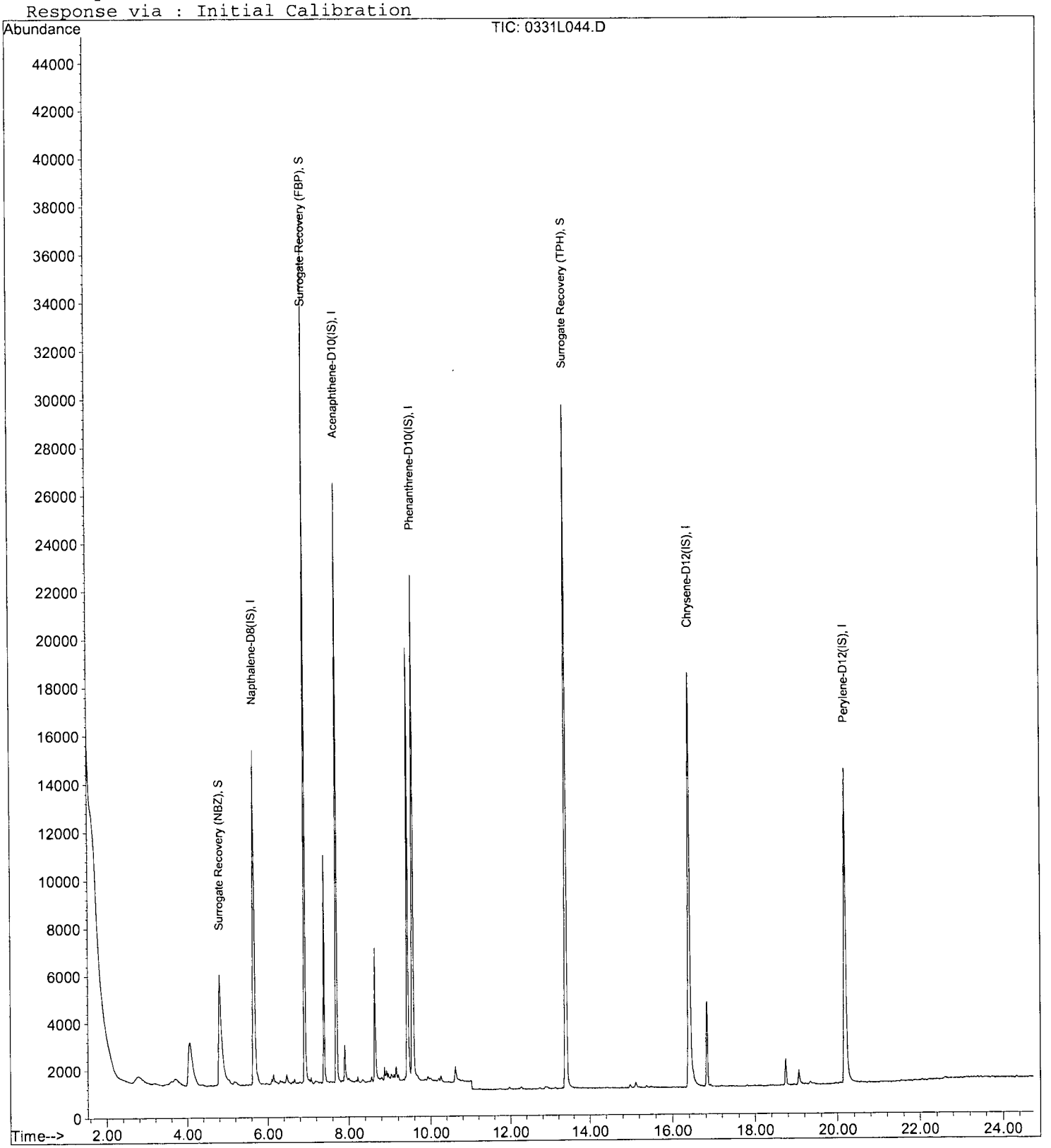
Data File : M:\LINUS\DATA\L170331\0331L044.D
Acq On : 7 Apr 17 14:57
Sample : AZ53059W19 1/1060
Misc : water

Vial: 44
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Apr 7 16:43 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #SIMDO-170406A-217676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	79.1	53-106			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	78.0	55-111			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	95.2	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L045
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/10/17 1:43:36 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L045.D Vial: 45
Acq On : 7 Apr 17 15:30 Operator: MA
Sample : AZ53060W08 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 7 16:44 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32151	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15683	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30627	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	35506	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31486	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	18208	3.64300 ppb	0.00
Spiked Amount 4.673			Recovery	= 77.960%	
7) Surrogate Recovery (FBP)	6.92	172	37876	3.69510 ppb	0.00
Spiked Amount 4.673			Recovery	= 79.073%	
17) Surrogate Recovery (TPH)	13.40	244	53915	4.44938 ppb	-0.01
Spiked Amount 4.673			Recovery	= 95.209%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

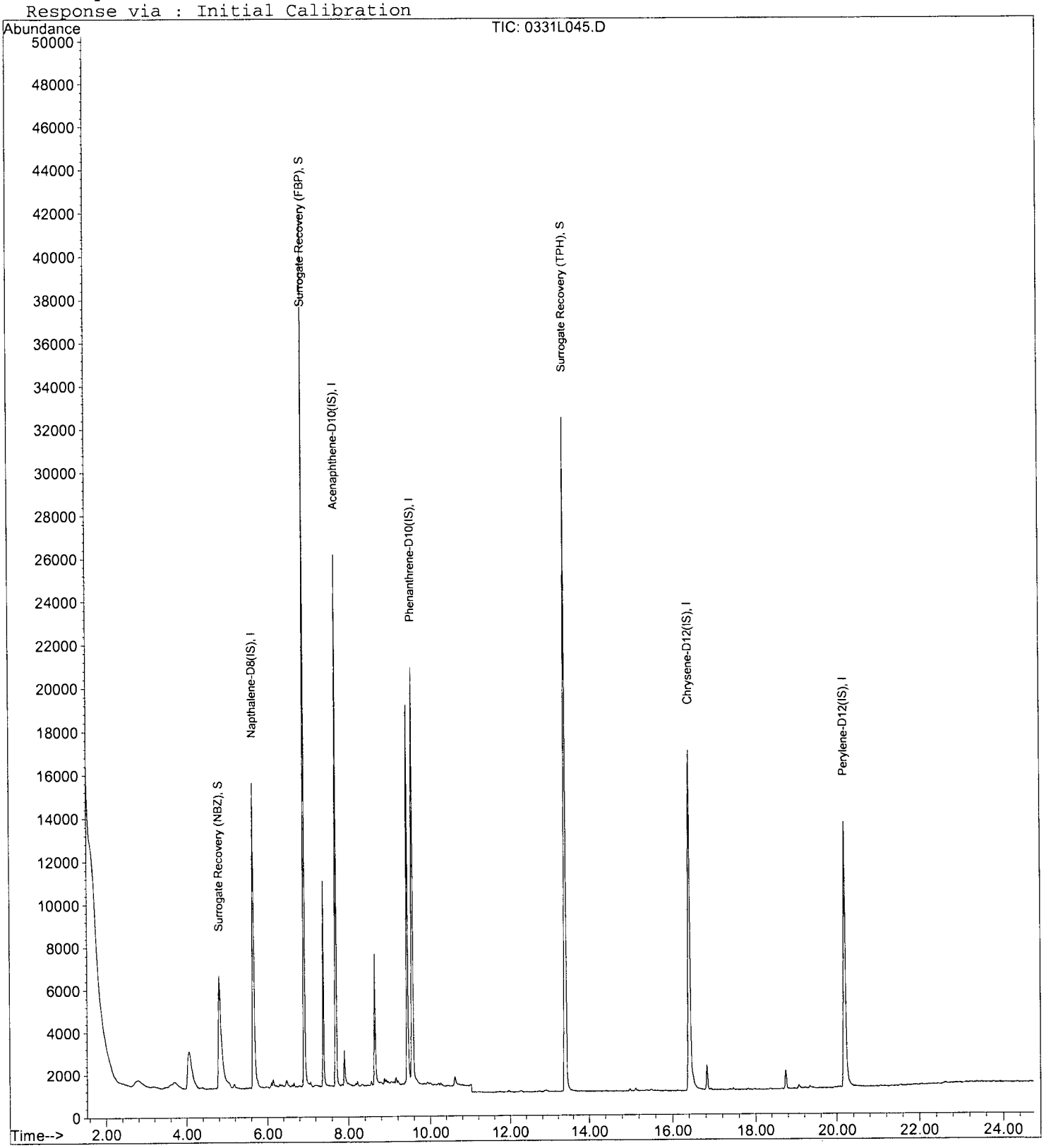
Data File : M:\LINUS\DATA\L170331\0331L045.D
Acq On : 7 Apr 17 15:30
Sample : AZ53060W08 1/1070
Misc : water

Vial: 45
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 7 16:44 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #SIMDO-170406A-217676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	74.2	53-106			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	75.6	55-111			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	95.0	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L046
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/10/17 1:43:36 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L046.D Vial: 46
Acq On : 7 Apr 17 16:02 Operator: MA
Sample : AZ53062W12 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 7 16:45 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31995	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15635	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30529	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34851	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30741	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	17561	3.53068 ppb	0.00
Spiked Amount 4.673			Recovery	= 75.563%	
7) Surrogate Recovery (FBP)	6.92	172	35449	3.46894 ppb	0.00
Spiked Amount 4.673			Recovery	= 74.237%	
17) Surrogate Recovery (TPH)	13.40	244	52817	4.44068 ppb	-0.01
Spiked Amount 4.673			Recovery	= 95.037%	

Target Compounds Qvalue

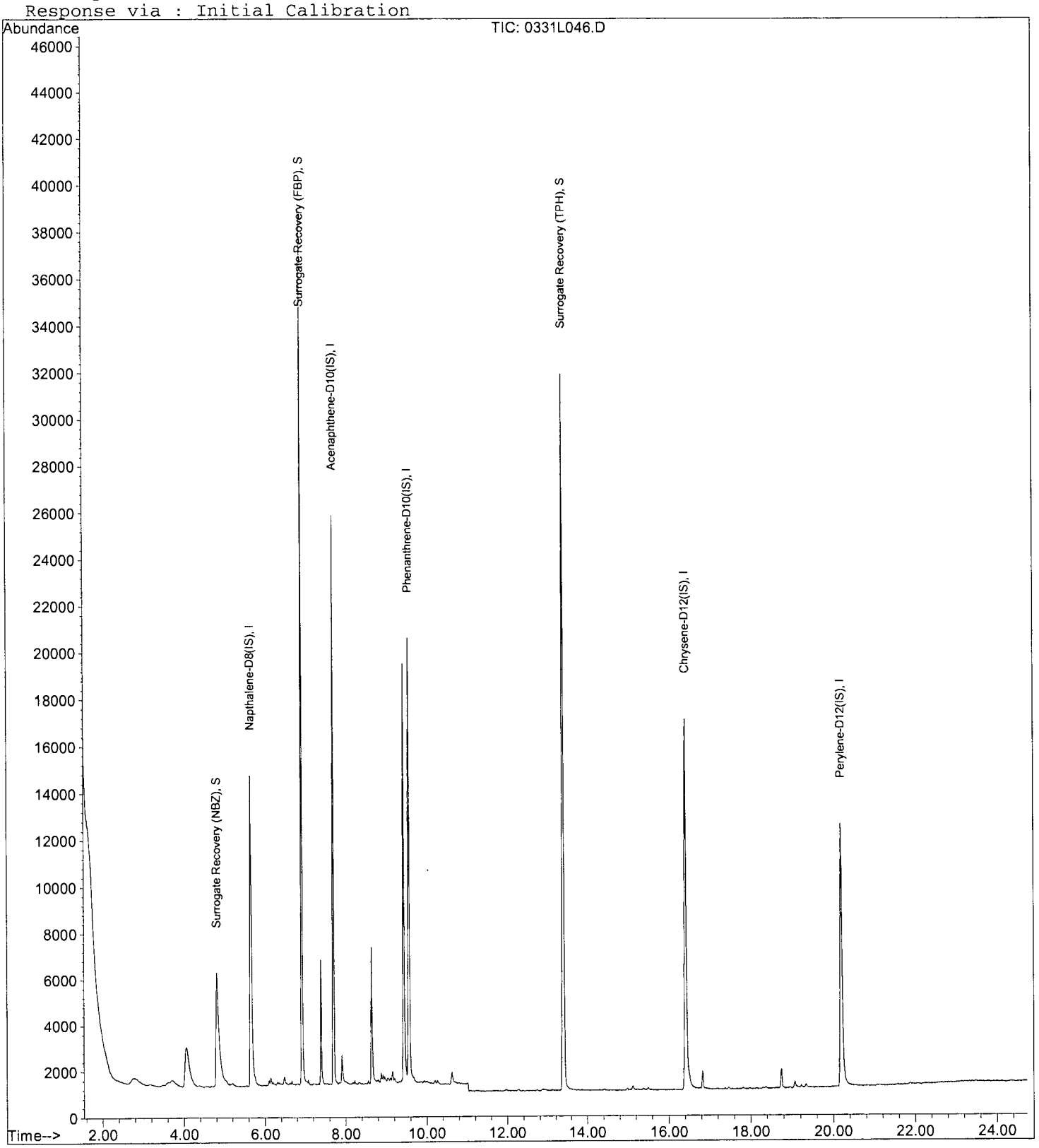
(#) = qualifier out of range (m) = manual integration
0331L046.D L0331P.M Mon Apr 10 13:48:43 2017

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L046.D Vial: 46
Acq On : 7 Apr 17 16:02 Operator: MA
Sample : AZ53062W12 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 7 16:45 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #SIMDO-170406A-217676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	70.7	53-106			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.8	55-111			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	86.5	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L047
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/10/17 1:43:36 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L047.D Vial: 47
Acq On : 7 Apr 17 16:35 Operator: MA
Sample : AZ53064W07 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 7 17:31 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32371	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15886	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30975	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	35244	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31420	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16887	3.35573 ppb	0.00
Spiked Amount 4.673			Recovery	= 71.818%	
7) Surrogate Recovery (FBP)	6.92	172	34326	3.30598 ppb	0.00
Spiked Amount 4.673			Recovery	= 70.748%	
17) Surrogate Recovery (TPH)	13.40	244	48604	4.04090 ppb	-0.01
Spiked Amount 4.673			Recovery	= 86.477%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

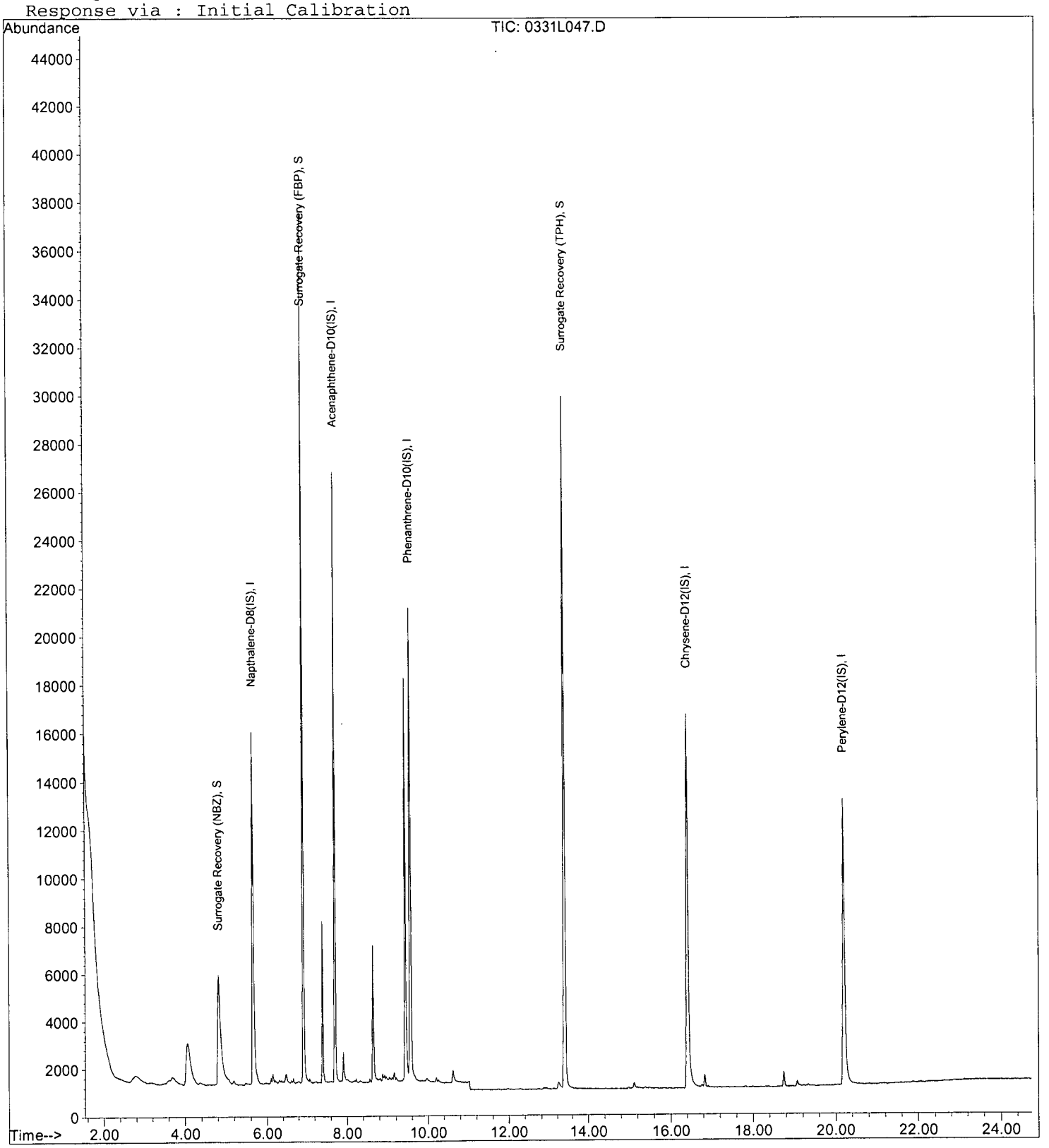
Data File : M:\LINUS\DATA\L170331\0331L047.D
Acq On : 7 Apr 17 16:35
Sample : AZ53064W07 1/1070
Misc : water

Vial: 47
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 7 17:31 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #SIMDO-170406A-217676

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	66.4	53-106			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	67.2	55-111			%	04/06/17	04/07/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	83.5	58-132			%	04/06/17	04/07/17

Quant Method: L0331P.M
Run #: 0331L048
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/10/17 1:43:36 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L048.D Vial: 48
Acq On : 7 Apr 17 17:07 Operator: MA
Sample : AZ53065W05 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 10 10:53 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	34433	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16868	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	32969	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	37822	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	34608	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16795	3.13759 ppb	0.00
Spiked Amount 4.673			Recovery	= 67.153%	
7) Surrogate Recovery (FBP)	6.92	172	34229	3.10471 ppb	0.00
Spiked Amount 4.673			Recovery	= 66.447%	
17) Surrogate Recovery (TPH)	13.40	244	50380	3.90306 ppb	-0.01
Spiked Amount 4.673			Recovery	= 83.524%	

Target Compounds Qvalue

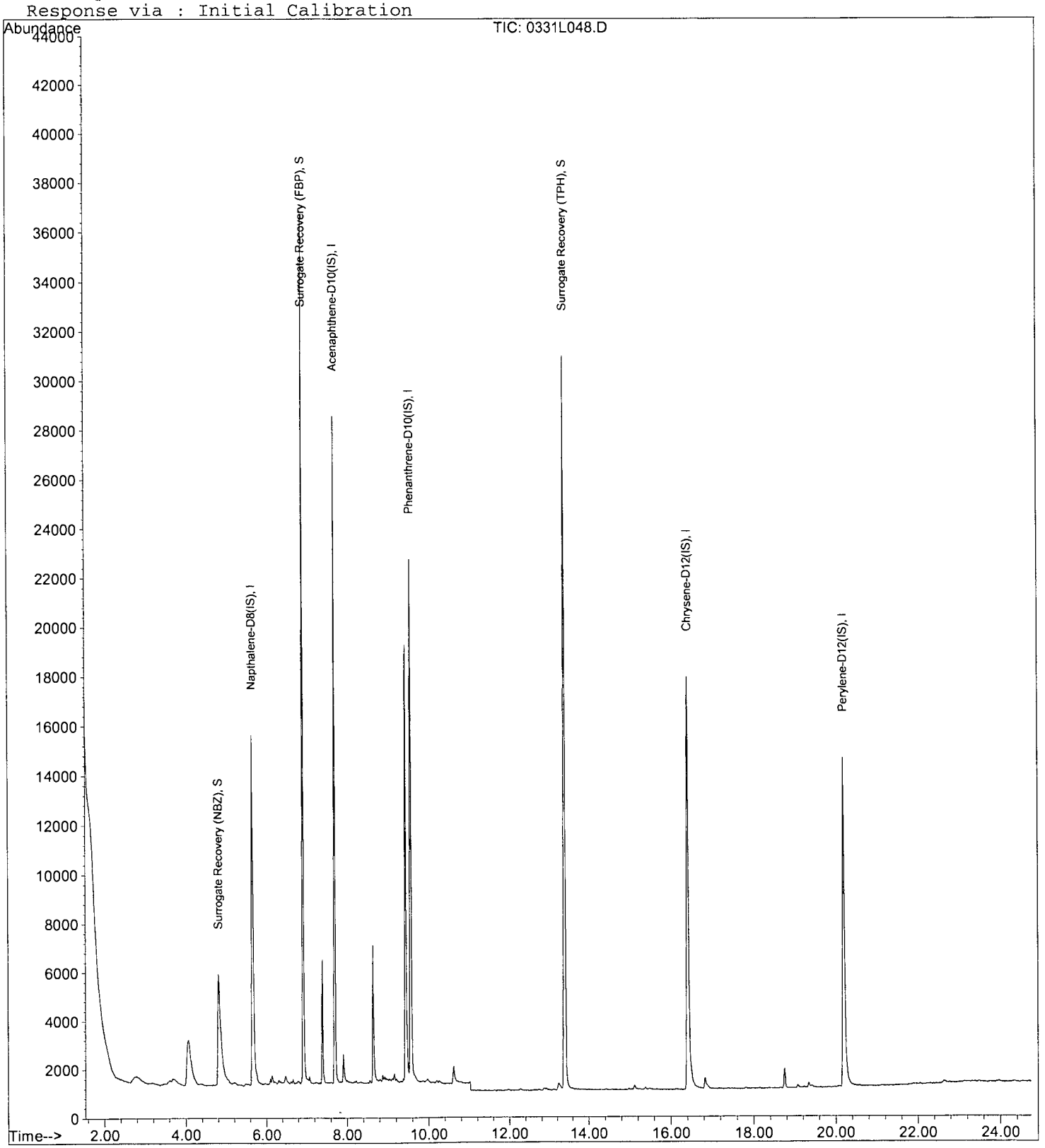
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L048.D Vial: 48
Acq On : 7 Apr 17 17:07 Operator: MA
Sample : AZ53065W05 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 10 10:53 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/31/17
Instrument: Linus

Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0331L003.D	0331L004 D	0331L005.D	0331L006.D	0331L007.D	0331L008.D	0331L009.D	0331L010.D						
1	I	Napthalene-D8(IS)														
2	S	Surrogate Recovery (NBZ)			0.3171	0.3570	0.3399	0.3817	0.3902	0.3935			0.36	8.4	S	
3	TM	Naphthalene	0.9823	0.9734	0.9727	1.024	1.042	1.069	0.9927	0.9399			1.00	4.2	TM	
4	TM	2-Methylnaphthalene	0.6376	0.5964	0.6088	0.6337	0.6851	0.7033	0.6489	0.5967			0.64	6.2	TM	
5	TM	1-Methylnaphthalene	0.6928	0.6617	0.6701	0.7218	0.7095	0.7229	0.6322	0.5826			0.67	7.2	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.615	1.560	1.569	1.620	1.496	1.660	1.383	1.315			1.5	8.0	S	
8	TM	Acenaphthylene	2.257	1.837	1.884	1.986	2.100	2.229	1.899	1.737			2.0	9.4	TM	
9	*TM	Acenaphthene	1.126	1.137	1.175	1.193	1.237	1.281	1.080	0.9857			1.2	8.0	*TM	
10	TM	Fluorene	1.282	1.262	1.269	1.334	1.415	1.480	1.258	1.142			1.3	8.0	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.031	0.9551	0.9867	1.028	1.071	1.117	0.9583	0.8886			1.0	7.2	TM	
13	TM	Anthracene	0.8738	0.8806	0.9076	0.9647	1.038	1.101	0.9463	0.8475			0.94	9.2	TM	
14	*TM	Fluoranthene	1.457	1.365	1.426	1.503	1.642	1.778	1.605	1.520			1.5	8.6	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.401	1.337	1.345	1.404	1.483	1.565	1.473	1.405			1.4	5.3	TM	
17	S	Surrogate Recovery (TPH)	0.8299	0.8012	0.7860	0.8199	0.7520	0.8454	0.7809	0.7637			0.80	4.1	S	
18	TM	Benz (a) anthracene	1.273	1.132	1.140	1.163	1.219	1.305	1.261	1.225			1.2	5.3	TM	
19	TM	Chrysene	1.254	1.183	1.193	1.238	1.284	1.323	1.225	1.152			1.2	4.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.256	1.153	1.132	1.164	1.148	1.187	1.061	1.010			1.1	6.6	TM	
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.440	1.236	1.225	1.174	1.278	1.381	1.256	1.259			1.3	6.8	TM	
23	TM	Benzo (k) fluoranthene	1.110	0.9547	0.9635	1.065	1.255	1.254	1.184	0.9924			1.1	11	TM	
24	*TM	Benzo (a) pyrene	1.280	1.167	1.175	1.193	1.266	1.340	1.194	1.111			1.2	6.1	*TM	
25	TM	Dibenz (a,h) anthracene	1.057	1.049	1.048	1.070	1.099	1.140	0.9494	0.8876			1.0	7.8	TM	
26	TM	Benzo (g,h,i) perylene	1.326	1.157	1.119	1.096	1.111	1.166	0.9980	0.9049			1.1	11	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30819	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15850	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31272	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34642	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.18	264	31866	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	152	0.08047 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.600%	
7) Surrogate Recovery (FBP)	6.93	172	512	0.05375 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.080%	
17) Surrogate Recovery (TPH)	13.41	244	575	0.05441 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.080%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	1211	0.09406 ppb		99
4) 2-Methylnaphthalene	6.49	142	786	0.10911 ppb		99
5) 1-Methylnaphthalene	6.60	142	854	0.10961 ppb		99
8) Acenaphthylene	7.54	152	1431	0.11183 ppb		98
9) Acenaphthene	7.74	154	714	0.09447 ppb		99
10) Fluorene	8.35	166	813	0.09717 ppb		96
12) Phenanthrene	9.60	178	1290	0.10241 ppb		98
13) Anthracene	9.68	178	1093	0.09142 ppb		97
14) Fluoranthene	12.22	202	1823	0.08778 ppb		95
16) Pyrene	12.84	202	1942	0.09787 ppb		98
18) Benz (a) anthracene	16.38	228	1764	0.10087 ppb		97
19) Chrysene	16.48	228	1738	-0.64058 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.51	276	1741	0.03994 ppb	#	95
22) Benzo (b) fluoranthene	19.29	252	1836	0.10910 ppb		98
23) Benzo (k) fluoranthene	19.36	252	1415	0.09287 ppb		96
24) Benzo (a) pyrene	20.06	252	1632	0.10355 ppb		98
25) Dibenz (a,h) anthracene	22.55	278	1347	-0.81595 ppb		96
26) Benzo (g,h,i) perylene	23.02	276	1690	-1.01298 ppb		98

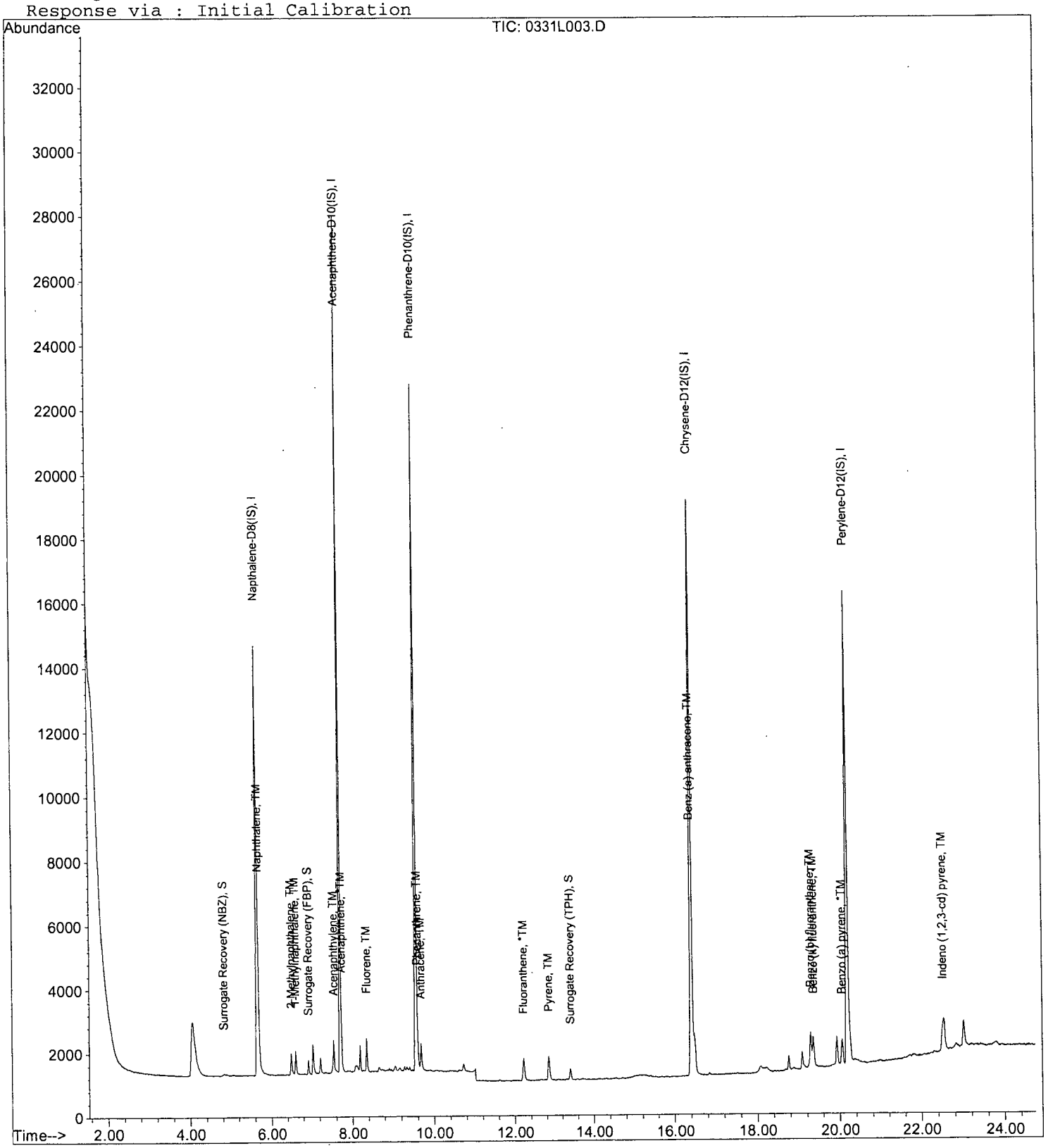
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L003.D Vial: 3
Acq On : 31 Mar 17 13:02 Operator: MA
Sample : 0.1 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L004.D Vial: 4
Acq On : 31 Mar 17 13:34 Operator: MA
Sample : 0.2 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15822	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31057	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34106	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31187	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	284	0.10721 ppb	0.04
Spiked Amount 5.000			Recovery	= 2.140%	
7) Surrogate Recovery (FBP)	6.93	172	987	0.10380 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.080%	
17) Surrogate Recovery (TPH)	13.42	244	1093	0.10505 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.100%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	2430	0.18640 ppb	100
4) 2-Methylnaphthalene	6.51	142	1489	0.20413 ppb	100
5) 1-Methylnaphthalene	6.62	142	1652	0.20941 ppb	96
8) Acenaphthylene	7.54	152	2325	0.18202 ppb	98
9) Acenaphthene	7.74	154	1439	0.19073 ppb	98
10) Fluorene	8.35	166	1598	0.19132 ppb	97
12) Phenanthrene	9.60	178	2373	0.18969 ppb	99
13) Anthracene	9.69	178	2188	0.18427 ppb	98
14) Fluoranthene	12.22	202	3392	0.16445 ppb	99
16) Pyrene	12.85	202	3647	0.18669 ppb	100
18) Benz (a) anthracene	16.39	228	3088	0.17936 ppb	99
19) Chrysene	16.48	228	3227	-0.53196 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.52	276	3145	0.14877 ppb #	90
22) Benzo (b) fluoranthene	19.29	252	3083	0.18719 ppb	97
23) Benzo (k) fluoranthene	19.36	252	2382	0.15974 ppb	98
24) Benzo (a) pyrene	20.06	252	2911	0.18873 ppb	98
25) Dibenz (a,h) anthracene	22.55	278	2618	-0.68100 ppb	95
26) Benzo (g,h,i) perylene	23.03	276	2887	-0.88501 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

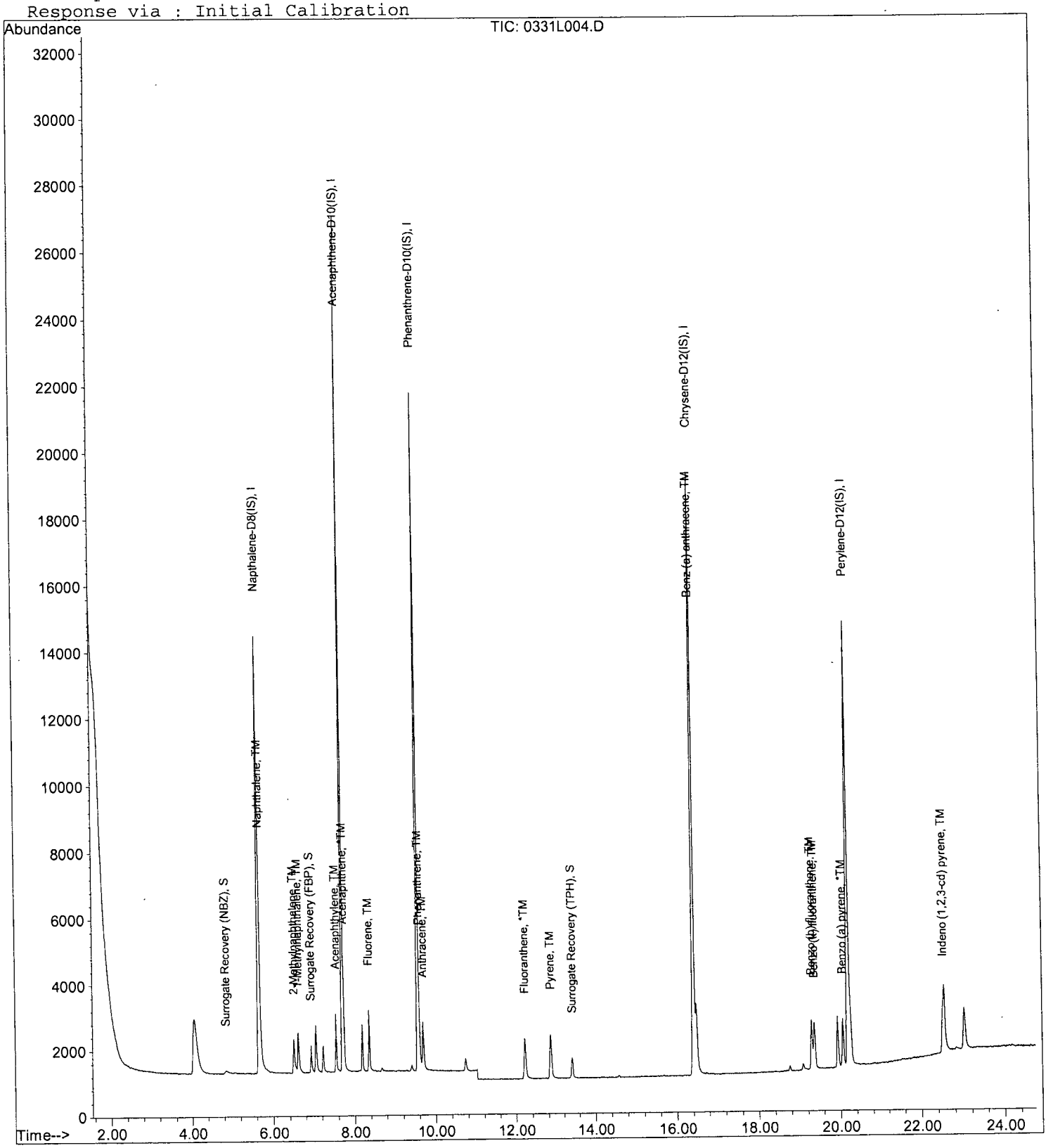
Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30971	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15453	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29694	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	33348	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30098	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	982	0.25224 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.040%	
7) Surrogate Recovery (FBP)	6.93	172	2424	0.26102 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.220%	
17) Surrogate Recovery (TPH)	13.42	244	2621	0.25763 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.160%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	6025	0.46568 ppb		99
4) 2-Methylnaphthalene	6.51	142	3771	0.52090 ppb		99
5) 1-Methylnaphthalene	6.60	142	4151	0.53019 ppb		96
8) Acenaphthylene	7.54	152	5822	0.46668 ppb		99
9) Acenaphthene	7.74	154	3632	0.49289 ppb		100
10) Fluorene	8.35	166	3921	0.48066 ppb		97
12) Phenanthrene	9.60	178	5860	0.48992 ppb		100
13) Anthracene	9.69	178	5390	0.47476 ppb		99
14) Fluoranthene	12.22	202	8468	0.42940 ppb		100
16) Pyrene	12.85	202	8969	0.46955 ppb		100
18) Benz (a) anthracene	16.39	228	7603	0.45164 ppb		97
19) Chrysene	16.48	228	7956	-0.18015 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.51	276	7547	0.49664 ppb	#	94
22) Benzo (b) fluoranthene	19.29	252	7376	0.46405 ppb		99
23) Benzo (k) fluoranthene	19.36	252	5800	0.40304 ppb		99
24) Benzo (a) pyrene	20.06	252	7073	0.47516 ppb		99
25) Dibenz (a,h) anthracene	22.55	278	6309	-0.27408 ppb		99
26) Benzo (g,h,i) perylene	23.02	276	6737	-0.46016 ppb		98

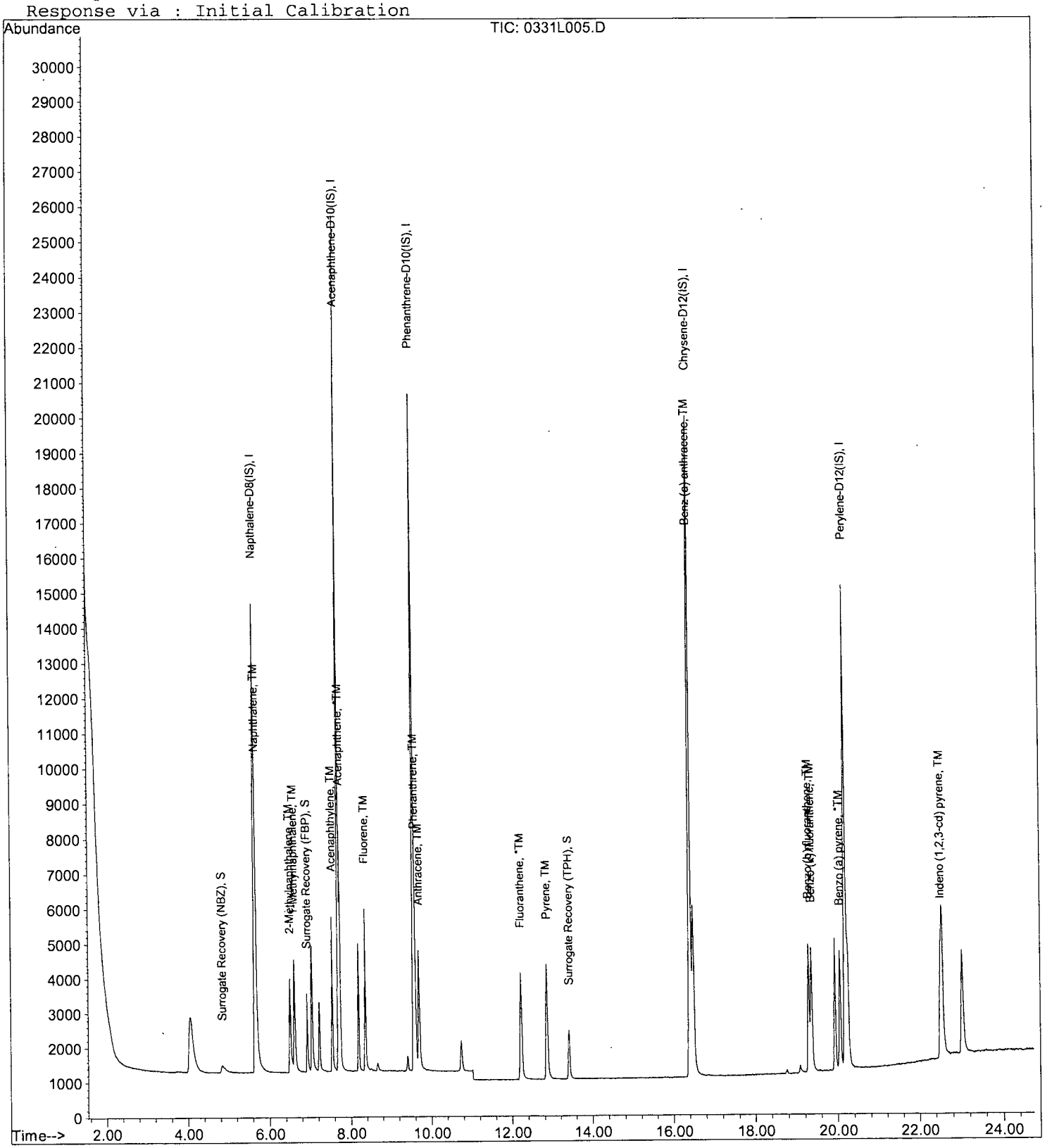
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L005.D Vial: 5
Acq On : 31 Mar 17 14:07 Operator: MA
Sample : 0.5 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15857	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30567	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34248	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31363	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	2261	0.50683 ppb	0.04
Spiked Amount 5.000			Recovery	= 10.140%	
7) Surrogate Recovery (FBP)	6.93	172	5137	0.53906 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.780%	
17) Surrogate Recovery (TPH)	13.42	244	5616	0.53752 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.760%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	12970	0.98031 ppb	100
4) 2-Methylnaphthalene	6.49	142	8028	1.08443 ppb	97
5) 1-Methylnaphthalene	6.60	142	9144	1.14210 ppb	98
8) Acenaphthylene	7.54	152	12599	0.98419 ppb	100
9) Acenaphthene	7.74	154	7564	1.00034 ppb	98
10) Fluorene	8.35	166	8464	1.01114 ppb	98
12) Phenanthrene	9.60	178	12564	1.02040 ppb	99
13) Anthracene	9.69	178	11795	1.00926 ppb	99
14) Fluoranthene	12.22	202	18372	0.90501 ppb	99
16) Pyrene	12.85	202	19232	0.98039 ppb	100
18) Benz (a) anthracene	16.39	228	15931	0.92147 ppb	99
19) Chrysene	16.49	228	16962	0.44717 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	15952	1.11784 ppb #	96
22) Benzo (b) fluoranthene	19.29	252	14726	0.88910 ppb	99
23) Benzo (k) fluoranthene	19.36	252	13363	0.89114 ppb	99
24) Benzo (a) pyrene	20.06	252	14969	0.96504 ppb	100
25) Dibenz (a,h) anthracene	22.55	278	13425	0.43323 ppb	98
26) Benzo (g,h,i) perylene	23.02	276	13748	0.23414 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

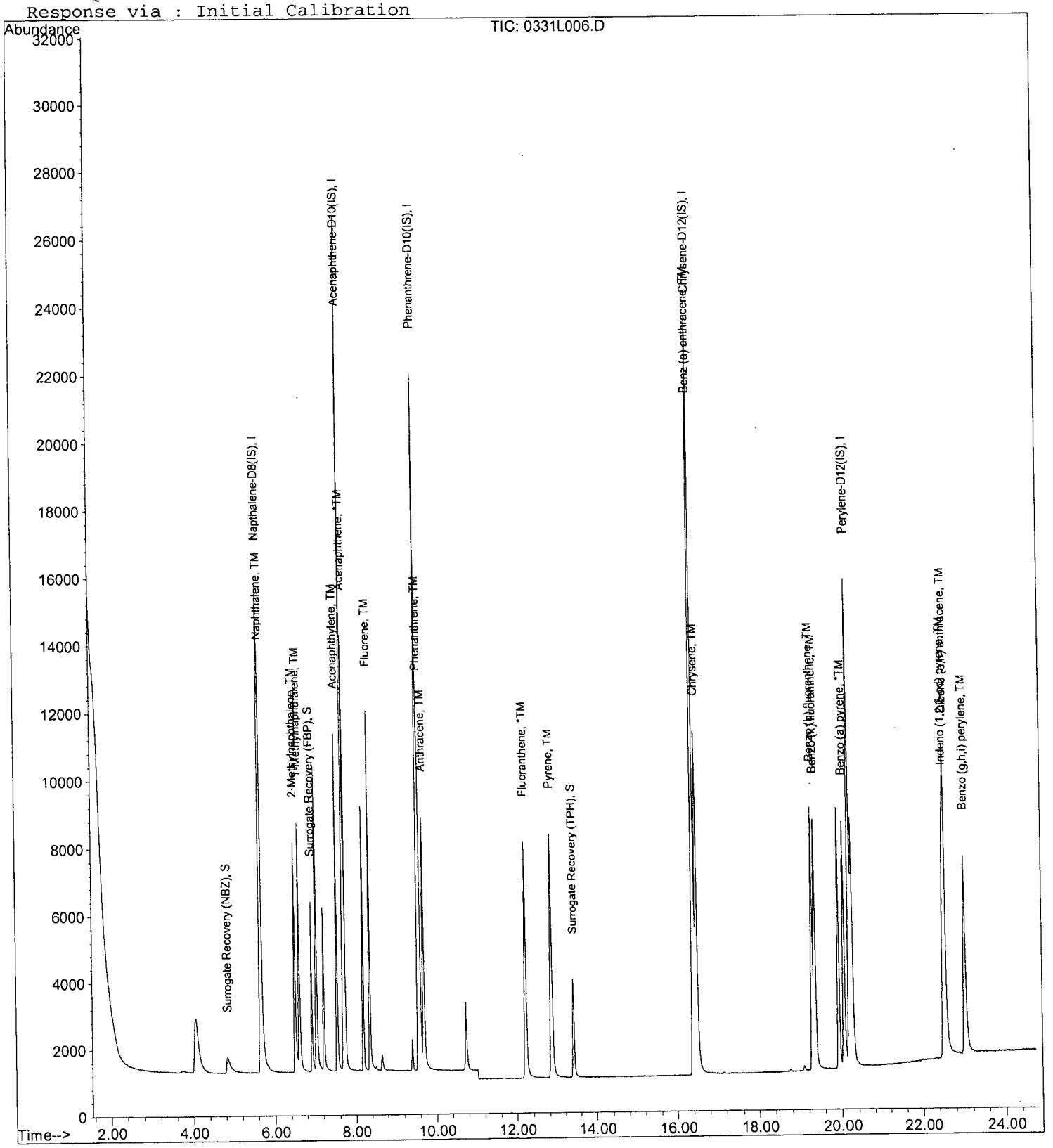
Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31142	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15272	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29598	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34075	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30220	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	10584	2.22924 ppb	0.00
Spiked Amount 5.000			Recovery	= 44.580%	
7) Surrogate Recovery (FBP)	6.92	172	22845	2.48912 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.780%	
17) Surrogate Recovery (TPH)	13.41	244	25626	2.46519 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.300%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	64893	4.98810 ppb	100
4) 2-Methylnaphthalene	6.49	142	42672	5.86209 ppb	100
5) 1-Methylnaphthalene	6.60	142	44189	5.61304 ppb	100
8) Acenaphthylene	7.54	152	64128	5.20132 ppb	100
9) Acenaphthene	7.74	154	37785	5.18850 ppb	100
10) Fluorene	8.35	166	43232	5.36247 ppb	100
12) Phenanthrene	9.60	178	63397	5.31744 ppb	100
13) Anthracene	9.68	178	61449	5.43013 ppb	100
14) Fluoranthene	12.21	202	97197	4.94470 ppb	100
16) Pyrene	12.84	202	101070	5.17841 ppb	100
18) Benz (a) anthracene	16.38	228	83073	4.82946 ppb	100
19) Chrysene	16.48	228	87474	5.51036 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	78254	5.86699 ppb #	99
22) Benzo (b) fluoranthene	19.28	252	77257	4.84093 ppb	100
23) Benzo (k) fluoranthene	19.35	252	75828	5.24800 ppb	100
24) Benzo (a) pyrene	20.05	252	76509	5.11903 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	66445	6.16669 ppb	99
26) Benzo (g,h,i) perylene	23.00	276	67126	6.00464 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

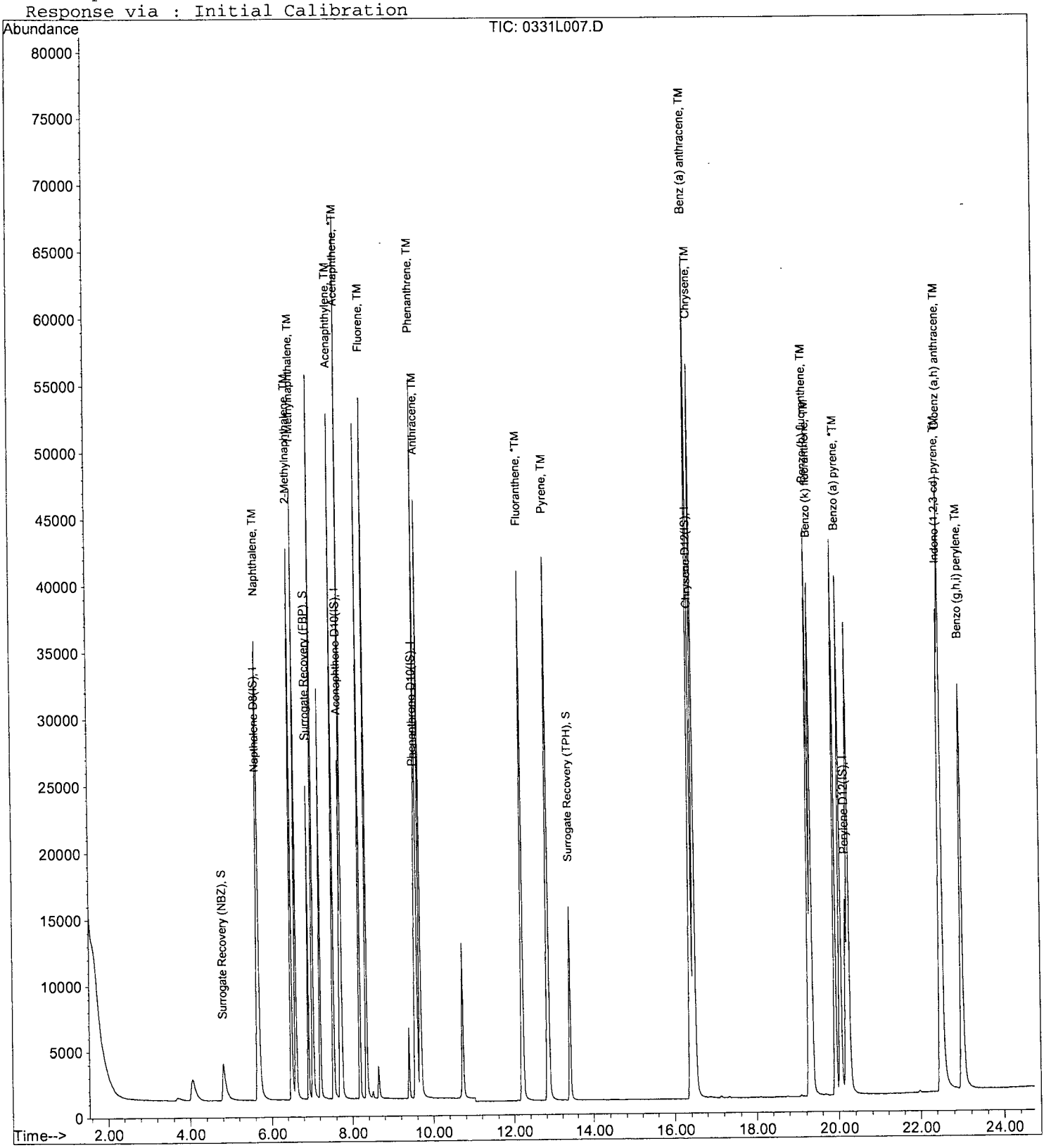
Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L008.D Vial: 8
Acq On : 31 Mar 17 15:45 Operator: MA
Sample : 10 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30297	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14519	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	28324	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	33276	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	29132	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	23128	4.94632 ppb	0.00
Spiked Amount 5.000			Recovery	= 98.920%	
7) Surrogate Recovery (FBP)	6.92	172	48197	5.52375 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.480%	
17) Surrogate Recovery (TPH)	13.41	244	56261	5.54218 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.840%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	129576	10.23785 ppb	100
4) 2-Methylnaphthalene	6.49	142	85229	12.03493 ppb	99
5) 1-Methylnaphthalene	6.60	142	87605	11.43825 ppb	100
8) Acenaphthylene	7.54	152	129423	11.04172 ppb	100
9) Acenaphthene	7.74	154	74416	10.74850 ppb	99
10) Fluorene	8.34	166	85956	11.21489 ppb	96
12) Phenanthrene	9.60	178	126583	11.09474 ppb	100
13) Anthracene	9.68	178	124730	11.51793 ppb	99
14) Fluoranthene	12.21	202	201414	10.70742 ppb	99
16) Pyrene	12.83	202	208256	10.92637 ppb	98
18) Benz (a) anthracene	16.38	228	173750	10.34351 ppb	99
19) Chrysene	16.48	228	176113	12.17073 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	158046	12.23041 ppb #	95
22) Benzo (b) fluoranthene	19.28	252	160957	10.46224 ppb	99
23) Benzo (k) fluoranthene	19.34	252	146148	10.49255 ppb	99
24) Benzo (a) pyrene	20.05	252	156189	10.84051 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	132806	13.80866 ppb	100
26) Benzo (g,h,i) perylene	22.99	276	135904	13.91444 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

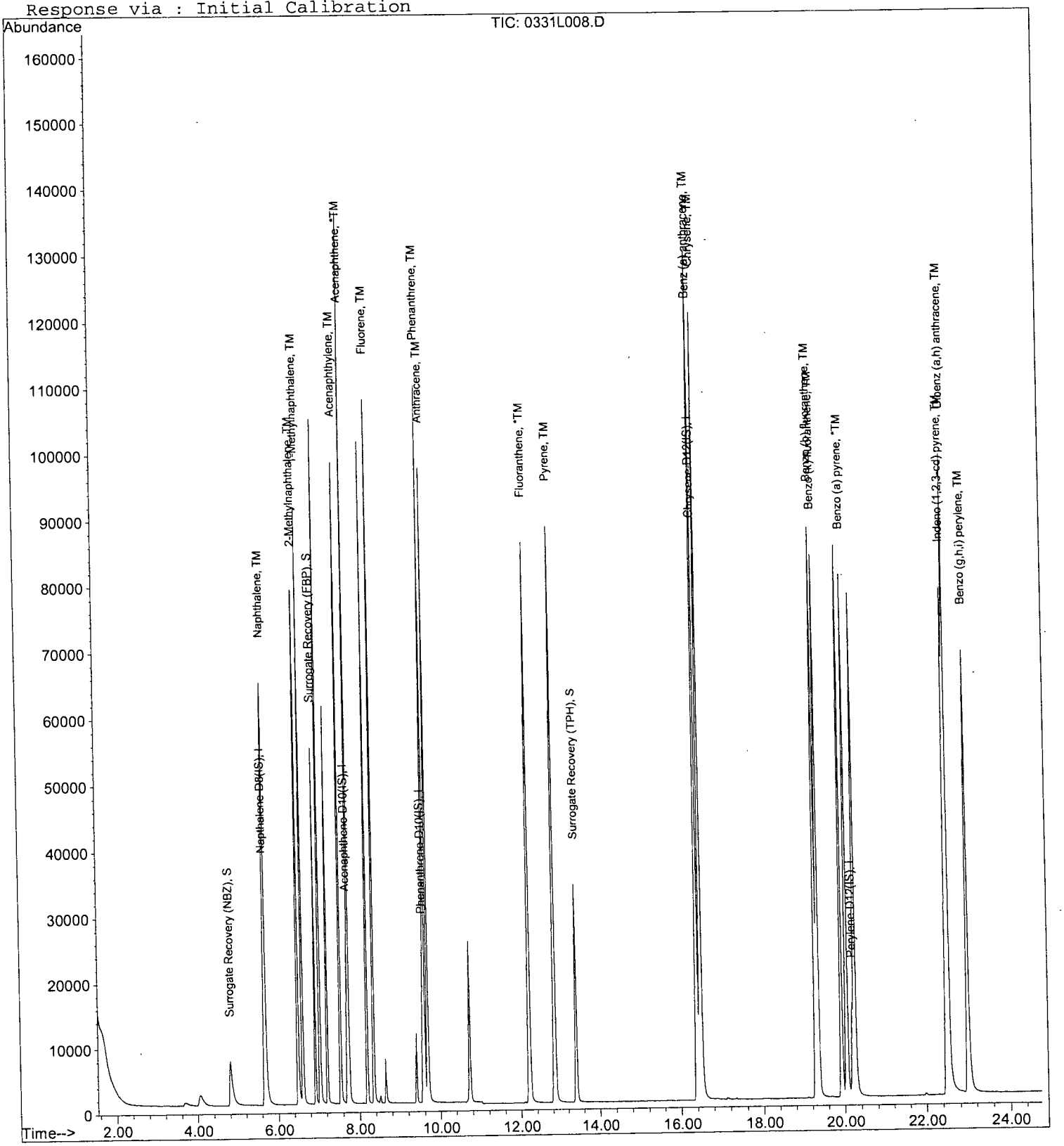
Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28141	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27995	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	31505	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	28838	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	109810	25.08329 ppb	-0.01
Spiked Amount 5.000			Recovery	= 501.660%	
7) Surrogate Recovery (FBP)	6.92	172	197251	23.00904 ppb	0.00
Spiked Amount 5.000			Recovery	= 460.180%	
17) Surrogate Recovery (TPH)	13.41	244	246037	25.59915 ppb	0.00
Spiked Amount 5.000			Recovery	= 511.980%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	558729	47.52754 ppb	100
4) 2-Methylnaphthalene	6.49	142	365210	55.52123 ppb	100
5) 1-Methylnaphthalene	6.60	142	355813	50.01640 ppb	100
8) Acenaphthylene	7.54	152	541881	47.05373 ppb	99
9) Acenaphthene	7.74	154	308193	45.30743 ppb	99
10) Fluorene	8.35	166	358796	47.64653 ppb	99
12) Phenanthrene	9.61	178	536552	47.58036 ppb	100
13) Anthracene	9.69	178	529842	49.50215 ppb	99
14) Fluoranthene	12.22	202	898826	48.34424 ppb	100
16) Pyrene	12.85	202	927839	51.41654 ppb	99
18) Benz (a) anthracene	16.40	228	794644	49.96518 ppb	100
19) Chrysene	16.50	228	771884	59.11134 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.51	276	668242	54.93231 ppb #	92
22) Benzo (b) fluoranthene	19.30	252	724315	47.56063 ppb	99
23) Benzo (k) fluoranthene	19.38	252	682834	49.52318 ppb	100
24) Benzo (a) pyrene	20.08	252	688727	48.28935 ppb	99
25) Dibenz (a,h) anthracene	22.56	278	547597	60.53350 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	575623	63.41962 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

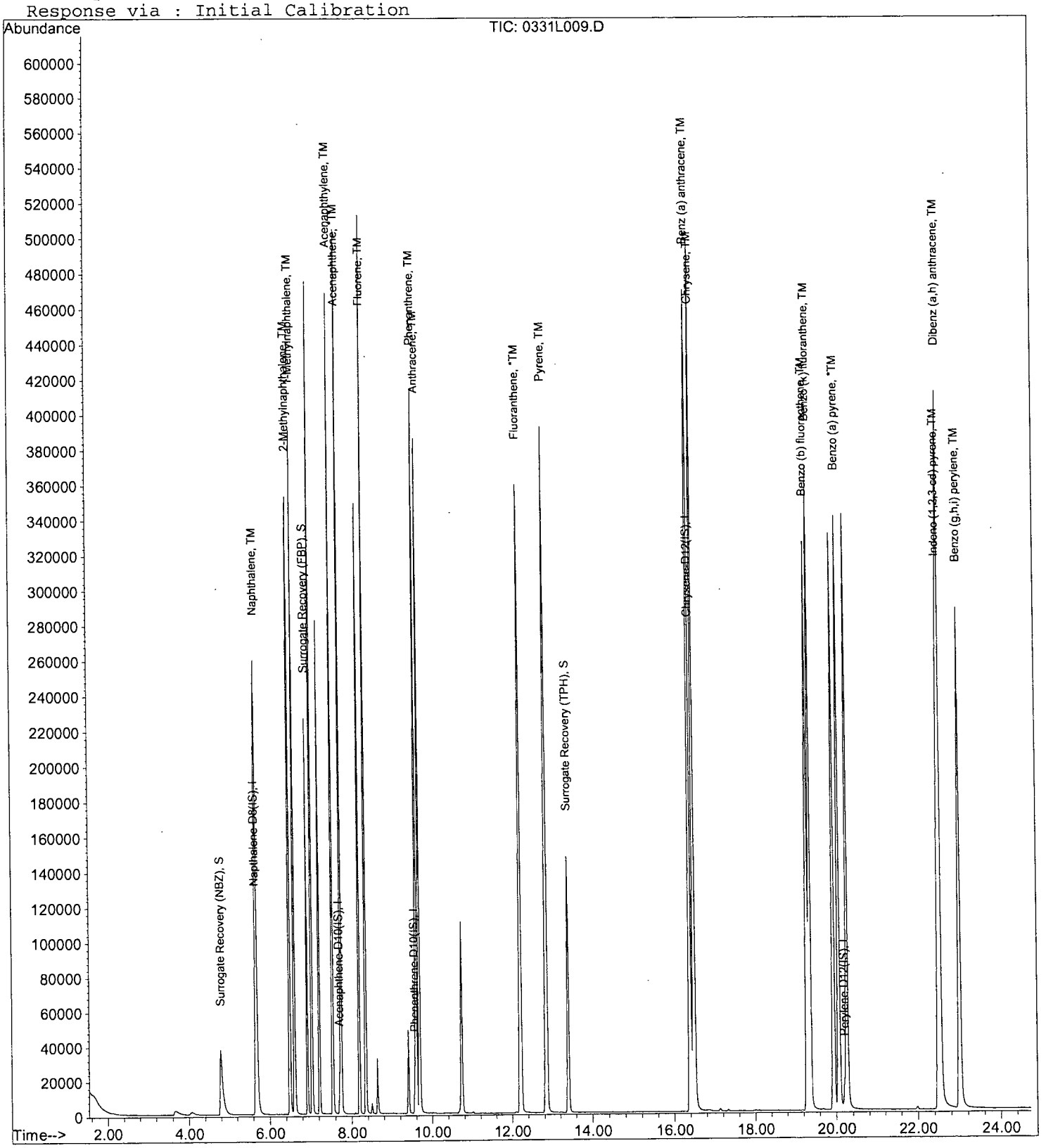
Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28041	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14359	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.57	188	27580	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.44	240	30910	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.22	264	28738	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	220688	54.26717 ppb	-0.01
Spiked Amount 5.000			Recovery	= 1085.340%	
7) Surrogate Recovery (FBP)	6.92	172	377701	43.22844 ppb	0.00
Spiked Amount 5.000			Recovery	= 864.560%	
17) Surrogate Recovery (TPH)	13.42	244	472131	48.40975 ppb	0.01
Spiked Amount 5.000			Recovery	= 968.200%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	1054173	94.81706 ppb		99
4) 2-Methylnaphthalene	6.49	142	669313	94.77979 ppb		100
5) 1-Methylnaphthalene	6.60	142	653474	87.92922 ppb		98
8) Acenaphthylene	7.54	152	997656	87.84937 ppb		98
9) Acenaphthene	7.75	154	566128	86.03024 ppb		97
10) Fluorene	8.35	166	656159	88.30231 ppb		98
12) Phenanthrene	9.61	178	980324	89.50069 ppb		99
13) Anthracene	9.69	178	934989	90.96741 ppb		99
14) Fluoranthene	12.24	202	1676780	99.91680 ppb		99
16) Pyrene	12.87	202	1736870	100.53519 ppb		97
18) Benz (a) anthracene	16.42	228	1514401	102.83533 ppb		100
19) Chrysene	16.53	228	1424819	94.85049 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.55	276	1249179	87.29937 ppb	#	83
22) Benzo (b) fluoranthene	19.32	252	1447010	99.99166 ppb		98
23) Benzo (k) fluoranthene	19.41	252	1140732	89.21477 ppb		98
24) Benzo (a) pyrene	20.12	252	1276689	92.56173 ppb		99
25) Dibenz (a,h) anthracene	22.60	278	1020340	86.75637 ppb		98
26) Benzo (g,h,i) perylene	23.06	276	1040188	82.82263 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

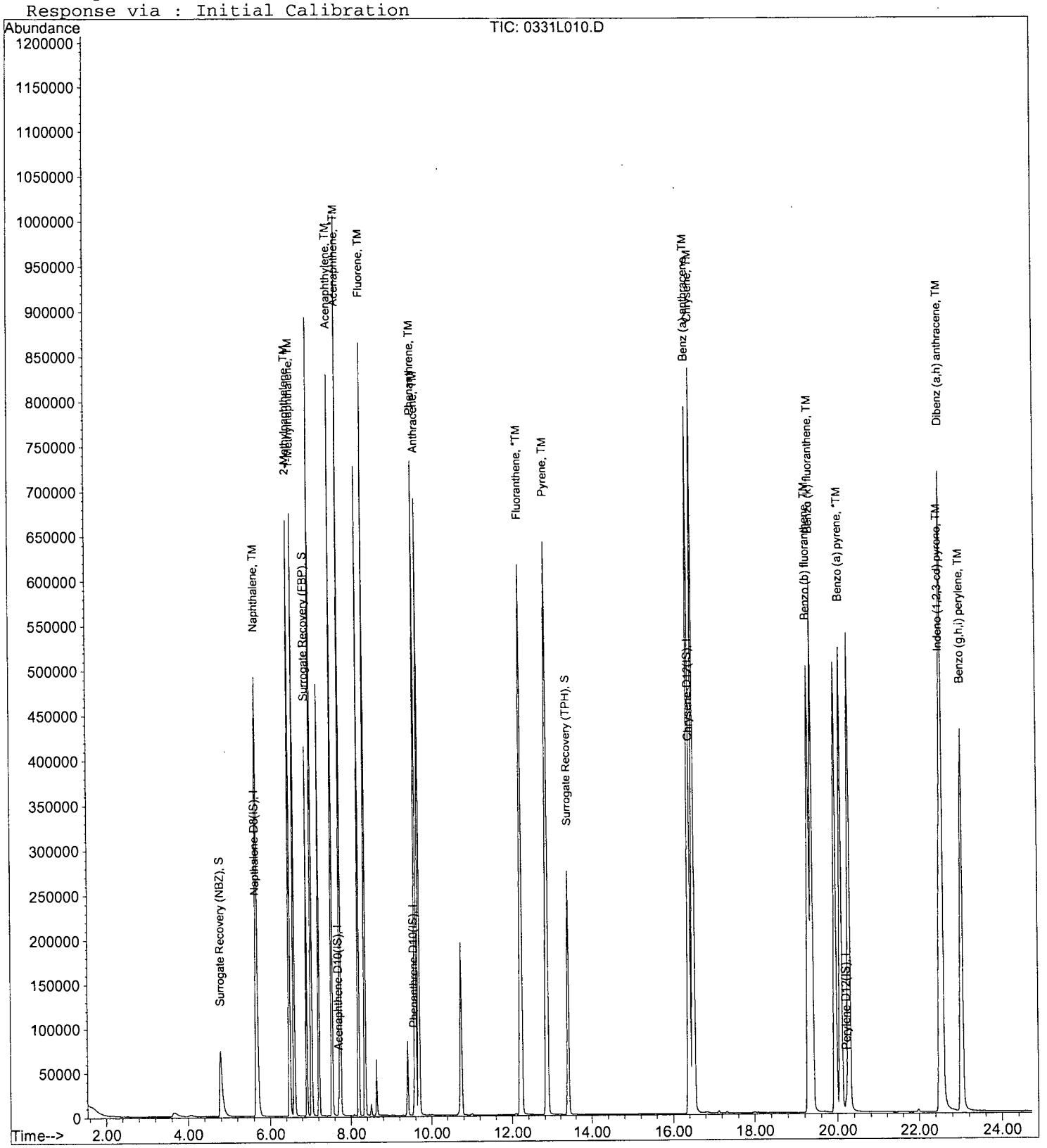
Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/31/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	Naphthalene	0.9995	1.066	6.6	TM	
2	TM	2-Methylnaphthalene	0.6388	0.6359	0.45	TM	
3	TM	1-Methylnaphthalene	0.6742	0.6504	3.5	TM	
4	TM	Acenaphthylene	1.991	2.115	6.3	TM	
5	*TM	Acenaphthene	1.152	1.262	9.5	*TM	
6	TM	Fluorene	1.305	1.424	9.1	TM	
7	TM	Phenanthrene	1.004	1.074	6.9	TM	
8	TM	Anthracene	0.9449	1.031	9.1	TM	
9	*TM	Fluoranthene	1.537	1.676	9.0	*TM	
10	TM	Pyrene	1.426	1.495	4.8	TM	
11	TM	Benz (a) anthracene	1.215	1.240	2.1	TM	
12	TM	Chrysene	1.232	1.283	4.2	TM	
13	TM	Indeno (1,2,3-cd) pyrene	1.139	1.196	5.0	TM	
14	TM	Benzo (b) fluoranthene	1.281	1.287	0.47	TM	
15	TM	Benzo (k) fluoranthene	1.097	1.234	12	TM	
16	*TM	Benzo (a) pyrene	1.216	1.295	6.5	*TM	
17	TM	Dibenz (a,h) anthracene	1.038	1.126	8.6	TM	
18	TM	Benzo (g,h,i) perylene	1.110	1.108	0.12	TM	
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			5.8		

EPA 8270C SIM
0

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30679	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15350	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30180	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34850	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30295	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	4	0.00090 ppb	0.00
Spiked Amount 5.000			Recovery	= 0.020%	
7) Surrogate Recovery (FBP)	6.93	172	14	0.00149 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.020%	
17) Surrogate Recovery (TPH)	13.47	244	30	0.00270 ppb	0.06
Spiked Amount 5.000			Recovery	= 0.060%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	65397	5.33187 ppb	100
4) 2-Methylnaphthalene	6.49	142	39019	4.97734 ppb	99
5) 1-Methylnaphthalene	6.60	142	39907	4.82348 ppb	98
8) Acenaphthylene	7.54	152	64946	5.31253 ppb	100
9) Acenaphthene	7.74	154	38734	5.47664 ppb	99
10) Fluorene	8.35	166	43714	5.45380 ppb	99
12) Phenanthrene	9.60	178	64799	5.34377 ppb	100
13) Anthracene	9.68	178	62241	5.45624 ppb	100
14) Fluoranthene	12.21	202	101168	5.45240 ppb	99
16) Pyrene	12.84	202	104230	5.24166 ppb	100
18) Benz (a) anthracene	16.38	228	86405	5.10258 ppb	99
19) Chrysene	16.48	228	89459	5.21101 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	83349	5.24968 ppb	97
22) Benzo (b) fluoranthene	19.28	252	77988	5.02329 ppb	99
23) Benzo (k) fluoranthene	19.35	252	74793	5.62464 ppb	100
24) Benzo (a) pyrene	20.05	252	78476	5.32658 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	68243	5.42773 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	67157	4.99392 ppb	100

$$\text{Algorithum check} = \frac{65397 * 2.5 * 1}{30679 * 0.9995} = \frac{163492.5}{30663.6605}$$

$$= 5.33179$$

RH 4/6/17

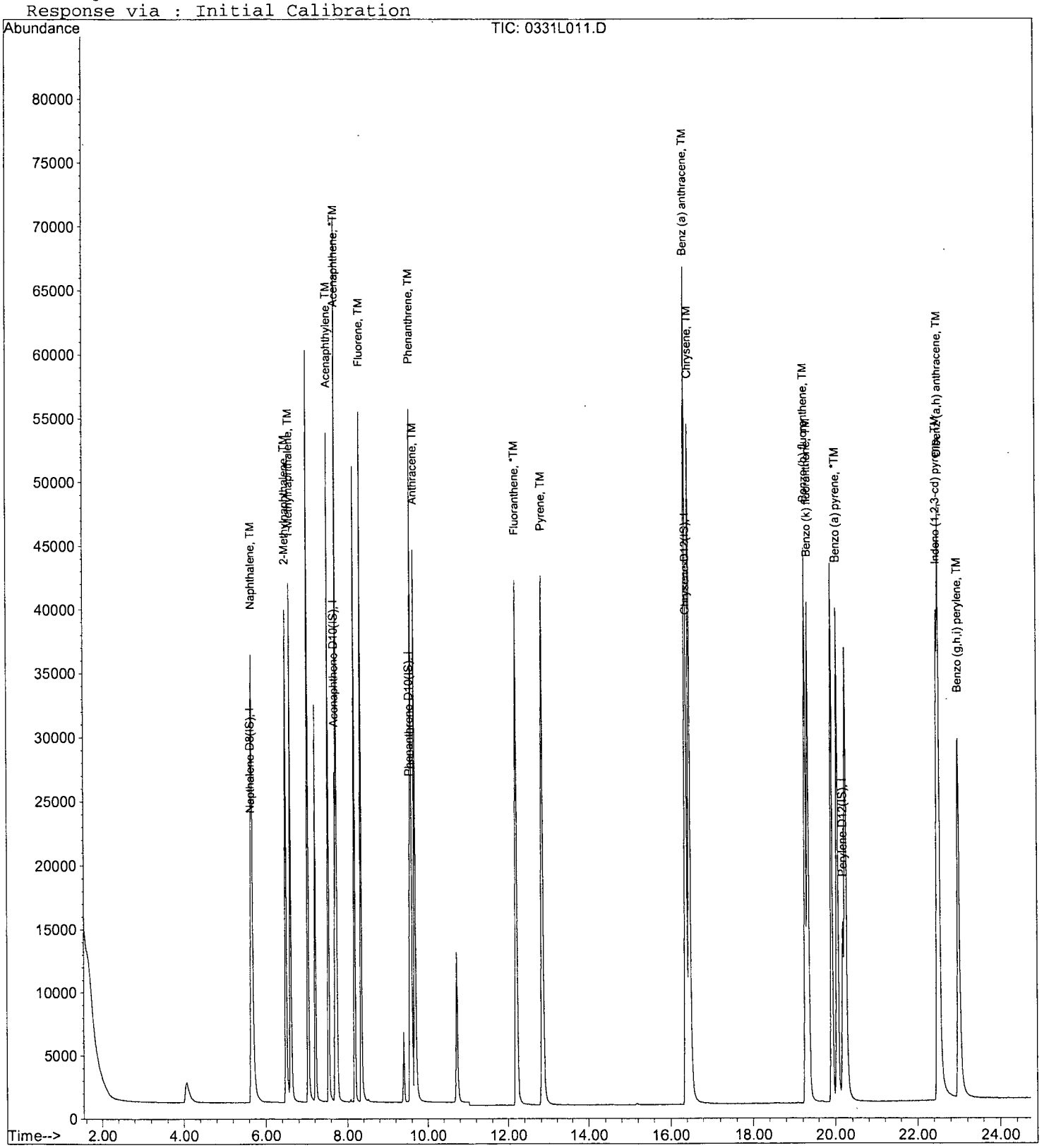
(#) = qualifier out of range (m) = manual integration
0331L011.D L0331P.M Thu Apr 06 17:00:08 2017

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L011.D Vial: 11
Acq On : 31 Mar 17 17:23 Operator: MA
Sample : SS SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Mar 31 17:48 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 10:39
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L036.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3880	6.8	S	
3	TM	Naphthalene	0.9995	1.058	5.9	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7130	12	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7295	8.2	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.640	7.4	S	
8	TM	Acenaphthylene	1.991	2.131	7.0	TM	
9	*TM	Acenaphthene	1.152	1.247	8.3	*TM	
10	TM	Fluorene	1.305	1.451	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.071	6.7	TM	
13	TM	Anthracene	0.9449	1.053	11	TM	
14	*TM	Fluoranthene	1.537	1.684	9.6	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.533	7.5	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.8490	6.5	S	
18	TM	Benz (a) anthracene	1.215	1.315	8.2	TM	
19	TM	Chrysene	1.232	1.290	4.7	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.139	0.01	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.358	6.0	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.244	13	TM	
24	*TM	Benzo (a) pyrene	1.216	1.305	7.3	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.101	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.118	0.74	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.3		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L036.D
Acq On : 7 Apr 17 10:39
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 7 11:06 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	32329	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	16400	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.55	188	32453	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.39	240	37112	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.17	264	32629	2.50000 ppb	-0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	12545	2.67087 ppb	-0.01
Spiked Amount 5.000			Recovery	= 53.420%	
7) Surrogate Recovery (FBP)	6.92	172	26888	2.68404 ppb	0.00
Spiked Amount 5.000			Recovery	= 53.680%	
17) Surrogate Recovery (TPH)	13.39	244	31507	2.66175 ppb	-0.02
Spiked Amount 5.000			Recovery	= 53.240%	
Target Compounds					Qvalue
3) Naphthalene	5.66	128	68414	5.29317 ppb	99
4) 2-Methylnaphthalene	6.48	142	46099	5.58035 ppb	98
5) 1-Methylnaphthalene	6.59	142	47165	5.40978 ppb	98
8) Acenaphthylene	7.53	152	69899	5.35161 ppb	99
9) Acenaphthene	7.74	154	40901	5.41278 ppb	97
10) Fluorene	8.34	166	47592	5.55747 ppb	98
12) Phenanthrene	9.58	178	69546	5.33354 ppb	99
13) Anthracene	9.67	178	68327	5.57023 ppb	100
14) Fluoranthene	12.19	202	109311	5.47864 ppb	99
16) Pyrene	12.82	202	113779	5.37312 ppb	100
18) Benz (a) anthracene	16.37	228	97575	5.41101 ppb	99
19) Chrysene	16.46	228	95740	5.23697 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.47	276	84528	4.99944 ppb #	94
22) Benzo (b) fluoranthene	19.27	252	88633	5.30057 ppb	99
23) Benzo (k) fluoranthene	19.33	252	81164	5.66714 ppb	99
24) Benzo (a) pyrene	20.04	252	85149	5.36609 ppb	100
25) Dibenz (a,h) anthracene	22.52	278	71826	5.30407 ppb	100
26) Benzo (g,h,i) perylene	22.98	276	72954	5.03694 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

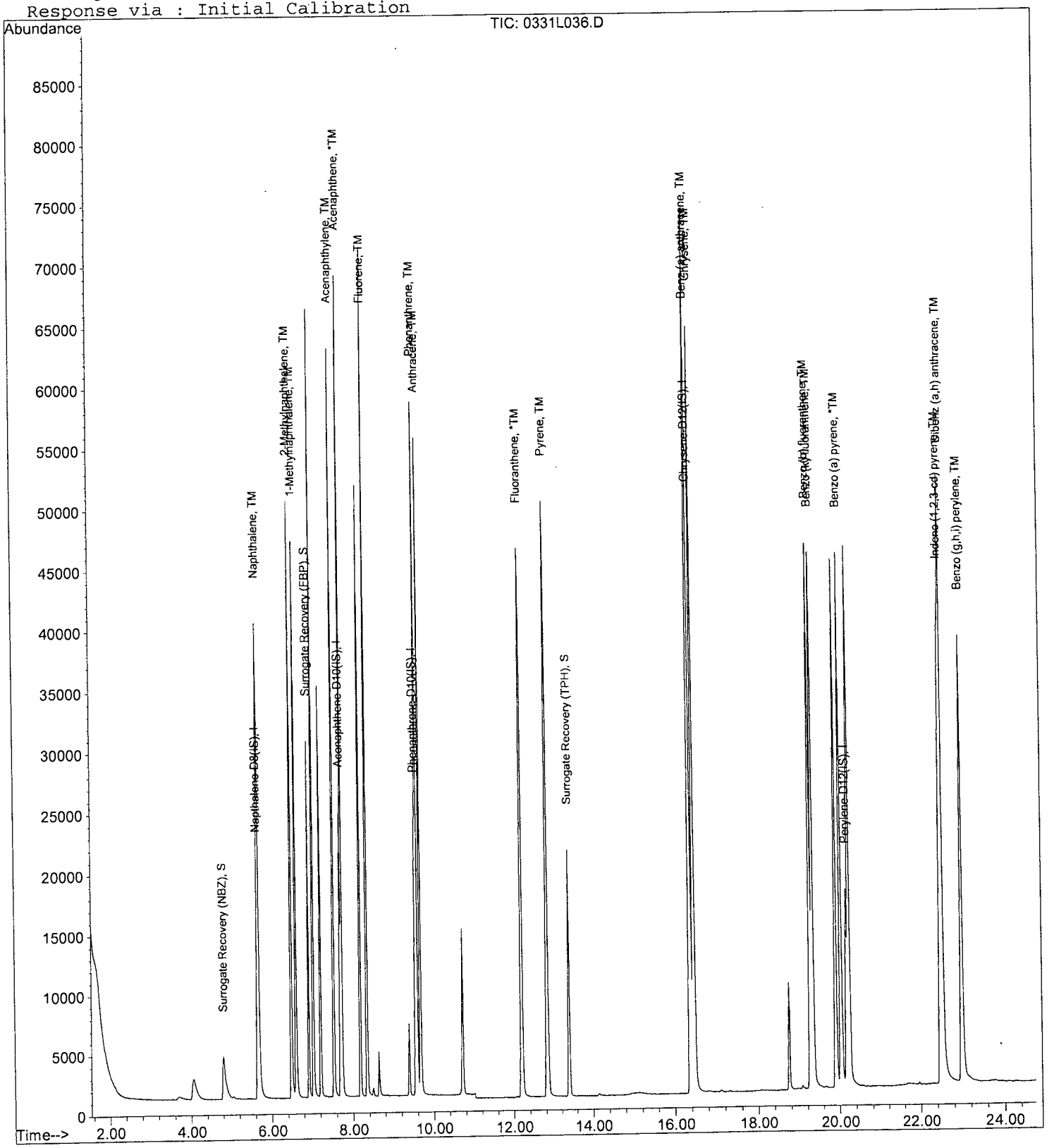
Data File : M:\LINUS\DATA\L170331\0331L036.D
Acq On : 7 Apr 17 10:39
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 7 11:06 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 22:00
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L058.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3648	0.42	S	
3	TM	Naphthalene	0.9995	1.081	8.1	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7010	9.7	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7356	9.1	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.663	8.9	S	
8	TM	Acenaphthylene	1.991	2.152	8.1	TM	
9	*TM	Acenaphthene	1.152	1.257	9.1	*TM	
10	TM	Fluorene	1.305	1.448	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.084	7.9	TM	
13	TM	Anthracene	0.9449	1.052	11	TM	
14	*TM	Fluoranthene	1.537	1.707	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.545	8.3	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.8248	3.4	S	
18	TM	Benz (a) anthracene	1.215	1.228	1.1	TM	
19	TM	Chrysene	1.232	1.343	9.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.155	1.5	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.345	4.9	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.099	0.14	TM	
24	*TM	Benzo (a) pyrene	1.216	1.297	6.6	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.119	7.8	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.121	0.99	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.6		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L058.D Vial: 58
Acq On : 7 Apr 17 22:00 Operator: MA
Sample : 5.0 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 10 9:20 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33409	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16502	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	32206	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	37318	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	32925	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	12186	2.51057 ppb	0.01
Spiked Amount 5.000			Recovery	= 50.220%	
7) Surrogate Recovery (FBP)	6.92	172	27436	2.72182 ppb	0.00
Spiked Amount 5.000			Recovery	= 54.440%	
17) Surrogate Recovery (TPH)	13.40	244	30780	2.58598 ppb	-0.01
Spiked Amount 5.000			Recovery	= 51.720%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	72219	5.40693 ppb	99
4) 2-Methylnaphthalene	6.49	142	46840	5.48676 ppb	100
5) 1-Methylnaphthalene	6.60	142	49149	5.45511 ppb	99
8) Acenaphthylene	7.54	152	71034	5.40489 ppb	99
9) Acenaphthene	7.74	154	41471	5.45429 ppb	100
10) Fluorene	8.34	166	47806	5.54796 ppb	97
12) Phenanthrene	9.60	178	69837	5.39694 ppb	100
13) Anthracene	9.68	178	67734	5.56424 ppb	100
14) Fluoranthene	12.20	202	109965	5.55369 ppb	100
16) Pyrene	12.83	202	115304	5.41508 ppb	100
18) Benz (a) anthracene	16.37	228	91648	5.05427 ppb	100
19) Chrysene	16.47	228	100244	5.45307 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	86240	5.07255 ppb #	93
22) Benzo (b) fluoranthene	19.27	252	88539	5.24735 ppb	99
23) Benzo (k) fluoranthene	19.34	252	72361	5.00707 ppb	99
24) Benzo (a) pyrene	20.05	252	85382	5.33240 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	73668	5.39119 ppb	99
26) Benzo (g,h,i) perylene	22.99	276	73800	5.04954 ppb	97

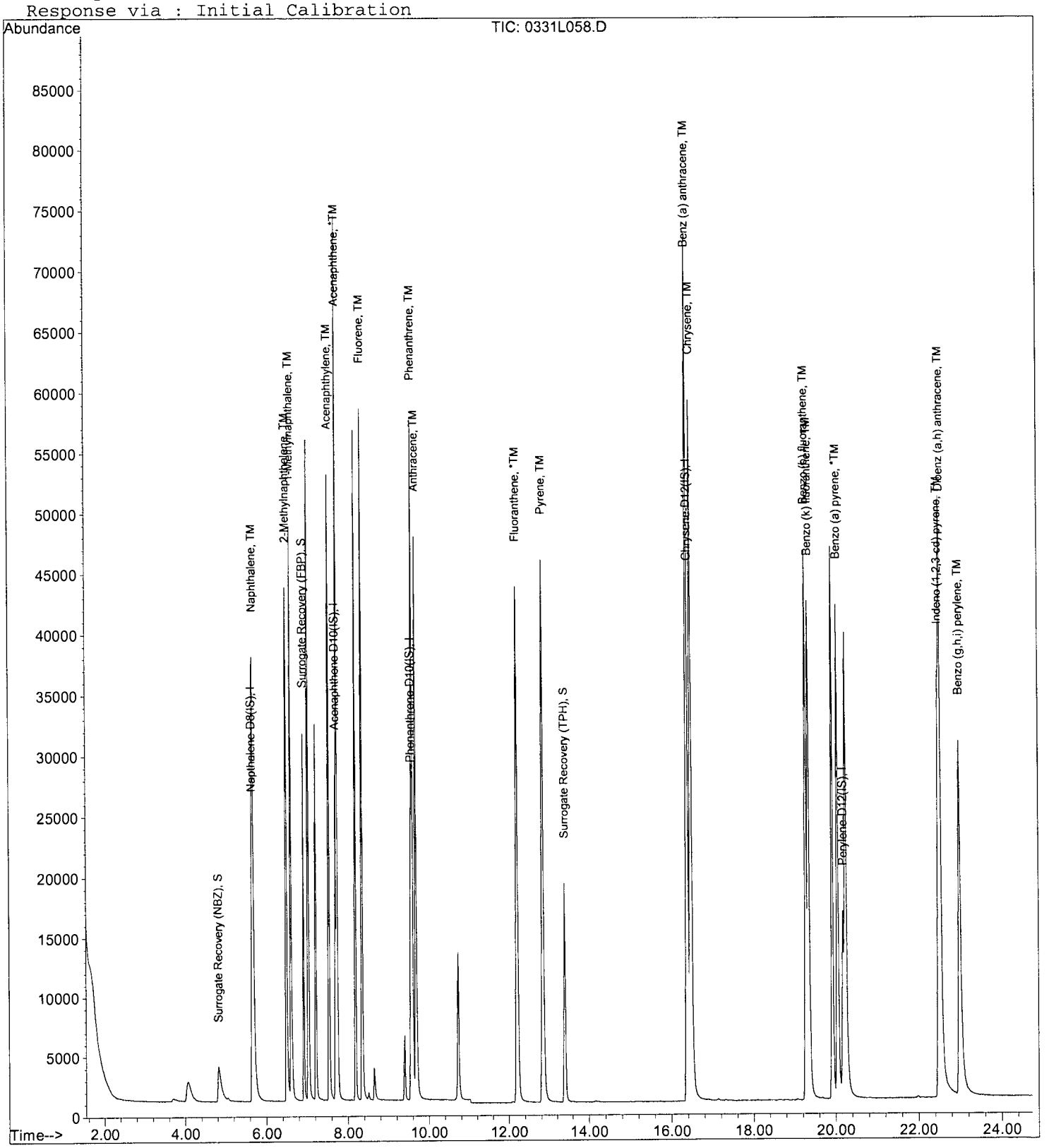
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L058.D Vial: 58
Acq On : 7 Apr 17 22:00 Operator: MA
Sample : 5.0 SIM 03/31/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 10 9:20 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217676**
Batch ID: #SIMDO-170406A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/06/17	04/07/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/06/17	04/07/17
BLANK	SURROGATE: 2-FLUORBIPHENY	70.2	53-106			%	04/06/17	04/07/17
BLANK	SURROGATE: NITROBENZENE-	78.4	55-111			%	04/06/17	04/07/17
BLANK	SURROGATE: TERPHENYL-D14 (	93.3	58-132			%	04/06/17	04/07/17

Quant Method:L0331P.M
Run #:0331L037
Instrument:Linus
Sequence:L170331
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/10/17 1:43:51 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L037.D Vial: 37
Acq On : 7 Apr 17 11:12 Operator: MA
Sample : 170406A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 7 16:41 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30813	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15401	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30494	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	34626	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	29951	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	17553	3.92096 ppb	-0.01
Spiked Amount 5.000			Recovery	= 78.420%	
7) Surrogate Recovery (FBP)	6.92	172	33004	3.50827 ppb	0.00
Spiked Amount 5.000			Recovery	= 70.160%	
17) Surrogate Recovery (TPH)	13.39	244	51533	4.66615 ppb	-0.02
Spiked Amount 5.000			Recovery	= 93.320%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

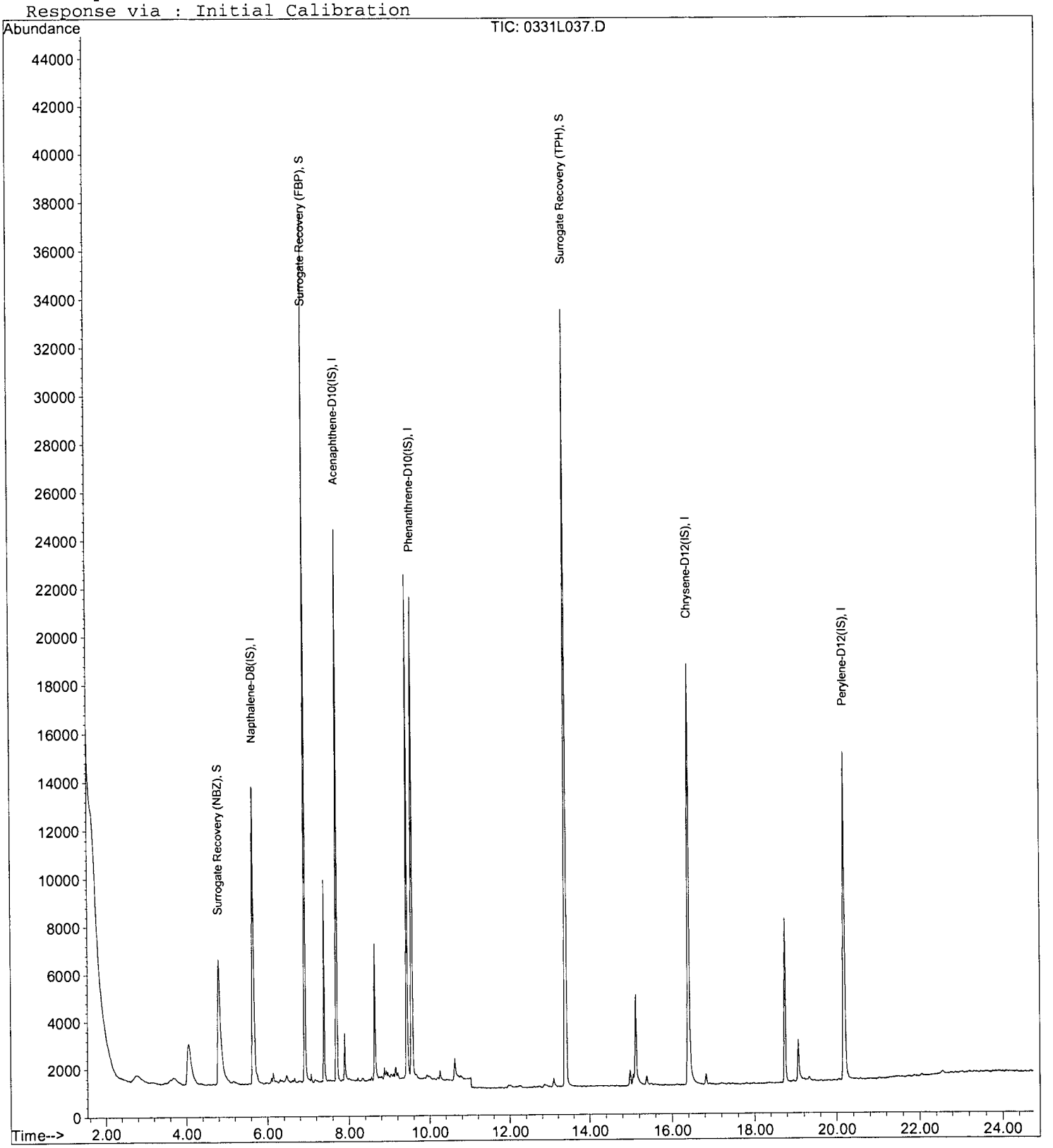
Data File : M:\LINUS\DATA\L170331\0331L037.D
Acq On : 7 Apr 17 11:12
Sample : 170406A BLK 1/1000
Misc : water

Vial: 37
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 7 16:41 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8270D SIM

APPL ID: **170406W-53059 LCS - 217676**
Batch ID: #SIMDO-170406A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.73	74.6	41-115
2-METHYLNAPHTHALENE	5.00	3.92	78.4	39-114
NAPHTHALENE	5.00	4.09	81.8	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	3.58	71.6	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.85	77.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.67	93.4	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/06/17
Analysis Date :	04/07/17
Instrument :	Linus
Run :	0331L038
Initials :	RHA

Printed: 04/10/17 1:43:45 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L038.D Vial: 38
Acq On : 7 Apr 17 11:43 Operator: MA
Sample : 170406A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 7 13:18 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	31964	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	15960	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.55	188	31161	2.50000 ppb	-0.01
15) Chrysene-D12(IS)	16.40	240	35906	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	30638	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	17857	3.84523 ppb	0.00
Spiked Amount 5.000			Recovery	= 76.900%	
7) Surrogate Recovery (FBP)	6.92	172	34893	3.57915 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.580%	
17) Surrogate Recovery (TPH)	13.39	244	53452	4.66737 ppb	-0.02
Spiked Amount 5.000			Recovery	= 93.340%	
Target Compounds					Qvalue
3) Naphthalene	5.66	128	52213	4.08583 ppb	99
4) 2-Methylnaphthalene	6.48	142	32007	3.91874 ppb	98
5) 1-Methylnaphthalene	6.60	142	32146	3.72922 ppb	100
8) Acenaphthylene	7.53	152	60414	4.75293 ppb	99
9) Acenaphthene	7.74	154	35405	4.81462 ppb	97
10) Fluorene	8.34	166	44291	5.31459 ppb	99
12) Phenanthrene	9.58	178	68259	5.45189 ppb	99
13) Anthracene	9.67	178	64524	5.47830 ppb	100
14) Fluoranthene	12.20	202	115185	6.01241 ppb	98
16) Pyrene	12.82	202	117191	5.72013 ppb	99
18) Benz (a) anthracene	16.37	228	99811	5.72091 ppb	100
19) Chrysene	16.47	228	97058	5.48738 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.47	276	89451	5.46832 ppb #	93
22) Benzo (b) fluoranthene	19.27	252	88627	5.64465 ppb	100
23) Benzo (k) fluoranthene	19.34	252	84977	6.31896 ppb	100
24) Benzo (a) pyrene	20.04	252	82997	5.57038 ppb	99
25) Dibenz (a,h) anthracene	22.52	278	73727	5.79825 ppb	99
26) Benzo (g,h,i) perylene	22.98	276	73882	5.43250 ppb	97

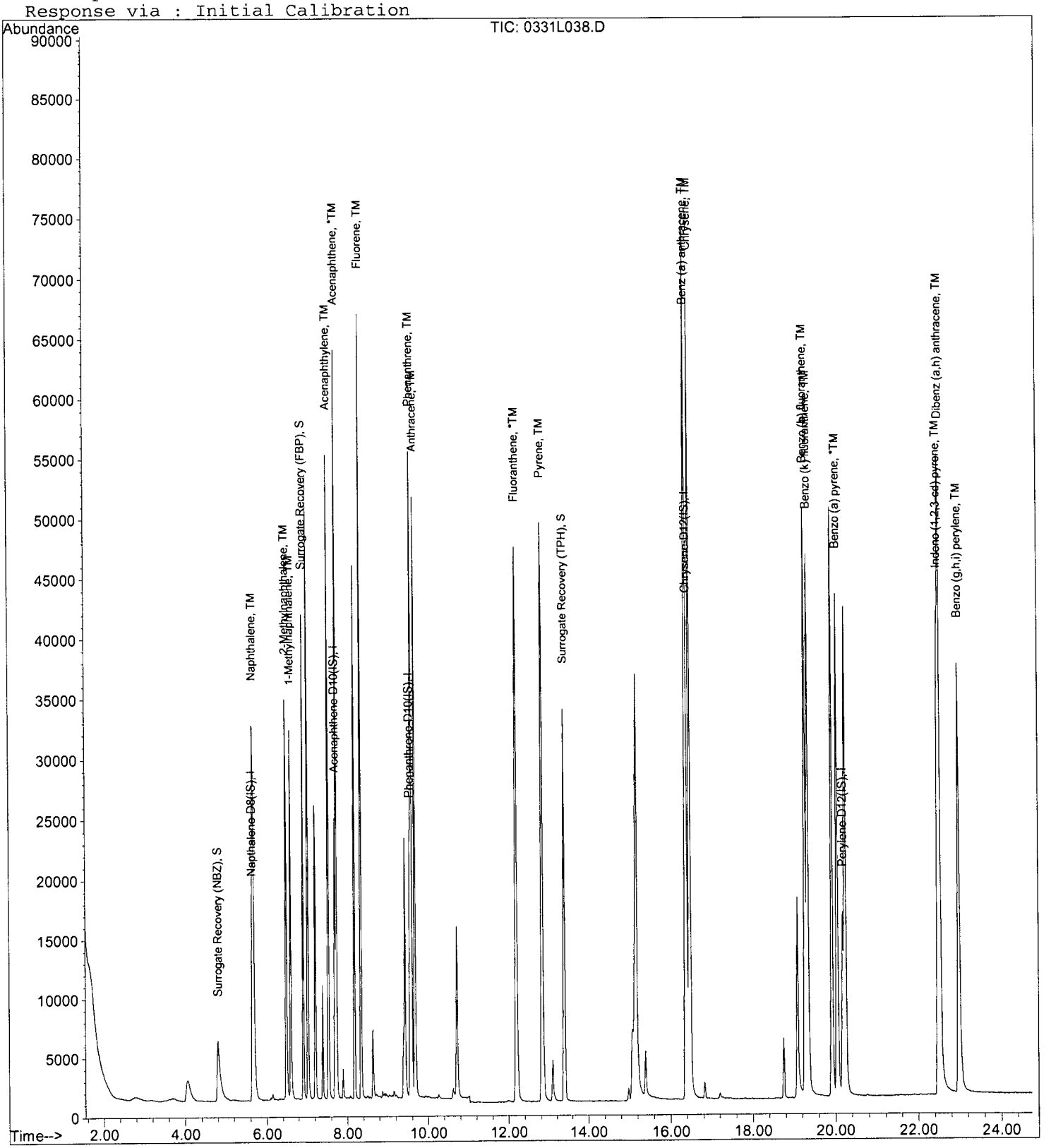
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L038.D Vial: 38
Acq On : 7 Apr 17 11:43 Operator: MA
Sample : 170406A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 7 13:18 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170406W-53059 MS - 217676**
Batch ID: #SIMDO-170406A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	5.00	ND	3.60	3.28	72.0	65.6	41-115	9.3	20
2-METHYLNAPHTHALENE	5.00	ND	3.75	3.43	75.0	68.6	39-114	8.9	20
NAPHTHALENE	5.00	ND	3.94	3.53	78.8	70.6	43-114	11.0	20
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	NA	3.44	3.24	68.8	64.8	53-106		
SURROGATE: NITROBENZENE-D5 (S)	5.00	NA	3.51	3.09	70.2	61.8	55-111		
SURROGATE: TERPHENYL-D14 (S)	5.00	NA	4.25	4.19	85.0	83.8	58-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	L0331P.M	L0331P.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/07/17	04/07/17
Instrument :	Linus	Linus
Run :	0331L042	0331L043
Initials :	RHA	

Printed: 04/10/17 1:43:43 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L042.D Vial: 42
Acq On : 7 Apr 17 13:53 Operator: MA
Sample : AZ53059W29 MS-1 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 7 16:36 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33212	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16285	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31803	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	37243	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	31990	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	17931	3.50573 ppb	0.00
Spiked Amount 4.717			Recovery	= 74.327%	
7) Surrogate Recovery (FBP)	6.92	172	36226	3.43559 ppb	0.00
Spiked Amount 4.717			Recovery	= 72.843%	
17) Surrogate Recovery (TPH)	13.40	244	53530	4.25130 ppb	-0.01
Spiked Amount 4.717			Recovery	= 90.121%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	55423	3.93778 ppb	99
4) 2-Methylnaphthalene	6.48	142	33734	3.74998 ppb	97
5) 1-Methylnaphthalene	6.60	142	34148	3.59680 ppb	99
8) Acenaphthylene	7.53	152	60398	4.39325 ppb	99
9) Acenaphthene	7.74	154	35522	4.46616 ppb	98
10) Fluorene	8.34	166	44264	4.91071 ppb	97
12) Phenanthrene	9.60	178	67997	5.02012 ppb	100
13) Anthracene	9.68	178	64421	5.05579 ppb	100
14) Fluoranthene	12.20	202	116225	5.60776 ppb	99
16) Pyrene	12.83	202	118053	5.24089 ppb	100
18) Benz (a) anthracene	16.37	228	99612	5.19296 ppb	100
19) Chrysene	16.47	228	99450	5.11394 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.48	276	91391	5.08146 ppb #	97
22) Benzo (b) fluoranthene	19.27	252	89852	5.17057 ppb	99
23) Benzo (k) fluoranthene	19.34	252	84625	5.68569 ppb	100
24) Benzo (a) pyrene	20.04	252	85642	5.19337 ppb	99
25) Dibenz (a,h) anthracene	22.52	278	74792	5.31454 ppb	98
26) Benzo (g,h,i) perylene	22.99	276	74584	4.95503 ppb	100

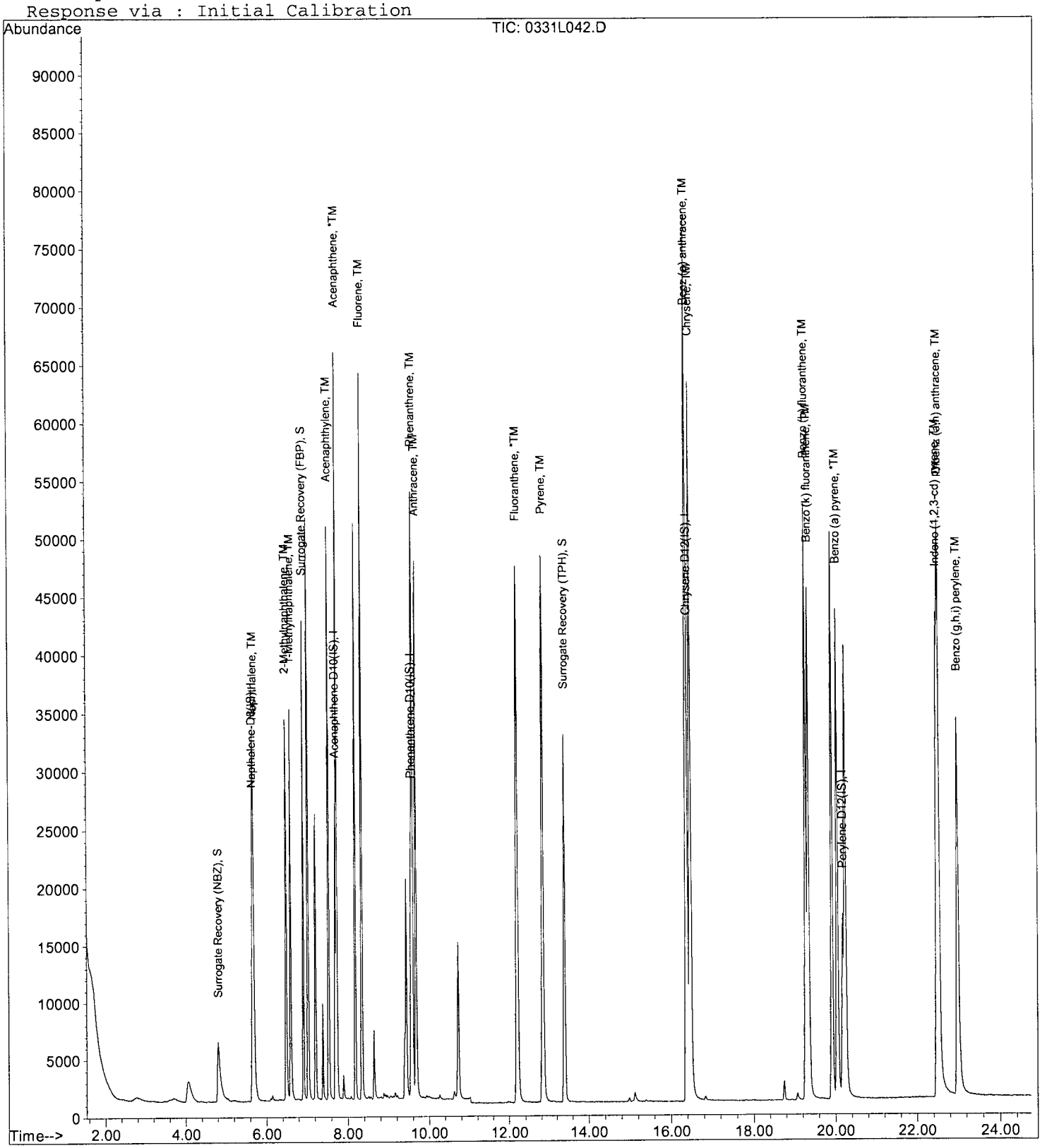
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L042.D Vial: 42
Acq On : 7 Apr 17 13:53 Operator: MA
Sample : AZ53059W29 MS-1 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 7 16:36 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L043.D Vial: 43
Acq On : 7 Apr 17 14:25 Operator: MA
Sample : AZ53059W16 MSD-1 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 7 16:36 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33355	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16262	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	32227	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	37378	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	32280	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	15878	3.09104 ppb	0.00
Spiked Amount 4.717			Recovery	= 65.529%	
7) Surrogate Recovery (FBP)	6.92	172	34069	3.23560 ppb	0.00
Spiked Amount 4.717			Recovery	= 68.603%	
17) Surrogate Recovery (TPH)	13.39	244	52991	4.19329 ppb	-0.02
Spiked Amount 4.717			Recovery	= 88.892%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	49952	3.53386 ppb	100
4) 2-Methylnaphthalene	6.48	142	31004	3.43173 ppb	97
5) 1-Methylnaphthalene	6.60	142	31316	3.28437 ppb	100
8) Acenaphthylene	7.53	152	57767	4.20782 ppb	99
9) Acenaphthene	7.74	154	34924	4.39718 ppb	97
10) Fluorene	8.34	166	43445	4.82667 ppb	98
12) Phenanthrene	9.60	178	66905	4.87451 ppb	100
13) Anthracene	9.68	178	63684	4.93220 ppb	100
14) Fluoranthene	12.20	202	113654	5.41156 ppb	99
16) Pyrene	12.82	202	116368	5.14743 ppb	98
18) Benz (a) anthracene	16.37	228	98064	5.09380 ppb	100
19) Chrysene	16.47	228	98262	5.03460 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.48	276	90270	5.00100 ppb #	96
22) Benzo (b) fluoranthene	19.27	252	95060	5.42113 ppb	99
23) Benzo (k) fluoranthene	19.34	252	76588	5.09948 ppb	99
24) Benzo (a) pyrene	20.05	252	84242	5.06258 ppb	100
25) Dibenz (a,h) anthracene	22.52	278	73893	5.20349 ppb	97
26) Benzo (g,h,i) perylene	22.99	276	73627	4.84751 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

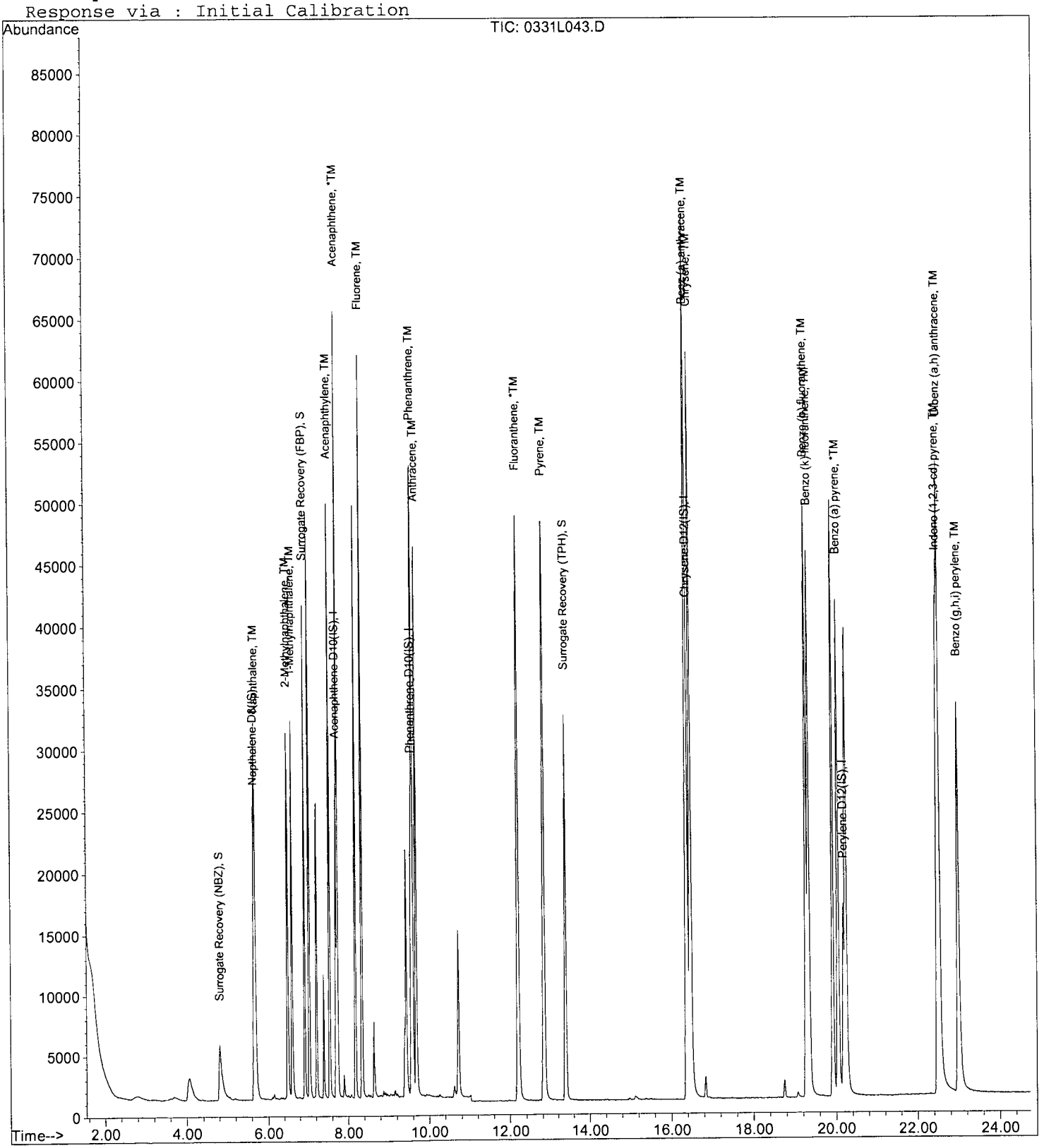
Data File : M:\LINUS\DATA\L170331\0331L043.D
Acq On : 7 Apr 17 14:25
Sample : AZ53059W16 MSD-1 1/1060
Misc : water

Vial: 43
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Apr 7 16:36 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration

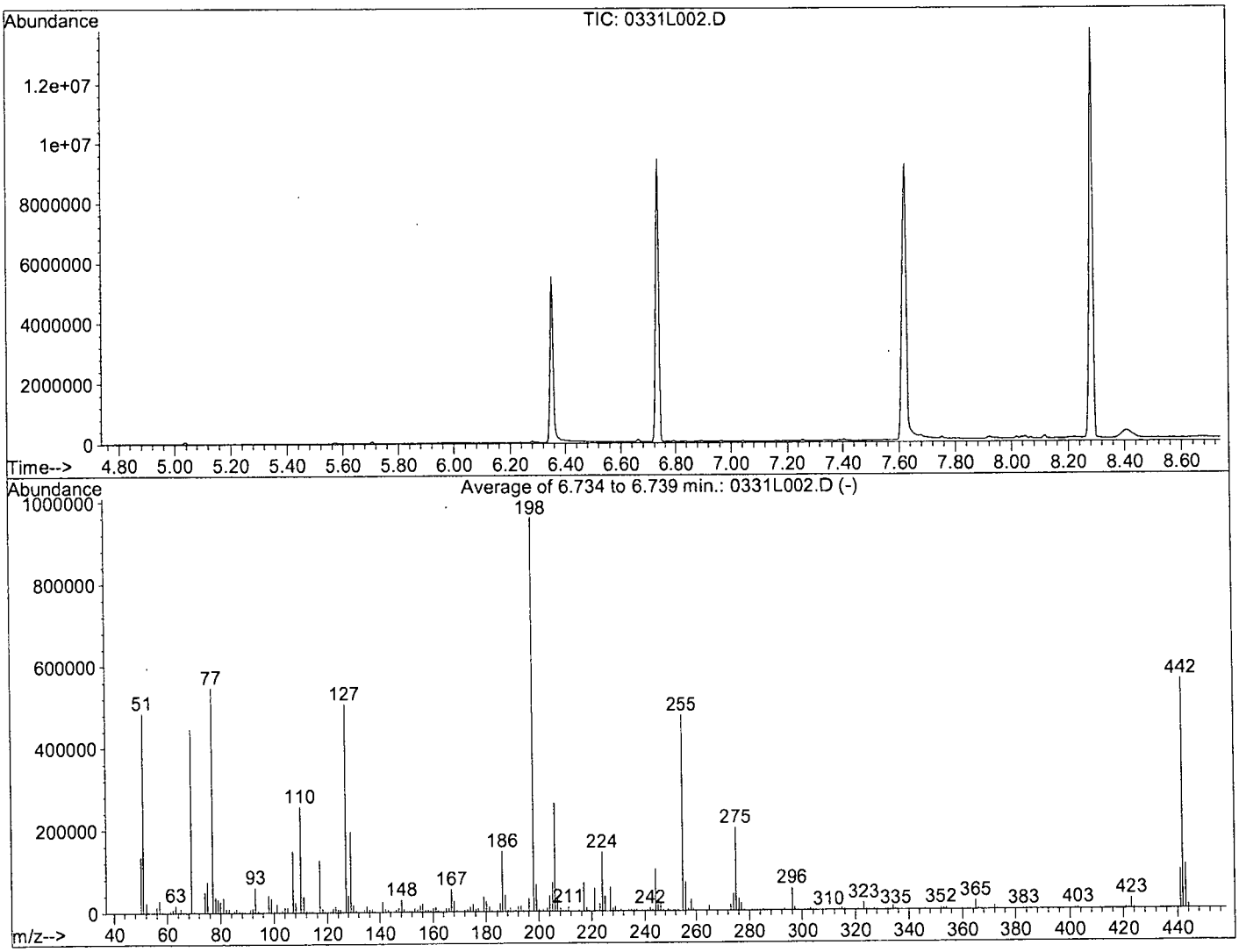


DFTPP

Data File : M:\LINUS\DATA\L170331\0331L002.D
Acq On : 31 Mar 17 12:25
Sample : SV Tune 03/29/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.734 to 6.739 min.

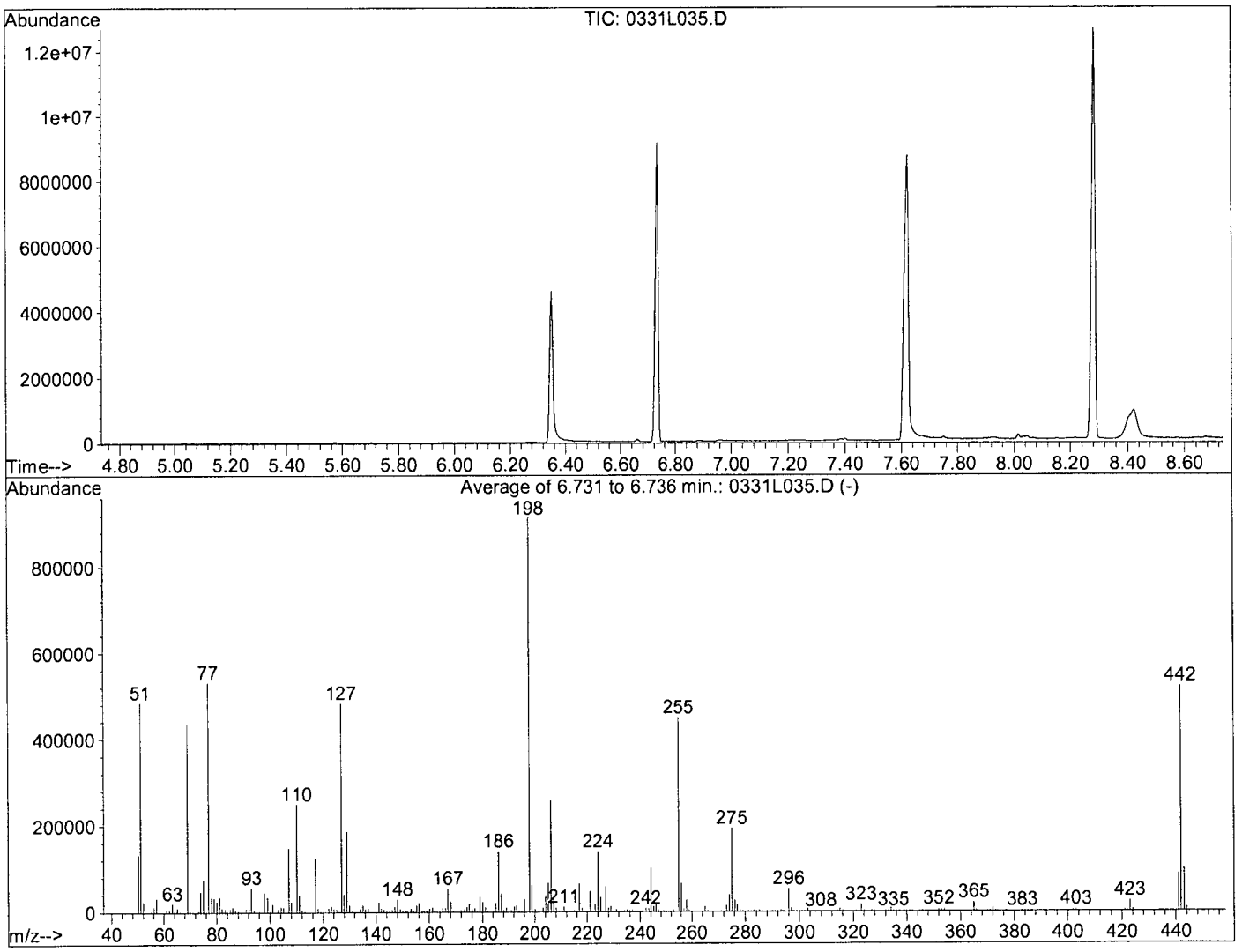
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	50.5	485624	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	448712	PASS
70	69	0.00	2	0.7	2962	PASS
127	198	40	60	52.7	507072	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	961984	PASS
199	198	5	9	6.7	64531	PASS
275	198	10	30	20.9	200832	PASS
365	198	1	100	2.3	21965	PASS
441	443	0.01	100	88.1	94480	PASS
442	198	40	150	58.2	559851	PASS
443	442	17	23	19.2	107229	PASS

0331L002.D DFTPP2.M Wed Apr 05 13:29:00 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L035.D Vial: 35
Acq On : 7 Apr 17 10:21 Operator: MA
Sample : SV Tune 3/29/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.731 to 6.736 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	52.9	484780	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	435424	PASS
70	69	0.00	2	0.6	2478	PASS
127	198	40	60	52.8	483331	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	916139	PASS
199	198	5	9	6.6	60627	PASS
275	198	10	30	21.0	191957	PASS
365	198	1	100	2.2	19963	PASS
441	443	0.01	100	87.3	85437	PASS
442	198	40	150	56.8	520363	PASS
443	442	17	23	18.8	97904	PASS

0331L035.D DFTPP2.M Mon Apr 10 13:54:54 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/31/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	09/15/17					0.1	0.2	0.5	1	5	10	50	100
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	291544-37181	03/31/17	03/31/18	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/31/17	09/15/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/31/17	09/15/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		3/15/17	09/15/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS						
PREP DATE:	03/31/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

PAH SIM STD prep: 03/31/17 -R.H.						
Exp:	03/31/18					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	291544-37181	03/31/17	03/31/18	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

SIM SPIKE	
CAT:	110780-01-SS
Lot:	243842 extended-37538
OP: 03/17/17 RH	
EX: 6/21/17	

8270 Surrog Mix 100/200ppm						
Prep: 02/07/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	2.0 mL	100 mL	200 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36872 Op: 01/12/17 EX: 01/12/18	2.0 mL	100 mL	100 ug/mL	MC lot# 96098

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170406A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 3-17-17 exp 6-21-17		Surrogate ID 1	8270 Surrogate 2-7-17 exp 11-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/06/17 10:10
Spiked ID 8			Ext. End Time:	04/06/17 17:00
			GC Requires Extract By:	04/11/17 0:00

pH1	2	4/06/17 10:25:00 AM	Water Bath Temp Criteria	75,72 °C
pH2	14	04/06/17 12:30:00 PM		
pH3				

Spiked By: DL **Date** 04/06/17 **Witnessed By:** CFM **Date** 04/06/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170406A Blk				0.050	1	1000	1	2/1	04/06/17 10:10	
						equip	e-wb6				
2	170406A LCS-1		0.0250	1	0.050	1	1000	1	2/1	04/06/17 10:10	
						equip	E-WB6				
3	170406A LCSD-1		0.0250	1	0.050	1	1000	1	2/1	04/06/17 10:10	
						equip	E-WB7				
4	AZ52959	AZ52959W07			0.050	1	1050	1	2/1	04/06/17 10:10	82565
						equip	E-WB7				
5	AZ52960	AZ52960W07			0.050	1	1050	1	2/1	04/06/17 10:10	82565
						equip	E-WB7				
6	AZ53059 MS-1	AZ53059W29	0.0250	1	0.050	1	1060	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
7	AZ53059 MSD-1	AZ53059W16	0.0250	1	0.050	1	1060	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
8	AZ53059	AZ53059W19			0.050	1	1060	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
9	AZ53060	AZ53060W08			0.050	1	1070	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
10	AZ53062	AZ53062W12			0.050	1	1070	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
11	AZ53064	AZ53064W07			0.050	1	1070	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				
12	AZ53065	AZ53065W05			0.050	1	1070	1	2/1	04/06/17 10:10	82577 1 week
						equip	E-WB7				

Ky 4/07/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC963124
MC	56258
A. Na2SO4	3-3-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/7/17
Time	10:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	DL
Extraction	DL,KY
Concentration	KY

Modified	04/07/17 9:42:28 AM

Reviewed By: Ky **Date** 4/07/17

04/07/17 9:42:37 AM Ext_ID 54556 Page 1 of 1

Injection Log

Directory: M:\LINUS\DATA\L170331\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0331L002.D	1	SV Tune 03/29/17	water	31 Mar 17 12:25
2	3	0331L003.D	1	0.1 SIM 03/31/17	water	31 Mar 17 13:02
3	4	0331L004.D	1	0.2 SIM 03/31/17	water	31 Mar 17 13:34
4	5	0331L005.D	1	0.5 SIM 03/31/17	water	31 Mar 17 14:07
5	6	0331L006.D	1	1.0 SIM 03/31/17	water	31 Mar 17 14:40
6	7	0331L007.D	1	5.0 SIM 03/31/17	water	31 Mar 17 15:12
7	8	0331L008.D	1	10 SIM 03/31/17	water	31 Mar 17 15:45
8	9	0331L009.D	1	50 SIM 03/31/17	water	31 Mar 17 16:17
9	10	0331L010.D	1	100 SIM 03/31/17	water	31 Mar 17 16:50
10	11	0331L011.D	1	SS SIM 03/31/17	water	31 Mar 17 17:23
11	35	0331L035.D	1	SV Tune 3/29/17	water	7 Apr 17 10:21
12	36	0331L036.D	1	5.0 SIM 03/31/17	water	7 Apr 17 10:39
13	37	0331L037.D	1	170406A BLK 1/1000	water	7 Apr 17 11:12
14	38	0331L038.D	1	170406A LCS-1 1/1000	water	7 Apr 17 11:43
15	42	0331L042.D	0.943396	AZ53059W29 MS-1 1/1060	water	7 Apr 17 13:53
16	43	0331L043.D	0.943396	AZ53059W16 MSD-1 1/1060	water	7 Apr 17 14:25
17	44	0331L044.D	0.943396	AZ53059W19 1/1060	water	7 Apr 17 14:57
18	45	0331L045.D	0.934579	AZ53060W08 1/1070	water	7 Apr 17 15:30
19	46	0331L046.D	0.934579	AZ53062W12 1/1070	water	7 Apr 17 16:02
20	47	0331L047.D	0.934579	AZ53064W07 1/1070	water	7 Apr 17 16:35
21	48	0331L048.D	0.934579	AZ53065W05 1/1070	water	7 Apr 17 17:07
22	58	0331L058.D	1	5.0 SIM 03/31/17	water	7 Apr 17 22:00

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method:Y0404.M
Run #:0404Y039
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:04:31 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	43-140	73.3		44-119	66.9	
170407A-LCS	Lab Control Spike	43-140	67.0		44-119	62.3	
AZ53059-MSD	Matrix SpikeD	43-140	74.5		44-119	68.9	
AZ53059	ERH292	43-140	60.3		44-119	56.5	
AZ53060	ERH293	43-140	67.0		44-119	62.2	
AZ53062	ERH295	43-140	66.5		44-119	56.5	
AZ53065	ERH316	43-140	57.7		44-119	44.7	
AZ53059-MS	Matrix Spike	43-140	79.5		44-119	72.8	
AZ53064	ERH288	43-140	55.4		44-119	43.7	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 11:53:15 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	19-119	53.1		44-120	71.4	
170407A-LCS	Lab Control Spike	19-119	51.0		44-120	70.2	
AZ53059-MSD	Matrix SpikeD	19-119	52.0		44-120	75.2	
AZ53059	ERH292	19-119	42.6		44-120	58.3	
AZ53060	ERH293	19-119	46.8		44-120	68.0	
AZ53062	ERH295	19-119	39.5		44-120	60.7	
AZ53065	ERH316	19-119	37.1		44-120	49.7	
AZ53059-MS	Matrix Spike	19-119	48.6		44-120	75.7	
AZ53064	ERH288	19-119	38.2		44-120	49.0	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 11:53:16 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577
Case No: 82577 Date Analyzed: 04/10/17
Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	10-115	34.4		50-134	78.6	
170407A-LCS	Lab Control Spike	10-115	34.9		50-134	79.1	
AZ53059-MSD	Matrix SpikeD	10-115	33.5		50-134	81.8	
AZ53059	ERH292	10-115	29.7		50-134	65.0	
AZ53060	ERH293	10-115	30.7		50-134	69.3	
AZ53062	ERH295	10-115	25.4		50-134	71.2	
AZ53065	ERH316	10-115	24.9		50-134	62.8	
AZ53059-MS	Matrix Spike	10-115	33.5		50-134	81.8	
AZ53064	ERH288	10-115	22.6		50-134	55.3	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 11:53:16 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:04:34 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53059 MS - 217709**
Batch ID: #87DC5-170407A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	19.7	19.7	39.4	39.4	10-115	0.0	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	159	149	79.5	74.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	72.8	68.9	72.8	68.9	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	97.3	104	48.6	52.0	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	75.7	75.2	75.7	75.2	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	67.1	67.0	33.5	33.5	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	81.8	81.8	81.8	81.8	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y048	0404Y042
Initials :	MA	

Printed: 04/11/17 10:04:50 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82577
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 1204

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	0404Y039	04/10/17 1204
170407A-LCS	Lab Control Spike	0404Y040	04/10/17 1234
170407A-MSD	Matrix SpikeD	0404Y042	04/10/17 1335
AZ53059	ERH292	0404Y043	04/10/17 1405
AZ53060	ERH293	0404Y044	04/10/17 1436
AZ53062	ERH295	0404Y045	04/10/17 1506
AZ53065	ERH316	0404Y047	04/10/17 1608
170407A-MS	Matrix Spike	0404Y048	04/10/17 1638
AZ53064	ERH288	0404Y064	04/11/17 1040

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 11:53:16 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/05/17
Instrument: Yoda
Time Analyzed: 8:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SS 4-chloroaniline 5	0404Y015.D	04/05/17 10:19
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	24.9
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	85.3
442	50 - 150% of mass 197.95	97.4
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82577
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 10:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y038.D	04/10/17 11:15
2	Blank	170407A BLK 1/1000	0404Y039.D	04/10/17 12:04
3	Lab Control Spike	170407A LCS-1 1/1000	0404Y040.D	04/10/17 12:34
4		AZ53059W27 MSD-1 1/1	0404Y042.D	04/10/17 13:35
5	ERH292	AZ53059W21 1/1070	0404Y043.D	04/10/17 14:05
6	ERH293	AZ53060W10 1/1070	0404Y044.D	04/10/17 14:36
7	ERH295	AZ53062W09 1/1040	0404Y045.D	04/10/17 15:06
8	ERH316	AZ53065W09 1/1070	0404Y047.D	04/10/17 16:08
9		AZ53059W22 MS-1 1/10	0404Y048.D	04/10/17 16:38
10		50ug/ml SVOC 03/30/1	0404Y060.D	04/10/17 22:25
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.1
441	0.01 - 100% of mass 443	92.8
442	50 - 150% of mass 197.95	98.6
443	17 - 23% of mass 442	19.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82577
Date Analyzed: 04/11/17
Instrument: Yoda
Time Analyzed: 9:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y063.D	04/11/17 10:10
2	ERH288	AZ53064W05 1/1040	0404Y064.D	04/11/17 10:40
3		50ug/ml SVOC 03/30/1	0404Y065.D	04/11/17 11:19
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	59.0
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.2
275	10 - 30% of mass 198	23.1
365	1 - 100% of mass 198	3.7
441	0.01 - 100% of mass 443	91.6
442	50 - 150% of mass 197.95	92.0
443	17 - 23% of mass 442	17.5

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82577

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	135139	4.73	551655	6.17	344147	8.19
02	170407A BLK 1/1000	108124	4.73	474326	6.16	271985	8.18
03	170407A LCS-1 1/1000	123700	4.73	522144	6.17	311641	8.18
04	AZ53059W27 MSD-1 1/	118184	4.74	506003	6.17	302099	8.18
05	AZ53059W21 1/1070	121670	4.73	554436	6.17	317317	8.18
06	AZ53060W10 1/1070	112760	4.74	497423	6.17	295136	8.19
07	AZ53062W09 1/1040	104835	4.74	435394	6.17	258793	8.18
08	AZ53065W09 1/1070	112425	4.74	482884	6.17	261203	8.19
09	AZ53059W22 MS-1 1/1(	102436	4.74	441453	6.17	253206	8.19
10	50ug/ml SVOC 03/30/17	103117	4.73	454712	6.17	247658	8.19
11	50ug/ml SVOC 03/30/17	114623	4.73	466094	6.17	262481	8.19
12	AZ53064W05 1/1040	183056	4.73	681726	6.17	390969	8.18
13	50ug/ml SVOC 03/30/17	124310	4.73	486764	6.17	277689	8.18
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82577
Lab File ID (Standard): 0404Y007.D
Date Analyzed: 4 Apr 17 10:45
Instrument ID: Yoda
Time Analyzed: 4 Apr 17 10:45
GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	520011	9.90	487207	12.99	454025	14.60
	UPPER LIMIT	1040022	10.40	974414	13.49	908050	15.10
	LOWER LIMIT	260006	9.40	243604	12.49	227013	14.10
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	623714	9.90	612103	12.99	581377	14.60
02	170407A BLK 1/1000	525349	9.90	515905	12.99	445378	14.60
03	170407A LCS-1 1/1000	533639	9.90	489414	12.98	425790	14.60
04	AZ53059W27 MSD-1 1/	567512	9.91	546872	12.99	509516	14.60
05	AZ53059W21 1/1070	562816	9.90	584275	12.99	585913	14.60
06	AZ53060W10 1/1070	526116	9.90	538901	12.98	484463	14.60
07	AZ53062W09 1/1040	469824	9.90	469559	12.98	423076	14.60
08	AZ53065W09 1/1070	478571	9.90	482232	12.99	471357	14.60
09	AZ53059W22 MS-1 1/1(	458802	9.90	462103	12.99	452761	14.61
10	50ug/ml SVOC 03/30/17	511779	9.91	468078	12.99	454493	14.60
11	50ug/ml SVOC 03/30/17	503195	9.90	494358	12.99	510987	14.61
12	AZ53064W05 1/1040	746958	9.90	762963	12.98	693009	14.60
13	50ug/ml SVOC 03/30/17	493151	9.91	473129	12.98	452893	14.61
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	60.3	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	56.5	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	42.6	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	58.3	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	29.7	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	65.0	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y043
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:04:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y043.D Vial: 43
Acq On : 10 Apr 17 14:05 Operator: MA
Sample : AZ53059W21 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 14:39 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	121670	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554436	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	317317	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	562816	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	584275	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	585913	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	333117	79.56199 ppb	0.00
Spiked Amount 186.916			Recovery = 42.566%		
5) Phenol-D6 (S)	4.38	99	291126	55.54769 ppb	0.00
Spiked Amount 186.916			Recovery = 29.718%		
21) Nitrobenzene-D5(S)	5.37	82	334619	54.48224 ppb	0.00
Spiked Amount 93.458			Recovery = 58.296%		
45) 2-Fluorobiphenyl(S)	7.42	172	562073	52.79835 ppb	0.00
Spiked Amount 93.458			Recovery = 56.494%		
63) 2,4,6-Tribromophenol(S)	9.11	330	171532	112.72257 ppb	0.00
Spiked Amount 186.916			Recovery = 60.307%		
81) Terphenyl-D14(S)	11.77	244	802340	60.70925 ppb	0.00
Spiked Amount 93.458			Recovery = 64.959%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404Y043.D Y0404.M Tue Apr 11 12:17:00 2017

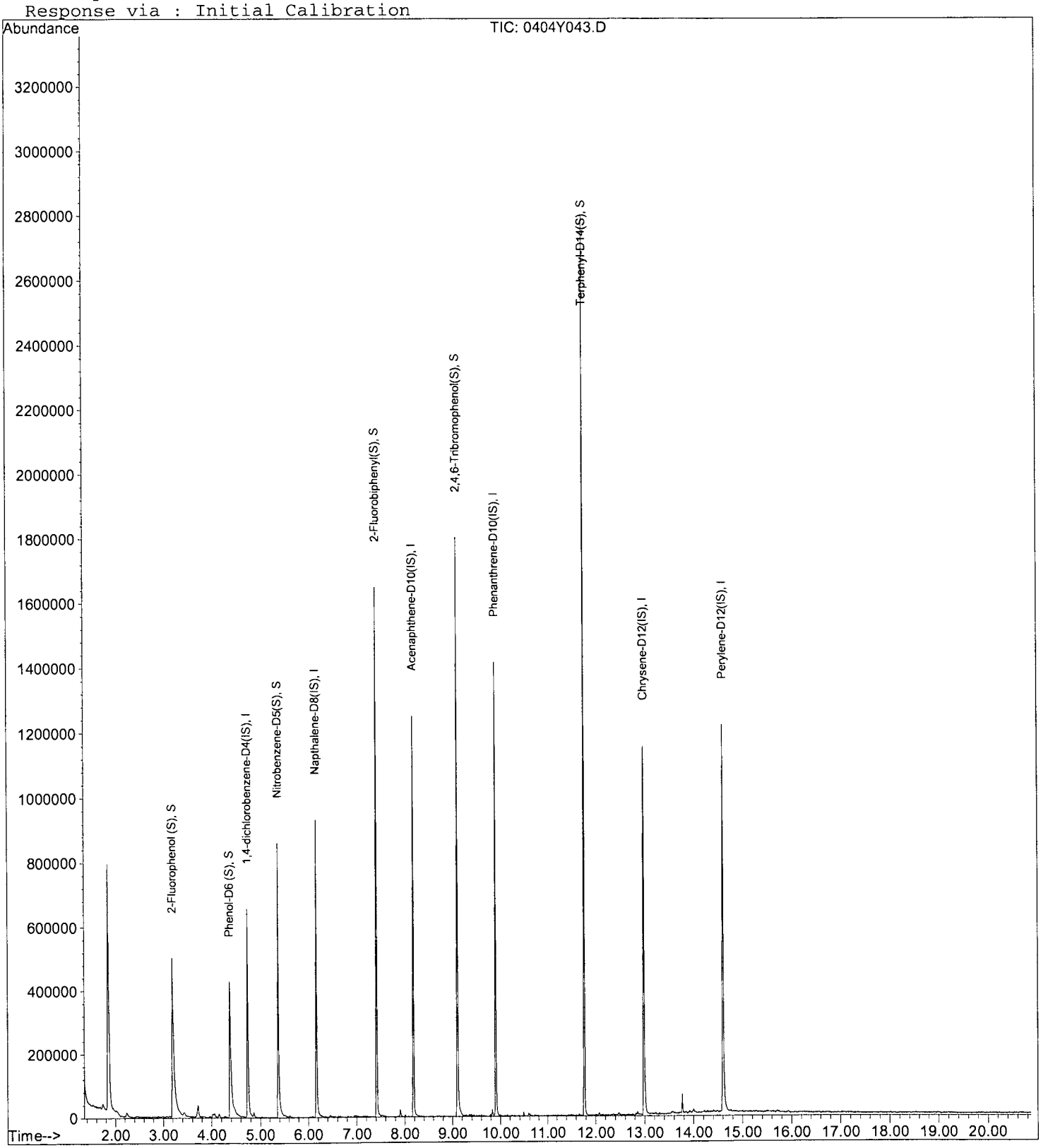
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y043.D
Acq On : 10 Apr 17 14:05
Sample : AZ53059W21 1/1070
Misc : water

Vial: 43
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Apr 10 14:39 2017
Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	67.0	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	62.2	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	46.8	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	68.0	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.7	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	69.3	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y044
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:04:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y044.D Vial: 44
Acq On : 10 Apr 17 14:36 Operator: MA
Sample : AZ53060W10 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 15:48 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	112760	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	497423	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	295136	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	526116	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	538901	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	484463	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	339100	87.39067 ppb	0.00
Spiked Amount 186.916			Recovery = 46.754%		
5) Phenol-D6 (S)	4.38	99	278673	57.37310 ppb	0.00
Spiked Amount 186.916			Recovery = 30.695%		
21) Nitrobenzene-D5(S)	5.37	82	350244	63.56244 ppb	0.00
Spiked Amount 93.458			Recovery = 68.011%		
45) 2-Fluorobiphenyl(S)	7.41	172	575359	58.10823 ppb	0.00
Spiked Amount 93.458			Recovery = 62.176%		
63) 2,4,6-Tribromophenol(S)	9.11	330	177322	125.28512 ppb	0.00
Spiked Amount 186.916			Recovery = 67.027%		
81) Terphenyl-D14(S)	11.77	244	789960	64.80520 ppb	0.00
Spiked Amount 93.458			Recovery = 69.341%		

Target Compounds Qvalue

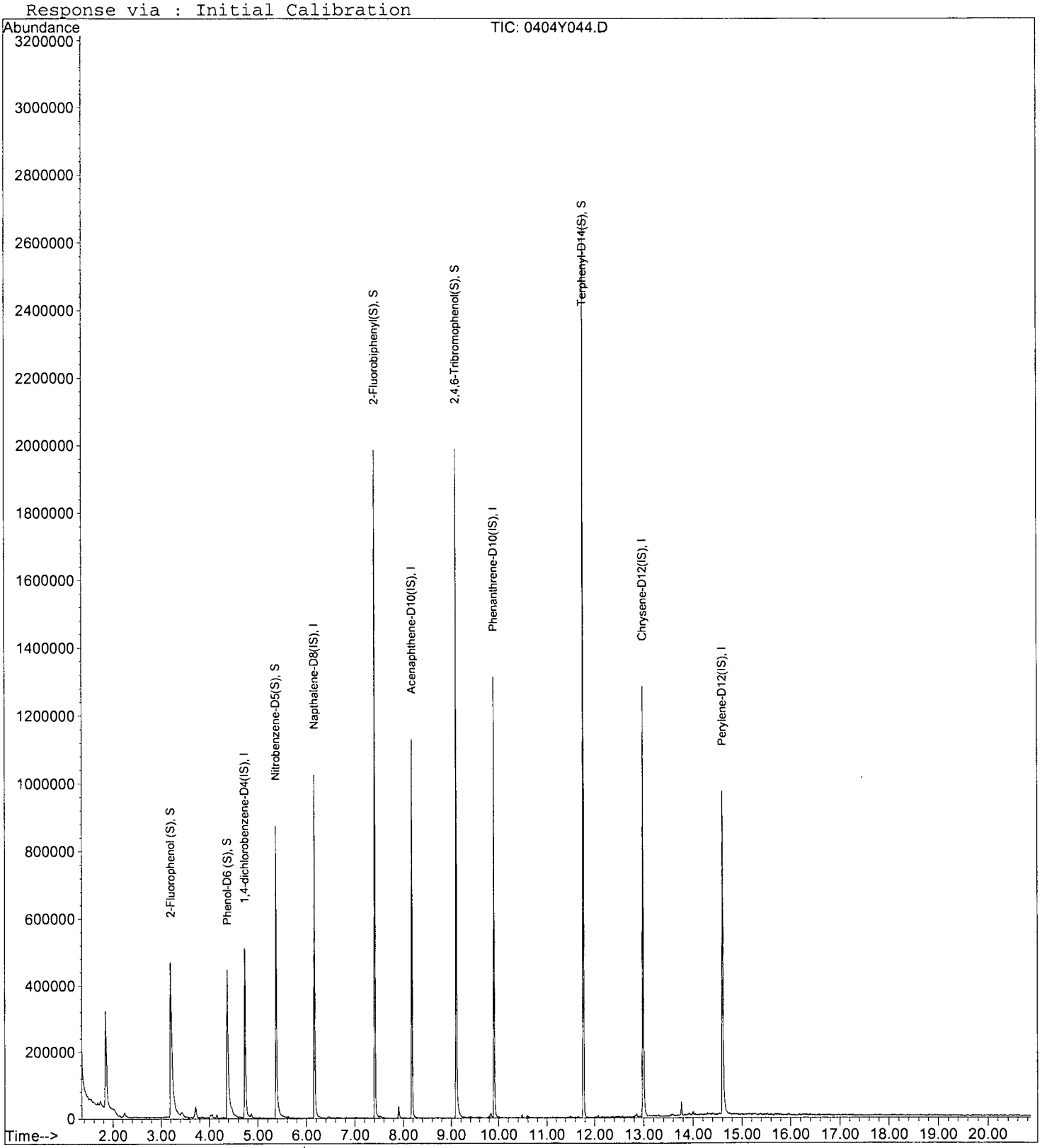
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y044.D Vial: 44
Acq On : 10 Apr 17 14:36 Operator: MA
Sample : AZ53060W10 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 15:48 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	66.5	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	56.5	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	39.5	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	60.7	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	25.4	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	71.2	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y045
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:04:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y045.D Vial: 45
Acq On : 10 Apr 17 15:06 Operator: MA
Sample : AZ53062W09 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 10 15:49 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104835	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	435394	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	258793	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	469824	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	469559	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	423076	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	266421	75.98099 ppb	0.00
Spiked Amount 192.308			Recovery = 39.510%		
5) Phenol-D6 (S)	4.38	99	214522	48.87474 ppb	0.00
Spiked Amount 192.308			Recovery = 25.415%		
21) Nitrobenzene-D5(S)	5.37	82	273676	58.37951 ppb	0.00
Spiked Amount 96.154			Recovery = 60.715%		
45) 2-Fluorobiphenyl(S)	7.41	172	458414	54.32212 ppb	0.00
Spiked Amount 96.154			Recovery = 56.495%		
63) 2,4,6-Tribromophenol(S)	9.11	330	154237	127.86319 ppb	0.00
Spiked Amount 192.308			Recovery = 66.489%		
81) Terphenyl-D14(S)	11.77	244	706854	68.47053 ppb	0.00
Spiked Amount 96.154			Recovery = 71.210%		

Target Compounds Qvalue

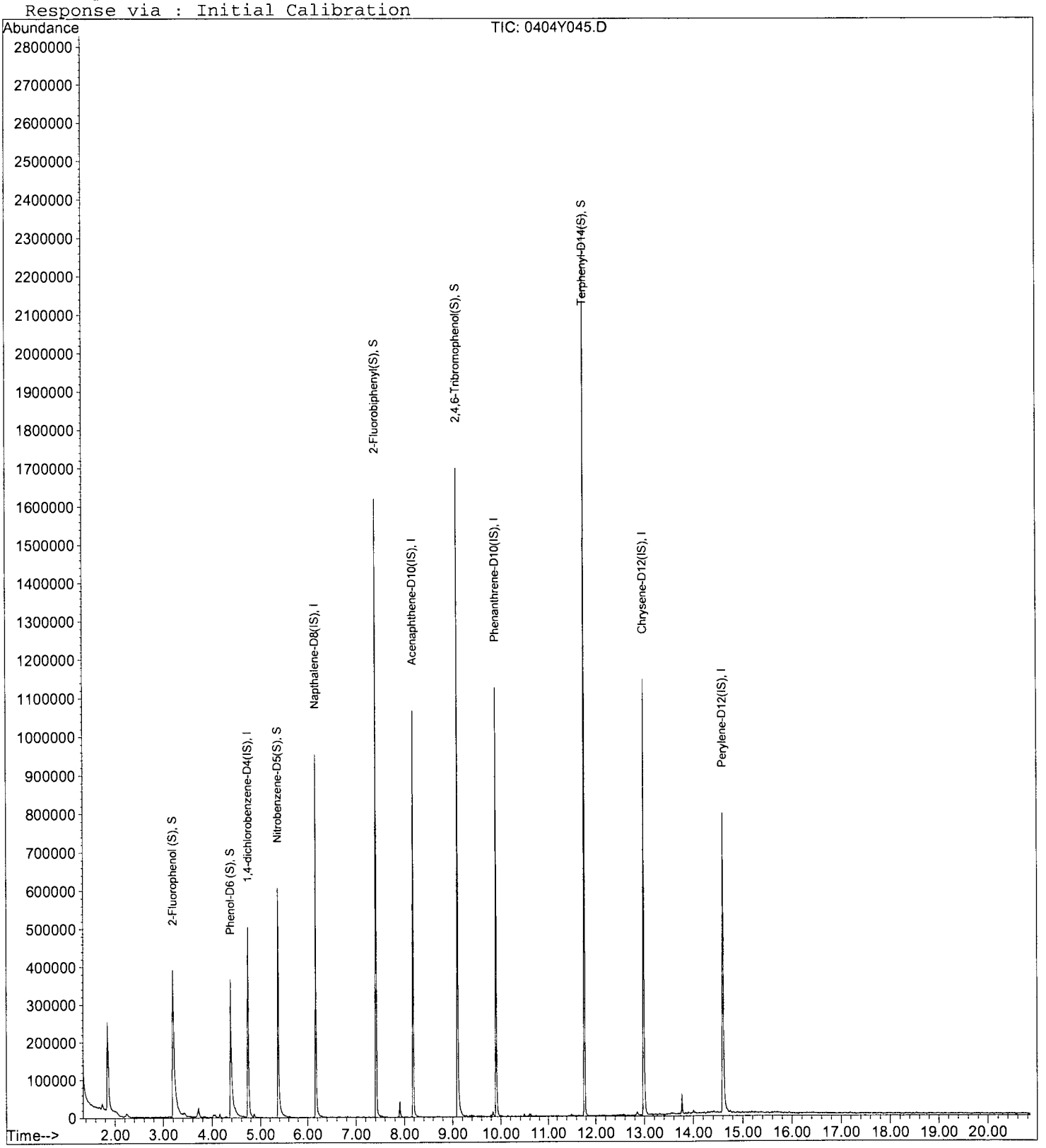
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y045.D Vial: 45
Acq On : 10 Apr 17 15:06 Operator: MA
Sample : AZ53062W09 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 10 15:49 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/11/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	55.4	43-140			%	04/07/17	04/11/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	43.7	44-119			%	04/07/17	04/11/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	38.2	19-119			%	04/07/17	04/11/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	49.0	44-120			%	04/07/17	04/11/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.6	10-115			%	04/07/17	04/11/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	55.3	50-134			%	04/07/17	04/11/17

Quant Method: Y0404.M
Run #: 0404Y064
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 11:52:04 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y064.D Vial: 64
Acq On : 11 Apr 17 10:40 Operator: MA
Sample : AZ53064W05 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 11 11:45 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	183056	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	681726	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	390969	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	746958	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	762963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	693009	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	449942	73.48782 ppb	0.00
Spiked Amount 192.308			Recovery	= 38.214%	
5) Phenol-D6 (S)	4.37	99	332827	43.42637 ppb	0.00
Spiked Amount 192.308			Recovery	= 22.582%	
21) Nitrobenzene-D5(S)	5.37	82	345766	47.10626 ppb	0.00
Spiked Amount 96.154			Recovery	= 48.990%	
45) 2-Fluorobiphenyl(S)	7.41	172	535308	41.98873 ppb	0.00
Spiked Amount 96.154			Recovery	= 43.669%	
63) 2,4,6-Tribromophenol(S)	9.11	330	194172	106.55008 ppb	0.00
Spiked Amount 192.308			Recovery	= 55.406%	
81) Terphenyl-D14(S)	11.77	244	891778	53.16397 ppb	0.00
Spiked Amount 96.154			Recovery	= 55.291%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

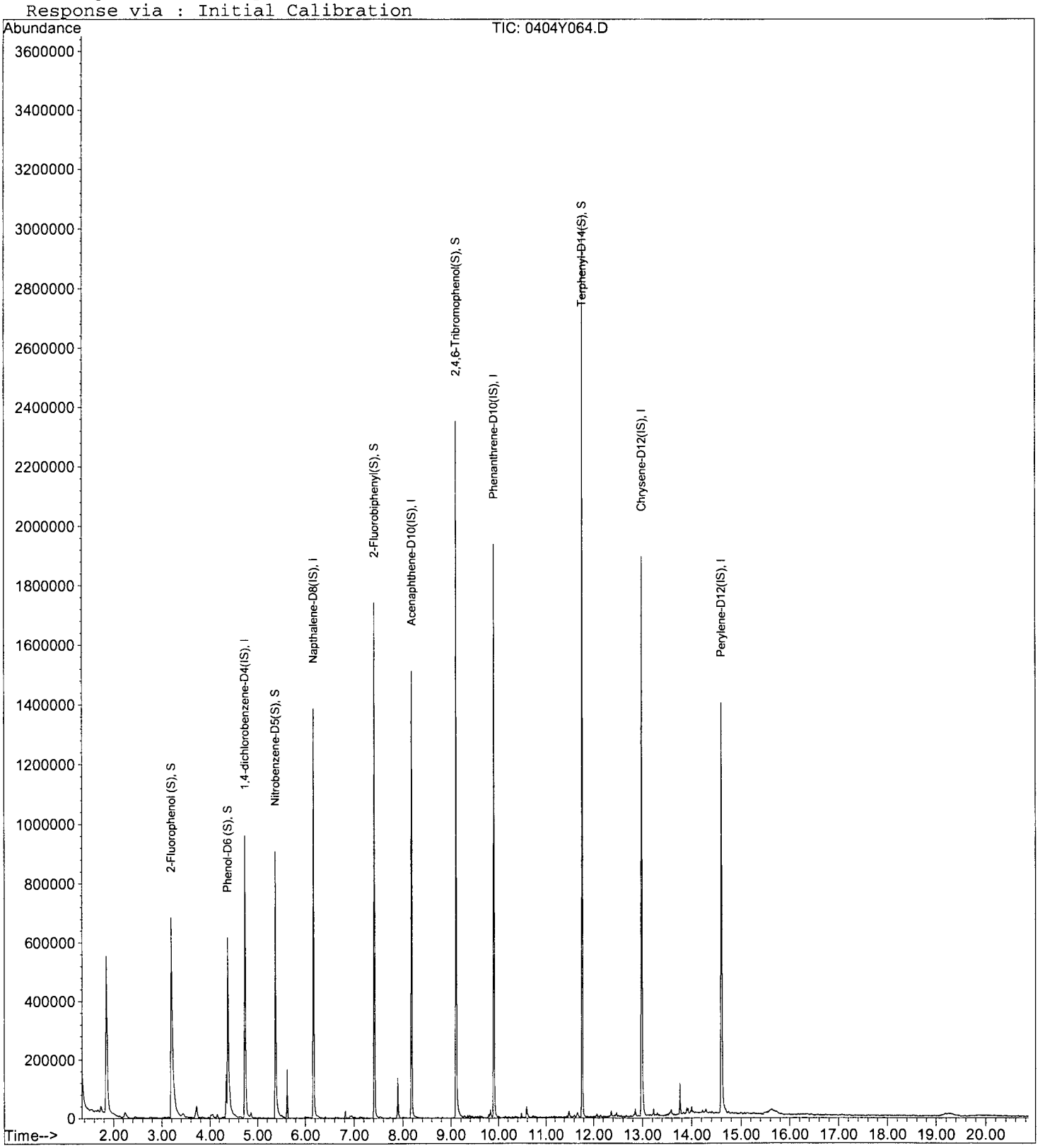
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y064.D
Acq On : 11 Apr 17 10:40
Sample : AZ53064W05 1/1040
Misc : water

Vial: 64
Operator: MA
Inst : Yoda
Multiplr: 0.96

Quant Time: Apr 11 11:45 2017
Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	57.7	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	44.7	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	37.1	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	49.7	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	24.9	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	62.8	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y047
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:04:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y047.D Vial: 47
Acq On : 10 Apr 17 16:08 Operator: MA
Sample : AZ53065W09 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 11 9:37 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	112425	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	482884	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	261203	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	478571	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	482232	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	471357	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	267926	69.25391 ppb	0.00
Spiked Amount 186.916			Recovery	= 37.051%	
5) Phenol-D6 (S)	4.38	99	225356	46.53446 ppb	0.00
Spiked Amount 186.916			Recovery	= 24.896%	
21) Nitrobenzene-D5(S)	5.37	82	248426	46.44190 ppb	0.00
Spiked Amount 93.458			Recovery	= 49.693%	
45) 2-Fluorobiphenyl(S)	7.42	172	366183	41.78698 ppb	0.00
Spiked Amount 93.458			Recovery	= 44.712%	
63) 2,4,6-Tribromophenol(S)	9.10	330	135039	107.80530 ppb	-0.01
Spiked Amount 186.916			Recovery	= 57.676%	
81) Terphenyl-D14(S)	11.77	244	640361	58.70601 ppb	0.00
Spiked Amount 93.458			Recovery	= 62.815%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

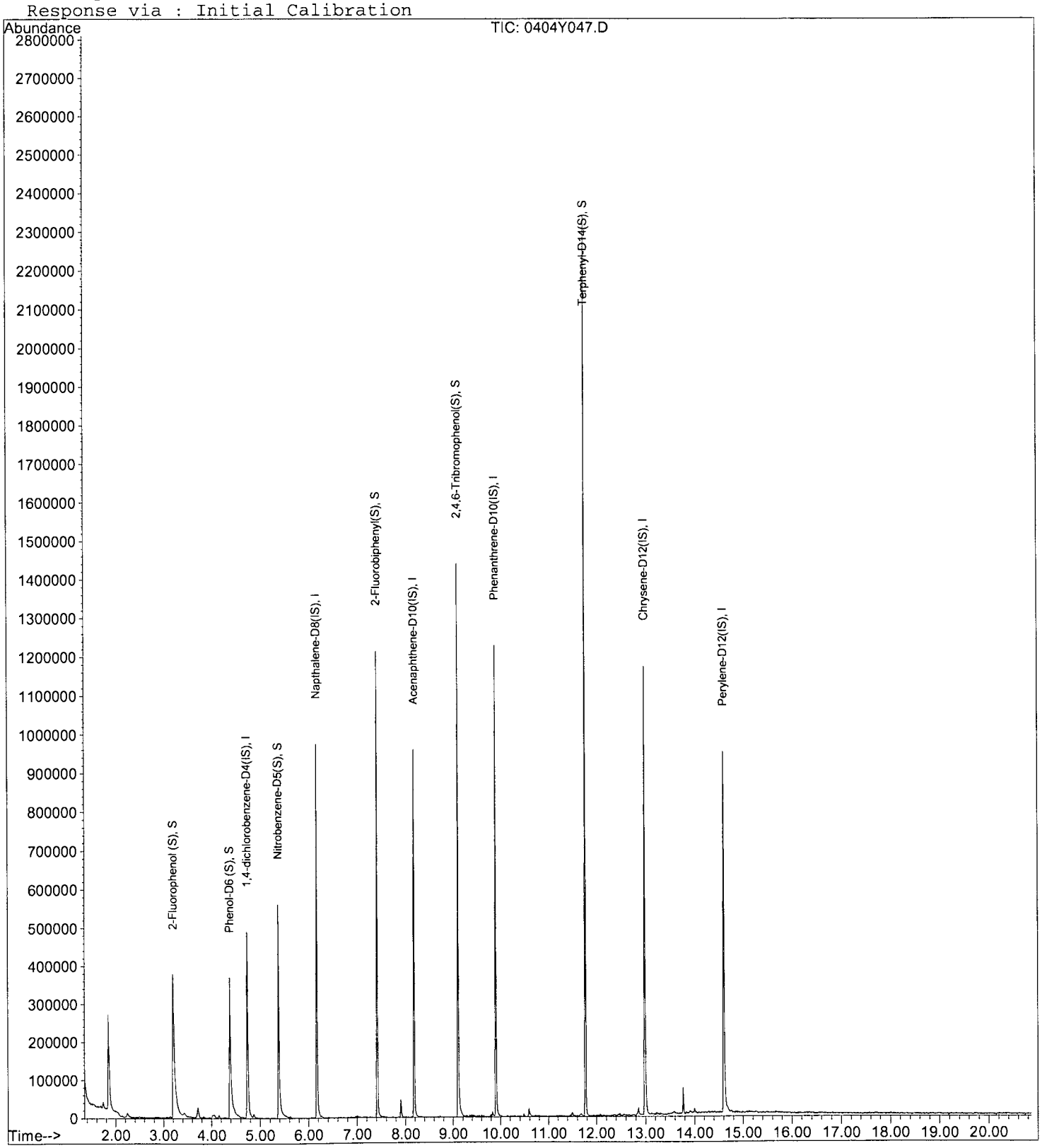
Data File : M:\YODA\DATA\Y170404\0404Y047.D
Acq On : 10 Apr 17 16:08
Sample : AZ53065W09 1/1070
Misc : water

Vial: 47
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Apr 11 9:37 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0404Y003 D	0404Y004.D	0404Y005.D	0404Y006.D	0404Y007.D	0404Y008.D	0404Y009.D	0404Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	1.045	1.285	1.268	1.575	1.631	1.683	1.470	1.470			1.4	15	TM	
3	TM	Pyridine	1.796	2.658	2.424	2.560	2.828	2.930	2.545	2.495			2.5	14	TM	
4	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.360	1.335			1.3	12	S	
5	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
6	*TM	Phenol	1.801	1.883	1.833	1.932	1.975	1.922	1.859	1.753			1.9	3.9	*TM	
7	TM	Aniline	1.529	1.728	1.678	1.856	1.857	1.872	1.764	1.792			1.8	6.6	TM	
8	TM	Bis (2-chloroethyl) ether	0.8421	0.8703	0.8295	0.8895	0.9148	0.9307	0.9198	0.9200			0.89	4.3	TM	
9	TM	2-Chlorophenol	1.406	1.510	1.413	1.508	1.562	1.499	1.491	1.427			1.5	3.8	TM	
10	TM	1,3-DCB	1.550	1.624	1.506	1.586	1.625	1.587	1.595	1.478			1.6	3.4	TM	
11	*TM	1,4-DCB	1.714	1.602	1.592	1.619	1.635	1.581	1.612	1.502			1.6	3.7	*TM	
12	TM	Benzyl alcohol	0.7857	0.8348	0.8411	0.8997	0.8949	0.8862	0.8669	0.8414			0.86	4.5	TM	
13	TM	1,2-DCB	1.480	1.494	1.416	1.525	1.491	1.467	1.414	1.331			1.5	4.3	TM	
14	TM	2-Methylphenol	1.196	1.233	1.031	1.179	1.115	1.092	1.041	1.012			1.1	7.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.897	2.010	1.820	2.089	1.942	1.898	1.855	1.724			1.9	5.9	TM	
16	TM	Acetophenone	1.913	1.994	1.821	2.023	1.949	1.987	1.892	1.806			1.9	4.2	TM	
17	TM	3&4-Methylphenol	1.398	1.502	1.379	1.482	1.436	1.543	1.353	1.224			1.4	7.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.021	1.160	0.9998	1.082	1.049	1.081	1.035	0.9323			1.0	6.4	**TM	
19	TM	Hexachloroethane	0.6772	0.7176	0.6021	0.6543	0.6888	0.7214	0.6575	0.6174			0.67	6.5	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4472	0.4267			0.41	10	S	
22	TM	Nitrobenzene	0.3795	0.3943	0.3604	0.4194	0.4331	0.4565	0.4411	0.4254			0.41	7.9	TM	
23	TM	Isophorone	0.6040	0.6566	0.5779	0.7183	0.7122	0.6970	0.7512	0.7213			0.68	9.0	TM	
24	*TM	2-Nitrophenol	0.1642	0.1583	0.1805	0.2159	0.2151	0.2137	0.2289	0.2176			0.20	14	*TM	
25	TM	2,4-Dimethylphenol	0.2955	0.3268	0.2911	0.3223	0.3218	0.3222	0.3293	0.3233			0.32	4.6	TM	
26	TML	Benzoic acid	0.0599	0.1923	0.2030	0.2535	0.2882	0.2696	0.2603	0.2648			0.22	33	TML	0.995
27	TM	Bis (2-chloroethoxy) methane	0.3711	0.4153	0.3749	0.3929	0.3975	0.3925	0.4224	0.4046			0.40	4.5	TM	
28	*TM	2,4-Dichlorophenol	0.2644	0.3144	0.2957	0.3116	0.3182	0.3051	0.3225	0.3202			0.31	6.2	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3118	0.3332	0.3280	0.3293	0.3503	0.3240	0.3370	0.3347			0.33	3.3	TM	
30	TM	3,4-Dimethylphenol	0.4791	0.4782	0.4397	0.4546	0.4755	0.4502	0.4544	0.4656			0.46	3.2	TM	
31	TM	Naphthalene	1.058	1.050	0.9898	1.039	1.082	1.007	1.048	1.039			1.0	2.8	TM	
32	TM	4-Chloroaniline	0.3174	0.3739	0.3579	0.4307	0.3744	0.3426	0.3056	0.2838			0.35	13	TM	
33	TM	2,6-Dichlorophenol	0.2766	0.2882	0.2568	0.3089	0.2778	0.2575	0.2417	0.2513			0.27	8.2	TM	
34	TM	Hexachloropropene	0.2086	0.2343	0.2165	0.2765	0.2623	0.2484	0.2392	0.2681			0.24	9.9	TM	
35	*TM	Hexachlorobutadiene	0.1946	0.2175	0.1838	0.2253	0.2080	0.1915	0.1983	0.2066			0.20	6.8	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1388	0.1574	0.1365	0.1800	0.1906	0.1729	0.1839	0.1859			0.17	13	TM	
37	*TM	4-Chloro-3-methylphenol	0.2752	0.3248	0.3439	0.3397	0.3599	0.3336	0.3431	0.3501			0.33	7.7	*TM	
38	TM	2-Methylnaphthalene	0.7247	0.7779	0.7656	0.7255	0.7295	0.6718	0.6912	0.6796			0.72	5.3	TM	
39	TM	1-Methylnaphthalene	0.6894	0.7184	0.7355	0.6902	0.7728	0.6393	0.6634	0.6548			0.70	6.4	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0314	0.0517	0.1265	0.1687	0.2267	0.2083	0.2351	0.2701			0.16	53	**TMQ	0.996
42	TM	1,2,4,5-Tetrachlorobenzene	0.5258	0.5137	0.6284	0.5104	0.5849	0.5024	0.5164	0.5192			0.54	8.3	TM	
43	*TM	2,4,6-Trichlorophenol	0.3273	0.2952	0.3901	0.3551	0.3909	0.3537	0.3596	0.3742			0.36	9.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3419	0.3285	0.3861	0.3639	0.4022	0.3715	0.3814	0.3786			0.37	6.5	TM	
45	S	2-Fluorobiphenyl(S)	1.264	1.213	1.501	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
46	TM	1,1'-Biphenyl	1.507	1.357	1.678	1.453	1.568	1.402	1.378	1.431			1.5	7.3	TM	
47	TM	2-Chloronaphthalene	1.157	1.051	1.291	1.134	1.222	1.092	1.104	1.141			1.1	6.6	TM	
48	TM	2-Nitroaniline	0.3113	0.3404	0.4239	0.3968	0.4472	0.4027	0.4167	0.4471			0.40	12	TM	
49	TM	Dimethyl phthalate	1.297	1.247	1.445	1.317	1.459	1.524	1.329	1.382			1.4	6.8	TM	
50	TM	2,6-DNT	0.2786	0.3184	0.3200	0.3204	0.3425	0.2999	0.3196	0.3305			0.32	6.1	TM	
51	TM	Acenaphthylene	1.706	1.928	1.909	1.781	1.883	1.803	1.763	1.753			1.8	4.5	TM	
52	TM	3-Nitroaniline	0.2875	0.3266	0.3244	0.3437	0.3439	0.3314	0.3213	0.3221			0.33	5.4	TM	
53	*TM	Acenaphthene	1.201	1.171	1.121	1.083	1.149	1.040	1.045	1.055			1.1	5.5	*TM	
54	**TML	2,4-Dinitrophenol	0.0283	0.0648	0.1074	0.1737	0.1820	0.1809	0.2063	0.2123			0.14	48	**TML	0.994
55	**TML	4-Nitrophenol	0.0082	0.0115	0.2352	0.2508	0.2715	0.2585	0.2685	0.3022			0.20	59	**TML	0.993
56	TM	Dibenzofuran	1.546	1.513	1.635	1.598	1.612	1.537	1.471	1.489			1.6	3.8	TM	
57	TM	2,4-DNT	0.3537	0.3907	0.4040	0.4149	0.4605	0.4417	0.4506	0.4555			0.42	8.9	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2728	0.2593	0.2825	0.3282	0.3289	0.3058	0.3079	0.3177			0.30	8.7	TM	
59	TM	Diethyl phthalate	1.379	1.285	1.385	1.405	1.676	1.351	1.359	1.407			1.4	8.3	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6595	0.5956	0.5936	0.6044	0.6316	0.6190	0.5703	0.6313			0.61	4.6	TM	
61	TM	Fluorene	1.295	1.265	1.259	1.243	1.267	1.255	1.148	1.255			1.2	3.5	TM	
62	TM	4-Nitroaniline	0.2925	0.2737	0.3054	0.3184	0.3577	0.3268	0.3217	0.3161			0.31	7.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1697	0.1750	0.1856	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	4.3	S	
64	I	Phenanthrene-D10(IS)														
65	TMQ	4,6-Dinitro-2-methylphenol	0.0849	0.1080	0.1198	0.1237	0.1523	0.1528	0.1465	0.1384			0.13	19	TMQ	0.993
66	TM	Diphenyl amine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	TM	
67	*TM	n-Nitrosodiphenylamine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	*TM	
68	TM	1,2-Diphenylhydrazine	0.7989	0.8600	0.7744	0.7210	1.016	1.039	0.9516	0.9045			0.88	13	TM	
69	TM	4-Bromophenyl phenyl ether	0.2099	0.2197	0.1926	0.1700	0.2029	0.1960	0.1926	0.1838			0.20	7.8	TM	
70	TM	Hexachlorobenzene	0.2146	0.2271	0.1965	0.1743	0.2065	0.1962	0.1937	0.1829			0.20	8.5	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.2052	0.2390	0.2017	0.1909	0.2205	0.2155	0.2139	0.1994			0.21	7.1	TM	
72	*TM	Pentachlorophenol	0.0706	0.0712	0.0748	0.0728	0.0940	0.0949	0.0974	0.0971			0.08	15	*TM	
73	TM	Phenanthrene	1.108	1.109	1.027	1.038	1.050	0.9972	0.9679	0.9311			1.0	6.1	TM	
74	TM	Anthracene	1.150	1.172	1.122	1.082	1.116	1.053	1.017	0.9680			1.1	6.4	TM	
75	TM	Carbazol	1.004	1.041	1.002	0.8660	1.004	0.9371	0.9170	0.8804			0.96	6.8	TM	
76	TM	Di-n-butylphthalate	1.243	1.355	1.269	1.095	1.263	1.350	1.224	1.152			1.2	7.2	TM	
77	*TM	Fluoranthene	1.214	1.295	1.127	1.056	1.195	1.088	1.067	1.020			1.1	8.3	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.3367	0.3742	0.3900	0.3534	0.3898	0.3094	0.3372	0.3363			0.35	8.2	TM	
80	TM	Pyrene	1.296	1.325	1.223	1.266	1.363	1.047	1.178	1.169			1.2	8.3	TM	
81	S	Terphenyl-D14(S)	0.8779	0.9617	0.8691	0.8737	0.9198	0.6825	0.7856	0.7945			0.85	10	S	
82	TM	Butyl benzylphthalate	0.5983	0.6094	0.6081	0.6196	0.6581	0.5111	0.5984	0.5904			0.60	6.9	TM	
83	TM	3,3'-Dichlorobenzidine	0.3893	0.4312	0.4215	0.4078	0.4146	0.3713	0.3454	0.3251			0.39	9.8	TM	
84	TM	Benz (a) anthracene	1.176	1.231	1.158	1.174	1.207	1.106	1.063	1.108			1.2	4.9	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8769	0.9173	0.8300	0.8201	0.8614	0.7254	0.7839	0.9028			0.84	7.6	TM	
86	TM	Chrysene	1.256	1.280	1.107	1.080	1.101	0.9585	1.059	1.188			1.1	9.5	TM	
87	*TM	Di-n-octylphthalate	1.507	1.541	1.481	1.538	1.580	1.319	1.424	1.422			1.5	5.7	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.426	1.474	1.422	1.311	1.362	1.193	1.267	1.265			1.3	7.2	TM	
90	TM	Benzo (k) fluoranthene	1.430	1.533	1.191	1.317	1.324	1.280	1.035	1.024			1.3	14	TM	
91	*TM	Benzo (a) pyrene	1.255	1.371	1.280	1.268	1.296	1.168	1.111	1.115			1.2	7.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.460	1.658	1.503	1.546	1.410	1.307	1.253	1.251			1.4	10	TM	
93	TM	Dibenz (a,h) anthracene	1.236	1.385	1.277	1.283	1.199	1.128	1.057	1.049			1.2	9.8	TM	
94	TM	Benzo (g,h,i) perylene	1.269	1.415	1.214	1.206	1.207	1.121	1.094	1.088			1.2	9.0	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	560451	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.25	112	32572	7.80714 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.904%	
5) Phenol-D6 (S)	4.40	99	51987	9.39572 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.698%	
21) Nitrobenzene-D5(S)	5.39	82	23671	4.16878 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.169%	
45) 2-Fluorobiphenyl(S)	7.41	172	50729	4.91846 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.918%	
63) 2,4,6-Tribromophenol(S)	9.11	330	13623	9.13383 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.567%	
81) Terphenyl-D14(S)	11.77	244	61500	5.05821 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.058%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.70	42	17331	5.09847 ppb		72
3) Pyridine	1.70	79	29780	4.54533 ppb		98
6) Phenol	4.42	94	29856	4.71564 ppb		87
7) Aniline	4.41	66	25352	4.22853 ppb	#	67
8) Bis (2-chloroethyl) ether	4.46	63	13961	4.54380 ppb		91
9) 2-Chlorophenol	4.53	128	23302	4.74054 ppb		98
10) 1,3-DCB	4.68	146	25694	4.95679 ppb		95
11) 1,4-DCB	4.75	146	28420	5.31753 ppb		95
12) Benzyl alcohol	4.95	108	13026	4.65457 ppb		78
13) 1,2-DCB	4.93	146	24536	5.04662 ppb		97
14) 2-Methylphenol	5.08	107	19820	5.39228 ppb	#	86
15) Bis (2-chloroisopropyl) et	5.06	45	31444	4.63265 ppb	#	72
16) Acetophenone	5.22	105	31714	4.84771 ppb		84
17) 3&4-Methylphenol	5.26	107	46361	9.73524 ppb		84
18) n-Nitrosodi-n-propylamine	5.21	70	16927	4.68272 ppb		96
19) Hexachloroethane	5.29	117	11226	5.10602 ppb		93
22) Nitrobenzene	5.41	77	26307	4.66103 ppb		94
23) Isophorone	5.66	82	41871	4.46234 ppb		95
24) 2-Nitrophenol	5.77	139	11385	4.28748 ppb		95
25) 2,4-Dimethylphenol	5.84	122	20483	4.81634 ppb		94
26) Benzoic acid	6.01	105	4149	6.18708 ppb		74
27) Bis (2-chloroethoxy) metha	5.92	93	25723	4.75850 ppb		97
28) 2,4-Dichlorophenol	6.08	162	18329	4.53153 ppb		99
29) 1,2,4-Trichlorobenzene	6.11	180	21615	4.81351 ppb		99
30) 3,4-Dimethylphenol	6.19	107	33212	5.19146 ppb		98
31) Naphthalene	6.19	128	73321	5.05690 ppb		99
32) 4-Chloroaniline	6.29	127	22001	4.33900 ppb		97
33) 2,6-Dichlorophenol	6.29	162	19174	5.11220 ppb		97
34) Hexachloropropene	6.29	213	14457	4.42657 ppb		96
35) Hexachlorobutadiene	6.33	225	13492	5.04887 ppb		91
36) Caprolactum	6.68	55	9623	4.13206 ppb	#	89
37) 4-Chloro-3-methylphenol	6.88	107	19078	4.30945 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	50235	5.31781 ppb		95
39) 1-Methylnaphthalene	7.10	142	47789	5.07912 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	1262	7.25654 ppb	#	90
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	21106	4.84238 ppb		94
43) 2,4,6-Trichlorophenol	7.35	196	13139	4.77843 ppb		95
44) 2,4,5-Trichlorophenol	7.42	196	13725	4.57362 ppb		87
46) 1,1'-Biphenyl	7.53	154	60505	5.02407 ppb		96
47) 2-Chloronaphthalene	7.55	162	46461	5.04454 ppb		94
48) 2-Nitroaniline	7.71	65	12496	3.80337 ppb		89
49) Dimethyl phthalate	7.90	163	52080	4.69778 ppb		99
50) 2,6-DNT	7.98	165	11182	4.49905 ppb		99
51) Acenaphthylene	8.02	152	68492	4.62867 ppb		99
52) 3-Nitroaniline	8.20	138	11541	4.31142 ppb	#	80
53) Acenaphthene	8.22	154	48203	5.28946 ppb		91
54) 2,4-Dinitrophenol	8.41	184	1135	9.45965 ppb	#	55
55) 4-Nitrophenol	8.43	65	330	7.48521 ppb		89
56) Dibenzofuran	8.43	168	62053	4.82911 ppb		98
57) 2,4-DNT	8.47	165	14198	4.13294 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.60	232	10952	4.65968 ppb		85
59) Diethyl phthalate	8.70	149	55345	4.86883 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	26474	5.30016 ppb		87
61) Fluorene	8.82	166	51994	5.01403 ppb		97
62) 4-Nitroaniline	8.90	138	11739	4.56716 ppb		98
65) 4,6-Dinitro-2-methylphenol	8.95	198	5915	8.45378 ppb	#	79
66) Diphenyl amine	8.96	169	83104	11.48135 ppb		95
67) n-Nitrosodiphenylamine	8.96	169	83104	11.48135 ppb		95
68) 1,2-Diphenylhydrazine	9.01	77	55687	4.41379 ppb		91
69) 4-Bromophenyl phenyl ether	9.39	248	14634	5.21093 ppb		96
70) Hexachlorobenzene	9.47	284	14960	5.14155 ppb		90
71) Atrazine	9.60	200	7153	2.55096 ppb		93
72) Pentachlorophenol	9.72	266	4924	10.75177 ppb		91
73) Phenanthrene	9.93	178	77253	5.13387 ppb		100
74) Anthracene	9.99	178	80183	5.09924 ppb		97
75) Carbazol	10.20	167	69999	5.02637 ppb		99
76) Di-n-butylphthalate	10.61	149	86649	4.93439 ppb		96
77) Fluoranthene	11.32	202	84637	5.14374 ppb		97
79) Benzidine	11.51	184	23589	3.50897 ppb	#	89
80) Pyrene	11.58	202	90759	5.05780 ppb		100
82) Butyl benzylphthalate	12.34	149	41913	5.01411 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	27270	4.87537 ppb	#	93
84) Benz (a) anthracene	12.97	228	82353	4.90940 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	61432	5.26696 ppb		93
86) Chrysene	13.01	228	87970	5.35759 ppb		97
87) Di-n-octylphthalate	13.73	149	105594	5.27219 ppb		91
89) Benzo (b) fluoranthene	14.16	252	86060	5.72632 ppb		97
90) Benzo (k) fluoranthene	14.19	252	86318	6.11838 ppb	#	97
91) Benzo (a) pyrene	14.54	252	75743	5.45829 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	88144	5.69287 ppb		94
93) Dibenz (a,h) anthracene	16.12	278	74588	5.66377 ppb		95
94) Benzo (g,h,i) perylene	16.56	276	76584	5.86100 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

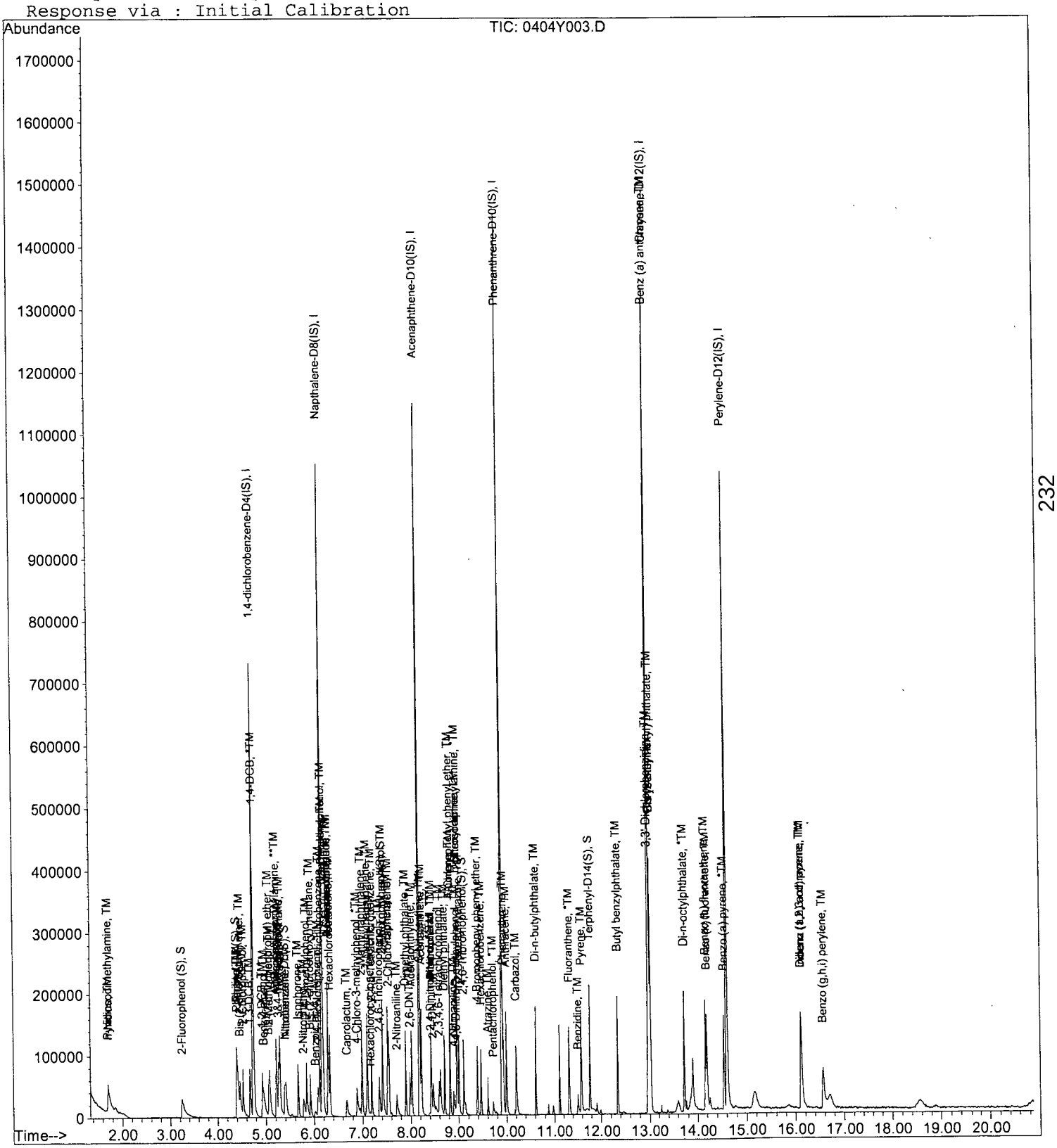
Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



232

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453345	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.22	112	66141	17.45292 ppb	0.03
Spiked Amount 200.000			Recovery = 8.727%		
5) Phenol-D6 (S)	4.38	99	107821	21.45303 ppb	0.00
Spiked Amount 200.000			Recovery = 10.727%		
21) Nitrobenzene-D5(S)	5.38	82	50379	10.03970 ppb	0.00
Spiked Amount 100.000			Recovery = 10.040%		
45) 2-Fluorobiphenyl(S)	7.41	172	99689	9.44241 ppb	0.00
Spiked Amount 100.000			Recovery = 9.442%		
63) 2,4,6-Tribromophenol(S)	9.10	330	28755	18.83458 ppb	-0.01
Spiked Amount 200.000			Recovery = 9.418%		
81) Terphenyl-D14(S)	11.77	244	126985	11.08281 ppb	0.00
Spiked Amount 100.000			Recovery = 11.083%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	38706	12.53558 ppb		95
3) Pyridine	1.69	79	80058	13.45227 ppb		95
6) Phenol	4.40	94	56718	9.86233 ppb		83
7) Aniline	4.39	66	52049	9.55740 ppb	#	46
8) Bis (2-chloroethyl) ether	4.45	63	26211	9.39152 ppb		96
9) 2-Chlorophenol	4.52	128	45469	10.18356 ppb		95
10) 1,3-DCB	4.67	146	48903	10.38615 ppb		97
11) 1,4-DCB	4.75	146	48234	9.93548 ppb		94
12) Benzyl alcohol	4.94	108	25142	9.89050 ppb		90
13) 1,2-DCB	4.93	146	44982	10.18556 ppb		94
14) 2-Methylphenol	5.07	107	37126	11.11979 ppb		85
15) Bis (2-chloroisopropyl) et	5.06	45	60540	9.81937 ppb	#	75
16) Acetophenone	5.21	105	60064	10.10764 ppb		90
17) 3&4-Methylphenol	5.25	107	90453	20.91061 ppb		93
18) n-Nitrosodi-n-propylamine	5.20	70	34949	10.64395 ppb		91
19) Hexachloroethane	5.29	117	21612	10.82186 ppb		99
22) Nitrobenzene	5.40	77	48309	9.68539 ppb		97
23) Isophorone	5.66	82	80440	9.70063 ppb		96
24) 2-Nitrophenol	5.77	139	19400	8.26702 ppb		85
25) 2,4-Dimethylphenol	5.83	122	40033	10.65173 ppb		93
26) Benzoic acid	6.00	105	23566	12.34998 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	50876	10.64976 ppb		96
28) 2,4-Dichlorophenol	6.06	162	38518	10.77576 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	40824	10.28728 ppb		99
30) 3,4-Dimethylphenol	6.17	107	58594	10.36398 ppb		94
31) Naphthalene	6.19	128	128676	10.04227 ppb		99
32) 4-Chloroaniline	6.28	127	45809	10.22297 ppb		96
33) 2,6-Dichlorophenol	6.29	162	35313	10.65390 ppb		95
34) Hexachloropropene	6.29	213	28711	9.94755 ppb		95
35) Hexachlorobutadiene	6.33	225	26642	11.28140 ppb		90
36) Caprolactum	6.68	55	19287	9.37129 ppb	#	84
37) 4-Chloro-3-methylphenol	6.88	107	39794	10.17150 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	95312	11.41701 ppb		97
39) 1-Methylnaphthalene	7.10	142	88020	10.58573 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	4251	9.20910 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	42215	9.46198 ppb		89
43) 2,4,6-Trichlorophenol	7.34	196	24255	8.61760 ppb	#	90
44) 2,4,5-Trichlorophenol	7.41	196	26998	8.78905 ppb	#	88
46) 1,1'-Biphenyl	7.53	154	111525	9.04688 ppb		96
47) 2-Chloronaphthalene	7.54	162	86353	9.15952 ppb		96
48) 2-Nitroaniline	7.70	65	27975	8.31821 ppb		96
49) Dimethyl phthalate	7.90	163	102496	9.03214 ppb		99
50) 2,6-DNT	7.98	165	26161	10.28297 ppb		91
51) Acenaphthylene	8.02	152	158445	10.46063 ppb		97
52) 3-Nitroaniline	8.18	138	26838	9.79466 ppb	#	68
53) Acenaphthene	8.22	154	96196	10.31233 ppb		96
54) 2,4-Dinitrophenol	8.36	184	5322	12.35667 ppb	#	76
55) 4-Nitrophenol	8.43	65	942	7.72684 ppb		70
56) Dibenzofuran	8.43	168	124334	9.45272 ppb		92
57) 2,4-DNT	8.46	165	32109	9.13105 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.59	232	21307	8.85620 ppb	#	84
59) Diethyl phthalate	8.71	149	105599	9.07545 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.83	204	48947	9.57322 ppb		97
61) Fluorene	8.82	166	103917	9.79000 ppb		95
62) 4-Nitroaniline	8.89	138	22492	8.54881 ppb		89
65) 4,6-Dinitro-2-methylphenol	8.94	198	14030	12.45496 ppb	#	77
66) Diphenyl amine	8.96	169	164345	24.37687 ppb		99
67) n-Nitrosodiphenylamine	8.96	169	164345	24.37687 ppb		99
68) 1,2-Diphenylhydrazine	9.00	77	111668	9.50249 ppb	#	93
69) 4-Bromophenyl phenyl ether	9.39	248	28525	10.90507 ppb		90
70) Hexachlorobenzene	9.47	284	29490	10.88147 ppb		93
71) Atrazine	9.61	200	15514	5.94005 ppb		98
72) Pentachlorophenol	9.72	266	9250	14.06147 ppb		93
73) Phenanthrene	9.93	178	143958	10.27107 ppb		97
74) Anthracene	10.00	178	152204	10.39201 ppb		98
75) Carbazol	10.20	167	135199	10.42286 ppb		98
76) Di-n-butylphthalate	10.61	149	175917	10.75544 ppb		98
77) Fluoranthene	11.31	202	168094	10.96785 ppb		98
79) Benzidine	11.50	184	49406	7.79878 ppb		97
80) Pyrene	11.57	202	174947	10.34558 ppb		99
82) Butyl benzylphthalate	12.34	149	80461	10.21426 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	56934	10.80116 ppb		98
84) Benz (a) anthracene	12.98	228	162558	10.28332 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	121121	11.01947 ppb		96
86) Chrysene	13.01	228	168979	10.92054 ppb		97
87) Di-n-octylphthalate	13.73	149	203450	10.77917 ppb		93
89) Benzo (b) fluoranthene	14.16	252	167020	11.83583 ppb		97
90) Benzo (k) fluoranthene	14.19	252	173743	13.11590 ppb		96
91) Benzo (a) pyrene	14.53	252	155337	11.92187 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.10	276	187927	12.92657 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	157013	12.69777 ppb		97
94) Benzo (g,h,i) perylene	16.55	276	160338	13.06849 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

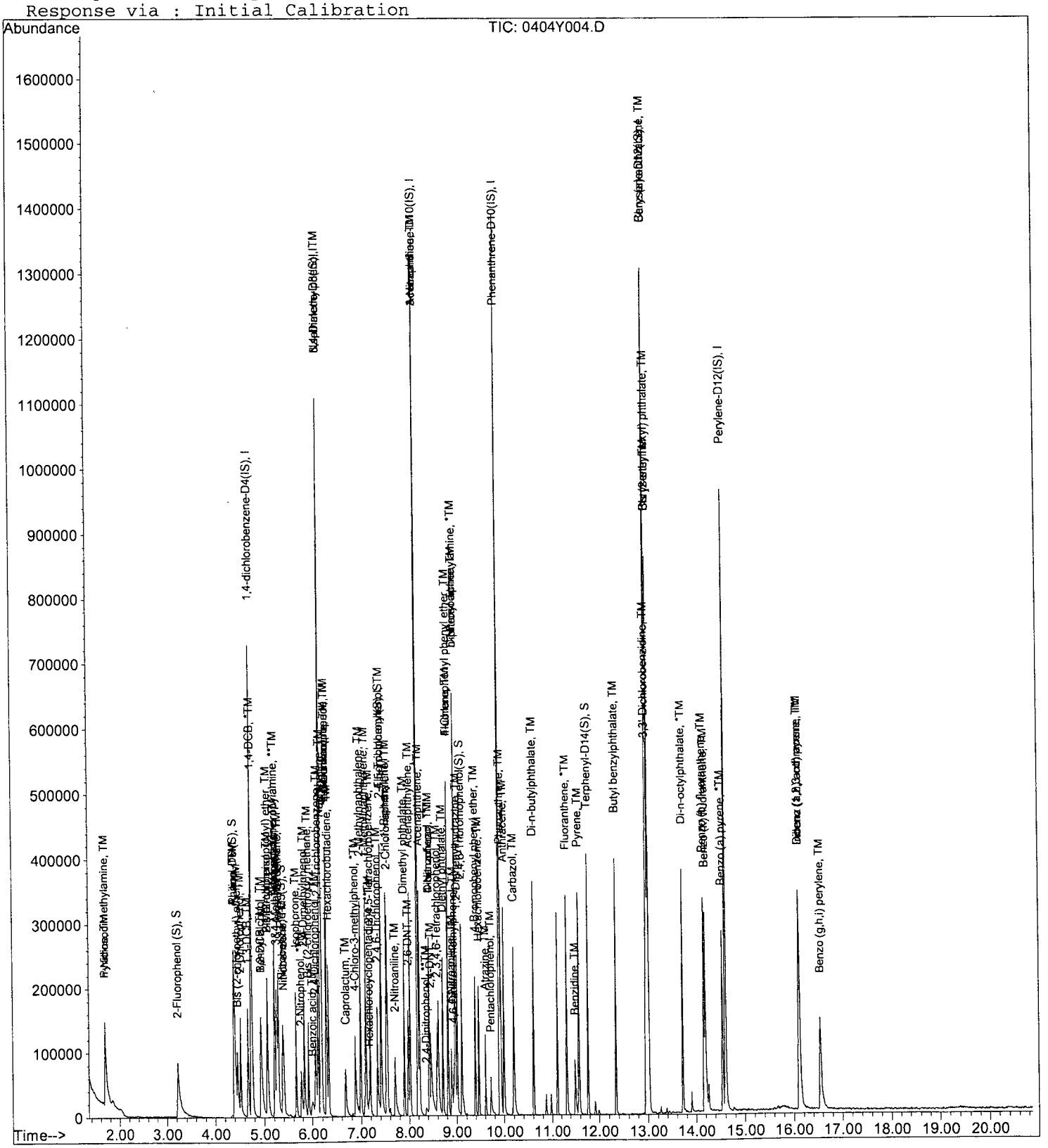
Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	298428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	549818	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	169393	42.73841 ppb	0.00
Spiked Amount 200.000			Recovery	= 21.369%	
5) Phenol-D6 (S)	4.37	99	208566	39.67842 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.839%	
21) Nitrobenzene-D5(S)	5.37	82	98581	17.84081 ppb	0.00
Spiked Amount 100.000			Recovery	= 17.841%	
45) 2-Fluorobiphenyl(S)	7.42	172	224034	23.37317 ppb	0.00
Spiked Amount 100.000			Recovery	= 23.373%	
63) 2,4,6-Tribromophenol(S)	9.11	330	55378	39.95286 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.977%	
81) Terphenyl-D14(S)	11.77	244	238911	20.02978 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.030%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	79869	24.73261 ppb		77
3) Pyridine	1.68	79	152689	24.53150 ppb		99
6) Phenol	4.39	94	115486	19.20055 ppb		93
7) Aniline	4.38	66	105732	18.56348 ppb	#	48
8) Bis (2-chloroethyl) ether	4.46	63	52255	17.90217 ppb		97
9) 2-Chlorophenol	4.51	128	88994	19.05770 ppb		97
10) 1,3-DCB	4.67	146	94862	19.26357 ppb		98
11) 1,4-DCB	4.75	146	100312	19.75669 ppb		96
12) Benzyl alcohol	4.93	108	52990	19.93141 ppb		88
13) 1,2-DCB	4.92	146	89212	19.31502 ppb		96
14) 2-Methylphenol	5.07	107	64975	18.60759 ppb		97
15) Bis (2-chloroisopropyl) et	5.06	45	114628	17.77696 ppb		93
16) Acetophenone	5.21	105	114712	18.45737 ppb		95
17) 3&4-Methylphenol	5.24	107	173721	38.39915 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	62983	18.34075 ppb		99
19) Hexachloroethane	5.29	117	37931	18.16046 ppb		88
22) Nitrobenzene	5.39	77	97246	17.70561 ppb		91
23) Isophorone	5.66	82	155940	17.07794 ppb		98
24) 2-Nitrophenol	5.76	139	48695	18.84437 ppb		81
25) 2,4-Dimethylphenol	5.83	122	78533	18.97597 ppb		93
26) Benzoic acid	5.99	105	54785	20.45992 ppb		98
27) Bis (2-chloroethoxy) metha	5.92	93	101147	19.22782 ppb	#	95
28) 2,4-Dichlorophenol	6.05	162	79785	20.27009 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	88504	20.25341 ppb		96
30) 3,4-Dimethylphenol	6.17	107	118646	19.05796 ppb		100
31) Naphthalene	6.19	128	267084	18.92920 ppb		100
32) 4-Chloroaniline	6.28	127	96581	19.57347 ppb		91
33) 2,6-Dichlorophenol	6.28	162	69298	18.98649 ppb		97
34) Hexachloropropene	6.28	213	58405	18.37671 ppb		94
35) Hexachlorobutadiene	6.33	225	49586	19.06801 ppb		98
36) Caprolactum	6.68	55	36825	16.24904 ppb		92
37) 4-Chloro-3-methylphenol	6.87	107	92782	21.53681 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	206580	22.47208 ppb		99
39) 1-Methylnaphthalene	7.10	142	198465	21.67571 ppb		95
41) Hexachlorocyclopentadiene	7.17	237	18881	19.39289 ppb		89
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	93759	23.14709 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	58201	22.77633 ppb		94
44) 2,4,5-Trichlorophenol	7.40	196	57607	20.65635 ppb		93
46) 1,1'-Biphenyl	7.53	154	250392	22.37252 ppb		98
47) 2-Chloronaphthalene	7.55	162	192666	22.50964 ppb		94
48) 2-Nitroaniline	7.70	65	63258	20.71778 ppb		92
49) Dimethyl phthalate	7.90	163	215567	20.92350 ppb		98
50) 2,6-DNT	7.98	165	47745	20.67093 ppb		84
51) Acenaphthylene	8.02	152	284868	20.71528 ppb		99
52) 3-Nitroaniline	8.18	138	48404	19.45756 ppb	#	90
53) Acenaphthene	8.22	154	167252	19.74872 ppb		99
54) 2,4-Dinitrophenol	8.35	184	16024	20.77747 ppb	#	76
55) 4-Nitrophenol	8.46	65	35092	22.80779 ppb	#	69
56) Dibenzofuran	8.42	168	243928	20.42662 ppb		93
57) 2,4-DNT	8.46	165	60284	18.88269 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	42157	19.30024 ppb	#	82
59) Diethyl phthalate	8.72	149	206651	19.56203 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.83	204	88580	19.08251 ppb		93
61) Fluorene	8.82	166	187792	19.48683 ppb		99
62) 4-Nitroaniline	8.88	138	45566	19.07597 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.93	198	33601	20.47925 ppb	#	72
66) Diphenyl amine	8.97	169	294455	40.44815 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	294455	40.44815 ppb		98
68) 1,2-Diphenylhydrazine	9.00	77	217173	17.11483 ppb	#	91
69) 4-Bromophenyl phenyl ether	9.39	248	54016	19.12422 ppb		91
70) Hexachlorobenzene	9.47	284	55116	18.83427 ppb		87
71) Atrazine	9.61	200	28277	10.02670 ppb		98
72) Pentachlorophenol	9.72	266	20964	21.27524 ppb		97
73) Phenanthrene	9.93	178	288003	19.02984 ppb		100
74) Anthracene	10.00	178	314541	19.88882 ppb		98
75) Carbazol	10.20	167	280871	20.05297 ppb		99
76) Di-n-butylphthalate	10.61	149	355756	20.14332 ppb		98
77) Fluoranthene	11.32	202	316006	19.09514 ppb		98
79) Benzidine	11.49	184	107221	16.25808 ppb		98
80) Pyrene	11.58	202	336162	19.09586 ppb		98
82) Butyl benzylphthalate	12.35	149	167175	20.38616 ppb		87
83) 3,3'-Dichlorobenzidine	12.95	252	115875	21.11693 ppb	#	97
84) Benz (a) anthracene	12.97	228	318280	19.34090 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	228182	19.94183 ppb		94
86) Chrysene	13.02	228	304359	18.89470 ppb		98
87) Di-n-octylphthalate	13.73	149	407061	20.71713 ppb		91
89) Benzo (b) fluoranthene	14.16	252	347316	22.84019 ppb		98
90) Benzo (k) fluoranthene	14.18	252	291026	20.38765 ppb	#	93
91) Benzo (a) pyrene	14.54	252	312678	22.26955 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	367037	23.42872 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	311937	23.41011 ppb		96
94) Benzo (g,h,i) perylene	16.53	276	296601	22.43398 ppb		97

(#) = qualifier out of range (m) = manual integration

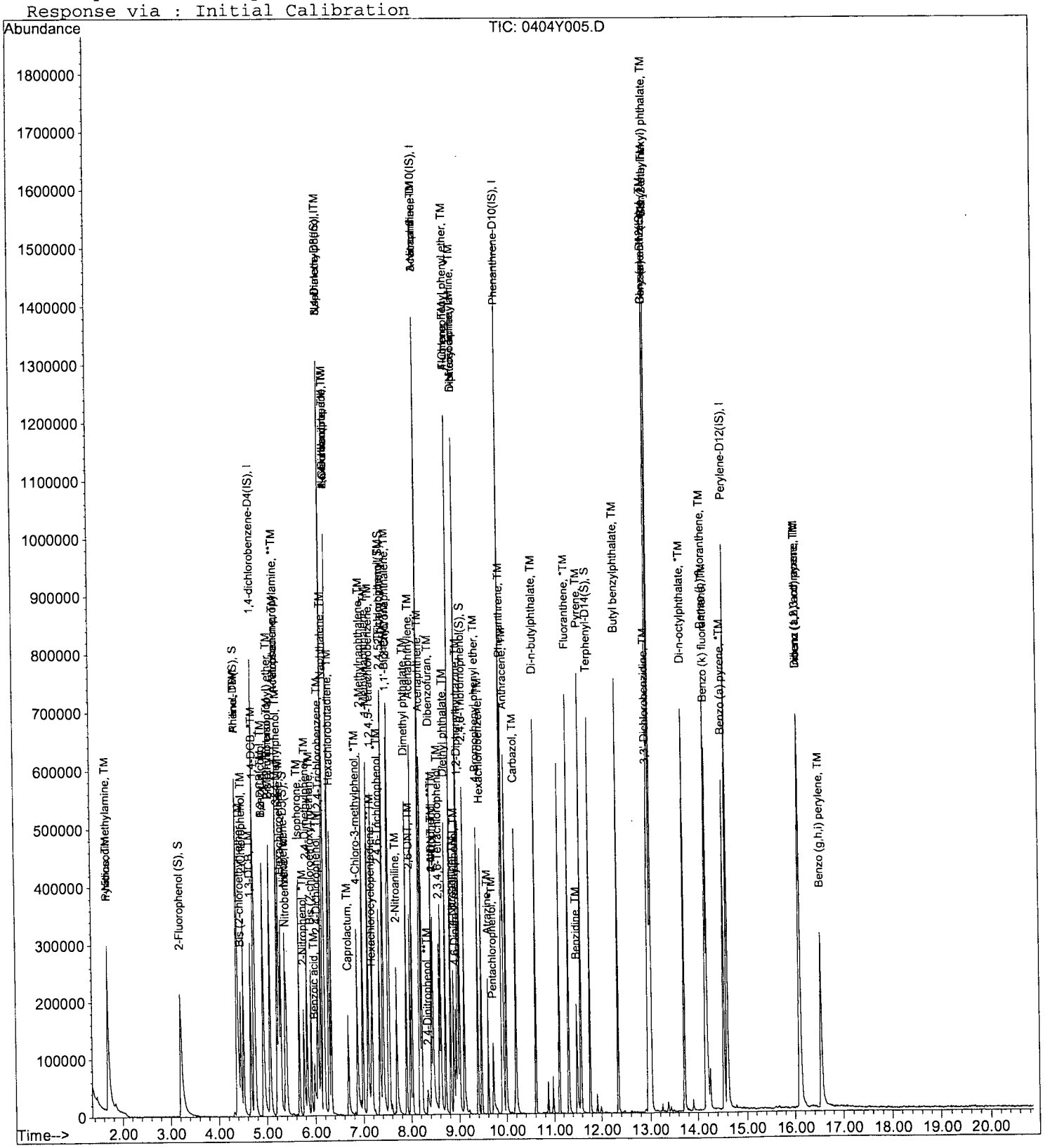
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	628579	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	523963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	465932	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320573	86.17657 ppb	0.00
Spiked Amount 200.000			Recovery = 43.089%		
5) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery = 41.241%		
21) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery = 40.731%		
45) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery = 37.832%		
63) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery = 39.719%		
81) Terphenyl-D14(S)	11.77	244	457811	41.33170 ppb	0.00
Spiked Amount 100.000			Recovery = 41.332%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	181993	44.09714 ppb		87
3) Pyridine	1.68	79	295812	40.47889 ppb		94
6) Phenol	4.39	94	223274	41.32470 ppb		98
7) Aniline	4.39	66	214533	42.20003 ppb	#	68
8) Bis (2-chloroethyl) ether	4.45	63	102796	39.99583 ppb		98
9) 2-Chlorophenol	4.51	128	174274	40.84481 ppb		97
10) 1,3-DCB	4.67	146	183342	40.45038 ppb		99
11) 1,4-DCB	4.75	146	187041	40.28545 ppb		95
12) Benzyl alcohol	4.93	108	103977	42.02614 ppb		91
13) 1,2-DCB	4.92	146	176184	41.99345 ppb		98
14) 2-Methylphenol	5.07	107	136289	42.40562 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	241370	43.87146 ppb	#	81
16) Acetophenone	5.21	105	233796	42.07638 ppb		96
17) 3&4-Methylphenol	5.24	107	342462	83.80264 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	125020	41.40843 ppb		91
19) Hexachloroethane	5.29	117	75618	39.23828 ppb		98
22) Nitrobenzene	5.40	77	195388	40.54910 ppb		89
23) Isophorone	5.67	82	334663	42.26546 ppb		92
24) 2-Nitrophenol	5.75	139	100565	43.32783 ppb		94
25) 2,4-Dimethylphenol	5.83	122	150159	40.73004 ppb		96
26) Benzoic acid	6.00	105	118121	39.67938 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	183058	39.64952 ppb		98
28) 2,4-Dichlorophenol	6.04	162	145194	40.66855 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	153437	39.79254 ppb		97
30) 3,4-Dimethylphenol	6.17	107	211808	39.34661 ppb		97
31) Naphthalene	6.19	128	483890	39.98567 ppb		97
32) 4-Chloroaniline	6.28	127	200658	49.46503 ppb		96
33) 2,6-Dichlorophenol	6.28	162	143908	45.78639 ppb		98
34) Hexachloropropene	6.29	213	128829	45.28755 ppb		99
35) Hexachlorobutadiene	6.34	225	104984	44.35997 ppb		98
36) Caprolactum	6.71	55	83857	42.79053 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	158251	40.70568 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	338022	40.26630 ppb		100
39) 1-Methylnaphthalene	7.10	142	321558	39.69591 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	49451	37.81444 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	149622	37.97478 ppb		96
43) 2,4,6-Trichlorophenol	7.34	196	104106	39.93022 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	106673	39.42009 ppb		97
46) 1,1'-Biphenyl	7.53	154	425922	39.48711 ppb		99
47) 2-Chloronaphthalene	7.55	162	332344	39.46610 ppb		96
48) 2-Nitroaniline	7.69	65	116307	39.84915 ppb		96
49) Dimethyl phthalate	7.90	163	385967	38.30373 ppb		100
50) 2,6-DNT	7.98	165	93914	40.52446 ppb		96
51) Acenaphthylene	8.02	152	522092	39.23488 ppb		99
52) 3-Nitroaniline	8.18	138	100746	42.28486 ppb	#	94
53) Acenaphthene	8.22	154	317522	39.09987 ppb		97
54) 2,4-Dinitrophenol	8.32	184	50930	39.83730 ppb		99
55) 4-Nitrophenol	8.44	65	73523	39.97019 ppb	#	1
56) Dibenzofuran	8.43	168	468428	41.23133 ppb		93
57) 2,4-DNT	8.45	165	121619	39.37623 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96200	43.69912 ppb		98
59) Diethyl phthalate	8.71	149	411735	39.96824 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	177164	39.42559 ppb		99
61) Fluorene	8.82	166	364463	39.83786 ppb		97
62) 4-Nitroaniline	8.89	138	93322	40.55297 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	77775	35.79645 ppb		98
66) Diphenyl amine	8.97	169	570254	69.37688 ppb		99
67) n-Nitrosodiphenylamine	8.97	169	570254	69.37688 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	453214	32.65837 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	106849	34.70131 ppb		98
70) Hexachlorobenzene	9.47	284	109539	35.02963 ppb		95
71) Atrazine	9.61	200	59999	18.11531 ppb		96
72) Pentachlorophenol	9.72	266	45746	33.83727 ppb		93
73) Phenanthrene	9.93	178	652503	40.37235 ppb		99
74) Anthracene	10.00	178	679999	39.88443 ppb		99
75) Carbazol	10.20	167	544370	36.22000 ppb		98
76) Di-n-butylphthalate	10.61	149	688370	35.21754 ppb		97
77) Fluoranthene	11.31	202	663582	37.28079 ppb		98
79) Benzidine	11.49	184	185177	40.00474 ppb		98
80) Pyrene	11.57	202	663596	41.07719 ppb		100
82) Butyl benzylphthalate	12.34	149	324624	41.36209 ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	213666	42.01149 ppb	#	95
84) Benz (a) anthracene	12.98	228	615316	40.74552 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	429710	39.06551 ppb		97
86) Chrysene	13.01	228	565888	38.27759 ppb		100
87) Di-n-octylphthalate	13.73	149	805906	41.67075 ppb		98
89) Benzo (b) fluoranthene	14.16	252	610637	39.12252 ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	613769	41.59165 ppb		99
91) Benzo (a) pyrene	14.54	252	590583	41.12714 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	720530	43.45250 ppb		99
93) Dibenz (a,h) anthracene	16.11	278	597606	42.69016 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	562005	40.14642 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

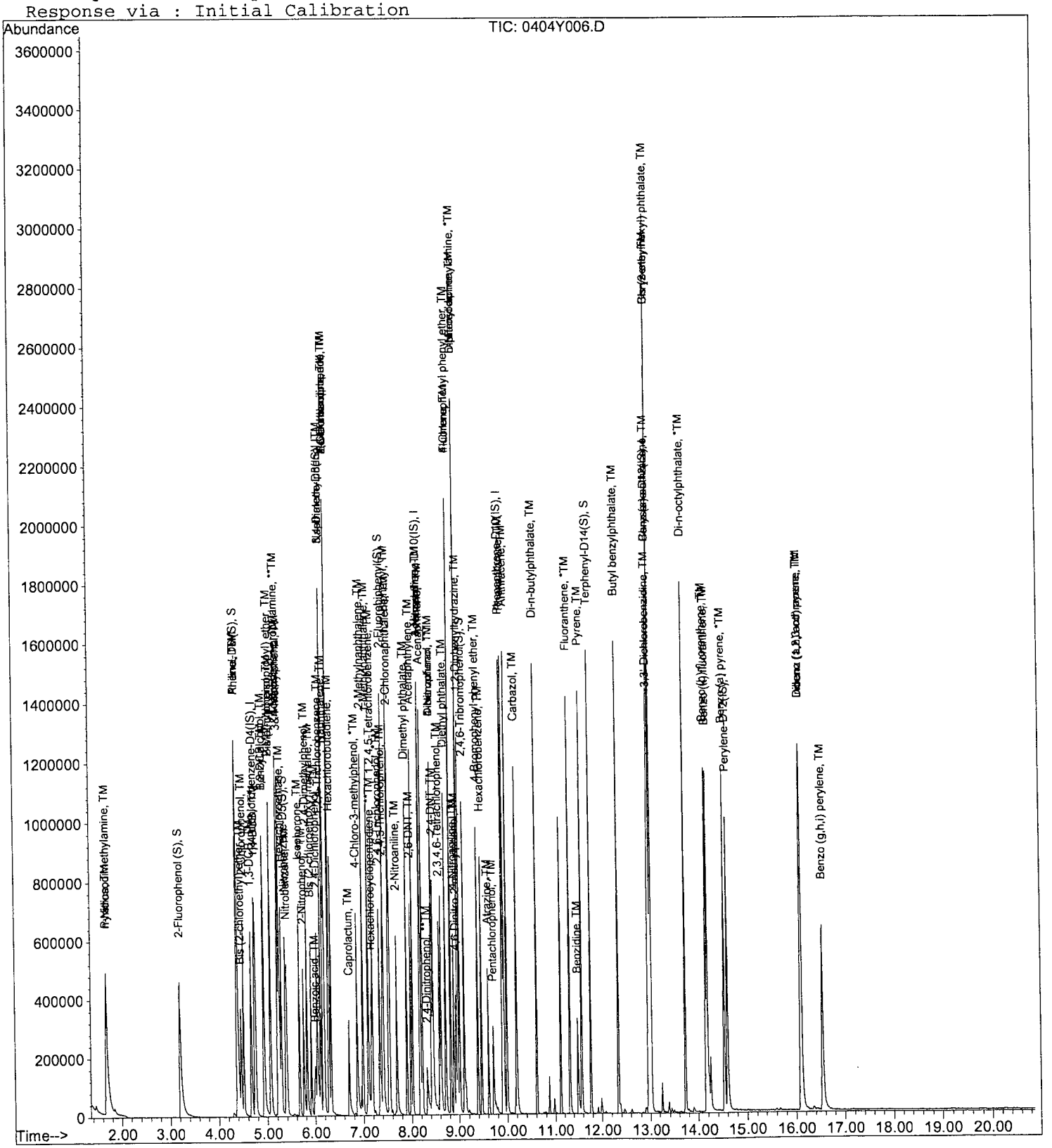
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	487207	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	387773	106.61694 ppb	0.00
Spiked Amount 200.000			Recovery = 53.309%		
5) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery = 51.590%		
21) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery = 51.887%		
45) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery = 51.710%		
63) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery = 53.421%		
81) Terphenyl-D14(S)	11.77	244	560172	54.38831 ppb	0.00
Spiked Amount 100.000			Recovery = 54.388%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	230381	57.09378 ppb	100
3) Pyridine	1.67	79	399462	55.90809 ppb	100
6) Phenol	4.39	94	279005	52.81653 ppb	98
7) Aniline	4.39	66	262310	52.77399 ppb #	65
8) Bis (2-chloroethyl) ether	4.46	63	129206	51.41711 ppb	94
9) 2-Chlorophenol	4.51	128	220570	52.87338 ppb	94
10) 1,3-DCB	4.67	146	229468	51.78085 ppb	99
11) 1,4-DCB	4.75	146	230957	50.87787 ppb	98
12) Benzyl alcohol	4.93	108	126394	52.25105 ppb	95
13) 1,2-DCB	4.92	146	210571	51.33340 ppb	98
14) 2-Methylphenol	5.07	107	157511	50.12564 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	274342	51.00086 ppb	86
16) Acetophenone	5.21	105	275339	50.68220 ppb	97
17) 3&4-Methylphenol	5.24	107	405614	101.51837 ppb	99
18) n-Nitrosodi-n-propylamine	5.22	70	148093	50.16840 ppb	88
19) Hexachloroethane	5.29	117	97282	51.63019 ppb	97
22) Nitrobenzene	5.40	77	237646	52.34247 ppb	91
23) Isophorone	5.67	82	390824	52.38410 ppb	93
24) 2-Nitrophenol	5.76	139	118040	53.97462 ppb	91
25) 2,4-Dimethylphenol	5.83	122	176566	50.82893 ppb	99
26) Benzoic acid	6.02	105	158141	55.08013 ppb	95
27) Bis (2-chloroethoxy) metha	5.92	93	218124	50.14100 ppb	97
28) 2,4-Dichlorophenol	6.04	162	174596	51.90207 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	192201	52.90145 ppb	98
30) 3,4-Dimethylphenol	6.17	107	260929	51.44316 ppb	95
31) Naphthalene	6.19	128	593920	52.08660 ppb	100
32) 4-Chloroaniline	6.28	127	205417	53.74258 ppb	96
33) 2,6-Dichlorophenol	6.28	162	152431	51.47130 ppb	98
34) Hexachloropropene	6.29	213	143938	53.70083 ppb	97
35) Hexachlorobutadiene	6.34	225	114112	51.17287 ppb	99
36) Caprolactum	6.71	55	104604	56.64962 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	197482	53.91087 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	400279	50.60575	ppb		99
39) 1-Methylnaphthalene	7.10	142	424073	55.56066	ppb		97
41) Hexachlorocyclopentadiene	7.17	237	75534	54.68417	ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194849	54.39428	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	130235	54.94256	ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	133983	54.45879	ppb		95
46) 1,1'-Biphenyl	7.53	154	522309	53.26084	ppb		99
47) 2-Chloronaphthalene	7.55	162	407139	53.17828	ppb		93
48) 2-Nitroaniline	7.70	65	148995	56.14876	ppb		98
49) Dimethyl phthalate	7.90	163	486000	53.04964	ppb		99
50) 2,6-DNT	7.98	165	114105	54.15603	ppb		96
51) Acenaphthylene	8.02	152	627303	51.85108	ppb		98
52) 3-Nitroaniline	8.18	138	114580	52.89579	ppb		96
53) Acenaphthene	8.22	154	382806	51.84841	ppb		98
54) 2,4-Dinitrophenol	8.33	184	60639	49.13117	ppb		89
55) 4-Nitrophenol	8.43	65	90442	51.14997	ppb	#	1
56) Dibenzofuran	8.43	168	537119	52.00082	ppb		100
57) 2,4-DNT	8.46	165	153397	54.62668	ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.60	232	109557	54.73850	ppb		94
59) Diethyl phthalate	8.72	149	558434	59.62443	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	210415	51.50324	ppb		99
61) Fluorene	8.82	166	422140	50.75213	ppb		98
62) 4-Nitroaniline	8.89	138	119160	56.95402	ppb		100
65) 4,6-Dinitro-2-methylphenol	8.94	198	98966	53.86057	ppb		98
66) Diphenyl amine	8.98	169	700937	103.07961	ppb		100
67) n-Nitrosodiphenylamine	8.98	169	700937	103.07961	ppb		100
68) 1,2-Diphenylhydrazine	9.01	77	660457	57.52851	ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	131880	51.77280	ppb		94
70) Hexachlorobenzene	9.47	284	134228	51.88684	ppb		95
71) Atrazine	9.61	200	71675	26.15874	ppb		95
72) Pentachlorophenol	9.72	266	61111	54.63978	ppb		94
73) Phenanthrene	9.93	178	682251	51.02618	ppb		100
74) Anthracene	10.00	178	725098	51.40900	ppb		99
75) Carbazol	10.20	167	652498	52.47843	ppb		99
76) Di-n-butylphthalate	10.61	149	821001	50.77245	ppb		98
77) Fluoranthene	11.32	202	776689	52.74544	ppb		97
79) Benzidine	11.49	184	237369	55.14874	ppb		99
80) Pyrene	11.58	202	830283	55.27264	ppb		99
82) Butyl benzylphthalate	12.35	149	400778	54.91776	ppb		85
83) 3,3'-Dichlorobenzidine	12.96	252	252491	53.39070	ppb	#	94
84) Benz (a) anthracene	12.98	228	735065	52.34733	ppb		100
85) Bis (2-ethylhexyl) phthala	13.01	149	524618	51.29185	ppb		97
86) Chrysene	13.01	228	670581	48.78119	ppb		99
87) Di-n-octylphthalate	13.73	149	962075	53.49867	ppb		99
89) Benzo (b) fluoranthene	14.16	252	773182	50.83563	ppb		100
90) Benzo (k) fluoranthene	14.19	252	751433	52.25577	ppb		100
91) Benzo (a) pyrene	14.54	252	735446	52.55828	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.11	276	799992	49.50980	ppb		99
93) Dibenz (a,h) anthracene	16.12	278	680699	49.90117	ppb		98
94) Benzo (g,h,i) perylene	16.54	276	685004	50.21604	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

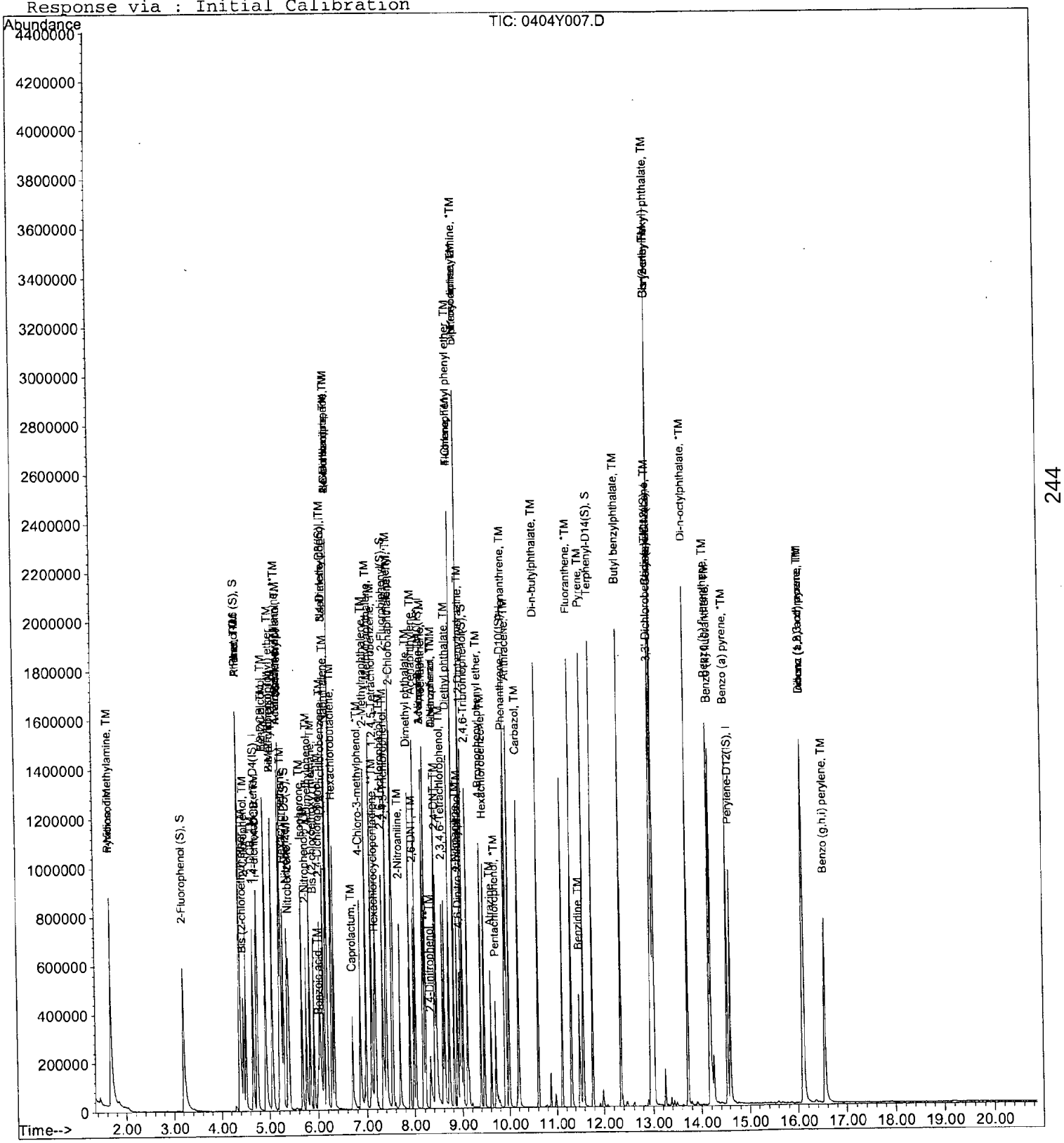
Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	605663	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	460352	134.66185 ppb	0.00
Spiked Amount 200.000			Recovery = 67.331%		
5) Phenol-D6 (S)	4.38	99	529157	116.71511 ppb	0.00
Spiked Amount 200.000			Recovery = 58.358%		
21) Nitrobenzene-D5(S)	5.38	82	322467	68.78507 ppb	0.00
Spiked Amount 100.000			Recovery = 68.785%		
45) 2-Fluorobiphenyl(S)	7.41	172	511226	55.95175 ppb	0.00
Spiked Amount 100.000			Recovery = 55.952%		
63) 2,4,6-Tribromophenol(S)	9.11	330	148732	112.56723 ppb	0.00
Spiked Amount 200.000			Recovery = 56.284%		
81) Terphenyl-D14(S)	11.77	244	620058	47.19112 ppb	0.00
Spiked Amount 100.000			Recovery = 47.191%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	274376	98.50754 ppb		97
3) Pyridine	1.67	79	477572	88.95839 ppb		91
6) Phenol	4.39	94	313290	60.38966 ppb		85
7) Aniline	4.39	66	305086	62.10219 ppb		98
8) Bis (2-chloroethyl) ether	4.46	63	151721	60.26363 ppb		99
9) 2-Chlorophenol	4.51	128	244398	60.67910 ppb		97
10) 1,3-DCB	4.67	146	258719	60.91223 ppb		99
11) 1,4-DCB	4.76	146	257721	58.84950 ppb		97
12) Benzyl alcohol	4.93	108	144466	63.00012 ppb		97
13) 1,2-DCB	4.93	146	239191	60.04107 ppb		96
14) 2-Methylphenol	5.07	107	178042	59.11504 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	309353	55.62279 ppb	#	86
16) Acetophenone	5.21	105	323939	60.43045 ppb		94
17) 3&4-Methylphenol	5.24	107	502945	128.89066 ppb		96
18) n-Nitrosodi-n-propylamine	5.22	70	176281	59.51561 ppb		92
19) Hexachloroethane	5.29	117	117601	65.27926 ppb		95
22) Nitrobenzene	5.40	77	313526	67.28221 ppb		96
23) Isophorone	5.67	82	478661	61.78652 ppb		95
24) 2-Nitrophenol	5.76	139	146767	66.94427 ppb		85
25) 2,4-Dimethylphenol	5.83	122	221248	63.01136 ppb		100
26) Benzoic acid	6.03	105	185135	66.42377 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	269568	60.39944 ppb		98
28) 2,4-Dichlorophenol	6.04	162	209561	62.75271 ppb		98
29) 1,2,4-Trichlorobenzene	6.11	180	222527	60.02132 ppb		97
30) 3,4-Dimethylphenol	6.17	107	309163	58.53268 ppb		98
31) Naphthalene	6.20	128	691459	57.76149 ppb		99
32) 4-Chloroaniline	6.28	127	235314	56.20975 ppb		97
33) 2,6-Dichlorophenol	6.28	162	176823	57.10188 ppb		99
34) Hexachloropropene	6.29	213	170577	63.25950 ppb		98
35) Hexachlorobutadiene	6.34	225	131504	59.60365 ppb		100
36) Caprolactum	6.73	55	118741	61.75516 ppb		94
37) 4-Chloro-3-methylphenol	6.87	107	229130	62.68840 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	461373	59.15545 ppb		99
39) 1-Methylnaphthalene	7.10	142	439052	56.51882 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	88888	58.92802 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	214369	55.51910 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	150923	61.95920 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	158504	59.62323 ppb		96
46) 1,1'-Biphenyl	7.53	154	598175	56.06861 ppb		96
47) 2-Chloronaphthalene	7.55	162	465763	57.08545 ppb		94
48) 2-Nitroaniline	7.69	65	171836	59.03900 ppb		90
49) Dimethyl phthalate	7.91	163	650235	66.20935 ppb		98
50) 2,6-DNT	7.98	165	127991	58.13111 ppb	#	76
51) Acenaphthylene	8.02	152	769268	58.68429 ppb		99
52) 3-Nitroaniline	8.18	138	141422	59.63774 ppb		97
53) Acenaphthene	8.22	154	443857	54.98038 ppb		98
54) 2,4-Dinitrophenol	8.32	184	77194	65.62142 ppb	#	77
55) 4-Nitrophenol	8.43	65	110312	58.32492 ppb		98
56) Dibenzofuran	8.43	168	656032	57.63108 ppb		98
57) 2,4-DNT	8.45	165	188497	61.93888 ppb		80
58) 2,3,4,6-Tetrachlorophenol	8.59	232	130499	62.67540 ppb	#	91
59) Diethyl phthalate	8.72	149	576422	57.24190 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	264152	59.69676 ppb		87
61) Fluorene	8.83	166	535338	58.27593 ppb		100
62) 4-Nitroaniline	8.90	138	139461	61.24851 ppb		94
65) 4,6-Dinitro-2-methylphenol	8.94	198	121902	61.75686 ppb	#	73
66) Diphenyl amine	8.98	169	812993	117.73775 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	812993	117.73775 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	828950	68.87226 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	156418	58.38444 ppb	#	85
70) Hexachlorobenzene	9.47	284	156588	56.41293 ppb	#	87
71) Atrazine	9.61	200	85983	32.14299 ppb		93
72) Pentachlorophenol	9.72	266	75734	59.97312 ppb		92
73) Phenanthrene	9.94	178	795737	55.43154 ppb		98
74) Anthracene	9.99	178	840252	56.01322 ppb		99
75) Carbazol	10.20	167	747777	56.28505 ppb		97
76) Di-n-butylphthalate	10.61	149	1076951	64.28711 ppb		99
77) Fluoranthene	11.32	202	868309	55.31602 ppb		98
79) Benzidine	11.49	184	281110	38.69488 ppb		99
80) Pyrene	11.58	202	950846	49.03302 ppb		100
82) Butyl benzylphthalate	12.34	149	464290	51.39743 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	337315	55.80389 ppb	#	98
84) Benz (a) anthracene	12.97	228	1004775	55.42734 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	659056	52.28702 ppb		96
86) Chrysene	13.02	228	870807	49.07539 ppb		98
87) Di-n-octylphthalate	13.73	149	1198098	55.35418 ppb		95
89) Benzo (b) fluoranthene	14.16	252	836743	57.49001 ppb		96
90) Benzo (k) fluoranthene	14.19	252	897871	65.71654 ppb		99
91) Benzo (a) pyrene	14.54	252	819052	60.94682 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	916818	61.14308 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	790802	62.00544 ppb		98
94) Benzo (g,h,i) perylene	16.55	276	786363	62.14156 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

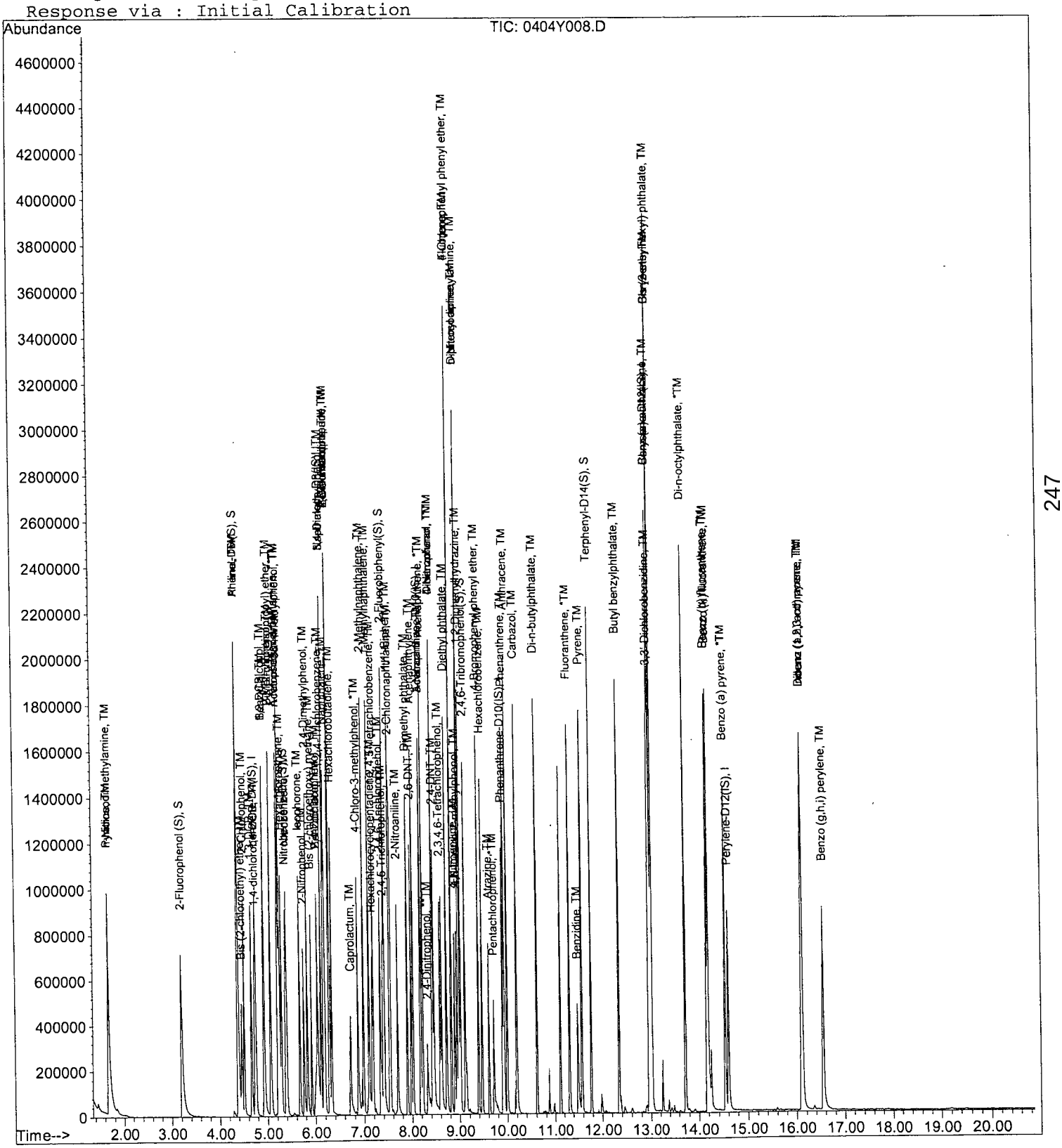
Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



247

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	478317	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	550572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	696751	172.43633 ppb	-0.05
Spiked Amount 200.000			Recovery = 86.218%		
5) Phenol-D6 (S)	4.38	99	770056	143.24315 ppb	0.00
Spiked Amount 200.000			Recovery = 71.622%		
21) Nitrobenzene-D5(S)	5.38	82	427790	88.18857 ppb	-0.01
Spiked Amount 100.000			Recovery = 88.189%		
45) 2-Fluorobiphenyl(S)	7.42	172	701781	73.36956 ppb	0.00
Spiked Amount 100.000			Recovery = 73.370%		
63) 2,4,6-Tribromophenol(S)	9.11	330	207208	150.14093 ppb	0.00
Spiked Amount 200.000			Recovery = 75.071%		
81) Terphenyl-D14(S)	11.77	244	865042	73.04742 ppb	0.00
Spiked Amount 100.000			Recovery = 73.047%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	376671	123.03008 ppb		97
3) Pyridine	1.67	79	651971	107.05356 ppb		100
6) Phenol	4.40	94	476198	77.16960 ppb		87
7) Aniline	4.40	66	451795	77.12600 ppb	#	47
8) Bis (2-chloroethyl) ether	4.46	63	235655	78.02463 ppb		91
9) 2-Chlorophenol	4.51	128	381956	80.04048 ppb		98
10) 1,3-DCB	4.67	146	408558	81.15844 ppb		98
11) 1,4-DCB	4.75	146	412884	79.81427 ppb		96
12) Benzyl alcohol	4.93	108	222088	81.71037 ppb		97
13) 1,2-DCB	4.92	146	362202	76.81880 ppb		99
14) 2-Methylphenol	5.07	107	266625	74.76167 ppb		99
15) Bis (2-chloroisopropyl) et	5.06	45	475284	71.72089 ppb	#	72
16) Acetophenone	5.21	105	484723	76.27256 ppb		99
17) 3&4-Methylphenol	5.25	107	693145	149.67027 ppb		93
18) n-Nitrosodi-n-propylamine	5.22	70	265133	75.15276 ppb		88
19) Hexachloroethane	5.29	117	168456	79.19358 ppb		92
22) Nitrobenzene	5.40	77	421935	87.14138 ppb		98
23) Isophorone	5.68	82	718627	89.39145 ppb		94
24) 2-Nitrophenol	5.76	139	218946	96.41328 ppb		91
25) 2,4-Dimethylphenol	5.83	122	315055	85.80894 ppb		96
26) Benzoic acid	6.04	105	249059	85.49344 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	404092	86.82209 ppb		100
28) 2,4-Dichlorophenol	6.04	162	308482	88.29283 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	322421	83.51662 ppb		99
30) 3,4-Dimethylphenol	6.17	107	434730	78.64511 ppb		96
31) Naphthalene	6.20	128	1002132	80.13412 ppb		99
32) 4-Chloroaniline	6.28	127	292303	66.53972 ppb	#	89
33) 2,6-Dichlorophenol	6.28	162	231202	71.50220 ppb		99
34) Hexachloropropene	6.29	213	228793	81.52660 ppb		98
35) Hexachlorobutadiene	6.34	225	189667	82.85234 ppb		99
36) Caprolactum	6.75	55	175935	88.47360 ppb		93
37) 4-Chloro-3-methylphenol	6.87	107	328190	86.68683 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	661199	81.38725 ppb		97
39) 1-Methylnaphthalene	7.10	142	634599	79.30174 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	140223	79.25066 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	307926	76.32321 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	214449	84.71239 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	227425	81.90104 ppb		96
46) 1,1'-Biphenyl	7.54	154	821798	73.46236 ppb		97
47) 2-Chloronaphthalene	7.55	162	658556	77.04384 ppb		97
48) 2-Nitroaniline	7.69	65	248474	81.52039 ppb		90
49) Dimethyl phthalate	7.91	163	792632	77.33418 ppb		99
50) 2,6-DNT	7.99	165	190596	83.29714 ppb		84
51) Acenaphthylene	8.03	152	1051484	76.39799 ppb		100
52) 3-Nitroaniline	8.18	138	191583	76.56019 ppb		87
53) Acenaphthene	8.22	154	623269	73.46147 ppb		98
54) 2,4-Dinitrophenol	8.32	184	123017	91.99556 ppb		97
55) 4-Nitrophenol	8.43	65	160124	77.88635 ppb	#	1
56) Dibenzofuran	8.43	168	877383	73.24133 ppb		90
57) 2,4-DNT	8.46	165	268705	84.22212 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	183610	83.94922 ppb		95
59) Diethyl phthalate	8.72	149	810128	78.05649 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	340079	72.88752 ppb	#	81
61) Fluorene	8.83	166	684679	70.60346 ppb		98
62) 4-Nitroaniline	8.90	138	191810	80.57477 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.95	198	168667	77.83187 ppb		89
66) Diphenyl amine	8.98	169	1069838	144.16591 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	1069838	144.16591 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	1095437	84.55404 ppb		89
69) 4-Bromophenyl phenyl ether	9.39	248	221743	76.25014 ppb		87
70) Hexachlorobenzene	9.47	284	223029	73.51979 ppb	#	85
71) Atrazine	9.62	200	123128	42.86350 ppb		99
72) Pentachlorophenol	9.72	266	112127	79.32319 ppb		95
73) Phenanthrene	9.94	178	1114239	70.95247 ppb		100
74) Anthracene	10.00	178	1170794	71.47704 ppb		100
75) Carbazol	10.20	167	1055567	72.79345 ppb		96
76) Di-n-butylphthalate	10.62	149	1409340	76.91220 ppb		99
77) Fluoranthene	11.32	202	1228617	72.06681 ppb		95
79) Benzidine	11.50	184	371271	54.16939 ppb		96
80) Pyrene	11.58	202	1297129	73.46717 ppb		98
82) Butyl benzylphthalate	12.35	149	658870	80.70890 ppb		99
83) 3,3'-Dichlorobenzidine	12.96	252	380319	68.70057 ppb		98
84) Benz (a) anthracene	12.98	228	1171043	70.52182 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	863161	75.17463 ppb		98
86) Chrysene	13.02	228	1165678	71.57285 ppb		99
87) Di-n-octylphthalate	13.74	149	1567502	79.69270 ppb	#	91
89) Benzo (b) fluoranthene	14.16	252	1316574	81.42140 ppb		97
90) Benzo (k) fluoranthene	14.19	252	1074749	72.11789 ppb		99
91) Benzo (a) pyrene	14.54	252	1153969	78.13893 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	1302019	78.64363 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	1098191	77.92212 ppb		99
94) Benzo (g,h,i) perylene	16.55	276	1136914	81.84687 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

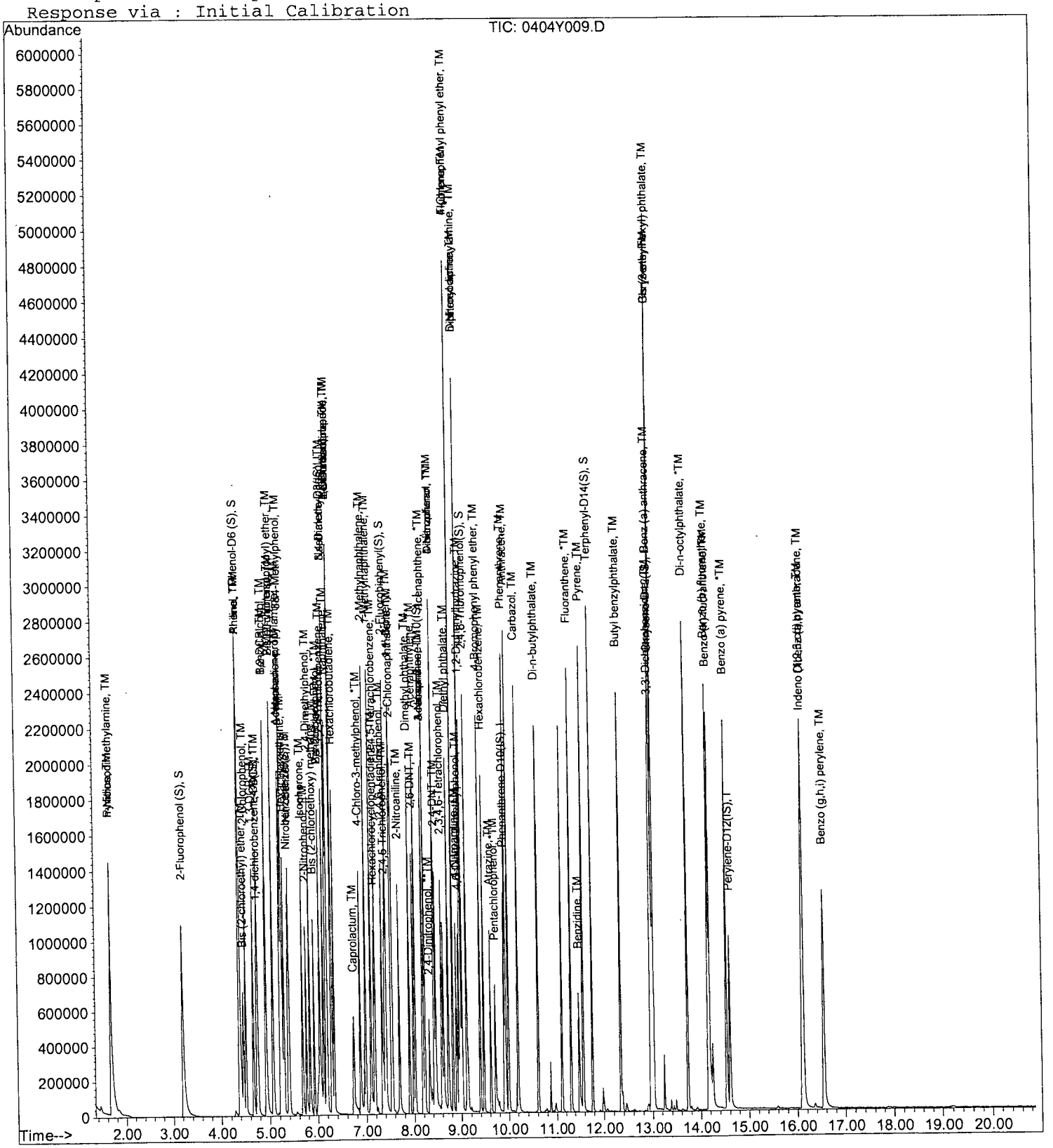
Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	773437	207.34510 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.673%	
5) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.269%	
21) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.046%	
45) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb	0.00
Spiked Amount 100.000			Recovery	= 95.429%	
63) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.980%	
81) Terphenyl-D14(S)	11.77	244	992665	93.95291 ppb	0.00
Spiked Amount 100.000			Recovery	= 93.953%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	425920	102.91776 ppb		84
3) Pyridine	1.67	79	722710	98.62419 ppb		96
6) Phenol	4.40	94	507951	93.75618 ppb		96
7) Aniline	4.40	66	519276	101.86465 ppb	#	43
8) Bis (2-chloroethyl) ether	4.47	63	266540	103.42071 ppb		91
9) 2-Chlorophenol	4.51	128	413357	96.61313 ppb		97
10) 1,3-DCB	4.67	146	428231	94.22049 ppb		98
11) 1,4-DCB	4.75	146	435065	93.44846 ppb		100
12) Benzyl alcohol	4.93	108	243762	98.25503 ppb		96
13) 1,2-DCB	4.92	146	385653	91.66813 ppb		98
14) 2-Methylphenol	5.07	107	293276	91.00092 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	499480	90.53646 ppb	#	73
16) Acetophenone	5.22	105	523190	93.90038 ppb		96
17) 3&4-Methylphenol	5.25	107	709133	173.05318 ppb		97
18) n-Nitrosodi-n-propylamine	5.23	70	270093	89.21322 ppb		82
19) Hexachloroethane	5.29	117	178857	92.55446 ppb		98
22) Nitrobenzene	5.40	77	465969	102.81631 ppb		98
23) Isophorone	5.68	82	790168	106.10087 ppb		97
24) 2-Nitrophenol	5.76	139	238371	109.19307 ppb		83
25) 2,4-Dimethylphenol	5.83	122	354209	102.15149 ppb		96
26) Benzoic acid	6.06	105	290052	98.62058 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	443197	102.06284 ppb		99
28) 2,4-Dichlorophenol	6.04	162	350824	104.47705 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	366705	101.11372 ppb		100
30) 3,4-Dimethylphenol	6.17	107	510022	100.73386 ppb		93
31) Naphthalene	6.20	128	1137936	99.97633 ppb		99
32) 4-Chloroaniline	6.28	127	310882	81.48149 ppb	#	86
33) 2,6-Dichlorophenol	6.28	162	275295	93.12611 ppb		99
34) Hexachloropropene	6.29	213	293750	109.79048 ppb		99
35) Hexachlorobutadiene	6.34	225	226348	101.68722 ppb		99
36) Caprolactum	6.76	55	203622	110.47263 ppb		95
37) 4-Chloro-3-methylphenol	6.88	107	383540	104.89162 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	744542	94.29910 ppb		100
39) 1-Methylnaphthalene	7.10	142	717308	94.14857 ppb		100
41) Hexachlorocyclopentadiene	7.17	237	179104	100.56951 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	344281	96.56243 ppb		95
43) 2,4,6-Trichlorophenol	7.34	196	248145	105.17845 ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	251054	102.52399 ppb		99
46) 1,1'-Biphenyl	7.54	154	949276	97.25525 ppb		97
47) 2-Chloronaphthalene	7.56	162	756927	99.33119 ppb		97
48) 2-Nitroaniline	7.70	65	296478	112.25379 ppb		87
49) Dimethyl phthalate	7.91	163	916404	100.50165 ppb		100
50) 2,6-DNT	7.99	165	219151	104.50226 ppb		93
51) Acenaphthylene	8.02	152	1162203	96.51672 ppb		99
52) 3-Nitroaniline	8.18	138	213576	99.06149 ppb		84
53) Acenaphthene	8.23	154	699593	95.20116 ppb		99
54) 2,4-Dinitrophenol	8.33	184	140767	99.36552 ppb		95
55) 4-Nitrophenol	8.43	65	200402	104.29026 ppb	#	1
56) Dibenzofuran	8.43	168	987669	96.07076 ppb		89
57) 2,4-DNT	8.47	165	302081	108.08151 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.60	232	210701	105.76926 ppb		94
59) Diethyl phthalate	8.74	149	932756	100.06001 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	418629	102.95022 ppb	#	78
61) Fluorene	8.83	166	832507	100.56011 ppb		98
62) 4-Nitroaniline	8.91	138	209595	100.65025 ppb		91
65) 4,6-Dinitro-2-methylphenol	8.95	198	192473	96.07130 ppb	#	71
66) Diphenyl amine	8.99	169	1289980	177.28553 ppb		98
67) n-Nitrosodiphenylamine	8.99	169	1289980	177.28553 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	1258249	102.42399 ppb		85
69) 4-Bromophenyl phenyl ether	9.39	248	255625	93.78267 ppb	#	83
70) Hexachlorobenzene	9.47	284	254441	91.91740 ppb	#	82
71) Atrazine	9.62	200	138683	47.30085 ppb		97
72) Pentachlorophenol	9.72	266	135103	100.56356 ppb		94
73) Phenanthrene	9.94	178	1295258	90.53191 ppb		99
74) Anthracene	10.00	178	1346540	89.21918 ppb		100
75) Carbazol	10.20	167	1224655	92.04748 ppb		93
76) Di-n-butylphthalate	10.62	149	1602655	92.62347 ppb		99
77) Fluoranthene	11.33	202	1418663	90.03546 ppb	#	94
79) Benzidine	11.49	184	420209	95.17004 ppb		98
80) Pyrene	11.59	202	1460063	94.74995 ppb		98
82) Butyl benzylphthalate	12.36	149	737719	98.54243 ppb		95
83) 3,3'-Dichlorobenzidine	12.96	252	406206	83.73161 ppb		97
84) Benz (a) anthracene	12.98	228	1384031	96.08109 ppb		100
85) Bis (2-ethylhexyl) phthala	13.02	149	1127997	107.50693 ppb		95
86) Chrysene	13.02	228	1484474	105.26818 ppb		100
87) Di-n-octylphthalate	13.74	149	1777361	96.34586 ppb	#	88
89) Benzo (b) fluoranthene	14.17	252	1458987	94.40023 ppb	#	97
90) Benzo (k) fluoranthene	14.20	252	1181491	80.85549 ppb		99
91) Benzo (a) pyrene	14.55	252	1285658	90.41717 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.12	276	1442533	87.85498 ppb		97
93) Dibenz (a,h) anthracene	16.13	278	1210270	87.31182 ppb		96
94) Benzo (g,h,i) perylene	16.56	276	1254551	90.50505 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

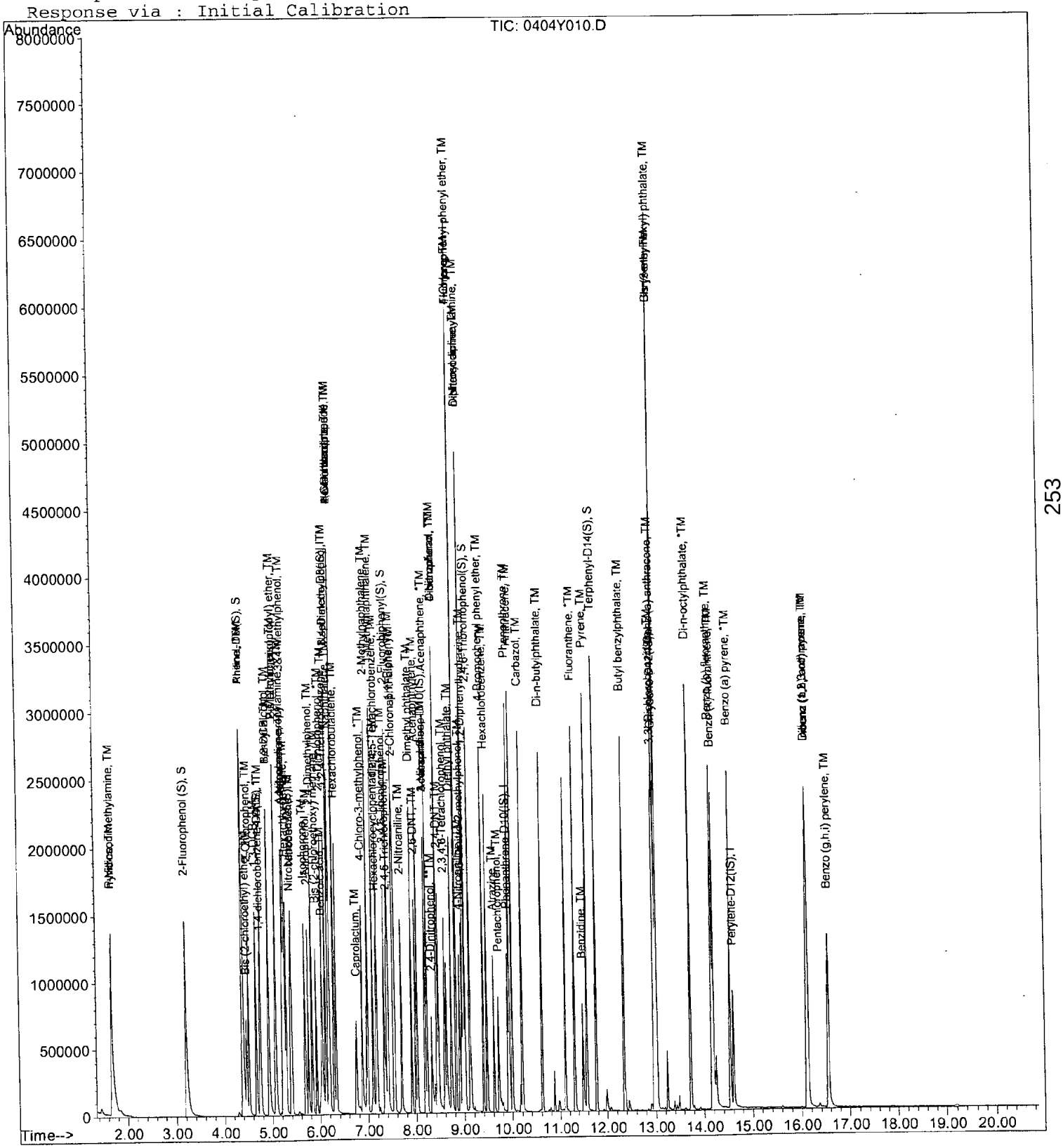
Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



253

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	n-Nitrosodimethylamine	1.429	1.612	13	TM		
2	TM	Pyridine	2.529	2.957	17	TM		
3	*TM	Phenol	1.870	2.056	9.9	*TM		
4	TM	Aniline	1.760	1.636	7.0	TM		
5	TM	Bis (2-chloroethyl) ether	0.8896	0.8927	0.35	TM		
6	TM	2-Chlorophenol	1.477	1.565	6.0	TM		
7	TM	1,3-DCB	1.569	1.646	4.9	TM		
8	*TM	1,4-DCB	1.607	1.664	3.6	*TM		
9	TM	Benzyl alcohol	0.8564	0.8902	4.0	TM		
10	TM	1,2-DCB	1.452	1.502	3.4	TM		
11	TM	2-Methylphenol	1.112	1.136	2.1	TM		
12	TM	Bis (2-chloroisopropyl) ether	1.904	1.998	4.9	TM		
13	TM	Acetophenone	1.923	1.982	3.1	TM		
14	TM	3&4-Methylphenol	1.414	1.482	4.8	TM		
15	**TM	n-Nitrosodi-n-propylamine	1.045	1.078	3.2	**TM		
16	TM	Hexachloroethane	0.6670	0.6967	4.4	TM		
17	TM	Nitrobenzene	0.4137	0.4409	6.6	TM		
18	TM	Isophorone	0.6798	0.7388	8.7	TM		
19	*TM	2-Nitrophenol	0.1993	0.2258	13	*TM		
20	TM	2,4-Dimethylphenol	0.3165	0.3438	8.6	TM		
21	TML	Benzoic acid	0.2240	0.2805	25	TML	7.4	
22	TM	Bis (2-chloroethoxy) methane	0.3964	0.4144	4.5	TM		
23	*TM	2,4-Dichlorophenol	0.3065	0.3284	7.1	*TM		
24	TM	1,2,4-Trichlorobenzene	0.3311	0.3510	6.0	TM		
25	TM	3,4-Dimethylphenol	0.4622	0.4752	2.8	TM		
26	TM	Naphthalene	1.039	1.067	2.7	TM		
27	TM	4-Chloroaniline	0.3483	0.3509	0.74	TM		A
28	TM	2,6-Dichlorophenol	0.2698	0.2767	2.5	TM		
29	TM	Hexachloropropene	0.2442	0.2524	3.4	TM		
30	*TM	Hexachlorobutadiene	0.2032	0.1992	2.0	*TM		
31	TM	Caprolactum	0.1683	0.1798	6.8	TM		
32	*TM	4-Chloro-3-methylphenol	0.3338	0.3341	0.08	*TM		
33	TM	2-Methylnaphthalene	0.7207	0.6858	4.8	TM		
34	TM	1-Methylnaphthalene	0.6955	0.7068	1.6	TM		
35	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2183	32	**TMQ	6.8	
36	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5492	2.2	TM		
37	*TM	2,4,6-Trichlorophenol	0.3558	0.3563	0.14	*TM		
38	TM	2,4,5-Trichlorophenol	0.3693	0.3804	3.0	TM		
39	TM	1,1'-Biphenyl	1.472	1.422	3.4	TM		
40	TM	2-Chloronaphthalene	1.149	1.112	3.2	TM		
		Average			6.1			

A Reported from 0404Y015

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Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.3983	0.4157	4.4	TM	
42	TM	Dimethyl phthalate	1.375	1.494	8.7	TM	
43	TM	2,6-DNT	0.3162	0.3525	11	TM	
44	TM	Acenaphthylene	1.816	1.958	7.8	TM	
45	TM	3-Nitroaniline	0.3251	0.3260	0.26	TM	
46	*TM	Acenaphthene	1.108	1.143	3.2	*TM	
47	**TML	2,4-Dinitrophenol	0.1445	0.1640	14	**TML	11
48	**TML	4-Nitrophenol	0.2008	0.2649	32	**TML	0.49
49	TM	Dibenzofuran	1.550	1.713	11	TM	
50	TM	2,4-DNT	0.4215	0.4693	11	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3332	11	TM	
52	TM	Diethyl phthalate	1.406	1.413	0.53	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6132	0.5869	4.3	TM	
54	TM	Fluorene	1.248	1.206	3.4	TM	
55	TM	4-Nitroaniline	0.3140	0.3112	0.90	TM	
56	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1727	35	TMQ	19
57	TM	Diphenyl amine	0.5231	0.5931	13	TM	
58	*TM	n-Nitrosodiphenylamine	0.5231	0.5931	13	*TM	
59	TM	1,2-Diphenylhydrazine	0.8832	0.9113	3.2	TM	
60	TM	4-Bromophenyl phenyl ether	0.1959	0.2267	16	TM	
61	TM	Hexachlorobenzene	0.1990	0.2361	19	TM	
62	TM	Atrazine	0.2108	0.2358	12	TM	
63	*TM	Pentachlorophenol	0.0841	0.0992	18	*TM	
64	TM	Phenanthrene	1.028	1.121	9.0	TM	
65	TM	Anthracene	1.085	1.162	7.1	TM	
66	TM	Carbazol	0.9564	1.038	8.5	TM	
67	TM	Di-n-butylphthalate	1.244	1.345	8.1	TM	
68	*TM	Fluoranthene	1.133	1.218	7.5	*TM	
69	TM	Benzidine	0.3534	0.3818	8.0	TM	
70	TM	Pyrene	1.233	1.318	6.9	TM	
71	TM	Butyl benzylphthalate	0.5992	0.6398	6.8	TM	
72	TM	3,3'-Dichlorobenzidine	0.3883	0.3286	15	TM	
73	TM	Benz (a) anthracene	1.153	1.190	3.3	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8555	1.9	TM	
75	TM	Chrysene	1.129	1.105	2.1	TM	
76	*TM	Di-n-octylphthalate	1.476	1.573	6.6	*TM	
77	TM	Benzo (b) fluoranthene	1.340	1.260	6.0	TM	
78	TM	Benzo (k) fluoranthene	1.267	1.349	6.4	TM	
79	*TM	Benzo (a) pyrene	1.233	1.271	3.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.424	1.700	19	TM	
		Average			9.4		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.202	1.445	20	TM	
82	TM	Benzo (g,h,i) perylene	1.202	1.417	18	TM	
83							
84							
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115							
116							
117							
118							
119							
120							
		Average			19.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	452627	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	486812	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.29	82	40784	8.70340 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.703%	
45) 2-Fluorobiphenyl(S)	7.40	172	238	0.02679 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Algorithm = $\frac{241922 \times 40 \times 1}{120035 \times 1.429}$ = 56.4 HAK/17

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	241922	56.43464 ppb		96
3) Pyridine	1.67	79	443637	58.44606 ppb		100
6) Phenol	4.39	94	308453	54.97098 ppb		93
7) Aniline	4.39	66	245433	46.48002 ppb	#	70
8) Bis (2-chloroethyl) ether	4.45	63	133941	50.17262 ppb		91
9) 2-Chlorophenol	4.51	128	234860	52.99416 ppb		96
10) 1,3-DCB	4.67	146	247023	52.47020 ppb		98
11) 1,4-DCB	4.75	146	249719	51.78186 ppb		96
12) Benzyl alcohol	4.92	108	133576	51.97868 ppb		97
13) 1,2-DCB	4.92	146	225378	51.71795 ppb		97
14) 2-Methylphenol	5.07	107	170474	51.06643 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	299806	52.46308 ppb		89
16) Acetophenone	5.21	105	297375	51.52529 ppb		99
17) 3&4-Methylphenol	5.24	107	444636	104.75255 ppb		97
18) n-Nitrosodi-n-propylamine	5.21	70	161808	51.59694 ppb		95
19) Hexachloroethane	5.29	117	104538	52.22443 ppb		97
22) Nitrobenzene	5.39	77	249471	53.29065 ppb		100
23) Isophorone	5.67	82	418017	54.33997 ppb		94
24) 2-Nitrophenol	5.75	139	127740	56.64930 ppb		94
25) 2,4-Dimethylphenol	5.83	122	194532	54.31280 ppb		95
26) Benzoic acid	6.01	105	158675	53.68314 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	234458	52.27113 ppb		98
28) 2,4-Dichlorophenol	6.04	162	185791	53.56514 ppb		93
29) 1,2,4-Trichlorobenzene	6.12	180	198600	53.01496 ppb		97
30) 3,4-Dimethylphenol	6.17	107	268885	51.41373 ppb		98
31) Naphthalene	6.19	128	603632	51.34257 ppb		98
32) 4-Chloroaniline	6.28	127	123406	31.31307 ppb		95
33) 2,6-Dichlorophenol	6.28	162	156543	51.26639 ppb		96
34) Hexachloropropene	6.29	213	142819	51.67717 ppb		97
35) Hexachlorobutadiene	6.34	225	112688	49.01098 ppb		98
36) Caprolactum	6.72	55	101712	53.42298 ppb		98
37) 4-Chloro-3-methylphenol	6.87	107	189004	50.04113 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	388003	47.57507 ppb		99
39) 1-Methylnaphthalene	7.10	142	399917	50.81640 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	77313	53.38262 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194514	51.07973 ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	126168	50.06948 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	134723	51.51132 ppb		96
46) 1,1'-Biphenyl	7.53	154	503749	48.32116 ppb		97
47) 2-Chloronaphthalene	7.54	162	393986	48.40777 ppb		95
48) 2-Nitroaniline	7.69	65	147234	52.19384 ppb		97
49) Dimethyl phthalate	7.90	163	529217	54.34038 ppb		100
50) 2,6-DNT	7.98	165	124830	55.73189 ppb		93
51) Acenaphthylene	8.02	152	693256	53.90348 ppb		100
52) 3-Nitroaniline	8.18	138	115439	50.13114 ppb		98
53) Acenaphthene	8.22	154	404948	51.59393 ppb		99
54) 2,4-Dinitrophenol	8.32	184	58078	44.52844 ppb		89
55) 4-Nitrophenol	8.44	65	93819	49.75668 ppb	#	1
56) Dibenzofuran	8.43	168	606686	55.25179 ppb		96
57) 2,4-DNT	8.45	165	166211	55.67887 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	118000	55.45970 ppb		97
59) Diethyl phthalate	8.71	149	500470	50.26586 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	207849	47.85734 ppb		95
61) Fluorene	8.82	166	427114	48.30413 ppb		94
62) 4-Nitroaniline	8.89	138	110209	49.55114 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	105208	59.28300 ppb		98
66) Diphenyl amine	8.97	169	722641	113.38251 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	722641	113.38251 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	555203	51.59231 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	138094	57.83986 ppb		98
70) Hexachlorobenzene	9.47	284	143817	59.31356 ppb		99
71) Atrazine	9.62	200	71826	27.96794 ppb		97
72) Pentachlorophenol	9.72	266	60457	58.99127 ppb		97
73) Phenanthrene	9.93	178	682951	54.49644 ppb		99
74) Anthracene	10.00	178	707886	53.54703 ppb		100
75) Carbazol	10.20	167	632165	54.24525 ppb		96
76) Di-n-butylphthalate	10.61	149	819498	54.07071 ppb		97
77) Fluoranthene	11.31	202	742007	53.76201 ppb		100
79) Benzidine	11.50	184	232343	54.02483 ppb		98
80) Pyrene	11.57	202	802008	53.43367 ppb		98
82) Butyl benzylphthalate	12.34	149	389326	53.39180 ppb	#	75
83) 3,3'-Dichlorobenzidine	12.96	252	199964	42.31787 ppb	#	96
84) Benz (a) anthracene	12.98	228	724356	51.62655 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	520567	50.93708 ppb		96
86) Chrysene	13.01	228	672225	48.94046 ppb		99
87) Di-n-octylphthalate	13.73	149	957326	53.27779 ppb		95
89) Benzo (b) fluoranthene	14.16	252	734897	47.00114 ppb		96
90) Benzo (k) fluoranthene	14.19	252	786807	53.22401 ppb		99
91) Benzo (a) pyrene	14.54	252	741585	51.55214 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	992130	59.72684 ppb		98
93) Dibenz (a,h) anthracene	16.12	278	843126	60.12340 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	826517	58.93816 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

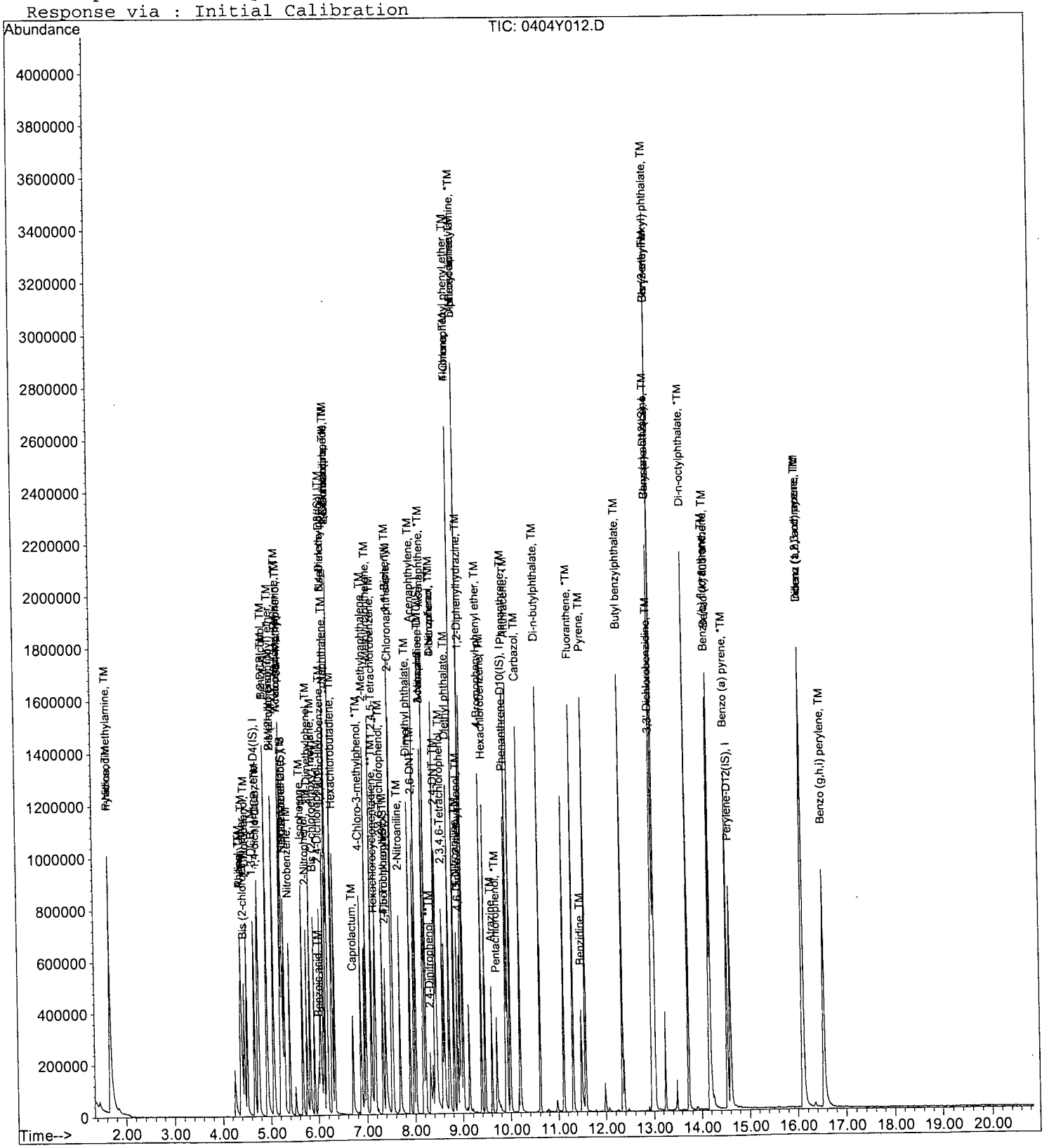
Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104120	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	448907	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	252014	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	454389	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	452215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453788	40.00000 ppb	0.00

System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	0.00	82	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
45) 2-Fluorobiphenyl(S)	0.00	172	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Target Compounds					Qvalue
32) 4-Chloroaniline	6.28	127	196879	50.37010 ppb	94

(#) = qualifier out of range (m) = manual integration
0404Y015.D Y0404.M Wed Apr 05 13:21:29 2017

Quantitation Report

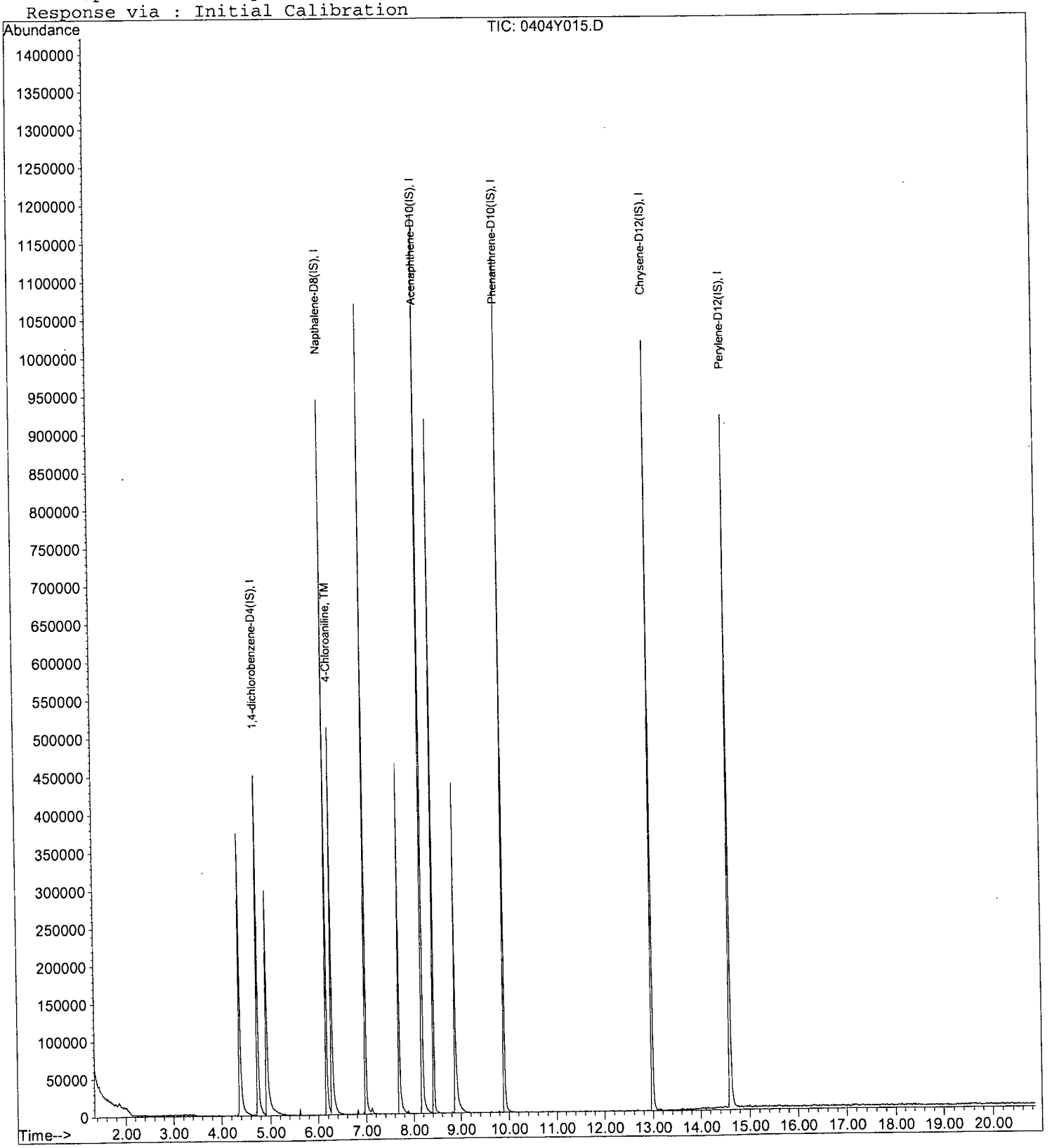
Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.444	1.1	TM	
3	S	2-Fluorophenol (S)	1.286	1.314	2.2	S	
4	S	Phenol-D6 (S)	1.610	1.513	6.0	S	
5	*TM	Phenol	1.870	1.846	1.3	*TM	
6	TM	Aniline	1.760	1.749	0.58	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8391	5.7	TM	
8	TM	2-Chlorophenol	1.477	1.452	1.7	TM	
9	TM	1,3-DCB	1.569	1.517	3.3	TM	
10	*TM	1,4-DCB	1.607	1.533	4.6	*TM	
11	TM	Benzyl alcohol	0.8564	0.8407	1.8	TM	
12	TM	1,2-DCB	1.452	1.418	2.4	TM	
13	TM	2-Methylphenol	1.112	1.058	4.9	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.839	3.4	TM	
15	TM	Acetophenone	1.923	1.876	2.5	TM	
16	TM	3&4-Methylphenol	1.414	1.394	1.4	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.024	2.0	**TM	
18	TM	Hexachloroethane	0.6670	0.6624	0.70	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.4013	3.1	S	
21	TM	Nitrobenzene	0.4137	0.4006	3.2	TM	
22	TM	Isophorone	0.6798	0.6643	2.3	TM	
23	*TM	2-Nitrophenol	0.1993	0.2012	0.96	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3084	2.6	TM	
25	TML	Benzoic acid	0.2240	0.2517	12	TML	3.0
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3944	0.49	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3018	1.5	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3232	2.4	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4463	3.4	TM	
30	TM	Naphthalene	1.039	1.011	2.7	TM	
31	TM	4-Chloroaniline	0.3483	0.3353	3.7	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2483	8.0	TM	
33	TM	Hexachloropropene	0.2442	0.2323	4.9	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1891	6.9	*TM	
35	TM	Caprolactum	0.1683	0.1662	1.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3282	1.7	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6912	4.1	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6721	3.4	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2025	23	**TMQ	1.1
		Average			3.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.4857	9.7	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3355	5.7	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3510	5.0	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.151	8.2	S	
45	TM	1,1'-Biphenyl	1.472	1.348	8.4	TM	
46	TM	2-Chloronaphthalene	1.149	1.070	6.9	TM	
47	TM	2-Nitroaniline	0.3983	0.3947	0.89	TM	
48	TM	Dimethyl phthalate	1.375	1.280	6.9	TM	
49	TM	2,6-DNT	0.3162	0.3080	2.6	TM	
50	TM	Acenaphthylene	1.816	1.705	6.1	TM	
51	TM	3-Nitroaniline	0.3251	0.3188	1.9	TM	
52	*TM	Acenaphthene	1.108	1.039	6.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1750	21	**TML	6.1
54	**TML	4-Nitrophenol	0.2008	0.2549	27	**TML	3.7
55	TM	Dibenzofuran	1.550	1.497	3.4	TM	
56	TM	2,4-DNT	0.4215	0.4185	0.70	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2975	0.97	TM	
58	TM	Diethyl phthalate	1.406	1.316	6.4	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5415	12	TM	
60	TM	Fluorene	1.248	1.086	13	TM	
61	TM	4-Nitroaniline	0.3140	0.3097	1.4	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1662	7.3	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1444	13	TMQ	0.90
65	TM	Diphenyl amine	0.5231	0.4912	6.1	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4912	6.1	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9776	11	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1952	0.37	TM	
69	TM	Hexachlorobenzene	0.1990	0.1985	0.25	TM	
70	TM	Atrazine	0.2108	0.2123	0.71	TM	
71	*TM	Pentachlorophenol	0.0841	0.0978	16	*TM	
72	TM	Phenanthrene	1.028	1.010	1.8	TM	
73	TM	Anthracene	1.085	1.072	1.2	TM	
74	TM	Carbazol	0.9564	0.9570	0.06	TM	
75	TM	Di-n-butylphthalate	1.244	1.244	0.02	TM	
76	*TM	Fluoranthene	1.133	1.110	2.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3367	4.7	TM	
79	TM	Pyrene	1.233	1.223	0.82	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8200	3.0	S	
		Average			6.0		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.5990	0.02	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3758	3.2	TM	
83	TM	Benz (a) anthracene	1.153	1.101	4.5	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8403	0.07	TM	
85	TM	Chrysene	1.129	1.071	5.1	TM	
86	*TM	Di-n-octylphthalate	1.476	1.458	1.2	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.237	7.7	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.218	3.8	TM	
90	*TM	Benzo (a) pyrene	1.233	1.174	4.8	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.319	7.3	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.130	6.0	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.134	5.6	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.1		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	135139	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	551655	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	344147	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	623714	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	612103	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	581377	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	443969	102.15233 ppb	0.00
Spiked Amount 200.000			Recovery = 51.076%		
5) Phenol-D6 (S)	4.37	99	511134	93.95211 ppb	0.00
Spiked Amount 200.000			Recovery = 46.976%		
21) Nitrobenzene-D5(S)	5.37	82	276724	48.45281 ppb	0.00
Spiked Amount 100.000			Recovery = 48.453%		
45) 2-Fluorobiphenyl(S)	7.42	172	495310	45.90268 ppb	0.00
Spiked Amount 100.000			Recovery = 45.903%		
63) 2,4,6-Tribromophenol(S)	9.12	330	142993	92.70728 ppb	0.00
Spiked Amount 200.000			Recovery = 46.354%		
81) Terphenyl-D14(S)	11.77	244	627441	48.48932 ppb	0.00
Spiked Amount 100.000			Recovery = 48.489%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	243901	50.53720 ppb	89
6) Phenol	4.39	94	311905	49.37351 ppb	97
7) Aniline	4.39	66	295507	49.70823 ppb #	60
8) Bis (2-chloroethyl) ether	4.46	63	141746	47.16189 ppb	99
9) 2-Chlorophenol	4.51	128	245199	49.14336 ppb	94
10) 1,3-DCB	4.67	146	256238	48.34439 ppb	100
11) 1,4-DCB	4.75	146	258935	47.69184 ppb	95
12) Benzyl alcohol	4.93	108	142009	49.08400 ppb	87
13) 1,2-DCB	4.92	146	239499	48.81583 ppb	99
14) 2-Methylphenol	5.07	107	178682	47.54286 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	310712	48.29462 ppb	94
16) Acetophenone	5.21	105	316921	48.77465 ppb	97
17) 3&4-Methylphenol	5.24	107	471062	98.57465 ppb	95
18) n-Nitrosodi-n-propylamine	5.22	70	172924	48.97861 ppb	85
19) Hexachloroethane	5.29	117	111888	49.64897 ppb	97
22) Nitrobenzene	5.39	77	276264	48.42038 ppb	99
23) Isophorone	5.67	82	458071	48.85749 ppb	95
24) 2-Nitrophenol	5.75	139	138732	50.47975 ppb	94
25) 2,4-Dimethylphenol	5.83	122	212684	48.72129 ppb	97
26) Benzoic acid	6.02	105	173559	48.49471 ppb	94
27) Bis (2-chloroethoxy) metha	5.92	93	271990	49.75338 ppb	98
28) 2,4-Dichlorophenol	6.04	162	208112	49.22975 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	222837	48.80670 ppb	96
30) 3,4-Dimethylphenol	6.16	107	307747	48.28133 ppb	92
31) Naphthalene	6.19	128	697082	48.64767 ppb	99
32) 4-Chloroaniline	6.28	127	231220	48.13796 ppb	96
33) 2,6-Dichlorophenol	6.28	162	171202	46.00244 ppb	97
34) Hexachloropropene	6.29	213	160197	47.55980 ppb	98
35) Hexachlorobutadiene	6.33	225	130385	46.52820 ppb	100
36) Caprolactum	6.72	55	114589	49.38235 ppb	96
37) 4-Chloro-3-methylphenol	6.87	107	226302	49.16062 ppb	98
38) 2-Methylnaphthalene	6.99	142	476640	47.95211 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	463448	48.31789 ppb		98
41) Hexachlorocyclopentadiene	7.17	237	87099	50.57414 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	208956	45.17356 ppb		96
43) 2,4,6-Trichlorophenol	7.33	196	144323	47.15102 ppb		98
44) 2,4,5-Trichlorophenol	7.39	196	150982	47.52453 ppb		91
46) 1,1'-Biphenyl	7.53	154	579966	45.79915 ppb		97
47) 2-Chloronaphthalene	7.55	162	460167	46.54590 ppb		94
48) 2-Nitroaniline	7.70	65	169806	49.55596 ppb		95
49) Dimethyl phthalate	7.90	163	550543	46.53844 ppb		99
50) 2,6-DNT	7.98	165	132516	48.70627 ppb		95
51) Acenaphthylene	8.02	152	733328	46.94109 ppb		99
52) 3-Nitroaniline	8.18	138	137149	49.03197 ppb	#	98
53) Acenaphthene	8.22	154	447128	46.89893 ppb		99
54) 2,4-Dinitrophenol	8.33	184	75276	46.97020 ppb		90
55) 4-Nitrophenol	8.43	65	109648	48.14581 ppb	#	1
56) Dibenzofuran	8.42	168	643889	48.27532 ppb		100
57) 2,4-DNT	8.46	165	180037	49.65055 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	127964	49.51252 ppb	#	89
59) Diethyl phthalate	8.72	149	566121	46.80972 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	232941	44.15483 ppb		98
61) Fluorene	8.82	166	467305	43.50835 ppb		97
62) 4-Nitroaniline	8.89	138	133215	49.30845 ppb		88
65) 4,6-Dinitro-2-methylphenol	8.94	198	112554	49.55184 ppb		87
66) Diphenyl amine	8.98	169	765864	93.90149 ppb		98
67) n-Nitrosodiphenylamine	8.98	169	765864	93.90149 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	762145	55.34369 ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	152201	49.81582 ppb		94
70) Hexachlorobenzene	9.47	284	154760	49.87695 ppb		92
71) Atrazine	9.61	200	82740	25.17629 ppb		97
72) Pentachlorophenol	9.71	266	76275	58.15951 ppb		98
73) Phenanthrene	9.93	178	787525	49.10664 ppb		100
74) Anthracene	10.00	178	835787	49.40434 ppb		99
75) Carbazol	10.20	167	746119	50.03072 ppb		98
76) Di-n-butylphthalate	10.61	149	969545	49.98958 ppb		98
77) Fluoranthene	11.32	202	865546	49.00665 ppb		98
79) Benzidine	11.49	184	257599	47.63704 ppb		98
80) Pyrene	11.58	202	935839	49.58773 ppb		100
82) Butyl benzylphthalate	12.35	149	458347	49.99106 ppb		84
83) 3,3'-Dichlorobenzidine	12.96	252	287536	48.39505 ppb	#	94
84) Benz (a) anthracene	12.98	228	842170	47.73727 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	642952	50.03487 ppb		96
86) Chrysene	13.01	228	819648	47.45889 ppb		99
87) Di-n-octylphthalate	13.73	149	1115707	49.38252 ppb		97
89) Benzo (b) fluoranthene	14.17	252	898867	46.15342 ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	885368	48.08279 ppb		100
91) Benzo (a) pyrene	14.54	252	853150	47.61433 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	958635	46.33196 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	821166	47.01198 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	824440	47.19873 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

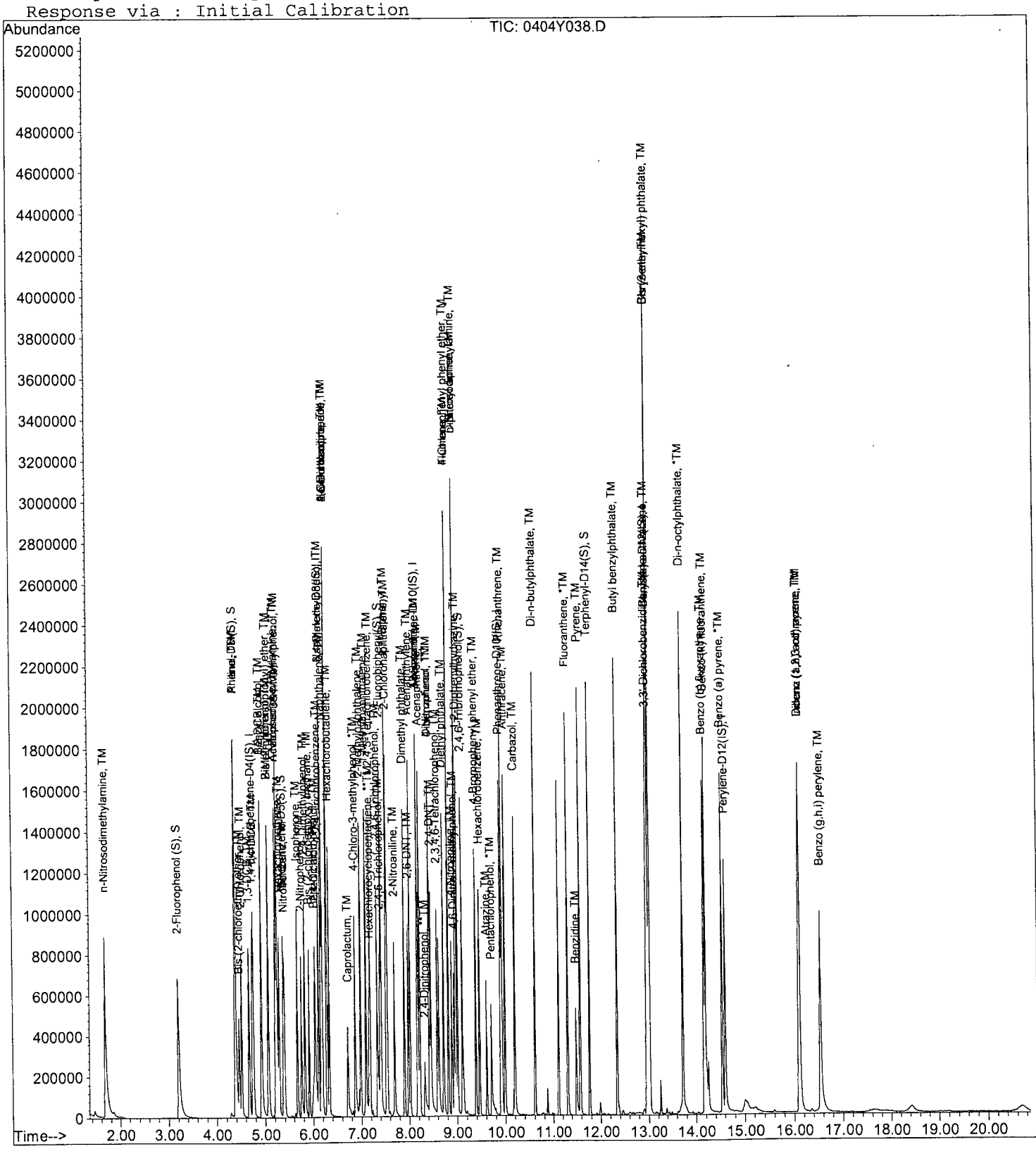
Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.540	7.8	TM	
3	S	2-Fluorophenol (S)	1.286	1.162	9.6	S	
4	S	Phenol-D6 (S)	1.610	1.517	5.8	S	
5	*TM	Phenol	1.870	1.908	2.0	*TM	
6	TM	Aniline	1.760	1.809	2.8	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8804	1.0	TM	
8	TM	2-Chlorophenol	1.477	1.430	3.2	TM	
9	TM	1,3-DCB	1.569	1.554	0.95	TM	
10	*TM	1,4-DCB	1.607	1.591	1.0	*TM	
11	TM	Benzyl alcohol	0.8564	0.8805	2.8	TM	
12	TM	1,2-DCB	1.452	1.499	3.2	TM	
13	TM	2-Methylphenol	1.112	1.103	0.87	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.927	1.2	TM	
15	TM	Acetophenone	1.923	2.070	7.6	TM	
16	TM	3&4-Methylphenol	1.414	1.564	11	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.124	7.5	**TM	
18	TM	Hexachloroethane	0.6670	0.7095	6.4	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.3987	3.7	S	
21	TM	Nitrobenzene	0.4137	0.4015	3.0	TM	
22	TM	Isophorone	0.6798	0.6748	0.73	TM	
23	*TM	2-Nitrophenol	0.1993	0.2000	0.37	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3157	0.27	TM	
25	TML	Benzoic acid	0.2240	0.2438	8.9	TML	5.9
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3795	4.3	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3109	1.4	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3158	4.6	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4430	4.1	TM	
30	TM	Naphthalene	1.039	1.009	2.9	TM	
31	TM	4-Chloroaniline	0.3483	0.3430	1.5	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2500	7.3	TM	
33	TM	Hexachloropropene	0.2442	0.2229	8.7	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1860	8.5	*TM	
35	TM	Caprolactum	0.1683	0.1590	5.5	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.2974	11	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6296	13	TM	
38	TM	1-Methylnaphthalene	0.6955	0.5881	15	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1630	1.1	**TMQ	13
		Average			4.9		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5001	7.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3314	6.9	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3476	5.9	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.156	7.8	S	
45	TM	1,1'-Biphenyl	1.472	1.401	4.8	TM	
46	TM	2-Chloronaphthalene	1.149	1.107	3.7	TM	
47	TM	2-Nitroaniline	0.3983	0.3961	0.54	TM	
48	TM	Dimethyl phthalate	1.375	1.298	5.6	TM	
49	TM	2,6-DNT	0.3162	0.2945	6.9	TM	
50	TM	Acenaphthylene	1.816	1.689	7.0	TM	
51	TM	3-Nitroaniline	0.3251	0.3180	2.2	TM	
52	*TM	Acenaphthene	1.108	1.062	4.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1529	5.8	**TML	16
54	**TML	4-Nitrophenol	0.2008	0.2561	28	**TML	3.3
55	TM	Dibenzofuran	1.550	1.540	0.66	TM	
56	TM	2,4-DNT	0.4215	0.4251	0.85	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2833	5.7	TM	
58	TM	Diethyl phthalate	1.406	1.351	3.9	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5965	2.7	TM	
60	TM	Fluorene	1.248	1.222	2.1	TM	
61	TM	4-Nitroaniline	0.3140	0.3343	6.5	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1790	0.18	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1281	0.15	TMQ	12
65	TM	Diphenyl amine	0.5231	0.4672	11	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4672	11	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9603	8.7	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1906	2.7	TM	
69	TM	Hexachlorobenzene	0.1990	0.1895	4.8	TM	
70	TM	Atrazine	0.2108	0.2011	4.6	TM	
71	*TM	Pentachlorophenol	0.0841	0.0882	4.9	*TM	
72	TM	Phenanthrene	1.028	0.9692	5.8	TM	
73	TM	Anthracene	1.085	1.031	5.0	TM	
74	TM	Carbazol	0.9564	0.9613	0.51	TM	
75	TM	Di-n-butylphthalate	1.244	1.197	3.8	TM	
76	*TM	Fluoranthene	1.133	1.054	7.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3646	3.2	TM	
79	TM	Pyrene	1.233	1.257	1.9	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8341	1.4	S	
		Average			5.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Butyl benzylphthalate	0.5992	0.5904	1.5	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3925	1.1	TM	
83	TM	Benz (a) anthracene	1.153	1.121	2.7	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8246	1.8	TM	
85	TM	Chrysene	1.129	1.076	4.6	TM	
86	*TM	Di-n-octylphthalate	1.476	1.473	0.25	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.202	10	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.221	3.6	TM	
90	*TM	Benzo (a) pyrene	1.233	1.147	7.0	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.323	7.0	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.158	3.7	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.218	1.3	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	103117	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	454712	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	247658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	511779	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	468078	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454493	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	299646	90.35549 ppb	0.00
Spiked Amount 200.000			Recovery = 45.178%		
5) Phenol-D6 (S)	4.37	99	391092	94.21090 ppb	0.00
Spiked Amount 200.000			Recovery = 47.106%		
21) Nitrobenzene-D5(S)	5.38	82	226590	48.13312 ppb	0.00
Spiked Amount 100.000			Recovery = 48.133%		
45) 2-Fluorobiphenyl(S)	7.42	172	357986	46.10188 ppb	0.00
Spiked Amount 100.000			Recovery = 46.102%		
63) 2,4,6-Tribromophenol(S)	9.12	330	110800	99.82296 ppb	0.00
Spiked Amount 200.000			Recovery = 49.912%		
81) Terphenyl-D14(S)	11.77	244	488015	49.31882 ppb	0.00
Spiked Amount 100.000			Recovery = 49.319%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	198474	53.89539 ppb	91
6) Phenol	4.39	94	245926	51.01837 ppb	99
7) Aniline	4.39	66	233171	51.40265 ppb #	64
8) Bis (2-chloroethyl) ether	4.46	63	113477	49.48103 ppb	96
9) 2-Chlorophenol	4.51	128	184272	48.40118 ppb	93
10) 1,3-DCB	4.67	146	200286	49.52261 ppb	98
11) 1,4-DCB	4.75	146	205039	49.49259 ppb	100
12) Benzyl alcohol	4.93	108	113498	51.41179 ppb	86
13) 1,2-DCB	4.92	146	193178	51.60182 ppb	98
14) 2-Methylphenol	5.07	107	142137	49.56351 ppb	95
15) Bis (2-chloroisopropyl) et	5.06	45	248335	50.58585 ppb	89
16) Acetophenone	5.21	105	266780	53.80800 ppb	97
17) 3&4-Methylphenol	5.25	107	403266	110.59340 ppb	96
18) n-Nitrosodi-n-propylamine	5.22	70	144858	53.77050 ppb	91
19) Hexachloroethane	5.29	117	91456	53.18502 ppb	97
22) Nitrobenzene	5.40	77	228200	48.52334 ppb	88
23) Isophorone	5.67	82	383565	49.63277 ppb	93
24) 2-Nitrophenol	5.76	139	113683	50.18422 ppb	96
25) 2,4-Dimethylphenol	5.83	122	179433	49.86748 ppb	96
26) Benzoic acid	6.02	105	138574	47.07108 ppb	97
27) Bis (2-chloroethoxy) metha	5.92	93	215717	47.87240 ppb	99
28) 2,4-Dichlorophenol	6.04	162	176690	50.70766 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	179513	47.70009 ppb	97
30) 3,4-Dimethylphenol	6.16	107	251799	47.92593 ppb	95
31) Naphthalene	6.19	128	573501	48.55607 ppb	99
32) 4-Chloroaniline	6.29	127	194954	49.24085 ppb	95
33) 2,6-Dichlorophenol	6.29	162	142119	46.32925 ppb	98
34) Hexachloropropene	6.29	213	126712	45.63884 ppb	97
35) Hexachlorobutadiene	6.33	225	105700	45.76092 ppb	99
36) Caprolactum	6.71	55	90364	47.24495 ppb	99
37) 4-Chloro-3-methylphenol	6.87	107	169057	44.55468 ppb	99
38) 2-Methylnaphthalene	6.99	142	357871	43.67922 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	334267	42.27967	ppb		98
41) Hexachlorocyclopentadiene	7.17	237	50468	43.26972	ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	154829	46.51290	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	102580	46.57039	ppb		93
44) 2,4,5-Trichlorophenol	7.40	196	107593	47.06178	ppb		96
46) 1,1'-Biphenyl	7.53	154	433702	47.59244	ppb		99
47) 2-Chloronaphthalene	7.55	162	342656	48.16327	ppb		94
48) 2-Nitroaniline	7.70	65	122624	49.72903	ppb		92
49) Dimethyl phthalate	7.90	163	401742	47.19103	ppb		100
50) 2,6-DNT	7.98	165	91167	46.56352	ppb		95
51) Acenaphthylene	8.02	152	522884	46.51059	ppb		98
52) 3-Nitroaniline	8.18	138	98437	48.90314	ppb	#	97
53) Acenaphthene	8.23	154	328710	47.91104	ppb		99
54) 2,4-Dinitrophenol	8.33	184	47334	42.06456	ppb	#	73
55) 4-Nitrophenol	8.44	65	79292	48.34620	ppb	#	1
56) Dibenzofuran	8.42	168	476752	49.67047	ppb		99
57) 2,4-DNT	8.46	165	131584	50.42629	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	87715	47.16205	ppb	#	85
59) Diethyl phthalate	8.72	149	418091	48.03848	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	184671	48.64325	ppb		94
61) Fluorene	8.82	166	378197	48.93075	ppb		97
62) 4-Nitroaniline	8.89	138	103480	53.22508	ppb		92
65) 4,6-Dinitro-2-methylphenol	8.94	198	81953	44.09944	ppb		96
66) Diphenyl amine	8.98	169	597819	89.32923	ppb		98
67) n-Nitrosodiphenylamine	8.98	169	597819	89.32923	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	614353	54.36903	ppb		96
69) 4-Bromophenyl phenyl ether	9.40	248	121926	48.63503	ppb		92
70) Hexachlorobenzene	9.47	284	121247	47.62283	ppb		90
71) Atrazine	9.61	200	64330	23.85573	ppb		98
72) Pentachlorophenol	9.71	266	56442	52.44981	ppb		90
73) Phenanthrene	9.93	178	620021	47.11784	ppb		99
74) Anthracene	10.00	178	659633	47.51983	ppb		99
75) Carbazol	10.20	167	614991	50.25745	ppb		99
76) Di-n-butylphthalate	10.61	149	765613	48.10872	ppb		99
77) Fluoranthene	11.32	202	674201	46.52188	ppb		98
79) Benzidine	11.49	184	213342	51.59210	ppb		98
80) Pyrene	11.58	202	735652	50.97436	ppb		100
82) Butyl benzylphthalate	12.35	149	345429	49.26778	ppb		84
83) 3,3'-Dichlorobenzidine	12.96	252	229671	50.55000	ppb	#	93
84) Benz (a) anthracene	12.98	228	656160	48.63779	ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	482480	49.09981	ppb		99
86) Chrysene	13.02	228	629718	47.68069	ppb		99
87) Di-n-octylphthalate	13.73	149	861726	49.87680	ppb		99
89) Benzo (b) fluoranthene	14.17	252	682610	44.83444	ppb	#	94
90) Benzo (k) fluoranthene	14.19	252	693872	48.20320	ppb		99
91) Benzo (a) pyrene	14.54	252	651562	46.51560	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.11	276	751780	46.47815	ppb		97
93) Dibenz (a,h) anthracene	16.12	278	657813	48.17377	ppb		99
94) Benzo (g,h,i) perylene	16.54	276	691720	50.65616	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

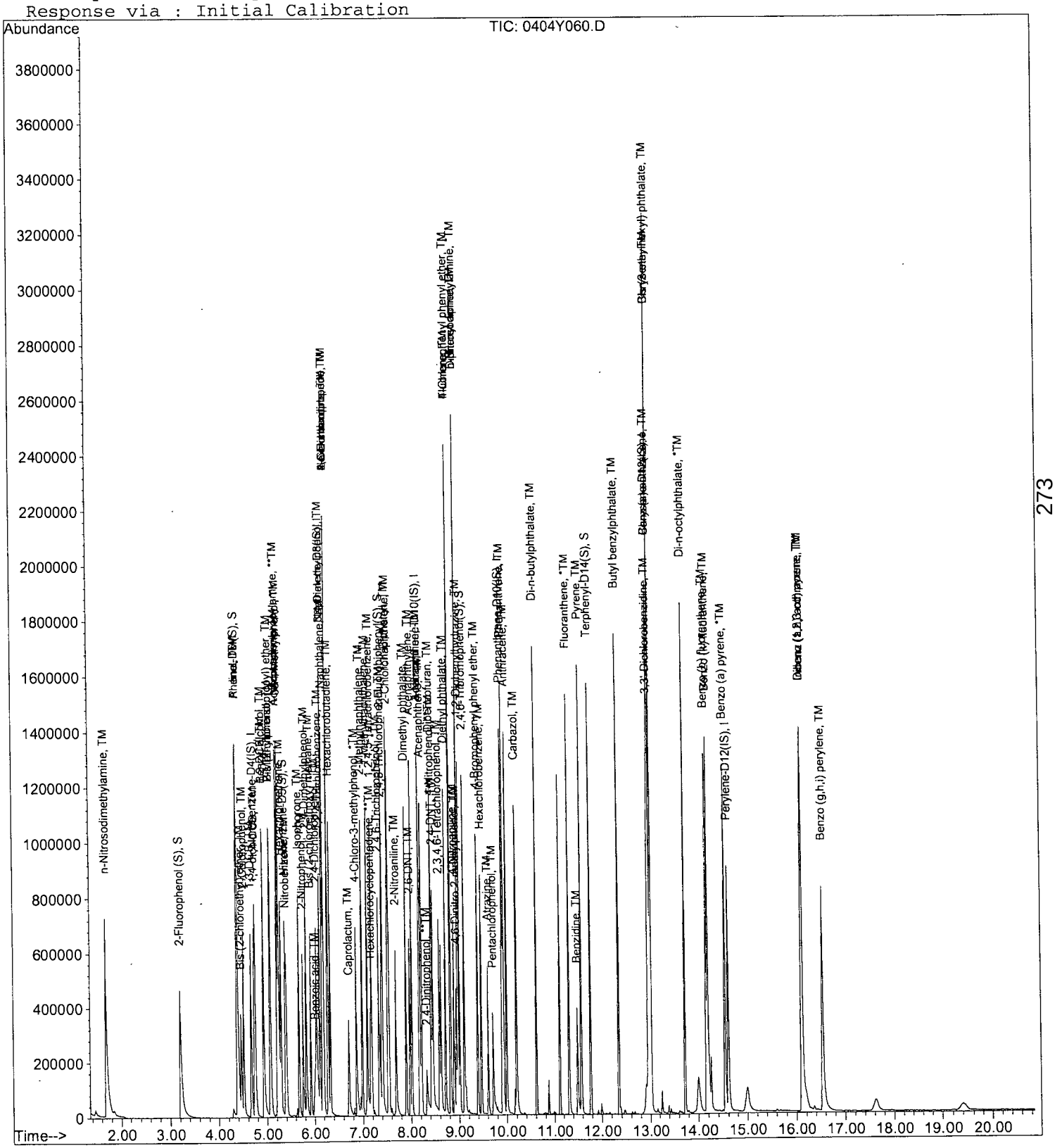
Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



273

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y063.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.553	8.7	TM	
3	S	2-Fluorophenol (S)	1.286	1.205	6.4	S	
4	S	Phenol-D6 (S)	1.610	1.456	9.6	S	
5	*TM	Phenol	1.870	1.724	7.8	*TM	
6	TM	Aniline	1.760	1.673	4.9	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8265	7.1	TM	
8	TM	2-Chlorophenol	1.477	1.334	9.6	TM	
9	TM	1,3-DCB	1.569	1.504	4.1	TM	
10	*TM	1,4-DCB	1.607	1.543	4.0	*TM	
11	TM	Benzyl alcohol	0.8564	0.8276	3.4	TM	
12	TM	1,2-DCB	1.452	1.403	3.4	TM	
13	TM	2-Methylphenol	1.112	1.081	2.8	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.880	1.3	TM	
15	TM	Acetophenone	1.923	1.869	2.8	TM	
16	TM	3&4-Methylphenol	1.414	1.414	0.03	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.027	1.7	**TM	
18	TM	Hexachloroethane	0.6670	0.6500	2.6	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.3964	4.3	S	
21	TM	Nitrobenzene	0.4137	0.4008	3.1	TM	
22	TM	Isophorone	0.6798	0.6522	4.1	TM	
23	*TM	2-Nitrophenol	0.1993	0.1983	0.49	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3118	1.5	TM	
25	TML	Benzoic acid	0.2240	0.2297	2.6	TML	11
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3867	2.4	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.2903	5.3	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3235	2.3	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4319	6.5	TM	
30	TM	Naphthalene	1.039	1.008	3.0	TM	
31	TM	4-Chloroaniline	0.3483	0.3699	6.2	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2440	9.6	TM	
33	TM	Hexachloropropene	0.2442	0.2257	7.6	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1925	5.3	*TM	
35	TM	Caprolactum	0.1683	0.1526	9.3	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3120	6.5	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6487	10.0	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6791	2.4	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1836	11	**TMQ	5.7
		Average			5.0		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y063.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5262	2.1	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3429	3.6	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3691	0.04	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.183	5.7	S	
45	TM	1,1'-Biphenyl	1.472	1.386	5.9	TM	
46	TM	2-Chloronaphthalene	1.149	1.097	4.5	TM	
47	TM	2-Nitroaniline	0.3983	0.3943	1.0	TM	
48	TM	Dimethyl phthalate	1.375	1.310	4.7	TM	
49	TM	2,6-DNT	0.3162	0.3079	2.6	TM	
50	TM	Acenaphthylene	1.816	1.710	5.8	TM	
51	TM	3-Nitroaniline	0.3251	0.3254	0.10	TM	
52	*TM	Acenaphthene	1.108	1.064	4.0	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1586	9.8	**TML	13
54	**TML	4-Nitrophenol	0.2008	0.2459	22	**TML	6.6
55	TM	Dibenzofuran	1.550	1.532	1.2	TM	
56	TM	2,4-DNT	0.4215	0.4308	2.2	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2973	1.0	TM	
58	TM	Diethyl phthalate	1.406	1.330	5.4	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5669	7.6	TM	
60	TM	Fluorene	1.248	1.149	8.0	TM	
61	TM	4-Nitroaniline	0.3140	0.3419	8.9	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1731	3.4	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1374	7.1	TMQ	5.6
65	TM	Diphenyl amine	0.5231	0.4834	7.6	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4834	7.6	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9409	6.5	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.2152	9.8	TM	
69	TM	Hexachlorobenzene	0.1990	0.2132	7.2	TM	
70	TM	Atrazine	0.2108	0.2223	5.5	TM	
71	*TM	Pentachlorophenol	0.0841	0.0890	5.8	*TM	
72	TM	Phenanthrene	1.028	1.022	0.62	TM	
73	TM	Anthracene	1.085	1.108	2.1	TM	
74	TM	Carbazol	0.9564	0.9443	1.3	TM	
75	TM	Di-n-butylphthalate	1.244	1.232	0.97	TM	
76	*TM	Fluoranthene	1.133	1.204	6.3	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.4202	19	TM	
79	TM	Pyrene	1.233	1.300	5.4	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8557	1.2	S	
		Average			5.4		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y063.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.5743	4.2	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.4101	5.6	TM	
83	TM	Benz (a) anthracene	1.153	1.096	4.9	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.7625	9.2	TM	
85	TM	Chrysene	1.129	1.013	10	TM	
86	*TM	Di-n-octylphthalate	1.476	1.448	1.9	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.185	12	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.152	9.1	TM	
90	*TM	Benzo (a) pyrene	1.233	1.172	4.9	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.180	17	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.032	14	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.024	15	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			9.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y063.D Vial: 63
Acq On : 11 Apr 17 10:10 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 10:23 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	114623	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	466094	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	262481	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	503195	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	494358	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	510987	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	345164	93.63324 ppb	0.00
Spiked Amount 200.000			Recovery = 46.817%		
5) Phenol-D6 (S)	4.37	99	417207	90.41329 ppb	0.00
Spiked Amount 200.000			Recovery = 45.207%		
21) Nitrobenzene-D5(S)	5.37	82	230934	47.85795 ppb	0.00
Spiked Amount 100.000			Recovery = 47.858%		
45) 2-Fluorobiphenyl(S)	7.41	172	388038	47.14996 ppb	0.00
Spiked Amount 100.000			Recovery = 47.150%		
63) 2,4,6-Tribromophenol(S)	9.11	330	113609	96.57349 ppb	0.00
Spiked Amount 200.000			Recovery = 48.287%		
81) Terphenyl-D14(S)	11.77	244	528748	50.59468 ppb	0.00
Spiked Amount 100.000			Recovery = 50.595%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	222443	54.34070 ppb	99
6) Phenol	4.39	94	246986	46.09491 ppb	97
7) Aniline	4.38	66	239728	47.54318 ppb	92
8) Bis (2-chloroethyl) ether	4.45	63	118425	46.45503 ppb	95
9) 2-Chlorophenol	4.51	128	191183	45.17564 ppb	94
10) 1,3-DCB	4.67	146	215459	47.92654 ppb	99
11) 1,4-DCB	4.75	146	221106	48.01343 ppb	95
12) Benzyl alcohol	4.93	108	118571	48.31828 ppb	87
13) 1,2-DCB	4.92	146	200957	48.29131 ppb	96
14) 2-Methylphenol	5.07	107	154912	48.59577 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	269379	49.36434 ppb	88
16) Acetophenone	5.21	105	267783	48.58868 ppb	99
17) 3&4-Methylphenol	5.24	107	405215	99.97274 ppb	93
18) n-Nitrosodi-n-propylamine	5.21	70	147169	49.14467 ppb	92
19) Hexachloroethane	5.29	117	93130	48.72201 ppb	95
22) Nitrobenzene	5.40	77	233532	48.44448 ppb	89
23) Isophorone	5.67	82	380000	47.97070 ppb	94
24) 2-Nitrophenol	5.75	139	115534	49.75588 ppb	96
25) 2,4-Dimethylphenol	5.83	122	181656	49.25245 ppb	96
26) Benzoic acid	6.01	105	133832	44.52865 ppb	93
27) Bis (2-chloroethoxy) metha	5.92	93	225296	48.77724 ppb	99
28) 2,4-Dichlorophenol	6.04	162	169143	47.35639 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	188467	48.85640 ppb	95
30) 3,4-Dimethylphenol	6.17	107	251646	46.72717 ppb	99
31) Naphthalene	6.19	128	586987	48.48426 ppb	100
32) 4-Chloroaniline	6.28	127	215529	53.10825 ppb	98
33) 2,6-Dichlorophenol	6.28	162	142186	45.21920 ppb	98
34) Hexachloropropene	6.29	213	131473	46.19727 ppb	96
35) Hexachlorobutadiene	6.34	225	112141	47.36386 ppb	97
36) Caprolactum	6.71	55	88916	45.35266 ppb	99
37) 4-Chloro-3-methylphenol	6.87	107	181748	46.72967 ppb	97
38) 2-Methylnaphthalene	6.99	142	377933	45.00141 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y063.D Vial: 63
Acq On : 11 Apr 17 10:10 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 10:23 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	395648	48.82137	ppb		99
41) Hexachlorocyclopentadiene	7.16	237	60243	47.14009	ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	172642	48.93527	ppb		98
43) 2,4,6-Trichlorophenol	7.33	196	112498	48.18884	ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	121103	49.97970	ppb		95
46) 1,1'-Biphenyl	7.53	154	454603	47.06882	ppb		98
47) 2-Chloronaphthalene	7.54	162	359946	47.73637	ppb		96
48) 2-Nitroaniline	7.69	65	129355	49.49624	ppb		99
49) Dimethyl phthalate	7.90	163	429797	47.63543	ppb		99
50) 2,6-DNT	7.98	165	101006	48.67543	ppb		96
51) Acenaphthylene	8.02	152	561137	47.09447	ppb		99
52) 3-Nitroaniline	8.18	138	106778	50.05121	ppb	#	96
53) Acenaphthene	8.22	154	348955	47.98955	ppb		100
54) 2,4-Dinitrophenol	8.32	184	52043	43.33460	ppb		89
55) 4-Nitrophenol	8.44	65	80665	46.69481	ppb	#	10
56) Dibenzofuran	8.43	168	502720	49.41814	ppb		93
57) 2,4-DNT	8.45	165	141356	51.11198	ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	97535	49.48047	ppb		99
59) Diethyl phthalate	8.71	149	436457	47.31669	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	185993	46.22480	ppb		99
61) Fluorene	8.82	166	376941	46.01418	ppb		98
62) 4-Nitroaniline	8.89	138	112175	54.43904	ppb		93
65) 4,6-Dinitro-2-methylphenol	8.94	198	86407	47.19530	ppb		92
66) Diphenyl amine	8.97	169	608123	92.41903	ppb		97
67) n-Nitrosodiphenylamine	8.97	169	608123	92.41903	ppb		97
68) 1,2-Diphenylhydrazine	9.01	77	591804	53.26692	ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	135374	54.92047	ppb		95
70) Hexachlorobenzene	9.47	284	134124	53.57927	ppb		93
71) Atrazine	9.62	200	69906	26.36573	ppb		98
72) Pentachlorophenol	9.72	266	55982	52.90980	ppb		97
73) Phenanthrene	9.93	178	642881	49.68848	ppb		99
74) Anthracene	10.00	178	697038	51.07109	ppb		100
75) Carbazol	10.20	167	593935	49.36473	ppb		98
76) Di-n-butylphthalate	10.61	149	774747	49.51315	ppb		98
77) Fluoranthene	11.31	202	757532	53.16367	ppb		99
79) Benzidine	11.50	184	259673	59.45800	ppb		95
80) Pyrene	11.57	202	803342	52.70557	ppb		99
82) Butyl benzylphthalate	12.34	149	354874	47.92422	ppb		86
83) 3,3'-Dichlorobenzidine	12.96	252	253445	52.81721	ppb	#	96
84) Benz (a) anthracene	12.98	228	677525	47.55170	ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	471176	45.40046	ppb		98
86) Chrysene	13.02	228	626239	44.89658	ppb		99
87) Di-n-octylphthalate	13.73	149	894992	49.04844	ppb		100
89) Benzo (b) fluoranthene	14.16	252	757123	44.23060	ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	735513	45.44690	ppb		98
91) Benzo (a) pyrene	14.54	252	748576	47.53310	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	753418	41.42966	ppb		98
93) Dibenz (a,h) anthracene	16.11	278	659150	42.93484	ppb		99
94) Benzo (g,h,i) perylene	16.54	276	654296	42.61805	ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

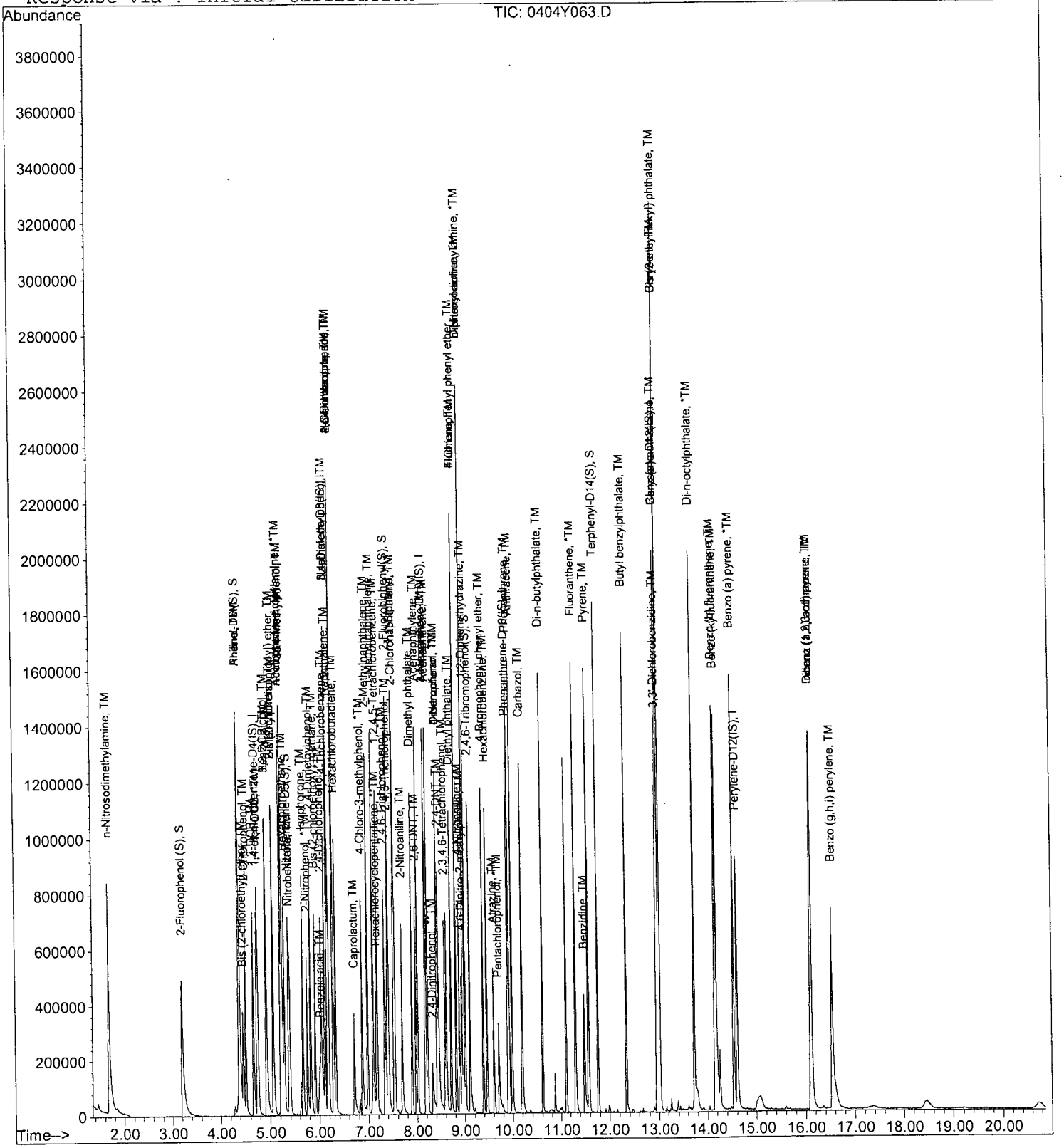
Data File : M:\YODA\DATA\Y170404\0404Y063.D
Acq On : 11 Apr 17 10:10
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 63
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 10:23 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y065.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.517	6.2	TM	
3	S	2-Fluorophenol (S)	1.286	1.351	5.0	S	
4	S	Phenol-D6 (S)	1.610	1.656	2.8	S	
5	*TM	Phenol	1.870	1.933	3.4	*TM	
6	TM	Aniline	1.760	1.778	1.0	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.9139	2.7	TM	
8	TM	2-Chlorophenol	1.477	1.543	4.5	TM	
9	TM	1,3-DCB	1.569	1.593	1.6	TM	
10	*TM	1,4-DCB	1.607	1.621	0.86	*TM	
11	TM	Benzyl alcohol	0.8564	0.8850	3.3	TM	
12	TM	1,2-DCB	1.452	1.504	3.5	TM	
13	TM	2-Methylphenol	1.112	1.092	1.9	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.923	1.00	TM	
15	TM	Acetophenone	1.923	1.980	3.0	TM	
16	TM	3&4-Methylphenol	1.414	1.440	1.8	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.042	0.27	**TM	
18	TM	Hexachloroethane	0.6670	0.6671	0.00	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.4240	2.4	S	
21	TM	Nitrobenzene	0.4137	0.4272	3.3	TM	
22	TM	Isophorone	0.6798	0.7062	3.9	TM	
23	*TM	2-Nitrophenol	0.1993	0.2126	6.7	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3316	4.8	TM	
25	TML	Benzoic acid	0.2240	0.2488	11	TML	4.1
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.4153	4.8	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3205	4.6	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3338	0.83	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4635	0.29	TM	
30	TM	Naphthalene	1.039	1.073	3.3	TM	
31	TM	4-Chloroaniline	0.3483	0.3581	2.8	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2654	1.7	TM	
33	TM	Hexachloropropene	0.2442	0.2319	5.1	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.2046	0.71	*TM	
35	TM	Caprolactum	0.1683	0.1648	2.0	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3229	3.3	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6924	3.9	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6688	3.8	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1918	16	**TMQ	2.7
		Average			3.5		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y065.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5367	0.17	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3675	3.3	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3794	2.7	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.220	2.8	S	
45	TM	1,1'-Biphenyl	1.472	1.466	0.43	TM	
46	TM	2-Chloronaphthalene	1.149	1.170	1.9	TM	
47	TM	2-Nitroaniline	0.3983	0.4098	2.9	TM	
48	TM	Dimethyl phthalate	1.375	1.386	0.81	TM	
49	TM	2,6-DNT	0.3162	0.3121	1.3	TM	
50	TM	Acenaphthylene	1.816	1.828	0.68	TM	
51	TM	3-Nitroaniline	0.3251	0.3492	7.4	TM	
52	*TM	Acenaphthene	1.108	1.107	0.11	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1664	15	**TML	9.9
54	**TML	4-Nitrophenol	0.2008	0.2611	30	**TML	1.7
55	TM	Dibenzofuran	1.550	1.571	1.3	TM	
56	TM	2,4-DNT	0.4215	0.4391	4.2	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2998	0.18	TM	
58	TM	Diethyl phthalate	1.406	1.379	1.9	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5596	8.7	TM	
60	TM	Fluorene	1.248	1.137	8.9	TM	
61	TM	4-Nitroaniline	0.3140	0.3074	2.1	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1645	8.3	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1469	15	TMQ	0.83
65	TM	Diphenyl amine	0.5231	0.5223	0.14	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.5223	0.14	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.8457	4.2	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1967	0.37	TM	
69	TM	Hexachlorobenzene	0.1990	0.2024	1.7	TM	
70	TM	Atrazine	0.2108	0.2280	8.2	TM	
71	*TM	Pentachlorophenol	0.0841	0.0924	9.9	*TM	
72	TM	Phenanthrene	1.028	1.031	0.22	TM	
73	TM	Anthracene	1.085	1.076	0.85	TM	
74	TM	Carbazol	0.9564	0.9691	1.3	TM	
75	TM	Di-n-butylphthalate	1.244	1.283	3.1	TM	
76	*TM	Fluoranthene	1.133	1.156	2.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3599	1.8	TM	
79	TM	Pyrene	1.233	1.247	1.1	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8343	1.3	S	
		Average			4.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/11/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y065.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.6247	4.3	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.4119	6.1	TM	
83	TM	Benz (a) anthracene	1.153	1.192	3.4	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8071	3.9	TM	
85	TM	Chrysene	1.129	1.107	1.9	TM	
86	*TM	Di-n-octylphthalate	1.476	1.498	1.5	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.463	9.2	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.093	14	TM	
90	*TM	Benzo (a) pyrene	1.233	1.251	1.5	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.353	4.9	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.155	3.9	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.145	4.8	TM	
94							
95							
96							
97							
98							
99							
100							
101							
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109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y065.D Vial: 65
Acq On : 11 Apr 17 11:19 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 (2) Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 11:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	124310	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	486764	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	277689	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	493151	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	473129	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	452893	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	419832	105.01366 ppb	0.00
Spiked Amount 200.000			Recovery = 52.507%		
5) Phenol-D6 (S)	4.38	99	514685	102.84612 ppb	0.00
Spiked Amount 200.000			Recovery = 51.423%		
21) Nitrobenzene-D5(S)	5.37	82	258011	51.19877 ppb	0.00
Spiked Amount 100.000			Recovery = 51.199%		
45) 2-Fluorobiphenyl(S)	7.41	172	423363	48.62495 ppb	0.00
Spiked Amount 100.000			Recovery = 48.625%		
63) 2,4,6-Tribromophenol(S)	9.11	330	114173	91.73769 ppb	0.00
Spiked Amount 200.000			Recovery = 45.869%		
81) Terphenyl-D14(S)	11.77	244	493397	49.33040 ppb	0.00
Spiked Amount 100.000			Recovery = 49.330%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	235650	53.08107 ppb		90
6) Phenol	4.39	94	300395	51.69387 ppb		95
7) Aniline	4.39	66	276203	50.50840 ppb	#	71
8) Bis (2-chloroethyl) ether	4.46	63	142013	51.36688 ppb		87
9) 2-Chlorophenol	4.51	128	239762	52.23975 ppb		94
10) 1,3-DCB	4.67	146	247562	50.77631 ppb		98
11) 1,4-DCB	4.75	146	251859	50.42959 ppb		100
12) Benzyl alcohol	4.93	108	137520	51.67310 ppb		87
13) 1,2-DCB	4.93	146	233656	51.77362 ppb		96
14) 2-Methylphenol	5.07	107	169629	49.06584 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	298853	50.49786 ppb	#	75
16) Acetophenone	5.21	105	307673	51.47629 ppb		93
17) 3&4-Methylphenol	5.24	107	447365	101.77094 ppb		99
18) n-Nitrosodi-n-propylamine	5.21	70	161953	49.86718 ppb		90
19) Hexachloroethane	5.29	117	103655	50.00248 ppb		94
22) Nitrobenzene	5.40	77	259913	51.62749 ppb		93
23) Isophorone	5.67	82	429682	51.93913 ppb		96
24) 2-Nitrophenol	5.76	139	129338	53.33543 ppb		92
25) 2,4-Dimethylphenol	5.83	122	201762	52.38084 ppb		97
26) Benzoic acid	6.02	105	151384	47.97307 ppb		96
27) Bis (2-chloroethoxy) metha	5.92	93	252718	52.39079 ppb		98
28) 2,4-Dichlorophenol	6.04	162	195019	52.28252 ppb		96
29) 1,2,4-Trichlorobenzene	6.11	180	203106	50.41549 ppb		96
30) 3,4-Dimethylphenol	6.17	107	282036	50.14632 ppb		96
31) Naphthalene	6.20	128	652988	51.64550 ppb		100
32) 4-Chloroaniline	6.28	127	217884	51.40871 ppb		97
33) 2,6-Dichlorophenol	6.28	162	161476	49.17327 ppb		97
34) Hexachloropropene	6.29	213	141073	47.46557 ppb		98
35) Hexachlorobutadiene	6.34	225	124514	50.35654 ppb		96
36) Caprolactum	6.71	55	100287	48.98043 ppb		98
37) 4-Chloro-3-methylphenol	6.87	107	196490	48.37473 ppb		93
38) 2-Methylnaphthalene	6.99	142	421303	48.03534 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y065.D Vial: 65
Acq On : 11 Apr 17 11:19 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 (2) Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 11:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	406939	48.08231	ppb		100
41)	Hexachlorocyclopentadiene	7.16	237	66587	48.64959	ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	186305	49.91594	ppb		98
43)	2,4,6-Trichlorophenol	7.34	196	127561	51.64863	ppb		92
44)	2,4,5-Trichlorophenol	7.40	196	131692	51.37329	ppb		96
46)	1,1'-Biphenyl	7.53	154	508696	49.78500	ppb		98
47)	2-Chloronaphthalene	7.54	162	406252	50.92685	ppb		93
48)	2-Nitroaniline	7.69	65	142255	51.45122	ppb		97
49)	Dimethyl phthalate	7.90	163	481154	50.40690	ppb		99
50)	2,6-DNT	7.98	165	108350	49.35496	ppb		88
51)	Acenaphthylene	8.02	152	634547	50.33893	ppb		98
52)	3-Nitroaniline	8.18	138	121213	53.70581	ppb		100
53)	Acenaphthene	8.22	154	384221	49.94563	ppb		99
54)	2,4-Dinitrophenol	8.33	184	57762	45.06478	ppb		92
55)	4-Nitrophenol	8.44	65	90621	49.13946	ppb	#	17
56)	Dibenzofuran	8.43	168	545198	50.65866	ppb		96
57)	2,4-DNT	8.45	165	152429	52.09730	ppb		83
58)	2,3,4,6-Tetrachlorophenol	8.59	232	104078	49.90815	ppb		96
59)	Diethyl phthalate	8.72	149	478709	49.05505	ppb		97
60)	4-Chlorophenyl phenyl ethe	8.83	204	194231	45.62850	ppb		89
61)	Fluorene	8.82	166	394685	45.54158	ppb		97
62)	4-Nitroaniline	8.89	138	106706	48.94884	ppb		87
65)	4,6-Dinitro-2-methylphenol	8.94	198	90566	50.41626	ppb		83
66)	Diphenyl amine	8.97	169	643983	99.86212	ppb		96
67)	n-Nitrosodiphenylamine	8.97	169	643983	99.86212	ppb		96
68)	1,2-Diphenylhydrazine	9.01	77	521293	47.87602	ppb		93
69)	4-Bromophenyl phenyl ether	9.39	248	121228	50.18320	ppb		90
70)	Hexachlorobenzene	9.47	284	124766	50.85609	ppb		93
71)	Atrazine	9.61	200	70264	27.04050	ppb		96
72)	Pentachlorophenol	9.72	266	56958	54.92864	ppb		99
73)	Phenanthrene	9.93	178	635378	50.10876	ppb		99
74)	Anthracene	10.00	178	663131	49.57633	ppb		100
75)	Carbazol	10.20	167	597409	50.66476	ppb		97
76)	Di-n-butylphthalate	10.61	149	790722	51.56332	ppb		97
77)	Fluoranthene	11.32	202	712497	51.02153	ppb	#	95
79)	Benzidine	11.50	184	212837	50.92050	ppb		99
80)	Pyrene	11.58	202	737279	50.54170	ppb		99
82)	Butyl benzylphthalate	12.34	149	369458	52.13243	ppb	#	78
83)	3,3'-Dichlorobenzidine	12.96	252	243605	53.04444	ppb		96
84)	Benz (a) anthracene	12.98	228	704774	51.68358	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	477342	48.05834	ppb		98
86)	Chrysene	13.02	228	654713	49.04402	ppb		99
87)	Di-n-octylphthalate	13.73	149	885935	50.73059	ppb		95
89)	Benzo (b) fluoranthene	14.16	252	828101	54.58257	ppb		97
90)	Benzo (k) fluoranthene	14.19	252	618589	43.12512	ppb		98
91)	Benzo (a) pyrene	14.54	252	708099	50.73042	ppb		100
92)	Indeno (1,2,3-cd) pyrene	16.10	276	766059	47.52826	ppb		97
93)	Dibenz (a,h) anthracene	16.12	278	653638	48.03713	ppb		98
94)	Benzo (g,h,i) perylene	16.55	276	647953	47.61864	ppb		99

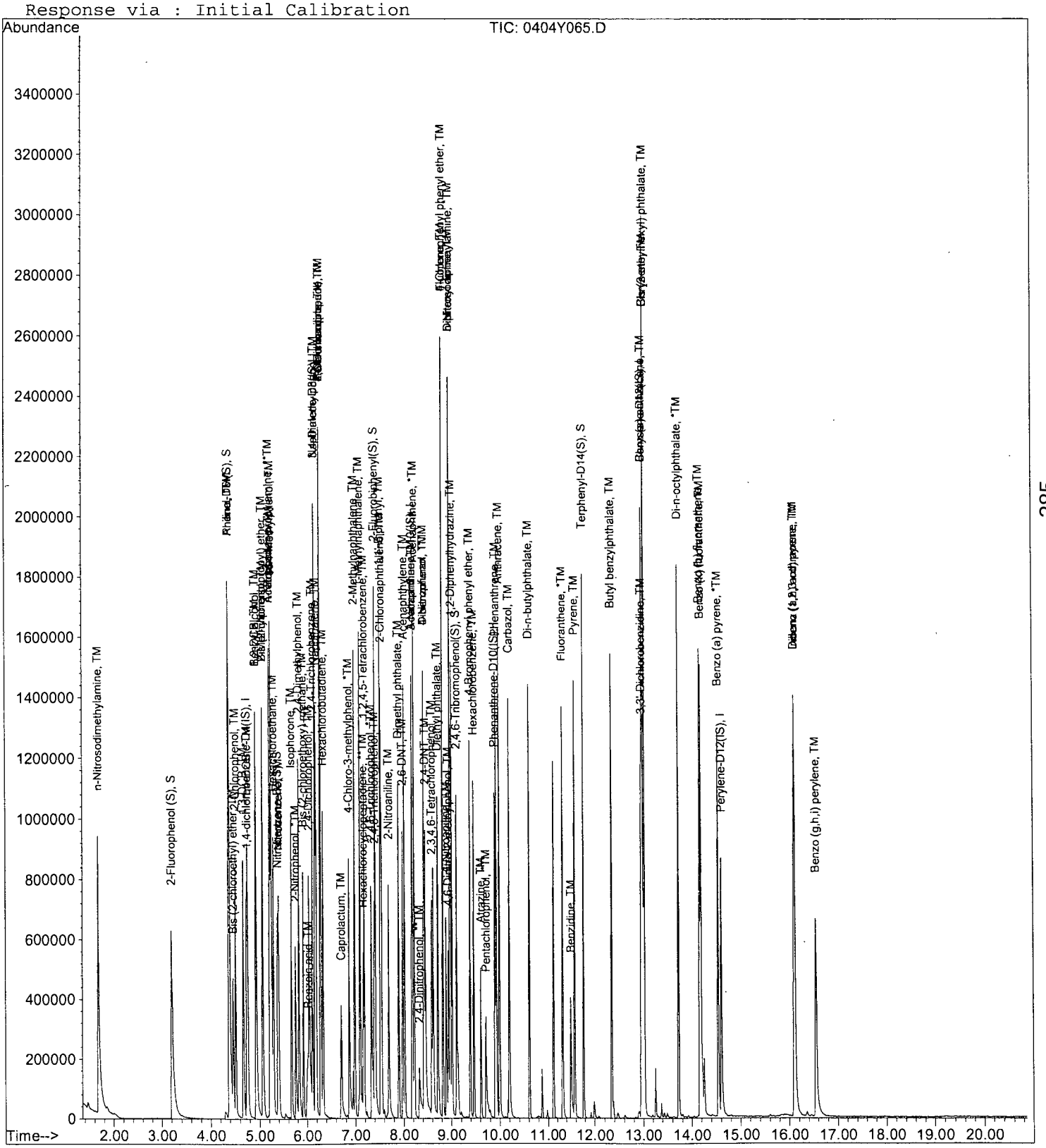
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y065.D Vial: 65
Acq On : 11 Apr 17 11:19 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 (2) Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 11:35 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



285

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:05:04 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108124	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	474326	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	271985	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	525349	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	515905	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	445378	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	369097	106.14383 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.072%	
5) Phenol-D6 (S)	4.37	99	299498	68.80568 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.403%	
21) Nitrobenzene-D5(S)	5.37	82	350501	71.37598 ppb	0.00
Spiked Amount 100.000			Recovery	= 71.376%	
45) 2-Fluorobiphenyl(S)	7.42	172	570376	66.88384 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.884%	
63) 2,4,6-Tribromophenol(S)	9.11	330	178811	146.68724 ppb	0.00
Spiked Amount 200.000			Recovery	= 73.344%	
81) Terphenyl-D14(S)	11.77	244	856726	78.55429 ppb	0.00
Spiked Amount 100.000			Recovery	= 78.554%	

Target Compounds Qvalue

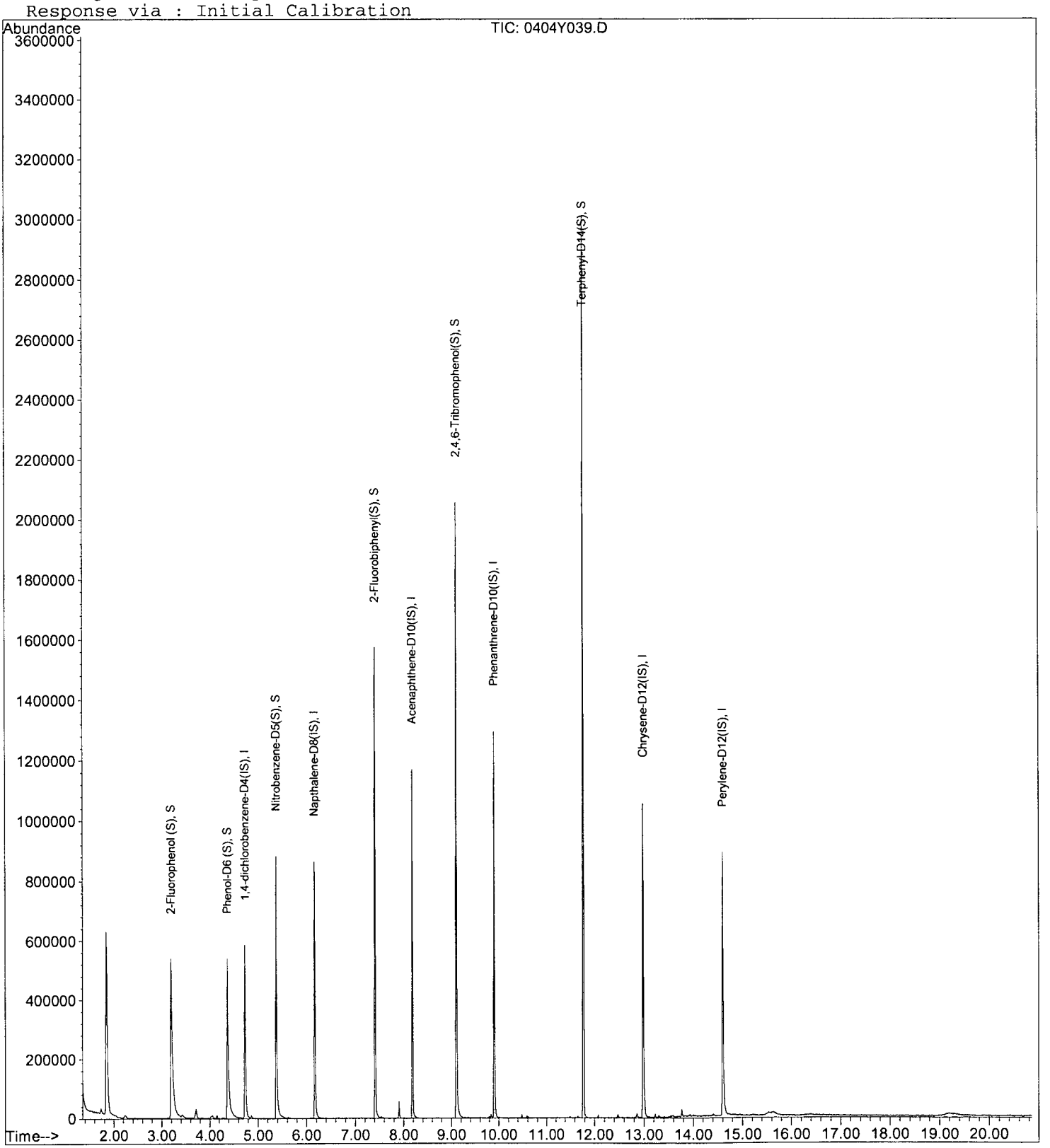
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments:

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:05:05 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	123700	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	522144	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	311641	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	533639	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	489414	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	425790	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	407198	102.35576 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.178%	
5) Phenol-D6 (S)	4.37	99	347548	69.79070 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.896%	
21) Nitrobenzene-D5(S)	5.37	82	379284	70.16394 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.164%	
45) 2-Fluorobiphenyl(S)	7.41	172	608528	62.27746 ppb	0.00
Spiked Amount 100.000			Recovery	= 62.277%	
63) 2,4,6-Tribromophenol(S)	9.11	330	187354	134.13788 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.069%	
81) Terphenyl-D14(S)	11.77	244	818351	79.09717 ppb	0.00
Spiked Amount 100.000			Recovery	= 79.097%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	107502	24.33465 ppb		85
6) Phenol	4.39	94	135034	23.35209 ppb	#	69
7) Aniline	4.38	66	159227	29.26094 ppb	#	66
8) Bis (2-chloroethyl) ether	4.45	63	107060	38.91515 ppb		96
9) 2-Chlorophenol	4.51	128	181685	39.78105 ppb		95
10) 1,3-DCB	4.67	146	126012	25.97320 ppb		97
11) 1,4-DCB	4.76	146	128304	25.81692 ppb		97
12) Benzyl alcohol	4.93	108	94009	35.49805 ppb		85
13) 1,2-DCB	4.93	146	126132	28.08622 ppb		96
14) 2-Methylphenol	5.07	107	118793	34.53078 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	224266	38.08160 ppb	#	76
16) Acetophenone	5.20	105	236218	39.71615 ppb		98
17) 3&4-Methylphenol	5.24	107	298693	68.28467 ppb		99
18) n-Nitrosodi-n-propylamine	5.21	70	124752	38.60199 ppb		95
19) Hexachloroethane	5.29	117	46389	22.48810 ppb		96
22) Nitrobenzene	5.40	77	195229	36.15143 ppb		89
23) Isophorone	5.67	82	345905	38.97916 ppb		92
24) 2-Nitrophenol	5.76	139	97932	37.64805 ppb		89
25) 2,4-Dimethylphenol	5.83	122	127513	30.86141 ppb		95
26) Benzoic acid	5.99	105	45449	15.65022 ppb		91
27) Bis (2-chloroethoxy) metha	5.92	93	196799	38.03381 ppb		96
28) 2,4-Dichlorophenol	6.04	162	150330	37.57106 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	122061	28.24531 ppb		96
30) 3,4-Dimethylphenol	6.17	107	217779	36.09763 ppb		99
31) Naphthalene	6.19	128	447600	33.00240 ppb		99
32) 4-Chloroaniline	6.28	127	211621	46.54771 ppb		97
33) 2,6-Dichlorophenol	6.28	162	135879	38.57462 ppb		97
34) Hexachloropropene	6.29	213	66341	20.80870 ppb		93
35) Hexachlorobutadiene	6.34	225	59208	22.32268 ppb		98
36) Caprolactum	6.69	55	26184	11.92181 ppb		92
37) 4-Chloro-3-methylphenol	6.86	107	166319	38.17228 ppb		92
38) 2-Methylnaphthalene	6.99	142	302873	32.19252 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 13:51 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	302179	33.28499	ppb		100
41)	Hexachlorocyclopentadiene	7.16	237	14699	15.91976	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	138125	32.97548	ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	109401	39.46992	ppb		95
44)	2,4,5-Trichlorophenol	7.39	196	117375	40.79977	ppb		94
46)	1,1'-Biphenyl	7.53	154	405561	35.36718	ppb		98
47)	2-Chloronaphthalene	7.54	162	316074	35.30564	ppb		96
48)	2-Nitroaniline	7.69	65	123453	39.78633	ppb		95
49)	Dimethyl phthalate	7.90	163	472774	44.13301	ppb		100
50)	2,6-DNT	7.98	165	96177	39.03707	ppb		98
51)	Acenaphthylene	8.02	152	514589	36.37515	ppb		99
52)	3-Nitroaniline	8.18	138	108646	42.89334	ppb		95
53)	Acenaphthene	8.22	154	326703	37.84196	ppb		100
54)	2,4-Dinitrophenol	8.32	184	46027	34.34612	ppb		96
55)	4-Nitrophenol	8.46	65	35050	21.65402	ppb	#	25
56)	Dibenzofuran	8.43	168	468141	38.75968	ppb		89
57)	2,4-DNT	8.45	165	136365	41.52930	ppb		96
58)	2,3,4,6-Tetrachlorophenol	8.59	232	91152	38.94779	ppb		99
59)	Diethyl phthalate	8.71	149	420420	38.38836	ppb		99
60)	4-Chlorophenyl phenyl ethe	8.83	204	172116	36.02823	ppb		97
61)	Fluorene	8.82	166	360931	37.10956	ppb		96
62)	4-Nitroaniline	8.89	138	104896	42.87623	ppb		98
65)	4,6-Dinitro-2-methylphenol	8.94	198	82419	42.59059	ppb		95
66)	Diphenyl amine	8.97	169	580222	83.14822	ppb		98
67)	n-Nitrosodiphenylamine	8.97	169	580222	83.14822	ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	546340	46.36940	ppb		99
69)	4-Bromophenyl phenyl ether	9.39	248	110462	42.25719	ppb		95
70)	Hexachlorobenzene	9.47	284	111359	41.94734	ppb		96
71)	Atrazine	9.60	200	60693	21.58503	ppb		94
72)	Pentachlorophenol	9.72	266	51251	45.67502	ppb		91
73)	Phenanthrene	9.93	178	566332	41.27480	ppb		99
74)	Anthracene	9.99	178	604525	41.76588	ppb		99
75)	Carbazol	10.20	167	547431	42.90382	ppb		99
76)	Di-n-butylphthalate	10.61	149	721050	43.45250	ppb		98
77)	Fluoranthene	11.31	202	633262	41.90696	ppb		99
79)	Benzidine	11.50	184	151961	35.14640	ppb		99
80)	Pyrene	11.57	202	673116	44.60783	ppb		99
82)	Butyl benzylphthalate	12.34	149	325742	44.43445	ppb		83
83)	3,3'-Dichlorobenzidine	12.96	252	209606	44.12255	ppb	#	94
84)	Benz (a) anthracene	12.97	228	609989	43.24420	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	437959	42.62612	ppb		98
86)	Chrysene	13.01	228	561553	40.66578	ppb		98
87)	Di-n-octylphthalate	13.73	149	796028	44.06559	ppb		99
89)	Benzo (b) fluoranthene	14.16	252	607482	42.58966	ppb	#	95
90)	Benzo (k) fluoranthene	14.19	252	635964	47.15859	ppb		99
91)	Benzo (a) pyrene	14.53	252	589153	44.89549	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.10	276	694182	45.81030	ppb		99
93)	Dibenz (a,h) anthracene	16.11	278	601375	47.00947	ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	581489	45.45432	ppb		99

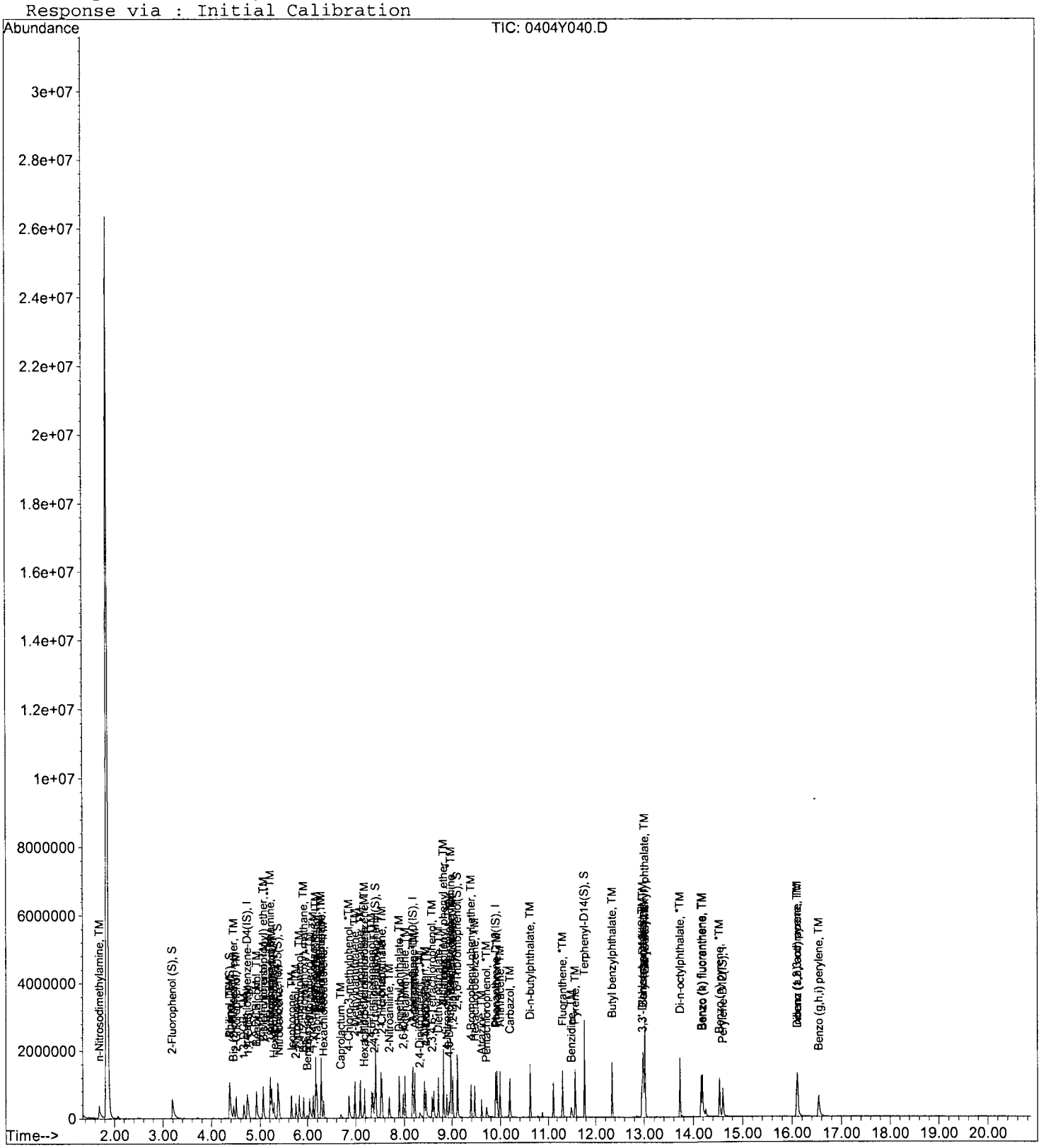
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53059 MS - 217709**
Batch ID: #87DC5-170407A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	19.7	19.7	39.4	39.4	10-115	0.0	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	159	149	79.5	74.5	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	72.8	68.9	72.8	68.9	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	97.3	104	48.6	52.0	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	75.7	75.2	75.7	75.2	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	67.1	67.0	33.5	33.5	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	81.8	81.8	81.8	81.8	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y048	0404Y042
Initials :	MA	

Printed: 04/11/17 10:05:15 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y048.D Vial: 48
Acq On : 10 Apr 17 16:38 Operator: MA
Sample : AZ53059W22 MS-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	102436	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	441453	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	253206	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	458802	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	462103	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	452761	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	342889	97.27322 ppb	0.00
Spiked Amount 186.916			Recovery	= 52.041%	
5) Phenol-D6 (S)	4.38	99	296005	67.08338 ppb	0.00
Spiked Amount 186.916			Recovery	= 35.889%	
21) Nitrobenzene-D5(S)	5.37	82	370220	75.70615 ppb	0.00
Spiked Amount 93.458			Recovery	= 81.005%	
45) 2-Fluorobiphenyl(S)	7.42	172	618169	72.77030 ppb	0.00
Spiked Amount 93.458			Recovery	= 77.864%	
63) 2,4,6-Tribromophenol(S)	9.11	330	192995	158.93924 ppb	0.00
Spiked Amount 186.916			Recovery	= 85.032%	
81) Terphenyl-D14(S)	11.77	244	855409	81.83682 ppb	0.00
Spiked Amount 93.458			Recovery	= 87.566%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	103663	26.48289 ppb		90
6) Phenol	4.39	94	101143	19.74020 ppb	#	64
7) Aniline	4.38	66	139233	28.87665 ppb	#	65
8) Bis (2-chloroethyl) ether	4.45	63	99493	40.81474 ppb		98
9) 2-Chlorophenol	4.51	128	161202	39.83462 ppb		95
10) 1,3-DCB	4.67	146	112107	26.07831 ppb		97
11) 1,4-DCB	4.76	146	115247	26.17140 ppb		99
12) Benzyl alcohol	4.93	108	92640	39.47905 ppb		88
13) 1,2-DCB	4.93	146	119478	30.02541 ppb		95
14) 2-Methylphenol	5.07	107	109192	35.82114 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	213648	40.94337 ppb	#	74
16) Acetophenone	5.21	105	229788	43.60283 ppb		94
17) 3&4-Methylphenol	5.24	107	286869	74.01417 ppb		98
18) n-Nitrosodi-n-propylamine	5.22	70	125150	43.70450 ppb		91
19) Hexachloroethane	5.29	117	39393	21.55211 ppb		94
22) Nitrobenzene	5.40	77	191954	39.29164 ppb		92
23) Isophorone	5.67	82	339112	42.24163 ppb		92
24) 2-Nitrophenol	5.76	139	98834	41.99968 ppb		89
25) 2,4-Dimethylphenol	5.83	122	113939	30.48285 ppb		99
26) Benzoic acid	5.99	105	43275	16.10814 ppb		97
27) Bis (2-chloroethoxy) metha	5.92	93	195578	41.78196 ppb		98
28) 2,4-Dichlorophenol	6.04	162	149480	41.29645 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	124161	31.75970 ppb		95
30) 3,4-Dimethylphenol	6.17	107	209076	38.30793 ppb		99
31) Naphthalene	6.19	128	447177	36.44658 ppb		98
32) 4-Chloroaniline	6.28	127	201028	48.87850 ppb		95
33) 2,6-Dichlorophenol	6.28	162	136134	42.72064 ppb		95
34) Hexachloropropene	6.29	213	66266	22.97606 ppb		99
35) Hexachlorobutadiene	6.34	225	55669	23.20070 ppb		96
36) Caprolactum	6.69	55	25406	12.78687 ppb		90
37) 4-Chloro-3-methylphenol	6.86	107	171384	43.48089 ppb		87
38) 2-Methylnaphthalene	6.99	142	312652	36.73479 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y048.D Vial: 48
Acq On : 10 Apr 17 16:38 Operator: MA
Sample : AZ53059W22 MS-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	310915	37.85713	ppb		98
41)	Hexachlorocyclopentadiene	7.16	237	19464	20.33145	ppb		90
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	146860	40.32914	ppb		98
43)	2,4,6-Trichlorophenol	7.33	196	108479	45.01811	ppb		100
44)	2,4,5-Trichlorophenol	7.39	196	119195	47.65810	ppb		91
46)	1,1'-Biphenyl	7.53	154	416689	41.79775	ppb		98
47)	2-Chloronaphthalene	7.55	162	316808	40.70503	ppb		95
48)	2-Nitroaniline	7.69	65	130873	48.51532	ppb		95
49)	Dimethyl phthalate	7.90	163	480147	51.55619	ppb		100
50)	2,6-DNT	7.98	165	96793	45.19043	ppb		94
51)	Acenaphthylene	8.02	152	519630	42.25082	ppb		98
52)	3-Nitroaniline	8.18	138	100576	45.67379	ppb		96
53)	Acenaphthene	8.22	154	325929	43.42503	ppb		99
54)	2,4-Dinitrophenol	8.32	184	43095	35.83677	ppb		98
55)	4-Nitrophenol	8.45	65	30408	21.15294	ppb		93
56)	Dibenzofuran	8.43	168	473208	45.06633	ppb		89
57)	2,4-DNT	8.45	165	139113	48.73221	ppb		98
58)	2,3,4,6-Tetrachlorophenol	8.59	232	93794	46.09866	ppb		98
59)	Diethyl phthalate	8.71	149	440532	46.26902	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.83	204	173985	41.89191	ppb		98
61)	Fluorene	8.82	166	365769	43.25787	ppb		98
62)	4-Nitroaniline	8.89	138	103482	48.65406	ppb		96
65)	4,6-Dinitro-2-methylphenol	8.94	198	80947	45.29354	ppb		90
66)	Diphenyl amine	8.97	169	586260	91.32450	ppb		98
67)	n-Nitrosodiphenylamine	8.97	169	586260	91.32450	ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	558541	51.53020	ppb		98
69)	4-Bromophenyl phenyl ether	9.39	248	111622	46.41686	ppb		100
70)	Hexachlorobenzene	9.47	284	114427	46.85391	ppb		97
71)	Atrazine	9.62	200	62743	24.25592	ppb		95
72)	Pentachlorophenol	9.72	266	49925	48.36518	ppb		98
73)	Phenanthrene	9.93	178	582916	46.18044	ppb		100
74)	Anthracene	10.00	178	613359	46.06387	ppb		100
75)	Carbazol	10.20	167	569979	48.55833	ppb		98
76)	Di-n-butylphthalate	10.61	149	735042	48.15040	ppb	#	97
77)	Fluoranthene	11.31	202	668954	48.12129	ppb		99
79)	Benzidine	11.50	184	85014	19.46224	ppb		99
80)	Pyrene	11.58	202	693160	45.46826	ppb		99
82)	Butyl benzylphthalate	12.34	149	353032	47.66655	ppb		78
83)	3,3'-Dichlorobenzidine	12.96	252	242767	50.58248	ppb	#	97
84)	Benz (a) anthracene	12.98	228	677975	47.57439	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	485641	46.78550	ppb		95
86)	Chrysene	13.02	228	638751	45.78503	ppb		99
87)	Di-n-octylphthalate	13.73	149	877442	48.07765	ppb		100
89)	Benzo (b) fluoranthene	14.16	252	680467	41.92956	ppb		96
90)	Benzo (k) fluoranthene	14.19	252	717235	46.74468	ppb		98
91)	Benzo (a) pyrene	14.54	252	724234	48.50606	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.10	276	717503	41.61559	ppb		98
93)	Dibenz (a,h) anthracene	16.11	278	633094	43.49613	ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	640524	44.00596	ppb		99

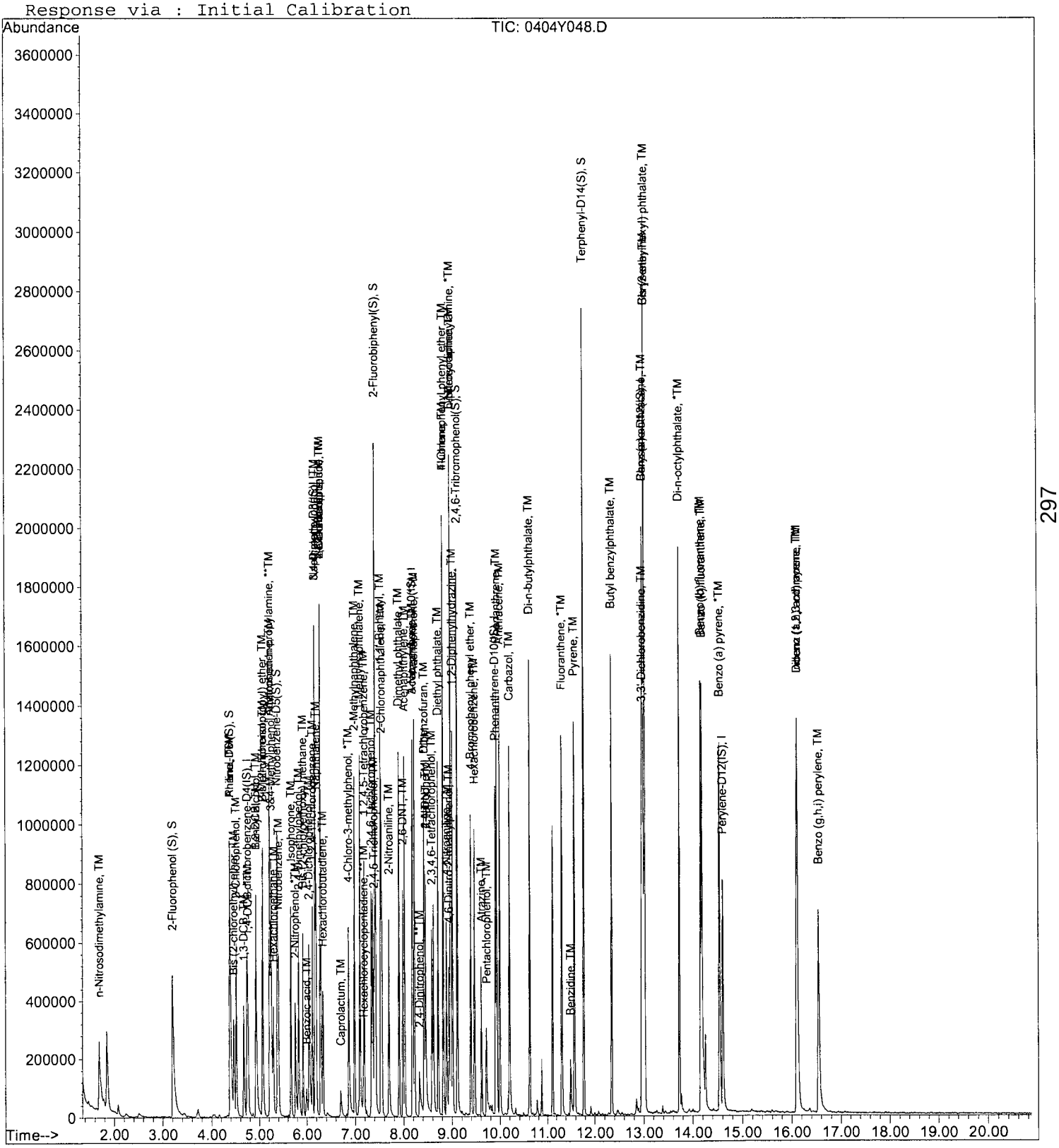
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y048.D Vial: 48
Acq On : 10 Apr 17 16:38 Operator: MA
Sample : AZ53059W22 MS-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



297

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y042.D Vial: 42
Acq On : 10 Apr 17 13:35 Operator: MA
Sample : AZ53059W27 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 13:52 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	118184	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	506003	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	302099	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	567512	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	546872	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	509516	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	421869	103.73165 ppb	0.00
Spiked Amount 186.916			Recovery	= 55.497%	
5) Phenol-D6 (S)	4.37	99	340987	66.98038 ppb	0.00
Spiked Amount 186.916			Recovery	= 35.834%	
21) Nitrobenzene-D5(S)	5.38	82	421772	75.24548 ppb	0.00
Spiked Amount 93.458			Recovery	= 80.512%	
45) 2-Fluorobiphenyl(S)	7.42	172	698450	68.91392 ppb	0.00
Spiked Amount 93.458			Recovery	= 73.738%	
63) 2,4,6-Tribromophenol(S)	9.12	330	215899	149.02544 ppb	0.00
Spiked Amount 186.916			Recovery	= 79.728%	
81) Terphenyl-D14(S)	11.77	244	1011776	81.79230 ppb	0.00
Spiked Amount 93.458			Recovery	= 87.517%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.68	42	101133	22.39384 ppb	85
6) Phenol	4.39	94	116250	19.66540 ppb	78
7) Aniline	4.38	66	161795	29.08464 ppb	76
8) Bis (2-chloroethyl) ether	4.46	63	119006	42.31431 ppb	93
9) 2-Chlorophenol	4.51	128	195428	41.85728 ppb	91
10) 1,3-DCB	4.67	146	130354	26.28239 ppb	98
11) 1,4-DCB	4.75	146	135971	26.76317 ppb	97
12) Benzyl alcohol	4.93	108	108559	40.09848 ppb	86
13) 1,2-DCB	4.92	146	134624	29.32361 ppb	97
14) 2-Methylphenol	5.07	107	133870	38.06500 ppb	94
15) Bis (2-chloroisopropyl) et	5.06	45	252831	41.99611 ppb	88
16) Acetophenone	5.21	105	260553	42.85261 ppb	100
17) 3&4-Methylphenol	5.24	107	324481	72.56287 ppb	97
18) n-Nitrosodi-n-propylamine	5.22	70	146724	44.41098 ppb	99
19) Hexachloroethane	5.29	117	46937	22.25769 ppb	96
22) Nitrobenzene	5.39	77	221464	39.54918 ppb	98
23) Isophorone	5.66	82	392895	42.69779 ppb	99
24) 2-Nitrophenol	5.76	139	113942	42.24301 ppb	97
25) 2,4-Dimethylphenol	5.83	122	141526	33.03321 ppb	94
26) Benzoic acid	6.00	105	52194	16.79888 ppb	90
27) Bis (2-chloroethoxy) metha	5.92	93	224330	41.81071 ppb	99
28) 2,4-Dichlorophenol	6.04	162	178132	42.93416 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	142869	31.88310 ppb	95
30) 3,4-Dimethylphenol	6.16	107	234574	37.49694 ppb	100
31) Naphthalene	6.19	128	511620	36.37946 ppb	99
32) 4-Chloroaniline	6.28	127	219731	46.61053 ppb	98
33) 2,6-Dichlorophenol	6.29	162	155360	42.53454 ppb	96
34) Hexachloropropene	6.29	213	77628	23.48197 ppb	97
35) Hexachlorobutadiene	6.33	225	61159	22.23717 ppb	97
36) Caprolactum	6.69	55	28630	12.57131 ppb	97
37) 4-Chloro-3-methylphenol	6.86	107	195262	43.21925 ppb	99
38) 2-Methylnaphthalene	6.98	142	363400	37.25054 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y042.D Vial: 42
Acq On : 10 Apr 17 13:35 Operator: MA
Sample : AZ53059W27 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 13:52 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.09	142	359744	38.21474	ppb		100
41)	Hexachlorocyclopentadiene	7.17	237	26577	22.28044	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.19	216	163444	37.61917	ppb		97
43)	2,4,6-Trichlorophenol	7.33	196	125285	43.57781	ppb		94
44)	2,4,5-Trichlorophenol	7.39	196	131008	43.90371	ppb		97
46)	1,1'-Biphenyl	7.53	154	483883	40.68234	ppb		99
47)	2-Chloronaphthalene	7.55	162	375562	40.44439	ppb		97
48)	2-Nitroaniline	7.69	65	142878	44.39345	ppb		90
49)	Dimethyl phthalate	7.90	163	570913	51.38084	ppb		99
50)	2,6-DNT	7.98	165	113140	44.27346	ppb		86
51)	Acenaphthylene	8.02	152	605613	41.27250	ppb		98
52)	3-Nitroaniline	8.17	138	119346	45.42608	ppb		87
53)	Acenaphthene	8.22	154	377840	42.19391	ppb		98
54)	2,4-Dinitrophenol	8.33	184	56048	38.38296	ppb		97
55)	4-Nitrophenol	8.46	65	36272	21.14990	ppb	#	64
56)	Dibenzofuran	8.42	168	553919	44.21515	ppb		94
57)	2,4-DNT	8.46	165	166239	48.80968	ppb		92
58)	2,3,4,6-Tetrachlorophenol	8.59	232	111235	45.82256	ppb	#	89
59)	Diethyl phthalate	8.72	149	506674	44.60321	ppb		99
60)	4-Chlorophenyl phenyl ethe	8.83	204	201124	40.58887	ppb		91
61)	Fluorene	8.82	166	414547	41.09194	ppb		98
62)	4-Nitroaniline	8.89	138	128890	50.79234	ppb		91
65)	4,6-Dinitro-2-methylphenol	8.94	198	101084	45.71892	ppb		98
66)	Diphenyl amine	8.98	169	678658	85.46696	ppb		97
67)	n-Nitrosodiphenylamine	8.98	169	678658	85.46696	ppb		97
68)	1,2-Diphenylhydrazine	9.01	77	685894	51.15805	ppb		93
69)	4-Bromophenyl phenyl ether	9.40	248	135769	45.64328	ppb		89
70)	Hexachlorobenzene	9.47	284	141405	46.80932	ppb	#	84
71)	Atrazine	9.61	200	76759	23.99010	ppb		100
72)	Pentachlorophenol	9.71	266	66877	52.37714	ppb		95
73)	Phenanthrene	9.93	178	718068	45.99048	ppb		99
74)	Anthracene	10.00	178	771212	46.82413	ppb		99
75)	Carbazol	10.19	167	712650	49.08304	ppb		98
76)	Di-n-butylphthalate	10.61	149	898710	47.59458	ppb		99
77)	Fluoranthene	11.32	202	821683	47.78544	ppb		98
79)	Benzidine	11.50	184	123505	23.89131	ppb		97
80)	Pyrene	11.58	202	870873	48.27060	ppb		99
82)	Butyl benzylphthalate	12.35	149	421625	48.10377	ppb		87
83)	3,3'-Dichlorobenzidine	12.96	252	275979	48.58919	ppb	#	96
84)	Benz (a) anthracene	12.98	228	799196	47.38773	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.02	149	545994	44.44643	ppb		98
86)	Chrysene	13.02	228	723586	43.82634	ppb		100
87)	Di-n-octylphthalate	13.73	149	1063471	49.23836	ppb		94
89)	Benzo (b) fluoranthene	14.16	252	848241	46.44551	ppb		99
90)	Benzo (k) fluoranthene	14.19	252	819101	47.43724	ppb		99
91)	Benzo (a) pyrene	14.54	252	816066	48.56838	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.11	276	900080	46.39002	ppb		99
93)	Dibenz (a,h) anthracene	16.12	278	761731	46.50453	ppb		100
94)	Benzo (g,h,i) perylene	16.54	276	782695	47.78371	ppb		98

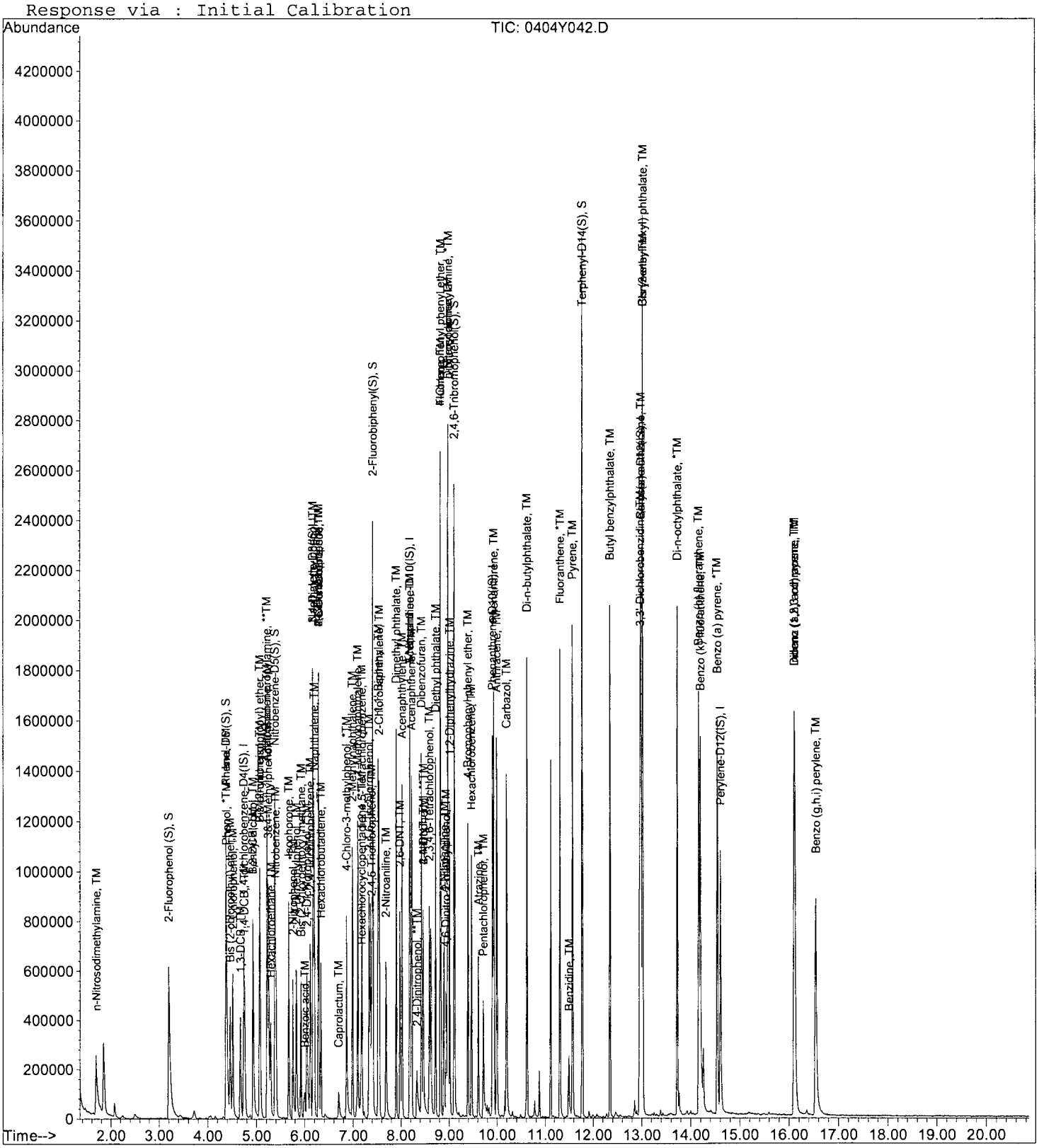
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y042.D Vial: 42
Acq On : 10 Apr 17 13:35 Operator: MA
Sample : AZ53059W27 MSD-1 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 10 13:52 2017 Quant Results File: Y0404.RES

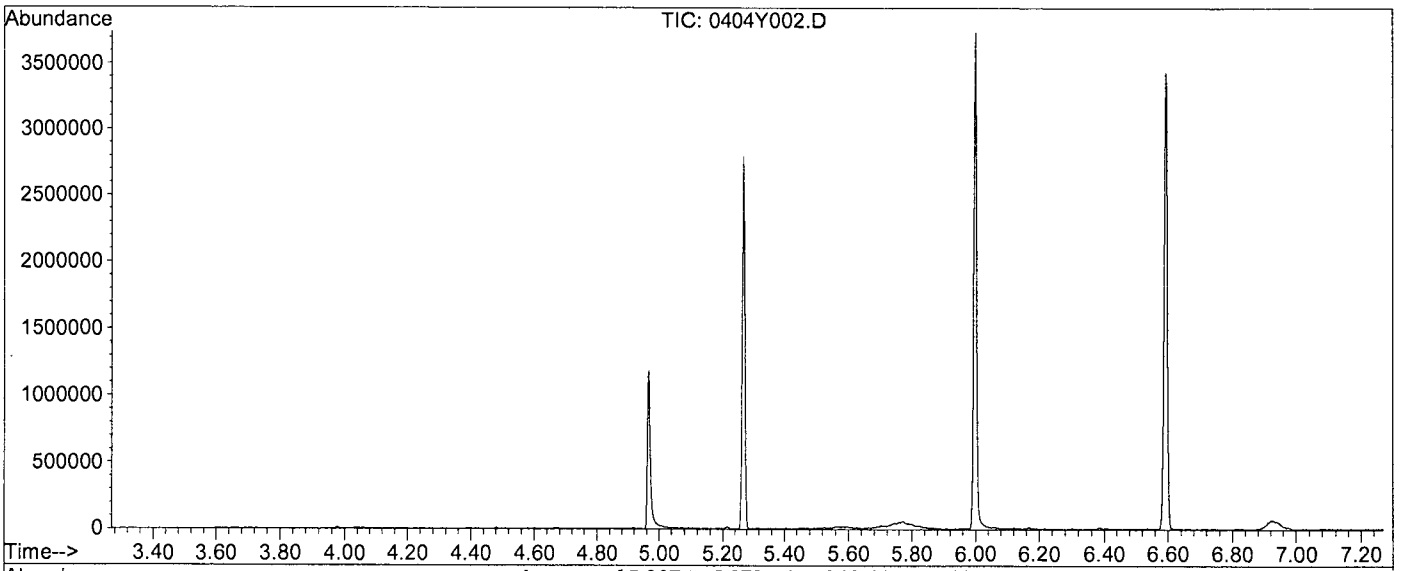
Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

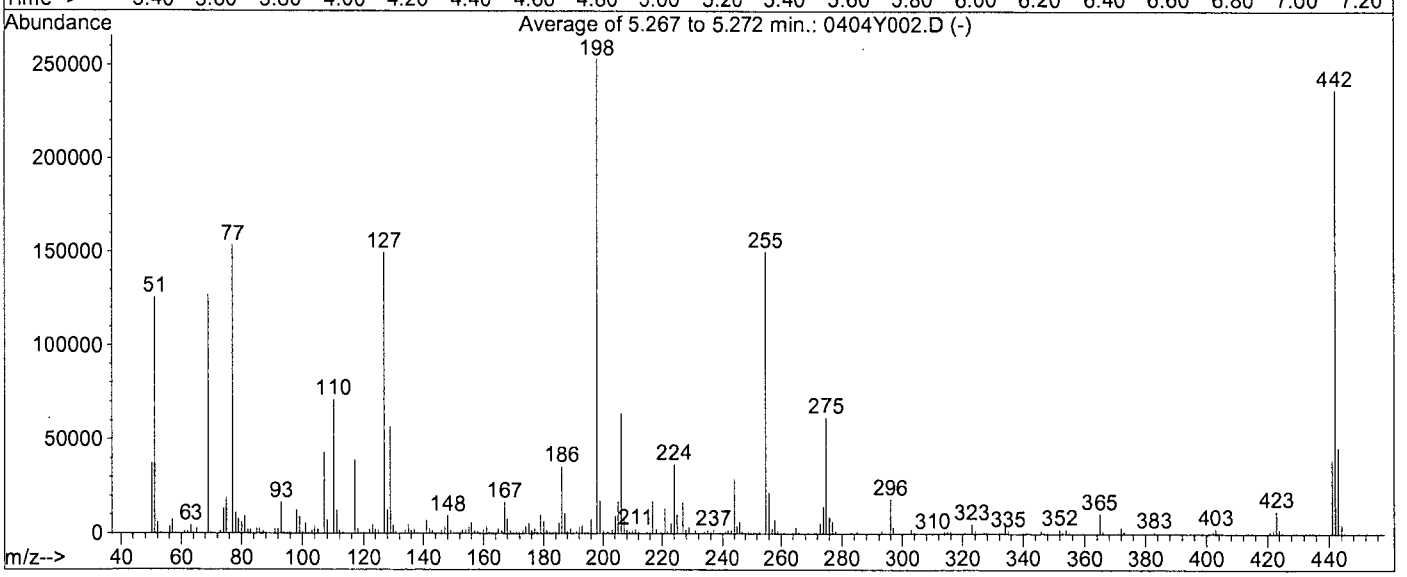


DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D Vial: 2
Acq On : 4 Apr 17 8:25 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

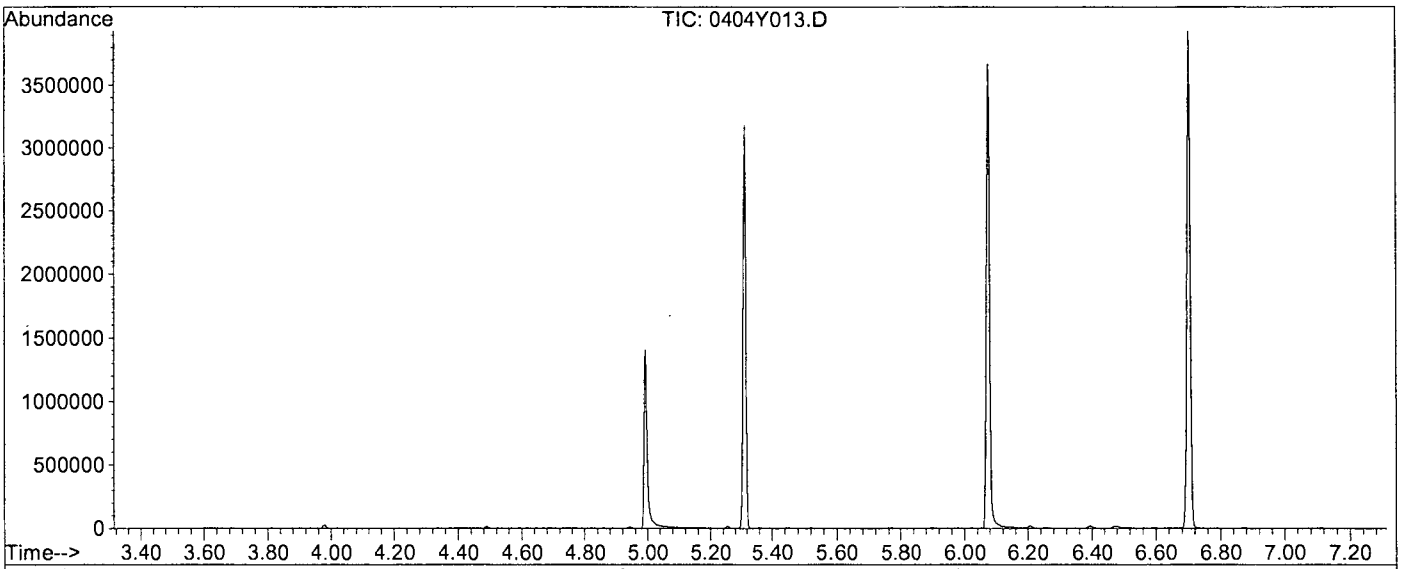
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

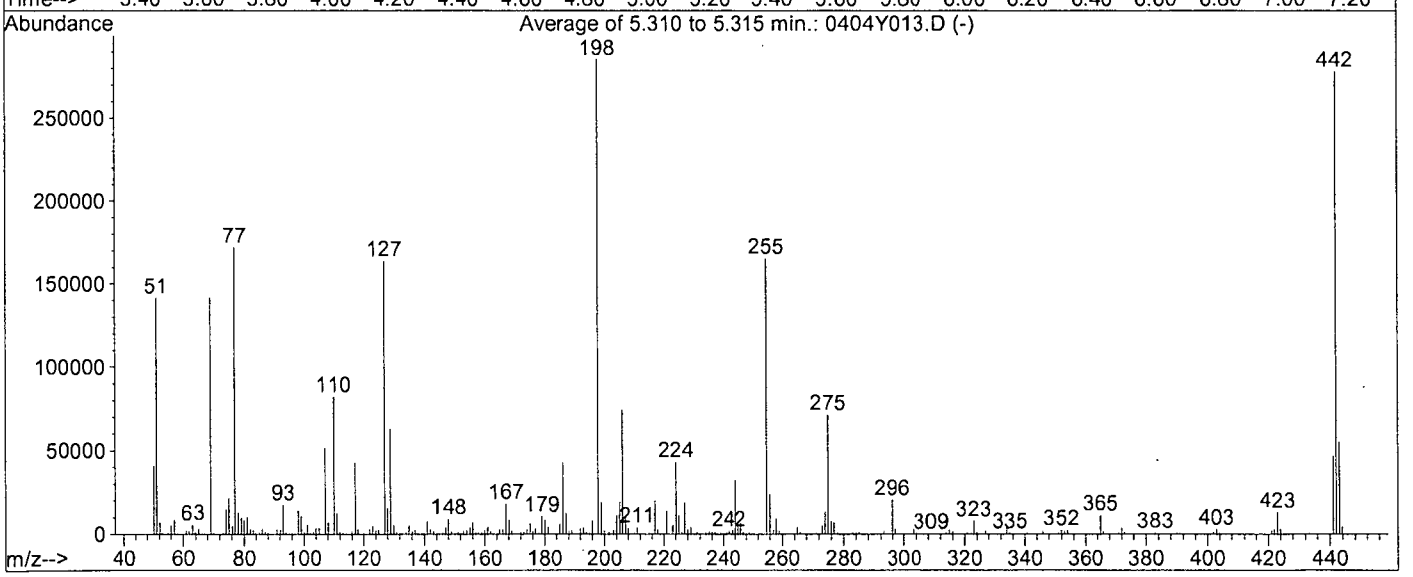
0404Y002.D Y0404.M Tue Apr 04 09:40:31 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y013.D Vial: 13
Acq On : 5 Apr 17 8:30 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 689, 690, 691; Background Corrected with Scan 681

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	141384	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	872	PASS
127	198	40	60	57.4	163810	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	285504	PASS
199	198	5	9	6.7	19091	PASS
275	198	10	30	24.9	71123	PASS
365	198	1	100	3.9	11203	PASS
441	443	0.01	100	85.3	46683	PASS
442	198	50	150	97.4	277995	PASS
443	442	17	23	19.7	54725	PASS

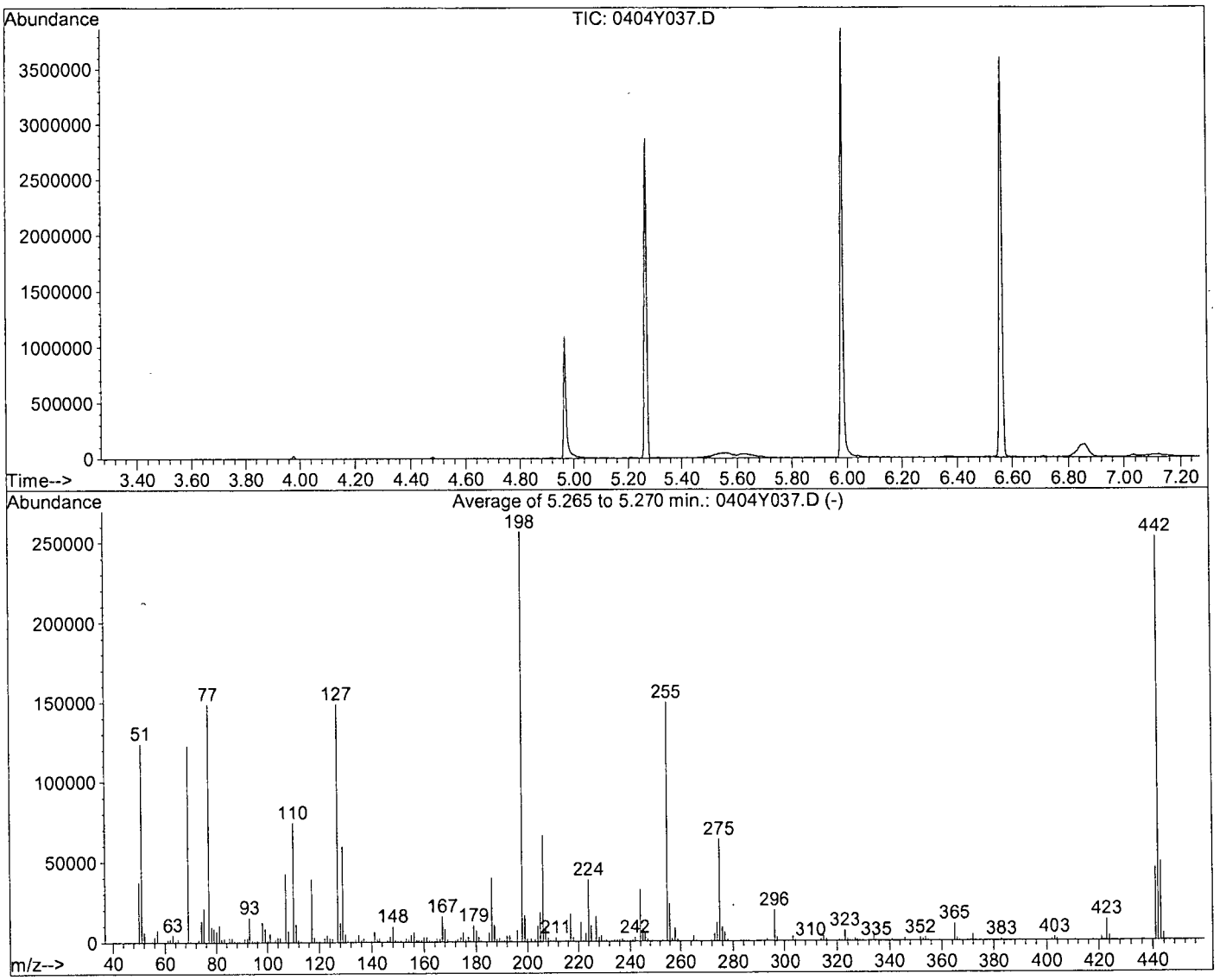
0404Y013.D Y0404.M Wed Apr 05 09:59:19 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y037.D
Acq On : 10 Apr 17 10:59
Sample : SV Tune 03/29/17
Misc :

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 671, 672, 673; Background Corrected with Scan 663

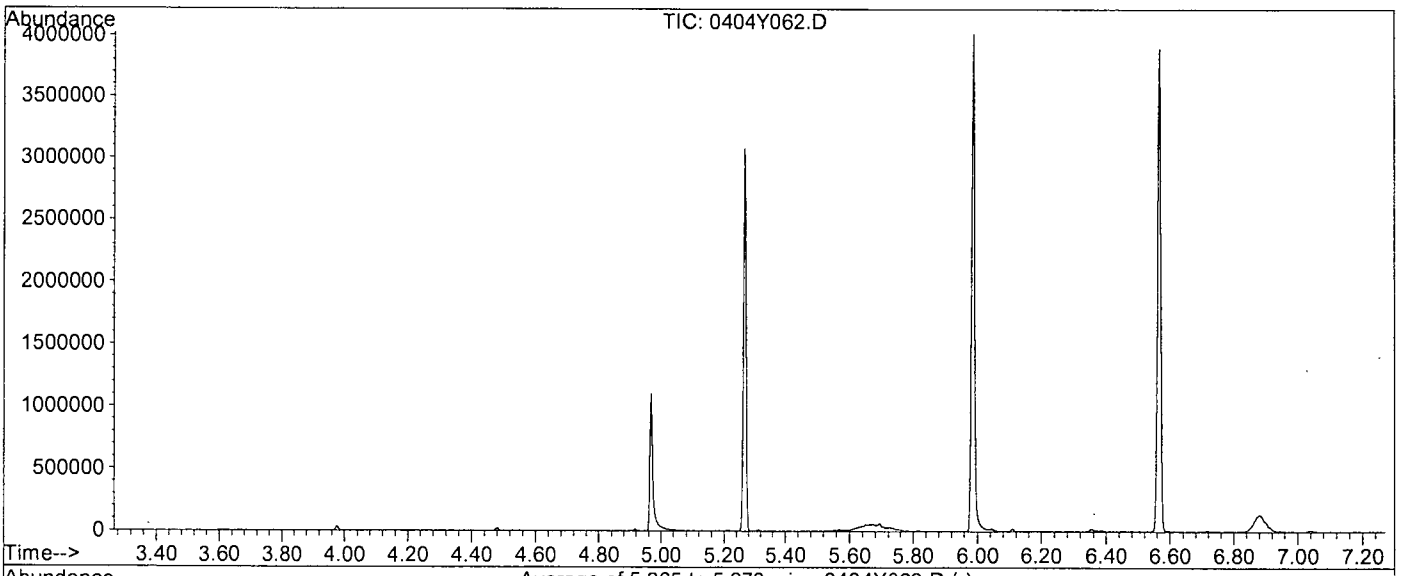
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	124211	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	510	PASS
127	198	40	60	58.1	149200	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	256917	PASS
199	198	5	9	6.4	16355	PASS
275	198	10	30	24.7	63475	PASS
365	198	1	100	4.1	10631	PASS
441	443	0.01	100	92.8	45477	PASS
442	198	50	150	98.6	253248	PASS
443	442	17	23	19.4	49011	PASS

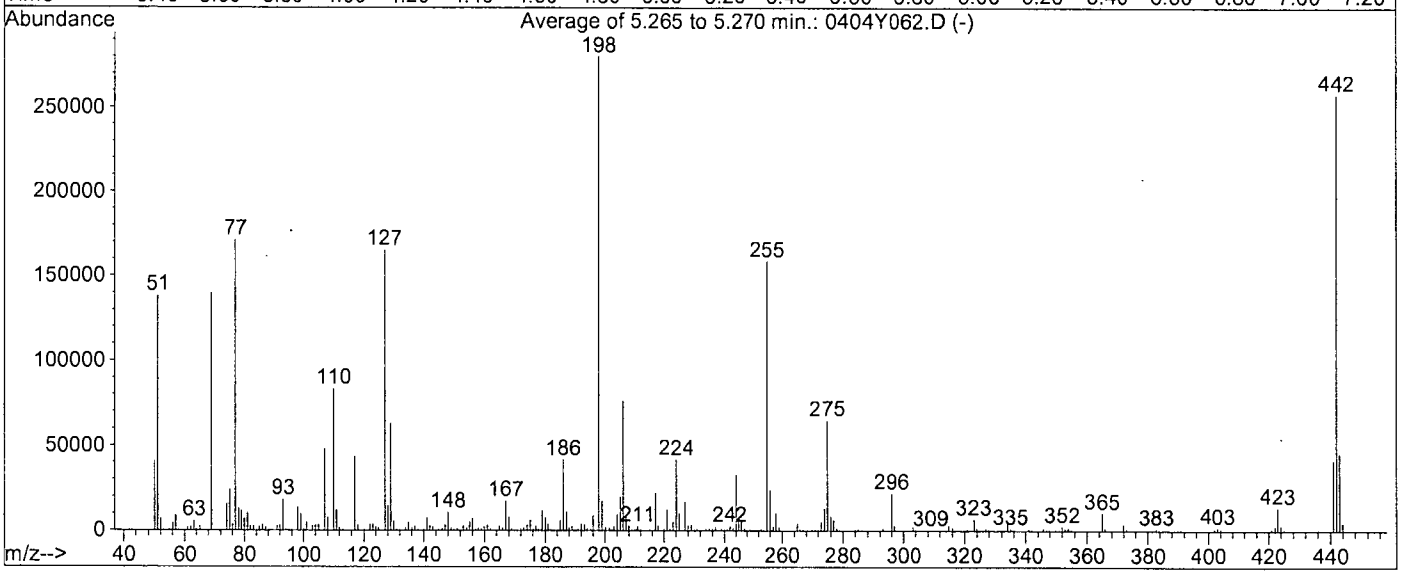
0404Y037.D Y0404.M Mon Apr 10 11:18:03 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y062.D Vial: 62
Acq On : 11 Apr 17 9:53 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.3	138325	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	533	PASS
127	198	40	60	59.0	165333	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	280299	PASS
199	198	5	9	6.2	17407	PASS
275	198	10	30	23.1	64835	PASS
365	198	1	100	3.7	10335	PASS
441	443	0.01	100	91.6	41397	PASS
442	198	50	150	92.0	257792	PASS
443	442	17	23	17.5	45203	PASS

0404Y062.D Y0404.M Tue Apr 11 09:56:32 2017

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
μL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	**04/11/17 0:00**

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				1	1 equip	1000 e-wb5	1	2/1	04/07/17 13:45	
2	170407A LCS-1		0.250	1	1	1 equip	1000 E-WB5	1	2/1	04/07/17 13:45	
3	AZ53059 MS-1	AZ53059W22	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
4	AZ53059 MSD-1	AZ53059W27	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
5	AZ53059	AZ53059W21			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
6	AZ53060	AZ53060W10			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
7	AZ53062	AZ53062W09			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
8	AZ53064	AZ53064W05			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
9	AZ53065	AZ53065W09			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
10	AZ53168 MS-1	AZ53168W35	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
11	AZ53168 MSD-1	AZ53168W47	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
12	AZ53168	AZ53168W48			1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
13	AZ53169	AZ53169W13			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
14	AZ53170	AZ53170W14			1	1 equip	1050 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
15	AZ53172	AZ53172W14			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
16	AZ53174	AZ53174W11			1	1 equip	1010 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	4/10/17
Time	12:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	**04/11/17 0:00**

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W11			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
18	AZ53178	AZ53178W09			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
19	AZ53180	AZ53180W09			1	1	1030	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				

KY 4/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: M:\YODA\DATA\Y170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
2	3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
3	4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
4	5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
5	6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
6	7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
7	8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
8	9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
9	10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
10	12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
11	13	0404Y013.D	1	SV Tune 03/29/17		5 Apr 17 8:30
12	15	0404Y015.D	1	SS 4-chloroaniline 50ug/ml 04/05/17		5 Apr 17 10:19
13	37	0404Y037.D	1	SV Tune 03/29/17		10 Apr 17 10:59
14	38	0404Y038.D	1	50ug/ml SVOC 03/30/17		10 Apr 17 11:15
15	39	0404Y039.D	1	170407A BLK 1/1000	water	10 Apr 17 12:04
16	40	0404Y040.D	1	170407A LCS-1 1/1000	water	10 Apr 17 12:34
17	42	0404Y042.D	0.934579	AZ53059W27 MSD-1 1/1070	water	10 Apr 17 13:35
18	43	0404Y043.D	0.934579	AZ53059W21 1/1070	water	10 Apr 17 14:05
19	44	0404Y044.D	0.934579	AZ53060W10 1/1070	water	10 Apr 17 14:36
20	45	0404Y045.D	0.961538	AZ53062W09 1/1040	water	10 Apr 17 15:06
21	47	0404Y047.D	0.934579	AZ53065W09 1/1070	water	10 Apr 17 16:08
22	48	0404Y048.D	0.934579	AZ53059W22 MS-1 1/1070	water	10 Apr 17 16:38
23	60	0404Y060.D	1	50ug/ml SVOC 03/30/17	water	10 Apr 17 22:25
24	62	0404Y062.D	1	SV Tune 03/29/17	water	11 Apr 17 9:53
25	63	0404Y063.D	1	50ug/ml SVOC 03/30/17	water	11 Apr 17 10:10
26	64	0404Y064.D	0.961538	AZ53064W05 1/1040	water	11 Apr 17 10:40
27	65	0404Y065.D	1	50ug/ml SVOC 03/30/17 (2)	water	11 Apr 17 11:19

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method:Y0GLYCOL.
Run #:0413Y013
Instrument:Yoda
Sequence:Y170413G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:07:27 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:07:28 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 MS - 217853**
Batch ID: #87DME-170410A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	61.7	60.2	77.1	75.3	30-130	2.5	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/13/17	04/13/17
Instrument :	Yoda	Yoda
Run :	0413Y015	0413Y016
Initials :	MA	

Printed: 04/14/17 11:07:31 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER
Blank ID: 170410A-BLK

SDG No: 82577
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 1648

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A-BLK	Blank	0413Y013	04/13/17 1648
170410A-LCS	Lab Control Spike	0413Y014	04/13/17 1718
170410A-MS	Matrix Spike	0413Y015	04/13/17 1748
170410A-MSD	Matrix SpikeD	0413Y016	04/13/17 1818
AZ53059	ERH292	0413Y017	04/13/17 1848
AZ53060	ERH293	0413Y018	04/13/17 1918
AZ53062	ERH295	0413Y019	04/13/17 1949
AZ53064	ERH288	0413Y020	04/13/17 2019
AZ53065	ERH316	0413Y021	04/13/17 2049

Comments: Batch: #87DME-170410A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 9:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 04/12/17	0413Y003.D	04/13/17 9:57
2		100ug/ml DEG 04/12/	0413Y004.D	04/13/17 10:27
3		200ug/ml DEG 04/12/	0413Y005.D	04/13/17 10:57
4		400ug/ml DEG 04/12/	0413Y006.D	04/13/17 11:27
5		500ug/ml DEG 04/12/	0413Y007.D	04/13/17 11:57
6		600ug/ml DEG 04/12/	0413Y008.D	04/13/17 14:02
7		800ug/ml DEG 04/12/	0413Y009.D	04/13/17 14:32
8		1000ug/ml DEG 04/12	0413Y010.D	04/13/17 15:03
9		SS2 DEG 04/12/17	0413Y011.D	04/13/17 16:03
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	57.7
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	23.7
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	78.5
442	50 - 150% of mass 197.95	92.2
443	17 - 23% of mass 442	21.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82577
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 16:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170410A BLK 2/500	0413Y013.D	04/13/17 16:48
2	Lab Control Spike	170410A LCS-1 2/500	0413Y014.D	04/13/17 17:18
3		AZ53059W23 MS-1 2/50	0413Y015.D	04/13/17 17:48
4		AZ53059W23 MSD-1 2/5	0413Y016.D	04/13/17 18:18
5	ERH292	AZ53059W17 2/500	0413Y017.D	04/13/17 18:48
6	ERH293	AZ53060W07 2/500	0413Y018.D	04/13/17 19:18
7	ERH295	AZ53062W11 2/500	0413Y019.D	04/13/17 19:49
8	ERH288	AZ53064W06 2/500	0413Y020.D	04/13/17 20:19
9	ERH316	AZ53065W06 2/500	0413Y021.D	04/13/17 20:49
10		500ug/ml DEG 04/12/	0413Y034.D	04/14/17 3:17
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.5
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	82.4
442	50 - 150% of mass 198	107.2
443	17 - 23% of mass 442	20.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82577

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	122737	4.75	501978	6.17	280837	8.19
	UPPER LIMIT	245474	5.25	1003956	6.67	561674	8.69
	LOWER LIMIT	61369	4.25	250989	5.67	140419	7.69
	SAMPLE NO.						
01	SS2 DEG 04/12/17	162431	4.75	673923	6.17	377854	8.18
02	170410A BLK 2/500	105668	4.76	467112	6.17	267815	8.18
03	170410A LCS-1 2/500	108150	4.75	455829	6.17	255413	8.18
04	AZ53059W23 MS-1 2/5(	117039	4.75	496867	6.17	281325	8.18
05	AZ53059W23 MSD-1 2/	106115	4.76	460284	6.17	247504	8.19
06	AZ53059W17 2/500	104036	4.75	458389	6.17	265697	8.18
07	AZ53060W07 2/500	104791	4.75	458029	6.17	268614	8.18
08	AZ53062W11 2/500	108072	4.75	491749	6.17	273856	8.18
09	AZ53064W06 2/500	99403	4.76	440437	6.17	255529	8.19
10	AZ53065W06 2/500	103998	4.75	448667	6.17	259610	8.18
11	500ug/ml DEG 04/12/17	98346	4.75	427367	6.17	247654	8.18
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82577
Lab File ID (Standard): 0413Y007.D
Date Analyzed: 04/13/17
Instrument ID: Yoda
Time Analyzed: 11:57
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	503114	9.90	470744	12.99	813583	14.60
	UPPER LIMIT	1006228	10.40	941488	13.49	1627166	15.10
	LOWER LIMIT	251557	9.40	235372	12.49	406792	14.10
	SAMPLE NO.						
01	SS2 DEG 04/12/17	682182	9.90	642948	12.98	796953	14.61
02	170410A BLK 2/500	499187	9.90	471654	12.98	418040	14.60
03	170410A LCS-1 2/500	474128	9.90	448616	12.99	413196	14.60
04	AZ53059W23 MS-1 2/50	509257	9.90	513437	12.98	370884 *	14.60
05	AZ53059W23 MSD-1 2/	467217	9.90	458491	12.99	326339 *	14.60
06	AZ53059W17 2/500	493034	9.90	450448	12.98	267969 *	14.60
07	AZ53060W07 2/500	483035	9.90	458556	12.99	492782	14.60
08	AZ53062W11 2/500	508914	9.91	478120	12.99	800406	14.60
09	AZ53064W06 2/500	466322	9.90	443785	12.98	397176 *	14.60
10	AZ53065W06 2/500	471130	9.91	446576	12.99	488029	14.60
11	500ug/ml DEG 04/12/17	446090	9.90	419492	12.98	436159	14.60
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y017
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:07:33 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y017.D
Acq On : 13 Apr 17 18:48
Sample : AZ53059W17 2/500
Misc :

Vial: 17
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	104036	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	458389	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	265697	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	493034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	450448	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	267969	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

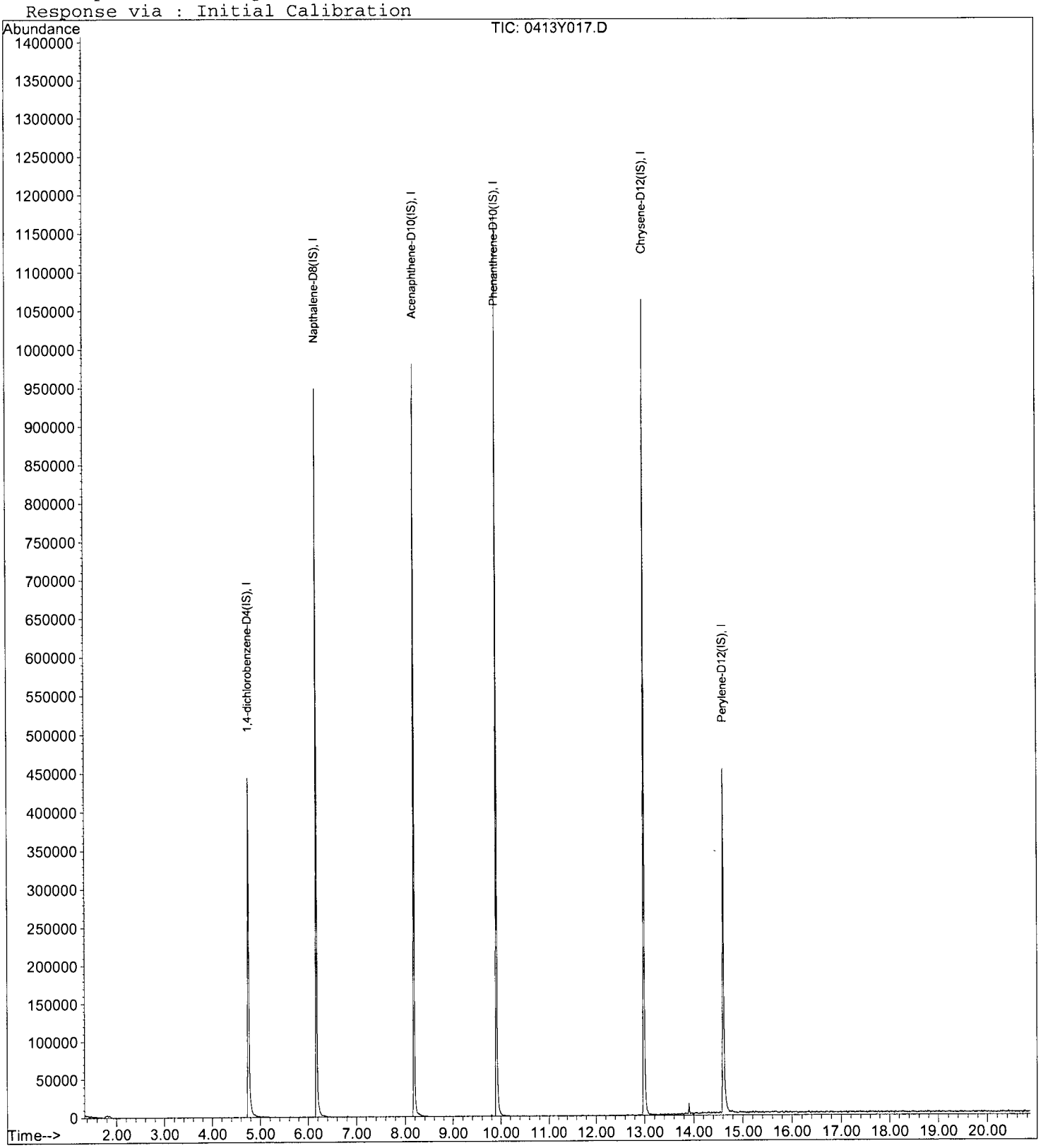
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y017.D Vial: 17
Acq On : 13 Apr 17 18:48 Operator: MA
Sample : AZ53059W17 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y018
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:07:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y018.D
Acq On : 13 Apr 17 19:18
Sample : AZ53060W07 2/500
Misc :

Vial: 18
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	104791	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	458029	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	268614	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	483035	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	458556	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	492782	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

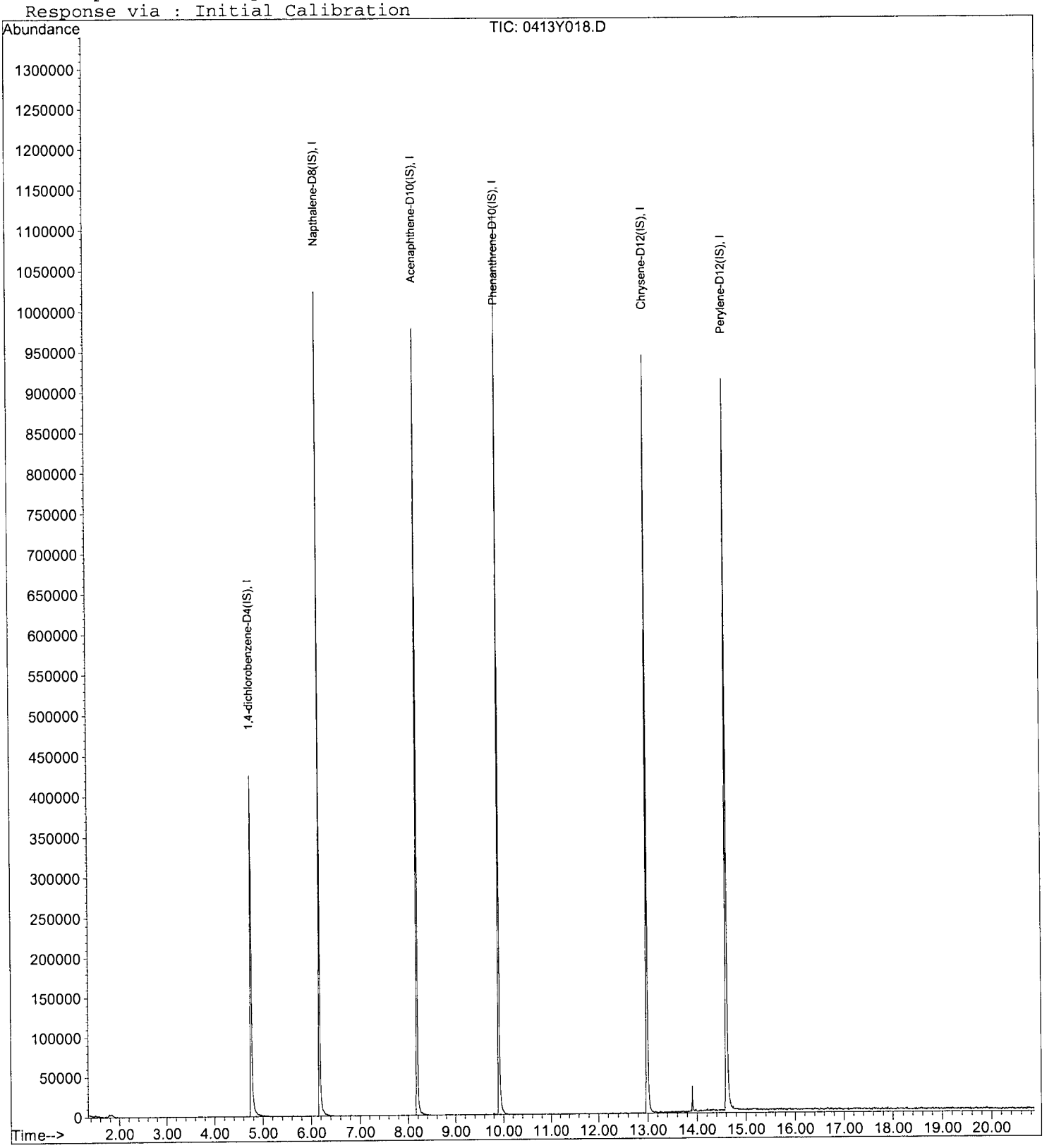
Data File : M:\YODA\DATA\Y170413G\0413Y018.D
Acq On : 13 Apr 17 19:18
Sample : AZ53060W07 2/500
Misc :

Vial: 18
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y019
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:07:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y019.D Vial: 19
Acq On : 13 Apr 17 19:49 Operator: MA
Sample : AZ53062W11 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108072	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	491749	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	273856	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	508914	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	478120	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	800406	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

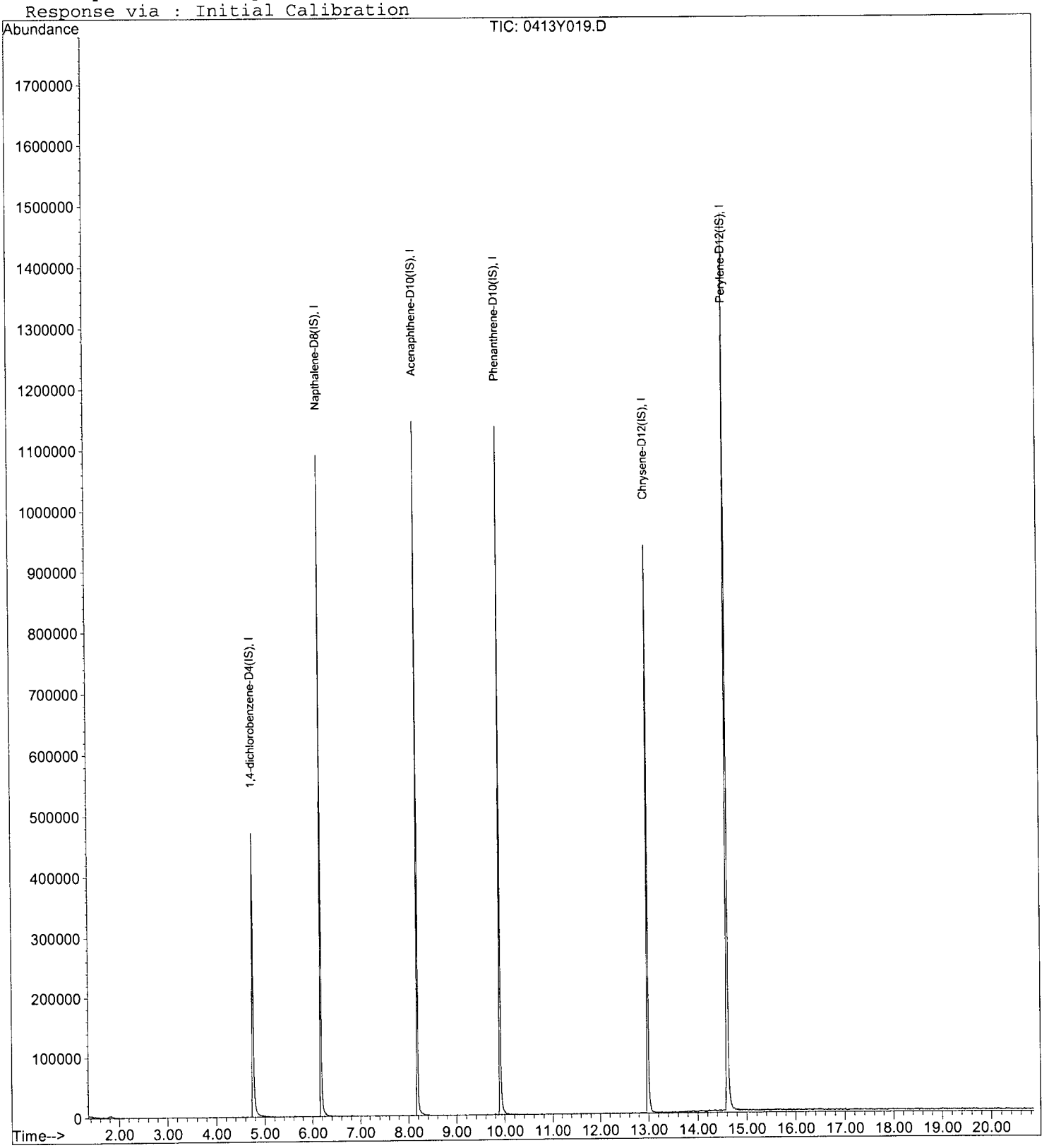
Data File : M:\YODA\DATA\Y170413G\0413Y019.D
Acq On : 13 Apr 17 19:49
Sample : AZ53062W11 2/500
Misc :

Vial: 19
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y020
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:07:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y020.D
Acq On : 13 Apr 17 20:19
Sample : AZ53064W06 2/500
Misc :

Vial: 20
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	99403	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	440437	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	255529	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	466322	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	443785	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	397176	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

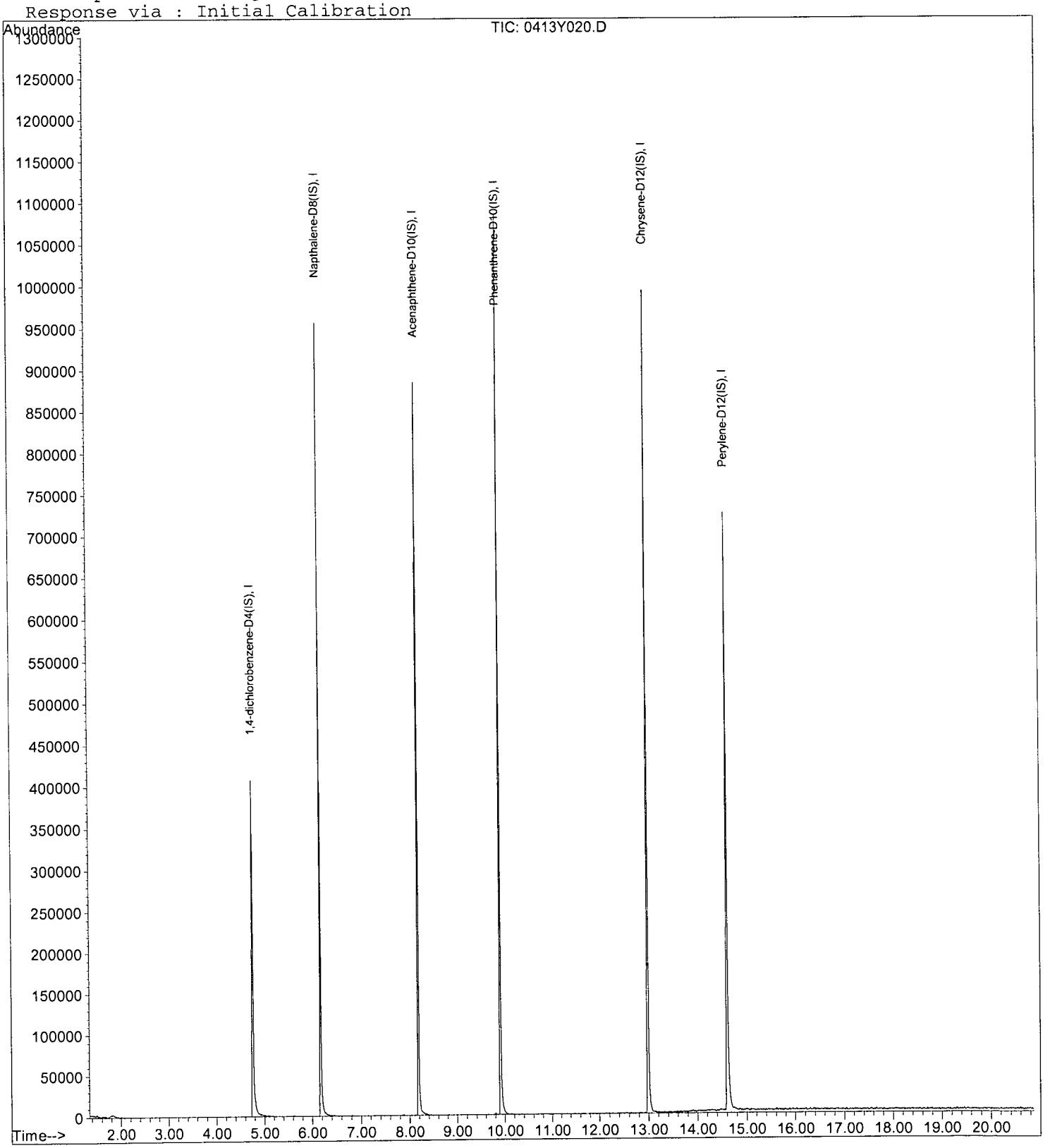
Data File : M:\YODA\DATA\Y170413G\0413Y020.D
Acq On : 13 Apr 17 20:19
Sample : AZ53064W06 2/500
Misc :

Vial: 20
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y021
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:07:34 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y021.D
Acq On : 13 Apr 17 20:49
Sample : AZ53065W06 2/500
Misc :

Vial: 21
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	103998	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	448667	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	259610	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	471130	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	446576	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	488029	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

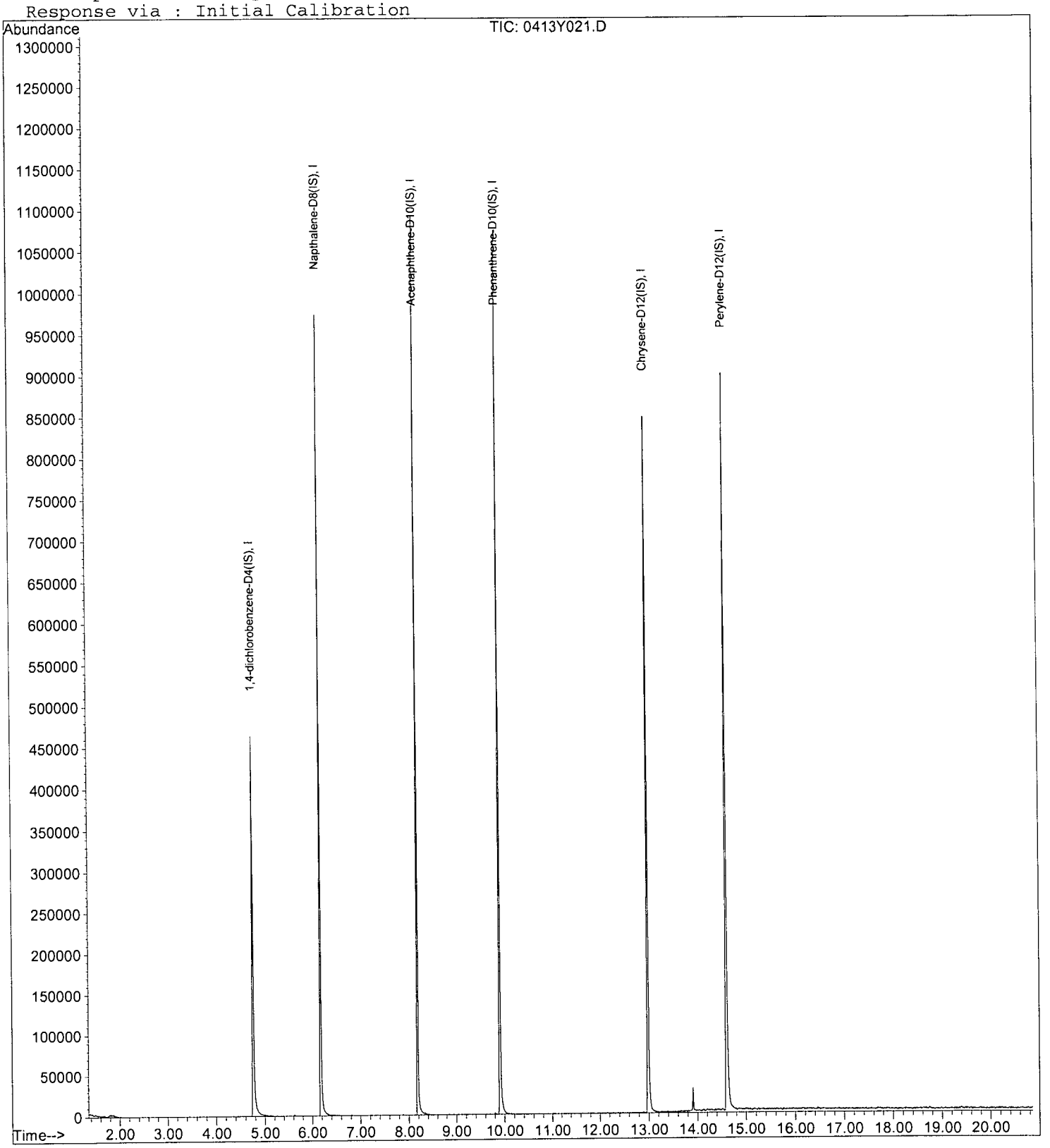
Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y021.D
Acq On : 13 Apr 17 20:49
Sample : AZ53065W06 2/500
Misc :

Vial: 21
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/13/17
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			0413Y003.D	0413Y004.D	0413Y005.D	0413Y006.D	0413Y007.D	0413Y008.D	0413Y009.D	0413Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol		0.1954	0.2196	0.2658	0.2711	0.2521	0.2727	0.2774			0.25	12	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 10:40:51 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	130198	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.16	136	560546	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	331589	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	606984	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	580372	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432171	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	9334	13.37349 ppb	100

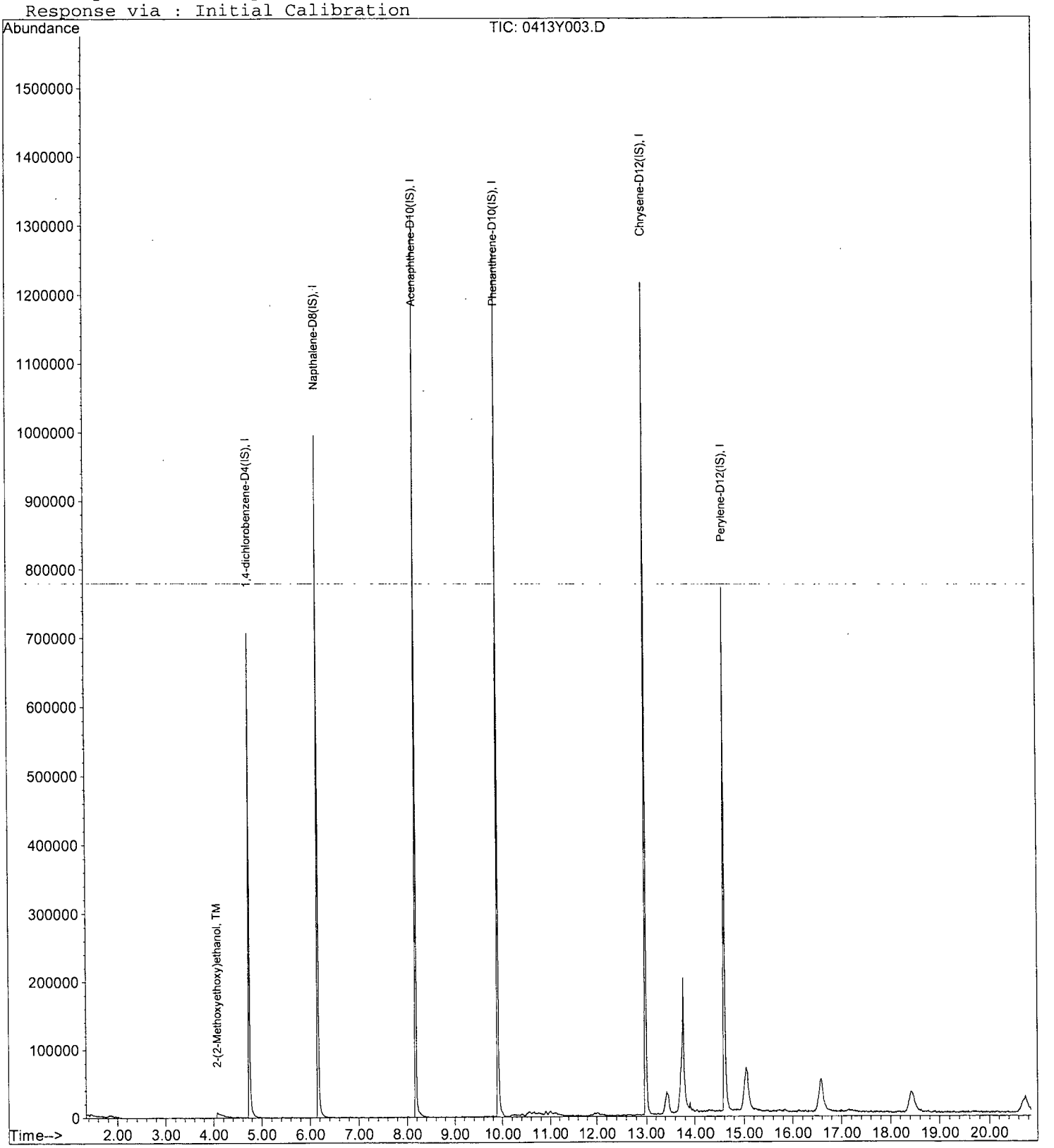
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	131544	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	575730	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	317779	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	590659	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	584988	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432757	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.01	45	64256	91.12217 ppb	100

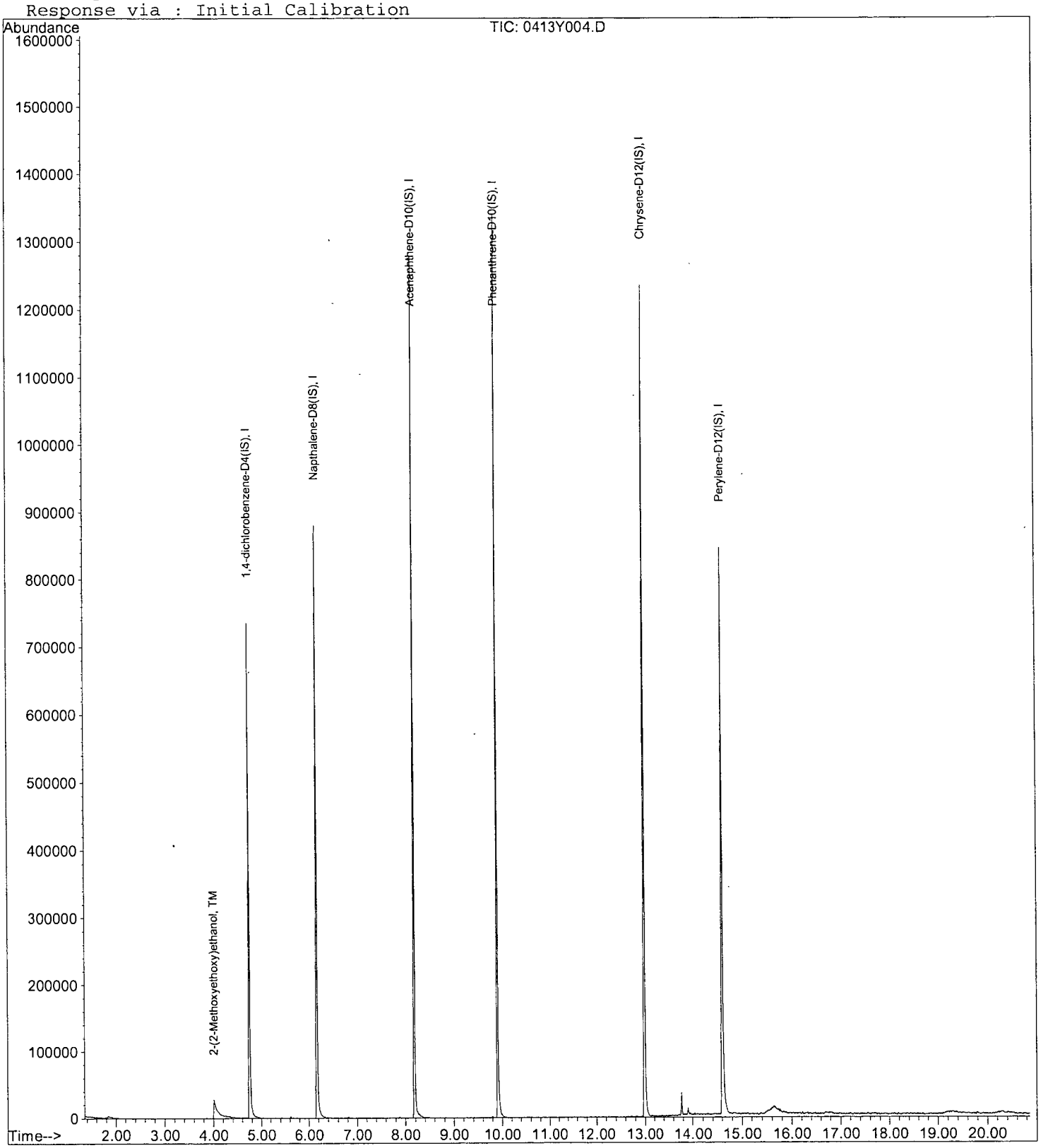
(#) = qualifier out of range (m) = manual integration
0413Y004.D Y0GLYCOL.M Fri Apr 14 07:33:36 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	137332	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	563866	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	327772	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	620890	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	536915	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	1021814	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.96	45	150783	204.81514 ppb	92

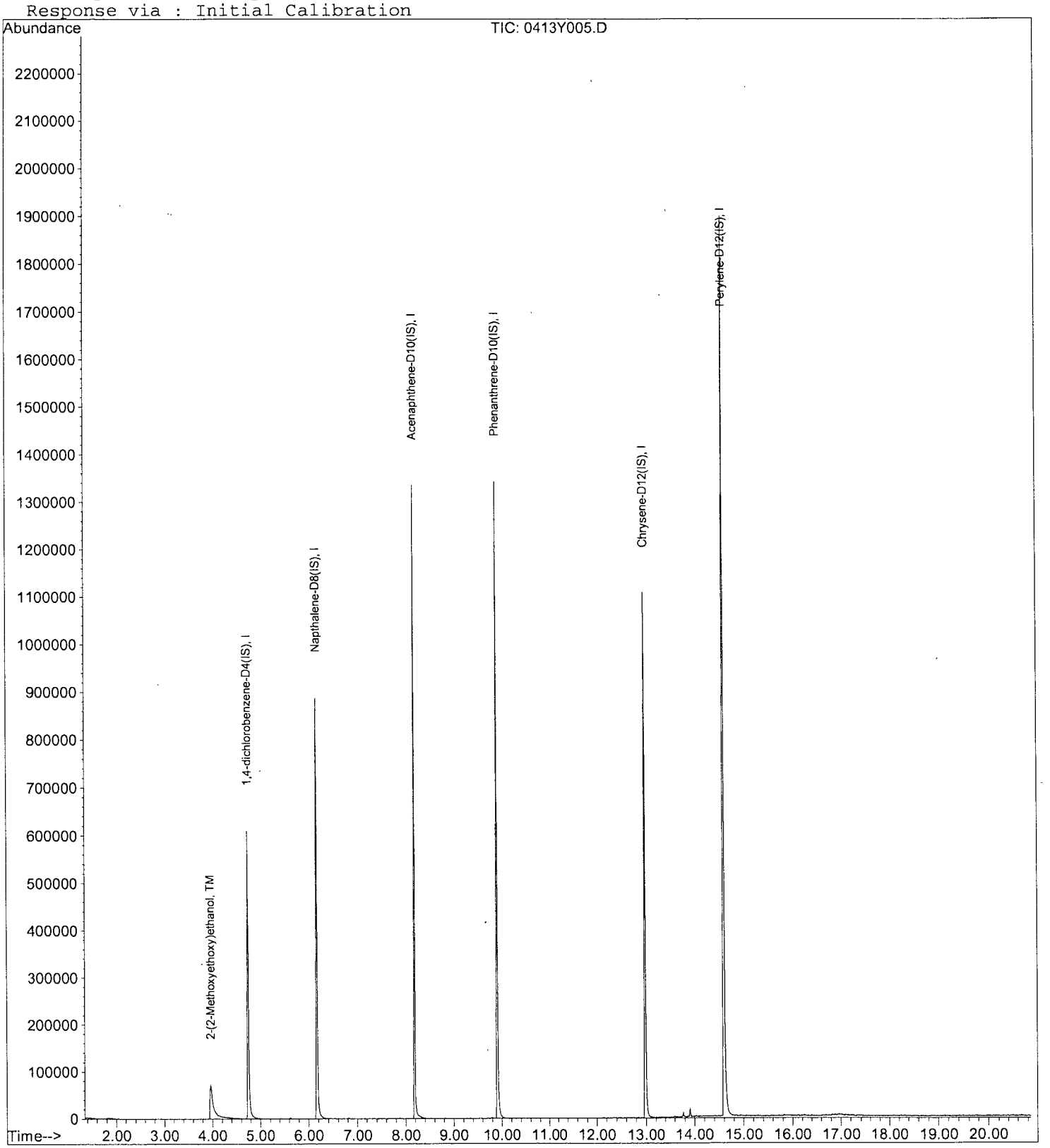
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	126427	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	524180	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	276249	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	502431	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	485074	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413502	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	336087	495.89909 ppb	96

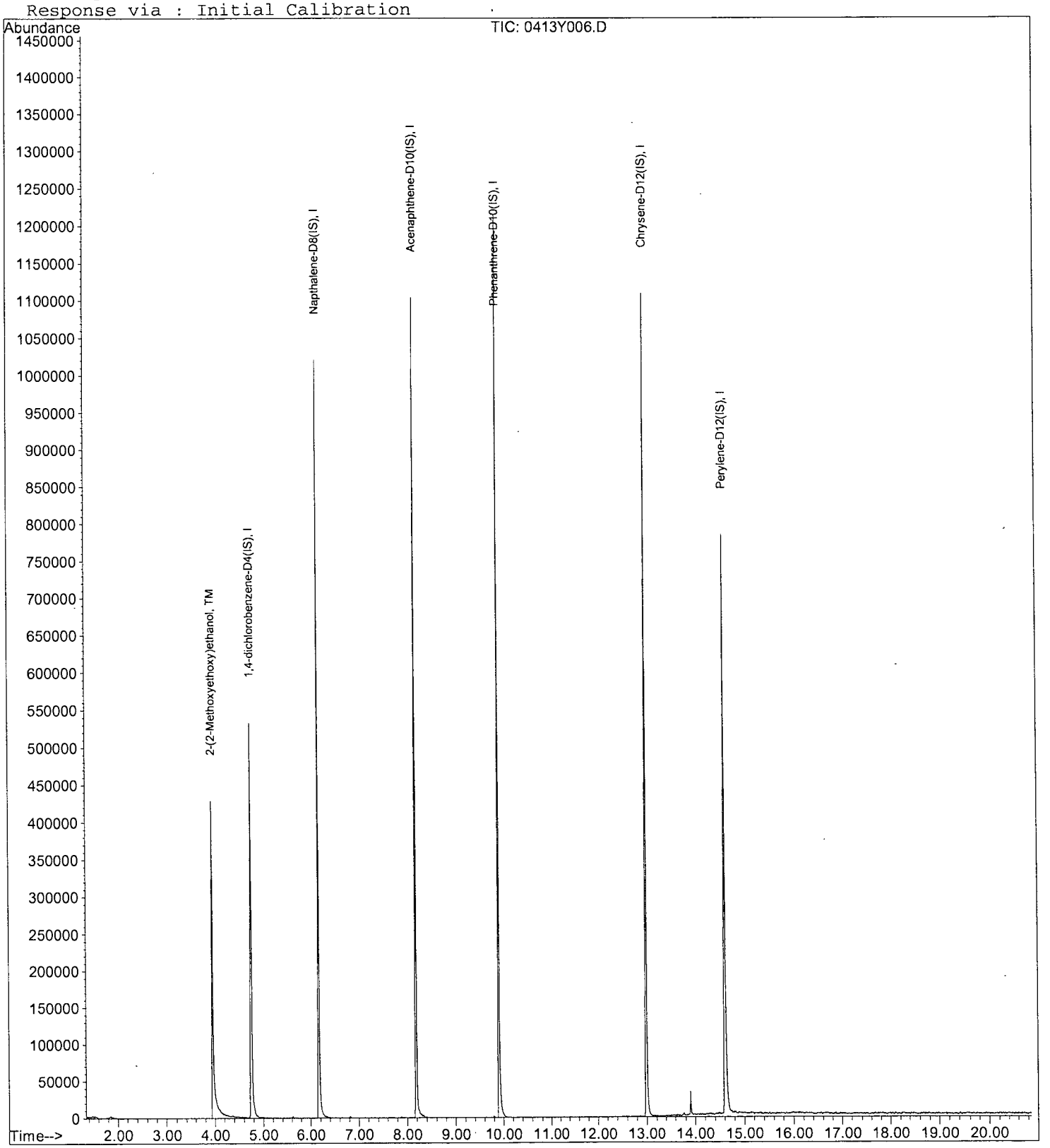
(#) = qualifier out of range (m) = manual integration
0413Y006.D Y0GLYCOL.M Fri Apr 14 07:33:43 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 12:27:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	122737	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	501978	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	280837	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	503114	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	470744	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	813583	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	415857	632.04783 ppb	99

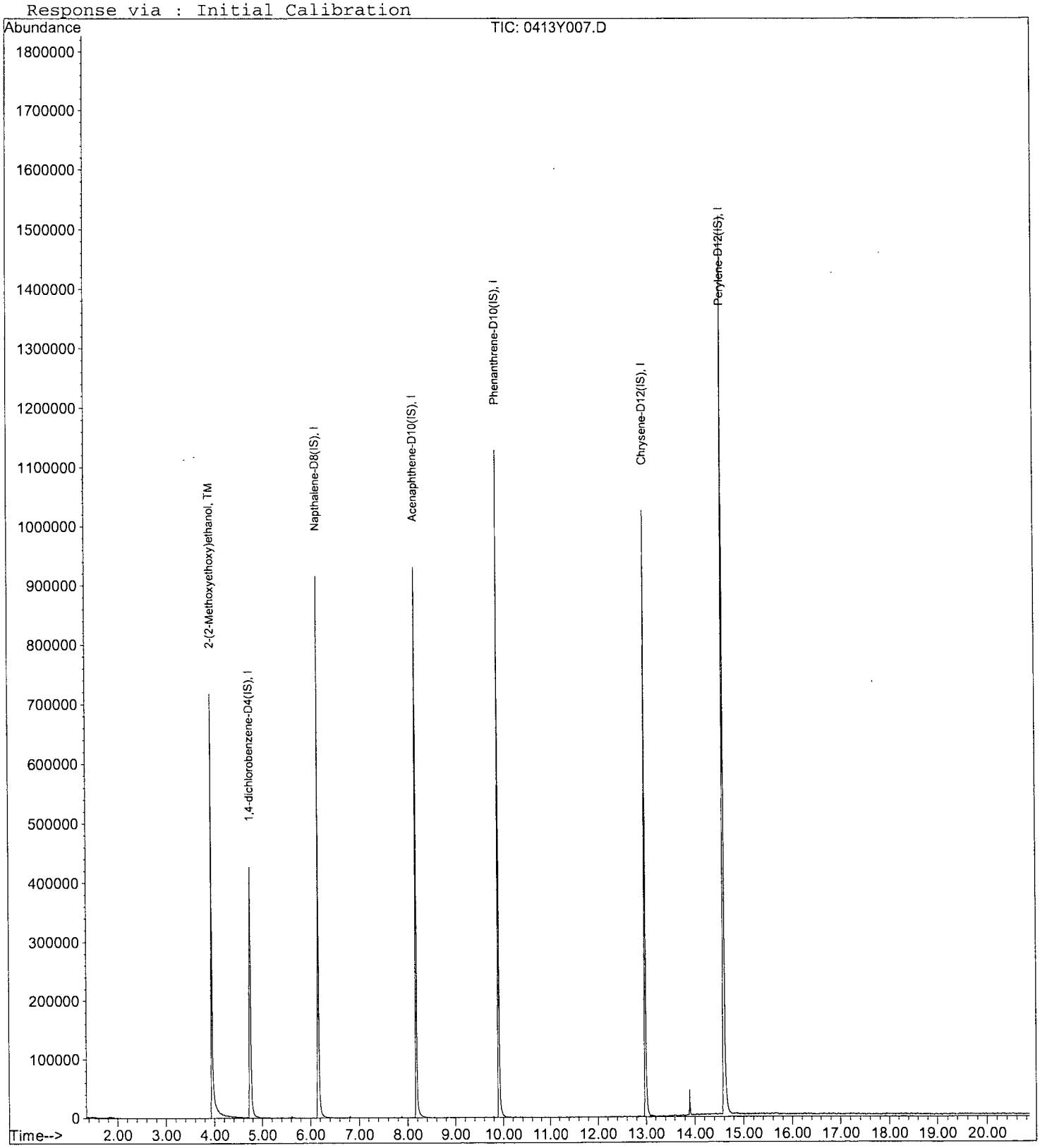
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	130873	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	545700	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	307336	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	536034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	498537	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432724	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	494979	572.20714 ppb	99

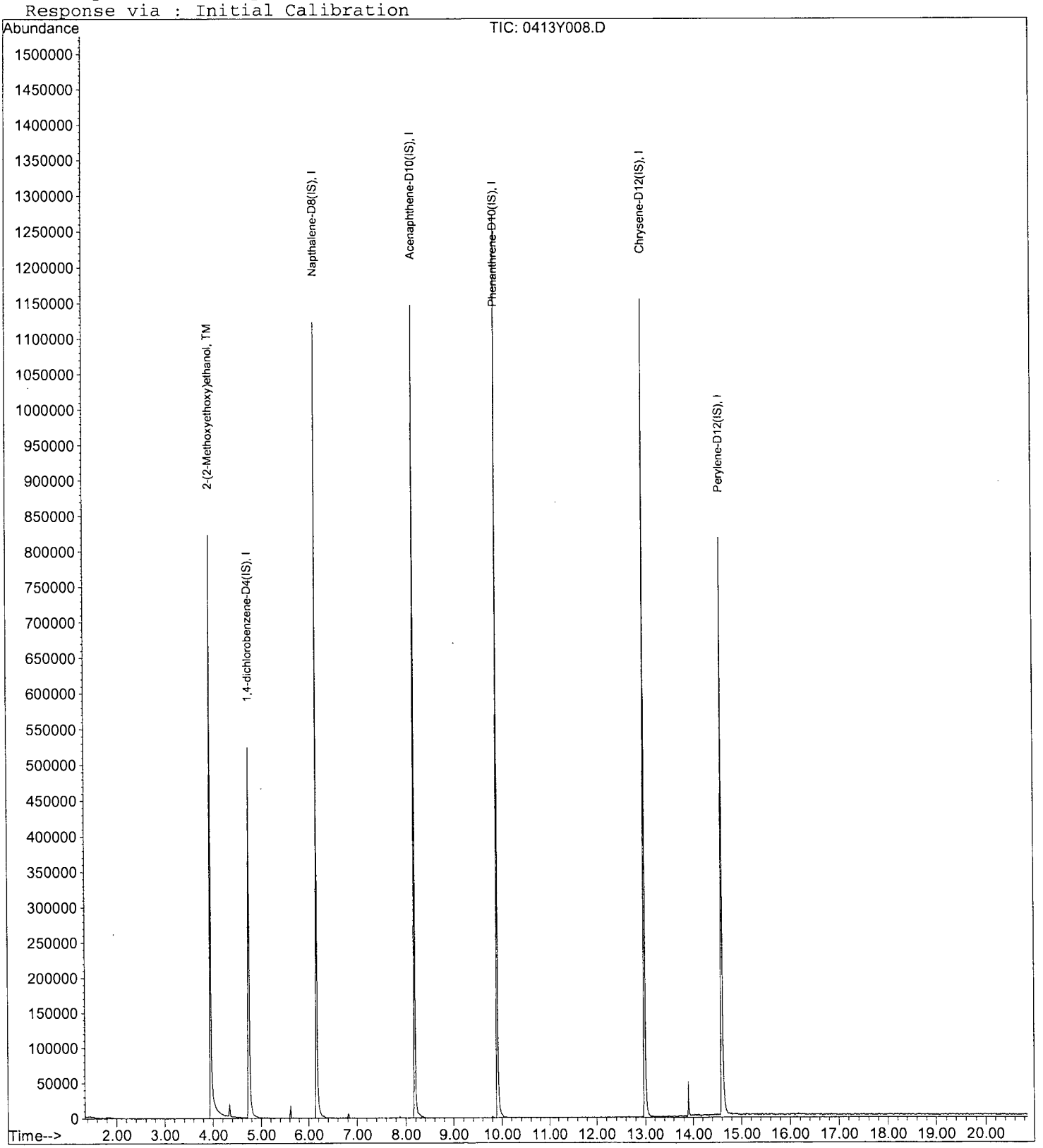
(#) = qualifier out of range (m) = manual integration
0413Y008.D Y0GLYCOL.M Fri Apr 14 07:33:50 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	120849	40.00000 ppb	0.01
3) Napthalene-D8(IS)	6.17	136	516352	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	297058	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	562967	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	508591	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	513774	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.98	45	659049	851.48970 ppb	97

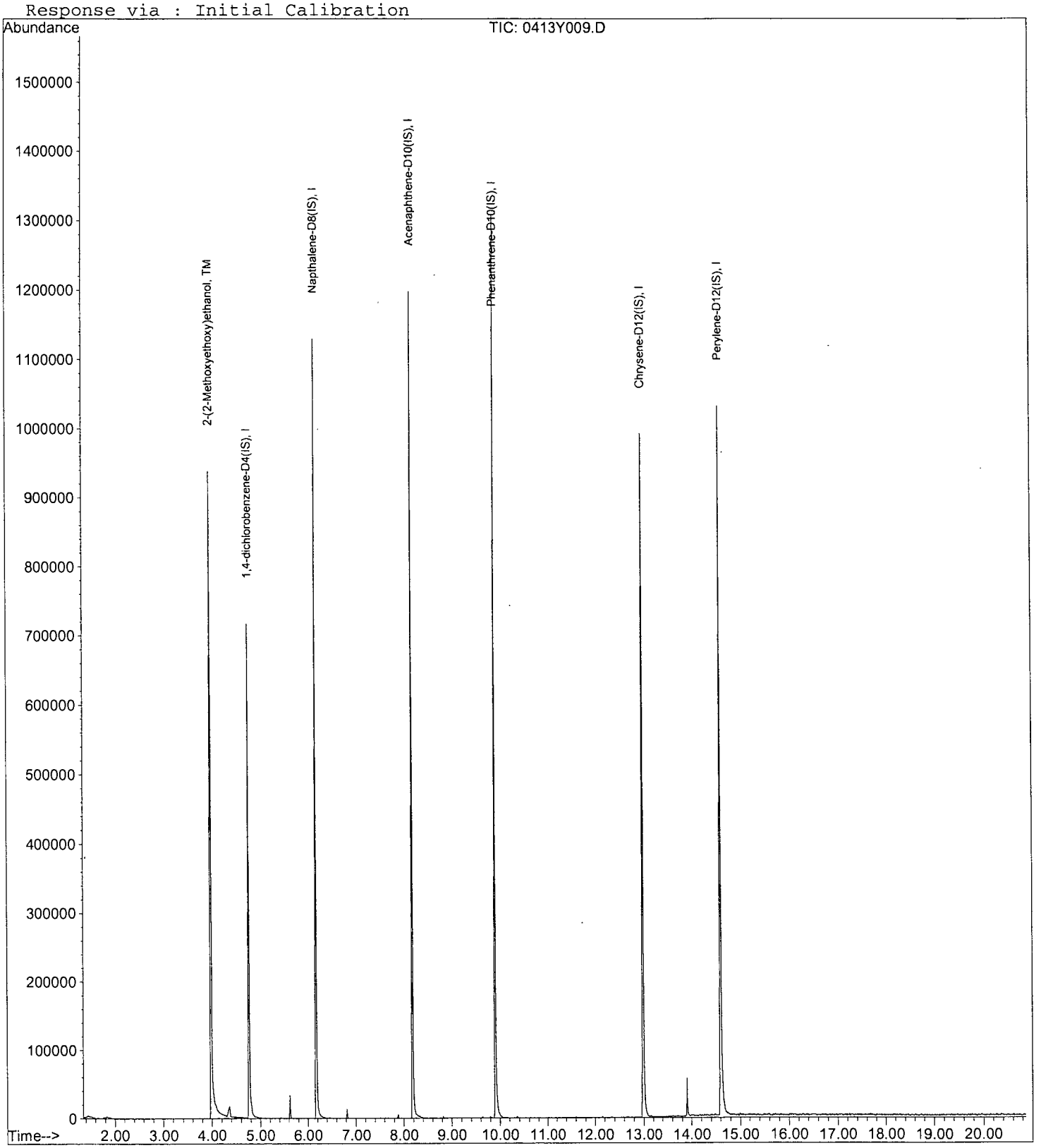
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	126513	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	529527	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	279610	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	516629	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	475326	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	424586	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.00	45	877318	1095.97475 ppb	99

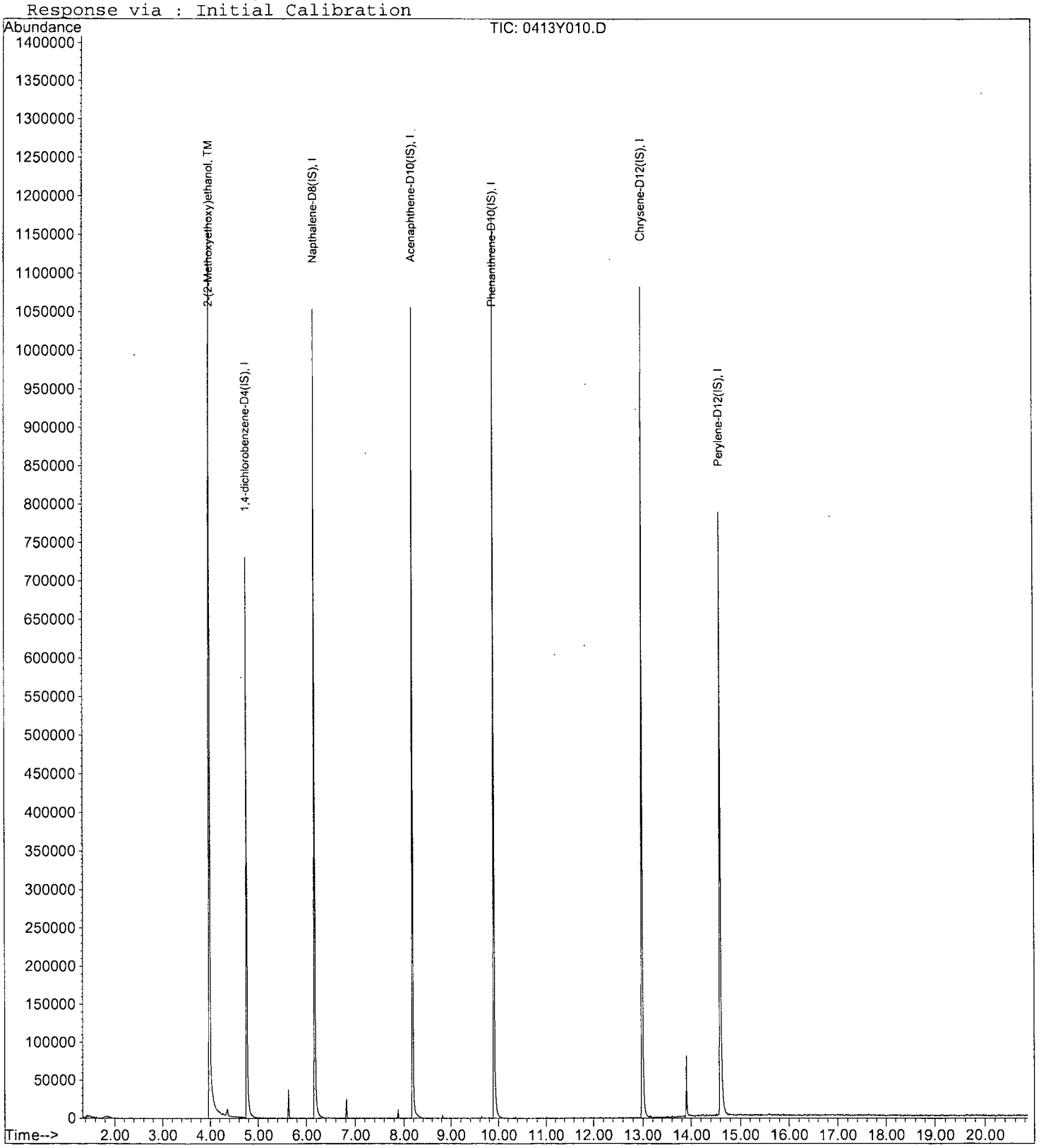
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2537	1.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	162431	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	673923	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	377854	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	682182	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	642948	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.61	264	796953	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	515080	506.19367 ppb	99

Algorithm = $\frac{515080 \times 40 \times 1}{162431 \times 0.2506}$ = 506.2 HA 4/14/17

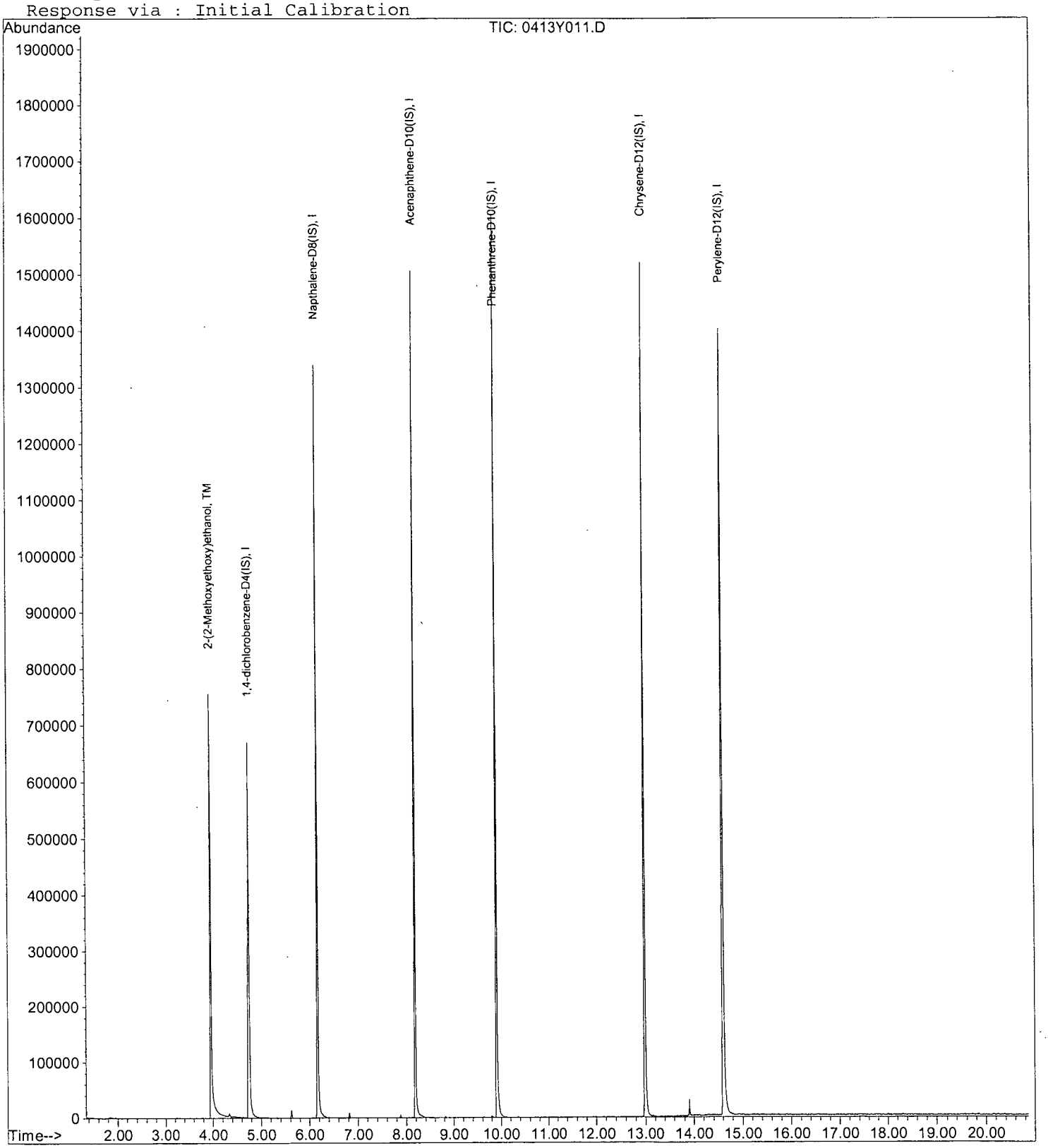
(#) = qualifier out of range (m) = manual integration
0413Y011.D Y0GLYCOL.M Fri Apr 14 07:34:01 2017 Page 1

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y034.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2681	7.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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24							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y034.D Vial: 34
Acq On : 14 Apr 17 3:17 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:38 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	98346	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	427367	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	247654	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	446090	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	419492	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	436159	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	329521	534.85657 ppb	97

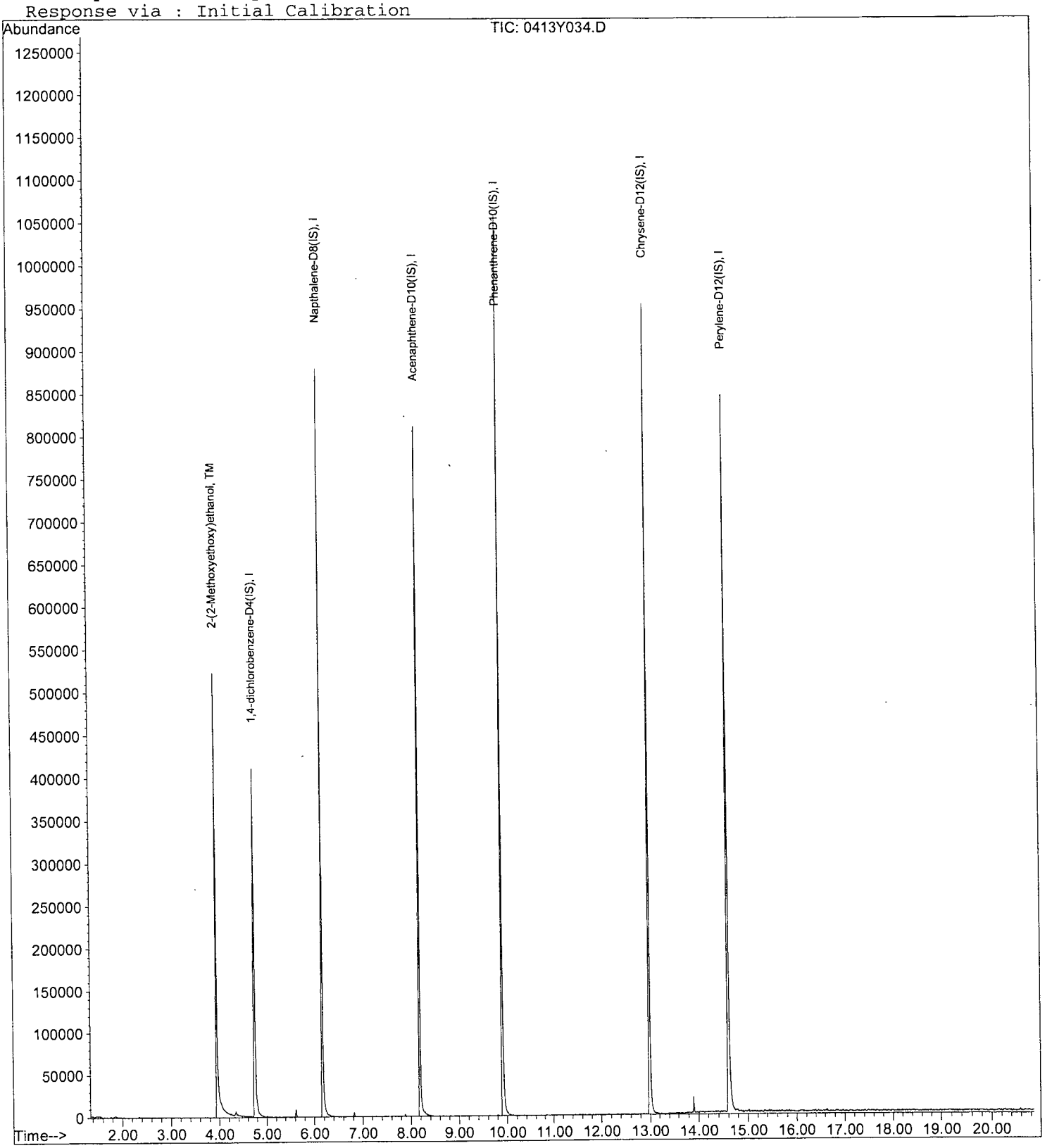
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y034.D Vial: 34
Acq On : 14 Apr 17 3:17 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:38 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.
Run #: 0413Y013
Instrument: Yoda
Sequence: Y170413G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:07:35 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y013.D Vial: 13
Acq On : 13 Apr 17 16:48 Operator: MA
Sample : 170410A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	105668	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	467112	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	267815	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	499187	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	471654	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	418040	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

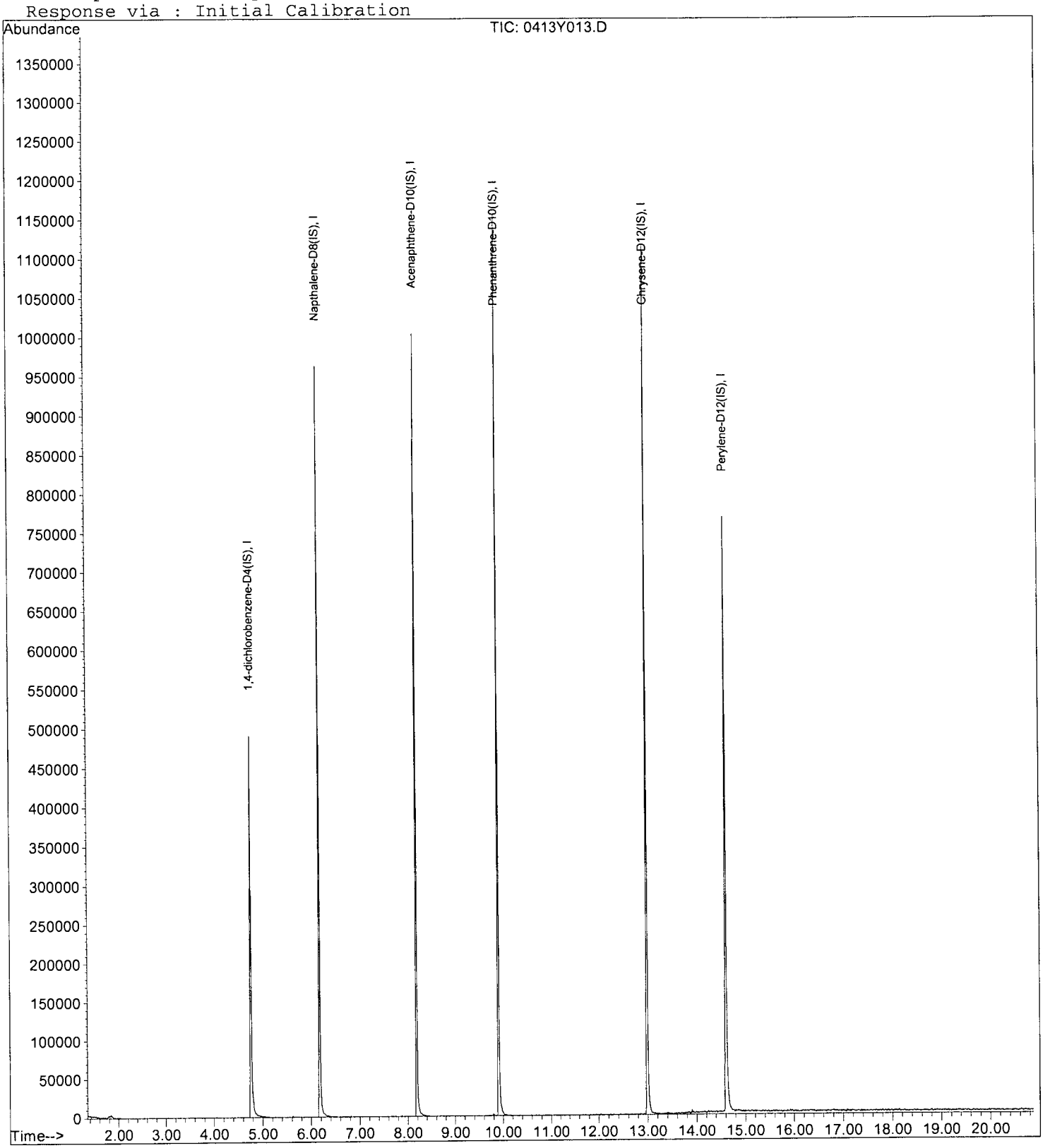
Data File : M:\YODA\DATA\Y170413G\0413Y013.D
Acq On : 13 Apr 17 16:48
Sample : 170410A BLK 2/500
Misc :

Vial: 13
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:07:36 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y014.D
Acq On : 13 Apr 17 17:18
Sample : 170410A LCS-1 2/500
Misc :

Vial: 14
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:48 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108150	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	455829	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	255413	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	474128	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	448616	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413196	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	27786	41.01195 ppb	100

(#) = qualifier out of range (m) = manual integration
0413Y014.D YOGLYCOL.M Fri Apr 14 09:54:04 2017

Quantitation Report

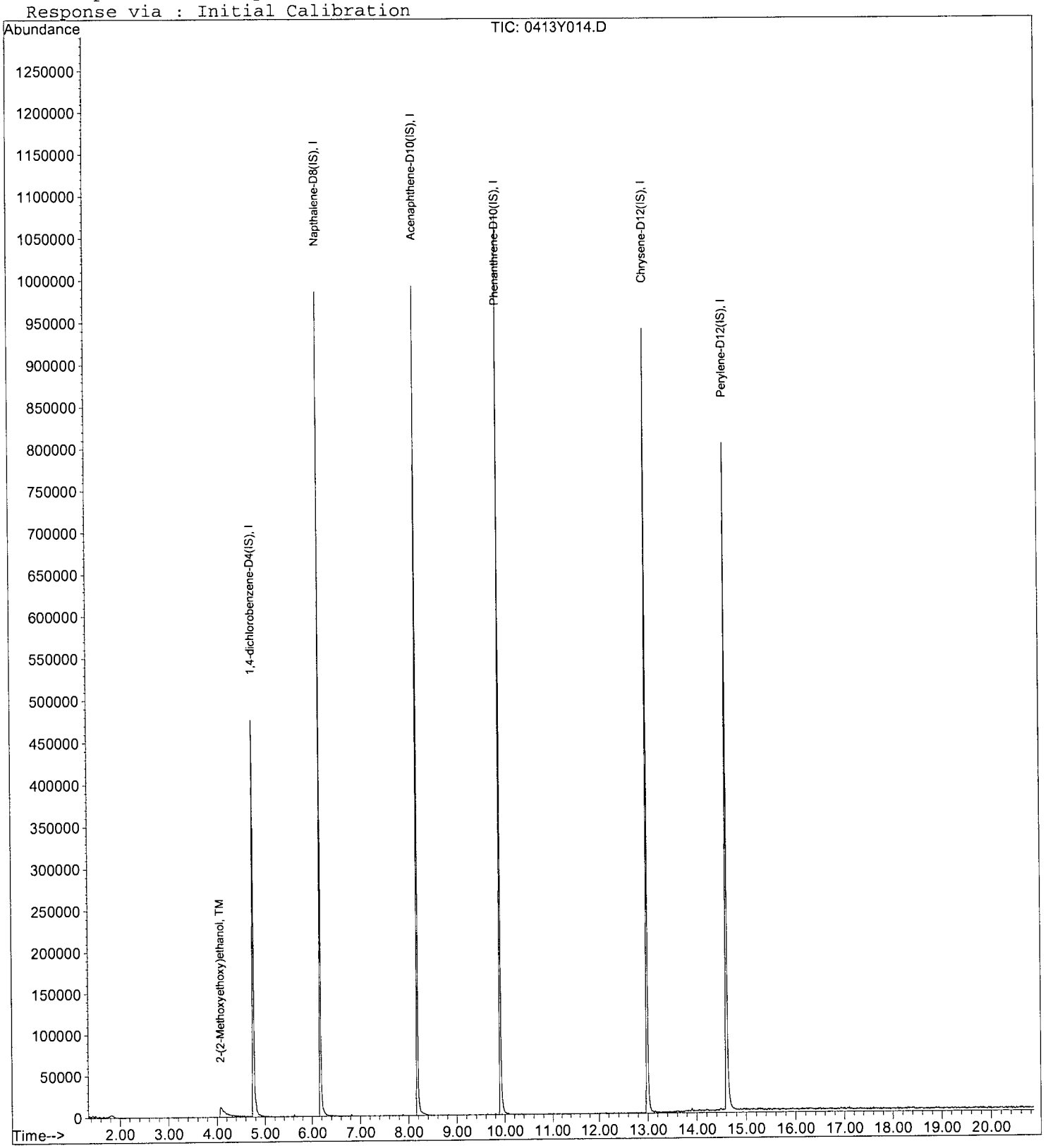
Data File : M:\YODA\DATA\Y170413G\0413Y014.D
Acq On : 13 Apr 17 17:18
Sample : 170410A LCS-1 2/500
Misc :

Vial: 14
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:48 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 MS - 217853**
Batch ID: #87DME-170410A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	61.7	60.2	77.1	75.3	30-130	2.5	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/13/17	04/13/17
Instrument :	Yoda	Yoda
Run :	0413Y015	0413Y016
Initials :	MA	

Printed: 04/14/17 11:07:38 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y015.D Vial: 15
Acq On : 13 Apr 17 17:48 Operator: MA
Sample : AZ53059W23 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:49 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	117039	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	496867	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	281325	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	509257	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	513437	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	370884	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	45206m	61.65615 ppb	98

(#) = qualifier out of range (m) = manual integration
0413Y015.D YOGLYCOL.M Fri Apr 14 09:54:07 2017

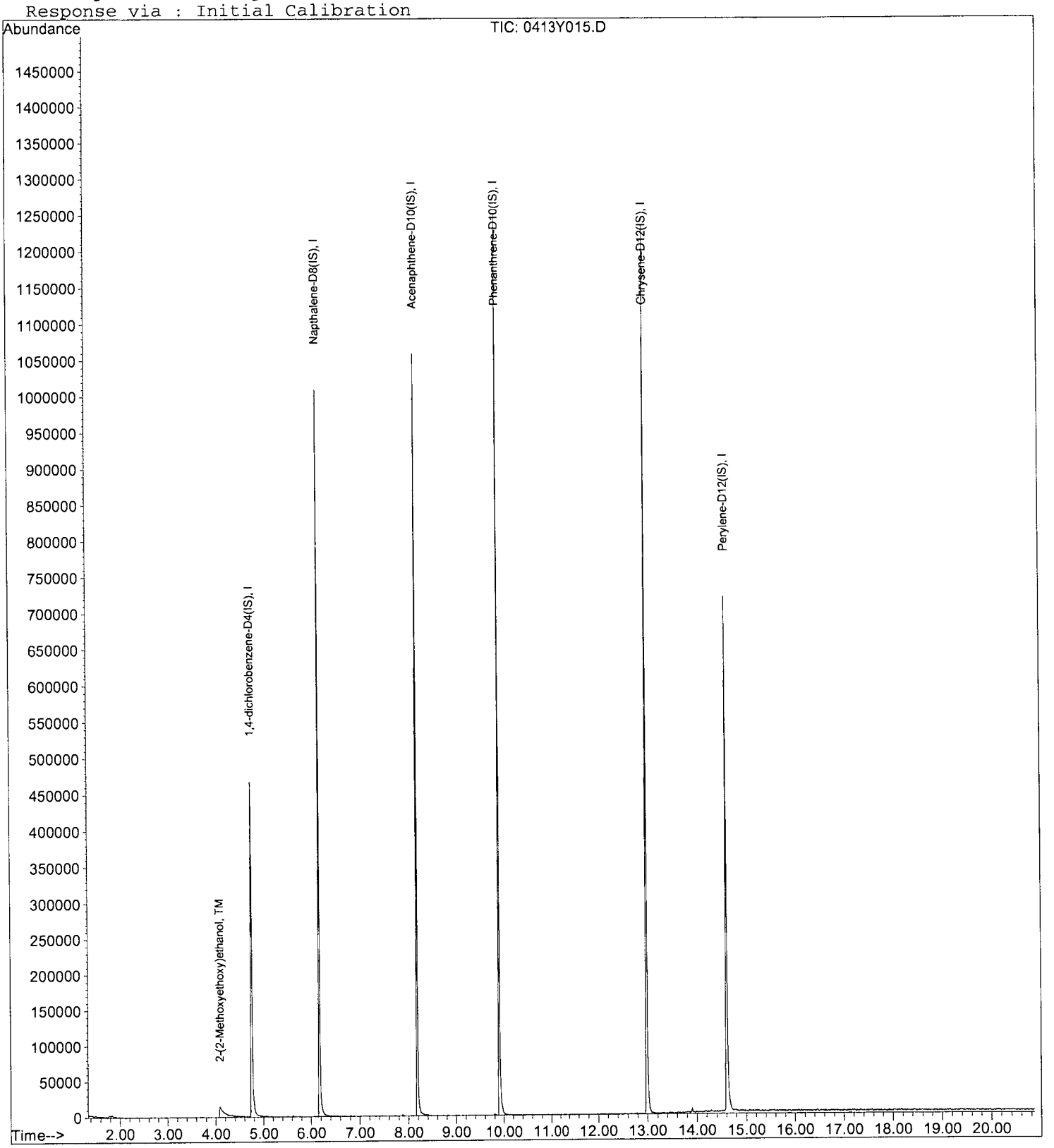
Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y015.D
Acq On : 13 Apr 17 17:48
Sample : AZ53059W23 MS-1 2/500
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:49 2017 Quant Results File: Y0GLYCOL.RES

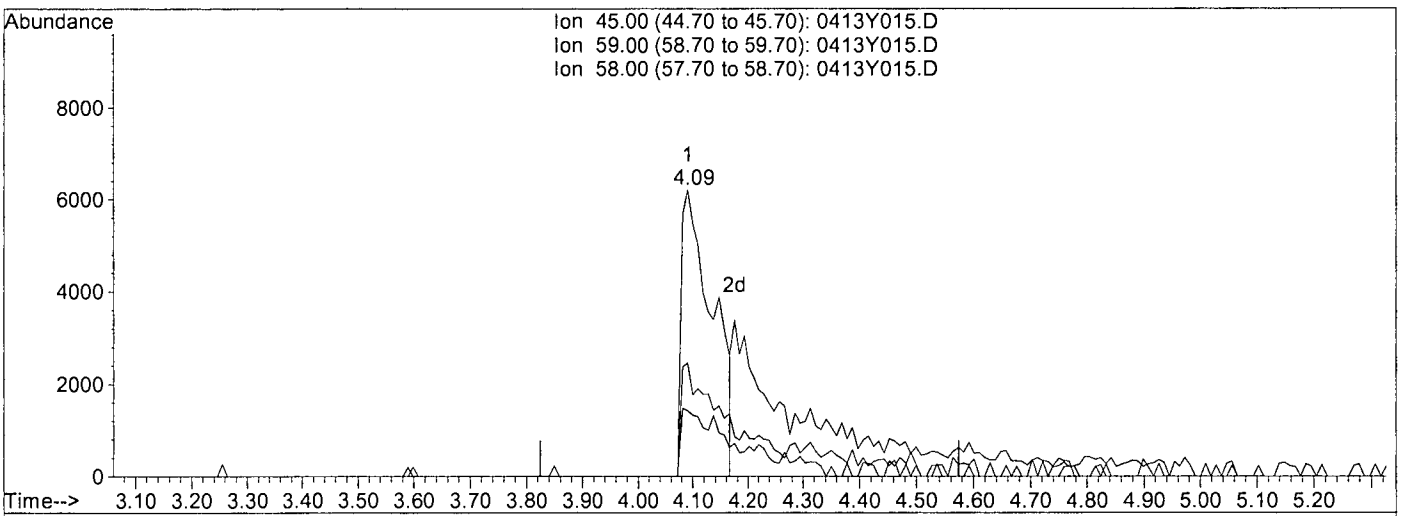
Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

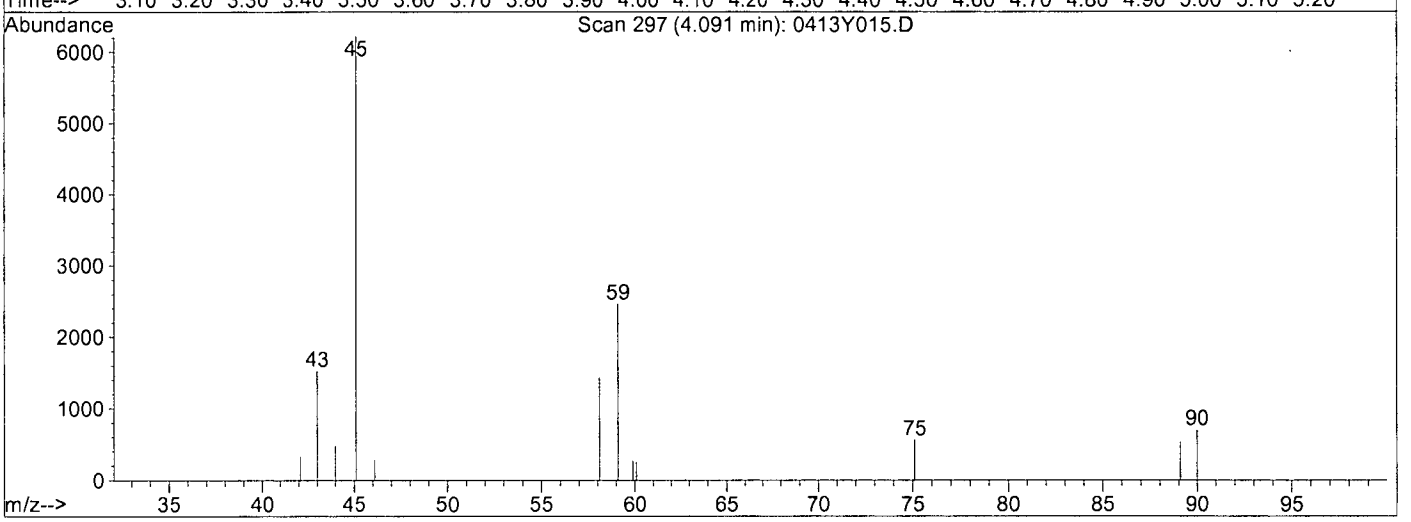


Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y015.D Vial: 15
Acq On : 13 Apr 17 17:48 Operator: MA
Sample : AZ53059W23 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:48 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y015.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.09min 32.6871ppb

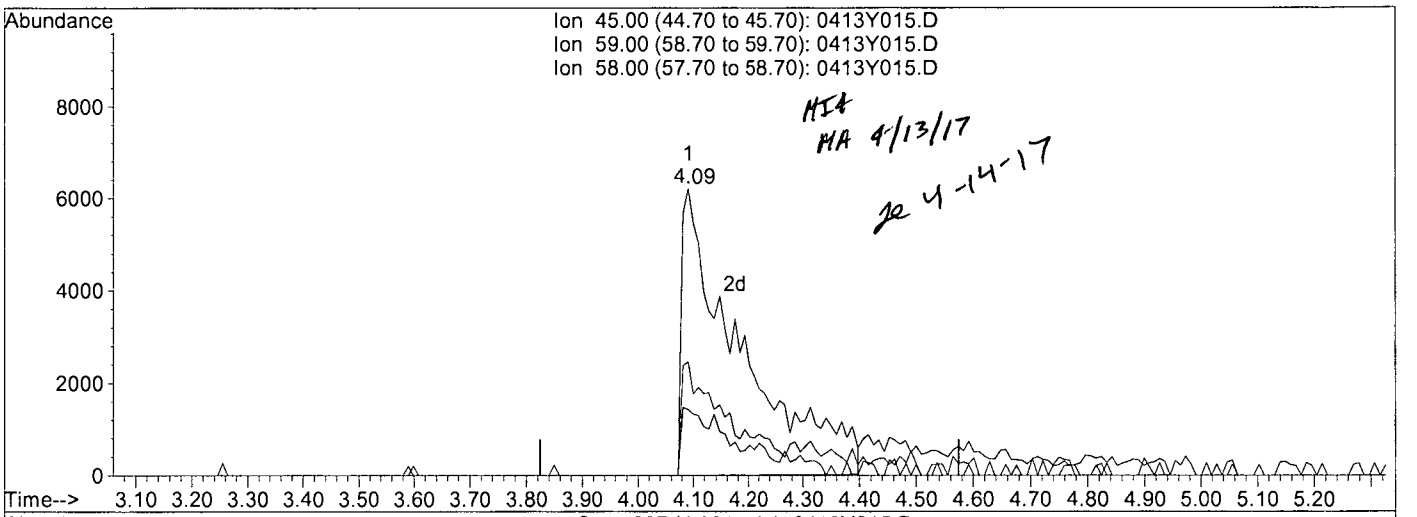
response 23966

Ion	Exp%	Act%
45.00	100	100
59.00	40.50	39.58
58.00	21.70	22.93
0.00	0.00	0.00

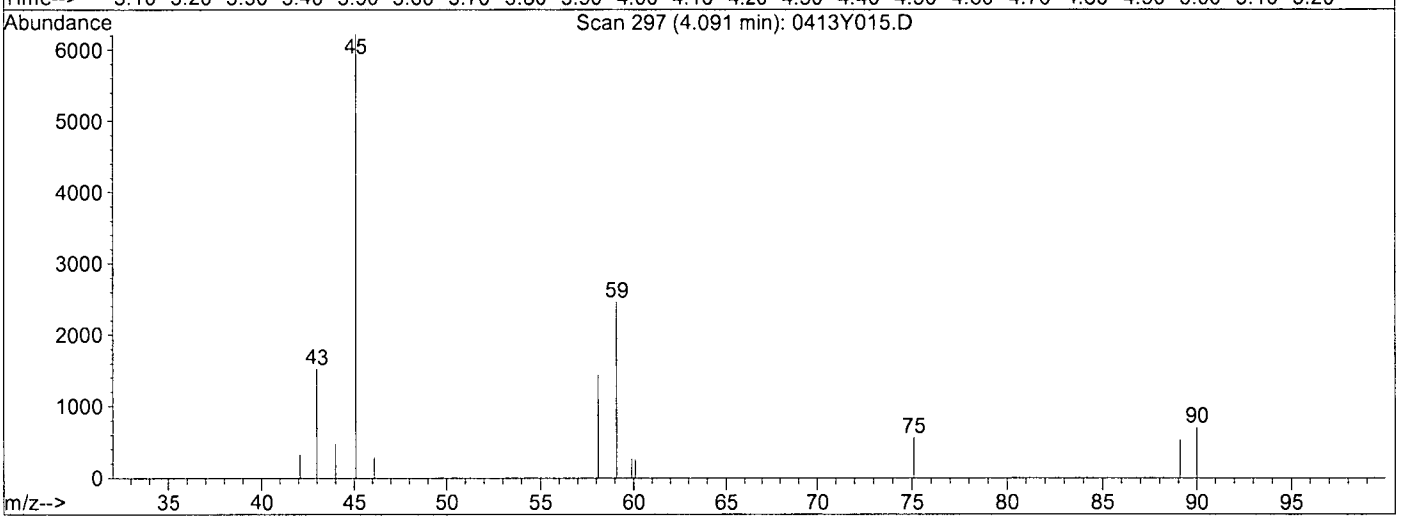
Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y015.D Vial: 15
Acq On : 13 Apr 17 17:48 Operator: MA
Sample : AZ53059W23 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:49 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration



MIA
MA 4/13/17
JR 4-14-17



TIC: 0413Y015.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.09min 61.6562ppb m

response 45206

Ion	Exp%	Act%
45.00	100	100
59.00	40.50	39.58
58.00	21.70	22.93
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y016.D
Acq On : 13 Apr 17 18:18
Sample : AZ53059W23 MSD-1 2/500
Misc :

Vial: 16
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:49 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	106115	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	460284	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	247504	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	467217	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	458491	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	326339	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.09	45	40035m	60.22461 ppb	89

(#) = qualifier out of range (m) = manual integration
0413Y016.D Y0GLYCOL.M Fri Apr 14 09:54:10 2017

Quantitation Report

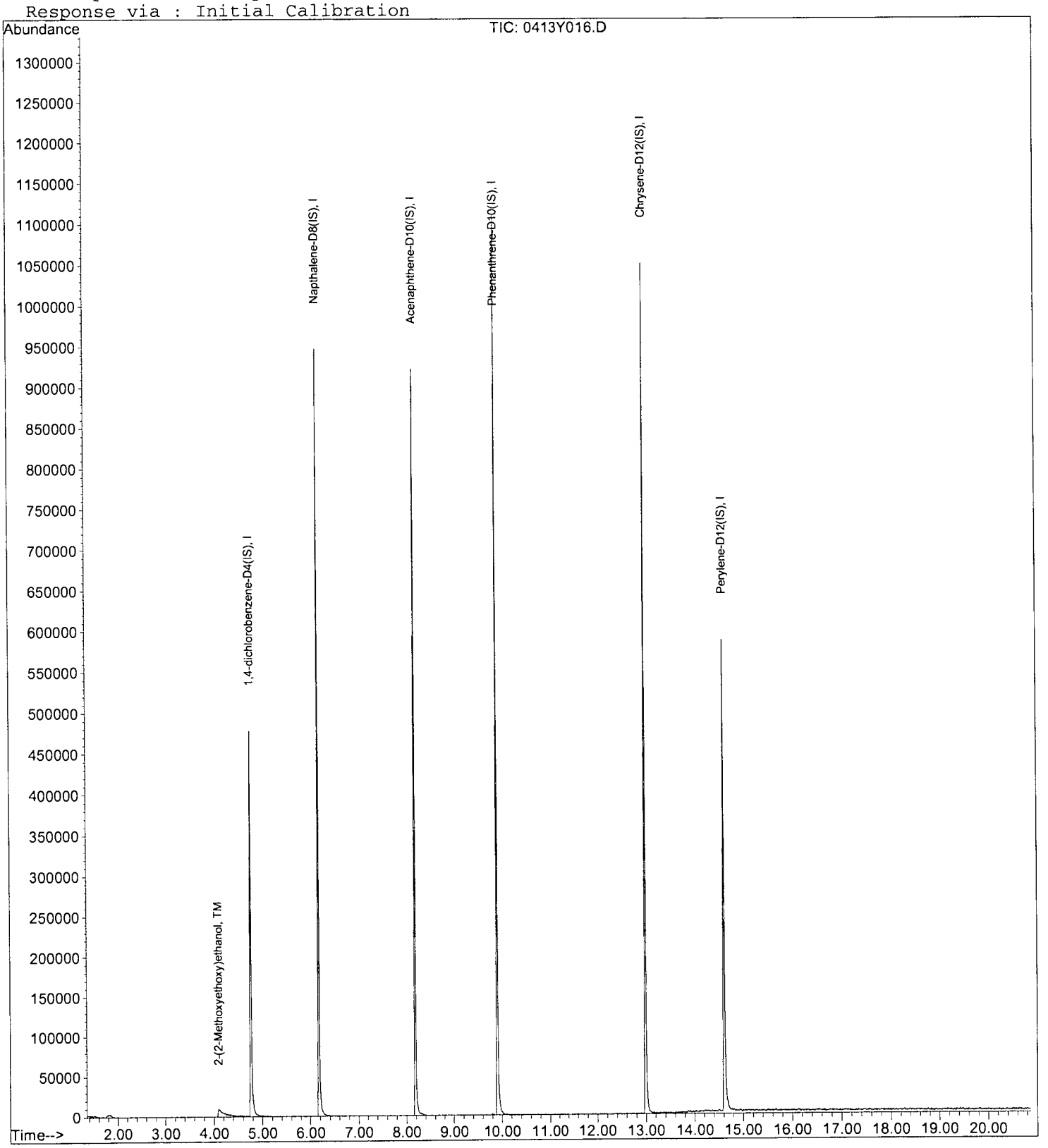
Data File : M:\YODA\DATA\Y170413G\0413Y016.D
Acq On : 13 Apr 17 18:18
Sample : AZ53059W23 MSD-1 2/500
Misc :

Vial: 16
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:49 2017

Quant Results File: YOGLYCOL.RES

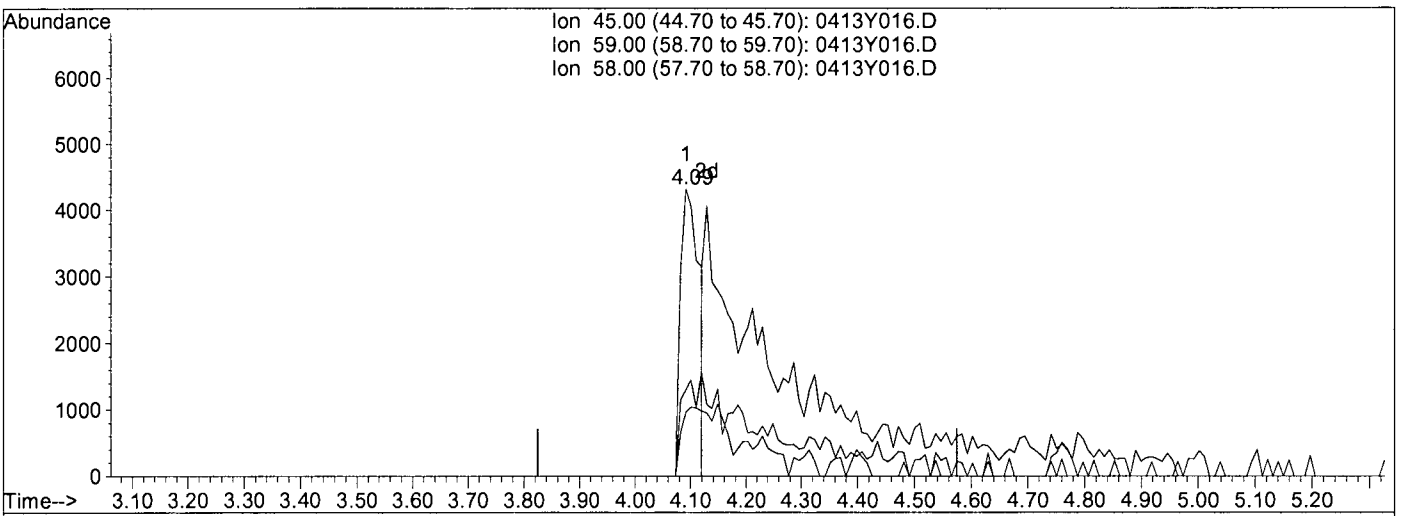
Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

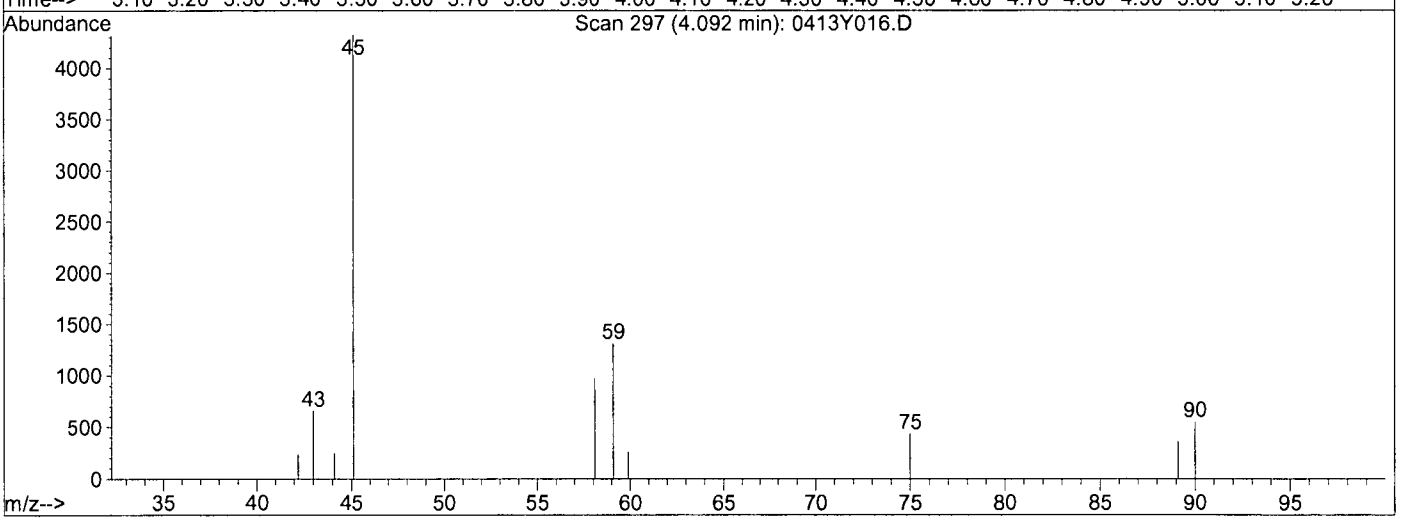


Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y016.D Vial: 16
Acq On : 13 Apr 17 18:18 Operator: MA
Sample : AZ53059W23 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:48 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y016.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.09min 15.0234ppb

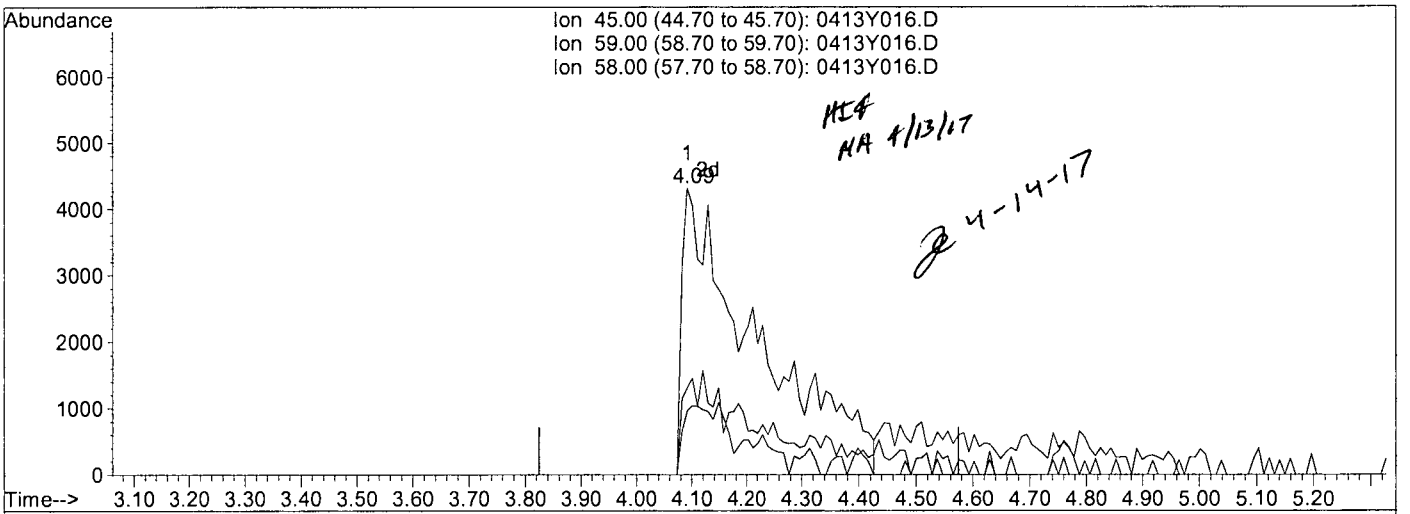
response 9987

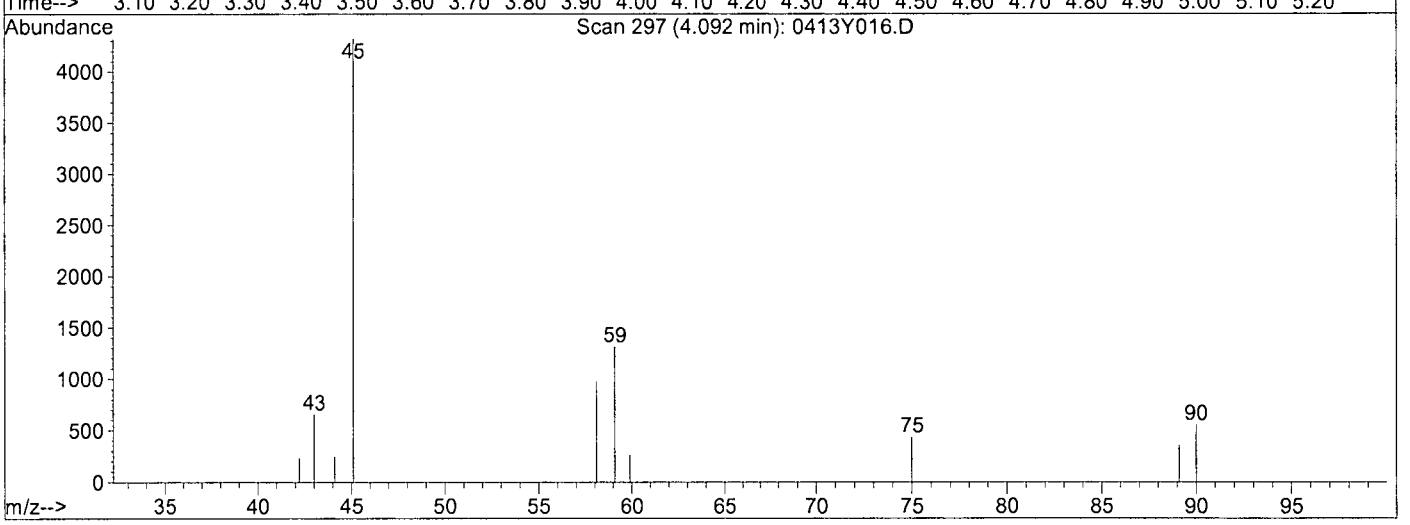
Ion	Exp%	Act%
45.00	100	100
59.00	40.50	30.29
58.00	21.70	22.44
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y016.D Vial: 16
Acq On : 13 Apr 17 18:18 Operator: MA
Sample : AZ53059W23 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:49 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y016.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.09min 60.2246ppb m

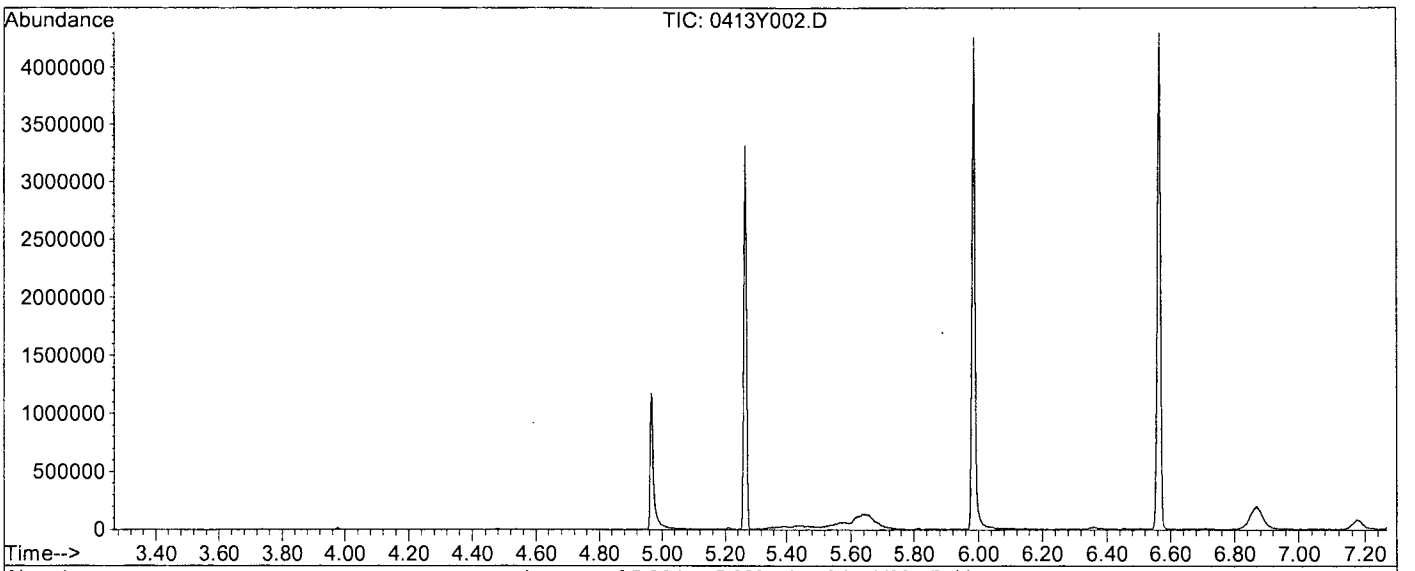
response 40035

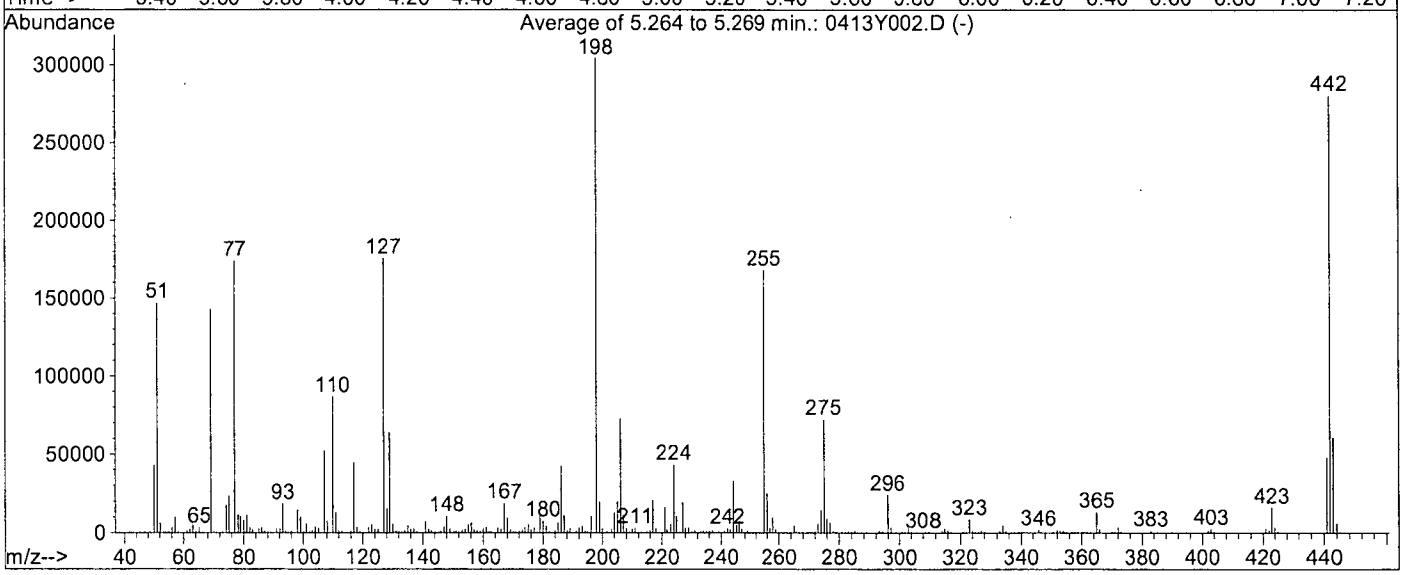
Ion	Exp%	Act%
45.00	100	100
59.00	40.50	30.29
58.00	21.70	22.44
0.00	0.00	0.00

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y002.D Vial: 2
Acq On : 13 Apr 17 9:41 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

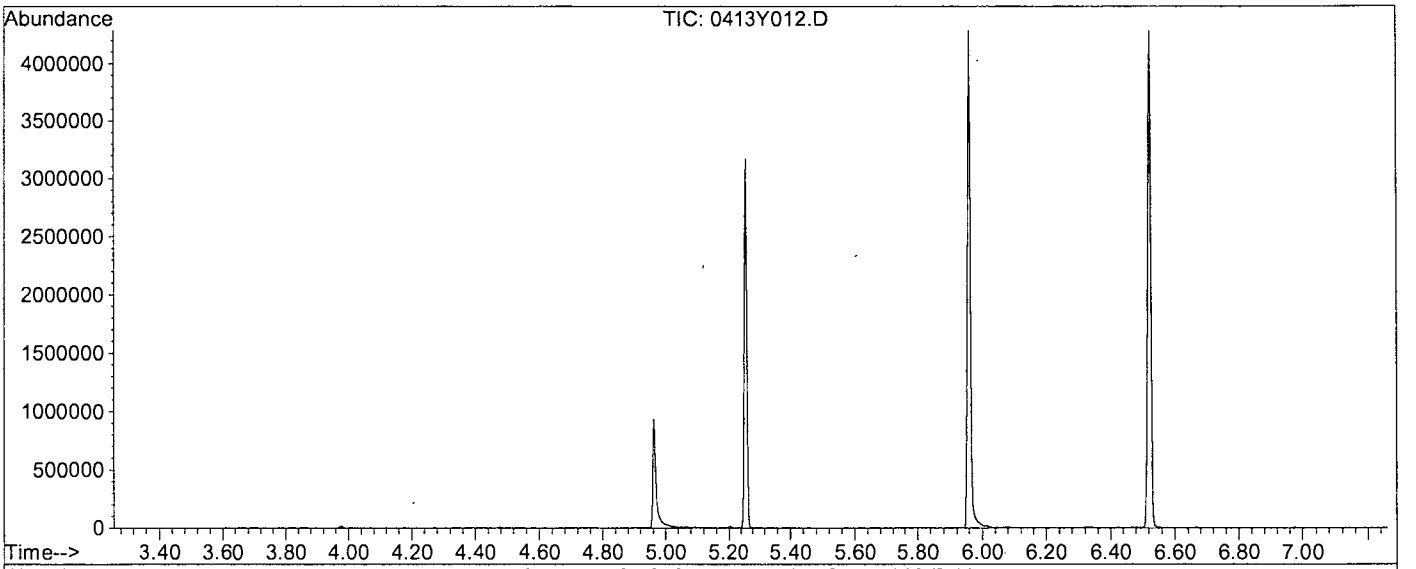
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	147051	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	530	PASS
127	198	40	60	57.7	175637	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	304341	PASS
199	198	5	9	6.4	19568	PASS
275	198	10	30	23.7	72040	PASS
365	198	1	100	4.3	13166	PASS
441	443	0.01	100	78.5	47741	PASS
442	198	50	150	92.2	280597	PASS
443	442	17	23	21.7	60813	PASS

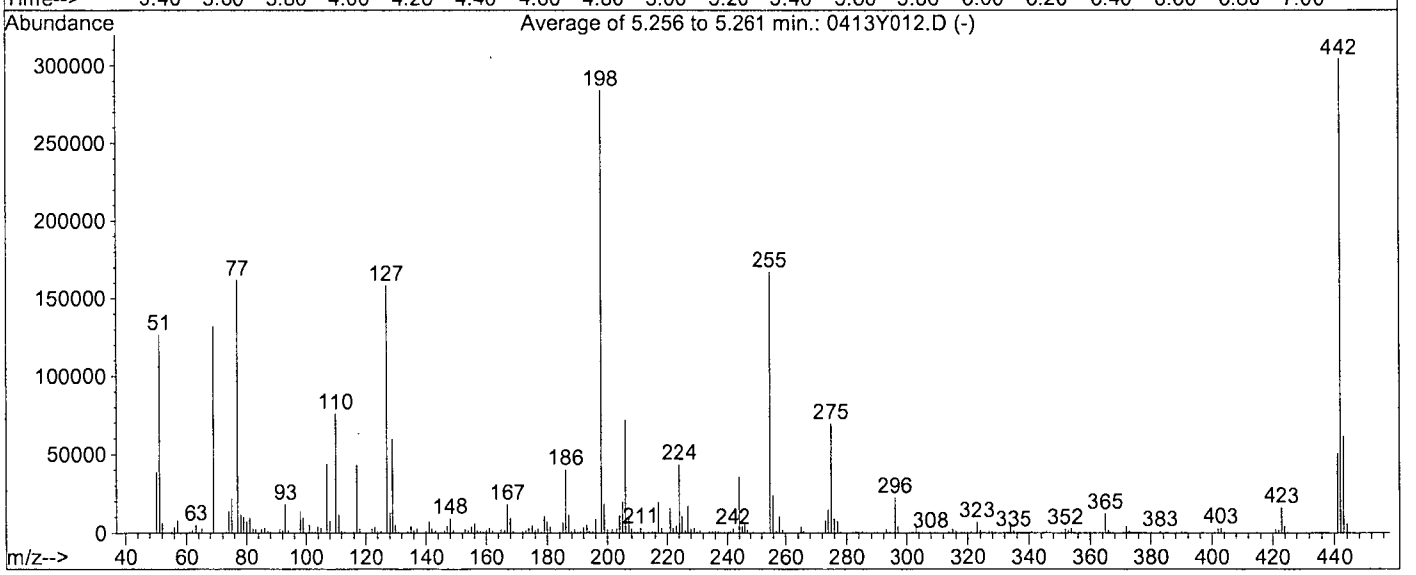
0413Y002.D Y0GLYCOL.M Fri Apr 14 08:11:22 2017

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y012.D Vial: 12
Acq On : 13 Apr 17 16:31 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 668, 669, 670; Background Corrected with Scan 660

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.7	126843	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	623	PASS
127	198	40	60	55.8	158536	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	283925	PASS
199	198	5	9	6.4	18313	PASS
275	198	10	30	24.5	69549	PASS
365	198	1	100	4.3	12094	PASS
441	443	0.01	100	82.4	50832	PASS
442	198	50	150	107.2	304448	PASS
443	442	17	23	20.3	61680	PASS

0413Y012.D DFTPP2.M Fri Apr 14 08:12:37 2017

GED Curve

PREP DATE:	04/12/17 RH									
8270 Standard Curve										
Exp:	02/08/18					**50**	**100**	**200**	**400**	**500**
		Conc.		Date						
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL
	GED MSTD Stock *	2000	VAR	02/09/17	02/18/18	5	5	10	20	50
EM Science	Methanol		010616A			195	95	90	80	150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4	2	2	2	4
				Final Vol.		204	102	102	102	204

* Extracted on 02/09/17

GED Second Source (SS)

PREP DATE:	04/12/17 RH					**500**
Exp:	09/27/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Stock *	2000	VAR	02/09/17	09/27/17	50
EM Science	Methanol		010616A			150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4
				Final Vol.		204

600	**800**	**1000**
µL	µL	µL
30	40	50
70	60	50
2	2	2
102	102	102

Diethylene Glycol						
Prep: 02/08/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37326 and 37327 Op: 02/08/17 EX: 02/08/18	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Given to Extraction to do Diethylene Glycol Method Standard, extracted on 2/9/17

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 02/09/17. Final concentration is 2000ug/ml

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/10/17 13:45	
Spiked ID 8			Ext. End Time:	04/12/17 13:50	
			GC Requires Extract By:	04/11/17 0:00	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				NA	NA equip	500	2	7	04/10/17 13:45	
2	170410A LCS-1		0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	
3	AZ53059 MS-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
4	AZ53059 MSD-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
5	AZ53059	AZ53059W17			NA	NA equip	500	2	7	04/10/17 13:45	82577
6	AZ53060	AZ53060W07			NA	NA equip	500	2	7	04/10/17 13:45	82577
7	AZ53062	AZ53062W11			NA	NA equip	500	2	7	04/10/17 13:45	82577
8	AZ53064	AZ53064W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
9	AZ53065	AZ53065W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
10	AZ53168 MS-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
11	AZ53168 MSD-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
12	AZ53168	AZ53168W44			NA	NA equip	500	2	7	04/10/17 13:45	82619
13	AZ53169	AZ53169W16			NA	NA equip	500	2	7	04/10/17 13:45	82619
14	AZ53170	AZ53170W13			NA	NA equip	500	2	7	04/10/17 13:45	82619
15	AZ53172	AZ53172W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
16	AZ53174	AZ53174W10			NA	NA equip	500	2	7	04/10/17 13:45	82596

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: KY 389 **Date** 4/12/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	**04/11/17 0:00**

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W09			NA	NA equip	500	2	7	04/10/17 13:45	82596
18	AZ53178	AZ53178W10			NA	NA equip	500	2	7	04/10/17 13:45	82596
19	AZ53180	AZ53180W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
20	AZ53260	AZ53260W12			NA	NA equip	500	2	7	04/10/17 13:45	82611
21	AZ53261	AZ53261W10			NA	NA equip	500	2	7	04/10/17 13:45	82611
22	AZ53263	AZ53263W14			NA	NA equip	500	2	7	04/10/17 13:45	82611
23	AZ53264	AZ53264W05			NA	NA equip	500	2	7	04/10/17 13:45	82611
24	AZ53266	AZ53266W09			NA	NA equip	500	2	7	04/10/17 13:45	82611
25	SS		0.087	2	NA	NA equip	500	2	7	04/10/17 13:45	

Ky 4/12/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: Ky **Date** 4/12/17

390

Injection Log

Directory: M:\YODA\DATA\Y170413G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0413Y002.D	1	SV Tune 03/29/17		13 Apr 17 9:41
3	0413Y003.D	1	50ug/ml DEG 04/12/17		13 Apr 17 9:57
4	0413Y004.D	1	100ug/ml DEG 04/12/17		13 Apr 17 10:27
5	0413Y005.D	1	200ug/ml DEG 04/12/17		13 Apr 17 10:57
6	0413Y006.D	1	400ug/ml DEG 04/12/17		13 Apr 17 11:27
7	0413Y007.D	1	500ug/ml DEG 04/12/17		13 Apr 17 11:57
8	0413Y008.D	1	600ug/ml DEG 04/12/17		13 Apr 17 14:02
9	0413Y009.D	1	800ug/ml DEG 04/12/17		13 Apr 17 14:32
10	0413Y010.D	1	1000ug/ml DEG 04/12/17		13 Apr 17 15:03
11	0413Y011.D	1	SS2 DEG 04/12/17		13 Apr 17 16:03
12	0413Y012.D	1	SV Tune 03/29/17		13 Apr 17 16:31
13	0413Y013.D	1	170410A BLK 2/500		13 Apr 17 16:48
14	0413Y014.D	1	170410A LCS-1 2/500		13 Apr 17 17:18
15	0413Y015.D	1	AZ53059W23 MS-1 2/500		13 Apr 17 17:48
16	0413Y016.D	1	AZ53059W23 MSD-1 2/500		13 Apr 17 18:18
17	0413Y017.D	1	AZ53059W17 2/500		13 Apr 17 18:48
18	0413Y018.D	1	AZ53060W07 2/500		13 Apr 17 19:18
19	0413Y019.D	1	AZ53062W11 2/500		13 Apr 17 19:49
20	0413Y020.D	1	AZ53064W06 2/500		13 Apr 17 20:19
21	0413Y021.D	1	AZ53065W06 2/500		13 Apr 17 20:49
34	0413Y034.D	1	500ug/ml DEG 04/12/17		14 Apr 17 3:17

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217572**
Batch ID: #86BTO-170406AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/06/17	04/06/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.3	85-114			%	04/06/17	04/06/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/06/17	04/06/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M11
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:15:10 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/06/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170406AM-LCS	Lab Control Spike	81-118	107		85-114	102	
170406AM-BLK	Blank	81-118	103		85-114	93.3	
AZ53058	ERH290	81-118	104		85-114	94.4	
AZ53061	ERH294	81-118	103		85-114	97.2	
AZ53063	ERH287	81-118	105		85-114	95.7	
AZ53059	ERH292	81-118	108		85-114	98.2	
AZ53060	ERH293	81-118	106		85-114	99.1	
AZ53062	ERH295	81-118	105		85-114	95.0	
AZ53064	ERH288	81-118	103		85-114	95.8	
AZ53065	ERH316	81-118	105		85-114	95.5	
AZ53059-MS	Matrix Spike	81-118	111		85-114	106	
AZ53059-MSD	Matrix SpikeD	81-118	105		85-114	102	

Comments: Batch: #86BTO-170406AM

Printed: 04/11/17 2:15:15 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82577

Case No: 82577 Date Analyzed: 04/06/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170406AM-LCS	Lab Control Spike	80-119	104		89-112	102	
170406AM-BLK	Blank	80-119	102		89-112	102	
AZ53058	ERH290	80-119	103		89-112	102	
AZ53061	ERH294	80-119	105		89-112	104	
AZ53063	ERH287	80-119	105		89-112	103	
AZ53059	ERH292	80-119	108		89-112	105	
AZ53060	ERH293	80-119	103		89-112	104	
AZ53062	ERH295	80-119	104		89-112	101	
AZ53064	ERH288	80-119	103		89-112	100	
AZ53065	ERH316	80-119	103		89-112	102	
AZ53059-MS	Matrix Spike	80-119	104		89-112	106	
AZ53059-MSD	Matrix SpikeD	80-119	101		89-112	102	

Comments: Batch: #86BTO-170406AM

Printed: 04/11/17 2:15:15 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8260B BTEX WATER

APPL ID: **170406W-53059 LCS - 217572**
Batch ID: #86BTO-170406AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.2	102	79-120
ETHYLBENZENE	10.00	10.5	105	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.9	103	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.7	107	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	26.1	104	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.6	102	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/06/17
Analysis Date :	04/06/17
Instrument :	Max
Run :	0406M04
Initials :	SV

Printed: 04/11/17 2:15:21 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170406W-53059 MS - 217572**
Batch ID: #86BTO-170406AM
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	10.5	10.2	105	102	79-120	2.9	20
ETHYLBENZENE	10.00	ND	10.4	10.6	104	106	79-121	1.9	20
TOLUENE	10.00	ND	10.4	9.93	104	99.3	80-121	4.6	20
XYLENES (TOTAL)	30.0	ND	31.3	31.6	104	105	79-121	0.95	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	27.8	26.2	111	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.5	25.4	106	102	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	26.0	25.2	104	101	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	26.4	25.5	106	102	89-112		

Comments: _____

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/06/17	04/06/17
Instrument :	Max	Max
Run :	0406M23	0406M24
Initials :	SV	

Printed: 04/11/17 2:15:25 PM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82577
Case No: 82577
Date Analyzed: 04/06/17
Matrix: WATER
Instrument: Max
Blank ID: 170406AM-BLK
Time Analyzed: 1522

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170406AM-LCS	Lab Control Spike	0406M04	04/06/17 1202
170406AM-BLK	Blank	0406M11	04/06/17 1522
AZ53058	ERH290	0406M13	04/06/17 1618
AZ53061	ERH294	0406M14	04/06/17 1647
AZ53063	ERH287	0406M15	04/06/17 1715
AZ53059	ERH292	0406M16	04/06/17 1744
AZ53060	ERH293	0406M17	04/06/17 1812
AZ53062	ERH295	0406M18	04/06/17 1840
AZ53064	ERH288	0406M19	04/06/17 1909
AZ53065	ERH316	0406M20	04/06/17 1937
170406AM-MS	Matrix Spike	0406M23	04/06/17 2102
170406AM-MSD	Matrix SpikeD	0406M24	04/06/17 2131

Comments: Batch: #86BTO-170406AM

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82577
Date Analyzed: 04/04/17
Instrument: Max
Time Analyzed: 8:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 04/0	0404M08.D	04/04/17 10:42
2		0.5ug/L VOC STD 04/0	0404M09.D	04/04/17 11:11
3		1.0ug/L VOC STD 04/0	0404M10.D	04/04/17 11:39
4		2.0ug/L VOC STD 04/0	0404M11.D	04/04/17 12:07
5		5.0ug/L VOC STD 04/0	0404M12.D	04/04/17 12:36
6		10ug/L VOC STD 04/04	0404M13.D	04/04/17 13:04
7		20ug/L VOC STD 04/04	0404M14.D	04/04/17 13:33
8		40ug/L VOC STD 04/04	0404M15.D	04/04/17 14:01
9		100ug/L VOC STD 04/0	0404M16.D	04/04/17 14:29
10		(SS) 10ug/L VOC STD	0404M21.D	04/04/17 16:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	43.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	85.6
175	5 - 9% of mass 174	5.8
176	95.06 - 101% of mass 174	98.6
177	5 - 9% of mass 176	6.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82577
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82577
Date Analyzed: 04/06/17
Instrument: Max
Time Analyzed: 10:38

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170406A CCV 10ug/L	0406M03.D	04/06/17 11:34
2	Lab Control Spike	170406A LCS 10ug/L	0406M04.D	04/06/17 12:02
3	Blank	170406A BLK-1WM	0406M11.D	04/06/17 15:22
4	ERH290	AZ53058W01	0406M13.D	04/06/17 16:18
5	ERH294	AZ53061W01	0406M14.D	04/06/17 16:47
6	ERH287	AZ53063W01	0406M15.D	04/06/17 17:15
7	ERH292	AZ53059W01	0406M16.D	04/06/17 17:44
8	ERH293	AZ53060W01	0406M17.D	04/06/17 18:12
9	ERH295	AZ53062W01	0406M18.D	04/06/17 18:40
10	ERH288	AZ53064W01	0406M19.D	04/06/17 19:09
11	ERH316	AZ53065W01	0406M20.D	04/06/17 19:37
12		AZ53059W235 MS-1WM 1	0406M23.D	04/06/17 21:02
13		AZ53059W235 MSD-1WM	0406M24.D	04/06/17 21:31
14		Ending CCV 8260 10ug	0406M27.D	04/06/17 22:56
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	43.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.8
173	0 - 2% of mass 174	0.7
174	50 - 100% of mass 95	88.3
175	5 - 9% of mass 174	7.6
176	95.06 - 101% of mass 174	95.2
177	5 - 9% of mass 176	7.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82577

Lab File ID (Standard): 0404M13.D Date Analyzed: 4 Apr 17 13:04

Instrument ID: Max Time Analyzed: 4 Apr 17 13:04

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	266913	5.51	185947	9.14	87359	12.34
	UPPER LIMIT	533826	6.01	371894	9.64	174718	12.84
	LOWER LIMIT	133457	5.01	92974	8.64	43680	11.84
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	268348	5.51	183462	9.14	87168	12.34
02	170406A CCV 10ug/L	256500	5.51	176950	9.14	80287	12.34
03	170406A LCS 10ug/L	253748	5.51	173618	9.14	82756	12.34
04	170406A BLK-1WM	247211	5.51	169048	9.14	72607	12.34
05	AZ53058W01	238507	5.51	159624	9.14	68056	12.34
06	AZ53061W01	236782	5.51	160462	9.14	68039	12.34
07	AZ53063W01	233962	5.51	158285	9.14	68747	12.34
08	AZ53059W01	216448	5.51	147175	9.14	64234	12.34
09	AZ53060W01	214309	5.51	142814	9.14	60746	12.34
10	AZ53062W01	221447	5.51	150130	9.14	64402	12.34
11	AZ53064W01	232198	5.51	157366	9.14	67847	12.34
12	AZ53065W01	237967	5.51	161588	9.14	67878	12.34
13	AZ53059W235 MS-1WM	228765	5.51	155447	9.14	71679	12.34
14	AZ53059W235 MSD-1W	235449	5.51	156305	9.14	76453	12.34
15	Ending CCV 8260 10ug/	251284	5.51	169083	9.14	81554	12.34
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH290
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53058
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	104	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.4	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M13
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M13.D Vial: 12
Acq On : 6 Apr 17 16:18 Operator: PM,DG,SV,CMM
Sample : AZ53058W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:12 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	238507	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	159624	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68056	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	57791	25.72654 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.908%	
37) 1,2-DCA-D4(S)	5.13	65	45831	26.04520 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.180%	
57) Toluene-D8(S)	7.34	98	236791	25.43095 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.724%	
65) 4-Bromofluorobenzene(S)	10.73	95	68068	23.60255 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.412%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

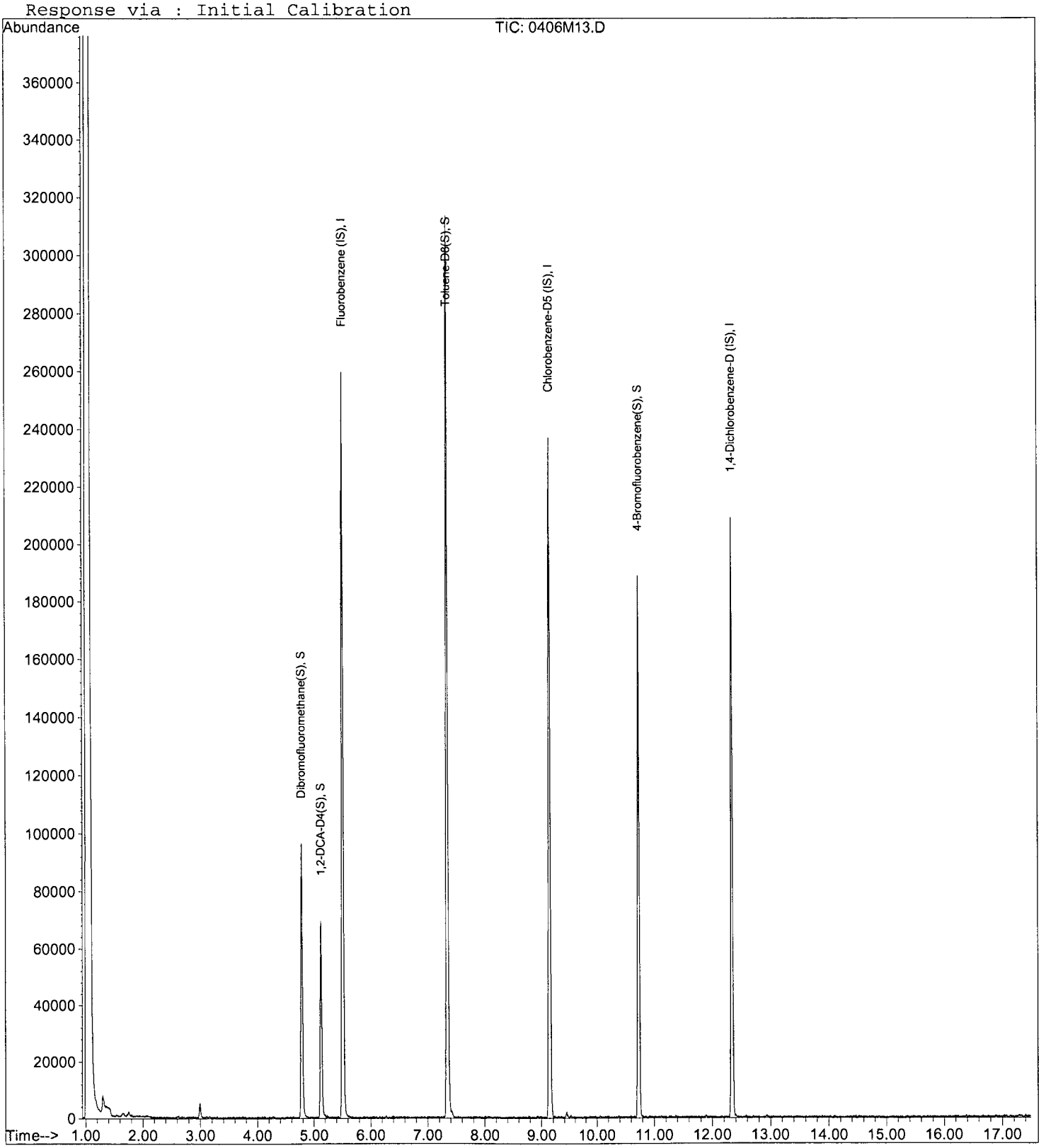
Data File : M:\MAX\DATA\M170404\0406M13.D
Acq On : 6 Apr 17 16:18
Sample : AZ53058W01
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:12 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	108	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	108	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	105	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M16
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M16.D
Acq On : 6 Apr 17 17:44
Sample : AZ53059W01
Misc : 10ml IS&S: 2/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	216448	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	147175	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	64234	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	55267	27.11032 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.440%	
37) 1,2-DCA-D4(S)	5.13	65	42920	26.87668 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.508%	
57) Toluene-D8(S)	7.35	98	224783	26.18333 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.732%	
65) 4-Bromofluorobenzene(S)	10.73	95	65309	24.56140 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.244%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

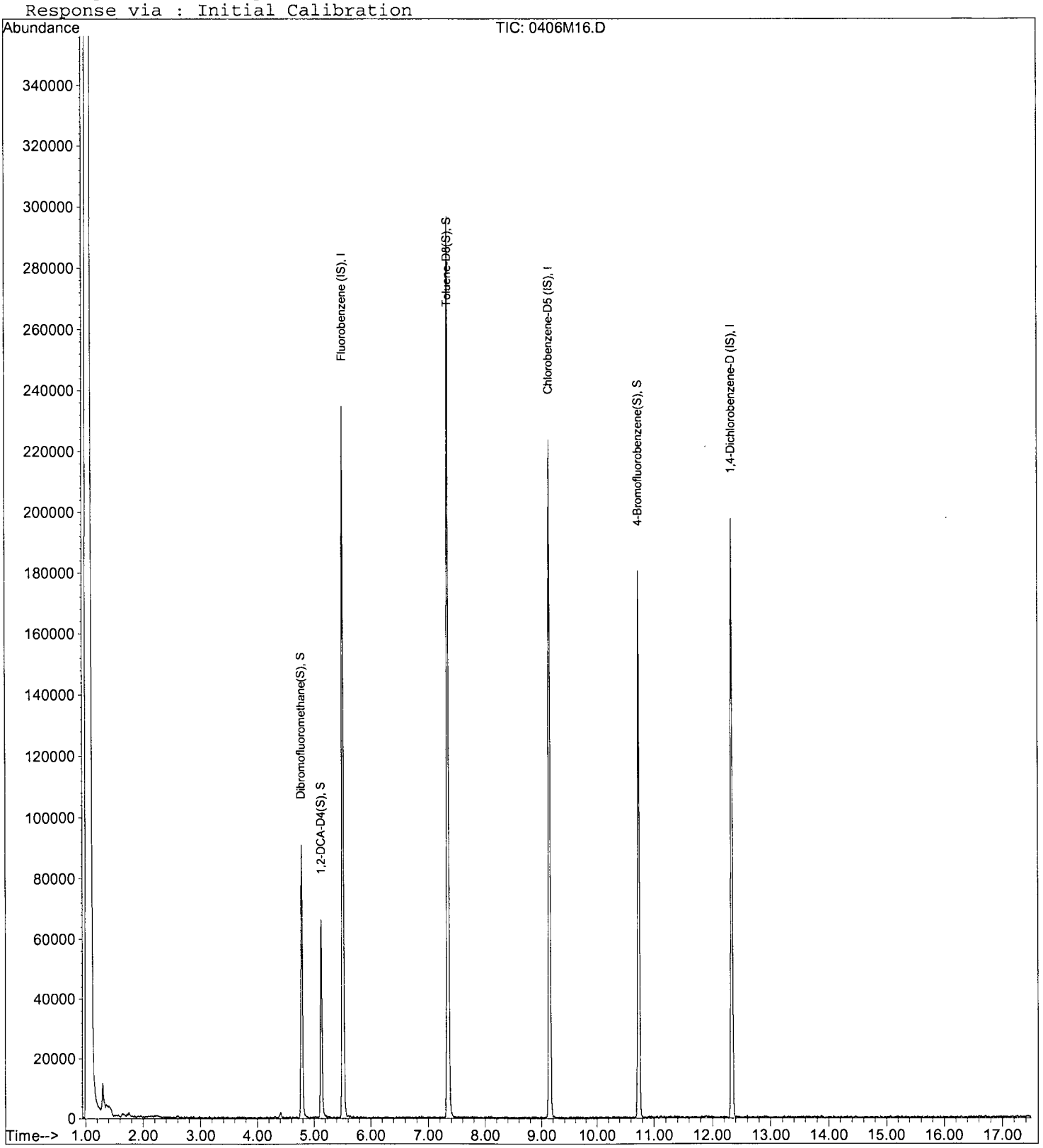
Data File : M:\MAX\DATA\M170404\0406M16.D
Acq On : 6 Apr 17 17:44
Sample : AZ53059W01
Misc : 10ml IS&S: 2/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.1	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M17
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M17.D Vial: 16
Acq On : 6 Apr 17 18:12 Operator: PM,DG,SV,CMM
Sample : AZ53060W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	214309	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	142814	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	60746	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	51723	25.62510 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.500%	
37) 1,2-DCA-D4(S)	5.13	65	41936	26.52260 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.092%	
57) Toluene-D8(S)	7.34	98	217158	26.06757 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.272%	
65) 4-Bromofluorobenzene(S)	10.73	95	63895	24.76339 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.052%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

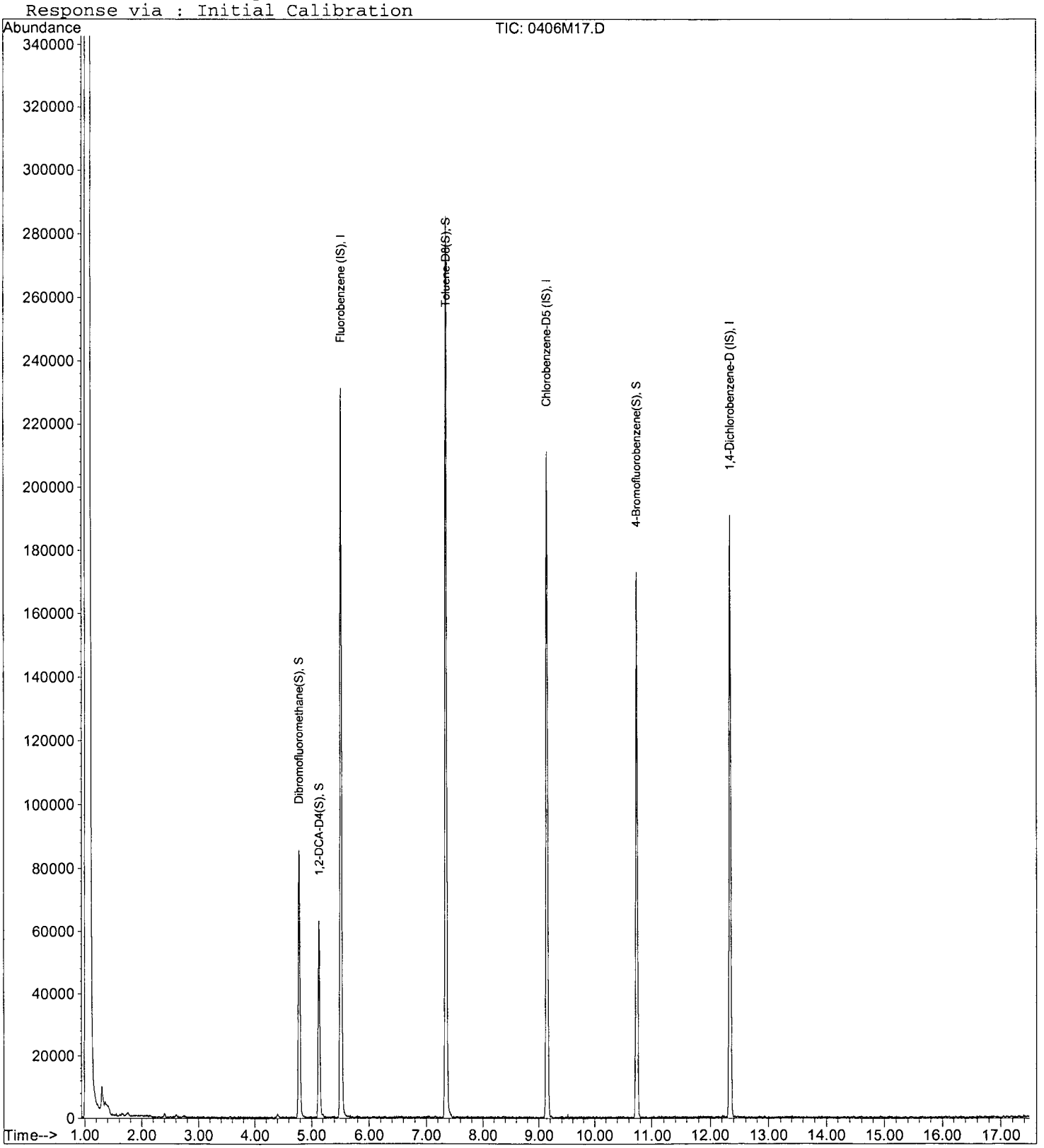
Data File : M:\MAX\DATA\M170404\0406M17.D
Acq On : 6 Apr 17 18:12
Sample : AZ53060W01
Misc : 10ml IS&S: 2/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH294
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53061
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M14
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M14.D Vial: 13
Acq On : 6 Apr 17 16:47 Operator: PM,DG,SV,CMM
Sample : AZ53061W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:12 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	236782	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	160462	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68039	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58701	26.32202 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.288%	
37) 1,2-DCA-D4(S)	5.13	65	45041	25.78272 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.132%	
57) Toluene-D8(S)	7.35	98	243887	26.05625 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.224%	
65) 4-Bromofluorobenzene(S)	10.73	95	70458	24.30369 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

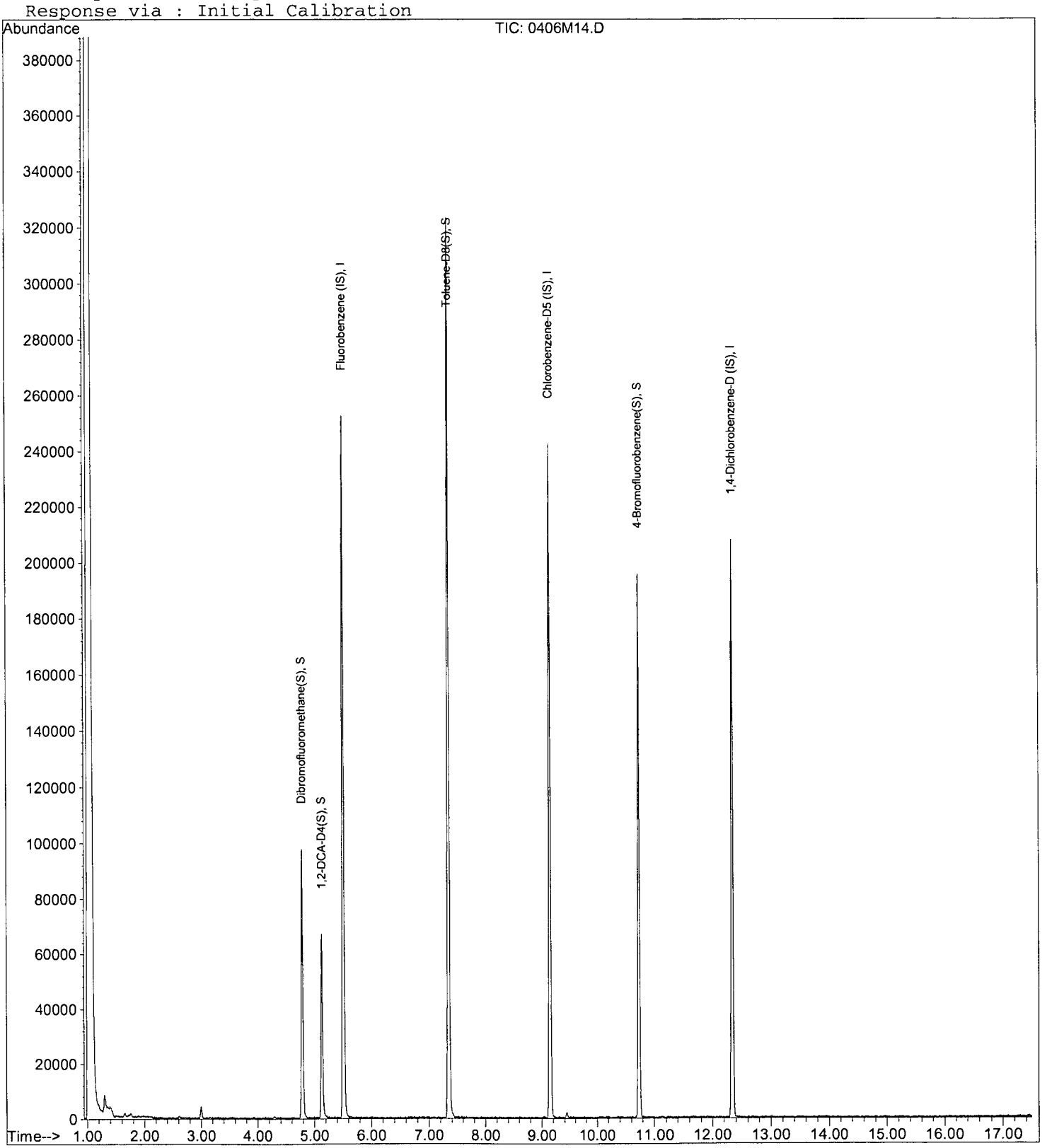
Data File : M:\MAX\DATA\M170404\0406M14.D
Acq On : 6 Apr 17 16:47
Sample : AZ53061W01
Misc : 10ml IS&S: 2/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:12 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	105	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.0	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	104	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M18
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M18.D Vial: 17
Acq On : 6 Apr 17 18:40 Operator: PM,DG,SV,CMM
Sample : AZ53062W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:14 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	221447	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	150130	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	64402	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	54175	25.97475 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.900%	
37) 1,2-DCA-D4(S)	5.13	65	43070	26.36177 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.448%	
57) Toluene-D8(S)	7.34	98	220576	25.18757 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.752%	
65) 4-Bromofluorobenzene(S)	10.73	95	64404	23.74430 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.976%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

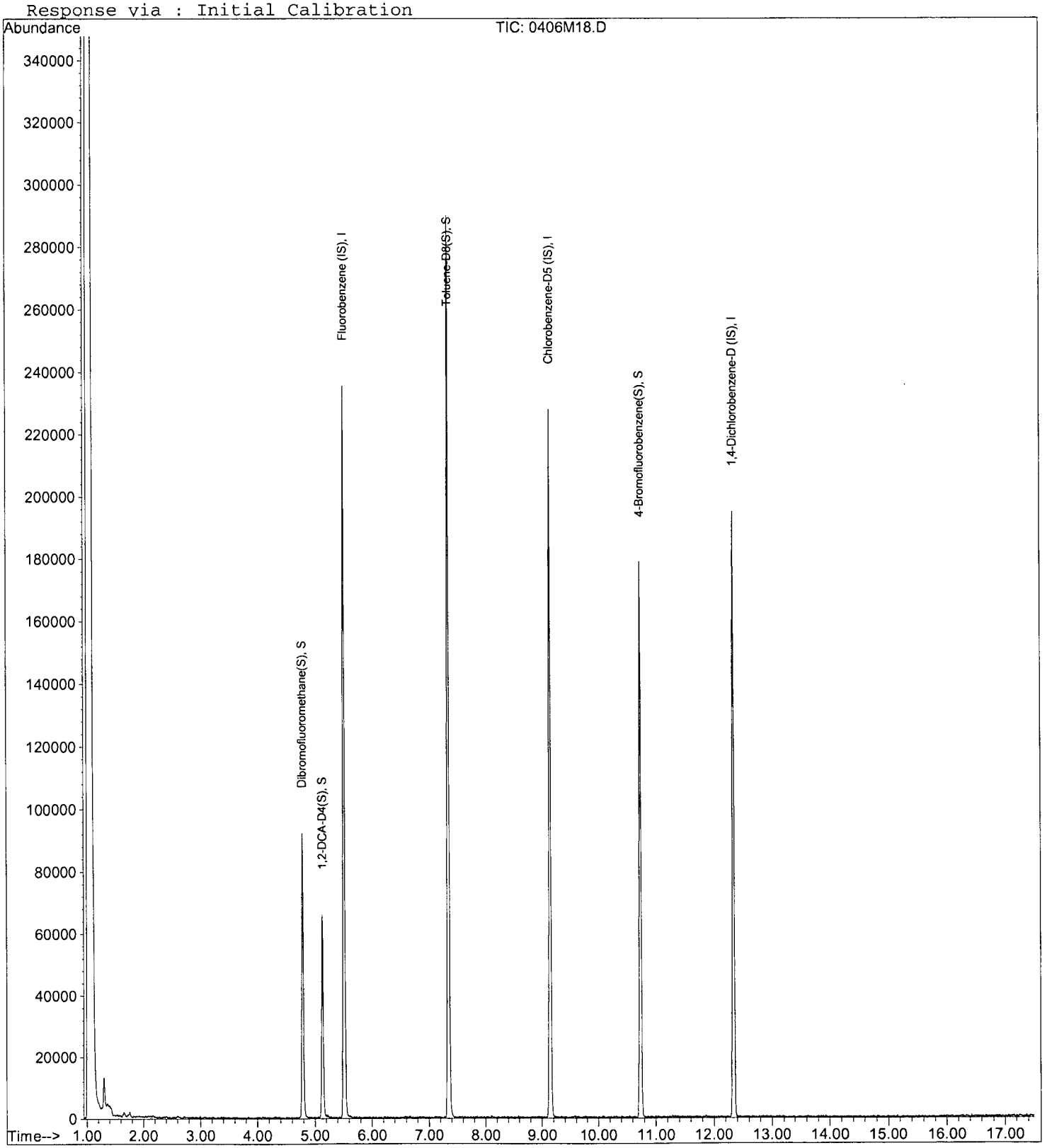
Data File : M:\MAX\DATA\M170404\0406M18.D
Acq On : 6 Apr 17 18:40
Sample : AZ53062W01
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:14 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH287
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53063
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	105	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.7	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M15
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:33 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M15.D Vial: 14
Acq On : 6 Apr 17 17:15 Operator: PM,DG,SV,CMM
Sample : AZ53063W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	233962	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	158285	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68747	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58009	26.32524 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.300%	
37) 1,2-DCA-D4(S)	5.13	65	45401	26.30205 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.208%	
57) Toluene-D8(S)	7.34	98	236812	25.64835 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.592%	
65) 4-Bromofluorobenzene(S)	10.73	95	68384	23.91271 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

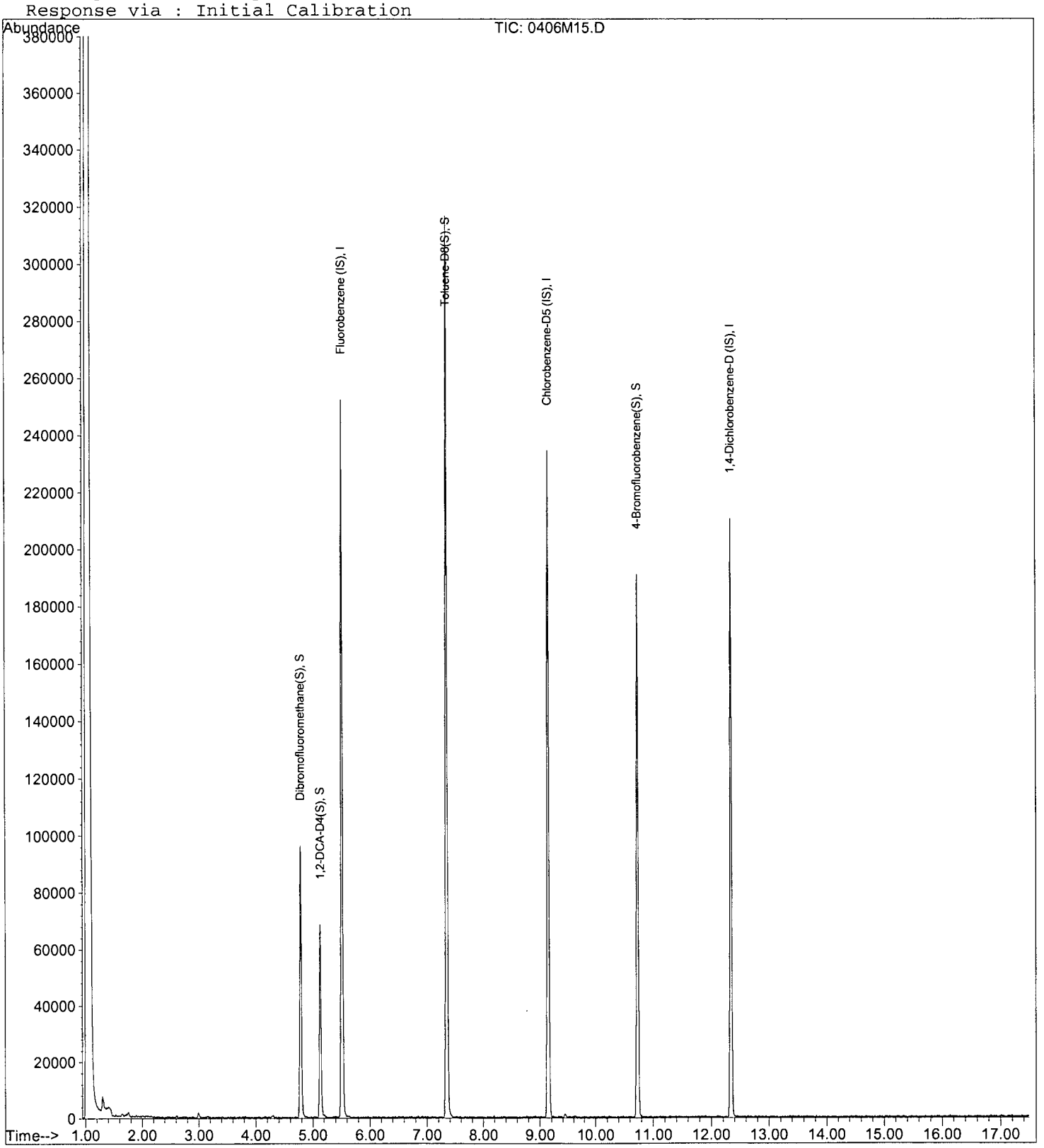
Data File : M:\MAX\DATA\M170404\0406M15.D
Acq On : 6 Apr 17 17:15
Sample : AZ53063W01
Misc : 10ml IS&S: 2/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.8	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M19
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M19.D Vial: 18
Acq On : 6 Apr 17 19:09 Operator: PM,DG,SV,CMM
Sample : AZ53064W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	232198	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	157366	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	67847	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	56094	25.64958 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.600%	
37) 1,2-DCA-D4(S)	5.13	65	44216	25.81014 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.240%	
57) Toluene-D8(S)	7.34	98	229962	25.05190 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.208%	
65) 4-Bromofluorobenzene(S)	10.73	95	68102	23.95317 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.812%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

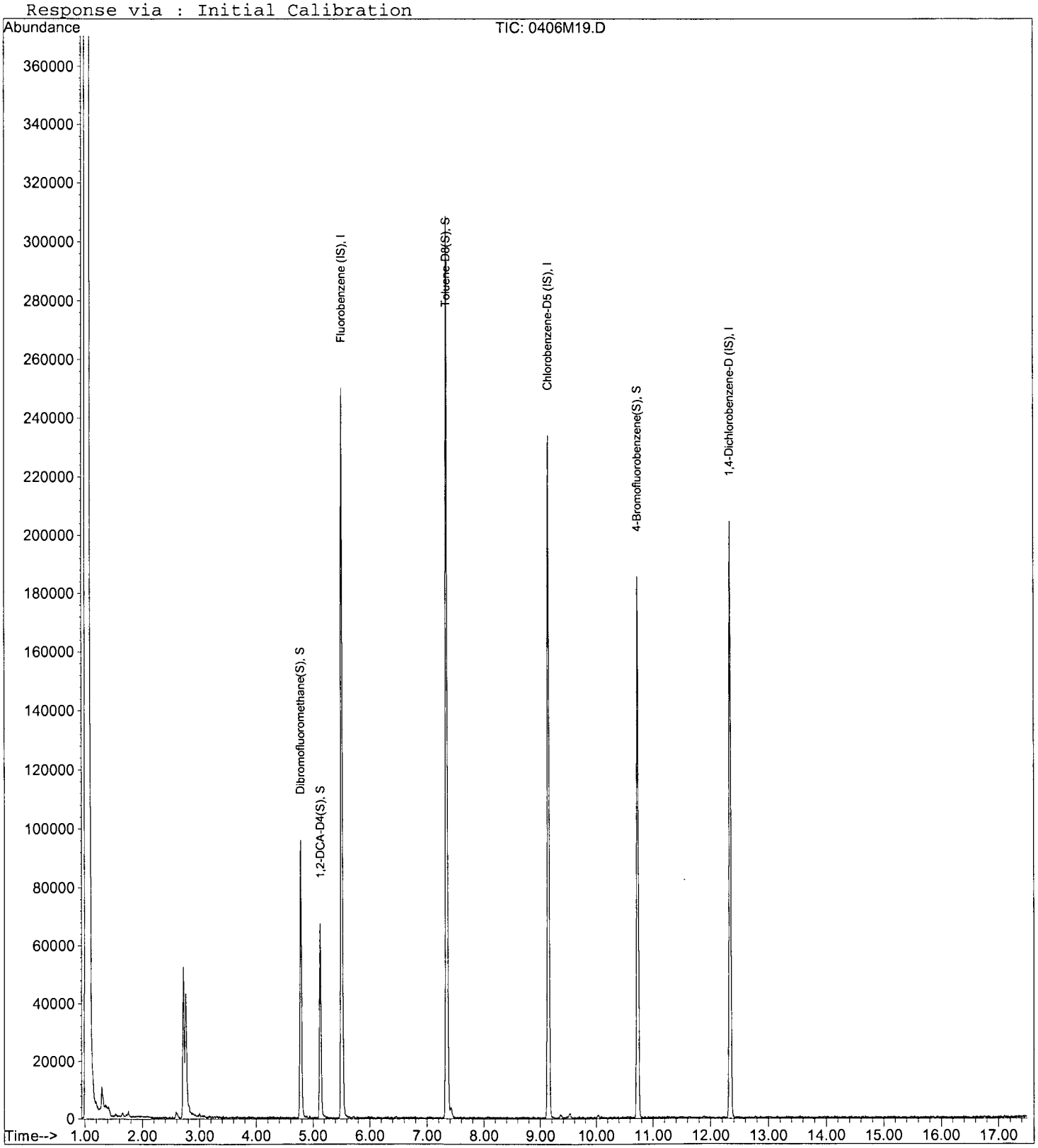
Data File : M:\MAX\DATA\M170404\0406M19.D
Acq On : 6 Apr 17 19:09
Sample : AZ53064W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:15 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #86BTO-170406AM-217572

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	105	81-118			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/06/17	04/06/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M20
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:15:34 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M20.D Vial: 19
Acq On : 6 Apr 17 19:37 Operator: PM,DG,SV,CMM
Sample : AZ53065W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:15 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	237967	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	161588	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	67878	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	57917	25.84114 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.364%	
37) 1,2-DCA-D4(S)	5.13	65	46194	26.31106 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.244%	
57) Toluene-D8(S)	7.34	98	241518	25.62335 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.492%	
65) 4-Bromofluorobenzene(S)	10.73	95	69713	23.87914 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.516%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

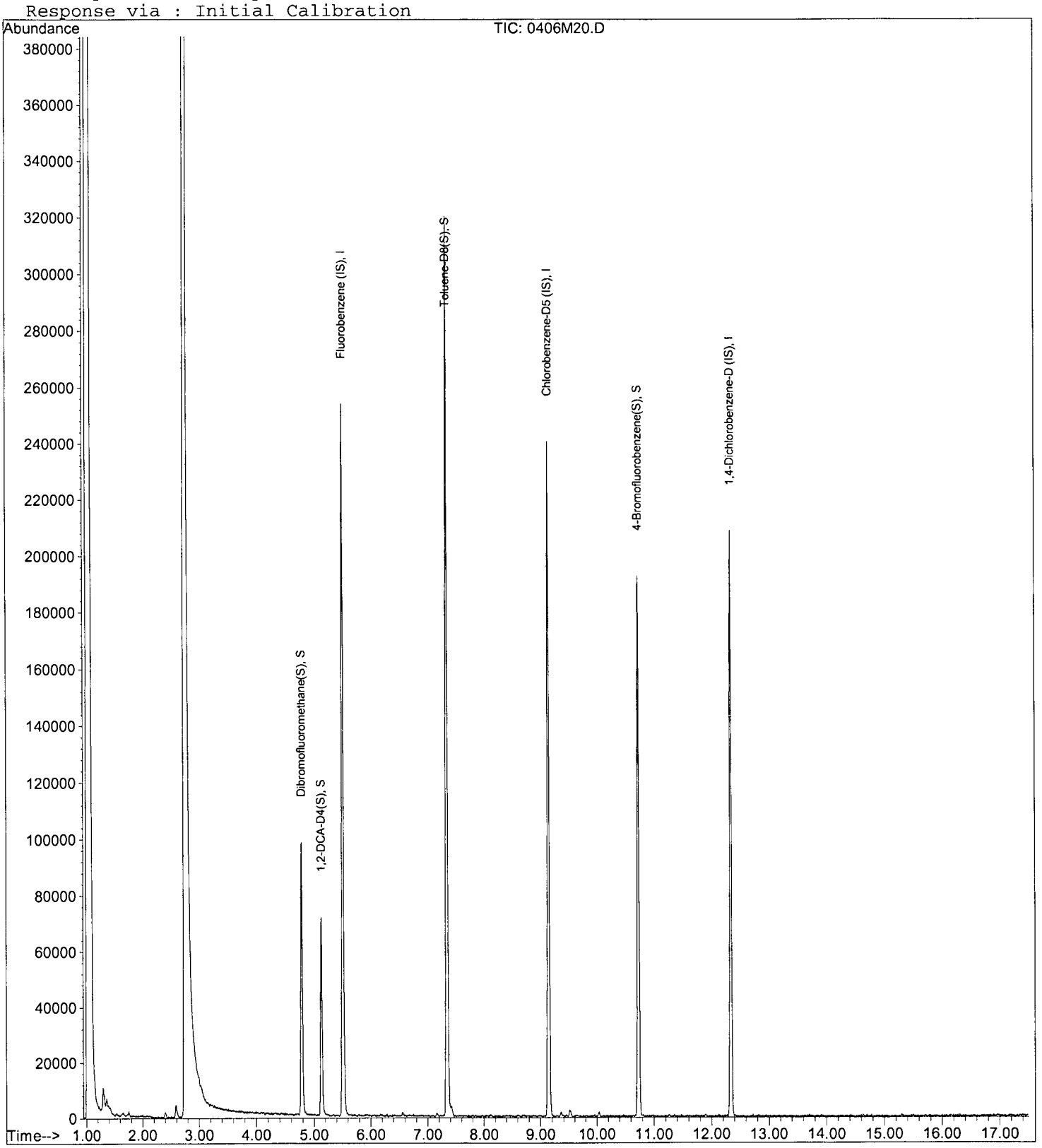
Quantitation Report

Data File : M:\MAX\DATA\M170404\0406M20.D
Acq On : 6 Apr 17 19:37
Sample : AZ53065W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:15 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 04/04/17
Matrix: Instrument: Max Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09.D	0404M10 D	0404M11.D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane	0.3097	0.2980	0.3409	0.3144	0.2851	0.3122	0.3005				0.31	5.6	TM	
3	TM	Freon 114		0.4579	0.4137	0.4206	0.4136	0.4408	0.4071	0.4127	0.3897		0.42	5.0	TM	
4	TM**	Chloromethane		0.4627	0.4463	0.4083	0.4768	0.4484	0.4057	0.3956	0.3797		0.43	8.2	TM**	
5	TM*	Vinyl chloride		0.6298	0.6131	0.6343	0.6811	0.7135	0.6695	0.6412	0.6108		0.65	5.5	TM*	
6	TM	Bromomethane		0.4923	0.4015	0.4209	0.4006	0.3649	0.3266				0.40	14	TM	
7	TM	Chloroethane		0.3940	0.4180	0.3643	0.3886	0.4083	0.3965	0.3917	0.3802		0.39	4.2	TM	
8	TM	Dichlorofluoromethane		1.062	1.051	0.9955	1.111	1.083	1.067	1.045	1.102		1.1	3.4	TM	
9	TM	Trichlorofluoromethane	0.7493	0.6471	0.6754	0.6591	0.7042	0.7363	0.7153	0.6951	0.7501		0.70	5.4	TM	
10	TM	Acrolein		0.0241	0.0240	0.0237	0.0254	0.0232	0.0236	0.0231	0.0229		0.02	3.3	TM	
11	TM	Acetone				0.0588	0.0741	0.0587	0.0555	0.0530			0.06	14	TM	
12	TM	Freon-113		0.4641	0.3856	0.4462	0.4327	0.4586	0.4303	0.4161	0.4081		0.43	6.1	TM	
13	TM*	1,1-DCE		0.7525	0.6388	0.6285	0.6911	0.7088	0.6726	0.6738	0.6628		0.68	5.8	TM*	
14		Acetonitrile		0.0377	0.0489	0.0502	0.0418	0.0422	0.0441	0.0361	0.0501		0.04	12		
15	TM	t-Butanol	0.0118	0.0084	0.0079	0.0086	0.0094	0.0102	0.0103	0.0106	0.0102		0.01	13	TM	
16	TM	Methyl Acetate		0.1602	0.1597	0.1519	0.1749	0.1604	0.1653	0.1647	0.1625		0.16	4.0	TM	
17	TML	Iodomethane		0.1028	0.1130	0.1688	0.3080	0.4051	0.4568	0.4803	0.4784		0.31	52	TML	1.000
18	TM	Acrylonitrile		0.0506	0.0658	0.0708	0.0842	0.0759	0.0778	0.0727	0.0744		0.07	14	TM	
19	TM	Methylene chloride		0.5338	0.4736	0.4323	0.4767	0.4385	0.4243	0.4089	0.3892		0.45	10	TM	
20	TM	Carbon disulfide		1.495	1.418	1.370	1.456	1.438	1.358	1.317	1.319		1.4	4.7	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.6362	0.6227	0.6278	0.7667	0.6855	0.6813	0.6926	0.6917		0.68	7.0	TM	
22	TM	Trans-1,2-DCE		0.4967	0.4828	0.4469	0.5453	0.5205	0.4904	0.4937	0.4742		0.49	6.0	TM	
23	TM	Diisopropyl Ether		1.343	1.211	1.261	1.460	1.377	1.403	1.415	1.458		1.4	6.6	TM	
24	TM**	1,1-DCA		0.8939	0.8787	0.7881	0.8592	0.8409	0.8214	0.8246	0.8223		0.84	4.1	TM**	
25	TM	Vinyl Acetate		0.2839	0.2512	0.2409	0.2969	0.2534	0.2746	0.2896	0.3484		0.28	12	TM	
26	TM	Ethyl tert Butyl Ether		0.7051	0.7579	0.7474	0.9162	0.8172	0.8383	0.8695	0.9105		0.82	9.5	TM	
27	TML	MEK (2-Butanone)			0.0863	0.0647	0.1273	0.1026	0.1047	0.0999			0.10	21	TML	0.997
28	TM	Cis-1,2-DCE		0.5368	0.5192	0.4807	0.5614	0.5457	0.5241	0.5159	0.5160		0.52	4.6	TM	
29	TM	2,2-Dichloropropane		0.5195	0.4410	0.4726	0.5096	0.5149	0.5246				0.50	6.7	TM	
30	TM*	Chloroform		0.8289	0.7752	0.7845	0.8928	0.8225	0.7987	0.7879	0.7905		0.81	4.7	TM*	
31	TM	Bromochloromethane		0.2160	0.2155	0.2159	0.2248	0.2055	0.1960	0.1946	0.1916		0.21	5.9	TM	
32	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
33	TM	1,1,1-TCA		0.7402	0.6406	0.6291	0.7316	0.7368	0.7174	0.7250	0.7496		0.71	6.6	TM	
34	TM	Cyclohexane		0.5109	0.4829	0.4475	0.4600	0.4914	0.4554	0.4599	0.4752		0.47	4.5	TM	
35	TM	1,1-Dichloropropene		0.7027	0.6296	0.6286	0.7037	0.7065	0.6742	0.6700	0.6777		0.67	4.6	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane		1.210	1.141	1.105	1.155	1.255	1.161	1.198	1.212		1.2	4.1	TM	
37	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
38	TM	Carbon Tetrachloride		0.5929	0.4636	0.4989	0.5769	0.5965	0.5915	0.6008	0.6318		0.57	10	TM	
39	TM	Tert Amyl Methyl Ether		0.6624	0.6673	0.6280	0.7805	0.7097	0.7424	0.7722	0.8085		0.72	9.0	TM	
40	TM	1,2-DCA		0.4343	0.4196	0.3835	0.4514	0.4187	0.4221	0.4354	0.4518		0.43	5.1	TM	
41	TM	Benzene		2.089	1.915	1.888	2.206	2.073	2.008	2.018	2.061		2.0	5.0	TM	
42	TM	TCE		0.5856	0.5435	0.4863	0.5547	0.5577	0.5230	0.5232	0.5264		0.54	5.5	TM	
43	TM	2-Pentanone		0.1279	0.1267	0.1339	0.1477	0.1409	0.1496	0.1573	0.1747		0.14	11	TM	
44	TM*	1,2-Dichloropropane		0.4609	0.4431	0.4201	0.4917	0.4541	0.4544	0.4608	0.4662		0.46	4.4	TM*	
45	TM	Bromodichloromethane		0.5290	0.4749	0.5135	0.5561	0.5124	0.5191	0.5238	0.5320		0.52	4.4	TM	
46	TM	Methyl Cyclohexane	0.7366	0.6817	0.7089	0.7145	0.7189	0.7662	0.7289	0.7384	0.7624		0.73	3.6	TM	
47	TM	Dibromomethane		0.1763	0.1589	0.1631	0.1898	0.1801	0.1766	0.1734	0.1716		0.17	5.5	TM	
48	TM	MIBK (methyl isobutyl ketone)			0.2678	0.2363	0.2628	0.2085	0.2079	0.2025	0.1985		0.23	13	TM	
49	TM	1-Bromo-2-chloroethane		0.4464	0.4386	0.4043	0.4652	0.4125	0.4295	0.4391	0.4376		0.43	4.4	TM	
50	TML	2-Chloroethyl vinyl ether				0.0019	0.0037	0.0045	0.0079	0.0086	0.0081		0.01	48	TML	0.997
51	TM	Cis-1,3-Dichloropropene		0.5165	0.4883	0.4963	0.5603	0.5485	0.5643	0.5892	0.6192		0.55	8.3	TM	
52	TM*	Toluene		2.320	2.177	2.148	2.536	2.399	2.314	2.397	2.574		2.4	6.4	TM*	
53	TM	Trans-1,3-Dichloropropene		0.3339	0.2927	0.2780	0.3790	0.3532	0.3852	0.4194			0.35	15	TM	
54	TM	1,1,2-TCA		0.2465	0.1995	0.2044	0.2365	0.2218	0.2176	0.2186	0.2217		0.22	6.9	TM	
55	TML	2-Hexanone			0.0794	0.0890	0.1312	0.1236	0.1282	0.1243	0.1240		0.11	18	TML	1.000
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
58	TM	1,2-EDB		0.2931	0.3135	0.3122	0.3683	0.3240	0.3453	0.3466	0.3349		0.33	7.2	TM	
59	TM	Tetrachloroethene		0.9574	0.8438	0.8102	0.8634	0.8456	0.7996	0.7684	0.7277		0.83	8.3	TM	
60	TM	1-Chlorohexane		0.7670	0.7625	0.6934	0.8804	0.9154	0.9115	0.9673	1.036		0.87	13	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.6525	0.5486	0.4967	0.6460	0.6166	0.6293	0.6486	0.6553		0.61	9.5	TM	
62	TM	m&p-Xylene		1.458	1.289	1.323	1.604	1.518	1.498	1.625	1.652		1.5	9.0	TM	
63	TM	o-Xylene		1.256	1.180	1.259	1.490	1.383	1.404	1.510	1.560		1.4	10.0	TM	
64	TM	Styrene		1.785	1.820	1.788	2.234	2.071	2.185	2.411	2.546		2.1	14	TM	
65	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
66	TM	1,3-Dichloropropane		0.6438	0.5843	0.6117	0.7288	0.6511	0.6544	0.6442	0.6308		0.64	6.5	TM	
67	TM	Dibromochloromethane		0.5287	0.4845	0.4292	0.5138	0.4819	0.4960	0.4920	0.4854		0.49	5.9	TM	
68	TM**	Chlorobenzene		2.160	1.972	1.885	2.239	2.008	2.002	2.033	2.035		2.0	5.4	TM**	
69	TM*	Ethylbenzene		3.726	3.449	3.426	4.005	3.781	3.729	3.841	3.903		3.7	5.5	TM*	
70	TM**	Bromoform		0.2359	0.2224	0.2323	0.2845	0.2539	0.2710	0.2986	0.3032		0.26	12	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene		8.282	7.407	7.501	8.602	7.901	7.305	6.927	7.340		7.7	7.3	TM	
73	TM**	1,1,2,2-Tetrachloroethane		1.003	0.8133	0.7929	0.8774	0.7773	0.7533	0.6886	0.6844		0.80	13	TM**	
74	TM	1,2,3-Trichloropropane		0.1831	0.2547	0.2322	0.2864	0.2322	0.2292	0.2066	0.2048		0.23	14	TM	
75	TM	t-1,4-Dichloro-2-Butene		0.1207	0.1437	0.1152	0.1527	0.1425	0.1439	0.1460	0.1467		0.14	9.6	TM	
76	TM	Bromobenzene		1.904	1.863	1.492	2.008	1.730	1.571	1.458	1.470		1.7	13	TM	
77	TM	n-Propylbenzene		7.972	7.522	7.534	8.957	8.481	8.002	7.785	8.260		8.1	6.1	TM	
78	TM	4-Ethyltoluene		7.156	6.332	6.108	7.407	7.115	6.887	6.922	7.211		6.9	6.5	TM	
79	TM	2-Chlorotoluene		5.323	4.649	4.813	5.314	4.871	4.582	4.511	4.590		4.8	6.7	TM	
80	TM	1,3,5-Trimethylbenzene		6.200	5.819	5.563	6.557	5.987	5.876	5.978	6.019		6.0	4.8	TM	
81	TM	4-Chlorotoluene			5.029	4.998	5.891	5.400	5.245				5.3	6.8	TM	
82	TM	Tert-Butylbenzene			5.219	5.039	5.848	5.430	5.130	4.967	5.178		5.3	5.7	TM	
83	TM	1,2,4-Trimethylbenzene			5.668	5.290	6.055	5.596	5.488	5.564			5.6	4.5	TM	
84	TM	Sec-Butylbenzene	7.496	7.284	6.807	6.521	7.278	7.047	6.839	6.987	7.366		7.1	4.4	TM	
85	TM	p-Isopropyltoluene	3.328	3.383	2.752	2.853	3.181	3.021					3.1	8.3	TM	
86	TMQ	Benzyl Chloride			0.2939	0.3099	0.4437	0.4143	0.4801	0.5226			0.41	22	TMQ	1.000
87	TM	1,3-DCB			3.452	3.181	3.714	3.273	3.254	3.203	3.225		3.3	5.8	TM	
88	TM	1,4-DCB			1.512	1.499	1.821	1.651	1.665	1.650	1.633		1.6	6.6	TM	
89	TM	n-Butylbenzene			2.754	2.429	2.627	2.405	2.320	2.353			2.5	6.9	TM	
90	TM	1,2-DCB		2.816	2.723	2.424	3.050	2.743	2.676	2.523	2.507		2.7	7.5	TM	
91	TM	Hexachloroethane		0.6637	0.6321	0.5486	0.7725	0.7026	0.7328	0.7525	0.8384		0.71	13	TM	
92	TM	1,2-Dibromo-3-chloropropane				0.0717	0.0959	0.0806	0.0871	0.0860	0.0898		0.09	9.7	TM	
93	TML	1,2,4-Trichlorobenzene		0.9078	1.054	1.187	1.647	1.553	1.488	1.408	1.341		1.3	19	TML	0.999
94	TM	Hexachlorobutadiene			1.108	1.089	1.171	1.115	0.9490	0.8914	0.8665		1.0	12	TM	
95	TML	Naphthalene			0.4177	0.7157	1.193	1.361	1.519	1.483	1.342		1.1	37	TML	0.997
96	TML	1,2,3-Trichlorobenzene		0.3620	0.5837	0.6924	0.9881	1.017	1.042	1.003	0.8838		0.82	30	TML	0.996
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
37) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
57) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
65) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	904	0.30101 ppb		94
3) Freon 114	1.31	85	1215	0.29768 ppb		86
4) Chloromethane	1.35	50	1561	0.37492 ppb	#	80
5) Vinyl chloride	1.45	62	1844	0.29196 ppb	#	88
6) Bromomethane	1.72	94	1858	0.47607 ppb		97
7) Chloroethane	1.81	64	1293	0.33842 ppb		99
8) Dichlorofluoromethane	2.00	67	3172	0.30626 ppb		100
9) Trichlorofluoromethane	2.05	101	2187	0.31950 ppb	#	75
10) Acrolein	2.44	56	2646	11.45842 ppb		86
11) Acetone	2.59	43	440	0.17170 ppb	#	39
12) Freon-113	2.55	101	1295	0.30939 ppb		97
13) 1,1-DCE	2.53	61	2280	0.34533 ppb	#	92
14) Acetonitrile	2.84	TIC	8199	19.19759 ppb	#	68
15) t-Butanol	3.15	59	1146	12.12734 ppb		96
16) Methyl Acetate	2.93	43	775	0.49036 ppb	#	40
17) Iodomethane	2.66	142	432	1.18109 ppb	#	45
18) Acrylonitrile	3.23	53	184	0.26436 ppb	#	66
19) Methylene chloride	2.99	84	1692	0.38892 ppb	#	80
20) Carbon disulfide	2.71	76	4350	0.32020 ppb		100
21) Methyl t-butyl ether (MtBE	3.30	73	2055	0.31266 ppb		92
22) Trans-1,2-DCE	3.27	96	1525	0.31742 ppb		99
23) Diisopropyl Ether	3.80	45	3844	0.28928 ppb		88
24) 1,1-DCA	3.68	63	2661	0.32516 ppb	#	96
25) Vinyl Acetate	3.77	43	720	0.26444 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	2456	0.30775 ppb		95
27) MEK (2-Butanone)	4.31	43	318	0.08237 ppb	#	55
28) Cis-1,2-DCE	4.28	96	1958	0.38335 ppb		78
29) 2,2-Dichloropropane	4.27	77	1464	0.30276 ppb		99
30) Chloroform	4.62	83	2762	0.35042 ppb		89
31) Bromochloromethane	4.52	128	547	0.27097 ppb		81
33) 1,1,1-TCA	4.81	97	2417	0.35050 ppb		89
34) Cyclohexane	4.87	41	1761	0.38275 ppb		92
35) 1,1-Dichloropropene	4.99	75	2191	0.33405 ppb		91
36) 2,2,4-Trimethylpentane	5.32	57	3502	0.30518 ppb	#	86
38) Carbon Tetrachloride	4.99	117	1667	0.30106 ppb		81
39) Tert Amyl Methyl Ether	5.38	73	2410	0.34339 ppb	#	84
40) 1,2-DCA	5.21	62	1338	0.32199 ppb	#	72
41) Benzene	5.20	78	6470	0.32721 ppb		94
42) TCE	5.93	95	1748	0.33423 ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	14467	10.26597 ppb		94
44) 1,2-Dichloropropane	6.16	63	1532	0.34500 ppb	#	86
45) Bromodichloromethane	6.49	83	1712	0.33833 ppb		91
46) Methyl Cyclohexane	6.14	83	2150	0.30335 ppb		77
47) Dibromomethane	6.28	93	526	0.31121 ppb	#	72
48) MIBK (methyl isobutyl ket	7.22	43	819	0.37197 ppb	#	90
49) 1-Bromo-2-chloroethane	6.83	63	1235	0.29236 ppb	#	83
51) Cis-1,3-Dichloropropene	7.02	75	1510	0.28331 ppb	#	64
52) Toluene	7.43	91	7467	0.32549 ppb		91
53) Trans-1,3-Dichloropropene	7.71	75	654	0.19274 ppb	#	41
54) 1,1,2-TCA	7.92	83	519	0.24155 ppb	#	31
55) 2-Hexanone	8.29	43	359	0.32769 ppb	#	35
58) 1,2-EDB	8.52	107	730	0.32927 ppb		80
59) Tetrachloroethene	8.10	164	1828	0.32873 ppb		94
60) 1-Chlorohexane	9.21	91	1475	0.25310 ppb	#	83
61) 1,1,1,2-Tetrachloroethane	9.29	131	1412	0.34330 ppb		79
62) m&p-Xylene	9.51	106	6064	0.60292 ppb		95
63) o-Xylene	10.03	106	2943	0.31712 ppb		90
64) Styrene	10.05	104	3801	0.26853 ppb		96
66) 1,3-Dichloropropane	8.12	76	1625	0.37548 ppb		92
67) Dibromochloromethane	8.40	129	1052	0.31999 ppb		98
68) Chlorobenzene	9.17	112	4484	0.32663 ppb		97
69) Ethylbenzene	9.36	91	6933	0.27625 ppb		95
70) Bromoform	10.26	173	448	0.25360 ppb		99
72) Isopropylbenzene	10.55	105	7151	0.31804 ppb		96
73) 1,1,2,2-Tetrachloroethane	10.96	83	833	0.35519 ppb	#	62
74) 1,2,3-Trichloropropane	10.99	110	195	0.29046 ppb	#	22
75) t-1,4-Dichloro-2-Butene	11.05	53	43	0.10541 ppb	#	37
76) Bromobenzene	10.91	156	1763	0.35593 ppb		82
77) n-Propylbenzene	11.12	91	7268	0.30697 ppb		98
78) 4-Ethyltoluene	11.29	105	6124	0.30262 ppb		92
79) 2-Chlorotoluene	11.21	91	4634	0.32666 ppb		94
80) 1,3,5-Trimethylbenzene	11.38	105	5285	0.30002 ppb		98
81) 4-Chlorotoluene	11.36	91	5283	0.33869 ppb		96
82) Tert-Butylbenzene	11.83	119	5281	0.34203 ppb	#	90
83) 1,2,4-Trimethylbenzene	11.90	105	5468	0.33196 ppb		98
84) Sec-Butylbenzene	12.14	105	6603	0.31811 ppb	#	84
85) p-Isopropyltoluene	12.35	119	2931	0.32345 ppb		90
86) Benzyl Chloride	12.57	91	476	0.81902 ppb	#	57
87) 1,3-DCB	12.24	146	3155	0.32281 ppb		85
88) 1,4-DCB	12.37	146	1378	0.28738 ppb	#	62
89) n-Butylbenzene	12.94	91	2715	0.37267 ppb		86
90) 1,2-DCB	12.88	146	2300	0.29200 ppb		88
91) Hexachloroethane	13.25	117	595	0.28729 ppb		74
93) 1,2,4-Trichlorobenzene	15.21	180	727	-0.59252 ppb	#	89
94) Hexachlorobutadiene	15.51	225	951	0.31530 ppb	#	74
95) Naphthalene	15.53	128	285	0.08460 ppb	#	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

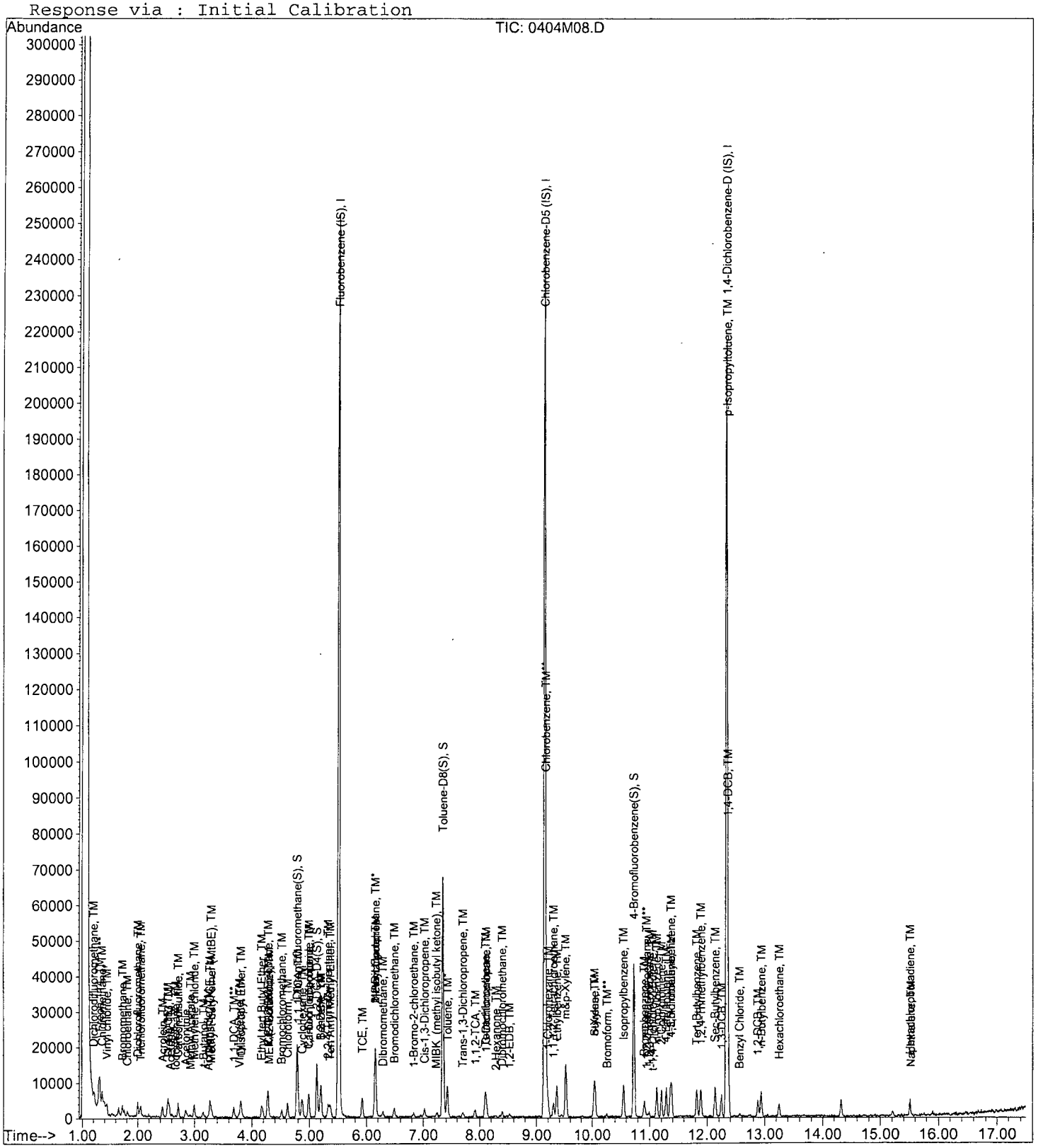
Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
37) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
57) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
65) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	1501	0.48262 ppb		91
3) Freon 114	1.31	85	2307	0.54580 ppb		89
4) Chloromethane	1.35	50	2331	0.54062 ppb		90
5) Vinyl chloride	1.45	62	3173	0.48511 ppb	#	78
6) Bromomethane	1.72	94	2480	0.61361 ppb		91
7) Chloroethane	1.81	64	1985	0.50168 ppb	#	79
8) Dichlorofluoromethane	2.00	67	5352	0.49898 ppb		96
9) Trichlorofluoromethane	2.05	101	3260	0.45989 ppb		93
10) Acrolein	2.44	56	6080	25.42456 ppb		96
11) Acetone	2.59	43	582	0.40203 ppb		87
12) Freon-113	2.55	101	2338	0.53938 ppb		92
13) 1,1-DCE	2.53	61	3791	0.55446 ppb		99
14) Acetonitrile	2.84	TIC	9501	21.48177 ppb	#	91
15) t-Butanol	3.16	59	2109	21.55125 ppb		89
16) Methyl Acetate	2.92	43	807	0.49306 ppb	#	52
17) Iodomethane	2.66	142	518	1.19555 ppb	#	87
18) Acrylonitrile	3.23	53	255	0.35378 ppb	#	59
19) Methylene chloride	2.99	84	2689	0.59685 ppb		85
20) Carbon disulfide	2.72	76	7533	0.53545 ppb		94
21) Methyl t-butyl ether (MtBE	3.29	73	3205	0.47087 ppb		95
22) Trans-1,2-DCE	3.27	96	2502	0.50289 ppb		90
23) Diisopropyl Ether	3.80	45	6765	0.49160 ppb		97
24) 1,1-DCA	3.68	63	4503	0.53134 ppb		97
25) Vinyl Acetate	3.77	43	1430	0.50716 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	3552	0.42979 ppb		96
28) Cis-1,2-DCE	4.28	96	2704	0.51122 ppb		87
29) 2,2-Dichloropropane	4.28	77	2617	0.52260 ppb		95
30) Chloroform	4.62	83	4176	0.51161 ppb		97
31) Bromochloromethane	4.52	128	1088	0.52044 ppb		84
33) 1,1,1-TCA	4.81	97	3729	0.52218 ppb		92
34) Cyclohexane	4.87	41	2574	0.54023 ppb		79
35) 1,1-Dichloropropene	4.99	75	3540	0.52118 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	6096	0.51297 ppb		95
38) Carbon Tetrachloride	4.99	117	2987	0.52091 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	3337	0.45913 ppb	#	97
40) 1,2-DCA	5.21	62	2188	0.50845 ppb	#	91
41) Benzene	5.20	78	10522	0.51385 ppb		99
42) TCE	5.92	95	2950	0.54468 ppb		92
43) 2-Pentanone	6.15	43	32211	22.07195 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloropropane	6.16	63	2322	0.50494	ppb	#	84
45)	Bromodichloromethane	6.48	83	2665	0.50857	ppb		90
46)	Methyl Cyclohexane	6.15	83	3434	0.46787	ppb		76
47)	Dibromomethane	6.29	93	888	0.50733	ppb		85
48)	MIBK (methyl isobutyl ket	7.24	43	1454	0.63768	ppb		94
49)	1-Bromo-2-chloroethane	6.83	63	2249	0.51411	ppb	#	81
51)	Cis-1,3-Dichloropropene	7.02	75	2602	0.47142	ppb	#	82
52)	Toluene	7.42	91	11685	0.49185	ppb		91
53)	Trans-1,3-Dichloropropene	7.70	75	1682	0.47866	ppb		90
54)	1,1,2-TCA	7.92	83	1242	0.55819	ppb		92
55)	2-Hexanone	8.27	43	456	0.39499	ppb	#	35
58)	1,2-EDB	8.52	107	985	0.44440	ppb		94
59)	Tetrachloroethene	8.10	164	3218	0.57883	ppb		97
60)	1-Chlorohexane	9.20	91	2578	0.44248	ppb		93
61)	1,1,1,2-Tetrachloroethane	9.30	131	2193	0.53331	ppb		72
62)	m&p-Xylene	9.52	106	9800	0.97461	ppb		88
63)	o-Xylene	10.03	106	4222	0.45505	ppb		94
64)	Styrene	10.05	104	6000	0.42399	ppb		99
66)	1,3-Dichloropropane	8.12	76	2164	0.50014	ppb	#	79
67)	Dibromochloromethane	8.39	129	1777	0.54065	ppb	#	73
68)	Chlorobenzene	9.18	112	7260	0.52898	ppb		96
69)	Ethylbenzene	9.35	91	12524	0.49915	ppb		99
70)	Bromoform	10.26	173	793	0.44901	ppb	#	75
72)	Isopropylbenzene	10.55	105	11942	0.54073	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	1446	0.62774	ppb	#	91
74)	1,2,3-Trichloropropane	10.99	110	264	0.40036	ppb		89
75)	t-1,4-Dichloro-2-Butene	11.03	53	42	0.10482	ppb	#	37
76)	Bromobenzene	10.91	156	2745	0.56421	ppb		92
77)	n-Propylbenzene	11.12	91	11495	0.49429	ppb		94
78)	4-Ethyltoluene	11.29	105	10319	0.51914	ppb		88
79)	2-Chlorotoluene	11.20	91	7676	0.55089	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	8940	0.51669	ppb		92
81)	4-Chlorotoluene	11.36	91	7742	0.50532	ppb		89
82)	Tert-Butylbenzene	11.82	119	8353	0.55078	ppb		92
83)	1,2,4-Trimethylbenzene	11.89	105	9287	0.57402	ppb		95
84)	Sec-Butylbenzene	12.14	105	10503	0.51516	ppb		96
85)	p-Isopropyltoluene	12.36	119	4878	0.54806	ppb		96
86)	Benzyl Chloride	12.57	91	357	0.73232	ppb	#	23
87)	1,3-DCB	12.24	146	5355	0.55782	ppb		97
88)	1,4-DCB	12.37	146	2953	0.62698	ppb		96
89)	n-Butylbenzene	12.94	91	3909	0.54627	ppb		97
90)	1,2-DCB	12.88	146	4060	0.52478	ppb		94
91)	Hexachloroethane	13.24	117	957	0.47044	ppb	#	69
92)	1,2-Dibromo-3-chloropropan	14.00	75	43	0.17502	ppb	#	30
93)	1,2,4-Trichlorobenzene	15.21	180	1309	-0.43877	ppb	#	76
94)	Hexachlorobutadiene	15.51	225	1884	0.63595	ppb		96
95)	Naphthalene	15.54	128	533	0.16108	ppb	#	1
96)	1,2,3-Trichlorobenzene	15.90	180	522	0.19977	ppb	#	80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

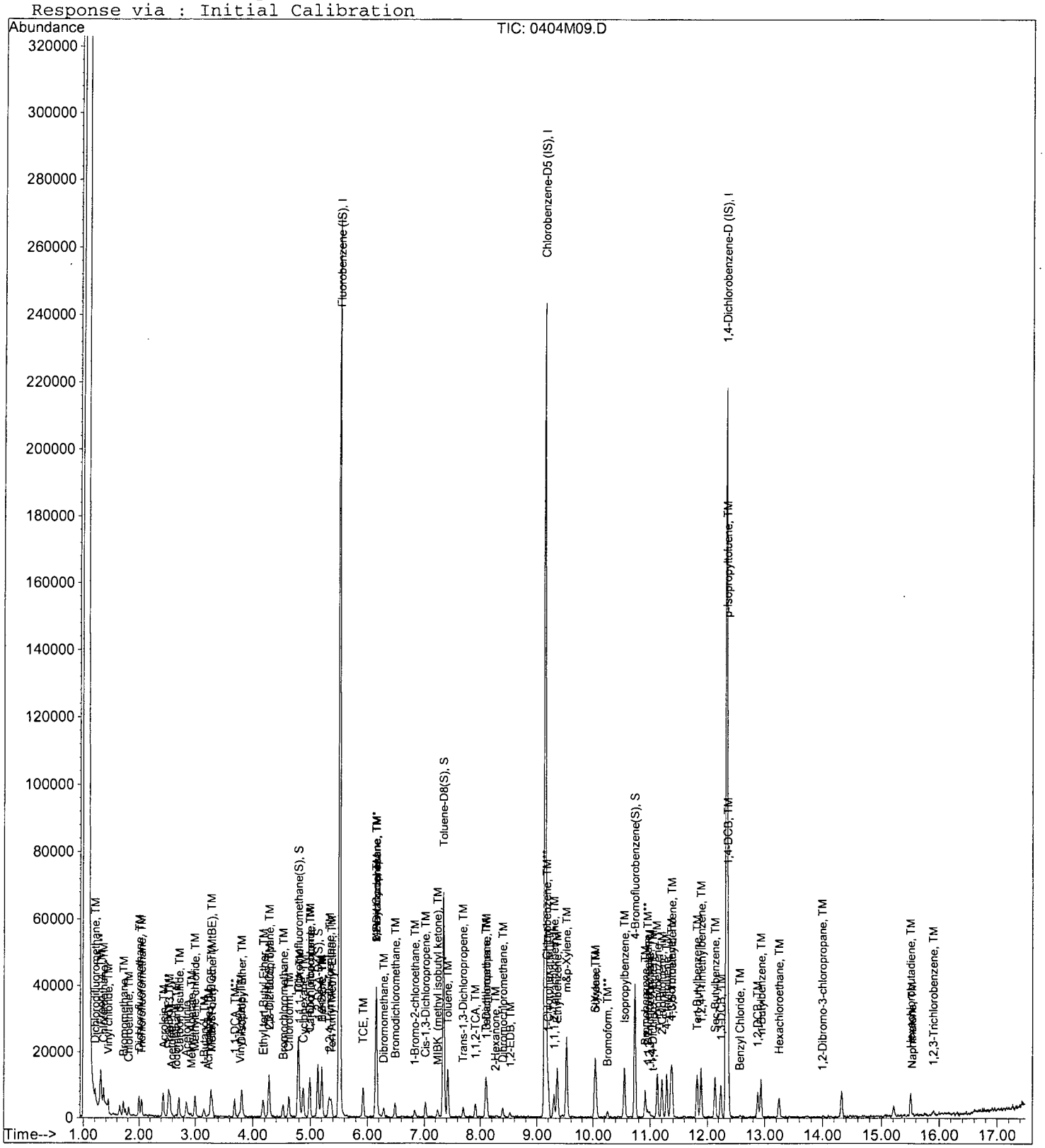
Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
37) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
57) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
65) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	3507	1.10428 ppb	#	81
3) Freon 114	1.31	85	4256	0.98607 ppb		98
4) Chloromethane	1.35	50	4592	1.04295 ppb		98
5) Vinyl chloride	1.44	62	6308	0.94446 ppb		92
6) Bromomethane	1.71	94	4131	1.00095 ppb		93
7) Chloroethane	1.81	64	4301	1.06452 ppb		91
8) Dichlorofluoromethane	2.00	67	10808	0.98680 ppb		100
9) Trichlorofluoromethane	2.05	101	6949	0.96002 ppb		94
10) Acrolein	2.43	56	12335	50.51324 ppb		98
11) Acetone	2.58	43	780	0.73357 ppb		96
12) Freon-113	2.55	101	3967	0.89625 ppb	#	89
13) 1,1-DCE	2.53	61	6572	0.94131 ppb		95
14) Acetonitrile	2.84	TIC	25160	55.70928 ppb		94
15) t-Butanol	3.15	59	4078	40.80931 ppb		96
16) Methyl Acetate	2.92	43	1643	0.98306 ppb		87
17) Iodomethane	2.65	142	1163	1.32271 ppb	#	79
18) Acrylonitrile	3.24	53	677	0.91982 ppb	#	80
19) Methylene chloride	3.00	84	4873	1.05922 ppb		95
20) Carbon disulfide	2.71	76	14590	1.01560 ppb		96
21) Methyl t-butyl ether (MtBE	3.30	73	6407	0.92182 ppb		99
22) Trans-1,2-DCE	3.27	96	4967	0.97768 ppb		92
23) Diisopropyl Ether	3.81	45	12461	0.88678 ppb		97
24) 1,1-DCA	3.68	63	9040	1.04461 ppb		97
25) Vinyl Acetate	3.76	43	2584	0.89746 ppb		96
26) Ethyl tert Butyl Ether	4.18	59	7798	0.92401 ppb		94
27) MEK (2-Butanone)	4.31	43	888	0.61716 ppb	#	80
28) Cis-1,2-DCE	4.28	96	5342	0.98905 ppb		96
29) 2,2-Dichloropropane	4.28	77	4537	0.88726 ppb	#	87
30) Chloroform	4.62	83	7976	0.95692 ppb		96
31) Bromochloromethane	4.52	128	2217	1.03854 ppb		92
33) 1,1,1-TCA	4.81	97	6591	0.90384 ppb		94
34) Cyclohexane	4.87	41	4968	1.02109 ppb		73
35) 1,1-Dichloropropene	4.98	75	6478	0.93399 ppb		97
36) 2,2,4-Trimethylpentane	5.33	57	11735	0.96705 ppb		96
38) Carbon Tetrachloride	4.98	117	4770	0.81463 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	6865	0.92499 ppb		98
40) 1,2-DCA	5.21	62	4317	0.98242 ppb		100
41) Benzene	5.20	78	19700	0.94214 ppb		99
42) TCE	5.92	95	5592	1.01112 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	65183	43.74083	ppb		100
44)	1,2-Dichloropropane	6.16	63	4559	0.97087	ppb		97
45)	Bromodichloromethane	6.49	83	4886	0.91311	ppb		92
46)	Methyl Cyclohexane	6.15	83	7293	0.97307	ppb		96
47)	Dibromomethane	6.29	93	1635	0.91477	ppb		83
48)	MIBK (methyl isobutyl ket	7.23	43	2755	1.18324	ppb	#	90
49)	1-Bromo-2-chloroethane	6.83	63	4513	1.01030	ppb		88
51)	Cis-1,3-Dichloropropene	7.02	75	5024	0.89138	ppb		89
52)	Toluene	7.42	91	22395	0.92314	ppb		91
53)	Trans-1,3-Dichloropropene	7.70	75	3011	0.83913	ppb	#	72
54)	1,1,2-TCA	7.91	83	2053	0.90357	ppb		90
55)	2-Hexanone	8.28	43	817	0.66990	ppb	#	66
58)	1,2-EDB	8.52	107	2155	0.95088	ppb		89
59)	Tetrachloroethene	8.09	164	5800	1.02031	ppb		91
60)	1-Chlorohexane	9.20	91	5241	0.87975	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	3771	0.89689	ppb		83
62)	m&p-Xylene	9.52	106	17717	1.72319	ppb		99
63)	o-Xylene	10.03	106	8108	0.85466	ppb		99
64)	Styrene	10.05	104	12513	0.86478	ppb		94
66)	1,3-Dichloropropane	8.12	76	4016	0.90776	ppb	#	69
67)	Dibromochloromethane	8.39	129	3330	0.99086	ppb		99
68)	Chlorobenzene	9.18	112	13554	0.96584	ppb		95
69)	Ethylbenzene	9.35	91	23709	0.92415	ppb		98
70)	Bromoform	10.25	173	1529	0.84669	ppb		80
72)	Isopropylbenzene	10.55	105	21903	0.96724	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	2405	1.01824	ppb	#	87
74)	1,2,3-Trichloropropane	10.99	110	753	1.11370	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	425	1.03444	ppb	#	74
76)	Bromobenzene	10.91	156	5510	1.10453	ppb		96
77)	n-Propylbenzene	11.12	91	22244	0.93285	ppb		97
78)	4-Ethyltoluene	11.29	105	18725	0.91875	ppb		95
79)	2-Chlorotoluene	11.20	91	13748	0.96226	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	17206	0.96983	ppb		93
81)	4-Chlorotoluene	11.36	91	14871	0.94663	ppb		97
82)	Tert-Butylbenzene	11.82	119	15433	0.99245	ppb		94
83)	1,2,4-Trimethylbenzene	11.89	105	16759	1.01024	ppb		95
84)	Sec-Butylbenzene	12.14	105	20129	0.96289	ppb		99
85)	p-Isopropyltoluene	12.35	119	8138	0.89172	ppb		95
86)	Benzyl Chloride	12.57	91	869	1.11650	ppb	#	64
87)	1,3-DCB	12.24	146	10207	1.03695	ppb		89
88)	1,4-DCB	12.37	146	4471	0.92581	ppb	#	81
89)	n-Butylbenzene	12.94	91	8144	1.10996	ppb		90
90)	1,2-DCB	12.88	146	8051	1.01491	ppb		94
91)	Hexachloroethane	13.25	117	1869	0.89605	ppb		91
92)	1,2-Dibromo-3-chloropropan	14.00	75	86	0.34139	ppb	#	63
94)	Hexachlorobutadiene	15.51	225	3277	1.07880	ppb		84
95)	Naphthalene	15.54	128	1235	0.36400	ppb	#	70
96)	1,2,3-Trichlorobenzene	15.90	180	1726	0.64422	ppb	#	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

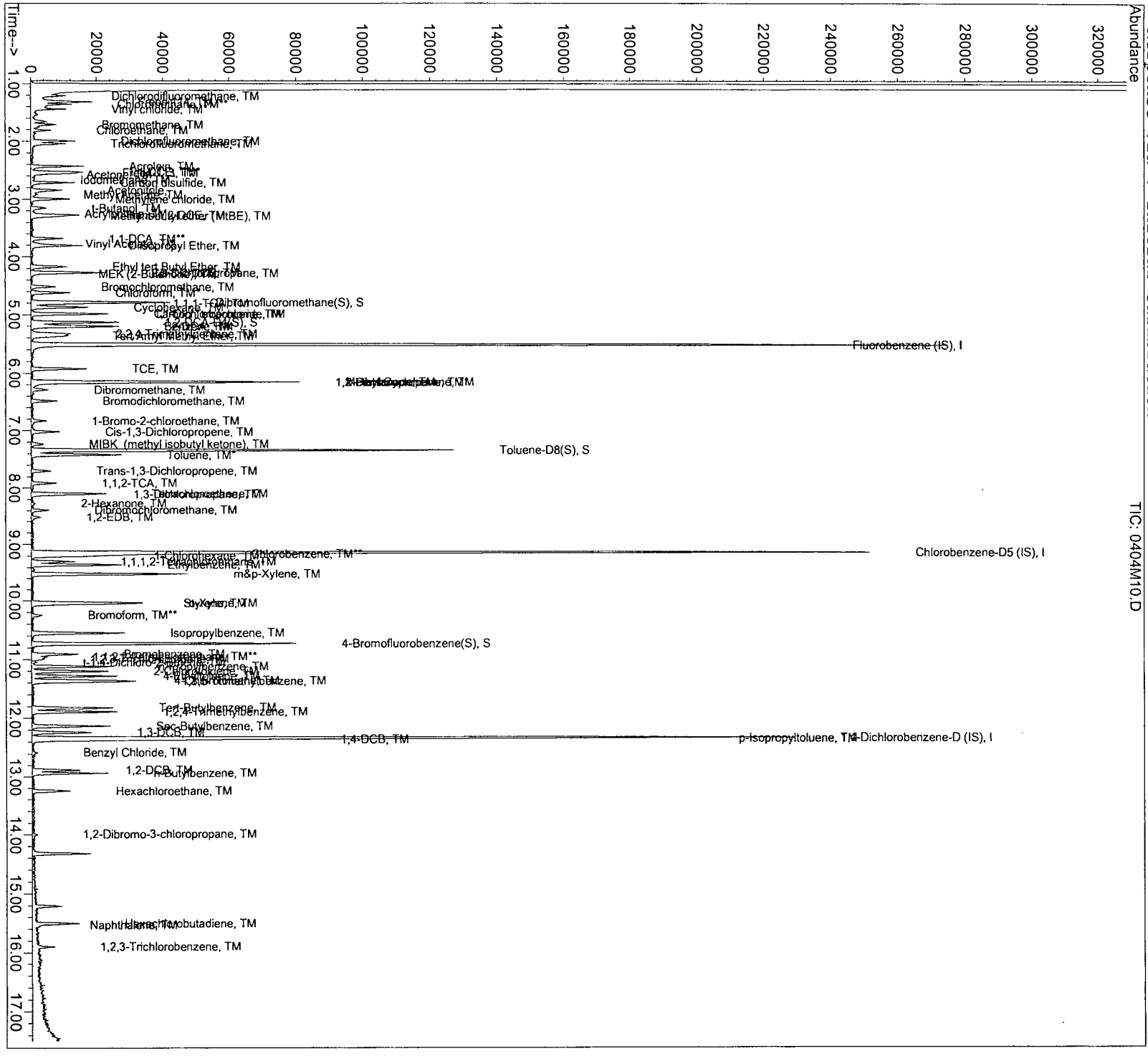
Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
37) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
57) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
65) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	6557	2.03696 ppb	100
3) Freon 114	1.31	85	8772	2.00509 ppb	93
4) Chloromethane	1.35	50	8516	1.90823 ppb	93
5) Vinyl chloride	1.44	62	13229	1.95411 ppb	99
6) Bromomethane	1.71	94	8779	2.09863 ppb	98
7) Chloroethane	1.81	64	7598	1.85531 ppb	97
8) Dichlorofluoromethane	2.00	67	20763	1.87029 ppb	98
9) Trichlorofluoromethane	2.04	101	13746	1.87355 ppb	99
10) Acrolein	2.43	56	18527	74.85193 ppb	93
11) Acetone	2.59	43	1227	1.50222 ppb	91
12) Freon-113	2.55	101	9307	2.07447 ppb	95
13) 1,1-DCE	2.53	61	13108	1.85227 ppb	97
14) Acetonitrile	2.84	TIC	39273	85.79121 ppb #	90
15) t-Butanol	3.15	59	6731	66.45435 ppb	92
16) Methyl Acetate	2.92	43	3168	1.87007 ppb	94
17) Iodomethane	2.65	142	3520	1.78593 ppb	90
18) Acrylonitrile	3.23	53	1477	1.97982 ppb #	79
19) Methylene chloride	3.00	84	9016	1.93347 ppb	94
20) Carbon disulfide	2.71	76	28564	1.96164 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	13093	1.85850 ppb	94
22) Trans-1,2-DCE	3.27	96	9320	1.80988 ppb	95
23) Diisopropyl Ether	3.81	45	26297	1.84630 ppb	98
24) 1,1-DCA	3.68	63	16438	1.87398 ppb	96
25) Vinyl Acetate	3.76	43	5024	1.72149 ppb	98
26) Ethyl tert Butyl Ether	4.18	59	15589	1.82241 ppb #	88
27) MEK (2-Butanone)	4.32	43	1349	1.04647 ppb	95
28) Cis-1,2-DCE	4.28	96	10026	1.83136 ppb	99
29) 2,2-Dichloropropane	4.27	77	9857	1.90177 ppb	96
30) Chloroform	4.62	83	16363	1.93681 ppb	93
31) Bromochloromethane	4.52	128	4503	2.08109 ppb	84
33) 1,1,1-TCA	4.80	97	13120	1.77503 ppb	94
34) Cyclohexane	4.87	41	9334	1.89270 ppb	92
35) 1,1-Dichloropropene	4.99	75	13110	1.86481 ppb	95
36) 2,2,4-Trimethylpentane	5.33	57	23046	1.87367 ppb	96
38) Carbon Tetrachloride	4.98	117	10405	1.75314 ppb	98
39) Tert Amyl Methyl Ether	5.37	73	13098	1.74115 ppb	92
40) 1,2-DCA	5.21	62	7998	1.79568 ppb	95
41) Benzene	5.20	78	39387	1.85839 ppb	98
42) TCE	5.92	95	10143	1.80940 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	104760	69.35535	ppb		100
44)	1,2-Dichloropropane	6.16	63	8761	1.84067	ppb		98
45)	Bromodichloromethane	6.49	83	10709	1.97447	ppb		93
46)	Methyl Cyclohexane	6.15	83	14902	1.96161	ppb		95
47)	Dibromomethane	6.29	93	3402	1.87786	ppb		86
48)	MIBK (methyl isobutyl ket	7.24	43	4928	2.08811	ppb	#	84
49)	1-Bromo-2-chloroethane	6.83	63	8433	1.86251	ppb		98
50)	2-Chloroethyl vinyl ether	6.88	106	40	2.46862	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	10351	1.81187	ppb		95
52)	Toluene	7.42	91	44803	1.82204	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	5798	1.59415	ppb		91
54)	1,1,2-TCA	7.91	83	4263	1.85107	ppb		85
55)	2-Hexanone	8.27	43	1857	1.46412	ppb	#	88
58)	1,2-EDB	8.52	107	4487	1.89348	ppb		89
59)	Tetrachloroethene	8.10	164	11646	1.95933	ppb		91
60)	1-Chlorohexane	9.20	91	9967	1.60007	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	7140	1.62408	ppb		96
62)	m&p-Xylene	9.51	106	38027	3.53722	ppb		97
63)	o-Xylene	10.03	106	18092	1.82387	ppb		96
64)	Styrene	10.05	104	25701	1.69872	ppb		100
66)	1,3-Dichloropropane	8.12	76	8793	1.90081	ppb		92
67)	Dibromochloromethane	8.39	129	6170	1.75582	ppb		97
68)	Chlorobenzene	9.18	112	27096	1.84659	ppb		98
69)	Ethylbenzene	9.35	91	49241	1.83561	ppb		97
70)	Bromoform	10.26	173	3339	1.76832	ppb		96
72)	Isopropylbenzene	10.55	105	46418	1.95897	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	4907	1.98546	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	1437	2.03113	ppb	#	77
75)	t-1,4-Dichloro-2-Butene	11.03	53	713	1.65849	ppb	#	81
76)	Bromobenzene	10.91	156	9234	1.76898	ppb		97
77)	n-Propylbenzene	11.12	91	46624	1.86860	ppb		99
78)	4-Ethyltoluene	11.29	105	37798	1.77236	ppb		100
79)	2-Chlorotoluene	11.20	91	29783	1.99220	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	34425	1.85438	ppb		100
81)	4-Chlorotoluene	11.36	91	30927	1.88143	ppb		98
82)	Tert-Butylbenzene	11.83	119	31186	1.91659	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	32739	1.88603	ppb		99
84)	Sec-Butylbenzene	12.14	105	40354	1.84481	ppb		96
85)	p-Isopropyltoluene	12.36	119	17656	1.84888	ppb		98
86)	Benzyl Chloride	12.57	91	1918	1.84873	ppb	#	92
87)	1,3-DCB	12.24	146	19685	1.91119	ppb		96
88)	1,4-DCB	12.37	146	9279	1.83624	ppb		90
89)	n-Butylbenzene	12.94	91	15029	1.95752	ppb		98
90)	1,2-DCB	12.88	146	15001	1.80719	ppb		97
91)	Hexachloroethane	13.25	117	3395	1.55550	ppb		87
92)	1,2-Dibromo-3-chloropropan	14.00	75	444	1.68439	ppb		89
93)	1,2,4-Trichlorobenzene	15.20	180	7348	0.99284	ppb		86
94)	Hexachlorobutadiene	15.51	225	6738	2.11985	ppb	#	85
95)	Naphthalene	15.54	128	4429	1.24752	ppb		95
96)	1,2,3-Trichlorobenzene	15.90	180	4285	1.52846	ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

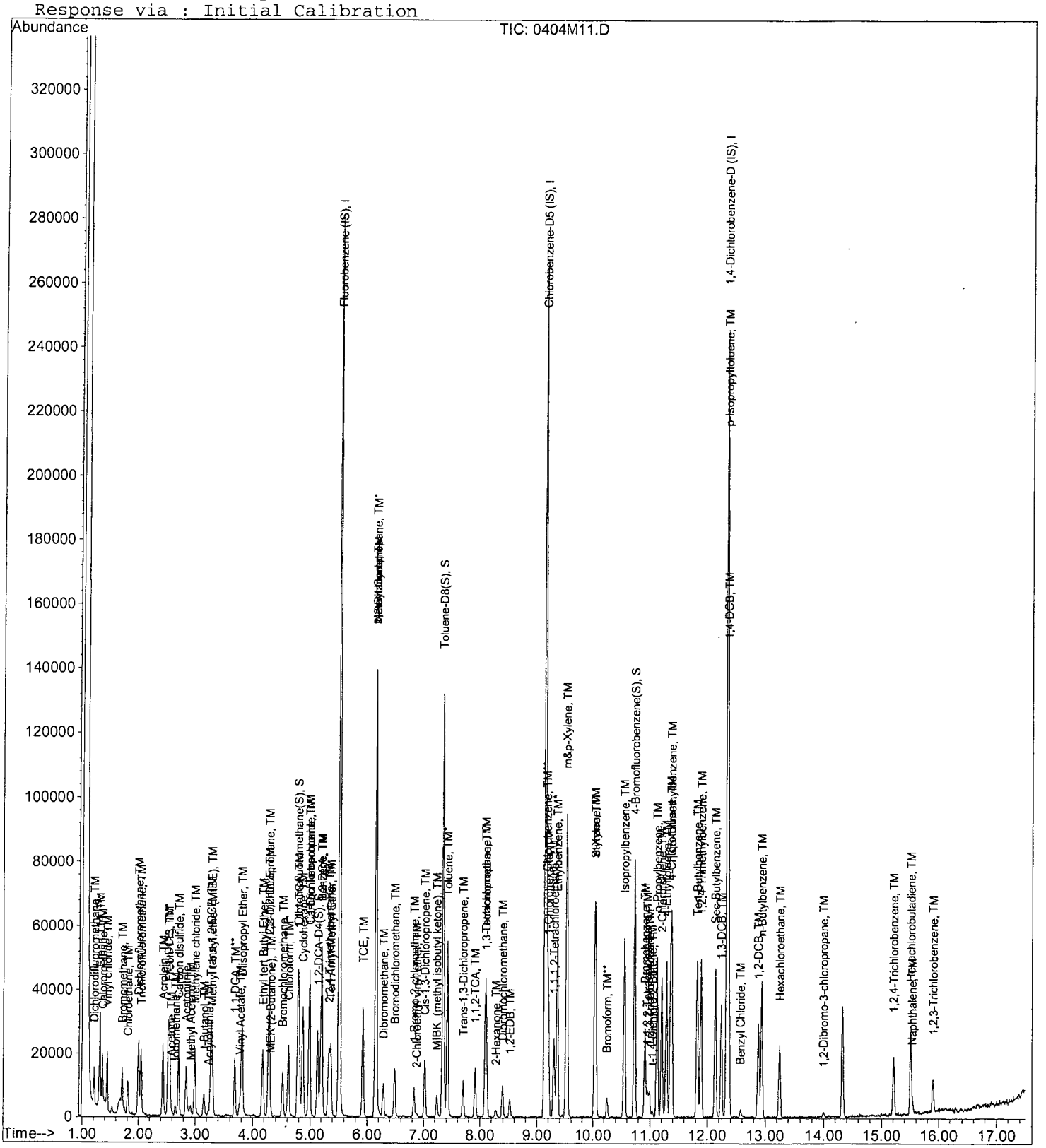
Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



443

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
37) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
57) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
65) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	14908	4.61757 ppb	88
3) Freon 114	1.31	85	21628	4.92912 ppb	95
4) Chloromethane	1.35	50	24936	5.57108 ppb	96
5) Vinyl chloride	1.44	62	35619	5.24592 ppb	97
6) Bromomethane	1.71	94	20948	4.99287 ppb	100
7) Chloroethane	1.81	64	20321	4.94743 ppb	98
8) Dichlorofluoromethane	2.00	67	58098	5.21791 ppb	97
9) Trichlorofluoromethane	2.04	101	36826	5.00450 ppb	94
10) Acrolein	2.43	56	26528	106.86118 ppb	98
11) Acetone	2.59	43	3877	6.14978 ppb	84
12) Freon-113	2.55	101	22629	5.02898 ppb	90
13) 1,1-DCE	2.52	61	36142	5.09210 ppb	95
14) Acetonitrile	2.84	TIC	43762	95.31548 ppb	96
15) t-Butanol	3.15	59	9802	96.48862 ppb	92
16) Methyl Acetate	2.91	43	9146	5.38297 ppb	96
17) Iodomethane	2.65	142	16108	4.26714 ppb	94
18) Acrylonitrile	3.23	53	4403	5.88453 ppb #	94
19) Methylene chloride	2.99	84	24928	5.33001 ppb	93
20) Carbon disulfide	2.71	76	76150	5.21420 ppb	98
21) Methyl t-butyl ether (MtBE	3.30	73	40097	5.67482 ppb	95
22) Trans-1,2-DCE	3.27	96	28516	5.52129 ppb	95
23) Diisopropyl Ether	3.80	45	76332	5.34342 ppb	98
24) 1,1-DCA	3.68	63	44933	5.10739 ppb	98
25) Vinyl Acetate	3.76	43	15529	5.30536 ppb	98
26) Ethyl tert Butyl Ether	4.17	59	47916	5.58502 ppb	92
27) MEK (2-Butanone)	4.31	43	6659	6.10568 ppb	99
28) Cis-1,2-DCE	4.28	96	29361	5.34730 ppb	95
29) 2,2-Dichloropropane	4.27	77	26650	5.12658 ppb	99
30) Chloroform	4.62	83	46688	5.50994 ppb	98
31) Bromochloromethane	4.52	128	11755	5.41663 ppb	91
33) 1,1,1-TCA	4.80	97	38261	5.16114 ppb	99
34) Cyclohexane	4.87	41	24058	4.86398 ppb	97
35) 1,1-Dichloropropene	4.99	75	36803	5.21954 ppb	94
36) 2,2,4-Trimethylpentane	5.33	57	60382	4.89466 ppb	96
38) Carbon Tetrachloride	4.98	117	30172	5.06869 ppb	93
39) Tert Amyl Methyl Ether	5.37	73	40816	5.40977 ppb	99
40) 1,2-DCA	5.21	62	23608	5.28475 ppb	100
41) Benzene	5.20	78	115353	5.42662 ppb	100
42) TCE	5.92	95	29008	5.15944 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	154462	101.95856	ppb		98
44)	1,2-Dichloropropane	6.16	63	25712	5.38612	ppb		98
45)	Bromodichloromethane	6.49	83	29080	5.34581	ppb		93
46)	Methyl Cyclohexane	6.14	83	37593	4.93393	ppb		100
47)	Dibromomethane	6.28	93	9925	5.46230	ppb		90
48)	MIBK (methyl isobutyl ket	7.23	43	13741	5.80522	ppb		92
49)	1-Bromo-2-chloroethane	6.83	63	24328	5.35723	ppb		96
50)	2-Chloroethyl vinyl ether	6.91	106	20	2.23827	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	29299	5.11347	ppb		97
52)	Toluene	7.42	91	132597	5.37652	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	19820	5.43342	ppb		91
54)	1,1,2-TCA	7.91	83	12366	5.35370	ppb		94
55)	2-Hexanone	8.28	43	6862	5.31200	ppb	#	94
58)	1,2-EDB	8.52	107	13028	5.58446	ppb		92
59)	Tetrachloroethene	8.09	164	30546	5.22016	ppb		98
60)	1-Chlorohexane	9.20	91	31145	5.07880	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	22853	5.28020	ppb		99
62)	m&p-Xylene	9.52	106	113513	10.72544	ppb		98
63)	o-Xylene	10.03	106	52728	5.39942	ppb		94
64)	Styrene	10.05	104	79049	5.30721	ppb		97
66)	1,3-Dichloropropane	8.12	76	25783	5.66155	ppb		100
67)	Dibromochloromethane	8.39	129	18178	5.25460	ppb		98
68)	Chlorobenzene	9.18	112	79192	5.48209	ppb		98
69)	Ethylbenzene	9.35	91	141681	5.36494	ppb		99
70)	Bromoform	10.26	173	10065	5.41448	ppb		95
72)	Isopropylbenzene	10.55	105	138803	5.61610	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	14158	5.49214	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	4622	6.26334	ppb		90
75)	t-1,4-Dichloro-2-Butene	11.04	53	2464	5.49490	ppb	#	80
76)	Bromobenzene	10.91	156	32407	5.95206	ppb		97
77)	n-Propylbenzene	11.12	91	144531	5.55345	ppb		100
78)	4-Ethyltoluene	11.29	105	119518	5.37294	ppb		100
79)	2-Chlorotoluene	11.20	91	85751	5.49918	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	105815	5.46472	ppb		97
81)	4-Chlorotoluene	11.36	91	95061	5.54431	ppb		98
82)	Tert-Butylbenzene	11.83	119	94362	5.55983	ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	97701	5.39607	ppb		100
84)	Sec-Butylbenzene	12.14	105	117448	5.14762	ppb		99
85)	p-Isopropyltoluene	12.36	119	51328	5.15308	ppb		99
86)	Benzyl Chloride	12.57	91	7160	5.36448	ppb	#	97
87)	1,3-DCB	12.24	146	59926	5.57802	ppb		98
88)	1,4-DCB	12.37	146	29384	5.57486	ppb		95
89)	n-Butylbenzene	12.94	91	42384	5.29266	ppb		96
90)	1,2-DCB	12.88	146	49219	5.68477	ppb		98
91)	Hexachloroethane	13.25	117	12465	5.47542	ppb		95
92)	1,2-Dibromo-3-chloropropan	14.00	75	1548	5.63023	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	26572	5.35913	ppb		99
94)	Hexachlorobutadiene	15.50	225	18904	5.70195	ppb		94
95)	Naphthalene	15.54	128	19255	5.19974	ppb	#	93
96)	1,2,3-Trichlorobenzene	15.90	180	15944	5.45250	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

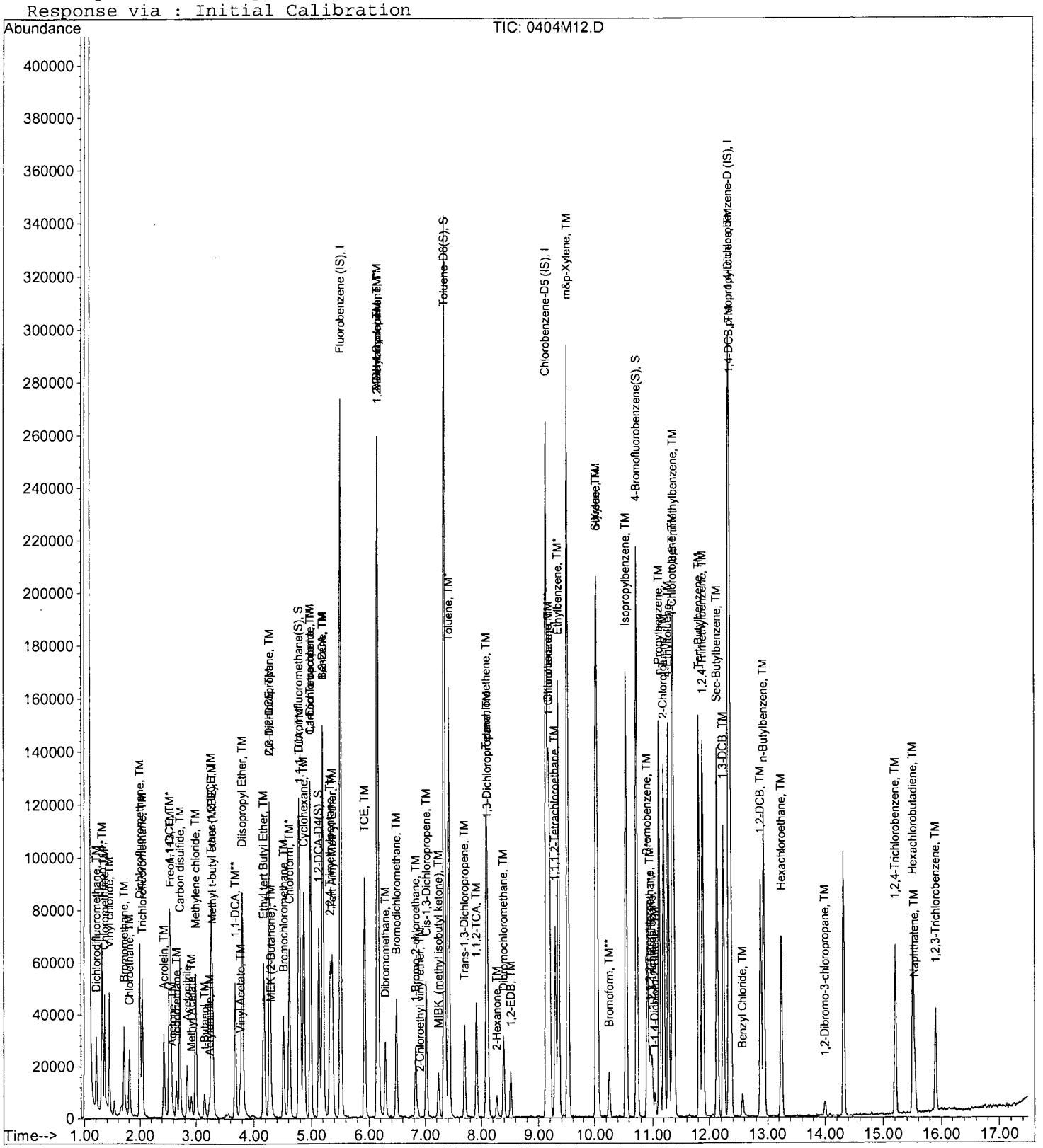
Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



446

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
37) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
57) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
65) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	33336	10.11524 ppb	100
3) Freon 114	1.31	85	47063	10.50756 ppb	100
4) Chloromethane	1.35	50	47872	10.47763 ppb	100
5) Vinyl chloride	1.44	62	76182	10.99160 ppb	100
6) Bromomethane	1.71	94	38958	9.09647 ppb	100
7) Chloroethane	1.81	64	43590	10.39657 ppb	100
8) Dichlorofluoromethane	2.00	67	115599	10.17087 ppb	100
9) Trichlorofluoromethane	2.04	101	78615	10.46600 ppb	100
10) Acrolein	2.43	56	30920	122.01794 ppb	100
11) Acetone	2.58	43	6266	10.12135 ppb	100
12) Freon-113	2.55	101	48963	10.65987 ppb	100
13) 1,1-DCE	2.52	61	75671	10.44438 ppb	100
14) Acetonitrile	2.84	TIC	56375	120.28779 ppb	100
15) t-Butanol	3.15	59	13671	131.83491 ppb	100
16) Methyl Acetate	2.92	43	17120	9.87106 ppb	100
17) Iodomethane	2.65	142	43252	9.44824 ppb	100
18) Acrylonitrile	3.23	53	8104	10.61039 ppb	100
19) Methylene chloride	2.99	84	46812	9.80543 ppb	100
20) Carbon disulfide	2.71	76	153563	10.30085 ppb	100
21) Methyl t-butyl ether (MtBE	3.29	73	73189	10.14739 ppb	100
22) Trans-1,2-DCE	3.27	96	55573	10.54106 ppb	100
23) Diisopropyl Ether	3.80	45	146999	10.08082 ppb	100
24) 1,1-DCA	3.68	63	89782	9.99751 ppb	100
25) Vinyl Acetate	3.76	43	27050	9.05331 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	87251	9.96285 ppb	100
27) MEK (2-Butanone)	4.31	43	10950	9.98458 ppb	100
28) Cis-1,2-DCE	4.27	96	58264	10.39520 ppb	100
29) 2,2-Dichloropropane	4.27	77	54970	10.35918 ppb	100
30) Chloroform	4.62	83	87819	10.15310 ppb	100
31) Bromochloromethane	4.52	128	21940	9.90402 ppb	100
33) 1,1,1-TCA	4.80	97	78665	10.39537 ppb	100
34) Cyclohexane	4.87	41	52464	10.39112 ppb	100
35) 1,1-Dichloropropene	4.98	75	75431	10.48016 ppb	100
36) 2,2,4-Trimethylpentane	5.33	57	133942	10.63654 ppb	100
38) Carbon Tetrachloride	4.98	117	63686	10.48104 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	75766	9.83764 ppb	100
40) 1,2-DCA	5.21	62	44703	9.80326 ppb	100
41) Benzene	5.20	78	221365	10.20184 ppb	100
42) TCE	5.92	95	59538	10.37405 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	188062	121.61071	ppb		100
44)	1,2-Dichloropropane	6.16	63	48487	9.95025	ppb		100
45)	Bromodichloromethane	6.48	83	54711	9.85286	ppb		100
46)	Methyl Cyclohexane	6.14	83	81802	10.51766	ppb		100
47)	Dibromomethane	6.28	93	19227	10.36634	ppb		100
48)	MIBK (methyl isobutyl ket	7.23	43	22262	9.21369	ppb		100
49)	1-Bromo-2-chloroethane	6.83	63	44042	9.50102	ppb		100
50)	2-Chloroethyl vinyl ether	6.87	106	483	7.42683	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	58558	10.01193	ppb		100
52)	Toluene	7.42	91	256143	10.17464	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	37711	10.12760	ppb		100
54)	1,1,2-TCA	7.91	83	23678	10.04242	ppb		100
55)	2-Hexanone	8.27	43	13196	9.98023	ppb		100
58)	1,2-EDB	8.52	107	24095	9.82499	ppb		100
59)	Tetrachloroethene	8.09	164	62894	10.22446	ppb		100
60)	1-Chlorohexane	9.20	91	68086	10.56166	ppb		100
61)	1,1,1,2-Tetrachloroethane	9.29	131	45863	10.08025	ppb		100
62)	m&p-Xylene	9.51	106	225803	20.29555	ppb		100
63)	o-Xylene	10.03	106	102849	10.01861	ppb		100
64)	Styrene	10.05	104	154075	9.84020	ppb		100
66)	1,3-Dichloropropane	8.12	76	48428	10.11579	ppb		100
67)	Dibromochloromethane	8.39	129	35844	9.85624	ppb		100
68)	Chlorobenzene	9.17	112	149334	9.83389	ppb		100
69)	Ethylbenzene	9.35	91	281244	10.13068	ppb		100
70)	Bromoform	10.25	173	18885	9.66412	ppb		100
72)	Isopropylbenzene	10.55	105	276072	10.31664	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	27161	9.73118	ppb		100
74)	1,2,3-Trichloropropane	10.99	110	8114	10.15526	ppb		100
75)	t-1,4-Dichloro-2-Butene	11.04	53	4981	10.25924	ppb		100
76)	Bromobenzene	10.91	156	60444	10.25325	ppb		100
77)	n-Propylbenzene	11.12	91	296359	10.51720	ppb		100
78)	4-Ethyltoluene	11.29	105	248639	10.32352	ppb		100
79)	2-Chlorotoluene	11.20	91	170193	10.08046	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	209192	9.97805	ppb		100
81)	4-Chlorotoluene	11.36	91	188712	10.16540	ppb		100
82)	Tert-Butylbenzene	11.82	119	189738	10.32519	ppb		100
83)	1,2,4-Trimethylbenzene	11.89	105	195534	9.97426	ppb		100
84)	Sec-Butylbenzene	12.14	105	246265	9.96880	ppb		100
85)	p-Isopropyltoluene	12.36	119	105576	9.78944	ppb		100
86)	Benzyl Chloride	12.57	91	14477	9.44433	ppb		100
87)	1,3-DCB	12.24	146	114378	9.83302	ppb		100
88)	1,4-DCB	12.37	146	57704	10.11134	ppb		100
89)	n-Butylbenzene	12.94	91	84048	9.69347	ppb		100
90)	1,2-DCB	12.88	146	95852	10.22495	ppb		100
91)	Hexachloroethane	13.25	117	24552	9.96075	ppb		100
92)	1,2-Dibromo-3-chloropropan	14.00	75	2817	9.46285	ppb		100
93)	1,2,4-Trichlorobenzene	15.21	180	54263	10.79627	ppb		100
94)	Hexachlorobutadiene	15.51	225	38977	10.85821	ppb		100
95)	Naphthalene	15.54	128	47567	11.86379	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	35545	11.22682	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

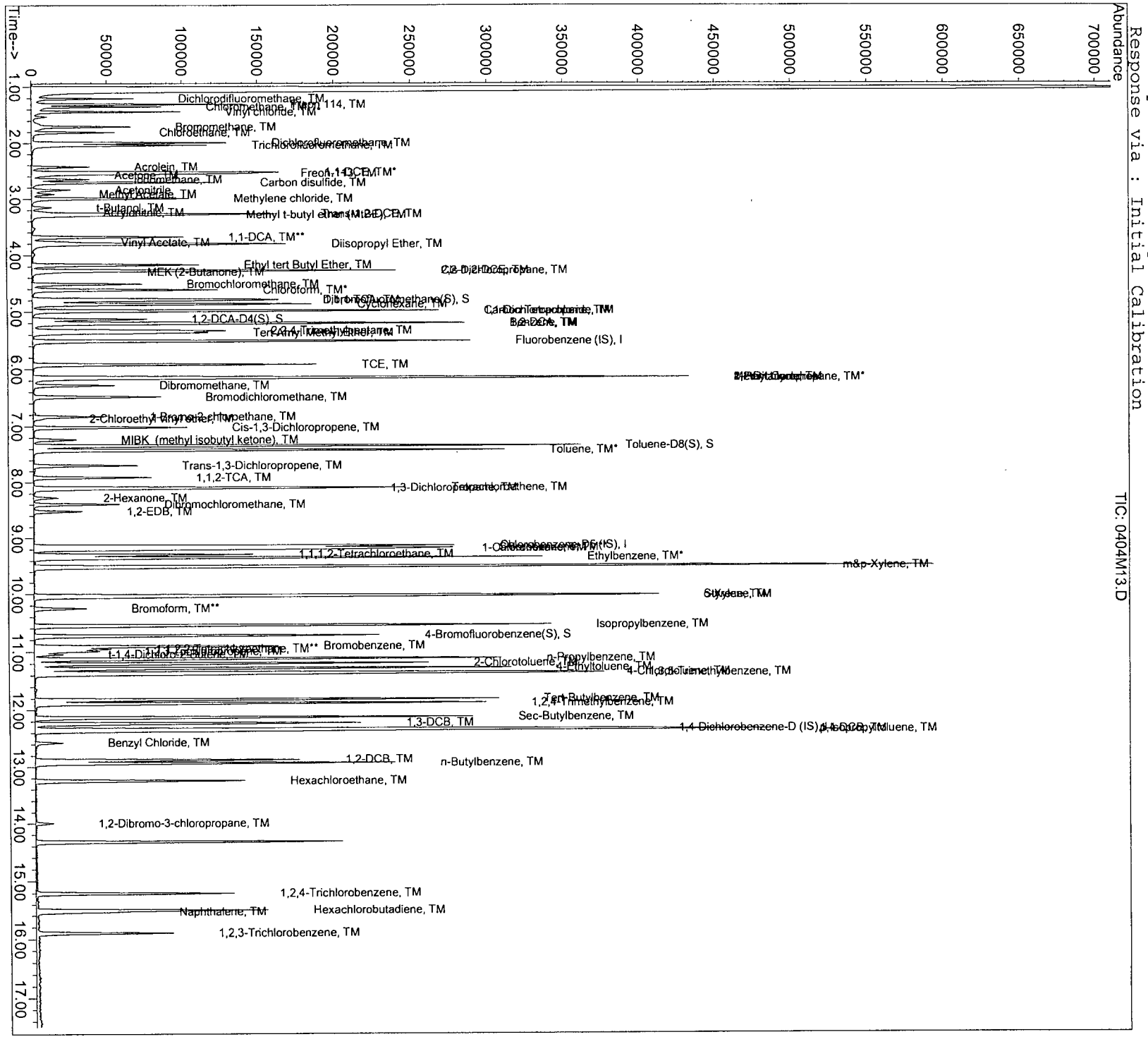
Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
37) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
57) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
65) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	66968	19.47166 ppb		98
3) Freon 114	1.31	85	90721	19.40898 ppb		98
4) Chloromethane	1.35	50	90408	18.96100 ppb		99
5) Vinyl chloride	1.44	62	149189	20.62615 ppb		97
6) Bromomethane	1.70	94	72788	16.28579 ppb		92
7) Chloroethane	1.80	64	88346	20.19124 ppb		94
8) Dichlorofluoromethane	1.99	67	237784	20.04746 ppb		99
9) Trichlorofluoromethane	2.04	101	159395	20.33400 ppb		96
10) Acrolein	2.43	56	39401	148.99245 ppb		90
11) Acetone	2.58	43	12361	19.71935 ppb		91
12) Freon-113	2.55	101	95878	20.00209 ppb		97
13) 1,1-DCE	2.52	61	149881	19.82314 ppb		97
14) Acetonitrile	2.84	TIC	73679	150.64389 ppb	#	95
15) t-Butanol	3.15	59	17294	159.80795 ppb		96
16) Methyl Acetate	2.91	43	36838	20.35301 ppb		96
17) Iodomethane	2.65	142	101787	19.93903 ppb		98
18) Acrylonitrile	3.23	53	17338	21.75223 ppb		92
19) Methylene chloride	2.99	84	94559	18.97951 ppb		96
20) Carbon disulfide	2.71	76	302511	19.44466 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	151816	20.16968 ppb		98
22) Trans-1,2-DCE	3.27	96	109270	19.86068 ppb		95
23) Diisopropyl Ether	3.80	45	312531	20.53748 ppb		97
24) 1,1-DCA	3.68	63	183041	19.53096 ppb		96
25) Vinyl Acetate	3.76	43	61199	19.62714 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	186796	20.43872 ppb		99
27) MEK (2-Butanone)	4.31	43	23339	20.64643 ppb		95
28) Cis-1,2-DCE	4.27	96	116789	19.96675 ppb		95
29) 2,2-Dichloropropane	4.27	77	116892	21.10848 ppb		99
30) Chloroform	4.62	83	177972	19.71673 ppb		99
31) Bromochloromethane	4.52	128	43687	18.89732 ppb		97
33) 1,1,1-TCA	4.80	97	159858	20.24256 ppb		98
34) Cyclohexane	4.87	41	101478	19.25953 ppb		98
35) 1,1-Dichloropropene	4.99	75	150247	20.00306 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	258653	19.68222 ppb		99
38) Carbon Tetrachloride	4.98	117	131818	20.78778 ppb		92
39) Tert Amyl Methyl Ether	5.37	73	165438	20.58377 ppb		94
40) 1,2-DCA	5.21	62	94068	19.76735 ppb		99
41) Benzene	5.20	78	447523	19.76322 ppb		99
42) TCE	5.92	95	116538	19.45783 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	250085	154.96414	ppb	97
44) 1,2-Dichloropropane	6.16	63	101263	19.91279	ppb	99
45) Bromodichloromethane	6.48	83	115675	19.96182	ppb	100
46) Methyl Cyclohexane	6.15	83	162428	20.01192	ppb	97
47) Dibromomethane	6.28	93	39346	20.32767	ppb	94
48) MIBK (methyl isobutyl ket	7.23	43	46324	18.37165	ppb	96
49) 1-Bromo-2-chloroethane	6.83	63	95718	19.78652	ppb	97
51) Cis-1,3-Dichloropropene	7.02	75	125745	20.60131	ppb	97
52) Toluene	7.42	91	515588	19.62512	ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	85842	22.09078	ppb	94
54) 1,1,2-TCA	7.91	83	48497	19.70975	ppb	97
55) 2-Hexanone	8.27	43	28574	20.67524	ppb	98
58) 1,2-EDB	8.52	107	52990	20.94416	ppb	96
59) Tetrachloroethene	8.09	164	122712	19.33668	ppb	98
60) 1-Chlorohexane	9.20	91	139883	21.03307	ppb	98
61) 1,1,1,2-Tetrachloroethane	9.30	131	96582	20.57637	ppb	96
62) m&p-Xylene	9.51	106	459741	40.05419	ppb	93
63) o-Xylene	10.03	106	215404	20.33877	ppb	100
64) Styrene	10.05	104	335366	20.76129	ppb	98
66) 1,3-Dichloropropane	8.12	76	100435	20.33537	ppb	96
67) Dibromochloromethane	8.39	129	76119	20.28858	ppb	95
68) Chlorobenzene	9.18	112	307175	19.60722	ppb	100
69) Ethylbenzene	9.35	91	572306	19.98238	ppb	98
70) Bromoform	10.25	173	41583	20.62646	ppb	90
72) Isopropylbenzene	10.55	105	579126	19.07756	ppb	98
73) 1,1,2,2-Tetrachloroethane	10.95	83	59723	18.86233	ppb	99
74) 1,2,3-Trichloropropane	10.99	110	18169	20.04568	ppb	89
75) t-1,4-Dichloro-2-Butene	11.04	53	11412	20.72023	ppb	96
76) Bromobenzene	10.91	156	124585	18.62980	ppb	98
77) n-Propylbenzene	11.12	91	634367	19.84525	ppb	99
78) 4-Ethyltoluene	11.29	105	546027	19.98512	ppb	98
79) 2-Chlorotoluene	11.20	91	363250	18.96611	ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	465829	19.58670	ppb	98
81) 4-Chlorotoluene	11.36	91	415814	19.74504	ppb	100
82) Tert-Butylbenzene	11.83	119	406743	19.51183	ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	435106	19.56534	ppb	96
84) Sec-Butylbenzene	12.14	105	542159	19.34644	ppb	100
85) p-Isopropyltoluene	12.36	119	251072	20.52225	ppb	99
86) Benzyl Chloride	12.57	91	38064	20.25556	ppb	97
87) 1,3-DCB	12.24	146	257992	19.55170	ppb	96
88) 1,4-DCB	12.37	146	132032	20.39465	ppb	98
89) n-Butylbenzene	12.94	91	183936	18.70048	ppb	96
90) 1,2-DCB	12.88	146	212163	19.95094	ppb	100
91) Hexachloroethane	13.25	117	58097	20.77748	ppb	98
92) 1,2-Dibromo-3-chloropropan	13.99	75	6905	20.44716	ppb	95
93) 1,2,4-Trichlorobenzene	15.21	180	117956	21.40024	ppb	97
94) Hexachlorobutadiene	15.51	225	75236	18.47606	ppb	92
95) Naphthalene	15.54	128	120414	26.47457	ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	82621	23.00396	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

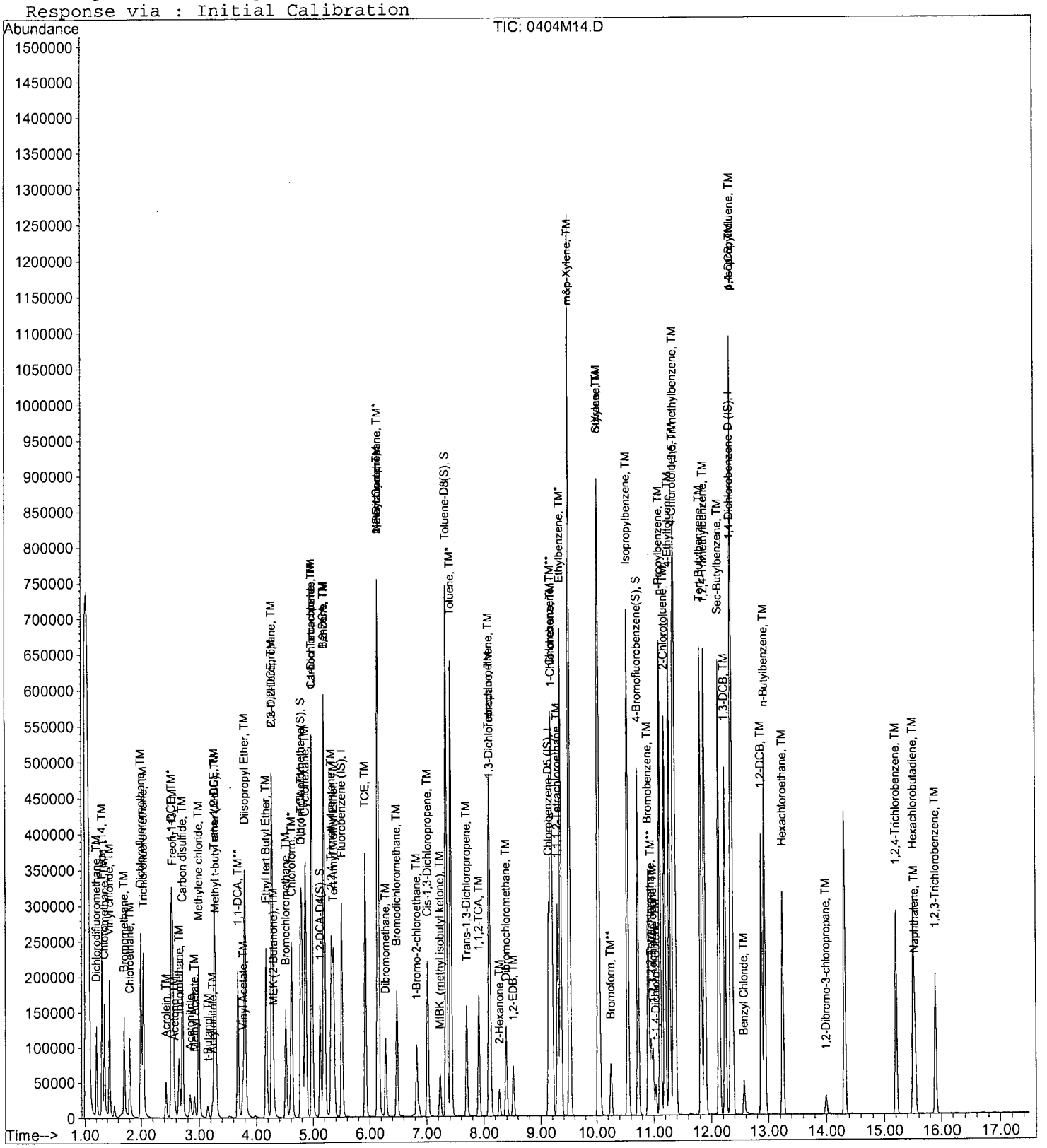
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



452

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D Vial: 11
Acq On : 4 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 04/04/17H Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
37) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
57) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
65) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	129088	36.06108 ppb	100
3) Freon 114	1.31	85	191455	39.35309 ppb	98
4) Chloromethane	1.35	50	183512	36.97738 ppb	96
5) Vinyl chloride	1.44	62	297432	39.50812 ppb	98
6) Bromomethane	1.70	94	121297	26.07453 ppb	96
7) Chloroethane	1.80	64	181707	39.89927 ppb	95
8) Dichlorofluoromethane	1.99	67	484950	39.28177 ppb	100
9) Trichlorofluoromethane	2.04	101	322449	39.52086 ppb	99
10) Acrolein	2.43	56	46789	169.98791 ppb	92
11) Acetone	2.58	43	24600	38.30539 ppb	89
12) Freon-113	2.54	101	193028	38.68959 ppb	96
13) 1,1-DCE	2.52	61	312545	39.71511 ppb	96
14) Acetonitrile	2.84	TIC	73210	143.81211 ppb #	90
15) t-Butanol	3.15	59	21468	190.59512 ppb #	86
16) Methyl Acetate	2.91	43	76420	40.56551 ppb	96
17) Iodomethane	2.65	142	222816	40.73301 ppb	98
18) Acrylonitrile	3.23	53	33745	40.67536 ppb	95
19) Methylene chloride	2.99	84	189691	36.58020 ppb	99
20) Carbon disulfide	2.71	76	610872	37.72477 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	321256	41.00624 ppb	97
22) Trans-1,2-DCE	3.26	96	229033	39.99526 ppb	97
23) Diisopropyl Ether	3.80	45	656196	41.42905 ppb	98
24) 1,1-DCA	3.68	63	382523	39.21480 ppb	98
25) Vinyl Acetate	3.76	43	134320	41.38765 ppb	99
26) Ethyl tert Butyl Ether	4.17	59	403335	42.40033 ppb	98
27) MEK (2-Butanone)	4.31	43	46332	39.59968 ppb	99
28) Cis-1,2-DCE	4.27	96	239292	39.30529 ppb	96
29) 2,2-Dichloropropane	4.27	77	251155	43.57439 ppb	100
30) Chloroform	4.61	83	365475	38.90076 ppb	99
31) Bromochloromethane	4.52	128	90277	37.51822 ppb	90
33) 1,1,1-TCA	4.80	97	336301	40.91443 ppb	98
34) Cyclohexane	4.87	41	213316	38.89686 ppb	96
35) 1,1-Dichloropropene	4.98	75	310800	39.75474 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	555635	40.62220 ppb	99
38) Carbon Tetrachloride	4.98	117	278702	42.22705 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	358200	42.81859 ppb	91
40) 1,2-DCA	5.21	62	201981	40.77879 ppb	99
41) Benzene	5.20	78	936173	39.72060 ppb	99
42) TCE	5.92	95	242712	38.93456 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017
Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	319267	190.07056 ppb		96
44) 1,2-Dichloropropane	6.16	63	213771	40.38754 ppb		100
45) Bromodichloromethane	6.48	83	242984	40.28613 ppb		97
46) Methyl Cyclohexane	6.14	83	342507	40.54288 ppb		94
47) Dibromomethane	6.28	93	80448	39.93185 ppb		92
48) MIBK (methyl isobutyl ket	7.23	43	93915	35.78445 ppb		99
49) 1-Bromo-2-chloroethane	6.83	63	203696	40.45532 ppb		93
50) 2-Chloroethyl vinyl ether	6.87	106	3981	43.11839 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	273330	43.02380 ppb		96
52) Toluene	7.42	91	1111909	40.66267 ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	194540	48.09916 ppb		95
54) 1,1,2-TCA	7.91	83	101415	39.59913 ppb		97
55) 2-Hexanone	8.27	43	57660	40.05526 ppb		95
58) 1,2-EDB	8.52	107	112404	42.05285 ppb		93
59) Tetrachloroethene	8.10	164	249161	37.16376 ppb		98
60) 1-Chlorohexane	9.20	91	313677	44.64421 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.30	131	210317	42.41228 ppb		100
62) m&p-Xylene	9.51	106	1053974	86.91792 ppb		93
63) o-Xylene	10.03	106	489748	43.77118 ppb		98
64) Styrene	10.05	104	781645	45.80255 ppb		97
66) 1,3-Dichloropropane	8.12	76	208905	40.03690 ppb		100
67) Dibromochloromethane	8.39	129	159533	40.24888 ppb		91
68) Chlorobenzene	9.18	112	659247	39.83116 ppb		99
69) Ethylbenzene	9.35	91	1245394	41.15953 ppb		98
70) Bromoform	10.26	173	96819	45.45839 ppb		97
72) Isopropylbenzene	10.55	105	1315694	36.18065 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	130790	34.48260 ppb		99
74) 1,2,3-Trichloropropane	10.99	110	39249	36.14849 ppb		98
75) t-1,4-Dichloro-2-Butene	11.04	53	27740	42.04467 ppb		93
76) Bromobenzene	10.91	156	276878	34.56229 ppb		97
77) n-Propylbenzene	11.12	91	1478609	38.61366 ppb		100
78) 4-Ethyltoluene	11.29	105	1314843	40.17338 ppb		98
79) 2-Chlorotoluene	11.20	91	856805	37.34448 ppb		95
80) 1,3,5-Trimethylbenzene	11.38	105	1135443	39.85399 ppb		96
81) 4-Chlorotoluene	11.36	91	1026940	40.70762 ppb		98
82) Tert-Butylbenzene	11.83	119	943465	37.78117 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	1056912	39.67371 ppb		94
84) Sec-Butylbenzene	12.14	105	1327158	39.53381 ppb		98
85) p-Isopropyltoluene	12.36	119	611081	41.69626 ppb		99
86) Benzyl Chloride	12.57	91	99255	39.96838 ppb		95
87) 1,3-DCB	12.24	146	608375	38.48764 ppb		96
88) 1,4-DCB	12.37	146	313344	40.40453 ppb		97
89) n-Butylbenzene	12.94	91	446976	37.93515 ppb		96
90) 1,2-DCB	12.88	146	479236	37.61967 ppb		97
91) Hexachloroethane	13.25	117	142926	42.66996 ppb		97
92) 1,2-Dibromo-3-chloropropan	13.99	75	16326	40.35717 ppb		96
93) 1,2,4-Trichlorobenzene	15.21	180	267502	41.20728 ppb		94
94) Hexachlorobutadiene	15.51	225	169317	34.71010 ppb		95
95) Naphthalene	15.54	128	281726	51.70714 ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	190594	44.29891 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

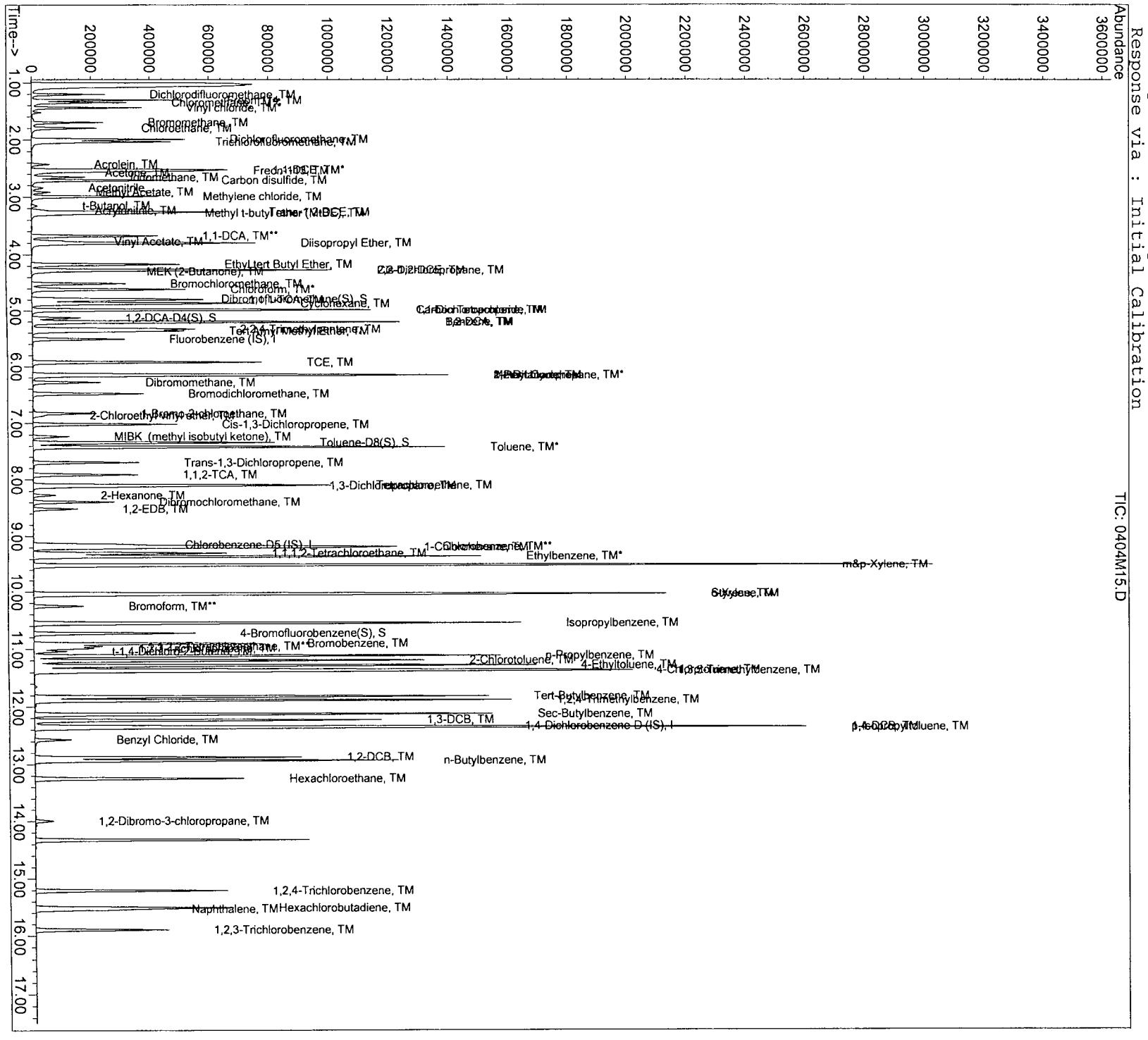
Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D Vial: 12
Acq On : 4 Apr 17 14:29 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 04/04/17I Inst : Max
Misc : 20uL~100ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
37) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
57) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
65) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	375808	93.08592 ppb	96
3) Freon 114	1.31	85	509688	92.89272 ppb	96
4) Chloromethane	1.35	50	496592	88.72307 ppb	96
5) Vinyl chloride	1.44	62	798880	94.09040 ppb	99
6) Bromomethane	1.70	94	286052	54.52260 ppb	95
7) Chloroethane	1.79	64	497323	96.82711 ppb	97
8) Dichlorofluoromethane	1.99	67	1441058	103.50007 ppb	100
9) Trichlorofluoromethane	2.03	101	981074	106.61843 ppb	99
10) Acrolein	2.43	56	59933	193.06582 ppb	94
11) Acetone	2.59	43	63177	88.06824 ppb	90
12) Freon-113	2.54	101	533776	94.86323 ppb	97
13) 1,1-DCE	2.52	61	866903	97.67396 ppb	94
14) Acetonitrile	2.85	TIC	131031	228.22554 ppb #	90
15) t-Butanol	3.19	59	26649	209.78104 ppb	91
16) Methyl Acetate	2.91	43	212527	100.02974 ppb	96
17) Iodomethane	2.65	142	625762	99.80838 ppb	99
18) Acrylonitrile	3.23	53	97332	104.02620 ppb	93
19) Methylene chloride	2.99	84	508994	87.03163 ppb	99
20) Carbon disulfide	2.71	76	1724703	94.43997 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	904632	102.38487 ppb	95
22) Trans-1,2-DCE	3.26	96	620212	96.03196 ppb	94
23) Diisopropyl Ether	3.81	45	1906913	106.74988 ppb	97
24) 1,1-DCA	3.68	63	1075463	97.75818 ppb	98
25) Vinyl Acetate	3.76	43	455708	124.50357 ppb	98
26) Ethyl tert Butyl Ether	4.17	59	1190819	110.99776 ppb	97
27) MEK (2-Butanone)	4.31	43	106519	80.97699 ppb	91
28) Cis-1,2-DCE	4.27	96	674861	98.28840 ppb	94
29) 2,2-Dichloropropane	4.27	77	783226	120.48742 ppb	98
30) Chloroform	4.62	83	1033944	97.58038 ppb	99
31) Bromochloromethane	4.52	128	250612	92.34898 ppb	91
33) 1,1,1-TCA	4.80	97	980355	105.75401 ppb	98
34) Cyclohexane	4.87	41	621474	100.47990 ppb	94
35) 1,1-Dichloropropene	4.99	75	886391	100.53062 ppb	96
36) 2,2,4-Trimethylpentane	5.33	57	1585693	102.79171 ppb	99
38) Carbon Tetrachloride	4.98	117	826297	111.00741 ppb	93
39) Tert Amyl Methyl Ether	5.37	73	1057436	112.07946 ppb #	88
40) 1,2-DCA	5.21	62	590862	105.77304 ppb	98
41) Benzene	5.20	78	2696088	101.42824 ppb	100
42) TCE	5.92	95	688484	97.92712 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	456888	241.17690	ppb		92
44)	1,2-Dichloropropane	6.16	63	609692	102.13491	ppb		100
45)	Bromodichloromethane	6.49	83	695757	102.28232	ppb		100
46)	Methyl Cyclohexane	6.15	83	997084	104.65067	ppb		95
47)	Dibromomethane	6.28	93	224453	98.78584	ppb		94
48)	MIBK (methyl isobutyl ket	7.24	43	259611	87.70970	ppb		97
49)	1-Bromo-2-chloroethane	6.83	63	572382	100.79621	ppb		96
50)	2-Chloroethyl vinyl ether	6.87	106	10577	98.85347	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	809859	113.03058	ppb		97
52)	Toluene	7.42	91	3366290	109.15492	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	605578	132.75894	ppb		96
54)	1,1,2-TCA	7.91	83	290011	100.40677	ppb		97
55)	2-Hexanone	8.28	43	162169	99.84324	ppb		100
58)	1,2-EDB	8.52	107	317874	101.56553	ppb		94
59)	Tetrachloroethene	8.10	164	690787	87.99569	ppb		99
60)	1-Chlorohexane	9.20	91	983594	119.55729	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.30	131	622012	107.12569	ppb		97
62)	m&p-Xylene	9.52	106	3135983	220.86698	ppb		90
63)	o-Xylene	10.04	106	1480867	113.03407	ppb		94
64)	Styrene	10.05	104	2416413	120.92857	ppb		96
66)	1,3-Dichloropropane	8.12	76	598718	97.99674	ppb		97
67)	Dibromochloromethane	8.39	129	460736	99.27345	ppb		90
68)	Chlorobenzene	9.18	112	1932077	99.69580	ppb		97
69)	Ethylbenzene	9.35	91	3704373	104.55769	ppb		97
70)	Bromoform	10.26	173	287800	115.40428	ppb		98
72)	Isopropylbenzene	10.55	105	4071295	95.85280	ppb		97
73)	1,1,2,2-Tetrachloroethane	10.96	83	379591	85.68249	ppb		99
74)	1,2,3-Trichloropropane	10.99	110	113609	89.58289	ppb		99
75)	t-1,4-Dichloro-2-Butene	11.04	53	81362	105.57882	ppb		87
76)	Bromobenzene	10.91	156	815252	87.12778	ppb		97
77)	n-Propylbenzene	11.12	91	4581114	102.42583	ppb		97
78)	4-Ethyltoluene	11.29	105	3999646	104.62530	ppb		96
79)	2-Chlorotoluene	11.21	91	2545984	95.00595	ppb		94
80)	1,3,5-Trimethylbenzene	11.39	105	3338213	100.31625	ppb		96
81)	4-Chlorotoluene	11.36	91	3064508	104.00210	ppb		95
82)	Tert-Butylbenzene	11.83	119	2871971	98.46467	ppb		97
83)	1,2,4-Trimethylbenzene	11.90	105	3248988	104.41499	ppb		94
84)	Sec-Butylbenzene	12.14	105	4085455	104.19269	ppb		97
85)	p-Isopropyltoluene	12.36	119	1896448	110.78731	ppb		98
86)	Benzyl Chloride	12.57	91	356904	98.10985	ppb		95
87)	1,3-DCB	12.24	146	1788630	96.87711	ppb		96
88)	1,4-DCB	12.37	146	905920	100.01136	ppb		96
89)	n-Butylbenzene	12.94	91	1421193	103.26697	ppb		97
90)	1,2-DCB	12.88	146	1390402	93.44513	ppb		98
91)	Hexachloroethane	13.25	117	464996	118.85322	ppb		95
92)	1,2-Dibromo-3-chloropropan	13.99	75	49811	105.41852	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	743836	99.17420	ppb		95
94)	Hexachlorobutadiene	15.51	225	480597	84.35040	ppb		94
95)	Naphthalene	15.54	128	744265	116.95046	ppb		98
96)	1,2,3-Trichlorobenzene	15.90	180	490216	97.54883	ppb		97

(#) = qualifier out of range (m) = manual integration

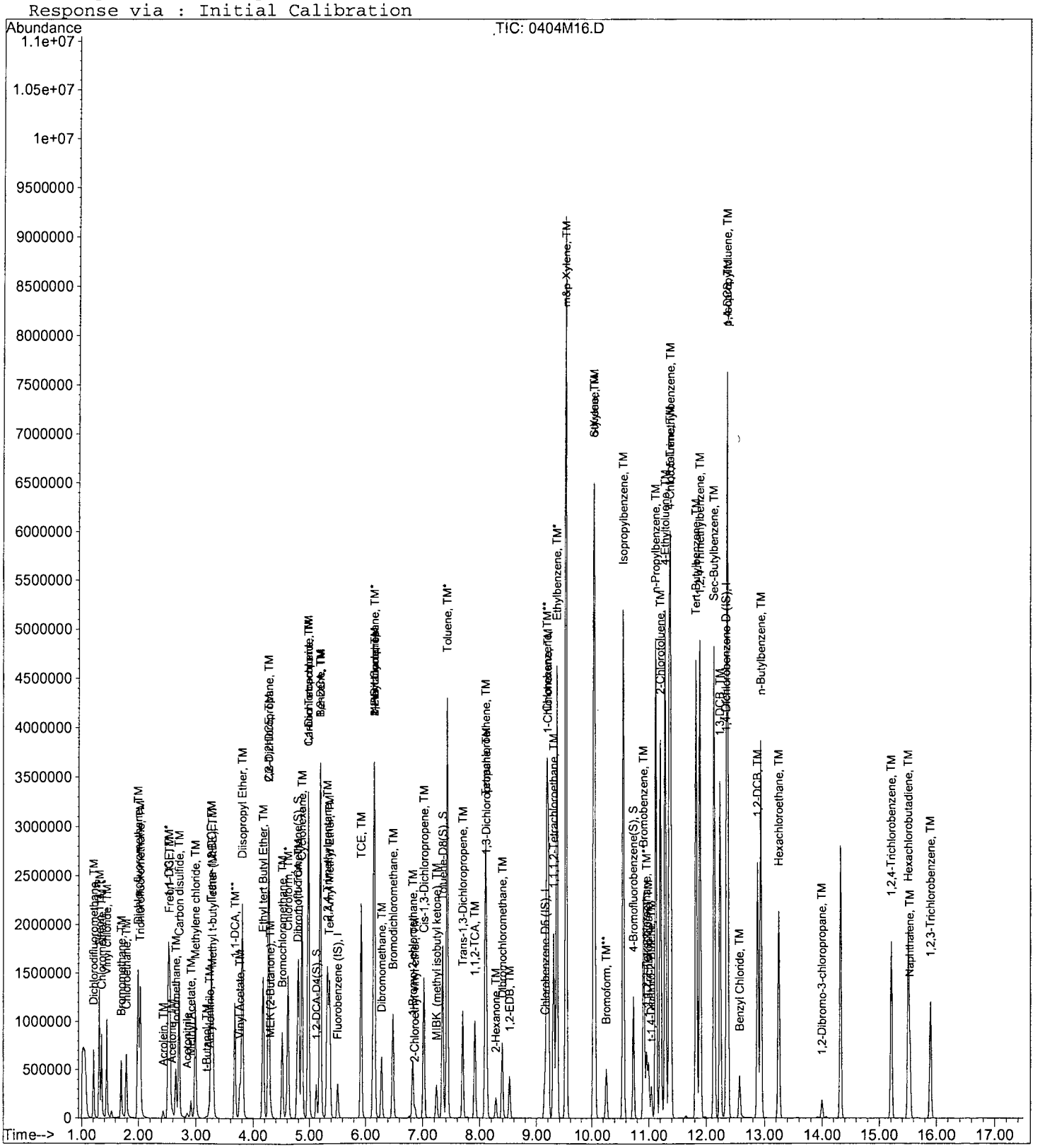
Quantitation Report

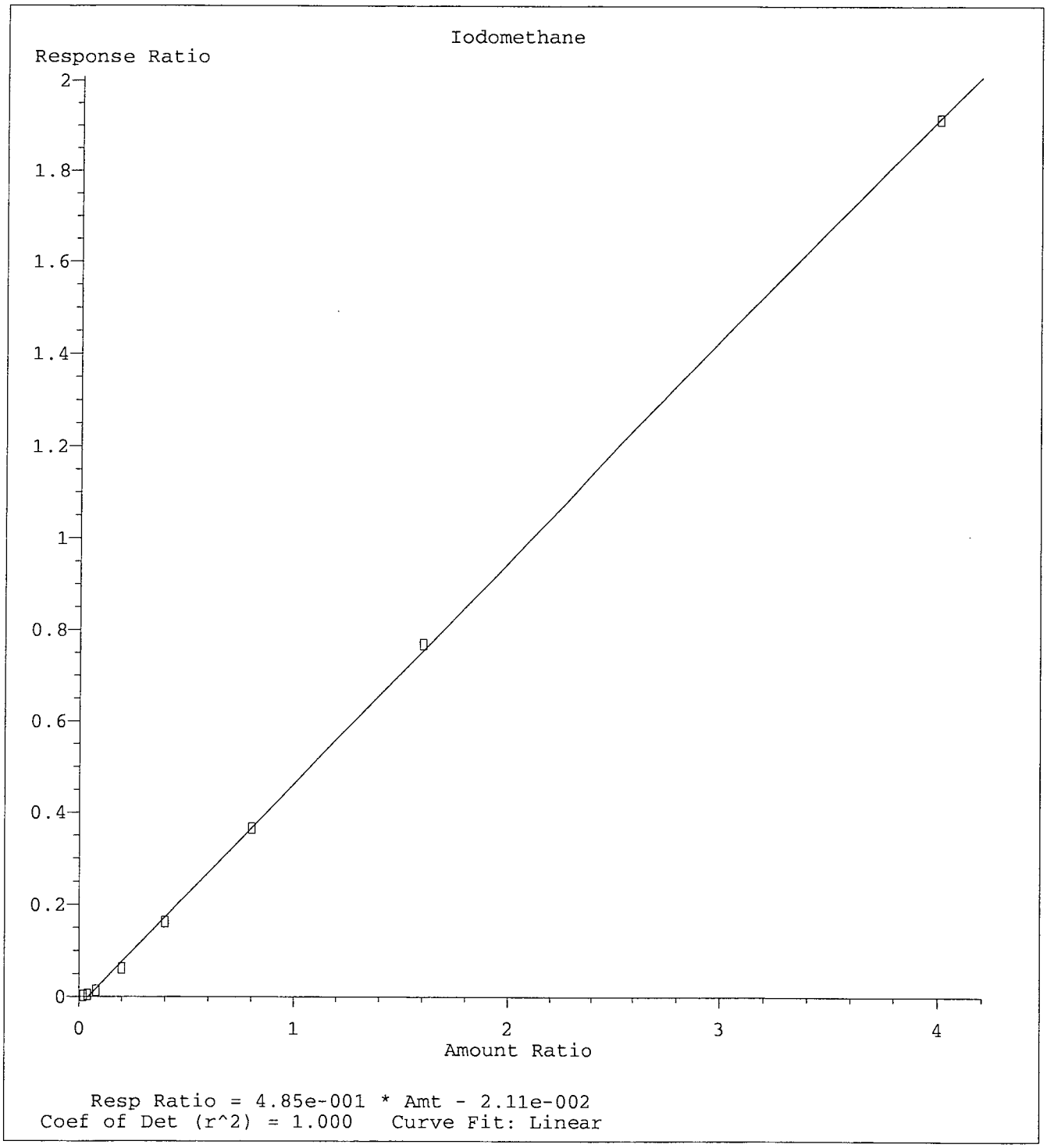
Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

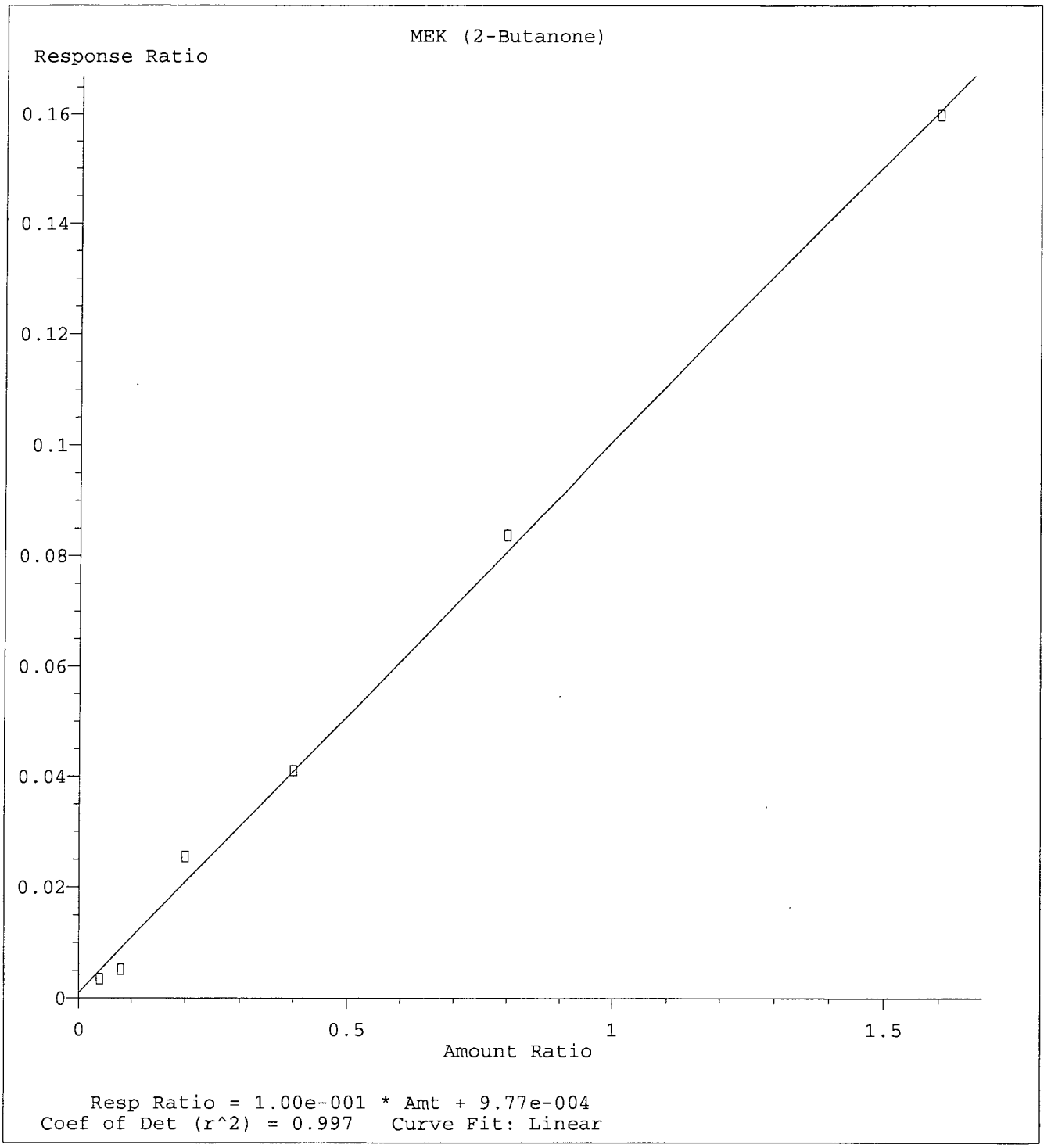
Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration

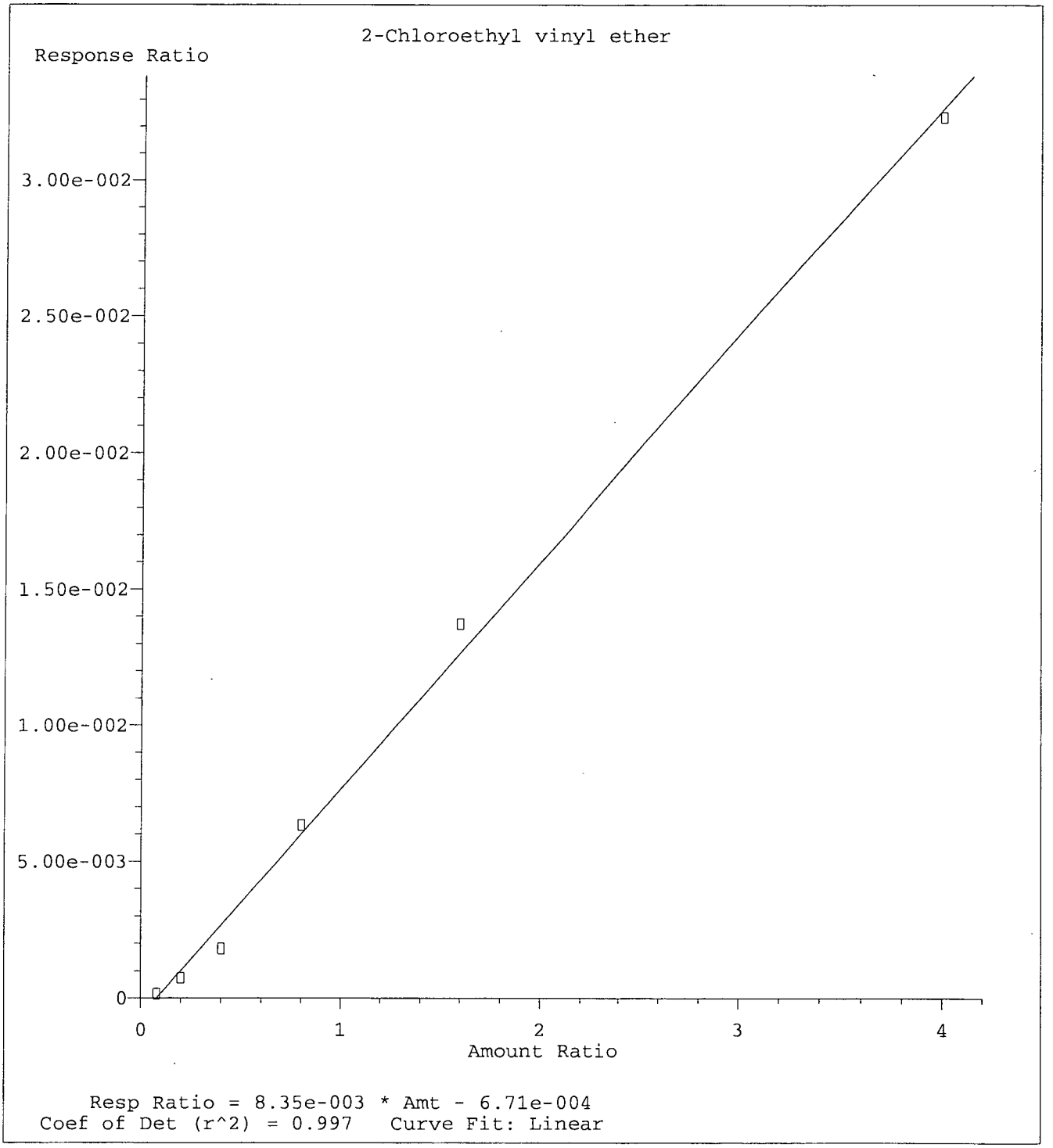




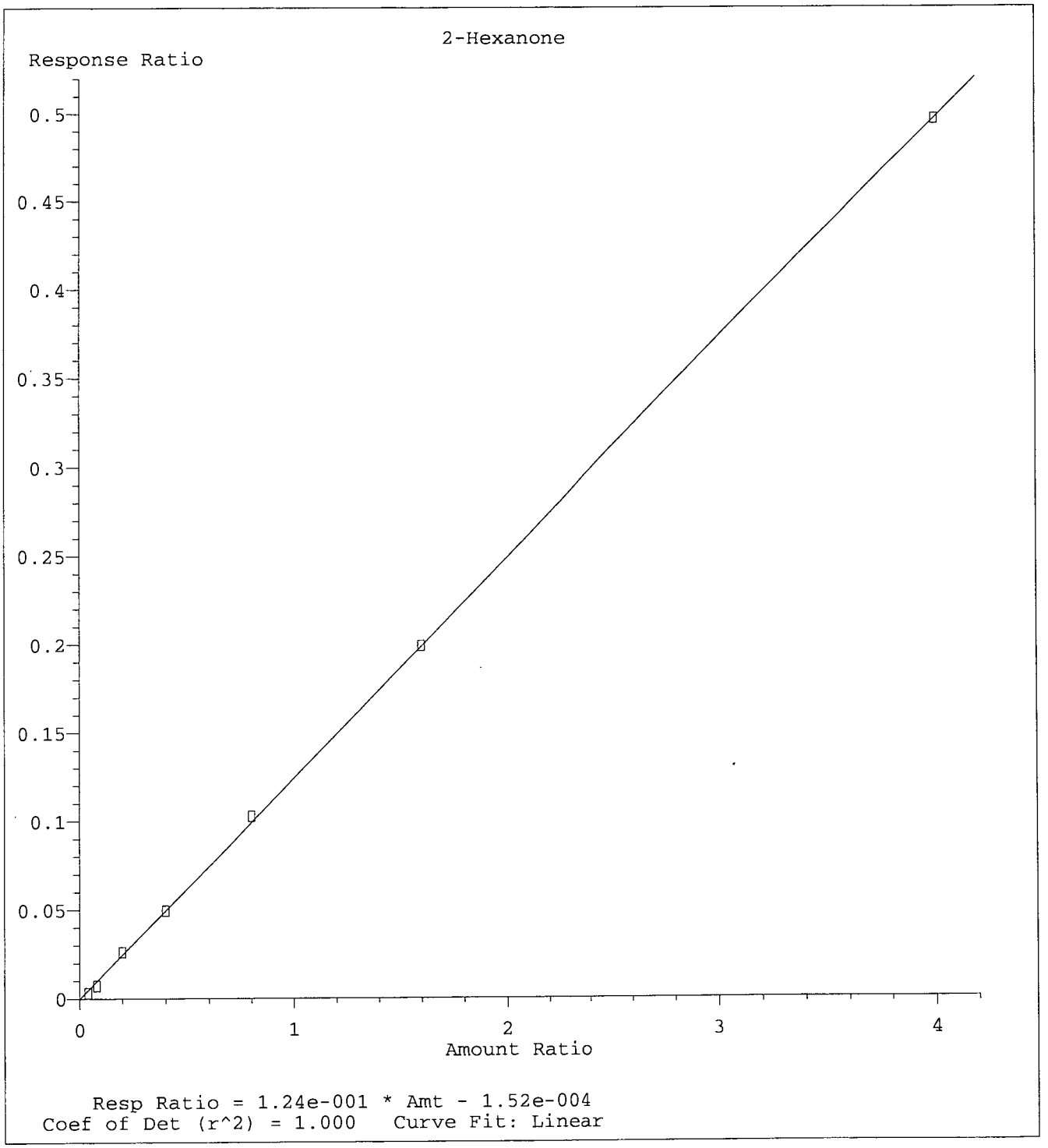
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



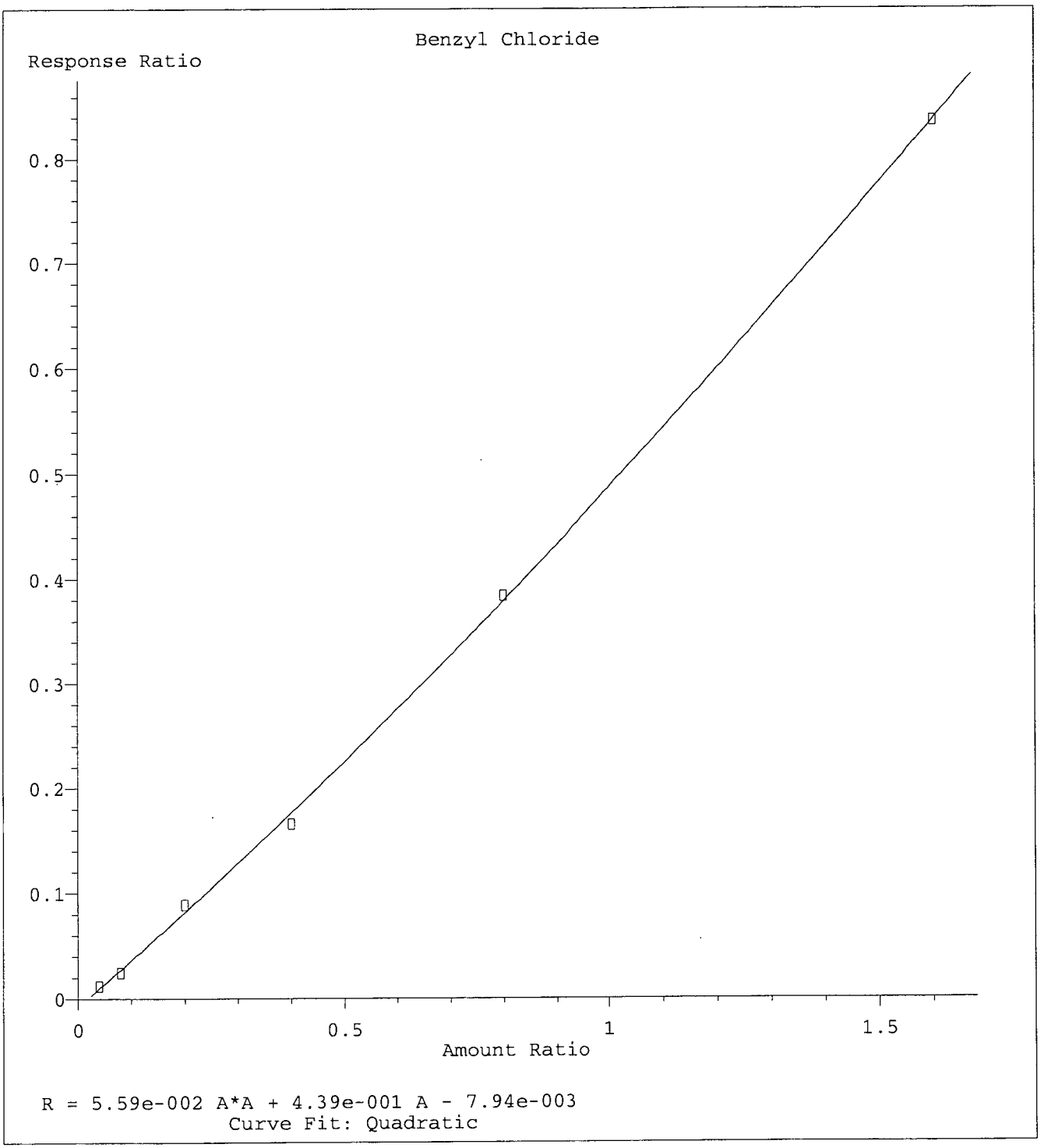
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



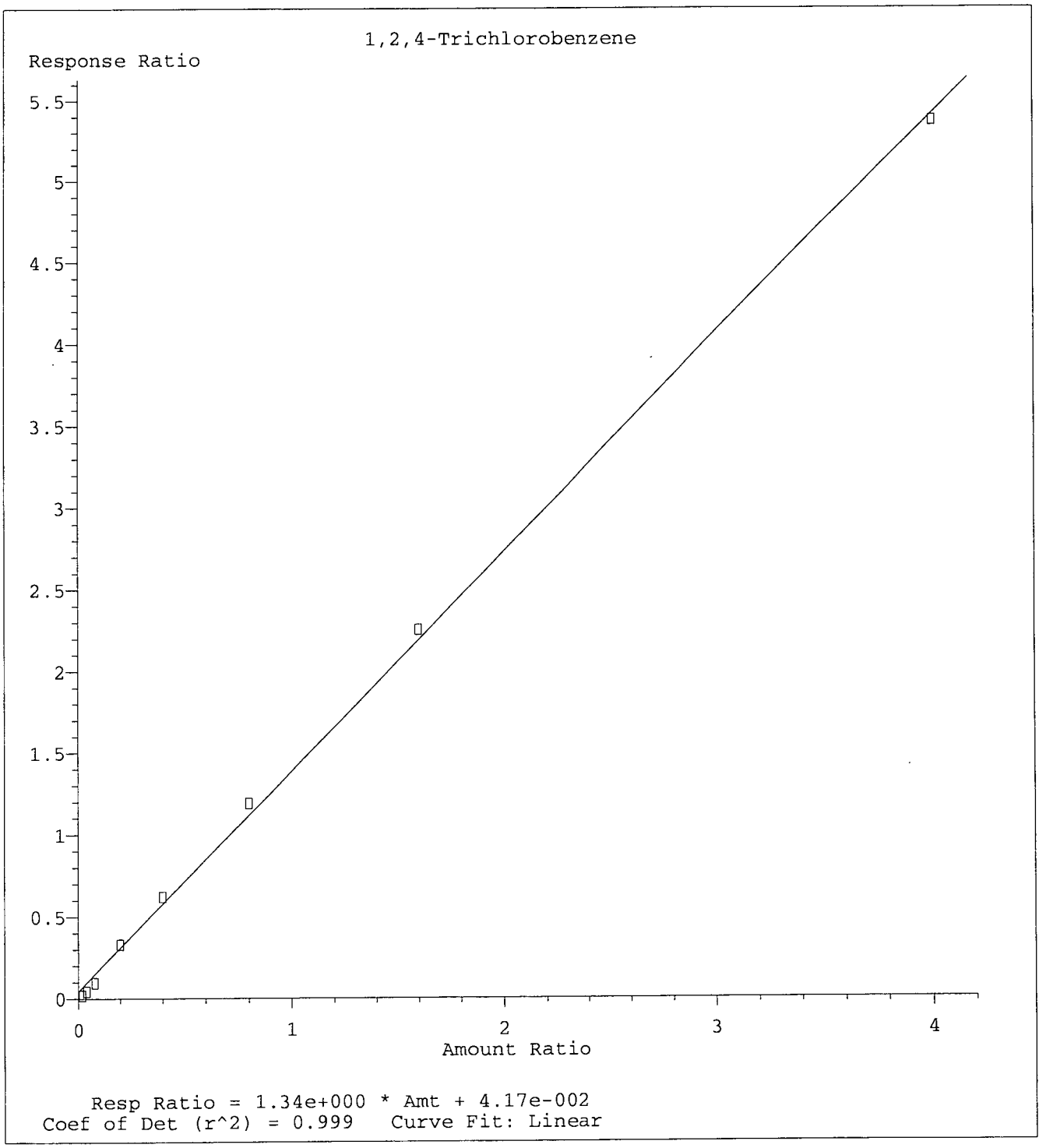
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



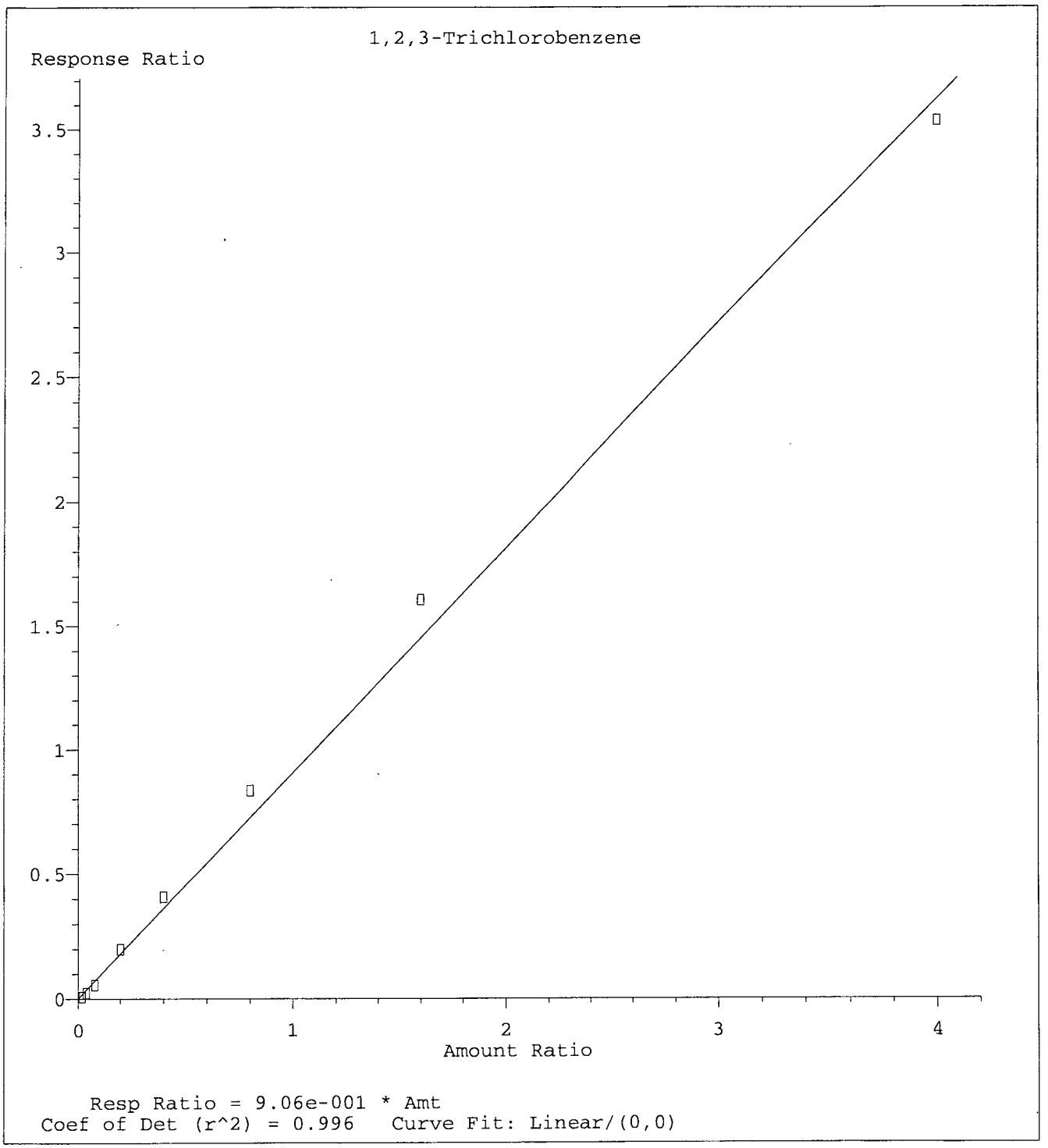
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



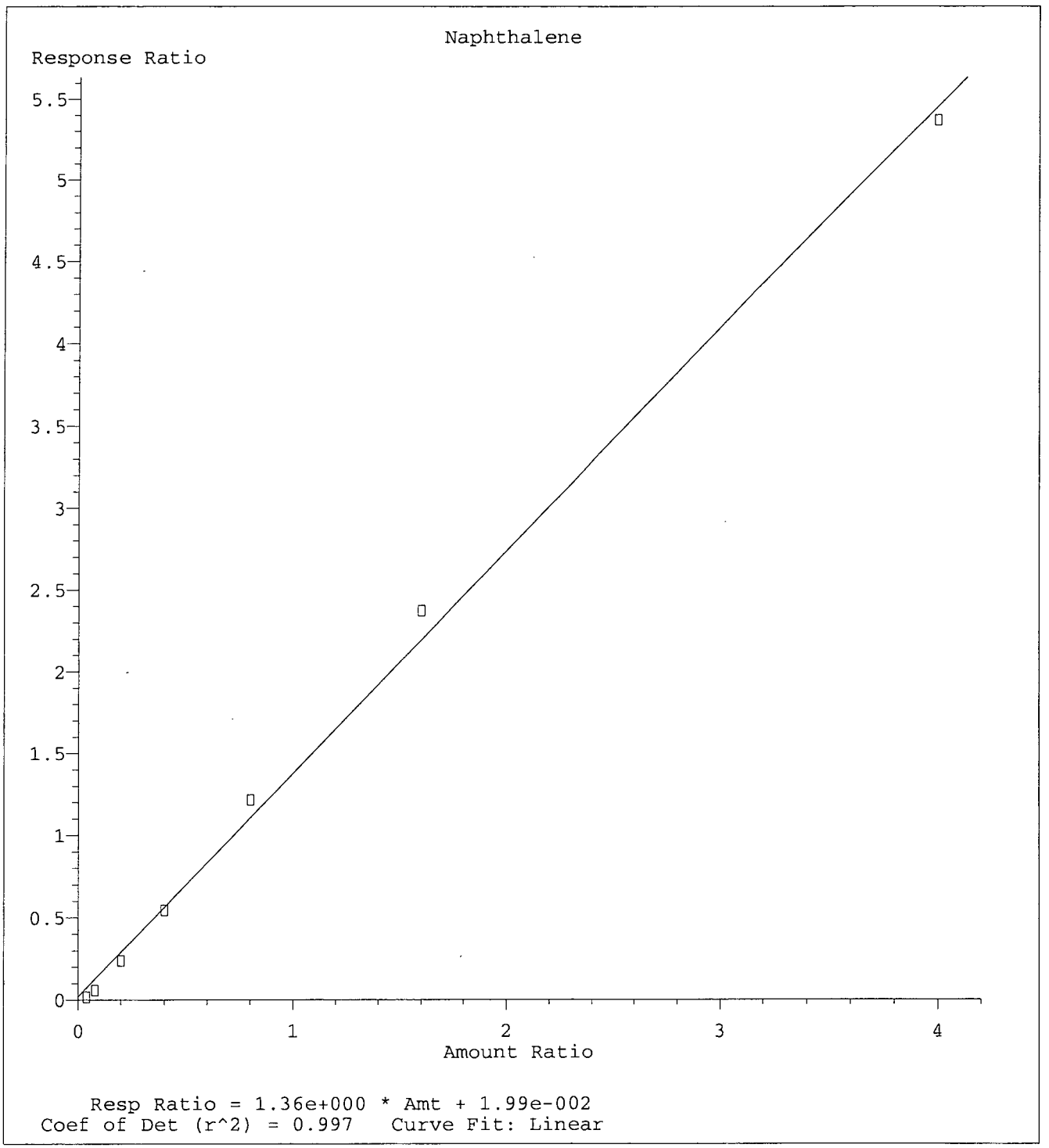
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Dichlorodifluoromethane	0.3087	0.3828	24	TM		*NT gw 4/11/17
2	TM	Freon 114	0.4195	0.4103	2.2	TM		
3	TM**	Chloromethane	0.4279	0.5125	20	TM**		
4	TM*	Vinyl chloride	0.6492	0.6584	1.4	TM*		
5	TM	Bromomethane	0.4011	0.3502	13	TM		
6	TM	Chloroethane	0.3927	0.4103	4.5	TM		
7	TM	Dichlorofluoromethane	1.065	1.046	1.7	TM		
8	TM	Trichlorofluoromethane	0.7036	0.8475	20	TM		
9	TM	Acrolein	0.0237	0.0261	10	TM		
10	TM	Acetone	0.0600	0.0943	57	TM		*NT gw 4/11/17
11	TM	Freon-113	0.4302	0.4683	8.8	TM		
12	TM*	1,1-DCE	0.6786	0.5713	16	TM*		
13		Acetonitrile	0.0439	0.0442	0.71			
14	TM	t-Butanol	0.0097	0.0101	3.7	TM		
15	TM	Methyl Acetate	0.1624	0.1767	8.8	TM		
16	TML	Iodomethane	0.3142	0.1472	53	TML	59	nt
17	TM	Acrylonitrile	0.0715	0.0817	14	TM		
18	TM	Methylene chloride	0.4472	0.3631	19	TM		
19	TM	Carbon disulfide	1.396	1.217	13	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.6756	0.7509	11	TM		
21	TM	Trans-1,2-DCE	0.4938	0.4355	12	TM		
22	TM	Diisopropyl Ether	1.366	1.453	6.4	TM		
23	TM**	1,1-DCA	0.8411	0.6934	18	TM**		
24	TM	Vinyl Acetate	0.2799	0.1846	34	TM		nt
25	TM	Ethyl tert Butyl Ether	0.8203	0.9708	18	TM		
26	TML	MEK (2-Butanone)	0.0976	0.1140	17	TML	11	
27	TM	Cis-1,2-DCE	0.5250	0.4438	15	TM		
28	TM	2,2-Dichloropropane	0.4970	0.4018	19	TM		
29	TM*	Chloroform	0.8101	0.7108	12	TM*		
30	TM	Bromochloromethane	0.2075	0.1702	18	TM		
31	TM	1,1,1-TCA	0.7088	0.6079	14	TM		
32	TM	Cyclohexane	0.4729	0.4823	2.0	TM		
33	TM	1,1-Dichloropropene	0.6741	0.5662	16	TM		
34	TM	2,2,4-Trimethylpentane	1.179	1.164	1.3	TM		
35	TM	Carbon Tetrachloride	0.5691	0.5035	12	TM		
36	TM	Tert Amyl Methyl Ether	0.7214	0.7735	7.2	TM		
37	TM	1,2-DCA	0.4271	0.3420	20	TM		
38	TM	Benzene	2.032	1.722	15	TM		
39	TM	TCE	0.5375	0.4346	19	TM		
40	TM	2-Pentanone	0.1448	0.1558	7.5	TM		
		Average			14.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TM*	1,2-Dichloropropane	0.4564	0.3889	15	TM*		
42	TM	Bromodichloromethane	0.5201	0.4286	18	TM		
43	TM	Methyl Cyclohexane	0.7285	0.7457	2.4	TM		
44	TM	Dibromomethane	0.1737	0.1525	12	TM		
45	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2288	1.1	TM		
46	TM	1-Bromo-2-chloroethane	0.4342	0.4162	4.1	TM		
47	TML	2-Chloroethyl vinyl ether	0.0058	0.0076	31	TML	11	
48	TM	Cis-1,3-Dichloropropene	0.5478	0.4716	14	TM		
49	TM*	Toluene	2.358	1.950	17	TM*		
50	TM	Trans-1,3-Dichloropropene	0.3488	0.3197	8.3	TM		
51	TM	1,1,2-TCA	0.2208	0.1863	16	TM		
52	TML	2-Hexanone	0.1143	0.1294	13	TML	4.5	
53	TM	1,2-EDB	0.3297	0.2886	12	TM		
54	TM	Tetrachloroethene	0.8270	0.6712	19	TM		
55	TM	1-Chlorohexane	0.8667	0.8932	3.1	TM		
56	TM	1,1,1,2-Tetrachloroethane	0.6117	0.5282	14	TM		
57	TM	m&p-Xylene	1.496	1.233	18	TM		
58	TM	o-Xylene	1.380	1.153	16	TM		
59	TM	Styrene	2.105	1.745	17	TM		
60	TM	1,3-Dichloropropane	0.6436	0.5883	8.6	TM		
61	TM	Dibromochloromethane	0.4889	0.3994	18	TM		
62	TM**	Chlorobenzene	2.042	1.641	20	TM**		
63	TM*	Ethylbenzene	3.732	3.172	15	TM*		
64	TM**	Bromoform	0.2627	0.2208	16	TM**		
65	TM	Isopropylbenzene	7.658	6.557	14	TM		
66	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.6440	19	TM**		
67	TM	1,2,3-Trichloropropane	0.2287	0.2141	6.4	TM		
68	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1265	9.0	TM		
69	TM	Bromobenzene	1.687	1.458	14	TM		
70	TM	n-Propylbenzene	8.064	6.816	15	TM		
71	TM	4-Ethyltoluene	6.892	6.903	0.15	TM		
72	TM	2-Chlorotoluene	4.832	3.930	19	TM		
73	TM	1,3,5-Trimethylbenzene	6.000	4.783	20	TM		
74	TM	4-Chlorotoluene	5.313	4.226	20	TM		
75	TM	Tert-Butylbenzene	5.259	4.223	20	TM		
76	TM	1,2,4-Trimethylbenzene	5.610	4.588	18	TM		
77	TM	Sec-Butylbenzene	7.070	5.691	20	TM		
78	TM	p-Isopropyltoluene	3.086	2.330	24	TM		*
79	TMQ	Benzyl Chloride	0.4107	0.3337	19	TMQ	22	nt
80	TM	1,3-DCB	3.329	2.656	20	TM		
		Average			14.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,4-DCB	1.633	1.312	20	TM		
82	TM	n-Butylbenzene	2.481	1.859	25	TM		* ok
83	TM	1,2-DCB	2.683	2.219	17	TM		
84	TM	Hexachloroethane	0.7054	0.6268	11	TM		
85	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0753	12	TM		
86	TML	1,2,4-Trichlorobenzene	1.323	1.209	8.7	TML	18	
87	TM	Hexachlorobutadiene	1.027	0.8406	18	TM		
88	TML	Naphthalene	1.147	0.9501	17	TML	34	* ok
89	TML	1,2,3-Trichlorobenzene	0.8216	0.7917	3.6	TML	13	4/11/17
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			14.7			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D Vial: 17
Acq On : 4 Apr 17 16:52 Operator: PM,DG,SV,CMM
Sample : (SS) 10ug/L VOC STD 04/04/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 6 8:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	268348	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	183462	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87168	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	66329	26.24384 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.976%	
37) 1,2-DCA-D4(S)	5.13	65	51699	26.11279 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.452%	
57) Toluene-D8(S)	7.34	98	275660	25.75865 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	83787	25.27811 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.112%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	41088	12.40078 ppb	99
3) Freon 114	1.31	85	44039	9.77982 ppb	99
4) Chloromethane	1.35	50	55008	11.97509 ppb	98
5) Vinyl chloride	1.44	62	70673	10.14223 ppb	99
6) Bromomethane	1.71	94	37585	8.72896 ppb	98
7) Chloroethane	1.81	64	44037	10.44702 ppb	94
8) Dichlorofluoromethane	2.00	67	112286	9.82655 ppb	100
9) Trichlorofluoromethane	2.04	101	90971	12.04619 ppb	98
10) Acrolein	2.43	56	35047	137.56452 ppb	99
11) Acetone	2.58	43	10121	15.70671 ppb	89
12) Freon-113	2.55	101	50263	10.88437 ppb	98
13) 1,1-DCE	2.53	61	61320	8.41834 ppb	97
14) Acetonitrile	2.84	TIC	59319	125.89260 ppb	97
15) t-Butanol	3.15	59	13520	129.68155 ppb	96
16) Methyl Acetate	2.92	43	18972	10.88039 ppb	97
17) Iodomethane	2.65	142	15798	4.12623 ppb	96
18) Acrylonitrile	3.23	53	8766	11.41576 ppb	91
19) Methylene chloride	2.99	84	38980	8.12124 ppb	99
20) Carbon disulfide	2.71	76	130643	8.71653 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	80603	11.11556 ppb	95
22) Trans-1,2-DCE	3.27	96	46750	8.82010 ppb	98
23) Diisopropyl Ether	3.81	45	155983	10.63971 ppb	99
24) 1,1-DCA	3.68	63	74425	8.24314 ppb	95
25) Vinyl Acetate	3.76	43	19812	6.59538 ppb #	91
26) Ethyl tert Butyl Ether	4.17	59	104204	11.83502 ppb	94
27) MEK (2-Butanone)	4.31	43	12235	11.12376 ppb	96
28) Cis-1,2-DCE	4.28	96	47639	8.45409 ppb	93
29) 2,2-Dichloropropane	4.27	77	43127	8.08388 ppb	98
30) Chloroform	4.62	83	76295	8.77360 ppb	100
31) Bromochloromethane	4.52	128	18265	8.20099 ppb	93
33) 1,1,1-TCA	4.80	97	65253	8.57690 ppb	98
34) Cyclohexane	4.87	41	51767	10.19824 ppb	93
35) 1,1-Dichloropropene	4.99	75	60780	8.39943 ppb	94
36) 2,2,4-Trimethylpentane	5.33	57	124899	9.86539 ppb	97
38) Carbon Tetrachloride	4.98	117	54040	8.84601 ppb	95
39) Tert Amyl Methyl Ether	5.37	73	83024	10.72239 ppb	94
40) 1,2-DCA	5.21	62	36714	8.00823 ppb	100
41) Benzene	5.20	78	184799	8.47112 ppb	99
42) TCE	5.92	95	46646	8.08425 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D Vial: 17
Acq On : 4 Apr 17 16:52 Operator: PM,DG,SV,CMM
Sample : (SS) 10ug/L VOC STD 04/04/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 6 8:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	209009	134.43338	ppb		96
44) 1,2-Dichloropropane	6.16	63	41747	8.52129	ppb	#	96
45) Bromodichloromethane	6.49	83	46001	8.23999	ppb		95
46) Methyl Cyclohexane	6.15	83	80042	10.23633	ppb		93
47) Dibromomethane	6.29	93	16369	8.77824	ppb		95
48) MIBK (methyl isobutyl ket	7.24	43	24564	10.11206	ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	44679	9.58689	ppb		94
50) 2-Chloroethyl vinyl ether	6.87	106	813	11.07950	ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	50621	8.60862	ppb		96
52) Toluene	7.42	91	209300	8.26946	ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	34314	9.16603	ppb		94
54) 1,1,2-TCA	7.91	83	19992	8.43375	ppb		95
55) 2-Hexanone	8.27	43	13894	10.45049	ppb	#	93
58) 1,2-EDB	8.52	107	21182	8.75418	ppb		95
59) Tetrachloroethene	8.09	164	49255	8.11568	ppb		98
60) 1-Chlorohexane	9.20	91	65548	10.30568	ppb		100
61) 1,1,1,2-Tetrachloroethane	9.30	131	38765	8.63559	ppb		99
62) m&p-Xylene	9.51	106	180903	16.48010	ppb		97
63) o-Xylene	10.03	106	84645	8.35703	ppb		99
64) Styrene	10.05	104	128054	8.28911	ppb		96
66) 1,3-Dichloropropane	8.12	76	43169	9.13942	ppb		99
67) Dibromochloromethane	8.39	129	29310	8.16872	ppb		90
68) Chlorobenzene	9.18	112	120422	8.03740	ppb		99
69) Ethylbenzene	9.35	91	232765	8.49799	ppb		99
70) Bromoform	10.25	173	16205	8.40499	ppb		99
72) Isopropylbenzene	10.55	105	228632	8.56256	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	22455	8.06275	ppb		99
74) 1,2,3-Trichloropropane	10.99	110	7464	9.36220	ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	4410	9.10307	ppb		98
76) Bromobenzene	10.91	156	50845	8.64385	ppb		97
77) n-Propylbenzene	11.12	91	237651	8.45225	ppb		99
78) 4-Ethyltoluene	11.29	105	240687	10.01525	ppb		98
79) 2-Chlorotoluene	11.20	91	137025	8.13372	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	166756	7.97137	ppb		97
81) 4-Chlorotoluene	11.36	91	147361	7.95533	ppb		99
82) Tert-Butylbenzene	11.83	119	147228	8.02943	ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	159967	8.17785	ppb		93
84) Sec-Butylbenzene	12.14	105	198417	8.04952	ppb		97
85) p-Isopropyltoluene	12.36	119	81256	7.55090	ppb		99
86) Benzyl Chloride	12.57	91	11635	7.75469	ppb	#	95
87) 1,3-DCB	12.24	146	92593	7.97761	ppb		95
88) 1,4-DCB	12.37	146	45736	8.03178	ppb		98
89) n-Butylbenzene	12.94	91	64816	7.49177	ppb		99
90) 1,2-DCB	12.88	146	77356	8.26998	ppb		99
91) Hexachloroethane	13.25	117	21856	8.88641	ppb		96
92) 1,2-Dibromo-3-chloropropan	13.99	75	2626	8.84057	ppb	#	78
93) 1,2,4-Trichlorobenzene	15.21	180	42146	8.23163	ppb		99
94) Hexachlorobutadiene	15.51	225	29311	8.18334	ppb		94
95) Naphthalene	15.54	128	33127	6.62642	ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	27606	8.73840	ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

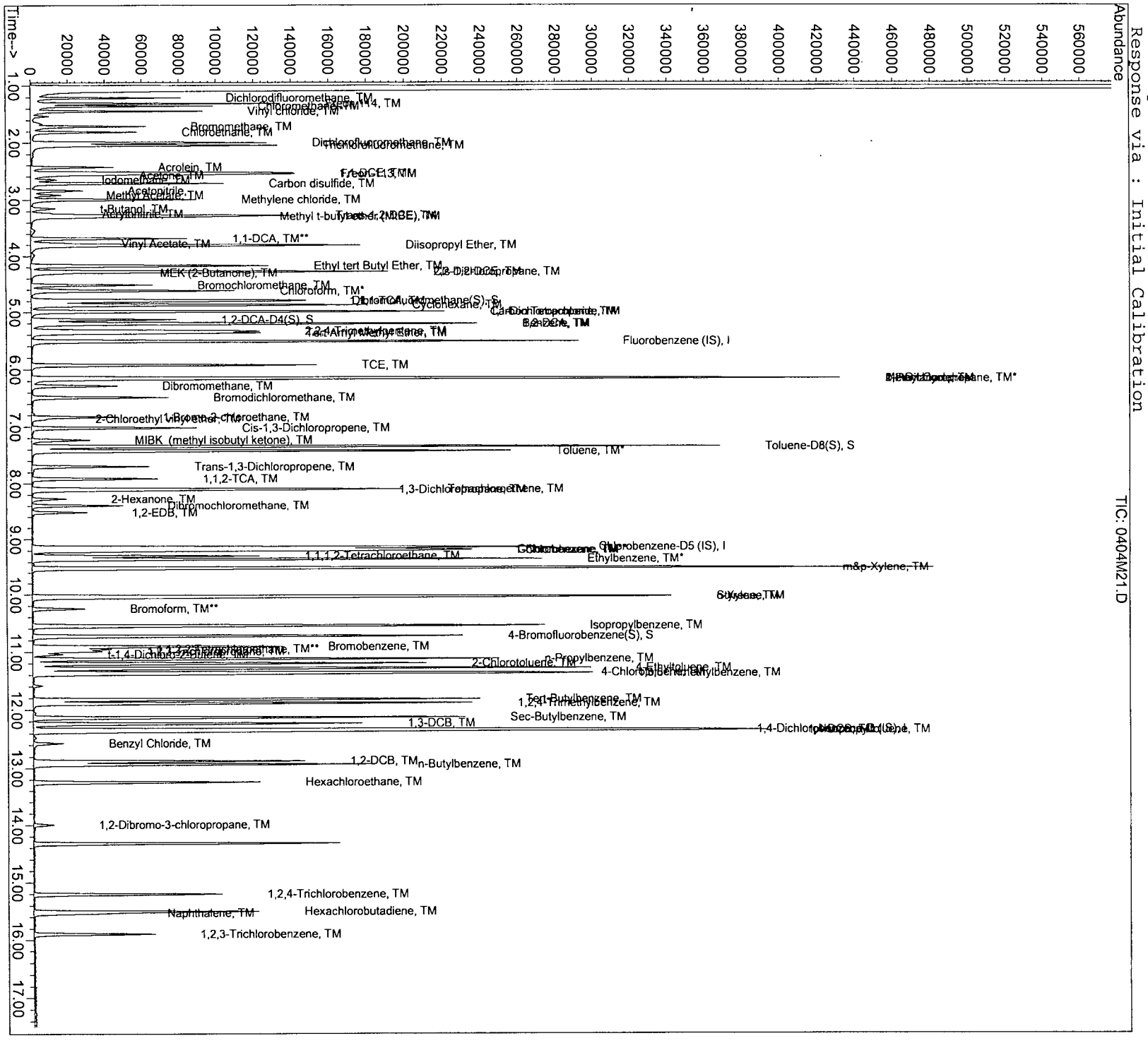
Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 6 Apr 17 11:34
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0406M03.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3087	0.3108	0.69	TM	
3	TM	Freon 114	0.4195	0.4303	2.6	TM	
4	TM**	Chloromethane	0.4279	0.4204	1.8	TM**	
5	TM*	Vinyl chloride	0.6492	0.6559	1.0	TM*	
6	TM	Bromomethane	0.4011	0.3758	6.3	TM	
7	TM	Chloroethane	0.3927	0.4034	2.7	TM	
8	TM	Dichlorofluoromethane	1.065	1.092	2.5	TM	
9	TM	Trichlorofluoromethane	0.7036	0.7398	5.1	TM	
10	TM	Acrolein	0.0237	0.0228	4.0	TM	
11	TM	Acetone	0.0600	0.0603	0.43	TM	
12	TM	Freon-113	0.4302	0.4354	1.2	TM	
13	TM*	1,1-DCE	0.6786	0.6651	2.0	TM*	
14		Acetonitrile	0.0439	0.0421	4.0		
15	TM	t-Butanol	0.0097	0.0088	9.8	TM	
16	TM	Methyl Acetate	0.1624	0.1549	4.7	TM	
17	TML	Iodomethane	0.3142	0.3636	16	TML	14
18	TM	Acrylonitrile	0.0715	0.0759	6.1	TM	
19	TM	Methylene chloride	0.4472	0.4119	7.9	TM	
20	TM	Carbon disulfide	1.396	1.293	7.4	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6704	0.76	TM	
22	TM	Trans-1,2-DCE	0.4938	0.4751	3.8	TM	
23	TM	Diisopropyl Ether	1.366	1.342	1.7	TM	
24	TM**	1,1-DCA	0.8411	0.8219	2.3	TM**	
25	TM	Vinyl Acetate	0.2799	0.2617	6.5	TM	
26	TM	Ethyl tert Butyl Ether	0.8203	0.8150	0.64	TM	
27	TML	MEK (2-Butanone)	0.0976	0.0847	13	TML	18
28	TM	Cis-1,2-DCE	0.5250	0.5141	2.1	TM	
29	TM	2,2-Dichloropropane	0.4970	0.5191	4.4	TM	
30	TM*	Chloroform	0.8101	0.7923	2.2	TM*	
31	TM	Bromochloromethane	0.2075	0.1935	6.8	TM	
32	S	Dibromofluoromethane(S)	0.2355	0.2370	0.63	S	
33	TM	1,1,1-TCA	0.7088	0.7131	0.60	TM	
34	TM	Cyclohexane	0.4729	0.4574	3.3	TM	
35	TM	1,1-Dichloropropene	0.6741	0.6679	0.93	TM	
36	TM	2,2,4-Trimethylpentane	1.179	1.235	4.7	TM	
37	S	1,2-DCA-D4(S)	0.1844	0.1958	6.1	S	
38	TM	Carbon Tetrachloride	0.5691	0.5628	1.1	TM	
39	TM	Tert Amyl Methyl Ether	0.7214	0.6969	3.4	TM	
40	TM	1,2-DCA	0.4271	0.4166	2.5	TM	
		Average			3.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 6 Apr 17 11:34
Instrument: Max
Cal. Date: 04/04/17
Data File: 0406M03.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	2.032	1.977	2.7	TM	
42	TM	TCE	0.5375	0.5115	4.8	TM	
43	TM	2-Pentanone	0.1448	0.1377	4.9	TM	
44	TM*	1,2-Dichloropropane	0.4564	0.4460	2.3	TM*	
45	TM	Bromodichloromethane	0.5201	0.4981	4.2	TM	
46	TM	Methyl Cyclohexane	0.7285	0.7171	1.6	TM	
47	TM	Dibromomethane	0.1737	0.1633	6.0	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2025	11	TM	
49	TM	1-Bromo-2-chloroethane	0.4342	0.4083	6.0	TM	
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5347	2.4	TM	
51	TM*	Toluene	2.358	2.268	3.8	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3488	0.3486	0.05	TM	
53	TM	1,1,2-TCA	0.2208	0.2132	3.4	TM	
54	TML	2-Hexanone	0.1143	0.1183	3.6	TML	4.4
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.458	1.454	0.31	S	
57	TM	1,2-EDB	0.3297	0.3186	3.4	TM	
58	TM	Tetrachloroethene	0.8270	0.7644	7.6	TM	
59	TM	1-Chlorohexane	0.8667	0.8660	0.08	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6117	0.6004	1.8	TM	
61	TM	m&p-Xylene	1.496	1.429	4.5	TM	
62	TM	o-Xylene	1.380	1.330	3.7	TM	
63	TM	Styrene	2.105	1.945	7.6	TM	
64	S	4-Bromofluorobenzene(S)	0.4517	0.4355	3.6	S	
65	TM	1,3-Dichloropropane	0.6436	0.6311	2.0	TM	
66	TM	Dibromochloromethane	0.4889	0.4515	7.7	TM	
67	TM**	Chlorobenzene	2.042	1.912	6.4	TM**	
68	TM*	Ethylbenzene	3.732	3.622	3.0	TM*	
69	TM**	Bromoform	0.2627	0.2494	5.1	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.658	7.767	1.4	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.7894	1.2	TM**	
73	TM	1,2,3-Trichloropropane	0.2287	0.2413	5.5	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1330	4.3	TM	
75	TM	Bromobenzene	1.687	1.723	2.2	TM	
76	TM	n-Propylbenzene	8.064	8.277	2.6	TM	
77	TM	4-Ethyltoluene	6.892	6.910	0.26	TM	
78	TM	2-Chlorotoluene	4.832	4.948	2.4	TM	
79	TM	1,3,5-Trimethylbenzene	6.000	5.860	2.3	TM	
80	TM	4-Chlorotoluene	5.313	5.408	1.8	TM	
		Average			3.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 6 Apr 17 11:34
Instrument: Max
Cal. Date: 04/04/17
Data File: 0406M03.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.259	5.212	0.88	TM	
82	TM	1,2,4-Trimethylbenzene	5.610	5.515	1.7	TM	
83	TM	Sec-Butylbenzene	7.070	6.925	2.0	TM	
84	TM	p-Isopropyltoluene	3.086	2.992	3.1	TM	
85	TMQ	Benzyl Chloride	0.4107	0.4433	7.9	TMQ	0.46
86	TM	1,3-DCB	3.329	3.328	0.03	TM	
87	TM	1,4-DCB	1.633	1.559	4.6	TM	
88	TM	n-Butylbenzene	2.481	2.418	2.5	TM	
89	TM	1,2-DCB	2.683	2.660	0.84	TM	
90	TM	Hexachloroethane	0.7054	0.7247	2.7	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0726	15	TM	
92	TML	1,2,4-Trichlorobenzene	1.323	1.454	9.9	TML	0.59
93	TM	Hexachlorobutadiene	1.027	1.083	5.5	TM	
94	TM	Naphthalene	1.147	1.117	2.7	TM	
95	TML	1,2,3-Trichlorobenzene	0.8216	0.8788	7.0	TML	3.0
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.4		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M03.D Vial: 2
Acq On : 6 Apr 17 11:34 Operator: PM,DG,SV,CMM
Sample : 170406A CCV 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:54 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	256500	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176950	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80287	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	60778	25.15830 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.632%	
37) 1,2-DCA-D4(S)	5.13	65	50220	26.53742 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.148%	
57) Toluene-D8(S)	7.34	98	257252	24.92320 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.692%	
65) 4-Bromofluorobenzene(S)	10.73	95	77055	24.10262 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.412%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	31888	10.06868 ppb	94
3) Freon 114	1.31	85	44145	10.25619 ppb	96
4) Chloromethane	1.35	50	43136	9.82435 ppb	97
5) Vinyl chloride	1.44	62	67296	10.10369 ppb	96
6) Bromomethane	1.71	94	38561	9.36930 ppb	97
7) Chloroethane	1.81	64	41392	10.27311 ppb	90
8) Dichlorofluoromethane	2.00	67	112008	10.25499 ppb	99
9) Trichlorofluoromethane	2.04	101	75901	10.51490 ppb	98
10) Acrolein	2.43	56	29219	119.98637 ppb	95
11) Acetone	2.58	43	6186	10.04344 ppb	94
12) Freon-113	2.54	101	44671	10.12026 ppb	92
13) 1,1-DCE	2.52	61	68240	9.80109 ppb	99
14) Acetonitrile	2.84	TIC	54039	119.98437 ppb	91
15) t-Butanol	3.15	59	11239	112.78210 ppb	97
16) Methyl Acetate	2.91	43	15891	9.53440 ppb	88
17) Iodomethane	2.65	142	37310	8.59262 ppb	97
18) Acrylonitrile	3.23	53	7788	10.61061 ppb	93
19) Methylene chloride	2.99	84	42256	9.21043 ppb	96
20) Carbon disulfide	2.71	76	132691	9.26211 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	68784	9.92381 ppb	93
22) Trans-1,2-DCE	3.27	96	48749	9.62207 ppb	95
23) Diisopropyl Ether	3.80	45	137714	9.82747 ppb	97
24) 1,1-DCA	3.68	63	84326	9.77116 ppb	99
25) Vinyl Acetate	3.76	43	26852	9.35188 ppb	98
26) Ethyl tert Butyl Ether	4.17	59	83623	9.93622 ppb	94
27) MEK (2-Butanone)	4.31	43	8694	8.20698 ppb	95
28) Cis-1,2-DCE	4.27	96	52745	9.79256 ppb	97
29) 2,2-Dichloropropane	4.27	77	53262	10.44478 ppb	99
30) Chloroform	4.62	83	81286	9.77931 ppb	99
31) Bromochloromethane	4.52	128	19849	9.32387 ppb	94
33) 1,1,1-TCA	4.80	97	73159	10.06024 ppb	96
34) Cyclohexane	4.87	41	46930	9.67239 ppb	97
35) 1,1-Dichloropropene	4.98	75	68526	9.90731 ppb	97
36) 2,2,4-Trimethylpentane	5.33	57	126715	10.47115 ppb	100
38) Carbon Tetrachloride	4.98	117	57746	9.88928 ppb	95
39) Tert Amyl Methyl Ether	5.37	73	71499	9.66049 ppb	96
40) 1,2-DCA	5.21	62	42745	9.75442 ppb	98
41) Benzene	5.20	78	202834	9.72731 ppb	98
42) TCE	5.92	95	52483	9.51601 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M03.D
Acq On : 6 Apr 17 11:34
Sample : 170406A CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:54 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	176655	118.87186	ppb		98
44)	1,2-Dichloropropane	6.16	63	45755	9.77079	ppb		98
45)	Bromodichloromethane	6.48	83	51108	9.57765	ppb		97
46)	Methyl Cyclohexane	6.15	83	73571	9.84338	ppb		91
47)	Dibromomethane	6.28	93	16753	9.39916	ppb		85
48)	MIBK (methyl isobutyl ket	7.23	43	20780	8.94947	ppb		98
49)	1-Bromo-2-chloroethane	6.83	63	41889	9.40341	ppb		94
51)	Cis-1,3-Dichloropropene	7.02	75	54864	9.76115	ppb		94
52)	Toluene	7.42	91	232717	9.61938	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	35764	9.99464	ppb		96
54)	1,1,2-TCA	7.91	83	21878	9.65569	ppb		98
55)	2-Hexanone	8.28	43	12142	9.55719	ppb		94
58)	1,2-EDB	8.52	107	22550	9.66252	ppb		95
59)	Tetrachloroethene	8.10	164	54101	9.24220	ppb		99
60)	1-Chlorohexane	9.20	91	61296	9.99183	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	42499	9.81581	ppb		98
62)	m&p-Xylene	9.51	106	202293	19.10692	ppb		98
63)	o-Xylene	10.03	106	94116	9.63406	ppb		98
64)	Styrene	10.05	104	137657	9.23865	ppb		99
66)	1,3-Dichloropropane	8.12	76	44666	9.80436	ppb		93
67)	Dibromochloromethane	8.39	129	31954	9.23334	ppb		93
68)	Chlorobenzene	9.18	112	135318	9.36398	ppb		98
69)	Ethylbenzene	9.35	91	256335	9.70291	ppb		98
70)	Bromoform	10.26	173	17653	9.49297	ppb		92
72)	Isopropylbenzene	10.55	105	249441	10.14252	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	25352	9.88313	ppb		95
74)	1,2,3-Trichloropropane	10.99	110	7748	10.55135	ppb		89
75)	t-1,4-Dichloro-2-Butene	11.04	53	4270	9.56950	ppb		96
76)	Bromobenzene	10.91	156	55346	10.21544	ppb		100
77)	n-Propylbenzene	11.12	91	265805	10.26378	ppb		100
78)	4-Ethyltoluene	11.29	105	221928	10.02613	ppb		98
79)	2-Chlorotoluene	11.20	91	158917	10.24169	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	188195	9.76723	ppb		99
81)	4-Chlorotoluene	11.36	91	173666	10.17893	ppb		99
82)	Tert-Butylbenzene	11.83	119	167397	9.91183	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	177106	9.83001	ppb		99
84)	Sec-Butylbenzene	12.14	105	222391	9.79535	ppb		98
85)	p-Isopropyltoluene	12.36	119	96088	9.69447	ppb		99
86)	Benzyl Chloride	12.57	91	14237	10.04620	ppb		94
87)	1,3-DCB	12.24	146	106869	9.99674	ppb		98
88)	1,4-DCB	12.37	146	50056	9.54381	ppb		93
89)	n-Butylbenzene	12.94	91	77664	9.74617	ppb		100
90)	1,2-DCB	12.88	146	85429	9.91580	ppb		98
91)	Hexachloroethane	13.25	117	23274	10.27398	ppb		96
92)	1,2-Dibromo-3-chloropropan	14.00	75	2330	8.51635	ppb	#	81
93)	1,2,4-Trichlorobenzene	15.21	180	46695	10.05940	ppb		94
94)	Hexachlorobutadiene	15.51	225	34789	10.54518	ppb		95
95)	Naphthalene	15.54	128	35863	9.73256	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	28222	9.69903	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

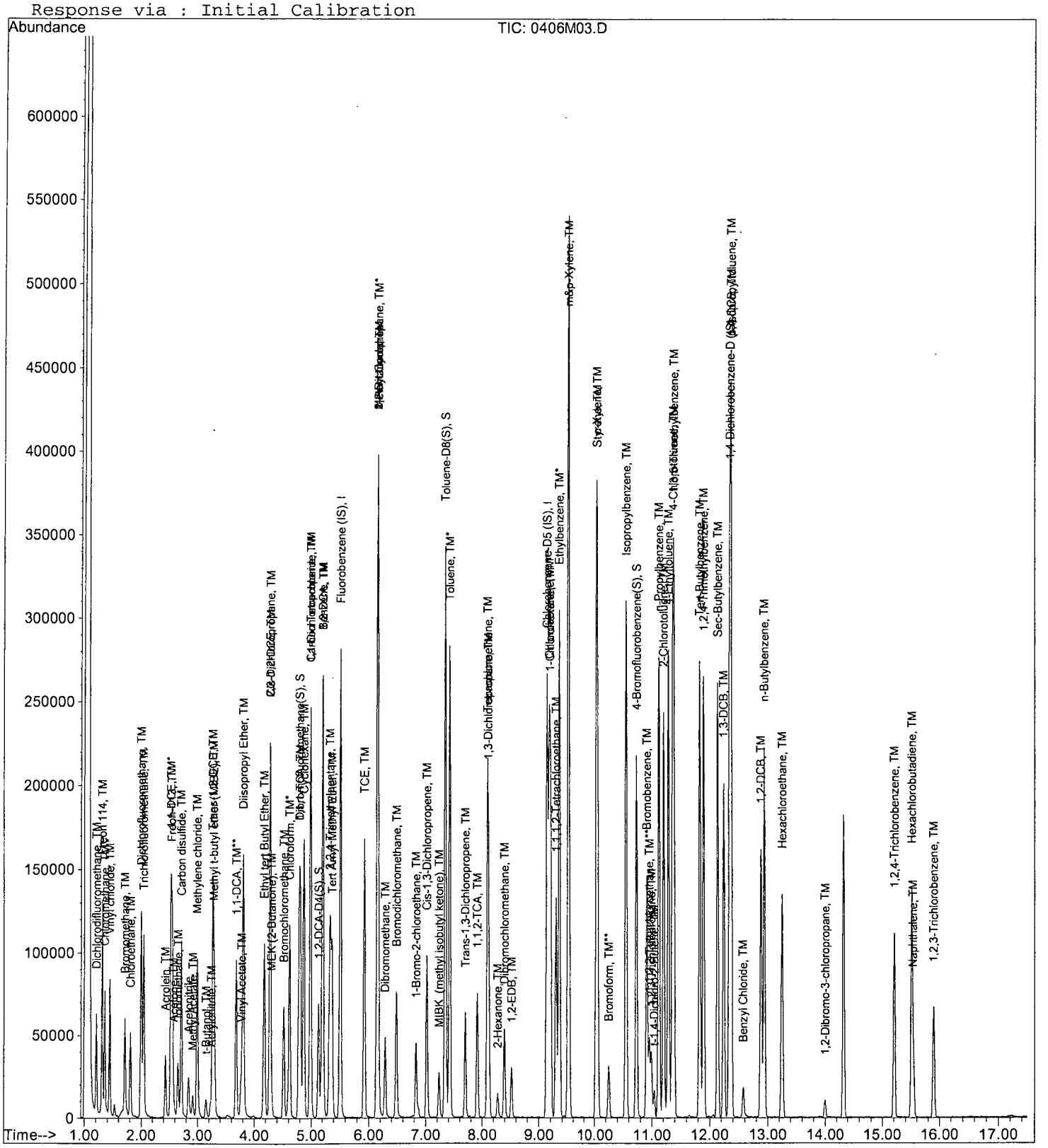
Data File : M:\MAX\DATA\M170404\0406M03.D
Acq On : 6 Apr 17 11:34
Sample : 170406A CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 2
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



478

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 6 Apr 17 22:56
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0406M27.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3087	0.2962	4.1	TM	
3	TM	Freon 114	0.4195	0.4293	2.3	TM	
4	TM**	Chloromethane	0.4279	0.4242	0.87	TM**	
5	TM*	Vinyl chloride	0.6492	0.6828	5.2	TM*	
6	TM	Bromomethane	0.4011	0.3814	4.9	TM	
7	TM	Chloroethane	0.3927	0.4126	5.1	TM	
8	TM	Dichlorofluoromethane	1.065	1.185	11	TM	
9	TM	Trichlorofluoromethane	0.7036	0.7849	12	TM	
10	TM	Acrolein	0.0237	0.0223	5.9	TM	
11	TM	Acetone	0.0600	0.0598	0.33	TM	
12	TM	Freon-113	0.4302	0.4368	1.5	TM	
13	TM*	1,1-DCE	0.6786	0.7240	6.7	TM*	
14		Acetonitrile	0.0439	0.0421	4.2		
15	TM	t-Butanol	0.0097	0.0087	11	TM	
16	TM	Methyl Acetate	0.1624	0.1674	3.0	TM	
17	TML	Iodomethane	0.3142	0.3698	18	TML	13
18	TM	Acrylonitrile	0.0715	0.0809	13	TM	
19	TM	Methylene chloride	0.4472	0.4485	0.31	TM	
20	TM	Carbon disulfide	1.396	1.349	3.4	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6829	1.1	TM	
22	TM	Trans-1,2-DCE	0.4938	0.5107	3.4	TM	
23	TM	Diisopropyl Ether	1.366	1.409	3.2	TM	
24	TM**	1,1-DCA	0.8411	0.8772	4.3	TM**	
25	TM	Ethyl tert Butyl Ether	0.8203	0.8041	2.0	TM	
26	TML	MEK (2-Butanone)	0.0976	0.0859	12	TML	17
27	TM	Cis-1,2-DCE	0.5250	0.5248	0.03	TM	
28	TM	2,2-Dichloropropane	0.4970	0.4519	9.1	TM	
29	TM*	Chloroform	0.8101	0.8292	2.4	TM*	
30	TM	Bromochloromethane	0.2075	0.2087	0.60	TM	
31	S	Dibromofluoromethane(S)	0.2355	0.2441	3.7	S	
32	TM	1,1,1-TCA	0.7088	0.7365	3.9	TM	
33	TM	Cyclohexane	0.4729	0.4812	1.8	TM	
34	TM	1,1-Dichloropropene	0.6741	0.6829	1.3	TM	
35	TM	2,2,4-Trimethylpentane	1.179	1.155	2.1	TM	
36	S	1,2-DCA-D4(S)	0.1844	0.1921	4.1	S	
37	TM	Carbon Tetrachloride	0.5691	0.5817	2.2	TM	
38	TM	Tert Amyl Methyl Ether	0.7214	0.6898	4.4	TM	
39	TM	1,2-DCA	0.4271	0.4433	3.8	TM	
40	TM	Benzene	2.032	2.048	0.77	TM	
		Average			4.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 6 Apr 17 22:56
Instrument: Max
Cal. Date: 04/04/17
Data File: 0406M27.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5375	0.5710	6.2	TM	
42	TM	2-Pentanone	0.1448	0.1387	4.2	TM	
43	TM*	1,2-Dichloropropane	0.4564	0.4681	2.6	TM*	
44	TM	Bromodichloromethane	0.5201	0.5242	0.79	TM	
45	TM	Methyl Cyclohexane	0.7285	0.7274	0.14	TM	
46	TM	Dibromomethane	0.1737	0.1821	4.8	TM	
47	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2111	6.7	TM	
48	TM	1-Bromo-2-chloroethane	0.4342	0.4323	0.43	TM	
49	TML	2-Chloroethyl vinyl ether	0.0058	0.0046	21	TML	25
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5259	4.0	TM	
51	TM*	Toluene	2.358	2.362	0.17	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3488	0.3369	3.4	TM	
53	TM	1,1,2-TCA	0.2208	0.2198	0.45	TM	
54	TML	2-Hexanone	0.1143	0.1224	7.1	TML	1.2
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.458	1.527	4.7	S	
57	TM	1,2-EDB	0.3297	0.3480	5.5	TM	
58	TM	Tetrachloroethene	0.8270	0.8388	1.4	TM	
59	TM	1-Chlorohexane	0.8667	0.8937	3.1	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6117	0.6156	0.64	TM	
61	TM	m&p-Xylene	1.496	1.507	0.72	TM	
62	TM	o-Xylene	1.380	1.442	4.4	TM	
63	TM	Styrene	2.105	2.104	0.04	TM	
64	S	4-Bromofluorobenzene(S)	0.4517	0.4677	3.6	S	
65	TM	1,3-Dichloropropane	0.6436	0.6600	2.5	TM	
66	TM	Dibromochloromethane	0.4889	0.4898	0.18	TM	
67	TM**	Chlorobenzene	2.042	2.026	0.79	TM**	
68	TM*	Ethylbenzene	3.732	3.841	2.9	TM*	
69	TM**	Bromoform	0.2627	0.2558	2.7	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.658	7.754	1.3	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.7148	11	TM**	
73	TM	1,2,3-Trichloropropane	0.2287	0.2274	0.55	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1407	1.3	TM	
75	TM	Bromobenzene	1.687	1.739	3.1	TM	
76	TM	n-Propylbenzene	8.064	8.378	3.9	TM	
77	TM	4-Ethyltoluene	6.892	6.932	0.58	TM	
78	TM	2-Chlorotoluene	4.832	4.965	2.8	TM	
79	TM	1,3,5-Trimethylbenzene	6.000	5.921	1.3	TM	
80	TM	4-Chlorotoluene	5.313	5.292	0.39	TM	
		Average			3.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 6 Apr 17 22:56
Instrument: Max
Cal. Date: 04/04/17
Data File: 0406M27.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.259	5.299	0.77	TM	
82	TM	1,2,4-Trimethylbenzene	5.610	5.575	0.63	TM	
83	TM	Sec-Butylbenzene	7.070	6.903	2.4	TM	
84	TM	p-Isopropyltoluene	3.086	2.964	3.9	TM	
85	TMQ	Benzyl Chloride	0.4107	0.3049	26	TMQ	29
86	TM	1,3-DCB	3.329	3.275	1.6	TM	
87	TM	1,4-DCB	1.633	1.682	3.0	TM	
88	TM	n-Butylbenzene	2.481	2.342	5.6	TM	
89	TM	1,2-DCB	2.683	2.756	2.7	TM	
90	TM	Hexachloroethane	0.7054	0.6638	5.9	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0927	8.8	TM	
92	TML	1,2,4-Trichlorobenzene	1.323	1.450	9.6	TML	0.31
93	TM	Hexachlorobutadiene	1.027	1.050	2.2	TM	
94	TM	Naphthalene	1.147	1.229	7.1	TM	
95	TML	1,2,3-Trichlorobenzene	0.8216	0.9123	11	TML	0.69
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M27.D Vial: 26
Acq On : 6 Apr 17 22:56 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 4/6/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251284	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	169083	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	81554	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61346	25.92052 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.684%	
37) 1,2-DCA-D4(S)	5.13	65	48260	26.03106 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.124%	
57) Toluene-D8(S)	7.34	98	258131	26.17193 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.688%	
65) 4-Bromofluorobenzene(S)	10.73	95	79088	25.88956 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.560%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	29768	9.59439 ppb	99
3) Freon 114	1.31	85	43154	10.23406 ppb	93
4) Chloromethane	1.36	50	42640	9.91297 ppb	98
5) Vinyl chloride	1.45	62	68632	10.51817 ppb	99
6) Bromomethane	1.71	94	38332	9.50698 ppb	89
7) Chloroethane	1.81	64	41473	10.50688 ppb	94
8) Dichlorofluoromethane	2.00	67	119063	11.12720 ppb	98
9) Trichlorofluoromethane	2.05	101	78892	11.15612 ppb	100
10) Acrolein	2.43	56	28069	117.65653 ppb	100
11) Acetone	2.59	43	6014	9.96687 ppb	98
12) Freon-113	2.55	101	43909	10.15412 ppb	96
13) 1,1-DCE	2.53	61	72768	10.66838 ppb	95
14) Acetonitrile	2.84	TIC	52834	119.74390 ppb #	90
15) t-Butanol	3.15	59	10881	111.45610 ppb	91
16) Methyl Acetate	2.92	43	16825	10.30433 ppb	99
17) Iodomethane	2.66	142	37170	8.71963 ppb	99
18) Acrylonitrile	3.23	53	8135	11.31343 ppb	95
19) Methylene chloride	2.99	84	45083	10.03060 ppb	96
20) Carbon disulfide	2.72	76	135580	9.66022 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	68638	10.10830 ppb	95
22) Trans-1,2-DCE	3.27	96	51329	10.34161 ppb	96
23) Diisopropyl Ether	3.81	45	141655	10.31854 ppb	98
24) 1,1-DCA	3.68	63	88174	10.42913 ppb	97
26) Ethyl tert Butyl Ether	4.18	59	80824	9.80299 ppb	96
27) MEK (2-Butanone)	4.31	43	8635	8.32385 ppb	95
28) Cis-1,2-DCE	4.28	96	52753	9.99735 ppb	97
29) 2,2-Dichloropropane	4.28	77	45425	9.09283 ppb	99
30) Chloroform	4.62	83	83344	10.23504 ppb	99
31) Bromochloromethane	4.52	128	20980	10.05971 ppb	94
33) 1,1,1-TCA	4.81	97	74033	10.39175 ppb	98
34) Cyclohexane	4.87	41	48367	10.17548 ppb	96
35) 1,1-Dichloropropene	4.99	75	68638	10.12948 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	116098	9.79295 ppb	97
38) Carbon Tetrachloride	4.99	117	58471	10.22130 ppb	88
39) Tert Amyl Methyl Ether	5.37	73	69335	9.56256 ppb	97
40) 1,2-DCA	5.21	62	44555	10.37851 ppb	100
41) Benzene	5.20	78	205850	10.07686 ppb	99
42) TCE	5.92	95	57391	10.62191 ppb	96
43) 2-Pentanone	6.15	43	174297	119.71969 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M27.D
Acq On : 6 Apr 17 22:56
Sample : Ending CCV 8260 10ug/L 4/6/17
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:56 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.16	63	47047	10.25523 ppb		100
45) Bromodichloromethane	6.49	83	52691	10.07927 ppb		94
46) Methyl Cyclohexane	6.15	83	73118	9.98583 ppb		97
47) Dibromomethane	6.29	93	18308	10.48479 ppb		94
48) MIBK (methyl isobutyl ket	7.23	43	21220	9.32867 ppb		97
49) 1-Bromo-2-chloroethane	6.83	63	43453	9.95698 ppb		98
50) 2-Chloroethyl vinyl ether	6.87	106	459	7.47785 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	52862	9.60019 ppb		98
52) Toluene	7.42	91	237418	10.01740 ppb		95
53) Trans-1,3-Dichloropropene	7.70	75	33860	9.65896 ppb		98
54) 1,1,2-TCA	7.91	83	22097	9.95478 ppb		99
55) 2-Hexanone	8.27	43	12301	9.88228 ppb		89
58) 1,2-EDB	8.52	107	23535	10.55380 ppb		90
59) Tetrachloroethene	8.10	164	56732	10.14258 ppb		94
60) 1-Chlorohexane	9.20	91	60443	10.31121 ppb		95
61) 1,1,1,2-Tetrachloroethane	9.30	131	41636	10.06392 ppb		98
62) m&p-Xylene	9.51	106	203786	20.14349 ppb		95
63) o-Xylene	10.03	106	97498	10.44461 ppb		97
64) Styrene	10.05	104	142321	9.99609 ppb		99
66) 1,3-Dichloropropane	8.12	76	44636	10.25364 ppb		99
67) Dibromochloromethane	8.39	129	33128	10.01796 ppb		87
68) Chlorobenzene	9.18	112	136995	9.92111 ppb		98
69) Ethylbenzene	9.35	91	259811	10.29205 ppb		98
70) Bromoform	10.25	173	17298	9.73487 ppb		100
72) Isopropylbenzene	10.55	105	252959	10.12578 ppb		100
73) 1,1,2,2-Tetrachloroethane	10.96	83	23319	8.94936 ppb		98
74) 1,2,3-Trichloropropane	10.99	110	7418	9.94501 ppb		95
75) t-1,4-Dichloro-2-Butene	11.05	53	4591	10.12904 ppb		86
76) Bromobenzene	10.91	156	56723	10.30694 ppb		99
77) n-Propylbenzene	11.12	91	273311	10.38966 ppb		98
78) 4-Ethyltoluene	11.29	105	226145	10.05792 ppb		97
79) 2-Chlorotoluene	11.20	91	161967	10.27608 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	193142	9.86824 ppb		99
81) 4-Chlorotoluene	11.36	91	172626	9.96078 ppb		100
82) Tert-Butylbenzene	11.83	119	172873	10.07705 ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	181861	9.93711 ppb		96
84) Sec-Butylbenzene	12.14	105	225197	9.76485 ppb		99
85) p-Isopropyltoluene	12.36	119	96704	9.60505 ppb		98
86) Benzyl Chloride	12.57	91	9947	7.14494 ppb	#	92
87) 1,3-DCB	12.24	146	106829	9.83775 ppb		96
88) 1,4-DCB	12.37	146	54856	10.29650 ppb		97
89) n-Butylbenzene	12.94	91	76392	9.43761 ppb		98
90) 1,2-DCB	12.88	146	89912	10.27401 ppb		98
91) Hexachloroethane	13.25	117	21655	9.41078 ppb		97
92) 1,2-Dibromo-3-chloropropan	14.00	75	3023	10.87767 ppb	#	63
93) 1,2,4-Trichlorobenzene	15.21	180	47307	10.03087 ppb		95
94) Hexachlorobutadiene	15.51	225	34244	10.21872 ppb		94
95) Naphthalene	15.54	128	40098	10.71280 ppb		96
96) 1,2,3-Trichlorobenzene	15.90	180	29762	10.06938 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

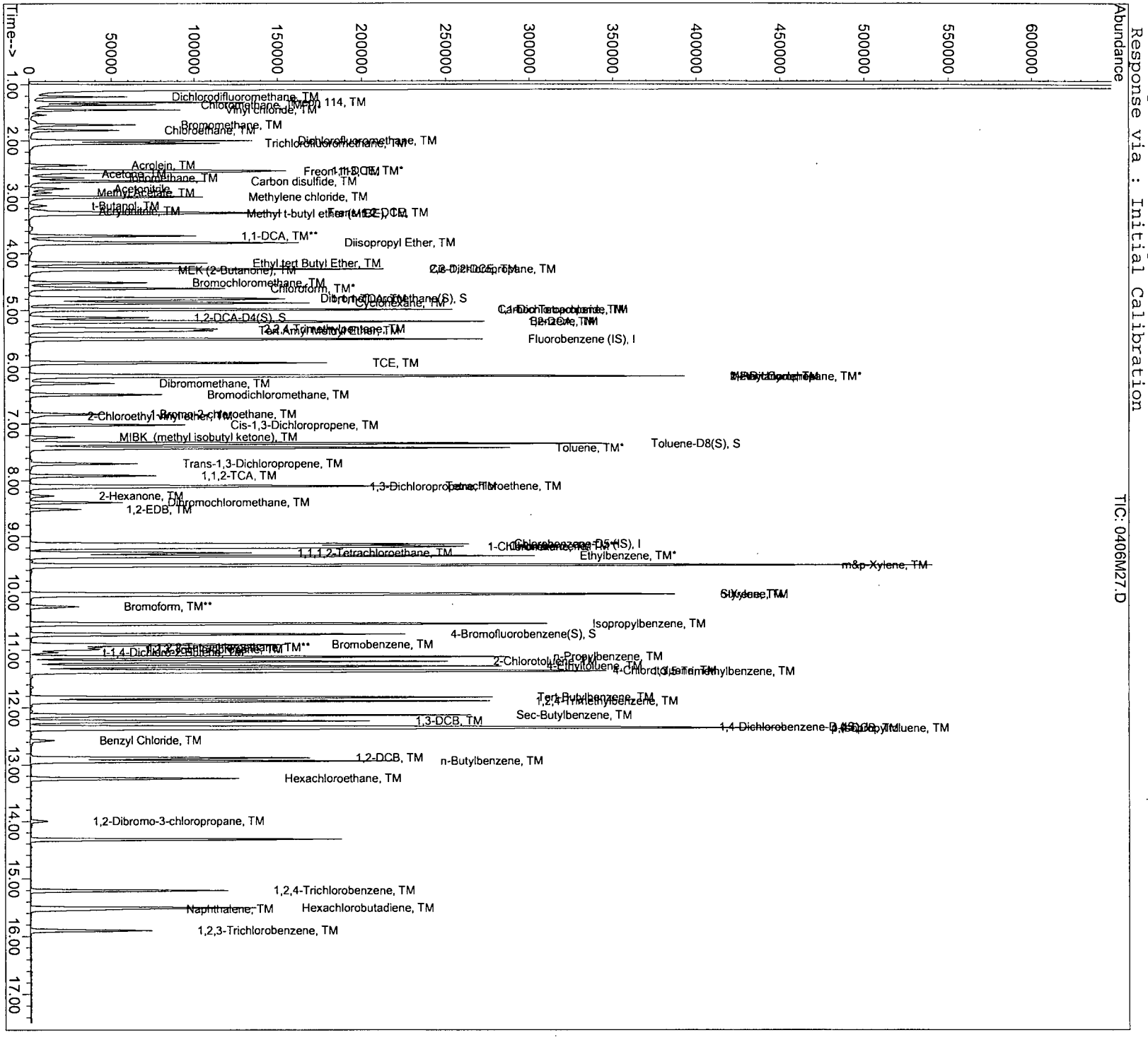
Data File : M:\MAX\DATA\M170404\0406M27.D
Acq On : 6 Apr 17 22:56
Sample : Ending CCV 8260 10ug/L 4/6/17
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:56 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217572**
Batch ID: #86BTO-170406AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/06/17	04/06/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/06/17	04/06/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/06/17	04/06/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/06/17	04/06/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/06/17	04/06/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.3	85-114			%	04/06/17	04/06/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/06/17	04/06/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/06/17	04/06/17

Quant Method: MALLW.M
Run #: 0406M11
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:15:37 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M11.D Vial: 10
Acq On : 6 Apr 17 15:22 Operator: PM,DG,SV,CMM
Sample : 170406A BLK-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:00 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	247211	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	169048	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72607	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	59571	25.58524 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.340%	
37) 1,2-DCA-D4(S)	5.13	65	46991	25.76418 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.056%	
57) Toluene-D8(S)	7.34	98	250488	25.40226 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.608%	
65) 4-Bromofluorobenzene(S)	10.73	95	71227	23.32108 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.284%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

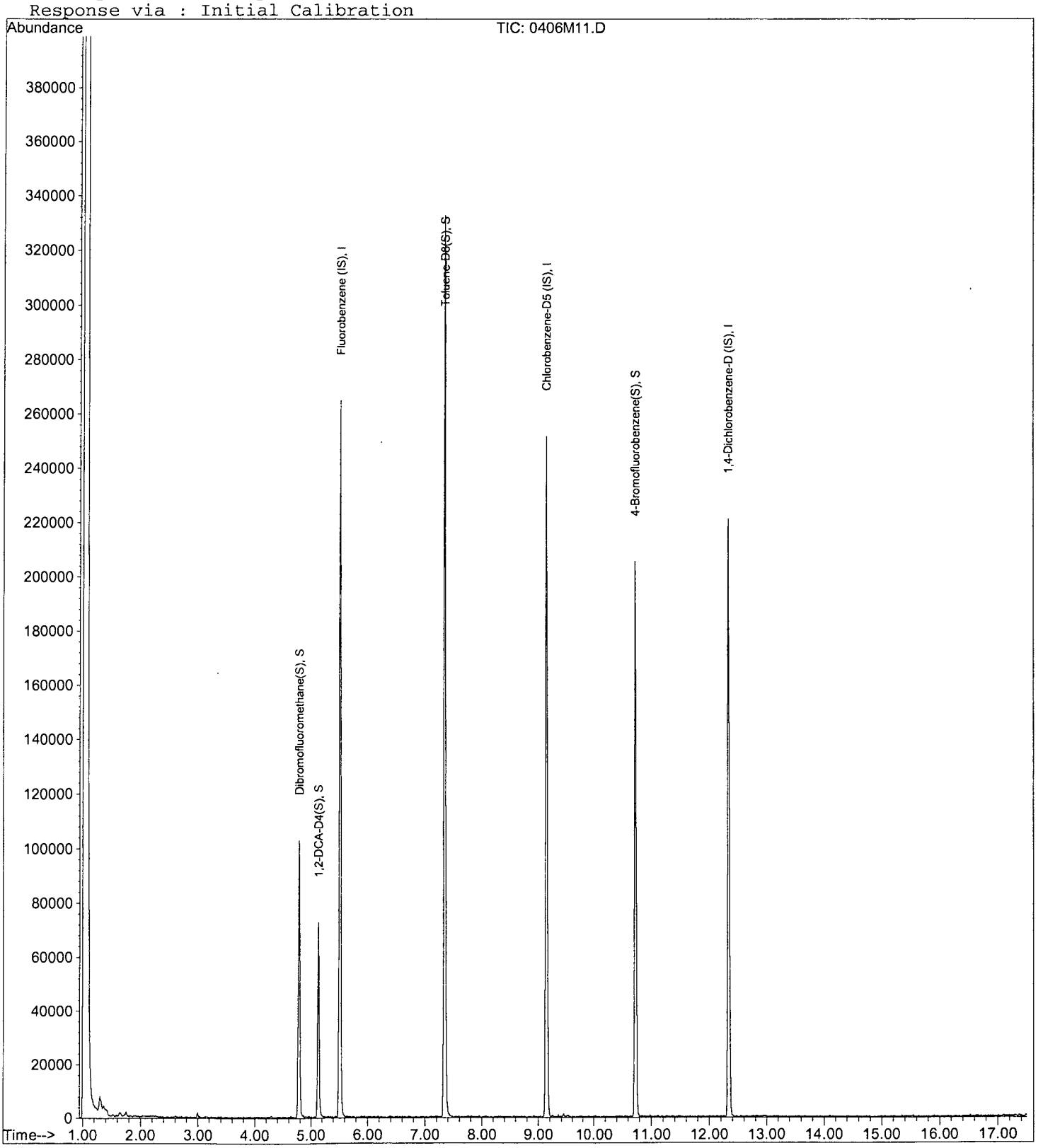
Data File : M:\MAX\DATA\M170404\0406M11.D
Acq On : 6 Apr 17 15:22
Sample : 170406A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:00 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170406W-53059 LCS - 217572**
Batch ID: #86BTO-170406AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	10.2	102	79-120
ETHYLBENZENE	10.00	10.5	105	79-121
TOLUENE	10.00	10.1	101	80-121
XYLENES (TOTAL)	30.0	30.9	103	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.7	107	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	26.1	104	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.6	102	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/06/17
Analysis Date :	04/06/17
Instrument :	Max
Run :	0406M04
Initials :	SV

Printed: 04/11/17 2:15:41 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M04.D
Acq On : 6 Apr 17 12:02
Sample : 170406A LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:54 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	253748	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	173618	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	82756	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	62433	26.12365 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.496%	
37) 1,2-DCA-D4(S)	5.13	65	50001	26.70825 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.832%	
57) Toluene-D8(S)	7.34	98	259580	25.63138 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.524%	
65) 4-Bromofluorobenzene(S)	10.73	95	79927	25.48079 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.924%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	31152	9.94296 ppb	97
3) Freon 114	1.31	85	45372	10.65558 ppb	94
4) Chloromethane	1.35	50	44808	10.31583 ppb	95
5) Vinyl chloride	1.44	62	70768	10.74021 ppb	99
6) Bromomethane	1.71	94	40067	9.84080 ppb	96
7) Chloroethane	1.81	64	42104	10.56316 ppb	97
8) Dichlorofluoromethane	2.00	67	117201	10.84682 ppb	99
9) Trichlorofluoromethane	2.04	101	77877	10.90565 ppb	97
10) Acrolein	2.43	56	29578	122.77788 ppb	99
11) Acetone	2.58	43	6130	10.06046 ppb	96
12) Freon-113	2.55	101	44778	10.25452 ppb	96
13) 1,1-DCE	2.52	61	71209	10.33844 ppb	93
14) Acetonitrile	2.84	TIC	51064	114.60853 ppb	97
15) t-Butanol	3.15	59	11377	115.40510 ppb	94
16) Methyl Acetate	2.91	43	16909	10.25522 ppb	98
17) Iodomethane	2.65	142	42839	9.79795 ppb	92
18) Acrylonitrile	3.23	53	8083	11.13196 ppb	91
19) Methylene chloride	2.99	84	42426	9.34778 ppb	97
20) Carbon disulfide	2.71	76	140253	9.89613 ppb	100
21) Methyl t-butyl ether (MtBE	3.29	73	68358	9.96931 ppb	97
22) Trans-1,2-DCE	3.27	96	51626	10.30045 ppb	94
23) Diisopropyl Ether	3.80	45	141077	10.17665 ppb	98
24) 1,1-DCA	3.68	63	87784	10.28217 ppb	98
25) Vinyl Acetate	3.76	43	28676	10.09545 ppb	96
26) Ethyl tert Butyl Ether	4.17	59	84868	10.19352 ppb	97
27) MEK (2-Butanone)	4.31	43	10884	10.45039 ppb	100
28) Cis-1,2-DCE	4.28	96	53854	10.10690 ppb	94
29) 2,2-Dichloropropane	4.27	77	57471	11.39240 ppb	100
30) Chloroform	4.62	83	82359	10.01587 ppb	98
31) Bromochloromethane	4.52	128	19952	9.47390 ppb	95
33) 1,1,1-TCA	4.80	97	76770	10.67129 ppb	98
34) Cyclohexane	4.87	41	48280	10.05855 ppb	99
35) 1,1-Dichloropropene	4.98	75	71428	10.43887 ppb	95
36) 2,2,4-Trimethylpentane	5.33	57	130392	10.89185 ppb	99
38) Carbon Tetrachloride	4.99	117	61916	10.71842 ppb	93
39) Tert Amyl Methyl Ether	5.37	73	72139	9.85267 ppb	97
40) 1,2-DCA	5.21	62	43529	10.04106 ppb	100
41) Benzene	5.20	78	210598	10.20918 ppb	99
42) TCE	5.92	95	55051	10.08989 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M04.D Vial: 3
Acq On : 6 Apr 17 12:02 Operator: PM,DG,SV,CMM
Sample : 170406A LCS 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:54 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	181051	123.15124	ppb		95
44) 1,2-Dichloropropane	6.16	63	48120	10.38727	ppb		99
45) Bromodichloromethane	6.49	83	53641	10.16136	ppb		99
46) Methyl Cyclohexane	6.14	83	77882	10.53317	ppb		99
47) Dibromomethane	6.29	93	18098	10.26389	ppb		89
48) MIBK (methyl isobutyl ket	7.23	43	21871	9.52149	ppb		97
49) 1-Bromo-2-chloroethane	6.83	63	43494	9.86960	ppb		94
50) 2-Chloroethyl vinyl ether	6.90	106	20	2.24525	ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	57611	10.36105	ppb		99
52) Toluene	7.42	91	240793	10.06115	ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	37534	10.60304	ppb		96
54) 1,1,2-TCA	7.91	83	22262	9.93172	ppb		95
55) 2-Hexanone	8.27	43	11986	9.53679	ppb		97
58) 1,2-EDB	8.52	107	23271	10.16283	ppb		100
59) Tetrachloroethene	8.09	164	57126	9.94625	ppb		96
60) 1-Chlorohexane	9.20	91	65351	10.85728	ppb		97
61) 1,1,1,2-Tetrachloroethane	9.29	131	42923	10.10400	ppb		97
62) m&p-Xylene	9.51	106	214134	20.61347	ppb		98
63) o-Xylene	10.03	106	98610	10.28781	ppb		97
64) Styrene	10.05	104	148508	10.15818	ppb		98
66) 1,3-Dichloropropane	8.12	76	45479	10.17440	ppb		97
67) Dibromochloromethane	8.39	129	33429	9.84493	ppb		93
68) Chlorobenzene	9.18	112	145626	10.27070	ppb		99
69) Ethylbenzene	9.35	91	270969	10.45368	ppb		99
70) Bromoform	10.26	173	17954	9.84013	ppb		99
72) Isopropylbenzene	10.55	105	264864	10.44833	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	26543	10.03871	ppb		99
74) 1,2,3-Trichloropropane	10.99	110	8200	10.83373	ppb		100
75) t-1,4-Dichloro-2-Butene	11.04	53	4474	9.72754	ppb		98
76) Bromobenzene	10.91	156	57596	10.31357	ppb		97
77) n-Propylbenzene	11.12	91	286471	10.73175	ppb		100
78) 4-Ethyltoluene	11.29	105	237238	10.39803	ppb		98
79) 2-Chlorotoluene	11.20	91	165968	10.37699	ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	206260	10.38542	ppb		100
81) 4-Chlorotoluene	11.36	91	185538	10.55033	ppb		100
82) Tert-Butylbenzene	11.83	119	179103	10.28857	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	189469	10.20245	ppb		97
84) Sec-Butylbenzene	12.14	105	238631	10.19707	ppb		99
85) p-Isopropyltoluene	12.36	119	101832	9.96747	ppb		100
86) Benzyl Chloride	12.57	91	15257	10.40934	ppb		99
87) 1,3-DCB	12.24	146	113985	10.34428	ppb		94
88) 1,4-DCB	12.37	146	56968	10.53761	ppb		97
89) n-Butylbenzene	12.94	91	86408	10.51996	ppb		98
90) 1,2-DCB	12.88	146	92484	10.41441	ppb		98
91) Hexachloroethane	13.25	117	25494	10.91821	ppb		98
92) 1,2-Dibromo-3-chloropropan	13.99	75	3001	10.64166	ppb	#	81
93) 1,2,4-Trichlorobenzene	15.21	180	52418	11.02460	ppb		96
94) Hexachlorobutadiene	15.51	225	37859	11.13338	ppb		97
95) Naphthalene	15.54	128	43793	11.53004	ppb	#	94
96) 1,2,3-Trichlorobenzene	15.90	180	33828	11.27879	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

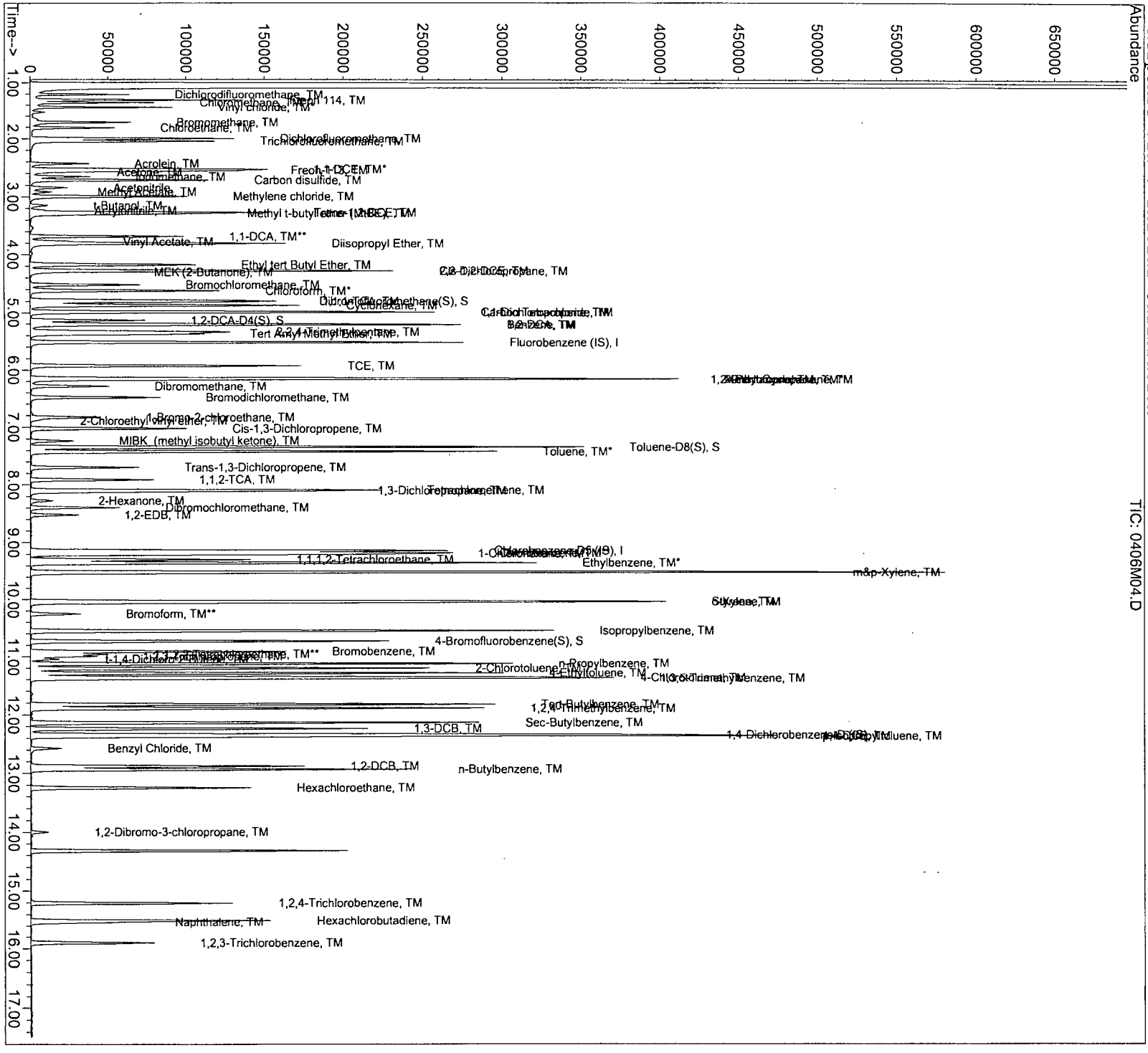
Data File : M:\MAX\DATA\M170404\0406M04.D
Acq On : 6 Apr 17 12:02
Sample : 170406A LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8260B BTEX WATER

APPL ID: **170406W-53059 MS - 217572**
Batch ID: #86BTO-170406AM
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZENE	10.00	ND	10.5	10.2	105	102	79-120	2.9	20
ETHYLBENZENE	10.00	ND	10.4	10.6	104	106	79-121	1.9	20
TOLUENE	10.00	ND	10.4	9.93	104	99.3	80-121	4.6	20
XYLENES (TOTAL)	30.0	ND	31.3	31.6	104	105	79-121	0.95	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	27.8	26.2	111	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	26.5	25.4	106	102	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	26.0	25.2	104	101	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	26.4	25.5	106	102	89-112		

Comments: _____

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/06/17	04/06/17
Instrument :	Max	Max
Run :	0406M23	0406M24
Initials :	SV	

Printed: 04/11/17 2:15:45 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M23.D Vial: 22
Acq On : 6 Apr 17 21:02 Operator: PM,DG,SV,CMM
Sample : AZ53059W235 MS-1WM 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	228765	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	155447	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	71679	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	56041	26.00990 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.040%	
37) 1,2-DCA-D4(S)	5.13	65	46942	27.81259 ppb	0.00
Spiked Amount 25.000			Recovery	= 111.252%	
57) Toluene-D8(S)	7.34	98	239269	26.38758 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.552%	
65) 4-Bromofluorobenzene(S)	10.73	95	74514	26.53197 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.128%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	27864	9.86476 ppb	99
3) Freon 114	1.31	85	38270	9.96921 ppb	94
4) Chloromethane	1.36	50	41152	10.50879 ppb	99
5) Vinyl chloride	1.45	62	65800	11.07681 ppb	100
6) Bromomethane	1.72	94	35235	9.59911 ppb	94
7) Chloroethane	1.81	64	38463	10.70352 ppb	97
8) Dichlorofluoromethane	2.00	67	106982	10.98234 ppb	97
9) Trichlorofluoromethane	2.05	101	72573	11.27277 ppb	99
10) Acrolein	2.43	56	24116	111.03749 ppb	99
11) Acetone	2.59	43	5960	10.84968 ppb	93
12) Freon-113	2.55	101	41587	10.56383 ppb	96
13) 1,1-DCE	2.53	61	66954	10.78226 ppb	97
14) Acetonitrile	2.84	TIC	42822	106.60611 ppb	94
15) t-Butanol	3.15	59	9459	106.42790 ppb	99
16) Methyl Acetate	2.92	43	14491	9.74851 ppb	99
17) Iodomethane	2.66	142	31687	8.23439 ppb	99
18) Acrylonitrile	3.23	53	7572	11.56705 ppb	85
19) Methylene chloride	2.99	84	40896	9.99471 ppb	97
20) Carbon disulfide	2.72	76	127978	10.01617 ppb	98
21) Methyl t-butyl ether (MtBE	3.30	73	62914	10.17738 ppb	98
22) Trans-1,2-DCE	3.27	96	48147	10.65540 ppb	95
23) Diisopropyl Ether	3.81	45	132634	10.61247 ppb	97
24) 1,1-DCA	3.68	63	83042	10.78898 ppb	100
25) Vinyl Acetate	3.77	43	25641	10.01279 ppb	97
26) Ethyl tert Butyl Ether	4.18	59	77782	10.36269 ppb	94
27) MEK (2-Butanone)	4.31	43	10189	10.86082 ppb	88
28) Cis-1,2-DCE	4.28	96	51907	10.80535 ppb	99
29) 2,2-Dichloropropane	4.28	77	42128	9.26297 ppb	100
30) Chloroform	4.62	83	80051	10.79835 ppb	100
31) Bromochloromethane	4.52	128	18974	9.99342 ppb	92
33) 1,1,1-TCA	4.81	97	67439	10.39799 ppb	97
34) Cyclohexane	4.87	41	43744	10.10880 ppb	96
35) 1,1-Dichloropropene	4.99	75	64734	10.49374 ppb	96
36) 2,2,4-Trimethylpentane	5.33	57	106949	9.90925 ppb	98
38) Carbon Tetrachloride	4.99	117	53013	10.17942 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	63811	9.66702 ppb	98
40) 1,2-DCA	5.21	62	41612	10.64713 ppb	98
41) Benzene	5.20	78	195959	10.53695 ppb	99
42) TCE	5.92	95	49689	10.10170 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M23.D Vial: 22
Acq On : 6 Apr 17 21:02 Operator: PM,DG,SV,CMM
Sample : AZ53059W235 MS-1WM 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	146500	110.53213	ppb		97
44)	1,2-Dichloropropane	6.16	63	43457	10.40515	ppb		99
45)	Bromodichloromethane	6.49	83	49673	10.43730	ppb		100
46)	Methyl Cyclohexane	6.15	83	66492	9.97481	ppb		93
47)	Dibromomethane	6.29	93	17723	11.14889	ppb		99
48)	MIBK (methyl isobutyl ket	7.23	43	19754	9.53904	ppb		97
49)	1-Bromo-2-chloroethane	6.83	63	38444	9.67635	ppb		99
50)	2-Chloroethyl vinyl ether	6.95	106	22	2.29719	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	48461	9.66727	ppb		98
52)	Toluene	7.42	91	223568	10.36159	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	31093	9.74274	ppb		93
54)	1,1,2-TCA	7.92	83	21001	10.39234	ppb		97
55)	2-Hexanone	8.27	43	10179	8.98529	ppb		100
58)	1,2-EDB	8.52	107	21112	10.29773	ppb		92
59)	Tetrachloroethene	8.09	164	51911	10.09479	ppb		96
60)	1-Chlorohexane	9.20	91	55858	10.36493	ppb		94
61)	1,1,1,2-Tetrachloroethane	9.30	131	37127	9.76125	ppb		98
62)	m&p-Xylene	9.51	106	191535	20.59331	ppb		94
63)	o-Xylene	10.03	106	92220	10.74581	ppb		99
64)	Styrene	10.05	104	134156	10.24917	ppb		98
66)	1,3-Dichloropropane	8.12	76	42892	10.71733	ppb		99
67)	Dibromochloromethane	8.39	129	30042	9.88168	ppb		95
68)	Chlorobenzene	9.18	112	132081	10.40432	ppb		100
69)	Ethylbenzene	9.35	91	242104	10.43192	ppb		99
70)	Bromoform	10.25	173	15829	9.68959	ppb		86
72)	Isopropylbenzene	10.55	105	237951	10.83725	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	24646	10.76172	ppb		99
74)	1,2,3-Trichloropropane	10.99	110	7289	11.11833	ppb		97
75)	t-1,4-Dichloro-2-Butene	11.04	53	4124	10.35221	ppb		92
76)	Bromobenzene	10.91	156	53856	11.13418	ppb		97
77)	n-Propylbenzene	11.12	91	251936	10.89652	ppb		99
78)	4-Ethyltoluene	11.29	105	206708	10.46000	ppb		97
79)	2-Chlorotoluene	11.20	91	154998	11.18872	ppb		93
80)	1,3,5-Trimethylbenzene	11.38	105	181611	10.55744	ppb		98
81)	4-Chlorotoluene	11.36	91	166276	10.91617	ppb		96
82)	Tert-Butylbenzene	11.83	119	159997	10.61137	ppb		98
83)	1,2,4-Trimethylbenzene	11.89	105	170779	10.61716	ppb		95
84)	Sec-Butylbenzene	12.14	105	208400	10.28144	ppb		99
85)	p-Isopropyltoluene	12.36	119	89568	10.12188	ppb		97
86)	Benzyl Chloride	12.57	91	10886	8.72193	ppb		95
87)	1,3-DCB	12.24	146	105261	11.02878	ppb		93
88)	1,4-DCB	12.37	146	49840	10.64380	ppb		98
89)	n-Butylbenzene	12.94	91	71544	10.05636	ppb		97
90)	1,2-DCB	12.88	146	84559	10.99348	ppb		98
91)	Hexachloroethane	13.25	117	21189	10.47687	ppb		95
92)	1,2-Dibromo-3-chloropropan	13.99	75	2694	11.02931	ppb		83
93)	1,2,4-Trichlorobenzene	15.21	180	44335	10.74731	ppb		92
94)	Hexachlorobutadiene	15.51	225	32036	10.87686	ppb		90
95)	Naphthalene	15.54	128	33792	10.27182	ppb		96
96)	1,2,3-Trichlorobenzene	15.90	180	27369	10.53544	ppb		93

(#) = qualifier out of range (m) = manual integration

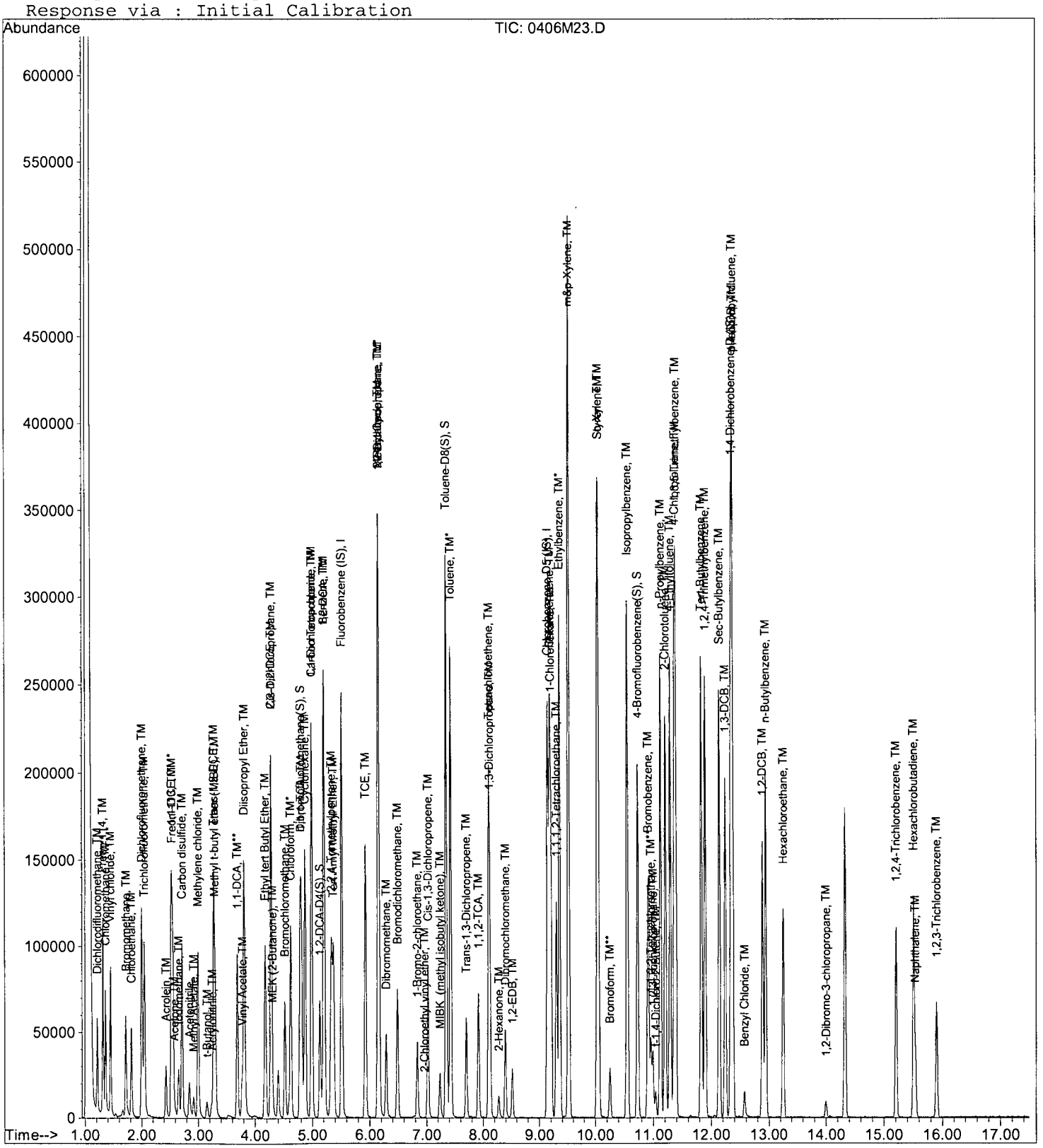
Quantitation Report

Data File : M:\MAX\DATA\M170404\0406M23.D
Acq On : 6 Apr 17 21:02
Sample : AZ53059W235 MS-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



496

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M24.D
Acq On : 6 Apr 17 21:31
Sample : AZ53059W235 MSD-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:56 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	235449	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	156305	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	76453	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	55950	25.23048 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.920%	
37) 1,2-DCA-D4(S)	5.13	65	45556	26.22516 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.900%	
57) Toluene-D8(S)	7.35	98	232627	25.51425 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.056%	
65) 4-Bromofluorobenzene(S)	10.73	95	71764	25.41252 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	28576	9.82963 ppb	96
3) Freon 114	1.31	85	36535	9.24707 ppb	96
4) Chloromethane	1.36	50	41248	10.23428 ppb	95
5) Vinyl chloride	1.45	62	66939	10.94865 ppb	99
6) Bromomethane	1.72	94	38312	10.14108 ppb	96
7) Chloroethane	1.81	64	39191	10.59650 ppb	93
8) Dichlorofluoromethane	2.00	67	111406	11.11183 ppb	99
9) Trichlorofluoromethane	2.05	101	73073	11.02821 ppb	99
10) Acrolein	2.43	56	25823	115.52176 ppb	100
11) Acetone	2.59	43	5836	10.32235 ppb	89
12) Freon-113	2.55	101	40375	9.96481 ppb	96
13) 1,1-DCE	2.53	61	64967	10.16527 ppb	95
14) Acetonitrile	2.84	TIC	42109	101.85511 ppb	95
15) t-Butanol	3.15	59	10099	110.40313 ppb	92
16) Methyl Acetate	2.92	43	15708	10.26724 ppb	98
17) Iodomethane	2.66	142	35495	8.86583 ppb	94
18) Acrylonitrile	3.23	53	7574	11.24165 ppb	95
19) Methylene chloride	2.99	84	41536	9.86295 ppb	96
20) Carbon disulfide	2.72	76	124988	9.50446 ppb	97
21) Methyl t-butyl ether (MtBE	3.30	73	66680	10.48038 ppb	97
22) Trans-1,2-DCE	3.27	96	46997	10.10563 ppb	96
23) Diisopropyl Ether	3.81	45	136355	10.60047 ppb	97
24) 1,1-DCA	3.68	63	81602	10.30092 ppb	96
25) Vinyl Acetate	3.77	43	25639	9.72778 ppb	97
26) Ethyl tert Butyl Ether	4.18	59	79863	10.33789 ppb	97
27) MEK (2-Butanone)	4.32	43	10134	10.48735 ppb	96
28) Cis-1,2-DCE	4.28	96	51379	10.39181 ppb	99
29) 2,2-Dichloropropane	4.28	77	43678	9.33115 ppb	99
30) Chloroform	4.62	83	80905	10.60373 ppb	99
31) Bromochloromethane	4.52	128	19150	9.79979 ppb	93
33) 1,1,1-TCA	4.81	97	66277	9.92874 ppb	98
34) Cyclohexane	4.87	41	44161	9.91546 ppb	96
35) 1,1-Dichloropropene	4.99	75	63122	9.94195 ppb	97
36) 2,2,4-Trimethylpentane	5.33	57	107234	9.65360 ppb	97
38) Carbon Tetrachloride	4.99	117	55119	10.28335 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	67560	9.94442 ppb	98
40) 1,2-DCA	5.21	62	42443	10.55146 ppb	100
41) Benzene	5.20	78	194708	10.17247 ppb	99
42) TCE	5.92	95	49309	9.73987 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M24.D Vial: 23
Acq On : 6 Apr 17 21:31 Operator: PM,DG,SV,CMM
Sample : AZ53059W235 MSD-1WM 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	152180	111.55813	ppb		97
44)	1,2-Dichloropropane	6.16	63	45497	10.58435	ppb		99
45)	Bromodichloromethane	6.49	83	50311	10.27126	ppb		98
46)	Methyl Cyclohexane	6.15	83	67113	9.78216	ppb		98
47)	Dibromomethane	6.29	93	17167	10.49256	ppb		95
48)	MIBK (methyl isobutyl ket	7.24	43	21306	9.99641	ppb	#	96
49)	1-Bromo-2-chloroethane	6.83	63	38600	9.43981	ppb		94
51)	Cis-1,3-Dichloropropene	7.02	75	51285	9.94019	ppb		98
52)	Toluene	7.42	91	220487	9.92870	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	33343	10.15117	ppb		96
54)	1,1,2-TCA	7.91	83	20292	9.75643	ppb		93
55)	2-Hexanone	8.27	43	11345	9.72771	ppb		98
58)	1,2-EDB	8.52	107	22033	10.68797	ppb		87
59)	Tetrachloroethene	8.10	164	52443	10.14227	ppb		96
60)	1-Chlorohexane	9.20	91	55884	10.31283	ppb		95
61)	1,1,1,2-Tetrachloroethane	9.30	131	40162	10.50124	ppb		96
62)	m&p-Xylene	9.51	106	195430	20.89675	ppb		97
63)	o-Xylene	10.03	106	92276	10.69332	ppb		98
64)	Styrene	10.05	104	140370	10.66504	ppb		98
66)	1,3-Dichloropropane	8.12	76	44054	10.94725	ppb		98
67)	Dibromochloromethane	8.39	129	31509	10.30732	ppb		86
68)	Chlorobenzene	9.18	112	132851	10.40753	ppb		97
69)	Ethylbenzene	9.35	91	246497	10.56290	ppb		98
70)	Bromoform	10.26	173	16505	10.04794	ppb		95
72)	Isopropylbenzene	10.55	105	239286	10.21754	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.95	83	25142	10.29278	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	7345	10.50415	ppb		98
75)	t-1,4-Dichloro-2-Butene	11.04	53	4191	9.86347	ppb		81
76)	Bromobenzene	10.91	156	53003	10.27358	ppb		99
77)	n-Propylbenzene	11.12	91	258974	10.50150	ppb		99
78)	4-Ethyltoluene	11.29	105	217436	10.31581	ppb		98
79)	2-Chlorotoluene	11.20	91	154664	10.46745	ppb		95
80)	1,3,5-Trimethylbenzene	11.38	105	182441	9.94343	ppb		98
81)	4-Chlorotoluene	11.36	91	168313	10.35990	ppb		100
82)	Tert-Butylbenzene	11.83	119	163811	10.18592	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	172121	10.03241	ppb		96
84)	Sec-Butylbenzene	12.14	105	216279	10.00387	ppb		98
85)	p-Isopropyltoluene	12.36	119	89136	9.44406	ppb		97
86)	Benzyl Chloride	12.57	91	10805	8.16860	ppb	#	97
87)	1,3-DCB	12.24	146	103464	10.16358	ppb		94
88)	1,4-DCB	12.37	146	51232	10.25788	ppb		97
89)	n-Butylbenzene	12.94	91	73984	9.74996	ppb		99
90)	1,2-DCB	12.88	146	86860	10.58748	ppb		99
91)	Hexachloroethane	13.25	117	21400	9.92047	ppb		98
92)	1,2-Dibromo-3-chloropropan	14.00	75	2682	10.29454	ppb	#	86
93)	1,2,4-Trichlorobenzene	15.21	180	47294	10.74881	ppb		97
94)	Hexachlorobutadiene	15.51	225	32490	10.34219	ppb		96
95)	Naphthalene	15.54	128	38505	10.97357	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	30474	10.99818	ppb		89

(#) = qualifier out of range (m) = manual integration

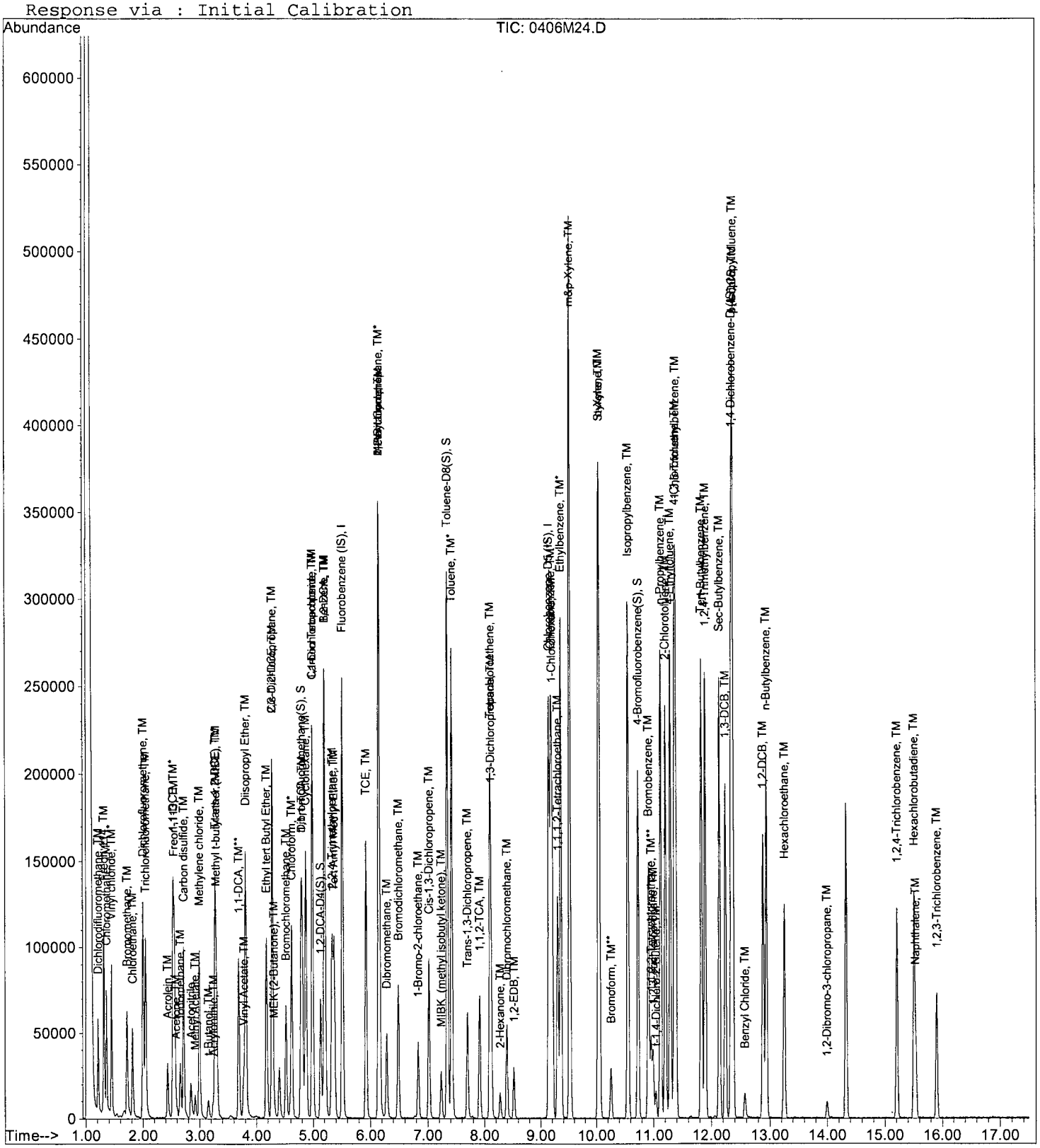
Quantitation Report

Data File : M:\MAX\DATA\M170404\0406M24.D
Acq On : 6 Apr 17 21:31
Sample : AZ53059W235 MSD-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 8:56 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration

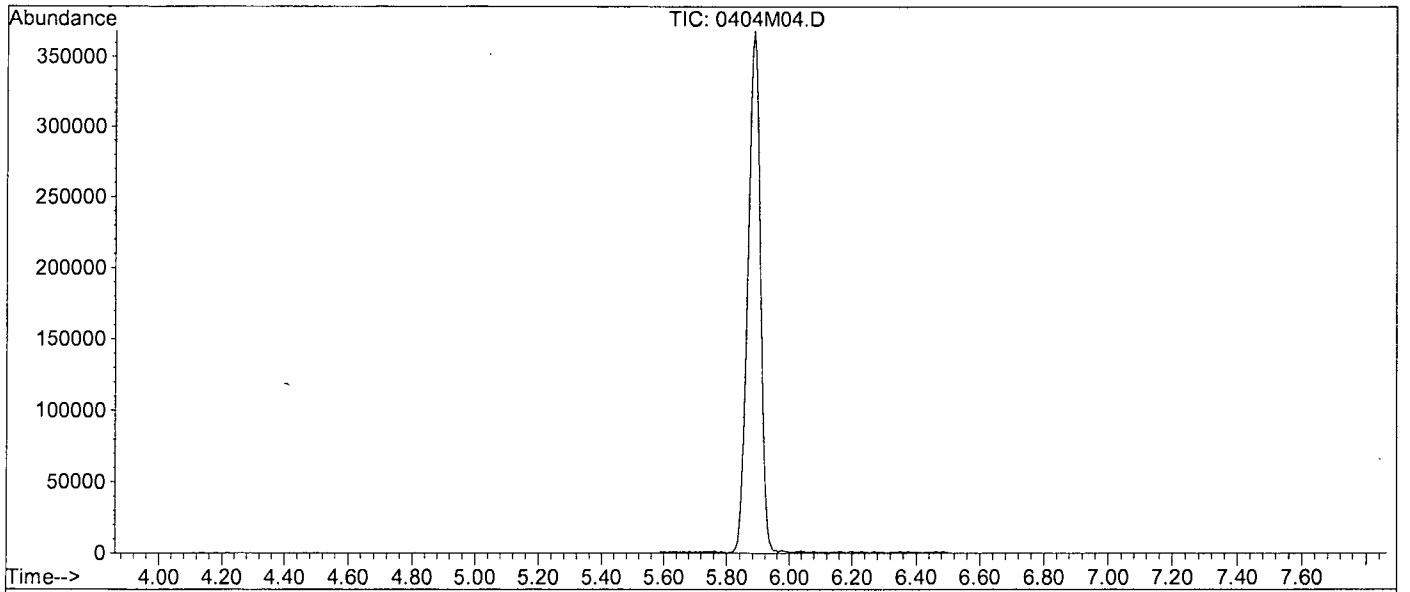


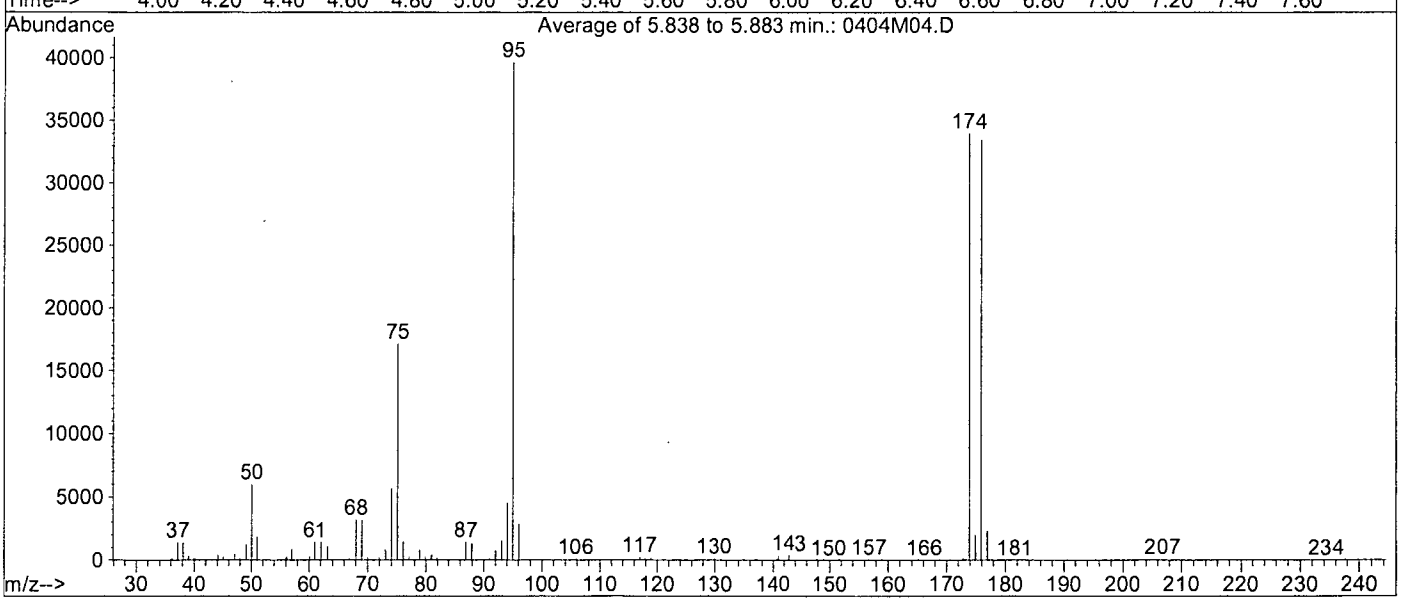
BFB

Data File : M:\MAX\DATA\M170404\0404M04.D
Acq On : 4 Apr 17 8:44
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.838 to 5.883 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	5992	PASS
75	95	30	60	43.2	17148	PASS
95	95	100	100	100.0	39670	PASS
96	95	5	9	7.2	2843	PASS
173	174	0.00	2	0.4	123	PASS
174	95	50	100	85.6	33972	PASS
175	174	5	9	5.8	1985	PASS
176	174	95	101	98.6	33486	PASS
177	176	5	9	6.8	2281	PASS

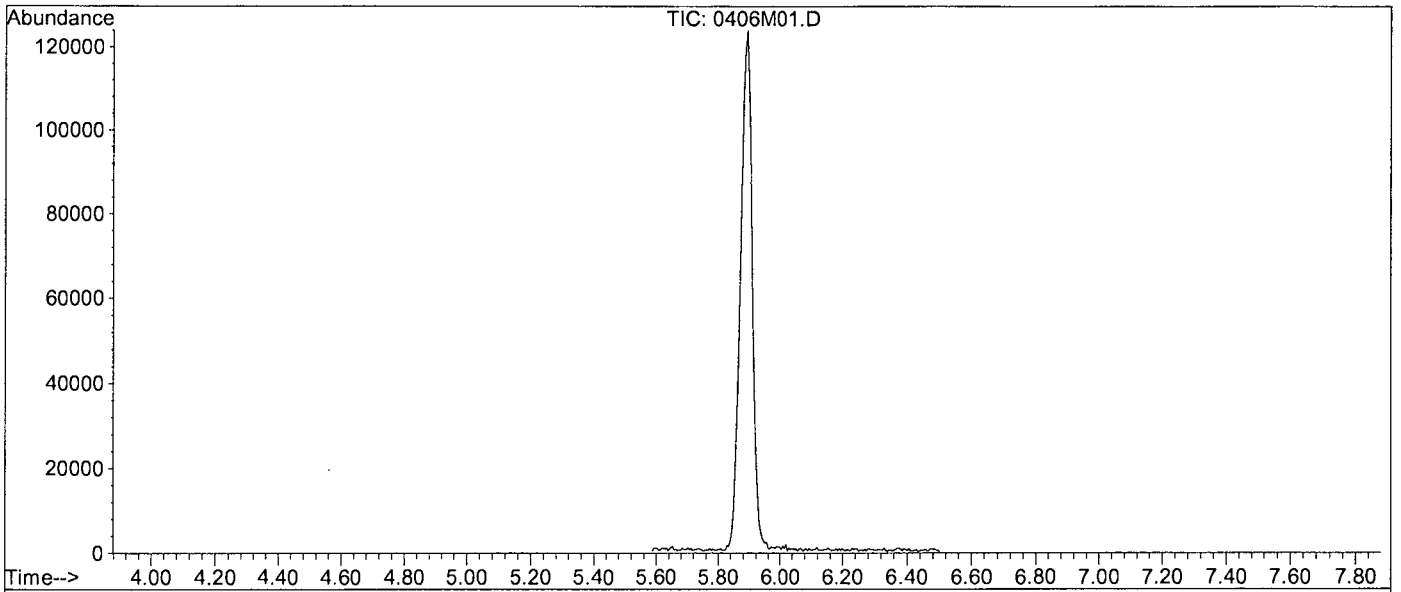
0404M04.D MALLW.M Thu Apr 06 08:02:22 2017

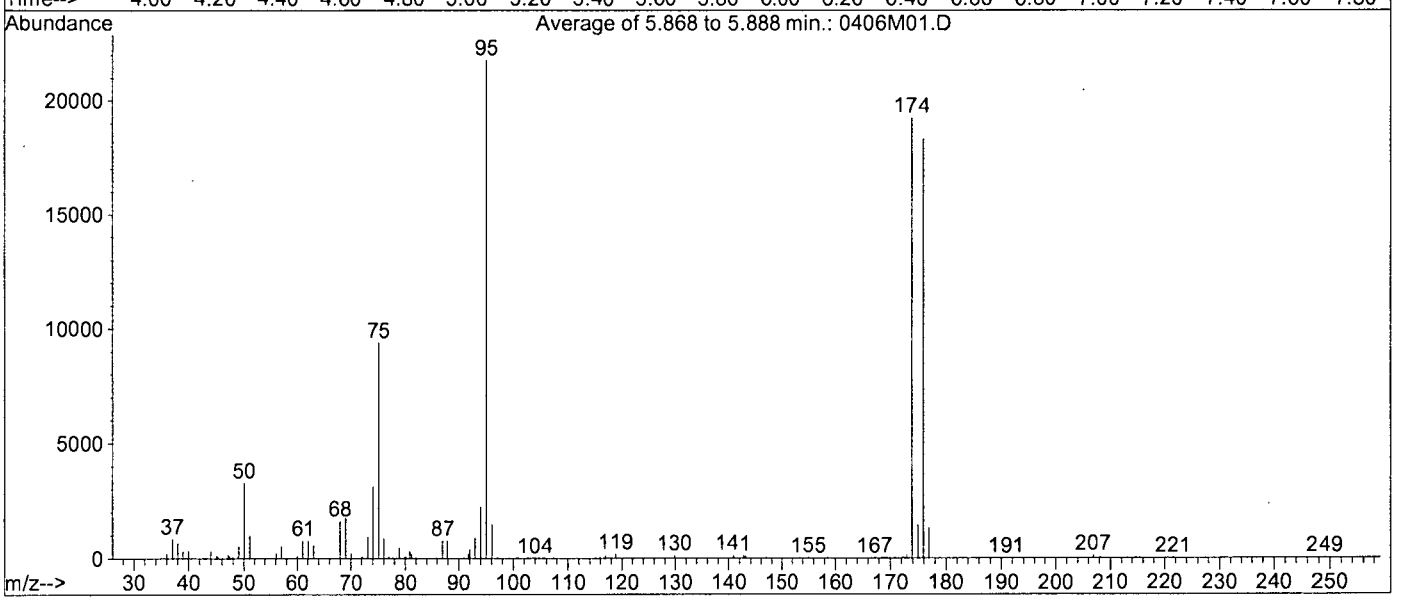
BFB

Data File : M:\MAX\DATA\M170404\0406M01.D
Acq On : 6 Apr 17 10:38
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.868 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	3293	PASS
75	95	30	60	43.1	9402	PASS
95	95	100	100	100.0	21795	PASS
96	95	5	9	6.8	1484	PASS
173	174	0.00	2	0.7	137	PASS
174	95	50	100	88.3	19250	PASS
175	174	5	9	7.6	1456	PASS
176	174	95	101	95.2	18329	PASS
177	176	5	9	7.3	1335	PASS

0406M01.D MALLW.M Fri Apr 07 08:58:34 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	04/05/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/28/17AE	03/28/17AF	03/28/17AG	03/28/17AA	03/28/17AC	03/28/17AB	03/28/17AD	03/28/17AH	Final Vol
	Conc.	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/04/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/04/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/04/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/04/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/04/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/04/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/04/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/04/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/04/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

03/28/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37482	032817A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3500
03/28/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37214	032817G-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3700
03/28/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37202	032817H-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3900
		03/28/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/28/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**03/28/17AC**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1600	
		03/28/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/28/17AB**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
		03/28/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/28/17AD**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
03/28/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	301051-37638	032817J-CMM	41217	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3400

SECONDARY SOURCE

03/28/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37378	032817L-CMM	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37209	032817M-CMM	62117	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1900
03/28/17AK							
50ug/ml VOC Std#6							
Exp:04/28/17							

	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1800
03/28/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	301053-37636	032817R-CMM	41217	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0404M04.D	1	25ug/mL BFB std 4/03/17	2ul	4 Apr 17 8:44
2	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
3	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
4	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
5	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
6	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
7	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
8	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
9	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
10	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
11	17	0404M21.D	1	(SS) 10ug/L VOC STD 04/04/17	10ml IS&S: 2/23/17	4 Apr 17 16:52
12	1	0406M01.D	1	25ug/mL BFB std 4/03/17	2ul	6 Apr 17 10:38
13	2	0406M03.D	1	170406A CCV 10ug/L	10ml IS&S: 2/23/17	6 Apr 17 11:34
14	3	0406M04.D	1	170406A LCS 10ug/L	10ml IS&S: 2/23/17	6 Apr 17 12:02
15	10	0406M11.D	1	170406A BLK-1WM	10ml IS&S: 2/23/17	6 Apr 17 15:22
16	12	0406M13.D	1	AZ53058W01	10ml IS&S: 2/23/17	6 Apr 17 16:18
17	13	0406M14.D	1	AZ53061W01	10ml IS&S: 2/23/17	6 Apr 17 16:47
18	14	0406M15.D	1	AZ53063W01	10ml IS&S: 2/23/17	6 Apr 17 17:15
19	15	0406M16.D	1	AZ53059W01	10ml IS&S: 2/23/17	6 Apr 17 17:44
20	16	0406M17.D	1	AZ53060W01	10ml IS&S: 2/23/17	6 Apr 17 18:12
21	17	0406M18.D	1	AZ53062W01	10ml IS&S: 2/23/17	6 Apr 17 18:40
22	18	0406M19.D	1	AZ53064W01	10ml IS&S: 2/23/17	6 Apr 17 19:09
23	19	0406M20.D	1	AZ53065W01	10ml IS&S: 2/23/17	6 Apr 17 19:37
24	22	0406M23.D	1	AZ53059W235 MS-1WM 10ug/L	10ml IS&S: 2/23/17	6 Apr 17 21:02
25	23	0406M24.D	1	AZ53059W235 MSD-1WM 10ug/L	10ml IS&S: 2/23/17	6 Apr 17 21:31
26	26	0406M27.D	1	Ending CCV 8260 10ug/L 4/6/17	10ml IS&S: 2/23/17	6 Apr 17 22:56

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217573**
Batch ID: #GRO86-170406AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.3	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.
Run #: 0406M11
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:17:11 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER

SDG No: 82577
Date Analyzed: 04/06/17
Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170406AM-LCS	Lab Control Spike	85-114	98.0				
170406AM-BLK	Blank	85-114	93.3				
AZ53058	ERH290	85-114	94.4				
AZ53061	ERH294	85-114	97.2				
AZ53063	ERH287	85-114	95.7				
AZ53059	ERH292	85-114	98.2				
AZ53060	ERH293	85-114	99.1				
AZ53062	ERH295	85-114	95.0				
AZ53064	ERH288	85-114	95.8				
AZ53065	ERH316	85-114	95.5				
AZ53059-MS	Matrix Spike	85-114	99.2				
AZ53059-MSD	Matrix SpikeD	85-114	102				

Comments: Batch: #GRO86-170406A

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170406W-53059 LCS - 217573**
Batch ID: #GRO86-170406AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	263	87.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/06/17
Analysis Date :	04/06/17
Instrument :	Max
Run :	0406M07
Initials :	SV

Printed: 04/11/17 2:17:21 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170406W-53059 MS - 217573**
Batch ID: #GRO86-170406AM
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	325	325	108	108	78-122	0.0	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.8	25.4	99.2	102	85-114		

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/06/17	04/06/17
Instrument :	Max	Max
Run :	0406M25	0406M26
Initials :	SV	

Printed: 04/11/17 2:17:27 PM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82577
Case No: 82577
Date Analyzed: 04/06/17
Matrix: WATER
Instrument: Max
Blank ID: 170406AM-BLK
Time Analyzed: 1522

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170406AM-LCS	Lab Control Spike	0406M07	04/06/17 1328
170406AM-BLK	Blank	0406M11	04/06/17 1522
AZ53058	ERH290	0406M13	04/06/17 1618
AZ53061	ERH294	0406M14	04/06/17 1647
AZ53063	ERH287	0406M15	04/06/17 1715
AZ53059	ERH292	0406M16	04/06/17 1744
AZ53060	ERH293	0406M17	04/06/17 1812
AZ53062	ERH295	0406M18	04/06/17 1840
AZ53064	ERH288	0406M19	04/06/17 1909
AZ53065	ERH316	0406M20	04/06/17 1937
170406AM-MS	Matrix Spike	0406M25	04/06/17 2159
170406AM-MSD	Matrix SpikeD	0406M26	04/06/17 2228

Comments: Batch: #GRO86-170406A

Printed: 04/11/17 2:17:31 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH290
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53058
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.4	85-114			%	04/06/17	04/06/17

Quant Method:	MGAS6302.M
Run #:	0406M13
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M13.D
Acq On : 6 Apr 17 16:18
Sample : AZ53058W01
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:42 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	259644	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

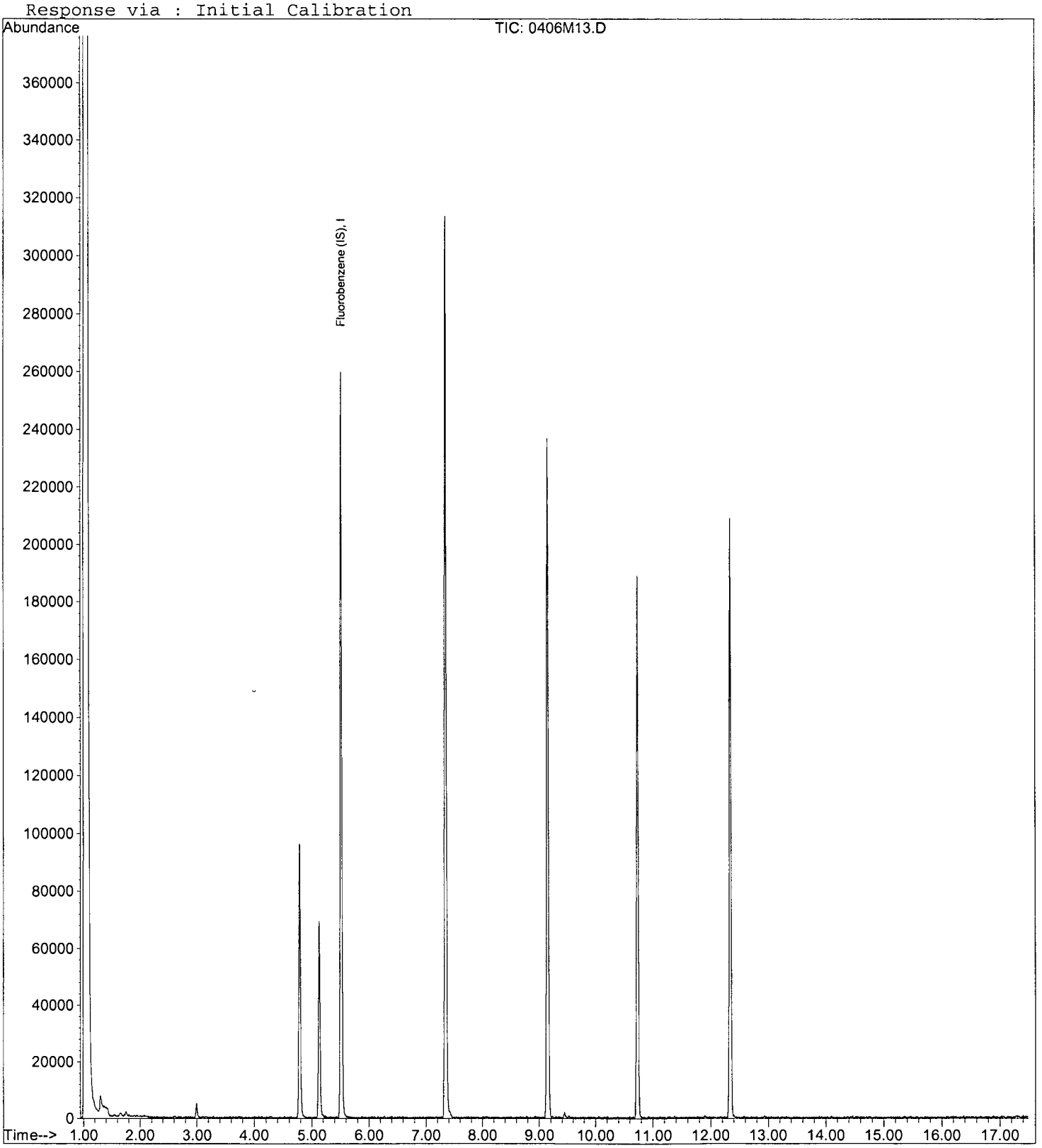
Data File : M:\MAX\DATA\M170404\0406M13.D
Acq On : 6 Apr 17 16:18
Sample : AZ53058W01
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:42 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M13.D Vial: 12
Acq On : 6 Apr 17 16:18 Operator: PM,DG,SV,CMM
Sample : AZ53058W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	238507	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	159624	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68056	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	57791	25.72654 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.908%	
3) 1,2-DCA-D4(S)	5.13	65	45831	26.04520 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.180%	
5) Toluene-D8(S)	7.34	98	236791	25.43095 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.724%	
6) 4-Bromofluorobenzene(S)	10.73	95	68068	23.60255 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.412%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	04/06/17	04/06/17

Quant Method:	MGAS6302.M
Run #:	0406M16
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M16.D Vial: 15
Acq On : 6 Apr 17 17:44 Operator: PM,DG,SV,CMM
Sample : AZ53059W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	234369	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

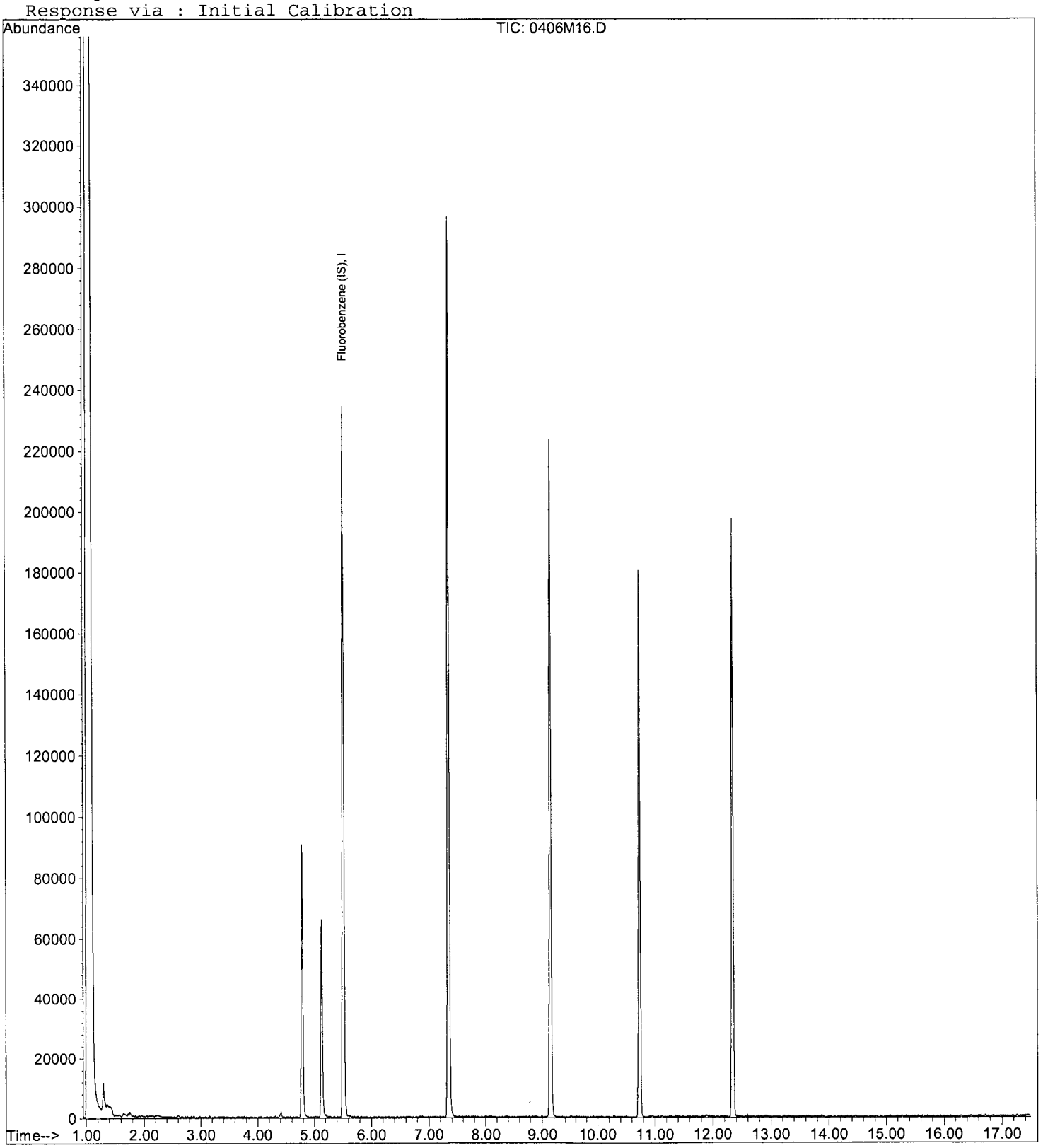
Data File : M:\MAX\DATA\M170404\0406M16.D
Acq On : 6 Apr 17 17:44
Sample : AZ53059W01
Misc : 10ml IS&S: 2/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M16.D Vial: 15
Acq On : 6 Apr 17 17:44 Operator: PM,DG,SV,CMM
Sample : AZ53059W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	216448	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	147175	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	64234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	55267	27.11032 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.440%	
3) 1,2-DCA-D4(S)	5.13	65	42920	26.87668 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.508%	
5) Toluene-D8(S)	7.35	98	224783	26.18333 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.732%	
6) 4-Bromofluorobenzene(S)	10.73	95	65309	24.56140 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.244%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH293
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53060
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	99.1	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.M
Run #: 0406M17
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M17.D Vial: 16
Acq On : 6 Apr 17 18:12 Operator: PM,DG,SV,CMM
Sample : AZ53060W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	231074	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

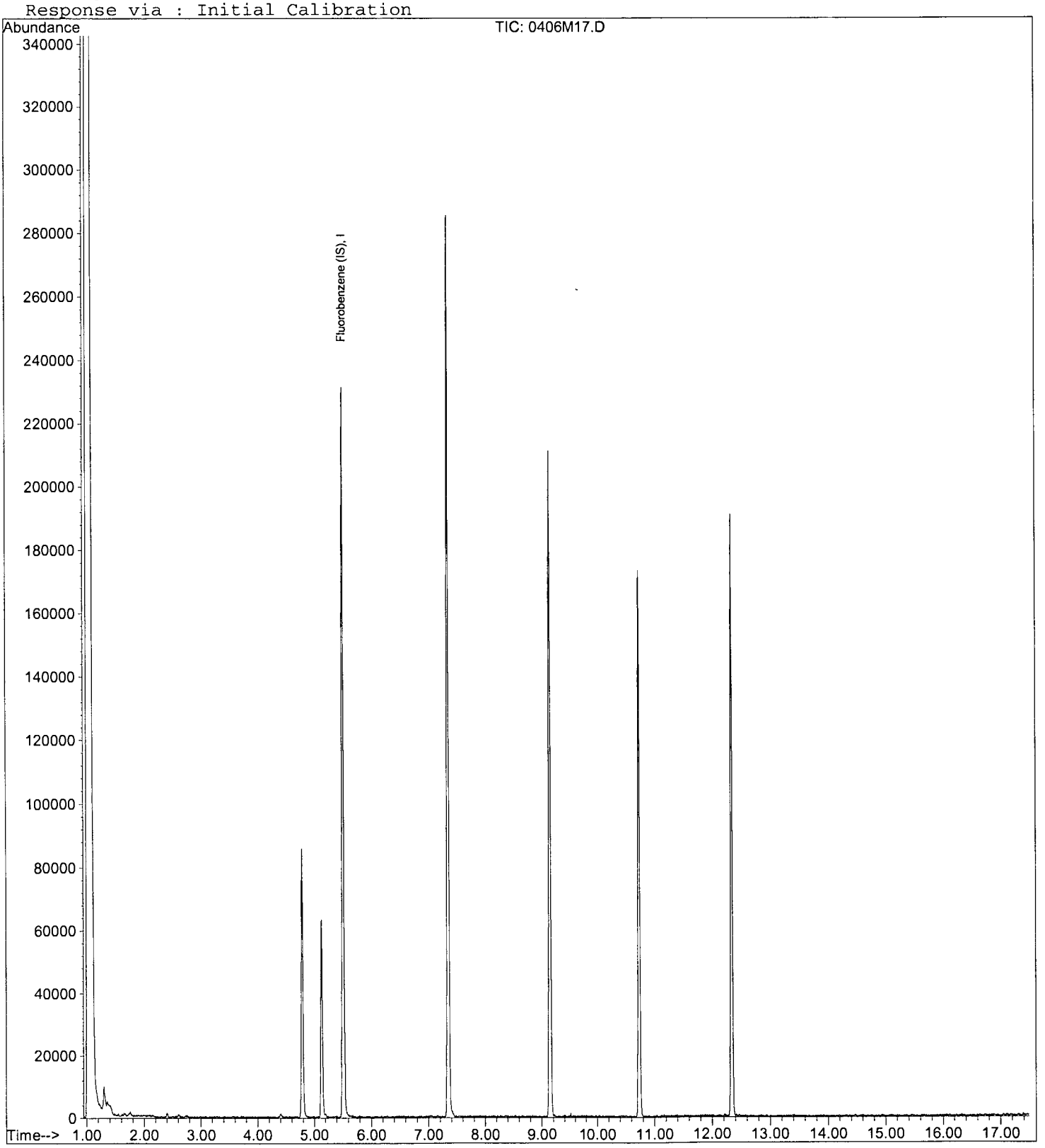
Data File : M:\MAX\DATA\M170404\0406M17.D
Acq On : 6 Apr 17 18:12
Sample : AZ53060W01
Misc : 10ml IS&S: 2/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M17.D Vial: 16
Acq On : 6 Apr 17 18:12 Operator: PM,DG,SV,CMM
Sample : AZ53060W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	214309	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	142814	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	60746	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	51723	25.62510 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.500%	
3) 1,2-DCA-D4(S)	5.13	65	41936	26.52260 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.092%	
5) Toluene-D8(S)	7.34	98	217158	26.06757 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.272%	
6) 4-Bromofluorobenzene(S)	10.73	95	63895	24.76339 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.052%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH294
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53061
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.M
Run #: 0406M14
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M14.D Vial: 13
Acq On : 6 Apr 17 16:47 Operator: PM,DG,SV,CMM
Sample : AZ53061W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	252556	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

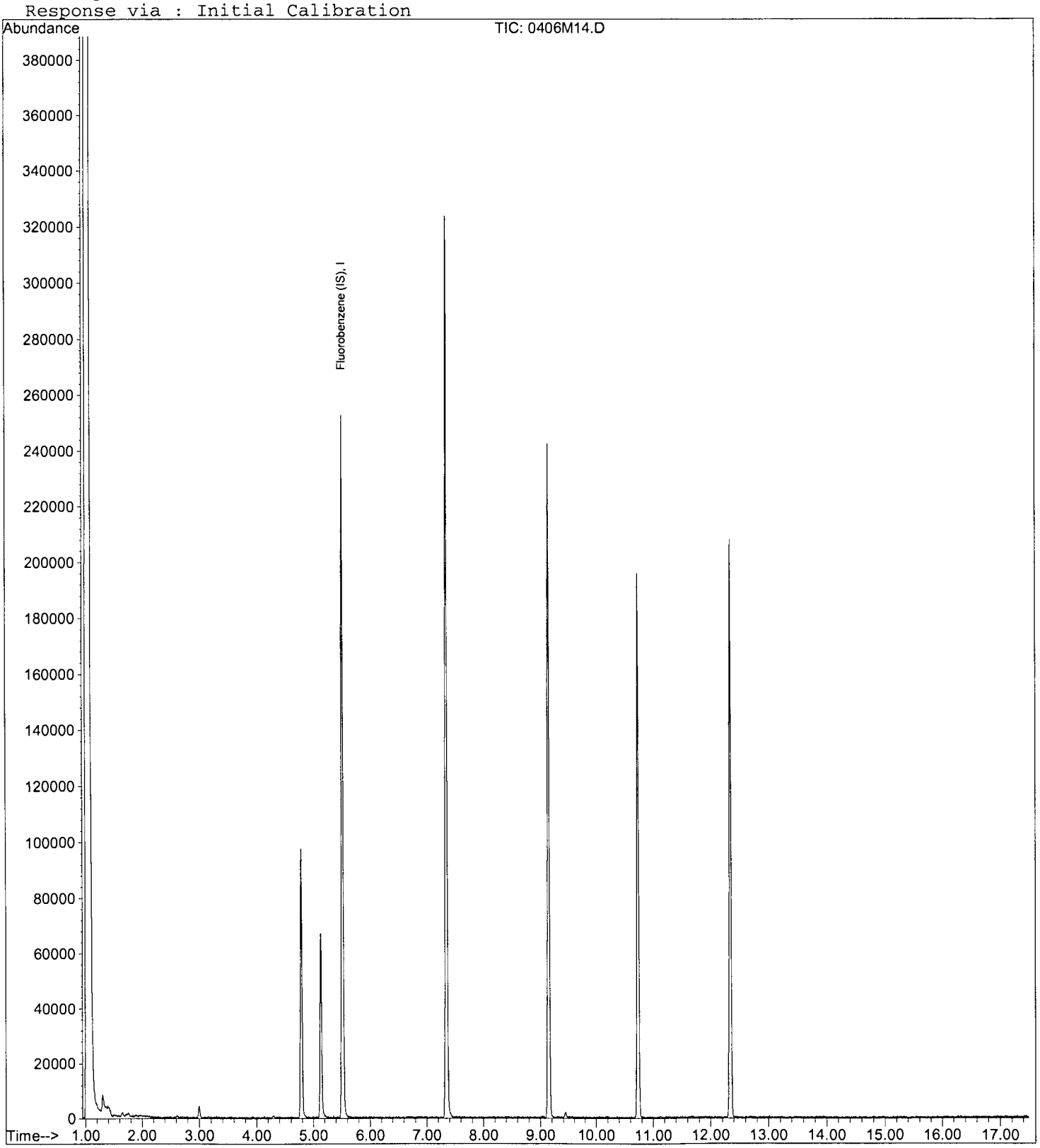
Data File : M:\MAX\DATA\M170404\0406M14.D
Acq On : 6 Apr 17 16:47
Sample : AZ53061W01
Misc : 10ml IS&S: 2/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M14.D Vial: 13
Acq On : 6 Apr 17 16:47 Operator: PM,DG,SV,CMM
Sample : AZ53061W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	236782	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	160462	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68039	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58701	26.32202 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.288%	
3) 1,2-DCA-D4(S)	5.13	65	45041	25.78272 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.132%	
5) Toluene-D8(S)	7.35	98	243887	26.05625 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.224%	
6) 4-Bromofluorobenzene(S)	10.73	95	70458	24.30369 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.216%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.0	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.M
Run #: 0406M18
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M18.D
Acq On : 6 Apr 17 18:40
Sample : AZ53062W01
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	235190	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

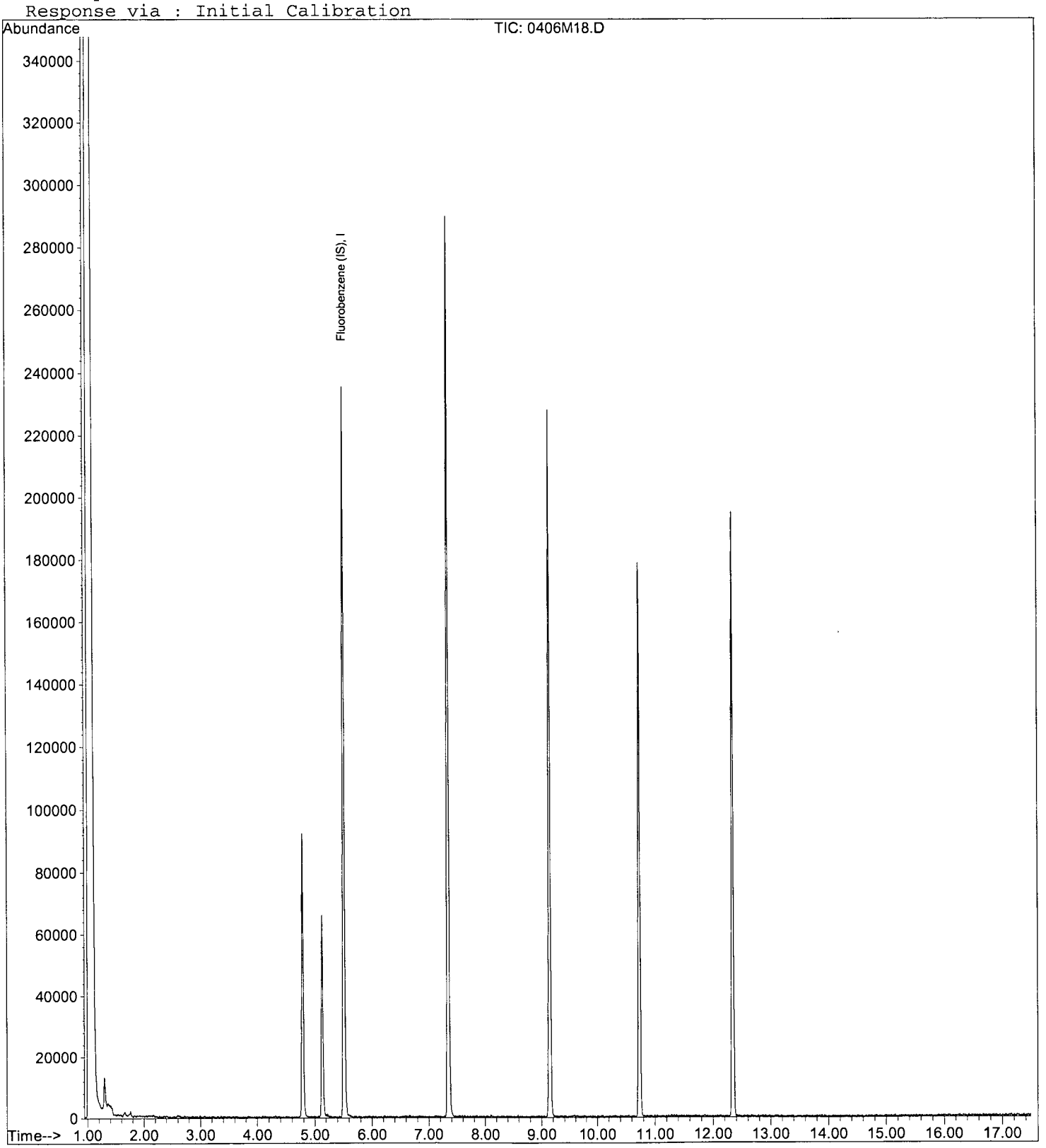
Data File : M:\MAX\DATA\M170404\0406M18.D
Acq On : 6 Apr 17 18:40
Sample : AZ53062W01
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M18.D Vial: 17
Acq On : 6 Apr 17 18:40 Operator: PM,DG,SV,CMM
Sample : AZ53062W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:56 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	221447	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	150130	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	64402	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	54175	25.97475 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.900%	
3) 1,2-DCA-D4(S)	5.13	65	43070	26.36177 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.448%	
5) Toluene-D8(S)	7.34	98	220576	25.18757 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.752%	
6) 4-Bromofluorobenzene(S)	10.73	95	64404	23.74430 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.976%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH287
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53063
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.7	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.M
Run #: 0406M15
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M15.D Vial: 14
Acq On : 6 Apr 17 17:15 Operator: PM,DG,SV,CMM
Sample : AZ53063W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	252286	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0406M15.D MGAS6302.M Fri Apr 07 09:49:24 2017 Page 1

Quantitation Report

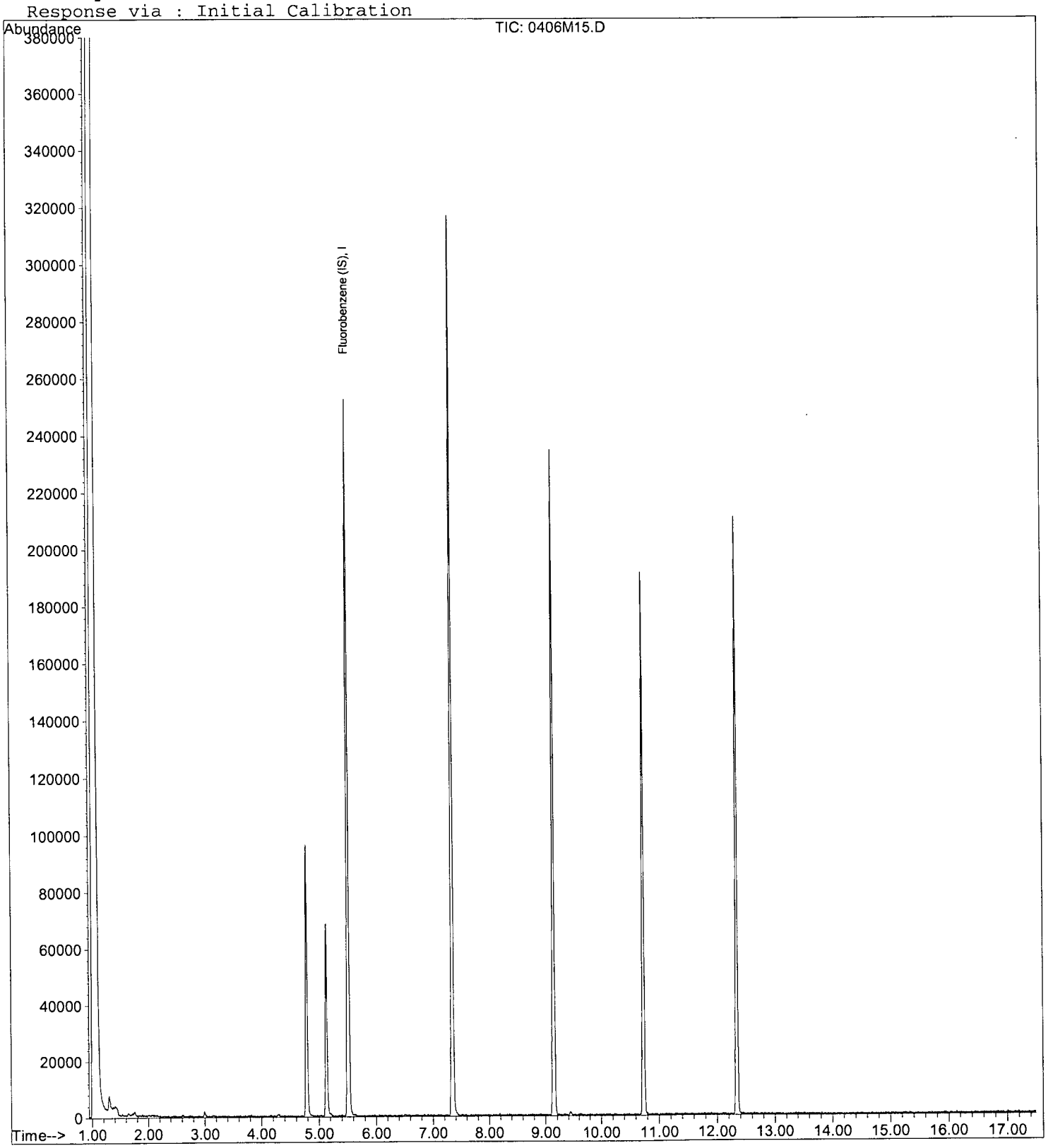
Data File : M:\MAX\DATA\M170404\0406M15.D
Acq On : 6 Apr 17 17:15
Sample : AZ53063W01
Misc : 10ml IS&S: 2/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M15.D Vial: 14
Acq On : 6 Apr 17 17:15 Operator: PM,DG,SV,CMM
Sample : AZ53063W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	233962	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	158285	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68747	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58009	26.32524 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.300%	
3) 1,2-DCA-D4(S)	5.13	65	45401	26.30205 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.208%	
5) Toluene-D8(S)	7.34	98	236812	25.64835 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.592%	
6) 4-Bromofluorobenzene(S)	10.73	95	68384	23.91271 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.652%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH288
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53064
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.8	85-114			%	04/06/17	04/06/17

Quant Method:	MGAS6302.M
Run #:	0406M19
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M19.D Vial: 18
Acq On : 6 Apr 17 19:09 Operator: PM,DG,SV,CMM
Sample : AZ53064W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:43 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	250257	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

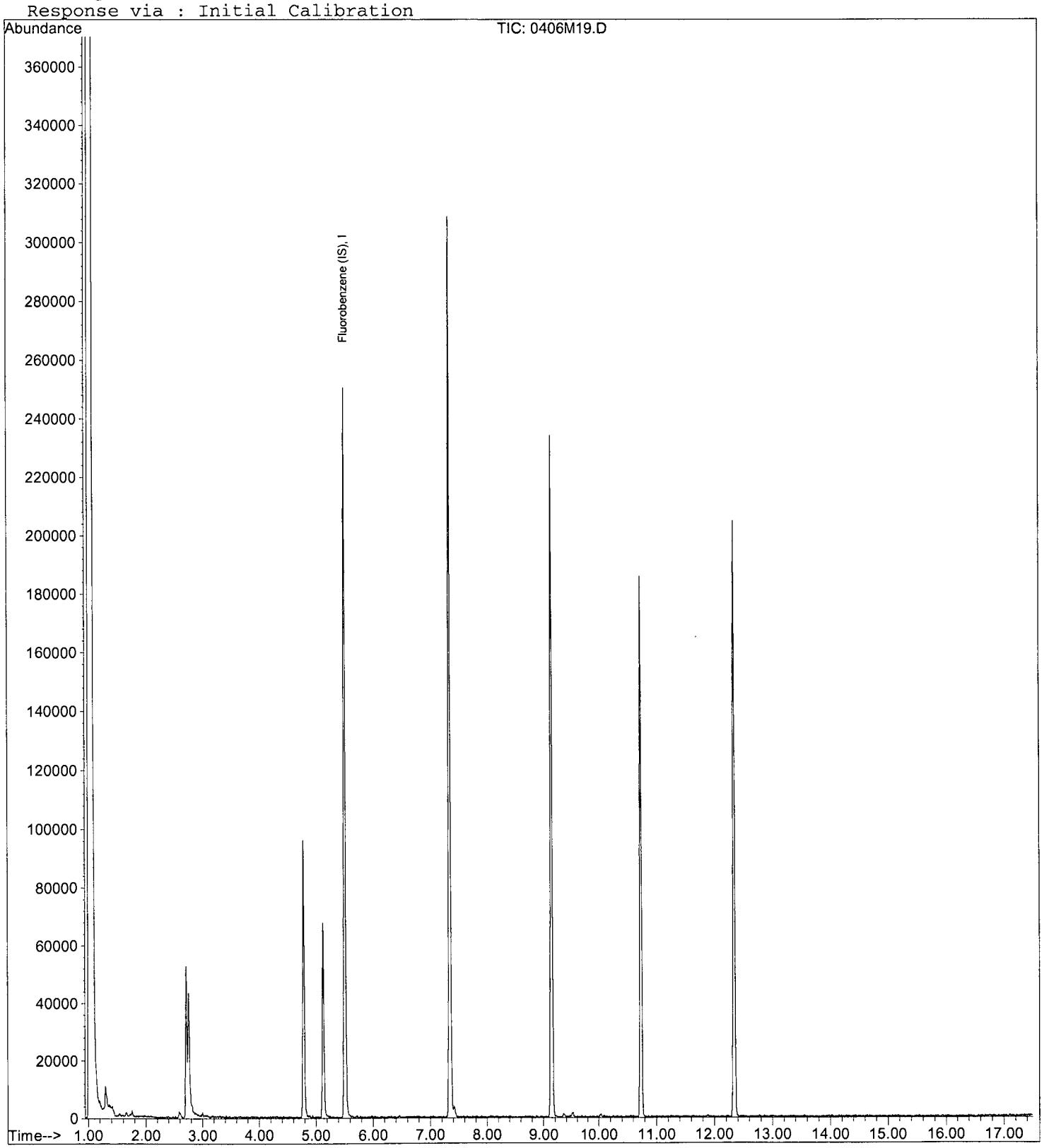
Data File : M:\MAX\DATA\M170404\0406M19.D
Acq On : 6 Apr 17 19:09
Sample : AZ53064W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:43 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M19.D
Acq On : 6 Apr 17 19:09
Sample : AZ53064W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:56 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	232198	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	157366	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	67847	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	56094	25.64958 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.600%	
3) 1,2-DCA-D4(S)	5.13	65	44216	25.81014 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.240%	
5) Toluene-D8(S)	7.34	98	229962	25.05190 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.208%	
6) 4-Bromofluorobenzene(S)	10.73	95	68102	23.95317 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.812%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH316
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53065
QCG: #GRO86-170406AM-217573

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.5	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.M
Run #: 0406M20
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/11/17 2:17:35 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M20.D
Acq On : 6 Apr 17 19:37
Sample : AZ53065W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:44 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	253446	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

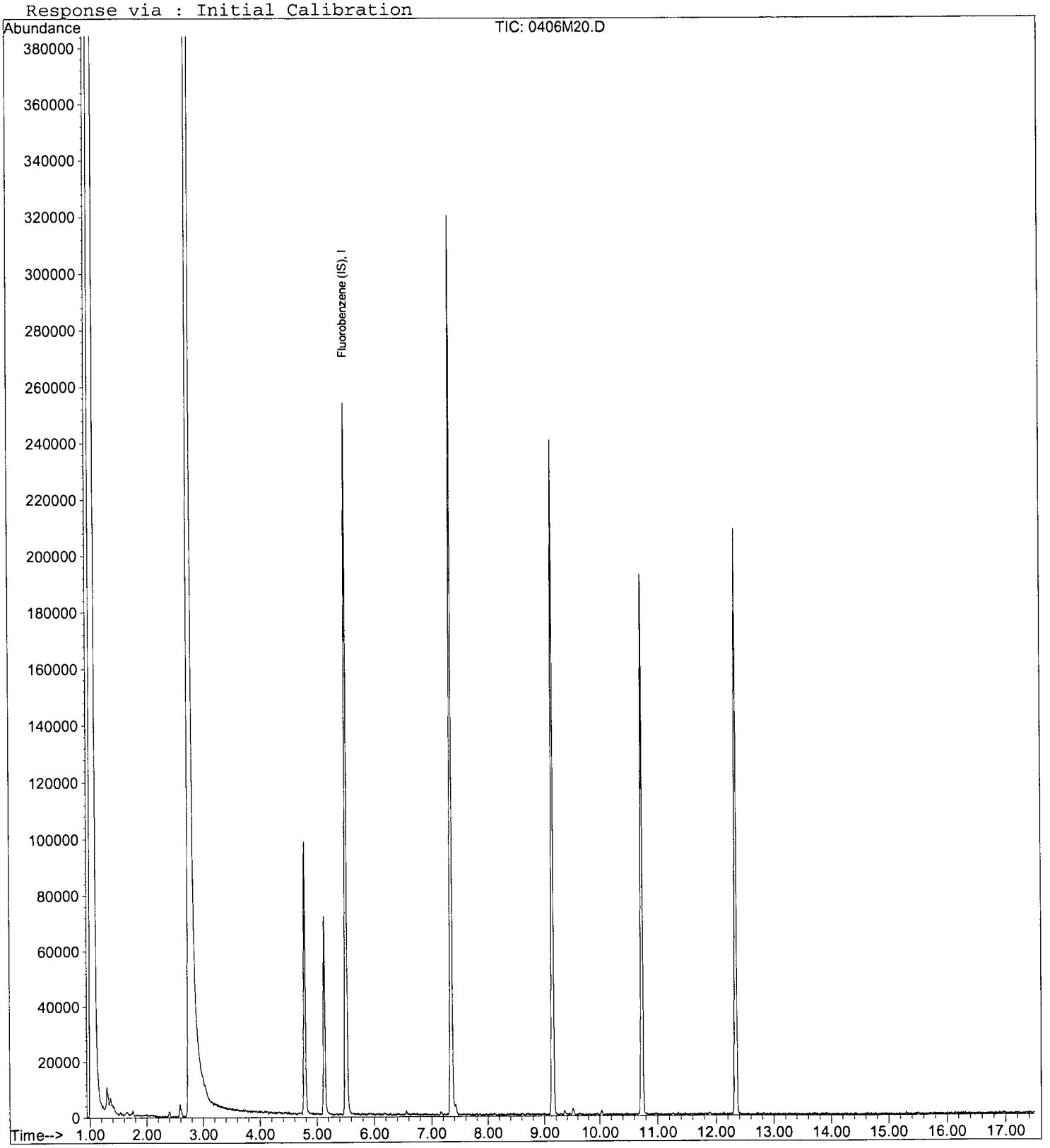
Data File : M:\MAX\DATA\M170404\0406M20.D
Acq On : 6 Apr 17 19:37
Sample : AZ53065W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:44 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M20.D
Acq On : 6 Apr 17 19:37
Sample : AZ53065W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:56 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	237967	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	161588	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	67878	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	57917	25.84114 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.364%	
3) 1,2-DCA-D4(S)	5.13	65	46194	26.31106 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.244%	
5) Toluene-D8(S)	7.34	98	241518	25.62335 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.492%	
6) 4-Bromofluorobenzene(S)	10.73	95	69713	23.87914 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.516%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
7																
8																
9																
10																
11																
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32																
33																
34																
35																

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

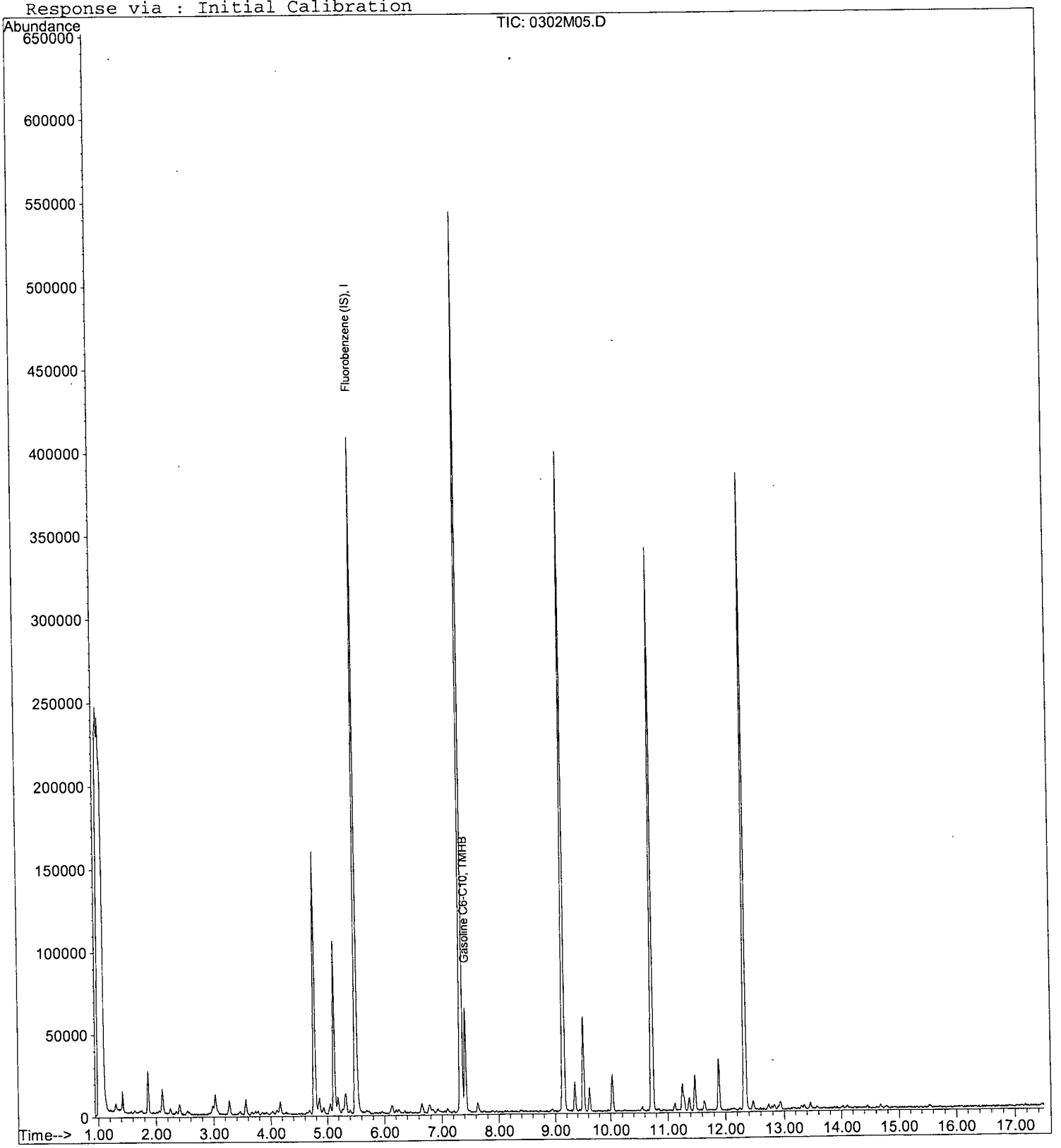
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D Vial: 6
Acq On : 2 Mar 17 9:54 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 03/02/17B Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

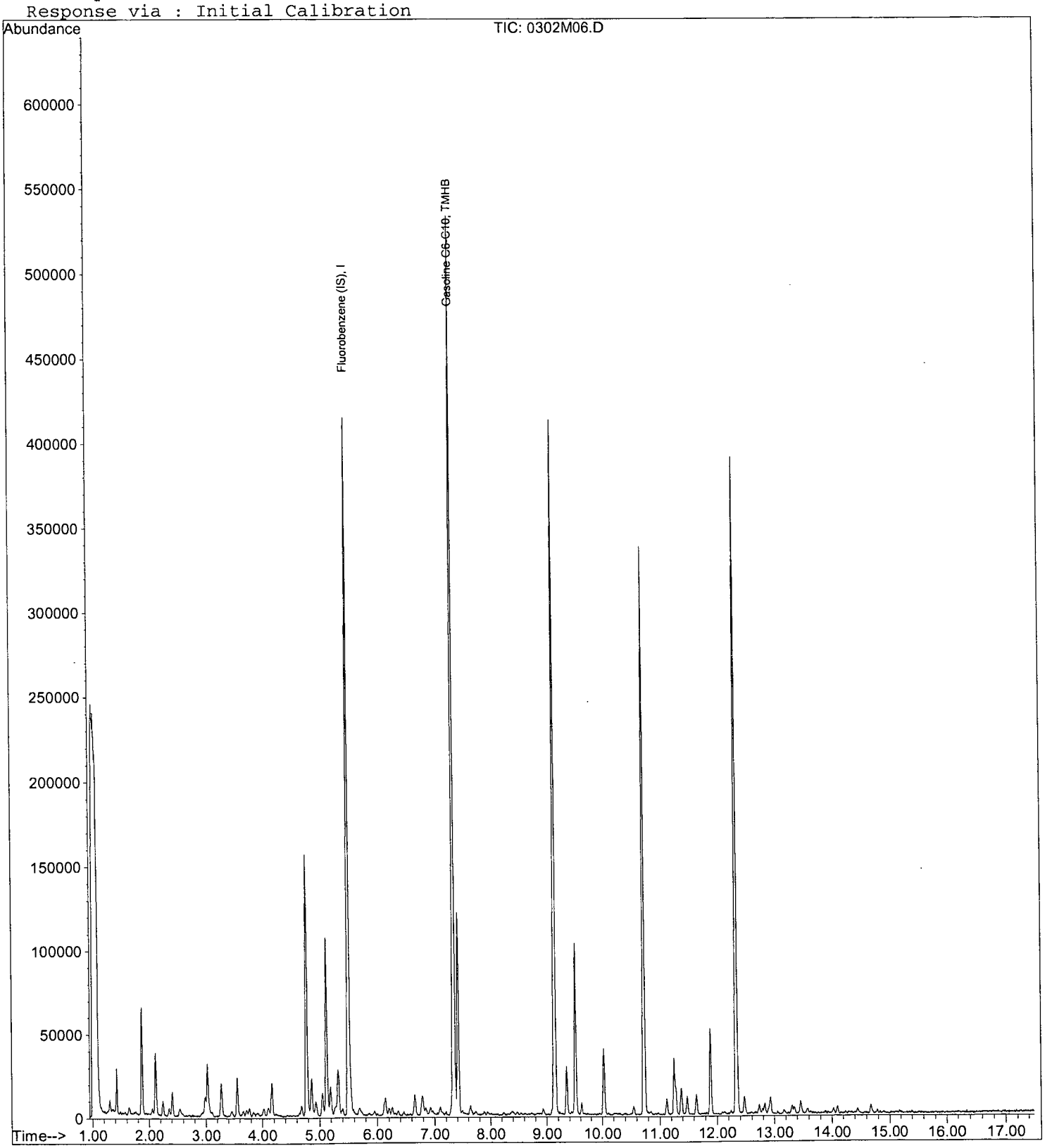
Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M07.D MGAS6302.M Mon Mar 06 11:54:35 2017

Quantitation Report

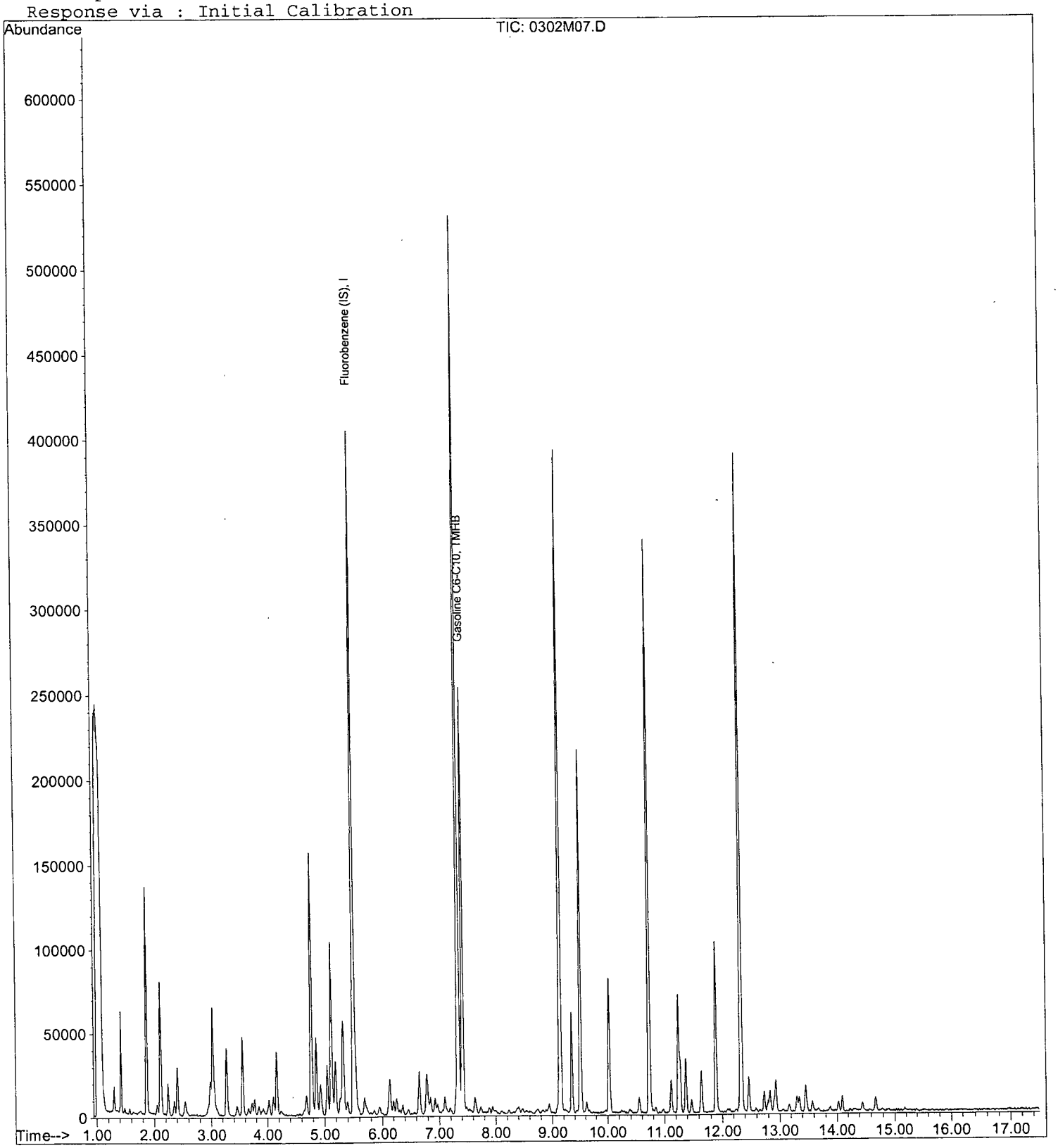
Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

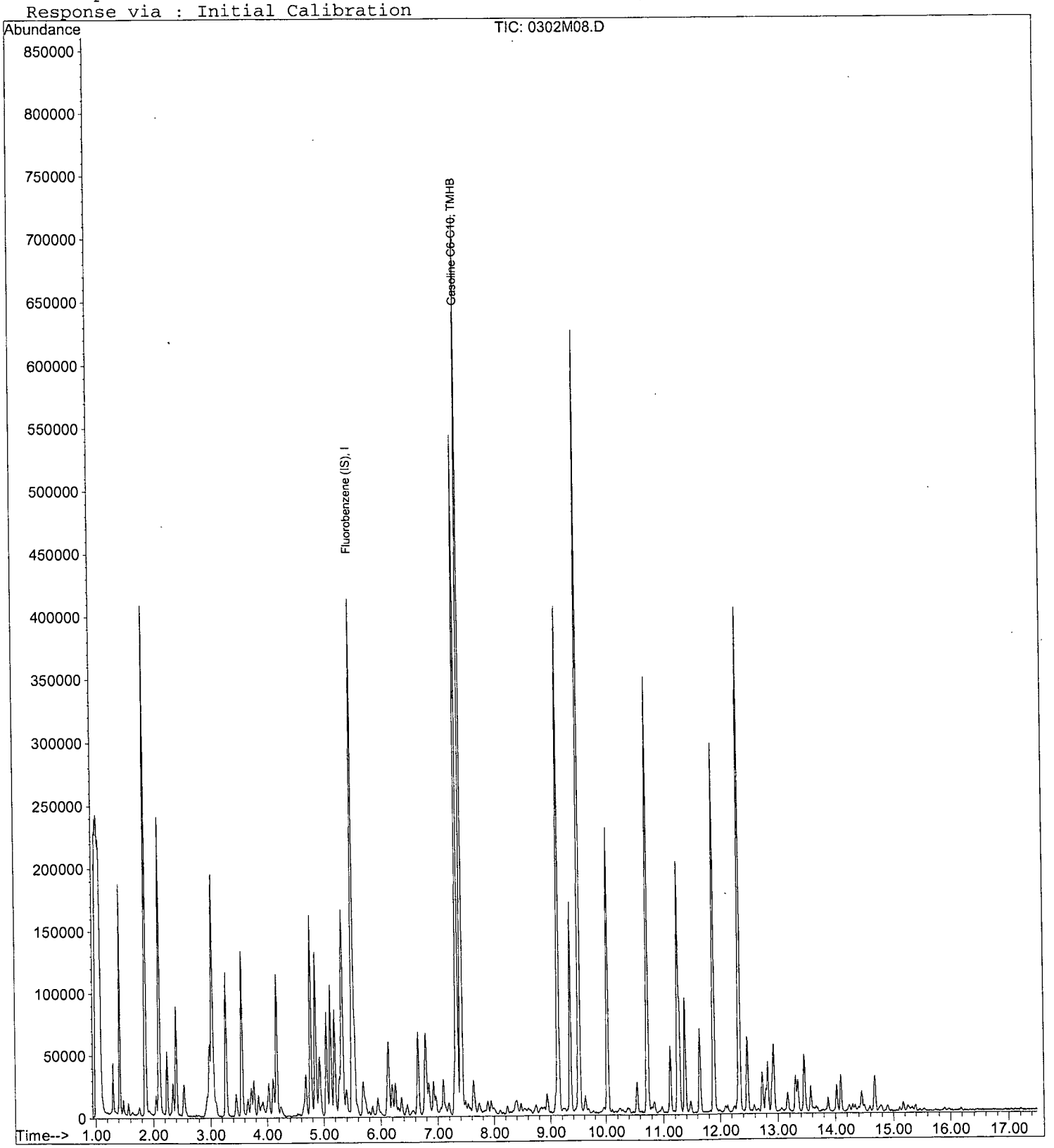
Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration

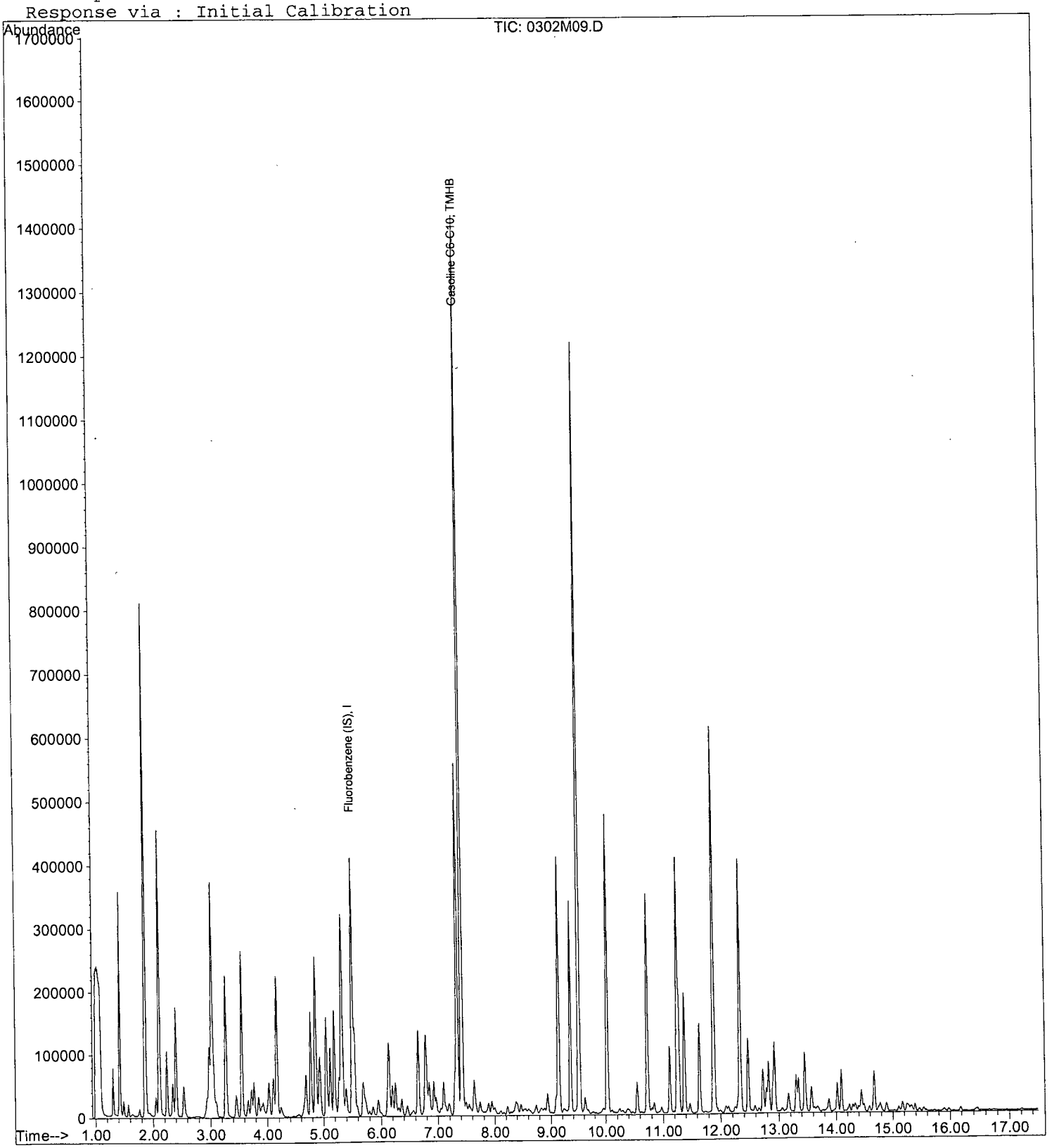
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

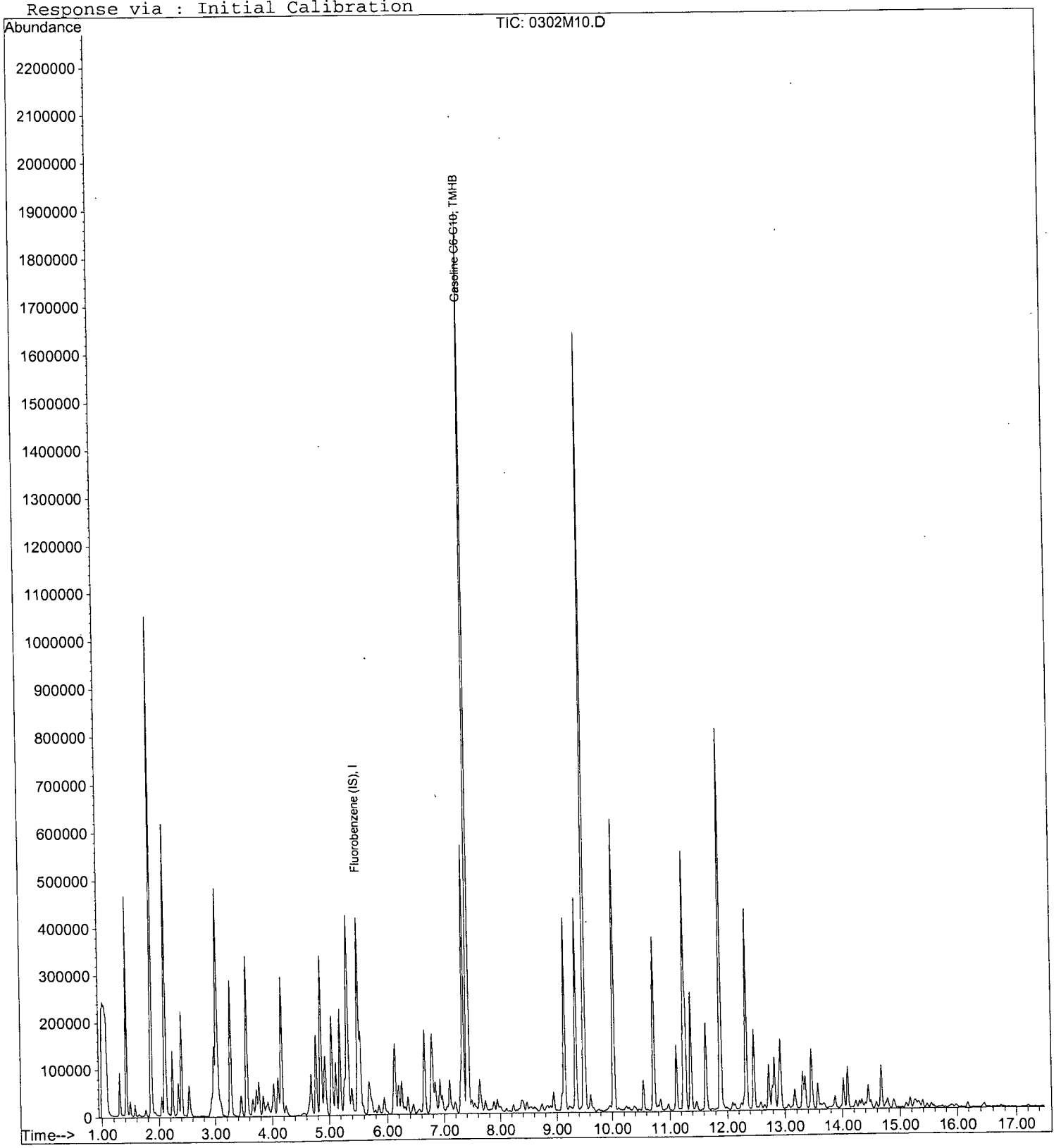
Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717	ppb	100

(#) = qualifier out of range (m) = manual integration
0302M11.D MGAS6302.M Mon Mar 06 11:54:50 2017

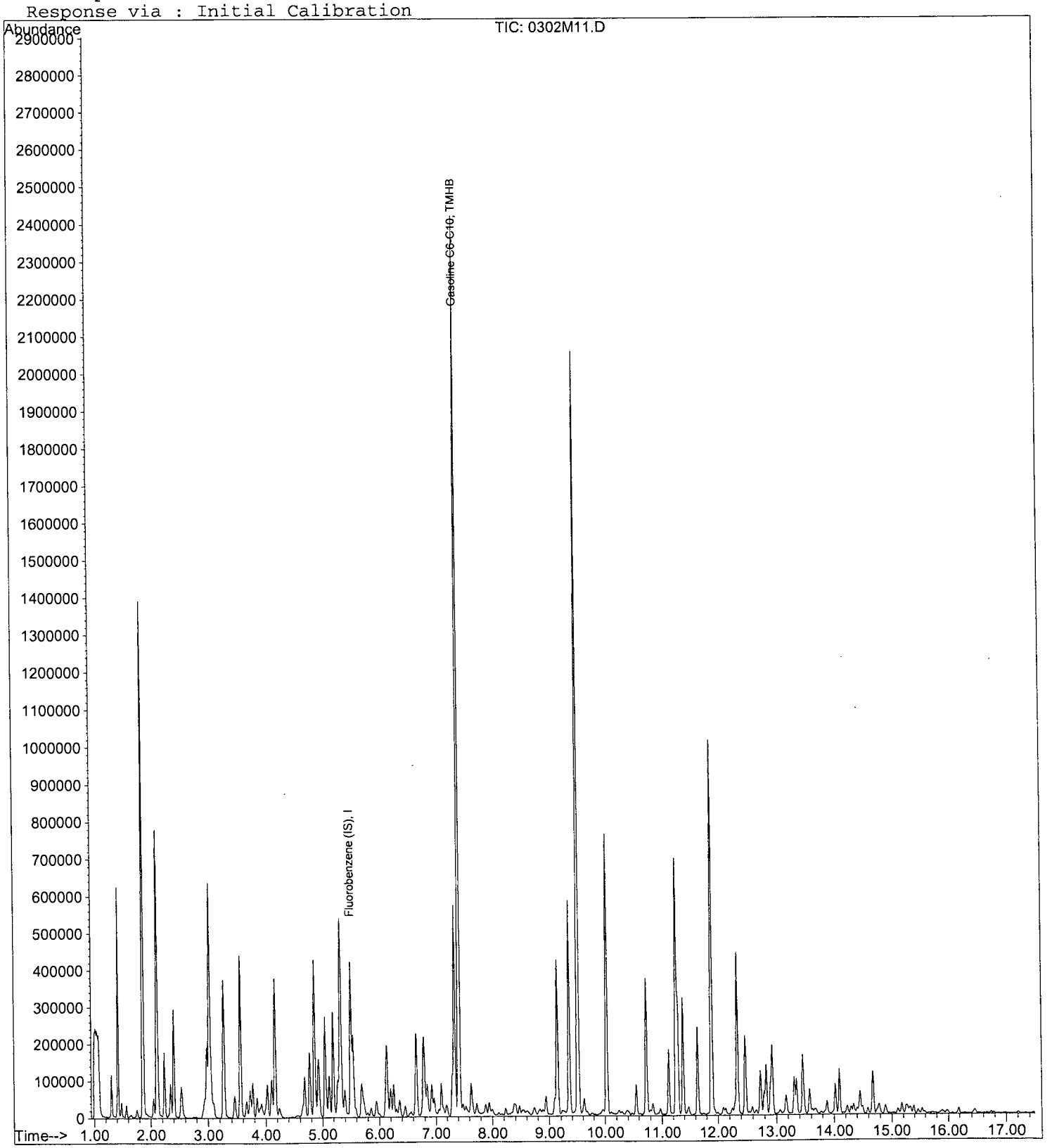
Quantitation Report

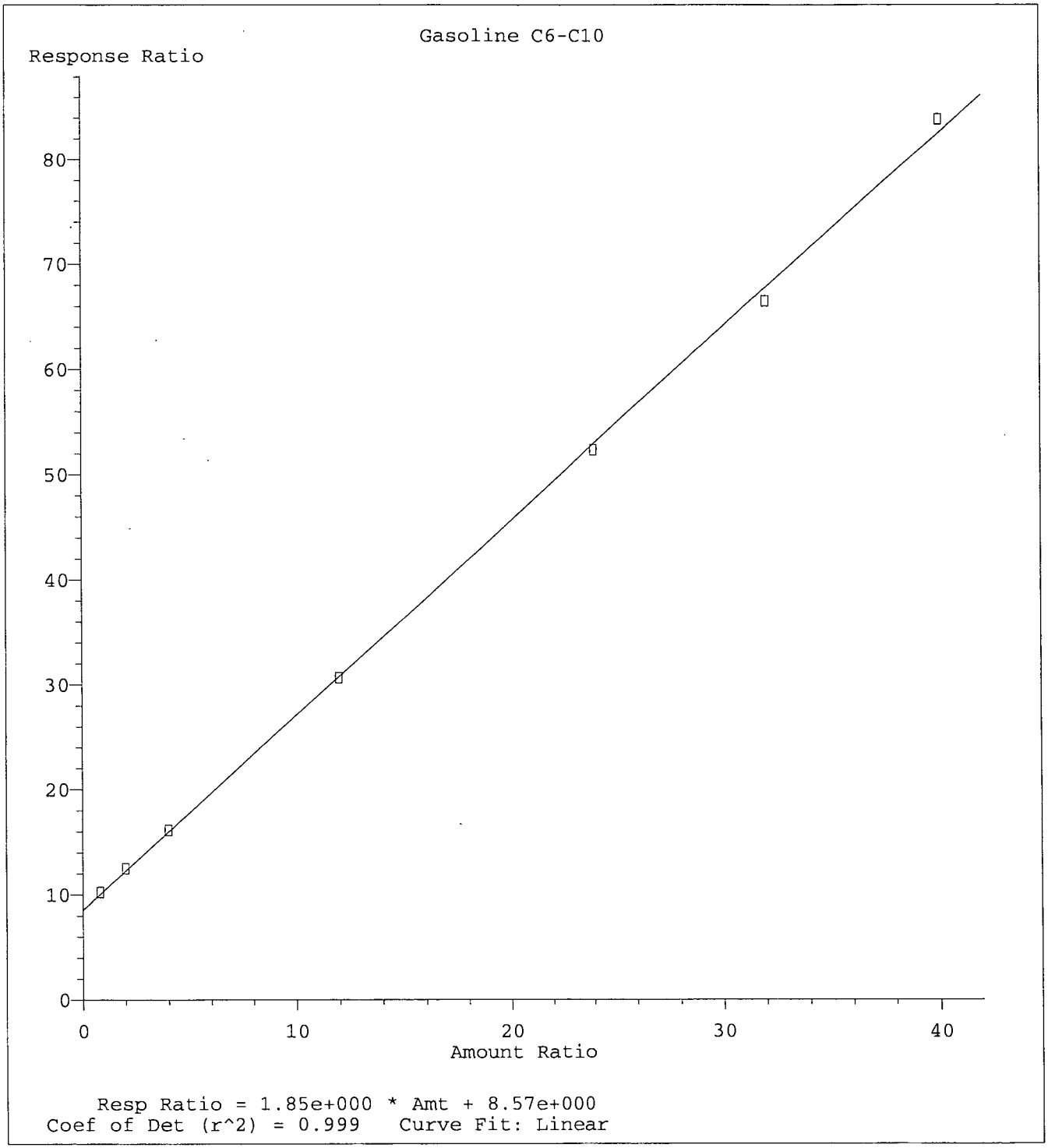
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
7							
8							
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34							
35							
36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D Vial: 13
Acq On : 2 Mar 17 13:13 Operator: PM,DG,SV,CMM
Sample : (SS) 300ppb GAS STD 03/02/17 Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

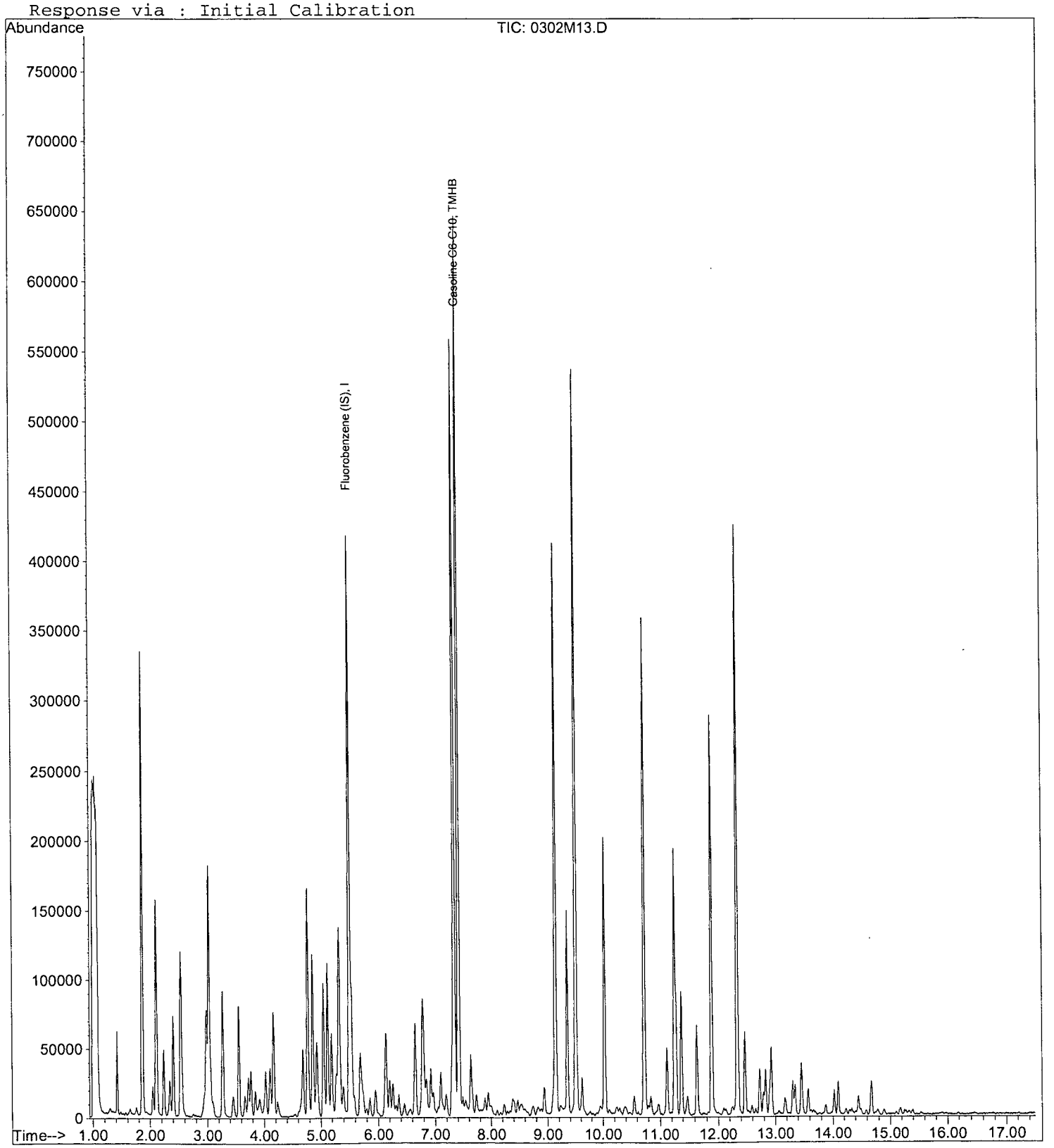
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09.D	0404M10.D	0404M11.D	0404M12 D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
3	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
6	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
9																
10																
11																
12																
13																
14																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
3) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
5) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
6) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

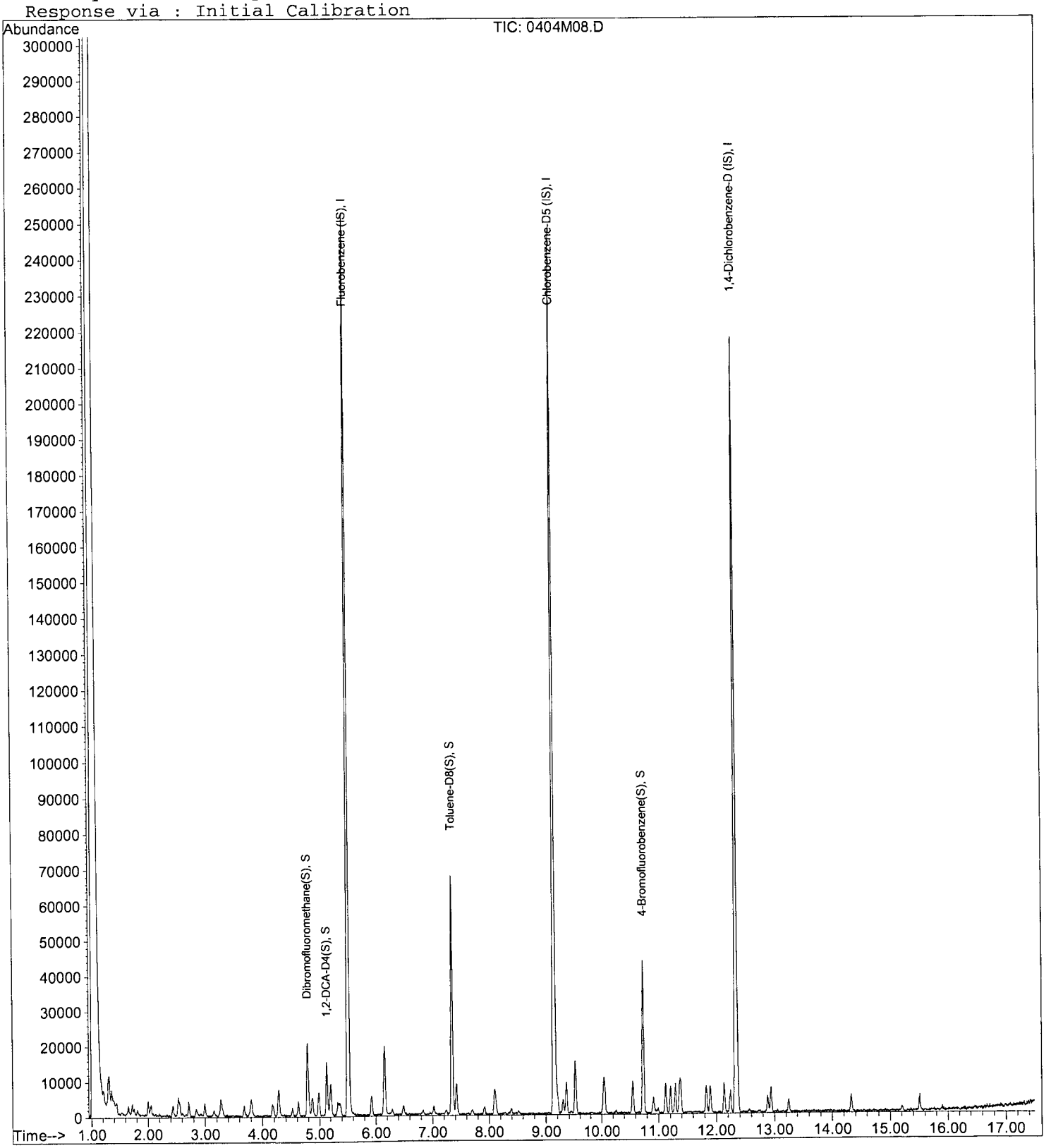
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
3) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
5) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
6) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

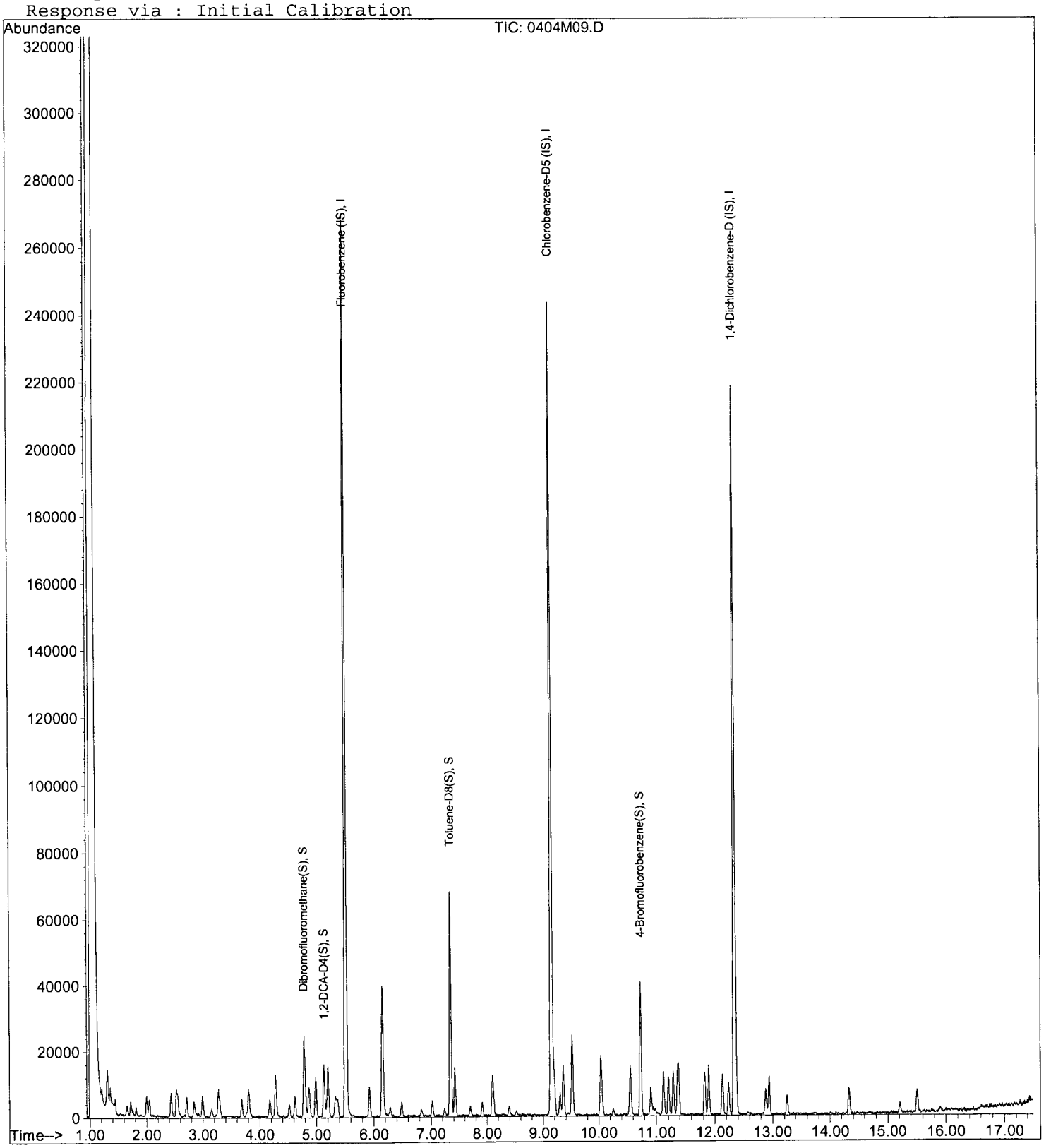
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D Vial: 6
Acq On : 4 Apr 17 11:39 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 04/04/17C Inst : Max
Misc : 2uL-10ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
3) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
5) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
6) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

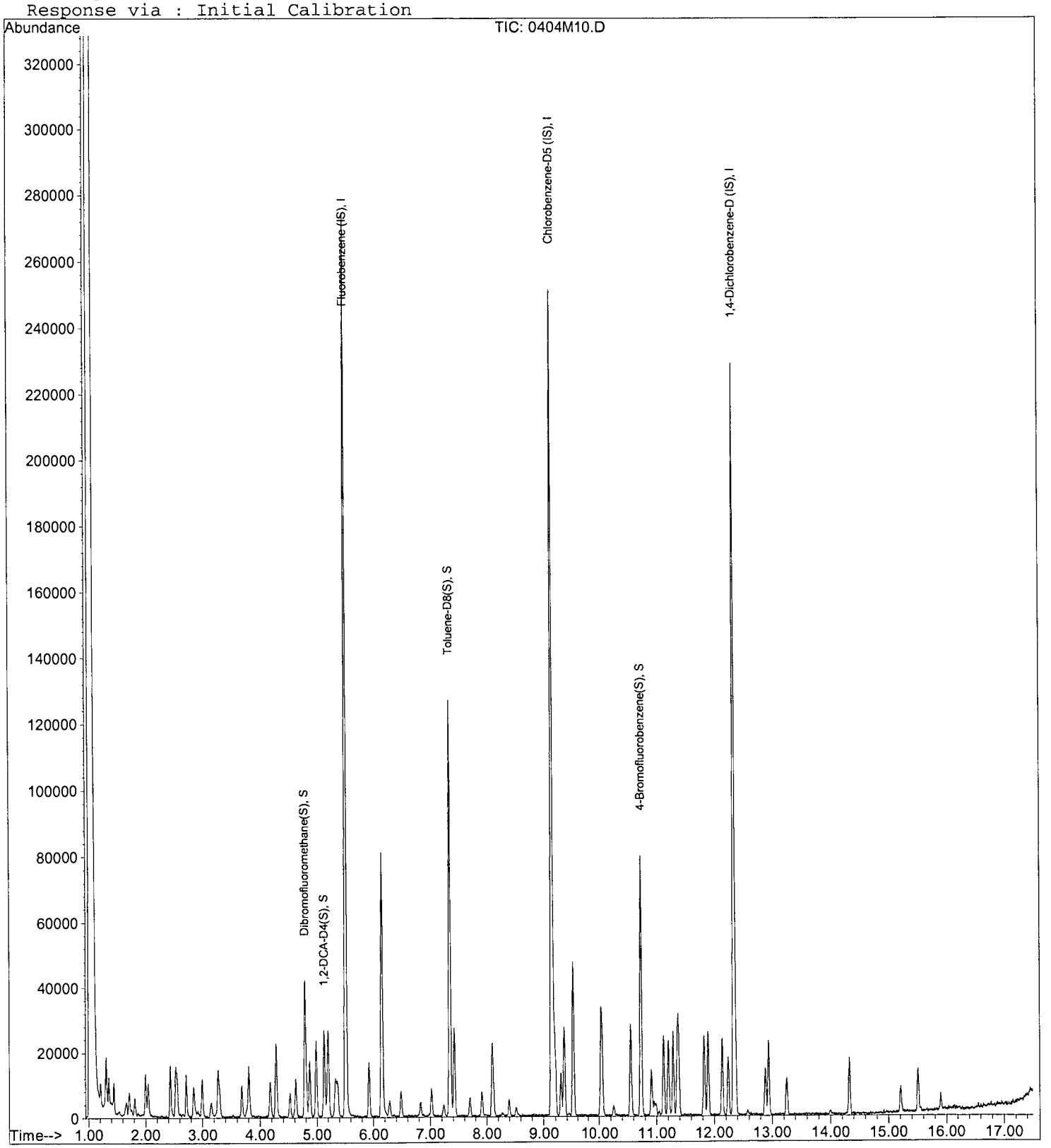
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D Vial: 7
Acq On : 4 Apr 17 12:07 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 04/04/17D Inst : Max
Misc : 2uL-10ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
3) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
5) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
6) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404M11.D MSUR404.M Tue Apr 11 14:47:41 2017

Quantitation Report

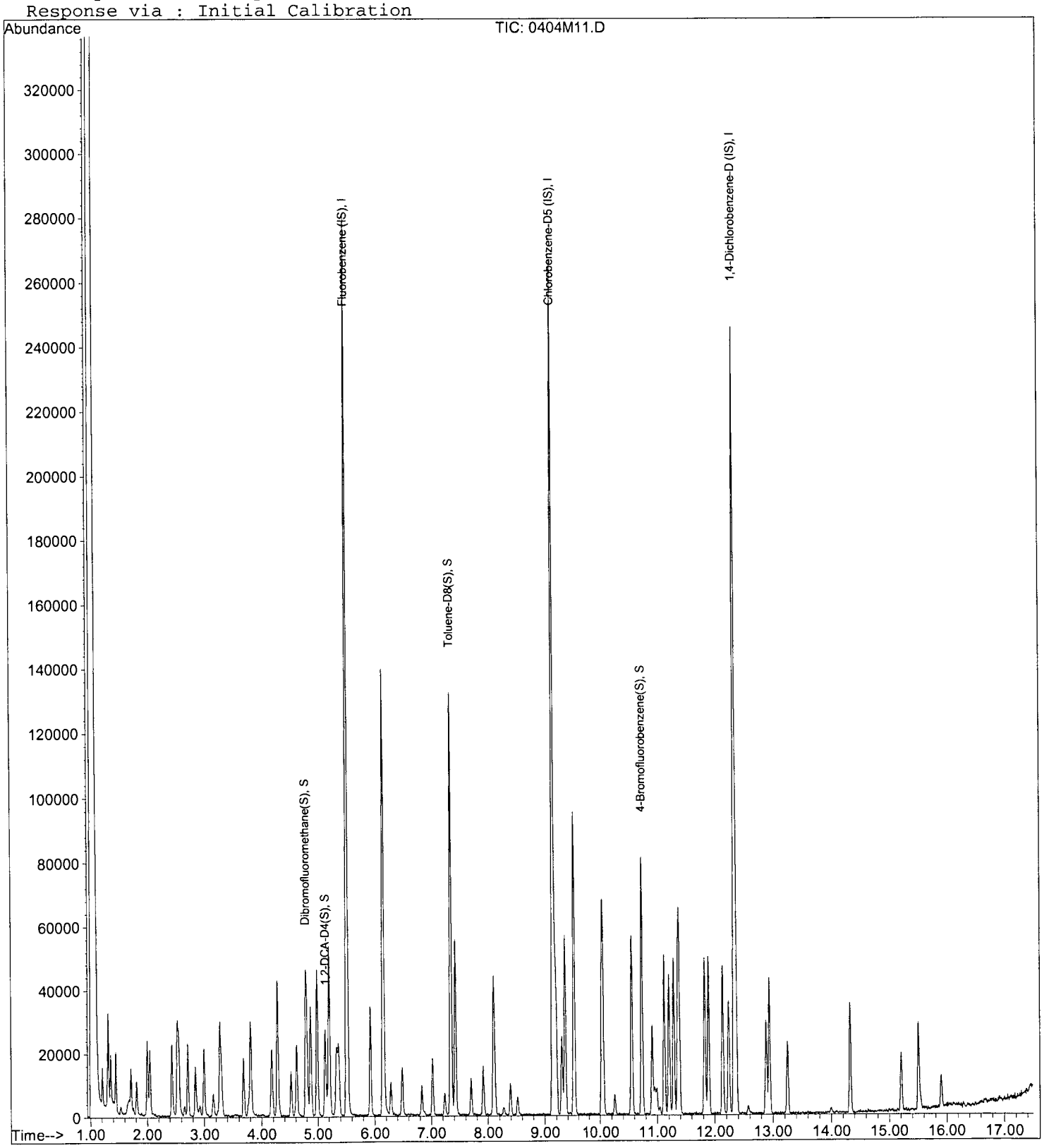
Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
3) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
5) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
6) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

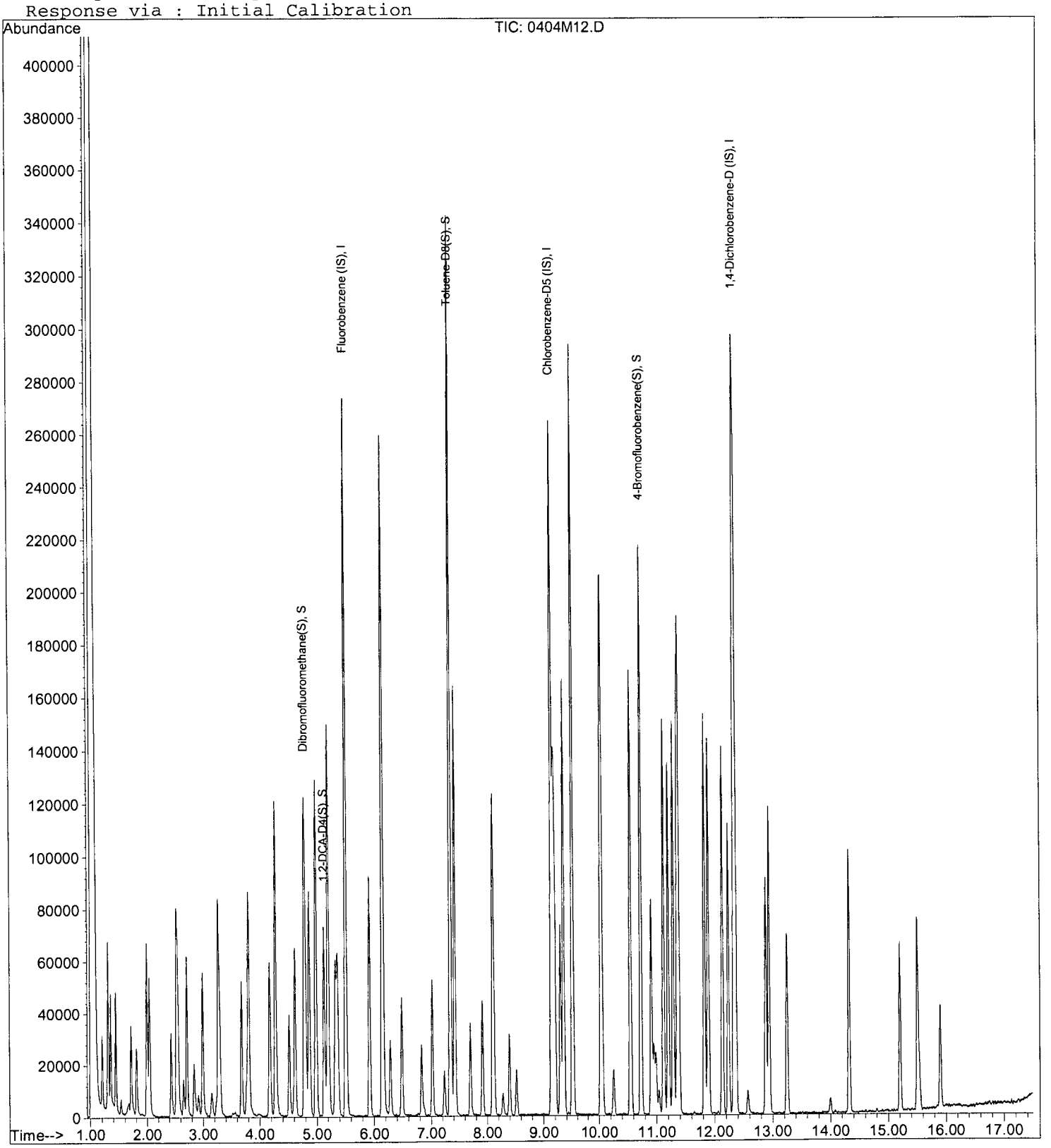
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D Vial: 9
Acq On : 4 Apr 17 13:04 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 04/04/17F Inst : Max
Misc : 5uL-25ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
3) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
5) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
6) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

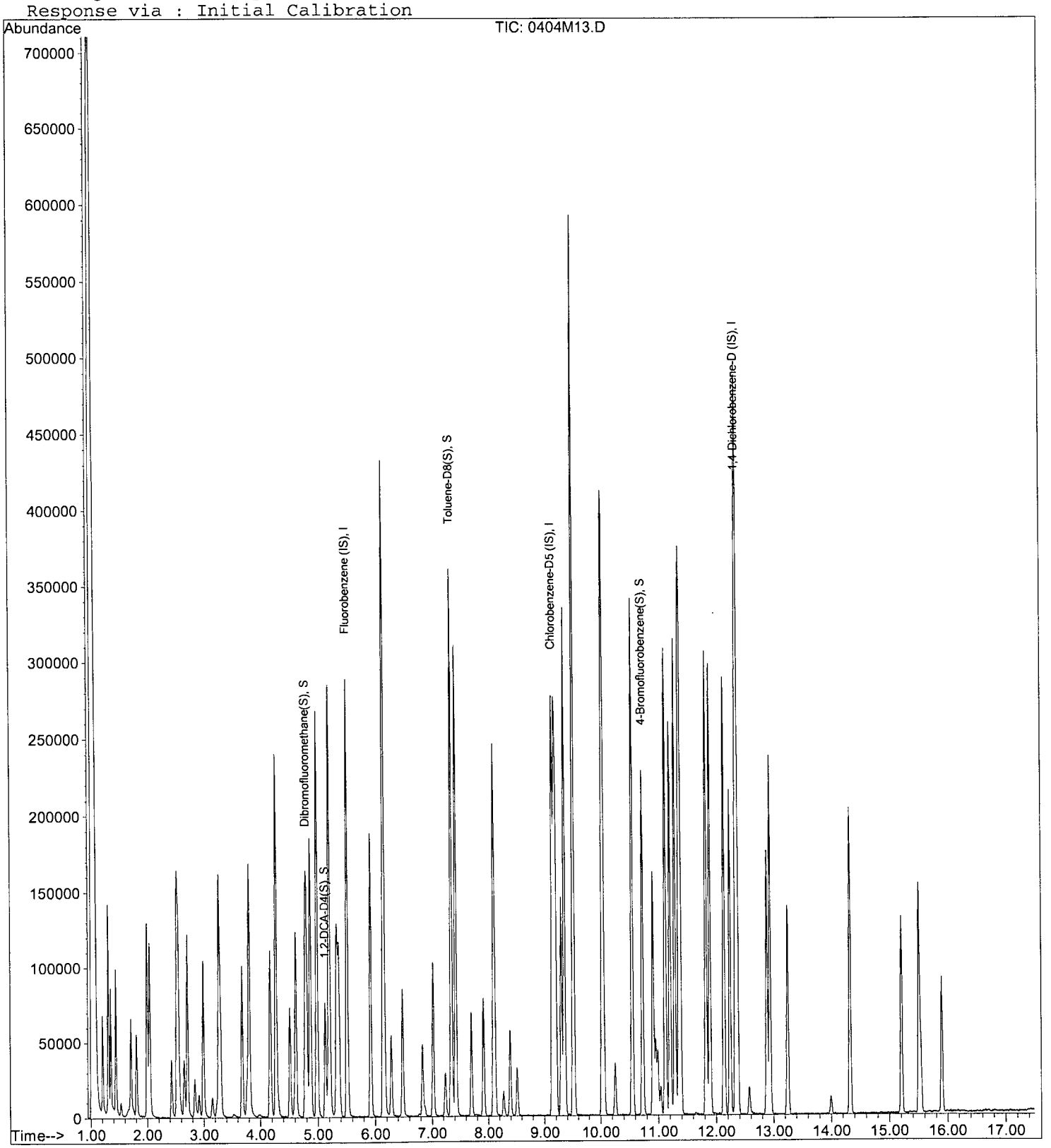
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
3) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
5) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
6) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

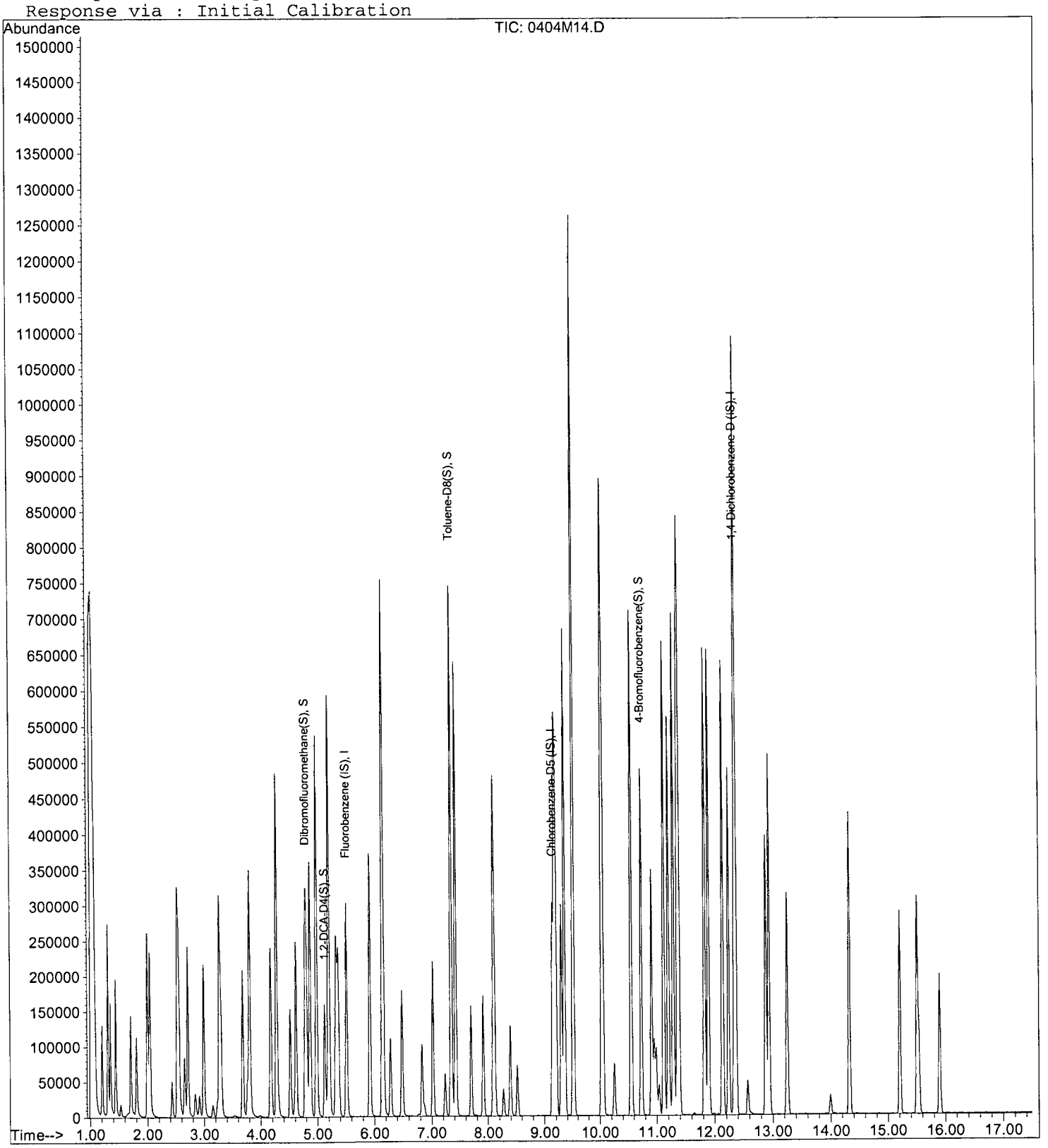
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D Vial: 11
Acq On : 4 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 04/04/17H Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
3) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
5) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
6) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404M15.D MSUR404.M Tue Apr 11 14:48:01 2017

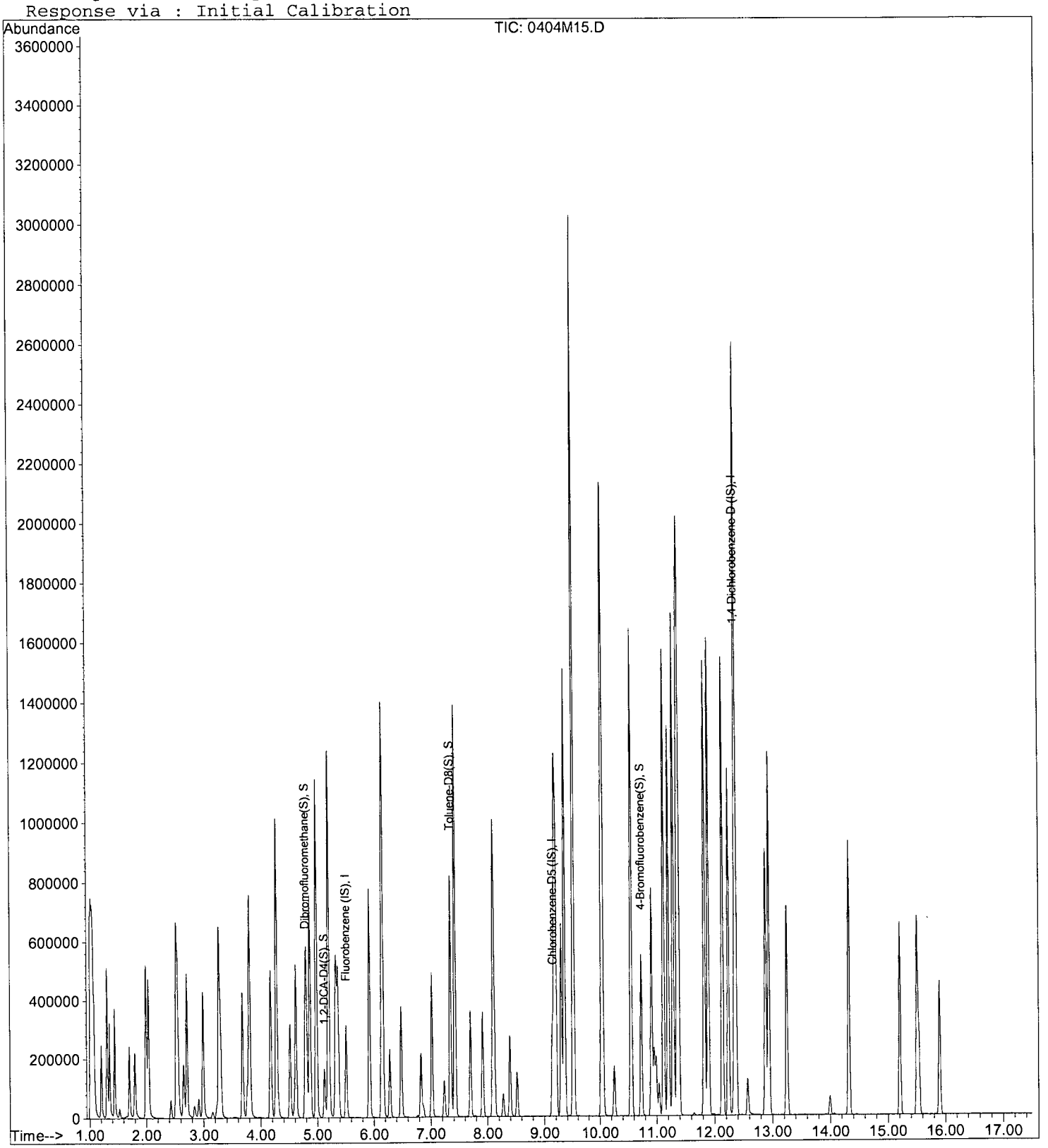
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
3) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
5) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
6) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

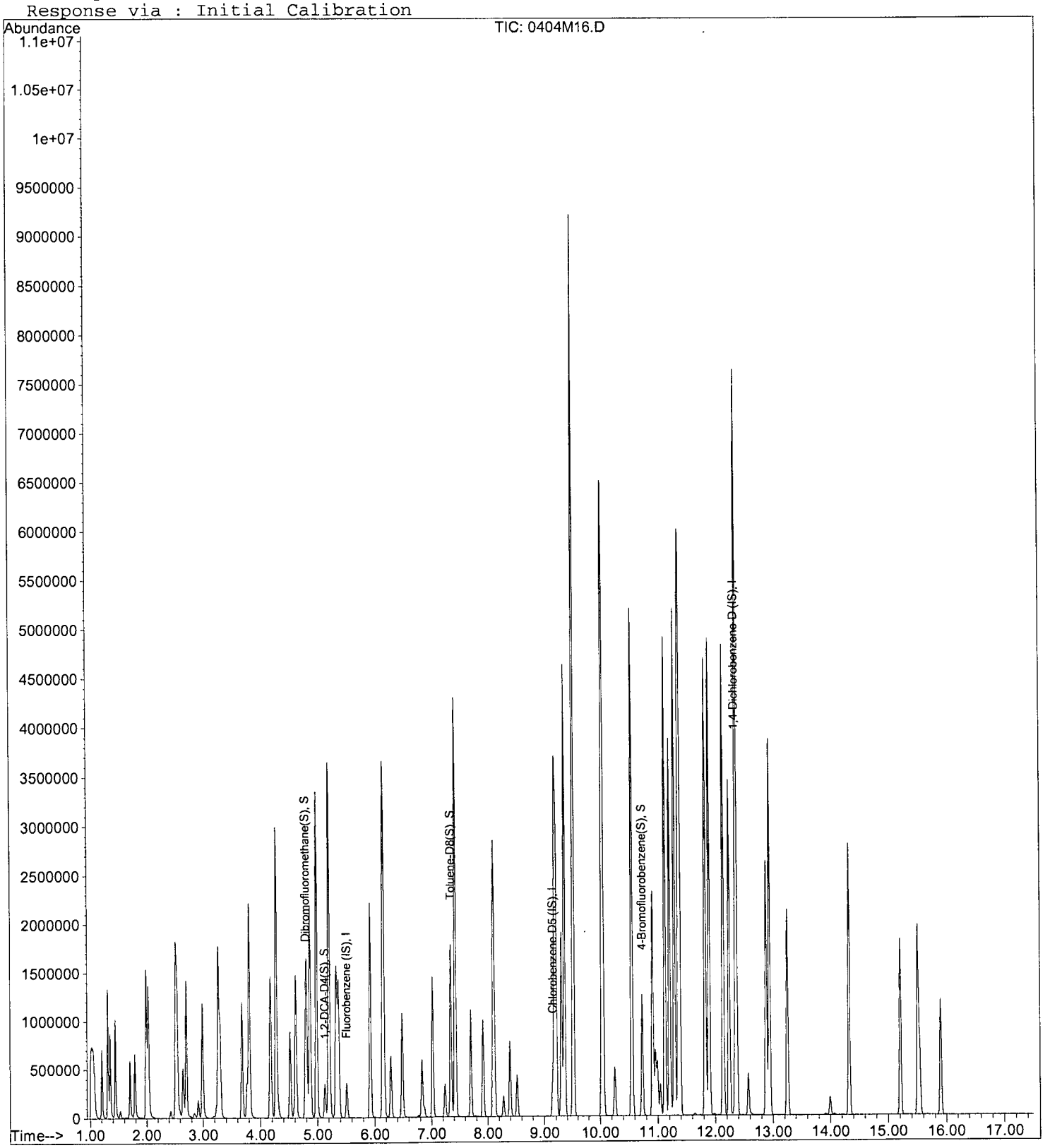
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 6 Apr 17 12:59
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0406M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.417	47	TMHBL	7.9
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			47.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M06.D
Acq On : 6 Apr 17 12:59
Sample : 170406A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:40 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	266524	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	7729495m	276.26810 ppb	100

(#) = qualifier out of range (m) = manual integration

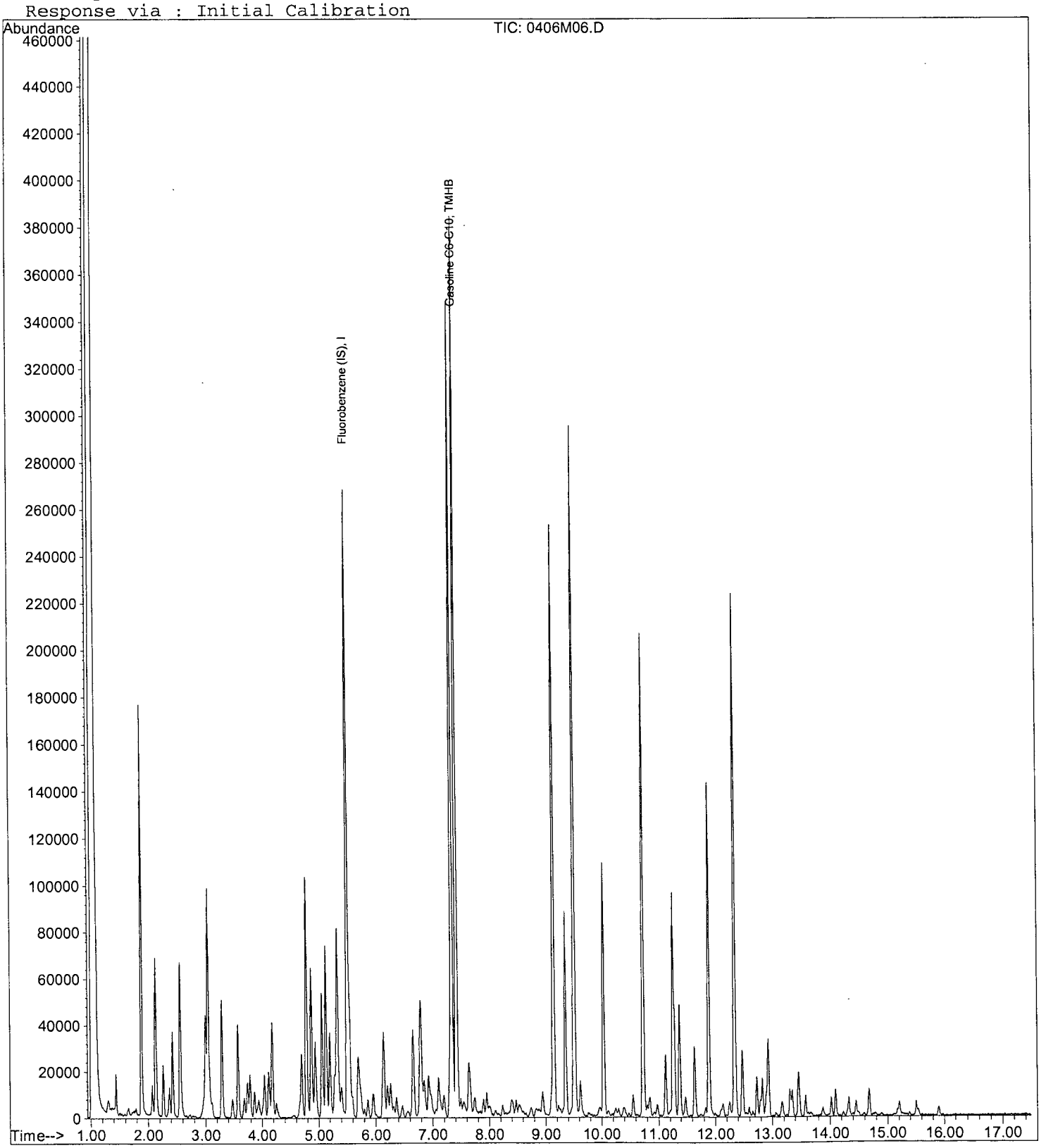
Quantitation Report

Data File : M:\MAX\DATA\M170404\0406M06.D
Acq On : 6 Apr 17 12:59
Sample : 170406A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:40 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 6 Apr 17 12:59
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0406M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2450	4.0	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1955	6.0	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.513	3.8	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4363	3.4	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.3		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M06.D Vial: 5
Acq On : 6 Apr 17 12:59 Operator: PM,DG,SV,CMM
Sample : 170406A CCV 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	249955	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168649	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	71919	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61234	26.01076 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.044%	
3) 1,2-DCA-D4(S)	5.13	65	48863	26.49645 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.984%	
5) Toluene-D8(S)	7.34	98	255199	25.94124 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.764%	
6) 4-Bromofluorobenzene(S)	10.73	95	73580	24.14849 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.592%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0406M06.D MSUR404.M Fri Apr 07 09:57:16 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 8:08
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0407M01.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.033	55	TMHBL	29
3							
4							
5							
6							
7							
8							
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34							
35							
36							
37							
38							
39							
40							
		Average			55.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M01.D Vial: 1
Acq On : 7 Apr 17 8:08 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 4/6/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	279465	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	6818797m	214.05190 ppb	100

(#) = qualifier out of range (m) = manual integration

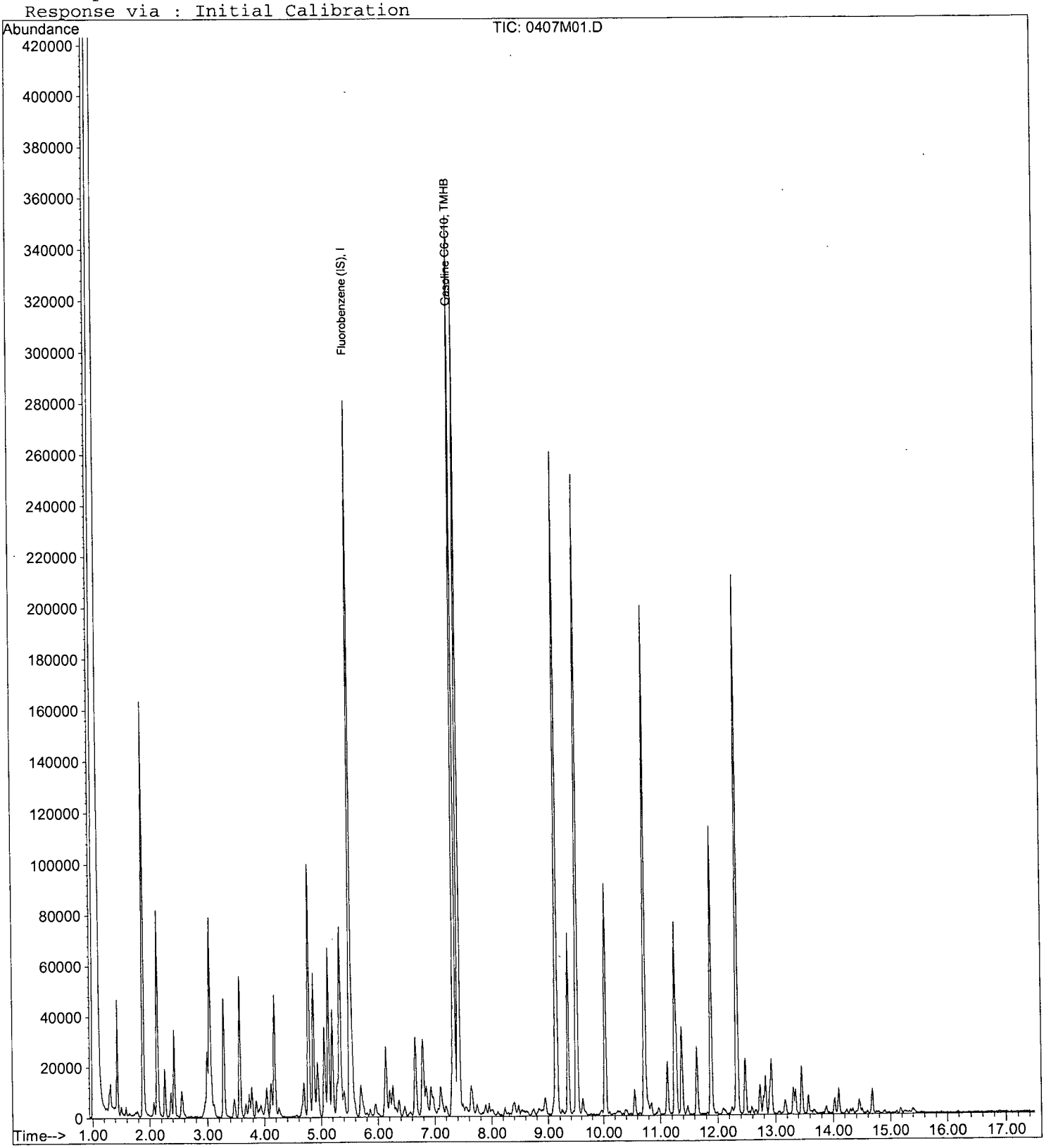
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M01.D
Acq On : 7 Apr 17 8:08
Sample : Ending CCV 8260 300ug/L 4/6/17
Misc : 10ml IS&S: 2/23/17

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 8:08
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M01.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2280	3.2	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1702	7.7	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.547	6.1	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4226	6.4	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M01.D Vial: 1
Acq On : 7 Apr 17 8:08 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 4/6/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:56 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261418	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	170289	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68982	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59606	24.20900 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.836%	
3) 1,2-DCA-D4(S)	5.13	65	44491	23.06780 ppb	0.00
Spiked Amount 25.000			Recovery	= 92.272%	
5) Toluene-D8(S)	7.35	98	263502	26.52729 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.108%	
6) 4-Bromofluorobenzene(S)	10.73	95	71972	23.39327 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.572%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170406W-53059 - 217573**
Batch ID: #GRO86-170406AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/06/17	04/06/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.3	85-114			%	04/06/17	04/06/17

Quant Method: MGAS6302.
Run #: 0406M11
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 2:17:39 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M11.D
Acq On : 6 Apr 17 15:22
Sample : 170406A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:42 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	264725	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

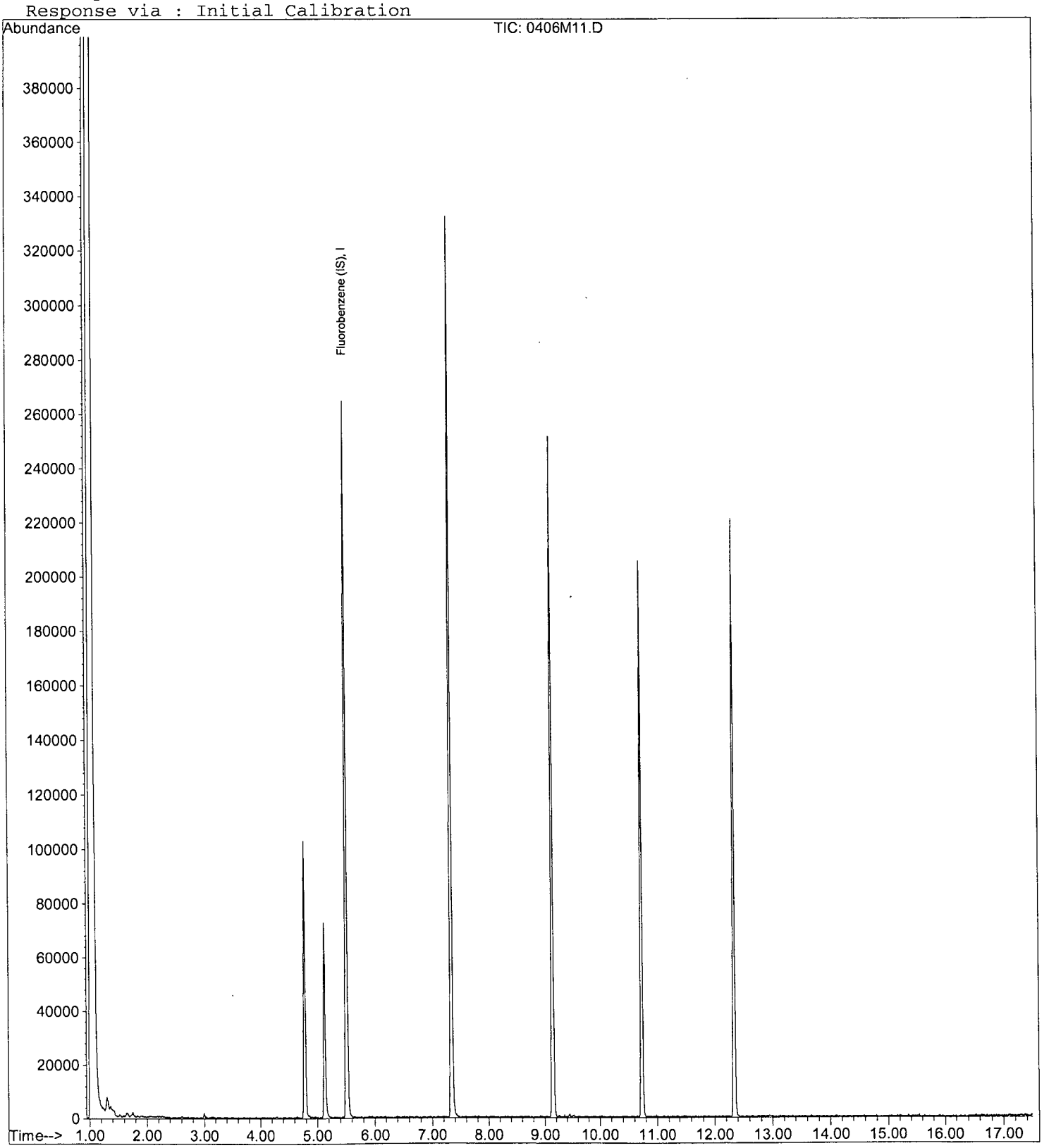
Data File : M:\MAX\DATA\M170404\0406M11.D
Acq On : 6 Apr 17 15:22
Sample : 170406A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:42 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M11.D Vial: 10
Acq On : 6 Apr 17 15:22 Operator: PM,DG,SV,CMM
Sample : 170406A BLK-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	247211	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	169048	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72607	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59571	25.58524 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.340%	
3) 1,2-DCA-D4(S)	5.13	65	46991	25.76418 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.056%	
5) Toluene-D8(S)	7.34	98	250488	25.40226 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.608%	
6) 4-Bromofluorobenzene(S)	10.73	95	71227	23.32108 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.284%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170406W-53059 LCS - 217573**
Batch ID: #GRO86-170406AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	263	87.7	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.5	98.0	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/06/17
Analysis Date :	04/06/17
Instrument :	Max
Run :	0406M07
Initials :	SV

Printed: 04/11/17 2:17:43 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M07.D
Acq On : 6 Apr 17 13:28
Sample : 170406A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:41 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	275086	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	7701568m	262.69125 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

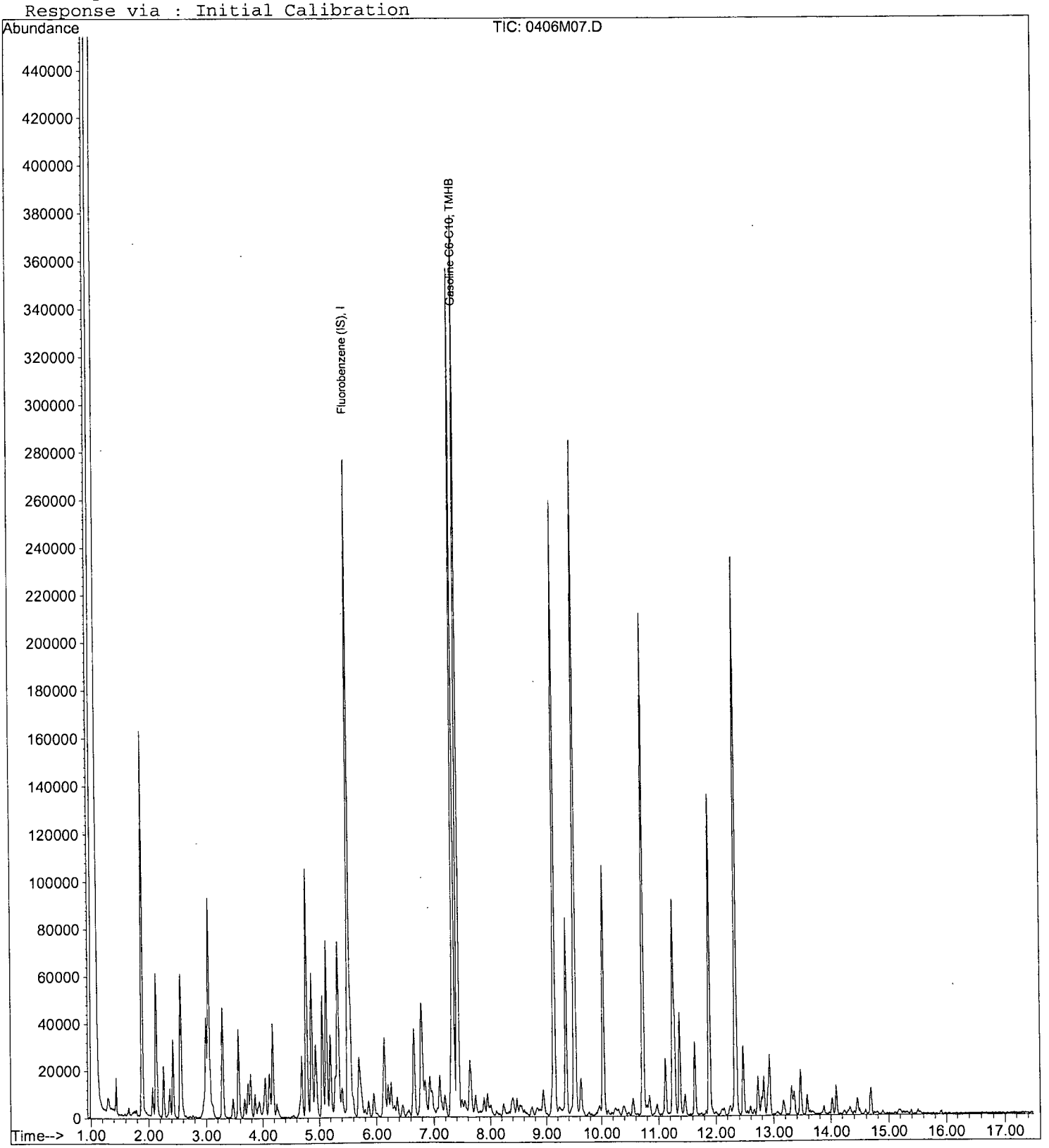
Data File : M:\MAX\DATA\M170404\0406M07.D
Acq On : 6 Apr 17 13:28
Sample : 170406A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:41 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M07.D Vial: 6
Acq On : 6 Apr 17 13:28 Operator: PM,DG,SV,CMM
Sample : 170406A LCS 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:55 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257831	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	172604	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	75923	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61778	25.44023 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.760%	
3) 1,2-DCA-D4(S)	5.13	65	49260	25.89576 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.584%	
5) Toluene-D8(S)	7.34	98	260510	25.87433 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.496%	
6) 4-Bromofluorobenzene(S)	10.73	95	76473	24.52287 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.092%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170406W-53059 MS - 217573**
Batch ID: #GRO86-170406AM
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	325	325	108	108	78-122	0.0	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.8	25.4	99.2	102	85-114		

Comments: _____

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	04/06/17	04/06/17
Analysis Date :	04/06/17	04/06/17
Instrument :	Max	Max
Run :	0406M25	0406M26
Initials :	SV	

Printed: 04/11/17 2:17:47 PM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M25.D Vial: 24
Acq On : 6 Apr 17 21:59 Operator: PM,DG,SV,CMM
Sample : AZ53059W346 MS-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:46 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	276103	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	8998196m	324.79111	ppb	100

(#) = qualifier out of range (m) = manual integration

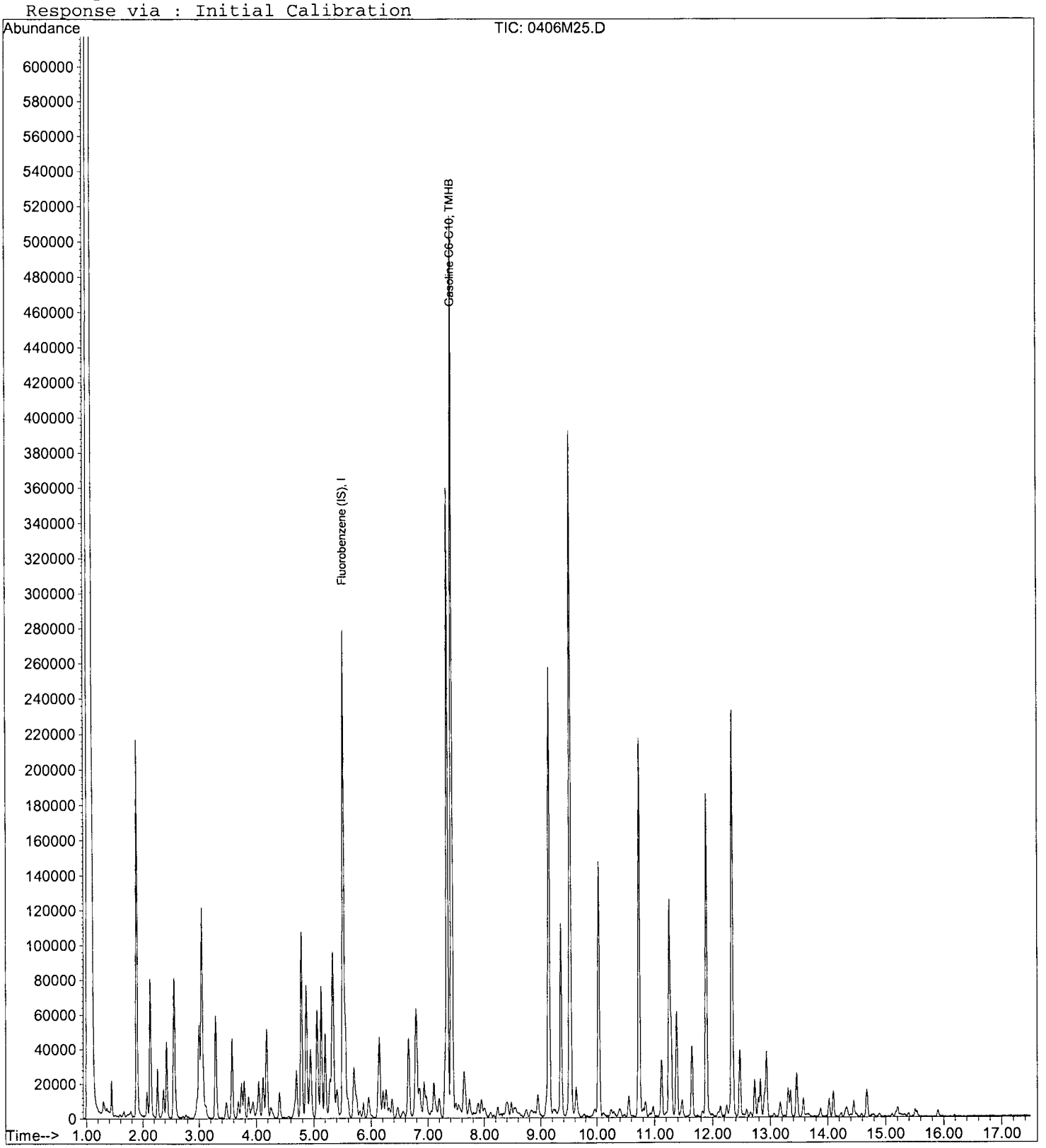
Quantitation Report

Data File : M:\MAX\DATA\M170404\0406M25.D
Acq On : 6 Apr 17 21:59
Sample : AZ53059W346 MS-1WM 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:46 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M25.D Vial: 24
Acq On : 6 Apr 17 21:59 Operator: PM,DG,SV,CMM
Sample : AZ53059W346 MS-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:56 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	254748	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	174546	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	76343	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62289	25.96109 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.844%	
3) 1,2-DCA-D4(S)	5.13	65	49487	26.32993 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.320%	
5) Toluene-D8(S)	7.34	98	264519	25.98020 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.920%	
6) 4-Bromofluorobenzene(S)	10.73	95	78052	24.75074 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.004%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0406M26.D Vial: 25
Acq On : 6 Apr 17 22:28 Operator: PM,DG,SV,CMM
Sample : AZ53059W346 MSD-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:46 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	263209	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	8591417m	325.48131 ppb	100

(#) = qualifier out of range (m) = manual integration
0406M26.D MGAS6302.M Fri Apr 07 09:50:04 2017

Quantitation Report

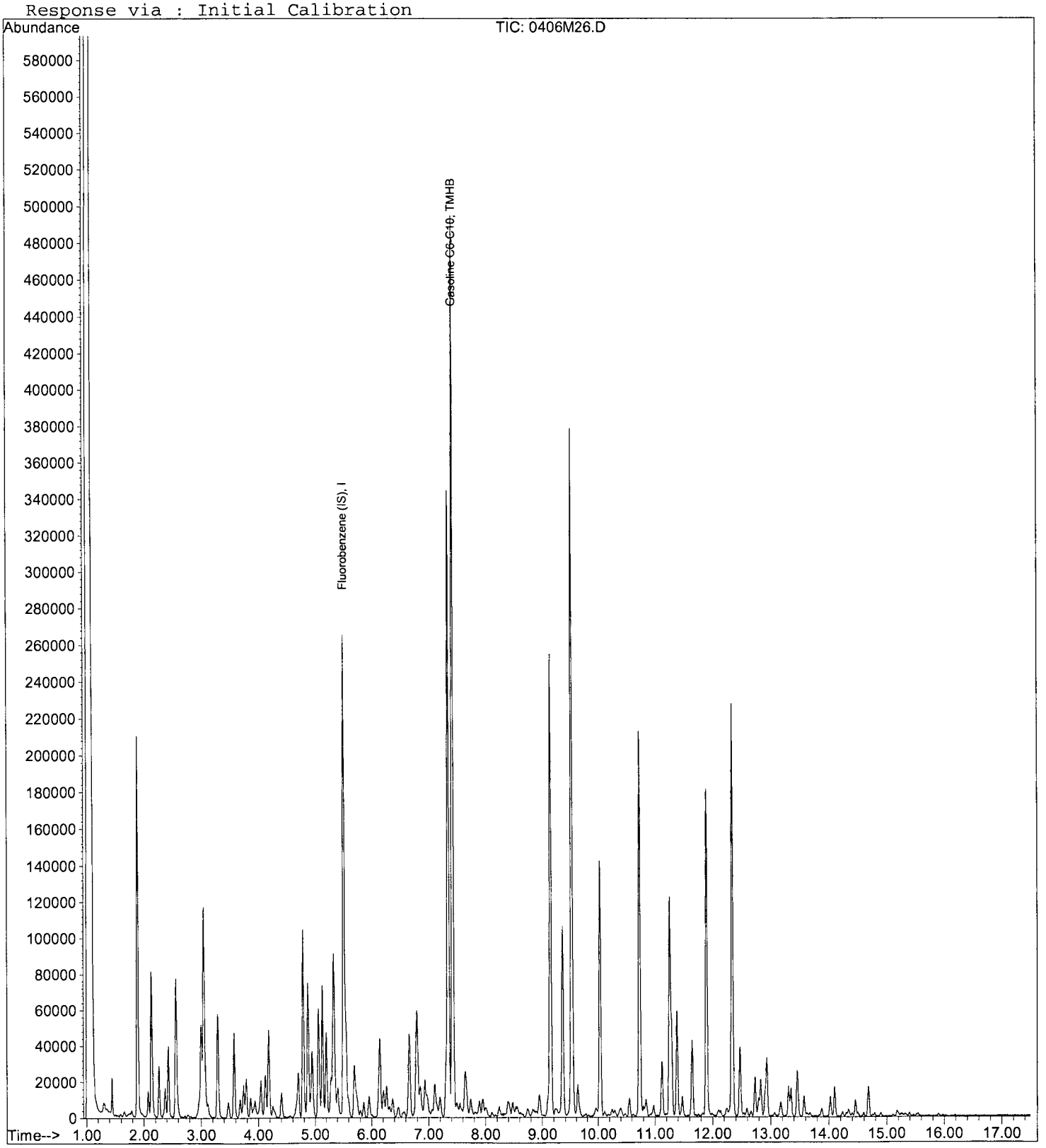
Data File : M:\MAX\DATA\M170404\0406M26.D
Acq On : 6 Apr 17 22:28
Sample : AZ53059W346 MSD-1WM 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 7 9:46 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0406M26.D Vial: 25
Acq On : 6 Apr 17 22:28 Operator: PM,DG,SV,CMM
Sample : AZ53059W346 MSD-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 7 9:56 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	246630	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	169062	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	74463	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59672	25.68899 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.756%	
3) 1,2-DCA-D4(S)	5.13	65	47751	26.24255 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.972%	
5) Toluene-D8(S)	7.35	98	253750	25.73094 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.924%	
6) 4-Bromofluorobenzene(S)	10.73	95	77495	25.37124 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.484%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH	.	55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
10	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
11	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
12	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
13	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
14	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
15	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
16	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
17	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
18	5	0406M06.D	1	170406A CCV 300ug/L	10ml IS&S: 2/23/17	6 Apr 17 12:59
19	6	0406M07.D	1	170406A LCS 300ug/L	10ml IS&S: 2/23/17	6 Apr 17 13:28
20	10	0406M11.D	1	170406A BLK-1WM	10ml IS&S: 2/23/17	6 Apr 17 15:22
21	12	0406M13.D	1	AZ53058W01	10ml IS&S: 2/23/17	6 Apr 17 16:18
22	13	0406M14.D	1	AZ53061W01	10ml IS&S: 2/23/17	6 Apr 17 16:47
23	14	0406M15.D	1	AZ53063W01	10ml IS&S: 2/23/17	6 Apr 17 17:15
24	15	0406M16.D	1	AZ53059W01	10ml IS&S: 2/23/17	6 Apr 17 17:44
25	16	0406M17.D	1	AZ53060W01	10ml IS&S: 2/23/17	6 Apr 17 18:12
26	17	0406M18.D	1	AZ53062W01	10ml IS&S: 2/23/17	6 Apr 17 18:40
27	18	0406M19.D	1	AZ53064W01	10ml IS&S: 2/23/17	6 Apr 17 19:09
28	19	0406M20.D	1	AZ53065W01	10ml IS&S: 2/23/17	6 Apr 17 19:37
29	24	0406M25.D	1	AZ53059W346 MS-1WM 300ug/L	10ml IS&S: 2/23/17	6 Apr 17 21:59
30	25	0406M26.D	1	AZ53059W346 MSD-1WM 300ug/L	10ml IS&S: 2/23/17	6 Apr 17 22:28
31	27	0406M28.D	1	Ending CCV 8260 300ug/L 4/6/17	10ml IS&S: 2/23/17	6 Apr 17 23:25

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:00:36 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:00:24 PM
APPL Standard LCS

Matrix Spike Recoveries

METHANE

APPL ID: **170408W-53059 MS - 217625**
Batch ID: #RSKME-170408A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	2000	2050	150 #	154 #	72-125	2.5	30

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Rocky	Rocky
Run :	17040809	17040810
Initials :	CMO	

Printed: 04/08/17 2:00:09 PM
APPL MSD SCII

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82577
Matrix: WATER
Blank ID: 170408A-BLK

SDG No: 82577
Date Analyzed: 04/08/17
Instrument: Rocky
Time Analyzed: 1043

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170408A-LCS	Lab Control Spike	17040805	04/08/17 1039
170408A-BLK	Blank	17040806	04/08/17 1043
AZ53058	ERH290	17040807	04/08/17 1200
AZ53059	ERH292	17040808	04/08/17 1204
170408A-MS	Matrix Spike	17040809	04/08/17 1208
170408A-MSD	Matrix SpikeD	17040810	04/08/17 1211
AZ53061	ERH294	17040811	04/08/17 1214
AZ53062	ERH295	17040812	04/08/17 1217

Comments: Batch: #RSKME-170408A

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH290
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53058
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040807
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:00:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040807.D Vial: 6
Acq On : 8 Apr 17 12:00 Operator: lac
Sample : AZ53058W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:03 2017 Quant Results File: RSK0225.RES

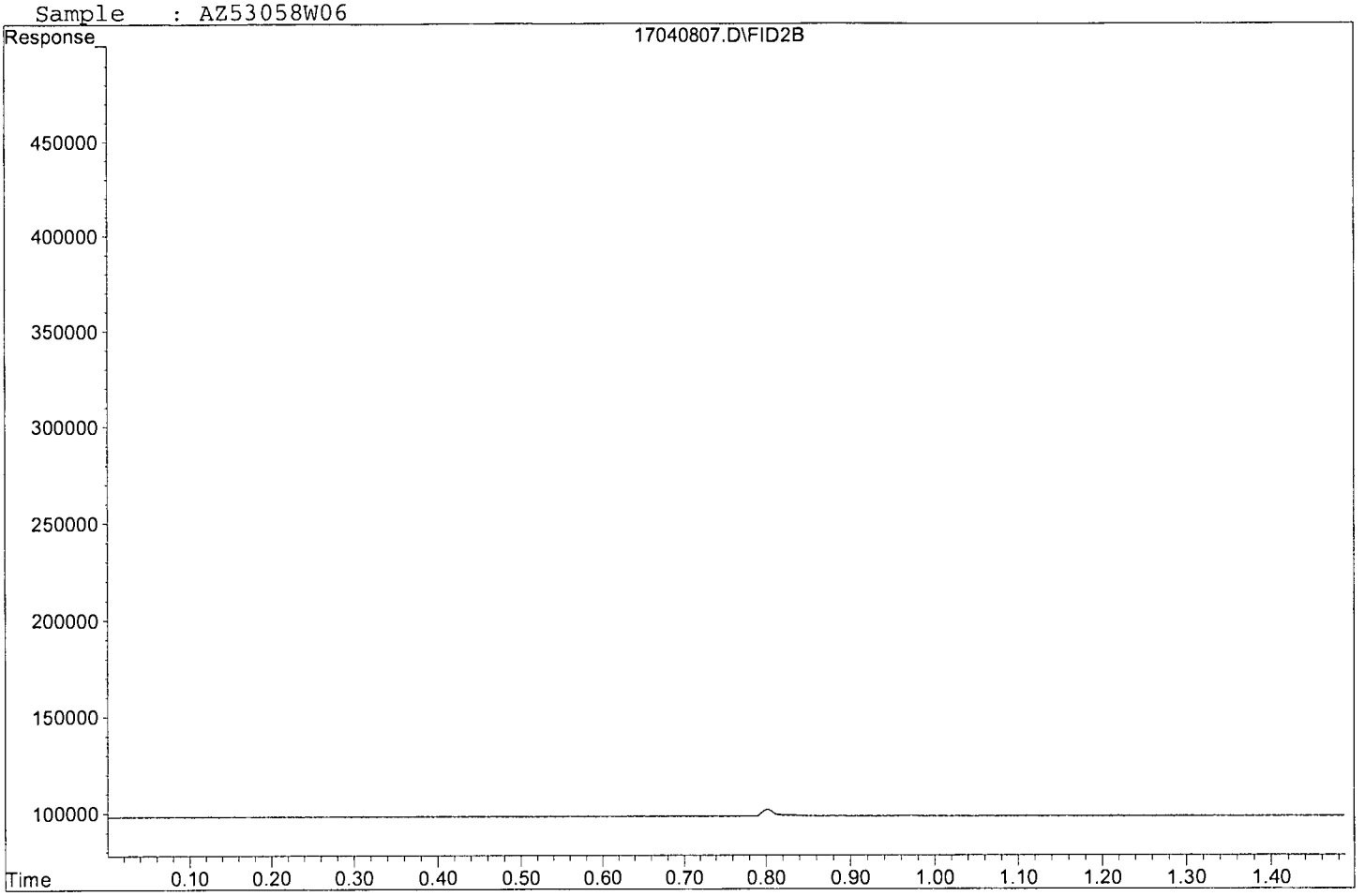
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	375	N.D.	ppb
2) ATM Ethane	1.03	247	N.D.	ppb
3) ATM Ethene	1.12	340	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040807.D
Sample : AZ53058W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH292
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53059
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040808
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:00:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040808.D Vial: 7
Acq On : 8 Apr 17 12:04 Operator: lac
Sample : AZ53059W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:07 2017 Quant Results File: RSK0225.RES

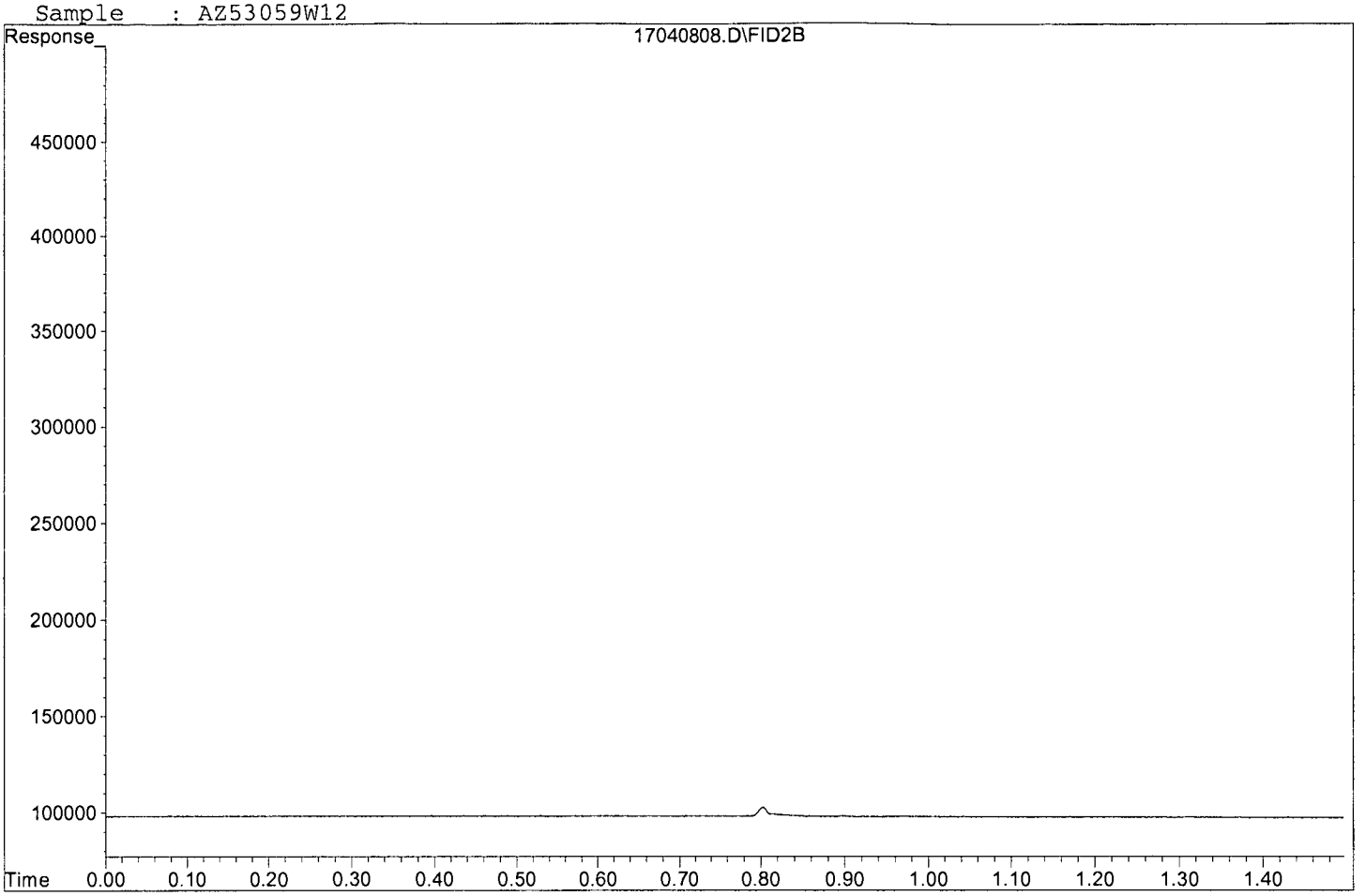
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	414	N.D.	ppb
2) ATM Ethane	1.03	408	N.D.	ppb
3) ATM Ethene	1.13	114	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040808.D
Sample : AZ53059W12



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH294
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53061
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040811
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:00:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040811.D Vial: 10
Acq On : 8 Apr 17 12:14 Operator: lac
Sample : AZ53061W05 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:16 2017 Quant Results File: RSK0225.RES

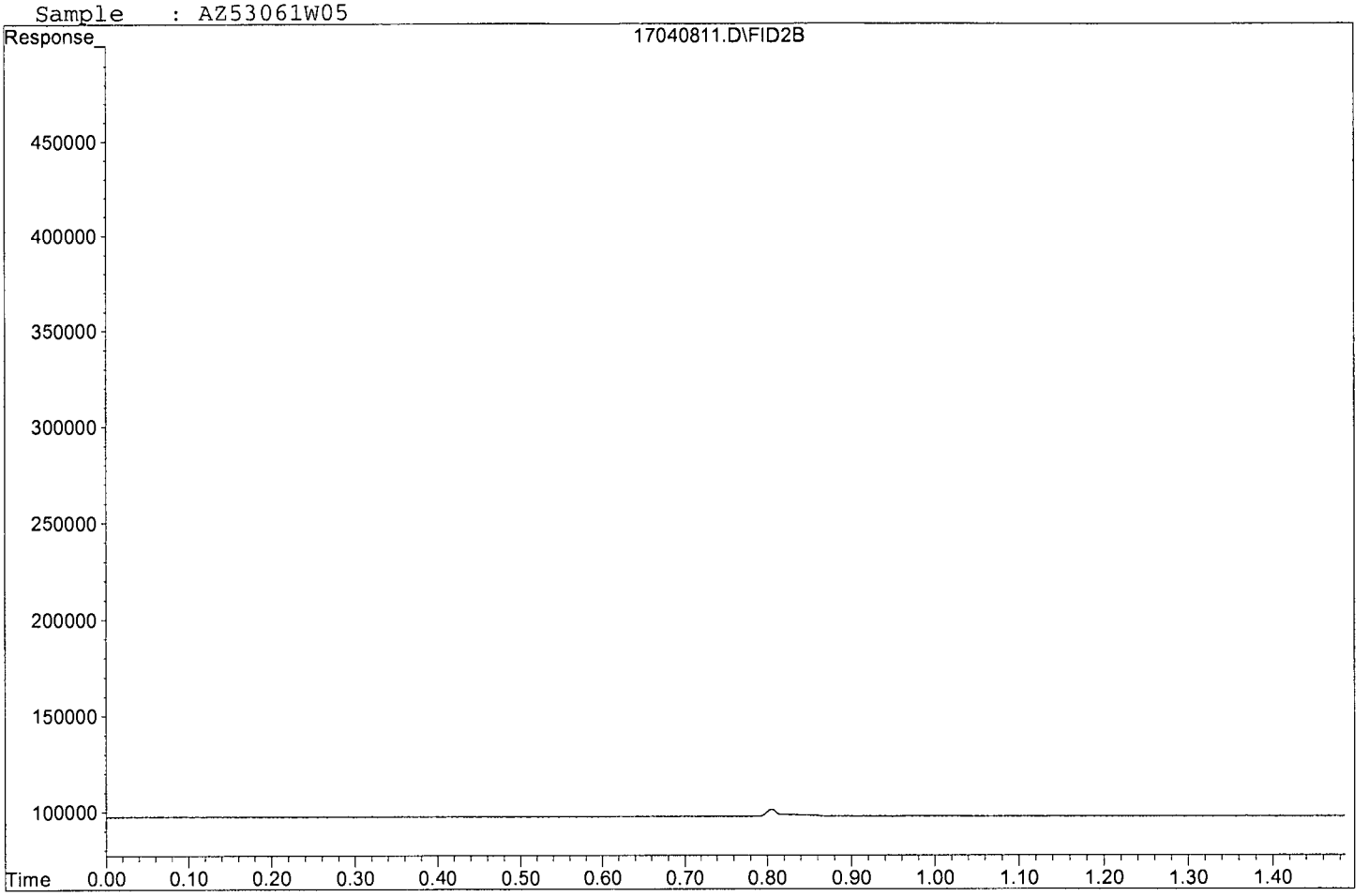
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.88	387	N.D.	ppb
2) ATM Ethane	1.03	399	N.D.	ppb
3) ATM Ethene	1.12	384	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040811.D
Sample : AZ53061W05



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH295
Sample Collection Date: 04/03/17

ARF: 82577
APPL ID: AZ53062
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040812
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:00:31 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040812.D Vial: 11
Acq On : 8 Apr 17 12:17 Operator: lac
Sample : AZ53062W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:19 2017 Quant Results File: RSK0225.RES

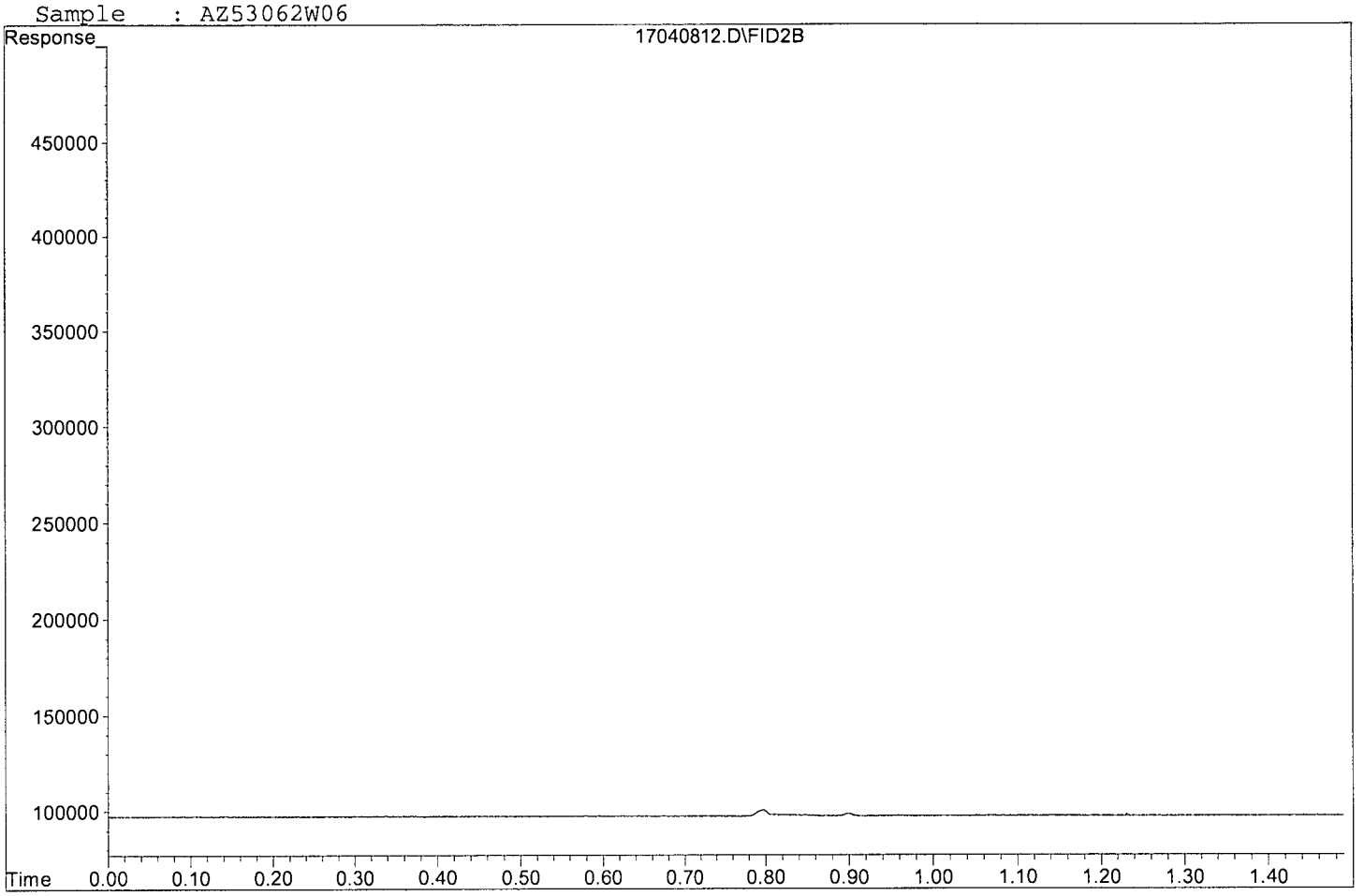
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	540	N.D.	ppb
2) ATM Ethane	1.03	279	N.D.	ppb
3) ATM Ethene	1.12	377	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040812.D
Sample : AZ53062W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
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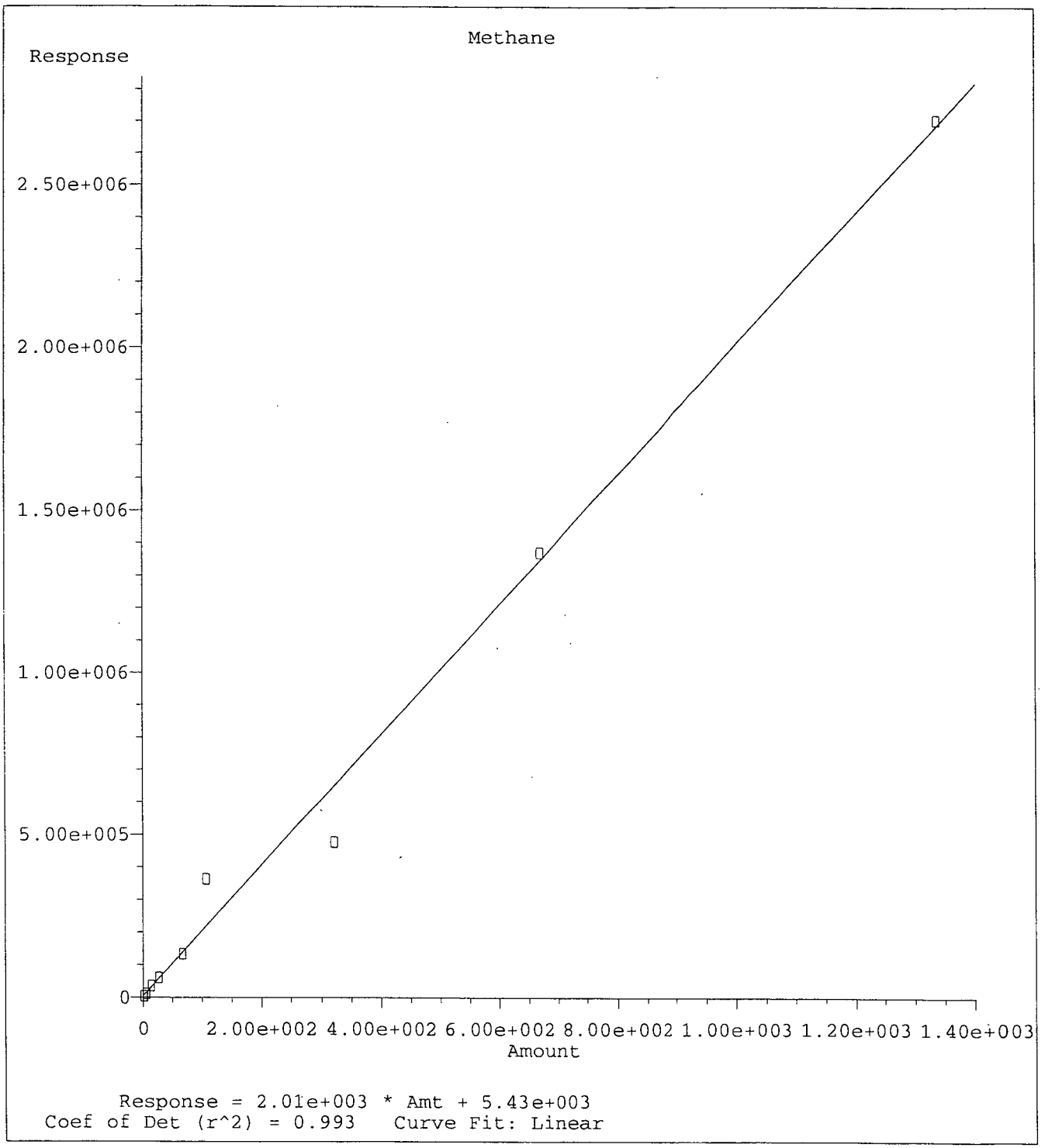
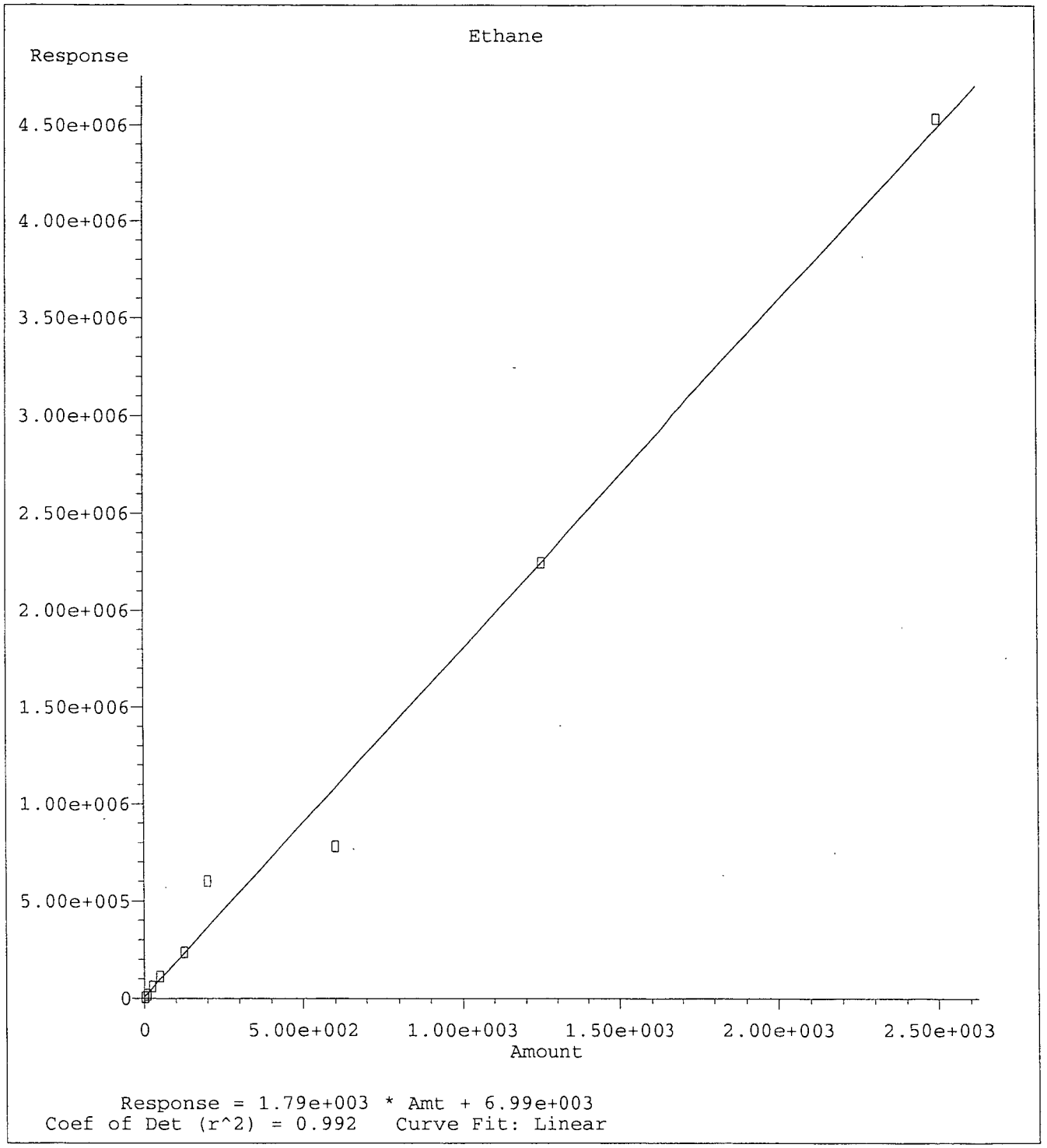
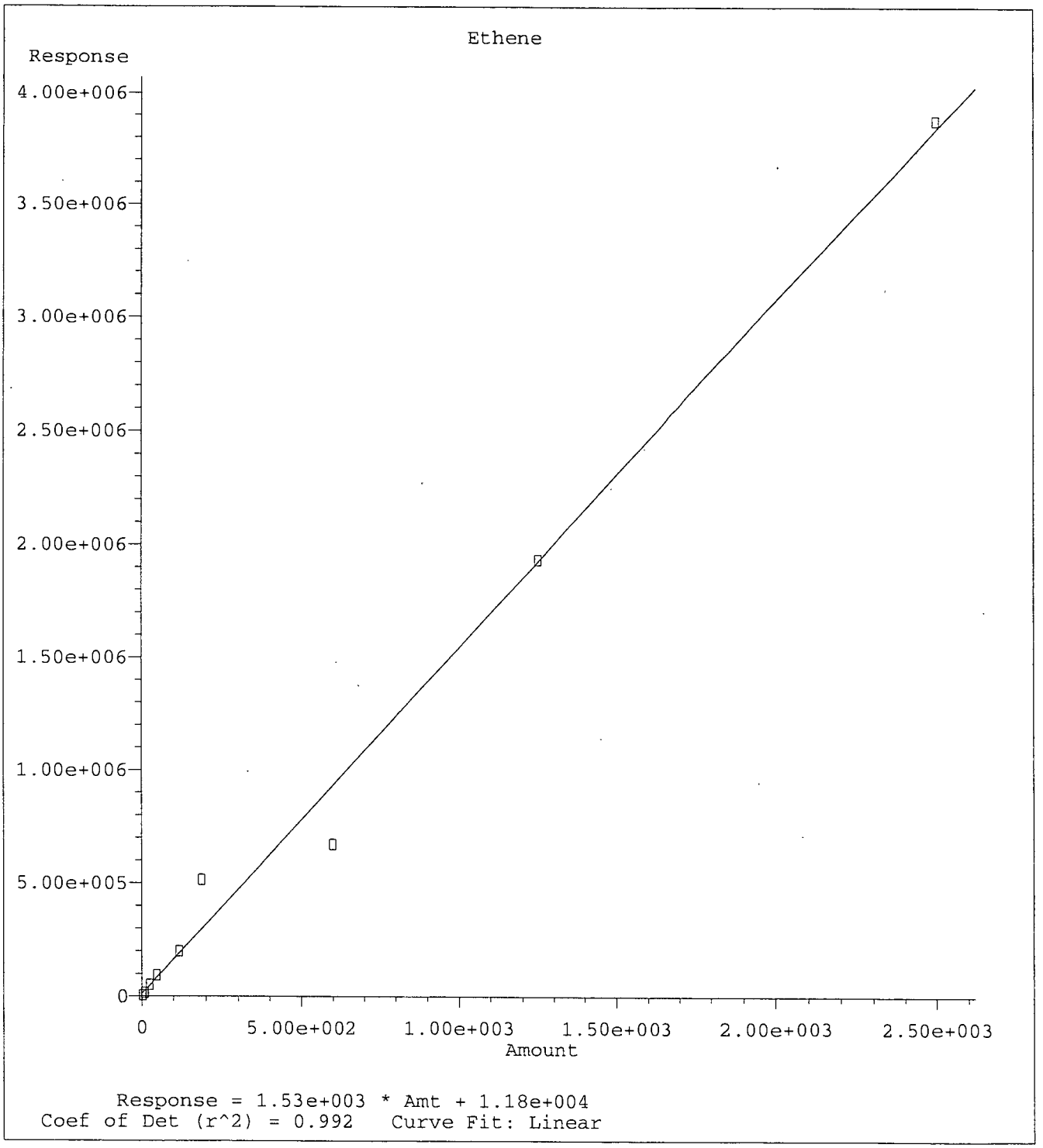
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

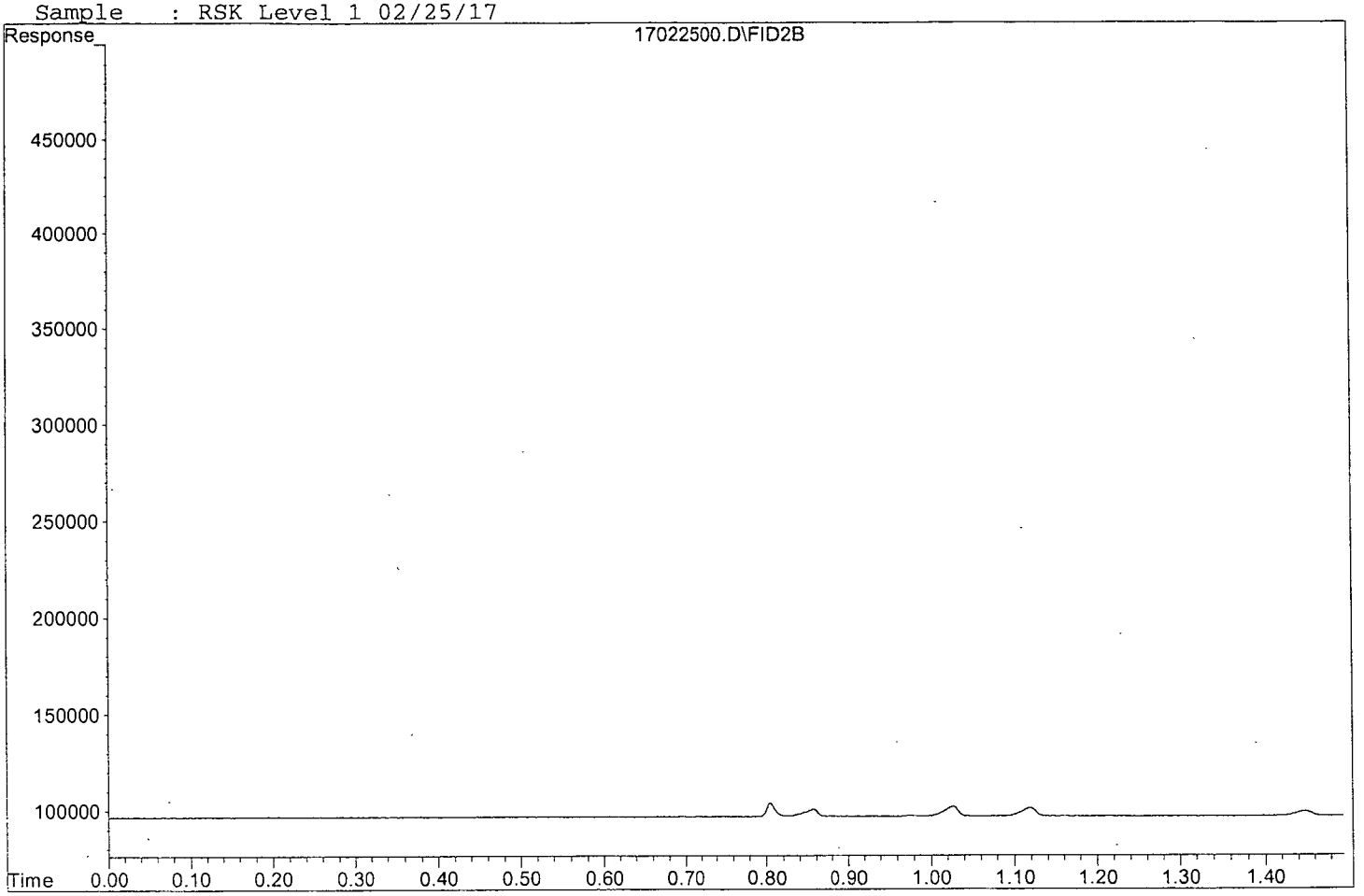
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

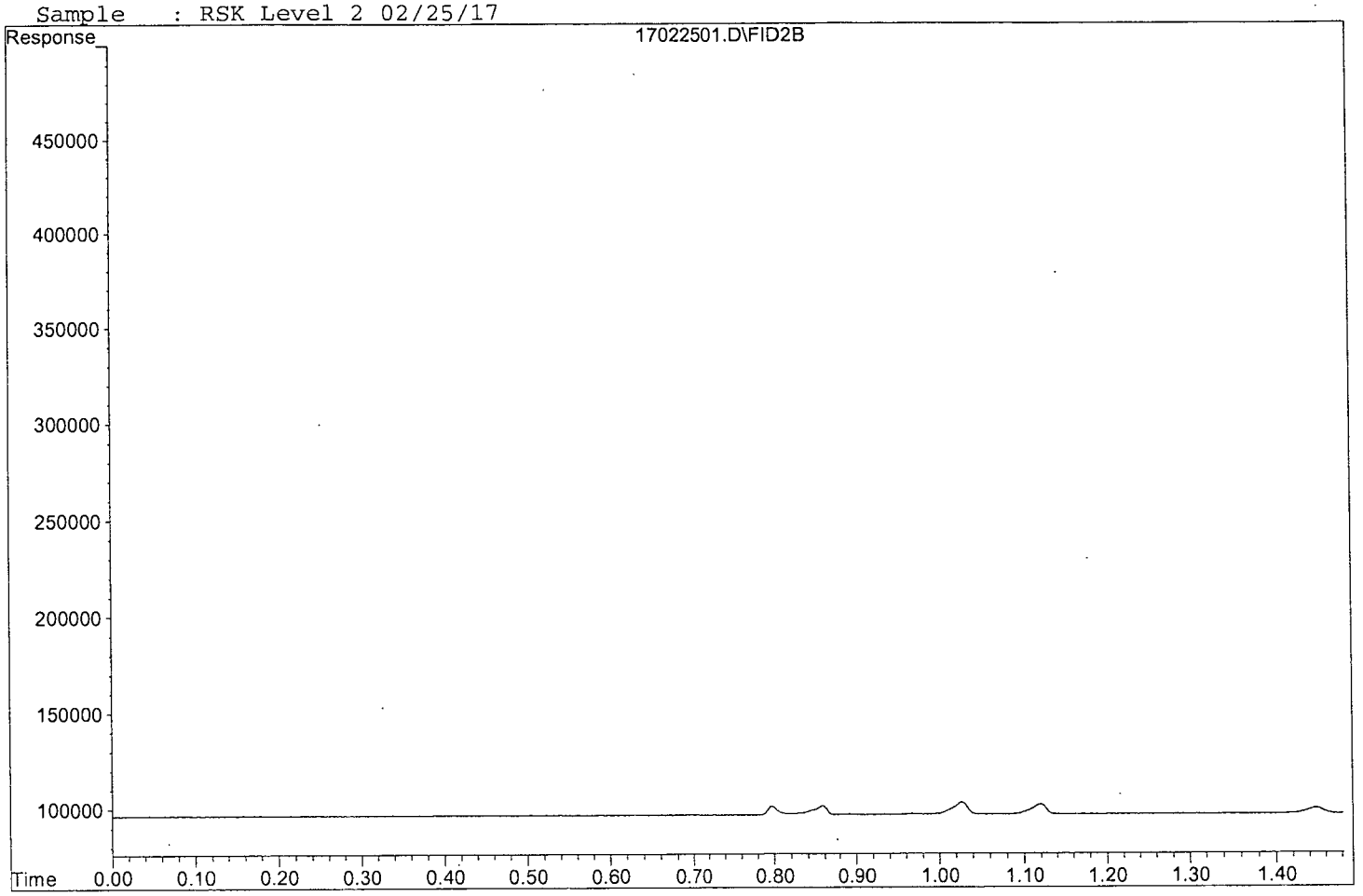
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

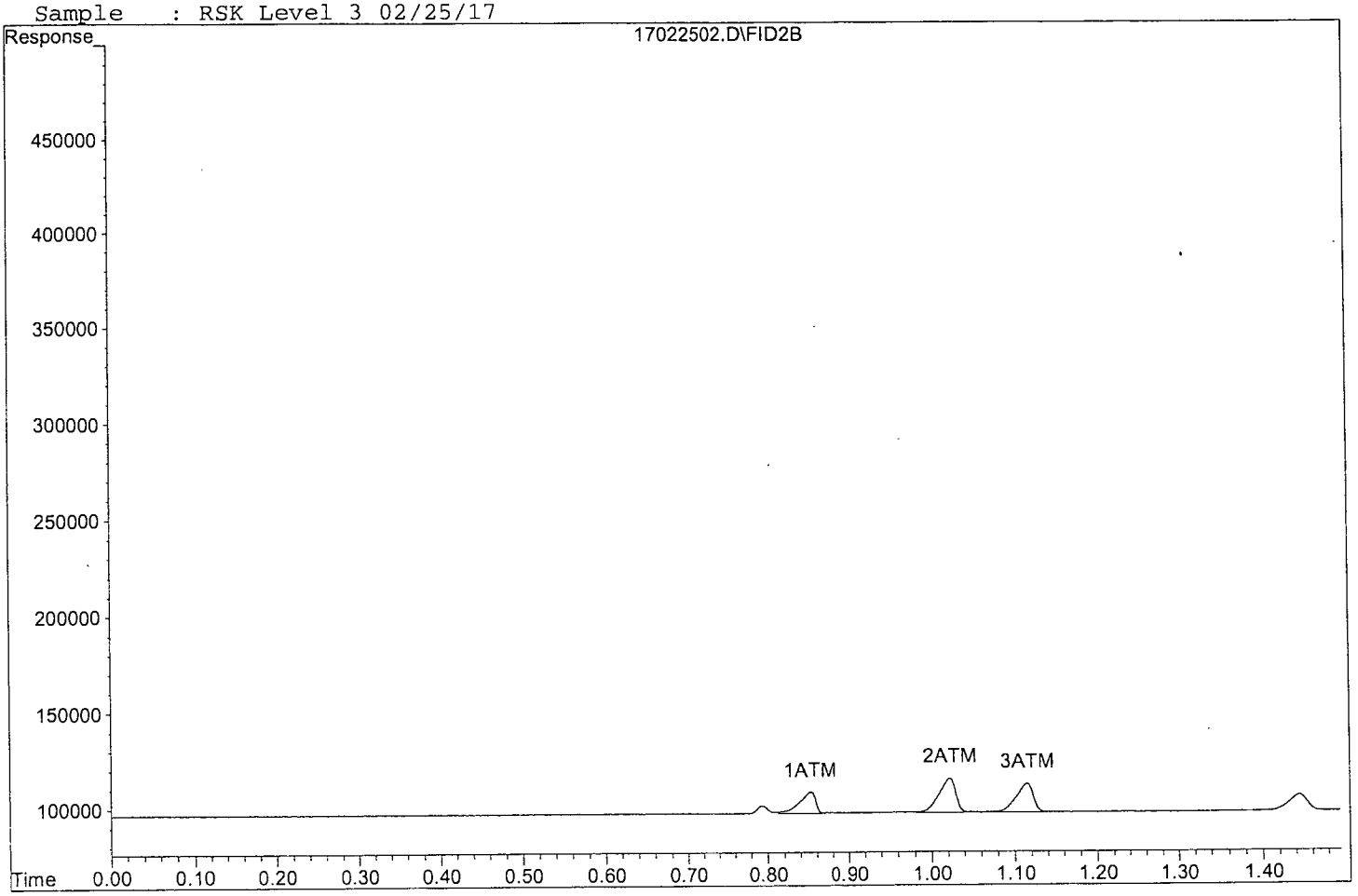
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022502.D RSK0225.M Sat Feb 25 12:50:53 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D Vial: 4
Acq On : 25 Feb 17 11:17 Operator: lac
Sample : RSK Level 4 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

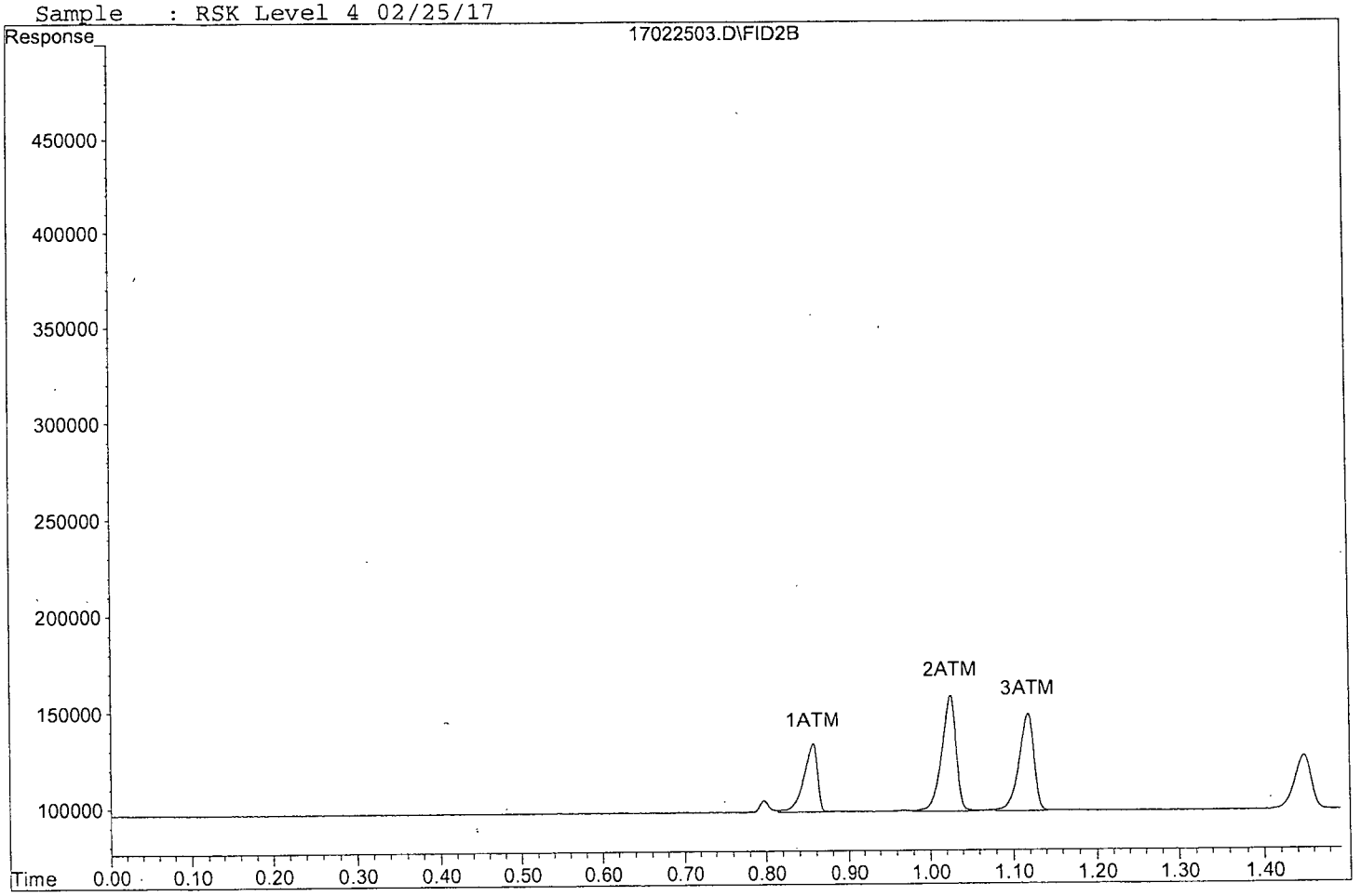
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

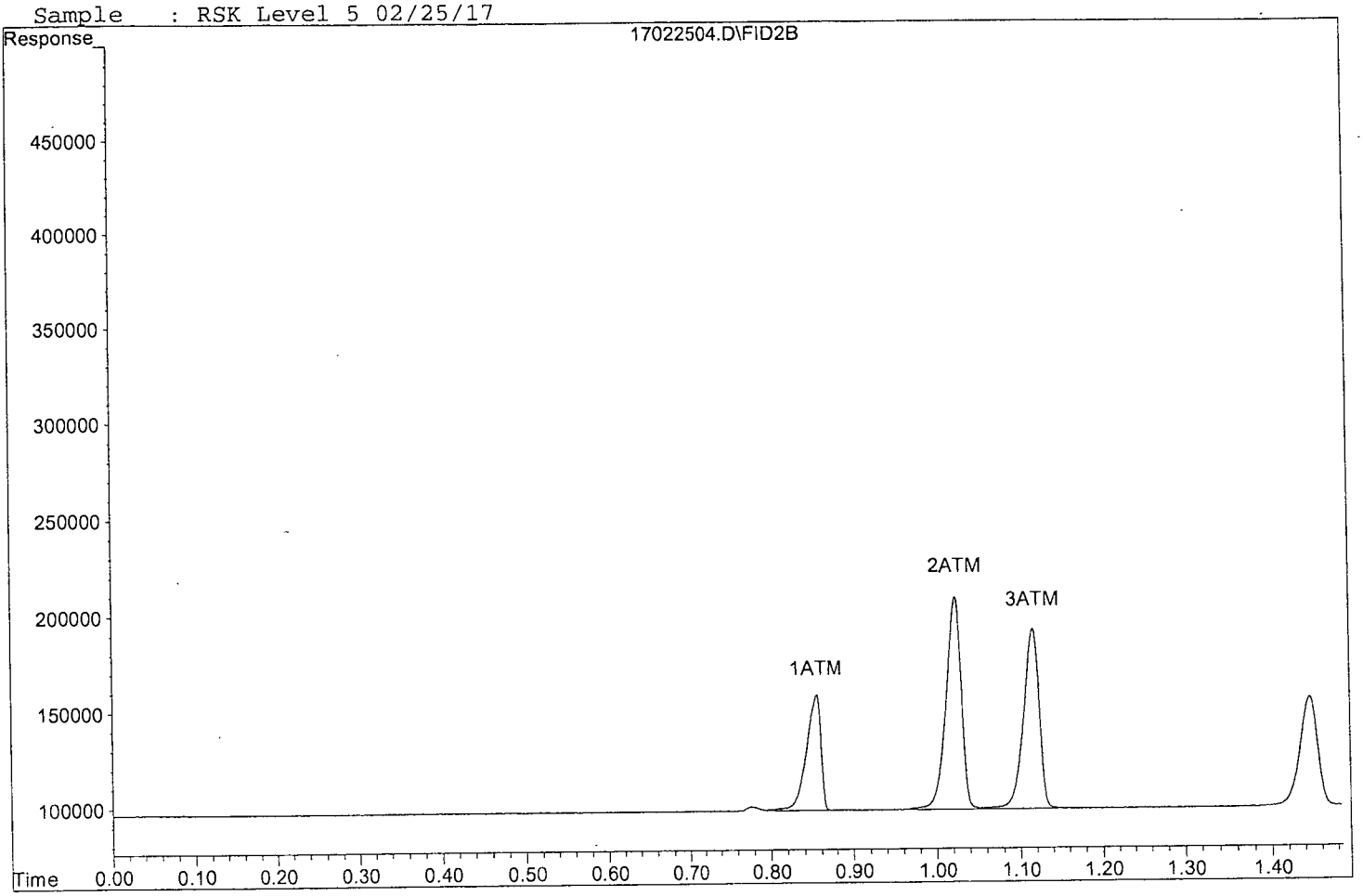
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Acq On : 25 Feb 17 11:23
Sample : RSK Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 6
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

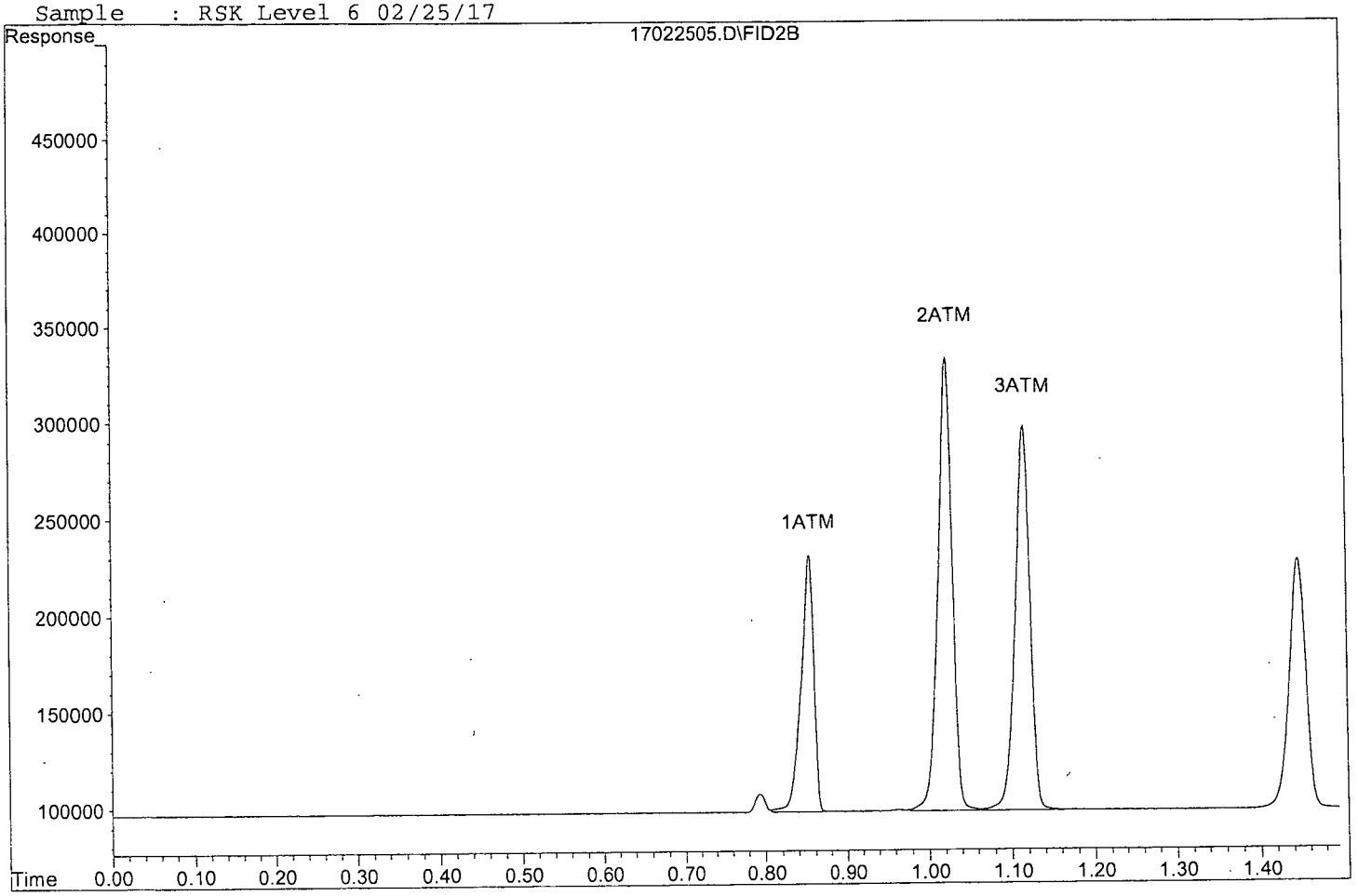
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D
Vial: 7
Acq On : 25 Feb 17 11:25
Operator: lac
Sample : RSK Level 7 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

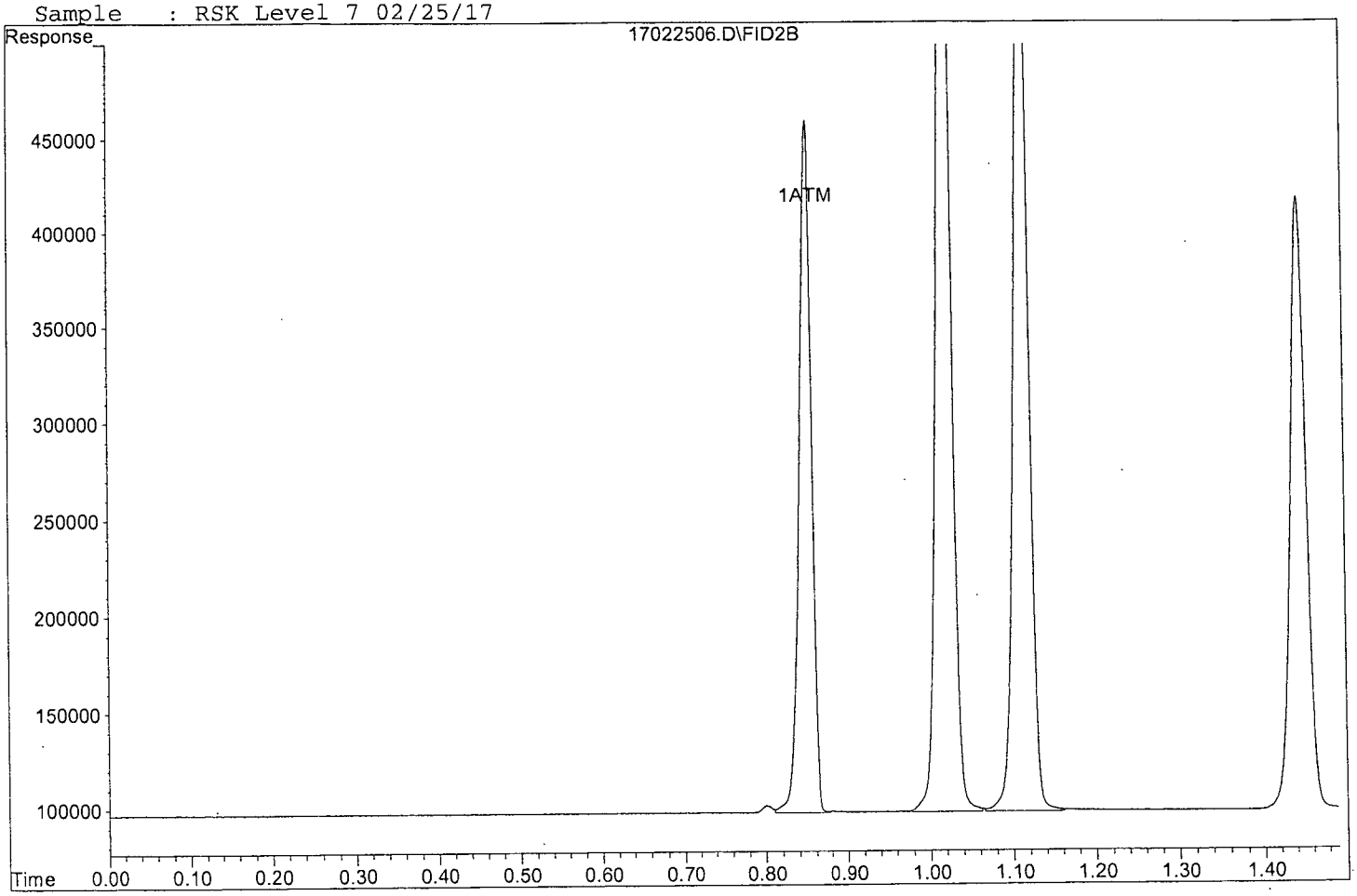
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D
Acq On : 25 Feb 17 11:27
Sample : RSK Level 8 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 8
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

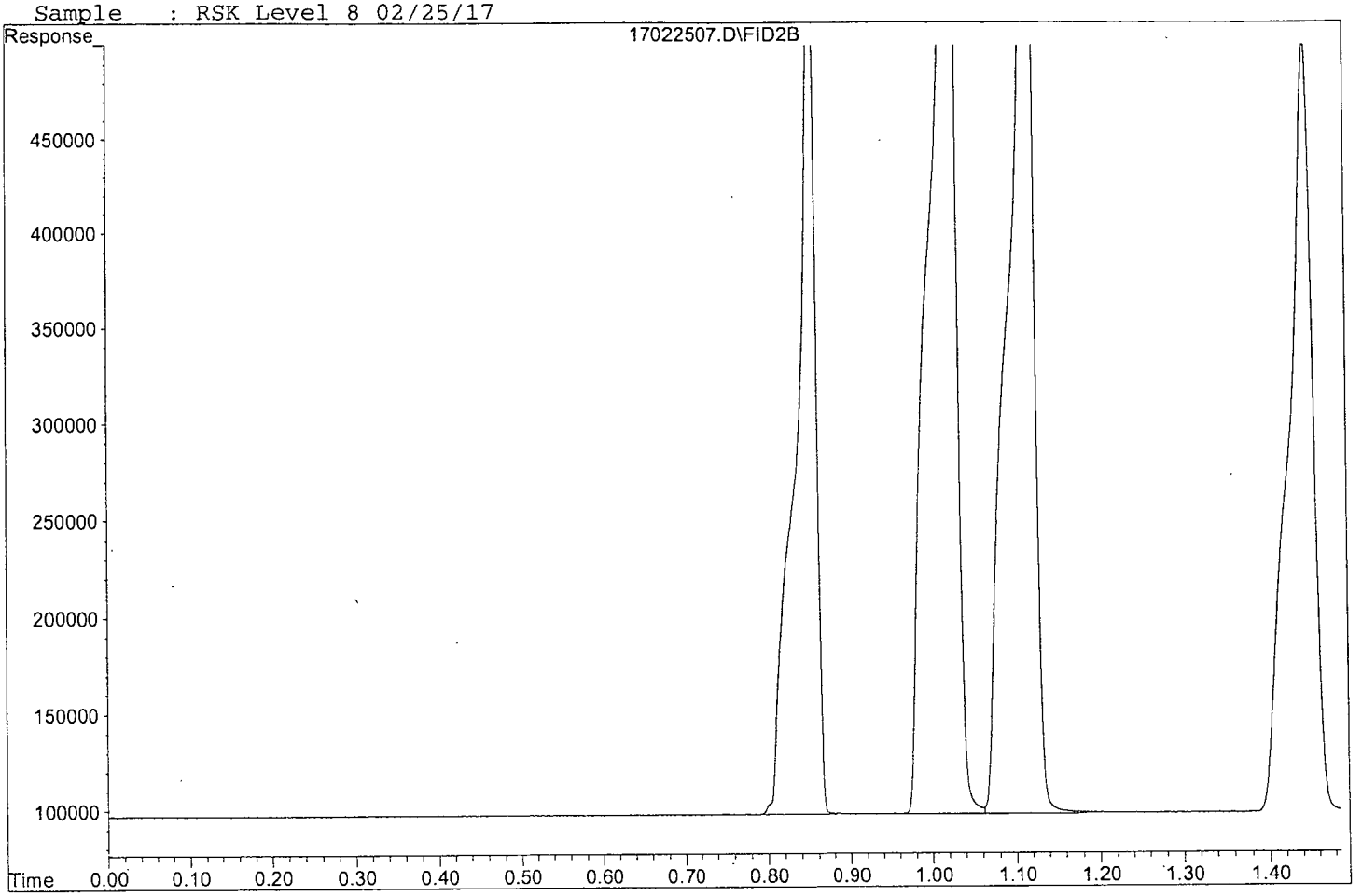
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D Vial: 9
Acq On : 25 Feb 17 11:30 Operator: lac
Sample : RSK Level 9 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

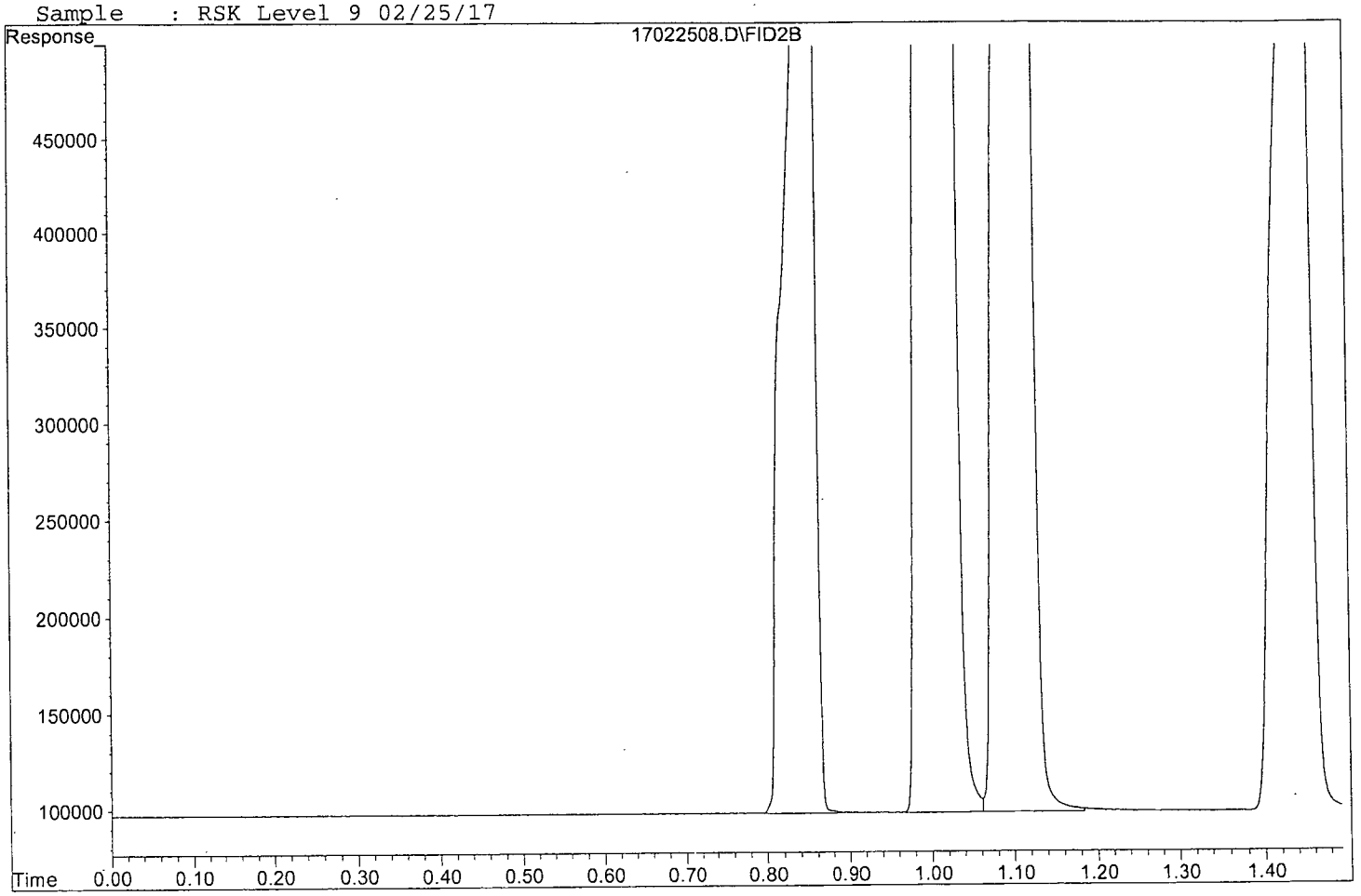
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	1370511	679.760 ppb
2) ATM Ethane	1.03	2246413	1250.978 ppb
3) ATM Ethene	1.12	1934164	1254.226 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D Vial: 10
Acq On : 25 Feb 17 11:32 Operator: lac
Sample : RSK Level 10 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

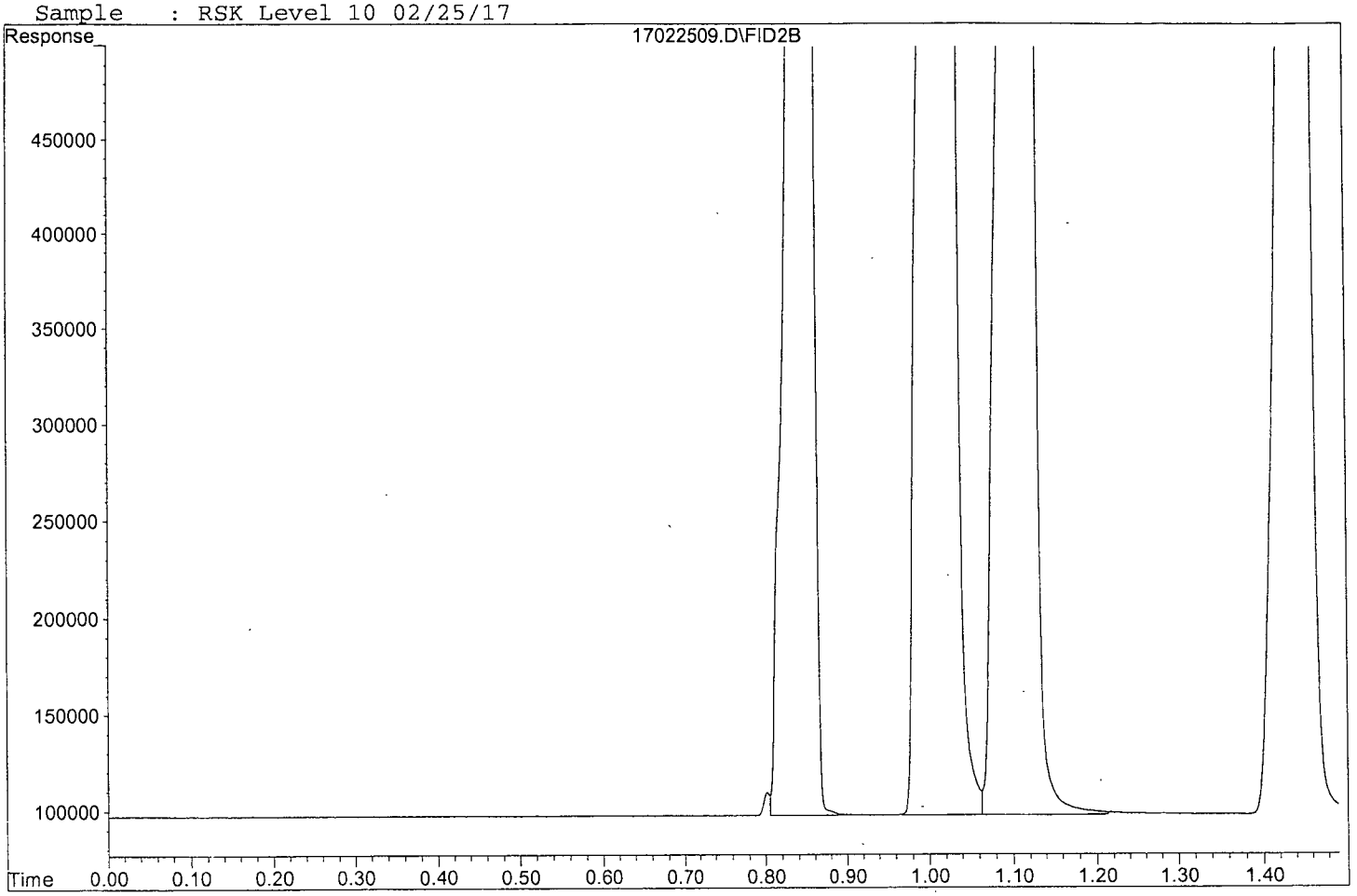
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022509.D RSK0225.M Sat Feb 25 12:51:06 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
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40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

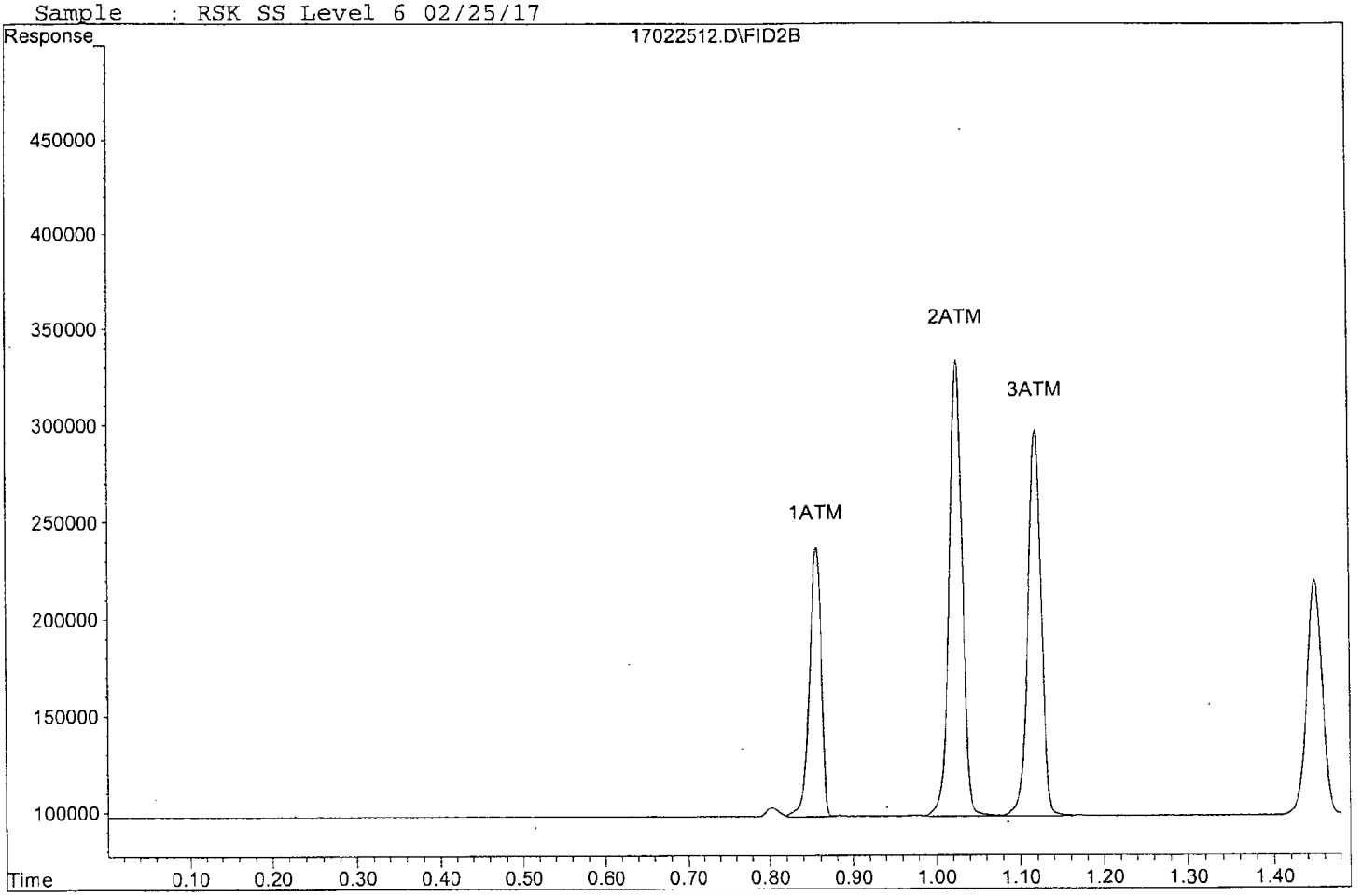
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 10:39
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040805.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2005	21	ATML	0.37
2	ATML	Ethane	2140	1828	15	ATML	2.0
3	ATML	Ethene	1905	1612	15	ATML	4.9
4							
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40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

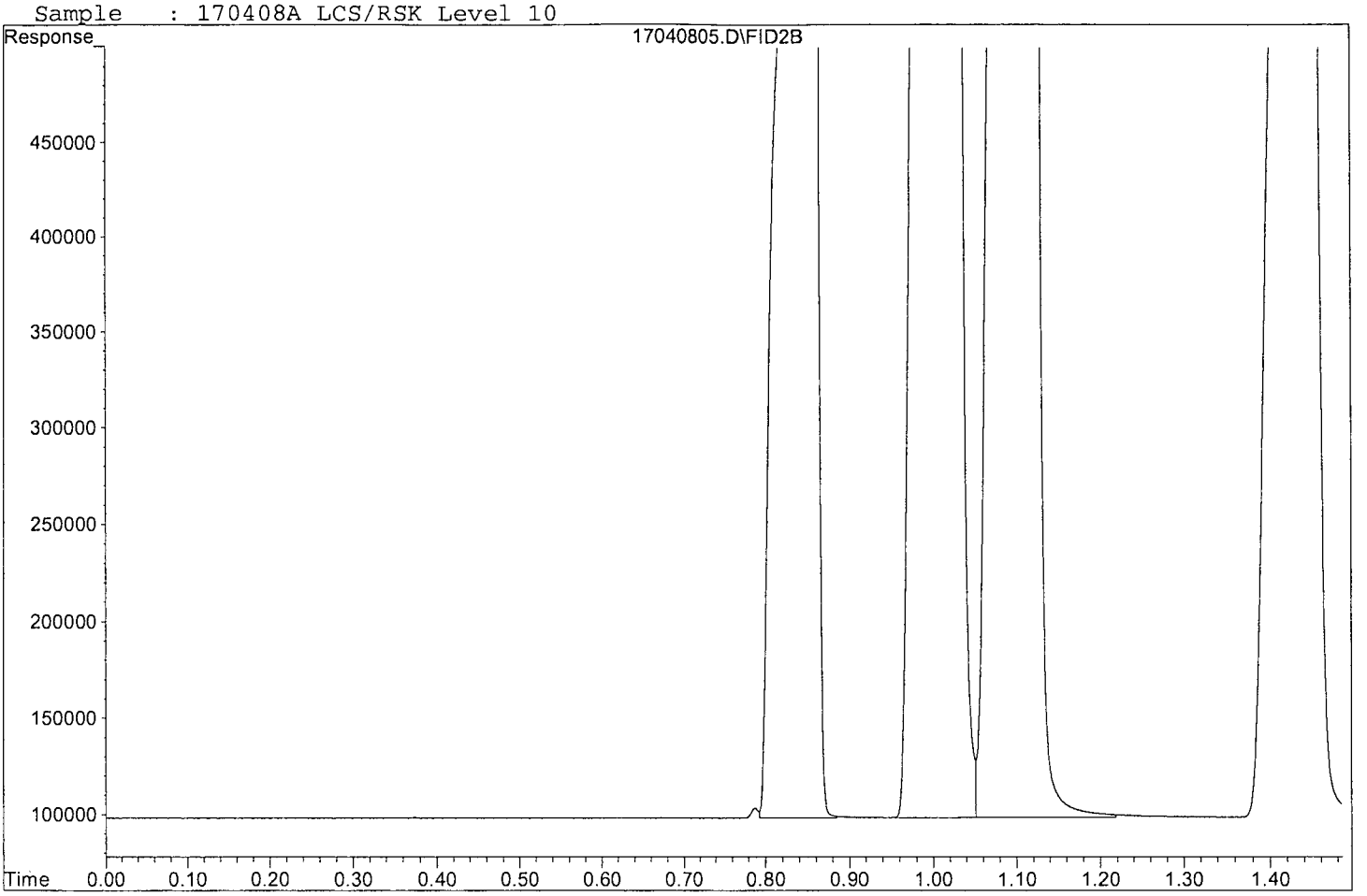
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 13:07
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040828.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2221	12	ATML	10
2	ATML	Ethane	2140	1910	11	ATML	6.5
3	ATML	Ethene	1905	1662	13	ATML	8.1
4							
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40							
		Average			12.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040828.D Vial: 27
Acq On : 8 Apr 17 13:07 Operator: lac
Sample : 170408B LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:11 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

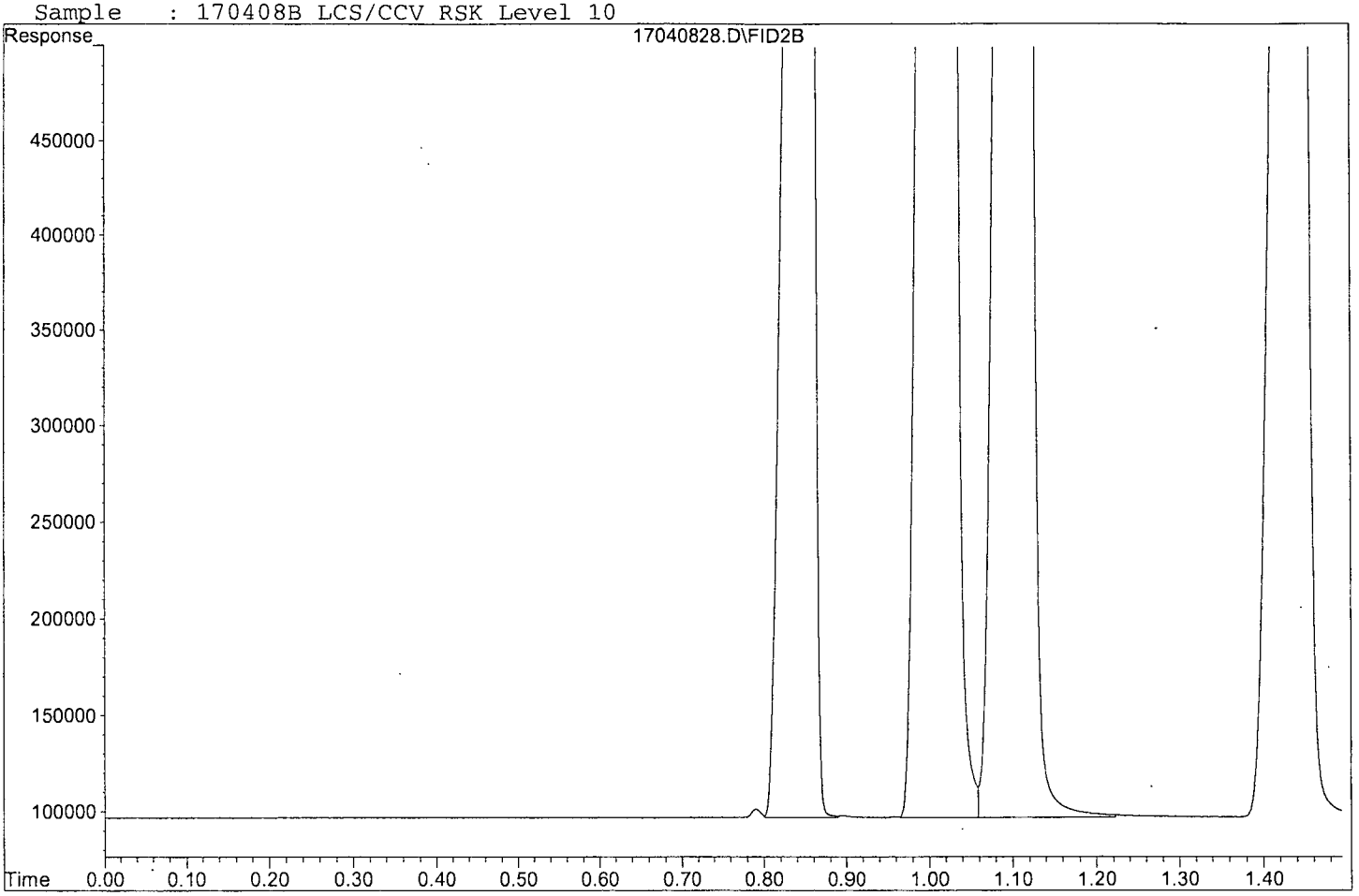
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2965580	1474.046	ppb
2) ATM Ethane	1.02	4775171	2663.584	ppb
3) ATM Ethene	1.11	4147970	2698.609	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040828.D
Sample : 170408B LCS/CCV RSK Level 10



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:00:38 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040806.D Vial: 5
Acq On : 8 Apr 17 10:43 Operator: lac
Sample : 170408A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 11:59 2017 Quant Results File: RSK0225.RES

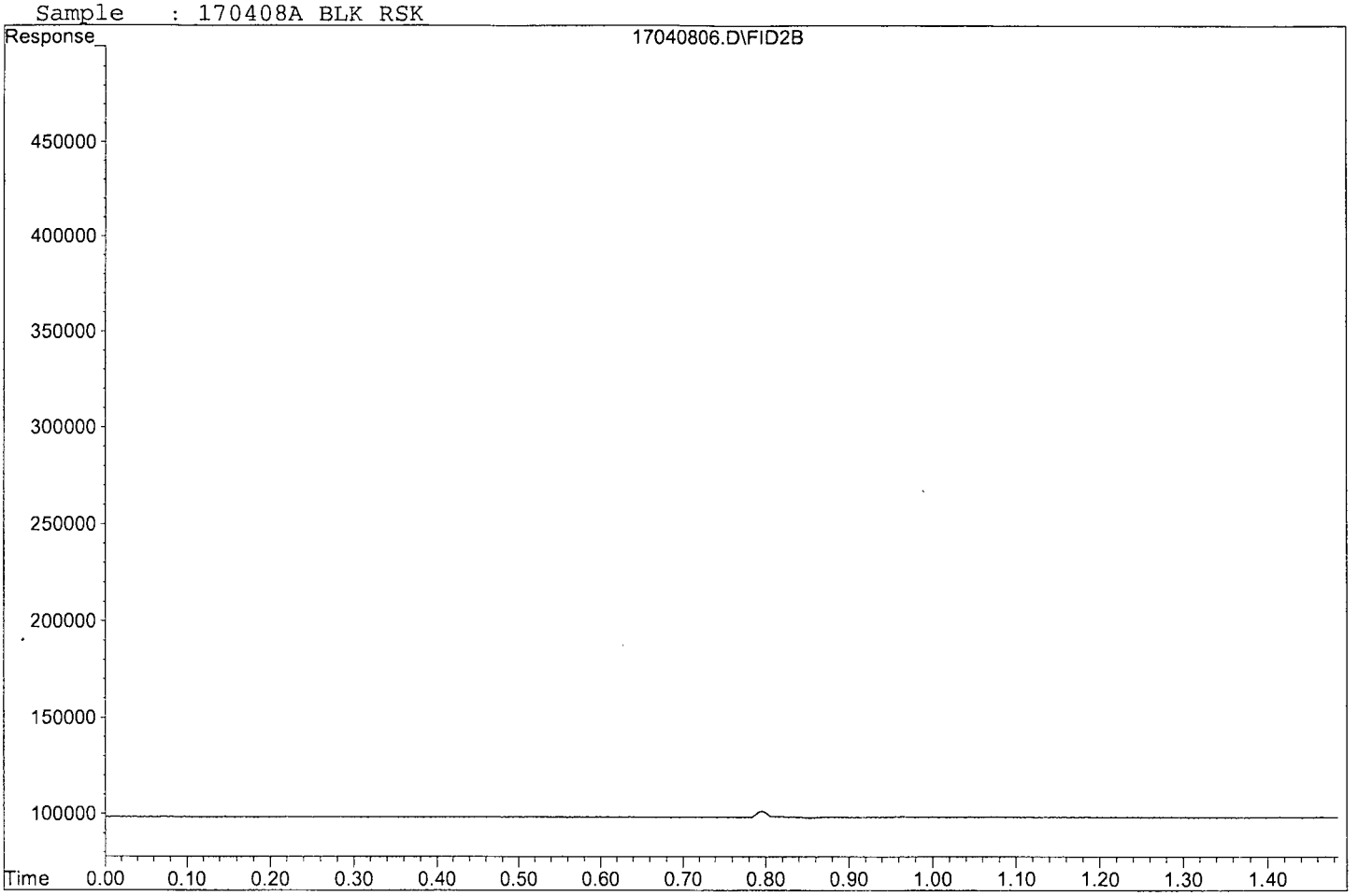
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	154	N.D.	ppb
2) ATM Ethane	1.03	443	N.D.	ppb
3) ATM Ethene	1.12	453	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040806.D
Sample : 170408A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:00:27 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

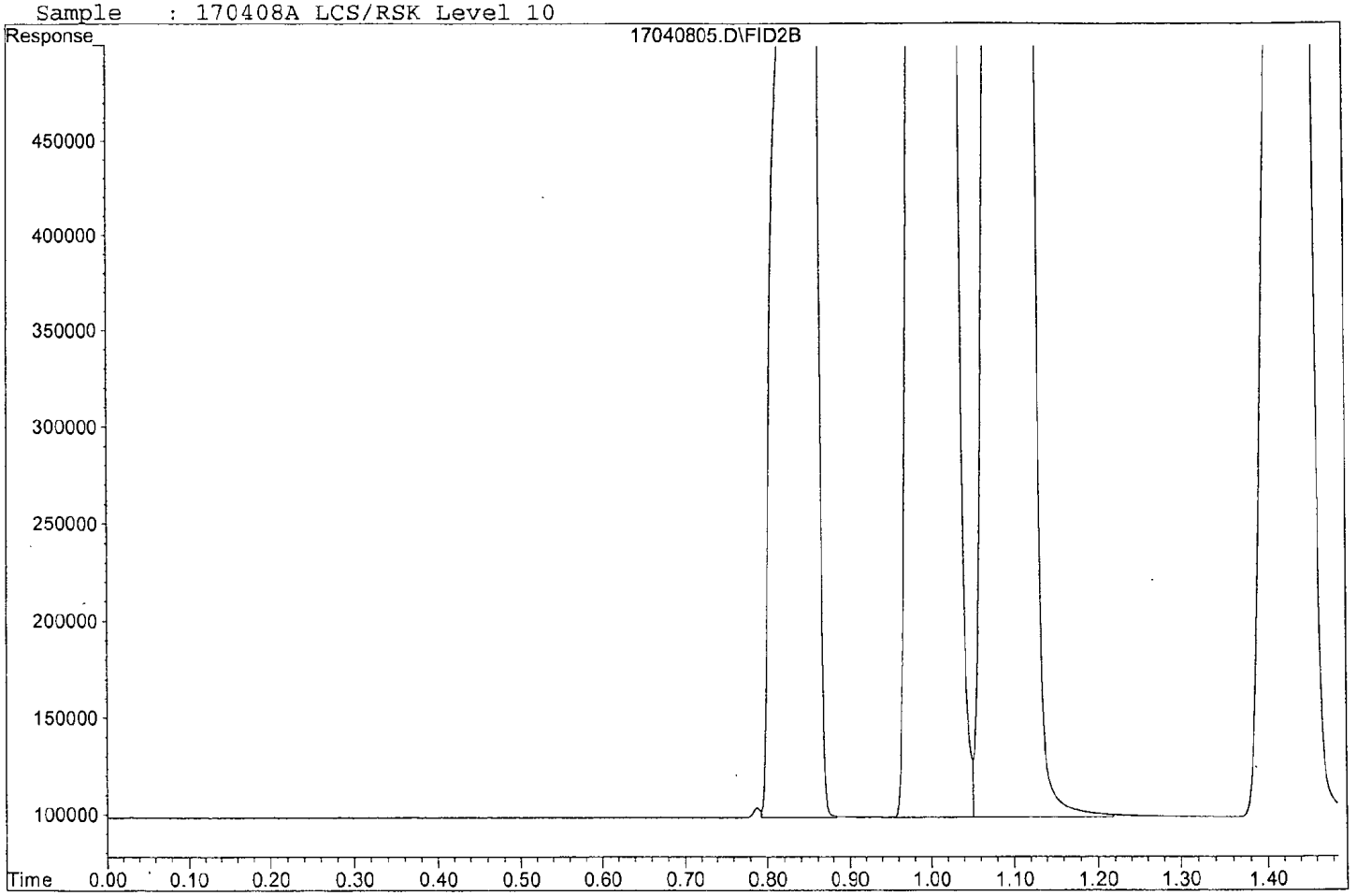
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Matrix Spike Recoveries

METHANE

APPL ID: **170408W-53059 MS - 217625**
Batch ID: #RSKME-170408A
Sample ID: AZ53059
Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	2000	2050	150 #	154 #	72-125	2.5	30

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Rocky	Rocky
Run :	17040809	17040810
Initials :	CMO	

Printed: 04/08/17 2:00:14 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040809.D Vial: 8
Acq On : 8 Apr 17 12:08 Operator: lac
Sample : AZ53059W13 MS Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:10 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

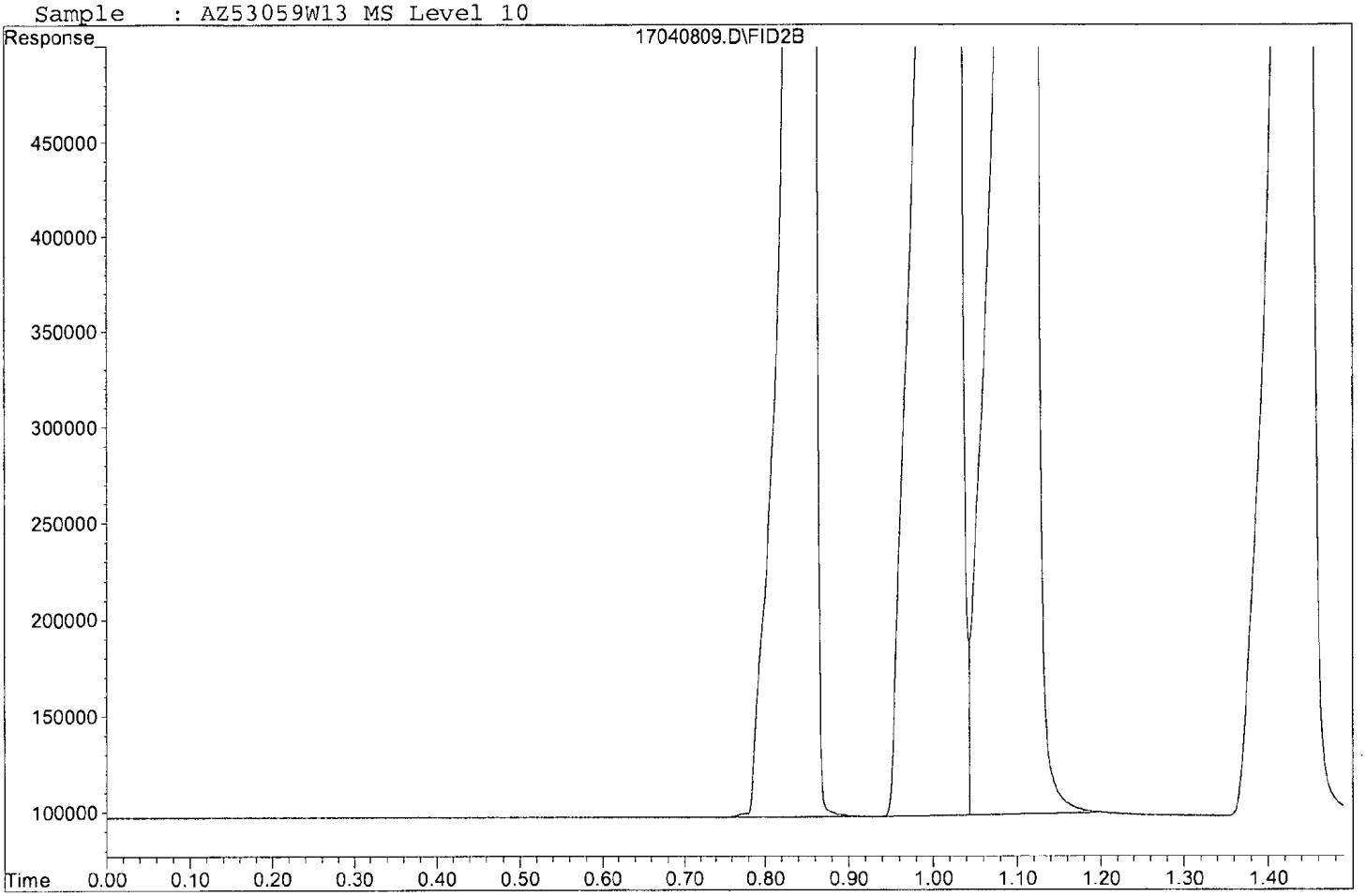
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	4017972	1998.098	ppb
2) ATM Ethane	1.02	6419814	3582.309	ppb
3) ATM Ethene	1.11	5377215	3500.622	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040809.D
Sample : AZ53059W13 MS Level 10



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040810.D Vial: 9
Acq On : 8 Apr 17 12:11 Operator: lac
Sample : AZ53059W14 MSD Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:13 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

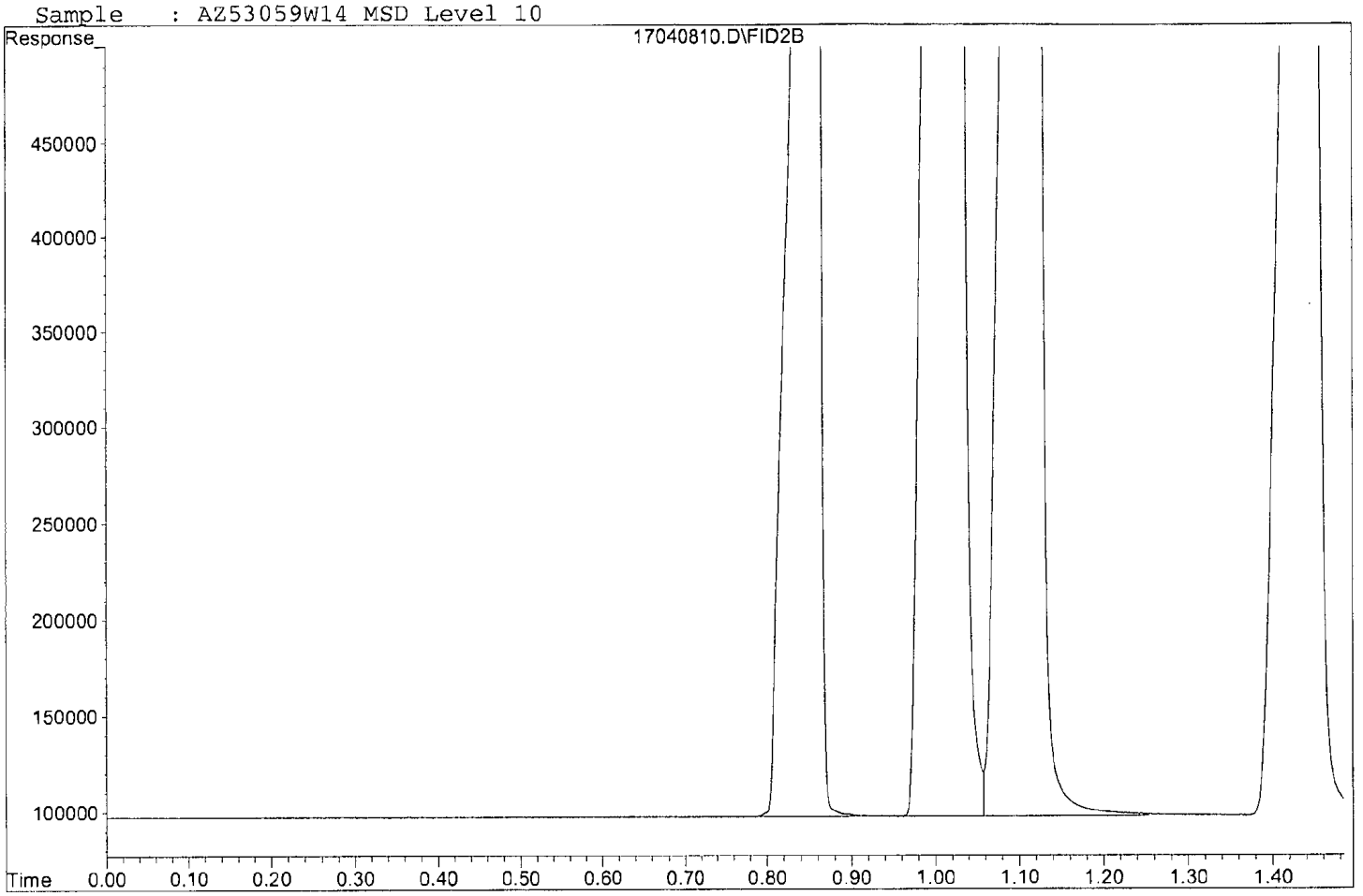
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	4128221	2052.999	ppb
2) ATM Ethane	1.02	6664918	3719.228	ppb
3) ATM Ethene	1.11	5648203	3677.426	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040810.D
Sample : AZ53059W14 MSD Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** **CMM 02/25/17**
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** **CMM 02/25/17**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** **CMM 02/25/17**

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** **CMM 02/25/17**
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** **CMM 02/25/17**
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** **CMM 02/25/17**
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 05/08/17** **CMM 04/08/17**
2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

AZ53059 MS/MSD Level 10 **CMM 04/08/17**
2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL of sample water
final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	4	17040805.D	1	170408A LCS/RSK Level 10		8 Apr 17 10:39
13	5	17040806.D	1	170408A BLK RSK		8 Apr 17 10:43
14	6	17040807.D	1	AZ53058W06		8 Apr 17 12:00
15	7	17040808.D	1	AZ53059W12		8 Apr 17 12:04
16	8	17040809.D	1	AZ53059W13 MS Level 10		8 Apr 17 12:08
17	9	17040810.D	1	AZ53059W14 MSD Level 10		8 Apr 17 12:11
18	10	17040811.D	1	AZ53061W05		8 Apr 17 12:14
19	11	17040812.D	1	AZ53062W06		8 Apr 17 12:17
34	27	17040828.D	1	170408B LCS/CCV RSK Level 10		8 Apr 17 13:07

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/10/17	04/10/17	#300WD-170410A-AZ53059
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/04/17	04/04/17	#35FE-170404A-AZ53059

Wetlab SC-Blank-REG MDLs
Printed: 04/22/17 12:23:35 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/10/17	04/10/17	#300WD-170410A-AZ53059
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	SULFATE	20.0	18.7	93.5	90-110	04/04/17	04/04/17	#300W-170404A-AZ53059
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM3500Fe	FERROUS IRON	3.00	2.90	96.7	80-120	04/04/17	04/04/17	#35FE-170404A-AZ53059

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **170407W-53059 MS - 217672**

Sample ID: AZ53059

Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	61.5	307	303	98.2	96.6	1.3	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53059
SM 2320B	TOTAL ALKALINITY AS	250	61.5	307	303	98.2	96.6	1.3	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53059

Comments: _____

Printed: 04/22/17 12:23:43 PM
APPL MSD SCII

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH292

Sample Collection Date: 04/03/17

APPL ID: AZ53059

ARF: 82577

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	96.2	5.0	1.00	0.40	mg/L	5	04/10/17	04/10/17
EPA 300.0	NITRATE	2.8	0.5	0.18	0.04	mg/L	1	04/04/17	04/04/17
EPA 300.0	SULFATE	16.2	1.0	0.20	0.09	mg/L	1	04/04/17	04/04/17
SM 2320B	BICARBONATE AS CACO3	61.5	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	61.5	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/04/17	04/04/17

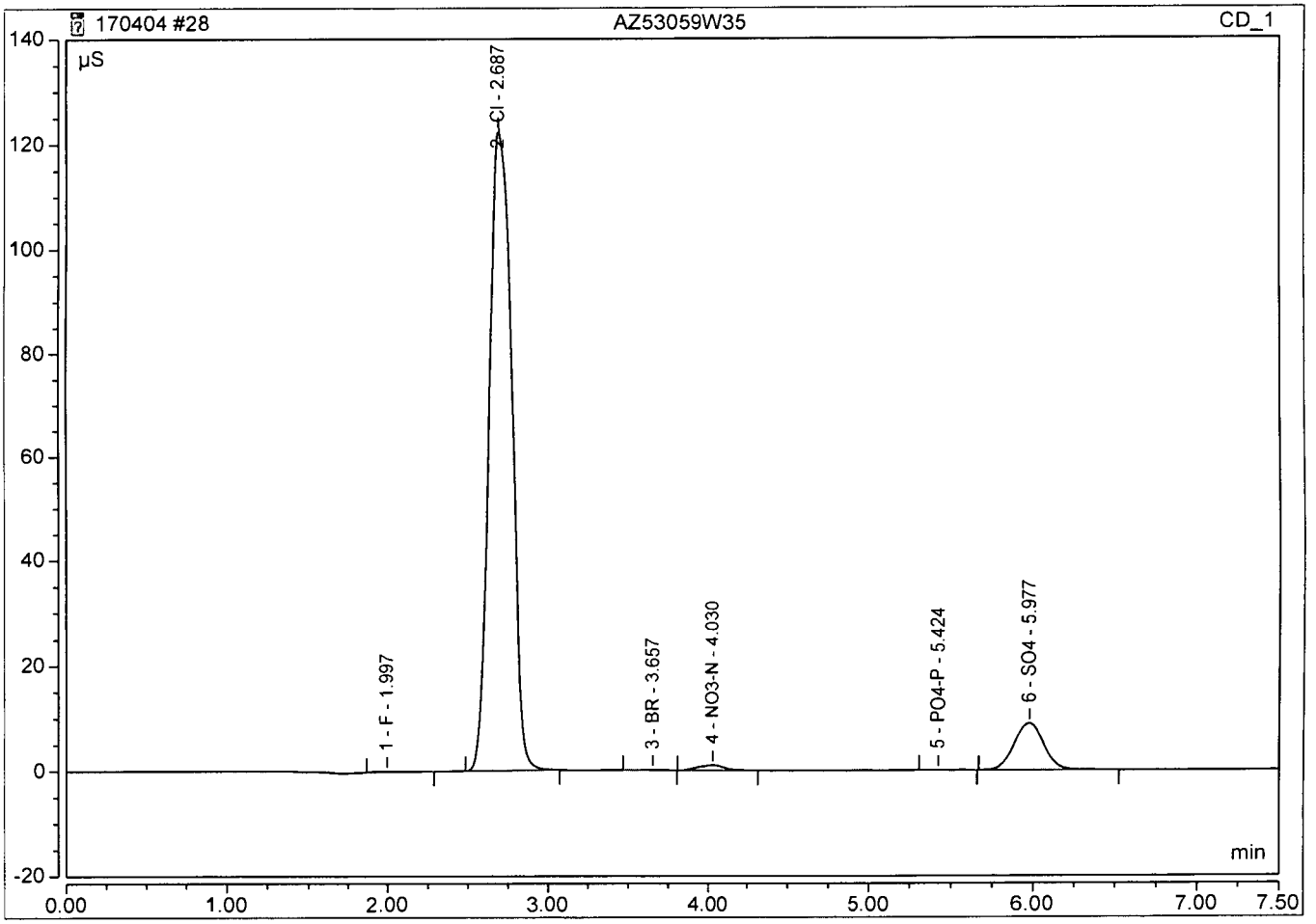
Printed: 04/22/17 12:23:26 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53059W35**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 17:23**	*Run Time:*	**7.50**

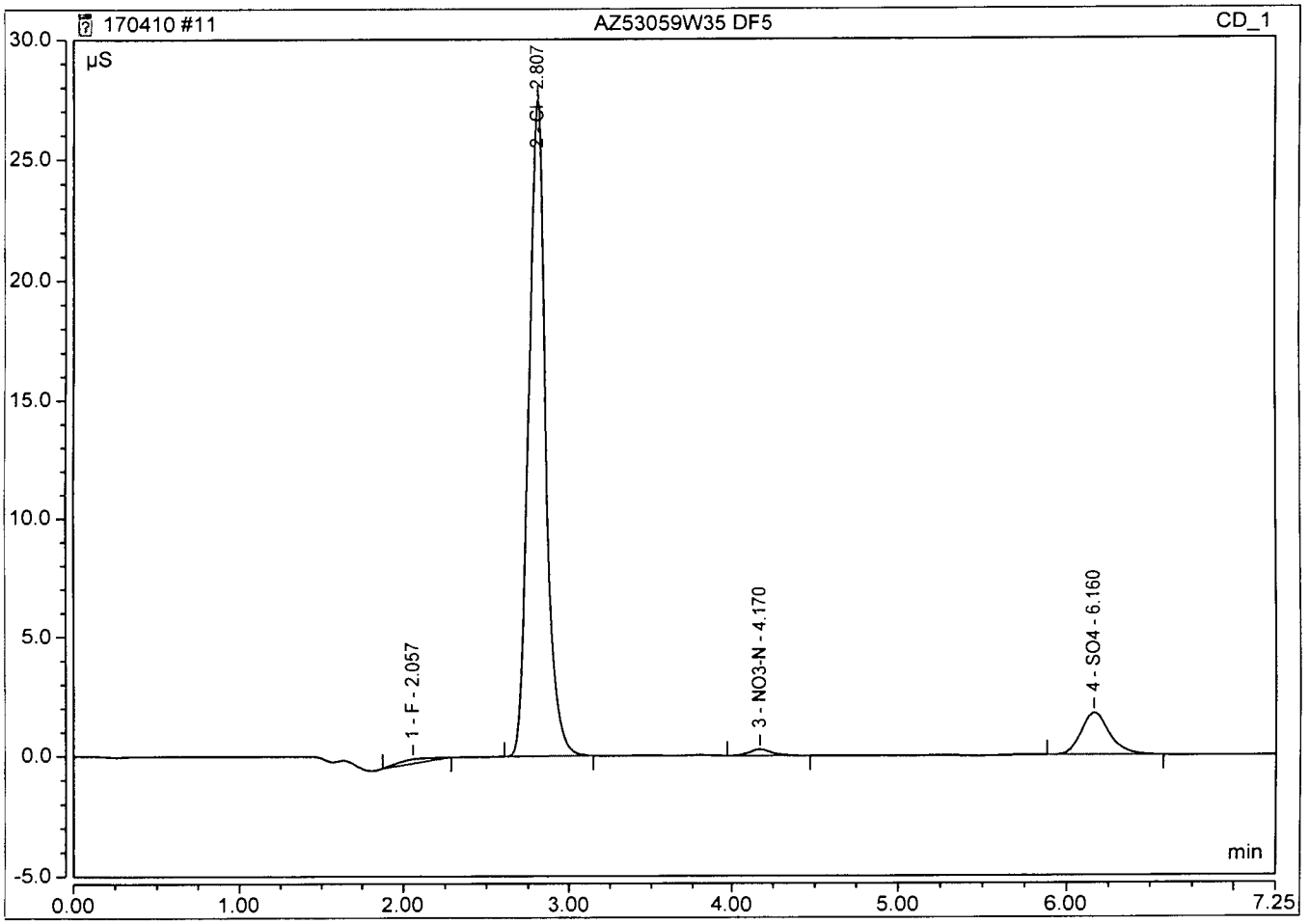
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB	0.023	0.120	0.1588
2	2.69	Cl	BMB	19.761	122.387	110.6172
3	3.66	BR	BMB	0.017	0.097	0.4849
4	4.03	NO3-N	BMB	0.192	0.997	0.6298
5	5.42	PO4-P	BMB	0.006	0.028	0.1849
6	5.98	SO4	BMB	1.818	8.814	16.2300
TOTAL:				21.82	132.44	128.31



Peak Integration Report

Sample Name:	**AZ53059W35 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 14:26**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.06	F	BMB	0.044	0.182	1.3150
2	2.81	Cl	BMB	3.289	27.472	96.1651
3	4.17	NO3-N	BMB	0.040	0.259	1.1657
4	6.16	SO4	BMB	0.343	1.739	17.5176
		TOTAL:		3.72	29.65	116.16



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH295

Sample Collection Date: 04/03/17

APPL ID: AZ53062

ARF: 82577

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	83.6	2.0	0.40	0.16	mg/L	2	04/10/17	04/10/17
EPA 300.0	NITRATE	2.7	0.5	0.18	0.04	mg/L	1	04/04/17	04/04/17
EPA 300.0	SULFATE	11.0	1.0	0.20	0.09	mg/L	1	04/04/17	04/04/17
SM 2320B	BICARBONATE AS CACO3	77.7	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	77.7	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/04/17	04/04/17

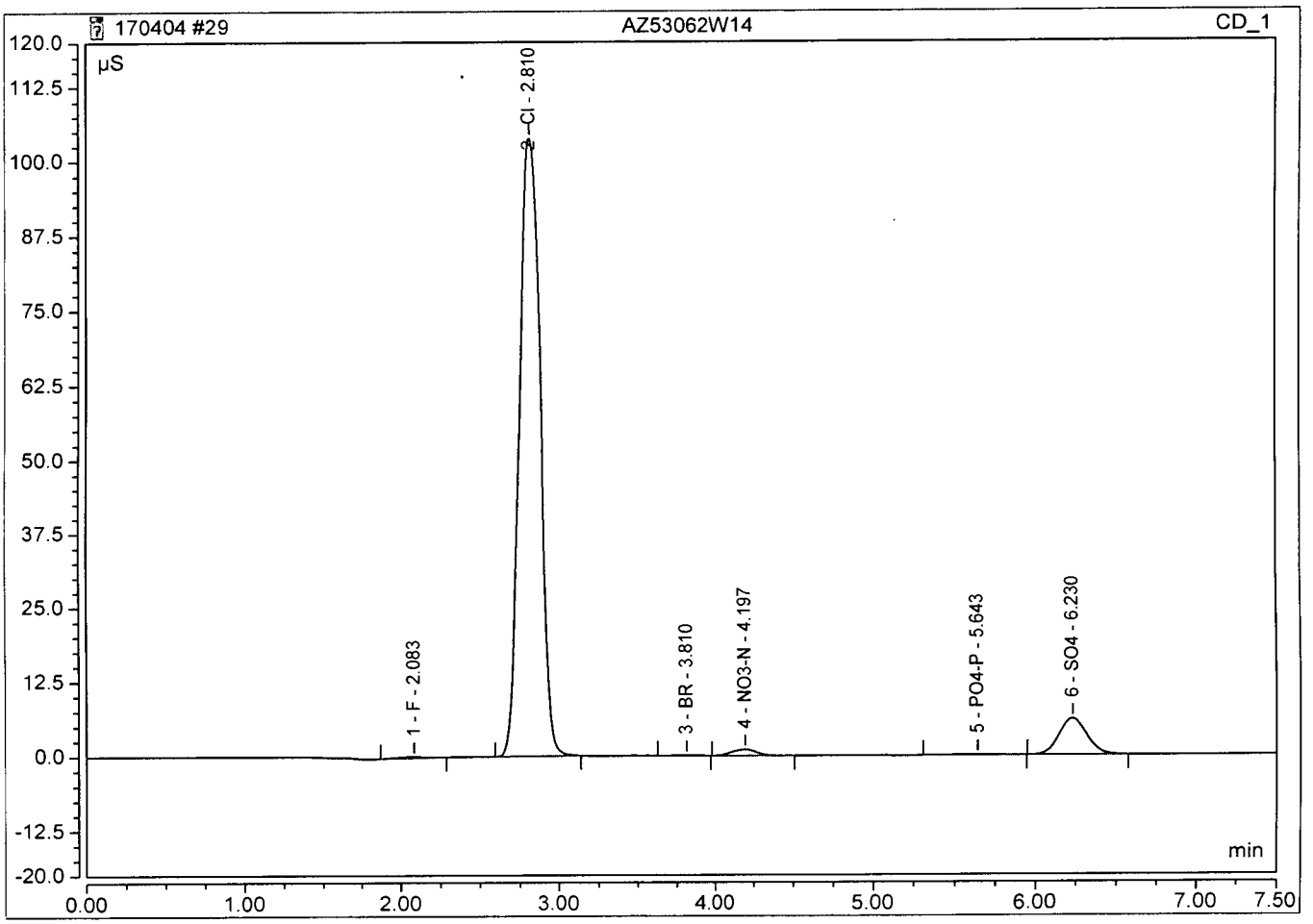
Printed: 04/22/17 12:23:26 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53062W14**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 17:37**	*Run Time:*	**7.50**

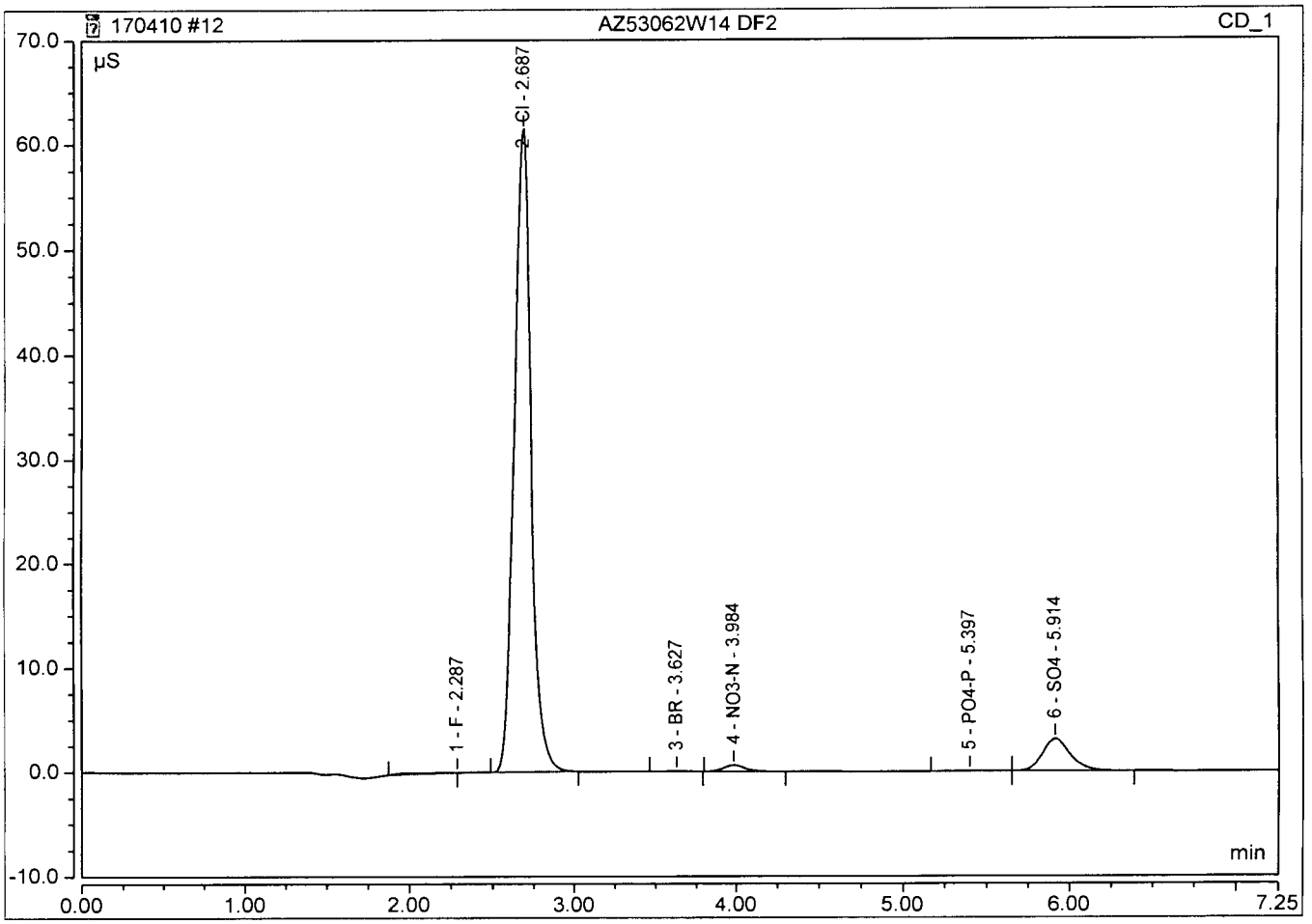
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.08	F	BMB	0.033	0.160	0.2105
2	2.81	Cl	BMB	15.829	103.895	88.8034
3	3.81	BR	BMB	0.015	0.090	0.4497
4	4.20	NO3-N	BMB	0.188	1.039	0.6188
5	5.64	PO4-P	BMB	0.024	0.072	0.3337
6	6.23	SO4	BMB	1.206	6.023	10.9522
		TOTAL:		17.30	111.28	101.37



Peak Integration Report

Sample Name:	**AZ53062W14 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 14:39**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.29	F	BMB	0.028	0.000	0.3698
2	2.69	Cl	BMB	7.354	61.377	83.5623
3	3.63	BR	BMB	0.007	0.055	0.6629
4	3.98	NO3-N	BMB	0.094	0.614	0.7485
5	5.40	PO4-P	BMB	0.011	0.043	0.4535
6	5.91	SO4	BMB	0.595	3.067	11.3524
TOTAL:				8.09	65.16	97.15



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82577 SDG: 82577
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 17:55	%R(1)	True CCV1	Found 18:03	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.86314	96.6	4	3.88312	97.1	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82577 SDG: 82577

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 04/04/17 17:56	C	CCB 04/04/17 18:04	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82577 SDG: 82577
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
chloride	20	18.867	94.3							
Nitrate(NO3)	22.1	21.9317	99.2							
sulfate	20	19.6588	98.3							

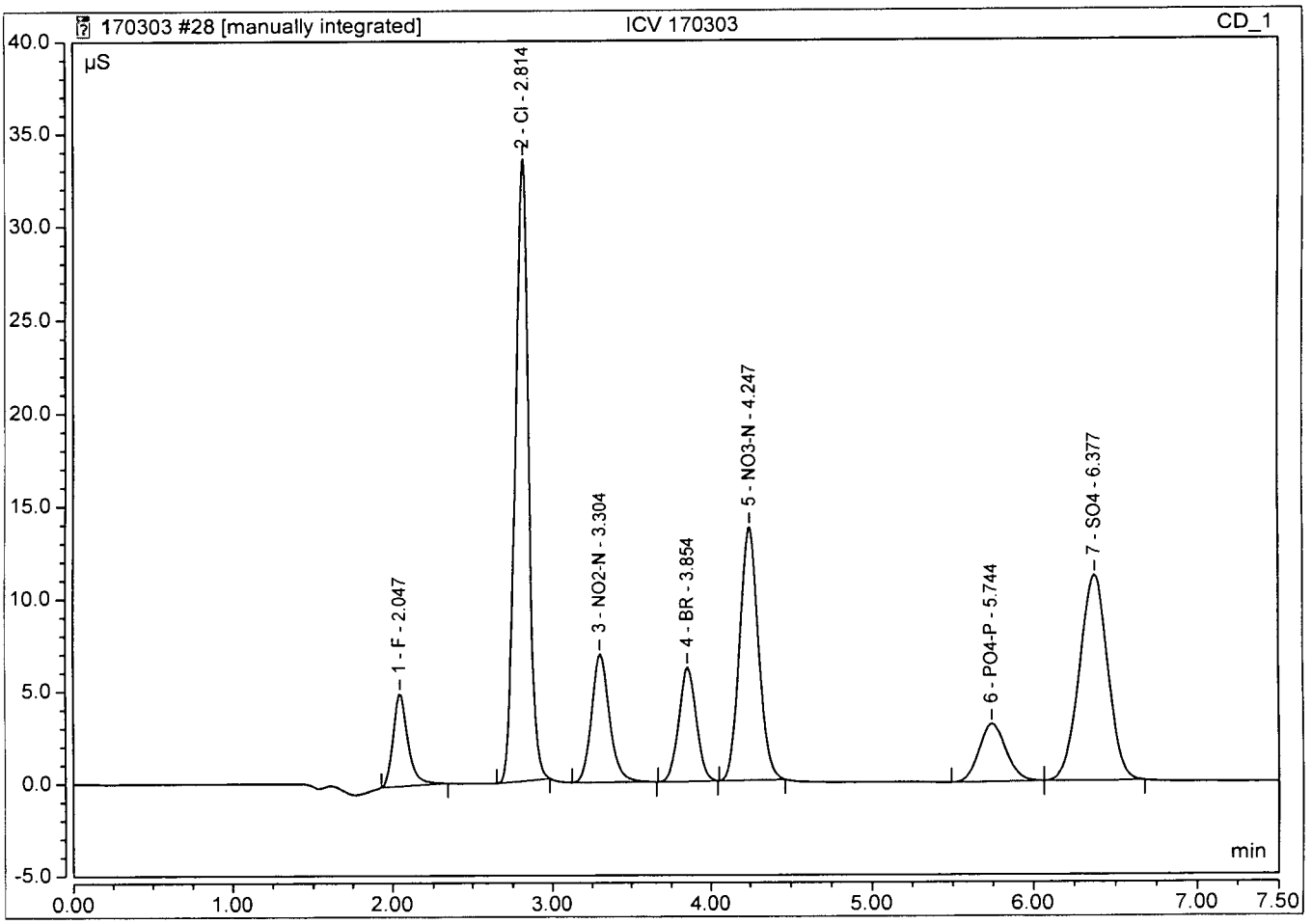
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
TOTAL:				10.11	79.46	66.64



Algorithm Check

y = Peak Area
x = Amt

y = .1159x - .0634
x = 19.66 ✓ MM 4/22/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82577 SDG: 82577

Preparation Blank Matrix (soil/water): water

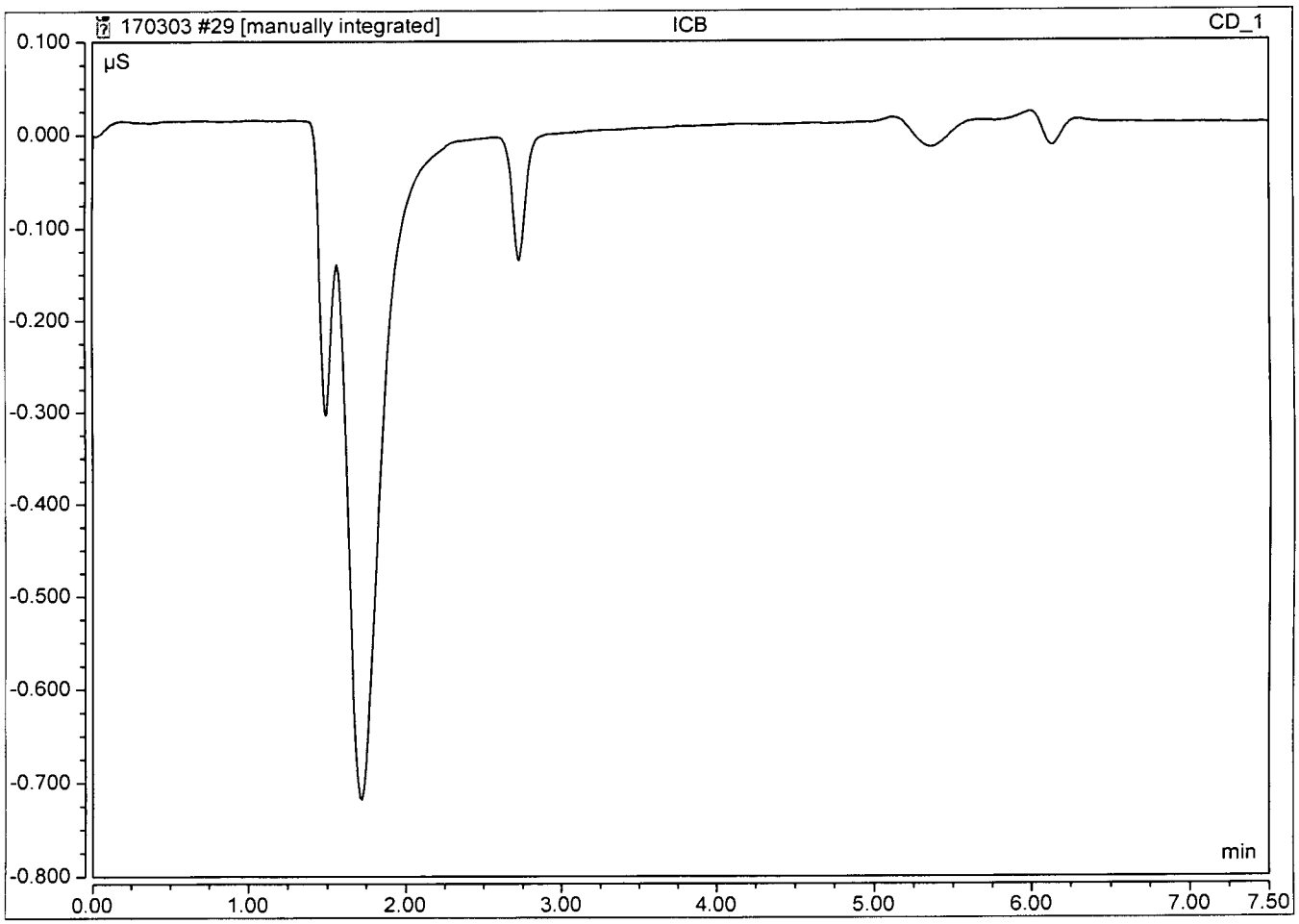
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
chloride	1.000	U									
Nitrate(NO3)	.500	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82577 SDG: 82577
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/04/17

Analyte	Calibration Verification									M
	True CCV1	Found 13:35	%R(1)	True CCV1	Found 18:44	%R(1)	True	Found	%R(1)	
Nitrate(NO3)	22.1	21.7873	98.6	22.1	21.6297	97.9				
sulfate	25	24.6192	98.5	25	24.0528	96.2				

(1) Control Limits: 90-110

ILM02.0

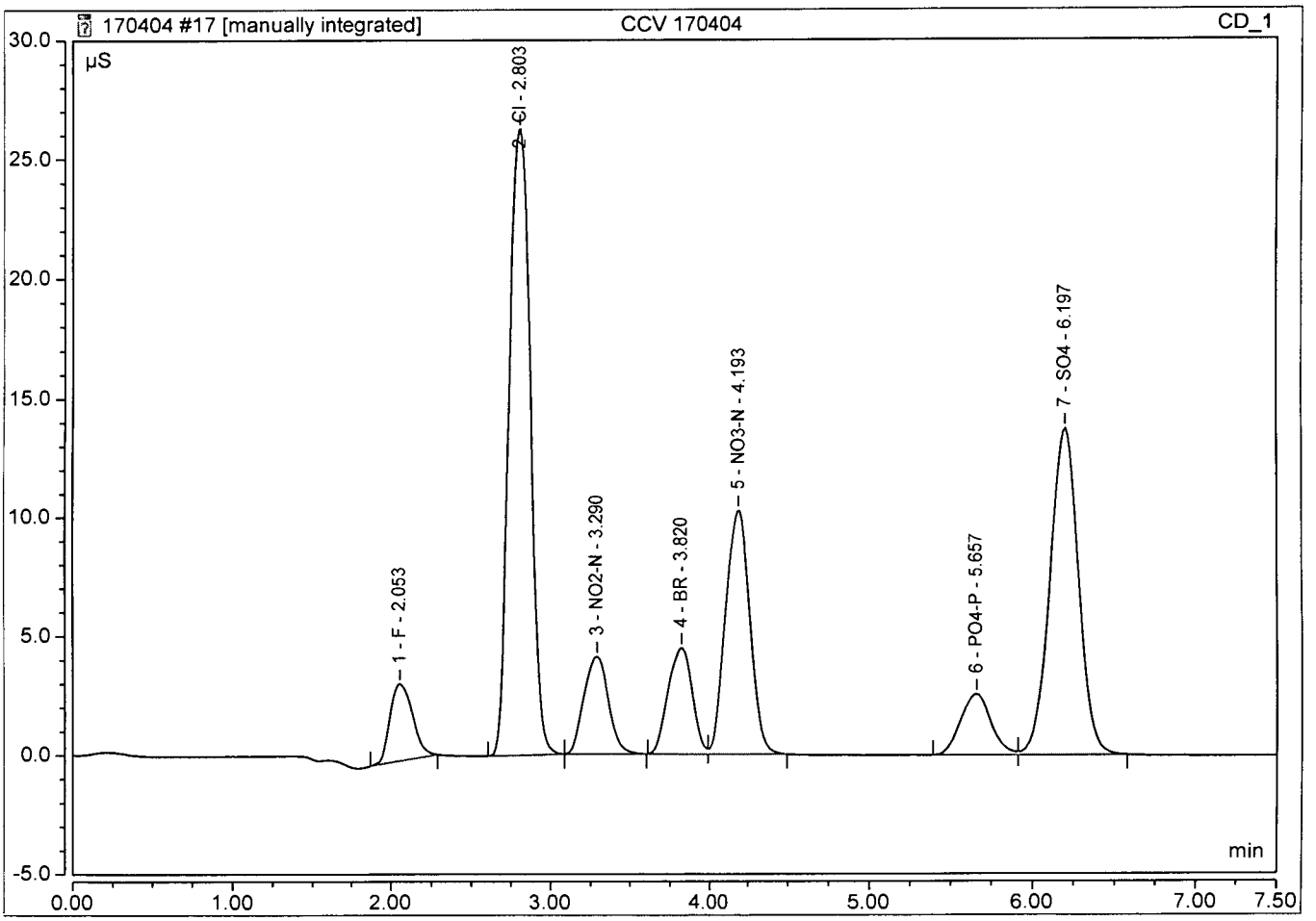
M1 MM 4/11/17

Peak Integration Report

PW

Sample Name:	**CCV 170404**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 13:35**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.523	3.237	2.6337
2	2.80	Cl	BMB	4.092	26.263	23.6865
3	3.29	NO2-N	BMB	0.729	4.091	2.5168
4	3.82	BR	BM *	0.772	4.442	12.3413
5	4.19	NO3-N	MB*	1.837	10.243	4.9197
6	5.66	PO4-P	BM *	0.552	2.553	4.5709
7	6.20	SO4	MB*	2.790	13.747	24.6192
		TOTAL:		11.30	64.58	75.29



Algorithm Check

y = .1159x - .0634

x = 24.62 ✓

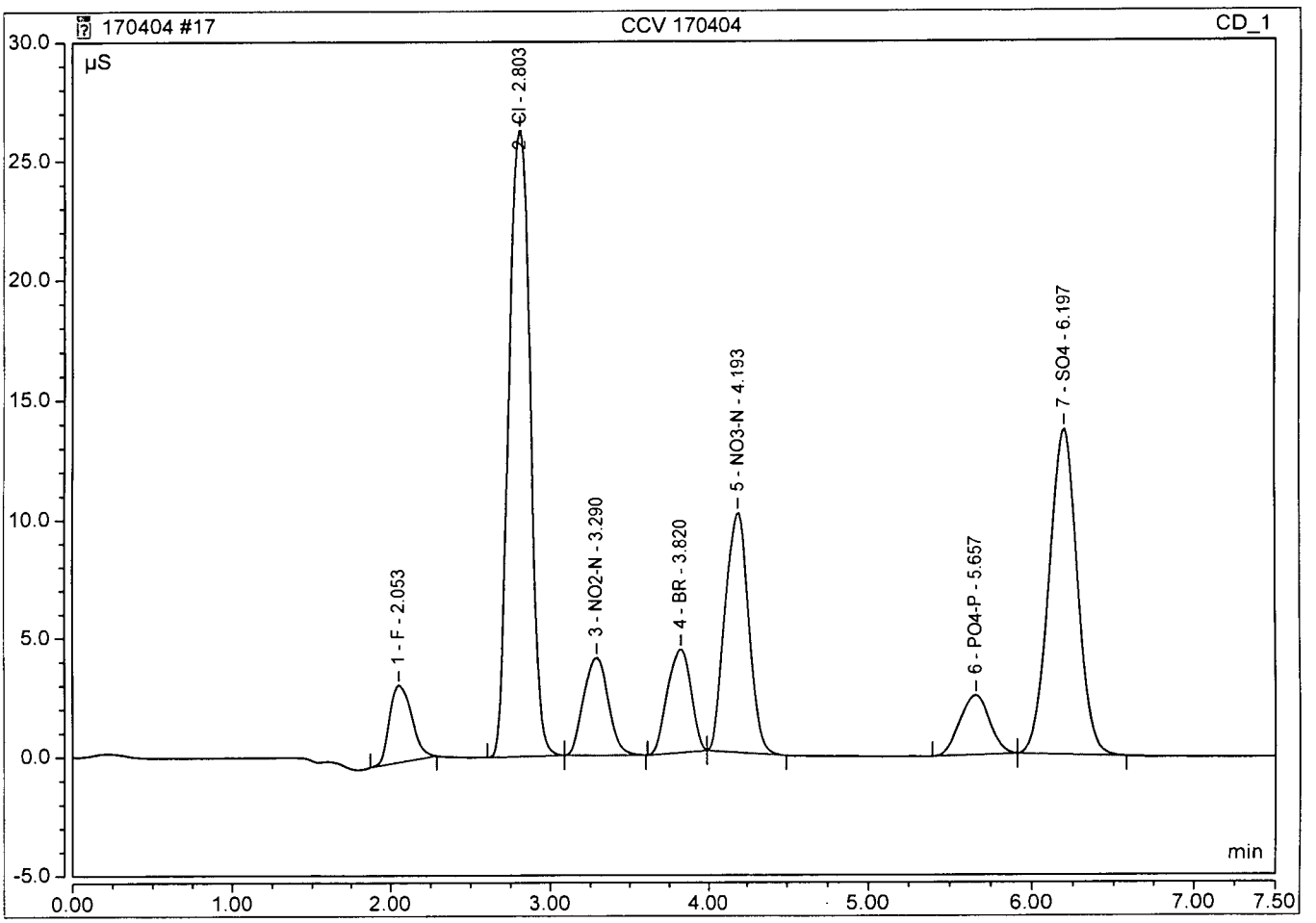
y = Peak Area
x = Amnt

MM 4/22/17

Peak Integration Report

Sample Name:	**CCV 170404**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 13:35**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.523	3.237	2.6337
2	2.80	Cl	BMB	4.092	26.263	23.6865
3	3.29	NO2-N	BMB	0.729	4.091	2.5168
4	3.82	BR	BMB	0.735	4.330	11.7462
5	4.19	NO3-N	BMB	1.786	10.124	4.7868
6	5.66	PO4-P	BMB	0.522	2.494	4.3328
7	6.20	SO4	BMB	2.752	13.681	24.2854
		TOTAL:		11.14	64.22	73.99

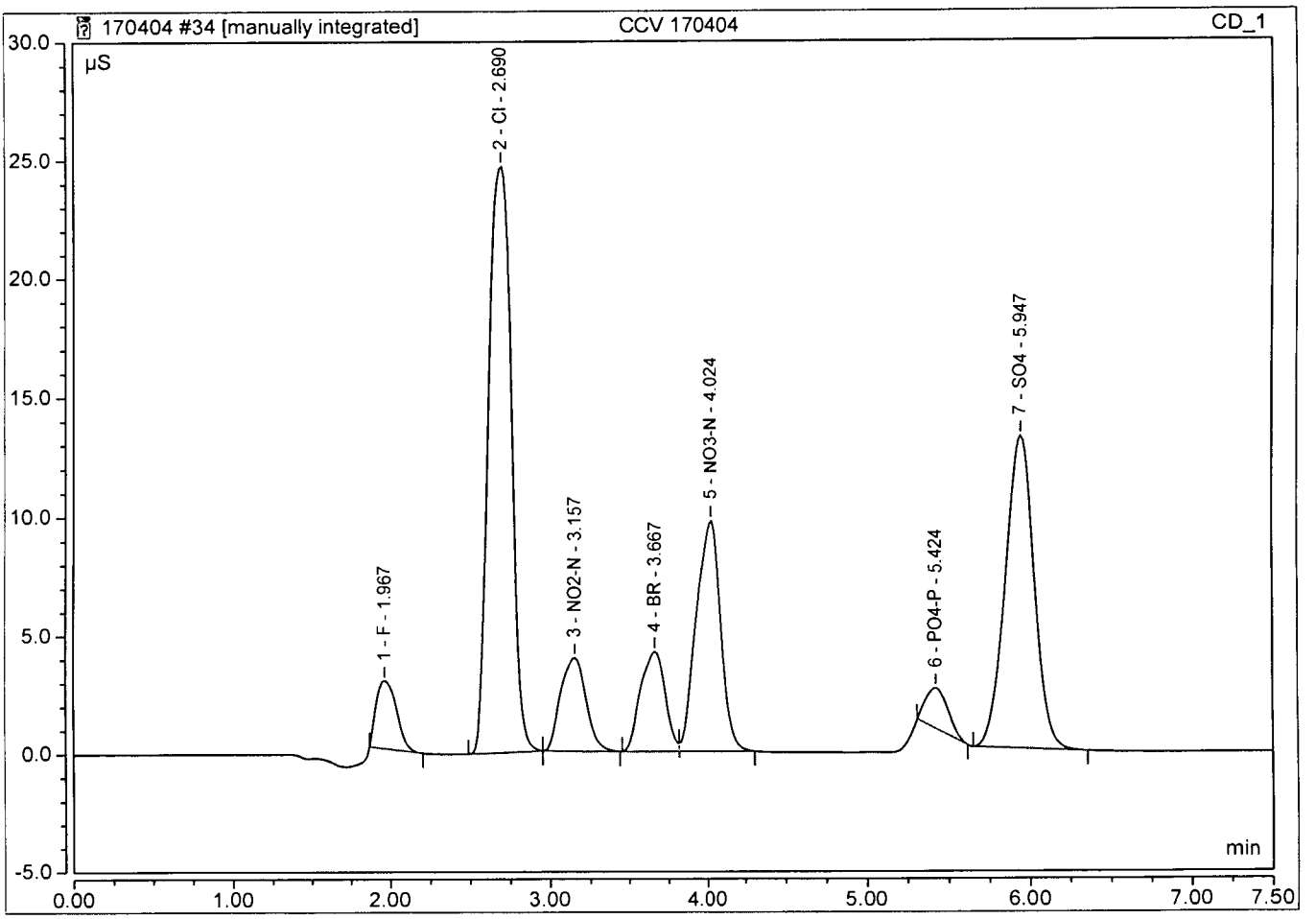


mi mm 4/11/17

Peak Integration Report PW

Sample Name:	**CCV 170404**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 18:44**	*Run Time:*	**7.50**

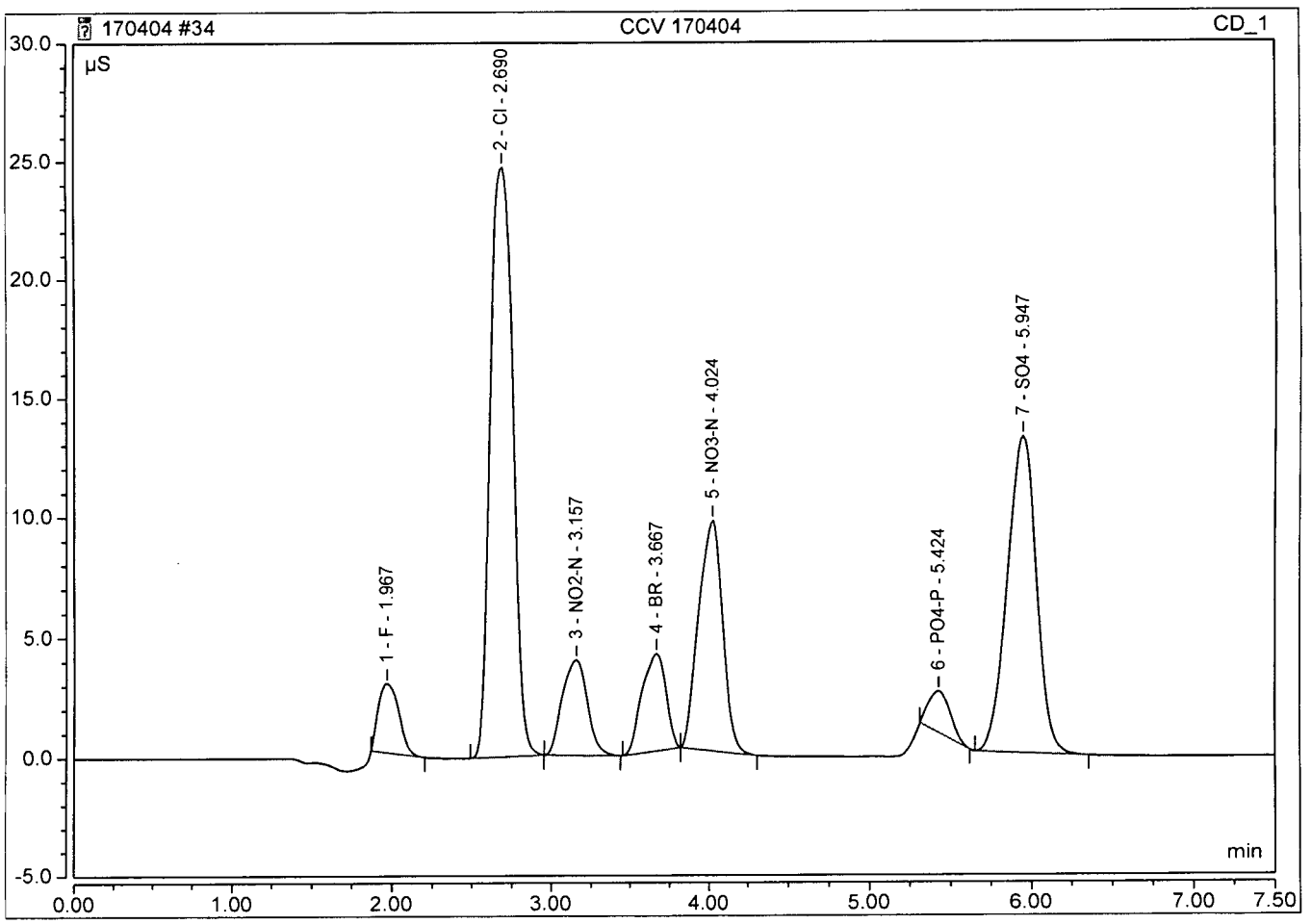
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.425	2.865	2.1479
2	2.69	Cl	BMB	4.054	24.690	23.4743
3	3.16	NO2-N	BMB	0.721	3.942	2.4901
4	3.67	BR	BM *	0.761	4.208	12.1610
5	4.02	NO3-N	MB*	1.824	9.732	4.8841
6	5.42	PO4-P	BMB	0.262	1.699	2.2447
7	5.95	SO4	BMB	2.725	13.120	24.0528
		TOTAL:		10.77	60.25	71.45



Peak Integration Report

Sample Name:	**CCV 170404**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 18:44**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.425	2.865	2.1479
2	2.69	Cl	BMB	4.054	24.690	23.4743
3	3.16	NO2-N	BMB	0.721	3.942	2.4901
4	3.67	BR	BMB	0.701	4.013	11.2121
5	4.02	NO3-N	BMB	1.742	9.539	4.6715
6	5.42	PO4-P	BMB	0.262	1.699	2.2447
7	5.95	SO4	BMB	2.725	13.120	24.0528
		TOTAL:		10.63	59.87	70.29



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82577 SDG: 82577

Preparation Blank Matrix (soil/water): water

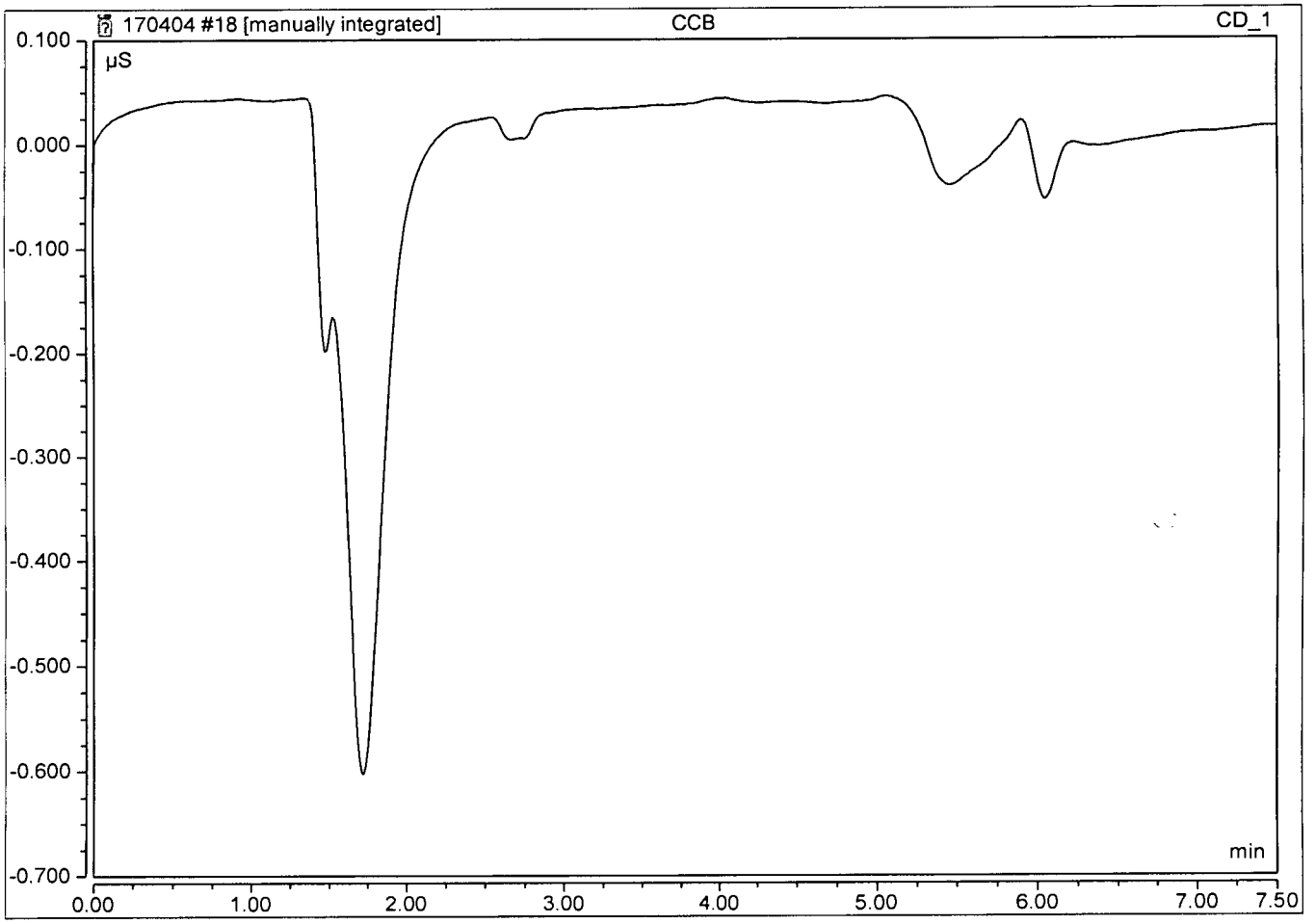
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/04/17 13:49	C	CCB 04/04/17 18:58	C		C		C		C	
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 13:49**	*Run Time:*	**7.50**

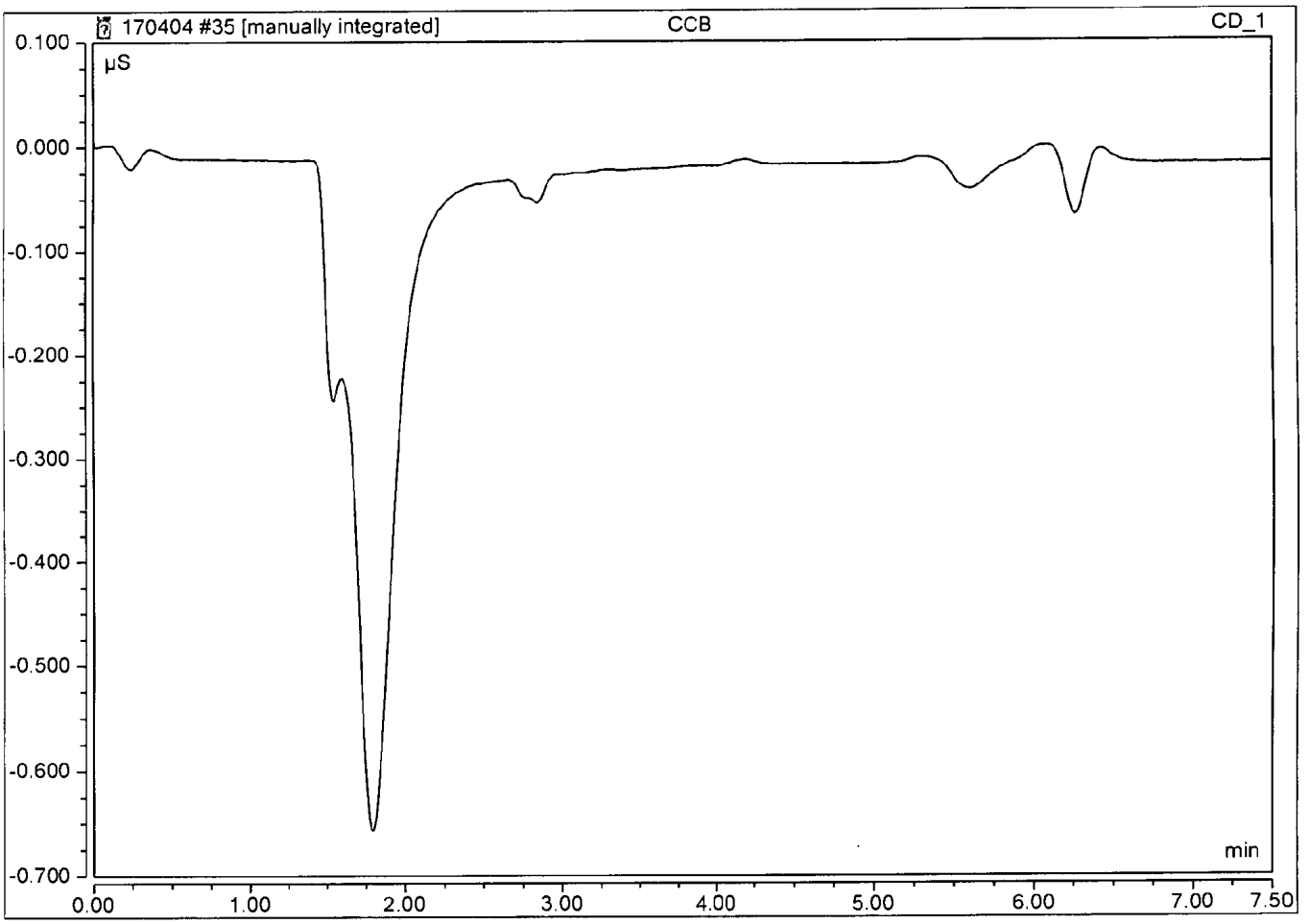
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 18:58**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82577 SDG: 82577
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/10/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:33	%R(1)	True CCV1	Found 15:59	%R(1)	True	Found	%R(1)	
chloride	25	24.3441	97.4	25	24.7352	98.9				

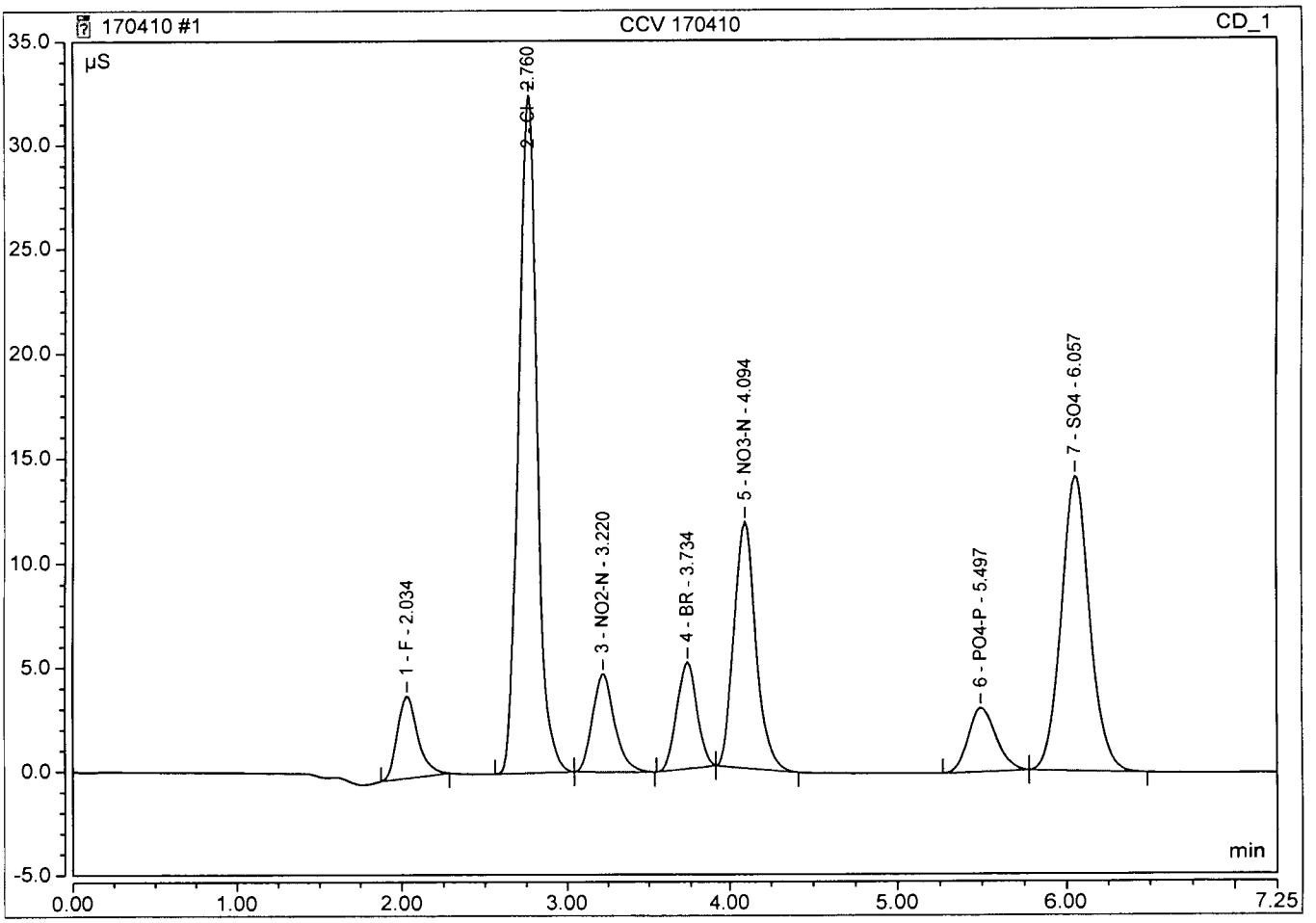
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170410**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 09:33**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.561	3.952	2.8254
2	2.76	Cl	BMB	4.211	32.457	24.3441
3	3.22	NO2-N	BMB	0.738	4.717	2.5458
4	3.73	BR	BMB	0.725	5.121	11.5981
5	4.09	NO3-N	BMB	1.811	11.805	4.8515
6	5.50	PO4-P	BMB	0.587	3.070	4.8527
7	6.06	SO4	BMB	2.805	14.099	24.7493
		TOTAL:		11.44	75.22	75.77



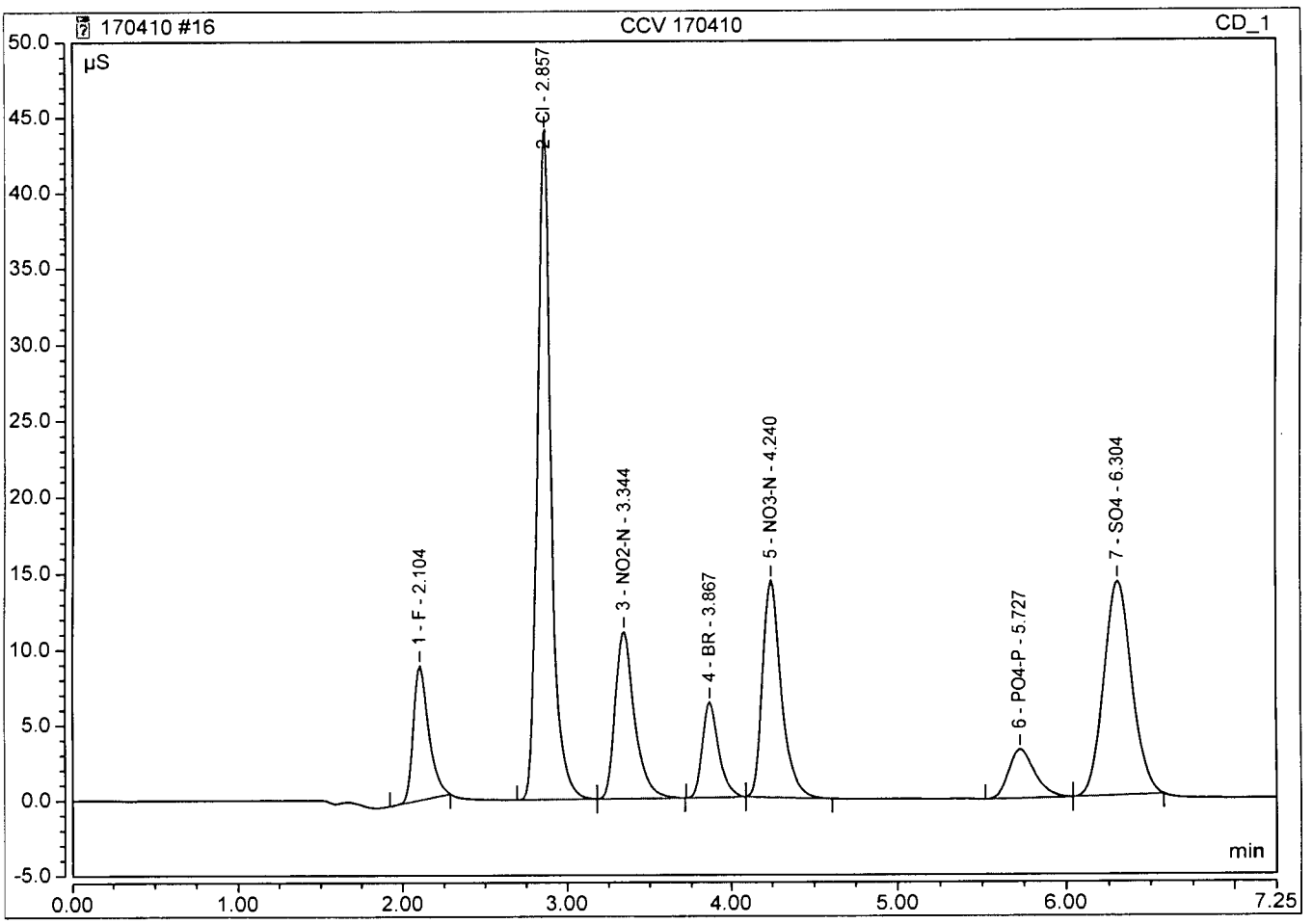
Algorithm Check
y = .1159x - .0634
x = 24.75 ✓

y = Peak Area
x = Amount
MM 4/22/17

Peak Integration Report

Sample Name:	**CCV 170410**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 15:59**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.962	8.946	4.8104
2	2.86	Cl	BMB	4.281	44.029	24.7352
3	3.34	NO2-N	BMB	1.522	11.107	5.2182
4	3.87	BR	BMB	0.760	6.329	12.1434
5	4.24	NO3-N	BMB	1.883	14.384	5.0387
6	5.73	PO4-P	BMB	0.579	3.252	4.7902
7	6.30	SO4	BMB	2.748	14.218	24.2571
		TOTAL:		12.74	102.26	80.99



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82577 SDG: 82577

Preparation Blank Matrix (soil/water): water

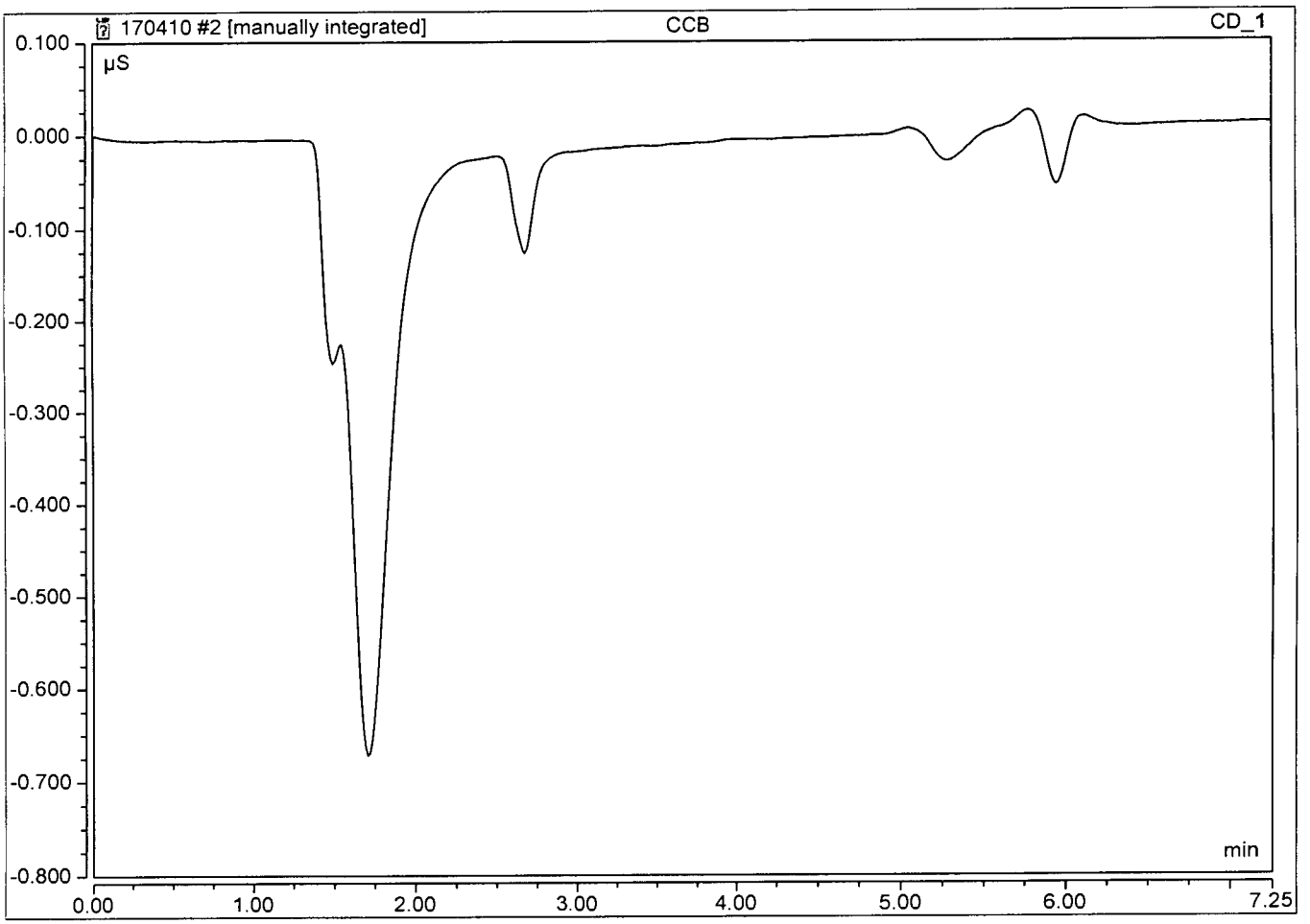
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/10/17 09:46	C	CCB 04/10/17 16:12	C		C		C		C	
chloride	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 09:46**	*Run Time:*	**7.25**

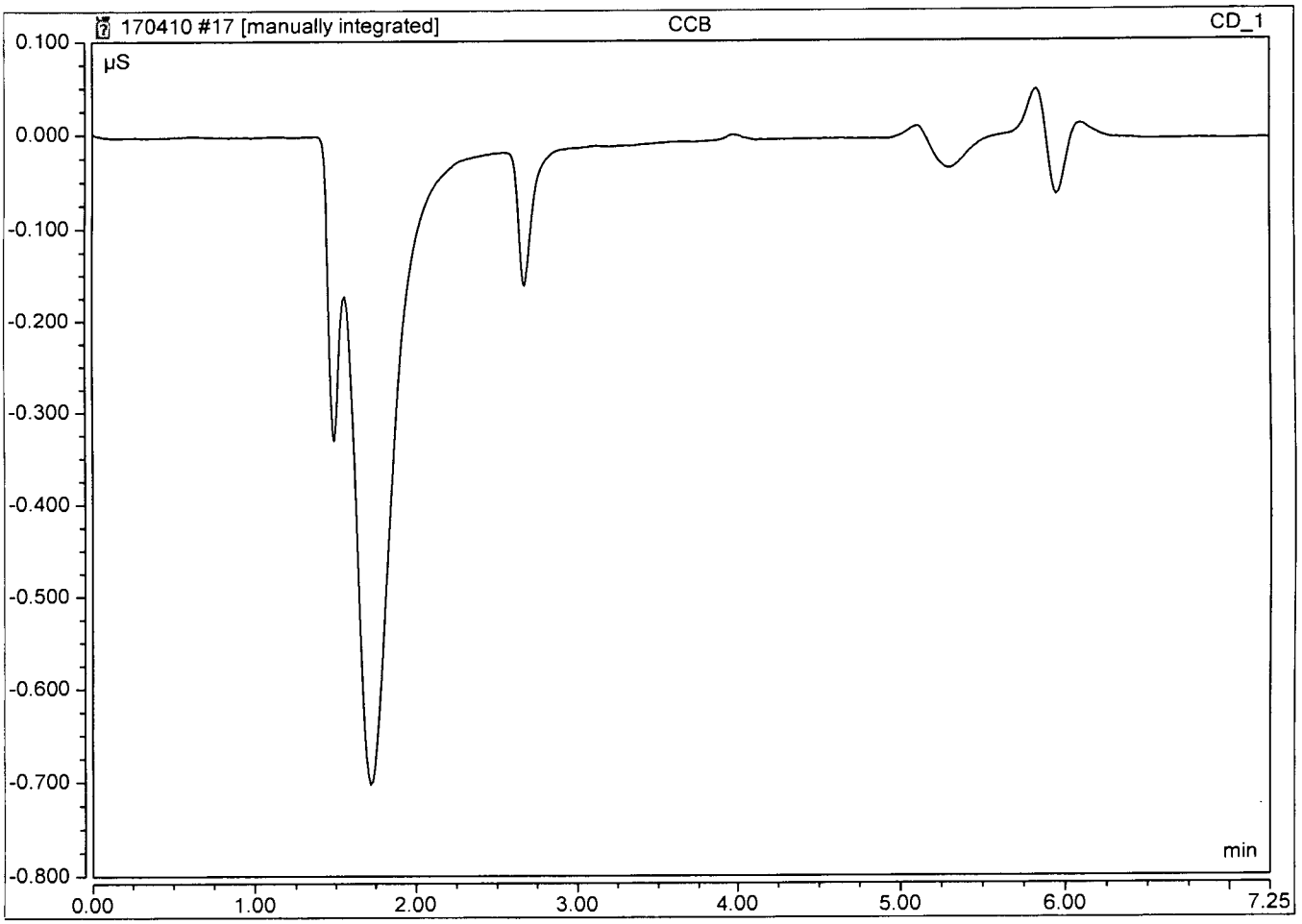
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



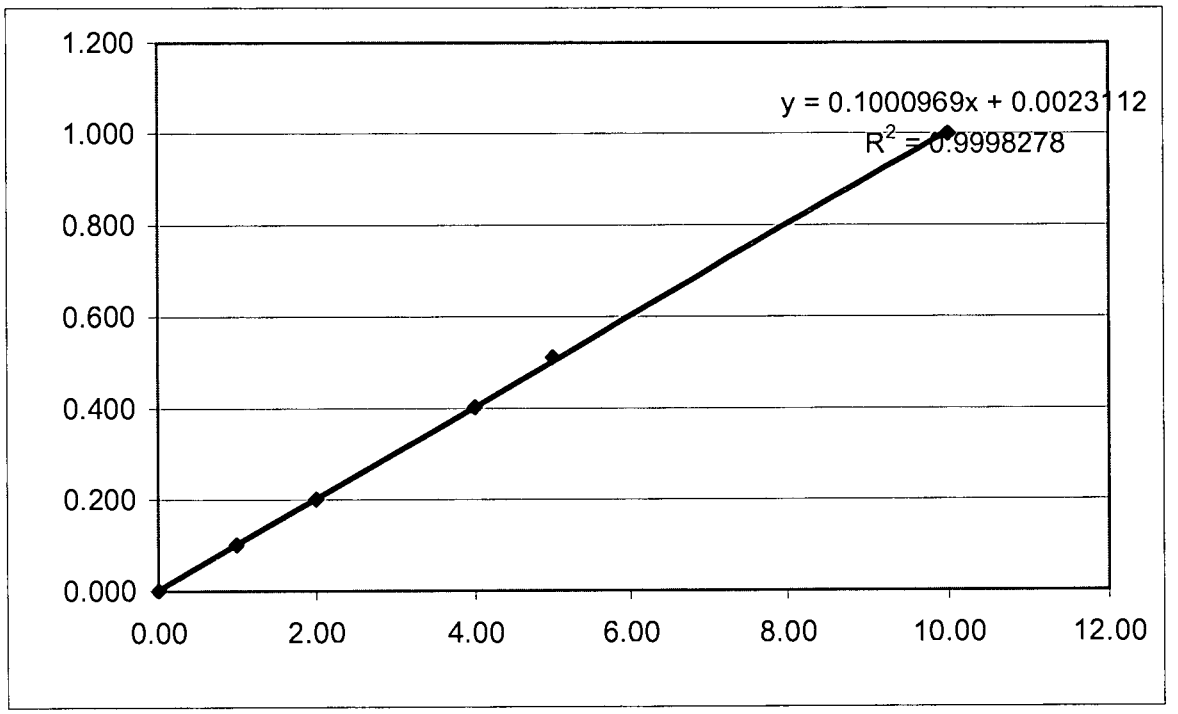
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 16:12**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



170404A Ferrous Iron



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check 04/04/17 17:57

reading (y)= 0.293

dilution= 1

result (x)= 2.90 ✓ MM 4/22/17

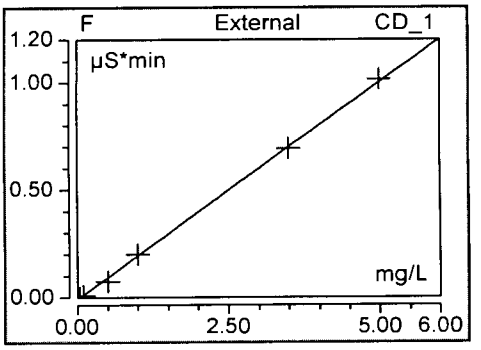
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

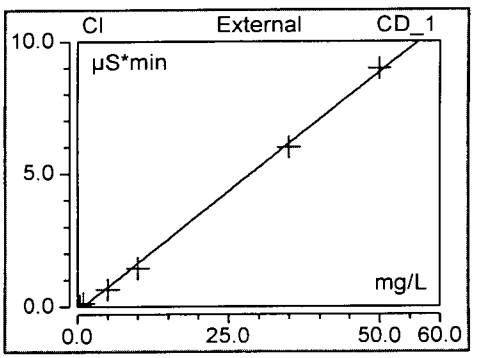
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

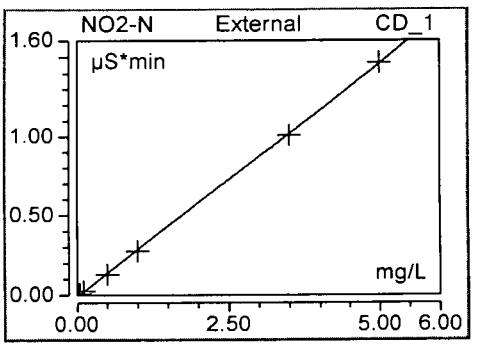
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



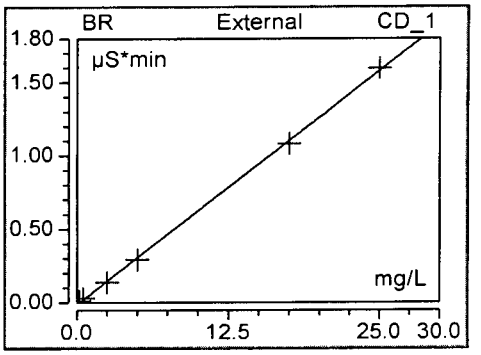
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



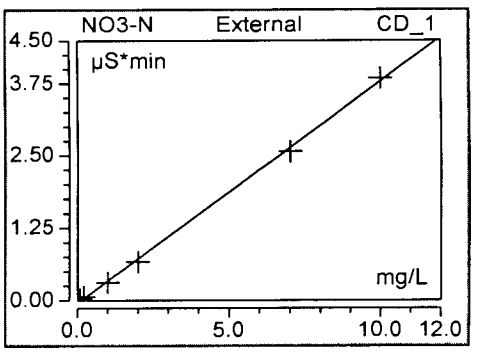
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



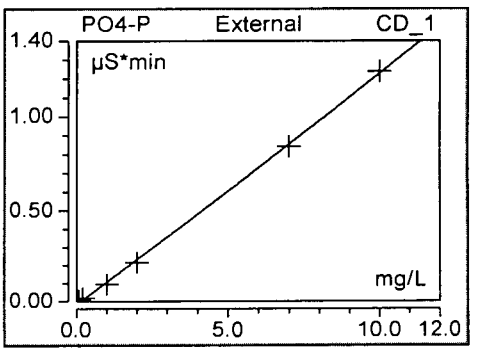
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



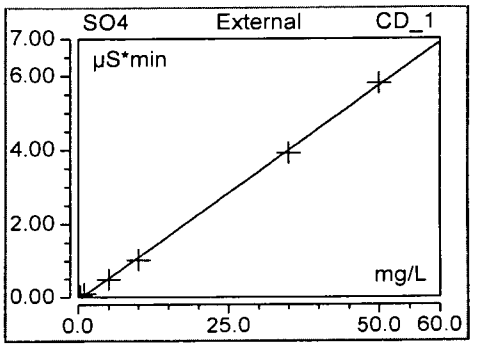
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



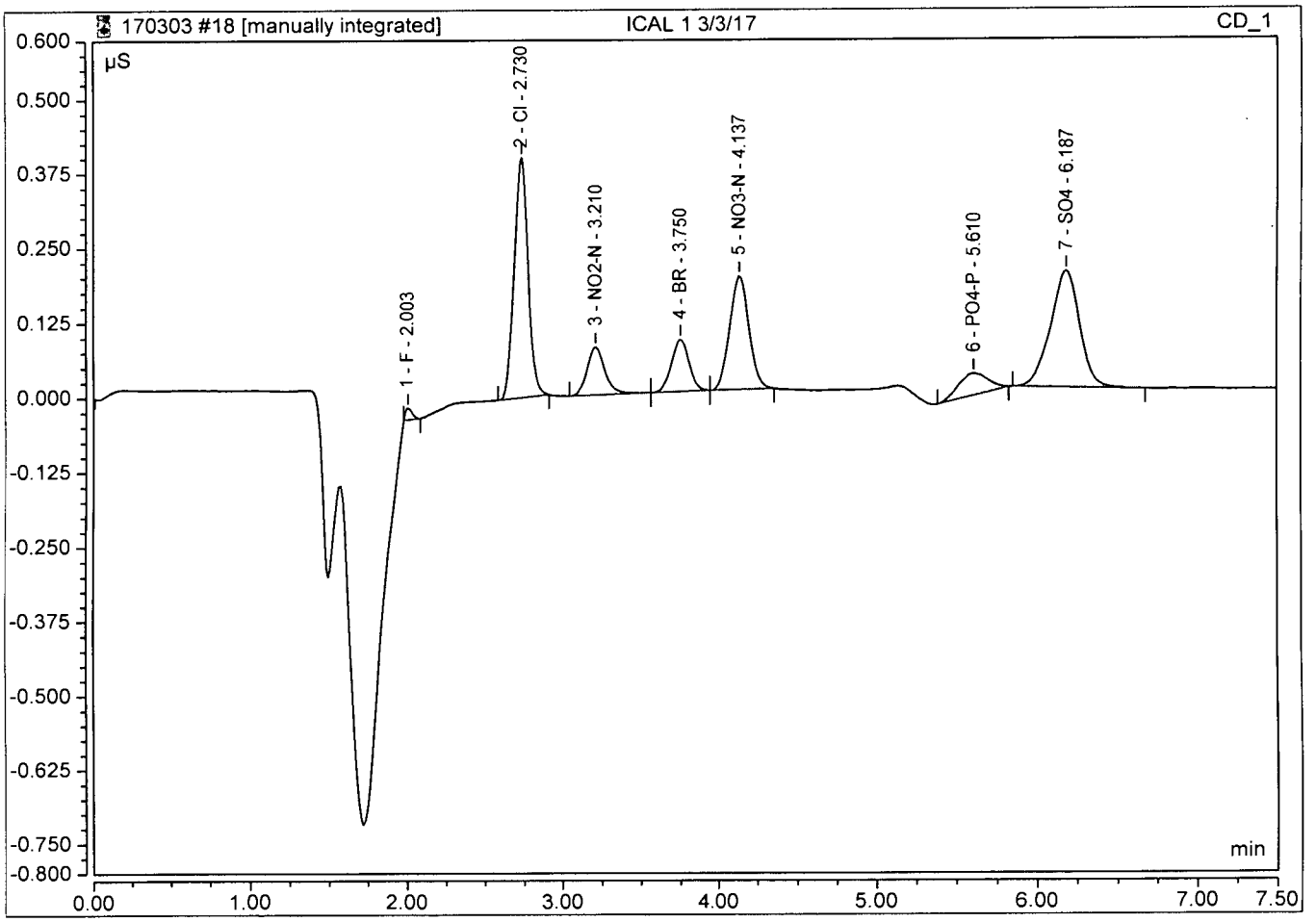
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	ICAL 1 3/3/17	*Inj. Vol.:*	25.00
Injection Type:	Calibration Standard	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	03-Mar-2017 / 14:10	*Run Time:*	7.50

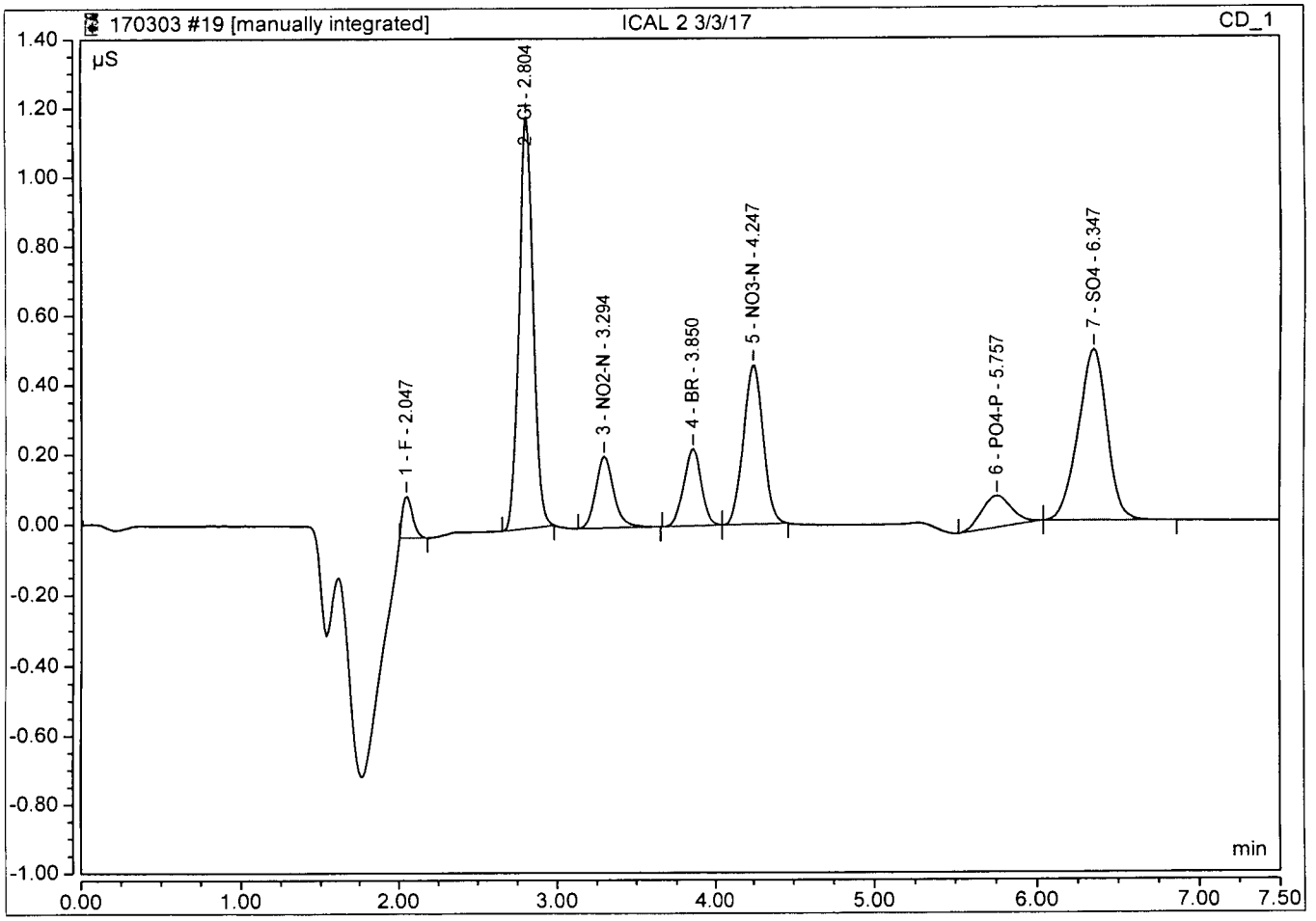
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
TOTAL:				0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

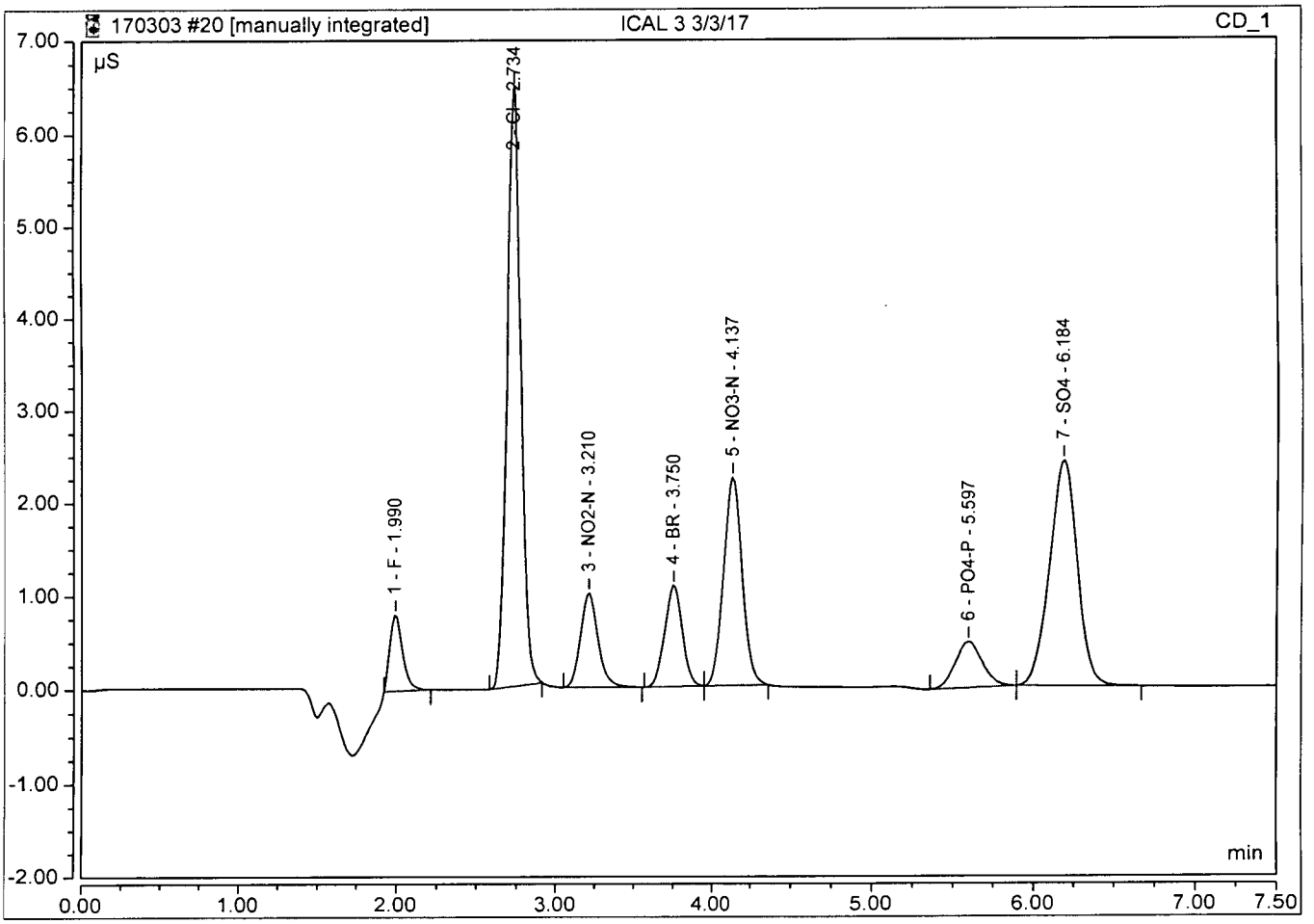
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

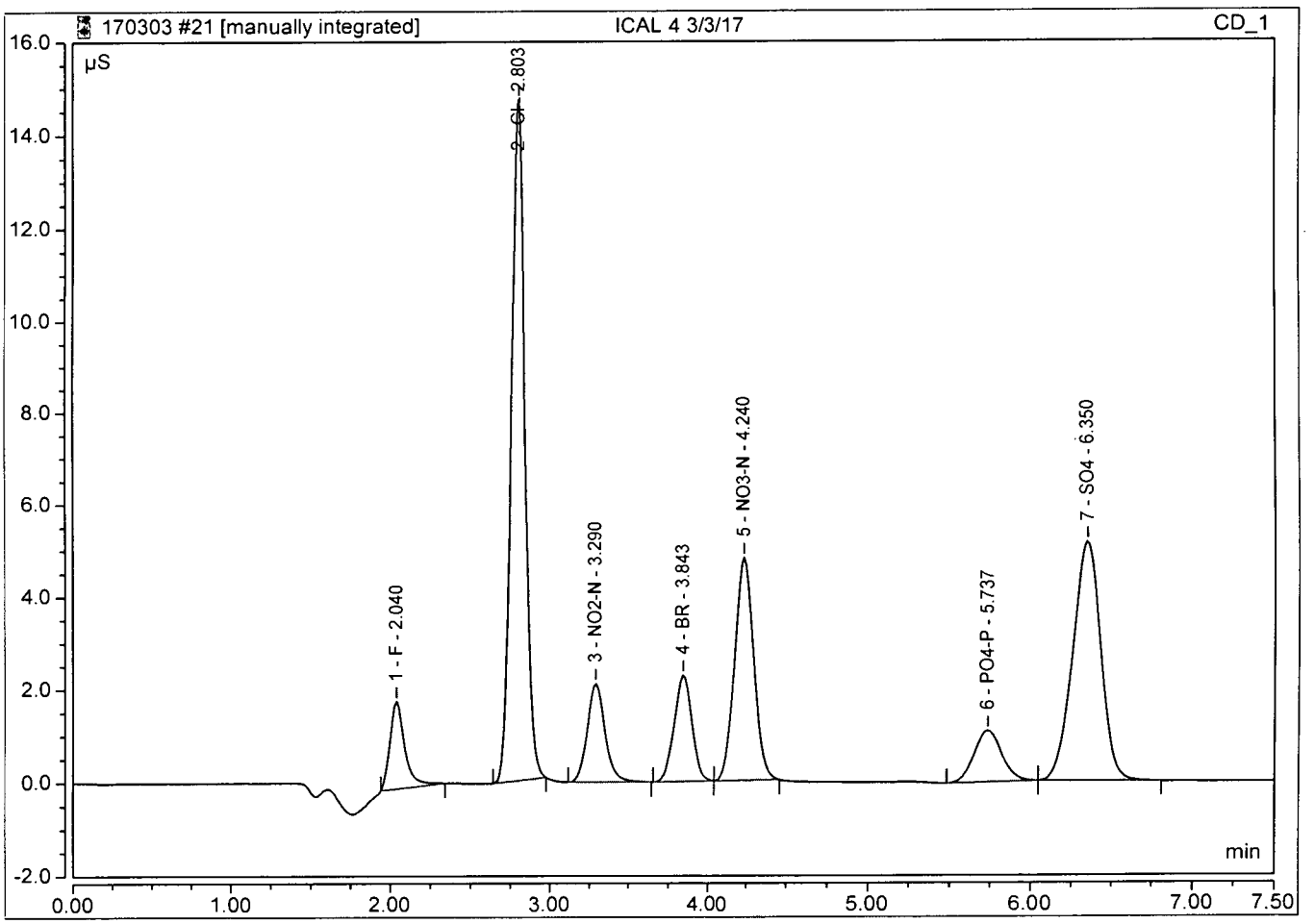
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

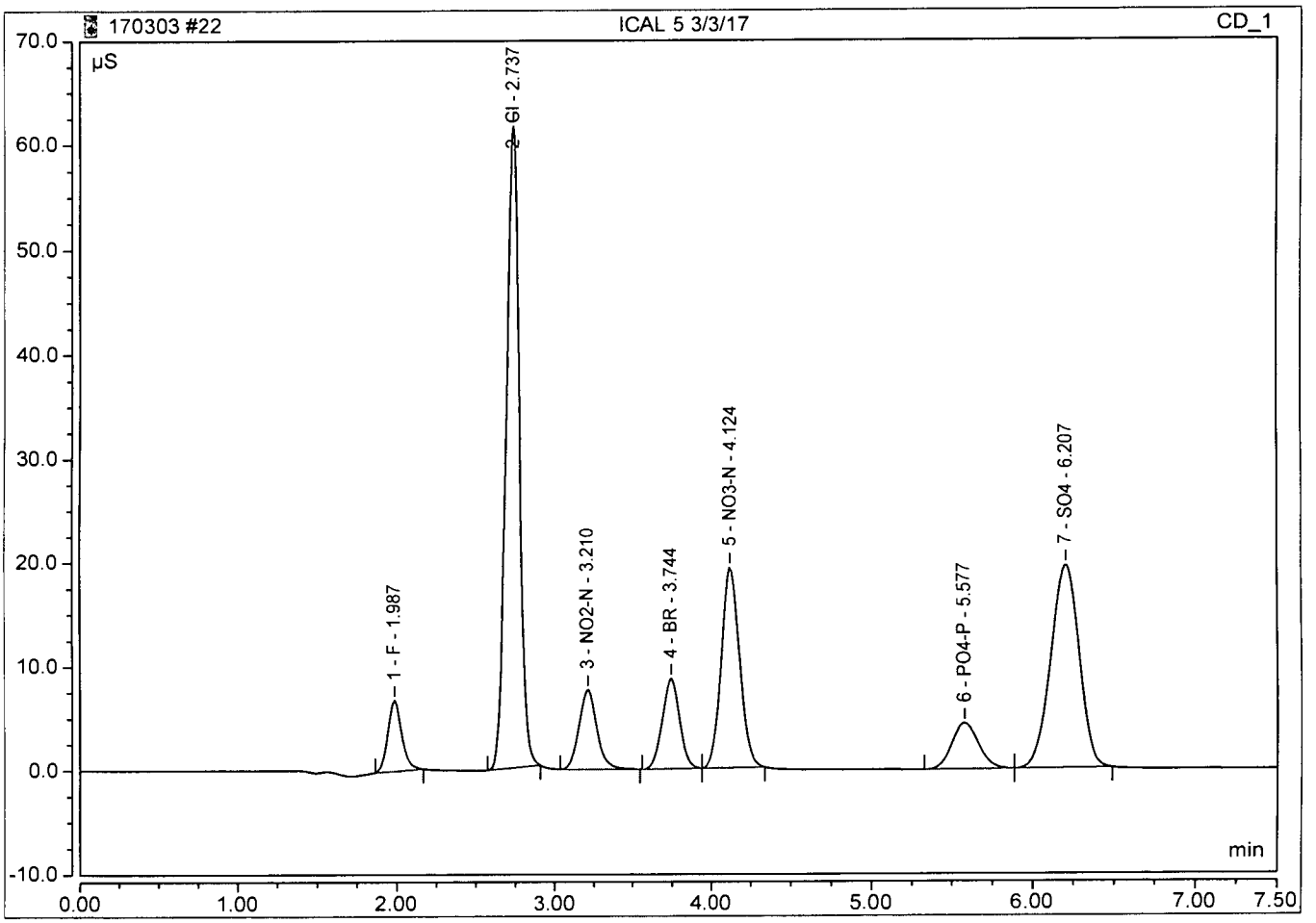
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
TOTAL:				4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

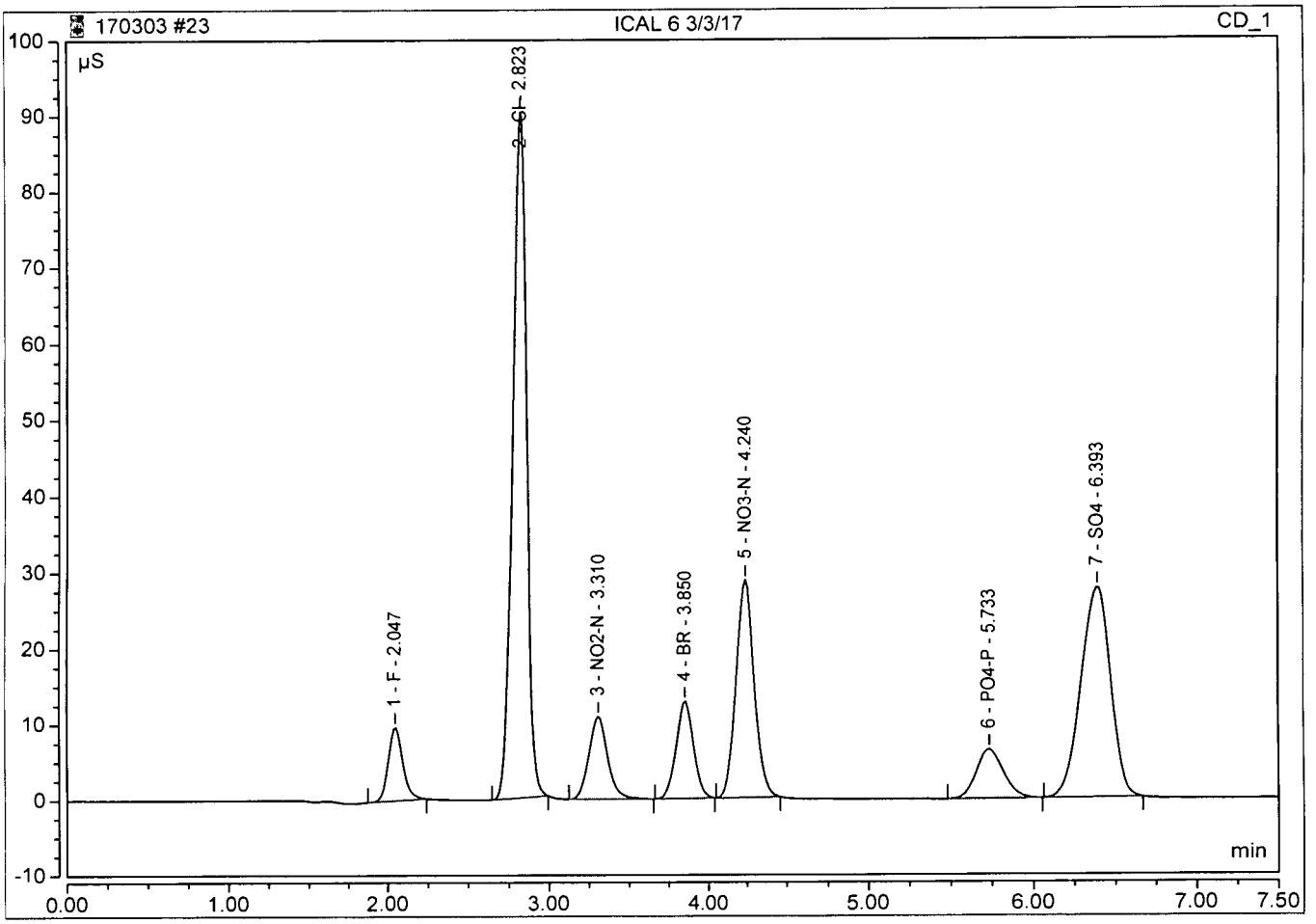
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

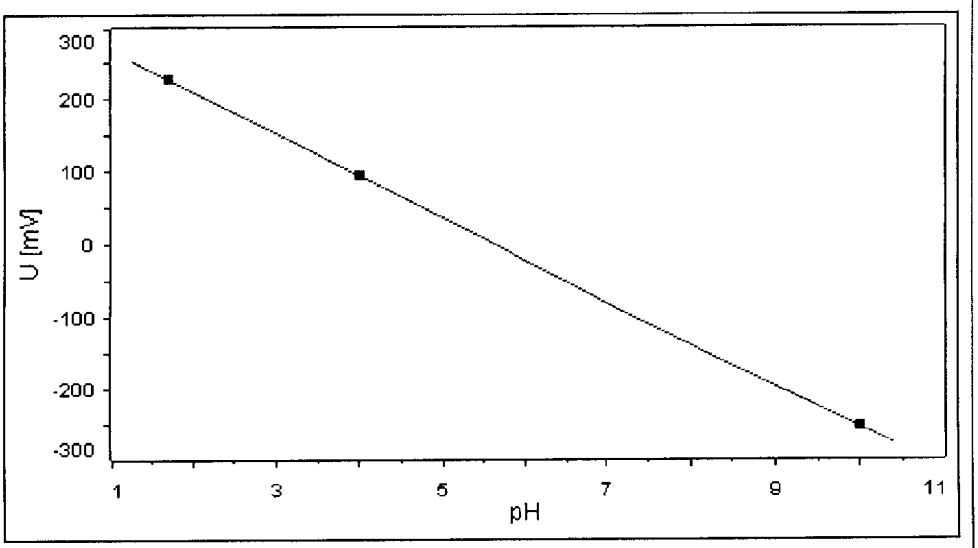


Tiamo Calibration Curve
04/07/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	228.8	20.4	20
Buffer 2:	4.000	94.5	20.6	20
Buffer 3:	10.000	-254.8	20.6	20

Slope:	99.8	%
pH	5.619	
Variance:	0.2	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/10/17	04/10/17	#300WD-170410A-AZ53059
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/04/17	04/04/17	#35FE-170404A-AZ53059

Wetlab SC-Blank-REG MDLs
Printed: 04/22/17 12:23:35 PM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/10/17	04/10/17	#300WD-170410A-AZ53059
EPA 300.0	NITRATE	22.1	21.5	97.3	90-110	04/04/17	04/04/17	#300W-170404A-AZ53059
EPA 300.0	SULFATE	20.0	18.7	93.5	90-110	04/04/17	04/04/17	#300W-170404A-AZ53059
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM3500Fe	FERROUS IRON	3.00	2.90	96.7	80-120	04/04/17	04/04/17	#35FE-170404A-AZ53059

Comments: _____

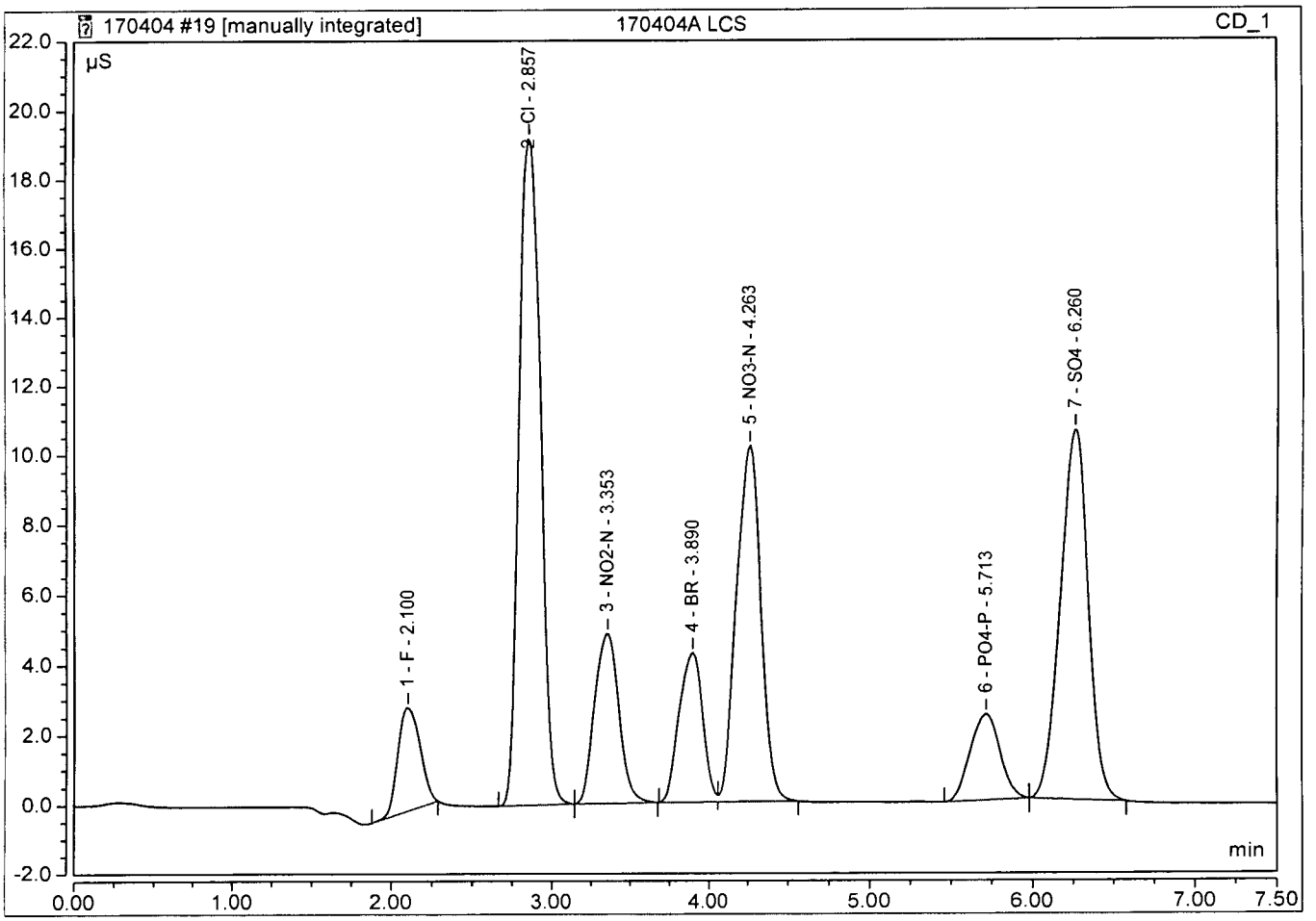
M1 MM 4/11/17

Peak Integration Report

PW

Sample Name:	**170404A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 14:02**	*Run Time:*	**7.50**

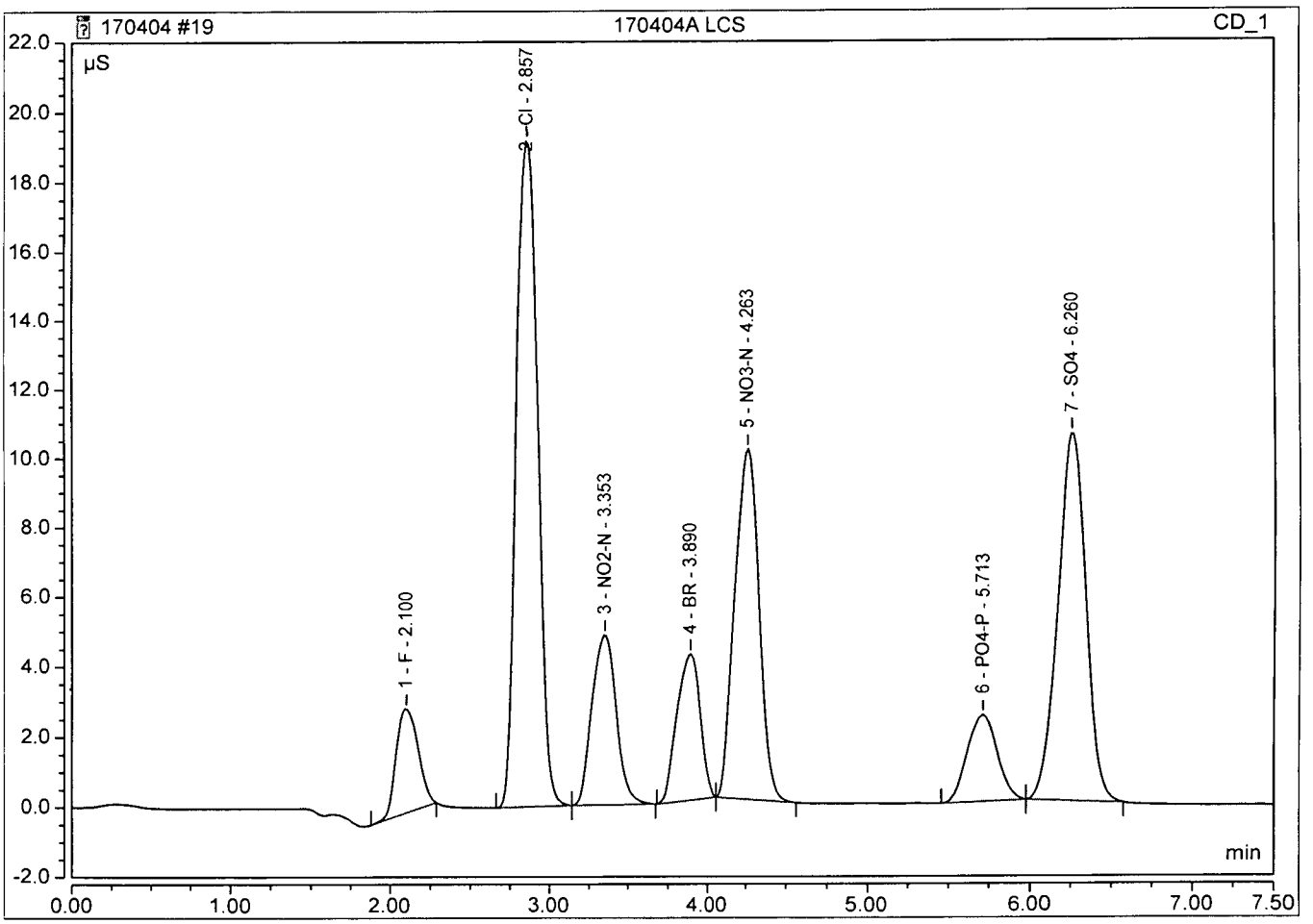
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.470	2.962	2.3704
2	2.86	Cl	BMB	3.019	19.190	17.7325
3	3.35	NO2-N	BMB	0.870	4.838	2.9973
4	3.89	BR	BM *	0.738	4.252	11.7952
5	4.26	NO3-N	MB*	1.816	10.137	4.8650
6	5.71	PO4-P	BMB	0.523	2.453	4.3412
7	6.26	SO4	BMB	2.105	10.528	18.7103
		TOTAL:		9.54	54.36	62.81



Peak Integration Report

Sample Name:	**170404A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**04-Apr-2017 / 14:02**	*Run Time:*	**7.50**

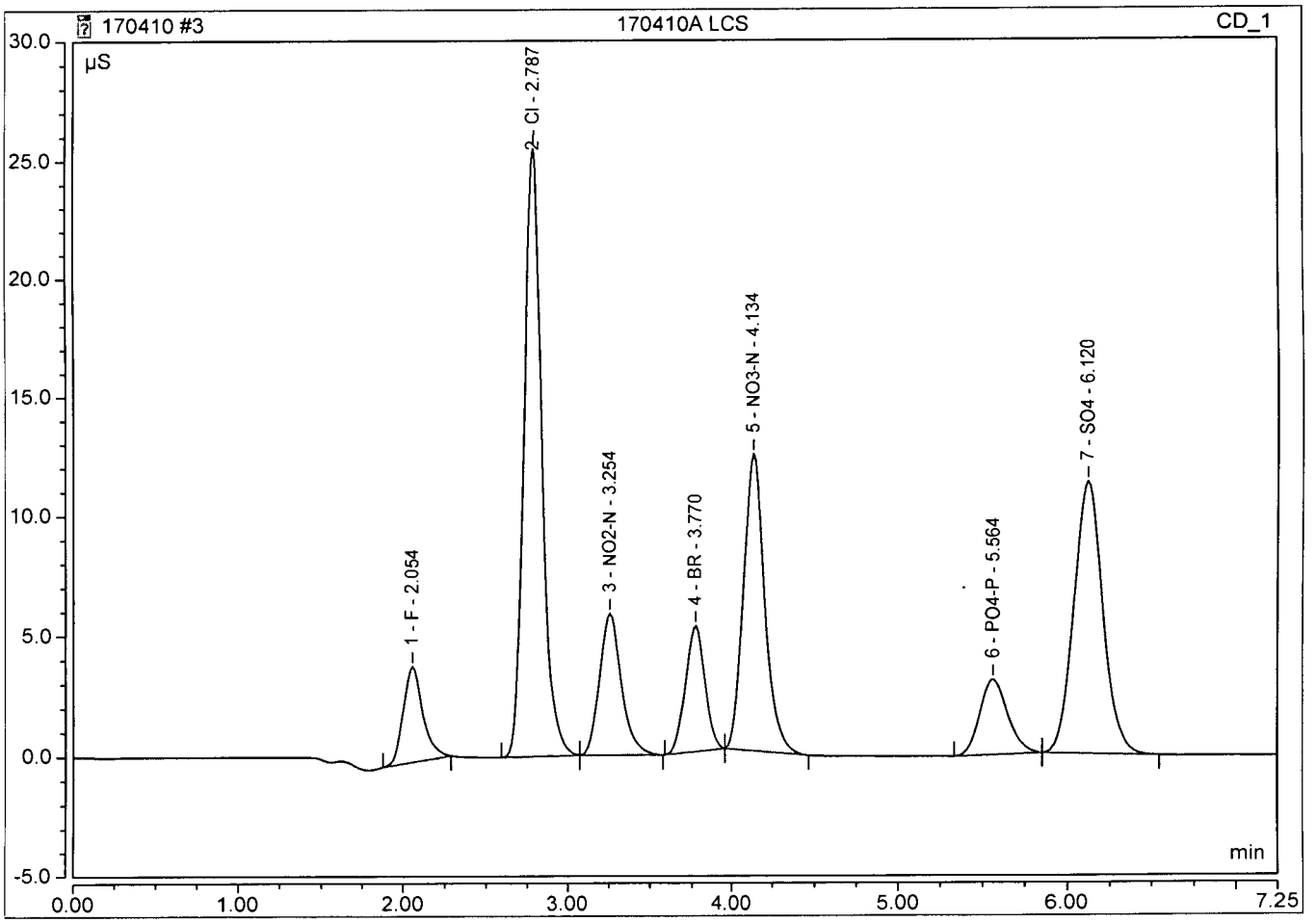
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.10	F	BMB	0.470	2.962	2.3704
2	2.86	Cl	BMB	3.019	19.190	17.7325
3	3.35	NO2-N	BMB	0.870	4.838	2.9973
4	3.89	BR	BMB	0.703	4.150	11.2570
5	4.26	NO3-N	BMB	1.770	10.029	4.7436
6	5.71	PO4-P	BMB	0.523	2.453	4.3412
7	6.26	SO4	BMB	2.105	10.528	18.7103
TOTAL:				9.46	54.15	62.15



Peak Integration Report

Sample Name:	**170410A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**10-Apr-2017 / 09:59**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.540	3.951	2.7186
2	2.79	Cl	BMB	3.182	25.511	18.6351
3	3.25	NO2-N	BMB	0.900	5.855	3.0988
4	3.77	BR	BMB	0.718	5.198	11.4851
5	4.13	NO3-N	BMB	1.846	12.333	4.9414
6	5.56	PO4-P	BMB	0.589	3.088	4.8726
7	6.12	SO4	BMB	2.222	11.278	19.7130
		TOTAL:		10.00	67.21	65.46



Matrix Spike Recoveries

WETLAB

APPL ID: **170407W-53059 MS - 217672**

Sample ID: AZ53059

Client ID: ERH292

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
SM 2320B	BICARBONATE AS CA	250	61.5	307	303	98.2	96.6	1.3	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53059
SM 2320B	TOTAL ALKALINITY AS	250	61.5	307	303	98.2	96.6	1.3	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53059

Comments:

Printed: 04/22/17 12:23:43 PM
APPL MSD SCII

SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170404A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (4/4/17)
BUFFER (3/23/17)

Analyst Completes
Formula Locked Cells

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%	Row Complete
05/20/16	12:37	0 BB 5/20/16	1	0.000							
05/20/16	12:38	1	1	0.101							
05/20/16	12:39	2	1	0.201							
05/20/16	12:39	4	1	0.403							
05/20/16	12:40	5	1	0.512							
05/20/16	12:40	10	1	0.999							
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%	#NAME?
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02			#NAME?
04/04/17	17:55	CCV 4.0 170404	1	0.389	25mL		3.86	3.863	4.000	96.6%	#NAME?
04/04/17	17:56	CCB 170404	1	-0.002	25mL		-0.04	-0.043			#NAME?
04/04/17	17:57	170404A LCS	1	0.293	25mL		2.90	2.904	3.000	96.8%	#NAME?
04/04/17	17:58	170404A LCSD	1	0.297	25mL		2.94	2.944	3.000	98.1%	#NAME?
04/04/17	17:59	AZ53059W15	1	0.010	25mL		0.08	0.077			#REF!
04/04/17	18:00	AZ53059W15 MS	1	0.303	25mL		3.00	3.004			#NAME?
04/04/17	18:01	AZ53059W15 MSD	1	0.306	25mL		3.03	3.034			
04/04/17	18:02	AZ53062W07	1	0.010	25mL		0.08	0.077			
04/04/17	18:03	CCV 4.0 170404	1	0.391	25mL		3.88	3.883	4.00	97.1%	
04/04/17	18:04	CCB 170404	1	0.002	25mL		0.00	-0.003			

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ53062W14	2017-04-07 15:43:59 UTC-7	Alkalinity	0.000	1.850	0.00	0.00	77.70	77.70	mg/L	25 mL	0.0210	170407A	AH
AZ53059W35 MSD	2017-04-07 15:29:28 UTC-7	Alkalinity	0.000	7.226	0.00	0.00	303.49	303.49	mg/L	25 mL	0.0210	170407A	AH
AZ53059W35 MS	2017-04-07 15:14:46 UTC-7	Alkalinity	0.000	7.302	0.00	0.00	306.68	306.68	mg/L	25 mL	0.0210	170407A	AH
AZ53059W35	2017-04-07 15:09:51 UTC-7	Alkalinity	0.000	1.464	0.00	0.00	61.49	61.49	mg/L	25 mL	0.0210	170407A	AH
170407A LCS	2017-04-07 14:39:21 UTC-7	Alkalinity	0.116	5.998	0.00	9.74	242.17	251.92	mg/L	25 mL	0.0210	170407A	AH
170407A Blk	2017-04-07 14:35:57 UTC-7	Alkalinity	0.000	0.044	0.00	0.00	1.85	1.85	mg/L	25 mL	0.0210	170407A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 04/04/17
Exp Date: 04/05/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
			Final Conc F (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Cl (mg/L):	0.4	1	5	10	35	50
			Final Conc NO2-N (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Br (mg/L):	0.2	0.5	2.5	5	17.5	25
			Final Conc NO3-N (mg/L):	0.08	0.2	1	2	7	10
			Final Conc PO4-P (mg/L):	0.08	0.2	1	2	7	10
			Final Conc SO4 (mg/L):	0.4	1	5	10	35	50

Anion Prep

QCG: 170404A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170410A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056 — **ICV LCS MS**

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Inorganic Spiking Solution

3.5002g NaHCO3 BDH lot#1575C510
Final vol 500mL w/DI water
Prep: 03/14/17
Exp: 09/14/17
AH

0.02N H2SO4 Titrant for Alkalinity

200 mL 0.1N H2SO4 (prep 01/06/17 and 04/03/17)
Final vol 1L w/ DI water
Prep 04/03/17
Exp 01/06/18
AH 04/03/17

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	04 Apr 2017	17:55	CCV 4.0 170404		Upload Temp	1.
2	04 Apr 2017	17:56	CCB 170404		Upload Temp	1.
3	04 Apr 2017	17:57	170404A LCS		Upload Temp	1.
5	04 Apr 2017	17:59	AZ53059W15		Upload Temp	1.
8	04 Apr 2017	18:02	AZ53062W07		Upload Temp	1.
9	04 Apr 2017	18:03	CCV 4.0 170404		Upload Temp	1.
10	04 Apr 2017	18:04	CCB 170404		Upload Temp	1.
11	20 May 2016	12:37	0 BB 5/20/16		Upload Temp	1.
12	20 May 2016	12:38	1		Upload Temp	1.
14	20 May 2016	12:39	2		Upload Temp	1.
13	20 May 2016	12:39	4		Upload Temp	1.
16	20 May 2016	12:40	5		Upload Temp	1.
15	20 May 2016	12:40	10		Upload Temp	1.
17	20 May 2016	12:41	160520A ICV 3.0		Upload Temp	1.
18	20 May 2016	12:42	160520A ICB		Upload Temp	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
17	04 Apr 2017	13:35	CCV 170404		170404	1.
18	04 Apr 2017	13:49	CCB		170404	1.
19	04 Apr 2017	14:02	170404A LCS		170404	1.
20	04 Apr 2017	14:16	170404A LCSD		170404	1.
28	04 Apr 2017	17:23	AZ53059W35		170404	1.
29	04 Apr 2017	17:37	AZ53062W14		170404	1.
34	04 Apr 2017	18:44	CCV 170404		170404	1.
35	04 Apr 2017	18:58	CCB		170404	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	10 Apr 2017	09:33	CCV 170410		170410	1.
2	10 Apr 2017	09:46	CCB		170410	1.
3	10 Apr 2017	09:59	170410A LCS		170410	1.
11	10 Apr 2017	14:26	AZ53059W35 DF5		170410	5.
12	10 Apr 2017	14:39	AZ53062W14 DF2		170410	2.
16	10 Apr 2017	15:59	CCV 170410		170410	1.
17	10 Apr 2017	16:12	CCB		170410	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	07 Apr 2017	14:35	170407A Blk		170407A_AL	1.
2	07 Apr 2017	14:39	170407A LCS		170407A_AL	1.
4	07 Apr 2017	15:09	AZ53059W35		170407A_AL	1.
5	07 Apr 2017	15:14	AZ53059W35 MS		170407A_AL	1.
6	07 Apr 2017	15:29	AZ53059W35 MSD		170407A_AL	1.
7	07 Apr 2017	15:43	AZ53062W14		170407A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

April 26, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82596

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Ten water samples were received April 5, 2017. Written results for the requested analyses are being provided on this April 26, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 753

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82596

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	4
Sample Management Records	9
Method 8015B TPH-E	19
QC Summary	20
Sample Data	25
Calibration Data	41
Raw Data	92
Method 8270D SIM	115
QC Summary	116
Sample Data	127
Calibration Data	145
Raw Data	178
Method 8270D SVOCs	198
QC Summary	199
Sample Data	211
Calibration Data	227
Raw Data	275

Method 8270D SVOCs (MEE) 298
QC Summary 299
Sample Data 307
Calibration Data 323
Raw Data 347
Method 8260B VOCs 363
QC Summary 364
Sample Data 373
Calibration Data 404
Raw Data 461
Method 8260B Gasoline 475
QC Summary 476
Sample Data 481
Calibration Data 522
Raw Data 580
Method RSK-175 Methane 597
QC Summary 598
Sample Data 602
Calibration Data 633
Raw Data 667
Inorganic Analyses 676
QC Summary 677
Sample Data 682
Calibration Data 696
Raw Data 731

CASE NARRATIVE

Case Narrative

ARF: 82596

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Ten water samples were received April 5, 2017, at 3.5°C, 3.5°C, 3.5°C, 4.5°C, 4.5°C, 4.0°C, 4.0°C, 4.0°C, and 4.0°C. The sample group was assigned Analytical Request Form (ARF) number 82596. The following discrepancies were noted and reported to the client: samples ERH299, ERH304, ERH308, ERH311, and ERH318 were listed on the label for EPA method 8011 analysis, but this method was not listed on the COC. The non-preserved vials labeled as trip blanks for samples ERH306, ERH308, ERH311, and ERH318 were not created in the laboratory. Four samples for ferrous iron analysis were received more than 24 hours after collection. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8270D SIM: The surrogate 2-Fluorobiphenyl recovered below the 53% lower control limit in two samples. Chromatography is noisy in those samples; there is possible matrix interference. The failing surrogate is not applicable to the target analytes. Corrective action: the samples were re-analyzed with similar low surrogate recovery.

Inorganic Analyses: Four samples for ferrous iron analysis were received more than 24 hours after collection; they were analyzed for ferrous iron and nitrate as soon as possible.

In the method blank, alkalinity and chloride were detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity and chloride in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82596	04/05/17	ERH299	AZ53171	04/04/17	09:20 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH299	AZ53171	04/04/17	09:20 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH299	AZ53171	04/04/17	09:20 AM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	8270D-SIM	EPA 8270D SIM
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	EPA 8270D	EPA 8270D WATER
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	SM 2320B	Wetlab 2320B - Water
82596	04/05/17	ERH300	AZ53172	04/04/17	09:55 AM	WATER	SM3500FeB	Ferrous Iron
82596	04/05/17	ERH308	AZ53173	04/03/17	03:25 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH308	AZ53173	04/03/17	03:25 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH308	AZ53173	04/03/17	03:25 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	8270D-SIM	EPA 8270D SIM
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	EPA 8270D	EPA 8270D WATER
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	SM 2320B	Wetlab 2320B - Water
82596	04/05/17	ERH310	AZ53174	04/03/17	05:05 PM	WATER	SM3500FeB	Ferrous Iron
82596	04/05/17	ERH311	AZ53175	04/03/17	01:15 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH311	AZ53175	04/03/17	01:15 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH311	AZ53175	04/03/17	01:15 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	8270D-SIM	EPA 8270D SIM
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	EPA 8270D	EPA 8270D WATER
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	SM 2320B	Wetlab 2320B - Water

82596	04/05/17	ERH313	AZ53176	04/03/17	01:45 PM	WATER	SM3500FeB	Ferrous Iron
82596	04/05/17	ERH318	AZ53177	04/03/17	11:15 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH318	AZ53177	04/03/17	11:15 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH318	AZ53177	04/03/17	11:15 AM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	8270D-SIM	EPA 8270D SIM
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	EPA 8270D	EPA 8270D WATER
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	SM 2320B	Wetlab 2320B - Water
82596	04/05/17	ERH319	AZ53178	04/03/17	12:15 PM	WATER	SM3500FeB	Ferrous Iron
82596	04/05/17	ERH304	AZ53179	04/03/17	01:45 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH304	AZ53179	04/03/17	01:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH304	AZ53179	04/03/17	01:45 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	8270D-SIM	EPA 8270D SIM
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	EPA 8270D	EPA 8270D WATER
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	RSK 175	METHANE BY RSK 175
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	SM 2320B	Wetlab 2320B - Water
82596	04/05/17	ERH305	AZ53180	04/03/17	02:40 PM	WATER	SM3500FeB	Ferrous Iron

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82596

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 040417f-j
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 04/05/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): ~~22.1°C~~ rp 4-26-17 3x3.5°C, 4x4.0°C, 2x4.5°C
Color: VOA/C-BLK/R-ORGYL
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 04/12/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O; RSK: Methane only; 8011: EDB only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com
Moved AZ53167-53170 to ARF 82619. rp 4-6-17

Sample Distribution:
GC: 5-$87DC53W5, 5-$87DMEEW5, 5-$DOC53W5, 5-$SIMDOD5W
Extractions: 5-_MWE2MEE, 5-_SEP004, 5-_SEP004S, 5-_SEP011LL
VOA: 10-$86BTOTXDOD5W, 10-$GASBL, 10-$GRO86BW, 10-$RSKMETH
Wetlab: 5-$232W(HCO3,CO3,ALK), 5-$300W(NO3,CL,SO4), 5-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH299	AZ53171W	04/04/17 09:20	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
2.	ERH300	AZ53172W	04/04/17 09:55	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
3.	ERH308	AZ53173W	04/03/17 15:25	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

4.	ERH310	AZ53174W	04/03/17 17:05	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
5.	ERH311	AZ53175W	04/03/17 13:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
6.	ERH313	AZ53176W	04/03/17 13:45	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
7.	ERH318	AZ53177W	04/03/17 11:15	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
8.	ERH319	AZ53178W	04/03/17 12:15	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
9.	ERH304	AZ53179W	04/03/17 13:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
10.	ERH305	AZ53180W	04/03/17 14:40	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82596**

Sample	Container Type	Count	pH
AZ53171	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53172	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53173	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53174	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53175	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53176	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53177	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53178	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53179	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53180	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7

Sample	Container Type	Count	pH

82596

3x 3.5
4x 4.0
2x 4.:

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM
Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Fax:
Attn: Margie Thach
Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM
Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813
Fax:
Attn: Mary Basano
Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT for TR, AM, FK, RJ

Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH299	Trip Blank	4/4/17	0920	HST	~~5~~ 6	✓ 4/4/17				X								X			
ERH300	RHMW02	4/4/17	0955	HST	14	X				X			X		X	X	X	X	X	X	X

KS

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☒ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shingh AECOM	4/4/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/5/17	11:00	Jang Zo

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT for TR, AM, FK, RJ
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH308	Trip Blank	4/3/17	1525	HST	5	✓				X								X				Some TBs have bubbles
~~ERH309~~	~~Ambient Blank~~			HST	5	X				X*												* ~~EDB only~~ KS 4/4/17
ERH310	RHMW01	4/3/17	1705	HST	14	X				X			X		X	X	X	X	X	X	X	

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiroji AECOM	4/4/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/5/17	11:00	Yang Zo

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, RJ
Purchase Order Number: 77265
Sampler (Signature): MT for TR, KE, RJ, FK

Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	383C/8015C TPH-d/o w SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH311	Trip Blank	4/3/17	1315	HST	5	✓				X								X				some TBs have bubbles
~~ERH312~~	~~Ambient Blank~~			~~HST~~	~~5~~	~~X~~				~~X*~~												~~* BTEX only~~ KS 4/4/17
ERH313	RHMW05	4/3/17	1345	HST	14	X				X			X		X	X	X	X	X	X	X	

KS

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kalla Shingi AECOM	4/4/17	1400					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/5/17	11:00	Jang Z

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT for CB, MH, GM
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq.	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 318	Trip Blank	4/3/17	~~1215~~ 1115	HST	5	✓				X								X			
ERH 319	RHMW06	4/3/17	1215	HST	14	X				X			X		X	X	X	X	X	X	X
~~ERH~~ MS 3/31/17																					

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiisi	4/4/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/5/17	11:00	Yang

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT [signature] for CB, MH, GM
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)
ERH 304	Trip Blank	4/3/17	1345	HST	5	✓				X								X			
ERH 305	RHMW07	4/3/17	1440	HST	14	X				X			X		X	X	X	X	X	X	X

KS

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Paola Shirg AECOM	4/4/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/5/17	11:00	[signature]

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82596** + 82619

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 04/05/17

2) Coolers: Number of Coolers: 9

3) YES Were custody seals present and intact?
How many? 18 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __popcorn __foam X plastic bags
X wet ice __dry ice __no ice __other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 3.5	2: 3.5	3: 3.5	4: 4.0	5: 4.0	6: 4.0
7: 4.0	8: 4.5	9: 4.5	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ53167W01-3,AZ53171W01-3,AZ53173W01-3,AZ53175W01-3,AZ53177W01-3, AZ53179W01-3

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

CUSTODY SEAL
AECOM (808) 523-8874
Initials RK Date 4/14/17

Notes/Deficiencies:

Samples ERH306,ERH308,ERH311,and ERH318 are all maked as trip blanks on the COC.All the HCL Voas received for these samples are in fact lab created trip blanks, but all the Non preserved VOAS specified for 8011 on the label are not lab created trip blanks, these voas were made by the client. For samples ERH299, ERH304,ERH308,ERH311,ERH318 we revceived 3 Non preserved VOS witht the analysis requested on the container label of 8011 EDB. The COC does not request this analysis for these samples.

Personnel receiving samples: SM Second reviewer: YL
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 4-6-17
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method:DOC0320.M
Run #:411004
Instrument:Apollo
Sequence:170411
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 11:29:36 AM

Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/12/17 11:29:30 AM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596
Case No: 82596 Date Analyzed: 04/11/17
Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	60-142	106		56-125	93.1	
170407A-LCS	Lab Control Spike	60-142	93.5		56-125	93.8	
AZ53172	ERH300	60-142	135		56-125	122	
AZ53174	ERH310	60-142	119		56-125	103	
AZ53176	ERH313	60-142	109		56-125	90.0	
AZ53178	ERH319	60-142	104		56-125	86.7	
AZ53180	ERH305	60-142	106		56-125	91.1	

Comments: Batch: #DOC53-170407A

Printed: 04/12/17 11:29:33 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82596
Date Analyzed: 04/11/17
Instrument: Apollo
Time Analyzed: 1002

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	411004	04/11/17 1002
170407A-LCS	Lab Control Spike	411005	04/11/17 1023
AZ53172	ERH300	411028	04/11/17 1842
AZ53174	ERH310	411029	04/11/17 1903
AZ53176	ERH313	411030	04/11/17 1924
AZ53178	ERH319	411031	04/11/17 1945
AZ53180	ERH305	411032	04/11/17 2006

Comments: Batch: #DOC53-170407A

Printed: 04/12/17 11:29:27 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	940 ++	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	84	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	135	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	122	56-125			%	04/07/17	04/11/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0320.M
Run #: 411028
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 2:24:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411028.D Vial: 28
Acq On : 4-11-17 18:42:00 Operator: DP
Sample : AZ53172W12 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 10:26 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

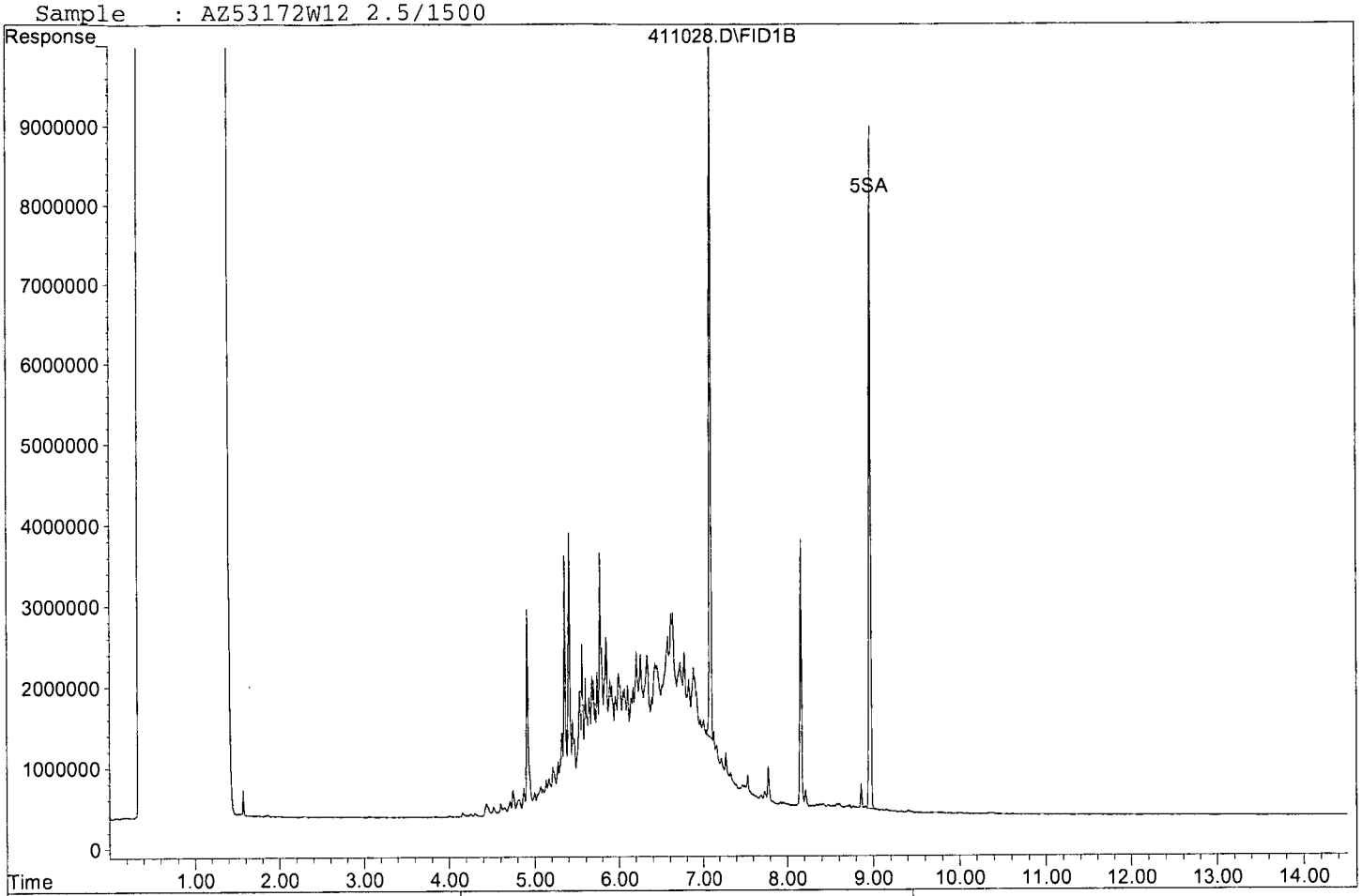
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

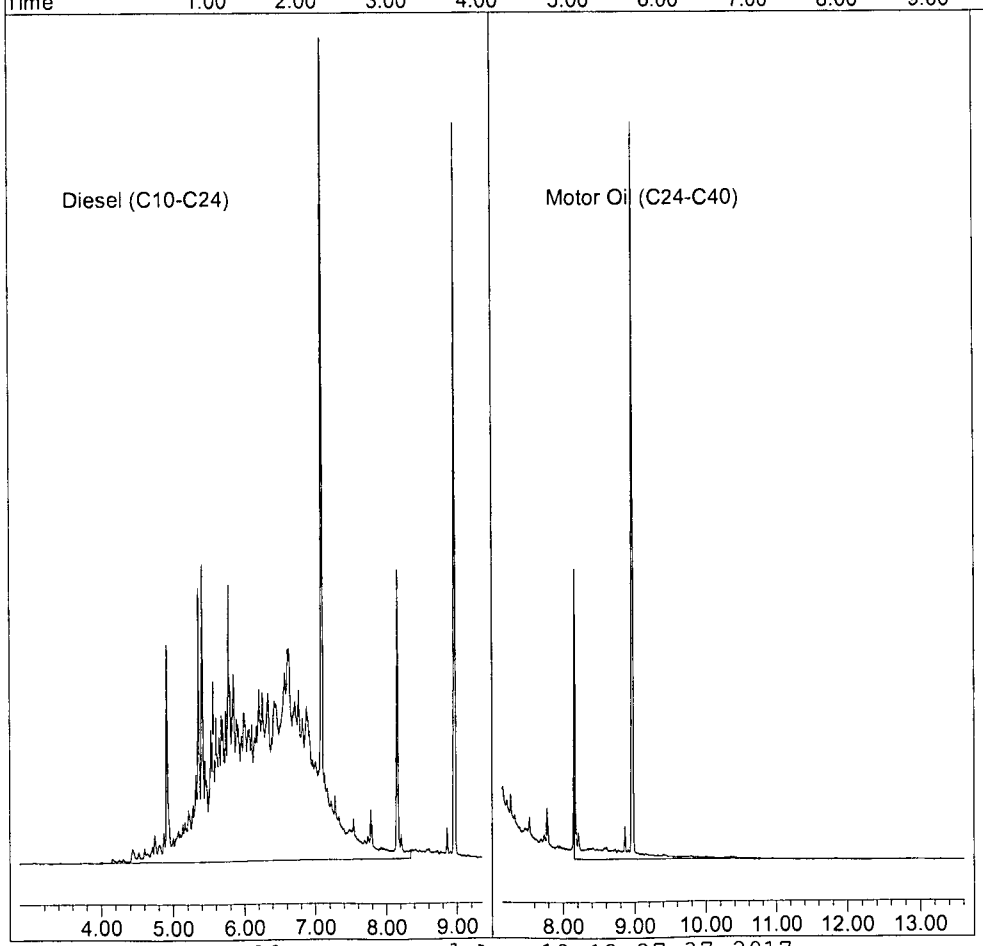
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
4) SA Ortho-Terphenyl(S)	7.10	134456526	48.896	ppb
Surrogate Spike 40.000		Recovery =	122.24%	
5) SA Octacosane(S)	8.97	111882219	53.920	ppb
Surrogate Spike 40.000		Recovery =	134.80%	
Target Compounds				
1) HATM Diesel (C10-C24)	6.10	2049451791	940.895	ppb
2) HBTM Motor Oil (C24-C40)	10.38	124367393	84.325	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411028.D
Sample : AZ53172W12 2.5/1500





411028.D DOC0320.M Wed Apr 12 13:37:37 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	97 ++	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	119	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	103	56-125			%	04/07/17	04/11/17

++(T6) The analyst has noted that the chromatogram of this sample is mainly a match to hydrocarbons within the range of diesel fuel.

Quant Method: DOC0320.M
Run #: 411029
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 2:24:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411029.D Vial: 29
Acq On : 4-11-17 19:03:14 Operator: DP
Sample : AZ53174W09 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 10:26 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

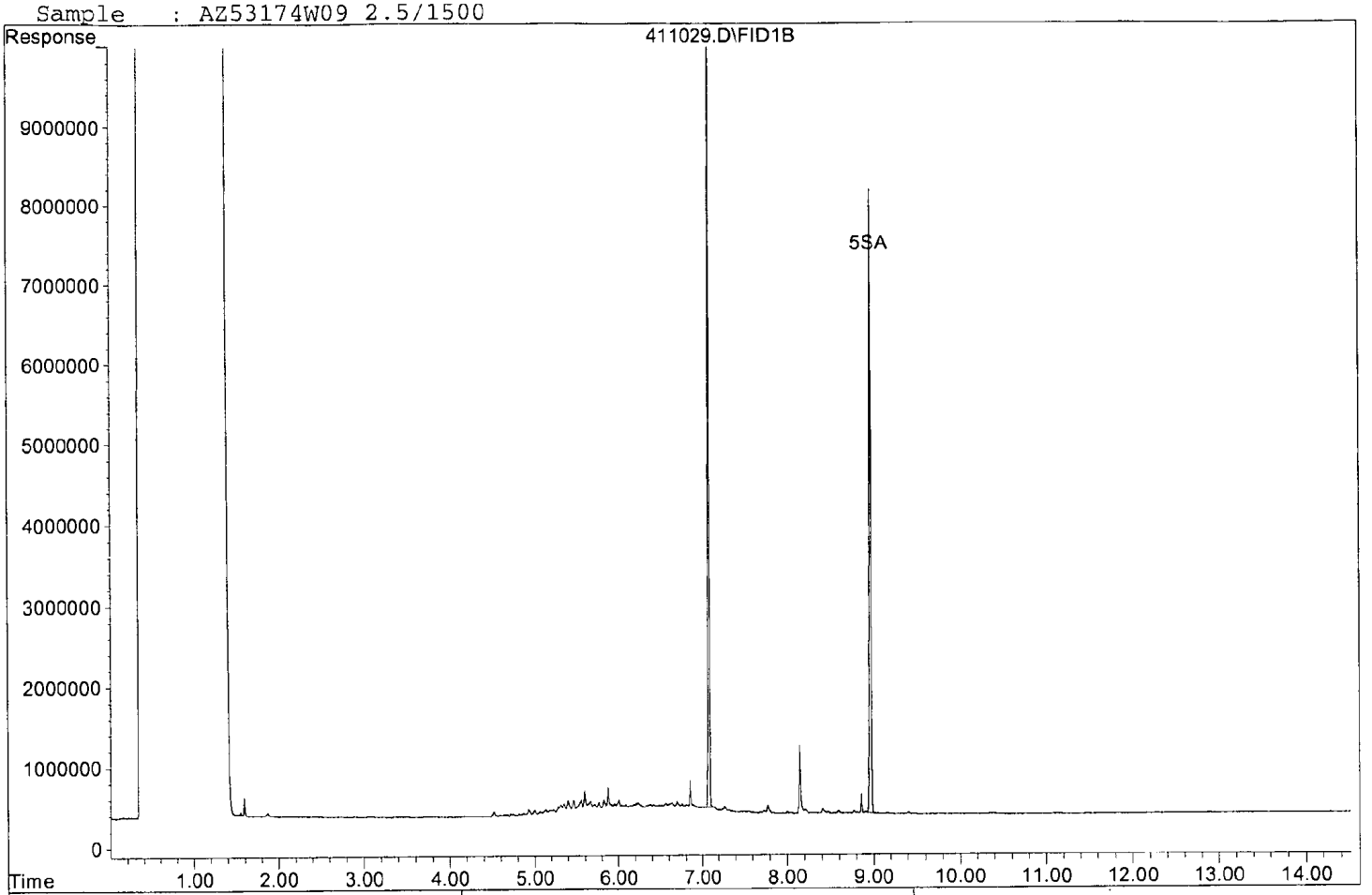
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

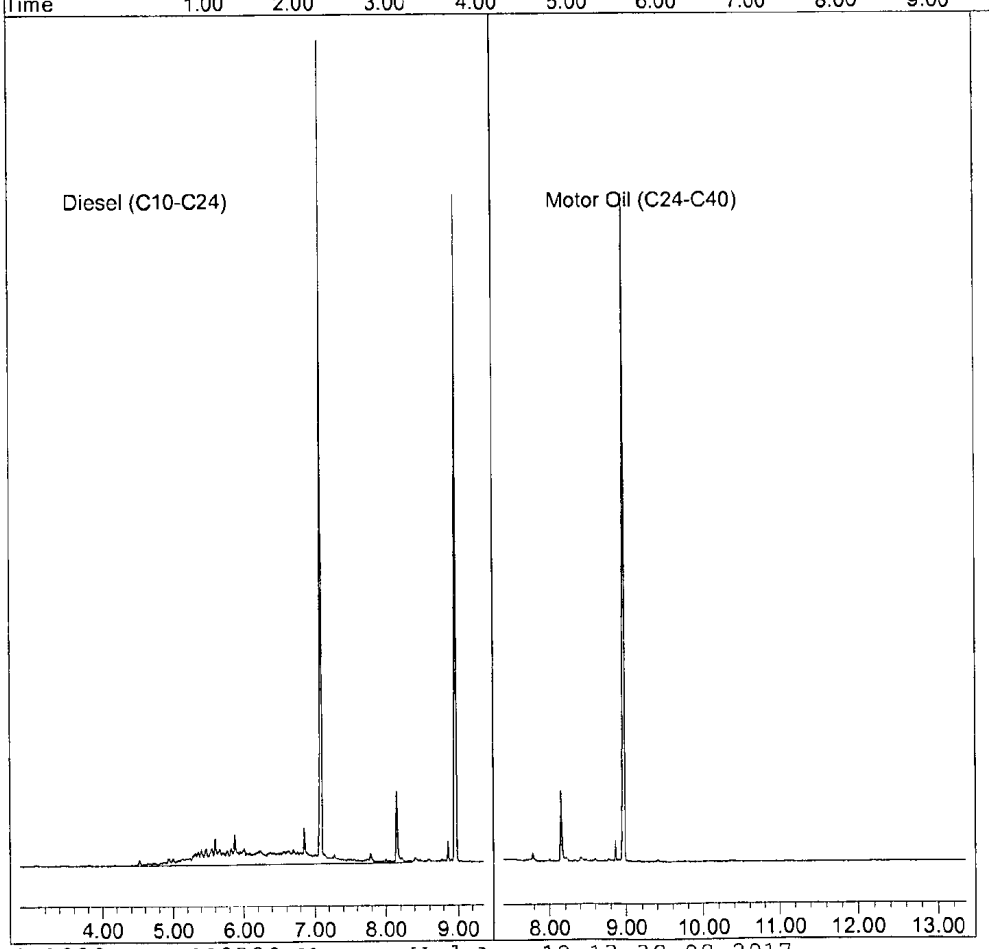
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	113276153	41.194 ppb
Surrogate Spike 40.000		Recovery =	102.99%
5) SA Octacosane(S)	8.97	99138828	47.779 ppb
Surrogate Spike 40.000		Recovery =	119.45%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	211096739	96.914 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411029.D
Sample : AZ53174W09 2.5/1500





411029.D DOC0320.M Wed Apr 12 13:38:08 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	109	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	90.0	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411030
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:29:24 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411030.D Vial: 30
Acq On : 4-11-17 19:24:32 Operator: DP
Sample : AZ53176W13 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 10:27 2017 Quant Results File: DOC0320.RES

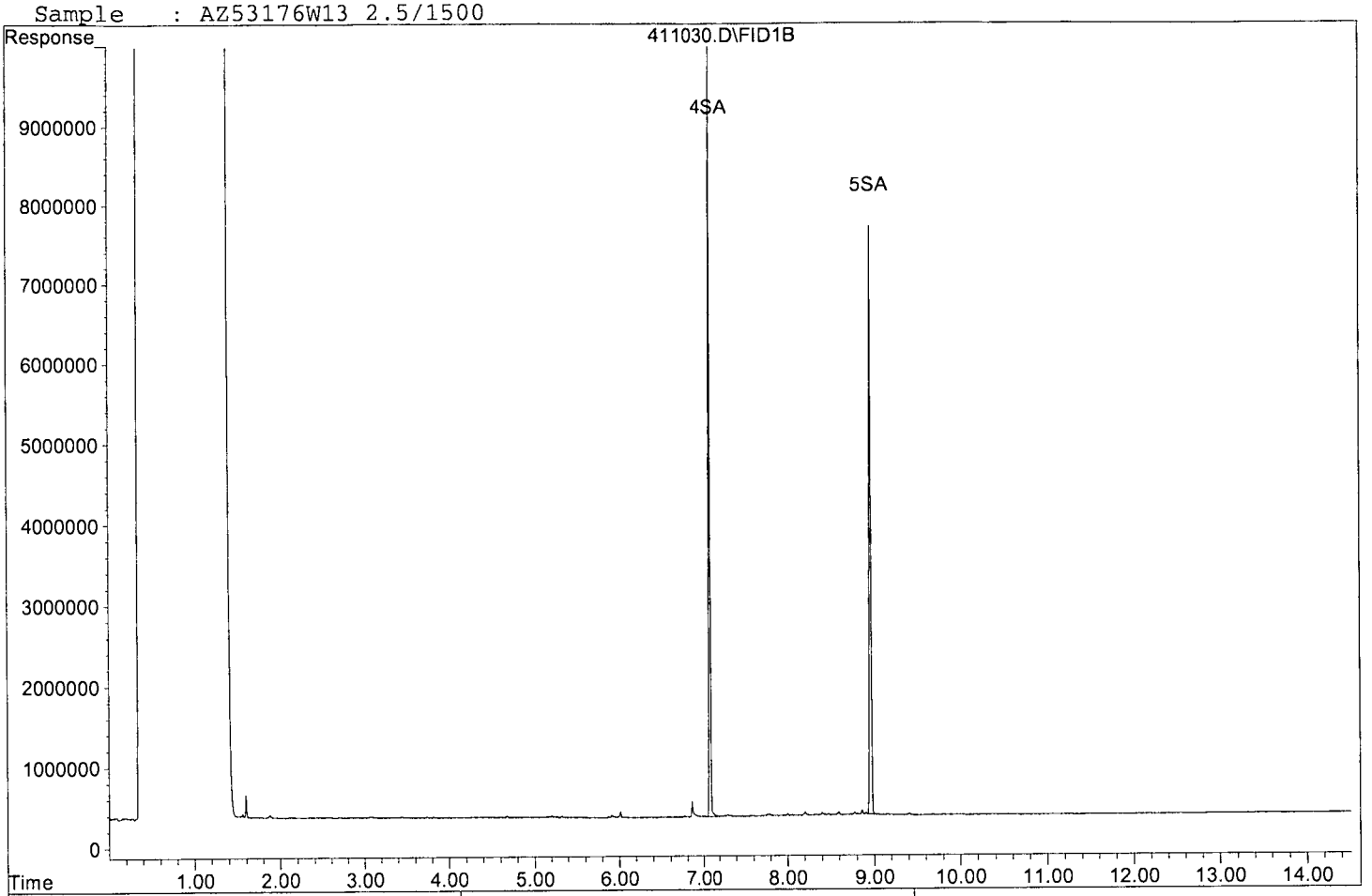
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

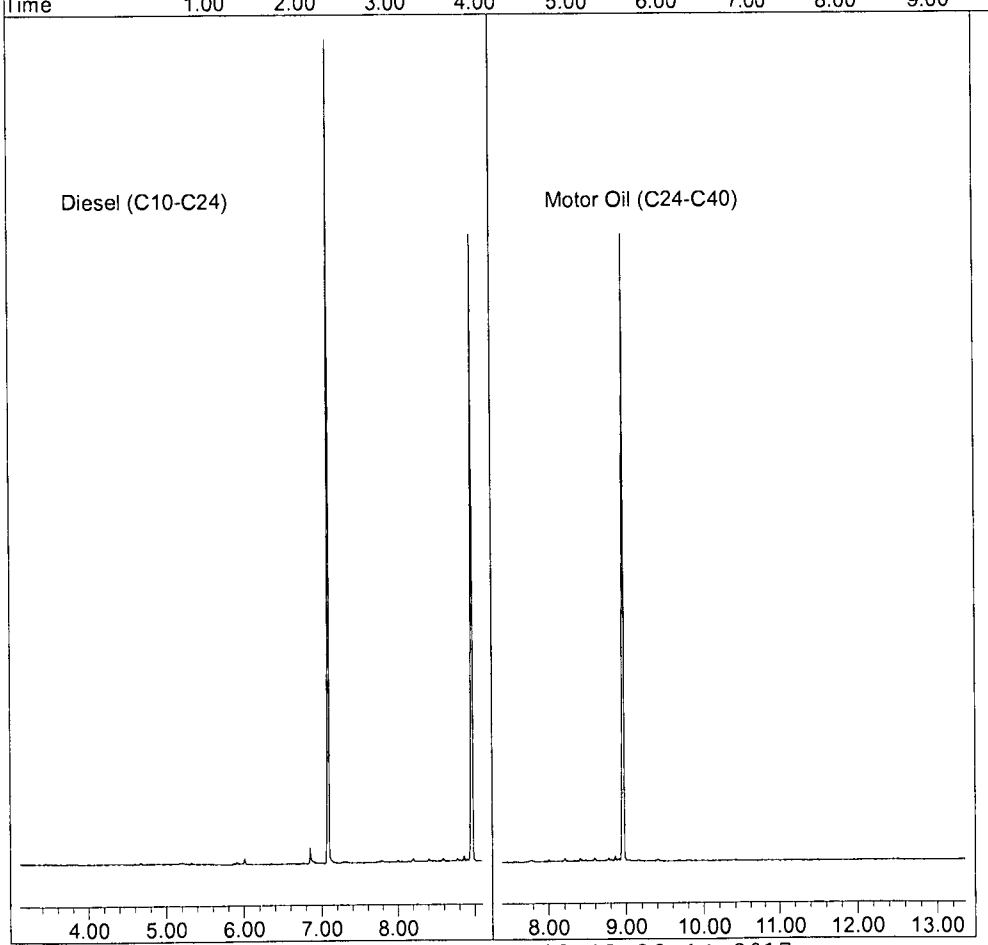
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
4) SA Ortho-Terphenyl(S)	7.09	98966798	35.990	ppb
Surrogate Spike 40.000		Recovery =	89.98%	
5) SA Octacosane(S)	8.97	90655675	43.690	ppb
Surrogate Spike 40.000		Recovery =	109.23%	
Target Compounds				

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411030.D
Sample : AZ53176W13 2.5/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	104	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	86.7	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411031
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:29:24 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411031.D Vial: 31
Acq On : 4-11-17 19:45:43 Operator: DP
Sample : AZ53178W11 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 10:27 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

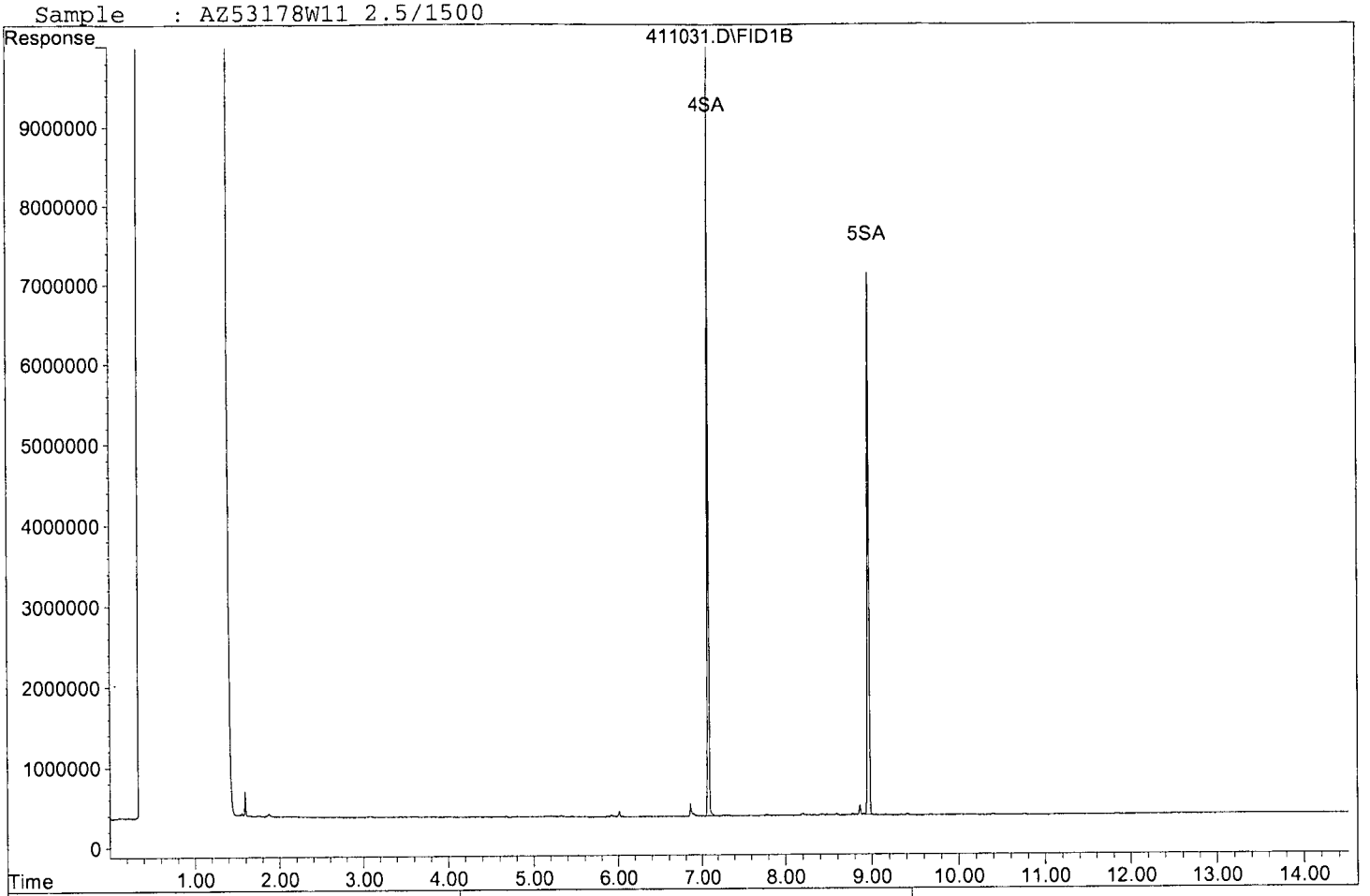
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

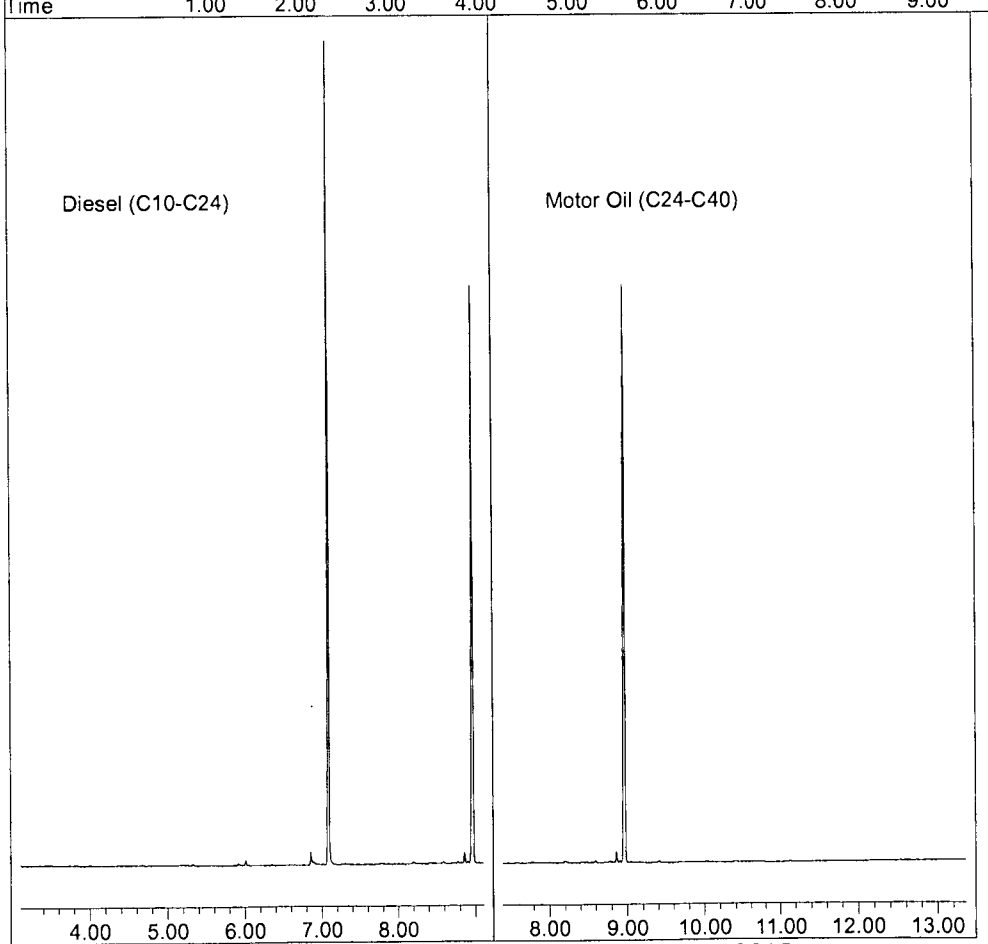
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	95394018	34.691 ppb
Surrogate Spike 40.000		Recovery =	86.73%
5) SA Octacosane(S)	8.97	86285402	41.584 ppb
Surrogate Spike 40.000		Recovery =	103.96%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411031.D
Sample : AZ53178W11 2.5/1500





411031.D DOC0320.M Wed Apr 12 13:38:22 2017

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	91.1	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411032
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:29:24 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411032.D
Acq On : 4-11-17 20:06:56
Sample : AZ53180W11 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 12 10:27 2017 Quant Results File: DOC0320.RES

Vial: 32
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

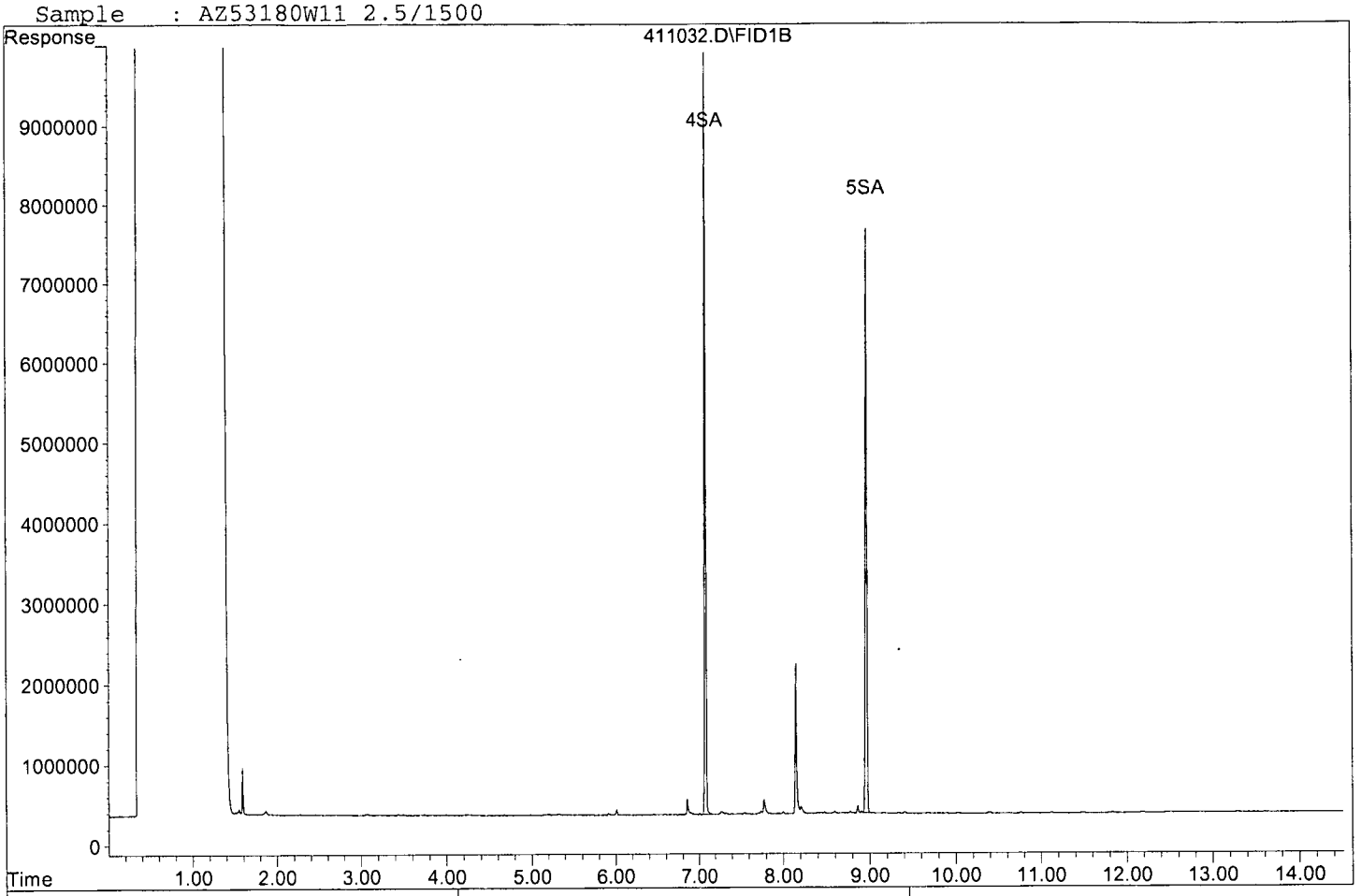
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

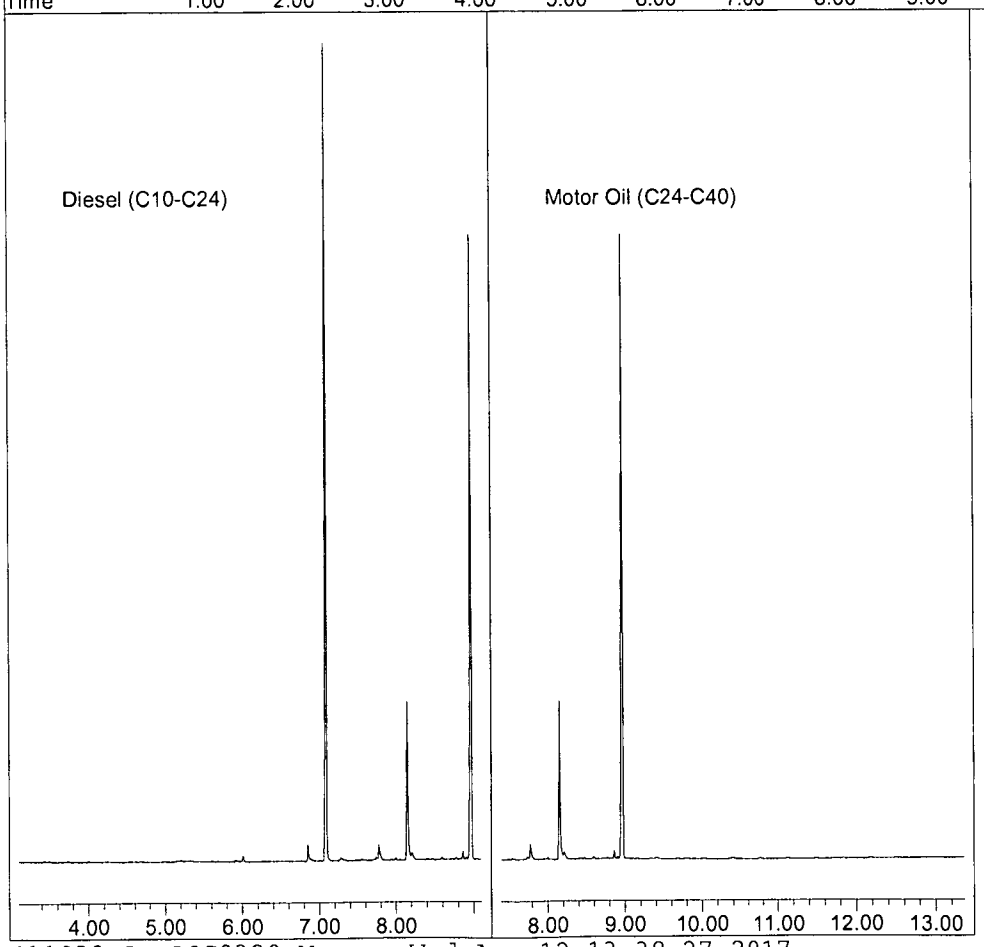
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	100215579	36.444 ppb
Surrogate Spike 40.000		Recovery =	91.11%
5) SA Octacosane(S)	8.97	87887931	42.356 ppb
Surrogate Spike 40.000		Recovery =	105.89%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411032.D
Sample : AZ53180W11 2.5/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0320

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/20/17
Instrument: Apollo

Initials:

Diesel:	320016.D	320017.D	320018.D	320019.D	320020.D	320021.D	
Motor Oil:	320023.D	320024.D	320025.D	320026.D	320027.D	320028.D	
Decanoic Acid:	220003.D	220004.D	220005.D	220006.D	220007.D	220008.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	2540018	1886778	1624943	1628033	1615252	1595966					1815165	20	HATM	
2	HBTM	Motor Oil (C24-C40)	1333385	1248250	1216530	1228953	1179824	1167345					1229048	4.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2396524	2485788	2239469	2213466	2206282	2207643					2291529	5.2	SA	
5	SA	Octacosane(S)	1838724	1898084	1682686	1662435	1654563	1638330					1729137	6.4	SA	
6																
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9																
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1.8134515

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320016.D
Acq On : 3-20-17 15:15:13
Sample : Diesel-1 10ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

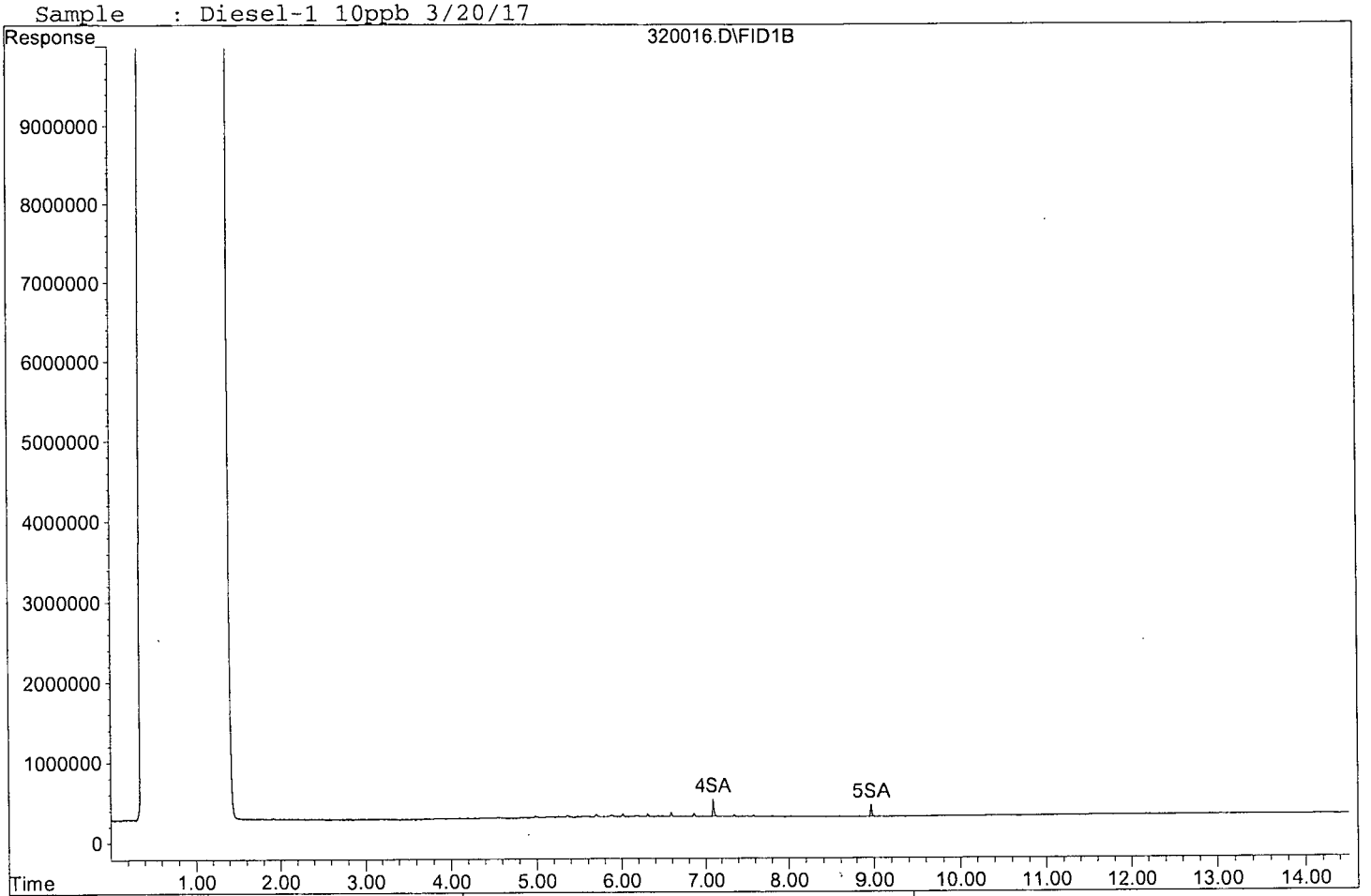
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

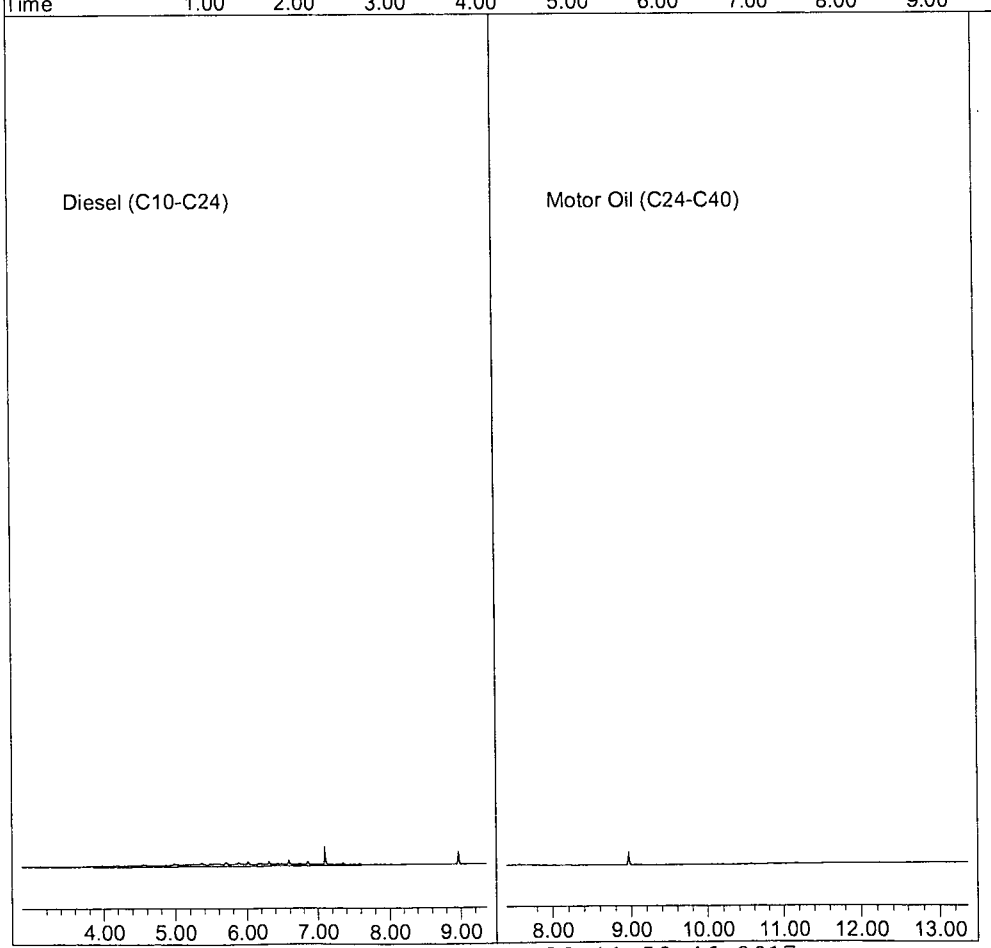
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	2396524	0.523 ppb
Surrogate Spike 30.000		Recovery =	1.74%
5) SA Octacosane(S)	8.97	1838724	0.532 ppb
Surrogate Spike 30.000		Recovery =	1.77%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	50800352	13.993 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320016.D
Sample : Diesel-1 10ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320017.D
Acq On : 3-20-17 15:36:08
Sample : Diesel-2 100ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

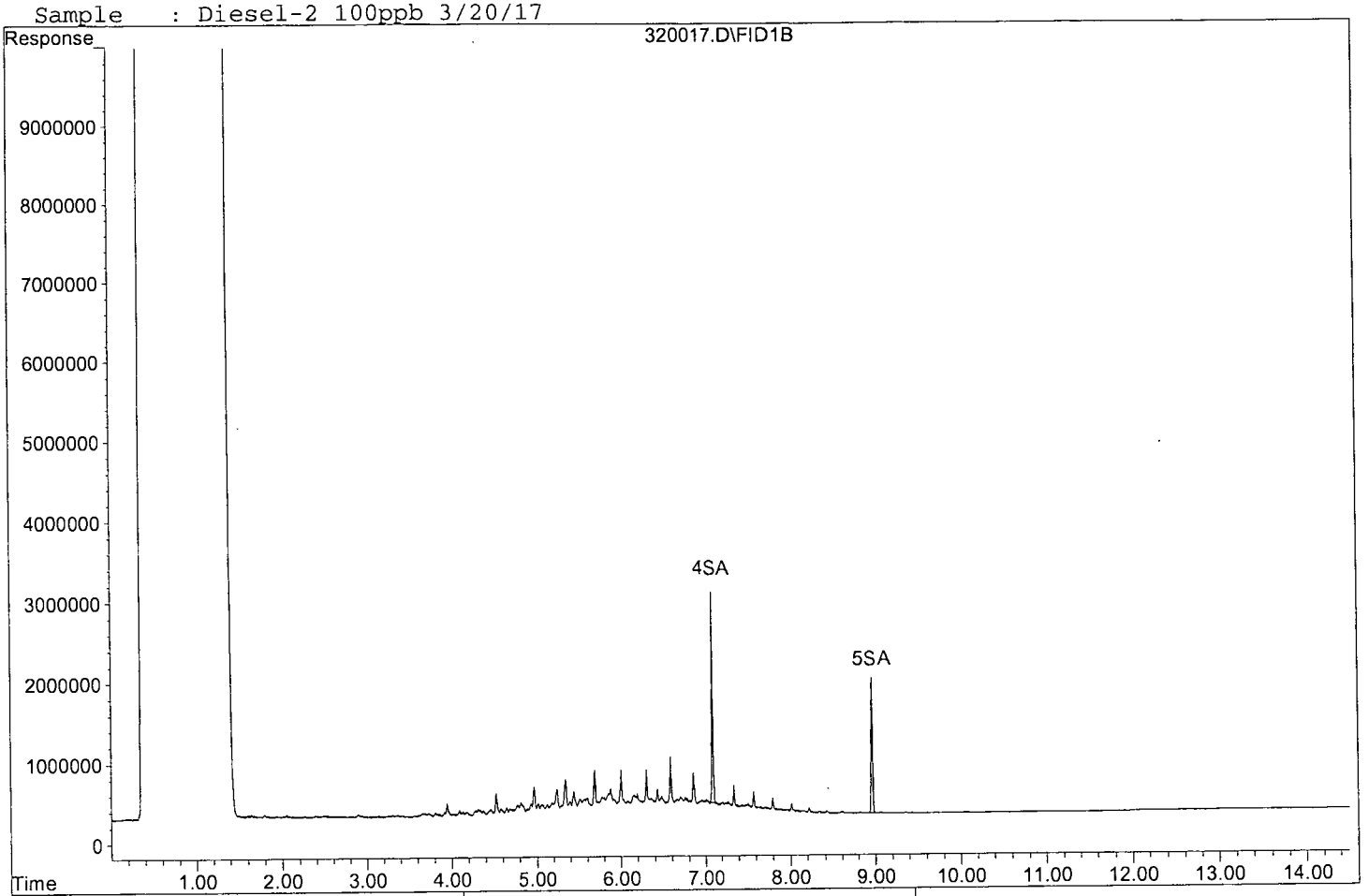
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

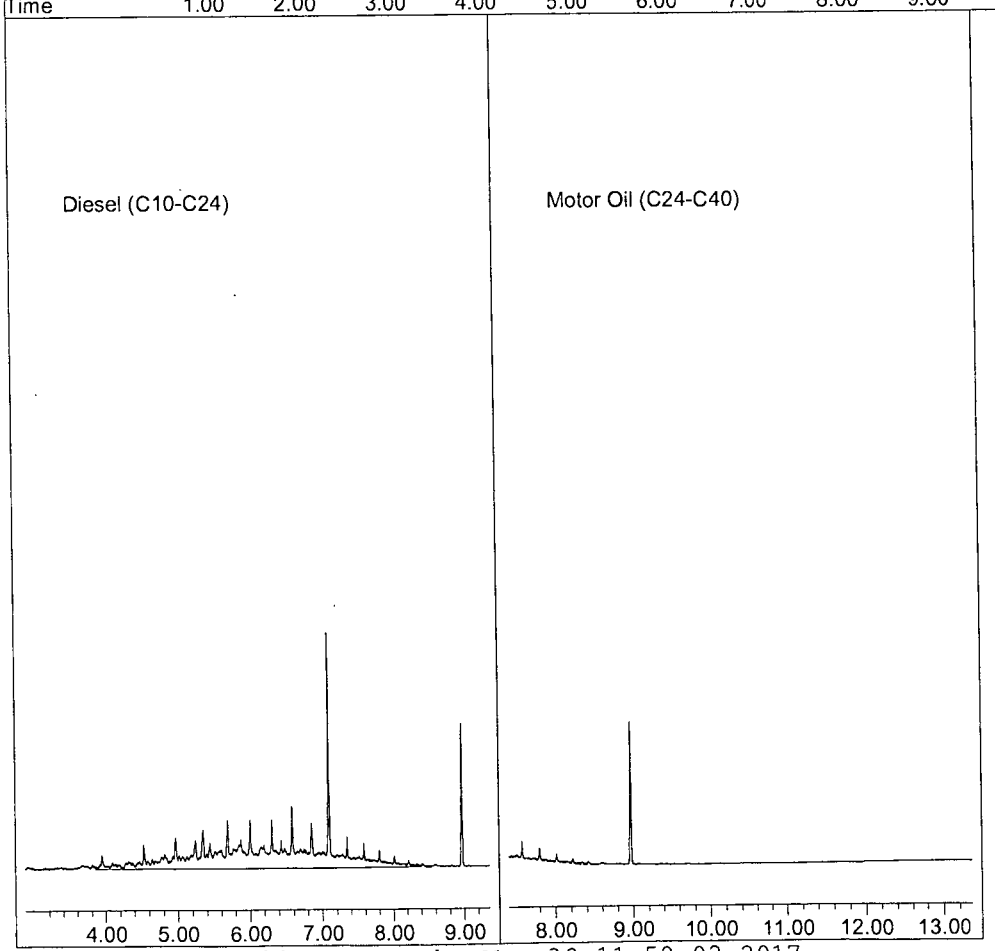
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	24857883	5.424 ppb
Surrogate Spike 30.000	Recovery	=	18.08%
5) SA Octacosane(S)	8.97	18980841	5.489 ppb
Surrogate Spike 30.000	Recovery	=	18.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	377355582	103.945 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320017.D
Sample : Diesel-2 100ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320018.D
Acq On : 3-20-17 15:57:14
Sample : Diesel-3 400ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

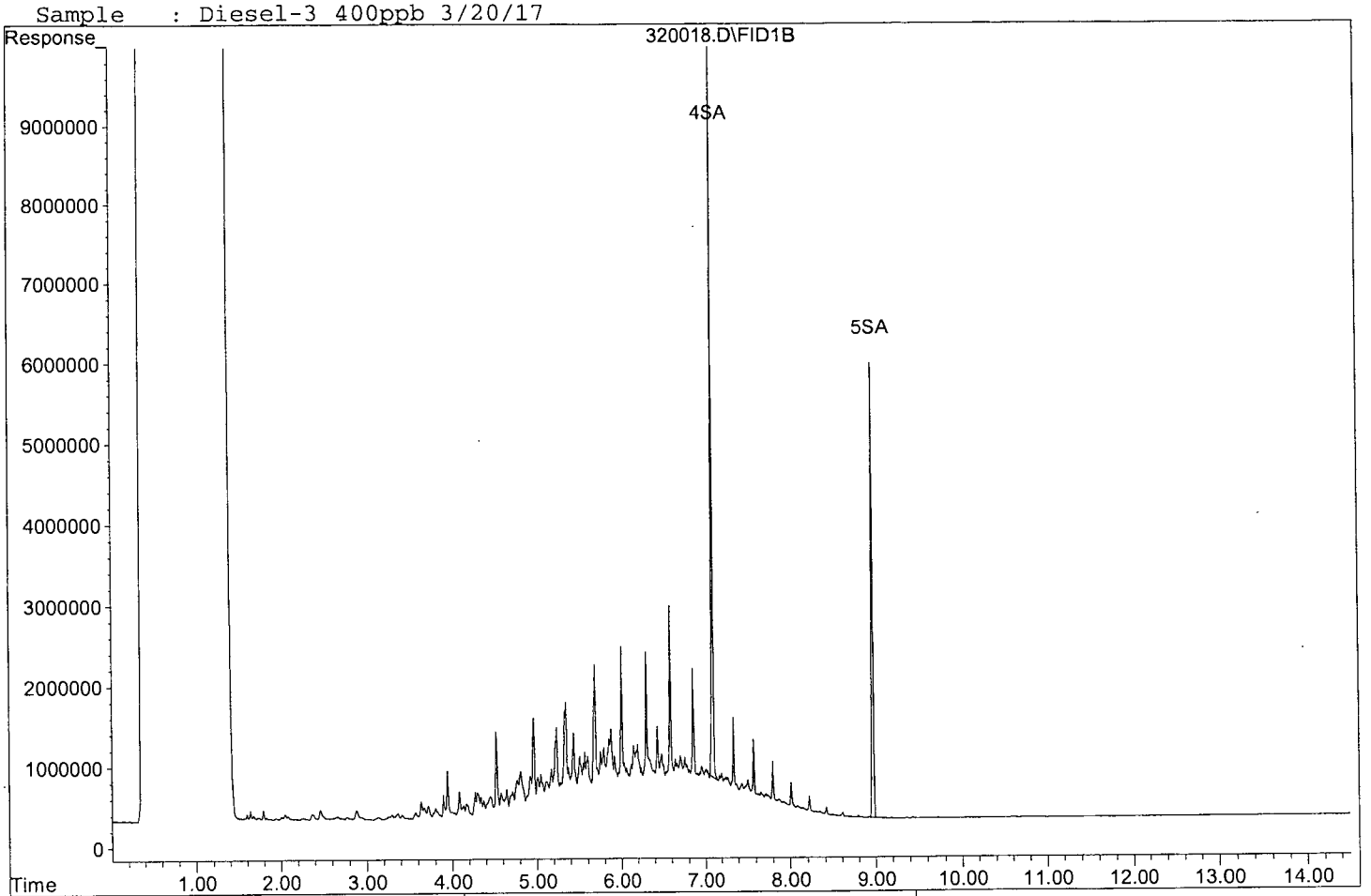
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

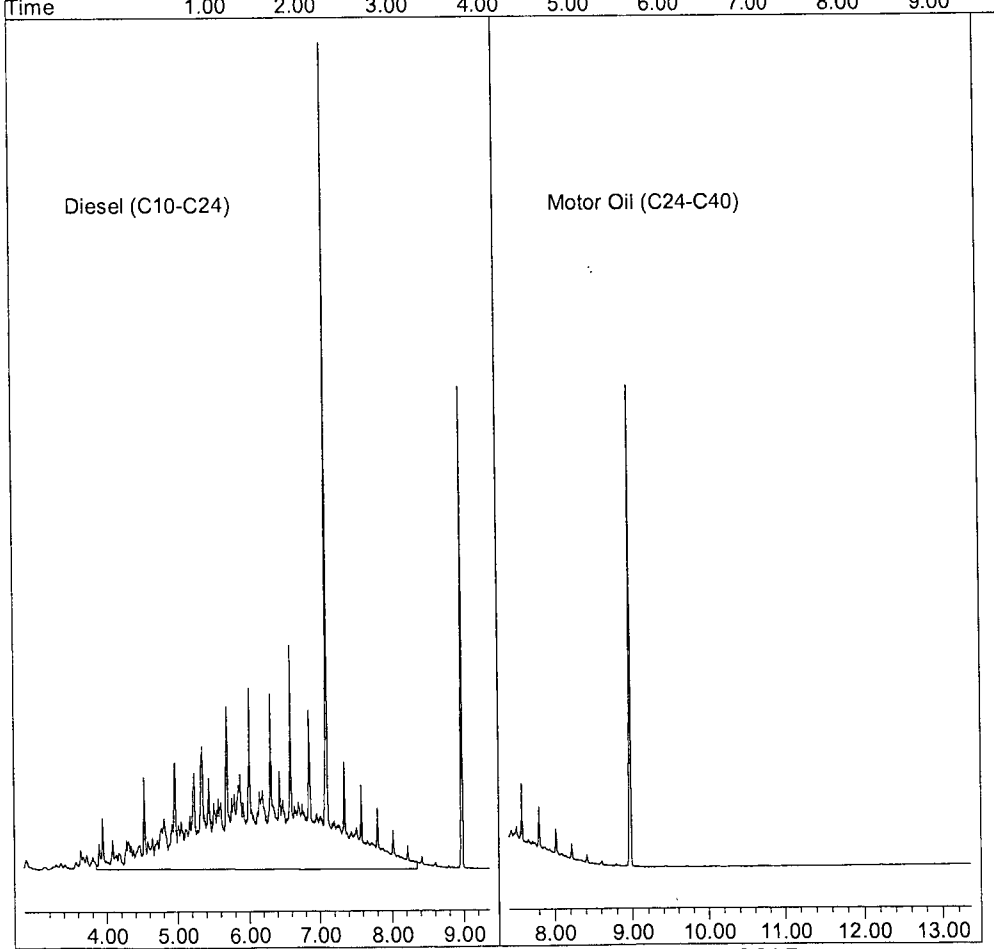
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89578741	19.546 ppb
Surrogate Spike 30.000		Recovery =	65.15%
5) SA Octacosane(S)	8.98	67307425	19.463 ppb
Surrogate Spike 30.000		Recovery =	64.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1299954214	358.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320018.D
Sample : Diesel-3 400ppb 3/20/17





320018.D DOC0320.M Thu Mar 30 11:59:18 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320019.D Vial: 19
Acq On : 3-20-17 16:18:15 Operator: DP
Sample : Diesel-4 600ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

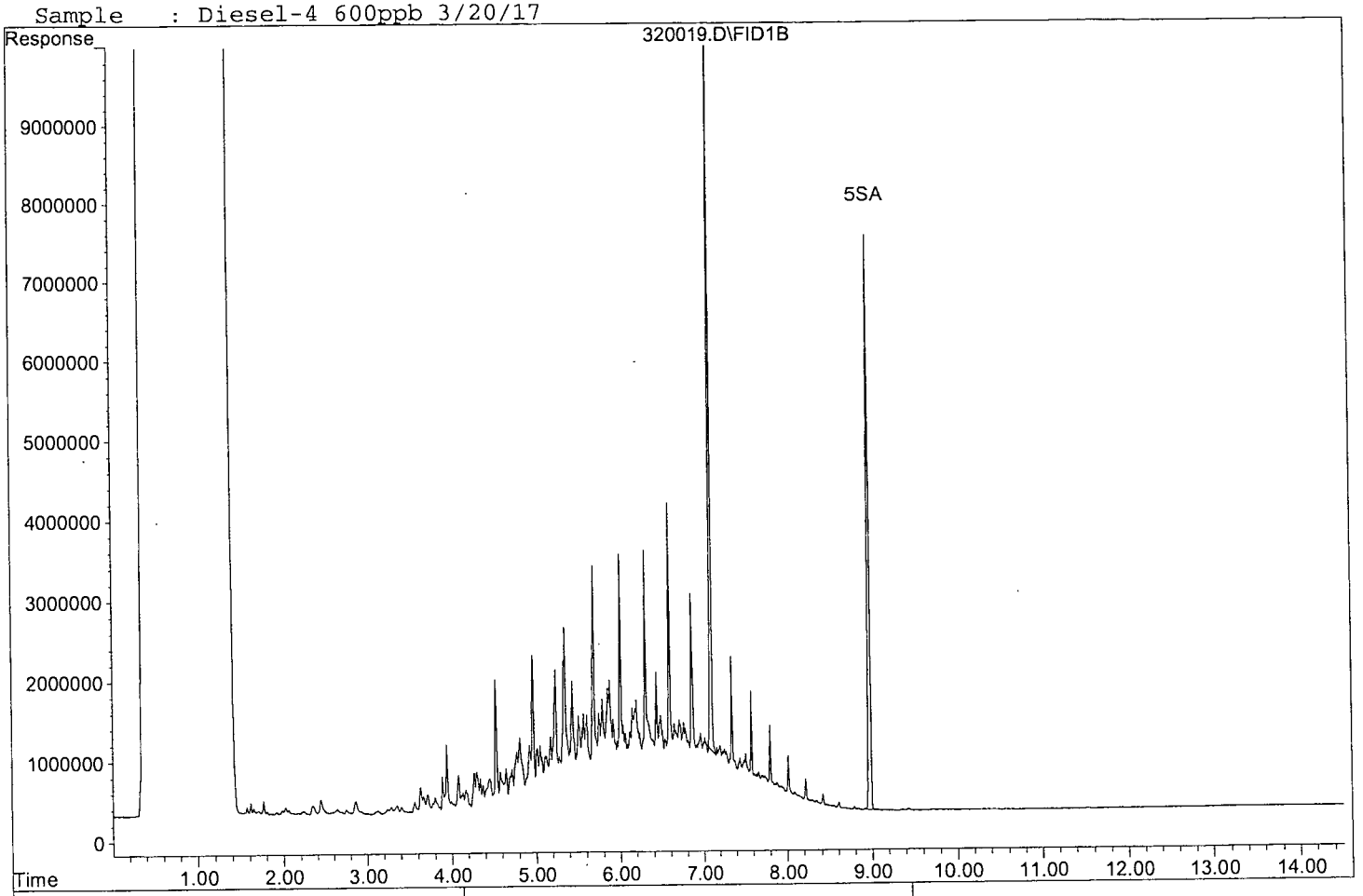
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

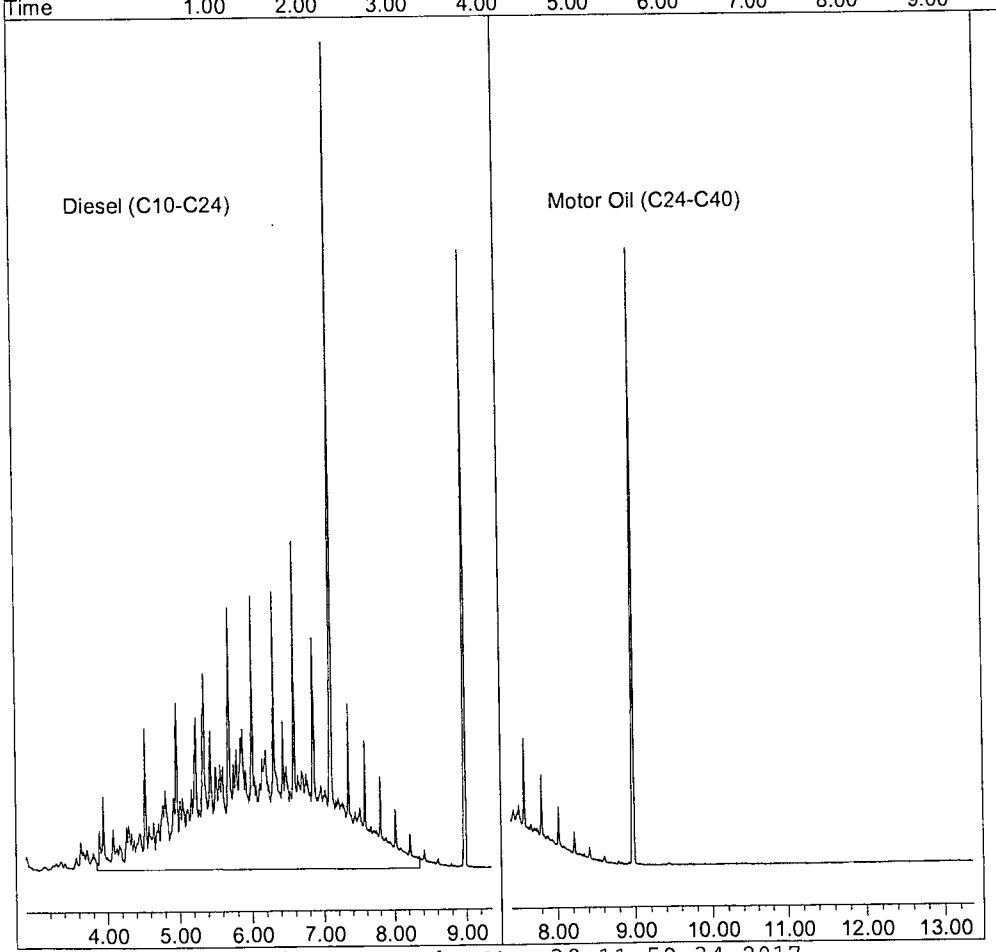
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	132807937	28.978 ppb
Surrogate Spike 30.000		Recovery =	96.59%
5) SA Octacosane(S)	8.98	99746088	28.843 ppb
Surrogate Spike 30.000		Recovery =	96.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1953639090	538.144 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320019.D
Sample : Diesel-4 600ppb 3/20/17





320019.D DOC0320.M Thu Mar 30 11:59:34 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320020.D
Acq On : 3-20-17 16:39:27
Sample : Diesel-5 800ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 20
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

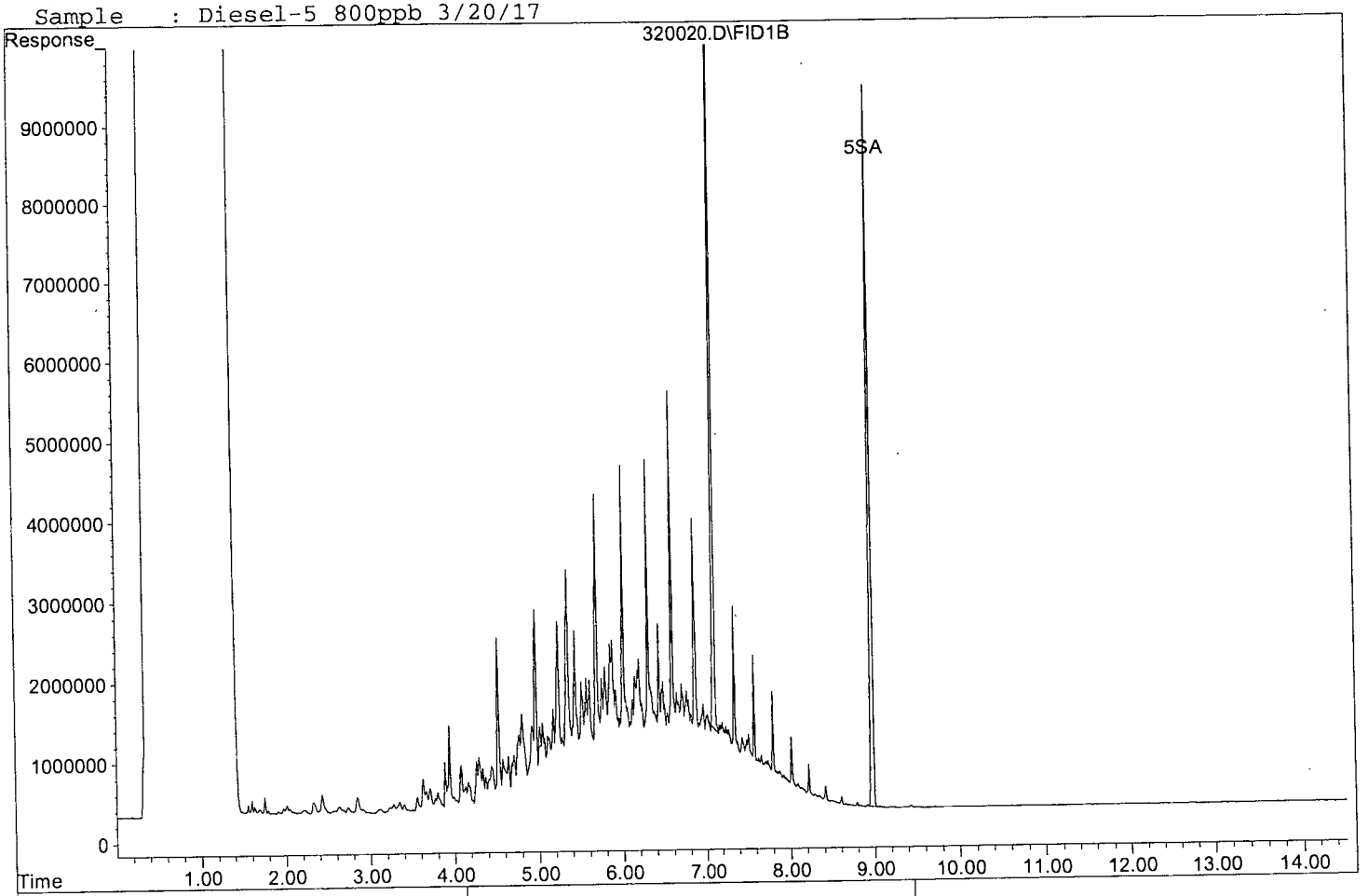
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

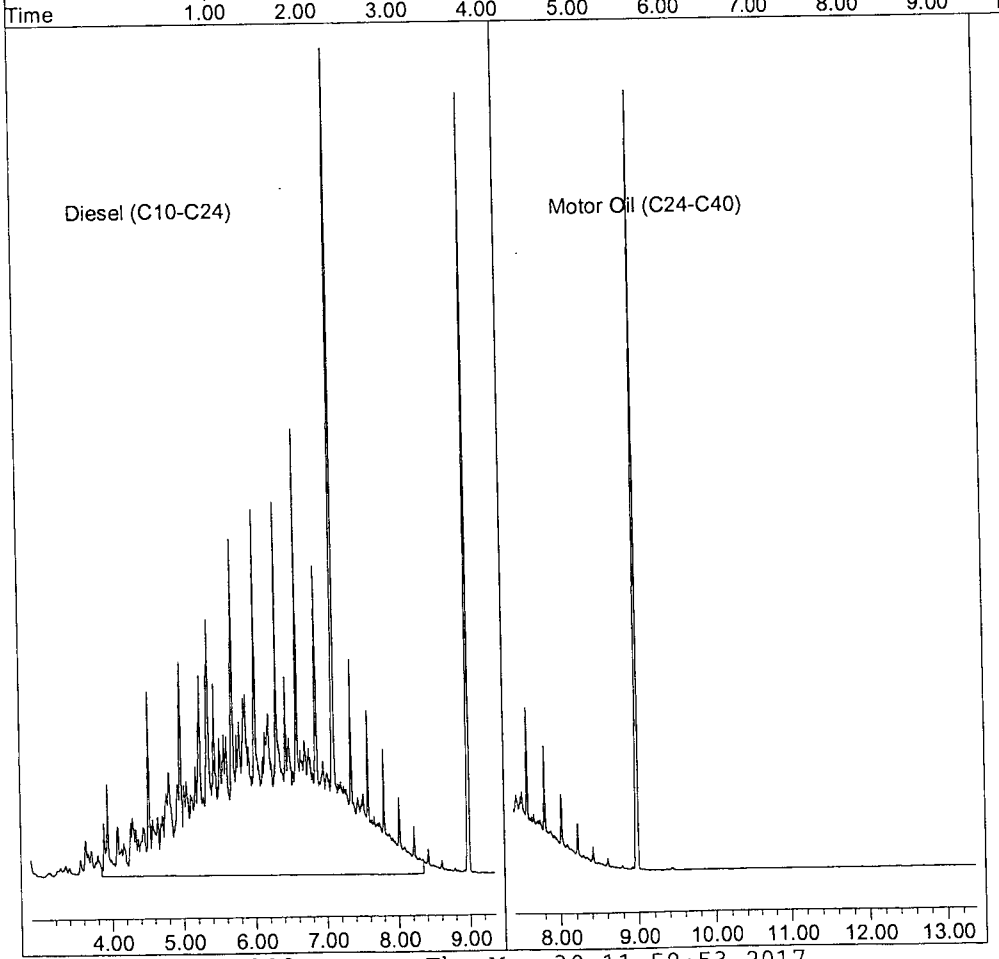
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	176502561	38.512 ppb
Surrogate Spike 30.000		Recovery =	128.37%
5) SA Octacosane(S)	8.99	132365021	38.275 ppb
Surrogate Spike 30.000		Recovery =	127.58%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	2584402595	711.892 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320020.D
Sample : Diesel-5 800ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320021.D
Acq On : 3-20-17 17:00:36
Sample : Diesel-6 1000ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Vial: 21
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

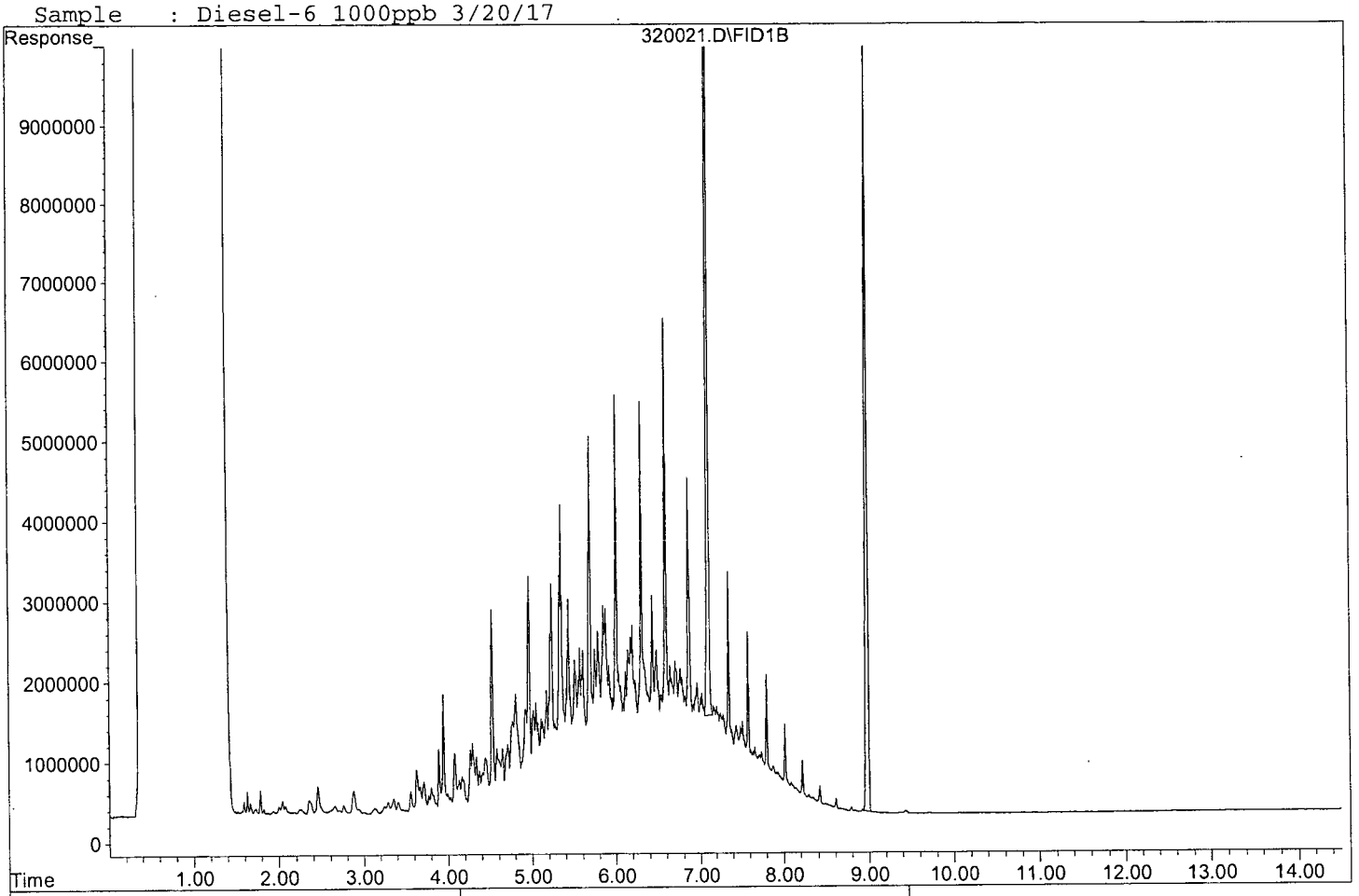
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

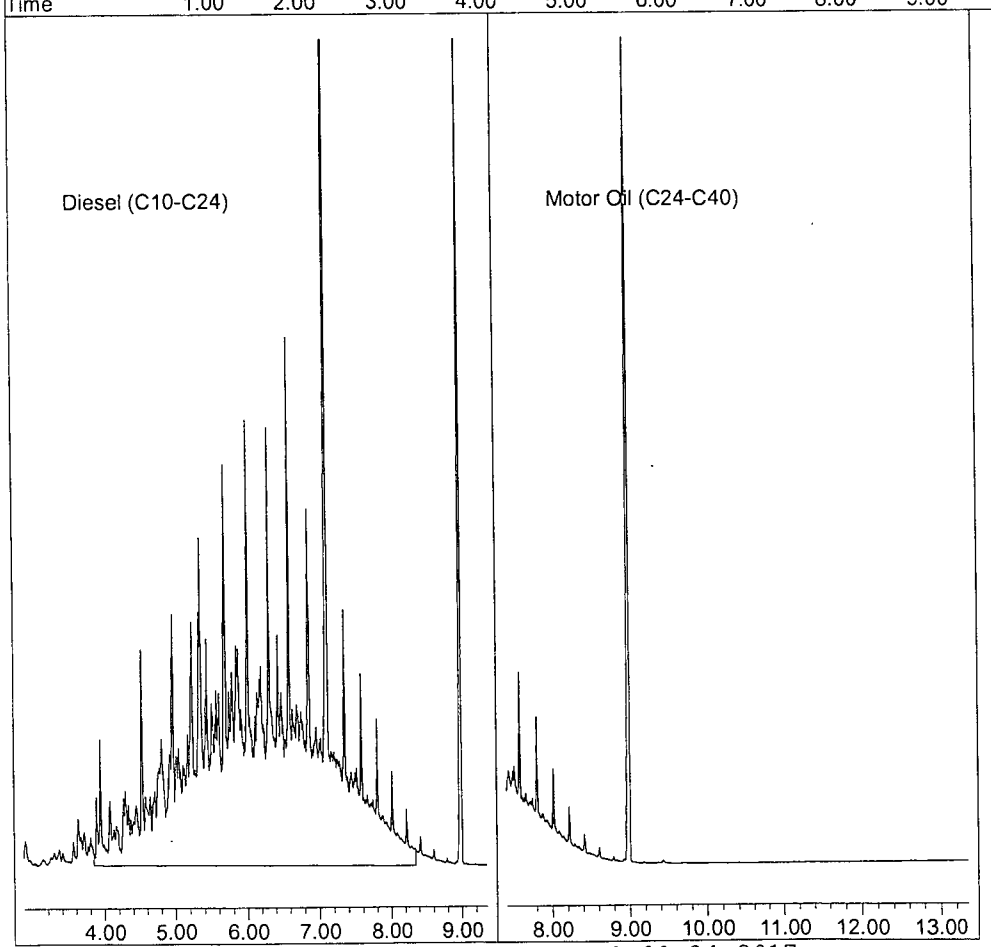
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	220764307	48.170 ppb
Surrogate Spike 30.000		Recovery =	160.57%
5) SA Octacosane(S)	8.99	163833005	47.374 ppb
Surrogate Spike 30.000		Recovery =	157.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	3191932577	879.240 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320021.D
Sample : Diesel-6 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320023.D
Vial: 23
Acq On : 3-20-17 17:42:35
Operator: DP
Sample : Motor Oil-1 20ppb 3/20/17
Inst : Apollo
Misc : Mix(B)
Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

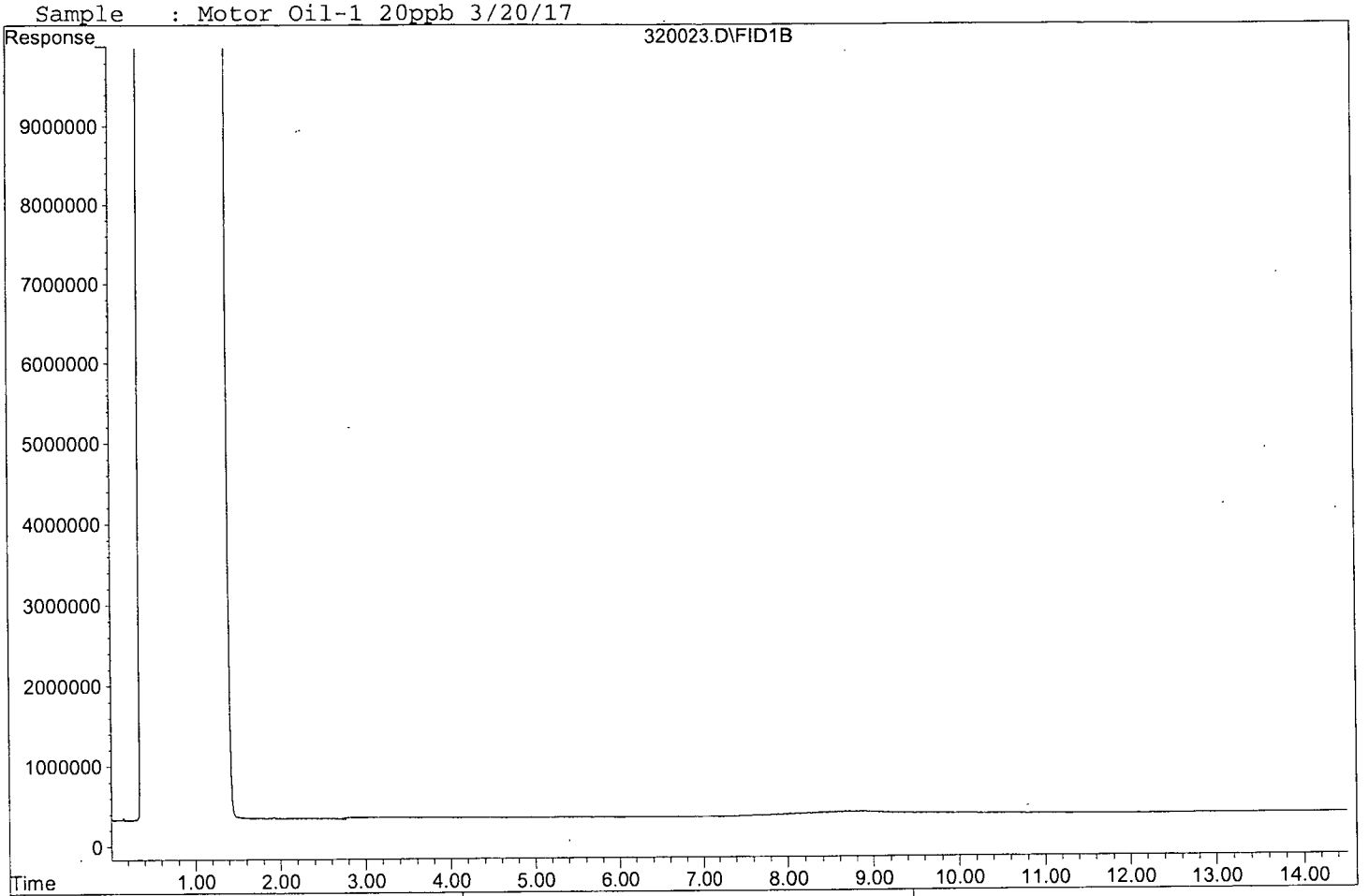
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

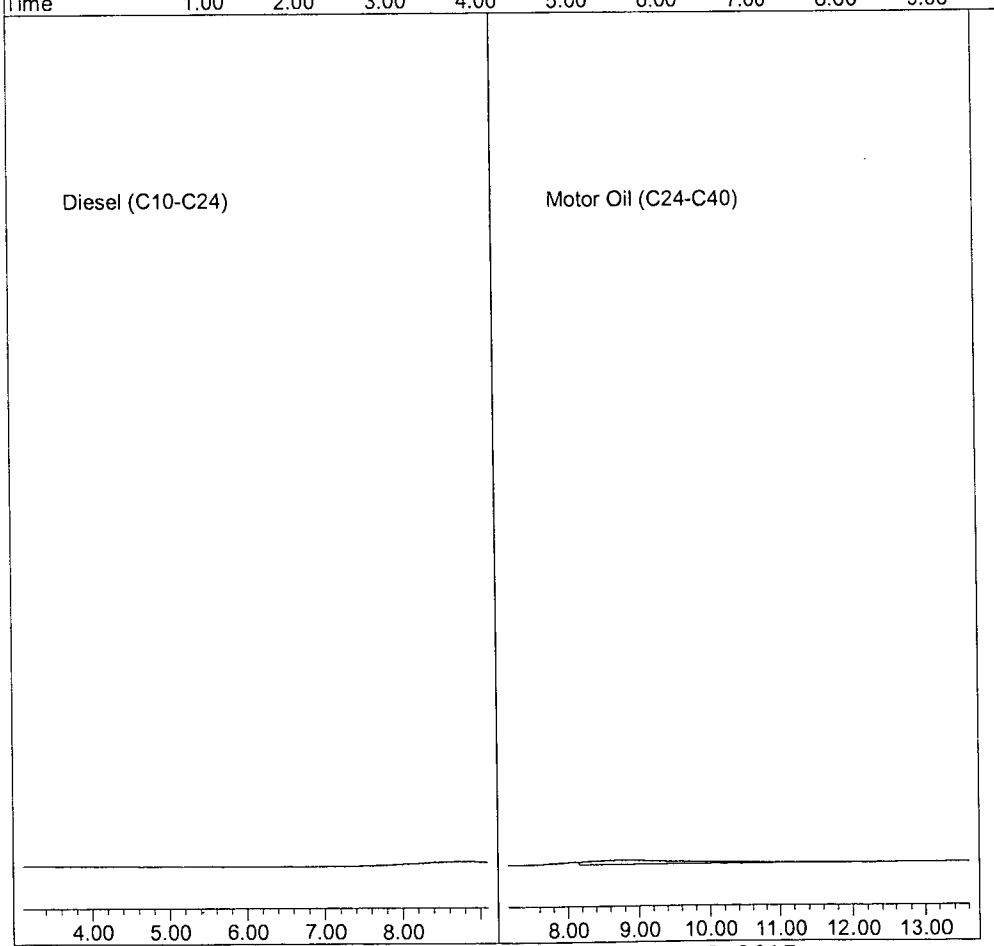
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	53335418	21.698 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320023.D
Sample : Motor Oil-1 20ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320024.D Vial: 24
Acq On : 3-20-17 18:03:37 Operator: DP
Sample : Motor Oil-2 50ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

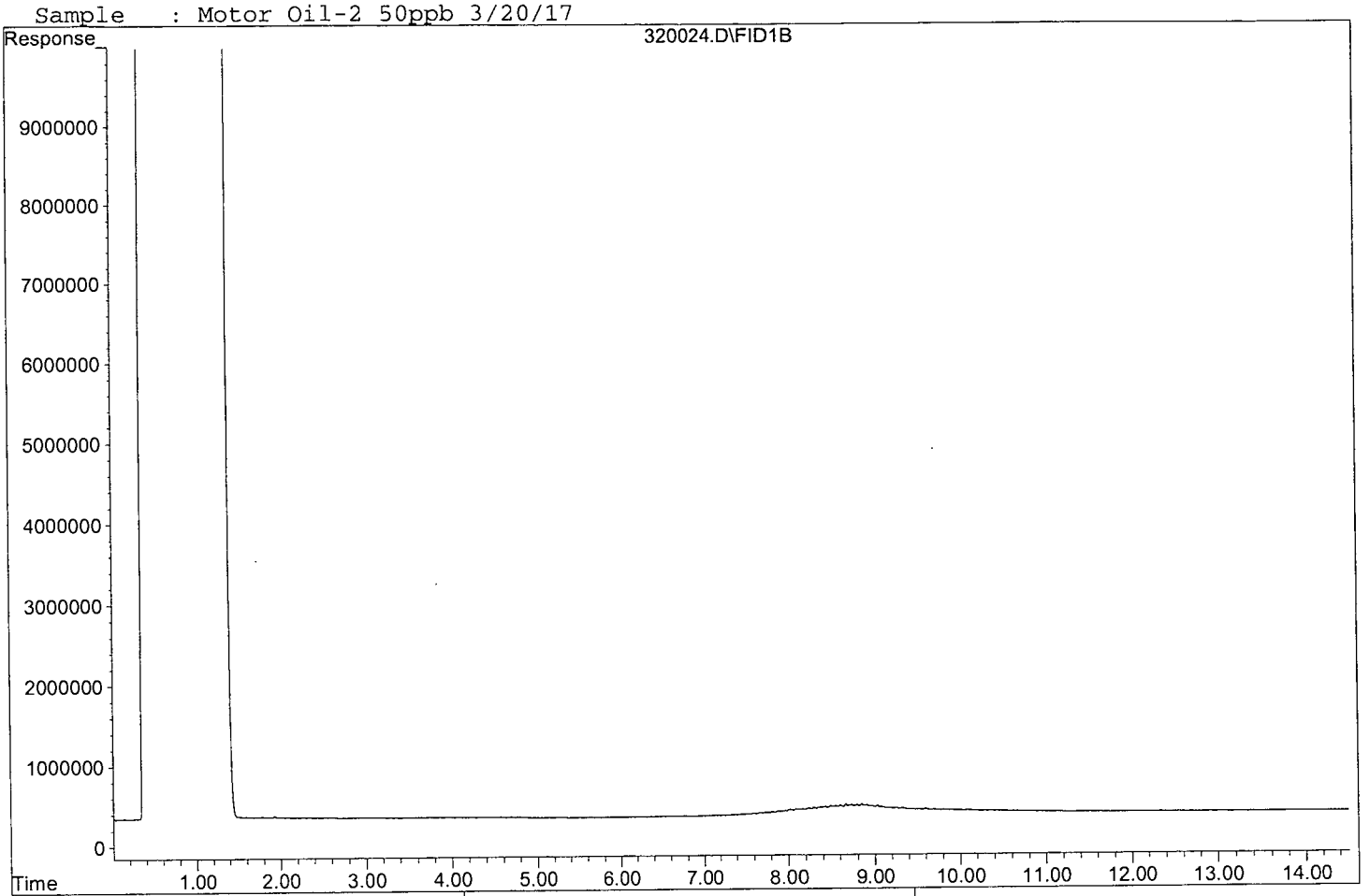
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

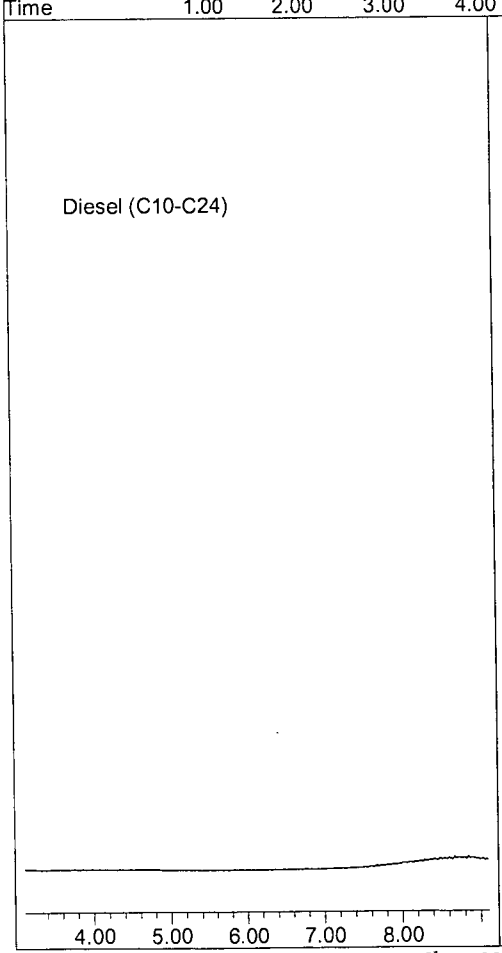
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	124824954	50.781 ppb

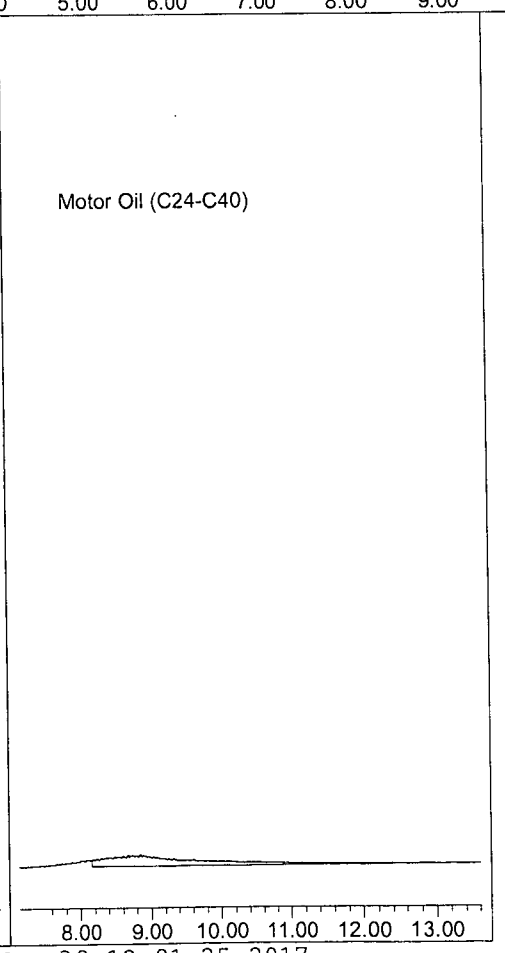
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320024.D
Sample : Motor Oil-2 50ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320025.D
Acq On : 3-20-17 18:24:46
Sample : Motor Oil-3 250ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

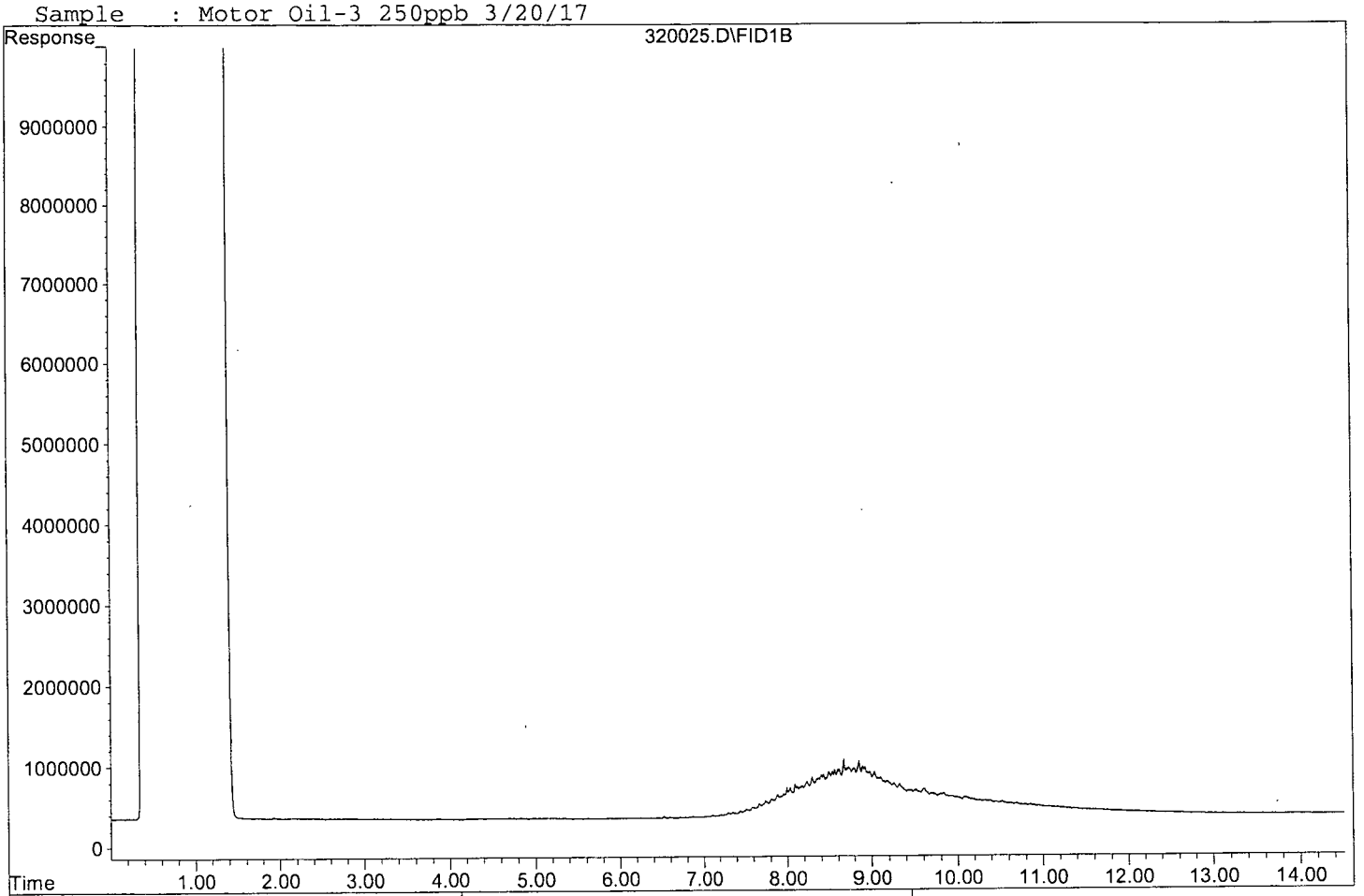
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

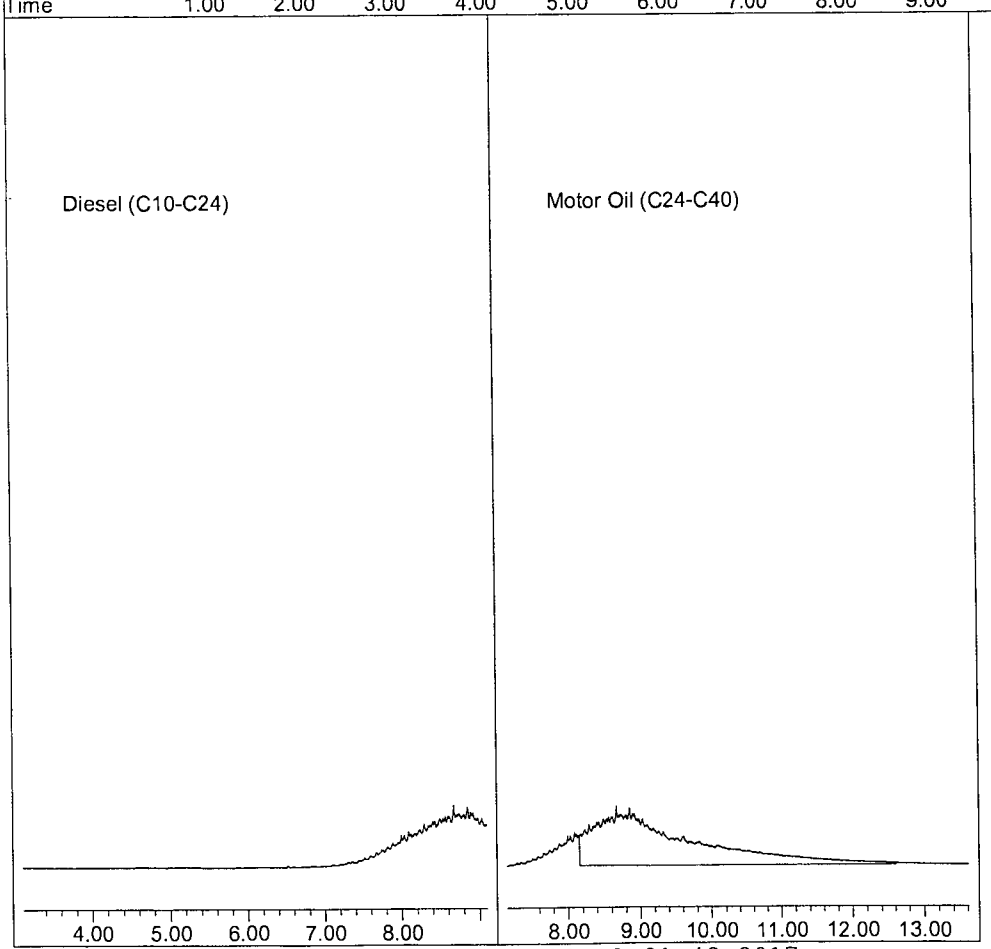
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	608264904	247.454 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320025.D
Sample : Motor Oil-3 250ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320026.D
Acq On : 3-20-17 18:45:44
Sample : Motor Oil-4 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

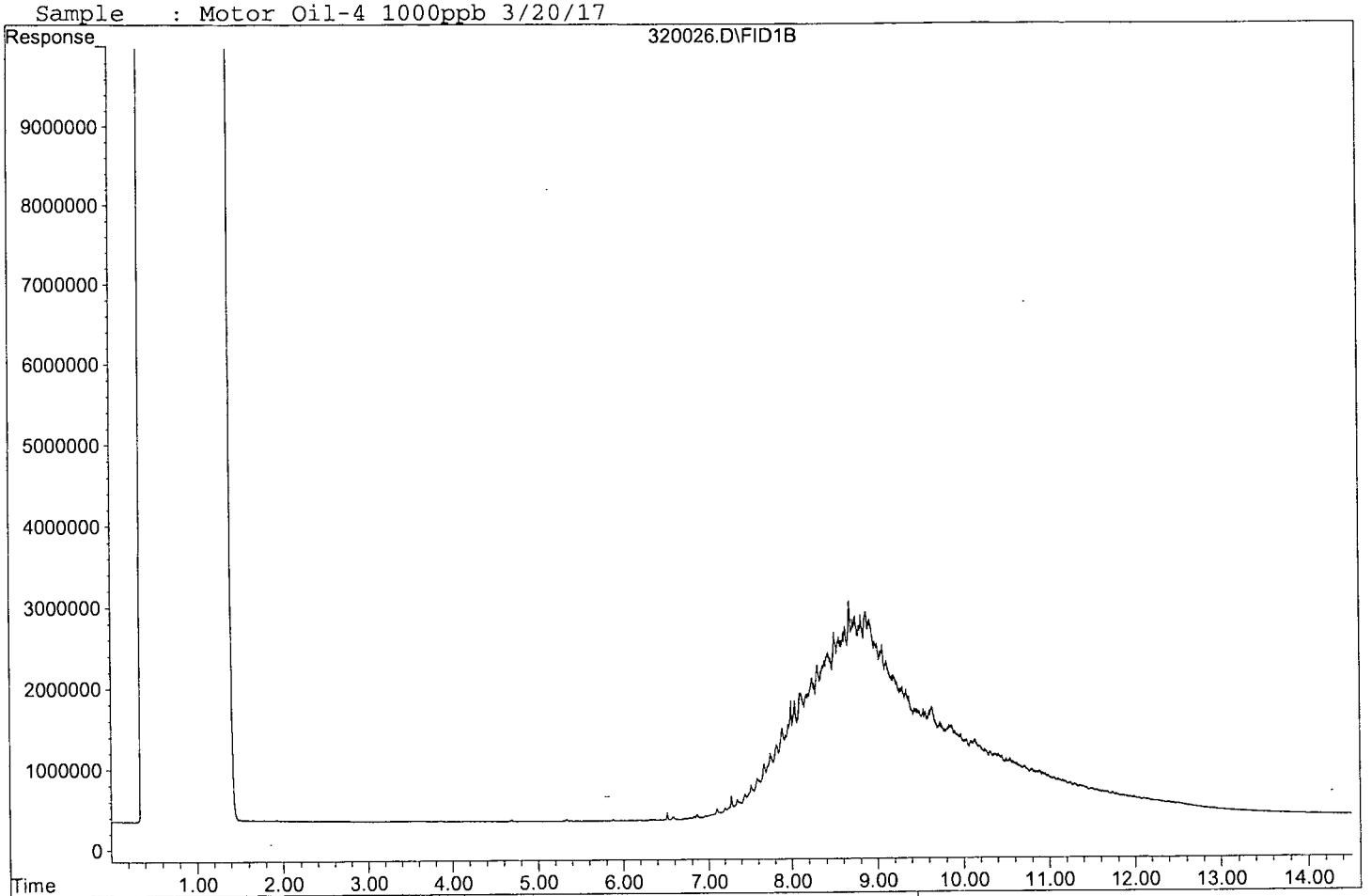
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

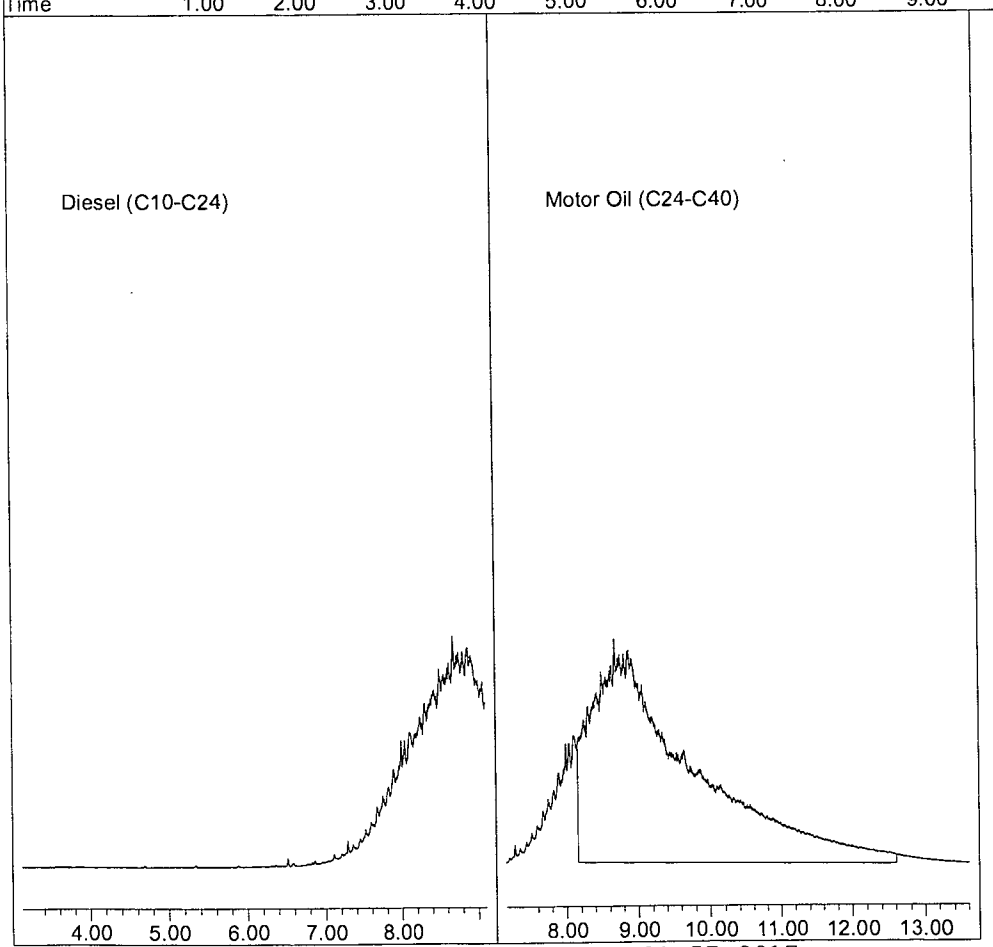
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2457905997	999.923 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170320\320026.D
Sample : Motor Oil-4 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320027.D Vial: 27
Acq On : 3-20-17 19:06:49 Operator: DP
Sample : Motor Oil-5 1500ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

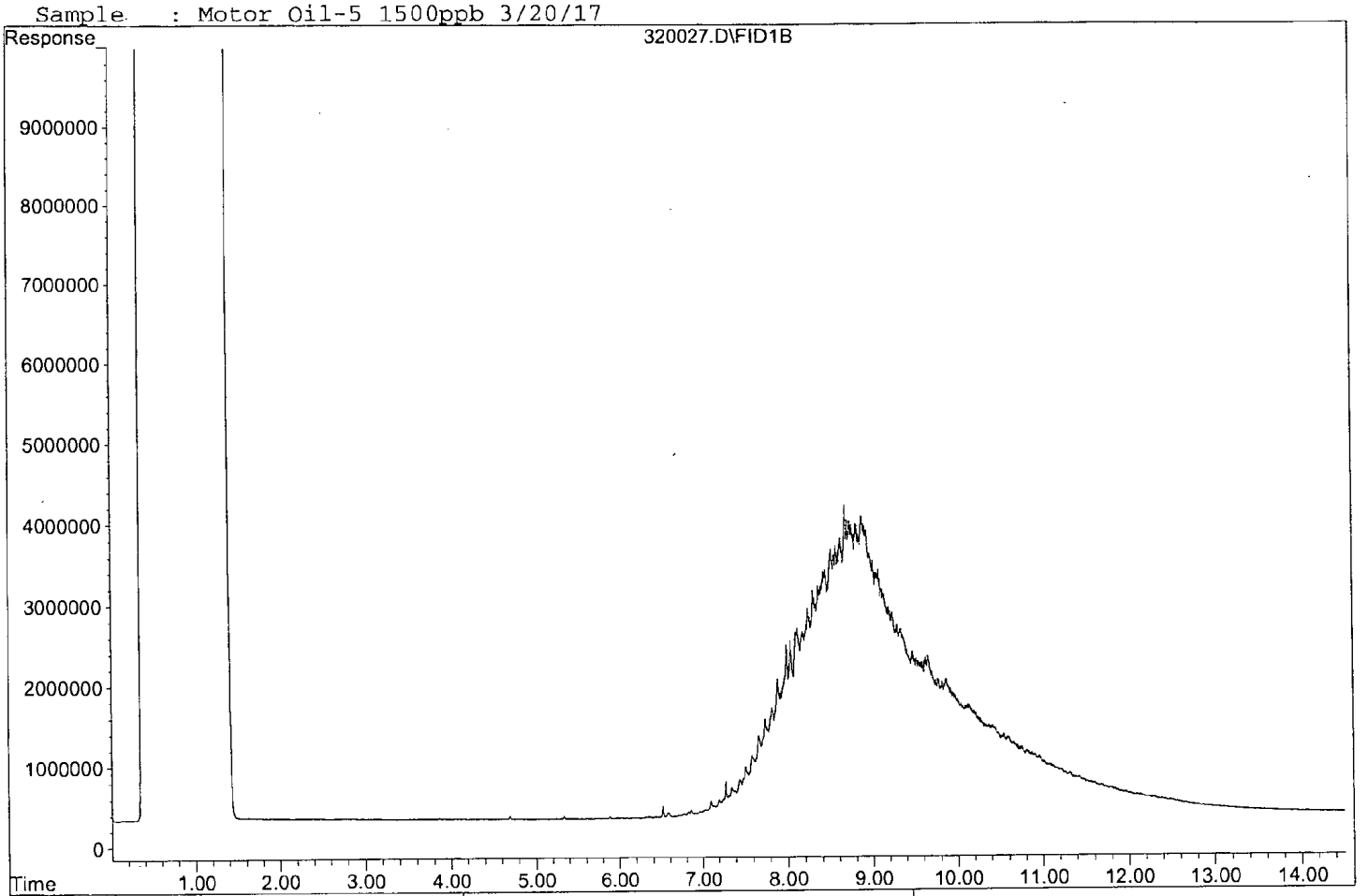
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

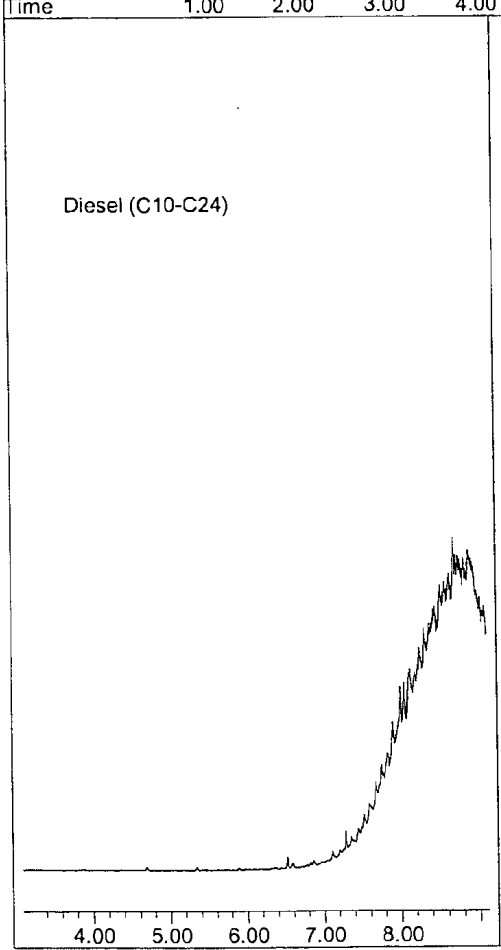
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	3539471418	1439.924 ppb

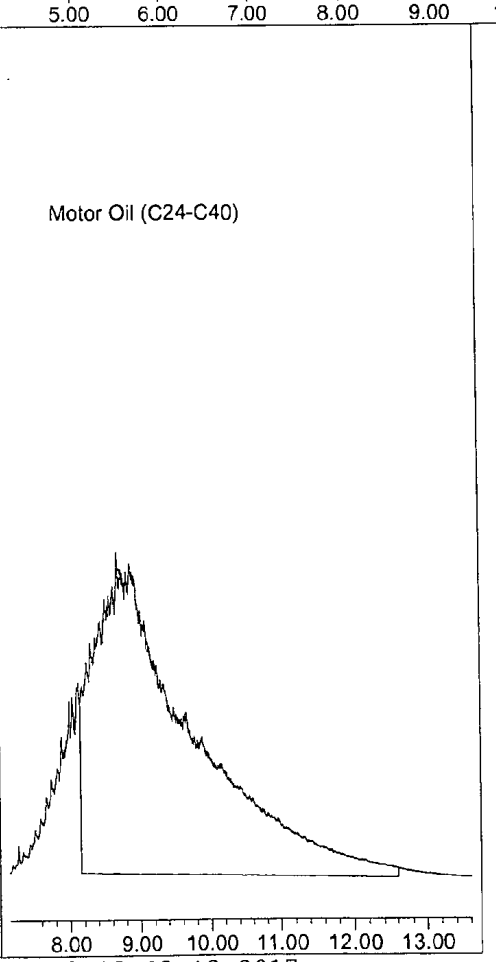
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320027.D
Sample : Motor Oil-5 1500ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320028.D
Acq On : 3-20-17 19:27:55
Sample : Motor Oil-6 2000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 28
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

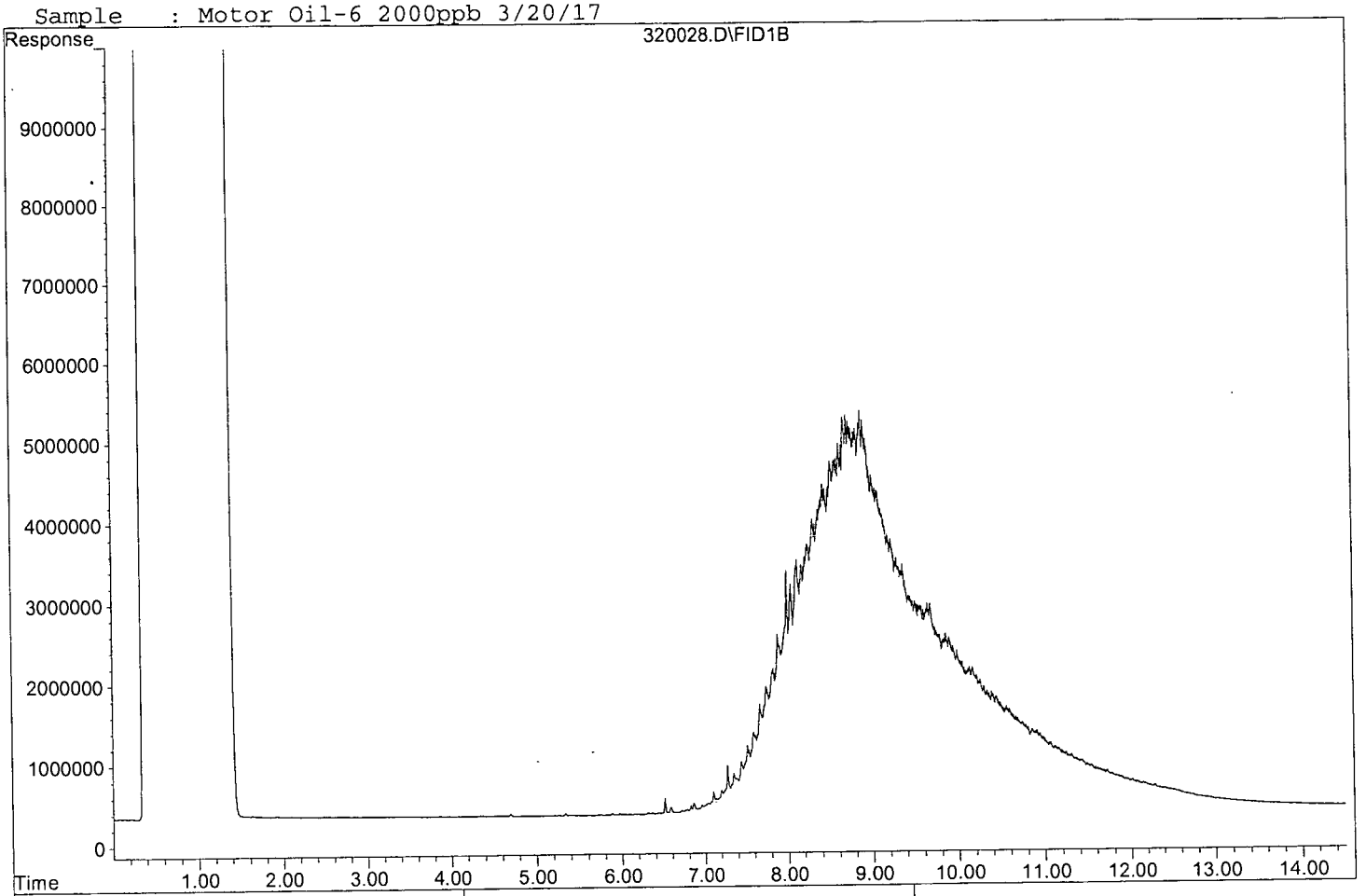
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

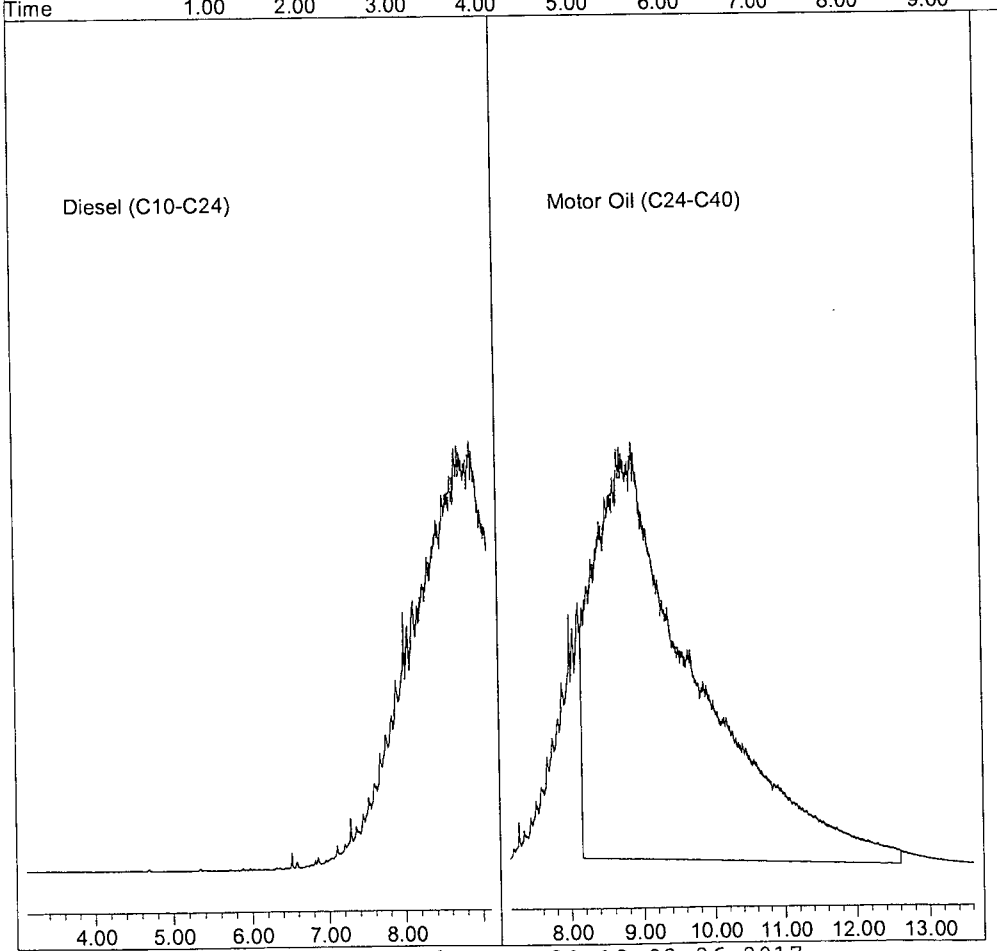
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	4669380911	1899.593 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320028.D
Sample : Motor Oil-6 2000ppb 3/20/17





320028.D DOC0320.M Thu Mar 30 12:02:26 2017

TPH Extractables
DOC0320

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/20/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 320022.D (Diesel) 320029.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1884580	3.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1452540	18	HBTM	
3							
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40							
		Average			10.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320022.D
Acq On : 3-20-17 17:21:37
Sample : Diesel-2nd Src 400ppb 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

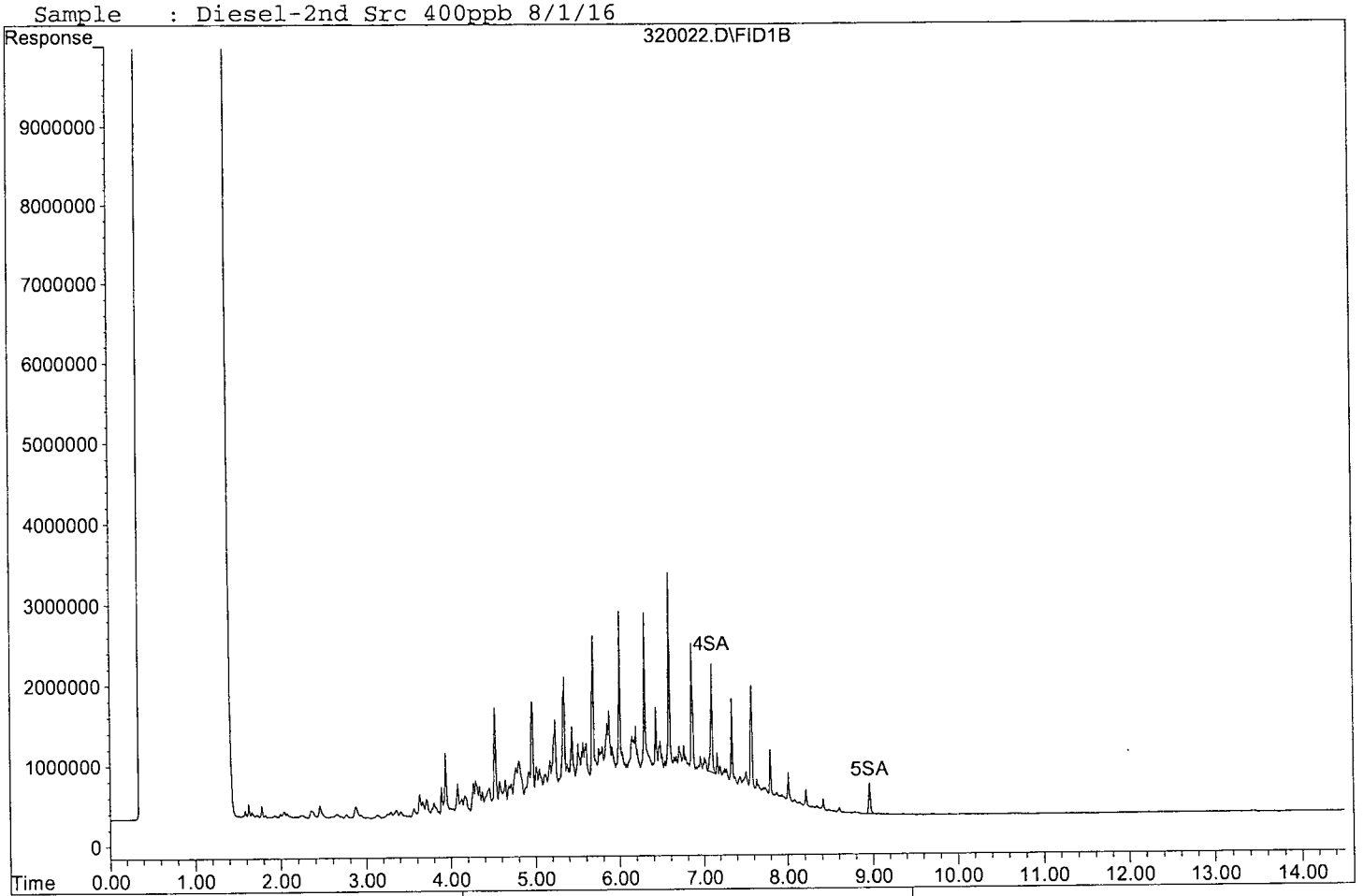
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

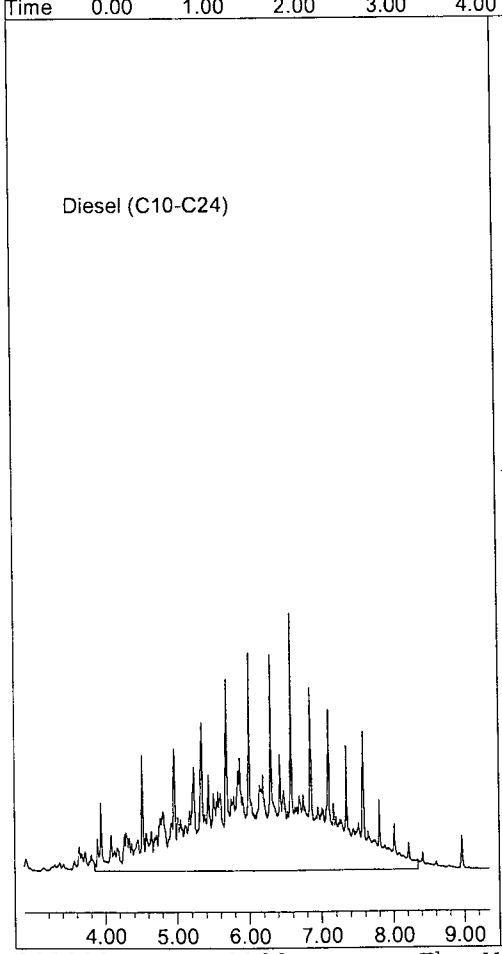
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

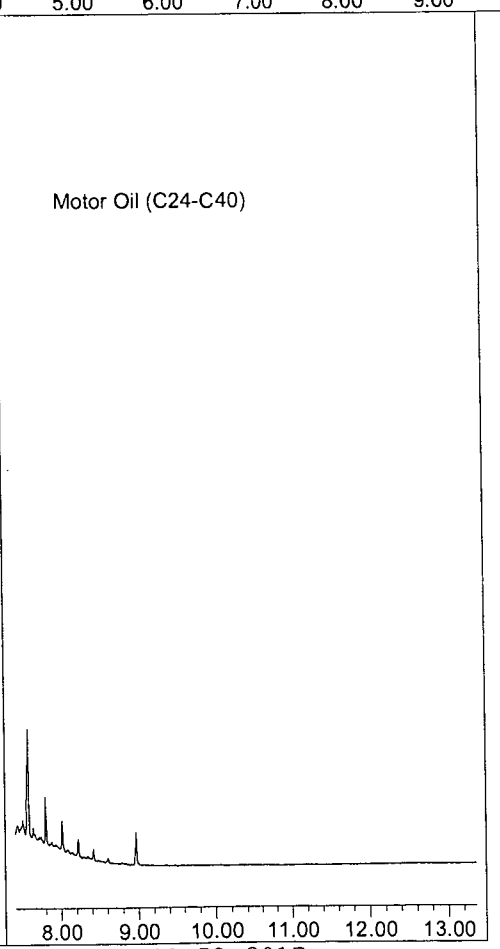
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	18760456	4.093 ppb
Surrogate Spike 30.000		Recovery =	13.64%
5) SA Octacosane(S)	8.97	5160434	1.492 ppb
Surrogate Spike 30.000		Recovery =	4.97%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1507663254	415.297 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170320\320022.D
Sample : Diesel-2nd Src 400ppb 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320029.D Vial: 29
Acq On : 3-20-17 19:48:56 Operator: DP
Sample : Motor Oil-2nd Src 1000ppb 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

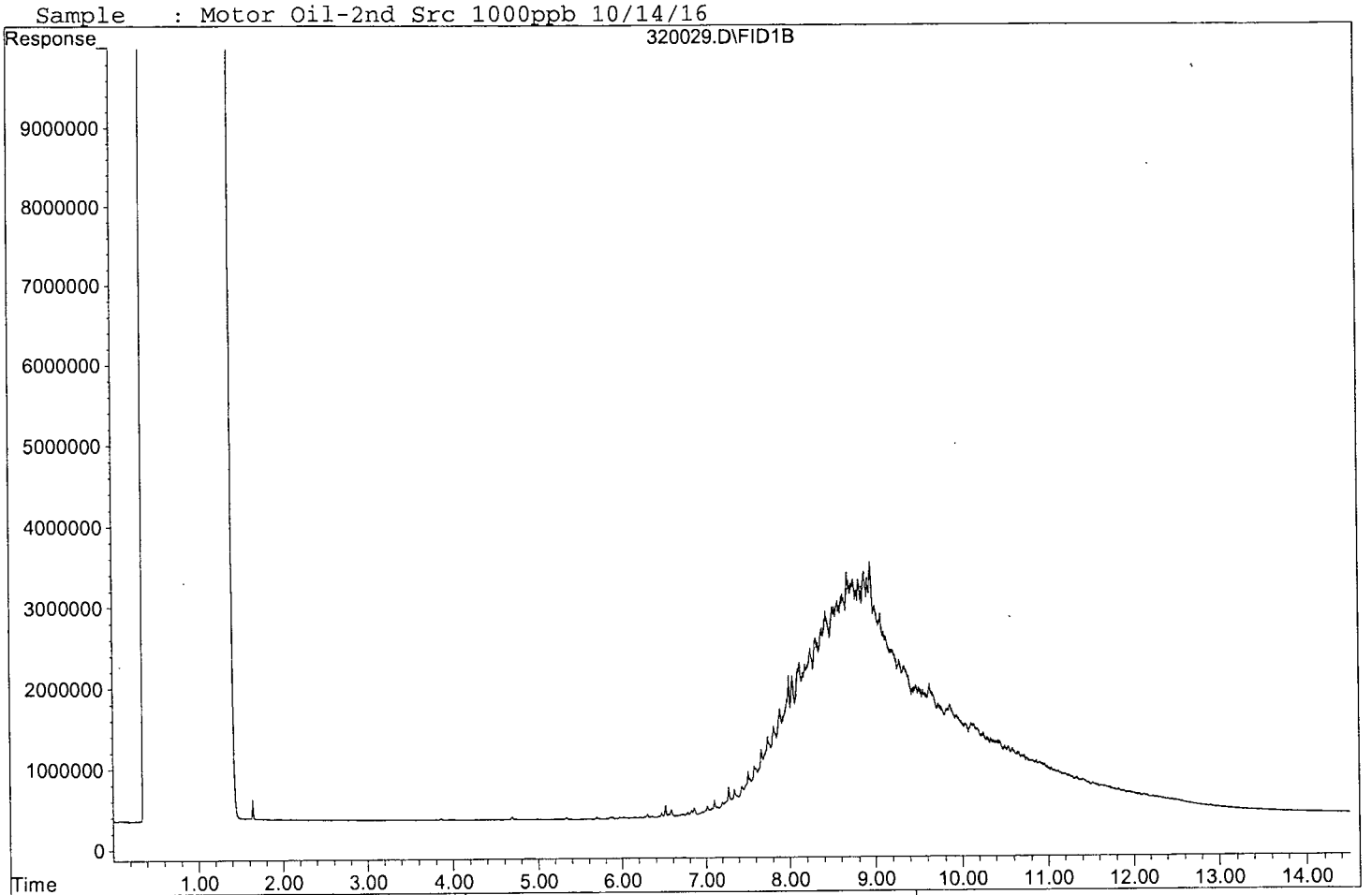
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

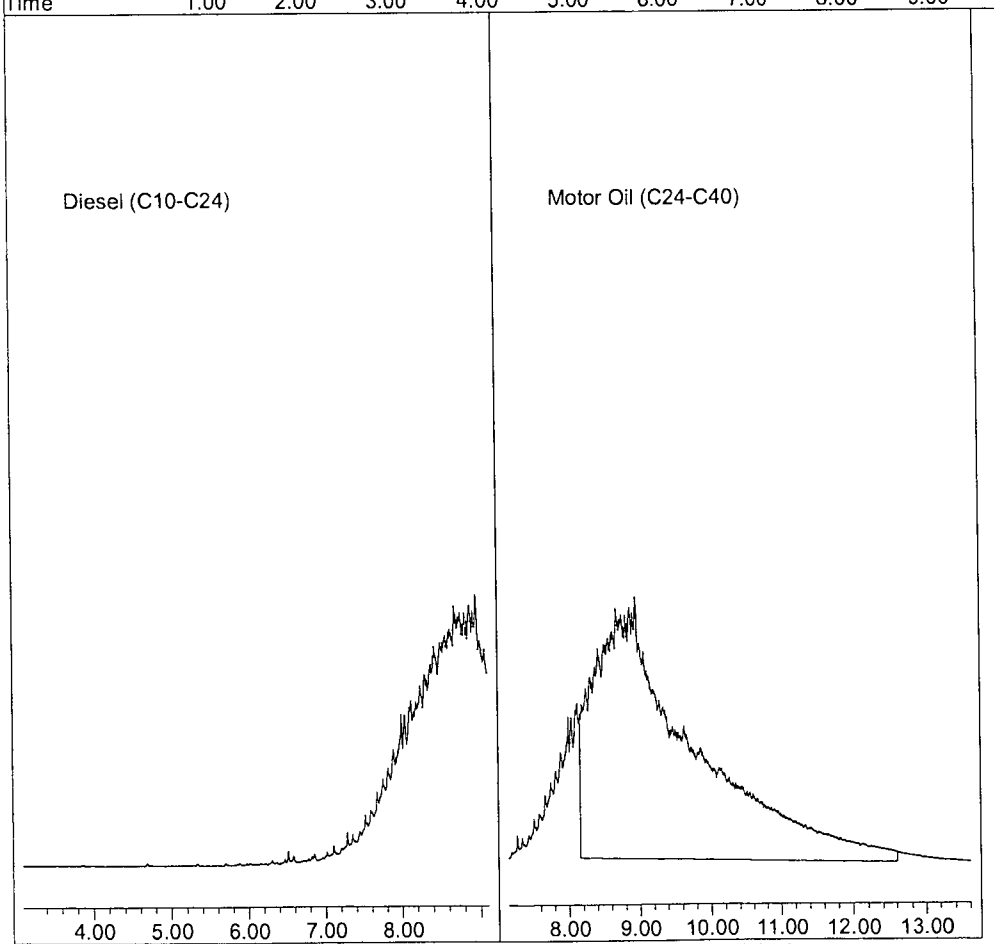
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2905079308	1181.841 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320029.D
Sample : Motor Oil-2nd Src 1000ppb 10/14/16





TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411002-3.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1692060	6.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1205340	1.9	HBTM	
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		Average			4.4		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411002.D Vial: 2
Acq On : 4-11-17 9:21:47 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

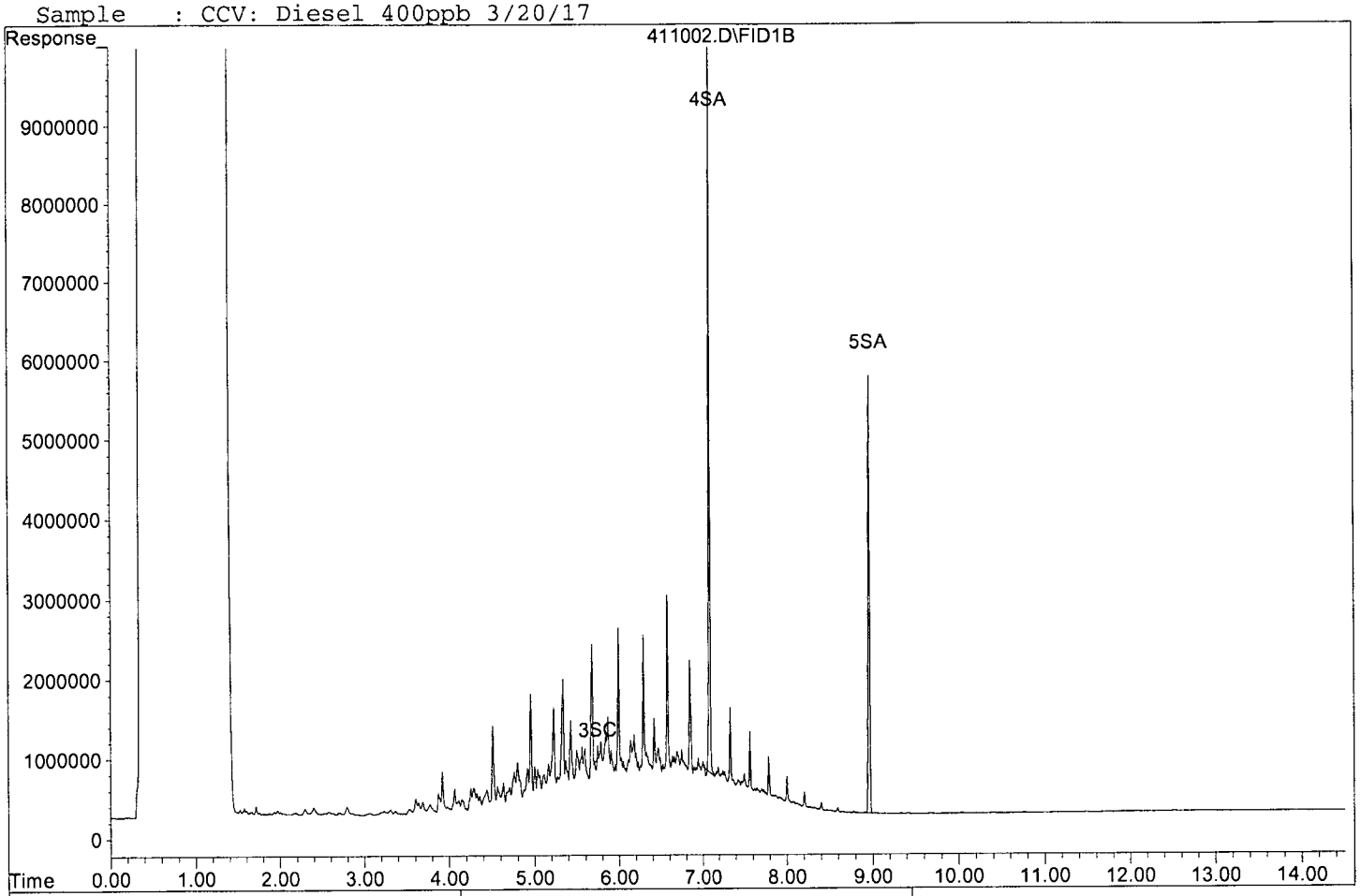
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

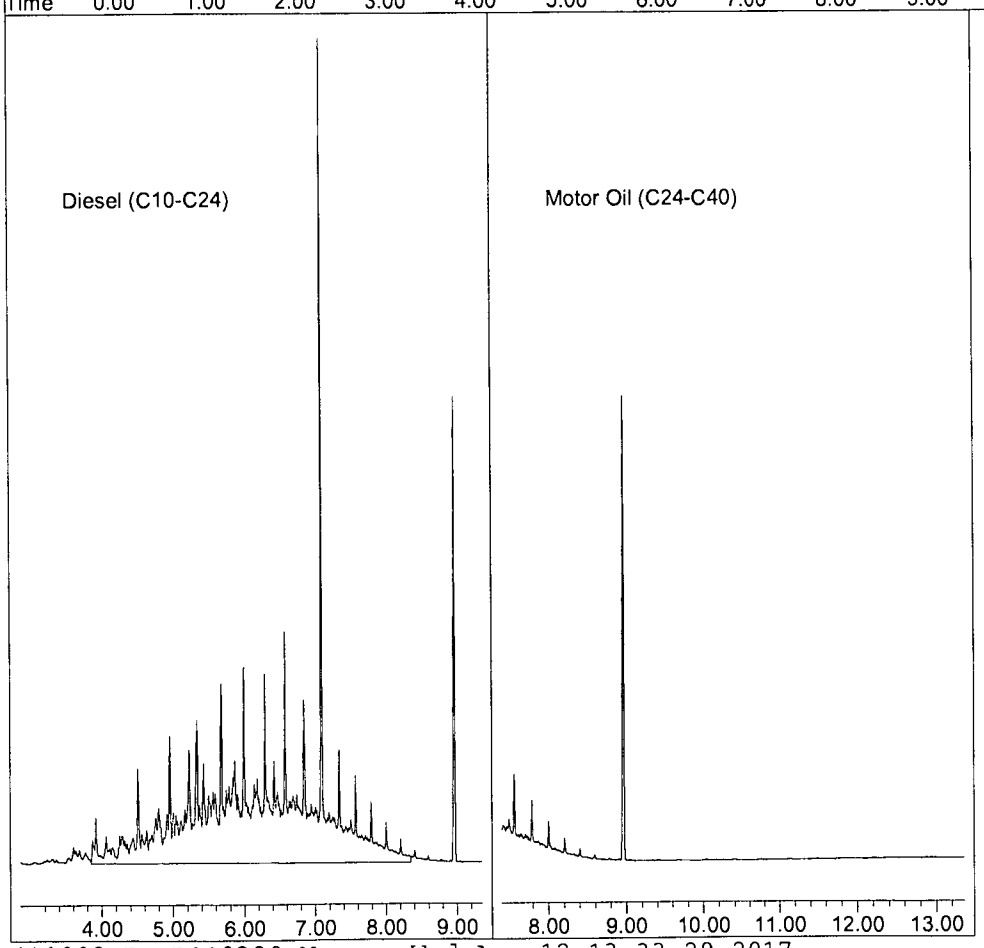
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-56811	2.065 ppb
Surrogate Spike 24.000		Recovery =	8.60%
4) SA Ortho-Terphenyl(S)	7.09	90108655	19.661 ppb
Surrogate Spike 30.000		Recovery =	65.54%
5) SA Octacosane(S)	8.97	65271836	18.874 ppb
Surrogate Spike 30.000		Recovery =	62.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1353649106	372.872 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411002.D
Sample : CCV: Diesel 400ppb 3/20/17





411002.D DOC0320.M Wed Apr 12 13:33:29 2017

Quantitation Report (Not Reviewed)

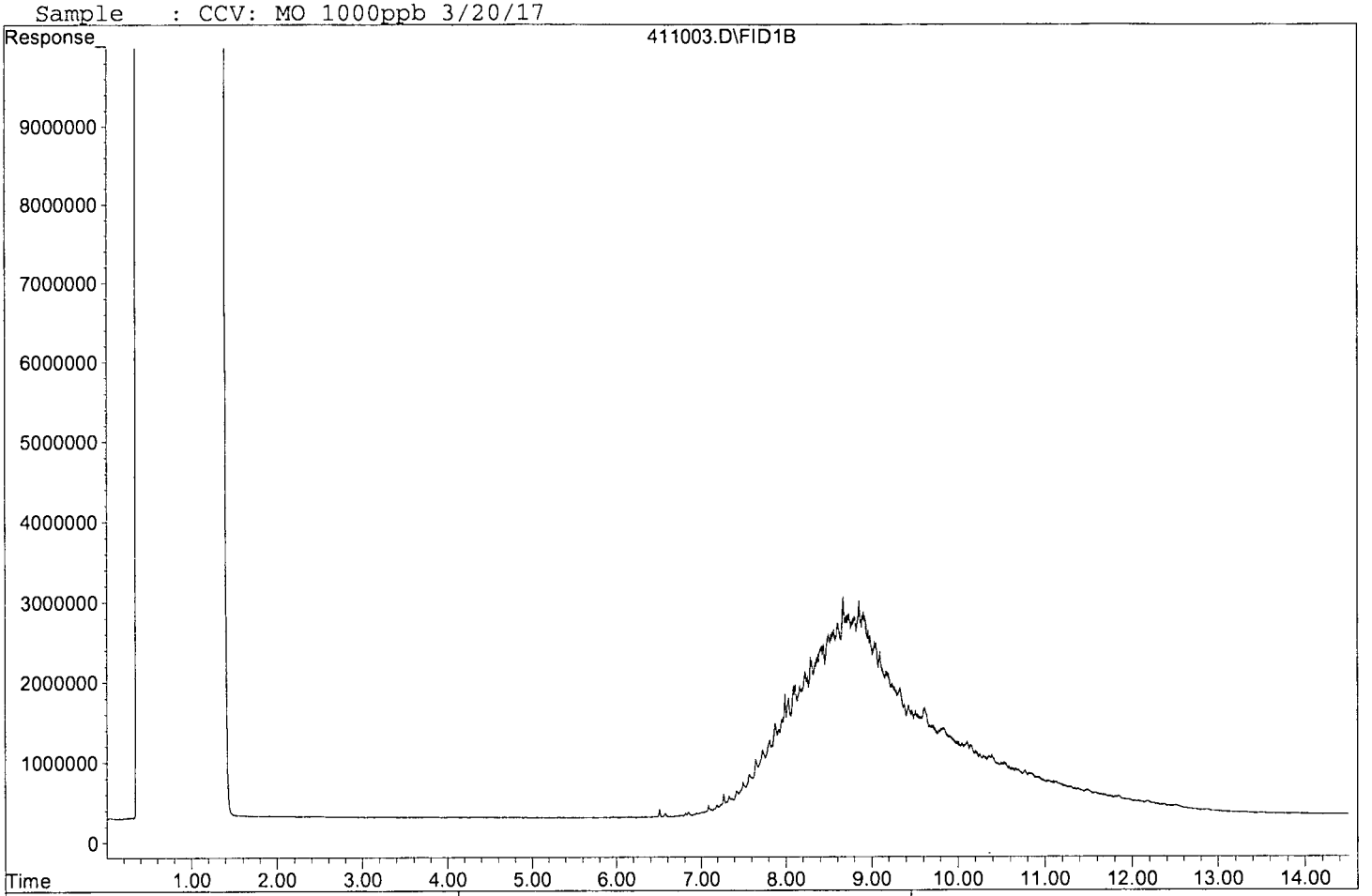
Data File : G:\APOLLO\DATA\170411\411003.D Vial: 3
Acq On : 4-11-17 9:42:20 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

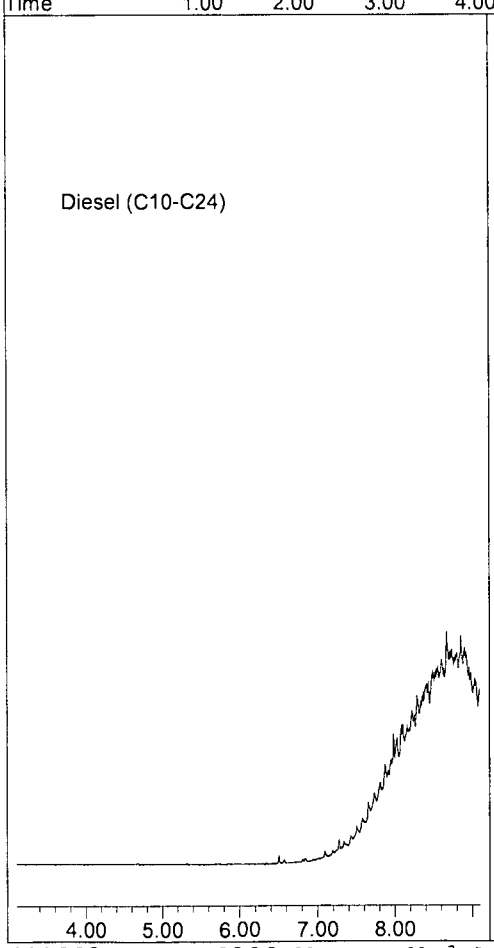
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

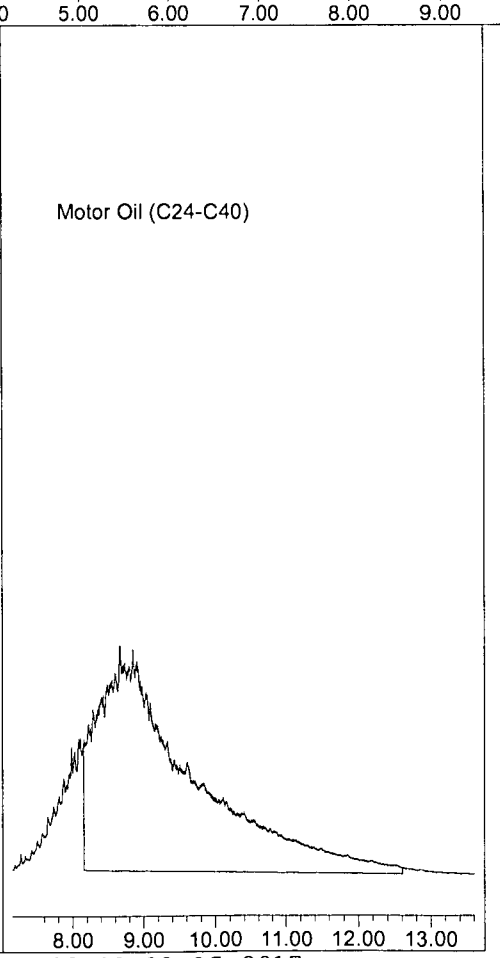
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2410671656	980.707 ppb

Data File: G:\APOLLO\DATA\170411\411003.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411016-17.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1712120	5.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1162680	5.4	HBTM	
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40							
		Average			5.7		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411016.D Vial: 16
Acq On : 4-11-17 14:29:07 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 14:45 2017 Quant Results File: DOC0320.RES

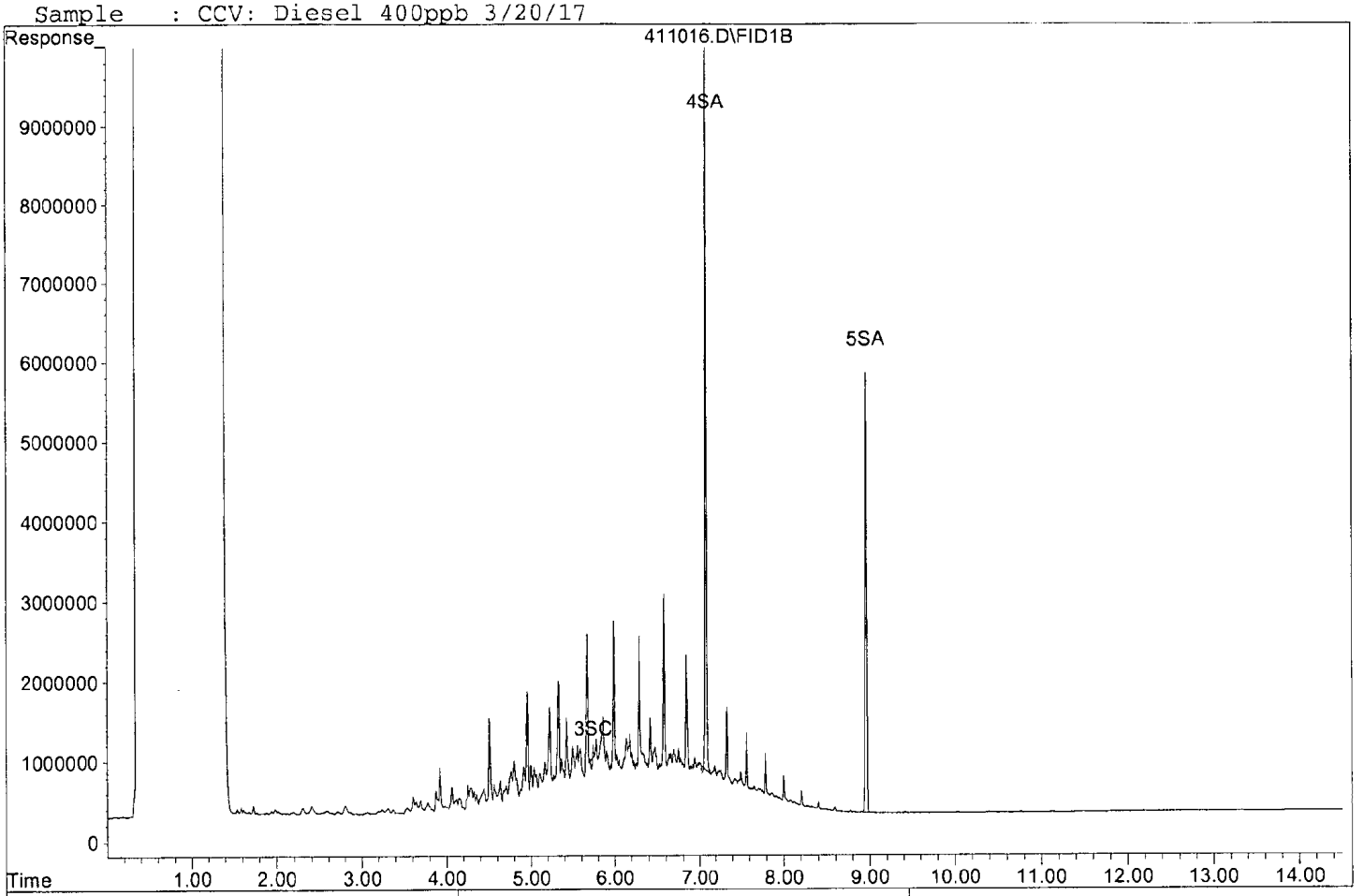
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

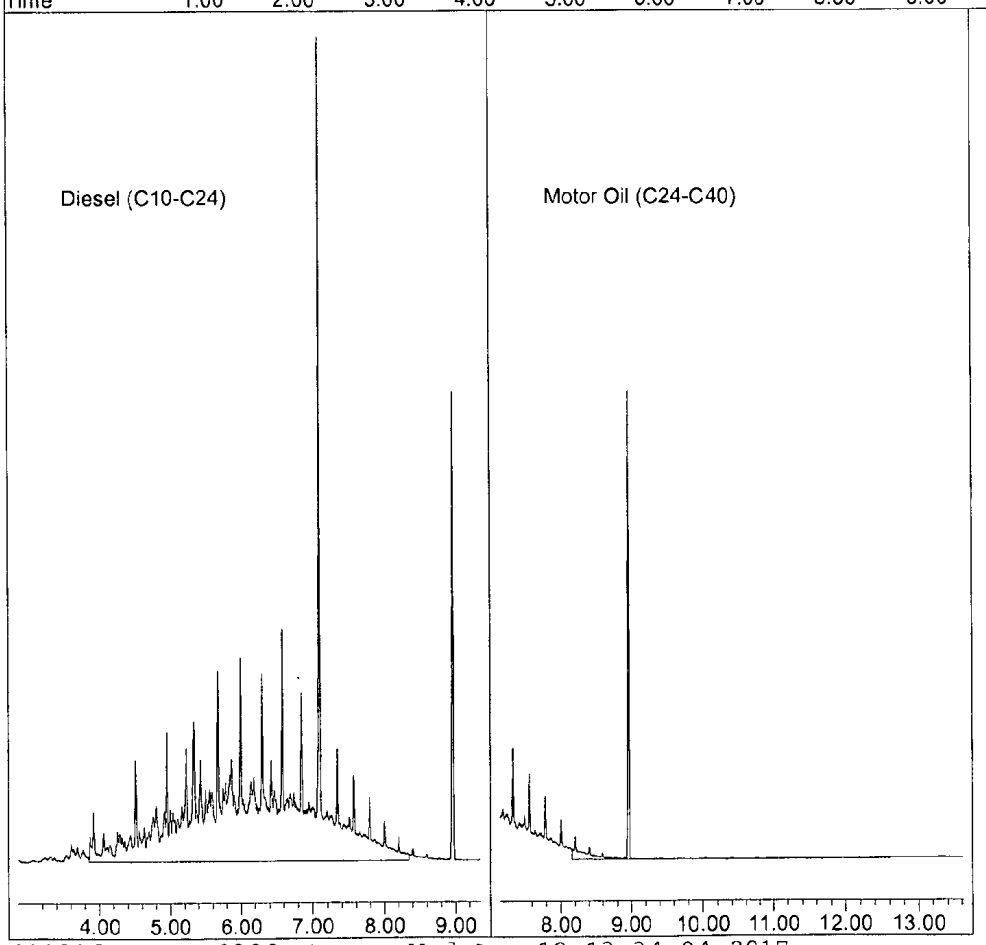
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-22244	2.078 ppb
Surrogate Spike 24.000		Recovery =	8.66%
4) SA Ortho-Terphenyl(S)	7.09	90230131	19.688 ppb
Surrogate Spike 24.000		Recovery =	82.03%
5) SA Octacosane(S)	8.97	64924495	18.774 ppb
Surrogate Spike 24.000		Recovery =	78.22%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1369694800	377.292 ppb
2) HBTM Motor Oil (C24-C40)	10.38	36048406	14.665 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411016.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411017.D Vial: 17
Acq On : 4-11-17 14:50:11 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 15:04 2017 Quant Results File: DOC0320.RES

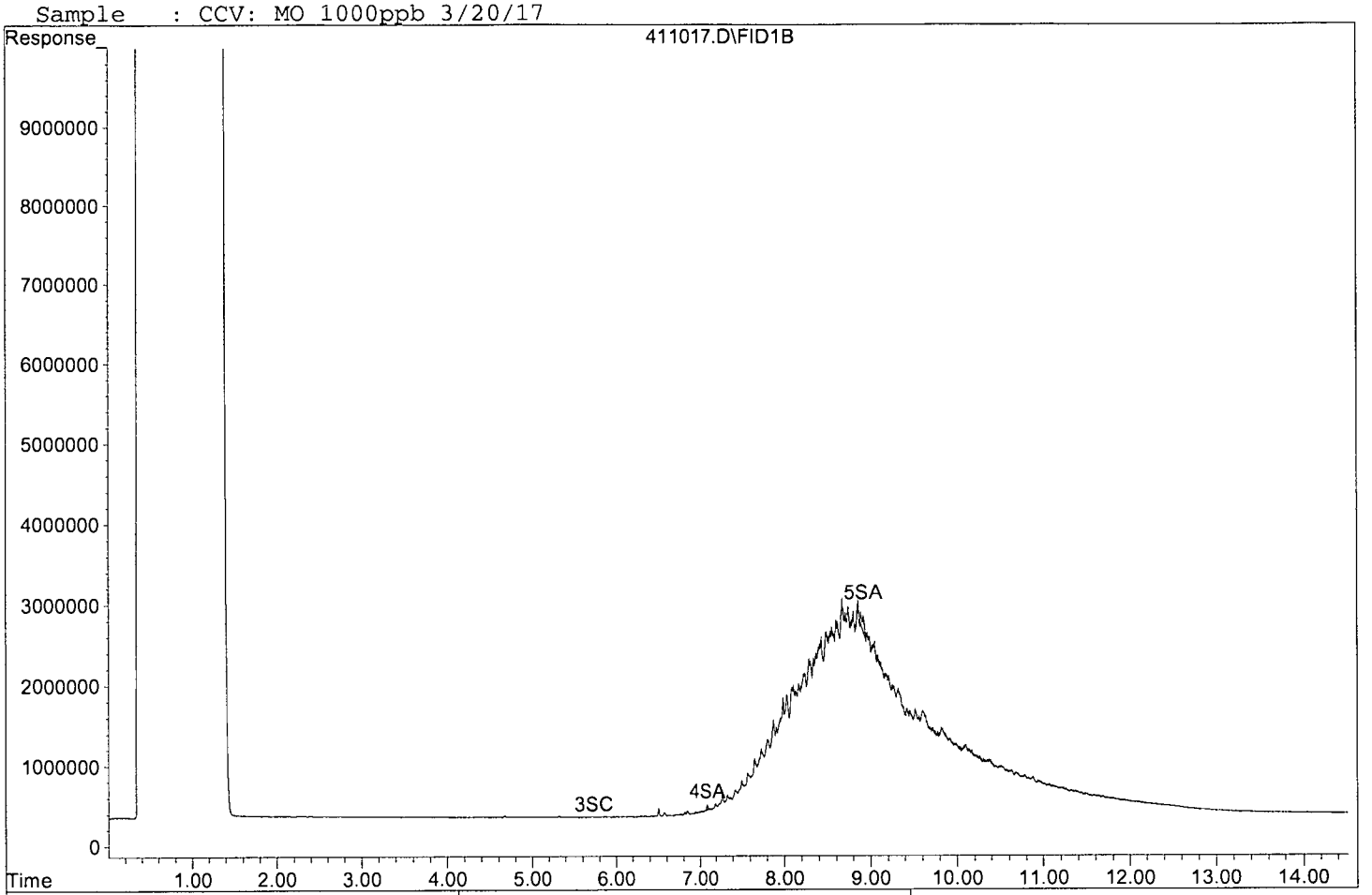
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

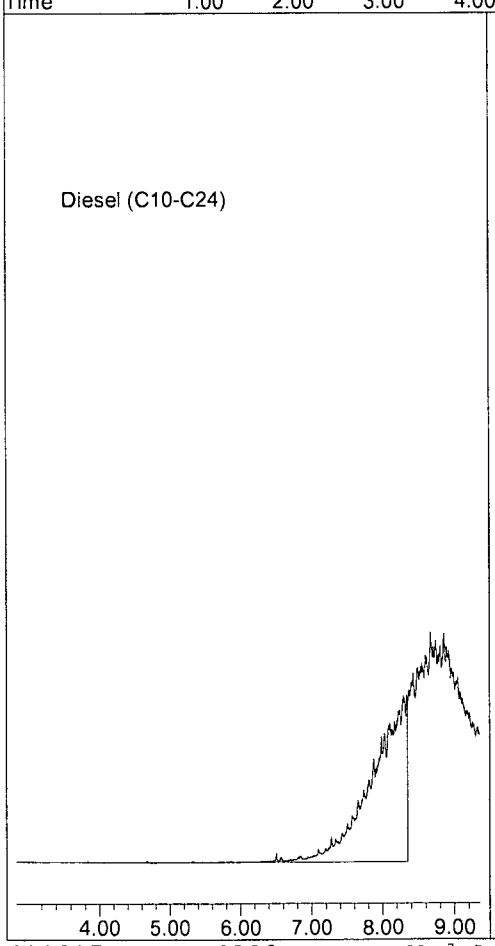
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

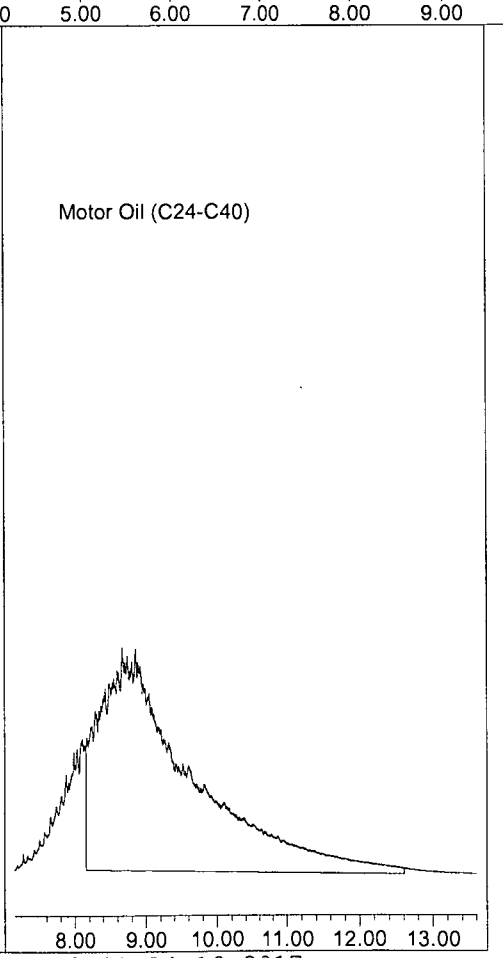
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	10529	2.091 ppb
Surrogate Spike 24.000		Recovery =	8.71%
4) SA Ortho-Terphenyl(S)	7.09	672993	0.147 ppb
Surrogate Spike 24.000		Recovery =	0.61%
5) SA Octacosane(S)	8.92	4070534	1.177 ppb
Surrogate Spike 24.000		Recovery =	4.90%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	651621587	179.494 ppb
2) HBTM Motor Oil (C24-C40)	10.38	2325366745	946.003 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411017.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411025,27.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1579560	13	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1152340	6.2	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.6		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411025.D Vial: 25
Acq On : 4-11-17 17:39:13 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:24 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

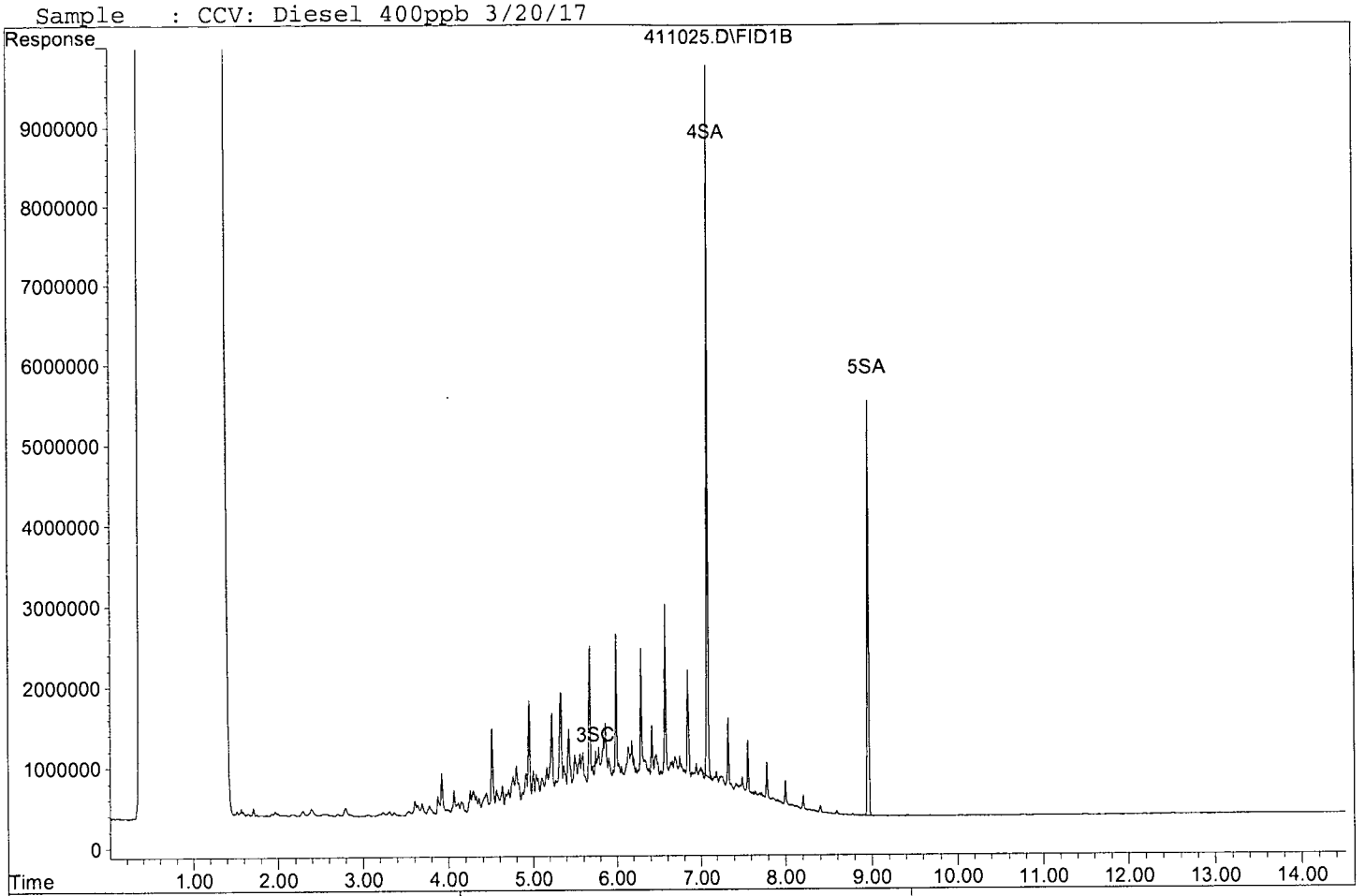
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

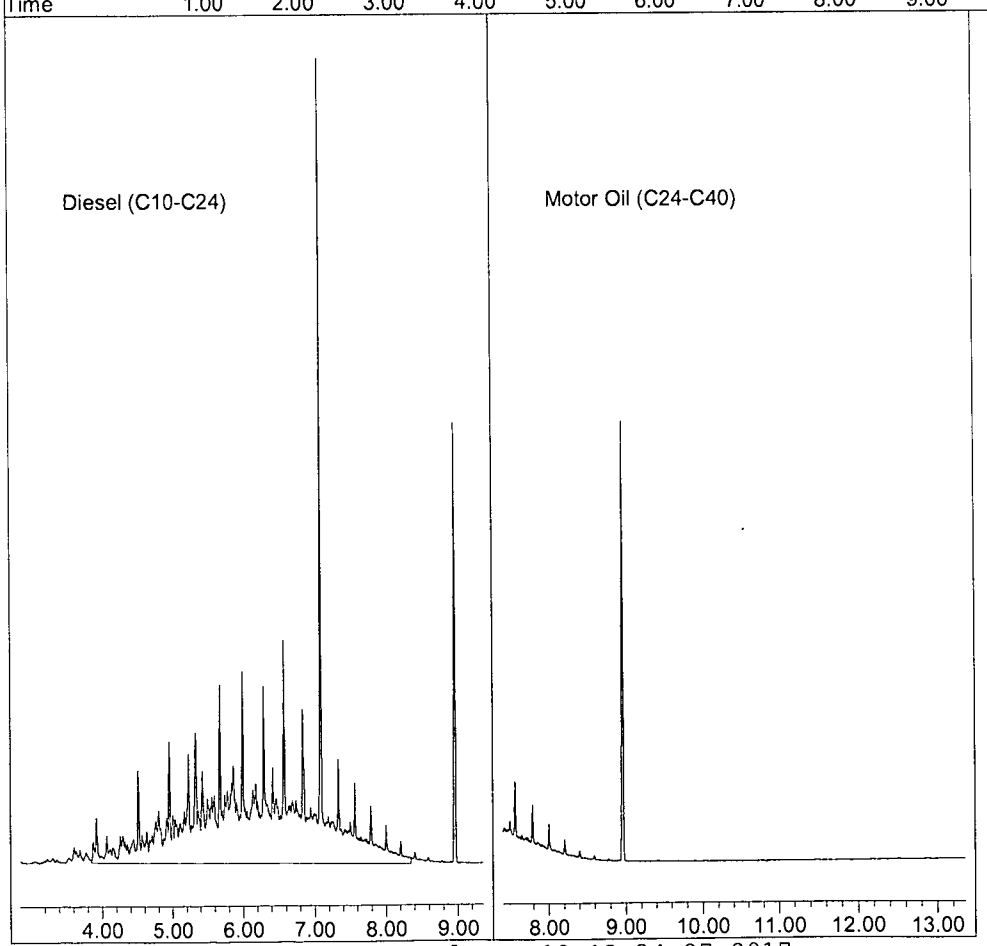
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.75	-91748	2.051 ppb
Surrogate Spike 24.000		Recovery =	8.55%
4) SA Ortho-Terphenyl(S)	7.09	85493581	18.654 ppb
Surrogate Spike 24.000		Recovery =	77.72%
5) SA Octacosane(S)	8.96	60708126	17.554 ppb
Surrogate Spike 24.000		Recovery =	73.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1263650886	348.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411025.D
Sample : CCV: Diesel 400ppb 3/20/17





411025.D DOC0320.M Wed Apr 12 13:34:27 2017

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411027.D Vial: 27
Acq On : 4-11-17 18:21:18 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:25 2017 Quant Results File: DOC0320.RES

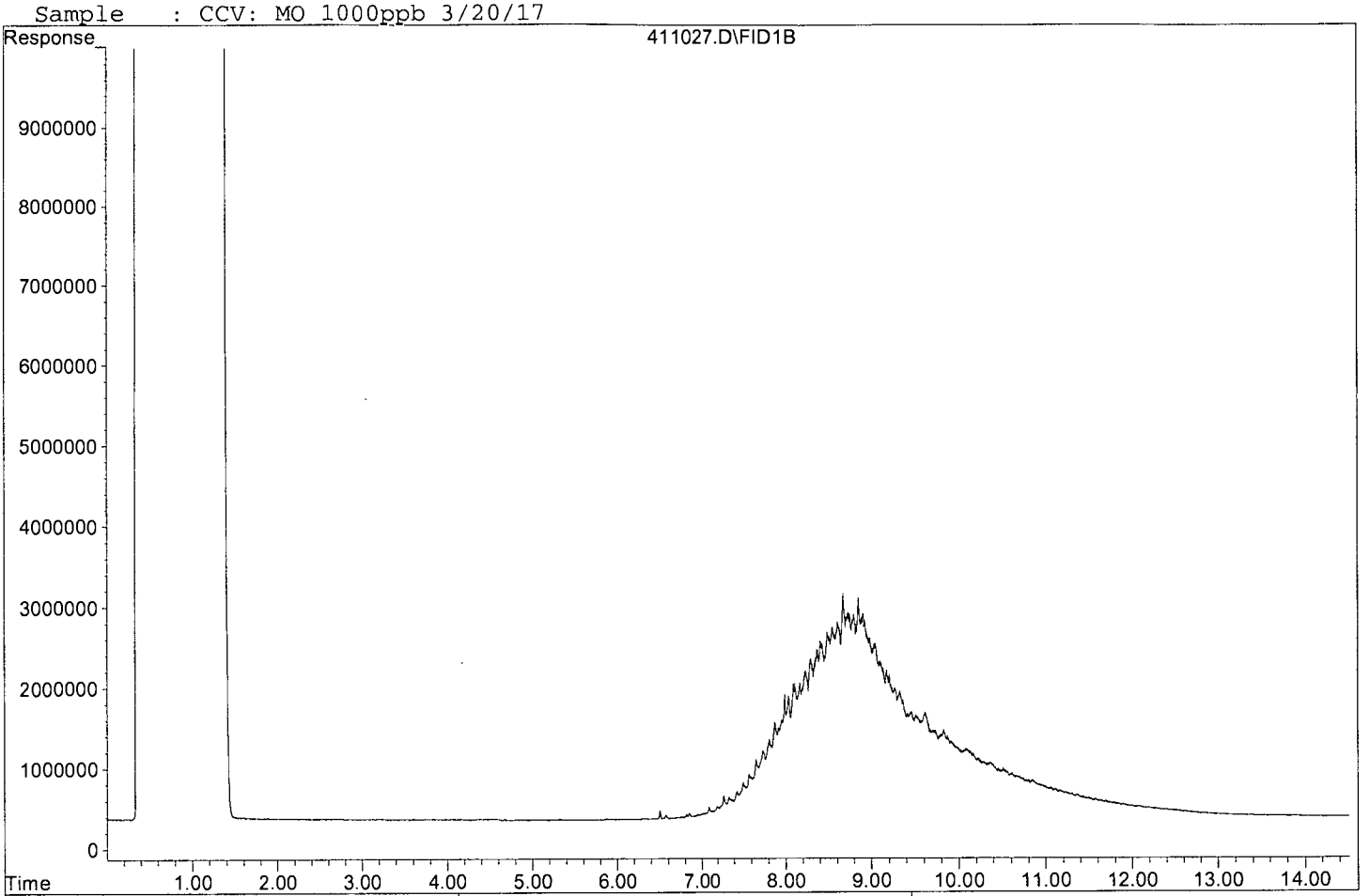
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

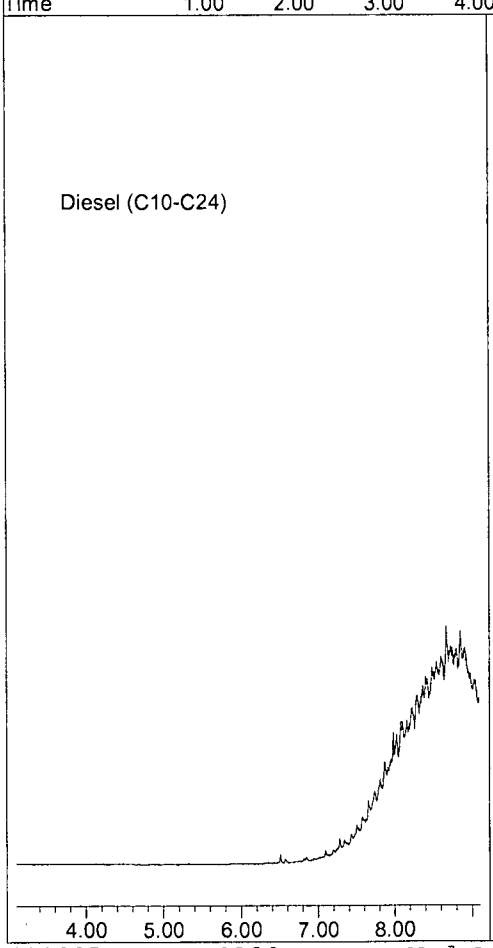
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

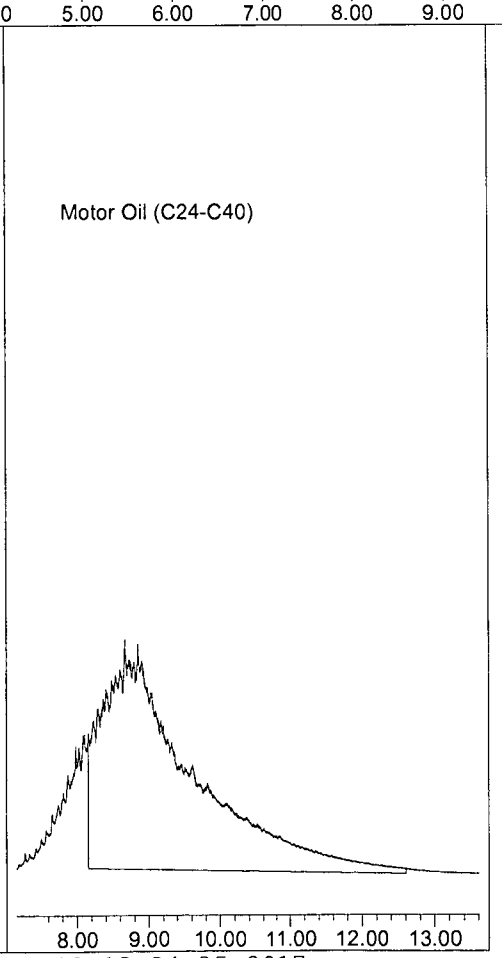
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2304678306	937.587 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411027.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411038-39.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1723030	5.1	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1166570	5.1	HBTM	
3							
4							
5							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.1		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411038.D Vial: 38
Acq On : 4-11-17 22:12:17 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:31 2017 Quant Results File: DOC0320.RES

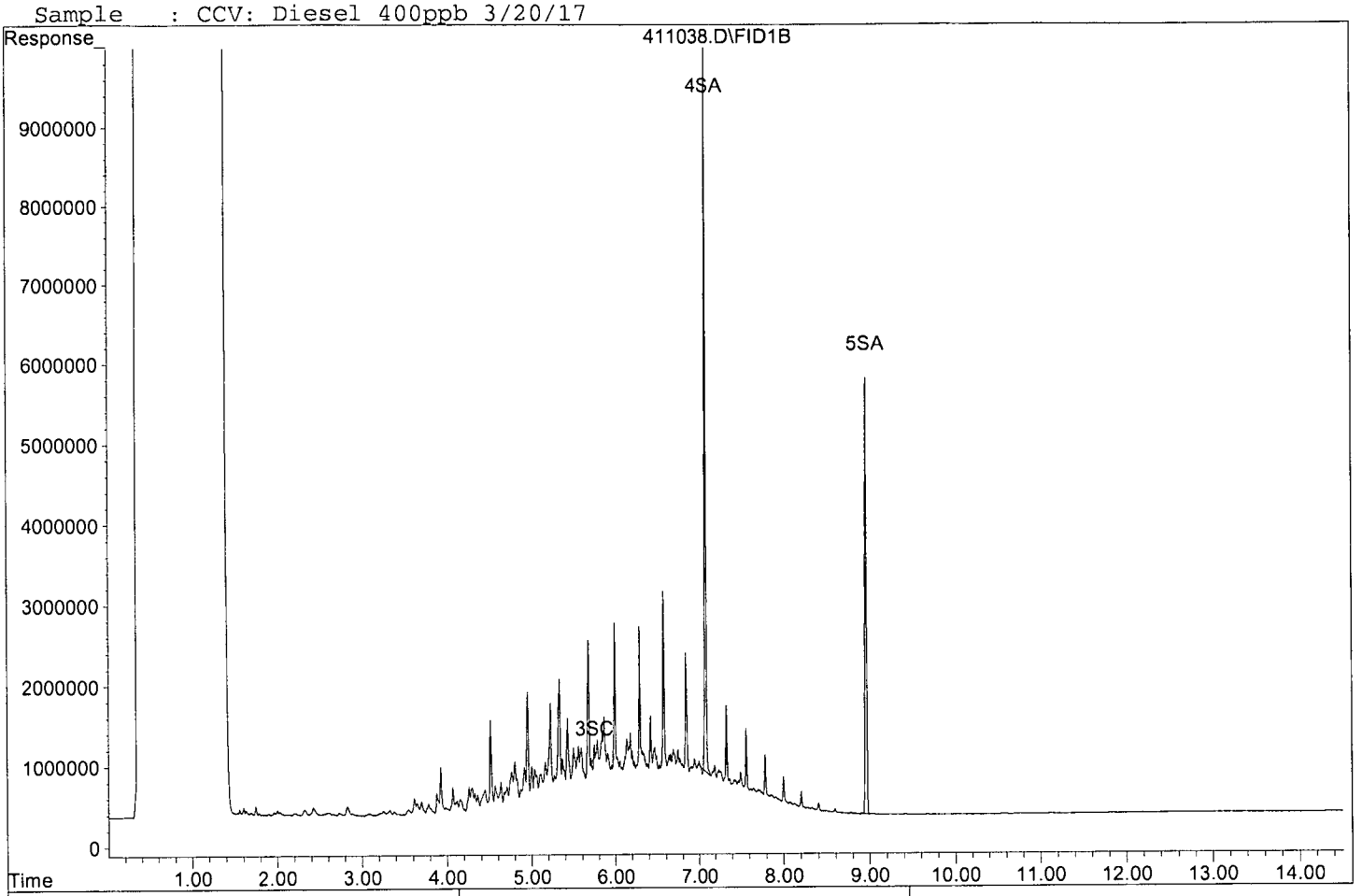
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

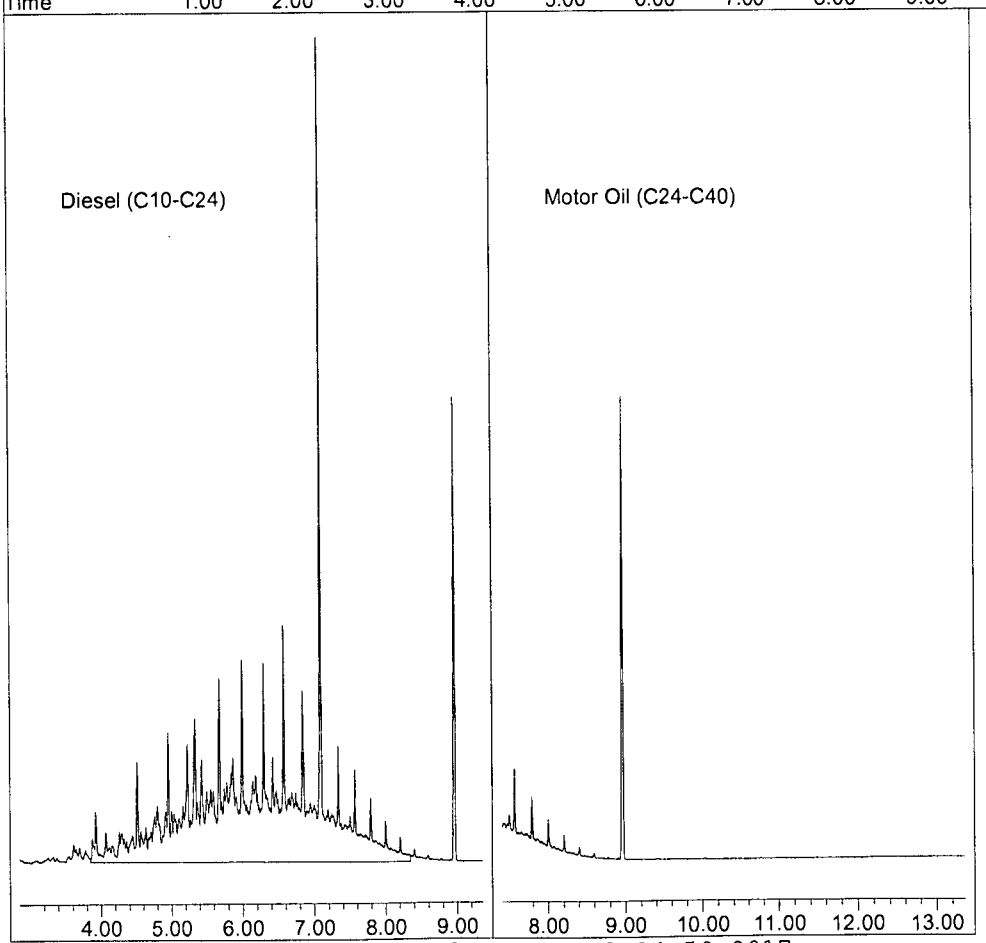
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.75	-77257	2.057 ppb
Surrogate Spike 24.000		Recovery =	8.57%
4) SA Ortho-Terphenyl(S)	7.09	93023314	20.297 ppb
Surrogate Spike 24.000		Recovery =	84.57%
5) SA Octacosane(S)	8.96	65154959	18.840 ppb
Surrogate Spike 24.000		Recovery =	78.50%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1378427170	379.698 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411038.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411039.D Vial: 39
Acq On : 4-11-17 22:33:01 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:31 2017 Quant Results File: DOC0320.RES

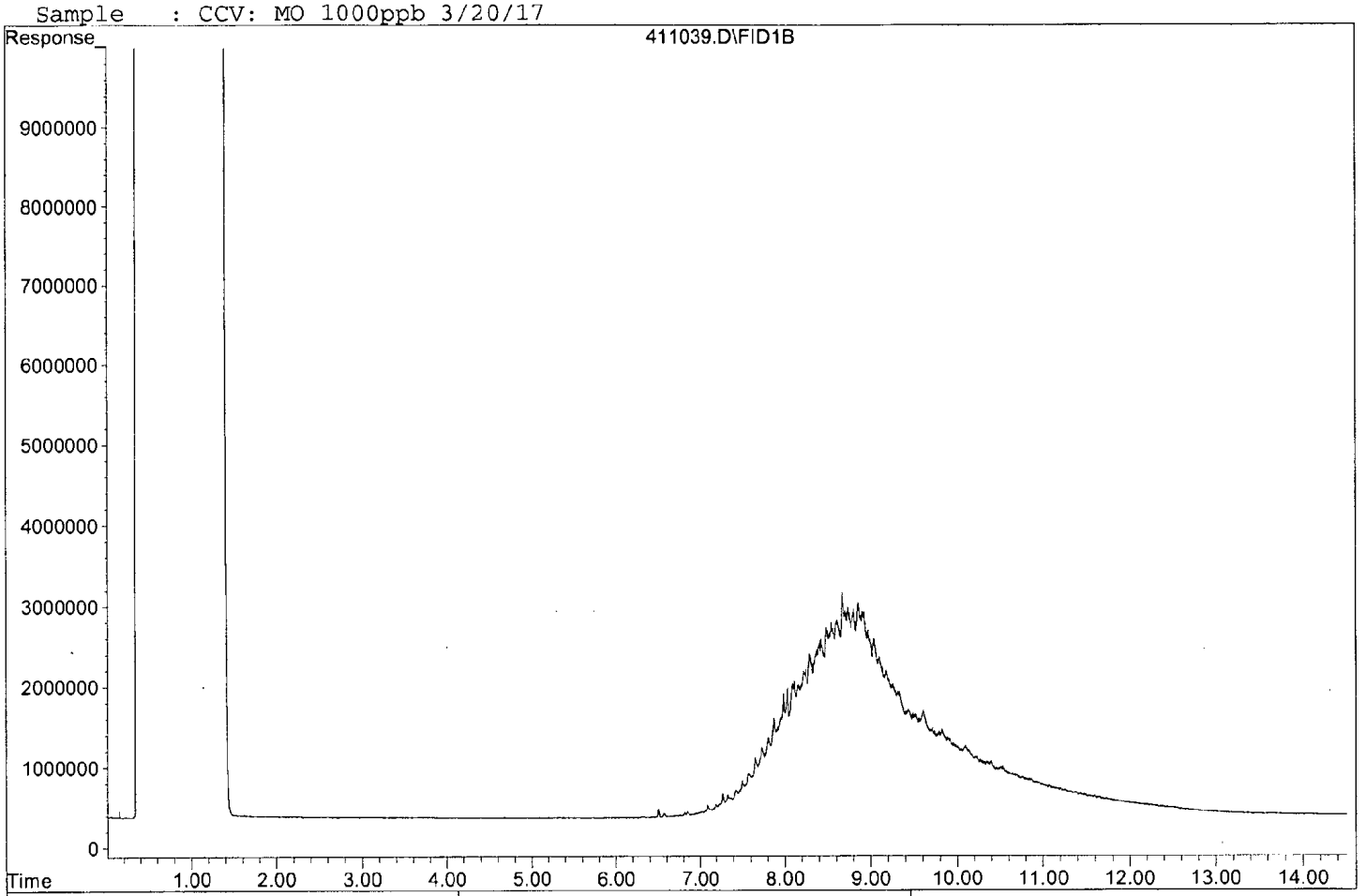
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

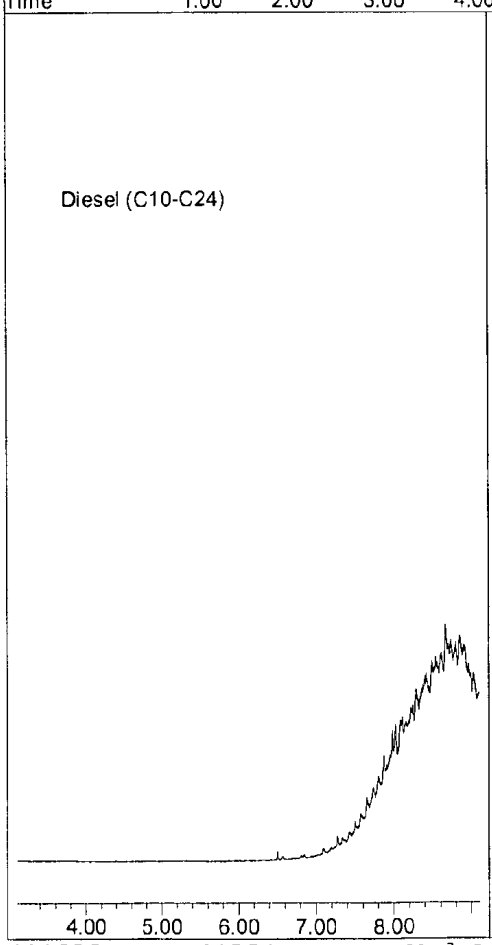
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

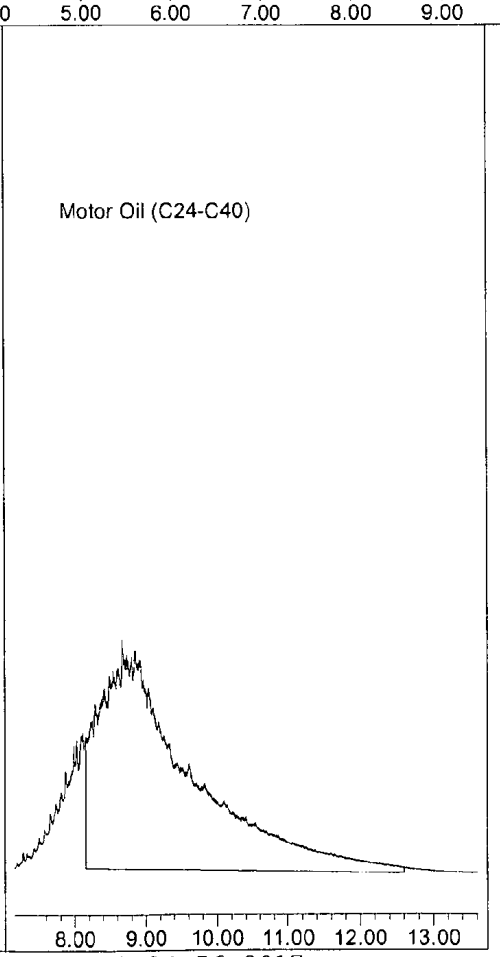
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2333135261	949.164 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411039.D
Sample : CCV: MO 1000ppb 3/20/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method:DOC0320.M
Run #:411004
Instrument:Apollo
Sequence:170411
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 11:29:36 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411004.D Vial: 4
Acq On : 4-11-17 10:02:59 Operator: DP
Sample : 170407A BLK 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 13:08 2017 Quant Results File: DOC0320.RES

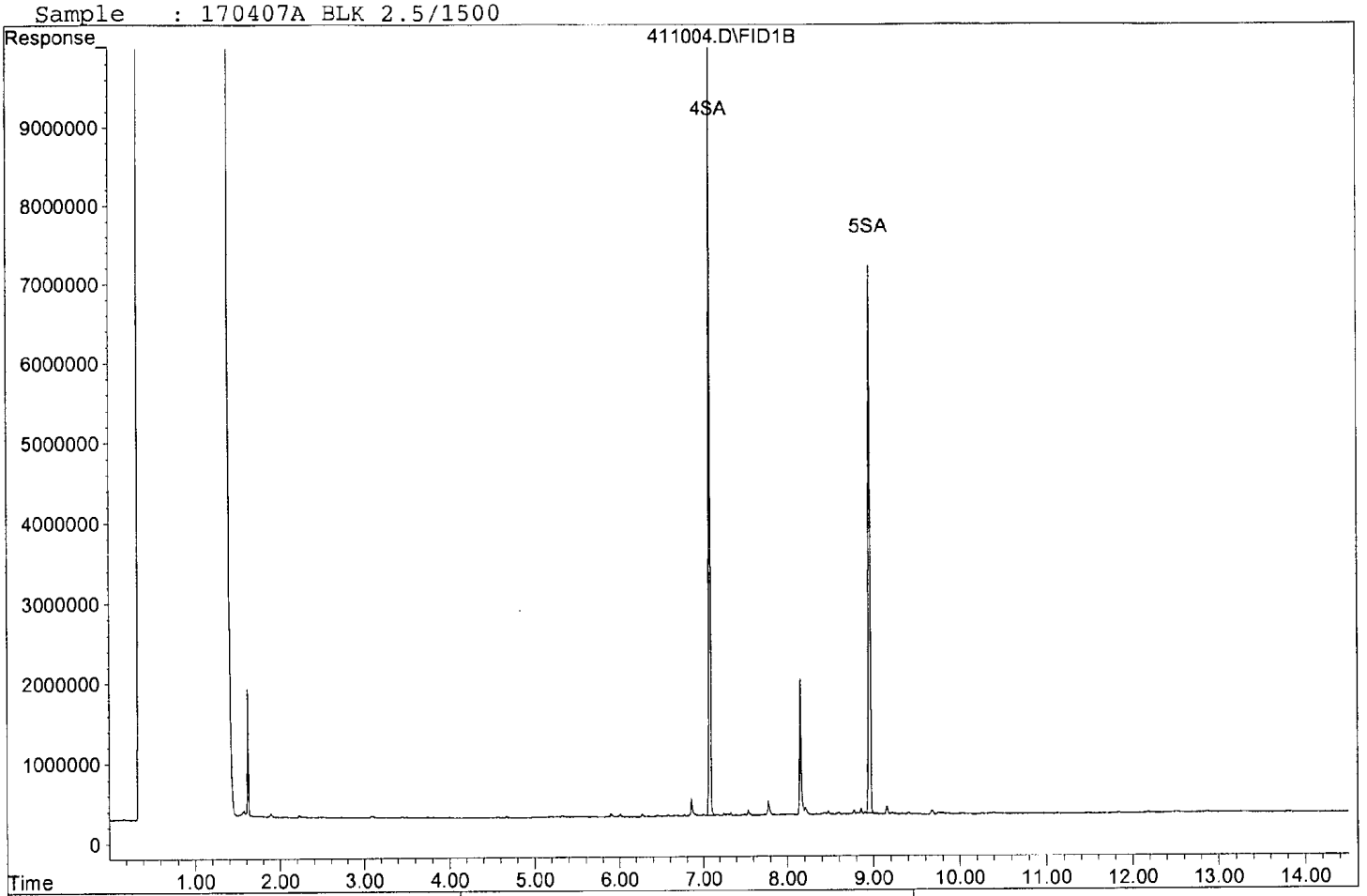
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

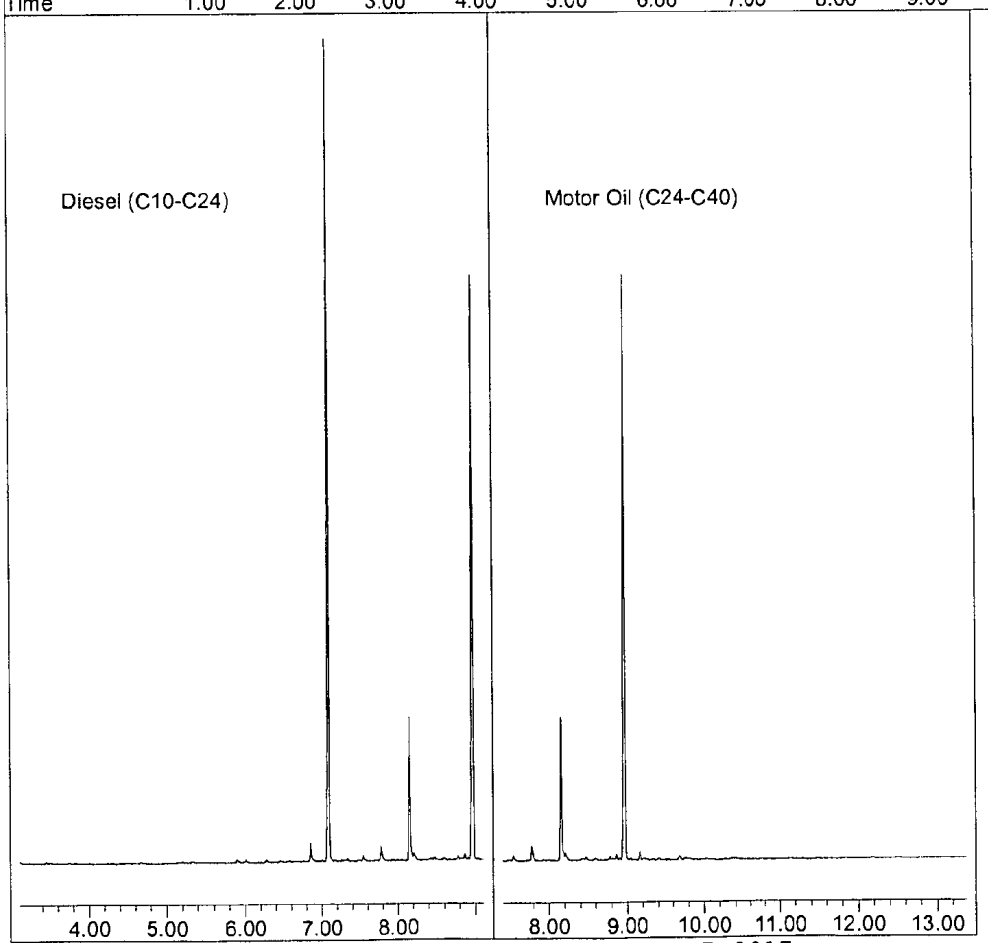
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	102369803	37.228 ppb
Surrogate Spike 40.000		Recovery =	93.07%
5) SA Octacosane(S)	8.97	87971576	42.397 ppb
Surrogate Spike 40.000		Recovery =	105.99%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411004.D
Sample : 170407A BLK 2.5/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/12/17 11:29:30 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411005.D Vial: 5
Acq On : 4-11-17 10:23:44 Operator: DP
Sample : 170407A LCS-1 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 14:19 2017 Quant Results File: DOC0320.RES

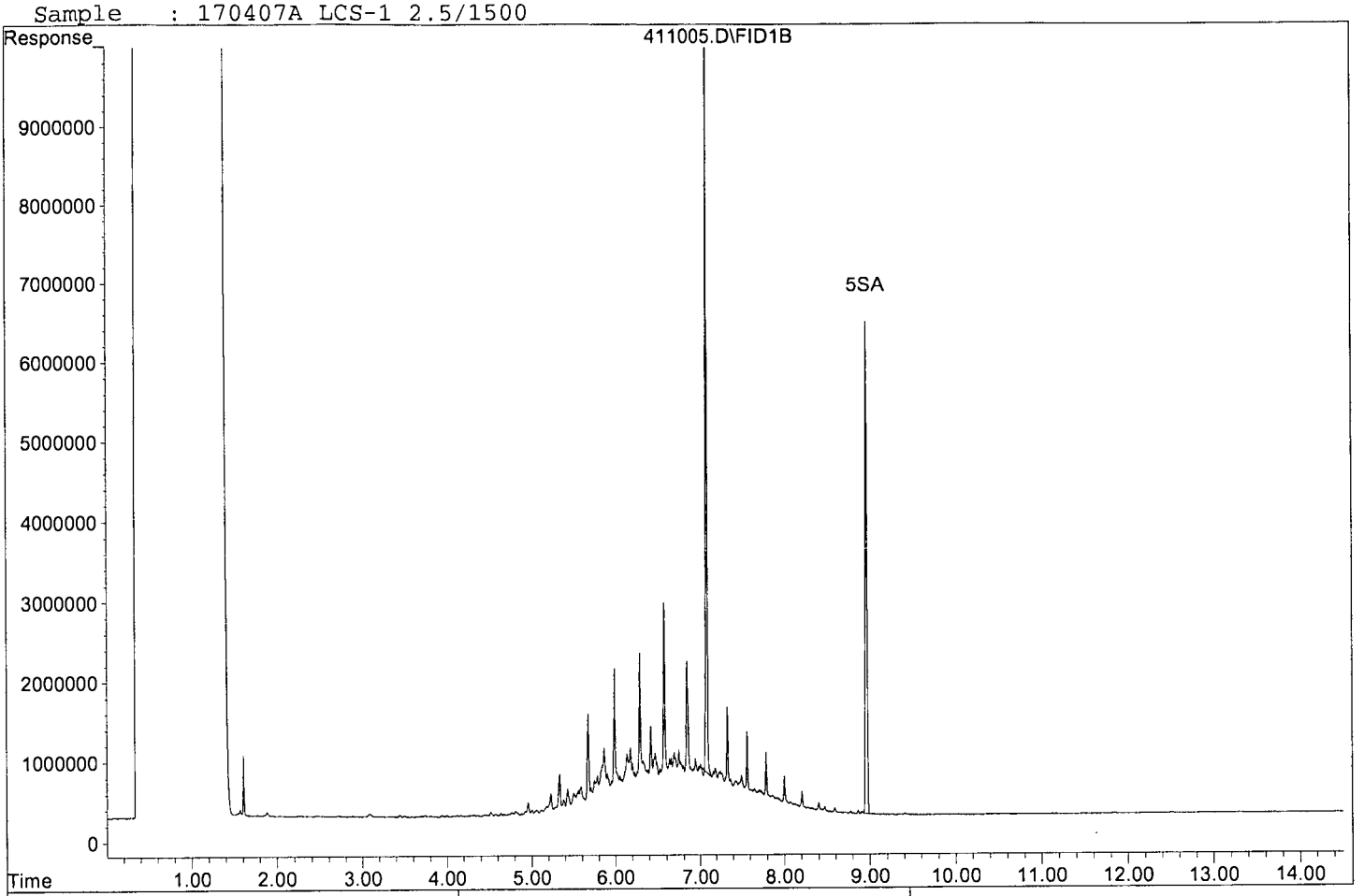
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

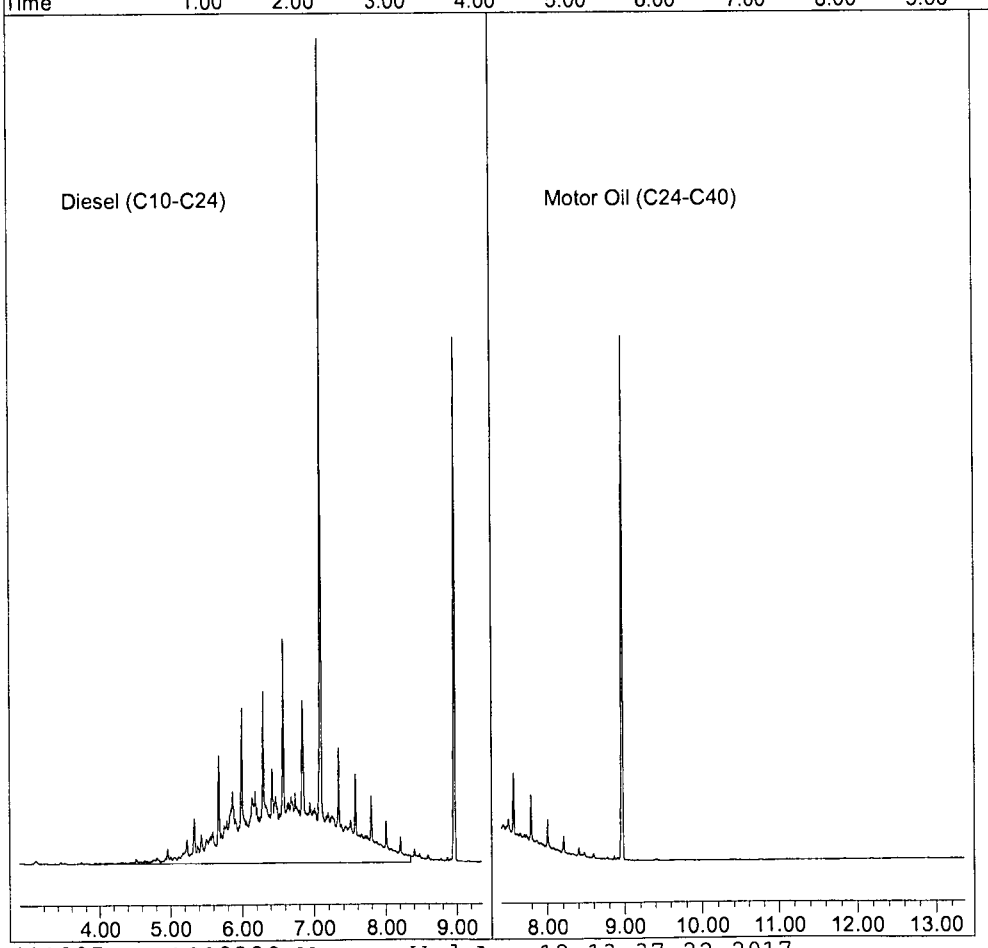
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	103000368	37.457 ppb
Surrogate Spike 40.000		Recovery =	93.64%
5) SA Octacosane(S)	8.97	77584686	37.391 ppb
Surrogate Spike 40.000		Recovery =	93.48%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	912228874	418.801 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411005.D
Sample : 170407A LCS-1 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411006.D Vial: 6
Acq On : 4-11-17 10:44:31 Operator: DP
Sample : 170407A LCS-2 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 15:48 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

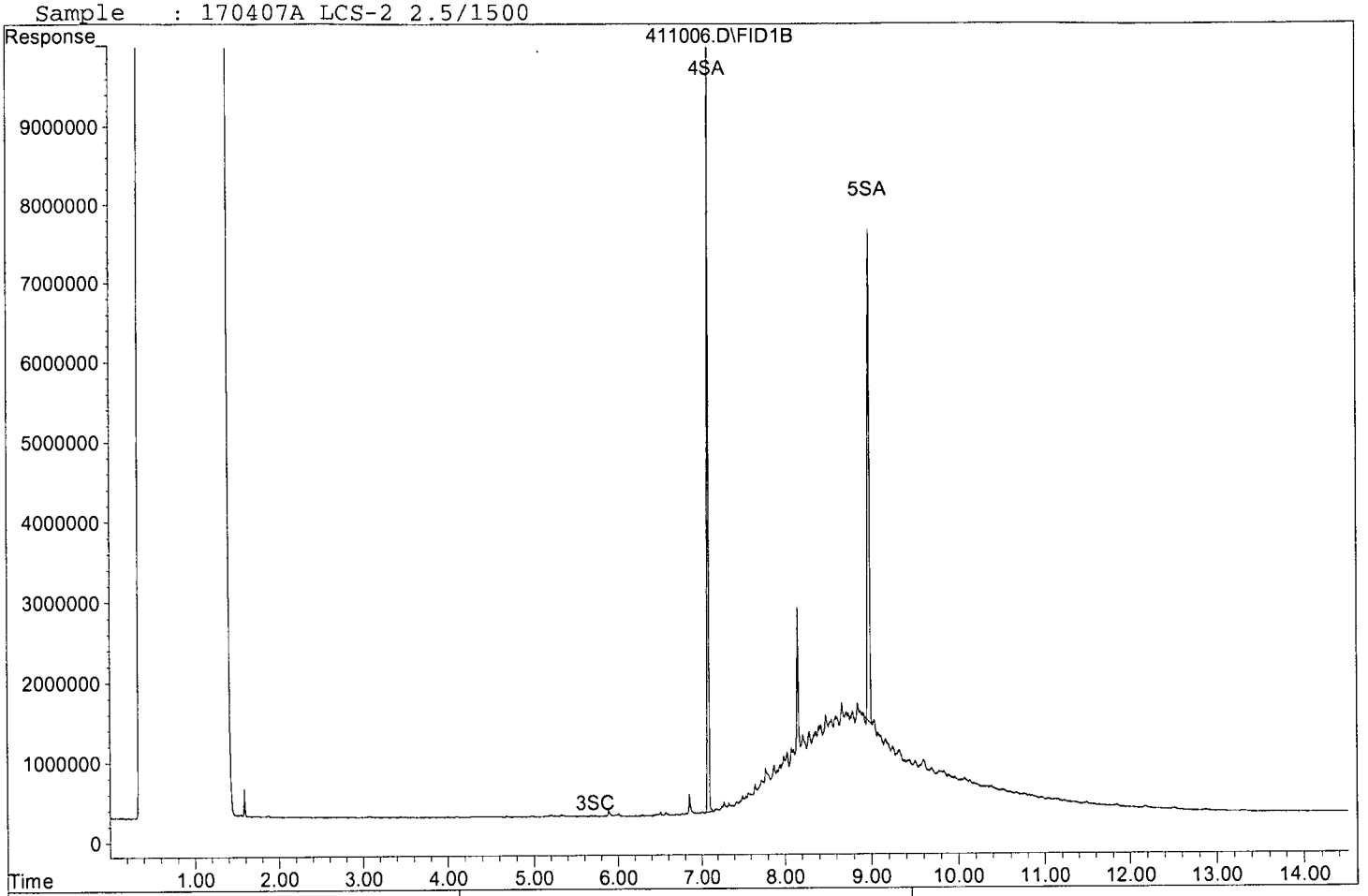
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

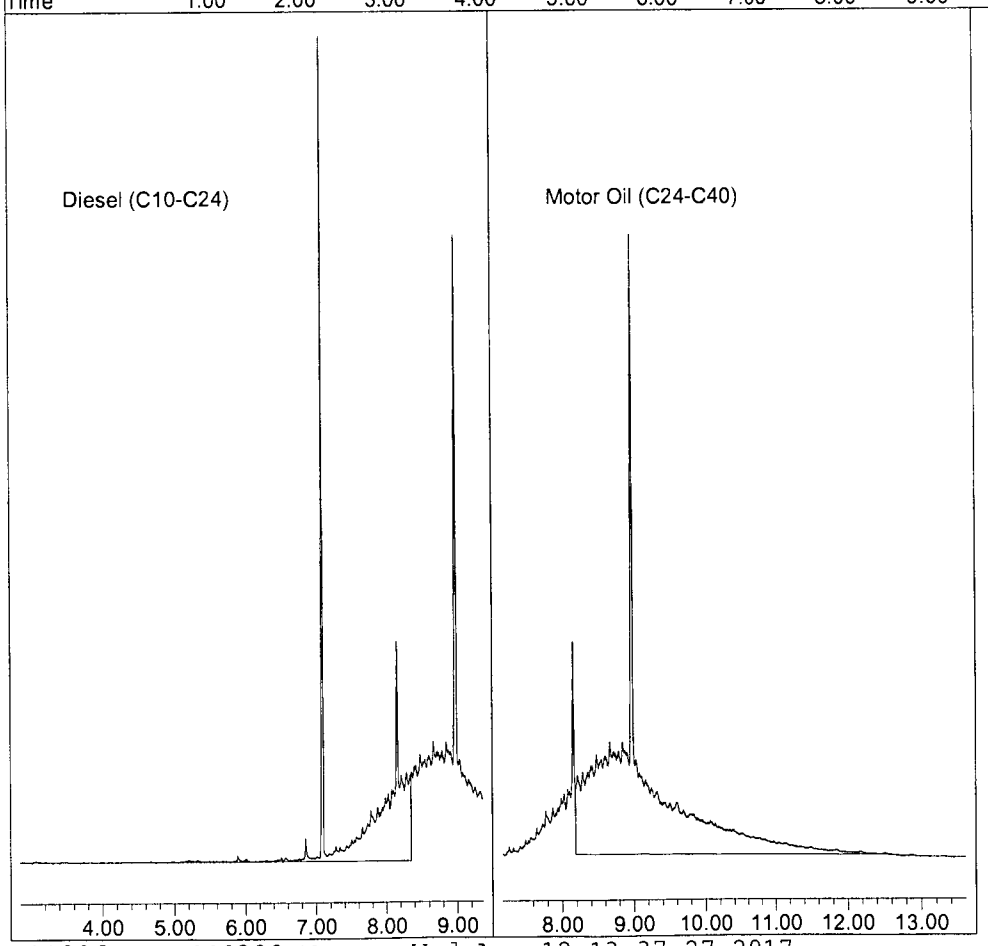
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	121929	3.559 ppb
Surrogate Spike 40.000		Recovery =	8.90%
4) SA Ortho-Terphenyl(S)	7.09	107978907	39.268 ppb
Surrogate Spike 40.000		Recovery =	98.17%
5) SA Octacosane(S)	8.98	89774179	43.265 ppb
Surrogate Spike 40.000		Recovery =	108.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	380929492	174.883 ppb
2) HBTM Motor Oil (C24-C40)	10.38	1086250901	736.514 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411006.D
Sample : 170407A LCS-2 2.5/1500





DIESEL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Diesel Cal STD	1000	280736-37656	03/20/17	03/02/18	10	10	40	60	80	100
MC	N/A	56153			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppb	10	100	400	600	800	1000

MOTOR OIL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Motor Oil STD	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56153			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppb	20	50	250	1000	1500	2000

Prep: 03/20/17-DP Exp: 03/02/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37656 OP: 03/20/17 EXP: 03/20/18	500 µL	25 mL	1000ug/mL	MC LOT# 56153
THC Surrogate Mix	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37404-37409 OP: 03/02/17 EXP: 03/02/18 O2SI CAT#110316-05 LOT#266278-37114-37116 OP: 03/02/17 EXP: 03/02/18	2080 µL		50ug/mL	

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 08/01/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP:07/06/16 Exp:07/06/17	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diesel Cal STD	1000 µg/mL	Diesel Cal STD	4000 µL	10 mL	400 µg/ml	MC
	Prep:	03/20/17				56153
	Exp:	03/02/18				

MOTOR OIL CCV 1000ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Motor Oil STD	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

Diesel Spike	
Cat:	011598-03
Lot:	280736-37657
Op:	03/31/17-DP
Exp:	03/31/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34444
Op: 03/13/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 11:10
Spiked ID 8			Ext. End Time:	04/08/17 9:30
			GC Requires Extract By:	**04/11/17 0:00**

pH1			Water Bath Temp Criteria	35,35,35,3
pH2				
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				0.1	1 equip	1500 e-wb1	2.5	7	04/07/17 11:10	
2	170407A LCS-1		0.020	1	0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	
3	170407A LCS-2		0.020	2	0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	
4	AZ53059 MS-1	AZ53059W32	0.020	1	0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82577 1 week
5	AZ53059 MSD-1	AZ53059W26	0.020	1	0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82577 1 week
6	AZ53059 MS-2	AZ53059W24	0.020	2	0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82577 1 week
7	AZ53059 MSD-2	AZ53059W25	0.020	2	0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82577 1 week
8	AZ53059	AZ53059W28			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82577 1 week
9	AZ53060	AZ53060W05			0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82577 1 week
10	AZ53062	AZ53062W10			0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82577 1 week
11	AZ53064	AZ53064W08			0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82577 1 week
12	AZ53065	AZ53065W08			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82577 1 week
13	AZ53168 MS-1	AZ53168W40	0.020	1	0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82619 1 week
14	AZ53168 MSD-1	AZ53168W31	0.020	1	0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82619 1 week
15	AZ53168 MS-2	AZ53168W45	0.020	2	0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82619 1 week
16	AZ53168 MSD-2	AZ53168W32	0.020	2	0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82619 1 week

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	4/11/17
Time	9:10
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 11:10
Spiked ID 8			Ext. End Time:	04/08/17 9:30
			GC Requires Extract By:	**04/11/17 0:00**
			pH1	
			pH2	
			pH3	

Water Bath Temp Criteria 35,35,35,3

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53168	AZ53168W46			0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82619 1 week
18	AZ53169	AZ53169W14			0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82619 1 week
19	AZ53170	AZ53170W16			0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82619 1 week
20	AZ53172	AZ53172W12			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82596 1 week
21	AZ53174	AZ53174W09			0.1	1 equip	1500 E-WB1	2.5	7	04/07/17 11:10	82596 1 week
22	AZ53176	AZ53176W13			0.1	1 equip	1500 E-WB2	2.5	7	04/07/17 11:10	82596 1 week
23	AZ53178	AZ53178W11			0.1	1 equip	1500 E-WB3	2.5	7	04/07/17 11:10	82596 1 week
24	AZ53180	AZ53180W11			0.1	1 equip	1500 E-WB4	2.5	7	04/07/17 11:10	82596 1 week

KY 4/10/17

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: G:\APOLLO\DATA\170320\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	16	320016.D	1	Diesel-1 10ppb 3/20/17	Mix(A)	3-20-17 15:15:13
2	17	320017.D	1	Diesel-2 100ppb 3/20/17	Mix(A)	3-20-17 15:36:08
3	18	320018.D	1	Diesel-3 400ppb 3/20/17	Mix(A)	3-20-17 15:57:14
4	19	320019.D	1	Diesel-4 600ppb 3/20/17	Mix(A)	3-20-17 16:18:15
5	20	320020.D	1	Diesel-5 800ppb 3/20/17	Mix(A)	3-20-17 16:39:27
6	21	320021.D	1	Diesel-6 1000ppb 3/20/17	Mix(A)	3-20-17 17:00:36
7	22	320022.D	1	Diesel-2nd Src 400ppb 8/1/16	Mix(A)	3-20-17 17:21:37
8	23	320023.D	1	Motor Oil-1 20ppb 3/20/17	Mix(B)	3-20-17 17:42:35
9	24	320024.D	1	Motor Oil-2 50ppb 3/20/17	Mix(B)	3-20-17 18:03:37
10	25	320025.D	1	Motor Oil-3 250ppb 3/20/17	Mix(B)	3-20-17 18:24:46
11	26	320026.D	1	Motor Oil-4 1000ppb 3/20/17	Mix(B)	3-20-17 18:45:44
12	27	320027.D	1	Motor Oil-5 1500ppb 3/20/17	Mix(B)	3-20-17 19:06:49
13	28	320028.D	1	Motor Oil-6 2000ppb 3/20/17	Mix(B)	3-20-17 19:27:55
14	29	320029.D	1	Motor Oil-2nd Src 1000ppb 10/14/16	Mix(B)	3-20-17 19:48:56
15	2	411002.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 9:21:47
16	3	411003.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 9:42:20
17	4	411004.D	1.66667	170407A BLK 2.5/1500	water	4-11-17 10:02:59
18	5	411005.D	1.66667	170407A LCS-1 2.5/1500	water	4-11-17 10:23:44
19	6	411006.D	1.66667	170407A LCS-2 2.5/1500	water	4-11-17 10:44:31
20	16	411016.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 14:29:07
21	17	411017.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 14:50:11
22	25	411025.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 17:39:13
23	27	411027.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 18:21:18
24	28	411028.D	1.66667	AZ53172W12 2.5/1500	water	4-11-17 18:42:00
25	29	411029.D	1.66667	AZ53174W09 2.5/1500	water	4-11-17 19:03:14
26	30	411030.D	1.66667	AZ53176W13 2.5/1500	water	4-11-17 19:24:32
27	31	411031.D	1.66667	AZ53178W11 2.5/1500	water	4-11-17 19:45:43
28	32	411032.D	1.66667	AZ53180W11 2.5/1500	water	4-11-17 20:06:56
29	38	411038.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 22:12:17
30	39	411039.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 22:33:01

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53172 - 217783**
Batch ID: #SIMDO-170410A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 5:19:37 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53172 LCS - 217783**
Batch ID: #SIMDO-170410A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
NAPHTHALENE	5.00	3.15	63.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	MA

Printed: 04/12/17 5:19:40 PM
APPL Standard LCS

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/11/17

Matrix: WATER Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A1-BLK	Blank	53-106	56.0		55-111	71.2	
170410A1-LCS	Lab Control Spike	53-106	53.4		55-111	71.0	
AZ53172	ERH300	53-106	50.3	#	55-111	96.1	
AZ53174	ERH310	53-106	49.3	#	55-111	71.7	
AZ53176	ERH313	53-106	59.1		55-111	74.6	
AZ53178	ERH319	53-106	53.8		55-111	71.8	
AZ53180	ERH305	53-106	58.6		55-111	77.2	

Comments: Batch: #SIMDO-170410A1

= Recovery outside of Control Limits on Sample.

Printed: 04/12/17 5:19:38 PM

Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER

SDG No: 82596
Date Analyzed: 04/11/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A1-BLK	Blank	58-132	82.5				
170410A1-LCS	Lab Control Spike	58-132	84.6				
AZ53172	ERH300	58-132	98.3				
AZ53174	ERH310	58-132	90.5				
AZ53176	ERH313	58-132	89.4				
AZ53178	ERH319	58-132	87.8				
AZ53180	ERH305	58-132	93.2				

Comments: Batch: #SIMDO-170410A1

Printed: 04/12/17 5:19:38 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER
Blank ID: 170410A1-BLK

SDG No: 82596
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 1744

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A1-BLK	Blank	0331L104	04/11/17 1744
170410A1-LCS	Lab Control Spike	0331L136	04/12/17 1221
AZ53172	ERH300	0331L140	04/12/17 1432
AZ53174	ERH310	0331L141	04/12/17 1505
AZ53176	ERH313	0331L142	04/12/17 1538
AZ53178	ERH319	0331L143	04/12/17 1610
AZ53180	ERH305	0331L144	04/12/17 1643

Comments: Batch: #SIMDO-170410A1

Printed: 04/12/17 5:19:58 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82596
Date Analyzed: 03/31/17
Instrument: Linus
Time Analyzed: 12:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/31/17	0331L003.D	03/31/17 13:02
2		0.2 SIM 03/31/17	0331L004.D	03/31/17 13:34
3		0.5 SIM 03/31/17	0331L005.D	03/31/17 14:07
4		1.0 SIM 03/31/17	0331L006.D	03/31/17 14:40
5		5.0 SIM 03/31/17	0331L007.D	03/31/17 15:12
6		10 SIM 03/31/17	0331L008.D	03/31/17 15:45
7		50 SIM 03/31/17	0331L009.D	03/31/17 16:17
8		100 SIM 03/31/17	0331L010.D	03/31/17 16:50
9		SS SIM 03/31/17	0331L011.D	03/31/17 17:23
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	50.5
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	52.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	20.9
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	88.1
442	40 - 150% of mass 198	58.2
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82596
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 16:52

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L103.D	04/11/17 17:08
2	Blank	170410A BLK 1/1000	0331L104.D	04/11/17 17:44
3		5.0 SIM 04/10/17	0331L124.D	04/12/17 4:00
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	51.1
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	39.5 - 60% of mass 198	52.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	20.6
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	90.6
442	50 - 150% of mass 198	59.1
443	17 - 23% of mass 442	18.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82596
Date Analyzed: 04/12/17
Instrument: Linus
Time Analyzed: 9:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L135.D	04/12/17 11:49
2	Lab Control Spike	170410A LCS-1 1/1000	0331L136.D	04/12/17 12:21
3	ERH300	AZ53172W09 1/1070	0331L140.D	04/12/17 14:32
4	ERH310	AZ53174W13 1/1040	0331L141.D	04/12/17 15:05
5	ERH313	AZ53176W14 1/1000	0331L142.D	04/12/17 15:38
6	ERH319	AZ53178W12 1/1050	0331L143.D	04/12/17 16:10
7	ERH305	AZ53180W12 1/1060	0331L144.D	04/12/17 16:43
8		5.0 SIM 04/10/17	0331L146.D	04/12/17 17:31
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	51.4
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	39.5 - 60% of mass 198	52.6
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.3
442	50 - 150% of mass 198	56.6
443	17 - 23% of mass 442	19.0

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0331L007.D Date Analyzed: 03/31/17

Instrument ID: Linus Time Analyzed: 15:12

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	31142	5.65	15272	7.70	29598	9.56
	UPPER LIMIT	62284	6.15	30544	8.20	59196	10.06
	LOWER LIMIT	15571	5.15	7636	7.20	14799	9.06
	SAMPLE NO.						
01	5.0 SIM 04/10/17	29022	5.64	14310	7.70	27904	9.56
02	170410A BLK 1/1000	32671	5.65	16047	7.70	31219	9.56
03	5.0 SIM 04/10/17	30996	5.65	14458	7.70	27736	9.56
04	5.0 SIM 04/10/17	29938	5.64	14262	7.70	27140	9.56
05	170410A LCS-1 1/1000	37131	5.65	18196	7.70	35898	9.56
06	AZ53172W09 1/1070	27482	5.64	14142	7.70	26618	9.56
07	AZ53174W13 1/1040	28838	5.65	14379	7.70	27767	9.56
08	AZ53176W14 1/1000	33633	5.65	16493	7.70	31318	9.56
09	AZ53178W12 1/1050	33597	5.65	16613	7.70	31699	9.56
10	AZ53180W12 1/1060	32986	5.65	16067	7.70	30781	9.56
11	5.0 SIM 04/10/17	30201	5.65	14177	7.70	27110	9.56
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0331L007.D Date Analyzed: 03/31/17

Instrument ID: Linus Time Analyzed: 15:12

GC Column: ID: Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	34075	16.41	30220	20.19		
	UPPER LIMIT	68150	16.91	60440	20.69		
	LOWER LIMIT	17038	15.91	15110	19.69		
	SAMPLE NO.						
01	5.0 SIM 04/10/17	32422	16.40	28891	20.18		
02	170410A BLK 1/1000	36292	16.41	32676	20.19		
03	5.0 SIM 04/10/17	31492	16.39	27335	20.18		
04	5.0 SIM 04/10/17	30771	16.40	27319	20.18		
05	170410A LCS-1 1/1000	41437	16.39	36371	20.18		
06	AZ53172W09 1/1070	35629	16.41	31243	20.19		
07	AZ53174W13 1/1040	31737	16.41	28498	20.20		
08	AZ53176W14 1/1000	35817	16.42	31682	20.20		
09	AZ53178W12 1/1050	35645	16.42	31569	20.20		
10	AZ53180W12 1/1060	34384	16.42	30515	20.20		
11	5.0 SIM 04/10/17	31144	16.40	27017	20.18		
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	20	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	17	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	52	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	50.3 #	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	96.1	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	98.3	58-132			%	04/10/17	04/12/17

= Recovery (or RPD) is outside QC limits.

Quant Method: L0331P.M
Run #: 0331L140
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: MA

Printed: 04/12/17 5:19:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L140.D Vial: 40
Acq On : 12 Apr 17 14:32 Operator: MA
Sample : AZ53172W09 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 12 16:32 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	27482	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14142	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	26618	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	35629	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31243	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	19187	4.49107 ppb	0.01
Spiked Amount 4.673			Recovery	= 96.107%	
7) Surrogate Recovery (FBP)	6.92	172	21718	2.34963 ppb	0.00
Spiked Amount 4.673			Recovery	= 50.290%	
17) Surrogate Recovery (TPH)	13.39	244	55849	4.59307 ppb	-0.02
Spiked Amount 4.673			Recovery	= 98.290%	
Target Compounds					Qvalue
3) Naphthalene	5.66	128	615812	52.38160 ppb	98
4) 2-Methylnaphthalene	6.48	142	126987	16.90010 ppb	99
5) 1-Methylnaphthalene	6.60	142	162426	20.48214 ppb	99

(#) = qualifier out of range (m) = manual integration

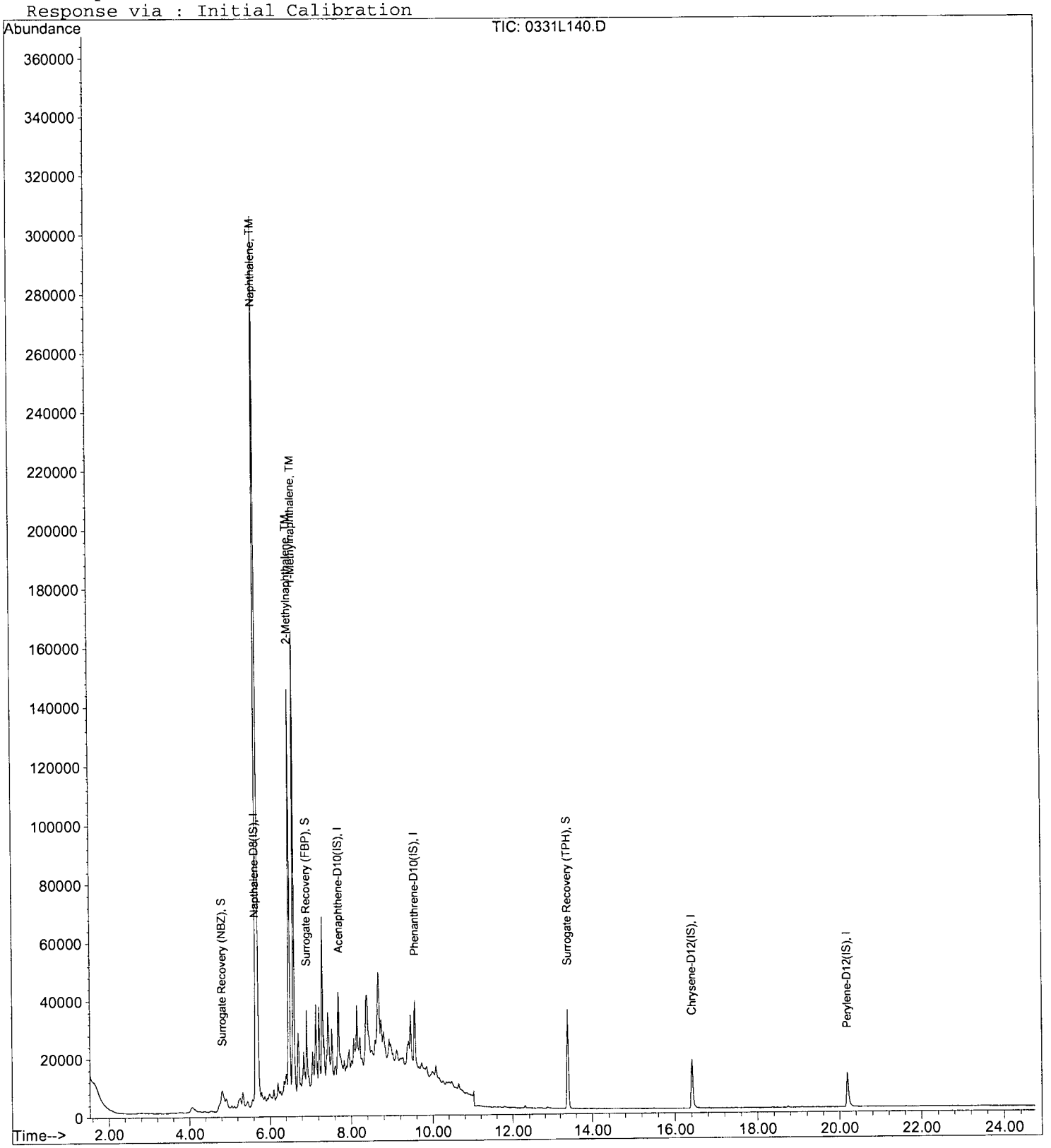
Quantitation Report

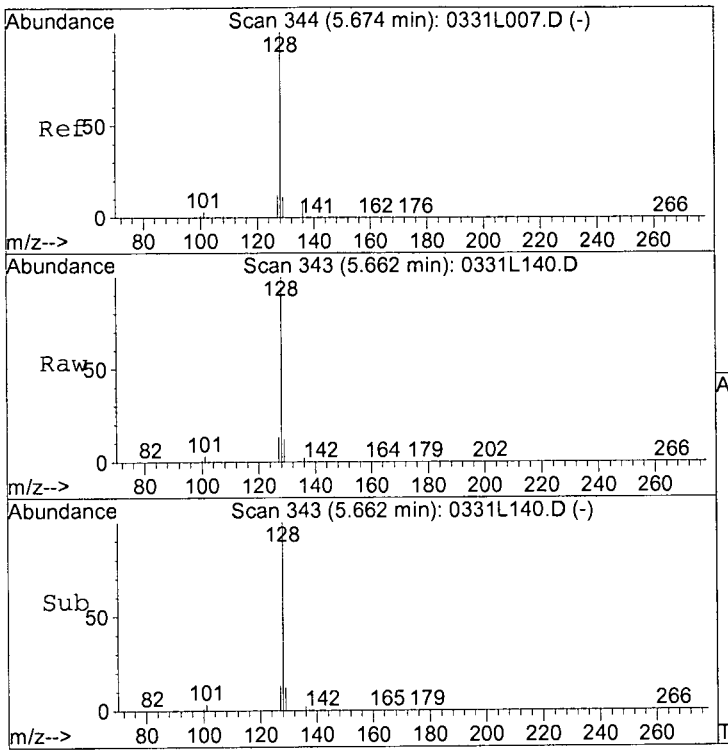
Data File : M:\LINUS\DATA\L170331\0331L140.D
Acq On : 12 Apr 17 14:32
Sample : AZ53172W09 1/1070
Misc : water

Vial: 40
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 12 16:32 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration

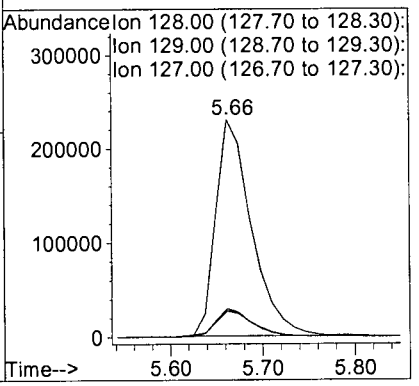


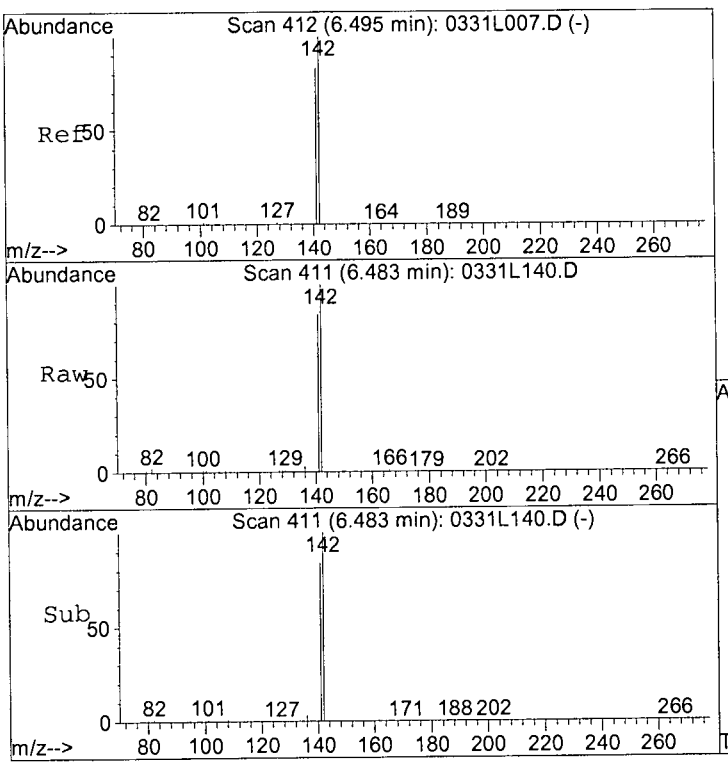


#3
Naphthalene
Concen: 52.38160 ppb
RT: 5.66 min Scan# 343
Delta R.T. -0.01 min
Lab File: 0331L140.D
Acq: 12 Apr 17 14:32

Tgt Ion:128 Resp: 615812

Ion	Ratio	Lower	Upper
128	100		
129	11.9	7.6	14.0
127	13.0	8.7	16.1

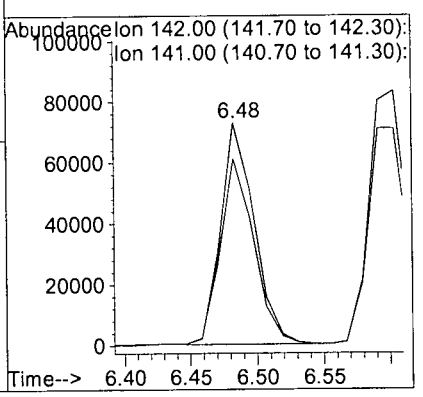


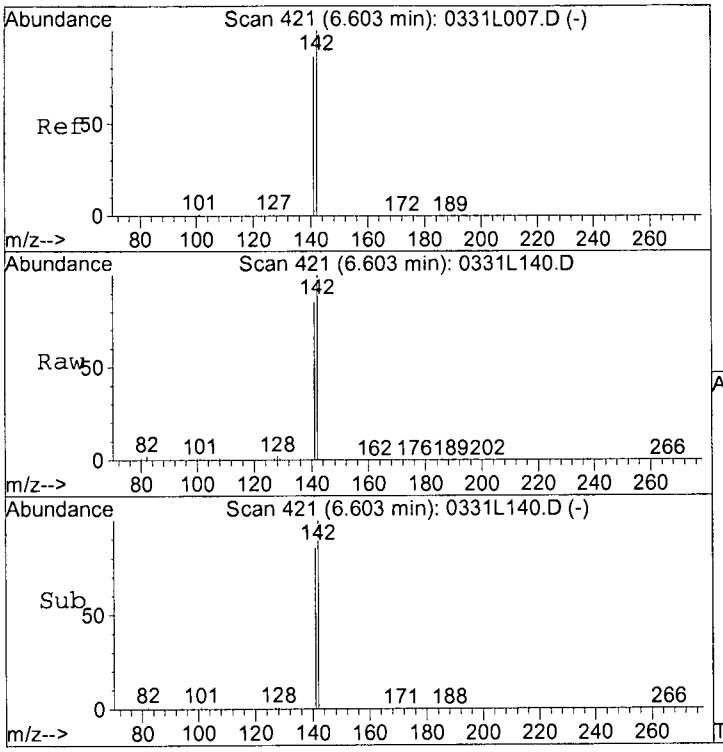


#4
2-Methylnaphthalene
Concen: 16.90010 ppb
RT: 6.48 min Scan# 411
Delta R.T. -0.01 min
Lab File: 0331L140.D
Acq: 12 Apr 17 14:32

Tgt Ion:142 Resp: 126987

Ion	Ratio	Lower	Upper
142	100		
141	83.6	57.9	107.5

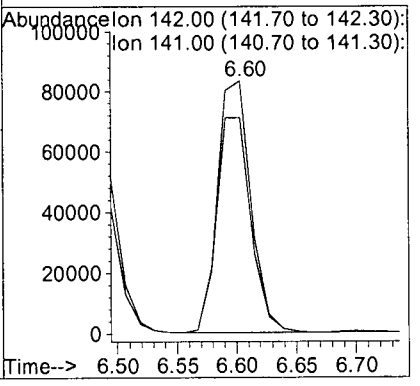




#5
1-Methylnaphthalene
Concen: 20.48214 ppb
RT: 6.60 min Scan# 421
Delta R.T. -0.00 min
Lab File: 0331L140.D
Acq: 12 Apr 17 14:32

Tgt Ion:142 Resp: 162426

Ion	Ratio	Lower	Upper
142	100		
141	85.0	60.1	111.7



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	49.3 #	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.7	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	90.5	58-132			%	04/10/17	04/12/17

= Recovery (or RPD) is outside QC limits.

Quant Method: L0331P.M
Run #: 0331L141
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: MA

Printed: 04/12/17 5:19:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L141.D Vial: 41
Acq On : 12 Apr 17 15:05 Operator: MA
Sample : AZ53174W13 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Apr 12 16:32 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : STM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28838	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14379	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27767	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	31737	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	28498	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	15010	3.44475 ppb	0.01
Spiked Amount 4.808			Recovery	= 71.656%	
7) Surrogate Recovery (FBP)	6.92	172	21652	2.37034 ppb	0.00
Spiked Amount 4.808			Recovery	= 49.296%	
17) Surrogate Recovery (TPH)	13.39	244	45829	4.35328 ppb	-0.02
Spiked Amount 4.808			Recovery	= 90.542%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0331L141.D L0331P.M Wed Apr 19 10:50:28 2017

Quantitation Report

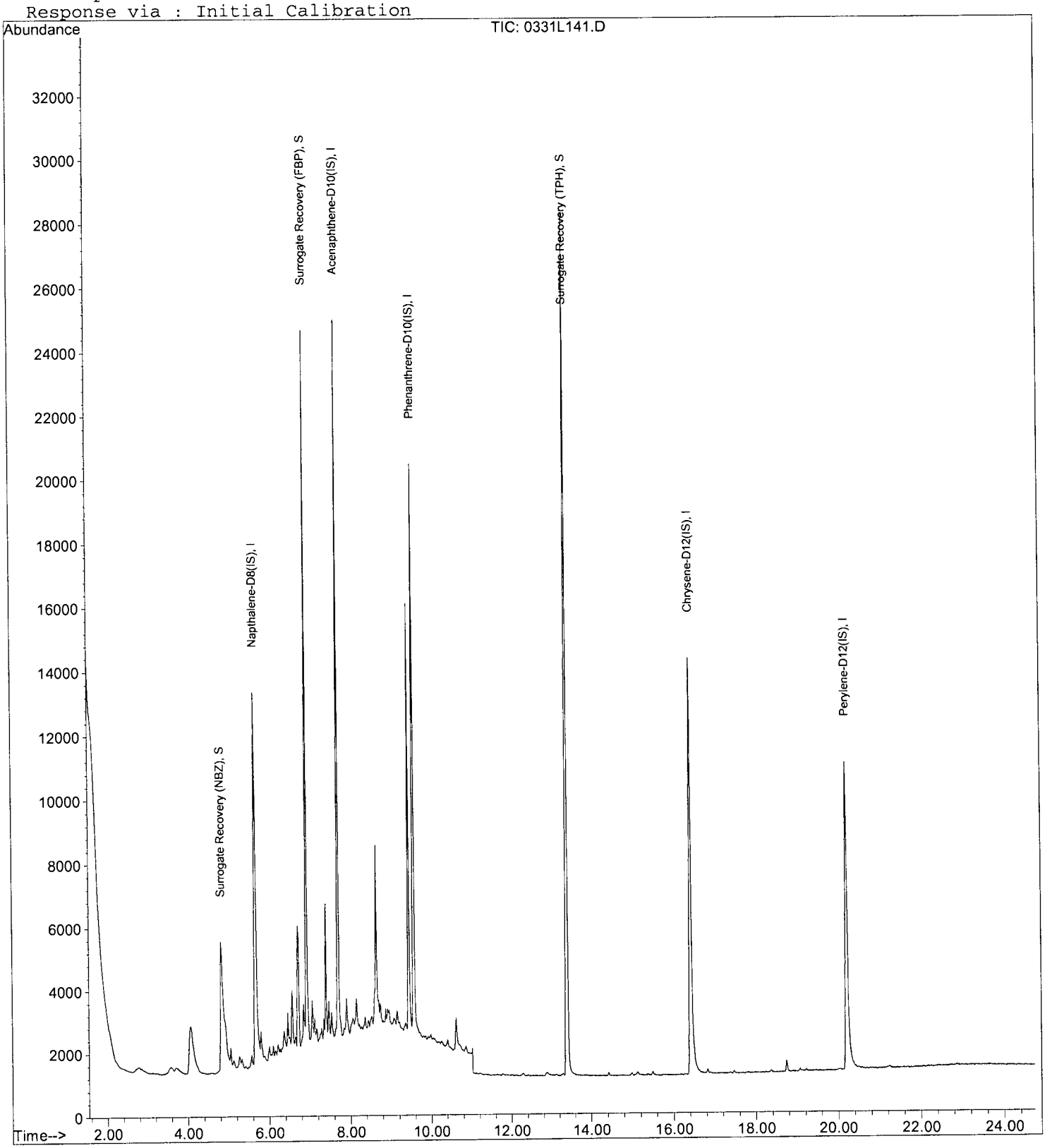
Data File : M:\LINUS\DATA\L170331\0331L141.D
Acq On : 12 Apr 17 15:05
Sample : AZ53174W13 1/1040
Misc : water

Vial: 41
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Apr 12 16:32 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	59.1	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	74.6	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	89.4	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L142
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: MA

Printed: 04/12/17 5:19:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L142.D
Acq On : 12 Apr 17 15:38
Sample : AZ53176W14 1/1000
Misc : water

Vial: 42
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 16:33 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33633	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16493	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31318	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	35817	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.20	264	31682	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	18237	3.73218 ppb	0.01
Spiked Amount 5.000			Recovery	= 74.640%	
7) Surrogate Recovery (FBP)	6.92	172	29758	2.95379 ppb	0.00
Spiked Amount 5.000			Recovery	= 59.080%	
17) Surrogate Recovery (TPH)	13.39	244	51057	4.46932 ppb	-0.02
Spiked Amount 5.000			Recovery	= 89.380%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0331L142.D L0331P.M Wed Apr 19 10:50:32 2017

Quantitation Report

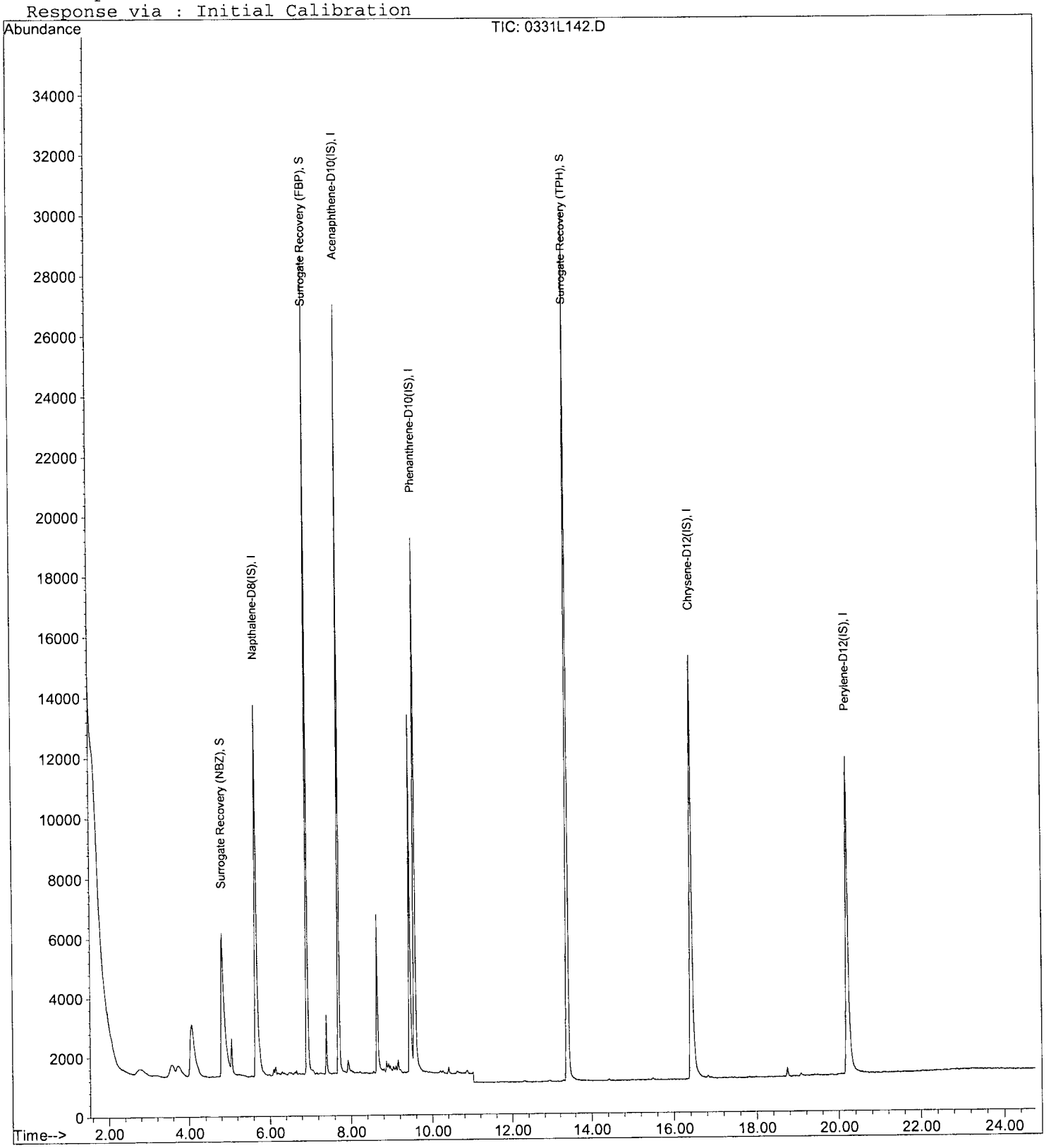
Data File : M:\LINUS\DATA\L170331\0331L142.D
Acq On : 12 Apr 17 15:38
Sample : AZ53176W14 1/1000
Misc : water

Vial: 42
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 16:33 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	53.8	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.8	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	87.8	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L143
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: MA

Printed: 04/12/17 5:19:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L143.D Vial: 43
Acq On : 12 Apr 17 16:10 Operator: MA
Sample : AZ53178W12 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 12 16:59 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33597	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16613	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31699	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	35645	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	31569	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	17528	3.41993 ppb	0.01
Spiked Amount 4.762			Recovery	= 71.820%	
7) Surrogate Recovery (FBP)	6.92	172	27276	2.55987 ppb	0.00
Spiked Amount 4.762			Recovery	= 53.760%	
17) Surrogate Recovery (TPH)	13.40	244	49908	4.18078 ppb	-0.01
Spiked Amount 4.762			Recovery	= 87.801%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0331L143.D L0331P.M Wed Apr 19 10:50:35 2017

Quantitation Report

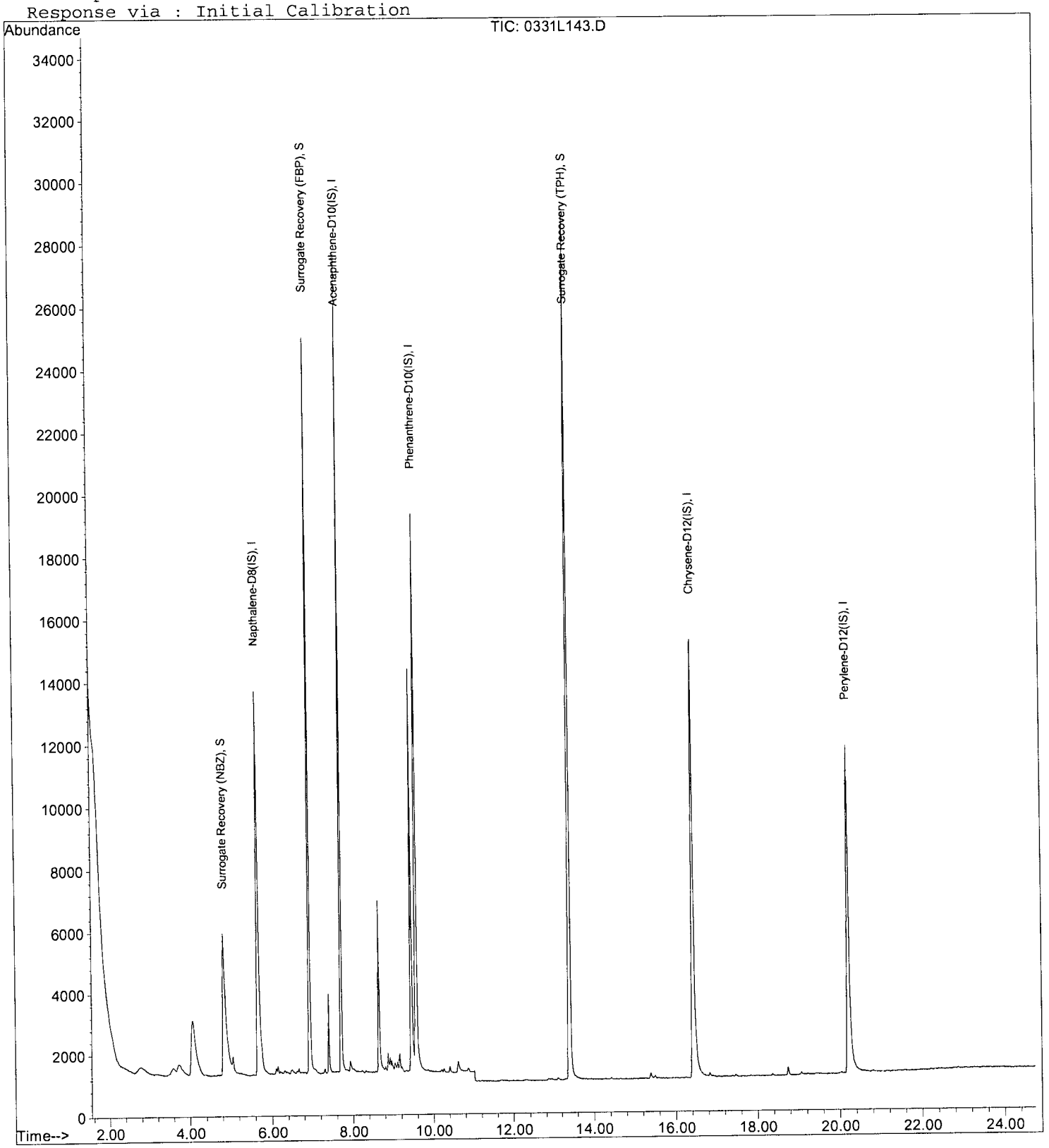
Data File : M:\LINUS\DATA\L170331\0331L143.D
Acq On : 12 Apr 17 16:10
Sample : AZ53178W12 1/1050
Misc : water

Vial: 43
Operator: MA
Inst : Linus
Multiplr: 0.95

Quant Time: Apr 12 16:59 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	58.6	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	77.2	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	93.2	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L144
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: MA

Printed: 04/12/17 5:19:59 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L144.D Vial: 44
Acq On : 12 Apr 17 16:43 Operator: MA
Sample : AZ53180W12 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 12 17:11 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32986	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16067	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30781	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	34384	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	30515	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	18502	3.64215 ppb	0.01
Spiked Amount 4.717			Recovery	= 77.210%	
7) Surrogate Recovery (FBP)	6.92	172	28738	2.76243 ppb	0.00
Spiked Amount 4.717			Recovery	= 58.554%	
17) Surrogate Recovery (TPH)	13.40	244	51076	4.39369 ppb	-0.01
Spiked Amount 4.717			Recovery	= 93.153%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

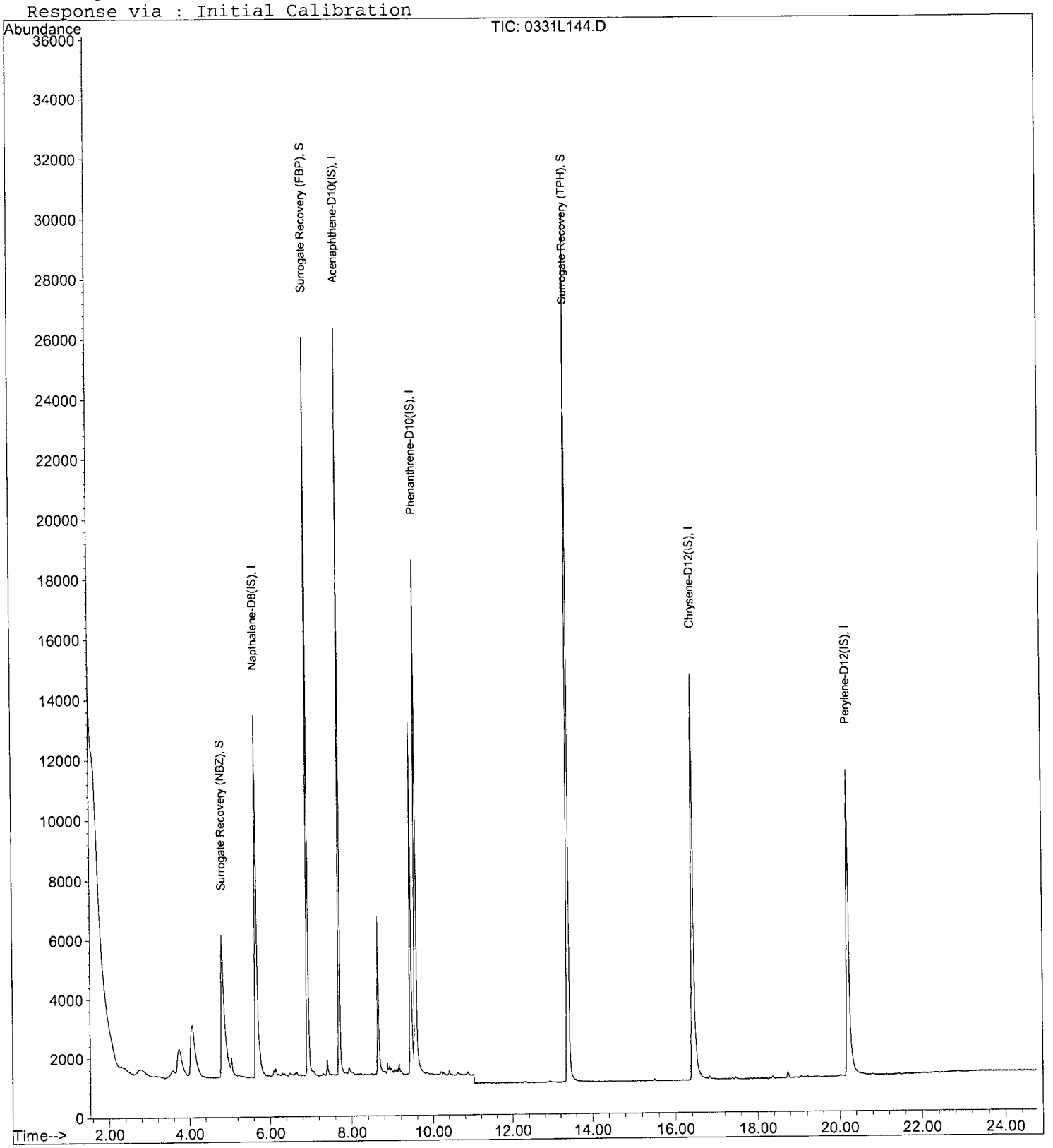
Data File : M:\LINUS\DATA\L170331\0331L144.D
Acq On : 12 Apr 17 16:43
Sample : AZ53180W12 1/1060
Misc : water

Vial: 44
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Apr 12 17:11 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 03/31/17
Instrument: Linus
Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0331L003.D	0331L004.D	0331L005.D	0331L006 D	0331L007.D	0331L008 D	0331L009.D	0331L010.D						
1	I	Napthalene-D8(IS)														
2	S	Surrogate Recovery (NBZ)			0.3171	0.3570	0.3399	0.3817	0.3902	0.3935			0.36	8.4	S	
3	TM	Naphthalene	0.9823	0.9734	0.9727	1.024	1.042	1.069	0.9927	0.9399			1.00	4.2	TM	
4	TM	2-Methylnaphthalene	0.6376	0.5964	0.6088	0.6337	0.6851	0.7033	0.6489	0.5967			0.64	6.2	TM	
5	TM	1-Methylnaphthalene	0.6928	0.6617	0.6701	0.7218	0.7095	0.7229	0.6322	0.5826			0.67	7.2	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.615	1.560	1.569	1.620	1.496	1.660	1.383	1.315			1.5	8.0	S	
8	TM	Acenaphthylene	2.257	1.837	1.884	1.986	2.100	2.229	1.899	1.737			2.0	9.4	TM	
9	*TM	Acenaphthene	1.126	1.137	1.175	1.193	1.237	1.281	1.080	0.9857			1.2	8.0	*TM	
10	TM	Fluorene	1.282	1.262	1.269	1.334	1.415	1.480	1.258	1.142			1.3	8.0	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.031	0.9551	0.9867	1.028	1.071	1.117	0.9583	0.8886			1.0	7.2	TM	
13	TM	Anthracene	0.8738	0.8806	0.9076	0.9647	1.038	1.101	0.9463	0.8475			0.94	9.2	TM	
14	*TM	Fluoranthene	1.457	1.365	1.426	1.503	1.642	1.778	1.605	1.520			1.5	8.6	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.401	1.337	1.345	1.404	1.483	1.565	1.473	1.405			1.4	5.3	TM	
17	S	Surrogate Recovery (TPH)	0.8299	0.8012	0.7860	0.8199	0.7520	0.8454	0.7809	0.7637			0.80	4.1	S	
18	TM	Benz (a) anthracene	1.273	1.132	1.140	1.163	1.219	1.305	1.261	1.225			1.2	5.3	TM	
19	TM	Chrysene	1.254	1.183	1.193	1.238	1.284	1.323	1.225	1.152			1.2	4.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.256	1.153	1.132	1.164	1.148	1.187	1.061	1.010			1.1	6.6	TM	
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.440	1.236	1.225	1.174	1.278	1.381	1.256	1.259			1.3	6.8	TM	
23	TM	Benzo (k) fluoranthene	1.110	0.9547	0.9635	1.065	1.255	1.254	1.184	0.9924			1.1	11	TM	
24	*TM	Benzo (a) pyrene	1.280	1.167	1.175	1.193	1.266	1.340	1.194	1.111			1.2	6.1	*TM	
25	TM	Dibenz (a,h) anthracene	1.057	1.049	1.048	1.070	1.099	1.140	0.9494	0.8876			1.0	7.8	TM	
26	TM	Benzo (g,h,i) perylene	1.326	1.157	1.119	1.096	1.111	1.166	0.9980	0.9049			1.1	11	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30819	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15850	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31272	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34642	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.18	264	31866	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	152	0.08047 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.600%	
7) Surrogate Recovery (FBP)	6.93	172	512	0.05375 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.080%	
17) Surrogate Recovery (TPH)	13.41	244	575	0.05441 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.080%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	1211	0.09406 ppb		99
4) 2-Methylnaphthalene	6.49	142	786	0.10911 ppb		99
5) 1-Methylnaphthalene	6.60	142	854	0.10961 ppb		99
8) Acenaphthylene	7.54	152	1431	0.11183 ppb		98
9) Acenaphthene	7.74	154	714	0.09447 ppb		99
10) Fluorene	8.35	166	813	0.09717 ppb		96
12) Phenanthrene	9.60	178	1290	0.10241 ppb		98
13) Anthracene	9.68	178	1093	0.09142 ppb		97
14) Fluoranthene	12.22	202	1823	0.08778 ppb		95
16) Pyrene	12.84	202	1942	0.09787 ppb		98
18) Benz (a) anthracene	16.38	228	1764	0.10087 ppb		97
19) Chrysene	16.48	228	1738	-0.64058 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.51	276	1741	0.03994 ppb	#	95
22) Benzo (b) fluoranthene	19.29	252	1836	0.10910 ppb		98
23) Benzo (k) fluoranthene	19.36	252	1415	0.09287 ppb		96
24) Benzo (a) pyrene	20.06	252	1632	0.10355 ppb		98
25) Dibenz (a,h) anthracene	22.55	278	1347	-0.81595 ppb		96
26) Benzo (g,h,i) perylene	23.02	276	1690	-1.01298 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

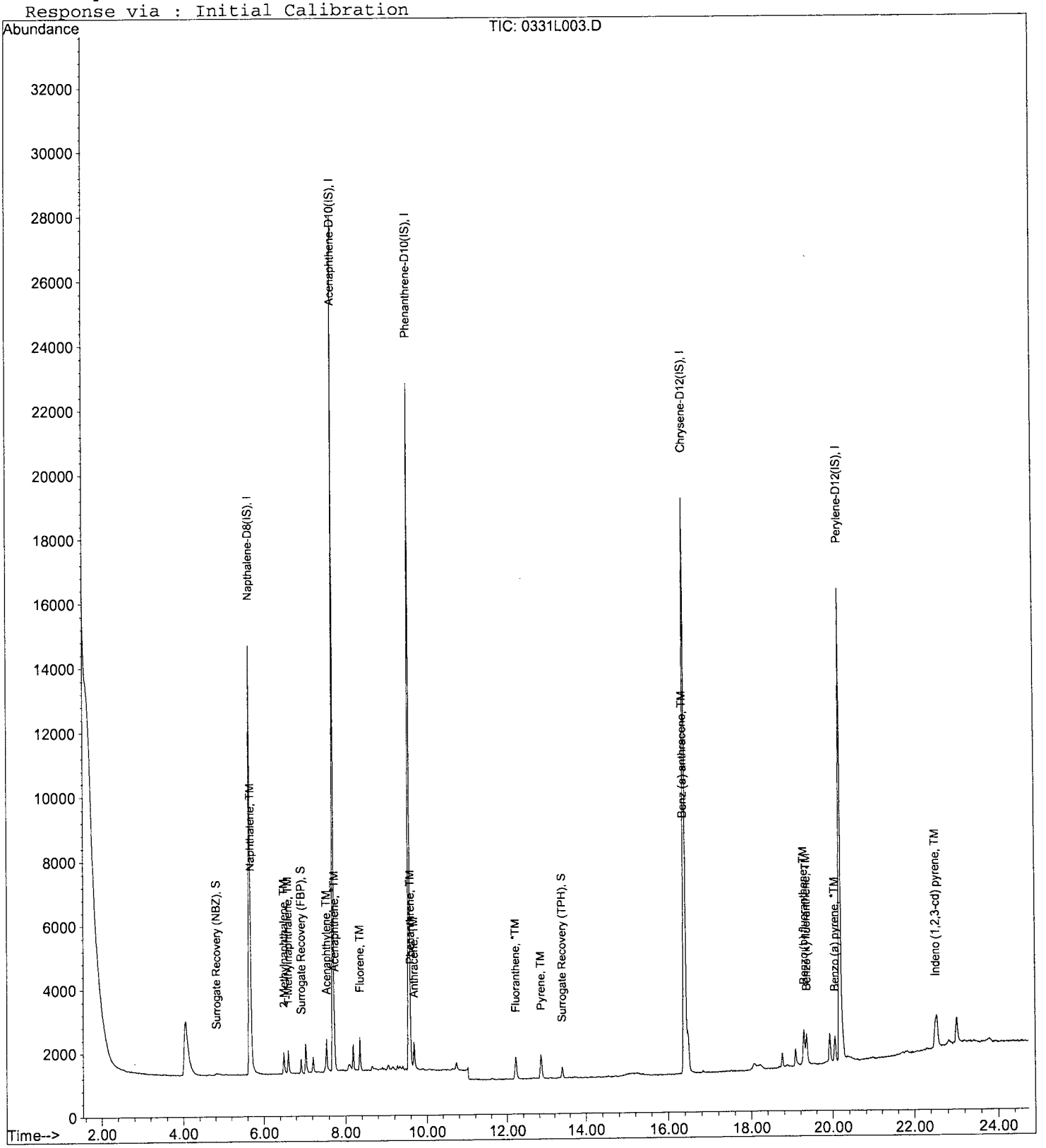
Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15822	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31057	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34106	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31187	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	284	0.10721 ppb	0.04
Spiked Amount 5.000			Recovery	= 2.140%	
7) Surrogate Recovery (FBP)	6.93	172	987	0.10380 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.080%	
17) Surrogate Recovery (TPH)	13.42	244	1093	0.10505 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.100%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	2430	0.18640 ppb	100
4) 2-Methylnaphthalene	6.51	142	1489	0.20413 ppb	100
5) 1-Methylnaphthalene	6.62	142	1652	0.20941 ppb	96
8) Acenaphthylene	7.54	152	2325	0.18202 ppb	98
9) Acenaphthene	7.74	154	1439	0.19073 ppb	98
10) Fluorene	8.35	166	1598	0.19132 ppb	97
12) Phenanthrene	9.60	178	2373	0.18969 ppb	99
13) Anthracene	9.69	178	2188	0.18427 ppb	98
14) Fluoranthene	12.22	202	3392	0.16445 ppb	99
16) Pyrene	12.85	202	3647	0.18669 ppb	100
18) Benz (a) anthracene	16.39	228	3088	0.17936 ppb	99
19) Chrysene	16.48	228	3227	-0.53196 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.52	276	3145	0.14877 ppb #	90
22) Benzo (b) fluoranthene	19.29	252	3083	0.18719 ppb	97
23) Benzo (k) fluoranthene	19.36	252	2382	0.15974 ppb	98
24) Benzo (a) pyrene	20.06	252	2911	0.18873 ppb	98
25) Dibenz (a,h) anthracene	22.55	278	2618	-0.68100 ppb	95
26) Benzo (g,h,i) perylene	23.03	276	2887	-0.88501 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

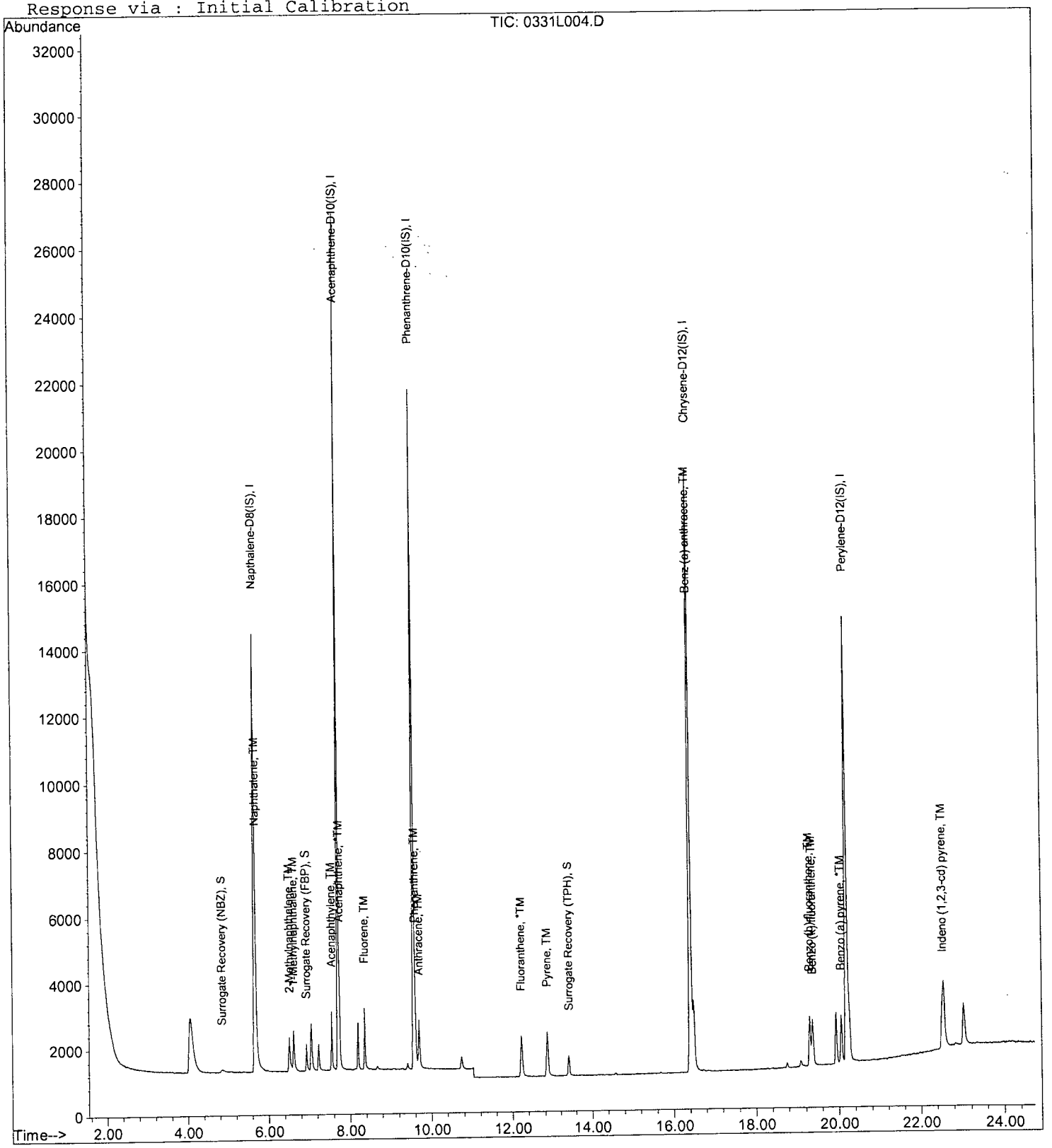
Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30971	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15453	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29694	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	33348	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30098	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	982	0.25224 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.040%	
7) Surrogate Recovery (FBP)	6.93	172	2424	0.26102 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.220%	
17) Surrogate Recovery (TPH)	13.42	244	2621	0.25763 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.160%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	6025	0.46568 ppb	99
4) 2-Methylnaphthalene	6.51	142	3771	0.52090 ppb	99
5) 1-Methylnaphthalene	6.60	142	4151	0.53019 ppb	96
8) Acenaphthylene	7.54	152	5822	0.46668 ppb	99
9) Acenaphthene	7.74	154	3632	0.49289 ppb	100
10) Fluorene	8.35	166	3921	0.48066 ppb	97
12) Phenanthrene	9.60	178	5860	0.48992 ppb	100
13) Anthracene	9.69	178	5390	0.47476 ppb	99
14) Fluoranthene	12.22	202	8468	0.42940 ppb	100
16) Pyrene	12.85	202	8969	0.46955 ppb	100
18) Benz (a) anthracene	16.39	228	7603	0.45164 ppb	97
19) Chrysene	16.48	228	7956	-0.18015 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	7547	0.49664 ppb #	94
22) Benzo (b) fluoranthene	19.29	252	7376	0.46405 ppb	99
23) Benzo (k) fluoranthene	19.36	252	5800	0.40304 ppb	99
24) Benzo (a) pyrene	20.06	252	7073	0.47516 ppb	99
25) Dibenz (a,h) anthracene	22.55	278	6309	-0.27408 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	6737	-0.46016 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

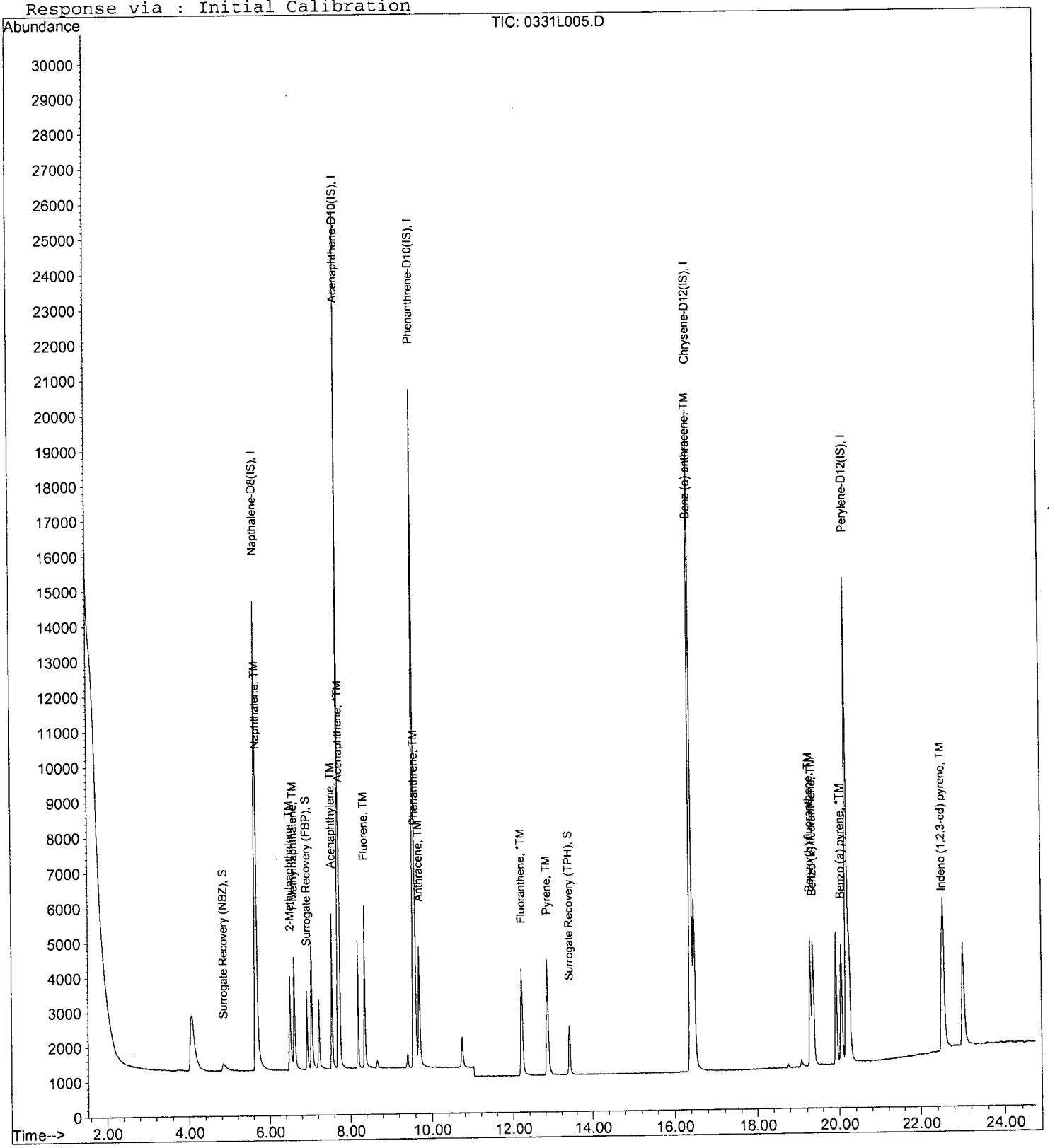
Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15857	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30567	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34248	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31363	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	2261	0.50683 ppb	0.04
Spiked Amount 5.000			Recovery	= 10.140%	
7) Surrogate Recovery (FBP)	6.93	172	5137	0.53906 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.780%	
17) Surrogate Recovery (TPH)	13.42	244	5616	0.53752 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.760%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	12970	0.98031 ppb	100
4) 2-Methylnaphthalene	6.49	142	8028	1.08443 ppb	97
5) 1-Methylnaphthalene	6.60	142	9144	1.14210 ppb	98
8) Acenaphthylene	7.54	152	12599	0.98419 ppb	100
9) Acenaphthene	7.74	154	7564	1.00034 ppb	98
10) Fluorene	8.35	166	8464	1.01114 ppb	98
12) Phenanthrene	9.60	178	12564	1.02040 ppb	99
13) Anthracene	9.69	178	11795	1.00926 ppb	99
14) Fluoranthene	12.22	202	18372	0.90501 ppb	99
16) Pyrene	12.85	202	19232	0.98039 ppb	100
18) Benz (a) anthracene	16.39	228	15931	0.92147 ppb	99
19) Chrysene	16.49	228	16962	0.44717 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	15952	1.11784 ppb #	96
22) Benzo (b) fluoranthene	19.29	252	14726	0.88910 ppb	99
23) Benzo (k) fluoranthene	19.36	252	13363	0.89114 ppb	99
24) Benzo (a) pyrene	20.06	252	14969	0.96504 ppb	100
25) Dibenz (a,h) anthracene	22.55	278	13425	0.43323 ppb	98
26) Benzo (g,h,i) perylene	23.02	276	13748	0.23414 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

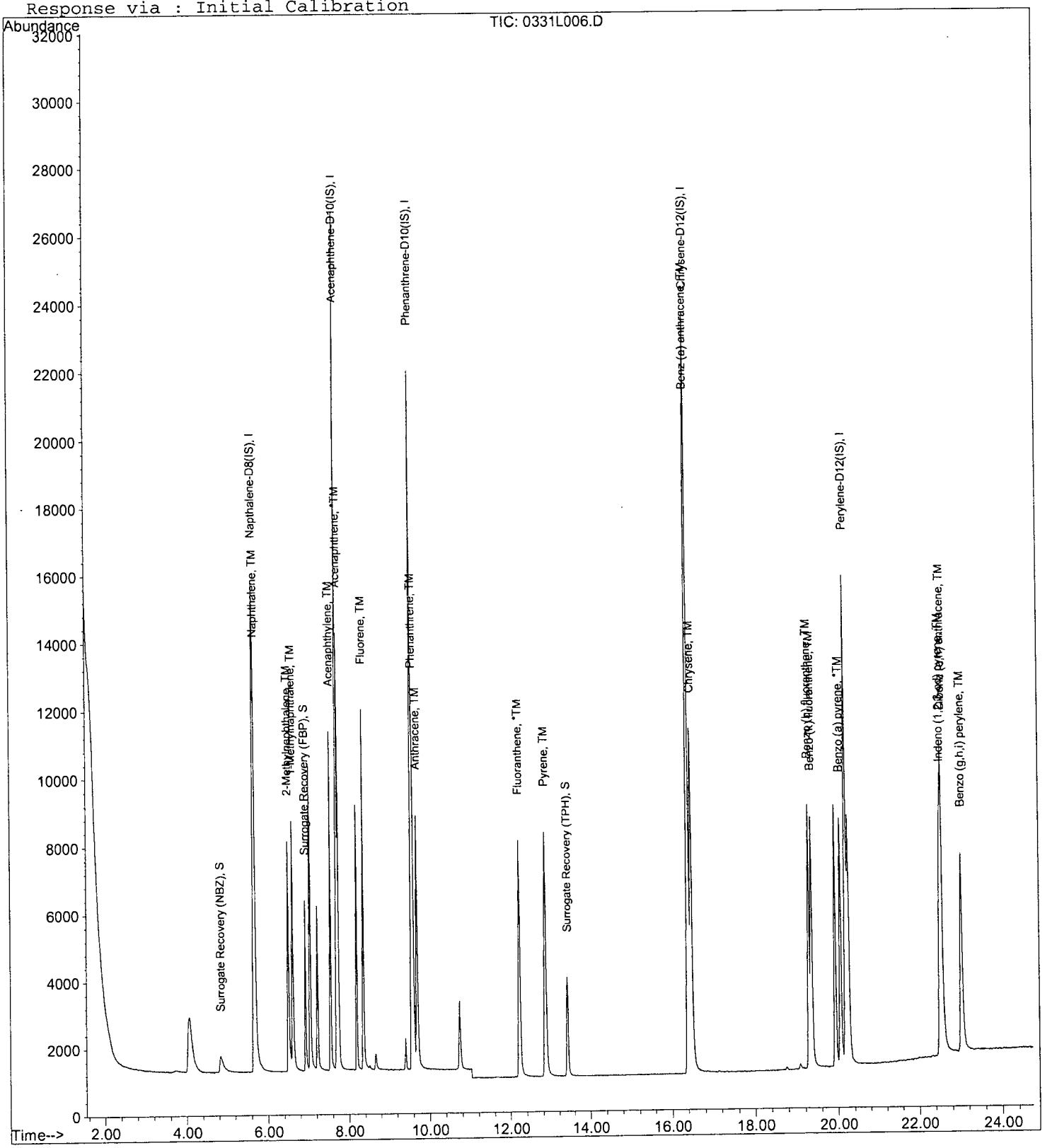
Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31142	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15272	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29598	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34075	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30220	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	10584	2.22924 ppb	0.00
Spiked Amount 5.000			Recovery	= 44.580%	
7) Surrogate Recovery (FBP)	6.92	172	22845	2.48912 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.780%	
17) Surrogate Recovery (TPH)	13.41	244	25626	2.46519 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.300%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	64893	4.98810 ppb	100
4) 2-Methylnaphthalene	6.49	142	42672	5.86209 ppb	100
5) 1-Methylnaphthalene	6.60	142	44189	5.61304 ppb	100
8) Acenaphthylene	7.54	152	64128	5.20132 ppb	100
9) Acenaphthene	7.74	154	37785	5.18850 ppb	100
10) Fluorene	8.35	166	43232	5.36247 ppb	100
12) Phenanthrene	9.60	178	63397	5.31744 ppb	100
13) Anthracene	9.68	178	61449	5.43013 ppb	100
14) Fluoranthene	12.21	202	97197	4.94470 ppb	100
16) Pyrene	12.84	202	101070	5.17841 ppb	100
18) Benz (a) anthracene	16.38	228	83073	4.82946 ppb	100
19) Chrysene	16.48	228	87474	5.51036 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	78254	5.86699 ppb #	99
22) Benzo (b) fluoranthene	19.28	252	77257	4.84093 ppb	100
23) Benzo (k) fluoranthene	19.35	252	75828	5.24800 ppb	100
24) Benzo (a) pyrene	20.05	252	76509	5.11903 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	66445	6.16669 ppb	99
26) Benzo (g,h,i) perylene	23.00	276	67126	6.00464 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

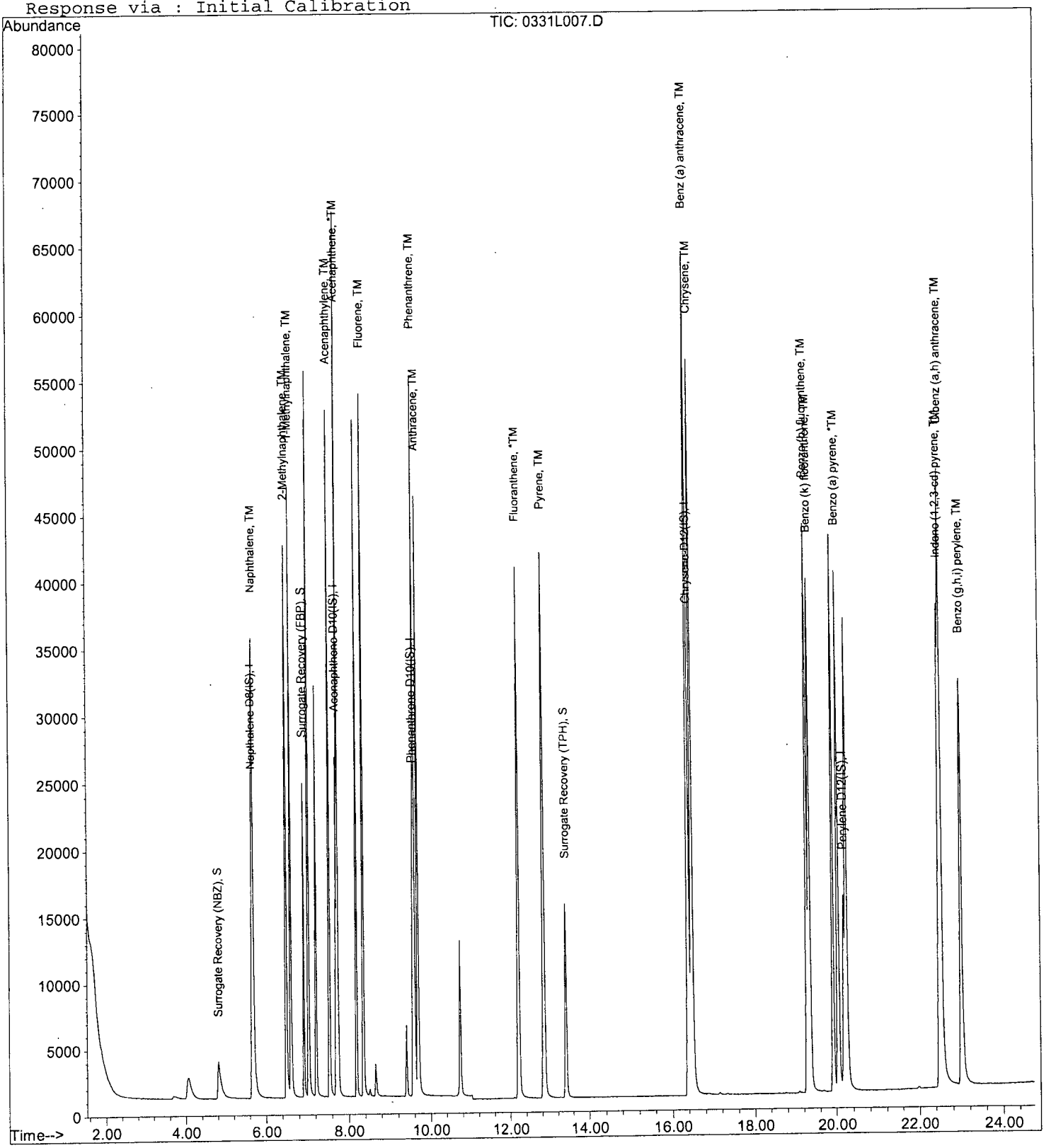
Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30297	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14519	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	28324	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	33276	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	29132	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	23128	4.94632 ppb	0.00
Spiked Amount 5.000			Recovery	= 98.920%	
7) Surrogate Recovery (FBP)	6.92	172	48197	5.52375 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.480%	
17) Surrogate Recovery (TPH)	13.41	244	56261	5.54218 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.840%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	129576	10.23785 ppb		100
4) 2-Methylnaphthalene	6.49	142	85229	12.03493 ppb		99
5) 1-Methylnaphthalene	6.60	142	87605	11.43825 ppb		100
8) Acenaphthylene	7.54	152	129423	11.04172 ppb		100
9) Acenaphthene	7.74	154	74416	10.74850 ppb		99
10) Fluorene	8.34	166	85956	11.21489 ppb		96
12) Phenanthrene	9.60	178	126583	11.09474 ppb		100
13) Anthracene	9.68	178	124730	11.51793 ppb		99
14) Fluoranthene	12.21	202	201414	10.70742 ppb		99
16) Pyrene	12.83	202	208256	10.92637 ppb		98
18) Benz (a) anthracene	16.38	228	173750	10.34351 ppb		99
19) Chrysene	16.48	228	176113	12.17073 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	158046	12.23041 ppb	#	95
22) Benzo (b) fluoranthene	19.28	252	160957	10.46224 ppb		99
23) Benzo (k) fluoranthene	19.34	252	146148	10.49255 ppb		99
24) Benzo (a) pyrene	20.05	252	156189	10.84051 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	132806	13.80866 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	135904	13.91444 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

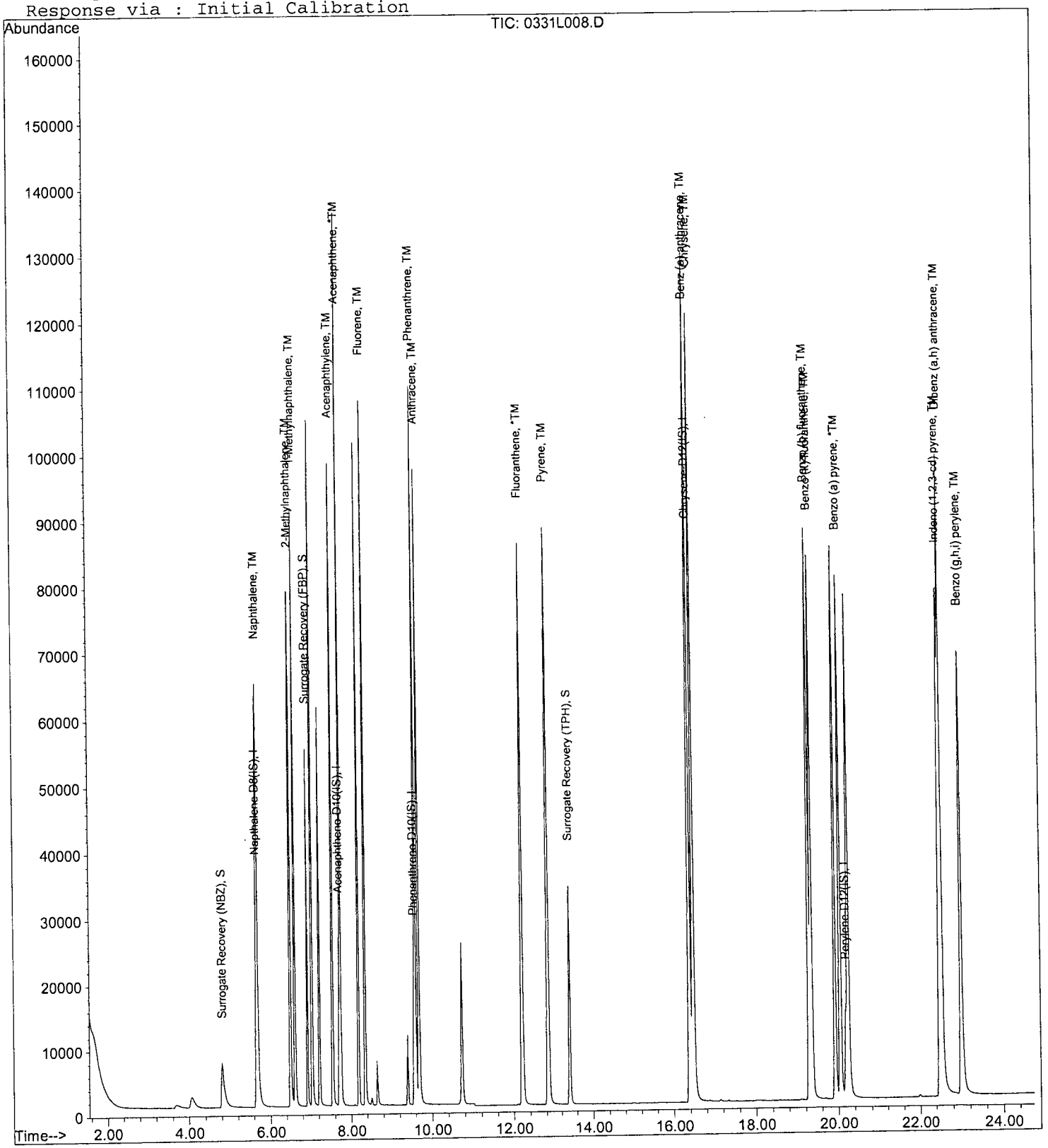
Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28141	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27995	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	31505	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	28838	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	109810	25.08329 ppb	-0.01
Spiked Amount 5.000			Recovery	= 501.660%	
7) Surrogate Recovery (FBP)	6.92	172	197251	23.00904 ppb	0.00
Spiked Amount 5.000			Recovery	= 460.180%	
17) Surrogate Recovery (TPH)	13.41	244	246037	25.59915 ppb	0.00
Spiked Amount 5.000			Recovery	= 511.980%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	558729	47.52754 ppb	100
4) 2-Methylnaphthalene	6.49	142	365210	55.52123 ppb	100
5) 1-Methylnaphthalene	6.60	142	355813	50.01640 ppb	100
8) Acenaphthylene	7.54	152	541881	47.05373 ppb	99
9) Acenaphthene	7.74	154	308193	45.30743 ppb	99
10) Fluorene	8.35	166	358796	47.64653 ppb	99
12) Phenanthrene	9.61	178	536552	47.58036 ppb	100
13) Anthracene	9.69	178	529842	49.50215 ppb	99
14) Fluoranthene	12.22	202	898826	48.34424 ppb	100
16) Pyrene	12.85	202	927839	51.41654 ppb	99
18) Benz (a) anthracene	16.40	228	794644	49.96518 ppb	100
19) Chrysene	16.50	228	771884	59.11134 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.51	276	668242	54.93231 ppb #	92
22) Benzo (b) fluoranthene	19.30	252	724315	47.56063 ppb	99
23) Benzo (k) fluoranthene	19.38	252	682834	49.52318 ppb	100
24) Benzo (a) pyrene	20.08	252	688727	48.28935 ppb	99
25) Dibenz (a,h) anthracene	22.56	278	547597	60.53350 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	575623	63.41962 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

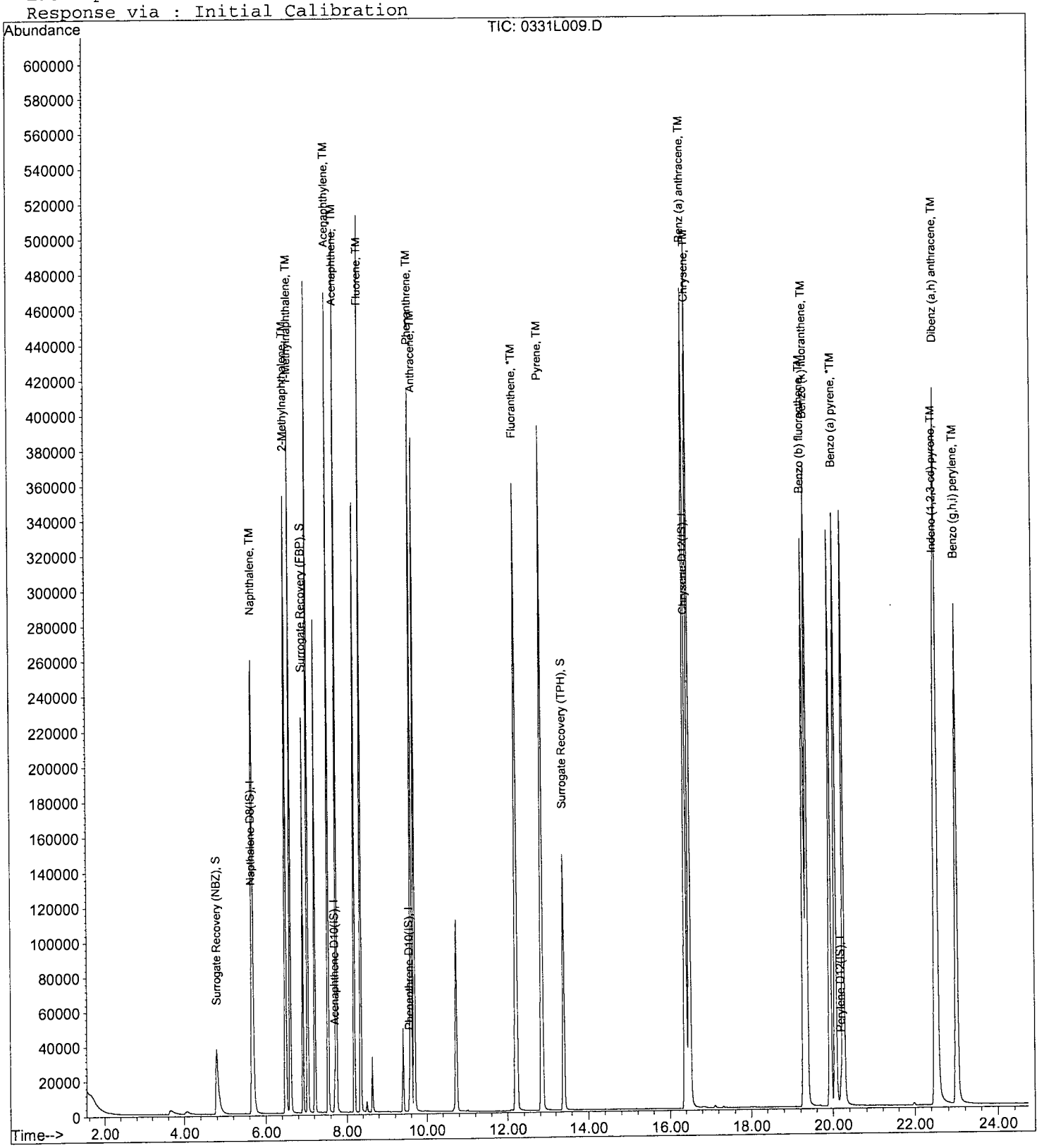
Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28041	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14359	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.57	188	27580	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.44	240	30910	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.22	264	28738	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	220688	54.26717 ppb	-0.01
Spiked Amount 5.000			Recovery	= 1085.340%	
7) Surrogate Recovery (FBP)	6.92	172	377701	43.22844 ppb	0.00
Spiked Amount 5.000			Recovery	= 864.560%	
17) Surrogate Recovery (TPH)	13.42	244	472131	48.40975 ppb	0.01
Spiked Amount 5.000			Recovery	= 968.200%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	1054173	94.81706 ppb	99
4) 2-Methylnaphthalene	6.49	142	669313	94.77979 ppb	100
5) 1-Methylnaphthalene	6.60	142	653474	87.92922 ppb	98
8) Acenaphthylene	7.54	152	997656	87.84937 ppb	98
9) Acenaphthene	7.75	154	566128	86.03024 ppb	97
10) Fluorene	8.35	166	656159	88.30231 ppb	98
12) Phenanthrene	9.61	178	980324	89.50069 ppb	99
13) Anthracene	9.69	178	934989	90.96741 ppb	99
14) Fluoranthene	12.24	202	1676780	99.91680 ppb	99
16) Pyrene	12.87	202	1736870	100.53519 ppb	97
18) Benz (a) anthracene	16.42	228	1514401	102.83533 ppb	100
19) Chrysene	16.53	228	1424819	94.85049 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.55	276	1249179	87.29937 ppb #	83
22) Benzo (b) fluoranthene	19.32	252	1447010	99.99166 ppb	98
23) Benzo (k) fluoranthene	19.41	252	1140732	89.21477 ppb	98
24) Benzo (a) pyrene	20.12	252	1276689	92.56173 ppb	99
25) Dibenz (a,h) anthracene	22.60	278	1020340	86.75637 ppb	98
26) Benzo (g,h,i) perylene	23.06	276	1040188	82.82263 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

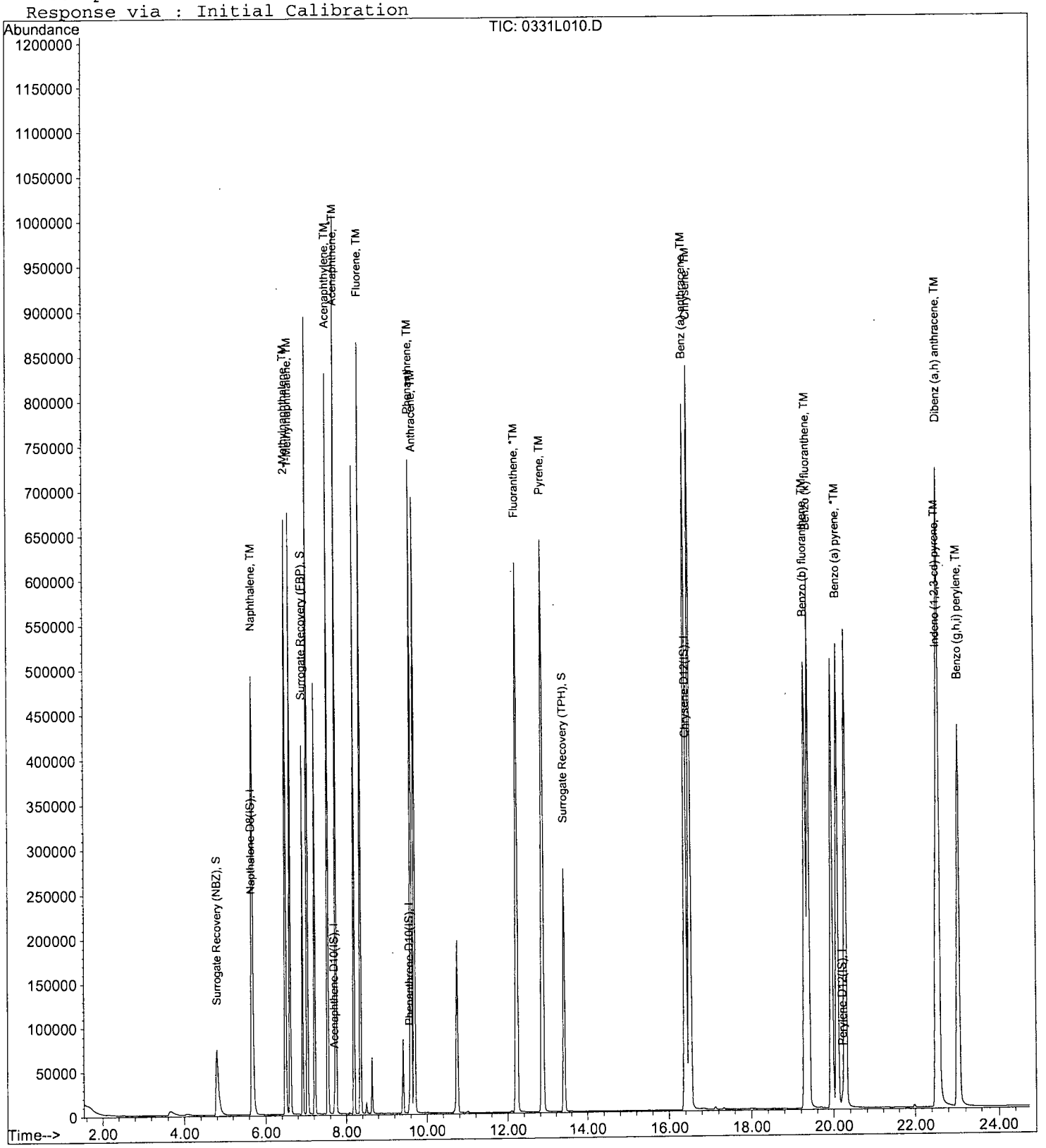
Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/31/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	0.9995	1.066	6.6	TM	
2	TM	2-Methylnaphthalene	0.6388	0.6359	0.45	TM	
3	TM	1-Methylnaphthalene	0.6742	0.6504	3.5	TM	
4	TM	Acenaphthylene	1.991	2.115	6.3	TM	
5	*TM	Acenaphthene	1.152	1.262	9.5	*TM	
6	TM	Fluorene	1.305	1.424	9.1	TM	
7	TM	Phenanthrene	1.004	1.074	6.9	TM	
8	TM	Anthracene	0.9449	1.031	9.1	TM	
9	*TM	Fluoranthene	1.537	1.676	9.0	*TM	
10	TM	Pyrene	1.426	1.495	4.8	TM	
11	TM	Benz (a) anthracene	1.215	1.240	2.1	TM	
12	TM	Chrysene	1.232	1.283	4.2	TM	
13	TM	Indeno (1,2,3-cd) pyrene	1.139	1.196	5.0	TM	
14	TM	Benzo (b) fluoranthene	1.281	1.287	0.47	TM	
15	TM	Benzo (k) fluoranthene	1.097	1.234	12	TM	
16	*TM	Benzo (a) pyrene	1.216	1.295	6.5	*TM	
17	TM	Dibenz (a,h) anthracene	1.038	1.126	8.6	TM	
18	TM	Benzo (g,h,i) perylene	1.110	1.108	0.12	TM	
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			5.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30679	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15350	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30180	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34850	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30295	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	4	0.00090 ppb	0.00
Spiked Amount 5.000			Recovery	= 0.020%	
7) Surrogate Recovery (FBP)	6.93	172	14	0.00149 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.020%	
17) Surrogate Recovery (TPH)	13.47	244	30	0.00270 ppb	0.06
Spiked Amount 5.000			Recovery	= 0.060%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	65397	5.33187 ppb	100
4) 2-Methylnaphthalene	6.49	142	39019	4.97734 ppb	99
5) 1-Methylnaphthalene	6.60	142	39907	4.82348 ppb	98
8) Acenaphthylene	7.54	152	64946	5.31253 ppb	100
9) Acenaphthene	7.74	154	38734	5.47664 ppb	99
10) Fluorene	8.35	166	43714	5.45380 ppb	99
12) Phenanthrene	9.60	178	64799	5.34377 ppb	100
13) Anthracene	9.68	178	62241	5.45624 ppb	100
14) Fluoranthene	12.21	202	101168	5.45240 ppb	99
16) Pyrene	12.84	202	104230	5.24166 ppb	100
18) Benz (a) anthracene	16.38	228	86405	5.10258 ppb	99
19) Chrysene	16.48	228	89459	5.21101 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	83349	5.24968 ppb	97
22) Benzo (b) fluoranthene	19.28	252	77988	5.02329 ppb	99
23) Benzo (k) fluoranthene	19.35	252	74793	5.62464 ppb	100
24) Benzo (a) pyrene	20.05	252	78476	5.32658 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	68243	5.42773 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	67157	4.99392 ppb	100

$$\text{Algorithum check} = \frac{65397 * 2.5 * 1}{30679 * 0.9995} = \frac{163492.5}{30663.6605}$$

$$= 5.33179$$

RH 4/6/17

(#) = qualifier out of range (m) = manual integration
0331L011.D L0331P.M Thu Apr 06 17:00:08 2017

Quantitation Report

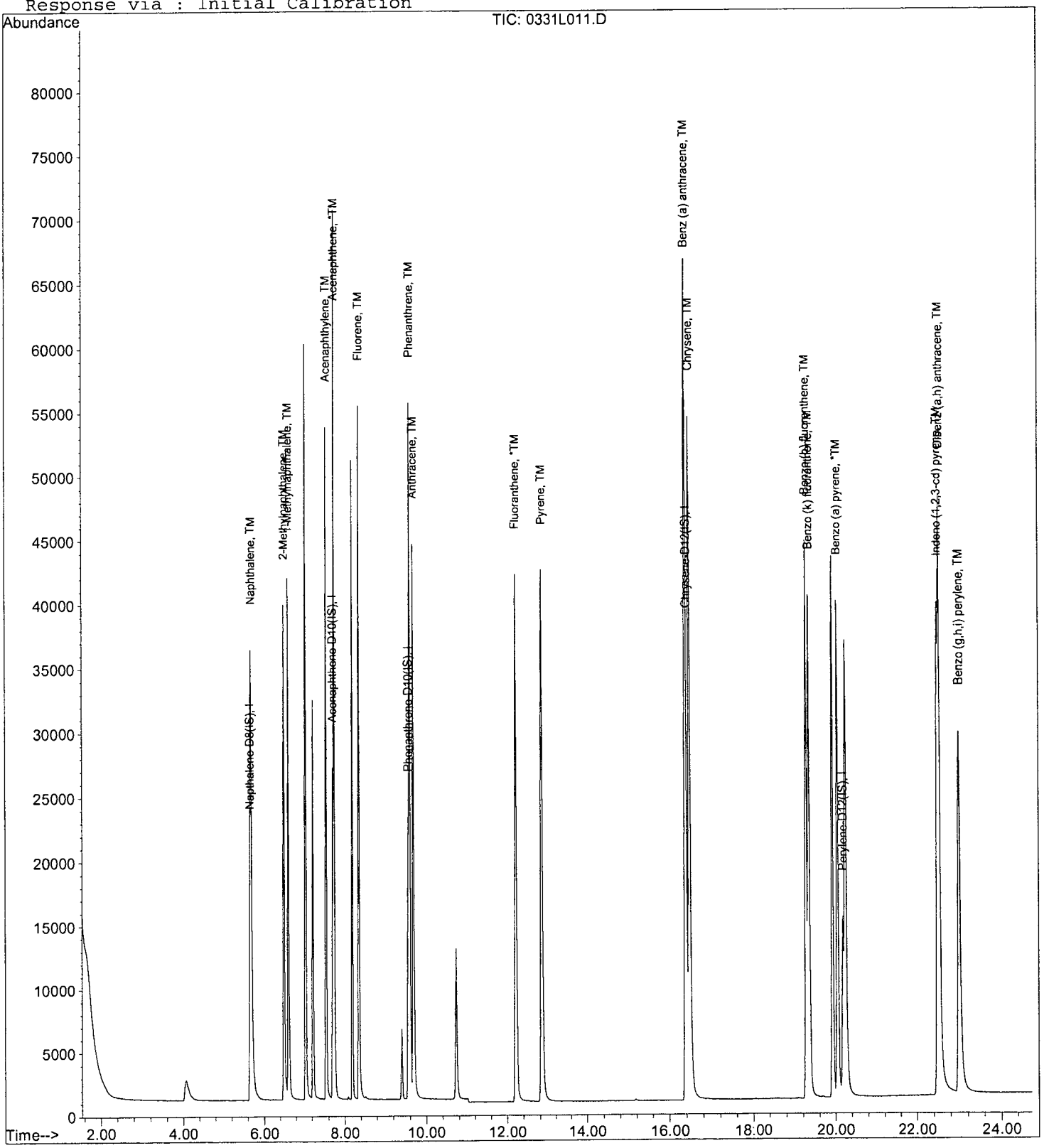
Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L103.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3412	6.1	S	
3	TM	Naphthalene	0.9995	1.074	7.4	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7151	12	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7312	8.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.537	0.62	S	
8	TM	Acenaphthylene	1.991	2.160	8.5	TM	
9	*TM	Acenaphthene	1.152	1.266	9.9	*TM	
10	TM	Fluorene	1.305	1.455	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.100	9.5	TM	
13	TM	Anthracene	0.9449	1.067	13	TM	
14	*TM	Fluoranthene	1.537	1.732	13	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.558	9.2	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7670	3.8	S	
18	TM	Benz (a) anthracene	1.215	1.278	5.2	TM	
19	TM	Chrysene	1.232	1.331	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.148	0.76	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.326	3.5	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.077	1.8	TM	
24	*TM	Benzo (a) pyrene	1.216	1.308	7.6	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.104	6.4	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.097	1.2	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L103.D Vial: 3
Acq On : 11 Apr 17 17:08 Operator: MA
Sample : 5.0 SIM 04/10/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 11 17:34 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29022	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14310	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27904	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	32422	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	28891	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9901	2.34816 ppb	0.00
Spiked Amount 5.000			Recovery	= 46.960%	
7) Surrogate Recovery (FBP)	6.92	172	21989	2.51560 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.320%	
17) Surrogate Recovery (TPH)	13.40	244	24867	2.40469 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.100%	

Target Compounds					Qvalue
3) Naphthalene	5.66	128	62324	5.37144 ppb	99
4) 2-Methylnaphthalene	6.48	142	41508	5.59715 ppb	98
5) 1-Methylnaphthalene	6.60	142	42442	5.42276 ppb	100
8) Acenaphthylene	7.53	152	61832	5.42539 ppb	99
9) Acenaphthene	7.74	154	36229	5.49474 ppb	98
10) Fluorene	8.34	166	41650	5.57395 ppb	98
12) Phenanthrene	9.60	178	61387	5.47531 ppb	100
13) Anthracene	9.68	178	59561	5.64718 ppb	100
14) Fluoranthene	12.20	202	96679	5.63546 ppb	99
16) Pyrene	12.82	202	101051	5.46235 ppb	98
18) Benz (a) anthracene	16.37	228	82898	5.26209 ppb	99
19) Chrysene	16.47	228	86296	5.40321 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	74413	5.03784 ppb #	90
22) Benzo (b) fluoranthene	19.27	252	76603	5.17386 ppb	99
23) Benzo (k) fluoranthene	19.34	252	62245	4.90847 ppb	98
24) Benzo (a) pyrene	20.05	252	75557	5.37768 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	63770	5.31845 ppb	99
26) Benzo (g,h,i) perylene	22.99	276	63365	4.94092 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

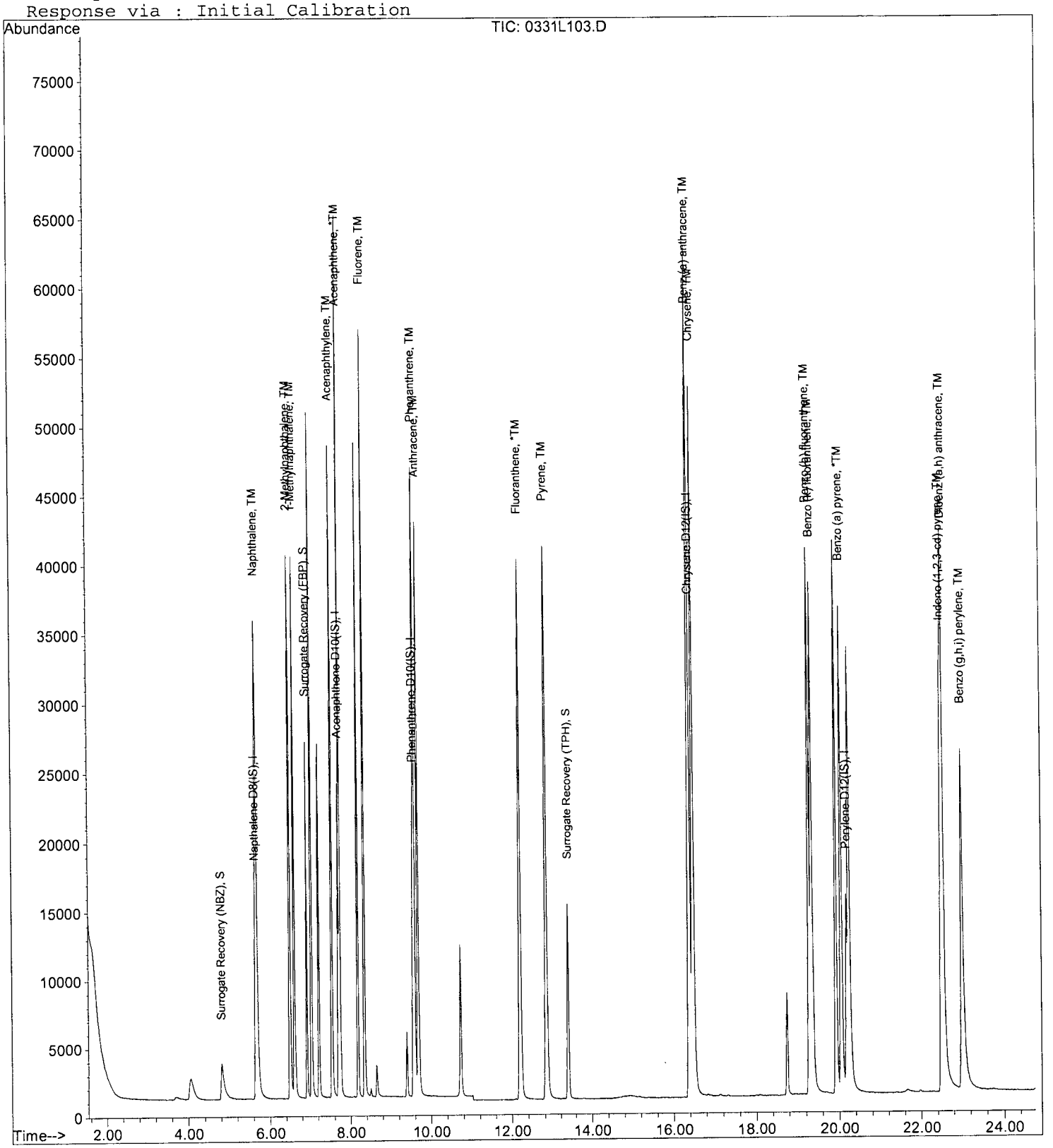
Data File : M:\LINUS\DATA\L170331\0331L103.D
Acq On : 11 Apr 17 17:08
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 11 17:34 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L124.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3140	14	S	
3	TM	Naphthalene	0.9995	1.101	10	TM	
4	TM	2-Methylnaphthalene	0.6388	0.6962	9.0	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7410	9.9	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.574	3.1	S	
8	TM	Acenaphthylene	1.991	2.220	12	TM	
9	*TM	Acenaphthene	1.152	1.290	12	*TM	
10	TM	Fluorene	1.305	1.464	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.060	12	TM	
14	*TM	Fluoranthene	1.537	1.714	12	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.575	10	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7429	6.8	S	
18	TM	Benz (a) anthracene	1.215	1.206	0.68	TM	
19	TM	Chrysene	1.232	1.348	9.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.109	2.7	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.230	4.0	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.087	0.96	TM	
24	*TM	Benzo (a) pyrene	1.216	1.301	7.0	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.092	5.3	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.091	1.7	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L124.D
Acq On : 12 Apr 17 4:00
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 24
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 8:47 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30996	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14458	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27736	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	31492	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	27335	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9733	2.16131 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.220%	
7) Surrogate Recovery (FBP)	6.92	172	22756	2.57669 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.540%	
17) Surrogate Recovery (TPH)	13.40	244	23395	2.32915 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.580%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	68271	5.50926 ppb	100
4) 2-Methylnaphthalene	6.48	142	43157	5.44889 ppb	97
5) 1-Methylnaphthalene	6.60	142	45935	5.49529 ppb	99
8) Acenaphthylene	7.53	152	64196	5.57515 ppb	99
9) Acenaphthene	7.74	154	37312	5.60107 ppb	99
10) Fluorene	8.34	166	42347	5.60921 ppb	97
12) Phenanthrene	9.60	178	60844	5.45974 ppb	100
13) Anthracene	9.68	178	58821	5.61079 ppb	100
14) Fluoranthene	12.20	202	95091	5.57647 ppb	99
16) Pyrene	12.82	202	99198	5.52054 ppb	97
18) Benz (a) anthracene	16.37	228	75988	4.96591 ppb	99
19) Chrysene	16.47	228	84912	5.47356 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	69821	4.86655 ppb #	90
22) Benzo (b) fluoranthene	19.27	252	67254	4.80098 ppb	99
23) Benzo (k) fluoranthene	19.34	252	59412	4.95176 ppb	99
24) Benzo (a) pyrene	20.05	252	71133	5.35100 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	59703	5.26270 ppb	98
26) Benzo (g,h,i) perylene	22.99	276	59632	4.91452 ppb	95

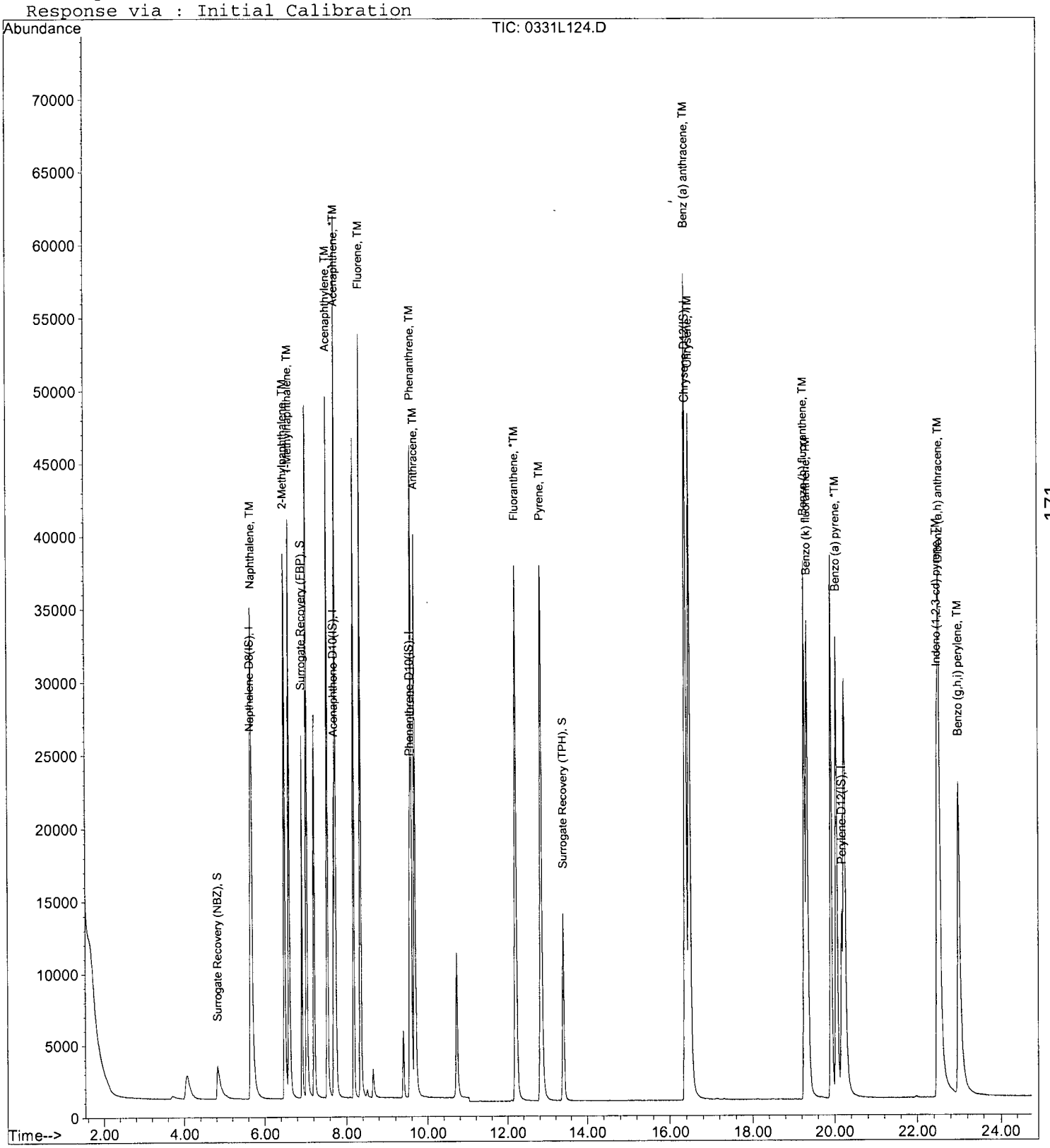
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L124.D Vial: 24
Acq On : 12 Apr 17 4:00 Operator: MA
Sample : 5.0 SIM 04/10/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 8:47 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



171

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L135.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3193	12	S	
3	TM	Naphthalene	0.9995	1.107	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7194	13	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7324	8.6	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.555	1.8	S	
8	TM	Acenaphthylene	1.991	2.229	12	TM	
9	*TM	Acenaphthene	1.152	1.294	12	*TM	
10	TM	Fluorene	1.305	1.439	10	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.082	7.7	TM	
13	TM	Anthracene	0.9449	1.085	15	TM	
14	*TM	Fluoranthene	1.537	1.751	14	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.601	12	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7726	3.1	S	
18	TM	Benz (a) anthracene	1.215	1.313	8.1	TM	
19	TM	Chrysene	1.232	1.335	8.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.163	2.1	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.350	5.3	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.045	4.7	TM	
24	*TM	Benzo (a) pyrene	1.216	1.332	9.5	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.100	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.113	0.31	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.4		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29938	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14262	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27140	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	30771	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27319	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9560	2.19791 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.960%	
7) Surrogate Recovery (FBP)	6.92	172	22178	2.54576 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.920%	
17) Surrogate Recovery (TPH)	13.39	244	23775	2.42245 ppb	-0.02
Spiked Amount 5.000			Recovery	= 48.440%	

Target Compounds						Qvalue
3) Naphthalene	5.66	128	66298	5.53912 ppb		100
4) 2-Methylnaphthalene	6.48	142	43076	5.63086 ppb		98
5) 1-Methylnaphthalene	6.59	142	43853	5.43161 ppb		98
8) Acenaphthylene	7.53	152	63588	5.59824 ppb		100
9) Acenaphthene	7.74	154	36903	5.61580 ppb		98
10) Fluorene	8.34	166	41050	5.51214 ppb		98
12) Phenanthrene	9.58	178	58748	5.38743 ppb		99
13) Anthracene	9.67	178	58889	5.74064 ppb		99
14) Fluoranthene	12.20	202	95061	5.69714 ppb		99
16) Pyrene	12.82	202	98550	5.61298 ppb		98
18) Benz (a) anthracene	16.37	228	80815	5.40511 ppb		99
19) Chrysene	16.47	228	82138	5.41881 ppb		100
20) Indeno (1,2,3-cd) pyrene	22.49	276	71565	5.10499 ppb	#	93
22) Benzo (b) fluoranthene	19.27	252	73737	5.26686 ppb		99
23) Benzo (k) fluoranthene	19.34	252	57108	4.76252 ppb		99
24) Benzo (a) pyrene	20.05	252	72754	5.47614 ppb		99
25) Dibenz (a,h) anthracene	22.53	278	60126	5.30309 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	60821	5.01545 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

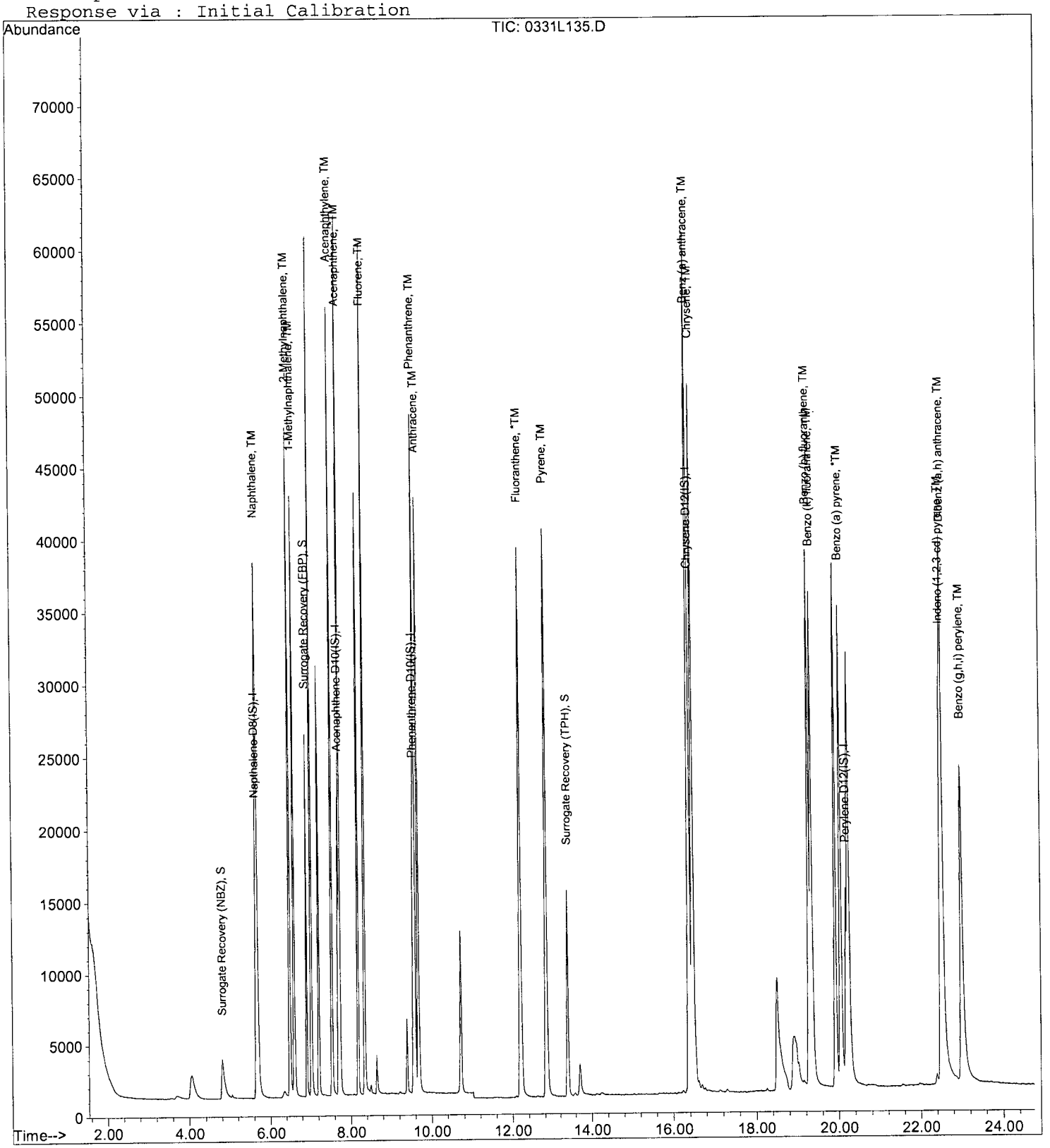
Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L146.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3162	13	S	
3	TM	Naphthalene	0.9995	1.105	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7003	9.6	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7455	11	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.561	2.2	S	
8	TM	Acenaphthylene	1.991	2.211	11	TM	
9	*TM	Acenaphthene	1.152	1.288	12	*TM	
10	TM	Fluorene	1.305	1.456	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.062	12	TM	
14	*TM	Fluoranthene	1.537	1.704	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.557	9.1	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7355	7.8	S	
18	TM	Benz (a) anthracene	1.215	1.214	0.07	TM	
19	TM	Chrysene	1.232	1.332	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.121	1.6	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.281	0.03	TM	
23	TM	Benzo (k) fluoranthene	1.097	0.9463	14	TM	
24	*TM	Benzo (a) pyrene	1.216	1.305	7.3	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.101	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.094	1.5	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L146.D Vial: 46
Acq On : 12 Apr 17 17:31 Operator: MA
Sample : 5.0 SIM 04/10/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 17:57 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30201	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14177	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27110	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	31144	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27017	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9550	2.17649 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.520%	
7) Surrogate Recovery (FBP)	6.92	172	22135	2.55606 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.120%	
17) Surrogate Recovery (TPH)	13.40	244	22905	2.30585 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.120%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	66761	5.52923 ppb	100
4) 2-Methylnaphthalene	6.49	142	42301	5.48140 ppb	99
5) 1-Methylnaphthalene	6.60	142	45029	5.52870 ppb	99
8) Acenaphthylene	7.54	152	62701	5.55325 ppb	99
9) Acenaphthene	7.74	154	36512	5.58961 ppb	99
10) Fluorene	8.35	166	41280	5.57626 ppb	99
12) Phenanthrene	9.60	178	59486	5.46114 ppb	100
13) Anthracene	9.68	178	57587	5.61993 ppb	100
14) Fluoranthene	12.21	202	92402	5.54391 ppb	98
16) Pyrene	12.83	202	96955	5.45600 ppb	98
18) Benz (a) anthracene	16.38	228	75608	4.99629 ppb	99
19) Chrysene	16.47	228	82950	5.40683 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.49	276	69839	4.92220 ppb #	92
22) Benzo (b) fluoranthene	19.27	252	69206	4.99848 ppb	99
23) Benzo (k) fluoranthene	19.34	252	51133	4.31190 ppb	98
24) Benzo (a) pyrene	20.05	252	70494	5.36534 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	59482	5.30493 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	59089	4.92709 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

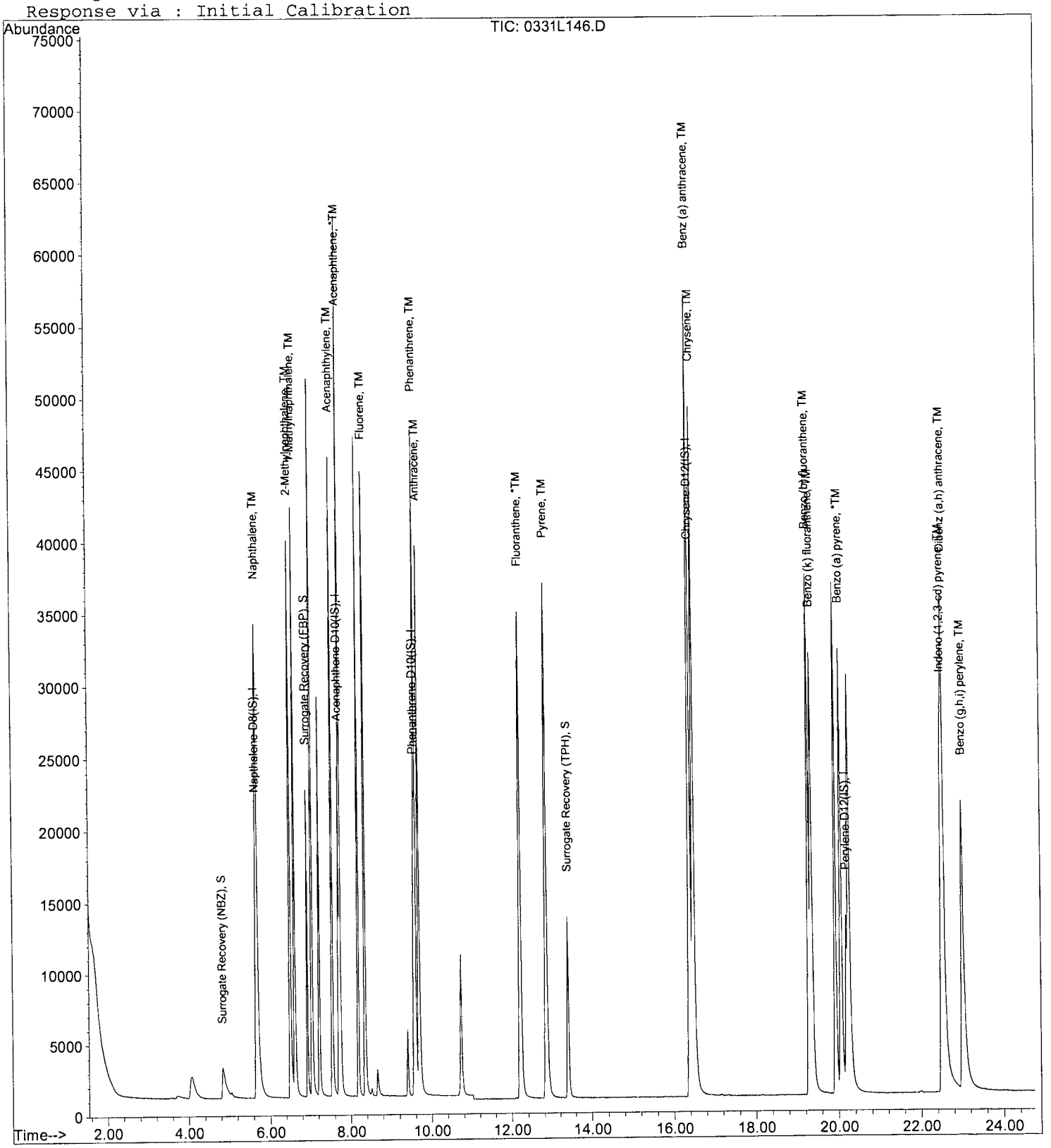
Data File : M:\LINUS\DATA\L170331\0331L146.D
Acq On : 12 Apr 17 17:31
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 46
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 17:57 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53172 - 217783**
Batch ID: #SIMDO-170410A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 5:20:04 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L104.D
Acq On : 11 Apr 17 17:44
Sample : 170410A BLK 1/1000
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16047	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31219	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	36292	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	32676	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16909	3.56230 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.240%	
7) Surrogate Recovery (FBP)	6.92	172	27444	2.79981 ppb	0.00
Spiked Amount 5.000			Recovery	= 56.000%	
17) Surrogate Recovery (TPH)	13.40	244	47727	4.12314 ppb	-0.01
Spiked Amount 5.000			Recovery	= 82.460%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

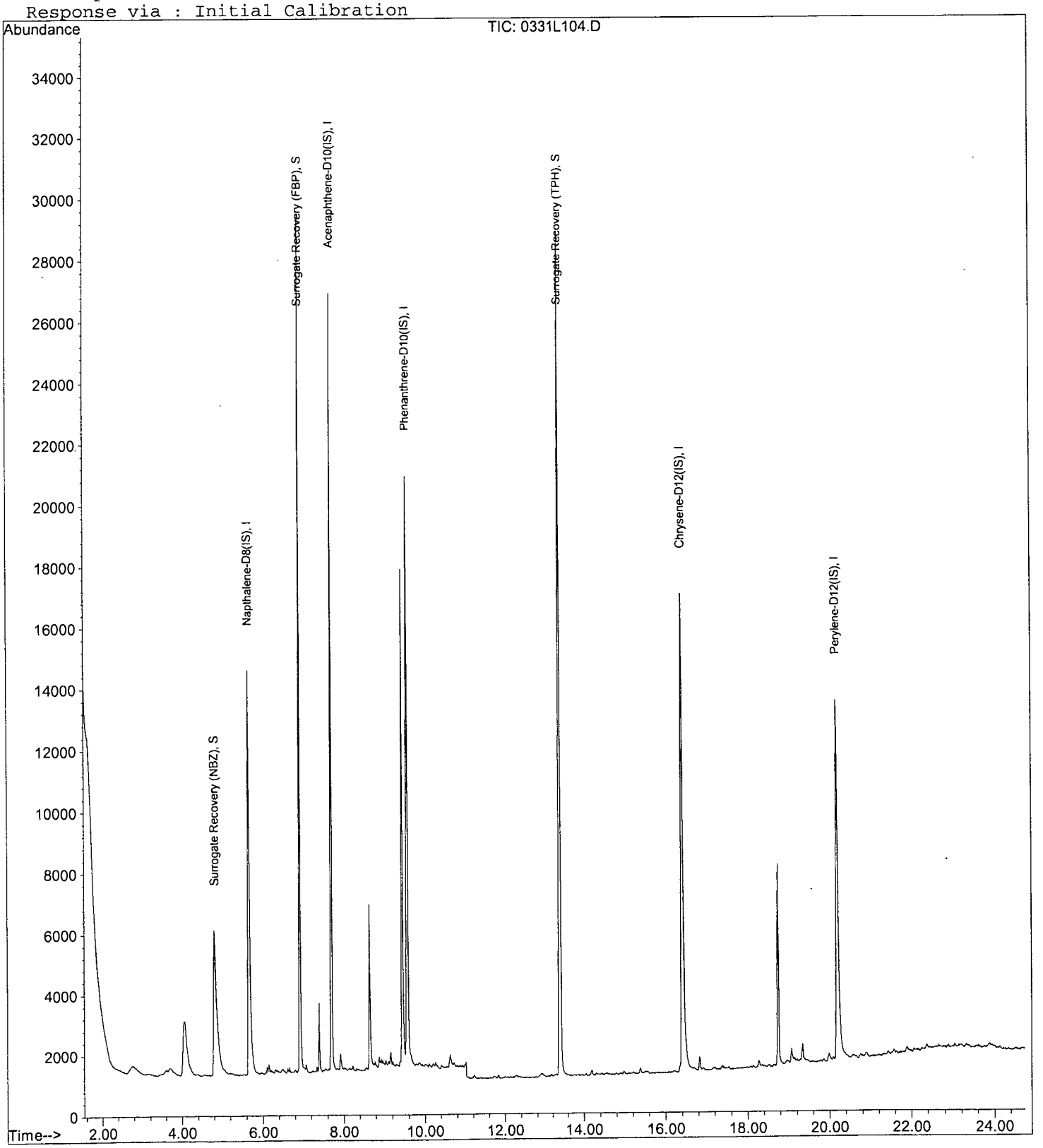
Data File : M:\LINUS\DATA\L170331\0331L104.D
Acq On : 11 Apr 17 17:44
Sample : 170410A BLK 1/1000
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53172 LCS - 217783**
Batch ID: #SIMDO-170410A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
NAPHTHALENE	5.00	3.15	63.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	MA

Printed: 04/12/17 5:20:05 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L136.D Vial: 36
Acq On : 12 Apr 17 12:21 Operator: MA
Sample : 170410A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 12:47 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	37131	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	18196	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	35898	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	41437	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	36371	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	19156	3.55094 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.020%	
7) Surrogate Recovery (FBP)	6.92	172	29714	2.67338 ppb	0.00
Spiked Amount 5.000			Recovery	= 53.460%	
17) Surrogate Recovery (TPH)	13.39	244	55938	4.23247 ppb	-0.02
Spiked Amount 5.000			Recovery	= 84.640%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	46730	3.14791 ppb		99
4) 2-Methylnaphthalene	6.48	142	29191	3.07663 ppb		97
5) 1-Methylnaphthalene	6.60	142	31602	3.15595 ppb		100
8) Acenaphthylene	7.53	152	55118	3.80342 ppb		99
9) Acenaphthene	7.74	154	31113	3.71105 ppb		97
10) Fluorene	8.34	166	39805	4.18937 ppb		97
12) Phenanthrene	9.58	178	63726	4.41819 ppb		99
13) Anthracene	9.68	178	61577	4.53820 ppb		100
14) Fluoranthene	12.20	202	108000	4.89348 ppb		98
16) Pyrene	12.82	202	112206	4.74577 ppb		98
18) Benz (a) anthracene	16.37	228	91432	4.54113 ppb		99
19) Chrysene	16.47	228	98041	4.80309 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	83464	4.42126 ppb	#	92
22) Benzo (b) fluoranthene	19.27	252	88677	4.75759 ppb		100
23) Benzo (k) fluoranthene	19.34	252	66498	4.16541 ppb		99
24) Benzo (a) pyrene	20.05	252	82599	4.66984 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	71516	4.73783 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	71584	4.43386 ppb		96

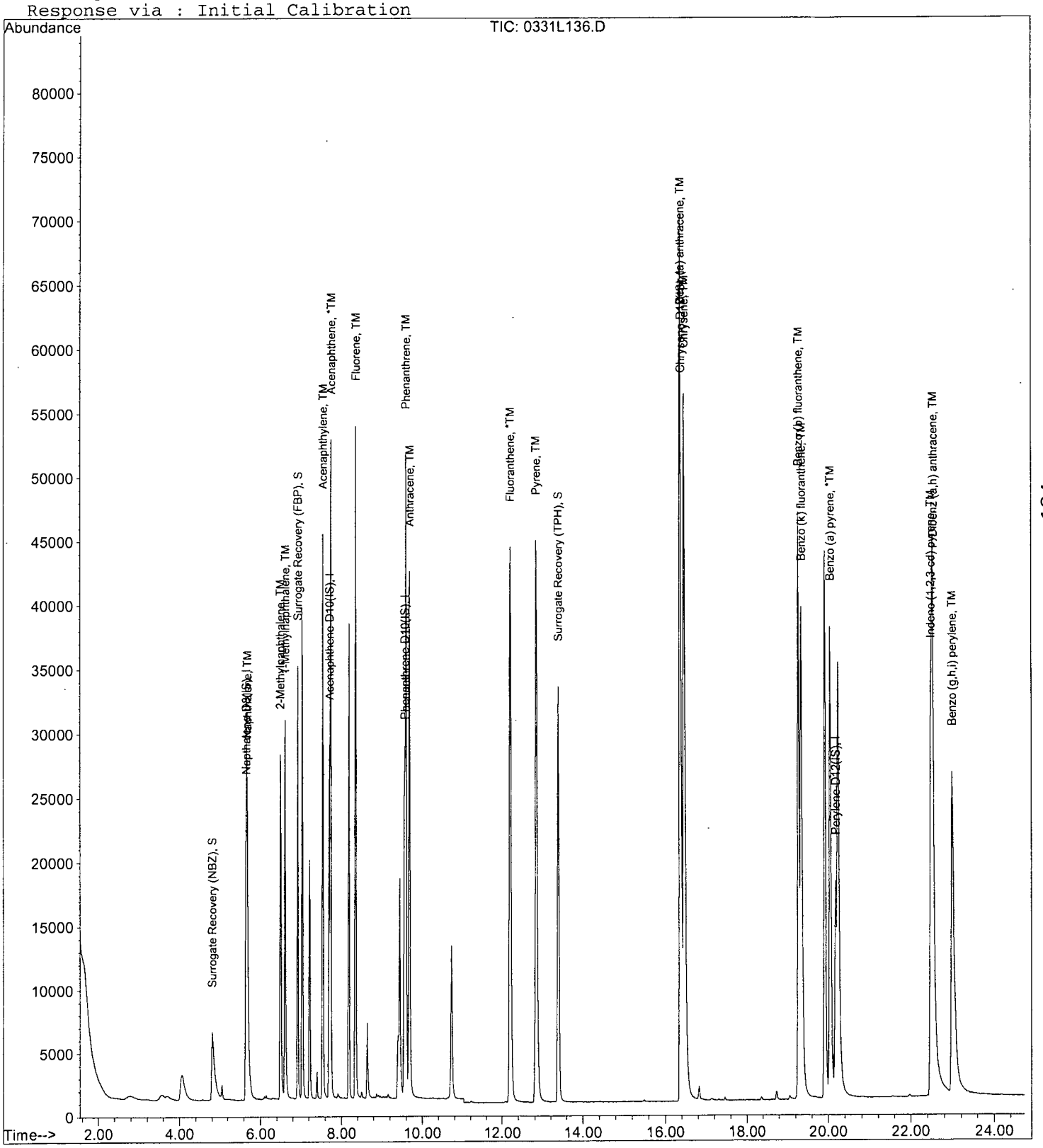
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L136.D Vial: 36
Acq On : 12 Apr 17 12:21 Operator: MA
Sample : 170410A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 12:47 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration

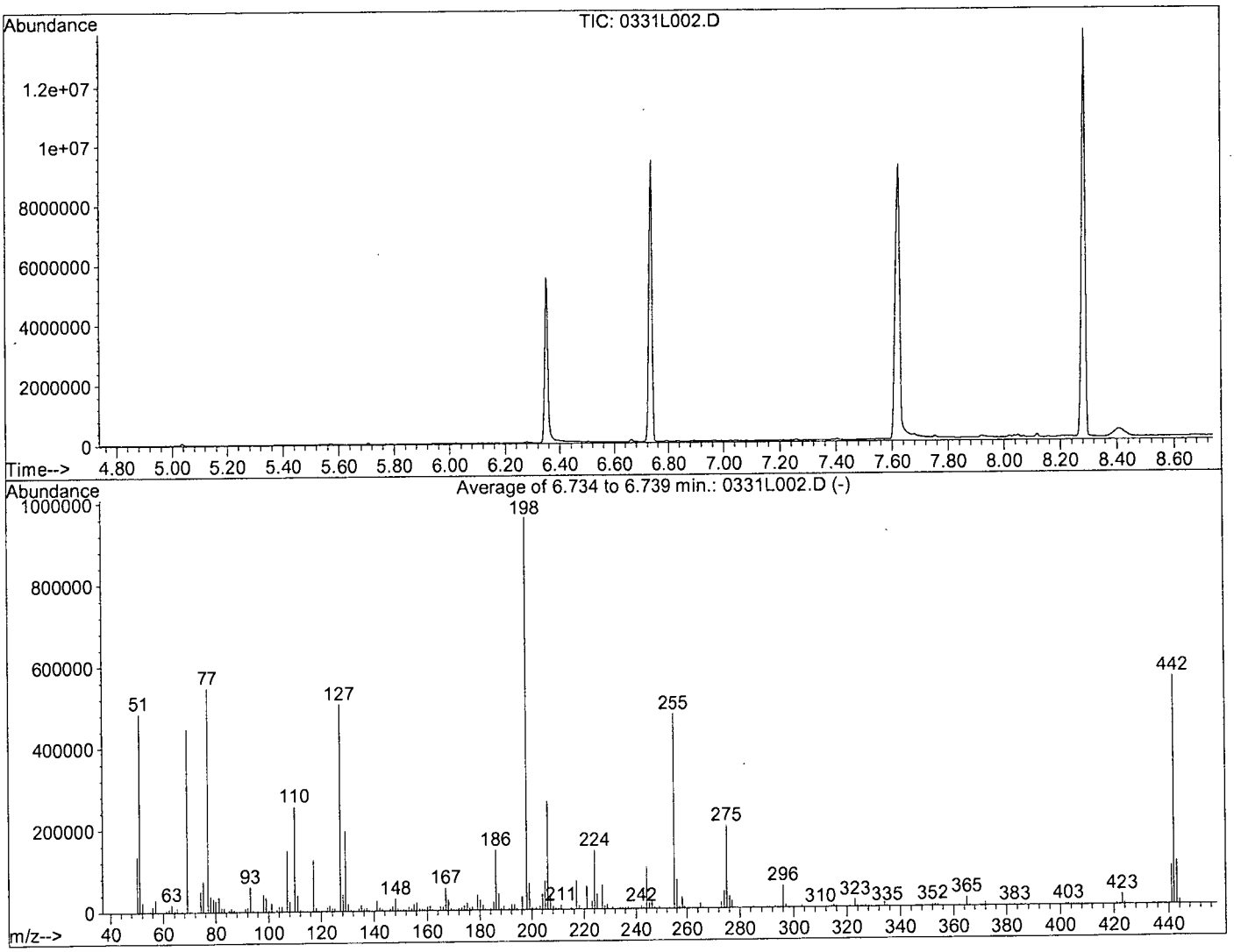


DFTPP

Data File : M:\LINUS\DATA\L170331\0331L002.D
Acq On : 31 Mar 17 12:25
Sample : SV Tune 03/29/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.734 to 6.739 min.

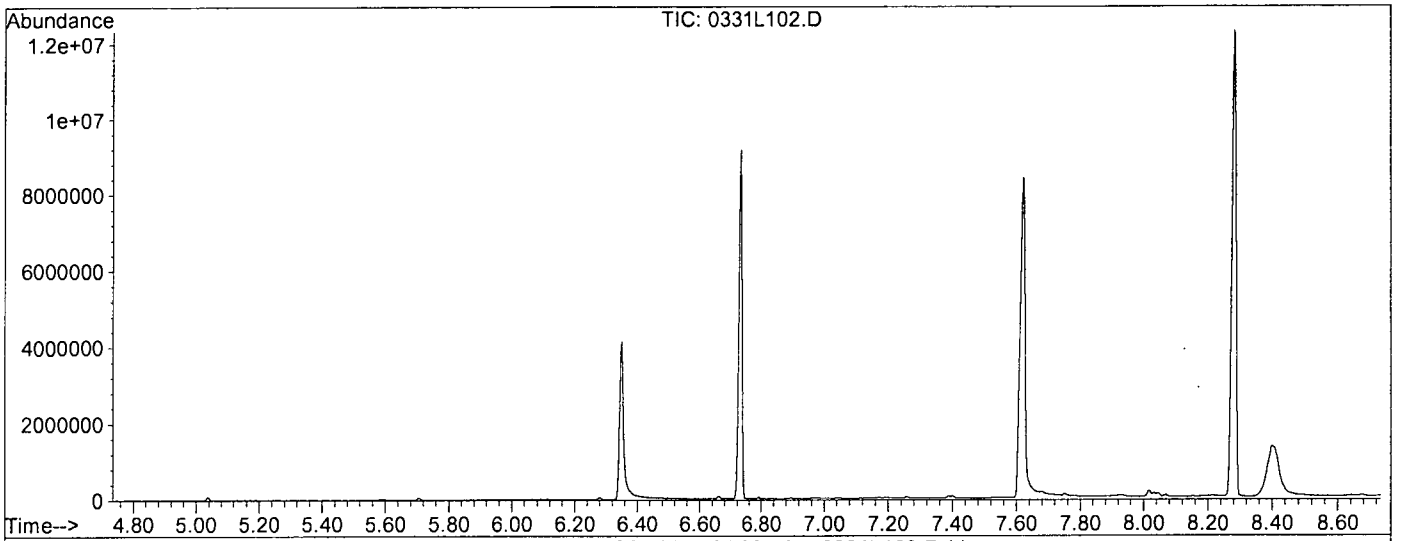
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	50.5	485624	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	448712	PASS
70	69	0.00	2	0.7	2962	PASS
127	198	40	60	52.7	507072	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	961984	PASS
199	198	5	9	6.7	64531	PASS
275	198	10	30	20.9	200832	PASS
365	198	1	100	2.3	21965	PASS
441	443	0.01	100	88.1	94480	PASS
442	198	40	150	58.2	559851	PASS
443	442	17	23	19.2	107229	PASS

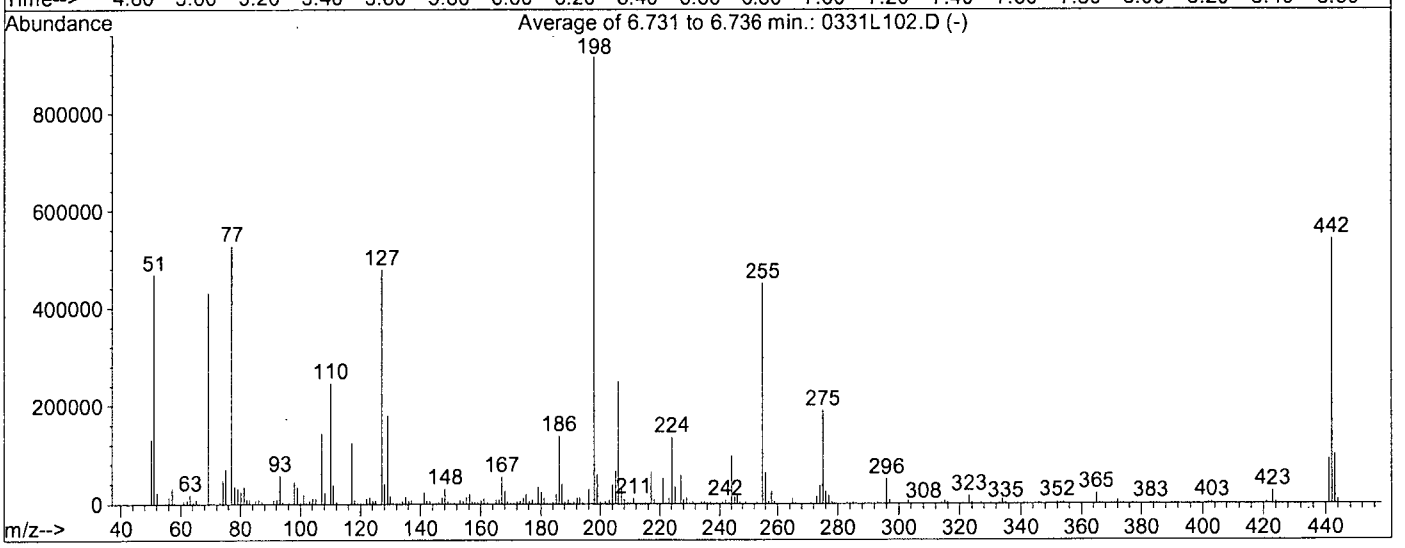
0331L002.D DFTPP2.M Wed Apr 05 13:29:00 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L102.D Vial: 2
Acq On : 11 Apr 17 16:52 Operator: MA
Sample : SV Tune 3/29/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :





Spectrum Information: Average of 6.731 to 6.736 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.1	468568	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	431709	PASS
70	69	0.00	2	0.4	1742	PASS
127	198	40	60	52.3	479445	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	916620	PASS
199	198	5	9	6.4	58976	PASS
275	198	10	30	20.6	189248	PASS
365	198	1	100	2.3	20723	PASS
441	443	0.01	100	90.6	90496	PASS
442	198	40	150	59.1	541483	PASS
443	442	17	23	18.4	99845	PASS

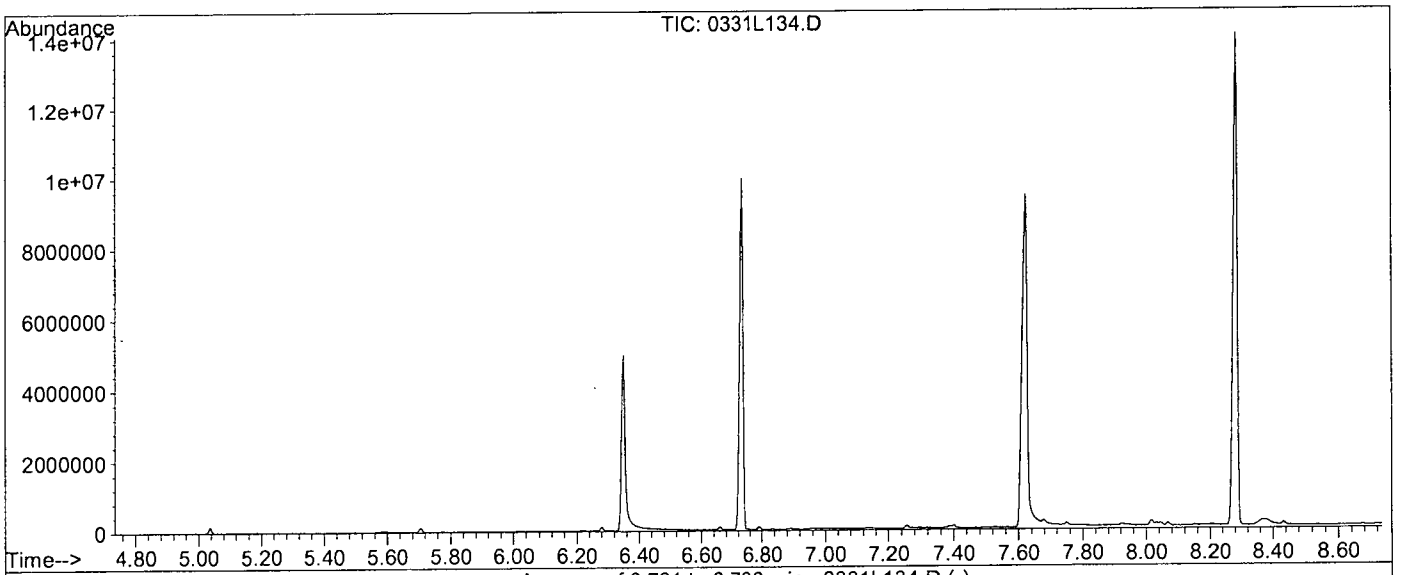
0331L102.D DFTPP2.M Fri Apr 14 14:09:20 2017

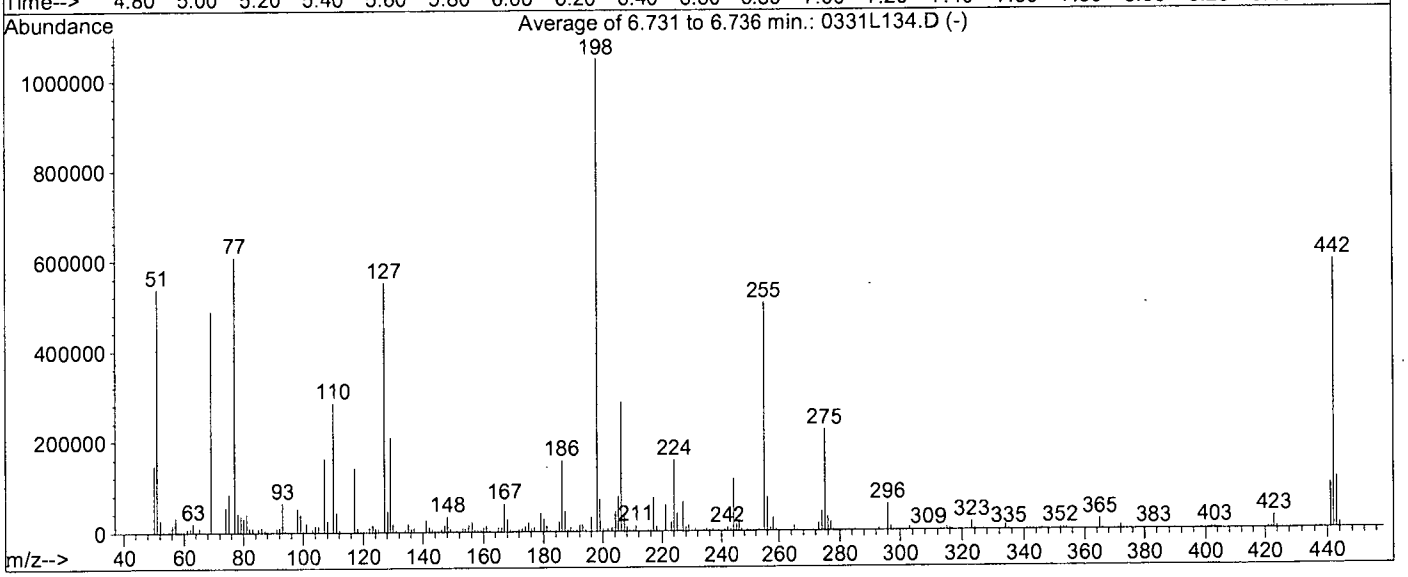
DFTPP

Data File : M:\LINUS\DATA\L170331\0331L134.D
Acq On : 12 Apr 17 9:31
Sample : SV Tune 3/29/17
Misc : water

Vial: 30
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270





AutoFind: Scans 1665, 1666, 1667; Background Corrected with Scan 1654

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.4	537909	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	2832	PASS
127	198	40	60	52.6	551488	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1047509	PASS
199	198	5	9	6.7	70512	PASS
275	198	10	30	21.2	222571	PASS
365	198	1	100	2.2	22539	PASS
441	443	0.01	100	88.3	99301	PASS
442	198	50	150	56.6	593365	PASS
443	442	17	23	19.0	112445	PASS

0331L134.D L0331P.M Wed Apr 12 11:51:16 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/31/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**09/15/17**					0.1	0.2	0.5	1	5	10	50	100
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	291544-37181	03/31/17	03/31/18	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/31/17	09/15/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/31/17	09/15/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		3/15/17	09/15/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS						
PREP DATE:	03/31/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

PAH SIM STD prep: 03/31/17 -R.H.						
Exp:	03/31/18					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	291544-37181	03/31/17	03/31/18	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37665
OP: 04/10/17 RH	
EX: 04/10/18	

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp ~~9-15-17~~ 2/8/18
Spiked ID 2			Surrogate ID 2	RH 4/13/17
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 18:20
Spiked ID 8			Ext. End Time:	04/11/17 15:30
			GC Requires Extract By:	**04/12/17** 0:00

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				0.050	1 equip	1000 e-wb7	1	2/1	04/10/17 18:20	
2	170410A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	
3	AZ52849	AZ52849W02			0.050	1 equip	1060 E-WB5	1	2/1	04/10/17 18:20	82558 rx
4	AZ53168 MS-1	AZ53168W34	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
5	AZ53168 MSD-1	AZ53168W33	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
6	AZ53168	AZ53168W36			0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
7	AZ53169	AZ53169W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
8	AZ53170	AZ53170W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
9	AZ53172	AZ53172W09			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82596
10	AZ53174	AZ53174W13			0.050	1 equip	1040 E-WB7	1	2/1	04/10/17 18:20	82596
11	AZ53176	AZ53176W14			0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	82596
12	AZ53178	AZ53178W12			0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82596
13	AZ53180	AZ53180W12			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82596
14	AZ53192 MS-1	AZ53192W19	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
15	AZ53192 MSD-1	AZ53192W22	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
16	AZ53192	AZ53192W18			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82598

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/11/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: KY **Date** 4/12/17

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 18:20
Spiked ID 8			Ext. End Time:	04/11/17 15:30
			GC Requires Extract By:	04/12/17 0:00

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53193	AZ53193W08			0.050	1	1050	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
18	AZ53194	AZ53194W06			0.050	1	1040	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
19	AZ53195	AZ53195W06			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
20	AZ53196	AZ53196W11			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
21	AZ53260	AZ53260W15			0.050	1	1060	1	2/1	04/10/17 18:20	82611
						equip	E-WB6				
22	AZ53261	AZ53261W11			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
23	AZ53263	AZ53263W13			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
24	AZ53264	AZ53264W09			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
25	AZ53266	AZ53266W13			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				

Ky 4/12/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
3. Na2SO4	16C255214
FILTER PAPER	400120

04/12/17 11:08:18 AM

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: Ky **Date** 4/12/17

Ext_ID 54591

Injection Log

Directory: M:\LINUS\DATA\L170331\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0331L002.D	1	SV Tune 03/29/17	water	31 Mar 17 12:25
3	0331L003.D	1	0.1 SIM 03/31/17	water	31 Mar 17 13:02
4	0331L004.D	1	0.2 SIM 03/31/17	water	31 Mar 17 13:34
5	0331L005.D	1	0.5 SIM 03/31/17	water	31 Mar 17 14:07
6	0331L006.D	1	1.0 SIM 03/31/17	water	31 Mar 17 14:40
7	0331L007.D	1	5.0 SIM 03/31/17	water	31 Mar 17 15:12
8	0331L008.D	1	10 SIM 03/31/17	water	31 Mar 17 15:45
9	0331L009.D	1	50 SIM 03/31/17	water	31 Mar 17 16:17
10	0331L010.D	1	100 SIM 03/31/17	water	31 Mar 17 16:50
11	0331L011.D	1	SS SIM 03/31/17	water	31 Mar 17 17:23
2	0331L102.D	1	SV Tune 3/29/17	water	11 Apr 17 16:52
3	0331L103.D	1	5.0 SIM 04/10/17	water	11 Apr 17 17:08
4	0331L104.D	1	170410A BLK 1/1000	water	11 Apr 17 17:44
24	0331L124.D	1	5.0 SIM 04/10/17	water	12 Apr 17 4:00
30	0331L134.D	1	SV Tune 3/29/17	water	12 Apr 17 9:31
35	0331L135.D	1	5.0 SIM 04/10/17	water	12 Apr 17 11:49
36	0331L136.D	1	170410A LCS-1 1/1000	water	12 Apr 17 12:21
40	0331L140.D	0.934579	AZ53172W09 1/1070	water	12 Apr 17 14:32
41	0331L141.D	0.961538	AZ53174W13 1/1040	water	12 Apr 17 15:05
42	0331L142.D	1	AZ53176W14 1/1000	water	12 Apr 17 15:38
43	0331L143.D	0.952381	AZ53178W12 1/1050	water	12 Apr 17 16:10
44	0331L144.D	0.943396	AZ53180W12 1/1060	water	12 Apr 17 16:43
46	0331L146.D	1	5.0 SIM 04/10/17	water	12 Apr 17 17:31

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method:Y0404.M
Run #:0404Y039
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:17:27 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER

SDG No: 82596
Date Analyzed: 04/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	43-140	73.3		44-119	66.9	
170407A-LCS	Lab Control Spike	43-140	67.0		44-119	62.3	
AZ53172	ERH300	43-140	77.7		44-119	69.7	
AZ53174	ERH310	43-140	68.5		44-119	59.6	
AZ53176	ERH313	43-140	70.8		44-119	65.8	
AZ53178	ERH319	43-140	72.6		44-119	65.0	
AZ53180	ERH305	43-140	68.2		44-119	60.1	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 10:17:28 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER

SDG No: 82596
Date Analyzed: 04/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	19-119	53.1		44-120	71.4	
170407A-LCS	Lab Control Spike	19-119	51.0		44-120	70.2	
AZ53172	ERH300	19-119	49.3		44-120	70.5	
AZ53174	ERH310	19-119	49.6		44-120	64.9	
AZ53176	ERH313	19-119	46.3		44-120	72.7	
AZ53178	ERH319	19-119	47.3		44-120	67.7	
AZ53180	ERH305	19-119	43.9		44-120	60.6	

Comments: Batch: #87DC5-170407A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	10-115	34.4		50-134	78.6	
170407A-LCS	Lab Control Spike	10-115	34.9		50-134	79.1	
AZ53172	ERH300	10-115	38.3		50-134	80.2	
AZ53174	ERH310	10-115	31.2		50-134	68.6	
AZ53176	ERH313	10-115	29.1		50-134	70.7	
AZ53178	ERH319	10-115	32.8		50-134	78.1	
AZ53180	ERH305	10-115	31.2		50-134	75.6	

Comments: Batch: #87DC5-170407A

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:17:30 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82596
Case No: 82596
Date Analyzed: 04/10/17
Matrix: WATER
Instrument: Yoda
Blank ID: 170407A-BLK
Time Analyzed: 1204

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	0404Y039	04/10/17 1204
170407A-LCS	Lab Control Spike	0404Y040	04/10/17 1234
AZ53172	ERH300	0404Y054	04/10/17 1941
AZ53174	ERH310	0404Y055	04/10/17 2011
AZ53176	ERH313	0404Y056	04/10/17 2041
AZ53178	ERH319	0404Y057	04/10/17 2111
AZ53180	ERH305	0404Y058	04/10/17 2141

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 10:17:52 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/05/17
Instrument: Yoda
Time Analyzed: 8:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SS 4-chloroaniline 5	0404Y015.D	04/05/17 10:19
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	24.9
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	85.3
442	50 - 150% of mass 197.95	97.4
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82596
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 10:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y038.D	04/10/17 11:15
2	Blank	170407A BLK 1/1000	0404Y039.D	04/10/17 12:04
3	Lab Control Spike	170407A LCS-1 1/1000	0404Y040.D	04/10/17 12:34
4	ERH300	AZ53172W14 1/980	0404Y054.D	04/10/17 19:41
5	ERH310	AZ53174W11 1/1010	0404Y055.D	04/10/17 20:11
6	ERH313	AZ53176W11 1/1040	0404Y056.D	04/10/17 20:41
7	ERH319	AZ53178W09 1/1040	0404Y057.D	04/10/17 21:11
8	ERH305	AZ53180W09 1/1030	0404Y058.D	04/10/17 21:41
9		50ug/ml SVOC 03/30/1	0404Y060.D	04/10/17 22:25
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.1
441	0.01 - 100% of mass 443	92.8
442	50 - 150% of mass 197.95	98.6
443	17 - 23% of mass 442	19.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	135139	4.73	551655	6.17	344147	8.19
02	170407A BLK 1/1000	108124	4.73	474326	6.16	271985	8.18
03	170407A LCS-1 1/1000	123700	4.73	522144	6.17	311641	8.18
04	AZ53172W14 1/980	100593	4.73	453966	6.17	269010	8.18
05	AZ53174W11 1/1010	114438	4.73	482248	6.17	282157	8.18
06	AZ53176W11 1/1040	109421	4.73	477940	6.17	270455	8.18
07	AZ53178W09 1/1040	109184	4.74	460790	6.17	269968	8.19
08	AZ53180W09 1/1030	122953	4.74	523655	6.17	285215	8.18
09	50ug/ml SVOC 03/30/17	103117	4.73	454712	6.17	247658	8.19
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	520011	9.90	487207	12.99	454025	14.60
	UPPER LIMIT	1040022	10.40	974414	13.49	908050	15.10
	LOWER LIMIT	260006	9.40	243604	12.49	227013	14.10
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	623714	9.90	612103	12.99	581377	14.60
02	170407A BLK 1/1000	525349	9.90	515905	12.99	445378	14.60
03	170407A LCS-1 1/1000	533639	9.90	489414	12.98	425790	14.60
04	AZ53172W14 1/980	521174	9.90	475751	12.99	448722	14.60
05	AZ53174W11 1/1010	508891	9.91	512075	12.99	483008	14.60
06	AZ53176W11 1/1040	496586	9.90	504299	12.99	477885	14.60
07	AZ53178W09 1/1040	478325	9.90	494034	12.98	480210	14.60
08	AZ53180W09 1/1030	543077	9.90	495278	12.98	478176	14.60
09	50ug/ml SVOC 03/30/17	511779	9.91	468078	12.99	454493	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	77.7	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	69.7	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	49.3	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	70.5	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	38.3	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	80.2	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y054
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:17:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y054.D Vial: 54
Acq On : 10 Apr 17 19:41 Operator: MA
Sample : AZ53172W14 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Apr 11 9:45 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	100593	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	453966	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	269010	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	521174	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	475751	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	448722	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	318840	100.56714 ppb	0.00
Spiked Amount 204.082			Recovery	= 49.278%	
5) Phenol-D6 (S)	4.37	99	310218	78.16753 ppb	0.00
Spiked Amount 204.082			Recovery	= 38.302%	
21) Nitrobenzene-D5(S)	5.37	82	331444	71.96168 ppb	0.00
Spiked Amount 102.041			Recovery	= 70.523%	
45) 2-Fluorobiphenyl(S)	7.42	172	587908	71.12472 ppb	0.00
Spiked Amount 102.041			Recovery	= 69.703%	
63) 2,4,6-Tribromophenol(S)	9.12	330	187407	158.61167 ppb	0.00
Spiked Amount 204.082			Recovery	= 77.720%	
81) Terphenyl-D14(S)	11.77	244	807042	81.88208 ppb	0.00
Spiked Amount 102.041			Recovery	= 80.244%	
Target Compounds					Qvalue
31) Naphthalene	6.19	128	578919	50.09737 ppb	98
38) 2-Methylnaphthalene	6.99	142	114817	14.32328 ppb	97
39) 1-Methylnaphthalene	7.10	142	155895	20.15385 ppb	99

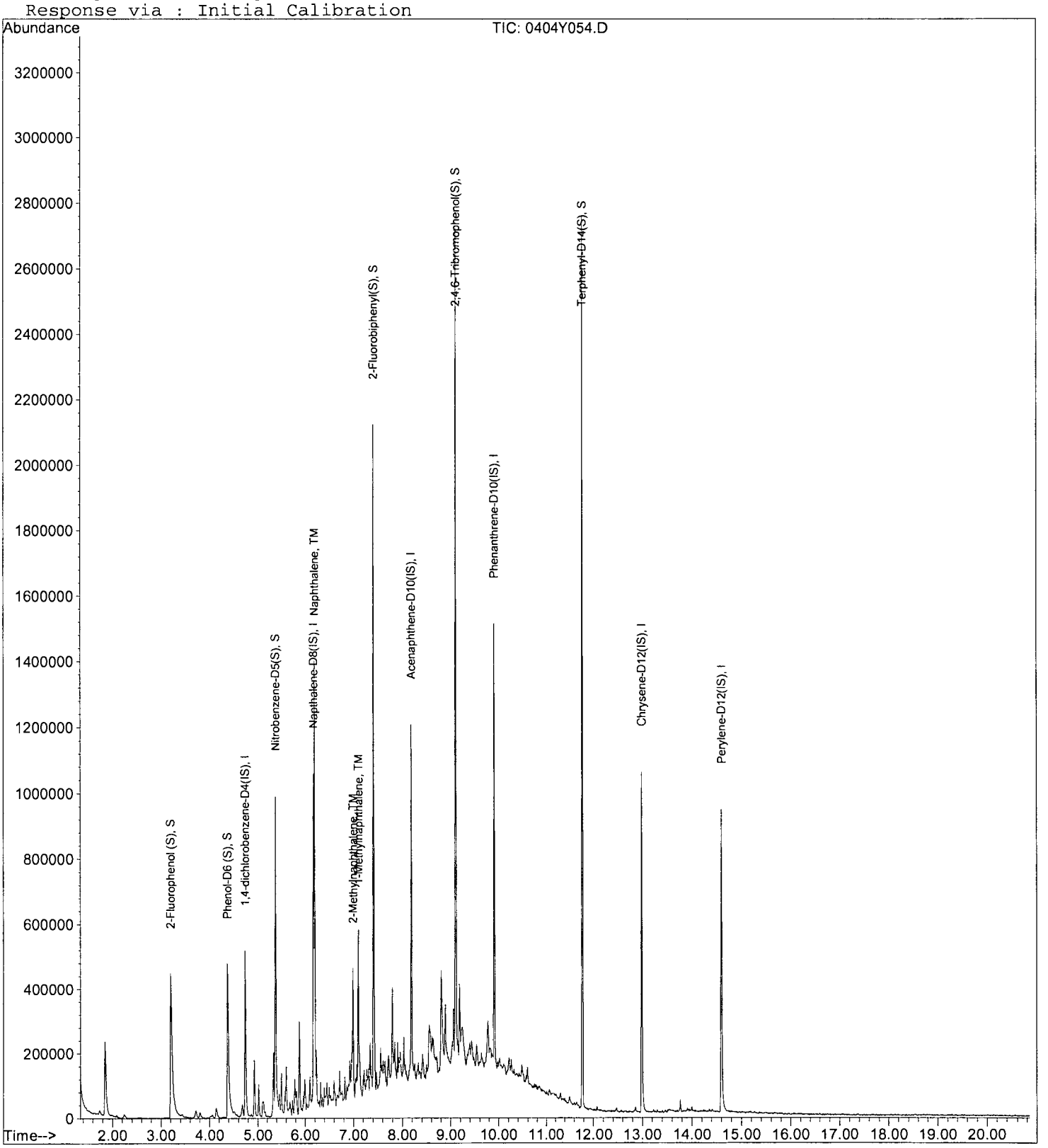
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y054.D Vial: 54
Acq On : 10 Apr 17 19:41 Operator: MA
Sample : AZ53172W14 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Apr 11 9:45 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	68.5	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	59.6	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	49.6	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	64.9	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	31.2	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y055
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:17:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y055.D Vial: 55
Acq On : 10 Apr 17 20:11 Operator: MA
Sample : AZ53174W11 1/1010 Inst : Yoda
Misc : water Multiplr: 0.99

Quant Time: Apr 11 9:46 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	114438	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	482248	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	282157	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	508891	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	512075	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	483008	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	365442	98.31134 ppb	0.00
Spiked Amount 198.020			Recovery	= 49.647%	
5) Phenol-D6 (S)	4.37	99	287454	61.77740 ppb	0.00
Spiked Amount 198.020			Recovery	= 31.197%	
21) Nitrobenzene-D5(S)	5.38	82	323890	64.23118 ppb	0.00
Spiked Amount 99.010			Recovery	= 64.873%	
45) 2-Fluorobiphenyl(S)	7.42	172	526899	58.96856 ppb	0.00
Spiked Amount 99.010			Recovery	= 59.559%	
63) 2,4,6-Tribromophenol(S)	9.11	330	173317	135.69769 ppb	0.00
Spiked Amount 198.020			Recovery	= 68.527%	
81) Terphenyl-D14(S)	11.77	244	742728	67.93178 ppb	0.00
Spiked Amount 99.010			Recovery	= 68.611%	

Target Compounds Qvalue

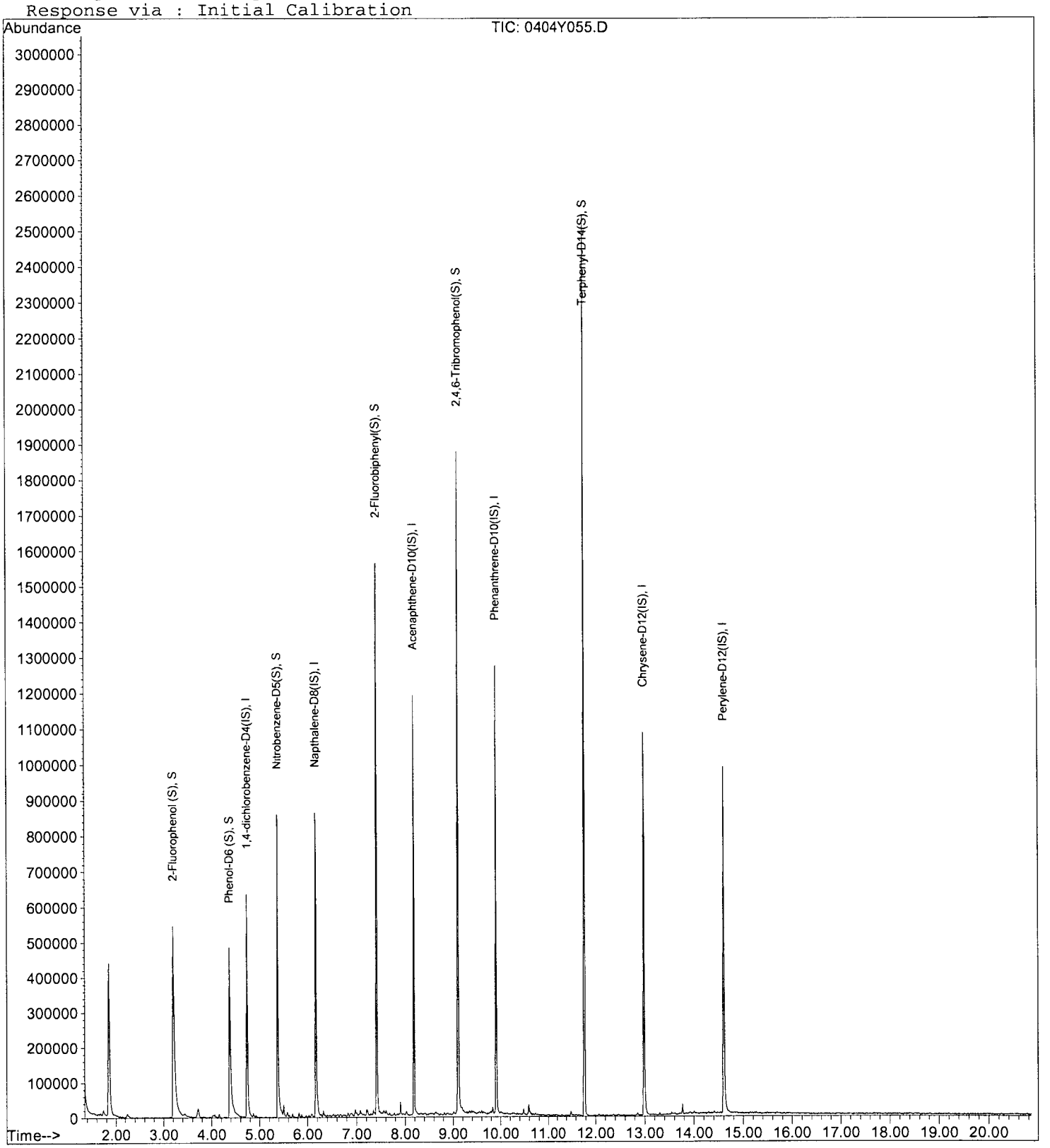
(#) = qualifier out of range (m) = manual integration
0404Y055.D Y0404.M Tue Apr 11 12:17:58 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y055.D Vial: 55
Acq On : 10 Apr 17 20:11 Operator: MA
Sample : AZ53174W11 1/1010 Inst : Yoda
Misc : water Multiplr: 0.99

Quant Time: Apr 11 9:46 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	70.8	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	65.8	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	46.3	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	72.7	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	29.1	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.7	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y056
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:17:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y056.D Vial: 56
Acq On : 10 Apr 17 20:41 Operator: MA
Sample : AZ53176W11 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 11 9:46 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	109421	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	477940	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	270455	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	496586	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	504299	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	477885	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	325692	88.99182 ppb	0.00
Spiked Amount 192.308			Recovery = 46.276%		
5) Phenol-D6 (S)	4.37	99	256300	55.94583 ppb	0.00
Spiked Amount 192.308			Recovery = 29.092%		
21) Nitrobenzene-D5(S)	5.37	82	359761	69.91137 ppb	0.00
Spiked Amount 96.154			Recovery = 72.707%		
45) 2-Fluorobiphenyl(S)	7.42	172	558154	63.28945 ppb	0.00
Spiked Amount 96.154			Recovery = 65.821%		
63) 2,4,6-Tribromophenol(S)	9.11	330	171571	136.10036 ppb	0.00
Spiked Amount 192.308			Recovery = 70.772%		
81) Terphenyl-D14(S)	11.77	244	753606	67.97063 ppb	0.00
Spiked Amount 96.154			Recovery = 70.690%		
Target Compounds					Qvalue
6) Phenol	4.40	94	4688	0.88127 ppb	# 1

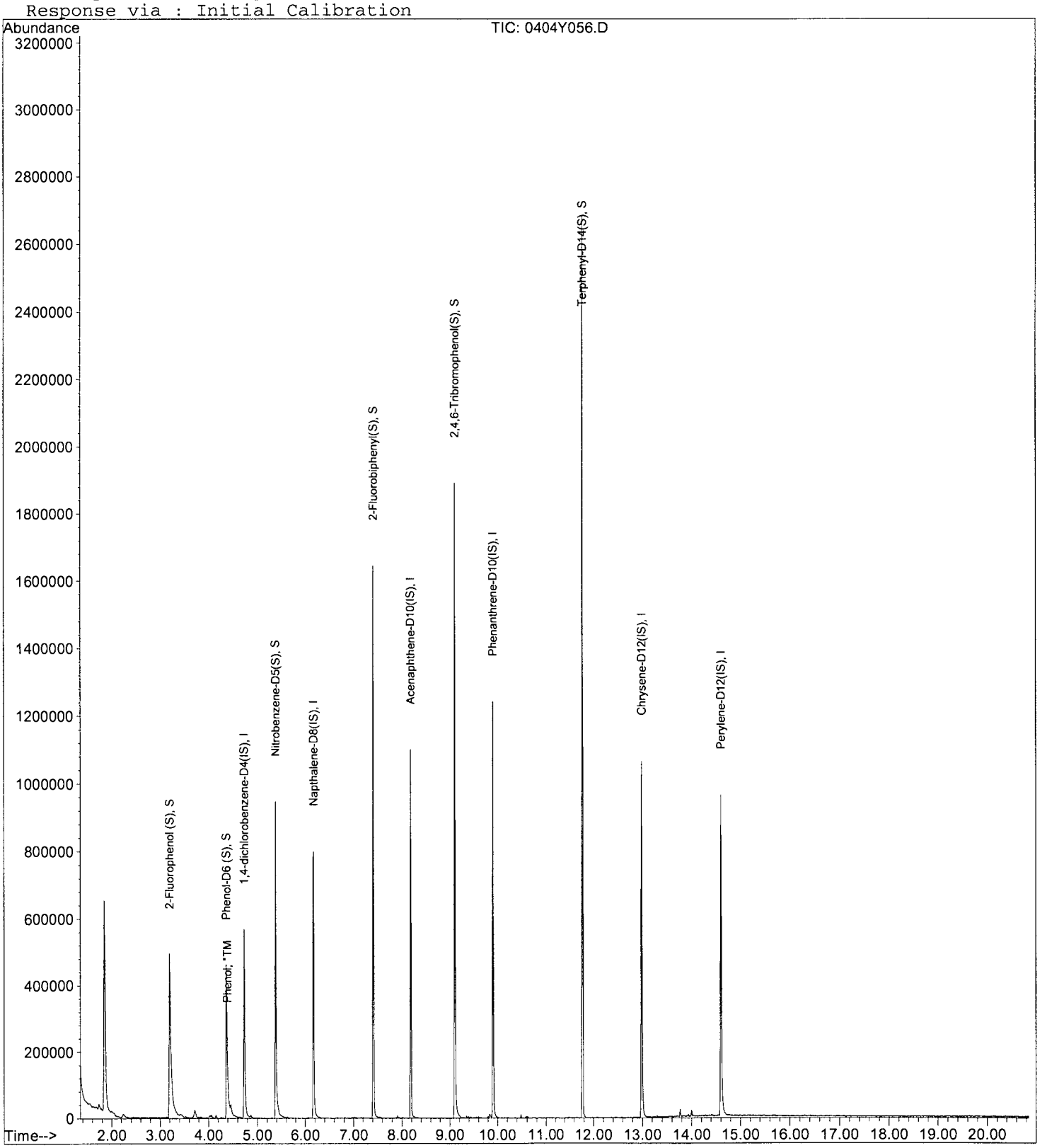
(#) = qualifier out of range (m) = manual integration
0404Y056.D Y0404.M Tue Apr 11 12:18:02 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y056.D Vial: 56
Acq On : 10 Apr 17 20:41 Operator: MA
Sample : AZ53176W11 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 11 9:46 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	72.6	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	65.0	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	47.3	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	67.7	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	32.8	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	78.1	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y057
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:17:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y057.D Vial: 57
Acq On : 10 Apr 17 21:11 Operator: MA
Sample : AZ53178W09 1/1040 Inst : Yoda
Misc : water Multiplr: 0.96

Quant Time: Apr 11 9:48 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	109184	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	460790	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	269968	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	478325	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	494034	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	480210	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	331879	90.87919 ppb	0.00
Spiked Amount 192.308			Recovery	= 47.257%	
5) Phenol-D6 (S)	4.38	99	287963	62.99376 ppb	0.00
Spiked Amount 192.308			Recovery	= 32.757%	
21) Nitrobenzene-D5(S)	5.37	82	322736	65.05062 ppb	0.00
Spiked Amount 96.154			Recovery	= 67.653%	
45) 2-Fluorobiphenyl(S)	7.41	172	550222	62.50258 ppb	0.00
Spiked Amount 96.154			Recovery	= 65.003%	
63) 2,4,6-Tribromophenol(S)	9.10	330	175646	139.58424 ppb	-0.01
Spiked Amount 192.308			Recovery	= 72.584%	
81) Terphenyl-D14(S)	11.77	244	816060	75.13293 ppb	0.00
Spiked Amount 96.154			Recovery	= 78.138%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

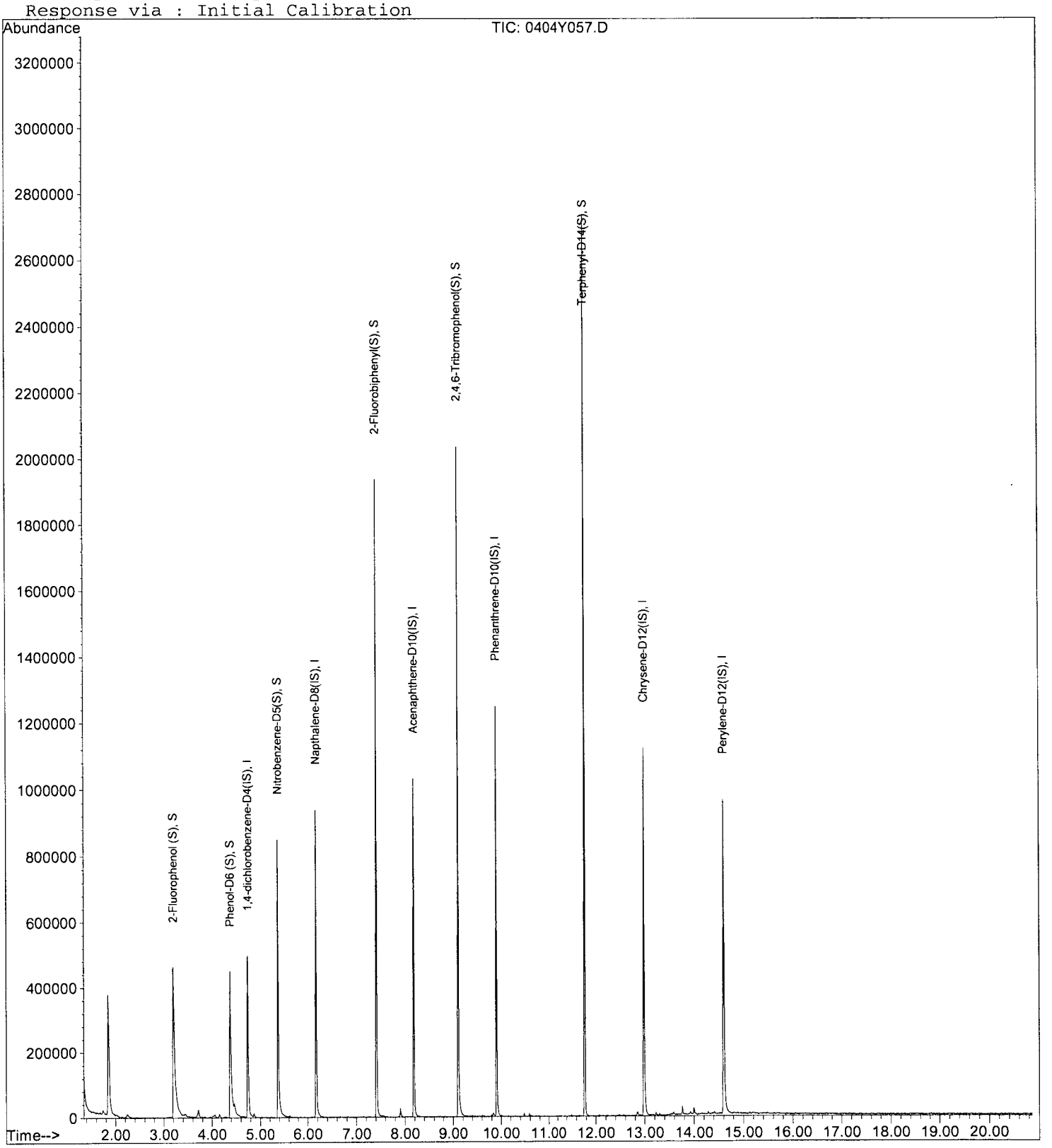
Data File : M:\YODA\DATA\Y170404\0404Y057.D
Acq On : 10 Apr 17 21:11
Sample : AZ53178W09 1/1040
Misc : water

Vial: 57
Operator: MA
Inst : Yoda
Multiplr: 0.96

Quant Time: Apr 11 9:48 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	68.2	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	60.1	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	43.9	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	60.6	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	31.2	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	75.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y058
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:17:53 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y058.D Vial: 58
Acq On : 10 Apr 17 21:41 Operator: MA
Sample : AZ53180W09 1/1030 Inst : Yoda
Misc : water Multiplr: 0.97

Quant Time: Apr 11 9:48 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	122953	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	523655	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	285215	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	543077	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	495278	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	478176	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	347259	85.26127 ppb	0.00
Spiked Amount 194.175			Recovery	= 43.909%	
5) Phenol-D6 (S)	4.38	99	309335	60.67412 ppb	0.00
Spiked Amount 194.175			Recovery	= 31.247%	
21) Nitrobenzene-D5(S)	5.37	82	328357	58.80332 ppb	0.00
Spiked Amount 97.087			Recovery	= 60.567%	
45) 2-Fluorobiphenyl(S)	7.41	172	537679	58.37363 ppb	0.00
Spiked Amount 97.087			Recovery	= 60.125%	
63) 2,4,6-Tribromophenol(S)	9.11	330	174249	132.34333 ppb	0.00
Spiked Amount 194.175			Recovery	= 68.157%	
81) Terphenyl-D14(S)	11.77	244	791303	73.37575 ppb	0.00
Spiked Amount 97.087			Recovery	= 75.577%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404Y058.D Y0404.M Tue Apr 11 12:18:12 2017

Quantitation Report

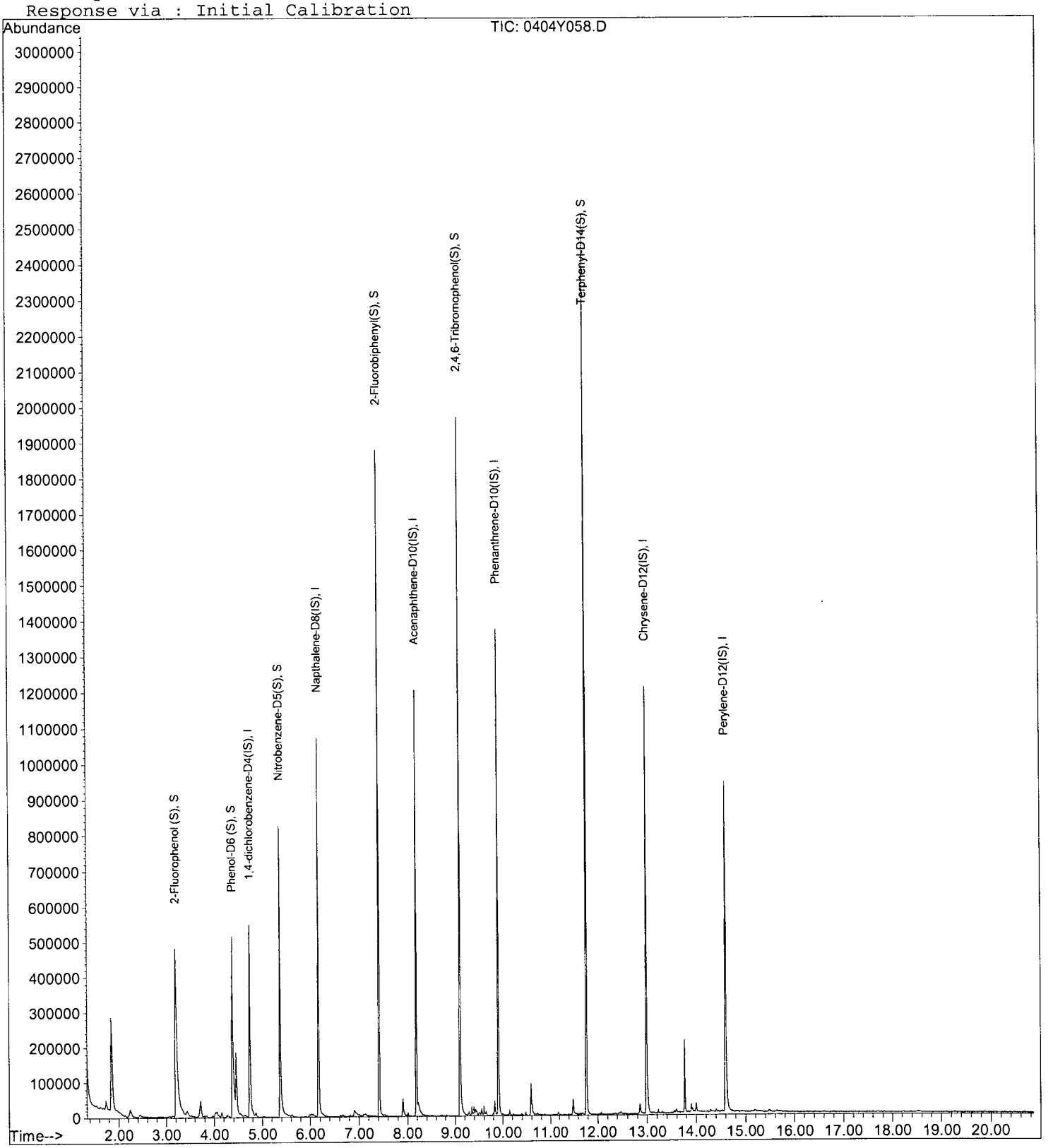
Data File : M:\YODA\DATA\Y170404\0404Y058.D
Acq On : 10 Apr 17 21:41
Sample : AZ53180W09 1/1030
Misc : water

Vial: 58
Operator: MA
Inst : Yoda
Multiplr: 0.97

Quant Time: Apr 11 9:48 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0404Y003 D	0404Y004.D	0404Y005.D	0404Y006.D	0404Y007.D	0404Y008 D	0404Y009.D	0404Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	1.045	1.285	1.268	1.575	1.631	1.683	1.470	1.470			1.4	15	TM	
3	TM	Pyridine	1.796	2.658	2.424	2.560	2.828	2.930	2.545	2.495			2.5	14	TM	
4	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.360	1.335			1.3	12	S	
5	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
6	*TM	Phenol	1.801	1.883	1.833	1.932	1.975	1.922	1.859	1.753			1.9	3.9	*TM	
7	TM	Aniline	1.529	1.728	1.678	1.856	1.857	1.872	1.764	1.792			1.8	6.6	TM	
8	TM	Bis (2-chloroethyl) ether	0.8421	0.8703	0.8295	0.8895	0.9148	0.9307	0.9198	0.9200			0.89	4.3	TM	
9	TM	2-Chlorophenol	1.406	1.510	1.413	1.508	1.562	1.499	1.491	1.427			1.5	3.8	TM	
10	TM	1,3-DCB	1.550	1.624	1.506	1.586	1.625	1.587	1.595	1.478			1.6	3.4	TM	
11	*TM	1,4-DCB	1.714	1.602	1.592	1.619	1.635	1.581	1.612	1.502			1.6	3.7	*TM	
12	TM	Benzyl alcohol	0.7857	0.8348	0.8411	0.8997	0.8949	0.8862	0.8669	0.8414			0.86	4.5	TM	
13	TM	1,2-DCB	1.480	1.494	1.416	1.525	1.491	1.467	1.414	1.331			1.5	4.3	TM	
14	TM	2-Methylphenol	1.196	1.233	1.031	1.179	1.115	1.092	1.041	1.012			1.1	7.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.897	2.010	1.820	2.089	1.942	1.898	1.855	1.724			1.9	5.9	TM	
16	TM	Acetophenone	1.913	1.994	1.821	2.023	1.949	1.987	1.892	1.806			1.9	4.2	TM	
17	TM	3&4-Methylphenol	1.398	1.502	1.379	1.482	1.436	1.543	1.353	1.224			1.4	7.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.021	1.160	0.9998	1.082	1.049	1.081	1.035	0.9323			1.0	6.4	**TM	
19	TM	Hexachloroethane	0.6772	0.7176	0.6021	0.6543	0.6888	0.7214	0.6575	0.6174			0.67	6.5	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4472	0.4267			0.41	10	S	
22	TM	Nitrobenzene	0.3795	0.3943	0.3604	0.4194	0.4331	0.4565	0.4411	0.4254			0.41	7.9	TM	
23	TM	Isophorone	0.6040	0.6566	0.5779	0.7183	0.7122	0.6970	0.7512	0.7213			0.68	9.0	TM	
24	*TM	2-Nitrophenol	0.1642	0.1583	0.1805	0.2159	0.2151	0.2137	0.2289	0.2176			0.20	14	*TM	
25	TM	2,4-Dimethylphenol	0.2955	0.3268	0.2911	0.3223	0.3218	0.3222	0.3293	0.3233			0.32	4.6	TM	
26	TML	Benzoic acid	0.0599	0.1923	0.2030	0.2535	0.2882	0.2696	0.2603	0.2648			0.22	33	TML	0.995
27	TM	Bis (2-chloroethoxy) methane	0.3711	0.4153	0.3749	0.3929	0.3975	0.3925	0.4224	0.4046			0.40	4.5	TM	
28	*TM	2,4-Dichlorophenol	0.2644	0.3144	0.2957	0.3116	0.3182	0.3051	0.3225	0.3202			0.31	6.2	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3118	0.3332	0.3280	0.3293	0.3503	0.3240	0.3370	0.3347			0.33	3.3	TM	
30	TM	3,4-Dimethylphenol	0.4791	0.4782	0.4397	0.4546	0.4755	0.4502	0.4544	0.4656			0.46	3.2	TM	
31	TM	Naphthalene	1.058	1.050	0.9898	1.039	1.082	1.007	1.048	1.039			1.0	2.8	TM	
32	TM	4-Chloroaniline	0.3174	0.3739	0.3579	0.4307	0.3744	0.3426	0.3056	0.2838			0.35	13	TM	
33	TM	2,6-Dichlorophenol	0.2766	0.2882	0.2568	0.3089	0.2778	0.2575	0.2417	0.2513			0.27	8.2	TM	
34	TM	Hexachloropropene	0.2086	0.2343	0.2165	0.2765	0.2623	0.2484	0.2392	0.2681			0.24	9.9	TM	
35	*TM	Hexachlorobutadiene	0.1946	0.2175	0.1838	0.2253	0.2080	0.1915	0.1983	0.2066			0.20	6.8	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1388	0.1574	0.1365	0.1800	0.1906	0.1729	0.1839	0.1859			0.17	13	TM	
37	*TM	4-Chloro-3-methylphenol	0.2752	0.3248	0.3439	0.3397	0.3599	0.3336	0.3431	0.3501			0.33	7.7	*TM	
38	TM	2-Methylnaphthalene	0.7247	0.7779	0.7656	0.7255	0.7295	0.6718	0.6912	0.6796			0.72	5.3	TM	
39	TM	1-Methylnaphthalene	0.6894	0.7184	0.7355	0.6902	0.7728	0.6393	0.6634	0.6548			0.70	6.4	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0314	0.0517	0.1265	0.1687	0.2267	0.2083	0.2351	0.2701			0.16	53	**TMQ	0.996
42	TM	1,2,4,5-Tetrachlorobenzene	0.5258	0.5137	0.6284	0.5104	0.5849	0.5024	0.5164	0.5192			0.54	8.3	TM	
43	*TM	2,4,6-Trichlorophenol	0.3273	0.2952	0.3901	0.3551	0.3909	0.3537	0.3596	0.3742			0.36	9.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3419	0.3285	0.3861	0.3639	0.4022	0.3715	0.3814	0.3786			0.37	6.5	TM	
45	S	2-Fluorobiphenyl(S)	1.264	1.213	1.501	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
46	TM	1,1'-Biphenyl	1.507	1.357	1.678	1.453	1.568	1.402	1.378	1.431			1.5	7.3	TM	
47	TM	2-Chloronaphthalene	1.157	1.051	1.291	1.134	1.222	1.092	1.104	1.141			1.1	6.6	TM	
48	TM	2-Nitroaniline	0.3113	0.3404	0.4239	0.3968	0.4472	0.4027	0.4167	0.4471			0.40	12	TM	
49	TM	Dimethyl phthalate	1.297	1.247	1.445	1.317	1.459	1.524	1.329	1.382			1.4	6.8	TM	
50	TM	2,6-DNT	0.2786	0.3184	0.3200	0.3204	0.3425	0.2999	0.3196	0.3305			0.32	6.1	TM	
51	TM	Acenaphthylene	1.706	1.928	1.909	1.781	1.883	1.803	1.763	1.753			1.8	4.5	TM	
52	TM	3-Nitroaniline	0.2875	0.3266	0.3244	0.3437	0.3439	0.3314	0.3213	0.3221			0.33	5.4	TM	
53	*TM	Acenaphthene	1.201	1.171	1.121	1.083	1.149	1.040	1.045	1.055			1.1	5.5	*TM	
54	**TML	2,4-Dinitrophenol	0.0283	0.0648	0.1074	0.1737	0.1820	0.1809	0.2063	0.2123			0.14	48	**TML	0.994
55	**TML	4-Nitrophenol	0.0082	0.0115	0.2352	0.2508	0.2715	0.2585	0.2685	0.3022			0.20	59	**TML	0.993
56	TM	Dibenzofuran	1.546	1.513	1.635	1.598	1.612	1.537	1.471	1.489			1.6	3.8	TM	
57	TM	2,4-DNT	0.3537	0.3907	0.4040	0.4149	0.4605	0.4417	0.4506	0.4555			0.42	8.9	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2728	0.2593	0.2825	0.3282	0.3289	0.3058	0.3079	0.3177			0.30	8.7	TM	
59	TM	Diethyl phthalate	1.379	1.285	1.385	1.405	1.676	1.351	1.359	1.407			1.4	8.3	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6595	0.5956	0.5936	0.6044	0.6316	0.6190	0.5703	0.6313			0.61	4.6	TM	
61	TM	Fluorene	1.295	1.265	1.259	1.243	1.267	1.255	1.148	1.255			1.2	3.5	TM	
62	TM	4-Nitroaniline	0.2925	0.2737	0.3054	0.3184	0.3577	0.3268	0.3217	0.3161			0.31	7.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1697	0.1750	0.1856	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	4.3	S	
64	I	Phenanthrene-D10(IS)														
65	TMQ	4,6-Dinitro-2-methylphenol	0.0849	0.1080	0.1198	0.1237	0.1523	0.1528	0.1465	0.1384			0.13	19	TMQ	0.993
66	TM	Diphenyl amine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	TM	
67	*TM	n-Nitrosodiphenylamine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	*TM	
68	TM	1,2-Diphenylhydrazine	0.7989	0.8600	0.7744	0.7210	1.016	1.039	0.9516	0.9045			0.88	13	TM	
69	TM	4-Bromophenyl phenyl ether	0.2099	0.2197	0.1926	0.1700	0.2029	0.1960	0.1926	0.1838			0.20	7.8	TM	
70	TM	Hexachlorobenzene	0.2146	0.2271	0.1965	0.1743	0.2065	0.1962	0.1937	0.1829			0.20	8.5	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.2052	0.2390	0.2017	0.1909	0.2205	0.2155	0.2139	0.1994			0.21	7.1	TM	
72	*TM	Pentachlorophenol	0.0706	0.0712	0.0748	0.0728	0.0940	0.0949	0.0974	0.0971			0.08	15	*TM	
73	TM	Phenanthrene	1.108	1.109	1.027	1.038	1.050	0.9972	0.9679	0.9311			1.0	6.1	TM	
74	TM	Anthracene	1.150	1.172	1.122	1.082	1.116	1.053	1.017	0.9680			1.1	6.4	TM	
75	TM	Carbazol	1.004	1.041	1.002	0.8660	1.004	0.9371	0.9170	0.8804			0.96	6.8	TM	
76	TM	Di-n-butylphthalate	1.243	1.355	1.269	1.095	1.263	1.350	1.224	1.152			1.2	7.2	TM	
77	*TM	Fluoranthene	1.214	1.295	1.127	1.056	1.195	1.088	1.067	1.020			1.1	8.3	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.3367	0.3742	0.3900	0.3534	0.3898	0.3094	0.3372	0.3363			0.35	8.2	TM	
80	TM	Pyrene	1.296	1.325	1.223	1.266	1.363	1.047	1.178	1.169			1.2	8.3	TM	
81	S	Terphenyl-D14(S)	0.8779	0.9617	0.8691	0.8737	0.9198	0.6825	0.7856	0.7945			0.85	10	S	
82	TM	Butyl benzylphthalate	0.5983	0.6094	0.6081	0.6196	0.6581	0.5111	0.5984	0.5904			0.60	6.9	TM	
83	TM	3,3'-Dichlorobenzidine	0.3893	0.4312	0.4215	0.4078	0.4146	0.3713	0.3454	0.3251			0.39	9.8	TM	
84	TM	Benz (a) anthracene	1.176	1.231	1.158	1.174	1.207	1.106	1.063	1.108			1.2	4.9	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8769	0.9173	0.8300	0.8201	0.8614	0.7254	0.7839	0.9028			0.84	7.6	TM	
86	TM	Chrysene	1.256	1.280	1.107	1.080	1.101	0.9585	1.059	1.188			1.1	9.5	TM	
87	*TM	Di-n-octylphthalate	1.507	1.541	1.481	1.538	1.580	1.319	1.424	1.422			1.5	5.7	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.426	1.474	1.422	1.311	1.362	1.193	1.267	1.265			1.3	7.2	TM	
90	TM	Benzo (k) fluoranthene	1.430	1.533	1.191	1.317	1.324	1.280	1.035	1.024			1.3	14	TM	
91	*TM	Benzo (a) pyrene	1.255	1.371	1.280	1.268	1.296	1.168	1.111	1.115			1.2	7.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.460	1.658	1.503	1.546	1.410	1.307	1.253	1.251			1.4	10	TM	
93	TM	Dibenz (a,h) anthracene	1.236	1.385	1.277	1.283	1.199	1.128	1.057	1.049			1.2	9.8	TM	
94	TM	Benzo (g,h,i) perylene	1.269	1.415	1.214	1.206	1.207	1.121	1.094	1.088			1.2	9.0	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	560451	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.25	112	32572	7.80714 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.904%	
5) Phenol-D6 (S)	4.40	99	51987	9.39572 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.698%	
21) Nitrobenzene-D5(S)	5.39	82	23671	4.16878 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.169%	
45) 2-Fluorobiphenyl(S)	7.41	172	50729	4.91846 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.918%	
63) 2,4,6-Tribromophenol(S)	9.11	330	13623	9.13383 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.567%	
81) Terphenyl-D14(S)	11.77	244	61500	5.05821 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.058%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.70	42	17331	5.09847 ppb		72
3) Pyridine	1.70	79	29780	4.54533 ppb		98
6) Phenol	4.42	94	29856	4.71564 ppb		87
7) Aniline	4.41	66	25352	4.22853 ppb	#	67
8) Bis (2-chloroethyl) ether	4.46	63	13961	4.54380 ppb		91
9) 2-Chlorophenol	4.53	128	23302	4.74054 ppb		98
10) 1,3-DCB	4.68	146	25694	4.95679 ppb		95
11) 1,4-DCB	4.75	146	28420	5.31753 ppb		95
12) Benzyl alcohol	4.95	108	13026	4.65457 ppb		78
13) 1,2-DCB	4.93	146	24536	5.04662 ppb		97
14) 2-Methylphenol	5.08	107	19820	5.39228 ppb	#	86
15) Bis (2-chloroisopropyl) et	5.06	45	31444	4.63265 ppb	#	72
16) Acetophenone	5.22	105	31714	4.84771 ppb		84
17) 3&4-Methylphenol	5.26	107	46361	9.73524 ppb		84
18) n-Nitrosodi-n-propylamine	5.21	70	16927	4.68272 ppb		96
19) Hexachloroethane	5.29	117	11226	5.10602 ppb		93
22) Nitrobenzene	5.41	77	26307	4.66103 ppb		94
23) Isophorone	5.66	82	41871	4.46234 ppb		95
24) 2-Nitrophenol	5.77	139	11385	4.28748 ppb		95
25) 2,4-Dimethylphenol	5.84	122	20483	4.81634 ppb		94
26) Benzoic acid	6.01	105	4149	6.18708 ppb		74
27) Bis (2-chloroethoxy) metha	5.92	93	25723	4.75850 ppb		97
28) 2,4-Dichlorophenol	6.08	162	18329	4.53153 ppb		99
29) 1,2,4-Trichlorobenzene	6.11	180	21615	4.81351 ppb		99
30) 3,4-Dimethylphenol	6.19	107	33212	5.19146 ppb		98
31) Naphthalene	6.19	128	73321	5.05690 ppb		99
32) 4-Chloroaniline	6.29	127	22001	4.33900 ppb		97
33) 2,6-Dichlorophenol	6.29	162	19174	5.11220 ppb		97
34) Hexachloropropene	6.29	213	14457	4.42657 ppb		96
35) Hexachlorobutadiene	6.33	225	13492	5.04887 ppb		91
36) Caprolactum	6.68	55	9623	4.13206 ppb	#	89
37) 4-Chloro-3-methylphenol	6.88	107	19078	4.30945 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	50235	5.31781 ppb		95
39) 1-Methylnaphthalene	7.10	142	47789	5.07912 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	1262	7.25654 ppb	#	90
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	21106	4.84238 ppb		94
43) 2,4,6-Trichlorophenol	7.35	196	13139	4.77843 ppb		95
44) 2,4,5-Trichlorophenol	7.42	196	13725	4.57362 ppb		87
46) 1,1'-Biphenyl	7.53	154	60505	5.02407 ppb		96
47) 2-Chloronaphthalene	7.55	162	46461	5.04454 ppb		94
48) 2-Nitroaniline	7.71	65	12496	3.80337 ppb		89
49) Dimethyl phthalate	7.90	163	52080	4.69778 ppb		99
50) 2,6-DNT	7.98	165	11182	4.49905 ppb		99
51) Acenaphthylene	8.02	152	68492	4.62867 ppb		99
52) 3-Nitroaniline	8.20	138	11541	4.31142 ppb	#	80
53) Acenaphthene	8.22	154	48203	5.28946 ppb		91
54) 2,4-Dinitrophenol	8.41	184	1135	9.45965 ppb	#	55
55) 4-Nitrophenol	8.43	65	330	7.48521 ppb		89
56) Dibenzofuran	8.43	168	62053	4.82911 ppb		98
57) 2,4-DNT	8.47	165	14198	4.13294 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.60	232	10952	4.65968 ppb		85
59) Diethyl phthalate	8.70	149	55345	4.86883 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	26474	5.30016 ppb		87
61) Fluorene	8.82	166	51994	5.01403 ppb		97
62) 4-Nitroaniline	8.90	138	11739	4.56716 ppb		98
65) 4,6-Dinitro-2-methylphenol	8.95	198	5915	8.45378 ppb	#	79
66) Diphenyl amine	8.96	169	83104	11.48135 ppb		95
67) n-Nitrosodiphenylamine	8.96	169	83104	11.48135 ppb		95
68) 1,2-Diphenylhydrazine	9.01	77	55687	4.41379 ppb		91
69) 4-Bromophenyl phenyl ether	9.39	248	14634	5.21093 ppb		96
70) Hexachlorobenzene	9.47	284	14960	5.14155 ppb		90
71) Atrazine	9.60	200	7153	2.55096 ppb		93
72) Pentachlorophenol	9.72	266	4924	10.75177 ppb		91
73) Phenanthrene	9.93	178	77253	5.13387 ppb		100
74) Anthracene	9.99	178	80183	5.09924 ppb		97
75) Carbazol	10.20	167	69999	5.02637 ppb		99
76) Di-n-butylphthalate	10.61	149	86649	4.93439 ppb		96
77) Fluoranthene	11.32	202	84637	5.14374 ppb		97
79) Benzidine	11.51	184	23589	3.50897 ppb	#	89
80) Pyrene	11.58	202	90759	5.05780 ppb		100
82) Butyl benzylphthalate	12.34	149	41913	5.01411 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	27270	4.87537 ppb	#	93
84) Benz (a) anthracene	12.97	228	82353	4.90940 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	61432	5.26696 ppb		93
86) Chrysene	13.01	228	87970	5.35759 ppb		97
87) Di-n-octylphthalate	13.73	149	105594	5.27219 ppb		91
89) Benzo (b) fluoranthene	14.16	252	86060	5.72632 ppb		97
90) Benzo (k) fluoranthene	14.19	252	86318	6.11838 ppb	#	97
91) Benzo (a) pyrene	14.54	252	75743	5.45829 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	88144	5.69287 ppb		94
93) Dibenz (a,h) anthracene	16.12	278	74588	5.66377 ppb		95
94) Benzo (g,h,i) perylene	16.56	276	76584	5.86100 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

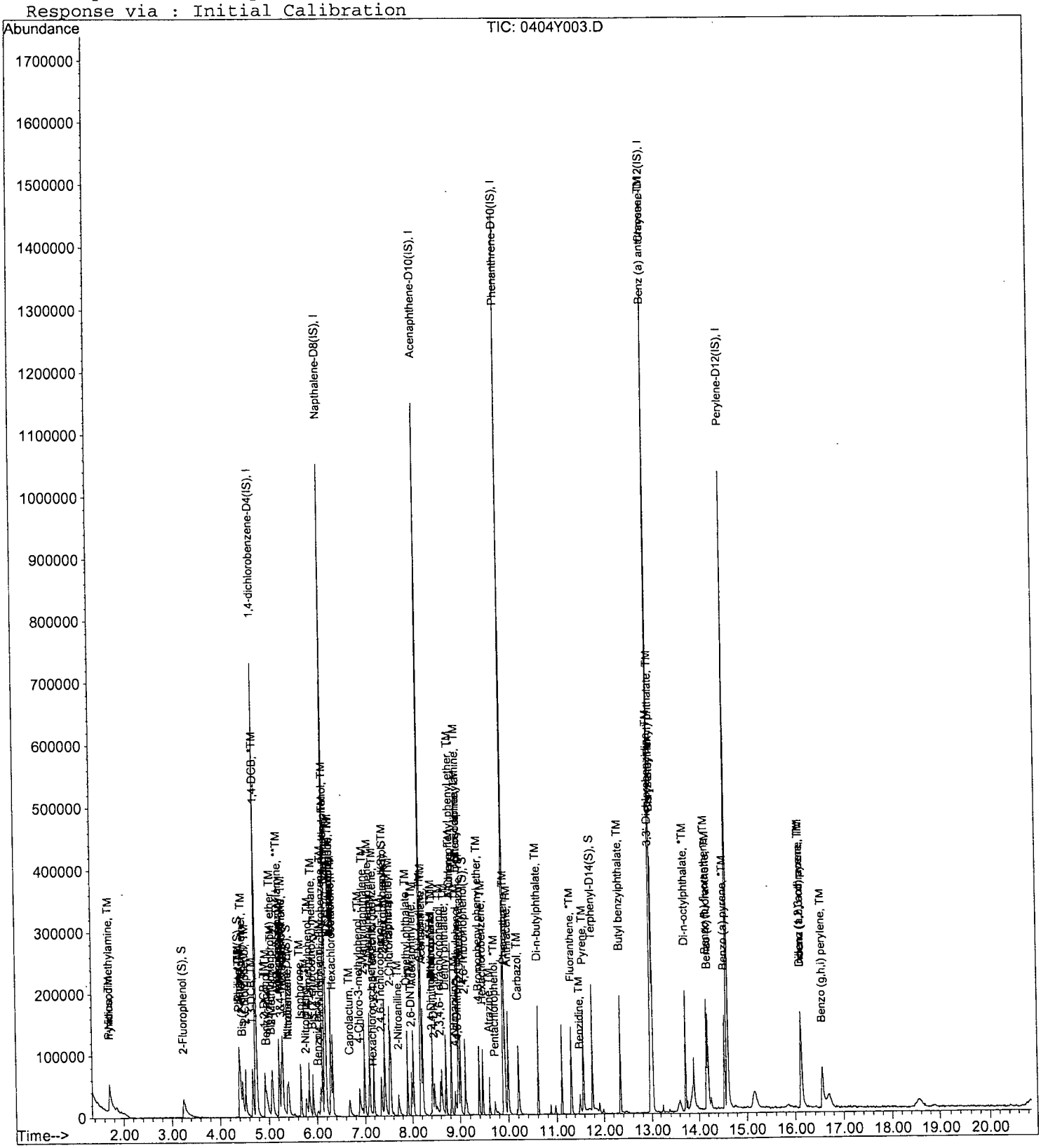
Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453345	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.22	112	66141	17.45292 ppb	0.03
Spiked Amount 200.000			Recovery = 8.727%		
5) Phenol-D6 (S)	4.38	99	107821	21.45303 ppb	0.00
Spiked Amount 200.000			Recovery = 10.727%		
21) Nitrobenzene-D5(S)	5.38	82	50379	10.03970 ppb	0.00
Spiked Amount 100.000			Recovery = 10.040%		
45) 2-Fluorobiphenyl(S)	7.41	172	99689	9.44241 ppb	0.00
Spiked Amount 100.000			Recovery = 9.442%		
63) 2,4,6-Tribromophenol(S)	9.10	330	28755	18.83458 ppb	-0.01
Spiked Amount 200.000			Recovery = 9.418%		
81) Terphenyl-D14(S)	11.77	244	126985	11.08281 ppb	0.00
Spiked Amount 100.000			Recovery = 11.083%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	38706	12.53558 ppb		95
3) Pyridine	1.69	79	80058	13.45227 ppb		95
6) Phenol	4.40	94	56718	9.86233 ppb		83
7) Aniline	4.39	66	52049	9.55740 ppb	#	46
8) Bis (2-chloroethyl) ether	4.45	63	26211	9.39152 ppb		96
9) 2-Chlorophenol	4.52	128	45469	10.18356 ppb		95
10) 1,3-DCB	4.67	146	48903	10.38615 ppb		97
11) 1,4-DCB	4.75	146	48234	9.93548 ppb		94
12) Benzyl alcohol	4.94	108	25142	9.89050 ppb		90
13) 1,2-DCB	4.93	146	44982	10.18556 ppb		94
14) 2-Methylphenol	5.07	107	37126	11.11979 ppb		85
15) Bis (2-chloroisopropyl) et	5.06	45	60540	9.81937 ppb	#	75
16) Acetophenone	5.21	105	60064	10.10764 ppb		90
17) 3&4-Methylphenol	5.25	107	90453	20.91061 ppb		93
18) n-Nitrosodi-n-propylamine	5.20	70	34949	10.64395 ppb		91
19) Hexachloroethane	5.29	117	21612	10.82186 ppb		99
22) Nitrobenzene	5.40	77	48309	9.68539 ppb		97
23) Isophorone	5.66	82	80440	9.70063 ppb		96
24) 2-Nitrophenol	5.77	139	19400	8.26702 ppb		85
25) 2,4-Dimethylphenol	5.83	122	40033	10.65173 ppb		93
26) Benzoic acid	6.00	105	23566	12.34998 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	50876	10.64976 ppb		96
28) 2,4-Dichlorophenol	6.06	162	38518	10.77576 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	40824	10.28728 ppb		99
30) 3,4-Dimethylphenol	6.17	107	58594	10.36398 ppb		94
31) Naphthalene	6.19	128	128676	10.04227 ppb		99
32) 4-Chloroaniline	6.28	127	45809	10.22297 ppb		96
33) 2,6-Dichlorophenol	6.29	162	35313	10.65390 ppb		95
34) Hexachloropropene	6.29	213	28711	9.94755 ppb		95
35) Hexachlorobutadiene	6.33	225	26642	11.28140 ppb		90
36) Caprolactum	6.68	55	19287	9.37129 ppb	#	84
37) 4-Chloro-3-methylphenol	6.88	107	39794	10.17150 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	95312	11.41701 ppb		97
39) 1-Methylnaphthalene	7.10	142	88020	10.58573 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	4251	9.20910 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	42215	9.46198 ppb		89
43) 2,4,6-Trichlorophenol	7.34	196	24255	8.61760 ppb	#	90
44) 2,4,5-Trichlorophenol	7.41	196	26998	8.78905 ppb	#	88
46) 1,1'-Biphenyl	7.53	154	111525	9.04688 ppb		96
47) 2-Chloronaphthalene	7.54	162	86353	9.15952 ppb		96
48) 2-Nitroaniline	7.70	65	27975	8.31821 ppb		96
49) Dimethyl phthalate	7.90	163	102496	9.03214 ppb		99
50) 2,6-DNT	7.98	165	26161	10.28297 ppb		91
51) Acenaphthylene	8.02	152	158445	10.46063 ppb		97
52) 3-Nitroaniline	8.18	138	26838	9.79466 ppb	#	68
53) Acenaphthene	8.22	154	96196	10.31233 ppb		96
54) 2,4-Dinitrophenol	8.36	184	5322	12.35667 ppb	#	76
55) 4-Nitrophenol	8.43	65	942	7.72684 ppb		70
56) Dibenzofuran	8.43	168	124334	9.45272 ppb		92
57) 2,4-DNT	8.46	165	32109	9.13105 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.59	232	21307	8.85620 ppb	#	84
59) Diethyl phthalate	8.71	149	105599	9.07545 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.83	204	48947	9.57322 ppb		97
61) Fluorene	8.82	166	103917	9.79000 ppb		95
62) 4-Nitroaniline	8.89	138	22492	8.54881 ppb		89
65) 4,6-Dinitro-2-methylphenol	8.94	198	14030	12.45496 ppb	#	77
66) Diphenyl amine	8.96	169	164345	24.37687 ppb		99
67) n-Nitrosodiphenylamine	8.96	169	164345	24.37687 ppb		99
68) 1,2-Diphenylhydrazine	9.00	77	111668	9.50249 ppb	#	93
69) 4-Bromophenyl phenyl ether	9.39	248	28525	10.90507 ppb		90
70) Hexachlorobenzene	9.47	284	29490	10.88147 ppb		93
71) Atrazine	9.61	200	15514	5.94005 ppb		98
72) Pentachlorophenol	9.72	266	9250	14.06147 ppb		93
73) Phenanthrene	9.93	178	143958	10.27107 ppb		97
74) Anthracene	10.00	178	152204	10.39201 ppb		98
75) Carbazol	10.20	167	135199	10.42286 ppb		98
76) Di-n-butylphthalate	10.61	149	175917	10.75544 ppb		98
77) Fluoranthene	11.31	202	168094	10.96785 ppb		98
79) Benzidine	11.50	184	49406	7.79878 ppb		97
80) Pyrene	11.57	202	174947	10.34558 ppb		99
82) Butyl benzylphthalate	12.34	149	80461	10.21426 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	56934	10.80116 ppb		98
84) Benz (a) anthracene	12.98	228	162558	10.28332 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	121121	11.01947 ppb		96
86) Chrysene	13.01	228	168979	10.92054 ppb		97
87) Di-n-octylphthalate	13.73	149	203450	10.77917 ppb		93
89) Benzo (b) fluoranthene	14.16	252	167020	11.83583 ppb		97
90) Benzo (k) fluoranthene	14.19	252	173743	13.11590 ppb		96
91) Benzo (a) pyrene	14.53	252	155337	11.92187 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.10	276	187927	12.92657 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	157013	12.69777 ppb		97
94) Benzo (g,h,i) perylene	16.55	276	160338	13.06849 ppb		98

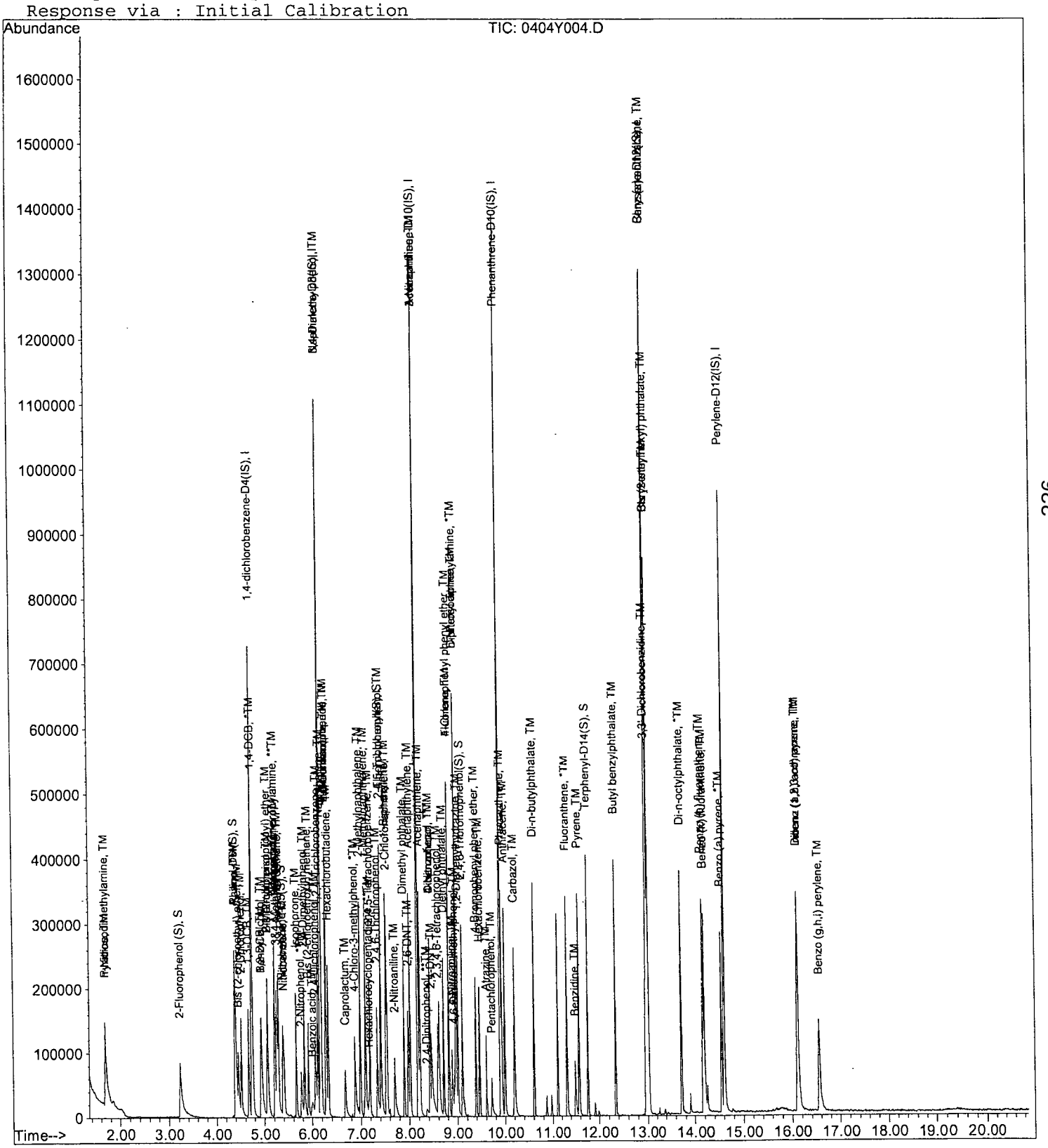
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y004.D Vial: 4
Acq On : 4 Apr 17 9:13 Operator: MA
Sample : 10ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



236

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	298428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	549818	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	169393	42.73841 ppb	0.00
Spiked Amount 200.000			Recovery = 21.369%		
5) Phenol-D6 (S)	4.37	99	208566	39.67842 ppb	0.00
Spiked Amount 200.000			Recovery = 19.839%		
21) Nitrobenzene-D5(S)	5.37	82	98581	17.84081 ppb	0.00
Spiked Amount 100.000			Recovery = 17.841%		
45) 2-Fluorobiphenyl(S)	7.42	172	224034	23.37317 ppb	0.00
Spiked Amount 100.000			Recovery = 23.373%		
63) 2,4,6-Tribromophenol(S)	9.11	330	55378	39.95286 ppb	0.00
Spiked Amount 200.000			Recovery = 19.977%		
81) Terphenyl-D14(S)	11.77	244	238911	20.02978 ppb	0.00
Spiked Amount 100.000			Recovery = 20.030%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	79869	24.73261 ppb		77
3) Pyridine	1.68	79	152689	24.53150 ppb		99
6) Phenol	4.39	94	115486	19.20055 ppb		93
7) Aniline	4.38	66	105732	18.56348 ppb	#	48
8) Bis (2-chloroethyl) ether	4.46	63	52255	17.90217 ppb		97
9) 2-Chlorophenol	4.51	128	88994	19.05770 ppb		97
10) 1,3-DCB	4.67	146	94862	19.26357 ppb		98
11) 1,4-DCB	4.75	146	100312	19.75669 ppb		96
12) Benzyl alcohol	4.93	108	52990	19.93141 ppb		88
13) 1,2-DCB	4.92	146	89212	19.31502 ppb		96
14) 2-Methylphenol	5.07	107	64975	18.60759 ppb		97
15) Bis (2-chloroisopropyl) et	5.06	45	114628	17.77696 ppb		93
16) Acetophenone	5.21	105	114712	18.45737 ppb		95
17) 3&4-Methylphenol	5.24	107	173721	38.39915 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	62983	18.34075 ppb		99
19) Hexachloroethane	5.29	117	37931	18.16046 ppb		88
22) Nitrobenzene	5.39	77	97246	17.70561 ppb		91
23) Isophorone	5.66	82	155940	17.07794 ppb		98
24) 2-Nitrophenol	5.76	139	48695	18.84437 ppb		81
25) 2,4-Dimethylphenol	5.83	122	78533	18.97597 ppb		93
26) Benzoic acid	5.99	105	54785	20.45992 ppb		98
27) Bis (2-chloroethoxy) metha	5.92	93	101147	19.22782 ppb	#	95
28) 2,4-Dichlorophenol	6.05	162	79785	20.27009 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	88504	20.25341 ppb		96
30) 3,4-Dimethylphenol	6.17	107	118646	19.05796 ppb		100
31) Naphthalene	6.19	128	267084	18.92920 ppb		100
32) 4-Chloroaniline	6.28	127	96581	19.57347 ppb		91
33) 2,6-Dichlorophenol	6.28	162	69298	18.98649 ppb		97
34) Hexachloropropene	6.28	213	58405	18.37671 ppb		94
35) Hexachlorobutadiene	6.33	225	49586	19.06801 ppb		98
36) Caprolactum	6.68	55	36825	16.24904 ppb		92
37) 4-Chloro-3-methylphenol	6.87	107	92782	21.53681 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	206580	22.47208 ppb		99
39) 1-Methylnaphthalene	7.10	142	198465	21.67571 ppb		95
41) Hexachlorocyclopentadiene	7.17	237	18881	19.39289 ppb		89
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	93759	23.14709 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	58201	22.77633 ppb		94
44) 2,4,5-Trichlorophenol	7.40	196	57607	20.65635 ppb		93
46) 1,1'-Biphenyl	7.53	154	250392	22.37252 ppb		98
47) 2-Chloronaphthalene	7.55	162	192666	22.50964 ppb		94
48) 2-Nitroaniline	7.70	65	63258	20.71778 ppb		92
49) Dimethyl phthalate	7.90	163	215567	20.92350 ppb		98
50) 2,6-DNT	7.98	165	47745	20.67093 ppb		84
51) Acenaphthylene	8.02	152	284868	20.71528 ppb		99
52) 3-Nitroaniline	8.18	138	48404	19.45756 ppb	#	90
53) Acenaphthene	8.22	154	167252	19.74872 ppb		99
54) 2,4-Dinitrophenol	8.35	184	16024	20.77747 ppb	#	76
55) 4-Nitrophenol	8.46	65	35092	22.80779 ppb	#	69
56) Dibenzofuran	8.42	168	243928	20.42662 ppb		93
57) 2,4-DNT	8.46	165	60284	18.88269 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	42157	19.30024 ppb	#	82
59) Diethyl phthalate	8.72	149	206651	19.56203 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.83	204	88580	19.08251 ppb		93
61) Fluorene	8.82	166	187792	19.48683 ppb		99
62) 4-Nitroaniline	8.88	138	45566	19.07597 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.93	198	33601	20.47925 ppb	#	72
66) Diphenyl amine	8.97	169	294455	40.44815 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	294455	40.44815 ppb		98
68) 1,2-Diphenylhydrazine	9.00	77	217173	17.11483 ppb	#	91
69) 4-Bromophenyl phenyl ether	9.39	248	54016	19.12422 ppb		91
70) Hexachlorobenzene	9.47	284	55116	18.83427 ppb		87
71) Atrazine	9.61	200	28277	10.02670 ppb		98
72) Pentachlorophenol	9.72	266	20964	21.27524 ppb		97
73) Phenanthrene	9.93	178	288003	19.02984 ppb		100
74) Anthracene	10.00	178	314541	19.88882 ppb		98
75) Carbazol	10.20	167	280871	20.05297 ppb		99
76) Di-n-butylphthalate	10.61	149	355756	20.14332 ppb		98
77) Fluoranthene	11.32	202	316006	19.09514 ppb		98
79) Benzidine	11.49	184	107221	16.25808 ppb		98
80) Pyrene	11.58	202	336162	19.09586 ppb		98
82) Butyl benzylphthalate	12.35	149	167175	20.38616 ppb		87
83) 3,3'-Dichlorobenzidine	12.95	252	115875	21.11693 ppb	#	97
84) Benz (a) anthracene	12.97	228	318280	19.34090 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	228182	19.94183 ppb		94
86) Chrysene	13.02	228	304359	18.89470 ppb		98
87) Di-n-octylphthalate	13.73	149	407061	20.71713 ppb		91
89) Benzo (b) fluoranthene	14.16	252	347316	22.84019 ppb		98
90) Benzo (k) fluoranthene	14.18	252	291026	20.38765 ppb	#	93
91) Benzo (a) pyrene	14.54	252	312678	22.26955 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	367037	23.42872 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	311937	23.41011 ppb		96
94) Benzo (g,h,i) perylene	16.53	276	296601	22.43398 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

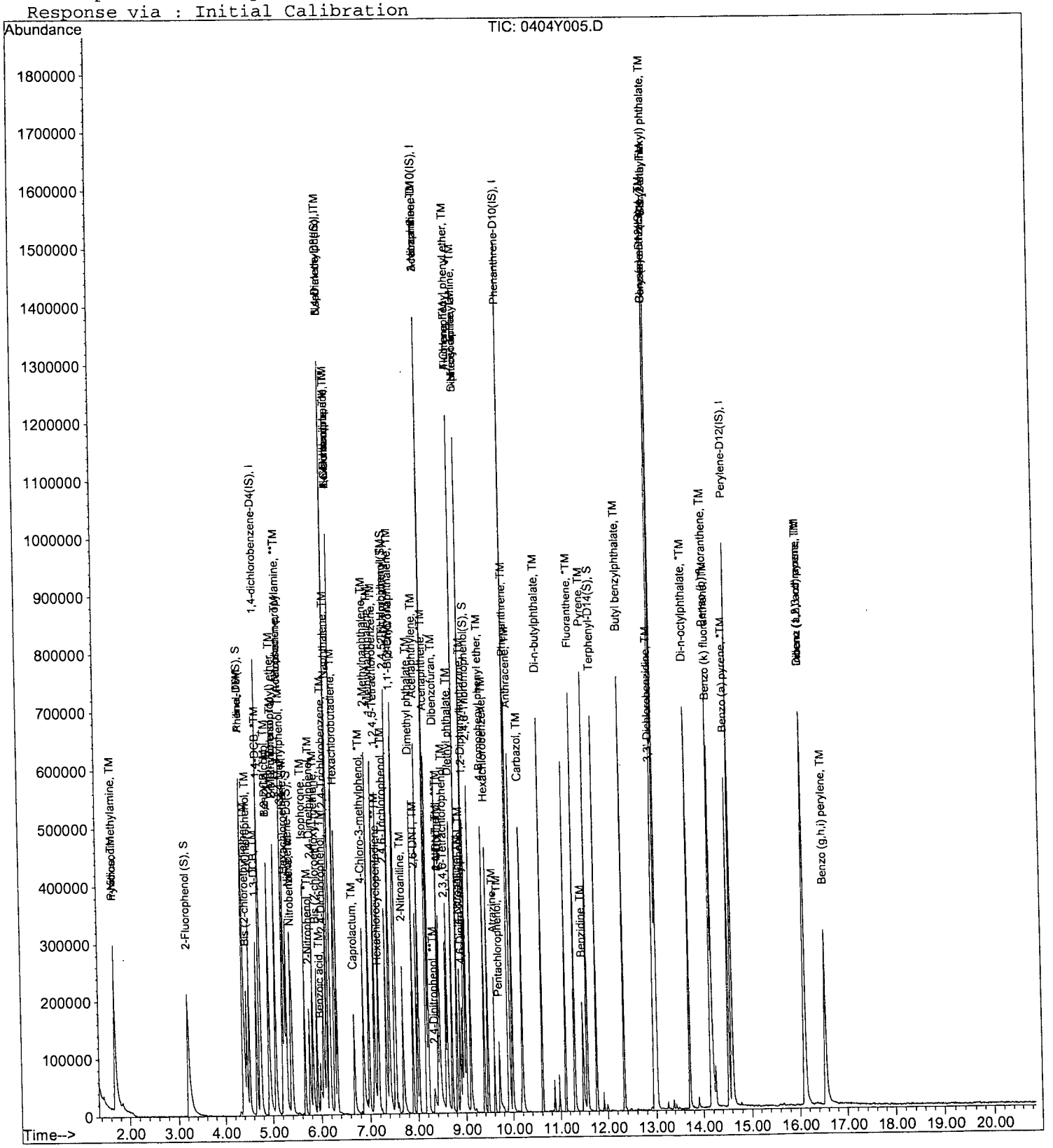
Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	628579	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	523963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	465932	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320573	86.17657 ppb	0.00
Spiked Amount 200.000			Recovery = 43.089%		
5) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery = 41.241%		
21) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery = 40.731%		
45) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery = 37.832%		
63) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery = 39.719%		
81) Terphenyl-D14(S)	11.77	244	457811	41.33170 ppb	0.00
Spiked Amount 100.000			Recovery = 41.332%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	181993	44.09714 ppb		87
3) Pyridine	1.68	79	295812	40.47889 ppb		94
6) Phenol	4.39	94	223274	41.32470 ppb		98
7) Aniline	4.39	66	214533	42.20003 ppb	#	68
8) Bis (2-chloroethyl) ether	4.45	63	102796	39.99583 ppb		98
9) 2-Chlorophenol	4.51	128	174274	40.84481 ppb		97
10) 1,3-DCB	4.67	146	183342	40.45038 ppb		99
11) 1,4-DCB	4.75	146	187041	40.28545 ppb		95
12) Benzyl alcohol	4.93	108	103977	42.02614 ppb		91
13) 1,2-DCB	4.92	146	176184	41.99345 ppb		98
14) 2-Methylphenol	5.07	107	136289	42.40562 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	241370	43.87146 ppb	#	81
16) Acetophenone	5.21	105	233796	42.07638 ppb		96
17) 3&4-Methylphenol	5.24	107	342462	83.80264 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	125020	41.40843 ppb		91
19) Hexachloroethane	5.29	117	75618	39.23828 ppb		98
22) Nitrobenzene	5.40	77	195388	40.54910 ppb		89
23) Isophorone	5.67	82	334663	42.26546 ppb		92
24) 2-Nitrophenol	5.75	139	100565	43.32783 ppb		94
25) 2,4-Dimethylphenol	5.83	122	150159	40.73004 ppb		96
26) Benzoic acid	6.00	105	118121	39.67938 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	183058	39.64952 ppb		98
28) 2,4-Dichlorophenol	6.04	162	145194	40.66855 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	153437	39.79254 ppb		97
30) 3,4-Dimethylphenol	6.17	107	211808	39.34661 ppb		97
31) Naphthalene	6.19	128	483890	39.98567 ppb		97
32) 4-Chloroaniline	6.28	127	200658	49.46503 ppb		96
33) 2,6-Dichlorophenol	6.28	162	143908	45.78639 ppb		98
34) Hexachloropropene	6.29	213	128829	45.28755 ppb		99
35) Hexachlorobutadiene	6.34	225	104984	44.35997 ppb		98
36) Caprolactum	6.71	55	83857	42.79053 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	158251	40.70568 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	338022	40.26630 ppb		100
39) 1-Methylnaphthalene	7.10	142	321558	39.69591 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	49451	37.81444 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	149622	37.97478 ppb		96
43) 2,4,6-Trichlorophenol	7.34	196	104106	39.93022 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	106673	39.42009 ppb		97
46) 1,1'-Biphenyl	7.53	154	425922	39.48711 ppb		99
47) 2-Chloronaphthalene	7.55	162	332344	39.46610 ppb		96
48) 2-Nitroaniline	7.69	65	116307	39.84915 ppb		96
49) Dimethyl phthalate	7.90	163	385967	38.30373 ppb		100
50) 2,6-DNT	7.98	165	93914	40.52446 ppb		96
51) Acenaphthylene	8.02	152	522092	39.23488 ppb		99
52) 3-Nitroaniline	8.18	138	100746	42.28486 ppb	#	94
53) Acenaphthene	8.22	154	317522	39.09987 ppb		97
54) 2,4-Dinitrophenol	8.32	184	50930	39.83730 ppb		99
55) 4-Nitrophenol	8.44	65	73523	39.97019 ppb	#	1
56) Dibenzofuran	8.43	168	468428	41.23133 ppb		93
57) 2,4-DNT	8.45	165	121619	39.37623 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96200	43.69912 ppb		98
59) Diethyl phthalate	8.71	149	411735	39.96824 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	177164	39.42559 ppb		99
61) Fluorene	8.82	166	364463	39.83786 ppb		97
62) 4-Nitroaniline	8.89	138	93322	40.55297 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	77775	35.79645 ppb		98
66) Diphenyl amine	8.97	169	570254	69.37688 ppb		99
67) n-Nitrosodiphenylamine	8.97	169	570254	69.37688 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	453214	32.65837 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	106849	34.70131 ppb		98
70) Hexachlorobenzene	9.47	284	109539	35.02963 ppb		95
71) Atrazine	9.61	200	59999	18.11531 ppb		96
72) Pentachlorophenol	9.72	266	45746	33.83727 ppb		93
73) Phenanthrene	9.93	178	652503	40.37235 ppb		99
74) Anthracene	10.00	178	679999	39.88443 ppb		99
75) Carbazol	10.20	167	544370	36.22000 ppb		98
76) Di-n-butylphthalate	10.61	149	688370	35.21754 ppb		97
77) Fluoranthene	11.31	202	663582	37.28079 ppb		98
79) Benzidine	11.49	184	185177	40.00474 ppb		98
80) Pyrene	11.57	202	663596	41.07719 ppb		100
82) Butyl benzylphthalate	12.34	149	324624	41.36209 ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	213666	42.01149 ppb	#	95
84) Benz (a) anthracene	12.98	228	615316	40.74552 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	429710	39.06551 ppb		97
86) Chrysene	13.01	228	565888	38.27759 ppb		100
87) Di-n-octylphthalate	13.73	149	805906	41.67075 ppb		98
89) Benzo (b) fluoranthene	14.16	252	610637	39.12252 ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	613769	41.59165 ppb		99
91) Benzo (a) pyrene	14.54	252	590583	41.12714 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	720530	43.45250 ppb		99
93) Dibenz (a,h) anthracene	16.11	278	597606	42.69016 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	562005	40.14642 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

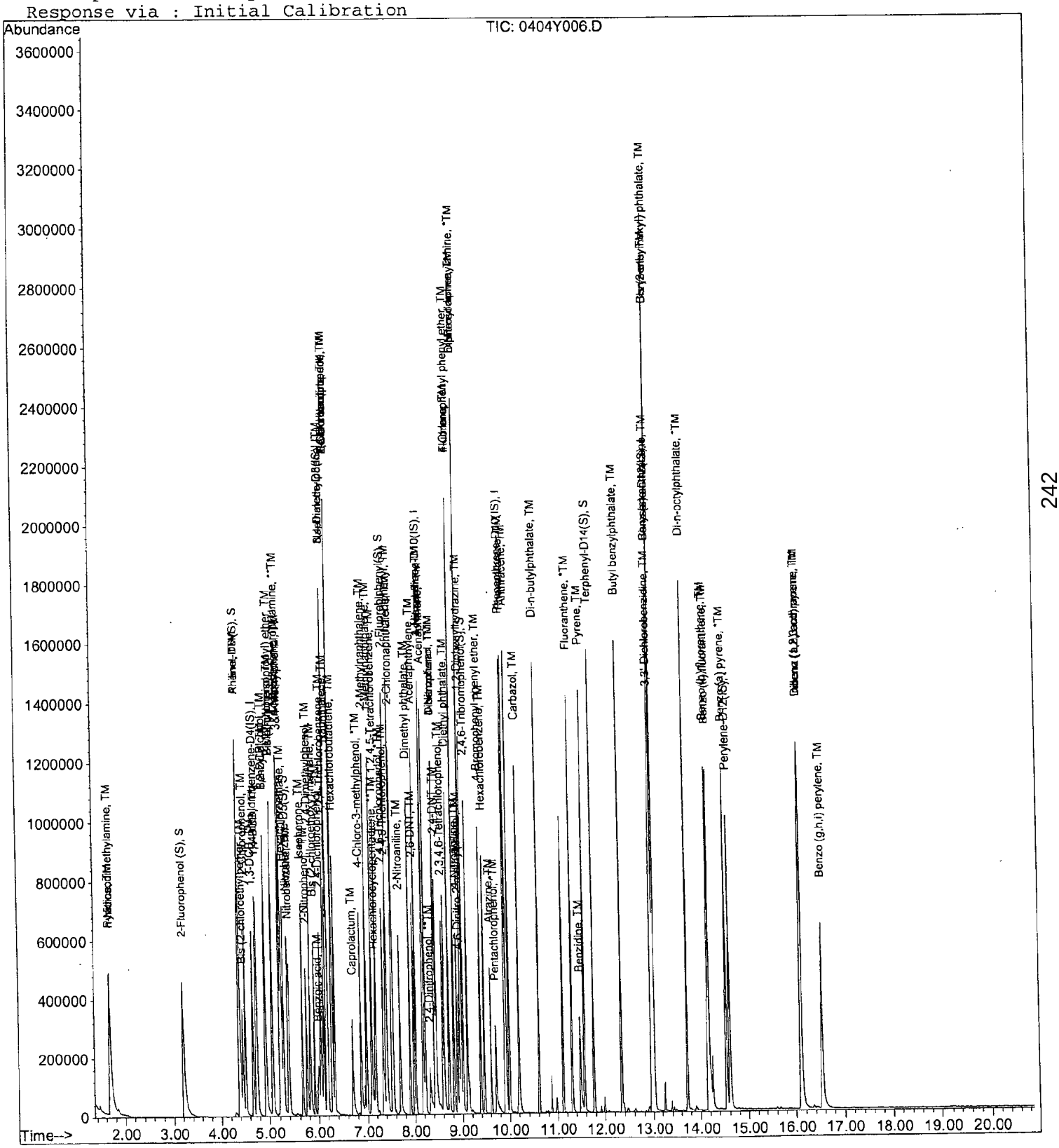
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D Vial: 7
Acq On : 4 Apr 17 10:45 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 5 9:39 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	487207	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	387773	106.61694 ppb	0.00
Spiked Amount 200.000			Recovery = 53.309%		
5) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery = 51.590%		
21) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery = 51.887%		
45) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery = 51.710%		
63) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery = 53.421%		
81) Terphenyl-D14(S)	11.77	244	560172	54.38831 ppb	0.00
Spiked Amount 100.000			Recovery = 54.388%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	230381	57.09378 ppb	100
3) Pyridine	1.67	79	399462	55.90809 ppb	100
6) Phenol	4.39	94	279005	52.81653 ppb	98
7) Aniline	4.39	66	262310	52.77399 ppb #	65
8) Bis (2-chloroethyl) ether	4.46	63	129206	51.41711 ppb	94
9) 2-Chlorophenol	4.51	128	220570	52.87338 ppb	94
10) 1,3-DCB	4.67	146	229468	51.78085 ppb	99
11) 1,4-DCB	4.75	146	230957	50.87787 ppb	98
12) Benzyl alcohol	4.93	108	126394	52.25105 ppb	95
13) 1,2-DCB	4.92	146	210571	51.33340 ppb	98
14) 2-Methylphenol	5.07	107	157511	50.12564 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	274342	51.00086 ppb	86
16) Acetophenone	5.21	105	275339	50.68220 ppb	97
17) 3&4-Methylphenol	5.24	107	405614	101.51837 ppb	99
18) n-Nitrosodi-n-propylamine	5.22	70	148093	50.16840 ppb	88
19) Hexachloroethane	5.29	117	97282	51.63019 ppb	97
22) Nitrobenzene	5.40	77	237646	52.34247 ppb	91
23) Isophorone	5.67	82	390824	52.38410 ppb	93
24) 2-Nitrophenol	5.76	139	118040	53.97462 ppb	91
25) 2,4-Dimethylphenol	5.83	122	176566	50.82893 ppb	99
26) Benzoic acid	6.02	105	158141	55.08013 ppb	95
27) Bis (2-chloroethoxy) metha	5.92	93	218124	50.14100 ppb	97
28) 2,4-Dichlorophenol	6.04	162	174596	51.90207 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	192201	52.90145 ppb	98
30) 3,4-Dimethylphenol	6.17	107	260929	51.44316 ppb	95
31) Naphthalene	6.19	128	593920	52.08660 ppb	100
32) 4-Chloroaniline	6.28	127	205417	53.74258 ppb	96
33) 2,6-Dichlorophenol	6.28	162	152431	51.47130 ppb	98
34) Hexachloropropene	6.29	213	143938	53.70083 ppb	97
35) Hexachlorobutadiene	6.34	225	114112	51.17287 ppb	99
36) Caprolactum	6.71	55	104604	56.64962 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	197482	53.91087 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	6.99	142	400279	50.60575	ppb		99
39)	1-Methylnaphthalene	7.10	142	424073	55.56066	ppb		97
41)	Hexachlorocyclopentadiene	7.17	237	75534	54.68417	ppb		94
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	194849	54.39428	ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	130235	54.94256	ppb		96
44)	2,4,5-Trichlorophenol	7.40	196	133983	54.45879	ppb		95
46)	1,1'-Biphenyl	7.53	154	522309	53.26084	ppb		99
47)	2-Chloronaphthalene	7.55	162	407139	53.17828	ppb		93
48)	2-Nitroaniline	7.70	65	148995	56.14876	ppb		98
49)	Dimethyl phthalate	7.90	163	486000	53.04964	ppb		99
50)	2,6-DNT	7.98	165	114105	54.15603	ppb		96
51)	Acenaphthylene	8.02	152	627303	51.85108	ppb		98
52)	3-Nitroaniline	8.18	138	114580	52.89579	ppb		96
53)	Acenaphthene	8.22	154	382806	51.84841	ppb		98
54)	2,4-Dinitrophenol	8.33	184	60639	49.13117	ppb		89
55)	4-Nitrophenol	8.43	65	90442	51.14997	ppb	#	1
56)	Dibenzofuran	8.43	168	537119	52.00082	ppb		100
57)	2,4-DNT	8.46	165	153397	54.62668	ppb		95
58)	2,3,4,6-Tetrachlorophenol	8.60	232	109557	54.73850	ppb		94
59)	Diethyl phthalate	8.72	149	558434	59.62443	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.83	204	210415	51.50324	ppb		99
61)	Fluorene	8.82	166	422140	50.75213	ppb		98
62)	4-Nitroaniline	8.89	138	119160	56.95402	ppb		100
65)	4,6-Dinitro-2-methylphenol	8.94	198	98966	53.86057	ppb		98
66)	Diphenyl amine	8.98	169	700937	103.07961	ppb		100
67)	n-Nitrosodiphenylamine	8.98	169	700937	103.07961	ppb		100
68)	1,2-Diphenylhydrazine	9.01	77	660457	57.52851	ppb		96
69)	4-Bromophenyl phenyl ether	9.39	248	131880	51.77280	ppb		94
70)	Hexachlorobenzene	9.47	284	134228	51.88684	ppb		95
71)	Atrazine	9.61	200	71675	26.15874	ppb		95
72)	Pentachlorophenol	9.72	266	61111	54.63978	ppb		94
73)	Phenanthrene	9.93	178	682251	51.02618	ppb		100
74)	Anthracene	10.00	178	725098	51.40900	ppb		99
75)	Carbazol	10.20	167	652498	52.47843	ppb		99
76)	Di-n-butylphthalate	10.61	149	821001	50.77245	ppb		98
77)	Fluoranthene	11.32	202	776689	52.74544	ppb		97
79)	Benzidine	11.49	184	237369	55.14874	ppb		99
80)	Pyrene	11.58	202	830283	55.27264	ppb		99
82)	Butyl benzylphthalate	12.35	149	400778	54.91776	ppb		85
83)	3,3'-Dichlorobenzidine	12.96	252	252491	53.39070	ppb	#	94
84)	Benz (a) anthracene	12.98	228	735065	52.34733	ppb		100
85)	Bis (2-ethylhexyl) phthala	13.01	149	524618	51.29185	ppb		97
86)	Chrysene	13.01	228	670581	48.78119	ppb		99
87)	Di-n-octylphthalate	13.73	149	962075	53.49867	ppb		99
89)	Benzo (b) fluoranthene	14.16	252	773182	50.83563	ppb		100
90)	Benzo (k) fluoranthene	14.19	252	751433	52.25577	ppb		100
91)	Benzo (a) pyrene	14.54	252	735446	52.55828	ppb		99
92)	Indeno (1,2,3-cd) pyrene	16.11	276	799992	49.50980	ppb		99
93)	Dibenz (a,h) anthracene	16.12	278	680699	49.90117	ppb		98
94)	Benzo (g,h,i) perylene	16.54	276	685004	50.21604	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

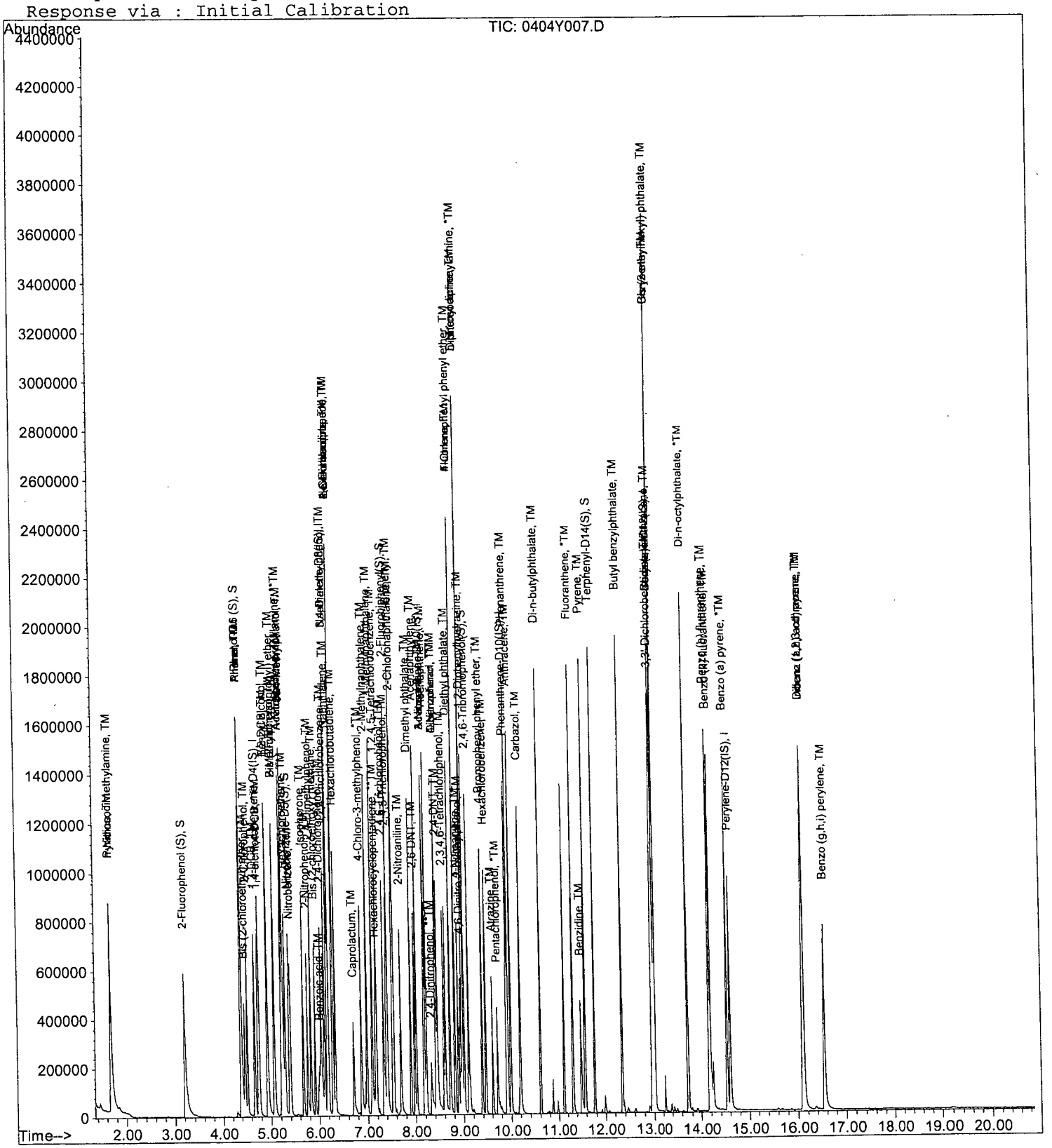
Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	605663	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	460352	134.66185 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.331%	
5) Phenol-D6 (S)	4.38	99	529157	116.71511 ppb	0.00
Spiked Amount 200.000			Recovery	= 58.358%	
21) Nitrobenzene-D5(S)	5.38	82	322467	68.78507 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.785%	
45) 2-Fluorobiphenyl(S)	7.41	172	511226	55.95175 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.952%	
63) 2,4,6-Tribromophenol(S)	9.11	330	148732	112.56723 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.284%	
81) Terphenyl-D14(S)	11.77	244	620058	47.19112 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.191%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	274376	98.50754 ppb		97
3) Pyridine	1.67	79	477572	88.95839 ppb		91
6) Phenol	4.39	94	313290	60.38966 ppb		85
7) Aniline	4.39	66	305086	62.10219 ppb		98
8) Bis (2-chloroethyl) ether	4.46	63	151721	60.26363 ppb		99
9) 2-Chlorophenol	4.51	128	244398	60.67910 ppb		97
10) 1,3-DCB	4.67	146	258719	60.91223 ppb		99
11) 1,4-DCB	4.76	146	257721	58.84950 ppb		97
12) Benzyl alcohol	4.93	108	144466	63.00012 ppb		97
13) 1,2-DCB	4.93	146	239191	60.04107 ppb		96
14) 2-Methylphenol	5.07	107	178042	59.11504 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	309353	55.62279 ppb	#	86
16) Acetophenone	5.21	105	323939	60.43045 ppb		94
17) 3&4-Methylphenol	5.24	107	502945	128.89066 ppb		96
18) n-Nitrosodi-n-propylamine	5.22	70	176281	59.51561 ppb		92
19) Hexachloroethane	5.29	117	117601	65.27926 ppb		95
22) Nitrobenzene	5.40	77	313526	67.28221 ppb		96
23) Isophorone	5.67	82	478661	61.78652 ppb		95
24) 2-Nitrophenol	5.76	139	146767	66.94427 ppb		85
25) 2,4-Dimethylphenol	5.83	122	221248	63.01136 ppb		100
26) Benzoic acid	6.03	105	185135	66.42377 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	269568	60.39944 ppb		98
28) 2,4-Dichlorophenol	6.04	162	209561	62.75271 ppb		98
29) 1,2,4-Trichlorobenzene	6.11	180	222527	60.02132 ppb		97
30) 3,4-Dimethylphenol	6.17	107	309163	58.53268 ppb		98
31) Naphthalene	6.20	128	691459	57.76149 ppb		99
32) 4-Chloroaniline	6.28	127	235314	56.20975 ppb		97
33) 2,6-Dichlorophenol	6.28	162	176823	57.10188 ppb		99
34) Hexachloropropene	6.29	213	170577	63.25950 ppb		98
35) Hexachlorobutadiene	6.34	225	131504	59.60365 ppb		100
36) Caprolactum	6.73	55	118741	61.75516 ppb		94
37) 4-Chloro-3-methylphenol	6.87	107	229130	62.68840 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D Vial: 8
Acq On : 4 Apr 17 11:16 Operator: MA
Sample : 60ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	461373	59.15545 ppb		99
39) 1-Methylnaphthalene	7.10	142	439052	56.51882 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	88888	58.92802 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	214369	55.51910 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	150923	61.95920 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	158504	59.62323 ppb		96
46) 1,1'-Biphenyl	7.53	154	598175	56.06861 ppb		96
47) 2-Chloronaphthalene	7.55	162	465763	57.08545 ppb		94
48) 2-Nitroaniline	7.69	65	171836	59.03900 ppb		90
49) Dimethyl phthalate	7.91	163	650235	66.20935 ppb		98
50) 2,6-DNT	7.98	165	127991	58.13111 ppb	#	76
51) Acenaphthylene	8.02	152	769268	58.68429 ppb		99
52) 3-Nitroaniline	8.18	138	141422	59.63774 ppb		97
53) Acenaphthene	8.22	154	443857	54.98038 ppb		98
54) 2,4-Dinitrophenol	8.32	184	77194	65.62142 ppb	#	77
55) 4-Nitrophenol	8.43	65	110312	58.32492 ppb		98
56) Dibenzofuran	8.43	168	656032	57.63108 ppb		98
57) 2,4-DNT	8.45	165	188497	61.93888 ppb		80
58) 2,3,4,6-Tetrachlorophenol	8.59	232	130499	62.67540 ppb	#	91
59) Diethyl phthalate	8.72	149	576422	57.24190 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	264152	59.69676 ppb		87
61) Fluorene	8.83	166	535338	58.27593 ppb		100
62) 4-Nitroaniline	8.90	138	139461	61.24851 ppb		94
65) 4,6-Dinitro-2-methylphenol	8.94	198	121902	61.75686 ppb	#	73
66) Diphenyl amine	8.98	169	812993	117.73775 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	812993	117.73775 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	828950	68.87226 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	156418	58.38444 ppb	#	85
70) Hexachlorobenzene	9.47	284	156588	56.41293 ppb	#	87
71) Atrazine	9.61	200	85983	32.14299 ppb		93
72) Pentachlorophenol	9.72	266	75734	59.97312 ppb		92
73) Phenanthrene	9.94	178	795737	55.43154 ppb		98
74) Anthracene	9.99	178	840252	56.01322 ppb		99
75) Carbazol	10.20	167	747777	56.28505 ppb		97
76) Di-n-butylphthalate	10.61	149	1076951	64.28711 ppb		99
77) Fluoranthene	11.32	202	868309	55.31602 ppb		98
79) Benzidine	11.49	184	281110	38.69488 ppb		99
80) Pyrene	11.58	202	950846	49.03302 ppb		100
82) Butyl benzylphthalate	12.34	149	464290	51.39743 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	337315	55.80389 ppb	#	98
84) Benz (a) anthracene	12.97	228	1004775	55.42734 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	659056	52.28702 ppb		96
86) Chrysene	13.02	228	870807	49.07539 ppb		98
87) Di-n-octylphthalate	13.73	149	1198098	55.35418 ppb		95
89) Benzo (b) fluoranthene	14.16	252	836743	57.49001 ppb		96
90) Benzo (k) fluoranthene	14.19	252	897871	65.71654 ppb		99
91) Benzo (a) pyrene	14.54	252	819052	60.94682 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	916818	61.14308 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	790802	62.00544 ppb		98
94) Benzo (g,h,i) perylene	16.55	276	786363	62.14156 ppb		98

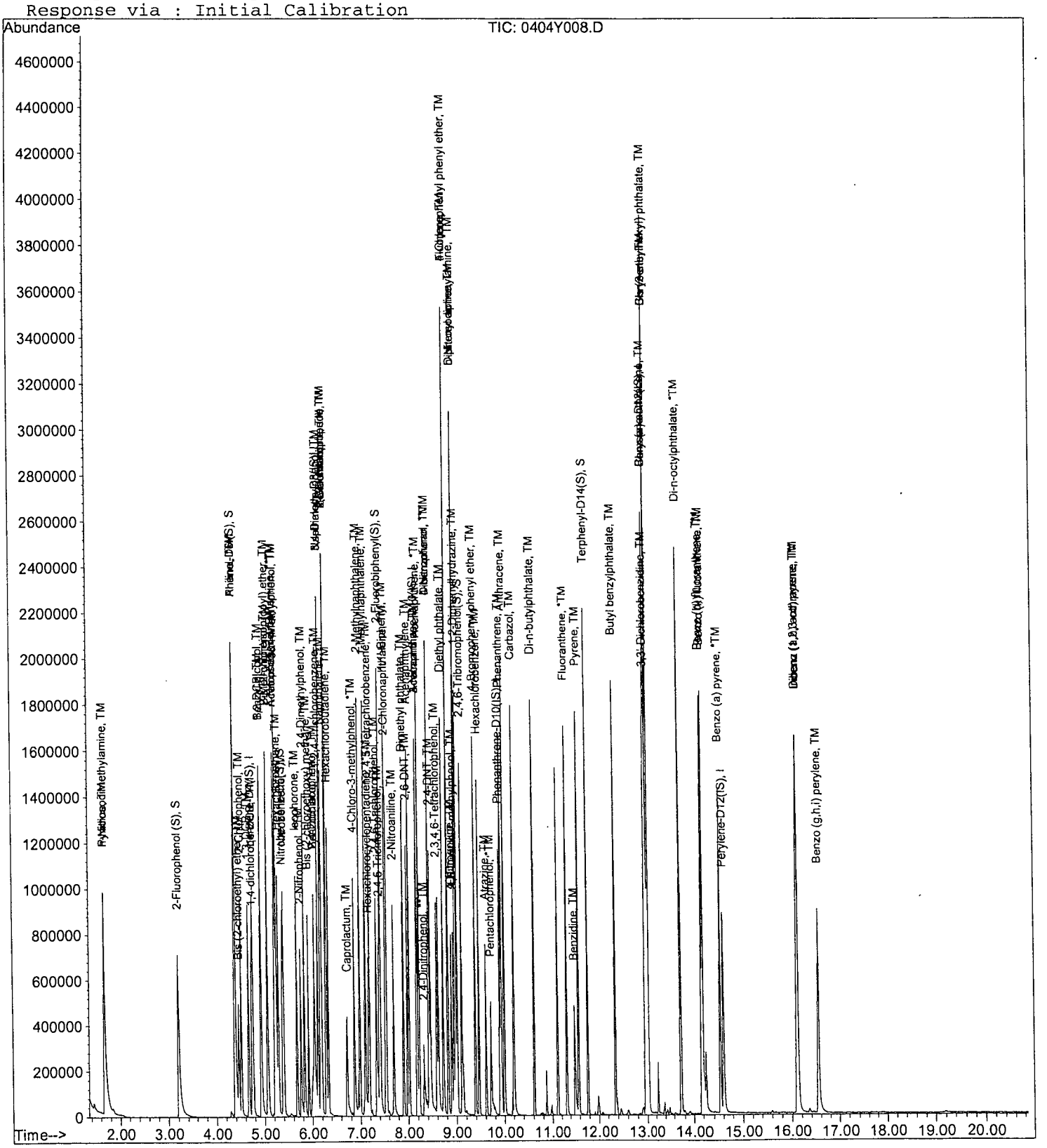
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y008.D Vial: 8
Acq On : 4 Apr 17 11:16 Operator: MA
Sample : 60ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.17	136	478317	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb		0.00
78) Chrysene-D12(IS)	12.99	240	550572	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.20	112	696751	172.43633 ppb		-0.05
Spiked Amount 200.000			Recovery = 86.218%			
5) Phenol-D6 (S)	4.38	99	770056	143.24315 ppb		0.00
Spiked Amount 200.000			Recovery = 71.622%			
21) Nitrobenzene-D5(S)	5.38	82	427790	88.18857 ppb		-0.01
Spiked Amount 100.000			Recovery = 88.189%			
45) 2-Fluorobiphenyl(S)	7.42	172	701781	73.36956 ppb		0.00
Spiked Amount 100.000			Recovery = 73.370%			
63) 2,4,6-Tribromophenol(S)	9.11	330	207208	150.14093 ppb		0.00
Spiked Amount 200.000			Recovery = 75.071%			
81) Terphenyl-D14(S)	11.77	244	865042	73.04742 ppb		0.00
Spiked Amount 100.000			Recovery = 73.047%			
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	376671	123.03008 ppb		97
3) Pyridine	1.67	79	651971	107.05356 ppb		100
6) Phenol	4.40	94	476198	77.16960 ppb		87
7) Aniline	4.40	66	451795	77.12600 ppb	#	47
8) Bis (2-chloroethyl) ether	4.46	63	235655	78.02463 ppb		91
9) 2-Chlorophenol	4.51	128	381956	80.04048 ppb		98
10) 1,3-DCB	4.67	146	408558	81.15844 ppb		98
11) 1,4-DCB	4.75	146	412884	79.81427 ppb		96
12) Benzyl alcohol	4.93	108	222088	81.71037 ppb		97
13) 1,2-DCB	4.92	146	362202	76.81880 ppb		99
14) 2-Methylphenol	5.07	107	266625	74.76167 ppb		99
15) Bis (2-chloroisopropyl) et	5.06	45	475284	71.72089 ppb	#	72
16) Acetophenone	5.21	105	484723	76.27256 ppb		99
17) 3&4-Methylphenol	5.25	107	693145	149.67027 ppb		93
18) n-Nitrosodi-n-propylamine	5.22	70	265133	75.15276 ppb		88
19) Hexachloroethane	5.29	117	168456	79.19358 ppb		92
22) Nitrobenzene	5.40	77	421935	87.14138 ppb		98
23) Isophorone	5.68	82	718627	89.39145 ppb		94
24) 2-Nitrophenol	5.76	139	218946	96.41328 ppb		91
25) 2,4-Dimethylphenol	5.83	122	315055	85.80894 ppb		96
26) Benzoic acid	6.04	105	249059	85.49344 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	404092	86.82209 ppb		100
28) 2,4-Dichlorophenol	6.04	162	308482	88.29283 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	322421	83.51662 ppb		99
30) 3,4-Dimethylphenol	6.17	107	434730	78.64511 ppb		96
31) Naphthalene	6.20	128	1002132	80.13412 ppb		99
32) 4-Chloroaniline	6.28	127	292303	66.53972 ppb	#	89
33) 2,6-Dichlorophenol	6.28	162	231202	71.50220 ppb		99
34) Hexachloropropene	6.29	213	228793	81.52660 ppb		98
35) Hexachlorobutadiene	6.34	225	189667	82.85234 ppb		99
36) Caprolactum	6.75	55	175935	88.47360 ppb		93
37) 4-Chloro-3-methylphenol	6.87	107	328190	86.68683 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	661199	81.38725 ppb		97
39) 1-Methylnaphthalene	7.10	142	634599	79.30174 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	140223	79.25066 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	307926	76.32321 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	214449	84.71239 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	227425	81.90104 ppb		96
46) 1,1'-Biphenyl	7.54	154	821798	73.46236 ppb		97
47) 2-Chloronaphthalene	7.55	162	658556	77.04384 ppb		97
48) 2-Nitroaniline	7.69	65	248474	81.52039 ppb		90
49) Dimethyl phthalate	7.91	163	792632	77.33418 ppb		99
50) 2,6-DNT	7.99	165	190596	83.29714 ppb		84
51) Acenaphthylene	8.03	152	1051484	76.39799 ppb		100
52) 3-Nitroaniline	8.18	138	191583	76.56019 ppb		87
53) Acenaphthene	8.22	154	623269	73.46147 ppb		98
54) 2,4-Dinitrophenol	8.32	184	123017	91.99556 ppb		97
55) 4-Nitrophenol	8.43	65	160124	77.88635 ppb	#	1
56) Dibenzofuran	8.43	168	877383	73.24133 ppb		90
57) 2,4-DNT	8.46	165	268705	84.22212 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	183610	83.94922 ppb		95
59) Diethyl phthalate	8.72	149	810128	78.05649 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	340079	72.88752 ppb	#	81
61) Fluorene	8.83	166	684679	70.60346 ppb		98
62) 4-Nitroaniline	8.90	138	191810	80.57477 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.95	198	168667	77.83187 ppb		89
66) Diphenyl amine	8.98	169	1069838	144.16591 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	1069838	144.16591 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	1095437	84.55404 ppb		89
69) 4-Bromophenyl phenyl ether	9.39	248	221743	76.25014 ppb		87
70) Hexachlorobenzene	9.47	284	223029	73.51979 ppb	#	85
71) Atrazine	9.62	200	123128	42.86350 ppb		99
72) Pentachlorophenol	9.72	266	112127	79.32319 ppb		95
73) Phenanthrene	9.94	178	1114239	70.95247 ppb		100
74) Anthracene	10.00	178	1170794	71.47704 ppb		100
75) Carbazol	10.20	167	1055567	72.79345 ppb		96
76) Di-n-butylphthalate	10.62	149	1409340	76.91220 ppb		99
77) Fluoranthene	11.32	202	1228617	72.06681 ppb		95
79) Benzidine	11.50	184	371271	54.16939 ppb		96
80) Pyrene	11.58	202	1297129	73.46717 ppb		98
82) Butyl benzylphthalate	12.35	149	658870	80.70890 ppb		99
83) 3,3'-Dichlorobenzidine	12.96	252	380319	68.70057 ppb		98
84) Benz (a) anthracene	12.98	228	1171043	70.52182 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	863161	75.17463 ppb		98
86) Chrysene	13.02	228	1165678	71.57285 ppb		99
87) Di-n-octylphthalate	13.74	149	1567502	79.69270 ppb	#	91
89) Benzo (b) fluoranthene	14.16	252	1316574	81.42140 ppb		97
90) Benzo (k) fluoranthene	14.19	252	1074749	72.11789 ppb		99
91) Benzo (a) pyrene	14.54	252	1153969	78.13893 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	1302019	78.64363 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	1098191	77.92212 ppb		99
94) Benzo (g,h,i) perylene	16.55	276	1136914	81.84687 ppb		98

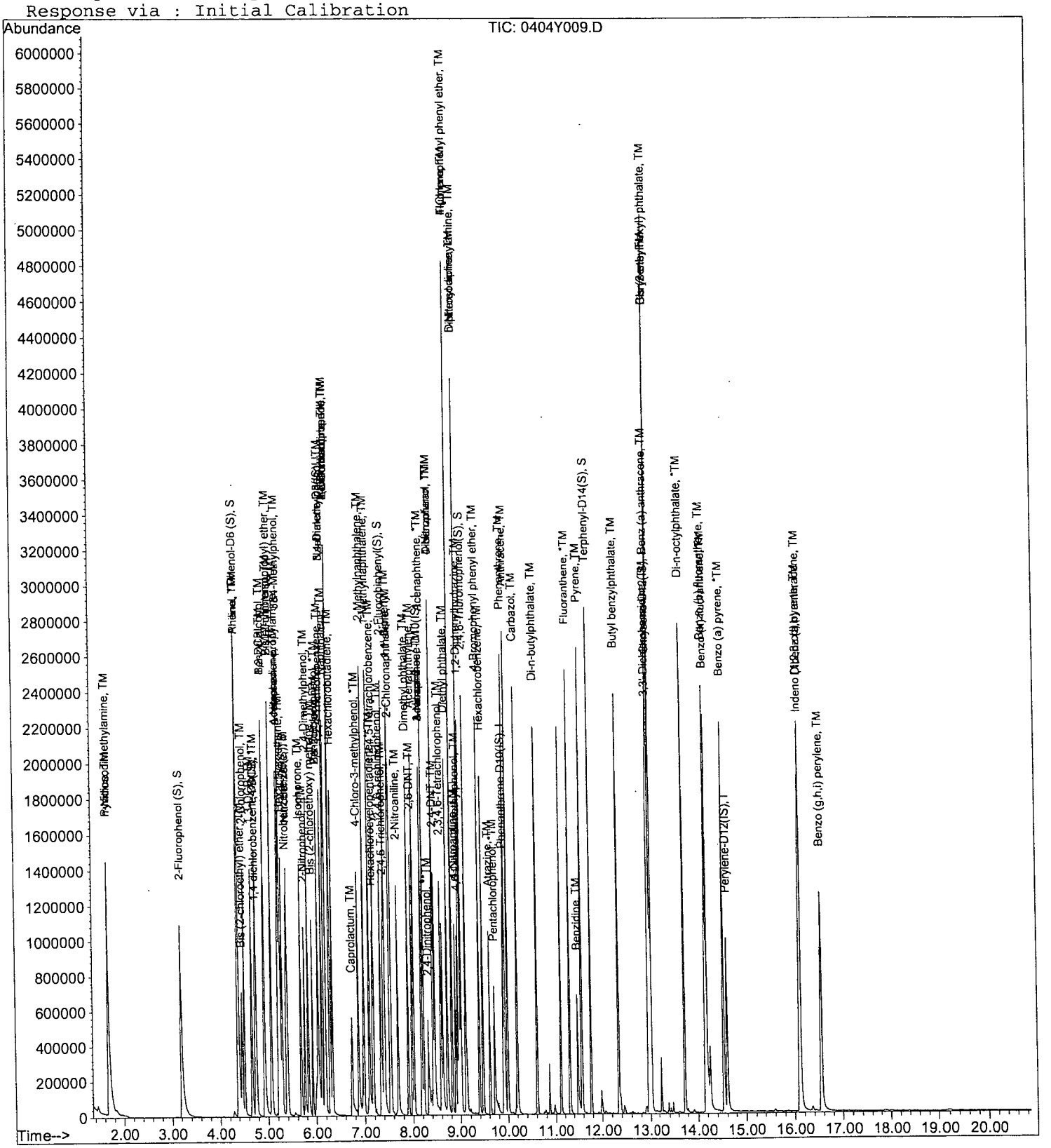
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y009.D Vial: 9
Acq On : 4 Apr 17 11:47 Operator: MA
Sample : 80ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	773437	207.34510 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.673%	
5) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.269%	
21) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.046%	
45) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb	0.00
Spiked Amount 100.000			Recovery	= 95.429%	
63) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.980%	
81) Terphenyl-D14(S)	11.77	244	992665	93.95291 ppb	0.00
Spiked Amount 100.000			Recovery	= 93.953%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	425920	102.91776 ppb		84
3) Pyridine	1.67	79	722710	98.62419 ppb		96
6) Phenol	4.40	94	507951	93.75618 ppb		96
7) Aniline	4.40	66	519276	101.86465 ppb	#	43
8) Bis (2-chloroethyl) ether	4.47	63	266540	103.42071 ppb		91
9) 2-Chlorophenol	4.51	128	413357	96.61313 ppb		97
10) 1,3-DCB	4.67	146	428231	94.22049 ppb		98
11) 1,4-DCB	4.75	146	435065	93.44846 ppb		100
12) Benzyl alcohol	4.93	108	243762	98.25503 ppb		96
13) 1,2-DCB	4.92	146	385653	91.66813 ppb		98
14) 2-Methylphenol	5.07	107	293276	91.00092 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	499480	90.53646 ppb	#	73
16) Acetophenone	5.22	105	523190	93.90038 ppb		96
17) 3&4-Methylphenol	5.25	107	709133	173.05318 ppb		97
18) n-Nitrosodi-n-propylamine	5.23	70	270093	89.21322 ppb		82
19) Hexachloroethane	5.29	117	178857	92.55446 ppb		98
22) Nitrobenzene	5.40	77	465969	102.81631 ppb		98
23) Isophorone	5.68	82	790168	106.10087 ppb		97
24) 2-Nitrophenol	5.76	139	238371	109.19307 ppb		83
25) 2,4-Dimethylphenol	5.83	122	354209	102.15149 ppb		96
26) Benzoic acid	6.06	105	290052	98.62058 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	443197	102.06284 ppb		99
28) 2,4-Dichlorophenol	6.04	162	350824	104.47705 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	366705	101.11372 ppb		100
30) 3,4-Dimethylphenol	6.17	107	510022	100.73386 ppb		93
31) Naphthalene	6.20	128	1137936	99.97633 ppb		99
32) 4-Chloroaniline	6.28	127	310882	81.48149 ppb	#	86
33) 2,6-Dichlorophenol	6.28	162	275295	93.12611 ppb		99
34) Hexachloropropene	6.29	213	293750	109.79048 ppb		99
35) Hexachlorobutadiene	6.34	225	226348	101.68722 ppb		99
36) Caprolactum	6.76	55	203622	110.47263 ppb		95
37) 4-Chloro-3-methylphenol	6.88	107	383540	104.89162 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	744542	94.29910	ppb		100
39) 1-Methylnaphthalene	7.10	142	717308	94.14857	ppb		100
41) Hexachlorocyclopentadiene	7.17	237	179104	100.56951	ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	344281	96.56243	ppb		95
43) 2,4,6-Trichlorophenol	7.34	196	248145	105.17845	ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	251054	102.52399	ppb		99
46) 1,1'-Biphenyl	7.54	154	949276	97.25525	ppb		97
47) 2-Chloronaphthalene	7.56	162	756927	99.33119	ppb		97
48) 2-Nitroaniline	7.70	65	296478	112.25379	ppb		87
49) Dimethyl phthalate	7.91	163	916404	100.50165	ppb		100
50) 2,6-DNT	7.99	165	219151	104.50226	ppb		93
51) Acenaphthylene	8.02	152	1162203	96.51672	ppb		99
52) 3-Nitroaniline	8.18	138	213576	99.06149	ppb		84
53) Acenaphthene	8.23	154	699593	95.20116	ppb		99
54) 2,4-Dinitrophenol	8.33	184	140767	99.36552	ppb		95
55) 4-Nitrophenol	8.43	65	200402	104.29026	ppb	#	1
56) Dibenzofuran	8.43	168	987669	96.07076	ppb		89
57) 2,4-DNT	8.47	165	302081	108.08151	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.60	232	210701	105.76926	ppb		94
59) Diethyl phthalate	8.74	149	932756	100.06001	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	418629	102.95022	ppb	#	78
61) Fluorene	8.83	166	832507	100.56011	ppb		98
62) 4-Nitroaniline	8.91	138	209595	100.65025	ppb		91
65) 4,6-Dinitro-2-methylphenol	8.95	198	192473	96.07130	ppb	#	71
66) Diphenyl amine	8.99	169	1289980	177.28553	ppb		98
67) n-Nitrosodiphenylamine	8.99	169	1289980	177.28553	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	1258249	102.42399	ppb		85
69) 4-Bromophenyl phenyl ether	9.39	248	255625	93.78267	ppb	#	83
70) Hexachlorobenzene	9.47	284	254441	91.91740	ppb	#	82
71) Atrazine	9.62	200	138683	47.30085	ppb		97
72) Pentachlorophenol	9.72	266	135103	100.56356	ppb		94
73) Phenanthrene	9.94	178	1295258	90.53191	ppb		99
74) Anthracene	10.00	178	1346540	89.21918	ppb		100
75) Carbazol	10.20	167	1224655	92.04748	ppb		93
76) Di-n-butylphthalate	10.62	149	1602655	92.62347	ppb		99
77) Fluoranthene	11.33	202	1418663	90.03546	ppb	#	94
79) Benzidine	11.49	184	420209	95.17004	ppb		98
80) Pyrene	11.59	202	1460063	94.74995	ppb		98
82) Butyl benzylphthalate	12.36	149	737719	98.54243	ppb		95
83) 3,3'-Dichlorobenzidine	12.96	252	406206	83.73161	ppb		97
84) Benz (a) anthracene	12.98	228	1384031	96.08109	ppb		100
85) Bis (2-ethylhexyl) phthala	13.02	149	1127997	107.50693	ppb		95
86) Chrysene	13.02	228	1484474	105.26818	ppb		100
87) Di-n-octylphthalate	13.74	149	1777361	96.34586	ppb	#	88
89) Benzo (b) fluoranthene	14.17	252	1458987	94.40023	ppb	#	97
90) Benzo (k) fluoranthene	14.20	252	1181491	80.85549	ppb		99
91) Benzo (a) pyrene	14.55	252	1285658	90.41717	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.12	276	1442533	87.85498	ppb		97
93) Dibenz (a,h) anthracene	16.13	278	1210270	87.31182	ppb		96
94) Benzo (g,h,i) perylene	16.56	276	1254551	90.50505	ppb		97

(#) = qualifier out of range (m) = manual integration

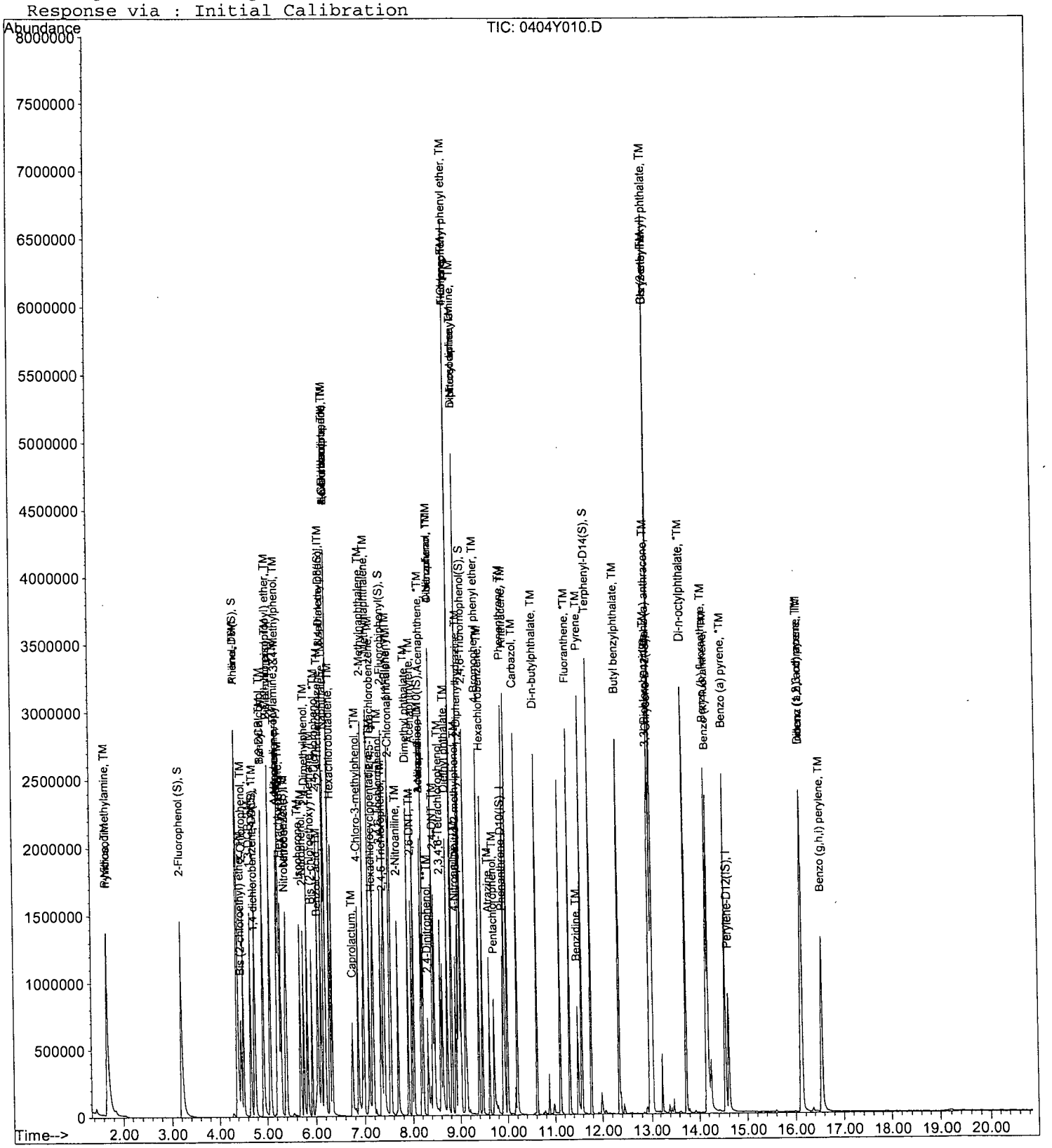
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	n-Nitrosodimethylamine	1.429	1.612	13	TM	
2	TM	Pyridine	2.529	2.957	17	TM	
3	*TM	Phenol	1.870	2.056	9.9	*TM	
4	TM	Aniline	1.760	1.636	7.0	TM	
5	TM	Bis (2-chloroethyl) ether	0.8896	0.8927	0.35	TM	
6	TM	2-Chlorophenol	1.477	1.565	6.0	TM	
7	TM	1,3-DCB	1.569	1.646	4.9	TM	
8	*TM	1,4-DCB	1.607	1.664	3.6	*TM	
9	TM	Benzyl alcohol	0.8564	0.8902	4.0	TM	
10	TM	1,2-DCB	1.452	1.502	3.4	TM	
11	TM	2-Methylphenol	1.112	1.136	2.1	TM	
12	TM	Bis (2-chloroisopropyl) ether	1.904	1.998	4.9	TM	
13	TM	Acetophenone	1.923	1.982	3.1	TM	
14	TM	3&4-Methylphenol	1.414	1.482	4.8	TM	
15	**TM	n-Nitrosodi-n-propylamine	1.045	1.078	3.2	**TM	
16	TM	Hexachloroethane	0.6670	0.6967	4.4	TM	
17	TM	Nitrobenzene	0.4137	0.4409	6.6	TM	
18	TM	Isophorone	0.6798	0.7388	8.7	TM	
19	*TM	2-Nitrophenol	0.1993	0.2258	13	*TM	
20	TM	2,4-Dimethylphenol	0.3165	0.3438	8.6	TM	
21	TML	Benzoic acid	0.2240	0.2805	25	TML	7.4
22	TM	Bis (2-chloroethoxy) methane	0.3964	0.4144	4.5	TM	
23	*TM	2,4-Dichlorophenol	0.3065	0.3284	7.1	*TM	
24	TM	1,2,4-Trichlorobenzene	0.3311	0.3510	6.0	TM	
25	TM	3,4-Dimethylphenol	0.4622	0.4752	2.8	TM	
26	TM	Naphthalene	1.039	1.067	2.7	TM	
27	TM	4-Chloroaniline	0.3483	0.3509	0.74	TM	A
28	TM	2,6-Dichlorophenol	0.2698	0.2767	2.5	TM	
29	TM	Hexachloropropene	0.2442	0.2524	3.4	TM	
30	*TM	Hexachlorobutadiene	0.2032	0.1992	2.0	*TM	
31	TM	Caprolactum	0.1683	0.1798	6.8	TM	
32	*TM	4-Chloro-3-methylphenol	0.3338	0.3341	0.08	*TM	
33	TM	2-Methylnaphthalene	0.7207	0.6858	4.8	TM	
34	TM	1-Methylnaphthalene	0.6955	0.7068	1.6	TM	
35	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2183	32	**TMQ	6.8
36	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5492	2.2	TM	
37	*TM	2,4,6-Trichlorophenol	0.3558	0.3563	0.14	*TM	
38	TM	2,4,5-Trichlorophenol	0.3693	0.3804	3.0	TM	
39	TM	1,1'-Biphenyl	1.472	1.422	3.4	TM	
40	TM	2-Chloronaphthalene	1.149	1.112	3.2	TM	
		Average			6.1		

A Reported from 0404Y015

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0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.3983	0.4157	4.4	TM	
42	TM	Dimethyl phthalate	1.375	1.494	8.7	TM	
43	TM	2,6-DNT	0.3162	0.3525	11	TM	
44	TM	Acenaphthylene	1.816	1.958	7.8	TM	
45	TM	3-Nitroaniline	0.3251	0.3260	0.26	TM	
46	*TM	Acenaphthene	1.108	1.143	3.2	*TM	
47	**TML	2,4-Dinitrophenol	0.1445	0.1640	14	**TML	11
48	**TML	4-Nitrophenol	0.2008	0.2649	32	**TML	0.49
49	TM	Dibenzofuran	1.550	1.713	11	TM	
50	TM	2,4-DNT	0.4215	0.4693	11	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3332	11	TM	
52	TM	Diethyl phthalate	1.406	1.413	0.53	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6132	0.5869	4.3	TM	
54	TM	Fluorene	1.248	1.206	3.4	TM	
55	TM	4-Nitroaniline	0.3140	0.3112	0.90	TM	
56	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1727	35	TMQ	19
57	TM	Diphenyl amine	0.5231	0.5931	13	TM	
58	*TM	n-Nitrosodiphenylamine	0.5231	0.5931	13	*TM	
59	TM	1,2-Diphenylhydrazine	0.8832	0.9113	3.2	TM	
60	TM	4-Bromophenyl phenyl ether	0.1959	0.2267	16	TM	
61	TM	Hexachlorobenzene	0.1990	0.2361	19	TM	
62	TM	Atrazine	0.2108	0.2358	12	TM	
63	*TM	Pentachlorophenol	0.0841	0.0992	18	*TM	
64	TM	Phenanthrene	1.028	1.121	9.0	TM	
65	TM	Anthracene	1.085	1.162	7.1	TM	
66	TM	Carbazol	0.9564	1.038	8.5	TM	
67	TM	Di-n-butylphthalate	1.244	1.345	8.1	TM	
68	*TM	Fluoranthene	1.133	1.218	7.5	*TM	
69	TM	Benzidine	0.3534	0.3818	8.0	TM	
70	TM	Pyrene	1.233	1.318	6.9	TM	
71	TM	Butyl benzylphthalate	0.5992	0.6398	6.8	TM	
72	TM	3,3'-Dichlorobenzidine	0.3883	0.3286	15	TM	
73	TM	Benz (a) anthracene	1.153	1.190	3.3	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8555	1.9	TM	
75	TM	Chrysene	1.129	1.105	2.1	TM	
76	*TM	Di-n-octylphthalate	1.476	1.573	6.6	*TM	
77	TM	Benzo (b) fluoranthene	1.340	1.260	6.0	TM	
78	TM	Benzo (k) fluoranthene	1.267	1.349	6.4	TM	
79	*TM	Benzo (a) pyrene	1.233	1.271	3.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.424	1.700	19	TM	
		Average			9.4		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Dibenz (a,h) anthracene	1.202	1.445	20	TM	
82	TM	Benzo (g,h,i) perylene	1.202	1.417	18	TM	
83							
84							
85							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	452627	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	486812	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00

System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.29	82	40784	8.70340 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.703%	
45) 2-Fluorobiphenyl(S)	7.40	172	238	0.02679 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Algorithm = $\frac{241922 \times 40 \times 1}{120035 \times 1.429}$ = 56.4 HAA 4/17

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	241922	56.43464 ppb	96
3) Pyridine	1.67	79	443637	58.44606 ppb	100
6) Phenol	4.39	94	308453	54.97098 ppb	93
7) Aniline	4.39	66	245433	46.48002 ppb #	70
8) Bis (2-chloroethyl) ether	4.45	63	133941	50.17262 ppb	91
9) 2-Chlorophenol	4.51	128	234860	52.99416 ppb	96
10) 1,3-DCB	4.67	146	247023	52.47020 ppb	98
11) 1,4-DCB	4.75	146	249719	51.78186 ppb	96
12) Benzyl alcohol	4.92	108	133576	51.97868 ppb	97
13) 1,2-DCB	4.92	146	225378	51.71795 ppb	97
14) 2-Methylphenol	5.07	107	170474	51.06643 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	299806	52.46308 ppb	89
16) Acetophenone	5.21	105	297375	51.52529 ppb	99
17) 3&4-Methylphenol	5.24	107	444636	104.75255 ppb	97
18) n-Nitrosodi-n-propylamine	5.21	70	161808	51.59694 ppb	95
19) Hexachloroethane	5.29	117	104538	52.22443 ppb	97
22) Nitrobenzene	5.39	77	249471	53.29065 ppb	100
23) Isophorone	5.67	82	418017	54.33997 ppb	94
24) 2-Nitrophenol	5.75	139	127740	56.64930 ppb	94
25) 2,4-Dimethylphenol	5.83	122	194532	54.31280 ppb	95
26) Benzoic acid	6.01	105	158675	53.68314 ppb	93
27) Bis (2-chloroethoxy) metha	5.92	93	234458	52.27113 ppb	98
28) 2,4-Dichlorophenol	6.04	162	185791	53.56514 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	198600	53.01496 ppb	97
30) 3,4-Dimethylphenol	6.17	107	268885	51.41373 ppb	98
31) Naphthalene	6.19	128	603632	51.34257 ppb	98
32) 4-Chloroaniline	6.28	127	123406	31.31307 ppb	95
33) 2,6-Dichlorophenol	6.28	162	156543	51.26639 ppb	96
34) Hexachloropropene	6.29	213	142819	51.67717 ppb	97
35) Hexachlorobutadiene	6.34	225	112688	49.01098 ppb	98
36) Caprolactum	6.72	55	101712	53.42298 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	189004	50.04113 ppb	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	388003	47.57507 ppb		99
39) 1-Methylnaphthalene	7.10	142	399917	50.81640 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	77313	53.38262 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194514	51.07973 ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	126168	50.06948 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	134723	51.51132 ppb		96
46) 1,1'-Biphenyl	7.53	154	503749	48.32116 ppb		97
47) 2-Chloronaphthalene	7.54	162	393986	48.40777 ppb		95
48) 2-Nitroaniline	7.69	65	147234	52.19384 ppb		97
49) Dimethyl phthalate	7.90	163	529217	54.34038 ppb		100
50) 2,6-DNT	7.98	165	124830	55.73189 ppb		93
51) Acenaphthylene	8.02	152	693256	53.90348 ppb		100
52) 3-Nitroaniline	8.18	138	115439	50.13114 ppb		98
53) Acenaphthene	8.22	154	404948	51.59393 ppb		99
54) 2,4-Dinitrophenol	8.32	184	58078	44.52844 ppb		89
55) 4-Nitrophenol	8.44	65	93819	49.75668 ppb	#	1
56) Dibenzofuran	8.43	168	606686	55.25179 ppb		96
57) 2,4-DNT	8.45	165	166211	55.67887 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	118000	55.45970 ppb		97
59) Diethyl phthalate	8.71	149	500470	50.26586 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	207849	47.85734 ppb		95
61) Fluorene	8.82	166	427114	48.30413 ppb		94
62) 4-Nitroaniline	8.89	138	110209	49.55114 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	105208	59.28300 ppb		98
66) Diphenyl amine	8.97	169	722641	113.38251 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	722641	113.38251 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	555203	51.59231 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	138094	57.83986 ppb		98
70) Hexachlorobenzene	9.47	284	143817	59.31356 ppb		99
71) Atrazine	9.62	200	71826	27.96794 ppb		97
72) Pentachlorophenol	9.72	266	60457	58.99127 ppb		97
73) Phenanthrene	9.93	178	682951	54.49644 ppb		99
74) Anthracene	10.00	178	707886	53.54703 ppb		100
75) Carbazol	10.20	167	632165	54.24525 ppb		96
76) Di-n-butylphthalate	10.61	149	819498	54.07071 ppb		97
77) Fluoranthene	11.31	202	742007	53.76201 ppb		100
79) Benzidine	11.50	184	232343	54.02483 ppb		98
80) Pyrene	11.57	202	802008	53.43367 ppb		98
82) Butyl benzylphthalate	12.34	149	389326	53.39180 ppb	#	75
83) 3,3'-Dichlorobenzidine	12.96	252	199964	42.31787 ppb	#	96
84) Benz (a) anthracene	12.98	228	724356	51.62655 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	520567	50.93708 ppb		96
86) Chrysene	13.01	228	672225	48.94046 ppb		99
87) Di-n-octylphthalate	13.73	149	957326	53.27779 ppb		95
89) Benzo (b) fluoranthene	14.16	252	734897	47.00114 ppb		96
90) Benzo (k) fluoranthene	14.19	252	786807	53.22401 ppb		99
91) Benzo (a) pyrene	14.54	252	741585	51.55214 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	992130	59.72684 ppb		98
93) Dibenz (a,h) anthracene	16.12	278	843126	60.12340 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	826517	58.93816 ppb		95

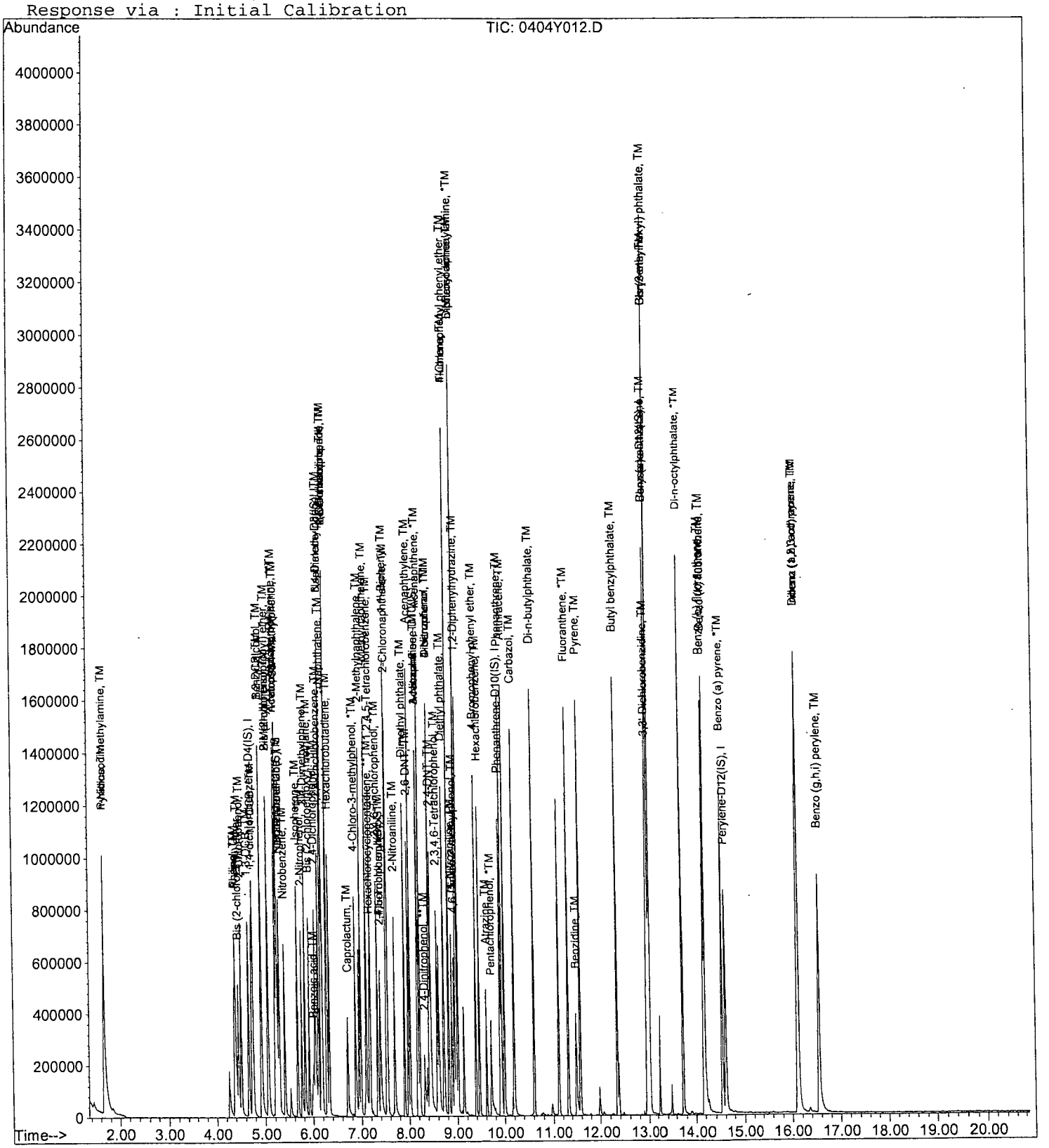
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y012.D Vial: 12
Acq On : 4 Apr 17 15:38 Operator: MA
Sample : SS 50ug/ml SVOC 04/04/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 5 10:50 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104120	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	448907	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	252014	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	454389	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	452215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453788	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	0.00	82	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
45) 2-Fluorobiphenyl(S)	0.00	172	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
Target Compounds					Qvalue
32) 4-Chloroaniline	6.28	127	196879	50.37010 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

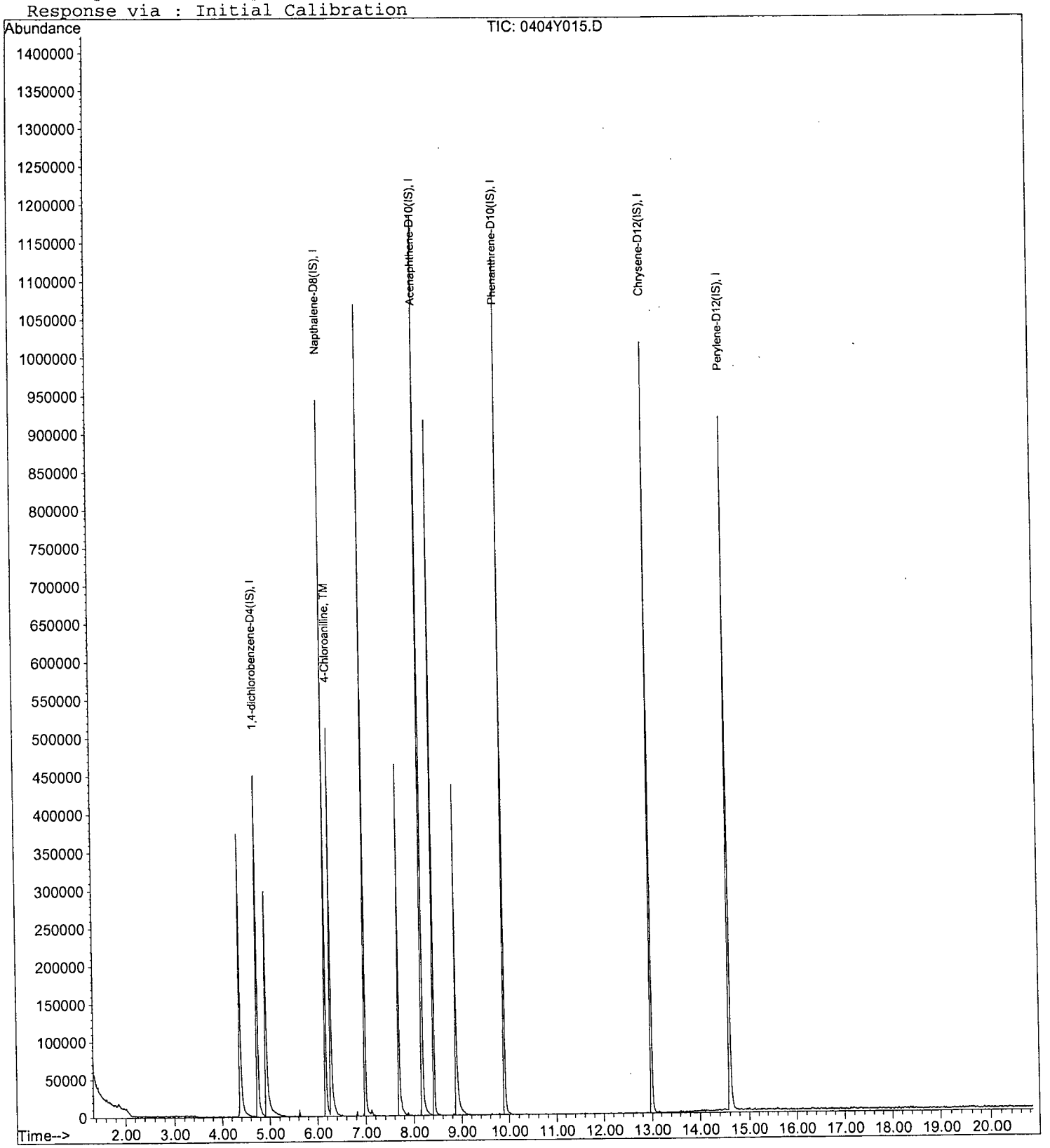
Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.444	1.1	TM	
3	S	2-Fluorophenol (S)	1.286	1.314	2.2	S	
4	S	Phenol-D6 (S)	1.610	1.513	6.0	S	
5	*TM	Phenol	1.870	1.846	1.3	*TM	
6	TM	Aniline	1.760	1.749	0.58	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8391	5.7	TM	
8	TM	2-Chlorophenol	1.477	1.452	1.7	TM	
9	TM	1,3-DCB	1.569	1.517	3.3	TM	
10	*TM	1,4-DCB	1.607	1.533	4.6	*TM	
11	TM	Benzyl alcohol	0.8564	0.8407	1.8	TM	
12	TM	1,2-DCB	1.452	1.418	2.4	TM	
13	TM	2-Methylphenol	1.112	1.058	4.9	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.839	3.4	TM	
15	TM	Acetophenone	1.923	1.876	2.5	TM	
16	TM	3&4-Methylphenol	1.414	1.394	1.4	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.024	2.0	**TM	
18	TM	Hexachloroethane	0.6670	0.6624	0.70	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.4013	3.1	S	
21	TM	Nitrobenzene	0.4137	0.4006	3.2	TM	
22	TM	Isophorone	0.6798	0.6643	2.3	TM	
23	*TM	2-Nitrophenol	0.1993	0.2012	0.96	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3084	2.6	TM	
25	TML	Benzoic acid	0.2240	0.2517	12	TML	3.0
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3944	0.49	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3018	1.5	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3232	2.4	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4463	3.4	TM	
30	TM	Naphthalene	1.039	1.011	2.7	TM	
31	TM	4-Chloroaniline	0.3483	0.3353	3.7	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2483	8.0	TM	
33	TM	Hexachloropropene	0.2442	0.2323	4.9	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1891	6.9	*TM	
35	TM	Caprolactum	0.1683	0.1662	1.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3282	1.7	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6912	4.1	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6721	3.4	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2025	23	**TMQ	1.1
		Average			3.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.4857	9.7	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3355	5.7	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3510	5.0	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.151	8.2	S	
45	TM	1,1'-Biphenyl	1.472	1.348	8.4	TM	
46	TM	2-Chloronaphthalene	1.149	1.070	6.9	TM	
47	TM	2-Nitroaniline	0.3983	0.3947	0.89	TM	
48	TM	Dimethyl phthalate	1.375	1.280	6.9	TM	
49	TM	2,6-DNT	0.3162	0.3080	2.6	TM	
50	TM	Acenaphthylene	1.816	1.705	6.1	TM	
51	TM	3-Nitroaniline	0.3251	0.3188	1.9	TM	
52	*TM	Acenaphthene	1.108	1.039	6.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1750	21	**TML	6.1
54	**TML	4-Nitrophenol	0.2008	0.2549	27	**TML	3.7
55	TM	Dibenzofuran	1.550	1.497	3.4	TM	
56	TM	2,4-DNT	0.4215	0.4185	0.70	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2975	0.97	TM	
58	TM	Diethyl phthalate	1.406	1.316	6.4	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5415	12	TM	
60	TM	Fluorene	1.248	1.086	13	TM	
61	TM	4-Nitroaniline	0.3140	0.3097	1.4	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1662	7.3	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1444	13	TMQ	0.90
65	TM	Diphenyl amine	0.5231	0.4912	6.1	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4912	6.1	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9776	11	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1952	0.37	TM	
69	TM	Hexachlorobenzene	0.1990	0.1985	0.25	TM	
70	TM	Atrazine	0.2108	0.2123	0.71	TM	
71	*TM	Pentachlorophenol	0.0841	0.0978	16	*TM	
72	TM	Phenanthrene	1.028	1.010	1.8	TM	
73	TM	Anthracene	1.085	1.072	1.2	TM	
74	TM	Carbazol	0.9564	0.9570	0.06	TM	
75	TM	Di-n-butylphthalate	1.244	1.244	0.02	TM	
76	*TM	Fluoranthene	1.133	1.110	2.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3367	4.7	TM	
79	TM	Pyrene	1.233	1.223	0.82	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8200	3.0	S	
		Average			6.0		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.5990	0.02	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3758	3.2	TM	
83	TM	Benz (a) anthracene	1.153	1.101	4.5	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8403	0.07	TM	
85	TM	Chrysene	1.129	1.071	5.1	TM	
86	*TM	Di-n-octylphthalate	1.476	1.458	1.2	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.237	7.7	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.218	3.8	TM	
90	*TM	Benzo (a) pyrene	1.233	1.174	4.8	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.319	7.3	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.130	6.0	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.134	5.6	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
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107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.1		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D Vial: 38
Acq On : 10 Apr 17 11:15 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 10 11:31 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	135139	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	551655	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	344147	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	623714	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	612103	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	581377	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	443969	102.15233 ppb	0.00
Spiked Amount 200.000			Recovery = 51.076%		
5) Phenol-D6 (S)	4.37	99	511134	93.95211 ppb	0.00
Spiked Amount 200.000			Recovery = 46.976%		
21) Nitrobenzene-D5(S)	5.37	82	276724	48.45281 ppb	0.00
Spiked Amount 100.000			Recovery = 48.453%		
45) 2-Fluorobiphenyl(S)	7.42	172	495310	45.90268 ppb	0.00
Spiked Amount 100.000			Recovery = 45.903%		
63) 2,4,6-Tribromophenol(S)	9.12	330	142993	92.70728 ppb	0.00
Spiked Amount 200.000			Recovery = 46.354%		
81) Terphenyl-D14(S)	11.77	244	627441	48.48932 ppb	0.00
Spiked Amount 100.000			Recovery = 48.489%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	243901	50.53720 ppb	89
6) Phenol	4.39	94	311905	49.37351 ppb	97
7) Aniline	4.39	66	295507	49.70823 ppb #	60
8) Bis (2-chloroethyl) ether	4.46	63	141746	47.16189 ppb	99
9) 2-Chlorophenol	4.51	128	245199	49.14336 ppb	94
10) 1,3-DCB	4.67	146	256238	48.34439 ppb	100
11) 1,4-DCB	4.75	146	258935	47.69184 ppb	95
12) Benzyl alcohol	4.93	108	142009	49.08400 ppb	87
13) 1,2-DCB	4.92	146	239499	48.81583 ppb	99
14) 2-Methylphenol	5.07	107	178682	47.54286 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	310712	48.29462 ppb	94
16) Acetophenone	5.21	105	316921	48.77465 ppb	97
17) 3&4-Methylphenol	5.24	107	471062	98.57465 ppb	95
18) n-Nitrosodi-n-propylamine	5.22	70	172924	48.97861 ppb	85
19) Hexachloroethane	5.29	117	111888	49.64897 ppb	97
22) Nitrobenzene	5.39	77	276264	48.42038 ppb	99
23) Isophorone	5.67	82	458071	48.85749 ppb	95
24) 2-Nitrophenol	5.75	139	138732	50.47975 ppb	94
25) 2,4-Dimethylphenol	5.83	122	212684	48.72129 ppb	97
26) Benzoic acid	6.02	105	173559	48.49471 ppb	94
27) Bis (2-chloroethoxy) metha	5.92	93	271990	49.75338 ppb	98
28) 2,4-Dichlorophenol	6.04	162	208112	49.22975 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	222837	48.80670 ppb	96
30) 3,4-Dimethylphenol	6.16	107	307747	48.28133 ppb	92
31) Naphthalene	6.19	128	697082	48.64767 ppb	99
32) 4-Chloroaniline	6.28	127	231220	48.13796 ppb	96
33) 2,6-Dichlorophenol	6.28	162	171202	46.00244 ppb	97
34) Hexachloropropene	6.29	213	160197	47.55980 ppb	98
35) Hexachlorobutadiene	6.33	225	130385	46.52820 ppb	100
36) Caprolactum	6.72	55	114589	49.38235 ppb	96
37) 4-Chloro-3-methylphenol	6.87	107	226302	49.16062 ppb	98
38) 2-Methylnaphthalene	6.99	142	476640	47.95211 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D Vial: 38
Acq On : 10 Apr 17 11:15 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 10 11:31 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	463448	48.31789 ppb		98
41) Hexachlorocyclopentadiene	7.17	237	87099	50.57414 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	208956	45.17356 ppb		96
43) 2,4,6-Trichlorophenol	7.33	196	144323	47.15102 ppb		98
44) 2,4,5-Trichlorophenol	7.39	196	150982	47.52453 ppb		91
46) 1,1'-Biphenyl	7.53	154	579966	45.79915 ppb		97
47) 2-Chloronaphthalene	7.55	162	460167	46.54590 ppb		94
48) 2-Nitroaniline	7.70	65	169806	49.55596 ppb		95
49) Dimethyl phthalate	7.90	163	550543	46.53844 ppb		99
50) 2,6-DNT	7.98	165	132516	48.70627 ppb		95
51) Acenaphthylene	8.02	152	733328	46.94109 ppb		99
52) 3-Nitroaniline	8.18	138	137149	49.03197 ppb	#	98
53) Acenaphthene	8.22	154	447128	46.89893 ppb		99
54) 2,4-Dinitrophenol	8.33	184	75276	46.97020 ppb		90
55) 4-Nitrophenol	8.43	65	109648	48.14581 ppb	#	1
56) Dibenzofuran	8.42	168	643889	48.27532 ppb		100
57) 2,4-DNT	8.46	165	180037	49.65055 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	127964	49.51252 ppb	#	89
59) Diethyl phthalate	8.72	149	566121	46.80972 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	232941	44.15483 ppb		98
61) Fluorene	8.82	166	467305	43.50835 ppb		97
62) 4-Nitroaniline	8.89	138	133215	49.30845 ppb		88
65) 4,6-Dinitro-2-methylphenol	8.94	198	112554	49.55184 ppb		87
66) Diphenyl amine	8.98	169	765864	93.90149 ppb		98
67) n-Nitrosodiphenylamine	8.98	169	765864	93.90149 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	762145	55.34369 ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	152201	49.81582 ppb		94
70) Hexachlorobenzene	9.47	284	154760	49.87695 ppb		92
71) Atrazine	9.61	200	82740	25.17629 ppb		97
72) Pentachlorophenol	9.71	266	76275	58.15951 ppb		98
73) Phenanthrene	9.93	178	787525	49.10664 ppb		100
74) Anthracene	10.00	178	835787	49.40434 ppb		99
75) Carbazol	10.20	167	746119	50.03072 ppb		98
76) Di-n-butylphthalate	10.61	149	969545	49.98958 ppb		98
77) Fluoranthene	11.32	202	865546	49.00665 ppb		98
79) Benzidine	11.49	184	257599	47.63704 ppb		98
80) Pyrene	11.58	202	935839	49.58773 ppb		100
82) Butyl benzylphthalate	12.35	149	458347	49.99106 ppb		84
83) 3,3'-Dichlorobenzidine	12.96	252	287536	48.39505 ppb	#	94
84) Benz (a) anthracene	12.98	228	842170	47.73727 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	642952	50.03487 ppb		96
86) Chrysene	13.01	228	819648	47.45889 ppb		99
87) Di-n-octylphthalate	13.73	149	1115707	49.38252 ppb		97
89) Benzo (b) fluoranthene	14.17	252	898867	46.15342 ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	885368	48.08279 ppb		100
91) Benzo (a) pyrene	14.54	252	853150	47.61433 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	958635	46.33196 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	821166	47.01198 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	824440	47.19873 ppb		98

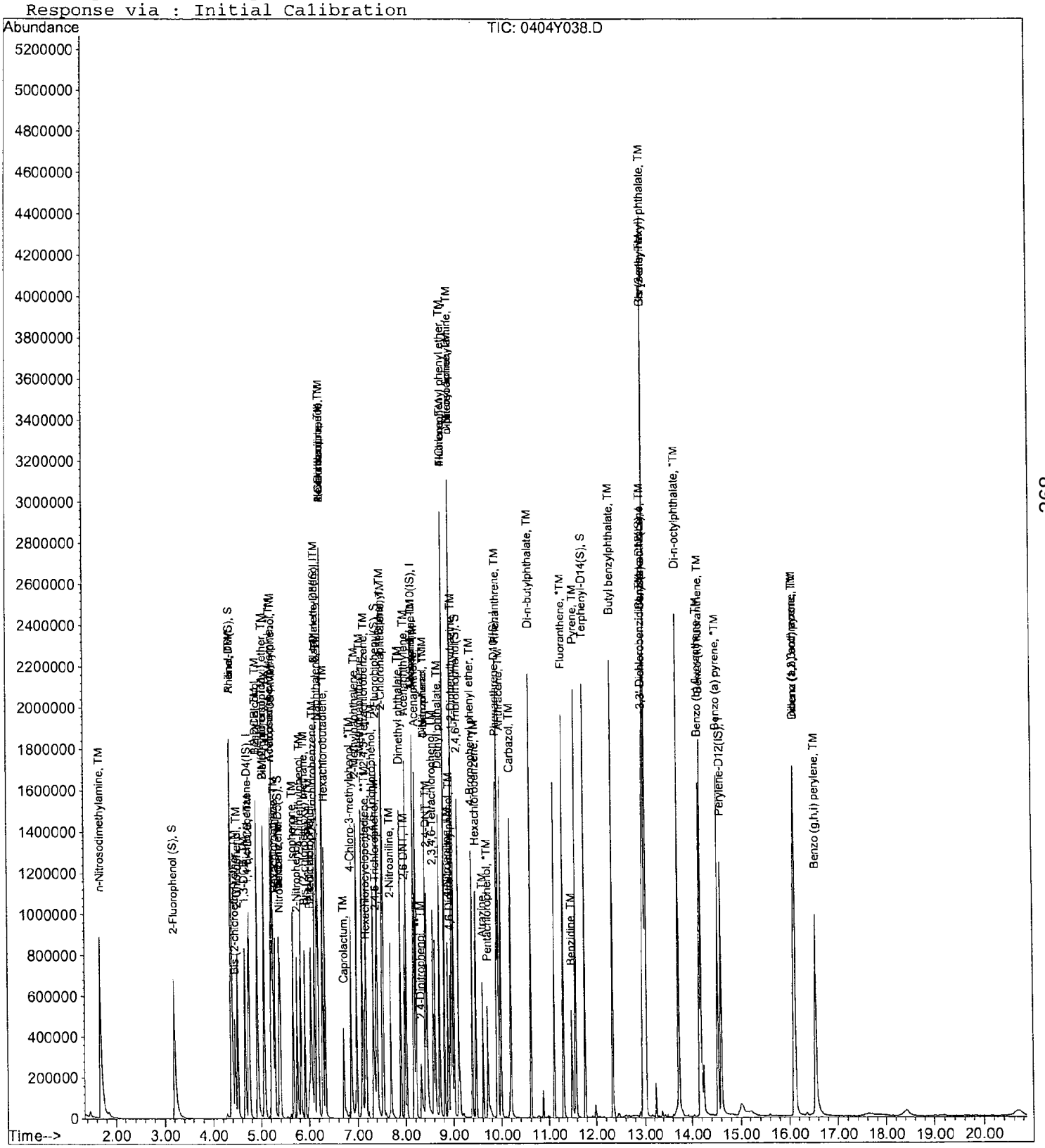
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y038.D Vial: 38
Acq On : 10 Apr 17 11:15 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 10 11:31 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.540	7.8	TM	
3	S	2-Fluorophenol (S)	1.286	1.162	9.6	S	
4	S	Phenol-D6 (S)	1.610	1.517	5.8	S	
5	*TM	Phenol	1.870	1.908	2.0	*TM	
6	TM	Aniline	1.760	1.809	2.8	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8804	1.0	TM	
8	TM	2-Chlorophenol	1.477	1.430	3.2	TM	
9	TM	1,3-DCB	1.569	1.554	0.95	TM	
10	*TM	1,4-DCB	1.607	1.591	1.0	*TM	
11	TM	Benzyl alcohol	0.8564	0.8805	2.8	TM	
12	TM	1,2-DCB	1.452	1.499	3.2	TM	
13	TM	2-Methylphenol	1.112	1.103	0.87	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.927	1.2	TM	
15	TM	Acetophenone	1.923	2.070	7.6	TM	
16	TM	3&4-Methylphenol	1.414	1.564	11	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.124	7.5	**TM	
18	TM	Hexachloroethane	0.6670	0.7095	6.4	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.3987	3.7	S	
21	TM	Nitrobenzene	0.4137	0.4015	3.0	TM	
22	TM	Isophorone	0.6798	0.6748	0.73	TM	
23	*TM	2-Nitrophenol	0.1993	0.2000	0.37	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3157	0.27	TM	
25	TML	Benzoic acid	0.2240	0.2438	8.9	TML	5.9
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3795	4.3	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3109	1.4	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3158	4.6	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4430	4.1	TM	
30	TM	Naphthalene	1.039	1.009	2.9	TM	
31	TM	4-Chloroaniline	0.3483	0.3430	1.5	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2500	7.3	TM	
33	TM	Hexachloropropene	0.2442	0.2229	8.7	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1860	8.5	*TM	
35	TM	Caprolactum	0.1683	0.1590	5.5	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.2974	11	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6296	13	TM	
38	TM	1-Methylnaphthalene	0.6955	0.5881	15	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1630	1.1	**TMQ	13
		Average			4.9		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5001	7.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3314	6.9	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3476	5.9	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.156	7.8	S	
45	TM	1,1'-Biphenyl	1.472	1.401	4.8	TM	
46	TM	2-Chloronaphthalene	1.149	1.107	3.7	TM	
47	TM	2-Nitroaniline	0.3983	0.3961	0.54	TM	
48	TM	Dimethyl phthalate	1.375	1.298	5.6	TM	
49	TM	2,6-DNT	0.3162	0.2945	6.9	TM	
50	TM	Acenaphthylene	1.816	1.689	7.0	TM	
51	TM	3-Nitroaniline	0.3251	0.3180	2.2	TM	
52	*TM	Acenaphthene	1.108	1.062	4.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1529	5.8	**TML	16
54	**TML	4-Nitrophenol	0.2008	0.2561	28	**TML	3.3
55	TM	Dibenzofuran	1.550	1.540	0.66	TM	
56	TM	2,4-DNT	0.4215	0.4251	0.85	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2833	5.7	TM	
58	TM	Diethyl phthalate	1.406	1.351	3.9	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5965	2.7	TM	
60	TM	Fluorene	1.248	1.222	2.1	TM	
61	TM	4-Nitroaniline	0.3140	0.3343	6.5	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1790	0.18	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1281	0.15	TMQ	12
65	TM	Diphenyl amine	0.5231	0.4672	11	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4672	11	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9603	8.7	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1906	2.7	TM	
69	TM	Hexachlorobenzene	0.1990	0.1895	4.8	TM	
70	TM	Atrazine	0.2108	0.2011	4.6	TM	
71	*TM	Pentachlorophenol	0.0841	0.0882	4.9	*TM	
72	TM	Phenanthrene	1.028	0.9692	5.8	TM	
73	TM	Anthracene	1.085	1.031	5.0	TM	
74	TM	Carbazol	0.9564	0.9613	0.51	TM	
75	TM	Di-n-butylphthalate	1.244	1.197	3.8	TM	
76	*TM	Fluoranthene	1.133	1.054	7.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3646	3.2	TM	
79	TM	Pyrene	1.233	1.257	1.9	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8341	1.4	S	
		Average			5.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Butyl benzylphthalate	0.5992	0.5904	1.5	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3925	1.1	TM	
83	TM	Benz (a) anthracene	1.153	1.121	2.7	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8246	1.8	TM	
85	TM	Chrysene	1.129	1.076	4.6	TM	
86	*TM	Di-n-octylphthalate	1.476	1.473	0.25	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.202	10	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.221	3.6	TM	
90	*TM	Benzo (a) pyrene	1.233	1.147	7.0	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.323	7.0	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.158	3.7	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.218	1.3	TM	
94							
95							
96							
97							
98							
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104							
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107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	103117	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	454712	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	247658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	511779	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	468078	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454493	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	299646	90.35549 ppb	0.00
Spiked Amount 200.000			Recovery = 45.178%		
5) Phenol-D6 (S)	4.37	99	391092	94.21090 ppb	0.00
Spiked Amount 200.000			Recovery = 47.106%		
21) Nitrobenzene-D5(S)	5.38	82	226590	48.13312 ppb	0.00
Spiked Amount 100.000			Recovery = 48.133%		
45) 2-Fluorobiphenyl(S)	7.42	172	357986	46.10188 ppb	0.00
Spiked Amount 100.000			Recovery = 46.102%		
63) 2,4,6-Tribromophenol(S)	9.12	330	110800	99.82296 ppb	0.00
Spiked Amount 200.000			Recovery = 49.912%		
81) Terphenyl-D14(S)	11.77	244	488015	49.31882 ppb	0.00
Spiked Amount 100.000			Recovery = 49.319%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	198474	53.89539 ppb	91
6) Phenol	4.39	94	245926	51.01837 ppb	99
7) Aniline	4.39	66	233171	51.40265 ppb #	64
8) Bis (2-chloroethyl) ether	4.46	63	113477	49.48103 ppb	96
9) 2-Chlorophenol	4.51	128	184272	48.40118 ppb	93
10) 1,3-DCB	4.67	146	200286	49.52261 ppb	98
11) 1,4-DCB	4.75	146	205039	49.49259 ppb	100
12) Benzyl alcohol	4.93	108	113498	51.41179 ppb	86
13) 1,2-DCB	4.92	146	193178	51.60182 ppb	98
14) 2-Methylphenol	5.07	107	142137	49.56351 ppb	95
15) Bis (2-chloroisopropyl) et	5.06	45	248335	50.58585 ppb	89
16) Acetophenone	5.21	105	266780	53.80800 ppb	97
17) 3&4-Methylphenol	5.25	107	403266	110.59340 ppb	96
18) n-Nitrosodi-n-propylamine	5.22	70	144858	53.77050 ppb	91
19) Hexachloroethane	5.29	117	91456	53.18502 ppb	97
22) Nitrobenzene	5.40	77	228200	48.52334 ppb	88
23) Isophorone	5.67	82	383565	49.63277 ppb	93
24) 2-Nitrophenol	5.76	139	113683	50.18422 ppb	96
25) 2,4-Dimethylphenol	5.83	122	179433	49.86748 ppb	96
26) Benzoic acid	6.02	105	138574	47.07108 ppb	97
27) Bis (2-chloroethoxy) metha	5.92	93	215717	47.87240 ppb	99
28) 2,4-Dichlorophenol	6.04	162	176690	50.70766 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	179513	47.70009 ppb	97
30) 3,4-Dimethylphenol	6.16	107	251799	47.92593 ppb	95
31) Naphthalene	6.19	128	573501	48.55607 ppb	99
32) 4-Chloroaniline	6.29	127	194954	49.24085 ppb	95
33) 2,6-Dichlorophenol	6.29	162	142119	46.32925 ppb	98
34) Hexachloropropene	6.29	213	126712	45.63884 ppb	97
35) Hexachlorobutadiene	6.33	225	105700	45.76092 ppb	99
36) Caprolactum	6.71	55	90364	47.24495 ppb	99
37) 4-Chloro-3-methylphenol	6.87	107	169057	44.55468 ppb	99
38) 2-Methylnaphthalene	6.99	142	357871	43.67922 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	334267	42.27967	ppb		98
41)	Hexachlorocyclopentadiene	7.17	237	50468	43.26972	ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.19	216	154829	46.51290	ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	102580	46.57039	ppb		93
44)	2,4,5-Trichlorophenol	7.40	196	107593	47.06178	ppb		96
46)	1,1'-Biphenyl	7.53	154	433702	47.59244	ppb		99
47)	2-Chloronaphthalene	7.55	162	342656	48.16327	ppb		94
48)	2-Nitroaniline	7.70	65	122624	49.72903	ppb		92
49)	Dimethyl phthalate	7.90	163	401742	47.19103	ppb		100
50)	2,6-DNT	7.98	165	91167	46.56352	ppb		95
51)	Acenaphthylene	8.02	152	522884	46.51059	ppb		98
52)	3-Nitroaniline	8.18	138	98437	48.90314	ppb	#	97
53)	Acenaphthene	8.23	154	328710	47.91104	ppb		99
54)	2,4-Dinitrophenol	8.33	184	47334	42.06456	ppb	#	73
55)	4-Nitrophenol	8.44	65	79292	48.34620	ppb	#	1
56)	Dibenzofuran	8.42	168	476752	49.67047	ppb		99
57)	2,4-DNT	8.46	165	131584	50.42629	ppb		96
58)	2,3,4,6-Tetrachlorophenol	8.59	232	87715	47.16205	ppb	#	85
59)	Diethyl phthalate	8.72	149	418091	48.03848	ppb		98
60)	4-Chlorophenyl phenyl ethe	8.83	204	184671	48.64325	ppb		94
61)	Fluorene	8.82	166	378197	48.93075	ppb		97
62)	4-Nitroaniline	8.89	138	103480	53.22508	ppb		92
65)	4,6-Dinitro-2-methylphenol	8.94	198	81953	44.09944	ppb		96
66)	Diphenyl amine	8.98	169	597819	89.32923	ppb		98
67)	n-Nitrosodiphenylamine	8.98	169	597819	89.32923	ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	614353	54.36903	ppb		96
69)	4-Bromophenyl phenyl ether	9.40	248	121926	48.63503	ppb		92
70)	Hexachlorobenzene	9.47	284	121247	47.62283	ppb		90
71)	Atrazine	9.61	200	64330	23.85573	ppb		98
72)	Pentachlorophenol	9.71	266	56442	52.44981	ppb		90
73)	Phenanthrene	9.93	178	620021	47.11784	ppb		99
74)	Anthracene	10.00	178	659633	47.51983	ppb		99
75)	Carbazol	10.20	167	614991	50.25745	ppb		99
76)	Di-n-butylphthalate	10.61	149	765613	48.10872	ppb		99
77)	Fluoranthene	11.32	202	674201	46.52188	ppb		98
79)	Benzidine	11.49	184	213342	51.59210	ppb		98
80)	Pyrene	11.58	202	735652	50.97436	ppb		100
82)	Butyl benzylphthalate	12.35	149	345429	49.26778	ppb		84
83)	3,3'-Dichlorobenzidine	12.96	252	229671	50.55000	ppb	#	93
84)	Benz (a) anthracene	12.98	228	656160	48.63779	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.02	149	482480	49.09981	ppb		99
86)	Chrysene	13.02	228	629718	47.68069	ppb		99
87)	Di-n-octylphthalate	13.73	149	861726	49.87680	ppb		99
89)	Benzo (b) fluoranthene	14.17	252	682610	44.83444	ppb	#	94
90)	Benzo (k) fluoranthene	14.19	252	693872	48.20320	ppb		99
91)	Benzo (a) pyrene	14.54	252	651562	46.51560	ppb		97
92)	Indeno (1,2,3-cd) pyrene	16.11	276	751780	46.47815	ppb		97
93)	Dibenz (a,h) anthracene	16.12	278	657813	48.17377	ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	691720	50.65616	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

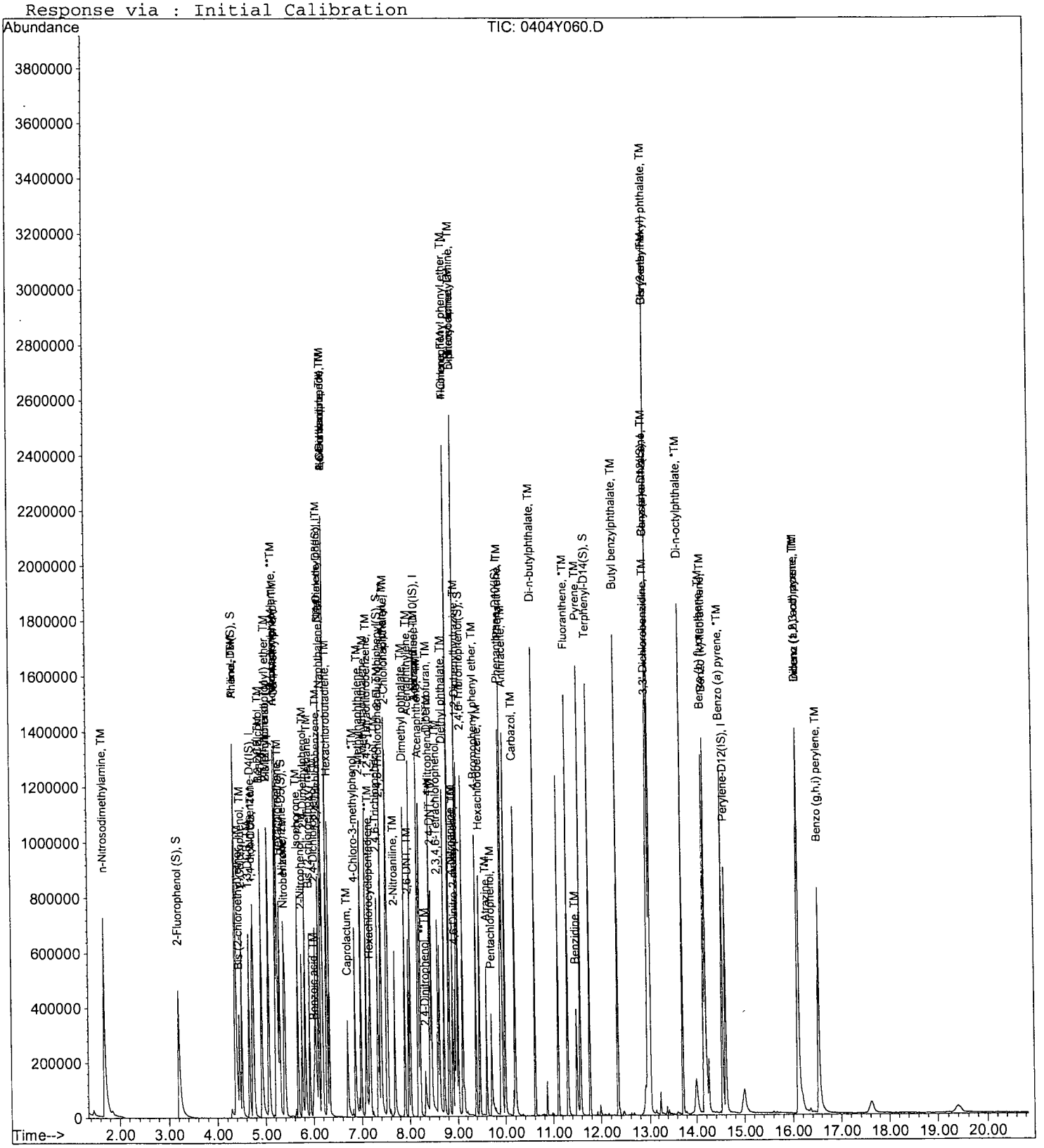
Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:17:59 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108124	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	474326	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	271985	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	525349	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	515905	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	445378	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	369097	106.14383 ppb	0.00
Spiked Amount 200.000			Recovery = 53.072%		
5) Phenol-D6 (S)	4.37	99	299498	68.80568 ppb	0.00
Spiked Amount 200.000			Recovery = 34.403%		
21) Nitrobenzene-D5(S)	5.37	82	350501	71.37598 ppb	0.00
Spiked Amount 100.000			Recovery = 71.376%		
45) 2-Fluorobiphenyl(S)	7.42	172	570376	66.88384 ppb	0.00
Spiked Amount 100.000			Recovery = 66.884%		
63) 2,4,6-Tribromophenol(S)	9.11	330	178811	146.68724 ppb	0.00
Spiked Amount 200.000			Recovery = 73.344%		
81) Terphenyl-D14(S)	11.77	244	856726	78.55429 ppb	0.00
Spiked Amount 100.000			Recovery = 78.554%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

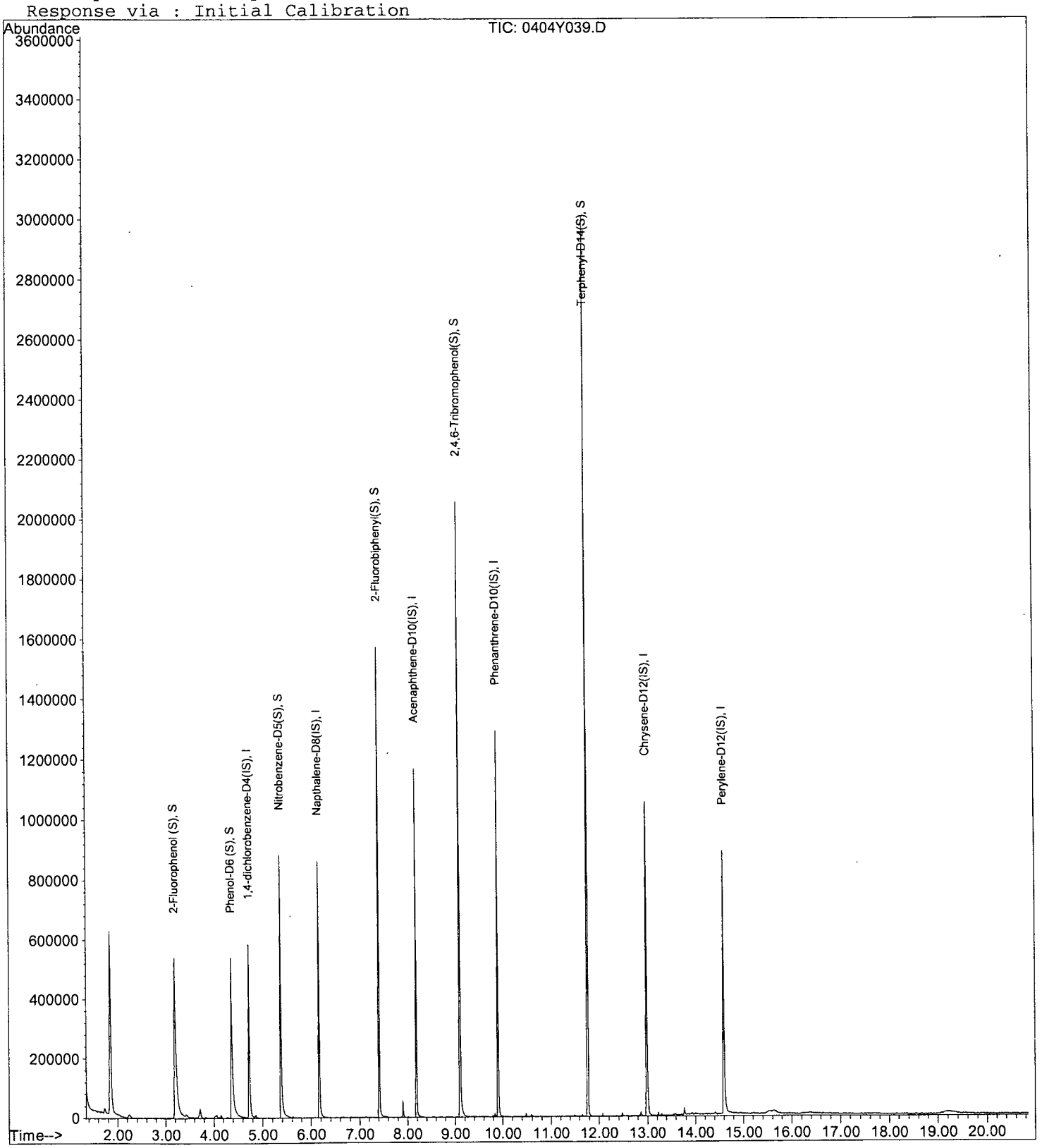
Data File : M:\YODA\DATA\Y170404\0404Y039.D
Acq On : 10 Apr 17 12:04
Sample : 170407A BLK 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 12:41 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments:

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:18:00 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 13:51 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	123700	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	522144	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	311641	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	533639	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	489414	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	425790	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	407198	102.35576 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.178%	
5) Phenol-D6 (S)	4.37	99	347548	69.79070 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.896%	
21) Nitrobenzene-D5(S)	5.37	82	379284	70.16394 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.164%	
45) 2-Fluorobiphenyl(S)	7.41	172	608528	62.27746 ppb	0.00
Spiked Amount 100.000			Recovery	= 62.277%	
63) 2,4,6-Tribromophenol(S)	9.11	330	187354	134.13788 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.069%	
81) Terphenyl-D14(S)	11.77	244	818351	79.09717 ppb	0.00
Spiked Amount 100.000			Recovery	= 79.097%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	107502	24.33465 ppb		85
6) Phenol	4.39	94	135034	23.35209 ppb	#	69
7) Aniline	4.38	66	159227	29.26094 ppb	#	66
8) Bis (2-chloroethyl) ether	4.45	63	107060	38.91515 ppb		96
9) 2-Chlorophenol	4.51	128	181685	39.78105 ppb		95
10) 1,3-DCB	4.67	146	126012	25.97320 ppb		97
11) 1,4-DCB	4.76	146	128304	25.81692 ppb		97
12) Benzyl alcohol	4.93	108	94009	35.49805 ppb		85
13) 1,2-DCB	4.93	146	126132	28.08622 ppb		96
14) 2-Methylphenol	5.07	107	118793	34.53078 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	224266	38.08160 ppb	#	76
16) Acetophenone	5.20	105	236218	39.71615 ppb		98
17) 3&4-Methylphenol	5.24	107	298693	68.28467 ppb		99
18) n-Nitrosodi-n-propylamine	5.21	70	124752	38.60199 ppb		95
19) Hexachloroethane	5.29	117	46389	22.48810 ppb		96
22) Nitrobenzene	5.40	77	195229	36.15143 ppb		89
23) Isophorone	5.67	82	345905	38.97916 ppb		92
24) 2-Nitrophenol	5.76	139	97932	37.64805 ppb		89
25) 2,4-Dimethylphenol	5.83	122	127513	30.86141 ppb		95
26) Benzoic acid	5.99	105	45449	15.65022 ppb		91
27) Bis (2-chloroethoxy) metha	5.92	93	196799	38.03381 ppb		96
28) 2,4-Dichlorophenol	6.04	162	150330	37.57106 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	122061	28.24531 ppb		96
30) 3,4-Dimethylphenol	6.17	107	217779	36.09763 ppb		99
31) Naphthalene	6.19	128	447600	33.00240 ppb		99
32) 4-Chloroaniline	6.28	127	211621	46.54771 ppb		97
33) 2,6-Dichlorophenol	6.28	162	135879	38.57462 ppb		97
34) Hexachloropropene	6.29	213	66341	20.80870 ppb		93
35) Hexachlorobutadiene	6.34	225	59208	22.32268 ppb		98
36) Caprolactum	6.69	55	26184	11.92181 ppb		92
37) 4-Chloro-3-methylphenol	6.86	107	166319	38.17228 ppb		92
38) 2-Methylnaphthalene	6.99	142	302873	32.19252 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 13:51 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	302179	33.28499	ppb		100
41) Hexachlorocyclopentadiene	7.16	237	14699	15.91976	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	138125	32.97548	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	109401	39.46992	ppb		95
44) 2,4,5-Trichlorophenol	7.39	196	117375	40.79977	ppb		94
46) 1,1'-Biphenyl	7.53	154	405561	35.36718	ppb		98
47) 2-Chloronaphthalene	7.54	162	316074	35.30564	ppb		96
48) 2-Nitroaniline	7.69	65	123453	39.78633	ppb		95
49) Dimethyl phthalate	7.90	163	472774	44.13301	ppb		100
50) 2,6-DNT	7.98	165	96177	39.03707	ppb		98
51) Acenaphthylene	8.02	152	514589	36.37515	ppb		99
52) 3-Nitroaniline	8.18	138	108646	42.89334	ppb		95
53) Acenaphthene	8.22	154	326703	37.84196	ppb		100
54) 2,4-Dinitrophenol	8.32	184	46027	34.34612	ppb		96
55) 4-Nitrophenol	8.46	65	35050	21.65402	ppb	#	25
56) Dibenzofuran	8.43	168	468141	38.75968	ppb		89
57) 2,4-DNT	8.45	165	136365	41.52930	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	91152	38.94779	ppb		99
59) Diethyl phthalate	8.71	149	420420	38.38836	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	172116	36.02823	ppb		97
61) Fluorene	8.82	166	360931	37.10956	ppb		96
62) 4-Nitroaniline	8.89	138	104896	42.87623	ppb		98
65) 4,6-Dinitro-2-methylphenol	8.94	198	82419	42.59059	ppb		95
66) Diphenyl amine	8.97	169	580222	83.14822	ppb		98
67) n-Nitrosodiphenylamine	8.97	169	580222	83.14822	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	546340	46.36940	ppb		99
69) 4-Bromophenyl phenyl ether	9.39	248	110462	42.25719	ppb		95
70) Hexachlorobenzene	9.47	284	111359	41.94734	ppb		96
71) Atrazine	9.60	200	60693	21.58503	ppb		94
72) Pentachlorophenol	9.72	266	51251	45.67502	ppb		91
73) Phenanthrene	9.93	178	566332	41.27480	ppb		99
74) Anthracene	9.99	178	604525	41.76588	ppb		99
75) Carbazol	10.20	167	547431	42.90382	ppb		99
76) Di-n-butylphthalate	10.61	149	721050	43.45250	ppb		98
77) Fluoranthene	11.31	202	633262	41.90696	ppb		99
79) Benzidine	11.50	184	151961	35.14640	ppb		99
80) Pyrene	11.57	202	673116	44.60783	ppb		99
82) Butyl benzylphthalate	12.34	149	325742	44.43445	ppb		83
83) 3,3'-Dichlorobenzidine	12.96	252	209606	44.12255	ppb	#	94
84) Benz (a) anthracene	12.97	228	609989	43.24420	ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	437959	42.62612	ppb		98
86) Chrysene	13.01	228	561553	40.66578	ppb		98
87) Di-n-octylphthalate	13.73	149	796028	44.06559	ppb		99
89) Benzo (b) fluoranthene	14.16	252	607482	42.58966	ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	635964	47.15859	ppb		99
91) Benzo (a) pyrene	14.53	252	589153	44.89549	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	694182	45.81030	ppb		99
93) Dibenz (a,h) anthracene	16.11	278	601375	47.00947	ppb		99
94) Benzo (g,h,i) perylene	16.54	276	581489	45.45432	ppb		99

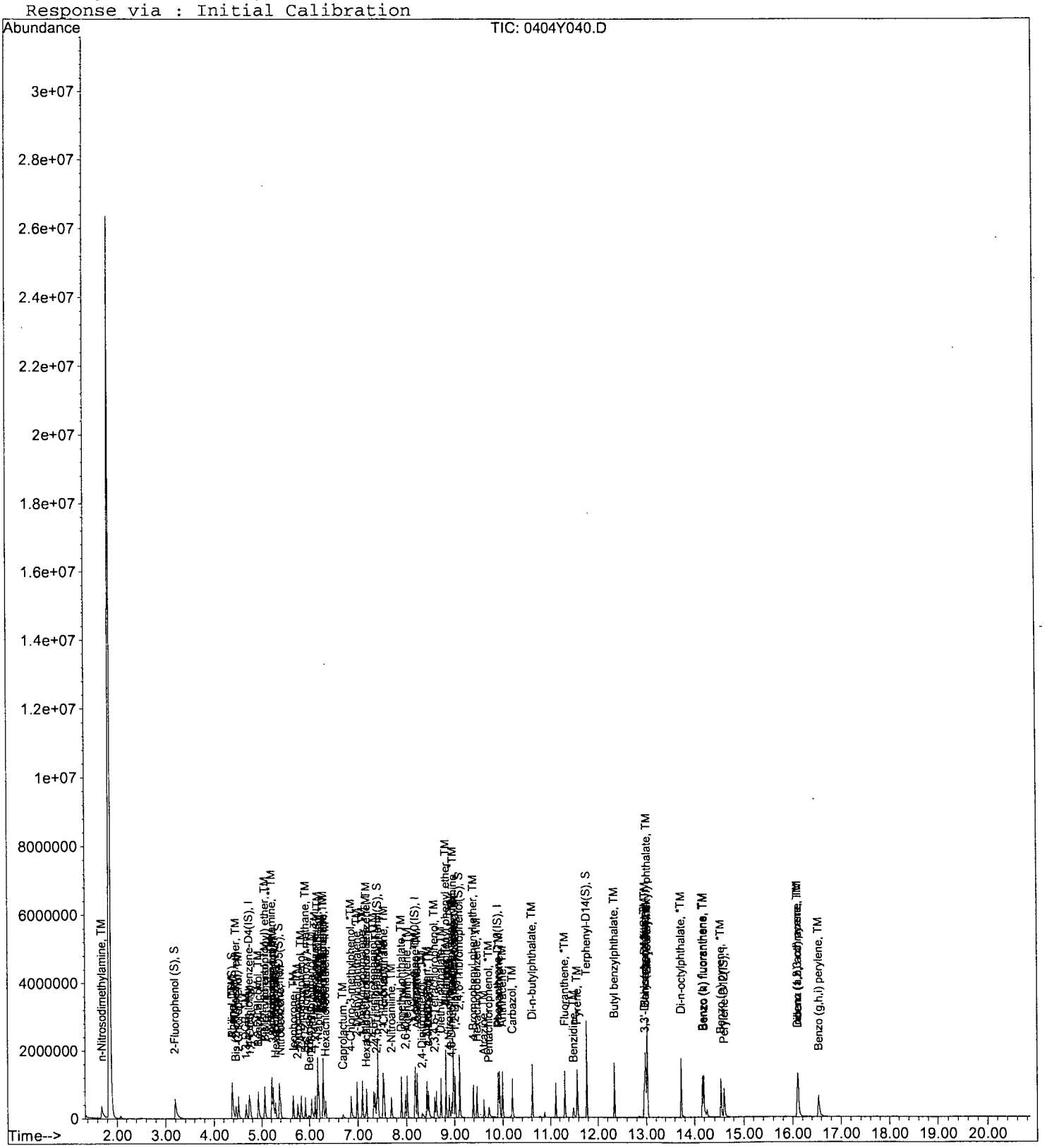
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

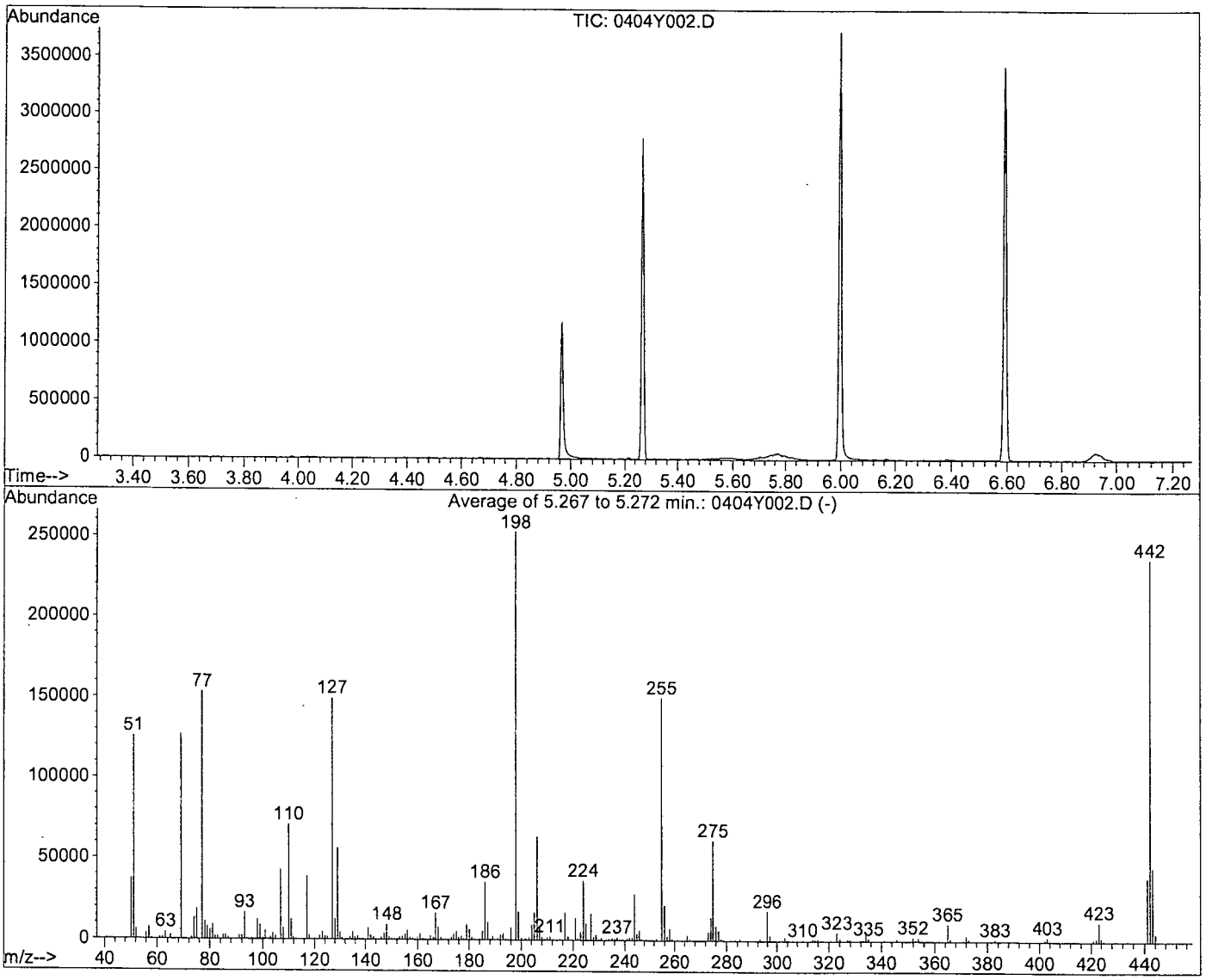


DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D
Acq On : 4 Apr 17 8:25
Sample : SV Tune 03/29/17
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

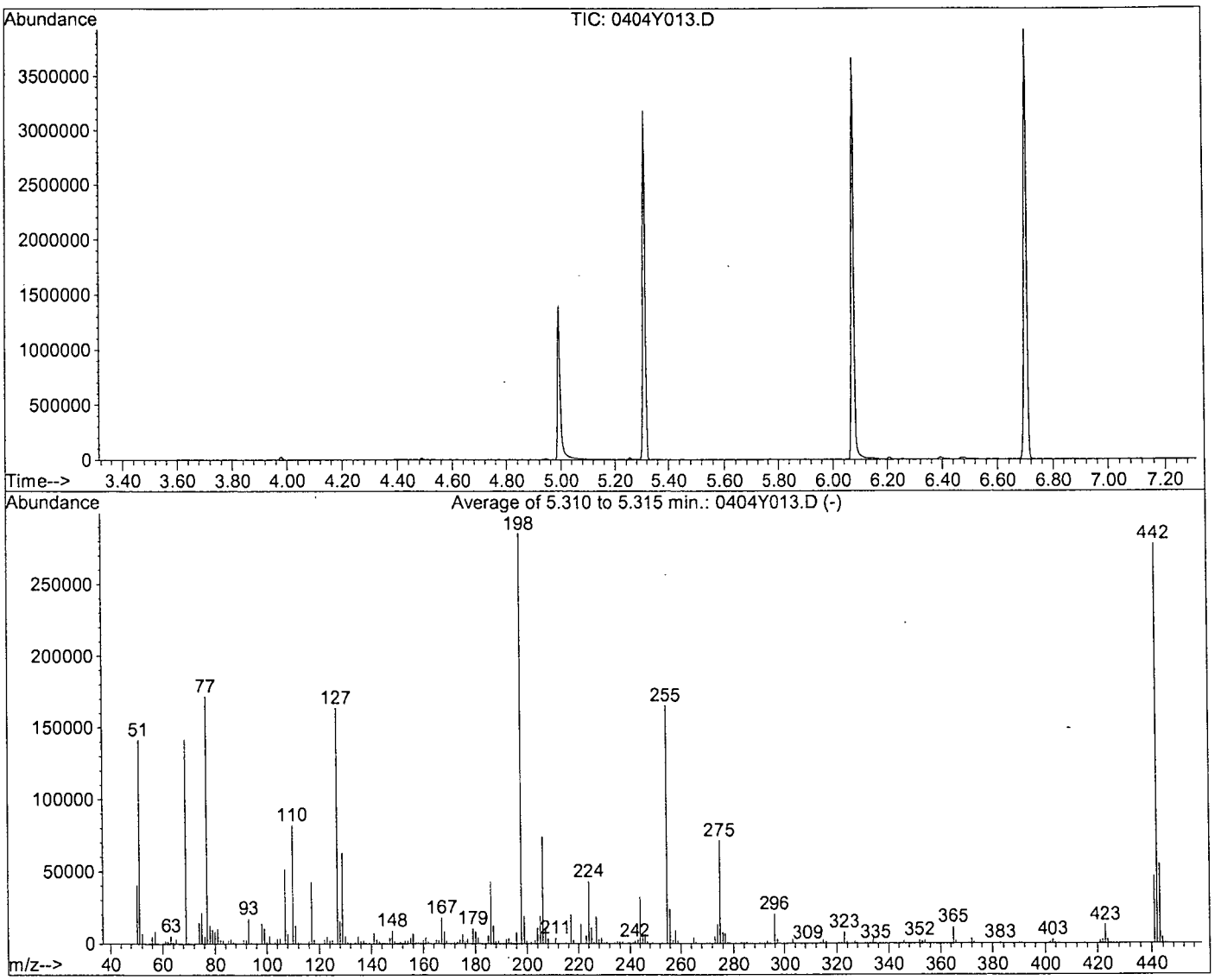
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

0404Y002.D Y0404.M Tue Apr 04 09:40:31 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y013.D Vial: 13
Acq On : 5 Apr 17 8:30 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 681

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	141384	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	872	PASS
127	198	40	60	57.4	163810	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	285504	PASS
199	198	5	9	6.7	19091	PASS
275	198	10	30	24.9	71123	PASS
365	198	1	100	3.9	11203	PASS
441	443	0.01	100	85.3	46683	PASS
442	198	50	150	97.4	277995	PASS
443	442	17	23	19.7	54725	PASS

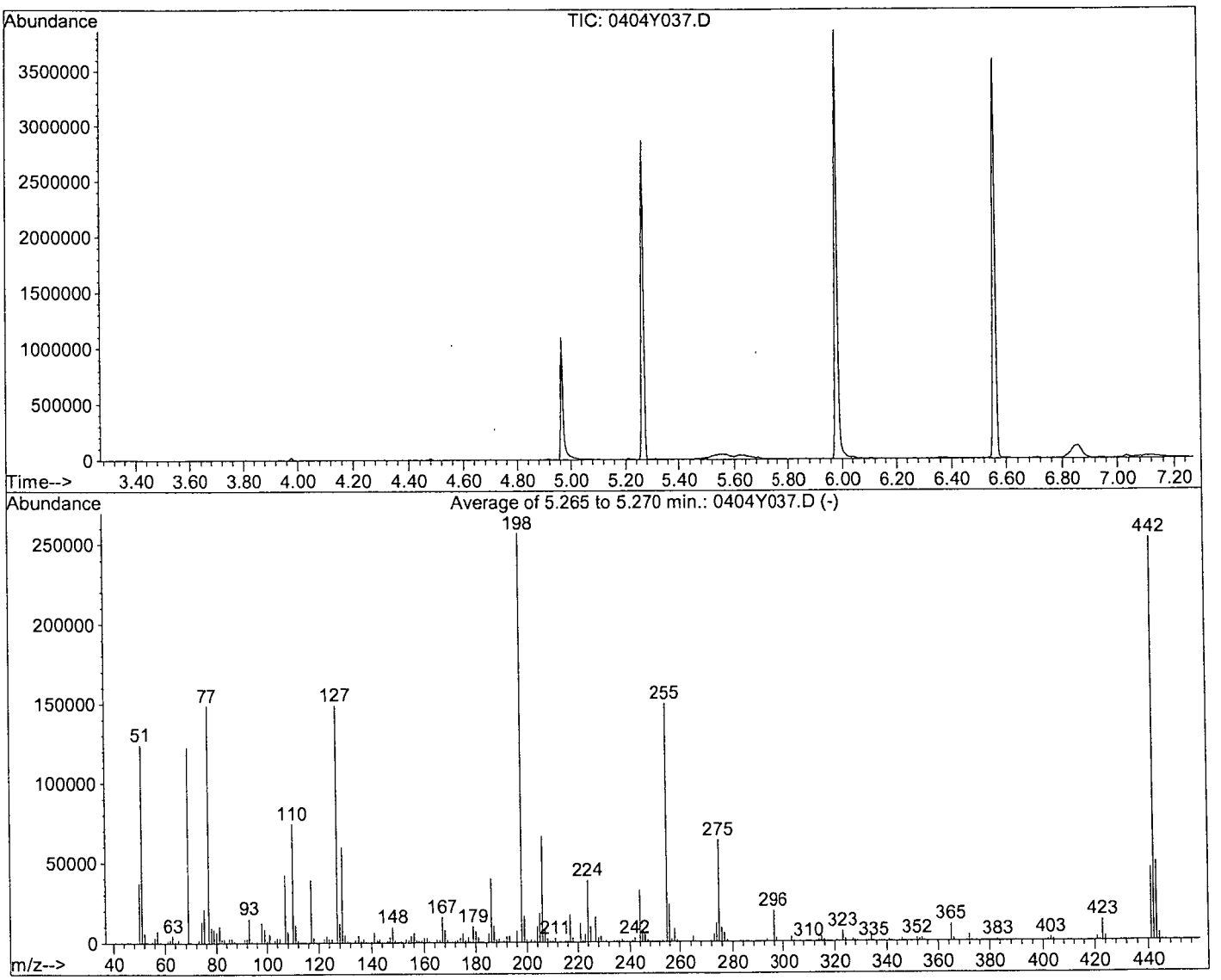
0404Y013.D Y0404.M Wed Apr 05 09:59:18 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y037.D
Acq On : 10 Apr 17 10:59
Sample : SV Tune 03/29/17
Misc :

Vial: 37
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 671, 672, 673; Background Corrected with Scan 663

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	124211	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	510	PASS
127	198	40	60	58.1	149200	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	256917	PASS
199	198	5	9	6.4	16355	PASS
275	198	10	30	24.7	63475	PASS
365	198	1	100	4.1	10631	PASS
441	443	0.01	100	92.8	45477	PASS
442	198	50	150	98.6	253248	PASS
443	442	17	23	19.4	49011	PASS

0404Y037.D Y0404.M Mon Apr 10 11:18:03 2017

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
μL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	04/11/17 0:00

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				1	1 equip	1000 e-wb5	1	2/1	04/07/17 13:45	
2	170407A LCS-1		0.250	1	1	1 equip	1000 E-WB5	1	2/1	04/07/17 13:45	
3	AZ53059 MS-1	AZ53059W22	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
4	AZ53059 MSD-1	AZ53059W27	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
5	AZ53059	AZ53059W21			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
6	AZ53060	AZ53060W10			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
7	AZ53062	AZ53062W09			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
8	AZ53064	AZ53064W05			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
9	AZ53065	AZ53065W09			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
10	AZ53168 MS-1	AZ53168W35	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
11	AZ53168 MSD-1	AZ53168W47	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
12	AZ53168	AZ53168W48			1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
13	AZ53169	AZ53169W13			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
14	AZ53170	AZ53170W14			1	1 equip	1050 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
15	AZ53172	AZ53172W14			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
16	AZ53174	AZ53174W11			1	1 equip	1010 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	4/10/17
Time	12:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	04/11/17 0:00

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W11			1	1 equip	1040 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
18	AZ53178	AZ53178W09			1	1 equip	1040 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
19	AZ53180	AZ53180W09			1	1 equip	1030 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

KY 4/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: M:\YODA\DATA\Y170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
2	3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
3	4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
4	5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
5	6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
6	7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
7	8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
8	9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
9	10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
10	12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
11	13	0404Y013.D	1	SV Tune 03/29/17		5 Apr 17 8:30
12	15	0404Y015.D	1	SS 4-chloroaniline 50ug/ml 04/05/17		5 Apr 17 10:19
13	37	0404Y037.D	1	SV Tune 03/29/17		10 Apr 17 10:59
14	38	0404Y038.D	1	50ug/ml SVOC 03/30/17		10 Apr 17 11:15
15	39	0404Y039.D	1	170407A BLK 1/1000	water	10 Apr 17 12:04
16	40	0404Y040.D	1	170407A LCS-1 1/1000	water	10 Apr 17 12:34
17	54	0404Y054.D	1.02041	AZ53172W14 1/980	water	10 Apr 17 19:41
18	55	0404Y055.D	0.9901	AZ53174W11 1/1010	water	10 Apr 17 20:11
19	56	0404Y056.D	0.96154	AZ53176W11 1/1040	water	10 Apr 17 20:41
20	57	0404Y057.D	0.96154	AZ53178W09 1/1040	water	10 Apr 17 21:11
21	58	0404Y058.D	0.97087	AZ53180W09 1/1030	water	10 Apr 17 21:41
22	60	0404Y060.D	1	50ug/ml SVOC 03/30/17	water	10 Apr 17 22:25

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method:Y0GLYCOL.
Run #:0413Y013
Instrument:Yoda
Sequence:Y170413G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:11:31 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Comments: _____

Printed: 04/14/17 11:11:32 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER
Blank ID: 170410A-BLK

SDG No: 82596
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 1648

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A-BLK	Blank	0413Y013	04/13/17 1648
170410A-LCS	Lab Control Spike	0413Y014	04/13/17 1718
AZ53172	ERH300	0413Y027	04/13/17 2348
AZ53174	ERH310	0413Y028	04/14/17 0018
AZ53176	ERH313	0413Y029	04/14/17 0048
AZ53178	ERH319	0413Y030	04/14/17 0118
AZ53180	ERH305	0413Y031	04/14/17 0148

Comments: Batch: #87DME-170410A

Printed: 04/14/17 11:11:35 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 9:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 04/12/17	0413Y003.D	04/13/17 9:57
2		100ug/ml DEG 04/12/	0413Y004.D	04/13/17 10:27
3		200ug/ml DEG 04/12/	0413Y005.D	04/13/17 10:57
4		400ug/ml DEG 04/12/	0413Y006.D	04/13/17 11:27
5		500ug/ml DEG 04/12/	0413Y007.D	04/13/17 11:57
6		600ug/ml DEG 04/12/	0413Y008.D	04/13/17 14:02
7		800ug/ml DEG 04/12/	0413Y009.D	04/13/17 14:32
8		1000ug/ml DEG 04/12	0413Y010.D	04/13/17 15:03
9		SS2 DEG 04/12/17	0413Y011.D	04/13/17 16:03
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	57.7
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	23.7
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	78.5
442	50 - 150% of mass 197.95	92.2
443	17 - 23% of mass 442	21.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82596
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 16:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170410A BLK 2/500	0413Y013.D	04/13/17 16:48
2	Lab Control Spike	170410A LCS-1 2/500	0413Y014.D	04/13/17 17:18
3	ERH300	AZ53172W13 2/500	0413Y027.D	04/13/17 23:48
4	ERH310	AZ53174W10 2/500	0413Y028.D	04/14/17 0:18
5	ERH313	AZ53176W09 2/500	0413Y029.D	04/14/17 0:48
6	ERH319	AZ53178W10 2/500	0413Y030.D	04/14/17 1:18
7	ERH305	AZ53180W13 2/500	0413Y031.D	04/14/17 1:48
8		500ug/ml DEG 04/12/	0413Y034.D	04/14/17 3:17
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.5
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	82.4
442	50 - 150% of mass 198	107.2
443	17 - 23% of mass 442	20.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	122737	4.75	501978	6.17	280837	8.19
	UPPER LIMIT	245474	5.25	1003956	6.67	561674	8.69
	LOWER LIMIT	61369	4.25	250989	5.67	140419	7.69
	SAMPLE NO.						
01	SS2 DEG 04/12/17	162431	4.75	673923	6.17	377854	8.18
02	170410A BLK 2/500	105668	4.76	467112	6.17	267815	8.18
03	170410A LCS-1 2/500	108150	4.75	455829	6.17	255413	8.18
04	AZ53172W13 2/500	103435	4.76	471988	6.17	270919	8.18
05	AZ53174W10 2/500	101016	4.75	443310	6.17	257353	8.18
06	AZ53176W09 2/500	98120	4.75	441153	6.17	252122	8.18
07	AZ53178W10 2/500	98852	4.76	446092	6.17	252098	8.19
08	AZ53180W13 2/500	112471	4.76	492622	6.17	290523	8.18
09	500ug/ml DEG 04/12/17	98346	4.75	427367	6.17	247654	8.18
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82596
Lab File ID (Standard): 0413Y007.D
Date Analyzed: 04/13/17
Instrument ID: Yoda
Time Analyzed: 11:57
GC Column:
ID:
Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	503114	9.90	470744	12.99	813583	14.60
	UPPER LIMIT	1006228	10.40	941488	13.49	1627166	15.10
	LOWER LIMIT	251557	9.40	235372	12.49	406792	14.10
	SAMPLE NO.						
01	SS2 DEG 04/12/17	682182	9.90	642948	12.98	796953	14.61
02	170410A BLK 2/500	499187	9.90	471654	12.98	418040	14.60
03	170410A LCS-1 2/500	474128	9.90	448616	12.99	413196	14.60
04	AZ53172W13 2/500	495660	9.90	473042	12.99	361038 *	14.60
05	AZ53174W10 2/500	463849	9.91	429332	12.99	373465 *	14.60
06	AZ53176W09 2/500	473390	9.90	468742	12.99	440504	14.60
07	AZ53178W10 2/500	463573	9.90	433148	12.98	603759	14.60
08	AZ53180W13 2/500	513468	9.90	481528	12.99	858700	14.61
09	500ug/ml DEG 04/12/17	446090	9.90	419492	12.98	436159	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y027
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:11:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y027.D
Acq On : 13 Apr 17 23:48
Sample : AZ53172W13 2/500
Misc :

Vial: 27
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	103435	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	471988	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	270919	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	495660	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	473042	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	361038	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

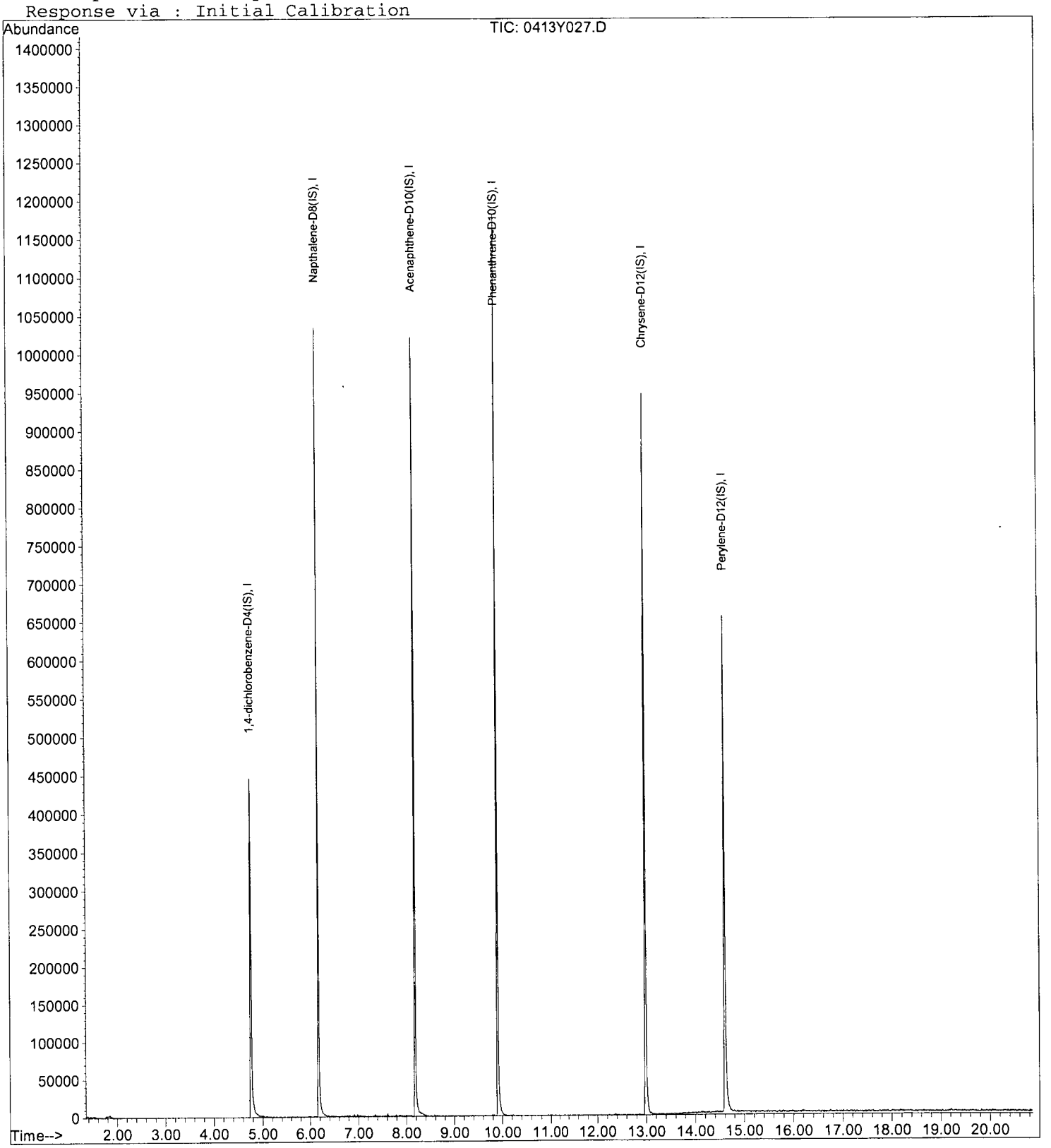
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y027.D Vial: 27
Acq On : 13 Apr 17 23:48 Operator: MA
Sample : AZ53172W13 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y028
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:11:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y028.D Vial: 28
Acq On : 14 Apr 17 00:18 Operator: MA
Sample : AZ53174W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	101016	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	443310	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	257353	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	463849	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	429332	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	373465	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

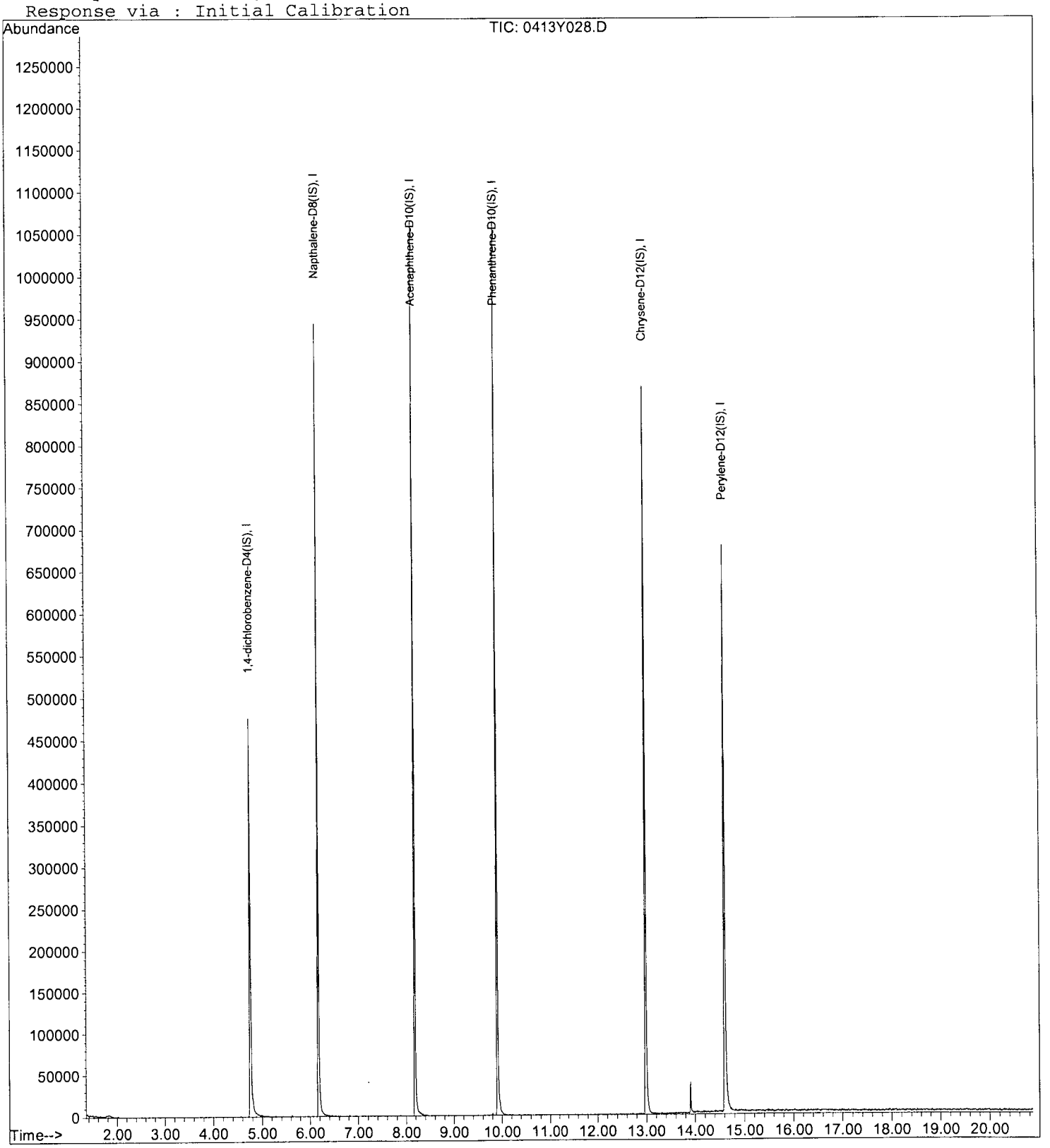
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y028.D Vial: 28
Acq On : 14 Apr 17 00:18 Operator: MA
Sample : AZ53174W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y029
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:11:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y029.D
Acq On : 14 Apr 17 00:48
Sample : AZ53176W09 2/500
Misc :

Vial: 29
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	98120	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	441153	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	252122	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	473390	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	468742	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	440504	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

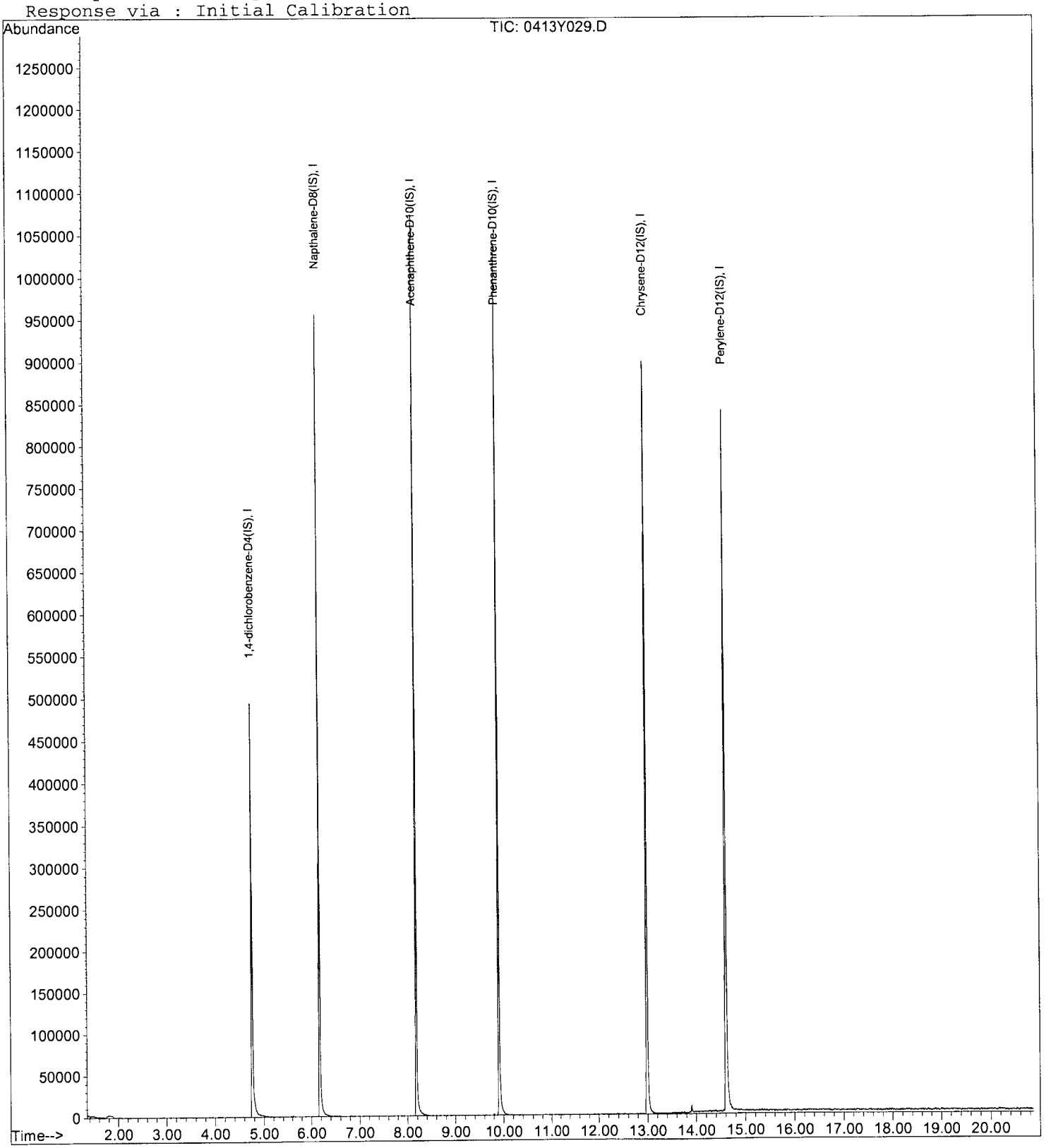
Data File : M:\YODA\DATA\Y170413G\0413Y029.D
Acq On : 14 Apr 17 00:48
Sample : AZ53176W09 2/500
Misc :

Vial: 29
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y030
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:11:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y030.D
Acq On : 14 Apr 17 1:18
Sample : AZ53178W10 2/500
Misc :

Vial: 30
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 8:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	98852	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	446092	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	252098	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	463573	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	433148	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	603759	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

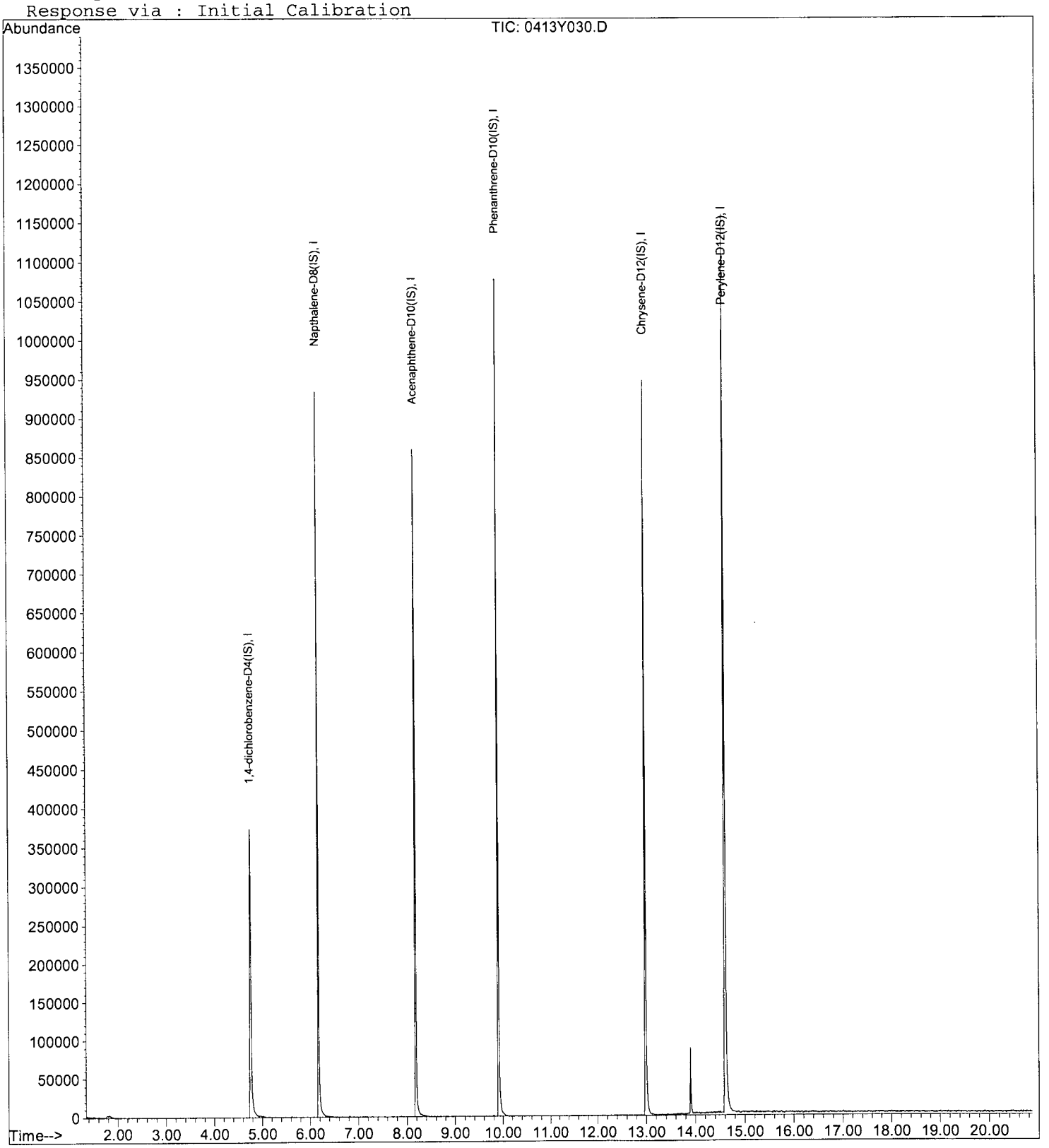
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y030.D Vial: 30
Acq On : 14 Apr 17 1:18 Operator: MA
Sample : AZ53178W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 8:17 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y031
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:11:36 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y031.D
Acq On : 14 Apr 17 1:48
Sample : AZ53180W13 2/500
Misc :

Vial: 31
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 8:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	112471	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	492622	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	290523	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	513468	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	481528	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.61	264	858700	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

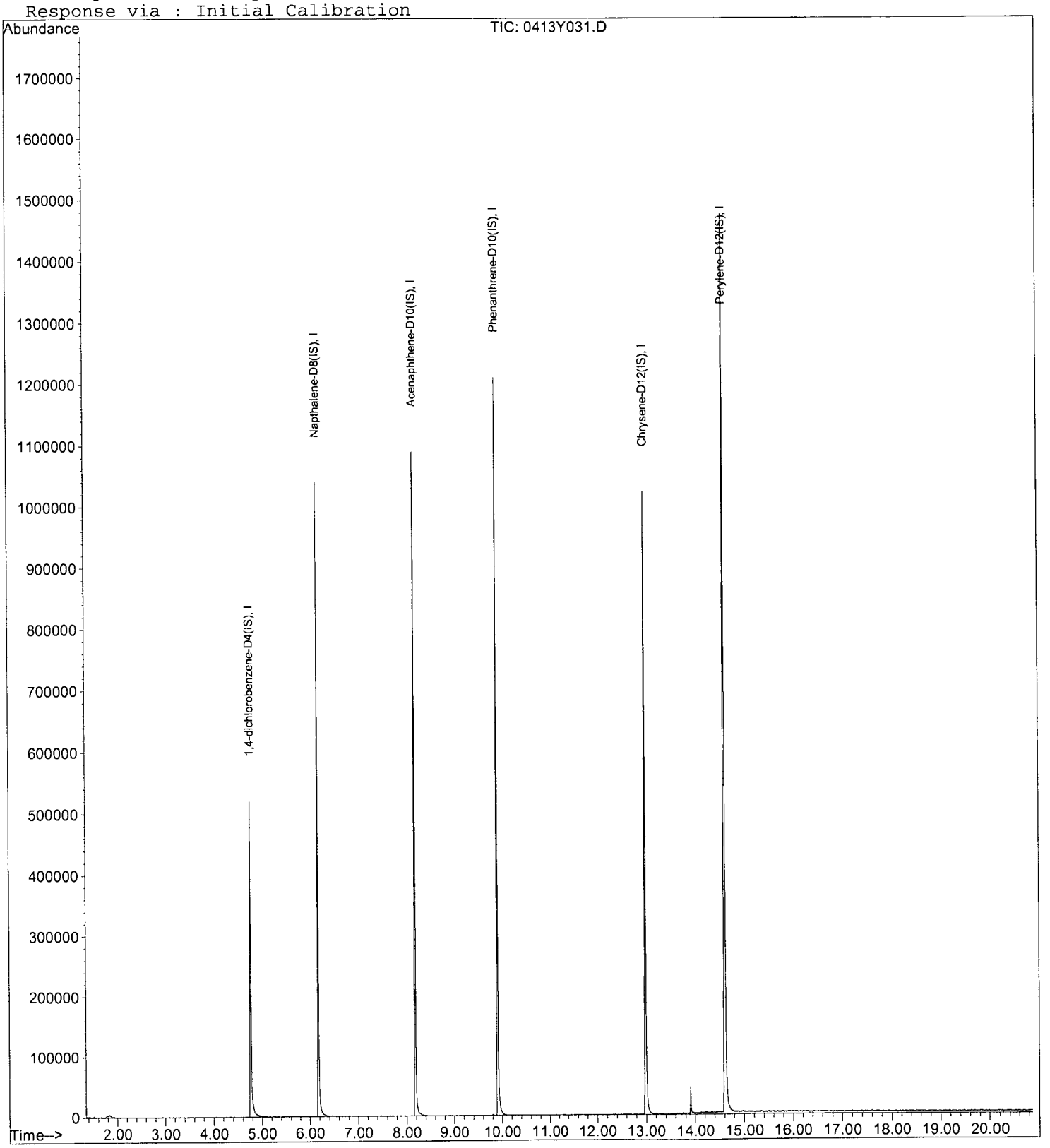
Data File : M:\YODA\DATA\Y170413G\0413Y031.D
Acq On : 14 Apr 17 1:48
Sample : AZ53180W13 2/500
Misc :

Vial: 31
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 8:17 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/13/17
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			0413Y003.D	0413Y004.D	0413Y005.D	0413Y006.D	0413Y007.D	0413Y008.D	0413Y009.D	0413Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol		0.1954	0.2196	0.2658	0.2711	0.2521	0.2727	0.2774			0.25	12	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 10:40:51 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	130198	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.16	136	560546	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	331589	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	606984	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	580372	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432171	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	9334	13.37349 ppb	100

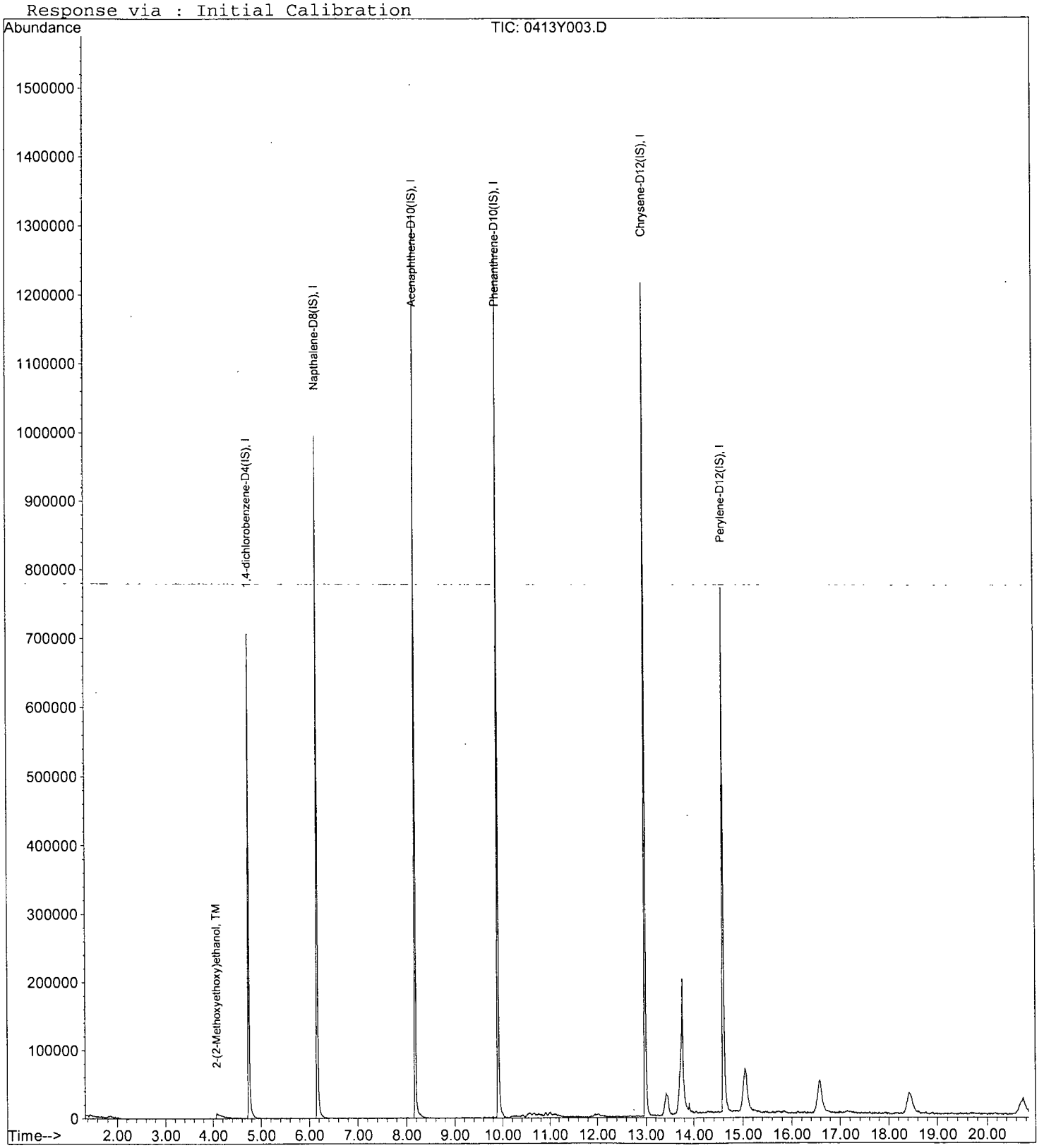
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	131544	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.17	136	575730	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	317779	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	590659	40.00000	ppb	0.00
6) Chrysene-D12(IS)	12.99	240	584988	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.60	264	432757	40.00000	ppb	-0.15

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.01	45	64256	91.12217	ppb	100

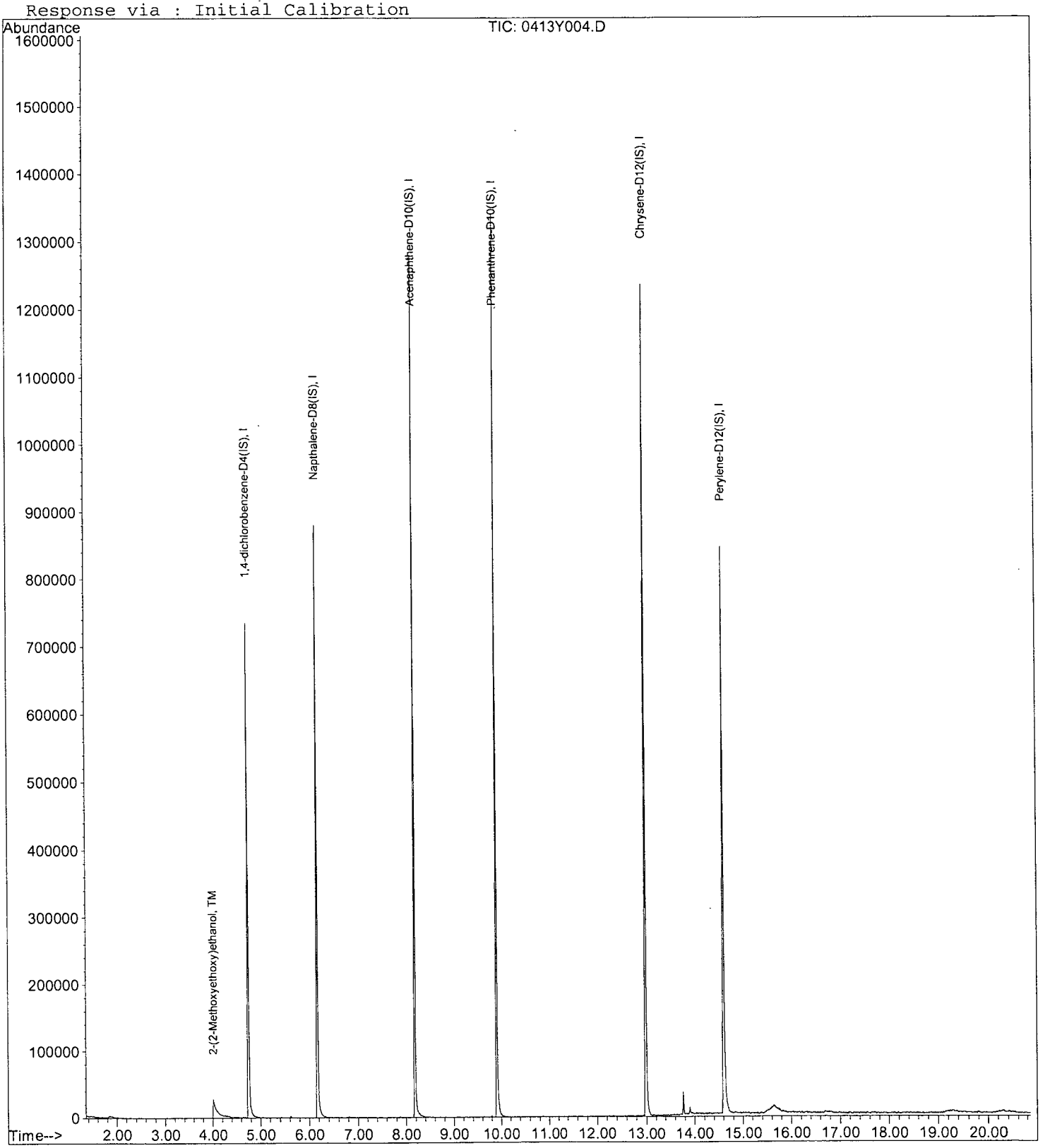
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	137332	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	563866	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	327772	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	620890	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	536915	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	1021814	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.96	45	150783	204.81514 ppb	92

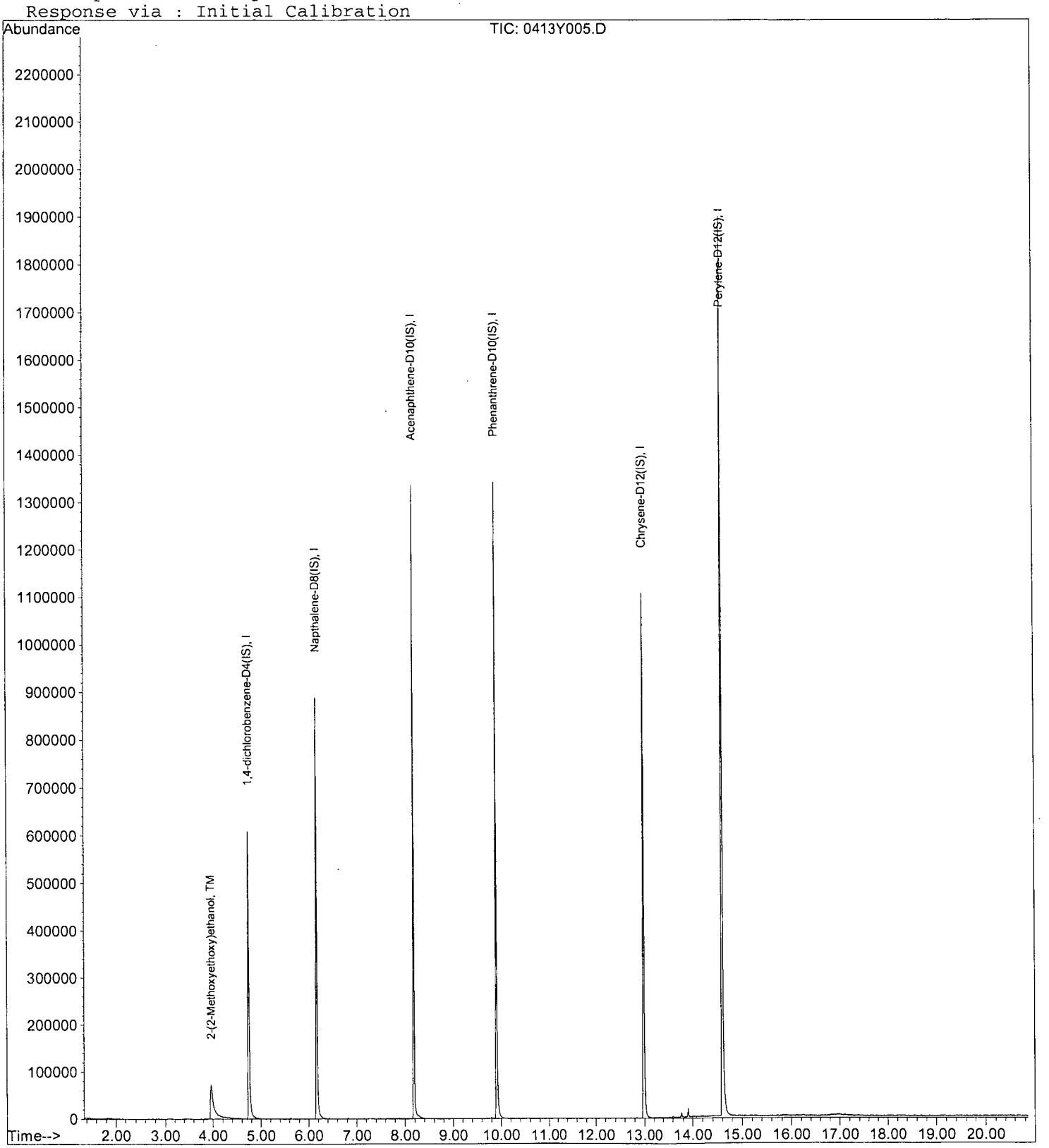
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	126427	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	524180	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	276249	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	502431	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	485074	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413502	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	336087	495.89909 ppb	96

(#) = qualifier out of range (m) = manual integration
0413Y006.D YOGLYCOL.M Fri Apr 14 07:33:43 2017

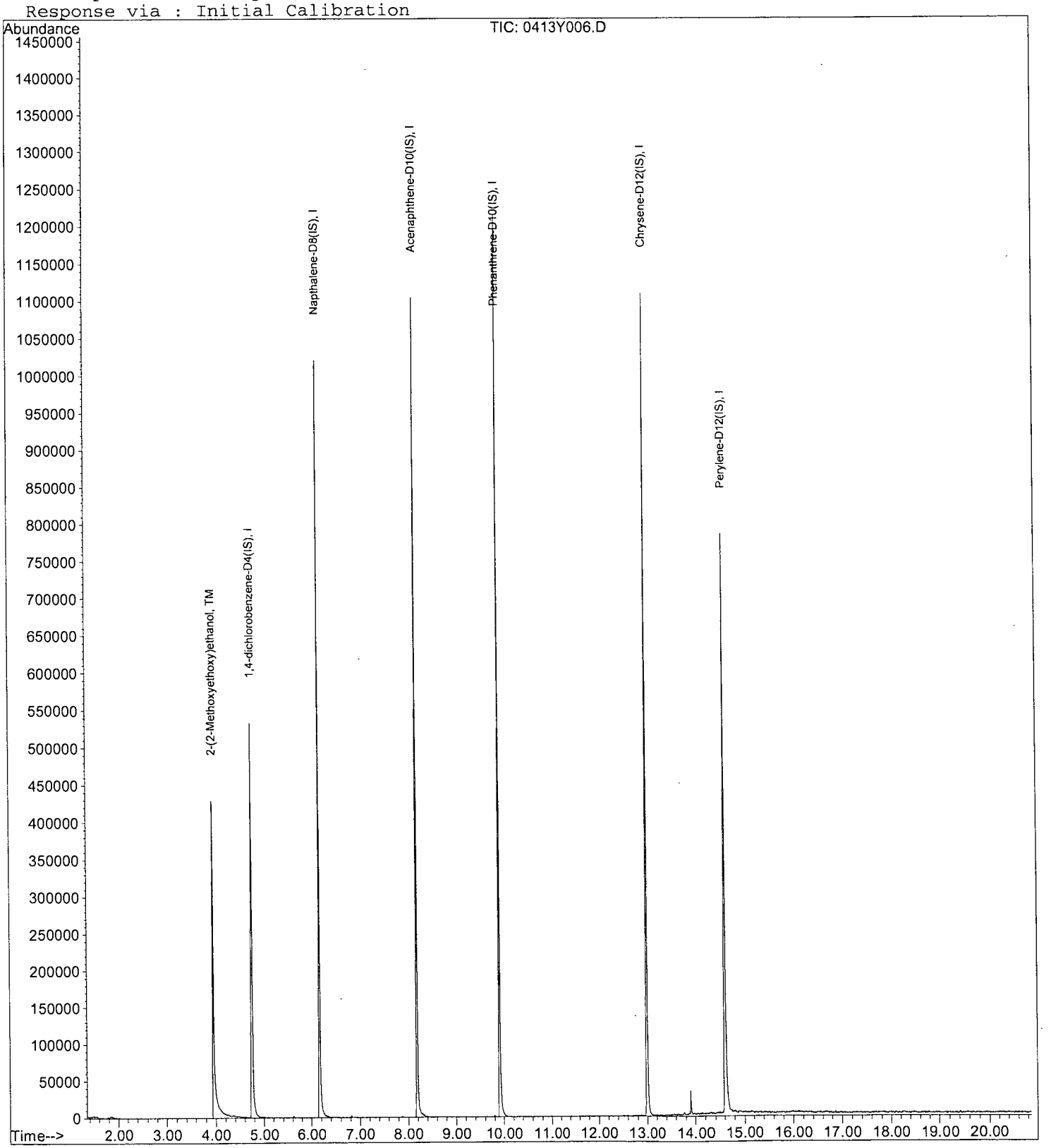
Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y006.D
Acq On : 13 Apr 17 11:27
Sample : 400ug/ml DEG 04/12/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 12:27:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	122737	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	501978	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	280837	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	503114	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	470744	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	813583	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	415857	632.04783 ppb	99

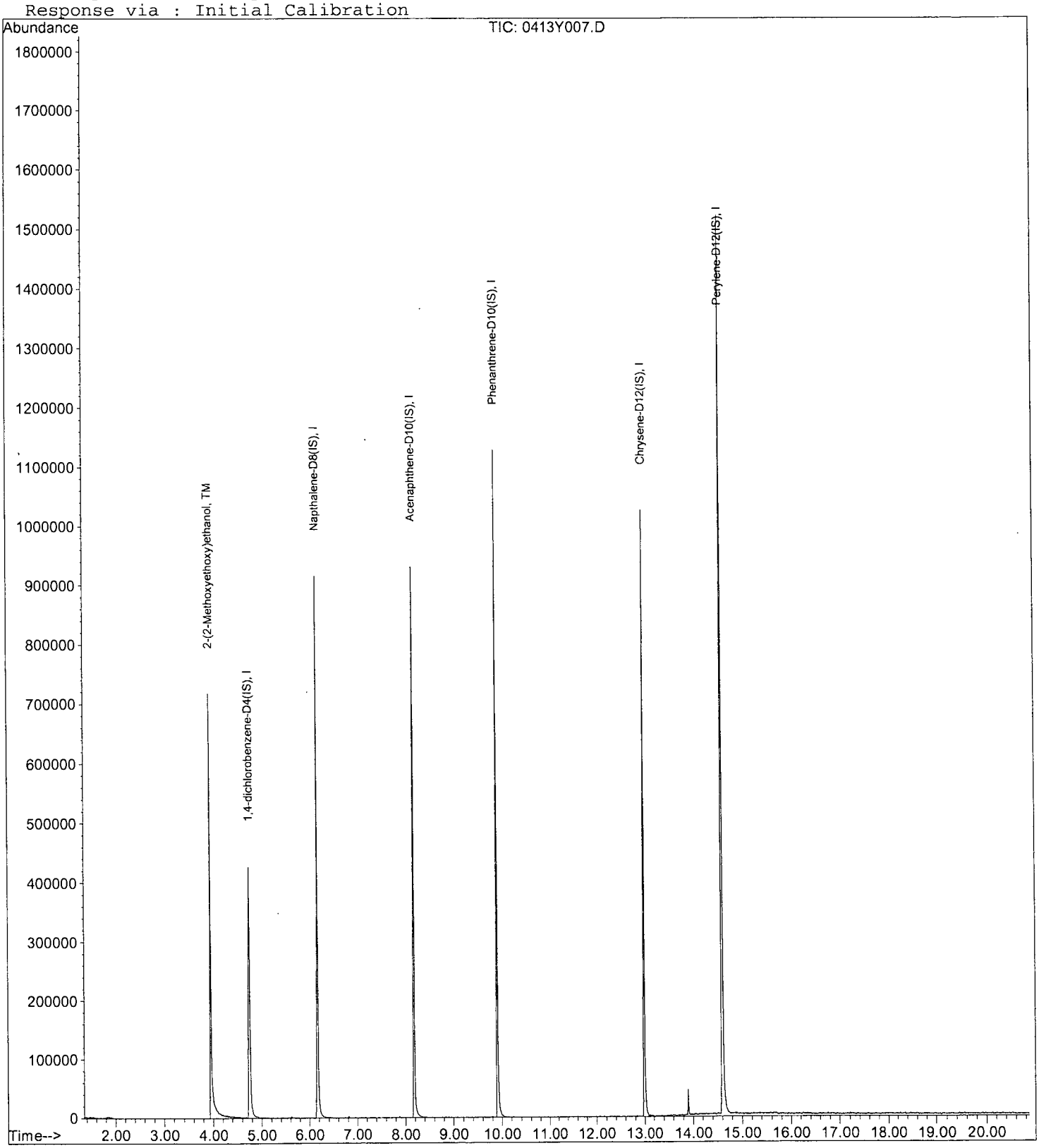
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	130873	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	545700	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	307336	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	536034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	498537	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432724	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	494979	572.20714 ppb	99

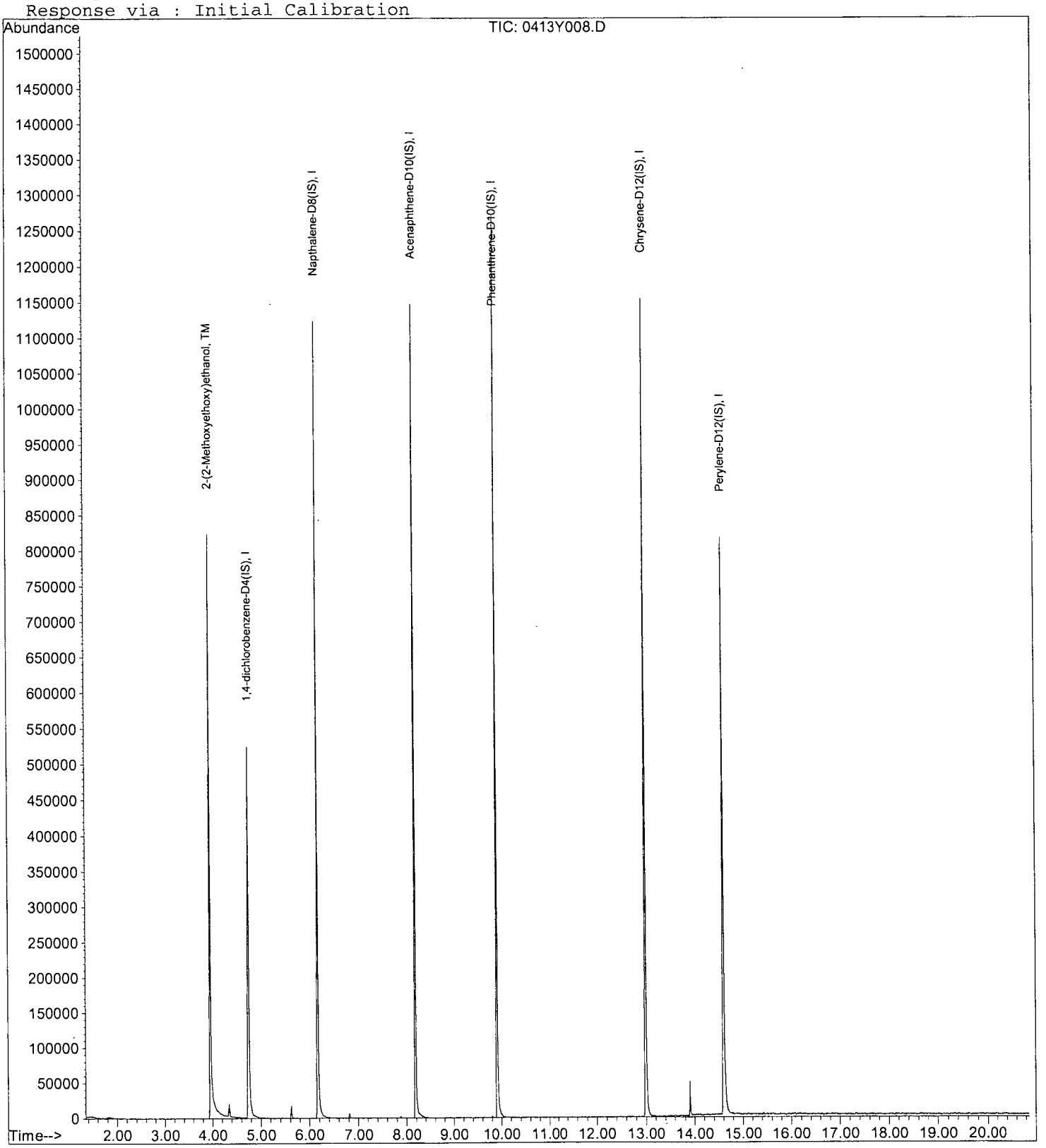
(#) = qualifier out of range (m) = manual integration
0413Y008.D Y0GLYCOL.M Fri Apr 14 07:33:50 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	120849	40.00000 ppb	0.01
3) Napthalene-D8(IS)	6.17	136	516352	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	297058	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	562967	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	508591	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	513774	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.98	45	659049	851.48970 ppb	97

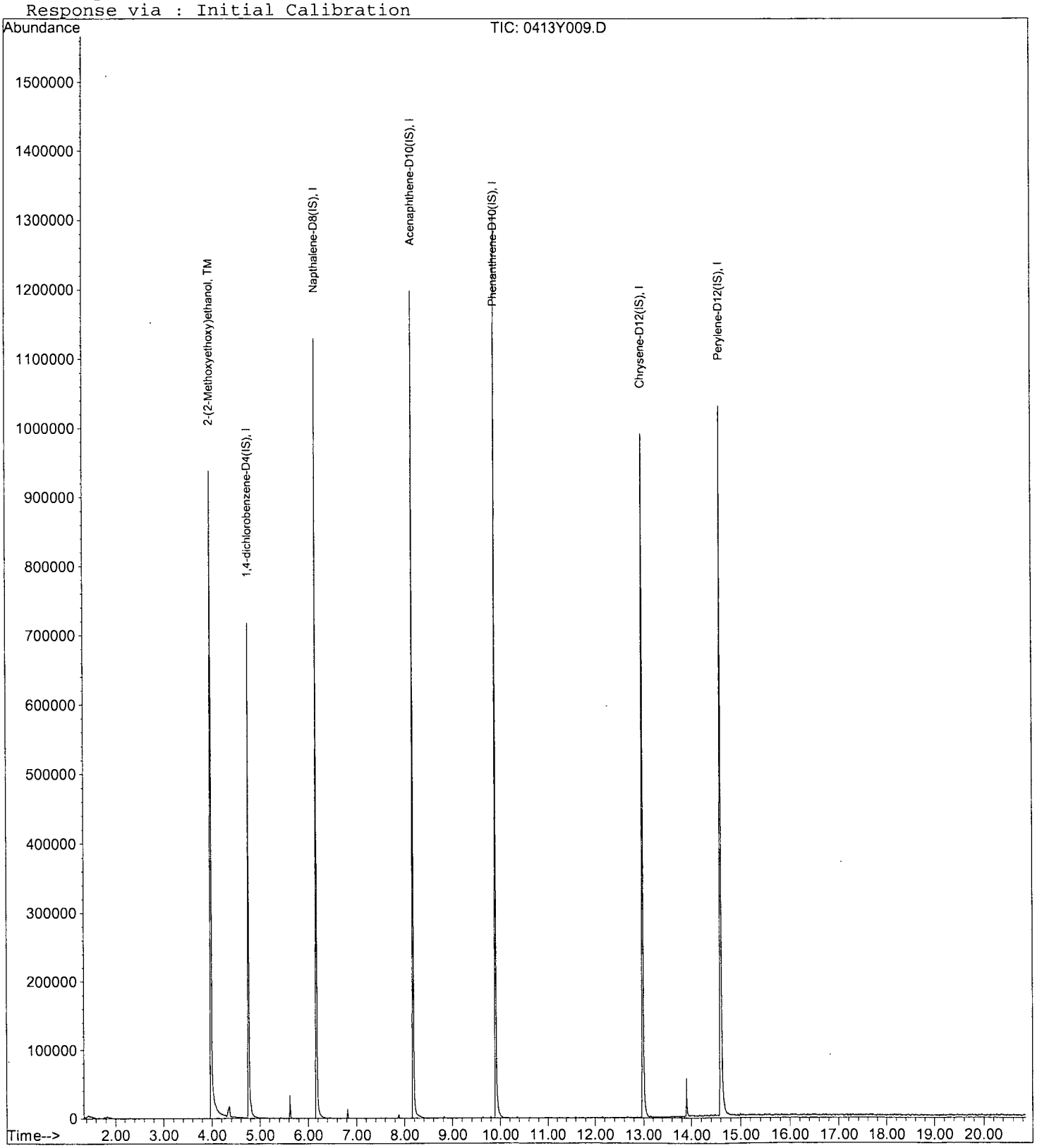
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	126513	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	529527	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	279610	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	516629	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	475326	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	424586	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.00	45	877318	1095.97475 ppb	99

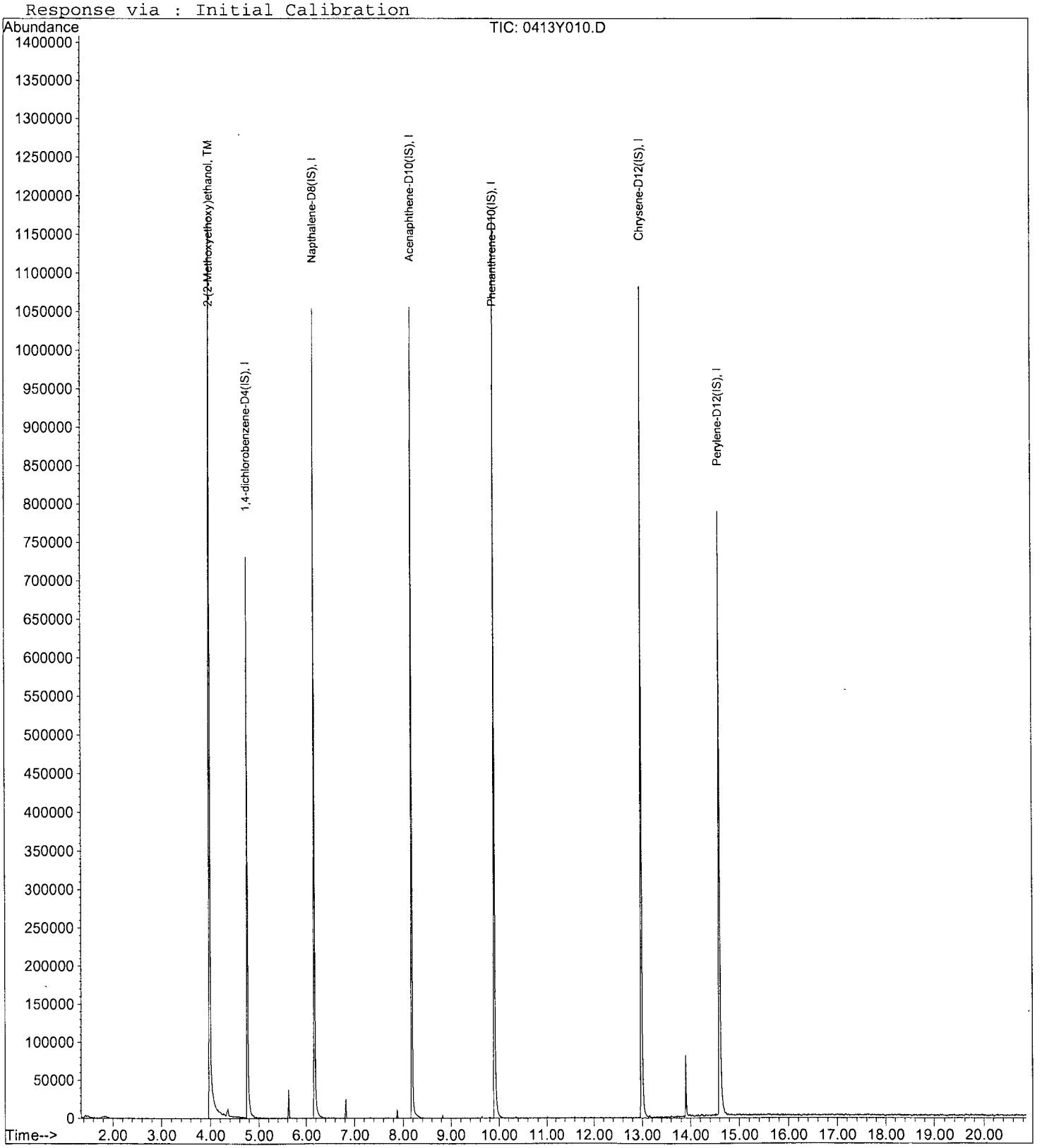
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y011.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2537	1.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
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22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	162431	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	673923	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	377854	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	682182	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	642948	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.61	264	796953	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	515080	506.19367 ppb	99

Algorithm = $\frac{515080 \times 40 \times 1}{162431 \times 0.2506}$ = 506.2 HA 4/14/17

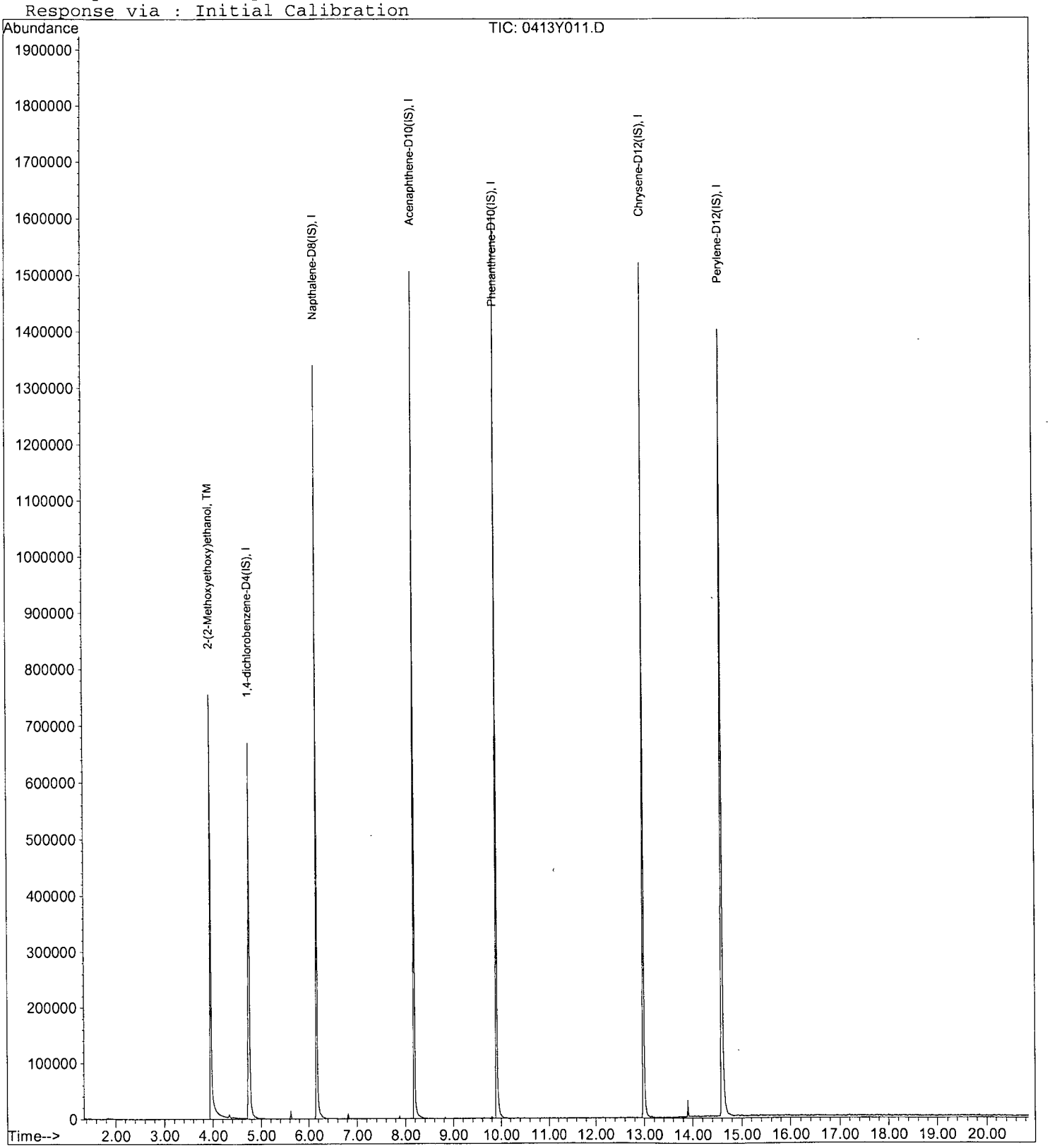
(#) = qualifier out of range (m) = manual integration
0413Y011.D Y0GLYCOL.M Fri Apr 14 07:34:01 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y034.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2681	7.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
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21							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y034.D Vial: 34
Acq On : 14 Apr 17 3:17 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:38 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	98346	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	427367	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	247654	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	446090	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	419492	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	436159	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	329521	534.85657 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

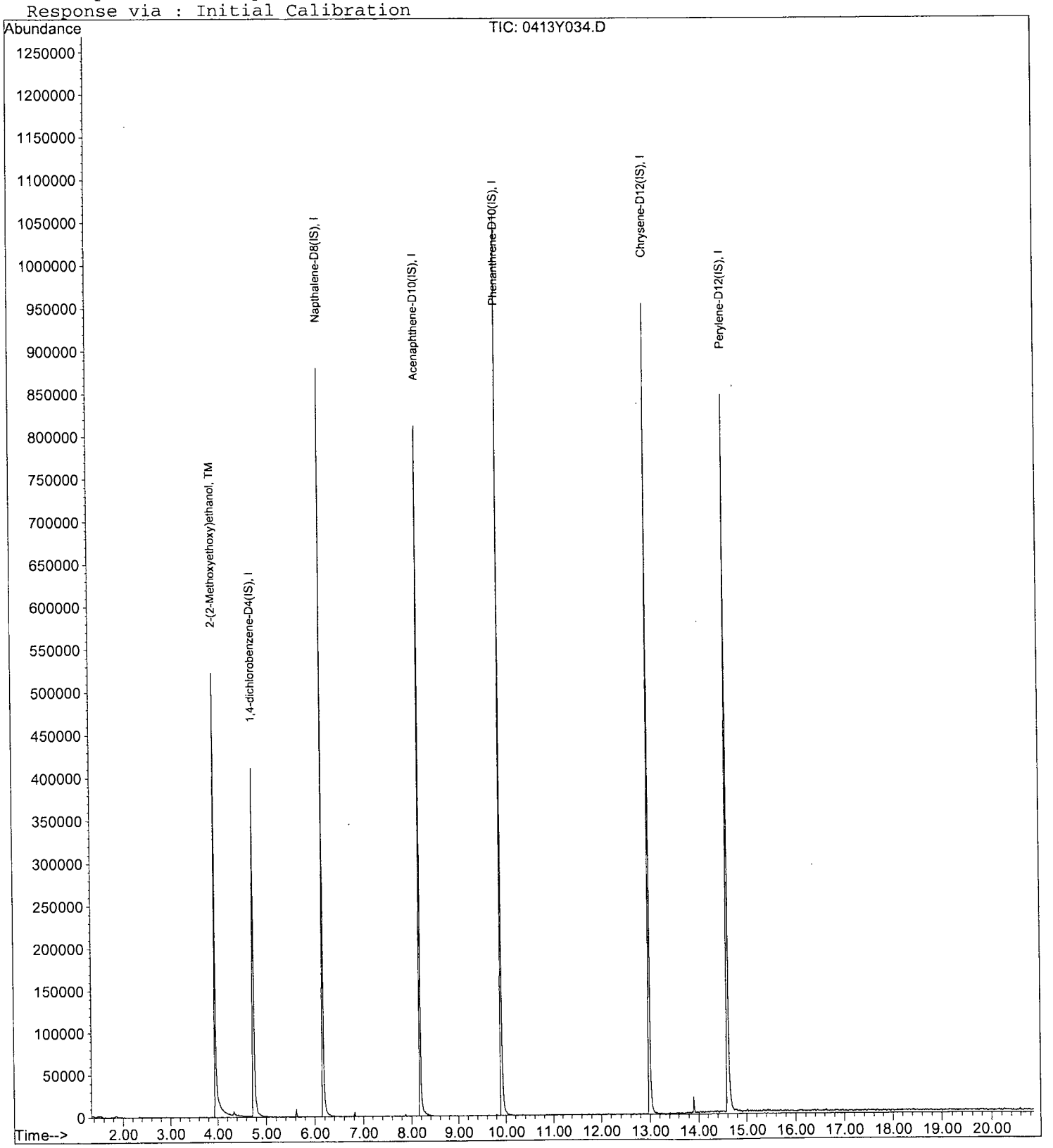
Data File : M:\YODA\DATA\Y170413G\0413Y034.D
Acq On : 14 Apr 17 3:17
Sample : 500ug/ml DEG 04/12/17
Misc :

Vial: 34
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:38 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.
Run #: 0413Y013
Instrument: Yoda
Sequence: Y170413G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:11:37 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y013.D Vial: 13
Acq On : 13 Apr 17 16:48 Operator: MA
Sample : 170410A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	105668	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	467112	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	267815	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	499187	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	471654	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	418040	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

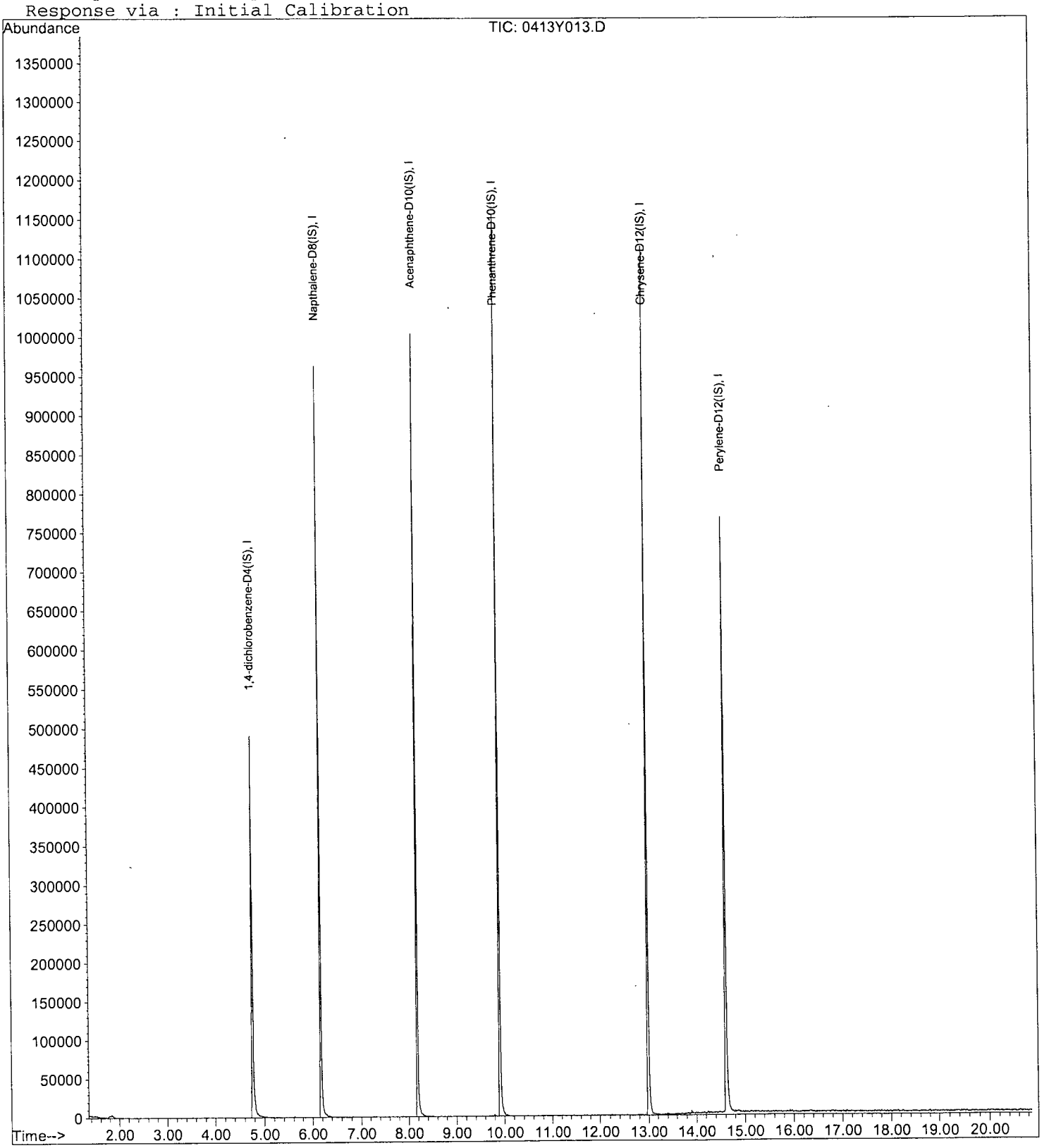
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y013.D Vial: 13
Acq On : 13 Apr 17 16:48 Operator: MA
Sample : 170410A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:11:38 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y014.D
Acq On : 13 Apr 17 17:18
Sample : 170410A LCS-1 2/500
Misc :

Vial: 14
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:48 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108150	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.17	136	455829	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	255413	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	474128	40.00000	ppb	0.00
6) Chrysene-D12(IS)	12.99	240	448616	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.60	264	413196	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	27786	41.01195	ppb	100

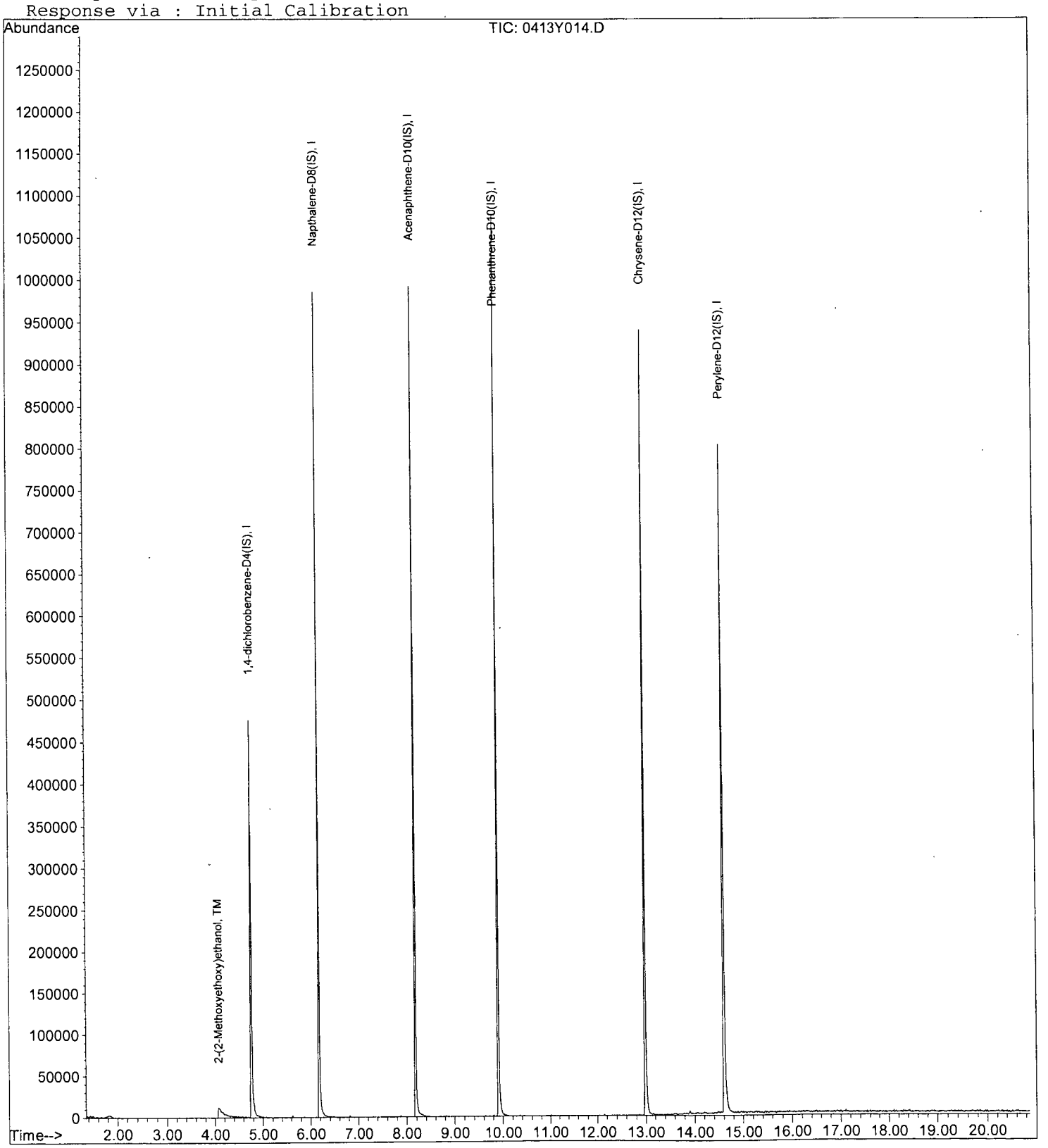
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y014.D Vial: 14
Acq On : 13 Apr 17 17:18 Operator: MA
Sample : 170410A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:48 2017 Quant Results File: Y0GLYCOL.RES

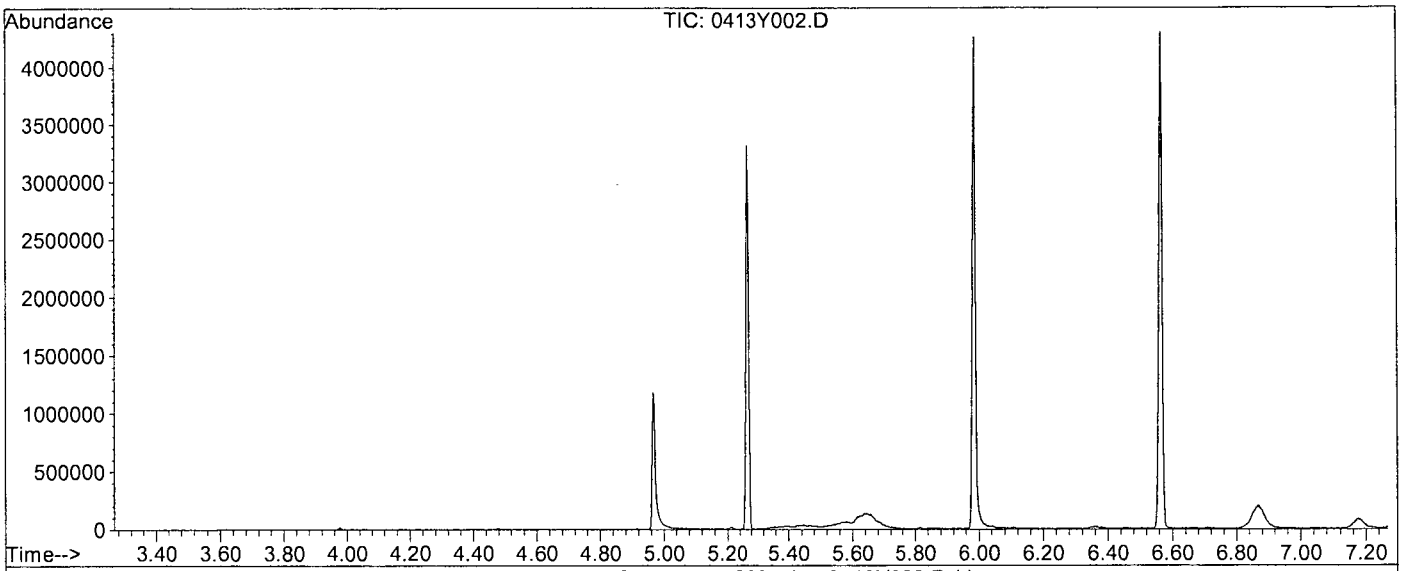
Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

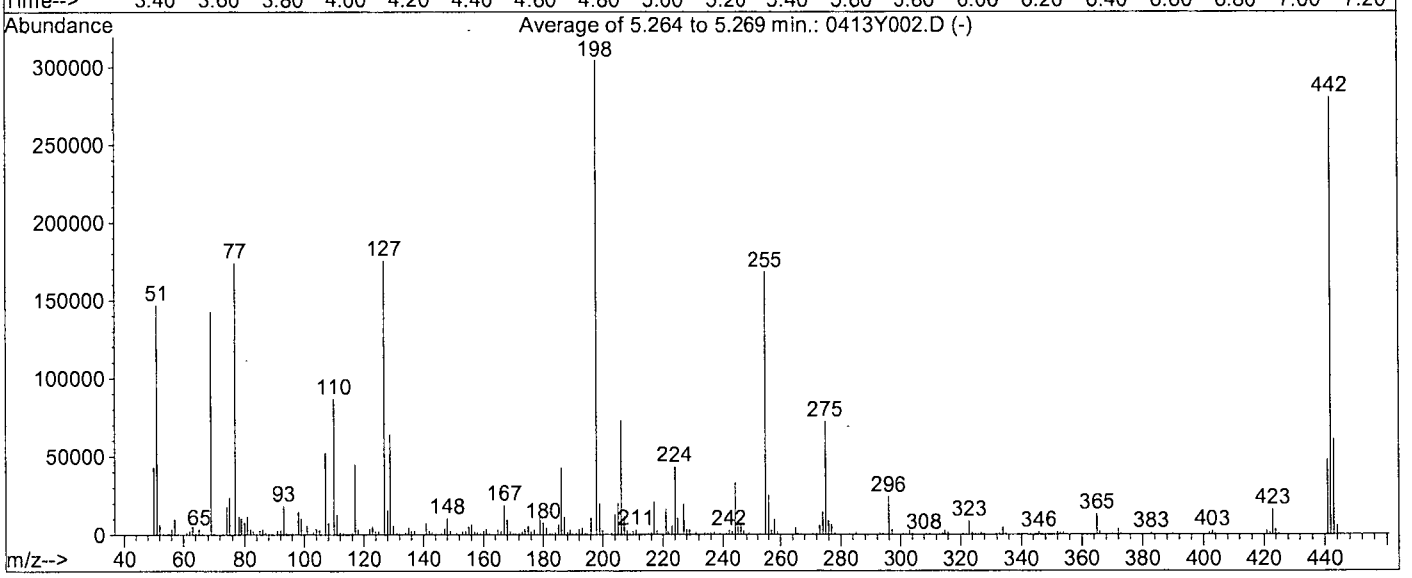


DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y002.D Vial: 2
Acq On : 13 Apr 17 9:41 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

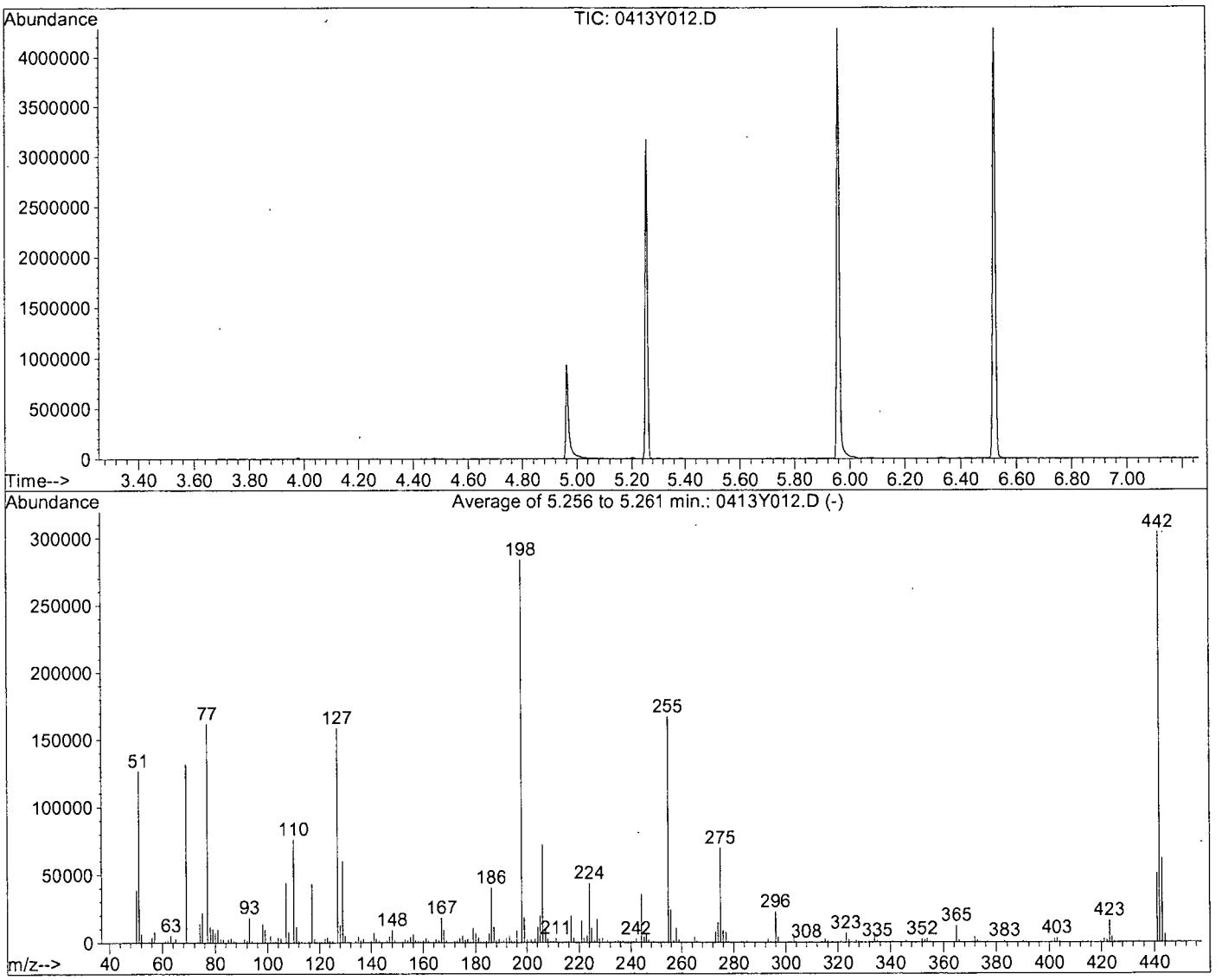
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	147051	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	530	PASS
127	198	40	60	57.7	175637	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	304341	PASS
199	198	5	9	6.4	19568	PASS
275	198	10	30	23.7	72040	PASS
365	198	1	100	4.3	13166	PASS
441	443	0.01	100	78.5	47741	PASS
442	198	50	150	92.2	280597	PASS
443	442	17	23	21.7	60813	PASS

0413Y002.D YOGLYCOL.M Fri Apr 14 08:11:22 2017

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y012.D Vial: 12
Acq On : 13 Apr 17 16:31 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\DFTPP2.M (Chemstation Integrator)
Title :



AutoFind: Scans 668, 669, 670; Background Corrected with Scan 660

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.7	126843	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	623	PASS
127	198	40	60	55.8	158536	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	283925	PASS
199	198	5	9	6.4	18313	PASS
275	198	10	30	24.5	69549	PASS
365	198	1	100	4.3	12094	PASS
441	443	0.01	100	82.4	50832	PASS
442	198	50	150	107.2	304448	PASS
443	442	17	23	20.3	61680	PASS

0413Y012.D DFTPP2.M Fri Apr 14 08:12:37 2017

GED Curve

PREP DATE:	04/12/17 RH									
8270 Standard Curve										
Exp:	02/08/18					**50**	**100**	**200**	**400**	**500**
		Conc.		Date						
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL
	GED MSTD Stock *	2000	VAR	02/09/17	02/18/18	5	5	10	20	50
EM Science	Methanol		010616A			195	95	90	80	150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4	2	2	2	4
				Final Vol.		204	102	102	102	204

* Extracted on 02/09/17

GED Second Source (SS)

PREP DATE:	04/12/17 RH					**500**
Exp:	09/27/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Stock *	2000	VAR	02/09/17	09/27/17	50
EM Science	Methanol		010616A			150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4
				Final Vol.		204

600	**800**	**1000**
µL	µL	µL
30	40	50
70	60	50
2	2	2
102	102	102

Diethylene Glycol						
Prep: 02/08/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37326 and 37327 Op: 02/08/17 EX: 02/08/18	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Given to Extraction to do Diethylene Glycol Method Standard, extracted on 2/9/17

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 02/09/17. Final concentration is 2000ug/ml

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	**04/11/17 0:00**

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				NA	NA equip	500	2	7	04/10/17 13:45	
2	170410A LCS-1		0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	
3	AZ53059 MS-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
4	AZ53059 MSD-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
5	AZ53059	AZ53059W17			NA	NA equip	500	2	7	04/10/17 13:45	82577
6	AZ53060	AZ53060W07			NA	NA equip	500	2	7	04/10/17 13:45	82577
7	AZ53062	AZ53062W11			NA	NA equip	500	2	7	04/10/17 13:45	82577
8	AZ53064	AZ53064W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
9	AZ53065	AZ53065W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
10	AZ53168 MS-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
11	AZ53168 MSD-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
12	AZ53168	AZ53168W44			NA	NA equip	500	2	7	04/10/17 13:45	82619
13	AZ53169	AZ53169W16			NA	NA equip	500	2	7	04/10/17 13:45	82619
14	AZ53170	AZ53170W13			NA	NA equip	500	2	7	04/10/17 13:45	82619
15	AZ53172	AZ53172W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
16	AZ53174	AZ53174W10			NA	NA equip	500	2	7	04/10/17 13:45	82596

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: KY360 **Date** 4/12/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	04/11/17 0:00

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W09			NA	NA equip	500	2	7	04/10/17 13:45	82596
18	AZ53178	AZ53178W10			NA	NA equip	500	2	7	04/10/17 13:45	82596
19	AZ53180	AZ53180W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
20	AZ53260	AZ53260W12			NA	NA equip	500	2	7	04/10/17 13:45	82611
21	AZ53261	AZ53261W10			NA	NA equip	500	2	7	04/10/17 13:45	82611
22	AZ53263	AZ53263W14			NA	NA equip	500	2	7	04/10/17 13:45	82611
23	AZ53264	AZ53264W05			NA	NA equip	500	2	7	04/10/17 13:45	82611
24	AZ53266	AZ53266W09			NA	NA equip	500	2	7	04/10/17 13:45	82611
25	SS		0.087	2	NA	NA equip	500	2	7	04/10/17 13:45	

Ky 4/12/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: Ky **Date** 4/12/17

Injection Log

Directory: M:\YODA\DATA\Y170413G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0413Y002.D	1	SV Tune 03/29/17		13 Apr 17 9:41
3	0413Y003.D	1	50ug/ml DEG 04/12/17		13 Apr 17 9:57
4	0413Y004.D	1	100ug/ml DEG 04/12/17		13 Apr 17 10:27
5	0413Y005.D	1	200ug/ml DEG 04/12/17		13 Apr 17 10:57
6	0413Y006.D	1	400ug/ml DEG 04/12/17		13 Apr 17 11:27
7	0413Y007.D	1	500ug/ml DEG 04/12/17		13 Apr 17 11:57
8	0413Y008.D	1	600ug/ml DEG 04/12/17		13 Apr 17 14:02
9	0413Y009.D	1	800ug/ml DEG 04/12/17		13 Apr 17 14:32
10	0413Y010.D	1	1000ug/ml DEG 04/12/17		13 Apr 17 15:03
11	0413Y011.D	1	SS2 DEG 04/12/17		13 Apr 17 16:03
12	0413Y012.D	1	SV Tune 03/29/17		13 Apr 17 16:31
13	0413Y013.D	1	170410A BLK 2/500		13 Apr 17 16:48
14	0413Y014.D	1	170410A LCS-1 2/500		13 Apr 17 17:18
27	0413Y027.D	1	AZ53172W13 2/500		13 Apr 17 23:48
28	0413Y028.D	1	AZ53174W10 2/500		14 Apr 17 00:18
29	0413Y029.D	1	AZ53176W09 2/500		14 Apr 17 00:48
30	0413Y030.D	1	AZ53178W10 2/500		14 Apr 17 1:18
31	0413Y031.D	1	AZ53180W13 2/500		14 Apr 17 1:48
34	0413Y034.D	1	500ug/ml DEG 04/12/17		14 Apr 17 3:17

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53171 - 217637**
Batch ID: #86BTO-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	04/07/17	04/07/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/24/17 1:56:32 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407AM-LCS	Lab Control Spike	81-118	105		85-114	102	
170407AM-BLK	Blank	81-118	102		85-114	93.9	
AZ53171	ERH299	81-118	103		85-114	97.5	
AZ53172	ERH300	81-118	103		85-114	106	
AZ53173	ERH308	81-118	109		85-114	98.6	
AZ53174	ERH310	81-118	105		85-114	96.2	
AZ53175	ERH311	81-118	103		85-114	96.2	
AZ53176	ERH313	81-118	106		85-114	96.3	
AZ53177	ERH318	81-118	101		85-114	94.0	
AZ53178	ERH319	81-118	107		85-114	94.9	
AZ53179	ERH304	81-118	103		85-114	98.2	
AZ53180	ERH305	81-118	100		85-114	93.3	

Comments: Batch: #86BTO-170407AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407AM-LCS	Lab Control Spike	80-119	102		89-112	107	
170407AM-BLK	Blank	80-119	100		89-112	102	
AZ53171	ERH299	80-119	103		89-112	104	
AZ53172	ERH300	80-119	101		89-112	103	
AZ53173	ERH308	80-119	108		89-112	105	
AZ53174	ERH310	80-119	105		89-112	101	
AZ53175	ERH311	80-119	102		89-112	103	
AZ53176	ERH313	80-119	106		89-112	104	
AZ53177	ERH318	80-119	102		89-112	102	
AZ53178	ERH319	80-119	103		89-112	102	
AZ53179	ERH304	80-119	103		89-112	104	
AZ53180	ERH305	80-119	102		89-112	104	

Comments: Batch: #86BTO-170407AM

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170407W-53171 LCS - 217637**
Batch ID: #86BTO-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.57	95.7	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	9.62	96.2	80-121
XYLENES (TOTAL)	30.0	30.2	101	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.3	105	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.6	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.7	107	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M05
Initials :	SV

Printed: 04/24/17 1:56:40 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82596
Case No: 82596
Date Analyzed: 04/07/17
Matrix: WATER
Instrument: Max
Blank ID: 170407AM-BLK
Time Analyzed: 1320

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407AM-LCS	Lab Control Spike	0407M05	04/07/17 1001
170407AM-BLK	Blank	0407M12	04/07/17 1320
AZ53171	ERH299	0407M18	04/07/17 1610
AZ53172	ERH300	0407M19	04/07/17 1638
AZ53173	ERH308	0407M20	04/07/17 1707
AZ53174	ERH310	0407M21	04/07/17 1735
AZ53175	ERH311	0407M22	04/07/17 1804
AZ53176	ERH313	0407M23	04/07/17 1832
AZ53177	ERH318	0407M24	04/07/17 1900
AZ53178	ERH319	0407M25	04/07/17 1929
AZ53179	ERH304	0407M26	04/07/17 1957
AZ53180	ERH305	0407M27	04/07/17 2026

Comments: Batch: #86BTO-170407AM

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 0404M04.D
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: Max
Date Analyzed: 04/04/17
Instrument: Max
Time Analyzed: 8:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 04/0	0404M08.D	04/04/17 10:42
2		0.5ug/L VOC STD 04/0	0404M09.D	04/04/17 11:11
3		1.0ug/L VOC STD 04/0	0404M10.D	04/04/17 11:39
4		2.0ug/L VOC STD 04/0	0404M11.D	04/04/17 12:07
5		5.0ug/L VOC STD 04/0	0404M12.D	04/04/17 12:36
6		10ug/L VOC STD 04/04	0404M13.D	04/04/17 13:04
7		20ug/L VOC STD 04/04	0404M14.D	04/04/17 13:33
8		40ug/L VOC STD 04/04	0404M15.D	04/04/17 14:01
9		100ug/L VOC STD 04/0	0404M16.D	04/04/17 14:29
10		(SS) 10ug/L VOC STD	0404M21.D	04/04/17 16:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	43.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	85.6
175	5 - 9% of mass 174	5.8
176	95.06 - 101% of mass 174	98.6
177	5 - 9% of mass 176	6.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82596
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82596
Date Analyzed: 04/07/17
Instrument: Max
Time Analyzed: 9:05

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		25ug/mL BFB std 4/03	0407M03.D	04/07/17 9:05
2		170407A CCV 10ug/L	0407M04.D	04/07/17 9:33
3	Lab Control Spike	170407A LCS 10ug/L	0407M05.D	04/07/17 10:01
4	Blank	170407A BLK-1WM	0407M12.D	04/07/17 13:20
5	ERH299	AZ53171W01	0407M18.D	04/07/17 16:10
6	ERH300	AZ53172W01	0407M19.D	04/07/17 16:38
7	ERH308	AZ53173W01	0407M20.D	04/07/17 17:07
8	ERH310	AZ53174W01	0407M21.D	04/07/17 17:35
9	ERH311	AZ53175W01	0407M22.D	04/07/17 18:04
10	ERH313	AZ53176W01	0407M23.D	04/07/17 18:32
11	ERH318	AZ53177W01	0407M24.D	04/07/17 19:00
12	ERH319	AZ53178W01	0407M25.D	04/07/17 19:29
13	ERH304	AZ53179W01	0407M26.D	04/07/17 19:57
14	ERH305	AZ53180W01	0407M27.D	04/07/17 20:26
15		Ending CCV 8260 10ug	0407M30.D	04/07/17 21:51 *
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.6
75	30 - 60% of mass 95	46.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.4
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	85.2
175	5 - 9% of mass 174	7.8
176	95.06 - 101% of mass 174	99.0
177	5 - 9% of mass 176	6.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82596

Lab File ID (Standard): 0404M13.D Date Analyzed: 4 Apr 17 13:04

Instrument ID: Max Time Analyzed: 4 Apr 17 13:04

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	266913	5.51	185947	9.14	87359	12.34
	UPPER LIMIT	533826	6.01	371894	9.64	174718	12.84
	LOWER LIMIT	133457	5.01	92974	8.64	43680	11.84
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	268348	5.51	183462	9.14	87168	12.34
02	170407A CCV 10ug/L	257644	5.51	176415	9.14	78181	12.34
03	170407A LCS 10ug/L	255372	5.51	168117	9.14	78585	12.34
04	170407A BLK-1WM	248190	5.51	165307	9.15	68671	12.34
05	AZ53171W01	241754	5.51	160428	9.14	67592	12.34
06	AZ53172W01	223800	5.51	151732	9.14	71252	12.34
07	AZ53173W01	240697	5.52	163601	9.14	73409	12.34
08	AZ53174W01	246991	5.52	170986	9.15	71664	12.34
09	AZ53175W01	243163	5.51	166342	9.14	72210	12.34
10	AZ53176W01	238690	5.52	163818	9.15	70667	12.34
11	AZ53177W01	242635	5.52	164940	9.14	68141	12.34
12	AZ53178W01	241036	5.52	165698	9.14	71747	12.34
13	AZ53179W01	236071	5.52	159355	9.14	70244	12.34
14	AZ53180W01	242975	5.52	164283	9.14	68220	12.34
15	Ending CCV 8260 10ug/	253728	5.51	171177	9.14	79546	12.34
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH299
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53171
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M18
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M18.D
Acq On : 7 Apr 17 16:10
Sample : AZ53171W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:54 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	241754	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	160428	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	67592	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	58764	25.80834 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
37) 1,2-DCA-D4(S)	5.13	65	45949	25.76154 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.048%	
57) Toluene-D8(S)	7.35	98	244257	26.10131 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.404%	
65) 4-Bromofluorobenzene(S)	10.73	95	70675	24.38370 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.536%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

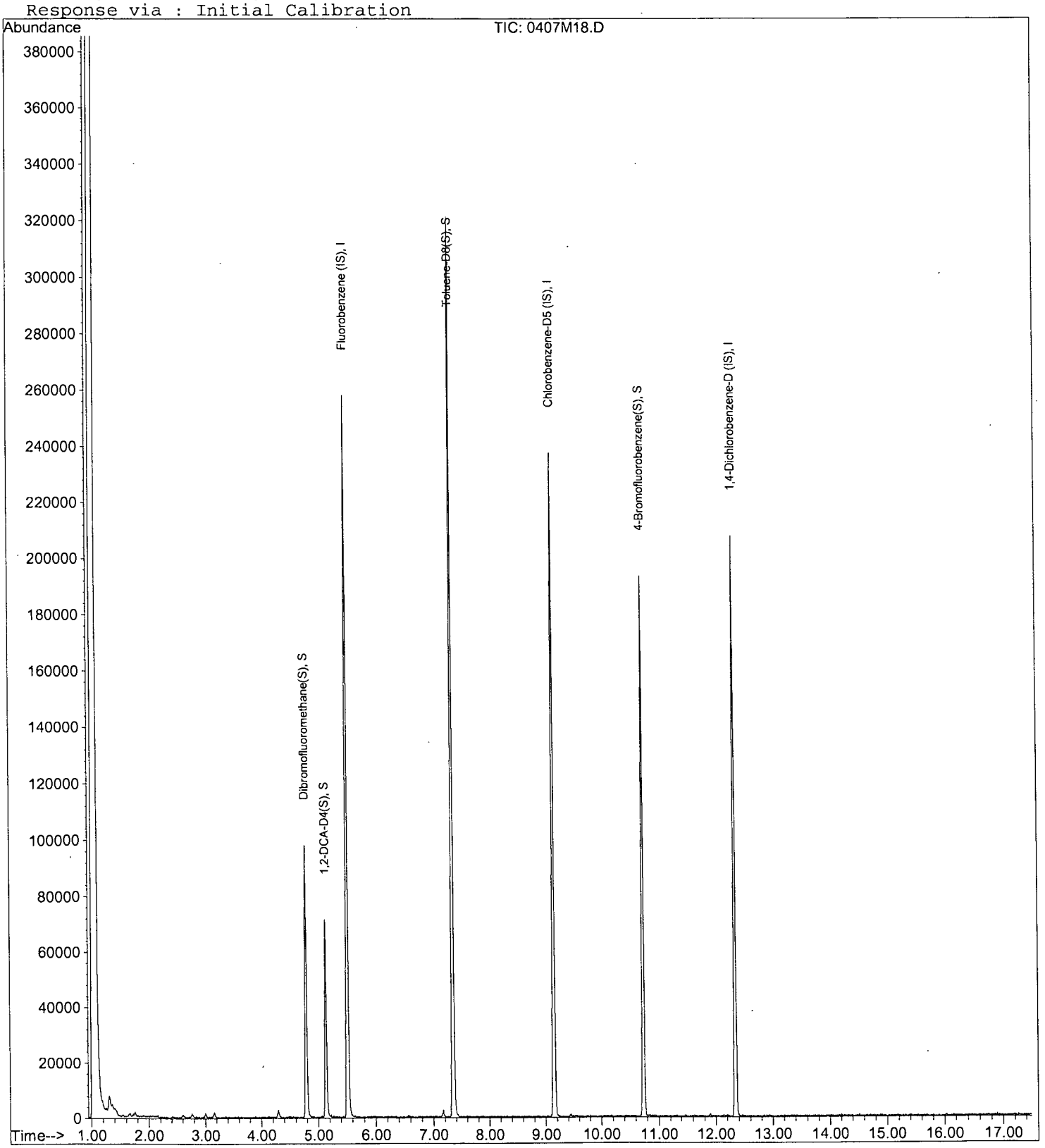
Data File : M:\MAX\DATA\M170404\0407M18.D
Acq On : 7 Apr 17 16:10
Sample : AZ53171W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:54 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	106	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	101	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M19
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M19.D
Acq On : 7 Apr 17 16:38
Sample : AZ53172W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:21 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	223800	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	151732	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	71252	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	53313	25.29271 ppb	0.00
Spiked Amount 25.000			Recovery = 101.172%		
37) 1,2-DCA-D4(S)	5.13	65	42573	25.78360 ppb	0.00
Spiked Amount 25.000			Recovery = 103.136%		
57) Toluene-D8(S)	7.35	98	227426	25.69558 ppb	0.00
Spiked Amount 25.000			Recovery = 102.784%		
65) 4-Bromofluorobenzene(S)	10.73	95	72683	26.51366 ppb	0.00
Spiked Amount 25.000			Recovery = 106.056%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0407M19.D MALLW.M Mon Apr 10 08:21:23 2017

Quantitation Report

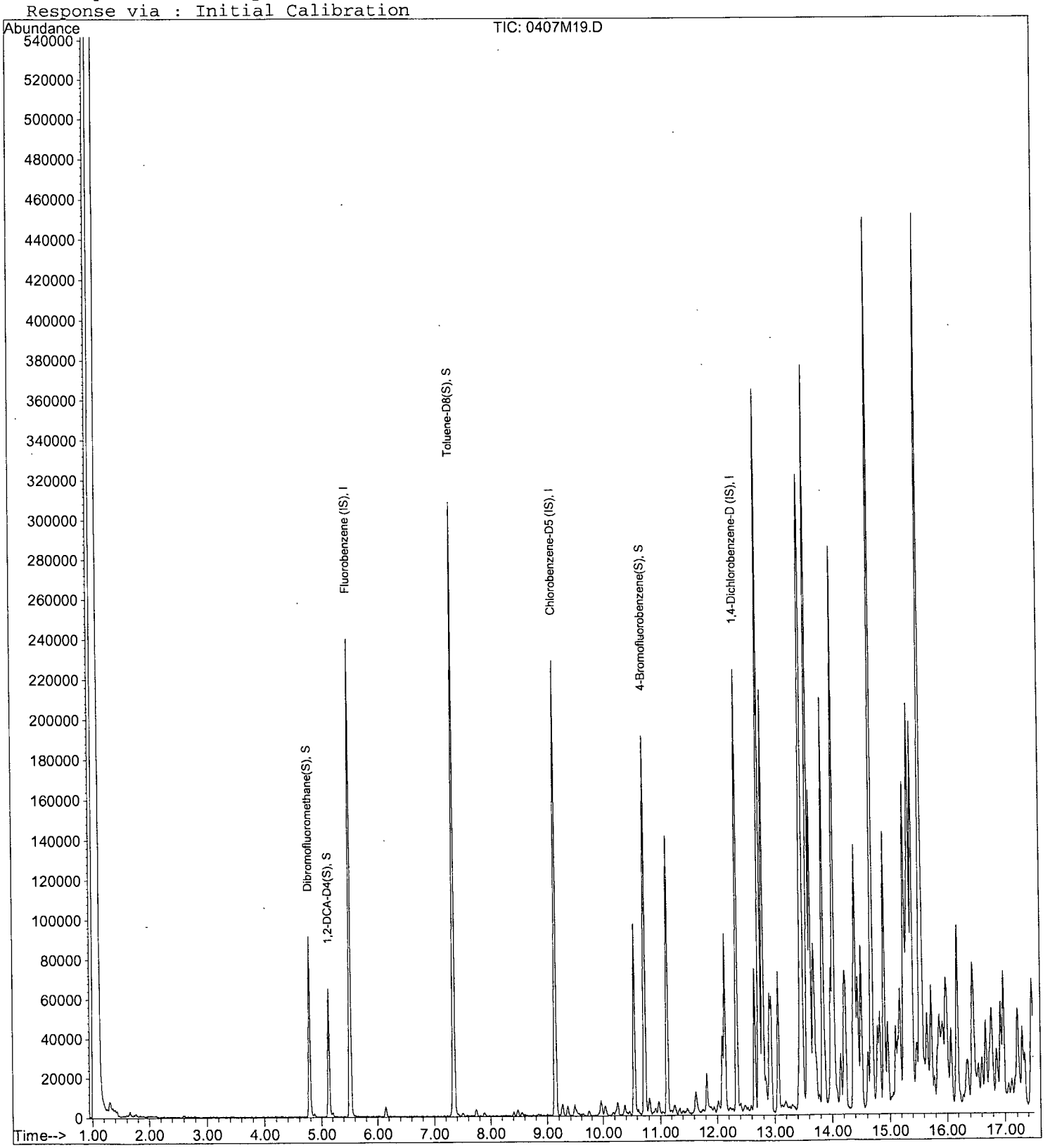
Data File : M:\MAX\DATA\M170404\0407M19.D
Acq On : 7 Apr 17 16:38
Sample : AZ53172W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:21 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH308
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53173
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	109	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.6	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	108	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	105	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M20
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M20.D
Acq On : 7 Apr 17 17:07
Sample : AZ53173W01
Misc : 10ml IS&S: 2/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:55 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	240697	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	163601	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73409	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61127	26.96403 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.856%	
37) 1,2-DCA-D4(S)	5.13	65	48358	27.23122 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.924%	
57) Toluene-D8(S)	7.35	98	251215	26.32420 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.296%	
65) 4-Bromofluorobenzene(S)	10.73	95	72829	24.63953 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.560%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

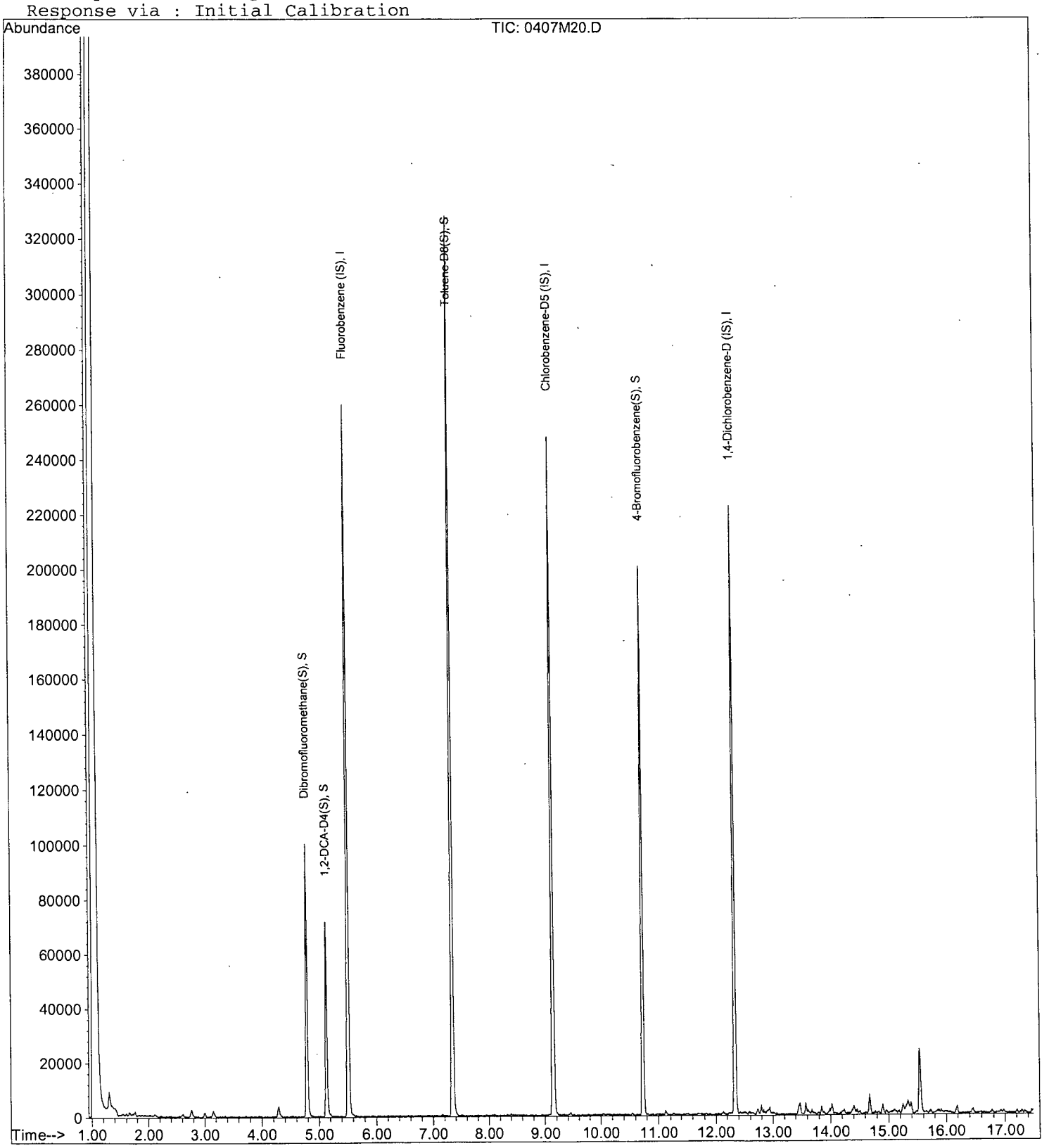
Data File : M:\MAX\DATA\M170404\0407M20.D
Acq On : 7 Apr 17 17:07
Sample : AZ53173W01
Misc : 10ml IS&S: 2/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:55 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	105	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	105	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M21
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M21.D
Acq On : 7 Apr 17 17:35
Sample : AZ53174W01
Misc : 10ml IS&S: 2/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multip1r: 1.00

Quant Time: Apr 10 7:57 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	246991	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	170986	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	71664	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61145	26.28465 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.140%	
37) 1,2-DCA-D4(S)	5.14	65	47934	26.30462 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.220%	
57) Toluene-D8(S)	7.35	98	251457	25.21150 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.848%	
65) 4-Bromofluorobenzene(S)	10.73	95	74305	24.05313 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.212%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

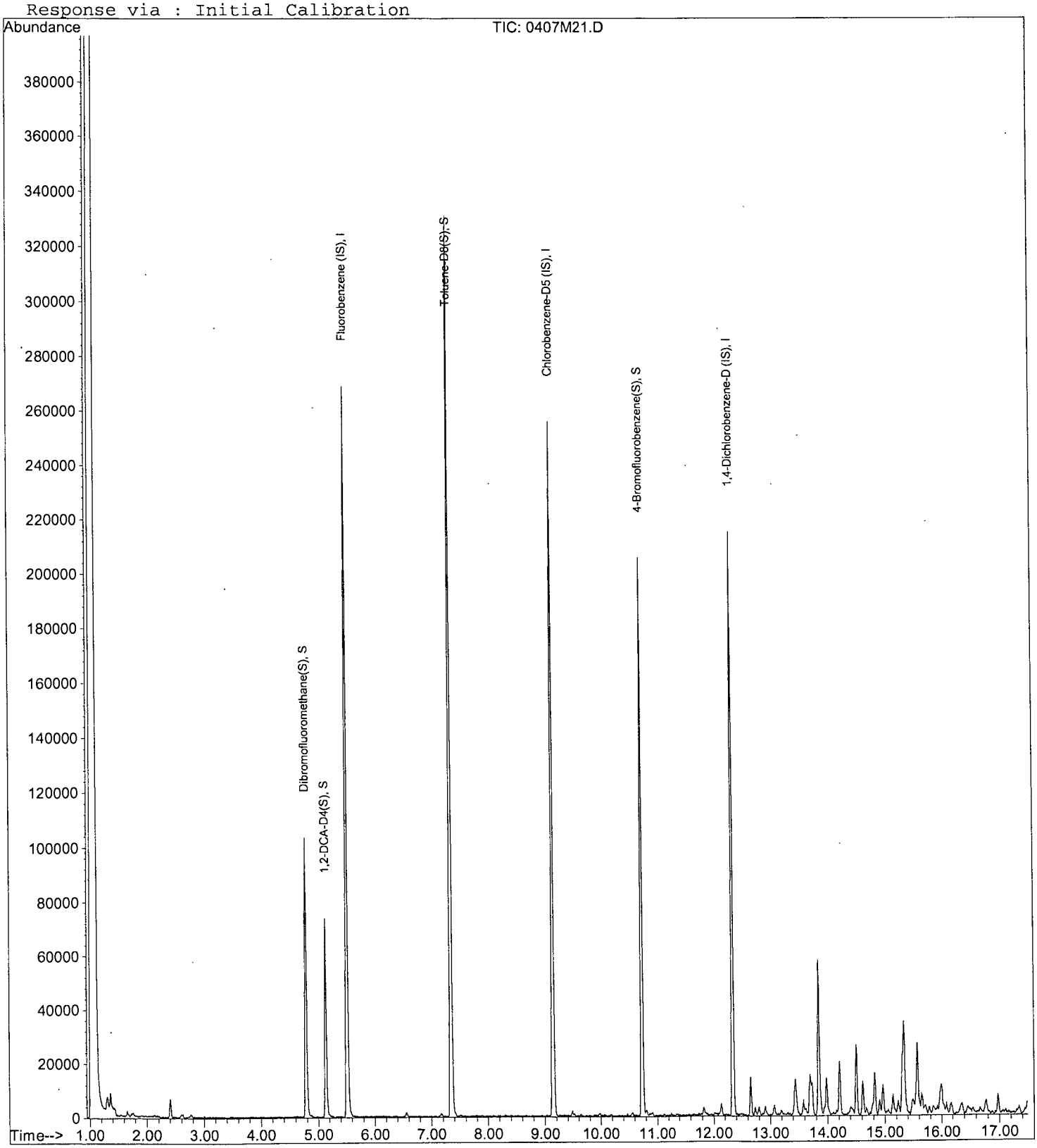
Data File : M:\MAX\DATA\M170404\0407M21.D
Acq On : 7 Apr 17 17:35
Sample : AZ53174W01
Misc : 10ml IS&S: 2/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:57 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH311
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53175
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M22
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M22.D
Acq On : 7 Apr 17 18:04
Sample : AZ53175W01
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:57 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243163	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	166342	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72210	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58564	25.57146 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.284%	
37) 1,2-DCA-D4(S)	5.13	65	46050	25.66856 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.676%	
57) Toluene-D8(S)	7.35	98	249908	25.75572 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.024%	
65) 4-Bromofluorobenzene(S)	10.73	95	72284	24.05217 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.208%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

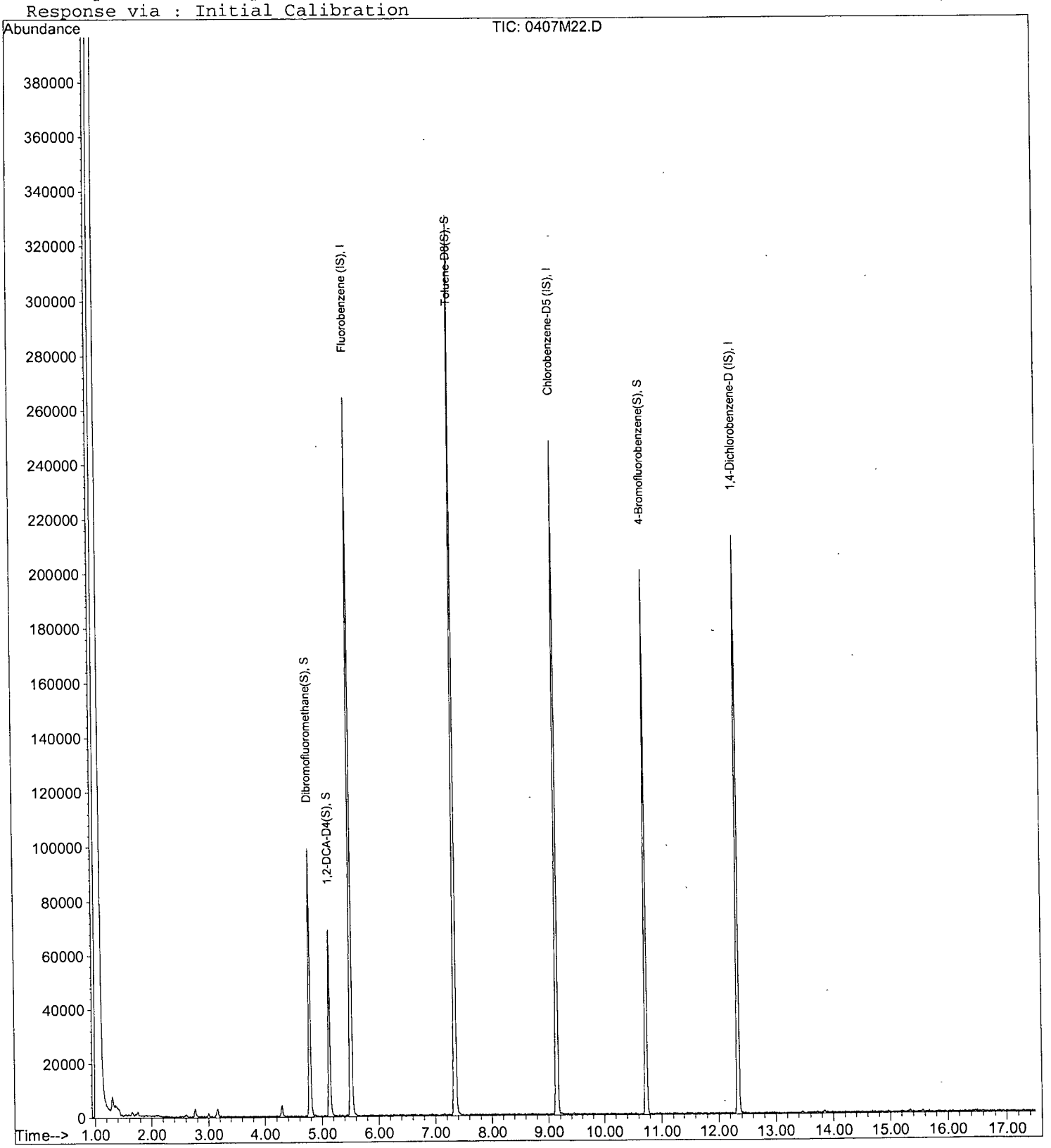
Data File : M:\MAX\DATA\M170404\0407M22.D
Acq On : 7 Apr 17 18:04
Sample : AZ53175W01
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:57 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	106	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.3	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	106	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M23
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M23.D
Acq On : 7 Apr 17 18:32
Sample : AZ53176W01
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	238690	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	163818	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	70667	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	59385	26.41587 ppb	0.00
Spiked Amount 25.000			Recovery = 105.664%		
37) 1,2-DCA-D4(S)	5.13	65	46711	26.52494 ppb	0.00
Spiked Amount 25.000			Recovery = 106.100%		
57) Toluene-D8(S)	7.35	98	247816	25.93363 ppb	0.00
Spiked Amount 25.000			Recovery = 103.736%		
65) 4-Bromofluorobenzene(S)	10.73	95	71259	24.07643 ppb	0.00
Spiked Amount 25.000			Recovery = 96.304%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

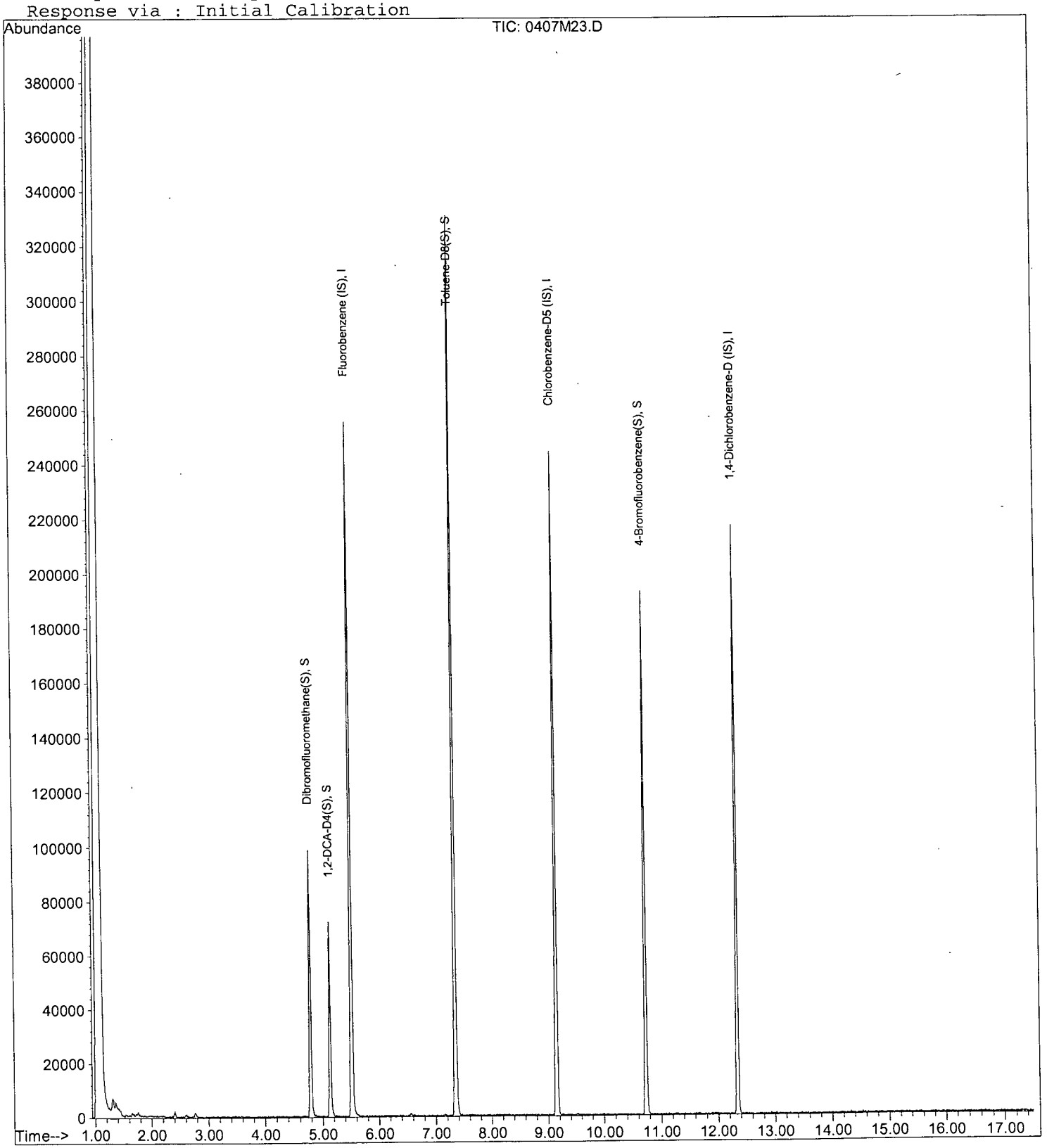
Data File : M:\MAX\DATA\M170404\0407M23.D
Acq On : 7 Apr 17 18:32
Sample : AZ53176W01
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH318
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53177
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	101	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.0	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M24
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:48 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M24.D
Acq On : 7 Apr 17 19:00
Sample : AZ53177W01
Misc : 10ml IS&S: 2/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	242635	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	164940	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68141	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	58224	25.47833 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.912%	
37) 1,2-DCA-D4(S)	5.13	65	44991	25.13284 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.532%	
57) Toluene-D8(S)	7.35	98	244601	25.42306 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.692%	
65) 4-Bromofluorobenzene(S)	10.73	95	70037	23.50258 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

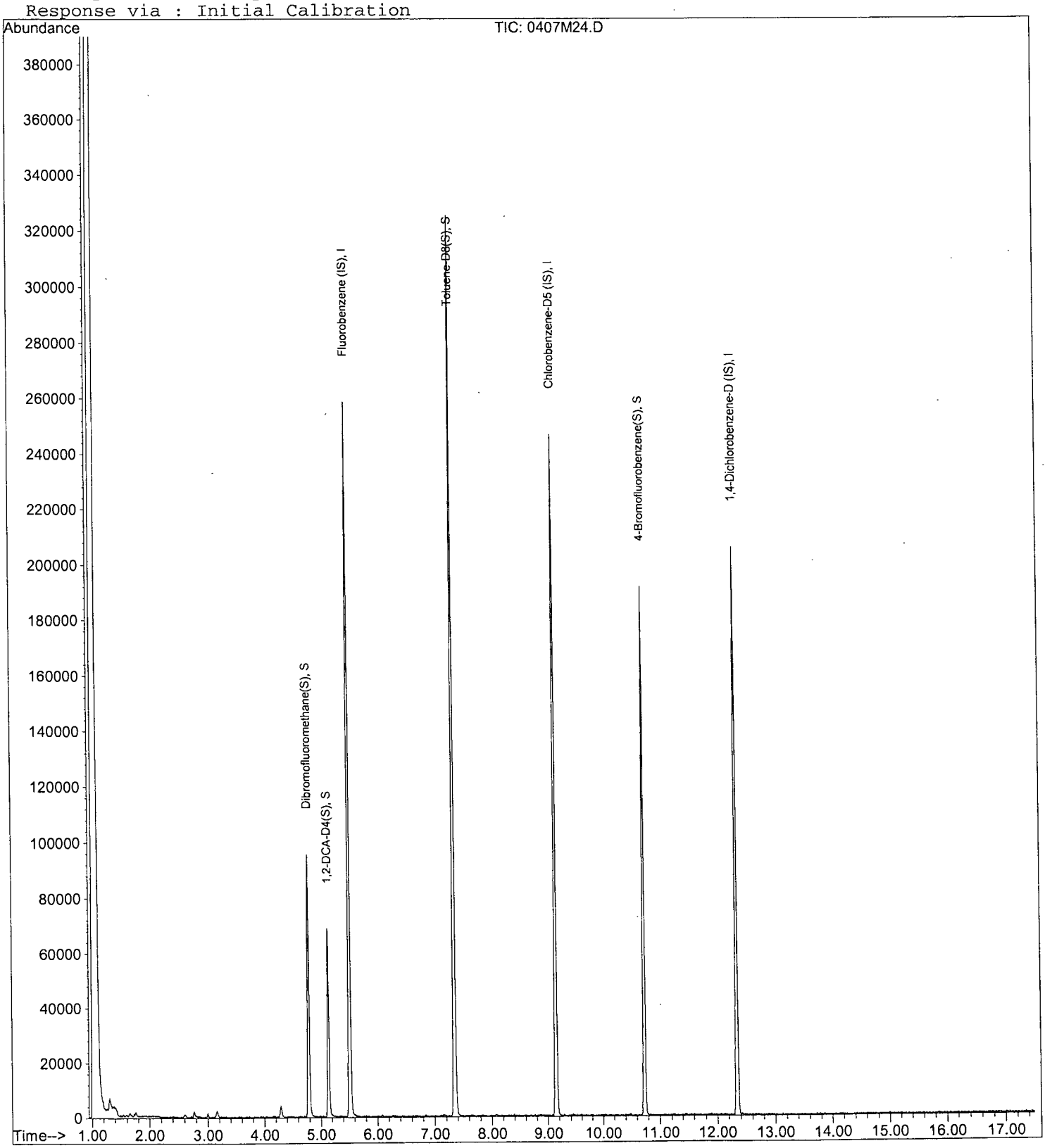
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M24.D
Acq On : 7 Apr 17 19:00
Sample : AZ53177W01
Misc : 10ml IS&S: 2/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	107	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.9	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M25
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M25.D
Acq On : 7 Apr 17 19:29
Sample : AZ53178W01
Misc : 10ml IS&S: 2/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	241036	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	165698	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	71747	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58450	25.74690 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.988%	
37) 1,2-DCA-D4(S)	5.13	65	47609	26.77174 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.088%	
57) Toluene-D8(S)	7.35	98	245386	25.38797 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.552%	
65) 4-Bromofluorobenzene(S)	10.73	95	70988	23.71274 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.852%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

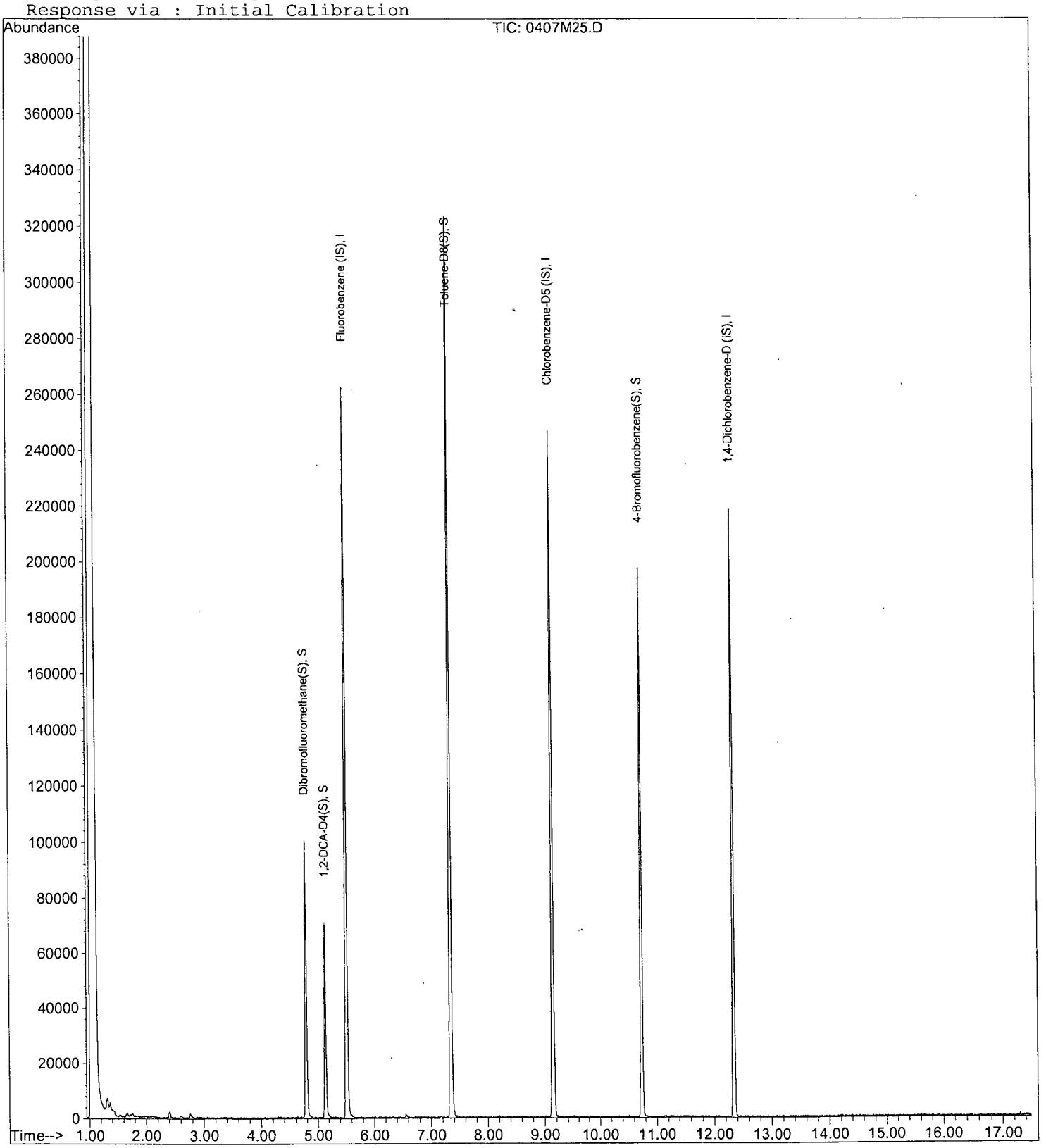
Data File : M:\MAX\DATA\M170404\0407M25.D
Acq On : 7 Apr 17 19:29
Sample : AZ53178W01
Misc : 10ml IS&S: 2/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:58 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH304
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53179
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M26
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M26.D
Acq On : 7 Apr 17 19:57
Sample : AZ53179W01
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:59 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	236071	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	159355	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	70244	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	57120	25.69022 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.760%	
37) 1,2-DCA-D4(S)	5.13	65	44850	25.75071 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.004%	
57) Toluene-D8(S)	7.35	98	241180	25.94604 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.784%	
65) 4-Bromofluorobenzene(S)	10.73	95	70648	24.53851 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.156%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

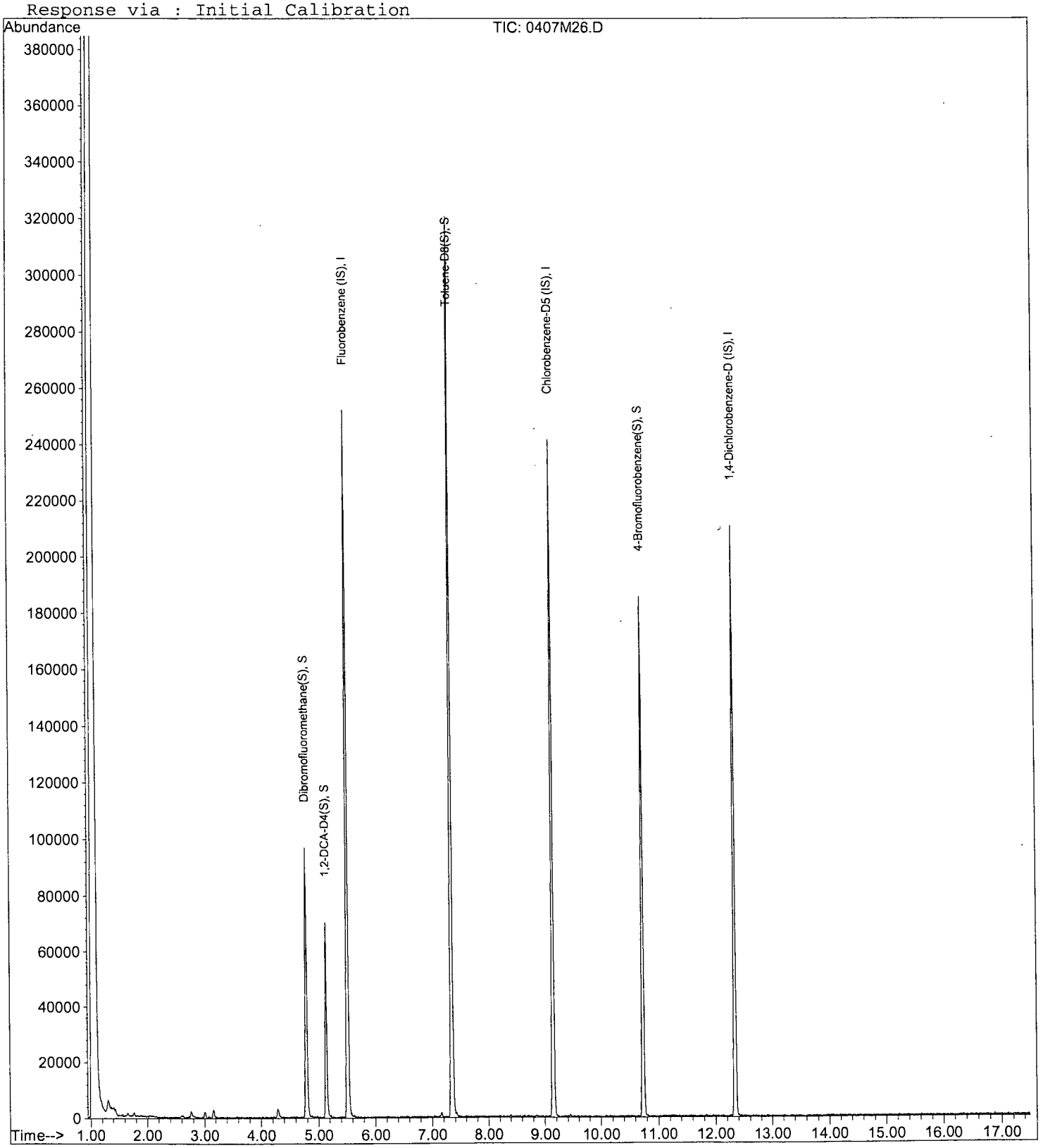
Data File : M:\MAX\DATA\M170404\0407M26.D
Acq On : 7 Apr 17 19:57
Sample : AZ53179W01
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:59 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #86BTO-170407AM-217637

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	100	81-118			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.3	85-114			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/07/17	04/07/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M27
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:56:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M27.D
Acq On : 7 Apr 17 20:26
Sample : AZ53180W01
Misc : 10ml IS&S: 2/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:59 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	242975	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	164283	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68220	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58492	25.55979 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.240%	
37) 1,2-DCA-D4(S)	5.13	65	44850	25.01902 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.076%	
57) Toluene-D8(S)	7.35	98	248162	25.89633 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.584%	
65) 4-Bromofluorobenzene(S)	10.73	95	69201	23.31491 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.260%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

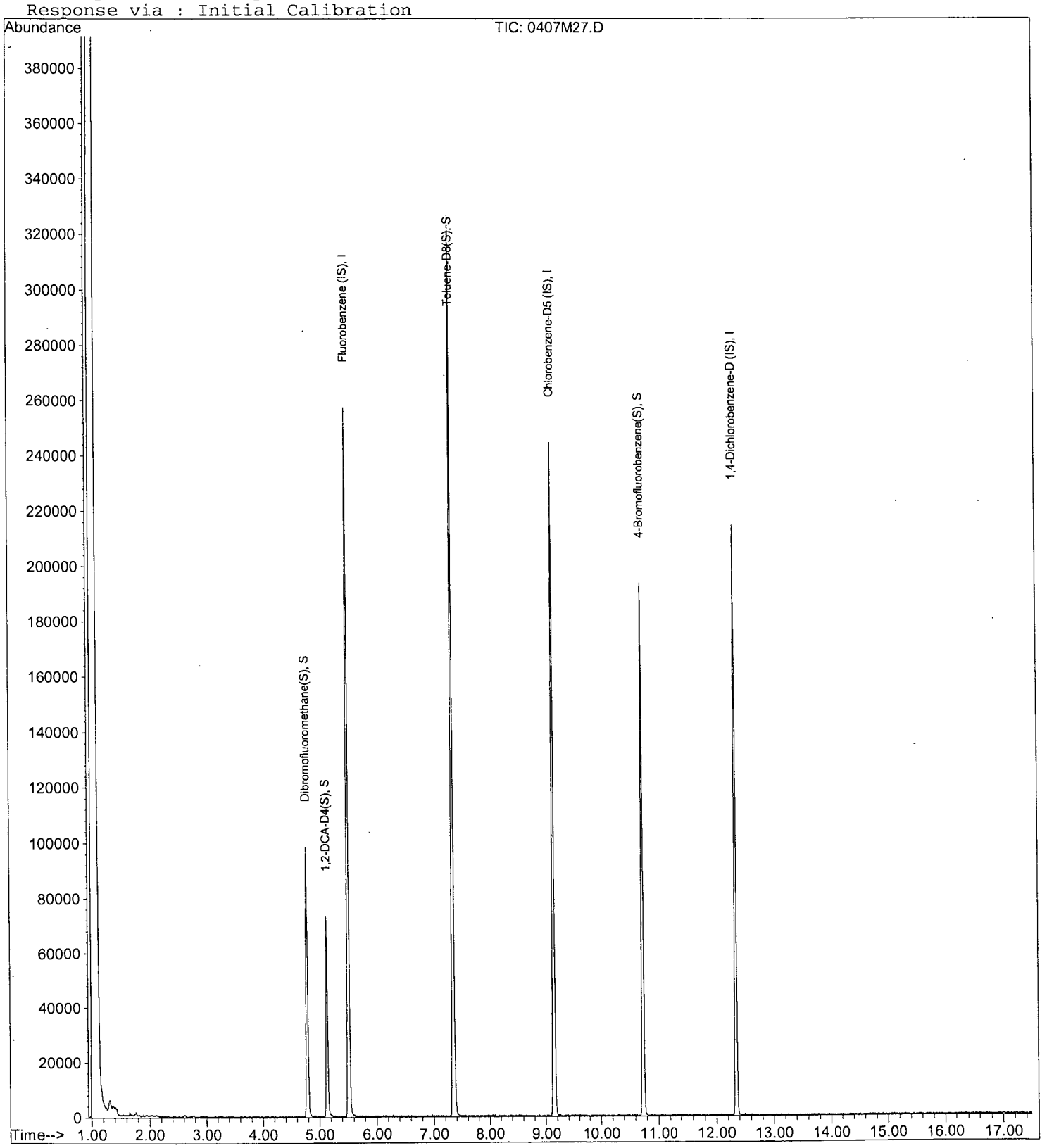
Data File : M:\MAX\DATA\M170404\0407M27.D
Acq On : 7 Apr 17 20:26
Sample : AZ53180W01
Misc : 10ml IS&S: 2/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:59 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09.D	0404M10.D	0404M11.D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane	0.3097	0.2980	0.3409	0.3144	0.2851	0.3122	0.3005				0.31	5.6	TM	
3	TM	Freon 114		0.4579	0.4137	0.4206	0.4136	0.4408	0.4071	0.4127	0.3897		0.42	5.0	TM	
4	TM**	Chloromethane		0.4627	0.4463	0.4083	0.4768	0.4484	0.4057	0.3956	0.3797		0.43	8.2	TM**	
5	TM*	Vinyl chloride		0.6298	0.6131	0.6343	0.6811	0.7135	0.6695	0.6412	0.6108		0.65	5.5	TM*	
6	TM	Bromomethane		0.4923	0.4015	0.4209	0.4006	0.3649	0.3266				0.40	14	TM	
7	TM	Chloroethane		0.3940	0.4180	0.3643	0.3886	0.4083	0.3965	0.3917	0.3802		0.39	4.2	TM	
8	TM	Dichlorofluoromethane		1.062	1.051	0.9955	1.111	1.083	1.067	1.045	1.102		1.1	3.4	TM	
9	TM	Trichlorofluoromethane	0.7493	0.6471	0.6754	0.6591	0.7042	0.7363	0.7153	0.6951	0.7501		0.70	5.4	TM	
10	TM	Acrolein		0.0241	0.0240	0.0237	0.0254	0.0232	0.0236	0.0231	0.0229		0.02	3.3	TM	
11	TM	Acetone				0.0588	0.0741	0.0587	0.0555	0.0530			0.06	14	TM	
12	TM	Freon-113		0.4641	0.3856	0.4462	0.4327	0.4586	0.4303	0.4161	0.4081		0.43	6.1	TM	
13	TM*	1,1-DCE		0.7525	0.6388	0.6285	0.6911	0.7088	0.6726	0.6738	0.6628		0.68	5.8	TM*	
14		Acetonitrile		0.0377	0.0489	0.0502	0.0418	0.0422	0.0441	0.0361	0.0501		0.04	12		
15	TM	t-Butanol	0.0118	0.0084	0.0079	0.0086	0.0094	0.0102	0.0103	0.0106	0.0102		0.01	13	TM	
16	TM	Methyl Acetate		0.1602	0.1597	0.1519	0.1749	0.1604	0.1653	0.1647	0.1625		0.16	4.0	TM	
17	TML	Iodomethane		0.1028	0.1130	0.1688	0.3080	0.4051	0.4568	0.4803	0.4784		0.31	52	TML	1.000
18	TM	Acrylonitrile		0.0506	0.0658	0.0708	0.0842	0.0759	0.0778	0.0727	0.0744		0.07	14	TM	
19	TM	Methylene chloride		0.5338	0.4736	0.4323	0.4767	0.4385	0.4243	0.4089	0.3892		0.45	10	TM	
20	TM	Carbon disulfide		1.495	1.418	1.370	1.456	1.438	1.358	1.317	1.319		1.4	4.7	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.6362	0.6227	0.6278	0.7667	0.6855	0.6813	0.6926	0.6917		0.68	7.0	TM	
22	TM	Trans-1,2-DCE		0.4967	0.4828	0.4469	0.5453	0.5205	0.4904	0.4937	0.4742		0.49	6.0	TM	
23	TM	Diisopropyl Ether		1.343	1.211	1.261	1.460	1.377	1.403	1.415	1.458		1.4	6.6	TM	
24	TM**	1,1-DCA		0.8939	0.8787	0.7881	0.8592	0.8409	0.8214	0.8246	0.8223		0.84	4.1	TM**	
25	TM	Vinyl Acetate		0.2839	0.2512	0.2409	0.2969	0.2534	0.2746	0.2896	0.3484		0.28	12	TM	
26	TM	Ethyl tert Butyl Ether		0.7051	0.7579	0.7474	0.9162	0.8172	0.8383	0.8695	0.9105		0.82	9.5	TM	
27	TML	MEK (2-Butanone)			0.0863	0.0647	0.1273	0.1026	0.1047	0.0999			0.10	21	TML	0.997
28	TM	Cis-1,2-DCE		0.5368	0.5192	0.4807	0.5614	0.5457	0.5241	0.5159	0.5160		0.52	4.6	TM	
29	TM	2,2-Dichloropropane		0.5195	0.4410	0.4726	0.5096	0.5149	0.5246				0.50	6.7	TM	
30	TM*	Chloroform		0.8289	0.7752	0.7845	0.8928	0.8225	0.7987	0.7879	0.7905		0.81	4.7	TM*	
31	TM	Bromochloromethane		0.2160	0.2155	0.2159	0.2248	0.2055	0.1960	0.1946	0.1916		0.21	5.9	TM	
32	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
33	TM	1,1,1-TCA		0.7402	0.6406	0.6291	0.7316	0.7368	0.7174	0.7250	0.7496		0.71	6.6	TM	
34	TM	Cyclohexane		0.5109	0.4829	0.4475	0.4600	0.4914	0.4554	0.4599	0.4752		0.47	4.5	TM	
35	TM	1,1-Dichloropropene		0.7027	0.6296	0.6286	0.7037	0.7065	0.6742	0.6700	0.6777		0.67	4.6	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane		1.210	1.141	1.105	1.155	1.255	1.161	1.198	1.212		1.2	4.1	TM	
37	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
38	TM	Carbon Tetrachloride		0.5929	0.4636	0.4989	0.5769	0.5965	0.5915	0.6008	0.6318		0.57	10	TM	
39	TM	Tert Amyl Methyl Ether		0.6624	0.6673	0.6280	0.7805	0.7097	0.7424	0.7722	0.8085		0.72	9.0	TM	
40	TM	1,2-DCA		0.4343	0.4196	0.3835	0.4514	0.4187	0.4221	0.4354	0.4518		0.43	5.1	TM	
41	TM	Benzene		2.089	1.915	1.888	2.206	2.073	2.008	2.018	2.061		2.0	5.0	TM	
42	TM	TCE		0.5856	0.5435	0.4863	0.5547	0.5577	0.5230	0.5232	0.5264		0.54	5.5	TM	
43	TM	2-Pentanone		0.1279	0.1267	0.1339	0.1477	0.1409	0.1496	0.1573	0.1747		0.14	11	TM	
44	TM*	1,2-Dichloropropane		0.4609	0.4431	0.4201	0.4917	0.4541	0.4544	0.4608	0.4662		0.46	4.4	TM*	
45	TM	Bromodichloromethane		0.5290	0.4749	0.5135	0.5561	0.5124	0.5191	0.5238	0.5320		0.52	4.4	TM	
46	TM	Methyl Cyclohexane	0.7366	0.6817	0.7089	0.7145	0.7189	0.7662	0.7289	0.7384	0.7624		0.73	3.6	TM	
47	TM	Dibromomethane		0.1763	0.1589	0.1631	0.1898	0.1801	0.1766	0.1734	0.1716		0.17	5.5	TM	
48	TM	MIBK (methyl isobutyl ketone)			0.2678	0.2363	0.2628	0.2085	0.2079	0.2025	0.1985		0.23	13	TM	
49	TM	1-Bromo-2-chloroethane		0.4464	0.4386	0.4043	0.4652	0.4125	0.4295	0.4391	0.4376		0.43	4.4	TM	
50	TML	2-Chloroethyl vinyl ether				0.0019	0.0037	0.0045	0.0079	0.0086	0.0081		0.01	48	TML	0.997
51	TM	Cis-1,3-Dichloropropene		0.5165	0.4883	0.4963	0.5603	0.5485	0.5643	0.5892	0.6192		0.55	8.3	TM	
52	TM*	Toluene		2.320	2.177	2.148	2.536	2.399	2.314	2.397	2.574		2.4	6.4	TM*	
53	TM	Trans-1,3-Dichloropropene		0.3339	0.2927	0.2780	0.3790	0.3532	0.3852	0.4194			0.35	15	TM	
54	TM	1,1,2-TCA		0.2465	0.1995	0.2044	0.2365	0.2218	0.2176	0.2186	0.2217		0.22	6.9	TM	
55	TML	2-Hexanone			0.0794	0.0890	0.1312	0.1236	0.1282	0.1243	0.1240		0.11	18	TML	1.000
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
58	TM	1,2-EDB		0.2931	0.3135	0.3122	0.3683	0.3240	0.3453	0.3466	0.3349		0.33	7.2	TM	
59	TM	Tetrachloroethene		0.9574	0.8438	0.8102	0.8634	0.8456	0.7996	0.7684	0.7277		0.83	8.3	TM	
60	TM	1-Chlorohexane		0.7670	0.7625	0.6934	0.8804	0.9154	0.9115	0.9673	1.036		0.87	13	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.6525	0.5486	0.4967	0.6460	0.6166	0.6293	0.6486	0.6553		0.61	9.5	TM	
62	TM	m&p-Xylene		1.458	1.289	1.323	1.604	1.518	1.498	1.625	1.652		1.5	9.0	TM	
63	TM	o-Xylene		1.256	1.180	1.259	1.490	1.383	1.404	1.510	1.560		1.4	10.0	TM	
64	TM	Styrene		1.785	1.820	1.788	2.234	2.071	2.185	2.411	2.546		2.1	14	TM	
65	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
66	TM	1,3-Dichloropropane		0.6438	0.5843	0.6117	0.7288	0.6511	0.6544	0.6442	0.6308		0.64	6.5	TM	
67	TM	Dibromochloromethane		0.5287	0.4845	0.4292	0.5138	0.4819	0.4960	0.4920	0.4854		0.49	5.9	TM	
68	TM**	Chlorobenzene		2.160	1.972	1.885	2.239	2.008	2.002	2.033	2.035		2.0	5.4	TM**	
69	TM*	Ethylbenzene		3.726	3.449	3.426	4.005	3.781	3.729	3.841	3.903		3.7	5.5	TM*	
70	TM**	Bromoform		0.2359	0.2224	0.2323	0.2845	0.2539	0.2710	0.2986	0.3032		0.26	12	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene		8.282	7.407	7.501	8.602	7.901	7.305	6.927	7.340		7.7	7.3	TM	
73	TM**	1,1,2,2-Tetrachloroethane		1.003	0.8133	0.7929	0.8774	0.7773	0.7533	0.6886	0.6844		0.80	13	TM**	
74	TM	1,2,3-Trichloropropane		0.1831	0.2547	0.2322	0.2864	0.2322	0.2292	0.2066	0.2048		0.23	14	TM	
75	TM	t-1,4-Dichloro-2-Butene		0.1207	0.1437	0.1152	0.1527	0.1425	0.1439	0.1460	0.1467		0.14	9.6	TM	
76	TM	Bromobenzene		1.904	1.863	1.492	2.008	1.730	1.571	1.458	1.470		1.7	13	TM	
77	TM	n-Propylbenzene		7.972	7.522	7.534	8.957	8.481	8.002	7.785	8.260		8.1	6.1	TM	
78	TM	4-Ethyltoluene		7.156	6.332	6.108	7.407	7.115	6.887	6.922	7.211		6.9	6.5	TM	
79	TM	2-Chlorotoluene		5.323	4.649	4.813	5.314	4.871	4.582	4.511	4.590		4.8	6.7	TM	
80	TM	1,3,5-Trimethylbenzene		6.200	5.819	5.563	6.557	5.987	5.876	5.978	6.019		6.0	4.8	TM	
81	TM	4-Chlorotoluene			5.029	4.998	5.891	5.400	5.245				5.3	6.8	TM	
82	TM	Tert-Butylbenzene			5.219	5.039	5.848	5.430	5.130	4.967	5.178		5.3	5.7	TM	
83	TM	1,2,4-Trimethylbenzene			5.668	5.290	6.055	5.596	5.488	5.564			5.6	4.5	TM	
84	TM	Sec-Butylbenzene	7.496	7.284	6.807	6.521	7.278	7.047	6.839	6.987	7.366		7.1	4.4	TM	
85	TM	p-Isopropyltoluene	3.328	3.383	2.752	2.853	3.181	3.021					3.1	8.3	TM	
86	TMQ	Benzyl Chloride			0.2939	0.3099	0.4437	0.4143	0.4801	0.5226			0.41	22	TMQ	1.000
87	TM	1,3-DCB			3.452	3.181	3.714	3.273	3.254	3.203	3.225		3.3	5.8	TM	
88	TM	1,4-DCB			1.512	1.499	1.821	1.651	1.665	1.650	1.633		1.6	6.6	TM	
89	TM	n-Butylbenzene			2.754	2.429	2.627	2.405	2.320	2.353			2.5	6.9	TM	
90	TM	1,2-DCB		2.816	2.723	2.424	3.050	2.743	2.676	2.523	2.507		2.7	7.5	TM	
91	TM	Hexachloroethane		0.6637	0.6321	0.5486	0.7725	0.7026	0.7328	0.7525	0.8384		0.71	13	TM	
92	TM	1,2-Dibromo-3-chloropropane				0.0717	0.0959	0.0806	0.0871	0.0860	0.0898		0.09	9.7	TM	
93	TML	1,2,4-Trichlorobenzene		0.9078	1.054	1.187	1.647	1.553	1.488	1.408	1.341		1.3	19	TML	0.999
94	TM	Hexachlorobutadiene			1.108	1.089	1.171	1.115	0.9490	0.8914	0.8665		1.0	12	TM	
95	TML	Naphthalene			0.4177	0.7157	1.193	1.361	1.519	1.483	1.342		1.1	37	TML	0.997
96	TML	1,2,3-Trichlorobenzene		0.3620	0.5837	0.6924	0.9881	1.017	1.042	1.003	0.8838		0.82	30	TML	0.996
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
37) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
57) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
65) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	904	0.30101 ppb		94
3) Freon 114	1.31	85	1215	0.29768 ppb		86
4) Chloromethane	1.35	50	1561	0.37492 ppb	#	80
5) Vinyl chloride	1.45	62	1844	0.29196 ppb	#	88
6) Bromomethane	1.72	94	1858	0.47607 ppb		97
7) Chloroethane	1.81	64	1293	0.33842 ppb		99
8) Dichlorofluoromethane	2.00	67	3172	0.30626 ppb		100
9) Trichlorofluoromethane	2.05	101	2187	0.31950 ppb	#	75
10) Acrolein	2.44	56	2646	11.45842 ppb		86
11) Acetone	2.59	43	440	0.17170 ppb	#	39
12) Freon-113	2.55	101	1295	0.30939 ppb		97
13) 1,1-DCE	2.53	61	2280	0.34533 ppb	#	92
14) Acetonitrile	2.84	TIC	8199	19.19759 ppb	#	68
15) t-Butanol	3.15	59	1146	12.12734 ppb		96
16) Methyl Acetate	2.93	43	775	0.49036 ppb	#	40
17) Iodomethane	2.66	142	432	1.18109 ppb	#	45
18) Acrylonitrile	3.23	53	184	0.26436 ppb	#	66
19) Methylene chloride	2.99	84	1692	0.38892 ppb	#	80
20) Carbon disulfide	2.71	76	4350	0.32020 ppb		100
21) Methyl t-butyl ether (MtBE	3.30	73	2055	0.31266 ppb		92
22) Trans-1,2-DCE	3.27	96	1525	0.31742 ppb		99
23) Diisopropyl Ether	3.80	45	3844	0.28928 ppb		88
24) 1,1-DCA	3.68	63	2661	0.32516 ppb	#	96
25) Vinyl Acetate	3.77	43	720	0.26444 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	2456	0.30775 ppb		95
27) MEK (2-Butanone)	4.31	43	318	0.08237 ppb	#	55
28) Cis-1,2-DCE	4.28	96	1958	0.38335 ppb		78
29) 2,2-Dichloropropane	4.27	77	1464	0.30276 ppb		99
30) Chloroform	4.62	83	2762	0.35042 ppb		89
31) Bromochloromethane	4.52	128	547	0.27097 ppb		81
33) 1,1,1-TCA	4.81	97	2417	0.35050 ppb		89
34) Cyclohexane	4.87	41	1761	0.38275 ppb		92
35) 1,1-Dichloropropene	4.99	75	2191	0.33405 ppb		91
36) 2,2,4-Trimethylpentane	5.32	57	3502	0.30518 ppb	#	86
38) Carbon Tetrachloride	4.99	117	1667	0.30106 ppb		81
39) Tert Amyl Methyl Ether	5.38	73	2410	0.34339 ppb	#	84
40) 1,2-DCA	5.21	62	1338	0.32199 ppb	#	72
41) Benzene	5.20	78	6470	0.32721 ppb		94
42) TCE	5.93	95	1748	0.33423 ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D Vial: 4
Acq On : 4 Apr 17 10:42 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 04/04/17A Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	14467	10.26597	ppb		94
44)	1,2-Dichloropropane	6.16	63	1532	0.34500	ppb	#	86
45)	Bromodichloromethane	6.49	83	1712	0.33833	ppb		91
46)	Methyl Cyclohexane	6.14	83	2150	0.30335	ppb		77
47)	Dibromomethane	6.28	93	526	0.31121	ppb	#	72
48)	MIBK (methyl isobutyl ket	7.22	43	819	0.37197	ppb	#	90
49)	1-Bromo-2-chloroethane	6.83	63	1235	0.29236	ppb	#	83
51)	Cis-1,3-Dichloropropene	7.02	75	1510	0.28331	ppb	#	64
52)	Toluene	7.43	91	7467	0.32549	ppb		91
53)	Trans-1,3-Dichloropropene	7.71	75	654	0.19274	ppb	#	41
54)	1,1,2-TCA	7.92	83	519	0.24155	ppb	#	31
55)	2-Hexanone	8.29	43	359	0.32769	ppb	#	35
58)	1,2-EDB	8.52	107	730	0.32927	ppb		80
59)	Tetrachloroethene	8.10	164	1828	0.32873	ppb		94
60)	1-Chlorohexane	9.21	91	1475	0.25310	ppb	#	83
61)	1,1,1,2-Tetrachloroethane	9.29	131	1412	0.34330	ppb		79
62)	m&p-Xylene	9.51	106	6064	0.60292	ppb		95
63)	o-Xylene	10.03	106	2943	0.31712	ppb		90
64)	Styrene	10.05	104	3801	0.26853	ppb		96
66)	1,3-Dichloropropane	8.12	76	1625	0.37548	ppb		92
67)	Dibromochloromethane	8.40	129	1052	0.31999	ppb		98
68)	Chlorobenzene	9.17	112	4484	0.32663	ppb		97
69)	Ethylbenzene	9.36	91	6933	0.27625	ppb		95
70)	Bromoform	10.26	173	448	0.25360	ppb		99
72)	Isopropylbenzene	10.55	105	7151	0.31804	ppb		96
73)	1,1,2,2-Tetrachloroethane	10.96	83	833	0.35519	ppb	#	62
74)	1,2,3-Trichloropropane	10.99	110	195	0.29046	ppb	#	22
75)	t-1,4-Dichloro-2-Butene	11.05	53	43	0.10541	ppb	#	37
76)	Bromobenzene	10.91	156	1763	0.35593	ppb		82
77)	n-Propylbenzene	11.12	91	7268	0.30697	ppb		98
78)	4-Ethyltoluene	11.29	105	6124	0.30262	ppb		92
79)	2-Chlorotoluene	11.21	91	4634	0.32666	ppb		94
80)	1,3,5-Trimethylbenzene	11.38	105	5285	0.30002	ppb		98
81)	4-Chlorotoluene	11.36	91	5283	0.33869	ppb		96
82)	Tert-Butylbenzene	11.83	119	5281	0.34203	ppb	#	90
83)	1,2,4-Trimethylbenzene	11.90	105	5468	0.33196	ppb		98
84)	Sec-Butylbenzene	12.14	105	6603	0.31811	ppb	#	84
85)	p-Isopropyltoluene	12.35	119	2931	0.32345	ppb		90
86)	Benzyl Chloride	12.57	91	476	0.81902	ppb	#	57
87)	1,3-DCB	12.24	146	3155	0.32281	ppb		85
88)	1,4-DCB	12.37	146	1378	0.28738	ppb	#	62
89)	n-Butylbenzene	12.94	91	2715	0.37267	ppb		86
90)	1,2-DCB	12.88	146	2300	0.29200	ppb		88
91)	Hexachloroethane	13.25	117	595	0.28729	ppb		74
93)	1,2,4-Trichlorobenzene	15.21	180	727	-0.59252	ppb	#	89
94)	Hexachlorobutadiene	15.51	225	951	0.31530	ppb	#	74
95)	Naphthalene	15.53	128	285	0.08460	ppb	#	81

(#) = qualifier out of range (m) = manual integration

Quantitation Report

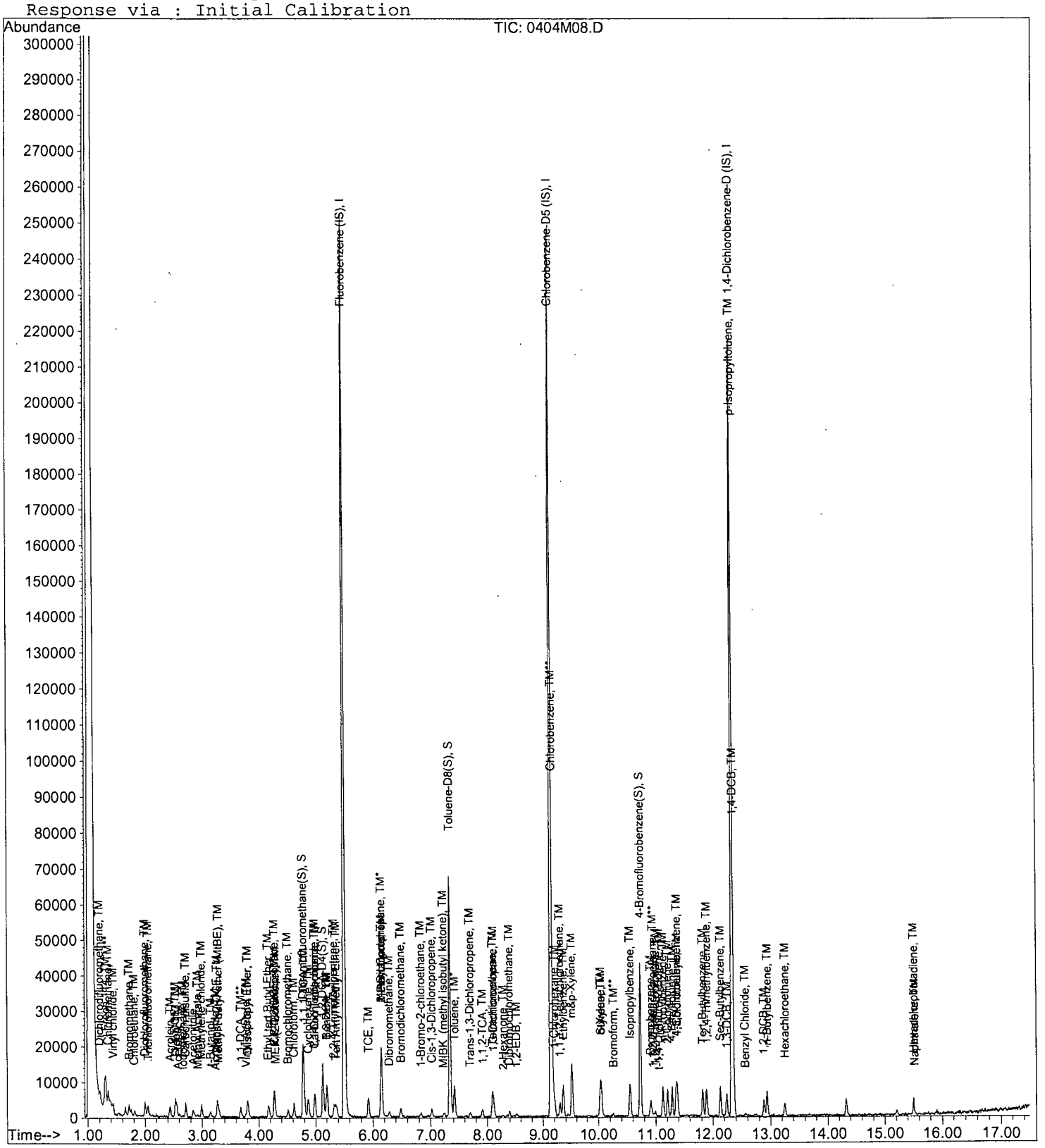
Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



410

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D Vial: 5
Acq On : 4 Apr 17 11:11 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 04/04/17B Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
37) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
57) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
65) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	1501	0.48262 ppb		91
3) Freon 114	1.31	85	2307	0.54580 ppb		89
4) Chloromethane	1.35	50	2331	0.54062 ppb		90
5) Vinyl chloride	1.45	62	3173	0.48511 ppb	#	78
6) Bromomethane	1.72	94	2480	0.61361 ppb		91
7) Chloroethane	1.81	64	1985	0.50168 ppb	#	79
8) Dichlorofluoromethane	2.00	67	5352	0.49898 ppb		96
9) Trichlorofluoromethane	2.05	101	3260	0.45989 ppb		93
10) Acrolein	2.44	56	6080	25.42456 ppb		96
11) Acetone	2.59	43	582	0.40203 ppb		87
12) Freon-113	2.55	101	2338	0.53938 ppb		92
13) 1,1-DCE	2.53	61	3791	0.55446 ppb		99
14) Acetonitrile	2.84	TIC	9501	21.48177 ppb	#	91
15) t-Butanol	3.16	59	2109	21.55125 ppb		89
16) Methyl Acetate	2.92	43	807	0.49306 ppb	#	52
17) Iodomethane	2.66	142	518	1.19555 ppb	#	87
18) Acrylonitrile	3.23	53	255	0.35378 ppb	#	59
19) Methylene chloride	2.99	84	2689	0.59685 ppb		85
20) Carbon disulfide	2.72	76	7533	0.53545 ppb		94
21) Methyl t-butyl ether (MtBE	3.29	73	3205	0.47087 ppb		95
22) Trans-1,2-DCE	3.27	96	2502	0.50289 ppb		90
23) Diisopropyl Ether	3.80	45	6765	0.49160 ppb		97
24) 1,1-DCA	3.68	63	4503	0.53134 ppb		97
25) Vinyl Acetate	3.77	43	1430	0.50716 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	3552	0.42979 ppb		96
28) Cis-1,2-DCE	4.28	96	2704	0.51122 ppb		87
29) 2,2-Dichloropropane	4.28	77	2617	0.52260 ppb		95
30) Chloroform	4.62	83	4176	0.51161 ppb		97
31) Bromochloromethane	4.52	128	1088	0.52044 ppb		84
33) 1,1,1-TCA	4.81	97	3729	0.52218 ppb		92
34) Cyclohexane	4.87	41	2574	0.54023 ppb		79
35) 1,1-Dichloropropene	4.99	75	3540	0.52118 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	6096	0.51297 ppb		95
38) Carbon Tetrachloride	4.99	117	2987	0.52091 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	3337	0.45913 ppb	#	97
40) 1,2-DCA	5.21	62	2188	0.50845 ppb	#	91
41) Benzene	5.20	78	10522	0.51385 ppb		99
42) TCE	5.92	95	2950	0.54468 ppb		92
43) 2-Pentanone	6.15	43	32211	22.07195 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D Vial: 5
Acq On : 4 Apr 17 11:11 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 04/04/17B Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloropropane	6.16	63	2322	0.50494	ppb	#	84
45)	Bromodichloromethane	6.48	83	2665	0.50857	ppb		90
46)	Methyl Cyclohexane	6.15	83	3434	0.46787	ppb		76
47)	Dibromomethane	6.29	93	888	0.50733	ppb		85
48)	MIBK (methyl isobutyl ket	7.24	43	1454	0.63768	ppb		94
49)	1-Bromo-2-chloroethane	6.83	63	2249	0.51411	ppb	#	81
51)	Cis-1,3-Dichloropropene	7.02	75	2602	0.47142	ppb	#	82
52)	Toluene	7.42	91	11685	0.49185	ppb		91
53)	Trans-1,3-Dichloropropene	7.70	75	1682	0.47866	ppb		90
54)	1,1,2-TCA	7.92	83	1242	0.55819	ppb		92
55)	2-Hexanone	8.27	43	456	0.39499	ppb	#	35
58)	1,2-EDB	8.52	107	985	0.44440	ppb		94
59)	Tetrachloroethene	8.10	164	3218	0.57883	ppb		97
60)	1-Chlorohexane	9.20	91	2578	0.44248	ppb		93
61)	1,1,1,2-Tetrachloroethane	9.30	131	2193	0.53331	ppb		72
62)	m&p-Xylene	9.52	106	9800	0.97461	ppb		88
63)	o-Xylene	10.03	106	4222	0.45505	ppb		94
64)	Styrene	10.05	104	6000	0.42399	ppb		99
66)	1,3-Dichloropropane	8.12	76	2164	0.50014	ppb	#	79
67)	Dibromochloromethane	8.39	129	1777	0.54065	ppb	#	73
68)	Chlorobenzene	9.18	112	7260	0.52898	ppb		96
69)	Ethylbenzene	9.35	91	12524	0.49915	ppb		99
70)	Bromoform	10.26	173	793	0.44901	ppb	#	75
72)	Isopropylbenzene	10.55	105	11942	0.54073	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.95	83	1446	0.62774	ppb	#	91
74)	1,2,3-Trichloropropane	10.99	110	264	0.40036	ppb		89
75)	t-1,4-Dichloro-2-Butene	11.03	53	42	0.10482	ppb	#	37
76)	Bromobenzene	10.91	156	2745	0.56421	ppb		92
77)	n-Propylbenzene	11.12	91	11495	0.49429	ppb		94
78)	4-Ethyltoluene	11.29	105	10319	0.51914	ppb		88
79)	2-Chlorotoluene	11.20	91	7676	0.55089	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	8940	0.51669	ppb		92
81)	4-Chlorotoluene	11.36	91	7742	0.50532	ppb		89
82)	Tert-Butylbenzene	11.82	119	8353	0.55078	ppb		92
83)	1,2,4-Trimethylbenzene	11.89	105	9287	0.57402	ppb		95
84)	Sec-Butylbenzene	12.14	105	10503	0.51516	ppb		96
85)	p-Isopropyltoluene	12.36	119	4878	0.54806	ppb		96
86)	Benzyl Chloride	12.57	91	357	0.73232	ppb	#	23
87)	1,3-DCB	12.24	146	5355	0.55782	ppb		97
88)	1,4-DCB	12.37	146	2953	0.62698	ppb		96
89)	n-Butylbenzene	12.94	91	3909	0.54627	ppb		97
90)	1,2-DCB	12.88	146	4060	0.52478	ppb		94
91)	Hexachloroethane	13.24	117	957	0.47044	ppb	#	69
92)	1,2-Dibromo-3-chloropropan	14.00	75	43	0.17502	ppb	#	30
93)	1,2,4-Trichlorobenzene	15.21	180	1309	-0.43877	ppb	#	76
94)	Hexachlorobutadiene	15.51	225	1884	0.63595	ppb		96
95)	Naphthalene	15.54	128	533	0.16108	ppb	#	1
96)	1,2,3-Trichlorobenzene	15.90	180	522	0.19977	ppb	#	80

(#) = qualifier out of range (m) = manual integration

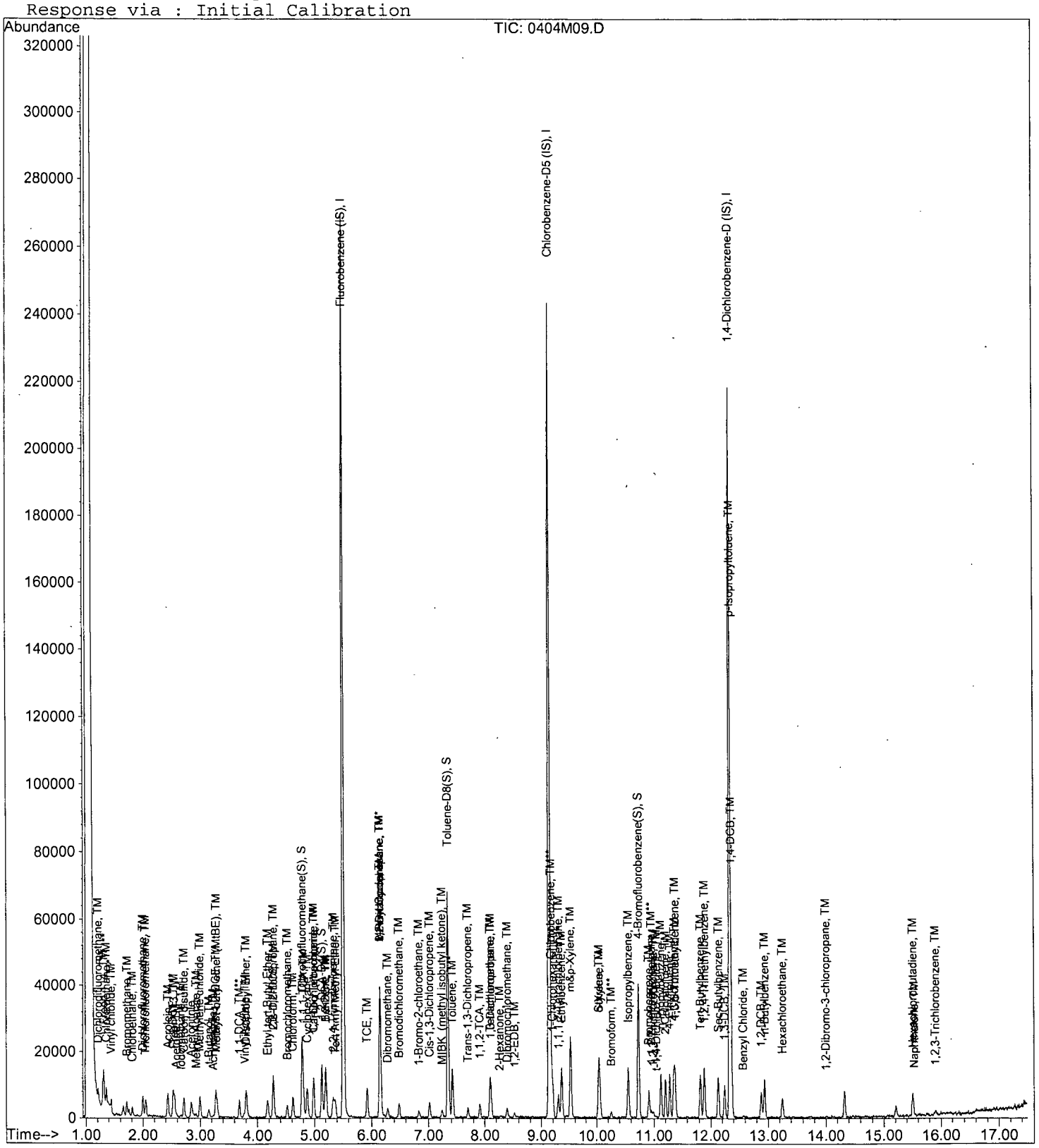
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



413

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
37) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
57) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
65) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	3507	1.10428 ppb	#	81
3) Freon 114	1.31	85	4256	0.98607 ppb		98
4) Chloromethane	1.35	50	4592	1.04295 ppb		98
5) Vinyl chloride	1.44	62	6308	0.94446 ppb		92
6) Bromomethane	1.71	94	4131	1.00095 ppb		93
7) Chloroethane	1.81	64	4301	1.06452 ppb		91
8) Dichlorofluoromethane	2.00	67	10808	0.98680 ppb		100
9) Trichlorofluoromethane	2.05	101	6949	0.96002 ppb		94
10) Acrolein	2.43	56	12335	50.51324 ppb		98
11) Acetone	2.58	43	780	0.73357 ppb		96
12) Freon-113	2.55	101	3967	0.89625 ppb	#	89
13) 1,1-DCE	2.53	61	6572	0.94131 ppb		95
14) Acetonitrile	2.84	TIC	25160	55.70928 ppb		94
15) t-Butanol	3.15	59	4078	40.80931 ppb		96
16) Methyl Acetate	2.92	43	1643	0.98306 ppb		87
17) Iodomethane	2.65	142	1163	1.32271 ppb	#	79
18) Acrylonitrile	3.24	53	677	0.91982 ppb	#	80
19) Methylene chloride	3.00	84	4873	1.05922 ppb		95
20) Carbon disulfide	2.71	76	14590	1.01560 ppb		96
21) Methyl t-butyl ether (MtBE	3.30	73	6407	0.92182 ppb		99
22) Trans-1,2-DCE	3.27	96	4967	0.97768 ppb		92
23) Diisopropyl Ether	3.81	45	12461	0.88678 ppb		97
24) 1,1-DCA	3.68	63	9040	1.04461 ppb		97
25) Vinyl Acetate	3.76	43	2584	0.89746 ppb		96
26) Ethyl tert Butyl Ether	4.18	59	7798	0.92401 ppb		94
27) MEK (2-Butanone)	4.31	43	888	0.61716 ppb	#	80
28) Cis-1,2-DCE	4.28	96	5342	0.98905 ppb		96
29) 2,2-Dichloropropane	4.28	77	4537	0.88726 ppb	#	87
30) Chloroform	4.62	83	7976	0.95692 ppb		96
31) Bromochloromethane	4.52	128	2217	1.03854 ppb		92
33) 1,1,1-TCA	4.81	97	6591	0.90384 ppb		94
34) Cyclohexane	4.87	41	4968	1.02109 ppb		73
35) 1,1-Dichloropropene	4.98	75	6478	0.93399 ppb		97
36) 2,2,4-Trimethylpentane	5.33	57	11735	0.96705 ppb		96
38) Carbon Tetrachloride	4.98	117	4770	0.81463 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	6865	0.92499 ppb		98
40) 1,2-DCA	5.21	62	4317	0.98242 ppb		100
41) Benzene	5.20	78	19700	0.94214 ppb		99
42) TCE	5.92	95	5592	1.01112 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	65183	43.74083	ppb		100
44)	1,2-Dichloropropane	6.16	63	4559	0.97087	ppb		97
45)	Bromodichloromethane	6.49	83	4886	0.91311	ppb		92
46)	Methyl Cyclohexane	6.15	83	7293	0.97307	ppb		96
47)	Dibromomethane	6.29	93	1635	0.91477	ppb		83
48)	MIBK (methyl isobutyl ket	7.23	43	2755	1.18324	ppb	#	90
49)	1-Bromo-2-chloroethane	6.83	63	4513	1.01030	ppb		88
51)	Cis-1,3-Dichloropropene	7.02	75	5024	0.89138	ppb		89
52)	Toluene	7.42	91	22395	0.92314	ppb		91
53)	Trans-1,3-Dichloropropene	7.70	75	3011	0.83913	ppb	#	72
54)	1,1,2-TCA	7.91	83	2053	0.90357	ppb		90
55)	2-Hexanone	8.28	43	817	0.66990	ppb	#	66
58)	1,2-EDB	8.52	107	2155	0.95088	ppb		89
59)	Tetrachloroethene	8.09	164	5800	1.02031	ppb		91
60)	1-Chlorohexane	9.20	91	5241	0.87975	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	3771	0.89689	ppb		83
62)	m&p-Xylene	9.52	106	17717	1.72319	ppb		99
63)	o-Xylene	10.03	106	8108	0.85466	ppb		99
64)	Styrene	10.05	104	12513	0.86478	ppb		94
66)	1,3-Dichloropropane	8.12	76	4016	0.90776	ppb	#	69
67)	Dibromochloromethane	8.39	129	3330	0.99086	ppb		99
68)	Chlorobenzene	9.18	112	13554	0.96584	ppb		95
69)	Ethylbenzene	9.35	91	23709	0.92415	ppb		98
70)	Bromoform	10.25	173	1529	0.84669	ppb		80
72)	Isopropylbenzene	10.55	105	21903	0.96724	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	2405	1.01824	ppb	#	87
74)	1,2,3-Trichloropropane	10.99	110	753	1.11370	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	425	1.03444	ppb	#	74
76)	Bromobenzene	10.91	156	5510	1.10453	ppb		96
77)	n-Propylbenzene	11.12	91	22244	0.93285	ppb		97
78)	4-Ethyltoluene	11.29	105	18725	0.91875	ppb		95
79)	2-Chlorotoluene	11.20	91	13748	0.96226	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	17206	0.96983	ppb		93
81)	4-Chlorotoluene	11.36	91	14871	0.94663	ppb		97
82)	Tert-Butylbenzene	11.82	119	15433	0.99245	ppb		94
83)	1,2,4-Trimethylbenzene	11.89	105	16759	1.01024	ppb		95
84)	Sec-Butylbenzene	12.14	105	20129	0.96289	ppb		99
85)	p-Isopropyltoluene	12.35	119	8138	0.89172	ppb		95
86)	Benzyl Chloride	12.57	91	869	1.11650	ppb	#	64
87)	1,3-DCB	12.24	146	10207	1.03695	ppb		89
88)	1,4-DCB	12.37	146	4471	0.92581	ppb	#	81
89)	n-Butylbenzene	12.94	91	8144	1.10996	ppb		90
90)	1,2-DCB	12.88	146	8051	1.01491	ppb		94
91)	Hexachloroethane	13.25	117	1869	0.89605	ppb		91
92)	1,2-Dibromo-3-chloropropan	14.00	75	86	0.34139	ppb	#	63
94)	Hexachlorobutadiene	15.51	225	3277	1.07880	ppb		84
95)	Naphthalene	15.54	128	1235	0.36400	ppb	#	70
96)	1,2,3-Trichlorobenzene	15.90	180	1726	0.64422	ppb	#	92

(#) = qualifier out of range (m) = manual integration

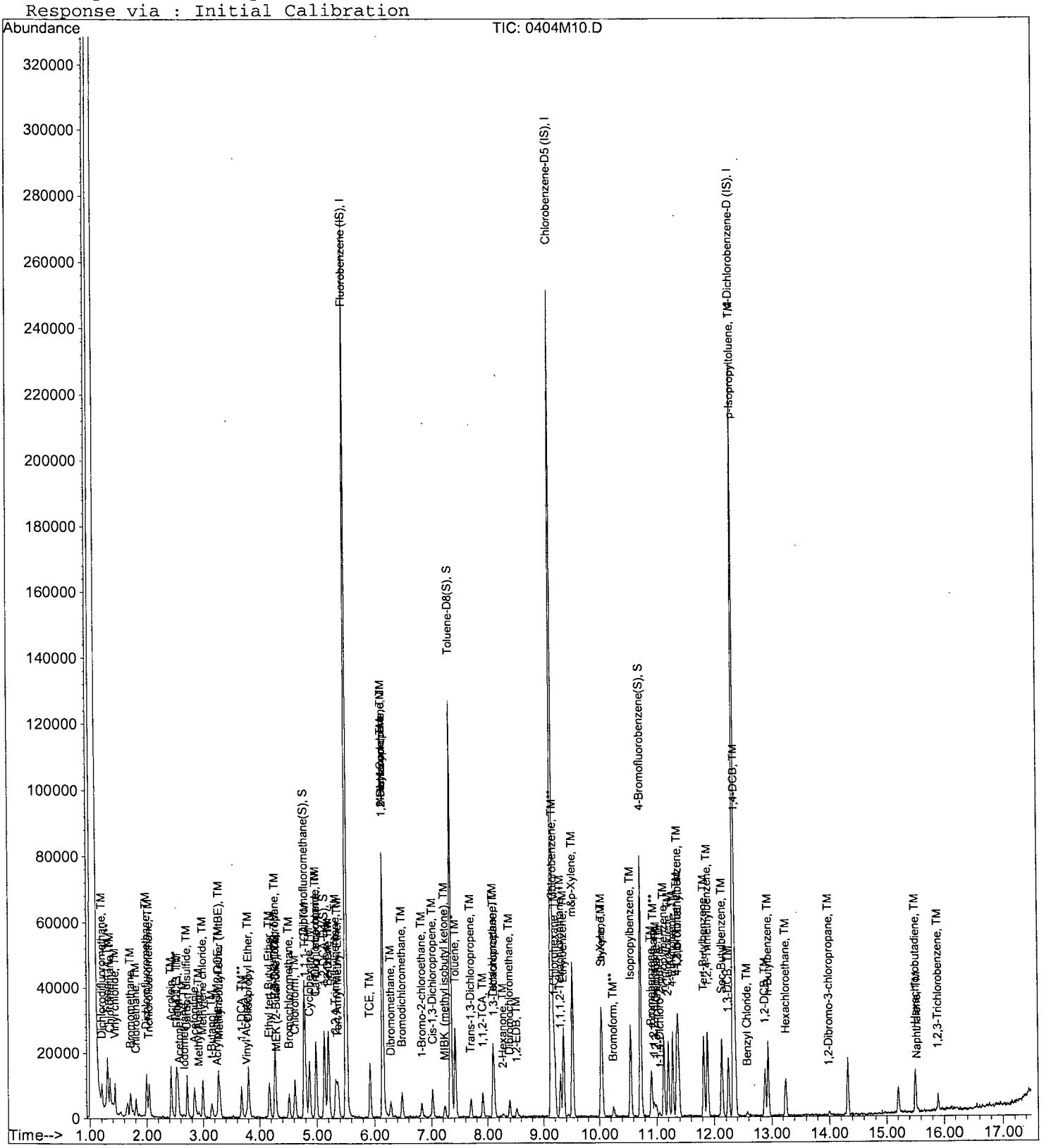
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



416

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D Vial: 7
Acq On : 4 Apr 17 12:07 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 04/04/17D Inst : Max
Misc : 2uL-10ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
37) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
57) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
65) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	6557	2.03696 ppb		100
3) Freon 114	1.31	85	8772	2.00509 ppb		93
4) Chloromethane	1.35	50	8516	1.90823 ppb		93
5) Vinyl chloride	1.44	62	13229	1.95411 ppb		99
6) Bromomethane	1.71	94	8779	2.09863 ppb		98
7) Chloroethane	1.81	64	7598	1.85531 ppb		97
8) Dichlorofluoromethane	2.00	67	20763	1.87029 ppb		98
9) Trichlorofluoromethane	2.04	101	13746	1.87355 ppb		99
10) Acrolein	2.43	56	18527	74.85193 ppb		93
11) Acetone	2.59	43	1227	1.50222 ppb		91
12) Freon-113	2.55	101	9307	2.07447 ppb		95
13) 1,1-DCE	2.53	61	13108	1.85227 ppb		97
14) Acetonitrile	2.84	TIC	39273	85.79121 ppb	#	90
15) t-Butanol	3.15	59	6731	66.45435 ppb		92
16) Methyl Acetate	2.92	43	3168	1.87007 ppb		94
17) Iodomethane	2.65	142	3520	1.78593 ppb		90
18) Acrylonitrile	3.23	53	1477	1.97982 ppb	#	79
19) Methylene chloride	3.00	84	9016	1.93347 ppb		94
20) Carbon disulfide	2.71	76	28564	1.96164 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	13093	1.85850 ppb		94
22) Trans-1,2-DCE	3.27	96	9320	1.80988 ppb		95
23) Diisopropyl Ether	3.81	45	26297	1.84630 ppb		98
24) 1,1-DCA	3.68	63	16438	1.87398 ppb		96
25) Vinyl Acetate	3.76	43	5024	1.72149 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	15589	1.82241 ppb	#	88
27) MEK (2-Butanone)	4.32	43	1349	1.04647 ppb		95
28) Cis-1,2-DCE	4.28	96	10026	1.83136 ppb		99
29) 2,2-Dichloropropane	4.27	77	9857	1.90177 ppb		96
30) Chloroform	4.62	83	16363	1.93681 ppb		93
31) Bromochloromethane	4.52	128	4503	2.08109 ppb		84
33) 1,1,1-TCA	4.80	97	13120	1.77503 ppb		94
34) Cyclohexane	4.87	41	9334	1.89270 ppb		92
35) 1,1-Dichloropropene	4.99	75	13110	1.86481 ppb		95
36) 2,2,4-Trimethylpentane	5.33	57	23046	1.87367 ppb		96
38) Carbon Tetrachloride	4.98	117	10405	1.75314 ppb		98
39) Tert Amyl Methyl Ether	5.37	73	13098	1.74115 ppb		92
40) 1,2-DCA	5.21	62	7998	1.79568 ppb		95
41) Benzene	5.20	78	39387	1.85839 ppb		98
42) TCE	5.92	95	10143	1.80940 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	104760	69.35535	ppb		100
44)	1,2-Dichloropropane	6.16	63	8761	1.84067	ppb		98
45)	Bromodichloromethane	6.49	83	10709	1.97447	ppb		93
46)	Methyl Cyclohexane	6.15	83	14902	1.96161	ppb		95
47)	Dibromomethane	6.29	93	3402	1.87786	ppb		86
48)	MIBK (methyl isobutyl ket	7.24	43	4928	2.08811	ppb	#	84
49)	1-Bromo-2-chloroethane	6.83	63	8433	1.86251	ppb		98
50)	2-Chloroethyl vinyl ether	6.88	106	40	2.46862	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	10351	1.81187	ppb		95
52)	Toluene	7.42	91	44803	1.82204	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	5798	1.59415	ppb		91
54)	1,1,2-TCA	7.91	83	4263	1.85107	ppb		85
55)	2-Hexanone	8.27	43	1857	1.46412	ppb	#	88
58)	1,2-EDB	8.52	107	4487	1.89348	ppb		89
59)	Tetrachloroethene	8.10	164	11646	1.95933	ppb		91
60)	1-Chlorohexane	9.20	91	9967	1.60007	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	7140	1.62408	ppb		96
62)	m&p-Xylene	9.51	106	38027	3.53722	ppb		97
63)	o-Xylene	10.03	106	18092	1.82387	ppb		96
64)	Styrene	10.05	104	25701	1.69872	ppb		100
66)	1,3-Dichloropropane	8.12	76	8793	1.90081	ppb		92
67)	Dibromochloromethane	8.39	129	6170	1.75582	ppb		97
68)	Chlorobenzene	9.18	112	27096	1.84659	ppb		98
69)	Ethylbenzene	9.35	91	49241	1.83561	ppb		97
70)	Bromoform	10.26	173	3339	1.76832	ppb		96
72)	Isopropylbenzene	10.55	105	46418	1.95897	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	4907	1.98546	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	1437	2.03113	ppb	#	77
75)	t-1,4-Dichloro-2-Butene	11.03	53	713	1.65849	ppb	#	81
76)	Bromobenzene	10.91	156	9234	1.76898	ppb		97
77)	n-Propylbenzene	11.12	91	46624	1.86860	ppb		99
78)	4-Ethyltoluene	11.29	105	37798	1.77236	ppb		100
79)	2-Chlorotoluene	11.20	91	29783	1.99220	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	34425	1.85438	ppb		100
81)	4-Chlorotoluene	11.36	91	30927	1.88143	ppb		98
82)	Tert-Butylbenzene	11.83	119	31186	1.91659	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	32739	1.88603	ppb		99
84)	Sec-Butylbenzene	12.14	105	40354	1.84481	ppb		96
85)	p-Isopropyltoluene	12.36	119	17656	1.84888	ppb		98
86)	Benzyl Chloride	12.57	91	1918	1.84873	ppb	#	92
87)	1,3-DCB	12.24	146	19685	1.91119	ppb		96
88)	1,4-DCB	12.37	146	9279	1.83624	ppb		90
89)	n-Butylbenzene	12.94	91	15029	1.95752	ppb		98
90)	1,2-DCB	12.88	146	15001	1.80719	ppb		97
91)	Hexachloroethane	13.25	117	3395	1.55550	ppb		87
92)	1,2-Dibromo-3-chloropropan	14.00	75	444	1.68439	ppb		89
93)	1,2,4-Trichlorobenzene	15.20	180	7348	0.99284	ppb		86
94)	Hexachlorobutadiene	15.51	225	6738	2.11985	ppb	#	85
95)	Naphthalene	15.54	128	4429	1.24752	ppb		95
96)	1,2,3-Trichlorobenzene	15.90	180	4285	1.52846	ppb		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

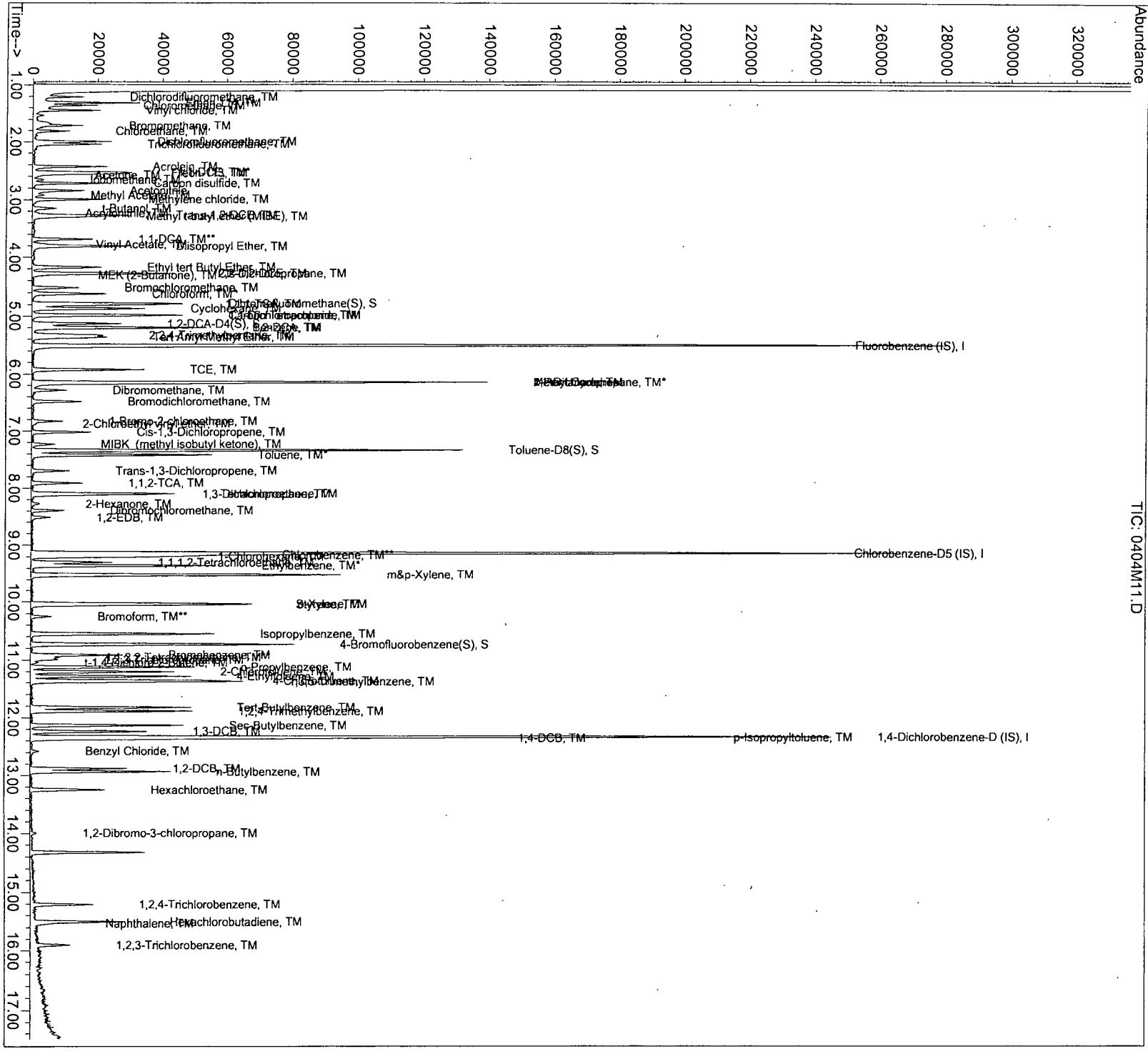
Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
37) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
57) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
65) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	14908	4.61757 ppb		88
3) Freon 114	1.31	85	21628	4.92912 ppb		95
4) Chloromethane	1.35	50	24936	5.57108 ppb		96
5) Vinyl chloride	1.44	62	35619	5.24592 ppb		97
6) Bromomethane	1.71	94	20948	4.99287 ppb		100
7) Chloroethane	1.81	64	20321	4.94743 ppb		98
8) Dichlorofluoromethane	2.00	67	58098	5.21791 ppb		97
9) Trichlorofluoromethane	2.04	101	36826	5.00450 ppb		94
10) Acrolein	2.43	56	26528	106.86118 ppb		98
11) Acetone	2.59	43	3877	6.14978 ppb		84
12) Freon-113	2.55	101	22629	5.02898 ppb		90
13) 1,1-DCE	2.52	61	36142	5.09210 ppb		95
14) Acetonitrile	2.84	TIC	43762	95.31548 ppb		96
15) t-Butanol	3.15	59	9802	96.48862 ppb		92
16) Methyl Acetate	2.91	43	9146	5.38297 ppb		96
17) Iodomethane	2.65	142	16108	4.26714 ppb		94
18) Acrylonitrile	3.23	53	4403	5.88453 ppb	#	94
19) Methylene chloride	2.99	84	24928	5.33001 ppb		93
20) Carbon disulfide	2.71	76	76150	5.21420 ppb		98
21) Methyl t-butyl ether (MtBE	3.30	73	40097	5.67482 ppb		95
22) Trans-1,2-DCE	3.27	96	28516	5.52129 ppb		95
23) Diisopropyl Ether	3.80	45	76332	5.34342 ppb		98
24) 1,1-DCA	3.68	63	44933	5.10739 ppb		98
25) Vinyl Acetate	3.76	43	15529	5.30536 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	47916	5.58502 ppb		92
27) MEK (2-Butanone)	4.31	43	6659	6.10568 ppb		99
28) Cis-1,2-DCE	4.28	96	29361	5.34730 ppb		95
29) 2,2-Dichloropropane	4.27	77	26650	5.12658 ppb		99
30) Chloroform	4.62	83	46688	5.50994 ppb		98
31) Bromochloromethane	4.52	128	11755	5.41663 ppb		91
33) 1,1,1-TCA	4.80	97	38261	5.16114 ppb		99
34) Cyclohexane	4.87	41	24058	4.86398 ppb		97
35) 1,1-Dichloropropene	4.99	75	36803	5.21954 ppb		94
36) 2,2,4-Trimethylpentane	5.33	57	60382	4.89466 ppb		96
38) Carbon Tetrachloride	4.98	117	30172	5.06869 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	40816	5.40977 ppb		99
40) 1,2-DCA	5.21	62	23608	5.28475 ppb		100
41) Benzene	5.20	78	115353	5.42662 ppb		100
42) TCE	5.92	95	29008	5.15944 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43)	2-Pentanone	6.15	43	154462	101.95856	ppb		98
44)	1,2-Dichloropropane	6.16	63	25712	5.38612	ppb		98
45)	Bromodichloromethane	6.49	83	29080	5.34581	ppb		93
46)	Methyl Cyclohexane	6.14	83	37593	4.93393	ppb		100
47)	Dibromomethane	6.28	93	9925	5.46230	ppb		90
48)	MIBK (methyl isobutyl ket	7.23	43	13741	5.80522	ppb		92
49)	1-Bromo-2-chloroethane	6.83	63	24328	5.35723	ppb		96
50)	2-Chloroethyl vinyl ether	6.91	106	20	2.23827	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	29299	5.11347	ppb		97
52)	Toluene	7.42	91	132597	5.37652	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	19820	5.43342	ppb		91
54)	1,1,2-TCA	7.91	83	12366	5.35370	ppb		94
55)	2-Hexanone	8.28	43	6862	5.31200	ppb	#	94
58)	1,2-EDB	8.52	107	13028	5.58446	ppb		92
59)	Tetrachloroethene	8.09	164	30546	5.22016	ppb		98
60)	1-Chlorohexane	9.20	91	31145	5.07880	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	22853	5.28020	ppb		99
62)	m&p-Xylene	9.52	106	113513	10.72544	ppb		98
63)	o-Xylene	10.03	106	52728	5.39942	ppb		94
64)	Styrene	10.05	104	79049	5.30721	ppb		97
66)	1,3-Dichloropropane	8.12	76	25783	5.66155	ppb		100
67)	Dibromochloromethane	8.39	129	18178	5.25460	ppb		98
68)	Chlorobenzene	9.18	112	79192	5.48209	ppb		98
69)	Ethylbenzene	9.35	91	141681	5.36494	ppb		99
70)	Bromoform	10.26	173	10065	5.41448	ppb		95
72)	Isopropylbenzene	10.55	105	138803	5.61610	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	14158	5.49214	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	4622	6.26334	ppb		90
75)	t-1,4-Dichloro-2-Butene	11.04	53	2464	5.49490	ppb	#	80
76)	Bromobenzene	10.91	156	32407	5.95206	ppb		97
77)	n-Propylbenzene	11.12	91	144531	5.55345	ppb		100
78)	4-Ethyltoluene	11.29	105	119518	5.37294	ppb		100
79)	2-Chlorotoluene	11.20	91	85751	5.49918	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	105815	5.46472	ppb		97
81)	4-Chlorotoluene	11.36	91	95061	5.54431	ppb		98
82)	Tert-Butylbenzene	11.83	119	94362	5.55983	ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	97701	5.39607	ppb		100
84)	Sec-Butylbenzene	12.14	105	117448	5.14762	ppb		99
85)	p-Isopropyltoluene	12.36	119	51328	5.15308	ppb		99
86)	Benzyl Chloride	12.57	91	7160	5.36448	ppb	#	97
87)	1,3-DCB	12.24	146	59926	5.57802	ppb		98
88)	1,4-DCB	12.37	146	29384	5.57486	ppb		95
89)	n-Butylbenzene	12.94	91	42384	5.29266	ppb		96
90)	1,2-DCB	12.88	146	49219	5.68477	ppb		98
91)	Hexachloroethane	13.25	117	12465	5.47542	ppb		95
92)	1,2-Dibromo-3-chloropropan	14.00	75	1548	5.63023	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	26572	5.35913	ppb		99
94)	Hexachlorobutadiene	15.50	225	18904	5.70195	ppb		94
95)	Naphthalene	15.54	128	19255	5.19974	ppb	#	93
96)	1,2,3-Trichlorobenzene	15.90	180	15944	5.45250	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

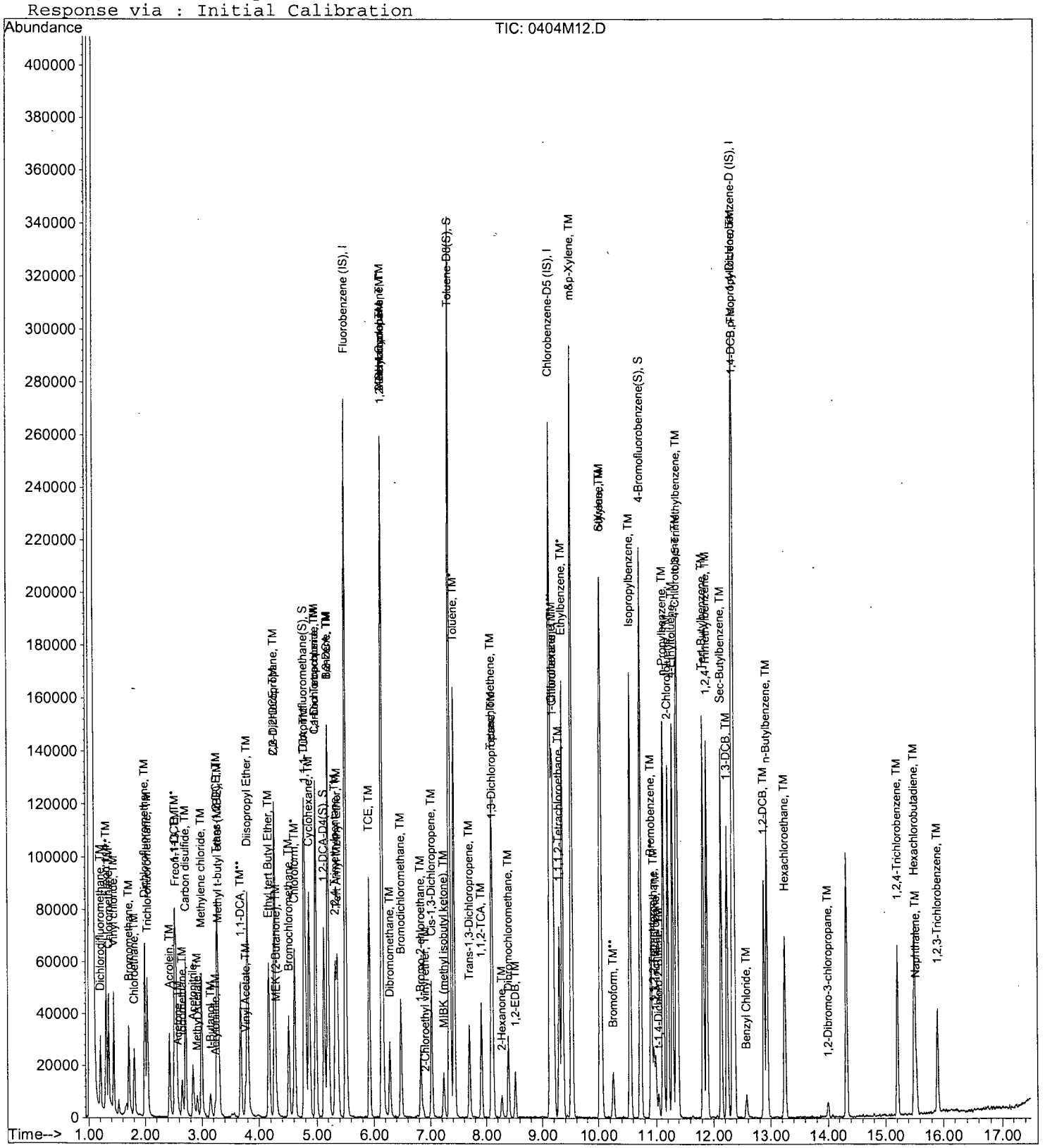
Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



422

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
37) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
57) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
65) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	33336	10.11524 ppb	100
3) Freon 114	1.31	85	47063	10.50756 ppb	100
4) Chloromethane	1.35	50	47872	10.47763 ppb	100
5) Vinyl chloride	1.44	62	76182	10.99160 ppb	100
6) Bromomethane	1.71	94	38958	9.09647 ppb	100
7) Chloroethane	1.81	64	43590	10.39657 ppb	100
8) Dichlorofluoromethane	2.00	67	115599	10.17087 ppb	100
9) Trichlorofluoromethane	2.04	101	78615	10.46600 ppb	100
10) Acrolein	2.43	56	30920	122.01794 ppb	100
11) Acetone	2.58	43	6266	10.12135 ppb	100
12) Freon-113	2.55	101	48963	10.65987 ppb	100
13) 1,1-DCE	2.52	61	75671	10.44438 ppb	100
14) Acetonitrile	2.84	TIC	56375	120.28779 ppb	100
15) t-Butanol	3.15	59	13671	131.83491 ppb	100
16) Methyl Acetate	2.92	43	17120	9.87106 ppb	100
17) Iodomethane	2.65	142	43252	9.44824 ppb	100
18) Acrylonitrile	3.23	53	8104	10.61039 ppb	100
19) Methylene chloride	2.99	84	46812	9.80543 ppb	100
20) Carbon disulfide	2.71	76	153563	10.30085 ppb	100
21) Methyl t-butyl ether (MtBE	3.29	73	73189	10.14739 ppb	100
22) Trans-1,2-DCE	3.27	96	55573	10.54106 ppb	100
23) Diisopropyl Ether	3.80	45	146999	10.08082 ppb	100
24) 1,1-DCA	3.68	63	89782	9.99751 ppb	100
25) Vinyl Acetate	3.76	43	27050	9.05331 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	87251	9.96285 ppb	100
27) MEK (2-Butanone)	4.31	43	10950	9.98458 ppb	100
28) Cis-1,2-DCE	4.27	96	58264	10.39520 ppb	100
29) 2,2-Dichloropropane	4.27	77	54970	10.35918 ppb	100
30) Chloroform	4.62	83	87819	10.15310 ppb	100
31) Bromochloromethane	4.52	128	21940	9.90402 ppb	100
33) 1,1,1-TCA	4.80	97	78665	10.39537 ppb	100
34) Cyclohexane	4.87	41	52464	10.39112 ppb	100
35) 1,1-Dichloropropene	4.98	75	75431	10.48016 ppb	100
36) 2,2,4-Trimethylpentane	5.33	57	133942	10.63654 ppb	100
38) Carbon Tetrachloride	4.98	117	63686	10.48104 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	75766	9.83764 ppb	100
40) 1,2-DCA	5.21	62	44703	9.80326 ppb	100
41) Benzene	5.20	78	221365	10.20184 ppb	100
42) TCE	5.92	95	59538	10.37405 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	188062	121.61071	ppb		100
44)	1,2-Dichloropropane	6.16	63	48487	9.95025	ppb		100
45)	Bromodichloromethane	6.48	83	54711	9.85286	ppb		100
46)	Methyl Cyclohexane	6.14	83	81802	10.51766	ppb		100
47)	Dibromomethane	6.28	93	19227	10.36634	ppb		100
48)	MIBK (methyl isobutyl ket	7.23	43	22262	9.21369	ppb		100
49)	1-Bromo-2-chloroethane	6.83	63	44042	9.50102	ppb		100
50)	2-Chloroethyl vinyl ether	6.87	106	483	7.42683	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	58558	10.01193	ppb		100
52)	Toluene	7.42	91	256143	10.17464	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	37711	10.12760	ppb		100
54)	1,1,2-TCA	7.91	83	23678	10.04242	ppb		100
55)	2-Hexanone	8.27	43	13196	9.98023	ppb		100
58)	1,2-EDB	8.52	107	24095	9.82499	ppb		100
59)	Tetrachloroethene	8.09	164	62894	10.22446	ppb		100
60)	1-Chlorohexane	9.20	91	68086	10.56166	ppb		100
61)	1,1,1,2-Tetrachloroethane	9.29	131	45863	10.08025	ppb		100
62)	m&p-Xylene	9.51	106	225803	20.29555	ppb		100
63)	o-Xylene	10.03	106	102849	10.01861	ppb		100
64)	Styrene	10.05	104	154075	9.84020	ppb		100
66)	1,3-Dichloropropane	8.12	76	48428	10.11579	ppb		100
67)	Dibromochloromethane	8.39	129	35844	9.85624	ppb		100
68)	Chlorobenzene	9.17	112	149334	9.83389	ppb		100
69)	Ethylbenzene	9.35	91	281244	10.13068	ppb		100
70)	Bromoform	10.25	173	18885	9.66412	ppb		100
72)	Isopropylbenzene	10.55	105	276072	10.31664	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	27161	9.73118	ppb		100
74)	1,2,3-Trichloropropane	10.99	110	8114	10.15526	ppb		100
75)	t-1,4-Dichloro-2-Butene	11.04	53	4981	10.25924	ppb		100
76)	Bromobenzene	10.91	156	60444	10.25325	ppb		100
77)	n-Propylbenzene	11.12	91	296359	10.51720	ppb		100
78)	4-Ethyltoluene	11.29	105	248639	10.32352	ppb		100
79)	2-Chlorotoluene	11.20	91	170193	10.08046	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	209192	9.97805	ppb		100
81)	4-Chlorotoluene	11.36	91	188712	10.16540	ppb		100
82)	Tert-Butylbenzene	11.82	119	189738	10.32519	ppb		100
83)	1,2,4-Trimethylbenzene	11.89	105	195534	9.97426	ppb		100
84)	Sec-Butylbenzene	12.14	105	246265	9.96880	ppb		100
85)	p-Isopropyltoluene	12.36	119	105576	9.78944	ppb		100
86)	Benzyl Chloride	12.57	91	14477	9.44433	ppb		100
87)	1,3-DCB	12.24	146	114378	9.83302	ppb		100
88)	1,4-DCB	12.37	146	57704	10.11134	ppb		100
89)	n-Butylbenzene	12.94	91	84048	9.69347	ppb		100
90)	1,2-DCB	12.88	146	95852	10.22495	ppb		100
91)	Hexachloroethane	13.25	117	24552	9.96075	ppb		100
92)	1,2-Dibromo-3-chloropropan	14.00	75	2817	9.46285	ppb		100
93)	1,2,4-Trichlorobenzene	15.21	180	54263	10.79627	ppb		100
94)	Hexachlorobutadiene	15.51	225	38977	10.85821	ppb		100
95)	Naphthalene	15.54	128	47567	11.86379	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	35545	11.22682	ppb		100

(#) = qualifier out of range (m) = manual integration

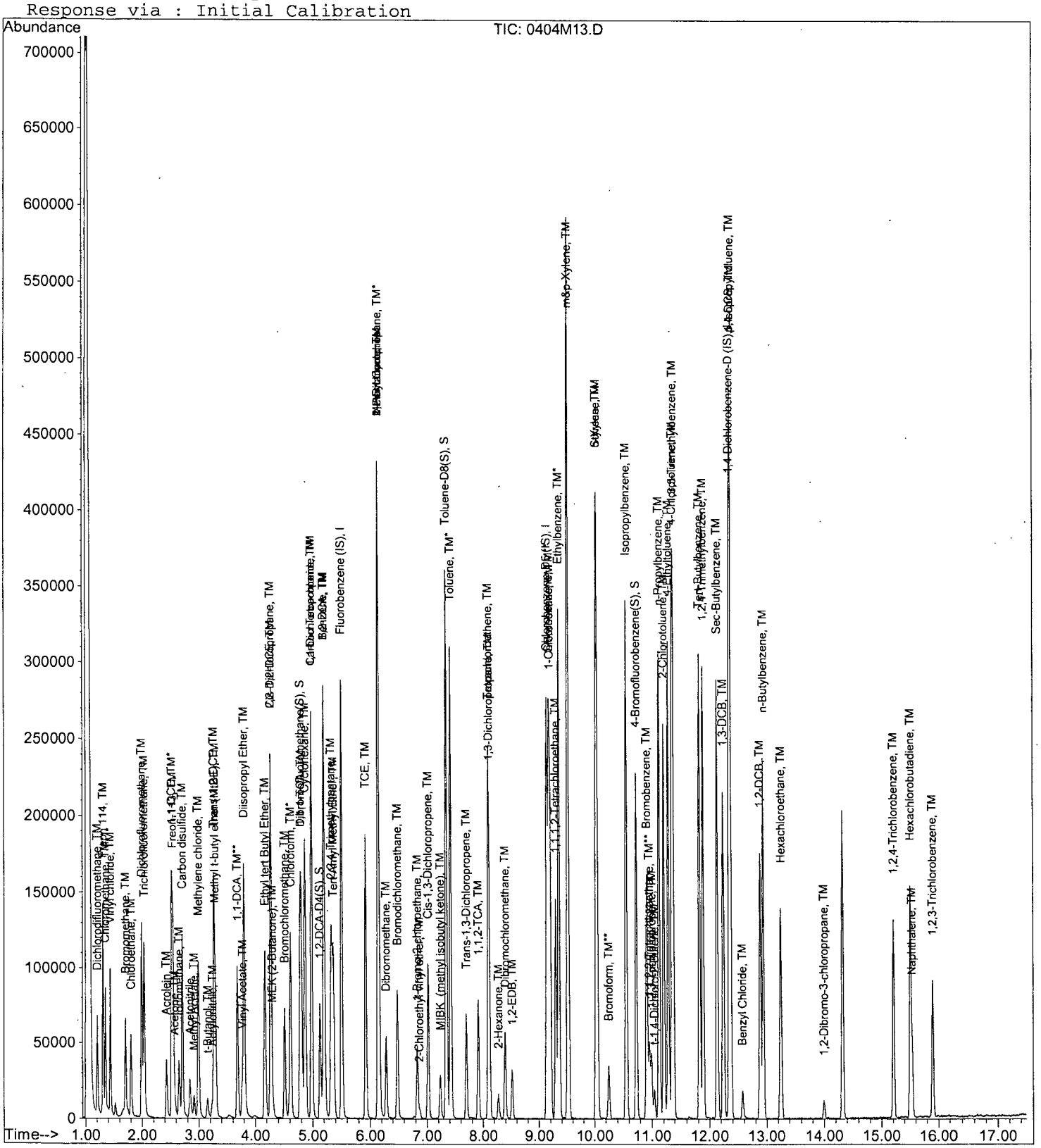
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



425

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
37) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
57) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
65) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	66968	19.47166 ppb	98
3) Freon 114	1.31	85	90721	19.40898 ppb	98
4) Chloromethane	1.35	50	90408	18.96100 ppb	99
5) Vinyl chloride	1.44	62	149189	20.62615 ppb	97
6) Bromomethane	1.70	94	72788	16.28579 ppb	92
7) Chloroethane	1.80	64	88346	20.19124 ppb	94
8) Dichlorofluoromethane	1.99	67	237784	20.04746 ppb	99
9) Trichlorofluoromethane	2.04	101	159395	20.33400 ppb	96
10) Acrolein	2.43	56	39401	148.99245 ppb	90
11) Acetone	2.58	43	12361	19.71935 ppb	91
12) Freon-113	2.55	101	95878	20.00209 ppb	97
13) 1,1-DCE	2.52	61	149881	19.82314 ppb	97
14) Acetonitrile	2.84	TIC	73679	150.64389 ppb #	95
15) t-Butanol	3.15	59	17294	159.80795 ppb	96
16) Methyl Acetate	2.91	43	36838	20.35301 ppb	96
17) Iodomethane	2.65	142	101787	19.93903 ppb	98
18) Acrylonitrile	3.23	53	17338	21.75223 ppb	92
19) Methylene chloride	2.99	84	94559	18.97951 ppb	96
20) Carbon disulfide	2.71	76	302511	19.44466 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	151816	20.16968 ppb	98
22) Trans-1,2-DCE	3.27	96	109270	19.86068 ppb	95
23) Diisopropyl Ether	3.80	45	312531	20.53748 ppb	97
24) 1,1-DCA	3.68	63	183041	19.53096 ppb	96
25) Vinyl Acetate	3.76	43	61199	19.62714 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	186796	20.43872 ppb	99
27) MEK (2-Butanone)	4.31	43	23339	20.64643 ppb	95
28) Cis-1,2-DCE	4.27	96	116789	19.96675 ppb	95
29) 2,2-Dichloropropane	4.27	77	116892	21.10848 ppb	99
30) Chloroform	4.62	83	177972	19.71673 ppb	99
31) Bromochloromethane	4.52	128	43687	18.89732 ppb	97
33) 1,1,1-TCA	4.80	97	159858	20.24256 ppb	98
34) Cyclohexane	4.87	41	101478	19.25953 ppb	98
35) 1,1-Dichloropropene	4.99	75	150247	20.00306 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	258653	19.68222 ppb	99
38) Carbon Tetrachloride	4.98	117	131818	20.78778 ppb	92
39) Tert Amyl Methyl Ether	5.37	73	165438	20.58377 ppb	94
40) 1,2-DCA	5.21	62	94068	19.76735 ppb	99
41) Benzene	5.20	78	447523	19.76322 ppb	99
42) TCE	5.92	95	116538	19.45783 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	2-Pentanone	6.15	43	250085	154.96414	ppb	97
44)	1,2-Dichloropropane	6.16	63	101263	19.91279	ppb	99
45)	Bromodichloromethane	6.48	83	115675	19.96182	ppb	100
46)	Methyl Cyclohexane	6.15	83	162428	20.01192	ppb	97
47)	Dibromomethane	6.28	93	39346	20.32767	ppb	94
48)	MIBK (methyl isobutyl ket	7.23	43	46324	18.37165	ppb	96
49)	1-Bromo-2-chloroethane	6.83	63	95718	19.78652	ppb	97
51)	Cis-1,3-Dichloropropene	7.02	75	125745	20.60131	ppb	97
52)	Toluene	7.42	91	515588	19.62512	ppb	100
53)	Trans-1,3-Dichloropropene	7.70	75	85842	22.09078	ppb	94
54)	1,1,2-TCA	7.91	83	48497	19.70975	ppb	97
55)	2-Hexanone	8.27	43	28574	20.67524	ppb	98
58)	1,2-EDB	8.52	107	52990	20.94416	ppb	96
59)	Tetrachloroethene	8.09	164	122712	19.33668	ppb	98
60)	1-Chlorohexane	9.20	91	139883	21.03307	ppb	98
61)	1,1,1,2-Tetrachloroethane	9.30	131	96582	20.57637	ppb	96
62)	m&p-Xylene	9.51	106	459741	40.05419	ppb	93
63)	o-Xylene	10.03	106	215404	20.33877	ppb	100
64)	Styrene	10.05	104	335366	20.76129	ppb	98
66)	1,3-Dichloropropane	8.12	76	100435	20.33537	ppb	96
67)	Dibromochloromethane	8.39	129	76119	20.28858	ppb	95
68)	Chlorobenzene	9.18	112	307175	19.60722	ppb	100
69)	Ethylbenzene	9.35	91	572306	19.98238	ppb	98
70)	Bromoform	10.25	173	41583	20.62646	ppb	90
72)	Isopropylbenzene	10.55	105	579126	19.07756	ppb	98
73)	1,1,2,2-Tetrachloroethane	10.95	83	59723	18.86233	ppb	99
74)	1,2,3-Trichloropropane	10.99	110	18169	20.04568	ppb	89
75)	t-1,4-Dichloro-2-Butene	11.04	53	11412	20.72023	ppb	96
76)	Bromobenzene	10.91	156	124585	18.62980	ppb	98
77)	n-Propylbenzene	11.12	91	634367	19.84525	ppb	99
78)	4-Ethyltoluene	11.29	105	546027	19.98512	ppb	98
79)	2-Chlorotoluene	11.20	91	363250	18.96611	ppb	97
80)	1,3,5-Trimethylbenzene	11.38	105	465829	19.58670	ppb	98
81)	4-Chlorotoluene	11.36	91	415814	19.74504	ppb	100
82)	Tert-Butylbenzene	11.83	119	406743	19.51183	ppb	98
83)	1,2,4-Trimethylbenzene	11.89	105	435106	19.56534	ppb	96
84)	Sec-Butylbenzene	12.14	105	542159	19.34644	ppb	100
85)	p-Isopropyltoluene	12.36	119	251072	20.52225	ppb	99
86)	Benzyl Chloride	12.57	91	38064	20.25556	ppb	97
87)	1,3-DCB	12.24	146	257992	19.55170	ppb	96
88)	1,4-DCB	12.37	146	132032	20.39465	ppb	98
89)	n-Butylbenzene	12.94	91	183936	18.70048	ppb	96
90)	1,2-DCB	12.88	146	212163	19.95094	ppb	100
91)	Hexachloroethane	13.25	117	58097	20.77748	ppb	98
92)	1,2-Dibromo-3-chloropropan	13.99	75	6905	20.44716	ppb	95
93)	1,2,4-Trichlorobenzene	15.21	180	117956	21.40024	ppb	97
94)	Hexachlorobutadiene	15.51	225	75236	18.47606	ppb	92
95)	Naphthalene	15.54	128	120414	26.47457	ppb	97
96)	1,2,3-Trichlorobenzene	15.90	180	82621	23.00396	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

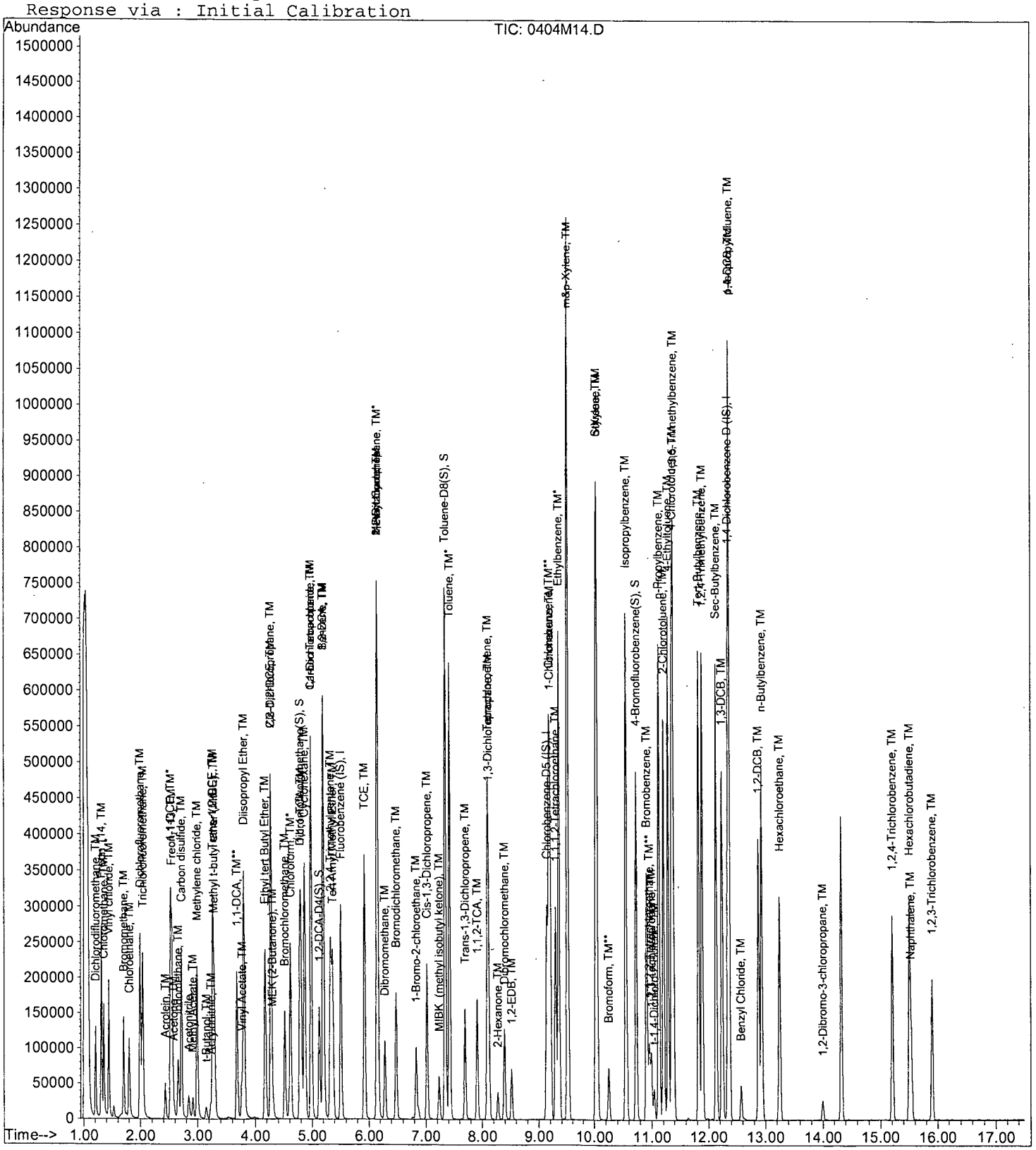
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



428

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
37) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
57) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
65) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	129088	36.06108 ppb	100
3) Freon 114	1.31	85	191455	39.35309 ppb	98
4) Chloromethane	1.35	50	183512	36.97738 ppb	96
5) Vinyl chloride	1.44	62	297432	39.50812 ppb	98
6) Bromomethane	1.70	94	121297	26.07453 ppb	96
7) Chloroethane	1.80	64	181707	39.89927 ppb	95
8) Dichlorofluoromethane	1.99	67	484950	39.28177 ppb	100
9) Trichlorofluoromethane	2.04	101	322449	39.52086 ppb	99
10) Acrolein	2.43	56	46789	169.98791 ppb	92
11) Acetone	2.58	43	24600	38.30539 ppb	89
12) Freon-113	2.54	101	193028	38.68959 ppb	96
13) 1,1-DCE	2.52	61	312545	39.71511 ppb	96
14) Acetonitrile	2.84	TIC	73210	143.81211 ppb #	90
15) t-Butanol	3.15	59	21468	190.59512 ppb #	86
16) Methyl Acetate	2.91	43	76420	40.56551 ppb	96
17) Iodomethane	2.65	142	222816	40.73301 ppb	98
18) Acrylonitrile	3.23	53	33745	40.67536 ppb	95
19) Methylene chloride	2.99	84	189691	36.58020 ppb	99
20) Carbon disulfide	2.71	76	610872	37.72477 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	321256	41.00624 ppb	97
22) Trans-1,2-DCE	3.26	96	229033	39.99526 ppb	97
23) Diisopropyl Ether	3.80	45	656196	41.42905 ppb	98
24) 1,1-DCA	3.68	63	382523	39.21480 ppb	98
25) Vinyl Acetate	3.76	43	134320	41.38765 ppb	99
26) Ethyl tert Butyl Ether	4.17	59	403335	42.40033 ppb	98
27) MEK (2-Butanone)	4.31	43	46332	39.59968 ppb	99
28) Cis-1,2-DCE	4.27	96	239292	39.30529 ppb	96
29) 2,2-Dichloropropane	4.27	77	251155	43.57439 ppb	100
30) Chloroform	4.61	83	365475	38.90076 ppb	99
31) Bromochloromethane	4.52	128	90277	37.51822 ppb	90
33) 1,1,1-TCA	4.80	97	336301	40.91443 ppb	98
34) Cyclohexane	4.87	41	213316	38.89686 ppb	96
35) 1,1-Dichloropropene	4.98	75	310800	39.75474 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	555635	40.62220 ppb	99
38) Carbon Tetrachloride	4.98	117	278702	42.22705 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	358200	42.81859 ppb	91
40) 1,2-DCA	5.21	62	201981	40.77879 ppb	99
41) Benzene	5.20	78	936173	39.72060 ppb	99
42) TCE	5.92	95	242712	38.93456 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	319267	190.07056	ppb		96
44)	1,2-Dichloropropane	6.16	63	213771	40.38754	ppb		100
45)	Bromodichloromethane	6.48	83	242984	40.28613	ppb		97
46)	Methyl Cyclohexane	6.14	83	342507	40.54288	ppb		94
47)	Dibromomethane	6.28	93	80448	39.93185	ppb		92
48)	MIBK (methyl isobutyl ket	7.23	43	93915	35.78445	ppb		99
49)	1-Bromo-2-chloroethane	6.83	63	203696	40.45532	ppb		93
50)	2-Chloroethyl vinyl ether	6.87	106	3981	43.11839	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	273330	43.02380	ppb		96
52)	Toluene	7.42	91	1111909	40.66267	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	194540	48.09916	ppb		95
54)	1,1,2-TCA	7.91	83	101415	39.59913	ppb		97
55)	2-Hexanone	8.27	43	57660	40.05526	ppb		95
58)	1,2-EDB	8.52	107	112404	42.05285	ppb		93
59)	Tetrachloroethene	8.10	164	249161	37.16376	ppb		98
60)	1-Chlorohexane	9.20	91	313677	44.64421	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	210317	42.41228	ppb		100
62)	m&p-Xylene	9.51	106	1053974	86.91792	ppb		93
63)	o-Xylene	10.03	106	489748	43.77118	ppb		98
64)	Styrene	10.05	104	781645	45.80255	ppb		97
66)	1,3-Dichloropropane	8.12	76	208905	40.03690	ppb		100
67)	Dibromochloromethane	8.39	129	159533	40.24888	ppb		91
68)	Chlorobenzene	9.18	112	659247	39.83116	ppb		99
69)	Ethylbenzene	9.35	91	1245394	41.15953	ppb		98
70)	Bromoform	10.26	173	96819	45.45839	ppb		97
72)	Isopropylbenzene	10.55	105	1315694	36.18065	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	130790	34.48260	ppb		99
74)	1,2,3-Trichloropropane	10.99	110	39249	36.14849	ppb		98
75)	t-1,4-Dichloro-2-Butene	11.04	53	27740	42.04467	ppb		93
76)	Bromobenzene	10.91	156	276878	34.56229	ppb		97
77)	n-Propylbenzene	11.12	91	1478609	38.61366	ppb		100
78)	4-Ethyltoluene	11.29	105	1314843	40.17338	ppb		98
79)	2-Chlorotoluene	11.20	91	856805	37.34448	ppb		95
80)	1,3,5-Trimethylbenzene	11.38	105	1135443	39.85399	ppb		96
81)	4-Chlorotoluene	11.36	91	1026940	40.70762	ppb		98
82)	Tert-Butylbenzene	11.83	119	943465	37.78117	ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	1056912	39.67371	ppb		94
84)	Sec-Butylbenzene	12.14	105	1327158	39.53381	ppb		98
85)	p-Isopropyltoluene	12.36	119	611081	41.69626	ppb		99
86)	Benzyl Chloride	12.57	91	99255	39.96838	ppb		95
87)	1,3-DCB	12.24	146	608375	38.48764	ppb		96
88)	1,4-DCB	12.37	146	313344	40.40453	ppb		97
89)	n-Butylbenzene	12.94	91	446976	37.93515	ppb		96
90)	1,2-DCB	12.88	146	479236	37.61967	ppb		97
91)	Hexachloroethane	13.25	117	142926	42.66996	ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	16326	40.35717	ppb		96
93)	1,2,4-Trichlorobenzene	15.21	180	267502	41.20728	ppb		94
94)	Hexachlorobutadiene	15.51	225	169317	34.71010	ppb		95
95)	Naphthalene	15.54	128	281726	51.70714	ppb		97
96)	1,2,3-Trichlorobenzene	15.90	180	190594	44.29891	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

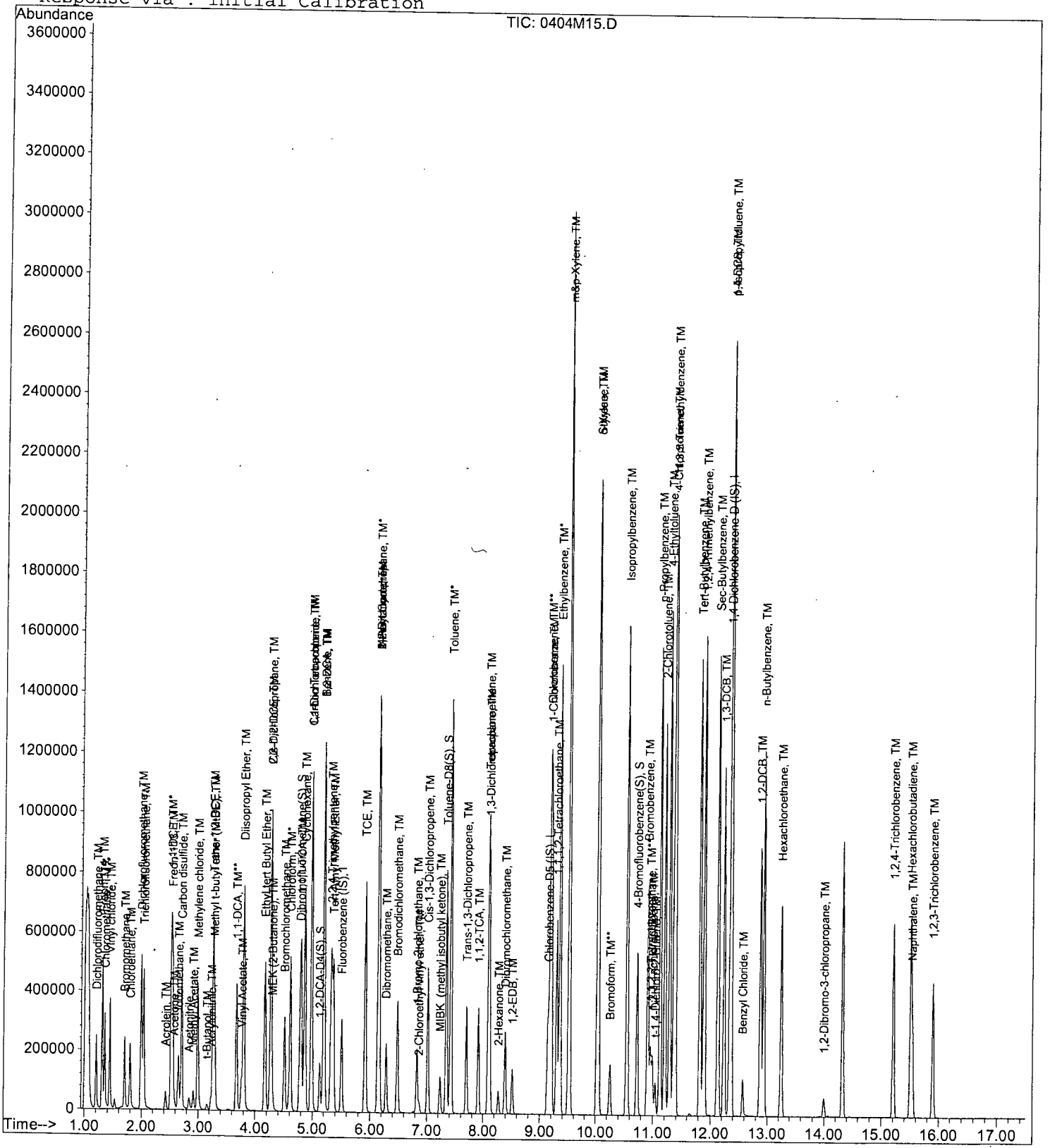
Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
37) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
57) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
65) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	375808	93.08592 ppb	96
3) Freon 114	1.31	85	509688	92.89272 ppb	96
4) Chloromethane	1.35	50	496592	88.72307 ppb	96
5) Vinyl chloride	1.44	62	798880	94.09040 ppb	99
6) Bromomethane	1.70	94	286052	54.52260 ppb	95
7) Chloroethane	1.79	64	497323	96.82711 ppb	97
8) Dichlorofluoromethane	1.99	67	1441058	103.50007 ppb	100
9) Trichlorofluoromethane	2.03	101	981074	106.61843 ppb	99
10) Acrolein	2.43	56	59933	193.06582 ppb	94
11) Acetone	2.59	43	63177	88.06824 ppb	90
12) Freon-113	2.54	101	533776	94.86323 ppb	97
13) 1,1-DCE	2.52	61	866903	97.67396 ppb	94
14) Acetonitrile	2.85	TIC	131031	228.22554 ppb #	90
15) t-Butanol	3.19	59	26649	209.78104 ppb	91
16) Methyl Acetate	2.91	43	212527	100.02974 ppb	96
17) Iodomethane	2.65	142	625762	99.80838 ppb	99
18) Acrylonitrile	3.23	53	97332	104.02620 ppb	93
19) Methylene chloride	2.99	84	508994	87.03163 ppb	99
20) Carbon disulfide	2.71	76	1724703	94.43997 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	904632	102.38487 ppb	95
22) Trans-1,2-DCE	3.26	96	620212	96.03196 ppb	94
23) Diisopropyl Ether	3.81	45	1906913	106.74988 ppb	97
24) 1,1-DCA	3.68	63	1075463	97.75818 ppb	98
25) Vinyl Acetate	3.76	43	455708	124.50357 ppb	98
26) Ethyl tert Butyl Ether	4.17	59	1190819	110.99776 ppb	97
27) MEK (2-Butanone)	4.31	43	106519	80.97699 ppb	91
28) Cis-1,2-DCE	4.27	96	674861	98.28840 ppb	94
29) 2,2-Dichloropropane	4.27	77	783226	120.48742 ppb	98
30) Chloroform	4.62	83	1033944	97.58038 ppb	99
31) Bromochloromethane	4.52	128	250612	92.34898 ppb	91
33) 1,1,1-TCA	4.80	97	980355	105.75401 ppb	98
34) Cyclohexane	4.87	41	621474	100.47990 ppb	94
35) 1,1-Dichloropropene	4.99	75	886391	100.53062 ppb	96
36) 2,2,4-Trimethylpentane	5.33	57	1585693	102.79171 ppb	99
38) Carbon Tetrachloride	4.98	117	826297	111.00741 ppb	93
39) Tert Amyl Methyl Ether	5.37	73	1057436	112.07946 ppb #	88
40) 1,2-DCA	5.21	62	590862	105.77304 ppb	98
41) Benzene	5.20	78	2696088	101.42824 ppb	100
42) TCE	5.92	95	688484	97.92712 ppb	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit			Qvalue
43)	2-Pentanone	6.15	43	456888	241.17690	ppb		92
44)	1,2-Dichloropropane	6.16	63	609692	102.13491	ppb		100
45)	Bromodichloromethane	6.49	83	695757	102.28232	ppb		100
46)	Methyl Cyclohexane	6.15	83	997084	104.65067	ppb		95
47)	Dibromomethane	6.28	93	224453	98.78584	ppb		94
48)	MIBK (methyl isobutyl ket	7.24	43	259611	87.70970	ppb		97
49)	1-Bromo-2-chloroethane	6.83	63	572382	100.79621	ppb		96
50)	2-Chloroethyl vinyl ether	6.87	106	10577	98.85347	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	809859	113.03058	ppb		97
52)	Toluene	7.42	91	3366290	109.15492	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	605578	132.75894	ppb		96
54)	1,1,2-TCA	7.91	83	290011	100.40677	ppb		97
55)	2-Hexanone	8.28	43	162169	99.84324	ppb		100
58)	1,2-EDB	8.52	107	317874	101.56553	ppb		94
59)	Tetrachloroethene	8.10	164	690787	87.99569	ppb		99
60)	1-Chlorohexane	9.20	91	983594	119.55729	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.30	131	622012	107.12569	ppb		97
62)	m&p-Xylene	9.52	106	3135983	220.86698	ppb		90
63)	o-Xylene	10.04	106	1480867	113.03407	ppb		94
64)	Styrene	10.05	104	2416413	120.92857	ppb		96
66)	1,3-Dichloropropane	8.12	76	598718	97.99674	ppb		97
67)	Dibromochloromethane	8.39	129	460736	99.27345	ppb		90
68)	Chlorobenzene	9.18	112	1932077	99.69580	ppb		97
69)	Ethylbenzene	9.35	91	3704373	104.55769	ppb		97
70)	Bromoform	10.26	173	287800	115.40428	ppb		98
72)	Isopropylbenzene	10.55	105	4071295	95.85280	ppb		97
73)	1,1,2,2-Tetrachloroethane	10.96	83	379591	85.68249	ppb		99
74)	1,2,3-Trichloropropane	10.99	110	113609	89.58289	ppb		99
75)	t-1,4-Dichloro-2-Butene	11.04	53	81362	105.57882	ppb		87
76)	Bromobenzene	10.91	156	815252	87.12778	ppb		97
77)	n-Propylbenzene	11.12	91	4581114	102.42583	ppb		97
78)	4-Ethyltoluene	11.29	105	3999646	104.62530	ppb		96
79)	2-Chlorotoluene	11.21	91	2545984	95.00595	ppb		94
80)	1,3,5-Trimethylbenzene	11.39	105	3338213	100.31625	ppb		96
81)	4-Chlorotoluene	11.36	91	3064508	104.00210	ppb		95
82)	Tert-Butylbenzene	11.83	119	2871971	98.46467	ppb		97
83)	1,2,4-Trimethylbenzene	11.90	105	3248988	104.41499	ppb		94
84)	Sec-Butylbenzene	12.14	105	4085455	104.19269	ppb		97
85)	p-Isopropyltoluene	12.36	119	1896448	110.78731	ppb		98
86)	Benzyl Chloride	12.57	91	356904	98.10985	ppb		95
87)	1,3-DCB	12.24	146	1788630	96.87711	ppb		96
88)	1,4-DCB	12.37	146	905920	100.01136	ppb		96
89)	n-Butylbenzene	12.94	91	1421193	103.26697	ppb		97
90)	1,2-DCB	12.88	146	1390402	93.44513	ppb		98
91)	Hexachloroethane	13.25	117	464996	118.85322	ppb		95
92)	1,2-Dibromo-3-chloropropan	13.99	75	49811	105.41852	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	743836	99.17420	ppb		95
94)	Hexachlorobutadiene	15.51	225	480597	84.35040	ppb		94
95)	Naphthalene	15.54	128	744265	116.95046	ppb		98
96)	1,2,3-Trichlorobenzene	15.90	180	490216	97.54883	ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

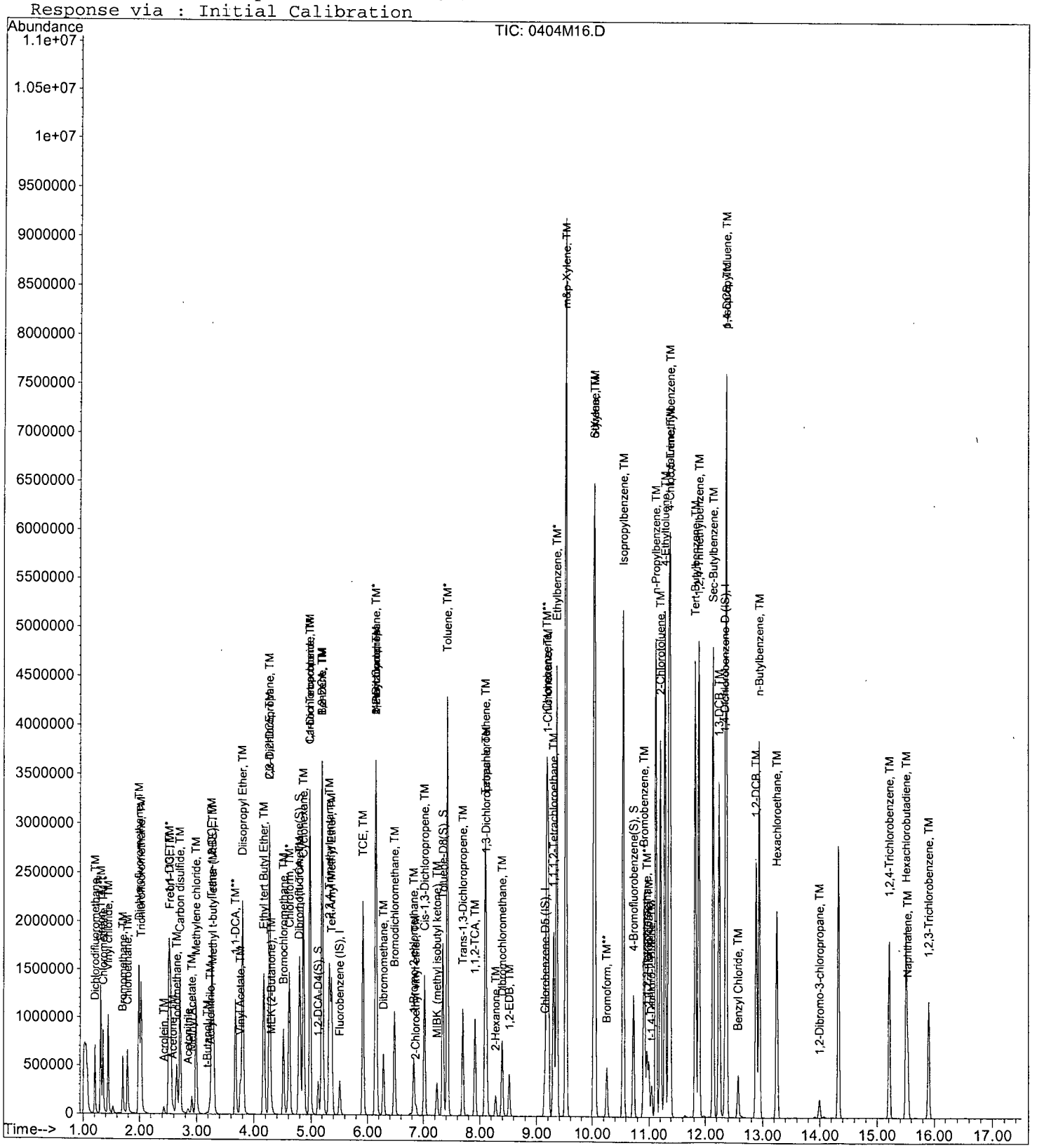
Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

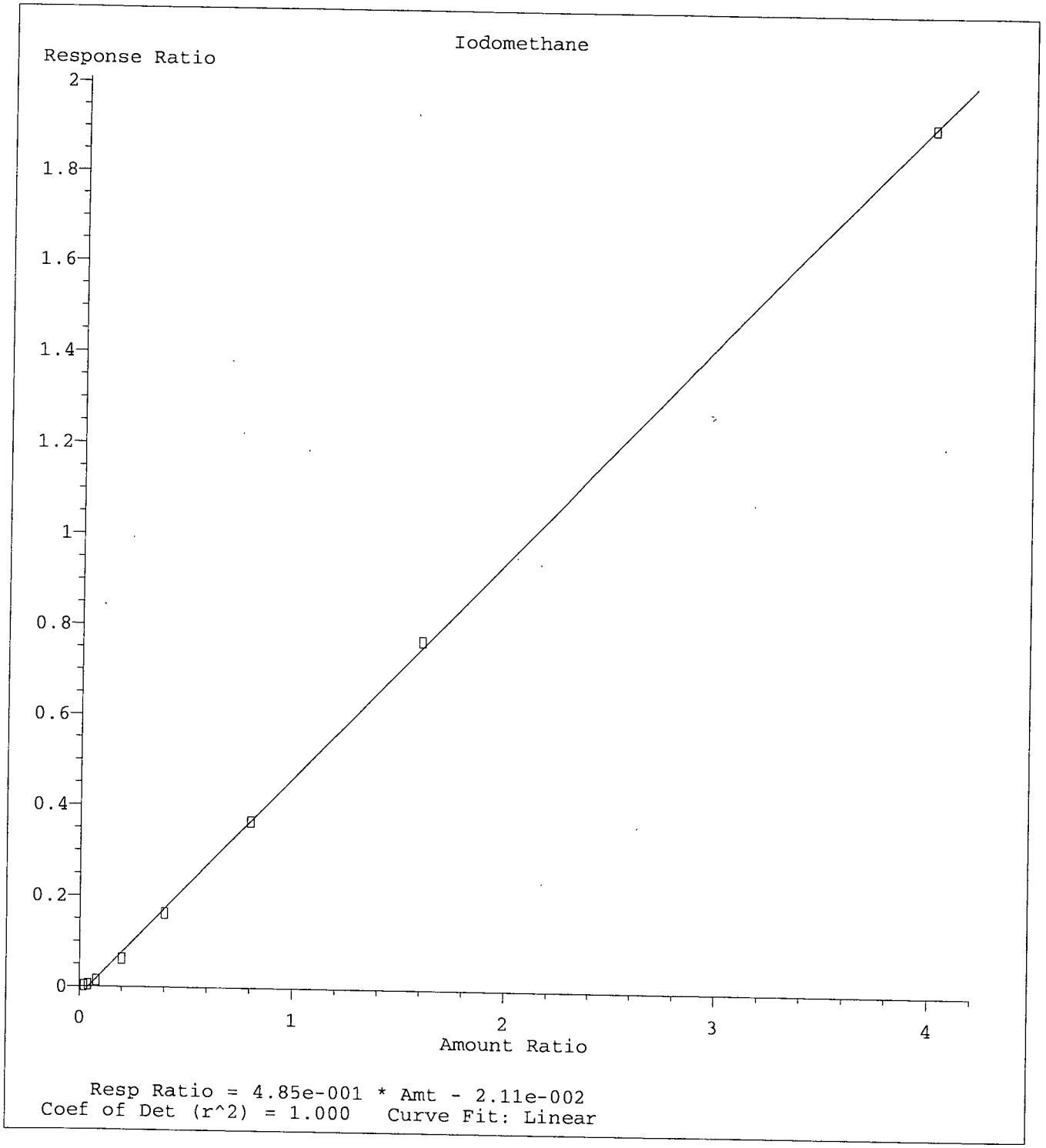
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

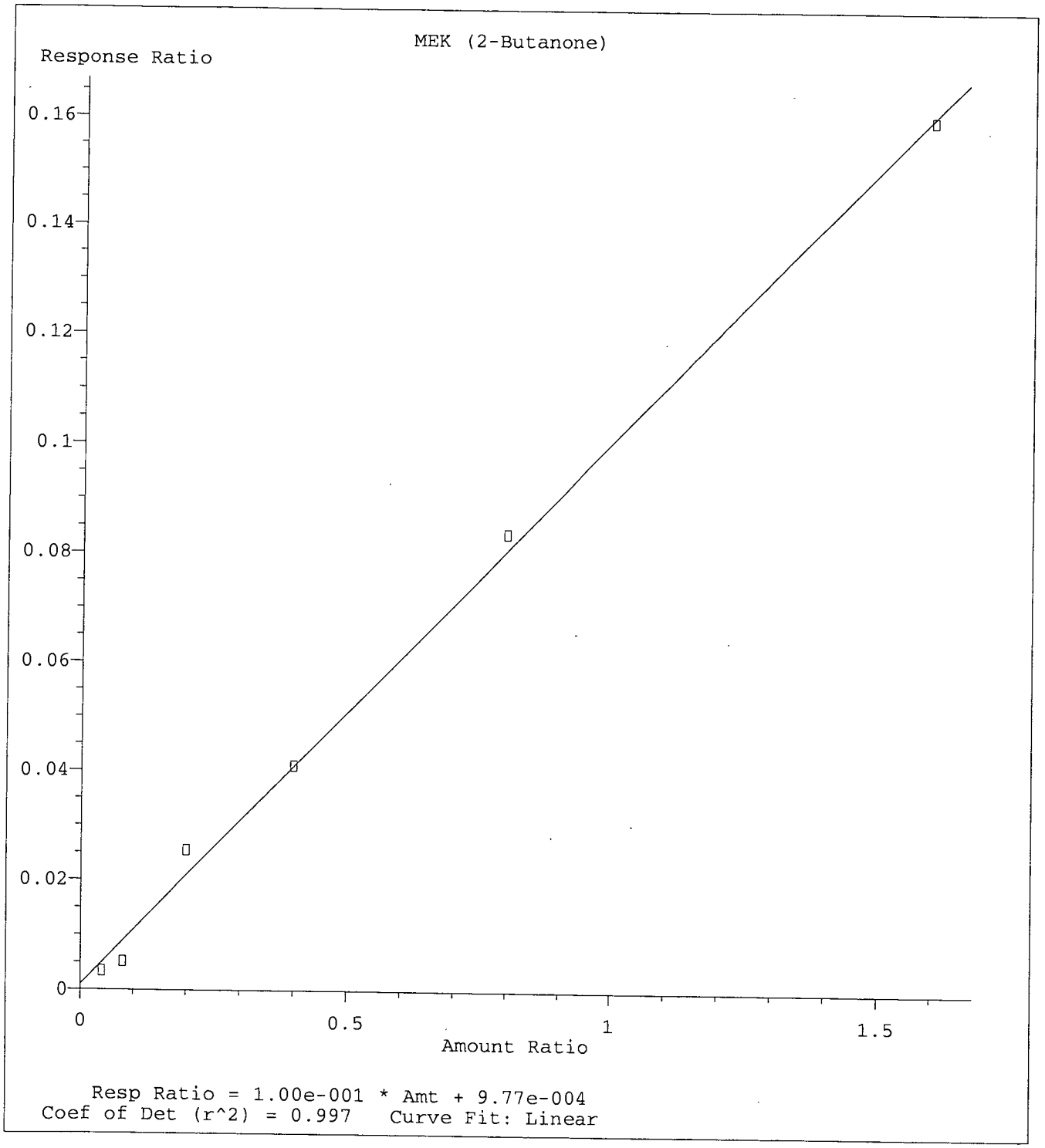
Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration

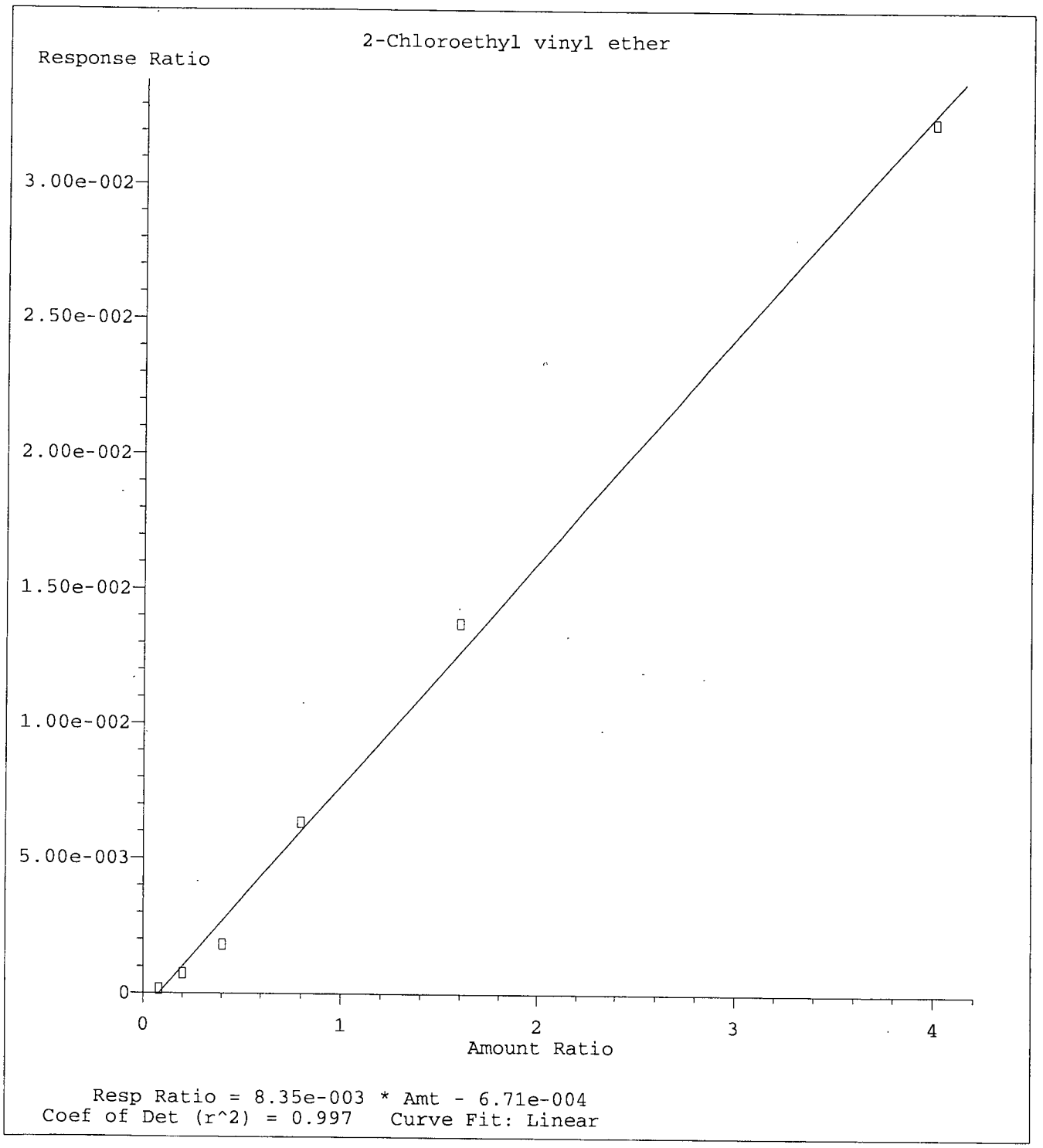




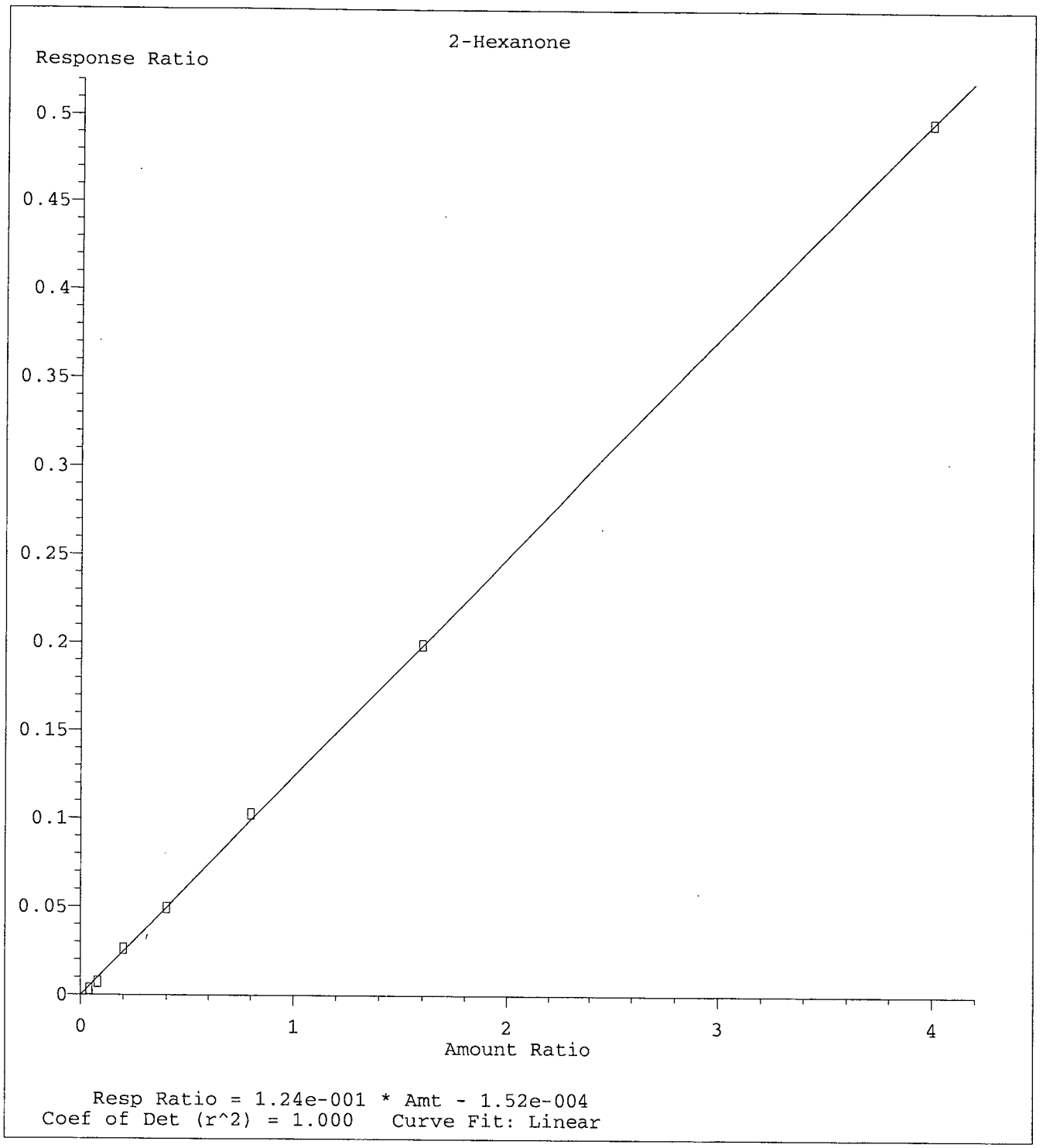
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



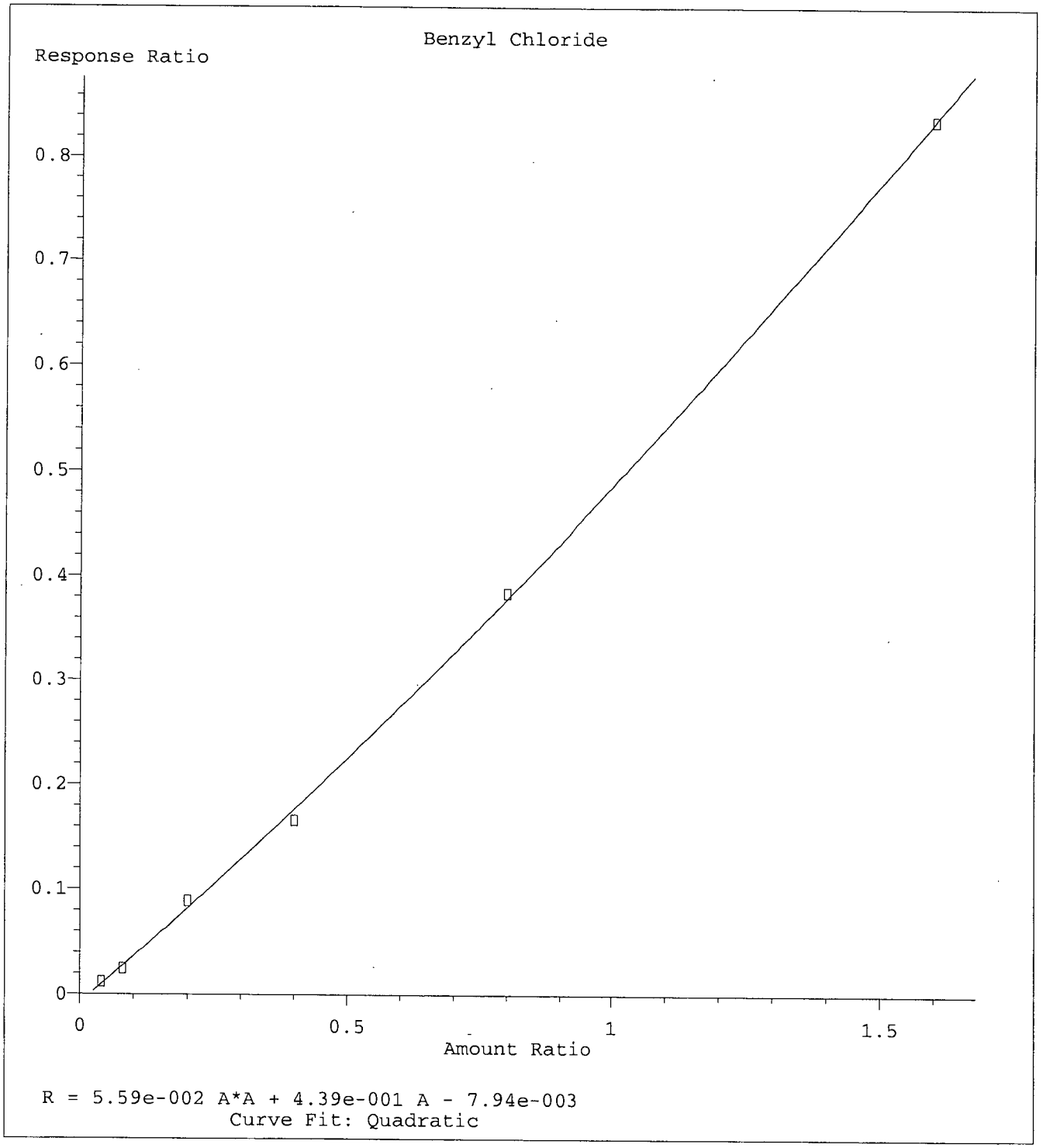
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



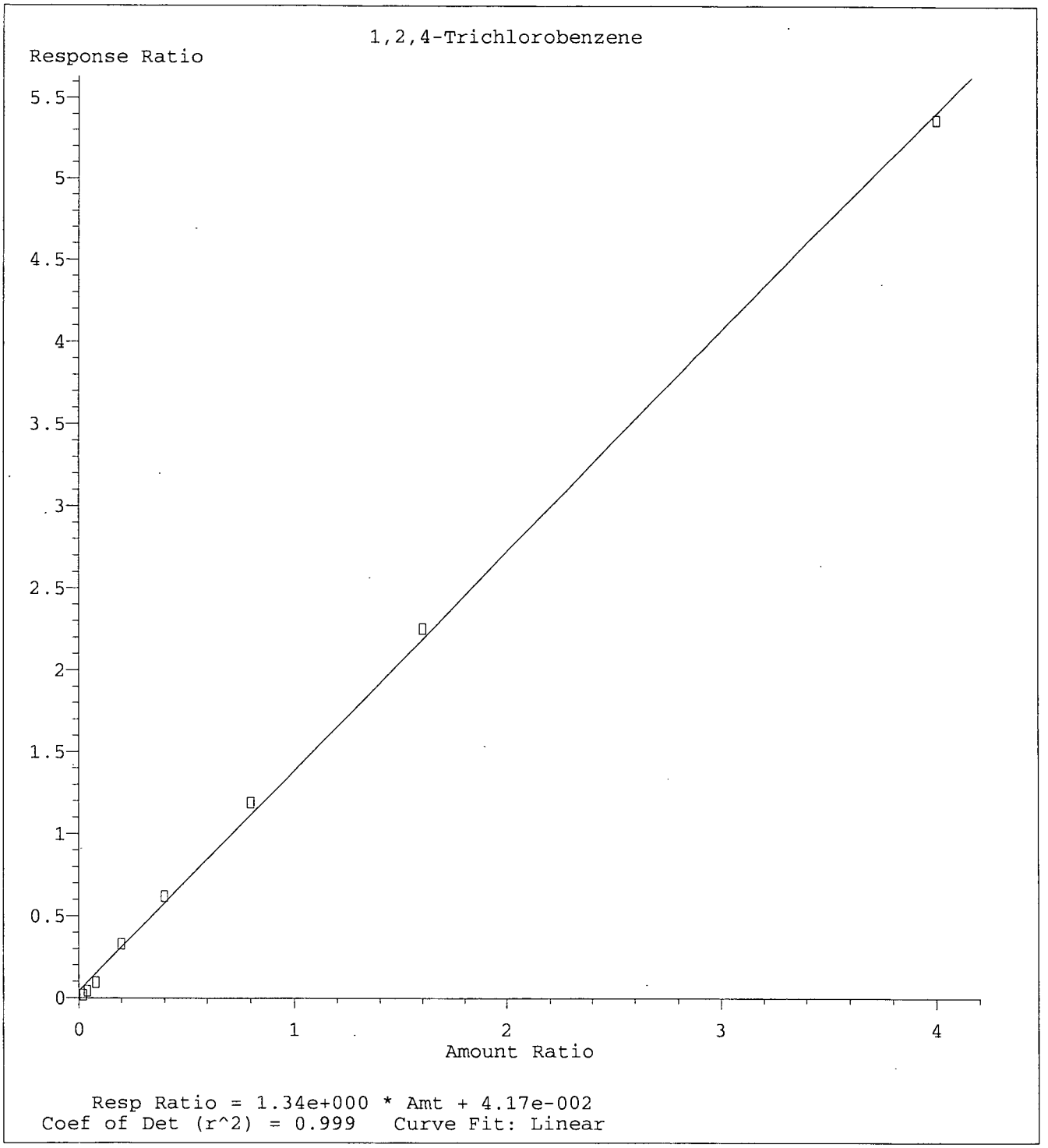
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



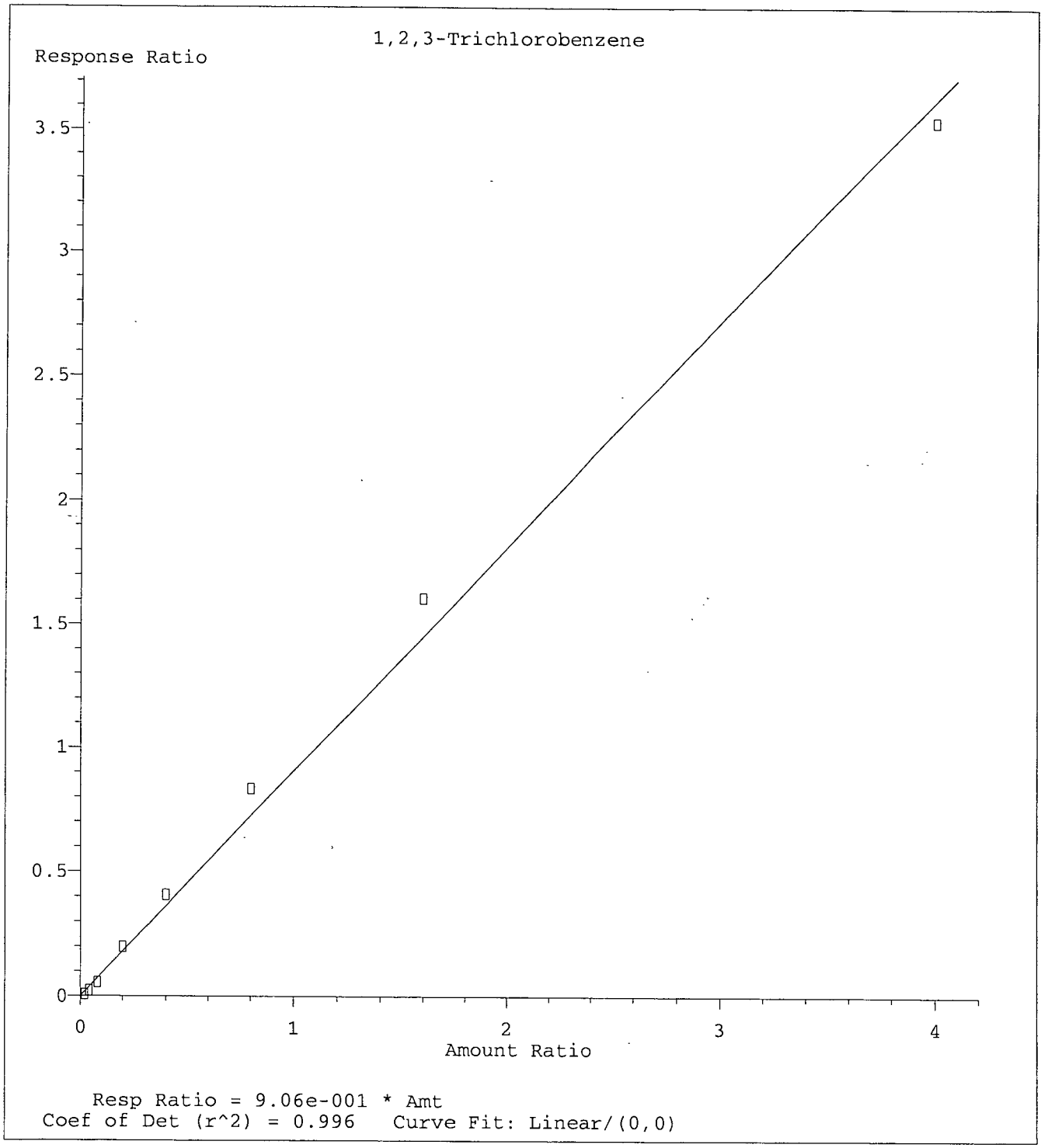
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



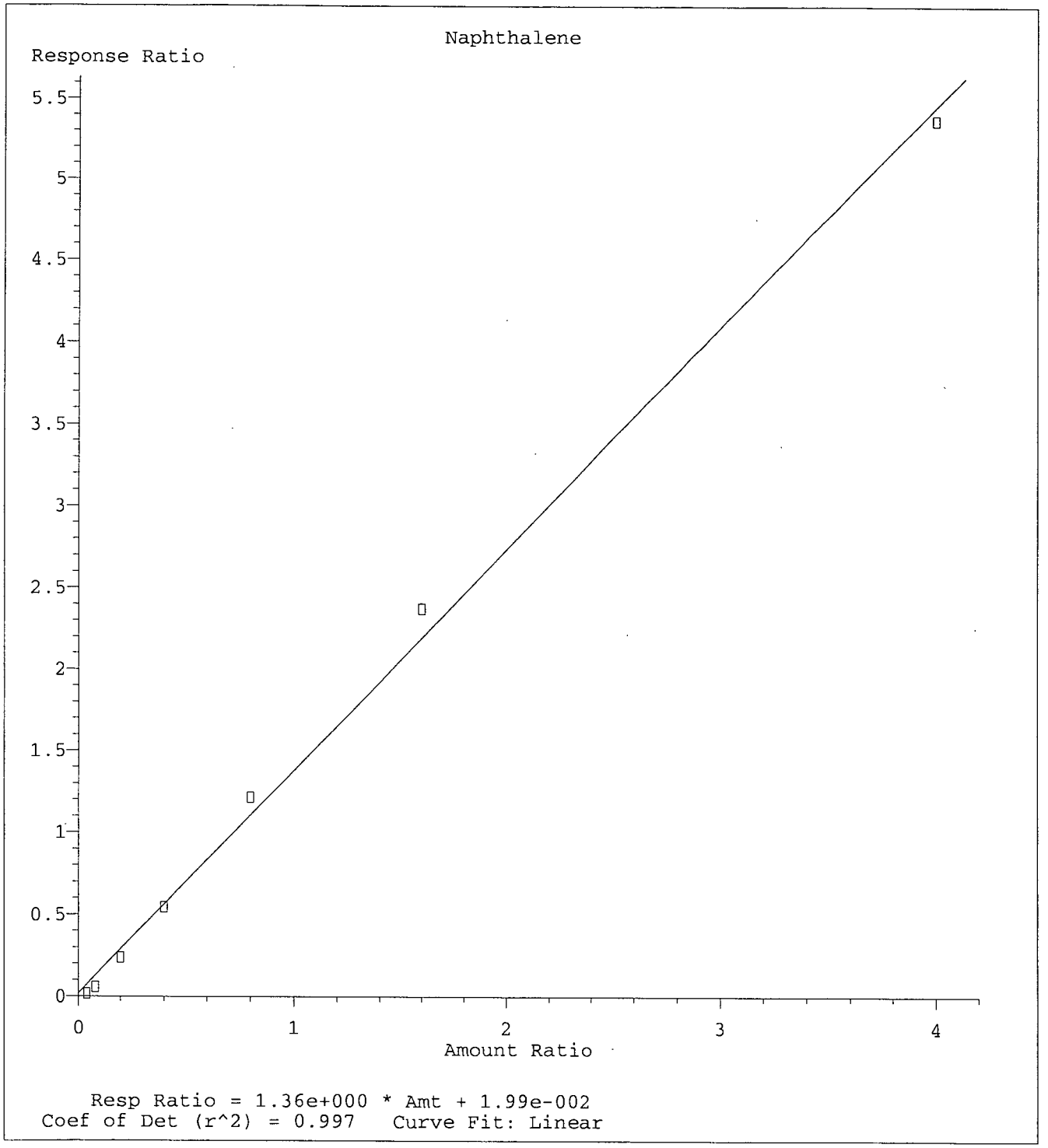
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Dichlorodifluoromethane	0.3087	0.3828	24	TM		* NT
2	TM	Freon 114	0.4195	0.4103	2.2	TM		
3	TM**	Chloromethane	0.4279	0.5125	20	TM**		
4	TM*	Vinyl chloride	0.6492	0.6584	1.4	TM*		
5	TM	Bromomethane	0.4011	0.3502	13	TM		
6	TM	Chloroethane	0.3927	0.4103	4.5	TM		
7	TM	Dichlorofluoromethane	1.065	1.046	1.7	TM		
8	TM	Trichlorofluoromethane	0.7036	0.8475	20	TM		
9	TM	Acrolein	0.0237	0.0261	10	TM		
10	TM	Acetone	0.0600	0.0943	57	TM		* NT
11	TM	Freon-113	0.4302	0.4683	8.8	TM		
12	TM*	1,1-DCE	0.6786	0.5713	16	TM*		
13		Acetonitrile	0.0439	0.0442	0.71			
14	TM	t-Butanol	0.0097	0.0101	3.7	TM		
15	TM	Methyl Acetate	0.1624	0.1767	8.8	TM		
16	TML	Iodomethane	0.3142	0.1472	53	TML	59	nt
17	TM	Acrylonitrile	0.0715	0.0817	14	TM		
18	TM	Methylene chloride	0.4472	0.3631	19	TM		
19	TM	Carbon disulfide	1.396	1.217	13	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.6756	0.7509	11	TM		
21	TM	Trans-1,2-DCE	0.4938	0.4355	12	TM		
22	TM	Diisopropyl Ether	1.366	1.453	6.4	TM		
23	TM**	1,1-DCA	0.8411	0.6934	18	TM**		
24	TM	Vinyl Acetate	0.2799	0.1846	34	TM		nt
25	TM	Ethyl tert Butyl Ether	0.8203	0.9708	18	TM		
26	TML	MEK (2-Butanone)	0.0976	0.1140	17	TML	11	
27	TM	Cis-1,2-DCE	0.5250	0.4438	15	TM		
28	TM	2,2-Dichloropropane	0.4970	0.4018	19	TM		
29	TM*	Chloroform	0.8101	0.7108	12	TM*		
30	TM	Bromochloromethane	0.2075	0.1702	18	TM		
31	TM	1,1,1-TCA	0.7088	0.6079	14	TM		
32	TM	Cyclohexane	0.4729	0.4823	2.0	TM		
33	TM	1,1-Dichloropropene	0.6741	0.5662	16	TM		
34	TM	2,2,4-Trimethylpentane	1.179	1.164	1.3	TM		
35	TM	Carbon Tetrachloride	0.5691	0.5035	12	TM		
36	TM	Tert Amyl Methyl Ether	0.7214	0.7735	7.2	TM		
37	TM	1,2-DCA	0.4271	0.3420	20	TM		
38	TM	Benzene	2.032	1.722	15	TM		
39	TM	TCE	0.5375	0.4346	19	TM		
40	TM	2-Pentanone	0.1448	0.1558	7.5	TM		
		Average			14.6			

04/04/17

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4564	0.3889	15	TM*	
42	TM	Bromodichloromethane	0.5201	0.4286	18	TM	
43	TM	Methyl Cyclohexane	0.7285	0.7457	2.4	TM	
44	TM	Dibromomethane	0.1737	0.1525	12	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2288	1.1	TM	
46	TM	1-Bromo-2-chloroethane	0.4342	0.4162	4.1	TM	
47	TML	2-Chloroethyl vinyl ether	0.0058	0.0076	31	TML	11
48	TM	Cis-1,3-Dichloropropene	0.5478	0.4716	14	TM	
49	TM*	Toluene	2.358	1.950	17	TM*	
50	TM	Trans-1,3-Dichloropropene	0.3488	0.3197	8.3	TM	
51	TM	1,1,2-TCA	0.2208	0.1863	16	TM	
52	TML	2-Hexanone	0.1143	0.1294	13	TML	4.5
53	TM	1,2-EDB	0.3297	0.2886	12	TM	
54	TM	Tetrachloroethene	0.8270	0.6712	19	TM	
55	TM	1-Chlorohexane	0.8667	0.8932	3.1	TM	
56	TM	1,1,1,2-Tetrachloroethane	0.6117	0.5282	14	TM	
57	TM	m&p-Xylene	1.496	1.233	18	TM	
58	TM	o-Xylene	1.380	1.153	16	TM	
59	TM	Styrene	2.105	1.745	17	TM	
60	TM	1,3-Dichloropropane	0.6436	0.5883	8.6	TM	
61	TM	Dibromochloromethane	0.4889	0.3994	18	TM	
62	TM**	Chlorobenzene	2.042	1.641	20	TM**	
63	TM*	Ethylbenzene	3.732	3.172	15	TM*	
64	TM**	Bromoform	0.2627	0.2208	16	TM**	
65	TM	Isopropylbenzene	7.658	6.557	14	TM	
66	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.6440	19	TM**	
67	TM	1,2,3-Trichloropropane	0.2287	0.2141	6.4	TM	
68	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1265	9.0	TM	
69	TM	Bromobenzene	1.687	1.458	14	TM	
70	TM	n-Propylbenzene	8.064	6.816	15	TM	
71	TM	4-Ethyltoluene	6.892	6.903	0.15	TM	
72	TM	2-Chlorotoluene	4.832	3.930	19	TM	
73	TM	1,3,5-Trimethylbenzene	6.000	4.783	20	TM	
74	TM	4-Chlorotoluene	5.313	4.226	20	TM	
75	TM	Tert-Butylbenzene	5.259	4.223	20	TM	
76	TM	1,2,4-Trimethylbenzene	5.610	4.588	18	TM	
77	TM	Sec-Butylbenzene	7.070	5.691	20	TM	
78	TM	p-Isopropyltoluene	3.086	2.330	24	TM	
79	TMQ	Benzyl Chloride	0.4107	0.3337	19	TMQ	22
80	TM	1,3-DCB	3.329	2.656	20	TM	
		Average			14.7		

PM 4/26/17

* NT

nt

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,4-DCB	1.633	1.312	20	TM		
82	TM	n-Butylbenzene	2.481	1.859	25	TM		*NT
83	TM	1,2-DCB	2.683	2.219	17	TM		
84	TM	Hexachloroethane	0.7054	0.6268	11	TM		
85	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0753	12	TM		
86	TML	1,2,4-Trichlorobenzene	1.323	1.209	8.7	TML	18	DM 4/18/17
87	TM	Hexachlorobutadiene	1.027	0.8406	18	TM		
88	TML	Naphthalene	1.147	0.9501	17	TML	34	*NT
89	TML	1,2,3-Trichlorobenzene	0.8216	0.7917	3.6	TML	13	
90								
91								
92								
93								
94								
95								
96								
97								
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			14.7			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	268348	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	183462	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87168	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	66329	26.24384 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.976%	
37) 1,2-DCA-D4(S)	5.13	65	51699	26.11279 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.452%	
57) Toluene-D8(S)	7.34	98	275660	25.75865 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	83787	25.27811 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.112%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	41088	12.40078 ppb	99
3) Freon 114	1.31	85	44039	9.77982 ppb	99
4) Chloromethane	1.35	50	55008	11.97509 ppb	98
5) Vinyl chloride	1.44	62	70673	10.14223 ppb	99
6) Bromomethane	1.71	94	37585	8.72896 ppb	98
7) Chloroethane	1.81	64	44037	10.44702 ppb	94
8) Dichlorofluoromethane	2.00	67	112286	9.82655 ppb	100
9) Trichlorofluoromethane	2.04	101	90971	12.04619 ppb	98
10) Acrolein	2.43	56	35047	137.56452 ppb	99
11) Acetone	2.58	43	10121	15.70671 ppb	89
12) Freon-113	2.55	101	50263	10.88437 ppb	98
13) 1,1-DCE	2.53	61	61320	8.41834 ppb	97
14) Acetonitrile	2.84	TIC	59319	125.89260 ppb	97
15) t-Butanol	3.15	59	13520	129.68155 ppb	96
16) Methyl Acetate	2.92	43	18972	10.88039 ppb	97
17) Iodomethane	2.65	142	15798	4.12623 ppb	96
18) Acrylonitrile	3.23	53	8766	11.41576 ppb	91
19) Methylene chloride	2.99	84	38980	8.12124 ppb	99
20) Carbon disulfide	2.71	76	130643	8.71653 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	80603	11.11556 ppb	95
22) Trans-1,2-DCE	3.27	96	46750	8.82010 ppb	98
23) Diisopropyl Ether	3.81	45	155983	10.63971 ppb	99
24) 1,1-DCA	3.68	63	74425	8.24314 ppb	95
25) Vinyl Acetate	3.76	43	19812	6.59538 ppb #	91
26) Ethyl tert Butyl Ether	4.17	59	104204	11.83502 ppb	94
27) MEK (2-Butanone)	4.31	43	12235	11.12376 ppb	96
28) Cis-1,2-DCE	4.28	96	47639	8.45409 ppb	93
29) 2,2-Dichloropropane	4.27	77	43127	8.08388 ppb	98
30) Chloroform	4.62	83	76295	8.77360 ppb	100
31) Bromochloromethane	4.52	128	18265	8.20099 ppb	93
33) 1,1,1-TCA	4.80	97	65253	8.57690 ppb	98
34) Cyclohexane	4.87	41	51767	10.19824 ppb	93
35) 1,1-Dichloropropene	4.99	75	60780	8.39943 ppb	94
36) 2,2,4-Trimethylpentane	5.33	57	124899	9.86539 ppb	97
38) Carbon Tetrachloride	4.98	117	54040	8.84601 ppb	95
39) Tert Amyl Methyl Ether	5.37	73	83024	10.72239 ppb	94
40) 1,2-DCA	5.21	62	36714	8.00823 ppb	100
41) Benzene	5.20	78	184799	8.47112 ppb	99
42) TCE	5.92	95	46646	8.08425 ppb	95

SS ✓

$\frac{(41088)(25ppb)}{(268348)(0.3087)}$

$= 12.39995241$

(#) = qualifier out of range (m) = manual integration
0404M21.D MALLW.M Thu Apr 06 08:22:33 2017

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	209009	134.43338 ppb		96
44) 1,2-Dichloropropane	6.16	63	41747	8.52129 ppb	#	96
45) Bromodichloromethane	6.49	83	46001	8.23999 ppb		95
46) Methyl Cyclohexane	6.15	83	80042	10.23633 ppb		93
47) Dibromomethane	6.29	93	16369	8.77824 ppb		95
48) MIBK (methyl isobutyl ket	7.24	43	24564	10.11206 ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	44679	9.58689 ppb		94
50) 2-Chloroethyl vinyl ether	6.87	106	813	11.07950 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	50621	8.60862 ppb		96
52) Toluene	7.42	91	209300	8.26946 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	34314	9.16603 ppb		94
54) 1,1,2-TCA	7.91	83	19992	8.43375 ppb		95
55) 2-Hexanone	8.27	43	13894	10.45049 ppb	#	93
58) 1,2-EDB	8.52	107	21182	8.75418 ppb		95
59) Tetrachloroethene	8.09	164	49255	8.11568 ppb		98
60) 1-Chlorohexane	9.20	91	65548	10.30568 ppb		100
61) 1,1,1,2-Tetrachloroethane	9.30	131	38765	8.63559 ppb		99
62) m&p-Xylene	9.51	106	180903	16.48010 ppb		97
63) o-Xylene	10.03	106	84645	8.35703 ppb		99
64) Styrene	10.05	104	128054	8.28911 ppb		96
66) 1,3-Dichloropropane	8.12	76	43169	9.13942 ppb		99
67) Dibromochloromethane	8.39	129	29310	8.16872 ppb		90
68) Chlorobenzene	9.18	112	120422	8.03740 ppb		99
69) Ethylbenzene	9.35	91	232765	8.49799 ppb		99
70) Bromoform	10.25	173	16205	8.40499 ppb		99
72) Isopropylbenzene	10.55	105	228632	8.56256 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	22455	8.06275 ppb		99
74) 1,2,3-Trichloropropane	10.99	110	7464	9.36220 ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	4410	9.10307 ppb		98
76) Bromobenzene	10.91	156	50845	8.64385 ppb		97
77) n-Propylbenzene	11.12	91	237651	8.45225 ppb		99
78) 4-Ethyltoluene	11.29	105	240687	10.01525 ppb		98
79) 2-Chlorotoluene	11.20	91	137025	8.13372 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	166756	7.97137 ppb		97
81) 4-Chlorotoluene	11.36	91	147361	7.95533 ppb		99
82) Tert-Butylbenzene	11.83	119	147228	8.02943 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	159967	8.17785 ppb		93
84) Sec-Butylbenzene	12.14	105	198417	8.04952 ppb		97
85) p-Isopropyltoluene	12.36	119	81256	7.55090 ppb		99
86) Benzyl Chloride	12.57	91	11635	7.75469 ppb	#	95
87) 1,3-DCB	12.24	146	92593	7.97761 ppb		95
88) 1,4-DCB	12.37	146	45736	8.03178 ppb		98
89) n-Butylbenzene	12.94	91	64816	7.49177 ppb		99
90) 1,2-DCB	12.88	146	77356	8.26998 ppb		99
91) Hexachloroethane	13.25	117	21856	8.88641 ppb		96
92) 1,2-Dibromo-3-chloropropan	13.99	75	2626	8.84057 ppb	#	78
93) 1,2,4-Trichlorobenzene	15.21	180	42146	8.23163 ppb		99
94) Hexachlorobutadiene	15.51	225	29311	8.18334 ppb		94
95) Naphthalene	15.54	128	33127	6.62642 ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	27606	8.73840 ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

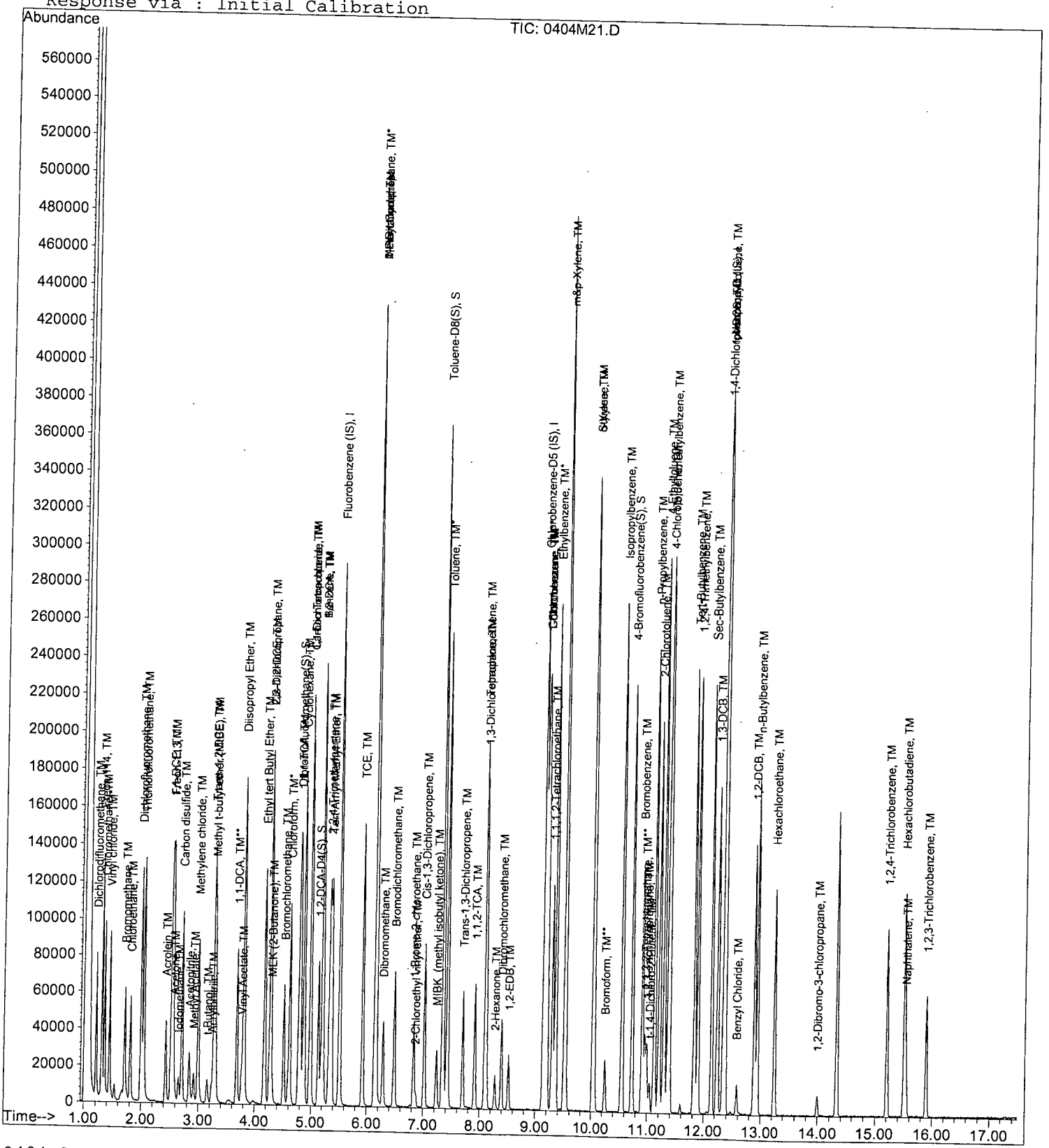
Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration



448

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 9:33
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M04.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3087	0.3022	2.1	TM	
3	TM	Freon 114	0.4195	0.4287	2.2	TM	
4	TM**	Chloromethane	0.4279	0.4198	1.9	TM**	
5	TM*	Vinyl chloride	0.6492	0.6965	7.3	TM*	
6	TM	Bromomethane	0.4011	0.3607	10	TM	
7	TM	Chloroethane	0.3927	0.3907	0.50	TM	
8	TM	Dichlorofluoromethane	1.065	1.108	4.1	TM	
9	TM	Trichlorofluoromethane	0.7036	0.7472	6.2	TM	
10	TM	Acrolein	0.0237	0.0217	8.5	TM	
11	TM	Acetone	0.0600	0.0491	18	TM	
12	TM	Freon-113	0.4302	0.4378	1.8	TM	
13	TM*	1,1-DCE	0.6786	0.6858	1.1	TM*	
14		Acetonitrile	0.0439	0.0362	18		
15	TM	t-Butanol	0.0097	0.0064	34	TM	
16	TM	Methyl Acetate	0.1624	0.1397	14	TM	
17	TML	Iodomethane	0.3142	0.3371	7.3	TML	20
18	TM	Acrylonitrile	0.0715	0.0688	3.8	TM	
19	TM	Methylene chloride	0.4472	0.3973	11	TM	
20	TM	Carbon disulfide	1.396	1.320	5.5	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6021	11	TM	
22	TM	Trans-1,2-DCE	0.4938	0.4999	1.2	TM	
23	TM	Diisopropyl Ether	1.366	1.287	5.8	TM	
24	TM**	1,1-DCA	0.8411	0.8368	0.52	TM**	
25	TM	Vinyl Acetate	0.2799	0.2366	15	TM	
26	TM	Ethyl tert Butyl Ether	0.8203	0.7202	12	TM	
27	TML	MEK (2-Butanone)	0.0976	0.0996	2.1	TML	3.1
28	TM	Cis-1,2-DCE	0.5250	0.5011	4.6	TM	
29	TM	2,2-Dichloropropane	0.4970	0.5422	9.1	TM	
30	TM*	Chloroform	0.8101	0.7923	2.2	TM*	
31	TM	Bromochloromethane	0.2075	0.1848	11	TM	
32	S	Dibromofluoromethane(S)	0.2355	0.2341	0.59	S	
33	TM	1,1,1-TCA	0.7088	0.7105	0.24	TM	
34	TM	Cyclohexane	0.4729	0.4585	3.1	TM	
35	TM	1,1-Dichloropropene	0.6741	0.6881	2.1	TM	
36	TM	2,2,4-Trimethylpentane	1.179	1.264	7.2	TM	
37	S	1,2-DCA-D4(S)	0.1844	0.1800	2.4	S	
38	TM	Carbon Tetrachloride	0.5691	0.5778	1.5	TM	
39	TM	Tert Amyl Methyl Ether	0.7214	0.6238	14	TM	
40	TM	1,2-DCA	0.4271	0.4166	2.5	TM	
		Average			6.8		

Initial

*NT

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 9:33
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M04.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	2.032	1.962	3.5	TM	
42	TM	TCE	0.5375	0.5102	5.1	TM	
43	TM	2-Pentanone	0.1448	0.1219	16	TM	
44	TM*	1,2-Dichloropropane	0.4564	0.4406	3.5	TM*	
45	TM	Bromodichloromethane	0.5201	0.4889	6.0	TM	
46	TM	Methyl Cyclohexane	0.7285	0.7297	0.17	TM	
47	TM	Dibromomethane	0.1737	0.1599	8.0	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2263	0.1805	20	TM	
49	TM	1-Bromo-2-chloroethane	0.4342	0.3867	11	TM	
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5171	5.6	TM	
51	TM*	Toluene	2.358	2.265	3.9	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3488	0.3177	8.9	TM	
53	TM	1,1,2-TCA	0.2208	0.2048	7.3	TM	
54	TML	2-Hexanone	0.1143	0.1051	8.0	TML	15
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.458	1.464	0.38	S	
57	TM	1,2-EDB	0.3297	0.3086	6.4	TM	
58	TM	Tetrachloroethene	0.8270	0.7992	3.4	TM	
59	TM	1-Chlorohexane	0.8667	0.8923	2.9	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6117	0.5929	3.1	TM	
61	TM	m&p-Xylene	1.496	1.460	2.4	TM	
62	TM	o-Xylene	1.380	1.339	3.0	TM	
63	TM	Styrene	2.105	1.963	6.8	TM	
64	S	4-Bromofluorobenzene(S)	0.4517	0.4336	4.0	S	
65	TM	1,3-Dichloropropane	0.6436	0.6029	6.3	TM	
66	TM	Dibromochloromethane	0.4889	0.4479	8.4	TM	
67	TM**	Chlorobenzene	2.042	1.935	5.2	TM**	
68	TM*	Ethylbenzene	3.732	3.701	0.84	TM*	
69	TM**	Bromoform	0.2627	0.2331	11	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.658	8.261	7.9	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.7746	3.0	TM**	
73	TM	1,2,3-Trichloropropane	0.2287	0.2328	1.8	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1237	11	TM	
75	TM	Bromobenzene	1.687	1.716	1.7	TM	
76	TM	n-Propylbenzene	8.064	8.744	8.4	TM	
77	TM	4-Ethyltoluene	6.892	7.077	2.7	TM	
78	TM	2-Chlorotoluene	4.832	5.148	6.6	TM	
79	TM	1,3,5-Trimethylbenzene	6.000	6.210	3.5	TM	
80	TM	4-Chlorotoluene	5.313	5.466	2.9	TM	
		Average			5.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 9:33
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.259	5.531	5.2	TM	
82	TM	1,2,4-Trimethylbenzene	5.610	5.750	2.5	TM	
83	TM	Sec-Butylbenzene	7.070	7.289	3.1	TM	
84	TM	p-Isopropyltoluene	3.086	3.134	1.5	TM	
85	TMQ	Benzyl Chloride	0.4107	0.4295	4.6	TMQ	2.4
86	TM	1,3-DCB	3.329	3.382	1.6	TM	
87	TM	1,4-DCB	1.633	1.643	0.61	TM	
88	TM	n-Butylbenzene	2.481	2.670	7.6	TM	
89	TM	1,2-DCB	2.683	2.617	2.4	TM	
90	TM	Hexachloroethane	0.7054	0.7627	8.1	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0783	8.1	TM	
92	TML	1,2,4-Trichlorobenzene	1.323	1.357	2.6	TML	6.6
93	TM	Hexachlorobutadiene	1.027	1.146	12	TM	
94	TM	Naphthalene	1.147	0.9406	18	TM	
95	TML	1,2,3-Trichlorobenzene	0.8216	0.7891	4.0	TML	13
96							
97							
98							
99							
100							
101							
102							
103							
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105							
106							
107							
108							
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110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M04.D
Acq On : 7 Apr 17 9:33
Sample : 170407A CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:00 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257644	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176415	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	78181	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	60304	24.85126 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.404%	
37) 1,2-DCA-D4(S)	5.13	65	46372	24.39525 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.580%	
57) Toluene-D8(S)	7.34	98	258237	25.09450 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.376%	
65) 4-Bromofluorobenzene(S)	10.73	95	76500	24.00159 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.008%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	31144	9.79009 ppb	98
3) Freon 114	1.31	85	44183	10.21944 ppb	94
4) Chloromethane	1.36	50	43264	9.80975 ppb	99
5) Vinyl chloride	1.45	62	71777	10.72861 ppb	99
6) Bromomethane	1.72	94	37168	8.99074 ppb	89
7) Chloroethane	1.81	64	40268	9.94977 ppb	97
8) Dichlorofluoromethane	2.00	67	114158	10.40543 ppb	99
9) Trichlorofluoromethane	2.05	101	77002	10.62006 ppb	99
10) Acrolein	2.43	56	27985	114.40874 ppb	97
11) Acetone	2.59	43	5061	8.18044 ppb	92
12) Freon-113	2.55	101	45122	10.17705 ppb	98
13) 1,1-DCE	2.53	61	70672	10.10532 ppb	97
14) Acetonitrile	2.84	TIC	46617	103.04550 ppb	97
15) t-Butanol	3.15	59	8301	82.92973 ppb	97
16) Methyl Acetate	2.92	43	14401	8.60205 ppb	100
17) Iodomethane	2.66	142	34736	8.04397 ppb	98
18) Acrylonitrile	3.24	53	7090	9.61674 ppb	96
19) Methylene chloride	2.99	84	40940	8.88396 ppb	98
20) Carbon disulfide	2.71	76	135992	9.45038 ppb	98
21) Methyl t-butyl ether (MtBE	3.30	73	62055	8.91323 ppb	97
22) Trans-1,2-DCE	3.27	96	51515	10.12287 ppb	97
23) Diisopropyl Ether	3.81	45	132632	9.42279 ppb	99
24) 1,1-DCA	3.68	63	86236	9.94811 ppb	96
25) Vinyl Acetate	3.77	43	24386	8.45532 ppb	100
26) Ethyl tert Butyl Ether	4.18	59	74222	8.78002 ppb	97
27) MEK (2-Butanone)	4.31	43	10266	9.69065 ppb	99
28) Cis-1,2-DCE	4.28	96	51638	9.54447 ppb	93
29) 2,2-Dichloropropane	4.28	77	55882	10.90991 ppb	98
30) Chloroform	4.62	83	81649	9.77937 ppb	100
31) Bromochloromethane	4.52	128	19041	8.90460 ppb	96
33) 1,1,1-TCA	4.81	97	73220	10.02392 ppb	97
34) Cyclohexane	4.87	41	47247	9.69449 ppb	98
35) 1,1-Dichloropropene	4.99	75	70913	10.20689 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	130276	10.71761 ppb	100
38) Carbon Tetrachloride	4.99	117	59546	10.15226 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	64286	8.64735 ppb	94
40) 1,2-DCA	5.21	62	42932	9.75359 ppb	97
41) Benzene	5.20	78	202189	9.65332 ppb	99
42) TCE	5.92	95	52583	9.49181 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M04.D
Acq On : 7 Apr 17 9:33
Sample : 170407A CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:00 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	157052	105.21168	ppb		100
44) 1,2-Dichloropropane	6.16	63	45404	9.65278	ppb		99
45) Bromodichloromethane	6.49	83	50385	9.40024	ppb		95
46) Methyl Cyclohexane	6.15	83	75205	10.01732	ppb		93
47) Dibromomethane	6.29	93	16477	9.20327	ppb		92
48) MIBK (methyl isobutyl ket	7.23	43	18600	7.97502	ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	39857	8.90753	ppb		90
51) Cis-1,3-Dichloropropene	7.02	75	53288	9.43866	ppb		96
52) Toluene	7.42	91	233426	9.60584	ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	32738	9.10836	ppb		100
54) 1,1,2-TCA	7.92	83	21105	9.27317	ppb		96
55) 2-Hexanone	8.27	43	10828	8.48851	ppb		98
58) 1,2-EDB	8.52	107	21777	9.35960	ppb		92
59) Tetrachloroethene	8.10	164	56395	9.66330	ppb		97
60) 1-Chlorohexane	9.20	91	62963	10.29469	ppb		98
61) 1,1,1,2-Tetrachloroethane	9.30	131	41838	9.69245	ppb		99
62) m&p-Xylene	9.51	106	206001	19.51615	ppb		98
63) o-Xylene	10.03	106	94518	9.70455	ppb		97
64) Styrene	10.05	104	138497	9.32322	ppb		99
66) 1,3-Dichloropropane	8.12	76	42543	9.36667	ppb		99
67) Dibromochloromethane	8.39	129	31603	9.15961	ppb		93
68) Chlorobenzene	9.18	112	136577	9.47977	ppb		98
69) Ethylbenzene	9.35	91	261184	9.91643	ppb		97
70) Bromoform	10.26	173	16446	8.87073	ppb		94
72) Isopropylbenzene	10.55	105	258352	10.78783	ppb		97
73) 1,1,2,2-Tetrachloroethane	10.96	83	24223	9.69737	ppb		95
74) 1,2,3-Trichloropropane	10.99	110	7281	10.18247	ppb		97
75) t-1,4-Dichloro-2-Butene	11.04	53	3868	8.90208	ppb		92
76) Bromobenzene	10.91	156	53669	10.17275	ppb		96
77) n-Propylbenzene	11.12	91	273458	10.84374	ppb		99
78) 4-Ethyltoluene	11.29	105	221329	10.26842	ppb		97
79) 2-Chlorotoluene	11.20	91	161003	10.65563	ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	194195	10.35012	ppb		97
81) 4-Chlorotoluene	11.36	91	170942	10.28916	ppb		99
82) Tert-Butylbenzene	11.83	119	172973	10.51789	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	179821	10.24956	ppb		93
84) Sec-Butylbenzene	12.14	105	227952	10.31075	ppb		100
85) p-Isopropyltoluene	12.36	119	98008	10.15455	ppb		99
86) Benzyl Chloride	12.57	91	13432	9.76041	ppb	#	92
87) 1,3-DCB	12.24	146	105774	10.16084	ppb		94
88) 1,4-DCB	12.37	146	51384	10.06091	ppb		97
89) n-Butylbenzene	12.94	91	83496	10.76029	ppb		97
90) 1,2-DCB	12.88	146	81847	9.75594	ppb		95
91) Hexachloroethane	13.25	117	23852	10.81276	ppb		91
92) 1,2-Dibromo-3-chloropropan	13.99	75	2448	9.18868	ppb		83
93) 1,2,4-Trichlorobenzene	15.21	180	42446	9.33868	ppb		94
94) Hexachlorobutadiene	15.51	225	35843	11.15733	ppb		93
95) Naphthalene	15.54	128	29416	8.19800	ppb	#	90
96) 1,2,3-Trichlorobenzene	15.90	180	24676	8.70882	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

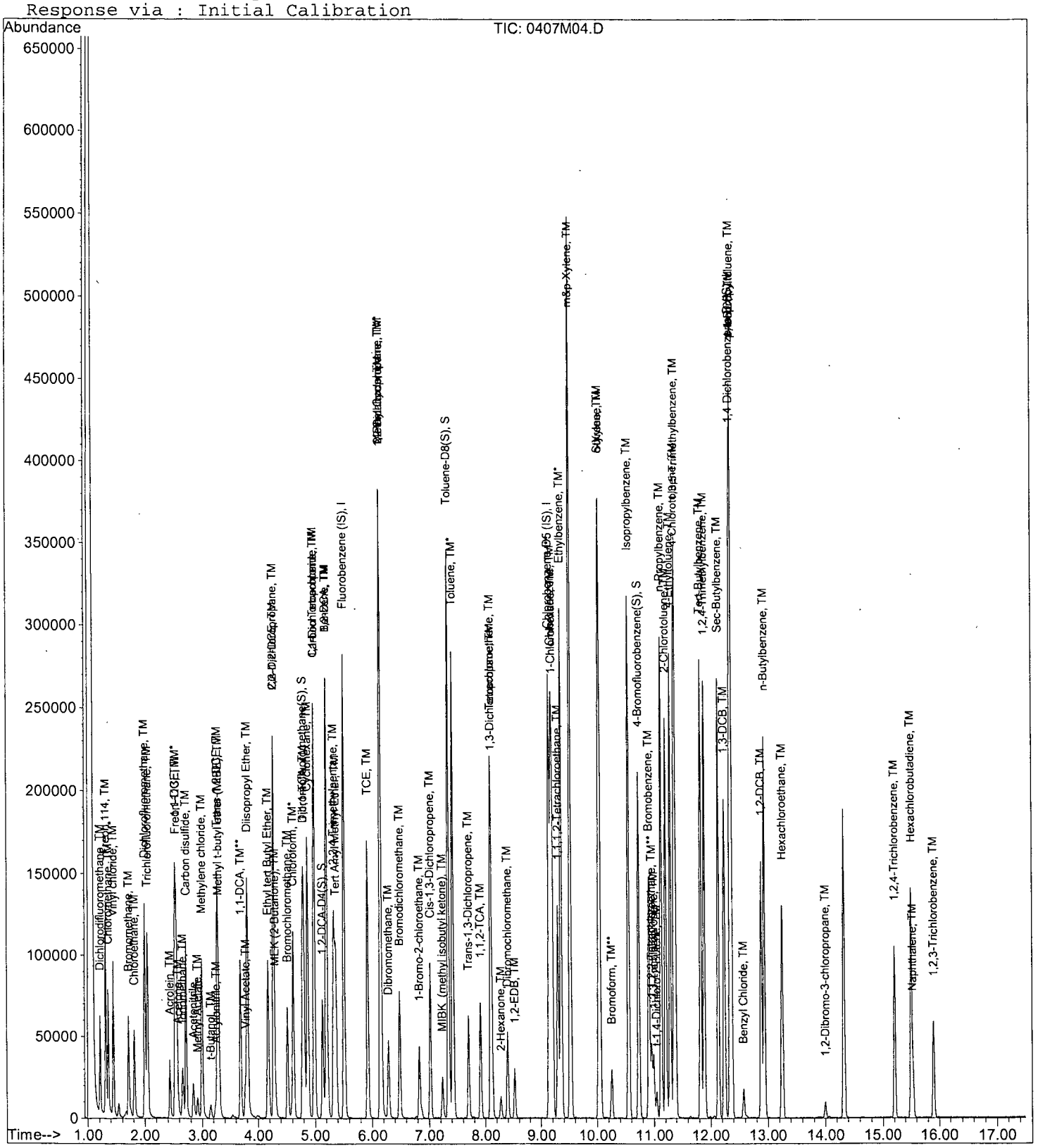
Data File : M:\MAX\DATA\M170404\0407M04.D
Acq On : 7 Apr 17 9:33
Sample : 170407A CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:00 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



454

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 21:51
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M30.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3087	0.3091	0.15	TM	
3	TM	Freon 114	0.4195	0.3870	7.8	TM	
4	TM**	Chloromethane	0.4279	0.4382	2.4	TM**	
5	TM*	Vinyl chloride	0.6492	0.6866	5.8	TM*	
6	TM	Bromomethane	0.4011	0.4073	1.5	TM	
7	TM	Chloroethane	0.3927	0.4195	6.8	TM	
8	TM	Dichlorofluoromethane	1.065	1.180	11	TM	
9	TM	Trichlorofluoromethane	0.7036	0.7911	12	TM	
10	TM	Acrolein	0.0237	0.0207	13	TM	
11	TM	Acetone	0.0600	0.0564	6.0	TM	
12	TM	Freon-113	0.4302	0.4247	1.3	TM	
13	TM*	1,1-DCE	0.6786	0.6901	1.7	TM*	
14		Acetonitrile	0.0439	0.0381	13		
15	TM	t-Butanol	0.0097	0.0080	18	TM	
16	TM	Methyl Acetate	0.1624	0.1587	2.3	TM	
17	TML	Iodomethane	0.3142	0.3768	20	TML	11
18	TM	Acrylonitrile	0.0715	0.0701	2.0	TM	
19	TM	Methylene chloride	0.4472	0.4189	6.3	TM	
20	TM	Carbon disulfide	1.396	1.327	4.9	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6617	2.1	TM	
22	TM	Trans-1,2-DCE	0.4938	0.5011	1.5	TM	
23	TM	Diisopropyl Ether	1.366	1.391	1.8	TM	
24	TM**	1,1-DCA	0.8411	0.8609	2.3	TM**	
25	TM	Ethyl tert Butyl Ether	0.8203	0.8275	0.88	TM	
26	TML	MEK (2-Butanone)	0.0976	0.0791	19	TML	24
27	TM	Cis-1,2-DCE	0.5250	0.5271	0.40	TM	
28	TM	2,2-Dichloropropane	0.4970	0.4294	14	TM	
29	TM*	Chloroform	0.8101	0.8307	2.5	TM*	
30	TM	Bromochloromethane	0.2075	0.1972	4.9	TM	
31	S	Dibromofluoromethane(S)	0.2355	0.2392	1.6	S	
32	TM	1,1,1-TCA	0.7088	0.7025	0.89	TM	
33	TM	Cyclohexane	0.4729	0.4589	3.0	TM	
34	TM	1,1-Dichloropropene	0.6741	0.6710	0.46	TM	
35	TM	2,2,4-Trimethylpentane	1.179	1.096	7.1	TM	
36	S	1,2-DCA-D4(S)	0.1844	0.1963	6.4	S	
37	TM	Carbon Tetrachloride	0.5691	0.5831	2.5	TM	
38	TM	Tert Amyl Methyl Ether	0.7214	0.6718	6.9	TM	
39	TM	1,2-DCA	0.4271	0.4298	0.64	TM	
40	TM	Benzene	2.032	2.028	0.20	TM	
		Average			5.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 21:51
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M30.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5375	0.5692	5.9	TM	
42	TM	2-Pentanone	0.1448	0.1314	9.3	TM	
43	TM*	1,2-Dichloropropane	0.4564	0.4497	1.5	TM*	
44	TM	Bromodichloromethane	0.5201	0.5138	1.2	TM	
45	TM	Methyl Cyclohexane	0.7285	0.6758	7.2	TM	
46	TM	Dibromomethane	0.1737	0.1740	0.16	TM	
47	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2113	6.6	TM	
48	TM	1-Bromo-2-chloroethane	0.4342	0.4178	3.8	TM	
49	TML	2-Chloroethyl vinyl ether	0.0058	0.0002	97	TML	78 *
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5244	4.3	TM	
51	TM*	Toluene	2.358	2.290	2.9	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3488	0.3473	0.42	TM	
53	TM	1,1,2-TCA	0.2208	0.2068	6.4	TM	
54	TML	2-Hexanone	0.1143	0.1090	4.6	TML	12
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.458	1.514	3.8	S	
57	TM	1,2-EDB	0.3297	0.3225	2.2	TM	
58	TM	Tetrachloroethene	0.8270	0.8066	2.5	TM	
59	TM	1-Chlorohexane	0.8667	0.8733	0.76	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6117	0.6180	1.0	TM	
61	TM	m&p-Xylene	1.496	1.479	1.1	TM	
62	TM	o-Xylene	1.380	1.401	1.5	TM	
63	TM	Styrene	2.105	2.106	0.03	TM	
64	S	4-Bromofluorobenzene(S)	0.4517	0.4589	1.6	S	
65	TM	1,3-Dichloropropane	0.6436	0.6344	1.4	TM	
66	TM	Dibromochloromethane	0.4889	0.4685	4.2	TM	
67	TM**	Chlorobenzene	2.042	2.003	1.9	TM**	
68	TM*	Ethylbenzene	3.732	3.791	1.6	TM*	
69	TM**	Bromoform	0.2627	0.2566	2.3	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.658	8.015	4.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.7533	5.7	TM**	
73	TM	1,2,3-Trichloropropane	0.2287	0.2450	7.1	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1445	4.0	TM	
75	TM	Bromobenzene	1.687	1.714	1.6	TM	
76	TM	n-Propylbenzene	8.064	8.717	8.1	TM	
77	TM	4-Ethyltoluene	6.892	7.208	4.6	TM	
78	TM	2-Chlorotoluene	4.832	5.111	5.8	TM	
79	TM	1,3,5-Trimethylbenzene	6.000	6.101	1.7	TM	
80	TM	4-Chlorotoluene	5.313	5.614	5.7	TM	
		Average			6.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 21:51
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M30.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.259	5.524	5.0	TM	
82	TM	1,2,4-Trimethylbenzene	5.610	5.839	4.1	TM	
83	TM	Sec-Butylbenzene	7.070	7.168	1.4	TM	
84	TM	p-Isopropyltoluene	3.086	3.121	1.1	TM	
85	TMQ	Benzyl Chloride	0.4107	0.3247	21	TMQ	24
86	TM	1,3-DCB	3.329	3.404	2.3	TM	
87	TM	1,4-DCB	1.633	1.719	5.3	TM	
88	TM	n-Butylbenzene	2.481	2.604	5.0	TM	
89	TM	1,2-DCB	2.683	2.802	4.4	TM	
90	TM	Hexachloroethane	0.7054	0.7647	8.4	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0861	1.1	TM	
92	TML	1,2,4-Trichlorobenzene	1.323	1.516	15	TML	5.2
93	TM	Hexachlorobutadiene	1.027	1.162	13	TM	
94	TM	Naphthalene	1.147	1.187	3.4	TM	
95	TML	1,2,3-Trichlorobenzene	0.8216	0.9298	13	TML	2.6
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M30.D Vial: 30
Acq On : 7 Apr 17 21:51 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 7:02 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	253728	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171177	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	79546	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	60683	25.39341 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.572%	
37) 1,2-DCA-D4(S)	5.13	65	49808	26.60726 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.428%	
57) Toluene-D8(S)	7.35	98	259179	25.95673 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.828%	
65) 4-Bromofluorobenzene(S)	10.73	95	78552	25.39954 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.600%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.22	85	31376	10.01525 ppb		94
3) Freon 114	1.32	85	39274	9.22420 ppb		95
4) Chloromethane	1.36	50	44472	10.23929 ppb		96
5) Vinyl chloride	1.45	62	69681	10.57607 ppb		99
6) Bromomethane	1.72	94	41337	10.15352 ppb		94
7) Chloroethane	1.82	64	42576	10.68241 ppb		96
8) Dichlorofluoromethane	2.00	67	119754	11.08397 ppb		99
9) Trichlorofluoromethane	2.05	101	80285	11.24375 ppb		99
10) Acrolein	2.44	56	26301	109.18370 ppb		93
11) Acetone	2.59	43	5725	9.39652 ppb		90
12) Freon-113	2.55	101	43107	9.87263 ppb		97
13) 1,1-DCE	2.53	61	70041	10.16967 ppb		95
14) Acetonitrile	2.84	TIC	48285	108.37986 ppb		96
15) t-Butanol	3.16	59	10115	102.61181 ppb		89
16) Methyl Acetate	2.92	43	16104	9.76776 ppb		94
17) Iodomethane	2.66	142	38242	8.86407 ppb		97
18) Acrylonitrile	3.23	53	7114	9.79822 ppb	#	87
19) Methylene chloride	3.00	84	42515	9.36813 ppb		98
20) Carbon disulfide	2.72	76	134718	9.50634 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	67157	9.79493 ppb		96
22) Trans-1,2-DCE	3.27	96	50854	10.14722 ppb		98
23) Diisopropyl Ether	3.81	45	141175	10.18452 ppb		97
24) 1,1-DCA	3.69	63	87372	10.23472 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	83983	10.08802 ppb		94
27) MEK (2-Butanone)	4.31	43	8024	7.64094 ppb	#	83
28) Cis-1,2-DCE	4.28	96	53492	10.03975 ppb		100
29) 2,2-Dichloropropane	4.28	77	43578	8.63909 ppb		99
30) Chloroform	4.62	83	84312	10.25418 ppb		96
31) Bromochloromethane	4.52	128	20018	9.50598 ppb		91
33) 1,1,1-TCA	4.81	97	71297	9.91131 ppb		97
34) Cyclohexane	4.87	41	46571	9.70327 ppb		99
35) 1,1-Dichloropropene	4.99	75	68103	9.95372 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	111205	9.28987 ppb		97
38) Carbon Tetrachloride	4.99	117	59178	10.24524 ppb		94
39) Tert Amyl Methyl Ether	5.37	73	68179	9.31255 ppb		99
40) 1,2-DCA	5.21	62	43625	10.06400 ppb		99
41) Benzene	5.20	78	205862	9.98038 ppb		100
42) TCE	5.92	95	57770	10.58907 ppb		95
43) 2-Pentanone	6.15	43	166641	113.35847 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M30.D
Acq On : 7 Apr 17 21:51
Sample : Ending CCV 8260 10ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.16	63	45636	9.85184 ppb		99
45) Bromodichloromethane	6.49	83	52149	9.87950 ppb		99
46) Methyl Cyclohexane	6.15	83	68588	9.27694 ppb		94
47) Dibromomethane	6.29	93	17660	10.01627 ppb		93
48) MIBK (methyl isobutyl ket	7.24	43	21446	9.33721 ppb		96
49) 1-Bromo-2-chloroethane	6.83	63	42399	9.62188 ppb		97
50) 2-Chloroethyl vinyl ether	6.93	106	20	2.24527 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	53225	9.57301 ppb		96
52) Toluene	7.42	91	232454	9.71348 ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	35247	9.95777 ppb		91
54) 1,1,2-TCA	7.92	83	20988	9.36409 ppb		94
55) 2-Hexanone	8.28	43	11065	8.80703 ppb	#	92
58) 1,2-EDB	8.52	107	22085	9.78243 ppb		100
59) Tetrachloroethene	8.10	164	55227	9.75274 ppb		98
60) 1-Chlorohexane	9.20	91	59793	10.07554 ppb		95
61) 1,1,1,2-Tetrachloroethane	9.30	131	42317	10.10340 ppb		95
62) m&p-Xylene	9.52	106	202486	19.77015 ppb		97
63) o-Xylene	10.03	106	95937	10.15166 ppb		95
64) Styrene	10.05	104	144183	10.00299 ppb		99
66) 1,3-Dichloropropane	8.12	76	43439	9.85660 ppb		99
67) Dibromochloromethane	8.39	129	32076	9.58118 ppb		88
68) Chlorobenzene	9.18	112	137122	9.80883 ppb		98
69) Ethylbenzene	9.35	91	259579	10.15707 ppb		98
70) Bromoform	10.26	173	17572	9.76810 ppb		99
72) Isopropylbenzene	10.55	105	255012	10.46564 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	23970	9.43142 ppb		98
74) 1,2,3-Trichloropropane	10.99	110	7795	10.71424 ppb		92
75) t-1,4-Dichloro-2-Butene	11.04	53	4597	10.39831 ppb		94
76) Bromobenzene	10.91	156	54545	10.16138 ppb		93
77) n-Propylbenzene	11.12	91	277369	10.81009 ppb		100
78) 4-Ethyltoluene	11.29	105	229338	10.45741 ppb		97
79) 2-Chlorotoluene	11.20	91	162613	10.57751 ppb		95
80) 1,3,5-Trimethylbenzene	11.38	105	194118	10.16848 ppb		100
81) 4-Chlorotoluene	11.36	91	178630	10.56741 ppb		98
82) Tert-Butylbenzene	11.83	119	175755	10.50367 ppb		100
83) 1,2,4-Trimethylbenzene	11.89	105	185798	10.40851 ppb		95
84) Sec-Butylbenzene	12.14	105	228072	10.13915 ppb		99
85) p-Isopropyltoluene	12.36	119	99296	10.11146 ppb		100
86) Benzyl Chloride	12.58	91	10333	7.56550 ppb		97
87) 1,3-DCB	12.24	146	108317	10.22657 ppb		95
88) 1,4-DCB	12.37	146	54704	10.52716 ppb		97
89) n-Butylbenzene	12.94	91	82864	10.49560 ppb		97
90) 1,2-DCB	12.88	146	89152	10.44432 ppb		98
91) Hexachloroethane	13.25	117	24330	10.84018 ppb		93
92) 1,2-Dibromo-3-chloropropan	13.99	75	2741	10.11192 ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	48241	10.52247 ppb		96
94) Hexachlorobutadiene	15.51	225	36986	11.31557 ppb		90
95) Naphthalene	15.54	128	37764	10.34392 ppb		96
96) 1,2,3-Trichlorobenzene	15.90	180	29585	10.26217 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

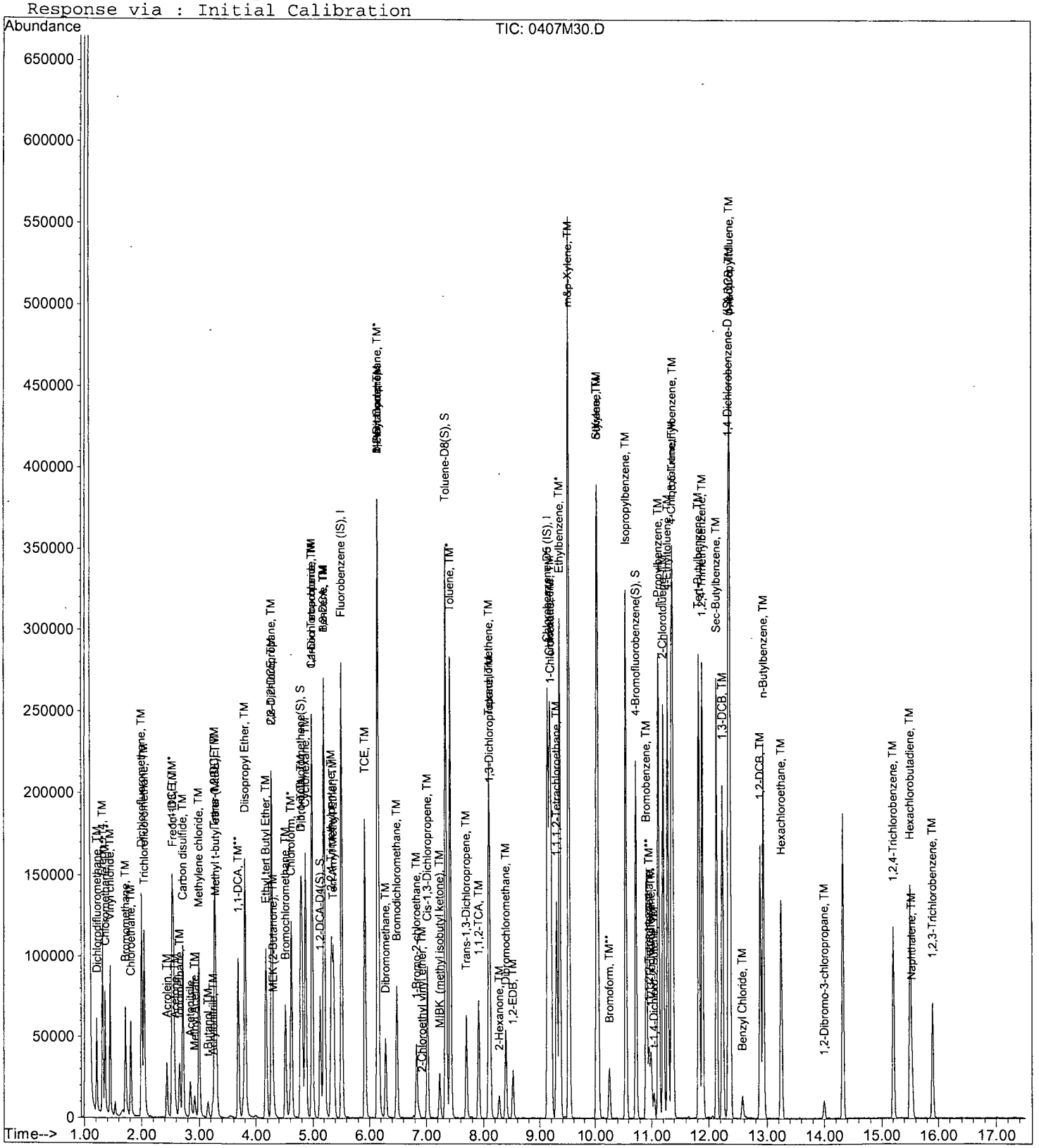
Data File : M:\MAX\DATA\M170404\0407M30.D
Acq On : 7 Apr 17 21:51
Sample : Ending CCV 8260 10ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 30
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



460

ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53171 - 217637**
Batch ID: #86BTO-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/07/17	04/07/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/07/17	04/07/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/07/17	04/07/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 1,2-DICHLOROET	102	81-118			%	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17
BLANK	SURROGATE: DIBROMOFLUOR	100	80-119			%	04/07/17	04/07/17
BLANK	SURROGATE: TOLUENE-D8 (S)	102	89-112			%	04/07/17	04/07/17

Quant Method: MALLW.M
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/24/17 1:56:52 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:22 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248190	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	165307	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68671	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	58592	25.06550 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.260%	
37) 1,2-DCA-D4(S)	5.13	65	46713	25.51073 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
57) Toluene-D8(S)	7.35	98	247016	25.61706 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.468%	
65) 4-Bromofluorobenzene(S)	10.73	95	70080	23.46480 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.860%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

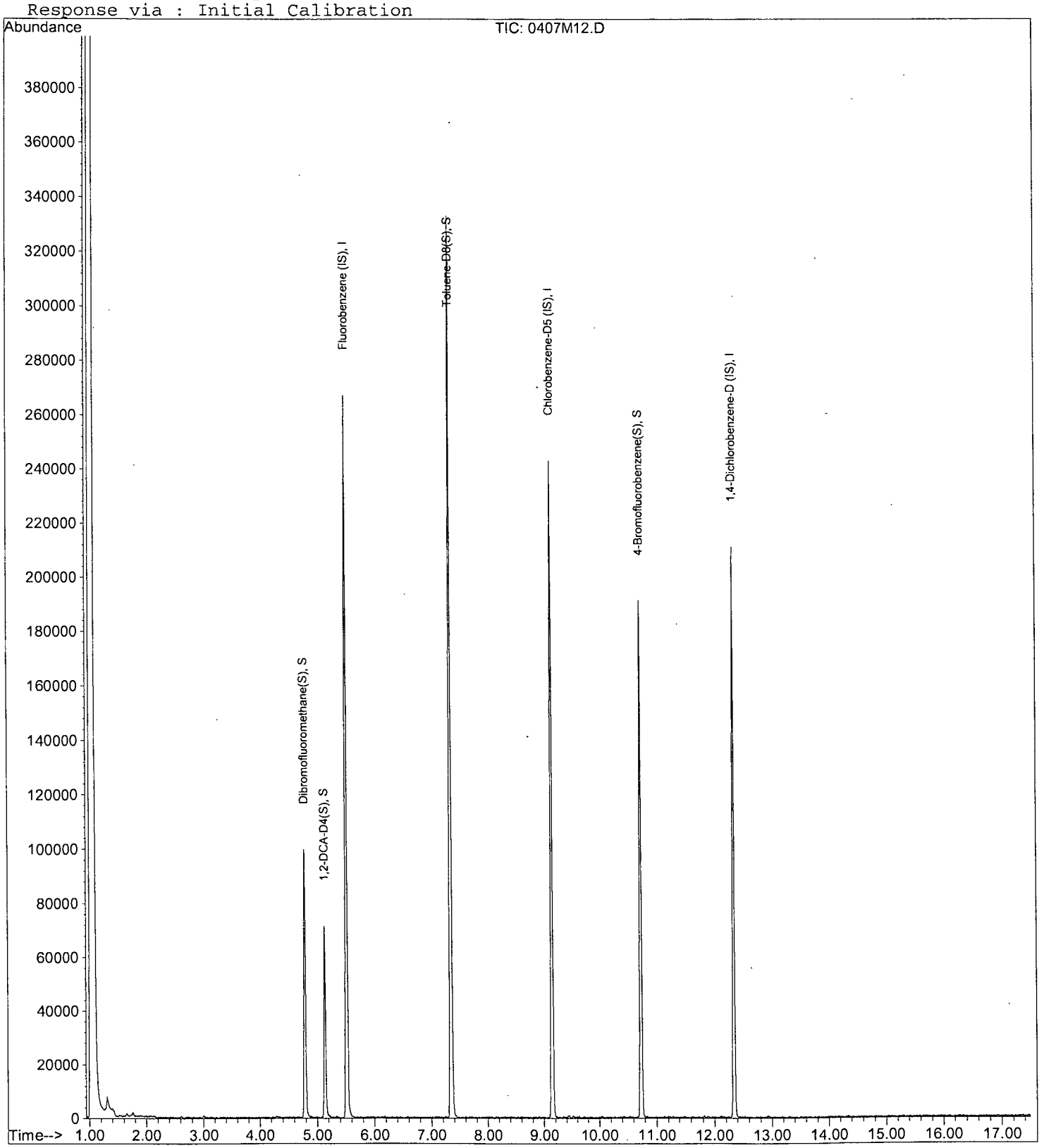
Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:22 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170407W-53171 LCS - 217637**
Batch ID: #86BTO-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.57	95.7	79-120
ETHYLBENZENE	10.00	10.2	102	79-121
TOLUENE	10.00	9.62	96.2	80-121
XYLENES (TOTAL)	30.0	30.2	101	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.3	105	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.5	102	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.6	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.7	107	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M05
Initials :	SV

Printed: 04/24/17 1:56:56 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M05.D
Acq On : 7 Apr 17 10:01
Sample : 170407A LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:24 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	255372	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168117	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	78585	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61549	25.58999 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.360%	
37) 1,2-DCA-D4(S)	5.13	65	49477	26.26029 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.040%	
57) Toluene-D8(S)	7.34	98	262272	26.74458 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.980%	
65) 4-Bromofluorobenzene(S)	10.73	95	77575	25.54019 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.160%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	29704	9.42050 ppb	96
3) Freon 114	1.31	85	42132	9.83175 ppb	98
4) Chloromethane	1.36	50	41976	9.60239 ppb	98
5) Vinyl chloride	1.45	62	69605	10.49652 ppb	99
6) Bromomethane	1.72	94	39271	9.58395 ppb	99
7) Chloroethane	1.81	64	40288	10.04328 ppb	96
8) Dichlorofluoromethane	2.00	67	114549	10.53396 ppb	100
9) Trichlorofluoromethane	2.05	101	77278	10.75295 ppb	98
10) Acrolein	2.43	56	29298	120.84220 ppb	93
11) Acetone	2.59	43	6207	10.12205 ppb	90
12) Freon-113	2.55	101	44296	10.07963 ppb	97
13) 1,1-DCE	2.53	61	69105	9.96917 ppb	92
14) Acetonitrile	2.84	TIC	46348	103.36237 ppb	94
15) t-Butanol	3.15	59	8724	87.93105 ppb	96
16) Methyl Acetate	2.92	43	15458	9.31557 ppb	98
17) Iodomethane	2.66	142	40396	9.24911 ppb	96
18) Acrylonitrile	3.23	53	7688	10.52063 ppb	89
19) Methylene chloride	2.99	84	41554	9.09743 ppb	98
20) Carbon disulfide	2.71	76	133809	9.38141 ppb	96
21) Methyl t-butyl ether (MtBE	3.30	73	65832	9.53986 ppb	94
22) Trans-1,2-DCE	3.27	96	49480	9.80949 ppb	98
23) Diisopropyl Ether	3.81	45	138181	9.90435 ppb	98
24) 1,1-DCA	3.68	63	86450	10.06153 ppb	98
25) Vinyl Acetate	3.77	43	26324	9.20849 ppb	97
26) Ethyl tert Butyl Ether	4.17	59	77542	9.25437 ppb	99
27) MEK (2-Butanone)	4.31	43	7765	7.33733 ppb	99
28) Cis-1,2-DCE	4.28	96	51359	9.57736 ppb	94
29) 2,2-Dichloropropane	4.28	77	55393	10.91065 ppb	97
30) Chloroform	4.62	83	81509	9.84946 ppb	99
31) Bromochloromethane	4.52	128	19366	9.13716 ppb	85
33) 1,1,1-TCA	4.81	97	73580	10.16283 ppb	98
34) Cyclohexane	4.87	41	48306	9.99997 ppb	96
35) 1,1-Dichloropropene	4.99	75	68940	10.01119 ppb	94
36) 2,2,4-Trimethylpentane	5.33	57	128770	10.68796 ppb	99
38) Carbon Tetrachloride	4.99	117	61816	10.63305 ppb	90
39) Tert Amyl Methyl Ether	5.37	73	66533	9.02922 ppb	95
40) 1,2-DCA	5.21	62	42985	9.85252 ppb	97
41) Benzene	5.20	78	198681	9.57023 ppb	99
42) TCE	5.92	95	52074	9.48356 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M05.D Vial: 5
Acq On : 7 Apr 17 10:01 Operator: PM,DG,SV,CMM
Sample : 170407A LCS 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 7:24 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	164990	111.51283	ppb		98
44)	1,2-Dichloropropane	6.16	63	46196	9.90853	ppb		98
45)	Bromodichloromethane	6.49	83	51711	9.73346	ppb		94
46)	Methyl Cyclohexane	6.15	83	75113	10.09408	ppb		96
47)	Dibromomethane	6.29	93	17273	9.73371	ppb		87
48)	MIBK (methyl isobutyl ket	7.24	43	20252	8.76060	ppb		96
49)	1-Bromo-2-chloroethane	6.83	63	41313	9.31507	ppb		94
50)	2-Chloroethyl vinyl ether	6.88	106	714	10.37976	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	55130	9.85181	ppb		98
52)	Toluene	7.42	91	231821	9.62467	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	34751	9.75444	ppb		94
54)	1,1,2-TCA	7.92	83	21806	9.66642	ppb		97
55)	2-Hexanone	8.27	43	10483	8.29188	ppb	#	90
58)	1,2-EDB	8.52	107	20933	9.44092	ppb		99
59)	Tetrachloroethene	8.10	164	56046	10.07751	ppb		96
60)	1-Chlorohexane	9.20	91	60532	10.38572	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	41650	10.12515	ppb		98
62)	m&p-Xylene	9.51	106	200313	19.91397	ppb		97
63)	o-Xylene	10.03	106	95751	10.31640	ppb		96
64)	Styrene	10.05	104	141037	9.96282	ppb		99
66)	1,3-Dichloropropane	8.12	76	42902	9.91194	ppb		98
67)	Dibromochloromethane	8.39	129	31320	9.52564	ppb		86
68)	Chlorobenzene	9.18	112	137628	10.02423	ppb		99
69)	Ethylbenzene	9.35	91	256911	10.23565	ppb		100
70)	Bromoform	10.25	173	17905	10.13438	ppb		100
72)	Isopropylbenzene	10.55	105	250293	10.39759	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.95	83	24401	9.71841	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	7188	10.00074	ppb		96
75)	t-1,4-Dichloro-2-Butene	11.04	53	4108	9.40583	ppb	#	75
76)	Bromobenzene	10.91	156	53918	10.16740	ppb		95
77)	n-Propylbenzene	11.12	91	272992	10.76961	ppb		100
78)	4-Ethyltoluene	11.29	105	226264	10.44341	ppb		98
79)	2-Chlorotoluene	11.20	91	159565	10.50617	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	191730	10.16621	ppb		97
81)	4-Chlorotoluene	11.36	91	174108	10.42585	ppb		100
82)	Tert-Butylbenzene	11.82	119	168150	10.17206	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	176814	10.02635	ppb		98
84)	Sec-Butylbenzene	12.14	105	228483	10.28164	ppb		98
85)	p-Isopropyltoluene	12.36	119	97304	10.02978	ppb		99
86)	Benzyl Chloride	12.57	91	12932	9.38411	ppb	#	97
87)	1,3-DCB	12.24	146	104820	10.01743	ppb		96
88)	1,4-DCB	12.37	146	49680	9.67726	ppb		94
89)	n-Butylbenzene	12.94	91	82528	10.58087	ppb		99
90)	1,2-DCB	12.88	146	84047	9.96667	ppb		99
91)	Hexachloroethane	13.25	117	24243	10.93351	ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	2593	9.68291	ppb		89
93)	1,2,4-Trichlorobenzene	15.21	180	45967	10.12149	ppb		93
94)	Hexachlorobutadiene	15.51	225	36386	11.26813	ppb		95
95)	Naphthalene	15.54	128	34483	9.56073	ppb		99
96)	1,2,3-Trichlorobenzene	15.90	180	26088	9.15982	ppb		89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

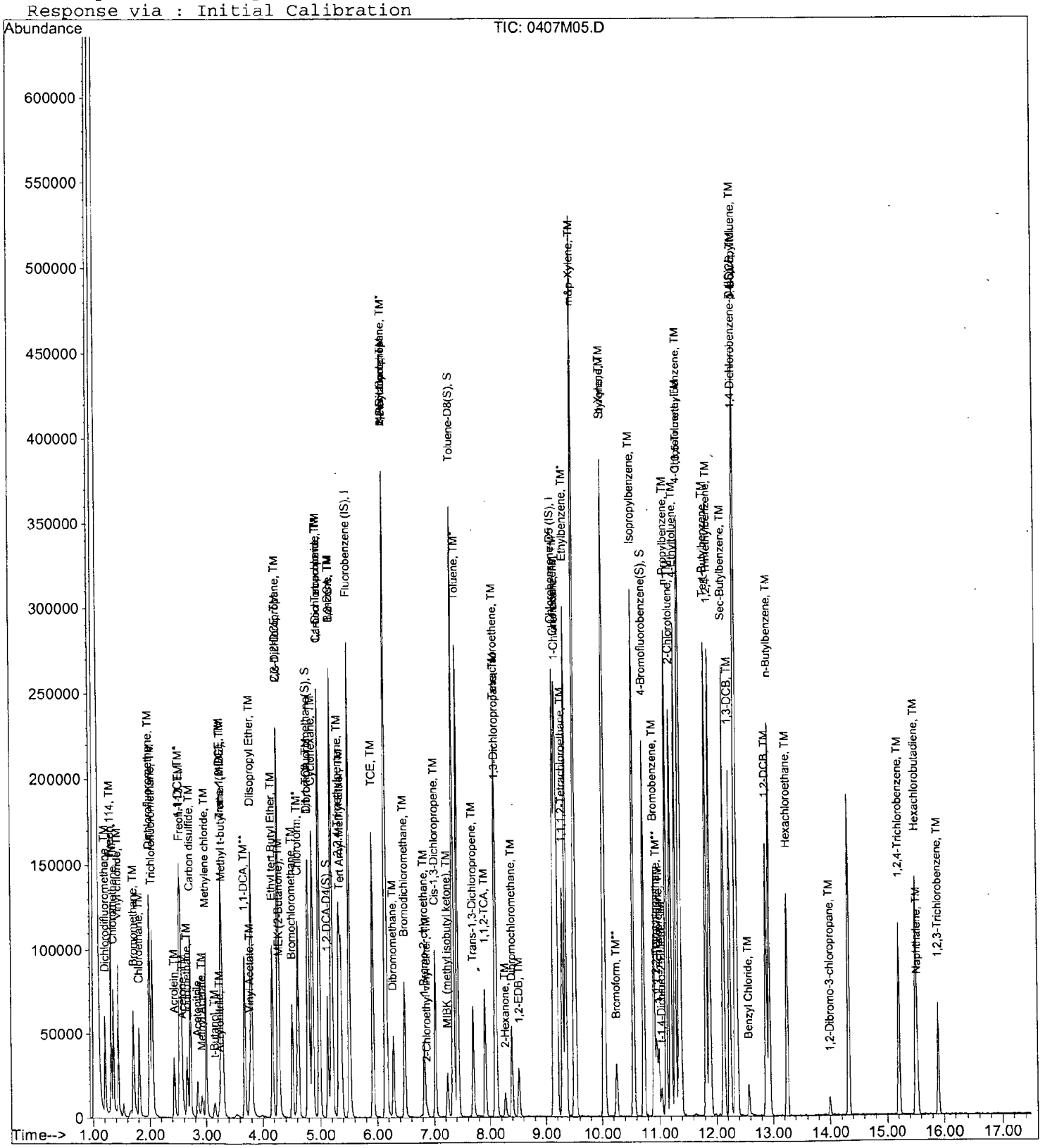
Data File : M:\MAX\DATA\M170404\0407M05.D
Acq On : 7 Apr 17 10:01
Sample : 170407A LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:24 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



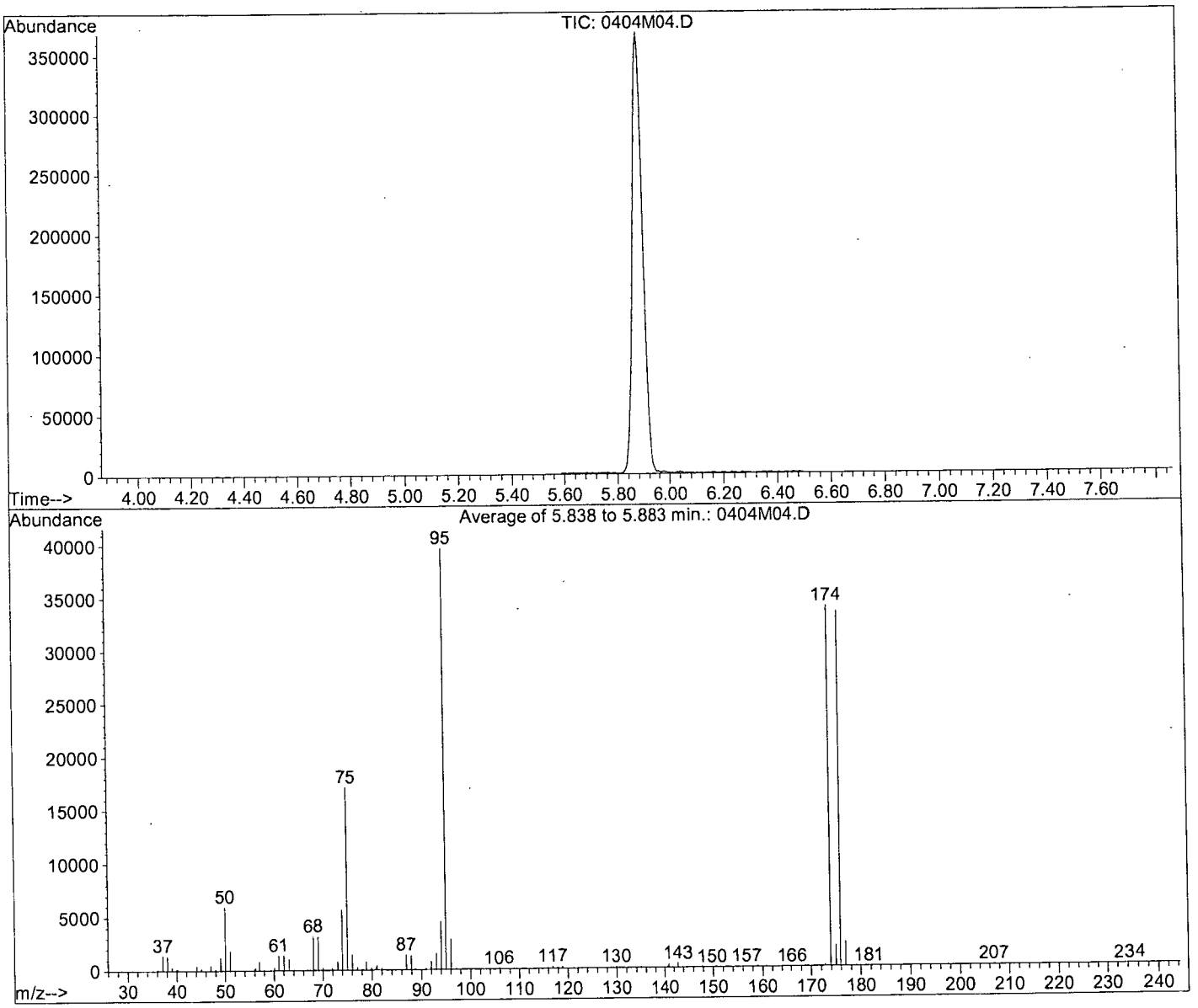
468

BFB

Data File : M:\MAX\DATA\M170404\0404M04.D
Acq On : 4 Apr 17 8:44
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.883 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	5992	PASS
75	95	30	60	43.2	17148	PASS
95	95	100	100	100.0	39670	PASS
96	95	5	9	7.2	2843	PASS
173	174	0.00	2	0.4	123	PASS
174	95	50	100	85.6	33972	PASS
175	174	5	9	5.8	1985	PASS
176	174	95	101	98.6	33486	PASS
177	176	5	9	6.8	2281	PASS

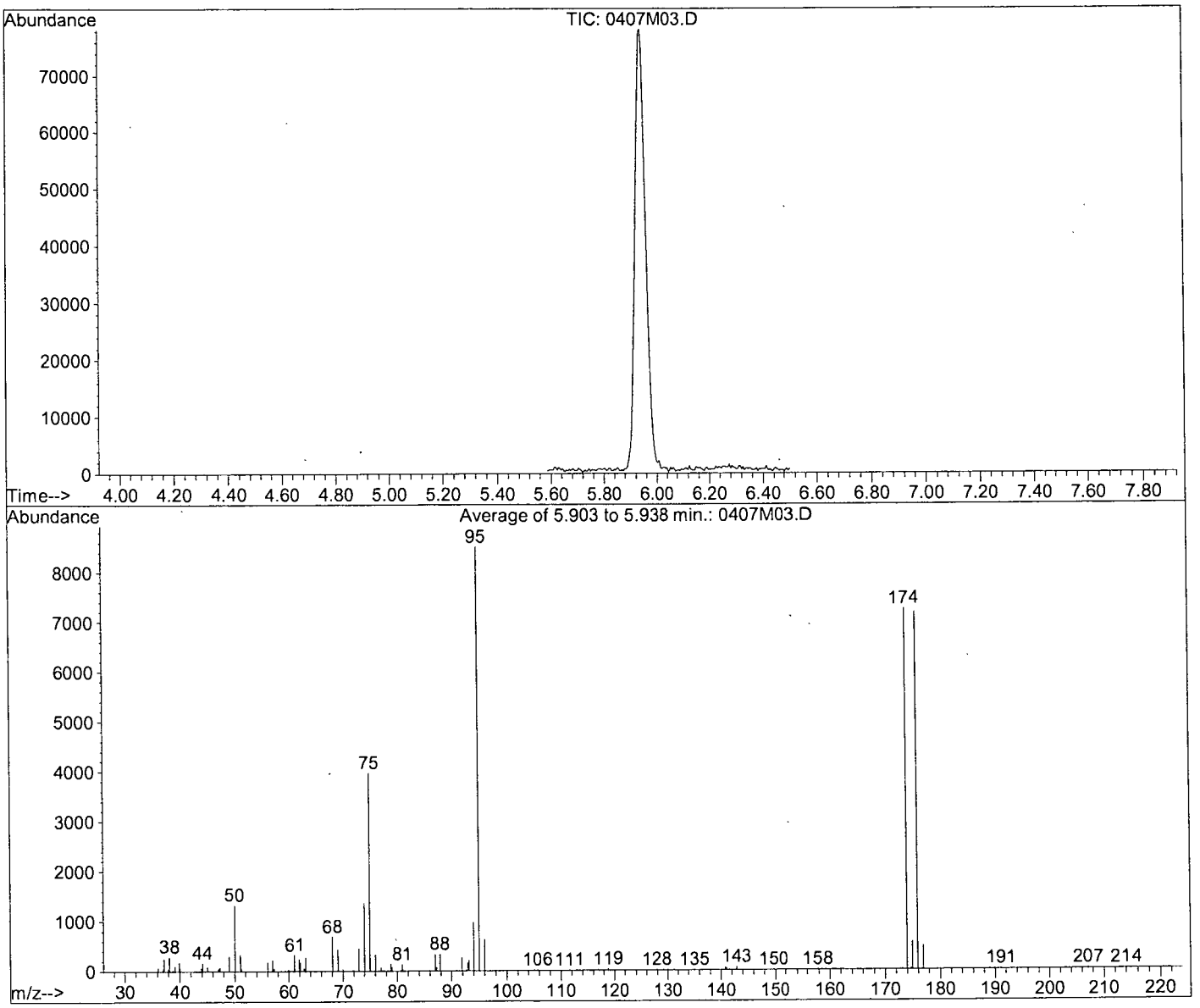
0404M04.D MALLW.M Thu Apr 06 08:02:22 2017

BFB

Data File : M:\MAX\DATA\M170404\0407M03.D
Acq On : 7 Apr 17 9:05
Sample : 25ug/mL BFB std 4/03/17
Misc : 1uL

Vial: 3
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.903 to 5.938 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.6	1324	PASS
75	95	30	60	46.6	3964	PASS
95	95	100	100	100.0	8512	PASS
96	95	5	9	7.4	630	PASS
173	174	0.00	2	0.3	21	PASS
174	95	50	100	85.2	7248	PASS
175	174	5	9	7.8	563	PASS
176	174	95	101	99.0	7175	PASS
177	176	5	9	6.7	483	PASS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	04/05/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/28/17AE	03/28/17AF	03/28/17AG	03/28/17AA	03/28/17AC	03/28/17AB	03/28/17AD	03/28/17AH	Final Vol
	Conc.	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/04/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/04/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/04/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/04/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/04/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/04/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/04/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/04/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/04/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

03/28/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37482	032817A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3500
03/28/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37214	032817G-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3700
03/28/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37202	032817H-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3900
		03/28/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/28/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**03/28/17AC**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1600	
		03/28/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/28/17AB**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
		03/28/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/28/17AD**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
03/28/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	301051-37638	032817J-CMM	41217	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3400

SECONDARY SOURCE

03/28/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37378	032817L-CMM	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37209	032817M-CMM	62117	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1900
03/28/17AK							
50ug/ml VOC Std#6							
Exp:04/28/17							

	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1800
03/28/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	301053-37636	032817R-CMM	41217	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0404M04.D	1	25ug/mL BFB std 4/03/17	2ul	4 Apr 17 8:44
2	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
3	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
4	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
5	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
6	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
7	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
8	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
9	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
10	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
11	17	0404M21.D	1	(SS) 10ug/L VOC STD 04/04/17	10ml IS&S: 2/23/17	4 Apr 17 16:52
12	3	0407M03.D	1	25ug/mL BFB std 4/03/17	1uL	7 Apr 17 9:05
13	4	0407M04.D	1	170407A CCV 10ug/L	10ml IS&S: 2/23/17	7 Apr 17 9:33
14	5	0407M05.D	1	170407A LCS 10ug/L	10ml IS&S: 2/23/17	7 Apr 17 10:01
15	12	0407M12.D	1	170407A BLK-1WM	10ml IS&S: 2/23/17	7 Apr 17 13:20
16	18	0407M18.D	1	AZ53171W01	10ml IS&S: 2/23/17	7 Apr 17 16:10
17	19	0407M19.D	1	AZ53172W01	10ml IS&S: 2/23/17	7 Apr 17 16:38
18	20	0407M20.D	1	AZ53173W01	10ml IS&S: 2/23/17	7 Apr 17 17:07
19	21	0407M21.D	1	AZ53174W01	10ml IS&S: 2/23/17	7 Apr 17 17:35
20	22	0407M22.D	1	AZ53175W01	10ml IS&S: 2/23/17	7 Apr 17 18:04
21	23	0407M23.D	1	AZ53176W01	10ml IS&S: 2/23/17	7 Apr 17 18:32
22	24	0407M24.D	1	AZ53177W01	10ml IS&S: 2/23/17	7 Apr 17 19:00
23	25	0407M25.D	1	AZ53178W01	10ml IS&S: 2/23/17	7 Apr 17 19:29
24	26	0407M26.D	1	AZ53179W01	10ml IS&S: 2/23/17	7 Apr 17 19:57
25	27	0407M27.D	1	AZ53180W01	10ml IS&S: 2/23/17	7 Apr 17 20:26
26	30	0407M30.D	1	Ending CCV 8260 10ug/L 4/7/17	10ml IS&S: 2/23/17	7 Apr 17 21:51

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217654**
Batch ID: #GRO86-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/24/17 1:57:59 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407AM-BLK	Blank	85-114	93.9				
AZ53171	ERH299	85-114	97.5				
AZ53172	ERH300	85-114	106				
AZ53173	ERH308	85-114	98.6				
AZ53174	ERH310	85-114	96.2				
AZ53175	ERH311	85-114	96.2				
AZ53176	ERH313	85-114	96.3				
AZ53177	ERH318	85-114	94.0				
AZ53178	ERH319	85-114	94.9				
AZ53179	ERH304	85-114	98.2				
AZ53180	ERH305	85-114	93.3				

Comments: Batch: #GRO86-170407A

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170407W-53168 LCS - 217654**
Batch ID: #GRO86-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	274	91.3	78-122

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M08
Initials :	SV

Printed: 04/24/17 1:58:07 PM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82596

Case No: 82596 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Max

Blank ID: 170407AM-BLK Time Analyzed: 1320

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407AM-LCS	Lab Control Spike	0407M08	04/07/17 1127
170407AM-BLK	Blank	0407M12	04/07/17 1320
AZ53171	ERH299	0407M18	04/07/17 1610
AZ53172	ERH300	0407M19	04/07/17 1638
AZ53173	ERH308	0407M20	04/07/17 1707
AZ53174	ERH310	0407M21	04/07/17 1735
AZ53175	ERH311	0407M22	04/07/17 1804
AZ53176	ERH313	0407M23	04/07/17 1832
AZ53177	ERH318	0407M24	04/07/17 1900
AZ53178	ERH319	0407M25	04/07/17 1929
AZ53179	ERH304	0407M26	04/07/17 1957
AZ53180	ERH305	0407M27	04/07/17 2026

Comments: Batch: #GRO86-170407A

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH299
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53171
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.5	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M18
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M18.D Vial: 18
Acq On : 7 Apr 17 16:10 Operator: PM,DG,SV,CMM
Sample : AZ53171W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:30 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	257868	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

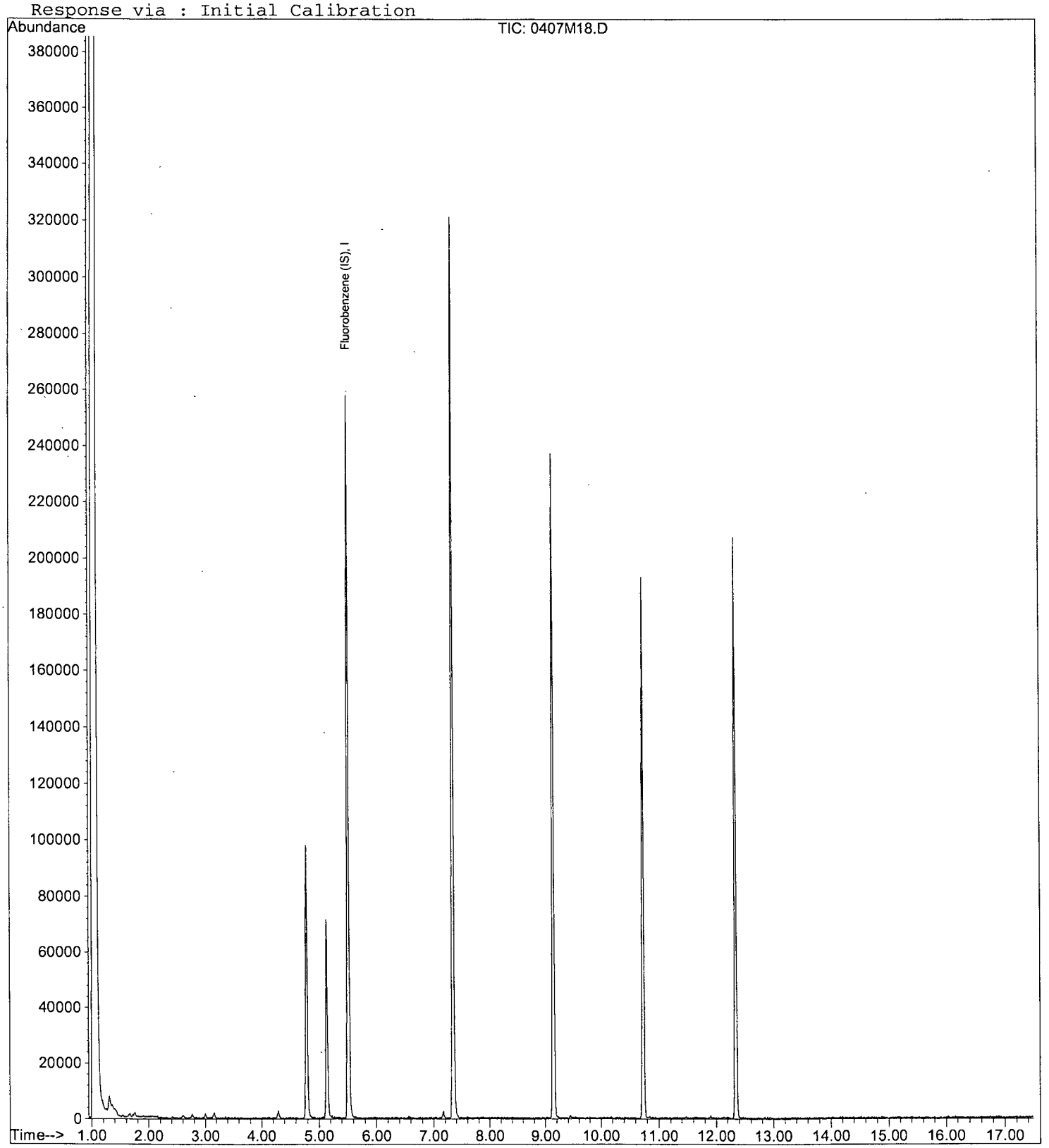
Data File : M:\MAX\DATA\M170404\0407M18.D
Acq On : 7 Apr 17 16:10
Sample : AZ53171W01
Misc : 10ml IS&S: 2/23/17

Vial: 18
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:30 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M18.D Vial: 18
Acq On : 7 Apr 17 16:10 Operator: PM,DG,SV,CMM
Sample : AZ53171W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	241754	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	160428	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	67592	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58764	25.80834 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
3) 1,2-DCA-D4(S)	5.13	65	45949	25.76154 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.048%	
5) Toluene-D8(S)	7.35	98	244257	26.10131 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.404%	
6) 4-Bromofluorobenzene(S)	10.73	95	70675	24.38370 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.536%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	57 ++	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	106	85-114			%	04/07/17	04/07/17

++(G1) The analyst has noted that the chromatogram of this sample includes a wide range of hydrocarbons which does not match our gasoline standard.

Quant Method:	MGAS6302.M
Run #:	0407M19
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M19.D
Acq On : 7 Apr 17 16:38
Sample : AZ53172W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:30 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	239782	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	3064993m	56.98475 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

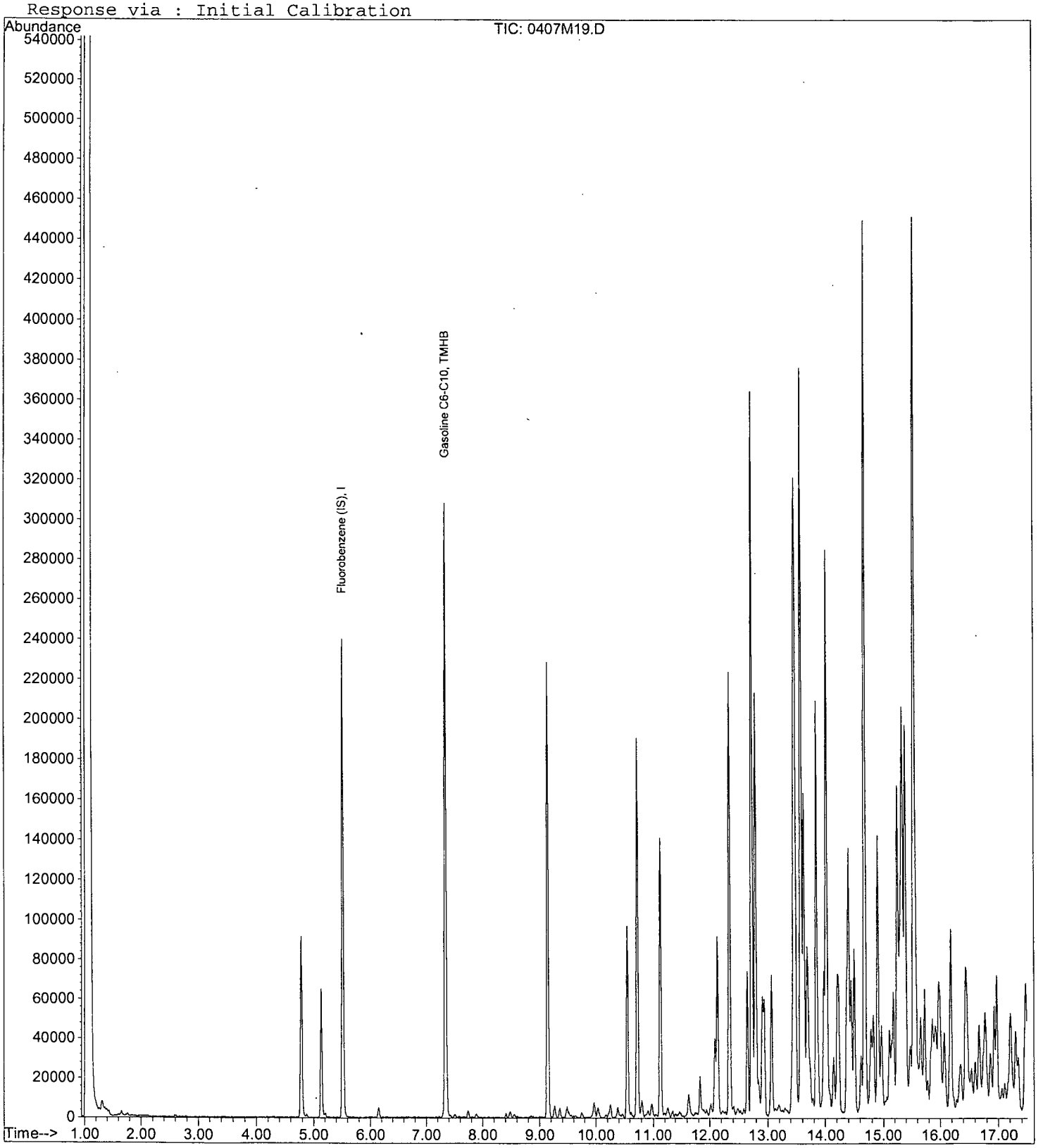
Data File : M:\MAX\DATA\M170404\0407M19.D
Acq On : 7 Apr 17 16:38
Sample : AZ53172W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:30 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M19.D
Acq On : 7 Apr 17 16:38
Sample : AZ53172W01
Misc : 10ml IS&S: 2/23/17

Vial: 19
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	223800	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	151732	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	71252	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	53313	25.29271 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.172%	
3) 1,2-DCA-D4(S)	5.13	65	42573	25.78360 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.136%	
5) Toluene-D8(S)	7.35	98	227426	25.69558 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.784%	
6) 4-Bromofluorobenzene(S)	10.73	95	72683	26.51366 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.056%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH308
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53173
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.6	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M20
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M20.D
Acq On : 7 Apr 17 17:07
Sample : AZ53173W01
Misc : 10ml IS&S: 2/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	259860	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

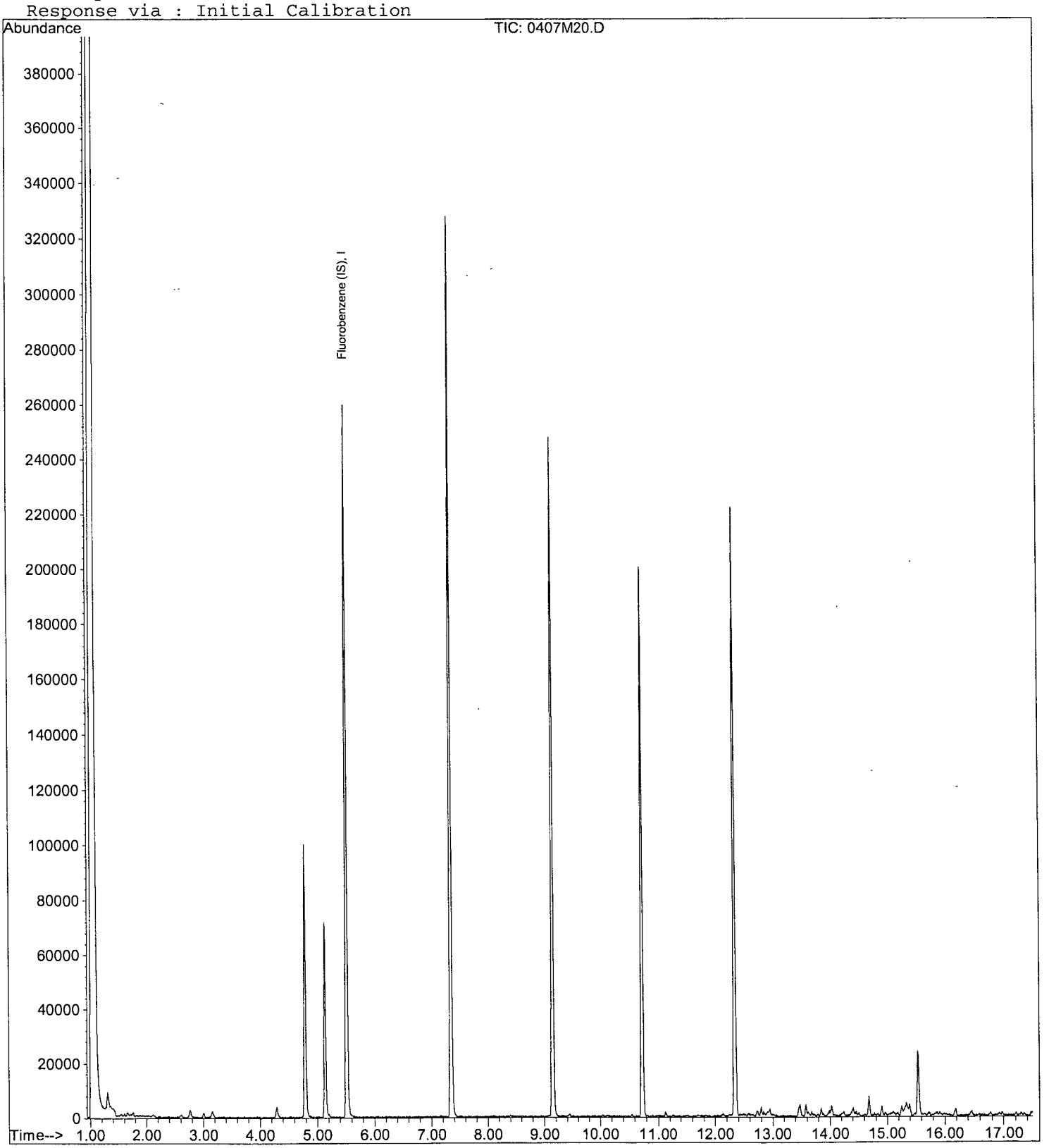
Data File : M:\MAX\DATA\M170404\0407M20.D
Acq On : 7 Apr 17 17:07
Sample : AZ53173W01
Misc : 10ml IS&S: 2/23/17

Vial: 20
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M20.D Vial: 20
Acq On : 7 Apr 17 17:07 Operator: PM,DG,SV,CMM
Sample : AZ53173W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	240697	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	163601	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73409	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61127	26.96403 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.856%	
3) 1,2-DCA-D4(S)	5.13	65	48358	27.23122 ppb	0.00
Spiked Amount 25.000			Recovery	= 108.924%	
5) Toluene-D8(S)	7.35	98	251215	26.32420 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.296%	
6) 4-Bromofluorobenzene(S)	10.73	95	72829	24.63953 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.560%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M21
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M21.D Vial: 21
Acq On : 7 Apr 17 17:35 Operator: PM,DG,SV,CMM
Sample : AZ53174W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:31 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	268675	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

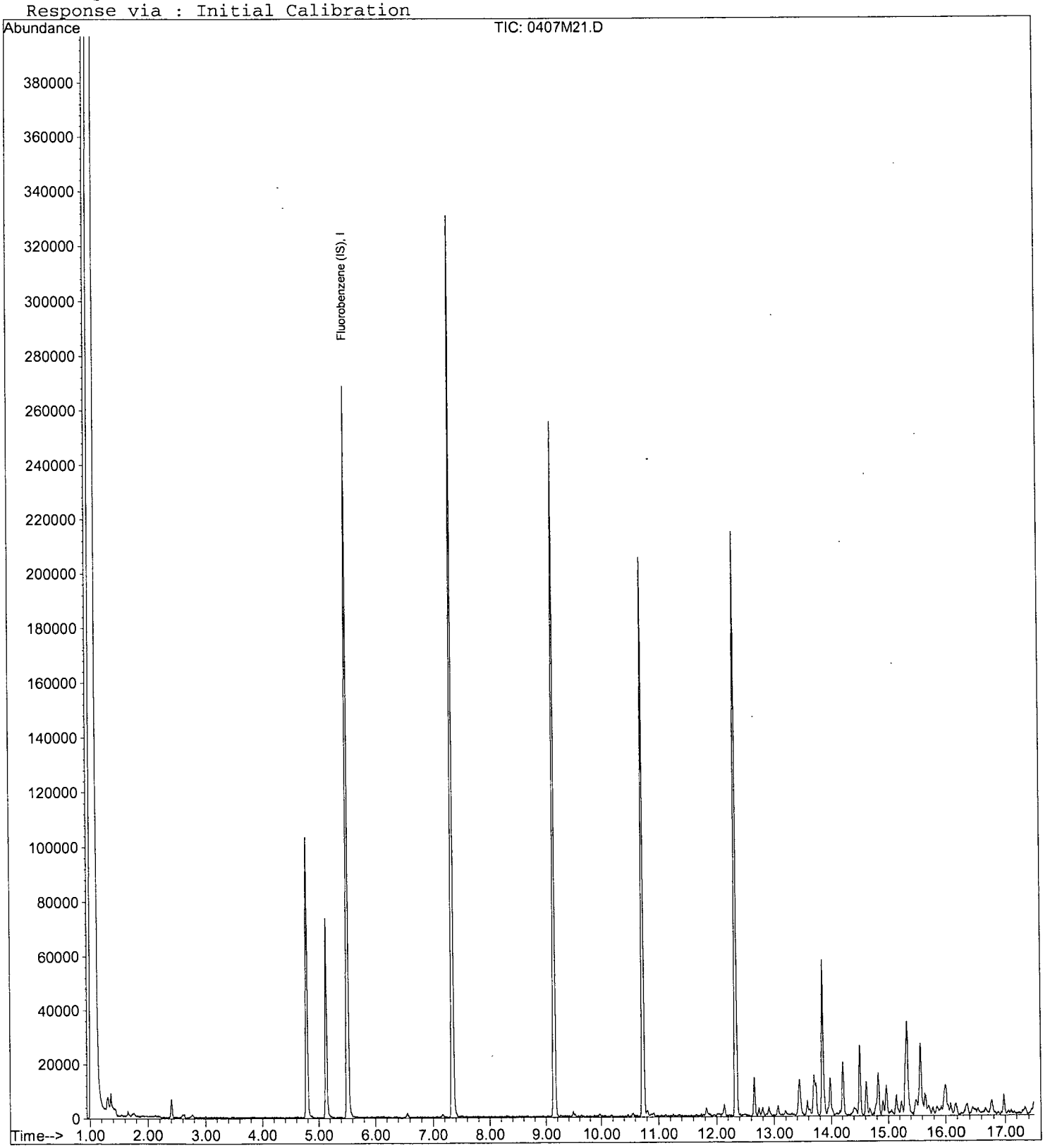
Data File : M:\MAX\DATA\M170404\0407M21.D
Acq On : 7 Apr 17 17:35
Sample : AZ53174W01
Misc : 10ml IS&S: 2/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M21.D
Acq On : 7 Apr 17 17:35
Sample : AZ53174W01
Misc : 10ml IS&S: 2/23/17

Vial: 21
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	246991	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	170986	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	71664	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61145	26.28465 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.140%	
3) 1,2-DCA-D4(S)	5.14	65	47934	26.30462 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.220%	
5) Toluene-D8(S)	7.35	98	251457	25.21150 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.848%	
6) 4-Bromofluorobenzene(S)	10.73	95	74305	24.05313 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.212%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH311
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53175
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.2	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M22
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M22.D
Acq On : 7 Apr 17 18:04
Sample : AZ53175W01
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	264145	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

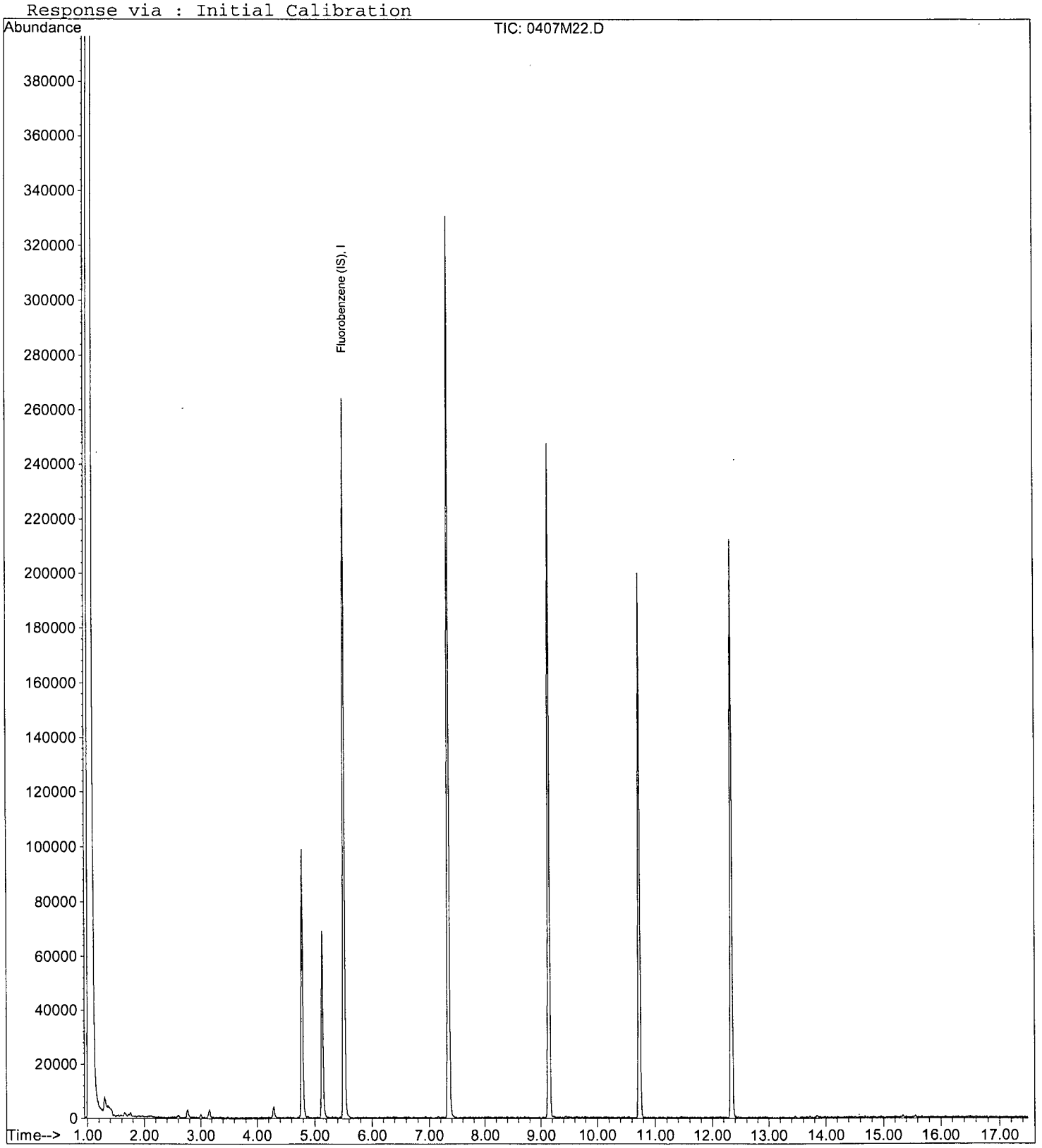
Data File : M:\MAX\DATA\M170404\0407M22.D
Acq On : 7 Apr 17 18:04
Sample : AZ53175W01
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M22.D Vial: 22
Acq On : 7 Apr 17 18:04 Operator: PM,DG,SV,CMM
Sample : AZ53175W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243163	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	166342	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72210	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58564	25.57146 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.284%	
3) 1,2-DCA-D4(S)	5.13	65	46050	25.66856 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.676%	
5) Toluene-D8(S)	7.35	98	249908	25.75572 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.024%	
6) 4-Bromofluorobenzene(S)	10.73	95	72284	24.05217 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.208%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	96.3	85-114			%	04/07/17	04/07/17

Quant Method:	MGAS6302.M
Run #:	0407M23
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M23.D Vial: 23
Acq On : 7 Apr 17 18:32 Operator: PM,DG,SV,CMM
Sample : AZ53176W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:31 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	255381	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

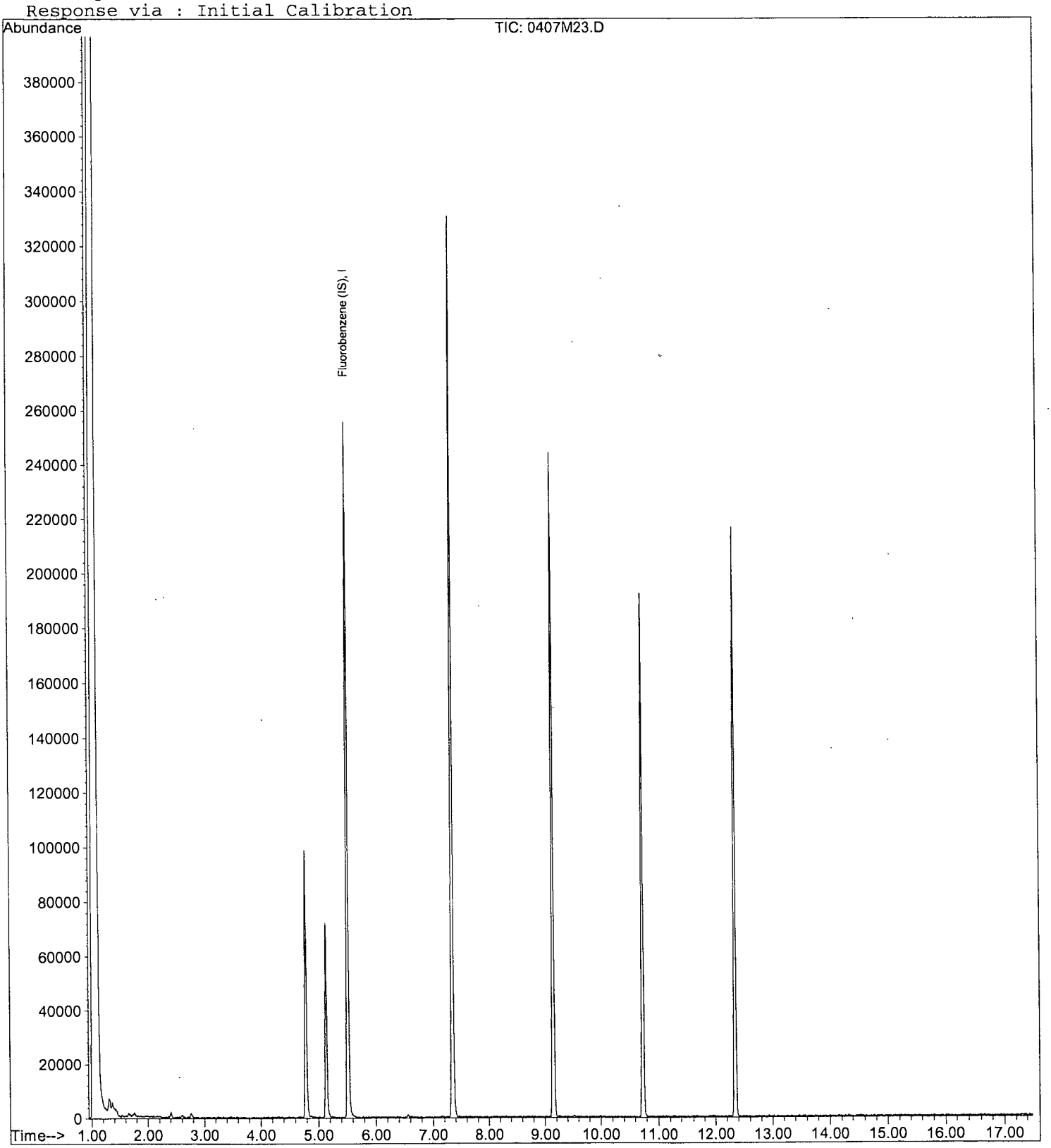
Data File : M:\MAX\DATA\M170404\0407M23.D
Acq On : 7 Apr 17 18:32
Sample : AZ53176W01
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M23.D
Acq On : 7 Apr 17 18:32
Sample : AZ53176W01
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	238690	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	163818	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	70667	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59385	26.41587 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.664%	
3) 1,2-DCA-D4(S)	5.13	65	46711	26.52494 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.100%	
5) Toluene-D8(S)	7.35	98	247816	25.93363 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.736%	
6) 4-Bromofluorobenzene(S)	10.73	95	71259	24.07643 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.304%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH318
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53177
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.0	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M24
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M24.D
Acq On : 7 Apr 17 19:00
Sample : AZ53177W01
Misc : 10ml IS&S: 2/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	258333	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

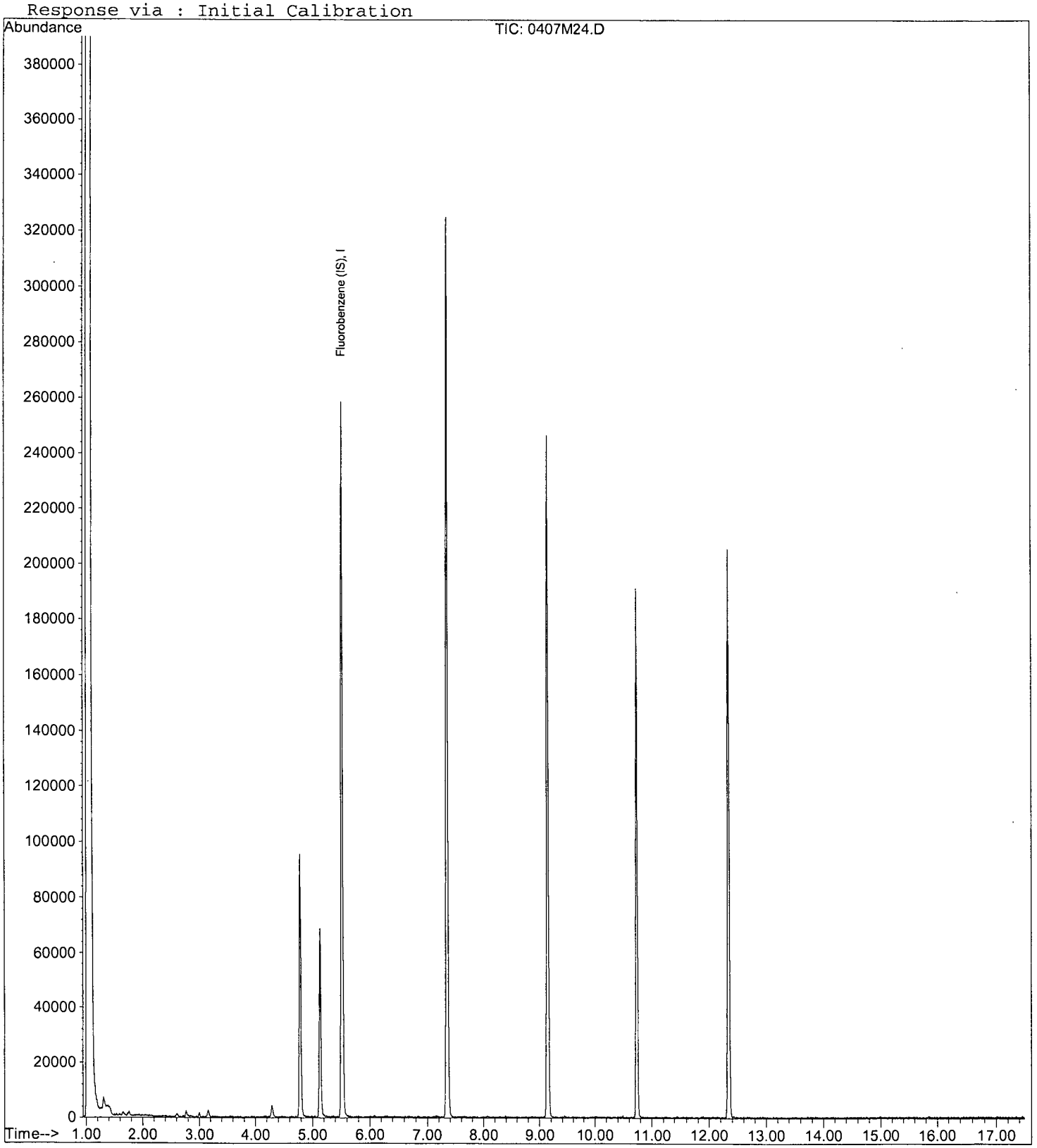
Data File : M:\MAX\DATA\M170404\0407M24.D
Acq On : 7 Apr 17 19:00
Sample : AZ53177W01
Misc : 10ml IS&S: 2/23/17

Vial: 24
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:31 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M24.D Vial: 24
Acq On : 7 Apr 17 19:00 Operator: PM,DG,SV,CMM
Sample : AZ53177W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	242635	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	164940	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68141	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	58224	25.47833 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.912%	
3) 1,2-DCA-D4(S)	5.13	65	44991	25.13284 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.532%	
5) Toluene-D8(S)	7.35	98	244601	25.42306 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.692%	
6) 4-Bromofluorobenzene(S)	10.73	95	70037	23.50258 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.012%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M25
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M25.D
Acq On : 7 Apr 17 19:29
Sample : AZ53178W01
Misc : 10ml IS&S: 2/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	262238	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

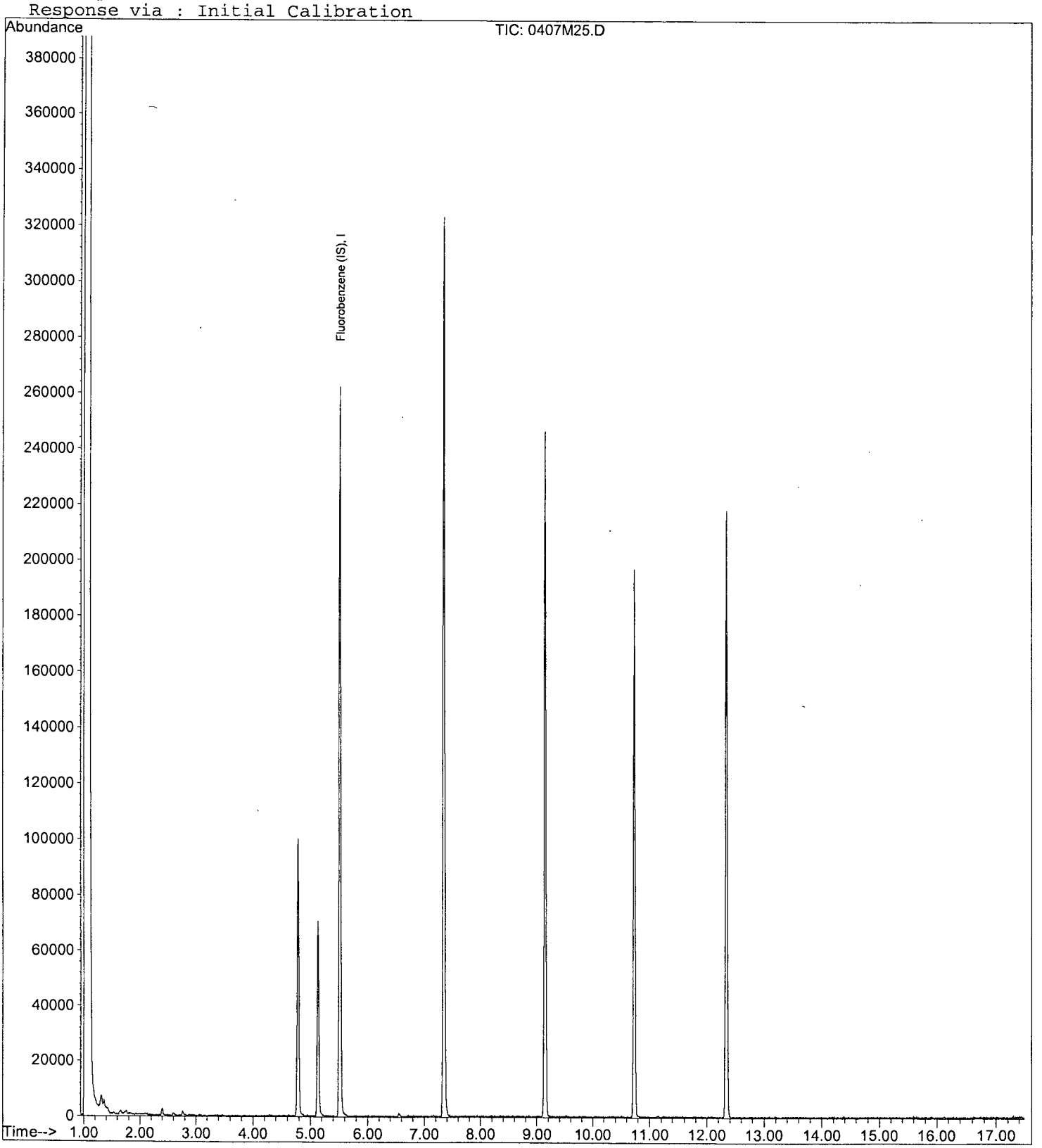
Data File : M:\MAX\DATA\M170404\0407M25.D
Acq On : 7 Apr 17 19:29
Sample : AZ53178W01
Misc : 10ml IS&S: 2/23/17

Vial: 25
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M25.D Vial: 25
Acq On : 7 Apr 17 19:29 Operator: PM,DG,SV,CMM
Sample : AZ53178W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	241036	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	165698	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	71747	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58450	25.74690 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.988%	
3) 1,2-DCA-D4(S)	5.13	65	47609	26.77174 ppb	0.00
Spiked Amount 25.000			Recovery	= 107.088%	
5) Toluene-D8(S)	7.35	98	245386	25.38797 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.552%	
6) 4-Bromofluorobenzene(S)	10.73	95	70988	23.71274 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.852%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH304
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53179
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.2	85-114			%	04/07/17	04/07/17

Quant Method:	MGAS6302.M
Run #:	0407M26
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M26.D
Acq On : 7 Apr 17 19:57
Sample : AZ53179W01
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	251916	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

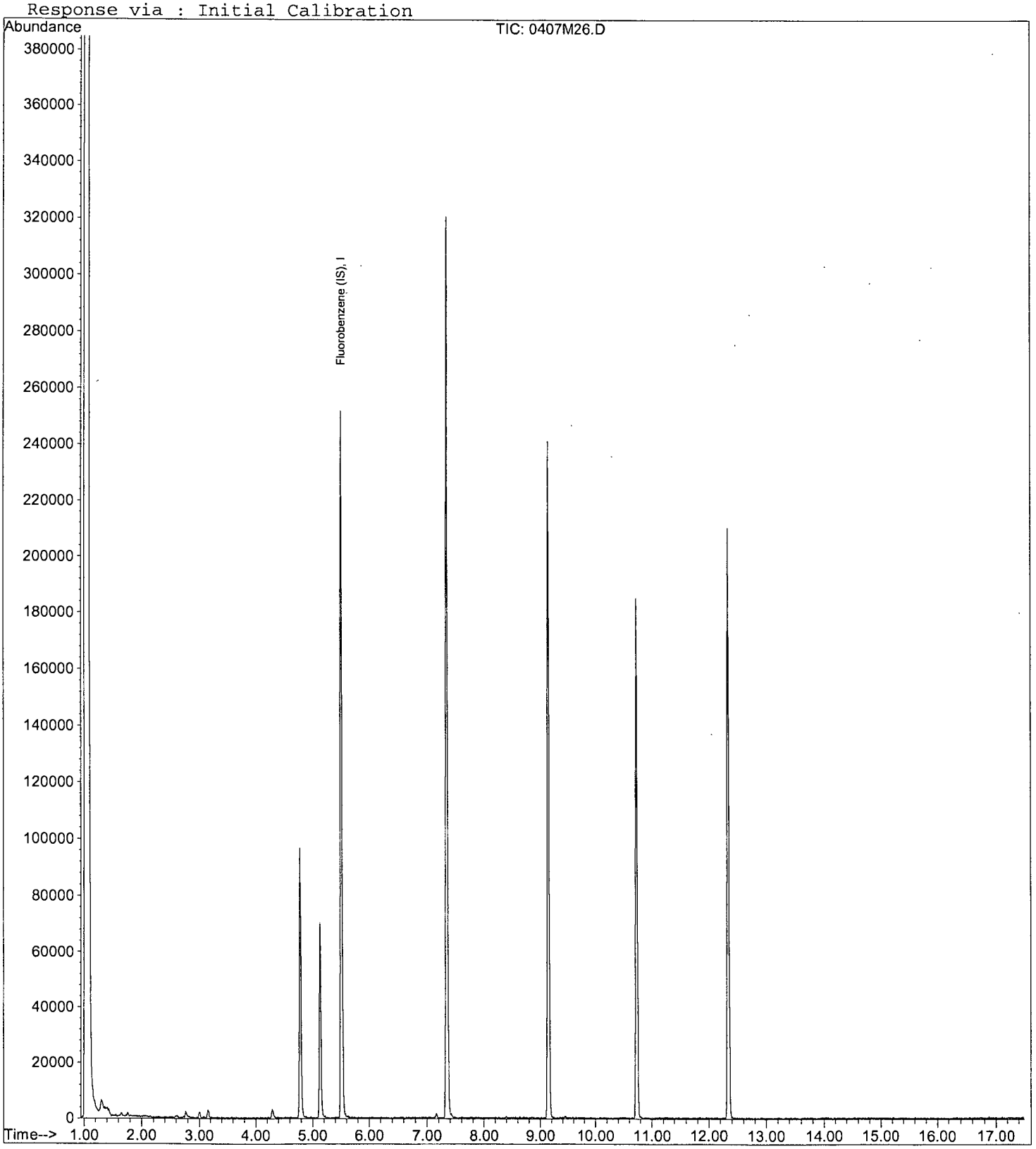
Data File : M:\MAX\DATA\M170404\0407M26.D
Acq On : 7 Apr 17 19:57
Sample : AZ53179W01
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M26.D Vial: 26
Acq On : 7 Apr 17 19:57 Operator: PM,DG,SV,CMM
Sample : AZ53179W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	236071	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	159355	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	70244	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	57120	25.69022 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.760%	
3) 1,2-DCA-D4(S)	5.13	65	44850	25.75071 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.004%	
5) Toluene-D8(S)	7.35	98	241180	25.94604 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.784%	
6) 4-Bromofluorobenzene(S)	10.73	95	70648	24.53851 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.156%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.3	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M27
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/24/17 1:58:15 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M27.D
Acq On : 7 Apr 17 20:26
Sample : AZ53180W01
Misc : 10ml IS&S: 2/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	257131	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

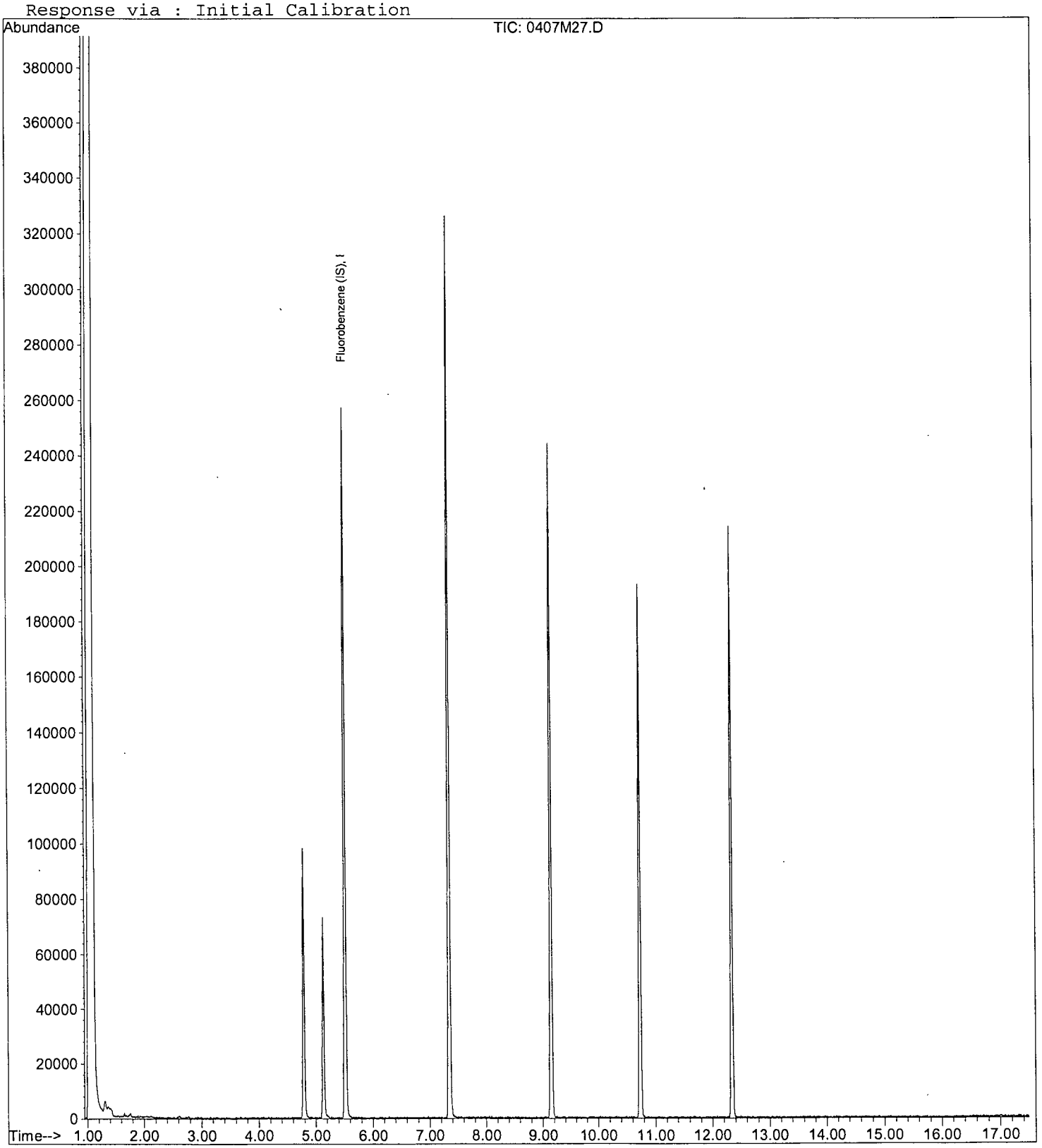
Data File : M:\MAX\DATA\M170404\0407M27.D
Acq On : 7 Apr 17 20:26
Sample : AZ53180W01
Misc : 10ml IS&S: 2/23/17

Vial: 27
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:32 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M27.D Vial: 27
Acq On : 7 Apr 17 20:26 Operator: PM,DG,SV,CMM
Sample : AZ53180W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	242975	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	164283	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68220	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58492	25.55979 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.240%	
3) 1,2-DCA-D4(S)	5.13	65	44850	25.01902 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.076%	
5) Toluene-D8(S)	7.35	98	248162	25.89633 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.584%	
6) 4-Bromofluorobenzene(S)	10.73	95	69201	23.31491 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.260%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
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35																

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

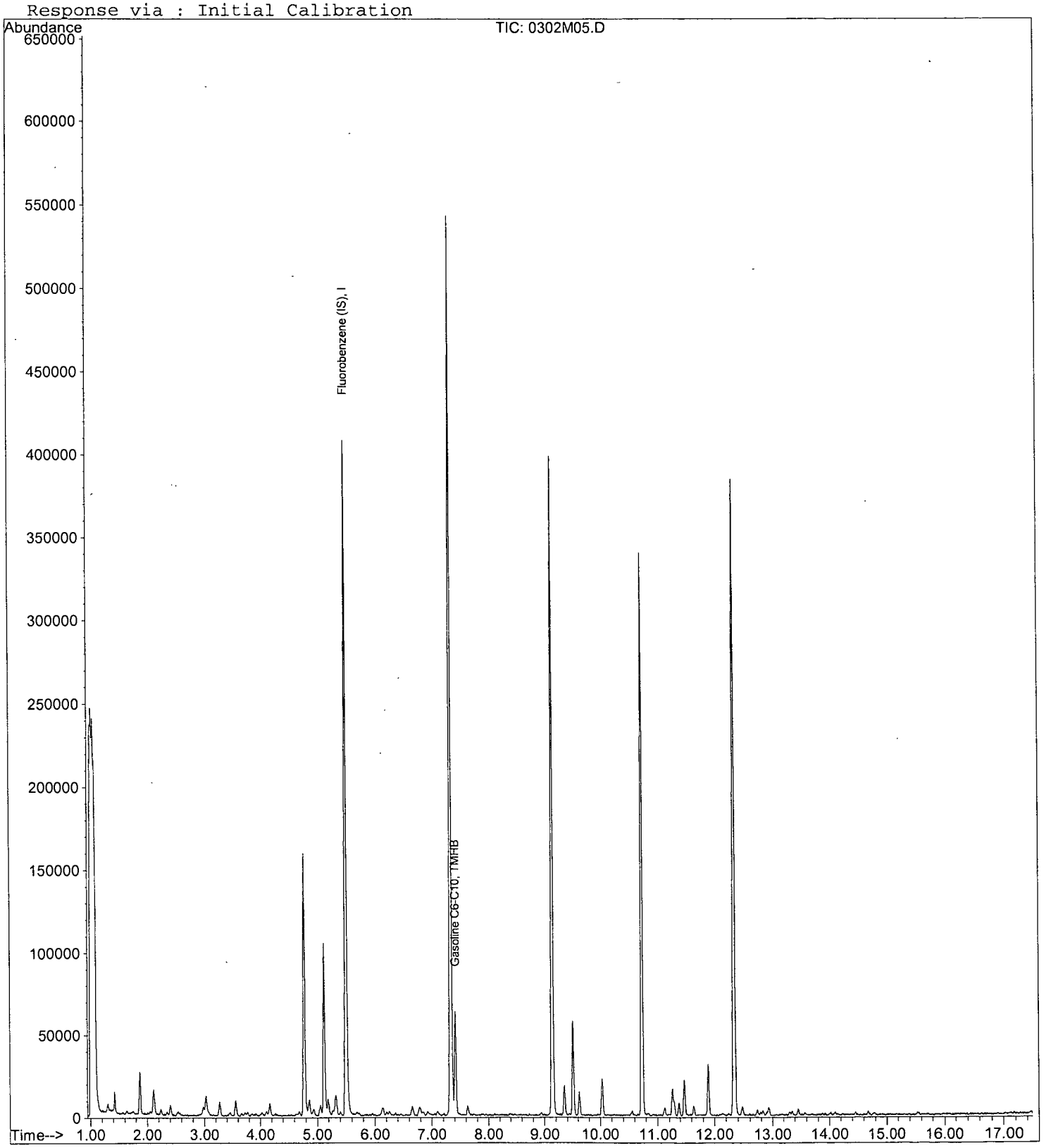
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D Vial: 6
Acq On : 2 Mar 17 9:54 Operator: PM,DG,SV,CMM
Sample : 50ppb GAS STD 03/02/17B Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

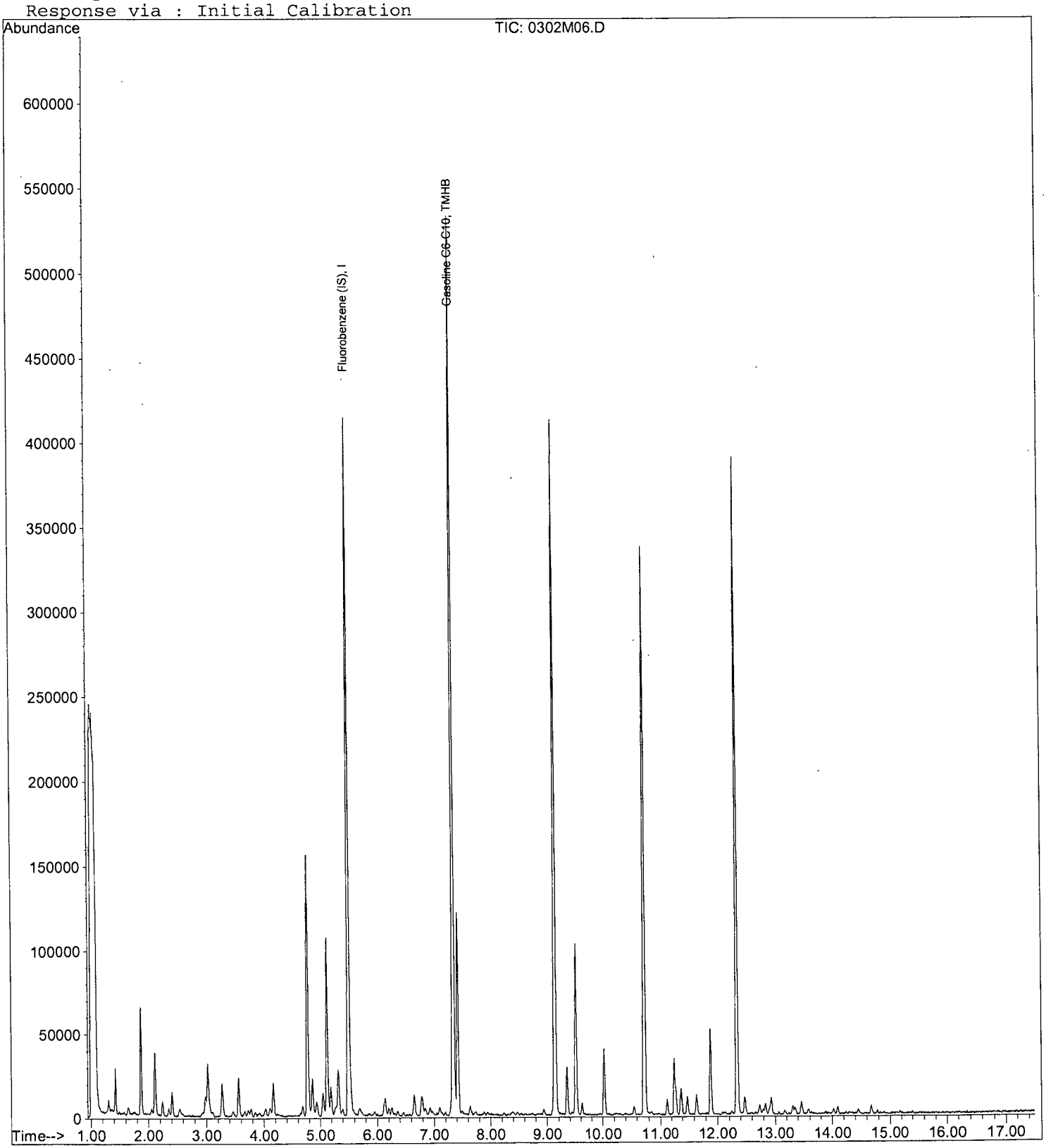
Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D Vial: 7
Acq On : 2 Mar 17 10:23 Operator: PM,DG,SV,CMM
Sample : 100ppb GAS STD 03/02/17C Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration

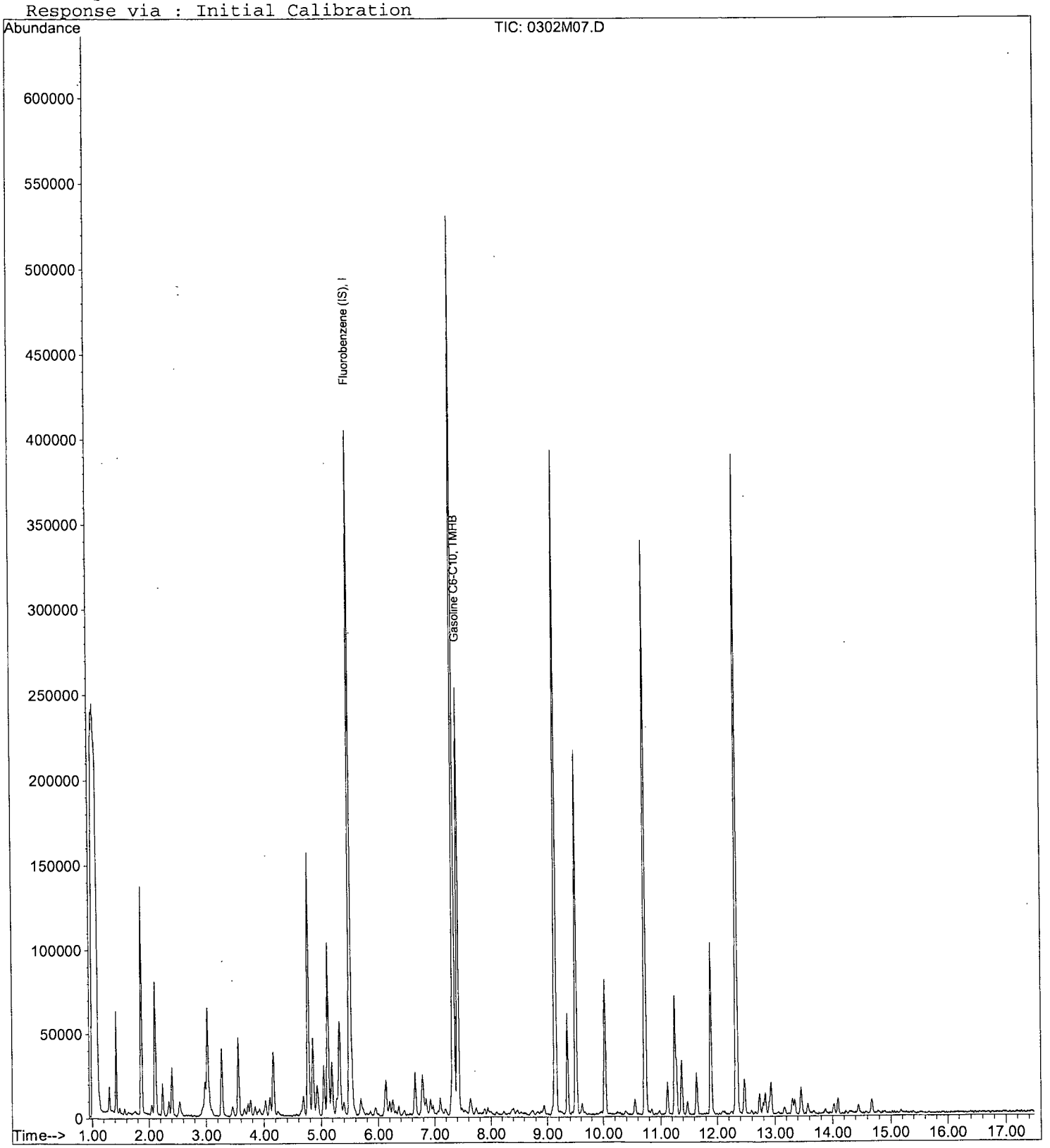
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration

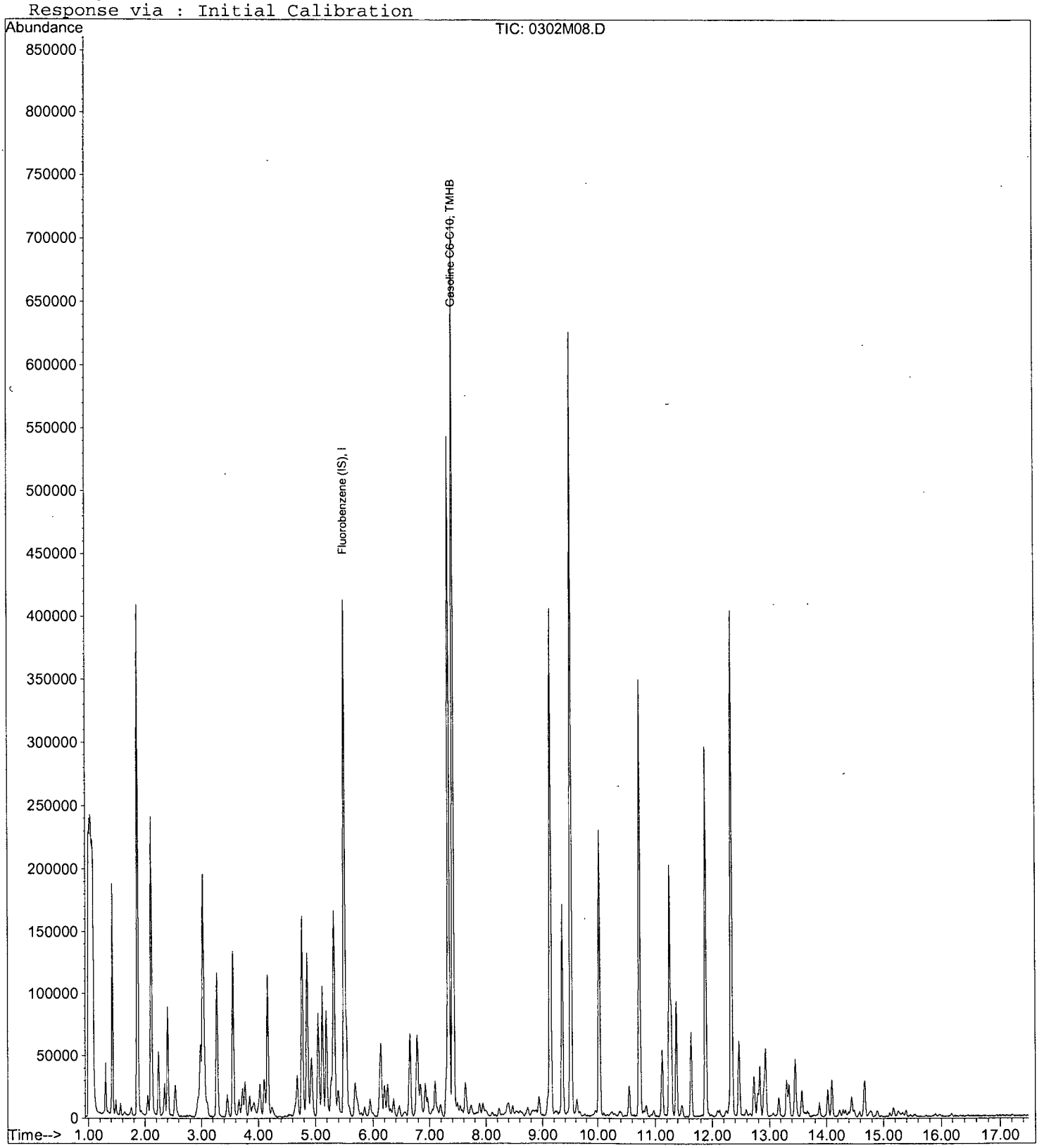
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

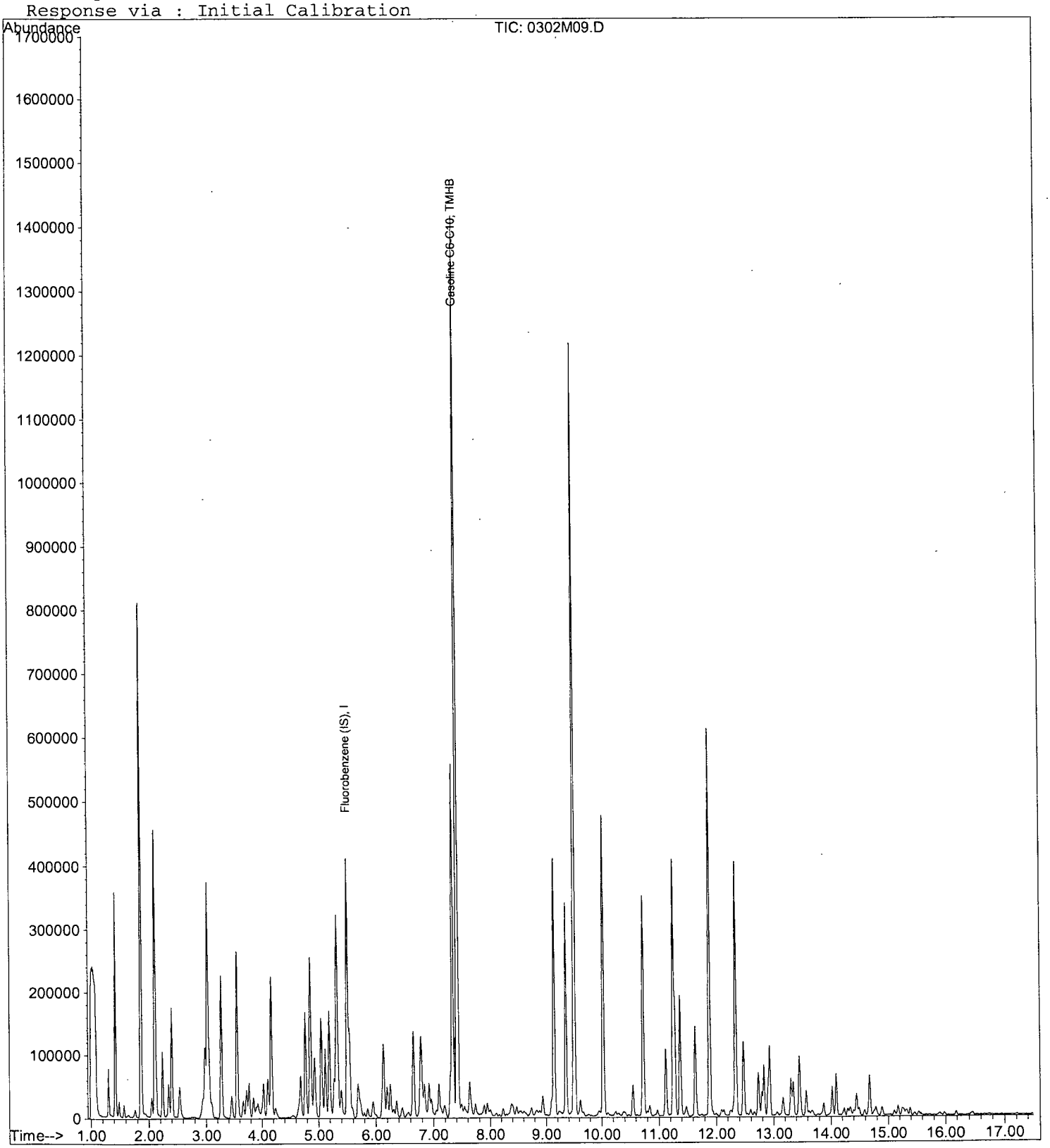
Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D Vial: 10
Acq On : 2 Mar 17 11:47 Operator: PM,DG,SV,CMM
Sample : 800ppb GAS STD 03/02/17F Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M10.D MGAS6302.M Mon Mar 06 11:54:46 2017 Page 1

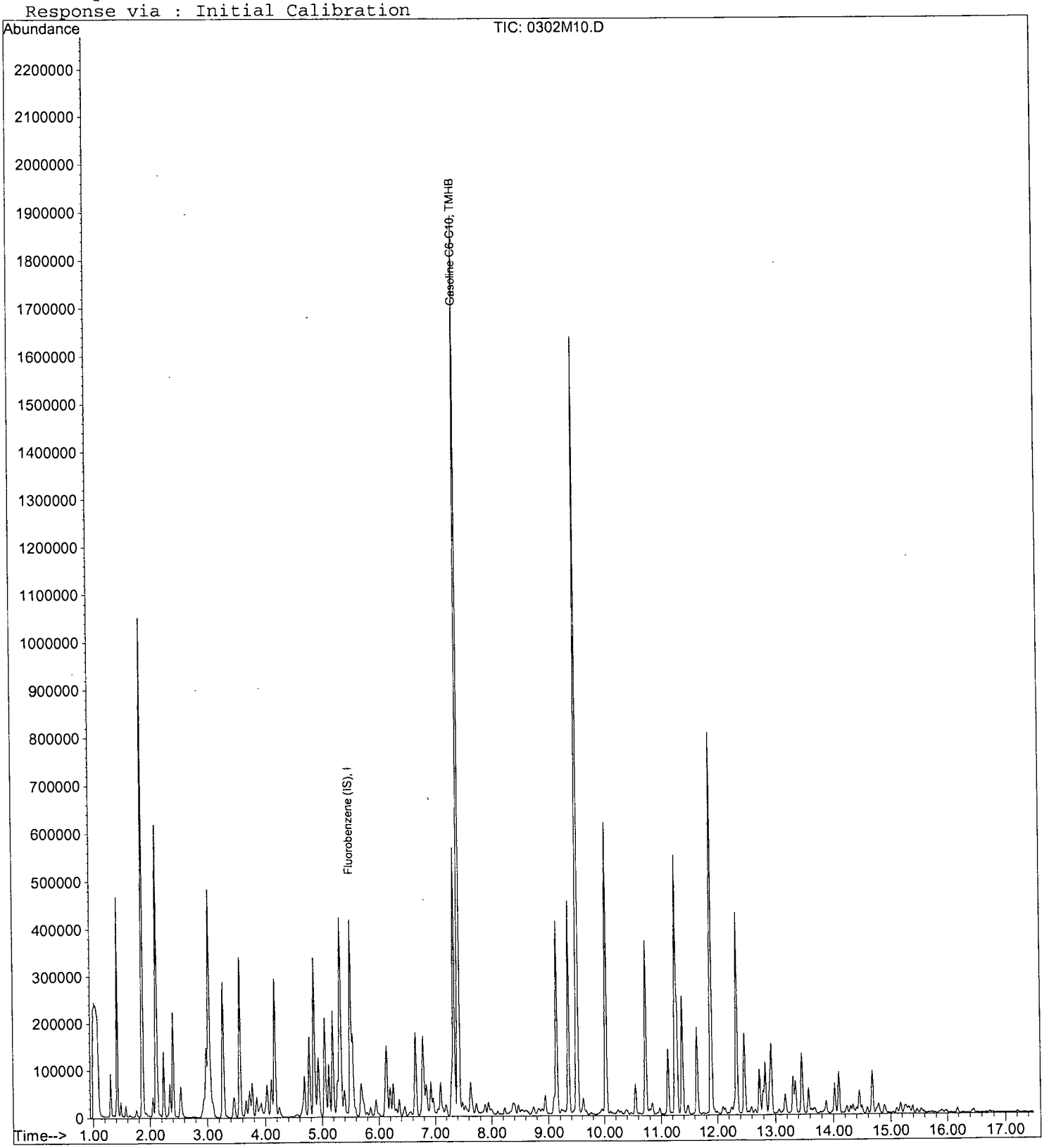
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

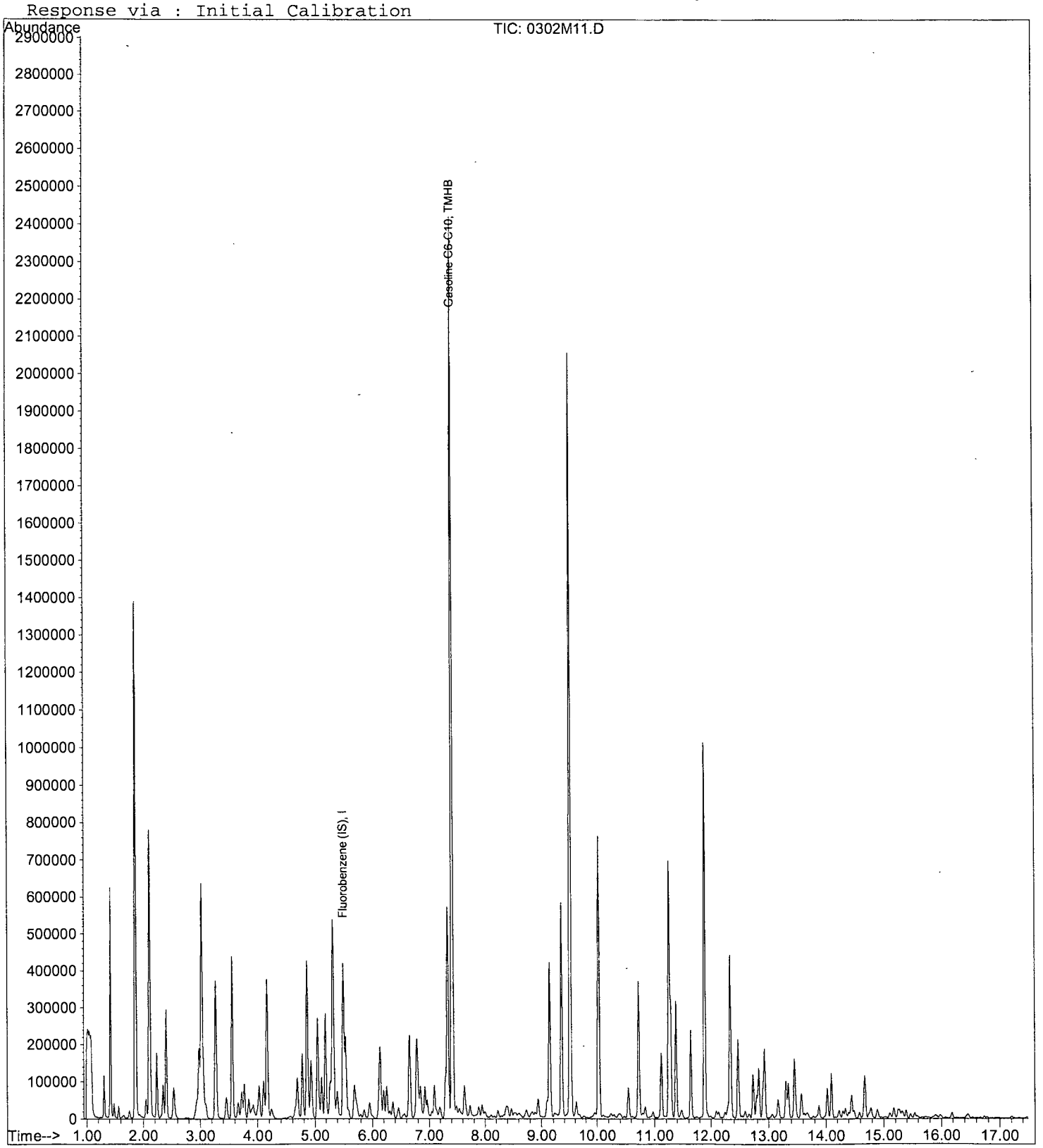
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

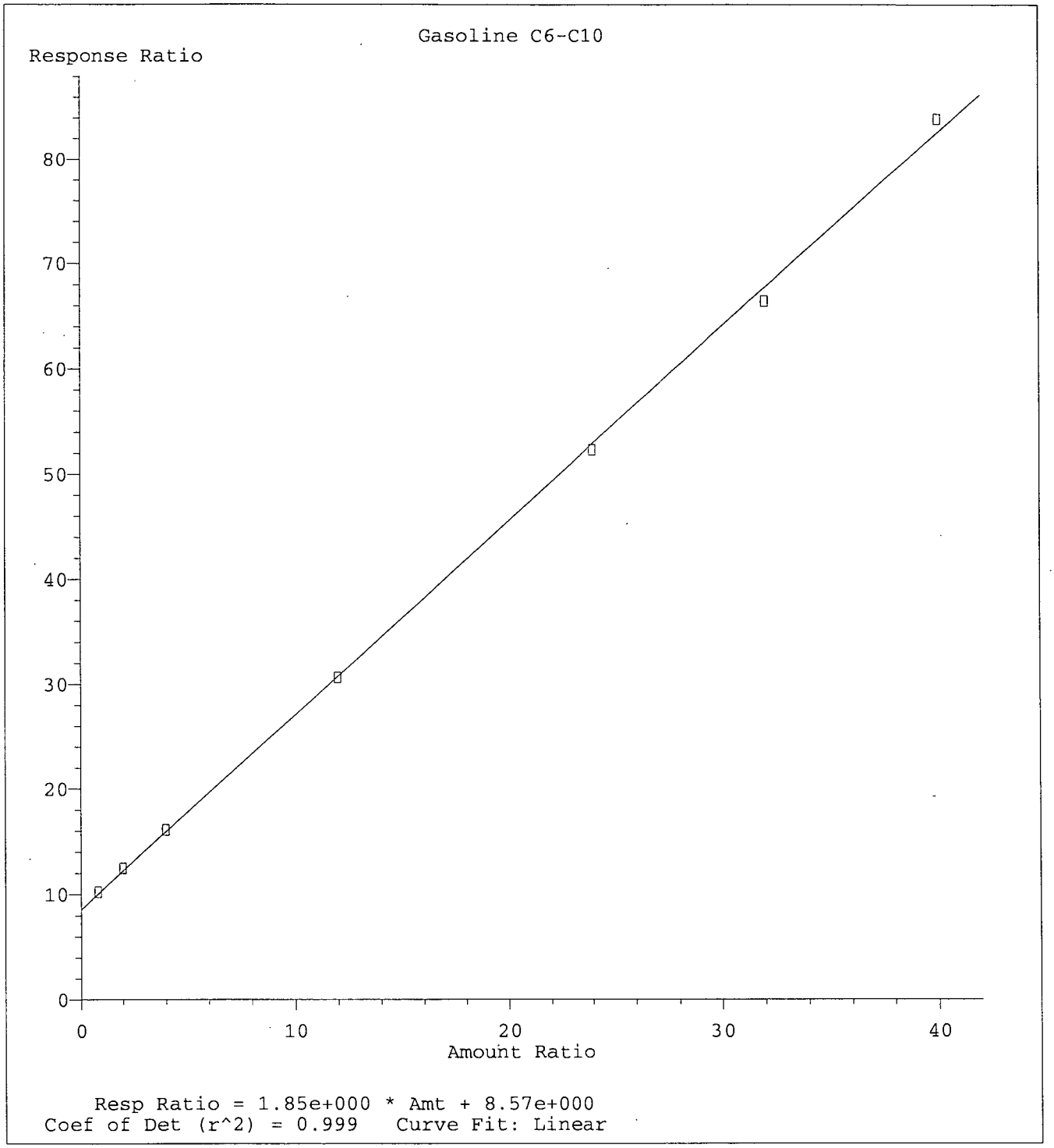
Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

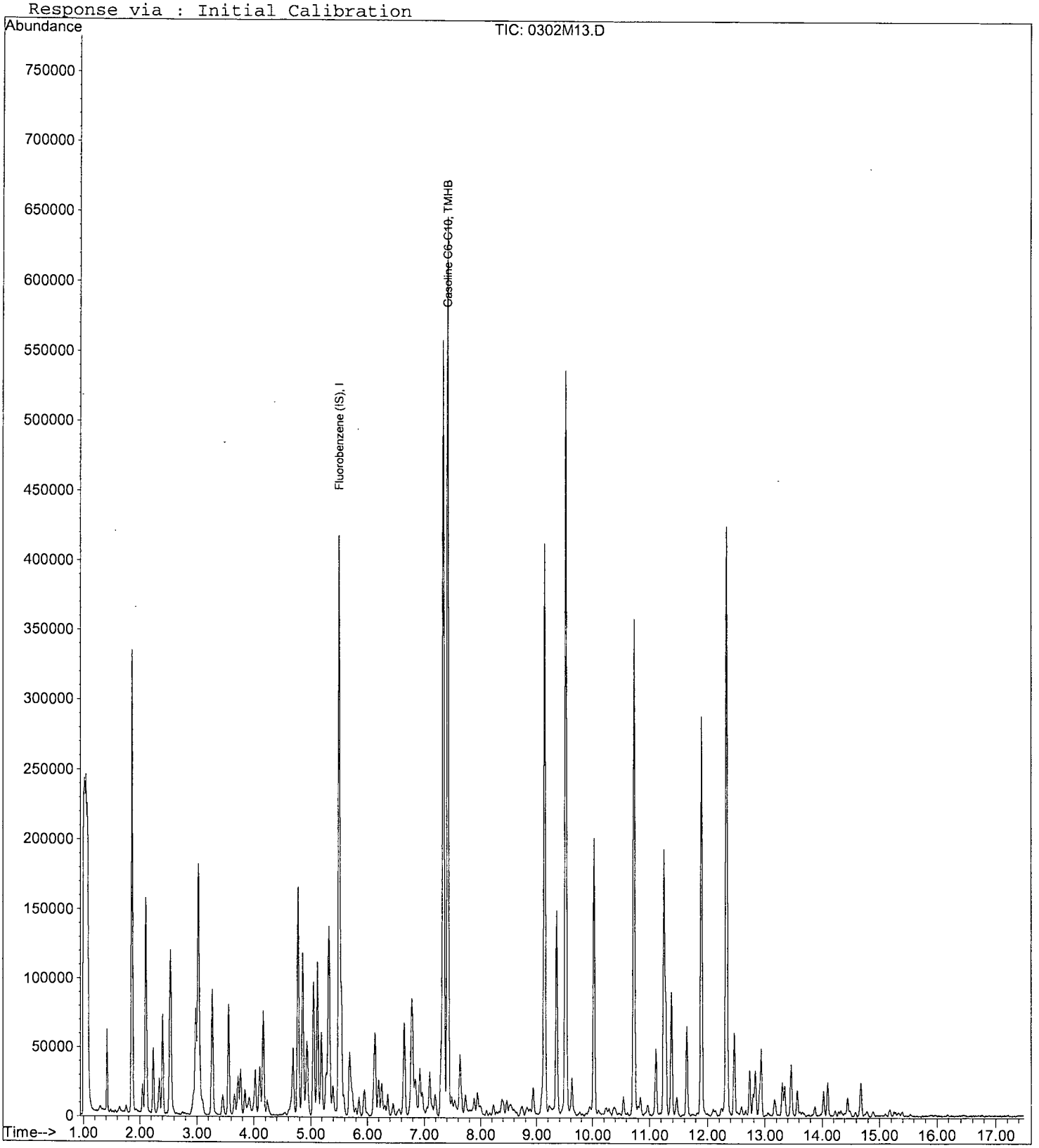
Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 10:58
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M07.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.494	45	TMHBL	3.8
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			45.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	280473	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8392793m	288.74187 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

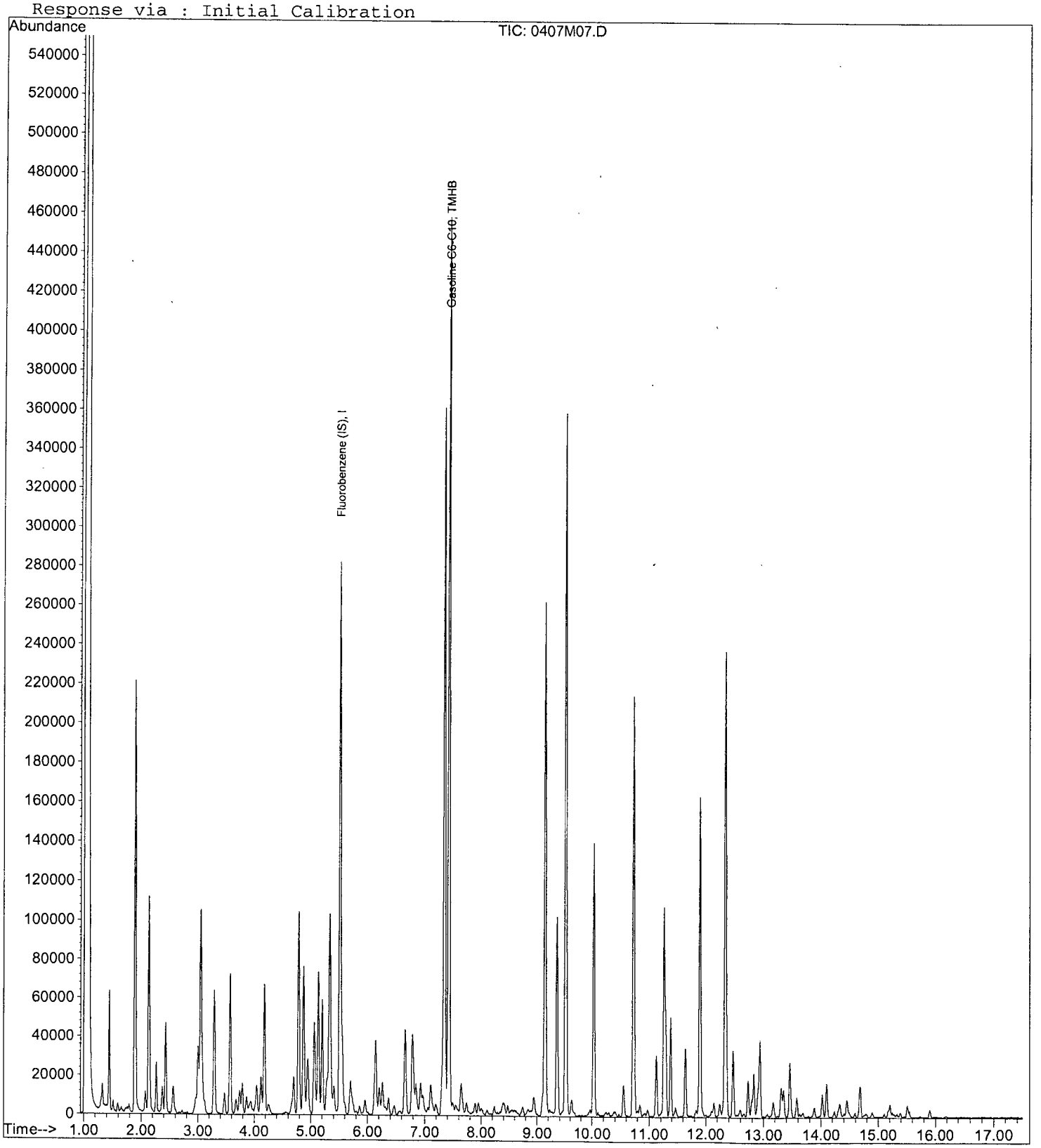
Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 22:19
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0407M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.153	53	TMHBL	22
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
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21							
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29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			53.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M31.D
Acq On : 7 Apr 17 22:19
Sample : Ending CCV GAS 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:26 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	267741	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6916407m	233.42645 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

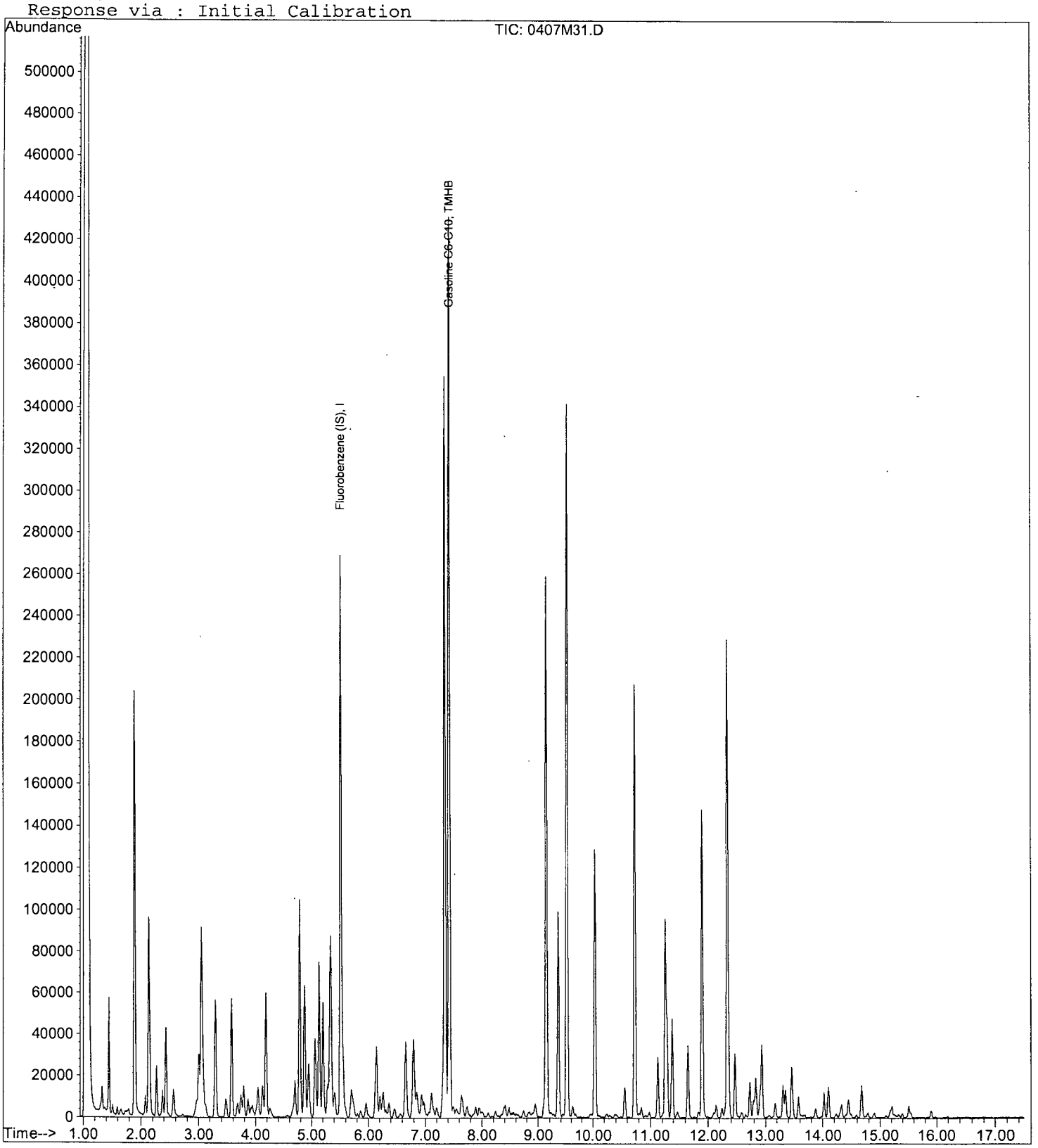
Data File : M:\MAX\DATA\M170404\0407M31.D
Acq On : 7 Apr 17 22:19
Sample : Ending CCV GAS 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:26 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09.D	0404M10 D	0404M11.D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
3	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
6	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
7	I	1,4-Dichlorobenzene-D (IS)														
8																
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	12416	5.42 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
37) 1,2-DCA-D4(S)	5.13	65	9974	5.56 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
57) Toluene-D8(S)	7.35	98	51982	5.30 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
65) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	904	0.30 ppb		94
3) Freon 114	1.31	85	1215	0.30 ppb		86
4) Chloromethane	1.35	50	1561	0.37 ppb	#	80
5) Vinyl chloride	1.45	62	1844	0.29 ppb	#	88
6) Bromomethane	1.72	94	1858	0.48 ppb		97
7) Chloroethane	1.81	64	1293	0.34 ppb		99
8) Dichlorofluoromethane	2.00	67	3172	0.31 ppb		100
9) Trichlorofluoromethane	2.05	101	2187	0.32 ppb	#	75
10) Acrolein	2.44	56	2646	11.46 ppb		86
11) Acetone	2.59	43	440	0.17 ppb	#	39
12) Freon-113	2.55	101	1295	0.31 ppb		97
13) 1,1-DCE	2.53	61	2280	0.35 ppb	#	92
14) Acetonitrile	2.84	TIC	8199	19.20 ppb	#	68
15) t-Butanol	3.15	59	1146	12.13 ppb		96
16) Methyl Acetate	2.93	43	775	0.49 ppb	#	40
17) Iodomethane	2.66	142	432	1.18 ppb	#	45
18) Acrylonitrile	3.23	53	184	0.26 ppb	#	66
19) Methylene chloride	2.99	84	1692	0.39 ppb	#	80
20) Carbon disulfide	2.71	76	4350	0.32 ppb		100
21) Methyl t-butyl ether (MtBE	3.30	73	2055	0.31 ppb		92
22) Trans-1,2-DCE	3.27	96	1525	0.32 ppb		99
23) Diisopropyl Ether	3.80	45	3844	0.29 ppb		88
24) 1,1-DCA	3.68	63	2661	0.33 ppb	#	96
25) Vinyl Acetate	3.77	43	720	0.26 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	2456	0.31 ppb		95
27) MEK (2-Butanone)	4.31	43	318	0.08 ppb	#	55
28) Cis-1,2-DCE	4.28	96	1958	0.38 ppb		78
29) 2,2-Dichloropropane	4.27	77	1464	0.30 ppb		99
30) Chloroform	4.62	83	2762	0.35 ppb		89
31) Bromochloromethane	4.52	128	547	0.27 ppb		81
33) 1,1,1-TCA	4.81	97	2417	0.35 ppb		89
34) Cyclohexane	4.87	41	1761	0.38 ppb		92
35) 1,1-Dichloropropene	4.99	75	2191	0.33 ppb		91
36) 2,2,4-Trimethylpentane	5.32	57	3502	0.31 ppb	#	86
38) Carbon Tetrachloride	4.99	117	1667	0.30 ppb		81
39) Tert Amyl Methyl Ether	5.38	73	2410	0.34 ppb	#	84
40) 1,2-DCA	5.21	62	1338	0.32 ppb	#	72
41) Benzene	5.20	78	6470	0.33 ppb		94
42) TCE	5.93	95	1748	0.33 ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	14467	10.27 ppb		94
44) 1,2-Dichloropropane	6.16	63	1532	0.34 ppb	#	86
45) Bromodichloromethane	6.49	83	1712	0.34 ppb		91
46) Methyl Cyclohexane	6.14	83	2150	0.30 ppb		77
47) Dibromomethane	6.28	93	526	0.31 ppb	#	72
48) MIBK (methyl isobutyl ket	7.22	43	819	0.37 ppb	#	90
49) 1-Bromo-2-chloroethane	6.83	63	1235	0.29 ppb	#	83
51) Cis-1,3-Dichloropropene	7.02	75	1510	0.28 ppb	#	64
52) Toluene	7.43	91	7467	0.33 ppb		91
53) Trans-1,3-Dichloropropene	7.71	75	654	0.19 ppb	#	41
54) 1,1,2-TCA	7.92	83	519	0.24 ppb	#	31
55) 2-Hexanone	8.29	43	359	0.33 ppb	#	35
58) 1,2-EDB	8.52	107	730	0.33 ppb		80
59) Tetrachloroethene	8.10	164	1828	0.33 ppb		94
60) 1-Chlorohexane	9.21	91	1475	0.25 ppb	#	83
61) 1,1,1,2-Tetrachloroethane	9.29	131	1412	0.34 ppb		79
62) m&p-Xylene	9.51	106	6064	0.60 ppb		95
63) o-Xylene	10.03	106	2943	0.32 ppb		90
64) Styrene	10.05	104	3801	0.27 ppb		96
66) 1,3-Dichloropropane	8.12	76	1625	0.38 ppb		92
67) Dibromochloromethane	8.40	129	1052	0.32 ppb		98
68) Chlorobenzene	9.17	112	4484	0.33 ppb		97
69) Ethylbenzene	9.36	91	6933	0.28 ppb		95
70) Bromoform	10.26	173	448	0.25 ppb		99
72) Isopropylbenzene	10.55	105	7151	0.32 ppb		96
73) 1,1,2,2-Tetrachloroethane	10.96	83	833	0.36 ppb	#	62
74) 1,2,3-Trichloropropane	10.99	110	195	0.29 ppb	#	22
75) t-1,4-Dichloro-2-Butene	11.05	53	43	0.11 ppb	#	37
76) Bromobenzene	10.91	156	1763	0.36 ppb		82
77) n-Propylbenzene	11.12	91	7268	0.31 ppb		98
78) 4-Ethyltoluene	11.29	105	6124	0.30 ppb		92
79) 2-Chlorotoluene	11.21	91	4634	0.33 ppb		94
80) 1,3,5-Trimethylbenzene	11.38	105	5285	0.30 ppb		98
81) 4-Chlorotoluene	11.36	91	5283	0.34 ppb		96
82) Tert-Butylbenzene	11.83	119	5281	0.34 ppb	#	90
83) 1,2,4-Trimethylbenzene	11.90	105	5468	0.33 ppb		98
84) Sec-Butylbenzene	12.14	105	6603	0.32 ppb	#	84
85) p-Isopropyltoluene	12.35	119	2931	0.32 ppb		90
86) Benzyl Chloride	12.57	91	476	0.82 ppb	#	57
87) 1,3-DCB	12.24	146	3155	0.32 ppb		85
88) 1,4-DCB	12.37	146	1378	0.29 ppb	#	62
89) n-Butylbenzene	12.94	91	2715	0.37 ppb		86
90) 1,2-DCB	12.88	146	2300	0.29 ppb		88
91) Hexachloroethane	13.25	117	595	0.29 ppb		74
93) 1,2,4-Trichlorobenzene	15.21	180	727	-0.59 ppb	#	89
94) Hexachlorobutadiene	15.51	225	951	0.32 ppb	#	74
95) Naphthalene	15.53	128	285	0.08 ppb	#	81
96) 1,2,3-Trichlorobenzene	15.91	180	186	0.07 ppb	#	86

(#) = qualifier out of range (m) = manual integration

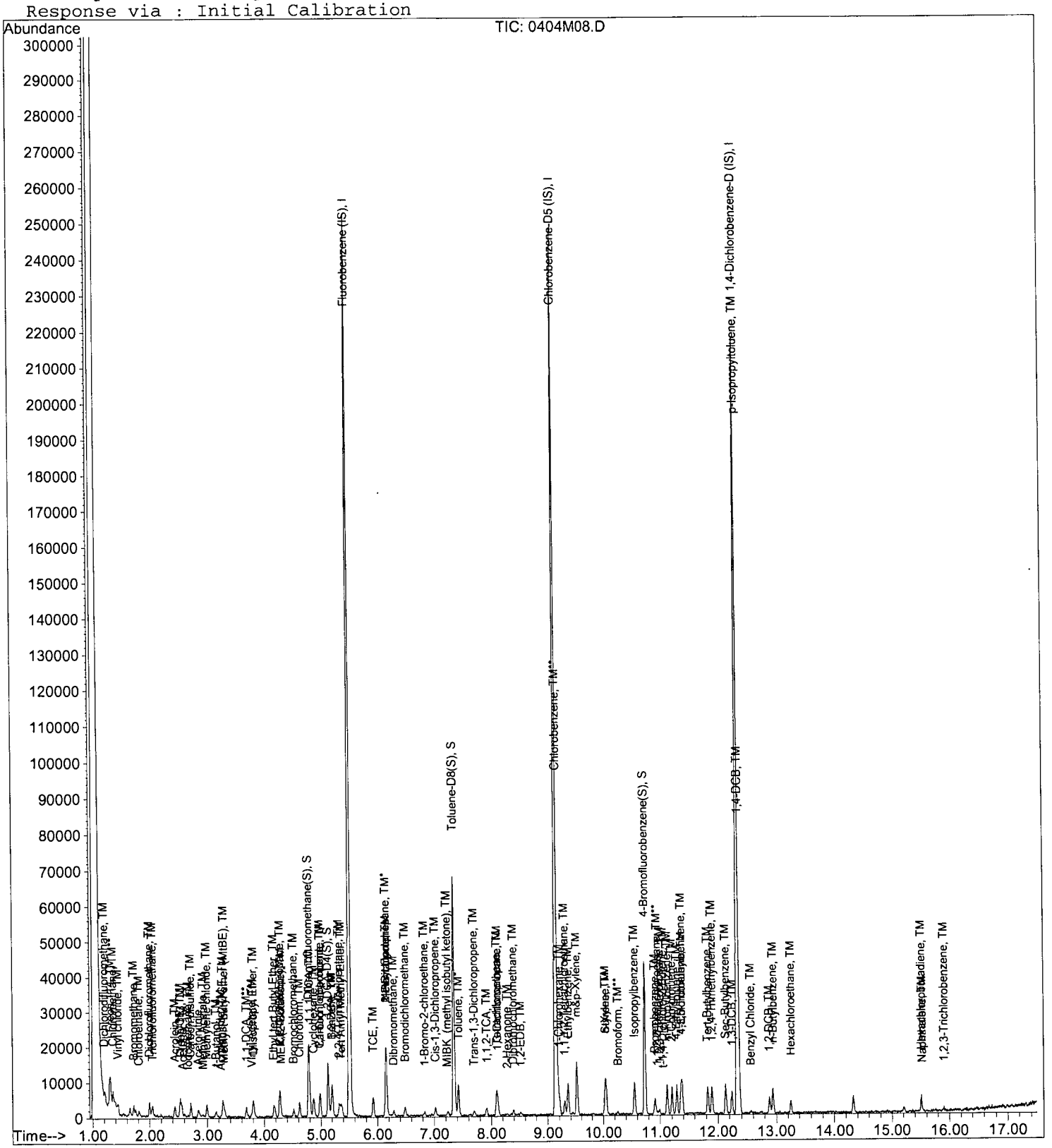
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	13058	5.50 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
37) 1,2-DCA-D4(S)	5.13	65	10249	5.52 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
57) Toluene-D8(S)	7.35	98	53226	5.43 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
65) 4-Bromofluorobenzene(S)	10.73	95	14984	4.94 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	1501	0.48 ppb		91
3) Freon 114	1.31	85	2307	0.55 ppb		89
4) Chloromethane	1.35	50	2331	0.54 ppb		90
5) Vinyl chloride	1.45	62	3173	0.49 ppb	#	78
6) Bromomethane	1.72	94	2480	0.61 ppb		91
7) Chloroethane	1.81	64	1985	0.50 ppb	#	79
8) Dichlorofluoromethane	2.00	67	5352	0.50 ppb		96
9) Trichlorofluoromethane	2.05	101	3260	0.46 ppb		93
10) Acrolein	2.44	56	6080	25.42 ppb		96
11) Acetone	2.59	43	582	0.40 ppb		87
12) Freon-113	2.55	101	2338	0.54 ppb		92
13) 1,1-DCE	2.53	61	3791	0.55 ppb		99
14) Acetonitrile	2.84	TIC	9501	21.48 ppb	#	91
15) t-Butanol	3.16	59	2109	21.55 ppb		89
16) Methyl Acetate	2.92	43	807	0.49 ppb	#	52
17) Iodomethane	2.66	142	518	1.20 ppb	#	87
18) Acrylonitrile	3.23	53	255	0.35 ppb	#	59
19) Methylene chloride	2.99	84	2689	0.60 ppb		85
20) Carbon disulfide	2.72	76	7533	0.54 ppb		94
21) Methyl t-butyl ether (MtBE	3.29	73	3205	0.47 ppb		95
22) Trans-1,2-DCE	3.27	96	2502	0.50 ppb		90
23) Diisopropyl Ether	3.80	45	6765	0.49 ppb		97
24) 1,1-DCA	3.68	63	4503	0.53 ppb		97
25) Vinyl Acetate	3.77	43	1430	0.51 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	3552	0.43 ppb		96
28) Cis-1,2-DCE	4.28	96	2704	0.51 ppb		87
29) 2,2-Dichloropropane	4.28	77	2617	0.52 ppb		95
30) Chloroform	4.62	83	4176	0.51 ppb		97
31) Bromochloromethane	4.52	128	1088	0.52 ppb		84
33) 1,1,1-TCA	4.81	97	3729	0.52 ppb		92
34) Cyclohexane	4.87	41	2574	0.54 ppb		79
35) 1,1-Dichloropropene	4.99	75	3540	0.52 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	6096	0.51 ppb		95
38) Carbon Tetrachloride	4.99	117	2987	0.52 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	3337	0.46 ppb	#	97
40) 1,2-DCA	5.21	62	2188	0.51 ppb	#	91
41) Benzene	5.20	78	10522	0.51 ppb		99
42) TCE	5.92	95	2950	0.54 ppb		92
43) 2-Pentanone	6.15	43	32211	22.07 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.16	63	2322	0.50 ppb	#	84
45) Bromodichloromethane	6.48	83	2665	0.51 ppb		90
46) Methyl Cyclohexane	6.15	83	3434	0.47 ppb		76
47) Dibromomethane	6.29	93	888	0.51 ppb		85
48) MIBK (methyl isobutyl ket	7.24	43	1454	0.64 ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	2249	0.51 ppb	#	81
51) Cis-1,3-Dichloropropene	7.02	75	2602	0.47 ppb	#	82
52) Toluene	7.42	91	11685	0.49 ppb		91
53) Trans-1,3-Dichloropropene	7.70	75	1682	0.48 ppb		90
54) 1,1,2-TCA	7.92	83	1242	0.56 ppb		92
55) 2-Hexanone	8.27	43	456	0.39 ppb	#	35
58) 1,2-EDB	8.52	107	985	0.44 ppb		94
59) Tetrachloroethene	8.10	164	3218	0.58 ppb		97
60) 1-Chlorohexane	9.20	91	2578	0.44 ppb		93
61) 1,1,1,2-Tetrachloroethane	9.30	131	2193	0.53 ppb		72
62) m&p-Xylene	9.52	106	9800	0.97 ppb		88
63) o-Xylene	10.03	106	4222	0.46 ppb		94
64) Styrene	10.05	104	6000	0.42 ppb		99
66) 1,3-Dichloropropane	8.12	76	2164	0.50 ppb	#	79
67) Dibromochloromethane	8.39	129	1777	0.54 ppb	#	73
68) Chlorobenzene	9.18	112	7260	0.53 ppb		96
69) Ethylbenzene	9.35	91	12524	0.50 ppb		99
70) Bromoform	10.26	173	793	0.45 ppb	#	75
72) Isopropylbenzene	10.55	105	11942	0.54 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	1446	0.63 ppb	#	91
74) 1,2,3-Trichloropropane	10.99	110	264	0.40 ppb		89
75) t-1,4-Dichloro-2-Butene	11.03	53	42	0.10 ppb	#	37
76) Bromobenzene	10.91	156	2745	0.56 ppb		92
77) n-Propylbenzene	11.12	91	11495	0.49 ppb		94
78) 4-Ethyltoluene	11.29	105	10319	0.52 ppb		88
79) 2-Chlorotoluene	11.20	91	7676	0.55 ppb		96
80) 1,3,5-Trimethylbenzene	11.38	105	8940	0.52 ppb		92
81) 4-Chlorotoluene	11.36	91	7742	0.51 ppb		89
82) Tert-Butylbenzene	11.82	119	8353	0.55 ppb		92
83) 1,2,4-Trimethylbenzene	11.89	105	9287	0.57 ppb		95
84) Sec-Butylbenzene	12.14	105	10503	0.52 ppb		96
85) p-Isopropyltoluene	12.36	119	4878	0.55 ppb		96
86) Benzyl Chloride	12.57	91	357	0.73 ppb	#	23
87) 1,3-DCB	12.24	146	5355	0.56 ppb		97
88) 1,4-DCB	12.37	146	2953	0.63 ppb		96
89) n-Butylbenzene	12.94	91	3909	0.55 ppb		97
90) 1,2-DCB	12.88	146	4060	0.52 ppb		94
91) Hexachloroethane	13.24	117	957	0.47 ppb	#	69
92) 1,2-Dibromo-3-chloropropan	14.00	75	43	0.18 ppb	#	30
93) 1,2,4-Trichlorobenzene	15.21	180	1309	-0.44 ppb	#	76
94) Hexachlorobutadiene	15.51	225	1884	0.64 ppb		96
95) Naphthalene	15.54	128	533	0.16 ppb	#	1
96) 1,2,3-Trichlorobenzene	15.90	180	522	0.20 ppb	#	80

(#) = qualifier out of range (m) = manual integration

Quantitation Report

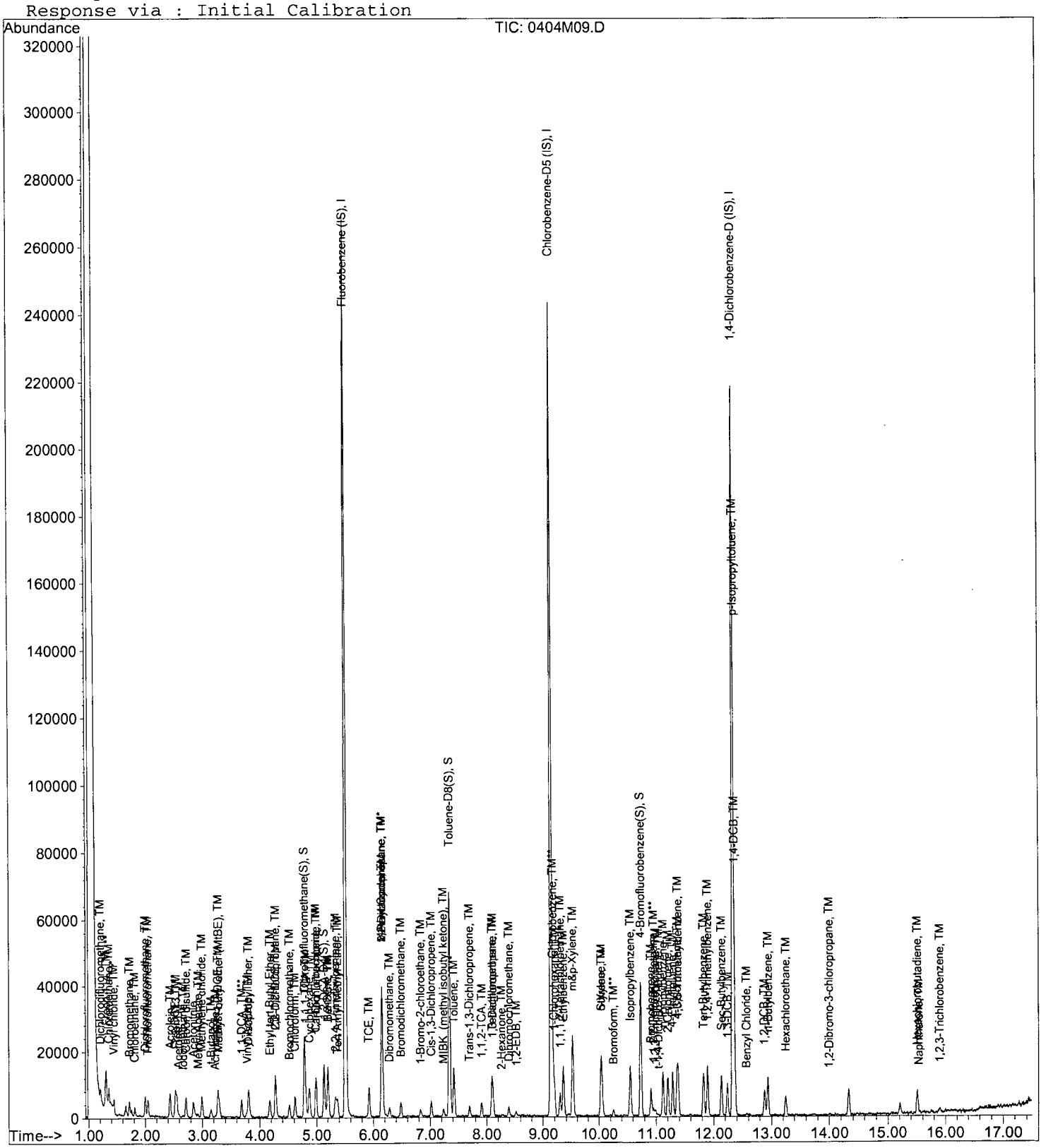
Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	22637	9.34 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
37) 1,2-DCA-D4(S)	5.13	65	16418	8.65 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
57) Toluene-D8(S)	7.34	98	94697	9.45 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
65) 4-Bromofluorobenzene(S)	10.73	95	29428	9.48 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	3507	1.10 ppb	#	81
3) Freon 114	1.31	85	4256	0.99 ppb		98
4) Chloromethane	1.35	50	4592	1.04 ppb		98
5) Vinyl chloride	1.44	62	6308	0.94 ppb		92
6) Bromomethane	1.71	94	4131	1.00 ppb		93
7) Chloroethane	1.81	64	4301	1.06 ppb		91
8) Dichlorofluoromethane	2.00	67	10808	0.99 ppb		100
9) Trichlorofluoromethane	2.05	101	6949	0.96 ppb		94
10) Acrolein	2.43	56	12335	50.51 ppb		98
11) Acetone	2.58	43	780	0.73 ppb		96
12) Freon-113	2.55	101	3967	0.90 ppb	#	89
13) 1,1-DCE	2.53	61	6572	0.94 ppb		95
14) Acetonitrile	2.84	TIC	25160	55.71 ppb		94
15) t-Butanol	3.15	59	4078	40.81 ppb		96
16) Methyl Acetate	2.92	43	1643	0.98 ppb		87
17) Iodomethane	2.65	142	1163	1.32 ppb	#	79
18) Acrylonitrile	3.24	53	677	0.92 ppb	#	80
19) Methylene chloride	3.00	84	4873	1.06 ppb		95
20) Carbon disulfide	2.71	76	14590	1.02 ppb		96
21) Methyl t-butyl ether (MtBE	3.30	73	6407	0.92 ppb		99
22) Trans-1,2-DCE	3.27	96	4967	0.98 ppb		92
23) Diisopropyl Ether	3.81	45	12461	0.89 ppb		97
24) 1,1-DCA	3.68	63	9040	1.04 ppb		97
25) Vinyl Acetate	3.76	43	2584	0.90 ppb		96
26) Ethyl tert Butyl Ether	4.18	59	7798	0.92 ppb		94
27) MEK (2-Butanone)	4.31	43	888	0.62 ppb	#	80
28) Cis-1,2-DCE	4.28	96	5342	0.99 ppb		96
29) 2,2-Dichloropropane	4.28	77	4537	0.89 ppb	#	87
30) Chloroform	4.62	83	7976	0.96 ppb		96
31) Bromochloromethane	4.52	128	2217	1.04 ppb		92
33) 1,1,1-TCA	4.81	97	6591	0.90 ppb		94
34) Cyclohexane	4.87	41	4968	1.02 ppb		73
35) 1,1-Dichloropropene	4.98	75	6478	0.93 ppb		97
36) 2,2,4-Trimethylpentane	5.33	57	11735	0.97 ppb		96
38) Carbon Tetrachloride	4.98	117	4770	0.81 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	6865	0.92 ppb		98
40) 1,2-DCA	5.21	62	4317	0.98 ppb		100
41) Benzene	5.20	78	19700	0.94 ppb		99
42) TCE	5.92	95	5592	1.01 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	65183	43.74	ppb		100
44) 1,2-Dichloropropane	6.16	63	4559	0.97	ppb		97
45) Bromodichloromethane	6.49	83	4886	0.91	ppb		92
46) Methyl Cyclohexane	6.15	83	7293	0.97	ppb		96
47) Dibromomethane	6.29	93	1635	0.91	ppb		83
48) MIBK (methyl isobutyl ket	7.23	43	2755	1.18	ppb	#	90
49) 1-Bromo-2-chloroethane	6.83	63	4513	1.01	ppb		88
51) Cis-1,3-Dichloropropene	7.02	75	5024	0.89	ppb		89
52) Toluene	7.42	91	22395	0.92	ppb		91
53) Trans-1,3-Dichloropropene	7.70	75	3011	0.84	ppb	#	72
54) 1,1,2-TCA	7.91	83	2053	0.90	ppb		90
55) 2-Hexanone	8.28	43	817	0.67	ppb	#	66
58) 1,2-EDB	8.52	107	2155	0.95	ppb		89
59) Tetrachloroethene	8.09	164	5800	1.02	ppb		91
60) 1-Chlorohexane	9.20	91	5241	0.88	ppb		96
61) 1,1,1,2-Tetrachloroethane	9.30	131	3771	0.90	ppb		83
62) m&p-Xylene	9.52	106	17717	1.72	ppb		99
63) o-Xylene	10.03	106	8108	0.85	ppb		99
64) Styrene	10.05	104	12513	0.86	ppb		94
66) 1,3-Dichloropropane	8.12	76	4016	0.91	ppb	#	69
67) Dibromochloromethane	8.39	129	3330	0.99	ppb		99
68) Chlorobenzene	9.18	112	13554	0.97	ppb		95
69) Ethylbenzene	9.35	91	23709	0.92	ppb		98
70) Bromoform	10.25	173	1529	0.85	ppb		80
72) Isopropylbenzene	10.55	105	21903	0.97	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.96	83	2405	1.02	ppb	#	87
74) 1,2,3-Trichloropropane	10.99	110	753	1.11	ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	425	1.03	ppb	#	74
76) Bromobenzene	10.91	156	5510	1.10	ppb		96
77) n-Propylbenzene	11.12	91	22244	0.93	ppb		97
78) 4-Ethyltoluene	11.29	105	18725	0.92	ppb		95
79) 2-Chlorotoluene	11.20	91	13748	0.96	ppb		96
80) 1,3,5-Trimethylbenzene	11.38	105	17206	0.97	ppb		93
81) 4-Chlorotoluene	11.36	91	14871	0.95	ppb		97
82) Tert-Butylbenzene	11.82	119	15433	0.99	ppb		94
83) 1,2,4-Trimethylbenzene	11.89	105	16759	1.01	ppb		95
84) Sec-Butylbenzene	12.14	105	20129	0.96	ppb		99
85) p-Isopropyltoluene	12.35	119	8138	0.89	ppb		95
86) Benzyl Chloride	12.57	91	869	1.12	ppb	#	64
87) 1,3-DCB	12.24	146	10207	1.04	ppb		89
88) 1,4-DCB	12.37	146	4471	0.93	ppb	#	81
89) n-Butylbenzene	12.94	91	8144	1.11	ppb		90
90) 1,2-DCB	12.88	146	8051	1.01	ppb		94
91) Hexachloroethane	13.25	117	1869	0.90	ppb		91
92) 1,2-Dibromo-3-chloropropan	14.00	75	86	0.34	ppb	#	63
94) Hexachlorobutadiene	15.51	225	3277	1.08	ppb		84
95) Naphthalene	15.54	128	1235	0.36	ppb	#	70
96) 1,2,3-Trichlorobenzene	15.90	180	1726	0.64	ppb	#	92

(#) = qualifier out of range (m) = manual integration

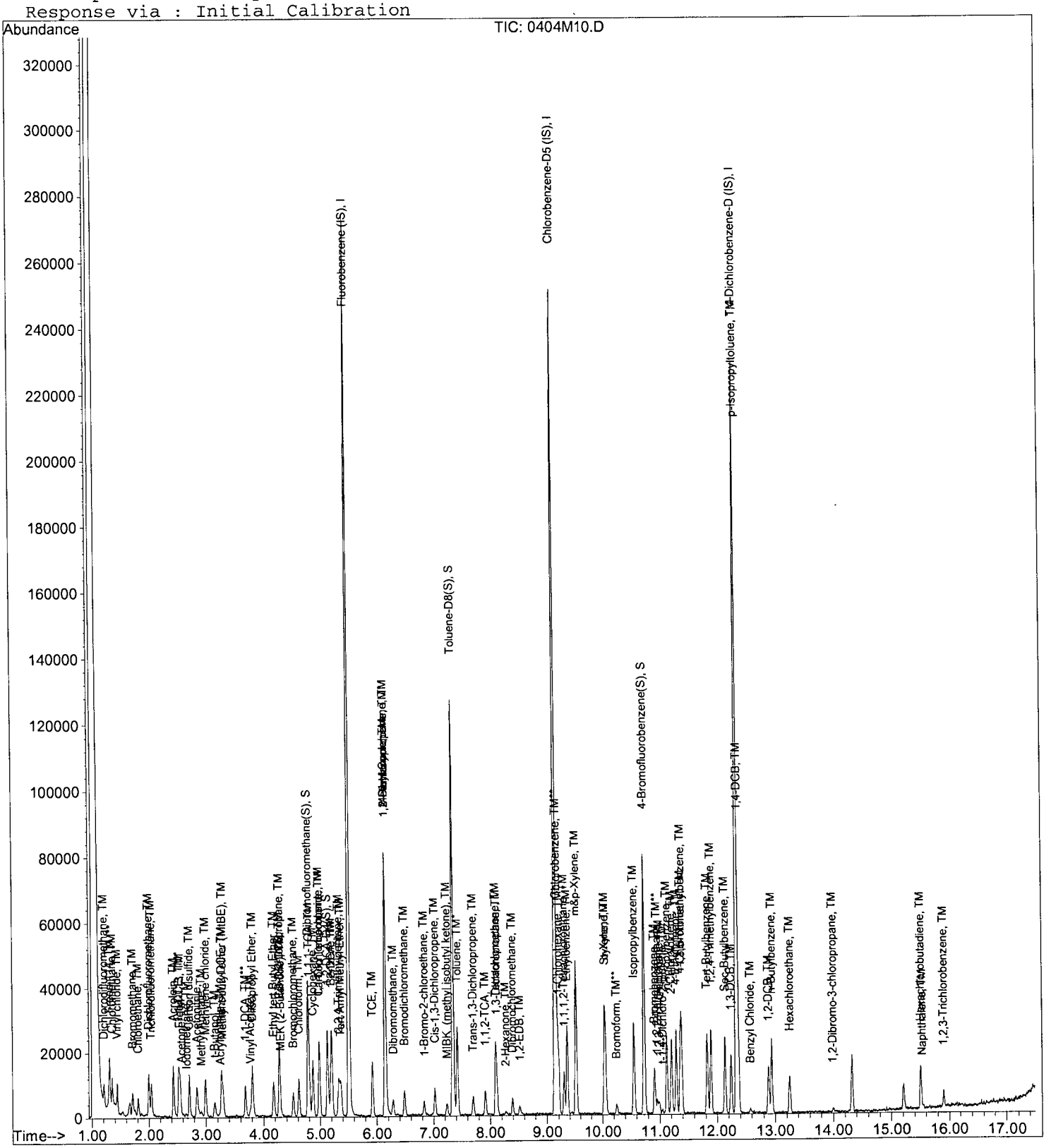
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00 ppb		0.00
56) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00 ppb		0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00 ppb		0.00
System Monitoring Compounds						
32) Dibromofluoromethane(S)	4.78	111	23010	9.37 ppb		0.00
Spiked Amount 25.000			Recovery	= 37.484%		
37) 1,2-DCA-D4(S)	5.13	65	18536	9.64 ppb		0.00
Spiked Amount 25.000			Recovery	= 38.548%		
57) Toluene-D8(S)	7.34	98	101431	9.68 ppb		0.00
Spiked Amount 25.000			Recovery	= 38.712%		
65) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18 ppb		0.00
Spiked Amount 25.000			Recovery	= 36.732%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	6557	2.04 ppb		100
3) Freon 114	1.31	85	8772	2.01 ppb		93
4) Chloromethane	1.35	50	8516	1.91 ppb		93
5) Vinyl chloride	1.44	62	13229	1.95 ppb		99
6) Bromomethane	1.71	94	8779	2.10 ppb		98
7) Chloroethane	1.81	64	7598	1.86 ppb		97
8) Dichlorofluoromethane	2.00	67	20763	1.87 ppb		98
9) Trichlorofluoromethane	2.04	101	13746	1.87 ppb		99
10) Acrolein	2.43	56	18527	74.85 ppb		93
11) Acetone	2.59	43	1227	1.50 ppb		91
12) Freon-113	2.55	101	9307	2.07 ppb		95
13) 1,1-DCE	2.53	61	13108	1.85 ppb		97
14) Acetonitrile	2.84	TIC	39273	85.79 ppb	#	90
15) t-Butanol	3.15	59	6731	66.45 ppb		92
16) Methyl Acetate	2.92	43	3168	1.87 ppb		94
17) Iodomethane	2.65	142	3520	1.79 ppb		90
18) Acrylonitrile	3.23	53	1477	1.98 ppb	#	79
19) Methylene chloride	3.00	84	9016	1.93 ppb		94
20) Carbon disulfide	2.71	76	28564	1.96 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	13093	1.86 ppb		94
22) Trans-1,2-DCE	3.27	96	9320	1.81 ppb		95
23) Diisopropyl Ether	3.81	45	26297	1.85 ppb		98
24) 1,1-DCA	3.68	63	16438	1.87 ppb		96
25) Vinyl Acetate	3.76	43	5024	1.72 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	15589	1.82 ppb	#	88
27) MEK (2-Butanone)	4.32	43	1349	1.05 ppb		95
28) Cis-1,2-DCE	4.28	96	10026	1.83 ppb		99
29) 2,2-Dichloropropane	4.27	77	9857	1.90 ppb		96
30) Chloroform	4.62	83	16363	1.94 ppb		93
31) Bromochloromethane	4.52	128	4503	2.08 ppb		84
33) 1,1,1-TCA	4.80	97	13120	1.78 ppb		94
34) Cyclohexane	4.87	41	9334	1.89 ppb		92
35) 1,1-Dichloropropene	4.99	75	13110	1.86 ppb		95
36) 2,2,4-Trimethylpentane	5.33	57	23046	1.87 ppb		96
38) Carbon Tetrachloride	4.98	117	10405	1.75 ppb		98
39) Tert Amyl Methyl Ether	5.37	73	13098	1.74 ppb		92
40) 1,2-DCA	5.21	62	7998	1.80 ppb		95
41) Benzene	5.20	78	39387	1.86 ppb		98
42) TCE	5.92	95	10143	1.81 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	104760	69.36 ppb		100
44) 1,2-Dichloropropane	6.16	63	8761	1.84 ppb		98
45) Bromodichloromethane	6.49	83	10709	1.97 ppb		93
46) Methyl Cyclohexane	6.15	83	14902	1.96 ppb		95
47) Dibromomethane	6.29	93	3402	1.88 ppb		86
48) MIBK (methyl isobutyl ket	7.24	43	4928	2.09 ppb	#	84
49) 1-Bromo-2-chloroethane	6.83	63	8433	1.86 ppb		98
50) 2-Chloroethyl vinyl ether	6.88	106	40	2.47 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	10351	1.81 ppb		95
52) Toluene	7.42	91	44803	1.82 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	5798	1.59 ppb		91
54) 1,1,2-TCA	7.91	83	4263	1.85 ppb		85
55) 2-Hexanone	8.27	43	1857	1.46 ppb	#	88
58) 1,2-EDB	8.52	107	4487	1.89 ppb		89
59) Tetrachloroethene	8.10	164	11646	1.96 ppb		91
60) 1-Chlorohexane	9.20	91	9967	1.60 ppb		96
61) 1,1,1,2-Tetrachloroethane	9.30	131	7140	1.62 ppb		96
62) m&p-Xylene	9.51	106	38027	3.54 ppb		97
63) o-Xylene	10.03	106	18092	1.82 ppb		96
64) Styrene	10.05	104	25701	1.70 ppb		100
66) 1,3-Dichloropropane	8.12	76	8793	1.90 ppb		92
67) Dibromochloromethane	8.39	129	6170	1.76 ppb		97
68) Chlorobenzene	9.18	112	27096	1.85 ppb		98
69) Ethylbenzene	9.35	91	49241	1.84 ppb		97
70) Bromoform	10.26	173	3339	1.77 ppb		96
72) Isopropylbenzene	10.55	105	46418	1.96 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	4907	1.99 ppb		97
74) 1,2,3-Trichloropropane	10.99	110	1437	2.03 ppb	#	77
75) t-1,4-Dichloro-2-Butene	11.03	53	713	1.66 ppb	#	81
76) Bromobenzene	10.91	156	9234	1.77 ppb		97
77) n-Propylbenzene	11.12	91	46624	1.87 ppb		99
78) 4-Ethyltoluene	11.29	105	37798	1.77 ppb		100
79) 2-Chlorotoluene	11.20	91	29783	1.99 ppb		98
80) 1,3,5-Trimethylbenzene	11.38	105	34425	1.85 ppb		100
81) 4-Chlorotoluene	11.36	91	30927	1.88 ppb		98
82) Tert-Butylbenzene	11.83	119	31186	1.92 ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	32739	1.89 ppb		99
84) Sec-Butylbenzene	12.14	105	40354	1.84 ppb		96
85) p-Isopropyltoluene	12.36	119	17656	1.85 ppb		98
86) Benzyl Chloride	12.57	91	1918	1.85 ppb	#	92
87) 1,3-DCB	12.24	146	19685	1.91 ppb		96
88) 1,4-DCB	12.37	146	9279	1.84 ppb		90
89) n-Butylbenzene	12.94	91	15029	1.96 ppb		98
90) 1,2-DCB	12.88	146	15001	1.81 ppb		97
91) Hexachloroethane	13.25	117	3395	1.56 ppb		87
92) 1,2-Dibromo-3-chloropropan	14.00	75	444	1.68 ppb		89
93) 1,2,4-Trichlorobenzene	15.20	180	7348	0.99 ppb		86
94) Hexachlorobutadiene	15.51	225	6738	2.12 ppb	#	85
95) Naphthalene	15.54	128	4429	1.25 ppb		95
96) 1,2,3-Trichlorobenzene	15.90	180	4285	1.53 ppb		93

(#) = qualifier out of range (m) = manual integration

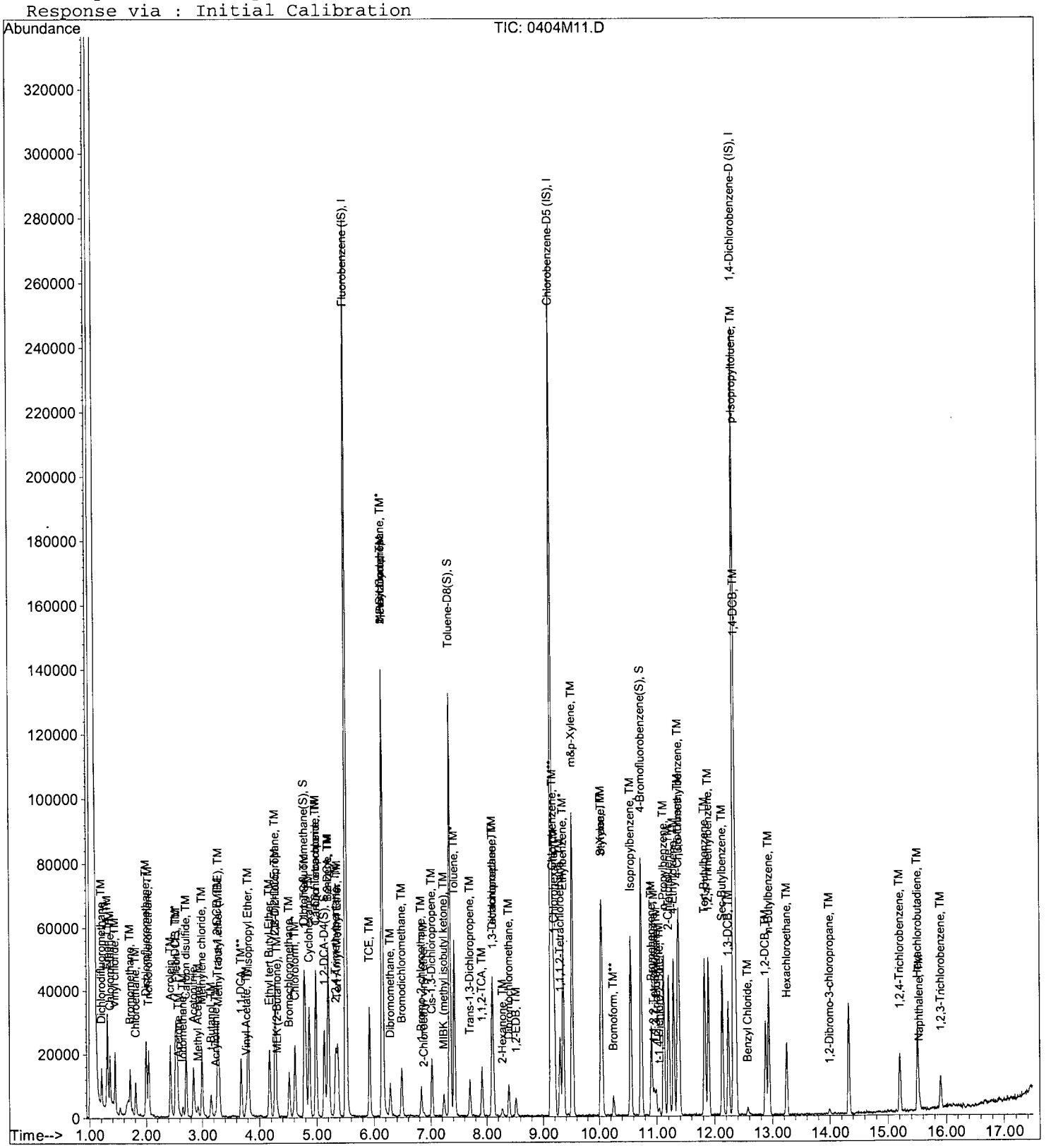
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



560

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:51 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:47:23 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61668	25.04 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
37) 1,2-DCA-D4(S)	5.13	65	49026	25.41 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
57) Toluene-D8(S)	7.34	98	257489	24.96 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
65) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	14908	4.62 ppb		88
3) Freon 114	1.31	85	21628	4.93 ppb		95
4) Chloromethane	1.35	50	24936	5.57 ppb		96
5) Vinyl chloride	1.44	62	35619	5.25 ppb		97
6) Bromomethane	1.71	94	20948	4.99 ppb		100
7) Chloroethane	1.81	64	20321	4.95 ppb		98
8) Dichlorofluoromethane	2.00	67	58098	5.22 ppb		97
9) Trichlorofluoromethane	2.04	101	36826	5.00 ppb		94
10) Acrolein	2.43	56	26528	106.86 ppb		98
11) Acetone	2.59	43	3877	6.17 ppb		84
12) Freon-113	2.55	101	22629	5.03 ppb		90
13) 1,1-DCE	2.52	61	36142	5.09 ppb		95
14) Acetonitrile	2.84	TIC	43762	95.32 ppb		96
15) t-Butanol	3.15	59	9802	96.49 ppb		92
16) Methyl Acetate	2.91	43	9146	5.38 ppb		96
17) Iodomethane	2.65	142	16108	4.27 ppb		94
18) Acrylonitrile	3.23	53	4403	5.88 ppb	#	94
19) Methylene chloride	2.99	84	24928	5.33 ppb		93
20) Carbon disulfide	2.71	76	76150	5.21 ppb		98
21) Methyl t-butyl ether (MtBE	3.30	73	40097	5.67 ppb		95
22) Trans-1,2-DCE	3.27	96	28516	5.52 ppb		95
23) Diisopropyl Ether	3.80	45	76332	5.34 ppb		98
24) 1,1-DCA	3.68	63	44933	5.11 ppb		98
25) Vinyl Acetate	3.76	43	15529	5.31 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	47916	5.59 ppb		92
27) MEK (2-Butanone)	4.31	43	6659	6.11 ppb		99
28) Cis-1,2-DCE	4.28	96	29361	5.35 ppb		95
29) 2,2-Dichloropropane	4.27	77	26650	5.13 ppb		99
30) Chloroform	4.62	83	46688	5.51 ppb		98
31) Bromochloromethane	4.52	128	11755	5.42 ppb		91
33) 1,1,1-TCA	4.80	97	38261	5.16 ppb		99
34) Cyclohexane	4.87	41	24058	4.86 ppb		97
35) 1,1-Dichloropropene	4.99	75	36803	5.22 ppb		94
36) 2,2,4-Trimethylpentane	5.33	57	60382	4.89 ppb		96
38) Carbon Tetrachloride	4.98	117	30172	5.07 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	40816	5.41 ppb		99
40) 1,2-DCA	5.21	62	23608	5.28 ppb		100
41) Benzene	5.20	78	115353	5.43 ppb		100
42) TCE	5.92	95	29008	5.16 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:51 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:47:23 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	154462	101.96 ppb		98
44) 1,2-Dichloropropane	6.16	63	25712	5.39 ppb		98
45) Bromodichloromethane	6.49	83	29080	5.35 ppb		93
46) Methyl Cyclohexane	6.14	83	37593	4.93 ppb		100
47) Dibromomethane	6.28	93	9925	5.46 ppb		90
48) MIBK (methyl isobutyl ket	7.23	43	13741	5.81 ppb		92
49) 1-Bromo-2-chloroethane	6.83	63	24328	5.36 ppb		96
50) 2-Chloroethyl vinyl ether	6.88	106	237m	4.55 ppb		100
51) Cis-1,3-Dichloropropene	7.02	75	29299	5.11 ppb		97
52) Toluene	7.42	91	132597	5.38 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	19820	5.43 ppb		91
54) 1,1,2-TCA	7.91	83	12366	5.35 ppb		94
55) 2-Hexanone	8.28	43	6862	5.31 ppb	#	94
58) 1,2-EDB	8.52	107	13028	5.58 ppb		92
59) Tetrachloroethene	8.09	164	30546	5.22 ppb		98
60) 1-Chlorohexane	9.20	91	31145	5.08 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.30	131	22853	5.28 ppb		99
62) m&p-Xylene	9.52	106	113513	10.73 ppb		98
63) o-Xylene	10.03	106	52728	5.40 ppb		94
64) Styrene	10.05	104	79049	5.31 ppb		97
66) 1,3-Dichloropropane	8.12	76	25783	5.66 ppb		100
67) Dibromochloromethane	8.39	129	18178	5.25 ppb		98
68) Chlorobenzene	9.18	112	79192	5.48 ppb		98
69) Ethylbenzene	9.35	91	141681	5.36 ppb		99
70) Bromoform	10.26	173	10065	5.41 ppb		95
72) Isopropylbenzene	10.55	105	138803	5.62 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	14158	5.49 ppb		98
74) 1,2,3-Trichloropropane	10.99	110	4622	6.26 ppb		90
75) t-1,4-Dichloro-2-Butene	11.04	53	2464	5.49 ppb	#	80
76) Bromobenzene	10.91	156	32407	5.95 ppb		97
77) n-Propylbenzene	11.12	91	144531	5.55 ppb		100
78) 4-Ethyltoluene	11.29	105	119518	5.37 ppb		100
79) 2-Chlorotoluene	11.20	91	85751	5.50 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	105815	5.46 ppb		97
81) 4-Chlorotoluene	11.36	91	95061	5.54 ppb		98
82) Tert-Butylbenzene	11.83	119	94362	5.56 ppb		97
83) 1,2,4-Trimethylbenzene	11.89	105	97701	5.40 ppb		100
84) Sec-Butylbenzene	12.14	105	117448	5.15 ppb		99
85) p-Isopropyltoluene	12.36	119	51328	5.15 ppb		99
86) Benzyl Chloride	12.57	91	7160	5.36 ppb	#	97
87) 1,3-DCB	12.24	146	59926	5.58 ppb		98
88) 1,4-DCB	12.37	146	29384	5.57 ppb		95
89) n-Butylbenzene	12.94	91	42384	5.29 ppb		96
90) 1,2-DCB	12.88	146	49219	5.68 ppb		98
91) Hexachloroethane	13.25	117	12465	5.48 ppb		95
92) 1,2-Dibromo-3-chloropropan	14.00	75	1548	5.63 ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	26572	5.36 ppb		99
94) Hexachlorobutadiene	15.50	225	18904	5.70 ppb		94
95) Naphthalene	15.54	128	19255	4.02 ppb	#	93
96) 1,2,3-Trichlorobenzene	15.90	180	15944	5.45 ppb		91

(#) = qualifier out of range (m) = manual integration

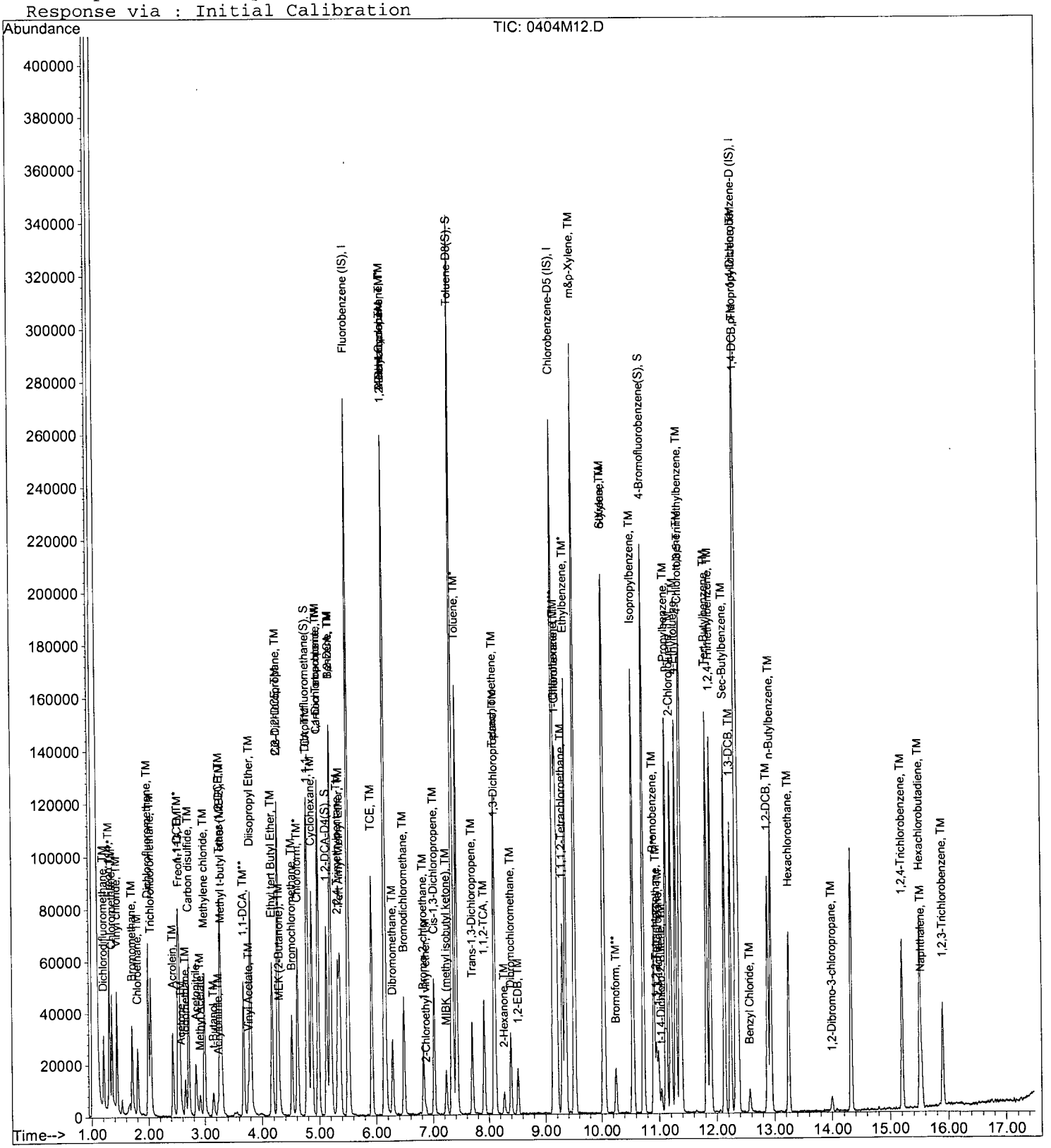
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:51 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



563

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	64981	25.85 ppb	0.00
Spiked Amount 25.000			Recovery = 103.396%		
37) 1,2-DCA-D4(S)	5.13	65	49923	25.35 ppb	0.00
Spiked Amount 25.000			Recovery = 101.404%		
57) Toluene-D8(S)	7.34	98	268568	24.76 ppb	0.00
Spiked Amount 25.000			Recovery = 99.044%		
65) 4-Bromofluorobenzene(S)	10.73	95	82270	24.49 ppb	0.00
Spiked Amount 25.000			Recovery = 97.956%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	33336	10.12 ppb	100
3) Freon 114	1.31	85	47063	10.51 ppb	100
4) Chloromethane	1.35	50	47872	10.48 ppb	100
5) Vinyl chloride	1.44	62	76182	10.99 ppb	100
6) Bromomethane	1.71	94	38958	9.10 ppb	100
7) Chloroethane	1.81	64	43590	10.40 ppb	100
8) Dichlorofluoromethane	2.00	67	115599	10.17 ppb	100
9) Trichlorofluoromethane	2.04	101	78615	10.47 ppb	100
10) Acrolein	2.43	56	30920	122.02 ppb	100
11) Acetone	2.58	43	6266	10.12 ppb	100
12) Freon-113	2.55	101	48963	10.66 ppb	100
13) 1,1-DCE	2.52	61	75671	10.44 ppb	100
14) Acetonitrile	2.84	TIC	56375	120.29 ppb	100
15) t-Butanol	3.15	59	13671	131.83 ppb	100
16) Methyl Acetate	2.92	43	17120	9.87 ppb	100
17) Iodomethane	2.65	142	43252	9.45 ppb	100
18) Acrylonitrile	3.23	53	8104	10.61 ppb	100
19) Methylene chloride	2.99	84	46812	9.81 ppb	100
20) Carbon disulfide	2.71	76	153563	10.30 ppb	100
21) Methyl t-butyl ether (MtBE	3.29	73	73189	10.15 ppb	100
22) Trans-1,2-DCE	3.27	96	55573	10.54 ppb	100
23) Diisopropyl Ether	3.80	45	146999	10.08 ppb	100
24) 1,1-DCA	3.68	63	89782	10.00 ppb	100
25) Vinyl Acetate	3.76	43	27050	9.05 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	87251	9.96 ppb	100
27) MEK (2-Butanone)	4.31	43	10950	9.98 ppb	100
28) Cis-1,2-DCE	4.27	96	58264	10.40 ppb	100
29) 2,2-Dichloropropane	4.27	77	54970	10.36 ppb	100
30) Chloroform	4.62	83	87819	10.15 ppb	100
31) Bromochloromethane	4.52	128	21940	9.90 ppb	100
33) 1,1,1-TCA	4.80	97	78665	10.40 ppb	100
34) Cyclohexane	4.87	41	52464	10.39 ppb	100
35) 1,1-Dichloropropene	4.98	75	75431	10.48 ppb	100
36) 2,2,4-Trimethylpentane	5.33	57	133942	10.64 ppb	100
38) Carbon Tetrachloride	4.98	117	63686	10.48 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	75766	9.84 ppb	100
40) 1,2-DCA	5.21	62	44703	9.80 ppb	100
41) Benzene	5.20	78	221365	10.20 ppb	100
42) TCE	5.92	95	59538	10.37 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	188062	121.61	ppb		100
44)	1,2-Dichloropropane	6.16	63	48487	9.95	ppb		100
45)	Bromodichloromethane	6.48	83	54711	9.85	ppb		100
46)	Methyl Cyclohexane	6.14	83	81802	10.52	ppb		100
47)	Dibromomethane	6.28	93	19227	10.37	ppb		100
48)	MIBK (methyl isobutyl ket	7.23	43	22262	9.21	ppb		100
49)	1-Bromo-2-chloroethane	6.83	63	44042	9.50	ppb		100
50)	2-Chloroethyl vinyl ether	6.87	106	483	7.43	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	58558	10.01	ppb		100
52)	Toluene	7.42	91	256143	10.17	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	37711	10.13	ppb		100
54)	1,1,2-TCA	7.91	83	23678	10.04	ppb		100
55)	2-Hexanone	8.27	43	13196	9.98	ppb		100
58)	1,2-EDB	8.52	107	24095	9.82	ppb		100
59)	Tetrachloroethene	8.09	164	62894	10.22	ppb		100
60)	1-Chlorohexane	9.20	91	68086	10.56	ppb		100
61)	1,1,1,2-Tetrachloroethane	9.29	131	45863	10.08	ppb		100
62)	m&p-Xylene	9.51	106	225803	20.30	ppb		100
63)	o-Xylene	10.03	106	102849	10.02	ppb		100
64)	Styrene	10.05	104	154075	9.84	ppb		100
66)	1,3-Dichloropropane	8.12	76	48428	10.12	ppb		100
67)	Dibromochloromethane	8.39	129	35844	9.86	ppb		100
68)	Chlorobenzene	9.17	112	149334	9.83	ppb		100
69)	Ethylbenzene	9.35	91	281244	10.13	ppb		100
70)	Bromoform	10.25	173	18885	9.66	ppb		100
72)	Isopropylbenzene	10.55	105	276072	10.32	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	27161	9.73	ppb		100
74)	1,2,3-Trichloropropane	10.99	110	8114	10.16	ppb		100
75)	t-1,4-Dichloro-2-Butene	11.04	53	4981	10.26	ppb		100
76)	Bromobenzene	10.91	156	60444	10.25	ppb		100
77)	n-Propylbenzene	11.12	91	296359	10.52	ppb		100
78)	4-Ethyltoluene	11.29	105	248639	10.32	ppb		100
79)	2-Chlorotoluene	11.20	91	170193	10.08	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	209192	9.98	ppb		100
81)	4-Chlorotoluene	11.36	91	188712	10.17	ppb		100
82)	Tert-Butylbenzene	11.82	119	189738	10.33	ppb		100
83)	1,2,4-Trimethylbenzene	11.89	105	195534	9.97	ppb		100
84)	Sec-Butylbenzene	12.14	105	246265	9.97	ppb		100
85)	p-Isopropyltoluene	12.36	119	105576	9.79	ppb		100
86)	Benzyl Chloride	12.57	91	14477	9.44	ppb		100
87)	1,3-DCB	12.24	146	114378	9.83	ppb		100
88)	1,4-DCB	12.37	146	57704	10.11	ppb		100
89)	n-Butylbenzene	12.94	91	84048	9.69	ppb		100
90)	1,2-DCB	12.88	146	95852	10.22	ppb		100
91)	Hexachloroethane	13.25	117	24552	9.96	ppb		100
92)	1,2-Dibromo-3-chloropropan	14.00	75	2817	9.46	ppb		100
93)	1,2,4-Trichlorobenzene	15.21	180	54263	10.80	ppb		100
94)	Hexachlorobutadiene	15.51	225	38977	10.86	ppb		100
95)	Naphthalene	15.54	128	47567	11.86	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	35545	11.23	ppb		100

(#) = qualifier out of range (m) = manual integration

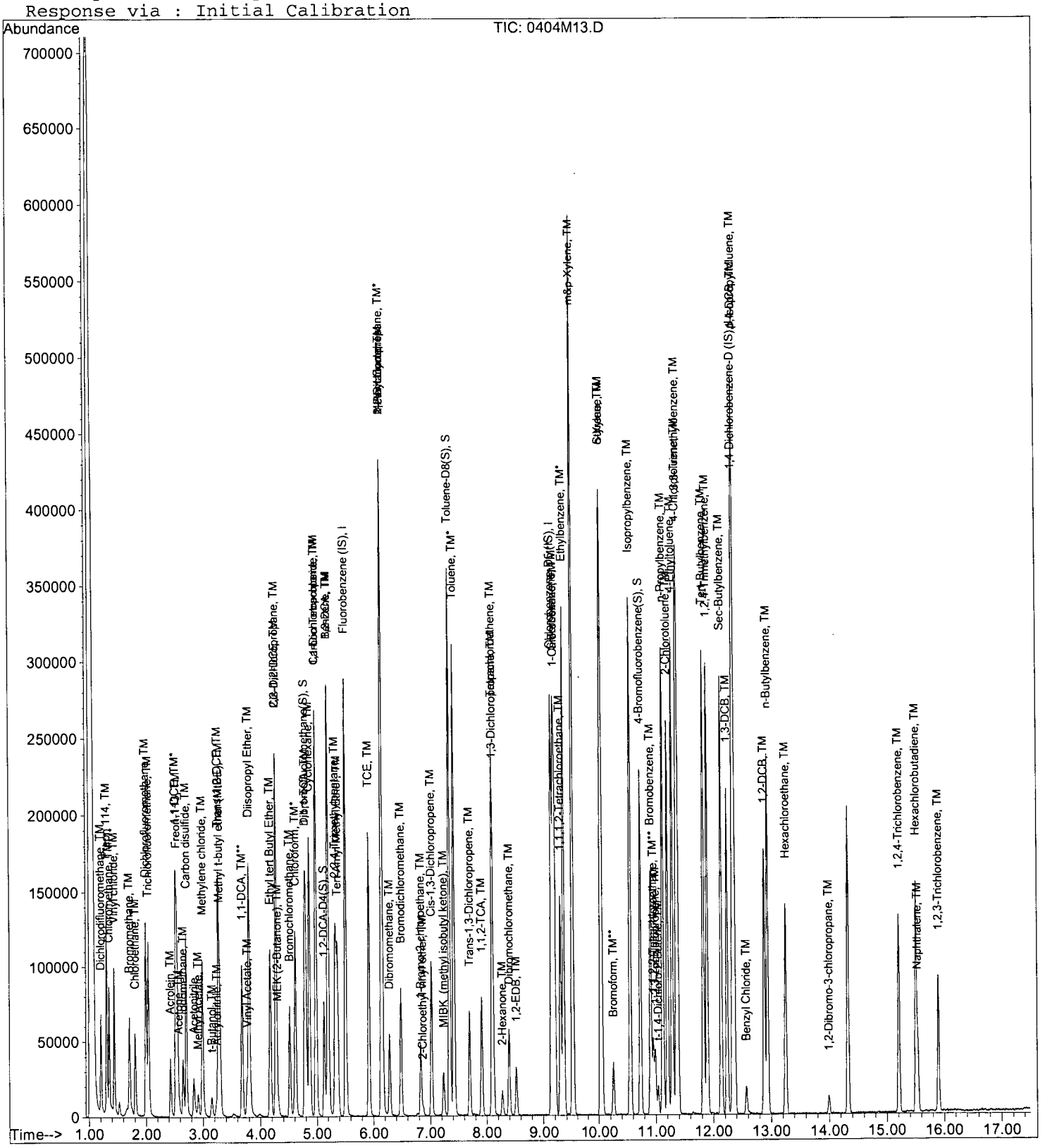
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:46 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	130136	49.60 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
37) 1,2-DCA-D4(S)	5.13	65	104487	50.84 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
57) Toluene-D8(S)	7.34	98	557694	49.84 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
65) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	66968	19.47 ppb	98
3) Freon 114	1.31	85	90721	19.41 ppb	98
4) Chloromethane	1.35	50	90408	18.96 ppb	99
5) Vinyl chloride	1.44	62	149189	20.63 ppb	97
6) Bromomethane	1.70	94	72788	16.29 ppb	92
7) Chloroethane	1.80	64	88346	20.19 ppb	94
8) Dichlorofluoromethane	1.99	67	237784	20.05 ppb	99
9) Trichlorofluoromethane	2.04	101	159395	20.33 ppb	96
10) Acrolein	2.43	56	39401	148.99 ppb	90
11) Acetone	2.58	43	12361	19.72 ppb	91
12) Freon-113	2.55	101	95878	20.00 ppb	97
13) 1,1-DCE	2.52	61	149881	19.82 ppb	97
14) Acetonitrile	2.84	TIC	73679	150.64 ppb #	95
15) t-Butanol	3.15	59	17294	159.81 ppb	96
16) Methyl Acetate	2.91	43	36838	20.35 ppb	96
17) Iodomethane	2.65	142	101787	19.94 ppb	98
18) Acrylonitrile	3.23	53	17338	21.75 ppb	92
19) Methylene chloride	2.99	84	94559	18.98 ppb	96
20) Carbon disulfide	2.71	76	302511	19.44 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	151816	20.17 ppb	98
22) Trans-1,2-DCE	3.27	96	109270	19.86 ppb	95
23) Diisopropyl Ether	3.80	45	312531	20.54 ppb	97
24) 1,1-DCA	3.68	63	183041	19.53 ppb	96
25) Vinyl Acetate	3.76	43	61199	19.63 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	186796	20.44 ppb	99
27) MEK (2-Butanone)	4.31	43	23339	20.65 ppb	95
28) Cis-1,2-DCE	4.27	96	116789	19.97 ppb	95
29) 2,2-Dichloropropane	4.27	77	116892	21.11 ppb	99
30) Chloroform	4.62	83	177972	19.72 ppb	99
31) Bromochloromethane	4.52	128	43687	18.90 ppb	97
33) 1,1,1-TCA	4.80	97	159858	20.24 ppb	98
34) Cyclohexane	4.87	41	101478	19.26 ppb	98
35) 1,1-Dichloropropene	4.99	75	150247	20.00 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	258653	19.68 ppb	99
38) Carbon Tetrachloride	4.98	117	131818	20.79 ppb	92
39) Tert Amyl Methyl Ether	5.37	73	165438	20.58 ppb	94
40) 1,2-DCA	5.21	62	94068	19.77 ppb	99
41) Benzene	5.20	78	447523	19.76 ppb	99
42) TCE	5.92	95	116538	19.46 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:46 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.15	43	250085	154.96 ppb	97
44) 1,2-Dichloropropane	6.16	63	101263	19.91 ppb	99
45) Bromodichloromethane	6.48	83	115675	19.96 ppb	100
46) Methyl Cyclohexane	6.15	83	162428	20.01 ppb	97
47) Dibromomethane	6.28	93	39346	20.33 ppb	94
48) MIBK (methyl isobutyl ket	7.23	43	46324	18.37 ppb	96
49) 1-Bromo-2-chloroethane	6.83	63	95718	19.79 ppb	97
50) 2-Chloroethyl vinyl ether	6.87	106	1842m	21.81 ppb	0
51) Cis-1,3-Dichloropropene	7.02	75	125745	20.60 ppb	97
52) Toluene	7.42	91	515588	19.63 ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	85842	22.09 ppb	94
54) 1,1,2-TCA	7.91	83	48497	19.71 ppb	97
55) 2-Hexanone	8.27	43	28574	20.68 ppb	98
58) 1,2-EDB	8.52	107	52990	20.94 ppb	96
59) Tetrachloroethene	8.09	164	122712	19.34 ppb	98
60) 1-Chlorohexane	9.20	91	139883	21.03 ppb	98
61) 1,1,1,2-Tetrachloroethane	9.30	131	96582	20.58 ppb	96
62) m&p-Xylene	9.51	106	459741	40.05 ppb	93
63) o-Xylene	10.03	106	215404	20.34 ppb	100
64) Styrene	10.05	104	335366	20.76 ppb	98
66) 1,3-Dichloropropane	8.12	76	100435	20.34 ppb	96
67) Dibromochloromethane	8.39	129	76119	20.29 ppb	95
68) Chlorobenzene	9.18	112	307175	19.61 ppb	100
69) Ethylbenzene	9.35	91	572306	19.98 ppb	98
70) Bromoform	10.25	173	41583	20.63 ppb	90
72) Isopropylbenzene	10.55	105	579126	19.08 ppb	98
73) 1,1,2,2-Tetrachloroethane	10.95	83	59723	18.86 ppb	99
74) 1,2,3-Trichloropropane	10.99	110	18169	20.05 ppb	89
75) t-1,4-Dichloro-2-Butene	11.04	53	11412	20.72 ppb	96
76) Bromobenzene	10.91	156	124585	18.63 ppb	98
77) n-Propylbenzene	11.12	91	634367	19.85 ppb	99
78) 4-Ethyltoluene	11.29	105	546027	19.99 ppb	98
79) 2-Chlorotoluene	11.20	91	363250	18.97 ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	465829	19.59 ppb	98
81) 4-Chlorotoluene	11.36	91	415814	19.75 ppb	100
82) Tert-Butylbenzene	11.83	119	406743	19.51 ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	435106	19.57 ppb	96
84) Sec-Butylbenzene	12.14	105	542159	19.35 ppb	100
85) p-Isopropyltoluene	12.36	119	251072	20.52 ppb	99
86) Benzyl Chloride	12.57	91	38064	20.26 ppb	97
87) 1,3-DCB	12.24	146	257992	19.55 ppb	96
88) 1,4-DCB	12.37	146	132032	20.39 ppb	98
89) n-Butylbenzene	12.94	91	183936	18.70 ppb	96
90) 1,2-DCB	12.88	146	212163	19.95 ppb	100
91) Hexachloroethane	13.25	117	58097	20.78 ppb	98
92) 1,2-Dibromo-3-chloropropan	13.99	75	6905	20.45 ppb	95
93) 1,2,4-Trichlorobenzene	15.21	180	117956	21.40 ppb	97
94) Hexachlorobutadiene	15.51	225	75236	18.48 ppb	92
95) Naphthalene	15.54	128	120414	26.47 ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	82621	23.00 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

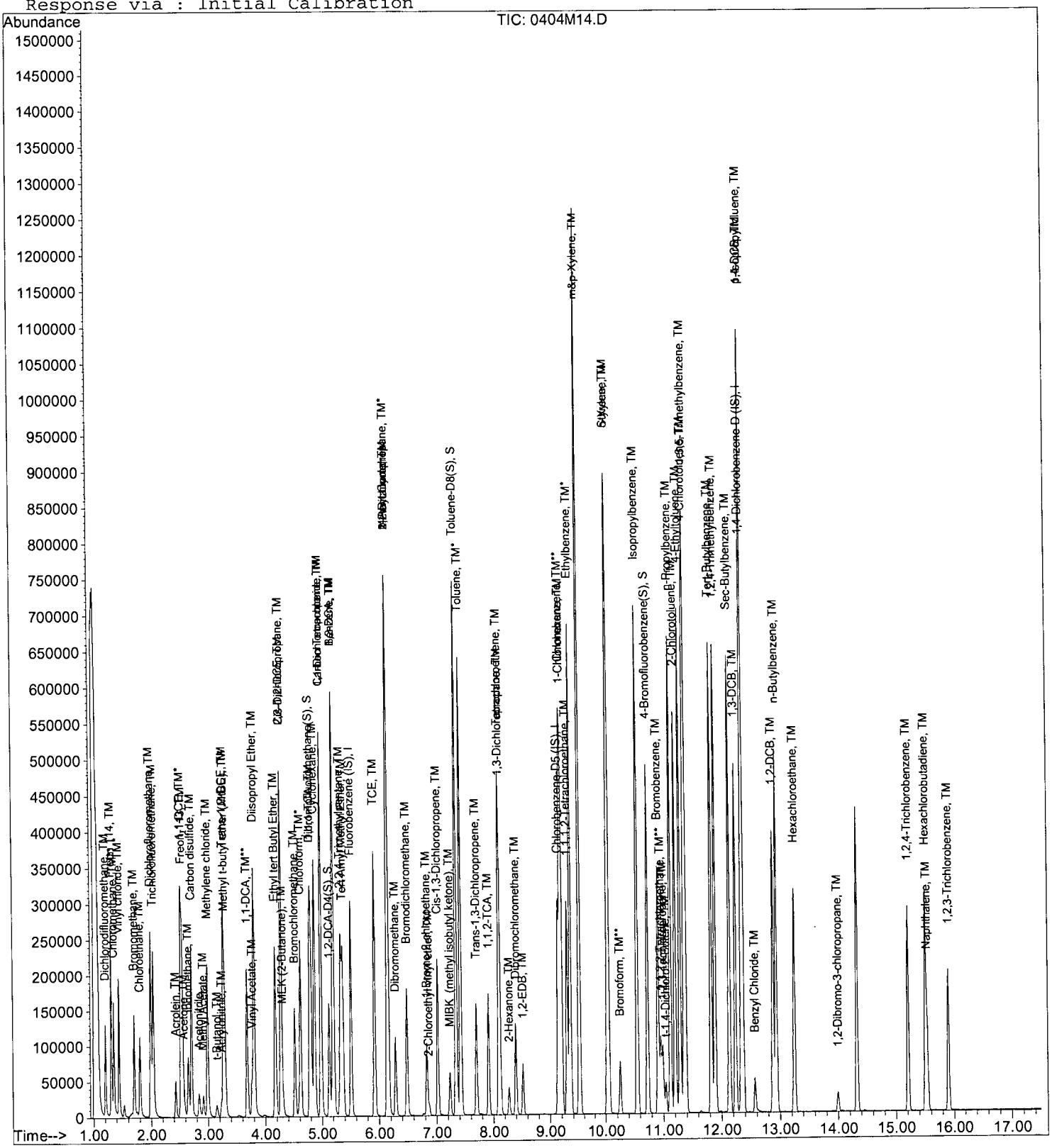
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:46 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



569

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	134910	49.41 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
37) 1,2-DCA-D4(S)	5.13	65	104494	48.85 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
57) Toluene-D8(S)	7.34	98	593973	50.24 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
65) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	129088	36.06 ppb		100
3) Freon 114	1.31	85	191455	39.35 ppb		98
4) Chloromethane	1.35	50	183512	36.98 ppb		96
5) Vinyl chloride	1.44	62	297432	39.51 ppb		98
6) Bromomethane	1.70	94	121297	26.07 ppb		96
7) Chloroethane	1.80	64	181707	39.90 ppb		95
8) Dichlorofluoromethane	1.99	67	484950	39.28 ppb		100
9) Trichlorofluoromethane	2.04	101	322449	39.52 ppb		99
10) Acrolein	2.43	56	46789	169.99 ppb		92
11) Acetone	2.58	43	24600	38.31 ppb		89
12) Freon-113	2.54	101	193028	38.69 ppb		96
13) 1,1-DCE	2.52	61	312545	39.72 ppb		96
14) Acetonitrile	2.84	TIC	73210	143.81 ppb	#	90
15) t-Butanol	3.15	59	21468	190.60 ppb	#	86
16) Methyl Acetate	2.91	43	76420	40.57 ppb		96
17) Iodomethane	2.65	142	222816	40.73 ppb		98
18) Acrylonitrile	3.23	53	33745	40.68 ppb		95
19) Methylene chloride	2.99	84	189691	36.58 ppb		99
20) Carbon disulfide	2.71	76	610872	37.72 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	321256	41.01 ppb		97
22) Trans-1,2-DCE	3.26	96	229033	40.00 ppb		97
23) Diisopropyl Ether	3.80	45	656196	41.43 ppb		98
24) 1,1-DCA	3.68	63	382523	39.21 ppb		98
25) Vinyl Acetate	3.76	43	134320	41.39 ppb		99
26) Ethyl tert Butyl Ether	4.17	59	403335	42.40 ppb		98
27) MEK (2-Butanone)	4.31	43	46332	39.60 ppb		99
28) Cis-1,2-DCE	4.27	96	239292	39.31 ppb		96
29) 2,2-Dichloropropane	4.27	77	251155	43.57 ppb		100
30) Chloroform	4.61	83	365475	38.90 ppb		99
31) Bromochloromethane	4.52	128	90277	37.52 ppb		90
33) 1,1,1-TCA	4.80	97	336301	40.91 ppb		98
34) Cyclohexane	4.87	41	213316	38.90 ppb		96
35) 1,1-Dichloropropene	4.98	75	310800	39.75 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	555635	40.62 ppb		99
38) Carbon Tetrachloride	4.98	117	278702	42.23 ppb		94
39) Tert Amyl Methyl Ether	5.37	73	358200	42.82 ppb		91
40) 1,2-DCA	5.21	62	201981	40.78 ppb		99
41) Benzene	5.20	78	936173	39.72 ppb		99
42) TCE	5.92	95	242712	38.93 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.15	43	319267	190.07 ppb		96
44)	1,2-Dichloropropane	6.16	63	213771	40.39 ppb		100
45)	Bromodichloromethane	6.48	83	242984	40.29 ppb		97
46)	Methyl Cyclohexane	6.14	83	342507	40.54 ppb		94
47)	Dibromomethane	6.28	93	80448	39.93 ppb		92
48)	MIBK (methyl isobutyl ket	7.23	43	93915	35.78 ppb		99
49)	1-Bromo-2-chloroethane	6.83	63	203696	40.46 ppb		93
50)	2-Chloroethyl vinyl ether	6.87	106	3981	43.12 ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	273330	43.02 ppb		96
52)	Toluene	7.42	91	1111909	40.66 ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	194540	48.10 ppb		95
54)	1,1,2-TCA	7.91	83	101415	39.60 ppb		97
55)	2-Hexanone	8.27	43	57660	40.06 ppb		95
58)	1,2-EDB	8.52	107	112404	42.05 ppb		93
59)	Tetrachloroethene	8.10	164	249161	37.16 ppb		98
60)	1-Chlorohexane	9.20	91	313677	44.64 ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	210317	42.41 ppb		100
62)	m&p-Xylene	9.51	106	1053974	86.92 ppb		93
63)	o-Xylene	10.03	106	489748	43.77 ppb		98
64)	Styrene	10.05	104	781645	45.80 ppb		97
66)	1,3-Dichloropropane	8.12	76	208905	40.04 ppb		100
67)	Dibromochloromethane	8.39	129	159533	40.25 ppb		91
68)	Chlorobenzene	9.18	112	659247	39.83 ppb		99
69)	Ethylbenzene	9.35	91	1245394	41.16 ppb		98
70)	Bromoform	10.26	173	96819	45.46 ppb		97
72)	Isopropylbenzene	10.55	105	1315694	36.18 ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	130790	34.48 ppb		99
74)	1,2,3-Trichloropropane	10.99	110	39249	36.15 ppb		98
75)	t-1,4-Dichloro-2-Butene	11.04	53	27740	42.04 ppb		93
76)	Bromobenzene	10.91	156	276878	34.56 ppb		97
77)	n-Propylbenzene	11.12	91	1478609	38.61 ppb		100
78)	4-Ethyltoluene	11.29	105	1314843	40.17 ppb		98
79)	2-Chlorotoluene	11.20	91	856805	37.34 ppb		95
80)	1,3,5-Trimethylbenzene	11.38	105	1135443	39.85 ppb		96
81)	4-Chlorotoluene	11.36	91	1026940	40.71 ppb		98
82)	Tert-Butylbenzene	11.83	119	943465	37.78 ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	1056912	39.67 ppb		94
84)	Sec-Butylbenzene	12.14	105	1327158	39.53 ppb		98
85)	p-Isopropyltoluene	12.36	119	611081	41.70 ppb		99
86)	Benzyl Chloride	12.57	91	99255	39.97 ppb		95
87)	1,3-DCB	12.24	146	608375	38.49 ppb		96
88)	1,4-DCB	12.37	146	313344	40.40 ppb		97
89)	n-Butylbenzene	12.94	91	446976	37.94 ppb		96
90)	1,2-DCB	12.88	146	479236	37.62 ppb		97
91)	Hexachloroethane	13.25	117	142926	42.67 ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	16326	40.36 ppb		96
93)	1,2,4-Trichlorobenzene	15.21	180	267502	41.21 ppb		94
94)	Hexachlorobutadiene	15.51	225	169317	34.71 ppb		95
95)	Naphthalene	15.54	128	281726	51.71 ppb		97
96)	1,2,3-Trichlorobenzene	15.90	180	190594	44.30 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

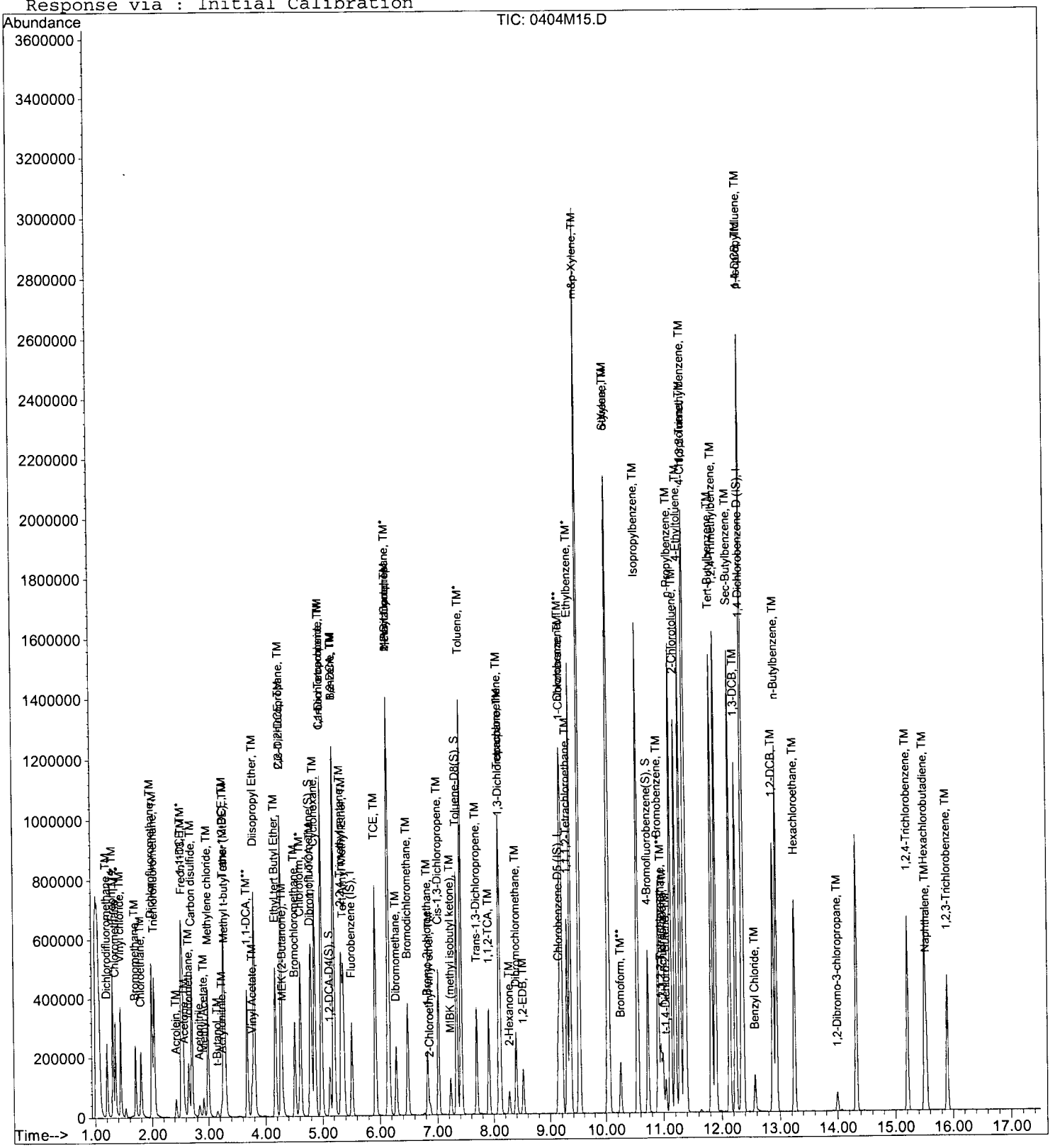
Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017
Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	285741	92.79 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
37) 1,2-DCA-D4(S)	5.13	65	224850	93.21 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
57) Toluene-D8(S)	7.34	98	1316408	95.10 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
65) 4-Bromofluorobenzene(S)	10.73	95	449861	104.93 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	375808	93.09 ppb		96
3) Freon 114	1.31	85	509688	92.89 ppb		96
4) Chloromethane	1.35	50	496592	88.72 ppb		96
5) Vinyl chloride	1.44	62	798880	94.09 ppb		99
6) Bromomethane	1.70	94	286052	54.52 ppb		95
7) Chloroethane	1.79	64	497323	96.83 ppb		97
8) Dichlorofluoromethane	1.99	67	1441058	103.50 ppb		100
9) Trichlorofluoromethane	2.03	101	981074	106.62 ppb		99
10) Acrolein	2.43	56	59933	193.07 ppb		94
11) Acetone	2.59	43	63177	88.07 ppb		90
12) Freon-113	2.54	101	533776	94.86 ppb		97
13) 1,1-DCE	2.52	61	866903	97.67 ppb		94
14) Acetonitrile	2.85	TIC	131031	228.23 ppb	#	90
15) t-Butanol	3.19	59	26649	209.78 ppb		91
16) Methyl Acetate	2.91	43	212527	100.03 ppb		96
17) Iodomethane	2.65	142	625762	99.81 ppb		99
18) Acrylonitrile	3.23	53	97332	104.03 ppb		93
19) Methylene chloride	2.99	84	508994	87.03 ppb		99
20) Carbon disulfide	2.71	76	1724703	94.44 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	904632	102.38 ppb		95
22) Trans-1,2-DCE	3.26	96	620212	96.03 ppb		94
23) Diisopropyl Ether	3.81	45	1906913	106.75 ppb		97
24) 1,1-DCA	3.68	63	1075463	97.76 ppb		98
25) Vinyl Acetate	3.76	43	455708	124.50 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	1190819	111.00 ppb		97
27) MEK (2-Butanone)	4.31	43	106519	80.98 ppb		91
28) Cis-1,2-DCE	4.27	96	674861	98.29 ppb		94
29) 2,2-Dichloropropane	4.27	77	783226	120.49 ppb		98
30) Chloroform	4.62	83	1033944	97.58 ppb		99
31) Bromochloromethane	4.52	128	250612	92.35 ppb		91
33) 1,1,1-TCA	4.80	97	980355	105.75 ppb		98
34) Cyclohexane	4.87	41	621474	100.48 ppb		94
35) 1,1-Dichloropropene	4.99	75	886391	100.53 ppb		96
36) 2,2,4-Trimethylpentane	5.33	57	1585693	102.79 ppb		99
38) Carbon Tetrachloride	4.98	117	826297	111.01 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	1057436	112.08 ppb	#	88
40) 1,2-DCA	5.21	62	590862	105.77 ppb		98
41) Benzene	5.20	78	2696088	101.43 ppb		100
42) TCE	5.92	95	688484	97.93 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	456888	241.18 ppb		92
44) 1,2-Dichloropropane	6.16	63	609692	102.13 ppb		100
45) Bromodichloromethane	6.49	83	695757	102.28 ppb		100
46) Methyl Cyclohexane	6.15	83	997084	104.65 ppb		95
47) Dibromomethane	6.28	93	224453	98.79 ppb		94
48) MIBK (methyl isobutyl ket	7.24	43	259611	87.71 ppb		97
49) 1-Bromo-2-chloroethane	6.83	63	572382	100.80 ppb		96
50) 2-Chloroethyl vinyl ether	6.87	106	10577	98.85 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	809859	113.03 ppb		97
52) Toluene	7.42	91	3366290	109.15 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	605578	132.76 ppb		96
54) 1,1,2-TCA	7.91	83	290011	100.41 ppb		97
55) 2-Hexanone	8.28	43	162169	99.84 ppb		100
58) 1,2-EDB	8.52	107	317874	101.57 ppb		94
59) Tetrachloroethene	8.10	164	690787	88.00 ppb		99
60) 1-Chlorohexane	9.20	91	983594	119.56 ppb		97
61) 1,1,1,2-Tetrachloroethane	9.30	131	622012	107.13 ppb		97
62) m&p-Xylene	9.52	106	3135983	220.87 ppb		90
63) o-Xylene	10.04	106	1480867	113.03 ppb		94
64) Styrene	10.05	104	2416413	120.93 ppb		96
66) 1,3-Dichloropropane	8.12	76	598718	98.00 ppb		97
67) Dibromochloromethane	8.39	129	460736	99.27 ppb		90
68) Chlorobenzene	9.18	112	1932077	99.70 ppb		97
69) Ethylbenzene	9.35	91	3704373	104.56 ppb		97
70) Bromoform	10.26	173	287800	115.40 ppb		98
72) Isopropylbenzene	10.55	105	4071295	95.85 ppb		97
73) 1,1,2,2-Tetrachloroethane	10.96	83	379591	85.68 ppb		99
74) 1,2,3-Trichloropropane	10.99	110	113609	89.58 ppb		99
75) t-1,4-Dichloro-2-Butene	11.04	53	81362	105.58 ppb		87
76) Bromobenzene	10.91	156	815252	87.13 ppb		97
77) n-Propylbenzene	11.12	91	4581114	102.43 ppb		97
78) 4-Ethyltoluene	11.29	105	3999646	104.63 ppb		96
79) 2-Chlorotoluene	11.21	91	2545984	95.01 ppb		94
80) 1,3,5-Trimethylbenzene	11.39	105	3338213	100.32 ppb		96
81) 4-Chlorotoluene	11.36	91	3064508	104.00 ppb		95
82) Tert-Butylbenzene	11.83	119	2871971	98.46 ppb		97
83) 1,2,4-Trimethylbenzene	11.90	105	3248988	104.41 ppb		94
84) Sec-Butylbenzene	12.14	105	4085455	104.19 ppb		97
85) p-Isopropyltoluene	12.36	119	1896448	110.79 ppb		98
86) Benzyl Chloride	12.57	91	356904	98.11 ppb		95
87) 1,3-DCB	12.24	146	1788630	96.88 ppb		96
88) 1,4-DCB	12.37	146	905920	100.01 ppb		96
89) n-Butylbenzene	12.94	91	1421193	103.27 ppb		97
90) 1,2-DCB	12.88	146	1390402	93.45 ppb		98
91) Hexachloroethane	13.25	117	464996	118.85 ppb		95
92) 1,2-Dibromo-3-chloropropan	13.99	75	49811	105.42 ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	743836	99.17 ppb		95
94) Hexachlorobutadiene	15.51	225	480597	84.35 ppb		94
95) Naphthalene	15.54	128	744265	116.95 ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	490216	97.55 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

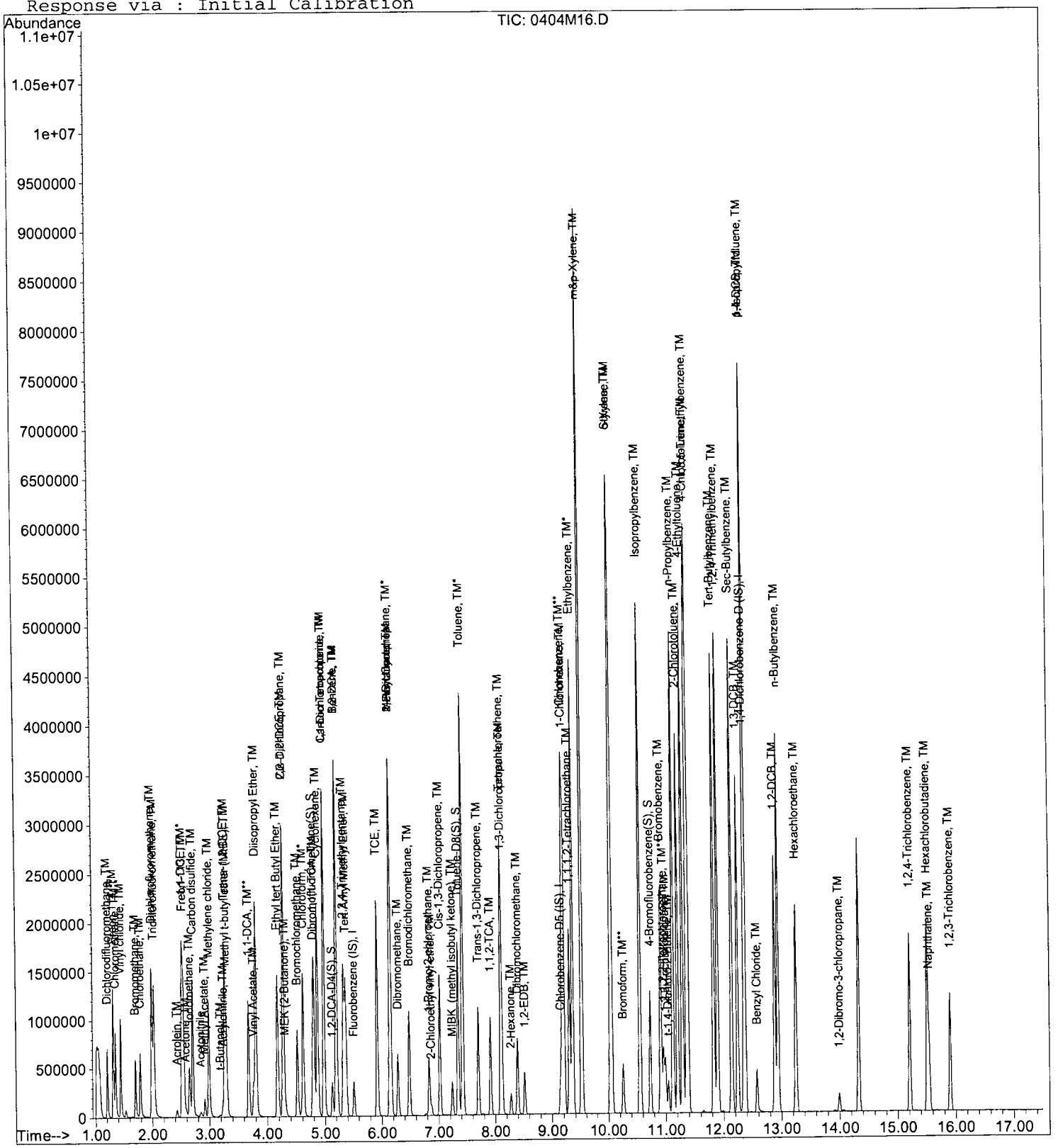
Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170301\MGASC612.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 20 11:04:34 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 10:58
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M07.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2382	1.2	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1871	1.4	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.518	4.1	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4374	3.2	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.5		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261831	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	176286	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	76145	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62379	25.29529 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.180%	
3) 1,2-DCA-D4(S)	5.13	65	48986	25.35831 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.432%	
5) Toluene-D8(S)	7.35	98	267522	26.01580 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.064%	
6) 4-Bromofluorobenzene(S)	10.73	95	77107	24.20973 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 22:19
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2431	3.2	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1951	5.8	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.526	4.6	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4469	1.0	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M31.D
Acq On : 7 Apr 17 22:19
Sample : Ending CCV GAS 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248241	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	166645	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	74137	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	60341	25.80841 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
3) 1,2-DCA-D4(S)	5.13	65	48425	26.44025 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.760%	
5) Toluene-D8(S)	7.35	98	254246	26.15516 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.620%	
6) 4-Bromofluorobenzene(S)	10.73	95	74481	24.73815 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217654**
Batch ID: #GRO86-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/24/17 1:58:19 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M12.D Vial: 12
Acq On : 7 Apr 17 13:20 Operator: PM,DG,SV,CMM
Sample : 170407A BLK-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:28 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	266951	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

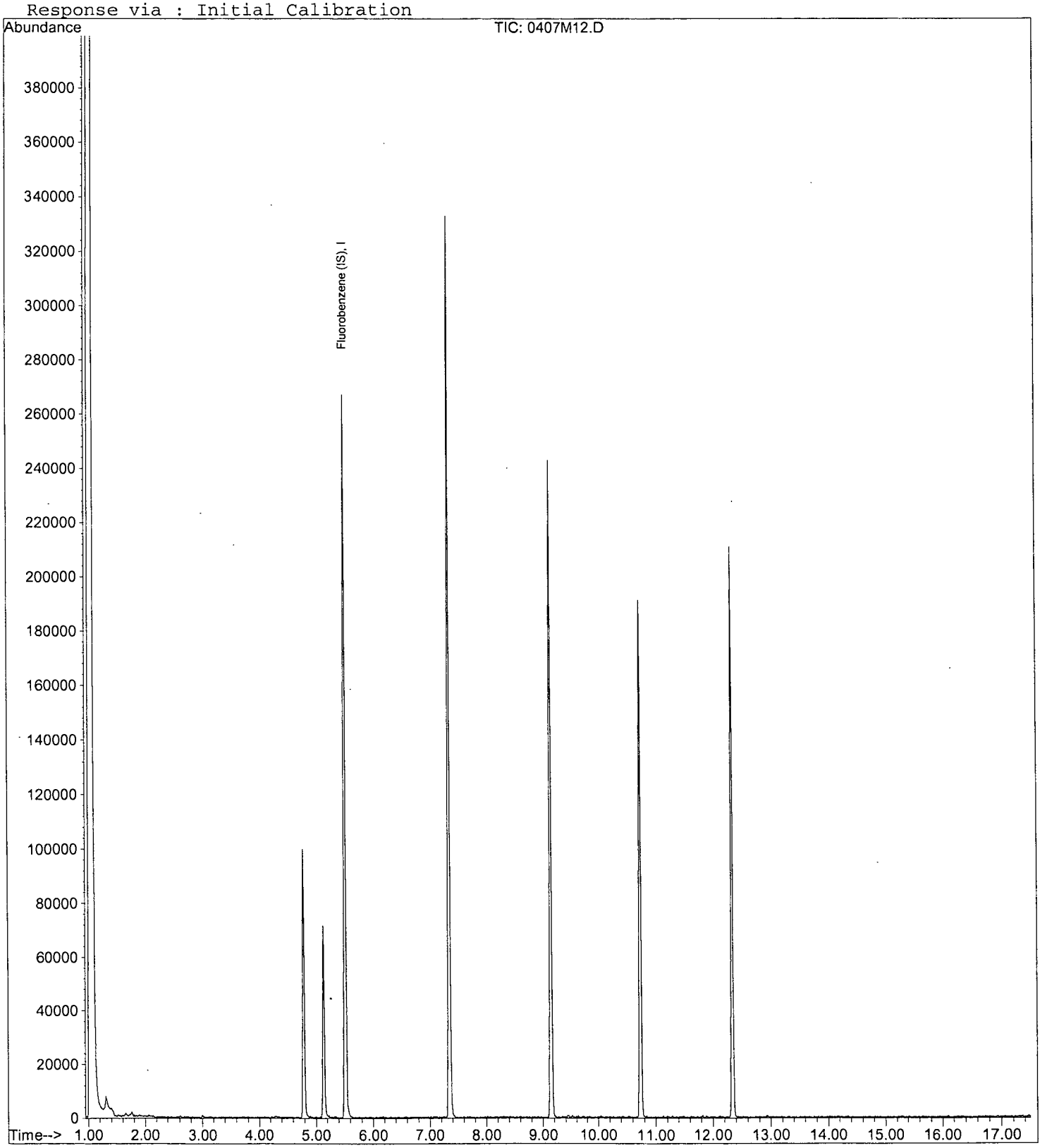
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:28 2017
Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248190	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	165307	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68671	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58592	25.06550 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.260%	
3) 1,2-DCA-D4(S)	5.13	65	46713	25.51073 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
5) Toluene-D8(S)	7.35	98	247016	25.61706 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.468%	
6) 4-Bromofluorobenzene(S)	10.73	95	70080	23.46480 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.860%	

Target Compounds

Qvalue

(#) = qualifier out of range (m) = manual integration
0407M12.D MSUR404.M Mon Apr 10 10:28:27 2017

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170407W-53168 LCS - 217654**
Batch ID: #GRO86-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	274	91.3	78-122

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M08
Initials :	SV

Printed: 04/24/17 1:58:23 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	283930	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds

					Qvalue
2) Gasoline C6-C10	7.43	TIC	8190634m	274.18932 ppb	100

(#) = qualifier out of range (m) = manual integration
0407M08.D MGAS6302.M Mon Apr 10 10:08:20 2017

Quantitation Report

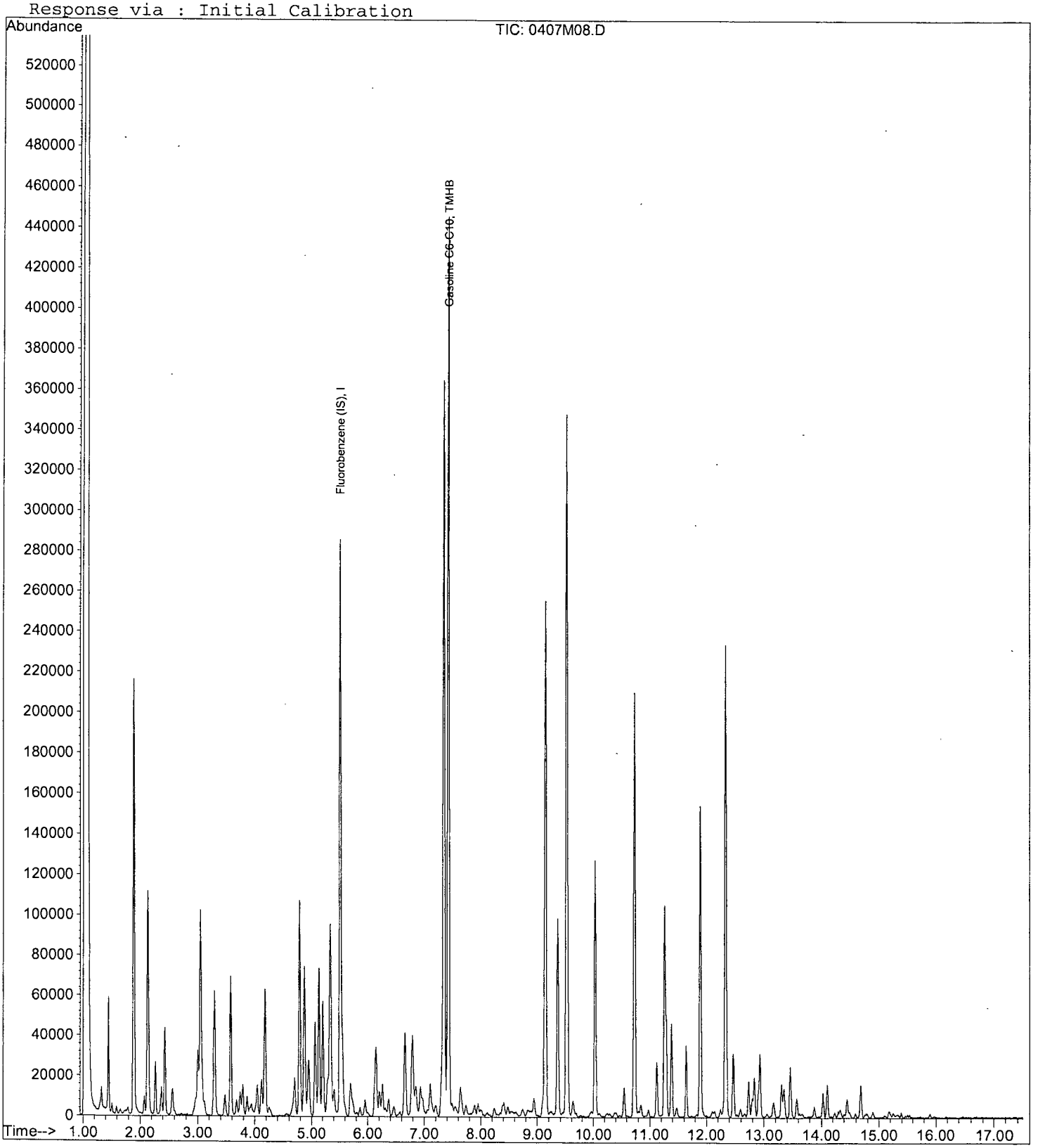
Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	263175	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171151	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	75234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61919	24.98053 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.924%	
3) 1,2-DCA-D4(S)	5.13	65	48557	25.00787 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.032%	
5) Toluene-D8(S)	7.35	98	266607	26.70470 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.820%	
6) 4-Bromofluorobenzene(S)	10.73	95	77968	25.21454 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.860%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI										
Exp Date:	02/01/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		01/20/17P	01/20/17Q	01/20/17R	01/20/17L	01/20/17N	01/20/17M	01/20/17O	01/20/17S	Final Vol
	Conc.	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	02/20/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
01/31/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
01/31/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
01/31/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
01/31/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
01/31/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
01/31/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
01/31/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
01/31/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
01/31/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

PRIMARY STANDARD

01/20/17L							
50ug/ml Vol Work Std #7							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37480	01/20/17A-CMM	10/09/19	100
02SI	020049-02	HEXACHLOROETHANE	1000	254167-36565	01/20/16B-CMM	12/28/17	200
02SI	020228-02	Benzyl Chloride	1000	279824-36571	01/20/17C-CMM	05/24/18	200
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3500
01/20/17M							
50ug/ml Vol Work Std #1							
Exp:02/20/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-3712	01/20/16D-CMM	09/19/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17N							
50ug/ml Vol Work Std #8							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37169	12/16/16C-CMM	08/17/17	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36581	12/16/16D-CMM	02/15/18	100
02SI	020232-02	Vinyl Acetate	2000	292241-37194	12/16/16E-CMM	02/01/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3700
01/20/17O							
50ug/ml Vol Work Std #2							
Exp:02/20/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	258036-36073	01/10/17BDG	08/17/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3900
		01/20/17P					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**01/20/17L**	Exp:02/20/17	200	
		50ug/ml Vol Work Std #8		**01/20/17N**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1600	
		01/20/17Q					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**01/20/17M**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
		01/20/17R					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**01/20/17O**	Exp:02/20/17	200	
		J&T Brand		01/10/17	01/10/18	1800	
01/20/17S							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	275544-36409	01/20/17E-CMM	03/28/18	500
02SI	020229-09-02	Acrolein	10000	296316-37420	01/20/17F-CMM	02/14/17	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	3400

SECONDARY SOURCE

01/20/17T							
50ug/ml VOC Std#4							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	279826-37381	01/10/17DG	06/01/19	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1950
01/20/17U							
50ug/ml VOC Std#5							
Exp:02/20/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37382	01/20/17G-CMM	06/01/19	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	254171-35381	01/20/17I-CMM	06/21/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1900

01/20/17V							
50ug/ml VOC Std#6							
Exp:02/20/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	265897-35927	12/16/16K-CMM	11/29/17	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	292243-37196	12/16/16L-CMM	02/01/17	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37384	01/20/17H-CMM	12/19/18	100
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1800
01/20/17W							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:02/20/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	292249-37237	01/20/17J-CMM	11/13/19	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	296317-37422	01/20/17K-CMM	02/14/17	50
J&T Brand		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	04/05/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/28/17AE	03/28/17AF	03/28/17AG	03/28/17AA	03/28/17AC	03/28/17AB	03/28/17AD	03/28/17AH	Final Vol
	Conc.	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/04/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/04/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/04/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/04/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/04/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/04/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/04/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/04/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/04/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

03/28/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37482	032817A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3500
03/28/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37214	032817G-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3700
03/28/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37202	032817H-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3900
		03/28/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/28/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**03/28/17AC**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1600	
		03/28/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/28/17AB**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
		03/28/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/28/17AD**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
03/28/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	301051-37638	032817J-CMM	41217	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3400

SECONDARY SOURCE

03/28/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37378	032817L-CMM	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37209	032817M-CMM	62117	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1900
03/28/17AK							
50ug/ml VOC Std#6							
Exp:04/28/17							

	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1800
03/28/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	301053-37636	032817R-CMM	41217	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
10	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
11	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
12	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
13	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
14	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
15	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
16	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
17	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
18	7	0407M07.D	1	170407A CCV 300ug/L	10ml IS&S: 2/23/17	7 Apr 17 10:58
19	8	0407M08.D	1	170407A LCS 300ug/L	10ml IS&S: 2/23/17	7 Apr 17 11:27
20	12	0407M12.D	1	170407A BLK-1WM	10ml IS&S: 2/23/17	7 Apr 17 13:20
21	18	0407M18.D	1	AZ53171W01	10ml IS&S: 2/23/17	7 Apr 17 16:10
22	19	0407M19.D	1	AZ53172W01	10ml IS&S: 2/23/17	7 Apr 17 16:38
23	20	0407M20.D	1	AZ53173W01	10ml IS&S: 2/23/17	7 Apr 17 17:07
24	21	0407M21.D	1	AZ53174W01	10ml IS&S: 2/23/17	7 Apr 17 17:35
25	22	0407M22.D	1	AZ53175W01	10ml IS&S: 2/23/17	7 Apr 17 18:04
26	23	0407M23.D	1	AZ53176W01	10ml IS&S: 2/23/17	7 Apr 17 18:32
27	24	0407M24.D	1	AZ53177W01	10ml IS&S: 2/23/17	7 Apr 17 19:00
28	25	0407M25.D	1	AZ53178W01	10ml IS&S: 2/23/17	7 Apr 17 19:29
29	26	0407M26.D	1	AZ53179W01	10ml IS&S: 2/23/17	7 Apr 17 19:57
30	27	0407M27.D	1	AZ53180W01	10ml IS&S: 2/23/17	7 Apr 17 20:26
31	31	0407M31.D	1	Ending CCV GAS 300ug/L 4/7/17	10ml IS&S: 2/23/17	7 Apr 17 22:19

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:02:55 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:02:44 PM
APPL Standard LCS

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82596
Matrix: WATER
Blank ID: 170408A-BLK

SDG No: 82596
Date Analyzed: 04/08/17
Instrument: Rocky
Time Analyzed: 1043

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170408A-LCS	Lab Control Spike	17040805	04/08/17 1039
170408A-BLK	Blank	17040806	04/08/17 1043
AZ53171	ERH299	17040817	04/08/17 1233
AZ53172	ERH300	17040819	04/08/17 1240
AZ53173	ERH308	17040820	04/08/17 1243
AZ53174	ERH310	17040821	04/08/17 1246
AZ53175	ERH311	17040822	04/08/17 1249
AZ53176	ERH313	17040823	04/08/17 1252
AZ53177	ERH318	17040824	04/08/17 1255
AZ53178	ERH319	17040825	04/08/17 1258
AZ53179	ERH304	17040826	04/08/17 1301
AZ53180	ERH305	17040827	04/08/17 1304

Comments: Batch: #RSKME-170408A

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH299
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53171
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040817
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040817.D Vial: 16
Acq On : 8 Apr 17 12:33 Operator: lac
Sample : AZ53171W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:35 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:25:01 2017
Response via : Multiple Level Calibration

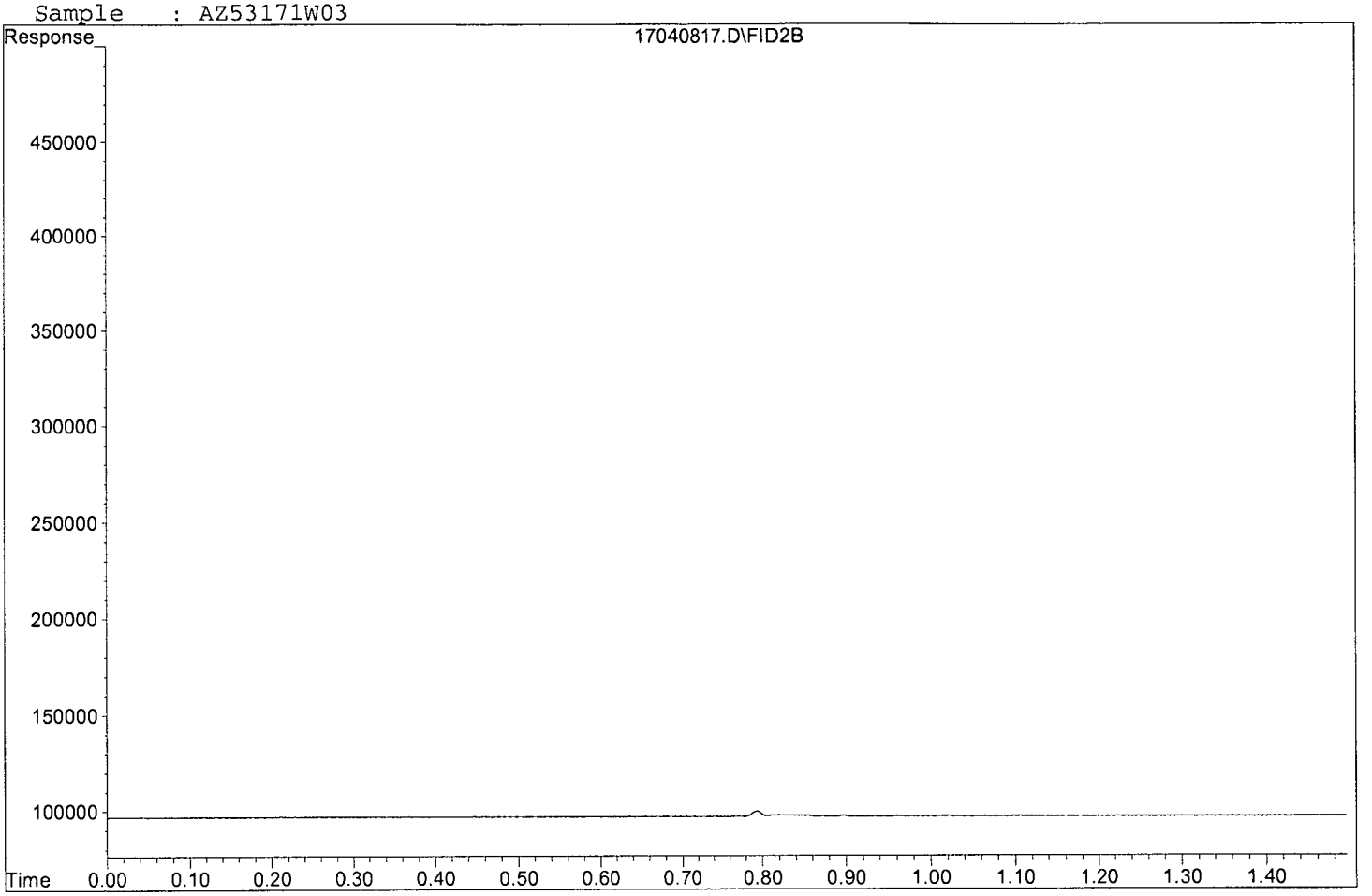
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.79	2946	N.D.	ppb
2) ATM Ethane	1.03	333	N.D.	ppb
3) ATM Ethene	1.12	341	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040817.D
Sample : AZ53171W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH300
Sample Collection Date: 04/04/17

ARF: 82596
APPL ID: AZ53172
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	6000	100.0	20.00	5.00	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040819
Instrument: Rocky
Sequence: 170225
Dilution Factor: 20
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040819.D Vial: 18
Acq On : 8 Apr 17 12:40 Operator: lac
Sample : AZ53172W06 DF20 Inst : 7890
Misc : Multiplr: 20.00
IntFile : autoint1.e
Quant Time: Apr 8 12:42 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

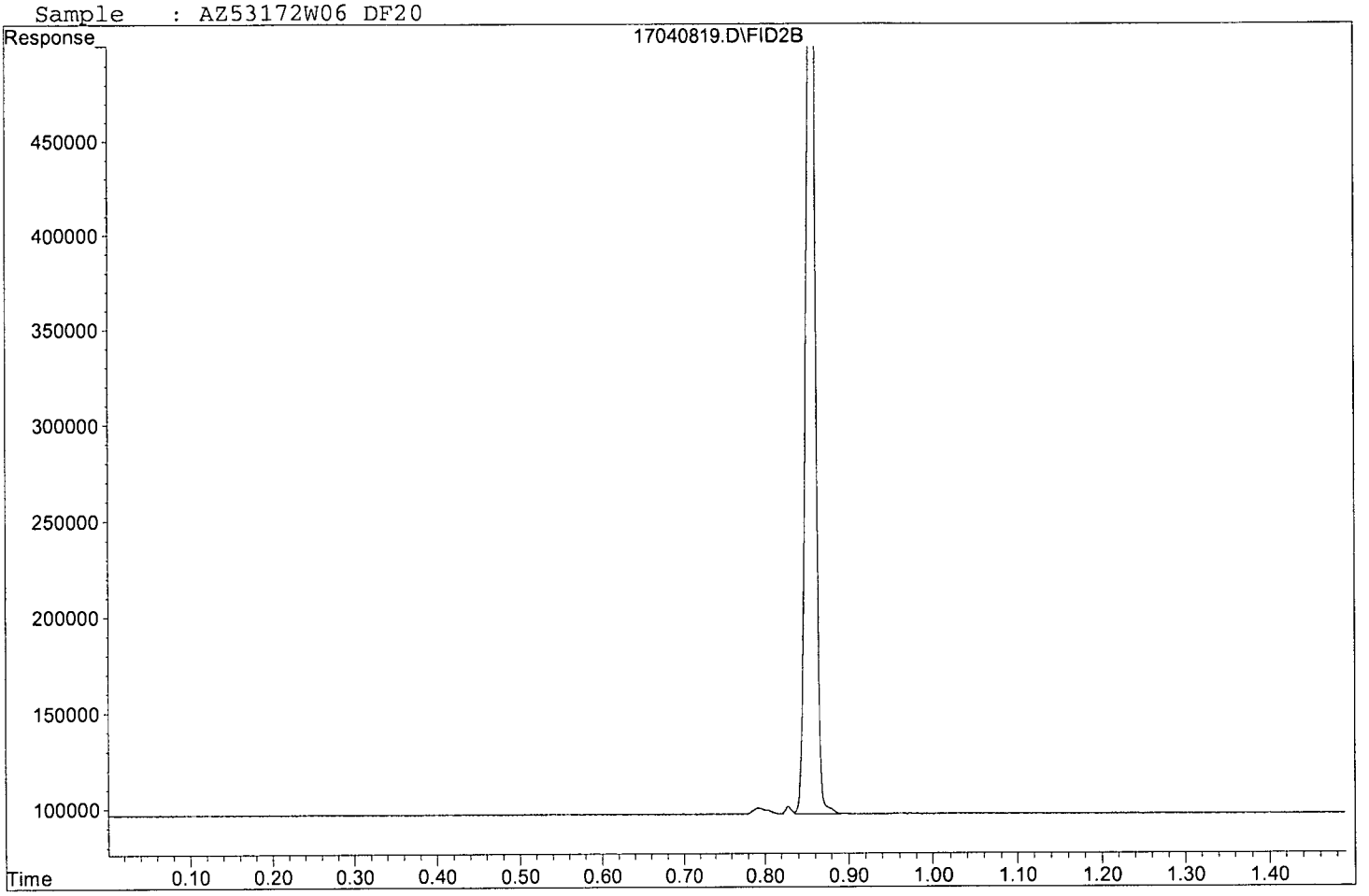
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	605481	5976.071	ppb
Target Compounds				
2) ATM Ethane	1.03	293	N.D.	ppb
3) ATM Ethene	1.12	264	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040819.D
Sample : AZ53172W06 DF20



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH308
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53173
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040820
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040820.D Vial: 19
Acq On : 8 Apr 17 12:43 Operator: lac
Sample : AZ53173W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:45 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

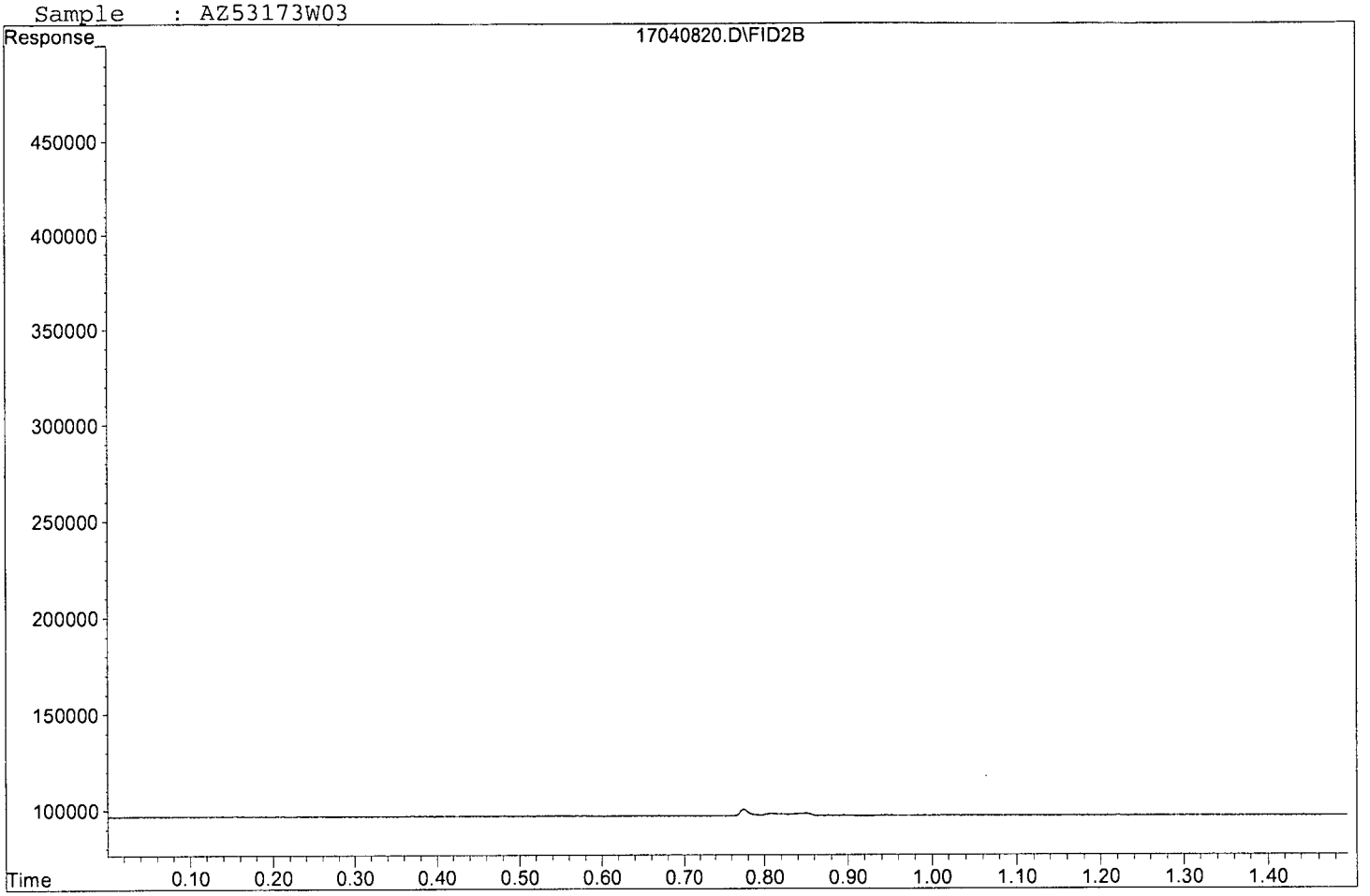
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	1532	N.D.	ppb
2) ATM Ethane	1.03	358	N.D.	ppb
3) ATM Ethene	1.12	171	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040820.D
Sample : AZ53173W03



METHANE

AECOM
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH310
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53174
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	500	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040821
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040821.D Vial: 20
Acq On : 8 Apr 17 12:46 Operator: lac
Sample : AZ53174W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:48 2017 Quant Results File: RSK0225.RES

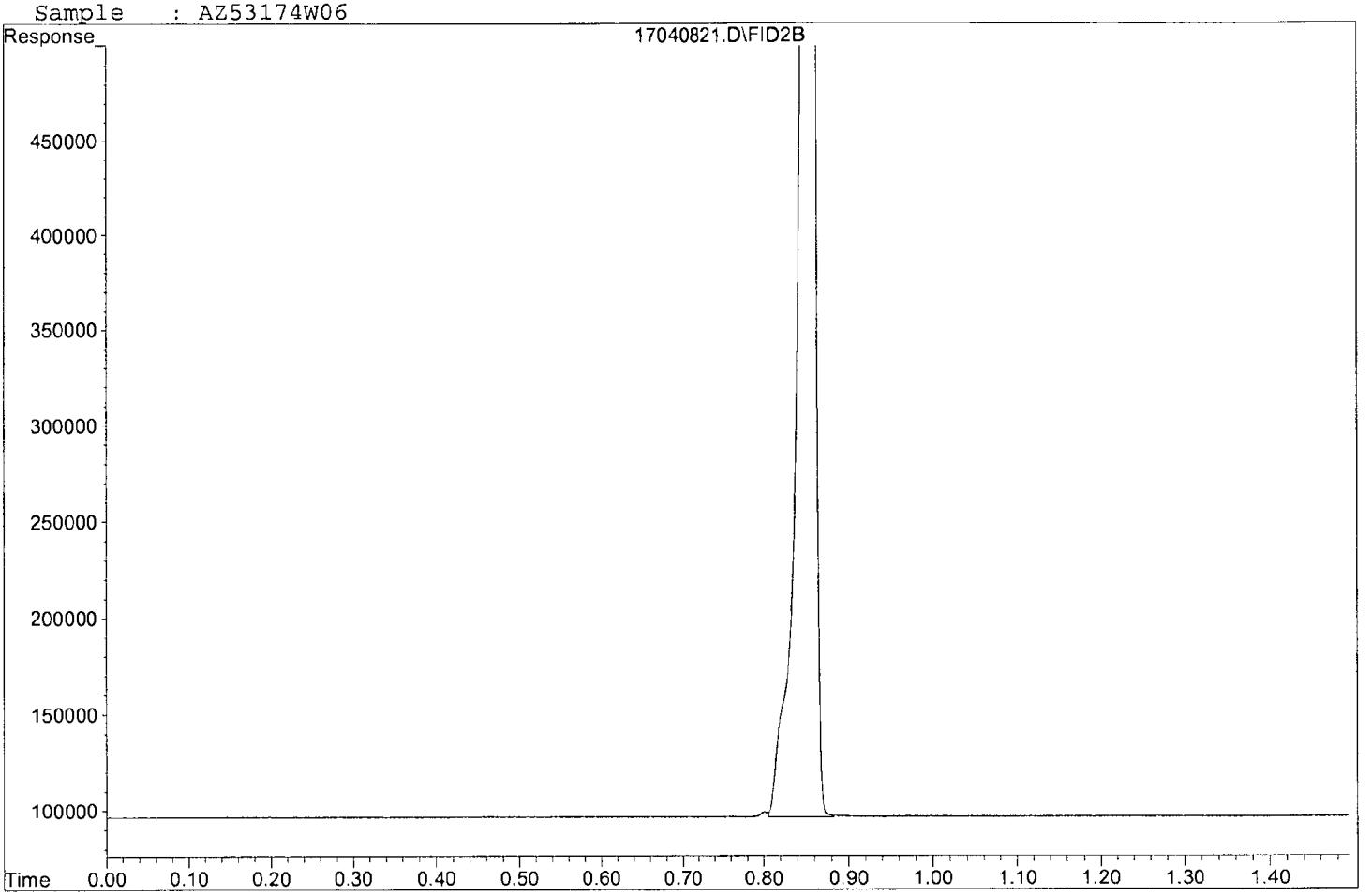
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1016987	503.718	ppb
Target Compounds				
2) ATM Ethane	1.03	321	N.D.	ppb
3) ATM Ethene	1.12	222	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040821.D
Sample : AZ53174W06



METHANE

AECOM
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH311
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53175
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040822
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040822.D Vial: 21
Acq On : 8 Apr 17 12:49 Operator: lac
Sample : AZ53175W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:51 2017 Quant Results File: RSK0225.RES

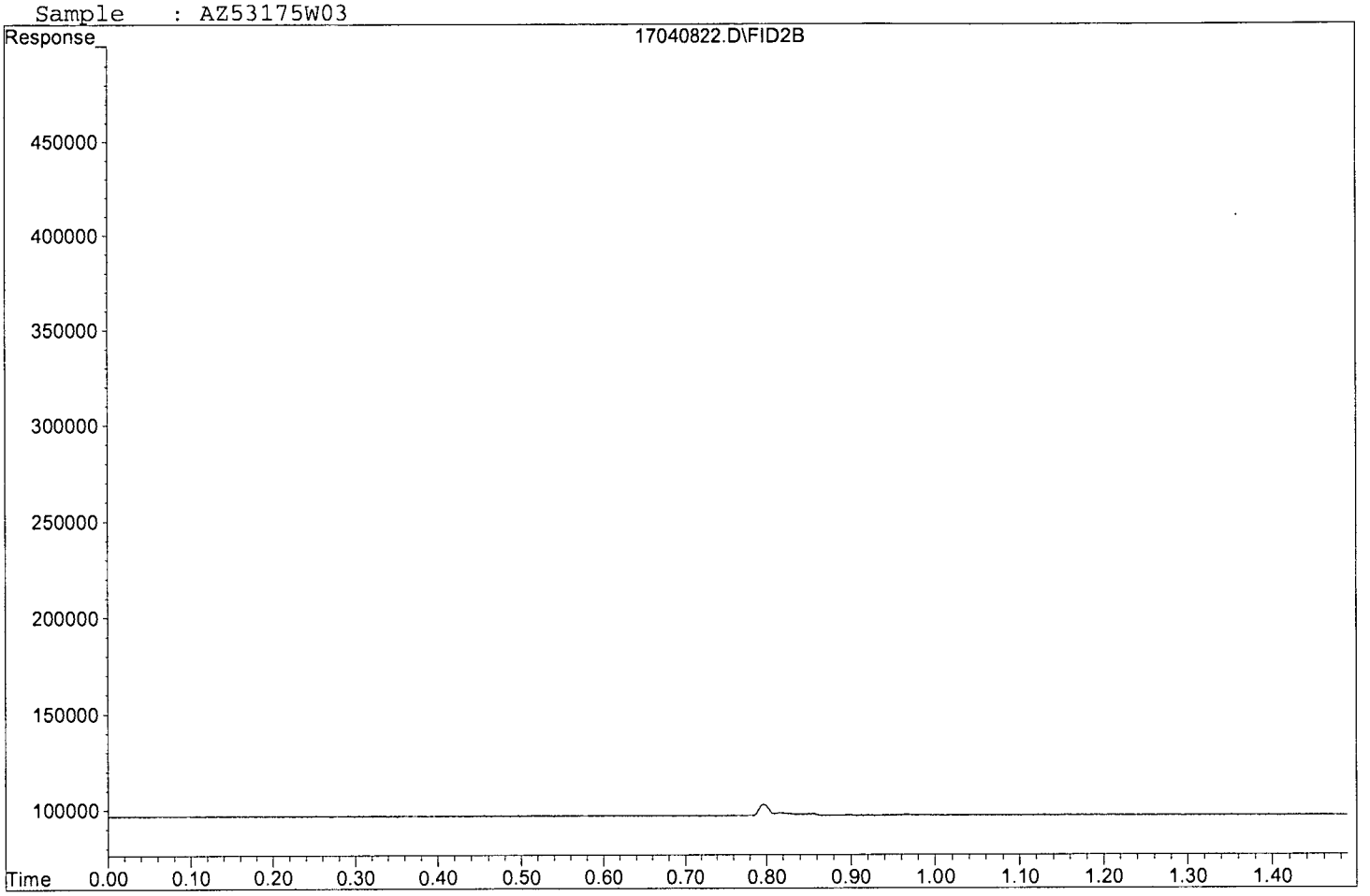
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	931	N.D.	ppb
2) ATM Ethane	1.03	274	N.D.	ppb
3) ATM Ethene	1.12	353	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040822.D
Sample : AZ53175W03



METHANE

AECOM
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH313
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53176
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040823
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040823.D Vial: 22
Acq On : 8 Apr 17 12:52 Operator: lac
Sample : AZ53176W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:54 2017 Quant Results File: RSK0225.RES

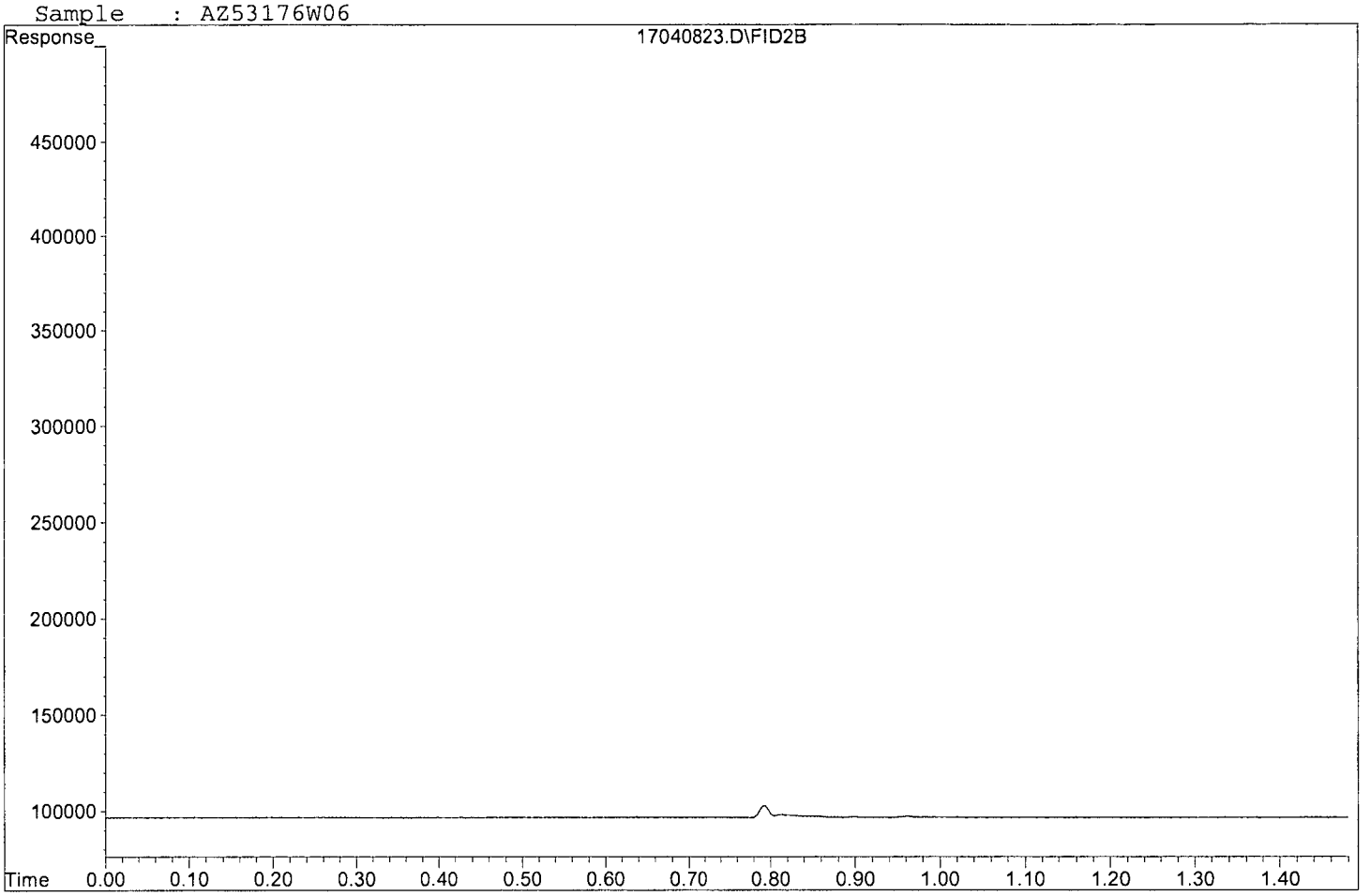
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	835	N.D.	ppb
2) ATM Ethane	1.03	218	N.D.	ppb
3) ATM Ethene	1.12	200	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040823.D
Sample : AZ53176W06



METHANE

AECOM
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH318
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53177
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040824
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040824.D Vial: 23
Acq On : 8 Apr 17 12:55 Operator: lac
Sample : AZ53177W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:57 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

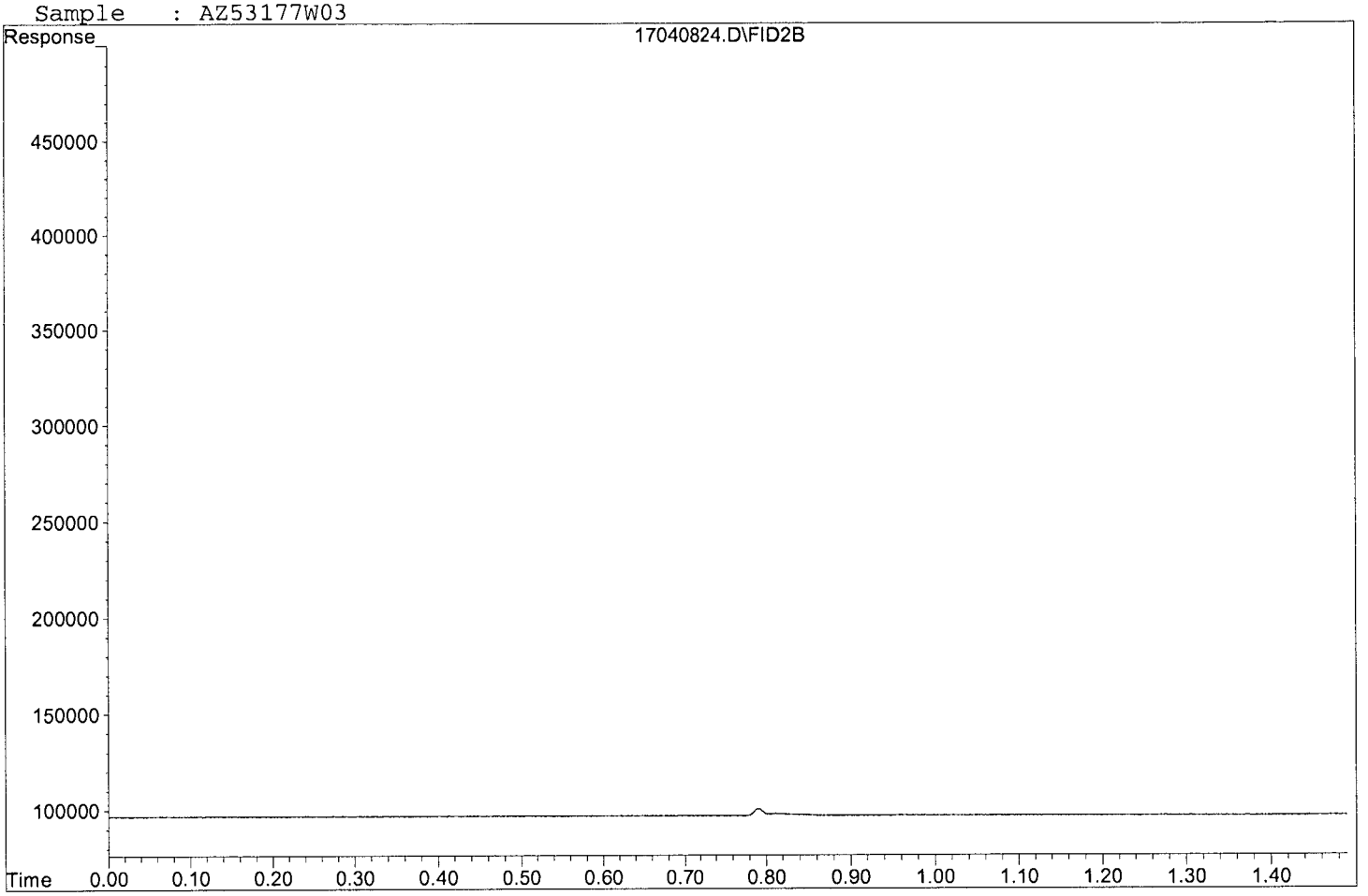
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	670	N.D.	ppb
2) ATM Ethane	1.03	396	N.D.	ppb
3) ATM Ethene	1.12	285	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040824.D
Sample : AZ53177W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH319
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53178
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040825
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040825.D Vial: 24
Acq On : 8 Apr 17 12:58 Operator: lac
Sample : AZ53178W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:00 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:39:17 2017
Response via : Multiple Level Calibration

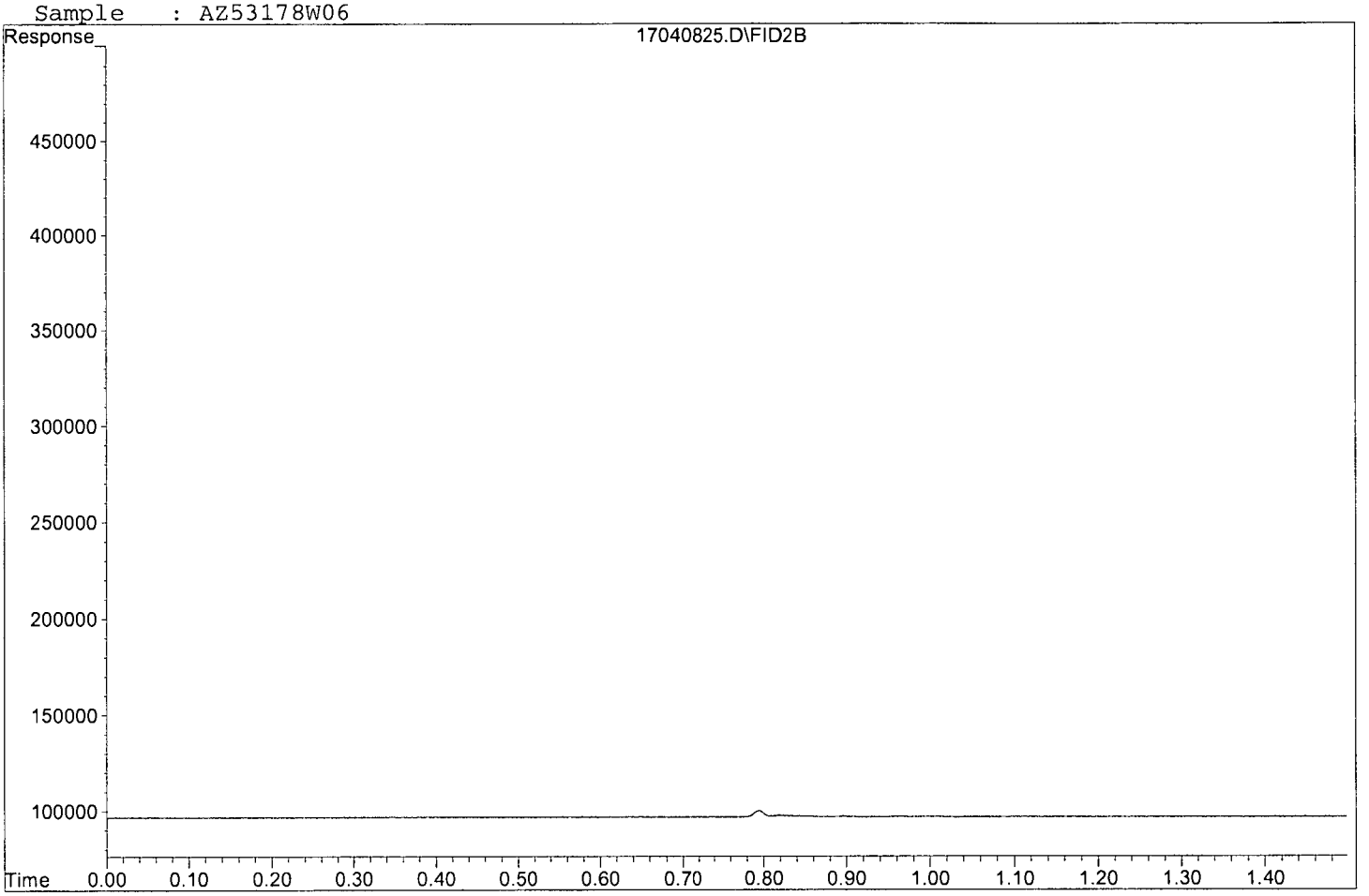
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	658	N.D.	ppb
2) ATM Ethane	1.03	205	N.D.	ppb
3) ATM Ethene	1.12	367	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040825.D
Sample : AZ53178W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH304
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53179
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040826
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040826.D Vial: 25
Acq On : 8 Apr 17 13:01 Operator: lac
Sample : AZ53179W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:03 2017 Quant Results File: RSK0225.RES

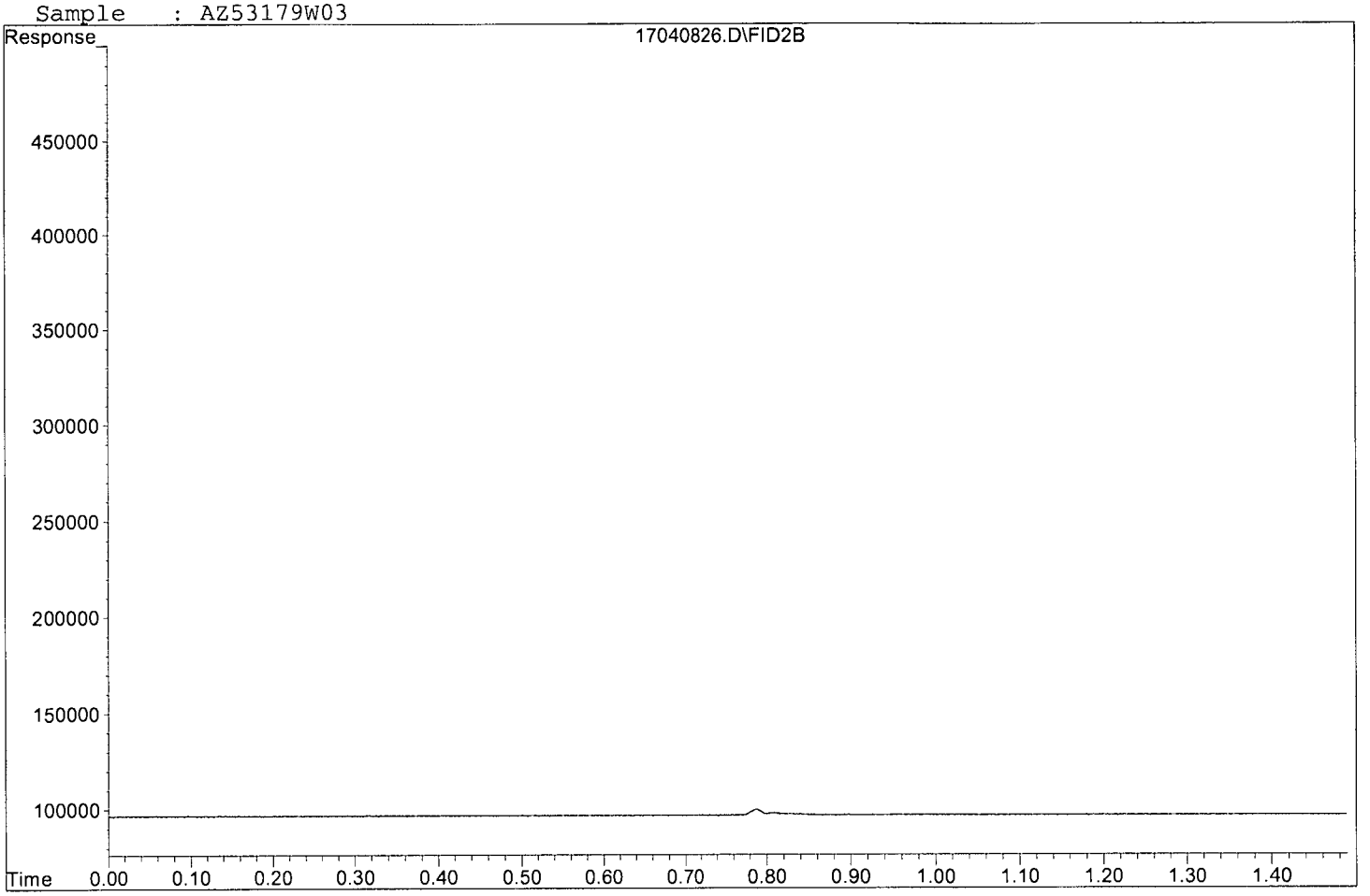
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:03:28 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.79	3040	N.D.	ppb
2) ATM Ethane	1.03	274	N.D.	ppb
3) ATM Ethene	1.12	306	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040826.D
Sample : AZ53179W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH305
Sample Collection Date: 04/03/17

ARF: 82596
APPL ID: AZ53180
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040827
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:02:49 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040827.D Vial: 26
Acq On : 8 Apr 17 13:04 Operator: lac
Sample : AZ53180W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:06 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:03:28 2017
Response via : Multiple Level Calibration

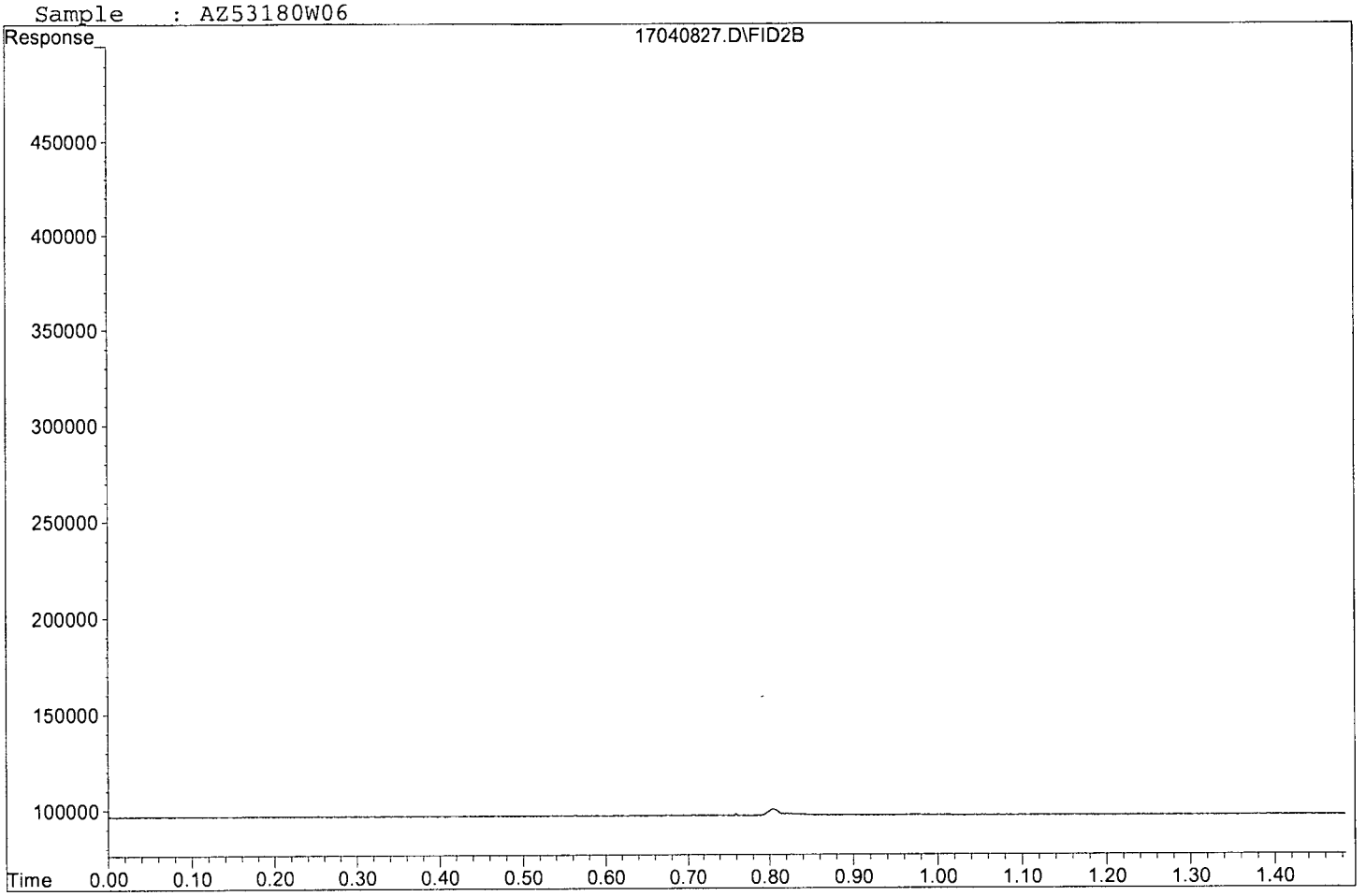
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.79	331	N.D.	ppb
2) ATM Ethane	1.05	316	N.D.	ppb
3) ATM Ethene	1.12	293	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040827.D
Sample : AZ53180W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
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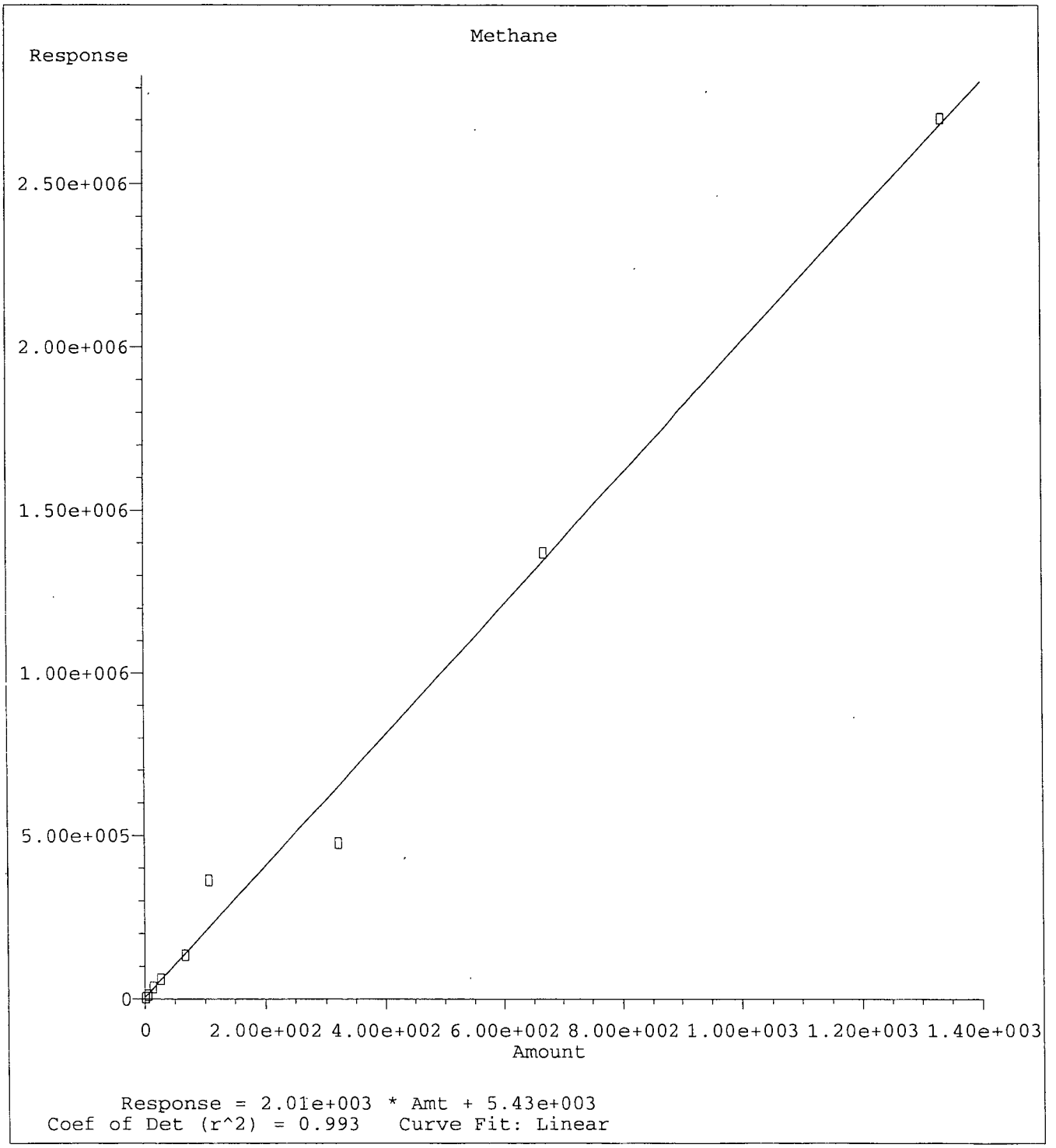
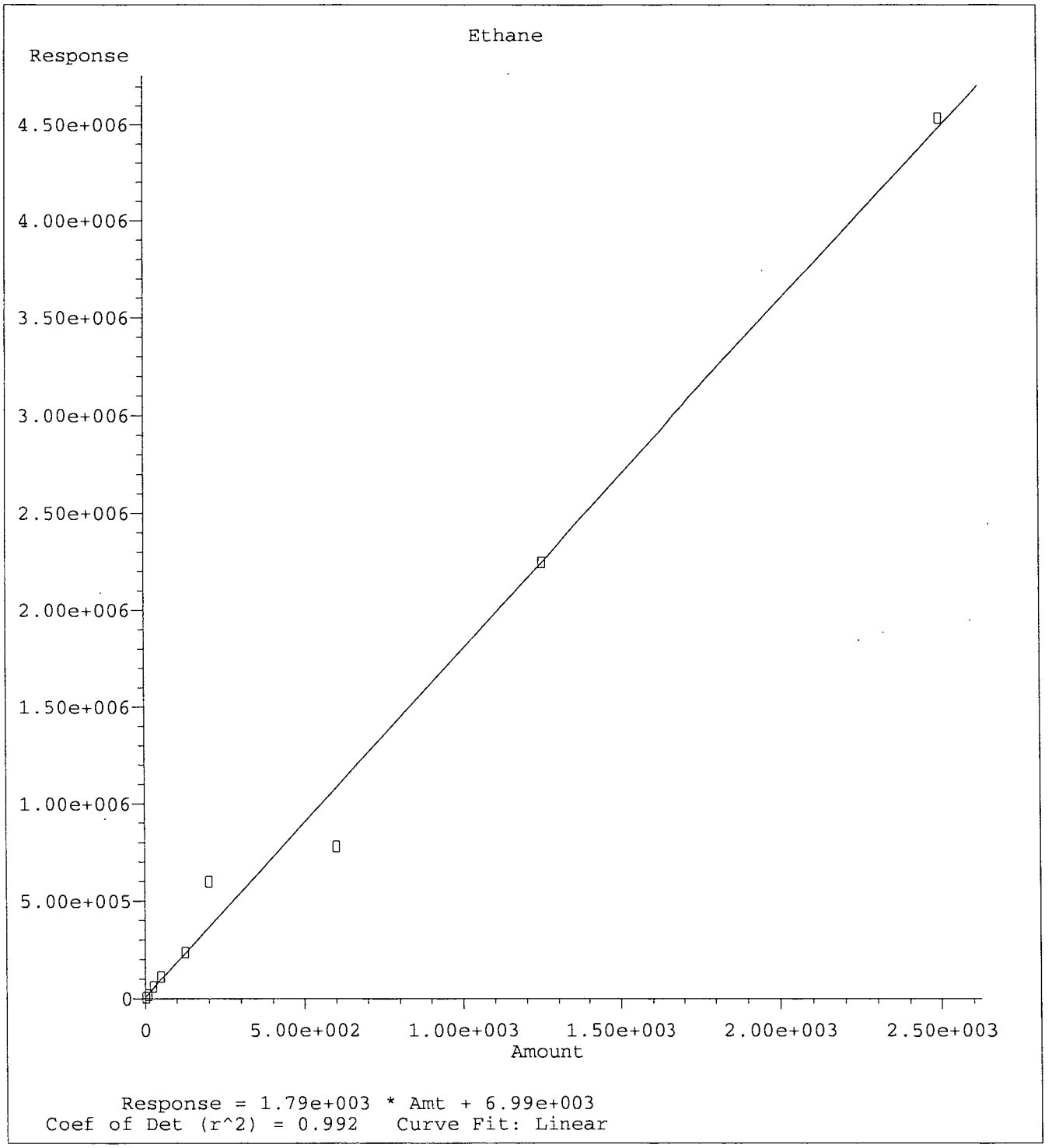
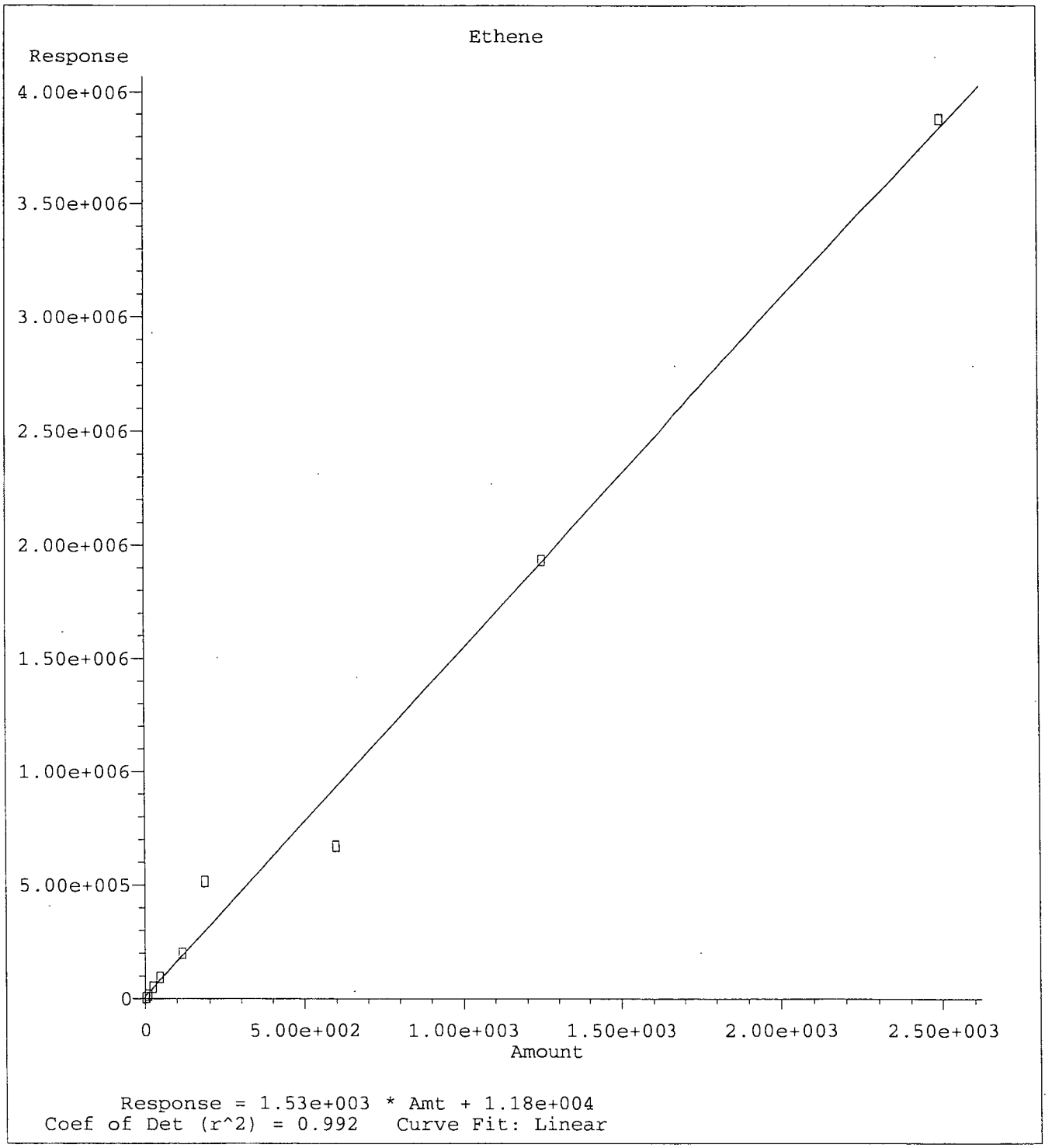


Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

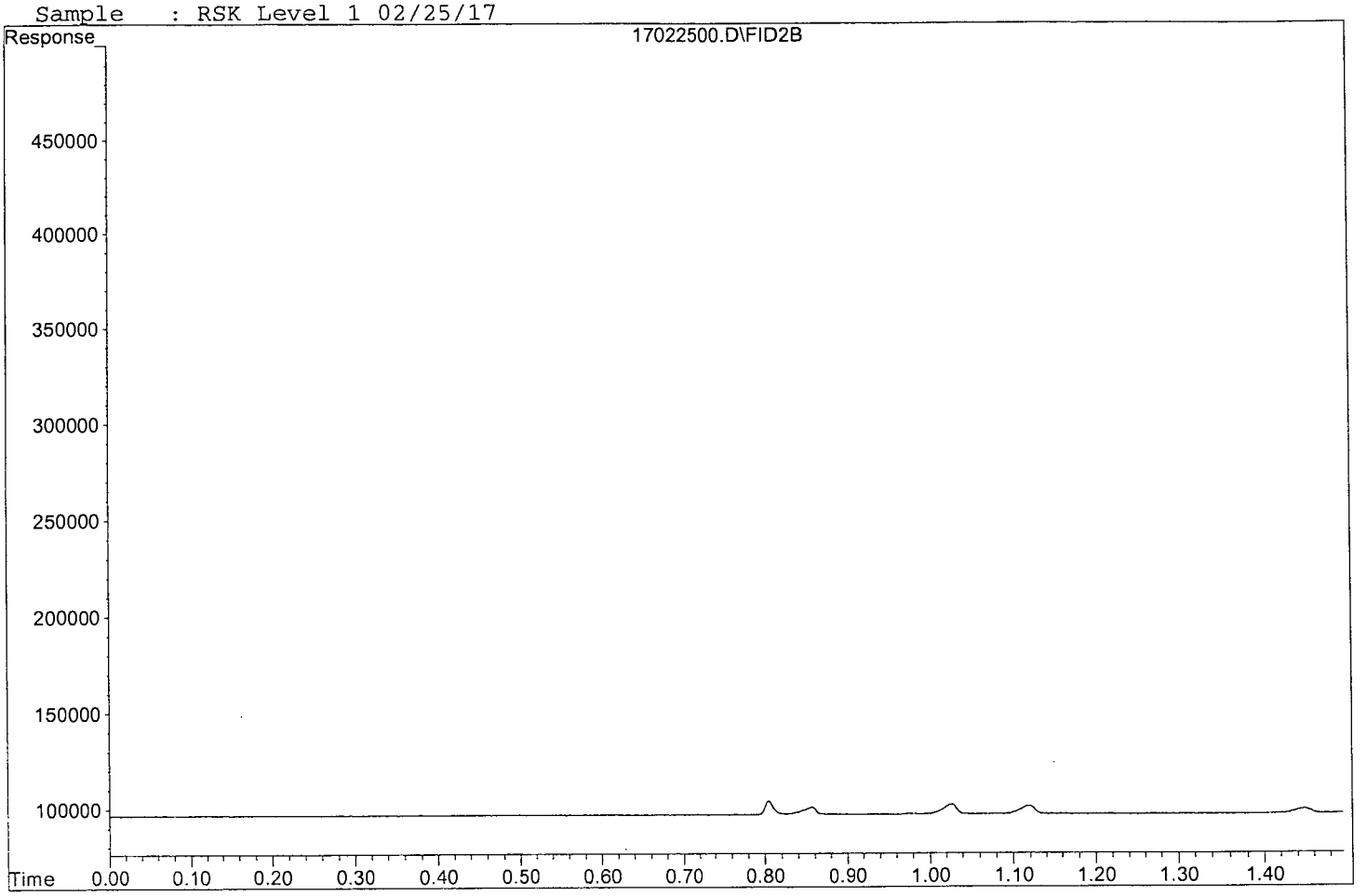
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

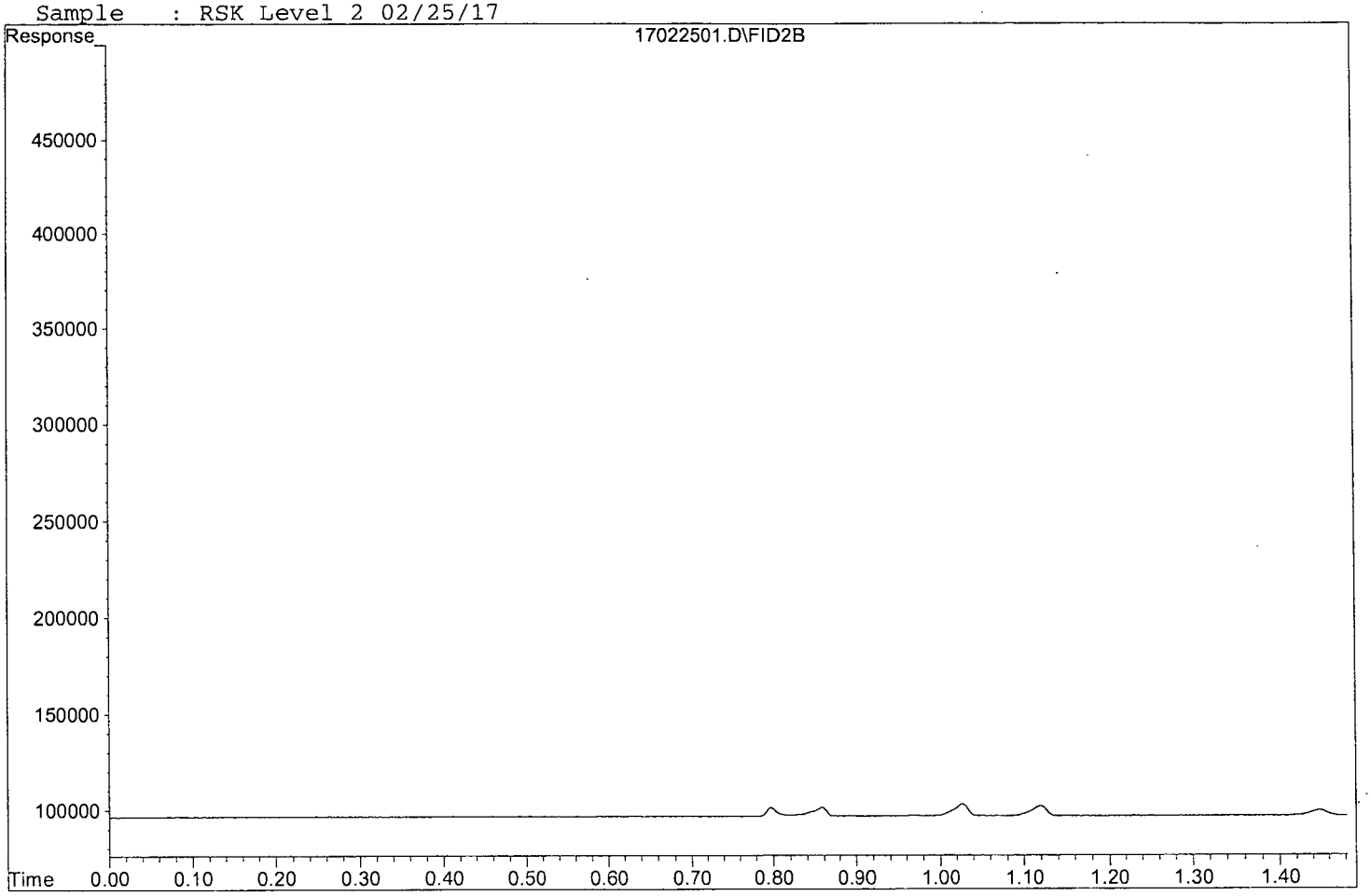
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D
Vial: 3
Acq On : 25 Feb 17 11:15
Operator: lac
Sample : RSK Level 3 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

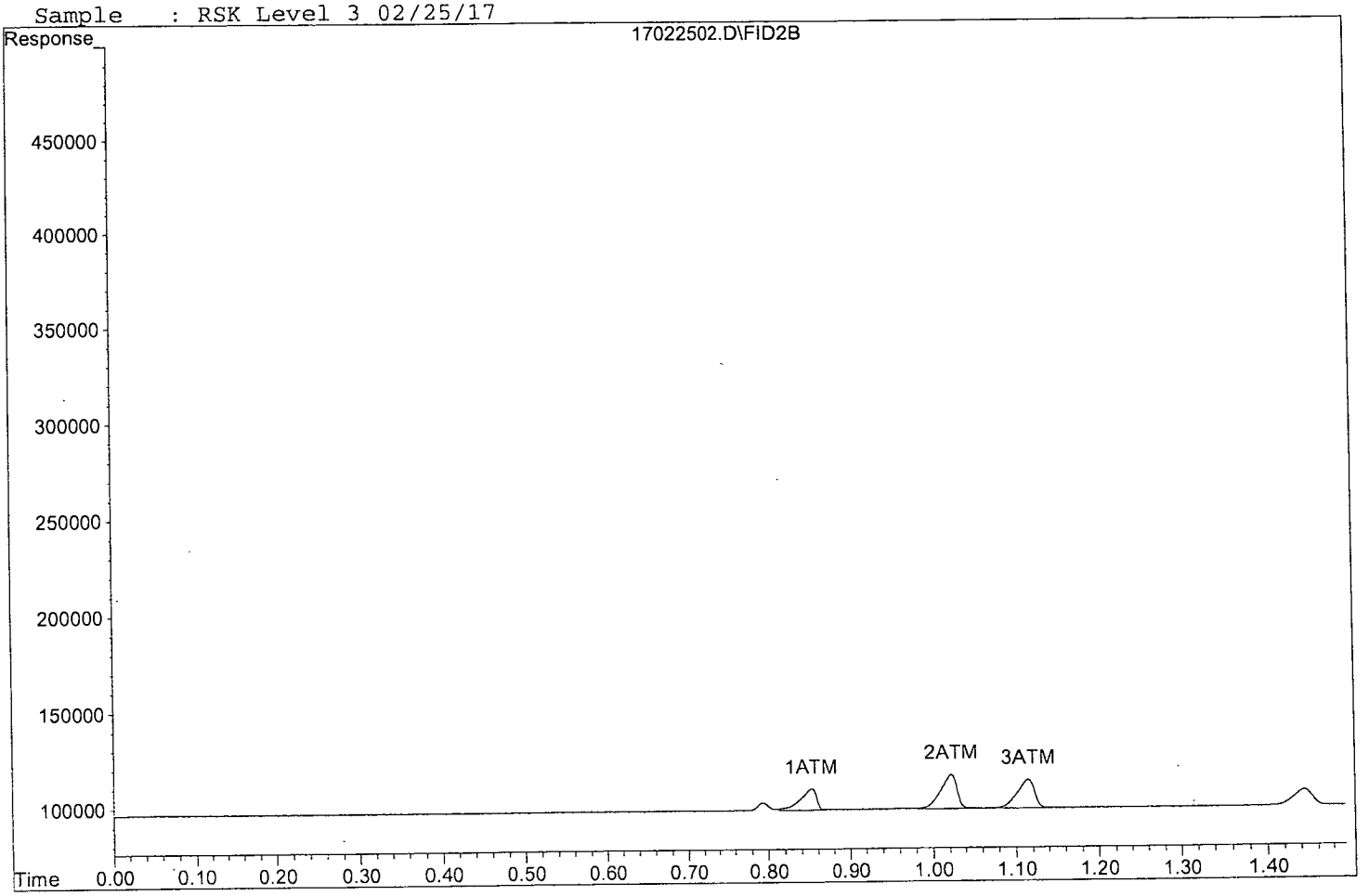
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D
Acq On : 25 Feb 17 11:17
Sample : RSK Level 4 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 4
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

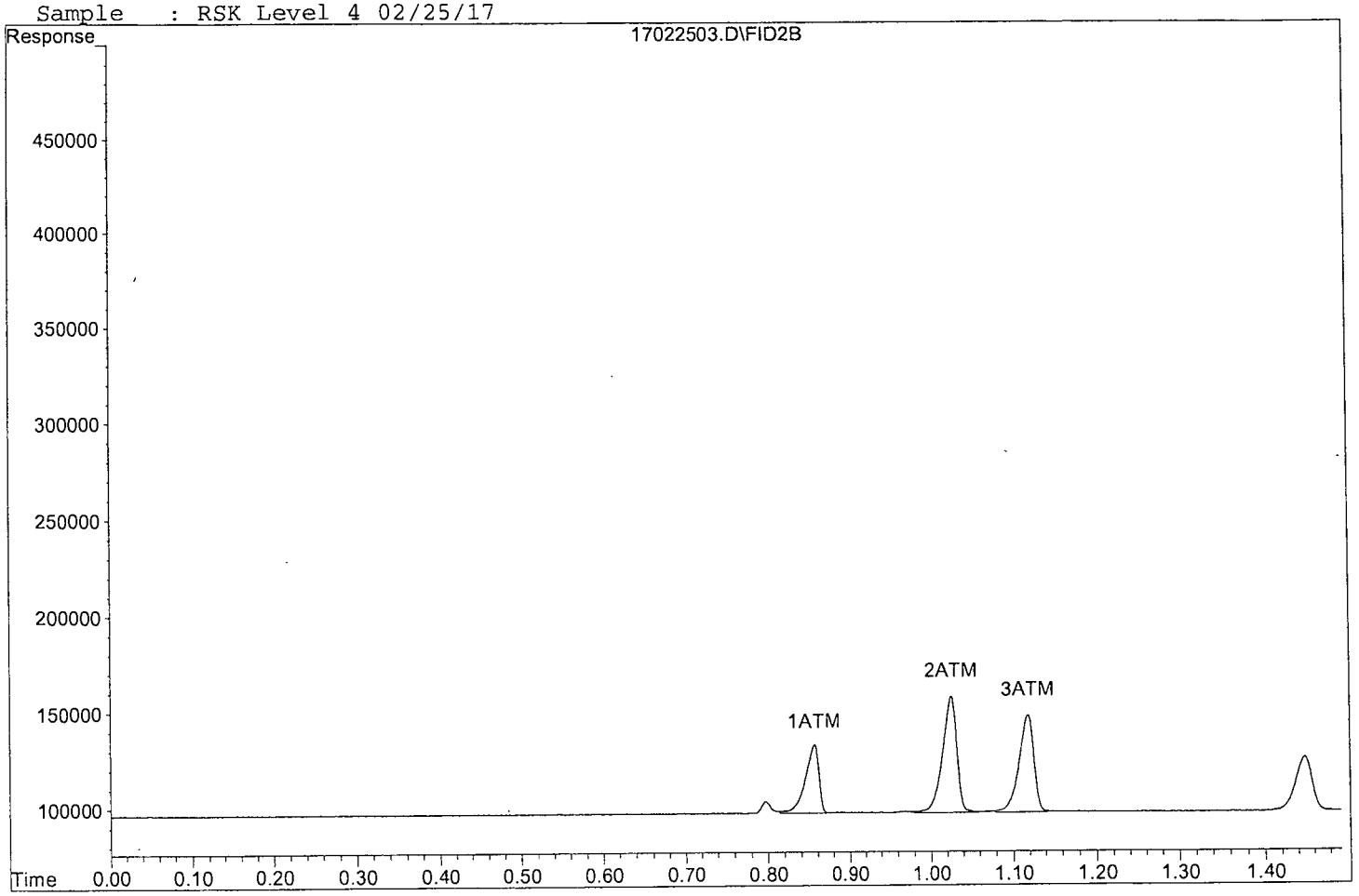
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

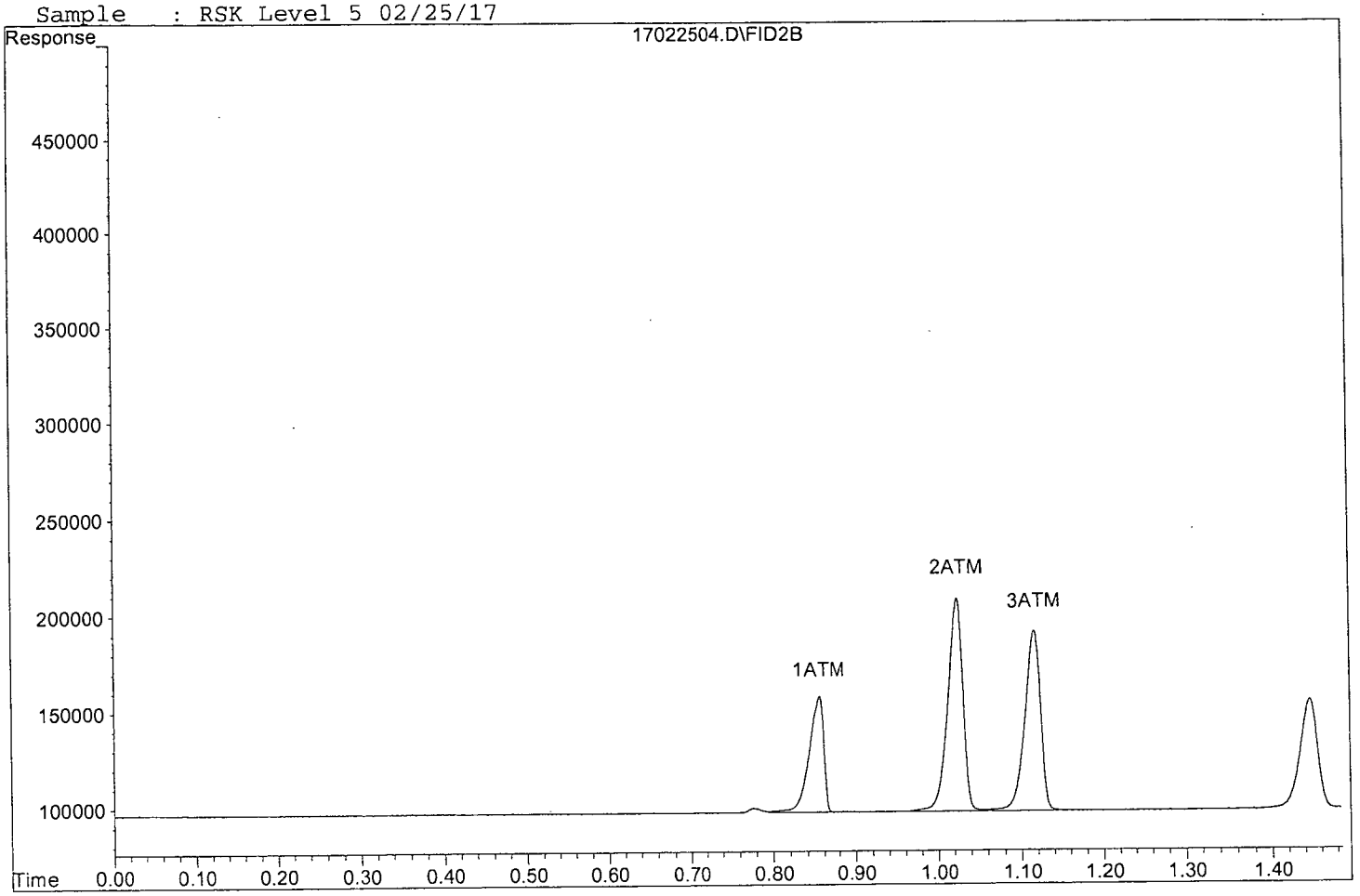
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022504.D RSK0225.M Sat Feb 25 12:50:57 2017

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Vial: 6
Acq On : 25 Feb 17 11:23
Operator: lac
Sample : RSK Level 6 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

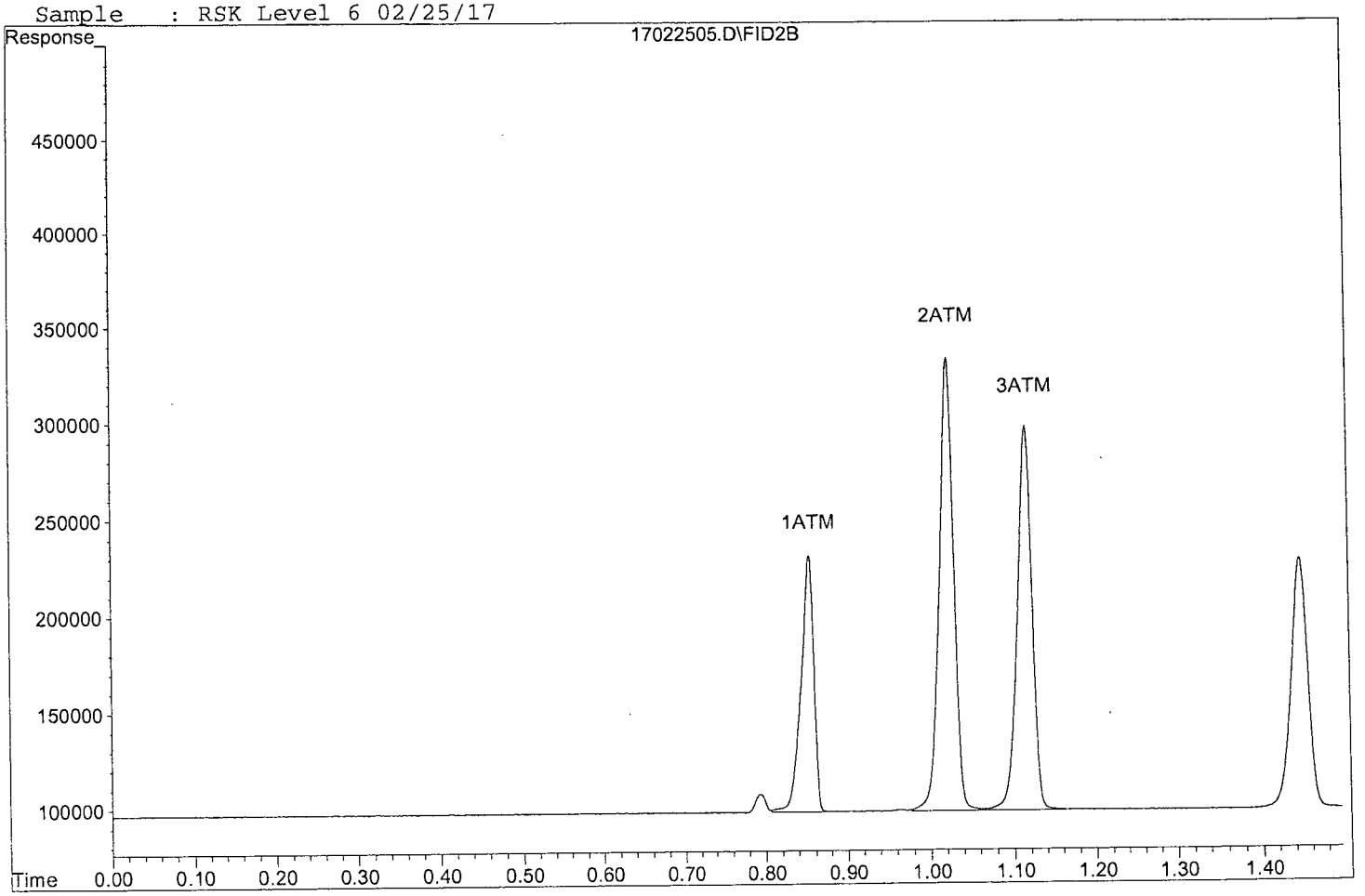
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D
Acq On : 25 Feb 17 11:25
Sample : RSK Level 7 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 7
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

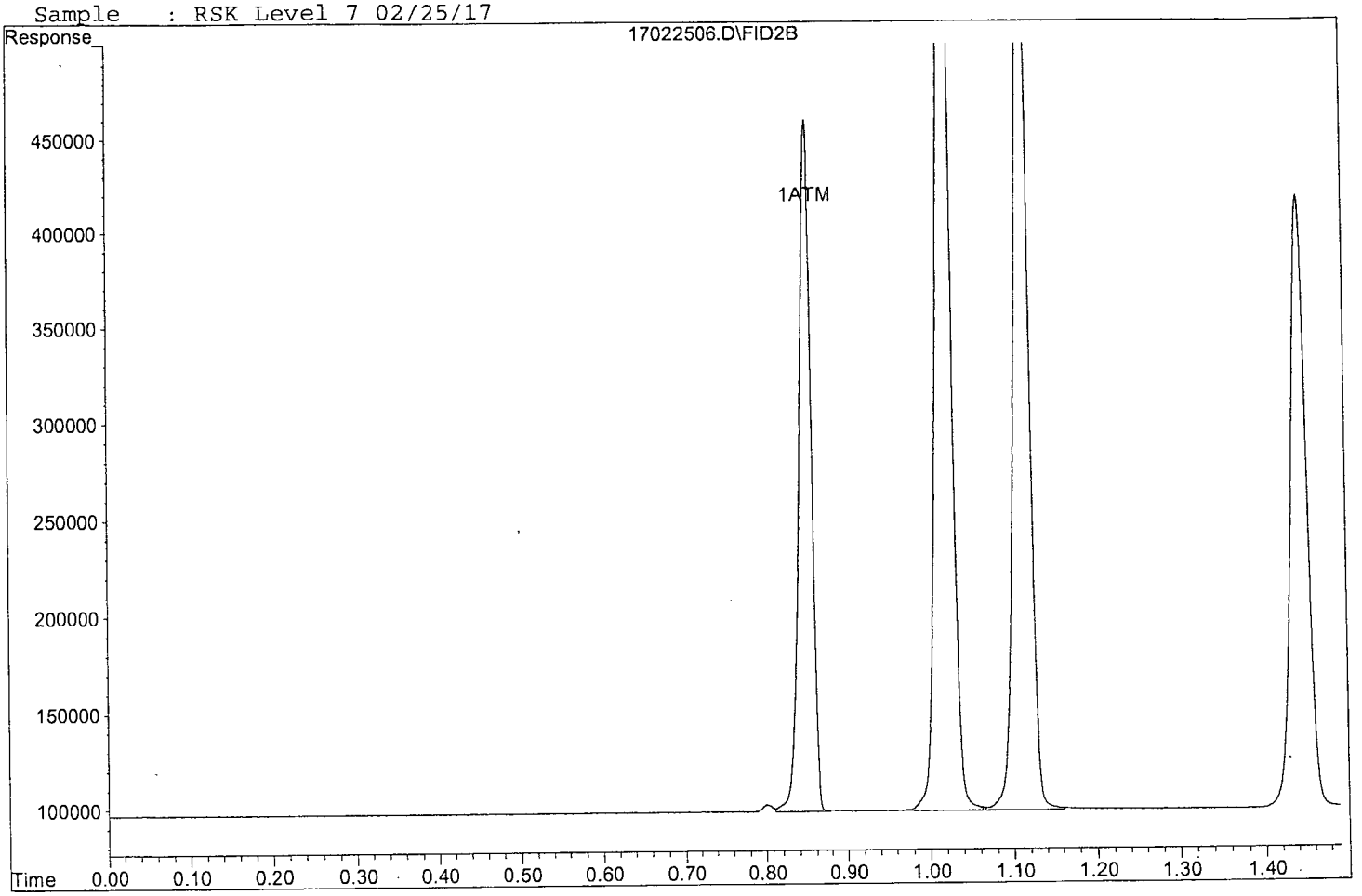
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D
Acq On : 25 Feb 17 11:27
Sample : RSK Level 8 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 8
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

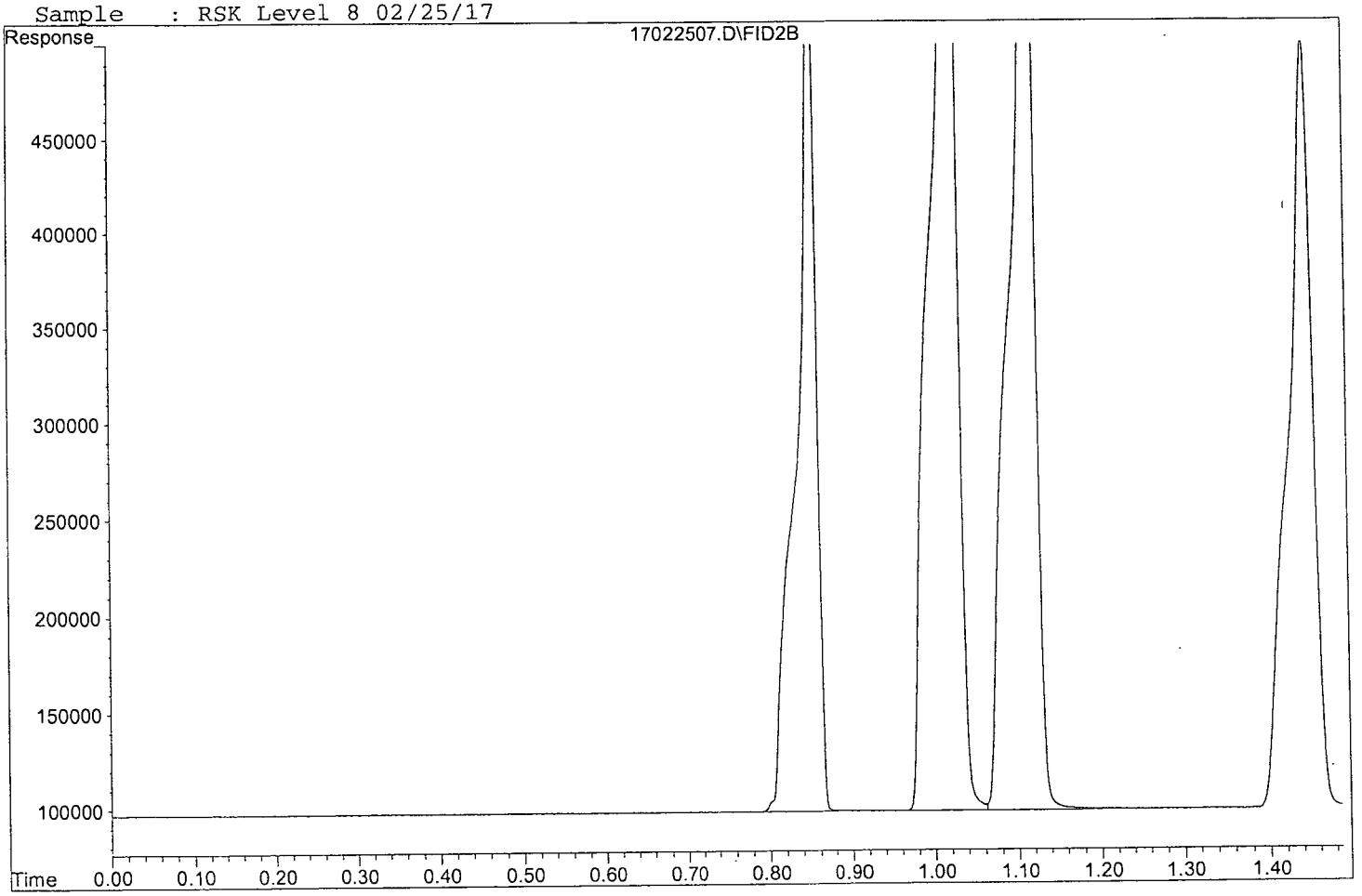
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D
Acq On : 25 Feb 17 11:30
Sample : RSK Level 9 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 9
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

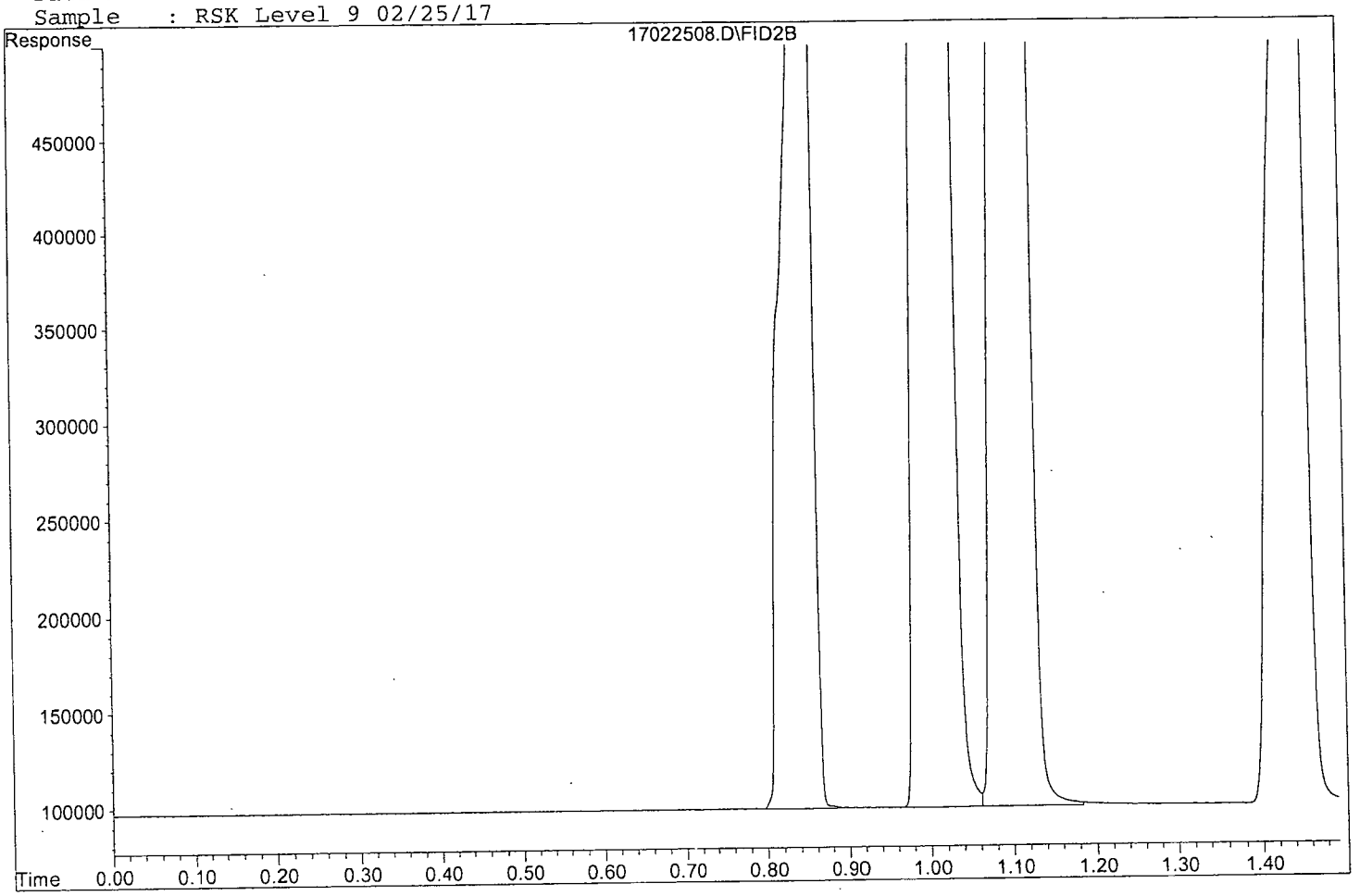
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1370511	679.760	ppb
2) ATM Ethane	1.03	2246413	1250.978	ppb
3) ATM Ethene	1.12	1934164	1254.226	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D
Acq On : 25 Feb 17 11:32
Sample : RSK Level 10 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

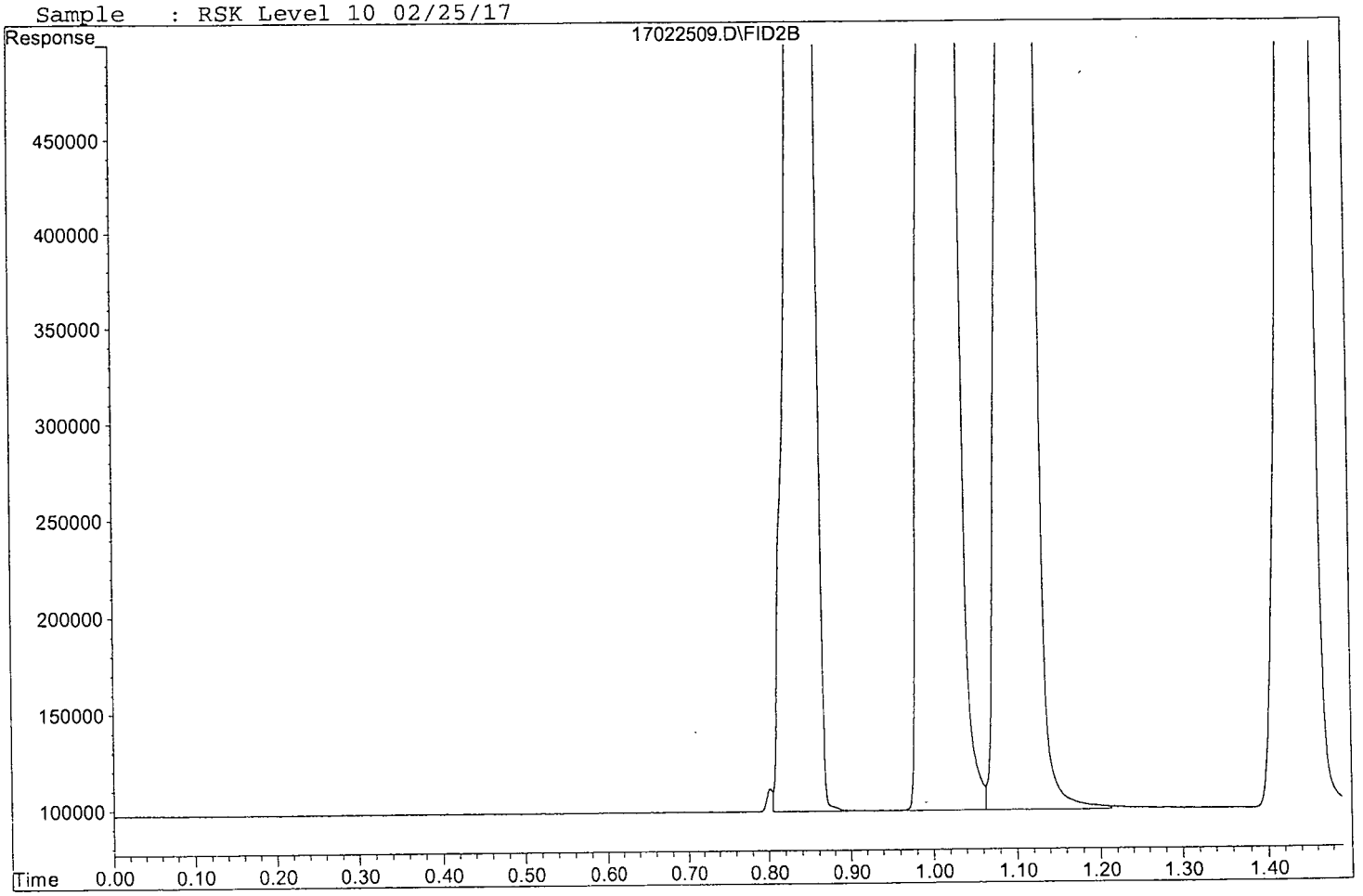
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D
Acq On : 25 Feb 17 11:41
Sample : RSK SS Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Vial: 13
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

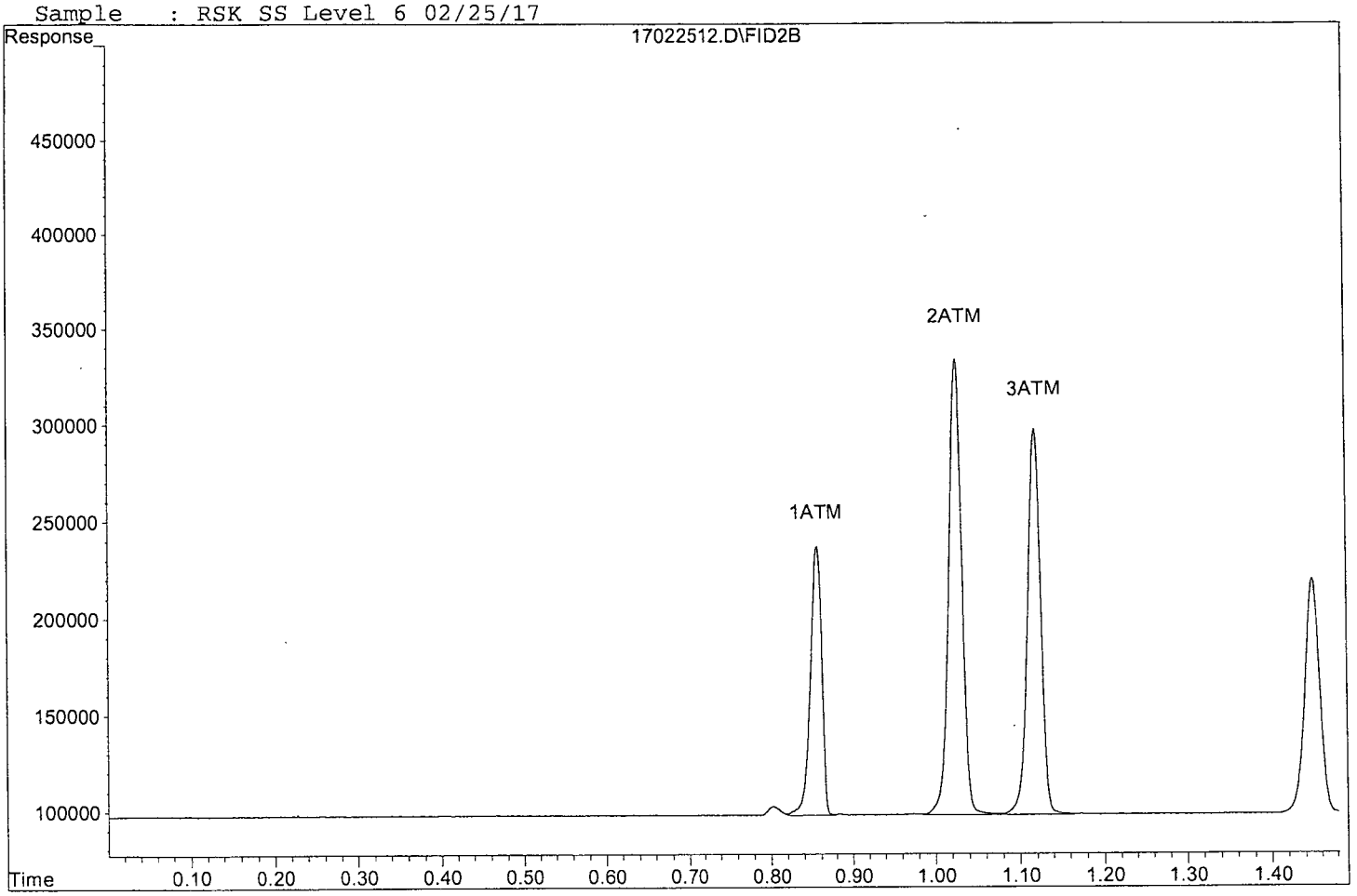
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 10:39
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040805.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2005	21	ATML	0.37
2	ATML	Ethane	2140	1828	15	ATML	2.0
3	ATML	Ethene	1905	1612	15	ATML	4.9
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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25							
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27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

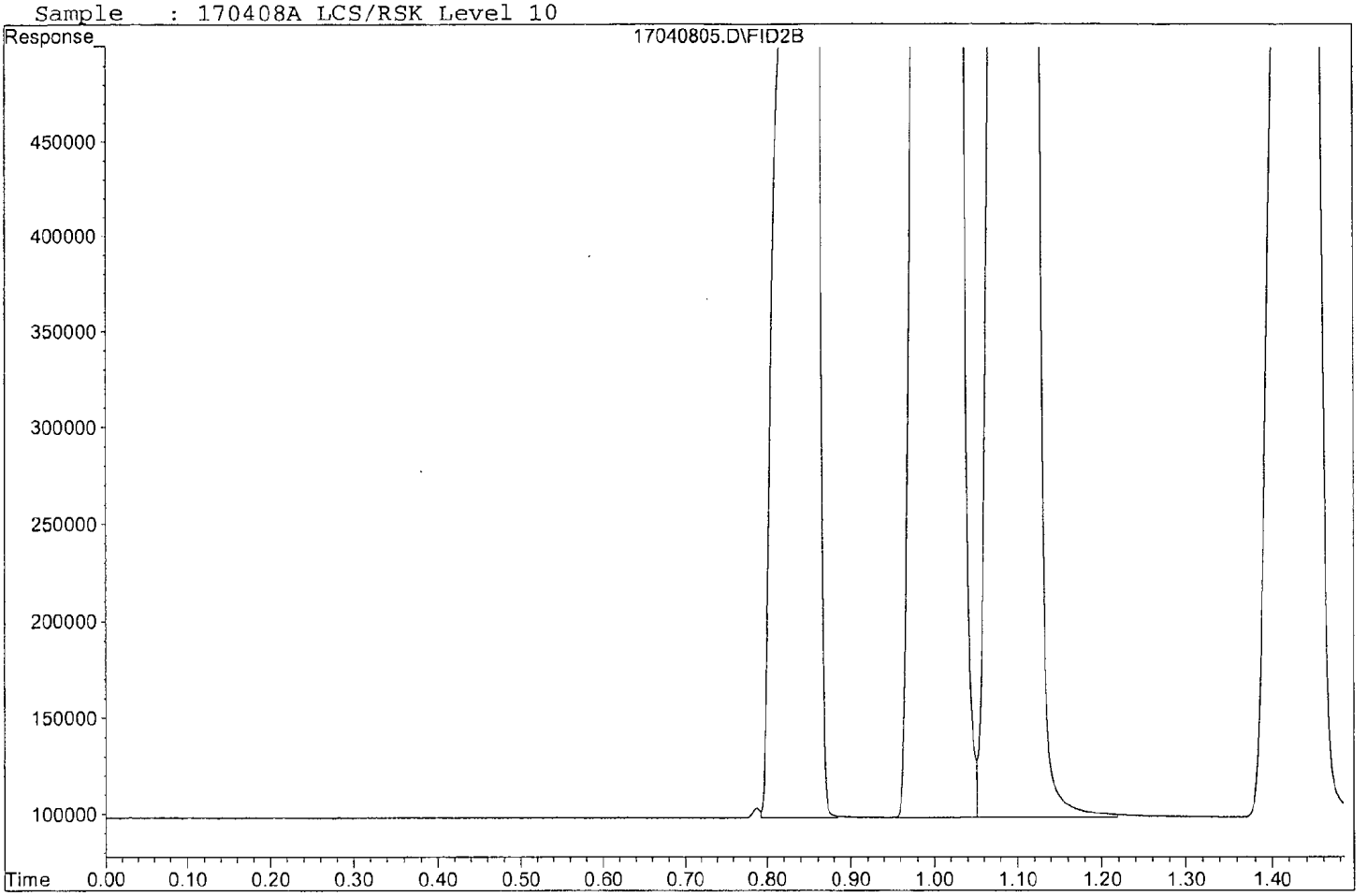
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 13:07
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040828.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2221	12	ATML	10
2	ATML	Ethane	2140	1910	11	ATML	6.5
3	ATML	Ethene	1905	1662	13	ATML	8.1
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			12.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040828.D Vial: 27
Acq On : 8 Apr 17 13:07 Operator: lac
Sample : 170408B LCS/CCV RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:11 2017 Quant Results File: RSK0225.RES

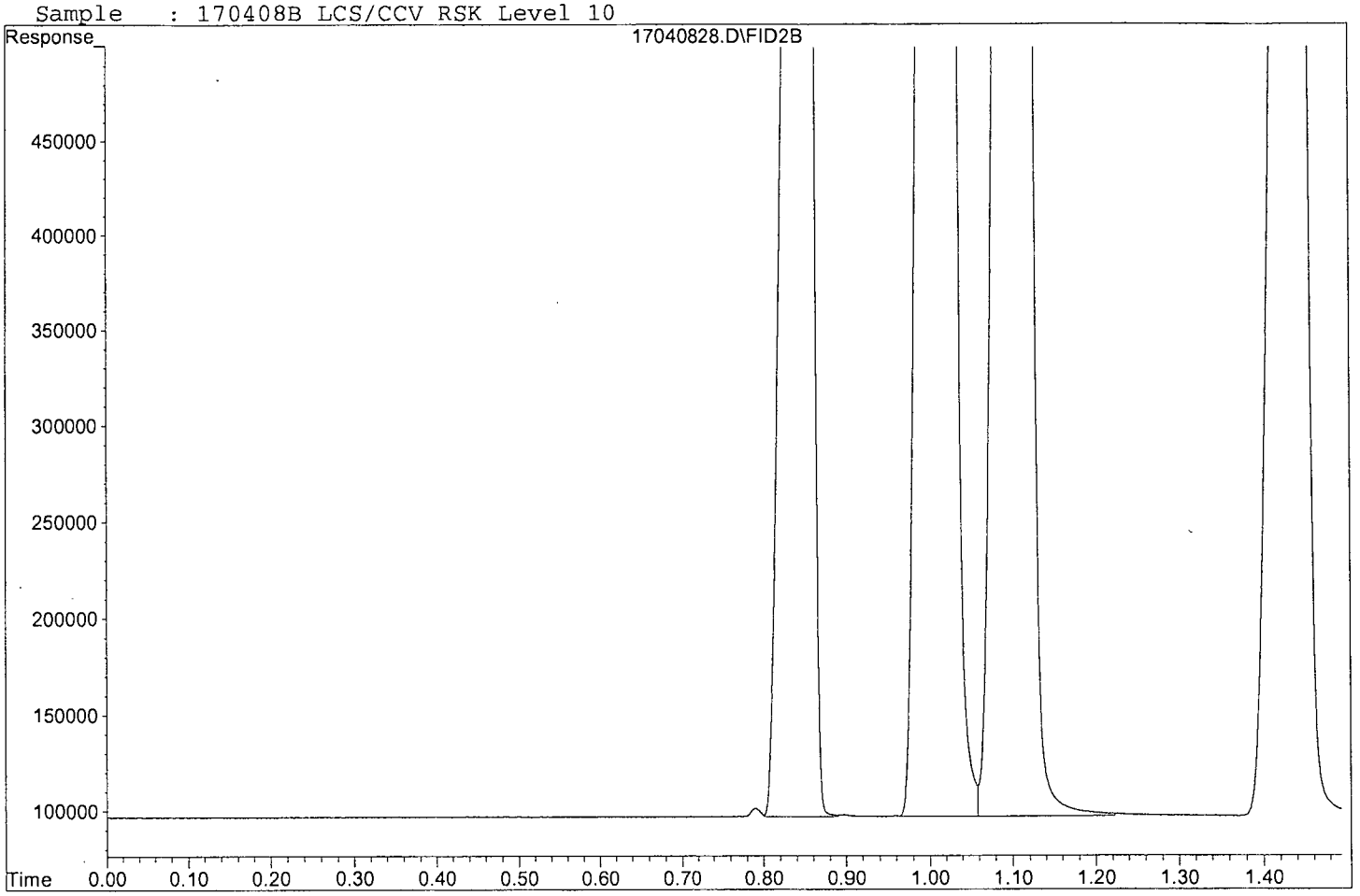
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2965580	1474.046	ppb
2) ATM Ethane	1.02	4775171	2663.584	ppb
3) ATM Ethene	1.11	4147970	2698.609	ppb

Target Compounds

Data File: G:\ROCKY\DATA\170225R\17040828.D
Sample : 170408B LCS/CCV RSK Level 10



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:02:55 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040806.D Vial: 5
Acq On : 8 Apr 17 10:43 Operator: lac
Sample : 170408A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 11:59 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

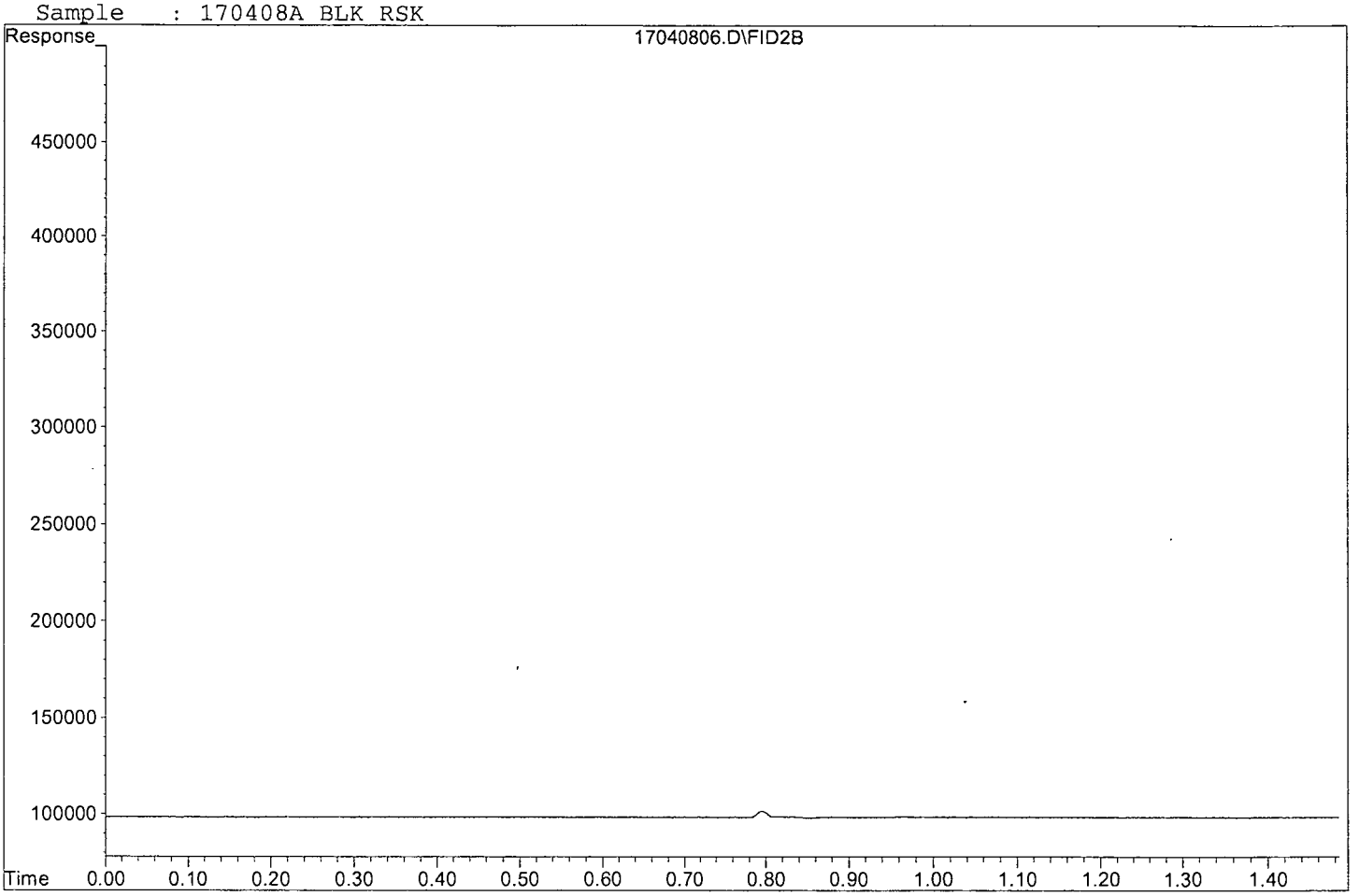
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	154	N.D.	ppb
2) ATM Ethane	1.03	443	N.D.	ppb
3) ATM Ethene	1.12	453	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040806.D
Sample : 170408A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:02:44 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

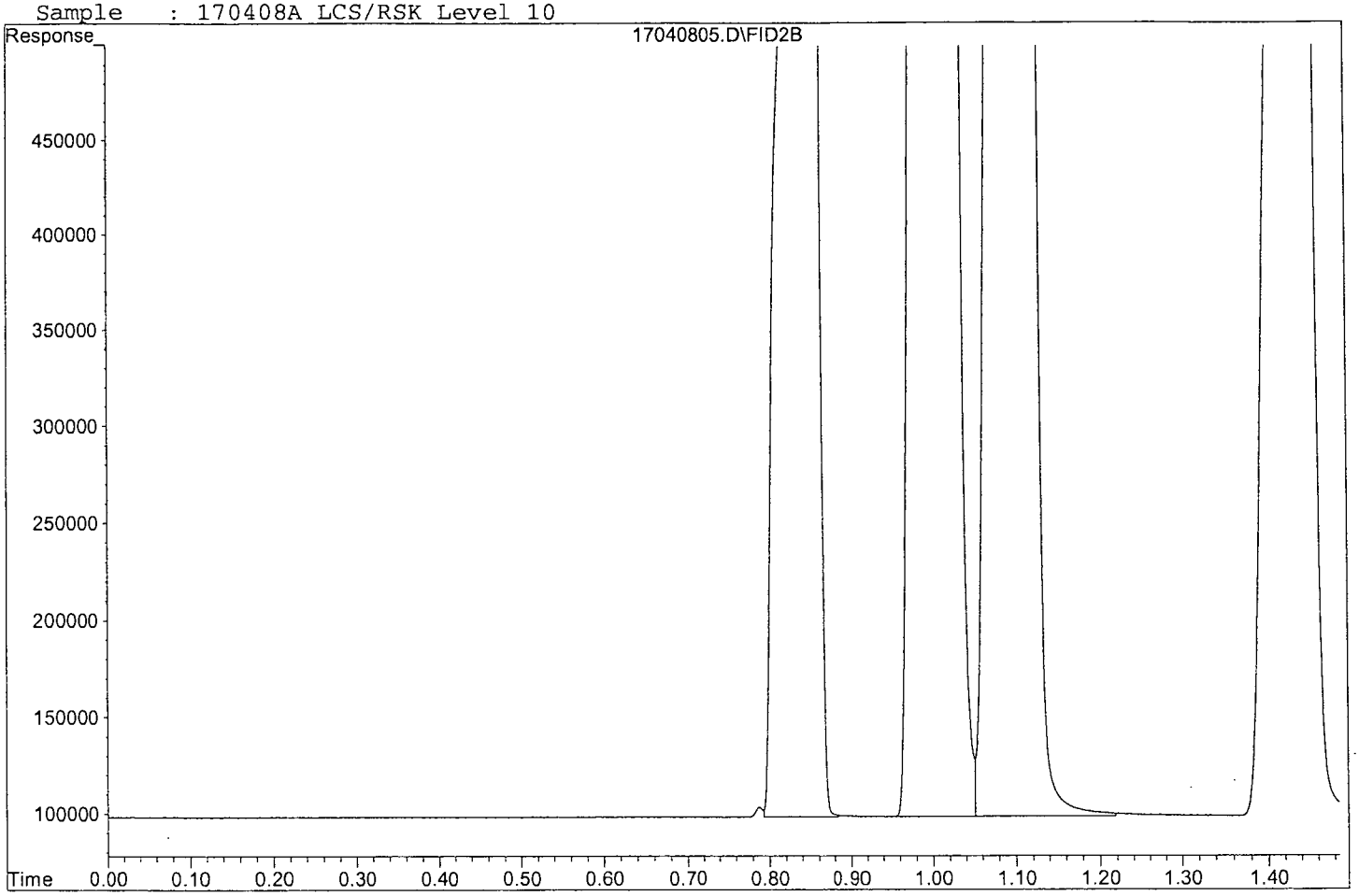
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17

10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water

final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 05/08/17** CMM 04/08/17

2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

AZ53059 MS/MSD Level 10 CMM 04/08/17

2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL of sample water

final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	4	17040805.D	1	170408A LCS/RSK Level 10		8 Apr 17 10:39
13	5	17040806.D	1	170408A BLK RSK		8 Apr 17 10:43
24	16	17040817.D	1	AZ53171W03		8 Apr 17 12:33
25	18	17040819.D	20	AZ53172W06 DF20		8 Apr 17 12:40
26	19	17040820.D	1	AZ53173W03		8 Apr 17 12:43
27	20	17040821.D	1	AZ53174W06		8 Apr 17 12:46
28	21	17040822.D	1	AZ53175W03		8 Apr 17 12:49
29	22	17040823.D	1	AZ53176W06		8 Apr 17 12:52
30	23	17040824.D	1	AZ53177W03		8 Apr 17 12:55
31	24	17040825.D	1	AZ53178W06		8 Apr 17 12:58
32	25	17040826.D	1	AZ53179W03		8 Apr 17 13:01
33	26	17040827.D	1	AZ53180W06		8 Apr 17 13:04
34	27	17040828.D	1	170408B LCS/CCV RSK Level 10		8 Apr 17 13:07

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/05/17	04/05/17	#35FE-170405A-AZ53168
EPA 300.0	CHLORIDE	1.1	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	#300WD-170406A1-AZ53176
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/06/17	04/06/17	#300WD-170406A1-AZ53176

Wetlab SC-Blank-REG MDLs
Printed: 04/13/17 8:32:27 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	SULFATE	20.0	19.8	99.0	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM3500Fe	FERROUS IRON	3.00	2.72	90.7	80-120	04/05/17	04/05/17	#35FE-170405A-AZ53168

Comments: _____

Printed: 04/13/17 8:32:34 AM
APPL Standard LCS

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	NITRATE	22.1	22.1	100	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300WD-170406A1-AZ53176
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/06/17	04/06/17	#300WD-170406A1-AZ53176

Comments: _____

Printed: 04/13/17 8:32:35 AM
APPL Standard LCS

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH300

APPL ID: AZ53172

Sample Collection Date: 04/04/17

ARF: 82596

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	39.9	1.0	0.20	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
EPA 300.0	SULFATE	1.1	1.0	0.20	0.09	mg/L	1	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	206	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	206	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	2.8	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

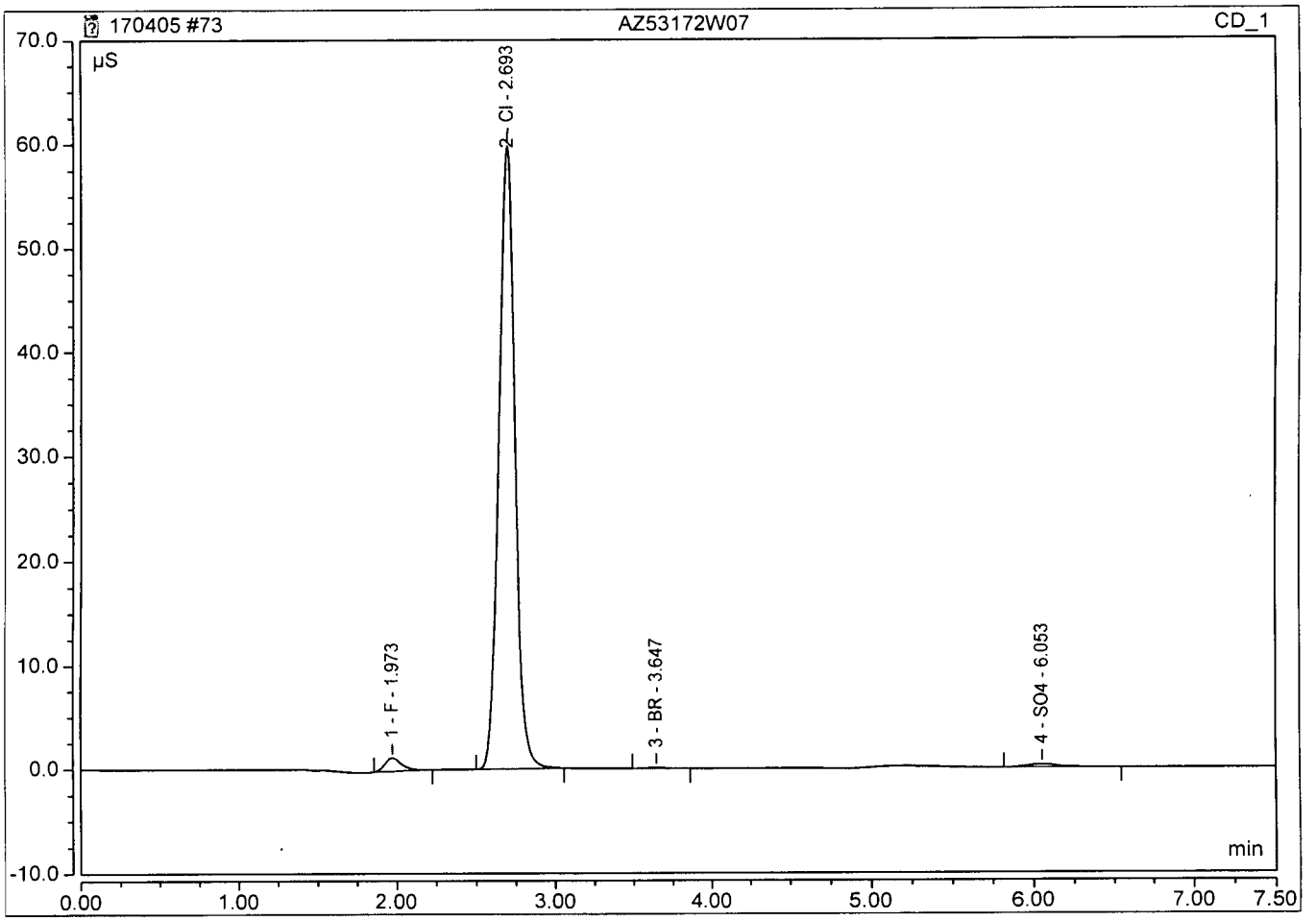
Printed: 04/22/17 12:59:23 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53172W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:30**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.157	1.268	0.8230
2	2.69	Cl	BMB	7.012	59.752	39.8880
3	3.65	BR	BMB	0.008	0.060	0.3457
4	6.05	SO4	BMB	0.062	0.285	1.0805
TOTAL:				7.24	61.37	42.14



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH310

APPL ID: AZ53174

Sample Collection Date: 04/03/17

ARF: 82596

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	40.1	1.0	0.20	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
EPA 300.0	SULFATE	5.0	1.0	0.20	0.09	mg/L	1	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	91.3	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	91.3	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.70 J	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

J = Estimated value.

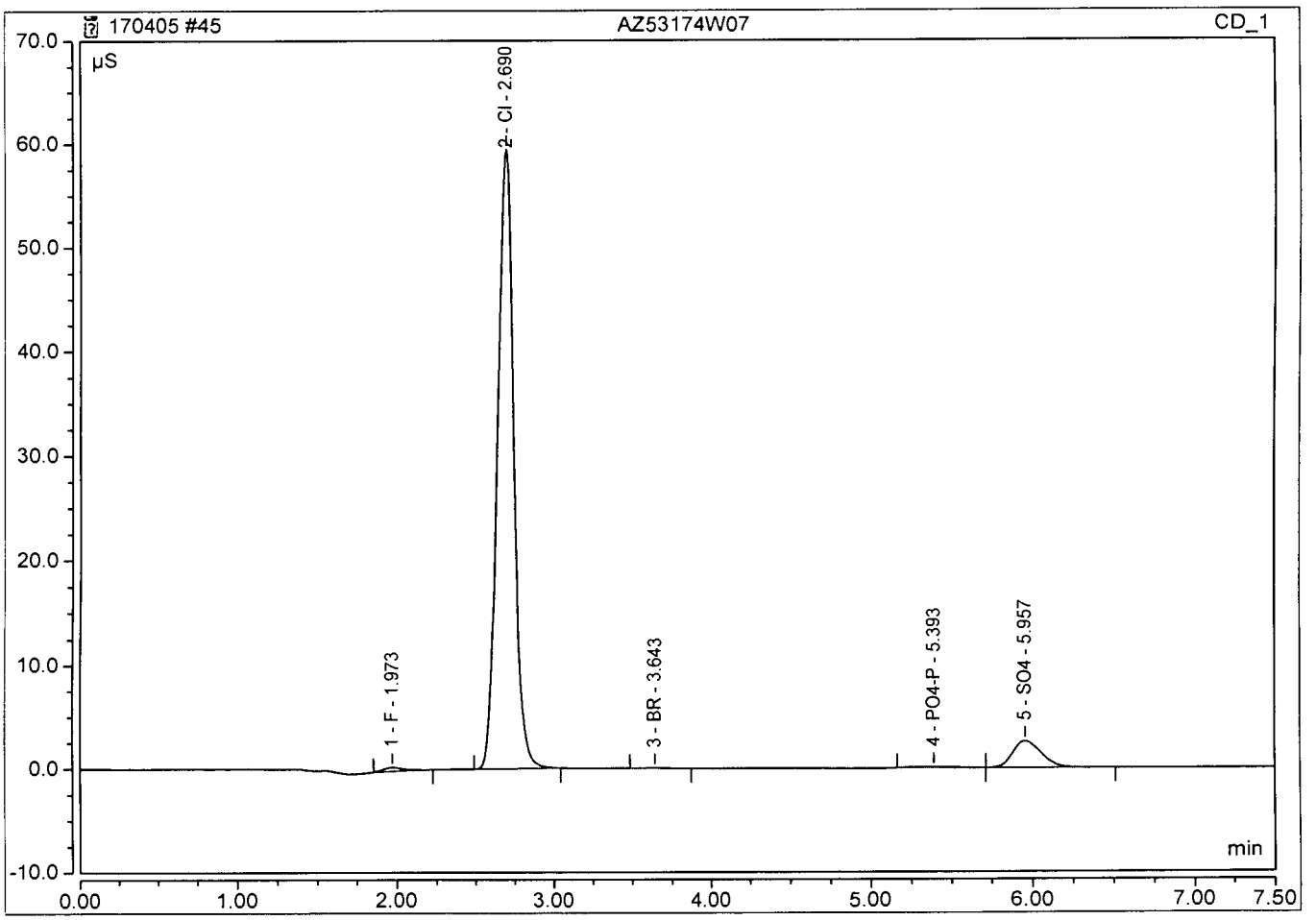
Printed: 04/22/17 12:59:23 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53174W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 16:10**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	**F**	BMB	0.053	0.381	0.3064
2	2.69	**Cl**	BMB	7.058	59.434	40.1412
3	3.64	**BR**	BMB	0.008	0.059	0.3460
4	5.39	**PO4-P**	BMB	0.025	0.084	0.3369
5	5.96	**SO4**	BMB	0.517	2.564	5.0051
TOTAL:				7.66	62.52	46.14



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH313

APPL ID: AZ53176

Sample Collection Date: 04/03/17

ARF: 82596

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	148	5.0	1.00	0.40	mg/L	5	04/06/17	04/06/17
EPA 300.0	SULFATE	44.1	5.0	1.00	0.45	mg/L	5	04/06/17	04/06/17
EPA 300.0	NITRATE	4.5	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	101	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	101	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.17 J	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

J = Estimated value.

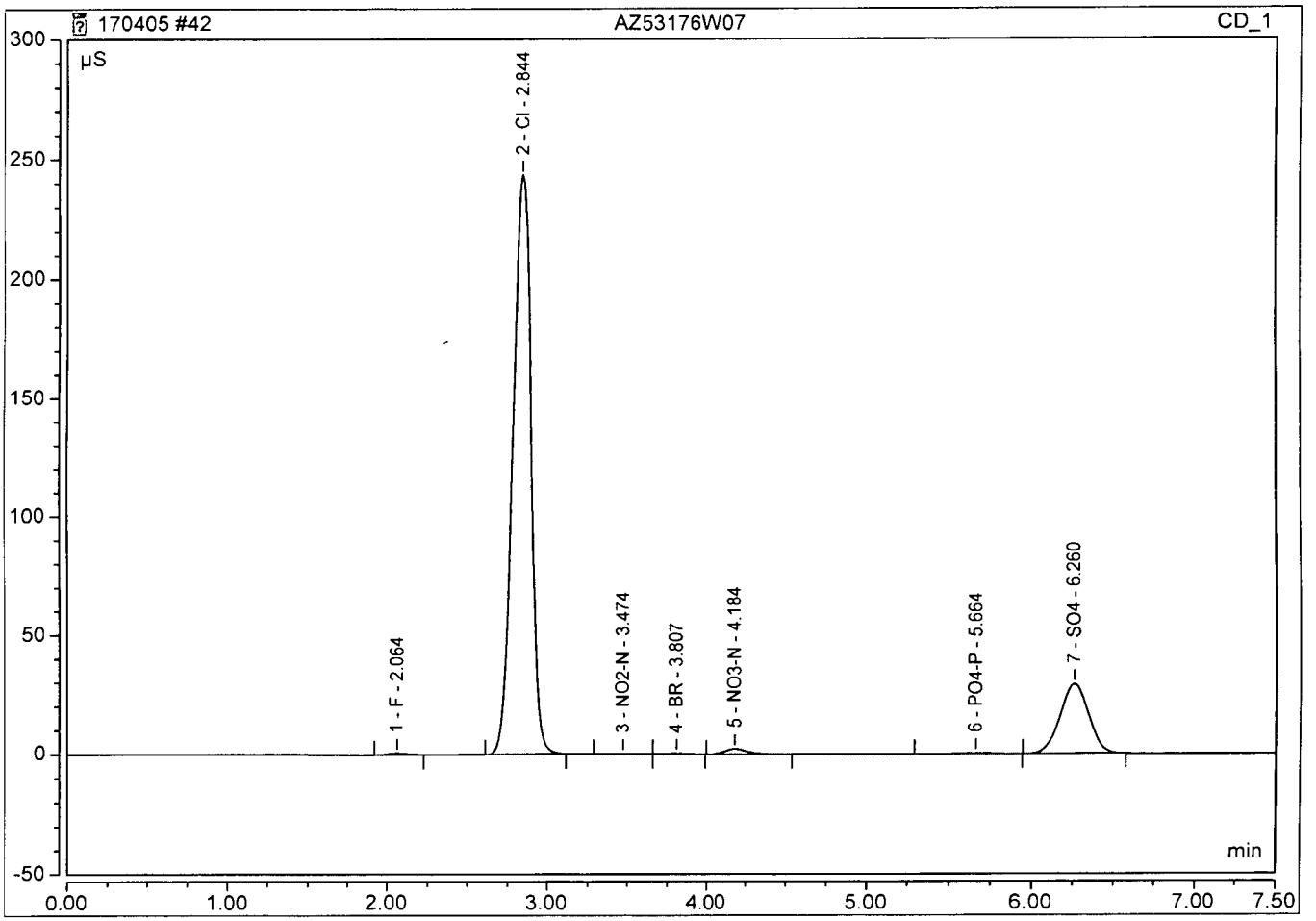
Printed: 04/22/17 12:59:23 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53176W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 15:30**	*Run Time:*	**7.50**

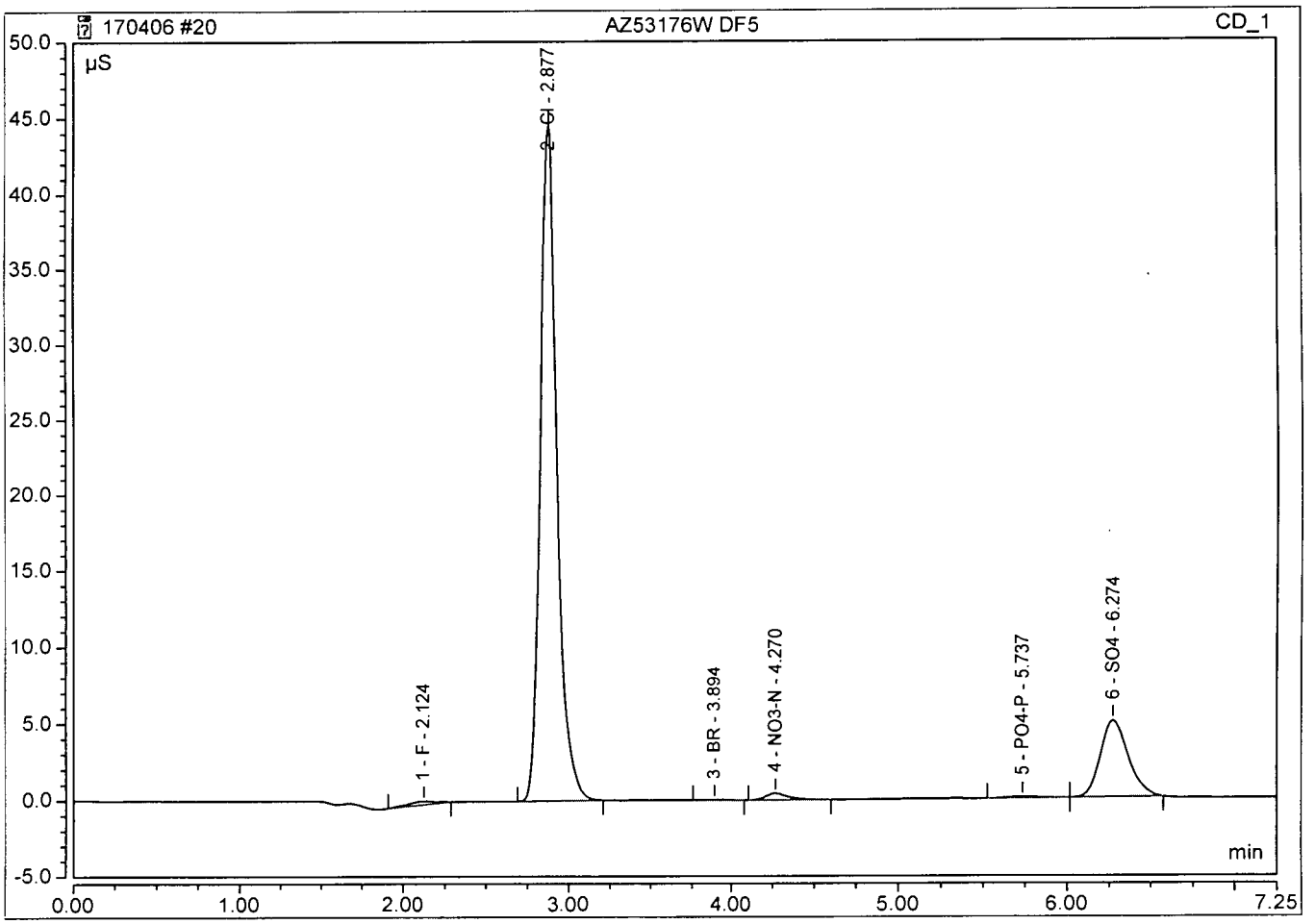
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.06	F	BMB	0.078	0.630	0.4336
2	2.84	Cl	BMB	31.894	243.271	177.9321
3	3.47	NO2-N	BMB	0.009	0.050	0.0642
4	3.81	BR	BMB	0.029	0.214	0.6734
5	4.18	NO3-N	BMB	0.341	2.206	1.0194
6	5.66	PO4-P	BMB	0.082	0.342	0.8007
7	6.26	SO4	BMB	5.820	29.020	50.7581
TOTAL:				38.25	275.73	231.68



Peak Integration Report

Sample Name:	**AZ53176W DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 11:12**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB	0.043	0.223	1.2956
2	2.88	Cl	BMB	5.159	44.585	148.0131
3	3.89	BR	BMB	0.005	0.042	1.5100
4	4.27	NO3-N	BMB	0.065	0.429	1.4909
5	5.74	PO4-P	BMB	0.015	0.070	1.3126
6	6.27	SO4	BMB	0.960	4.954	44.1247
		TOTAL:		6.25	50.30	197.75



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH319

APPL ID: AZ53178

Sample Collection Date: 04/03/17

ARF: 82596

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	505	20.0	4.00	1.60	mg/L	20	04/06/17	04/06/17
EPA 300.0	SULFATE	120	20.0	4.00	1.80	mg/L	20	04/06/17	04/06/17
EPA 300.0	NITRATE	3.6	1.0	0.36	0.08	mg/L	2	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	115	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	115	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

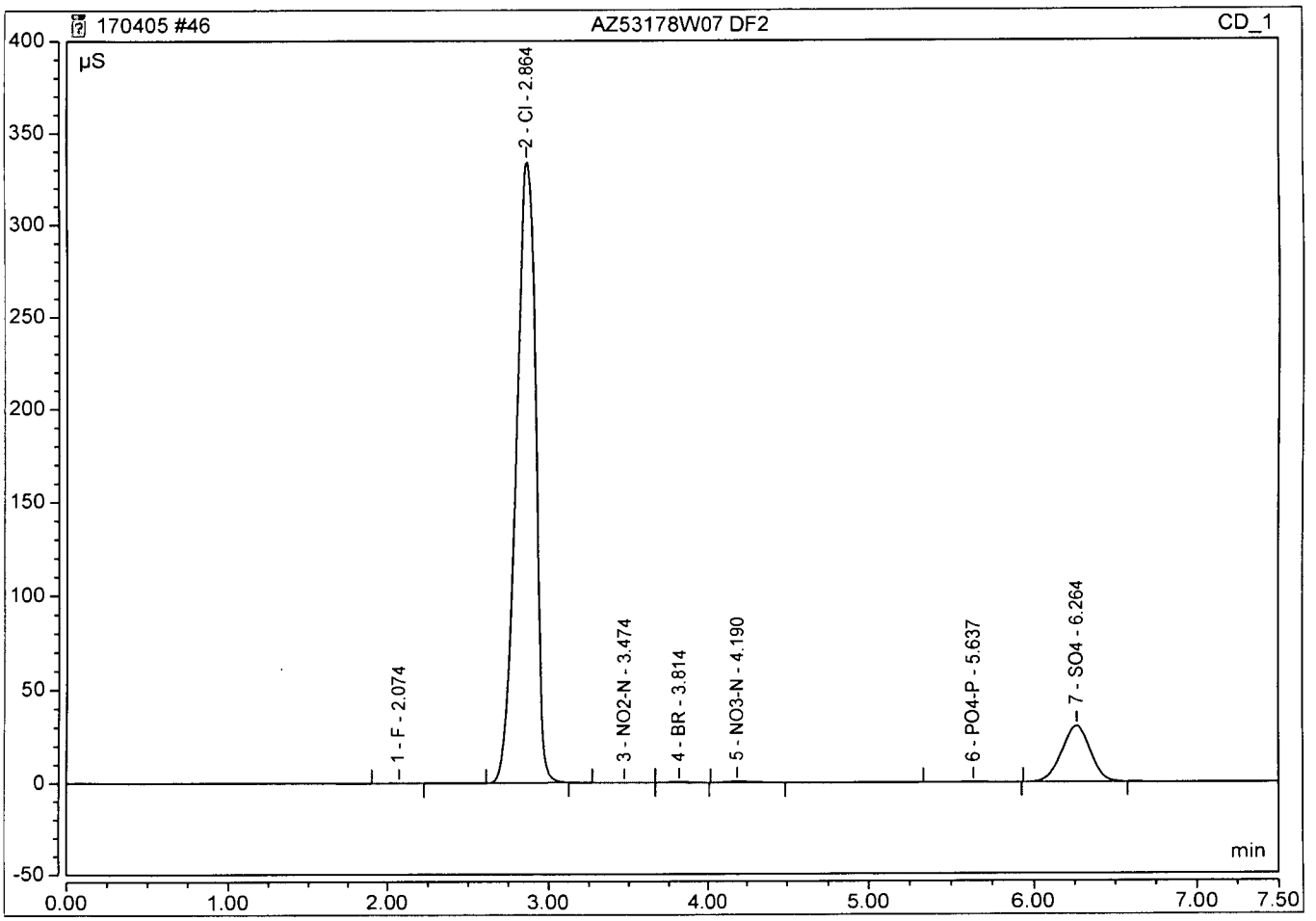
Printed: 04/22/17 12:59:23 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53178W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 16:24**	*Run Time:*	**7.50**

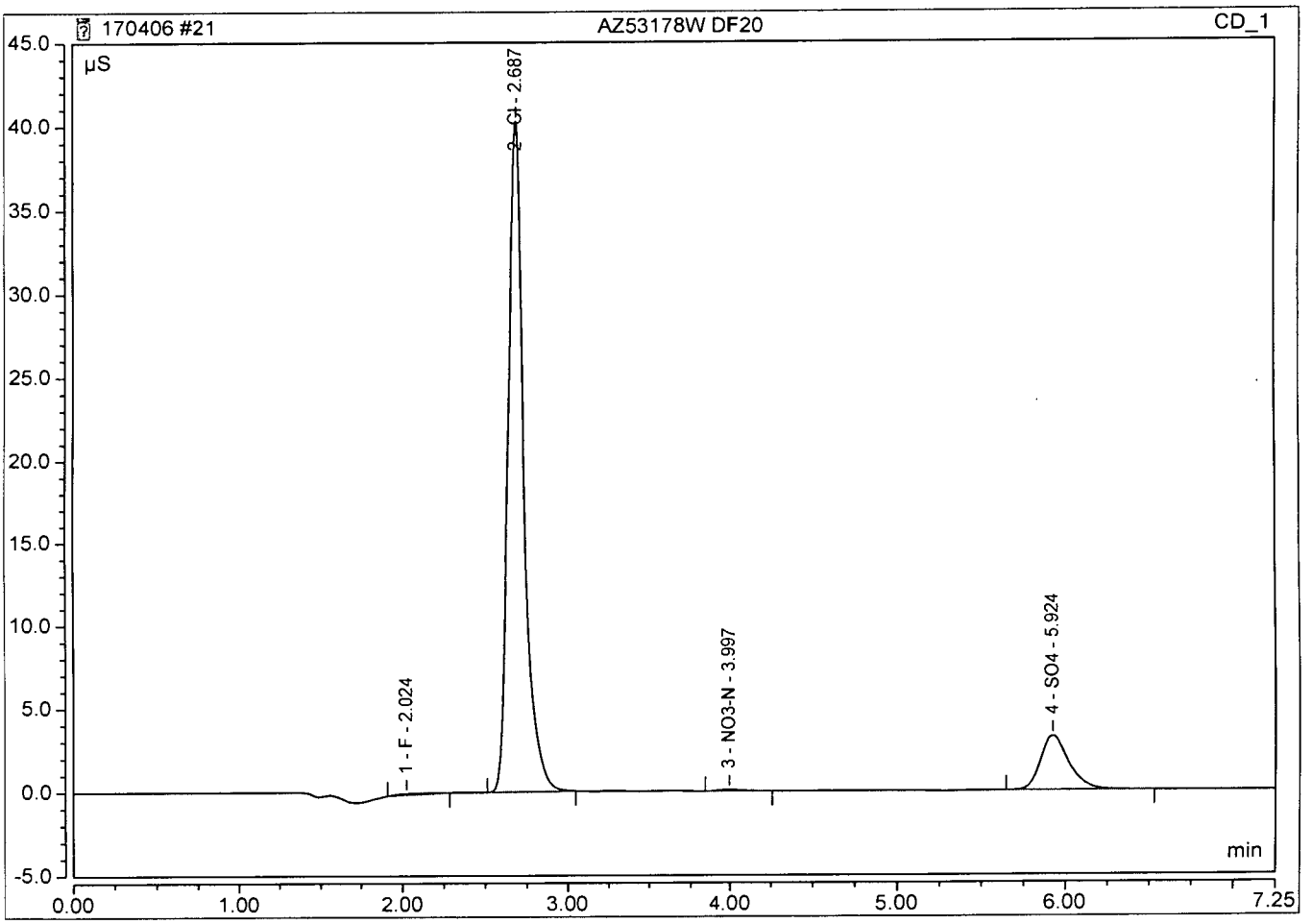
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.07	F	BMB	0.012	0.083	0.2070
2	2.86	Cl	BMB	46.190	334.249	514.4865
3	3.47	NO2-N	BMB	0.012	0.058	0.1472
4	3.81	BR	BMB	0.037	0.276	1.6071
5	4.19	NO3-N	BMB	0.108	0.713	0.8237
6	5.64	PO4-P	BMB	0.024	0.076	0.6571
7	6.26	SO4	BMB	6.115	30.300	106.6077
		TOTAL:		52.50	365.75	624.54



Peak Integration Report

Sample Name:	**AZ53178W DF20**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**20.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 11:25**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.02	F	BMB	0.018	0.074	2.6944
2	2.69	Cl	BMB	4.376	40.288	505.2120
3	4.00	NO3-N	BMB	0.013	0.089	3.2510
4	5.92	SO4	BMB	0.631	3.226	119.7792
TOTAL:				5.04	43.68	630.94



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH305

APPL ID: AZ53180

Sample Collection Date: 04/03/17

ARF: 82596

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	473	10.0	2.00	0.80	mg/L	10	04/06/17	04/06/17
EPA 300.0	NITRATE	5.1	1.0	0.36	0.08	mg/L	2	04/05/17	04/05/17
EPA 300.0	SULFATE	75.3	2.0	0.40	0.18	mg/L	2	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	118	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	118	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

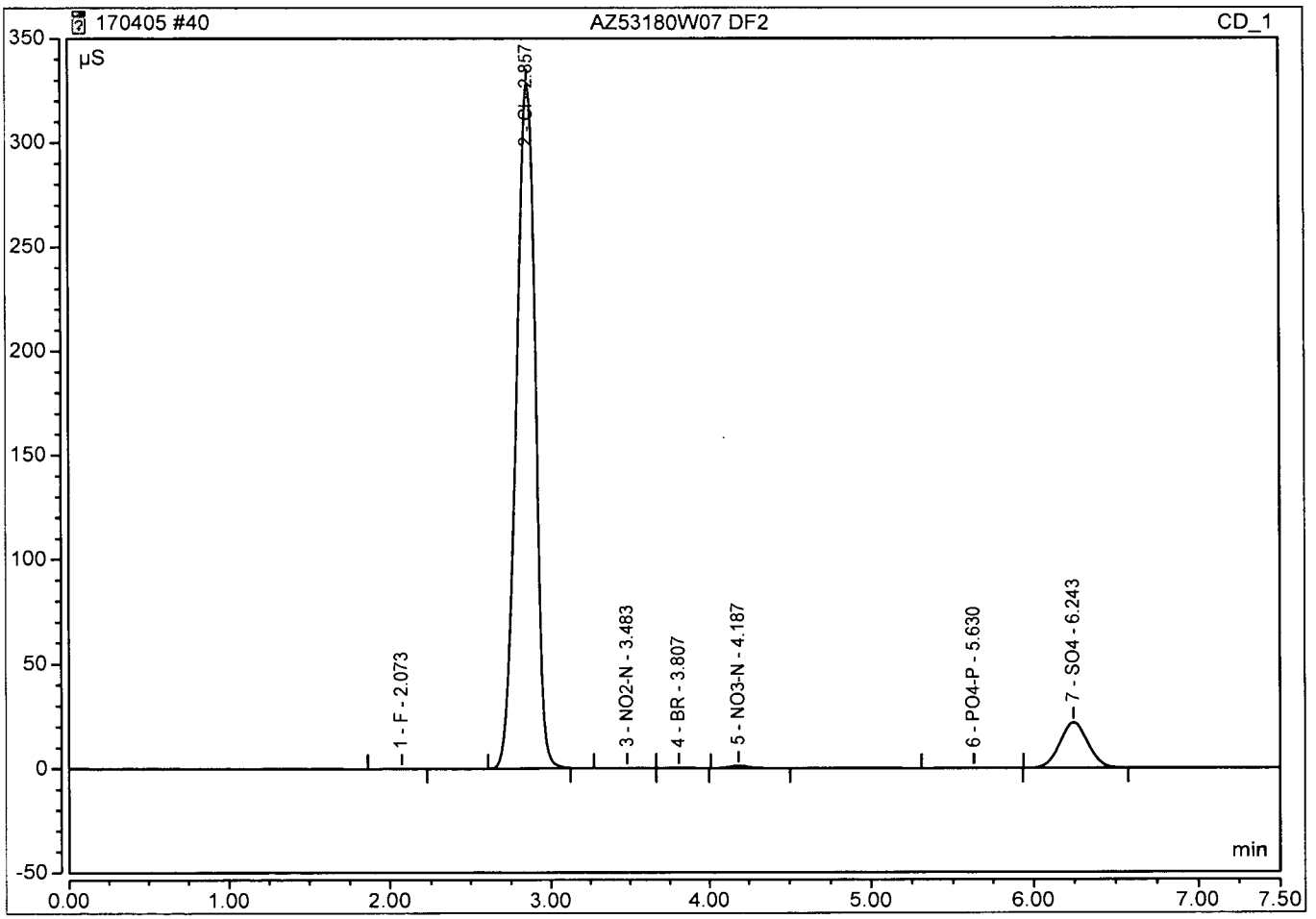
Printed: 04/22/17 12:59:23 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53180W07 DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 15:03**	*Run Time:*	**7.50**

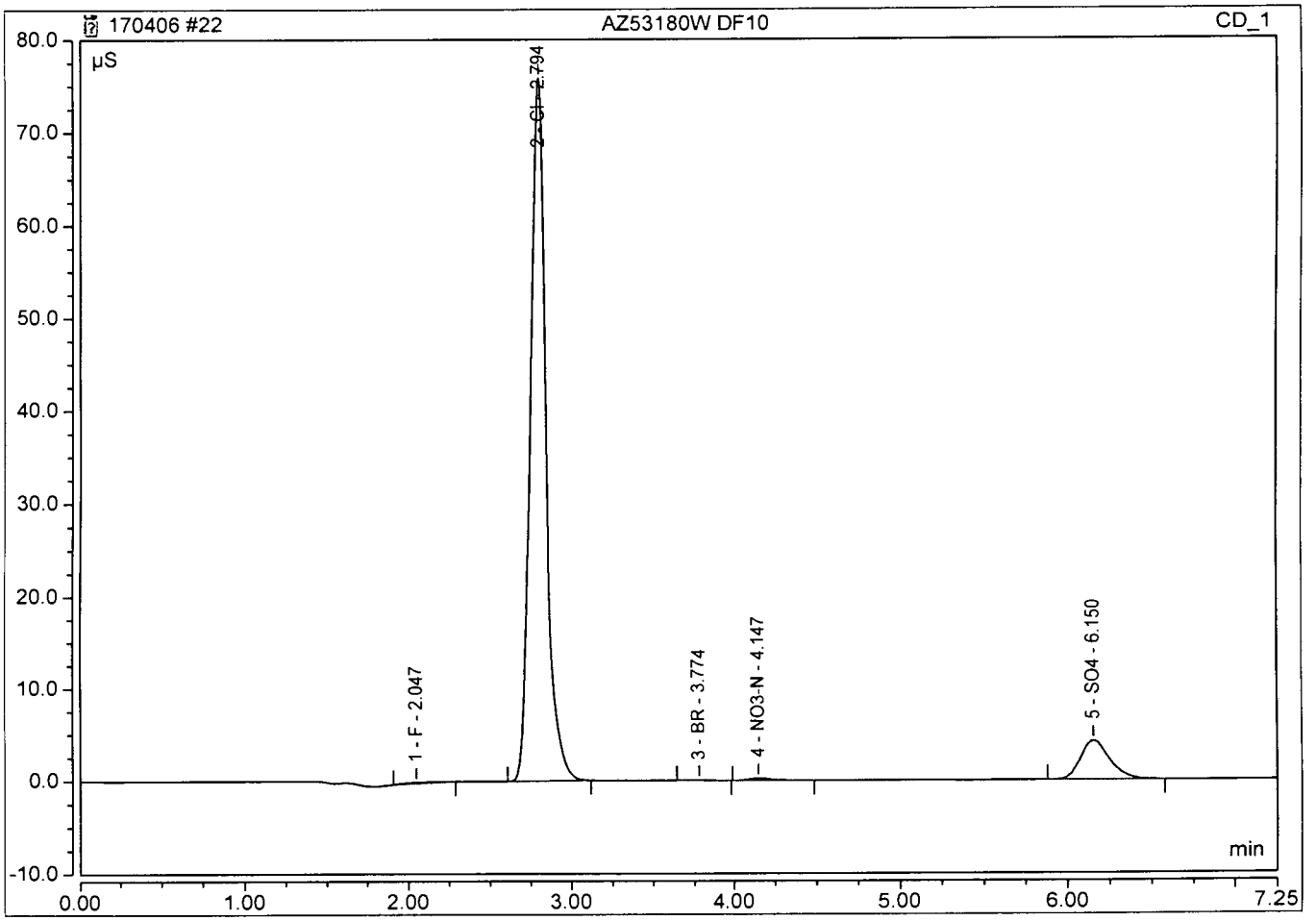
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.07	F	BMB	0.012	0.076	0.2067
2	2.86	Cl	BMB	44.893	328.124	500.1014
3	3.48	NO2-N	BMB	0.011	0.050	0.1387
4	3.81	BR	BMB	0.036	0.266	1.5604
5	4.19	NO3-N	BMB	0.170	1.107	1.1437
6	5.63	PO4-P	BMB	0.026	0.078	0.6945
7	6.24	SO4	BMB	4.302	21.737	75.3232
		TOTAL:		49.45	351.44	579.17



Peak Integration Report

Sample Name:	**AZ53180W DF10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**10.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 11:38**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.028	0.122	1.8335
2	2.79	Cl	BMB	8.345	75.783	472.7973
3	3.77	BR	BMB	0.008	0.061	3.4081
4	4.15	NO3-N	BMB	0.037	0.249	2.2479
5	6.15	SO4	BMB	0.831	4.176	77.1277
		TOTAL:		9.25	80.39	557.41



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82596 SDG: 82596
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 17:24	%R(1)	True CCV1	Found 17:56	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.74325	93.6	4	3.72327	93.1	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82596 SDG: 82596

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 04/05/17 17:26	C	CCB 04/05/17 17:57	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82596 SDG: 82596
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
chloride	20	18.867	94.3							
Nitrate(NO3)	22.1	21.9317	99.2							
sulfate	20	19.6588	98.3							

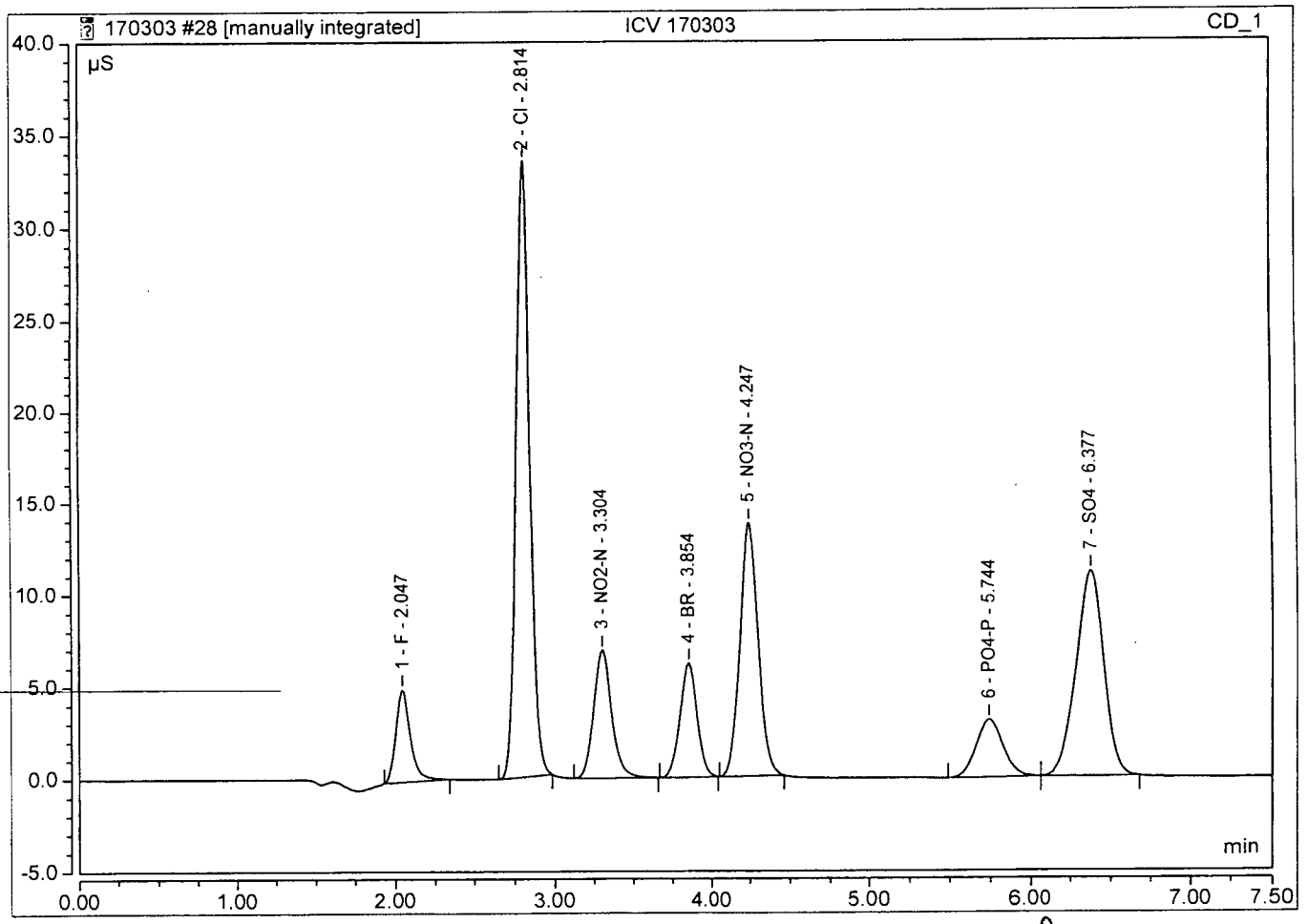
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm Check

y = .1159x - .0634 y = Peak Area
x = Amt

X = 19.66 ✓

mm 4/22/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82596 SDG: 82596

Preparation Blank Matrix (soil/water): water

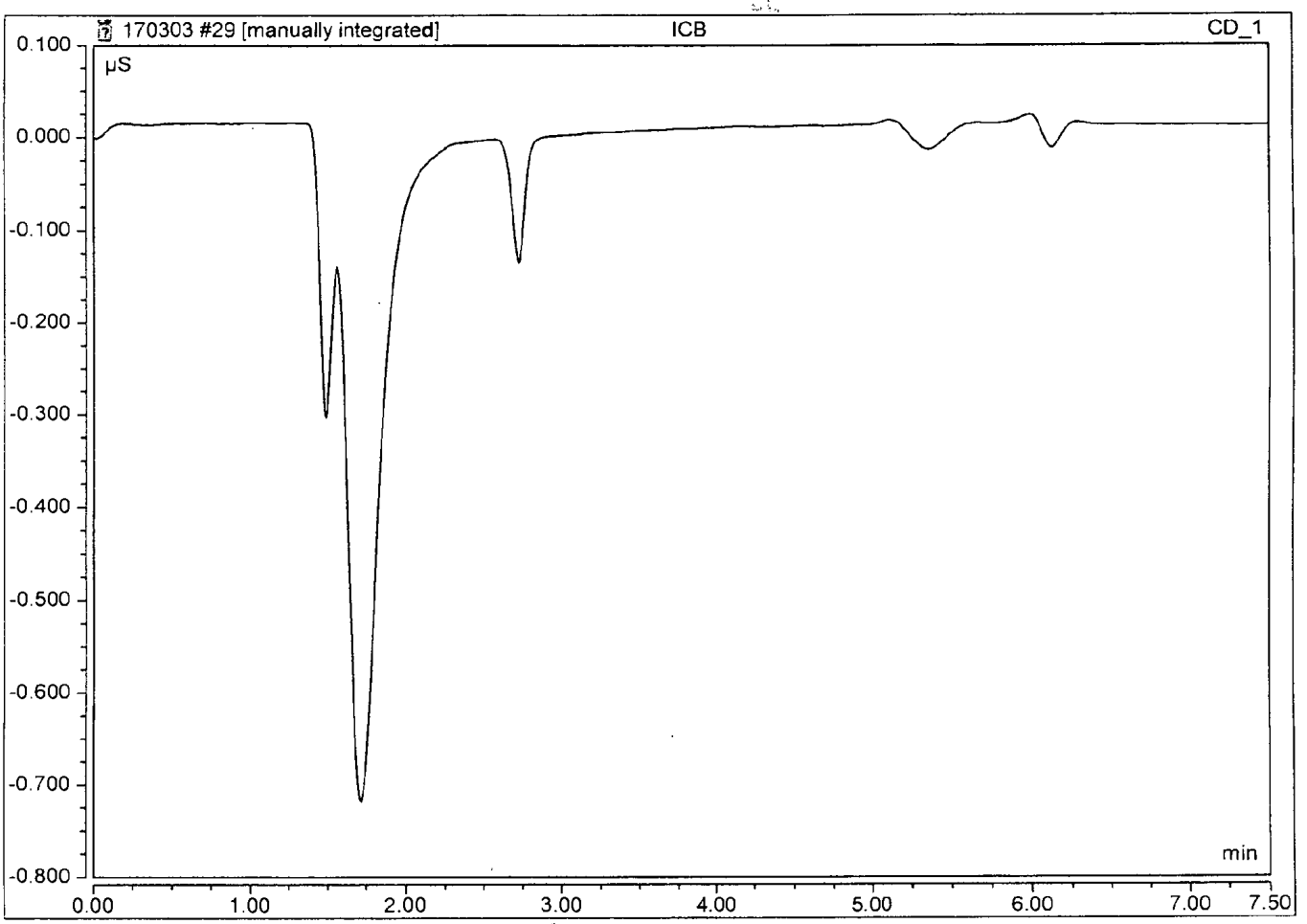
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
chloride	1.000	U									
Nitrate(NO3)	.500	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	ICB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	03-Mar-2017 / 17:04	*Run Time:*	7.50

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82596 SDG: 82596
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/05/17

Analyte	Calibration Verification									M
	True CCV1	Found 12:20	%R(1)	True CCV1	Found 16:51	%R(1)	True CCV1	Found 19:47	%R(1)	
chloride	25	24.0891	96.4	25	24.2345	96.9	25	24.2251	96.9	
Nitrate(NO3)	22.1	21.5827	97.7	22.1	21.6961	98.2	22.1	21.7005	98.2	
sulfate	25	24.2476	97.0	25	24.349	97.4	25	24.495	98.0	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82596 SDG: 82596
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/05/17

Analyte	Calibration Verification									M
	True CCV1	Found 22:57	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
chloride	25	24.2938	97.2							
Nitrate(NO3)	22.1	21.7612	98.5							
sulfate	25	24.5196	98.1							

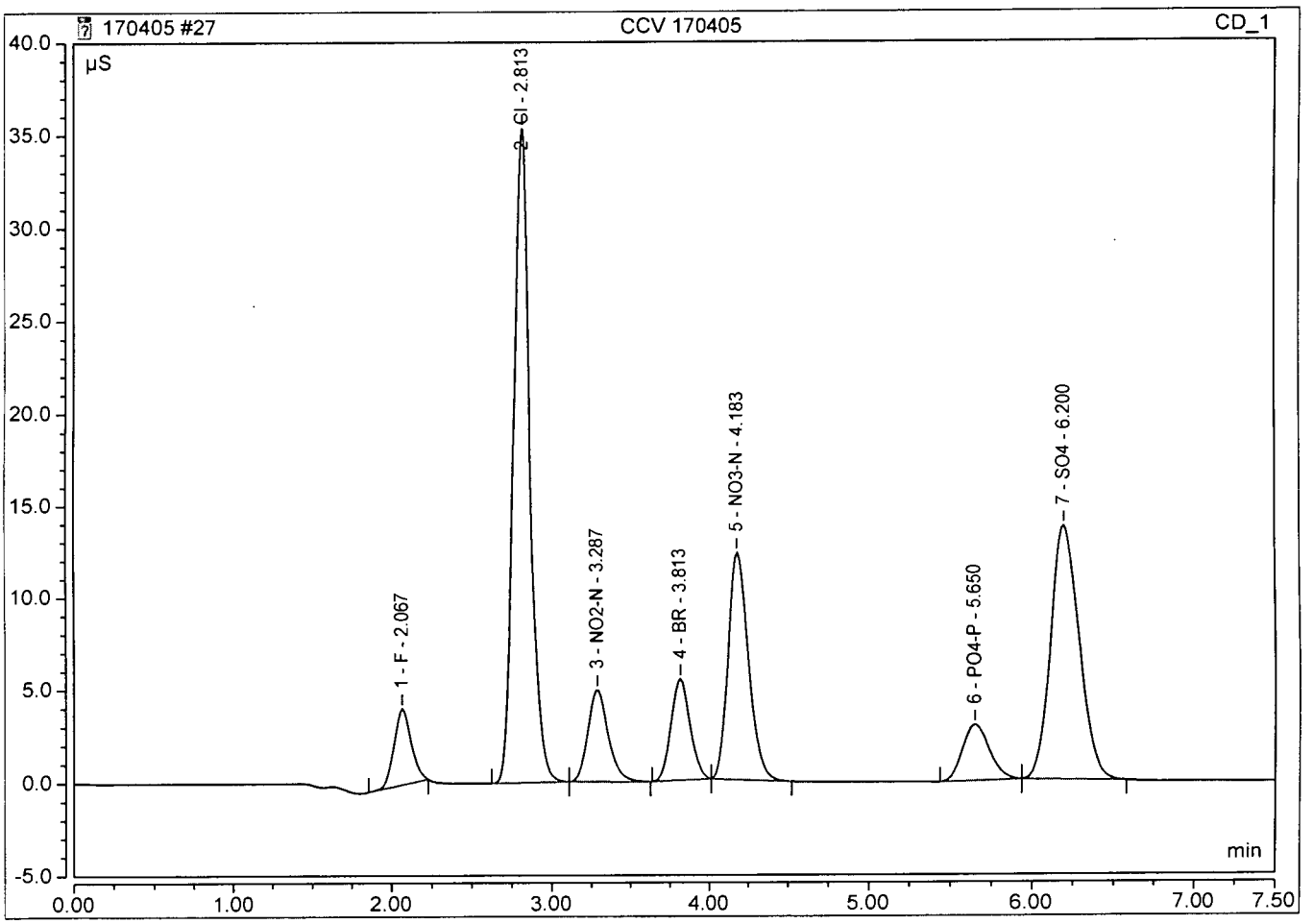
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 12:20**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.07	F	BMB	0.505	4.099	2.5468
2	2.81	Cl	BMB	4.165	35.330	24.0891
3	3.29	NO2-N	BMB	0.740	4.951	2.5535
4	3.81	BR	BMB	0.750	5.443	11.9959
5	4.18	NO3-N	BMB	1.820	12.264	4.8735
6	5.65	PO4-P	BMB	0.574	3.005	4.7463
7	6.20	SO4	BMB	2.747	13.711	24.2476
		TOTAL:		11.30	78.80	75.05



Algorithm Check
y = .1159x - .0634
x = 24.25 ✓

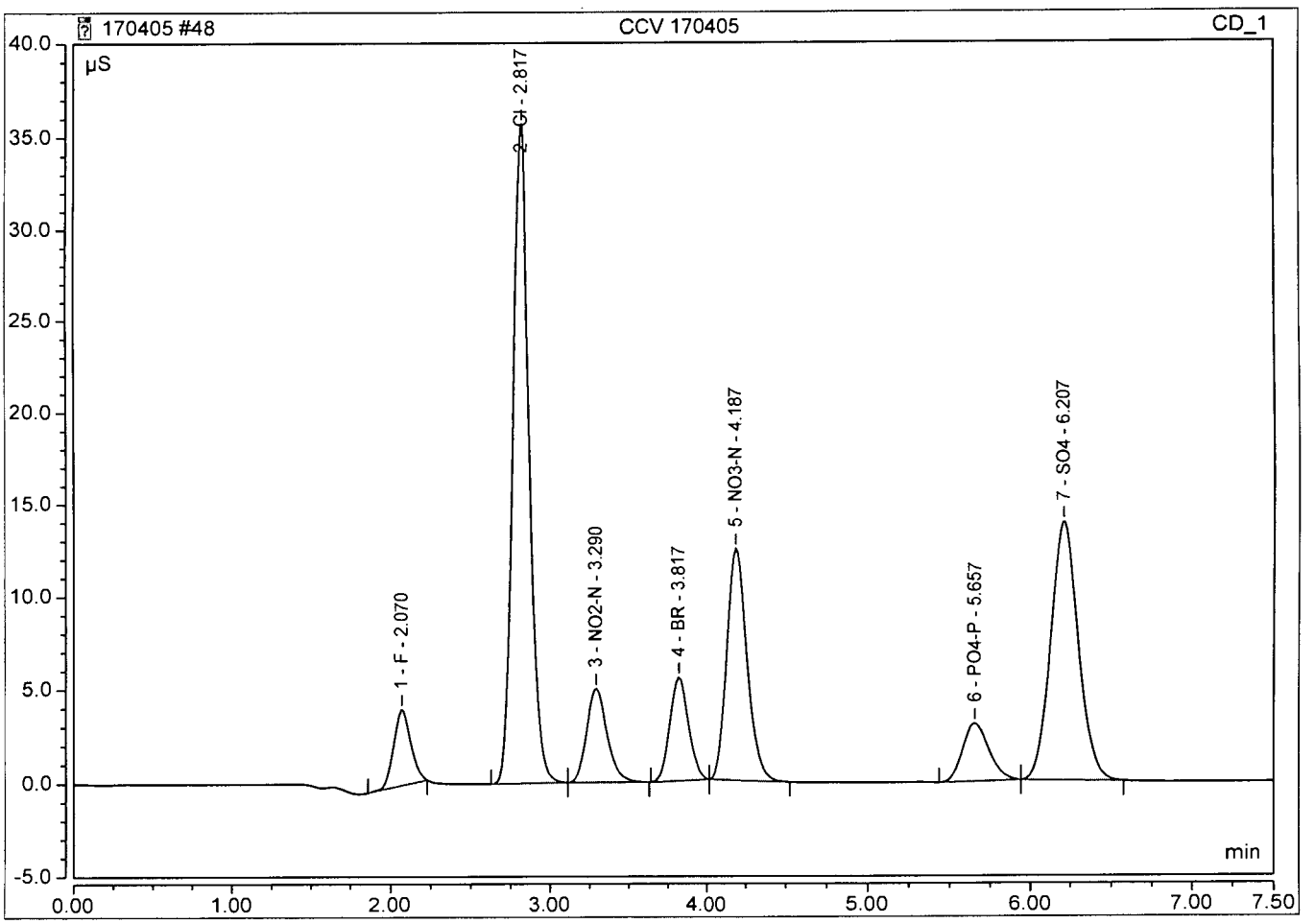
y = Peak Area
x = Amount

MM 4/22/17

Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 16:51**	*Run Time:*	**7.50**

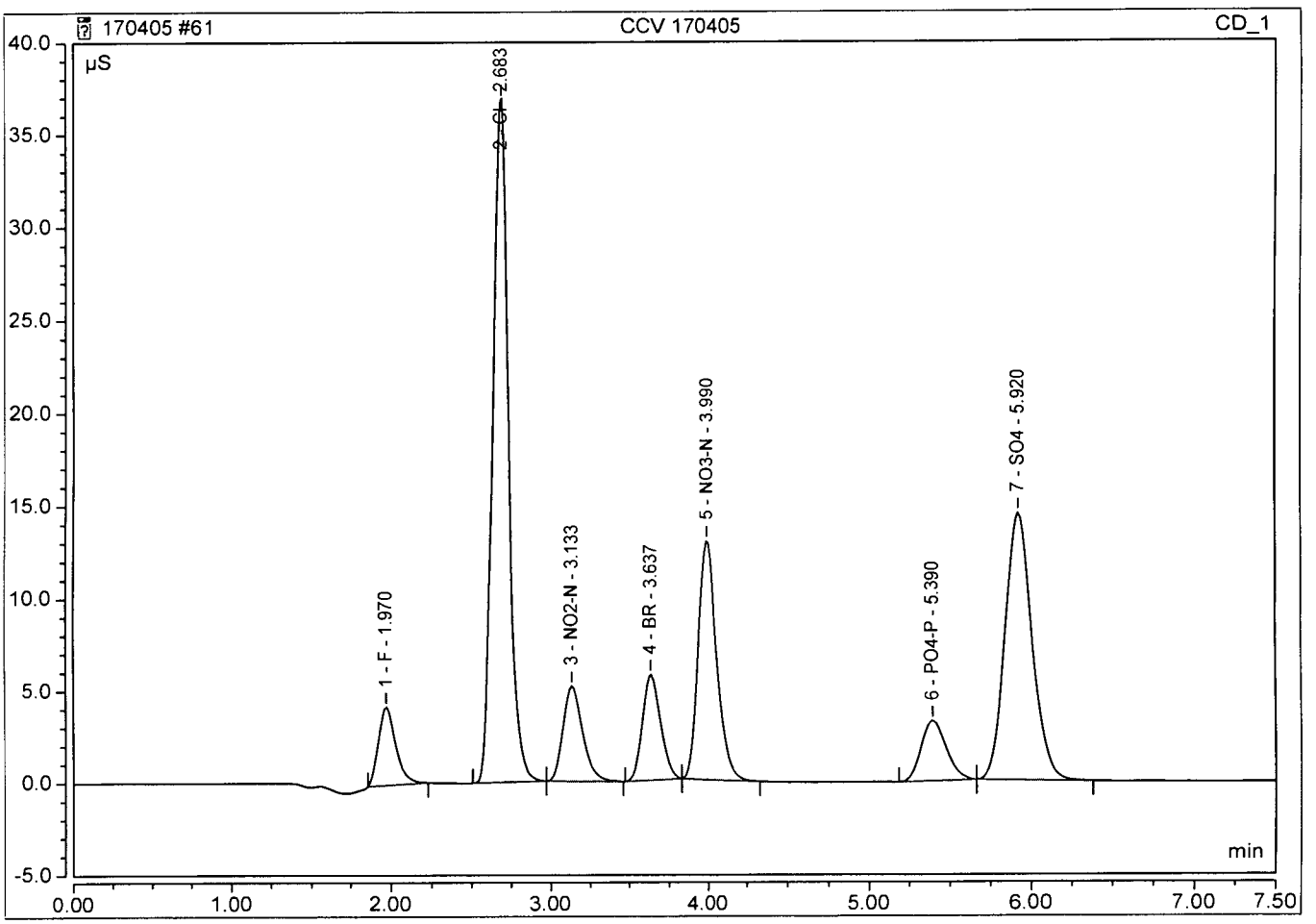
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.07	F	BMB	0.499	4.041	2.5157
2	2.82	Cl	BMB	4.191	35.694	24.2345
3	3.29	NO2-N	BMB	0.744	4.996	2.5679
4	3.82	BR	BMB	0.757	5.523	12.1034
5	4.19	NO3-N	BMB	1.829	12.425	4.8991
6	5.66	PO4-P	BMB	0.578	3.072	4.7826
7	6.21	SO4	BMB	2.759	13.862	24.3490
TOTAL:				11.36	79.61	75.45



Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 19:47**	*Run Time:*	**7.50**

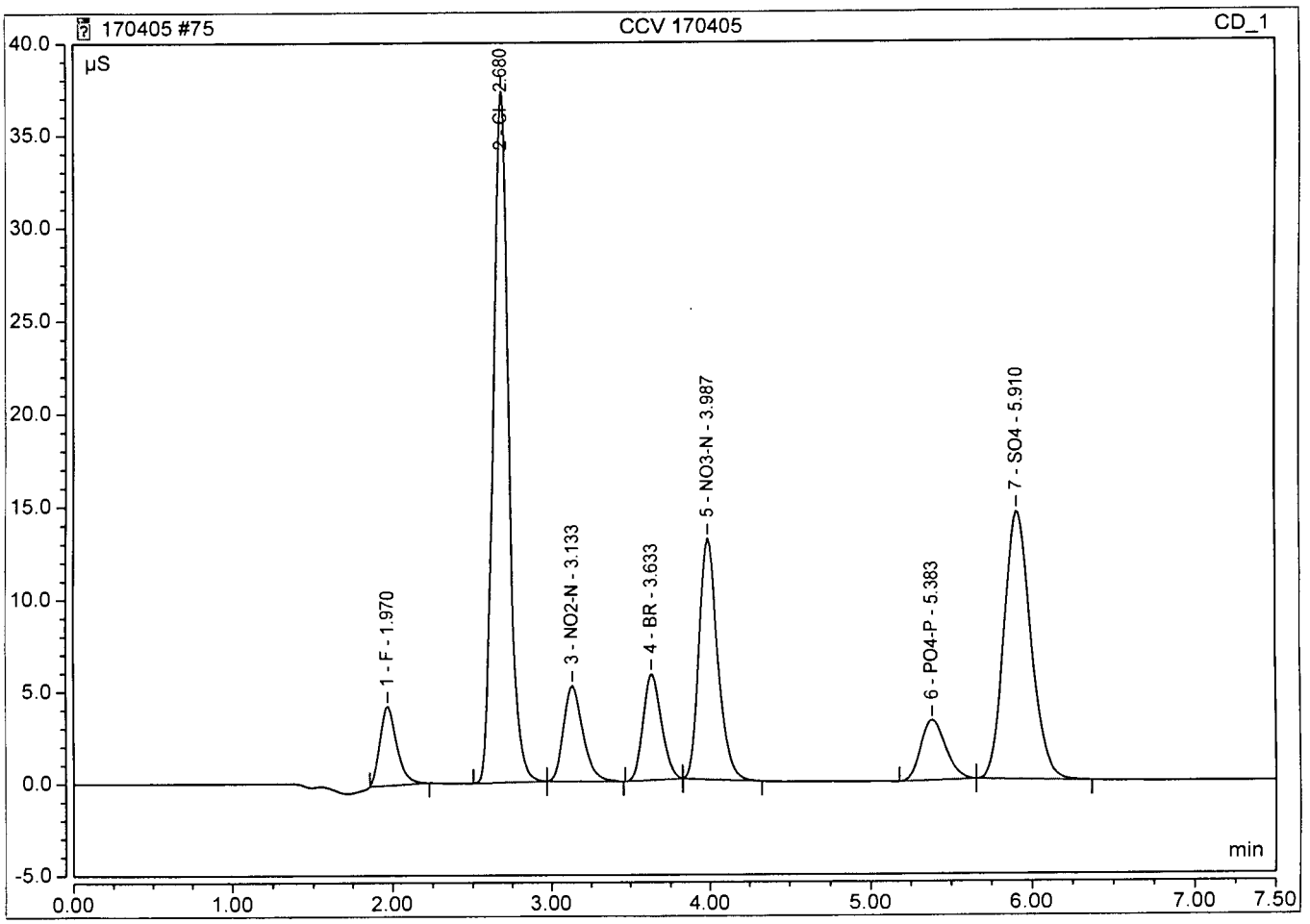
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.526	4.260	2.6476
2	2.68	Cl	BMB	4.189	36.875	24.2251
3	3.13	NO2-N	BMB	0.737	5.162	2.5445
4	3.64	BR	BMB	0.753	5.728	12.0377
5	3.99	NO3-N	BMB	1.830	12.953	4.9001
6	5.39	PO4-P	BMB	0.584	3.258	4.8322
7	5.92	SO4	BMB	2.776	14.490	24.4950
		TOTAL:		11.40	82.73	75.68



Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:57**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.524	4.308	2.6418
2	2.68	Cl	BMB	4.202	37.298	24.2938
3	3.13	NO2-N	BMB	0.739	5.203	2.5489
4	3.63	BR	BMB	0.755	5.780	12.0692
5	3.99	NO3-N	BMB	1.835	13.076	4.9138
6	5.38	PO4-P	BMB	0.584	3.270	4.8312
7	5.91	SO4	BMB	2.779	14.556	24.5196
		TOTAL:		11.42	83.49	75.82



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82596 SDG: 82596

Preparation Blank Matrix (soil/water): water

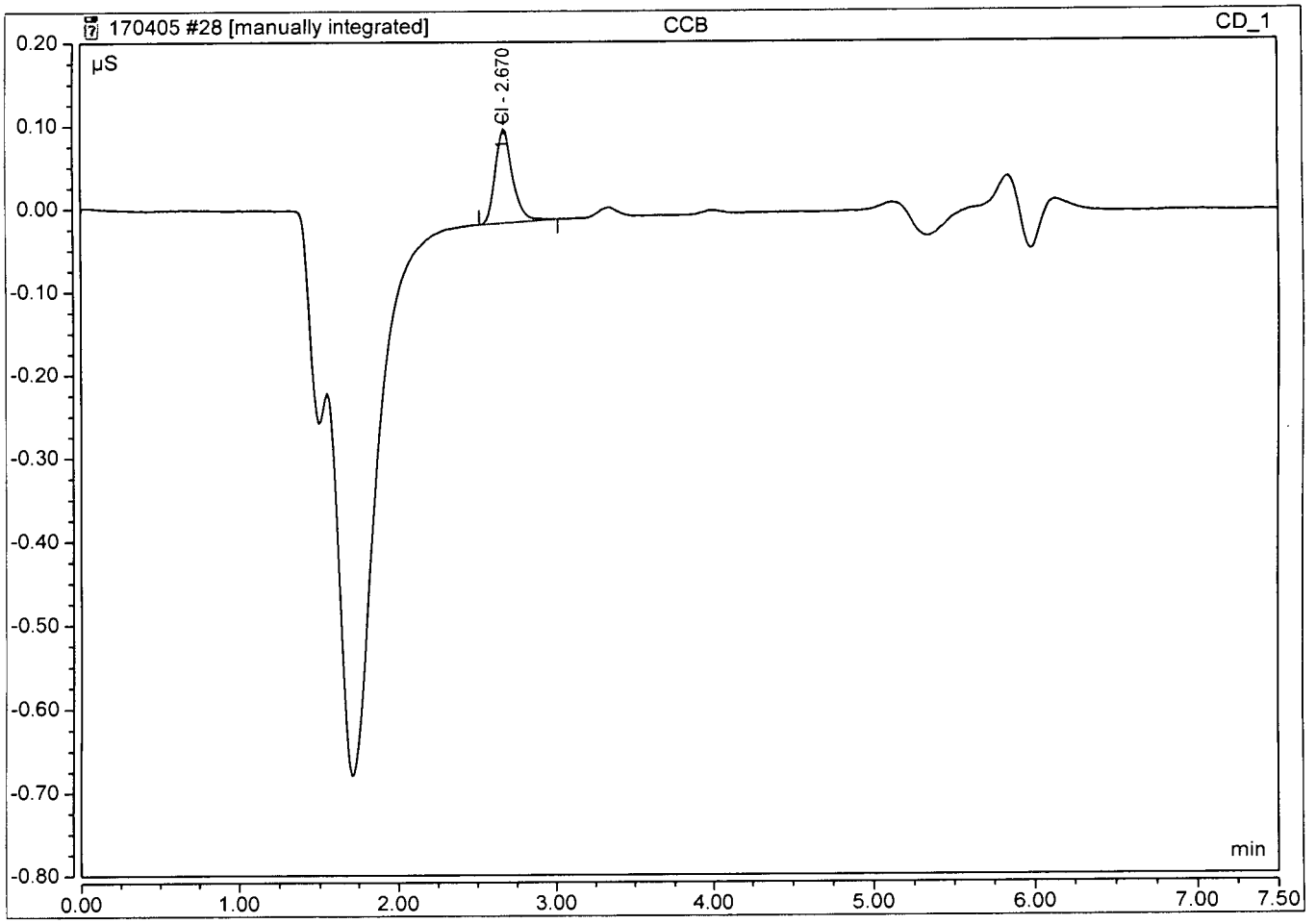
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/05/17 12:34	C	CCB 04/05/17 17:05	C	CCB 04/05/17 20:01	C	CCB 04/05/17 23:11	C		C	
chloride	1.060	*	1.000	U	1.000	U	1.000	U			*
Nitrate(NO3)	.500	U	.500	U	.500	U	.500	U			
sulfate	1.000	U	1.000	U	1.000	U	1.000	U			

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 12:34**	*Run Time:*	**7.50**

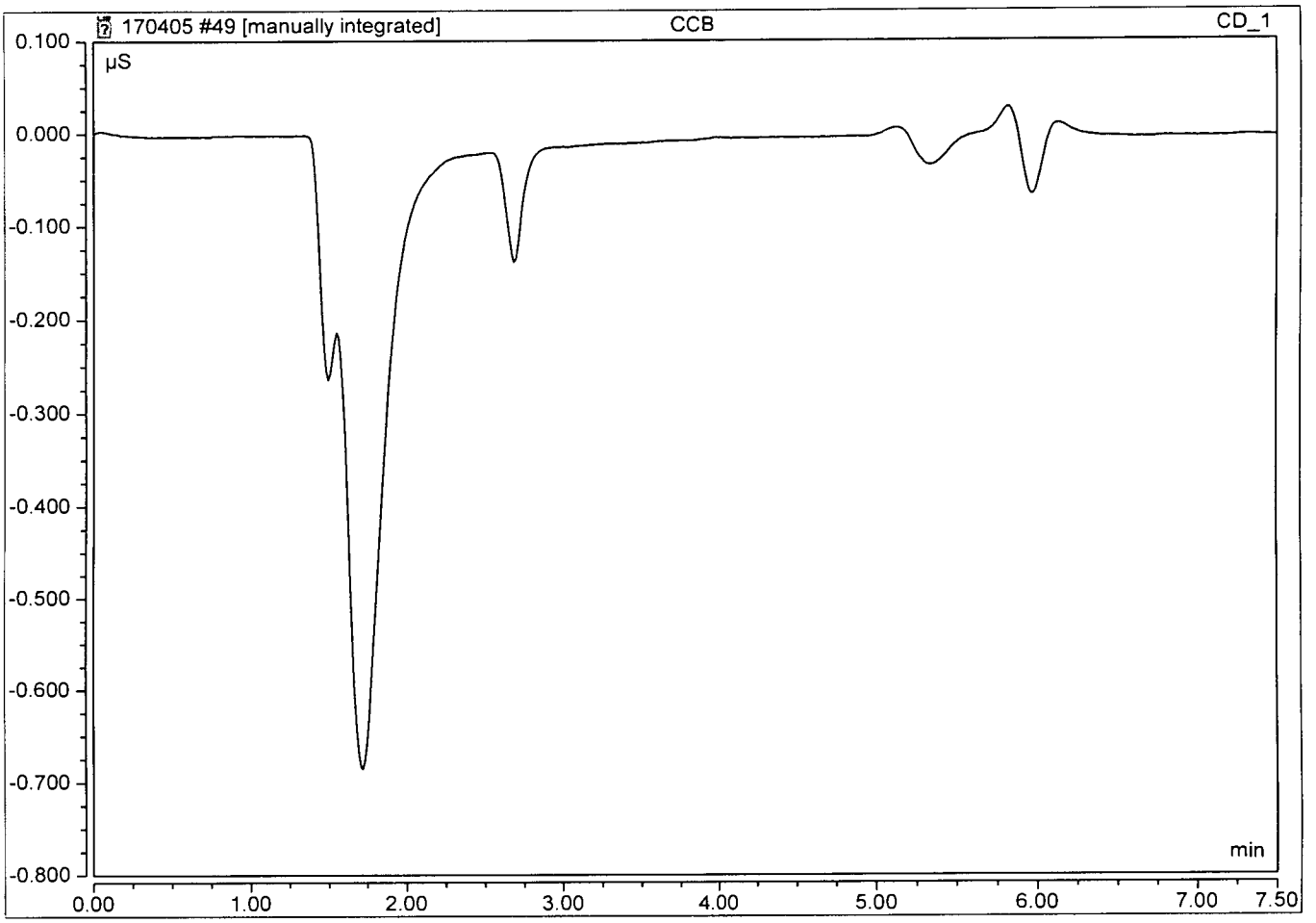
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.67	Cl	BMB	0.014	0.114	1.0623
		TOTAL:		0.01	0.11	1.06



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 17:05**	*Run Time:*	**7.50**

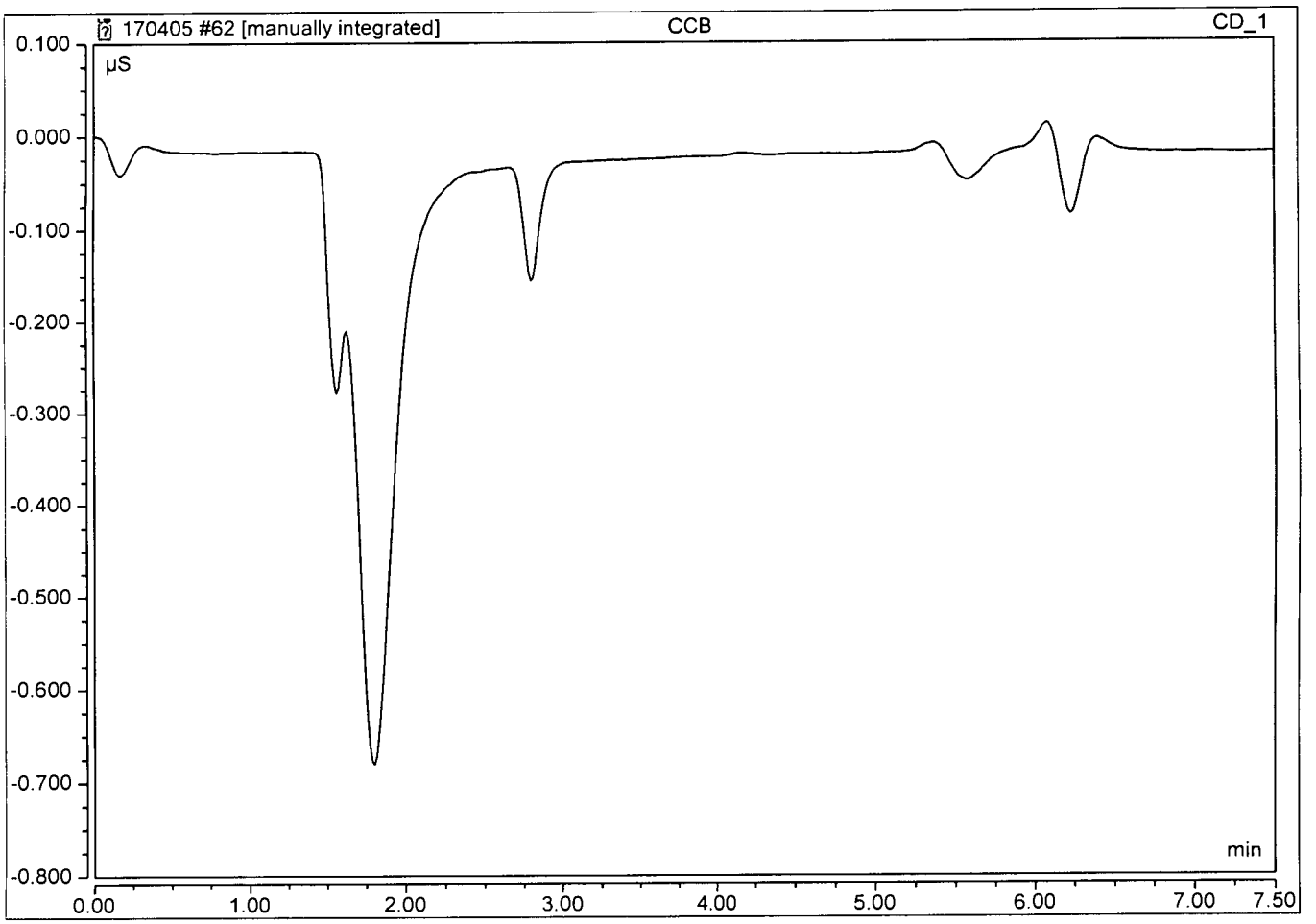
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 20:01**	*Run Time:*	**7.50**

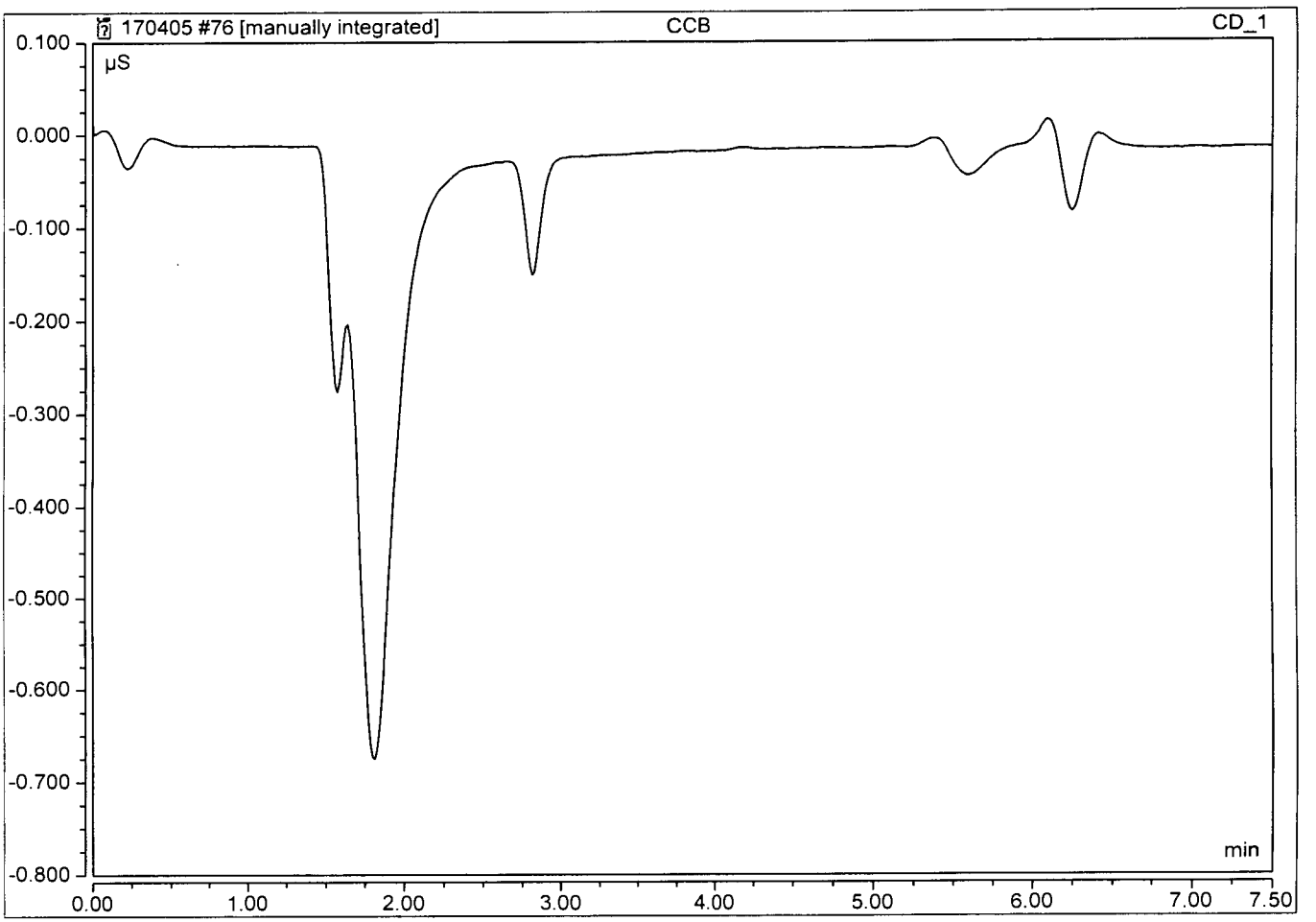
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 23:11**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82596 SDG: 82596
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/06/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:52	%R(1)	True CCV1	Found 16:16	%R(1)	True	Found	%R(1)	
chloride	25	24.3855	97.5	25	24.3543	97.4				
sulfate	25	24.3999	97.6	25	24.4574	97.8				

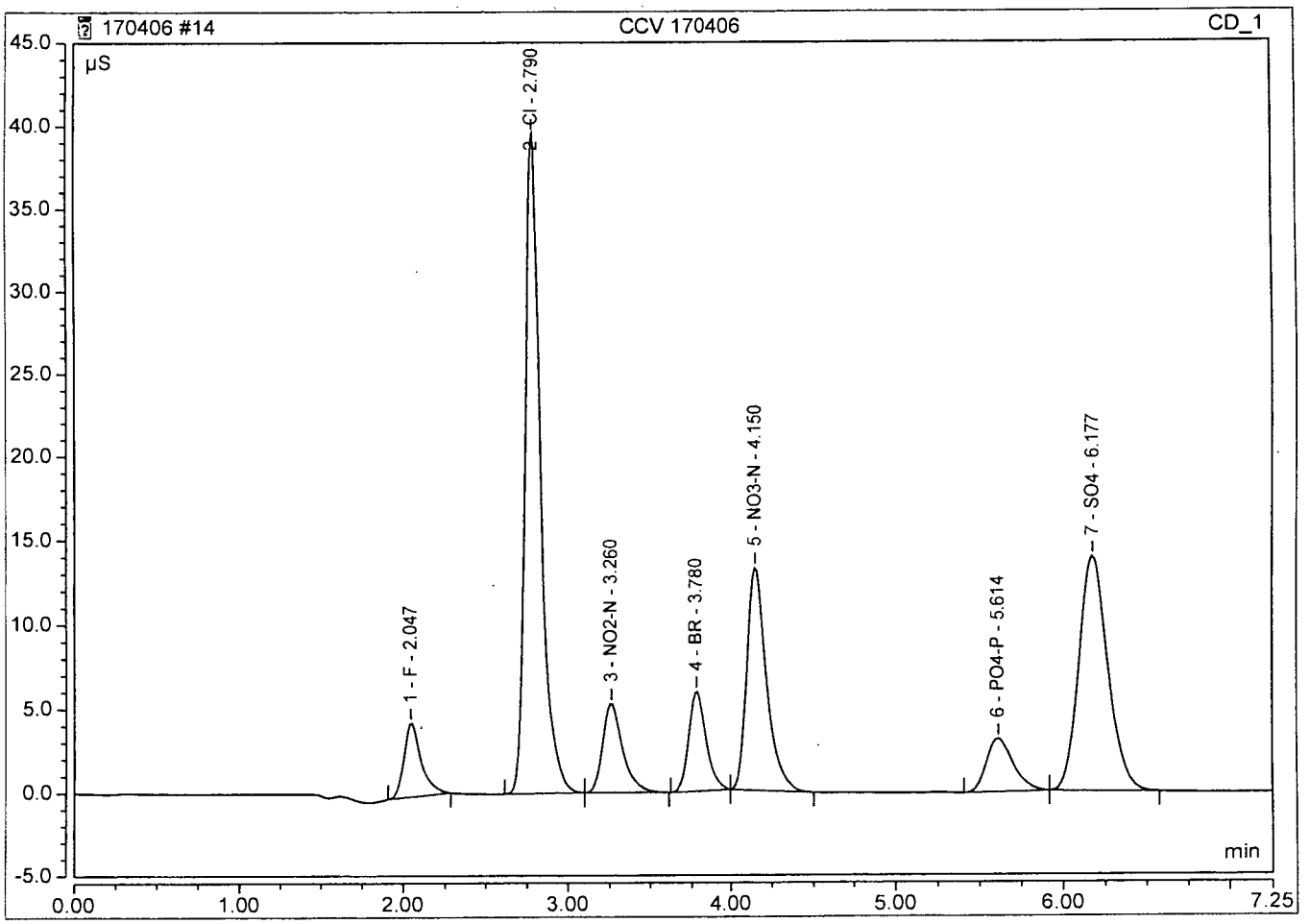
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170406**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 09:52**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.528	4.400	2.6613
2	2.79	Cl	BMB	4.218	39.537	24.3855
3	3.26	NO2-N	BMB	0.744	5.272	2.5686
4	3.78	BR	BMB	0.752	5.902	12.0159
5	4.15	NO3-N	BMB	1.828	13.164	4.8941
6	5.61	PO4-P	BMB	0.584	3.138	4.8272
7	6.18	SO4	BMB	2.765	13.822	24.3999
		TOTAL:		11.42	85.24	75.75



Algorithm Check

y = .1159x - .0634

x = 24.40 ✓

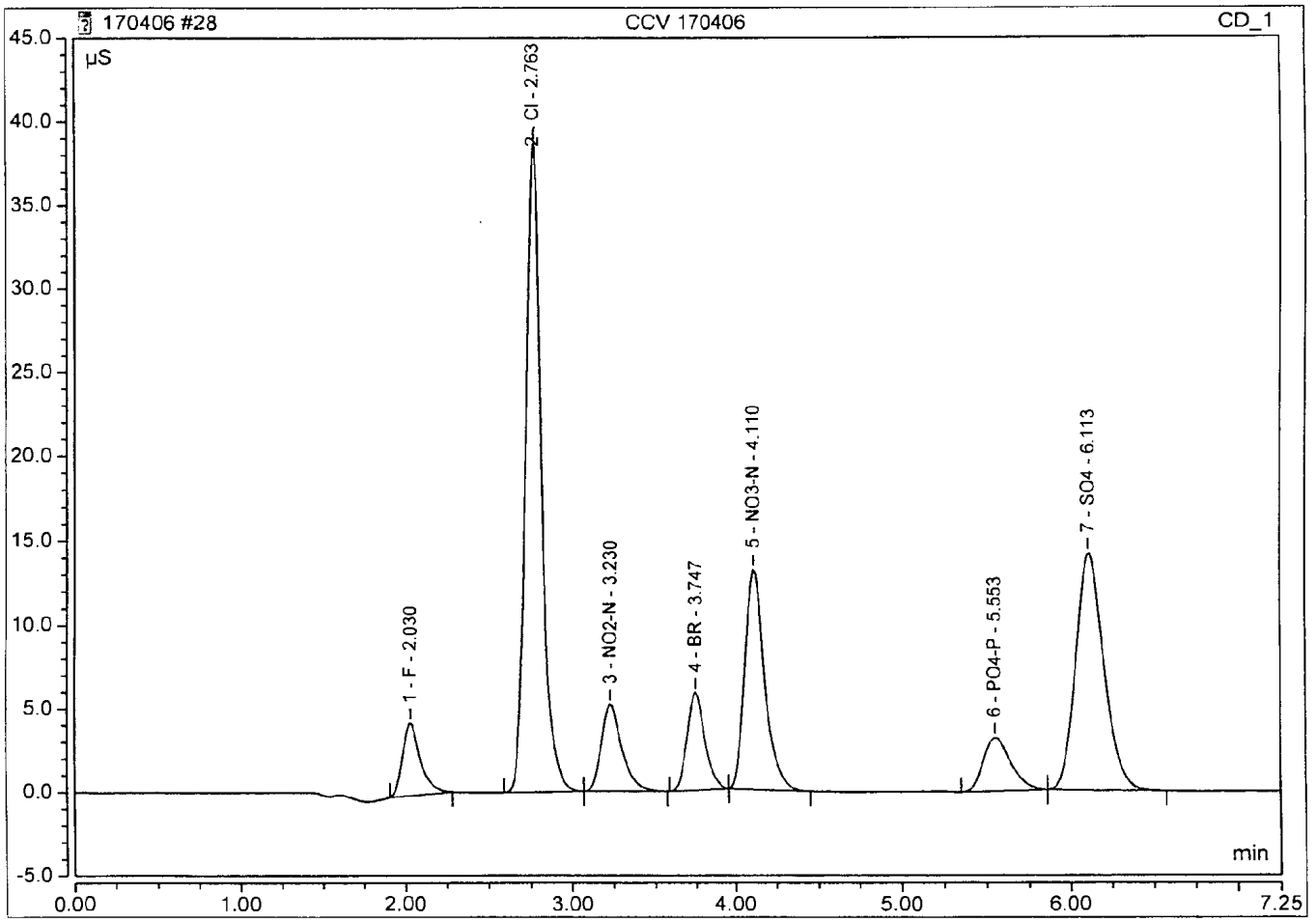
y = Peak Area
x = Amt

MM 4/22/17

Peak Integration Report

Sample Name:	CCV 170406	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	06-Apr-2017 / 16:16	*Run Time:*	7.25

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.535	4.363	2.6944
2	2.76	Cl	BMB	4.213	38.665	24.3543
3	3.23	NO2-N	BMB	0.745	5.237	2.5721
4	3.75	BR	BMB	0.756	5.866	12.0886
5	4.11	NO3-N	BMB	1.832	13.132	4.9059
6	5.55	PO4-P	BMB	0.593	3.199	4.9003
7	6.11	SO4	BMB	2.772	14.121	24.4574
		TOTAL:		11.45	84.58	75.97



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82596 SDG: 82596

Preparation Blank Matrix (soil/water): water

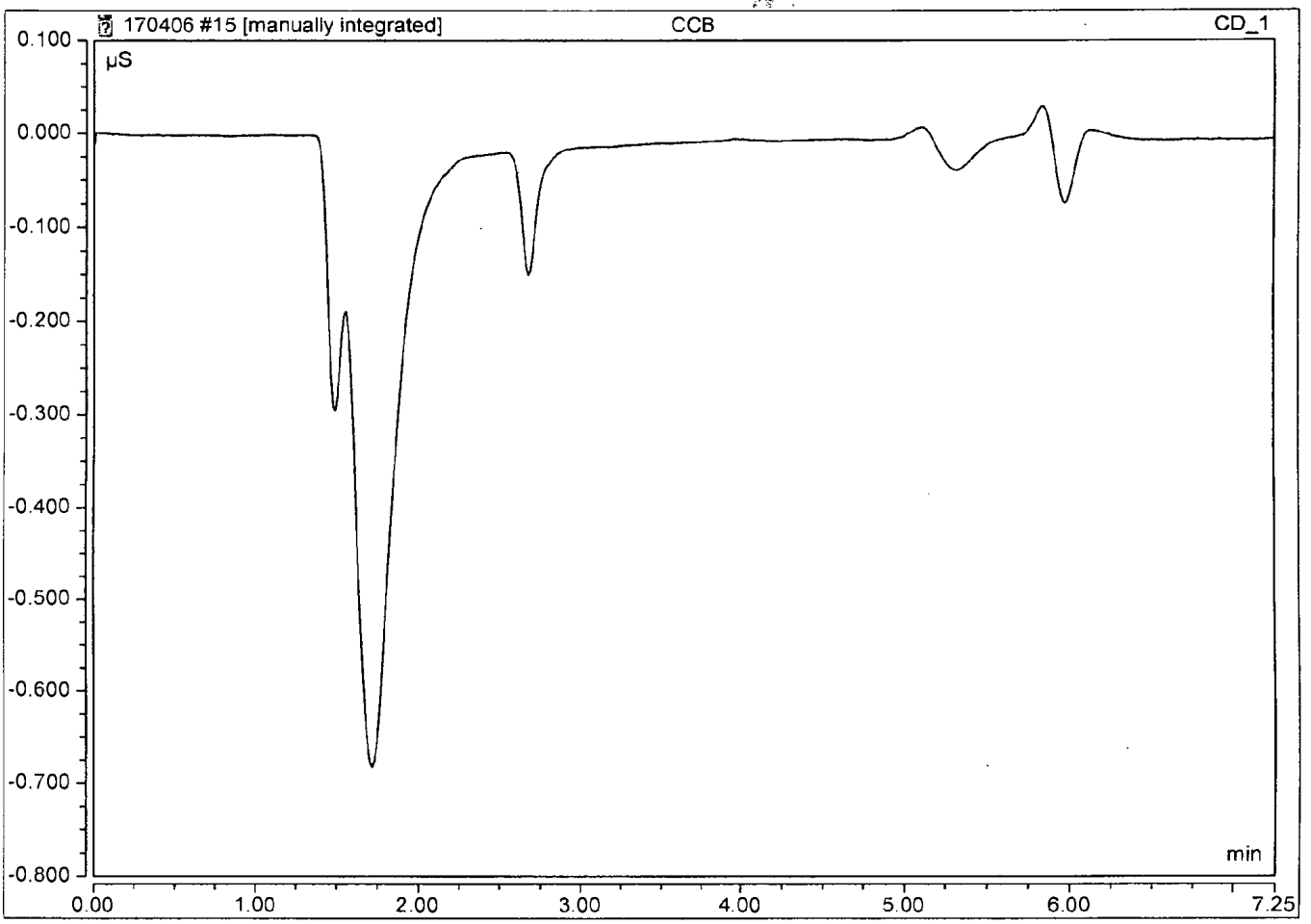
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/06/17 10:05	C	CCB 04/06/17 16:29	C		C		C		C	
chloride	1.000	U	1.000	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:05**	*Run Time:*	**7.25**

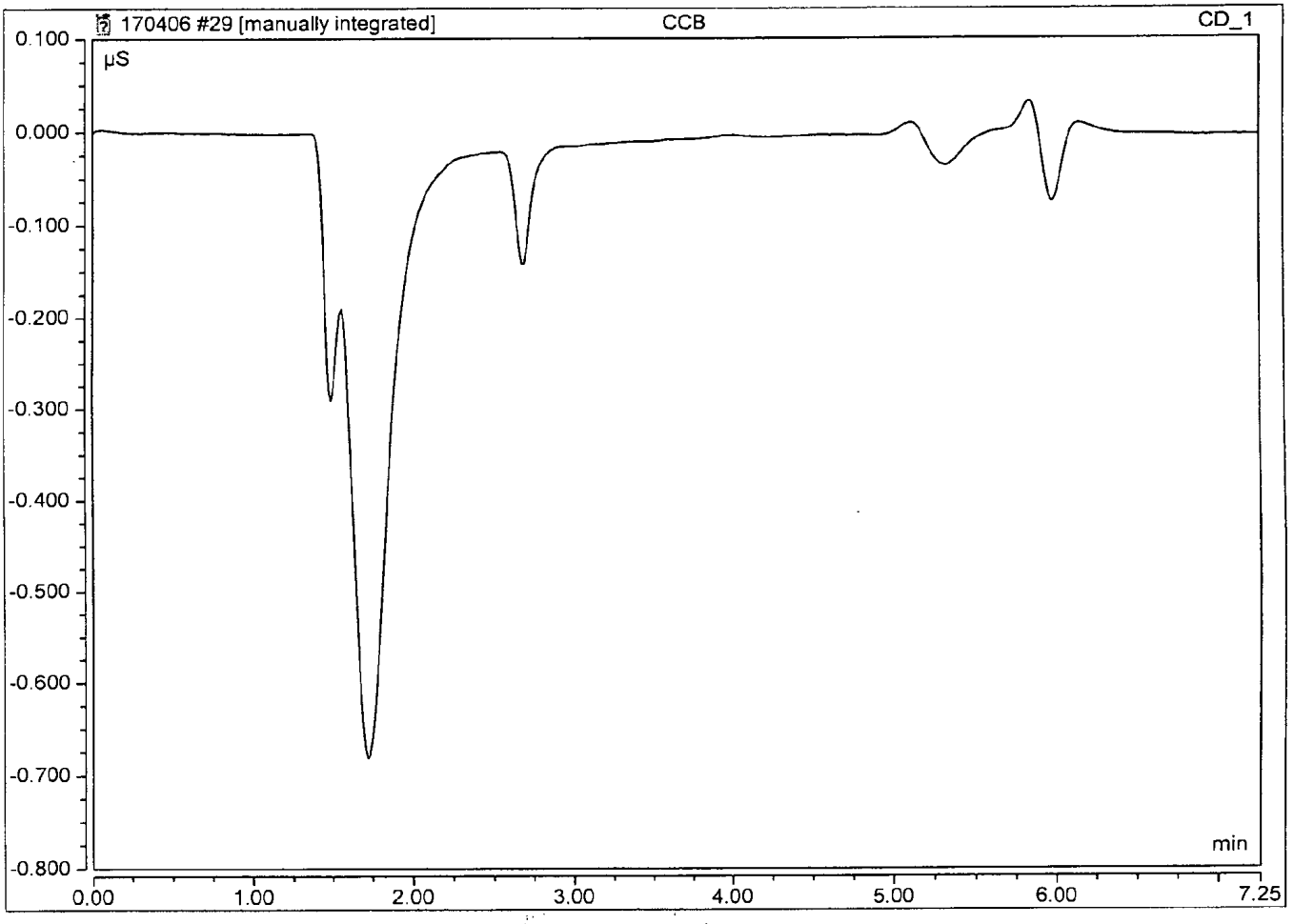
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



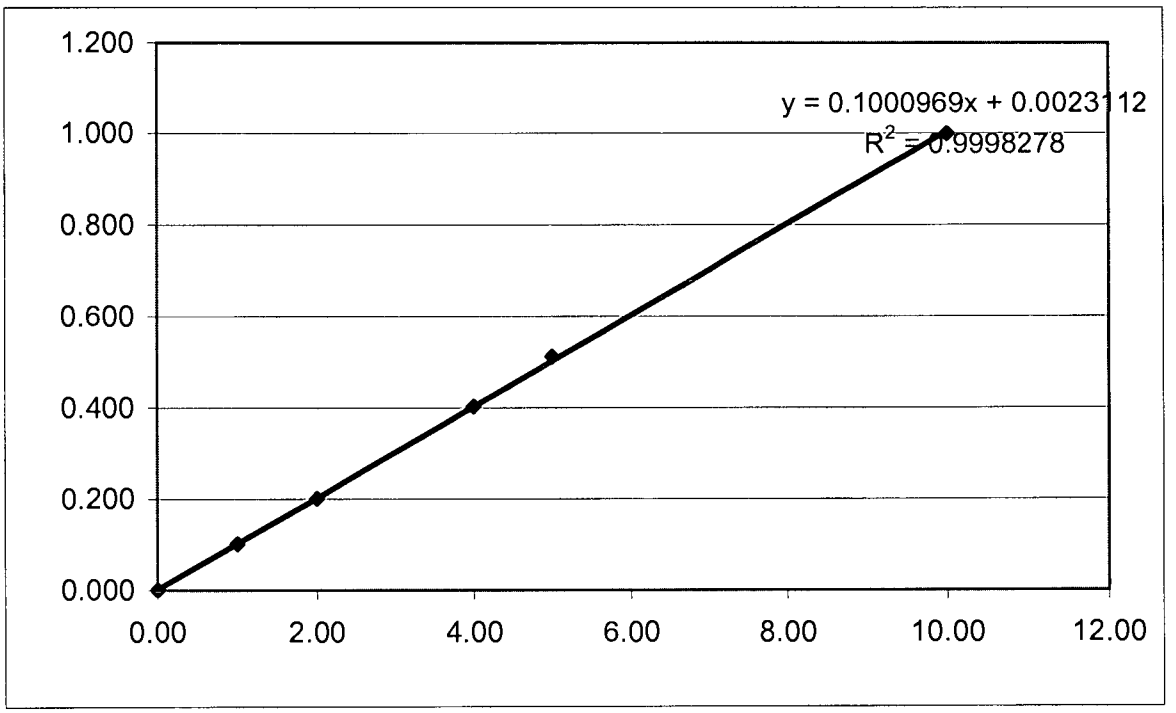
Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	06-Apr-2017 / 16:29	*Run Time:*	7.25

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



170405A Ferrous Iron



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check 04/05/17 17:28

reading (y)= 0.275

dilution= 1

result (x)= 2.72

MM
4/22/17

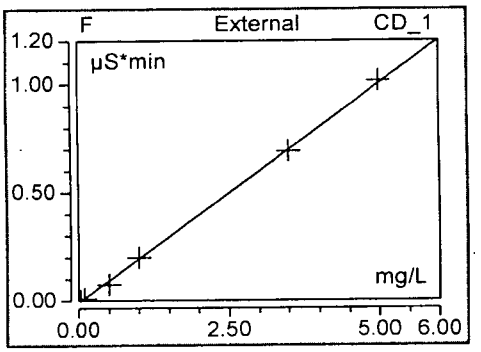
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

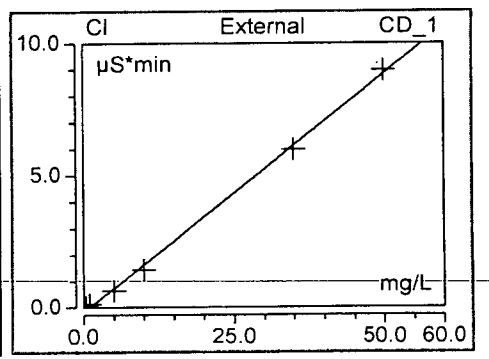
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

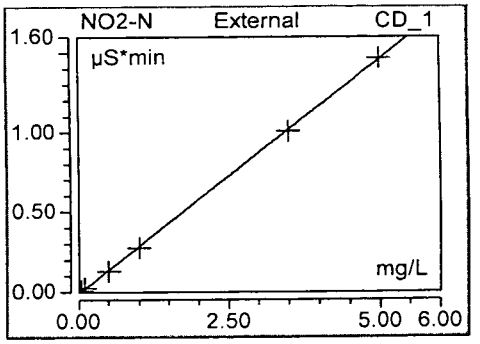
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



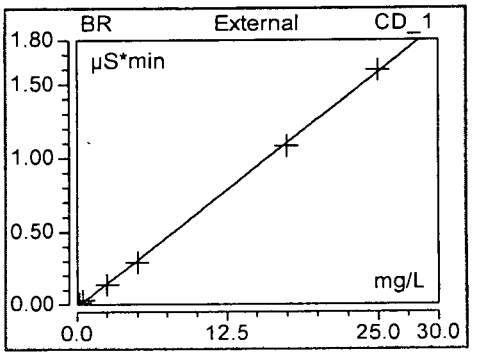
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



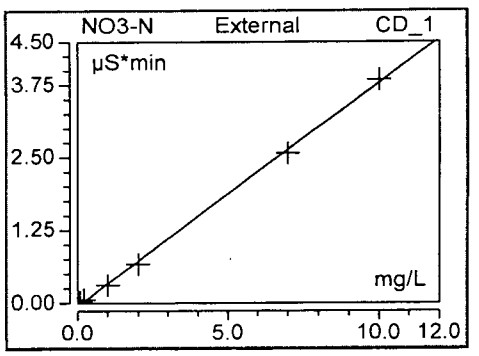
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



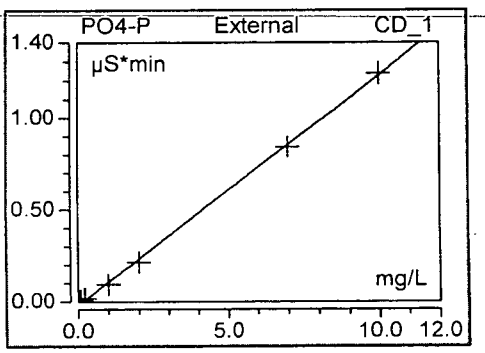
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



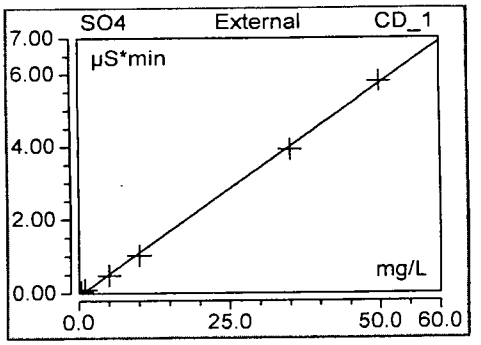
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



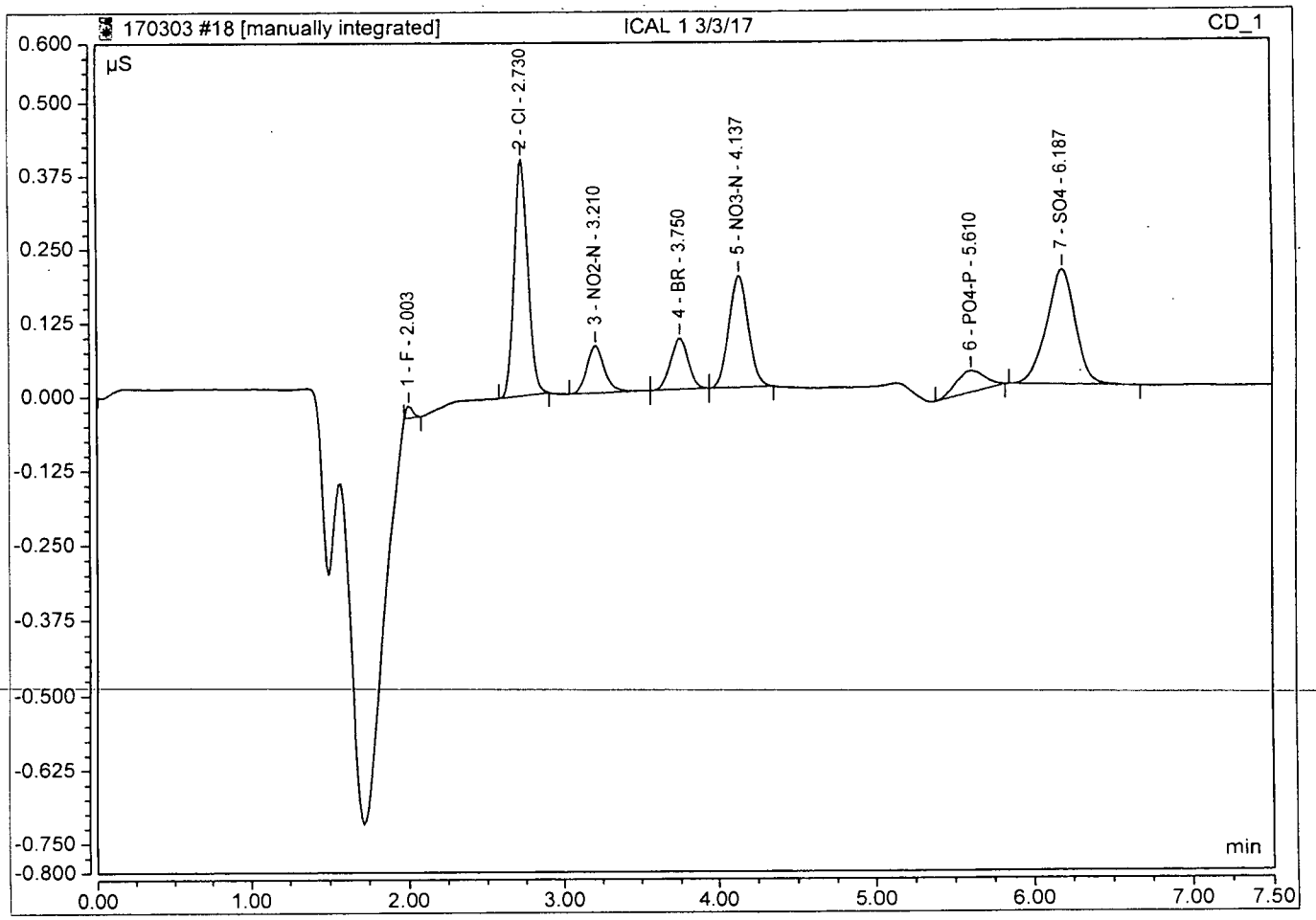
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7.50**

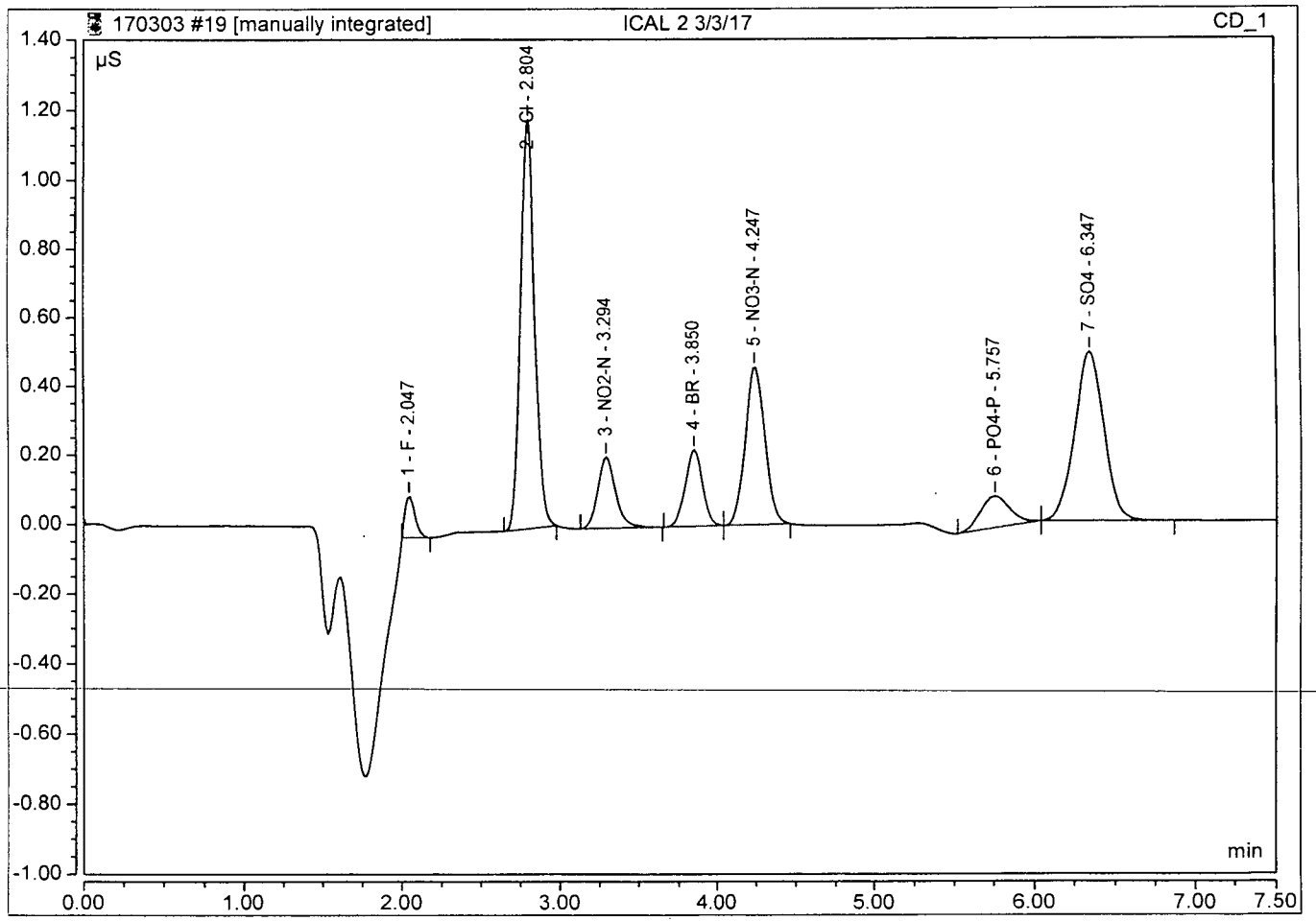
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

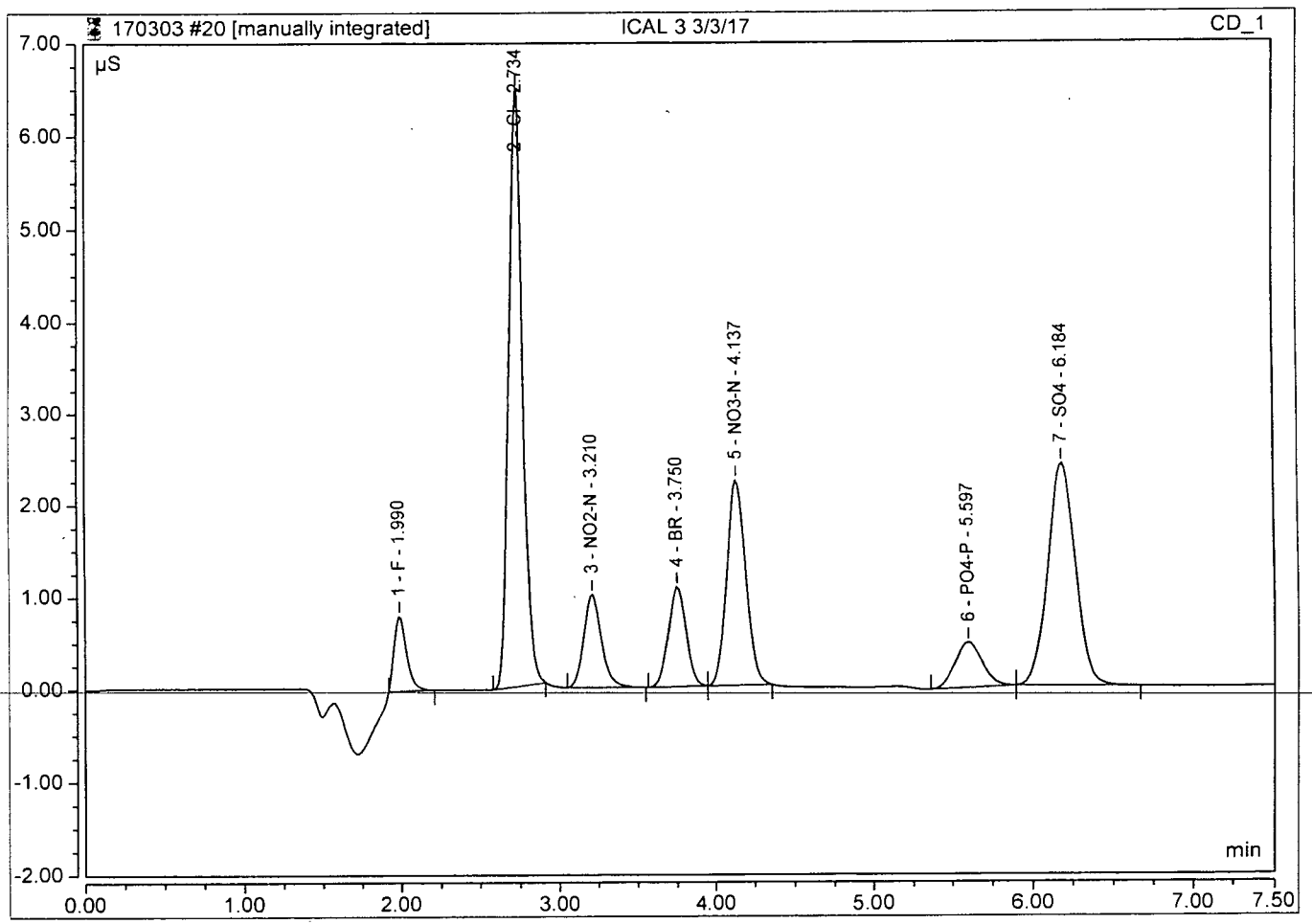
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

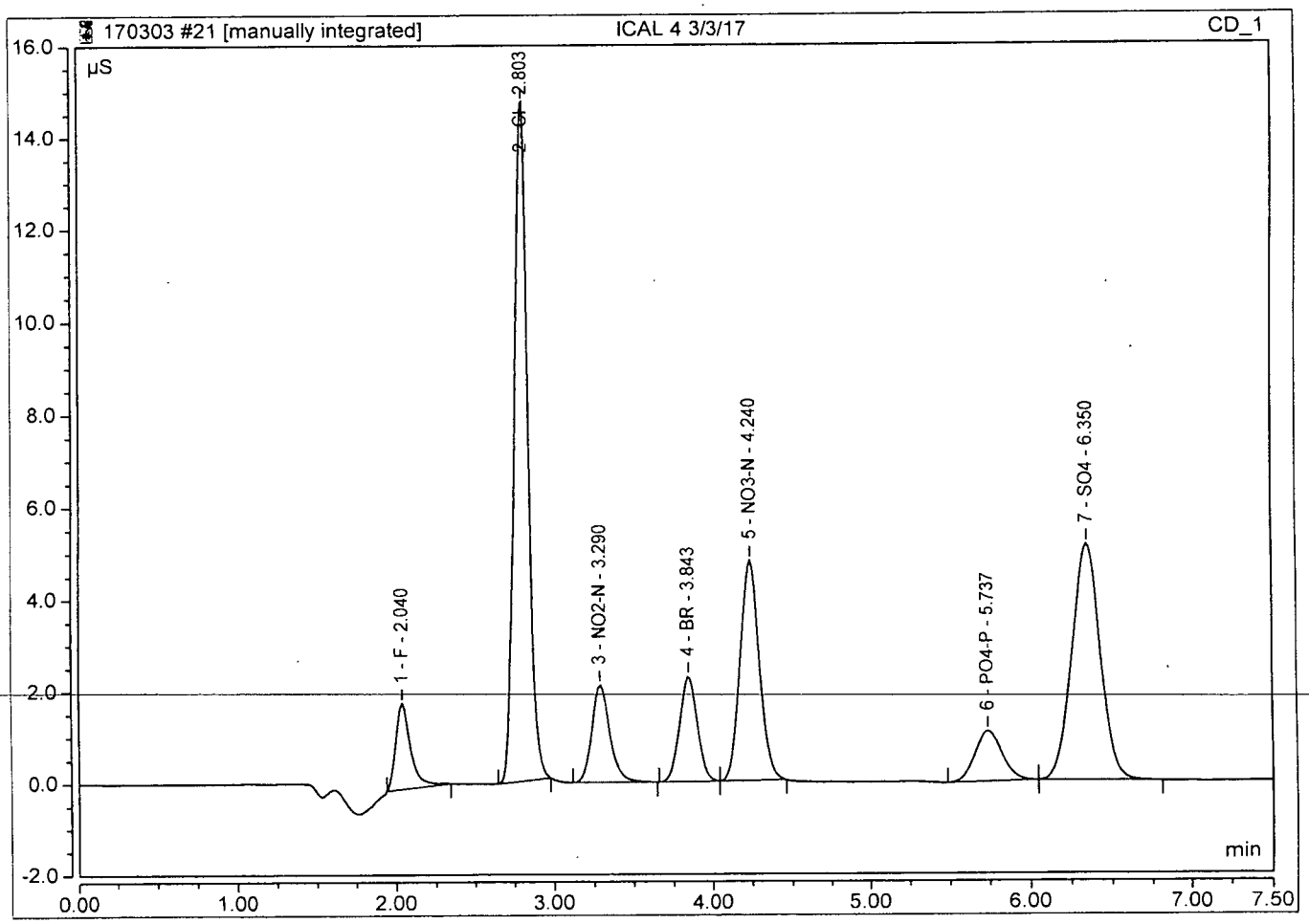
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

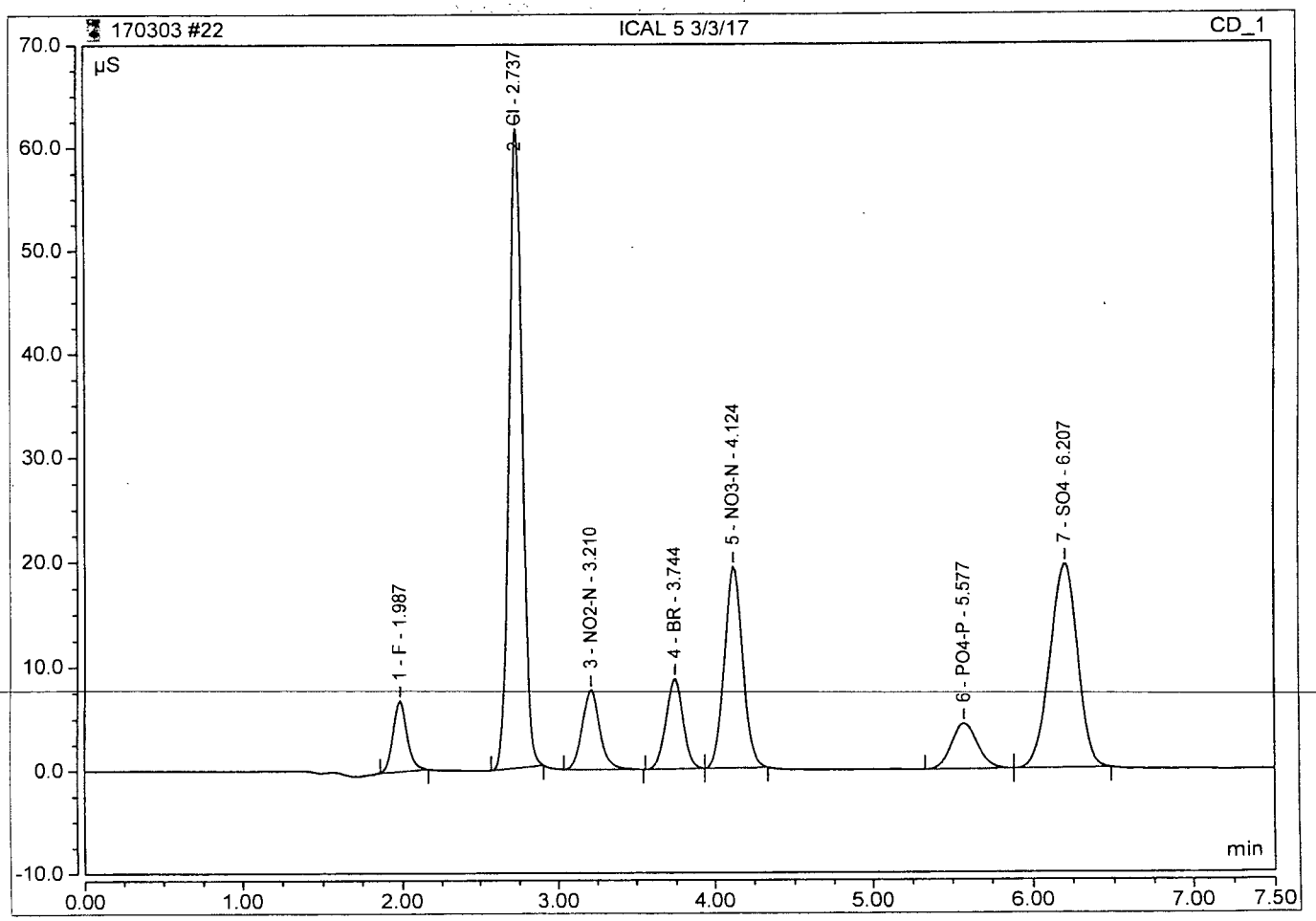
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

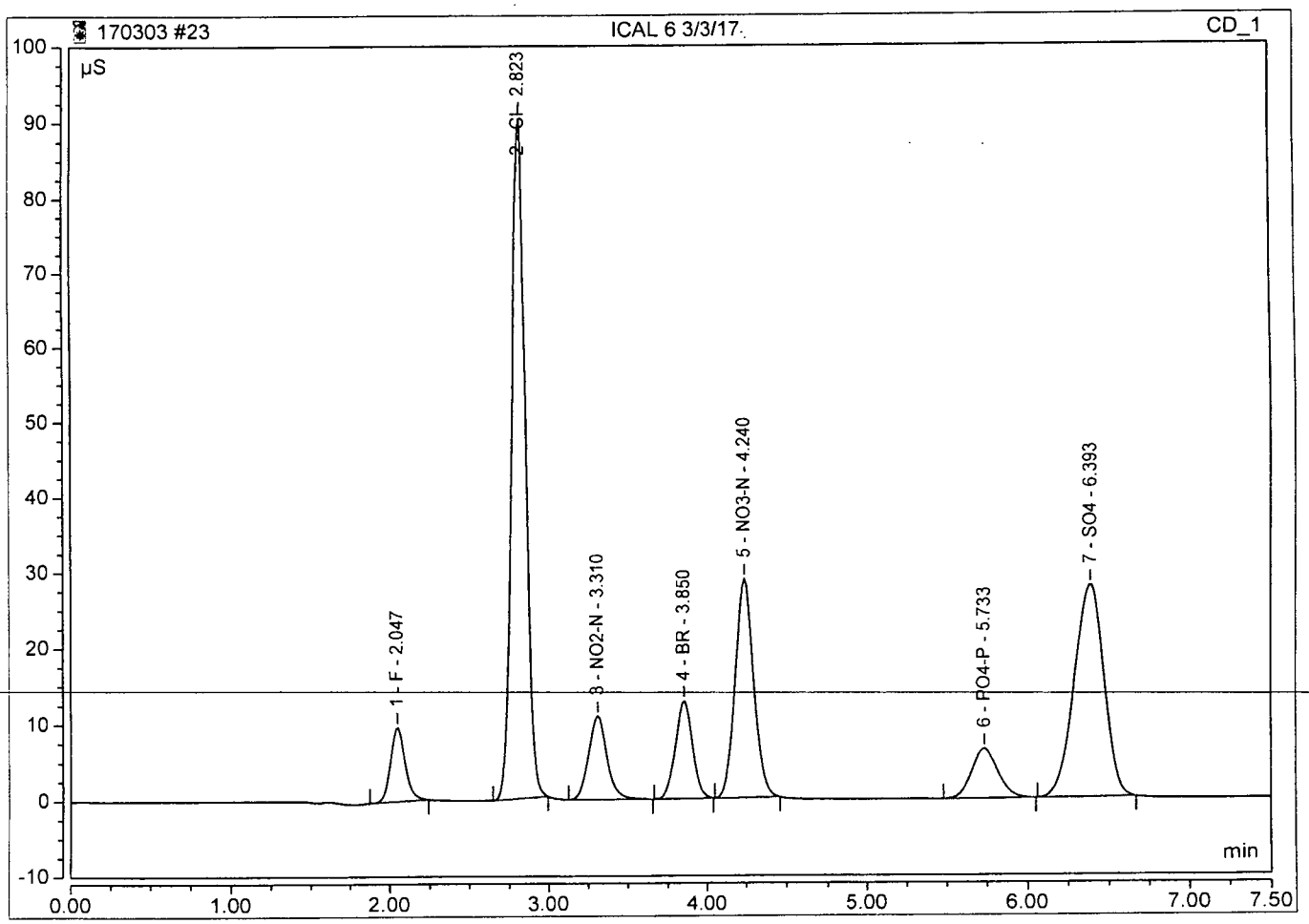
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

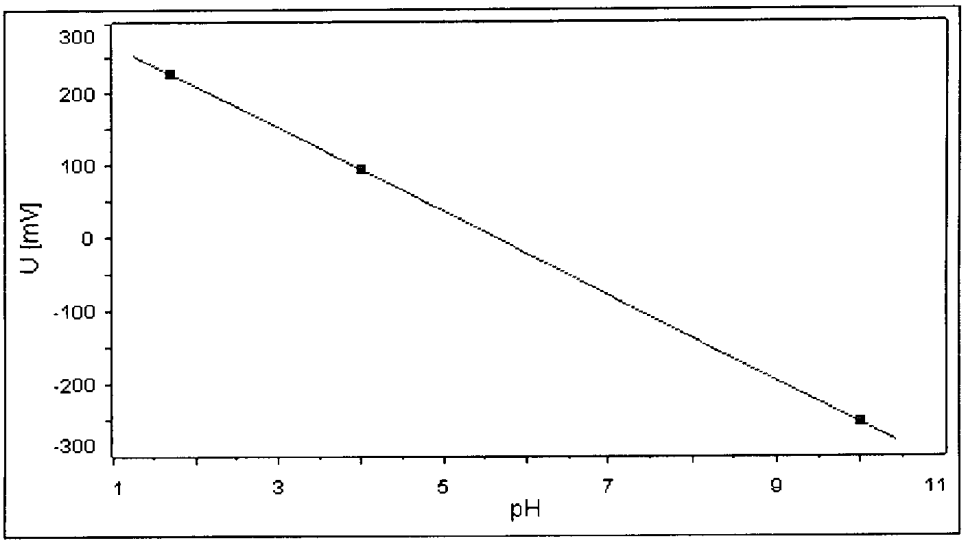


Tiamo Calibration Curve
04/07/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	228.8	20.4	20
Buffer 2:	4.000	94.5	20.6	20
Buffer 3:	10.000	-254.8	20.6	20

Slope:	99.8	%
pH	5.619	
Variance:	0.2	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405C1-AZ53172
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/05/17	04/05/17	#35FE-170405A-AZ53168
EPA 300.0	CHLORIDE	1.1	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	¥300WD-170406A1-AZ53176
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/06/17	04/06/17	¥300WD-170406A1-AZ53176

Wetlab SC-Blank-REG MDLs
Printed: 04/13/17 8:32:27 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
EPA 300.0	SULFATE	20.0	19.8	99.0	90-110	04/05/17	04/05/17	#300W-170405C1-AZ53172
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM3500Fe	FERROUS IRON	3.00	2.72	90.7	80-120	04/05/17	04/05/17	#35FE-170405A-AZ53168

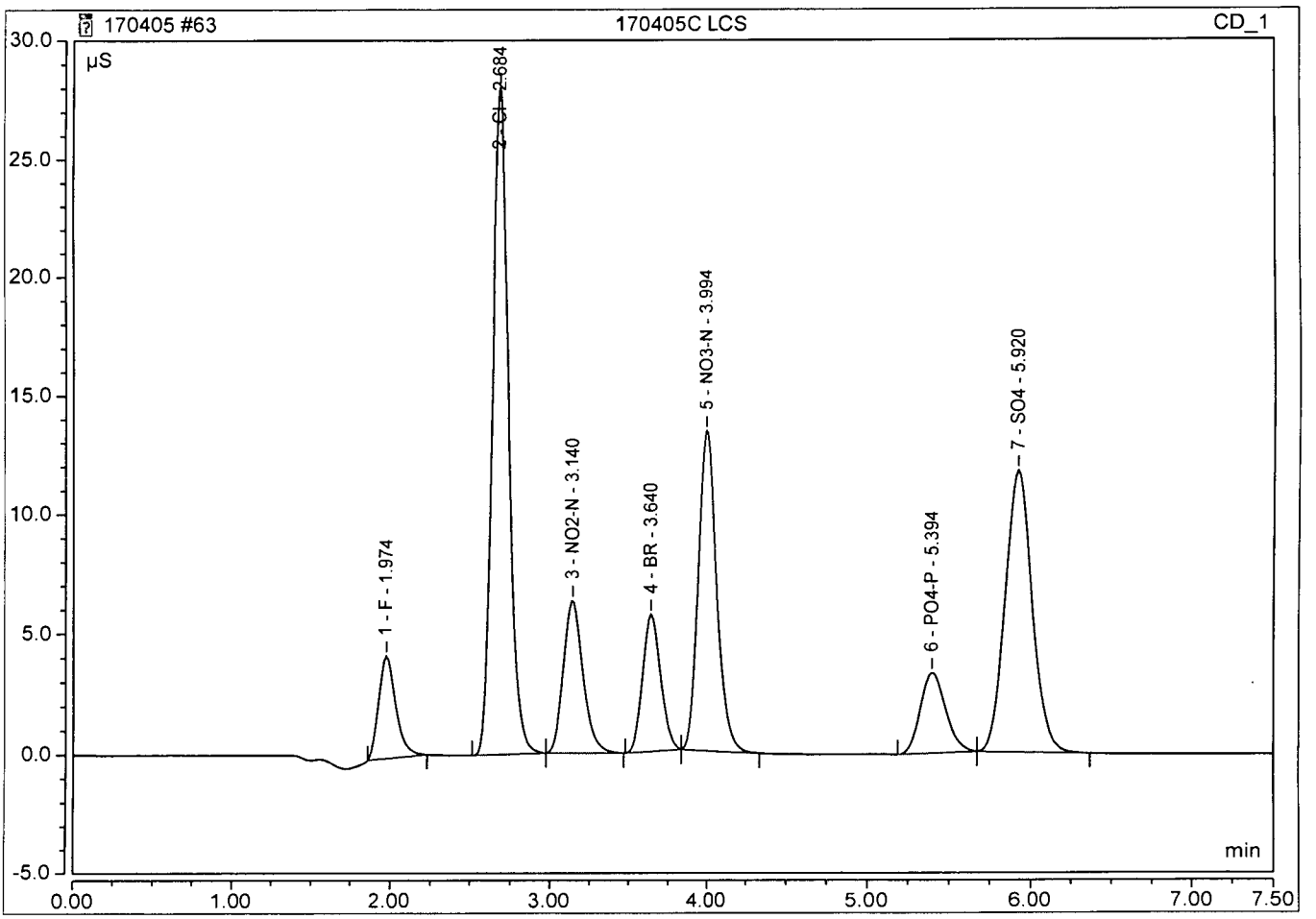
Comments: _____

Printed: 04/13/17 8:32:34 AM
APPL Standard LCS

Peak Integration Report

Sample Name:	**170405C LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 20:15**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.528	4.250	2.6582
2	2.68	Cl	BMB	3.199	28.026	18.7315
3	3.14	NO2-N	BMB	0.910	6.327	3.1337
4	3.64	BR	BMB	0.746	5.683	11.9286
5	3.99	NO3-N	BMB	1.885	13.335	5.0428
6	5.39	PO4-P	BMB	0.596	3.319	4.9301
7	5.92	SO4	BMB	2.231	11.722	19.7976
TOTAL:				10.10	72.66	66.22



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

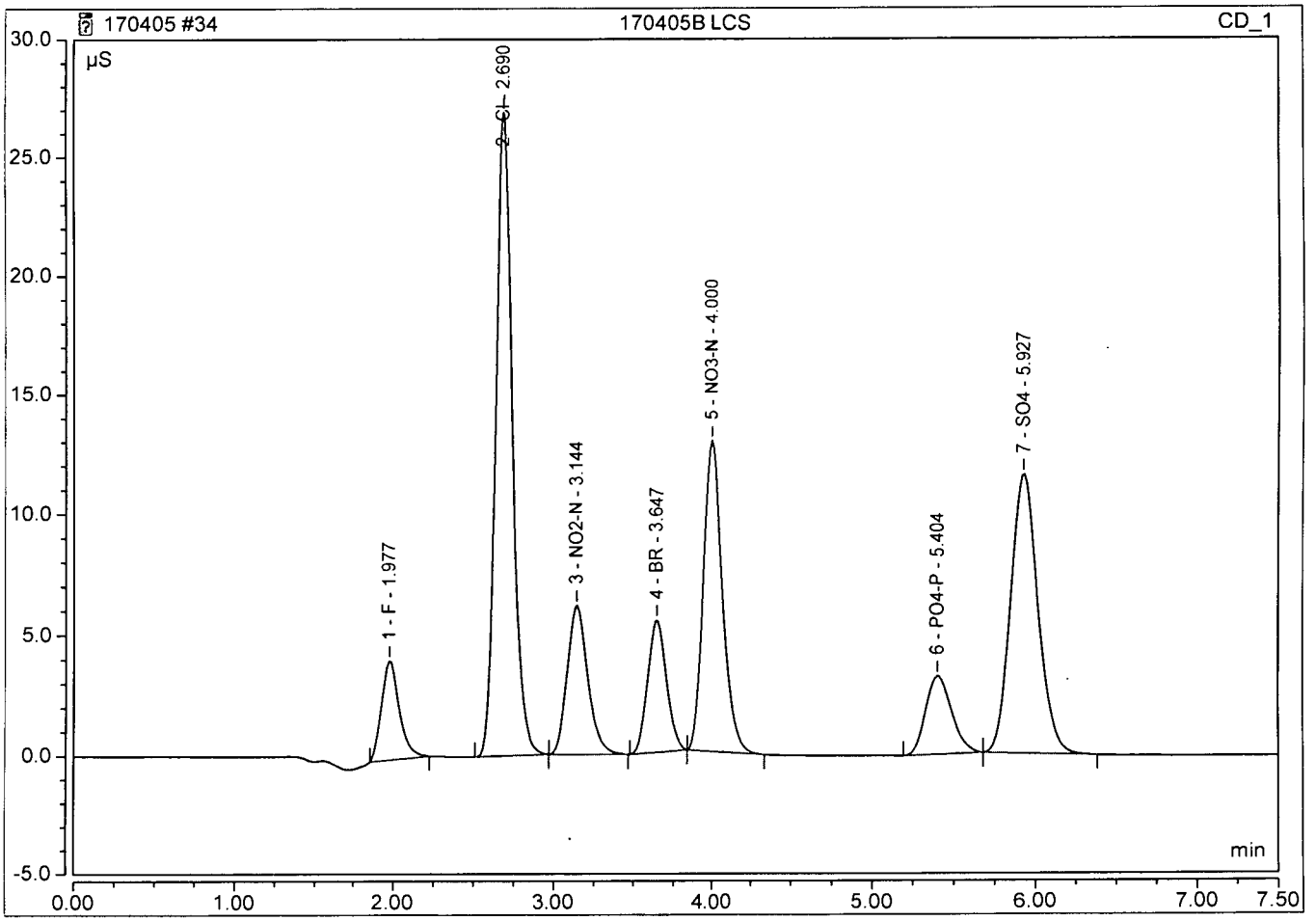
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	NITRATE	22.1	22.1	100	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/05/17	04/05/17	#300W-170405B1-AZ53174

Comments: _____

Peak Integration Report

Sample Name:	**170405B LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 13:55**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB	0.527	4.117	2.6542
2	2.69	Cl	BMB	3.177	26.885	18.6097
3	3.14	NO2-N	BMB	0.907	6.148	3.1231
4	3.65	BR	BMB	0.736	5.467	11.7682
5	4.00	NO3-N	BMB	1.865	12.844	4.9912
6	5.40	PO4-P	BMB	0.592	3.225	4.8928
7	5.93	SO4	BMB	2.224	11.511	19.7366
TOTAL:				10.03	70.20	65.78



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

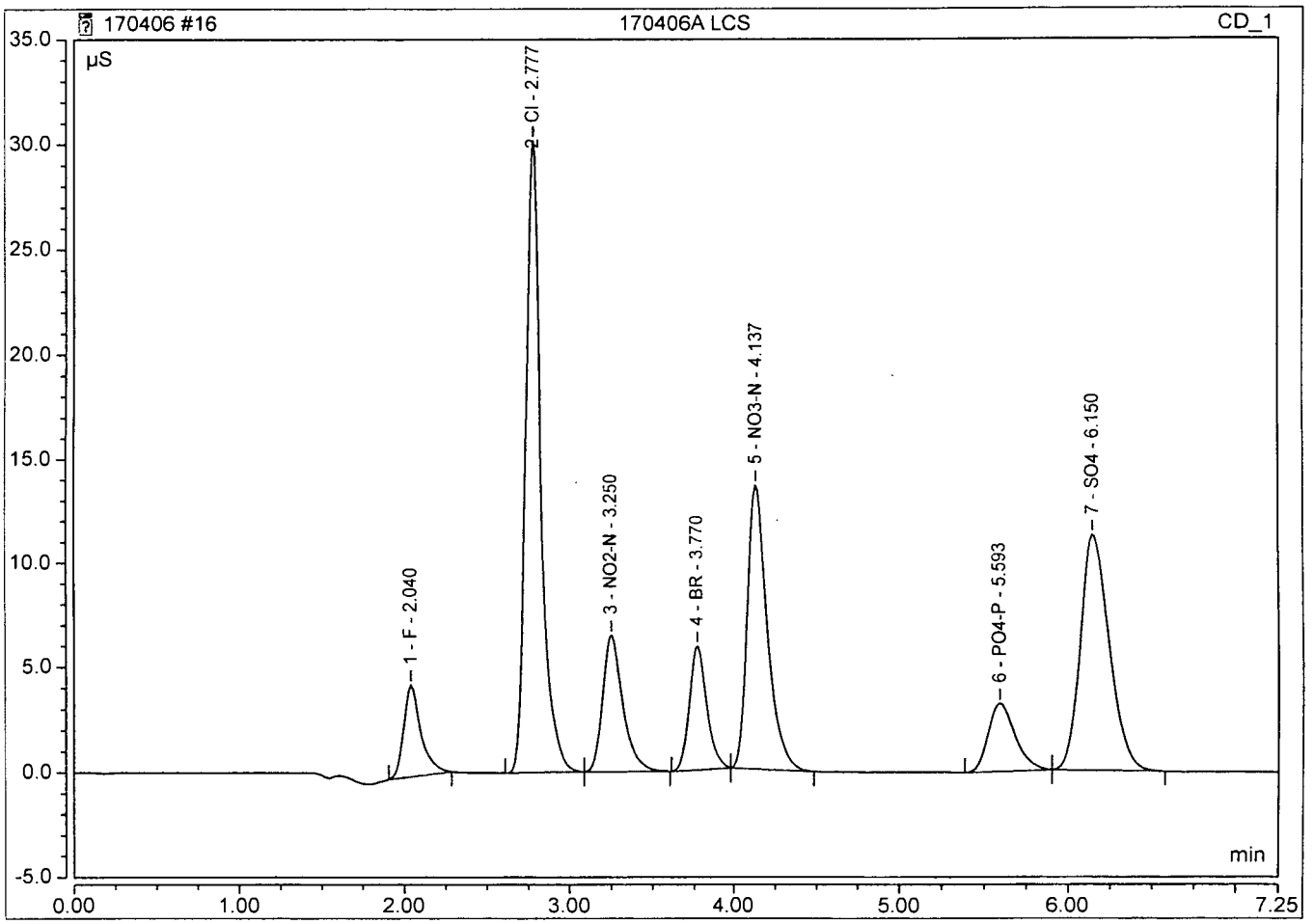
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300WD-170406A1-AZ53176
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/06/17	04/06/17	#300WD-170406A1-AZ53176

Comments: _____

Peak Integration Report

Sample Name:	**170406A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:18**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.524	4.360	2.6415
2	2.78	Cl	BMB	3.218	30.173	18.8344
3	3.25	NO2-N	BMB	0.918	6.480	3.1585
4	3.77	BR	BMB	0.747	5.880	11.9389
5	4.14	NO3-N	BMB	1.882	13.606	5.0370
6	5.59	PO4-P	BMB	0.596	3.219	4.9262
7	6.15	SO4	BMB	2.223	11.230	19.7276
		TOTAL:		10.11	74.95	66.26



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170405A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (4/4/17)
BUFFER (3/23/17)

Analyst Completes
Formula Locked Cells

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%	Row Complete
05/20/16	12:37	0 BB 5/20/16	1	0.000							
05/20/16	12:38	1	1	0.101							
05/20/16	12:39	2	1	0.201							
05/20/16	12:39	4	1	0.403							
05/20/16	12:40	5	1	0.512							
05/20/16	12:40	10	1	0.999							
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%	#NAME?
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02			#NAME?
04/05/17	17:24	CCV 4.0 170405	1	0.377	25mL		3.74	3.743	4.000	93.6%	#NAME?
04/05/17	17:26	CCB 170405	1	-0.010	25mL		-0.12	-0.123			#NAME?
04/05/17	17:28	170405A LCS	1	0.275	25mL		2.72	2.724	3.000	90.8%	#NAME?
04/05/17	17:30	170405A LCSD	1	0.576	25mL		5.73	5.731	6.000	95.5%	#NAME?
04/05/17	17:34	AZ53168W30	1	0.009	25mL		0.07	0.067			#REF!
04/05/17	17:35	AZ53168W30 MS	1	0.270	25mL		2.67	2.674			#NAME?
04/05/17	17:37	AZ53168W30 MSD	1	0.279	25mL		2.76	2.764			
04/05/17	17:39	AZ53172W08	1	0.284	25mL		2.81	2.814			
04/05/17	17:44	AZ53174W08	1	0.072	25mL		0.70	0.696			
04/05/17	17:51	AZ53176W08	1	0.019	25mL		0.17	0.167			
04/05/17	17:52	AZ53178W08	1	0.011	25mL		0.09	0.087			
04/05/17	17:54	AZ53180W08	1	0.004	25mL		0.02	0.017			
04/05/17	17:56	CCV 4.0 170405	1	0.375	25mL		3.72	3.723	4.00	93.1%	
04/05/17	17:57	CCB 170405	1	-0.009	25mL		-0.11	-0.113			

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ53180W07	2017-04-07 16:20:14 UTC-7	Alkalinity	0.000	2.812	0.00	0.00	118.10	118.10	mg/L	25 mL	0.0210	170407A	AH
AZ53178W07	2017-04-07 16:13:06 UTC-7	Alkalinity	0.000	2.734	0.00	0.00	114.83	114.83	mg/L	25 mL	0.0210	170407A	AH
AZ53176W07	2017-04-07 16:07:08 UTC-7	Alkalinity	0.000	2.414	0.00	0.00	101.39	101.39	mg/L	25 mL	0.0210	170407A	AH
AZ53174W07	2017-04-07 16:01:02 UTC-7	Alkalinity	0.000	2.174	0.00	0.00	91.31	91.31	mg/L	25 mL	0.0210	170407A	AH
AZ53172W07	2017-04-07 15:49:25 UTC-7	Alkalinity	0.000	4.912	0.00	0.00	206.30	206.30	mg/L	25 mL	0.0210	170407A	AH
170407A LCS	2017-04-07 14:39:21 UTC-7	Alkalinity	0.116	5.998	0.00	9.74	242.17	251.92	mg/L	25 mL	0.0210	170407A	AH
170407A Blk	2017-04-07 14:35:57 UTC-7	Alkalinity	0.000	0.044	0.00	0.00	1.85	1.85	mg/L	25 mL	0.0210	170407A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 04/05/17
Exp Date: 04/06/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	35	50

Anion Prep

QCG: 170405A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170406A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Inorganic Spiking Solution

3.5002g $NaHCO_3$ BDH lot#1575C510
Final vol 500mL w/DI water
Prep: 03/14/17
Exp: 09/14/17
AH

0.02N H2SO4 Titrant for Alkalinity

200 mL 0.1N H2SO4 (prep 01/06/17 and 04/03/17)
Final vol 1L w/ DI water
Prep 04/03/17
Exp 01/06/18
AH 04/03/17

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Apr 2017	17:24	CCV 4.0 170405		Upload Temp	1.
2	05 Apr 2017	17:26	CCB 170405		Upload Temp	1.
3	05 Apr 2017	17:28	170405A LCS		Upload Temp	1.
8	05 Apr 2017	17:39	AZ53172W08		Upload Temp	1.
9	05 Apr 2017	17:44	AZ53174W08		Upload Temp	1.
10	05 Apr 2017	17:51	AZ53176W08		Upload Temp	1.
11	05 Apr 2017	17:52	AZ53178W08		Upload Temp	1.
12	05 Apr 2017	17:54	AZ53180W08		Upload Temp	1.
13	05 Apr 2017	17:56	CCV 4.0 170405		Upload Temp	1.
14	05 Apr 2017	17:57	CCB 170405		Upload Temp	1.
15	20 May 2016	12:37	0 BB 5/20/16		Upload Temp	1.
16	20 May 2016	12:38	1		Upload Temp	1.
17	20 May 2016	12:39	4		Upload Temp	1.
18	20 May 2016	12:39	2		Upload Temp	1.
19	20 May 2016	12:40	5		Upload Temp	1.
20	20 May 2016	12:40	10		Upload Temp	1.
21	20 May 2016	12:41	160520A ICV 3.0		Upload Temp	1.
22	20 May 2016	12:42	160520A ICB		Upload Temp	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
28	05 Apr 2017	12:20	CCV 170405		170405	1.
29	05 Apr 2017	12:34	CCB		170405	1.
35	05 Apr 2017	13:55	170405B LCS		170405	1.
40	05 Apr 2017	15:03	AZ53180W07 DF2		170405	2.
42	05 Apr 2017	15:30	AZ53176W07		170405	1.
45	05 Apr 2017	16:10	AZ53174W07		170405	1.
46	05 Apr 2017	16:24	AZ53178W07 DF2		170405	2.
48	05 Apr 2017	16:51	CCV 170405		170405	1.
49	05 Apr 2017	17:05	CCB		170405	1.
61	05 Apr 2017	19:47	CCV 170405		170405	1.
62	05 Apr 2017	20:01	CCB		170405	1.
63	05 Apr 2017	20:15	170405C LCS		170405	1.
73	05 Apr 2017	22:30	AZ53172W07		170405	1.
75	05 Apr 2017	22:57	CCV 170405		170405	1.
76	05 Apr 2017	23:11	CCB		170405	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	06 Apr 2017	09:52	CCV 170406		170406	1.
15	06 Apr 2017	10:05	CCB		170406	1.
16	06 Apr 2017	10:18	170406A LCS		170406	1.
20	06 Apr 2017	11:12	AZ53176W DF5		170406	5.
21	06 Apr 2017	11:25	AZ53178W DF20		170406	20.
22	06 Apr 2017	11:38	AZ53180W DF10		170406	10.
28	06 Apr 2017	16:16	CCV 170406		170406	1.
29	06 Apr 2017	16:29	CCB		170406	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	07 Apr 2017	14:35	170407A Blk		170407A_AL	1.
2	07 Apr 2017	14:39	170407A LCS		170407A_AL	1.
8	07 Apr 2017	15:49	AZ53172W07		170407A_AL	1.
9	07 Apr 2017	16:01	AZ53174W07		170407A_AL	1.
10	07 Apr 2017	16:07	AZ53176W07		170407A_AL	1.
11	07 Apr 2017	16:13	AZ53178W07		170407A_AL	1.
12	07 Apr 2017	16:20	AZ53180W07		170407A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

April 28, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82611

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Eight water samples were received April 6, 2017. Written results for the requested analyses are being provided on this April 28, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

for PM

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 769

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82611

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	5
Sample Management Records	11
Method 8011 EDB	22
QC Summary	23
Sample Data	28
Calibration Data	38
Raw Data	63
Method 8015B TPH-E	79
QC Summary	82
Sample Data	85
Calibration Data	101
Raw Data	142
Method 8270D SIM	164
QC Summary	165
Sample Data	177
Calibration Data	193
Raw Data	229

Method 8270D SVOCs 250
QC Summary 251
Sample Data 262
Calibration Data 278
Raw Data 326
Method 8270D SVOCs (MEE) 347
QC Summary 348
Sample Data 357
Calibration Data 373
Raw Data 403
Method 8260B VOCs 420
QC Summary 421
Sample Data 435
Calibration Data 460
Raw Data 518
Method 8260B Gasoline 534
QC Summary 535
Sample Data 540
Calibration Data 573
Raw Data 623
Method RSK-175 Methane 635
QC Summary 636
Sample Data 639
Calibration Data 658
Raw Data 692

Inorganic Analyses 701

QC Summary 702

Sample Data 707

Calibration Data 716

Raw Data 748

CASE NARRATIVE

Case Narrative

ARF: 82611

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Eight water samples were received April 6, 2017, at 2.5°C, 3.0°C, 3.0°C, 3.5°C, and 4.0°C. The sample group was assigned Analytical Request Form (ARF) number 82611. The following discrepancies were noted and reported to the client: samples ERH299, ERH304, ERH308, ERH311, and ERH318 were listed on the label for EPA method 8011 analysis, but this method was not listed on the COC. The non-preserved vials labeled as trip blanks for samples ERH306, ERH308, ERH311, and ERH318 were not created in the laboratory. Four samples for ferrous iron analysis were received more than 24 hours after collection. No other exception was noted.

CLIENT ID	APPL ID	LOCD ID
ERH296	AZ53259	TRIP BLANK
ERH297	AZ53260	RHMW08
ERH298	AZ53261	RHMW08
ERH320	AZ53262	TRIP BLANK
ERH321	AZ53263	OWDFMW01
ERH289	AZ53264	EQUIP. BLANK
ERH301	AZ53265	TRIP BLANK
ERH303	AZ53266	RHMW03

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to the method.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D Phenol analysis, the samples were extracted according to EPA method 3510C.

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8260B BTEX and GRO analysis, the samples were purged according to EPA method 5030B.

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 300.0, SM 2320B and 3500FeB analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8011: Manual integrations were performed in accordance with APPL's SOP. The following calibration standard was manually integrated: 1,2,3,-TCP. Chromatograms of before and after manual integration are enclosed.

EPA 8015B: None.

EPA 8270D SIM: None.

EPA 8270D Phenol: None.

APPL SOP ANA2MEE: None.

EPA 8260B BTEX: None.

EPA 8260B GRO: None.

EPA 175 RSK: None.

Inorganic Analyses:

The samples were analyzed for ferrous iron and nitrate as soon as possible.

In the method blank, alkalinity and chloride were detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity and chloride in the samples exceeds the blank concentration by ten-fold or more.

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82611	04/06/17	ERH296	AZ53259	04/04/17	03:35 PM	WATER	8011	EPA 8011
82611	04/06/17	ERH296	AZ53259	04/04/17	03:35 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH296	AZ53259	04/04/17	03:35 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82611	04/06/17	ERH296	AZ53259	04/04/17	03:35 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH296	AZ53259	04/04/17	03:35 PM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	8011	EPA 8011
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	8270D-SIM	EPA 8270D SIM
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	EPA 8270D	EPA 8270D WATER
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	SM 2320B	Wetlab 2320B - Water
82611	04/06/17	ERH297	AZ53260	04/04/17	04:35 PM	WATER	SM3500FeB	Ferrous Iron
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	8011	EPA 8011
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	8270D-SIM	EPA 8270D SIM
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8260B	EPA 8260B BTEX & 1,2-DCA WATER
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82611	04/06/17	ERH298	AZ53261	04/04/17	04:35 PM	WATER	EPA 8270D	EPA 8270D WATER
82611	04/06/17	ERH320	AZ53262	04/04/17	12:25 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH320	AZ53262	04/04/17	12:25 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82611	04/06/17	ERH320	AZ53262	04/04/17	12:25 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH320	AZ53262	04/04/17	12:25 PM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	8270D-SIM	EPA 8270D SIM
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 300.0	Wetlab 300.0 - Water
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	EPA 8270D	EPA 8270D WATER
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	SM 2320B	Wetlab 2320B - Water
82611	04/06/17	ERH321	AZ53263	04/04/17	01:35 PM	WATER	SM3500FeB	Ferrous Iron
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	8270D-SIM	EPA 8270D SIM
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82611	04/06/17	ERH289	AZ53264	04/04/17	12:45 PM	WATER	EPA 8270D	EPA 8270D WATER
82611	04/06/17	ERH301	AZ53265	04/04/17	11:45 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH301	AZ53265	04/04/17	11:45 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82611	04/06/17	ERH301	AZ53265	04/04/17	11:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH301	AZ53265	04/04/17	11:45 AM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	8270D-SIM	EPA 8270D SIM
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 300.0	Wetlab 300.0 - Water

tblCOC_APPLCaseNarrative

SDG	Received	Client ID	APPL ID	Collected Date	Collected Time	Matrix	Method	Method Description
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8260B	EPA 8260B BTEX WATER
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	EPA 8270D	EPA 8270D WATER
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	RSK 175	METHANE BY RSK 175
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	SM 2320B	Wetlab 2320B - Water
82611	04/06/17	ERH303	AZ53266	04/04/17	11:55 AM	WATER	SM3500FeB	Ferrous Iron

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82611

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 040417a-e
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 04/06/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 2.5,2X3.0,3.5,4.0°C
Color: VOA/N-PURBLU
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 04/13/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: BTEX & TPH-G only; 8270 SIM: 1-methylnaphthalene, 2-methylnaphthalene & naphthalene only.
TPH D & O. RSK: Methane only;
$87DC53W5: report phenol only; $87DMEEW5: 2-MEE (LCS Spk 80ppb).
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 87DMEE->3535A to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 3-$8011, 5-$87DC53W5, 5-$87DMEEW5, 5-$DOC53W5, 5-$SIMDOD5W
Extractions: 3-_MWE012, 5-_MWE2MEE, 5-_SEP004, 5-_SEP004S, 5-_SEP011LL
VOA: 3-$86BTOTXDCAW, 7-$GASBL, 7-$GRO86BW, 6-$RSKMETH, 5-$86BTOTXDOD5W
Wetlab: 3-$232W(HCO3,CO3,ALK), 3-$300W(NO3,CL,SO4), 3-$35FE

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH296	AZ53259W	04/04/17 15:35	$8011, $86BTOTXDCAW, $GASBL, $GRO86BW, $RSKMETH
2.	ERH297	AZ53260W	04/04/17 16:35	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH298	AZ53261W	04/04/17	16:35	$8011, $86BTOTXDCAW, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
4.	ERH320	AZ53262W	04/04/17	12:25	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
5.	ERH321	AZ53263W	04/04/17	13:35	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike
6.	ERH289	AZ53264W	04/04/17	12:45	$86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $SIMDOD5W -- 2-MEE-LCS 80ppb spike,BTEX only
7.	ERH301	AZ53265W	04/04/17	11:45	$86BTOTXDOD5W, $GASBL, $GRO86BW, $RSKMETH
8.	ERH303	AZ53266W	04/04/17	11:55	$232W(HCO3,CO3,ALK), $300W(NO3,CL,SO4), $35FE, $86BTOTXDOD5W, $87DC53W5, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82611**

Sample	Container Type	Count	pH
AZ53259	13 VOAs - HCL	5	NA
	15 VOAs - NP	5	NA
AZ53260	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53261	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
AZ53262	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53263	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53264	13 VOAs - HCL	5	NA
	17 Amber Liter	6	NA
AZ53265	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53266	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7

Sample	Container Type	Count	pH

APPL Sample Receipt Form

ARF# **82611**

Sample	Container Type	Count	pH
AZ53259	13 VOAs - HCL	5	NA
	15 VOAs - NP	5	NA
AZ53260	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53261	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
AZ53262	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53263	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53264	13 VOAs - HCL	4	NA
	17 Amber Liter	6	NA
AZ53265	13 VOAs - HCL	3	NA
	15 VOAs - NP	3	NA
AZ53266	3 PL 250mL	1	NA
	13 VOAs - HCL	6	NA
	17 Amber Liter	6	NA
	38 250mL brn poly, HCl prsvd	1	1.7

Sample	Container Type	Count	pH

82611

2.5
2 x 3.0
3.5
4.0

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C. 040417

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for CB, MH, GM
Date Shipped: 4/5/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH296	Trip Blank	4/4/17	1535	HST	~~8~~ 10	X				X	X	X						X				
ERH297	RHMW08	4/4/17	1635	HST	9	X				X	X	X						X				see other cooler for other bottles
ERH298	RHMW08	4/4/17	1635	HST	13	X				X	X	X	X		X	X	X					

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shigi AECOM	4/5/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/6/17	11:00	Yang Zh

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
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Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT for CB, MH, GM

Date Shipped: 4/5/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	Comments
ERH297	RHMW08	4/4/17	1635	HST	8	✓							X		X	X	X		X	X	X	See other Cooler for VOAs

KS

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Sugi AECOM	4/5/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/6/17	11:00	Yang Z

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL LABS

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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C.O.C.

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Company Name: AECOM Phone: 808-356-5373
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Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT [illegible] for CB, MH, GM
Date Shipped: 4/5/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Matrix:	8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
~~ERH317~~	~~Equip Blank~~			~~HST~~	~~6~~	~~✓~~							~~X~~		~~X~~	~~X~~	~~X~~		KS	4/5/17		
ERH 320	Trip Blank	4/4/17	1225	HST	6	X				X								X				
ERH 321	OWDF MW01	4/4/17	1335	HST	14	X				X			X		X	X	X	X	X	X	X	
ERH 289	Equip. Blank	4/4/17	1245	HST	4	X				X												* BTEX ONLY

KS

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Keela Shiigi AECOM	4/5/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/6/17	11:00	Yang [illegible]

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): TR, AM, FK, CB, MH, GM, KJ
Purchase Order Number: 77265
Sampler (Signature): MT for TR, AM, FK, CB, MH, GM, KJ
Date Shipped: 4/19/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 289	Equip Blank	4/14/17	1245	HST	6	✓							X		X	X	X					see other cooler for VOAs

Analysis Requested/Method Number

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shirai, AECOM	4/5/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/6/17	11:00	

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

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Fax: (559) 275-4422
C.O.C.

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Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): TQ, AM, FK, RJ
Sampler (Signature): MT for TQ, AM, FK, RJ

Date Shipped: 4/5/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil		8260C BTEX, TPH-g	8260C DCA	8011 EDB	8015C TPH-d/o	8330C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D Phenol, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride	SM2320B Alkalinity (total, bicarb, carb)	
ERH 301	Trip Blank	4/4/17	1145	HST	6	X				X								X				
~~ERH 302~~	~~Ambient Blank~~			~~HST~~	~~5~~	~~X~~				~~X~~*												* BTEX only FS 4/5/17
ERH 303	RHMW03	4/4/17	1155	HST	14	X				X			X		X	X	X	X	X	X	X	

FS

Shuttle Temperature:
Turnaround Requested: Check one ☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal: ☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Karla Shijoi AECOM	4/5/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/6/17	11:00	Jang

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82611**

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 04/06/17

2) Coolers: Number of Coolers: 5

3) YES Were custody seals present and intact?
How many? 10 Name/Date on seal? Not Salvagable

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags
X wet ice __ dry ice __ no ice __ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C
1: 2.5 2: 3.0 3: 3.0 4: 3.5 5: 4.0 6: ____
7: ____ 8: ____ 9: ____ 10: ____ 11: ____ 12: ____

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: ____
Smaller than a pea: ALL VOAS HAS BUBBLES

Preservation Hold time:

18) ~~Yes~~ NO Was a sufficient amount of holding time remaining to analyze the samples?

19) rp 4-7-17 Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate: ____

Notes/Deficiencies:

Samples ERH296,and ERH230 are marked as trip blanks on the COC, we received 3 Non preserved client made VOA, with the analysis requested on the label as 8011, and 3 lab creates HCL trip blanks for this sample. 8011 is not specified on the COC as an analysis requested for these samples.

Samples rec'd more than 24 hrs after collection. rp 4-7-17.

Personnel receiving samples: SM Second reviewer: YL
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 4.7.17
Name of client notified: ____ Date/Time of notification ____

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53259 - 217825**
Batch ID: #8011-170412A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	118	70-132			%	04/12/17	04/12/17

Quant Method:80110413.M
Run #:0403092
Instrument:Herbie
Sequence:170403
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 05/03/17 10:23:00 AM

Laboratory Control Spike Recovery

EPA 8011

APPL ID: **170412W-53259 LCS - 217825**
Batch ID: #8011-170412A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.286	114	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.293	83.7	70-132

Comments: _____

Primary	SPK
Quant Method :	80110413.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Herbie
Run :	0403094
Initials :	RHA

Printed: 05/03/17 10:22:55 AM
APPL Standard LCS

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/12/17
Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170412A1-BLK	Blank	70-132	118				
170412A1-LCS	Lab Control Spike	70-132	83.7				
AZ53259	ERH296	70-132	111				
AZ53260	ERH297	70-132	119				
AZ53261	ERH298	70-132	131				

Comments: Batch: #8011-170412A1

Printed: 04/13/17 11:32:14 AM
Form 2 & 8, Surrogate Recovery Summary

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER
Blank ID: 170412A1-BLK

SDG No: 82611
Date Analyzed: 04/12/17
Instrument: Herbie
Time Analyzed: 1926

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170412A1-BLK	Blank	0403092	04/12/17 1926
170412A1-LCS	Lab Control Spike	0403094	04/12/17 2009
AZ53259	ERH296	0403103	04/12/17 2318
AZ53260	ERH297	0403104	04/12/17 2339
AZ53261	ERH298	0403105	04/13/17 0000

Comments: Batch: #8011-170412A1

Printed: 04/13/17 11:32:08 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH296
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53259
QCG: #8011-170412A1-217825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	111	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403103
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 05/03/17 10:22:50 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403103.D\ECD1A.CH Vial: 3
Signal #2 : G:\HERBIE\DATA\170403\0403103.D\ECD2B.CH
Acq On : 04-12-17 23:18:58 Operator: RH
Sample : AZ53259W06 2/34.48G Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:48 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

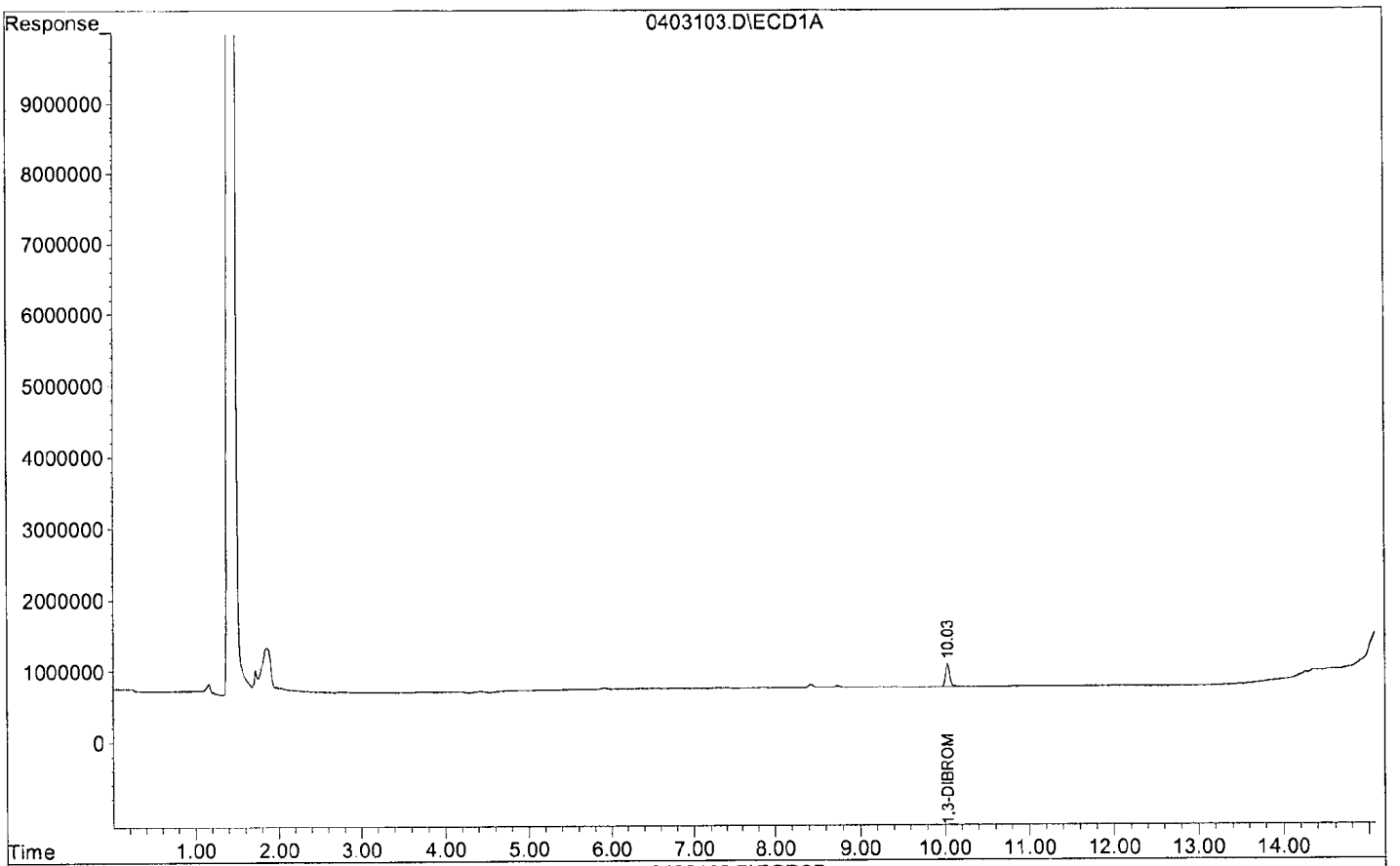
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	322588	612303	0.394	0.396
Spiked Amount 0.355			Recovery	=	110.90%	111.46%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

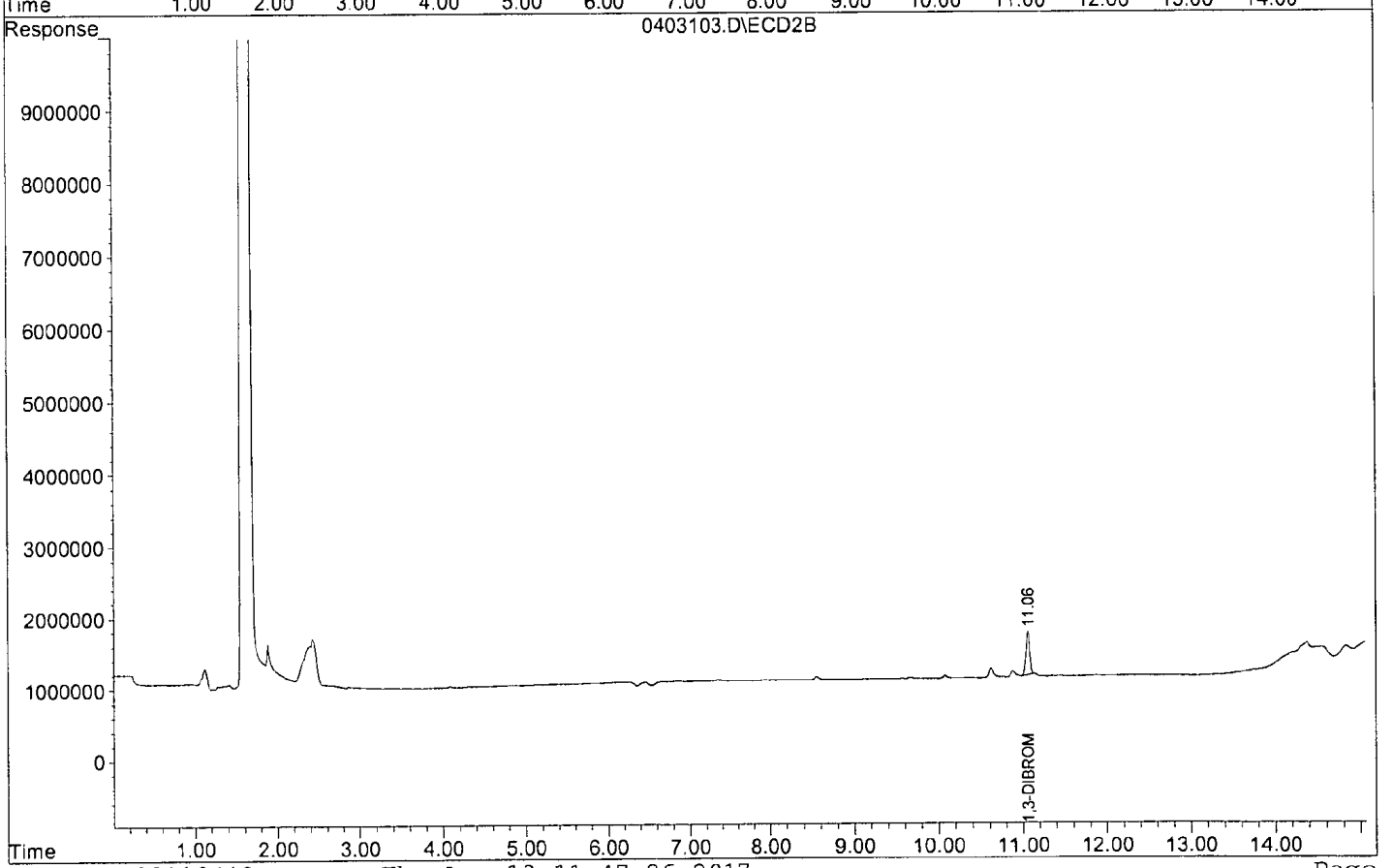
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403103.D
Acq On : 04-12-17 23:18:58
Sample : AZ53259W06 2/34.48G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 3
Operator: RH
Inst : Herbie
Multiplr: 1.02





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #8011-170412A1-217825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	119	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403104
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 05/03/17 10:22:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403104.D\ECD1A.CH Vial: 4
Signal #2 : G:\HERBIE\DATA\170403\0403104.D\ECD2B.CH
Acq On : 04-12-17 23:39:51 Operator: RH
Sample : AZ53260W07 2/34.68G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:49 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

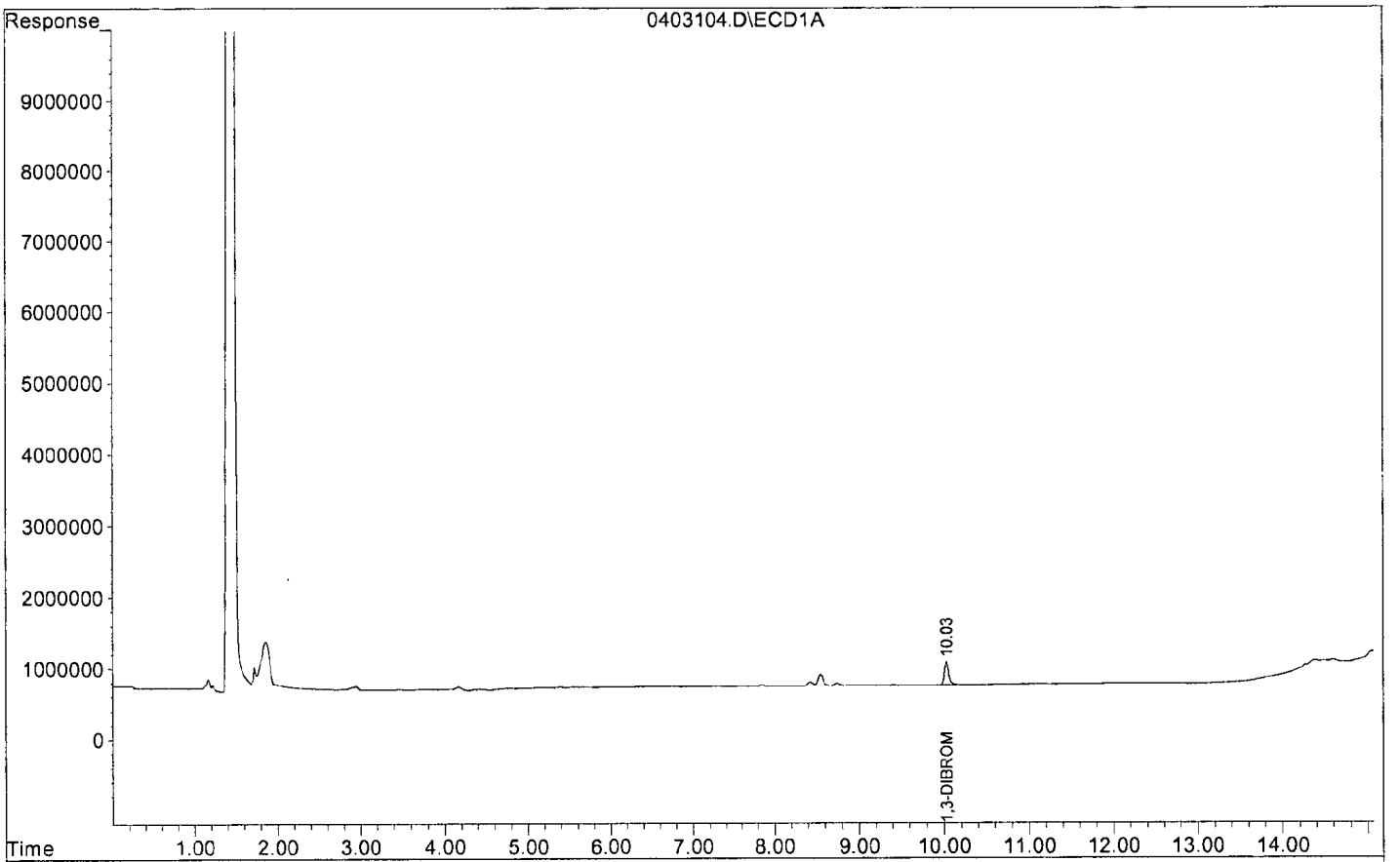
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	334925	653997	0.406	0.420
Spiked Amount 0.353			Recovery	=	114.94%	118.90%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

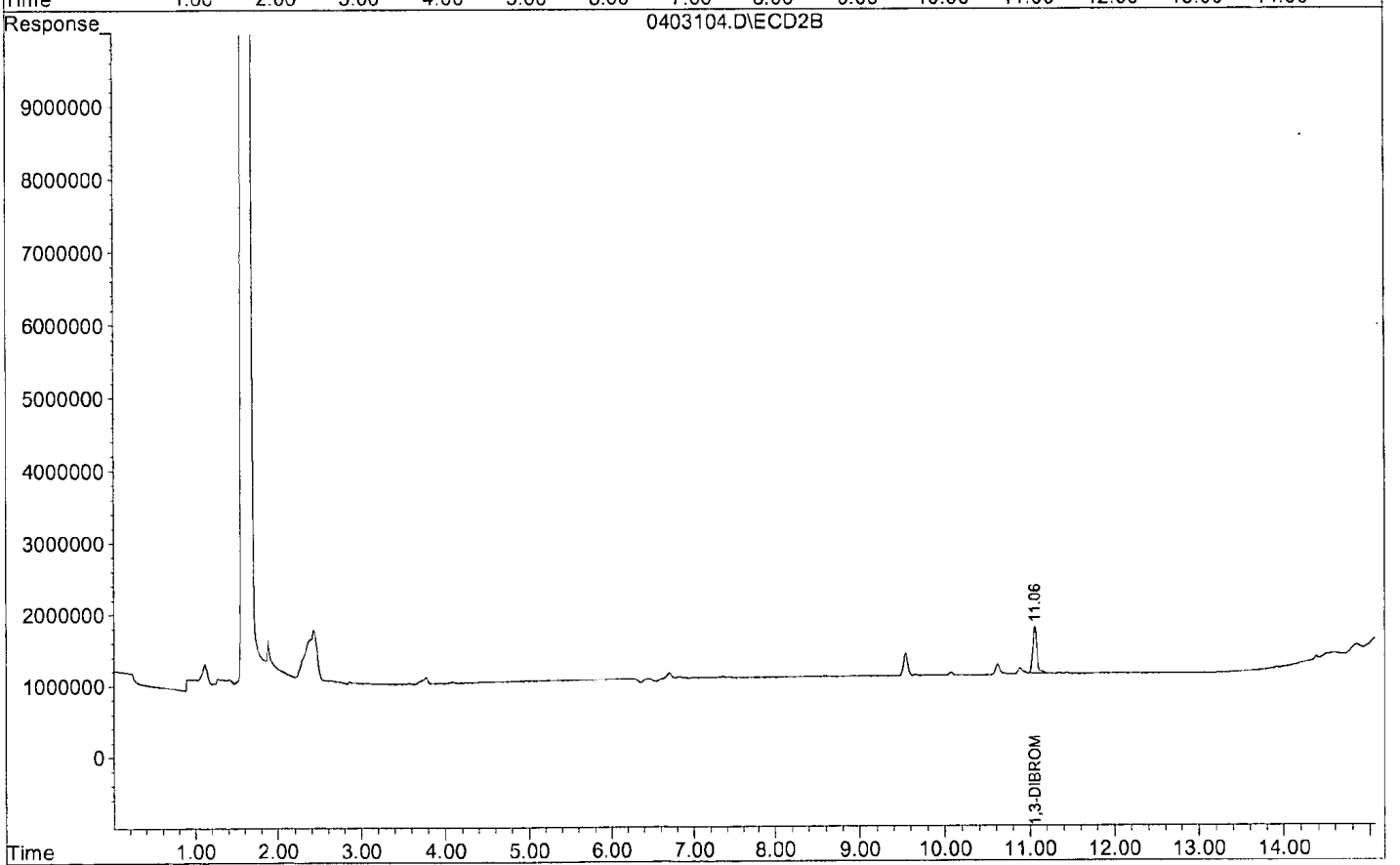
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403104.D
Acq On : 04-12-17 23:39:51
Sample : AZ53260W07 2/34.68G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 4
Operator: RH
Inst : Herbie
Multiplr: 1.01





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #8011-170412A1-217825

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/13/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	131	70-132			%	04/12/17	04/13/17

Quant Method: 80110413.M
Run #: 0403105
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 05/03/17 10:22:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403105.D\ECD1A.CH Vial: 5
Signal #2 : G:\HERBIE\DATA\170403\0403105.D\ECD2B.CH
Acq On : 04-13-17 0:00:50 Operator: RH
Sample : AZ53261W04 2/35.05G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:49 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

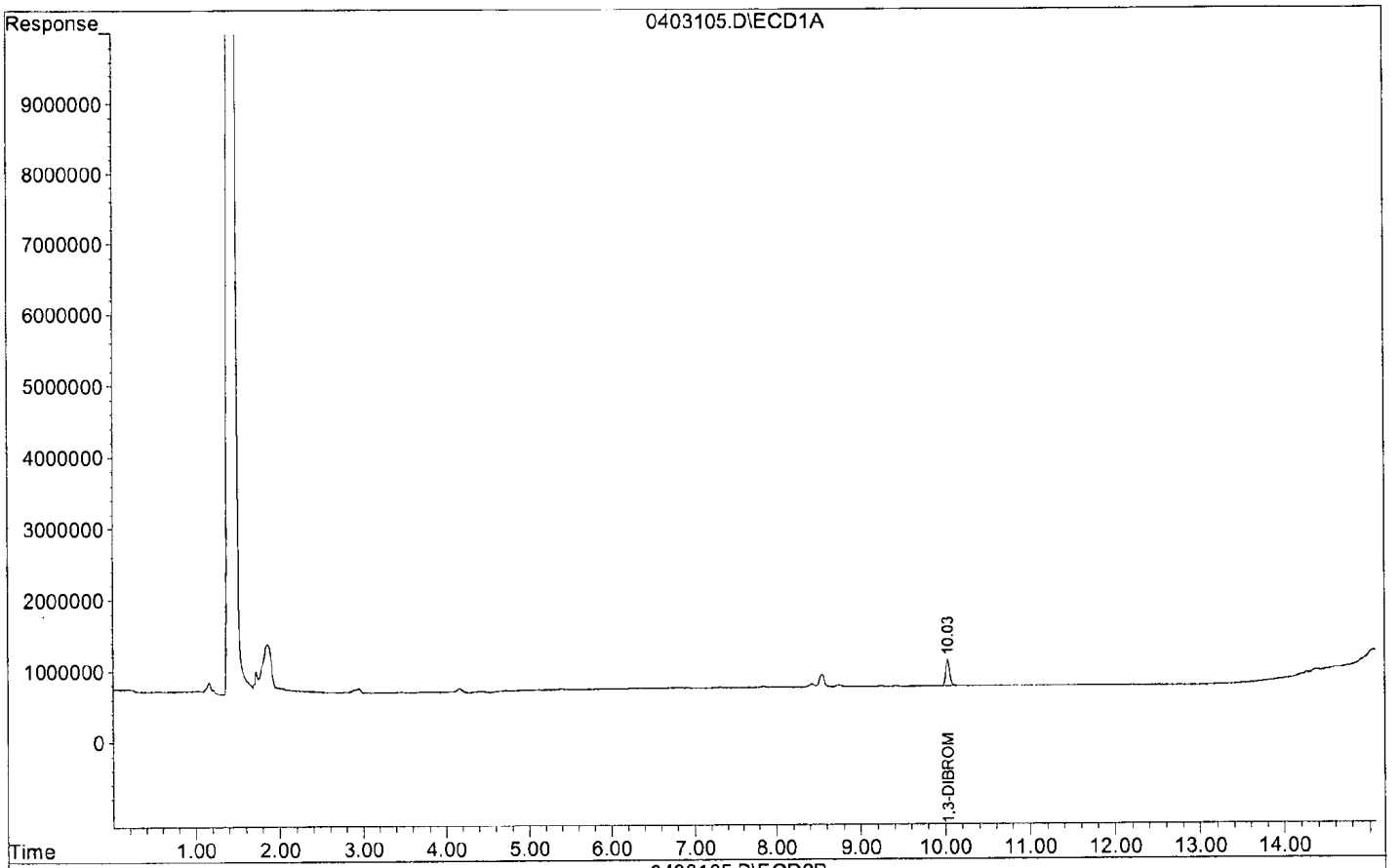
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	367750	719459	0.441	0.457
Spiked Amount 0.350			Recovery	=	126.18%	130.76%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

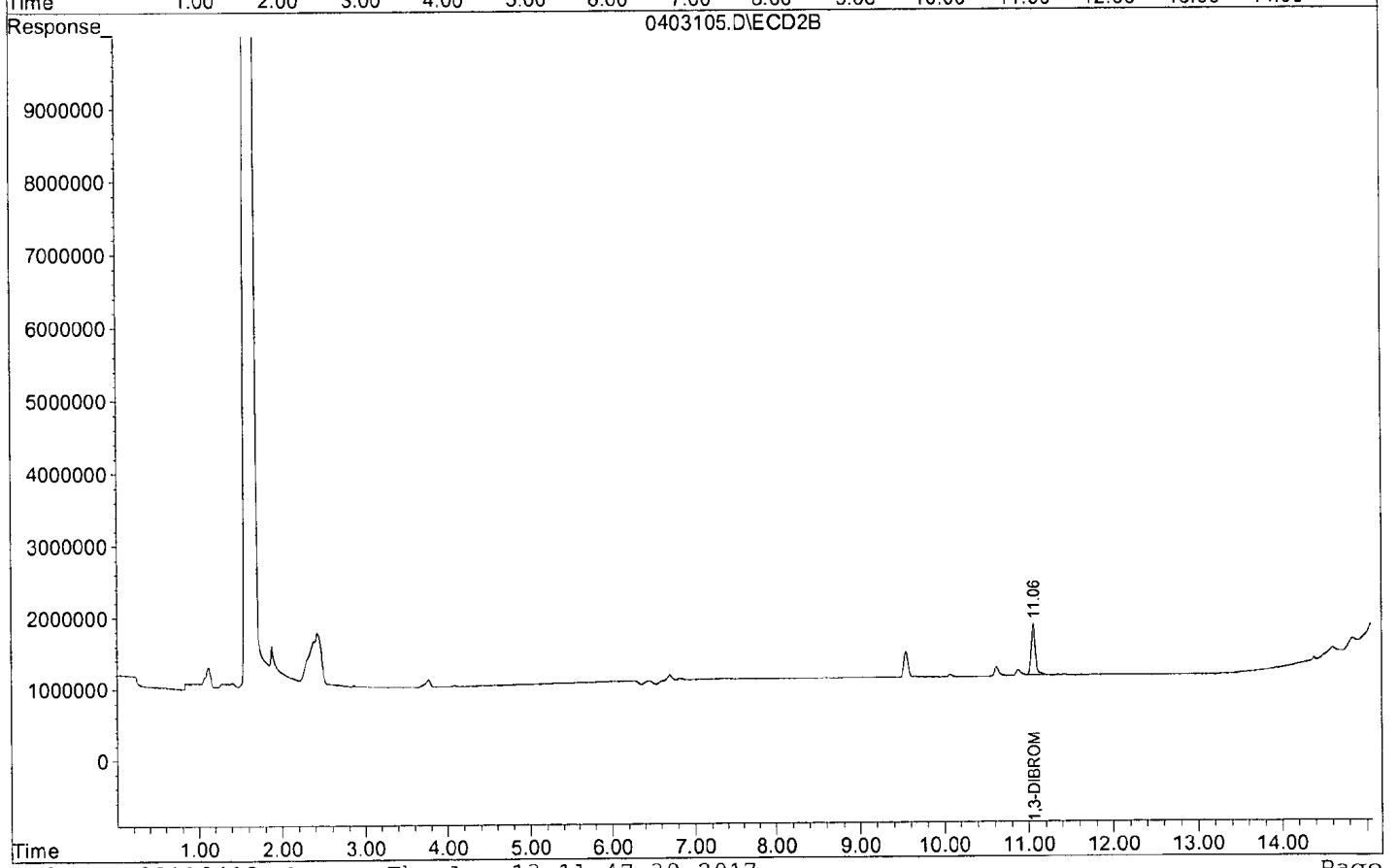
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403105.D
Acq On : 04-13-17 0:00:50
Sample : AZ53261W04 2/35.05G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 5
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/12/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0403085.D	0403086 D	0403087.D	0403088.D	0403089.D	0403090.D								
1	TM	EDB	466975	561000	531184	477253	432712	486217					492557	9.4	TM	
2	TML	1,2,3-TCP	199850	117620	123782	110621	104659	113871					128400	28	TML	0.996
3	S	1,3-DIBROMOPROPANE(S)		451880	447436	402284	368245	410339					416037	8.3	S	
4	TM	DBCP	1340050	1427685	1358396	1302800	1247286	1384003					1343370	4.7	TM	
5		Signal #2											0	0		
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DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/12/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0403085.D	0403086.D	0403087.D	0403088.D	0403089.D	0403090.D								
36	TM	EDB #2	1155150	1315465	1316508	1250995	1137842	1304763					1246787	6.5	TM	
37	TM	1,2,3-TCP #2	219250	240170	229448	210444	200497	231691					221917	6.6	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	678925	822500	821252	804910	752357	833067					785502	7.6	S	
39	TM	DBCP #2	3142125	3792075	3576996	3424829	3417633	3955162					3551470	8.2	TM	
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0.8269624

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:13 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

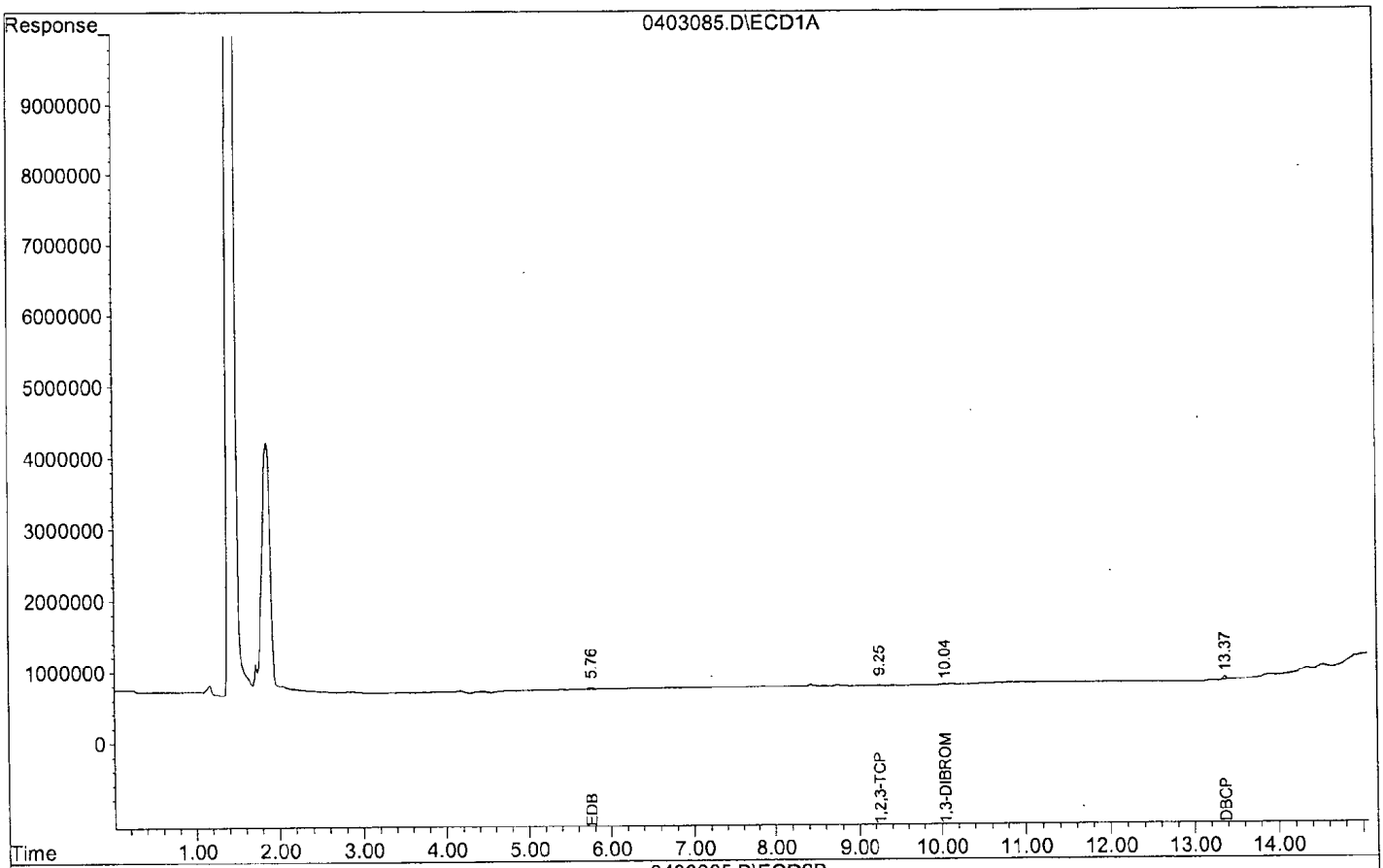
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	13411	27157	0.016	0.018
Spiked Amount 0.350			Recovery	=	4.57%	5.14%
Target Compounds						
1) TM EDB	5.76	7.22	18679	46206	0.016	0.017
2) TM 1,2,3-TCP	9.25	10.47	7994	8770	0.031m	0.020 #
4) TM DBCP	13.37	14.10	53602	125685	0.019	0.020
Target Compounds						

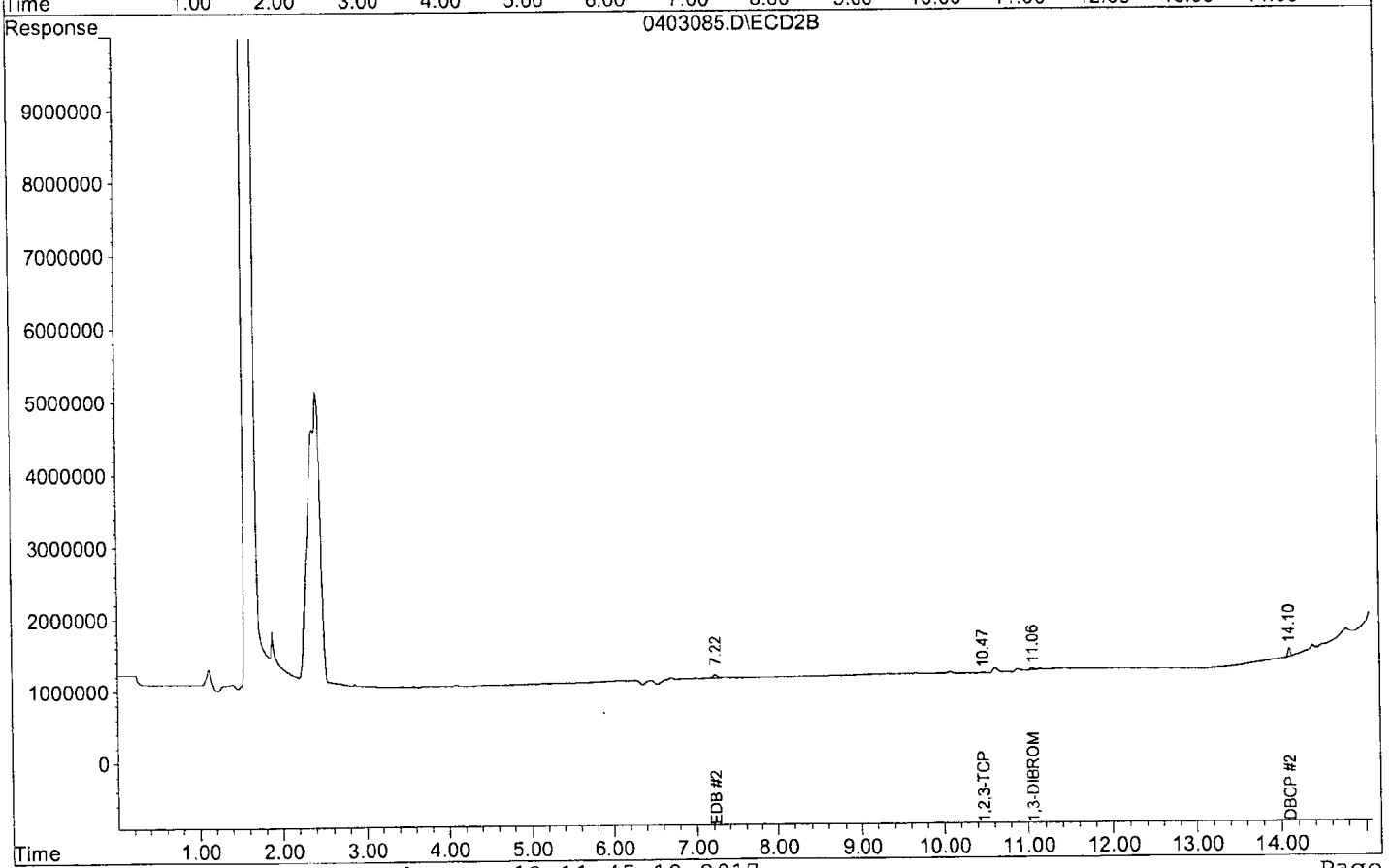
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403085.D
Acq On : 04-12-17 16:57:00
Sample : 8011 1 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 85
Operator: RH
Inst : Herbie
Multiplr: 1.00

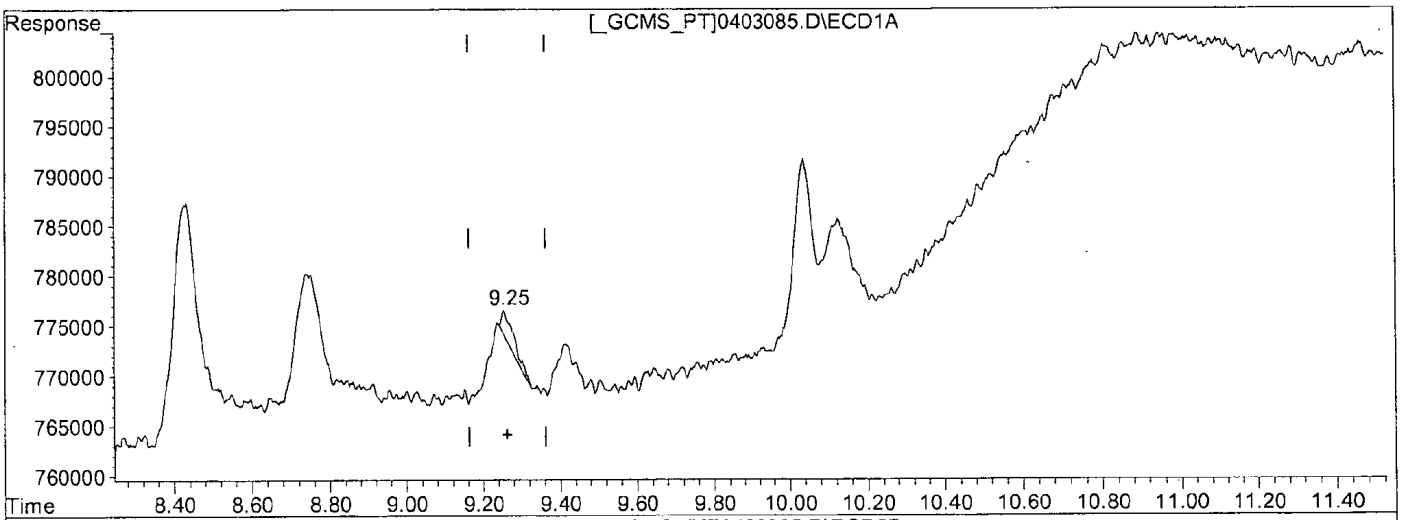


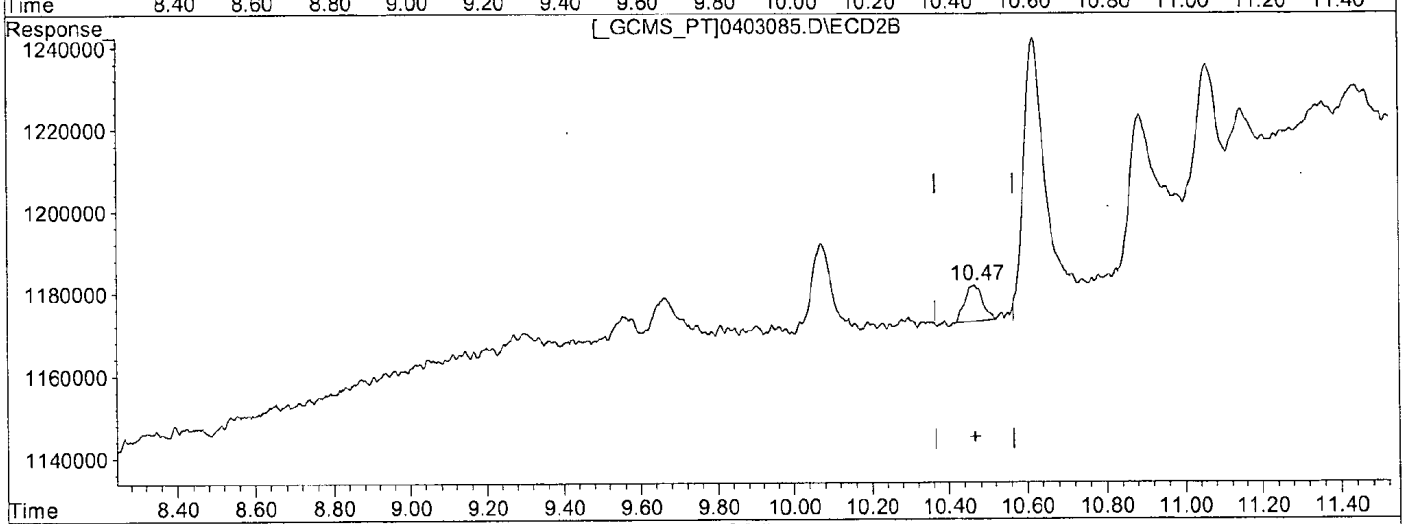


Quantitation Report

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Multiple Level Calibration





QEdit

(2) 1,2,3-TCP (TM)

9.25min 0.009UG/L

response 2365

(2) 1,2,3-TCP #2 (TM)

10.47min 0.020UG/L

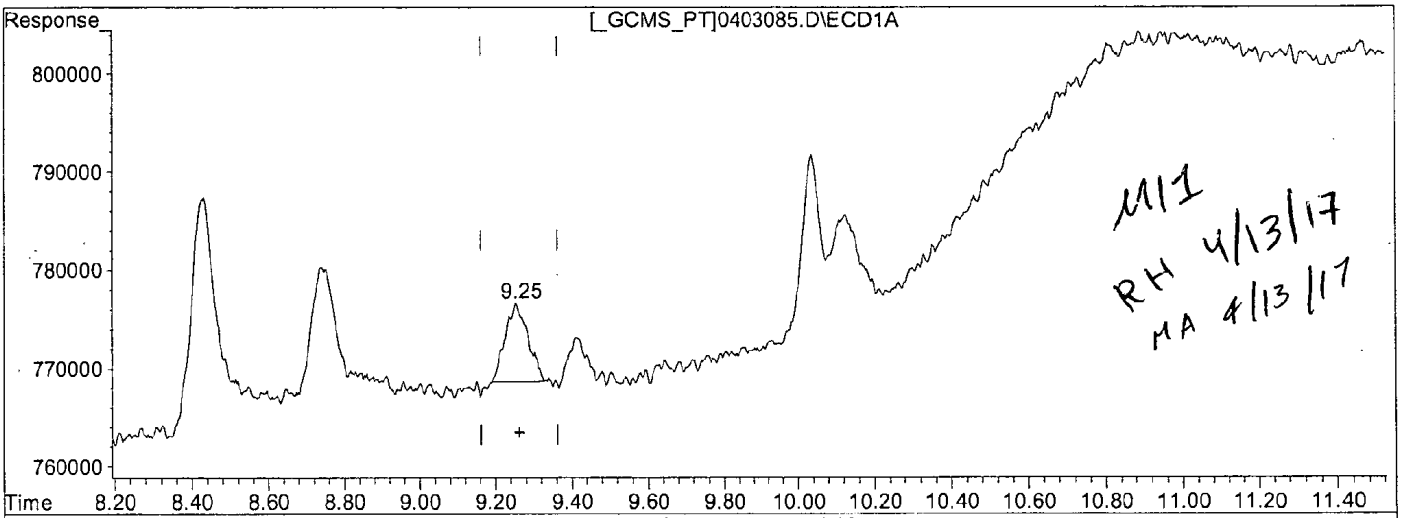
response 8770

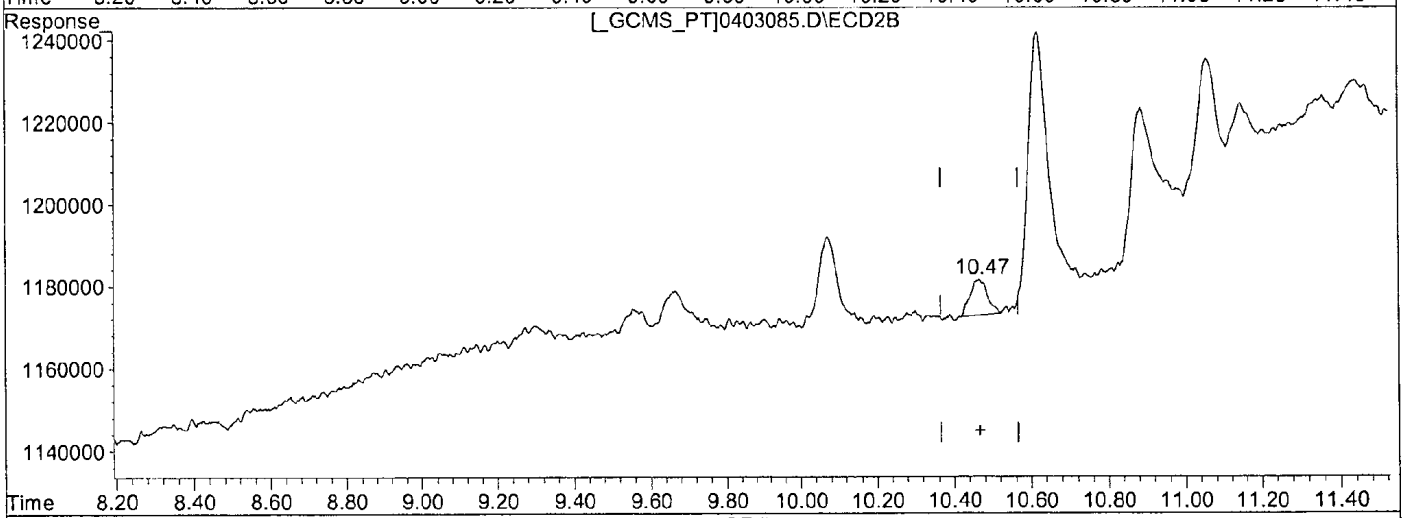
(+) = Expected Retention Time

Quantitation Report

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:13 2017 Quant Results File: 80110413.RES

Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Multiple Level Calibration





QEdit

(2) 1,2,3-TCP (TM)

9.25min 0.031UG/L m

response 7994

(2) 1,2,3-TCP #2 (TM)

10.47min 0.020UG/L

response 8770

(+) = Expected Retention Time

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403086.D\ECD1A.CH Vial: 86
Signal #2 : G:\HERBIE\DATA\170403\0403086.D\ECD2B.CH
Acq On : 04-12-17 17:18:23 Operator: RH
Sample : 8011 2 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	90376	164500	0.105	0.107
Spiked Amount 0.350			Recovery	=	30.00%	30.57%
Target Compounds						
1) TM EDB	5.76	7.22	112200	263093	0.093	0.098
2) TM 1,2,3-TCP	9.26	10.46	23524	48034	0.091	0.107
4) TM DBCP	13.37	14.10	285537	758415	0.103	0.119

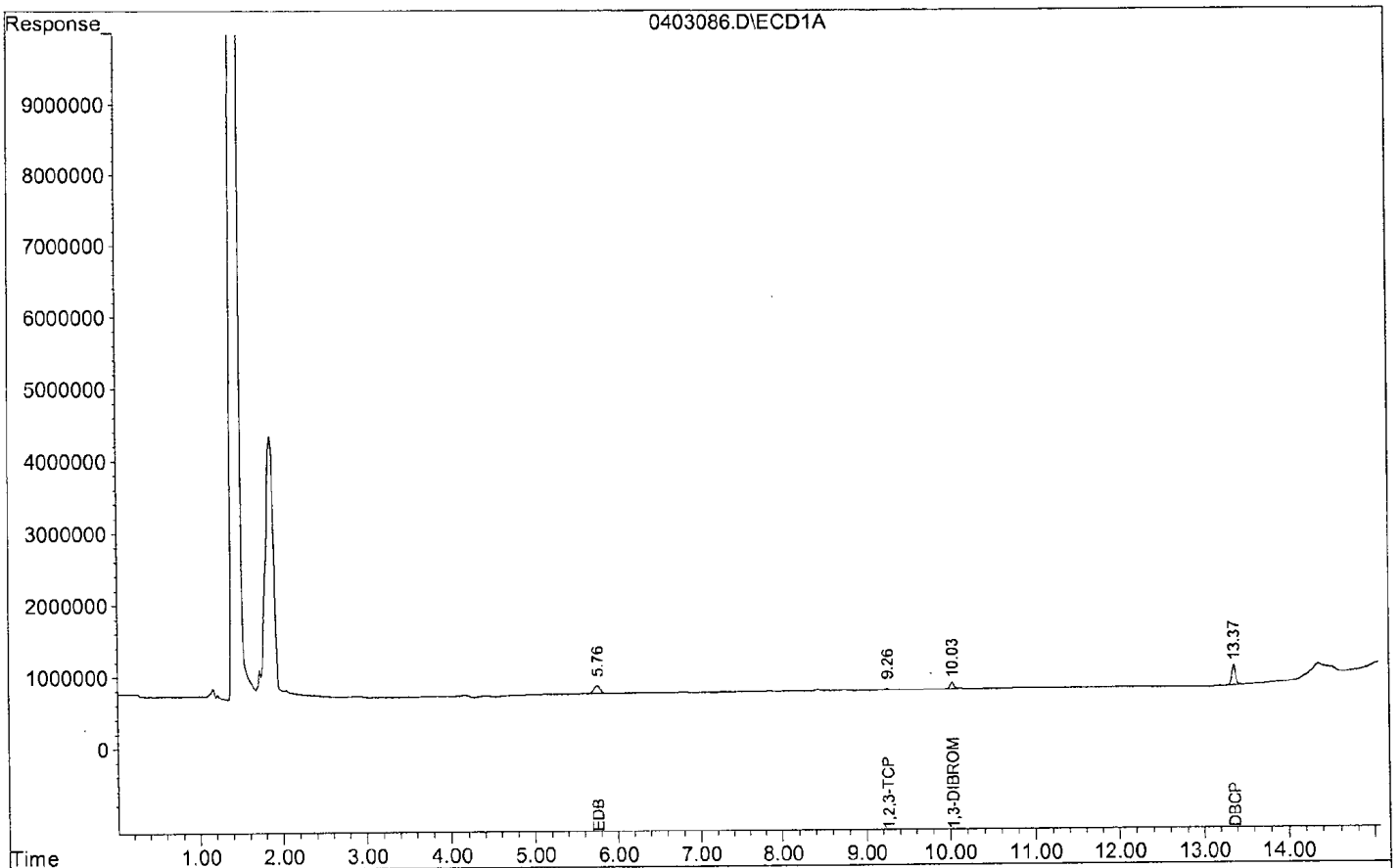
Target Compounds

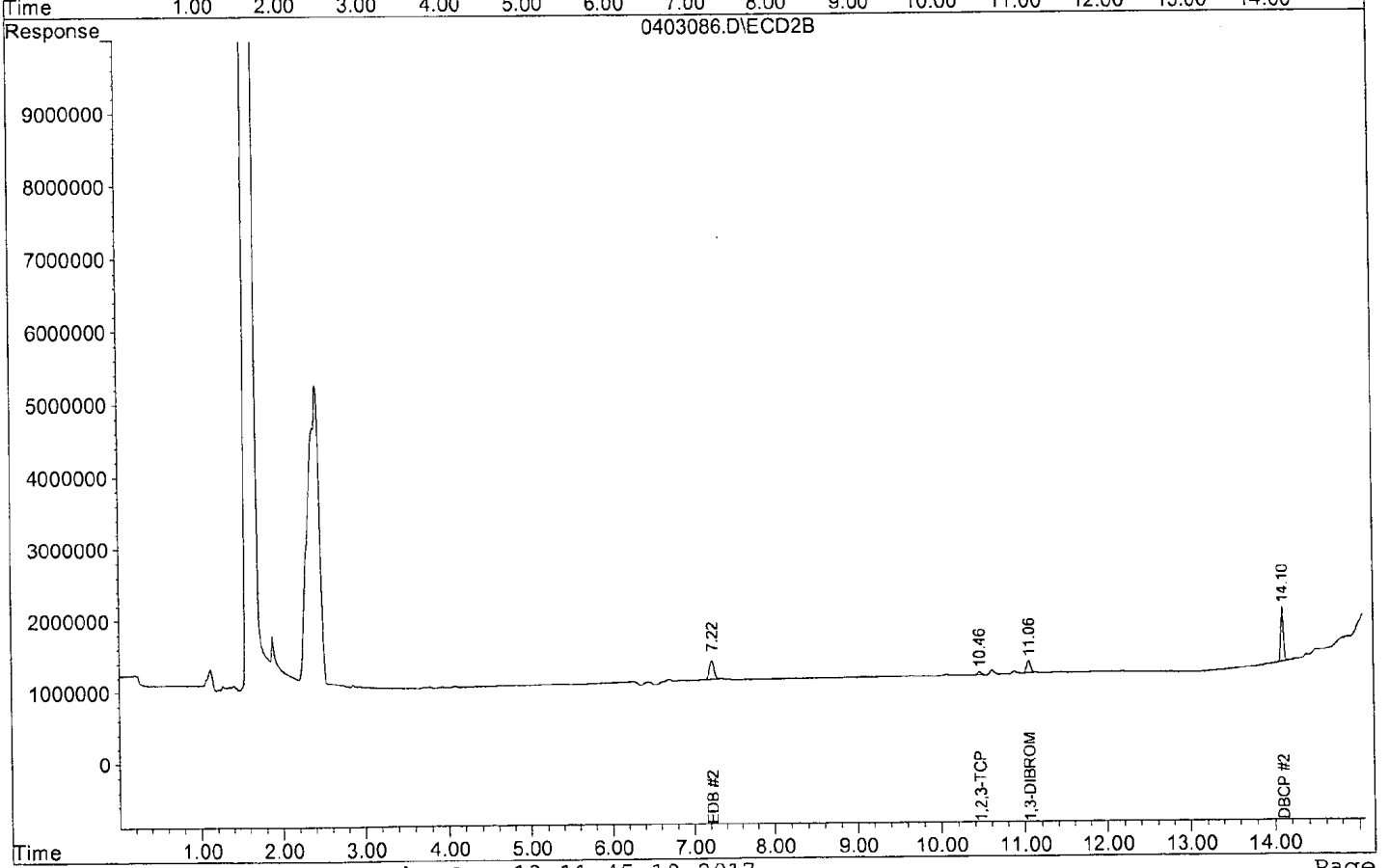
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403086.D
Acq On : 04-12-17 17:18:23
Sample : 8011 2 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 86
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403087.D\ECD1A.CH Vial: 87
Signal #2 : G:\HERBIE\DATA\170403\0403087.D\ECD2B.CH
Acq On : 04-12-17 17:39:50 Operator: RH
Sample : 8011 3 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	223718	410626	0.261	0.267
Spiked Amount 0.350			Recovery	=	74.57%	76.29%
Target Compounds						
1) TM EDB	5.76	7.22	265592	658254	0.221	0.245
2) TM 1,2,3-TCP	9.26	10.47	61891	114724	0.238	0.255
4) TM DBCP	13.37	14.10	679198	1788498	0.245	0.280

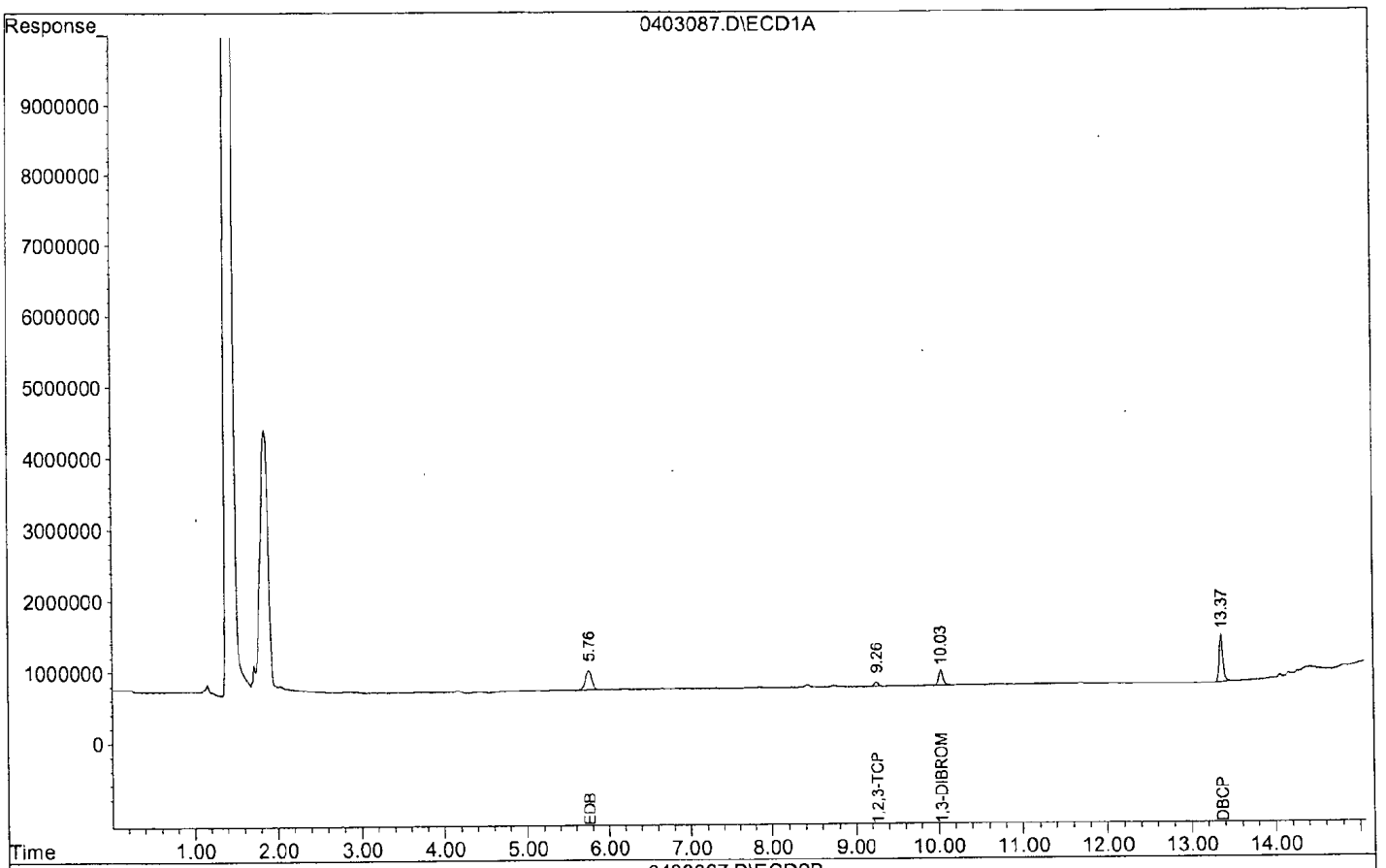
Target Compounds

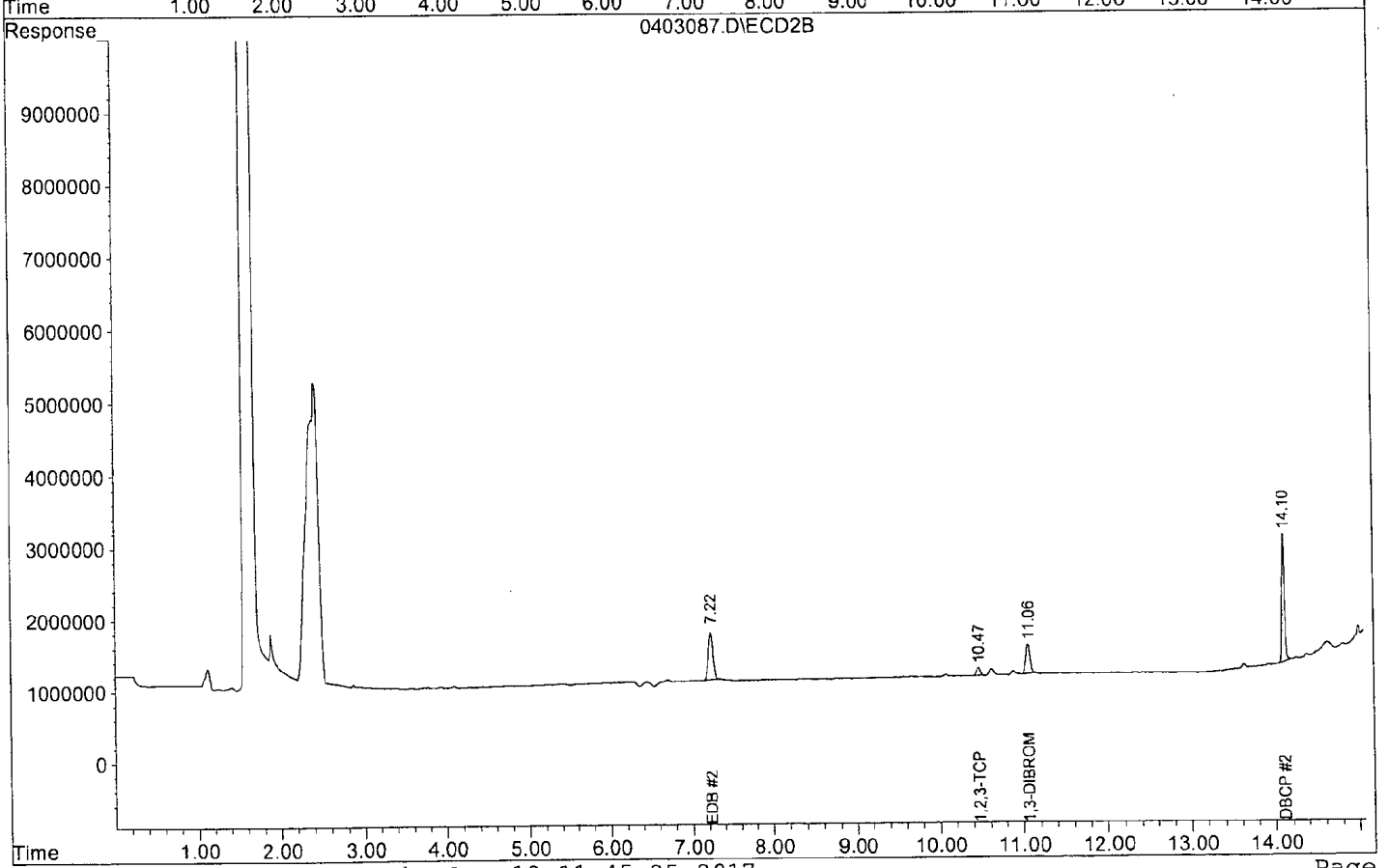
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403087.D
Acq On : 04-12-17 17:39:50
Sample : 8011 3 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 87
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403088.D\ECD1A.CH Vial: 88
Signal #2 : G:\HERBIE\DATA\170403\0403088.D\ECD2B.CH
Acq On : 04-12-17 18:01:10 Operator: RH
Sample : 8011 4 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	402284	804910	0.469	0.524
Spiked Amount 0.350			Recovery	=	134.00%	149.71%
Target Compounds						
1) TM EDB	5.76	7.22	477253	1250995	0.397	0.466
2) TM 1,2,3-TCP	9.26	10.47	110621	210444	0.426	0.468
4) TM DBCP	13.37	14.10	1302800	3424829	0.470	0.535

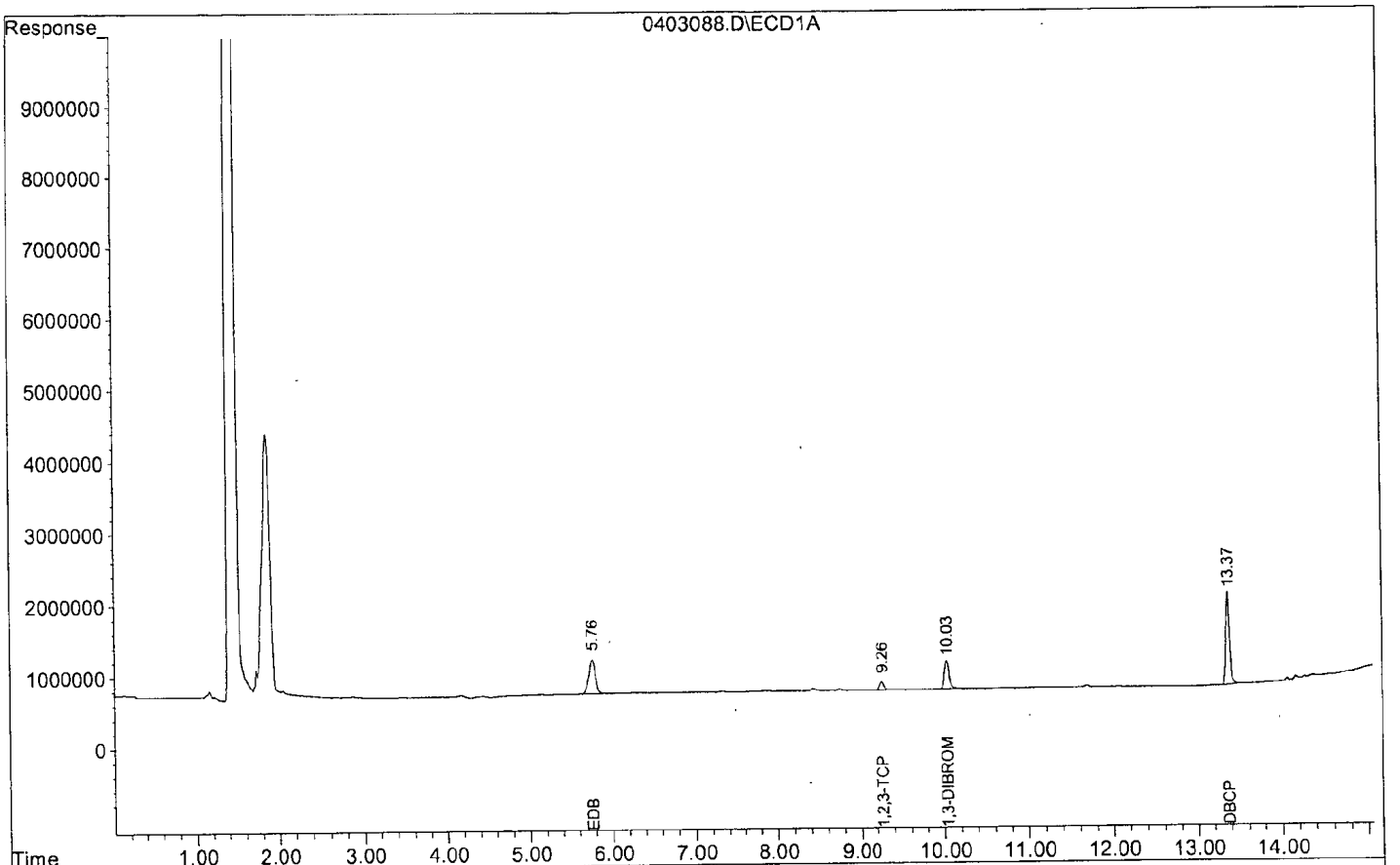
Target Compounds

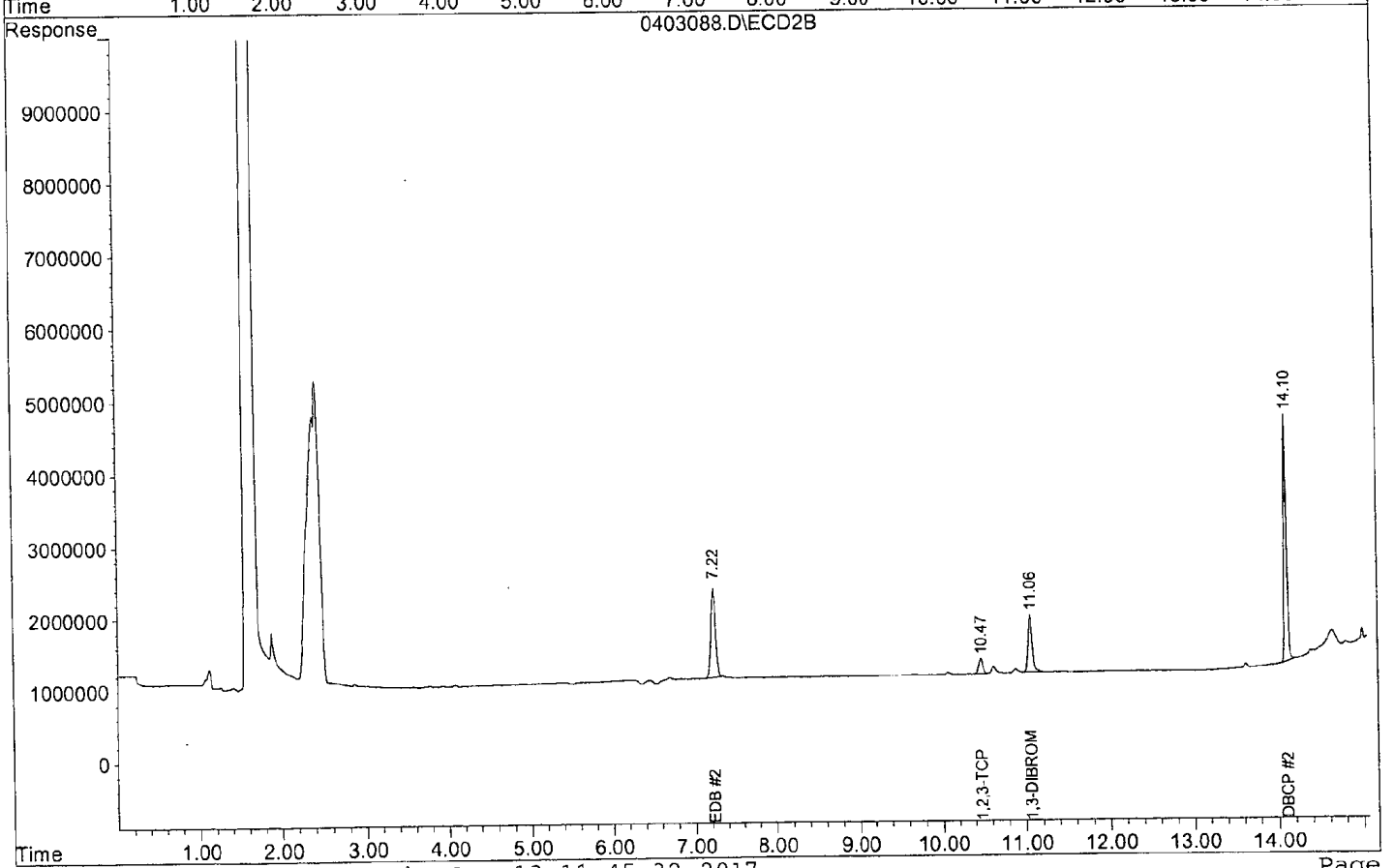
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403088.D
Acq On : 04-12-17 18:01:10
Sample : 8011 4 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 88
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403089.D\ECD1A.CH Vial: 89
Signal #2 : G:\HERBIE\DATA\170403\0403089.D\ECD2B.CH
Acq On : 04-12-17 18:22:32 Operator: RH
Sample : 8011 5 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	552367	1128535	0.644	0.734
Spiked Amount 0.350			Recovery	=	184.00%	209.71%
Target Compounds						
1) TM EDB	5.77	7.22	649068	1706763	0.540	0.636
2) TM 1,2,3-TCP	9.26	10.47	156988	300745	0.605	0.669
4) TM DBCP	13.37	14.10	1870929	5126450	0.675	0.801

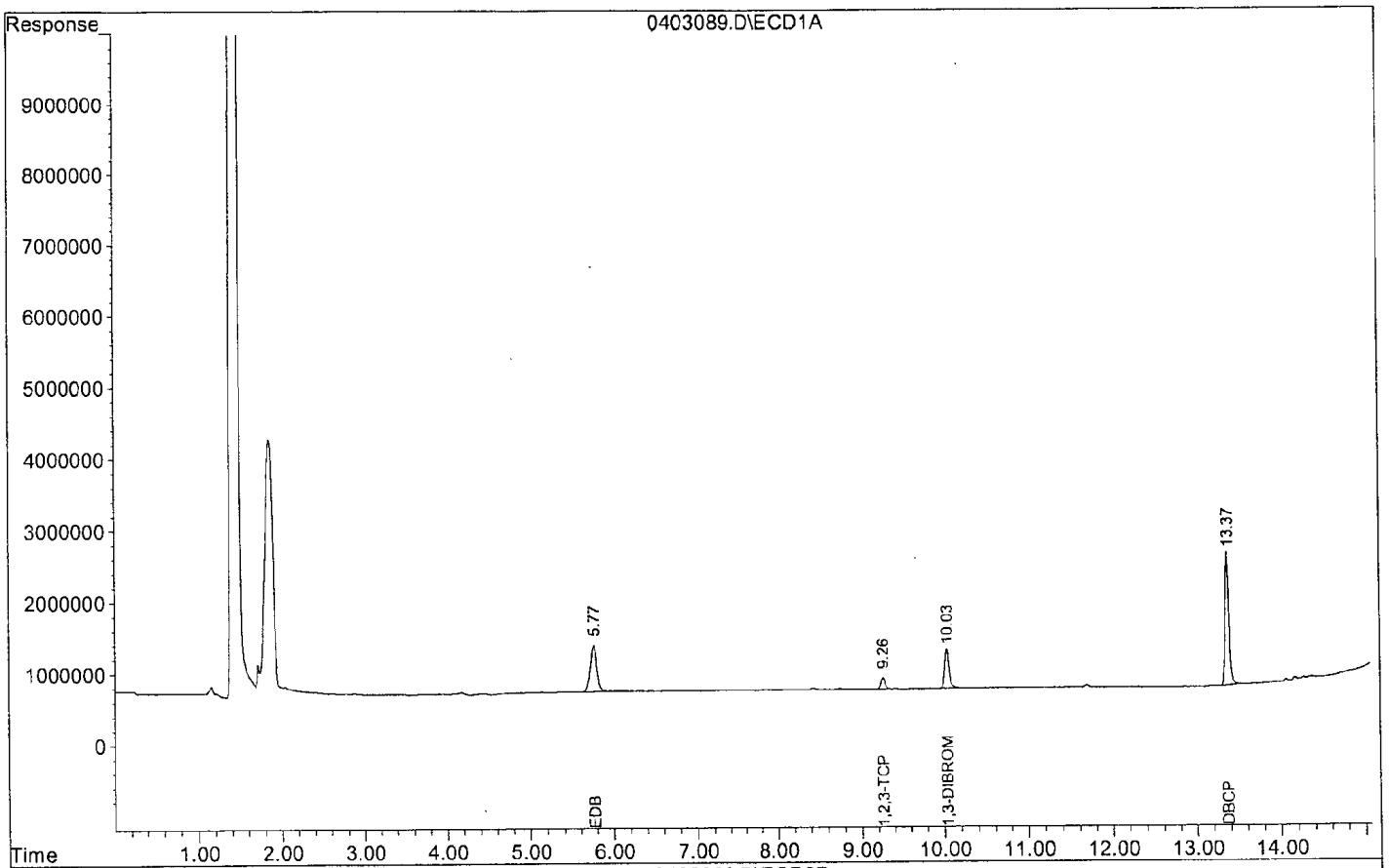
Target Compounds

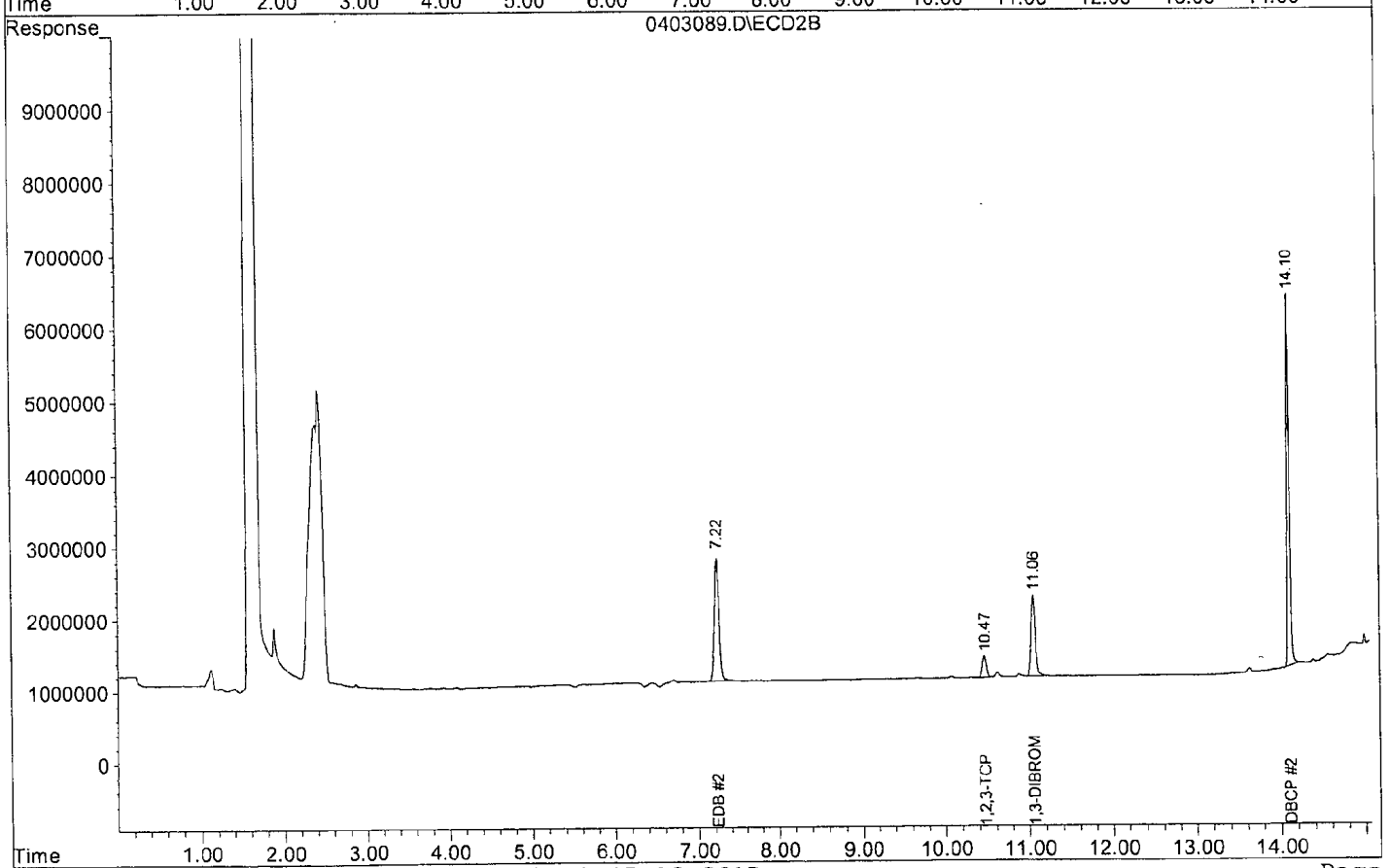
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403089.D
Acq On : 04-12-17 18:22:32
Sample : 8011 5 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 89
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403090.D\ECD1A.CH Vial: 90
Signal #2 : G:\HERBIE\DATA\170403\0403090.D\ECD2B.CH
Acq On : 04-12-17 18:44:01 Operator: RH
Sample : 8011 6 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	820677	1666134	0.957	1.084
Spiked Amount 0.350			Recovery	=	273.43%	309.71%
Target Compounds						
1) TM EDB	5.76	7.22	972434	2609526	0.808	0.973
2) TM 1,2,3-TCP	9.26	10.46	227741	463381	0.877	1.031
4) TM DBCP	13.36	14.10	2768006	7910324	0.999	1.236

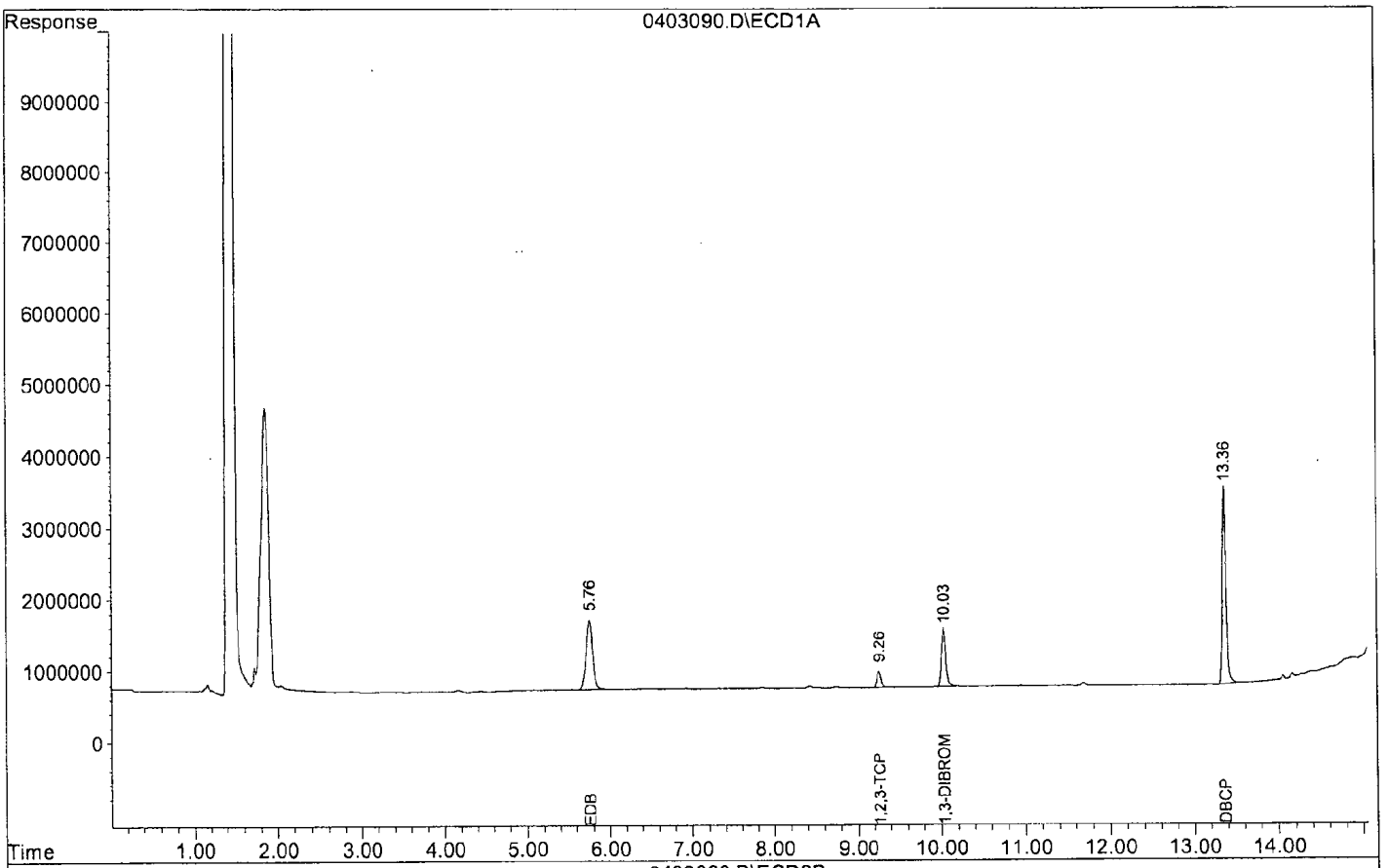
Target Compounds

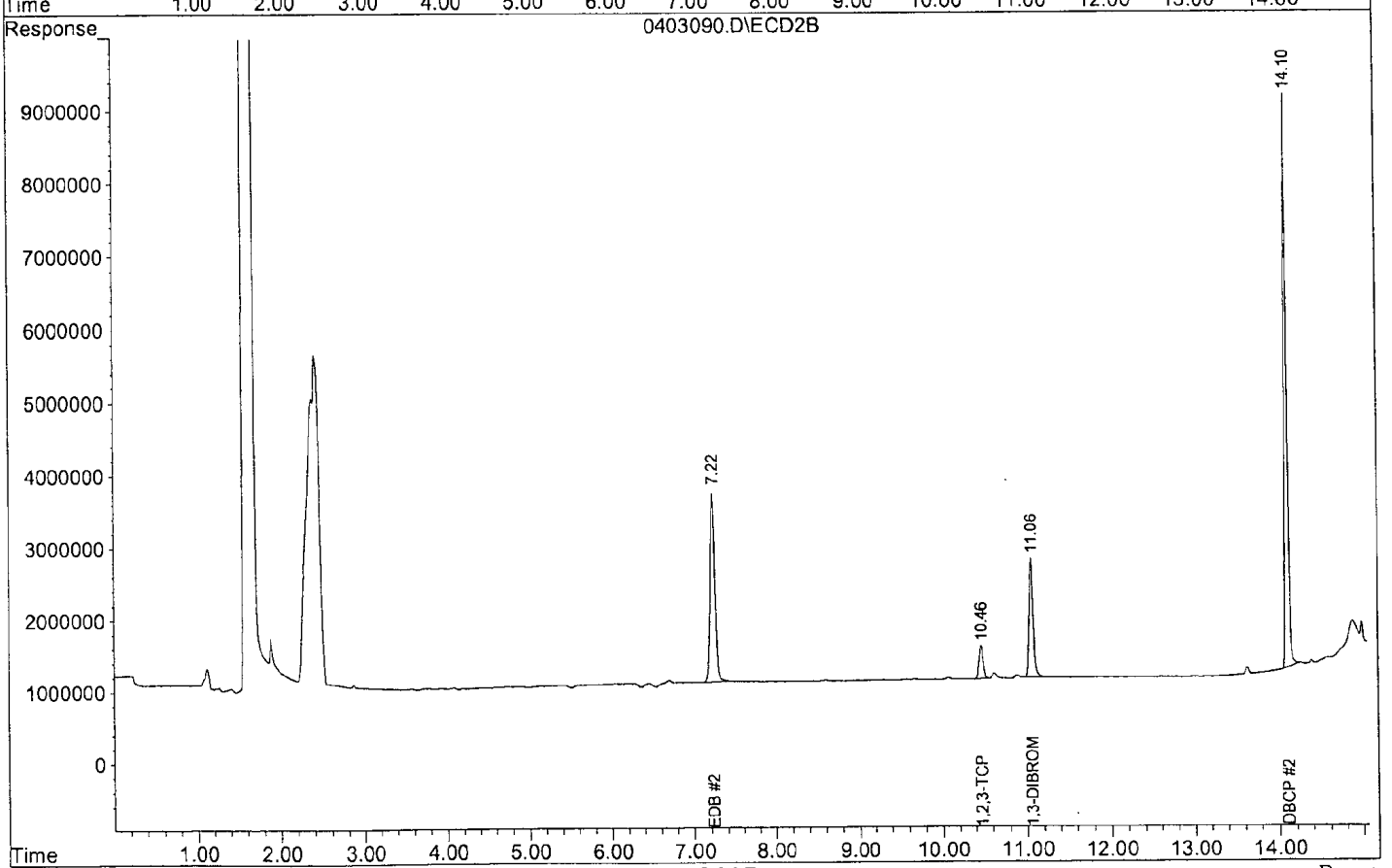
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403090.D
Acq On : 04-12-17 18:44:01
Sample : 8011 6 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 90
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Herbie
Initial Cal. Date: 04/12/17
Data File: 0403093.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	492557	588035	19	TM	
2	TML	1,2,3-TCP	128400	144965	13	TML	20
3	TM	DBCP	1343370	1715580	28	TM	*Not used
4							
5							
6							
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37							
38							
39							
40							
		Average			20.0		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/12/17
Instrument: Herbie
Cal. Date: 04/12/17
Data File: 0403093.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1246790	1371570	10	TM	
42	TM	1,2,3-TCP	221917	262490	18	TM	
43	TM	DBCP	3551470	3983490	12	TM	
44							
45							
46							
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78							
79							
80							
		Average			13.3		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403093.D\ECD1A.CH Vial: 93
Signal #2 : G:\HERBIE\DATA\170403\0403093.D\ECD2B.CH
Acq On : 04-12-17 19:47:56 Operator: RH
Sample : 170412A LCS-1 2/35.30G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:52 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	336171	663789	0.401	0.419
Spiked Amount 0.347			Recovery	=	115.55%	120.74%
Target Compounds						
1) TM EDB	5.76	7.22	117607	274313	0.118 ✓	0.109
2) TM 1,2,3-TCP	9.26	10.47	28993	52498	0.119	0.117
4) TM DBCP	13.37	14.10	343116	796698	0.127	0.111

Target Compounds

Algorithum check = $\frac{117607 * 0.99}{492557 * 2} = \frac{116430.93}{985114}$

= 0.118 ✓

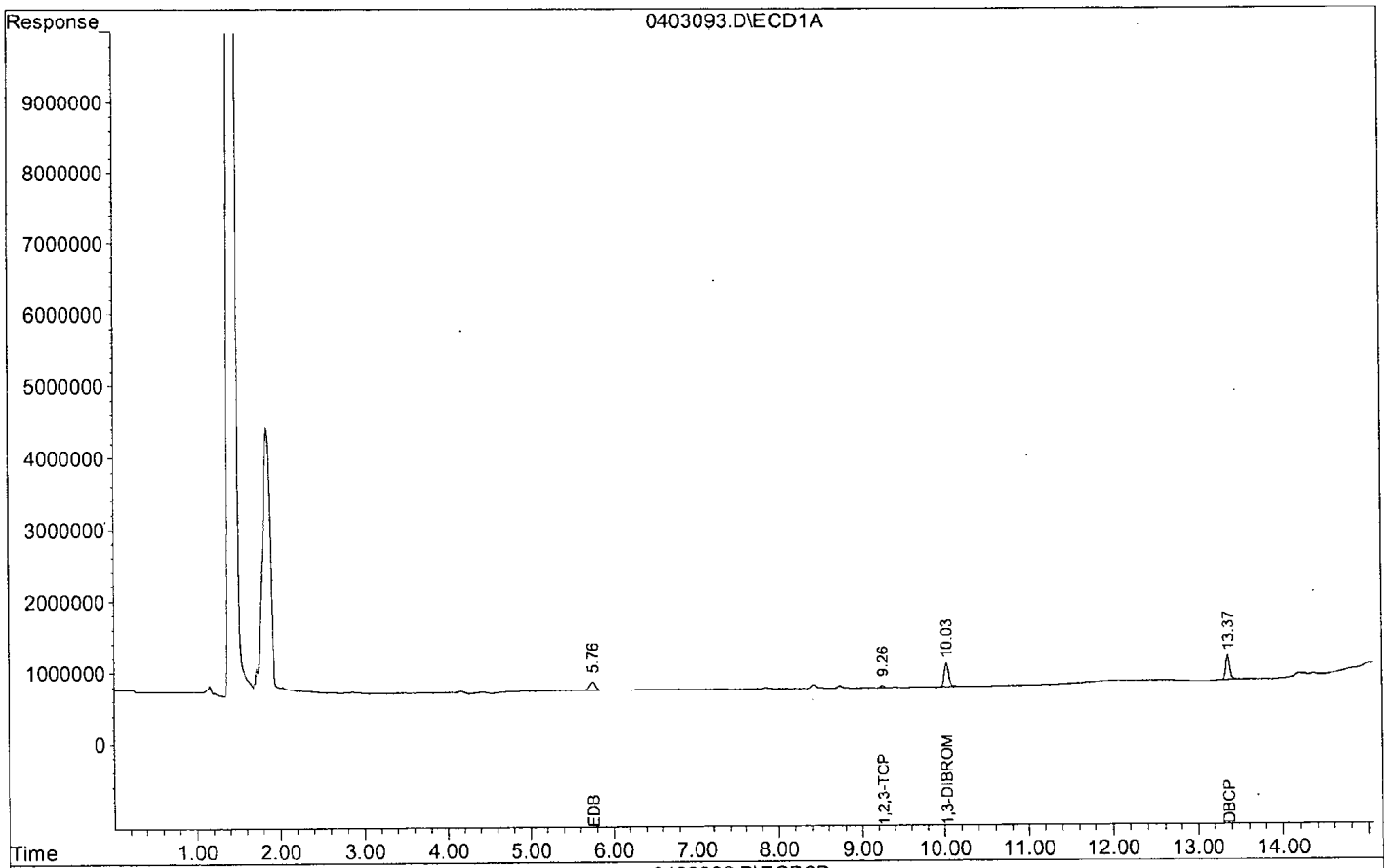
RH 4/13/17

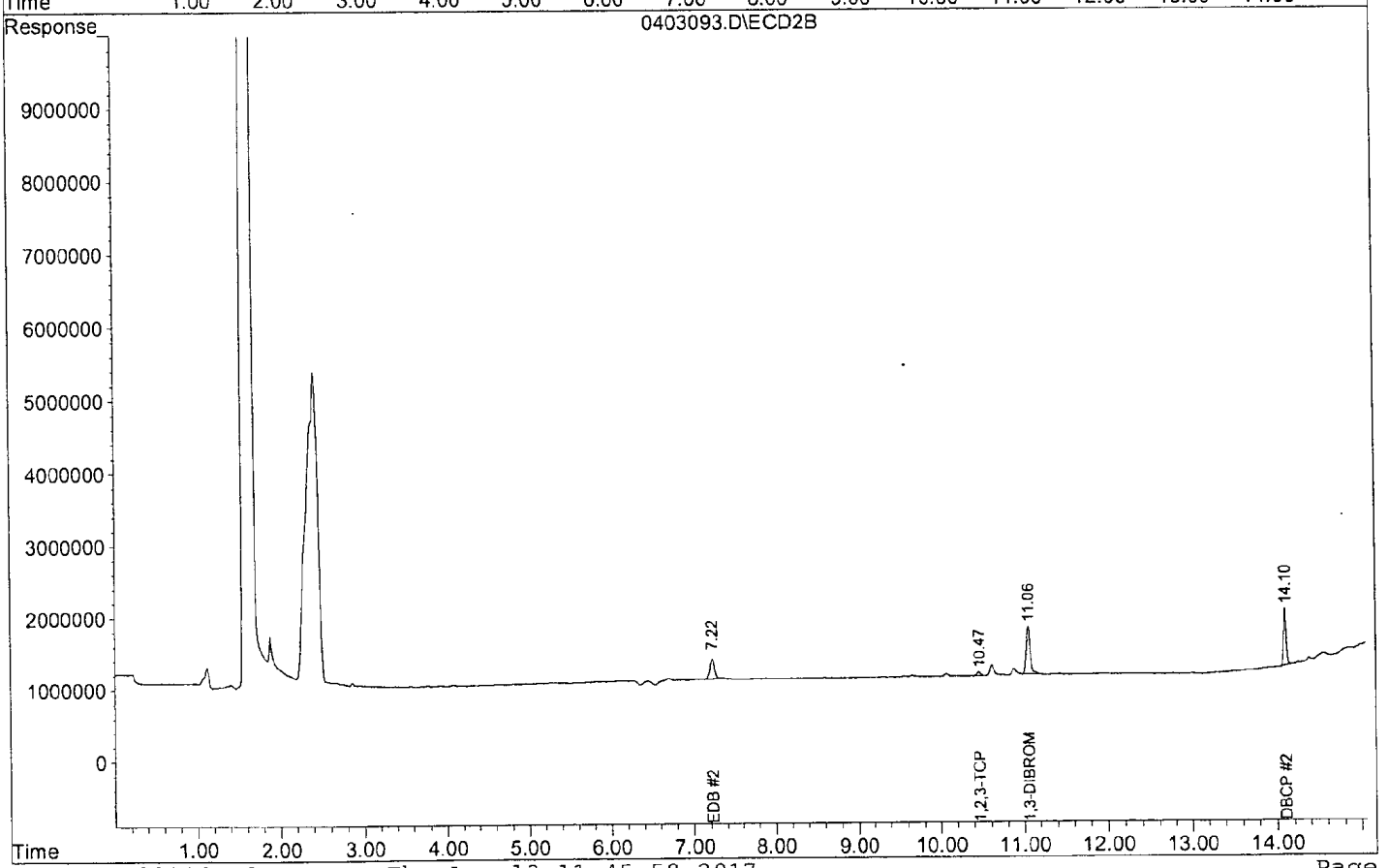
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0403093.D 80110413.M Thu Apr 13 11:45:57 2017

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403093.D
Acq On : 04-12-17 19:47:56
Sample : 170412A LCS-1 2/35.30G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 93
Operator: RH
Inst : Herbie
Multiplr: 0.99





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Herbie
Initial Cal. Date: 04/12/17
Data File: 0403108.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	492557	518036	5.2	TM	
2	TML	1,2,3-TCP	128400	119664	6.8	TML	4.4
3	S	1,3-DIBROMOPROPANE(S)	416037	445916	7.2	S	
4	TM	DBCP	1343370	1360940	1.3	TM	
5							
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35							
36							
37							
38							
39							
40							
		Average			5.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/13/17
Instrument: Herbie
Cal. Date: 04/12/17
Data File: 0403108.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1246790	1283360	2.9	TM	
42	TM	1,2,3-TCP	221917	227240	2.4	TM	
43	S	1,3-DIBROMOPROPANE(S)	785502	800272	1.9	S	
44	TM	DBCP	3551470	3654750	2.9	TM	
45							
46							
47							
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75							
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78							
79							
80							
		Average			2.5		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403108.D\ECD1A.CH Vial: 8
Signal #2 : G:\HERBIE\DATA\170403\0403108.D\ECD2B.CH
Acq On : 04-13-17 1:03:19 Operator: RH
Sample : 8011 3 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	222958	400136	0.268	0.255
Spiked Amount 0.350			Recovery	=	76.57%	72.86%
Target Compounds						
1) TM EDB	5.76	7.22	259018	641682	0.263	0.257
2) TM 1,2,3-TCP	9.26	10.47	59832	113620	0.261	0.256
4) TM DBCP	13.37	14.10	680469	1827374	0.253	0.257

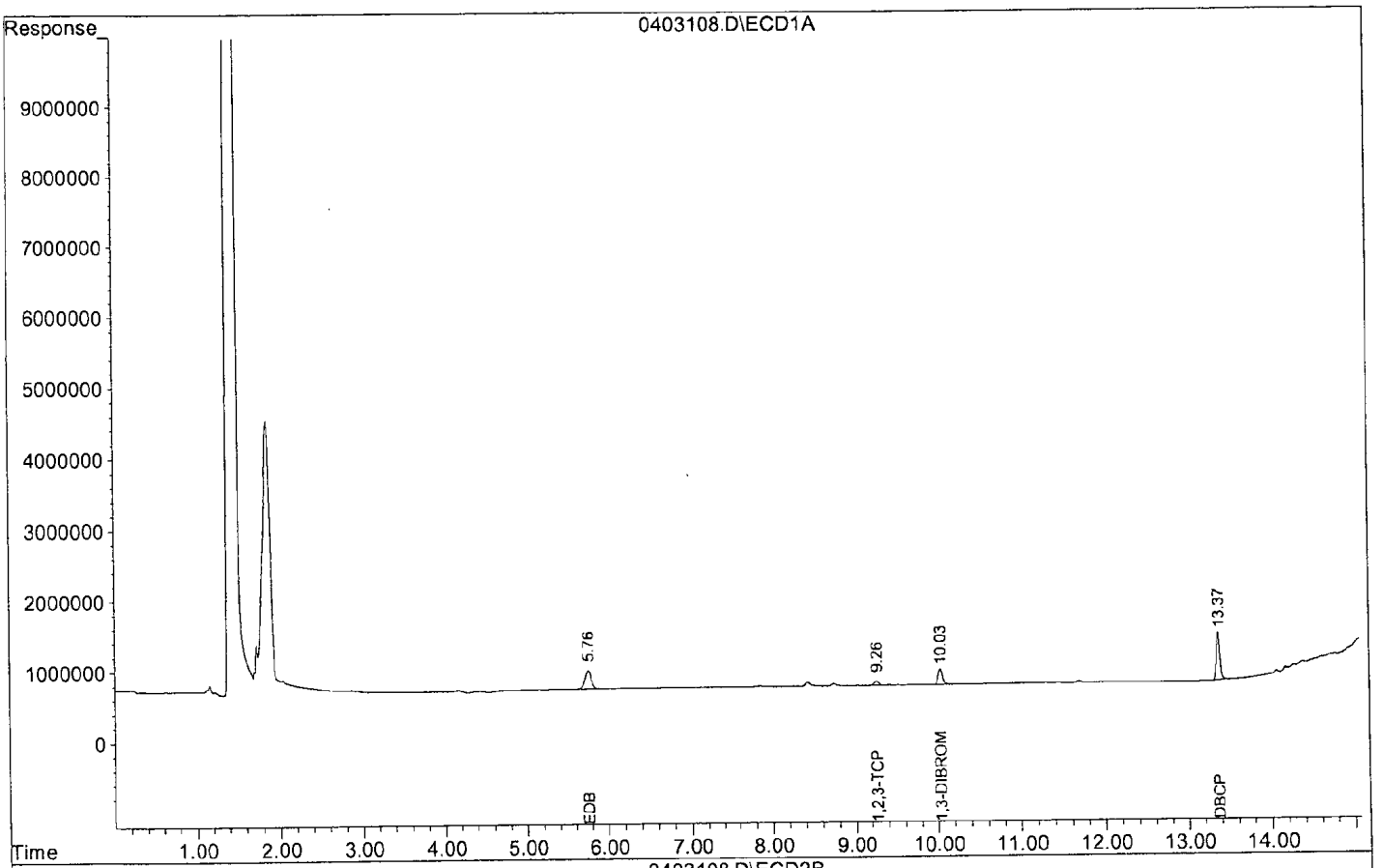
Target Compounds

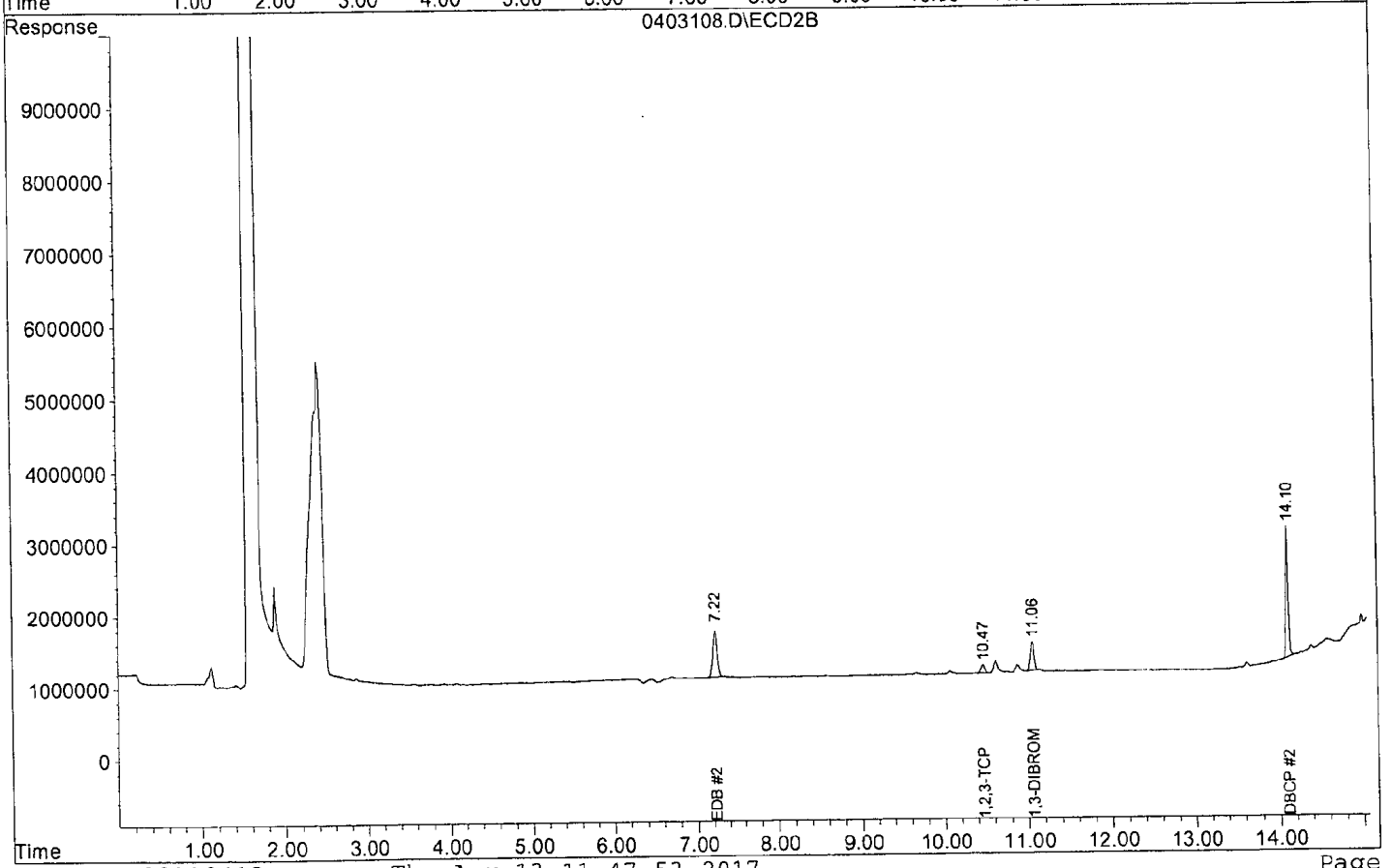
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403108.D
Acq On : 04-13-17 1:03:19
Sample : 8011 3 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 8
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53259 - 217825**
Batch ID: #8011-170412A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	118	70-132			%	04/12/17	04/12/17

Quant Method:80110413.M
Run #:0403092
Instrument:Herbie
Sequence:170403
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 05/03/17 10:23:00 AM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403092.D\ECD1A.CH Vial: 92
Signal #2 : G:\HERBIE\DATA\170403\0403092.D\ECD2B.CH
Acq On : 04-12-17 19:26:37 Operator: RH
Sample : 170412A BLK 2/35.40G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:41 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

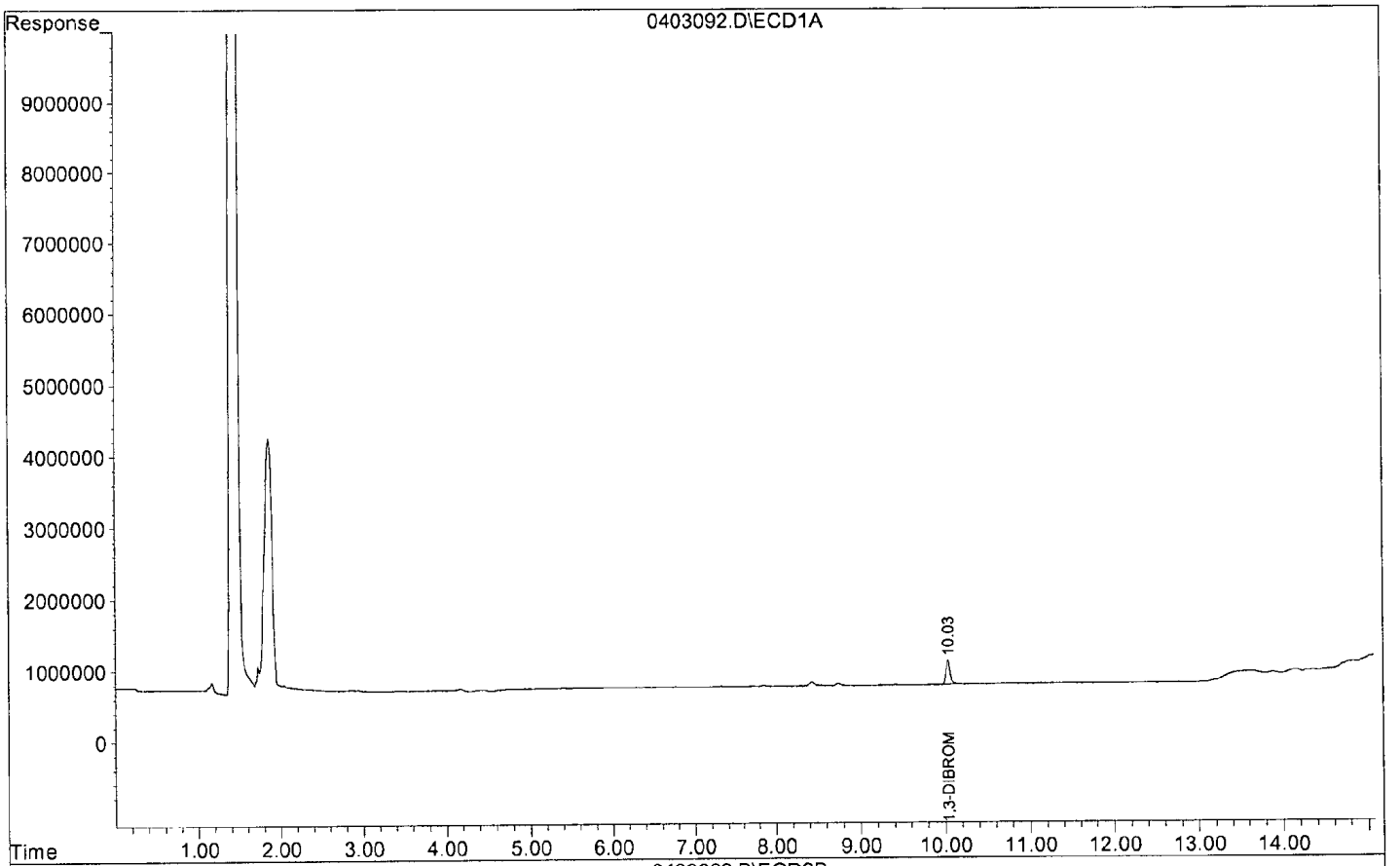
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	336230	646228	0.400	0.407
Spiked Amount 0.346			Recovery	=	115.59%	117.61%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

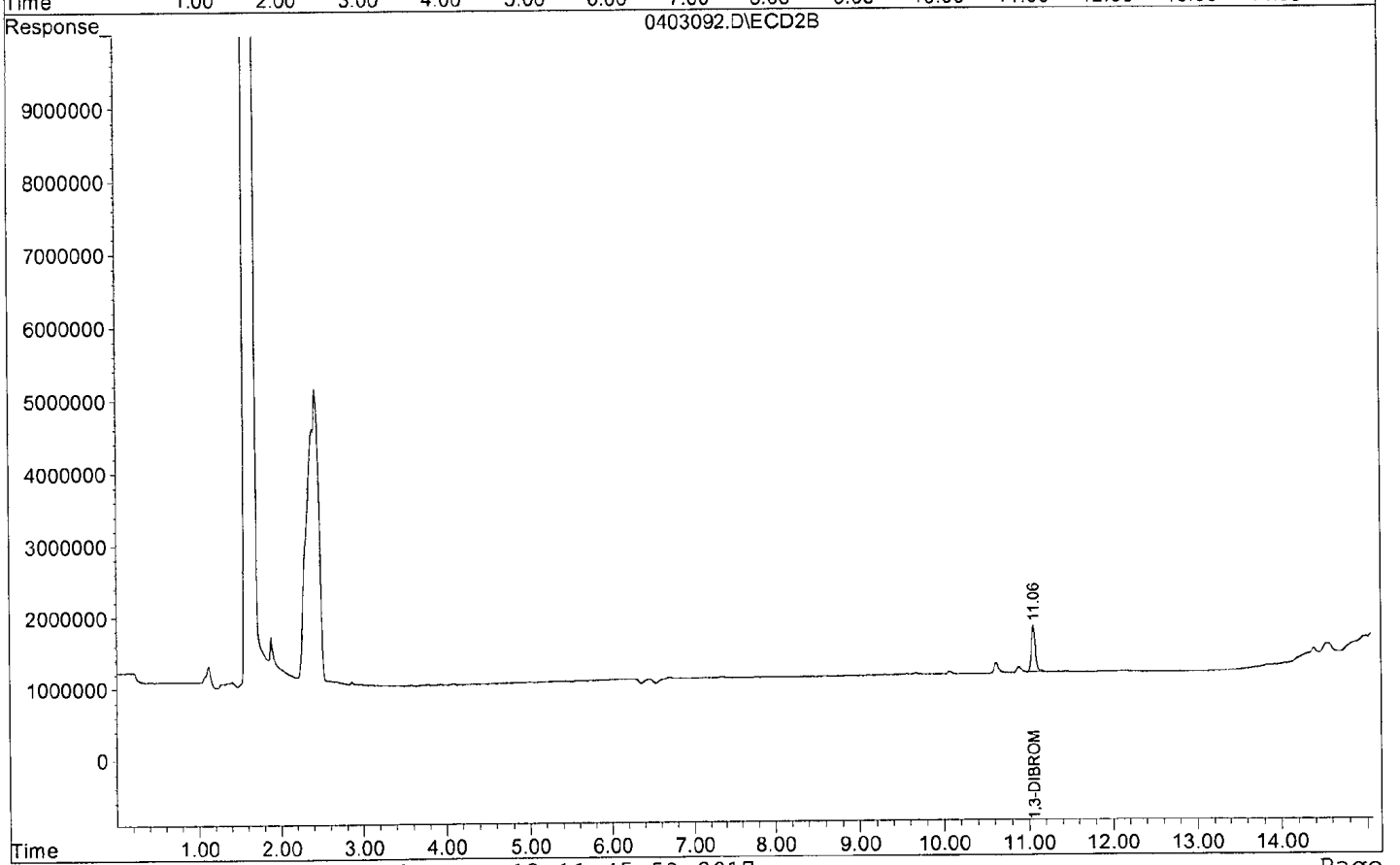
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403092.D
Acq On : 04-12-17 19:26:37
Sample : 170412A BLK 2/35.40G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 92
Operator: RH
Inst : Herbie
Multiplr: 0.99





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170412W-53259 LCS - 217825**
Batch ID: #8011-170412A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.286	114	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.293	83.7	70-132

Comments: _____

Primary	SPK
Quant Method :	80110413.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Herbie
Run :	0403094
Initials :	RHA

Printed: 05/03/17 10:22:55 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403094.D\ECD1A.CH Vial: 94
Signal #2 : G:\HERBIE\DATA\170403\0403094.D\ECD2B.CH
Acq On : 04-12-17 20:09:07 Operator: RH
Sample : 170412A LCS-2 2/35.17G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	247048	462599	0.295	0.293
Spiked Amount 0.348			Recovery	=	84.70%	84.12%
Target Compounds						
1) TM EDB	5.76	7.22	285166	716949	0.288	0.286
2) TM 1,2,3-TCP	9.26	10.46	65725	123525	0.287	0.277
4) TM DBCP	13.37	14.10	751641	1944432	0.278	0.272

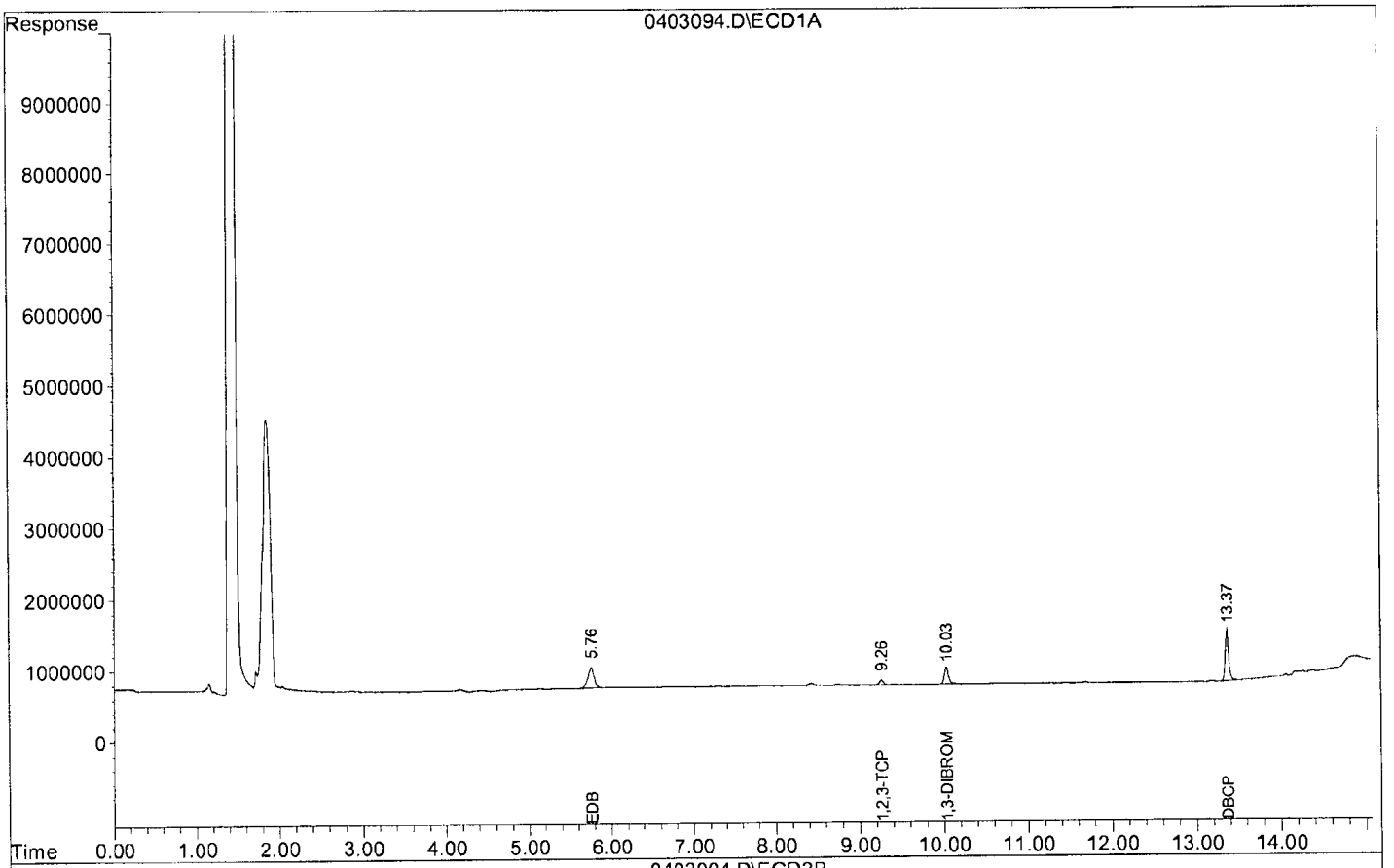
Target Compounds

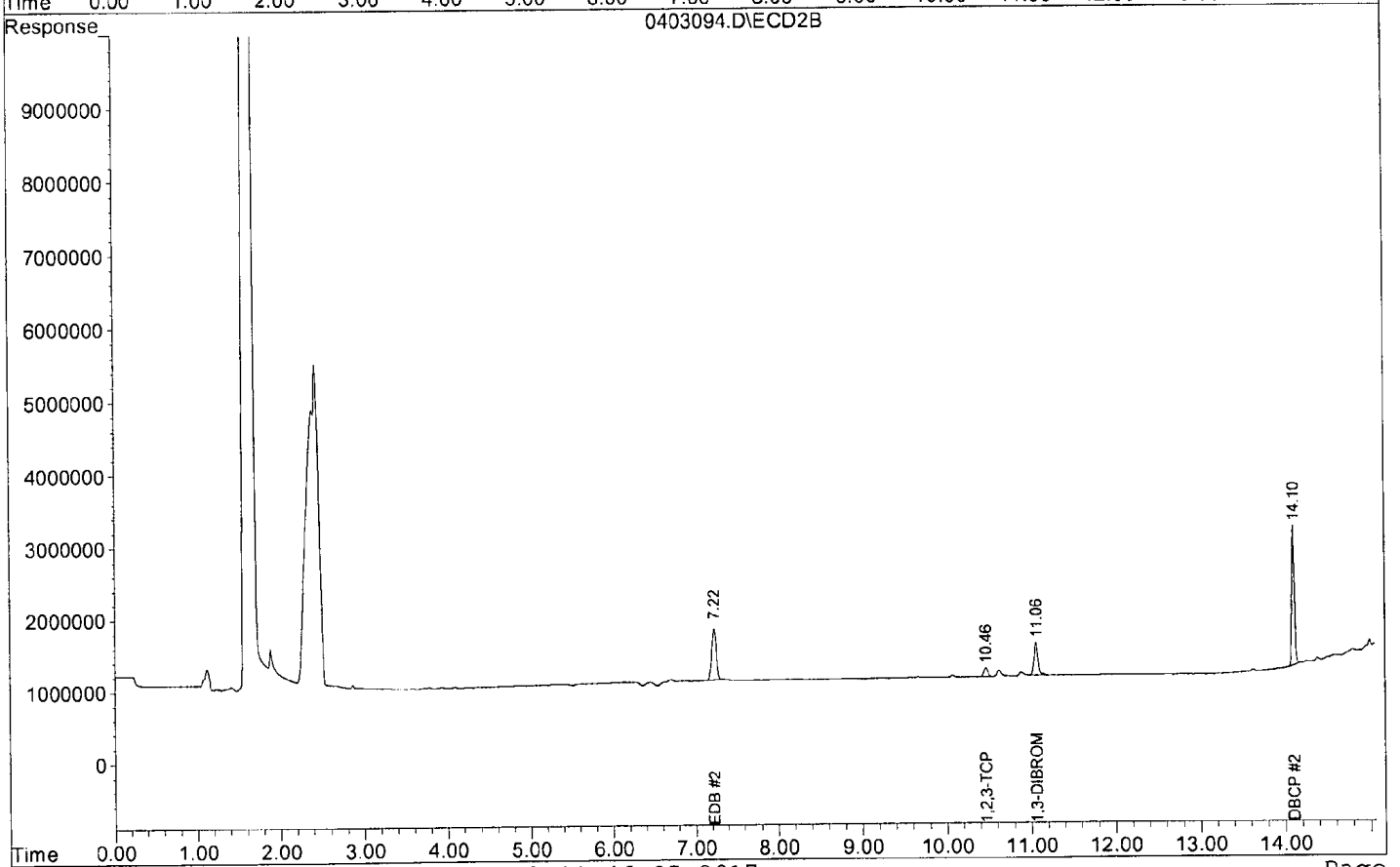
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403094.D
Acq On : 04-12-17 20:09:07
Sample : 170412A LCS-2 2/35.17G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 94
Operator: RH
Inst : Herbie
Multiplr: 1.00





		504/8011 M STD					
Prep: 04/12/17 Exp: 06/07/17 RH							
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**	
EDB	0.35ug/mL	504/8011 M STD STK	1000uL	10mL	0.035ug/mL	Methanol	
TCP		prep. 04/12/17				010616A	
DBCP		exp: 06/07/17					
1,3 DBP							

504/8011 M STD STOCK							
Prep: 04/12/17-R.H.		exp: 06/07/17					
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**	
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol	
TCP		prep. 06/07/16				010616A	
DBCP		exp: 06/07/17					
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL				
		prep.06/07/16					
		exp. 06/07/17					

504 DOHS STOCK prep: 6/7/16 Exp: 6/7/17 LH						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	1000ug/mL	O2SI	500uL	25mL	20ug/mL	Methanol
TCP	Cat:	130271-08				Lot # 021915C
DBCP	Lot:	270815-36134				
	Op:	06/07/16				
	Exp:	06/07/17				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

		504/8011 SS				
Prep: 02/10/17 RH Ex: 05/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 05/18/17				

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 05/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 5/18/17						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170412A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 5-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 5-18-17	
Spiked ID 2	504.1 M. STD 4-12-17 exp 6-7-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/12/17 15:10	
Spiked ID 8			Ext. End Time:	04/12/17 16:00	
			GC Requires Extract By:	04/12/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 04/12/17 **Witnessed By:** CFM **Date** 04/12/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170412A Blk				0.035	1 equip	35.40g	2	7	04/12/17 15:10	
2	170412A LCS-1		0.1	1	0.035	1 equip	35.30g	2	7	04/12/17 15:10	
3	170412A LCS-2		0.250	2	NA	NA equip	35.17g	2	7	04/12/17 15:10	
4	AZ53167	AZ53167W04			0.035	1 equip	34.65g	2	7	04/12/17 15:10	82619
5	AZ53168 MS-1	AZ53168W17	0.1	1	0.035	1 equip	34.41g	2	7	04/12/17 15:10	82619
6	AZ53168 MSD-1	AZ53168W18	0.1	1	0.035	1 equip	34.64g	2	7	04/12/17 15:10	82619
7	AZ53168 MS-2	AZ53168W19	0.250	2	NA	NA equip	34.59g	2	7	04/12/17 15:10	82619
8	AZ53168 MSD-2	AZ53168W20	0.250	2	NA	NA equip	34.88g	2	7	04/12/17 15:10	82619
9	AZ53168	AZ53168W16			0.035	1 equip	34.84g	2	7	04/12/17 15:10	82619
10	AZ53169	AZ53169W05			0.035	1 equip	34.84g	2	7	04/12/17 15:10	82619
11	AZ53170	AZ53170W06			0.035	1 equip	34.26g	2	7	04/12/17 15:10	82619
12	AZ53259	AZ53259W06			0.035	1 equip	34.48g	2	7	04/12/17 15:10	82611
13	AZ53260	AZ53260W07			0.035	1 equip	34.68g	2	7	04/12/17 15:10	82611
14	AZ53261	AZ53261W04			0.035	1 equip	35.05g	2	7	04/12/17 15:10	82611
15	M STD 1		0.020	2	NA	NA equip	35.41g	2	7	04/12/17 15:10	
16	M STD 2		0.100	2	NA	NA equip	35.56g	2	7	04/12/17 15:10	

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	dp 966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:20
Refrigerator	Hobert

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,DL
Concentration	----------

Modified	04/12/17 4:12:25 PM

Reviewed By: Ky **Date** 4/12/17

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170412A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 5-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 5-18-17	
Spiked ID 2	504.1 M. STD 4-12-17 exp 6-7-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/12/17 15:10	
Spiked ID 8			Ext. End Time:	04/12/17 16:00	
			GC Requires Extract By:	04/12/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 04/12/17 **Witnessed By:** CFM **Date** 04/12/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 3		0.250	2	NA	NA equip	35.54g	2	7	04/12/17 15:10	
18	M STD 4		0.5	2	NA	NA equip	35.53g	2	7	04/12/17 15:10	
19	M STD 5		0.750	2	NA	NA equip	35.33g	2	7	04/12/17 15:10	
20	M STD 6		1	2	NA	NA equip	35.41g	2	7	04/12/17 15:10	

KY 4/12/17

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	dp 966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,DL
Concentration	----------

Modified	04/12/17 4:12:25 PM

Reviewed By: KY **Date** 4/12/17

Injection Log

Directory: G:\HERBIE\DATA\170403\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	85	0403085.D	1	8011 1 4/12/17		04-12-17 16:57:00
2	86	0403086.D	1	8011 2 4/12/17		04-12-17 17:18:23
3	87	0403087.D	1	8011 3 4/12/17		04-12-17 17:39:50
4	88	0403088.D	1	8011 4 4/12/17		04-12-17 18:01:10
5	89	0403089.D	1	8011 5 4/12/17		04-12-17 18:22:32
6	90	0403090.D	1	8011 6 4/12/17		04-12-17 18:44:01
7	92	0403092.D	0.9887	170412A BLK 2/35.40G		04-12-17 19:26:37
8	93	0403093.D	0.9915	170412A LCS-1 2/35.30G		04-12-17 19:47:56
9	94	0403094.D	0.99517	170412A LCS-2 2/35.17G		04-12-17 20:09:07
10	3	0403103.D	1.01508	AZ53259W06 2/34.48G		04-12-17 23:18:58
11	4	0403104.D	1.00923	AZ53260W07 2/34.68G		04-12-17 23:39:51
12	5	0403105.D	0.99857	AZ53261W04 2/35.05G		04-13-17 0:00:50
13	8	0403108.D	1	8011 3 4/12/17		04-13-17 1:03:19

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170411W-53260 - 217942**
Batch ID: #DOC53-170411A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
BLANK	SURROGATE: OCTACOSANE (S)	85.2	60-142			%	04/11/17	04/18/17
BLANK	SURROGATE: ORTHO-TERPHEN	73.9	56-125			%	04/11/17	04/18/17

Quant Method: DOC0320.M
Run #: 411256
Instrument: Apollo
Sequence: 170411
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/18/17 4:04:24 PM

Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170411W-53260 LCS - 217942**
Batch ID: #DOC53-170411A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	426	63.9	36-132
OIL (C24-C40)	667	551	82.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	33.4	83.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	33.2	83.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/11/17
Analysis Date :	04/18/17
Instrument :	Apollo
Run :	411257
Initials :	DPO

Printed: 04/18/17 4:04:20 PM
APPL Standard LCS

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82611

Case No: 82611 Date Analyzed: 04/18/17

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170411A-BLK	Blank	60-142	85.2		56-125	73.9	
170411A-LCS	Lab Control Spike	60-142	83.5		56-125	83.0	
AZ53260	ERH297	60-142	83.0		56-125	72.0	
AZ53261	ERH298	60-142	82.5		56-125	71.3	
AZ53263	ERH321	60-142	84.4		56-125	73.1	
AZ53264	ERH289	60-142	87.2		56-125	74.4	
AZ53266	ERH303	60-142	84.1		56-125	72.0	

Comments: Batch: #DOC53-170411A

Printed: 04/18/17 4:04:21 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER
Blank ID: 170411A-BLK

SDG No: 82611
Date Analyzed: 04/18/17
Instrument: Apollo
Time Analyzed: 1310

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170411A-BLK	Blank	411256	04/18/17 1310
170411A-LCS	Lab Control Spike	411257	04/18/17 1331
AZ53260	ERH297	411259	04/18/17 1412
AZ53261	ERH298	411260	04/18/17 1433
AZ53263	ERH321	411261	04/18/17 1453
AZ53264	ERH289	411262	04/18/17 1514
AZ53266	ERH303	411263	04/18/17 1536

Comments: Batch: #DOC53-170411A

Printed: 04/18/17 4:04:15 PM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #DOC53-170411A-217942

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	83.0	60-142			%	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	72.0	56-125			%	04/11/17	04/18/17

Quant Method: DOC0320.M
Run #: 411259
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/18/17 4:04:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411259.D Vial: 59
Acq On : 4-18-17 14:12:20 Operator: DP
Sample : AZ53260W17 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 15:18 2017 Quant Results File: DOC0320.RES

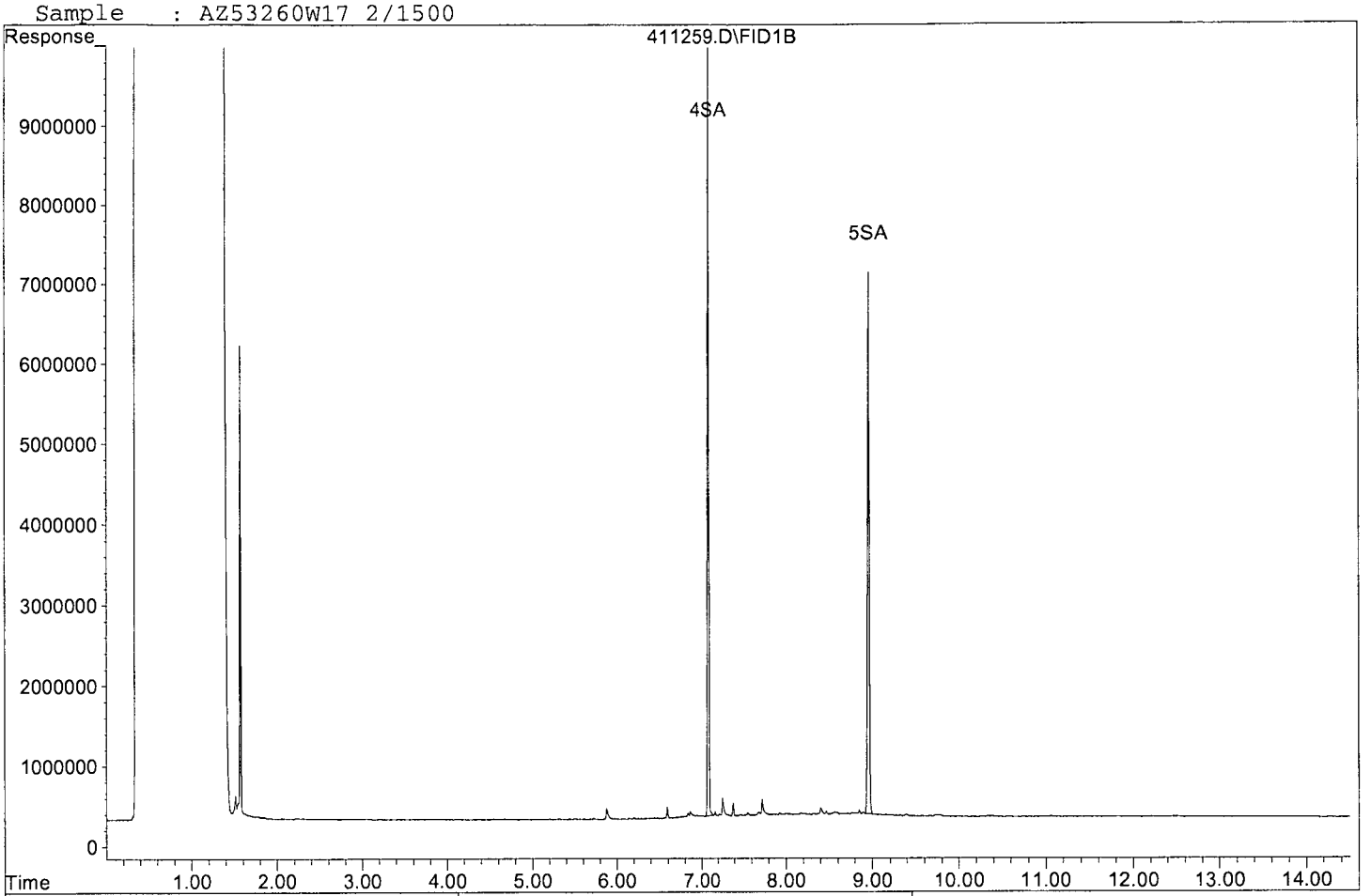
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

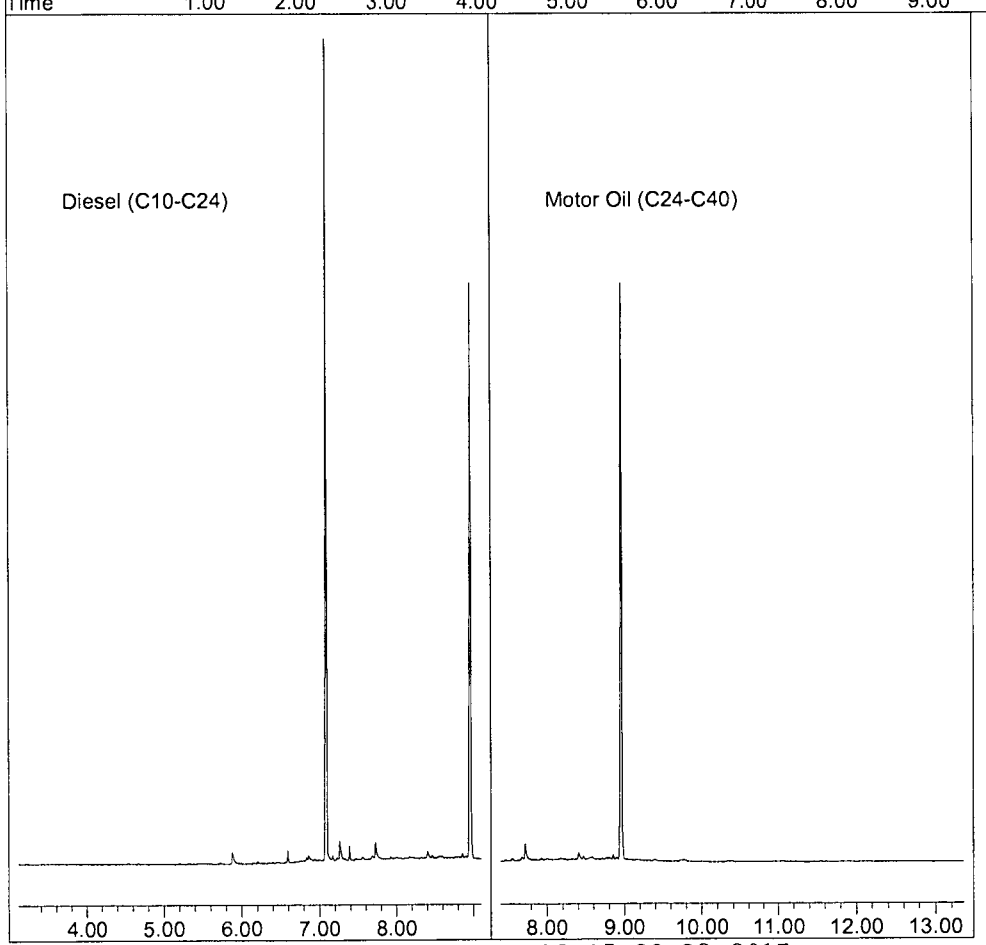
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	98974556	28.794 ppb
Surrogate Spike 40.000		Recovery =	71.99%
5) SA Octacosane(S)	8.96	86104668	33.197 ppb
Surrogate Spike 40.000		Recovery =	82.99%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411259.D
Sample : AZ53260W17 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #DOC53-170411A-217942

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	82.5	60-142			%	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	71.3	56-125			%	04/11/17	04/18/17

Quant Method: DOC0320.M
Run #: 411260
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/18/17 4:04:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411260.D
Acq On : 4-18-17 14:33:02
Sample : AZ53261W07 2/1500
Misc : water
IntFile : events.e
Quant Time: Apr 18 15:18 2017 Quant Results File: DOC0320.RES

Vial: 60
Operator: DP
Inst : Apollo
Multiplr: 1.33

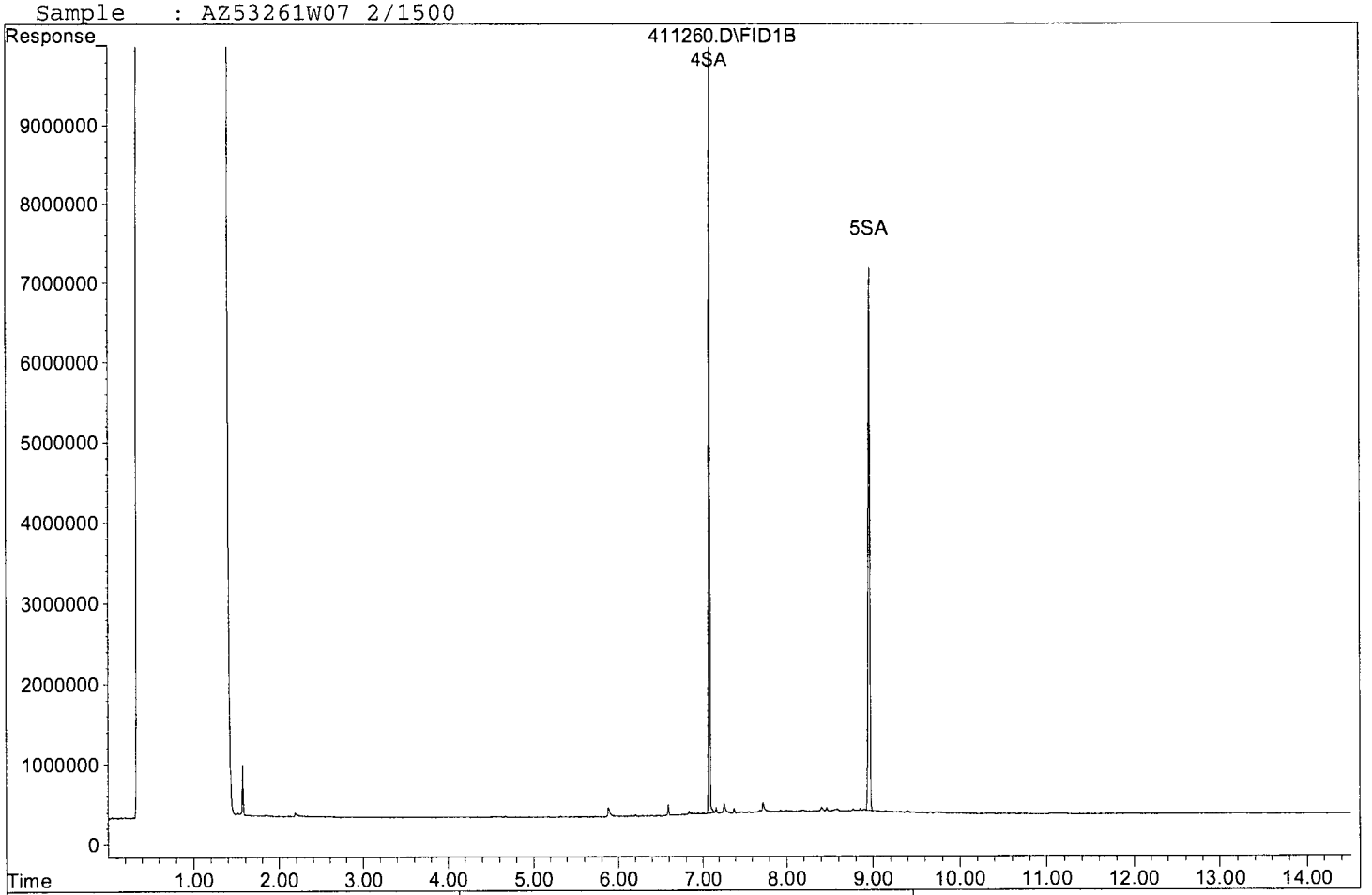
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

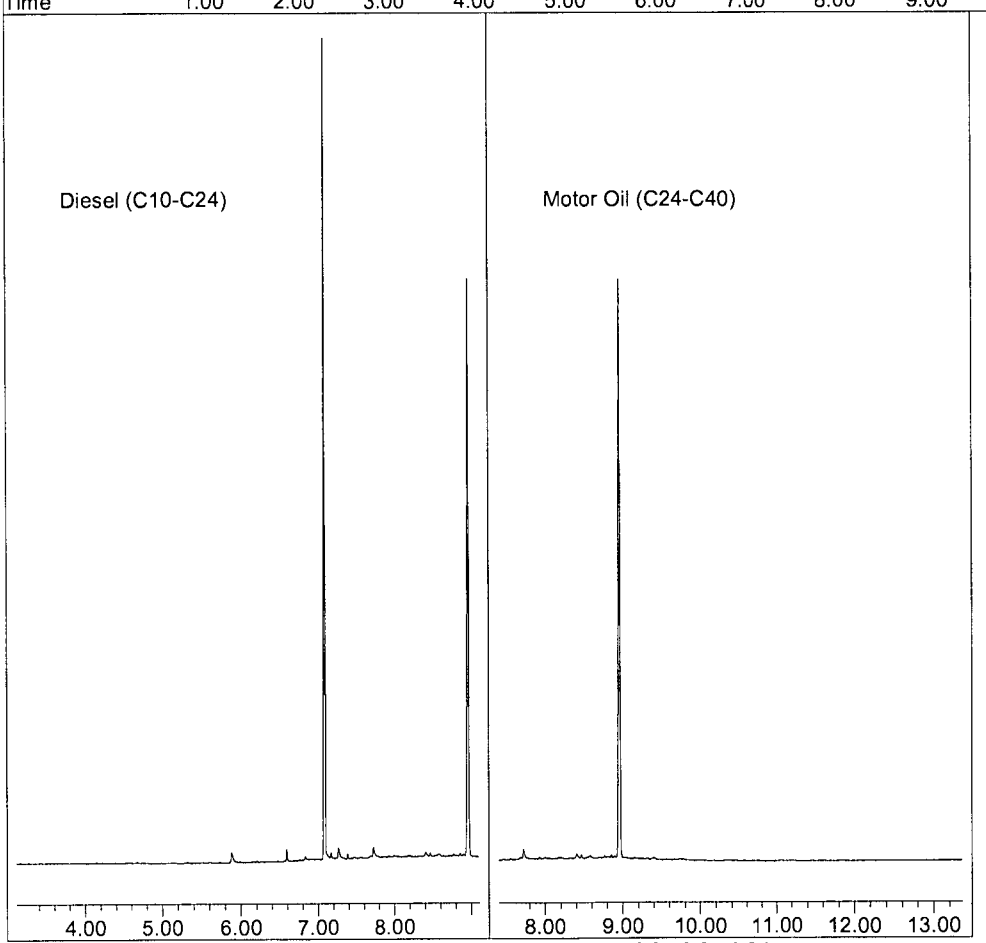
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	98044897	28.524 ppb
Surrogate Spike 40.000		Recovery =	71.31%
5) SA Octacosane(S)	8.96	85576313	32.994 ppb
Surrogate Spike 40.000		Recovery =	82.49%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411260.D
Sample : AZ53261W07 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #DOC53-170411A-217942

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	84.4	60-142			%	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	73.1	56-125			%	04/11/17	04/18/17

Quant Method: DOC0320.M
Run #: 411261
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/18/17 4:04:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411261.D Vial: 61
Acq On : 4-18-17 14:53:53 Operator: DP
Sample : AZ53263W10 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 15:18 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

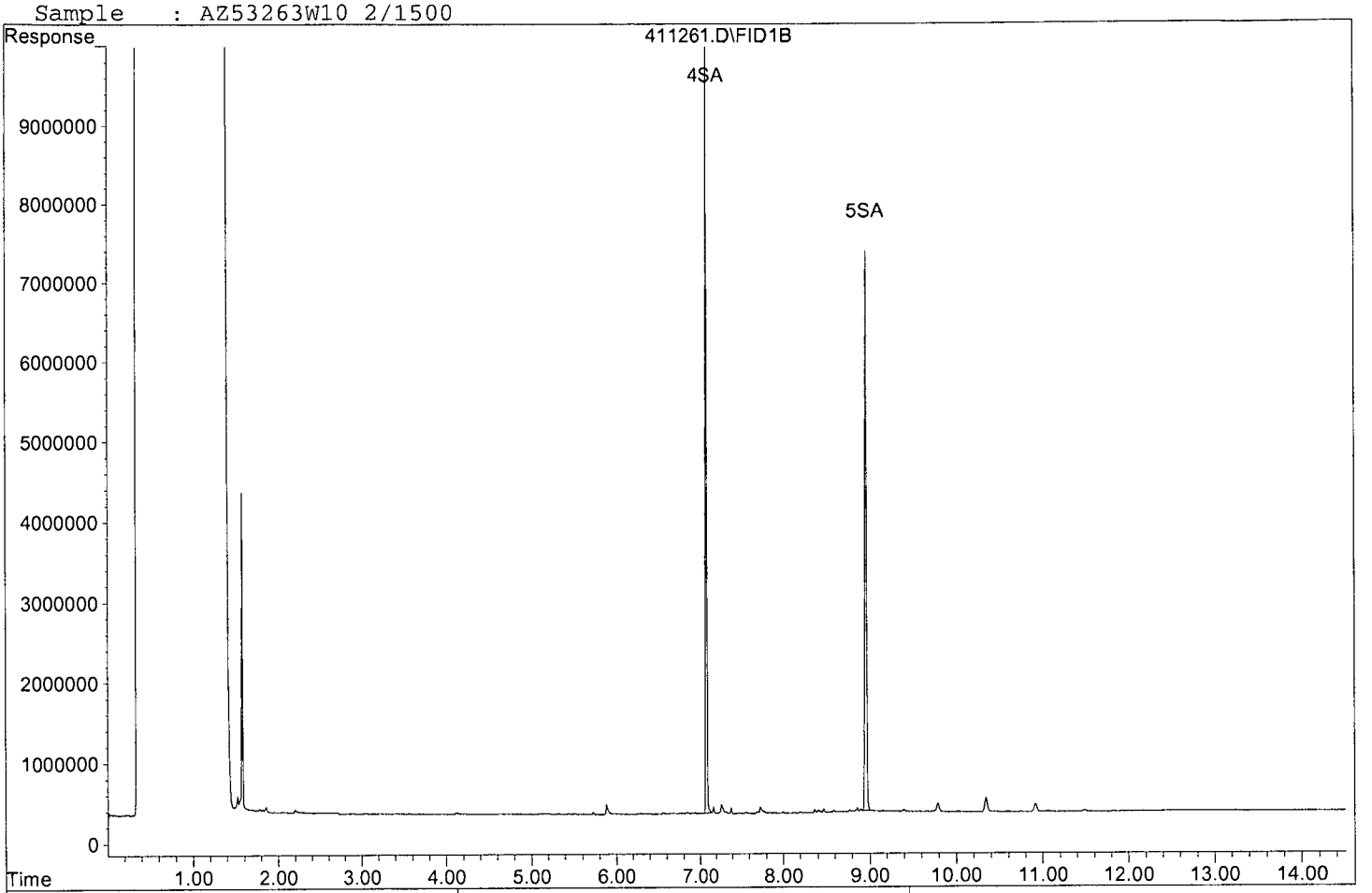
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

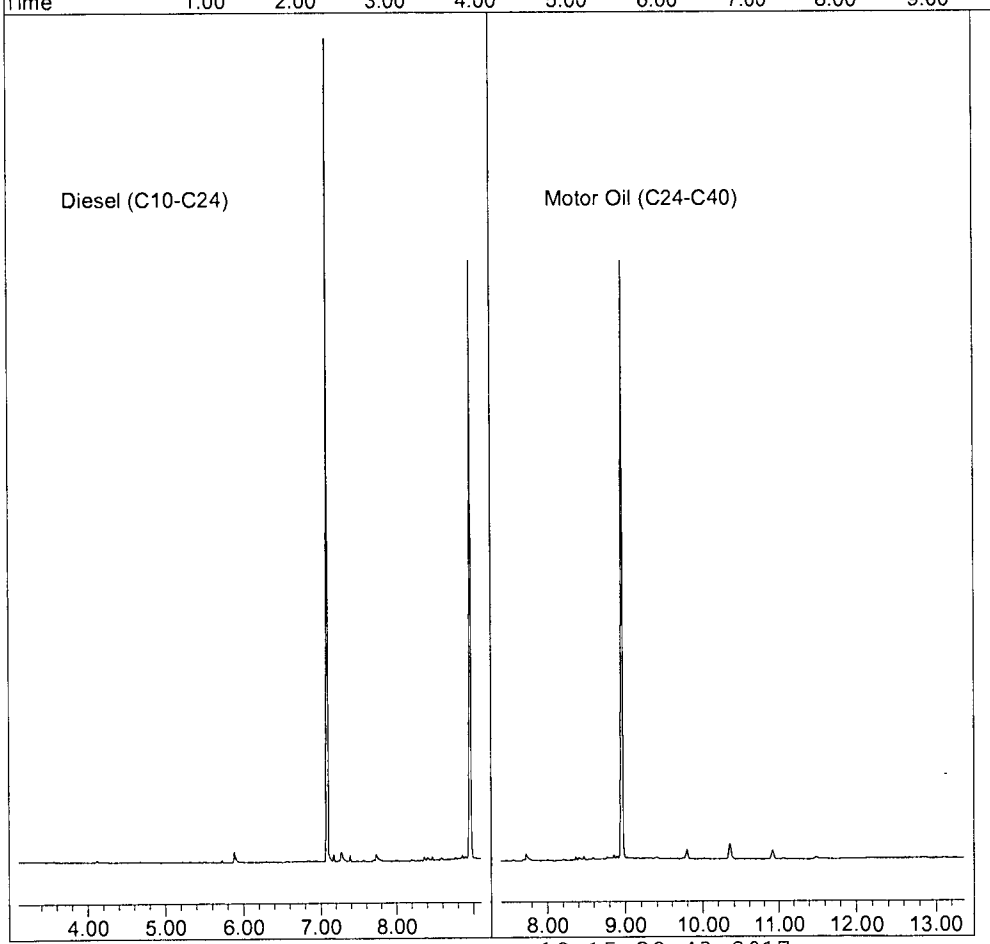
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	100463843	29.228 ppb
Surrogate Spike 40.000		Recovery =	73.07%
5) SA Octacosane(S)	8.96	87509846	33.739 ppb
Surrogate Spike 40.000		Recovery =	84.35%

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411261.D
Sample : AZ53263W10 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH289
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53264
QCG: #DOC53-170411A-217942

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	87.2	60-142			%	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	74.4	56-125			%	04/11/17	04/18/17

Quant Method: DOC0320.M
Run #: 411262
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/18/17 4:04:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411262.D Vial: 62
Acq On : 4-18-17 15:14:57 Operator: DP
Sample : AZ53264W06 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 15:29 2017 Quant Results File: DOC0320.RES

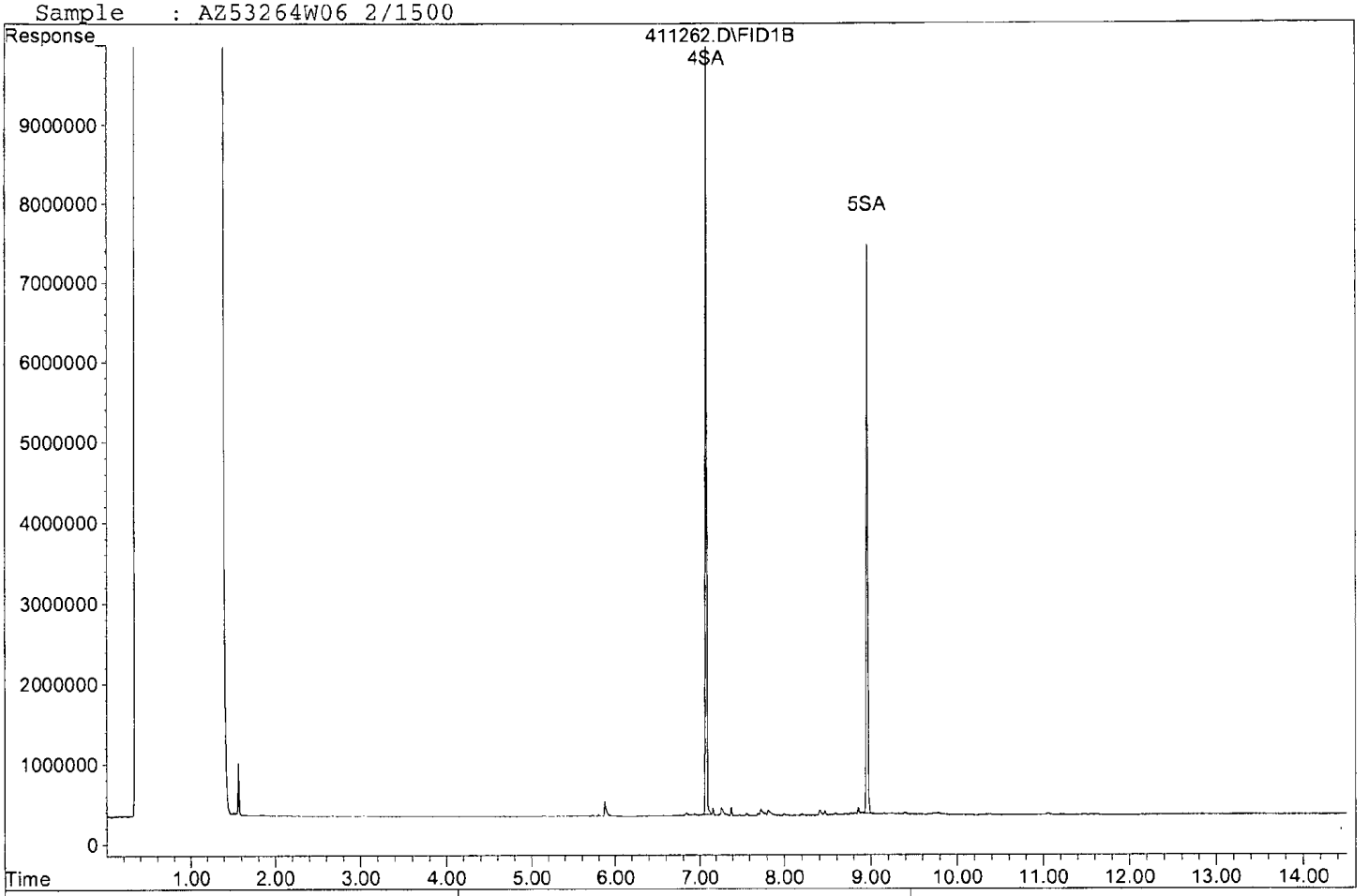
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

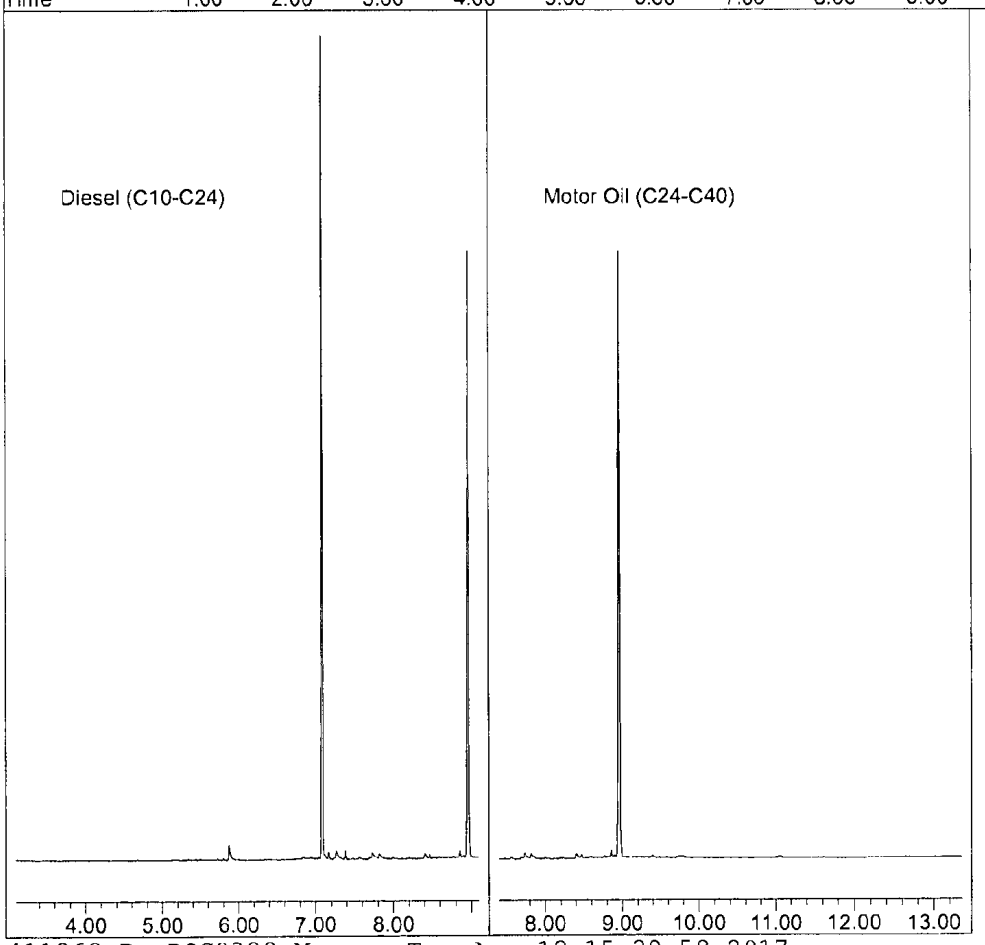
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	102343762	29.774 ppb
Surrogate Spike 40.000		Recovery =	74.44%
5) SA Octacosane(S)	8.96	90482491	34.885 ppb
Surrogate Spike 40.000		Recovery =	87.21%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411262.D
Sample : AZ53264W06 2/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #DOC53-170411A-217942

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	47 ++	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
EPA 8015B-eL	OIL (C24-C40)	47	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	84.1	60-142			%	04/11/17	04/18/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	72.0	56-125			%	04/11/17	04/18/17

++(T3M) The analyst has noted that the chromatogram of this sample is mainly higher boiling hydrocarbons.

Quant Method: DOC0320.M
Run #: 411263
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/18/17 4:04:14 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411263.D Vial: 63
Acq On : 4-18-17 15:36:04 Operator: DP
Sample : AZ53266W11 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 15:51 2017 Quant Results File: DOC0320.RES

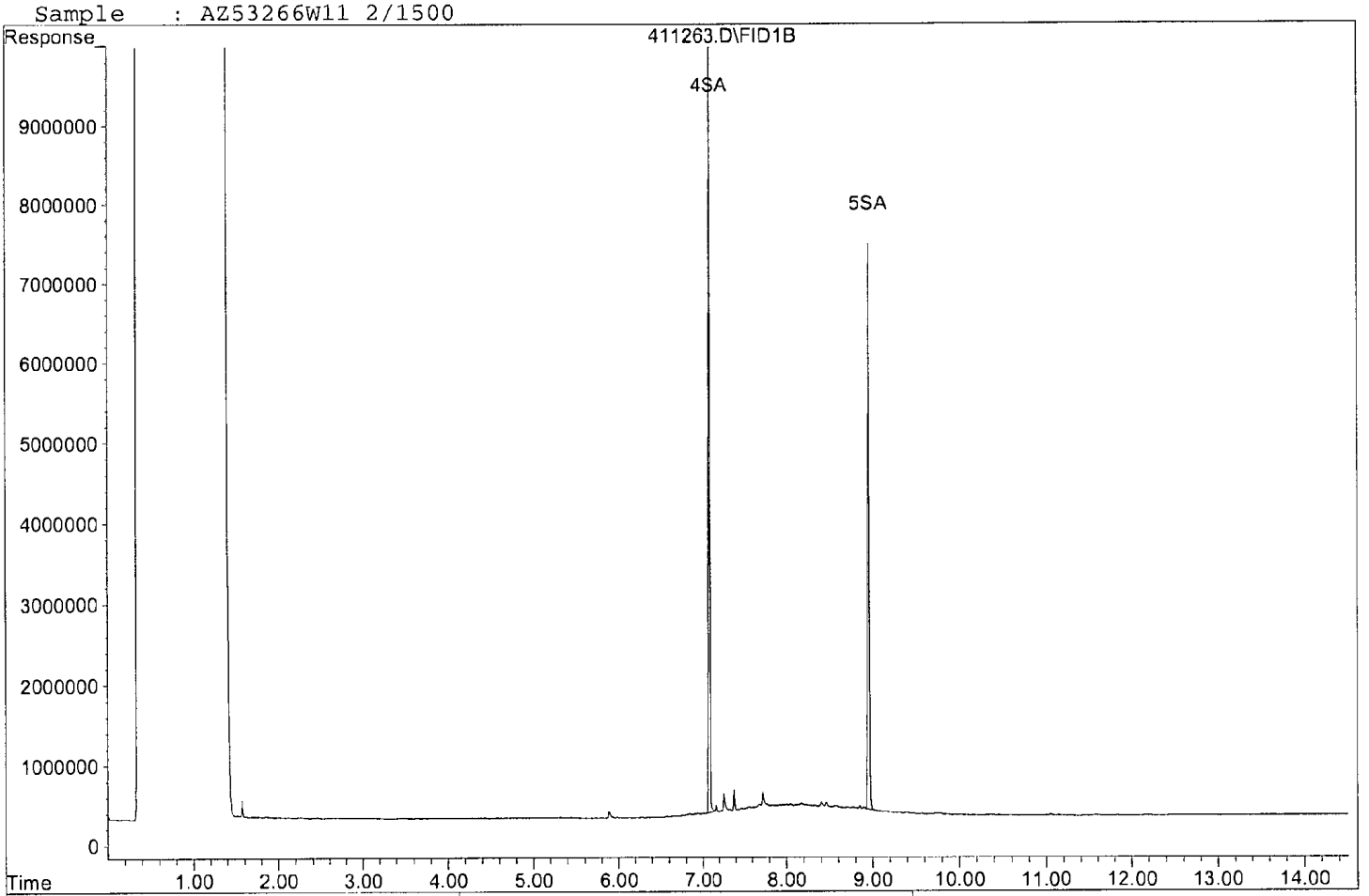
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

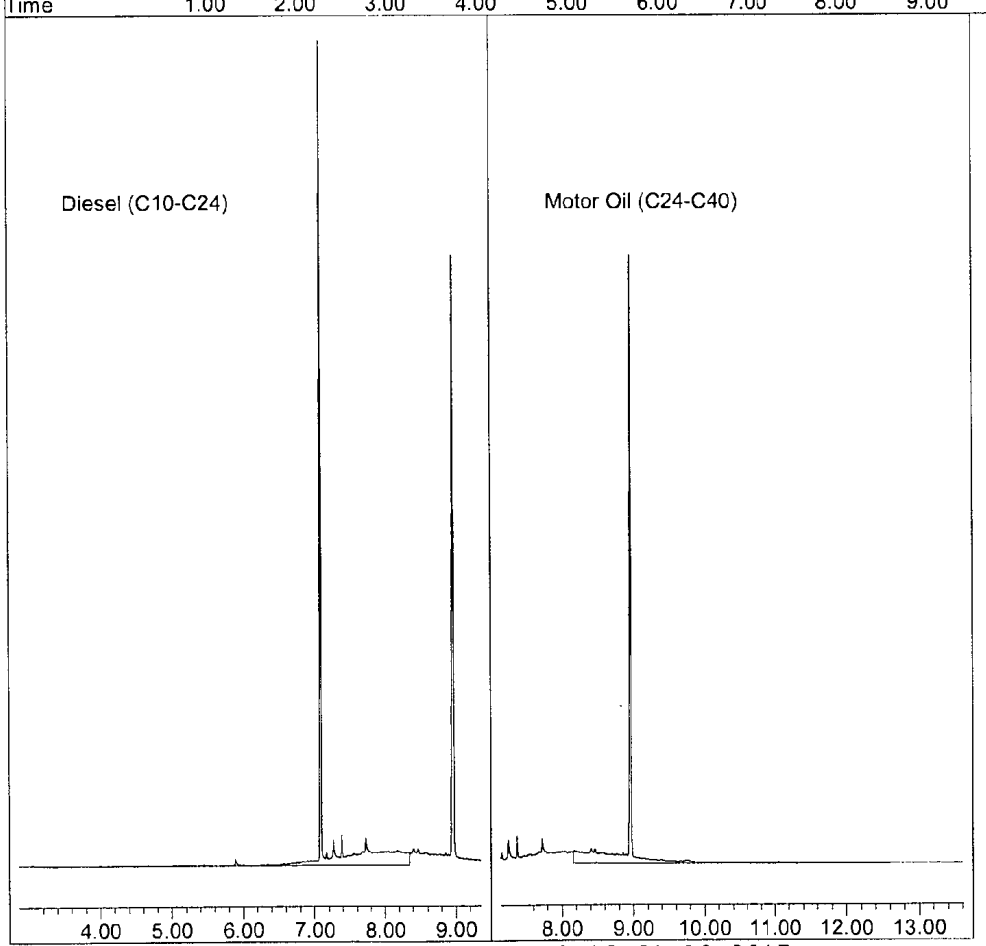
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	99035454	28.812 ppb
Surrogate Spike 40.000		Recovery =	72.03%
5) SA Octacosane(S)	8.96	87218146	33.627 ppb
Surrogate Spike 40.000		Recovery =	84.07%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	129302410	47.490 ppb
2) HBTM Motor Oil (C24-C40)	10.38	85899220	46.594 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411263.D
Sample : AZ53266W11 2/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0320

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/20/17
Instrument: Apollo

Initials:

Diesel:	320016.D	320017.D	320018.D	320019 D	320020.D	320021.D	
Motor Oil:	320023 D	320024.D	320025.D	320026.D	320027.D	320028.D	
Decanoic Acid:	220003 D	220004.D	220005.D	220006.D	220007 D	220008 D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	2540018	1886778	1624943	1628033	1615252	1595966					1815165	20	HATM	
2	HBTM	Motor Oil (C24-C40)	1333385	1248250	1216530	1228953	1179824	1167345					1229048	4.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2396524	2485788	2239469	2213466	2206282	2207643					2291529	5.2	SA	
5	SA	Octacosane(S)	1838724	1898084	1682686	1662435	1654563	1638330					1729137	6.4	SA	
6																
7																
8																
9																
10																
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35																1.8134515

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320016.D
Acq On : 3-20-17 15:15:13
Sample : Diesel-1 10ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

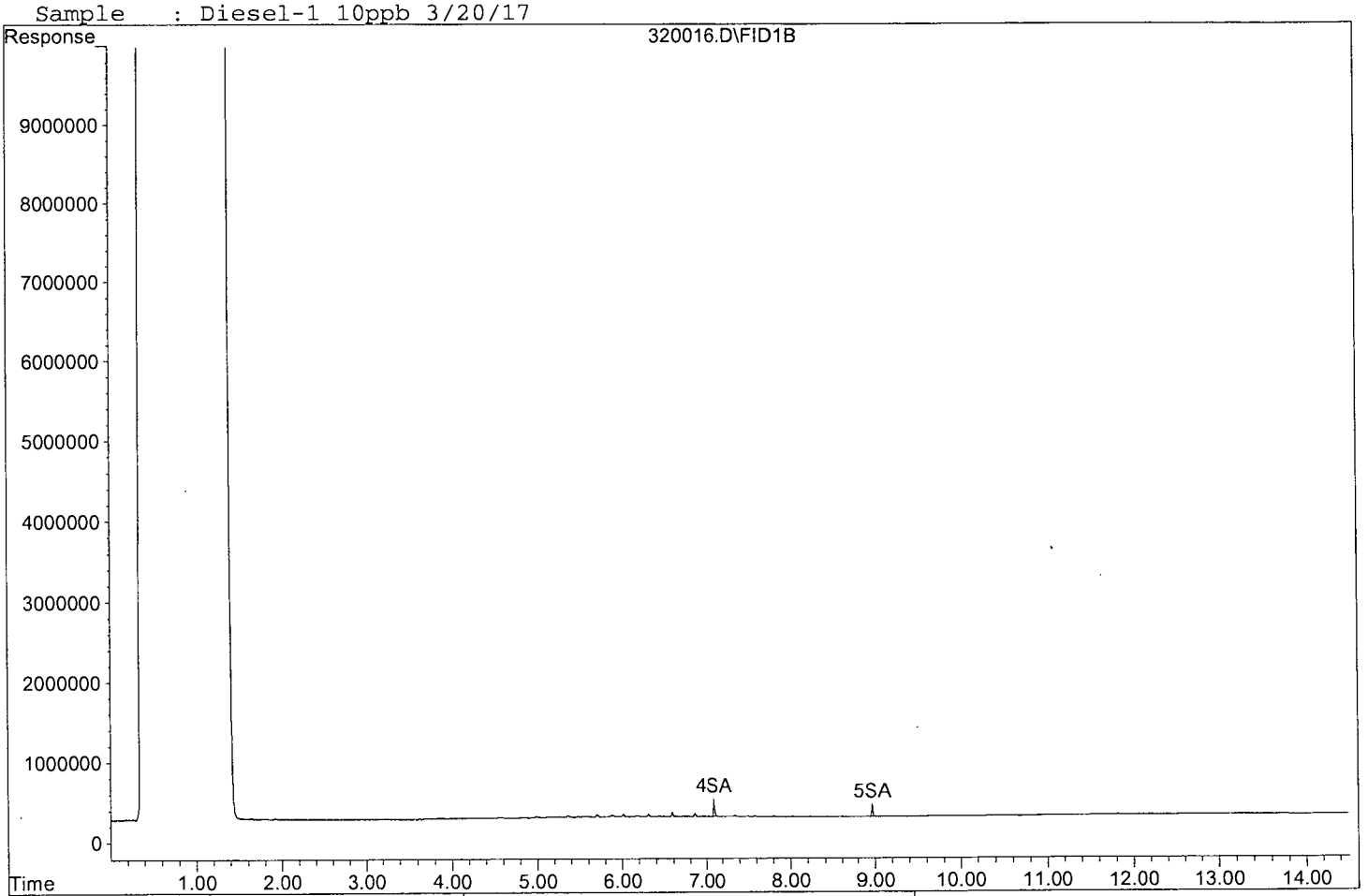
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

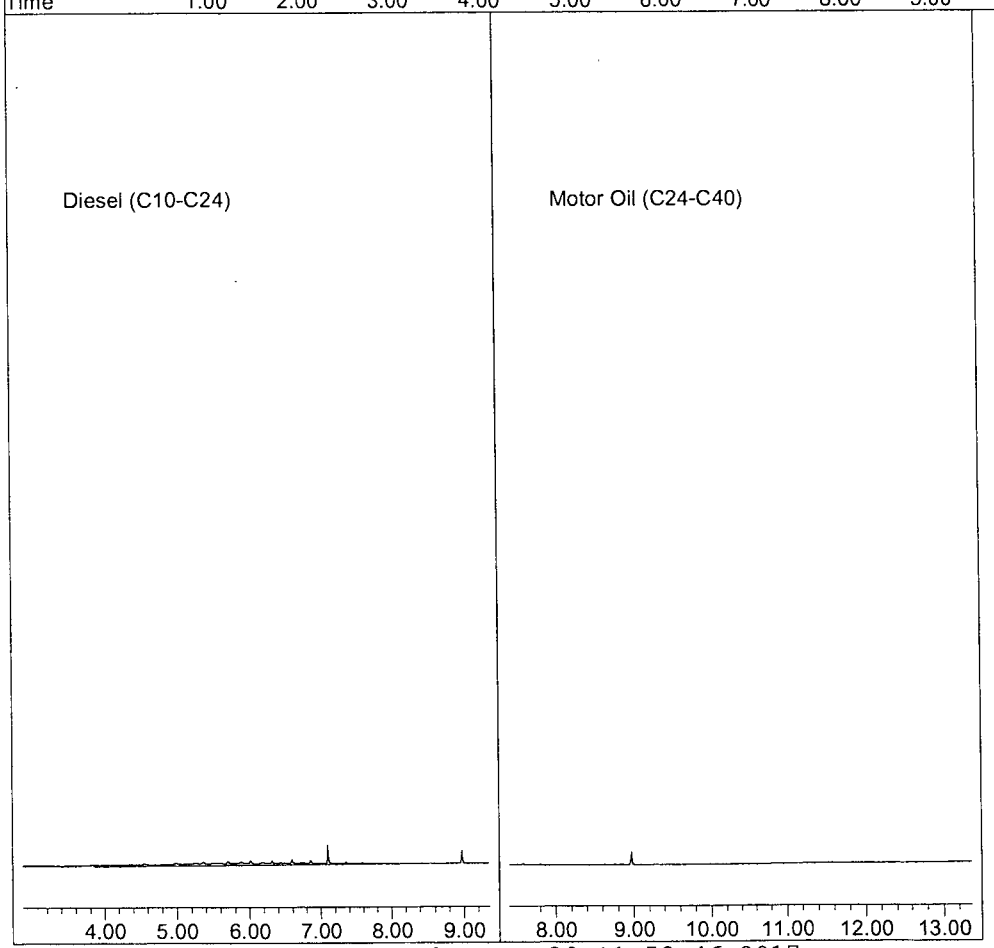
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	2396524	0.523 ppb
Surrogate Spike 30.000		Recovery =	1.74%
5) SA Octacosane(S)	8.97	1838724	0.532 ppb
Surrogate Spike 30.000		Recovery =	1.77%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	50800352	13.993 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320016.D
Sample : Diesel-1 10ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320017.D
Acq On : 3-20-17 15:36:08
Sample : Diesel-2 100ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

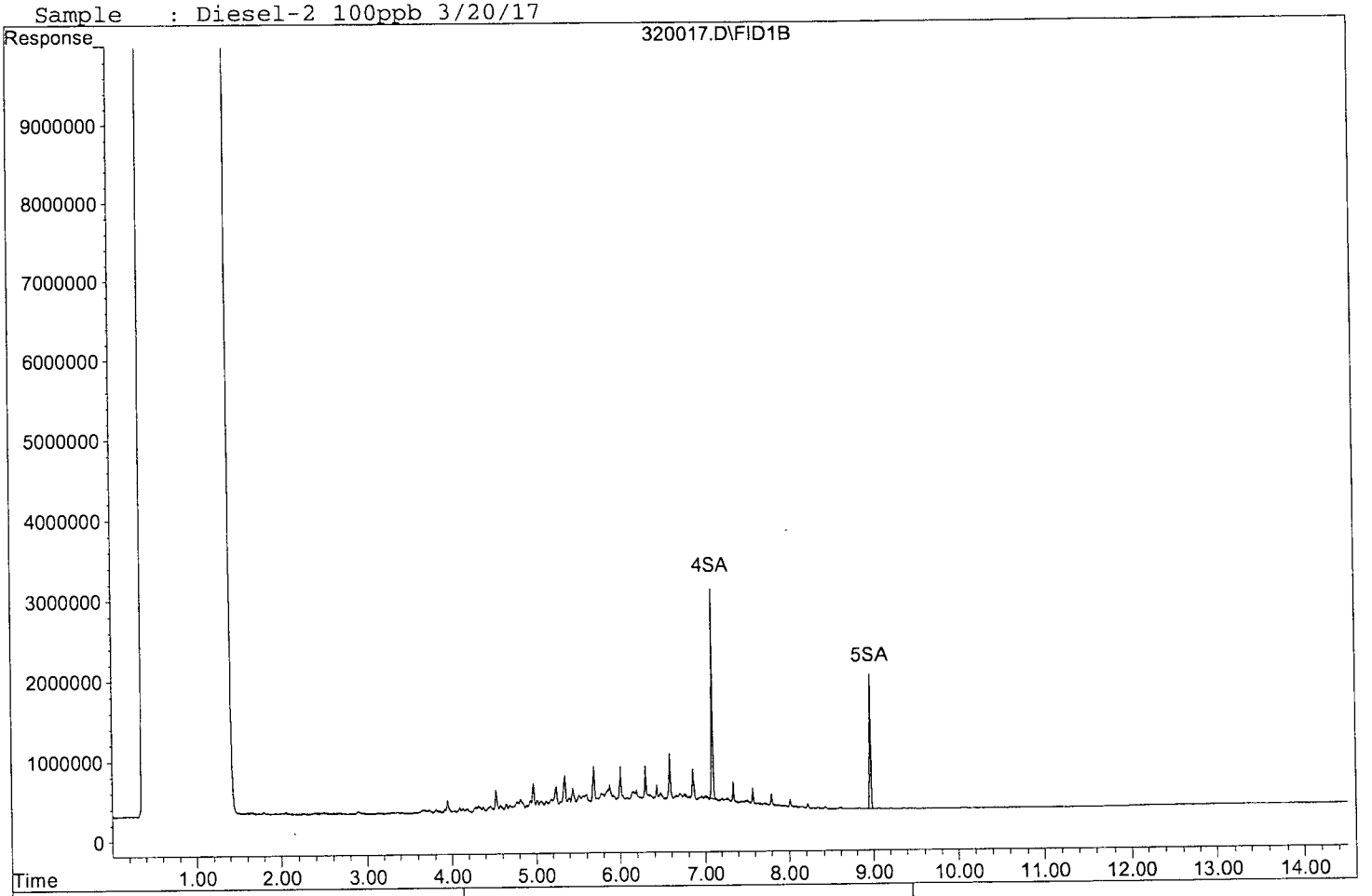
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

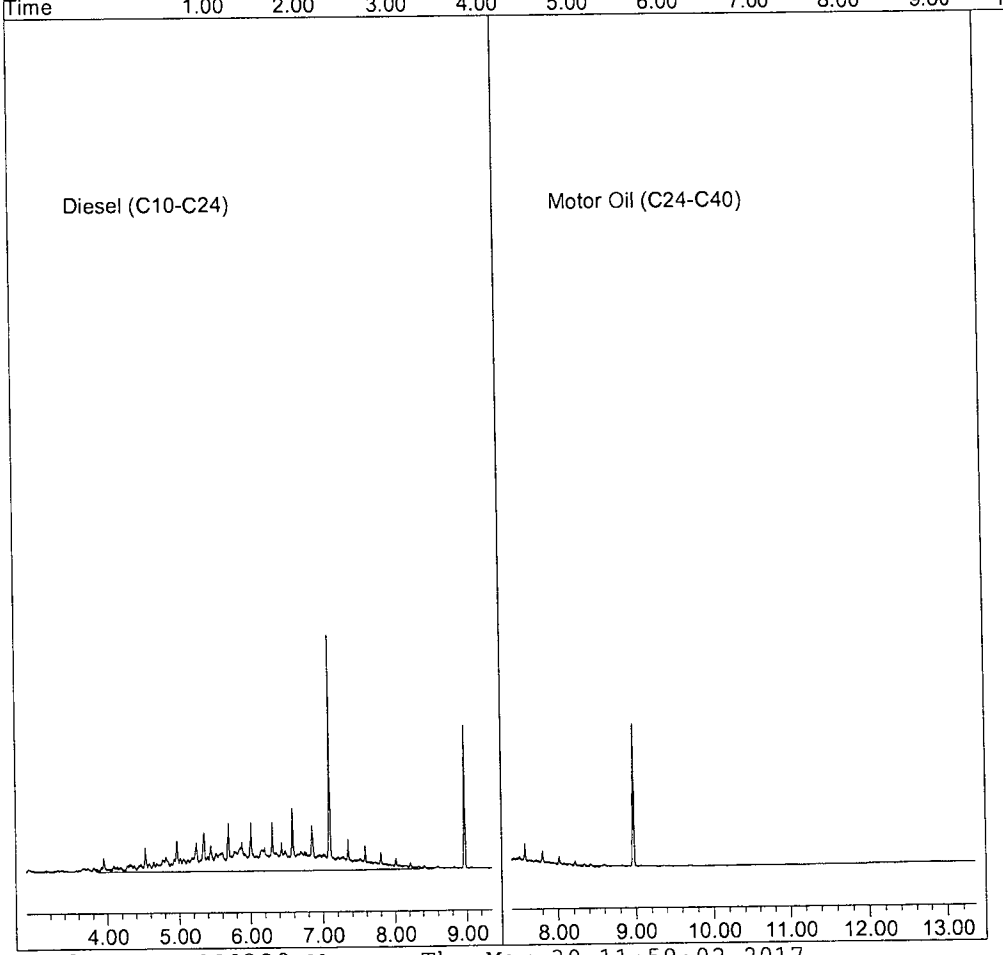
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	24857883	5.424 ppb
Surrogate Spike 30.000		Recovery =	18.08%
5) SA Octacosane(S)	8.97	18980841	5.489 ppb
Surrogate Spike 30.000		Recovery =	18.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	377355582	103.945 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320017.D
Sample : Diesel-2 100ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320018.D Vial: 18
Acq On : 3-20-17 15:57:14 Operator: DP
Sample : Diesel-3 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

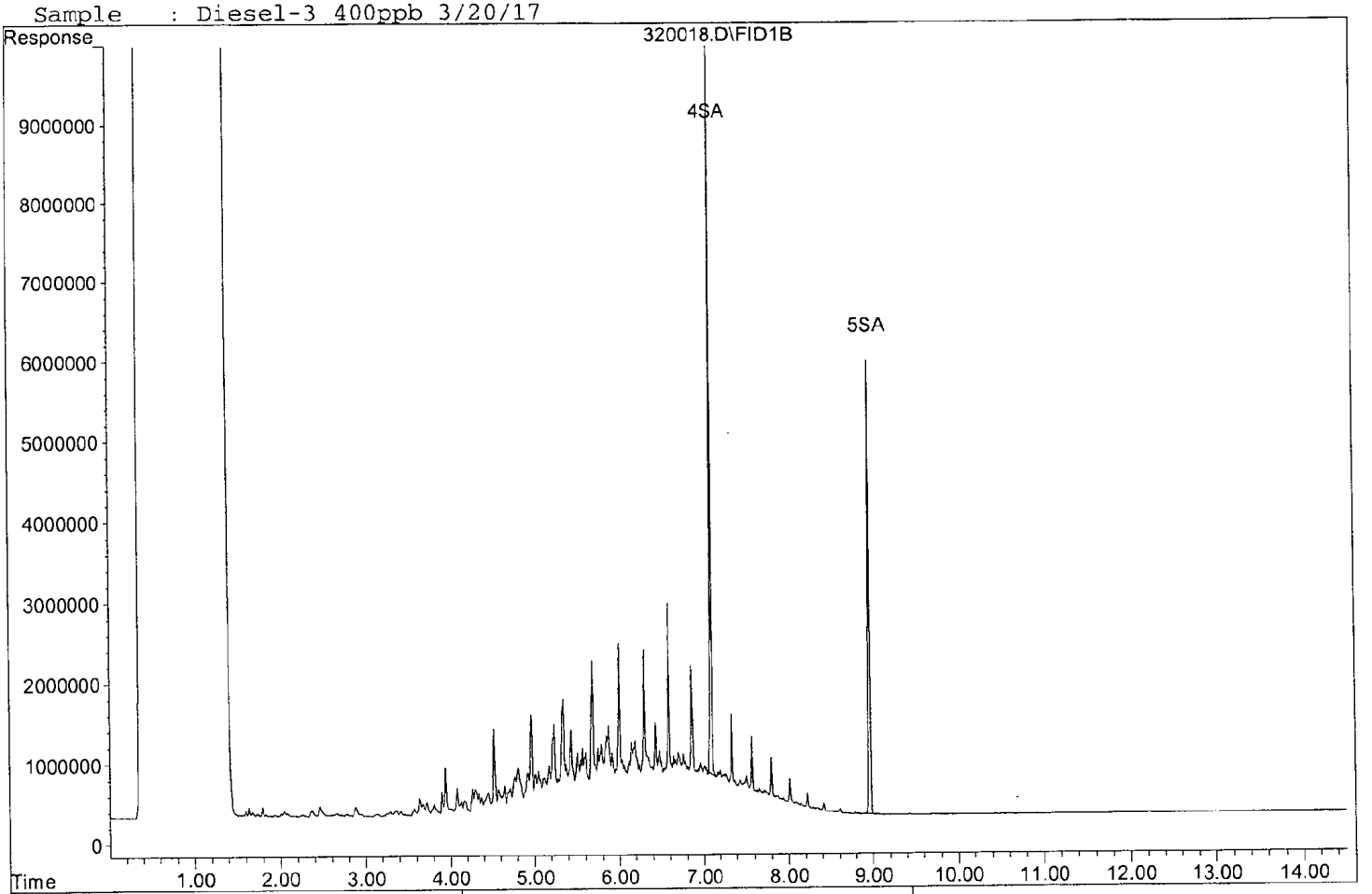
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

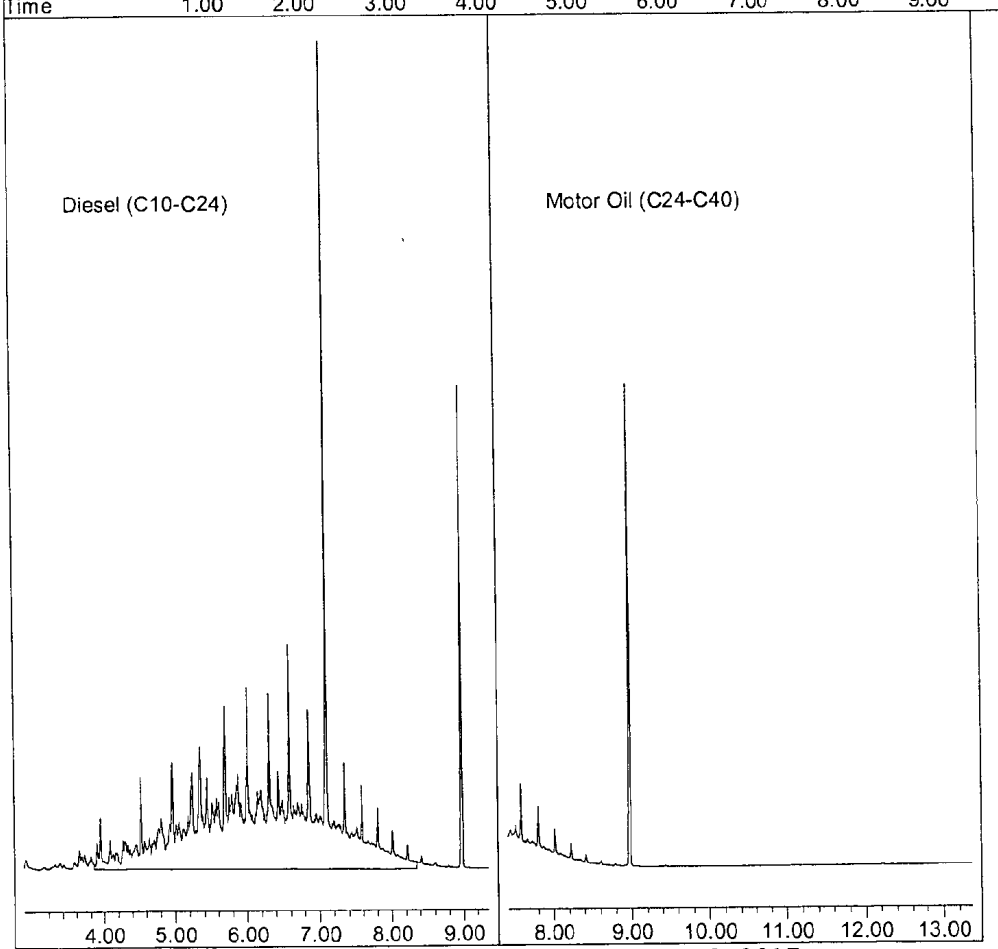
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89578741	19.546 ppb
Surrogate Spike 30.000		Recovery =	65.15%
5) SA Octacosane(S)	8.98	67307425	19.463 ppb
Surrogate Spike 30.000		Recovery =	64.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1299954214	358.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320018.D
Sample : Diesel-3 400ppb 3/20/17





320018.D DOC0320.M Thu Mar 30 11:59:18 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320019.D
Acq On : 3-20-17 16:18:15
Sample : Diesel-4 600ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

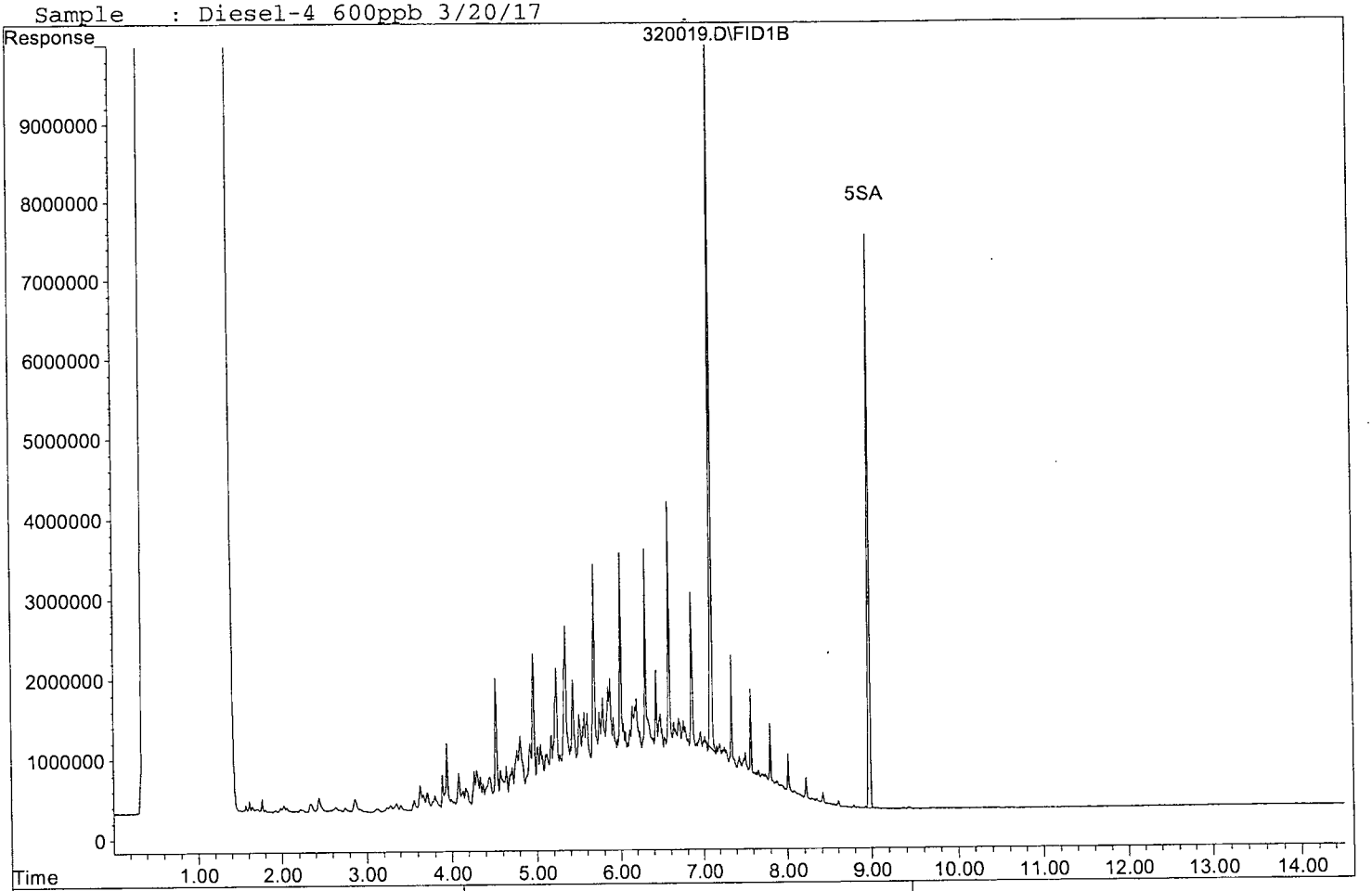
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

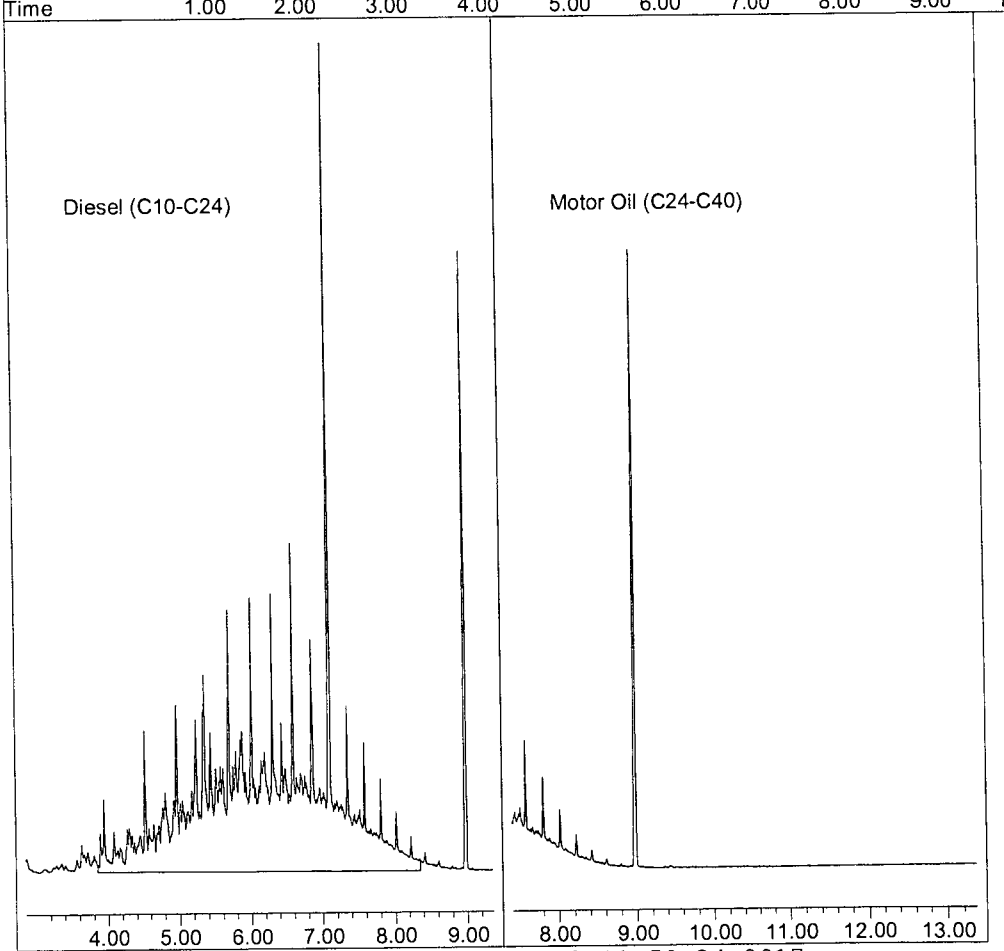
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	132807937	28.978 ppb
Surrogate Spike 30.000		Recovery =	96.59%
5) SA Octacosane(S)	8.98	99746088	28.843 ppb
Surrogate Spike 30.000		Recovery =	96.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1953639090	538.144 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320019.D
Sample : Diesel-4 600ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320020.D Vial: 20
Acq On : 3-20-17 16:39:27 Operator: DP
Sample : Diesel-5 800ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

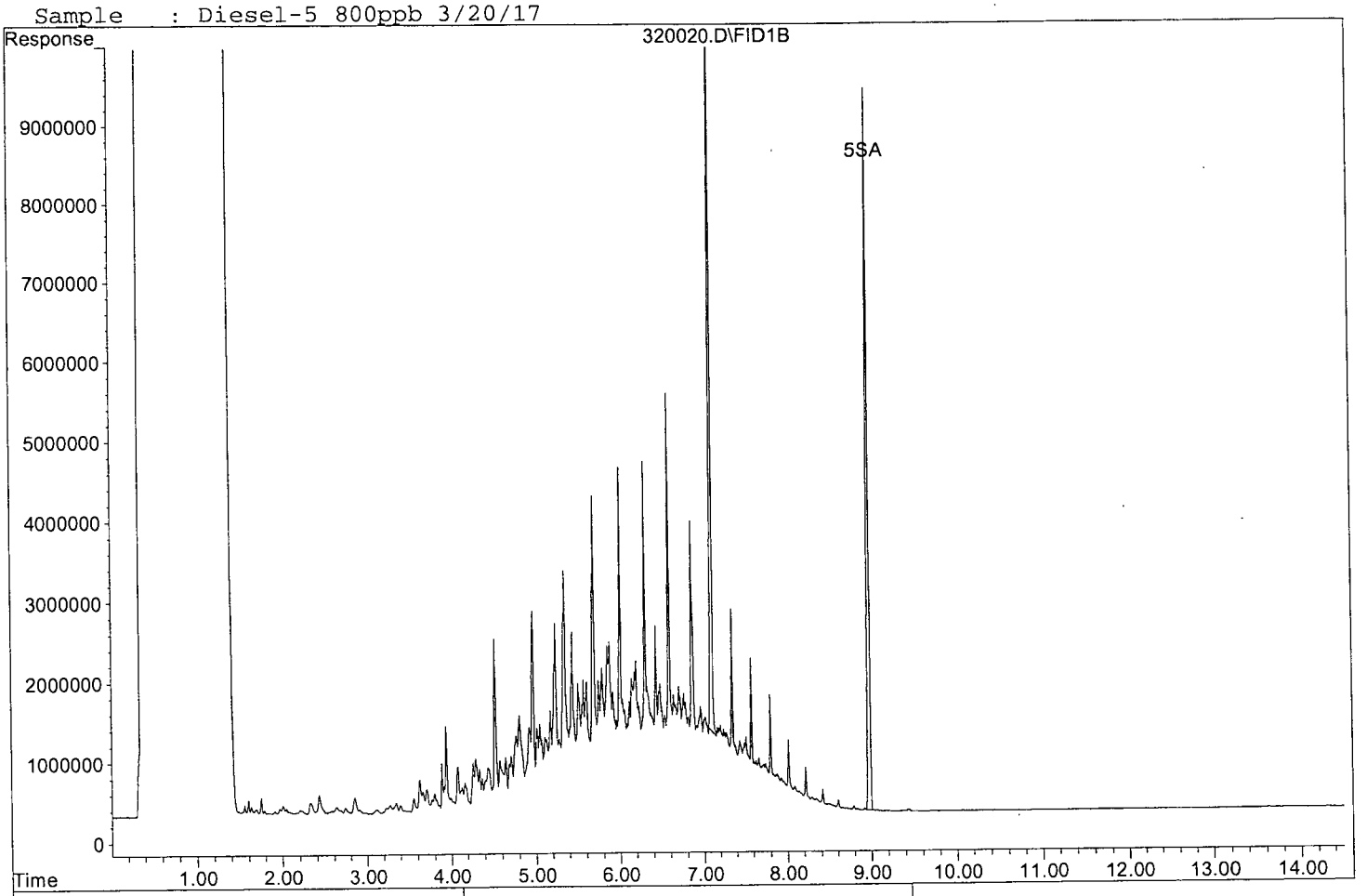
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

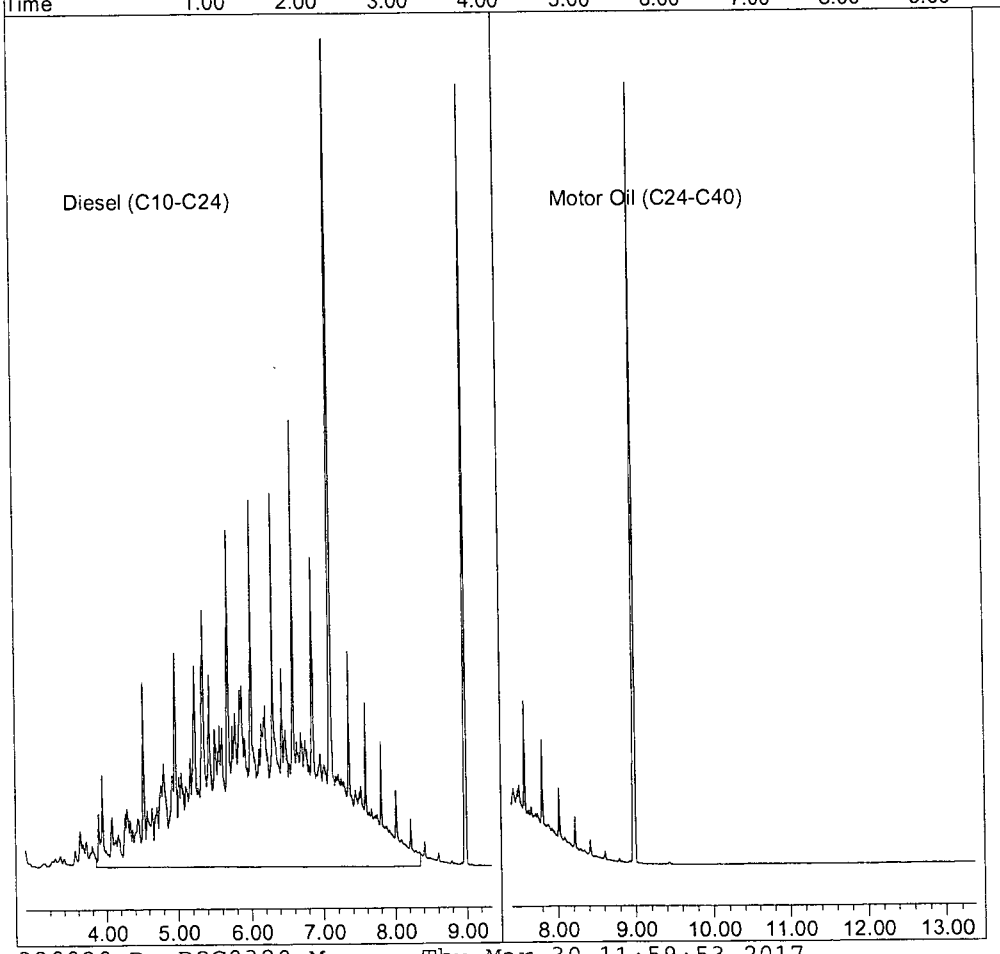
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	176502561	38.512 ppb
Surrogate Spike 30.000		Recovery =	128.37%
5) SA Octacosane(S)	8.99	132365021	38.275 ppb
Surrogate Spike 30.000		Recovery =	127.58%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	2584402595	711.892 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320020.D
Sample : Diesel-5 800ppb 3/20/17





320020.D DOC0320.M Thu Mar 30 11:59:53 2017

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320021.D Vial: 21
Acq On : 3-20-17 17:00:36 Operator: DP
Sample : Diesel-6 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

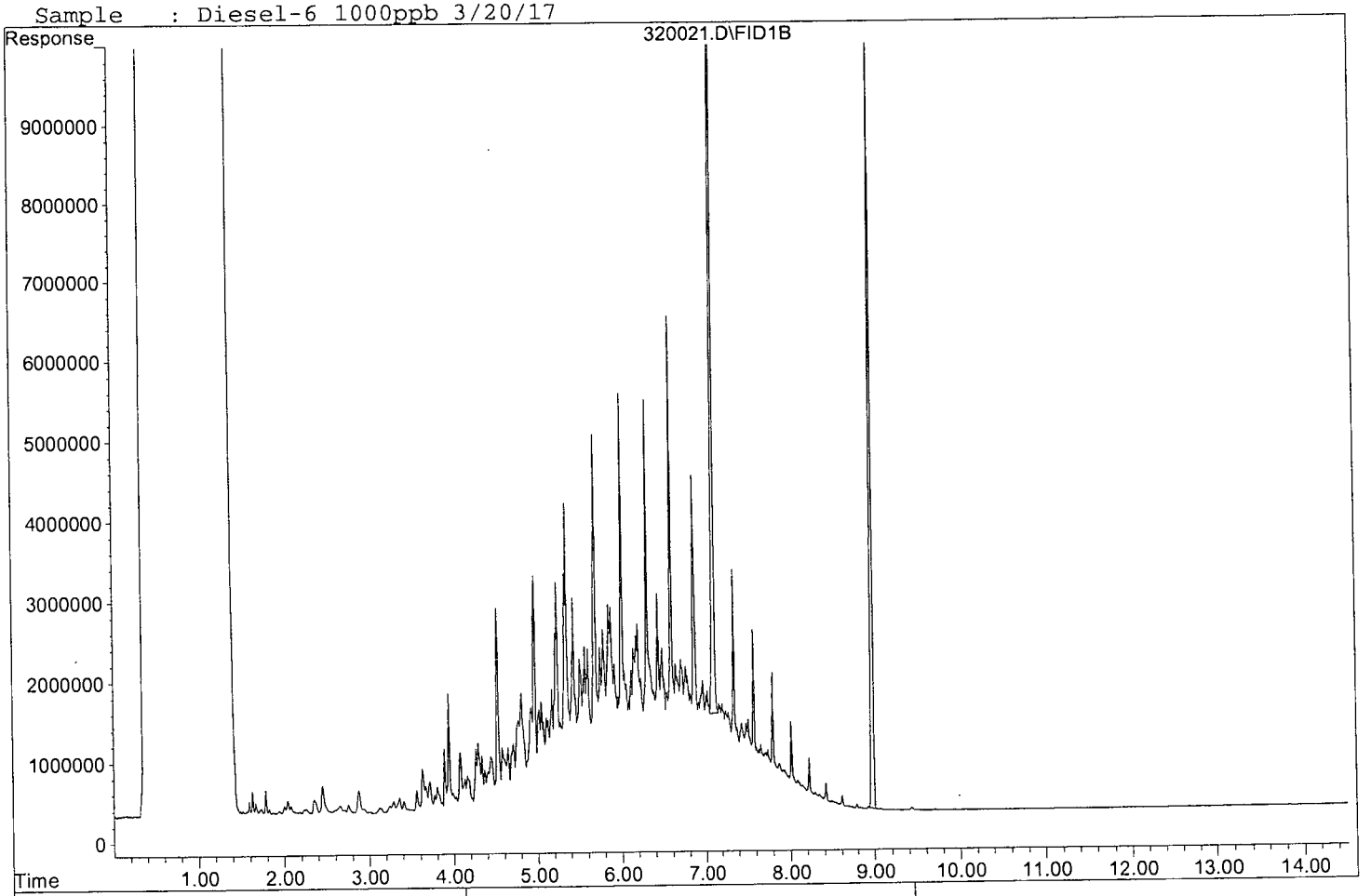
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

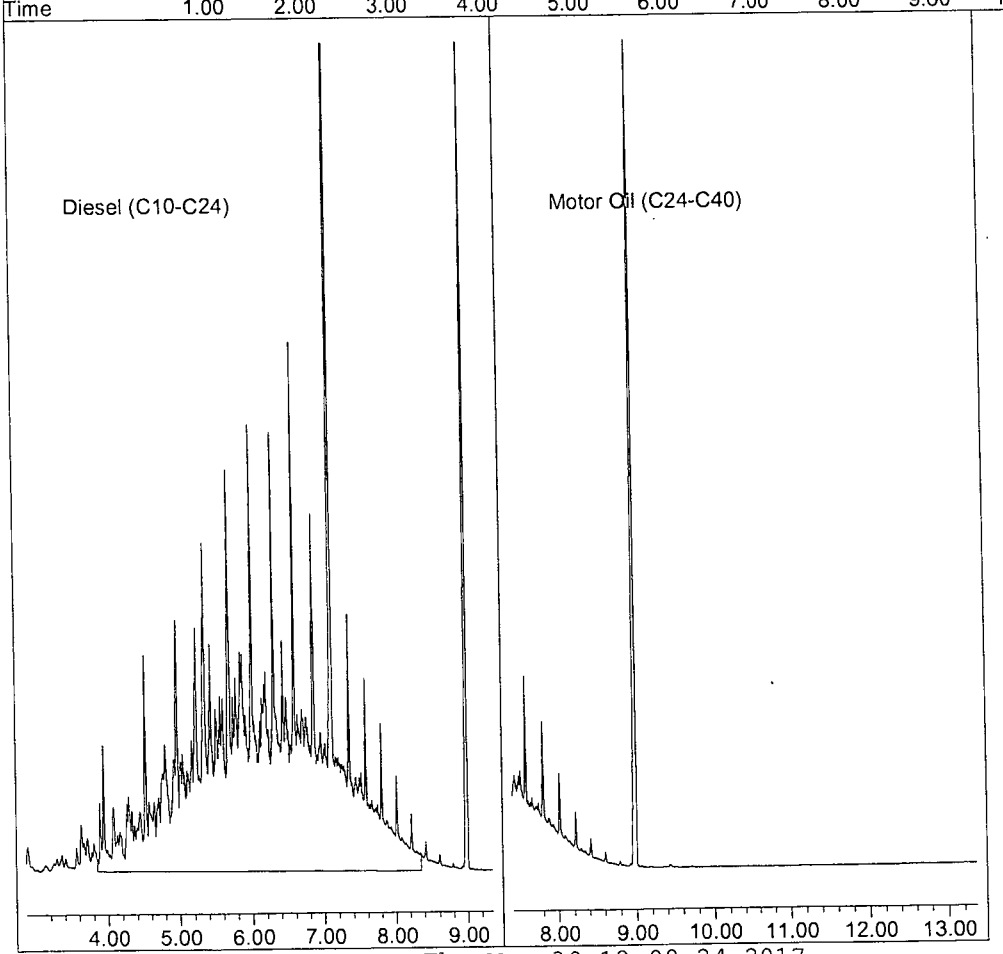
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	220764307	48.170 ppb
Surrogate Spike 30.000		Recovery =	160.57%
5) SA Octacosane(S)	8.99	163833005	47.374 ppb
Surrogate Spike 30.000		Recovery =	157.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	3191932577	879.240 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320021.D
Sample : Diesel-6 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320023.D
Acq On : 3-20-17 17:42:35
Sample : Motor Oil-1 20ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 23
Operator: DP
Inst : Apollo
Multiplr: 1.00

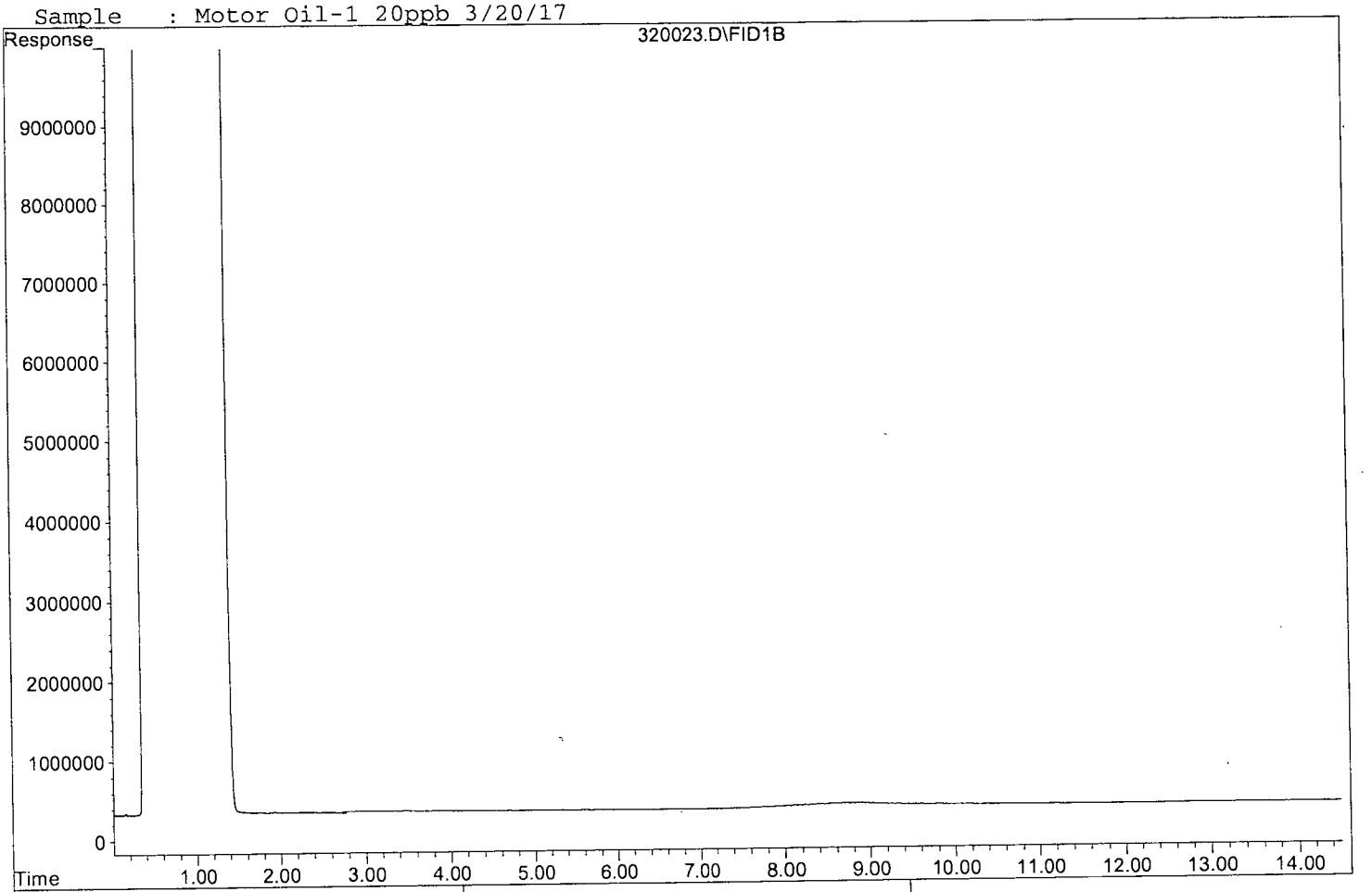
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

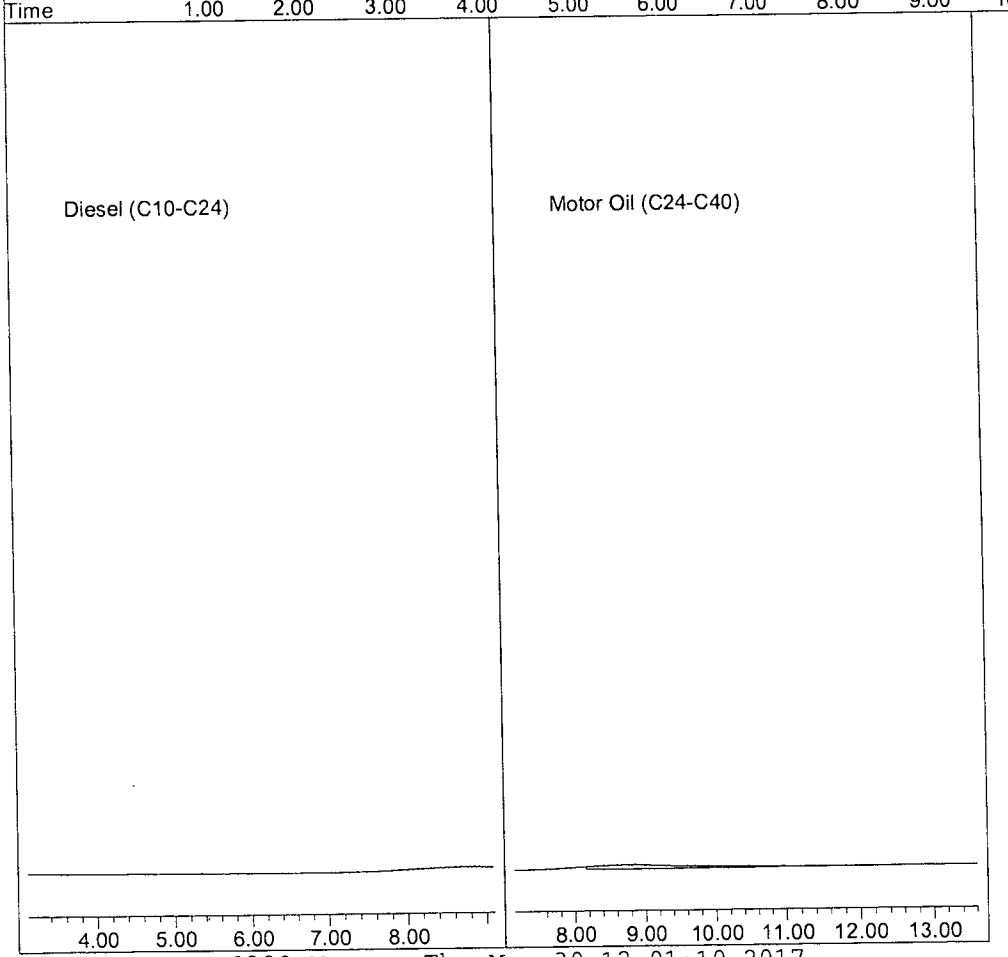
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	53335418	21.698 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170320\320023.D
Sample : Motor Oil-1 20ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320024.D
Acq On : 3-20-17 18:03:37
Sample : Motor Oil-2 50ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 24
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

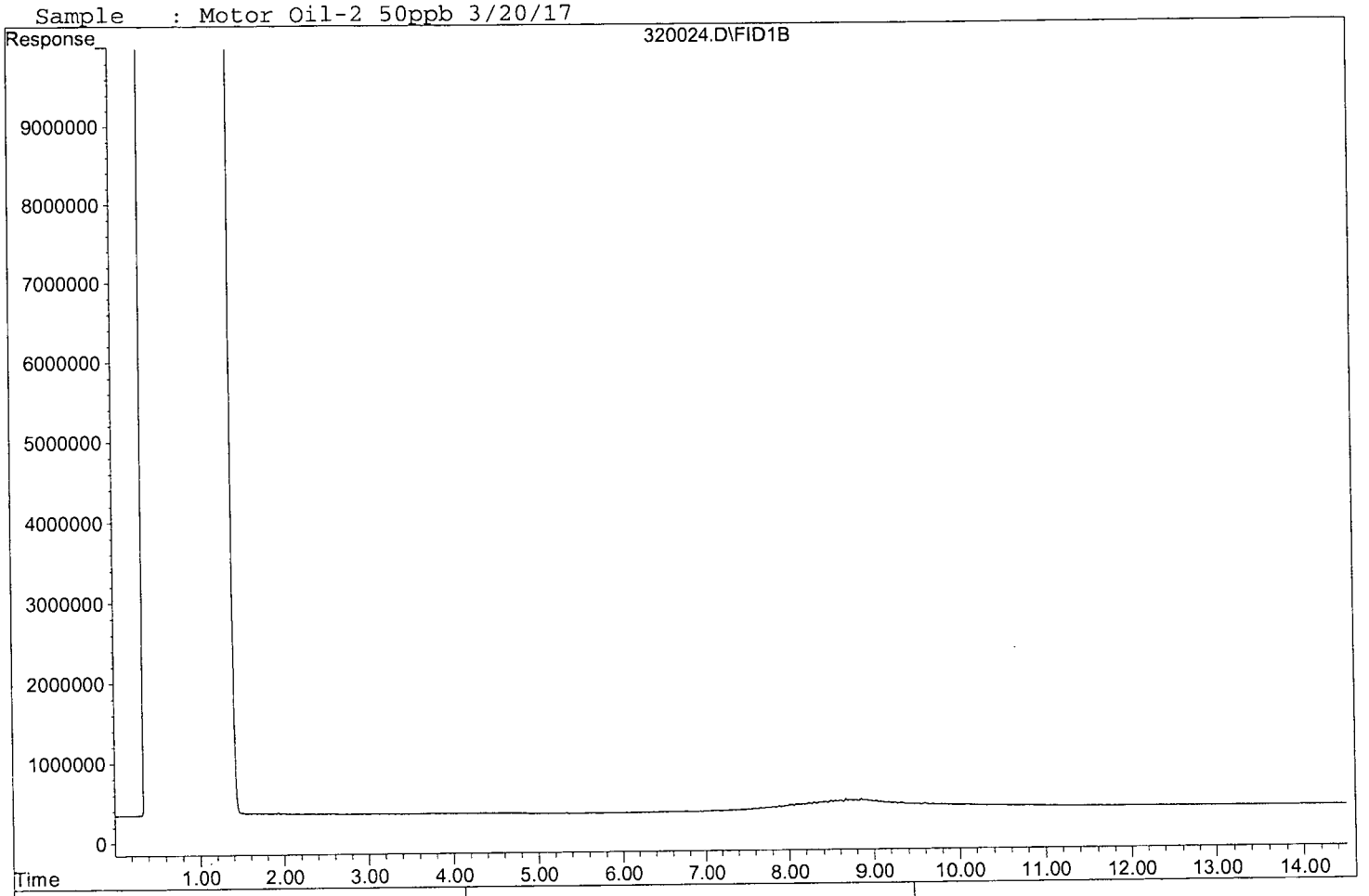
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

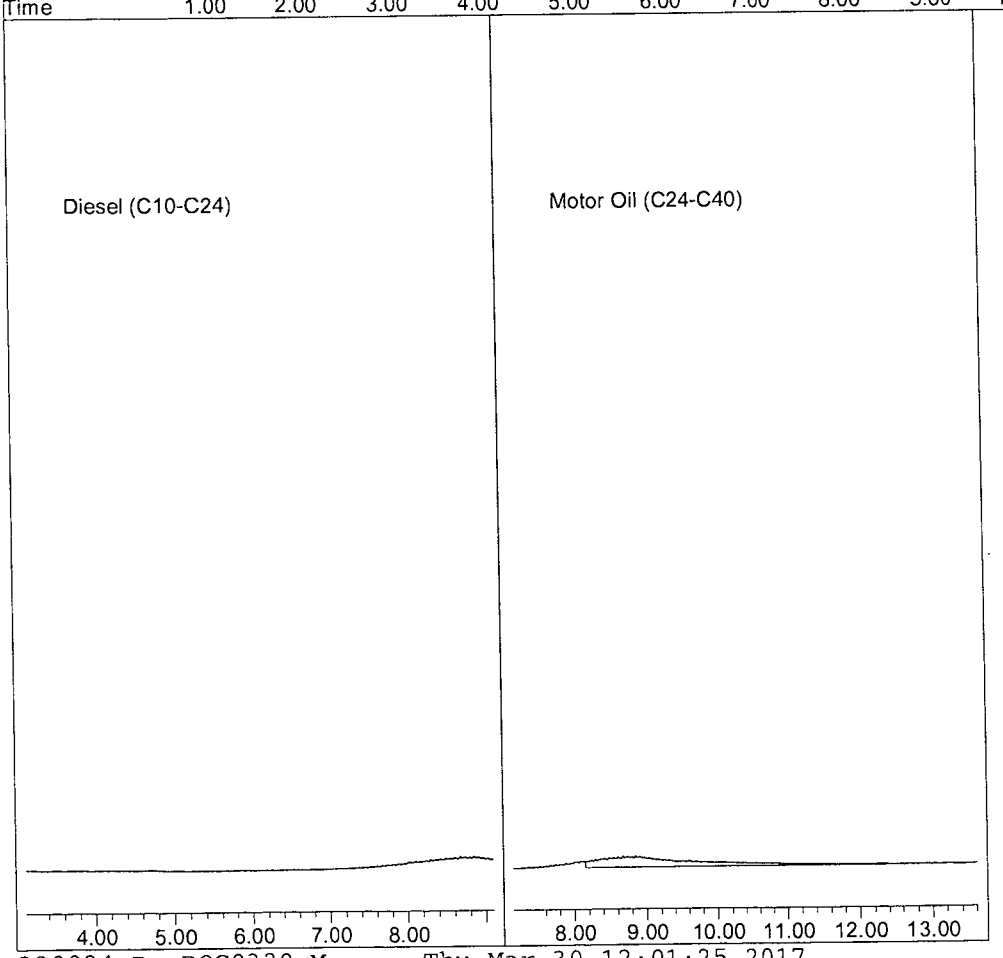
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	124824954	50.781 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320024.D
Sample : Motor Oil-2 50ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320025.D
Acq On : 3-20-17 18:24:46
Sample : Motor Oil-3 250ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

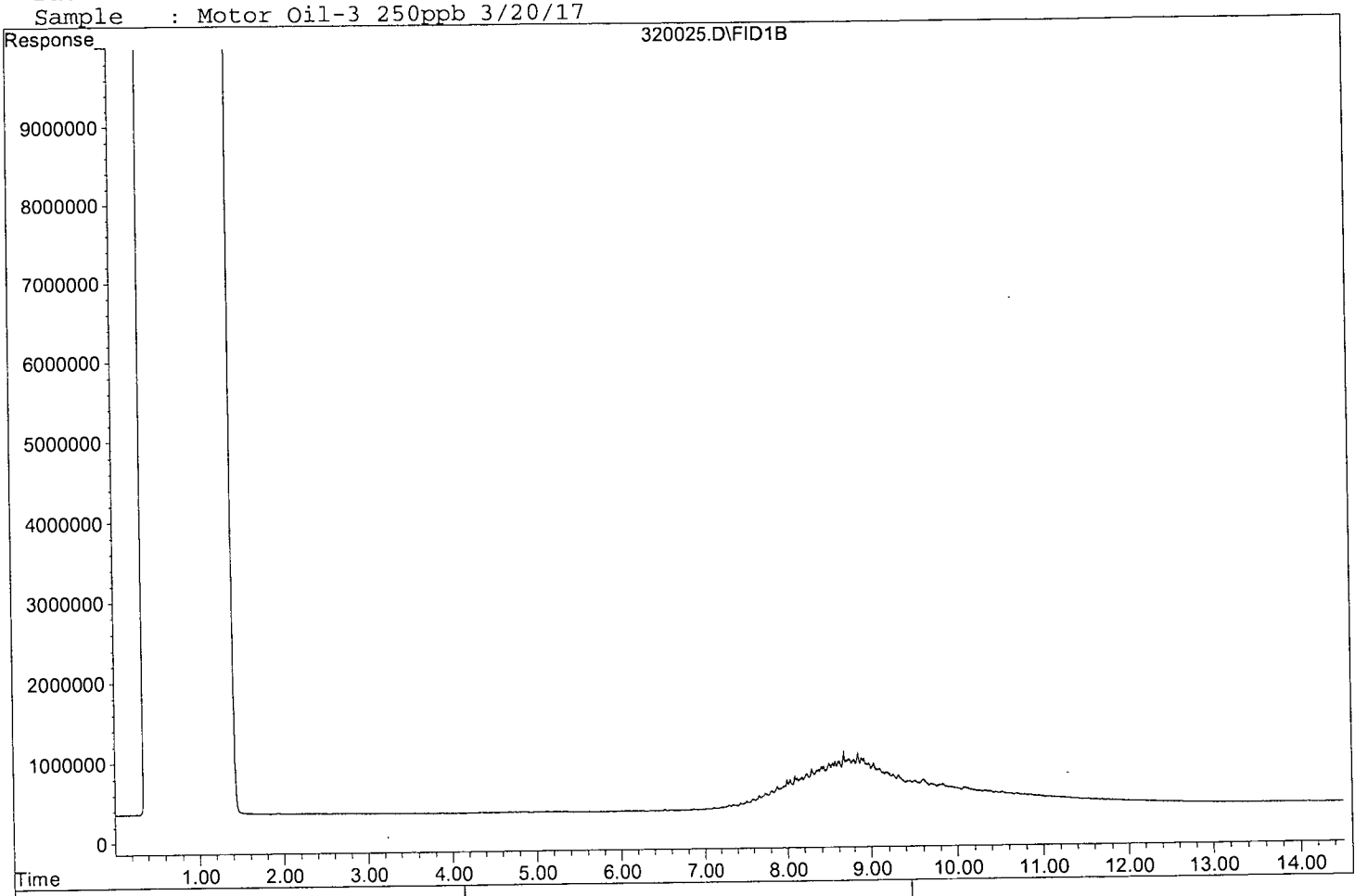
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

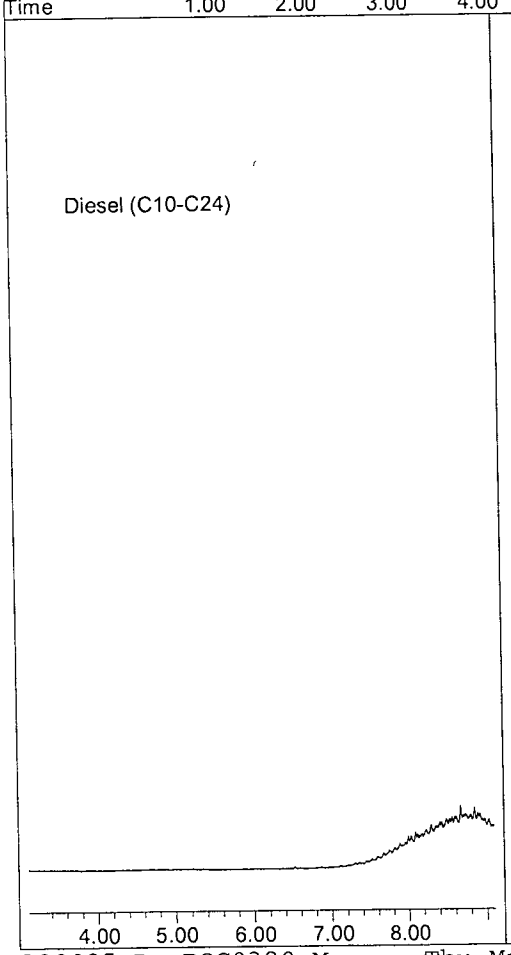
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	608264904	247.454 ppb

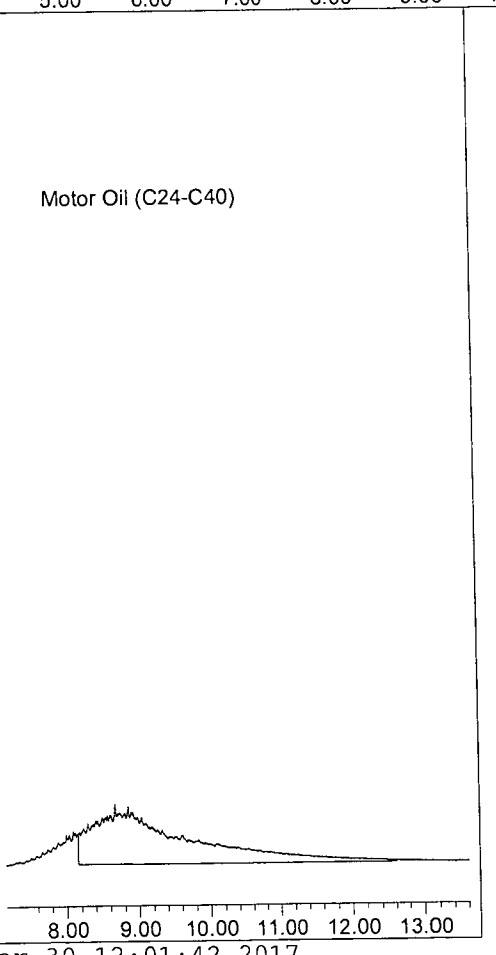
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320025.D
Sample : Motor Oil-3 250ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320026.D
Acq On : 3-20-17 18:45:44
Sample : Motor Oil-4 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

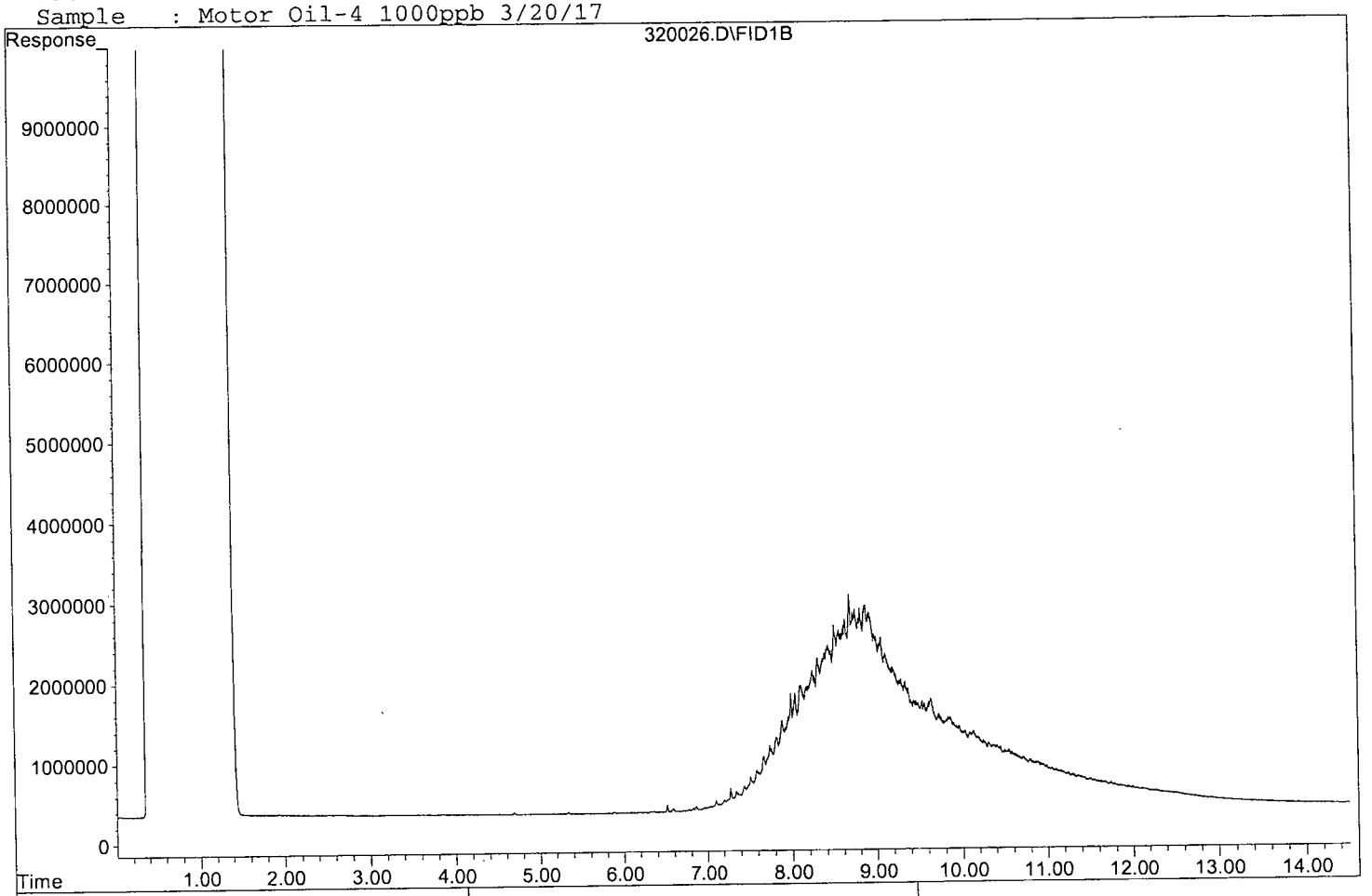
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2457905997	999.923 ppb

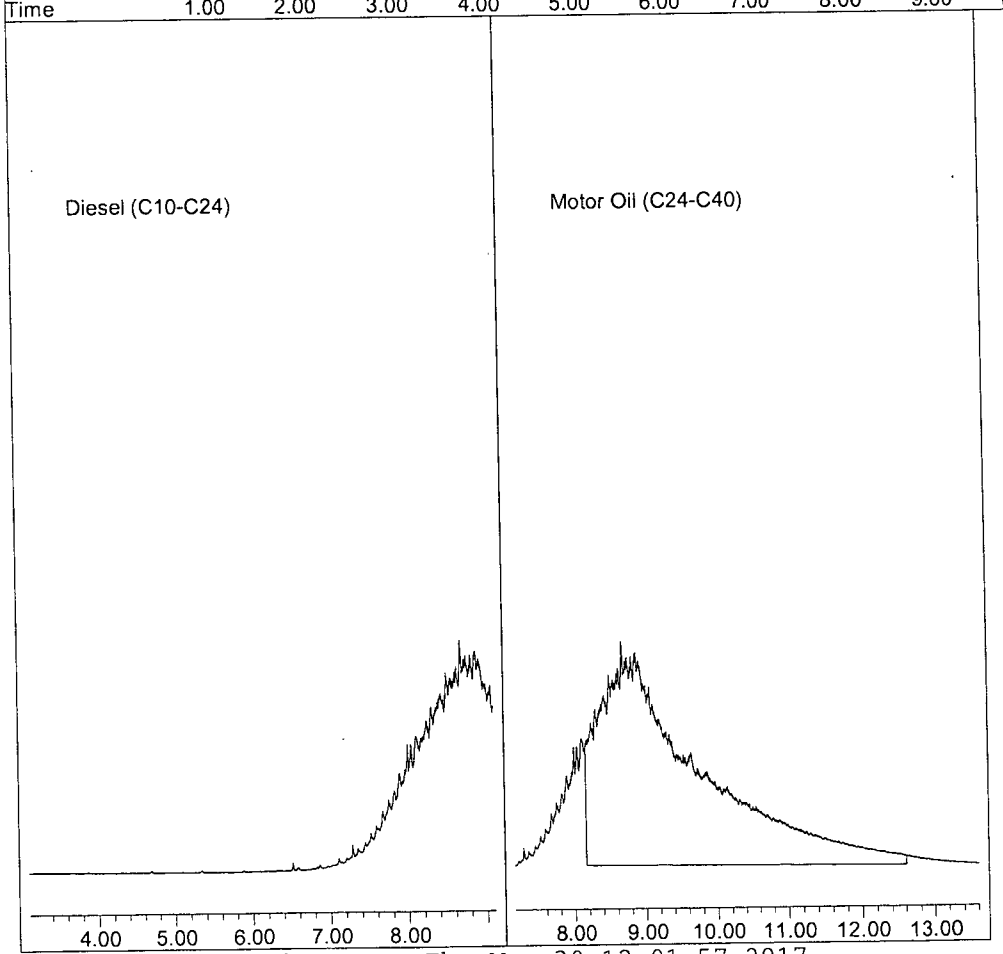
(f)=RT Delta > 1/2 Window (m)=manual int.

320026.D DOC0320.M Thu Mar 30 12:01:55 2017

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320026.D
Sample : Motor Oil-4 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320027.D Vial: 27
Acq On : 3-20-17 19:06:49 Operator: DP
Sample : Motor Oil-5 1500ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

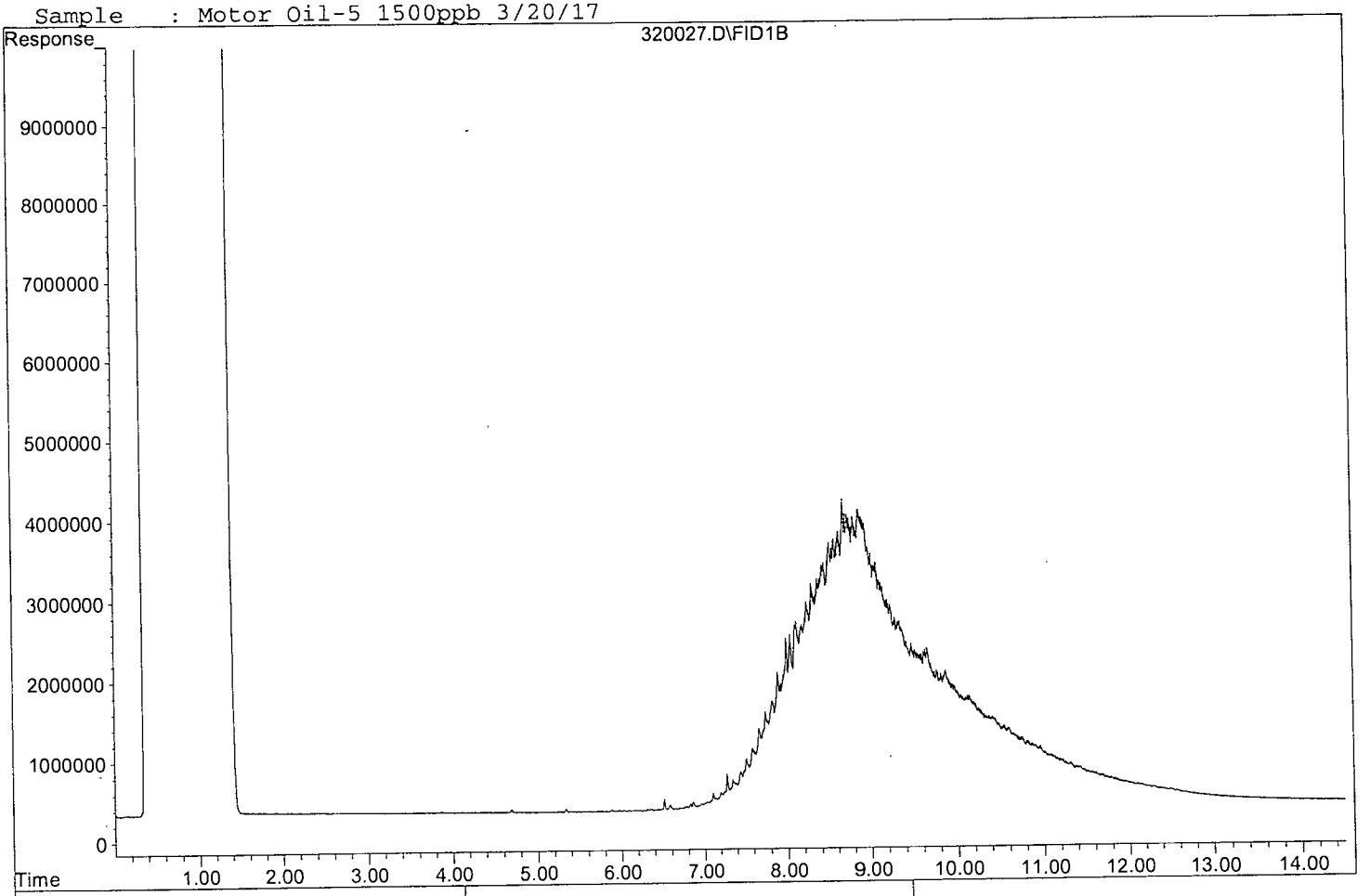
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

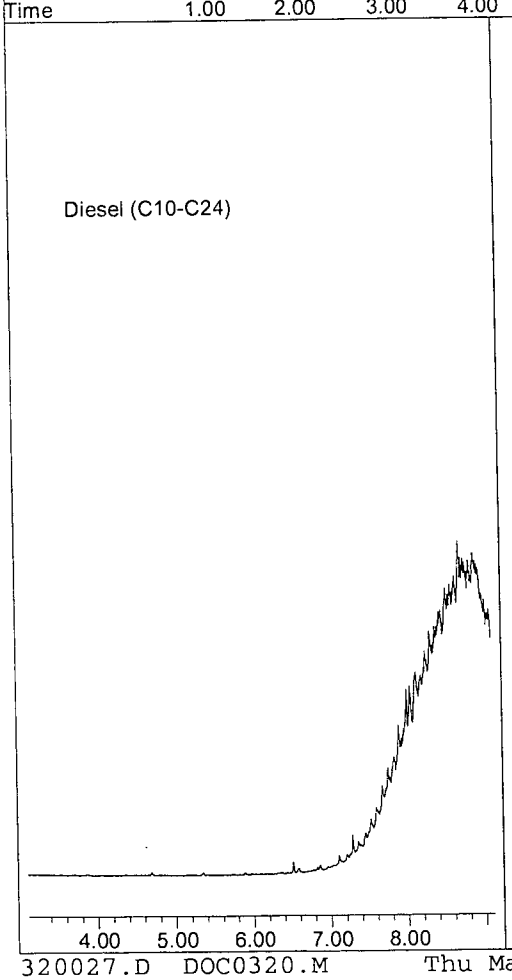
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	3539471418	1439.924 ppb

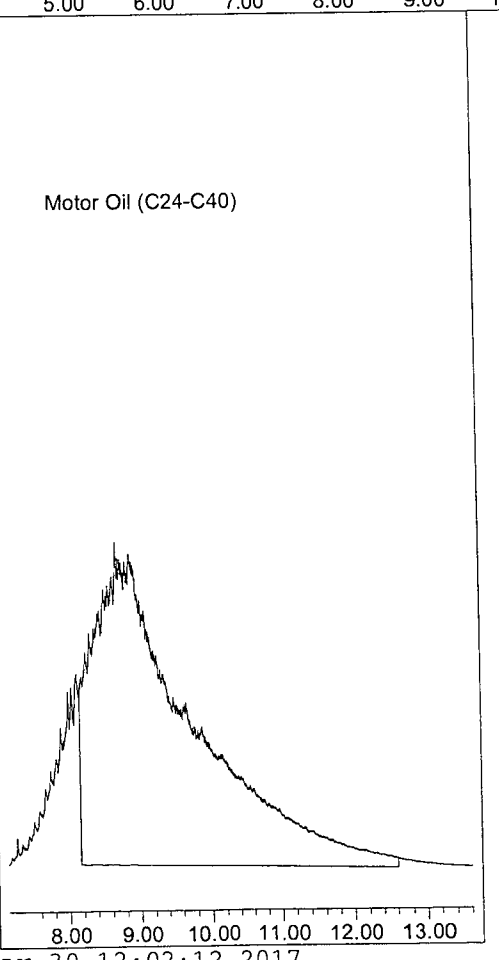
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320027.D
Sample : Motor Oil-5 1500ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320028.D
Acq On : 3-20-17 19:27:55
Sample : Motor Oil-6 2000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 28
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

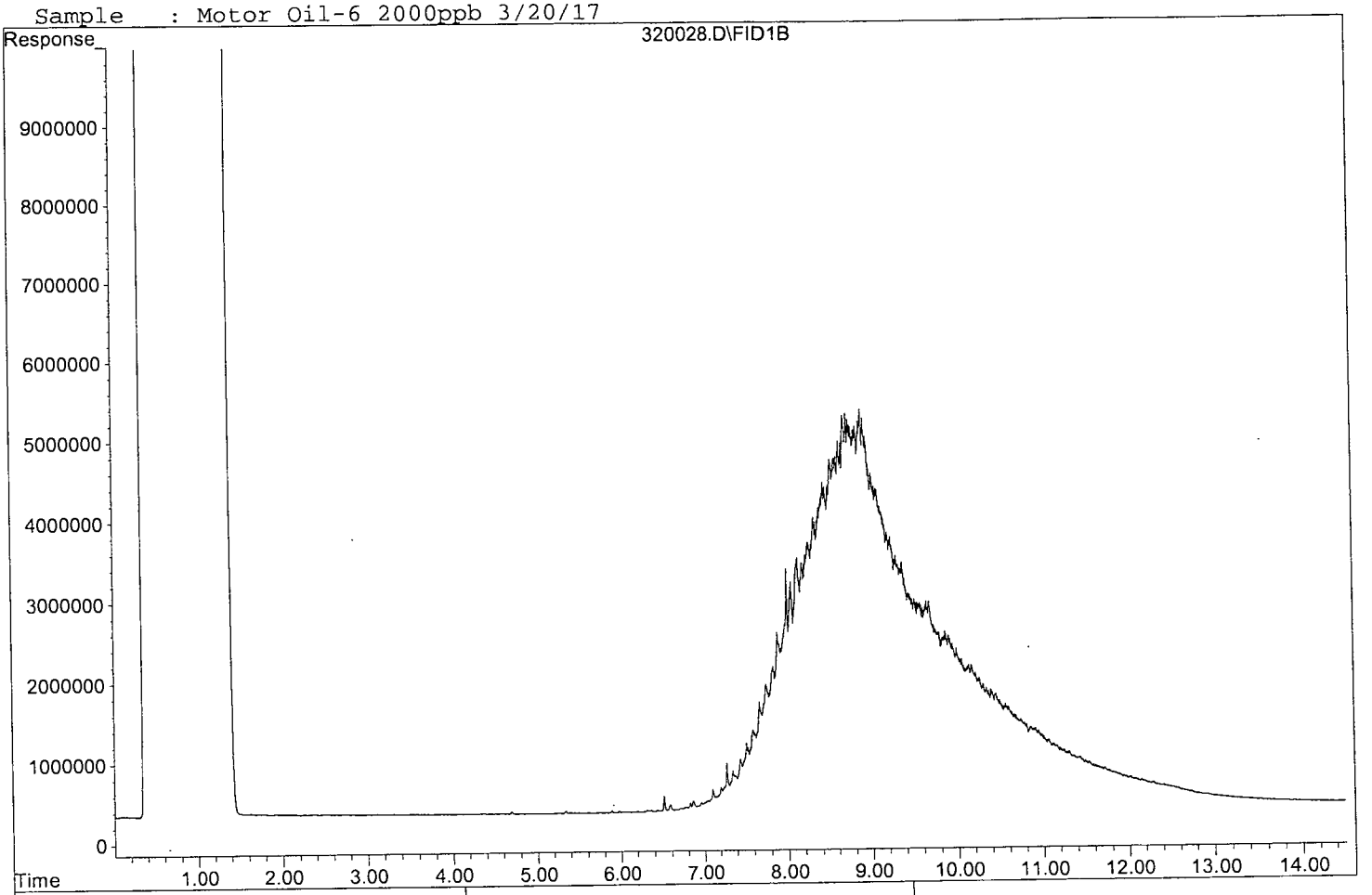
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

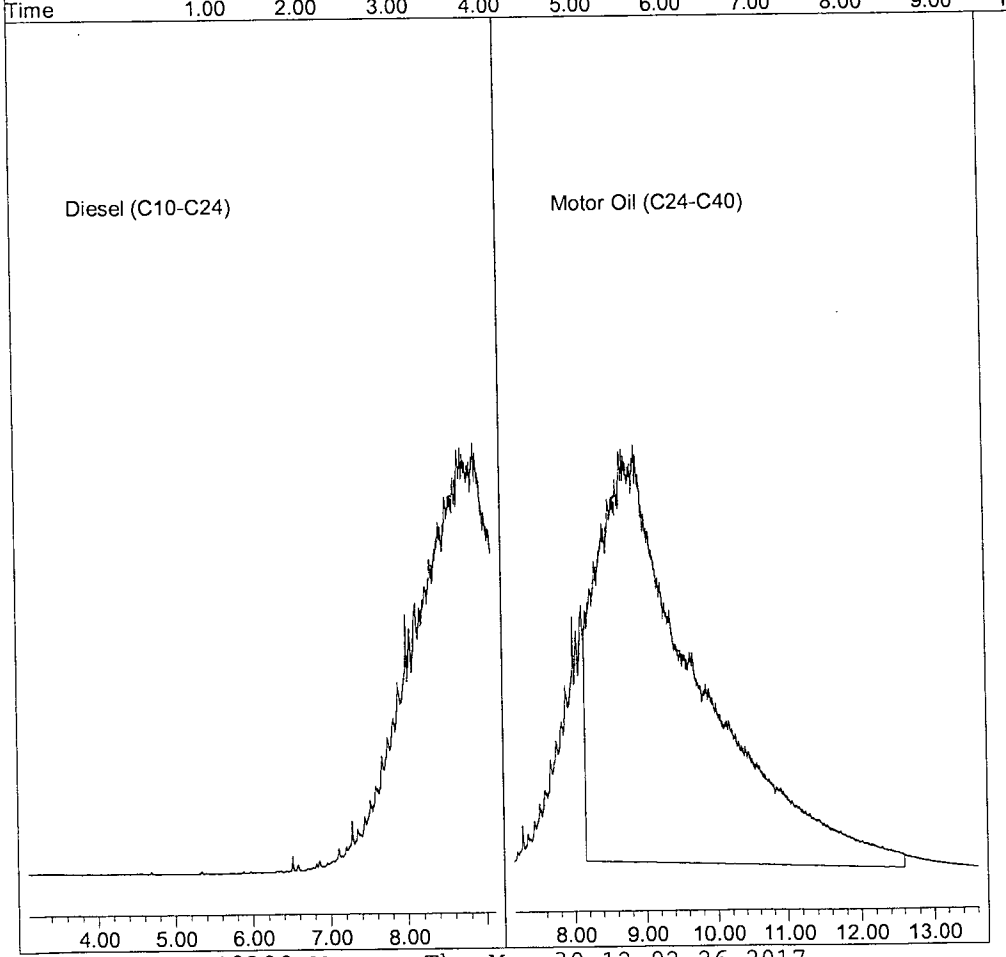
Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
2) HBTM Motor Oil (C24-C40)	10.38	4669380911	1899.593	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320028.D
Sample : Motor Oil-6 2000ppb 3/20/17





TPH Extractables
DOC0320

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/20/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 320022.D (Diesel) 320029.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1884580	3.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1452540	18	HBTM	
3							
4							
5							
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		Average			10.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320022.D
Acq On : 3-20-17 17:21:37
Sample : Diesel-2nd Src 400ppb 8/1/16
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.00

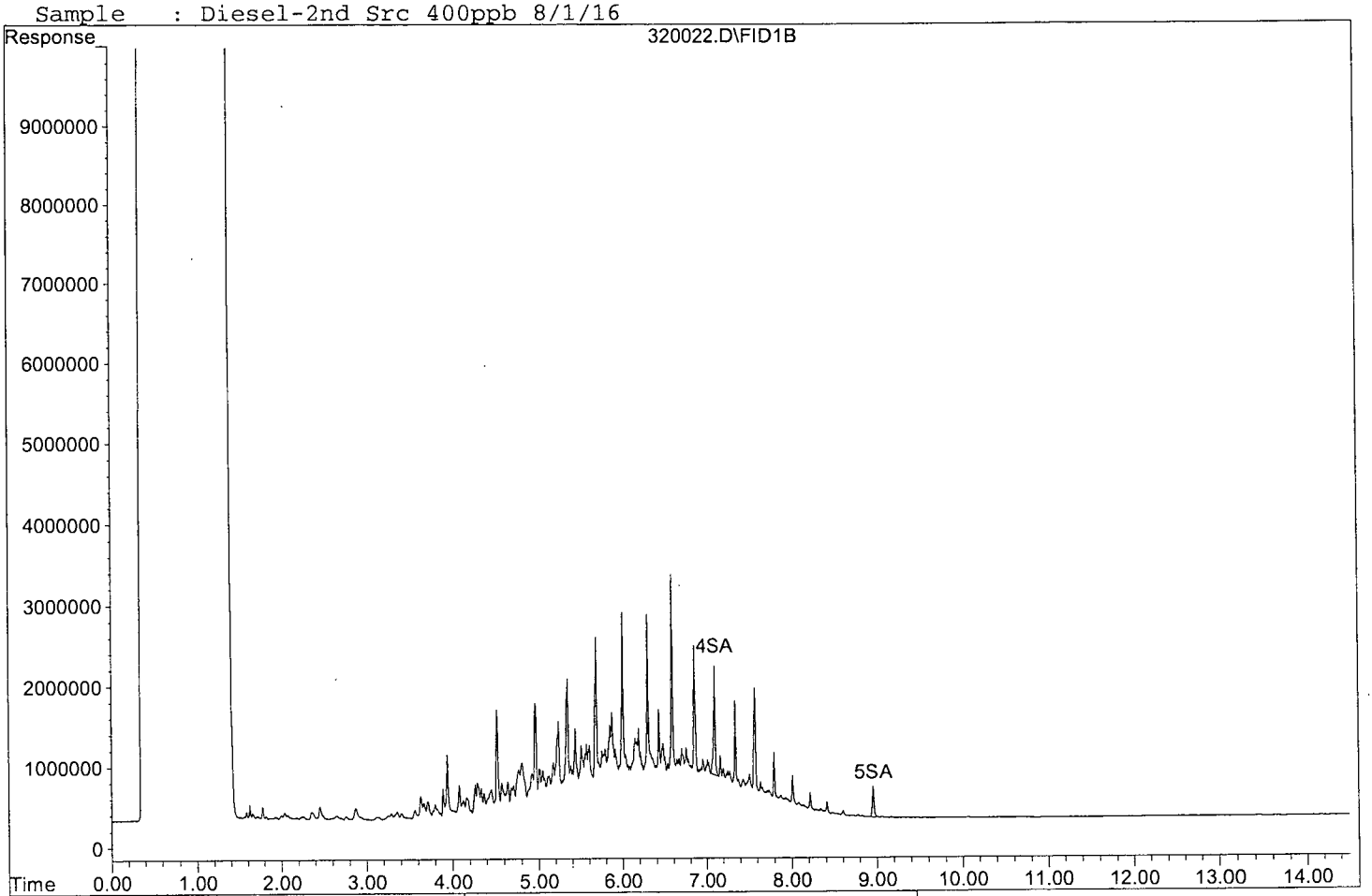
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

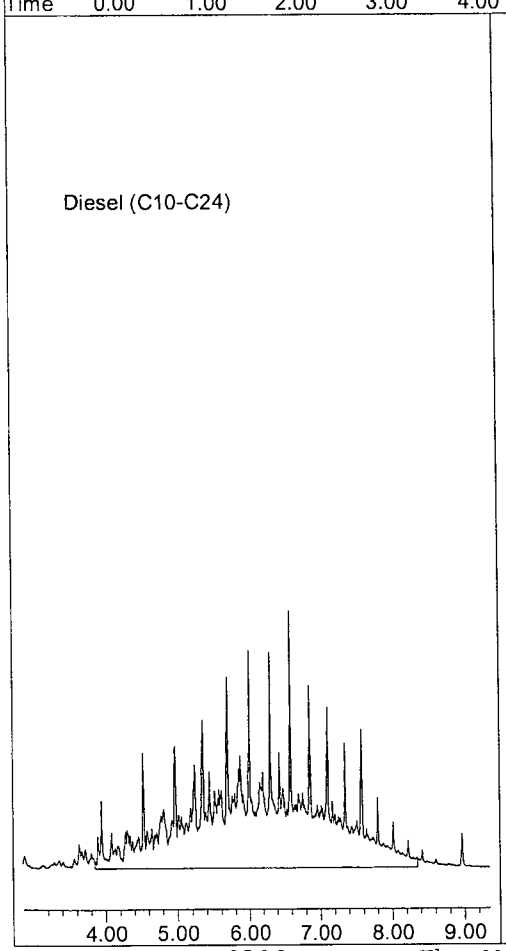
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

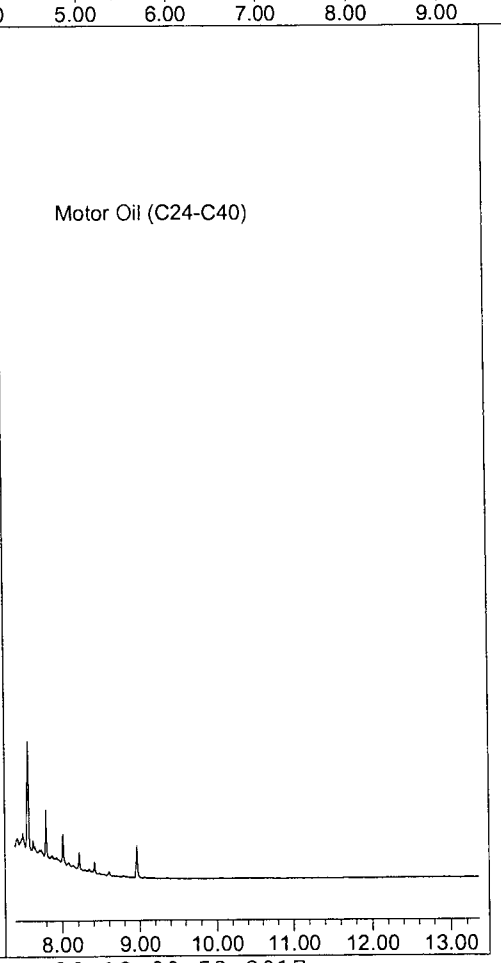
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	18760456	4.093 ppb
Surrogate Spike 30.000		Recovery =	13.64%
5) SA Octacosane(S)	8.97	5160434	1.492 ppb
Surrogate Spike 30.000		Recovery =	4.97%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1507663254	415.297 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170320\320022.D
Sample : Diesel-2nd Src 400ppb 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320029.D
Acq On : 3-20-17 19:48:56
Sample : Motor Oil-2nd Src 1000ppb 10/14/16
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 29
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

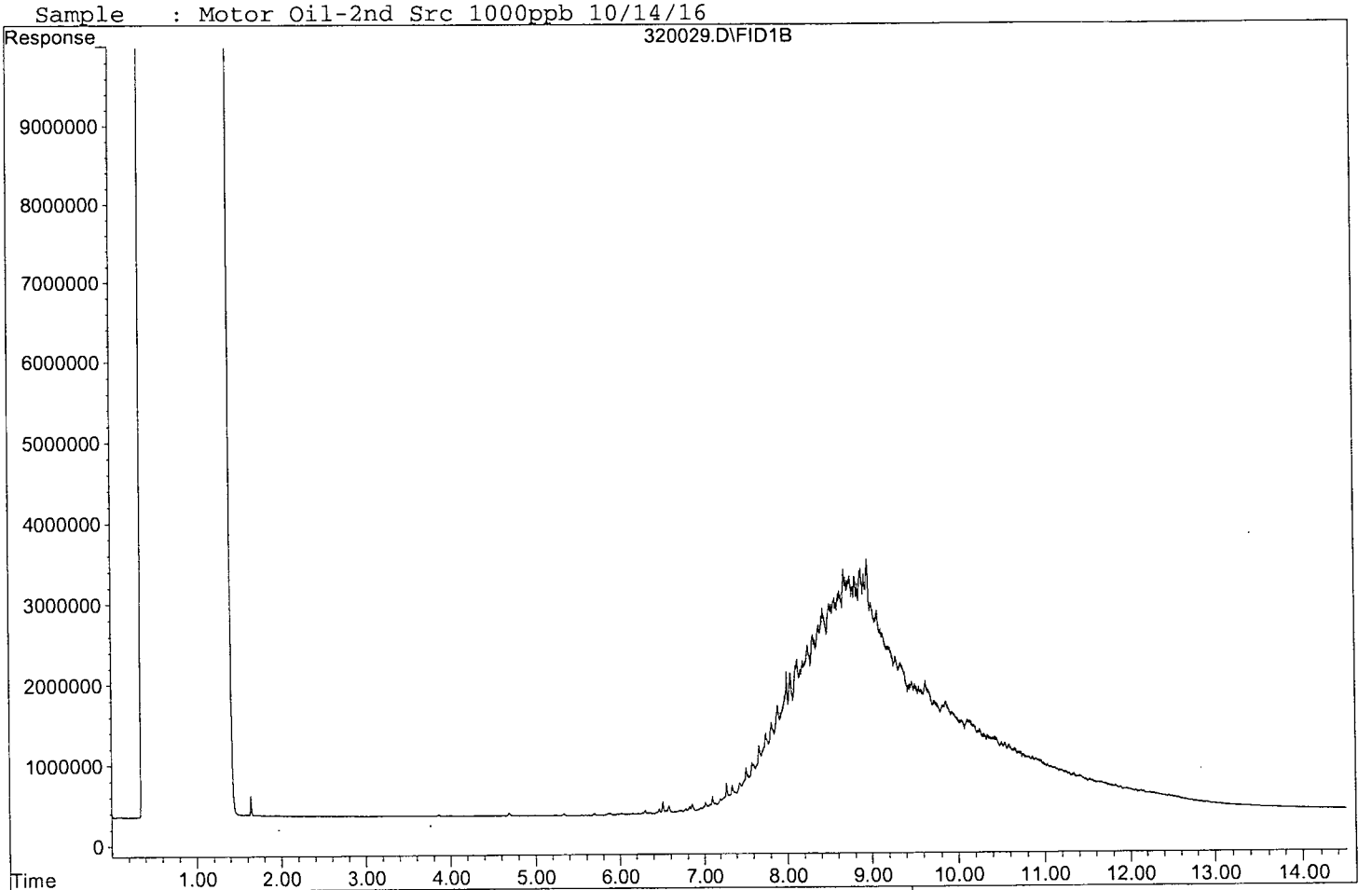
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

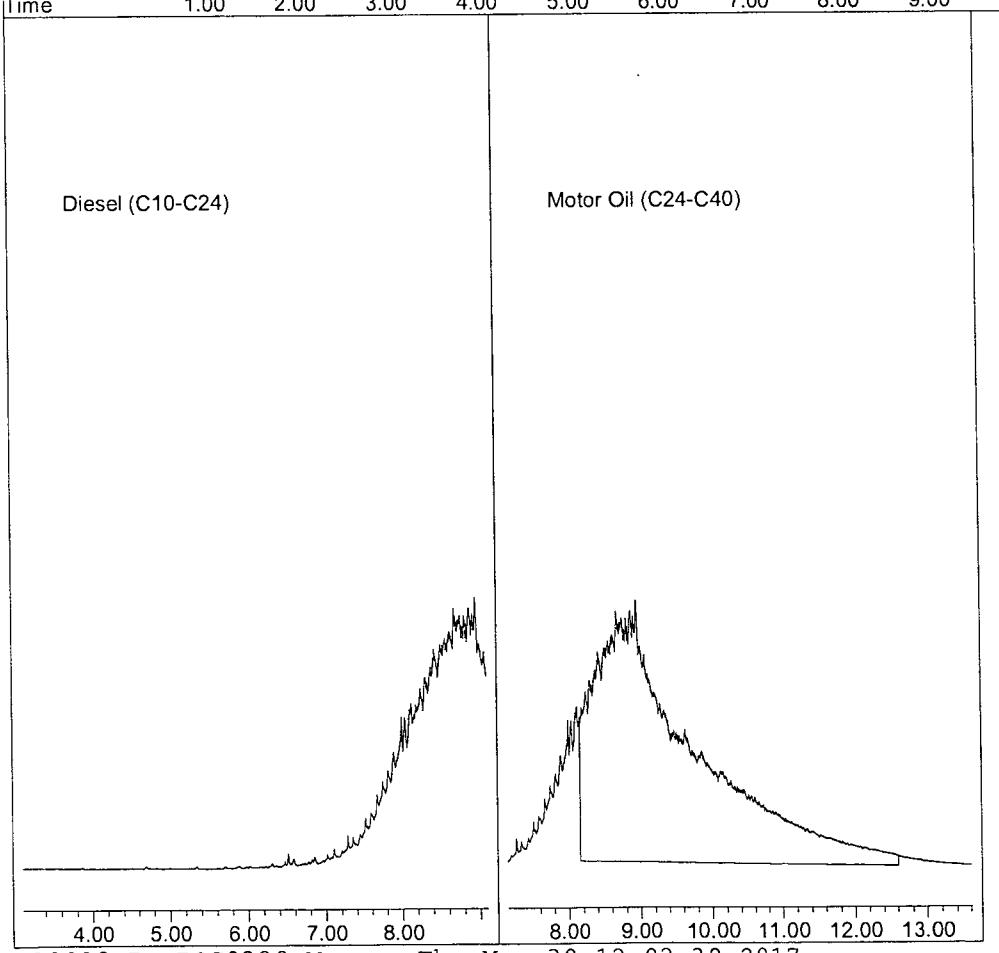
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2905079308	1181.841 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320029.D
Sample : Motor Oil-2nd Src 1000ppb 10/14/16





TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/18/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411250-251.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1778880	2.0	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1372700	12	HBTM	
3							
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39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411250.D Vial: 50
Acq On : 4-18-17 8:57:40 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 18 13:15 2017 Quant Results File: DOC0320.RES

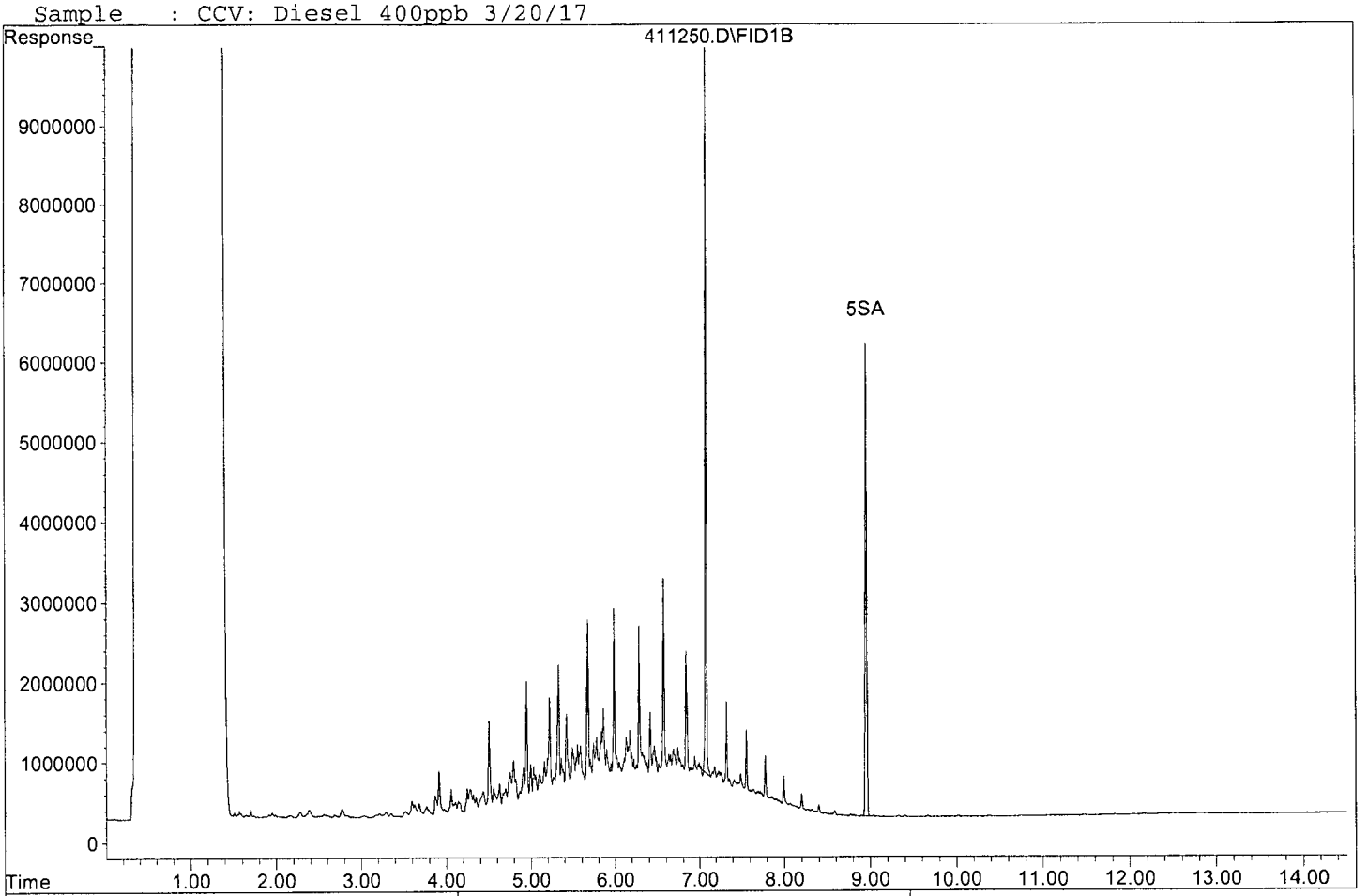
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

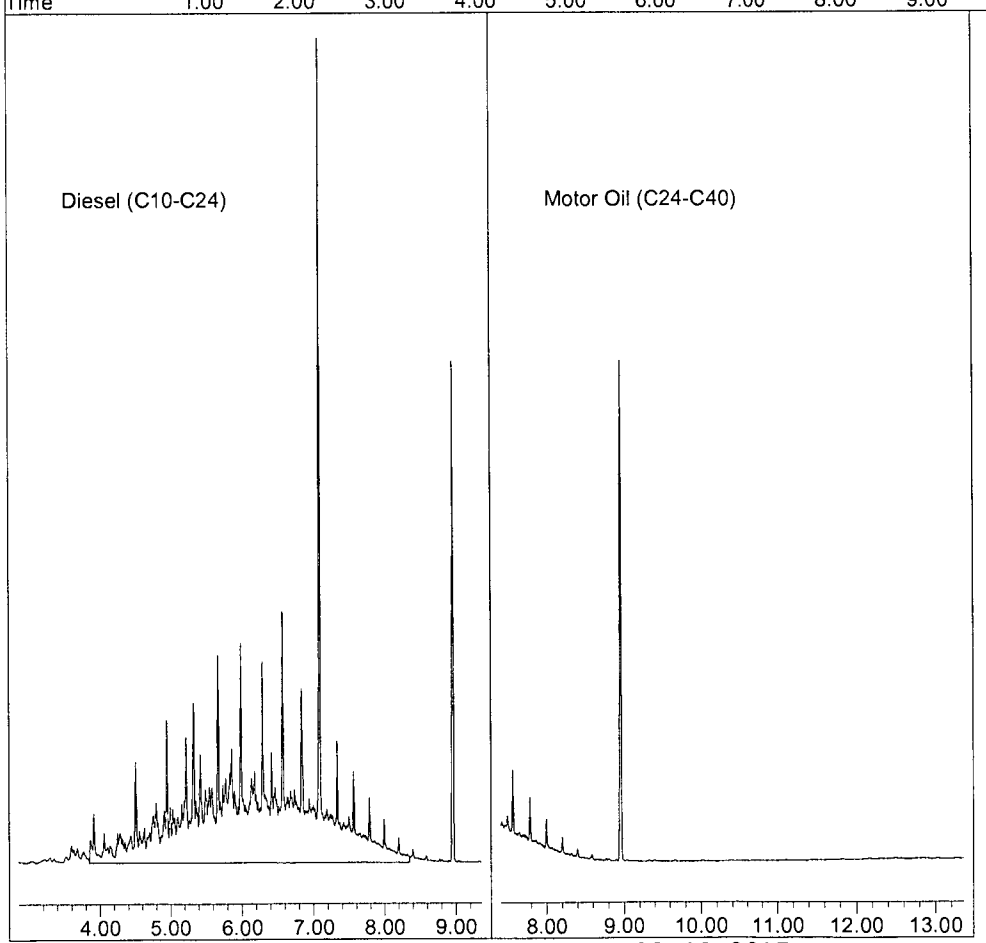
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	95806881	20.905 ppb
Surrogate Spike 24.000		Recovery =	87.10%
5) SA Octacosane(S)	8.96	70182106	20.294 ppb
Surrogate Spike 24.000		Recovery =	84.56%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1423103743	392.004 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411250.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411251.D Vial: 51
Acq On : 4-18-17 9:18:12 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 18 13:15 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

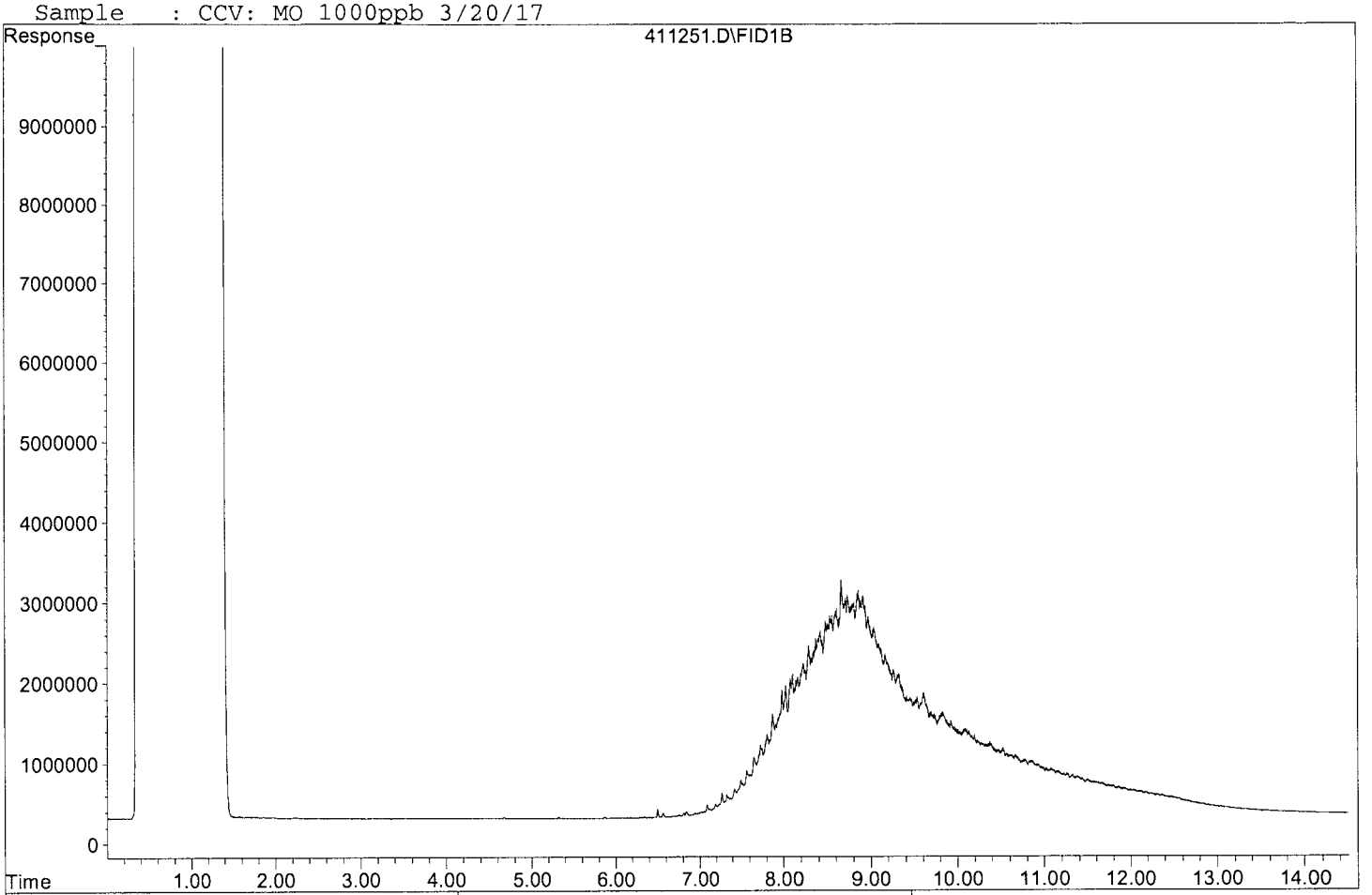
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

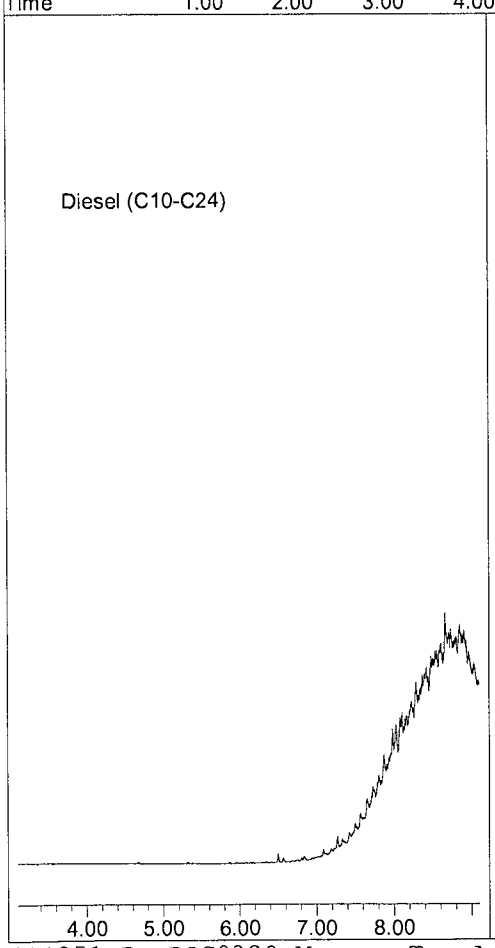
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2745406307	1116.883 ppb

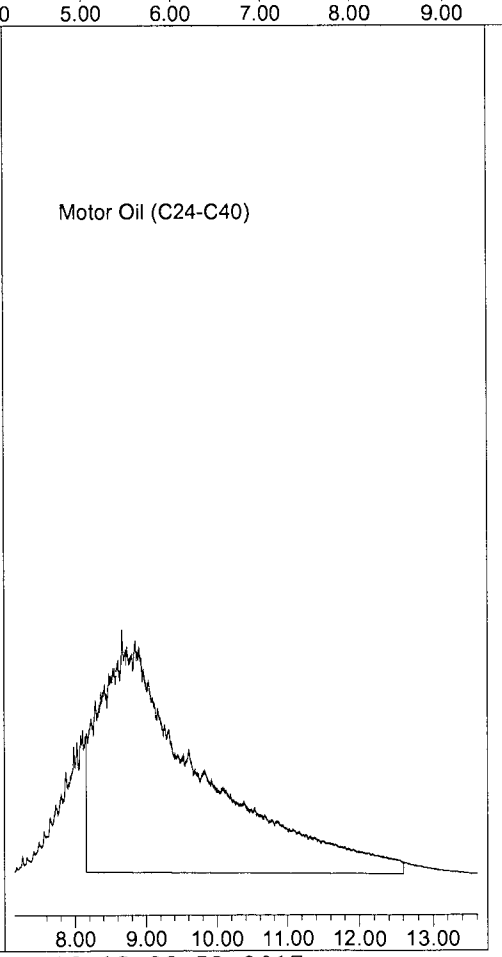
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411251.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/18/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411264-265.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1728640	4.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1334400	8.6	HBTM	
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		Average			6.7		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411264.D Vial: 64
Acq On : 4-18-17 15:57:02 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 18 16:21 2017 Quant Results File: DOC0320.RES

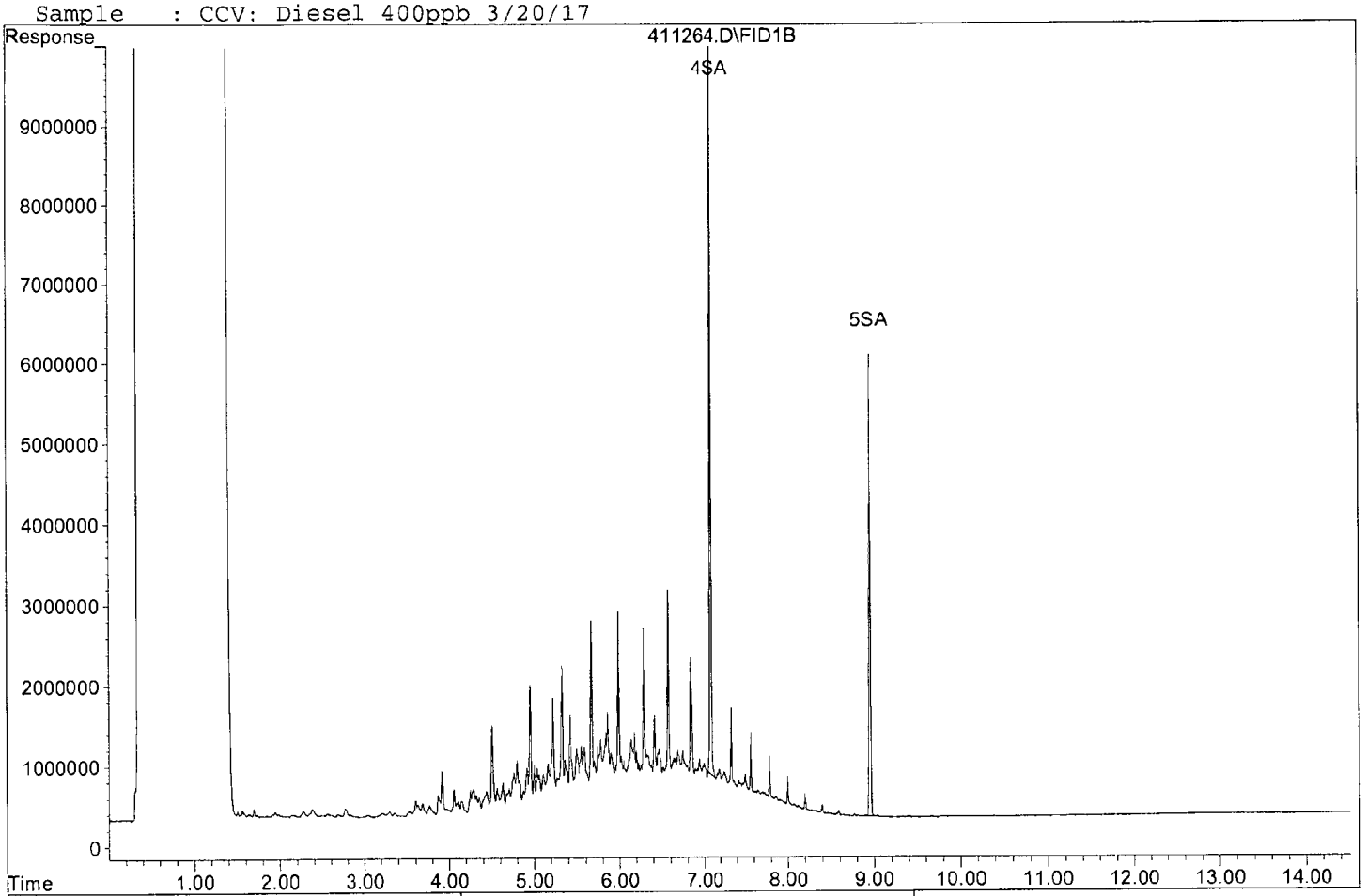
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

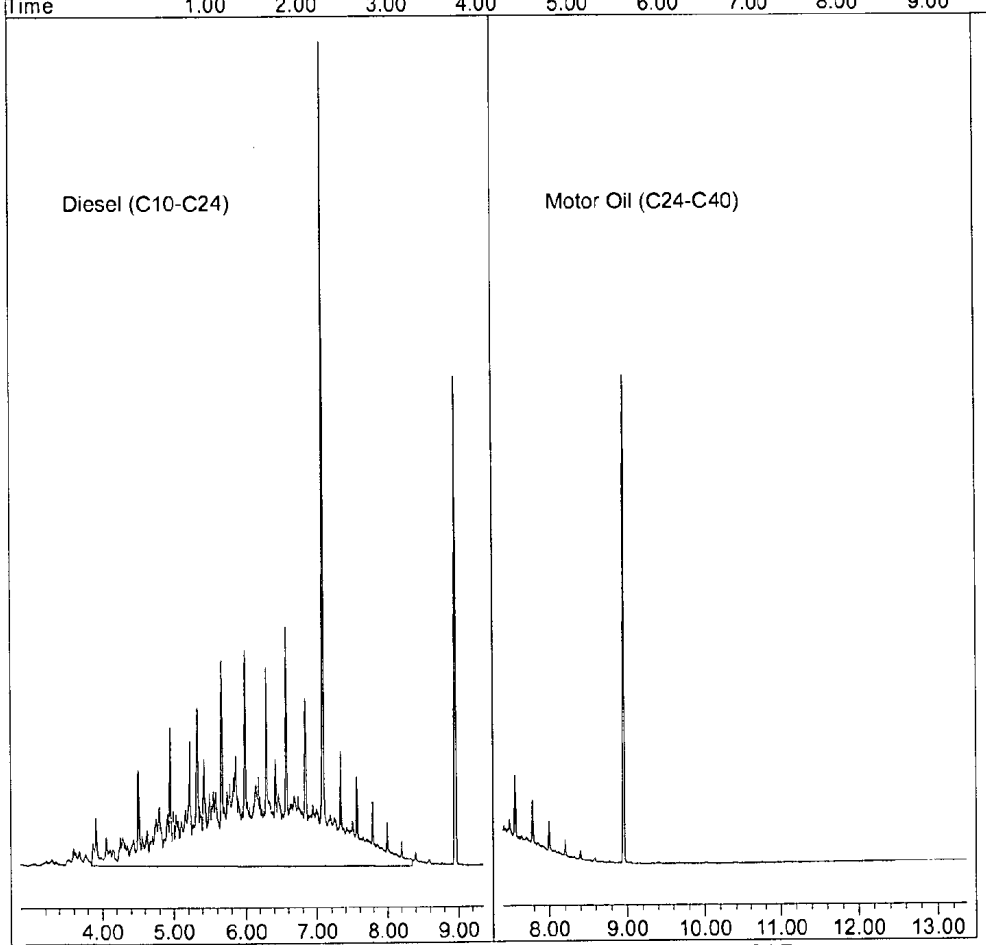
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	93446602	20.390 ppb
Surrogate Spike 30.000		Recovery =	67.97%
5) SA Octacosane(S)	8.96	67520066	19.524 ppb
Surrogate Spike 30.000		Recovery =	65.08%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1382914717	380.934 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411264.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411265.D Vial: 65
Acq On : 4-18-17 16:18:01 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 18 16:32 2017 Quant Results File: DOC0320.RES

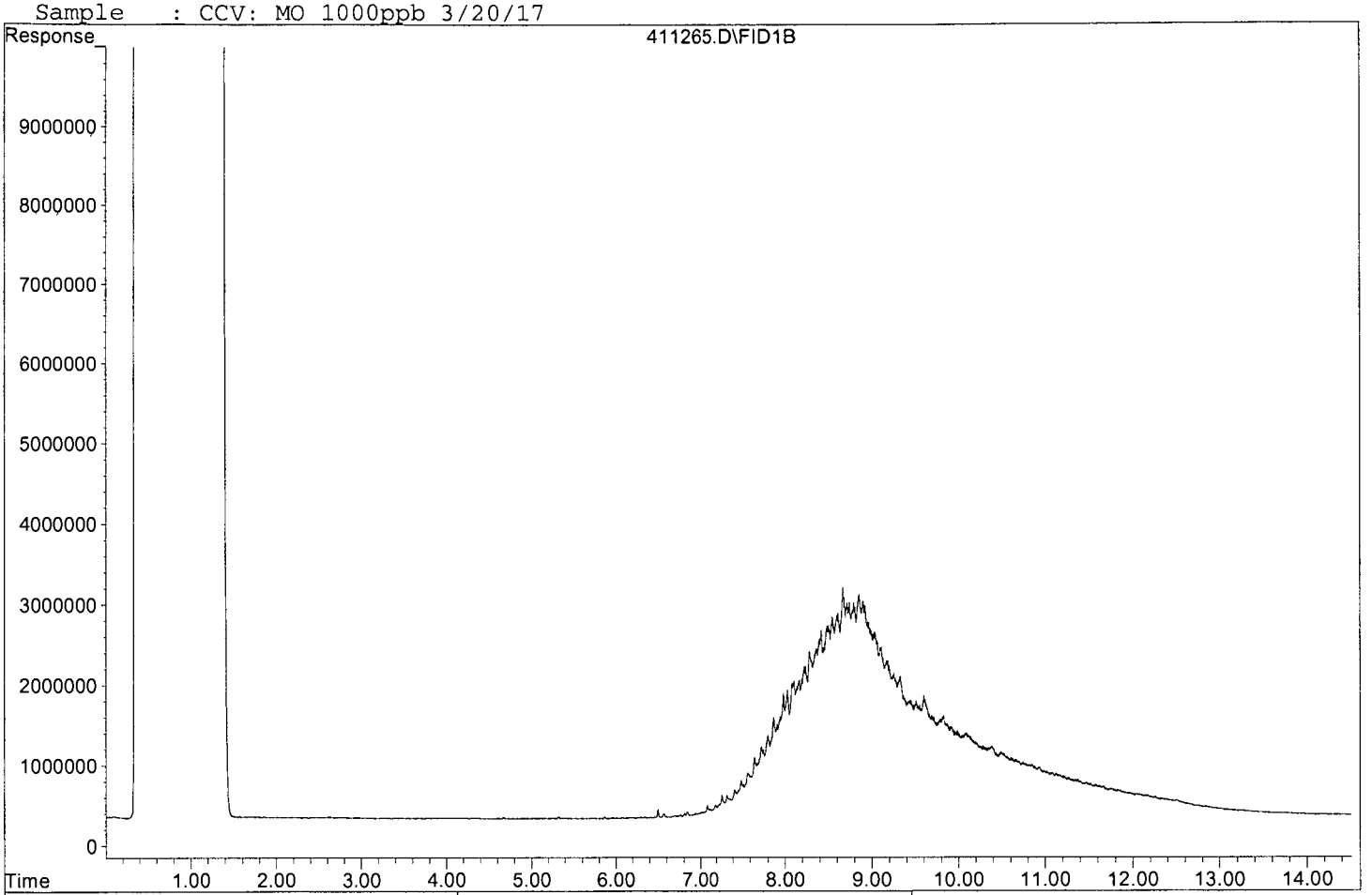
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

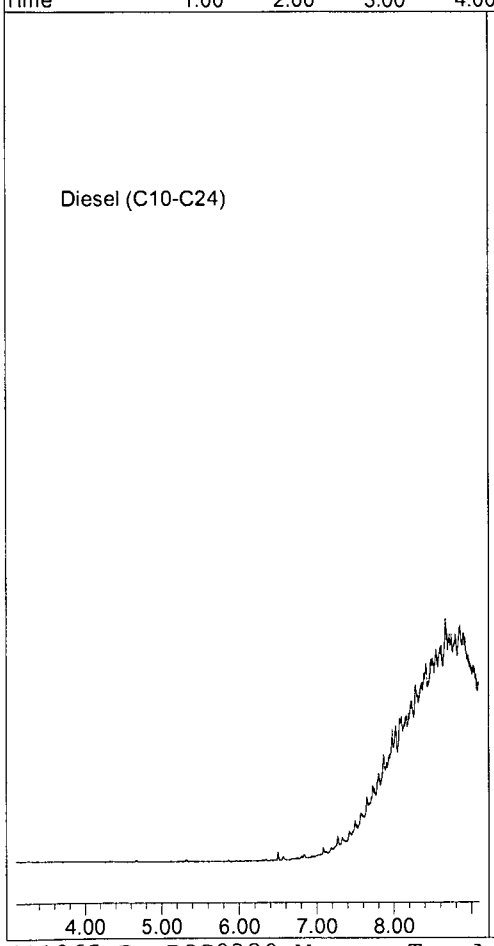
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

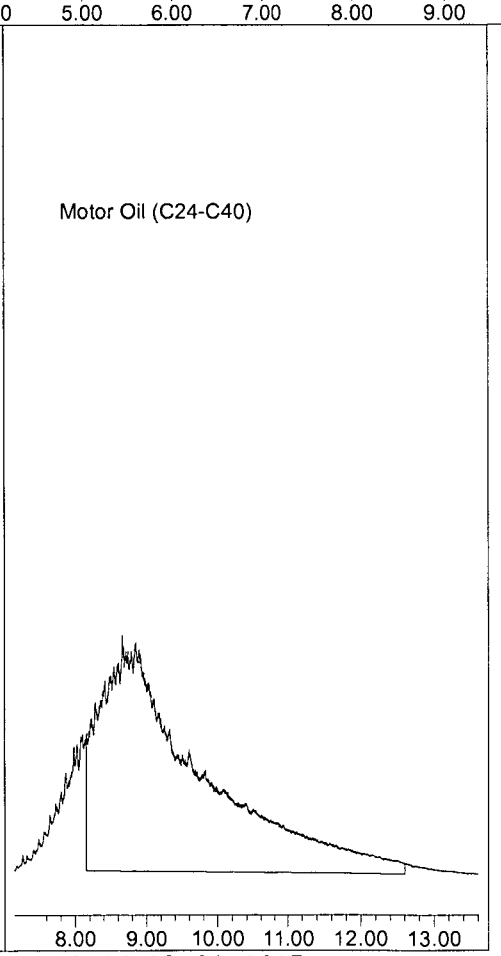
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2668798514	1085.718 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411265.D
Sample : CCV: MO 1000ppb 3/20/17







ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170411W-53260 - 217942**
Batch ID: #DOC53-170411A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/11/17	04/18/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/11/17	04/18/17
BLANK	SURROGATE: OCTACOSANE (S)	85.2	60-142			%	04/11/17	04/18/17
BLANK	SURROGATE: ORTHO-TERPHEN	73.9	56-125			%	04/11/17	04/18/17

Quant Method:DOC0320.M
Run #:411256
Instrument:Apollo
Sequence:170411
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/18/17 4:04:23 PM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411256.D Vial: 56
Acq On : 4-18-17 13:10:37 Operator: DP
Sample : 170411A BLK 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 15:29 2017 Quant Results File: DOC0320.RES

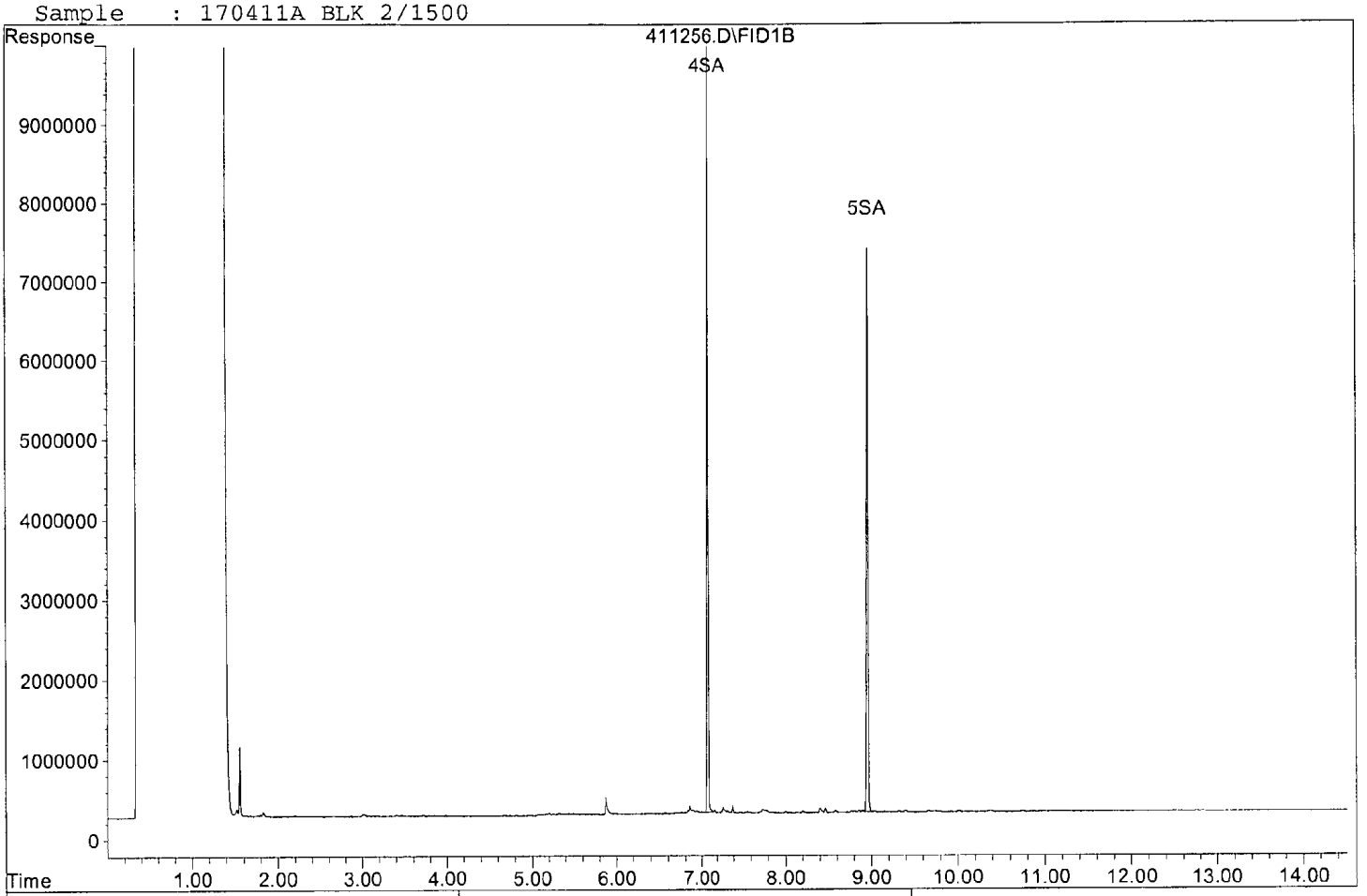
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

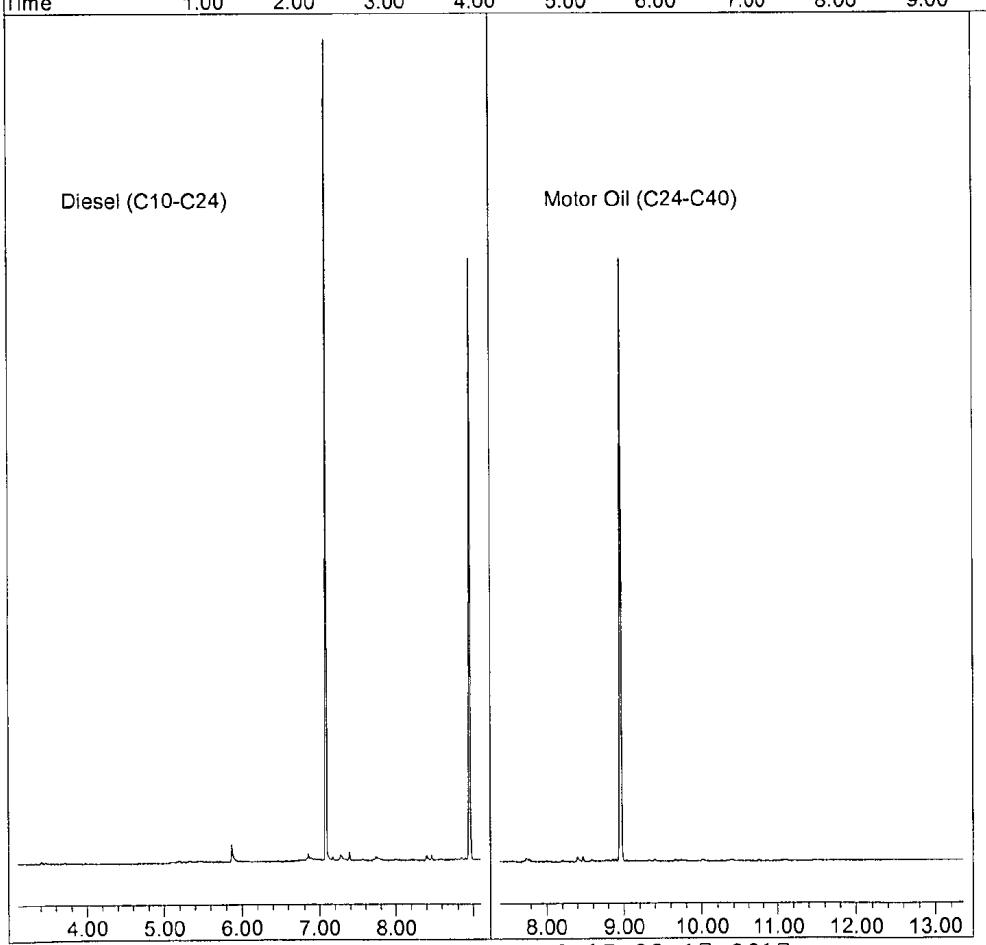
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	101621316	29.564 ppb
Surrogate Spike 40.000		Recovery =	73.91%
5) SA Octacosane(S)	8.96	88418556	34.090 ppb
Surrogate Spike 40.000		Recovery =	85.23%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411256.D
Sample : 170411A BLK 2/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170411W-53260 LCS - 217942**
Batch ID: #DOC53-170411A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	426	63.9	36-132
OIL (C24-C40)	667	551	82.6	41-113
SURROGATE: OCTACOSANE (S)	40.0	33.4	83.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	33.2	83.0	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/11/17
Analysis Date :	04/18/17
Instrument :	Apollo
Run :	411257
Initials :	DPO

Printed: 04/18/17 4:04:17 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411257.D
Acq On : 4-18-17 13:31:01
Sample : 170411A LCS-1 2/1500
Misc : water
IntFile : events.e
Quant Time: Apr 18 13:45 2017 Quant Results File: DOC0320.RES

Vial: 57
Operator: DP
Inst : Apollo
Multiplr: 1.33

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

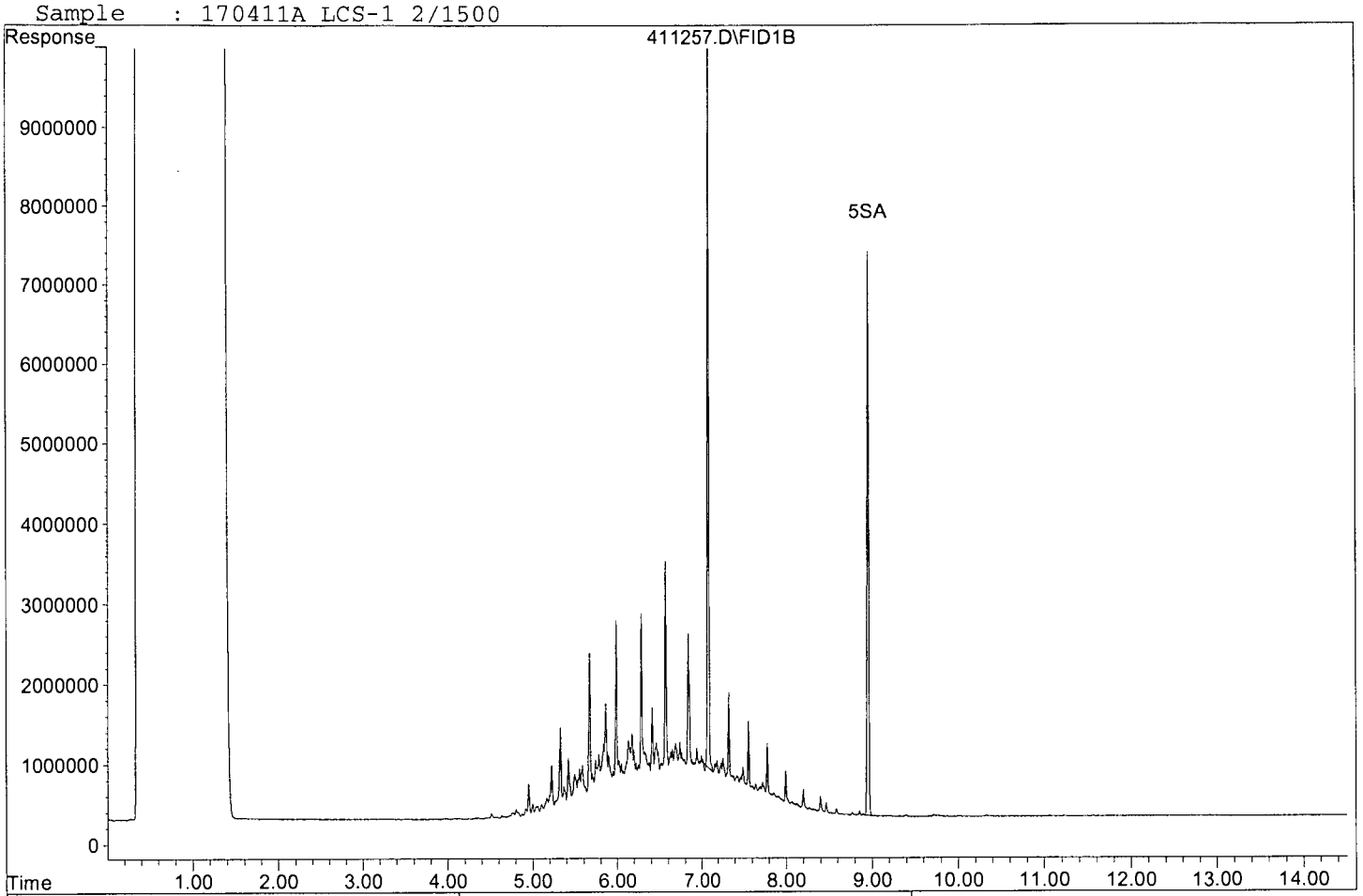
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	113961434	33.154 ppb
Surrogate Spike 40.000		Recovery =	82.89%
5) SA Octacosane(S)	8.96	86628499	33.399 ppb
Surrogate Spike 40.000		Recovery =	83.50%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1160778019	426.325 ppb

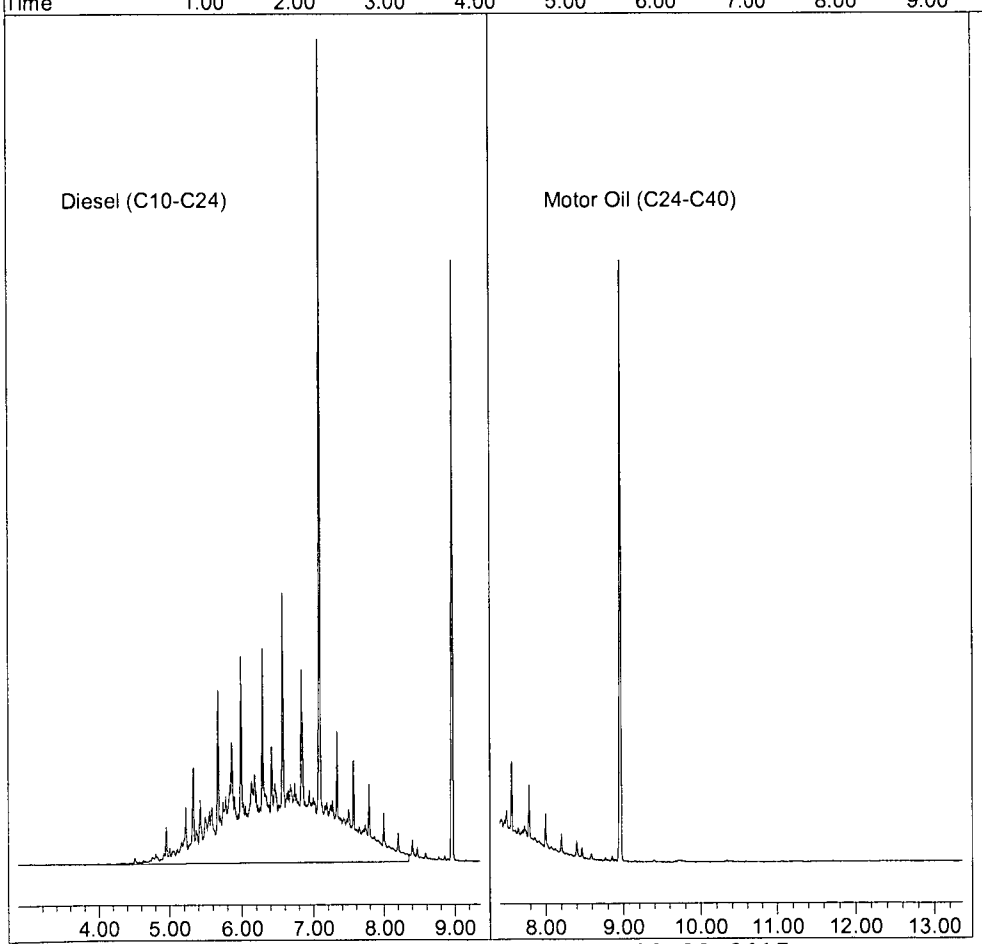
algorithm check Diesel: $\frac{1160778019 \times 1.33}{1815165 \times 2} = 425.2601734$

DP 4/18/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411257.D
Sample : 170411A LCS-1 2/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411258.D Vial: 58
Acq On : 4-18-17 13:51:35 Operator: DP
Sample : 170411A LCS-2 2/1500 Inst : Apollo
Misc : water Multiplr: 1.33
IntFile : events.e
Quant Time: Apr 18 14:08 2017 Quant Results File: DOC0320.RES

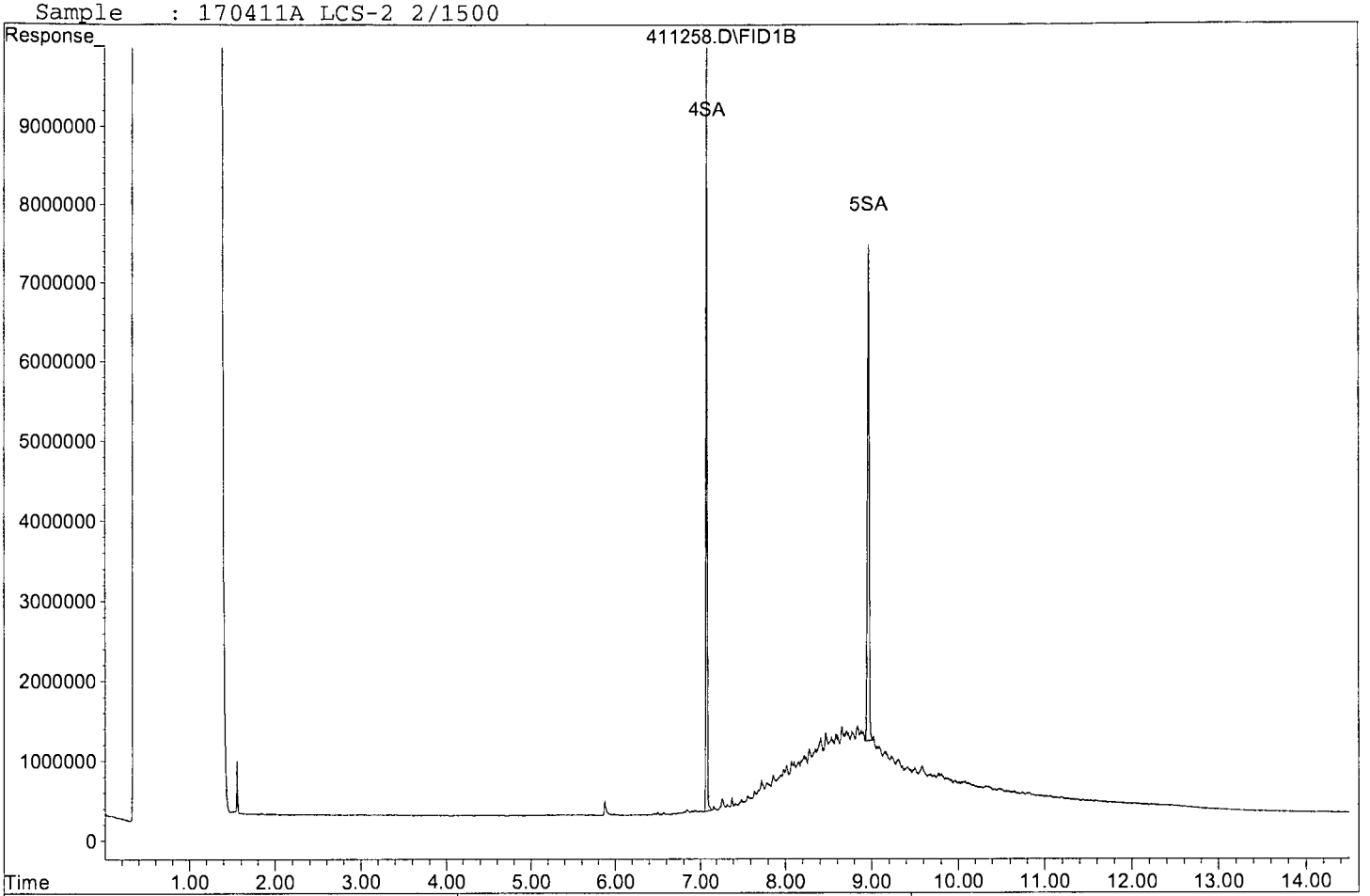
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 18 13:27:56 2017
Response via : Multiple Level Calibration

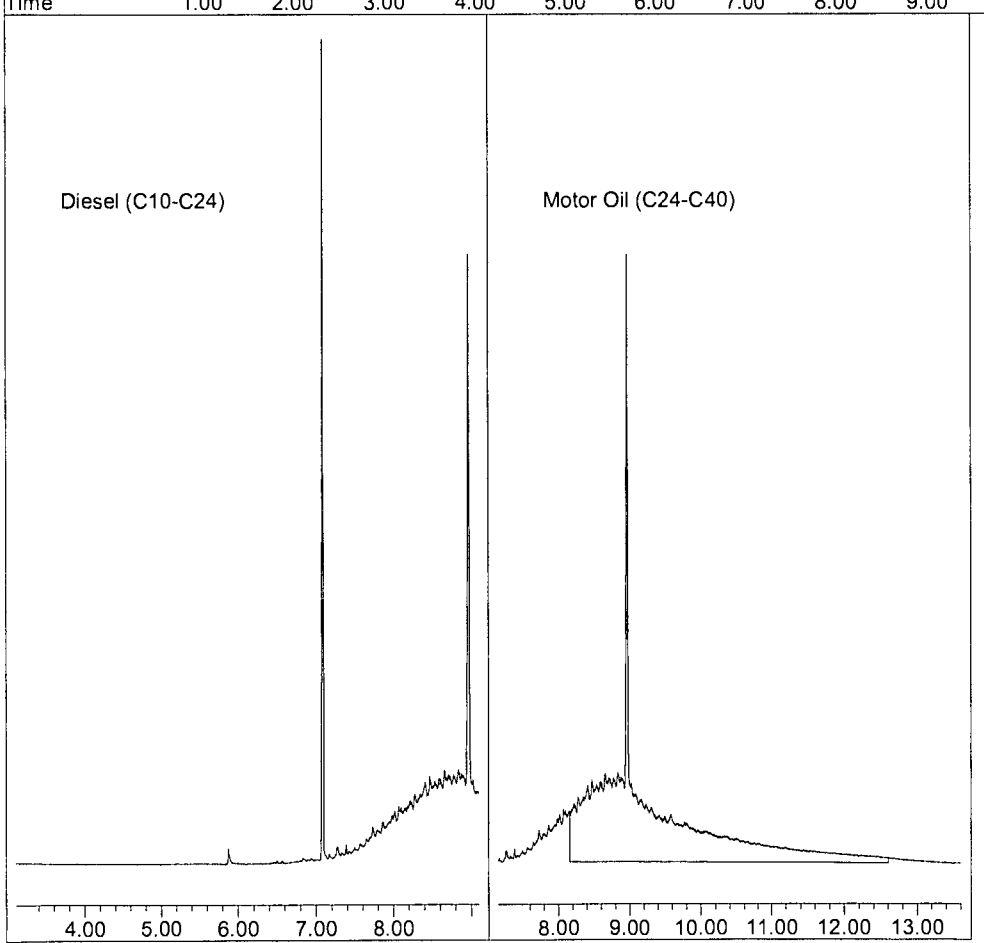
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	99028408	28.810 ppb
Surrogate Spike 40.000		Recovery =	72.02%
5) SA Octacosane(S)	8.97	86527438	33.360 ppb
Surrogate Spike 40.000		Recovery =	83.40%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	1015864453	551.029 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411258.D
Sample : 170411A LCS-2 2/1500





DIESEL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Diesel Cal STD	1000	280736-37656	03/20/17	03/02/18	10	10	40	60	80	100
MC	N/A	56153			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppb	10	100	400	600	800	1000

MOTOR OIL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Motor Oil STD	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56153			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppb	20	50	250	1000	1500	2000

Prep: 03/20/17-DP Exp: 03/02/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37656 OP: 03/20/17 EXP: 03/20/18	500 µL	25 mL	1000ug/mL	MC LOT# 56153
THC Surrogate Mix	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37404-37409 OP: 03/02/17 EXP: 03/02/18 O2SI CAT#110316-05 LOT#266278-37114-37116 OP: 03/02/17 EXP: 03/02/18	2080 µL		50ug/mL	

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 08/01/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP:07/06/16 Exp:07/06/17	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diesel Cal STD	1000 µg/mL	Diesel Cal STD	4000 µL	10 mL	400 µg/ml	MC
	Prep:	03/20/17				56153
	Exp:	03/02/18				

MOTOR OIL CCV 1000ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Motor Oil STD	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

Diesel Spike	
Cat:	011598-03
Lot:	280736-37657
Op:	03/31/17-DP
Exp:	03/31/18

Motor Oil Spike	
Cat:	116390-02
Lot:	239390-34443
Op:	04/11/17-DP
Exp:	11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170411A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 exp 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 exp 3-2-18	
Spiked ID 2	Motor Oil Spike 4-11-17 exp 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	04/11/17 18:30	
Spiked ID 8			Ext. End Time:	04/18/17 12:00	
			GC Requires Extract By:	**04/13/17 0:00**	
			pH1		Water Bath Temp Criteria 35,35,35,3
			pH2		
			pH3		

Spiked By: KY **Date** 04/11/17 **Witnessed By:** RH **Date** 04/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170411A Blk				0.1	1 equip	1500 e-wb1	2	7	04/11/17 18:30	
2	170411A LCS-1		0.020	1	0.1	1 equip	1500 e-wb2	2	7	04/11/17 18:30	
3	170411A LCS-2		0.020	2	0.1	1 equip	1500 e-wb3	2	7	04/11/17 18:30	
4	AZ53260	AZ53260W17			0.1	1 equip	1500 e-wb4	2	7	04/11/17 18:30	82611
5	AZ53261	AZ53261W07			0.1	1 equip	1500 e-wb1	2	7	04/11/17 18:30	82611
6	AZ53263	AZ53263W10			0.1	1 equip	1500 e-wb2	2	7	04/11/17 18:30	82611
7	AZ53264	AZ53264W06			0.1	1 equip	1500 e-wb3	2	7	04/11/17 18:30	82611
8	AZ53266	AZ53266W11			0.1	1 equip	1500 E-WB4	2	7	04/11/17 18:30	82611

4/18/17

Solvent and Lot#	
MC	56258
Na2SO4	16c255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	4/18/17
Time	1:00
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/18/17 12:10:03 PM

Reviewed By: **Date** 4/18/17

Injection Log

Directory: G:\APOLLO\DATA\170320\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	16	320016.D	1	Diesel-1 10ppb 3/20/17	Mix(A)	3-20-17 15:15:13
2	17	320017.D	1	Diesel-2 100ppb 3/20/17	Mix(A)	3-20-17 15:36:08
3	18	320018.D	1	Diesel-3 400ppb 3/20/17	Mix(A)	3-20-17 15:57:14
4	19	320019.D	1	Diesel-4 600ppb 3/20/17	Mix(A)	3-20-17 16:18:15
5	20	320020.D	1	Diesel-5 800ppb 3/20/17	Mix(A)	3-20-17 16:39:27
6	21	320021.D	1	Diesel-6 1000ppb 3/20/17	Mix(A)	3-20-17 17:00:36
7	22	320022.D	1	Diesel-2nd Src 400ppb 8/1/16	Mix(A)	3-20-17 17:21:37
8	23	320023.D	1	Motor Oil-1 20ppb 3/20/17	Mix(B)	3-20-17 17:42:35
9	24	320024.D	1	Motor Oil-2 50ppb 3/20/17	Mix(B)	3-20-17 18:03:37
10	25	320025.D	1	Motor Oil-3 250ppb 3/20/17	Mix(B)	3-20-17 18:24:46
11	26	320026.D	1	Motor Oil-4 1000ppb 3/20/17	Mix(B)	3-20-17 18:45:44
12	27	320027.D	1	Motor Oil-5 1500ppb 3/20/17	Mix(B)	3-20-17 19:06:49
13	28	320028.D	1	Motor Oil-6 2000ppb 3/20/17	Mix(B)	3-20-17 19:27:55
14	29	320029.D	1	Motor Oil-2nd Src 1000ppb 10/14/16	Mix(B)	3-20-17 19:48:56
15	50	411250.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-18-17 8:57:40
16	51	411251.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-18-17 9:18:12
17	56	411256.D	1.33333	170411A BLK 2/1500	water	4-18-17 13:10:37
18	57	411257.D	1.33333	170411A LCS-1 2/1500	water	4-18-17 13:31:01
19	58	411258.D	1.33333	170411A LCS-2 2/1500	water	4-18-17 13:51:35
20	59	411259.D	1.33333	AZ53260W17 2/1500	water	4-18-17 14:12:20
21	60	411260.D	1.33333	AZ53261W07 2/1500	water	4-18-17 14:33:02
22	61	411261.D	1.33333	AZ53263W10 2/1500	water	4-18-17 14:53:53
23	62	411262.D	1.33333	AZ53264W06 2/1500	water	4-18-17 15:14:57
24	63	411263.D	1.33333	AZ53266W11 2/1500	water	4-18-17 15:36:04
25	64	411264.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-18-17 15:57:02
26	65	411265.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-18-17 16:18:01

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53172 - 217783**
Batch ID: #SIMDO-170410A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 1:16:38 PM

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/11/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A1-BLK	Blank	53-106	56.0		55-111	71.2	
170410A1-LCS	Lab Control Spike	53-106	53.4		55-111	71.0	
AZ53260	ERH297	53-106	57.1		55-111	71.2	
AZ53261	ERH298	53-106	60.5		55-111	76.5	
AZ53263	ERH321	53-106	59.8		55-111	67.7	
AZ53264	ERH289	53-106	61.0		55-111	71.0	
AZ53266	ERH303	53-106	56.1		55-111	66.3	

Comments: Batch: #SIMDO-170410A1

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/11/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A1-BLK	Blank	58-132	82.5				
170410A1-LCS	Lab Control Spike	58-132	84.6				
AZ53260	ERH297	58-132	85.3				
AZ53261	ERH298	58-132	88.6				
AZ53263	ERH321	58-132	77.6				
AZ53264	ERH289	58-132	81.9				
AZ53266	ERH303	58-132	77.3				

Comments: Batch: #SIMDO-170410A1

Printed: 04/13/17 1:16:40 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53172 LCS - 217783**
Batch ID: #SIMDO-170410A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
NAPHTHALENE	5.00	3.15	63.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	RHA

Printed: 04/13/17 1:16:42 PM
APPL Standard LCS

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER
Blank ID: 170410A1-BLK

SDG No: 82611
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 1744

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A1-BLK	Blank	0331L104	04/11/17 1744
170410A1-LCS	Lab Control Spike	0331L136	04/12/17 1221
AZ53260	ERH297	0331L147	04/12/17 1804
AZ53261	ERH298	0331L148	04/12/17 1837
AZ53263	ERH321	0331L149	04/12/17 1910
AZ53264	ERH289	0331L150	04/12/17 1942
AZ53266	ERH303	0331L151	04/12/17 2015

Comments: Batch: #SIMDO-170410A1

Printed: 04/13/17 1:16:44 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82611
Date Analyzed: 03/31/17
Instrument: Linus
Time Analyzed: 12:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/31/17	0331L003.D	03/31/17 13:02
2		0.2 SIM 03/31/17	0331L004.D	03/31/17 13:34
3		0.5 SIM 03/31/17	0331L005.D	03/31/17 14:07
4		1.0 SIM 03/31/17	0331L006.D	03/31/17 14:40
5		5.0 SIM 03/31/17	0331L007.D	03/31/17 15:12
6		10 SIM 03/31/17	0331L008.D	03/31/17 15:45
7		50 SIM 03/31/17	0331L009.D	03/31/17 16:17
8		100 SIM 03/31/17	0331L010.D	03/31/17 16:50
9		SS SIM 03/31/17	0331L011.D	03/31/17 17:23
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	50.5
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	52.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	20.9
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	88.1
442	40 - 150% of mass 198	58.2
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82611
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 16:52

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L103.D	04/11/17 17:08
2	Blank	170410A BLK 1/1000	0331L104.D	04/11/17 17:44
3		5.0 SIM 04/10/17	0331L124.D	04/12/17 4:00
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.1
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	52.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	20.6
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	90.6
442	40 - 150% of mass 198	59.1
443	17 - 23% of mass 442	18.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82611
Date Analyzed: 04/12/17
Instrument: Linus
Time Analyzed: 9:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L135.D	04/12/17 11:49
2	Lab Control Spike	170410A LCS-1 1/1000	0331L136.D	04/12/17 12:21
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.4
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	52.6
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.3
442	40 - 150% of mass 198	56.6
443	17 - 23% of mass 442	19.0

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82611
Date Analyzed: 04/12/17
Instrument: Linus
Time Analyzed: 17:15

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L146.D	04/12/17 17:31
2	ERH297	AZ53260W15 1/1060	0331L147.D	04/12/17 18:04
3	ERH298	AZ53261W11 1/1050	0331L148.D	04/12/17 18:37
4	ERH321	AZ53263W13 1/1040	0331L149.D	04/12/17 19:10
5	ERH289	AZ53264W09 1/1040	0331L150.D	04/12/17 19:42
6	ERH303	AZ53266W13 1/1050	0331L151.D	04/12/17 20:15
7		5.0 SIM 04/10/17	0331L160.D	04/13/17 0:51
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	52.3
68	0 - 2.05% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	39.5 - 60% of mass 198	51.1
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	86.0
442	50 - 150% of mass 198	61.4
443	17 - 23% of mass 442	19.2

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82611

Lab File ID (Standard): 0331L007.D Date Analyzed: 03/31/17

Instrument ID: Linus Time Analyzed: 15:12

GC Column: ID: Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	31142	5.65	15272	7.70	29598	9.56
	UPPER LIMIT	62284	6.15	30544	8.20	59196	10.06
	LOWER LIMIT	15571	5.15	7636	7.20	14799	9.06
	SAMPLE NO.						
01	5.0 SIM 04/10/17	29022	5.64	14310	7.70	27904	9.56
02	170410A BLK 1/1000	32671	5.65	16047	7.70	31219	9.56
03	5.0 SIM 04/10/17	30996	5.65	14458	7.70	27736	9.56
04	5.0 SIM 04/10/17	29938	5.64	14262	7.70	27140	9.56
05	170410A LCS-1 1/1000	37131	5.65	18196	7.70	35898	9.56
06	5.0 SIM 04/10/17	30201	5.65	14177	7.70	27110	9.56
07	AZ53260W15 1/1060	36204	5.65	17435	7.70	33035	9.56
08	AZ53261W11 1/1050	33678	5.65	16479	7.70	31307	9.56
09	AZ53263W13 1/1040	33286	5.65	16116	7.70	30411	9.56
10	AZ53264W09 1/1040	31047	5.65	14672	7.70	28051	9.57
11	AZ53266W13 1/1050	28614	5.66	13387	7.70	25247	9.57
12	5.0 SIM 04/10/17	29975	5.65	14647	7.70	27796	9.56
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82611
Lab File ID (Standard): 0331L007.D
Date Analyzed: 03/31/17
Instrument ID: Linus
Time Analyzed: 15:12
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	34075	16.41	30220	20.19		
	UPPER LIMIT	68150	16.91	60440	20.69		
	LOWER LIMIT	17038	15.91	15110	19.69		
	SAMPLE NO.						
01	5.0 SIM 04/10/17	32422	16.40	28891	20.18		
02	170410A BLK 1/1000	36292	16.41	32676	20.19		
03	5.0 SIM 04/10/17	31492	16.39	27335	20.18		
04	5.0 SIM 04/10/17	30771	16.40	27319	20.18		
05	170410A LCS-1 1/1000	41437	16.39	36371	20.18		
06	5.0 SIM 04/10/17	31144	16.40	27017	20.18		
07	AZ53260W15 1/1060	37829	16.41	33564	20.20		
08	AZ53261W11 1/1050	35496	16.41	31445	20.19		
09	AZ53263W13 1/1040	34229	16.42	29974	20.20		
10	AZ53264W09 1/1040	31185	16.42	27668	20.20		
11	AZ53266W13 1/1050	28488	16.42	25062	20.20		
12	5.0 SIM 04/10/17	31926	16.39	27266	20.18		
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	57.1	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.2	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	85.3	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L147
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 1:16:46 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L147.D Vial: 47
Acq On : 12 Apr 17 18:04 Operator: MA
Sample : AZ53260W15 1/1060 Inst : Linus
Misc : water Multiplr: 0.94

Quant Time: Apr 13 13:07 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	36204	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	17435	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	33035	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	37829	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	33564	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	18733	3.35986 ppb	0.01
Spiked Amount 4.717			Recovery	= 71.232%	
7) Surrogate Recovery (FBP)	6.92	172	30404	2.69327 ppb	0.00
Spiked Amount 4.717			Recovery	= 57.092%	
17) Surrogate Recovery (TPH)	13.39	244	51458	4.02345 ppb	-0.02
Spiked Amount 4.717			Recovery	= 85.288%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

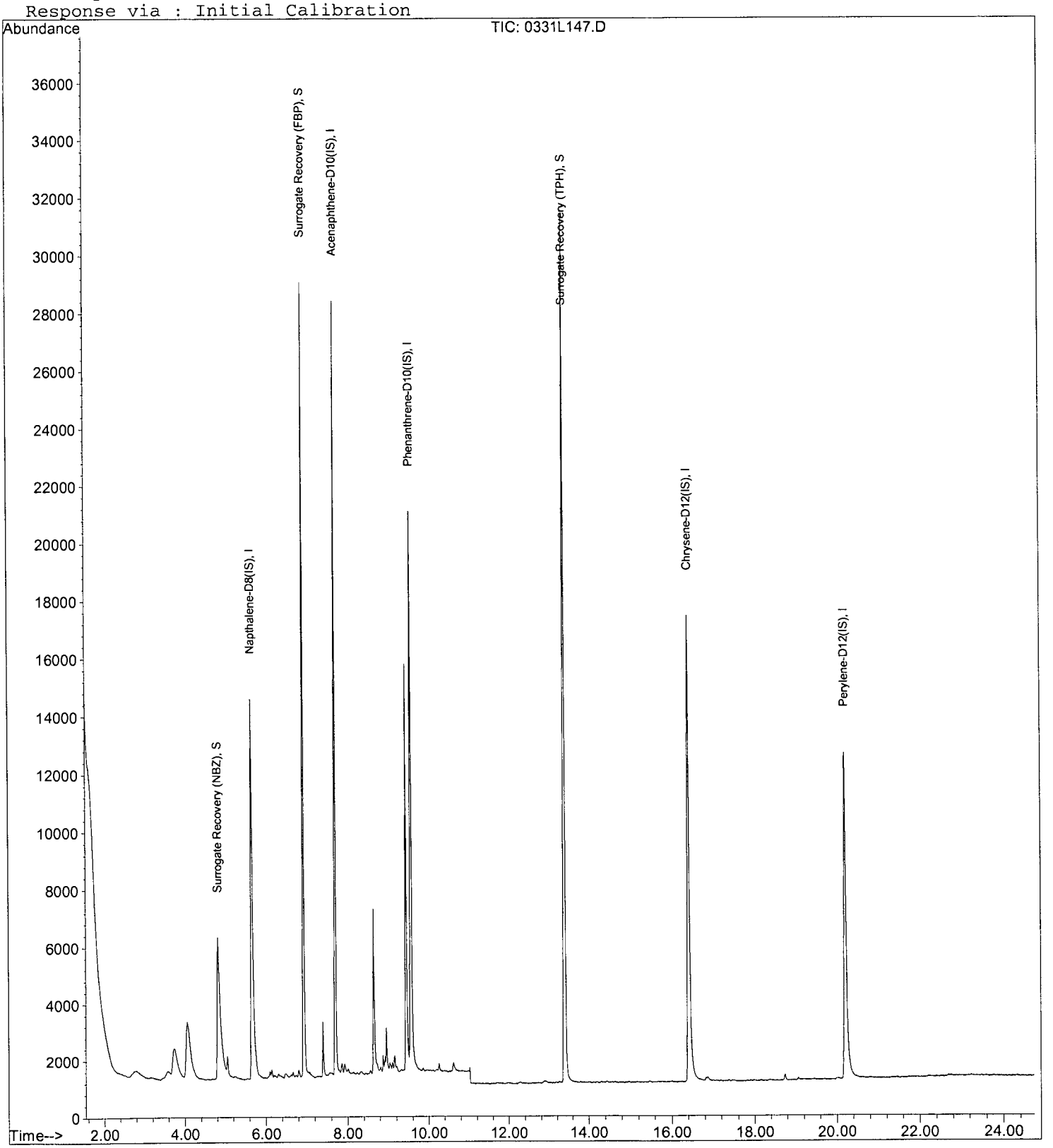
Data File : M:\LINUS\DATA\L170331\0331L147.D
Acq On : 12 Apr 17 18:04
Sample : AZ53260W15 1/1060
Misc : water

Vial: 47
Operator: MA
Inst : Linus
Multiplr: 0.94

Quant Time: Apr 13 13:07 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	60.5	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	76.5	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	88.6	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L148
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 1:16:46 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L148.D Vial: 48
Acq On : 12 Apr 17 18:37 Operator: MA
Sample : AZ53261W11 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 13 13:07 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33678	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16479	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31307	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	35496	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31445	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	18725	3.64469 ppb	0.01
Spiked Amount 4.762			Recovery	= 76.545%	
7) Surrogate Recovery (FBP)	6.92	172	30436	2.87967 ppb	0.00
Spiked Amount 4.762			Recovery	= 60.480%	
17) Surrogate Recovery (TPH)	13.39	244	50138	4.21767 ppb	-0.02
Spiked Amount 4.762			Recovery	= 88.578%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

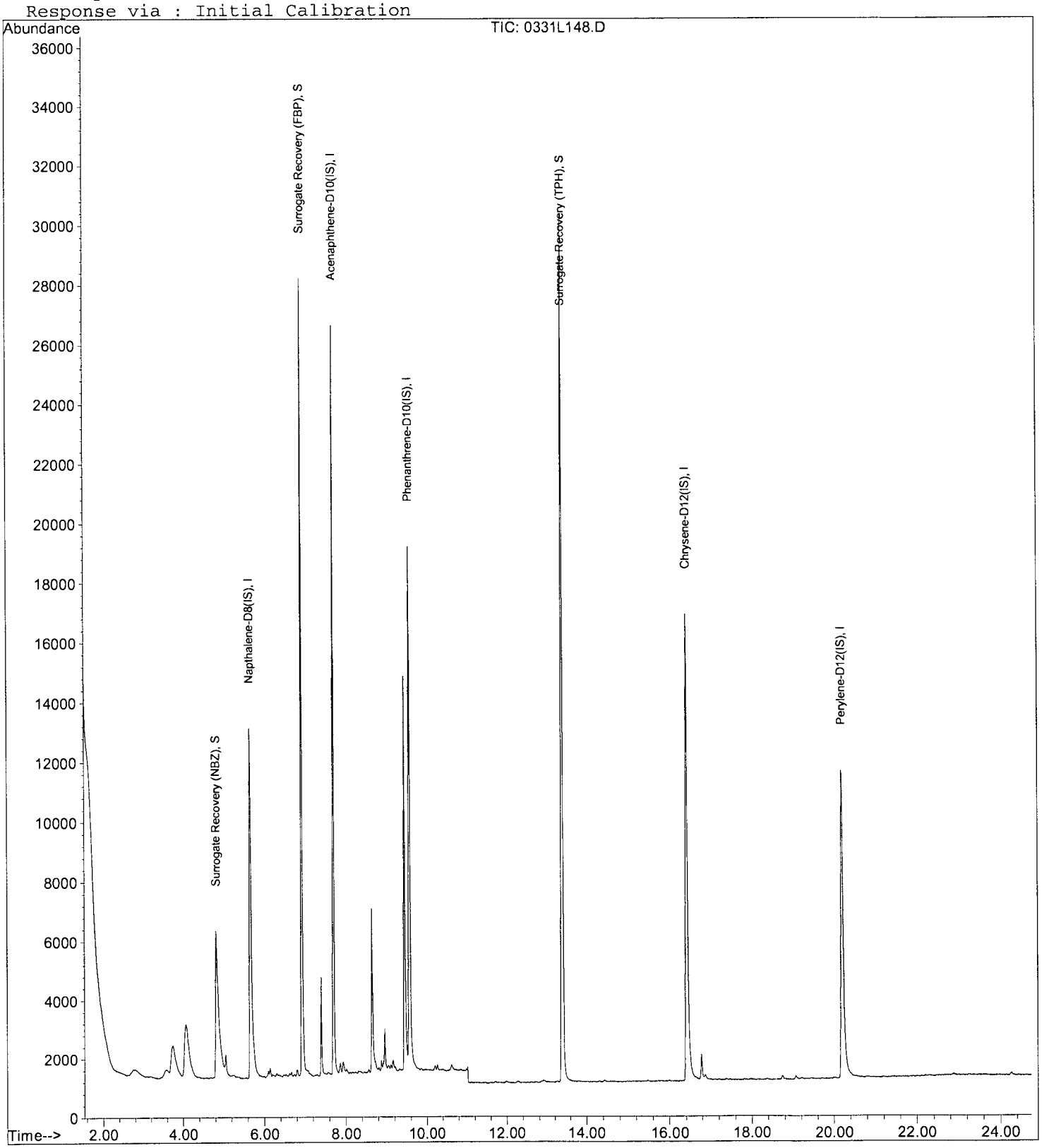
Data File : M:\LINUS\DATA\L170331\0331L148.D
Acq On : 12 Apr 17 18:37
Sample : AZ53261W11 1/1050
Misc : water

Vial: 48
Operator: MA
Inst : Linus
Multiplr: 0.95

Quant Time: Apr 13 13:07 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	59.8	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	67.7	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	77.6	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L149
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 1:16:46 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L149.D Vial: 49
Acq On : 12 Apr 17 19:10 Operator: MA
Sample : AZ53263W13 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Apr 13 13:08 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33286	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16116	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30411	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	34229	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.20	264	29974	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	16371	3.25504 ppb	0.01
Spiked Amount 4.808			Recovery	= 67.704%	
7) Surrogate Recovery (FBP)	6.92	172	29417	2.87332 ppb	0.00
Spiked Amount 4.808			Recovery	= 59.758%	
17) Surrogate Recovery (TPH)	13.40	244	42389	3.73337 ppb	-0.01
Spiked Amount 4.808			Recovery	= 77.646%	

Target Compounds Qvalue

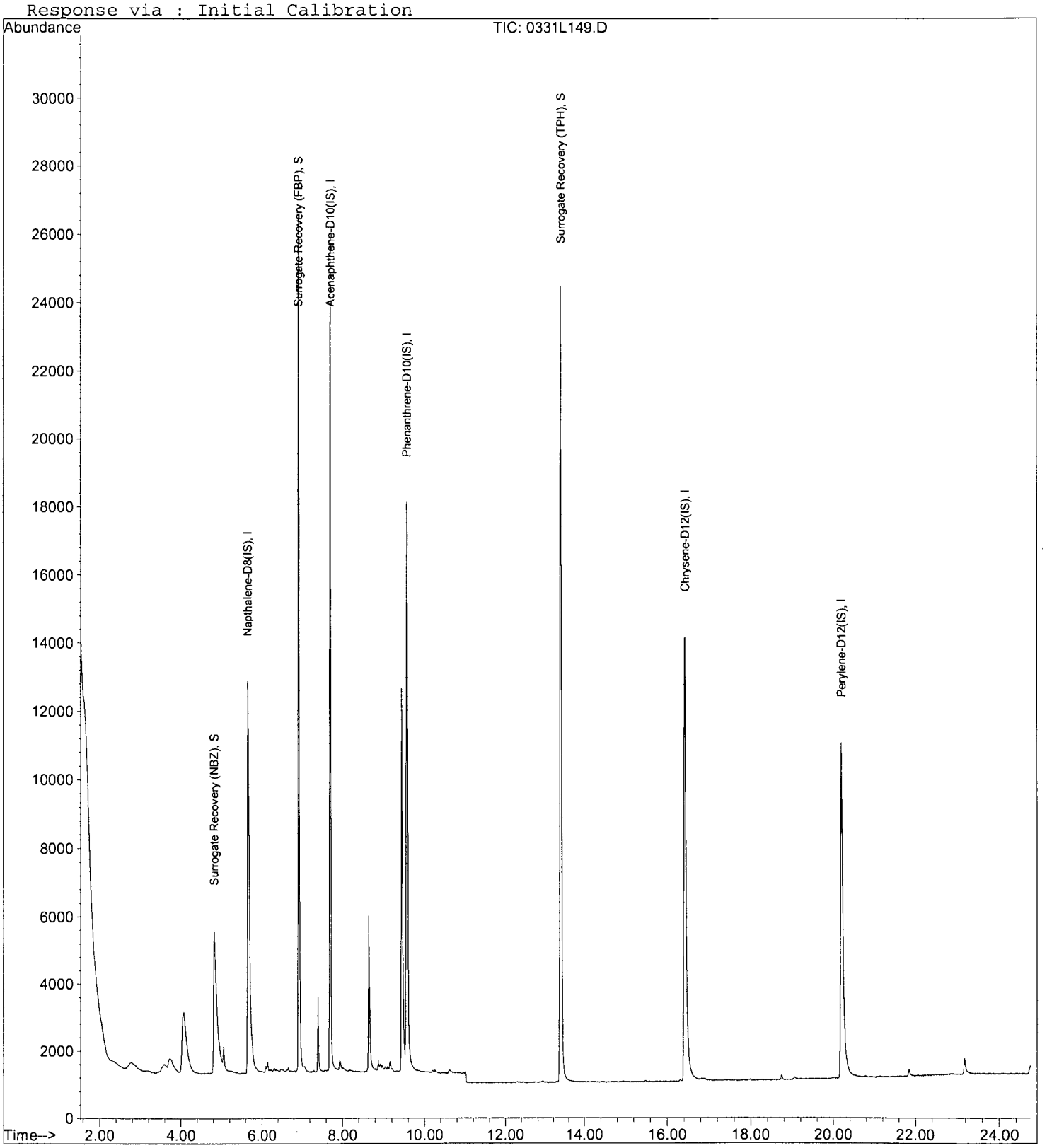
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L149.D Vial: 49
Acq On : 12 Apr 17 19:10 Operator: MA
Sample : AZ53263W13 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Apr 13 13:08 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH289
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53264
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	61.0	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.0	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	81.9	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L150
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 1:16:46 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L150.D Vial: 50
Acq On : 12 Apr 17 19:42 Operator: MA
Sample : AZ53264W09 1/1040 Inst : Linus
Misc : water Multiplr: 0.96

Quant Time: Apr 13 13:08 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31047	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14672	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.57	188	28051	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.42	240	31185	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.20	264	27668	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	16009	3.41261 ppb	0.01
Spiked Amount 4.808			Recovery	= 70.990%	
7) Surrogate Recovery (FBP)	6.92	172	27339	2.93316 ppb	0.00
Spiked Amount 4.808			Recovery	= 61.006%	
17) Surrogate Recovery (TPH)	13.40	244	40741	3.93848 ppb	-0.01
Spiked Amount 4.808			Recovery	= 81.910%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

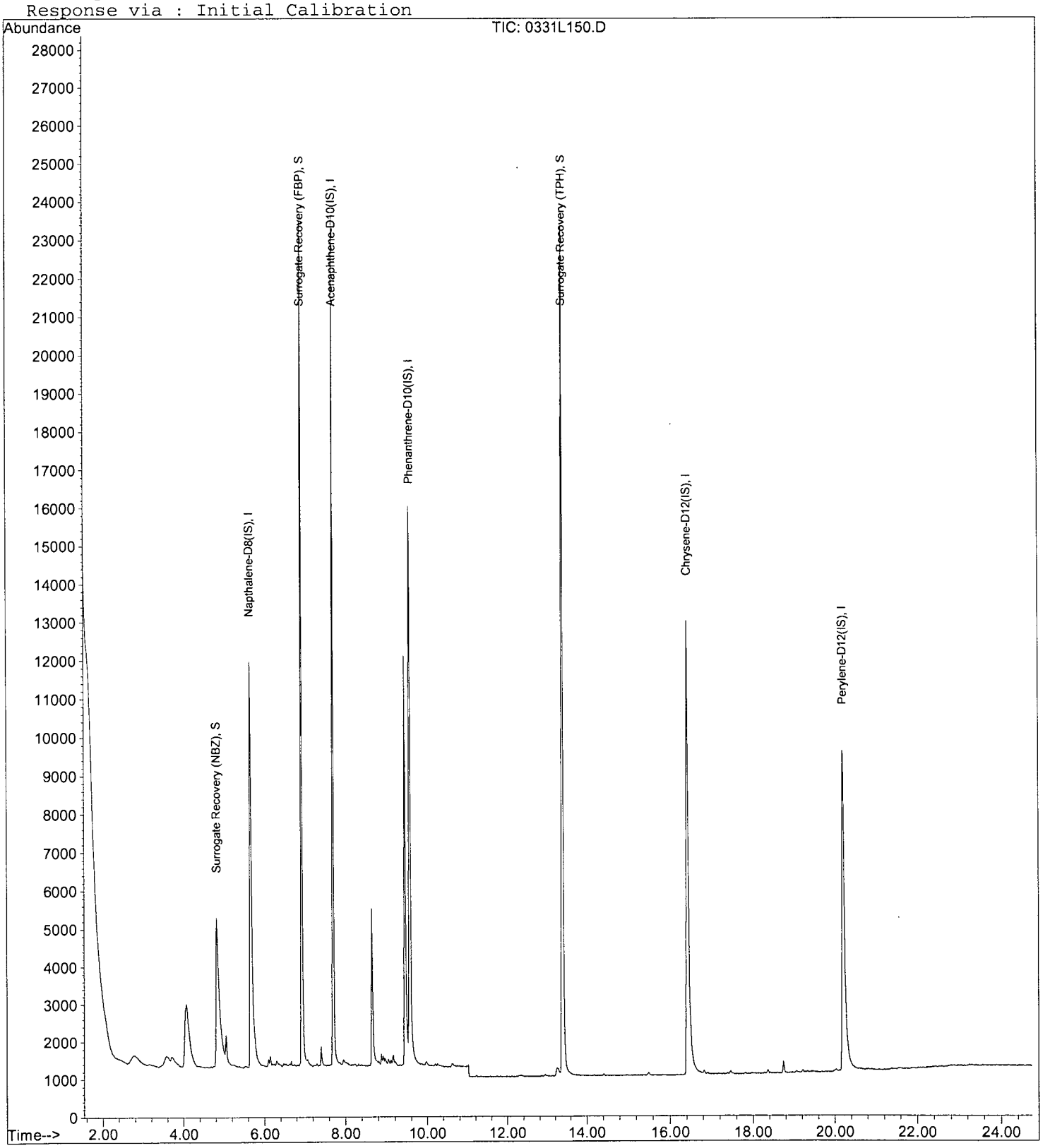
Data File : M:\LINUS\DATA\L170331\0331L150.D
Acq On : 12 Apr 17 19:42
Sample : AZ53264W09 1/1040
Misc : water

Vial: 50
Operator: MA
Inst : Linus
Multiplr: 0.96

Quant Time: Apr 13 13:08 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #SIMDO-170410A1-217783

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	56.1	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	66.3	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	77.3	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L151
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 1:16:46 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L151.D Vial: 51
Acq On : 12 Apr 17 20:15 Operator: MA
Sample : AZ53266W13 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 13 13:09 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.66	136	28614	2.50000 ppb	0.01
6) Acenaphthene-D10(IS)	7.70	164	13387	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.57	188	25247	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.42	240	28488	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	25062	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	13779	3.15664 ppb	0.02
Spiked Amount 4.762			Recovery	= 66.297%	
7) Surrogate Recovery (FBP)	6.93	172	22954	2.67338 ppb	0.01
Spiked Amount 4.762			Recovery	= 56.133%	
17) Surrogate Recovery (TPH)	13.40	244	35120	3.68110 ppb	-0.01
Spiked Amount 4.762			Recovery	= 77.301%	

Target Compounds Qvalue

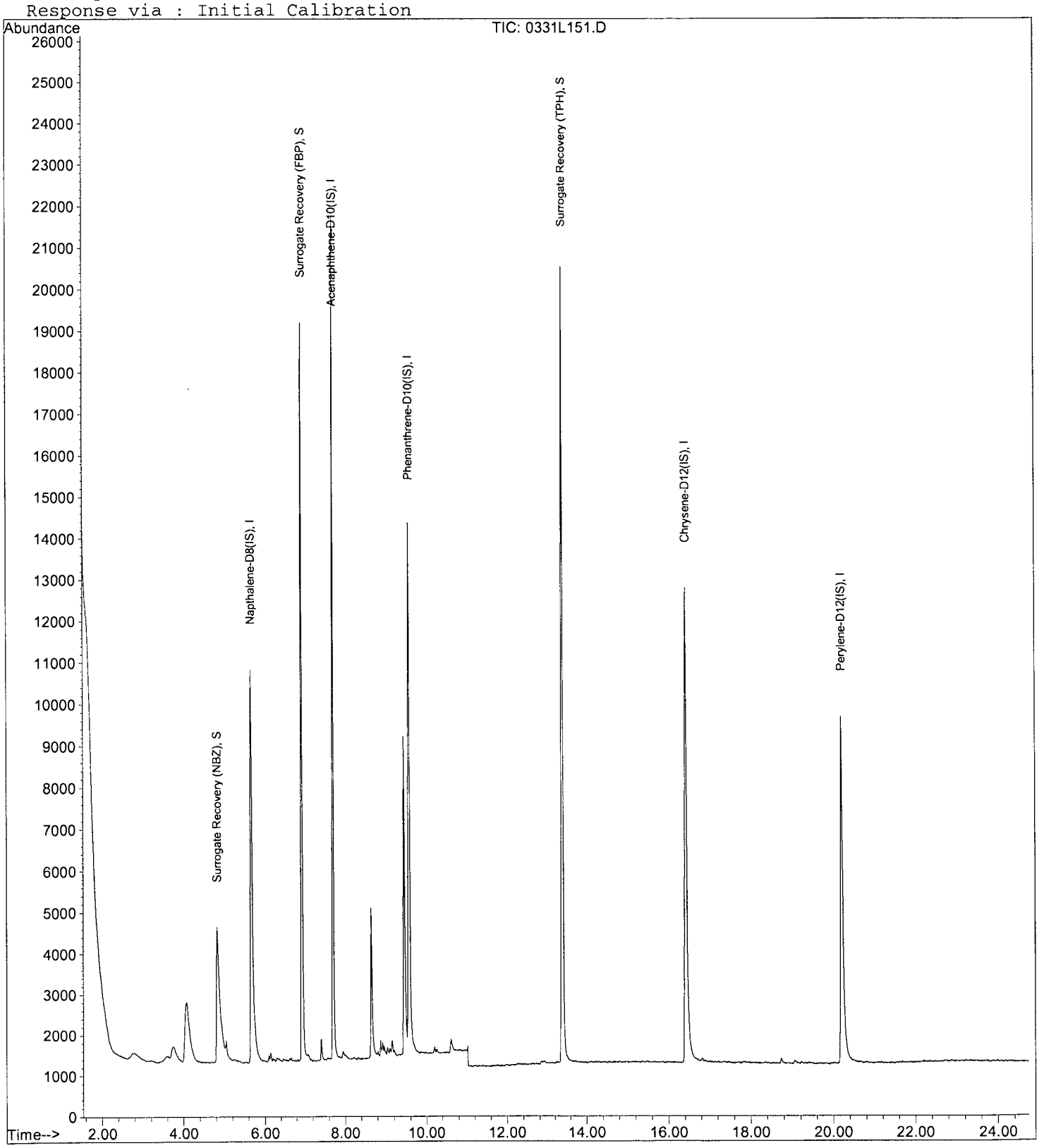
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L151.D Vial: 51
Acq On : 12 Apr 17 20:15 Operator: MA
Sample : AZ53266W13 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 13 13:09 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/31/17
Matrix: Instrument: Linus Initials:

		Compound	0.1	0.2	0.5	1	5	10	50	100			Avg	%RSD		
			0331L003.D	0331L004.D	0331L005.D	0331L006.D	0331L007.D	0331L008.D	0331L009.D	0331L010.D						
1	I	Napthalene-D8(IS)														
2	S	Surrogate Recovery (NBZ)			0.3171	0.3570	0.3399	0.3817	0.3902	0.3935			0.36	8.4	S	
3	TM	Naphthalene	0.9823	0.9734	0.9727	1.024	1.042	1.069	0.9927	0.9399			1.00	4.2	TM	
4	TM	2-Methylnaphthalene	0.6376	0.5964	0.6088	0.6337	0.6851	0.7033	0.6489	0.5967			0.64	6.2	TM	
5	TM	1-Methylnaphthalene	0.6928	0.6617	0.6701	0.7218	0.7095	0.7229	0.6322	0.5826			0.67	7.2	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.615	1.560	1.569	1.620	1.496	1.660	1.383	1.315			1.5	8.0	S	
8	TM	Acenaphthylene	2.257	1.837	1.884	1.986	2.100	2.229	1.899	1.737			2.0	9.4	TM	
9	*TM	Acenaphthene	1.126	1.137	1.175	1.193	1.237	1.281	1.080	0.9857			1.2	8.0	*TM	
10	TM	Fluorene	1.282	1.262	1.269	1.334	1.415	1.480	1.258	1.142			1.3	8.0	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.031	0.9551	0.9867	1.028	1.071	1.117	0.9583	0.8886			1.0	7.2	TM	
13	TM	Anthracene	0.8738	0.8806	0.9076	0.9647	1.038	1.101	0.9463	0.8475			0.94	9.2	TM	
14	*TM	Fluoranthene	1.457	1.365	1.426	1.503	1.642	1.778	1.605	1.520			1.5	8.6	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.401	1.337	1.345	1.404	1.483	1.565	1.473	1.405			1.4	5.3	TM	
17	S	Surrogate Recovery (TPH)	0.8299	0.8012	0.7860	0.8199	0.7520	0.8454	0.7809	0.7637			0.80	4.1	S	
18	TM	Benz (a) anthracene	1.273	1.132	1.140	1.163	1.219	1.305	1.261	1.225			1.2	5.3	TM	
19	TM	Chrysene	1.254	1.183	1.193	1.238	1.284	1.323	1.225	1.152			1.2	4.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.256	1.153	1.132	1.164	1.148	1.187	1.061	1.010			1.1	6.6	TM	
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.440	1.236	1.225	1.174	1.278	1.381	1.256	1.259			1.3	6.8	TM	
23	TM	Benzo (k) fluoranthene	1.110	0.9547	0.9635	1.065	1.255	1.254	1.184	0.9924			1.1	11	TM	
24	*TM	Benzo (a) pyrene	1.280	1.167	1.175	1.193	1.266	1.340	1.194	1.111			1.2	6.1	*TM	
25	TM	Dibenz (a,h) anthracene	1.057	1.049	1.048	1.070	1.099	1.140	0.9494	0.8876			1.0	7.8	TM	
26	TM	Benzo (g,h,i) perylene	1.326	1.157	1.119	1.096	1.111	1.166	0.9980	0.9049			1.1	11	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30819	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15850	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31272	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34642	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.18	264	31866	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	152	0.08047 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.600%	
7) Surrogate Recovery (FBP)	6.93	172	512	0.05375 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.080%	
17) Surrogate Recovery (TPH)	13.41	244	575	0.05441 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.080%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	1211	0.09406 ppb	99
4) 2-Methylnaphthalene	6.49	142	786	0.10911 ppb	99
5) 1-Methylnaphthalene	6.60	142	854	0.10961 ppb	99
8) Acenaphthylene	7.54	152	1431	0.11183 ppb	98
9) Acenaphthene	7.74	154	714	0.09447 ppb	99
10) Fluorene	8.35	166	813	0.09717 ppb	96
12) Phenanthrene	9.60	178	1290	0.10241 ppb	98
13) Anthracene	9.68	178	1093	0.09142 ppb	97
14) Fluoranthene	12.22	202	1823	0.08778 ppb	95
16) Pyrene	12.84	202	1942	0.09787 ppb	98
18) Benz (a) anthracene	16.38	228	1764	0.10087 ppb	97
19) Chrysene	16.48	228	1738	-0.64058 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	1741	0.03994 ppb #	95
22) Benzo (b) fluoranthene	19.29	252	1836	0.10910 ppb	98
23) Benzo (k) fluoranthene	19.36	252	1415	0.09287 ppb	96
24) Benzo (a) pyrene	20.06	252	1632	0.10355 ppb	98
25) Dibenz (a,h) anthracene	22.55	278	1347	-0.81595 ppb	96
26) Benzo (g,h,i) perylene	23.02	276	1690	-1.01298 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

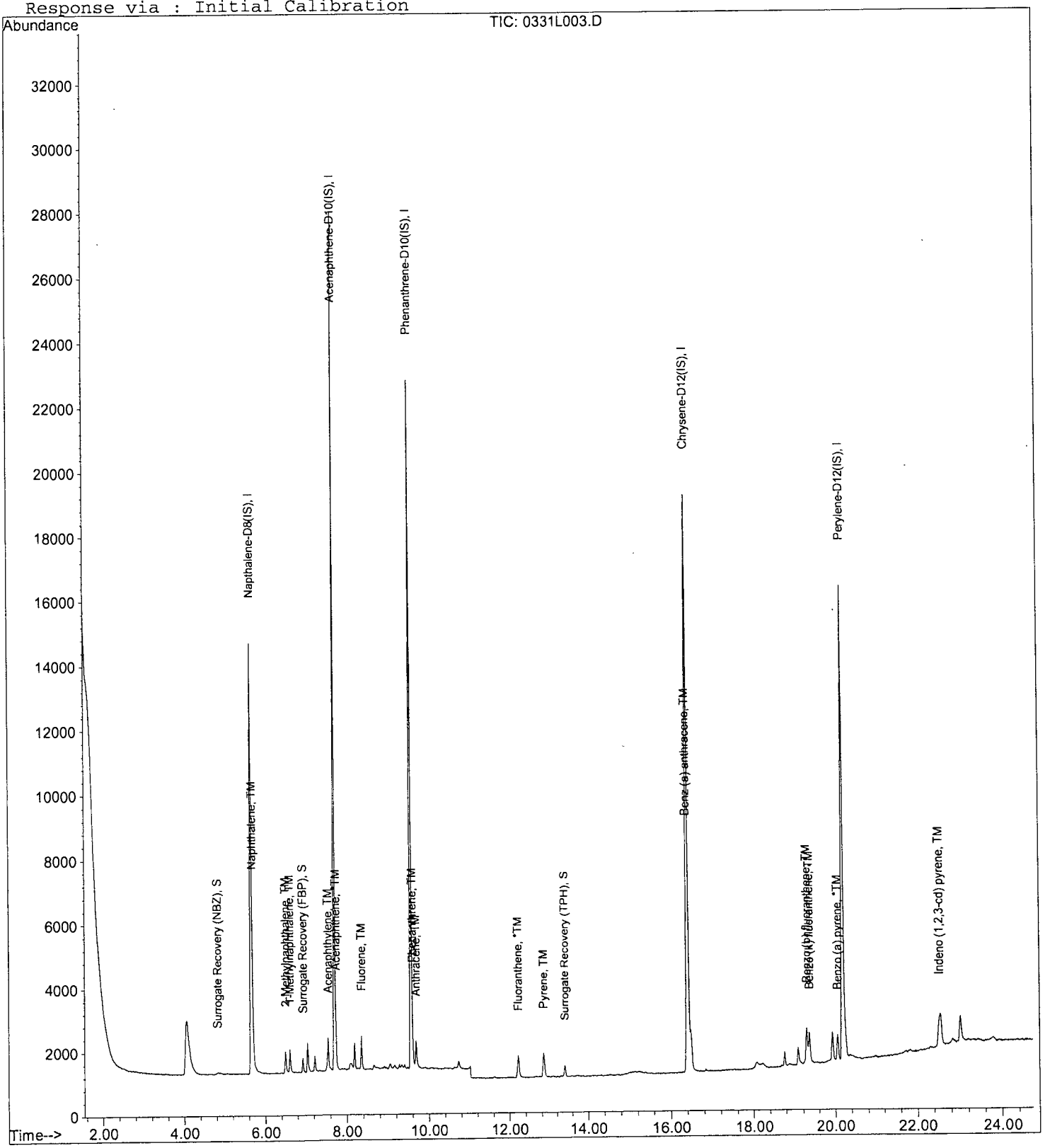
Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15822	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31057	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34106	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31187	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	284	0.10721 ppb	0.04
Spiked Amount 5.000			Recovery	= 2.140%	
7) Surrogate Recovery (FBP)	6.93	172	987	0.10380 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.080%	
17) Surrogate Recovery (TPH)	13.42	244	1093	0.10505 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.100%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	2430	0.18640 ppb	100
4) 2-Methylnaphthalene	6.51	142	1489	0.20413 ppb	100
5) 1-Methylnaphthalene	6.62	142	1652	0.20941 ppb	96
8) Acenaphthylene	7.54	152	2325	0.18202 ppb	98
9) Acenaphthene	7.74	154	1439	0.19073 ppb	98
10) Fluorene	8.35	166	1598	0.19132 ppb	97
12) Phenanthrene	9.60	178	2373	0.18969 ppb	99
13) Anthracene	9.69	178	2188	0.18427 ppb	98
14) Fluoranthene	12.22	202	3392	0.16445 ppb	99
16) Pyrene	12.85	202	3647	0.18669 ppb	100
18) Benz (a) anthracene	16.39	228	3088	0.17936 ppb	99
19) Chrysene	16.48	228	3227	-0.53196 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.52	276	3145	0.14877 ppb #	90
22) Benzo (b) fluoranthene	19.29	252	3083	0.18719 ppb	97
23) Benzo (k) fluoranthene	19.36	252	2382	0.15974 ppb	98
24) Benzo (a) pyrene	20.06	252	2911	0.18873 ppb	98
25) Dibenz (a,h) anthracene	22.55	278	2618	-0.68100 ppb	95
26) Benzo (g,h,i) perylene	23.03	276	2887	-0.88501 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

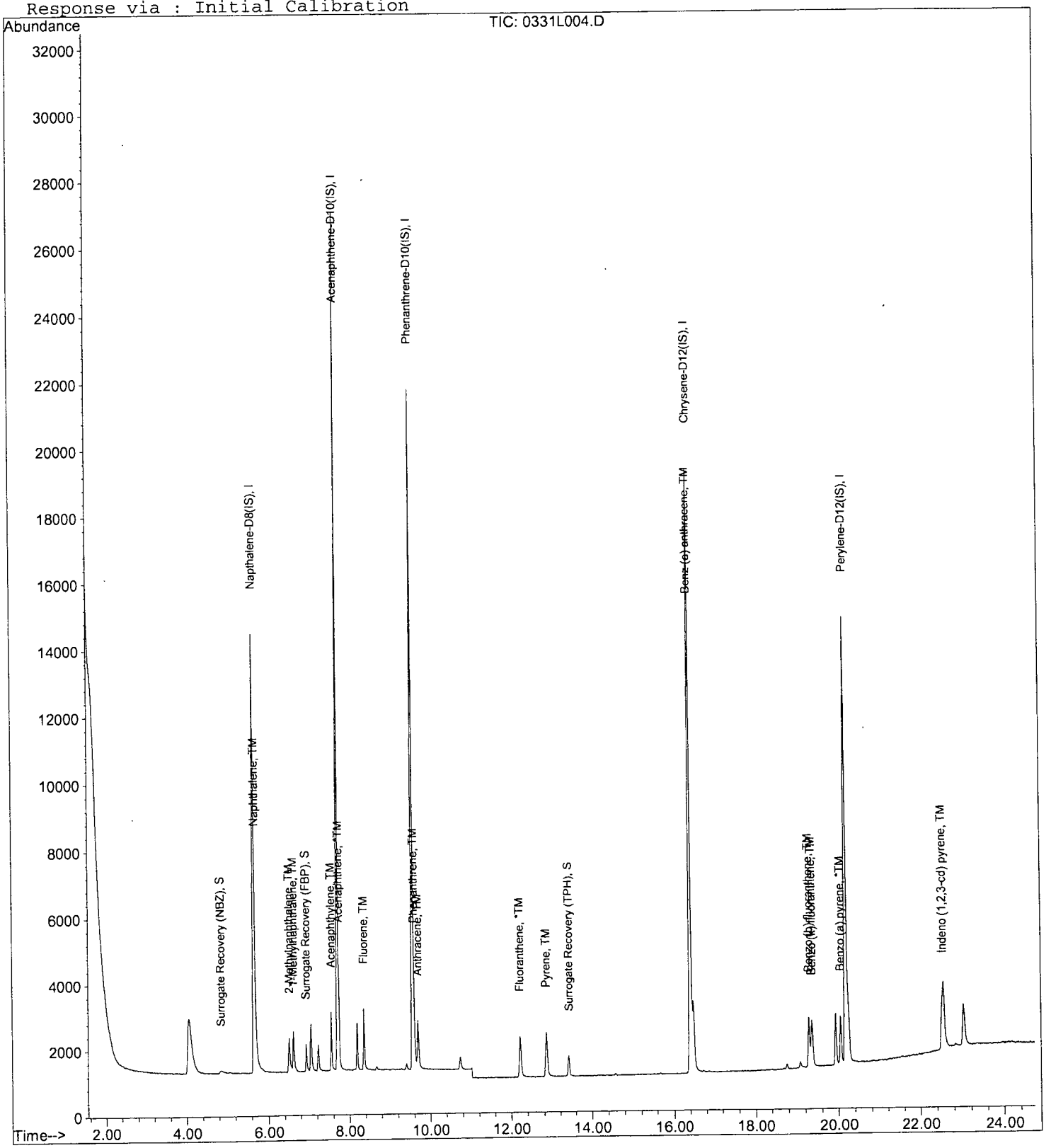
Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30971	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15453	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29694	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	33348	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30098	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	982	0.25224 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.040%	
7) Surrogate Recovery (FBP)	6.93	172	2424	0.26102 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.220%	
17) Surrogate Recovery (TPH)	13.42	244	2621	0.25763 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.160%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	6025	0.46568 ppb		99
4) 2-Methylnaphthalene	6.51	142	3771	0.52090 ppb		99
5) 1-Methylnaphthalene	6.60	142	4151	0.53019 ppb		96
8) Acenaphthylene	7.54	152	5822	0.46668 ppb		99
9) Acenaphthene	7.74	154	3632	0.49289 ppb		100
10) Fluorene	8.35	166	3921	0.48066 ppb		97
12) Phenanthrene	9.60	178	5860	0.48992 ppb		100
13) Anthracene	9.69	178	5390	0.47476 ppb		99
14) Fluoranthene	12.22	202	8468	0.42940 ppb		100
16) Pyrene	12.85	202	8969	0.46955 ppb		100
18) Benz (a) anthracene	16.39	228	7603	0.45164 ppb		97
19) Chrysene	16.48	228	7956	-0.18015 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.51	276	7547	0.49664 ppb	#	94
22) Benzo (b) fluoranthene	19.29	252	7376	0.46405 ppb		99
23) Benzo (k) fluoranthene	19.36	252	5800	0.40304 ppb		99
24) Benzo (a) pyrene	20.06	252	7073	0.47516 ppb		99
25) Dibenz (a,h) anthracene	22.55	278	6309	-0.27408 ppb		99
26) Benzo (g,h,i) perylene	23.02	276	6737	-0.46016 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

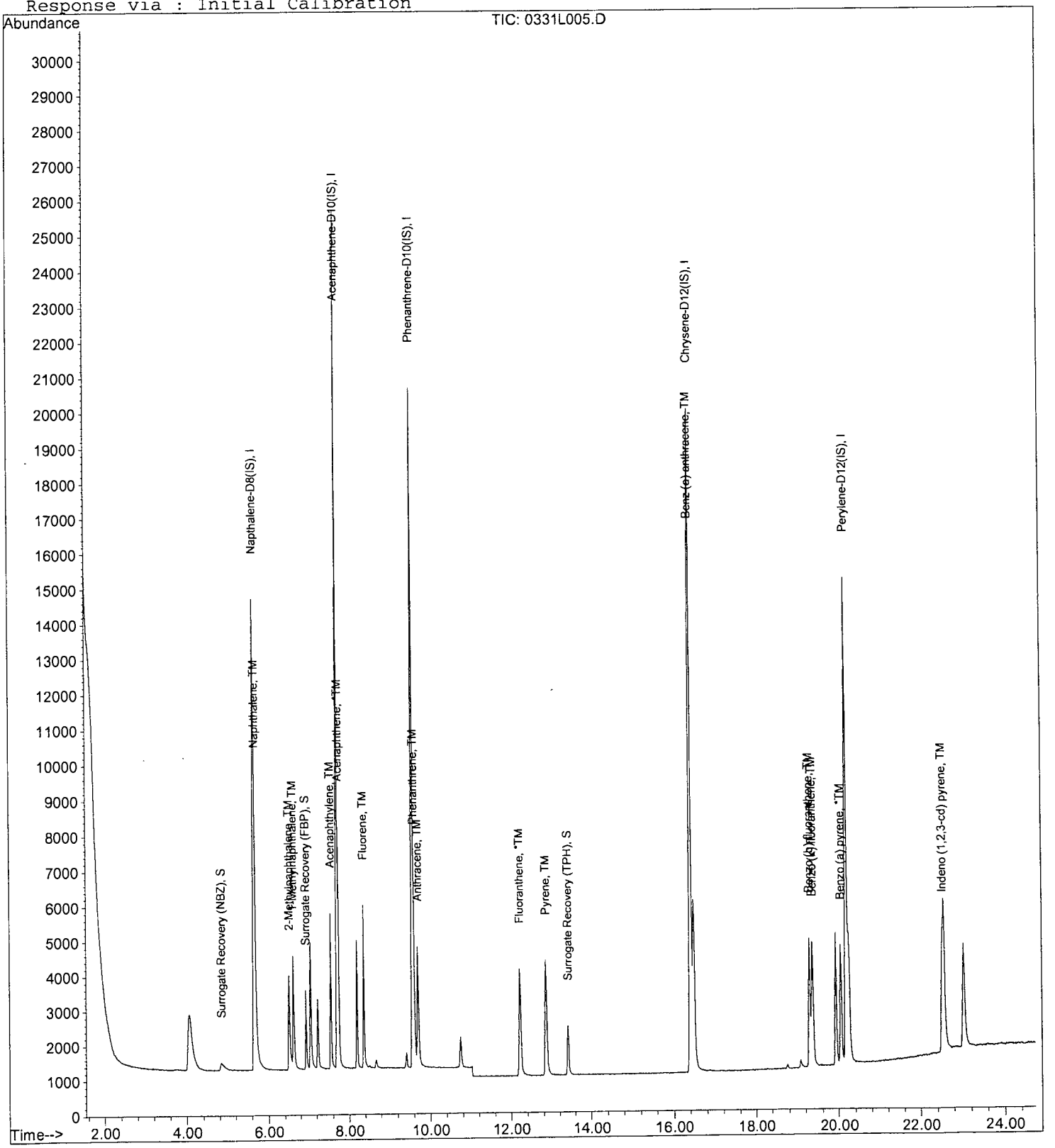
Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15857	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30567	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34248	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31363	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	2261	0.50683 ppb	0.04
Spiked Amount 5.000			Recovery	= 10.140%	
7) Surrogate Recovery (FBP)	6.93	172	5137	0.53906 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.780%	
17) Surrogate Recovery (TPH)	13.42	244	5616	0.53752 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.760%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	12970	0.98031 ppb	100
4) 2-Methylnaphthalene	6.49	142	8028	1.08443 ppb	97
5) 1-Methylnaphthalene	6.60	142	9144	1.14210 ppb	98
8) Acenaphthylene	7.54	152	12599	0.98419 ppb	100
9) Acenaphthene	7.74	154	7564	1.00034 ppb	98
10) Fluorene	8.35	166	8464	1.01114 ppb	98
12) Phenanthrene	9.60	178	12564	1.02040 ppb	99
13) Anthracene	9.69	178	11795	1.00926 ppb	99
14) Fluoranthene	12.22	202	18372	0.90501 ppb	99
16) Pyrene	12.85	202	19232	0.98039 ppb	100
18) Benz (a) anthracene	16.39	228	15931	0.92147 ppb	99
19) Chrysene	16.49	228	16962	0.44717 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	15952	1.11784 ppb #	96
22) Benzo (b) fluoranthene	19.29	252	14726	0.88910 ppb	99
23) Benzo (k) fluoranthene	19.36	252	13363	0.89114 ppb	99
24) Benzo (a) pyrene	20.06	252	14969	0.96504 ppb	100
25) Dibenz (a,h) anthracene	22.55	278	13425	0.43323 ppb	98
26) Benzo (g,h,i) perylene	23.02	276	13748	0.23414 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

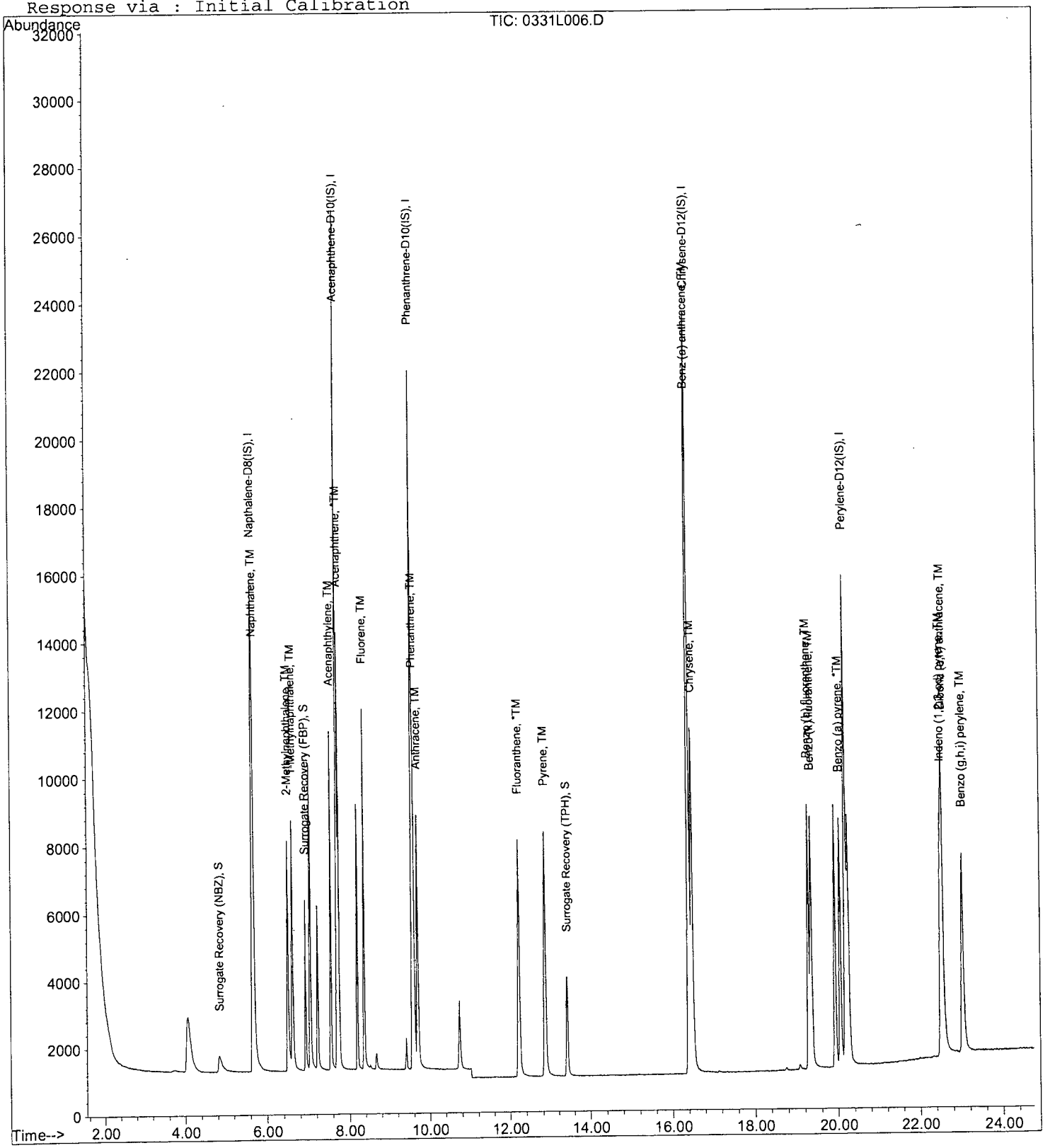
Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31142	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15272	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29598	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34075	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30220	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	10584	2.22924 ppb	0.00
Spiked Amount 5.000			Recovery	= 44.580%	
7) Surrogate Recovery (FBP)	6.92	172	22845	2.48912 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.780%	
17) Surrogate Recovery (TPH)	13.41	244	25626	2.46519 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.300%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	64893	4.98810 ppb	100
4) 2-Methylnaphthalene	6.49	142	42672	5.86209 ppb	100
5) 1-Methylnaphthalene	6.60	142	44189	5.61304 ppb	100
8) Acenaphthylene	7.54	152	64128	5.20132 ppb	100
9) Acenaphthene	7.74	154	37785	5.18850 ppb	100
10) Fluorene	8.35	166	43232	5.36247 ppb	100
12) Phenanthrene	9.60	178	63397	5.31744 ppb	100
13) Anthracene	9.68	178	61449	5.43013 ppb	100
14) Fluoranthene	12.21	202	97197	4.94470 ppb	100
16) Pyrene	12.84	202	101070	5.17841 ppb	100
18) Benz (a) anthracene	16.38	228	83073	4.82946 ppb	100
19) Chrysene	16.48	228	87474	5.51036 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	78254	5.86699 ppb #	99
22) Benzo (b) fluoranthene	19.28	252	77257	4.84093 ppb	100
23) Benzo (k) fluoranthene	19.35	252	75828	5.24800 ppb	100
24) Benzo (a) pyrene	20.05	252	76509	5.11903 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	66445	6.16669 ppb	99
26) Benzo (g,h,i) perylene	23.00	276	67126	6.00464 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

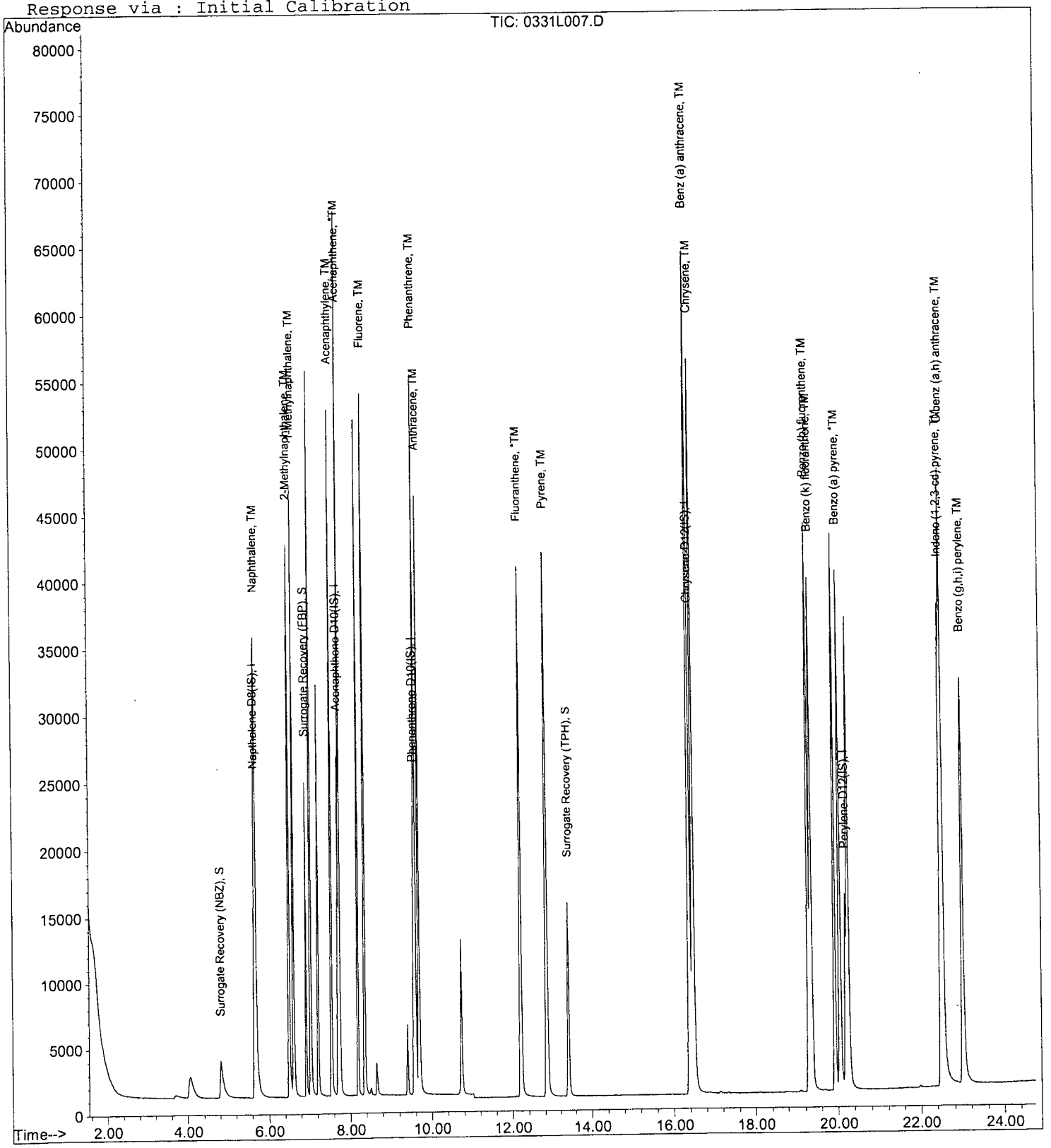
Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30297	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14519	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	28324	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	33276	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	29132	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	23128	4.94632 ppb	0.00
Spiked Amount 5.000			Recovery	= 98.920%	
7) Surrogate Recovery (FBP)	6.92	172	48197	5.52375 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.480%	
17) Surrogate Recovery (TPH)	13.41	244	56261	5.54218 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.840%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	129576	10.23785 ppb		100
4) 2-Methylnaphthalene	6.49	142	85229	12.03493 ppb		99
5) 1-Methylnaphthalene	6.60	142	87605	11.43825 ppb		100
8) Acenaphthylene	7.54	152	129423	11.04172 ppb		100
9) Acenaphthene	7.74	154	74416	10.74850 ppb		99
10) Fluorene	8.34	166	85956	11.21489 ppb		96
12) Phenanthrene	9.60	178	126583	11.09474 ppb		100
13) Anthracene	9.68	178	124730	11.51793 ppb		99
14) Fluoranthene	12.21	202	201414	10.70742 ppb		99
16) Pyrene	12.83	202	208256	10.92637 ppb		98
18) Benz (a) anthracene	16.38	228	173750	10.34351 ppb		99
19) Chrysene	16.48	228	176113	12.17073 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	158046	12.23041 ppb	#	95
22) Benzo (b) fluoranthene	19.28	252	160957	10.46224 ppb		99
23) Benzo (k) fluoranthene	19.34	252	146148	10.49255 ppb		99
24) Benzo (a) pyrene	20.05	252	156189	10.84051 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	132806	13.80866 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	135904	13.91444 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

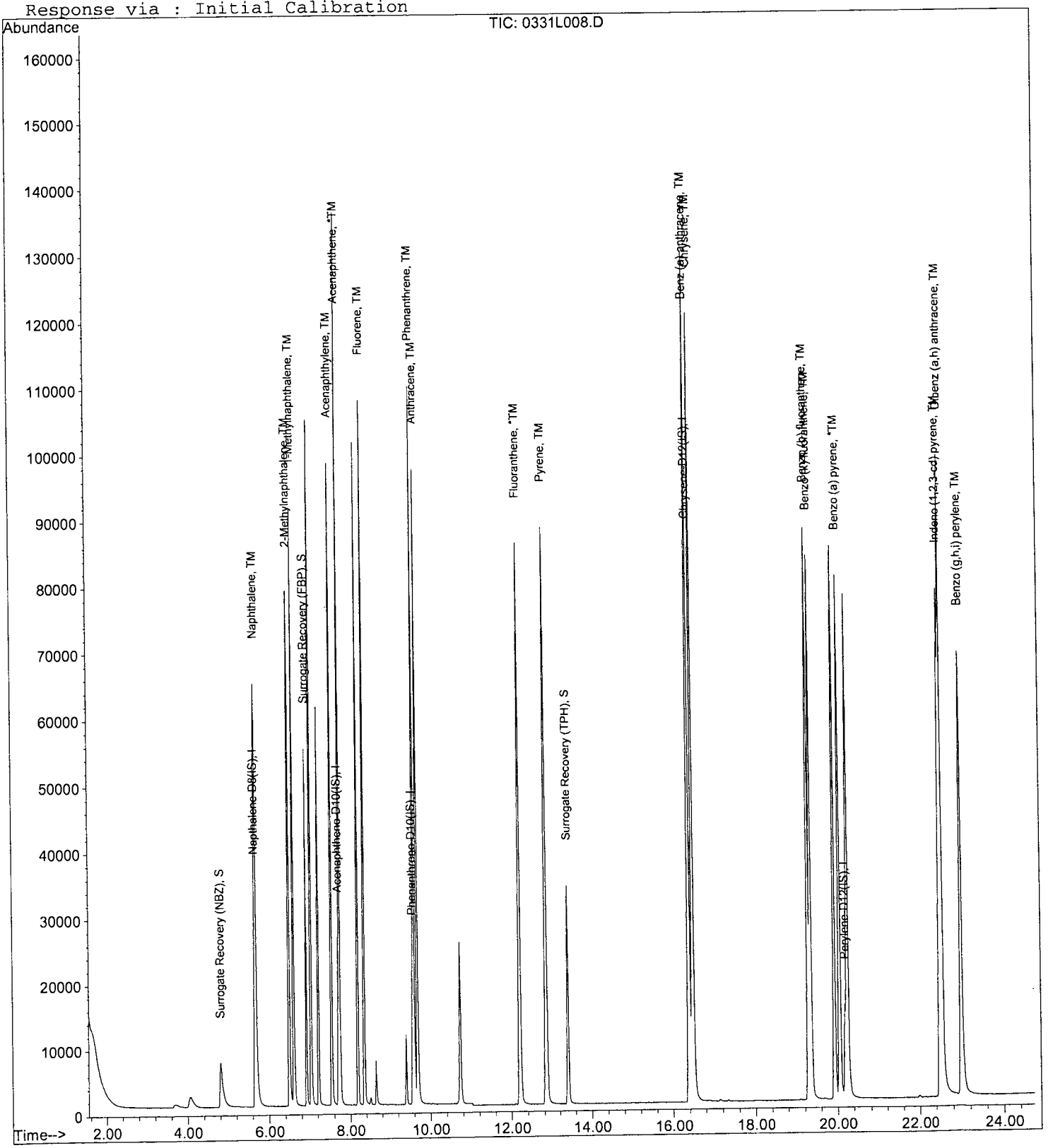
Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28141	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27995	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	31505	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	28838	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	109810	25.08329 ppb	-0.01
Spiked Amount 5.000			Recovery	= 501.660%	
7) Surrogate Recovery (FBP)	6.92	172	197251	23.00904 ppb	0.00
Spiked Amount 5.000			Recovery	= 460.180%	
17) Surrogate Recovery (TPH)	13.41	244	246037	25.59915 ppb	0.00
Spiked Amount 5.000			Recovery	= 511.980%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	558729	47.52754 ppb	100
4) 2-Methylnaphthalene	6.49	142	365210	55.52123 ppb	100
5) 1-Methylnaphthalene	6.60	142	355813	50.01640 ppb	100
8) Acenaphthylene	7.54	152	541881	47.05373 ppb	99
9) Acenaphthene	7.74	154	308193	45.30743 ppb	99
10) Fluorene	8.35	166	358796	47.64653 ppb	99
12) Phenanthrene	9.61	178	536552	47.58036 ppb	100
13) Anthracene	9.69	178	529842	49.50215 ppb	99
14) Fluoranthene	12.22	202	898826	48.34424 ppb	100
16) Pyrene	12.85	202	927839	51.41654 ppb	99
18) Benz (a) anthracene	16.40	228	794644	49.96518 ppb	100
19) Chrysene	16.50	228	771884	59.11134 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.51	276	668242	54.93231 ppb #	92
22) Benzo (b) fluoranthene	19.30	252	724315	47.56063 ppb	99
23) Benzo (k) fluoranthene	19.38	252	682834	49.52318 ppb	100
24) Benzo (a) pyrene	20.08	252	688727	48.28935 ppb	99
25) Dibenz (a,h) anthracene	22.56	278	547597	60.53350 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	575623	63.41962 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

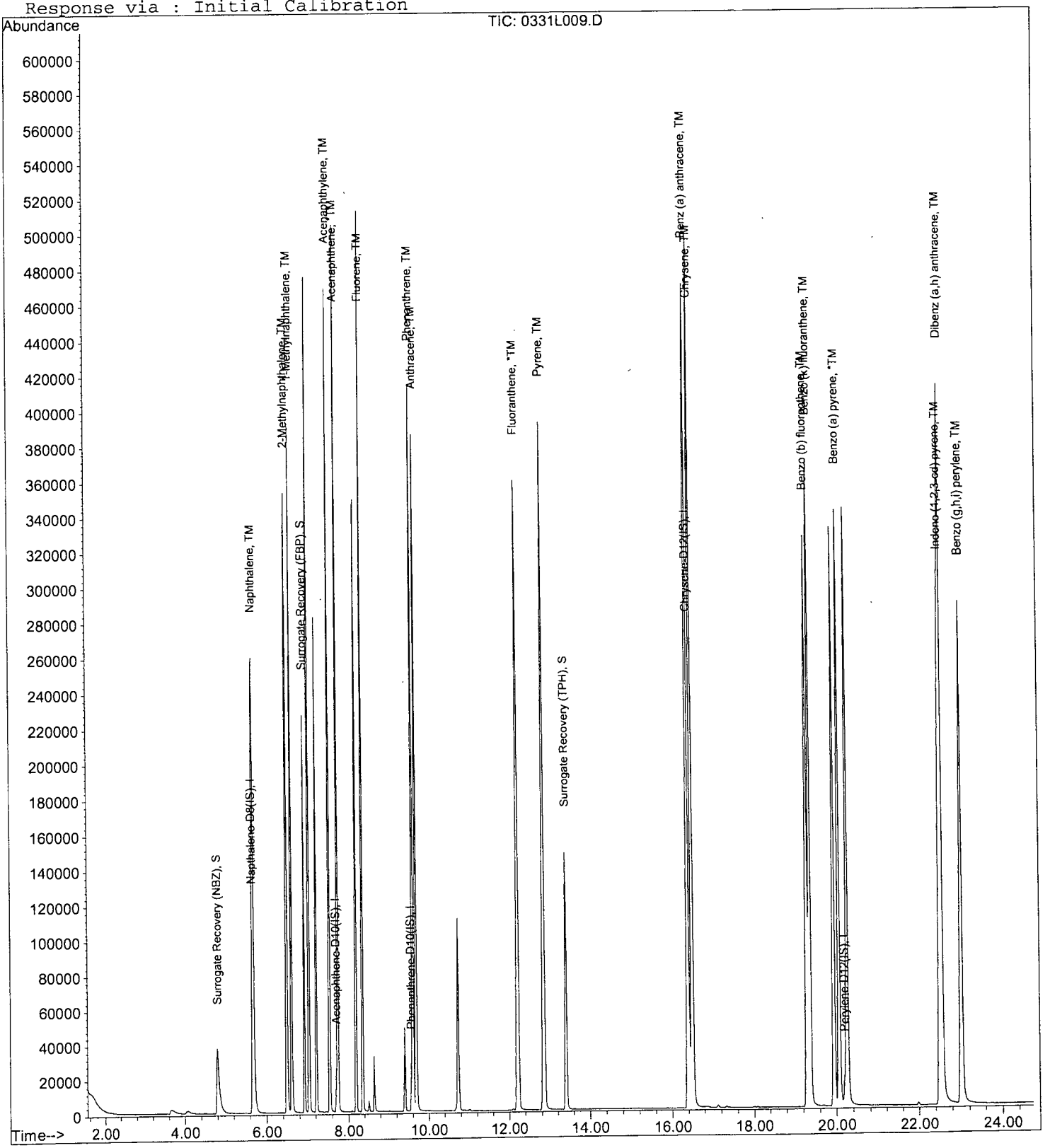
Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28041	2.50000 ppb		0.00
6) Acenaphthene-D10(IS)	7.70	164	14359	2.50000 ppb		0.00
11) Phenanthrene-D10(IS)	9.57	188	27580	2.50000 ppb		0.01
15) Chrysene-D12(IS)	16.44	240	30910	2.50000 ppb		0.03
21) Perylene-D12(IS)	20.22	264	28738	2.50000 ppb		0.03
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	4.79	82	220688	54.26717 ppb		-0.01
Spiked Amount 5.000			Recovery	= 1085.340%		
7) Surrogate Recovery (FBP)	6.92	172	377701	43.22844 ppb		0.00
Spiked Amount 5.000			Recovery	= 864.560%		
17) Surrogate Recovery (TPH)	13.42	244	472131	48.40975 ppb		0.01
Spiked Amount 5.000			Recovery	= 968.200%		
Target Compounds						Qvalue
3) Naphthalene	5.67	128	1054173	94.81706 ppb		99
4) 2-Methylnaphthalene	6.49	142	669313	94.77979 ppb		100
5) 1-Methylnaphthalene	6.60	142	653474	87.92922 ppb		98
8) Acenaphthylene	7.54	152	997656	87.84937 ppb		98
9) Acenaphthene	7.75	154	566128	86.03024 ppb		97
10) Fluorene	8.35	166	656159	88.30231 ppb		98
12) Phenanthrene	9.61	178	980324	89.50069 ppb		99
13) Anthracene	9.69	178	934989	90.96741 ppb		99
14) Fluoranthene	12.24	202	1676780	99.91680 ppb		99
16) Pyrene	12.87	202	1736870	100.53519 ppb		97
18) Benz (a) anthracene	16.42	228	1514401	102.83533 ppb		100
19) Chrysene	16.53	228	1424819	94.85049 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.55	276	1249179	87.29937 ppb	#	83
22) Benzo (b) fluoranthene	19.32	252	1447010	99.99166 ppb		98
23) Benzo (k) fluoranthene	19.41	252	1140732	89.21477 ppb		98
24) Benzo (a) pyrene	20.12	252	1276689	92.56173 ppb		99
25) Dibenz (a,h) anthracene	22.60	278	1020340	86.75637 ppb		98
26) Benzo (g,h,i) perylene	23.06	276	1040188	82.82263 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

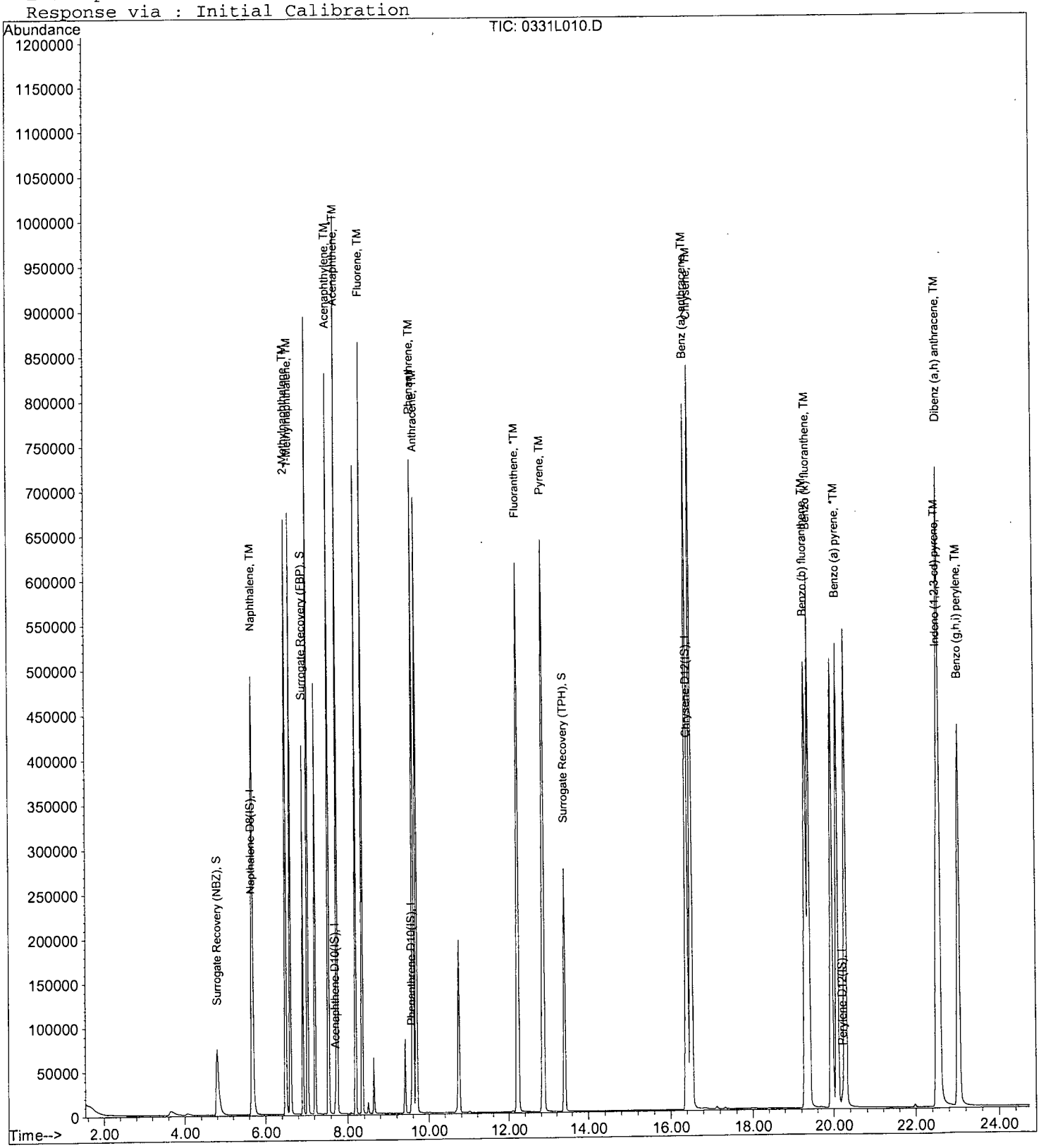
Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/31/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	0.9995	1.066	6.6	TM	
2	TM	2-Methylnaphthalene	0.6388	0.6359	0.45	TM	
3	TM	1-Methylnaphthalene	0.6742	0.6504	3.5	TM	
4	TM	Acenaphthylene	1.991	2.115	6.3	TM	
5	*TM	Acenaphthene	1.152	1.262	9.5	*TM	
6	TM	Fluorene	1.305	1.424	9.1	TM	
7	TM	Phenanthrene	1.004	1.074	6.9	TM	
8	TM	Anthracene	0.9449	1.031	9.1	TM	
9	*TM	Fluoranthene	1.537	1.676	9.0	*TM	
10	TM	Pyrene	1.426	1.495	4.8	TM	
11	TM	Benz (a) anthracene	1.215	1.240	2.1	TM	
12	TM	Chrysene	1.232	1.283	4.2	TM	
13	TM	Indeno (1,2,3-cd) pyrene	1.139	1.196	5.0	TM	
14	TM	Benzo (b) fluoranthene	1.281	1.287	0.47	TM	
15	TM	Benzo (k) fluoranthene	1.097	1.234	12	TM	
16	*TM	Benzo (a) pyrene	1.216	1.295	6.5	*TM	
17	TM	Dibenz (a,h) anthracene	1.038	1.126	8.6	TM	
18	TM	Benzo (g,h,i) perylene	1.110	1.108	0.12	TM	
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			5.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30679	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15350	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30180	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34850	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30295	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	4	0.00090 ppb	0.00
Spiked Amount 5.000			Recovery	= 0.020%	
7) Surrogate Recovery (FBP)	6.93	172	14	0.00149 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.020%	
17) Surrogate Recovery (TPH)	13.47	244	30	0.00270 ppb	0.06
Spiked Amount 5.000			Recovery	= 0.060%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	65397	5.33187 ppb	100
4) 2-Methylnaphthalene	6.49	142	39019	4.97734 ppb	99
5) 1-Methylnaphthalene	6.60	142	39907	4.82348 ppb	98
8) Acenaphthylene	7.54	152	64946	5.31253 ppb	100
9) Acenaphthene	7.74	154	38734	5.47664 ppb	99
10) Fluorene	8.35	166	43714	5.45380 ppb	99
12) Phenanthrene	9.60	178	64799	5.34377 ppb	100
13) Anthracene	9.68	178	62241	5.45624 ppb	100
14) Fluoranthene	12.21	202	101168	5.45240 ppb	99
16) Pyrene	12.84	202	104230	5.24166 ppb	100
18) Benz (a) anthracene	16.38	228	86405	5.10258 ppb	99
19) Chrysene	16.48	228	89459	5.21101 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	83349	5.24968 ppb	97
22) Benzo (b) fluoranthene	19.28	252	77988	5.02329 ppb	99
23) Benzo (k) fluoranthene	19.35	252	74793	5.62464 ppb	100
24) Benzo (a) pyrene	20.05	252	78476	5.32658 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	68243	5.42773 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	67157	4.99392 ppb	100

$$\text{Algorithum check} = \frac{65397 * 2.5 * 1}{30679 * 0.9995} = \frac{163492.5}{30663.6605}$$

$$= 5.33179$$

RH 4/6/17

(#) = qualifier out of range (m) = manual integration
0331L011.D L0331P.M Thu Apr 06 17:00:08 2017

Quantitation Report

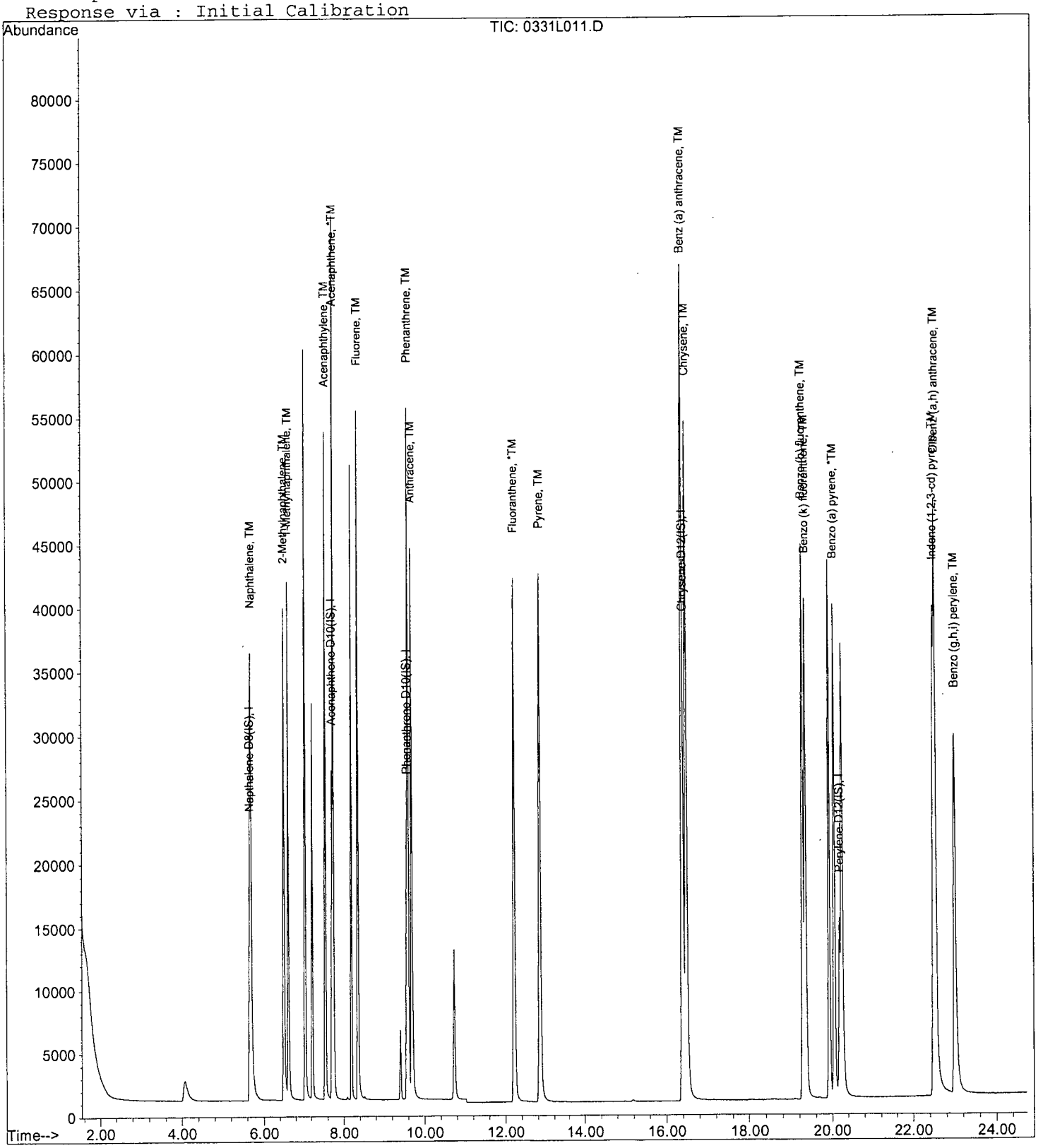
Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L103.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3412	6.1	S	
3	TM	Naphthalene	0.9995	1.074	7.4	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7151	12	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7312	8.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.537	0.62	S	
8	TM	Acenaphthylene	1.991	2.160	8.5	TM	
9	*TM	Acenaphthene	1.152	1.266	9.9	*TM	
10	TM	Fluorene	1.305	1.455	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.100	9.5	TM	
13	TM	Anthracene	0.9449	1.067	13	TM	
14	*TM	Fluoranthene	1.537	1.732	13	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.558	9.2	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7670	3.8	S	
18	TM	Benz (a) anthracene	1.215	1.278	5.2	TM	
19	TM	Chrysene	1.232	1.331	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.148	0.76	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.326	3.5	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.077	1.8	TM	
24	*TM	Benzo (a) pyrene	1.216	1.308	7.6	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.104	6.4	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.097	1.2	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L103.D
Acq On : 11 Apr 17 17:08
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 11 17:34 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29022	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14310	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27904	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	32422	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	28891	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9901	2.34816 ppb	0.00
Spiked Amount 5.000			Recovery	= 46.960%	
7) Surrogate Recovery (FBP)	6.92	172	21989	2.51560 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.320%	
17) Surrogate Recovery (TPH)	13.40	244	24867	2.40469 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.100%	

Target Compounds						Qvalue
3) Naphthalene	5.66	128	62324	5.37144 ppb		99
4) 2-Methylnaphthalene	6.48	142	41508	5.59715 ppb		98
5) 1-Methylnaphthalene	6.60	142	42442	5.42276 ppb		100
8) Acenaphthylene	7.53	152	61832	5.42539 ppb		99
9) Acenaphthene	7.74	154	36229	5.49474 ppb		98
10) Fluorene	8.34	166	41650	5.57395 ppb		98
12) Phenanthrene	9.60	178	61387	5.47531 ppb		100
13) Anthracene	9.68	178	59561	5.64718 ppb		100
14) Fluoranthene	12.20	202	96679	5.63546 ppb		99
16) Pyrene	12.82	202	101051	5.46235 ppb		98
18) Benz (a) anthracene	16.37	228	82898	5.26209 ppb		99
19) Chrysene	16.47	228	86296	5.40321 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	74413	5.03784 ppb	#	90
22) Benzo (b) fluoranthene	19.27	252	76603	5.17386 ppb		99
23) Benzo (k) fluoranthene	19.34	252	62245	4.90847 ppb		98
24) Benzo (a) pyrene	20.05	252	75557	5.37768 ppb		99
25) Dibenz (a,h) anthracene	22.53	278	63770	5.31845 ppb		99
26) Benzo (g,h,i) perylene	22.99	276	63365	4.94092 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

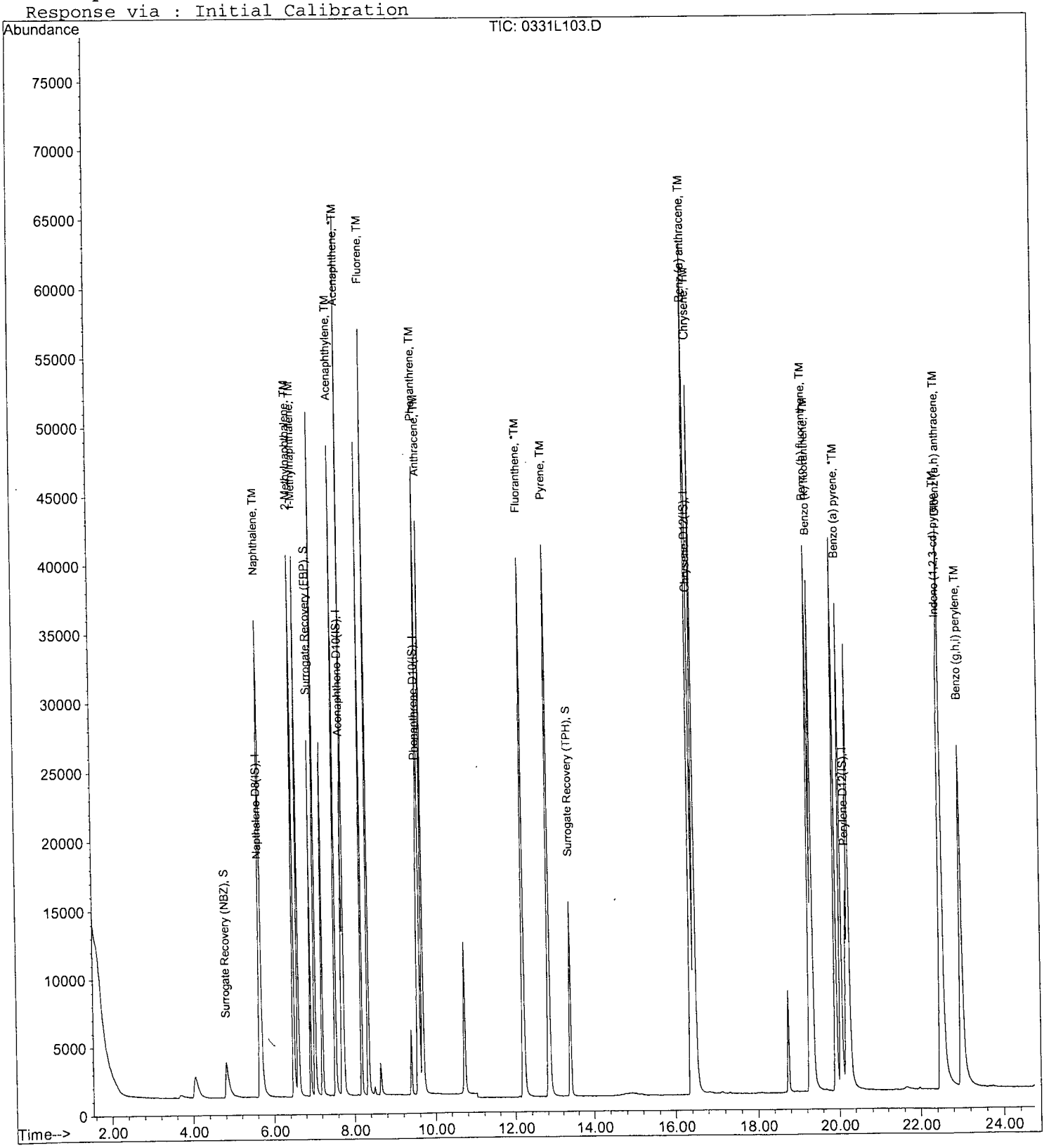
Data File : M:\LINUS\DATA\L170331\0331L103.D
Acq On : 11 Apr 17 17:08
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 11 17:34 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L124.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3140	14	S	
3	TM	Naphthalene	0.9995	1.101	10	TM	
4	TM	2-Methylnaphthalene	0.6388	0.6962	9.0	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7410	9.9	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.574	3.1	S	
8	TM	Acenaphthylene	1.991	2.220	12	TM	
9	*TM	Acenaphthene	1.152	1.290	12	*TM	
10	TM	Fluorene	1.305	1.464	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.060	12	TM	
14	*TM	Fluoranthene	1.537	1.714	12	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.575	10	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7429	6.8	S	
18	TM	Benz (a) anthracene	1.215	1.206	0.68	TM	
19	TM	Chrysene	1.232	1.348	9.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.109	2.7	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.230	4.0	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.087	0.96	TM	
24	*TM	Benzo (a) pyrene	1.216	1.301	7.0	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.092	5.3	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.091	1.7	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L124.D
Acq On : 12 Apr 17 4:00
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 24
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 8:47 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30996	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14458	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27736	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	31492	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	27335	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9733	2.16131 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.220%	
7) Surrogate Recovery (FBP)	6.92	172	22756	2.57669 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.540%	
17) Surrogate Recovery (TPH)	13.40	244	23395	2.32915 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.580%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	68271	5.50926 ppb	100
4) 2-Methylnaphthalene	6.48	142	43157	5.44889 ppb	97
5) 1-Methylnaphthalene	6.60	142	45935	5.49529 ppb	99
8) Acenaphthylene	7.53	152	64196	5.57515 ppb	99
9) Acenaphthene	7.74	154	37312	5.60107 ppb	99
10) Fluorene	8.34	166	42347	5.60921 ppb	97
12) Phenanthrene	9.60	178	60844	5.45974 ppb	100
13) Anthracene	9.68	178	58821	5.61079 ppb	100
14) Fluoranthene	12.20	202	95091	5.57647 ppb	99
16) Pyrene	12.82	202	99198	5.52054 ppb	97
18) Benz (a) anthracene	16.37	228	75988	4.96591 ppb	99
19) Chrysene	16.47	228	84912	5.47356 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	69821	4.86655 ppb #	90
22) Benzo (b) fluoranthene	19.27	252	67254	4.80098 ppb	99
23) Benzo (k) fluoranthene	19.34	252	59412	4.95176 ppb	99
24) Benzo (a) pyrene	20.05	252	71133	5.35100 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	59703	5.26270 ppb	98
26) Benzo (g,h,i) perylene	22.99	276	59632	4.91452 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

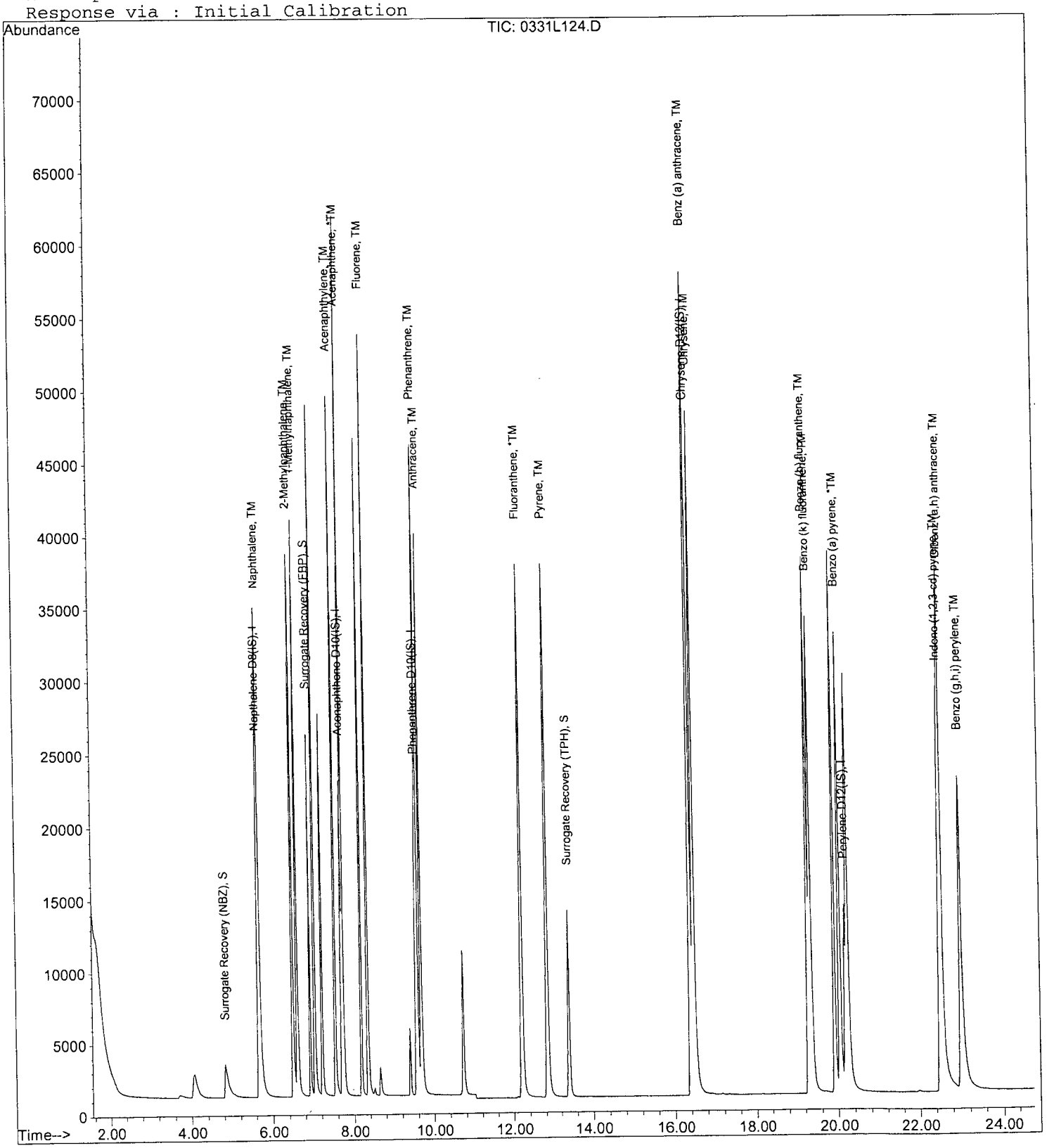
Data File : M:\LINUS\DATA\L170331\0331L124.D
Acq On : 12 Apr 17 4:00
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 24
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 8:47 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L135.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3193	12	S	
3	TM	Naphthalene	0.9995	1.107	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7194	13	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7324	8.6	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.555	1.8	S	
8	TM	Acenaphthylene	1.991	2.229	12	TM	
9	*TM	Acenaphthene	1.152	1.294	12	*TM	
10	TM	Fluorene	1.305	1.439	10	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.082	7.7	TM	
13	TM	Anthracene	0.9449	1.085	15	TM	
14	*TM	Fluoranthene	1.537	1.751	14	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.601	12	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7726	3.1	S	
18	TM	Benz (a) anthracene	1.215	1.313	8.1	TM	
19	TM	Chrysene	1.232	1.335	8.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.163	2.1	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.350	5.3	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.045	4.7	TM	
24	*TM	Benzo (a) pyrene	1.216	1.332	9.5	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.100	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.113	0.31	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.4		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29938	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14262	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27140	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	30771	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27319	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9560	2.19791 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.960%	
7) Surrogate Recovery (FBP)	6.92	172	22178	2.54576 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.920%	
17) Surrogate Recovery (TPH)	13.39	244	23775	2.42245 ppb	-0.02
Spiked Amount 5.000			Recovery	= 48.440%	
Target Compounds					Qvalue
3) Naphthalene	5.66	128	66298	5.53912 ppb	100
4) 2-Methylnaphthalene	6.48	142	43076	5.63086 ppb	98
5) 1-Methylnaphthalene	6.59	142	43853	5.43161 ppb	98
8) Acenaphthylene	7.53	152	63588	5.59824 ppb	100
9) Acenaphthene	7.74	154	36903	5.61580 ppb	98
10) Fluorene	8.34	166	41050	5.51214 ppb	98
12) Phenanthrene	9.58	178	58748	5.38743 ppb	99
13) Anthracene	9.67	178	58889	5.74064 ppb	99
14) Fluoranthene	12.20	202	95061	5.69714 ppb	99
16) Pyrene	12.82	202	98550	5.61298 ppb	98
18) Benz (a) anthracene	16.37	228	80815	5.40511 ppb	99
19) Chrysene	16.47	228	82138	5.41881 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	71565	5.10499 ppb #	93
22) Benzo (b) fluoranthene	19.27	252	73737	5.26686 ppb	99
23) Benzo (k) fluoranthene	19.34	252	57108	4.76252 ppb	99
24) Benzo (a) pyrene	20.05	252	72754	5.47614 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	60126	5.30309 ppb	100
26) Benzo (g,h,i) perylene	22.99	276	60821	5.01545 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

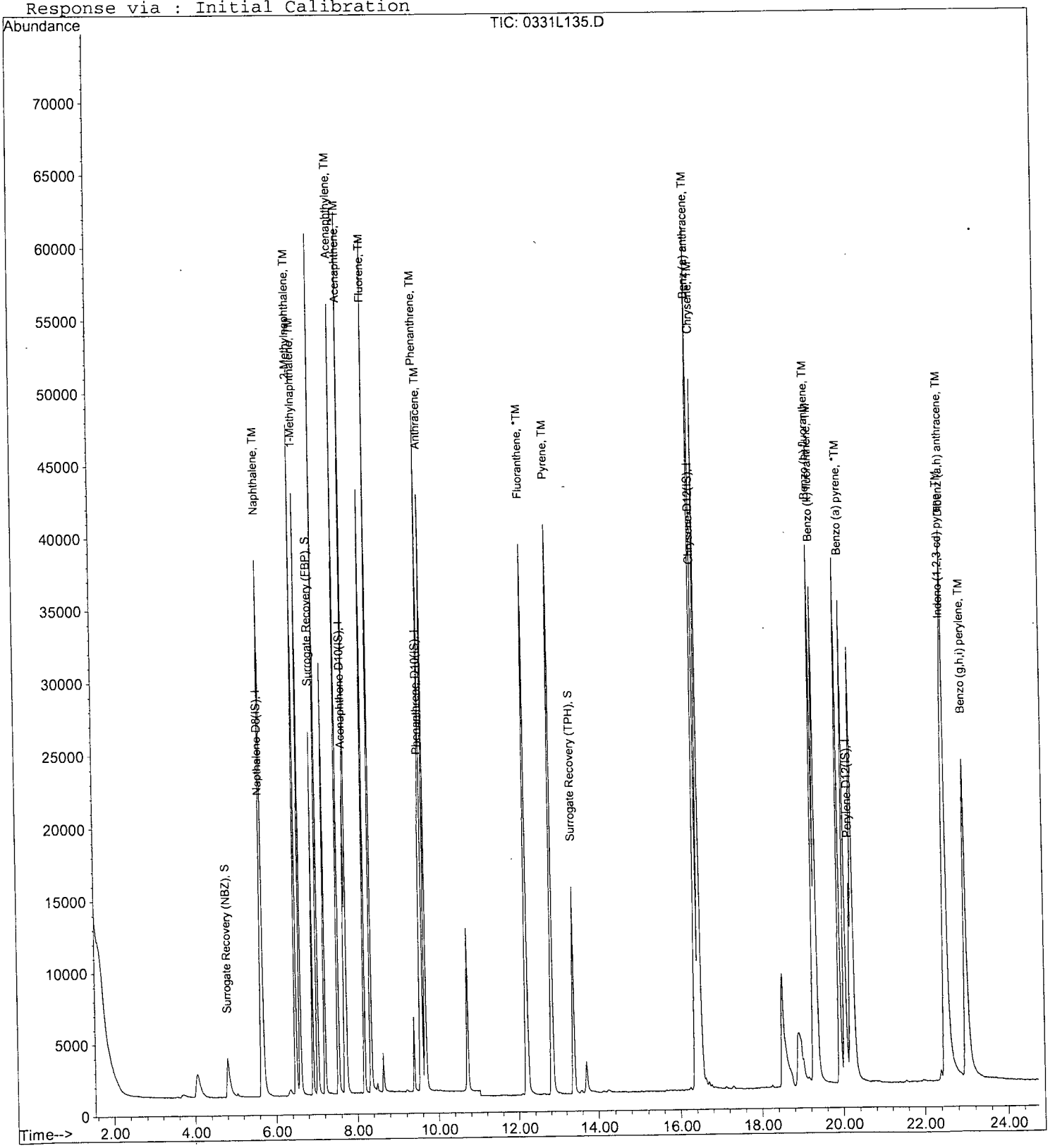
Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L146.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3162	13	S	
3	TM	Naphthalene	0.9995	1.105	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7003	9.6	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7455	11	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.561	2.2	S	
8	TM	Acenaphthylene	1.991	2.211	11	TM	
9	*TM	Acenaphthene	1.152	1.288	12	*TM	
10	TM	Fluorene	1.305	1.456	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.062	12	TM	
14	*TM	Fluoranthene	1.537	1.704	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.557	9.1	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7355	7.8	S	
18	TM	Benz (a) anthracene	1.215	1.214	0.07	TM	
19	TM	Chrysene	1.232	1.332	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.121	1.6	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.281	0.03	TM	
23	TM	Benzo (k) fluoranthene	1.097	0.9463	14	TM	
24	*TM	Benzo (a) pyrene	1.216	1.305	7.3	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.101	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.094	1.5	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L146.D
Acq On : 12 Apr 17 17:31
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 46
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 17:57 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30201	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14177	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27110	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	31144	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27017	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9550	2.17649 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.520%	
7) Surrogate Recovery (FBP)	6.92	172	22135	2.55606 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.120%	
17) Surrogate Recovery (TPH)	13.40	244	22905	2.30585 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.120%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	66761	5.52923 ppb		100
4) 2-Methylnaphthalene	6.49	142	42301	5.48140 ppb		99
5) 1-Methylnaphthalene	6.60	142	45029	5.52870 ppb		99
8) Acenaphthylene	7.54	152	62701	5.55325 ppb		99
9) Acenaphthene	7.74	154	36512	5.58961 ppb		99
10) Fluorene	8.35	166	41280	5.57626 ppb		99
12) Phenanthrene	9.60	178	59486	5.46114 ppb		100
13) Anthracene	9.68	178	57587	5.61993 ppb		100
14) Fluoranthene	12.21	202	92402	5.54391 ppb		98
16) Pyrene	12.83	202	96955	5.45600 ppb		98
18) Benz (a) anthracene	16.38	228	75608	4.99629 ppb		99
19) Chrysene	16.47	228	82950	5.40683 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.49	276	69839	4.92220 ppb	#	92
22) Benzo (b) fluoranthene	19.27	252	69206	4.99848 ppb		99
23) Benzo (k) fluoranthene	19.34	252	51133	4.31190 ppb		98
24) Benzo (a) pyrene	20.05	252	70494	5.36534 ppb		99
25) Dibenz (a,h) anthracene	22.53	278	59482	5.30493 ppb		98
26) Benzo (g,h,i) perylene	23.00	276	59089	4.92709 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

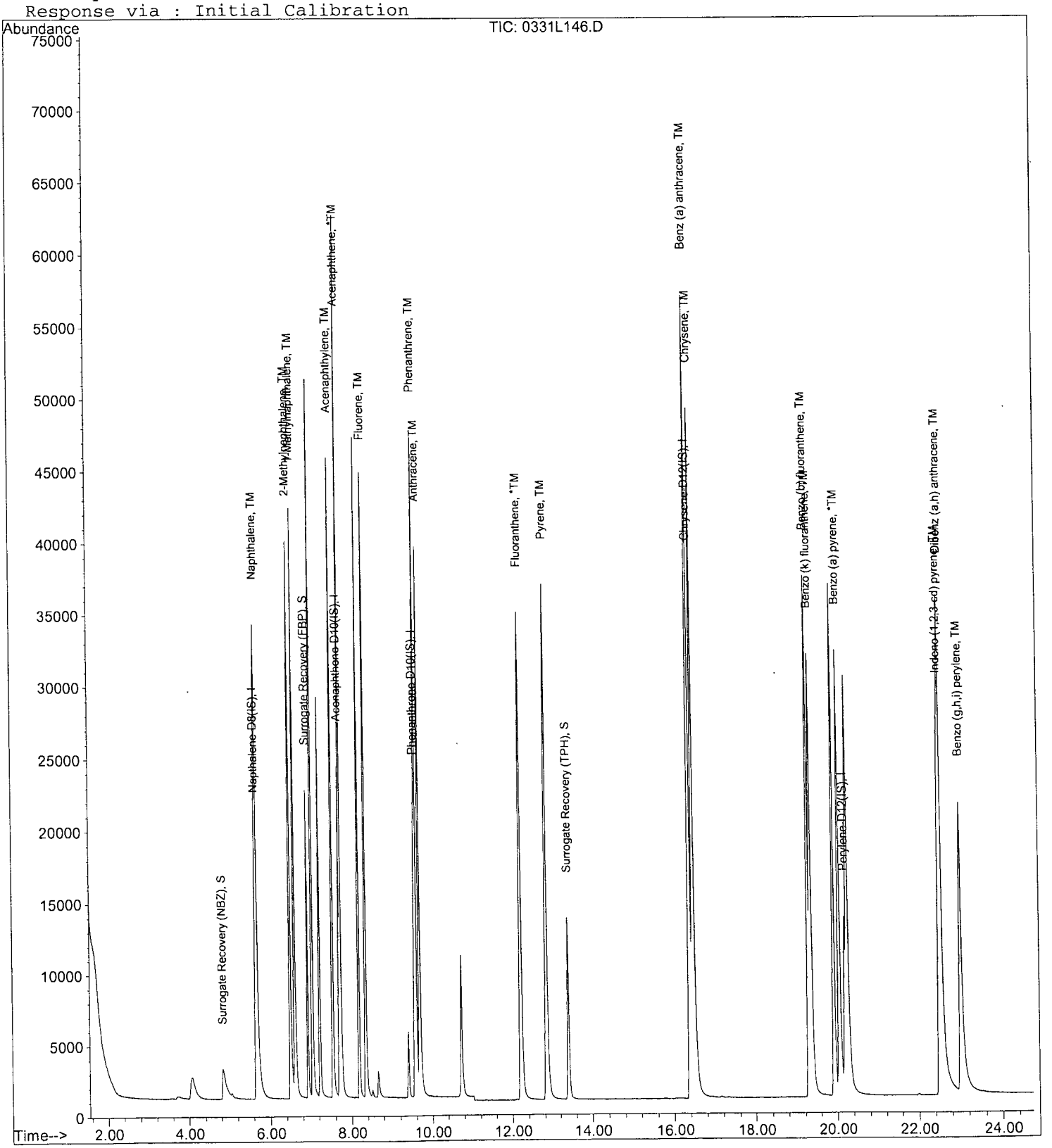
Data File : M:\LINUS\DATA\L170331\0331L146.D
Acq On : 12 Apr 17 17:31
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 46
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 17:57 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L160.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.2552	30	S	
3	TM	Naphthalene	0.9995	1.077	7.8	TM	
4	TM	2-Methylnaphthalene	0.6388	0.6900	8.0	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7491	11	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.440	5.7	S	
8	TM	Acenaphthylene	1.991	2.172	9.1	TM	
9	*TM	Acenaphthene	1.152	1.283	11	*TM	
10	TM	Fluorene	1.305	1.454	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.089	8.4	TM	
13	TM	Anthracene	0.9449	1.036	9.6	TM	
14	*TM	Fluoranthene	1.537	1.687	9.7	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.534	7.5	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.6548	18	S	
18	TM	Benz (a) anthracene	1.215	1.166	4.0	TM	
19	TM	Chrysene	1.232	1.339	8.7	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.065	6.5	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.316	2.7	TM	
23	TM	Benzo (k) fluoranthene	1.097	0.9469	14	TM	
24	*TM	Benzo (a) pyrene	1.216	1.272	4.6	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.045	0.69	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.057	4.8	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.2		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L160.D
Acq On : 13 Apr 17 00:51
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 60
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 13 8:43 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	29975	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14647	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27796	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	31926	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	27266	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	7650	1.75662 ppb	0.04
Spiked Amount 5.000			Recovery	= 35.140%	
7) Surrogate Recovery (FBP)	6.92	172	21085	2.35668 ppb	0.00
Spiked Amount 5.000			Recovery	= 47.140%	
17) Surrogate Recovery (TPH)	13.40	244	20906	2.05306 ppb	-0.01
Spiked Amount 5.000			Recovery	= 41.060%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	64581	5.38900 ppb	100
4) 2-Methylnaphthalene	6.49	142	41366	5.40066 ppb	100
5) 1-Methylnaphthalene	6.60	142	44910	5.55566 ppb	100
8) Acenaphthylene	7.53	152	63629	5.45461 ppb	99
9) Acenaphthene	7.74	154	37586	5.56939 ppb	99
10) Fluorene	8.34	166	42589	5.56847 ppb	95
12) Phenanthrene	9.60	178	60540	5.42074 ppb	100
13) Anthracene	9.68	178	57587	5.48123 ppb	100
14) Fluoranthene	12.20	202	93761	5.48661 ppb	99
16) Pyrene	12.83	202	97935	5.37616 ppb	99
18) Benz (a) anthracene	16.37	228	74439	4.79855 ppb	99
19) Chrysene	16.47	228	85514	5.43743 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.49	276	67990	4.67451 ppb #	89
22) Benzo (b) fluoranthene	19.27	252	71782	5.13719 ppb	99
23) Benzo (k) fluoranthene	19.34	252	51638	4.31472 ppb	99
24) Benzo (a) pyrene	20.05	252	69361	5.23090 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	56968	5.03432 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	57628	4.76139 ppb	97

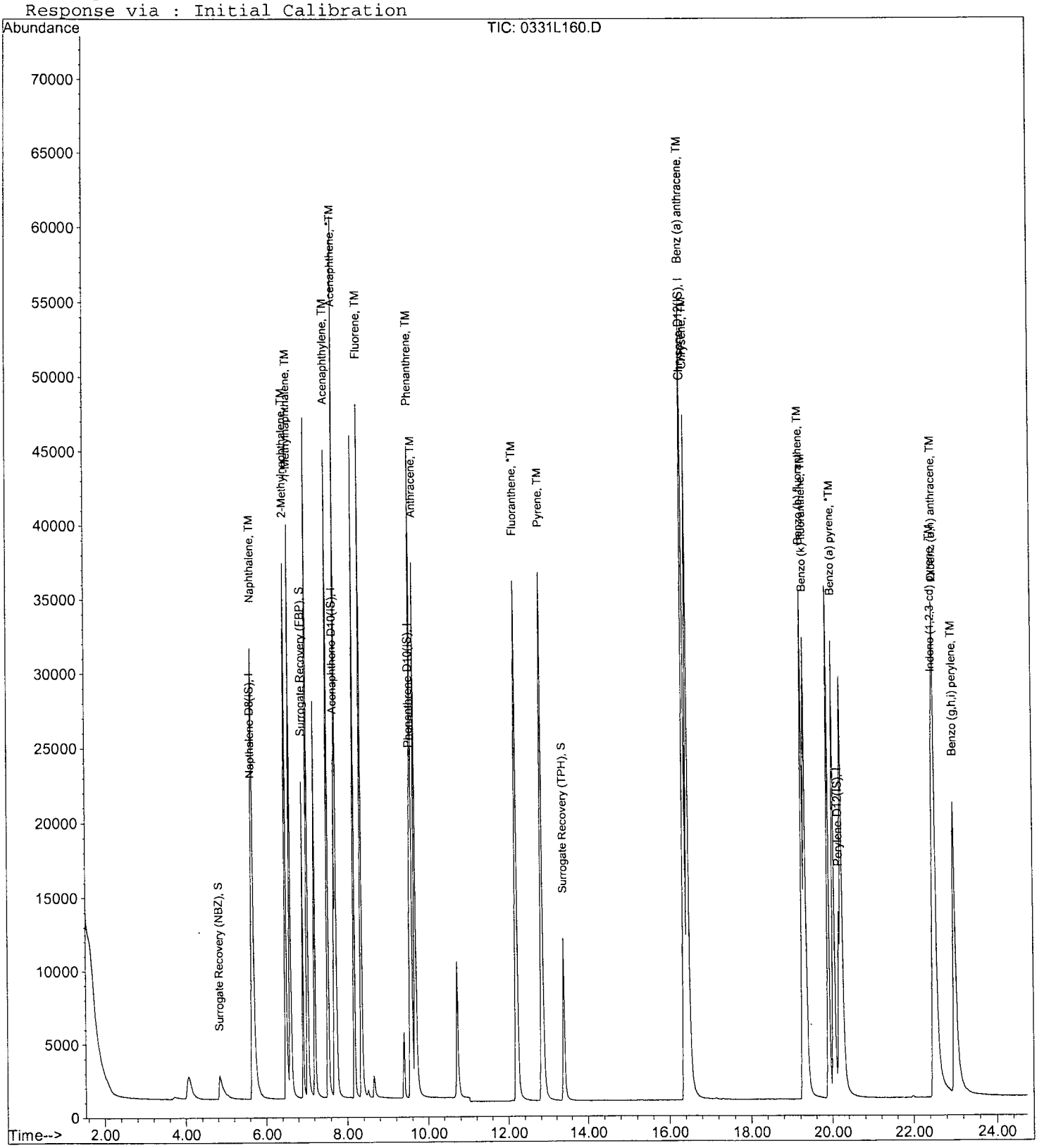
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L160.D Vial: 60
Acq On : 13 Apr 17 00:51 Operator: MA
Sample : 5.0 SIM 04/10/17 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 13 8:43 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53172 - 217783**
Batch ID: #SIMDO-170410A1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 1:16:38 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L104.D Vial: 4
Acq On : 11 Apr 17 17:44 Operator: MA
Sample : 170410A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 15:16 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16047	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31219	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	36292	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	32676	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16909	3.56230 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.240%	
7) Surrogate Recovery (FBP)	6.92	172	27444	2.79981 ppb	0.00
Spiked Amount 5.000			Recovery	= 56.000%	
17) Surrogate Recovery (TPH)	13.40	244	47727	4.12314 ppb	-0.01
Spiked Amount 5.000			Recovery	= 82.460%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

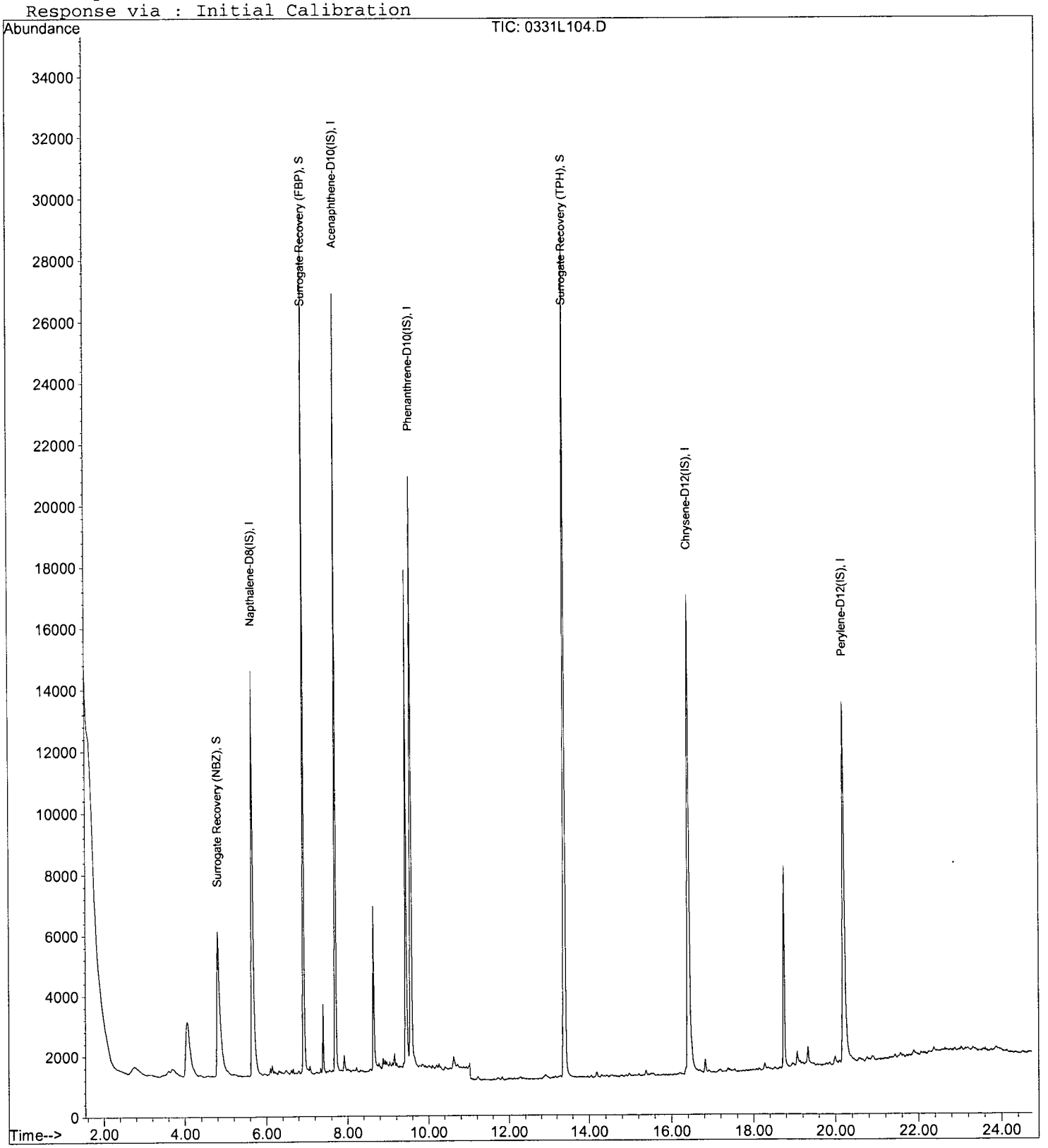
Data File : M:\LINUS\DATA\L170331\0331L104.D
Acq On : 11 Apr 17 17:44
Sample : 170410A BLK 1/1000
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53172 LCS - 217783**
Batch ID: #SIMDO-170410A1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
NAPHTHALENE	5.00	3.15	63.0	43-114
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	RHA

Printed: 04/13/17 1:16:42 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L136.D Vial: 36
Acq On : 12 Apr 17 12:21 Operator: MA
Sample : 170410A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 12:47 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	37131	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	18196	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	35898	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	41437	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	36371	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	19156	3.55094 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.020%	
7) Surrogate Recovery (FBP)	6.92	172	29714	2.67338 ppb	0.00
Spiked Amount 5.000			Recovery	= 53.460%	
17) Surrogate Recovery (TPH)	13.39	244	55938	4.23247 ppb	-0.02
Spiked Amount 5.000			Recovery	= 84.640%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	46730	3.14791 ppb		99
4) 2-Methylnaphthalene	6.48	142	29191	3.07663 ppb		97
5) 1-Methylnaphthalene	6.60	142	31602	3.15595 ppb		100
8) Acenaphthylene	7.53	152	55118	3.80342 ppb		99
9) Acenaphthene	7.74	154	31113	3.71105 ppb		97
10) Fluorene	8.34	166	39805	4.18937 ppb		97
12) Phenanthrene	9.58	178	63726	4.41819 ppb		99
13) Anthracene	9.68	178	61577	4.53820 ppb		100
14) Fluoranthene	12.20	202	108000	4.89348 ppb		98
16) Pyrene	12.82	202	112206	4.74577 ppb		98
18) Benz (a) anthracene	16.37	228	91432	4.54113 ppb		99
19) Chrysene	16.47	228	98041	4.80309 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	83464	4.42126 ppb	#	92
22) Benzo (b) fluoranthene	19.27	252	88677	4.75759 ppb		100
23) Benzo (k) fluoranthene	19.34	252	66498	4.16541 ppb		99
24) Benzo (a) pyrene	20.05	252	82599	4.66984 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	71516	4.73783 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	71584	4.43386 ppb		96

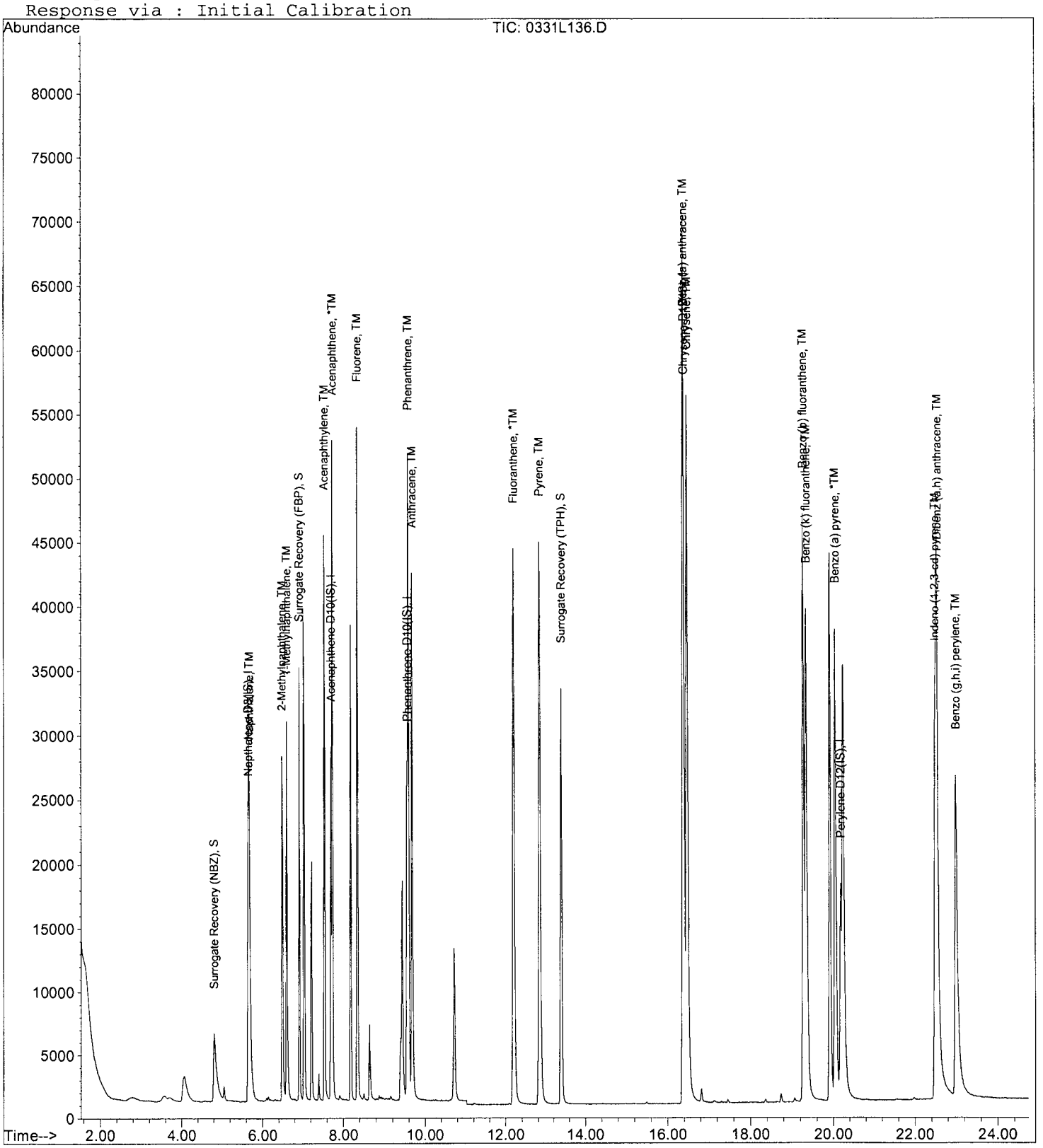
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L136.D Vial: 36
Acq On : 12 Apr 17 12:21 Operator: MA
Sample : 170410A LCS-1 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 12:47 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration

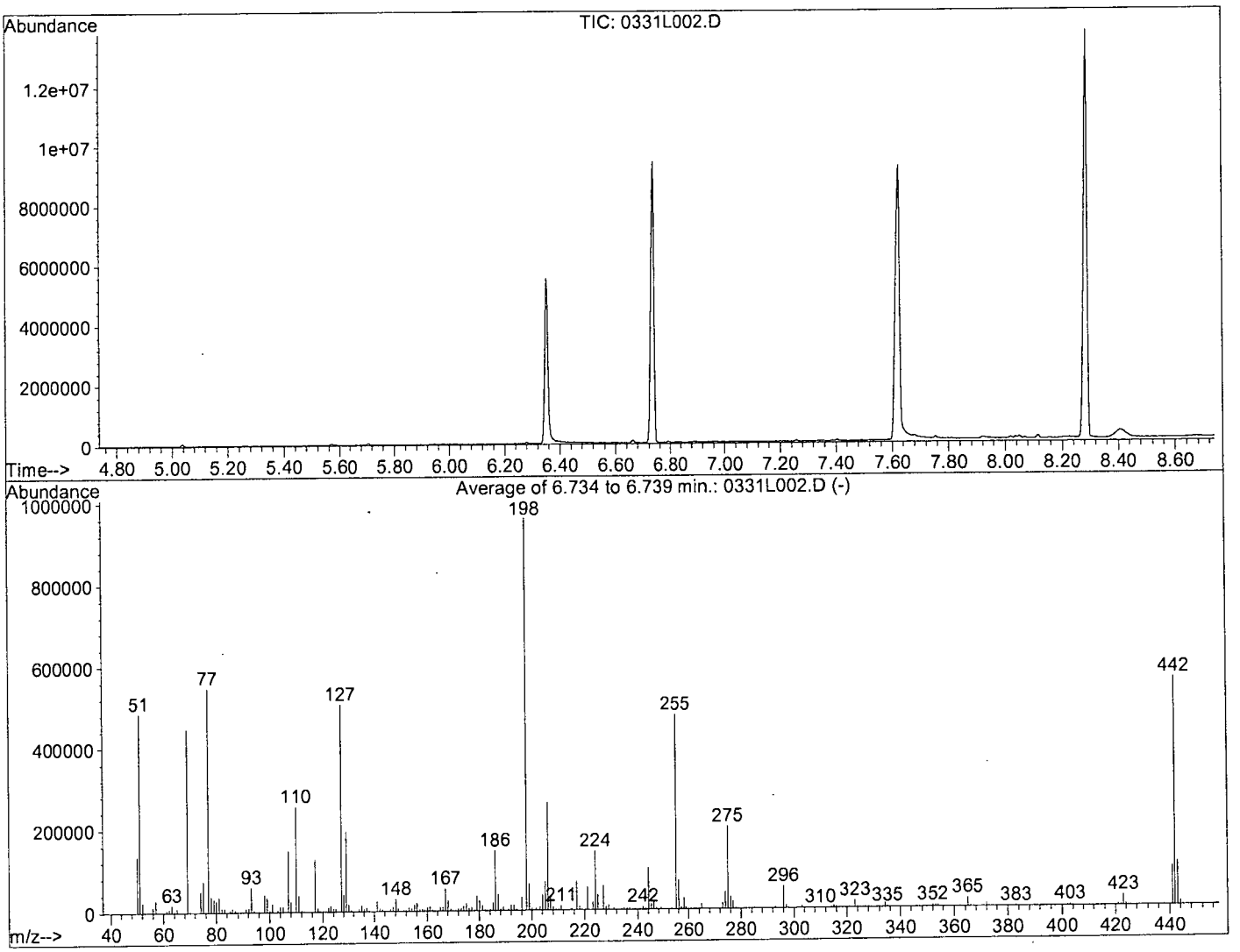


DFTPP

Data File : M:\LINUS\DATA\L170331\0331L002.D
Acq On : 31 Mar 17 12:25
Sample : SV Tune 03/29/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.734 to 6.739 min.

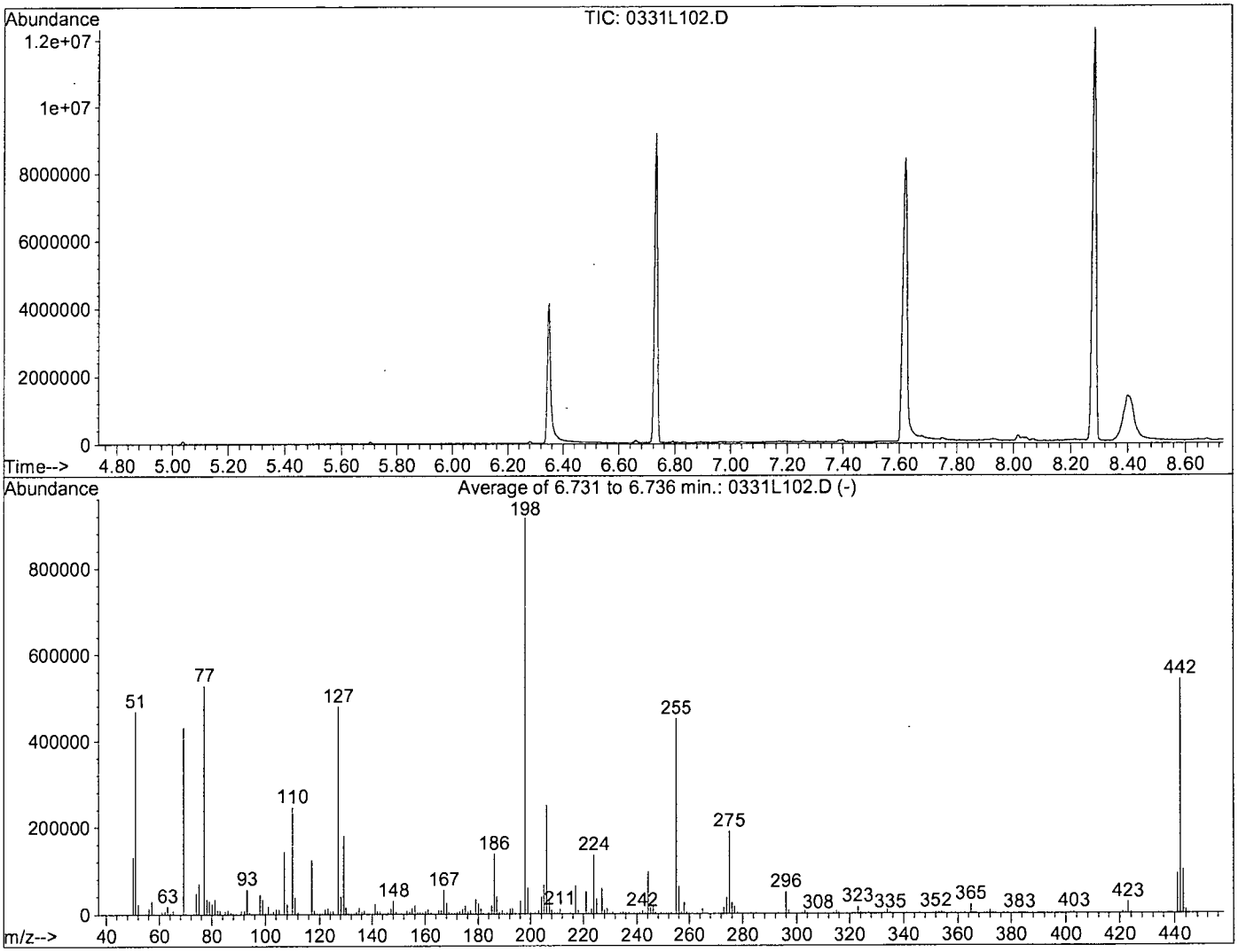
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	50.5	485624	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	448712	PASS
70	69	0.00	2	0.7	2962	PASS
127	198	40	60	52.7	507072	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	961984	PASS
199	198	5	9	6.7	64531	PASS
275	198	10	30	20.9	200832	PASS
365	198	1	100	2.3	21965	PASS
441	443	0.01	100	88.1	94480	PASS
442	198	40	150	58.2	559851	PASS
443	442	17	23	19.2	107229	PASS

0331L002.D DFTPP2.M Wed Apr 05 13:29:00 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L102.D Vial: 2
Acq On : 11 Apr 17 16:52 Operator: MA
Sample : SV Tune 3/29/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.731 to 6.736 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.1	468568	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	431709	PASS
70	69	0.00	2	0.4	1742	PASS
127	198	40	60	52.3	479445	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	916620	PASS
199	198	5	9	6.4	58976	PASS
275	198	10	30	20.6	189248	PASS
365	198	1	100	2.3	20723	PASS
441	443	0.01	100	90.6	90496	PASS
442	198	40	150	59.1	541483	PASS
443	442	17	23	18.4	99845	PASS

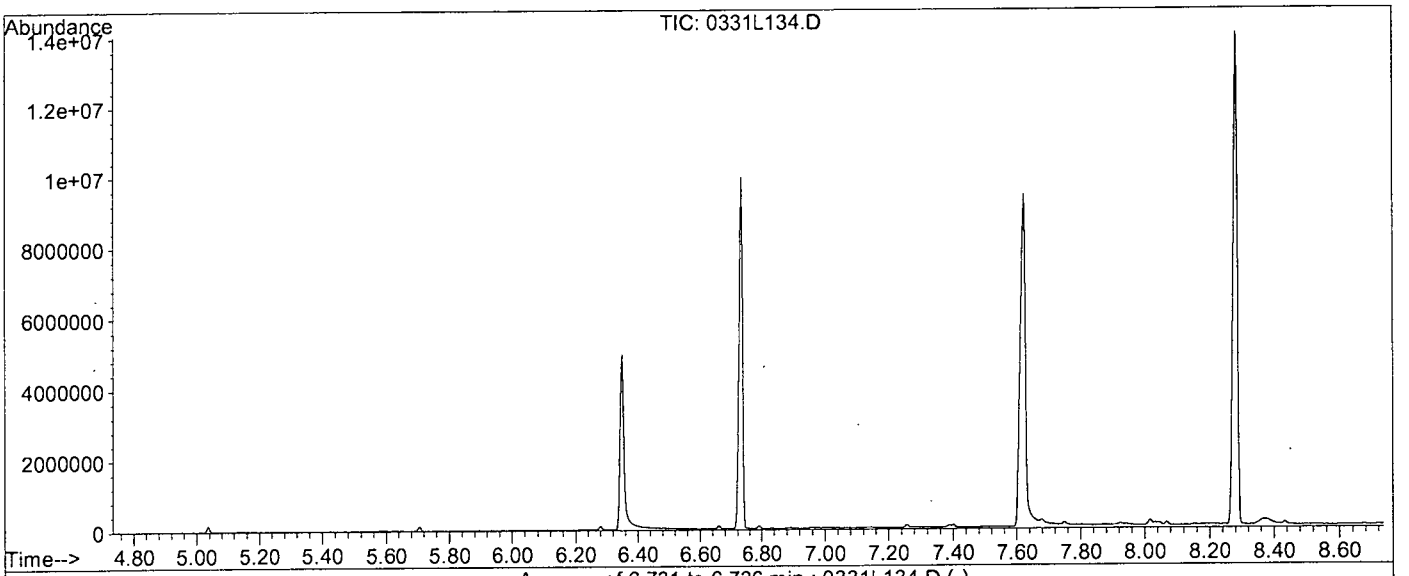
0331L102.D DFTPP2.M Fri Apr 14 14:09:20 2017

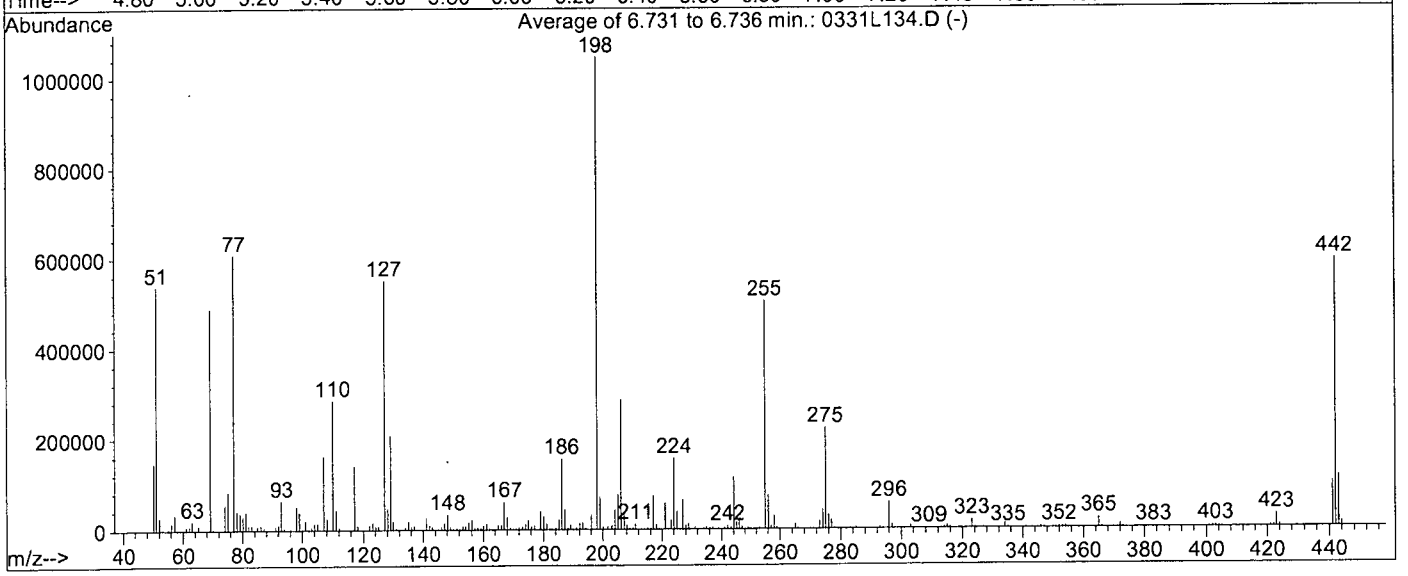
DFTPP

Data File : M:\LINUS\DATA\L170331\0331L134.D
Acq On : 12 Apr 17 9:31
Sample : SV Tune 3/29/17
Misc : water

Vial: 30
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270





AutoFind: Scans 1665, 1666, 1667; Background Corrected with Scan 1654

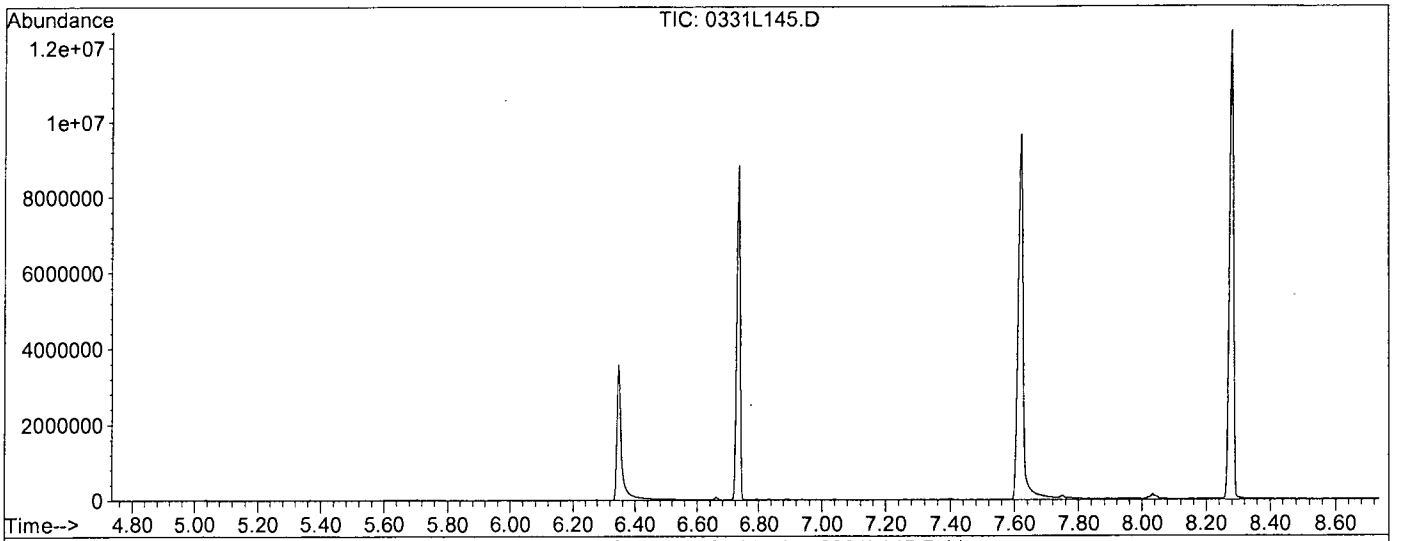
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.4	537909	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	2832	PASS
127	198	40	60	52.6	551488	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1047509	PASS
199	198	5	9	6.7	70512	PASS
275	198	10	30	21.2	222571	PASS
365	198	1	100	2.2	22539	PASS
441	443	0.01	100	88.3	99301	PASS
442	198	50	150	56.6	593365	PASS
443	442	17	23	19.0	112445	PASS

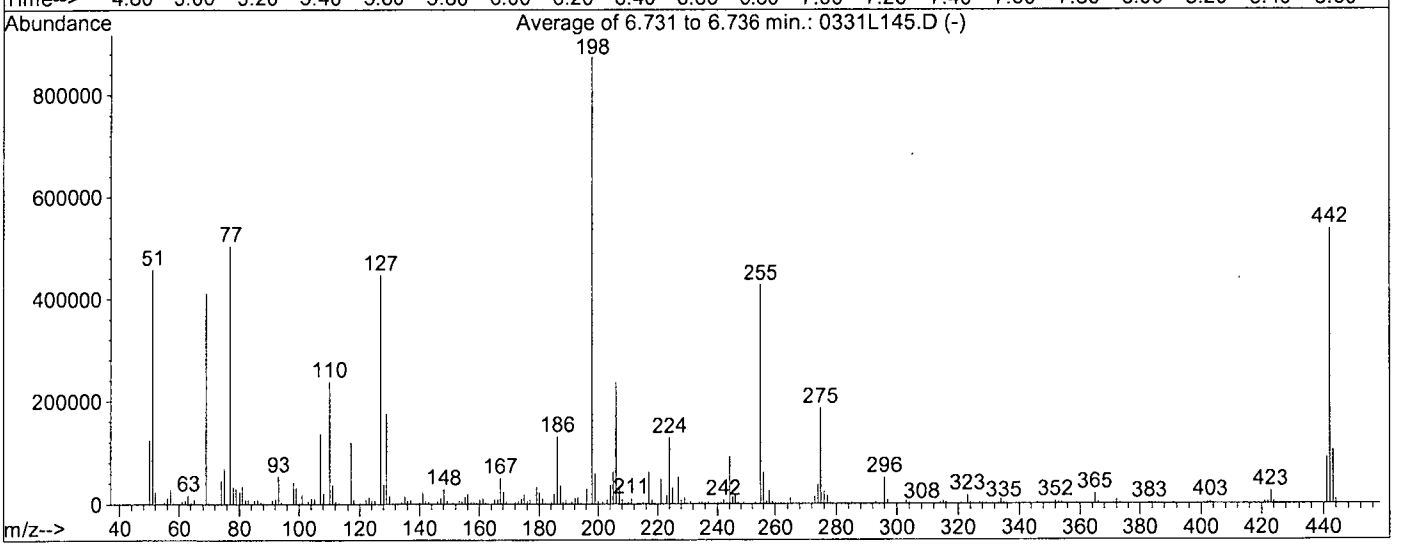
0331L134.D L0331P.M Wed Apr 12 11:51:16 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L145.D Vial: 45
Acq On : 12 Apr 17 17:15 Operator: MA
Sample : SV Tune 3/29/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :





Spectrum Information: Average of 6.731 to 6.736 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	52.3	457395	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	411243	PASS
70	69	0.00	2	0.6	2473	PASS
127	198	40	60	51.1	446869	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	874389	PASS
199	198	5	9	6.7	58712	PASS
275	198	10	30	21.2	185707	PASS
365	198	1	100	2.2	18949	PASS
441	443	0.01	100	86.0	88800	PASS
442	198	40	150	61.4	536789	PASS
443	442	17	23	19.2	103251	PASS

0331L145.D DFTPP2.M Fri Apr 14 14:09:41 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/31/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**09/15/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	291544-37181	03/31/17	03/31/18	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/31/17	09/15/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/31/17	09/15/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		3/15/17	09/15/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS						
PREP DATE:	03/31/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

PAH SIM STD prep: 03/31/17 -R.H.						
Exp:	03/31/18					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	291544-37181	03/31/17	03/31/18	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	125
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37665
OP: 04/10/17 RH	
EX: 04/10/18	

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp ~~9-15-17~~ 2/8/18
Spiked ID 2			Surrogate ID 2	RH 4/13/17
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 18:20
Spiked ID 8			Ext. End Time:	04/11/17 15:30
			GC Requires Extract By:	04/12/17 0:00

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				0.050	1 equip	1000 c-wb7	1	2/1	04/10/17 18:20	
2	170410A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	
3	AZ52849	AZ52849W02			0.050	1 equip	1060 E-WB5	1	2/1	04/10/17 18:20	82558 rx
4	AZ53168 MS-1	AZ53168W34	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
5	AZ53168 MSD-1	AZ53168W33	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
6	AZ53168	AZ53168W36			0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
7	AZ53169	AZ53169W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
8	AZ53170	AZ53170W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
9	AZ53172	AZ53172W09			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82596
10	AZ53174	AZ53174W13			0.050	1 equip	1040 E-WB7	1	2/1	04/10/17 18:20	82596
11	AZ53176	AZ53176W14			0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	82596
12	AZ53178	AZ53178W12			0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82596
13	AZ53180	AZ53180W12			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82596
14	AZ53192 MS-1	AZ53192W19	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
15	AZ53192 MSD-1	AZ53192W22	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
16	AZ53192	AZ53192W18			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82598

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/11/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: KY **Date** 4/12/17

247

04/12/17 11:08:17 AM Ext_ID 54591

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 18:20
Spiked ID 8			Ext. End Time:	04/11/17 15:30
			GC Requires Extract By:	04/12/17 0:00

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53193	AZ53193W08			0.050	1	1050	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
18	AZ53194	AZ53194W06			0.050	1	1040	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
19	AZ53195	AZ53195W06			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
20	AZ53196	AZ53196W11			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
21	AZ53260	AZ53260W15			0.050	1	1060	1	2/1	04/10/17 18:20	82611
						equip	E-WB6				
22	AZ53261	AZ53261W11			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
23	AZ53263	AZ53263W13			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
24	AZ53264	AZ53264W09			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
25	AZ53266	AZ53266W13			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				

Ky 4/12/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: Ky **Date** 4/12/17

04/12/17 11:08:18 AM

Ext_ID 248 54591

Injection Log

Directory: M:\LINUS\DATA\L170331\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0331L002.D	1	SV Tune 03/29/17	water	31 Mar 17 12:25
2	3	0331L003.D	1	0.1 SIM 03/31/17	water	31 Mar 17 13:02
3	4	0331L004.D	1	0.2 SIM 03/31/17	water	31 Mar 17 13:34
4	5	0331L005.D	1	0.5 SIM 03/31/17	water	31 Mar 17 14:07
5	6	0331L006.D	1	1.0 SIM 03/31/17	water	31 Mar 17 14:40
6	7	0331L007.D	1	5.0 SIM 03/31/17	water	31 Mar 17 15:12
7	8	0331L008.D	1	10 SIM 03/31/17	water	31 Mar 17 15:45
8	9	0331L009.D	1	50 SIM 03/31/17	water	31 Mar 17 16:17
9	10	0331L010.D	1	100 SIM 03/31/17	water	31 Mar 17 16:50
10	11	0331L011.D	1	SS SIM 03/31/17	water	31 Mar 17 17:23
11	2	0331L102.D	1	SV Tune 3/29/17	water	11 Apr 17 16:52
12	3	0331L103.D	1	5.0 SIM 04/10/17	water	11 Apr 17 17:08
13	4	0331L104.D	1	170410A BLK 1/1000	water	11 Apr 17 17:44
14	24	0331L124.D	1	5.0 SIM 04/10/17	water	12 Apr 17 4:00
15	30	0331L134.D	1	SV Tune 3/29/17	water	12 Apr 17 9:31
16	35	0331L135.D	1	5.0 SIM 04/10/17	water	12 Apr 17 11:49
17	36	0331L136.D	1	170410A LCS-1 1/1000	water	12 Apr 17 12:21
18	45	0331L145.D	1	SV Tune 3/29/17	water	12 Apr 17 17:15
19	46	0331L146.D	1	5.0 SIM 04/10/17	water	12 Apr 17 17:31
20	47	0331L147.D	0.9434	AZ53260W15 1/1060	water	12 Apr 17 18:04
21	48	0331L148.D	0.95238	AZ53261W11 1/1050	water	12 Apr 17 18:37
22	49	0331L149.D	0.96154	AZ53263W13 1/1040	water	12 Apr 17 19:10
23	50	0331L150.D	0.96154	AZ53264W09 1/1040	water	12 Apr 17 19:42
24	51	0331L151.D	0.95238	AZ53266W13 1/1050	water	12 Apr 17 20:15
25	60	0331L160.D	1	5.0 SIM 04/10/17	water	13 Apr 17 00:51

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170411W-53260 - 217898**
Batch ID: #87DC5-170411B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	04/11/17	04/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	54.8	44-119			%	04/11/17	04/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	48.1	19-119			%	04/11/17	04/14/17
BLANK	SURROGATE: NITROBENZENE-	66.2	44-120			%	04/11/17	04/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.1	10-115			%	04/11/17	04/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	67.4	50-134			%	04/11/17	04/14/17

Quant Method:Y0404.M
Run #:0404Y105
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/17/17 10:07:51 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170411B-BLK	Blank	43-140	67.1		44-119	54.8	
170411B-LCS	Lab Control Spike	43-140	65.5		44-119	58.6	
AZ53260	ERH297	43-140	72.0		44-119	66.4	
AZ53261	ERH298	43-140	72.5		44-119	63.2	
AZ53263	ERH321	43-140	60.5		44-119	47.3	
AZ53264	ERH289	43-140	63.8		44-119	49.8	
AZ53266	ERH303	43-140	45.9		44-119	52.1	

Comments: Batch: #87DC5-170411B

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170411B-BLK	Blank	19-119	48.1		44-120	66.2	
170411B-LCS	Lab Control Spike	19-119	47.6		44-120	67.8	
AZ53260	ERH297	19-119	64.4		44-120	78.2	
AZ53261	ERH298	19-119	51.4		44-120	68.9	
AZ53263	ERH321	19-119	47.0		44-120	62.1	
AZ53264	ERH289	19-119	41.8		44-120	60.9	
AZ53266	ERH303	19-119	22.5		44-120	66.4	

Comments: Batch: #87DC5-170411B

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170411B-BLK	Blank	10-115	34.1		50-134	67.4	
170411B-LCS	Lab Control Spike	10-115	32.5		50-134	67.7	
AZ53260	ERH297	10-115	46.6		50-134	74.1	
AZ53261	ERH298	10-115	35.6		50-134	72.0	
AZ53263	ERH321	10-115	33.6		50-134	61.5	
AZ53264	ERH289	10-115	28.5		50-134	64.7	
AZ53266	ERH303	10-115	22.1		50-134	67.7	

Comments: Batch: #87DC5-170411B

Printed: 04/17/17 10:07:52 AM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170411W-53260 LCS - 217898**
Batch ID: #87DC5-170411B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.7	39.4	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	131	65.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	58.6	58.6	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	95.2	47.6	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	67.8	67.8	44-120
SURROGATE: PHENOL-D6 (S)	200	65.1	32.5	10-115
SURROGATE: TERPHENYL-D14 (S)	100	67.7	67.7	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/11/17
Analysis Date :	04/14/17
Instrument :	Yoda
Run :	0404Y106
Initials :	MA

Printed: 04/17/17 10:07:53 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER
Blank ID: 170411B-BLK

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda
Time Analyzed: 1317

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170411B-BLK	Blank	0404Y105	04/14/17 1317
170411B-LCS	Lab Control Spike	0404Y106	04/14/17 1347
AZ53260	ERH297	0404Y107	04/14/17 1417
AZ53261	ERH298	0404Y108	04/14/17 1448
AZ53263	ERH321	0404Y109	04/14/17 1518
AZ53264	ERH289	0404Y110	04/14/17 1548
AZ53266	ERH303	0404Y111	04/14/17 1619

Comments: Batch: #87DC5-170411B

Printed: 04/17/17 10:07:55 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda
Time Analyzed: 12:18

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y104.D	04/14/17 12:40
2	Blank	170411B BLK 1/1000	0404Y105.D	04/14/17 13:17
3	Lab Control Spike	170411B LCS-1 1/1000	0404Y106.D	04/14/17 13:47
4	ERH297	AZ53260W14 1/1000	0404Y107.D	04/14/17 14:17
5	ERH298	AZ53261W08 1/1000	0404Y108.D	04/14/17 14:48
6	ERH321	AZ53263W09 1/1040	0404Y109.D	04/14/17 15:18
7	ERH289	AZ53264W10 1/1060	0404Y110.D	04/14/17 15:48
8	ERH303	AZ53266W10 1/1070	0404Y111.D	04/14/17 16:19
9		50ug/ml SVOC 03/30/1	0404Y116.D	04/14/17 18:50
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.3
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	7.0
275	10 - 30% of mass 198	23.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	84.2
442	50 - 150% of mass 197.95	96.4
443	17 - 23% of mass 442	18.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82611
Lab File ID (Standard): 0404Y007.D
Date Analyzed: 4 Apr 17 10:45
Instrument ID: Yoda
Time Analyzed: 4 Apr 17 10:45
GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	126322	4.73	520381	6.17	311933	8.19
02	170411B BLK 1/1000	106836	4.73	453538	6.16	270520	8.18
03	170411B LCS-1 1/1000	133613	4.73	541529	6.17	318711	8.19
04	AZ53260W14 1/1000	95247	4.74	444337	6.17	273215	8.18
05	AZ53261W08 1/1000	114477	4.74	506762	6.16	270743	8.18
06	AZ53263W09 1/1040	104779	4.74	459320	6.17	284230	8.18
07	AZ53264W10 1/1060	115889	4.74	484821	6.17	282457	8.19
08	AZ53266W10 1/1070	122208	4.73	462619	6.17	272278	8.18
09	50ug/ml SVOC 03/30/17	107675	4.73	456448	6.17	265319	8.19
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82611

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	520011	9.90	487207	12.99	454025	14.60
	UPPER LIMIT	1040022	10.40	974414	13.49	908050	15.10
	LOWER LIMIT	260006	9.40	243604	12.49	227013	14.10
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	565044	9.90	557148	12.99	542516	14.60
02	170411B BLK 1/1000	515498	9.90	490280	12.99	463499	14.60
03	170411B LCS-1 1/1000	577857	9.90	569215	12.98	505671	14.60
04	AZ53260W14 1/1000	499818	9.90	498656	12.98	438643	14.60
05	AZ53261W08 1/1000	509336	9.91	507391	12.98	423432	14.60
06	AZ53263W09 1/1040	511361	9.90	519569	12.98	463498	14.60
07	AZ53264W10 1/1060	520136	9.90	529853	12.98	524605	14.60
08	AZ53266W10 1/1070	525059	9.90	512664	12.99	498895	14.60
09	50ug/ml SVOC 03/30/17	465352	9.90	453346	12.98	454181	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #87DC5-170411B-217898

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	72.0	43-140			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	66.4	44-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	64.4	19-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	78.2	44-120			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	46.6	10-115			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	74.1	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y107
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/17/17 10:07:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y107.D Vial: 7
Acq On : 14 Apr 17 14:17 Operator: MA
Sample : AZ53260W14 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 14:55 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	95247	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	444337	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	273215	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	499818	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	498656	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	438643	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	394555	128.80496 ppb	0.00
Spiked Amount 200.000			Recovery = 64.403%		
5) Phenol-D6 (S)	4.38	99	357426	93.21532 ppb	0.00
Spiked Amount 200.000			Recovery = 46.608%		
21) Nitrobenzene-D5(S)	5.37	82	359755	78.20492 ppb	0.00
Spiked Amount 100.000			Recovery = 78.205%		
45) 2-Fluorobiphenyl(S)	7.41	172	568844	66.40389 ppb	0.00
Spiked Amount 100.000			Recovery = 66.404%		
63) 2,4,6-Tribromophenol(S)	9.10	330	176400	144.05790 ppb	-0.01
Spiked Amount 200.000			Recovery = 72.029%		
81) Terphenyl-D14(S)	11.77	244	781322	74.11852 ppb	0.00
Spiked Amount 100.000			Recovery = 74.119%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404Y107.D Y0404.M Mon Apr 17 10:29:38 2017

Quantitation Report

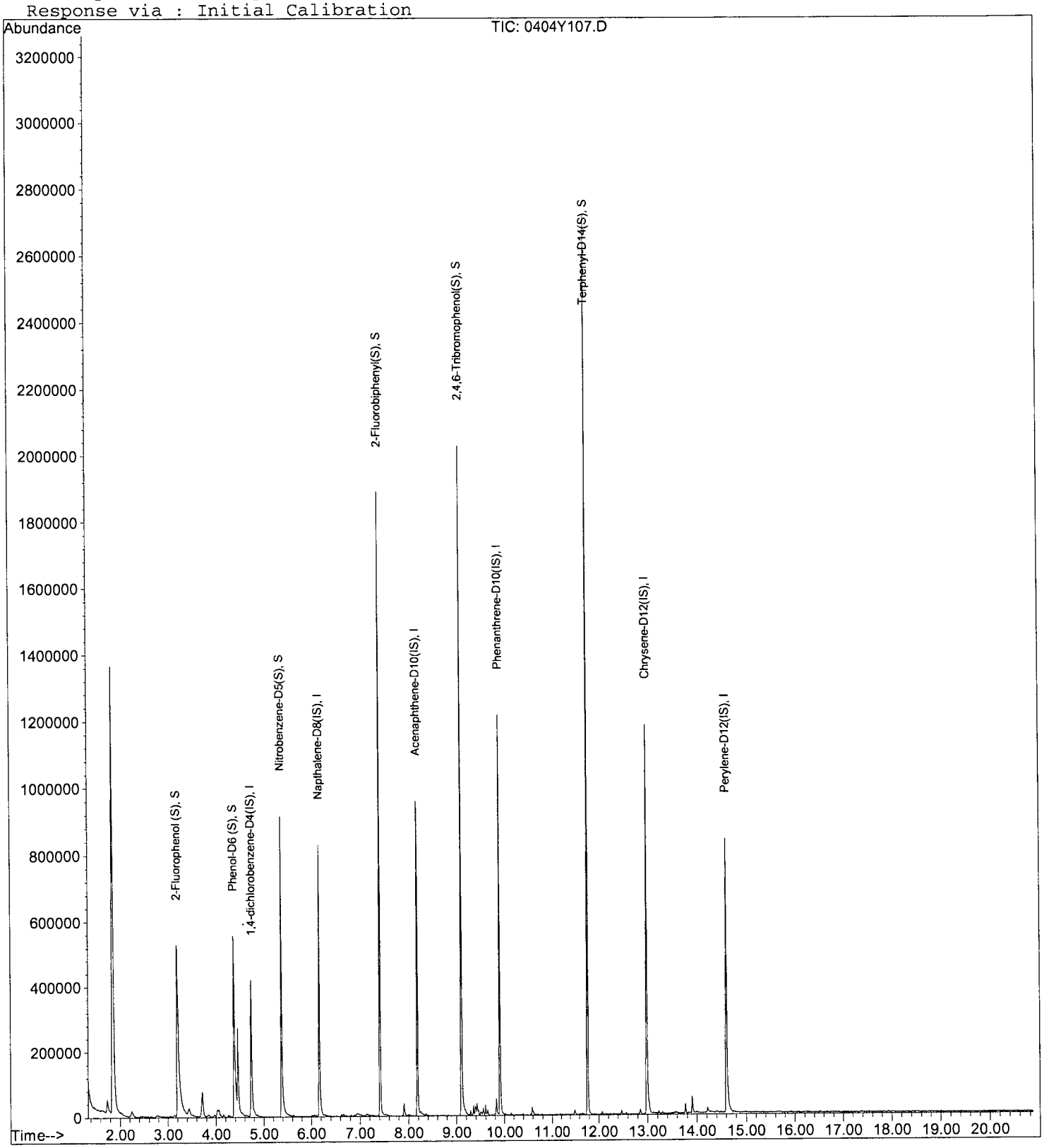
Data File : M:\YODA\DATA\Y170404\0404Y107.D
Acq On : 14 Apr 17 14:17
Sample : AZ53260W14 1/1000
Misc : water

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 14:55 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #87DC5-170411B-217898

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	72.5	43-140			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	63.2	44-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	51.4	19-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	68.9	44-120			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	35.6	10-115			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	72.0	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y108
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/17/17 10:07:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y108.D Vial: 8
Acq On : 14 Apr 17 14:48 Operator: MA
Sample : AZ53261W08 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 15:40 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	114477	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	506762	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	270743	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	509336	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	507391	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	423432	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	378507	102.80921 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.405%	
5) Phenol-D6 (S)	4.37	99	327959	71.16292 ppb	0.00
Spiked Amount 200.000			Recovery	= 35.582%	
21) Nitrobenzene-D5(S)	5.38	82	361572	68.91765 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.918%	
45) 2-Fluorobiphenyl(S)	7.42	172	536697	63.22325 ppb	0.00
Spiked Amount 100.000			Recovery	= 63.223%	
63) 2,4,6-Tribromophenol(S)	9.11	330	175969	145.01802 ppb	0.00
Spiked Amount 200.000			Recovery	= 72.509%	
81) Terphenyl-D14(S)	11.77	244	772491	72.01921 ppb	0.00
Spiked Amount 100.000			Recovery	= 72.019%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

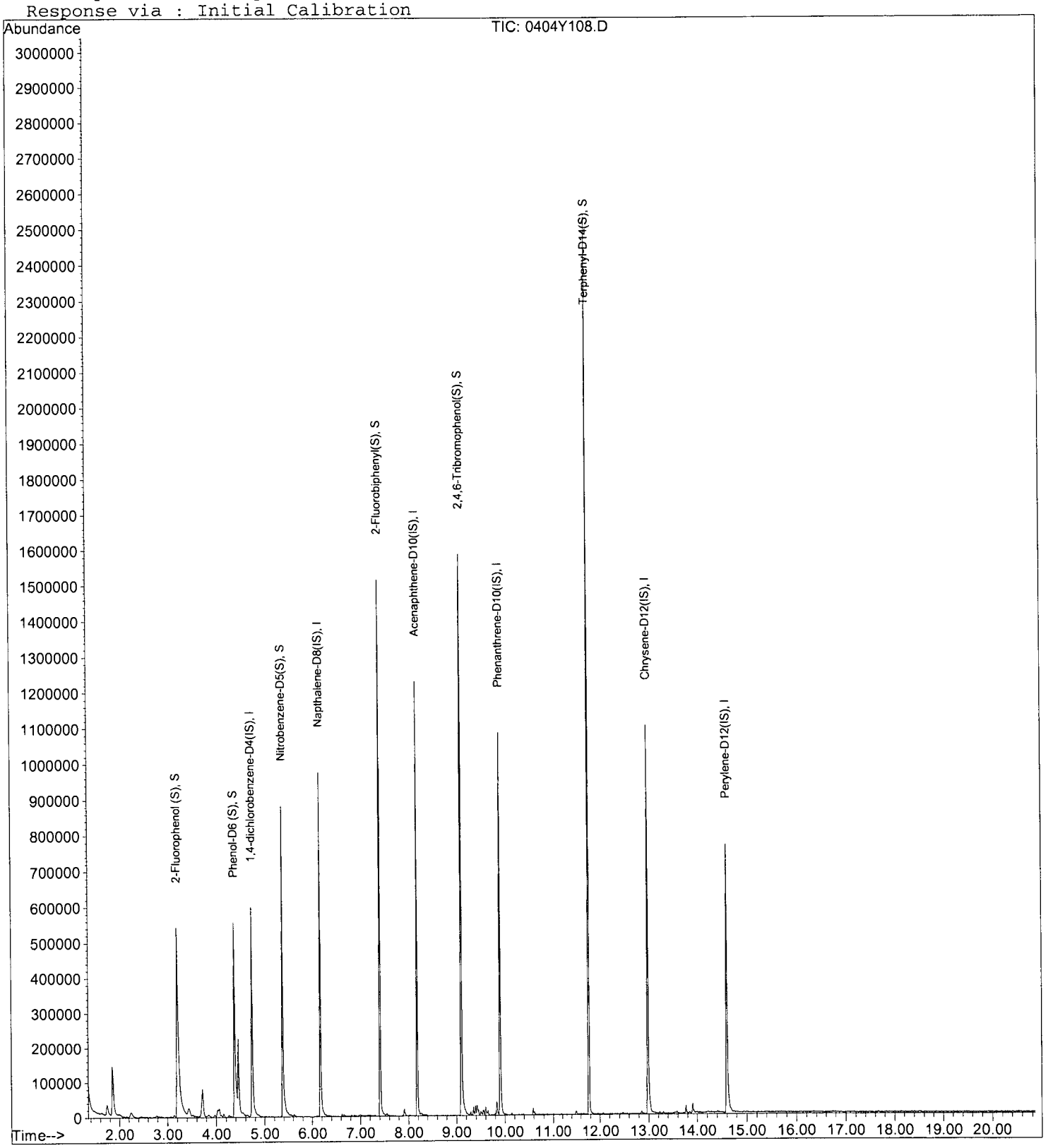
Data File : M:\YODA\DATA\Y170404\0404Y108.D
Acq On : 14 Apr 17 14:48
Sample : AZ53261W08 1/1000
Misc : water

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 15:40 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #87DC5-170411B-217898

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	60.5	43-140			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	47.3	44-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	47.0	19-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	62.1	44-120			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	33.6	10-115			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	61.5	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y109
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/17/17 10:07:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y109.D
Acq On : 14 Apr 17 15:18
Sample : AZ53263W09 1/1040
Misc : water

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 0.96

Quant Time: Apr 17 8:44 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104779	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	459320	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284230	40.00000 ppb	-0.01
64) Phenanthrene-D10(IS)	9.90	188	511361	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	519569	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	463498	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	316435	90.29279 ppb	0.00
Spiked Amount 192.308			Recovery	= 46.952%	
5) Phenol-D6 (S)	4.38	99	283323	64.58423 ppb	0.00
Spiked Amount 192.308			Recovery	= 33.584%	
21) Nitrobenzene-D5(S)	5.37	82	295406	59.73242 ppb	0.00
Spiked Amount 96.154			Recovery	= 62.121%	
45) 2-Fluorobiphenyl(S)	7.41	172	421740	45.50365 ppb	0.00
Spiked Amount 96.154			Recovery	= 47.324%	
63) 2,4,6-Tribromophenol(S)	9.10	330	154135	116.34316 ppb	-0.01
Spiked Amount 192.308			Recovery	= 60.498%	
81) Terphenyl-D14(S)	11.77	244	675636	59.14713 ppb	0.00
Spiked Amount 96.154			Recovery	= 61.513%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

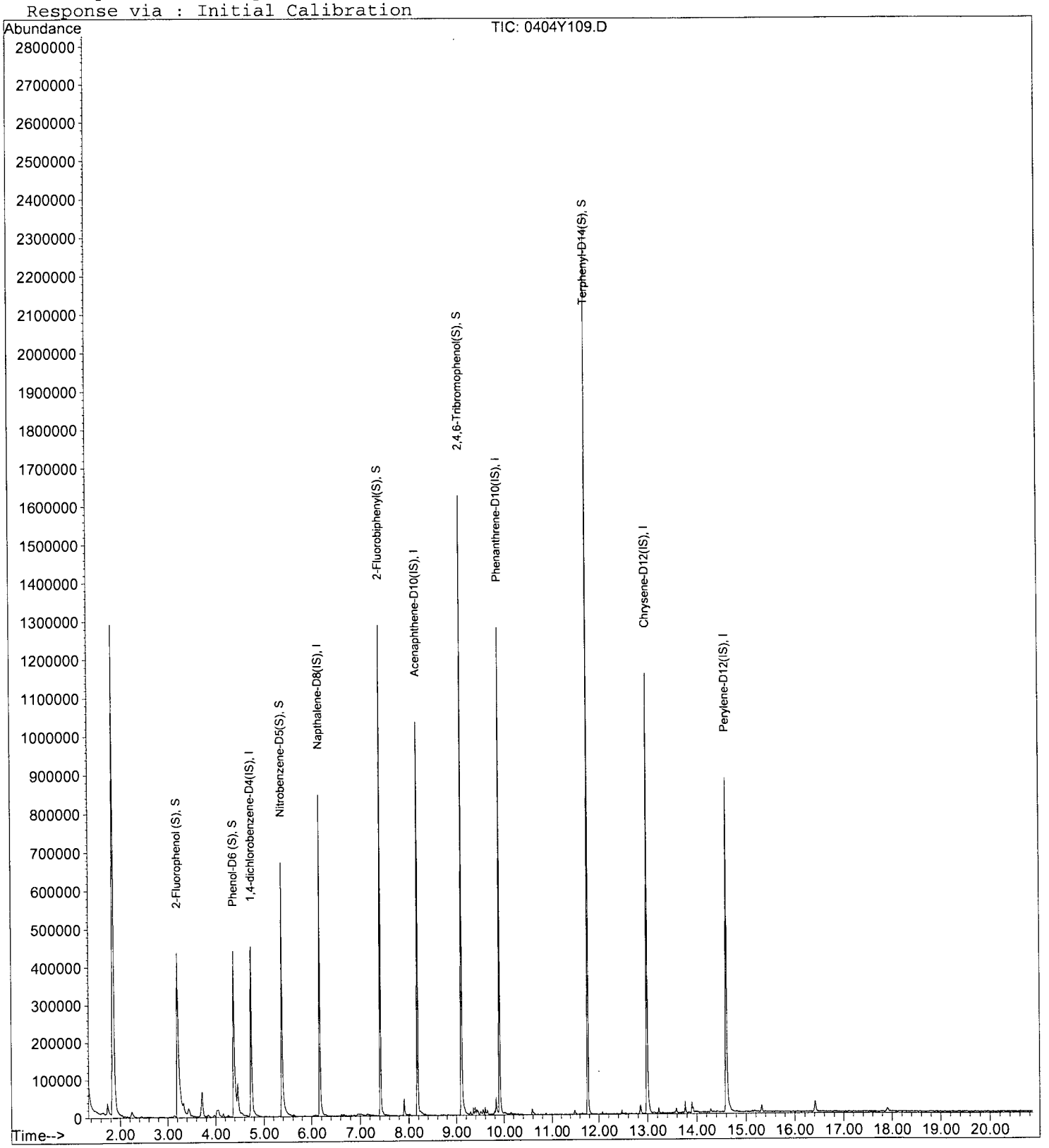
Data File : M:\YODA\DATA\Y170404\0404Y109.D
Acq On : 14 Apr 17 15:18
Sample : AZ53263W09 1/1040
Misc : water

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 0.96

Quant Time: Apr 17 8:44 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH289
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53264
QCG: #87DC5-170411B-217898

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	63.8	43-140			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	49.8	44-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	41.8	19-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	60.9	44-120			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	28.5	10-115			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	64.7	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y110
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/17/17 10:07:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y110.D Vial: 10
Acq On : 14 Apr 17 15:48 Operator: MA
Sample : AZ53264W10 1/1060 Inst : Yoda
Misc : water Multiplr: 0.94

Quant Time: Apr 17 8:45 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	115889	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	484821	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	282457	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520136	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	529853	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	524605	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	311755	78.91207 ppb	0.00
Spiked Amount 188.679			Recovery	= 41.823%	
5) Phenol-D6 (S)	4.38	99	265534	53.69406 ppb	0.00
Spiked Amount 188.679			Recovery	= 28.458%	
21) Nitrobenzene-D5(S)	5.37	82	305867	57.48927 ppb	0.00
Spiked Amount 94.340			Recovery	= 60.938%	
45) 2-Fluorobiphenyl(S)	7.41	172	440634	46.93820 ppb	0.00
Spiked Amount 94.340			Recovery	= 49.754%	
63) 2,4,6-Tribromophenol(S)	9.10	330	161622	120.44452 ppb	-0.01
Spiked Amount 188.679			Recovery	= 63.836%	
81) Terphenyl-D14(S)	11.77	244	724417	61.01362 ppb	0.00
Spiked Amount 94.340			Recovery	= 64.675%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

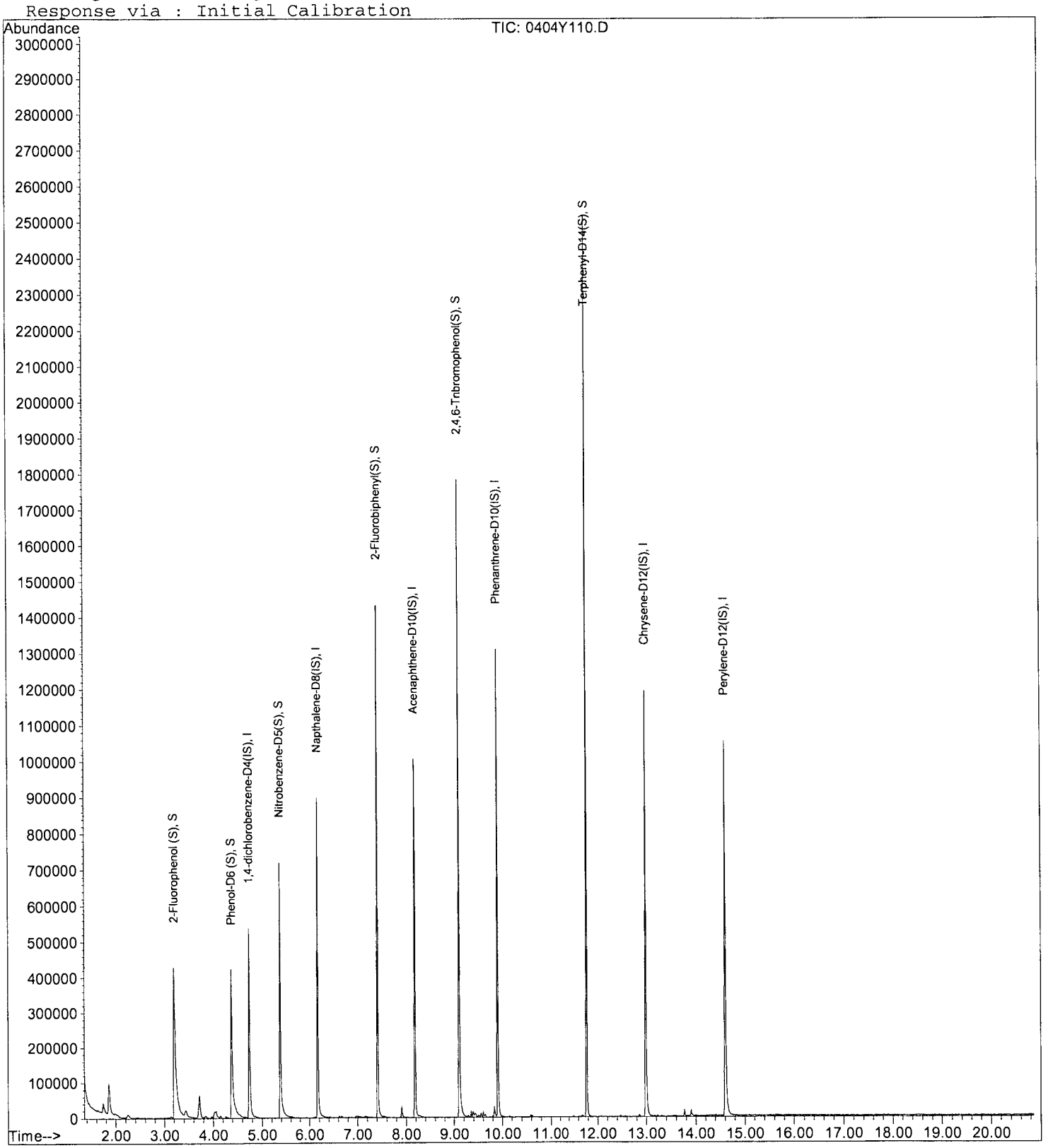
Data File : M:\YODA\DATA\Y170404\0404Y110.D
Acq On : 14 Apr 17 15:48
Sample : AZ53264W10 1/1060
Misc : water

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 0.94

Quant Time: Apr 17 8:45 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #87DC5-170411B-217898

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	45.9	43-140			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	52.1	44-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	22.5	19-119			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	66.4	44-120			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	22.1	10-115			%	04/11/17	04/14/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	67.7	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y111
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/17/17 10:07:56 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y111.D Vial: 11
Acq On : 14 Apr 17 16:19 Operator: MA
Sample : AZ53266W10 1/1070 Inst : Yoda
Misc : water Multiplr: 0.93

Quant Time: Apr 17 8:46 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	122208	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	462619	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	272278	40.00000 ppb	-0.01
64) Phenanthrene-D10(IS)	9.90	188	525059	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	512664	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	498895	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.21	112	176662	42.00842 ppb	0.02
Spiked Amount 186.916			Recovery = 22.474%		
5) Phenol-D6 (S)	4.38	99	217625	41.34073 ppb	0.00
Spiked Amount 186.916			Recovery = 22.117%		
21) Nitrobenzene-D5(S)	5.37	82	318240	62.09941 ppb	0.00
Spiked Amount 93.458			Recovery = 66.446%		
45) 2-Fluorobiphenyl(S)	7.42	172	444932	48.70825 ppb	0.00
Spiked Amount 93.458			Recovery = 52.118%		
63) 2,4,6-Tribromophenol(S)	9.10	330	112131	85.87617 ppb	-0.01
Spiked Amount 186.916			Recovery = 45.944%		
81) Terphenyl-D14(S)	11.77	244	734096	63.30445 ppb	0.00
Spiked Amount 93.458			Recovery = 67.735%		
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	45888	4.58213 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

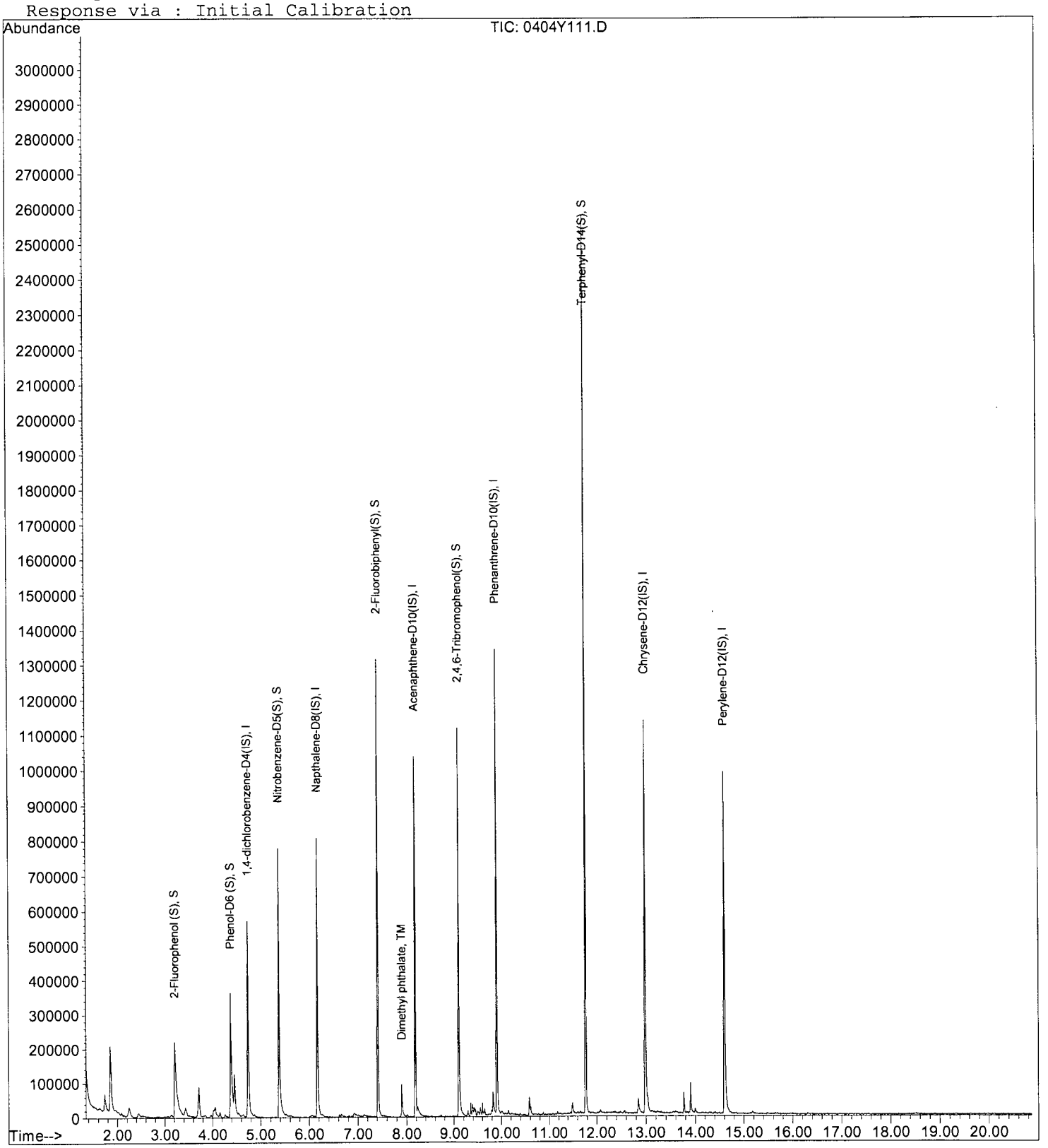
Data File : M:\YODA\DATA\Y170404\0404Y111.D
Acq On : 14 Apr 17 16:19
Sample : AZ53266W10 1/1070
Misc : water

Vial: 11
Operator: MA
Inst : Yoda
Multiplr: 0.93

Quant Time: Apr 17 8:46 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	0404Y003.D 5	0404Y004.D 10	0404Y005.D 20	0404Y006.D 40	0404Y007.D 50	0404Y008.D 60	0404Y009.D 80	0404Y010.D 100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	1.045	1.285	1.268	1.575	1.631	1.683	1.470	1.470			1.4	15	TM	
3	TM	Pyridine	1.796	2.658	2.424	2.560	2.828	2.930	2.545	2.495			2.5	14	TM	
4	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.360	1.335			1.3	12	S	
5	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
6	*TM	Phenol	1.801	1.883	1.833	1.932	1.975	1.922	1.859	1.753			1.9	3.9	*TM	
7	TM	Aniline	1.529	1.728	1.678	1.856	1.857	1.872	1.764	1.792			1.8	6.6	TM	
8	TM	Bis (2-chloroethyl) ether	0.8421	0.8703	0.8295	0.8895	0.9148	0.9307	0.9198	0.9200			0.89	4.3	TM	
9	TM	2-Chlorophenol	1.406	1.510	1.413	1.508	1.562	1.499	1.491	1.427			1.5	3.8	TM	
10	TM	1,3-DCB	1.550	1.624	1.506	1.586	1.625	1.587	1.595	1.478			1.6	3.4	TM	
11	*TM	1,4-DCB	1.714	1.602	1.592	1.619	1.635	1.581	1.612	1.502			1.6	3.7	*TM	
12	TM	Benzyl alcohol	0.7857	0.8348	0.8411	0.8997	0.8949	0.8862	0.8669	0.8414			0.86	4.5	TM	
13	TM	1,2-DCB	1.480	1.494	1.416	1.525	1.491	1.467	1.414	1.331			1.5	4.3	TM	
14	TM	2-Methylphenol	1.196	1.233	1.031	1.179	1.115	1.092	1.041	1.012			1.1	7.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.897	2.010	1.820	2.089	1.942	1.898	1.855	1.724			1.9	5.9	TM	
16	TM	Acetophenone	1.913	1.994	1.821	2.023	1.949	1.987	1.892	1.806			1.9	4.2	TM	
17	TM	3&4-Methylphenol	1.398	1.502	1.379	1.482	1.436	1.543	1.353	1.224			1.4	7.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.021	1.160	0.9998	1.082	1.049	1.081	1.035	0.9323			1.0	6.4	**TM	
19	TM	Hexachloroethane	0.6772	0.7176	0.6021	0.6543	0.6888	0.7214	0.6575	0.6174			0.67	6.5	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4472	0.4267			0.41	10	S	
22	TM	Nitrobenzene	0.3795	0.3943	0.3604	0.4194	0.4331	0.4565	0.4411	0.4254			0.41	7.9	TM	
23	TM	Isophorone	0.6040	0.6566	0.5779	0.7183	0.7122	0.6970	0.7512	0.7213			0.68	9.0	TM	
24	*TM	2-Nitrophenol	0.1642	0.1583	0.1805	0.2159	0.2151	0.2137	0.2289	0.2176			0.20	14	*TM	
25	TM	2,4-Dimethylphenol	0.2955	0.3268	0.2911	0.3223	0.3218	0.3222	0.3293	0.3233			0.32	4.6	TM	
26	TML	Benzoic acid	0.0599	0.1923	0.2030	0.2535	0.2882	0.2696	0.2603	0.2648			0.22	33	TML	0.995
27	TM	Bis (2-chloroethoxy) methane	0.3711	0.4153	0.3749	0.3929	0.3975	0.3925	0.4224	0.4046			0.40	4.5	TM	
28	*TM	2,4-Dichlorophenol	0.2644	0.3144	0.2957	0.3116	0.3182	0.3051	0.3225	0.3202			0.31	6.2	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3118	0.3332	0.3280	0.3293	0.3503	0.3240	0.3370	0.3347			0.33	3.3	TM	
30	TM	3,4-Dimethylphenol	0.4791	0.4782	0.4397	0.4546	0.4755	0.4502	0.4544	0.4656			0.46	3.2	TM	
31	TM	Naphthalene	1.058	1.050	0.9898	1.039	1.082	1.007	1.048	1.039			1.0	2.8	TM	
32	TM	4-Chloroaniline	0.3174	0.3739	0.3579	0.4307	0.3744	0.3426	0.3056	0.2838			0.35	13	TM	
33	TM	2,6-Dichlorophenol	0.2766	0.2882	0.2568	0.3089	0.2778	0.2575	0.2417	0.2513			0.27	8.2	TM	
34	TM	Hexachloropropene	0.2086	0.2343	0.2165	0.2765	0.2623	0.2484	0.2392	0.2681			0.24	9.9	TM	
35	*TM	Hexachlorobutadiene	0.1946	0.2175	0.1838	0.2253	0.2080	0.1915	0.1983	0.2066			0.20	6.8	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1388	0.1574	0.1365	0.1800	0.1906	0.1729	0.1839	0.1859			0.17	13	TM	
37	*TM	4-Chloro-3-methylphenol	0.2752	0.3248	0.3439	0.3397	0.3599	0.3336	0.3431	0.3501			0.33	7.7	*TM	
38	TM	2-Methylnaphthalene	0.7247	0.7779	0.7656	0.7255	0.7295	0.6718	0.6912	0.6796			0.72	5.3	TM	
39	TM	1-Methylnaphthalene	0.6894	0.7184	0.7355	0.6902	0.7728	0.6393	0.6634	0.6548			0.70	6.4	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0314	0.0517	0.1265	0.1687	0.2267	0.2083	0.2351	0.2701			0.16	53	**TMQ	0.996
42	TM	1,2,4,5-Tetrachlorobenzene	0.5258	0.5137	0.6284	0.5104	0.5849	0.5024	0.5164	0.5192			0.54	8.3	TM	
43	*TM	2,4,6-Trichlorophenol	0.3273	0.2952	0.3901	0.3551	0.3909	0.3537	0.3596	0.3742			0.36	9.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3419	0.3285	0.3861	0.3639	0.4022	0.3715	0.3814	0.3786			0.37	6.5	TM	
45	S	2-Fluorobiphenyl(S)	1.264	1.213	1.501	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
46	TM	1,1'-Biphenyl	1.507	1.357	1.678	1.453	1.568	1.402	1.378	1.431			1.5	7.3	TM	
47	TM	2-Chloronaphthalene	1.157	1.051	1.291	1.134	1.222	1.092	1.104	1.141			1.1	6.6	TM	
48	TM	2-Nitroaniline	0.3113	0.3404	0.4239	0.3968	0.4472	0.4027	0.4167	0.4471			0.40	12	TM	
49	TM	Dimethyl phthalate	1.297	1.247	1.445	1.317	1.459	1.524	1.329	1.382			1.4	6.8	TM	
50	TM	2,6-DNT	0.2786	0.3184	0.3200	0.3204	0.3425	0.2999	0.3196	0.3305			0.32	6.1	TM	
51	TM	Acenaphthylene	1.706	1.928	1.909	1.781	1.883	1.803	1.763	1.753			1.8	4.5	TM	
52	TM	3-Nitroaniline	0.2875	0.3266	0.3244	0.3437	0.3439	0.3314	0.3213	0.3221			0.33	5.4	TM	
53	*TM	Acenaphthene	1.201	1.171	1.121	1.083	1.149	1.040	1.045	1.055			1.1	5.5	*TM	
54	**TML	2,4-Dinitrophenol	0.0283	0.0648	0.1074	0.1737	0.1820	0.1809	0.2063	0.2123			0.14	48	**TML	0.994
55	**TML	4-Nitrophenol	0.0082	0.0115	0.2352	0.2508	0.2715	0.2585	0.2685	0.3022			0.20	59	**TML	0.993
56	TM	Dibenzofuran	1.546	1.513	1.635	1.598	1.612	1.537	1.471	1.489			1.6	3.8	TM	
57	TM	2,4-DNT	0.3537	0.3907	0.4040	0.4149	0.4605	0.4417	0.4506	0.4555			0.42	8.9	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2728	0.2593	0.2825	0.3282	0.3289	0.3058	0.3079	0.3177			0.30	8.7	TM	
59	TM	Diethyl phthalate	1.379	1.285	1.385	1.405	1.676	1.351	1.359	1.407			1.4	8.3	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6595	0.5956	0.5936	0.6044	0.6316	0.6190	0.5703	0.6313			0.61	4.6	TM	
61	TM	Fluorene	1.295	1.265	1.259	1.243	1.267	1.255	1.148	1.255			1.2	3.5	TM	
62	TM	4-Nitroaniline	0.2925	0.2737	0.3054	0.3184	0.3577	0.3268	0.3217	0.3161			0.31	7.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1697	0.1750	0.1856	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	4.3	S	
64	I	Phenanthrene-D10(IS)														
65	TMQ	4,6-Dinitro-2-methylphenol	0.0849	0.1080	0.1198	0.1237	0.1523	0.1528	0.1465	0.1384			0.13	19	TMQ	0.993
66	TM	Diphenyl amine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	TM	
67	*TM	n-Nitrosodiphenylamine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	*TM	
68	TM	1,2-Diphenylhydrazine	0.7989	0.8600	0.7744	0.7210	1.016	1.039	0.9516	0.9045			0.88	13	TM	
69	TM	4-Bromophenyl phenyl ether	0.2099	0.2197	0.1926	0.1700	0.2029	0.1960	0.1926	0.1838			0.20	7.8	TM	
70	TM	Hexachlorobenzene	0.2146	0.2271	0.1965	0.1743	0.2065	0.1962	0.1937	0.1829			0.20	8.5	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.2052	0.2390	0.2017	0.1909	0.2205	0.2155	0.2139	0.1994			0.21	7.1	TM	
72	*TM	Pentachlorophenol	0.0706	0.0712	0.0748	0.0728	0.0940	0.0949	0.0974	0.0971			0.08	15	*TM	
73	TM	Phenanthrene	1.108	1.109	1.027	1.038	1.050	0.9972	0.9679	0.9311			1.0	6.1	TM	
74	TM	Anthracene	1.150	1.172	1.122	1.082	1.116	1.053	1.017	0.9680			1.1	6.4	TM	
75	TM	Carbazol	1.004	1.041	1.002	0.8660	1.004	0.9371	0.9170	0.8804			0.96	6.8	TM	
76	TM	Di-n-butylphthalate	1.243	1.355	1.269	1.095	1.263	1.350	1.224	1.152			1.2	7.2	TM	
77	*TM	Fluoranthene	1.214	1.295	1.127	1.056	1.195	1.088	1.067	1.020			1.1	8.3	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.3367	0.3742	0.3900	0.3534	0.3898	0.3094	0.3372	0.3363			0.35	8.2	TM	
80	TM	Pyrene	1.296	1.325	1.223	1.266	1.363	1.047	1.178	1.169			1.2	8.3	TM	
81	S	Terphenyl-D14(S)	0.8779	0.9617	0.8691	0.8737	0.9198	0.6825	0.7856	0.7945			0.85	10	S	
82	TM	Butyl benzylphthalate	0.5983	0.6094	0.6081	0.6196	0.6581	0.5111	0.5984	0.5904			0.60	6.9	TM	
83	TM	3,3'-Dichlorobenzidine	0.3893	0.4312	0.4215	0.4078	0.4146	0.3713	0.3454	0.3251			0.39	9.8	TM	
84	TM	Benz (a) anthracene	1.176	1.231	1.158	1.174	1.207	1.106	1.063	1.108			1.2	4.9	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8769	0.9173	0.8300	0.8201	0.8614	0.7254	0.7839	0.9028			0.84	7.6	TM	
86	TM	Chrysene	1.256	1.280	1.107	1.080	1.101	0.9585	1.059	1.188			1.1	9.5	TM	
87	*TM	Di-n-octylphthalate	1.507	1.541	1.481	1.538	1.580	1.319	1.424	1.422			1.5	5.7	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.426	1.474	1.422	1.311	1.362	1.193	1.267	1.265			1.3	7.2	TM	
90	TM	Benzo (k) fluoranthene	1.430	1.533	1.191	1.317	1.324	1.280	1.035	1.024			1.3	14	TM	
91	*TM	Benzo (a) pyrene	1.255	1.371	1.280	1.268	1.296	1.168	1.111	1.115			1.2	7.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.460	1.658	1.503	1.546	1.410	1.307	1.253	1.251			1.4	10	TM	
93	TM	Dibenz (a,h) anthracene	1.236	1.385	1.277	1.283	1.199	1.128	1.057	1.049			1.2	9.8	TM	
94	TM	Benzo (g,h,i) perylene	1.269	1.415	1.214	1.206	1.207	1.121	1.094	1.088			1.2	9.0	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	560451	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.25	112	32572	7.80714 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.904%	
5) Phenol-D6 (S)	4.40	99	51987	9.39572 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.698%	
21) Nitrobenzene-D5(S)	5.39	82	23671	4.16878 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.169%	
45) 2-Fluorobiphenyl(S)	7.41	172	50729	4.91846 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.918%	
63) 2,4,6-Tribromophenol(S)	9.11	330	13623	9.13383 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.567%	
81) Terphenyl-D14(S)	11.77	244	61500	5.05821 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.058%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.70	42	17331	5.09847 ppb		72
3) Pyridine	1.70	79	29780	4.54533 ppb		98
6) Phenol	4.42	94	29856	4.71564 ppb		87
7) Aniline	4.41	66	25352	4.22853 ppb	#	67
8) Bis (2-chloroethyl) ether	4.46	63	13961	4.54380 ppb		91
9) 2-Chlorophenol	4.53	128	23302	4.74054 ppb		98
10) 1,3-DCB	4.68	146	25694	4.95679 ppb		95
11) 1,4-DCB	4.75	146	28420	5.31753 ppb		95
12) Benzyl alcohol	4.95	108	13026	4.65457 ppb		78
13) 1,2-DCB	4.93	146	24536	5.04662 ppb		97
14) 2-Methylphenol	5.08	107	19820	5.39228 ppb	#	86
15) Bis (2-chloroisopropyl) et	5.06	45	31444	4.63265 ppb	#	72
16) Acetophenone	5.22	105	31714	4.84771 ppb		84
17) 3&4-Methylphenol	5.26	107	46361	9.73524 ppb		84
18) n-Nitrosodi-n-propylamine	5.21	70	16927	4.68272 ppb		96
19) Hexachloroethane	5.29	117	11226	5.10602 ppb		93
22) Nitrobenzene	5.41	77	26307	4.66103 ppb		94
23) Isophorone	5.66	82	41871	4.46234 ppb		95
24) 2-Nitrophenol	5.77	139	11385	4.28748 ppb		95
25) 2,4-Dimethylphenol	5.84	122	20483	4.81634 ppb		94
26) Benzoic acid	6.01	105	4149	6.18708 ppb		74
27) Bis (2-chloroethoxy) metha	5.92	93	25723	4.75850 ppb		97
28) 2,4-Dichlorophenol	6.08	162	18329	4.53153 ppb		99
29) 1,2,4-Trichlorobenzene	6.11	180	21615	4.81351 ppb		99
30) 3,4-Dimethylphenol	6.19	107	33212	5.19146 ppb		98
31) Naphthalene	6.19	128	73321	5.05690 ppb		99
32) 4-Chloroaniline	6.29	127	22001	4.33900 ppb		97
33) 2,6-Dichlorophenol	6.29	162	19174	5.11220 ppb		97
34) Hexachloropropene	6.29	213	14457	4.42657 ppb		96
35) Hexachlorobutadiene	6.33	225	13492	5.04887 ppb		91
36) Caprolactum	6.68	55	9623	4.13206 ppb	#	89
37) 4-Chloro-3-methylphenol	6.88	107	19078	4.30945 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	50235	5.31781 ppb		95
39) 1-Methylnaphthalene	7.10	142	47789	5.07912 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	1262	7.25654 ppb	#	90
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	21106	4.84238 ppb		94
43) 2,4,6-Trichlorophenol	7.35	196	13139	4.77843 ppb		95
44) 2,4,5-Trichlorophenol	7.42	196	13725	4.57362 ppb		87
46) 1,1'-Biphenyl	7.53	154	60505	5.02407 ppb		96
47) 2-Chloronaphthalene	7.55	162	46461	5.04454 ppb		94
48) 2-Nitroaniline	7.71	65	12496	3.80337 ppb		89
49) Dimethyl phthalate	7.90	163	52080	4.69778 ppb		99
50) 2,6-DNT	7.98	165	11182	4.49905 ppb		99
51) Acenaphthylene	8.02	152	68492	4.62867 ppb		99
52) 3-Nitroaniline	8.20	138	11541	4.31142 ppb	#	80
53) Acenaphthene	8.22	154	48203	5.28946 ppb		91
54) 2,4-Dinitrophenol	8.41	184	1135	9.45965 ppb	#	55
55) 4-Nitrophenol	8.43	65	330	7.48521 ppb		89
56) Dibenzofuran	8.43	168	62053	4.82911 ppb		98
57) 2,4-DNT	8.47	165	14198	4.13294 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.60	232	10952	4.65968 ppb		85
59) Diethyl phthalate	8.70	149	55345	4.86883 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	26474	5.30016 ppb		87
61) Fluorene	8.82	166	51994	5.01403 ppb		97
62) 4-Nitroaniline	8.90	138	11739	4.56716 ppb		98
65) 4,6-Dinitro-2-methylphenol	8.95	198	5915	8.45378 ppb	#	79
66) Diphenyl amine	8.96	169	83104	11.48135 ppb		95
67) n-Nitrosodiphenylamine	8.96	169	83104	11.48135 ppb		95
68) 1,2-Diphenylhydrazine	9.01	77	55687	4.41379 ppb		91
69) 4-Bromophenyl phenyl ether	9.39	248	14634	5.21093 ppb		96
70) Hexachlorobenzene	9.47	284	14960	5.14155 ppb		90
71) Atrazine	9.60	200	7153	2.55096 ppb		93
72) Pentachlorophenol	9.72	266	4924	10.75177 ppb		91
73) Phenanthrene	9.93	178	77253	5.13387 ppb		100
74) Anthracene	9.99	178	80183	5.09924 ppb		97
75) Carbazol	10.20	167	69999	5.02637 ppb		99
76) Di-n-butylphthalate	10.61	149	86649	4.93439 ppb		96
77) Fluoranthene	11.32	202	84637	5.14374 ppb		97
79) Benzidine	11.51	184	23589	3.50897 ppb	#	89
80) Pyrene	11.58	202	90759	5.05780 ppb		100
82) Butyl benzylphthalate	12.34	149	41913	5.01411 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	27270	4.87537 ppb	#	93
84) Benz (a) anthracene	12.97	228	82353	4.90940 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	61432	5.26696 ppb		93
86) Chrysene	13.01	228	87970	5.35759 ppb		97
87) Di-n-octylphthalate	13.73	149	105594	5.27219 ppb		91
89) Benzo (b) fluoranthene	14.16	252	86060	5.72632 ppb		97
90) Benzo (k) fluoranthene	14.19	252	86318	6.11838 ppb	#	97
91) Benzo (a) pyrene	14.54	252	75743	5.45829 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	88144	5.69287 ppb		94
93) Dibenz (a,h) anthracene	16.12	278	74588	5.66377 ppb		95
94) Benzo (g,h,i) perylene	16.56	276	76584	5.86100 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

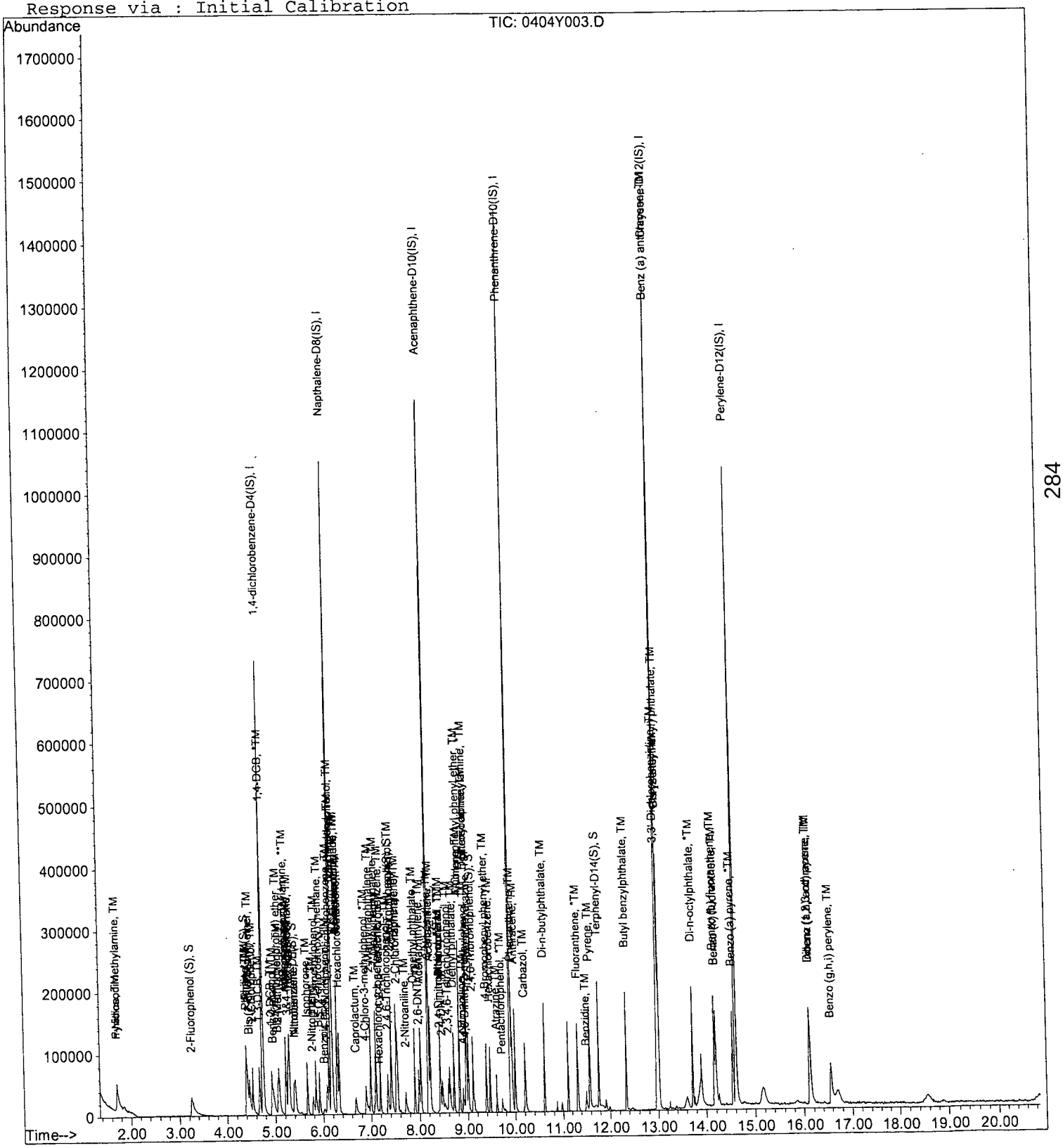
Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



284

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453345	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.22	112	66141	17.45292 ppb	0.03
Spiked Amount 200.000			Recovery = 8.727%		
5) Phenol-D6 (S)	4.38	99	107821	21.45303 ppb	0.00
Spiked Amount 200.000			Recovery = 10.727%		
21) Nitrobenzene-D5(S)	5.38	82	50379	10.03970 ppb	0.00
Spiked Amount 100.000			Recovery = 10.040%		
45) 2-Fluorobiphenyl(S)	7.41	172	99689	9.44241 ppb	0.00
Spiked Amount 100.000			Recovery = 9.442%		
63) 2,4,6-Tribromophenol(S)	9.10	330	28755	18.83458 ppb	-0.01
Spiked Amount 200.000			Recovery = 9.418%		
81) Terphenyl-D14(S)	11.77	244	126985	11.08281 ppb	0.00
Spiked Amount 100.000			Recovery = 11.083%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	38706	12.53558 ppb		95
3) Pyridine	1.69	79	80058	13.45227 ppb		95
6) Phenol	4.40	94	56718	9.86233 ppb		83
7) Aniline	4.39	66	52049	9.55740 ppb	#	46
8) Bis (2-chloroethyl) ether	4.45	63	26211	9.39152 ppb		96
9) 2-Chlorophenol	4.52	128	45469	10.18356 ppb		95
10) 1,3-DCB	4.67	146	48903	10.38615 ppb		97
11) 1,4-DCB	4.75	146	48234	9.93548 ppb		94
12) Benzyl alcohol	4.94	108	25142	9.89050 ppb		90
13) 1,2-DCB	4.93	146	44982	10.18556 ppb		94
14) 2-Methylphenol	5.07	107	37126	11.11979 ppb		85
15) Bis (2-chloroisopropyl) et	5.06	45	60540	9.81937 ppb	#	75
16) Acetophenone	5.21	105	60064	10.10764 ppb		90
17) 3&4-Methylphenol	5.25	107	90453	20.91061 ppb		93
18) n-Nitrosodi-n-propylamine	5.20	70	34949	10.64395 ppb		91
19) Hexachloroethane	5.29	117	21612	10.82186 ppb		99
22) Nitrobenzene	5.40	77	48309	9.68539 ppb		97
23) Isophorone	5.66	82	80440	9.70063 ppb		96
24) 2-Nitrophenol	5.77	139	19400	8.26702 ppb		85
25) 2,4-Dimethylphenol	5.83	122	40033	10.65173 ppb		93
26) Benzoic acid	6.00	105	23566	12.34998 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	50876	10.64976 ppb		96
28) 2,4-Dichlorophenol	6.06	162	38518	10.77576 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	40824	10.28728 ppb		99
30) 3,4-Dimethylphenol	6.17	107	58594	10.36398 ppb		94
31) Naphthalene	6.19	128	128676	10.04227 ppb		99
32) 4-Chloroaniline	6.28	127	45809	10.22297 ppb		96
33) 2,6-Dichlorophenol	6.29	162	35313	10.65390 ppb		95
34) Hexachloropropene	6.29	213	28711	9.94755 ppb		95
35) Hexachlorobutadiene	6.33	225	26642	11.28140 ppb		90
36) Caprolactum	6.68	55	19287	9.37129 ppb	#	84
37) 4-Chloro-3-methylphenol	6.88	107	39794	10.17150 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	95312	11.41701 ppb		97
39) 1-Methylnaphthalene	7.10	142	88020	10.58573 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	4251	9.20910 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	42215	9.46198 ppb		89
43) 2,4,6-Trichlorophenol	7.34	196	24255	8.61760 ppb	#	90
44) 2,4,5-Trichlorophenol	7.41	196	26998	8.78905 ppb	#	88
46) 1,1'-Biphenyl	7.53	154	111525	9.04688 ppb		96
47) 2-Chloronaphthalene	7.54	162	86353	9.15952 ppb		96
48) 2-Nitroaniline	7.70	65	27975	8.31821 ppb		96
49) Dimethyl phthalate	7.90	163	102496	9.03214 ppb		99
50) 2,6-DNT	7.98	165	26161	10.28297 ppb		91
51) Acenaphthylene	8.02	152	158445	10.46063 ppb		97
52) 3-Nitroaniline	8.18	138	26838	9.79466 ppb	#	68
53) Acenaphthene	8.22	154	96196	10.31233 ppb		96
54) 2,4-Dinitrophenol	8.36	184	5322	12.35667 ppb	#	76
55) 4-Nitrophenol	8.43	65	942	7.72684 ppb		70
56) Dibenzofuran	8.43	168	124334	9.45272 ppb		92
57) 2,4-DNT	8.46	165	32109	9.13105 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.59	232	21307	8.85620 ppb	#	84
59) Diethyl phthalate	8.71	149	105599	9.07545 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.83	204	48947	9.57322 ppb		97
61) Fluorene	8.82	166	103917	9.79000 ppb		95
62) 4-Nitroaniline	8.89	138	22492	8.54881 ppb		89
65) 4,6-Dinitro-2-methylphenol	8.94	198	14030	12.45496 ppb	#	77
66) Diphenyl amine	8.96	169	164345	24.37687 ppb		99
67) n-Nitrosodiphenylamine	8.96	169	164345	24.37687 ppb		99
68) 1,2-Diphenylhydrazine	9.00	77	111668	9.50249 ppb	#	93
69) 4-Bromophenyl phenyl ether	9.39	248	28525	10.90507 ppb		90
70) Hexachlorobenzene	9.47	284	29490	10.88147 ppb		93
71) Atrazine	9.61	200	15514	5.94005 ppb		98
72) Pentachlorophenol	9.72	266	9250	14.06147 ppb		93
73) Phenanthrene	9.93	178	143958	10.27107 ppb		97
74) Anthracene	10.00	178	152204	10.39201 ppb		98
75) Carbazol	10.20	167	135199	10.42286 ppb		98
76) Di-n-butylphthalate	10.61	149	175917	10.75544 ppb		98
77) Fluoranthene	11.31	202	168094	10.96785 ppb		98
79) Benzidine	11.50	184	49406	7.79878 ppb		97
80) Pyrene	11.57	202	174947	10.34558 ppb		99
82) Butyl benzylphthalate	12.34	149	80461	10.21426 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	56934	10.80116 ppb		98
84) Benz (a) anthracene	12.98	228	162558	10.28332 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	121121	11.01947 ppb		96
86) Chrysene	13.01	228	168979	10.92054 ppb		97
87) Di-n-octylphthalate	13.73	149	203450	10.77917 ppb		93
89) Benzo (b) fluoranthene	14.16	252	167020	11.83583 ppb		97
90) Benzo (k) fluoranthene	14.19	252	173743	13.11590 ppb		96
91) Benzo (a) pyrene	14.53	252	155337	11.92187 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.10	276	187927	12.92657 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	157013	12.69777 ppb		97
94) Benzo (g,h,i) perylene	16.55	276	160338	13.06849 ppb		98

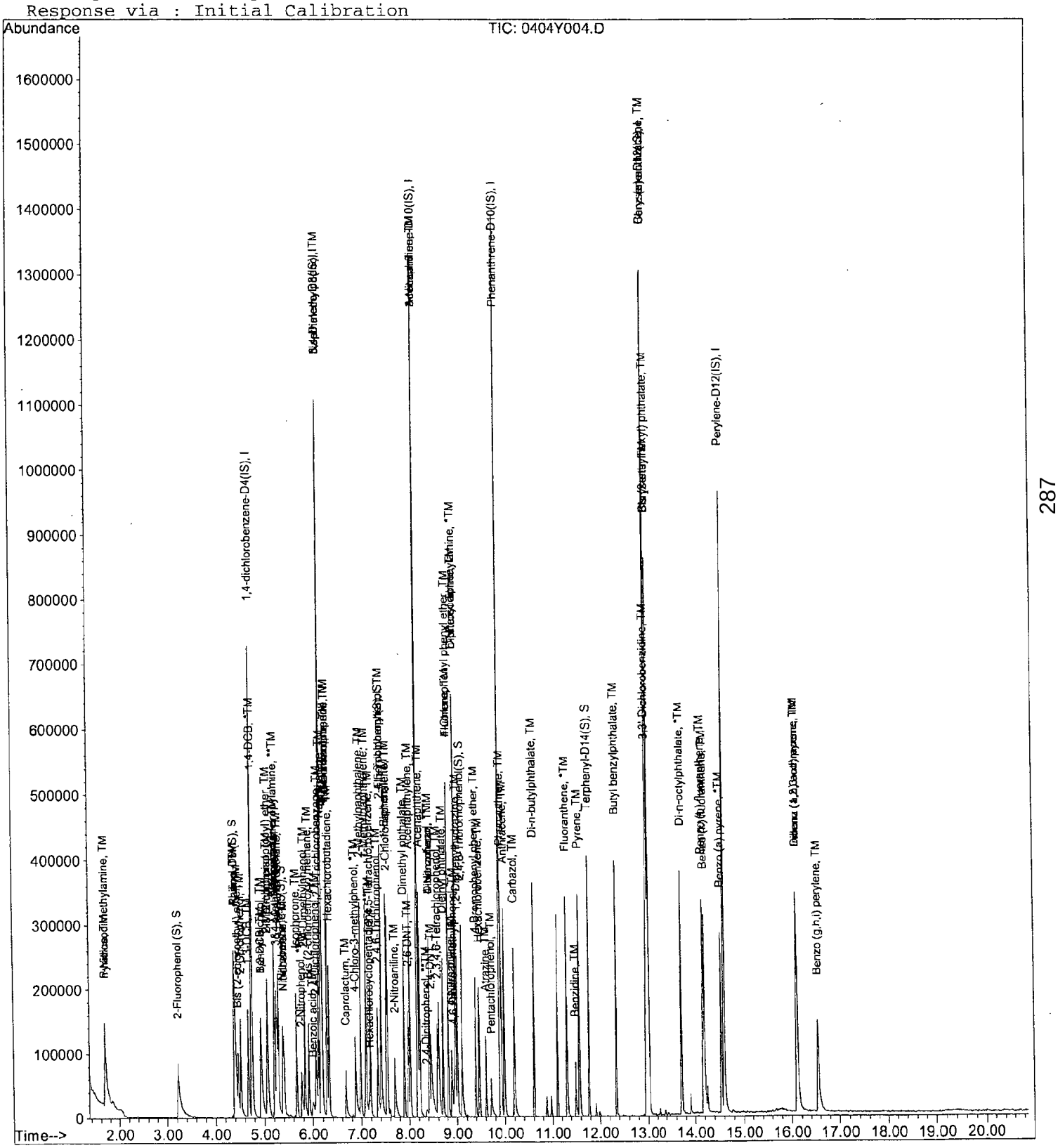
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y004.D Vial: 4
Acq On : 4 Apr 17 9:13 Operator: MA
Sample : 10ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator).
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	298428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	549818	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	169393	42.73841 ppb	0.00
Spiked Amount 200.000			Recovery	= 21.369%	
5) Phenol-D6 (S)	4.37	99	208566	39.67842 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.839%	
21) Nitrobenzene-D5(S)	5.37	82	98581	17.84081 ppb	0.00
Spiked Amount 100.000			Recovery	= 17.841%	
45) 2-Fluorobiphenyl(S)	7.42	172	224034	23.37317 ppb	0.00
Spiked Amount 100.000			Recovery	= 23.373%	
63) 2,4,6-Tribromophenol(S)	9.11	330	55378	39.95286 ppb	0.00
Spiked Amount 200.000			Recovery	= 19.977%	
81) Terphenyl-D14(S)	11.77	244	238911	20.02978 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.030%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	79869	24.73261 ppb		77
3) Pyridine	1.68	79	152689	24.53150 ppb		99
6) Phenol	4.39	94	115486	19.20055 ppb		93
7) Aniline	4.38	66	105732	18.56348 ppb	#	48
8) Bis (2-chloroethyl) ether	4.46	63	52255	17.90217 ppb		97
9) 2-Chlorophenol	4.51	128	88994	19.05770 ppb		97
10) 1,3-DCB	4.67	146	94862	19.26357 ppb		98
11) 1,4-DCB	4.75	146	100312	19.75669 ppb		96
12) Benzyl alcohol	4.93	108	52990	19.93141 ppb		88
13) 1,2-DCB	4.92	146	89212	19.31502 ppb		96
14) 2-Methylphenol	5.07	107	64975	18.60759 ppb		97
15) Bis (2-chloroisopropyl) et	5.06	45	114628	17.77696 ppb		93
16) Acetophenone	5.21	105	114712	18.45737 ppb		95
17) 3&4-Methylphenol	5.24	107	173721	38.39915 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	62983	18.34075 ppb		99
19) Hexachloroethane	5.29	117	37931	18.16046 ppb		88
22) Nitrobenzene	5.39	77	97246	17.70561 ppb		91
23) Isophorone	5.66	82	155940	17.07794 ppb		98
24) 2-Nitrophenol	5.76	139	48695	18.84437 ppb		81
25) 2,4-Dimethylphenol	5.83	122	78533	18.97597 ppb		93
26) Benzoic acid	5.99	105	54785	20.45992 ppb		98
27) Bis (2-chloroethoxy) metha	5.92	93	101147	19.22782 ppb	#	95
28) 2,4-Dichlorophenol	6.05	162	79785	20.27009 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	88504	20.25341 ppb		96
30) 3,4-Dimethylphenol	6.17	107	118646	19.05796 ppb		100
31) Naphthalene	6.19	128	267084	18.92920 ppb		100
32) 4-Chloroaniline	6.28	127	96581	19.57347 ppb		91
33) 2,6-Dichlorophenol	6.28	162	69298	18.98649 ppb		97
34) Hexachloropropene	6.28	213	58405	18.37671 ppb		94
35) Hexachlorobutadiene	6.33	225	49586	19.06801 ppb		98
36) Caprolactum	6.68	55	36825	16.24904 ppb		92
37) 4-Chloro-3-methylphenol	6.87	107	92782	21.53681 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	206580	22.47208 ppb		99
39) 1-Methylnaphthalene	7.10	142	198465	21.67571 ppb		95
41) Hexachlorocyclopentadiene	7.17	237	18881	19.39289 ppb		89
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	93759	23.14709 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	58201	22.77633 ppb		94
44) 2,4,5-Trichlorophenol	7.40	196	57607	20.65635 ppb		93
46) 1,1'-Biphenyl	7.53	154	250392	22.37252 ppb		98
47) 2-Chloronaphthalene	7.55	162	192666	22.50964 ppb		94
48) 2-Nitroaniline	7.70	65	63258	20.71778 ppb		92
49) Dimethyl phthalate	7.90	163	215567	20.92350 ppb		98
50) 2,6-DNT	7.98	165	47745	20.67093 ppb		84
51) Acenaphthylene	8.02	152	284868	20.71528 ppb		99
52) 3-Nitroaniline	8.18	138	48404	19.45756 ppb	#	90
53) Acenaphthene	8.22	154	167252	19.74872 ppb		99
54) 2,4-Dinitrophenol	8.35	184	16024	20.77747 ppb	#	76
55) 4-Nitrophenol	8.46	65	35092	22.80779 ppb	#	69
56) Dibenzofuran	8.42	168	243928	20.42662 ppb		93
57) 2,4-DNT	8.46	165	60284	18.88269 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	42157	19.30024 ppb	#	82
59) Diethyl phthalate	8.72	149	206651	19.56203 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.83	204	88580	19.08251 ppb		93
61) Fluorene	8.82	166	187792	19.48683 ppb		99
62) 4-Nitroaniline	8.88	138	45566	19.07597 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.93	198	33601	20.47925 ppb	#	72
66) Diphenyl amine	8.97	169	294455	40.44815 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	294455	40.44815 ppb		98
68) 1,2-Diphenylhydrazine	9.00	77	217173	17.11483 ppb	#	91
69) 4-Bromophenyl phenyl ether	9.39	248	54016	19.12422 ppb		91
70) Hexachlorobenzene	9.47	284	55116	18.83427 ppb		87
71) Atrazine	9.61	200	28277	10.02670 ppb		98
72) Pentachlorophenol	9.72	266	20964	21.27524 ppb		97
73) Phenanthrene	9.93	178	288003	19.02984 ppb		100
74) Anthracene	10.00	178	314541	19.88882 ppb		98
75) Carbazol	10.20	167	280871	20.05297 ppb		99
76) Di-n-butylphthalate	10.61	149	355756	20.14332 ppb		98
77) Fluoranthene	11.32	202	316006	19.09514 ppb		98
79) Benzidine	11.49	184	107221	16.25808 ppb		98
80) Pyrene	11.58	202	336162	19.09586 ppb		98
82) Butyl benzylphthalate	12.35	149	167175	20.38616 ppb		87
83) 3,3'-Dichlorobenzidine	12.95	252	115875	21.11693 ppb	#	97
84) Benz (a) anthracene	12.97	228	318280	19.34090 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	228182	19.94183 ppb		94
86) Chrysene	13.02	228	304359	18.89470 ppb		98
87) Di-n-octylphthalate	13.73	149	407061	20.71713 ppb		91
89) Benzo (b) fluoranthene	14.16	252	347316	22.84019 ppb		98
90) Benzo (k) fluoranthene	14.18	252	291026	20.38765 ppb	#	93
91) Benzo (a) pyrene	14.54	252	312678	22.26955 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	367037	23.42872 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	311937	23.41011 ppb		96
94) Benzo (g,h,i) perylene	16.53	276	296601	22.43398 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

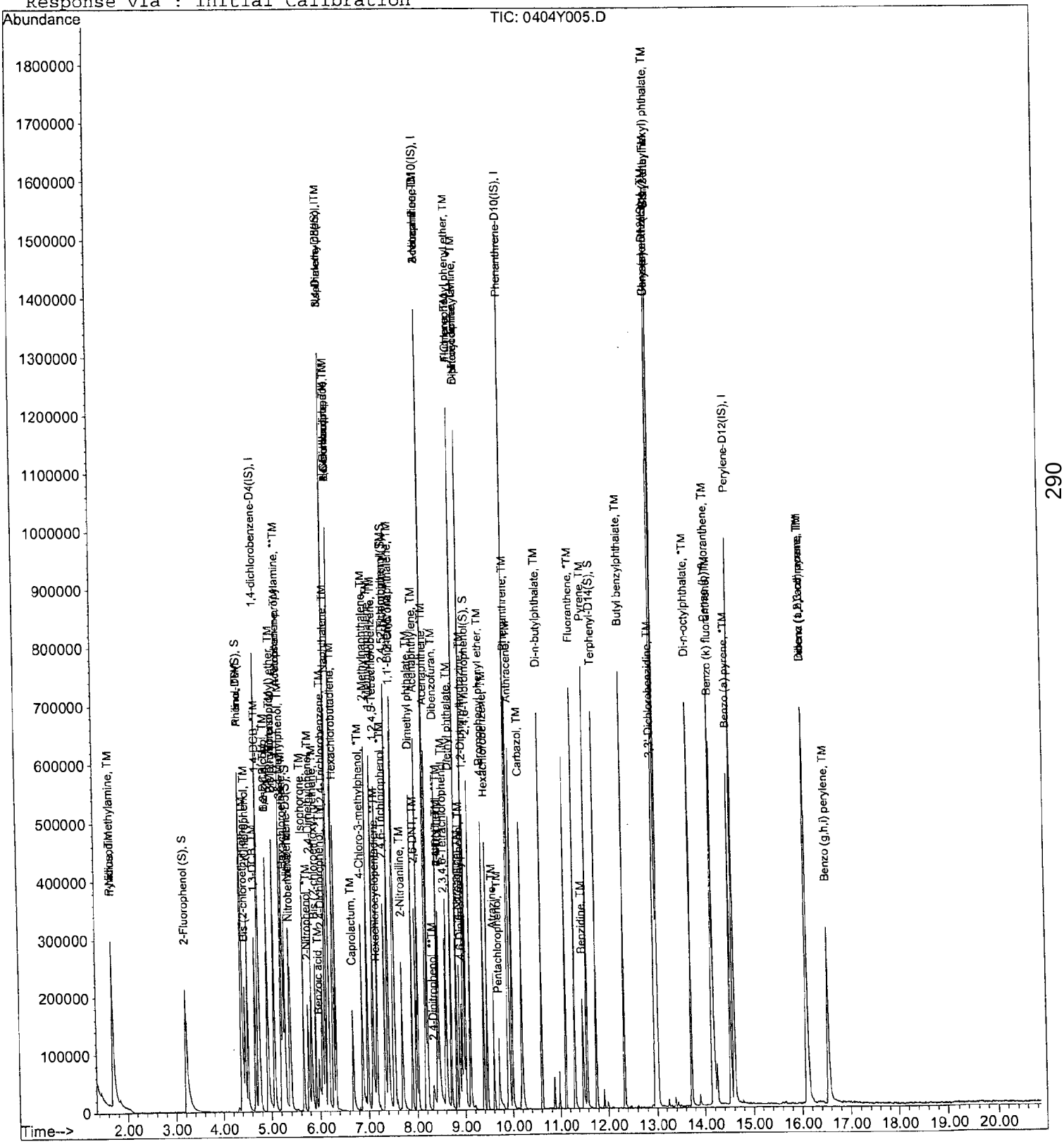
Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	628579	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	523963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	465932	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320573	86.17657 ppb	0.00
Spiked Amount 200.000			Recovery = 43.089%		
5) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery = 41.241%		
21) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery = 40.731%		
45) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery = 37.832%		
63) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery = 39.719%		
81) Terphenyl-D14(S)	11.77	244	457811	41.33170 ppb	0.00
Spiked Amount 100.000			Recovery = 41.332%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	181993	44.09714 ppb		87
3) Pyridine	1.68	79	295812	40.47889 ppb		94
6) Phenol	4.39	94	223274	41.32470 ppb		98
7) Aniline	4.39	66	214533	42.20003 ppb	#	68
8) Bis (2-chloroethyl) ether	4.45	63	102796	39.99583 ppb		98
9) 2-Chlorophenol	4.51	128	174274	40.84481 ppb		97
10) 1,3-DCB	4.67	146	183342	40.45038 ppb		99
11) 1,4-DCB	4.75	146	187041	40.28545 ppb		95
12) Benzyl alcohol	4.93	108	103977	42.02614 ppb		91
13) 1,2-DCB	4.92	146	176184	41.99345 ppb		98
14) 2-Methylphenol	5.07	107	136289	42.40562 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	241370	43.87146 ppb	#	81
16) Acetophenone	5.21	105	233796	42.07638 ppb		96
17) 3&4-Methylphenol	5.24	107	342462	83.80264 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	125020	41.40843 ppb		91
19) Hexachloroethane	5.29	117	75618	39.23828 ppb		98
22) Nitrobenzene	5.40	77	195388	40.54910 ppb		89
23) Isophorone	5.67	82	334663	42.26546 ppb		92
24) 2-Nitrophenol	5.75	139	100565	43.32783 ppb		94
25) 2,4-Dimethylphenol	5.83	122	150159	40.73004 ppb		96
26) Benzoic acid	6.00	105	118121	39.67938 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	183058	39.64952 ppb		98
28) 2,4-Dichlorophenol	6.04	162	145194	40.66855 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	153437	39.79254 ppb		97
30) 3,4-Dimethylphenol	6.17	107	211808	39.34661 ppb		97
31) Naphthalene	6.19	128	483890	39.98567 ppb		97
32) 4-Chloroaniline	6.28	127	200658	49.46503 ppb		96
33) 2,6-Dichlorophenol	6.28	162	143908	45.78639 ppb		98
34) Hexachloropropene	6.29	213	128829	45.28755 ppb		99
35) Hexachlorobutadiene	6.34	225	104984	44.35997 ppb		98
36) Caprolactum	6.71	55	83857	42.79053 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	158251	40.70568 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	338022	40.26630 ppb		100
39) 1-Methylnaphthalene	7.10	142	321558	39.69591 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	49451	37.81444 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	149622	37.97478 ppb		96
43) 2,4,6-Trichlorophenol	7.34	196	104106	39.93022 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	106673	39.42009 ppb		97
46) 1,1'-Biphenyl	7.53	154	425922	39.48711 ppb		99
47) 2-Chloronaphthalene	7.55	162	332344	39.46610 ppb		96
48) 2-Nitroaniline	7.69	65	116307	39.84915 ppb		96
49) Dimethyl phthalate	7.90	163	385967	38.30373 ppb		100
50) 2,6-DNT	7.98	165	93914	40.52446 ppb		96
51) Acenaphthylene	8.02	152	522092	39.23488 ppb		99
52) 3-Nitroaniline	8.18	138	100746	42.28486 ppb	#	94
53) Acenaphthene	8.22	154	317522	39.09987 ppb		97
54) 2,4-Dinitrophenol	8.32	184	50930	39.83730 ppb		99
55) 4-Nitrophenol	8.44	65	73523	39.97019 ppb	#	1
56) Dibenzofuran	8.43	168	468428	41.23133 ppb		93
57) 2,4-DNT	8.45	165	121619	39.37623 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96200	43.69912 ppb		98
59) Diethyl phthalate	8.71	149	411735	39.96824 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	177164	39.42559 ppb		99
61) Fluorene	8.82	166	364463	39.83786 ppb		97
62) 4-Nitroaniline	8.89	138	93322	40.55297 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	77775	35.79645 ppb		98
66) Diphenyl amine	8.97	169	570254	69.37688 ppb		99
67) n-Nitrosodiphenylamine	8.97	169	570254	69.37688 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	453214	32.65837 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	106849	34.70131 ppb		98
70) Hexachlorobenzene	9.47	284	109539	35.02963 ppb		95
71) Atrazine	9.61	200	59999	18.11531 ppb		96
72) Pentachlorophenol	9.72	266	45746	33.83727 ppb		93
73) Phenanthrene	9.93	178	652503	40.37235 ppb		99
74) Anthracene	10.00	178	679999	39.88443 ppb		99
75) Carbazol	10.20	167	544370	36.22000 ppb		98
76) Di-n-butylphthalate	10.61	149	688370	35.21754 ppb		97
77) Fluoranthene	11.31	202	663582	37.28079 ppb		98
79) Benzidine	11.49	184	185177	40.00474 ppb		98
80) Pyrene	11.57	202	663596	41.07719 ppb		100
82) Butyl benzylphthalate	12.34	149	324624	41.36209 ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	213666	42.01149 ppb	#	95
84) Benz (a) anthracene	12.98	228	615316	40.74552 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	429710	39.06551 ppb		97
86) Chrysene	13.01	228	565888	38.27759 ppb		100
87) Di-n-octylphthalate	13.73	149	805906	41.67075 ppb		98
89) Benzo (b) fluoranthene	14.16	252	610637	39.12252 ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	613769	41.59165 ppb		99
91) Benzo (a) pyrene	14.54	252	590583	41.12714 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	720530	43.45250 ppb		99
93) Dibenz (a,h) anthracene	16.11	278	597606	42.69016 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	562005	40.14642 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

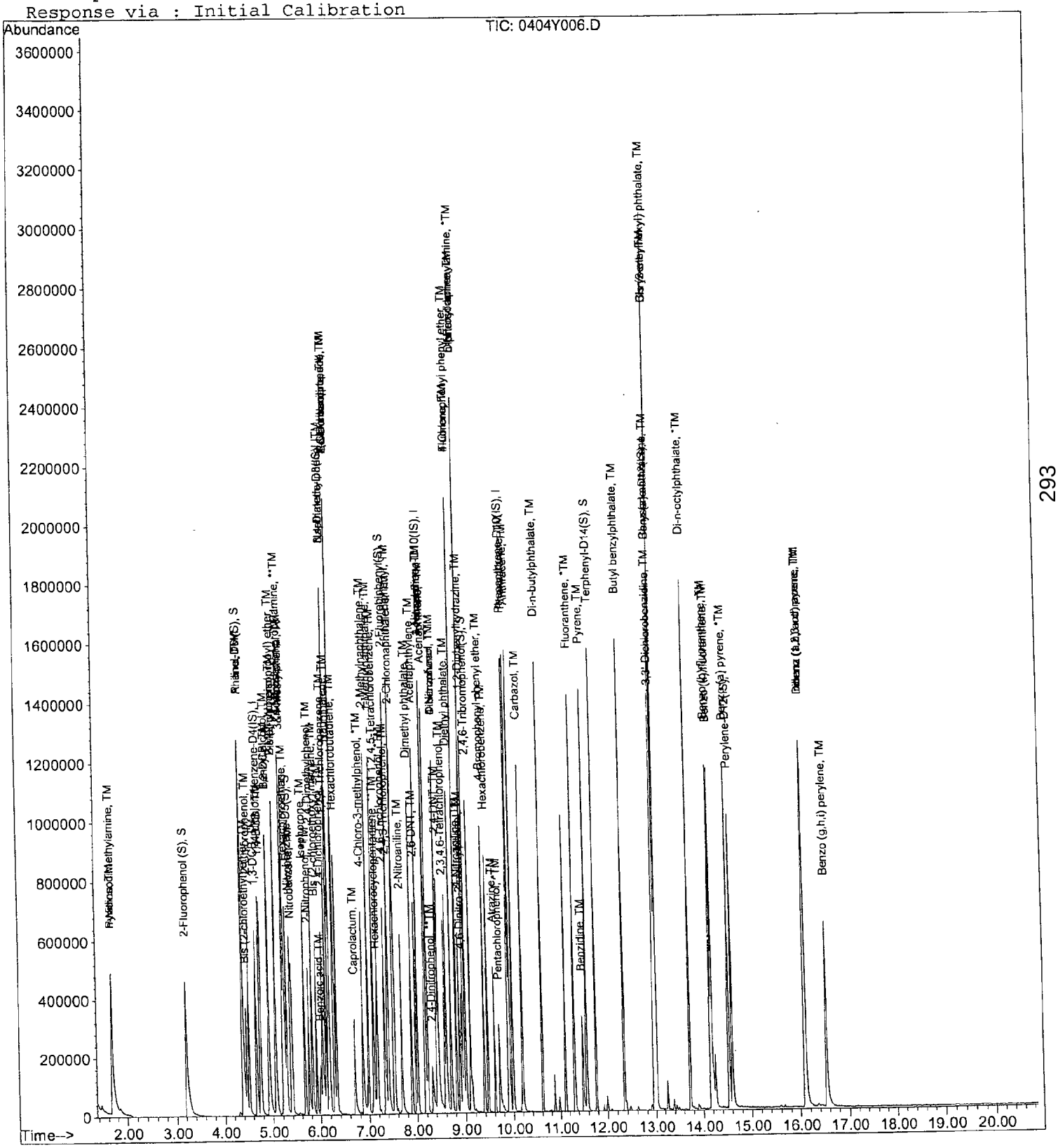
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



293

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	487207	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	387773	106.61694 ppb	0.00
Spiked Amount 200.000			Recovery = 53.309%		
5) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery = 51.590%		
21) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery = 51.887%		
45) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery = 51.710%		
63) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery = 53.421%		
81) Terphenyl-D14(S)	11.77	244	560172	54.38831 ppb	0.00
Spiked Amount 100.000			Recovery = 54.388%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	230381	57.09378 ppb	100
3) Pyridine	1.67	79	399462	55.90809 ppb	100
6) Phenol	4.39	94	279005	52.81653 ppb	98
7) Aniline	4.39	66	262310	52.77399 ppb #	65
8) Bis (2-chloroethyl) ether	4.46	63	129206	51.41711 ppb	94
9) 2-Chlorophenol	4.51	128	220570	52.87338 ppb	94
10) 1,3-DCB	4.67	146	229468	51.78085 ppb	99
11) 1,4-DCB	4.75	146	230957	50.87787 ppb	98
12) Benzyl alcohol	4.93	108	126394	52.25105 ppb	95
13) 1,2-DCB	4.92	146	210571	51.33340 ppb	98
14) 2-Methylphenol	5.07	107	157511	50.12564 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	274342	51.00086 ppb	86
16) Acetophenone	5.21	105	275339	50.68220 ppb	97
17) 3&4-Methylphenol	5.24	107	405614	101.51837 ppb	99
18) n-Nitrosodi-n-propylamine	5.22	70	148093	50.16840 ppb	88
19) Hexachloroethane	5.29	117	97282	51.63019 ppb	97
22) Nitrobenzene	5.40	77	237646	52.34247 ppb	91
23) Isophorone	5.67	82	390824	52.38410 ppb	93
24) 2-Nitrophenol	5.76	139	118040	53.97462 ppb	91
25) 2,4-Dimethylphenol	5.83	122	176566	50.82893 ppb	99
26) Benzoic acid	6.02	105	158141	55.08013 ppb	95
27) Bis (2-chloroethoxy) metha	5.92	93	218124	50.14100 ppb	97
28) 2,4-Dichlorophenol	6.04	162	174596	51.90207 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	192201	52.90145 ppb	98
30) 3,4-Dimethylphenol	6.17	107	260929	51.44316 ppb	95
31) Naphthalene	6.19	128	593920	52.08660 ppb	100
32) 4-Chloroaniline	6.28	127	205417	53.74258 ppb	96
33) 2,6-Dichlorophenol	6.28	162	152431	51.47130 ppb	98
34) Hexachloropropene	6.29	213	143938	53.70083 ppb	97
35) Hexachlorobutadiene	6.34	225	114112	51.17287 ppb	99
36) Caprolactum	6.71	55	104604	56.64962 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	197482	53.91087 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	400279	50.60575 ppb		99
39) 1-Methylnaphthalene	7.10	142	424073	55.56066 ppb		97
41) Hexachlorocyclopentadiene	7.17	237	75534	54.68417 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194849	54.39428 ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	130235	54.94256 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	133983	54.45879 ppb		95
46) 1,1'-Biphenyl	7.53	154	522309	53.26084 ppb		99
47) 2-Chloronaphthalene	7.55	162	407139	53.17828 ppb		93
48) 2-Nitroaniline	7.70	65	148995	56.14876 ppb		98
49) Dimethyl phthalate	7.90	163	486000	53.04964 ppb		99
50) 2,6-DNT	7.98	165	114105	54.15603 ppb		96
51) Acenaphthylene	8.02	152	627303	51.85108 ppb		98
52) 3-Nitroaniline	8.18	138	114580	52.89579 ppb		96
53) Acenaphthene	8.22	154	382806	51.84841 ppb		98
54) 2,4-Dinitrophenol	8.33	184	60639	49.13117 ppb		89
55) 4-Nitrophenol	8.43	65	90442	51.14997 ppb	#	1
56) Dibenzofuran	8.43	168	537119	52.00082 ppb		100
57) 2,4-DNT	8.46	165	153397	54.62668 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.60	232	109557	54.73850 ppb		94
59) Diethyl phthalate	8.72	149	558434	59.62443 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	210415	51.50324 ppb		99
61) Fluorene	8.82	166	422140	50.75213 ppb		98
62) 4-Nitroaniline	8.89	138	119160	56.95402 ppb		100
65) 4,6-Dinitro-2-methylphenol	8.94	198	98966	53.86057 ppb		98
66) Diphenyl amine	8.98	169	700937	103.07961 ppb		100
67) n-Nitrosodiphenylamine	8.98	169	700937	103.07961 ppb		100
68) 1,2-Diphenylhydrazine	9.01	77	660457	57.52851 ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	131880	51.77280 ppb		94
70) Hexachlorobenzene	9.47	284	134228	51.88684 ppb		95
71) Atrazine	9.61	200	71675	26.15874 ppb		95
72) Pentachlorophenol	9.72	266	61111	54.63978 ppb		94
73) Phenanthrene	9.93	178	682251	51.02618 ppb		100
74) Anthracene	10.00	178	725098	51.40900 ppb		99
75) Carbazol	10.20	167	652498	52.47843 ppb		99
76) Di-n-butylphthalate	10.61	149	821001	50.77245 ppb		98
77) Fluoranthene	11.32	202	776689	52.74544 ppb		97
79) Benzidine	11.49	184	237369	55.14874 ppb		99
80) Pyrene	11.58	202	830283	55.27264 ppb		99
82) Butyl benzylphthalate	12.35	149	400778	54.91776 ppb		85
83) 3,3'-Dichlorobenzidine	12.96	252	252491	53.39070 ppb	#	94
84) Benz (a) anthracene	12.98	228	735065	52.34733 ppb		100
85) Bis (2-ethylhexyl) phthala	13.01	149	524618	51.29185 ppb		97
86) Chrysene	13.01	228	670581	48.78119 ppb		99
87) Di-n-octylphthalate	13.73	149	962075	53.49867 ppb		99
89) Benzo (b) fluoranthene	14.16	252	773182	50.83563 ppb		100
90) Benzo (k) fluoranthene	14.19	252	751433	52.25577 ppb		100
91) Benzo (a) pyrene	14.54	252	735446	52.55828 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.11	276	799992	49.50980 ppb		99
93) Dibenz (a,h) anthracene	16.12	278	680699	49.90117 ppb		98
94) Benzo (g,h,i) perylene	16.54	276	685004	50.21604 ppb		100

(#) = qualifier out of range (m) = manual integration

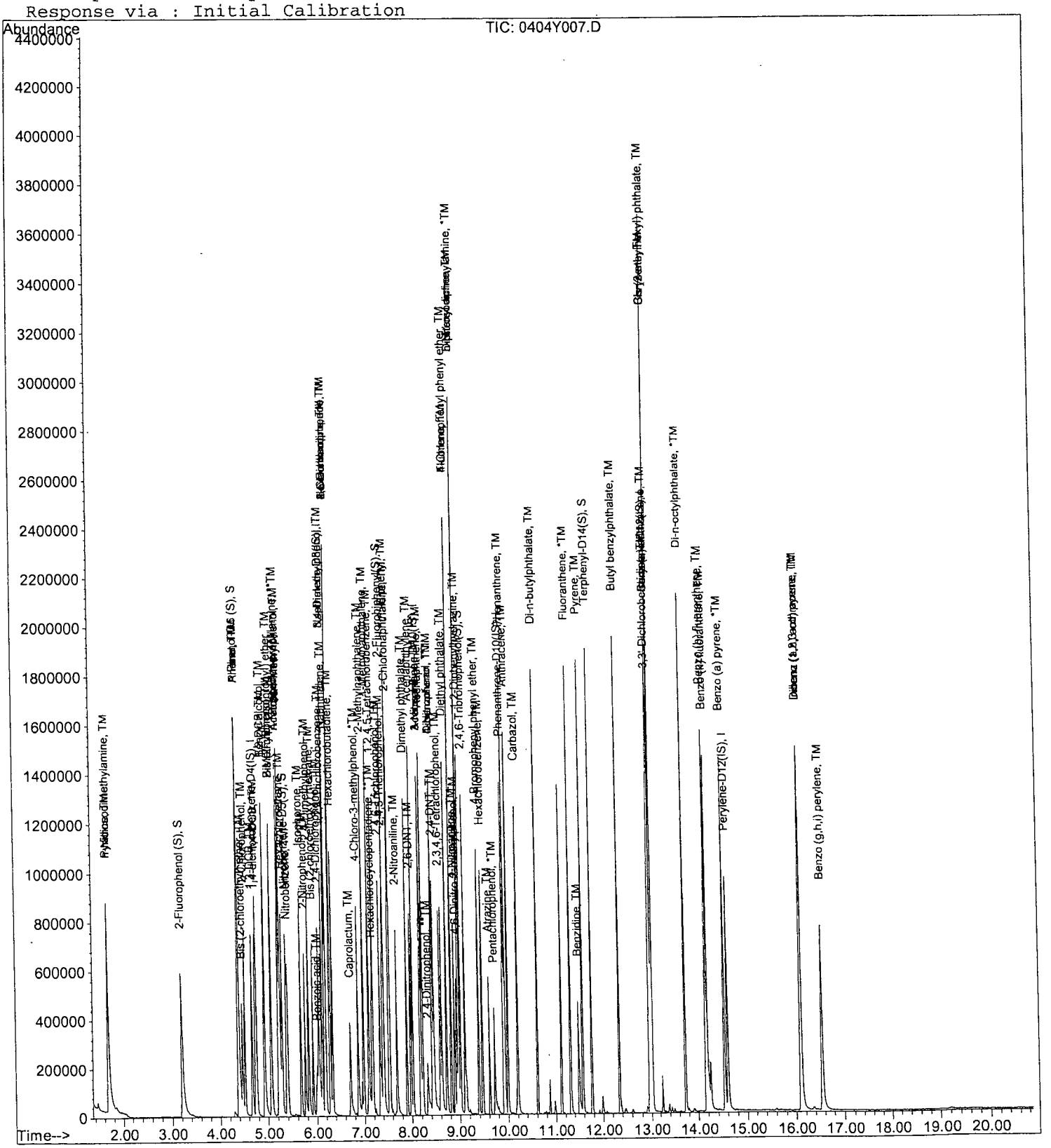
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	605663	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	460352	134.66185 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.331%	
5) Phenol-D6 (S)	4.38	99	529157	116.71511 ppb	0.00
Spiked Amount 200.000			Recovery	= 58.358%	
21) Nitrobenzene-D5(S)	5.38	82	322467	68.78507 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.785%	
45) 2-Fluorobiphenyl(S)	7.41	172	511226	55.95175 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.952%	
63) 2,4,6-Tribromophenol(S)	9.11	330	148732	112.56723 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.284%	
81) Terphenyl-D14(S)	11.77	244	620058	47.19112 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.191%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	274376	98.50754 ppb		97
3) Pyridine	1.67	79	477572	88.95839 ppb		91
6) Phenol	4.39	94	313290	60.38966 ppb		85
7) Aniline	4.39	66	305086	62.10219 ppb		98
8) Bis (2-chloroethyl) ether	4.46	63	151721	60.26363 ppb		99
9) 2-Chlorophenol	4.51	128	244398	60.67910 ppb		97
10) 1,3-DCB	4.67	146	258719	60.91223 ppb		99
11) 1,4-DCB	4.76	146	257721	58.84950 ppb		97
12) Benzyl alcohol	4.93	108	144466	63.00012 ppb		97
13) 1,2-DCB	4.93	146	239191	60.04107 ppb		96
14) 2-Methylphenol	5.07	107	178042	59.11504 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	309353	55.62279 ppb	#	86
16) Acetophenone	5.21	105	323939	60.43045 ppb		94
17) 3&4-Methylphenol	5.24	107	502945	128.89066 ppb		96
18) n-Nitrosodi-n-propylamine	5.22	70	176281	59.51561 ppb		92
19) Hexachloroethane	5.29	117	117601	65.27926 ppb		95
22) Nitrobenzene	5.40	77	313526	67.28221 ppb		96
23) Isophorone	5.67	82	478661	61.78652 ppb		95
24) 2-Nitrophenol	5.76	139	146767	66.94427 ppb		85
25) 2,4-Dimethylphenol	5.83	122	221248	63.01136 ppb		100
26) Benzoic acid	6.03	105	185135	66.42377 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	269568	60.39944 ppb		98
28) 2,4-Dichlorophenol	6.04	162	209561	62.75271 ppb		98
29) 1,2,4-Trichlorobenzene	6.11	180	222527	60.02132 ppb		97
30) 3,4-Dimethylphenol	6.17	107	309163	58.53268 ppb		98
31) Naphthalene	6.20	128	691459	57.76149 ppb		99
32) 4-Chloroaniline	6.28	127	235314	56.20975 ppb		97
33) 2,6-Dichlorophenol	6.28	162	176823	57.10188 ppb		99
34) Hexachloropropene	6.29	213	170577	63.25950 ppb		98
35) Hexachlorobutadiene	6.34	225	131504	59.60365 ppb		100
36) Caprolactum	6.73	55	118741	61.75516 ppb		94
37) 4-Chloro-3-methylphenol	6.87	107	229130	62.68840 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	461373	59.15545 ppb		99
39) 1-Methylnaphthalene	7.10	142	439052	56.51882 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	88888	58.92802 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	214369	55.51910 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	150923	61.95920 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	158504	59.62323 ppb		96
46) 1,1'-Biphenyl	7.53	154	598175	56.06861 ppb		96
47) 2-Chloronaphthalene	7.55	162	465763	57.08545 ppb		94
48) 2-Nitroaniline	7.69	65	171836	59.03900 ppb		90
49) Dimethyl phthalate	7.91	163	650235	66.20935 ppb		98
50) 2,6-DNT	7.98	165	127991	58.13111 ppb	#	76
51) Acenaphthylene	8.02	152	769268	58.68429 ppb		99
52) 3-Nitroaniline	8.18	138	141422	59.63774 ppb		97
53) Acenaphthene	8.22	154	443857	54.98038 ppb		98
54) 2,4-Dinitrophenol	8.32	184	77194	65.62142 ppb	#	77
55) 4-Nitrophenol	8.43	65	110312	58.32492 ppb		98
56) Dibenzofuran	8.43	168	656032	57.63108 ppb		98
57) 2,4-DNT	8.45	165	188497	61.93888 ppb		80
58) 2,3,4,6-Tetrachlorophenol	8.59	232	130499	62.67540 ppb	#	91
59) Diethyl phthalate	8.72	149	576422	57.24190 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	264152	59.69676 ppb		87
61) Fluorene	8.83	166	535338	58.27593 ppb		100
62) 4-Nitroaniline	8.90	138	139461	61.24851 ppb		94
65) 4,6-Dinitro-2-methylphenol	8.94	198	121902	61.75686 ppb	#	73
66) Diphenyl amine	8.98	169	812993	117.73775 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	812993	117.73775 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	828950	68.87226 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	156418	58.38444 ppb	#	85
70) Hexachlorobenzene	9.47	284	156588	56.41293 ppb	#	87
71) Atrazine	9.61	200	85983	32.14299 ppb		93
72) Pentachlorophenol	9.72	266	75734	59.97312 ppb		92
73) Phenanthrene	9.94	178	795737	55.43154 ppb		98
74) Anthracene	9.99	178	840252	56.01322 ppb		99
75) Carbazol	10.20	167	747777	56.28505 ppb		97
76) Di-n-butylphthalate	10.61	149	1076951	64.28711 ppb		99
77) Fluoranthene	11.32	202	868309	55.31602 ppb		98
79) Benzidine	11.49	184	281110	38.69488 ppb		99
80) Pyrene	11.58	202	950846	49.03302 ppb		100
82) Butyl benzylphthalate	12.34	149	464290	51.39743 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	337315	55.80389 ppb	#	98
84) Benz (a) anthracene	12.97	228	1004775	55.42734 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	659056	52.28702 ppb		96
86) Chrysene	13.02	228	870807	49.07539 ppb		98
87) Di-n-octylphthalate	13.73	149	1198098	55.35418 ppb		95
89) Benzo (b) fluoranthene	14.16	252	836743	57.49001 ppb		96
90) Benzo (k) fluoranthene	14.19	252	897871	65.71654 ppb		99
91) Benzo (a) pyrene	14.54	252	819052	60.94682 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	916818	61.14308 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	790802	62.00544 ppb		98
94) Benzo (g,h,i) perylene	16.55	276	786363	62.14156 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

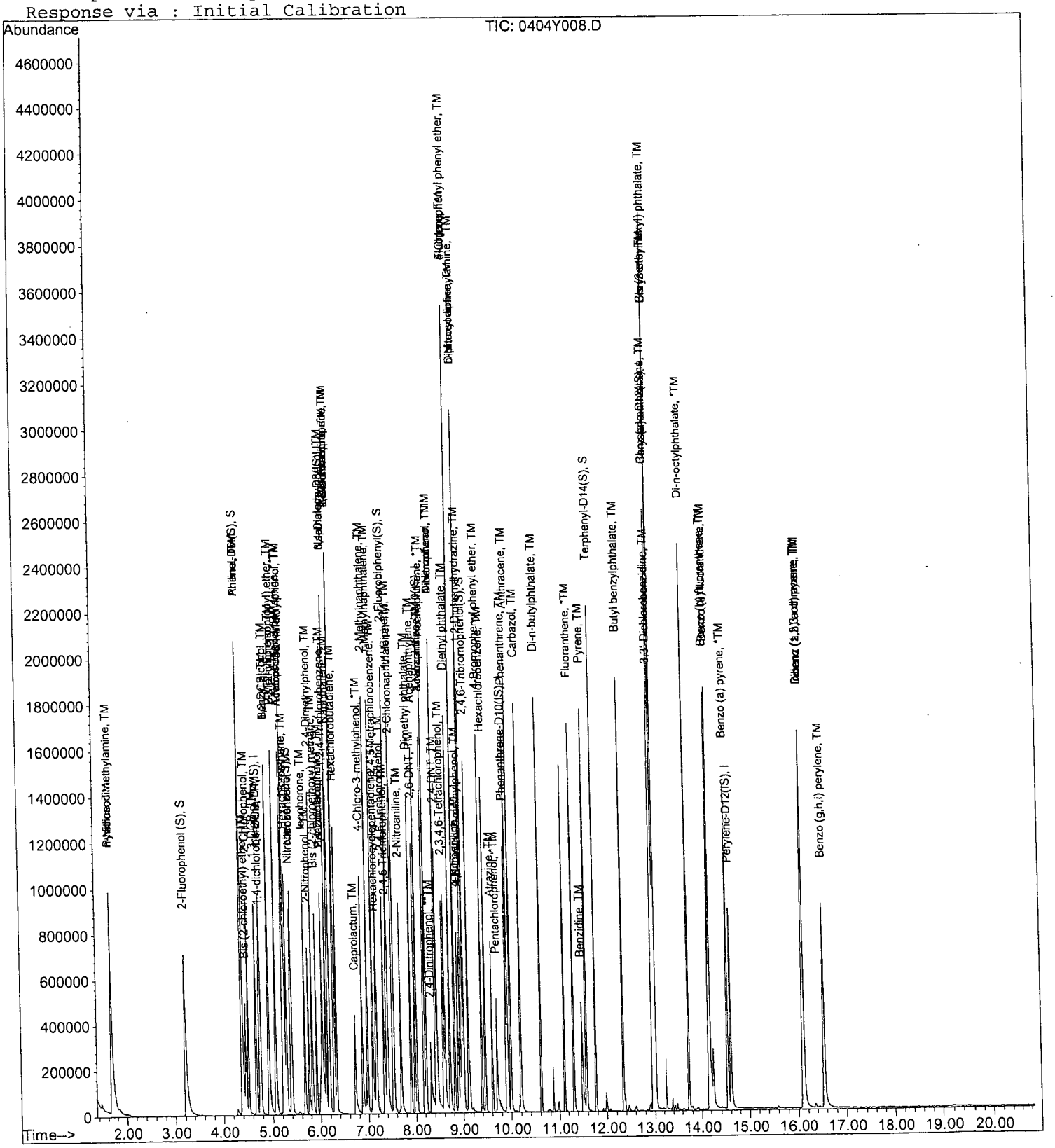
Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	478317	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	550572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	696751	172.43633 ppb	-0.05
Spiked Amount 200.000			Recovery = 86.218%		
5) Phenol-D6 (S)	4.38	99	770056	143.24315 ppb	0.00
Spiked Amount 200.000			Recovery = 71.622%		
21) Nitrobenzene-D5(S)	5.38	82	427790	88.18857 ppb	-0.01
Spiked Amount 100.000			Recovery = 88.189%		
45) 2-Fluorobiphenyl(S)	7.42	172	701781	73.36956 ppb	0.00
Spiked Amount 100.000			Recovery = 73.370%		
63) 2,4,6-Tribromophenol(S)	9.11	330	207208	150.14093 ppb	0.00
Spiked Amount 200.000			Recovery = 75.071%		
81) Terphenyl-D14(S)	11.77	244	865042	73.04742 ppb	0.00
Spiked Amount 100.000			Recovery = 73.047%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	376671	123.03008 ppb		97
3) Pyridine	1.67	79	651971	107.05356 ppb		100
6) Phenol	4.40	94	476198	77.16960 ppb		87
7) Aniline	4.40	66	451795	77.12600 ppb	#	47
8) Bis (2-chloroethyl) ether	4.46	63	235655	78.02463 ppb		91
9) 2-Chlorophenol	4.51	128	381956	80.04048 ppb		98
10) 1,3-DCB	4.67	146	408558	81.15844 ppb		98
11) 1,4-DCB	4.75	146	412884	79.81427 ppb		96
12) Benzyl alcohol	4.93	108	222088	81.71037 ppb		97
13) 1,2-DCB	4.92	146	362202	76.81880 ppb		99
14) 2-Methylphenol	5.07	107	266625	74.76167 ppb		99
15) Bis (2-chloroisopropyl) et	5.06	45	475284	71.72089 ppb	#	72
16) Acetophenone	5.21	105	484723	76.27256 ppb		99
17) 3&4-Methylphenol	5.25	107	693145	149.67027 ppb		93
18) n-Nitrosodi-n-propylamine	5.22	70	265133	75.15276 ppb		88
19) Hexachloroethane	5.29	117	168456	79.19358 ppb		92
22) Nitrobenzene	5.40	77	421935	87.14138 ppb		98
23) Isophorone	5.68	82	718627	89.39145 ppb		94
24) 2-Nitrophenol	5.76	139	218946	96.41328 ppb		91
25) 2,4-Dimethylphenol	5.83	122	315055	85.80894 ppb		96
26) Benzoic acid	6.04	105	249059	85.49344 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	404092	86.82209 ppb		100
28) 2,4-Dichlorophenol	6.04	162	308482	88.29283 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	322421	83.51662 ppb		99
30) 3,4-Dimethylphenol	6.17	107	434730	78.64511 ppb		96
31) Naphthalene	6.20	128	1002132	80.13412 ppb		99
32) 4-Chloroaniline	6.28	127	292303	66.53972 ppb	#	89
33) 2,6-Dichlorophenol	6.28	162	231202	71.50220 ppb		99
34) Hexachloropropene	6.29	213	228793	81.52660 ppb		98
35) Hexachlorobutadiene	6.34	225	189667	82.85234 ppb		99
36) Caprolactum	6.75	55	175935	88.47360 ppb		93
37) 4-Chloro-3-methylphenol	6.87	107	328190	86.68683 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	661199	81.38725 ppb		97
39) 1-Methylnaphthalene	7.10	142	634599	79.30174 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	140223	79.25066 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	307926	76.32321 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	214449	84.71239 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	227425	81.90104 ppb		96
46) 1,1'-Biphenyl	7.54	154	821798	73.46236 ppb		97
47) 2-Chloronaphthalene	7.55	162	658556	77.04384 ppb		97
48) 2-Nitroaniline	7.69	65	248474	81.52039 ppb		90
49) Dimethyl phthalate	7.91	163	792632	77.33418 ppb		99
50) 2,6-DNT	7.99	165	190596	83.29714 ppb		84
51) Acenaphthylene	8.03	152	1051484	76.39799 ppb		100
52) 3-Nitroaniline	8.18	138	191583	76.56019 ppb		87
53) Acenaphthene	8.22	154	623269	73.46147 ppb		98
54) 2,4-Dinitrophenol	8.32	184	123017	91.99556 ppb		97
55) 4-Nitrophenol	8.43	65	160124	77.88635 ppb	#	1
56) Dibenzofuran	8.43	168	877383	73.24133 ppb		90
57) 2,4-DNT	8.46	165	268705	84.22212 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	183610	83.94922 ppb		95
59) Diethyl phthalate	8.72	149	810128	78.05649 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	340079	72.88752 ppb	#	81
61) Fluorene	8.83	166	684679	70.60346 ppb		98
62) 4-Nitroaniline	8.90	138	191810	80.57477 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.95	198	168667	77.83187 ppb		89
66) Diphenyl amine	8.98	169	1069838	144.16591 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	1069838	144.16591 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	1095437	84.55404 ppb		89
69) 4-Bromophenyl phenyl ether	9.39	248	221743	76.25014 ppb		87
70) Hexachlorobenzene	9.47	284	223029	73.51979 ppb	#	85
71) Atrazine	9.62	200	123128	42.86350 ppb		99
72) Pentachlorophenol	9.72	266	112127	79.32319 ppb		95
73) Phenanthrene	9.94	178	1114239	70.95247 ppb		100
74) Anthracene	10.00	178	1170794	71.47704 ppb		100
75) Carbazol	10.20	167	1055567	72.79345 ppb		96
76) Di-n-butylphthalate	10.62	149	1409340	76.91220 ppb		99
77) Fluoranthene	11.32	202	1228617	72.06681 ppb		95
79) Benzidine	11.50	184	371271	54.16939 ppb		96
80) Pyrene	11.58	202	1297129	73.46717 ppb		98
82) Butyl benzylphthalate	12.35	149	658870	80.70890 ppb		99
83) 3,3'-Dichlorobenzidine	12.96	252	380319	68.70057 ppb		98
84) Benz (a) anthracene	12.98	228	1171043	70.52182 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	863161	75.17463 ppb		98
86) Chrysene	13.02	228	1165678	71.57285 ppb		99
87) Di-n-octylphthalate	13.74	149	1567502	79.69270 ppb	#	91
89) Benzo (b) fluoranthene	14.16	252	1316574	81.42140 ppb		97
90) Benzo (k) fluoranthene	14.19	252	1074749	72.11789 ppb		99
91) Benzo (a) pyrene	14.54	252	1153969	78.13893 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	1302019	78.64363 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	1098191	77.92212 ppb		99
94) Benzo (g,h,i) perylene	16.55	276	1136914	81.84687 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

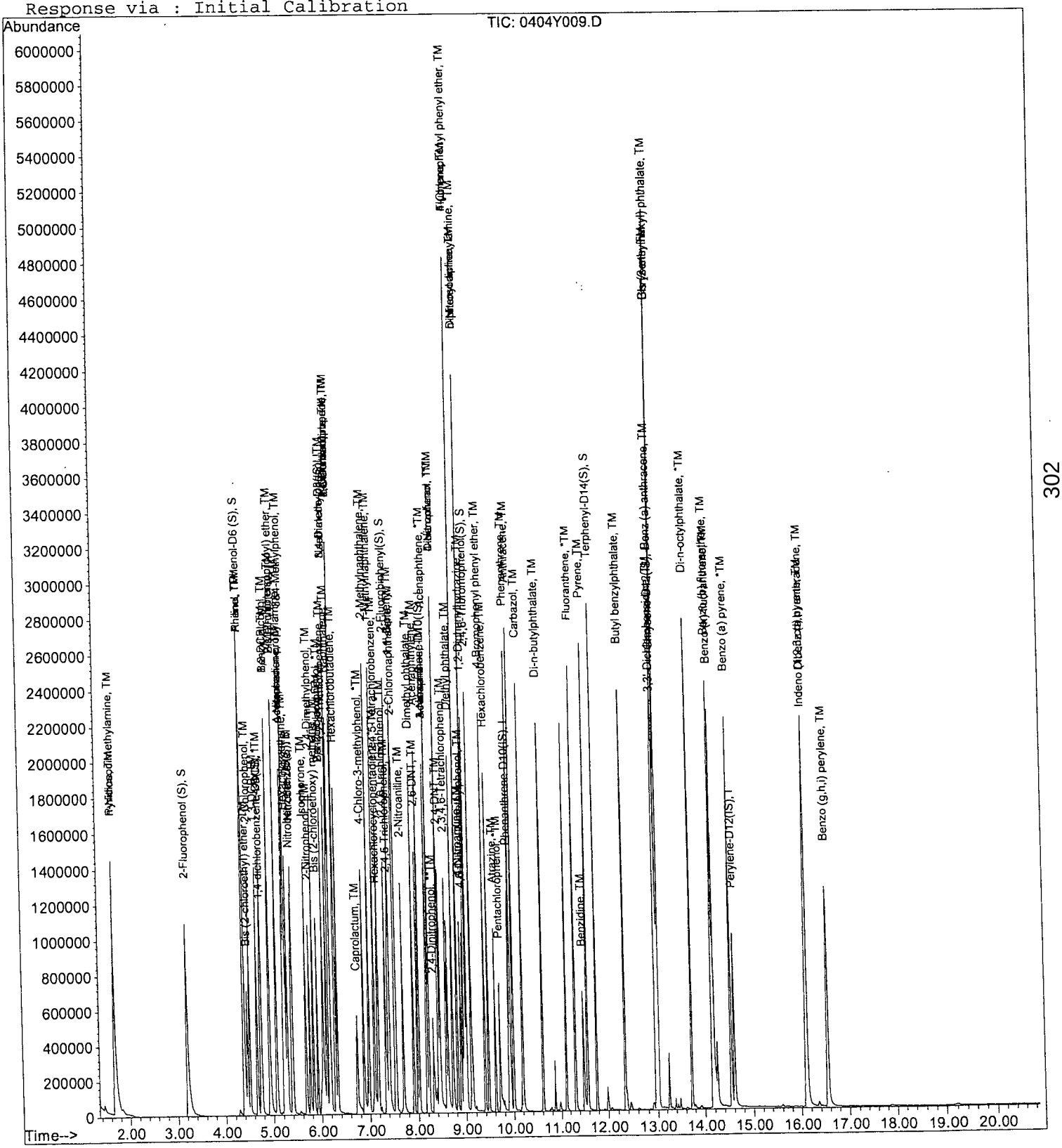
Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



302

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	773437	207.34510 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.673%	
5) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.269%	
21) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.046%	
45) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb	0.00
Spiked Amount 100.000			Recovery	= 95.429%	
63) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.980%	
81) Terphenyl-D14(S)	11.77	244	992665	93.95291 ppb	0.00
Spiked Amount 100.000			Recovery	= 93.953%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	425920	102.91776 ppb		84
3) Pyridine	1.67	79	722710	98.62419 ppb		96
6) Phenol	4.40	94	507951	93.75618 ppb		96
7) Aniline	4.40	66	519276	101.86465 ppb	#	43
8) Bis (2-chloroethyl) ether	4.47	63	266540	103.42071 ppb		91
9) 2-Chlorophenol	4.51	128	413357	96.61313 ppb		97
10) 1,3-DCB	4.67	146	428231	94.22049 ppb		98
11) 1,4-DCB	4.75	146	435065	93.44846 ppb		100
12) Benzyl alcohol	4.93	108	243762	98.25503 ppb		96
13) 1,2-DCB	4.92	146	385653	91.66813 ppb		98
14) 2-Methylphenol	5.07	107	293276	91.00092 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	499480	90.53646 ppb	#	73
16) Acetophenone	5.22	105	523190	93.90038 ppb		96
17) 3&4-Methylphenol	5.25	107	709133	173.05318 ppb		97
18) n-Nitrosodi-n-propylamine	5.23	70	270093	89.21322 ppb		82
19) Hexachloroethane	5.29	117	178857	92.55446 ppb		98
22) Nitrobenzene	5.40	77	465969	102.81631 ppb		98
23) Isophorone	5.68	82	790168	106.10087 ppb		97
24) 2-Nitrophenol	5.76	139	238371	109.19307 ppb		83
25) 2,4-Dimethylphenol	5.83	122	354209	102.15149 ppb		96
26) Benzoic acid	6.06	105	290052	98.62058 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	443197	102.06284 ppb		99
28) 2,4-Dichlorophenol	6.04	162	350824	104.47705 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	366705	101.11372 ppb		100
30) 3,4-Dimethylphenol	6.17	107	510022	100.73386 ppb		93
31) Naphthalene	6.20	128	1137936	99.97633 ppb		99
32) 4-Chloroaniline	6.28	127	310882	81.48149 ppb	#	86
33) 2,6-Dichlorophenol	6.28	162	275295	93.12611 ppb		99
34) Hexachloropropene	6.29	213	293750	109.79048 ppb		99
35) Hexachlorobutadiene	6.34	225	226348	101.68722 ppb		99
36) Caprolactum	6.76	55	203622	110.47263 ppb		95
37) 4-Chloro-3-methylphenol	6.88	107	383540	104.89162 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	744542	94.29910 ppb		100
39) 1-Methylnaphthalene	7.10	142	717308	94.14857 ppb		100
41) Hexachlorocyclopentadiene	7.17	237	179104	100.56951 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	344281	96.56243 ppb		95
43) 2,4,6-Trichlorophenol	7.34	196	248145	105.17845 ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	251054	102.52399 ppb		99
46) 1,1'-Biphenyl	7.54	154	949276	97.25525 ppb		97
47) 2-Chloronaphthalene	7.56	162	756927	99.33119 ppb		97
48) 2-Nitroaniline	7.70	65	296478	112.25379 ppb		87
49) Dimethyl phthalate	7.91	163	916404	100.50165 ppb		100
50) 2,6-DNT	7.99	165	219151	104.50226 ppb		93
51) Acenaphthylene	8.02	152	1162203	96.51672 ppb		99
52) 3-Nitroaniline	8.18	138	213576	99.06149 ppb		84
53) Acenaphthene	8.23	154	699593	95.20116 ppb		99
54) 2,4-Dinitrophenol	8.33	184	140767	99.36552 ppb		95
55) 4-Nitrophenol	8.43	65	200402	104.29026 ppb	#	1
56) Dibenzofuran	8.43	168	987669	96.07076 ppb		89
57) 2,4-DNT	8.47	165	302081	108.08151 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.60	232	210701	105.76926 ppb		94
59) Diethyl phthalate	8.74	149	932756	100.06001 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	418629	102.95022 ppb	#	78
61) Fluorene	8.83	166	832507	100.56011 ppb		98
62) 4-Nitroaniline	8.91	138	209595	100.65025 ppb		91
65) 4,6-Dinitro-2-methylphenol	8.95	198	192473	96.07130 ppb	#	71
66) Diphenyl amine	8.99	169	1289980	177.28553 ppb		98
67) n-Nitrosodiphenylamine	8.99	169	1289980	177.28553 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	1258249	102.42399 ppb		85
69) 4-Bromophenyl phenyl ether	9.39	248	255625	93.78267 ppb	#	83
70) Hexachlorobenzene	9.47	284	254441	91.91740 ppb	#	82
71) Atrazine	9.62	200	138683	47.30085 ppb		97
72) Pentachlorophenol	9.72	266	135103	100.56356 ppb		94
73) Phenanthrene	9.94	178	1295258	90.53191 ppb		99
74) Anthracene	10.00	178	1346540	89.21918 ppb		100
75) Carbazol	10.20	167	1224655	92.04748 ppb		93
76) Di-n-butylphthalate	10.62	149	1602655	92.62347 ppb		99
77) Fluoranthene	11.33	202	1418663	90.03546 ppb	#	94
79) Benzidine	11.49	184	420209	95.17004 ppb		98
80) Pyrene	11.59	202	1460063	94.74995 ppb		98
82) Butyl benzylphthalate	12.36	149	737719	98.54243 ppb		95
83) 3,3'-Dichlorobenzidine	12.96	252	406206	83.73161 ppb		97
84) Benz (a) anthracene	12.98	228	1384031	96.08109 ppb		100
85) Bis (2-ethylhexyl) phthala	13.02	149	1127997	107.50693 ppb		95
86) Chrysene	13.02	228	1484474	105.26818 ppb		100
87) Di-n-octylphthalate	13.74	149	1777361	96.34586 ppb	#	88
89) Benzo (b) fluoranthene	14.17	252	1458987	94.40023 ppb	#	97
90) Benzo (k) fluoranthene	14.20	252	1181491	80.85549 ppb		99
91) Benzo (a) pyrene	14.55	252	1285658	90.41717 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.12	276	1442533	87.85498 ppb		97
93) Dibenz (a,h) anthracene	16.13	278	1210270	87.31182 ppb		96
94) Benzo (g,h,i) perylene	16.56	276	1254551	90.50505 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

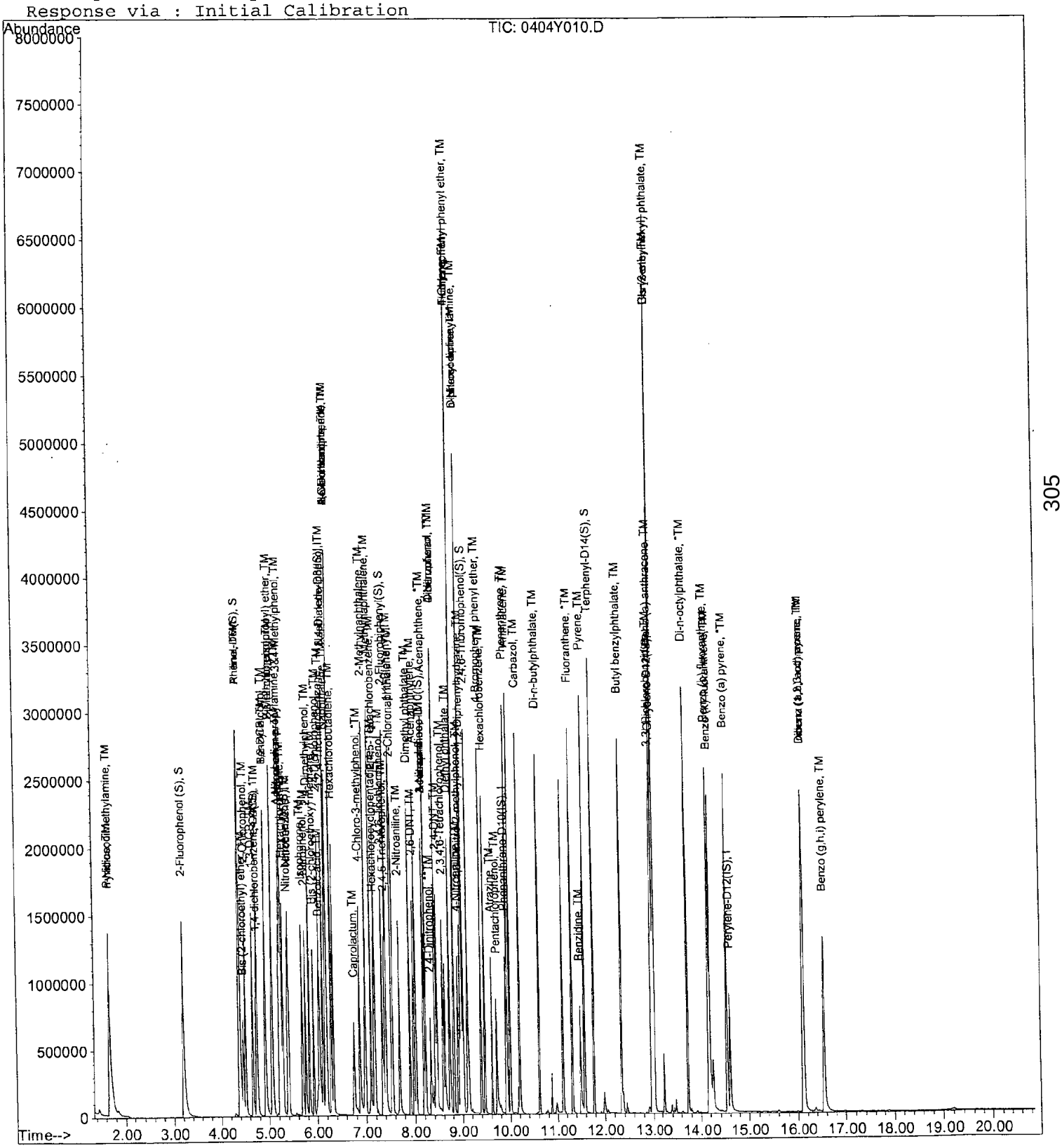
Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



305

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	n-Nitrosodimethylamine	1.429	1.612	13	TM		
2	TM	Pyridine	2.529	2.957	17	TM		
3	*TM	Phenol	1.870	2.056	9.9	*TM		
4	TM	Aniline	1.760	1.636	7.0	TM		
5	TM	Bis (2-chloroethyl) ether	0.8896	0.8927	0.35	TM		
6	TM	2-Chlorophenol	1.477	1.565	6.0	TM		
7	TM	1,3-DCB	1.569	1.646	4.9	TM		
8	*TM	1,4-DCB	1.607	1.664	3.6	*TM		
9	TM	Benzyl alcohol	0.8564	0.8902	4.0	TM		
10	TM	1,2-DCB	1.452	1.502	3.4	TM		
11	TM	2-Methylphenol	1.112	1.136	2.1	TM		
12	TM	Bis (2-chloroisopropyl) ether	1.904	1.998	4.9	TM		
13	TM	Acetophenone	1.923	1.982	3.1	TM		
14	TM	3&4-Methylphenol	1.414	1.482	4.8	TM		
15	**TM	n-Nitrosodi-n-propylamine	1.045	1.078	3.2	**TM		
16	TM	Hexachloroethane	0.6670	0.6967	4.4	TM		
17	TM	Nitrobenzene	0.4137	0.4409	6.6	TM		
18	TM	Isophorone	0.6798	0.7388	8.7	TM		
19	*TM	2-Nitrophenol	0.1993	0.2258	13	*TM		
20	TM	2,4-Dimethylphenol	0.3165	0.3438	8.6	TM		
21	TML	Benzoic acid	0.2240	0.2805	25	TML	7.4	
22	TM	Bis (2-chloroethoxy) methane	0.3964	0.4144	4.5	TM		
23	*TM	2,4-Dichlorophenol	0.3065	0.3284	7.1	*TM		
24	TM	1,2,4-Trichlorobenzene	0.3311	0.3510	6.0	TM		
25	TM	3,4-Dimethylphenol	0.4622	0.4752	2.8	TM		
26	TM	Naphthalene	1.039	1.067	2.7	TM		
27	TM	4-Chloroaniline	0.3483	0.3509	0.74	TM		A
28	TM	2,6-Dichlorophenol	0.2698	0.2767	2.5	TM		
29	TM	Hexachloropropene	0.2442	0.2524	3.4	TM		
30	*TM	Hexachlorobutadiene	0.2032	0.1992	2.0	*TM		
31	TM	Caprolactum	0.1683	0.1798	6.8	TM		
32	*TM	4-Chloro-3-methylphenol	0.3338	0.3341	0.08	*TM		
33	TM	2-Methylnaphthalene	0.7207	0.6858	4.8	TM		
34	TM	1-Methylnaphthalene	0.6955	0.7068	1.6	TM		
35	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2183	32	**TMQ	6.8	
36	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5492	2.2	TM		
37	*TM	2,4,6-Trichlorophenol	0.3558	0.3563	0.14	*TM		
38	TM	2,4,5-Trichlorophenol	0.3693	0.3804	3.0	TM		
39	TM	1,1'-Biphenyl	1.472	1.422	3.4	TM		
40	TM	2-Chloronaphthalene	1.149	1.112	3.2	TM		
		Average			6.1			

A Reported from 0404Y015

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Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	2-Nitroaniline	0.3983	0.4157	4.4	TM	
42	TM	Dimethyl phthalate	1.375	1.494	8.7	TM	
43	TM	2,6-DNT	0.3162	0.3525	11	TM	
44	TM	Acenaphthylene	1.816	1.958	7.8	TM	
45	TM	3-Nitroaniline	0.3251	0.3260	0.26	TM	
46	*TM	Acenaphthene	1.108	1.143	3.2	*TM	
47	**TML	2,4-Dinitrophenol	0.1445	0.1640	14	**TML	11
48	**TML	4-Nitrophenol	0.2008	0.2649	32	**TML	0.49
49	TM	Dibenzofuran	1.550	1.713	11	TM	
50	TM	2,4-DNT	0.4215	0.4693	11	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3332	11	TM	
52	TM	Diethyl phthalate	1.406	1.413	0.53	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6132	0.5869	4.3	TM	
54	TM	Fluorene	1.248	1.206	3.4	TM	
55	TM	4-Nitroaniline	0.3140	0.3112	0.90	TM	
56	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1727	35	TMQ	19
57	TM	Diphenyl amine	0.5231	0.5931	13	TM	
58	*TM	n-Nitrosodiphenylamine	0.5231	0.5931	13	*TM	
59	TM	1,2-Diphenylhydrazine	0.8832	0.9113	3.2	TM	
60	TM	4-Bromophenyl phenyl ether	0.1959	0.2267	16	TM	
61	TM	Hexachlorobenzene	0.1990	0.2361	19	TM	
62	TM	Atrazine	0.2108	0.2358	12	TM	
63	*TM	Pentachlorophenol	0.0841	0.0992	18	*TM	
64	TM	Phenanthrene	1.028	1.121	9.0	TM	
65	TM	Anthracene	1.085	1.162	7.1	TM	
66	TM	Carbazol	0.9564	1.038	8.5	TM	
67	TM	Di-n-butylphthalate	1.244	1.345	8.1	TM	
68	*TM	Fluoranthene	1.133	1.218	7.5	*TM	
69	TM	Benzidine	0.3534	0.3818	8.0	TM	
70	TM	Pyrene	1.233	1.318	6.9	TM	
71	TM	Butyl benzylphthalate	0.5992	0.6398	6.8	TM	
72	TM	3,3'-Dichlorobenzidine	0.3883	0.3286	15	TM	
73	TM	Benz (a) anthracene	1.153	1.190	3.3	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8555	1.9	TM	
75	TM	Chrysene	1.129	1.105	2.1	TM	
76	*TM	Di-n-octylphthalate	1.476	1.573	6.6	*TM	
77	TM	Benzo (b) fluoranthene	1.340	1.260	6.0	TM	
78	TM	Benzo (k) fluoranthene	1.267	1.349	6.4	TM	
79	*TM	Benzo (a) pyrene	1.233	1.271	3.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.424	1.700	19	TM	
		Average			9.4		

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Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Dibenz (a,h) anthracene	1.202	1.445	20	TM	
82	TM	Benzo (g,h,i) perylene	1.202	1.417	18	TM	
83							
84							
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112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	452627	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	486812	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.29	82	40784	8.70340 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.703%	
45) 2-Fluorobiphenyl(S)	7.40	172	238	0.02679 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Algorithm = $\frac{241922 \times 40 \times 1}{120035 \times 1.429}$ = 56.4 HA 4/5/17

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	241922	56.43464 ppb	96
3) Pyridine	1.67	79	443637	58.44606 ppb	100
6) Phenol	4.39	94	308453	54.97098 ppb	93
7) Aniline	4.39	66	245433	46.48002 ppb #	70
8) Bis (2-chloroethyl) ether	4.45	63	133941	50.17262 ppb	91
9) 2-Chlorophenol	4.51	128	234860	52.99416 ppb	96
10) 1,3-DCB	4.67	146	247023	52.47020 ppb	98
11) 1,4-DCB	4.75	146	249719	51.78186 ppb	96
12) Benzyl alcohol	4.92	108	133576	51.97868 ppb	97
13) 1,2-DCB	4.92	146	225378	51.71795 ppb	97
14) 2-Methylphenol	5.07	107	170474	51.06643 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	299806	52.46308 ppb	89
16) Acetophenone	5.21	105	297375	51.52529 ppb	99
17) 3&4-Methylphenol	5.24	107	444636	104.75255 ppb	97
18) n-Nitrosodi-n-propylamine	5.21	70	161808	51.59694 ppb	95
19) Hexachloroethane	5.29	117	104538	52.22443 ppb	97
22) Nitrobenzene	5.39	77	249471	53.29065 ppb	100
23) Isophorone	5.67	82	418017	54.33997 ppb	94
24) 2-Nitrophenol	5.75	139	127740	56.64930 ppb	94
25) 2,4-Dimethylphenol	5.83	122	194532	54.31280 ppb	95
26) Benzoic acid	6.01	105	158675	53.68314 ppb	93
27) Bis (2-chloroethoxy) metha	5.92	93	234458	52.27113 ppb	98
28) 2,4-Dichlorophenol	6.04	162	185791	53.56514 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	198600	53.01496 ppb	97
30) 3,4-Dimethylphenol	6.17	107	268885	51.41373 ppb	98
31) Naphthalene	6.19	128	603632	51.34257 ppb	98
32) 4-Chloroaniline	6.28	127	123406	31.31307 ppb	95
33) 2,6-Dichlorophenol	6.28	162	156543	51.26639 ppb	96
34) Hexachloropropene	6.29	213	142819	51.67717 ppb	97
35) Hexachlorobutadiene	6.34	225	112688	49.01098 ppb	98
36) Caprolactum	6.72	55	101712	53.42298 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	189004	50.04113 ppb	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	388003	47.57507 ppb		99
39) 1-Methylnaphthalene	7.10	142	399917	50.81640 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	77313	53.38262 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194514	51.07973 ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	126168	50.06948 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	134723	51.51132 ppb		96
46) 1,1'-Biphenyl	7.53	154	503749	48.32116 ppb		97
47) 2-Chloronaphthalene	7.54	162	393986	48.40777 ppb		95
48) 2-Nitroaniline	7.69	65	147234	52.19384 ppb		97
49) Dimethyl phthalate	7.90	163	529217	54.34038 ppb		100
50) 2,6-DNT	7.98	165	124830	55.73189 ppb		93
51) Acenaphthylene	8.02	152	693256	53.90348 ppb		100
52) 3-Nitroaniline	8.18	138	115439	50.13114 ppb		98
53) Acenaphthene	8.22	154	404948	51.59393 ppb		99
54) 2,4-Dinitrophenol	8.32	184	58078	44.52844 ppb		89
55) 4-Nitrophenol	8.44	65	93819	49.75668 ppb	#	1
56) Dibenzofuran	8.43	168	606686	55.25179 ppb		96
57) 2,4-DNT	8.45	165	166211	55.67887 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	118000	55.45970 ppb		97
59) Diethyl phthalate	8.71	149	500470	50.26586 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	207849	47.85734 ppb		95
61) Fluorene	8.82	166	427114	48.30413 ppb		94
62) 4-Nitroaniline	8.89	138	110209	49.55114 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	105208	59.28300 ppb		98
66) Diphenyl amine	8.97	169	722641	113.38251 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	722641	113.38251 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	555203	51.59231 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	138094	57.83986 ppb		98
70) Hexachlorobenzene	9.47	284	143817	59.31356 ppb		99
71) Atrazine	9.62	200	71826	27.96794 ppb		97
72) Pentachlorophenol	9.72	266	60457	58.99127 ppb		97
73) Phenanthrene	9.93	178	682951	54.49644 ppb		99
74) Anthracene	10.00	178	707886	53.54703 ppb		100
75) Carbazol	10.20	167	632165	54.24525 ppb		96
76) Di-n-butylphthalate	10.61	149	819498	54.07071 ppb		97
77) Fluoranthene	11.31	202	742007	53.76201 ppb		100
79) Benzidine	11.50	184	232343	54.02483 ppb		98
80) Pyrene	11.57	202	802008	53.43367 ppb		98
82) Butyl benzylphthalate	12.34	149	389326	53.39180 ppb	#	75
83) 3,3'-Dichlorobenzidine	12.96	252	199964	42.31787 ppb	#	96
84) Benz (a) anthracene	12.98	228	724356	51.62655 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	520567	50.93708 ppb		96
86) Chrysene	13.01	228	672225	48.94046 ppb		99
87) Di-n-octylphthalate	13.73	149	957326	53.27779 ppb		95
89) Benzo (b) fluoranthene	14.16	252	734897	47.00114 ppb		96
90) Benzo (k) fluoranthene	14.19	252	786807	53.22401 ppb		99
91) Benzo (a) pyrene	14.54	252	741585	51.55214 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	992130	59.72684 ppb		98
93) Dibenz (a,h) anthracene	16.12	278	843126	60.12340 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	826517	58.93816 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

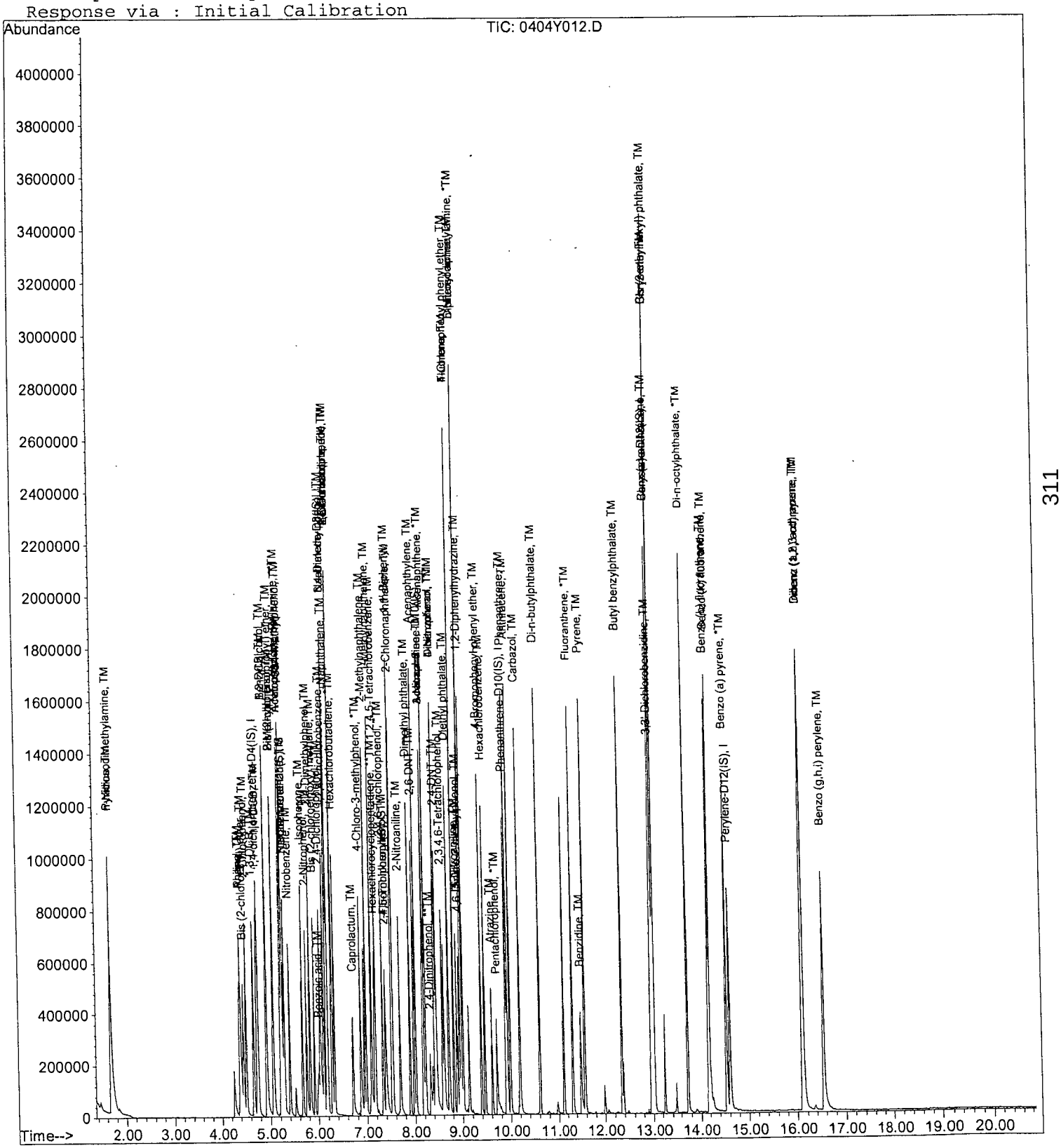
Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



311

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104120	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	448907	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	252014	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	454389	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	452215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453788	40.00000 ppb	0.00

System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	0.00	82	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
45) 2-Fluorobiphenyl(S)	0.00	172	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Target Compounds					Qvalue
32) 4-Chloroaniline	6.28	127	196879	50.37010 ppb	94

(#) = qualifier out of range (m) = manual integration
0404Y015.D Y0404.M Wed Apr 05 13:21:29 2017

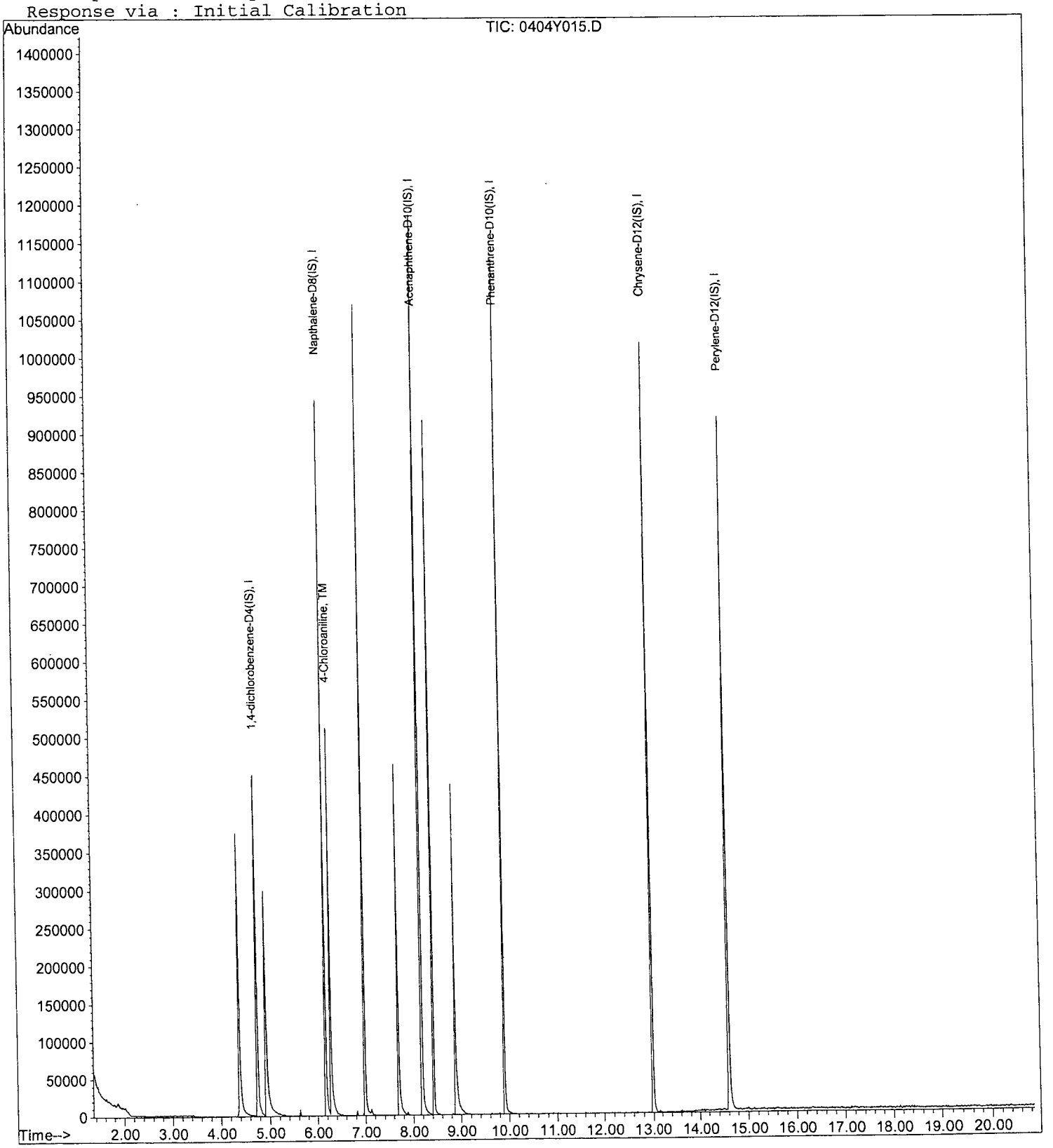
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y104.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.388	2.8	TM	
3	TM	Pyridine	2.529	2.251	11	TM	
4	S	2-Fluorophenol (S)	1.286	1.274	0.93	S	
5	S	Phenol-D6 (S)	1.610	1.666	3.4	S	
6	*TM	Phenol	1.870	1.965	5.1	*TM	
7	TM	Aniline	1.760	1.774	0.84	TM	
8	TM	Bis (2-chloroethyl) ether	0.8896	0.9403	5.7	TM	
9	TM	2-Chlorophenol	1.477	1.491	0.94	TM	
10	TM	1,3-DCB	1.569	1.603	2.2	TM	
11	*TM	1,4-DCB	1.607	1.622	0.94	*TM	
12	TM	Benzyl alcohol	0.8564	0.8880	3.7	TM	
13	TM	1,2-DCB	1.452	1.483	2.1	TM	
14	TM	2-Methylphenol	1.112	1.133	1.9	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.904	2.033	6.8	TM	
16	TM	Acetophenone	1.923	1.989	3.4	TM	
17	TM	3&4-Methylphenol	1.414	1.499	6.0	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.045	1.105	5.7	**TM	
19	TM	Hexachloroethane	0.6670	0.6662	0.12	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4141	0.4090	1.2	S	
22	TM	Nitrobenzene	0.4137	0.4131	0.16	TM	
23	TM	Isophorone	0.6798	0.6824	0.38	TM	
24	*TM	2-Nitrophenol	0.1993	0.2065	3.6	*TM	
25	TM	2,4-Dimethylphenol	0.3165	0.3168	0.10	TM	
26	TML	Benzoic acid	0.2240	0.2482	11	TML	4.3
27	TM	Bis (2-chloroethoxy) methane	0.3964	0.4059	2.4	TM	
28	*TM	2,4-Dichlorophenol	0.3065	0.3056	0.30	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3311	0.3251	1.8	TM	
30	TM	3,4-Dimethylphenol	0.4622	0.4460	3.5	TM	
31	TM	Naphthalene	1.039	1.054	1.4	TM	
32	TM	4-Chloroaniline	0.3483	0.3546	1.8	TM	
33	TM	2,6-Dichlorophenol	0.2698	0.2608	3.3	TM	
34	TM	Hexachloropropene	0.2442	0.2303	5.7	TM	
35	*TM	Hexachlorobutadiene	0.2032	0.1924	5.3	*TM	
36	TM	Caprolactum	0.1683	0.1697	0.84	TM	
37	*TM	4-Chloro-3-methylphenol	0.3338	0.3187	4.5	*TM	
38	TM	2-Methylnaphthalene	0.7207	0.7000	2.9	TM	
39	TM	1-Methylnaphthalene	0.6955	0.6752	2.9	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.2		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y104.D

		Compound	MEAN	CCRF	%D		%Drift	
41	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1949	18	**TMQ	1.6	
42	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5256	2.2	TM		
43	*TM	2,4,6-Trichlorophenol	0.3558	0.3538	0.55	*TM		
44	TM	2,4,5-Trichlorophenol	0.3693	0.3654	1.0	TM		
45	S	2-Fluorobiphenyl(S)	1.254	1.219	2.8	S		
46	TM	1,1'-Biphenyl	1.472	1.460	0.84	TM		
47	TM	2-Chloronaphthalene	1.149	1.138	0.97	TM		
48	TM	2-Nitroaniline	0.3983	0.4085	2.6	TM		
49	TM	Dimethyl phthalate	1.375	1.346	2.1	TM		
50	TM	2,6-DNT	0.3162	0.3093	2.2	TM		
51	TM	Acenaphthylene	1.816	1.825	0.52	TM		
52	TM	3-Nitroaniline	0.3251	0.3436	5.7	TM		
53	*TM	Acenaphthene	1.108	1.128	1.8	*TM		
54	**TML	2,4-Dinitrophenol	0.1445	0.1760	22	**TML	5.6	
55	**TML	4-Nitrophenol	0.2008	0.2457	22	**TML	6.7	
56	TM	Dibenzofuran	1.550	1.610	3.8	TM		
57	TM	2,4-DNT	0.4215	0.4489	6.5	TM		
58	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3149	4.8	TM		
59	TM	Diethyl phthalate	1.406	1.372	2.4	TM		
60	TM	4-Chlorophenyl phenyl ether	0.6132	0.5739	6.4	TM		
61	TM	Fluorene	1.248	1.183	5.3	TM		
62	TM	4-Nitroaniline	0.3140	0.3270	4.1	TM		
63	S	2,4,6-Tribromophenol(S)	0.1793	0.1772	1.1	S		
64	I	Phenanthrene-D10(IS)	ISTD			I		
65	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1513	18	TMQ	3.8	
66	TM	Diphenyl amine	0.5231	0.5195	0.69	TM		
67	*TM	n-Nitrosodiphenylamine	0.5231	0.5195	0.69	*TM		
68	TM	1,2-Diphenylhydrazine	0.8832	1.038	18	TM		
69	TM	4-Bromophenyl phenyl ether	0.1959	0.2051	4.7	TM		
70	TM	Hexachlorobenzene	0.1990	0.2178	9.4	TM		
71	TM	Atrazine	0.2108	0.2118	0.48	TM		
72	*TM	Pentachlorophenol	0.0841	0.1066	27	*TM		*NT
73	TM	Phenanthrene	1.028	1.063	3.4	TM		
74	TM	Anthracene	1.085	1.146	5.6	TM		
75	TM	Carbazol	0.9564	1.030	7.7	TM		
76	TM	Di-n-butylphthalate	1.244	1.320	6.2	TM		
77	*TM	Fluoranthene	1.133	1.175	3.7	*TM		
78	I	Chrysene-D12(IS)	ISTD			I		
79	TM	Benzidine	0.3534	0.4181	18	TM		
80	TM	Pyrene	1.233	1.276	3.5	TM		
		Average			6.5			

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Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y104.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8456	0.8394	0.73	S	
82	TM	Butyl benzylphthalate	0.5992	0.6114	2.0	TM	
83	TM	3,3'-Dichlorobenzidine	0.3883	0.4377	13	TM	
84	TM	Benz (a) anthracene	1.153	1.143	0.87	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.7708	8.2	TM	
86	TM	Chrysene	1.129	1.062	5.9	TM	
87	*TM	Di-n-octylphthalate	1.476	1.499	1.5	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.340	1.203	10	TM	
90	TM	Benzo (k) fluoranthene	1.267	1.311	3.5	TM	
91	*TM	Benzo (a) pyrene	1.233	1.215	1.4	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.424	1.321	7.2	TM	
93	TM	Dibenz (a,h) anthracene	1.202	1.132	5.8	TM	
94	TM	Benzo (g,h,i) perylene	1.202	1.137	5.4	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y104.D
Acq On : 14 Apr 17 12:40
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 12:56 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	126322	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	520381	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	311933	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	565044	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	557148	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	542516	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	402475	99.06865 ppb	0.00
Spiked Amount 200.000			Recovery = 49.535%		
5) Phenol-D6 (S)	4.37	99	525983	103.42968 ppb	0.00
Spiked Amount 200.000			Recovery = 51.715%		
21) Nitrobenzene-D5(S)	5.37	82	266074	49.38792 ppb	0.00
Spiked Amount 100.000			Recovery = 49.388%		
45) 2-Fluorobiphenyl(S)	7.42	172	475239	48.59098 ppb	0.00
Spiked Amount 100.000			Recovery = 48.591%		
63) 2,4,6-Tribromophenol(S)	9.11	330	138196	98.85012 ppb	0.00
Spiked Amount 200.000			Recovery = 49.425%		
81) Terphenyl-D14(S)	11.77	244	584592	49.63408 ppb	0.00
Spiked Amount 100.000			Recovery = 49.634%		
Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	219162	48.58079 ppb	88
3) Pyridine	1.68	79	355439	44.49605 ppb	100
6) Phenol	4.39	94	310339	52.55448 ppb	96
7) Aniline	4.38	66	280172	50.41816 ppb	93
8) Bis (2-chloroethyl) ether	4.45	63	148471	52.84742 ppb	99
9) 2-Chlorophenol	4.51	128	235400	50.47244 ppb	97
10) 1,3-DCB	4.67	146	253076	51.08051 ppb	98
11) 1,4-DCB	4.75	146	256145	50.47088 ppb	95
12) Benzyl alcohol	4.93	108	140222	51.84918 ppb	86
13) 1,2-DCB	4.92	146	234216	51.07110 ppb	98
14) 2-Methylphenol	5.07	107	178953	50.93839 ppb	94
15) Bis (2-chloroisopropyl) et	5.06	45	321035	53.38199 ppb	85
16) Acetophenone	5.21	105	314014	51.70040 ppb	99
17) 3&4-Methylphenol	5.24	107	473342	105.96536 ppb	98
18) n-Nitrosodi-n-propylamine	5.22	70	174489	52.87141 ppb	96
19) Hexachloroethane	5.29	117	105202	49.94044 ppb	96
22) Nitrobenzene	5.40	77	268682	49.92161 ppb	88
23) Isophorone	5.67	82	443875	50.18861 ppb	92
24) 2-Nitrophenol	5.75	139	134336	51.81781 ppb	98
25) 2,4-Dimethylphenol	5.83	122	206094	50.04901 ppb	96
26) Benzoic acid	6.02	105	161443	47.86327 ppb	94
27) Bis (2-chloroethoxy) metha	5.92	93	264010	51.19602 ppb	98
28) 2,4-Dichlorophenol	6.04	162	198784	49.84918 ppb	91
29) 1,2,4-Trichlorobenzene	6.12	180	211495	49.10643 ppb	98
30) 3,4-Dimethylphenol	6.16	107	290118	48.25099 ppb	98
31) Naphthalene	6.19	128	685292	50.69907 ppb	98
32) 4-Chloroaniline	6.28	127	230636	50.90207 ppb	93
33) 2,6-Dichlorophenol	6.28	162	169662	48.32843 ppb	97
34) Hexachloropropene	6.29	213	149808	47.14838 ppb	97
35) Hexachlorobutadiene	6.33	225	125143	47.34142 ppb	99
36) Caprolactum	6.71	55	110369	50.42223 ppb	95
37) 4-Chloro-3-methylphenol	6.87	107	207275	47.73336 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y104.D
Acq On : 14 Apr 17 12:40
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 12:56 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	455327	48.56090 ppb		99
39) 1-Methylnaphthalene	7.10	142	439224	48.54440 ppb		99
41) Hexachlorocyclopentadiene	7.16	237	75983	49.20251 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	204950	48.88325 ppb		100
43) 2,4,6-Trichlorophenol	7.33	196	137950	49.72330 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	142474	49.47786 ppb		96
46) 1,1'-Biphenyl	7.53	154	569103	49.58250 ppb		99
47) 2-Chloronaphthalene	7.55	162	443689	49.51392 ppb		98
48) 2-Nitroaniline	7.69	65	159282	51.28522 ppb		91
49) Dimethyl phthalate	7.90	163	524744	48.93851 ppb		100
50) 2,6-DNT	7.98	165	120609	48.90789 ppb		97
51) Acenaphthylene	8.02	152	711651	50.25793 ppb		99
52) 3-Nitroaniline	8.18	138	133981	52.84606 ppb	#	98
53) Acenaphthene	8.22	154	439827	50.89741 ppb		98
54) 2,4-Dinitrophenol	8.33	184	68614	47.18910 ppb		92
55) 4-Nitrophenol	8.46	65	95810	46.67320 ppb	#	57
56) Dibenzofuran	8.43	168	627725	51.92377 ppb		88
57) 2,4-DNT	8.46	165	175034	53.25586 ppb		99
58) 2,3,4,6-Tetrachlorophenol	8.59	232	122801	52.42178 ppb		96
59) Diethyl phthalate	8.72	149	535077	48.81191 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	223788	46.80064 ppb		97
61) Fluorene	8.82	166	461105	47.36469 ppb		95
62) 4-Nitroaniline	8.89	138	127496	52.06519 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	106859	51.90382 ppb		96
66) Diphenyl amine	8.98	169	733794	99.31119 ppb		97
67) n-Nitrosodiphenylamine	8.98	169	733794	99.31119 ppb		97
68) 1,2-Diphenylhydrazine	9.01	77	733137	58.76502 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	144842	52.32961 ppb		95
70) Hexachlorobenzene	9.47	284	153816	54.71997 ppb		90
71) Atrazine	9.62	200	74790	25.12019 ppb		94
72) Pentachlorophenol	9.72	266	75276	63.35753 ppb		95
73) Phenanthrene	9.93	178	750962	51.68888 ppb		100
74) Anthracene	10.00	178	809159	52.79667 ppb		100
75) Carbazol	10.20	167	727767	53.86718 ppb		98
76) Di-n-butylphthalate	10.61	149	932662	53.08099 ppb		99
77) Fluoranthene	11.31	202	830002	51.87370 ppb		100
79) Benzidine	11.50	184	291202	59.16282 ppb		98
80) Pyrene	11.57	202	888636	51.73100 ppb		99
82) Butyl benzylphthalate	12.34	149	425824	51.02488 ppb		81
83) 3,3'-Dichlorobenzidine	12.96	252	304817	56.36401 ppb		98
84) Benz (a) anthracene	12.98	228	795927	49.56612 ppb		100
85) Bis (2-ethylhexyl) phthala	13.01	149	536841	45.89800 ppb		97
86) Chrysene	13.02	228	739838	47.06312 ppb		99
87) Di-n-octylphthalate	13.73	149	1043708	50.75233 ppb		98
89) Benzo (b) fluoranthene	14.16	252	815680	44.88214 ppb		96
90) Benzo (k) fluoranthene	14.19	252	888891	51.73205 ppb		98
91) Benzo (a) pyrene	14.55	252	824119	49.28871 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	896109	46.41235 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	767837	47.10770 ppb		98
94) Benzo (g,h,i) perylene	16.54	276	771086	47.30635 ppb		96

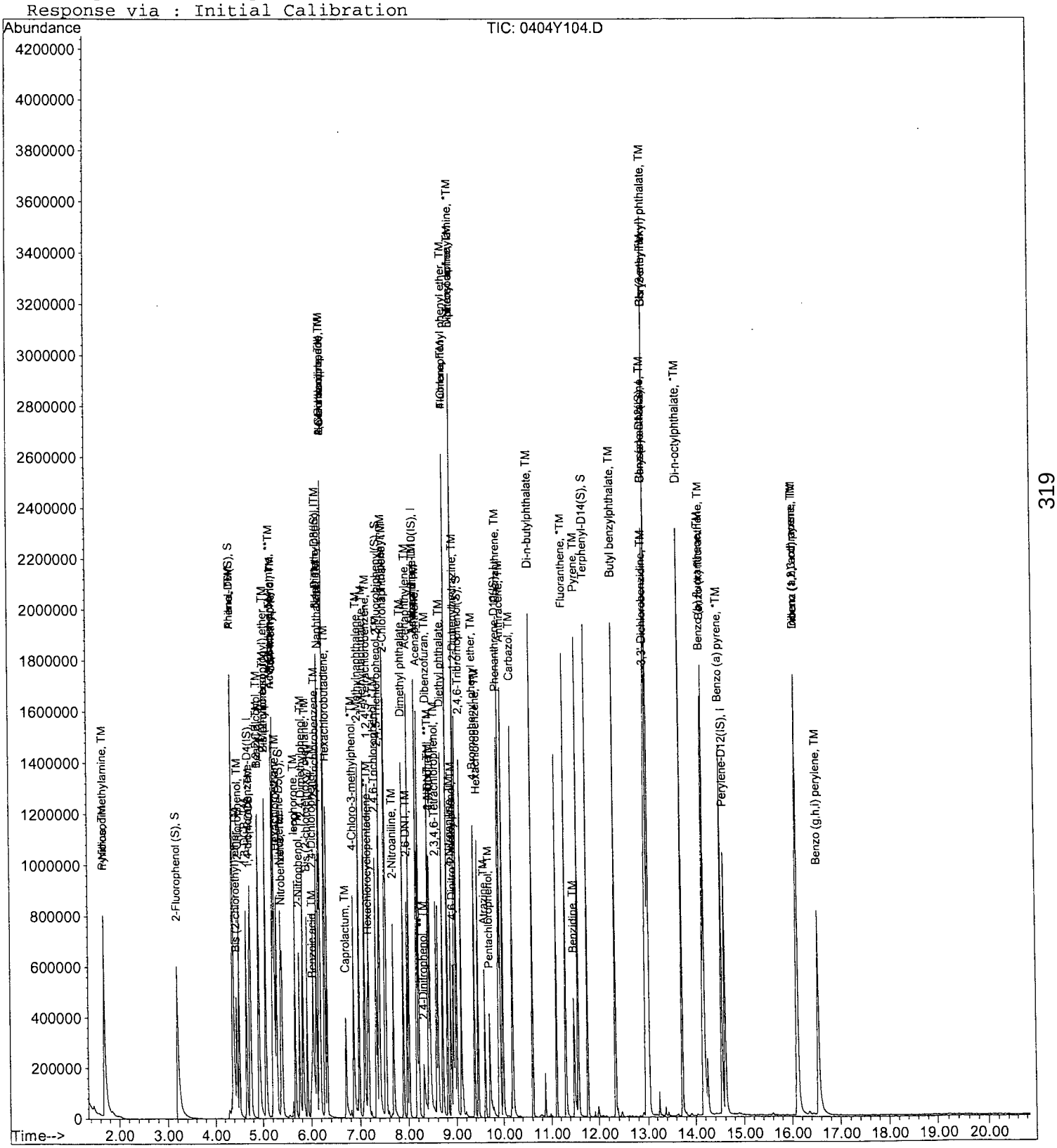
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y104.D Vial: 4
Acq On : 14 Apr 17 12:40 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 12:56 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y116.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.451	1.6	TM	
3	TM	Pyridine	2.529	2.243	11	TM	
4	S	2-Fluorophenol (S)	1.286	1.274	0.95	S	
5	S	Phenol-D6 (S)	1.610	1.691	5.0	S	
6	*TM	Phenol	1.870	1.986	6.2	*TM	
7	TM	Aniline	1.760	1.859	5.7	TM	
8	TM	Bis (2-chloroethyl) ether	0.8896	0.9421	5.9	TM	
9	TM	2-Chlorophenol	1.477	1.551	5.0	TM	
10	TM	1,3-DCB	1.569	1.595	1.7	TM	
11	*TM	1,4-DCB	1.607	1.595	0.73	*TM	
12	TM	Benzyl alcohol	0.8564	0.9214	7.6	TM	
13	TM	1,2-DCB	1.452	1.503	3.5	TM	
14	TM	2-Methylphenol	1.112	1.161	4.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.904	2.101	10	TM	
16	TM	Acetophenone	1.923	2.043	6.2	TM	
17	TM	3&4-Methylphenol	1.414	1.522	7.6	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.045	1.136	8.7	**TM	
19	TM	Hexachloroethane	0.6670	0.7165	7.4	TM	
20	I	Napthalene-D8(IS)	ISTD			I	
21	S	Nitrobenzene-D5(S)	0.4141	0.4112	0.71	S	
22	TM	Nitrobenzene	0.4137	0.4059	1.9	TM	
23	TM	Isophorone	0.6798	0.7032	3.4	TM	
24	*TM	2-Nitrophenol	0.1993	0.1973	0.98	*TM	
25	TM	2,4-Dimethylphenol	0.3165	0.3261	3.0	TM	
26	TML	Benzoic acid	0.2240	0.2064	7.8	TML	19
27	TM	Bis (2-chloroethoxy) methane	0.3964	0.4093	3.3	TM	
28	*TM	2,4-Dichlorophenol	0.3065	0.3095	0.98	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3311	0.3296	0.45	TM	
30	TM	3,4-Dimethylphenol	0.4622	0.4609	0.28	TM	
31	TM	Naphthalene	1.039	1.054	1.4	TM	
32	TM	4-Chloroaniline	0.3483	0.3655	4.9	TM	
33	TM	2,6-Dichlorophenol	0.2698	0.2616	3.1	TM	
34	TM	Hexachloropropene	0.2442	0.2334	4.4	TM	
35	*TM	Hexachlorobutadiene	0.2032	0.1974	2.8	*TM	
36	TM	Caprolactum	0.1683	0.1759	4.5	TM	
37	*TM	4-Chloro-3-methylphenol	0.3338	0.3343	0.15	*TM	
38	TM	2-Methylnaphthalene	0.7207	0.7081	1.8	TM	
39	TM	1-Methylnaphthalene	0.6955	0.6907	0.68	TM	
40	I	Acenaphthene-D10(IS)	ISTD			I	
		Average			3.9		

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Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y116.D

		Compound	MEAN	CCRF	%D		%Drift
41	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1761	6.8	**TMQ	8.5
42	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5511	2.5	TM	
43	*TM	2,4,6-Trichlorophenol	0.3558	0.3663	2.9	*TM	
44	TM	2,4,5-Trichlorophenol	0.3693	0.3843	4.1	TM	
45	S	2-Fluorobiphenyl(S)	1.254	1.269	1.2	S	
46	TM	1,1'-Biphenyl	1.472	1.502	2.1	TM	
47	TM	2-Chloronaphthalene	1.149	1.193	3.9	TM	
48	TM	2-Nitroaniline	0.3983	0.4261	7.0	TM	
49	TM	Dimethyl phthalate	1.375	1.366	0.66	TM	
50	TM	2,6-DNT	0.3162	0.3273	3.5	TM	
51	TM	Acenaphthylene	1.816	1.826	0.58	TM	
52	TM	3-Nitroaniline	0.3251	0.3445	6.0	TM	
53	*TM	Acenaphthene	1.108	1.124	1.5	*TM	
54	**TML	2,4-Dinitrophenol	0.1445	0.1407	2.6	**TML	21
55	**TML	4-Nitrophenol	0.2008	0.2568	28	**TML	3.1
56	TM	Dibenzofuran	1.550	1.608	3.8	TM	
57	TM	2,4-DNT	0.4215	0.4390	4.2	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2902	3.4	TM	
59	TM	Diethyl phthalate	1.406	1.397	0.65	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6132	0.5830	4.9	TM	
61	TM	Fluorene	1.248	1.178	5.7	TM	
62	TM	4-Nitroaniline	0.3140	0.3302	5.2	TM	
63	S	2,4,6-Tribromophenol(S)	0.1793	0.1828	2.0	S	
64	I	Phenanthrene-D10(IS)	ISTD			I	
65	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1394	8.6	TMQ	4.3
66	TM	Diphenyl amine	0.5231	0.5481	4.8	TM	
67	*TM	n-Nitrosodiphenylamine	0.5231	0.5481	4.8	*TM	
68	TM	1,2-Diphenylhydrazine	0.8832	1.139	29	TM	
69	TM	4-Bromophenyl phenyl ether	0.1959	0.2102	7.3	TM	
70	TM	Hexachlorobenzene	0.1990	0.2095	5.3	TM	
71	TM	Atrazine	0.2108	0.2118	0.49	TM	
72	*TM	Pentachlorophenol	0.0841	0.0856	1.8	*TM	
73	TM	Phenanthrene	1.028	1.068	3.8	TM	
74	TM	Anthracene	1.085	1.136	4.7	TM	
75	TM	Carbazol	0.9564	1.021	6.7	TM	
76	TM	Di-n-butylphthalate	1.244	1.350	8.6	TM	
77	*TM	Fluoranthene	1.133	1.227	8.4	*TM	
78	I	Chrysene-D12(IS)	ISTD			I	
79	TM	Benzidine	0.3534	0.3832	8.5	TM	
80	TM	Pyrene	1.233	1.344	9.0	TM	
		Average			5.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y116.D

		Compound	MEAN	CCRF	%D	%Drift	
81	S	Terphenyl-D14(S)	0.8456	0.8618	1.9	S	
82	TM	Butyl benzylphthalate	0.5992	0.6409	7.0	TM	
83	TM	3,3'-Dichlorobenzidine	0.3883	0.4437	14	TM	
84	TM	Benz (a) anthracene	1.153	1.205	4.5	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8104	3.5	TM	
86	TM	Chrysene	1.129	1.134	0.46	TM	
87	*TM	Di-n-octylphthalate	1.476	1.544	4.6	*TM	
88	I	Perylene-D12(IS)	ISTD			I	
89	TM	Benzo (b) fluoranthene	1.340	1.203	10	TM	
90	TM	Benzo (k) fluoranthene	1.267	1.299	2.5	TM	
91	*TM	Benzo (a) pyrene	1.233	1.230	0.24	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.424	1.334	6.3	TM	
93	TM	Dibenz (a,h) anthracene	1.202	1.142	5.0	TM	
94	TM	Benzo (g,h,i) perylene	1.202	1.151	4.2	TM	
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.9		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y116.D
Acq On : 14 Apr 17 18:50
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 16
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 17 8:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	107675	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	456448	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	265319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	465352	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	453346	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454181	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	342996	99.04909 ppb	0.00
Spiked Amount 200.000			Recovery = 49.525%		
5) Phenol-D6 (S)	4.38	99	455311	105.03783 ppb	0.00
Spiked Amount 200.000			Recovery = 52.519%		
21) Nitrobenzene-D5(S)	5.37	82	234610	49.64722 ppb	0.00
Spiked Amount 100.000			Recovery = 49.647%		
45) 2-Fluorobiphenyl(S)	7.41	172	420915	50.59772 ppb	0.00
Spiked Amount 100.000			Recovery = 50.598%		
63) 2,4,6-Tribromophenol(S)	9.11	330	121283	101.99400 ppb	0.00
Spiked Amount 200.000			Recovery = 50.997%		
81) Terphenyl-D14(S)	11.77	244	488345	50.95592 ppb	0.00
Spiked Amount 100.000			Recovery = 50.956%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	195340	50.79893 ppb		88
3) Pyridine	1.69	79	301896	44.33818 ppb		94
6) Phenol	4.39	94	267363	53.11765 ppb		93
7) Aniline	4.39	66	250240	52.83030 ppb	#	74
8) Bis (2-chloroethyl) ether	4.46	63	126794	52.94744 ppb		89
9) 2-Chlorophenol	4.51	128	208744	52.50806 ppb		96
10) 1,3-DCB	4.67	146	214660	50.82993 ppb		99
11) 1,4-DCB	4.76	146	214715	49.63425 ppb		98
12) Benzyl alcohol	4.93	108	124010	53.79558 ppb		93
13) 1,2-DCB	4.93	146	202320	51.75610 ppb		93
14) 2-Methylphenol	5.07	107	156260	52.18169 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	282751	55.15827 ppb	#	79
16) Acetophenone	5.21	105	274920	53.10255 ppb		95
17) 3&4-Methylphenol	5.24	107	409832	107.63632 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	152850	54.33535 ppb		88
19) Hexachloroethane	5.29	117	96435	53.70654 ppb		96
22) Nitrobenzene	5.40	77	231568	49.05222 ppb		89
23) Isophorone	5.67	82	401213	51.71894 ppb		95
24) 2-Nitrophenol	5.75	139	112589	49.51226 ppb		94
25) 2,4-Dimethylphenol	5.83	122	186046	51.50870 ppb		97
26) Benzoic acid	6.02	105	117754	40.32067 ppb		95
27) Bis (2-chloroethoxy) metha	5.92	93	233526	51.62751 ppb		99
28) 2,4-Dichlorophenol	6.04	162	176597	50.48822 ppb		96
29) 1,2,4-Trichlorobenzene	6.11	180	188038	49.77531 ppb		95
30) 3,4-Dimethylphenol	6.17	107	262966	49.86103 ppb		99
31) Naphthalene	6.19	128	601085	50.69795 ppb		99
32) 4-Chloroaniline	6.28	127	208551	52.47480 ppb		97
33) 2,6-Dichlorophenol	6.28	162	149233	48.46332 ppb		98
34) Hexachloropropene	6.29	213	133164	47.78029 ppb		99
35) Hexachlorobutadiene	6.33	225	112642	48.58086 ppb		97
36) Caprolactum	6.71	55	100349	52.26587 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	190723	50.07354 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y116.D
Acq On : 14 Apr 17 18:50
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 16
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 17 8:39 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	404012	49.12332	ppb		100
39) 1-Methylnaphthalene	7.10	142	394112	49.65955	ppb		99
41) Hexachlorocyclopentadiene	7.16	237	58410	45.74706	ppb		93
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	182772	51.25246	ppb		98
43) 2,4,6-Trichlorophenol	7.33	196	121468	51.47461	ppb		93
44) 2,4,5-Trichlorophenol	7.40	196	127459	52.04018	ppb		94
46) 1,1'-Biphenyl	7.53	154	498210	51.03204	ppb		99
47) 2-Chloronaphthalene	7.54	162	395782	51.92753	ppb		96
48) 2-Nitroaniline	7.69	65	141331	53.50026	ppb		98
49) Dimethyl phthalate	7.90	163	453017	49.67189	ppb		100
50) 2,6-DNT	7.98	165	108548	51.75043	ppb		99
51) Acenaphthylene	8.02	152	605721	50.29249	ppb		99
52) 3-Nitroaniline	8.18	138	114240	52.97617	ppb	#	94
53) Acenaphthene	8.22	154	372929	50.73795	ppb		99
54) 2,4-Dinitrophenol	8.33	184	46663	39.35431	ppb		96
55) 4-Nitrophenol	8.44	65	85158	48.44866	ppb	#	17
56) Dibenzofuran	8.43	168	533439	51.87696	ppb		91
57) 2,4-DNT	8.45	165	145600	52.08340	ppb		94
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96234	48.29825	ppb		98
59) Diethyl phthalate	8.71	149	463153	49.67375	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	193336	47.53578	ppb		98
61) Fluorene	8.82	166	390519	47.16176	ppb		97
62) 4-Nitroaniline	8.89	138	109514	52.57915	ppb		91
65) 4,6-Dinitro-2-methylphenol	8.94	198	81066	47.86395	ppb		89
66) Diphenyl amine	8.97	169	637593	104.77756	ppb		99
67) n-Nitrosodiphenylamine	8.97	169	637593	104.77756	ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	662515	64.48076	ppb		99
69) 4-Bromophenyl phenyl ether	9.39	248	122276	53.64076	ppb		92
70) Hexachlorobenzene	9.47	284	121847	52.63321	ppb		92
71) Atrazine	9.61	200	61598	25.12157	ppb		96
72) Pentachlorophenol	9.72	266	49781	50.87519	ppb		98
73) Phenanthrene	9.93	178	621224	51.91921	ppb		99
74) Anthracene	10.00	178	660619	52.33888	ppb		99
75) Carbazol	10.20	167	593882	53.37437	ppb		99
76) Di-n-butylphthalate	10.61	149	785556	54.28659	ppb		99
77) Fluoranthene	11.31	202	713900	54.17590	ppb		100
79) Benzidine	11.50	184	217176	54.22594	ppb		98
80) Pyrene	11.57	202	761858	54.50569	ppb		100
82) Butyl benzylphthalate	12.34	149	363203	53.48624	ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	251443	57.14037	ppb		97
84) Benz (a) anthracene	12.98	228	682938	52.26775	ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	459230	48.25243	ppb		98
86) Chrysene	13.02	228	642519	50.23089	ppb		98
87) Di-n-octylphthalate	13.73	149	874904	52.28513	ppb		99
89) Benzo (b) fluoranthene	14.16	252	683247	44.90710	ppb		97
90) Benzo (k) fluoranthene	14.19	252	737211	51.24914	ppb		97
91) Benzo (a) pyrene	14.54	252	698202	49.87952	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	757298	46.85146	ppb		99
93) Dibenz (a,h) anthracene	16.12	278	648425	47.51888	ppb		98
94) Benzo (g,h,i) perylene	16.55	276	653329	47.87757	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

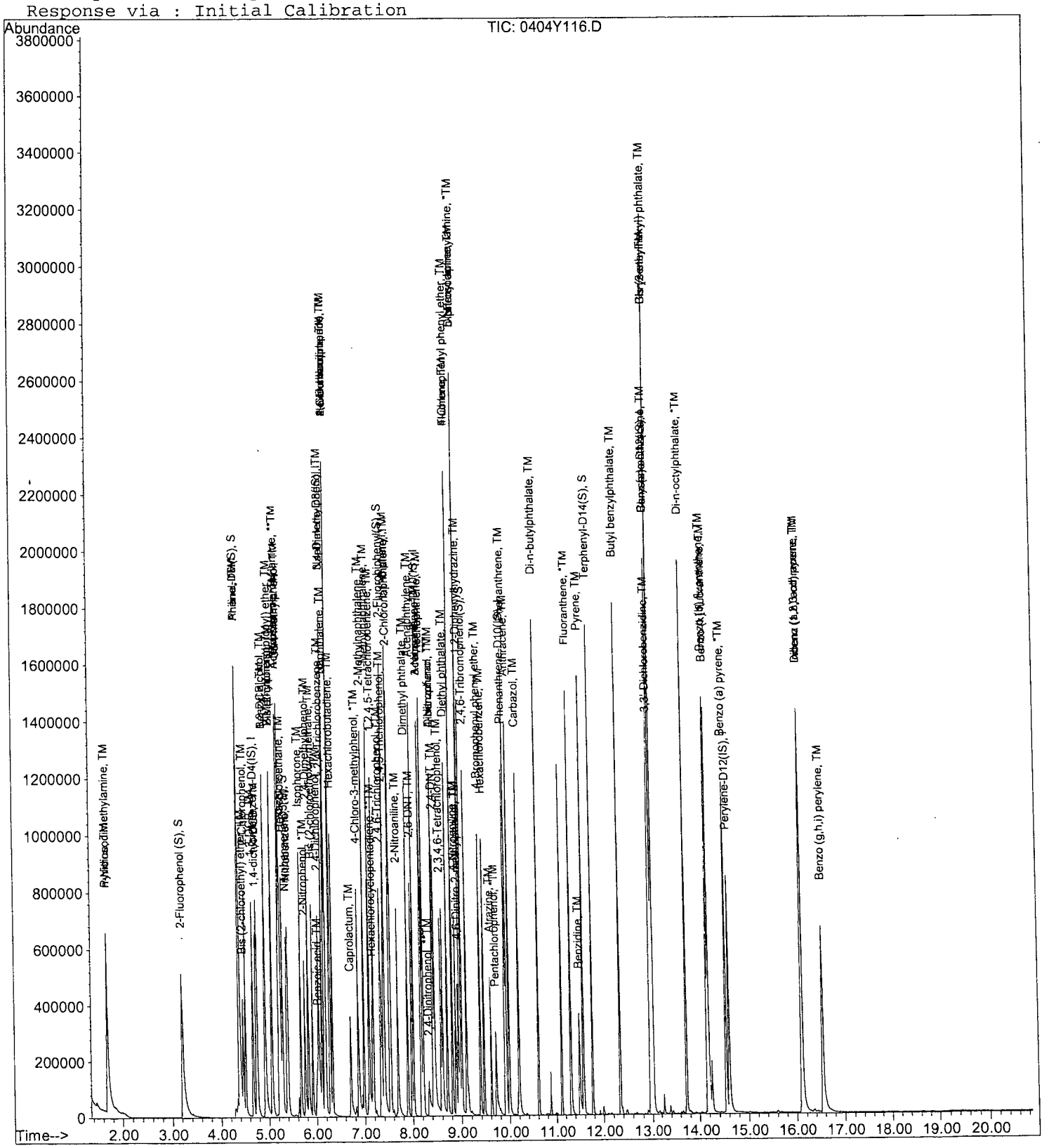
Data File : M:\YODA\DATA\Y170404\0404Y116.D
Acq On : 14 Apr 17 18:50
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 16
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 17 8:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170411W-53260 - 217898**
Batch ID: #87DC5-170411B

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/11/17	04/14/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	67.1	43-140			%	04/11/17	04/14/17
BLANK	SURROGATE: 2-FLUORBIPHENY	54.8	44-119			%	04/11/17	04/14/17
BLANK	SURROGATE: 2-FLUOROPHENO	48.1	19-119			%	04/11/17	04/14/17
BLANK	SURROGATE: NITROBENZENE-	66.2	44-120			%	04/11/17	04/14/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.1	10-115			%	04/11/17	04/14/17
BLANK	SURROGATE: TERPHENYL-D14 (	67.4	50-134			%	04/11/17	04/14/17

Quant Method: Y0404.M
Run #: 0404Y105
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/17/17 10:07:57 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y105.D Vial: 5
Acq On : 14 Apr 17 13:17 Operator: MA
Sample : 170411B BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 14:56 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	106836	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	453538	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	270520	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	515498	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	490280	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	463499	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	330690	96.24535 ppb	0.00
Spiked Amount 200.000			Recovery	= 48.123%	
5) Phenol-D6 (S)	4.37	99	293357	68.20737 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.104%	
21) Nitrobenzene-D5(S)	5.37	82	310996	66.23398 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.234%	
45) 2-Fluorobiphenyl(S)	7.42	172	464529	54.76693 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.767%	
63) 2,4,6-Tribromophenol(S)	9.11	330	162765	134.24703 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.124%	
81) Terphenyl-D14(S)	11.77	244	698479	67.39177 ppb	0.00
Spiked Amount 100.000			Recovery	= 67.392%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

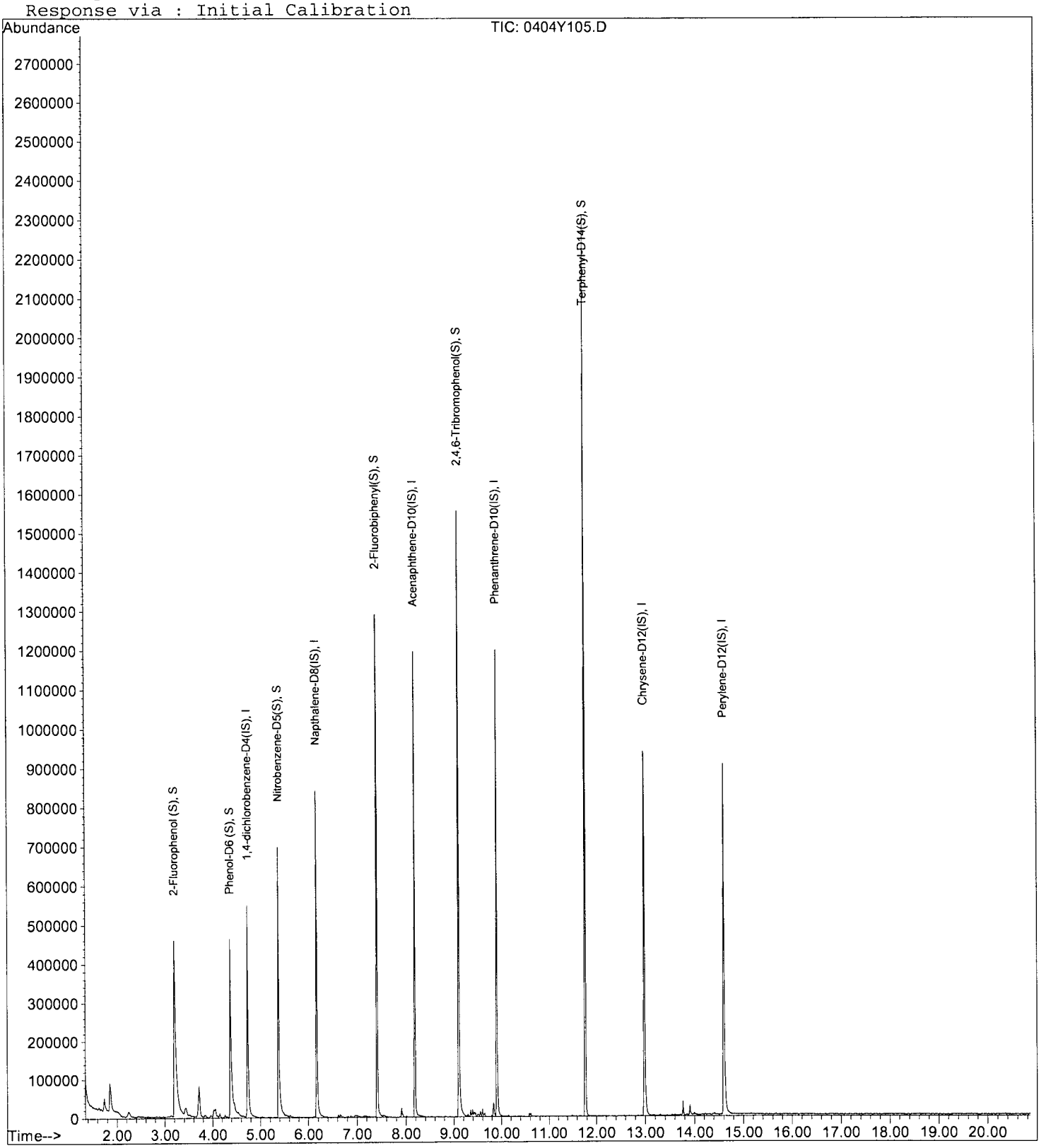
Data File : M:\YODA\DATA\Y170404\0404Y105.D
Acq On : 14 Apr 17 13:17
Sample : 170411B BLK 1/1000
Misc : water

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 14:56 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170411W-53260 LCS - 217898**
Batch ID: #87DC5-170411B

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	19.7	39.4	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	131	65.5	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	58.6	58.6	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	95.2	47.6	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	67.8	67.8	44-120
SURROGATE: PHENOL-D6 (S)	200	65.1	32.5	10-115
SURROGATE: TERPHENYL-D14 (S)	100	67.7	67.7	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/11/17
Analysis Date :	04/14/17
Instrument :	Yoda
Run :	0404Y106
Initials :	MA

Printed: 04/17/17 10:07:57 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y106.D
Acq On : 14 Apr 17 13:47
Sample : 170411B LCS-1 1/1000
Misc : water

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 14:11 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	133613	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	541529	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	318711	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	577857	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	569215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	505671	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	409006	95.18254 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.592%	
5) Phenol-D6 (S)	4.37	99	350095	65.08631 ppb	0.00
Spiked Amount 200.000			Recovery	= 32.543%	
21) Nitrobenzene-D5(S)	5.37	82	379917	67.76520 ppb	0.00
Spiked Amount 100.000			Recovery	= 67.765%	
45) 2-Fluorobiphenyl(S)	7.41	172	585477	58.58922 ppb	0.00
Spiked Amount 100.000			Recovery	= 58.589%	
63) 2,4,6-Tribromophenol(S)	9.11	330	186842	130.80384 ppb	0.00
Spiked Amount 200.000			Recovery	= 65.402%	
81) Terphenyl-D14(S)	11.77	244	814707	67.70532 ppb	0.00
Spiked Amount 100.000			Recovery	= 67.705%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.69	42	107060	22.43659 ppb		88
3) Pyridine	1.70	79	97381	11.52553 ppb		85
6) Phenol	4.39	94	123181	19.72184 ppb	#	57
7) Aniline	4.38	66	147560	25.10506 ppb	#	67
8) Bis (2-chloroethyl) ether	4.45	63	110378	37.14453 ppb		98
9) 2-Chlorophenol	4.51	128	178136	36.11019 ppb		96
10) 1,3-DCB	4.67	146	95524	18.22834 ppb		99
11) 1,4-DCB	4.76	146	102172	19.03343 ppb		94
12) Benzyl alcohol	4.93	108	94501	33.03638 ppb		87
13) 1,2-DCB	4.93	146	104937	21.63304 ppb		96
14) 2-Methylphenol	5.07	107	125993	33.90650 ppb		94
15) Bis (2-chloroisopropyl) et	5.06	45	233805	36.75585 ppb	#	79
16) Acetophenone	5.21	105	240537	37.44183 ppb		95
17) 3&4-Methylphenol	5.24	107	312999	66.24637 ppb		95
18) n-Nitrosodi-n-propylamine	5.21	70	131009	37.53049 ppb		94
19) Hexachloroethane	5.29	117	35136	15.76925 ppb		96
22) Nitrobenzene	5.40	77	200029	35.71434 ppb		91
23) Isophorone	5.67	82	358067	38.90528 ppb		93
24) 2-Nitrophenol	5.75	139	100618	37.29598 ppb		88
25) 2,4-Dimethylphenol	5.83	122	145220	33.88881 ppb		87
26) Benzoic acid	5.99	105	46680	15.52860 ppb		97
27) Bis (2-chloroethoxy) metha	5.92	93	202156	37.67057 ppb		98
28) 2,4-Dichlorophenol	6.04	162	150457	36.25674 ppb		93
29) 1,2,4-Trichlorobenzene	6.12	180	107693	24.02843 ppb		97
30) 3,4-Dimethylphenol	6.16	107	217142	34.70365 ppb		100
31) Naphthalene	6.19	128	412271	29.30939 ppb		99
32) 4-Chloroaniline	6.28	127	190257	40.35048 ppb		94
33) 2,6-Dichlorophenol	6.28	162	140847	38.55365 ppb		95
34) Hexachloropropene	6.29	213	48673	14.72040 ppb		98
35) Hexachlorobutadiene	6.33	225	46091	16.75524 ppb		99
36) Caprolactum	6.69	55	28845	12.66325 ppb	#	84
37) 4-Chloro-3-methylphenol	6.86	107	167092	36.97690 ppb		89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y106.D Vial: 6
Acq On : 14 Apr 17 13:47 Operator: MA
Sample : 170411B LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 14:11 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 12:56:29 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	2-Methylnaphthalene	6.99	142	288413	29.55819	ppb		99
39)	1-Methylnaphthalene	7.10	142	290402	30.84270	ppb		100
41)	Hexachlorocyclopentadiene	7.16	237	18383	18.03047	ppb		95
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	133734	31.21895	ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	104439	36.84387	ppb		95
44)	2,4,5-Trichlorophenol	7.39	196	116085	39.45624	ppb		91
46)	1,1'-Biphenyl	7.53	154	405466	34.57453	ppb		98
47)	2-Chloronaphthalene	7.54	162	304102	33.21484	ppb		97
48)	2-Nitroaniline	7.69	65	122572	38.62612	ppb		92
49)	Dimethyl phthalate	7.90	163	443467	40.47891	ppb		99
50)	2,6-DNT	7.98	165	96330	38.23183	ppb		97
51)	Acenaphthylene	8.02	152	504346	34.86024	ppb		99
52)	3-Nitroaniline	8.18	138	98891	38.17600	ppb	#	97
53)	Acenaphthene	8.22	154	317491	35.95915	ppb		98
54)	2,4-Dinitrophenol	8.33	184	43634	32.42964	ppb		96
55)	4-Nitrophenol	8.42	65	3918	8.77999	ppb	#	61
56)	Dibenzofuran	8.43	168	465562	37.69108	ppb		84
57)	2,4-DNT	8.45	165	135435	40.33111	ppb		100
58)	2,3,4,6-Tetrachlorophenol	8.58	232	90625	37.86362	ppb	#	86
59)	Diethyl phthalate	8.71	149	412175	36.80064	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.83	204	174978	35.81481	ppb		96
61)	Fluorene	8.82	166	358209	36.01269	ppb		99
62)	4-Nitroaniline	8.89	138	98127	39.21965	ppb		98
65)	4,6-Dinitro-2-methylphenol	8.94	198	78327	37.62620	ppb		95
66)	Diphenyl amine	8.97	169	579395	76.67622	ppb		100
67)	n-Nitrosodiphenylamine	8.97	169	579395	76.67622	ppb		100
68)	1,2-Diphenylhydrazine	9.01	77	577405	45.25600	ppb		97
69)	4-Bromophenyl phenyl ether	9.39	248	112267	39.66131	ppb		93
70)	Hexachlorobenzene	9.47	284	120685	41.98165	ppb		91
71)	Atrazine	9.61	200	44927	14.75532	ppb		97
72)	Pentachlorophenol	9.72	266	54448	44.81109	ppb		94
73)	Phenanthrene	9.93	178	601756	40.50060	ppb		99
74)	Anthracene	10.00	178	631578	40.29597	ppb		99
75)	Carbazol	10.20	167	576217	41.70420	ppb		100
76)	Di-n-butylphthalate	10.61	149	743547	41.37948	ppb		99
77)	Fluoranthene	11.31	202	679097	41.50131	ppb		98
79)	Benzidine	11.51	184	73564	14.62898	ppb		99
80)	Pyrene	11.57	202	713827	40.67375	ppb		99
82)	Butyl benzylphthalate	12.34	149	344253	40.37605	ppb		82
83)	3,3'-Dichlorobenzidine	12.96	252	192740	34.88420	ppb	#	95
84)	Benz (a) anthracene	12.98	228	655192	39.93692	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	455860	38.14818	ppb		98
86)	Chrysene	13.01	228	607099	37.80053	ppb		99
87)	Di-n-octylphthalate	13.73	149	859683	40.91755	ppb		96
89)	Benzo (b) fluoranthene	14.16	252	669264	39.50897	ppb		95
90)	Benzo (k) fluoranthene	14.19	252	705141	44.02827	ppb		98
91)	Benzo (a) pyrene	14.54	252	648664	41.62190	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.10	276	716684	39.82401	ppb		99
93)	Dibenz (a,h) anthracene	16.11	278	623257	41.02367	ppb		97
94)	Benzo (g,h,i) perylene	16.54	276	612499	40.31498	ppb		98

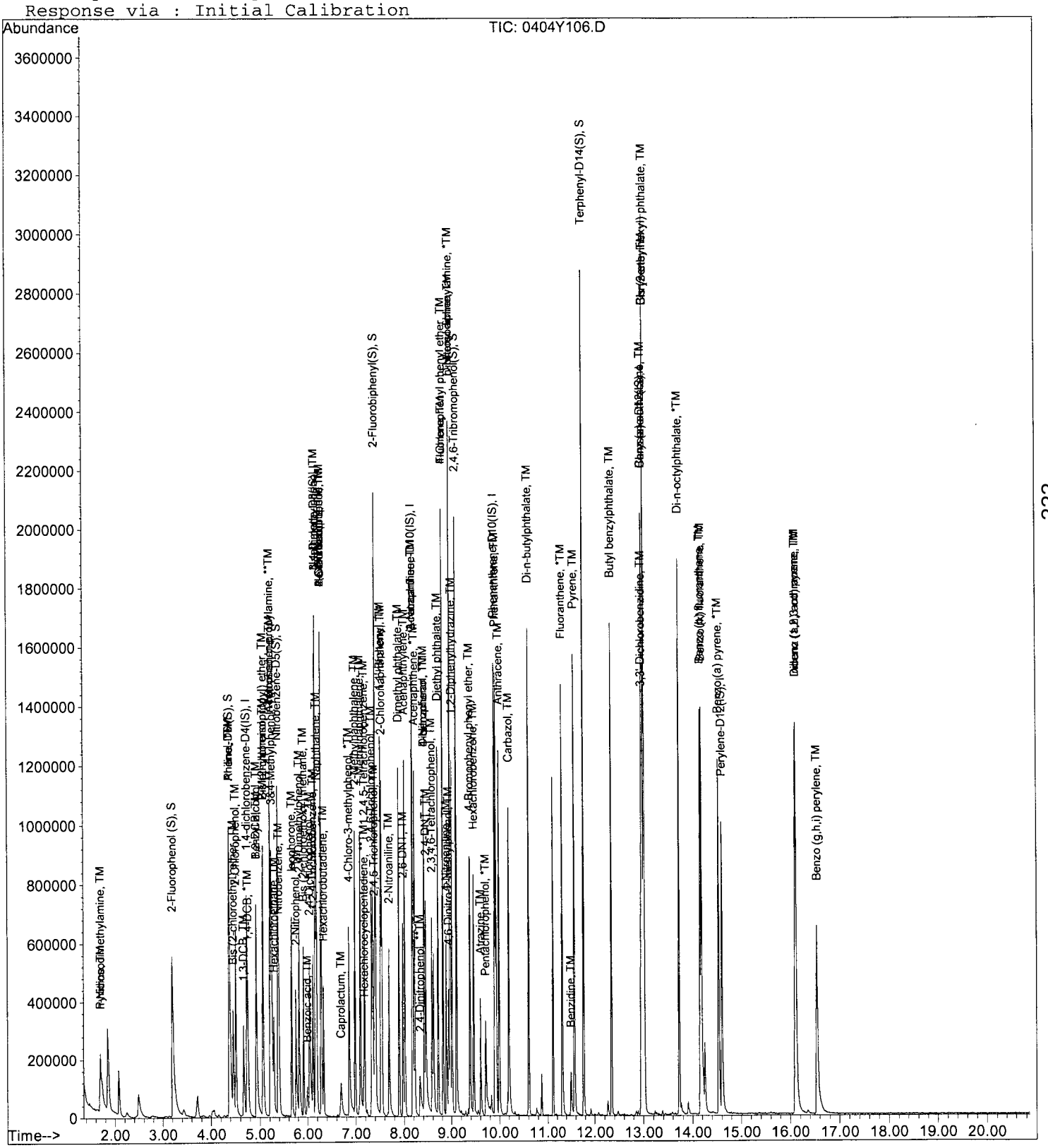
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y106.D Vial: 6
Acq On : 14 Apr 17 13:47 Operator: MA
Sample : 170411B LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 14 14:11 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Mon Apr 17 08:48:24 2017
Response via : Initial Calibration

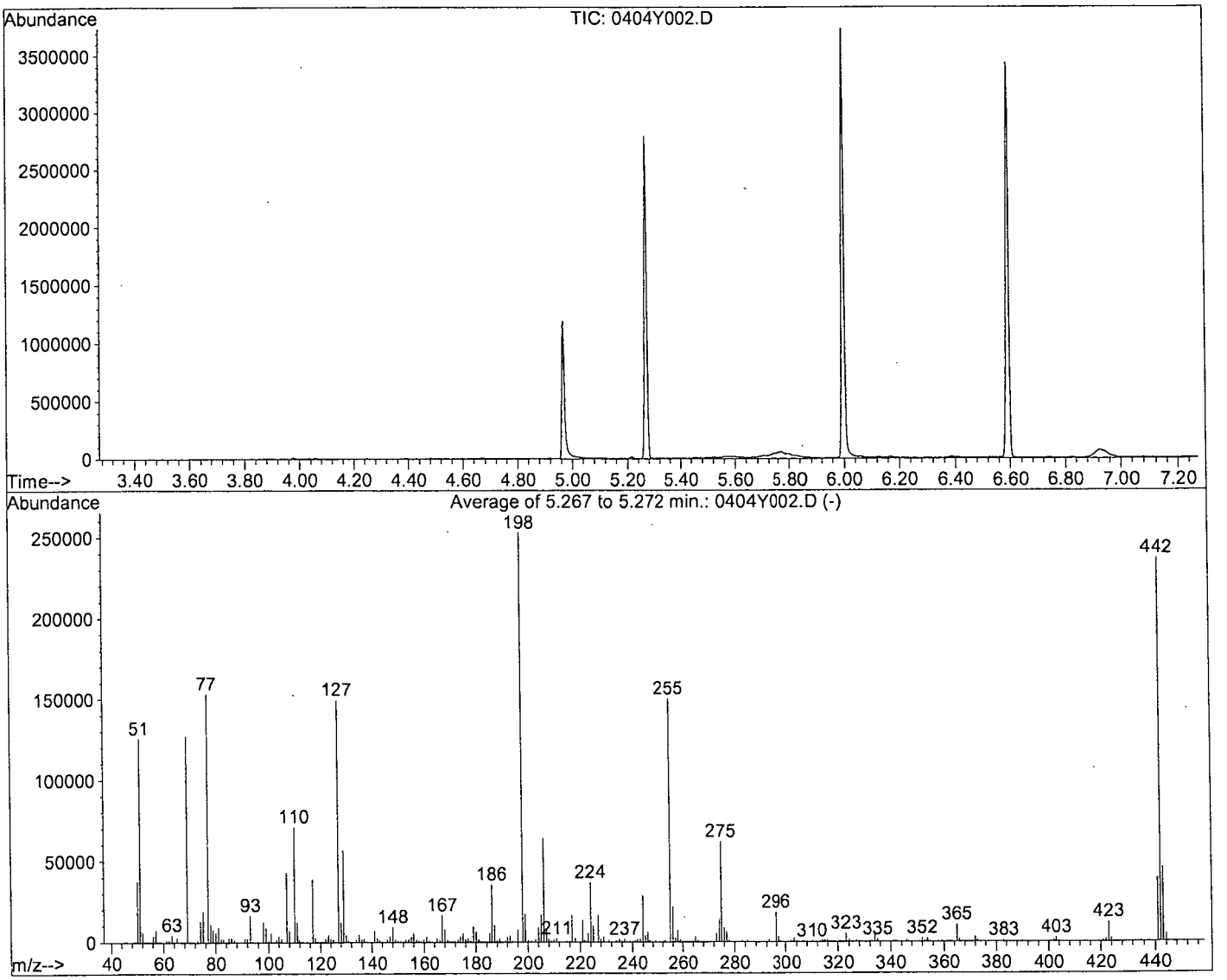


333

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D Vial: 2
Acq On : 4 Apr 17 8:25 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

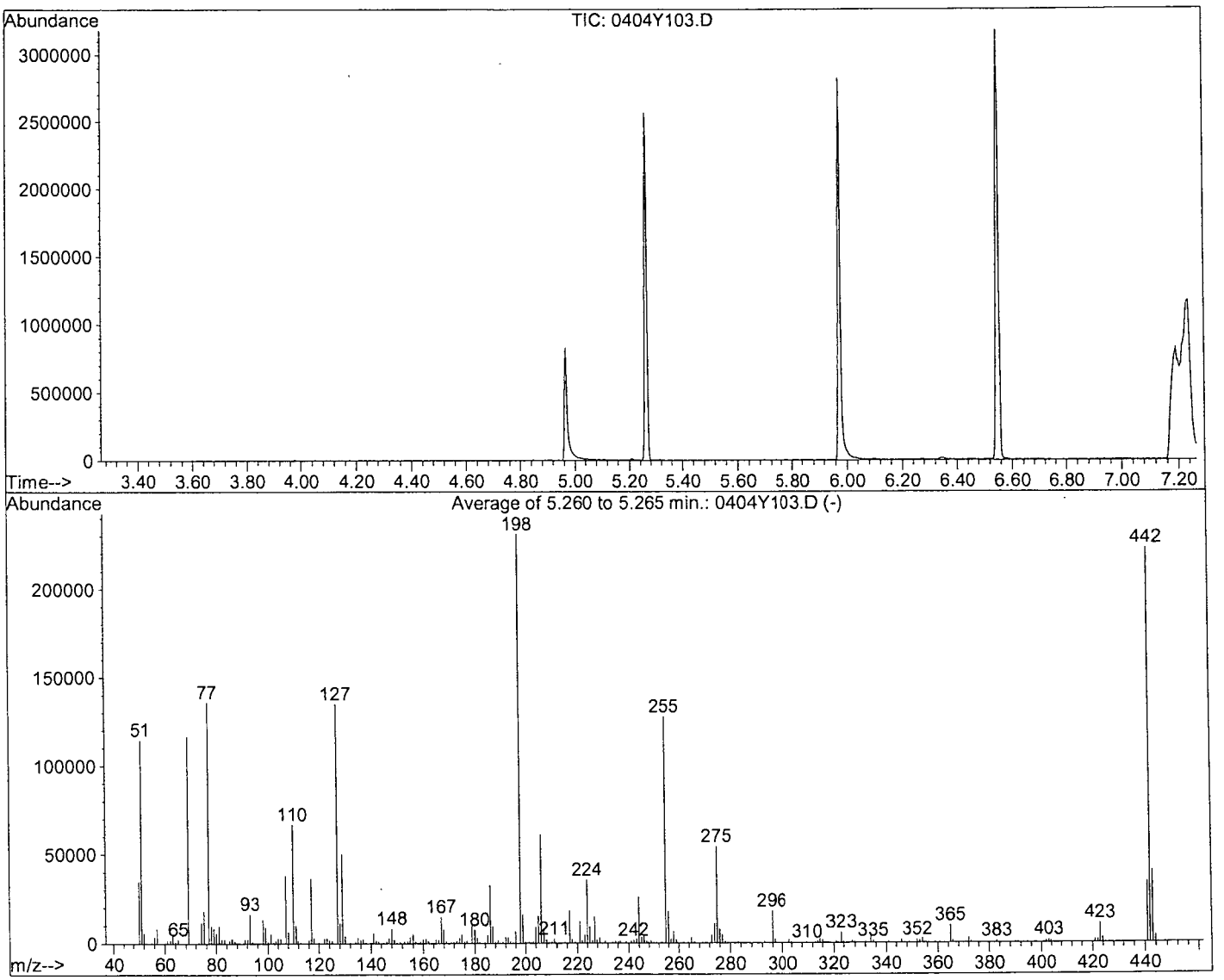
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

0404Y002.D Y0404.M Tue Apr 04 09:40:31 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y103.D Vial: 3
Acq On : 14 Apr 17 12:18 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : water Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 669, 670, 671; Background Corrected with Scan 662

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	114522	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	451	PASS
127	198	40	60	58.3	134893	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	231381	PASS
199	198	5	9	7.0	16119	PASS
275	198	10	30	23.4	54227	PASS
365	198	1	100	4.2	9816	PASS
441	443	0.01	100	84.2	34445	PASS
442	198	50	150	96.4	223083	PASS
443	442	17	23	18.3	40899	PASS

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
μL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170411B	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 EXP 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 EXP 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/11/17 18:30
Spiked ID 8			Ext. End Time:	04/13/17 11:30
			GC Requires Extract By:	**04/13/17 0:00**

pH1	2	04/11/17 6:45:00 PM	Water Bath Temp Criteria	72 °C
pH2	14	04/12/17 3:40:00 PM		
pH3				

Spiked By: KY **Date** 04/11/17 **Witnessed By:** RH **Date** 04/11/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170411B Blk				1	1	1000	1	2/1	04/11/17 18:30	
						equip	e-wb6				
2	170411B LCS-1		0.250	1	1	1	1000	1	2/1	04/11/17 18:30	
						equip	E-WB6				
3	AZ53260	AZ53260W14			1	1	1000	1	2/1	04/11/17 18:30	82611
						equip	E-WB6				
4	AZ53261	AZ53261W08			1	1	1000	1	2/1	04/11/17 18:30	82611
						equip	E-WB6				
5	AZ53263	AZ53263W09			1	1	1040	1	2/1	04/11/17 18:30	82611
						equip	E-WB6				
6	AZ53264	AZ53264W10			1	1	1060	1	2/1	04/11/17 18:30	82611
						equip	E-WB6				
7	AZ53266	AZ53266W10			1	1	1070	1	2/1	04/11/17 18:30	82611
						equip	E-WB6				

KY 4/13/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-27-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16c255214
10N NaOH	4-12-17
ph strips	hc 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/13/17
Time	2:30
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/13/17 12:13:45 PM

Reviewed By: KY **Date** 4/13/17

345

Injection Log

Directory: M:\YODA\DATA\Y170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
2	3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
3	4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
4	5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
5	6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
6	7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
7	8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
8	9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
9	10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
10	12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
11	3	0404Y103.D	1	SV Tune 03/29/17	water	14 Apr 17 12:18
12	4	0404Y104.D	1	50ug/ml SVOC 03/30/17	water	14 Apr 17 12:40
13	5	0404Y105.D	1	170411B BLK 1/1000	water	14 Apr 17 13:17
14	6	0404Y106.D	1	170411B LCS-1 1/1000	water	14 Apr 17 13:47
15	7	0404Y107.D	1	AZ53260W14 1/1000	water	14 Apr 17 14:17
16	8	0404Y108.D	1	AZ53261W08 1/1000	water	14 Apr 17 14:48
17	9	0404Y109.D	0.961538	AZ53263W09 1/1040	water	14 Apr 17 15:18
18	10	0404Y110.D	0.9434	AZ53264W10 1/1060	water	14 Apr 17 15:48
19	11	0404Y111.D	0.93458	AZ53266W10 1/1070	water	14 Apr 17 16:19
20	16	0404Y116.D	1	50ug/ml SVOC 03/30/17	water	14 Apr 17 18:50

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.
Run #: 0413Y013
Instrument: Yoda
Sequence: Y170413G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:13:53 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:13:54 AM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER
Blank ID: 170410A-BLK

SDG No: 82611
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 1648

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A-BLK	Blank	0413Y013	04/13/17 1648
170410A-LCS	Lab Control Spike	0413Y014	04/13/17 1718
AZ53260	ERH297	0413Y044	04/14/17 0839
AZ53261	ERH298	0413Y045	04/14/17 0909
AZ53263	ERH321	0413Y046	04/14/17 0939
AZ53264	ERH289	0413Y047	04/14/17 1009
AZ53266	ERH303	0413Y048	04/14/17 1039

Comments: Batch: #87DME-170410A

Printed: 04/14/17 11:13:57 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 9:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 04/12/17	0413Y003.D	04/13/17 9:57
2		100ug/ml DEG 04/12/	0413Y004.D	04/13/17 10:27
3		200ug/ml DEG 04/12/	0413Y005.D	04/13/17 10:57
4		400ug/ml DEG 04/12/	0413Y006.D	04/13/17 11:27
5		500ug/ml DEG 04/12/	0413Y007.D	04/13/17 11:57
6		600ug/ml DEG 04/12/	0413Y008.D	04/13/17 14:02
7		800ug/ml DEG 04/12/	0413Y009.D	04/13/17 14:32
8		1000ug/ml DEG 04/12	0413Y010.D	04/13/17 15:03
9		SS2 DEG 04/12/17	0413Y011.D	04/13/17 16:03
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	57.7
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	23.7
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	78.5
442	50 - 150% of mass 197.95	92.2
443	17 - 23% of mass 442	21.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82611
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 16:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170410A BLK 2/500	0413Y013.D	04/13/17 16:48
2	Lab Control Spike	170410A LCS-1 2/500	0413Y014.D	04/13/17 17:18
3		500ug/ml DEG 04/12/	0413Y034.D	04/14/17 3:17
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.5
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	82.4
442	50 - 150% of mass 198	107.2
443	17 - 23% of mass 442	20.3

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82611
Date Analyzed: 04/14/17
Instrument: Yoda
Time Analyzed: 7:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		500ug/ml DEG 04/12/	0413Y043.D	04/14/17 8:09
2	ERH297	AZ53260W12 2/500	0413Y044.D	04/14/17 8:39
3	ERH298	AZ53261W10 2/500	0413Y045.D	04/14/17 9:09
4	ERH321	AZ53263W14 2/500	0413Y046.D	04/14/17 9:39
5	ERH289	AZ53264W05 2/500	0413Y047.D	04/14/17 10:09
6	ERH303	AZ53266W09 2/500	0413Y048.D	04/14/17 10:39
7		500ug/ml DEG 04/12/	0413Y049.D	04/14/17 11:09
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	47.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.2
127	40 - 60% of mass 198	59.0
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	7.1
275	10 - 30% of mass 198	25.6
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	81.3
442	50 - 150% of mass 198	107.2
443	17 - 23% of mass 442	19.4

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82611

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	122737	4.75	501978	6.17	280837	8.19
UPPER LIMIT	245474	5.25	1003956	6.67	561674	8.69
LOWER LIMIT	61369	4.25	250989	5.67	140419	7.69
SAMPLE NO.						
SS2 DEG 04/12/17	162431	4.75	673923	6.17	377854	8.18
170410A BLK 2/500	105668	4.76	467112	6.17	267815	8.18
170410A LCS-1 2/500	108150	4.75	455829	6.17	255413	8.18
500ug/ml DEG 04/12/17	98346	4.75	427367	6.17	247654	8.18
500ug/ml DEG 04/12/17	98703	4.74	435596	6.17	249822	8.18
AZ53260W12 2/500	104588	4.76	469892	6.17	267517	8.18
AZ53261W10 2/500	104514	4.75	468351	6.17	270414	8.18
AZ53263W14 2/500	107958	4.74	485354	6.17	280012	8.18
AZ53264W05 2/500	107987	4.75	492983	6.17	278668	8.18
AZ53266W09 2/500	107969	4.76	495203	6.17	279638	8.18
500ug/ml DEG 04/12/17	94389	4.75	429554	6.17	249693	8.18

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82611

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)		
		AREA #	RT #	AREA #	RT #	AREA #	RT #	
	12 HOUR STD	503114	9.90	470744	12.99	813583	14.60	
	UPPER LIMIT	1006228	10.40	941488	13.49	1627166	15.10	
	LOWER LIMIT	251557	9.40	235372	12.49	406792	14.10	
	SAMPLE NO.							
01	SS2 DEG 04/12/17	682182	9.90	642948	12.98	796953	14.61	
02	170410A BLK 2/500	499187	9.90	471654	12.98	418040	14.60	
03	170410A LCS-1 2/500	474128	9.90	448616	12.99	413196	14.60	
04	500ug/ml DEG 04/12/17	446090	9.90	419492	12.98	436159	14.60	not aplicable to target analyte HA 4/28/17
06	500ug/ml DEG 04/12/17	450253	9.90	414201	12.98	390199 *	14.60	
07	AZ53260W12 2/500	502846	9.90	477208	12.98	457922	14.60	
08	AZ53261W10 2/500	501558	9.90	464412	12.99	378376 *	14.60	
09	AZ53263W14 2/500	515237	9.90	491608	12.98	553399	14.60	
10	AZ53264W05 2/500	532650	9.90	504025	12.99	620435	14.60	
11	AZ53266W09 2/500	526450	9.90	516711	12.98	683744	14.60	
12	500ug/ml DEG 04/12/17	458485	9.91	429907	12.98	404265 *	14.60	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y044
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:13:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y044.D Vial: 44
Acq On : 14 Apr 17 8:39 Operator: MA
Sample : AZ53260W12 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 9:12 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	104588	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	469892	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	267517	40.00000 ppb	-0.01
5) Phenanthrene-D10(IS)	9.90	188	502846	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	477208	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	457922	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

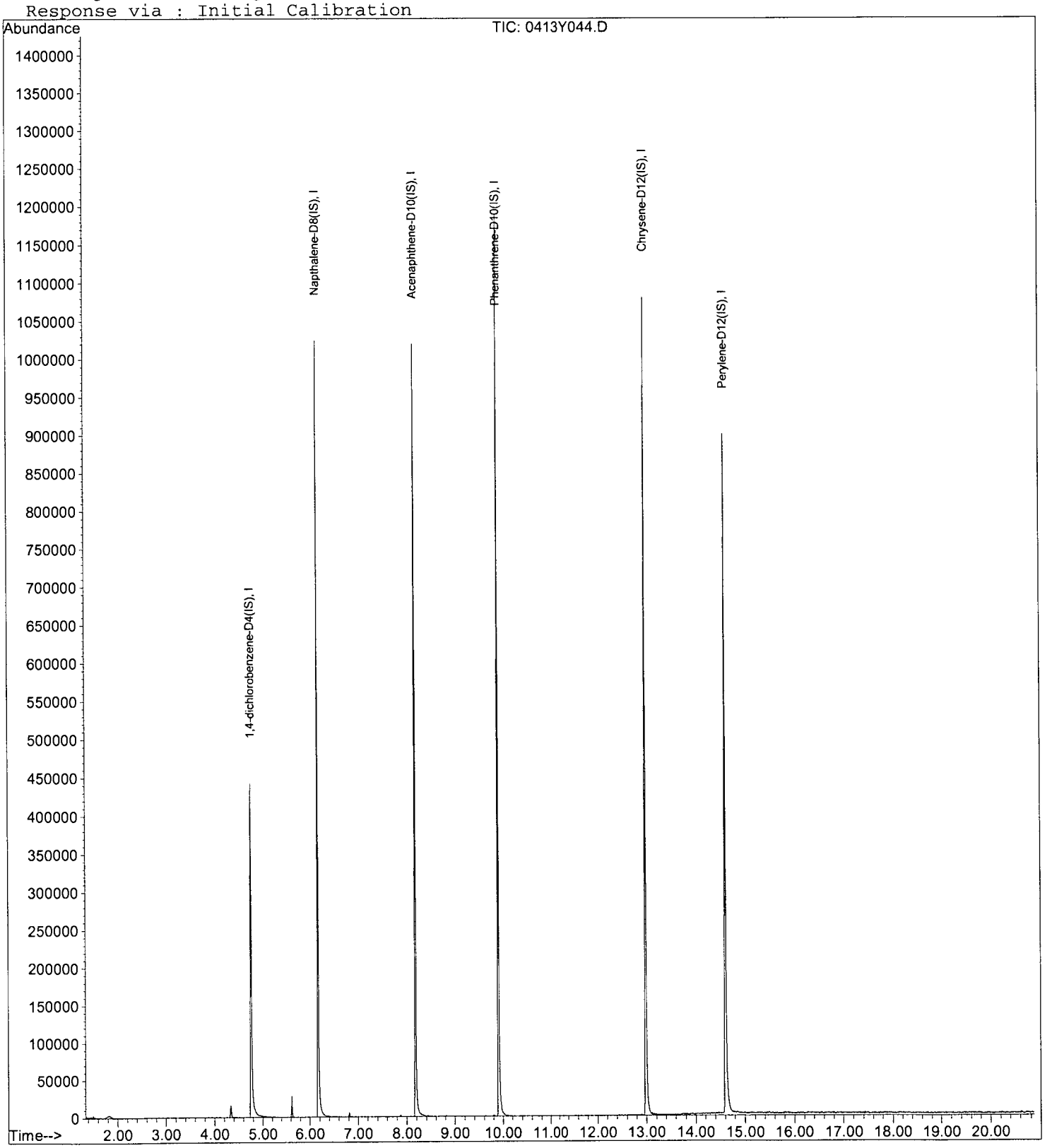
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y044.D Vial: 44
Acq On : 14 Apr 17 8:39 Operator: MA
Sample : AZ53260W12 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 9:12 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y045
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:13:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y045.D Vial: 45
Acq On : 14 Apr 17 9:09 Operator: MA
Sample : AZ53261W10 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	104514	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	468351	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	270414	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	501558	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	464412	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	378376	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

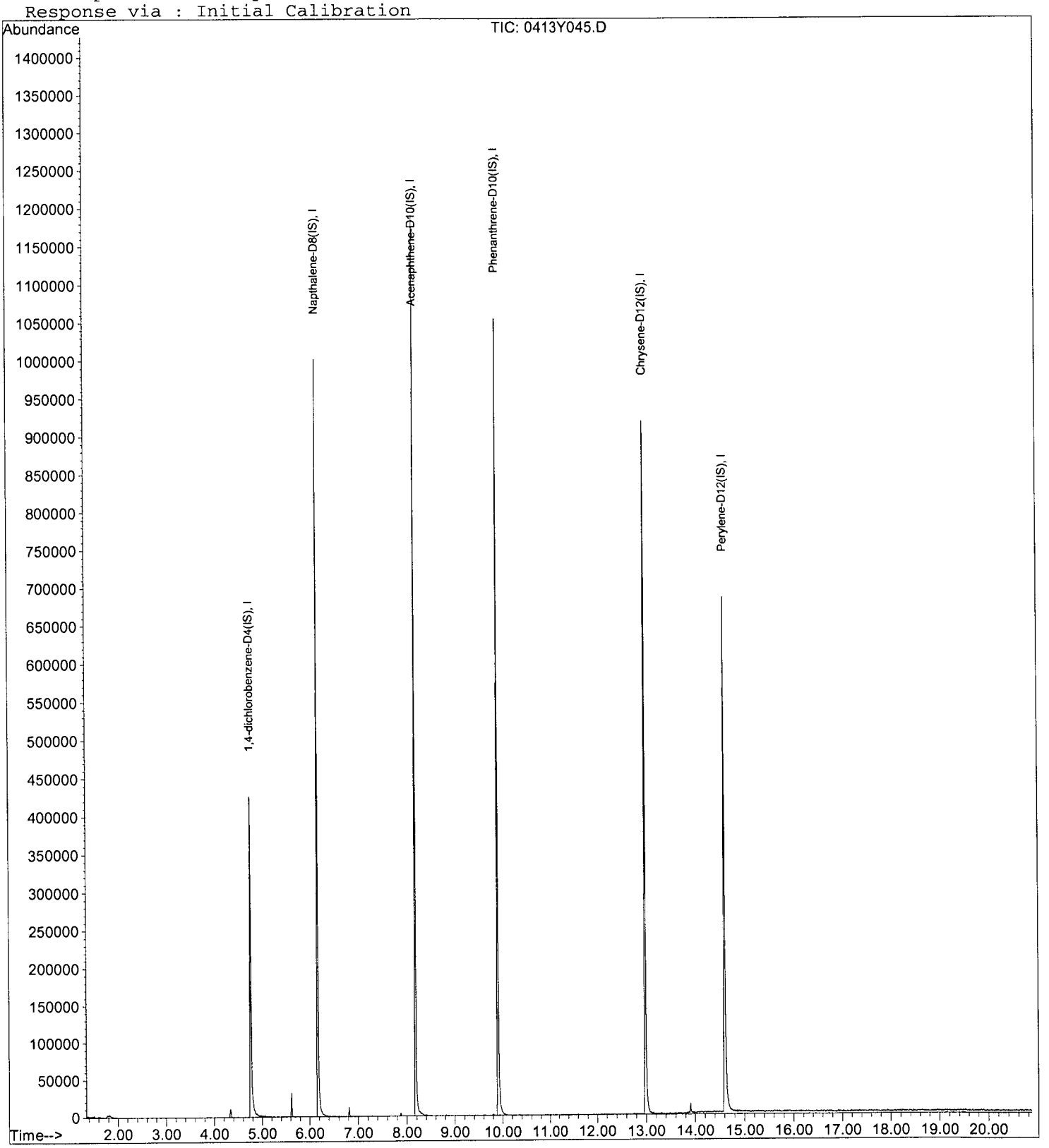
Data File : M:\YODA\DATA\Y170413G\0413Y045.D
Acq On : 14 Apr 17 9:09
Sample : AZ53261W10 2/500
Misc :

Vial: 45
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 10:28 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y046
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:13:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y046.D
Acq On : 14 Apr 17 9:39
Sample : AZ53263W14 2/500
Misc :

Vial: 46
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 10:29 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	107958	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	485354	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	280012	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	515237	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	491608	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	553399	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

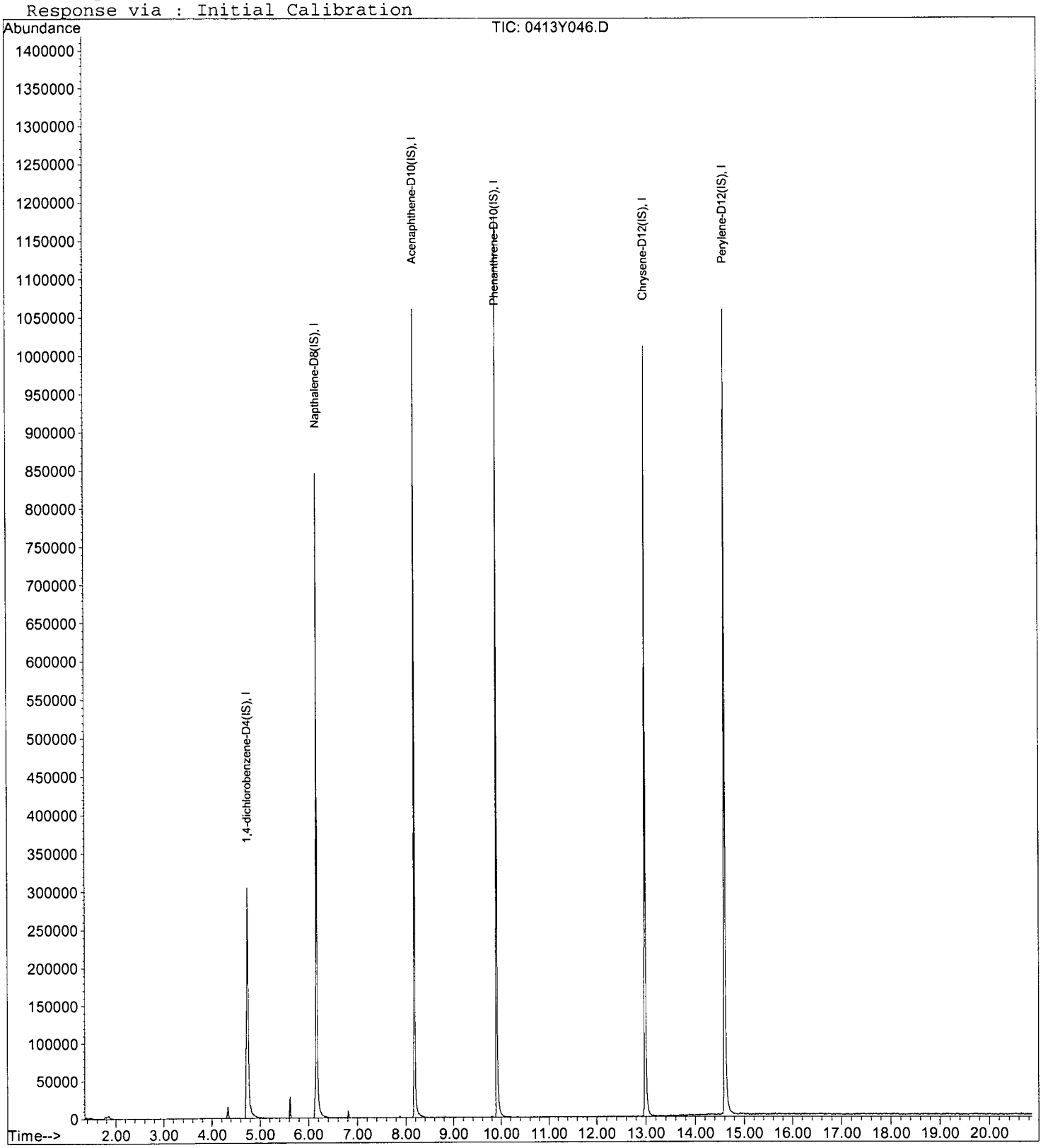
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y046.D Vial: 46
Acq On : 14 Apr 17 9:39 Operator: MA
Sample : AZ53263W14 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:29 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH289
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53264
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y047
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:13:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y047.D Vial: 47
Acq On : 14 Apr 17 10:09 Operator: MA
Sample : AZ53264W05 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:29 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	107987	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	492983	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	278668	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	532650	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	504025	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	620435	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

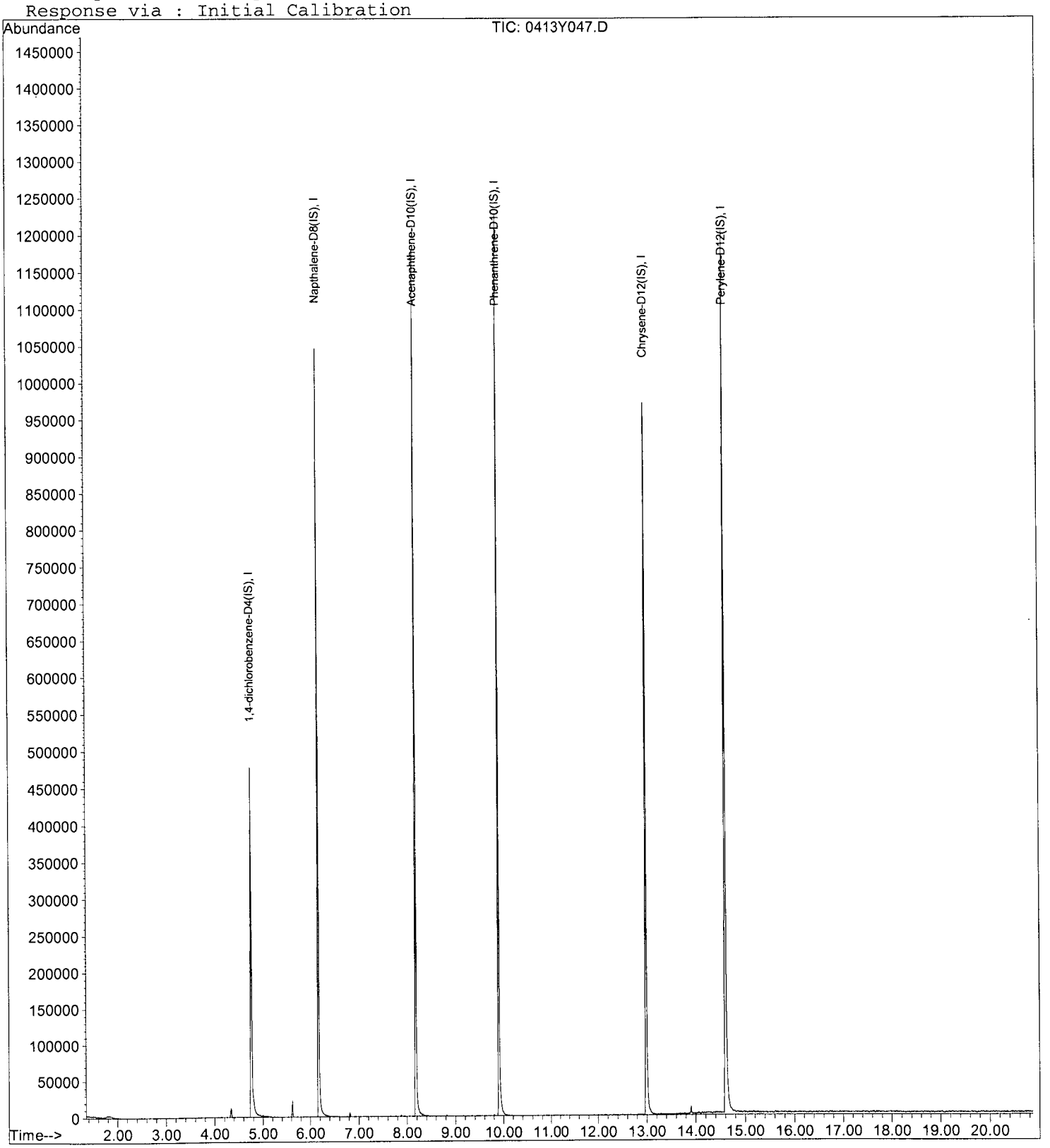
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y047.D Vial: 47
Acq On : 14 Apr 17 10:09 Operator: MA
Sample : AZ53264W05 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:29 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/14/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y048
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:13:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y048.D Vial: 48
Acq On : 14 Apr 17 10:39 Operator: MA
Sample : AZ53266W09 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:57 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	107969	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	495203	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	279638	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	526450	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	516711	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	683744	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

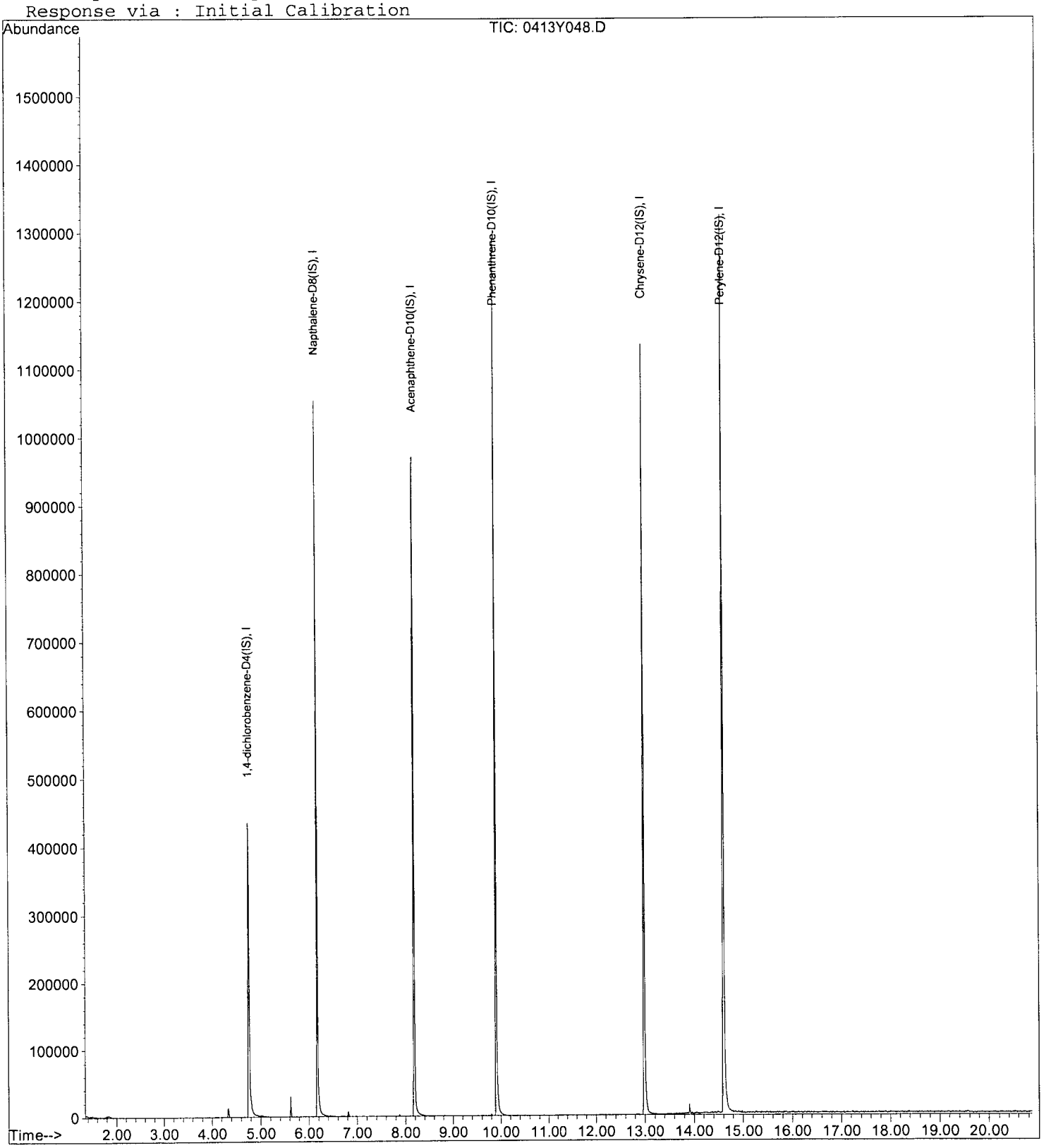
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y048.D Vial: 48
Acq On : 14 Apr 17 10:39 Operator: MA
Sample : AZ53266W09 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 10:57 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/13/17
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			0413Y003.D	0413Y004.D	0413Y005.D	0413Y006.D	0413Y007.D	0413Y008.D	0413Y009.D	0413Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol		0.1954	0.2196	0.2658	0.2711	0.2521	0.2727	0.2774			0.25	12	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
11																
12																
13																
14																
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34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 10:40:51 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	130198	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.16	136	560546	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	331589	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	606984	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	580372	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432171	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	9334	13.37349 ppb	100

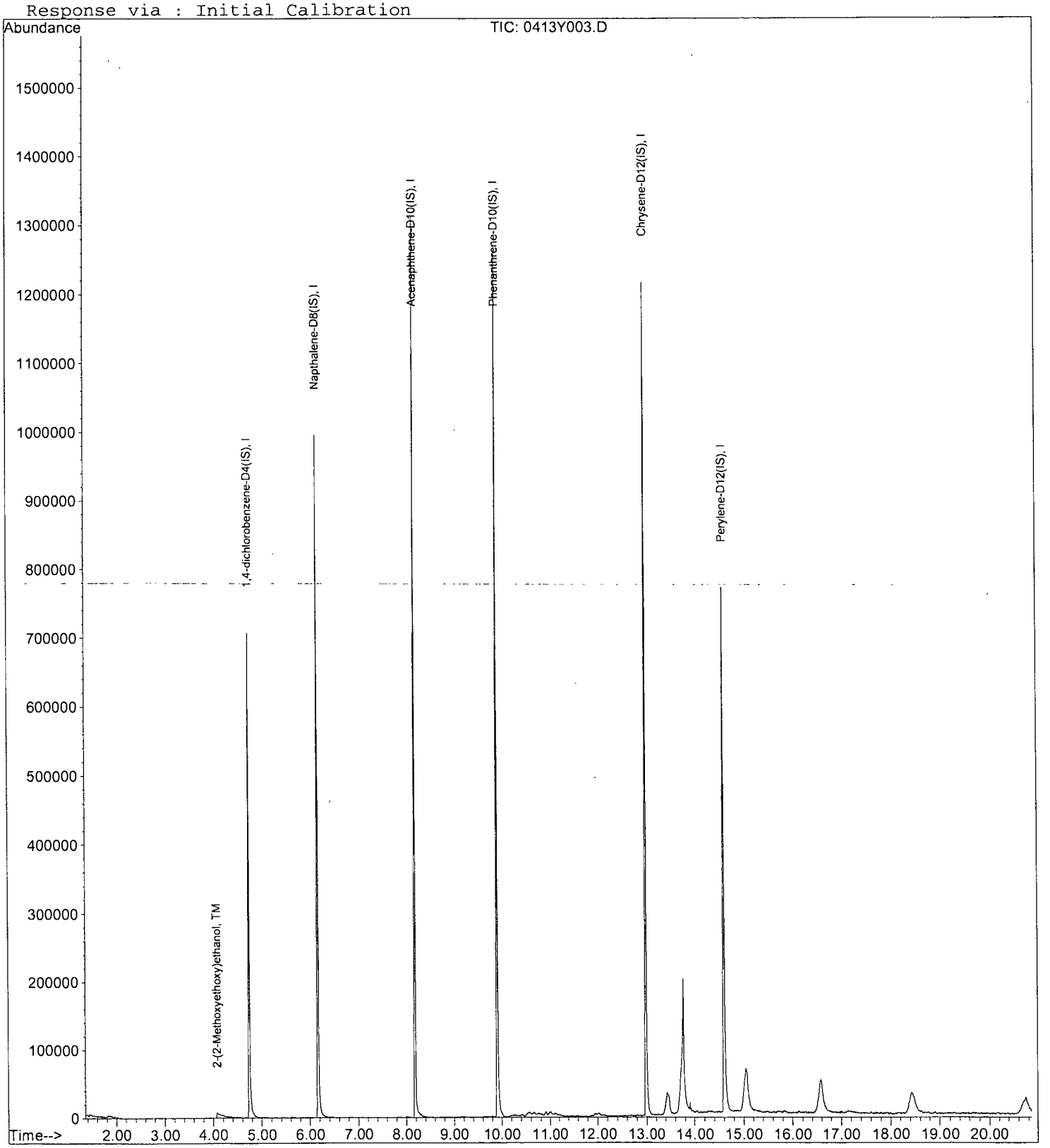
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	131544	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	575730	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	317779	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	590659	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	584988	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432757	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.01	45	64256	91.12217 ppb	100

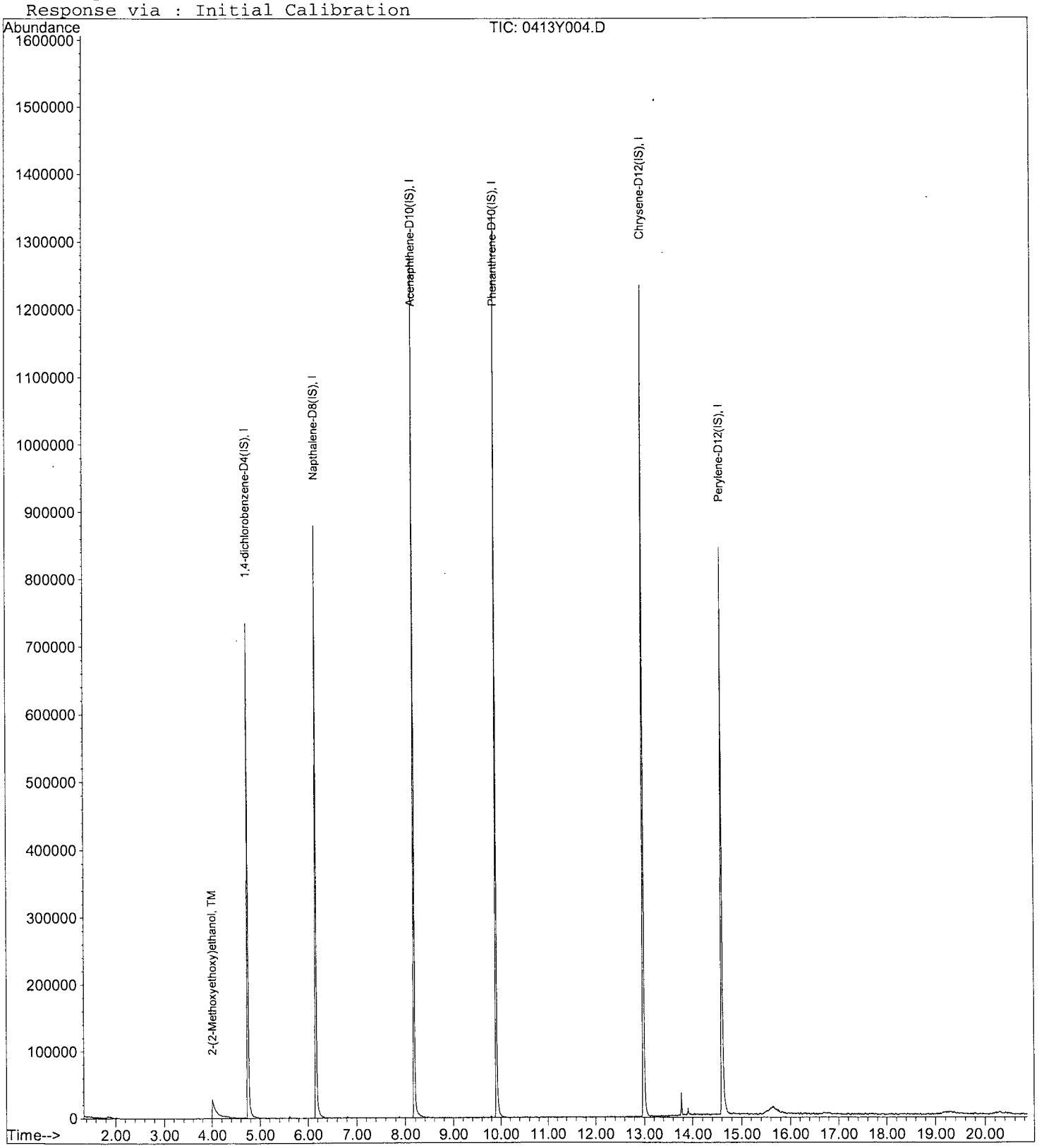
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	137332	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	563866	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	327772	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	620890	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	536915	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	1021814	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.96	45	150783	204.81514 ppb	92

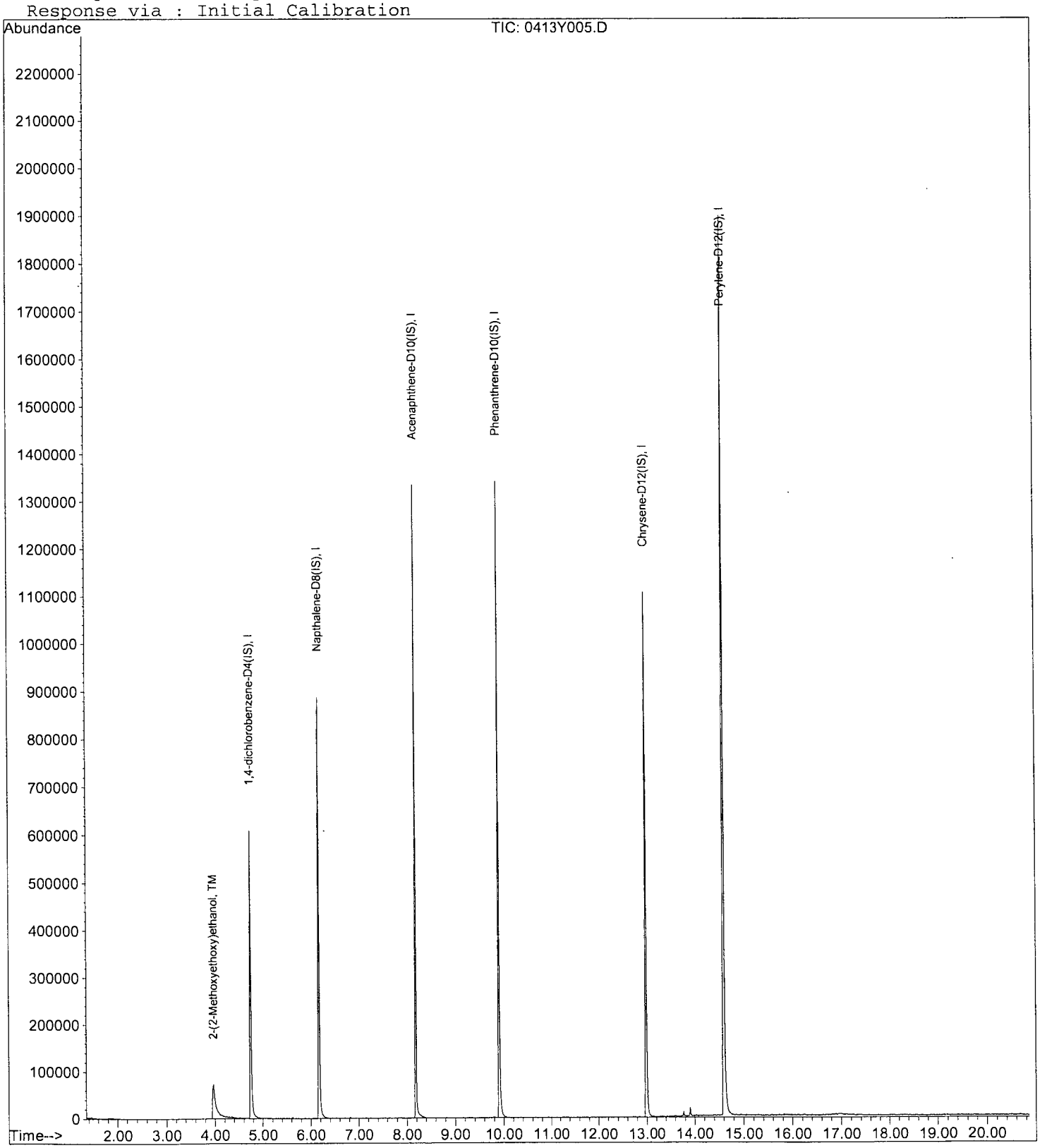
(#) = qualifier out of range (m) = manual integration
0413Y005.D Y0GLYCOL.M Fri Apr 14 07:33:40 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	126427	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	524180	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	276249	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	502431	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	485074	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413502	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	336087	495.89909 ppb	96

(#) = qualifier out of range (m) = manual integration
0413Y006.D Y0GLYCOL.M Fri Apr 14 07:33:43 2017

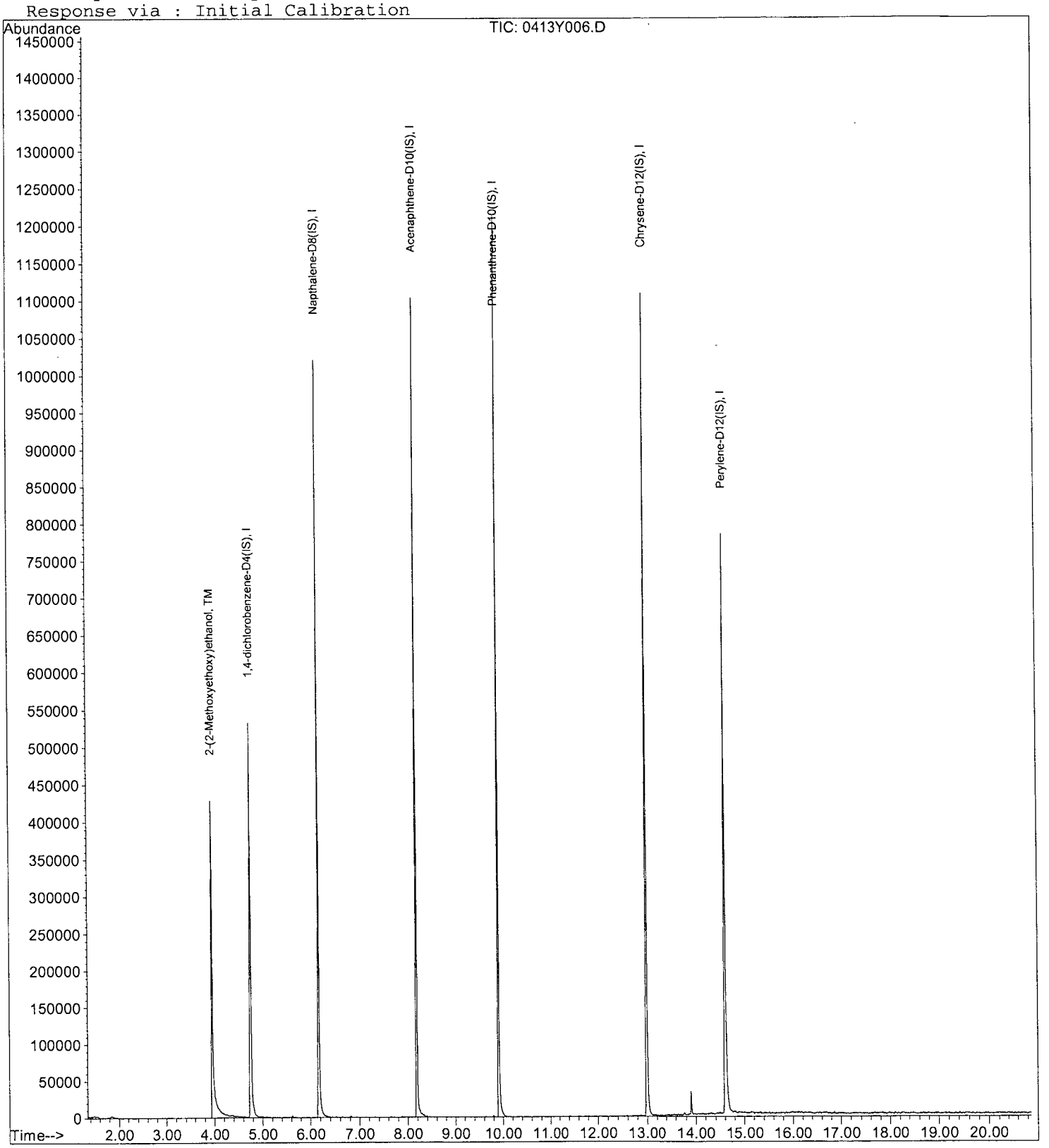
Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y006.D
Acq On : 13 Apr 17 11:27
Sample : 400ug/ml DEG 04/12/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 12:27:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	122737	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	501978	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	280837	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	503114	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	470744	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	813583	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	415857	632.04783 ppb	99

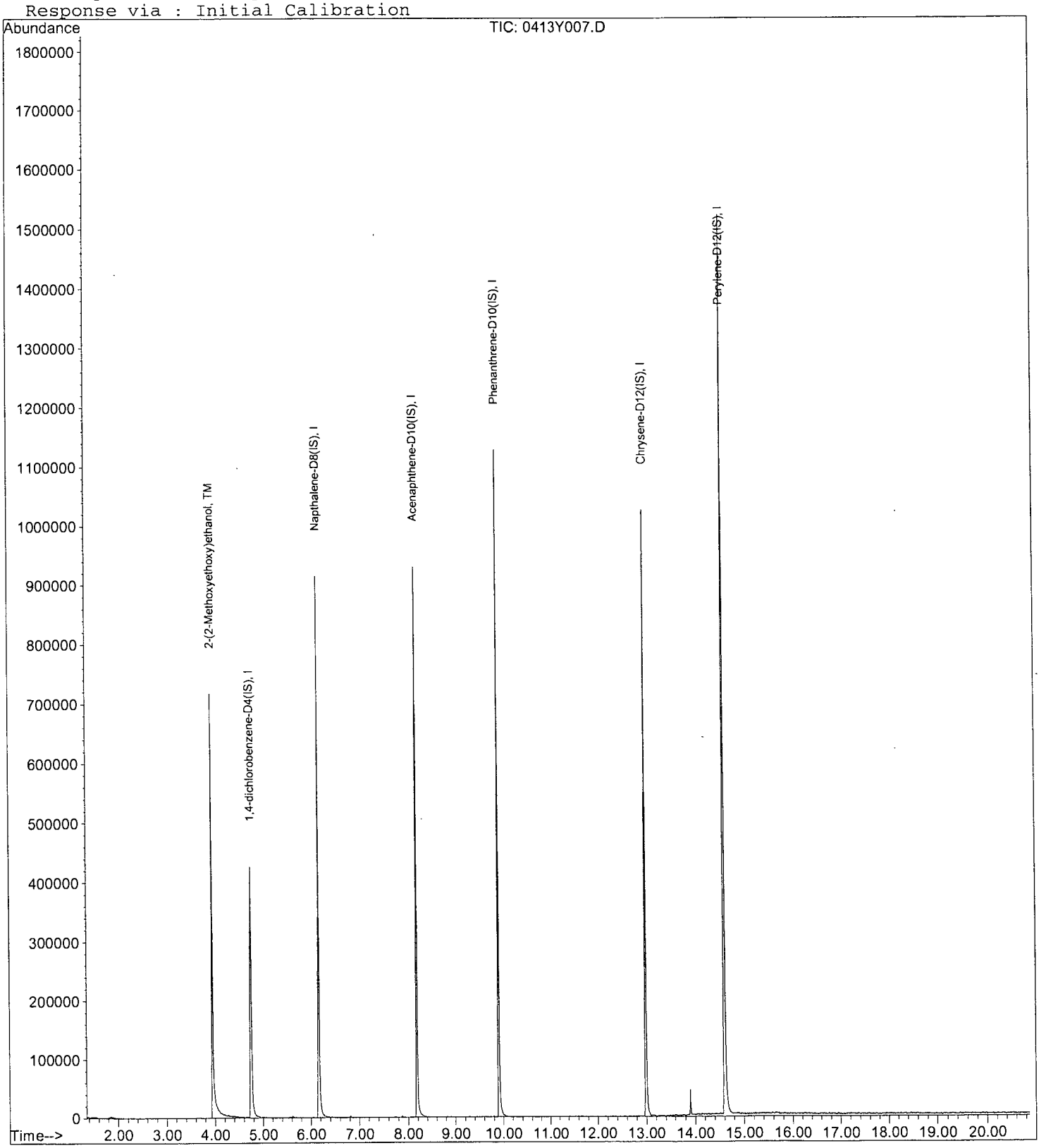
(#) = qualifier out of range (m) = manual integration
0413Y007.D Y0GLYCOL.M Fri Apr 14 07:33:47 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	130873	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	545700	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	307336	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	536034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	498537	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432724	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	494979	572.20714 ppb	99

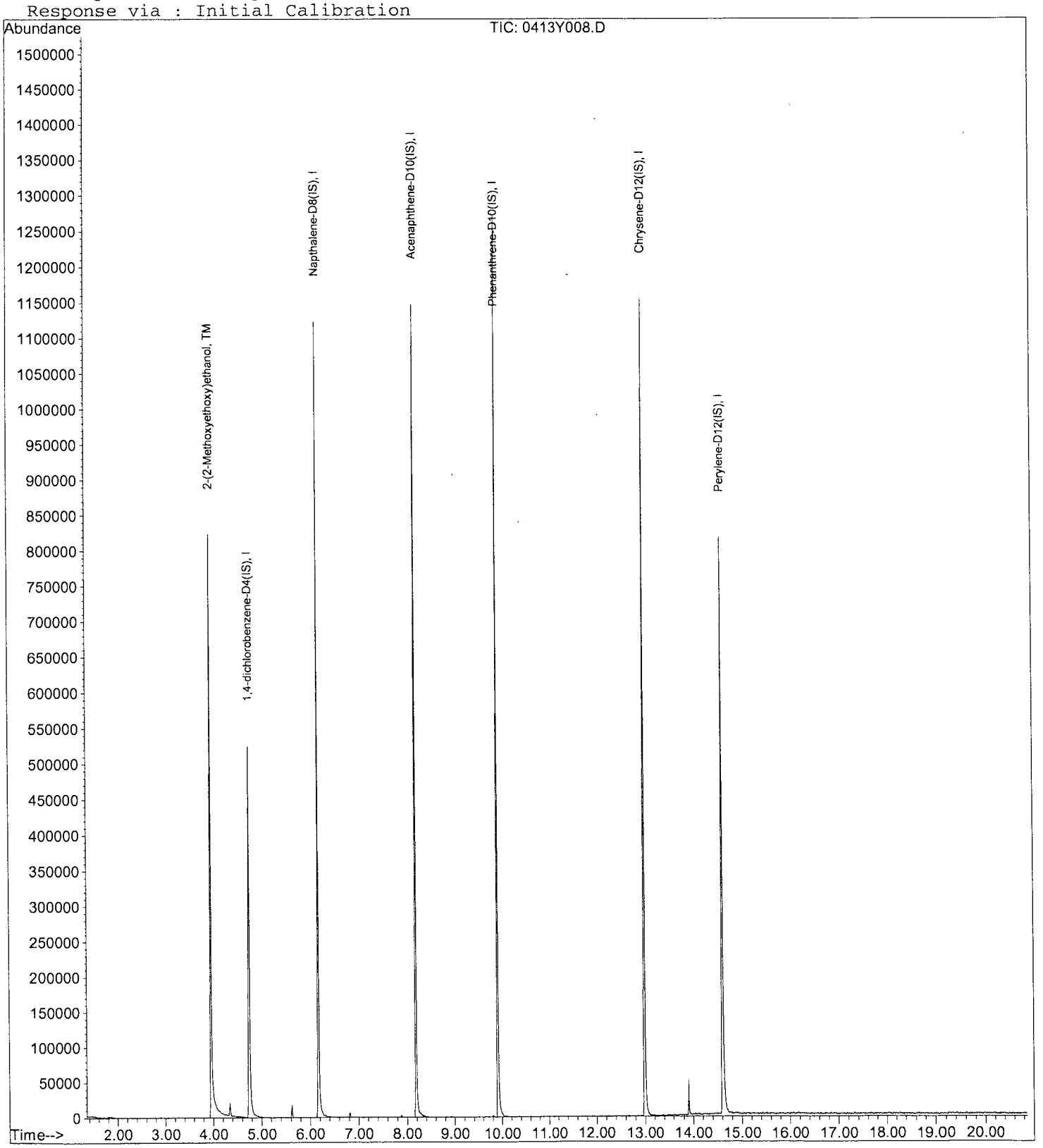
(#) = qualifier out of range (m) = manual integration
0413Y008.D Y0GLYCOL.M Fri Apr 14 07:33:50 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	120849	40.00000	ppb	0.01
3) Napthalene-D8(IS)	6.17	136	516352	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	297058	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	562967	40.00000	ppb	0.00
6) Chrysene-D12(IS)	12.99	240	508591	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.60	264	513774	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.98	45	659049	851.48970	ppb	97

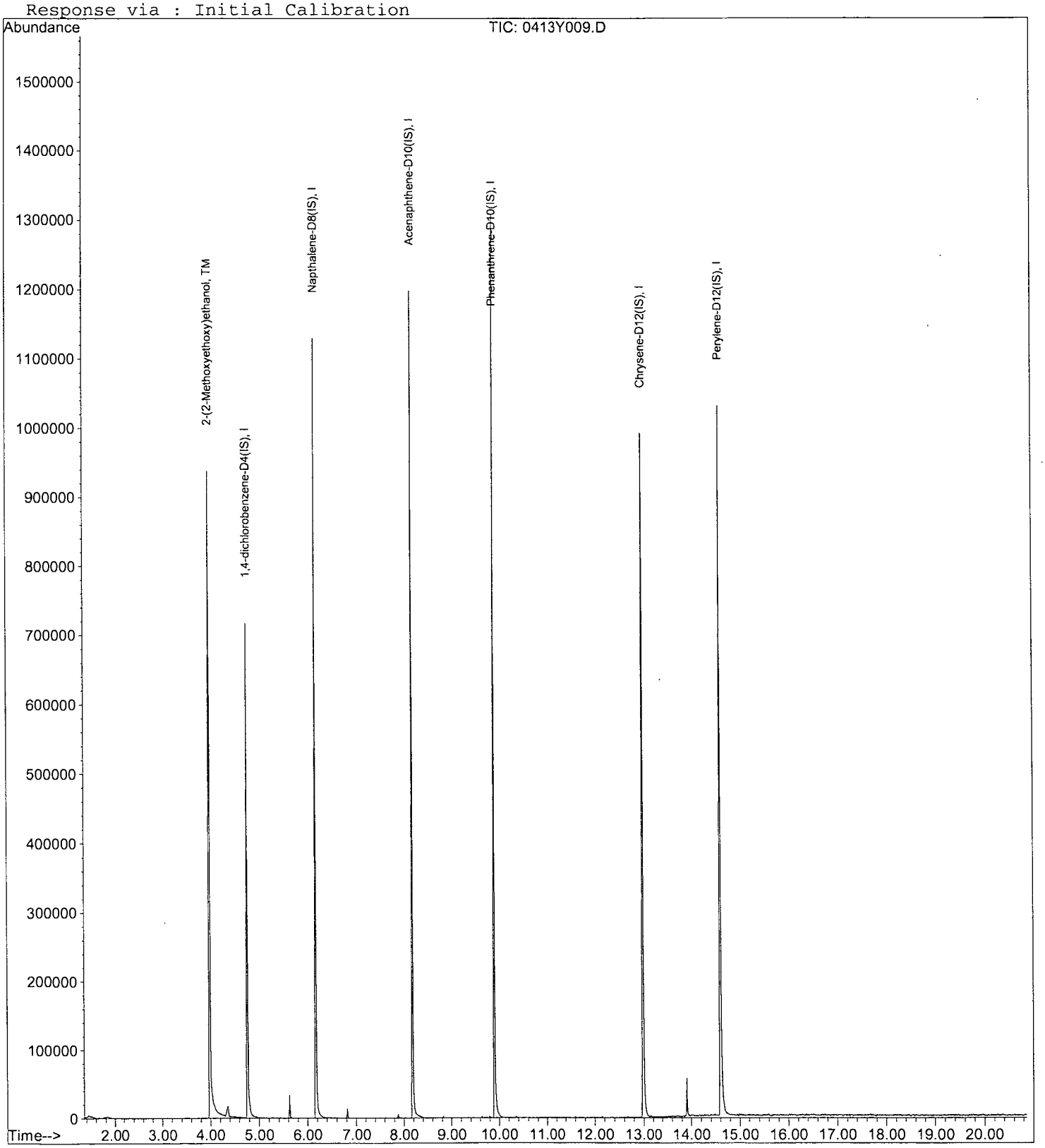
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	126513	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.17	136	529527	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	279610	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	516629	40.00000	ppb	0.00
6) Chrysene-D12(IS)	12.98	240	475326	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.60	264	424586	40.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.00	45	877318	1095.97475	ppb	99

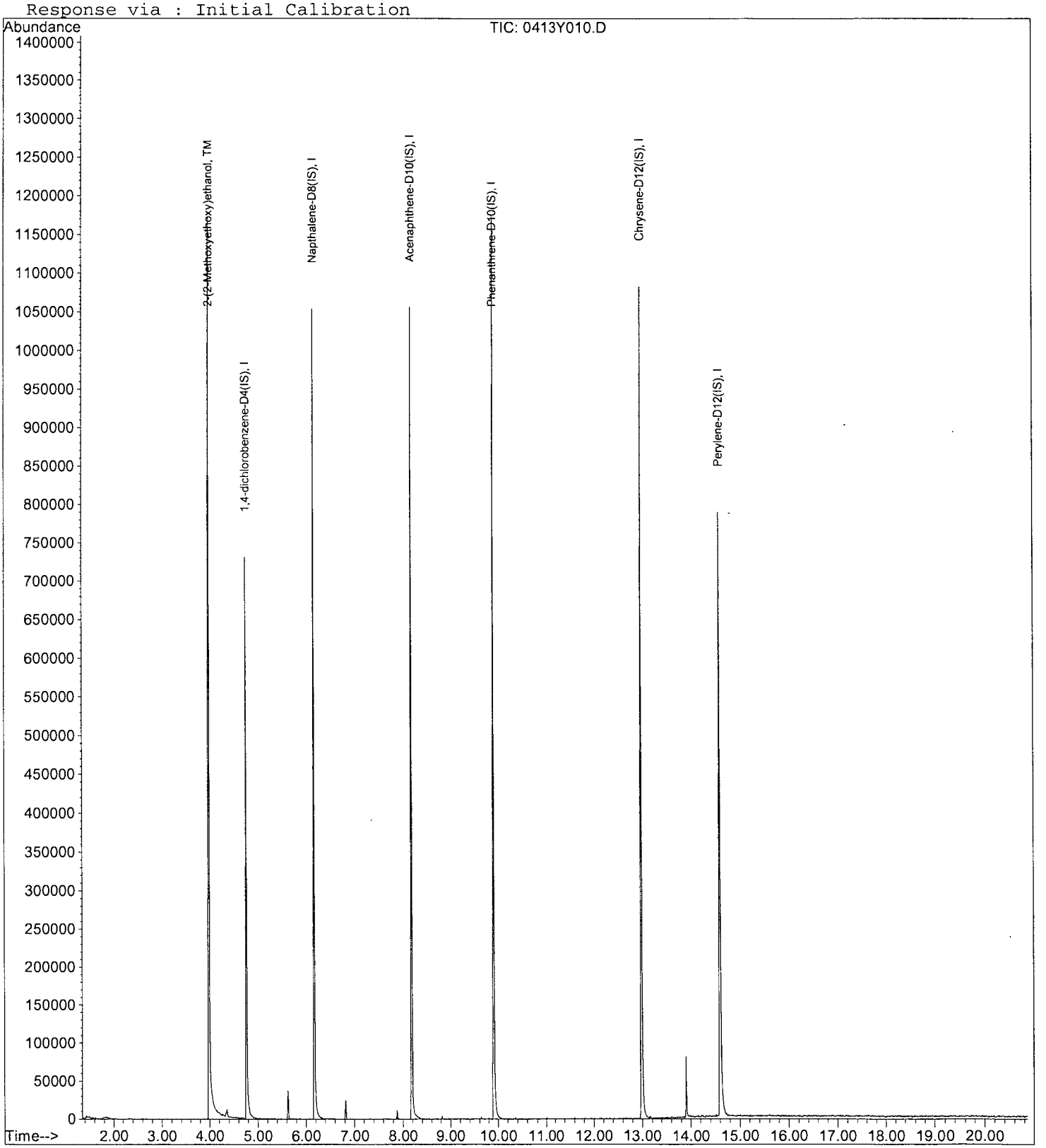
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2537	1.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	162431	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	673923	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	377854	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	682182	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	642948	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.61	264	796953	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	515080	506.19367 ppb	99

Algorithm = $\frac{515080 \times 40 \times 1}{162431 \times 0.2506}$ = 506.2 HA 4/14/17

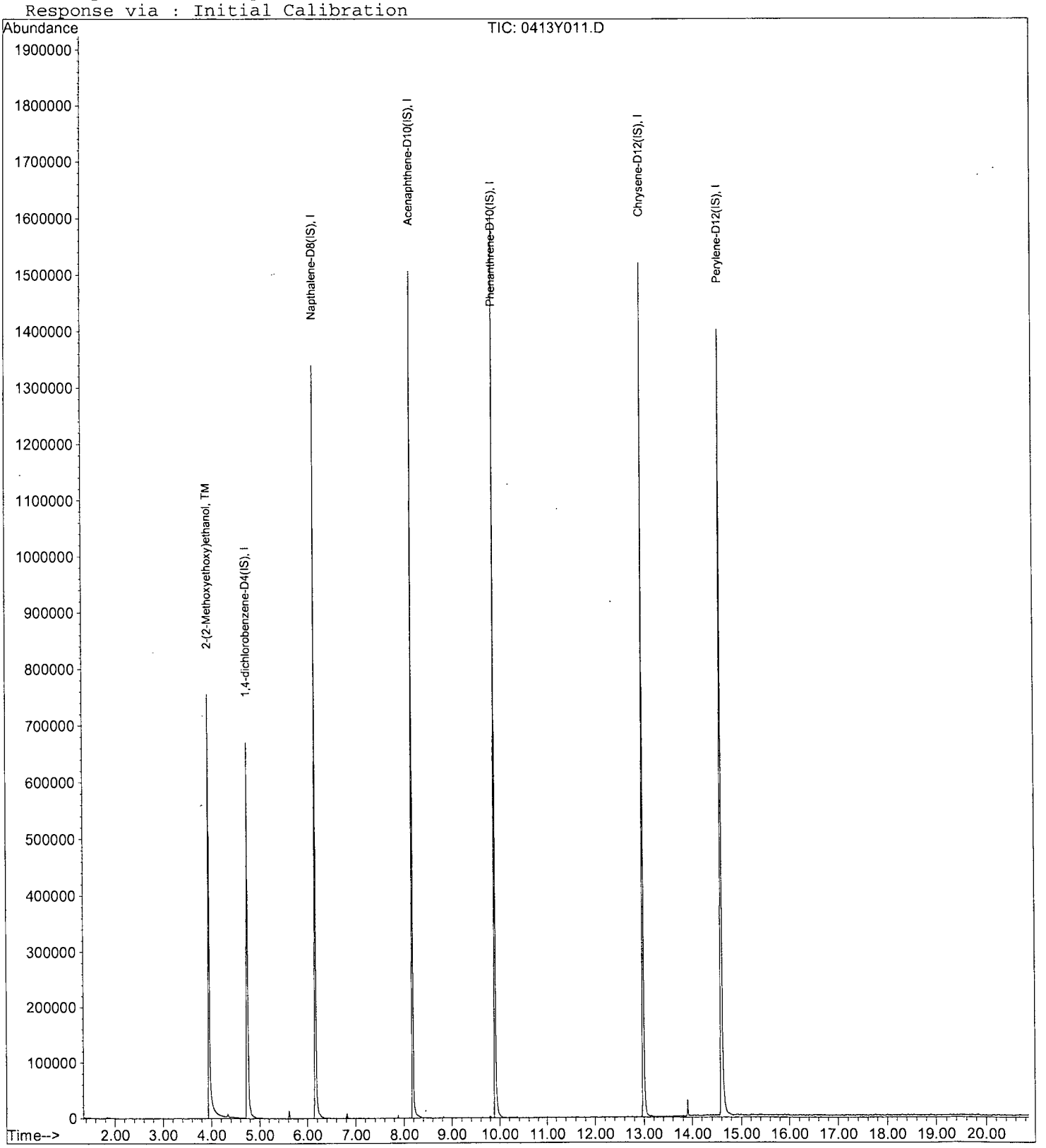
(#) = qualifier out of range (m) = manual integration
0413Y011.D YOGLYCOL.M Fri Apr 14 07:34:01 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y034.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2681	7.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y034.D Vial: 34
Acq On : 14 Apr 17 3:17 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:38 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	98346	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	427367	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	247654	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	446090	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	419492	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	436159	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	329521	534.85657 ppb	97

(#) = qualifier out of range (m) = manual integration
0413Y034.D Y0GLYCOL.M Fri Apr 14 09:58:37 2017

Quantitation Report

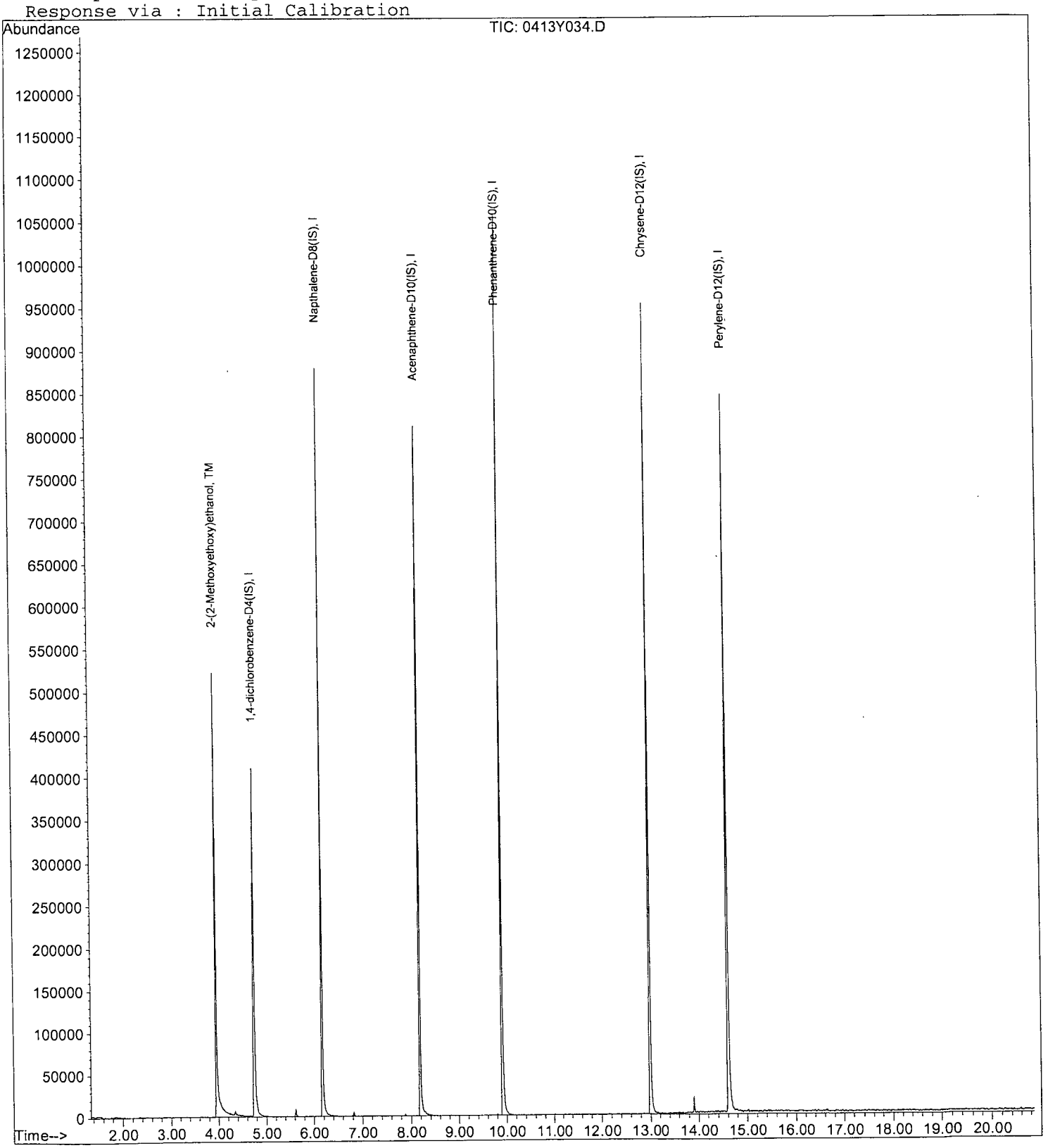
Data File : M:\YODA\DATA\Y170413G\0413Y034.D
Acq On : 14 Apr 17 3:17
Sample : 500ug/ml DEG 04/12/17
Misc :

Vial: 34
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:38 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y043.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2905	16	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			16.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y043.D Vial: 43
Acq On : 14 Apr 17 8:09 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 8:23 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	98703	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	435596	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	249822	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	450253	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	414201	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	390199	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.93	45	358378	579.59139 ppb	98

(#) = qualifier out of range (m) = manual integration
0413Y043.D Y0GLYCOL.M Fri Apr 14 09:58:41 2017

Quantitation Report

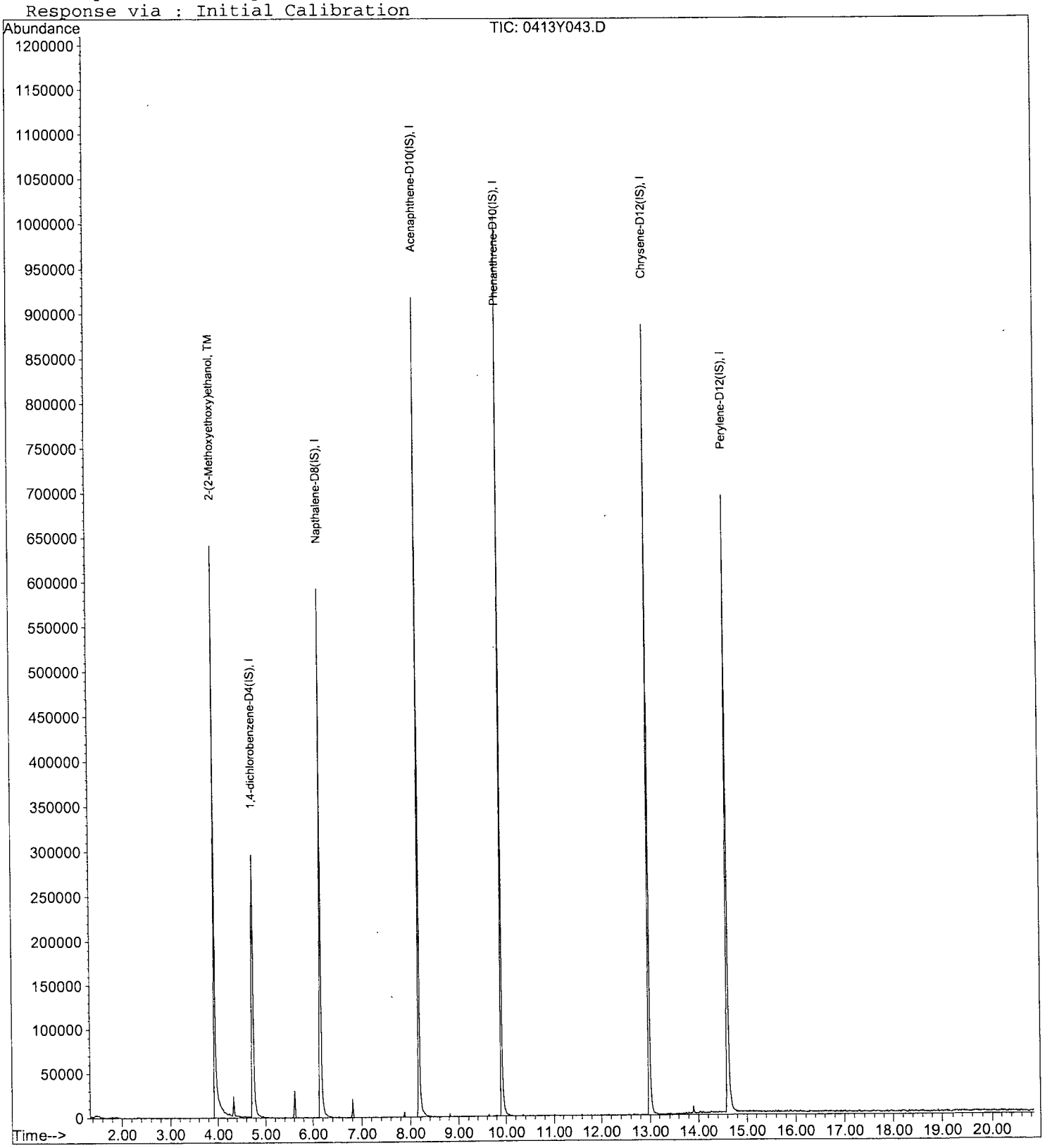
Data File : M:\YODA\DATA\Y170413G\0413Y043.D
Acq On : 14 Apr 17 8:09
Sample : 500ug/ml DEG 04/12/17
Misc :

Vial: 43
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 8:23 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y049.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.3028	21	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			21.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y049.D Vial: 49
Acq On : 14 Apr 17 11:09 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 11:22 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	94389	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	429554	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	249693	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	458485	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	429907	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	404265	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	357209	604.10433 ppb	96

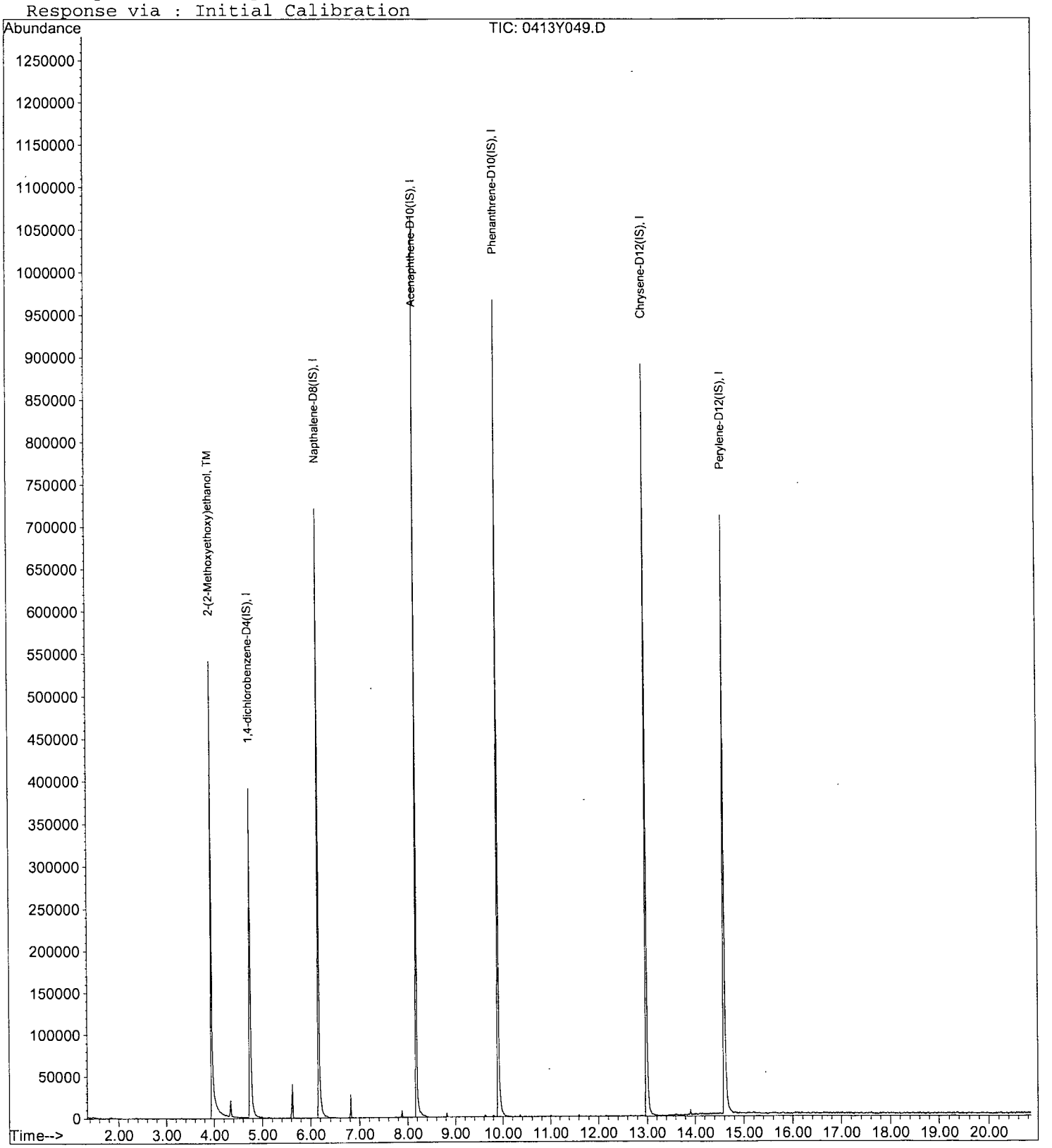
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y049.D Vial: 49
Acq On : 14 Apr 17 11:09 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 11:22 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method:Y0GLYCOL.
Run #:0413Y013
Instrument:Yoda
Sequence:Y170413G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:13:59 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y013.D Vial: 13
Acq On : 13 Apr 17 16:48 Operator: MA
Sample : 170410A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	105668	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	467112	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	267815	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	499187	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	471654	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	418040	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

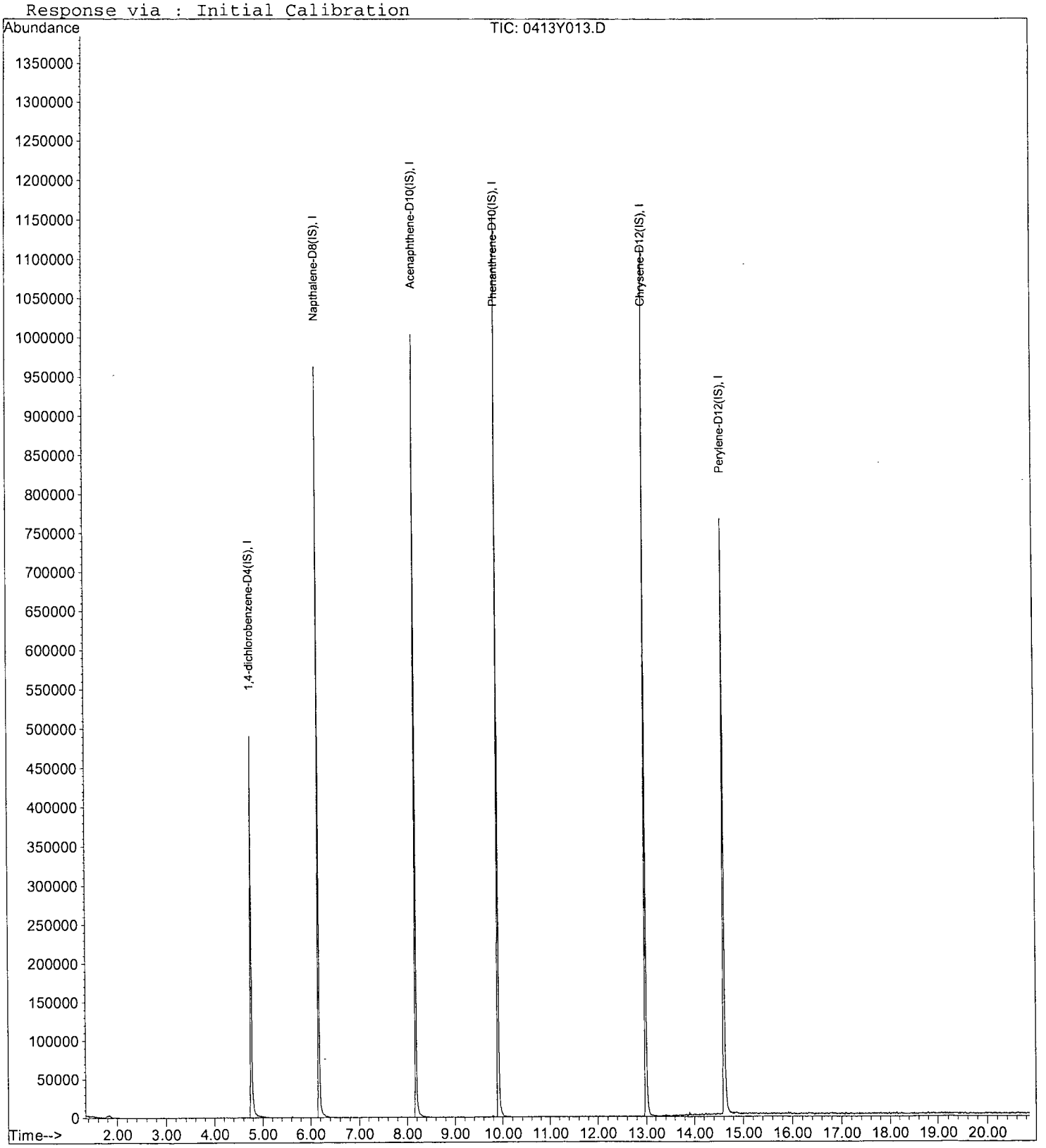
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y013.D Vial: 13
Acq On : 13 Apr 17 16:48 Operator: MA
Sample : 170410A BLK 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:14:00 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y014.D Vial: 14
Acq On : 13 Apr 17 17:18 Operator: MA
Sample : 170410A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:48 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108150	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	455829	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	255413	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	474128	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	448616	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413196	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	27786	41.01195 ppb	100

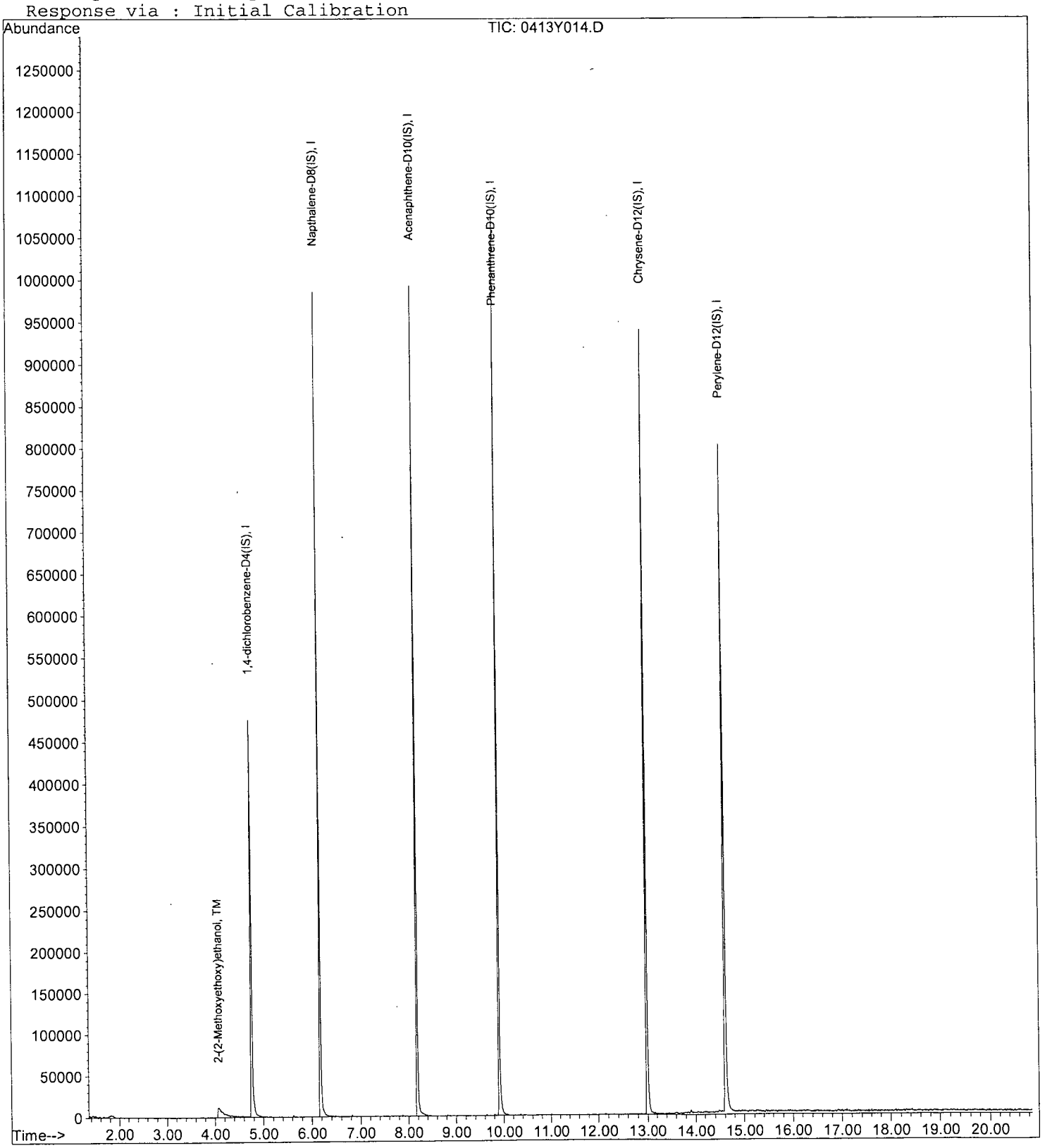
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y014.D Vial: 14
Acq On : 13 Apr 17 17:18 Operator: MA
Sample : 170410A LCS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:48 2017 Quant Results File: Y0GLYCOL.RES

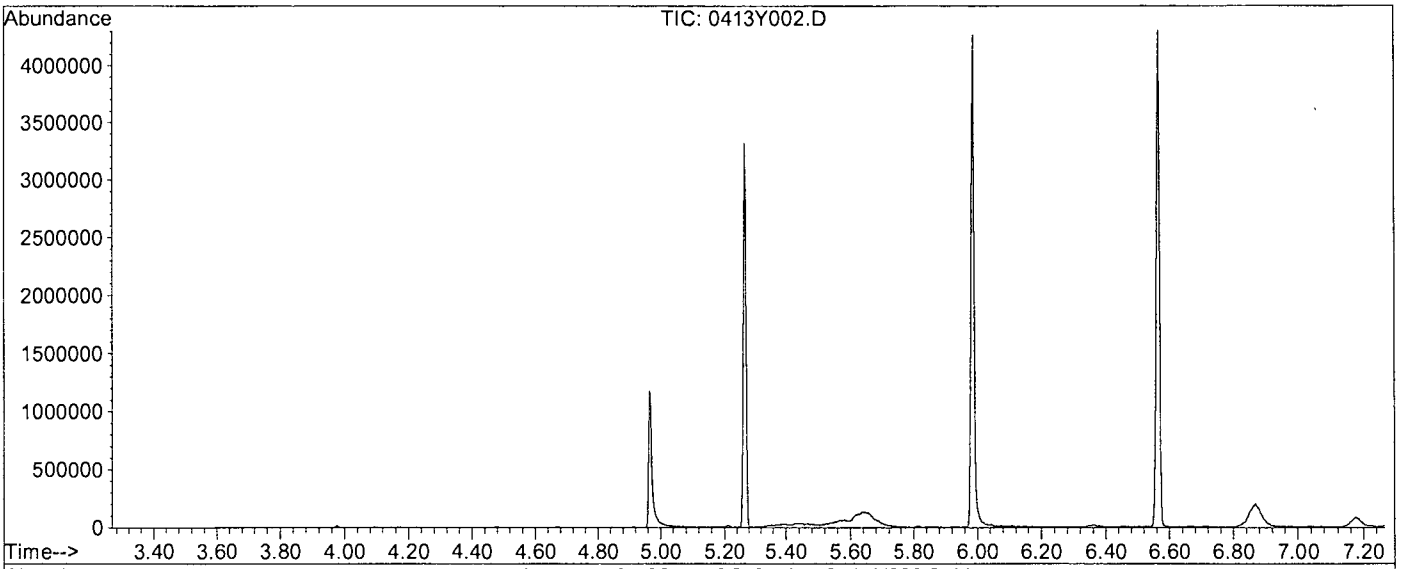
Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

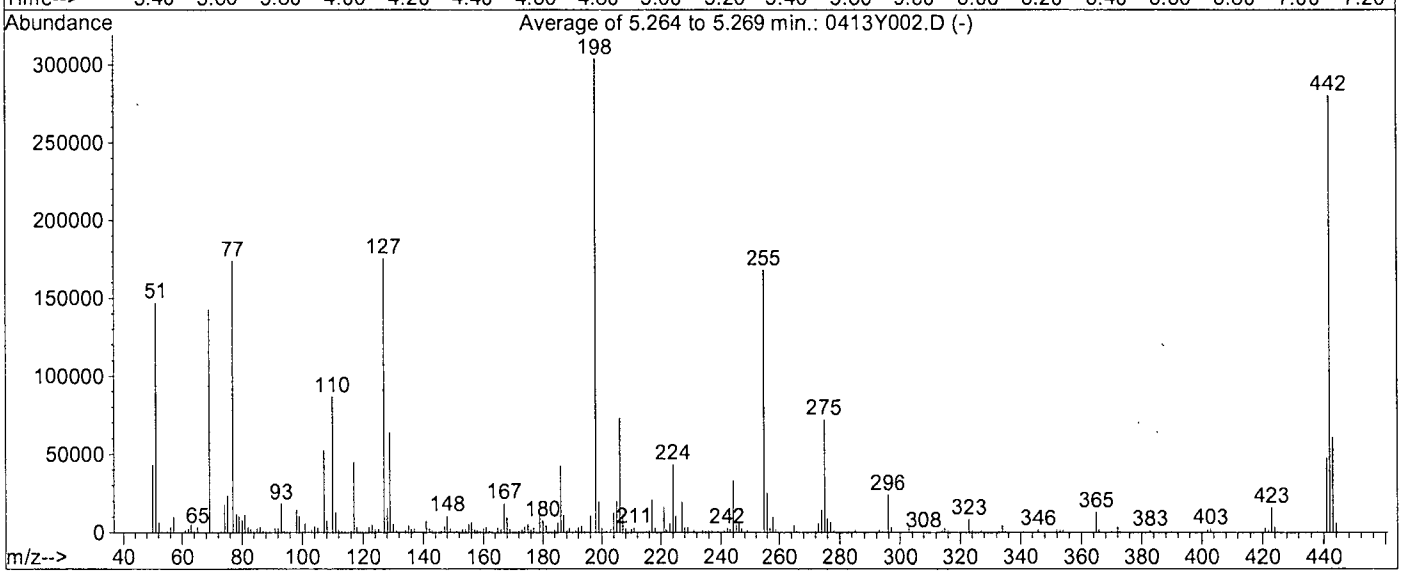


DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y002.D Vial: 2
Acq On : 13 Apr 17 9:41 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

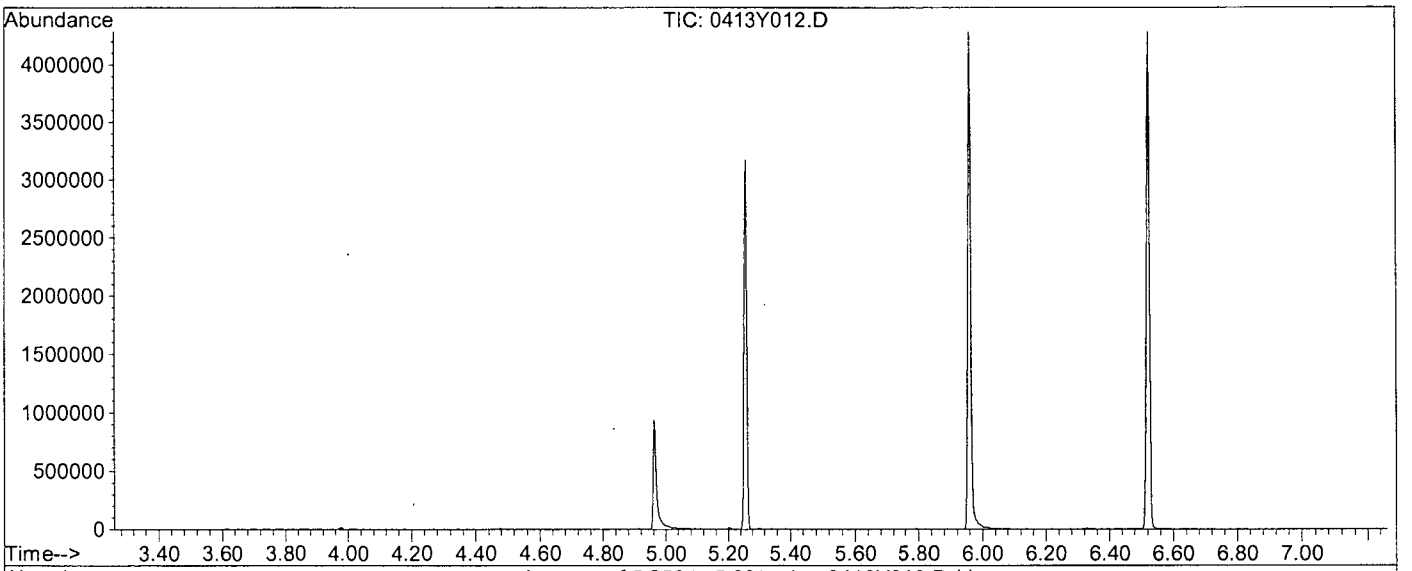
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	147051	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	530	PASS
127	198	40	60	57.7	175637	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	304341	PASS
199	198	5	9	6.4	19568	PASS
275	198	10	30	23.7	72040	PASS
365	198	1	100	4.3	13166	PASS
441	443	0.01	100	78.5	47741	PASS
442	198	50	150	92.2	280597	PASS
443	442	17	23	21.7	60813	PASS

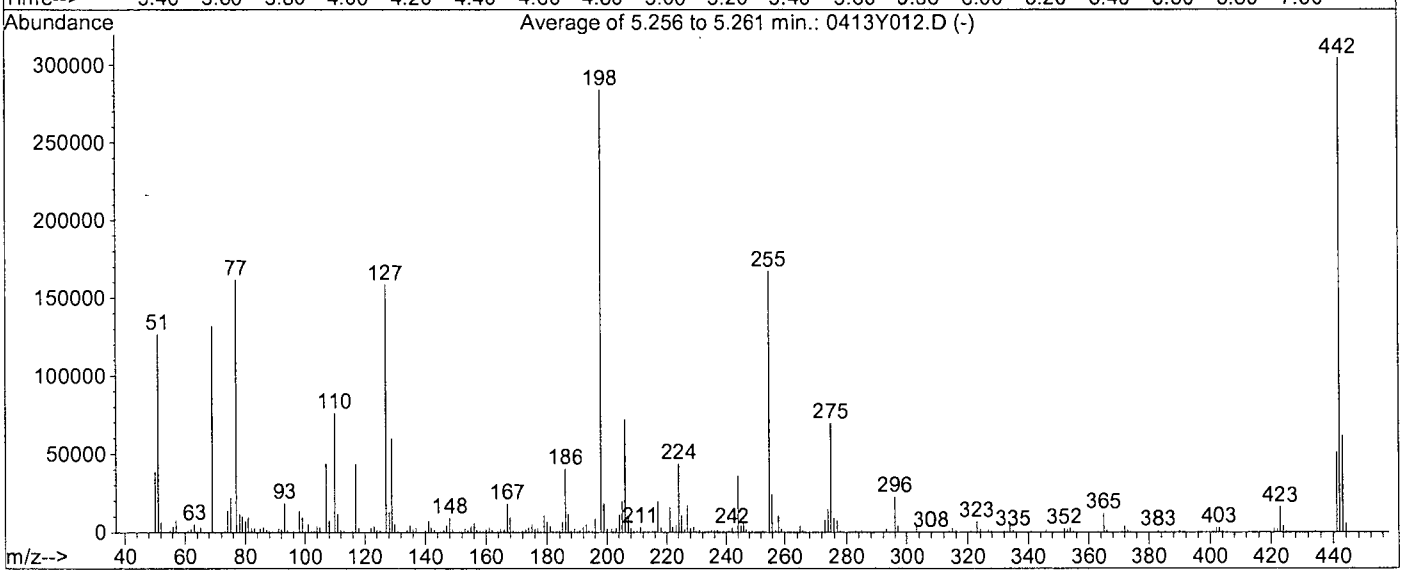
0413Y002.D Y0GLYCOL.M Fri Apr 14 08:11:22 2017

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y012.D Vial: 12
Acq On : 13 Apr 17 16:31 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 668, 669, 670; Background Corrected with Scan 660

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.7	126843	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	623	PASS
127	198	40	60	55.8	158536	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	283925	PASS
199	198	5	9	6.4	18313	PASS
275	198	10	30	24.5	69549	PASS
365	198	1	100	4.3	12094	PASS
441	443	0.01	100	82.4	50832	PASS
442	198	50	150	107.2	304448	PASS
443	442	17	23	20.3	61680	PASS

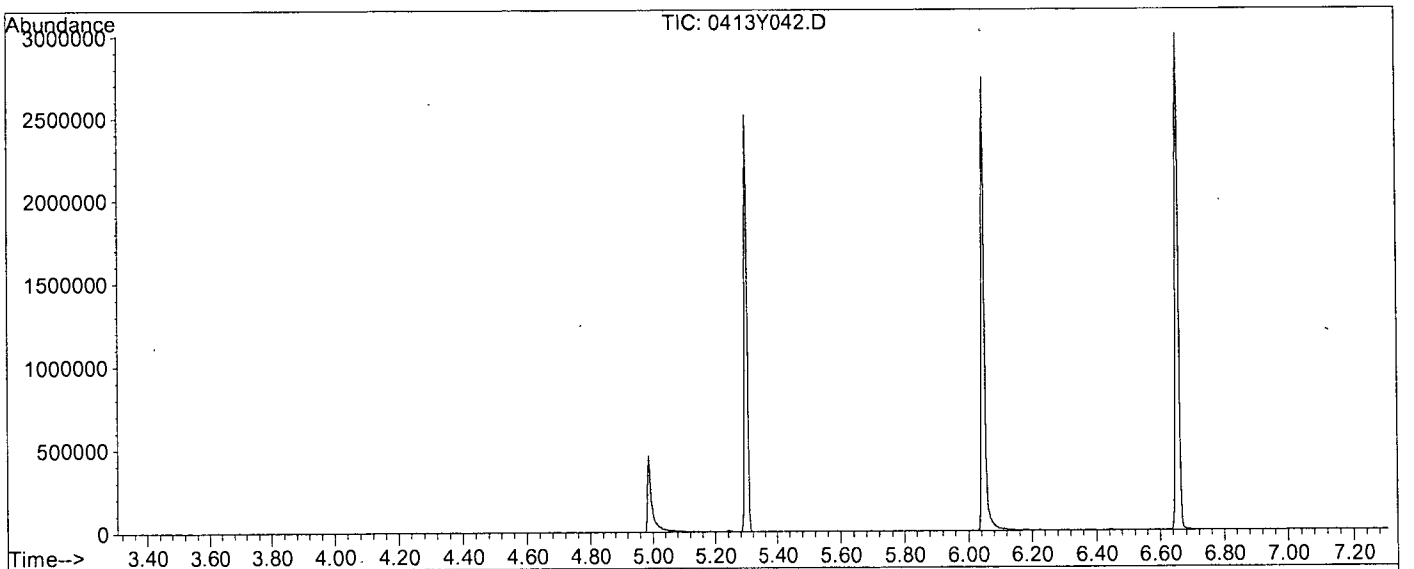
0413Y012.D DFTPP2.M Fri Apr 14 08:12:37 2017

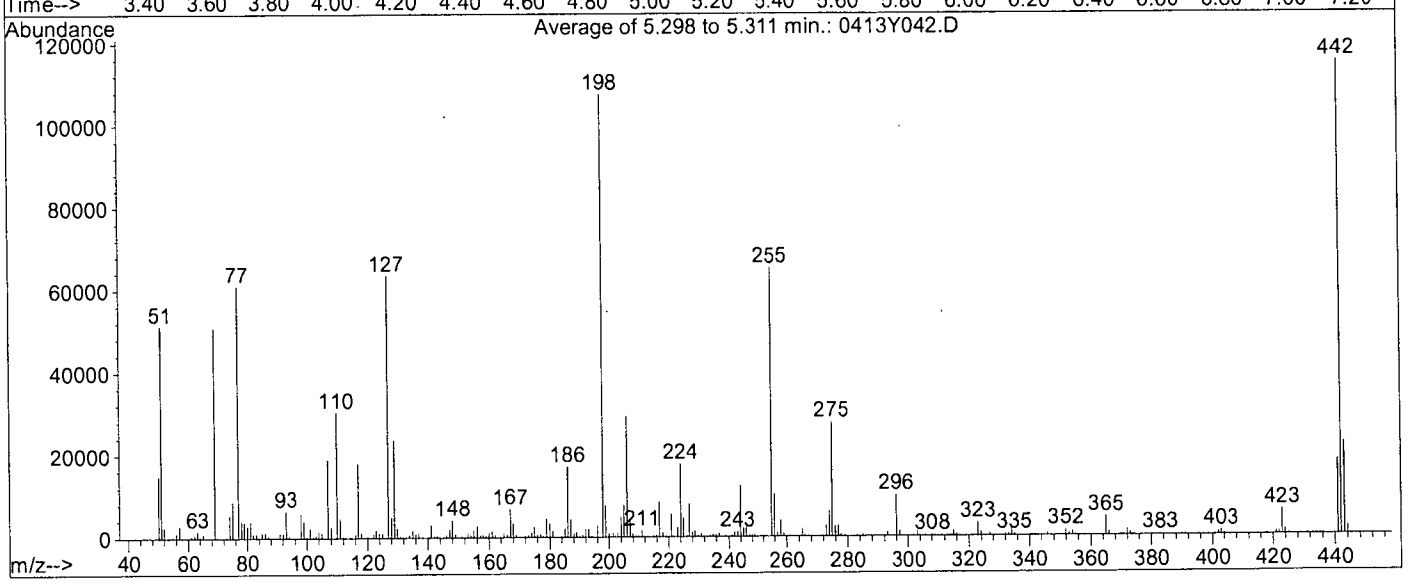
DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y042.D
Acq On : 14 Apr 17 7:53
Sample : SV Tune 03/29/17
Misc :

Vial: 42
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





Spectrum Information: Average of 5.298 to 5.311 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.7	51375	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.2	88	PASS
127	198	40	60	59.0	63507	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	107614	PASS
199	198	5	9	7.1	7670	PASS
275	198	10	30	25.6	27600	PASS
365	198	1	100	4.2	4534	PASS
441	443	0.01	100	81.3	18192	PASS
442	198	50	150	107.2	115354	PASS
443	442	17	23	19.4	22389	PASS

GED Curve

PREP DATE:	04/12/17 RH									
8270 Standard Curve										
Exp:	02/08/18					**50**	**100**	**200**	**400**	**500**
		Conc.		Date						
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL
	GED MSTD Stock *	2000	VAR	02/09/17	02/18/18	5	5	10	20	50
EM Science	Methanol		010616A			195	95	90	80	150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4	2	2	2	4
				Final Vol.		204	102	102	102	204

* Extracted on 02/09/17

GED Second Source (SS)

PREP DATE:	04/12/17 RH					**500**
Exp:	09/27/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Stock *	2000	VAR	02/09/17	09/27/17	50
EM Science	Methanol		010616A			150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4
				Final Vol.		204

600	**800**	**1000**
µL	µL	µL
30	40	50
70	60	50
2	2	2
102	102	102

Diethylene Glycol						
Prep: 02/08/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37326 and 37327 Op: 02/08/17 EX: 02/08/18	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Given to Extraction to do Diethylene Glycol Method Standard, extracted on 2/9/17

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 02/09/17. Final concentration is 2000ug/ml

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	04/11/17 0:00

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				NA	NA equip	500	2	7	04/10/17 13:45	
2	170410A LCS-1		0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	
3	AZ53059 MS-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
4	AZ53059 MSD-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
5	AZ53059	AZ53059W17			NA	NA equip	500	2	7	04/10/17 13:45	82577
6	AZ53060	AZ53060W07			NA	NA equip	500	2	7	04/10/17 13:45	82577
7	AZ53062	AZ53062W11			NA	NA equip	500	2	7	04/10/17 13:45	82577
8	AZ53064	AZ53064W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
9	AZ53065	AZ53065W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
10	AZ53168 MS-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
11	AZ53168 MSD-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
12	AZ53168	AZ53168W44			NA	NA equip	500	2	7	04/10/17 13:45	82619
13	AZ53169	AZ53169W16			NA	NA equip	500	2	7	04/10/17 13:45	82619
14	AZ53170	AZ53170W13			NA	NA equip	500	2	7	04/10/17 13:45	82619
15	AZ53172	AZ53172W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
16	AZ53174	AZ53174W10			NA	NA equip	500	2	7	04/10/17 13:45	82596

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: Ky **Date** 4/12/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	**04/11/17 0:00**

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W09			NA	NA equip	500	2	7	04/10/17 13:45	82596
18	AZ53178	AZ53178W10			NA	NA equip	500	2	7	04/10/17 13:45	82596
19	AZ53180	AZ53180W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
20	AZ53260	AZ53260W12			NA	NA equip	500	2	7	04/10/17 13:45	82611
21	AZ53261	AZ53261W10			NA	NA equip	500	2	7	04/10/17 13:45	82611
22	AZ53263	AZ53263W14			NA	NA equip	500	2	7	04/10/17 13:45	82611
23	AZ53264	AZ53264W05			NA	NA equip	500	2	7	04/10/17 13:45	82611
24	AZ53266	AZ53266W09			NA	NA equip	500	2	7	04/10/17 13:45	82611
25	SS		0.087	2	NA	NA equip	500	2	7	04/10/17 13:45	

Ky 4/12/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: Ky **Date** 4/12/17

Injection Log

Directory: M:\YODA\DATA\Y170413G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0413Y002.D	1	SV Tune 03/29/17		13 Apr 17 9:41
3	0413Y003.D	1	50ug/ml DEG 04/12/17		13 Apr 17 9:57
4	0413Y004.D	1	100ug/ml DEG 04/12/17		13 Apr 17 10:27
5	0413Y005.D	1	200ug/ml DEG 04/12/17		13 Apr 17 10:57
6	0413Y006.D	1	400ug/ml DEG 04/12/17		13 Apr 17 11:27
7	0413Y007.D	1	500ug/ml DEG 04/12/17		13 Apr 17 11:57
8	0413Y008.D	1	600ug/ml DEG 04/12/17		13 Apr 17 14:02
9	0413Y009.D	1	800ug/ml DEG 04/12/17		13 Apr 17 14:32
10	0413Y010.D	1	1000ug/ml DEG 04/12/17		13 Apr 17 15:03
11	0413Y011.D	1	SS2 DEG 04/12/17		13 Apr 17 16:03
12	0413Y012.D	1	SV Tune 03/29/17		13 Apr 17 16:31
13	0413Y013.D	1	170410A BLK 2/500		13 Apr 17 16:48
14	0413Y014.D	1	170410A LCS-1 2/500		13 Apr 17 17:18
34	0413Y034.D	1	500ug/ml DEG 04/12/17		14 Apr 17 3:17
42	0413Y042.D	1	SV Tune 03/29/17		14 Apr 17 7:53
43	0413Y043.D	1	500ug/ml DEG 04/12/17		14 Apr 17 8:09
44	0413Y044.D	1	AZ53260W12 2/500		14 Apr 17 8:39
45	0413Y045.D	1	AZ53261W10 2/500		14 Apr 17 9:09
46	0413Y046.D	1	AZ53263W14 2/500		14 Apr 17 9:39
47	0413Y047.D	1	AZ53264W05 2/500		14 Apr 17 10:09
48	0413Y048.D	1	AZ53266W09 2/500		14 Apr 17 10:39
49	0413Y049.D	1	500ug/ml DEG 04/12/17		14 Apr 17 11:09

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53259 - 217641**
Batch ID: #86BTO-170407BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/08/17	04/08/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	100	81-118			%	04/08/17	04/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/08/17	04/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/08/17	04/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:46:22 AM

Method Blank

EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53262 - 217642**
Batch ID: #86BTO-170407BM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	100	81-118			%	04/08/17	04/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/08/17	04/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/08/17	04/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:46:22 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82611
Matrix: WATER

SDG No: 82611
Date Analyzed: 04/08/17
Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407BM-LCS	Lab Control Spike	81-118	104		85-114	99.6	
170407BM-BLK	Blank	81-118	100		85-114	90.5	
AZ53259	ERH296	81-118	97.3		85-114	94.3	
AZ53260	ERH297	81-118	99.3		85-114	93.6	
AZ53261	ERH298	81-118	103		85-114	97.2	

Comments: Batch: #86BTO-170407BM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82611
Case No: 82611 Date Analyzed: 04/08/17
Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407BM-LCS	Lab Control Spike	80-119	102		89-112	104	
170407BM-BLK	Blank	80-119	102		89-112	103	
AZ53259	ERH296	80-119	102		89-112	106	
AZ53260	ERH297	80-119	99.0		89-112	106	
AZ53261	ERH298	80-119	102		89-112	106	

Comments: Batch: #86BTO-170407BM

Printed: 04/28/17 10:46:27 AM
Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82611

Case No: 82611 Date Analyzed: 04/08/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407BM1-LCS	Lab Control Spike	81-118	104		85-114	99.6	
170407BM1-BLK	Blank	81-118	100		85-114	90.5	
AZ53262	ERH320	81-118	99.0		85-114	91.9	
AZ53263	ERH321	81-118	104		85-114	94.3	
AZ53264	ERH289	81-118	96.7		85-114	93.4	
AZ53265	ERH301	81-118	99.5		85-114	94.9	
AZ53266	ERH303	81-118	102		85-114	95.6	

Comments: Batch: #86BTO-170407BM

Printed: 04/28/17 10:46:27 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82611

Case No: 82611 Date Analyzed: 04/08/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407BM1-LCS	Lab Control Spike	80-119	102		89-112	104	
170407BM1-BLK	Blank	80-119	102		89-112	103	
AZ53262	ERH320	80-119	100.0		89-112	103	
AZ53263	ERH321	80-119	103		89-112	104	
AZ53264	ERH289	80-119	98.5		89-112	105	
AZ53265	ERH301	80-119	99.5		89-112	107	
AZ53266	ERH303	80-119	102		89-112	106	

Comments: Batch: #86BTO-170407BM

Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170408W-53259 LCS - 217641**
Batch ID: #86BTO-170407BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.77	97.7	73-128
BENZENE	10.00	9.70	97.0	79-120
ETHYLBENZENE	10.00	10.0	100	79-121
TOLUENE	10.00	9.40	94.0	80-121
XYLENES (TOTAL)	30.0	29.6	98.7	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.0	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.1	104	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Max
Run :	0407M37
Initials :	SV

Printed: 04/28/17 10:46:32 AM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170408W-53262 LCS - 217642**
Batch ID: #86BTO-170407BM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.70	97.0	79-120
ETHYLBENZENE	10.00	10.0	100	79-121
TOLUENE	10.00	9.40	94.0	80-121
XYLENES (TOTAL)	30.0	29.6	98.7	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.0	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.1	104	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Max
Run :	0407M37
Initials :	SV

Printed: 04/28/17 10:46:33 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82611
Case No: 82611
Date Analyzed: 04/08/17
Matrix: WATER
Instrument: Max
Blank ID: 170407BM-BLK
Time Analyzed: 0427

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407BM-LCS	Lab Control Spike	0407M37	04/08/17 0109
170407BM-BLK	Blank	0407M44	04/08/17 0427
AZ53259	ERH296	0407M50	04/08/17 0717
AZ53260	ERH297	0407M51	04/08/17 0745
AZ53261	ERH298	0407M52	04/08/17 0814

Comments: Batch: #86BTO-170407BM

Printed: 04/28/17 10:46:36 AM
Form 4, Blank Summary

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82611
Case No: 82611
Date Analyzed: 04/08/17
Matrix: WATER
Instrument: Max
Blank ID: 170407BM1-BLK
Time Analyzed: 0428

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407BM1-LCS	Lab Control Spike	0407M37	04/08/17 0110
170407BM1-BLK	Blank	0407M44	04/08/17 0428
AZ53262	ERH320	0407M53	04/08/17 0842
AZ53263	ERH321	0407M54	04/08/17 0910
AZ53264	ERH289	0407M55	04/08/17 0938
AZ53265	ERH301	0407M56	04/08/17 1007
AZ53266	ERH303	0407M57	04/08/17 1035

Comments: Batch: #86BTO-170407BM

Printed: 04/28/17 10:46:36 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82611
Date Analyzed: 04/04/17
Instrument: Max
Time Analyzed: 8:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 04/0	0404M08.D	04/04/17 10:42
2		0.5ug/L VOC STD 04/0	0404M09.D	04/04/17 11:11
3		1.0ug/L VOC STD 04/0	0404M10.D	04/04/17 11:39
4		2.0ug/L VOC STD 04/0	0404M11.D	04/04/17 12:07
5		5.0ug/L VOC STD 04/0	0404M12.D	04/04/17 12:36
6		10ug/L VOC STD 04/04	0404M13.D	04/04/17 13:04
7		20ug/L VOC STD 04/04	0404M14.D	04/04/17 13:33
8		40ug/L VOC STD 04/04	0404M15.D	04/04/17 14:01
9		100ug/L VOC STD 04/0	0404M16.D	04/04/17 14:29
10		(SS) 10ug/L VOC STD	0404M21.D	04/04/17 16:52
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.1
75	30 - 60% of mass 95	43.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2% of mass 174	0.4
174	50 - 100% of mass 95	85.6
175	5 - 9% of mass 174	5.8
176	95.06 - 101% of mass 174	98.6
177	5 - 9% of mass 176	6.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82611
Matrix: Water
ID: 50ug/mL BFB std 2/23/17

SDG No: 82611
Date Analyzed: 04/07/17
Instrument: Max
Time Analyzed: 23:44

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170407B CCV 10ug/L	0407M36.D	04/08/17 0:41
2	Lab Control Spike	170407B LCS 10ug/L	0407M37.D	04/08/17 1:09
3	Blank	170407B BLK-1WM	0407M44.D	04/08/17 4:27
4	ERH296	AZ53259W01	0407M50.D	04/08/17 7:17
5	ERH297	AZ53260W01	0407M51.D	04/08/17 7:45
6	ERH298	AZ53261W01	0407M52.D	04/08/17 8:14
7	ERH320	AZ53262W01	0407M53.D	04/08/17 8:42
8	ERH321	AZ53263W01	0407M54.D	04/08/17 9:10
9	ERH289	AZ53264W01	0407M55.D	04/08/17 9:38
10	ERH301	AZ53265W01	0407M56.D	04/08/17 10:07
11	ERH303	AZ53266W01	0407M57.D	04/08/17 10:35
12		Ending CCV 8260 10ug	0407M60.D	04/08/17 12:00
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.5
75	30 - 60% of mass 95	43.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	0.3
174	50 - 100% of mass 95	93.1
175	5 - 9% of mass 174	8.1
176	95.06 - 101% of mass 174	100.3
177	5 - 9% of mass 176	6.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82611

Lab File ID (Standard): 0404M13.D Date Analyzed: 4 Apr 17 13:04

Instrument ID: Max Time Analyzed: 4 Apr 17 13:04

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	266913	5.51	185947	9.14	87359	12.34
	UPPER LIMIT	533826	6.01	371894	9.64	174718	12.84
	LOWER LIMIT	133457	5.01	92974	8.64	43680	11.84
	SAMPLE NO.						
01	(SS) 10ug/L VOC STD 0	268348	5.51	183462	9.14	87168	12.34
02	170407B CCV 10ug/L	256174	5.51	170595	9.14	80064	12.34
03	170407B LCS 10ug/L	256090	5.52	171620	9.14	79697	12.34
04	170407B BLK-1WM	256370	5.52	169566	9.14	70620	12.34
05	AZ53259W01	275547	5.52	180516	9.15	74830	12.34
06	AZ53260W01	271763	5.52	178568	9.15	75820	12.34
07	AZ53261W01	259659	5.52	171934	9.14	73892	12.34
08	AZ53262W01	269778	5.52	177508	9.14	73734	12.34
09	AZ53263W01	251197	5.52	168304	9.14	72262	12.34
10	AZ53264W01	259587	5.52	167917	9.15	69533	12.34
11	AZ53265W01	257785	5.52	166224	9.14	68596	12.34
12	AZ53266W01	259011	5.52	169344	9.15	72184	12.34
13	Ending CCV 8260 10ug/	257415	5.51	175496	9.14	85111	12.34
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82611

Sample ID: ERH296

APPL ID: AZ53259

Sample Collection Date: 04/04/17

QCG: #86BTO-170407BM-217641

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/08/17	04/08/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	97.3	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.3	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M50
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M50.D Vial: 50
Acq On : 8 Apr 17 7:17 Operator: PM,DG,SV,CMM
Sample : AZ53259W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	275547	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	180516	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	74830	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	66255	25.52968 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.120%	
37) 1,2-DCA-D4(S)	5.13	65	49453	24.32576 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.304%	
57) Toluene-D8(S)	7.35	98	278179	26.41826 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.672%	
65) 4-Bromofluorobenzene(S)	10.73	95	76849	23.56332 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

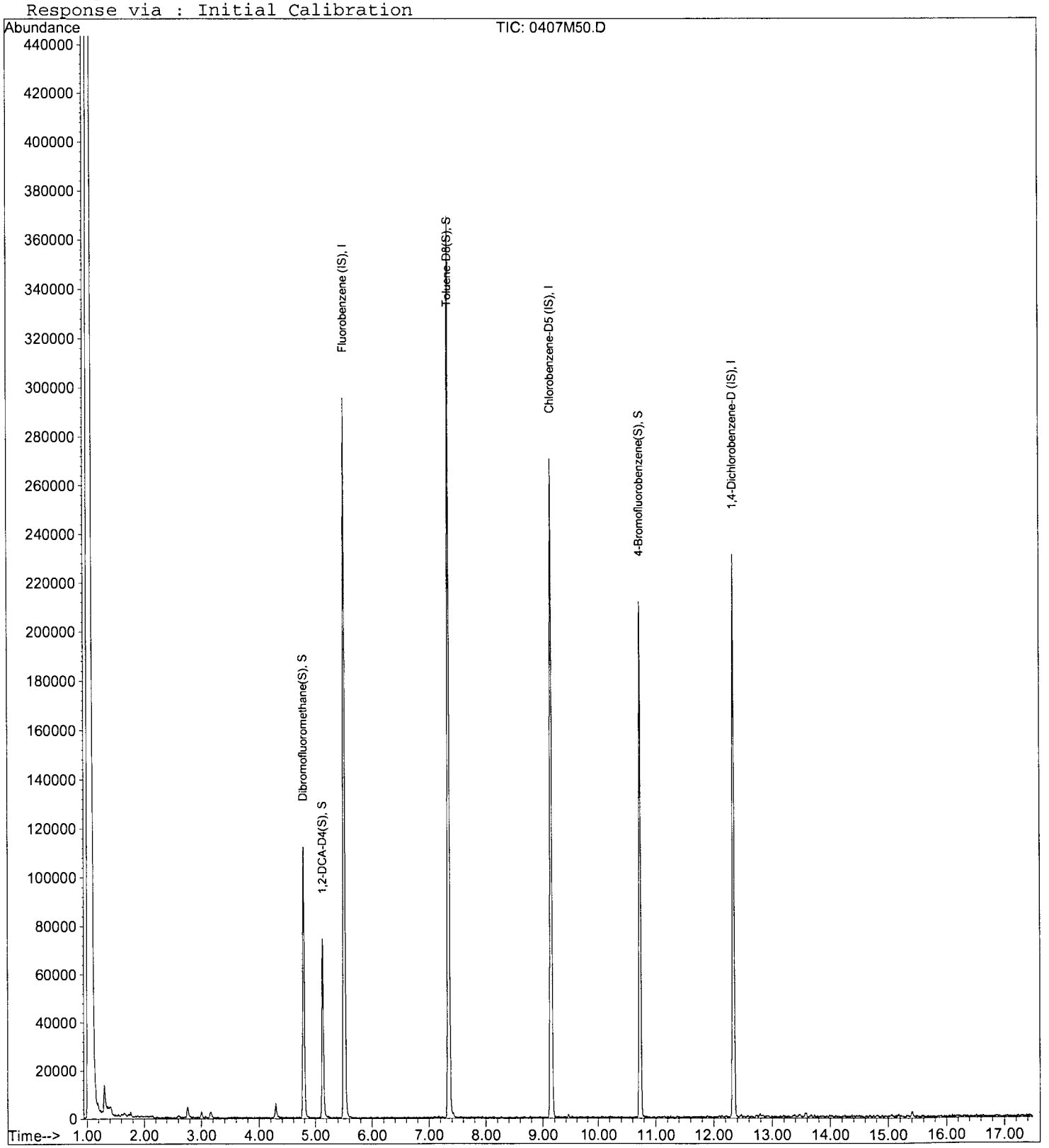
Data File : M:\MAX\DATA\M170404\0407M50.D
Acq On : 8 Apr 17 7:17
Sample : AZ53259W01
Misc : 10ml IS&S: 2/23/17

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #86BTO-170407BM-217641

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/08/17	04/08/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.3	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.6	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.0	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M51
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M51.D Vial: 51
Acq On : 8 Apr 17 7:45 Operator: PM,DG,SV,CMM
Sample : AZ53260W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	271763	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	178568	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	75820	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	63319	24.73808 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	
37) 1,2-DCA-D4(S)	5.13	65	49798	24.83654 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.348%	
57) Toluene-D8(S)	7.35	98	276203	26.51675 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.068%	
65) 4-Bromofluorobenzene(S)	10.73	95	75498	23.40162 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.608%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

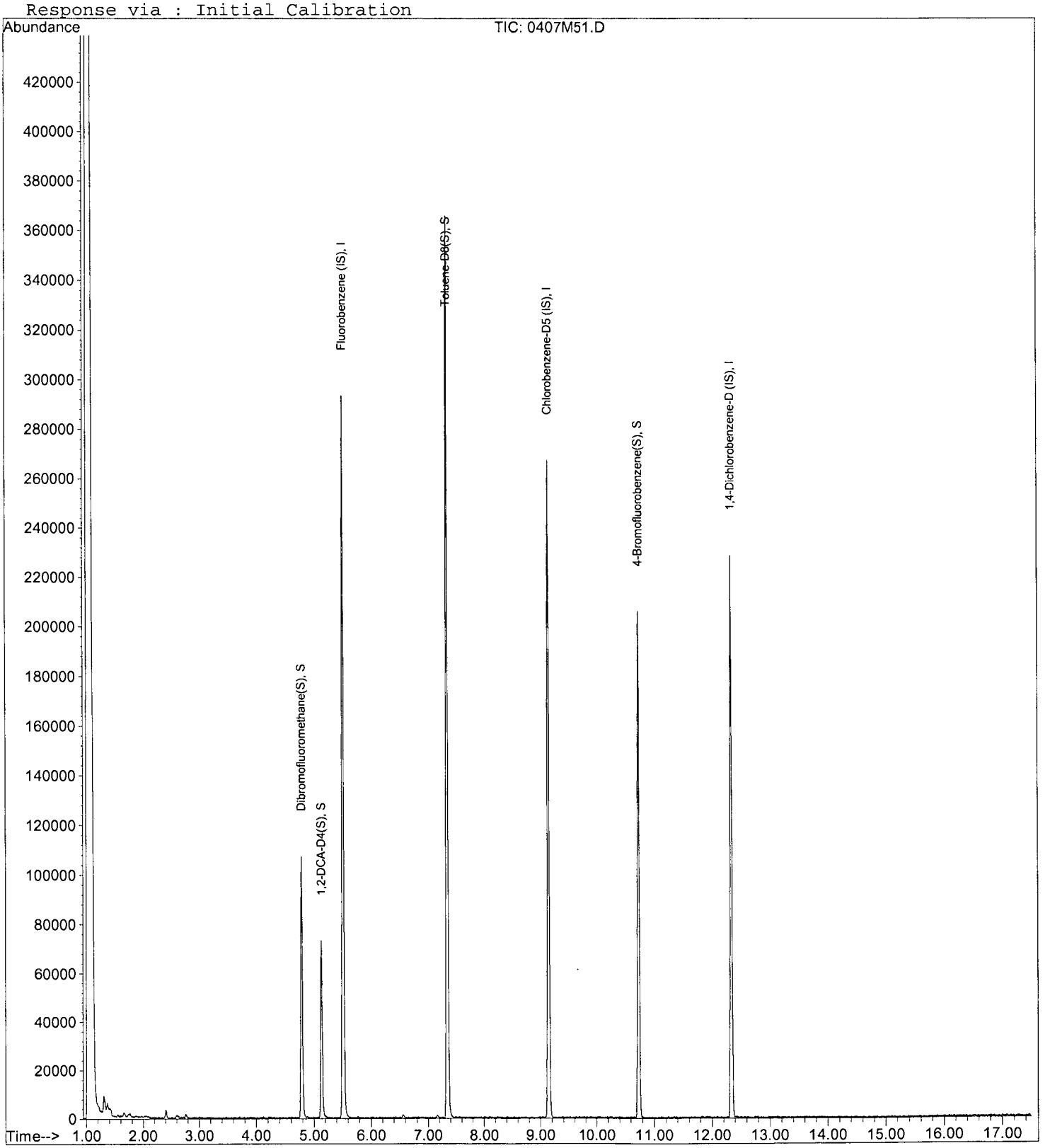
Data File : M:\MAX\DATA\M170404\0407M51.D
Acq On : 8 Apr 17 7:45
Sample : AZ53260W01
Misc : 10ml IS&S: 2/23/17

Vial: 51
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX & 1,2-DCA WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #86BTO-170407BM-217641

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/08/17	04/08/17
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M52
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M52.D Vial: 52
Acq On : 8 Apr 17 8:14 Operator: PM,DG,SV,CMM
Sample : AZ53261W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:36 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259659	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171934	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73892	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	62073	25.38176 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.528%	
37) 1,2-DCA-D4(S)	5.13	65	49221	25.69310 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.772%	
57) Toluene-D8(S)	7.35	98	266192	26.54170 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.168%	
65) 4-Bromofluorobenzene(S)	10.73	95	75514	24.30971 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.240%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

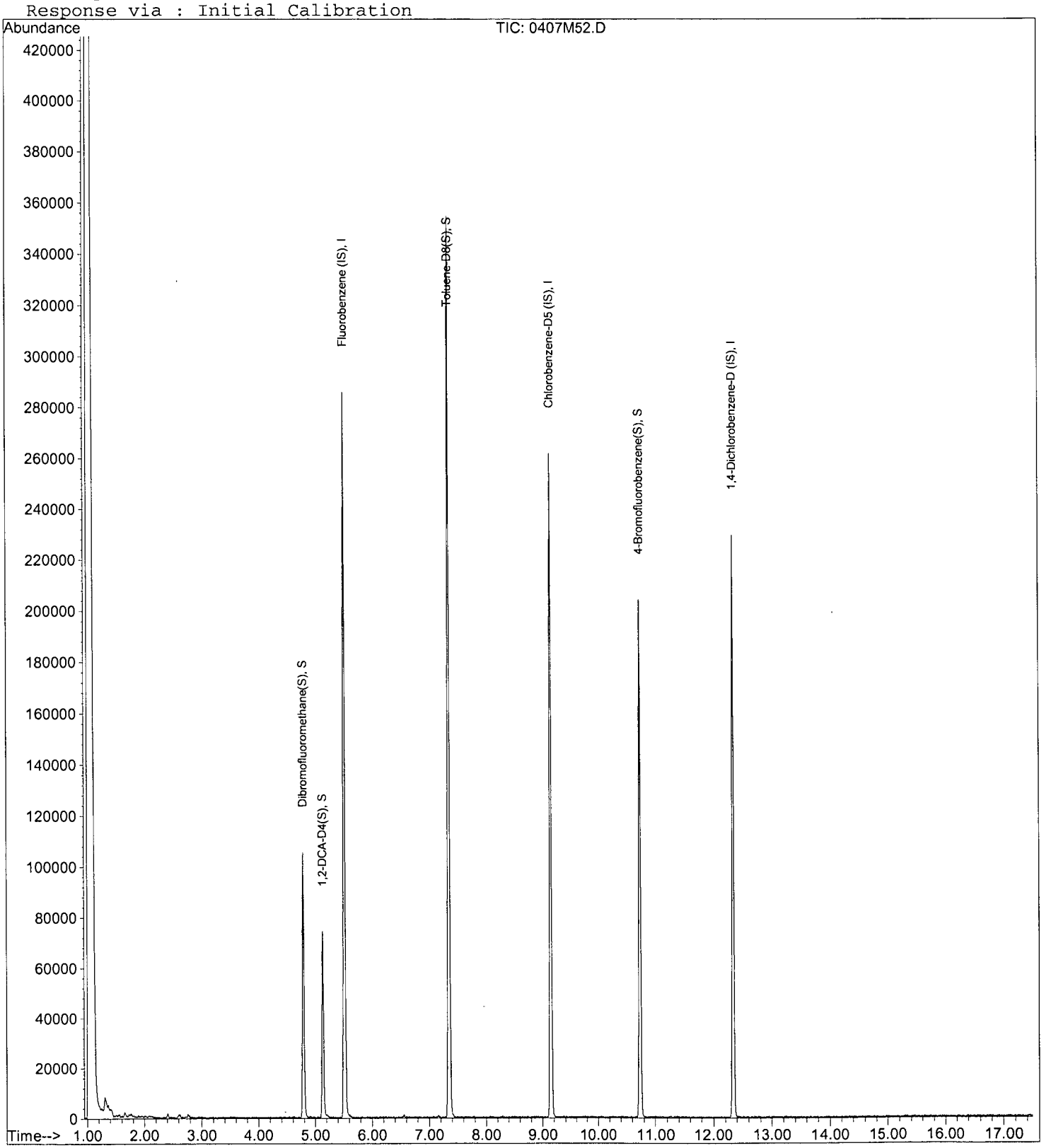
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M52.D
Acq On : 8 Apr 17 8:14
Sample : AZ53261W01
Misc : 10ml IS&S: 2/23/17

Vial: 52
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:36 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH320
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53262
QCG: #86BTO-170407BM1-21764

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.0	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	91.9	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	100.0	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M53
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M53.D Vial: 53
Acq On : 8 Apr 17 8:42 Operator: PM,DG,SV,CMM
Sample : AZ53262W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:36 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	269778	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	177508	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73734	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	63491	24.98780 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.952%	
37) 1,2-DCA-D4(S)	5.14	65	49269	24.75350 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.016%	
57) Toluene-D8(S)	7.35	98	265850	25.67523 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.700%	
65) 4-Bromofluorobenzene(S)	10.73	95	73657	22.96731 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.868%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

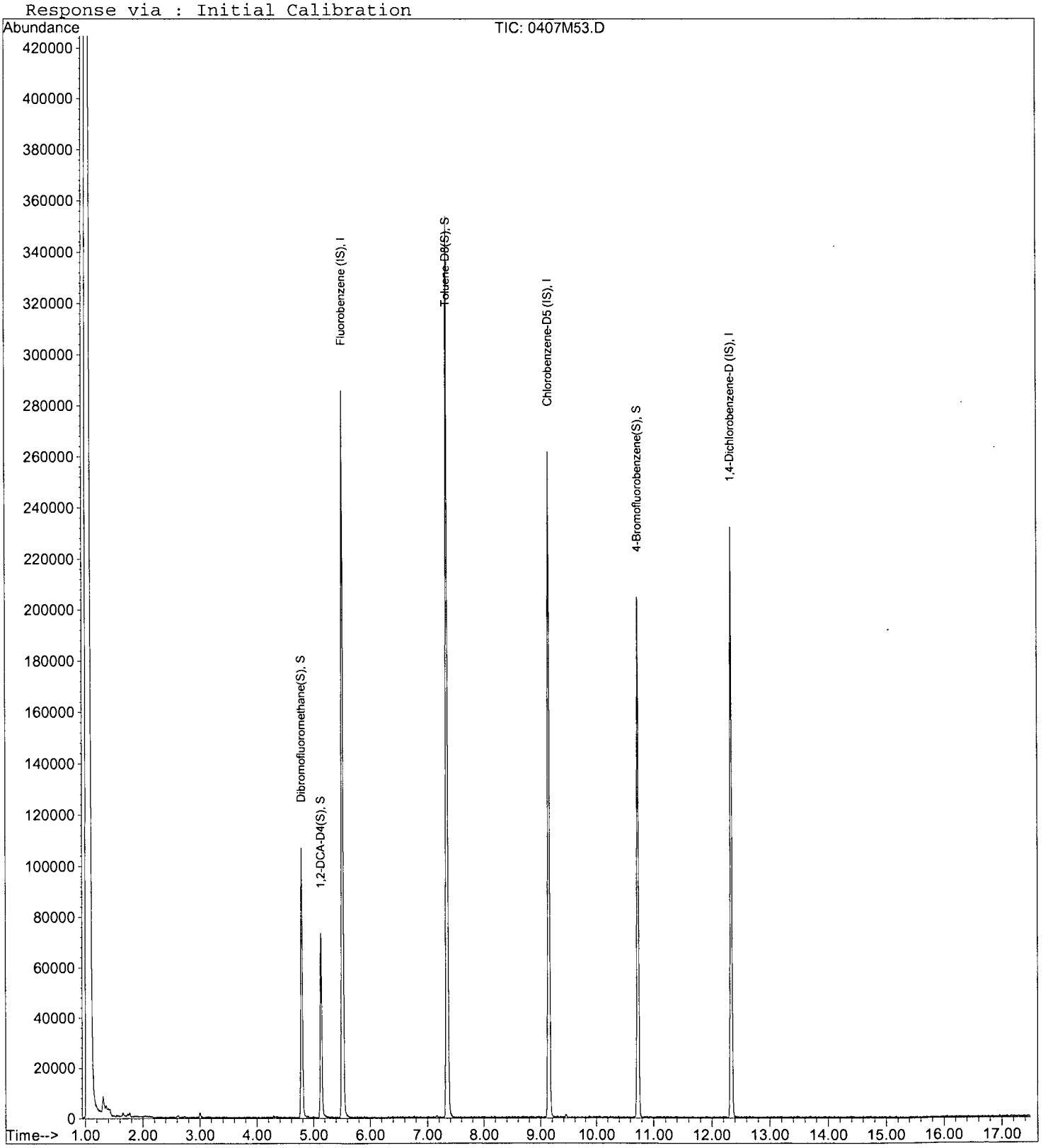
Data File : M:\MAX\DATA\M170404\0407M53.D
Acq On : 8 Apr 17 8:42
Sample : AZ53262W01
Misc : 10ml IS&S: 2/23/17

Vial: 53
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:36 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82611

Sample ID: ERH321

APPL ID: AZ53263

Sample Collection Date: 04/04/17

QCG: #86BTO-170407BM1-21764

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	104	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.3	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	103	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M54
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M54.D Vial: 54
Acq On : 8 Apr 17 9:10 Operator: PM,DG,SV,CMM
Sample : AZ53263W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:36 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	251197	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168304	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72262	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	61126	25.83651 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.348%	
37) 1,2-DCA-D4(S)	5.13	65	48191	26.00285 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.012%	
57) Toluene-D8(S)	7.35	98	255482	26.02324 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.092%	
65) 4-Bromofluorobenzene(S)	10.73	95	71680	23.57315 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.292%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

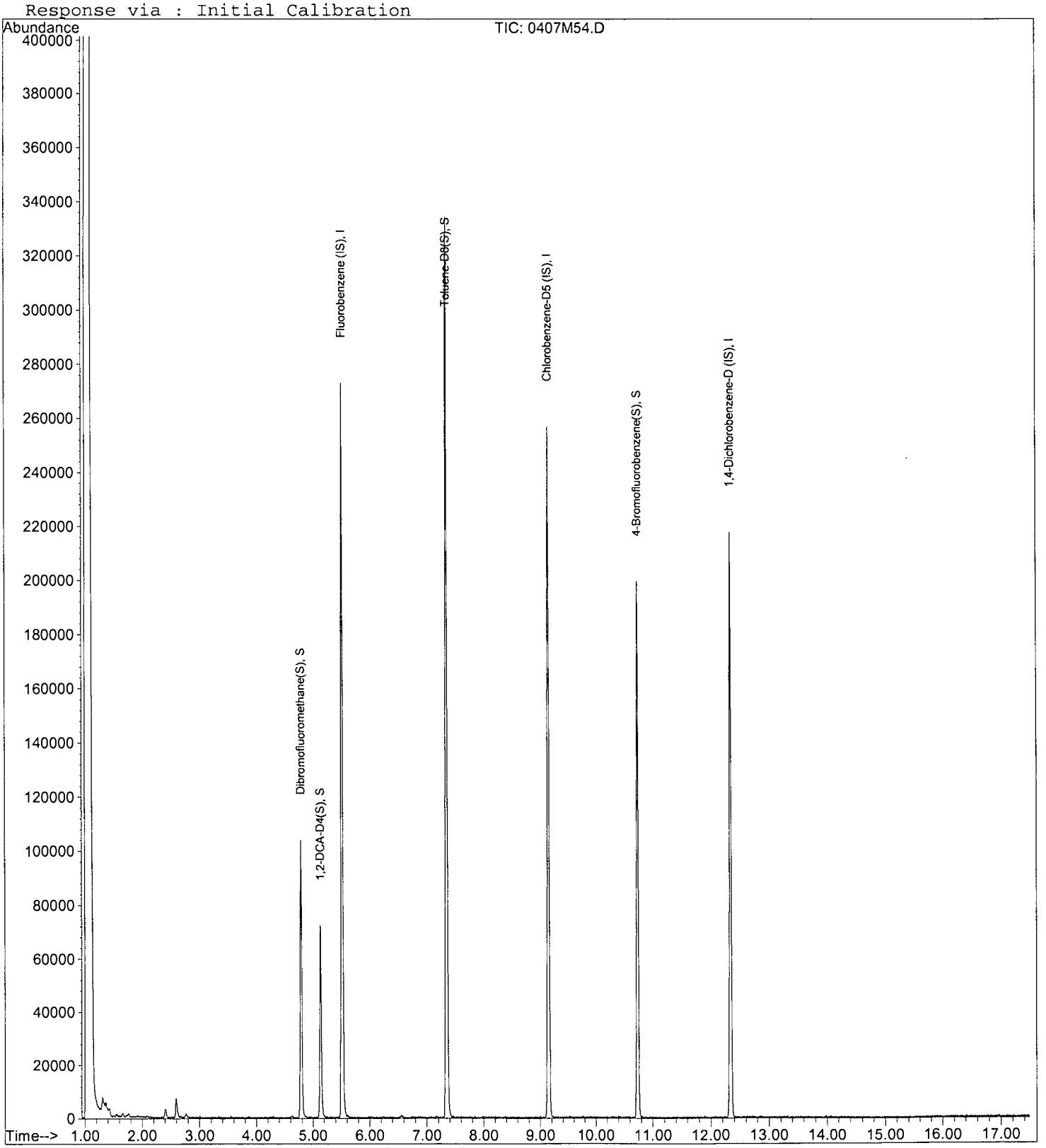
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M54.D
Acq On : 8 Apr 17 9:10
Sample : AZ53263W01
Misc : 10ml IS&S: 2/23/17

Vial: 54
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:36 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82611

Sample ID: ERH289

APPL ID: AZ53264

Sample Collection Date: 04/04/17

QCG: #86BTO-170407BM1-21764

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	96.7	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.4	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	98.5	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	105	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M55
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M55.D Vial: 55
Acq On : 8 Apr 17 9:38 Operator: PM,DG,SV,CMM
Sample : AZ53264W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:37 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259587	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	167917	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	69533	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	60192	24.61944 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.476%	
37) 1,2-DCA-D4(S)	5.14	65	46295	24.17245 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.688%	
57) Toluene-D8(S)	7.35	98	257148	26.25331 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.012%	
65) 4-Bromofluorobenzene(S)	10.73	95	70801	23.33774 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.352%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

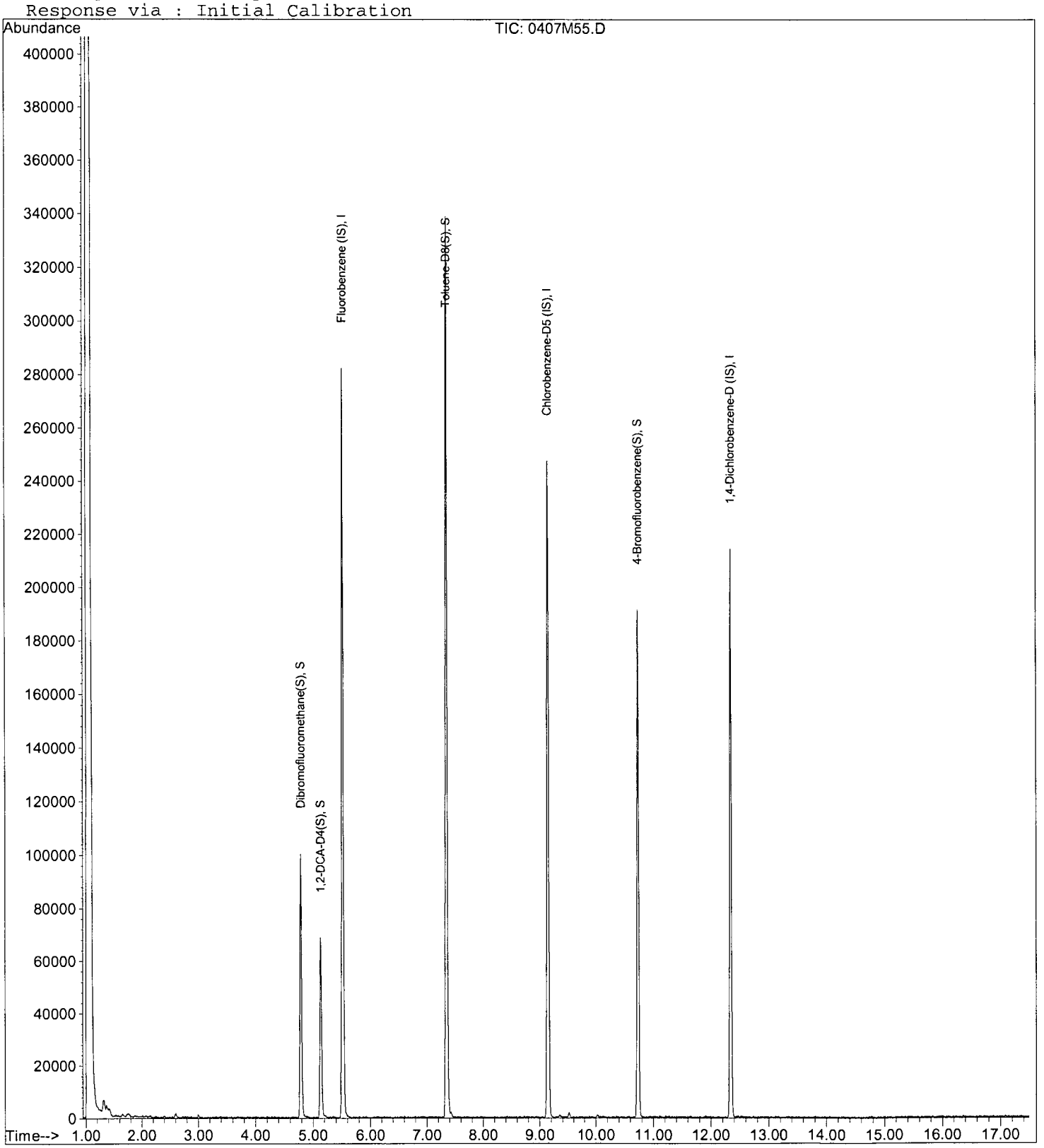
Data File : M:\MAX\DATA\M170404\0407M55.D
Acq On : 8 Apr 17 9:38
Sample : AZ53264W01
Misc : 10ml IS&S: 2/23/17

Vial: 55
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:37 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82611

Sample ID: ERH301

APPL ID: AZ53265

Sample Collection Date: 04/04/17

QCG: #86BTO-170407BM1-21764

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	99.5	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.9	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	99.5	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	107	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M56
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:40 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M56.D Vial: 56
Acq On : 8 Apr 17 10:07 Operator: PM,DG,SV,CMM
Sample : AZ53265W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:37 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	257785	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	166224	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	68596	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	60370	24.86485 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.460%	
37) 1,2-DCA-D4(S)	5.13	65	47309	24.87457 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.500%	
57) Toluene-D8(S)	7.35	98	258878	26.69912 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.796%	
65) 4-Bromofluorobenzene(S)	10.73	95	71285	23.73660 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.948%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

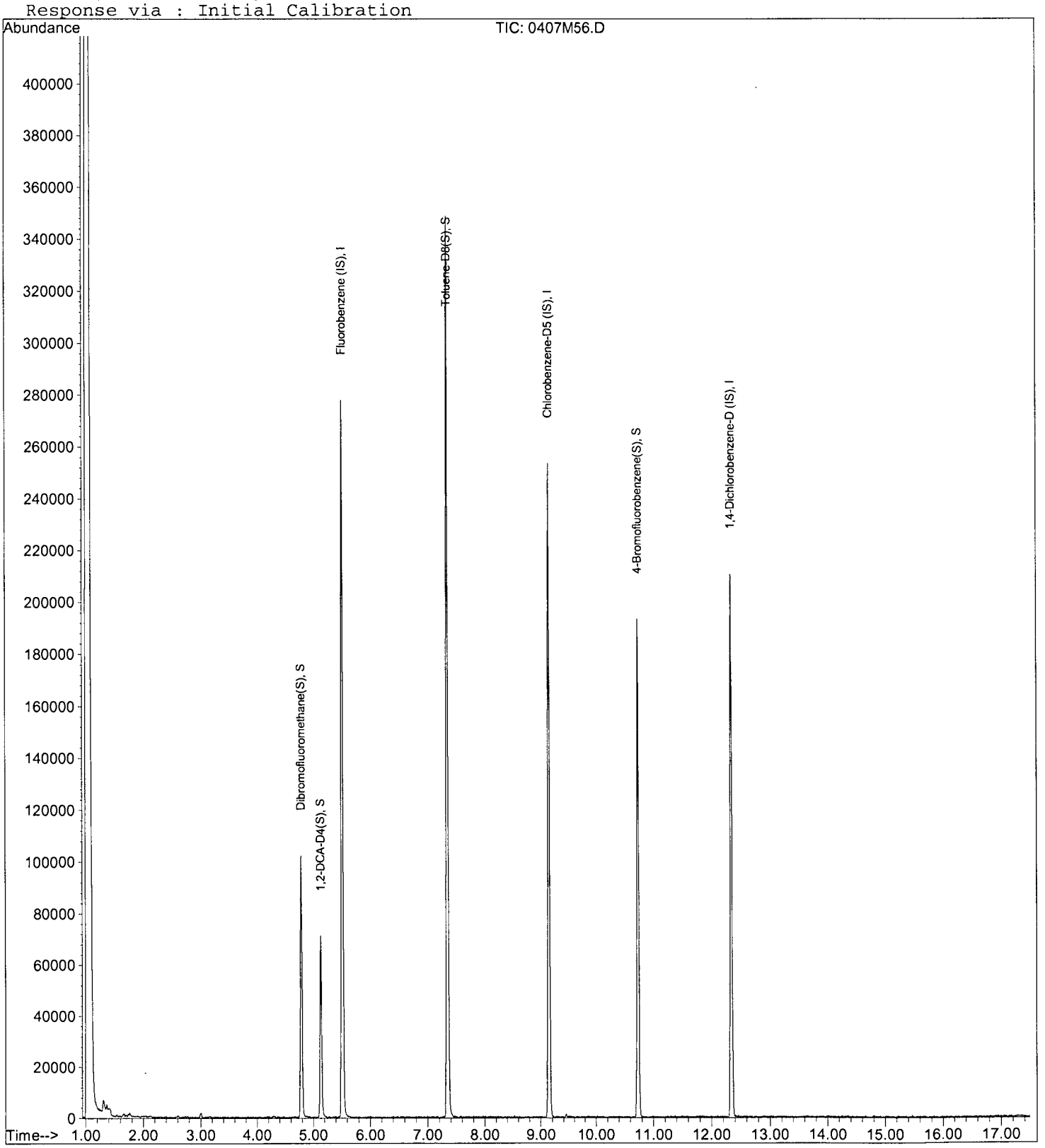
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M56.D
Acq On : 8 Apr 17 10:07
Sample : AZ53265W01
Misc : 10ml IS&S: 2/23/17

Vial: 56
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:37 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



EPA 8260B BTEX WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #86BTO-170407BM1-21764

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
EPA 8260B	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
EPA 8260B	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
EPA 8260B	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.6	85-114			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/08/17	04/08/17
EPA 8260B	SURROGATE: TOLUENE-D8 (S)	106	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M57
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:46:41 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M57.D Vial: 57
Acq On : 8 Apr 17 10:35 Operator: PM,DG,SV,CMM
Sample : AZ53266W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 8:38 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259011	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.15	117	169344	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72184	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	62063	25.44116 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.764%	
37) 1,2-DCA-D4(S)	5.13	65	48729	25.49991 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.000%	
57) Toluene-D8(S)	7.35	98	262623	26.58633 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.344%	
65) 4-Bromofluorobenzene(S)	10.73	95	73088	23.88858 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.556%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

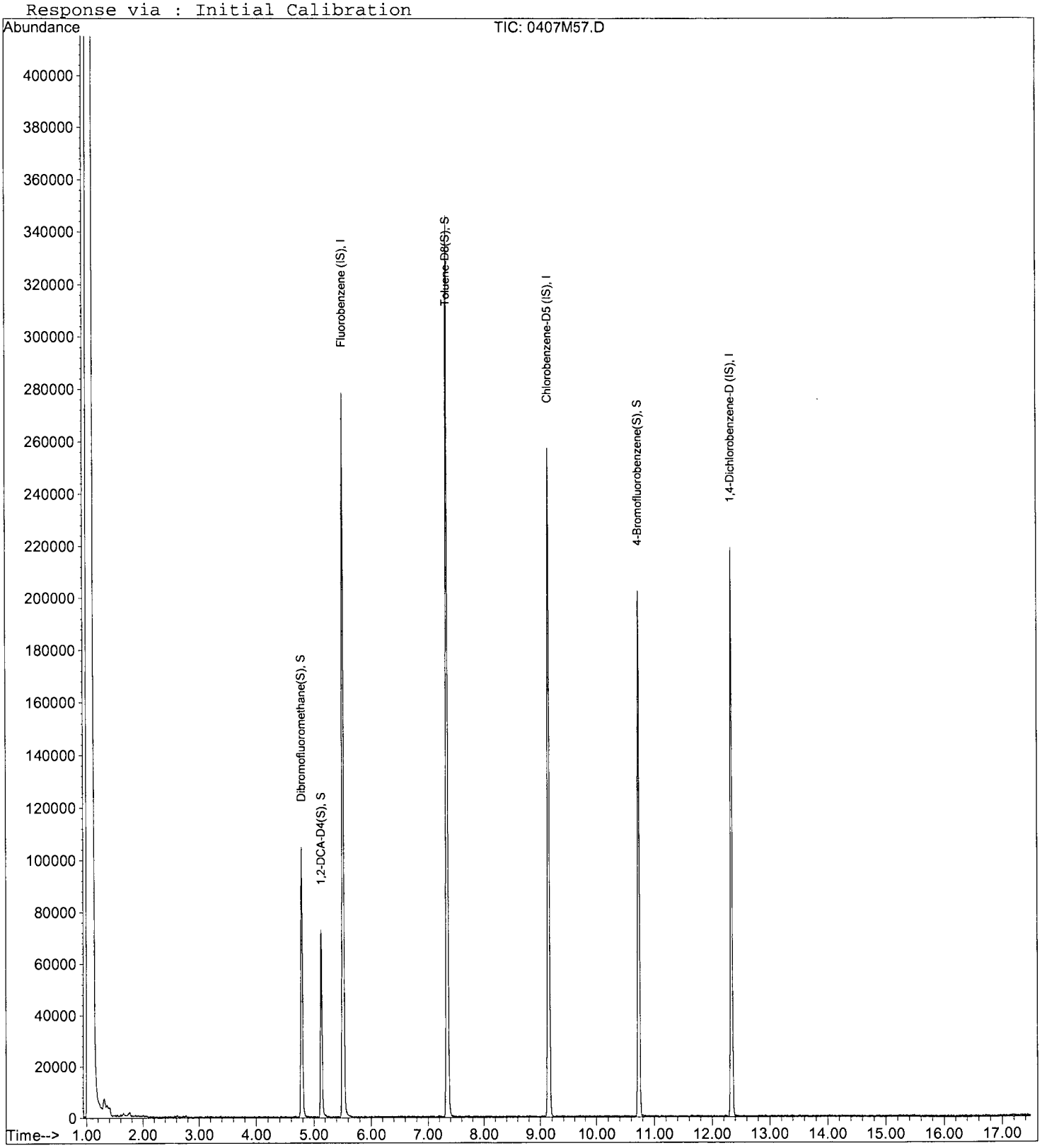
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M57.D
Acq On : 8 Apr 17 10:35
Sample : AZ53266W01
Misc : 10ml IS&S: 2/23/17

Vial: 57
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:38 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09 D	0404M10.D	0404M11.D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane	0.3097	0.2980	0.3409	0.3144	0.2851	0.3122	0.3005				0.31	5.6	TM	
3	TM	Freon 114		0.4579	0.4137	0.4206	0.4136	0.4408	0.4071	0.4127	0.3897		0.42	5.0	TM	
4	TM**	Chloromethane		0.4627	0.4463	0.4083	0.4768	0.4484	0.4057	0.3956	0.3797		0.43	8.2	TM**	
5	TM*	Vinyl chloride		0.6298	0.6131	0.6343	0.6811	0.7135	0.6695	0.6412	0.6108		0.65	5.5	TM*	
6	TM	Bromomethane		0.4923	0.4015	0.4209	0.4006	0.3649	0.3266				0.40	14	TM	
7	TM	Chloroethane		0.3940	0.4180	0.3643	0.3886	0.4083	0.3965	0.3917	0.3802		0.39	4.2	TM	
8	TM	Dichlorofluoromethane		1.062	1.051	0.9955	1.111	1.083	1.067	1.045	1.102		1.1	3.4	TM	
9	TM	Trichlorofluoromethane	0.7493	0.6471	0.6754	0.6591	0.7042	0.7363	0.7153	0.6951	0.7501		0.70	5.4	TM	
10	TM	Acrolein		0.0241	0.0240	0.0237	0.0254	0.0232	0.0236	0.0231	0.0229		0.02	3.3	TM	
11	TM	Acetone				0.0588	0.0741	0.0587	0.0555	0.0530			0.06	14	TM	
12	TM	Freon-113		0.4641	0.3856	0.4462	0.4327	0.4586	0.4303	0.4161	0.4081		0.43	6.1	TM	
13	TM*	1,1-DCE		0.7525	0.6388	0.6285	0.6911	0.7088	0.6726	0.6738	0.6628		0.68	5.8	TM*	
14		Acetonitrile		0.0377	0.0489	0.0502	0.0418	0.0422	0.0441	0.0361	0.0501		0.04	12		
15	TM	t-Butanol	0.0118	0.0084	0.0079	0.0086	0.0094	0.0102	0.0103	0.0106	0.0102		0.01	13	TM	
16	TM	Methyl Acetate		0.1602	0.1597	0.1519	0.1749	0.1604	0.1653	0.1647	0.1625		0.16	4.0	TM	
17	TML	Iodomethane		0.1028	0.1130	0.1688	0.3080	0.4051	0.4568	0.4803	0.4784		0.31	52	TML	1.000
18	TM	Acrylonitrile		0.0506	0.0658	0.0708	0.0842	0.0759	0.0778	0.0727	0.0744		0.07	14	TM	
19	TM	Methylene chloride		0.5338	0.4736	0.4323	0.4767	0.4385	0.4243	0.4089	0.3892		0.45	10	TM	
20	TM	Carbon disulfide		1.495	1.418	1.370	1.456	1.438	1.358	1.317	1.319		1.4	4.7	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.6362	0.6227	0.6278	0.7667	0.6855	0.6813	0.6926	0.6917		0.68	7.0	TM	
22	TM	Trans-1,2-DCE		0.4967	0.4828	0.4469	0.5453	0.5205	0.4904	0.4937	0.4742		0.49	6.0	TM	
23	TM	Diisopropyl Ether		1.343	1.211	1.261	1.460	1.377	1.403	1.415	1.458		1.4	6.6	TM	
24	TM**	1,1-DCA		0.8939	0.8787	0.7881	0.8592	0.8409	0.8214	0.8246	0.8223		0.84	4.1	TM**	
25	TM	Vinyl Acetate		0.2839	0.2512	0.2409	0.2969	0.2534	0.2746	0.2896	0.3484		0.28	12	TM	
26	TM	Ethyl tert Butyl Ether		0.7051	0.7579	0.7474	0.9162	0.8172	0.8383	0.8695	0.9105		0.82	9.5	TM	
27	TML	MEK (2-Butanone)			0.0863	0.0647	0.1273	0.1026	0.1047	0.0999			0.10	21	TML	0.997
28	TM	Cis-1,2-DCE		0.5368	0.5192	0.4807	0.5614	0.5457	0.5241	0.5159	0.5160		0.52	4.6	TM	
29	TM	2,2-Dichloropropane		0.5195	0.4410	0.4726	0.5096	0.5149	0.5246				0.50	6.7	TM	
30	TM*	Chloroform		0.8289	0.7752	0.7845	0.8928	0.8225	0.7987	0.7879	0.7905		0.81	4.7	TM*	
31	TM	Bromochloromethane		0.2160	0.2155	0.2159	0.2248	0.2055	0.1960	0.1946	0.1916		0.21	5.9	TM	
32	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
33	TM	1,1,1-TCA		0.7402	0.6406	0.6291	0.7316	0.7368	0.7174	0.7250	0.7496		0.71	6.6	TM	
34	TM	Cyclohexane		0.5109	0.4829	0.4475	0.4600	0.4914	0.4554	0.4599	0.4752		0.47	4.5	TM	
35	TM	1,1-Dichloropropene		0.7027	0.6296	0.6286	0.7037	0.7065	0.6742	0.6700	0.6777		0.67	4.6	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane		1.210	1.141	1.105	1.155	1.255	1.161	1.198	1.212		1.2	4.1	TM	
37	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
38	TM	Carbon Tetrachloride		0.5929	0.4636	0.4989	0.5769	0.5965	0.5915	0.6008	0.6318		0.57	10	TM	
39	TM	Tert Amyl Methyl Ether		0.6624	0.6673	0.6280	0.7805	0.7097	0.7424	0.7722	0.8085		0.72	9.0	TM	
40	TM	1,2-DCA		0.4343	0.4196	0.3835	0.4514	0.4187	0.4221	0.4354	0.4518		0.43	5.1	TM	
41	TM	Benzene		2.089	1.915	1.888	2.206	2.073	2.008	2.018	2.061		2.0	5.0	TM	
42	TM	TCE		0.5856	0.5435	0.4863	0.5547	0.5577	0.5230	0.5232	0.5264		0.54	5.5	TM	
43	TM	2-Pentanone		0.1279	0.1267	0.1339	0.1477	0.1409	0.1496	0.1573	0.1747		0.14	11	TM	
44	TM*	1,2-Dichloropropane		0.4609	0.4431	0.4201	0.4917	0.4541	0.4544	0.4608	0.4662		0.46	4.4	TM*	
45	TM	Bromodichloromethane		0.5290	0.4749	0.5135	0.5561	0.5124	0.5191	0.5238	0.5320		0.52	4.4	TM	
46	TM	Methyl Cyclohexane	0.7366	0.6817	0.7089	0.7145	0.7189	0.7662	0.7289	0.7384	0.7624		0.73	3.6	TM	
47	TM	Dibromomethane		0.1763	0.1589	0.1631	0.1898	0.1801	0.1766	0.1734	0.1716		0.17	5.5	TM	
48	TM	MIBK (methyl isobutyl ketone)			0.2678	0.2363	0.2628	0.2085	0.2079	0.2025	0.1985		0.23	13	TM	
49	TM	1-Bromo-2-chloroethane		0.4464	0.4386	0.4043	0.4652	0.4125	0.4295	0.4391	0.4376		0.43	4.4	TM	
50	TML	2-Chloroethyl vinyl ether				0.0019	0.0037	0.0045	0.0079	0.0086	0.0081		0.01	48	TML	0.997
51	TM	Cis-1,3-Dichloropropene		0.5165	0.4883	0.4963	0.5603	0.5485	0.5643	0.5892	0.6192		0.55	8.3	TM	
52	TM*	Toluene		2.320	2.177	2.148	2.536	2.399	2.314	2.397	2.574		2.4	6.4	TM*	
53	TM	Trans-1,3-Dichloropropene		0.3339	0.2927	0.2780	0.3790	0.3532	0.3852	0.4194			0.35	15	TM	
54	TM	1,1,2-TCA		0.2465	0.1995	0.2044	0.2365	0.2218	0.2176	0.2186	0.2217		0.22	6.9	TM	
55	TML	2-Hexanone			0.0794	0.0890	0.1312	0.1236	0.1282	0.1243	0.1240		0.11	18	TML	1.000
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
58	TM	1,2-EDB		0.2931	0.3135	0.3122	0.3683	0.3240	0.3453	0.3466	0.3349		0.33	7.2	TM	
59	TM	Tetrachloroethene		0.9574	0.8438	0.8102	0.8634	0.8456	0.7996	0.7684	0.7277		0.83	8.3	TM	
60	TM	1-Chlorohexane		0.7670	0.7625	0.6934	0.8804	0.9154	0.9115	0.9673	1.036		0.87	13	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.6525	0.5486	0.4967	0.6460	0.6166	0.6293	0.6486	0.6553		0.61	9.5	TM	
62	TM	m&p-Xylene		1.458	1.289	1.323	1.604	1.518	1.498	1.625	1.652		1.5	9.0	TM	
63	TM	o-Xylene		1.256	1.180	1.259	1.490	1.383	1.404	1.510	1.560		1.4	10.0	TM	
64	TM	Styrene		1.785	1.820	1.788	2.234	2.071	2.185	2.411	2.546		2.1	14	TM	
65	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
66	TM	1,3-Dichloropropane		0.6438	0.5843	0.6117	0.7288	0.6511	0.6544	0.6442	0.6308		0.64	6.5	TM	
67	TM	Dibromochloromethane		0.5287	0.4845	0.4292	0.5138	0.4819	0.4960	0.4920	0.4854		0.49	5.9	TM	
68	TM**	Chlorobenzene		2.160	1.972	1.885	2.239	2.008	2.002	2.033	2.035		2.0	5.4	TM**	
69	TM*	Ethylbenzene		3.726	3.449	3.426	4.005	3.781	3.729	3.841	3.903		3.7	5.5	TM*	
70	TM**	Bromoform		0.2359	0.2224	0.2323	0.2845	0.2539	0.2710	0.2986	0.3032		0.26	12	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene		8.282	7.407	7.501	8.602	7.901	7.305	6.927	7.340		7.7	7.3	TM	
73	TM**	1,1,2,2-Tetrachloroethane		1.003	0.8133	0.7929	0.8774	0.7773	0.7533	0.6886	0.6844		0.80	13	TM**	
74	TM	1,2,3-Trichloropropane		0.1831	0.2547	0.2322	0.2864	0.2322	0.2292	0.2066	0.2048		0.23	14	TM	
75	TM	t-1,4-Dichloro-2-Butene		0.1207	0.1437	0.1152	0.1527	0.1425	0.1439	0.1460	0.1467		0.14	9.6	TM	
76	TM	Bromobenzene		1.904	1.863	1.492	2.008	1.730	1.571	1.458	1.470		1.7	13	TM	
77	TM	n-Propylbenzene		7.972	7.522	7.534	8.957	8.481	8.002	7.785	8.260		8.1	6.1	TM	
78	TM	4-Ethyltoluene		7.156	6.332	6.108	7.407	7.115	6.887	6.922	7.211		6.9	6.5	TM	
79	TM	2-Chlorotoluene		5.323	4.649	4.813	5.314	4.871	4.582	4.511	4.590		4.8	6.7	TM	
80	TM	1,3,5-Trimethylbenzene		6.200	5.819	5.563	6.557	5.987	5.876	5.978	6.019		6.0	4.8	TM	
81	TM	4-Chlorotoluene			5.029	4.998	5.891	5.400	5.245				5.3	6.8	TM	
82	TM	Tert-Butylbenzene			5.219	5.039	5.848	5.430	5.130	4.967	5.178		5.3	5.7	TM	
83	TM	1,2,4-Trimethylbenzene			5.668	5.290	6.055	5.596	5.488	5.564			5.6	4.5	TM	
84	TM	Sec-Butylbenzene	7.496	7.284	6.807	6.521	7.278	7.047	6.839	6.987	7.366		7.1	4.4	TM	
85	TM	p-Isopropyltoluene	3.328	3.383	2.752	2.853	3.181	3.021					3.1	8.3	TM	
86	TMQ	Benzyl Chloride			0.2939	0.3099	0.4437	0.4143	0.4801	0.5226			0.41	22	TMQ	1.000
87	TM	1,3-DCB			3.452	3.181	3.714	3.273	3.254	3.203	3.225		3.3	5.8	TM	
88	TM	1,4-DCB			1.512	1.499	1.821	1.651	1.665	1.650	1.633		1.6	6.6	TM	
89	TM	n-Butylbenzene			2.754	2.429	2.627	2.405	2.320	2.353			2.5	6.9	TM	
90	TM	1,2-DCB		2.816	2.723	2.424	3.050	2.743	2.676	2.523	2.507		2.7	7.5	TM	
91	TM	Hexachloroethane		0.6637	0.6321	0.5486	0.7725	0.7026	0.7328	0.7525	0.8384		0.71	13	TM	
92	TM	1,2-Dibromo-3-chloropropane				0.0717	0.0959	0.0806	0.0871	0.0860	0.0898		0.09	9.7	TM	
93	TML	1,2,4-Trichlorobenzene		0.9078	1.054	1.187	1.647	1.553	1.488	1.408	1.341		1.3	19	TML	0.999
94	TM	Hexachlorobutadiene			1.108	1.089	1.171	1.115	0.9490	0.8914	0.8665		1.0	12	TM	
95	TML	Naphthalene			0.4177	0.7157	1.193	1.361	1.519	1.483	1.342		1.1	37	TML	0.997
96	TML	1,2,3-Trichlorobenzene		0.3620	0.5837	0.6924	0.9881	1.017	1.042	1.003	0.8838		0.82	30	TML	0.996
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
37) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
57) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
65) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	904	0.30101 ppb		94
3) Freon 114	1.31	85	1215	0.29768 ppb		86
4) Chloromethane	1.35	50	1561	0.37492 ppb	#	80
5) Vinyl chloride	1.45	62	1844	0.29196 ppb	#	88
6) Bromomethane	1.72	94	1858	0.47607 ppb		97
7) Chloroethane	1.81	64	1293	0.33842 ppb		99
8) Dichlorofluoromethane	2.00	67	3172	0.30626 ppb		100
9) Trichlorofluoromethane	2.05	101	2187	0.31950 ppb	#	75
10) Acrolein	2.44	56	2646	11.45842 ppb		86
11) Acetone	2.59	43	440	0.17170 ppb	#	39
12) Freon-113	2.55	101	1295	0.30939 ppb		97
13) 1,1-DCE	2.53	61	2280	0.34533 ppb	#	92
14) Acetonitrile	2.84	TIC	8199	19.19759 ppb	#	68
15) t-Butanol	3.15	59	1146	12.12734 ppb		96
16) Methyl Acetate	2.93	43	775	0.49036 ppb	#	40
17) Iodomethane	2.66	142	432	1.18109 ppb	#	45
18) Acrylonitrile	3.23	53	184	0.26436 ppb	#	66
19) Methylene chloride	2.99	84	1692	0.38892 ppb	#	80
20) Carbon disulfide	2.71	76	4350	0.32020 ppb		100
21) Methyl t-butyl ether (MtBE	3.30	73	2055	0.31266 ppb		92
22) Trans-1,2-DCE	3.27	96	1525	0.31742 ppb		99
23) Diisopropyl Ether	3.80	45	3844	0.28928 ppb		88
24) 1,1-DCA	3.68	63	2661	0.32516 ppb	#	96
25) Vinyl Acetate	3.77	43	720	0.26444 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	2456	0.30775 ppb		95
27) MEK (2-Butanone)	4.31	43	318	0.08237 ppb	#	55
28) Cis-1,2-DCE	4.28	96	1958	0.38335 ppb		78
29) 2,2-Dichloropropane	4.27	77	1464	0.30276 ppb		99
30) Chloroform	4.62	83	2762	0.35042 ppb		89
31) Bromochloromethane	4.52	128	547	0.27097 ppb		81
33) 1,1,1-TCA	4.81	97	2417	0.35050 ppb		89
34) Cyclohexane	4.87	41	1761	0.38275 ppb		92
35) 1,1-Dichloropropene	4.99	75	2191	0.33405 ppb		91
36) 2,2,4-Trimethylpentane	5.32	57	3502	0.30518 ppb	#	86
38) Carbon Tetrachloride	4.99	117	1667	0.30106 ppb		81
39) Tert Amyl Methyl Ether	5.38	73	2410	0.34339 ppb	#	84
40) 1,2-DCA	5.21	62	1338	0.32199 ppb	#	72
41) Benzene	5.20	78	6470	0.32721 ppb		94
42) TCE	5.93	95	1748	0.33423 ppb	#	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	14467	10.26597	ppb		94
44)	1,2-Dichloropropane	6.16	63	1532	0.34500	ppb	#	86
45)	Bromodichloromethane	6.49	83	1712	0.33833	ppb		91
46)	Methyl Cyclohexane	6.14	83	2150	0.30335	ppb		77
47)	Dibromomethane	6.28	93	526	0.31121	ppb	#	72
48)	MIBK (methyl isobutyl ket	7.22	43	819	0.37197	ppb	#	90
49)	1-Bromo-2-chloroethane	6.83	63	1235	0.29236	ppb	#	83
51)	Cis-1,3-Dichloropropene	7.02	75	1510	0.28331	ppb	#	64
52)	Toluene	7.43	91	7467	0.32549	ppb		91
53)	Trans-1,3-Dichloropropene	7.71	75	654	0.19274	ppb	#	41
54)	1,1,2-TCA	7.92	83	519	0.24155	ppb	#	31
55)	2-Hexanone	8.29	43	359	0.32769	ppb	#	35
58)	1,2-EDB	8.52	107	730	0.32927	ppb		80
59)	Tetrachloroethene	8.10	164	1828	0.32873	ppb		94
60)	1-Chlorohexane	9.21	91	1475	0.25310	ppb	#	83
61)	1,1,1,2-Tetrachloroethane	9.29	131	1412	0.34330	ppb		79
62)	m&p-Xylene	9.51	106	6064	0.60292	ppb		95
63)	o-Xylene	10.03	106	2943	0.31712	ppb		90
64)	Styrene	10.05	104	3801	0.26853	ppb		96
66)	1,3-Dichloropropane	8.12	76	1625	0.37548	ppb		92
67)	Dibromochloromethane	8.40	129	1052	0.31999	ppb		98
68)	Chlorobenzene	9.17	112	4484	0.32663	ppb		97
69)	Ethylbenzene	9.36	91	6933	0.27625	ppb		95
70)	Bromoform	10.26	173	448	0.25360	ppb		99
72)	Isopropylbenzene	10.55	105	7151	0.31804	ppb		96
73)	1,1,2,2-Tetrachloroethane	10.96	83	833	0.35519	ppb	#	62
74)	1,2,3-Trichloropropane	10.99	110	195	0.29046	ppb	#	22
75)	t-1,4-Dichloro-2-Butene	11.05	53	43	0.10541	ppb	#	37
76)	Bromobenzene	10.91	156	1763	0.35593	ppb		82
77)	n-Propylbenzene	11.12	91	7268	0.30697	ppb		98
78)	4-Ethyltoluene	11.29	105	6124	0.30262	ppb		92
79)	2-Chlorotoluene	11.21	91	4634	0.32666	ppb		94
80)	1,3,5-Trimethylbenzene	11.38	105	5285	0.30002	ppb		98
81)	4-Chlorotoluene	11.36	91	5283	0.33869	ppb		96
82)	Tert-Butylbenzene	11.83	119	5281	0.34203	ppb	#	90
83)	1,2,4-Trimethylbenzene	11.90	105	5468	0.33196	ppb		98
84)	Sec-Butylbenzene	12.14	105	6603	0.31811	ppb	#	84
85)	p-Isopropyltoluene	12.35	119	2931	0.32345	ppb		90
86)	Benzyl Chloride	12.57	91	476	0.81902	ppb	#	57
87)	1,3-DCB	12.24	146	3155	0.32281	ppb		85
88)	1,4-DCB	12.37	146	1378	0.28738	ppb	#	62
89)	n-Butylbenzene	12.94	91	2715	0.37267	ppb		86
90)	1,2-DCB	12.88	146	2300	0.29200	ppb		88
91)	Hexachloroethane	13.25	117	595	0.28729	ppb		74
93)	1,2,4-Trichlorobenzene	15.21	180	727	-0.59252	ppb	#	89
94)	Hexachlorobutadiene	15.51	225	951	0.31530	ppb	#	74
95)	Naphthalene	15.53	128	285	0.08460	ppb	#	81

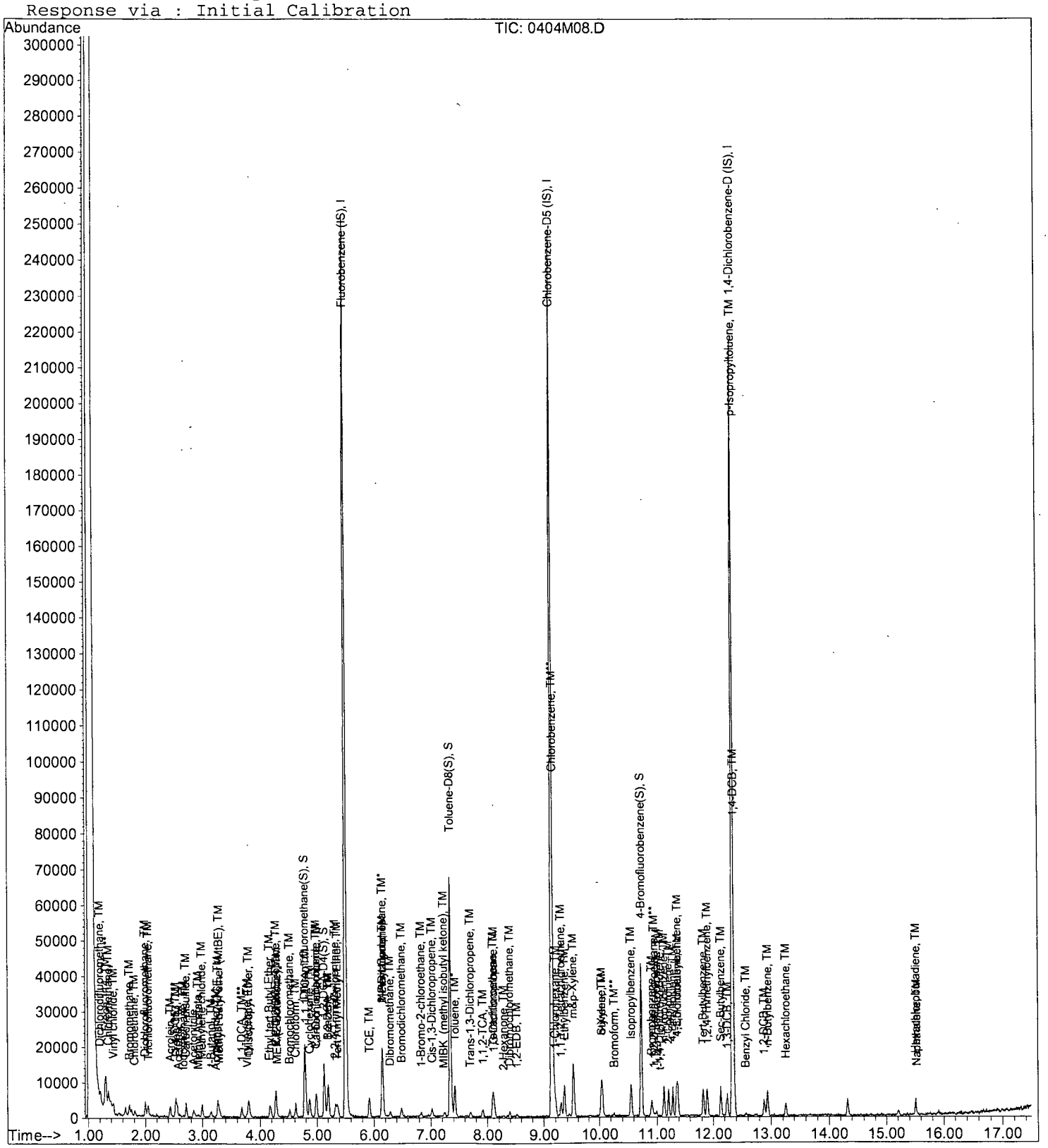
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M08.D Vial: 4
Acq On : 4 Apr 17 10:42 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 04/04/17A Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



466

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
37) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
57) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
65) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	1501	0.48262 ppb		91
3) Freon 114	1.31	85	2307	0.54580 ppb		89
4) Chloromethane	1.35	50	2331	0.54062 ppb		90
5) Vinyl chloride	1.45	62	3173	0.48511 ppb	#	78
6) Bromomethane	1.72	94	2480	0.61361 ppb		91
7) Chloroethane	1.81	64	1985	0.50168 ppb	#	79
8) Dichlorofluoromethane	2.00	67	5352	0.49898 ppb		96
9) Trichlorofluoromethane	2.05	101	3260	0.45989 ppb		93
10) Acrolein	2.44	56	6080	25.42456 ppb		96
11) Acetone	2.59	43	582	0.40203 ppb		87
12) Freon-113	2.55	101	2338	0.53938 ppb		92
13) 1,1-DCE	2.53	61	3791	0.55446 ppb		99
14) Acetonitrile	2.84	TIC	9501	21.48177 ppb	#	91
15) t-Butanol	3.16	59	2109	21.55125 ppb		89
16) Methyl Acetate	2.92	43	807	0.49306 ppb	#	52
17) Iodomethane	2.66	142	518	1.19555 ppb	#	87
18) Acrylonitrile	3.23	53	255	0.35378 ppb	#	59
19) Methylene chloride	2.99	84	2689	0.59685 ppb		85
20) Carbon disulfide	2.72	76	7533	0.53545 ppb		94
21) Methyl t-butyl ether (MtBE	3.29	73	3205	0.47087 ppb		95
22) Trans-1,2-DCE	3.27	96	2502	0.50289 ppb		90
23) Diisopropyl Ether	3.80	45	6765	0.49160 ppb		97
24) 1,1-DCA	3.68	63	4503	0.53134 ppb		97
25) Vinyl Acetate	3.77	43	1430	0.50716 ppb	#	75
26) Ethyl tert Butyl Ether	4.18	59	3552	0.42979 ppb		96
28) Cis-1,2-DCE	4.28	96	2704	0.51122 ppb		87
29) 2,2-Dichloropropane	4.28	77	2617	0.52260 ppb		95
30) Chloroform	4.62	83	4176	0.51161 ppb		97
31) Bromochloromethane	4.52	128	1088	0.52044 ppb		84
33) 1,1,1-TCA	4.81	97	3729	0.52218 ppb		92
34) Cyclohexane	4.87	41	2574	0.54023 ppb		79
35) 1,1-Dichloropropene	4.99	75	3540	0.52118 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	6096	0.51297 ppb		95
38) Carbon Tetrachloride	4.99	117	2987	0.52091 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	3337	0.45913 ppb	#	97
40) 1,2-DCA	5.21	62	2188	0.50845 ppb	#	91
41) Benzene	5.20	78	10522	0.51385 ppb		99
42) TCE	5.92	95	2950	0.54468 ppb		92
43) 2-Pentanone	6.15	43	32211	22.07195 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44) 1,2-Dichloropropane	6.16	63	2322	0.50494	ppb	#	84
45) Bromodichloromethane	6.48	83	2665	0.50857	ppb		90
46) Methyl Cyclohexane	6.15	83	3434	0.46787	ppb		76
47) Dibromomethane	6.29	93	888	0.50733	ppb		85
48) MIBK (methyl isobutyl ket	7.24	43	1454	0.63768	ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	2249	0.51411	ppb	#	81
51) Cis-1,3-Dichloropropene	7.02	75	2602	0.47142	ppb	#	82
52) Toluene	7.42	91	11685	0.49185	ppb		91
53) Trans-1,3-Dichloropropene	7.70	75	1682	0.47866	ppb		90
54) 1,1,2-TCA	7.92	83	1242	0.55819	ppb		92
55) 2-Hexanone	8.27	43	456	0.39499	ppb	#	35
58) 1,2-EDB	8.52	107	985	0.44440	ppb		94
59) Tetrachloroethene	8.10	164	3218	0.57883	ppb		97
60) 1-Chlorohexane	9.20	91	2578	0.44248	ppb		93
61) 1,1,1,2-Tetrachloroethane	9.30	131	2193	0.53331	ppb		72
62) m&p-Xylene	9.52	106	9800	0.97461	ppb		88
63) o-Xylene	10.03	106	4222	0.45505	ppb		94
64) Styrene	10.05	104	6000	0.42399	ppb		99
66) 1,3-Dichloropropane	8.12	76	2164	0.50014	ppb	#	79
67) Dibromochloromethane	8.39	129	1777	0.54065	ppb	#	73
68) Chlorobenzene	9.18	112	7260	0.52898	ppb		96
69) Ethylbenzene	9.35	91	12524	0.49915	ppb		99
70) Bromoform	10.26	173	793	0.44901	ppb	#	75
72) Isopropylbenzene	10.55	105	11942	0.54073	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	1446	0.62774	ppb	#	91
74) 1,2,3-Trichloropropane	10.99	110	264	0.40036	ppb		89
75) t-1,4-Dichloro-2-Butene	11.03	53	42	0.10482	ppb	#	37
76) Bromobenzene	10.91	156	2745	0.56421	ppb		92
77) n-Propylbenzene	11.12	91	11495	0.49429	ppb		94
78) 4-Ethyltoluene	11.29	105	10319	0.51914	ppb		88
79) 2-Chlorotoluene	11.20	91	7676	0.55089	ppb		96
80) 1,3,5-Trimethylbenzene	11.38	105	8940	0.51669	ppb		92
81) 4-Chlorotoluene	11.36	91	7742	0.50532	ppb		89
82) Tert-Butylbenzene	11.82	119	8353	0.55078	ppb		92
83) 1,2,4-Trimethylbenzene	11.89	105	9287	0.57402	ppb		95
84) Sec-Butylbenzene	12.14	105	10503	0.51516	ppb		96
85) p-Isopropyltoluene	12.36	119	4878	0.54806	ppb		96
86) Benzyl Chloride	12.57	91	357	0.73232	ppb	#	23
87) 1,3-DCB	12.24	146	5355	0.55782	ppb		97
88) 1,4-DCB	12.37	146	2953	0.62698	ppb		96
89) n-Butylbenzene	12.94	91	3909	0.54627	ppb		97
90) 1,2-DCB	12.88	146	4060	0.52478	ppb		94
91) Hexachloroethane	13.24	117	957	0.47044	ppb	#	69
92) 1,2-Dibromo-3-chloropropan	14.00	75	43	0.17502	ppb	#	30
93) 1,2,4-Trichlorobenzene	15.21	180	1309	-0.43877	ppb	#	76
94) Hexachlorobutadiene	15.51	225	1884	0.63595	ppb		96
95) Naphthalene	15.54	128	533	0.16108	ppb	#	1
96) 1,2,3-Trichlorobenzene	15.90	180	522	0.19977	ppb	#	80

(#) = qualifier out of range (m) = manual integration

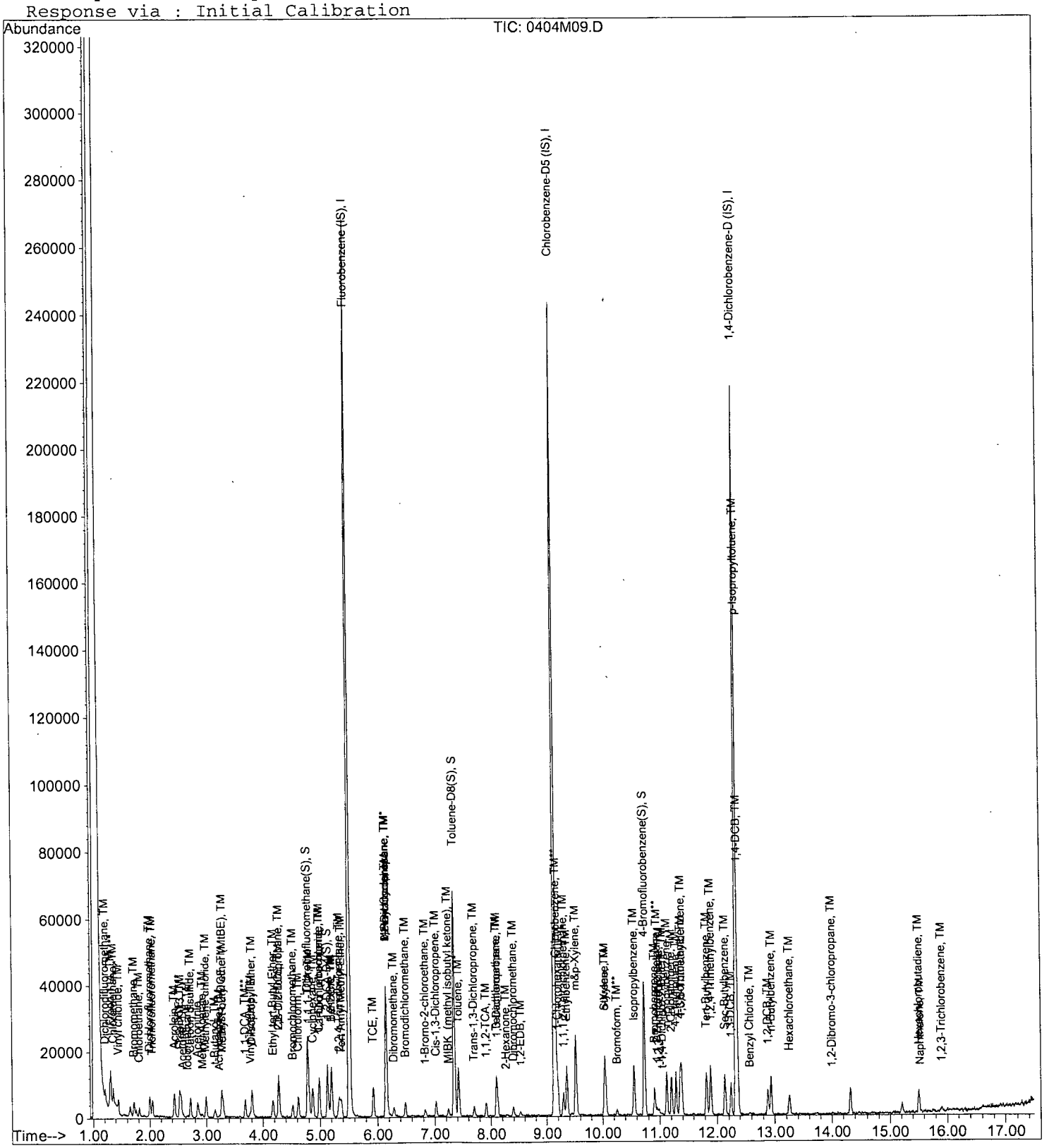
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



469

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
37) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
57) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
65) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	3507	1.10428 ppb #	81
3) Freon 114	1.31	85	4256	0.98607 ppb	98
4) Chloromethane	1.35	50	4592	1.04295 ppb	98
5) Vinyl chloride	1.44	62	6308	0.94446 ppb	92
6) Bromomethane	1.71	94	4131	1.00095 ppb	93
7) Chloroethane	1.81	64	4301	1.06452 ppb	91
8) Dichlorofluoromethane	2.00	67	10808	0.98680 ppb	100
9) Trichlorofluoromethane	2.05	101	6949	0.96002 ppb	94
10) Acrolein	2.43	56	12335	50.51324 ppb	98
11) Acetone	2.58	43	780	0.73357 ppb	96
12) Freon-113	2.55	101	3967	0.89625 ppb #	89
13) 1,1-DCE	2.53	61	6572	0.94131 ppb	95
14) Acetonitrile	2.84	TIC	25160	55.70928 ppb	94
15) t-Butanol	3.15	59	4078	40.80931 ppb	96
16) Methyl Acetate	2.92	43	1643	0.98306 ppb	87
17) Iodomethane	2.65	142	1163	1.32271 ppb #	79
18) Acrylonitrile	3.24	53	677	0.91982 ppb #	80
19) Methylene chloride	3.00	84	4873	1.05922 ppb	95
20) Carbon disulfide	2.71	76	14590	1.01560 ppb	96
21) Methyl t-butyl ether (MtBE	3.30	73	6407	0.92182 ppb	99
22) Trans-1,2-DCE	3.27	96	4967	0.97768 ppb	92
23) Diisopropyl Ether	3.81	45	12461	0.88678 ppb	97
24) 1,1-DCA	3.68	63	9040	1.04461 ppb	97
25) Vinyl Acetate	3.76	43	2584	0.89746 ppb	96
26) Ethyl tert Butyl Ether	4.18	59	7798	0.92401 ppb	94
27) MEK (2-Butanone)	4.31	43	888	0.61716 ppb #	80
28) Cis-1,2-DCE	4.28	96	5342	0.98905 ppb	96
29) 2,2-Dichloropropane	4.28	77	4537	0.88726 ppb #	87
30) Chloroform	4.62	83	7976	0.95692 ppb	96
31) Bromochloromethane	4.52	128	2217	1.03854 ppb	92
33) 1,1,1-TCA	4.81	97	6591	0.90384 ppb	94
34) Cyclohexane	4.87	41	4968	1.02109 ppb	73
35) 1,1-Dichloropropene	4.98	75	6478	0.93399 ppb	97
36) 2,2,4-Trimethylpentane	5.33	57	11735	0.96705 ppb	96
38) Carbon Tetrachloride	4.98	117	4770	0.81463 ppb	95
39) Tert Amyl Methyl Ether	5.37	73	6865	0.92499 ppb	98
40) 1,2-DCA	5.21	62	4317	0.98242 ppb	100
41) Benzene	5.20	78	19700	0.94214 ppb	99
42) TCE	5.92	95	5592	1.01112 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	65183	43.74083	ppb		100
44)	1,2-Dichloropropane	6.16	63	4559	0.97087	ppb		97
45)	Bromodichloromethane	6.49	83	4886	0.91311	ppb		92
46)	Methyl Cyclohexane	6.15	83	7293	0.97307	ppb		96
47)	Dibromomethane	6.29	93	1635	0.91477	ppb		83
48)	MIBK (methyl isobutyl ket	7.23	43	2755	1.18324	ppb	#	90
49)	1-Bromo-2-chloroethane	6.83	63	4513	1.01030	ppb		88
51)	Cis-1,3-Dichloropropene	7.02	75	5024	0.89138	ppb		89
52)	Toluene	7.42	91	22395	0.92314	ppb		91
53)	Trans-1,3-Dichloropropene	7.70	75	3011	0.83913	ppb	#	72
54)	1,1,2-TCA	7.91	83	2053	0.90357	ppb		90
55)	2-Hexanone	8.28	43	817	0.66990	ppb	#	66
58)	1,2-EDB	8.52	107	2155	0.95088	ppb		89
59)	Tetrachloroethene	8.09	164	5800	1.02031	ppb		91
60)	1-Chlorohexane	9.20	91	5241	0.87975	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	3771	0.89689	ppb		83
62)	m&p-Xylene	9.52	106	17717	1.72319	ppb		99
63)	o-Xylene	10.03	106	8108	0.85466	ppb		99
64)	Styrene	10.05	104	12513	0.86478	ppb		94
66)	1,3-Dichloropropane	8.12	76	4016	0.90776	ppb	#	69
67)	Dibromochloromethane	8.39	129	3330	0.99086	ppb		99
68)	Chlorobenzene	9.18	112	13554	0.96584	ppb		95
69)	Ethylbenzene	9.35	91	23709	0.92415	ppb		98
70)	Bromoform	10.25	173	1529	0.84669	ppb		80
72)	Isopropylbenzene	10.55	105	21903	0.96724	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	2405	1.01824	ppb	#	87
74)	1,2,3-Trichloropropane	10.99	110	753	1.11370	ppb		93
75)	t-1,4-Dichloro-2-Butene	11.04	53	425	1.03444	ppb	#	74
76)	Bromobenzene	10.91	156	5510	1.10453	ppb		96
77)	n-Propylbenzene	11.12	91	22244	0.93285	ppb		97
78)	4-Ethyltoluene	11.29	105	18725	0.91875	ppb		95
79)	2-Chlorotoluene	11.20	91	13748	0.96226	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	17206	0.96983	ppb		93
81)	4-Chlorotoluene	11.36	91	14871	0.94663	ppb		97
82)	Tert-Butylbenzene	11.82	119	15433	0.99245	ppb		94
83)	1,2,4-Trimethylbenzene	11.89	105	16759	1.01024	ppb		95
84)	Sec-Butylbenzene	12.14	105	20129	0.96289	ppb		99
85)	p-Isopropyltoluene	12.35	119	8138	0.89172	ppb		95
86)	Benzyl Chloride	12.57	91	869	1.11650	ppb	#	64
87)	1,3-DCB	12.24	146	10207	1.03695	ppb		89
88)	1,4-DCB	12.37	146	4471	0.92581	ppb	#	81
89)	n-Butylbenzene	12.94	91	8144	1.10996	ppb		90
90)	1,2-DCB	12.88	146	8051	1.01491	ppb		94
91)	Hexachloroethane	13.25	117	1869	0.89605	ppb		91
92)	1,2-Dibromo-3-chloropropan	14.00	75	86	0.34139	ppb	#	63
94)	Hexachlorobutadiene	15.51	225	3277	1.07880	ppb		84
95)	Naphthalene	15.54	128	1235	0.36400	ppb	#	70
96)	1,2,3-Trichlorobenzene	15.90	180	1726	0.64422	ppb	#	92

(#) = qualifier out of range (m) = manual integration

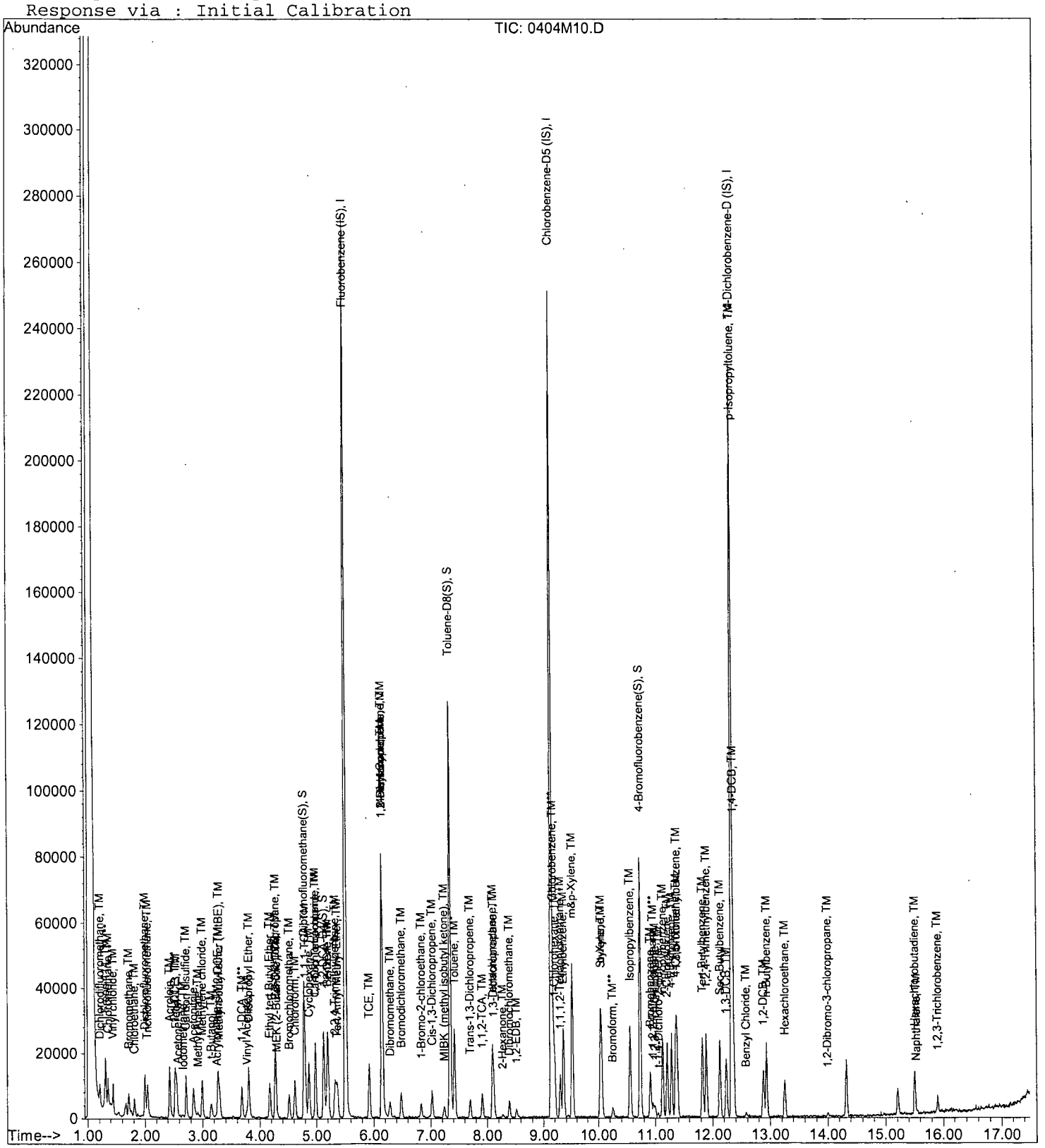
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



472

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
37) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
57) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
65) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	6557	2.03696 ppb		100
3) Freon 114	1.31	85	8772	2.00509 ppb		93
4) Chloromethane	1.35	50	8516	1.90823 ppb		93
5) Vinyl chloride	1.44	62	13229	1.95411 ppb		99
6) Bromomethane	1.71	94	8779	2.09863 ppb		98
7) Chloroethane	1.81	64	7598	1.85531 ppb		97
8) Dichlorofluoromethane	2.00	67	20763	1.87029 ppb		98
9) Trichlorofluoromethane	2.04	101	13746	1.87355 ppb		99
10) Acrolein	2.43	56	18527	74.85193 ppb		93
11) Acetone	2.59	43	1227	1.50222 ppb		91
12) Freon-113	2.55	101	9307	2.07447 ppb		95
13) 1,1-DCE	2.53	61	13108	1.85227 ppb		97
14) Acetonitrile	2.84	TIC	39273	85.79121 ppb	#	90
15) t-Butanol	3.15	59	6731	66.45435 ppb		92
16) Methyl Acetate	2.92	43	3168	1.87007 ppb		94
17) Iodomethane	2.65	142	3520	1.78593 ppb		90
18) Acrylonitrile	3.23	53	1477	1.97982 ppb	#	79
19) Methylene chloride	3.00	84	9016	1.93347 ppb		94
20) Carbon disulfide	2.71	76	28564	1.96164 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	13093	1.85850 ppb		94
22) Trans-1,2-DCE	3.27	96	9320	1.80988 ppb		95
23) Diisopropyl Ether	3.81	45	26297	1.84630 ppb		98
24) 1,1-DCA	3.68	63	16438	1.87398 ppb		96
25) Vinyl Acetate	3.76	43	5024	1.72149 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	15589	1.82241 ppb	#	88
27) MEK (2-Butanone)	4.32	43	1349	1.04647 ppb		95
28) Cis-1,2-DCE	4.28	96	10026	1.83136 ppb		99
29) 2,2-Dichloropropane	4.27	77	9857	1.90177 ppb		96
30) Chloroform	4.62	83	16363	1.93681 ppb		93
31) Bromochloromethane	4.52	128	4503	2.08109 ppb		84
33) 1,1,1-TCA	4.80	97	13120	1.77503 ppb		94
34) Cyclohexane	4.87	41	9334	1.89270 ppb		92
35) 1,1-Dichloropropene	4.99	75	13110	1.86481 ppb		95
36) 2,2,4-Trimethylpentane	5.33	57	23046	1.87367 ppb		96
38) Carbon Tetrachloride	4.98	117	10405	1.75314 ppb		98
39) Tert Amyl Methyl Ether	5.37	73	13098	1.74115 ppb		92
40) 1,2-DCA	5.21	62	7998	1.79568 ppb		95
41) Benzene	5.20	78	39387	1.85839 ppb		98
42) TCE	5.92	95	10143	1.80940 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	104760	69.35535	ppb		100
44)	1,2-Dichloropropane	6.16	63	8761	1.84067	ppb		98
45)	Bromodichloromethane	6.49	83	10709	1.97447	ppb		93
46)	Methyl Cyclohexane	6.15	83	14902	1.96161	ppb		95
47)	Dibromomethane	6.29	93	3402	1.87786	ppb		86
48)	MIBK (methyl isobutyl ket	7.24	43	4928	2.08811	ppb	#	84
49)	1-Bromo-2-chloroethane	6.83	63	8433	1.86251	ppb		98
50)	2-Chloroethyl vinyl ether	6.88	106	40	2.46862	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	10351	1.81187	ppb		95
52)	Toluene	7.42	91	44803	1.82204	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	5798	1.59415	ppb		91
54)	1,1,2-TCA	7.91	83	4263	1.85107	ppb		85
55)	2-Hexanone	8.27	43	1857	1.46412	ppb	#	88
58)	1,2-EDB	8.52	107	4487	1.89348	ppb		89
59)	Tetrachloroethene	8.10	164	11646	1.95933	ppb		91
60)	1-Chlorohexane	9.20	91	9967	1.60007	ppb		96
61)	1,1,1,2-Tetrachloroethane	9.30	131	7140	1.62408	ppb		96
62)	m&p-Xylene	9.51	106	38027	3.53722	ppb		97
63)	o-Xylene	10.03	106	18092	1.82387	ppb		96
64)	Styrene	10.05	104	25701	1.69872	ppb		100
66)	1,3-Dichloropropane	8.12	76	8793	1.90081	ppb		92
67)	Dibromochloromethane	8.39	129	6170	1.75582	ppb		97
68)	Chlorobenzene	9.18	112	27096	1.84659	ppb		98
69)	Ethylbenzene	9.35	91	49241	1.83561	ppb		97
70)	Bromoform	10.26	173	3339	1.76832	ppb		96
72)	Isopropylbenzene	10.55	105	46418	1.95897	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	4907	1.98546	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	1437	2.03113	ppb	#	77
75)	t-1,4-Dichloro-2-Butene	11.03	53	713	1.65849	ppb	#	81
76)	Bromobenzene	10.91	156	9234	1.76898	ppb		97
77)	n-Propylbenzene	11.12	91	46624	1.86860	ppb		99
78)	4-Ethyltoluene	11.29	105	37798	1.77236	ppb		100
79)	2-Chlorotoluene	11.20	91	29783	1.99220	ppb		98
80)	1,3,5-Trimethylbenzene	11.38	105	34425	1.85438	ppb		100
81)	4-Chlorotoluene	11.36	91	30927	1.88143	ppb		98
82)	Tert-Butylbenzene	11.83	119	31186	1.91659	ppb		96
83)	1,2,4-Trimethylbenzene	11.89	105	32739	1.88603	ppb		99
84)	Sec-Butylbenzene	12.14	105	40354	1.84481	ppb		96
85)	p-Isopropyltoluene	12.36	119	17656	1.84888	ppb		98
86)	Benzyl Chloride	12.57	91	1918	1.84873	ppb	#	92
87)	1,3-DCB	12.24	146	19685	1.91119	ppb		96
88)	1,4-DCB	12.37	146	9279	1.83624	ppb		90
89)	n-Butylbenzene	12.94	91	15029	1.95752	ppb		98
90)	1,2-DCB	12.88	146	15001	1.80719	ppb		97
91)	Hexachloroethane	13.25	117	3395	1.55550	ppb		87
92)	1,2-Dibromo-3-chloropropan	14.00	75	444	1.68439	ppb		89
93)	1,2,4-Trichlorobenzene	15.20	180	7348	0.99284	ppb		86
94)	Hexachlorobutadiene	15.51	225	6738	2.11985	ppb	#	85
95)	Naphthalene	15.54	128	4429	1.24752	ppb		95
96)	1,2,3-Trichlorobenzene	15.90	180	4285	1.52846	ppb		93

(#) = qualifier out of range (m) = manual integration

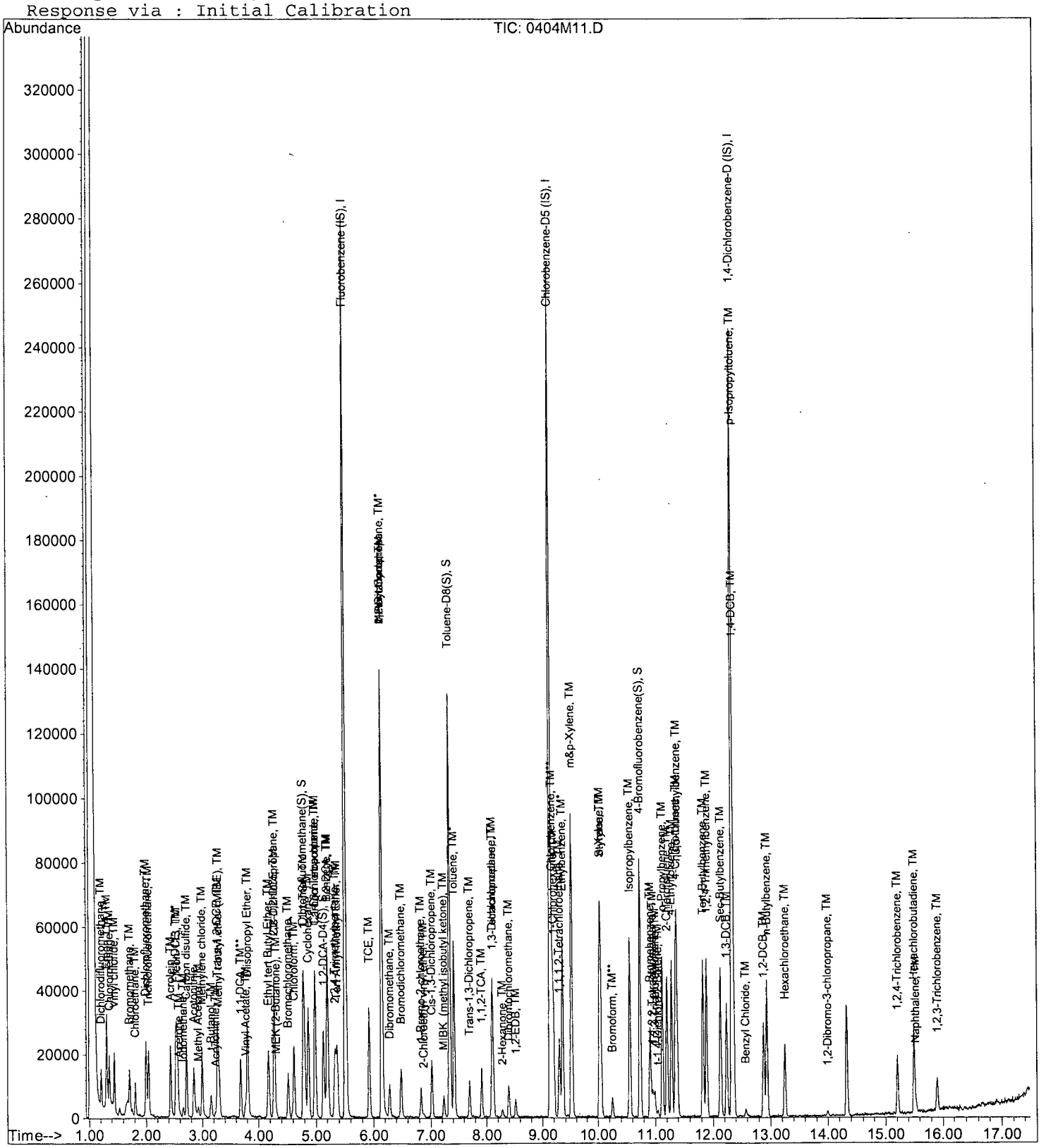
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



475

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D Vial: 8
Acq On : 4 Apr 17 12:36 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 04/04/17E Inst : Max
Misc : 5uL-25ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
37) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
57) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
65) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	14908	4.61757 ppb		88
3) Freon 114	1.31	85	21628	4.92912 ppb		95
4) Chloromethane	1.35	50	24936	5.57108 ppb		96
5) Vinyl chloride	1.44	62	35619	5.24592 ppb		97
6) Bromomethane	1.71	94	20948	4.99287 ppb		100
7) Chloroethane	1.81	64	20321	4.94743 ppb		98
8) Dichlorofluoromethane	2.00	67	58098	5.21791 ppb		97
9) Trichlorofluoromethane	2.04	101	36826	5.00450 ppb		94
10) Acrolein	2.43	56	26528	106.86118 ppb		98
11) Acetone	2.59	43	3877	6.14978 ppb		84
12) Freon-113	2.55	101	22629	5.02898 ppb		90
13) 1,1-DCE	2.52	61	36142	5.09210 ppb		95
14) Acetonitrile	2.84	TIC	43762	95.31548 ppb		96
15) t-Butanol	3.15	59	9802	96.48862 ppb		92
16) Methyl Acetate	2.91	43	9146	5.38297 ppb		96
17) Iodomethane	2.65	142	16108	4.26714 ppb		94
18) Acrylonitrile	3.23	53	4403	5.88453 ppb	#	94
19) Methylene chloride	2.99	84	24928	5.33001 ppb		93
20) Carbon disulfide	2.71	76	76150	5.21420 ppb		98
21) Methyl t-butyl ether (MtBE	3.30	73	40097	5.67482 ppb		95
22) Trans-1,2-DCE	3.27	96	28516	5.52129 ppb		95
23) Diisopropyl Ether	3.80	45	76332	5.34342 ppb		98
24) 1,1-DCA	3.68	63	44933	5.10739 ppb		98
25) Vinyl Acetate	3.76	43	15529	5.30536 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	47916	5.58502 ppb		92
27) MEK (2-Butanone)	4.31	43	6659	6.10568 ppb		99
28) Cis-1,2-DCE	4.28	96	29361	5.34730 ppb		95
29) 2,2-Dichloropropane	4.27	77	26650	5.12658 ppb		99
30) Chloroform	4.62	83	46688	5.50994 ppb		98
31) Bromochloromethane	4.52	128	11755	5.41663 ppb		91
33) 1,1,1-TCA	4.80	97	38261	5.16114 ppb		99
34) Cyclohexane	4.87	41	24058	4.86398 ppb		97
35) 1,1-Dichloropropene	4.99	75	36803	5.21954 ppb		94
36) 2,2,4-Trimethylpentane	5.33	57	60382	4.89466 ppb		96
38) Carbon Tetrachloride	4.98	117	30172	5.06869 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	40816	5.40977 ppb		99
40) 1,2-DCA	5.21	62	23608	5.28475 ppb		100
41) Benzene	5.20	78	115353	5.42662 ppb		100
42) TCE	5.92	95	29008	5.15944 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	154462	101.95856	ppb		98
44)	1,2-Dichloropropane	6.16	63	25712	5.38612	ppb		98
45)	Bromodichloromethane	6.49	83	29080	5.34581	ppb		93
46)	Methyl Cyclohexane	6.14	83	37593	4.93393	ppb		100
47)	Dibromomethane	6.28	93	9925	5.46230	ppb		90
48)	MIBK (methyl isobutyl ket	7.23	43	13741	5.80522	ppb		92
49)	1-Bromo-2-chloroethane	6.83	63	24328	5.35723	ppb		96
50)	2-Chloroethyl vinyl ether	6.91	106	20	2.23827	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	29299	5.11347	ppb		97
52)	Toluene	7.42	91	132597	5.37652	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	19820	5.43342	ppb		91
54)	1,1,2-TCA	7.91	83	12366	5.35370	ppb		94
55)	2-Hexanone	8.28	43	6862	5.31200	ppb	#	94
58)	1,2-EDB	8.52	107	13028	5.58446	ppb		92
59)	Tetrachloroethene	8.09	164	30546	5.22016	ppb		98
60)	1-Chlorohexane	9.20	91	31145	5.07880	ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	22853	5.28020	ppb		99
62)	m&p-Xylene	9.52	106	113513	10.72544	ppb		98
63)	o-Xylene	10.03	106	52728	5.39942	ppb		94
64)	Styrene	10.05	104	79049	5.30721	ppb		97
66)	1,3-Dichloropropane	8.12	76	25783	5.66155	ppb		100
67)	Dibromochloromethane	8.39	129	18178	5.25460	ppb		98
68)	Chlorobenzene	9.18	112	79192	5.48209	ppb		98
69)	Ethylbenzene	9.35	91	141681	5.36494	ppb		99
70)	Bromoform	10.26	173	10065	5.41448	ppb		95
72)	Isopropylbenzene	10.55	105	138803	5.61610	ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	14158	5.49214	ppb		98
74)	1,2,3-Trichloropropane	10.99	110	4622	6.26334	ppb		90
75)	t-1,4-Dichloro-2-Butene	11.04	53	2464	5.49490	ppb	#	80
76)	Bromobenzene	10.91	156	32407	5.95206	ppb		97
77)	n-Propylbenzene	11.12	91	144531	5.55345	ppb		100
78)	4-Ethyltoluene	11.29	105	119518	5.37294	ppb		100
79)	2-Chlorotoluene	11.20	91	85751	5.49918	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	105815	5.46472	ppb		97
81)	4-Chlorotoluene	11.36	91	95061	5.54431	ppb		98
82)	Tert-Butylbenzene	11.83	119	94362	5.55983	ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	97701	5.39607	ppb		100
84)	Sec-Butylbenzene	12.14	105	117448	5.14762	ppb		99
85)	p-Isopropyltoluene	12.36	119	51328	5.15308	ppb		99
86)	Benzyl Chloride	12.57	91	7160	5.36448	ppb	#	97
87)	1,3-DCB	12.24	146	59926	5.57802	ppb		98
88)	1,4-DCB	12.37	146	29384	5.57486	ppb		95
89)	n-Butylbenzene	12.94	91	42384	5.29266	ppb		96
90)	1,2-DCB	12.88	146	49219	5.68477	ppb		98
91)	Hexachloroethane	13.25	117	12465	5.47542	ppb		95
92)	1,2-Dibromo-3-chloropropan	14.00	75	1548	5.63023	ppb		93
93)	1,2,4-Trichlorobenzene	15.21	180	26572	5.35913	ppb		99
94)	Hexachlorobutadiene	15.50	225	18904	5.70195	ppb		94
95)	Naphthalene	15.54	128	19255	5.19974	ppb	#	93
96)	1,2,3-Trichlorobenzene	15.90	180	15944	5.45250	ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

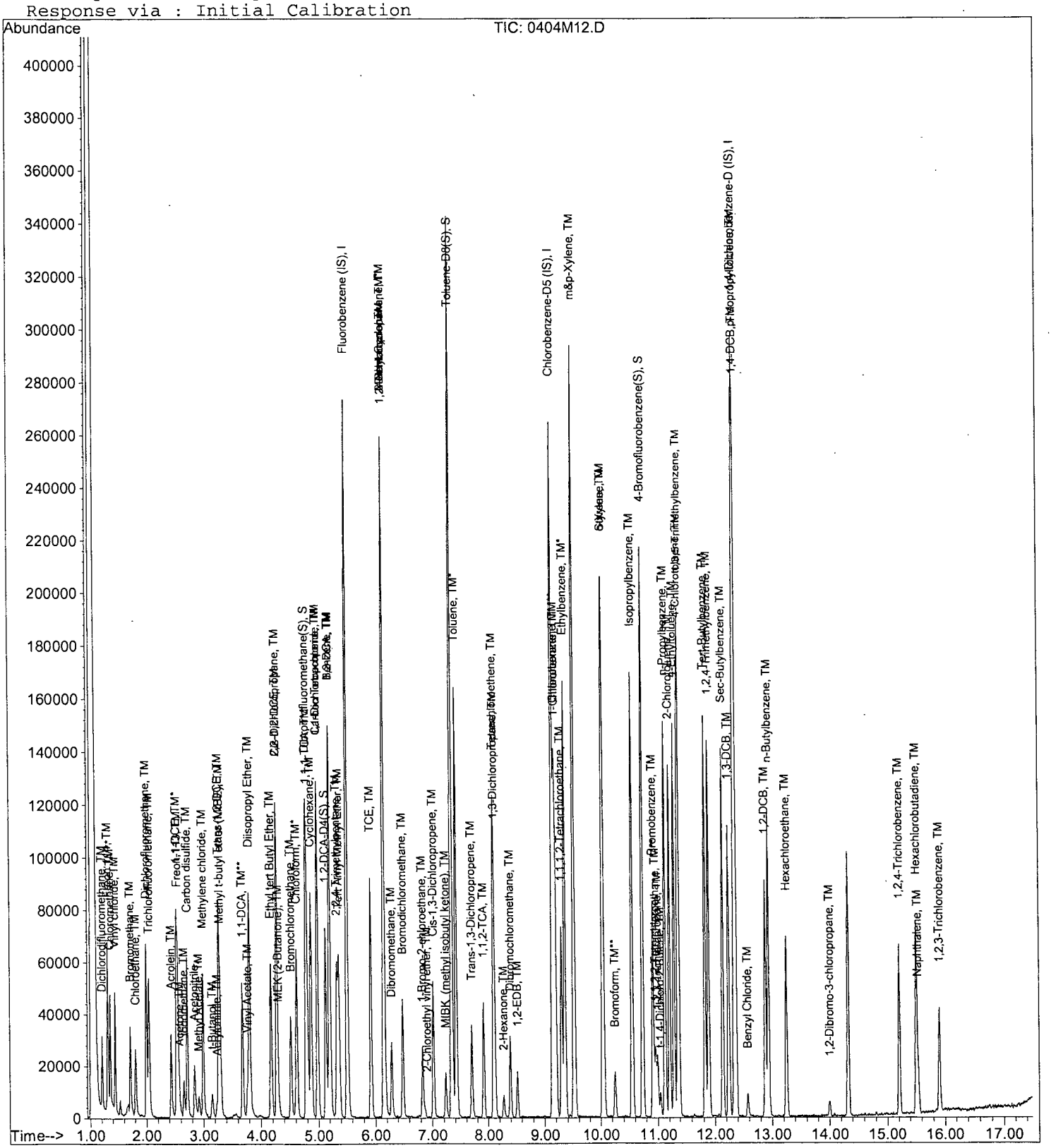
Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



478

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
37) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
57) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
65) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	33336	10.11524 ppb	100
3) Freon 114	1.31	85	47063	10.50756 ppb	100
4) Chloromethane	1.35	50	47872	10.47763 ppb	100
5) Vinyl chloride	1.44	62	76182	10.99160 ppb	100
6) Bromomethane	1.71	94	38958	9.09647 ppb	100
7) Chloroethane	1.81	64	43590	10.39657 ppb	100
8) Dichlorofluoromethane	2.00	67	115599	10.17087 ppb	100
9) Trichlorofluoromethane	2.04	101	78615	10.46600 ppb	100
10) Acrolein	2.43	56	30920	122.01794 ppb	100
11) Acetone	2.58	43	6266	10.12135 ppb	100
12) Freon-113	2.55	101	48963	10.65987 ppb	100
13) 1,1-DCE	2.52	61	75671	10.44438 ppb	100
14) Acetonitrile	2.84	TIC	56375	120.28779 ppb	100
15) t-Butanol	3.15	59	13671	131.83491 ppb	100
16) Methyl Acetate	2.92	43	17120	9.87106 ppb	100
17) Iodomethane	2.65	142	43252	9.44824 ppb	100
18) Acrylonitrile	3.23	53	8104	10.61039 ppb	100
19) Methylene chloride	2.99	84	46812	9.80543 ppb	100
20) Carbon disulfide	2.71	76	153563	10.30085 ppb	100
21) Methyl t-butyl ether (MtBE	3.29	73	73189	10.14739 ppb	100
22) Trans-1,2-DCE	3.27	96	55573	10.54106 ppb	100
23) Diisopropyl Ether	3.80	45	146999	10.08082 ppb	100
24) 1,1-DCA	3.68	63	89782	9.99751 ppb	100
25) Vinyl Acetate	3.76	43	27050	9.05331 ppb	100
26) Ethyl tert Butyl Ether	4.17	59	87251	9.96285 ppb	100
27) MEK (2-Butanone)	4.31	43	10950	9.98458 ppb	100
28) Cis-1,2-DCE	4.27	96	58264	10.39520 ppb	100
29) 2,2-Dichloropropane	4.27	77	54970	10.35918 ppb	100
30) Chloroform	4.62	83	87819	10.15310 ppb	100
31) Bromochloromethane	4.52	128	21940	9.90402 ppb	100
33) 1,1,1-TCA	4.80	97	78665	10.39537 ppb	100
34) Cyclohexane	4.87	41	52464	10.39112 ppb	100
35) 1,1-Dichloropropene	4.98	75	75431	10.48016 ppb	100
36) 2,2,4-Trimethylpentane	5.33	57	133942	10.63654 ppb	100
38) Carbon Tetrachloride	4.98	117	63686	10.48104 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	75766	9.83764 ppb	100
40) 1,2-DCA	5.21	62	44703	9.80326 ppb	100
41) Benzene	5.20	78	221365	10.20184 ppb	100
42) TCE	5.92	95	59538	10.37405 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	188062	121.61071	ppb		100
44) 1,2-Dichloropropane	6.16	63	48487	9.95025	ppb		100
45) Bromodichloromethane	6.48	83	54711	9.85286	ppb		100
46) Methyl Cyclohexane	6.14	83	81802	10.51766	ppb		100
47) Dibromomethane	6.28	93	19227	10.36634	ppb		100
48) MIBK (methyl isobutyl ket	7.23	43	22262	9.21369	ppb		100
49) 1-Bromo-2-chloroethane	6.83	63	44042	9.50102	ppb		100
50) 2-Chloroethyl vinyl ether	6.87	106	483	7.42683	ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	58558	10.01193	ppb		100
52) Toluene	7.42	91	256143	10.17464	ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	37711	10.12760	ppb		100
54) 1,1,2-TCA	7.91	83	23678	10.04242	ppb		100
55) 2-Hexanone	8.27	43	13196	9.98023	ppb		100
58) 1,2-EDB	8.52	107	24095	9.82499	ppb		100
59) Tetrachloroethene	8.09	164	62894	10.22446	ppb		100
60) 1-Chlorohexane	9.20	91	68086	10.56166	ppb		100
61) 1,1,1,2-Tetrachloroethane	9.29	131	45863	10.08025	ppb		100
62) m&p-Xylene	9.51	106	225803	20.29555	ppb		100
63) o-Xylene	10.03	106	102849	10.01861	ppb		100
64) Styrene	10.05	104	154075	9.84020	ppb		100
66) 1,3-Dichloropropane	8.12	76	48428	10.11579	ppb		100
67) Dibromochloromethane	8.39	129	35844	9.85624	ppb		100
68) Chlorobenzene	9.17	112	149334	9.83389	ppb		100
69) Ethylbenzene	9.35	91	281244	10.13068	ppb		100
70) Bromoform	10.25	173	18885	9.66412	ppb		100
72) Isopropylbenzene	10.55	105	276072	10.31664	ppb		100
73) 1,1,2,2-Tetrachloroethane	10.95	83	27161	9.73118	ppb		100
74) 1,2,3-Trichloropropane	10.99	110	8114	10.15526	ppb		100
75) t-1,4-Dichloro-2-Butene	11.04	53	4981	10.25924	ppb		100
76) Bromobenzene	10.91	156	60444	10.25325	ppb		100
77) n-Propylbenzene	11.12	91	296359	10.51720	ppb		100
78) 4-Ethyltoluene	11.29	105	248639	10.32352	ppb		100
79) 2-Chlorotoluene	11.20	91	170193	10.08046	ppb		100
80) 1,3,5-Trimethylbenzene	11.38	105	209192	9.97805	ppb		100
81) 4-Chlorotoluene	11.36	91	188712	10.16540	ppb		100
82) Tert-Butylbenzene	11.82	119	189738	10.32519	ppb		100
83) 1,2,4-Trimethylbenzene	11.89	105	195534	9.97426	ppb		100
84) Sec-Butylbenzene	12.14	105	246265	9.96880	ppb		100
85) p-Isopropyltoluene	12.36	119	105576	9.78944	ppb		100
86) Benzyl Chloride	12.57	91	14477	9.44433	ppb		100
87) 1,3-DCB	12.24	146	114378	9.83302	ppb		100
88) 1,4-DCB	12.37	146	57704	10.11134	ppb		100
89) n-Butylbenzene	12.94	91	84048	9.69347	ppb		100
90) 1,2-DCB	12.88	146	95852	10.22495	ppb		100
91) Hexachloroethane	13.25	117	24552	9.96075	ppb		100
92) 1,2-Dibromo-3-chloropropan	14.00	75	2817	9.46285	ppb		100
93) 1,2,4-Trichlorobenzene	15.21	180	54263	10.79627	ppb		100
94) Hexachlorobutadiene	15.51	225	38977	10.85821	ppb		100
95) Naphthalene	15.54	128	47567	11.86379	ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	35545	11.22682	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

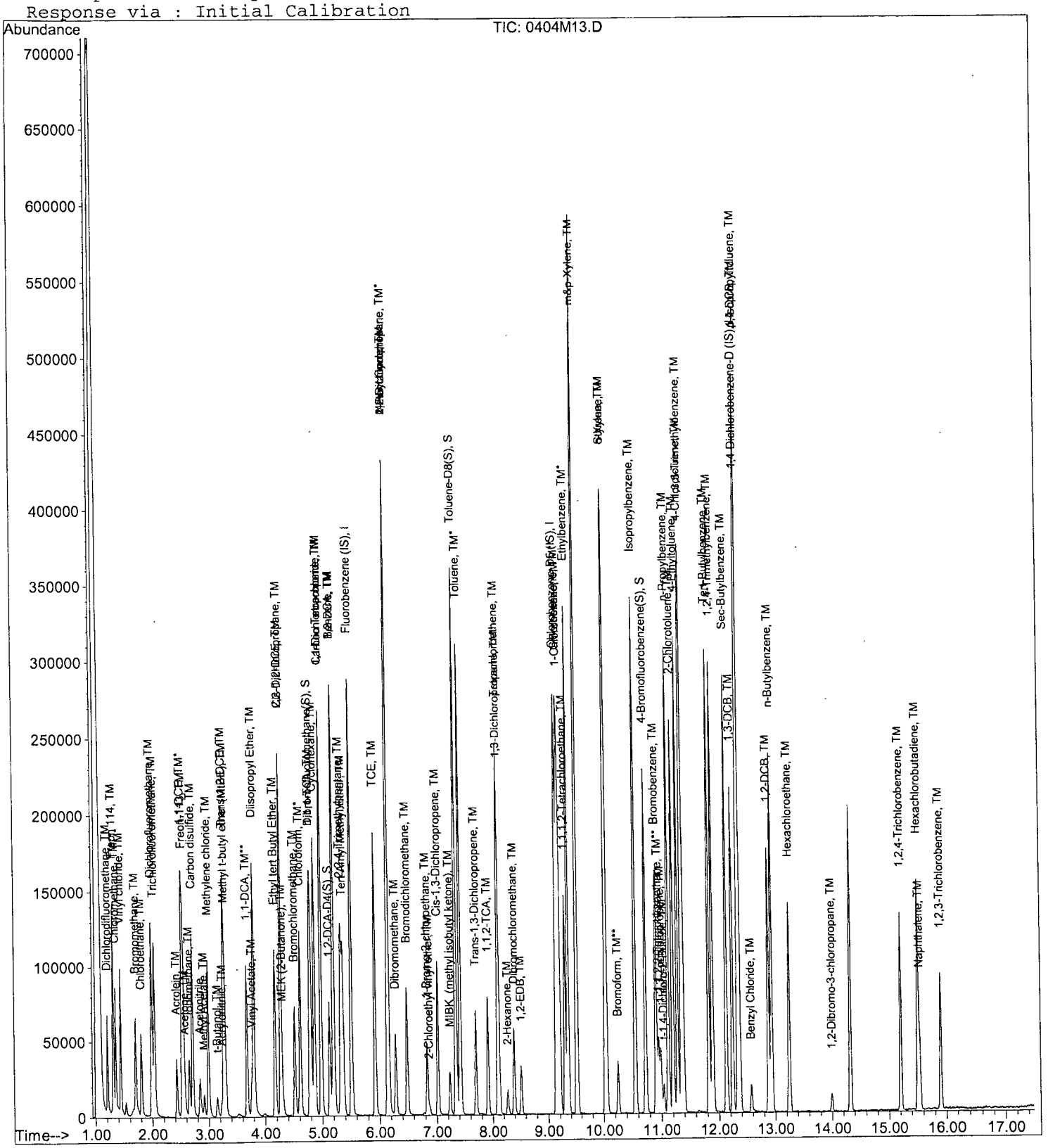
Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



481

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
37) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
57) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
65) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	66968	19.47166 ppb		98
3) Freon 114	1.31	85	90721	19.40898 ppb		98
4) Chloromethane	1.35	50	90408	18.96100 ppb		99
5) Vinyl chloride	1.44	62	149189	20.62615 ppb		97
6) Bromomethane	1.70	94	72788	16.28579 ppb		92
7) Chloroethane	1.80	64	88346	20.19124 ppb		94
8) Dichlorofluoromethane	1.99	67	237784	20.04746 ppb		99
9) Trichlorofluoromethane	2.04	101	159395	20.33400 ppb		96
10) Acrolein	2.43	56	39401	148.99245 ppb		90
11) Acetone	2.58	43	12361	19.71935 ppb		91
12) Freon-113	2.55	101	95878	20.00209 ppb		97
13) 1,1-DCE	2.52	61	149881	19.82314 ppb		97
14) Acetonitrile	2.84	TIC	73679	150.64389 ppb	#	95
15) t-Butanol	3.15	59	17294	159.80795 ppb		96
16) Methyl Acetate	2.91	43	36838	20.35301 ppb		96
17) Iodomethane	2.65	142	101787	19.93903 ppb		98
18) Acrylonitrile	3.23	53	17338	21.75223 ppb		92
19) Methylene chloride	2.99	84	94559	18.97951 ppb		96
20) Carbon disulfide	2.71	76	302511	19.44466 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	151816	20.16968 ppb		98
22) Trans-1,2-DCE	3.27	96	109270	19.86068 ppb		95
23) Diisopropyl Ether	3.80	45	312531	20.53748 ppb		97
24) 1,1-DCA	3.68	63	183041	19.53096 ppb		96
25) Vinyl Acetate	3.76	43	61199	19.62714 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	186796	20.43872 ppb		99
27) MEK (2-Butanone)	4.31	43	23339	20.64643 ppb		95
28) Cis-1,2-DCE	4.27	96	116789	19.96675 ppb		95
29) 2,2-Dichloropropane	4.27	77	116892	21.10848 ppb		99
30) Chloroform	4.62	83	177972	19.71673 ppb		99
31) Bromochloromethane	4.52	128	43687	18.89732 ppb		97
33) 1,1,1-TCA	4.80	97	159858	20.24256 ppb		98
34) Cyclohexane	4.87	41	101478	19.25953 ppb		98
35) 1,1-Dichloropropene	4.99	75	150247	20.00306 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	258653	19.68222 ppb		99
38) Carbon Tetrachloride	4.98	117	131818	20.78778 ppb		92
39) Tert Amyl Methyl Ether	5.37	73	165438	20.58377 ppb		94
40) 1,2-DCA	5.21	62	94068	19.76735 ppb		99
41) Benzene	5.20	78	447523	19.76322 ppb		99
42) TCE	5.92	95	116538	19.45783 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.15	43	250085	154.96414 ppb	97
44) 1,2-Dichloropropane	6.16	63	101263	19.91279 ppb	99
45) Bromodichloromethane	6.48	83	115675	19.96182 ppb	100
46) Methyl Cyclohexane	6.15	83	162428	20.01192 ppb	97
47) Dibromomethane	6.28	93	39346	20.32767 ppb	94
48) MIBK (methyl isobutyl ket	7.23	43	46324	18.37165 ppb	96
49) 1-Bromo-2-chloroethane	6.83	63	95718	19.78652 ppb	97
51) Cis-1,3-Dichloropropene	7.02	75	125745	20.60131 ppb	97
52) Toluene	7.42	91	515588	19.62512 ppb	100
53) Trans-1,3-Dichloropropene	7.70	75	85842	22.09078 ppb	94
54) 1,1,2-TCA	7.91	83	48497	19.70975 ppb	97
55) 2-Hexanone	8.27	43	28574	20.67524 ppb	98
58) 1,2-EDB	8.52	107	52990	20.94416 ppb	96
59) Tetrachloroethene	8.09	164	122712	19.33668 ppb	98
60) 1-Chlorohexane	9.20	91	139883	21.03307 ppb	98
61) 1,1,1,2-Tetrachloroethane	9.30	131	96582	20.57637 ppb	96
62) m&p-Xylene	9.51	106	459741	40.05419 ppb	93
63) o-Xylene	10.03	106	215404	20.33877 ppb	100
64) Styrene	10.05	104	335366	20.76129 ppb	98
66) 1,3-Dichloropropane	8.12	76	100435	20.33537 ppb	96
67) Dibromochloromethane	8.39	129	76119	20.28858 ppb	95
68) Chlorobenzene	9.18	112	307175	19.60722 ppb	100
69) Ethylbenzene	9.35	91	572306	19.98238 ppb	98
70) Bromoform	10.25	173	41583	20.62646 ppb	90
72) Isopropylbenzene	10.55	105	579126	19.07756 ppb	98
73) 1,1,2,2-Tetrachloroethane	10.95	83	59723	18.86233 ppb	99
74) 1,2,3-Trichloropropane	10.99	110	18169	20.04568 ppb	89
75) t-1,4-Dichloro-2-Butene	11.04	53	11412	20.72023 ppb	96
76) Bromobenzene	10.91	156	124585	18.62980 ppb	98
77) n-Propylbenzene	11.12	91	634367	19.84525 ppb	99
78) 4-Ethyltoluene	11.29	105	546027	19.98512 ppb	98
79) 2-Chlorotoluene	11.20	91	363250	18.96611 ppb	97
80) 1,3,5-Trimethylbenzene	11.38	105	465829	19.58670 ppb	98
81) 4-Chlorotoluene	11.36	91	415814	19.74504 ppb	100
82) Tert-Butylbenzene	11.83	119	406743	19.51183 ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	435106	19.56534 ppb	96
84) Sec-Butylbenzene	12.14	105	542159	19.34644 ppb	100
85) p-Isopropyltoluene	12.36	119	251072	20.52225 ppb	99
86) Benzyl Chloride	12.57	91	38064	20.25556 ppb	97
87) 1,3-DCB	12.24	146	257992	19.55170 ppb	96
88) 1,4-DCB	12.37	146	132032	20.39465 ppb	98
89) n-Butylbenzene	12.94	91	183936	18.70048 ppb	96
90) 1,2-DCB	12.88	146	212163	19.95094 ppb	100
91) Hexachloroethane	13.25	117	58097	20.77748 ppb	98
92) 1,2-Dibromo-3-chloropropan	13.99	75	6905	20.44716 ppb	95
93) 1,2,4-Trichlorobenzene	15.21	180	117956	21.40024 ppb	97
94) Hexachlorobutadiene	15.51	225	75236	18.47606 ppb	92
95) Naphthalene	15.54	128	120414	26.47457 ppb	97
96) 1,2,3-Trichlorobenzene	15.90	180	82621	23.00396 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

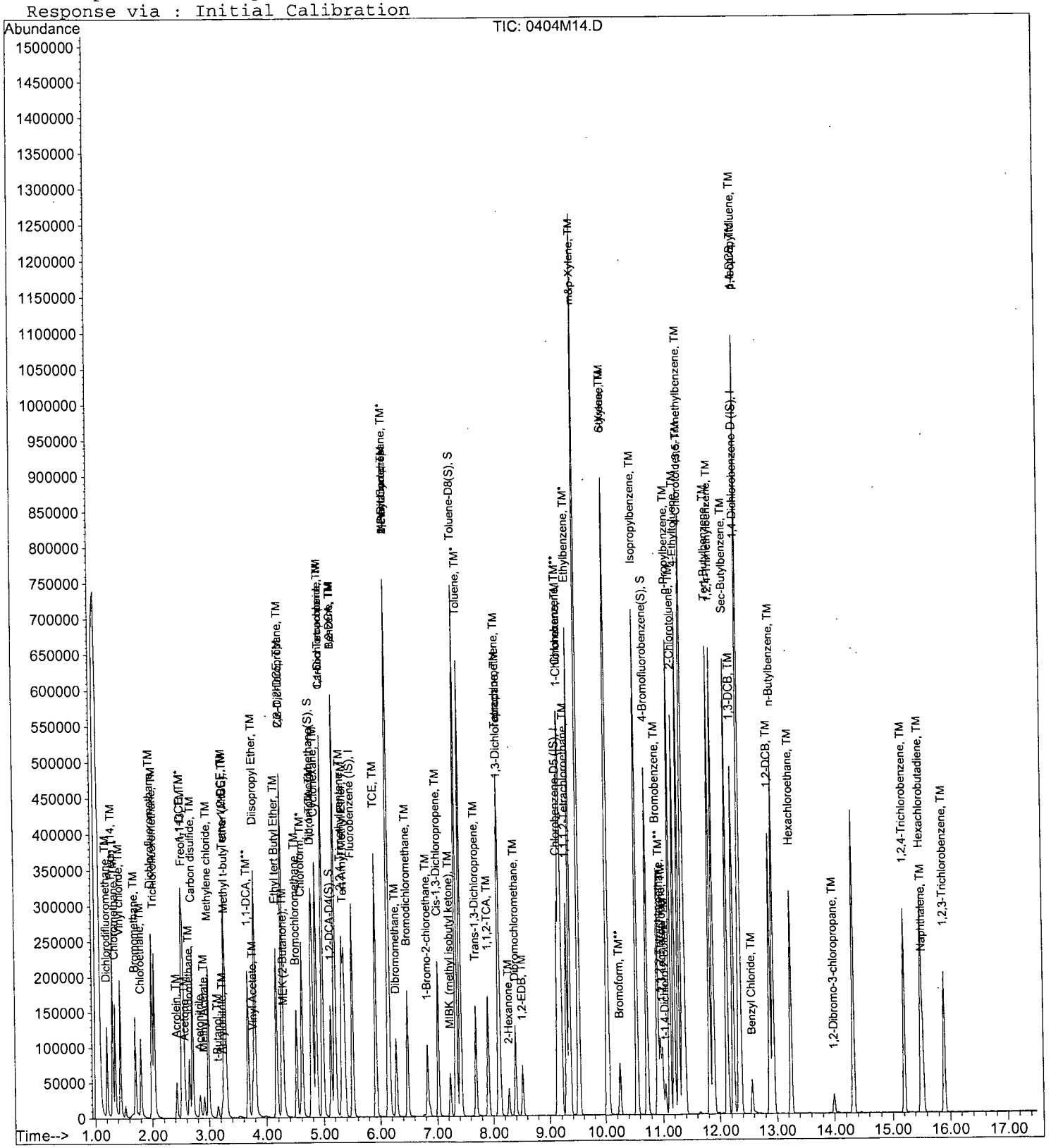
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
37) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
57) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
65) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	129088	36.06108 ppb	100
3) Freon 114	1.31	85	191455	39.35309 ppb	98
4) Chloromethane	1.35	50	183512	36.97738 ppb	96
5) Vinyl chloride	1.44	62	297432	39.50812 ppb	98
6) Bromomethane	1.70	94	121297	26.07453 ppb	96
7) Chloroethane	1.80	64	181707	39.89927 ppb	95
8) Dichlorofluoromethane	1.99	67	484950	39.28177 ppb	100
9) Trichlorofluoromethane	2.04	101	322449	39.52086 ppb	99
10) Acrolein	2.43	56	46789	169.98791 ppb	92
11) Acetone	2.58	43	24600	38.30539 ppb	89
12) Freon-113	2.54	101	193028	38.68959 ppb	96
13) 1,1-DCE	2.52	61	312545	39.71511 ppb	96
14) Acetonitrile	2.84	TIC	73210	143.81211 ppb #	90
15) t-Butanol	3.15	59	21468	190.59512 ppb #	86
16) Methyl Acetate	2.91	43	76420	40.56551 ppb	96
17) Iodomethane	2.65	142	222816	40.73301 ppb	98
18) Acrylonitrile	3.23	53	33745	40.67536 ppb	95
19) Methylene chloride	2.99	84	189691	36.58020 ppb	99
20) Carbon disulfide	2.71	76	610872	37.72477 ppb	99
21) Methyl t-butyl ether (MtBE	3.29	73	321256	41.00624 ppb	97
22) Trans-1,2-DCE	3.26	96	229033	39.99526 ppb	97
23) Diisopropyl Ether	3.80	45	656196	41.42905 ppb	98
24) 1,1-DCA	3.68	63	382523	39.21480 ppb	98
25) Vinyl Acetate	3.76	43	134320	41.38765 ppb	99
26) Ethyl tert Butyl Ether	4.17	59	403335	42.40033 ppb	98
27) MEK (2-Butanone)	4.31	43	46332	39.59968 ppb	99
28) Cis-1,2-DCE	4.27	96	239292	39.30529 ppb	96
29) 2,2-Dichloropropane	4.27	77	251155	43.57439 ppb	100
30) Chloroform	4.61	83	365475	38.90076 ppb	99
31) Bromochloromethane	4.52	128	90277	37.51822 ppb	90
33) 1,1,1-TCA	4.80	97	336301	40.91443 ppb	98
34) Cyclohexane	4.87	41	213316	38.89686 ppb	96
35) 1,1-Dichloropropene	4.98	75	310800	39.75474 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	555635	40.62220 ppb	99
38) Carbon Tetrachloride	4.98	117	278702	42.22705 ppb	94
39) Tert Amyl Methyl Ether	5.37	73	358200	42.81859 ppb	91
40) 1,2-DCA	5.21	62	201981	40.77879 ppb	99
41) Benzene	5.20	78	936173	39.72060 ppb	99
42) TCE	5.92	95	242712	38.93456 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D Vial: 11
Acq On : 4 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 04/04/17H Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	2-Pentanone	6.15	43	319267	190.07056 ppb		96
44)	1,2-Dichloropropane	6.16	63	213771	40.38754 ppb		100
45)	Bromodichloromethane	6.48	83	242984	40.28613 ppb		97
46)	Methyl Cyclohexane	6.14	83	342507	40.54288 ppb		94
47)	Dibromomethane	6.28	93	80448	39.93185 ppb		92
48)	MIBK (methyl isobutyl ket	7.23	43	93915	35.78445 ppb		99
49)	1-Bromo-2-chloroethane	6.83	63	203696	40.45532 ppb		93
50)	2-Chloroethyl vinyl ether	6.87	106	3981	43.11839 ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	273330	43.02380 ppb		96
52)	Toluene	7.42	91	1111909	40.66267 ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	194540	48.09916 ppb		95
54)	1,1,2-TCA	7.91	83	101415	39.59913 ppb		97
55)	2-Hexanone	8.27	43	57660	40.05526 ppb		95
58)	1,2-EDB	8.52	107	112404	42.05285 ppb		93
59)	Tetrachloroethene	8.10	164	249161	37.16376 ppb		98
60)	1-Chlorohexane	9.20	91	313677	44.64421 ppb		98
61)	1,1,1,2-Tetrachloroethane	9.30	131	210317	42.41228 ppb		100
62)	m&p-Xylene	9.51	106	1053974	86.91792 ppb		93
63)	o-Xylene	10.03	106	489748	43.77118 ppb		98
64)	Styrene	10.05	104	781645	45.80255 ppb		97
66)	1,3-Dichloropropane	8.12	76	208905	40.03690 ppb		100
67)	Dibromochloromethane	8.39	129	159533	40.24888 ppb		91
68)	Chlorobenzene	9.18	112	659247	39.83116 ppb		99
69)	Ethylbenzene	9.35	91	1245394	41.15953 ppb		98
70)	Bromoform	10.26	173	96819	45.45839 ppb		97
72)	Isopropylbenzene	10.55	105	1315694	36.18065 ppb		98
73)	1,1,2,2-Tetrachloroethane	10.96	83	130790	34.48260 ppb		99
74)	1,2,3-Trichloropropane	10.99	110	39249	36.14849 ppb		98
75)	t-1,4-Dichloro-2-Butene	11.04	53	27740	42.04467 ppb		93
76)	Bromobenzene	10.91	156	276878	34.56229 ppb		97
77)	n-Propylbenzene	11.12	91	1478609	38.61366 ppb		100
78)	4-Ethyltoluene	11.29	105	1314843	40.17338 ppb		98
79)	2-Chlorotoluene	11.20	91	856805	37.34448 ppb		95
80)	1,3,5-Trimethylbenzene	11.38	105	1135443	39.85399 ppb		96
81)	4-Chlorotoluene	11.36	91	1026940	40.70762 ppb		98
82)	Tert-Butylbenzene	11.83	119	943465	37.78117 ppb		97
83)	1,2,4-Trimethylbenzene	11.89	105	1056912	39.67371 ppb		94
84)	Sec-Butylbenzene	12.14	105	1327158	39.53381 ppb		98
85)	p-Isopropyltoluene	12.36	119	611081	41.69626 ppb		99
86)	Benzyl Chloride	12.57	91	99255	39.96838 ppb		95
87)	1,3-DCB	12.24	146	608375	38.48764 ppb		96
88)	1,4-DCB	12.37	146	313344	40.40453 ppb		97
89)	n-Butylbenzene	12.94	91	446976	37.93515 ppb		96
90)	1,2-DCB	12.88	146	479236	37.61967 ppb		97
91)	Hexachloroethane	13.25	117	142926	42.66996 ppb		97
92)	1,2-Dibromo-3-chloropropan	13.99	75	16326	40.35717 ppb		96
93)	1,2,4-Trichlorobenzene	15.21	180	267502	41.20728 ppb		94
94)	Hexachlorobutadiene	15.51	225	169317	34.71010 ppb		95
95)	Naphthalene	15.54	128	281726	51.70714 ppb		97
96)	1,2,3-Trichlorobenzene	15.90	180	190594	44.29891 ppb		98

(#) = qualifier out of range (m) = manual integration

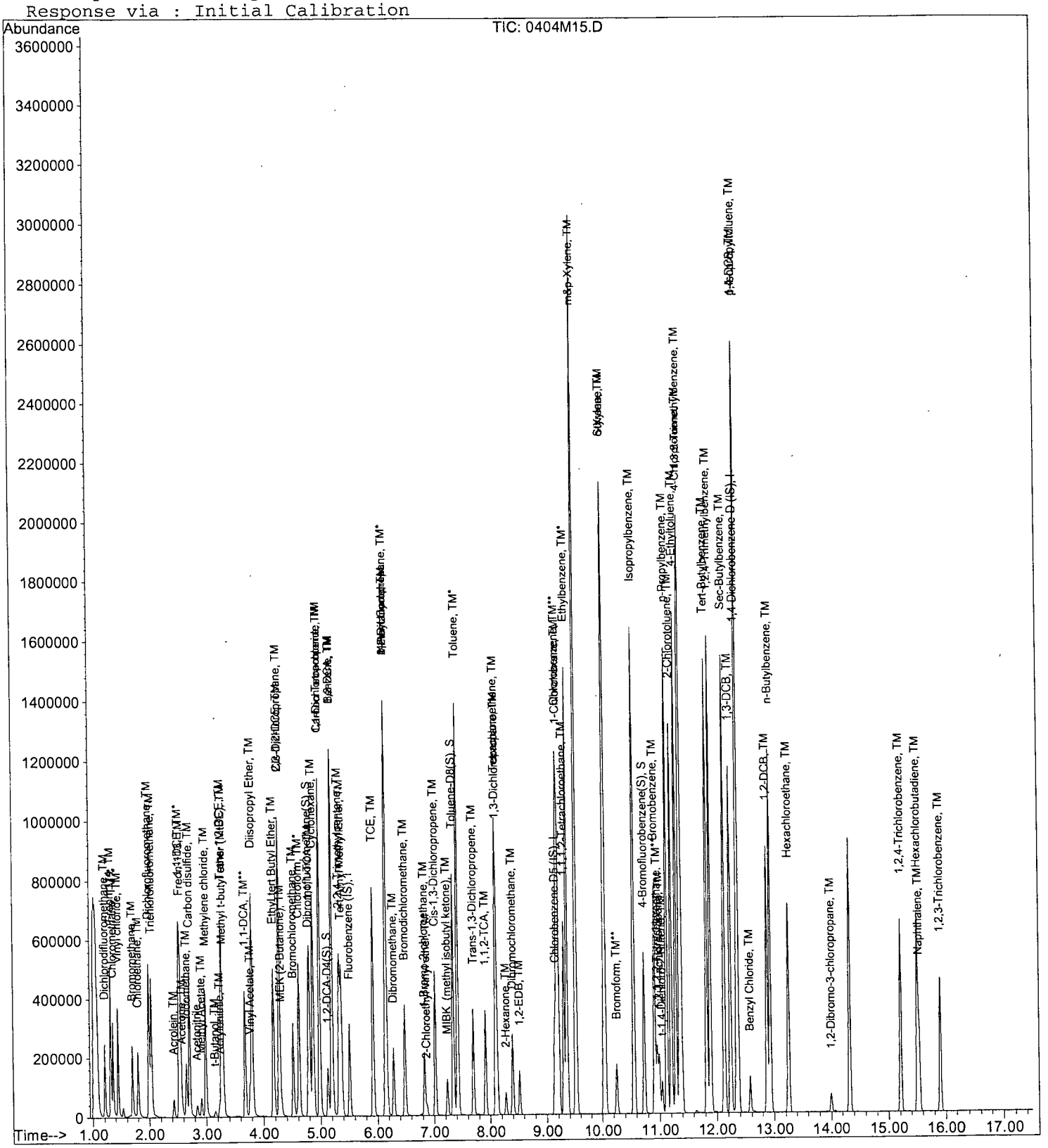
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



487

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
37) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
57) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
65) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	375808	93.08592 ppb		96
3) Freon 114	1.31	85	509688	92.89272 ppb		96
4) Chloromethane	1.35	50	496592	88.72307 ppb		96
5) Vinyl chloride	1.44	62	798880	94.09040 ppb		99
6) Bromomethane	1.70	94	286052	54.52260 ppb		95
7) Chloroethane	1.79	64	497323	96.82711 ppb		97
8) Dichlorofluoromethane	1.99	67	1441058	103.50007 ppb		100
9) Trichlorofluoromethane	2.03	101	981074	106.61843 ppb		99
10) Acrolein	2.43	56	59933	193.06582 ppb		94
11) Acetone	2.59	43	63177	88.06824 ppb		90
12) Freon-113	2.54	101	533776	94.86323 ppb		97
13) 1,1-DCE	2.52	61	866903	97.67396 ppb		94
14) Acetonitrile	2.85	TIC	131031	228.22554 ppb	#	90
15) t-Butanol	3.19	59	26649	209.78104 ppb		91
16) Methyl Acetate	2.91	43	212527	100.02974 ppb		96
17) Iodomethane	2.65	142	625762	99.80838 ppb		99
18) Acrylonitrile	3.23	53	97332	104.02620 ppb		93
19) Methylene chloride	2.99	84	508994	87.03163 ppb		99
20) Carbon disulfide	2.71	76	1724703	94.43997 ppb		99
21) Methyl t-butyl ether (MtBE	3.29	73	904632	102.38487 ppb		95
22) Trans-1,2-DCE	3.26	96	620212	96.03196 ppb		94
23) Diisopropyl Ether	3.81	45	1906913	106.74988 ppb		97
24) 1,1-DCA	3.68	63	1075463	97.75818 ppb		98
25) Vinyl Acetate	3.76	43	455708	124.50357 ppb		98
26) Ethyl tert Butyl Ether	4.17	59	1190819	110.99776 ppb		97
27) MEK (2-Butanone)	4.31	43	106519	80.97699 ppb		91
28) Cis-1,2-DCE	4.27	96	674861	98.28840 ppb		94
29) 2,2-Dichloropropane	4.27	77	783226	120.48742 ppb		98
30) Chloroform	4.62	83	1033944	97.58038 ppb		99
31) Bromochloromethane	4.52	128	250612	92.34898 ppb		91
33) 1,1,1-TCA	4.80	97	980355	105.75401 ppb		98
34) Cyclohexane	4.87	41	621474	100.47990 ppb		94
35) 1,1-Dichloropropene	4.99	75	886391	100.53062 ppb		96
36) 2,2,4-Trimethylpentane	5.33	57	1585693	102.79171 ppb		99
38) Carbon Tetrachloride	4.98	117	826297	111.00741 ppb		93
39) Tert Amyl Methyl Ether	5.37	73	1057436	112.07946 ppb	#	88
40) 1,2-DCA	5.21	62	590862	105.77304 ppb		98
41) Benzene	5.20	78	2696088	101.42824 ppb		100
42) TCE	5.92	95	688484	97.92712 ppb		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 5 10:13 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:10:41 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	456888	241.17690 ppb		92
44) 1,2-Dichloropropane	6.16	63	609692	102.13491 ppb		100
45) Bromodichloromethane	6.49	83	695757	102.28232 ppb		100
46) Methyl Cyclohexane	6.15	83	997084	104.65067 ppb		95
47) Dibromomethane	6.28	93	224453	98.78584 ppb		94
48) MIBK (methyl isobutyl ket	7.24	43	259611	87.70970 ppb		97
49) 1-Bromo-2-chloroethane	6.83	63	572382	100.79621 ppb		96
50) 2-Chloroethyl vinyl ether	6.87	106	10577	98.85347 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	809859	113.03058 ppb		97
52) Toluene	7.42	91	3366290	109.15492 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	605578	132.75894 ppb		96
54) 1,1,2-TCA	7.91	83	290011	100.40677 ppb		97
55) 2-Hexanone	8.28	43	162169	99.84324 ppb		100
58) 1,2-EDB	8.52	107	317874	101.56553 ppb		94
59) Tetrachloroethene	8.10	164	690787	87.99569 ppb		99
60) 1-Chlorohexane	9.20	91	983594	119.55729 ppb		97
61) 1,1,1,2-Tetrachloroethane	9.30	131	622012	107.12569 ppb		97
62) m&p-Xylene	9.52	106	3135983	220.86698 ppb		90
63) o-Xylene	10.04	106	1480867	113.03407 ppb		94
64) Styrene	10.05	104	2416413	120.92857 ppb		96
66) 1,3-Dichloropropane	8.12	76	598718	97.99674 ppb		97
67) Dibromochloromethane	8.39	129	460736	99.27345 ppb		90
68) Chlorobenzene	9.18	112	1932077	99.69580 ppb		97
69) Ethylbenzene	9.35	91	3704373	104.55769 ppb		97
70) Bromoform	10.26	173	287800	115.40428 ppb		98
72) Isopropylbenzene	10.55	105	4071295	95.85280 ppb		97
73) 1,1,2,2-Tetrachloroethane	10.96	83	379591	85.68249 ppb		99
74) 1,2,3-Trichloropropane	10.99	110	113609	89.58289 ppb		99
75) t-1,4-Dichloro-2-Butene	11.04	53	81362	105.57882 ppb		87
76) Bromobenzene	10.91	156	815252	87.12778 ppb		97
77) n-Propylbenzene	11.12	91	4581114	102.42583 ppb		97
78) 4-Ethyltoluene	11.29	105	3999646	104.62530 ppb		96
79) 2-Chlorotoluene	11.21	91	2545984	95.00595 ppb		94
80) 1,3,5-Trimethylbenzene	11.39	105	3338213	100.31625 ppb		96
81) 4-Chlorotoluene	11.36	91	3064508	104.00210 ppb		95
82) Tert-Butylbenzene	11.83	119	2871971	98.46467 ppb		97
83) 1,2,4-Trimethylbenzene	11.90	105	3248988	104.41499 ppb		94
84) Sec-Butylbenzene	12.14	105	4085455	104.19269 ppb		97
85) p-Isopropyltoluene	12.36	119	1896448	110.78731 ppb		98
86) Benzyl Chloride	12.57	91	356904	98.10985 ppb		95
87) 1,3-DCB	12.24	146	1788630	96.87711 ppb		96
88) 1,4-DCB	12.37	146	905920	100.01136 ppb		96
89) n-Butylbenzene	12.94	91	1421193	103.26697 ppb		97
90) 1,2-DCB	12.88	146	1390402	93.44513 ppb		98
91) Hexachloroethane	13.25	117	464996	118.85322 ppb		95
92) 1,2-Dibromo-3-chloropropan	13.99	75	49811	105.41852 ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	743836	99.17420 ppb		95
94) Hexachlorobutadiene	15.51	225	480597	84.35040 ppb		94
95) Naphthalene	15.54	128	744265	116.95046 ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	490216	97.54883 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

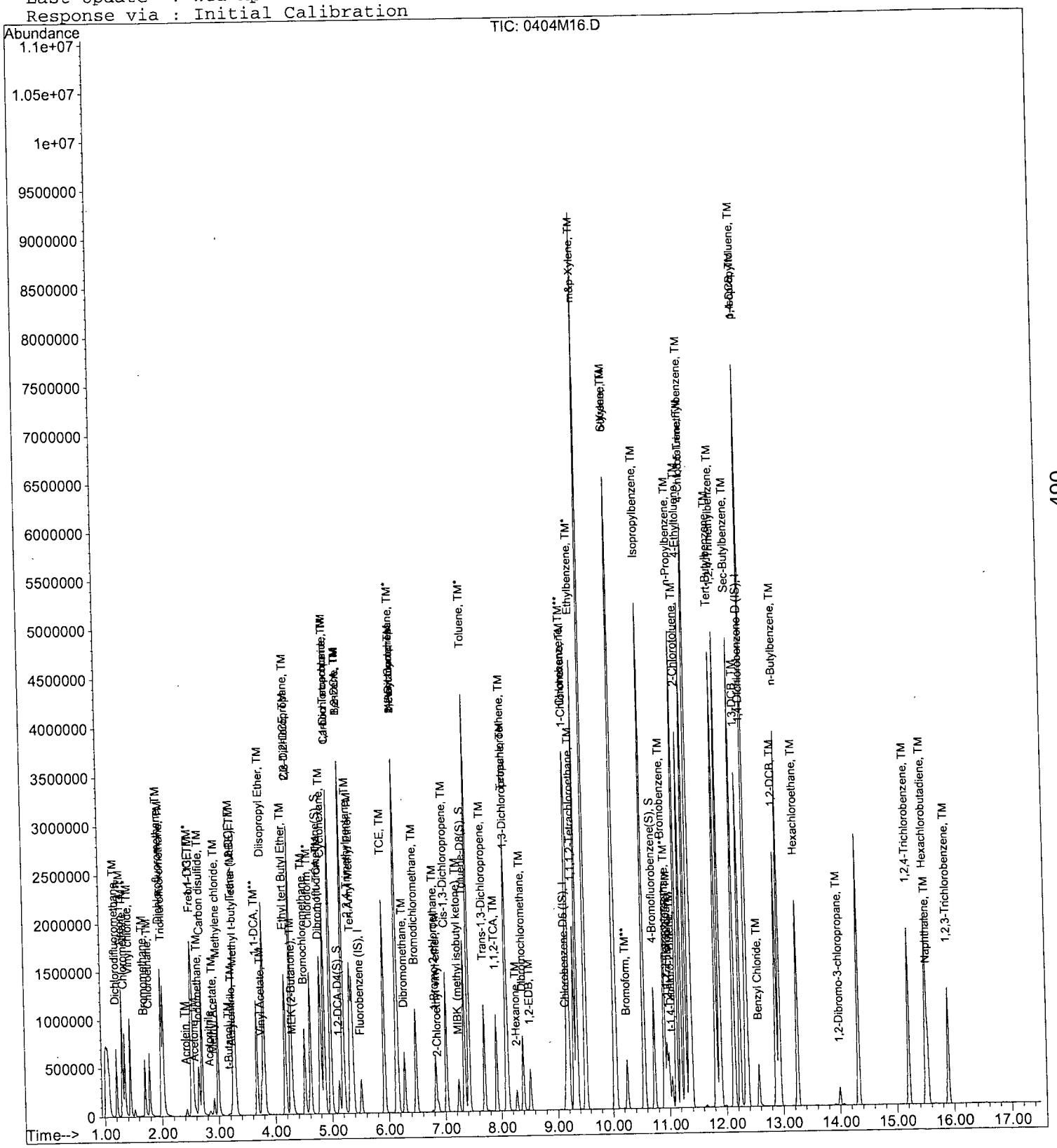
Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

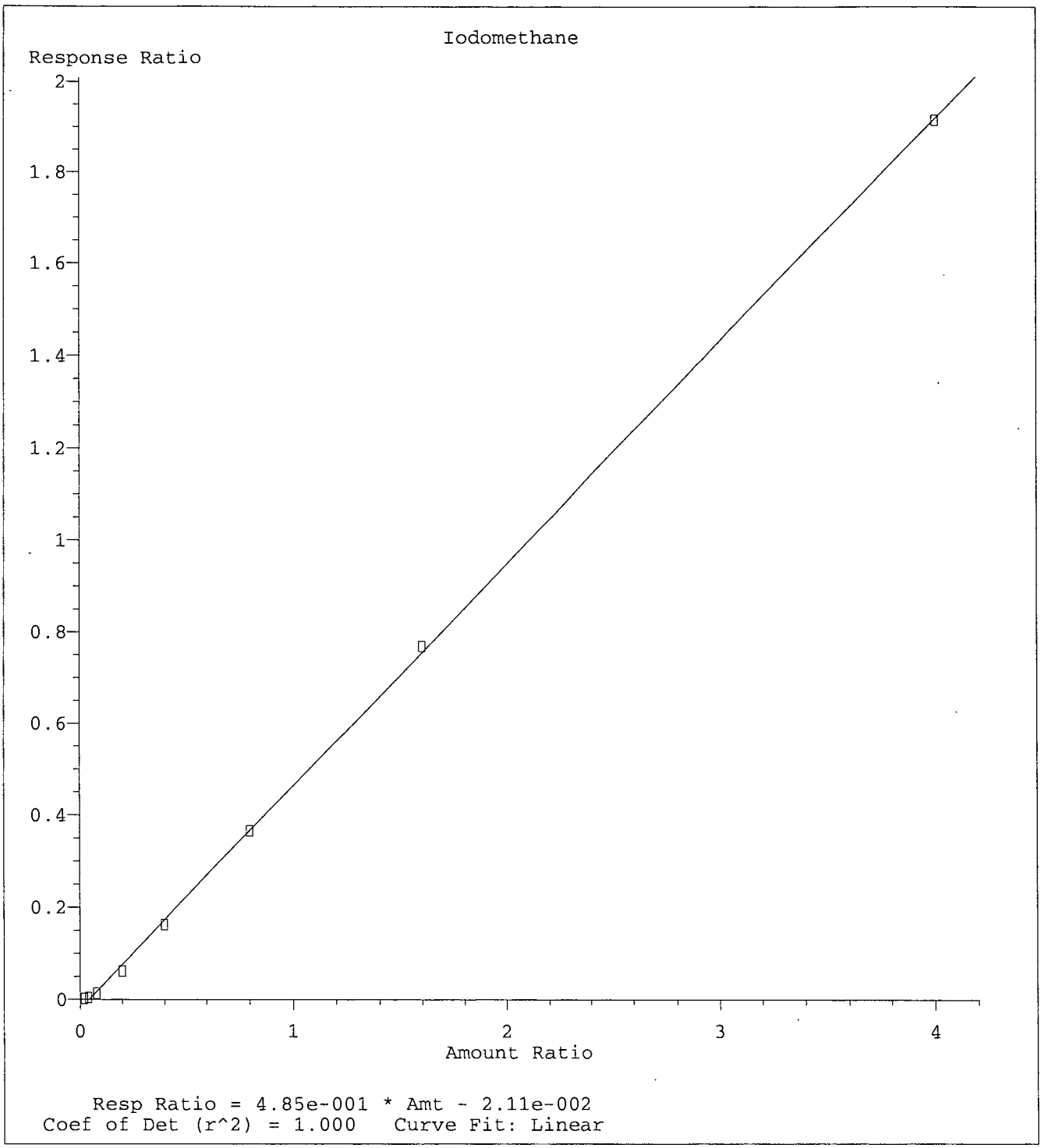
Quant Time: Apr 5 10:13 2017

Quant Results File: MALLW.RES

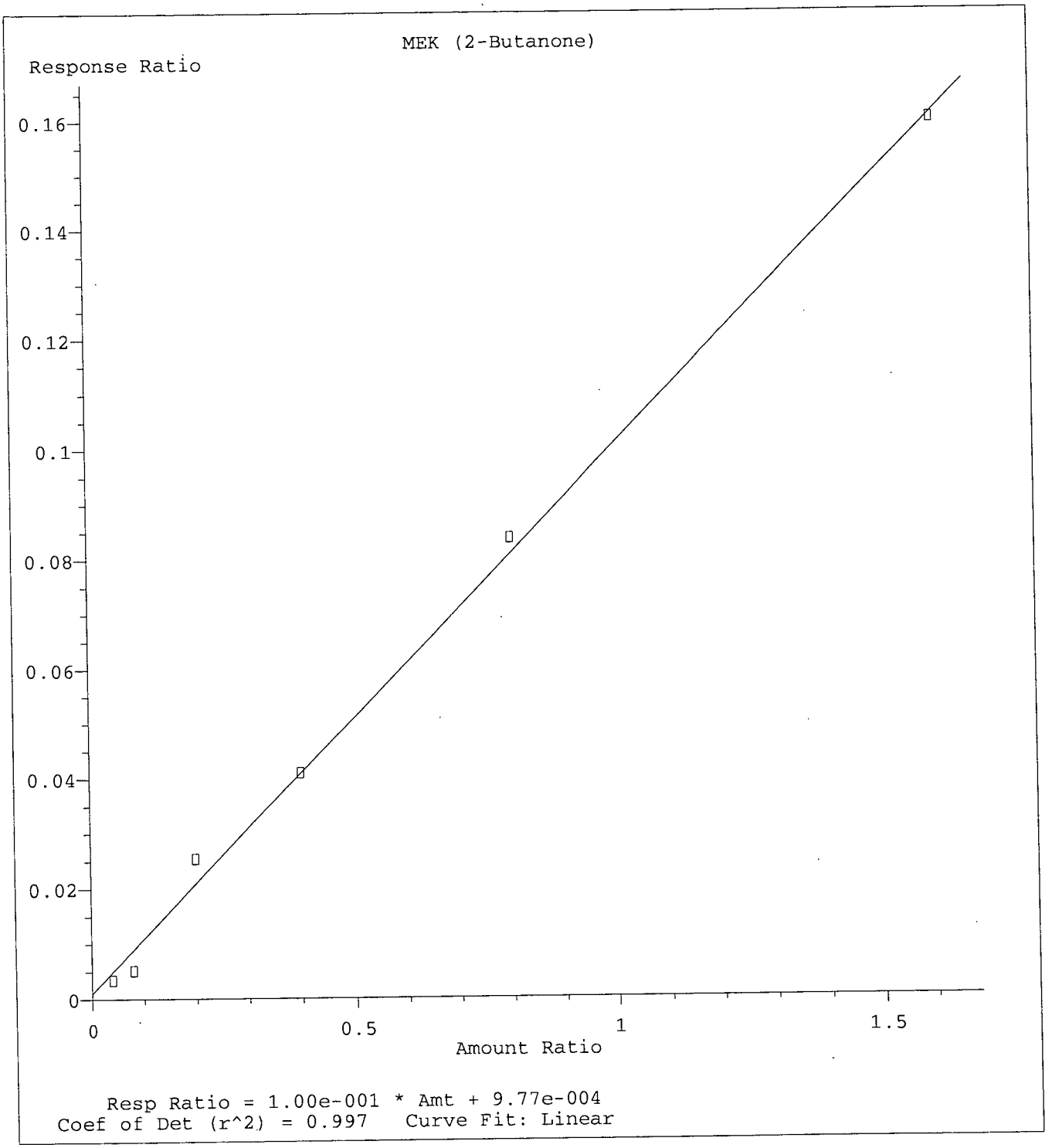
Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



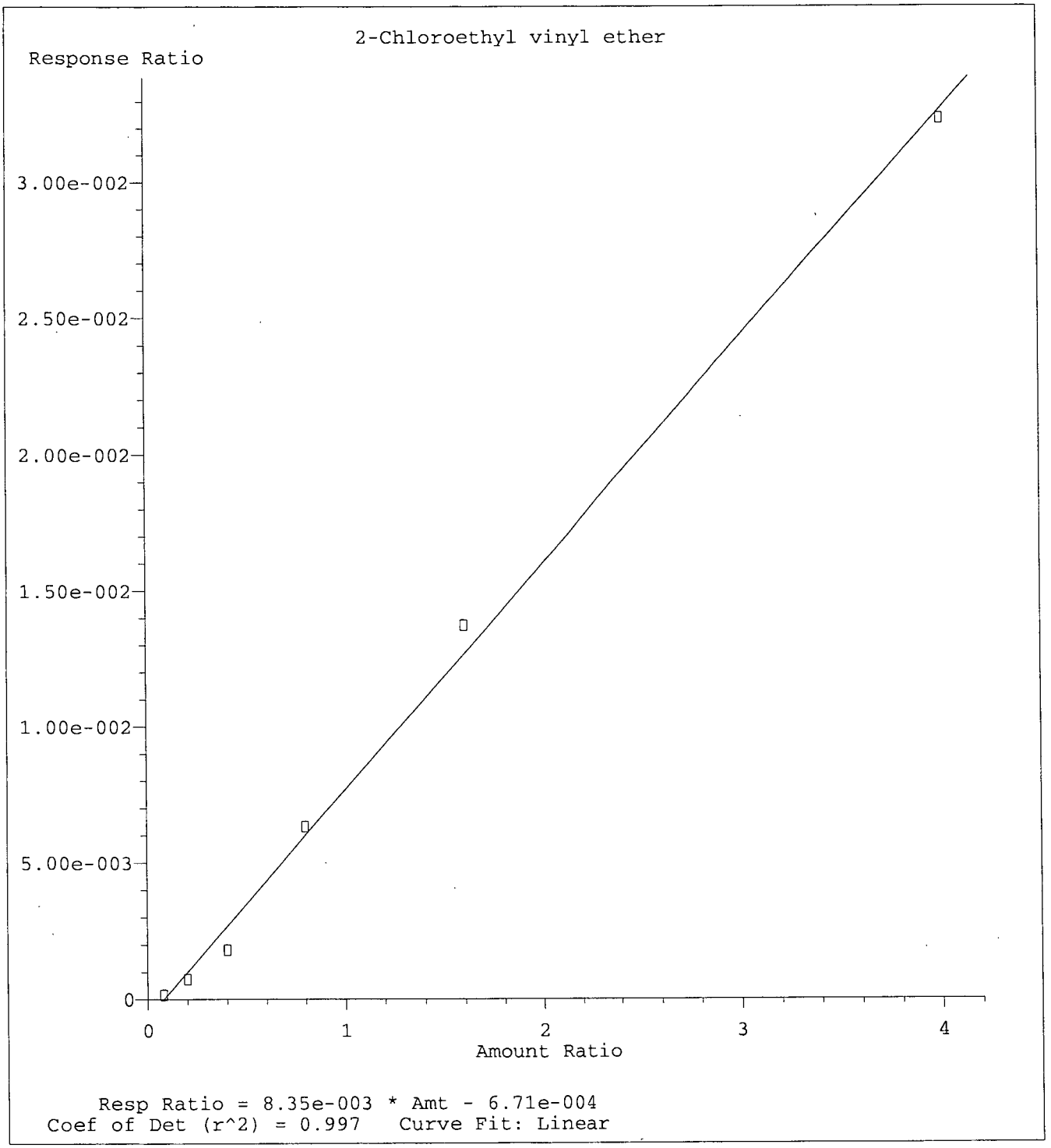
490



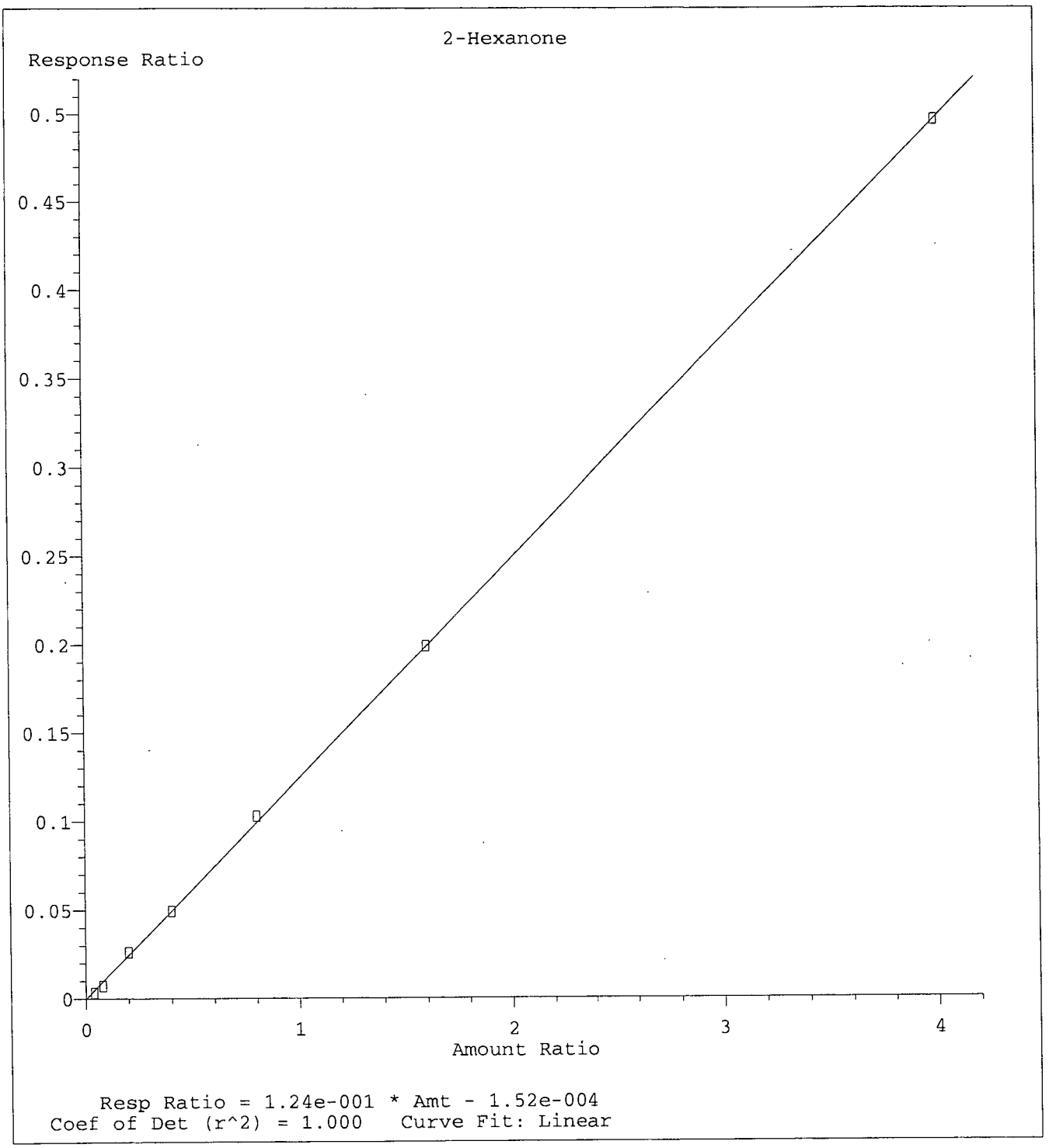
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



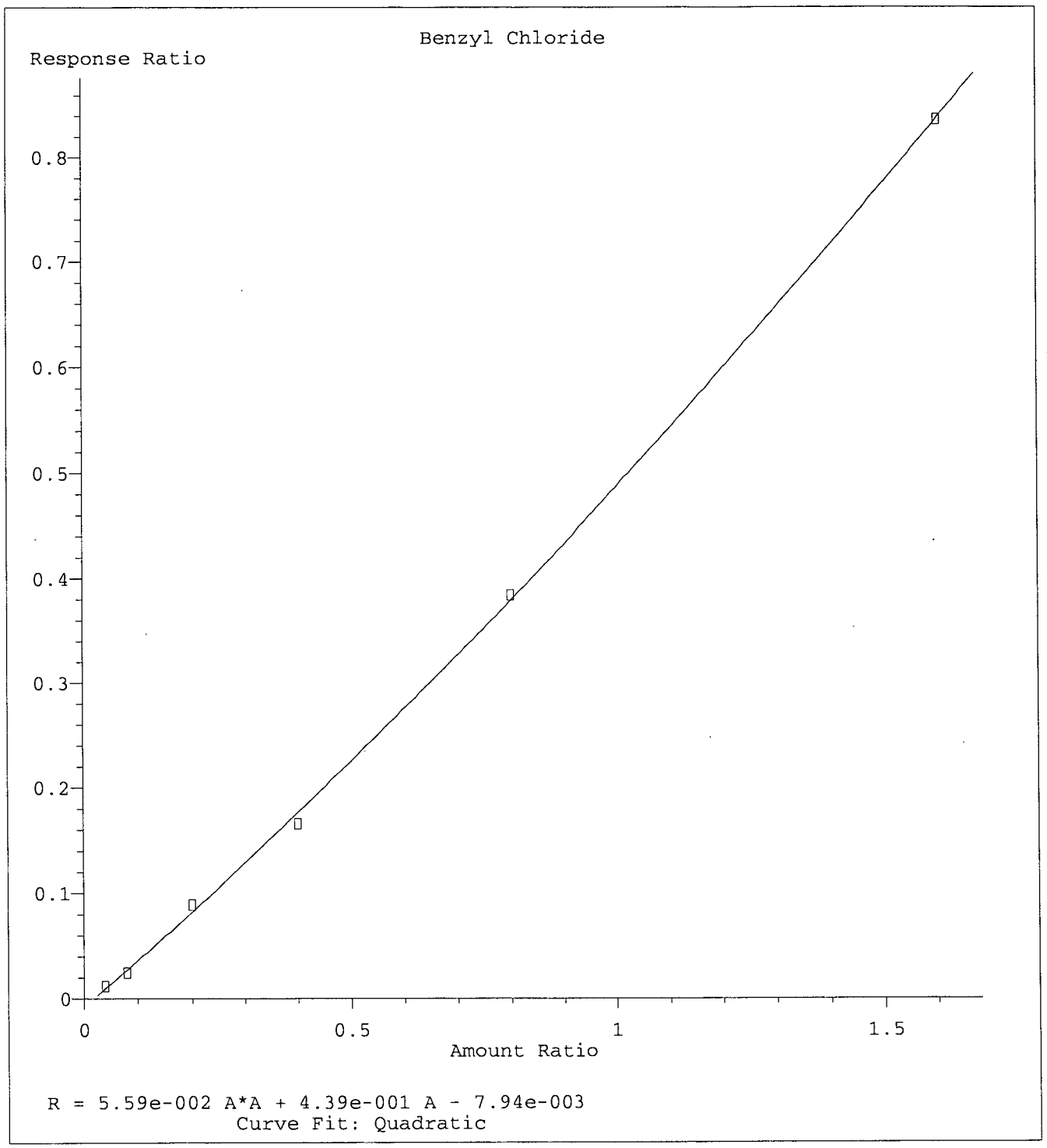
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



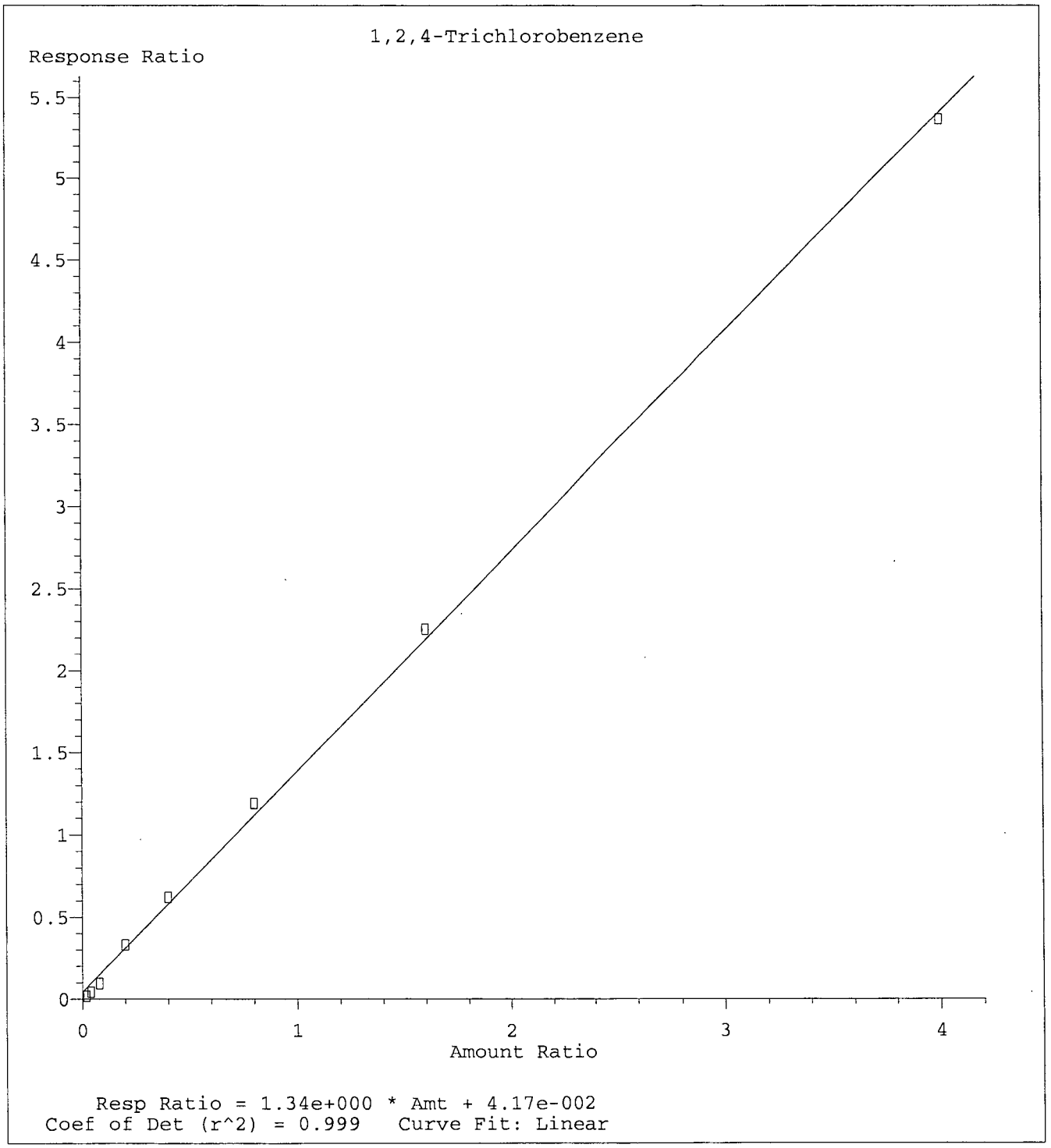
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



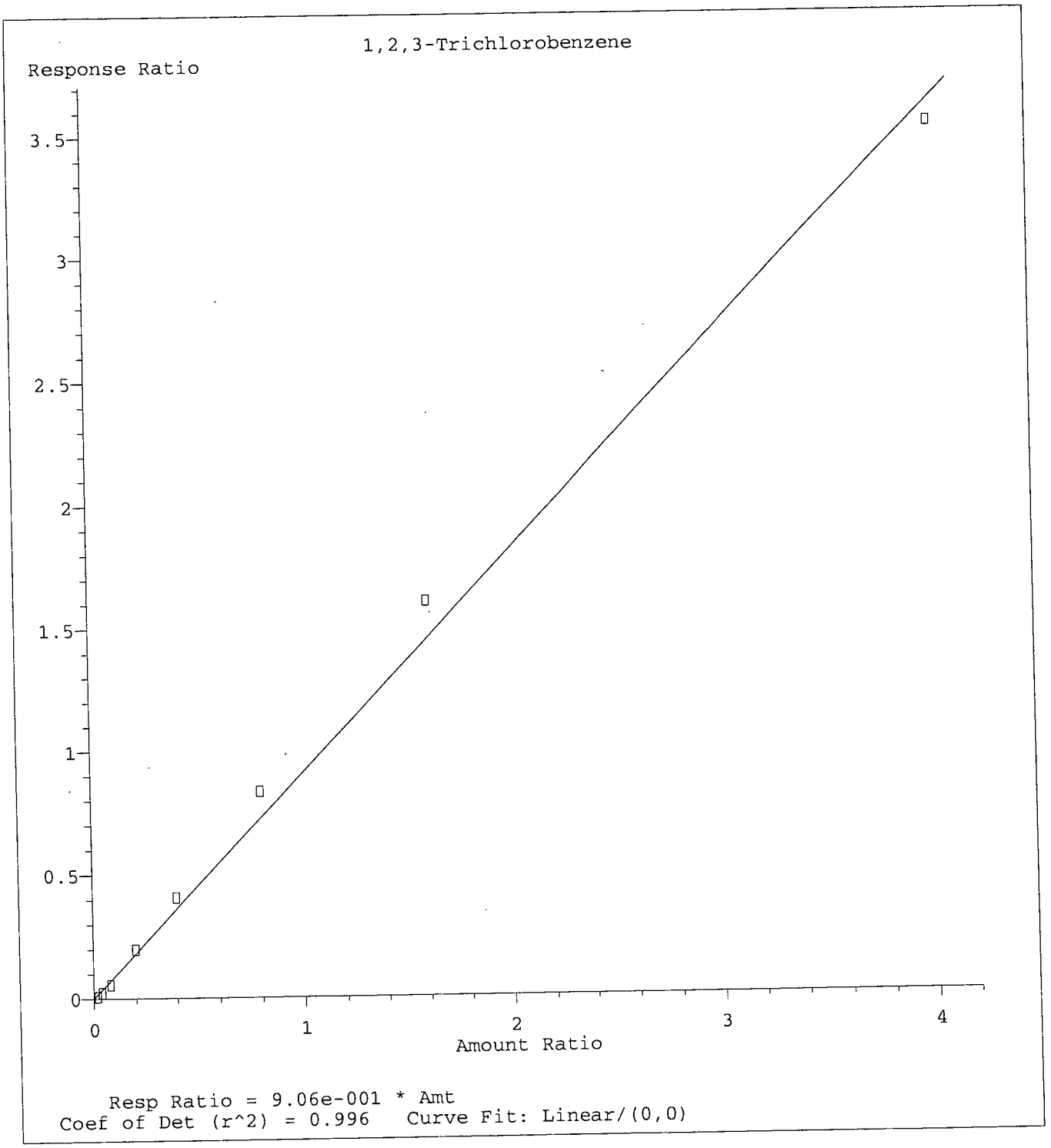
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



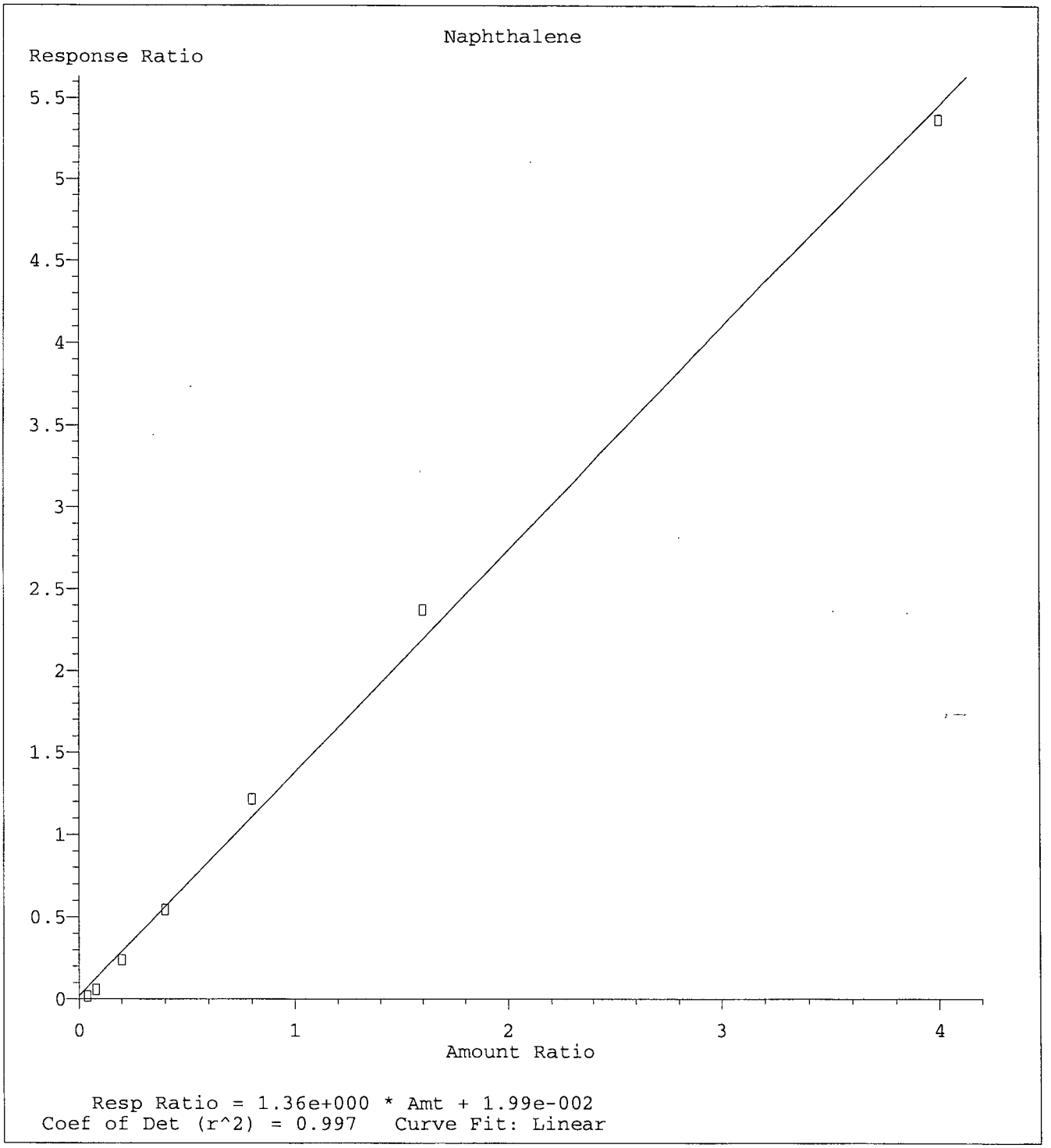
Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017



Method Name: M:\MAX\DATA\M170404\MALLW.M
Calibration Table Last Updated: Wed Apr 05 10:16:57 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	Dichlorodifluoromethane	0.3087	0.3828	24	TM		*NT
2	TM	Freon 114	0.4195	0.4103	2.2	TM		
3	TM**	Chloromethane	0.4279	0.5125	20	TM**		
4	TM*	Vinyl chloride	0.6492	0.6584	1.4	TM*		
5	TM	Bromomethane	0.4011	0.3502	13	TM		
6	TM	Chloroethane	0.3927	0.4103	4.5	TM		
7	TM	Dichlorofluoromethane	1.065	1.046	1.7	TM		
8	TM	Trichlorofluoromethane	0.7036	0.8475	20	TM		
9	TM	Acrolein	0.0237	0.0261	10	TM		
10	TM	Acetone	0.0600	0.0943	57	TM		*NT
11	TM	Freon-113	0.4302	0.4683	8.8	TM		
12	TM*	1,1-DCE	0.6786	0.5713	16	TM*		SN 4/28/17
13		Acetonitrile	0.0439	0.0442	0.71			
14	TM	t-Butanol	0.0097	0.0101	3.7	TM		
15	TM	Methyl Acetate	0.1624	0.1767	8.8	TM		
16	TML	Iodomethane	0.3142	0.1472	53	TML	59	nt
17	TM	Acrylonitrile	0.0715	0.0817	14	TM		
18	TM	Methylene chloride	0.4472	0.3631	19	TM		
19	TM	Carbon disulfide	1.396	1.217	13	TM		
20	TM	Methyl t-butyl ether (MtBE)	0.6756	0.7509	11	TM		
21	TM	Trans-1,2-DCE	0.4938	0.4355	12	TM		
22	TM	Diisopropyl Ether	1.366	1.453	6.4	TM		
23	TM**	1,1-DCA	0.8411	0.6934	18	TM**		
24	TM	Vinyl Acetate	0.2799	0.1846	34	TM		nt
25	TM	Ethyl tert Butyl Ether	0.8203	0.9708	18	TM		
26	TML	MEK (2-Butanone)	0.0976	0.1140	17	TML	11	
27	TM	Cis-1,2-DCE	0.5250	0.4438	15	TM		
28	TM	2,2-Dichloropropane	0.4970	0.4018	19	TM		
29	TM*	Chloroform	0.8101	0.7108	12	TM*		
30	TM	Bromochloromethane	0.2075	0.1702	18	TM		
31	TM	1,1,1-TCA	0.7088	0.6079	14	TM		
32	TM	Cyclohexane	0.4729	0.4823	2.0	TM		
33	TM	1,1-Dichloropropene	0.6741	0.5662	16	TM		
34	TM	2,2,4-Trimethylpentane	1.179	1.164	1.3	TM		
35	TM	Carbon Tetrachloride	0.5691	0.5035	12	TM		
36	TM	Tert Amyl Methyl Ether	0.7214	0.7735	7.2	TM		
37	TM	1,2-DCA	0.4271	0.3420	20	TM		
38	TM	Benzene	2.032	1.722	15	TM		
39	TM	TCE	0.5375	0.4346	19	TM		
40	TM	2-Pentanone	0.1448	0.1558	7.5	TM		
		Average			14.6			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4564	0.3889	15	TM*	-
42	TM	Bromodichloromethane	0.5201	0.4286	18	TM	
43	TM	Methyl Cyclohexane	0.7285	0.7457	2.4	TM	
44	TM	Dibromomethane	0.1737	0.1525	12	TM	
45	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2288	1.1	TM	
46	TM	1-Bromo-2-chloroethane	0.4342	0.4162	4.1	TM	
47	TML	2-Chloroethyl vinyl ether	0.0058	0.0076	31	TML	11
48	TM	Cis-1,3-Dichloropropene	0.5478	0.4716	14	TM	
49	TM*	Toluene	2.358	1.950	17	TM*	
50	TM	Trans-1,3-Dichloropropene	0.3488	0.3197	8.3	TM	
51	TM	1,1,2-TCA	0.2208	0.1863	16	TM	
52	TML	2-Hexanone	0.1143	0.1294	13	TML	4.5
53	TM	1,2-EDB	0.3297	0.2886	12	TM	
54	TM	Tetrachloroethene	0.8270	0.6712	19	TM	
55	TM	1-Chlorohexane	0.8667	0.8932	3.1	TM	
56	TM	1,1,1,2-Tetrachloroethane	0.6117	0.5282	14	TM	
57	TM	m&p-Xylene	1.496	1.233	18	TM	
58	TM	o-Xylene	1.380	1.153	16	TM	
59	TM	Styrene	2.105	1.745	17	TM	
60	TM	1,3-Dichloropropane	0.6436	0.5883	8.6	TM	
61	TM	Dibromochloromethane	0.4889	0.3994	18	TM	
62	TM**	Chlorobenzene	2.042	1.641	20	TM**	
63	TM*	Ethylbenzene	3.732	3.172	15	TM*	
64	TM**	Bromoform	0.2627	0.2208	16	TM**	
65	TM	Isopropylbenzene	7.658	6.557	14	TM	
66	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.6440	19	TM**	
67	TM	1,2,3-Trichloropropane	0.2287	0.2141	6.4	TM	
68	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1265	9.0	TM	
69	TM	Bromobenzene	1.687	1.458	14	TM	
70	TM	n-Propylbenzene	8.064	6.816	15	TM	
71	TM	4-Ethyltoluene	6.892	6.903	0.15	TM	
72	TM	2-Chlorotoluene	4.832	3.930	19	TM	
73	TM	1,3,5-Trimethylbenzene	6.000	4.783	20	TM	
74	TM	4-Chlorotoluene	5.313	4.226	20	TM	
75	TM	Tert-Butylbenzene	5.259	4.223	20	TM	
76	TM	1,2,4-Trimethylbenzene	5.610	4.588	18	TM	
77	TM	Sec-Butylbenzene	7.070	5.691	20	TM	
78	TM	p-Isopropyltoluene	3.086	2.330	24	TM	*NT
79	TMQ	Benzyl Chloride	0.4107	0.3337	19	TMQ	22 nt
80	TM	1,3-DCB	3.329	2.656	20	TM	SV 4/28/17
		Average			14.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 16:52
Instrument: Max
Cal. Date: 04/04/17
Data File: 0404M21.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,4-DCB	1.633	1.312	20	TM		
82	TM	n-Butylbenzene	2.481	1.859	25	TM		*ND
83	TM	1,2-DCB	2.683	2.219	17	TM		
84	TM	Hexachloroethane	0.7054	0.6268	11	TM		
85	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0753	12	TM		
86	TML	1,2,4-Trichlorobenzene	1.323	1.209	8.7	TML	18	
87	TM	Hexachlorobutadiene	1.027	0.8406	18	TM		
88	TML	Naphthalene	1.147	0.9501	17	TML	34	*ND
89	TML	1,2,3-Trichlorobenzene	0.8216	0.7917	3.6	TML	13	SW 4/28/17
90								
91								
92								
93								
94								
95								
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116								
117								
118								
119								
120								
		Average			14.7			

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	268348	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	183462	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87168	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	66329	26.24384 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.976%	
37) 1,2-DCA-D4(S)	5.13	65	51699	26.11279 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.452%	
57) Toluene-D8(S)	7.34	98	275660	25.75865 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.036%	
65) 4-Bromofluorobenzene(S)	10.73	95	83787	25.27811 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.112%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	41088	12.40078 ppb		99
3) Freon 114	1.31	85	44039	9.77982 ppb		99
4) Chloromethane	1.35	50	55008	11.97509 ppb		98
5) Vinyl chloride	1.44	62	70673	10.14223 ppb		99
6) Bromomethane	1.71	94	37585	8.72896 ppb		98
7) Chloroethane	1.81	64	44037	10.44702 ppb		94
8) Dichlorofluoromethane	2.00	67	112286	9.82655 ppb		100
9) Trichlorofluoromethane	2.04	101	90971	12.04619 ppb		98
10) Acrolein	2.43	56	35047	137.56452 ppb		99
11) Acetone	2.58	43	10121	15.70671 ppb		89
12) Freon-113	2.55	101	50263	10.88437 ppb		98
13) 1,1-DCE	2.53	61	61320	8.41834 ppb		97
14) Acetonitrile	2.84	TIC	59319	125.89260 ppb		97
15) t-Butanol	3.15	59	13520	129.68155 ppb		96
16) Methyl Acetate	2.92	43	18972	10.88039 ppb		97
17) Iodomethane	2.65	142	15798	4.12623 ppb		96
18) Acrylonitrile	3.23	53	8766	11.41576 ppb		91
19) Methylene chloride	2.99	84	38980	8.12124 ppb		99
20) Carbon disulfide	2.71	76	130643	8.71653 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	80603	11.11556 ppb		95
22) Trans-1,2-DCE	3.27	96	46750	8.82010 ppb		98
23) Diisopropyl Ether	3.81	45	155983	10.63971 ppb		99
24) 1,1-DCA	3.68	63	74425	8.24314 ppb		95
25) Vinyl Acetate	3.76	43	19812	6.59538 ppb	#	91
26) Ethyl tert Butyl Ether	4.17	59	104204	11.83502 ppb		94
27) MEK (2-Butanone)	4.31	43	12235	11.12376 ppb		96
28) Cis-1,2-DCE	4.28	96	47639	8.45409 ppb		93
29) 2,2-Dichloropropane	4.27	77	43127	8.08388 ppb		98
30) Chloroform	4.62	83	76295	8.77360 ppb		100
31) Bromochloromethane	4.52	128	18265	8.20099 ppb		93
33) 1,1,1-TCA	4.80	97	65253	8.57690 ppb		98
34) Cyclohexane	4.87	41	51767	10.19824 ppb		93
35) 1,1-Dichloropropene	4.99	75	60780	8.39943 ppb		94
36) 2,2,4-Trimethylpentane	5.33	57	124899	9.86539 ppb		97
38) Carbon Tetrachloride	4.98	117	54040	8.84601 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	83024	10.72239 ppb		94
40) 1,2-DCA	5.21	62	36714	8.00823 ppb		100
41) Benzene	5.20	78	184799	8.47112 ppb		99
42) TCE	5.92	95	46646	8.08425 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	209009	134.43338 ppb		96
44) 1,2-Dichloropropane	6.16	63	41747	8.52129 ppb	#	96
45) Bromodichloromethane	6.49	83	46001	8.23999 ppb		95
46) Methyl Cyclohexane	6.15	83	80042	10.23633 ppb		93
47) Dibromomethane	6.29	93	16369	8.77824 ppb		95
48) MIBK (methyl isobutyl ket	7.24	43	24564	10.11206 ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	44679	9.58689 ppb		94
50) 2-Chloroethyl vinyl ether	6.87	106	813	11.07950 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	50621	8.60862 ppb		96
52) Toluene	7.42	91	209300	8.26946 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	34314	9.16603 ppb		94
54) 1,1,2-TCA	7.91	83	19992	8.43375 ppb		95
55) 2-Hexanone	8.27	43	13894	10.45049 ppb	#	93
58) 1,2-EDB	8.52	107	21182	8.75418 ppb		95
59) Tetrachloroethene	8.09	164	49255	8.11568 ppb		98
60) 1-Chlorohexane	9.20	91	65548	10.30568 ppb		100
61) 1,1,1,2-Tetrachloroethane	9.30	131	38765	8.63559 ppb		99
62) m&p-Xylene	9.51	106	180903	16.48010 ppb		97
63) o-Xylene	10.03	106	84645	8.35703 ppb		99
64) Styrene	10.05	104	128054	8.28911 ppb		96
66) 1,3-Dichloropropane	8.12	76	43169	9.13942 ppb		99
67) Dibromochloromethane	8.39	129	29310	8.16872 ppb		90
68) Chlorobenzene	9.18	112	120422	8.03740 ppb		99
69) Ethylbenzene	9.35	91	232765	8.49799 ppb		99
70) Bromoform	10.25	173	16205	8.40499 ppb		99
72) Isopropylbenzene	10.55	105	228632	8.56256 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	22455	8.06275 ppb		99
74) 1,2,3-Trichloropropane	10.99	110	7464	9.36220 ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	4410	9.10307 ppb		98
76) Bromobenzene	10.91	156	50845	8.64385 ppb		97
77) n-Propylbenzene	11.12	91	237651	8.45225 ppb		99
78) 4-Ethyltoluene	11.29	105	240687	10.01525 ppb		98
79) 2-Chlorotoluene	11.20	91	137025	8.13372 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	166756	7.97137 ppb		97
81) 4-Chlorotoluene	11.36	91	147361	7.95533 ppb		99
82) Tert-Butylbenzene	11.83	119	147228	8.02943 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	159967	8.17785 ppb		93
84) Sec-Butylbenzene	12.14	105	198417	8.04952 ppb		97
85) p-Isopropyltoluene	12.36	119	81256	7.55090 ppb		99
86) Benzyl Chloride	12.57	91	11635	7.75469 ppb	#	95
87) 1,3-DCB	12.24	146	92593	7.97761 ppb		95
88) 1,4-DCB	12.37	146	45736	8.03178 ppb		98
89) n-Butylbenzene	12.94	91	64816	7.49177 ppb		99
90) 1,2-DCB	12.88	146	77356	8.26998 ppb		99
91) Hexachloroethane	13.25	117	21856	8.88641 ppb		96
92) 1,2-Dibromo-3-chloropropan	13.99	75	2626	8.84057 ppb	#	78
93) 1,2,4-Trichlorobenzene	15.21	180	42146	8.23163 ppb		99
94) Hexachlorobutadiene	15.51	225	29311	8.18334 ppb		94
95) Naphthalene	15.54	128	33127	6.62642 ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	27606	8.73840 ppb		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

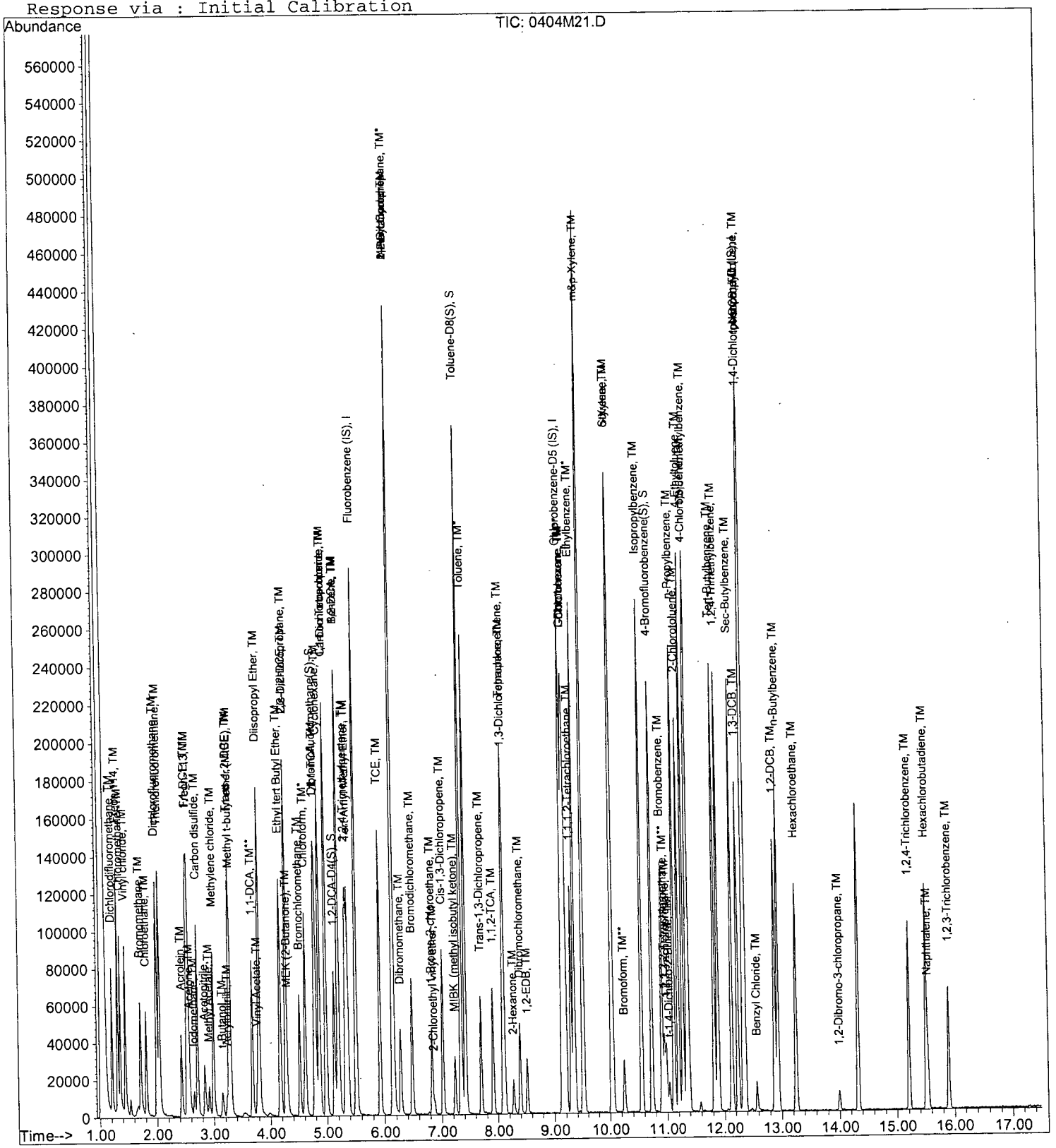
Data File : M:\MAX\DATA\M170404\0404M21.D
Acq On : 4 Apr 17 16:52
Sample : (SS) 10ug/L VOC STD 04/04/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 6 8:18 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Apr 06 08:18:35 2017
Response via : Initial Calibration



504

Algorithm Check for Linear Regression

Data file:	0404M21.D
Analyte:	MEK
Area of target analyte:	12235
Area of internal standard:	268348
concentration of internal standard:	25
multiplyer:	1
amt:	0.000977
response ratio:	0.1

$$\frac{((\text{Area pk/area IS}) - \text{constant term}) * (\text{conc IS} * \text{multiplyer})}{\text{slope}} =$$

11.15

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 00:41
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M36.D

		Compound	MEAN	CCRF	%D	%Drift		
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.3087	0.3246	5.2	TM		
3	TM	Freon 114	0.4195	0.4126	1.7	TM		
4	TM**	Chloromethane	0.4279	0.4093	4.4	TM**		
5	TM*	Vinyl chloride	0.6492	0.6933	6.8	TM*		
6	TM	Bromomethane	0.4011	0.3806	5.1	TM		
7	TM	Chloroethane	0.3927	0.4165	6.1	TM		
8	TM	Dichlorofluoromethane	1.065	1.132	6.3	TM		
9	TM	Trichlorofluoromethane	0.7036	0.7855	12	TM		
10	TM	Acrolein	0.0237	0.0241	1.4	TM		
11	TM	Acetone	0.0600	0.0666	11	TM		
12	TM	Freon-113	0.4302	0.4351	1.1	TM		
13	TM*	1,1-DCE	0.6786	0.6946	2.4	TM*		
14		Acetonitrile	0.0439	0.0393	11			
15	TM	t-Butanol	0.0097	0.0076	22	TM		nt
16	TM	Methyl Acetate	0.1624	0.1415	13	TM		
17	TML	Iodomethane	0.3142	0.3094	1.5	TML	25	nt
18	TM	Acrylonitrile	0.0715	0.0698	2.4	TM		
19	TM	Methylene chloride	0.4472	0.4165	6.9	TM		
20	TM	Carbon disulfide	1.396	1.275	8.7	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6311	6.6	TM		
22	TM	Trans-1,2-DCE	0.4938	0.4847	1.8	TM		
23	TM	Diisopropyl Ether	1.366	1.322	3.2	TM		
24	TM**	1,1-DCA	0.8411	0.8481	0.82	TM**		
25	TM	Vinyl Acetate	0.2799	0.1349	52	TM		nt
26	TM	Ethyl tert Butyl Ether	0.8203	0.7425	9.5	TM		
27	TML	MEK (2-Butanone)	0.0976	0.1012	3.7	TML	1.5	
28	TM	Cis-1,2-DCE	0.5250	0.5148	1.9	TM		
29	TM	2,2-Dichloropropane	0.4970	0.4622	7.0	TM		
30	TM*	Chloroform	0.8101	0.8014	1.1	TM*		
31	TM	Bromochloromethane	0.2075	0.1879	9.5	TM		
32	S	Dibromofluoromethane(S)	0.2355	0.2360	0.21	S		
33	TM	1,1,1-TCA	0.7088	0.7129	0.58	TM		
34	TM	Cyclohexane	0.4729	0.4548	3.8	TM		
35	TM	1,1-Dichloropropene	0.6741	0.6810	1.0	TM		
36	TM	2,2,4-Trimethylpentane	1.179	1.141	3.2	TM		
37	S	1,2-DCA-D4(S)	0.1844	0.1858	0.75	S		
38	TM	Carbon Tetrachloride	0.5691	0.5699	0.13	TM		
39	TM	Tert Amyl Methyl Ether	0.7214	0.6408	11	TM		
40	TM	1,2-DCA	0.4271	0.4081	4.5	TM		
		Average			6.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Apr 17 00:41
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M36.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	2.032	1.969	3.1	TM	
42	TM	TCE	0.5375	0.5540	3.1	TM	
43	TM	2-Pentanone	0.1448	0.1379	4.8	TM	
44	TM*	1,2-Dichloropropane	0.4564	0.4381	4.0	TM*	
45	TM	Bromodichloromethane	0.5201	0.5063	2.7	TM	
46	TM	Methyl Cyclohexane	0.7285	0.7126	2.2	TM	
47	TM	Dibromomethane	0.1737	0.1734	0.19	TM	
48	TM	MIBK (methyl isobutyl ketone)	0.2263	0.1958	13	TM	
49	TM	1-Bromo-2-chloroethane	0.4342	0.3853	11	TM	
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5087	7.1	TM	
51	TM*	Toluene	2.358	2.245	4.8	TM*	
52	TM	Trans-1,3-Dichloropropene	0.3488	0.3298	5.4	TM	
53	TM	1,1,2-TCA	0.2208	0.2071	6.2	TM	
54	TML	2-Hexanone	0.1143	0.1072	6.1	TML	13
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.458	1.499	2.8	S	
57	TM	1,2-EDB	0.3297	0.3224	2.2	TM	
58	TM	Tetrachloroethene	0.8270	0.8199	0.86	TM	
59	TM	1-Chlorohexane	0.8667	0.8985	3.7	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6117	0.6012	1.7	TM	
61	TM	m&p-Xylene	1.496	1.479	1.1	TM	
62	TM	o-Xylene	1.380	1.378	0.18	TM	
63	TM	Styrene	2.105	2.031	3.5	TM	
64	S	4-Bromofluorobenzene(S)	0.4517	0.4545	0.63	S	
65	TM	1,3-Dichloropropane	0.6436	0.6415	0.33	TM	
66	TM	Dibromochloromethane	0.4889	0.4617	5.6	TM	
67	TM**	Chlorobenzene	2.042	2.003	1.9	TM**	
68	TM*	Ethylbenzene	3.732	3.755	0.62	TM*	
69	TM**	Bromoform	0.2627	0.2434	7.3	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.658	7.877	2.9	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.7258	9.1	TM**	
73	TM	1,2,3-Trichloropropane	0.2287	0.2277	0.42	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1246	10	TM	
75	TM	Bromobenzene	1.687	1.683	0.23	TM	
76	TM	n-Propylbenzene	8.064	8.442	4.7	TM	
77	TM	4-Ethyltoluene	6.892	6.895	0.04	TM	
78	TM	2-Chlorotoluene	4.832	5.034	4.2	TM	
79	TM	1,3,5-Trimethylbenzene	6.000	6.020	0.34	TM	
80	TM	4-Chlorotoluene	5.313	5.427	2.2	TM	
		Average			3.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Apr 17 00:41
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M36.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.259	5.343	1.6	TM	
82	TM	1,2,4-Trimethylbenzene	5.610	5.655	0.80	TM	
83	TM	Sec-Butylbenzene	7.070	7.022	0.68	TM	
84	TM	p-Isopropyltoluene	3.086	3.053	1.1	TM	
85	TMQ	Benzyl Chloride	0.4107	0.3587	13	TMQ	17
86	TM	1,3-DCB	3.329	3.251	2.3	TM	
87	TM	1,4-DCB	1.633	1.576	3.5	TM	
88	TM	n-Butylbenzene	2.481	2.531	2.0	TM	
89	TM	1,2-DCB	2.683	2.669	0.53	TM	
90	TM	Hexachloroethane	0.7054	0.7297	3.5	TM	
91	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0788	7.5	TM	
92	TML	1,2,4-Trichlorobenzene	1.323	1.408	6.4	TML	2.9
93	TM	Hexachlorobutadiene	1.027	1.102	7.3	TM	
94	TM	Naphthalene	1.147	1.032	10	TM	
95	TML	1,2,3-Trichlorobenzene	0.8216	0.8350	1.6	TML	7.8
96							
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119							
120							
		Average			4.1		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M36.D
Acq On : 8 Apr 17 00:41
Sample : 170407B CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 36
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	256174	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	170595	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	80064	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	60447	25.05313 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.212%	
37) 1,2-DCA-D4(S)	5.13	65	47603	25.18655 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.748%	
57) Toluene-D8(S)	7.35	98	255702	25.69587 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.784%	
65) 4-Bromofluorobenzene(S)	10.73	95	77542	25.15850 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.632%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.22	85	33264	10.51652 ppb	98
3) Freon 114	1.32	85	42275	9.83423 ppb	100
4) Chloromethane	1.36	50	41936	9.56320 ppb	100
5) Vinyl chloride	1.45	62	71047	10.68044 ppb	99
6) Bromomethane	1.72	94	38996	9.48705 ppb	95
7) Chloroethane	1.82	64	42683	10.60701 ppb	98
8) Dichlorofluoromethane	2.01	67	115978	10.63198 ppb	99
9) Trichlorofluoromethane	2.05	101	80494	11.16538 ppb	98
10) Acrolein	2.44	56	30840	126.80409 ppb	99
11) Acetone	2.59	43	6827	11.09826 ppb #	75
12) Freon-113	2.56	101	44582	10.11295 ppb	97
13) 1,1-DCE	2.53	61	71174	10.23550 ppb	95
14) Acetonitrile	2.85	TIC	50294	111.81134 ppb	97
15) t-Butanol	3.16	59	9752	97.98475 ppb	100
16) Methyl Acetate	2.92	43	14500	8.71089 ppb	93
17) Iodomethane	2.66	142	31700	7.47255 ppb	94
18) Acrylonitrile	3.23	53	7157	9.76332 ppb	96
19) Methylene chloride	3.00	84	42676	9.31382 ppb	98
20) Carbon disulfide	2.72	76	130658	9.13181 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	64670	9.34214 ppb	95
22) Trans-1,2-DCE	3.28	96	49667	9.81574 ppb	97
23) Diisopropyl Ether	3.81	45	135500	9.68178 ppb	98
24) 1,1-DCA	3.69	63	86902	10.08247 ppb	99
25) Vinyl Acetate	3.77	43	13822	4.81998 ppb	98
26) Ethyl tert Butyl Ether	4.18	59	76083	9.05181 ppb	98
27) MEK (2-Butanone)	4.32	43	10374	9.85277 ppb	99
28) Cis-1,2-DCE	4.28	96	52756	9.80707 ppb	98
29) 2,2-Dichloropropane	4.28	77	47357	9.29862 ppb	98
30) Chloroform	4.62	83	82116	9.89174 ppb	97
31) Bromochloromethane	4.52	128	19252	9.05494 ppb	93
33) 1,1,1-TCA	4.81	97	73047	10.05762 ppb	96
34) Cyclohexane	4.87	41	46607	9.61805 ppb	98
35) 1,1-Dichloropropene	4.99	75	69785	10.10217 ppb	95
36) 2,2,4-Trimethylpentane	5.34	57	116966	9.67783 ppb	98
38) Carbon Tetrachloride	4.99	117	58394	10.01298 ppb	96
39) Tert Amyl Methyl Ether	5.37	73	65659	8.88271 ppb	97
40) 1,2-DCA	5.21	62	41815	9.55434 ppb	95
41) Benzene	5.21	78	201751	9.68769 ppb	98
42) TCE	5.92	95	56773	10.30696 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M36.D
Acq On : 8 Apr 17 00:41
Sample : 170407B CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 36
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	176652	119.02111	ppb		95
44)	1,2-Dichloropropane	6.16	63	44895	9.59934	ppb		99
45)	Bromodichloromethane	6.49	83	51877	9.73413	ppb		100
46)	Methyl Cyclohexane	6.15	83	73019	9.78195	ppb		94
47)	Dibromomethane	6.29	93	17768	9.98131	ppb		93
48)	MIBK (methyl isobutyl ket	7.23	43	20063	8.65167	ppb	#	91
49)	1-Bromo-2-chloroethane	6.83	63	39478	8.87346	ppb		99
51)	Cis-1,3-Dichloropropene	7.02	75	52131	9.28671	ppb		97
52)	Toluene	7.42	91	230062	9.52174	ppb		98
53)	Trans-1,3-Dichloropropene	7.70	75	33796	9.45668	ppb		99
54)	1,1,2-TCA	7.92	83	21218	9.37632	ppb		99
55)	2-Hexanone	8.28	43	10988	8.66274	ppb		96
58)	1,2-EDB	8.52	107	22002	9.77891	ppb		96
59)	Tetrachloroethene	8.10	164	55948	9.91377	ppb		98
60)	1-Chlorohexane	9.20	91	61313	10.36692	ppb		95
61)	1,1,1,2-Tetrachloroethane	9.30	131	41027	9.82882	ppb		99
62)	m&p-Xylene	9.52	106	201895	19.77969	ppb		98
63)	o-Xylene	10.03	106	94017	9.98244	ppb		98
64)	Styrene	10.05	104	138611	9.64922	ppb		97
66)	1,3-Dichloropropane	8.12	76	43778	9.96741	ppb		97
67)	Dibromochloromethane	8.39	129	31505	9.44273	ppb		93
68)	Chlorobenzene	9.18	112	136656	9.80885	ppb		99
69)	Ethylbenzene	9.35	91	256263	10.06153	ppb		99
70)	Bromoform	10.26	173	16612	9.26595	ppb		100
72)	Isopropylbenzene	10.55	105	252269	10.28608	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	23243	9.08620	ppb		93
74)	1,2,3-Trichloropropane	10.99	110	7292	9.95802	ppb		92
75)	t-1,4-Dichloro-2-Butene	11.04	53	3990	8.96689	ppb		91
76)	Bromobenzene	10.91	156	53903	9.97681	ppb		99
77)	n-Propylbenzene	11.12	91	270353	10.46848	ppb		100
78)	4-Ethyltoluene	11.29	105	220826	10.00413	ppb		98
79)	2-Chlorotoluene	11.20	91	161220	10.41905	ppb		97
80)	1,3,5-Trimethylbenzene	11.38	105	192790	10.03357	ppb		100
81)	4-Chlorotoluene	11.36	91	173802	10.21527	ppb		97
82)	Tert-Butylbenzene	11.83	119	171097	10.15913	ppb		99
83)	1,2,4-Trimethylbenzene	11.89	105	181099	10.07963	ppb		94
84)	Sec-Butylbenzene	12.14	105	224874	9.93230	ppb		99
85)	p-Isopropyltoluene	12.36	119	97768	9.89144	ppb		98
86)	Benzyl Chloride	12.58	91	11487	8.28136	ppb		90
87)	1,3-DCB	12.24	146	104108	9.76559	ppb		94
88)	1,4-DCB	12.37	146	50488	9.65298	ppb		95
89)	n-Butylbenzene	12.94	91	81072	10.20218	ppb		97
90)	1,2-DCB	12.88	146	85461	9.94714	ppb		99
91)	Hexachloroethane	13.25	117	23370	10.34509	ppb		97
92)	1,2-Dibromo-3-chloropropan	14.00	75	2524	9.25113	ppb	#	77
93)	1,2,4-Trichlorobenzene	15.21	180	45081	9.71398	ppb		90
94)	Hexachlorobutadiene	15.51	225	35286	10.72562	ppb		96
95)	Naphthalene	15.54	128	33053	8.99496	ppb		94
96)	1,2,3-Trichlorobenzene	15.90	180	26740	9.21531	ppb		99

(#) = qualifier out of range (m) = manual integration

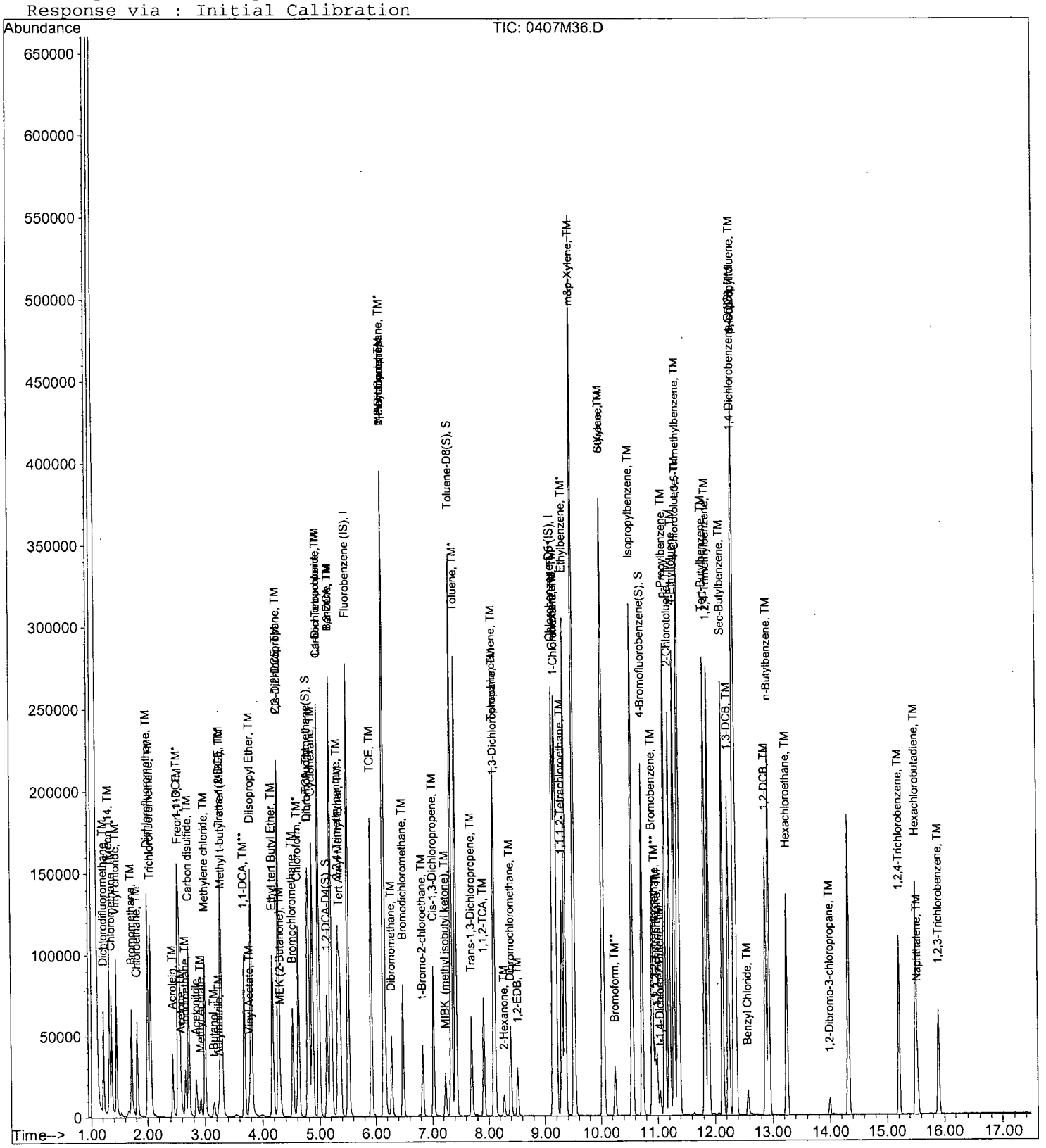
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M36.D
Acq On : 8 Apr 17 00:41
Sample : 170407B CCV 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 36
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 12:00
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M60.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3087	0.3265	5.8	TM	
3	TM	Freon 114	0.4195	0.4226	0.72	TM	
4	TM**	Chloromethane	0.4279	0.4373	2.2	TM**	
5	TM*	Vinyl chloride	0.6492	0.7256	12	TM*	
6	TM	Bromomethane	0.4011	0.4068	1.4	TM	
7	TM	Chloroethane	0.3927	0.4424	13	TM	
8	TM	Dichlorofluoromethane	1.065	1.224	15	TM	
9	TM	Trichlorofluoromethane	0.7036	0.8146	16	TM	
10	TM	Acrolein	0.0237	0.0217	8.5	TM	
11	TM	Acetone	0.0600	0.0562	6.4	TM	
12	TM	Freon-113	0.4302	0.4630	7.6	TM	
13	TM*	1,1-DCE	0.6786	0.7377	8.7	TM*	
14		Acetonitrile	0.0439	0.0427	2.8		
15	TM	t-Butanol	0.0097	0.0076	22	TM	
16	TM	Methyl Acetate	0.1624	0.1664	2.4	TM	
17	TML	Iodomethane	0.3142	0.2837	9.7	TML	31
18	TM	Acrylonitrile	0.0715	0.0790	10	TM	
19	TM	Methylene chloride	0.4472	0.4353	2.7	TM	
20	TM	Carbon disulfide	1.396	1.374	1.6	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6756	0.6763	0.10	TM	
22	TM	Trans-1,2-DCE	0.4938	0.5195	5.2	TM	
23	TM	Diisopropyl Ether	1.366	1.438	5.3	TM	
24	TM**	1,1-DCA	0.8411	0.9171	9.0	TM**	
25	TM	Ethyl tert Butyl Ether	0.8203	0.8022	2.2	TM	
26	TML	MEK (2-Butanone)	0.0976	0.1055	8.1	TML	2.8
27	TM	Cis-1,2-DCE	0.5250	0.5482	4.4	TM	
28	TM	2,2-Dichloropropane	0.4970	0.3932	21	TM	
29	TM*	Chloroform	0.8101	0.8679	7.1	TM*	
30	TM	Bromochloromethane	0.2075	0.2075	0.02	TM	
31	S	Dibromofluoromethane(S)	0.2355	0.2441	3.7	S	
32	TM	1,1,1-TCA	0.7088	0.7664	8.1	TM	
33	TM	Cyclohexane	0.4729	0.4966	5.0	TM	
34	TM	1,1-Dichloropropene	0.6741	0.7092	5.2	TM	
35	TM	2,2,4-Trimethylpentane	1.179	1.150	2.5	TM	
36	S	1,2-DCA-D4(S)	0.1844	0.2039	11	S	
37	TM	Carbon Tetrachloride	0.5691	0.5970	4.9	TM	
38	TM	Tert Amyl Methyl Ether	0.7214	0.6982	3.2	TM	
39	TM	1,2-DCA	0.4271	0.4490	5.1	TM	
40	TM	Benzene	2.032	2.122	4.4	TM	
		Average			6.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Apr 17 12:00
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M60.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	TCE	0.5375	0.6011	12	TM	
42	TM	2-Pentanone	0.1448	0.1370	5.4	TM	
43	TM*	1,2-Dichloropropane	0.4564	0.4843	6.1	TM*	
44	TM	Bromodichloromethane	0.5201	0.5361	3.1	TM	
45	TM	Methyl Cyclohexane	0.7285	0.7377	1.3	TM	
46	TM	Dibromomethane	0.1737	0.1842	6.0	TM	
47	TM	MIBK (methyl isobutyl ketone)	0.2263	0.2132	5.8	TM	
48	TM	1-Bromo-2-chloroethane	0.4342	0.4036	7.0	TM	
49	TM	Cis-1,3-Dichloropropene	0.5478	0.5235	4.4	TM	
50	TM*	Toluene	2.358	2.404	2.0	TM*	
51	TM	Trans-1,3-Dichloropropene	0.3488	0.3350	4.0	TM	
52	TM	1,1,2-TCA	0.2208	0.2177	1.4	TM	
53	TML	2-Hexanone	0.1143	0.1135	0.63	TML	8.3
54	I	Chlorobenzene-D5 (IS)	ISTD			I	
55	S	Toluene-D8(S)	1.458	1.506	3.3	S	
56	TM	1,2-EDB	0.3297	0.3369	2.2	TM	
57	TM	Tetrachloroethene	0.8270	0.8389	1.4	TM	
58	TM	1-Chlorohexane	0.8667	0.9412	8.6	TM	
59	TM	1,1,1,2-Tetrachloroethane	0.6117	0.6137	0.33	TM	
60	TM	m&p-Xylene	1.496	1.560	4.3	TM	
61	TM	o-Xylene	1.380	1.448	4.9	TM	
62	TM	Styrene	2.105	2.153	2.3	TM	
63	S	4-Bromofluorobenzene(S)	0.4517	0.4591	1.7	S	
64	TM	1,3-Dichloropropane	0.6436	0.6463	0.41	TM	
65	TM	Dibromochloromethane	0.4889	0.4734	3.2	TM	
66	TM**	Chlorobenzene	2.042	2.077	1.7	TM**	
67	TM*	Ethylbenzene	3.732	3.941	5.6	TM*	
68	TM**	Bromoform	0.2627	0.2523	4.0	TM**	
69	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
70	TM	Isopropylbenzene	7.658	8.029	4.8	TM	
71	TM**	1,1,2,2-Tetrachloroethane	0.7988	0.6629	17	TM**	
72	TM	1,2,3-Trichloropropane	0.2287	0.2308	0.95	TM	
73	TM	t-1,4-Dichloro-2-Butene	0.1389	0.1244	10	TM	
74	TM	Bromobenzene	1.687	1.670	1.00	TM	
75	TM	n-Propylbenzene	8.064	8.671	7.5	TM	
76	TM	4-Ethyltoluene	6.892	7.199	4.4	TM	
77	TM	2-Chlorotoluene	4.832	5.006	3.6	TM	
78	TM	1,3,5-Trimethylbenzene	6.000	6.099	1.6	TM	
79	TM	4-Chlorotoluene	5.313	5.646	6.3	TM	
80	TM	Tert-Butylbenzene	5.259	5.530	5.2	TM	
		Average			4.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 8 Apr 17 12:00
Instrument: Max
Cal. Date: 04/04/17
Data File: 0407M60.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,2,4-Trimethylbenzene	5.610	5.903	5.2	TM	
82	TM	Sec-Butylbenzene	7.070	7.211	2.0	TM	
83	TM	p-Isopropyltoluene	3.086	3.175	2.9	TM	
84	TMQ	Benzyl Chloride	0.4107	0.2363	42	TMQ	43
85	TM	1,3-DCB	3.329	3.333	0.12	TM	
86	TM	1,4-DCB	1.633	1.617	0.96	TM	
87	TM	n-Butylbenzene	2.481	2.572	3.7	TM	
88	TM	1,2-DCB	2.683	2.724	1.5	TM	
89	TM	Hexachloroethane	0.7054	0.7254	2.8	TM	
90	TM	1,2-Dibromo-3-chloropropane	0.0852	0.0803	5.7	TM	
91	TML	1,2,4-Trichlorobenzene	1.323	1.433	8.3	TML	0.97
92	TM	Hexachlorobutadiene	1.027	1.030	0.30	TM	
93	TM	Naphthalene	1.147	1.011	12	TM	
94	TML	1,2,3-Trichlorobenzene	0.8216	0.8349	1.6	TML	7.9
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.4		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M60.D
Acq On : 8 Apr 17 12:00
Sample : Ending CCV 8260 10ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 60
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:04 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257415	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	175496	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	85111	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	62839	25.91897 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.676%	
37) 1,2-DCA-D4(S)	5.13	65	52477	27.63151 ppb	0.00
Spiked Amount 25.000			Recovery	= 110.528%	
57) Toluene-D8(S)	7.35	98	264262	25.81446 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.256%	
65) 4-Bromofluorobenzene(S)	10.73	95	80578	25.41343 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.22	85	33616	10.57657 ppb		93
3) Freon 114	1.32	85	43509	10.07250 ppb		94
4) Chloromethane	1.36	50	45032	10.21971 ppb		99
5) Vinyl chloride	1.45	62	74709	11.17680 ppb		99
6) Bromomethane	1.72	94	41883	10.14028 ppb		95
7) Chloroethane	1.82	64	45547	11.26416 ppb		97
8) Dichlorofluoromethane	2.01	67	126056	11.50015 ppb		98
9) Trichlorofluoromethane	2.05	101	83876	11.57841 ppb		98
10) Acrolein	2.44	56	27945	114.34685 ppb		93
11) Acetone	2.59	43	5787	9.36224 ppb		93
12) Freon-113	2.56	101	47669	10.76107 ppb		96
13) 1,1-DCE	2.53	61	75958	10.87083 ppb		94
14) Acetonitrile	2.85	TIC	54912	121.48933 ppb		95
15) t-Butanol	3.15	59	9774	97.73235 ppb	#	86
16) Methyl Acetate	2.92	43	17131	10.24185 ppb		95
17) Iodomethane	2.66	142	29214	6.94361 ppb		96
18) Acrylonitrile	3.24	53	8137	11.04669 ppb	#	89
19) Methylene chloride	3.00	84	44816	9.73371 ppb		94
20) Carbon disulfide	2.72	76	141449	9.83835 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	69632	10.01045 ppb		98
22) Trans-1,2-DCE	3.28	96	53488	10.51993 ppb		92
23) Diisopropyl Ether	3.81	45	148097	10.53085 ppb		96
24) 1,1-DCA	3.69	63	94427	10.90271 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	82597	9.77943 ppb		99
27) MEK (2-Butanone)	4.31	43	10862	10.27674 ppb		96
28) Cis-1,2-DCE	4.28	96	56451	10.44336 ppb		93
29) 2,2-Dichloropropane	4.28	77	40485	7.91097 ppb		100
30) Chloroform	4.62	83	89361	10.71258 ppb		97
31) Bromochloromethane	4.52	128	21369	10.00219 ppb		94
33) 1,1,1-TCA	4.81	97	78918	10.81360 ppb		97
34) Cyclohexane	4.87	41	51130	10.50057 ppb		95
35) 1,1-Dichloropropene	4.99	75	73022	10.51980 ppb		97
36) 2,2,4-Trimethylpentane	5.33	57	118421	9.75098 ppb		99
38) Carbon Tetrachloride	4.99	117	61475	10.49047 ppb		97
39) Tert Amyl Methyl Ether	5.37	73	71895	9.67946 ppb		99
40) 1,2-DCA	5.22	62	46232	10.51265 ppb		97
41) Benzene	5.21	78	218533	10.44293 ppb		100
42) TCE	5.92	95	61891	11.18194 ppb		94
43) 2-Pentanone	6.15	43	176327	118.22940 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M60.D
Acq On : 8 Apr 17 12:00
Sample : Ending CCV 8260 10ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 60
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:04 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
44) 1,2-Dichloropropane	6.16	63	49870	10.61167 ppb		99
45) Bromodichloromethane	6.49	83	55202	10.30810 ppb		99
46) Methyl Cyclohexane	6.15	83	75962	10.12715 ppb		97
47) Dibromomethane	6.29	93	18968	10.60404 ppb		94
48) MIBK (methyl isobutyl ket	7.24	43	21957	9.42276 ppb	#	91
49) 1-Bromo-2-chloroethane	6.83	63	41554	9.29505 ppb		99
51) Cis-1,3-Dichloropropene	7.02	75	53907	9.55680 ppb		93
52) Toluene	7.42	91	247539	10.19568 ppb		97
53) Trans-1,3-Dichloropropene	7.70	75	34489	9.60406 ppb		93
54) 1,1,2-TCA	7.91	83	22411	9.85577 ppb		98
55) 2-Hexanone	8.28	43	11690	9.16995 ppb		93
58) 1,2-EDB	8.52	107	23647	10.21653 ppb		93
59) Tetrachloroethene	8.10	164	58887	10.14315 ppb		93
60) 1-Chlorohexane	9.20	91	66069	10.85910 ppb		97
61) 1,1,1,2-Tetrachloroethane	9.30	131	43082	10.03291 ppb		99
62) m&p-Xylene	9.51	106	219086	20.86449 ppb		98
63) o-Xylene	10.03	106	101670	10.49354 ppb		96
64) Styrene	10.05	104	151114	10.22583 ppb		99
66) 1,3-Dichloropropane	8.12	76	45366	10.04051 ppb		100
67) Dibromochloromethane	8.39	129	33235	9.68306 ppb		93
68) Chlorobenzene	9.18	112	145828	10.17488 ppb		99
69) Ethylbenzene	9.35	91	276654	10.55879 ppb		99
70) Bromoform	10.26	173	17714	9.60470 ppb		97
72) Isopropylbenzene	10.55	105	273335	10.48414 ppb		100
73) 1,1,2,2-Tetrachloroethane	10.96	83	22569	8.29954 ppb		92
74) 1,2,3-Trichloropropane	10.99	110	7858	10.09462 ppb		96
75) t-1,4-Dichloro-2-Butene	11.04	53	4235	8.95311 ppb		85
76) Bromobenzene	10.91	156	56862	9.90039 ppb		97
77) n-Propylbenzene	11.12	91	295201	10.75280 ppb		99
78) 4-Ethyltoluene	11.29	105	245074	10.44427 ppb		100
79) 2-Chlorotoluene	11.20	91	170431	10.36118 ppb		96
80) 1,3,5-Trimethylbenzene	11.38	105	207624	10.16483 ppb		96
81) 4-Chlorotoluene	11.36	91	192215	10.62757 ppb		97
82) Tert-Butylbenzene	11.83	119	188262	10.51547 ppb		96
83) 1,2,4-Trimethylbenzene	11.89	105	200954	10.52148 ppb		96
84) Sec-Butylbenzene	12.14	105	245503	10.20045 ppb		99
85) p-Isopropyltoluene	12.36	119	108088	10.28708 ppb		99
86) Benzyl Chloride	12.58	91	8046	5.67716 ppb	#	95
87) 1,3-DCB	12.24	146	113463	10.01199 ppb		95
88) 1,4-DCB	12.37	146	55064	9.90359 ppb		94
89) n-Butylbenzene	12.94	91	87568	10.36619 ppb		96
90) 1,2-DCB	12.88	146	92732	10.15340 ppb		98
91) Hexachloroethane	13.25	117	24696	10.28381 ppb		98
92) 1,2-Dibromo-3-chloropropan	13.99	75	2735	9.43006 ppb		91
93) 1,2,4-Trichlorobenzene	15.21	180	48786	9.90295 ppb		91
94) Hexachlorobutadiene	15.51	225	35076	10.02955 ppb		94
95) Naphthalene	15.54	128	34426	8.81305 ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	28422	9.21414 ppb		98

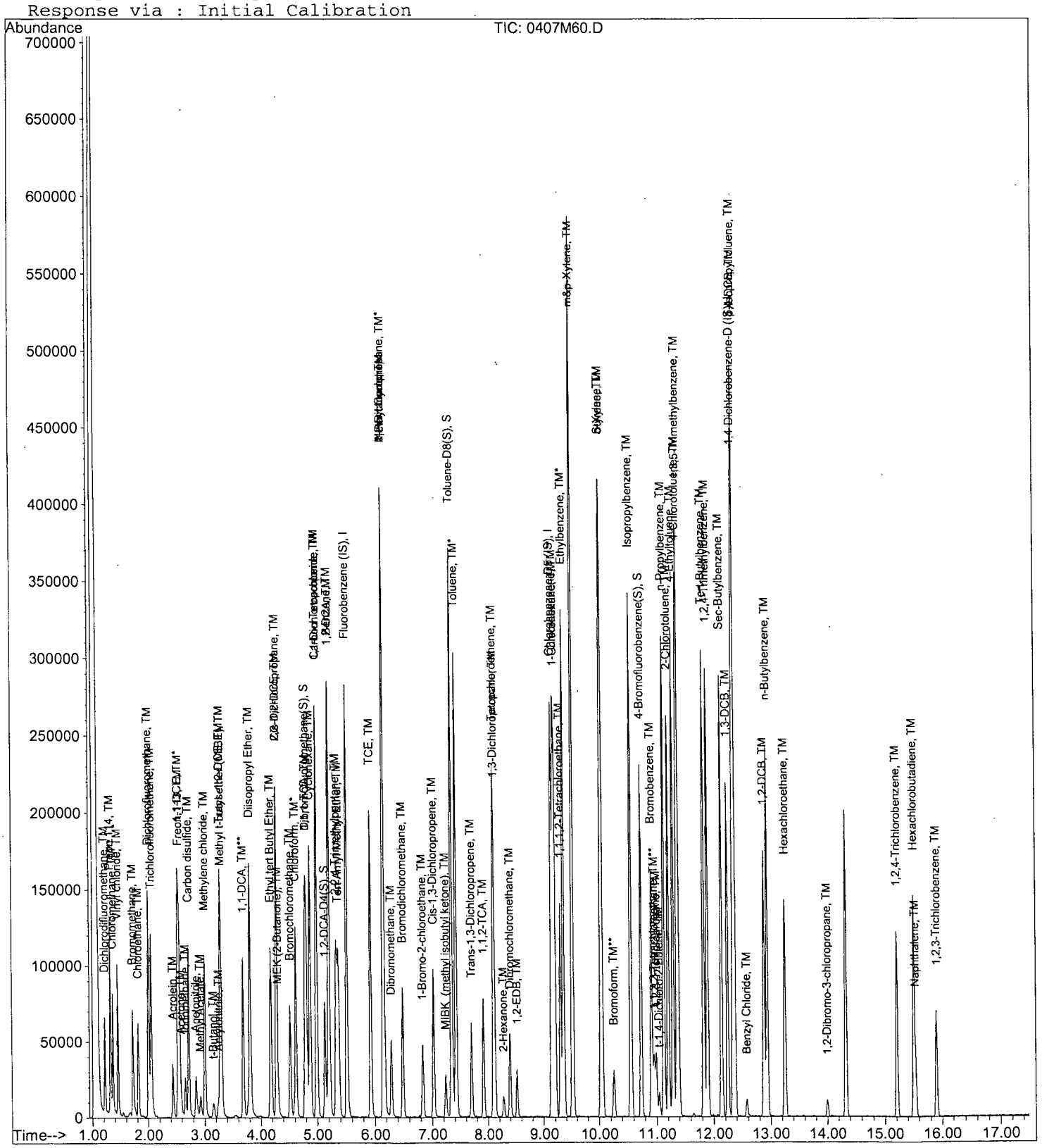
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M60.D Vial: 60
Acq On : 8 Apr 17 12:00 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 7:04 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



517

ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8260B BTEX & 1,2-DCA WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53259 - 217641**
Batch ID: #86BTO-170407BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/08/17	04/08/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	100	81-118			%	04/08/17	04/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/08/17	04/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/08/17	04/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:46:45 AM

Method Blank
EPA 8260B BTEX WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53262 - 217642**
Batch ID: #86BTO-170407BM1

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/08/17	04/08/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/08/17	04/08/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/08/17	04/08/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/08/17	04/08/17
BLANK	SURROGATE: 1,2-DICHLOROET	100	81-118			%	04/08/17	04/08/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/08/17	04/08/17
BLANK	SURROGATE: DIBROMOFLUOR	102	80-119			%	04/08/17	04/08/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/08/17	04/08/17

Quant Method: MALLW.M
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:46:45 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M44.D
Acq On : 8 Apr 17 4:27
Sample : 170407B BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 44
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:31 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	256370	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	169566	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	70620	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	61413	25.43404 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.736%	
37) 1,2-DCA-D4(S)	5.13	65	47482	25.10332 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.412%	
57) Toluene-D8(S)	7.35	98	254476	25.72786 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.912%	
65) 4-Bromofluorobenzene(S)	10.73	95	69297	22.61985 ppb	0.00
Spiked Amount 25.000			Recovery	= 90.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

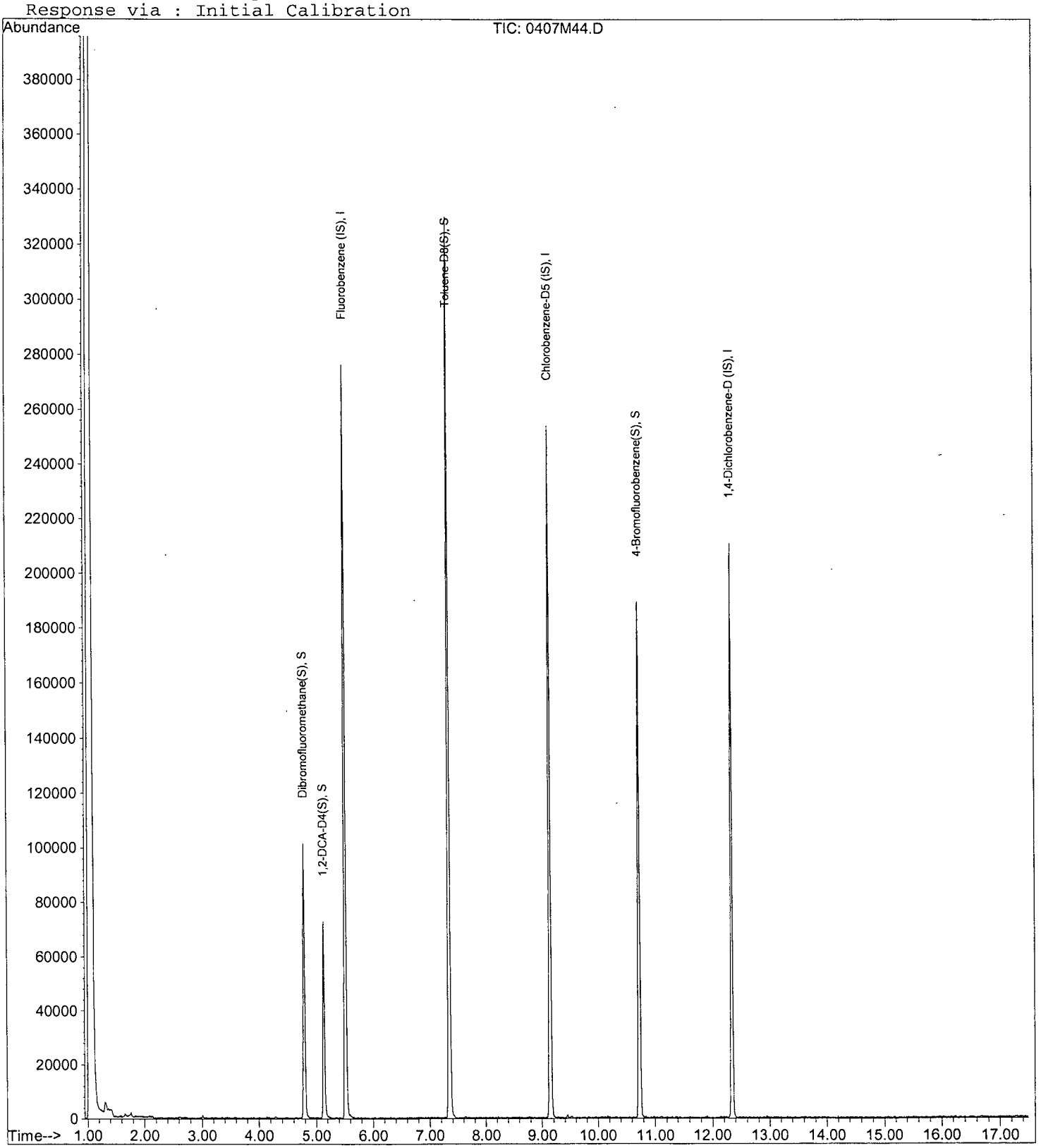
Data File : M:\MAX\DATA\M170404\0407M44.D
Acq On : 8 Apr 17 4:27
Sample : 170407B BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 44
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 8:31 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260B BTEX & 1,2-DCA WATER

APPL ID: **170408W-53259 LCS - 217641**
Batch ID: #86BTO-170407BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2-DICHLOROETHANE	10.00	9.77	97.7	73-128
BENZENE	10.00	9.70	97.0	79-120
ETHYLBENZENE	10.00	10.0	100	79-121
TOLUENE	10.00	9.40	94.0	80-121
XYLENES (TOTAL)	30.0	29.6	98.7	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.0	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.1	104	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Max
Run :	0407M37
Initials :	SV

Printed: 04/28/17 10:46:49 AM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260B BTEX WATER

APPL ID: **170408W-53262 LCS - 217642**
Batch ID: #86BTO-170407BM1

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZENE	10.00	9.70	97.0	79-120
ETHYLBENZENE	10.00	10.0	100	79-121
TOLUENE	10.00	9.40	94.0	80-121
XYLENES (TOTAL)	30.0	29.6	98.7	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.0	104	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.9	99.6	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.4	102	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	26.1	104	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Max
Run :	0407M37
Initials :	SV

Printed: 04/28/17 10:46:49 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M37.D
Acq On : 8 Apr 17 1:09
Sample : 170407B LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 37
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	256090	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	171620	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	79697	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	61310	25.41915 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.676%	
37) 1,2-DCA-D4(S)	5.13	65	49203	26.04164 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.168%	
57) Toluene-D8(S)	7.35	98	260914	26.06304 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.252%	
65) 4-Bromofluorobenzene(S)	10.73	95	77258	24.91665 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.668%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.22	85	31944	10.10251 ppb	98
3) Freon 114	1.32	85	42278	9.83815 ppb	100
4) Chloromethane	1.36	50	42256	9.63934 ppb	98
5) Vinyl chloride	1.45	62	71197	10.70650 ppb	99
6) Bromomethane	1.72	94	38805	9.44368 ppb	95
7) Chloroethane	1.82	64	41359	10.28136 ppb	97
8) Dichlorofluoromethane	2.01	67	117561	10.78064 ppb	97
9) Trichlorofluoromethane	2.05	101	80705	11.19832 ppb	98
10) Acrolein	2.44	56	30326	124.73159 ppb	99
11) Acetone	2.59	43	5395	8.77322 ppb	92
12) Freon-113	2.56	101	44638	10.12898 ppb	96
13) 1,1-DCE	2.53	61	71709	10.31582 ppb	96
14) Acetonitrile	2.85	TIC	48835	108.60337 ppb	94
15) t-Butanol	3.15	59	9389	94.36840 ppb	93
16) Methyl Acetate	2.92	43	15600	9.37479 ppb	97
17) Iodomethane	2.66	142	39025	8.95008 ppb	100
18) Acrylonitrile	3.23	53	6968	9.50861 ppb	95
19) Methylene chloride	3.00	84	41927	9.15335 ppb	99
20) Carbon disulfide	2.72	76	131026	9.16054 ppb	98
21) Methyl t-butyl ether (MtBE	3.30	73	64813	9.36586 ppb	96
22) Trans-1,2-DCE	3.27	96	49829	9.85099 ppb	94
23) Diisopropyl Ether	3.81	45	138289	9.88430 ppb	99
24) 1,1-DCA	3.69	63	84342	9.78866 ppb	97
25) Vinyl Acetate	3.77	43	23053	8.04164 ppb	98
26) Ethyl tert Butyl Ether	4.18	59	77877	9.26829 ppb	95
27) MEK (2-Butanone)	4.31	43	10830	10.30002 ppb	95
28) Cis-1,2-DCE	4.28	96	53098	9.87388 ppb	98
29) 2,2-Dichloropropane	4.28	77	47634	9.35607 ppb	93
30) Chloroform	4.62	83	81153	9.77895 ppb	97
31) Bromochloromethane	4.52	128	19523	9.18541 ppb	94
33) 1,1,1-TCA	4.81	97	73308	10.09687 ppb	97
34) Cyclohexane	4.87	41	46824	9.66600 ppb	96
35) 1,1-Dichloropropene	4.99	75	67801	9.81818 ppb	99
36) 2,2,4-Trimethylpentane	5.33	57	116690	9.65816 ppb	99
38) Carbon Tetrachloride	4.99	117	60623	10.39861 ppb	92
39) Tert Amyl Methyl Ether	5.37	73	66453	8.99308 ppb	97
40) 1,2-DCA	5.21	62	42730	9.76661 ppb	99
41) Benzene	5.21	78	201945	9.70018 ppb	100
42) TCE	5.92	95	53499	9.71576 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M37.D
Acq On : 8 Apr 17 1:09
Sample : 170407B LCS 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 37
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 7:02 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	176175	118.73866	ppb		97
44) 1,2-Dichloropropane	6.16	63	45263	9.68120	ppb		98
45) Bromodichloromethane	6.49	83	50734	9.52279	ppb		96
46) Methyl Cyclohexane	6.15	83	72266	9.68425	ppb		93
47) Dibromomethane	6.29	93	17092	9.60471	ppb		93
48) MIBK (methyl isobutyl ket	7.24	43	19745	8.51733	ppb		100
49) 1-Bromo-2-chloroethane	6.84	63	40050	9.00498	ppb		98
51) Cis-1,3-Dichloropropene	7.02	75	51259	9.13437	ppb		90
52) Toluene	7.42	91	227063	9.40070	ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	33425	9.35593	ppb		91
54) 1,1,2-TCA	7.92	83	21448	9.48107	ppb		98
55) 2-Hexanone	8.28	43	11050	8.71429	ppb		94
58) 1,2-EDB	8.52	107	22048	9.74083	ppb		97
59) Tetrachloroethene	8.10	164	53709	9.46018	ppb		95
60) 1-Chlorohexane	9.20	91	60349	10.14298	ppb		97
61) 1,1,1,2-Tetrachloroethane	9.30	131	41737	9.93920	ppb		99
62) m&p-Xylene	9.51	106	201449	19.61813	ppb		94
63) o-Xylene	10.03	106	94870	10.01285	ppb		98
64) Styrene	10.05	104	139610	9.66072	ppb		99
66) 1,3-Dichloropropane	8.12	76	43780	9.90833	ppb		98
67) Dibromochloromethane	8.39	129	31743	9.45724	ppb		92
68) Chlorobenzene	9.18	112	136080	9.70917	ppb		99
69) Ethylbenzene	9.35	91	257401	10.04585	ppb		99
70) Bromoform	10.26	173	16617	9.21338	ppb		98
72) Isopropylbenzene	10.55	105	254892	10.44089	ppb		97
73) 1,1,2,2-Tetrachloroethane	10.96	83	23878	9.37742	ppb		99
74) 1,2,3-Trichloropropane	10.99	110	7445	10.21377	ppb	#	81
75) t-1,4-Dichloro-2-Butene	11.04	53	4689	10.58631	ppb		96
76) Bromobenzene	10.91	156	53846	10.01215	ppb		99
77) n-Propylbenzene	11.12	91	269588	10.48692	ppb		100
78) 4-Ethyltoluene	11.29	105	222397	10.12170	ppb		97
79) 2-Chlorotoluene	11.20	91	159920	10.38262	ppb		96
80) 1,3,5-Trimethylbenzene	11.38	105	192056	10.04140	ppb		100
81) 4-Chlorotoluene	11.36	91	177219	10.46407	ppb		99
82) Tert-Butylbenzene	11.83	119	171292	10.21755	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	182234	10.18951	ppb		95
84) Sec-Butylbenzene	12.14	105	227166	10.07974	ppb		98
85) p-Isopropyltoluene	12.36	119	99944	10.15816	ppb		100
86) Benzyl Chloride	12.57	91	10680	7.78267	ppb		93
87) 1,3-DCB	12.24	146	104770	9.87295	ppb		96
88) 1,4-DCB	12.37	146	49256	9.46080	ppb		93
89) n-Butylbenzene	12.94	91	81248	10.27141	ppb		98
90) 1,2-DCB	12.88	146	85929	10.04767	ppb		99
91) Hexachloroethane	13.25	117	24249	10.78363	ppb		91
92) 1,2-Dibromo-3-chloropropan	14.00	75	2661	9.79819	ppb		87
93) 1,2,4-Trichlorobenzene	15.21	180	45830	9.93740	ppb		98
94) Hexachlorobutadiene	15.51	225	33310	10.17162	ppb		92
95) Naphthalene	15.54	128	35376	9.67147	ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	27584	9.54995	ppb		95

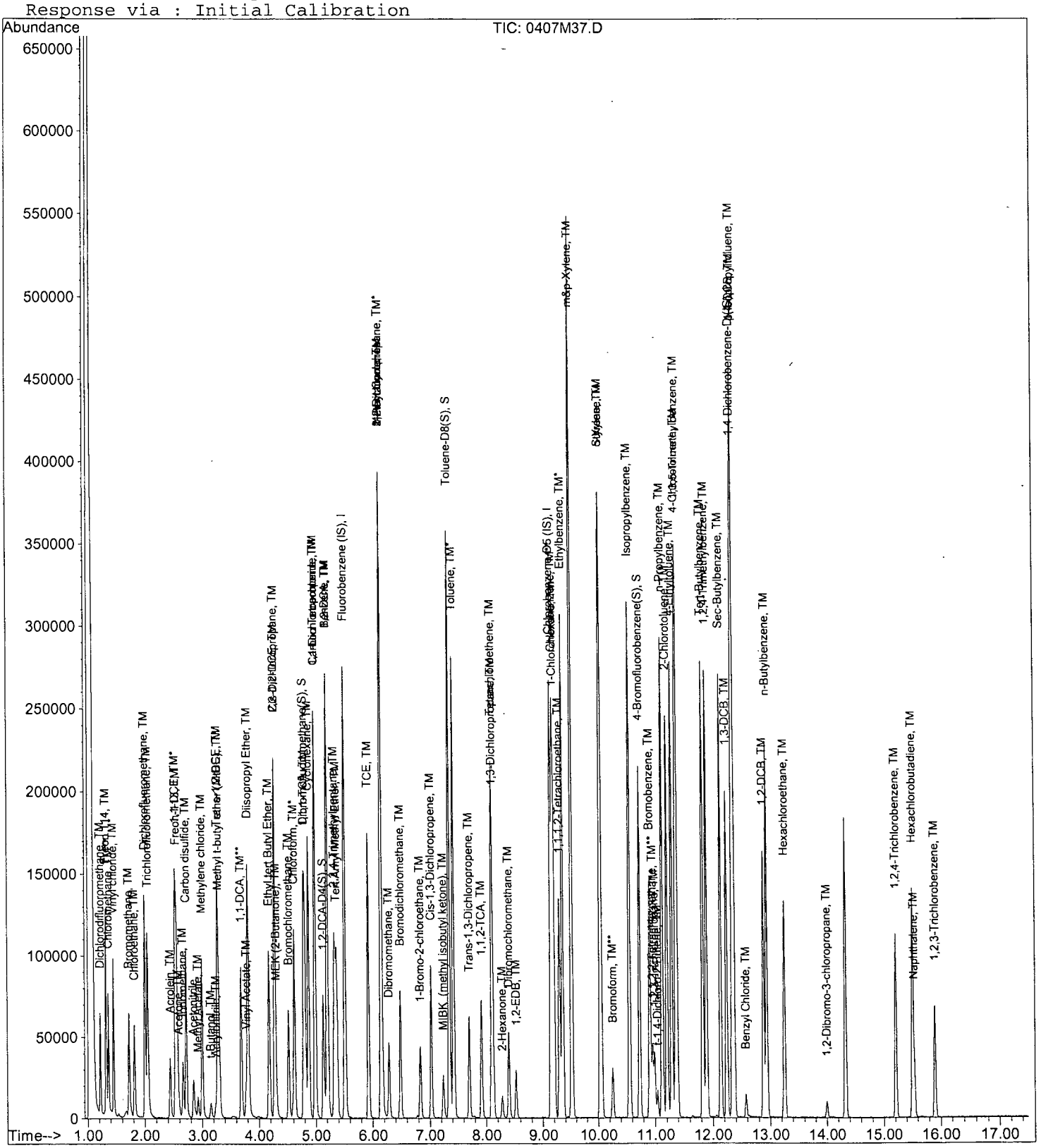
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M37.D Vial: 37
Acq On : 8 Apr 17 1:09 Operator: PM,DG,SV,CMM
Sample : 170407B LCS 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 7:02 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



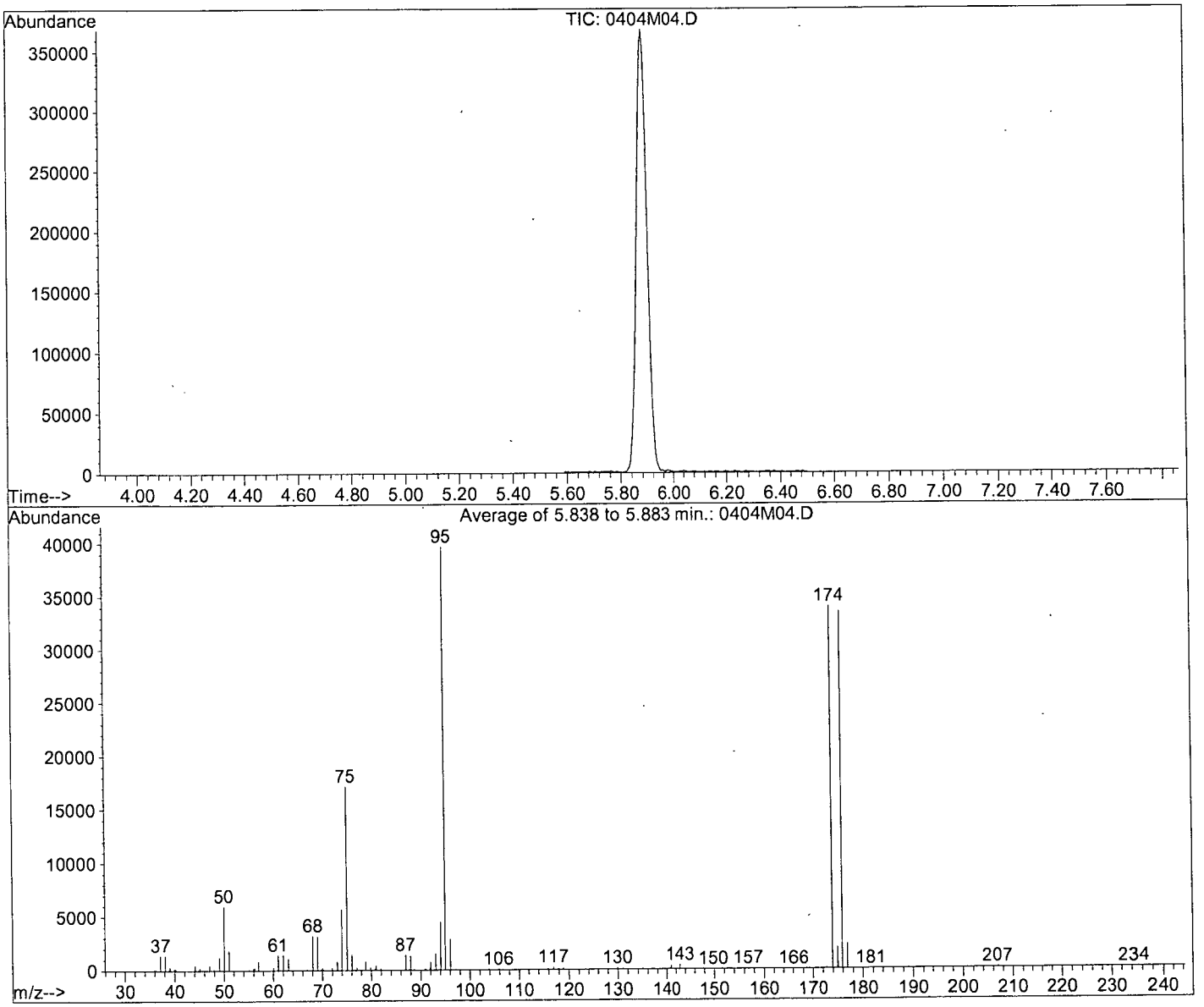
527

BFB

Data File : M:\MAX\DATA\M170404\0404M04.D
Acq On : 4 Apr 17 8:44
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.838 to 5.883 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.1	5992	PASS
75	95	30	60	43.2	17148	PASS
95	95	100	100	100.0	39670	PASS
96	95	5	9	7.2	2843	PASS
173	174	0.00	2	0.4	123	PASS
174	95	50	100	85.6	33972	PASS
175	174	5	9	5.8	1985	PASS
176	174	95	101	98.6	33486	PASS
177	176	5	9	6.8	2281	PASS

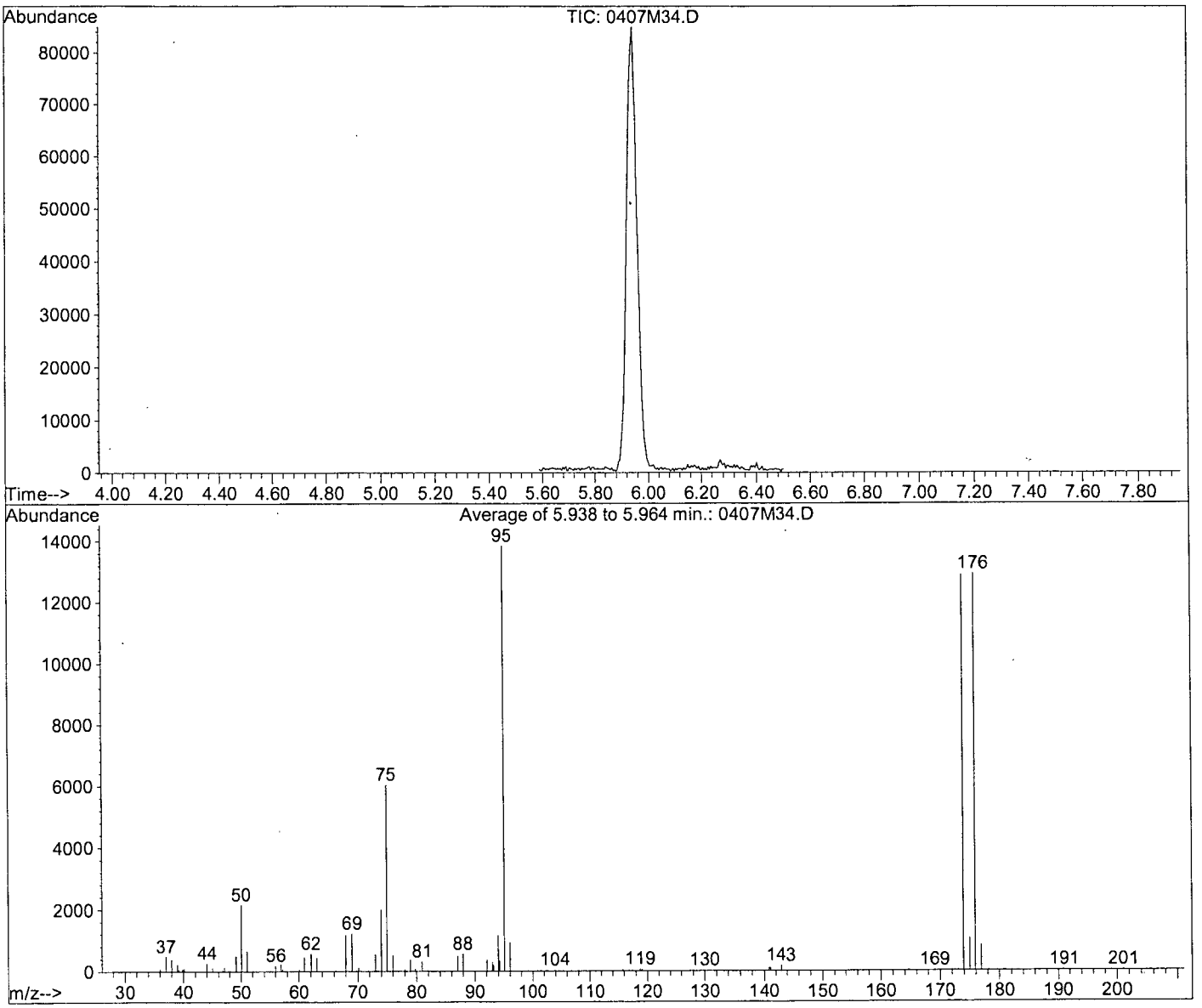
0404M04.D MALLW.M Thu Apr 06 08:02:22 2017

BFB

Data File : M:\MAX\DATA\M170404\0407M34.D
Acq On : 7 Apr 17 23:44
Sample : 50ug/mL BFB std 2/23/17
Misc : 1ul

Vial: 34
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170404\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.938 to 5.964 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.5	2150	PASS
75	95	30	60	43.6	6033	PASS
95	95	100	100	100.0	13844	PASS
96	95	5	9	6.6	912	PASS
173	174	0.00	2	0.3	34	PASS
174	95	50	100	93.1	12886	PASS
175	174	5	9	8.1	1038	PASS
176	174	95	101	100.3	12926	PASS
177	176	5	9	6.4	830	PASS

0407M34.D MALLW.M Mon Apr 10 08:29:09 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	04/05/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/28/17AE	03/28/17AF	03/28/17AG	03/28/17AA	03/28/17AC	03/28/17AB	03/28/17AD	03/28/17AH	Final Vol
	Conc.	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/04/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/04/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/04/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/04/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/04/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/04/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/04/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/04/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/04/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

03/28/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37482	032817A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3500
03/28/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37214	032817G-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3700
03/28/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37202	032817H-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3900
		03/28/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/28/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**03/28/17AC**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1600	
		03/28/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/28/17AB**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
		03/28/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/28/17AD**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
03/28/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	301051-37638	032817J-CMM	41217	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3400

SECONDARY SOURCE

03/28/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	279826-37378	032817L-CMM	60119	50
O2SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37209	032817M-CMM	62117	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1900
03/28/17AK							
50ug/ml VOC Std#6							
Exp:04/28/17							

	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1800
03/28/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	301053-37636	032817R-CMM	41217	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\MAX\DATA\M170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0404M04.D	1	25ug/mL BFB std 4/03/17	2ul	4 Apr 17 8:44
2	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
3	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
4	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
5	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
6	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
7	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
8	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
9	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
10	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
11	17	0404M21.D	1	(SS) 10ug/L VOC STD 04/04/17	10ml IS&S: 2/23/17	4 Apr 17 16:52
12	34	0407M34.D	1	50ug/mL BFB std 2/23/17	1ul	7 Apr 17 23:44
13	36	0407M36.D	1	170407B CCV 10ug/L	10ml IS&S: 2/23/17	8 Apr 17 00:41
14	37	0407M37.D	1	170407B LCS 10ug/L	10ml IS&S: 2/23/17	8 Apr 17 1:09
15	44	0407M44.D	1	170407B BLK-1WM	10ml IS&S: 2/23/17	8 Apr 17 4:27
16	50	0407M50.D	1	AZ53259W01	10ml IS&S: 2/23/17	8 Apr 17 7:17
17	51	0407M51.D	1	AZ53260W01	10ml IS&S: 2/23/17	8 Apr 17 7:45
18	52	0407M52.D	1	AZ53261W01	10ml IS&S: 2/23/17	8 Apr 17 8:14
19	53	0407M53.D	1	AZ53262W01	10ml IS&S: 2/23/17	8 Apr 17 8:42
20	54	0407M54.D	1	AZ53263W01	10ml IS&S: 2/23/17	8 Apr 17 9:10
21	55	0407M55.D	1	AZ53264W01	10ml IS&S: 2/23/17	8 Apr 17 9:38
22	56	0407M56.D	1	AZ53265W01	10ml IS&S: 2/23/17	8 Apr 17 10:07
23	57	0407M57.D	1	AZ53266W01	10ml IS&S: 2/23/17	8 Apr 17 10:35
24	60	0407M60.D	1	Ending CCV 8260 10ug/L 4/7/17	10ml IS&S: 2/23/17	8 Apr 17 12:00

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53259 - 217647**
Batch ID: #GRO86-170407BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/10/17	04/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/10/17	04/10/17

Quant Method: MGAS6302.
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:49:41 AM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82611

Case No: 82611 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407BM-LCS	Lab Control Spike	85-114	96.0				
170407BM-BLK	Blank	85-114	90.5				
AZ53259	ERH296	85-114	94.3				
AZ53260	ERH297	85-114	93.6				
AZ53261	ERH298	85-114	97.2				
AZ53262	ERH320	85-114	91.9				
AZ53263	ERH321	85-114	94.3				
AZ53264	ERH289	85-114	93.4				
AZ53265	ERH301	85-114	94.9				
AZ53266	ERH303	85-114	95.6				

Comments: Batch: #GRO86-170407B

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170410W-53259 LCS - 217647**
Batch ID: #GRO86-170407BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	240	80.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.0	96.0	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Max
Run :	0407M41
Initials :	SV

Printed: 04/28/17 10:49:49 AM
APPL Standard LCS

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82611

Case No: 82611 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Max

Blank ID: 170407BM-BLK Time Analyzed: 0945

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407BM-LCS	Lab Control Spike	0407M41	04/10/17 0945
170407BM-BLK	Blank	0407M44	04/10/17 0945
AZ53259	ERH296	0407M50	04/08/17 0717
AZ53260	ERH297	0407M51	04/08/17 0745
AZ53261	ERH298	0407M52	04/08/17 0814
AZ53262	ERH320	0407M53	04/08/17 0842
AZ53263	ERH321	0407M54	04/08/17 0910
AZ53264	ERH289	0407M55	04/08/17 0938
AZ53265	ERH301	0407M56	04/08/17 1007
AZ53266	ERH303	0407M57	04/08/17 1035

Comments: Batch: #GRO86-170407B

Printed: 04/28/17 10:49:53 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH296
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53259
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.3	85-114			%	04/08/17	04/08/17

Quant Method:	MGAS6302.M
Run #:	0407M50
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/28/17 10:49:57 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M50.D
Acq On : 8 Apr 17 7:17
Sample : AZ53259W01
Misc : 10ml IS&S: 2/23/17

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:08 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	295425	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

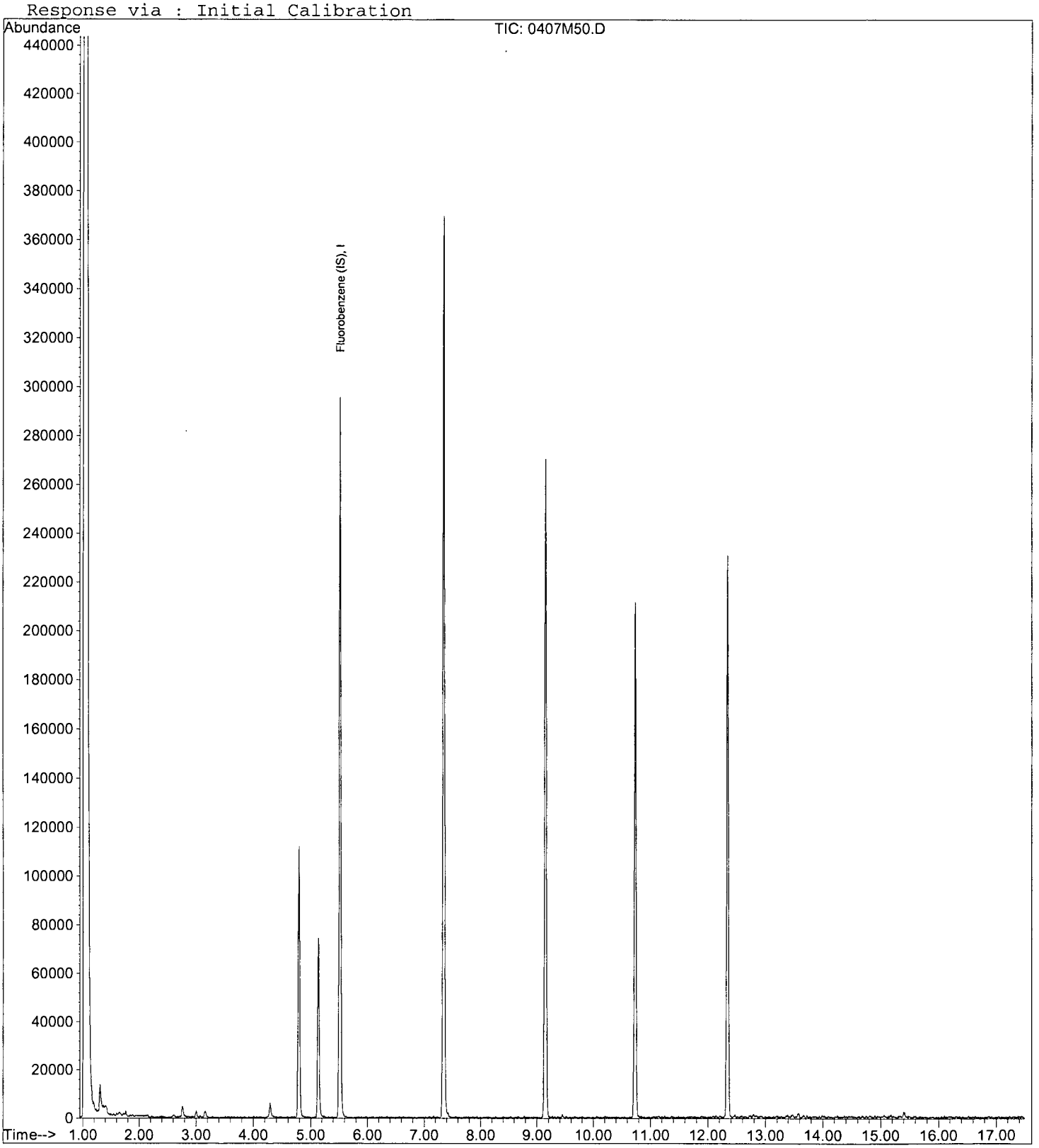
Data File : M:\MAX\DATA\M170404\0407M50.D
Acq On : 8 Apr 17 7:17
Sample : AZ53259W01
Misc : 10ml IS&S: 2/23/17

Vial: 50
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:08 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M50.D Vial: 50
Acq On : 8 Apr 17 7:17 Operator: PM,DG,SV,CMM
Sample : AZ53259W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	275547	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	180516	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	74830	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	66255	25.52968 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.120%	
3) 1,2-DCA-D4(S)	5.13	65	49453	24.32576 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.304%	
5) Toluene-D8(S)	7.35	98	278179	26.41826 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.672%	
6) 4-Bromofluorobenzene(S)	10.73	95	76849	23.56332 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.252%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.6	85-114			%	04/08/17	04/08/17

Quant Method: MGAS6302.M
Run #: 0407M51
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:49:57 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M51.D Vial: 51
Acq On : 8 Apr 17 7:45 Operator: PM,DG,SV,CMM
Sample : AZ53260W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:09 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	293114	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

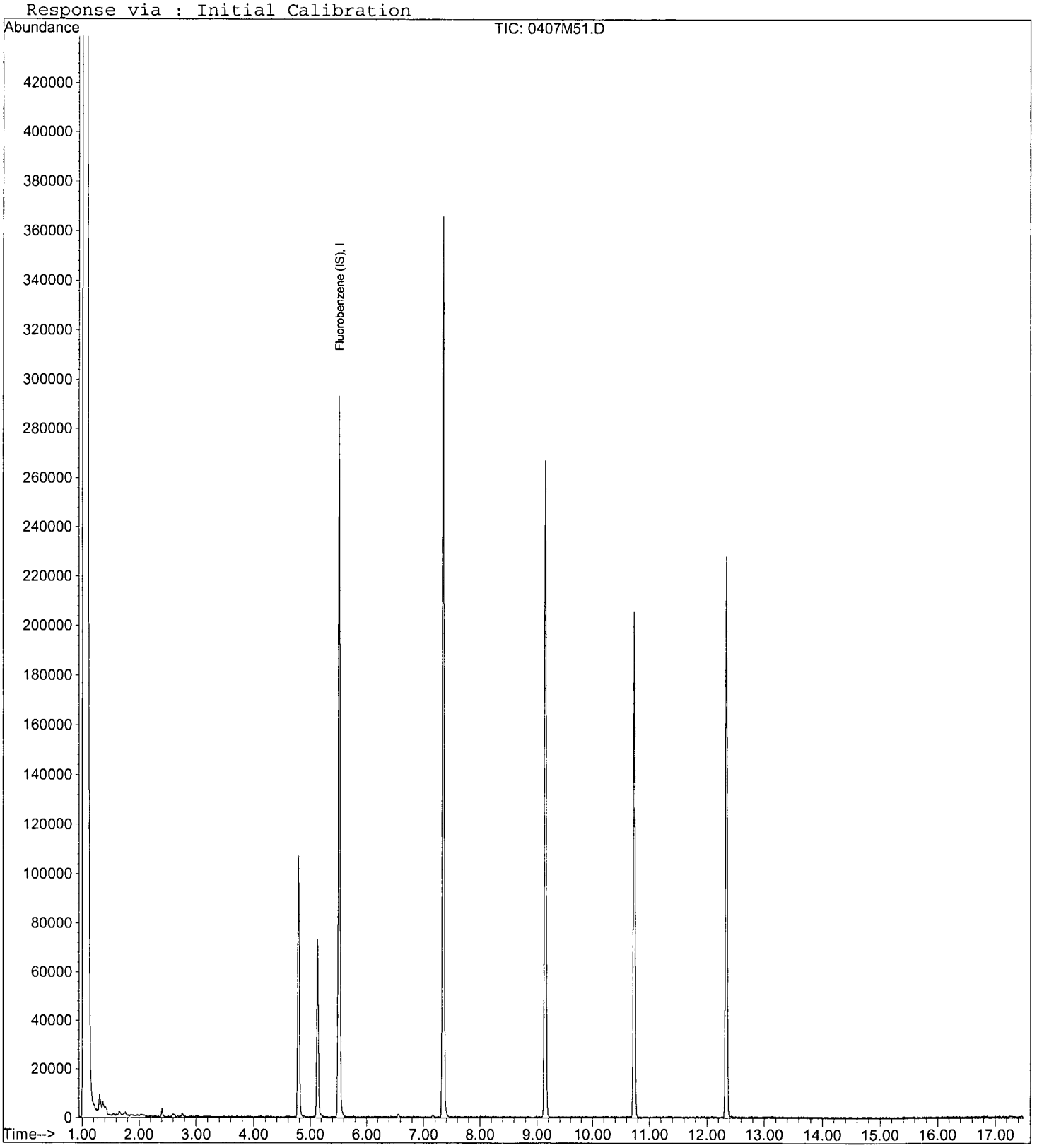
Data File : M:\MAX\DATA\M170404\0407M51.D
Acq On : 8 Apr 17 7:45
Sample : AZ53260W01
Misc : 10ml IS&S: 2/23/17

Vial: 51
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M51.D Vial: 51
Acq On : 8 Apr 17 7:45 Operator: PM,DG,SV,CMM
Sample : AZ53260W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	271763	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	178568	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	75820	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	63319	24.73808 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	
3) 1,2-DCA-D4(S)	5.13	65	49798	24.83654 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.348%	
5) Toluene-D8(S)	7.35	98	276203	26.51675 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.068%	
6) 4-Bromofluorobenzene(S)	10.73	95	75498	23.40162 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.608%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH298
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53261
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	97.2	85-114			%	04/08/17	04/08/17

Quant Method: MGAS6302.M
Run #: 0407M52
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:49:57 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M52.D Vial: 52
Acq On : 8 Apr 17 8:14 Operator: PM,DG,SV,CMM
Sample : AZ53261W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:09 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	285574	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

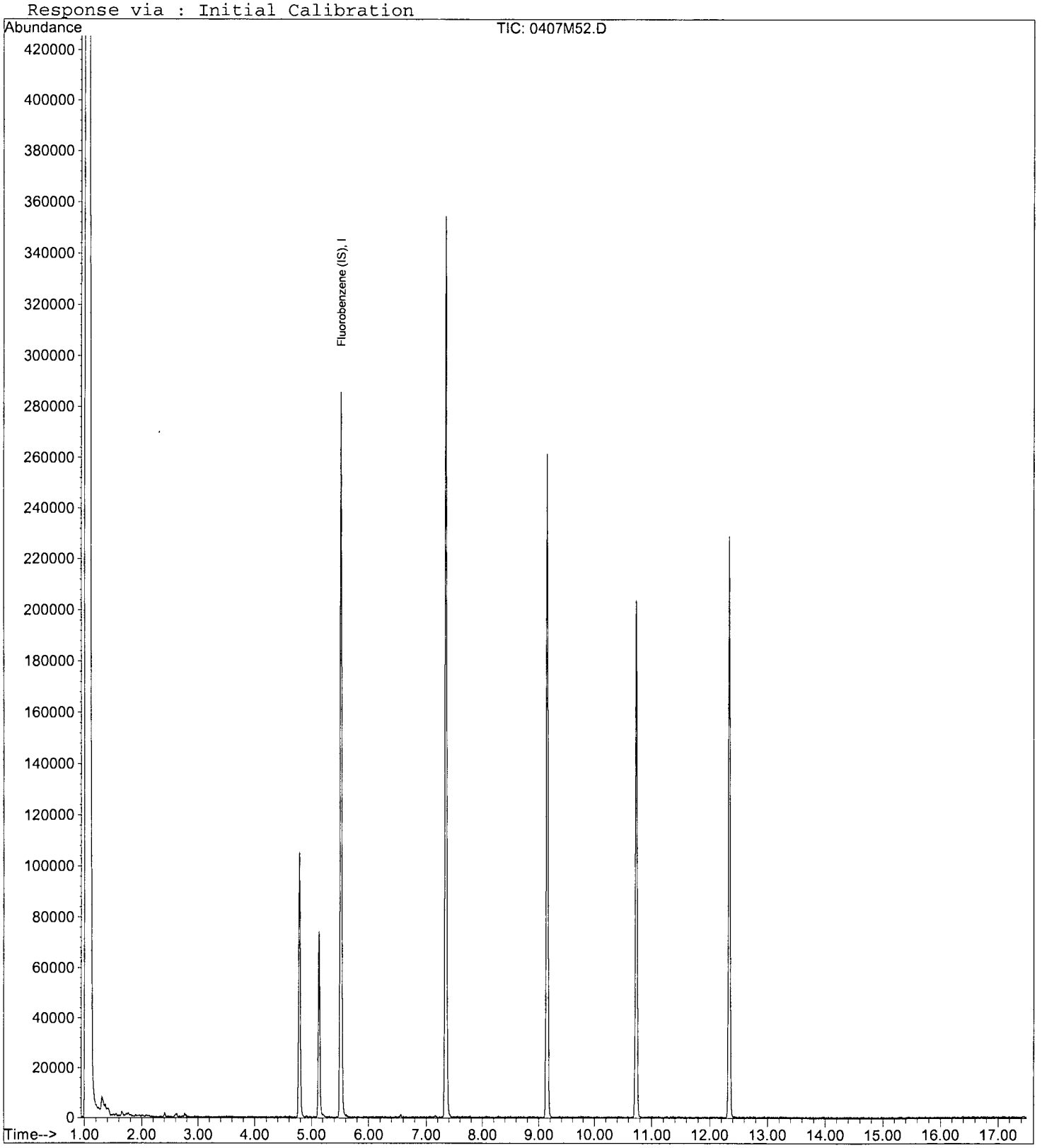
Data File : M:\MAX\DATA\M170404\0407M52.D
Acq On : 8 Apr 17 8:14
Sample : AZ53261W01
Misc : 10ml IS&S: 2/23/17

Vial: 52
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M52.D
Acq On : 8 Apr 17 8:14
Sample : AZ53261W01
Misc : 10ml IS&S: 2/23/17

Vial: 52
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259659	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171934	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73892	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	62073	25.38176 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.528%	
3) 1,2-DCA-D4(S)	5.13	65	49221	25.69310 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.772%	
5) Toluene-D8(S)	7.35	98	266192	26.54170 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.168%	
6) 4-Bromofluorobenzene(S)	10.73	95	75514	24.30971 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.240%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH320
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53262
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	91.9	85-114			%	04/08/17	04/08/17

Quant Method:	MGAS6302.M
Run #:	0407M53
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/28/17 10:49:57 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M53.D Vial: 53
Acq On : 8 Apr 17 8:42 Operator: PM,DG,SV,CMM
Sample : AZ53262W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:09 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	285616	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

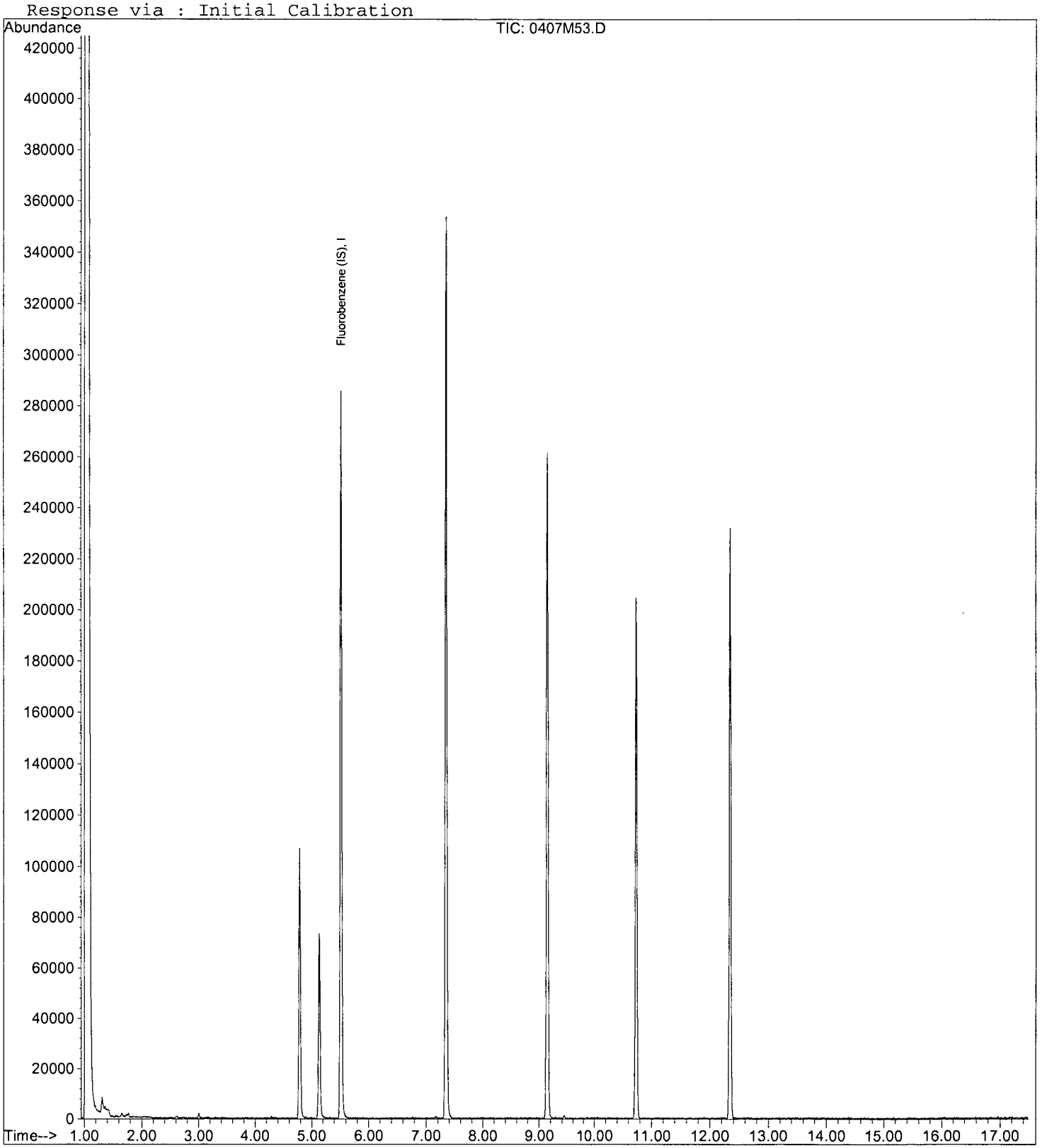
Data File : M:\MAX\DATA\M170404\0407M53.D
Acq On : 8 Apr 17 8:42
Sample : AZ53262W01
Misc : 10ml IS&S: 2/23/17

Vial: 53
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M53.D
Acq On : 8 Apr 17 8:42
Sample : AZ53262W01
Misc : 10ml IS&S: 2/23/17

Vial: 53
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:21 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	269778	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	177508	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73734	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	63491	24.98780 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.952%	
3) 1,2-DCA-D4(S)	5.14	65	49269	24.75350 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.016%	
5) Toluene-D8(S)	7.35	98	265850	25.67523 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.700%	
6) 4-Bromofluorobenzene(S)	10.73	95	73657	22.96731 ppb	0.00
Spiked Amount 25.000			Recovery	= 91.868%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.3	85-114			%	04/08/17	04/08/17

Quant Method:	MGAS6302.M
Run #:	0407M54
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/28/17 10:49:57 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M54.D
Vial: 54
Acq On : 8 Apr 17 9:10
Operator: PM,DG,SV,CMM
Sample : AZ53263W01
Inst : Max
Misc : 10ml IS&S: 2/23/17
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017
Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	272694	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

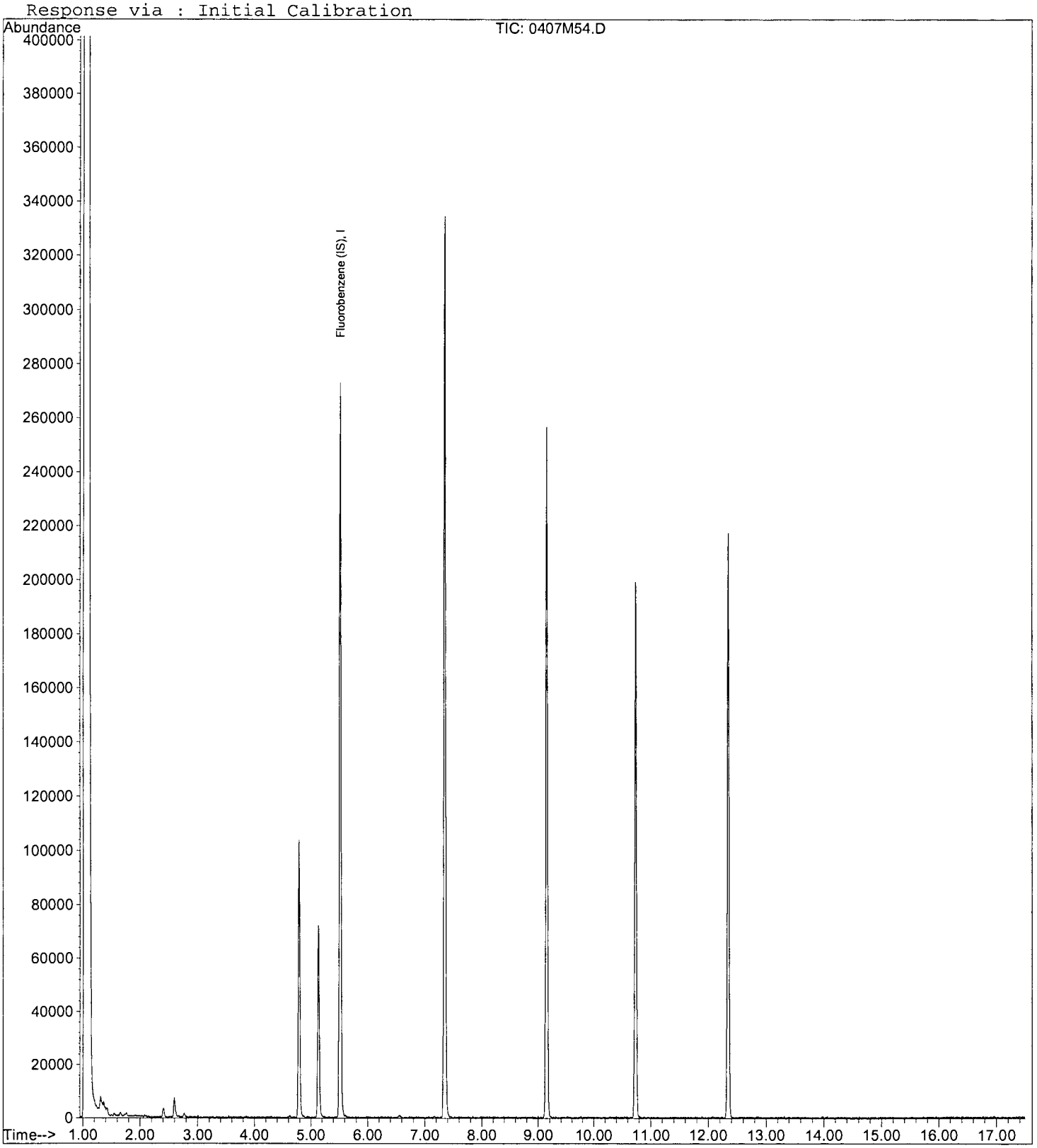
Data File : M:\MAX\DATA\M170404\0407M54.D
Acq On : 8 Apr 17 9:10
Sample : AZ53263W01
Misc : 10ml IS&S: 2/23/17

Vial: 54
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M54.D Vial: 54
Acq On : 8 Apr 17 9:10 Operator: PM,DG,SV,CMM
Sample : AZ53263W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	251197	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168304	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72262	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	61126	25.83651 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.348%	
3) 1,2-DCA-D4(S)	5.13	65	48191	26.00285 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.012%	
5) Toluene-D8(S)	7.35	98	255482	26.02324 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.092%	
6) 4-Bromofluorobenzene(S)	10.73	95	71680	23.57315 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.292%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH289
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53264
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	93.4	85-114			%	04/08/17	04/08/17

Quant Method: MGAS6302.M
Run #: 0407M55
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:49:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M55.D Vial: 55
Acq On : 8 Apr 17 9:38 Operator: PM,DG,SV,CMM
Sample : AZ53264W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:09 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	282177	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

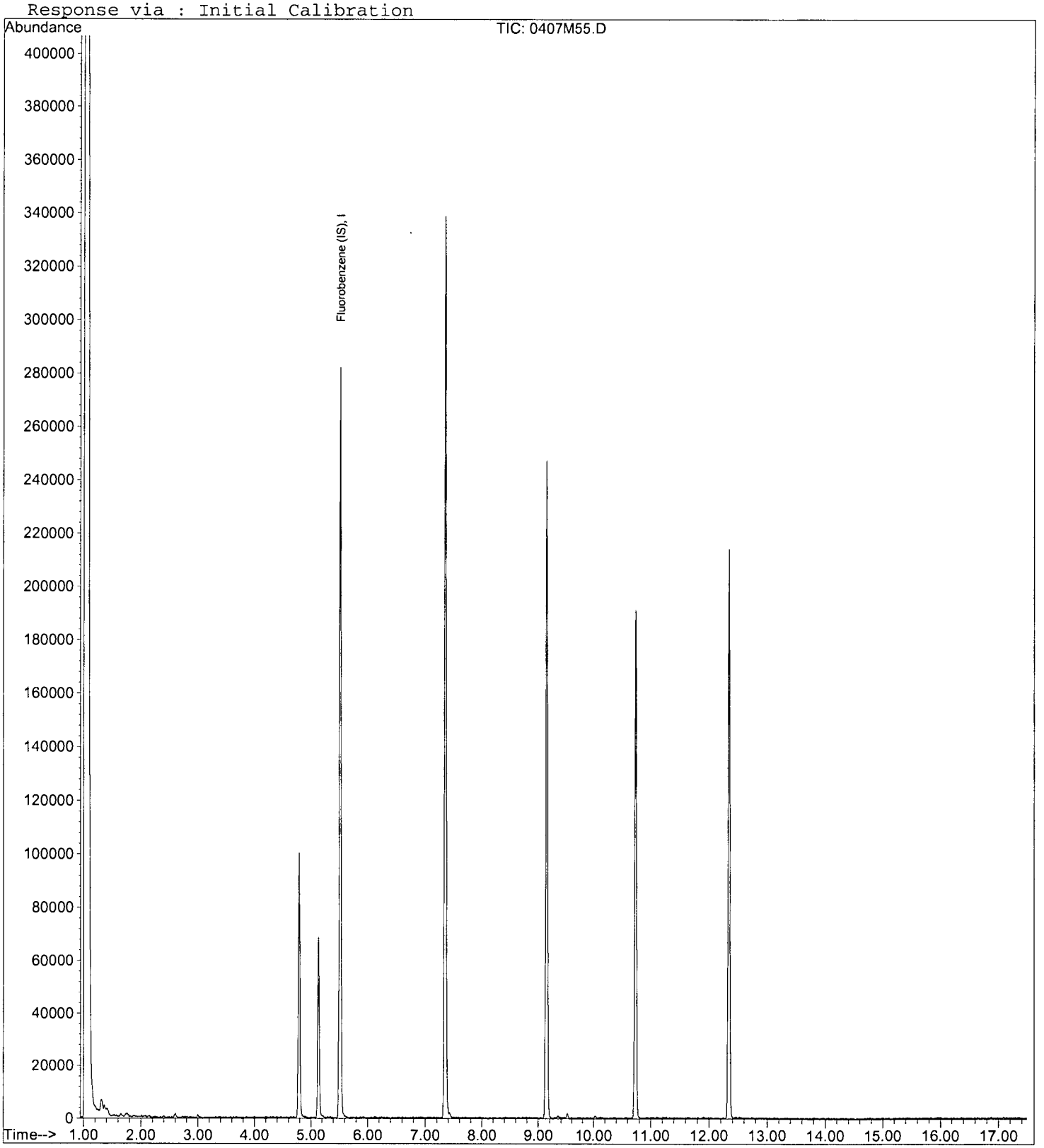
Data File : M:\MAX\DATA\M170404\0407M55.D
Acq On : 8 Apr 17 9:38
Sample : AZ53264W01
Misc : 10ml IS&S: 2/23/17

Vial: 55
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M55.D Vial: 55
Acq On : 8 Apr 17 9:38 Operator: PM,DG,SV,CMM
Sample : AZ53264W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259587	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	167917	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	69533	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	60192	24.61944 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.476%	
3) 1,2-DCA-D4(S)	5.14	65	46295	24.17245 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.688%	
5) Toluene-D8(S)	7.35	98	257148	26.25331 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.012%	
6) 4-Bromofluorobenzene(S)	10.73	95	70801	23.33774 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.352%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH301
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53265
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	94.9	85-114			%	04/08/17	04/08/17

Quant Method: MGAS6302.M
Run #: 0407M56
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 10:49:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M56.D Vial: 56
Acq On : 8 Apr 17 10:07 Operator: PM,DG,SV,CMM
Sample : AZ53265W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:09 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	277851	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

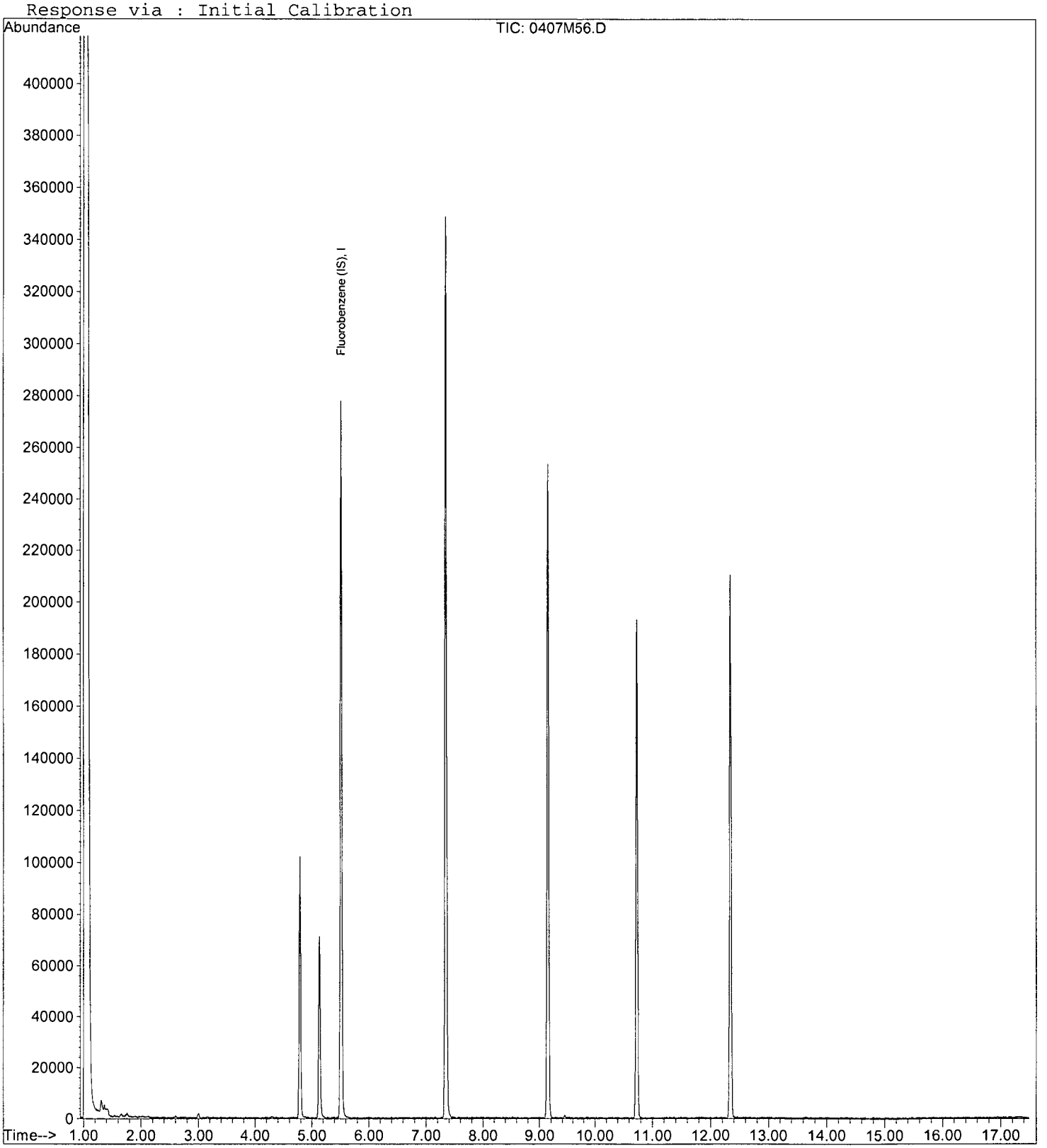
Data File : M:\MAX\DATA\M170404\0407M56.D
Acq On : 8 Apr 17 10:07
Sample : AZ53265W01
Misc : 10ml IS&S: 2/23/17

Vial: 56
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:09 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M56.D Vial: 56
Acq On : 8 Apr 17 10:07 Operator: PM,DG,SV,CMM
Sample : AZ53265W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	257785	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	166224	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68596	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	60370	24.86485 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.460%	
3) 1,2-DCA-D4(S)	5.13	65	47309	24.87457 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.500%	
5) Toluene-D8(S)	7.35	98	258878	26.69912 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.796%	
6) 4-Bromofluorobenzene(S)	10.73	95	71285	23.73660 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.948%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #GRO86-170407BM-217647

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/08/17	04/08/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.6	85-114			%	04/08/17	04/08/17

Quant Method:	MGAS6302.M
Run #:	0407M57
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/28/17 10:49:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M57.D
Acq On : 8 Apr 17 10:35
Sample : AZ53266W01
Misc : 10ml IS&S: 2/23/17

Vial: 57
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:10 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	278404	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

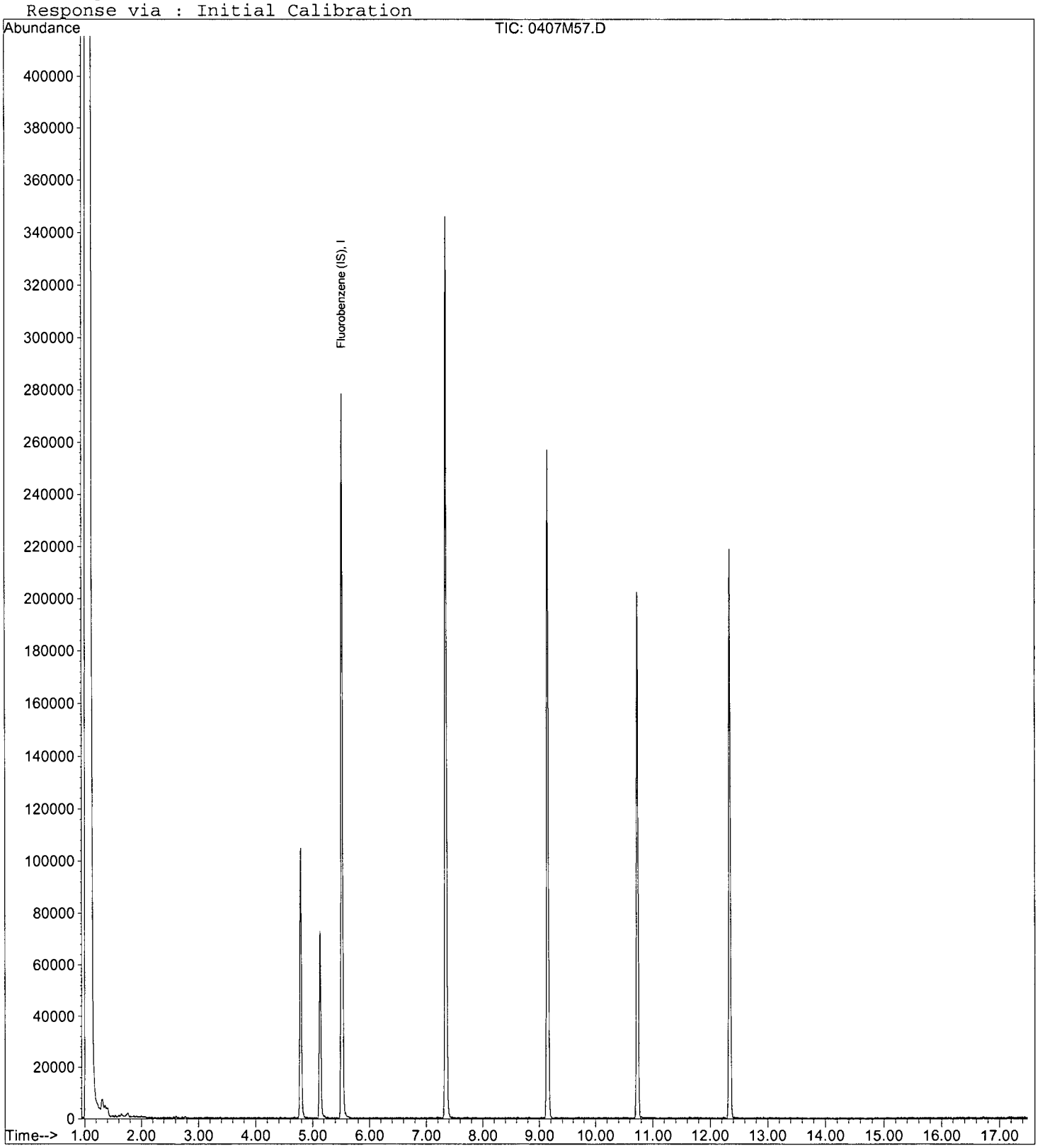
Data File : M:\MAX\DATA\M170404\0407M57.D
Acq On : 8 Apr 17 10:35
Sample : AZ53266W01
Misc : 10ml IS&S: 2/23/17

Vial: 57
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:10 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M57.D Vial: 57
Acq On : 8 Apr 17 10:35 Operator: PM,DG,SV,CMM
Sample : AZ53266W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	259011	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	169344	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72184	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	62063	25.44116 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.764%	
3) 1,2-DCA-D4(S)	5.13	65	48729	25.49991 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.000%	
5) Toluene-D8(S)	7.35	98	262623	26.58633 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.344%	
6) 4-Bromofluorobenzene(S)	10.73	95	73088	23.88858 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.556%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

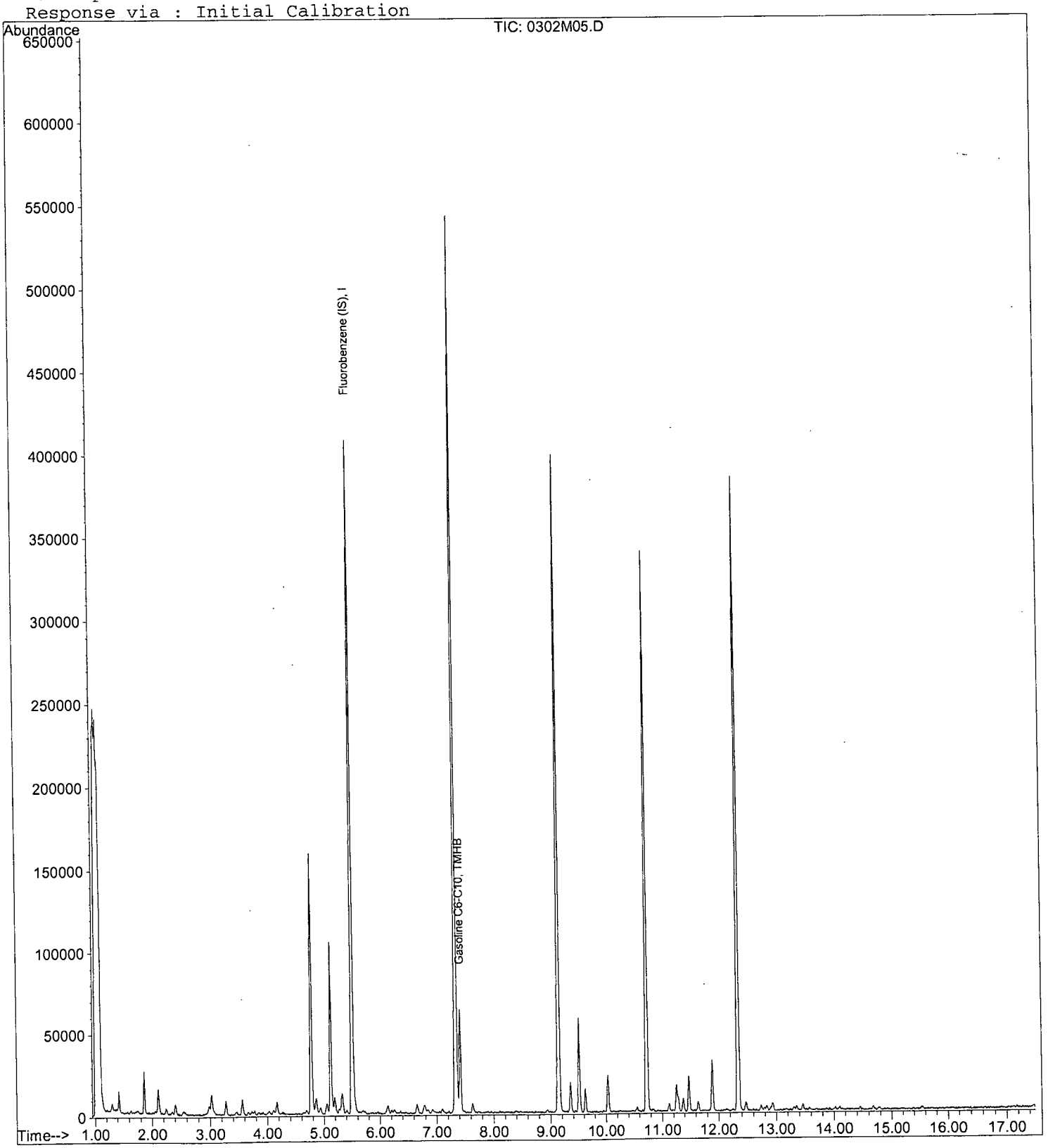
Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M06.D MGAS6302.M Mon Mar 06 11:54:32 2017

Quantitation Report

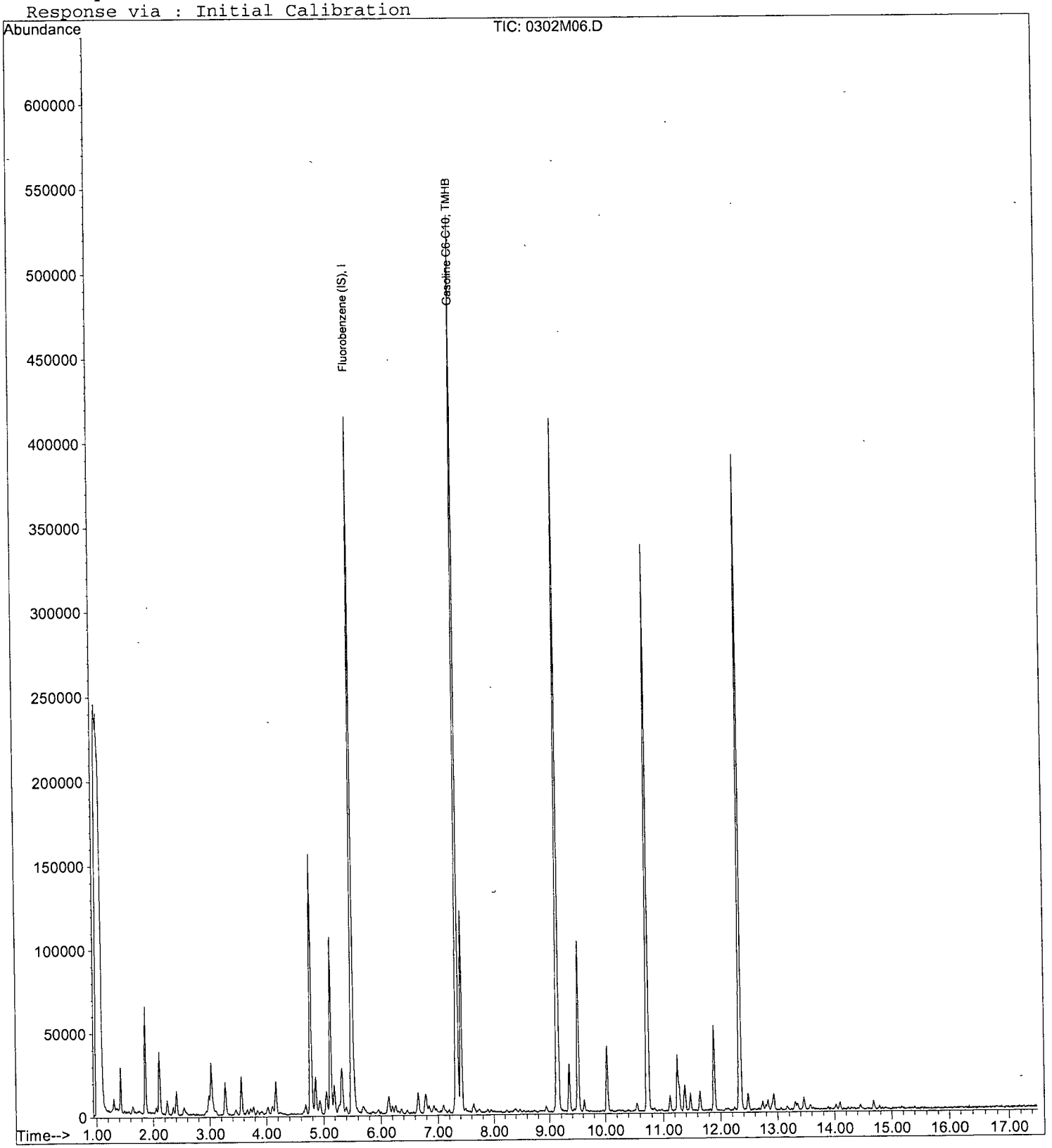
Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M07.D MGAS6302.M Mon Mar 06 11:54:37 2017

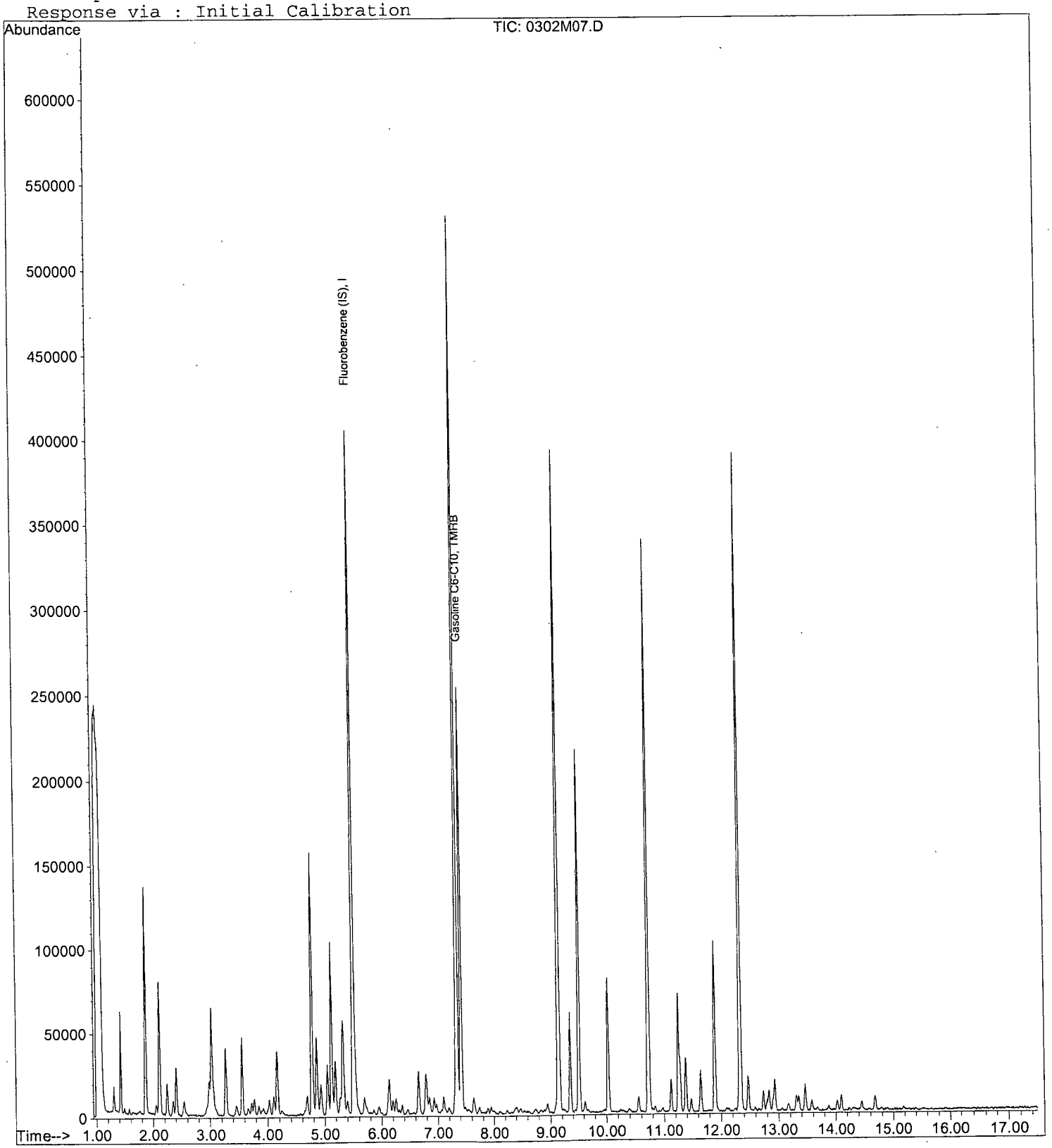
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644	ppb	100

(#) = qualifier out of range (m) = manual integration
0302M08.D MGAS6302.M Mon Mar 06 11:54:39 2017

Quantitation Report

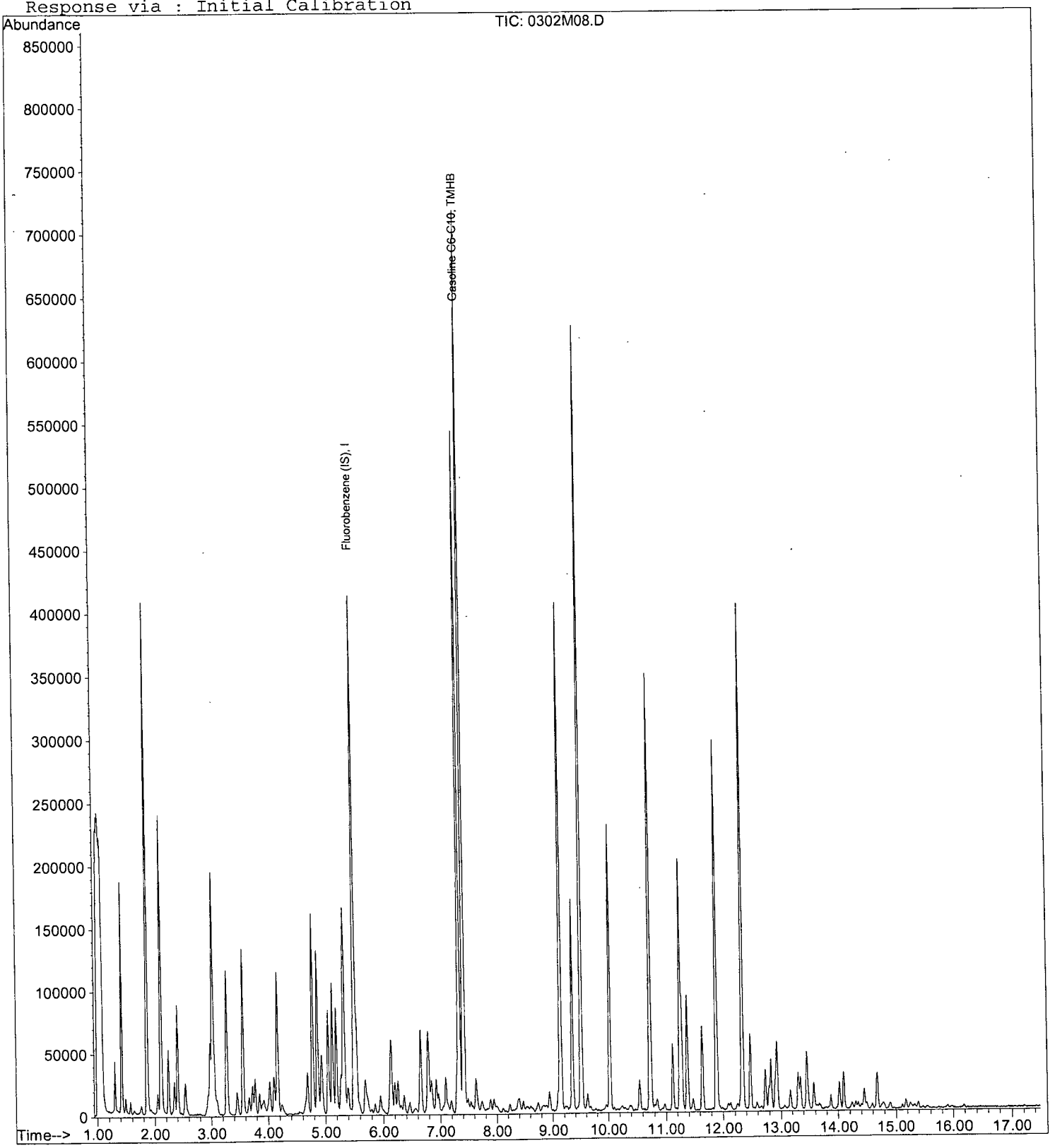
Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M09.D MGAS6302.M Mon Mar 06 11:54:45 2017

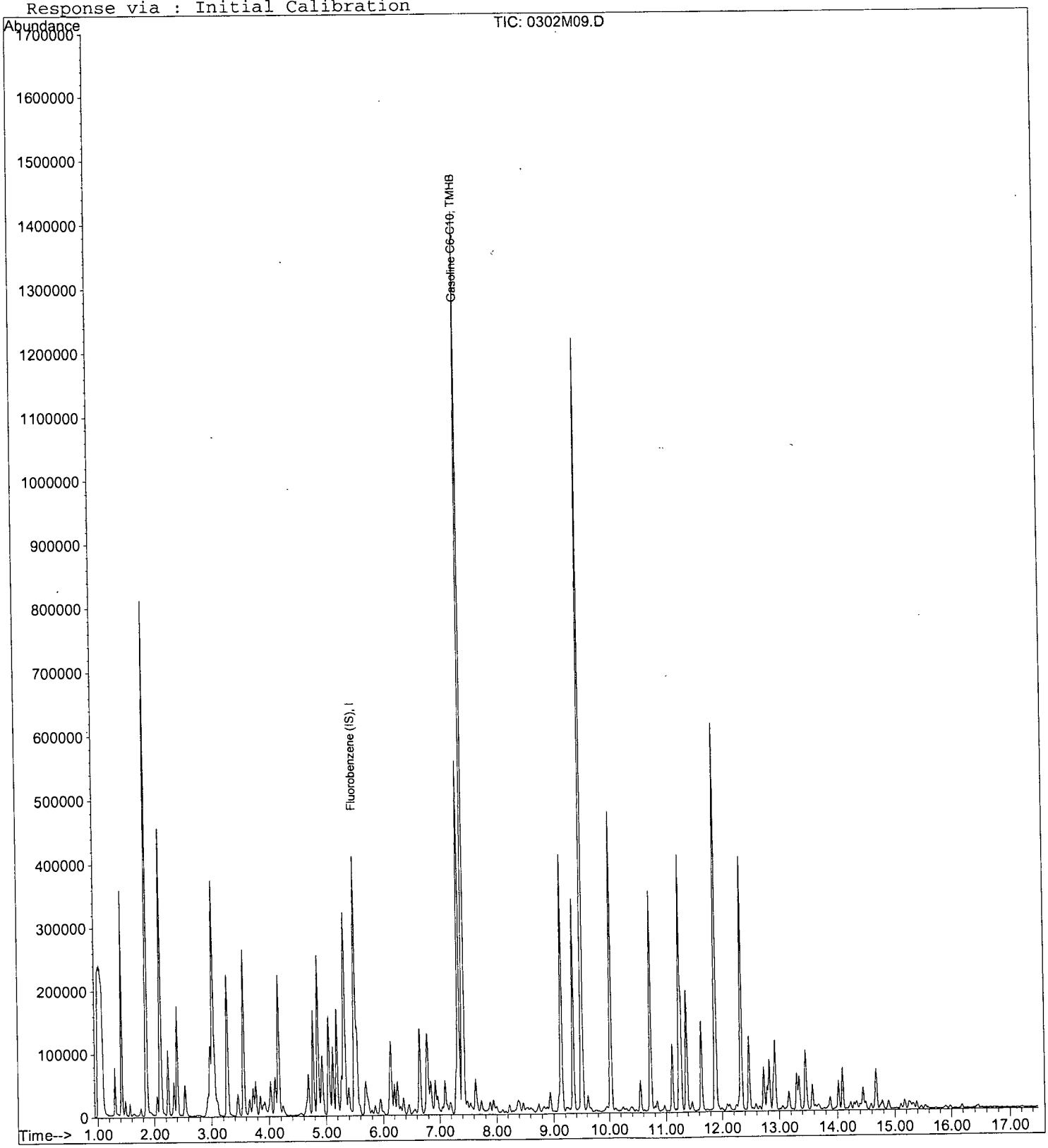
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D
Acq On : 2 Mar 17 11:19
Sample : 600ppb GAS STD 03/02/17E
Misc : IS&S 02/23/17

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

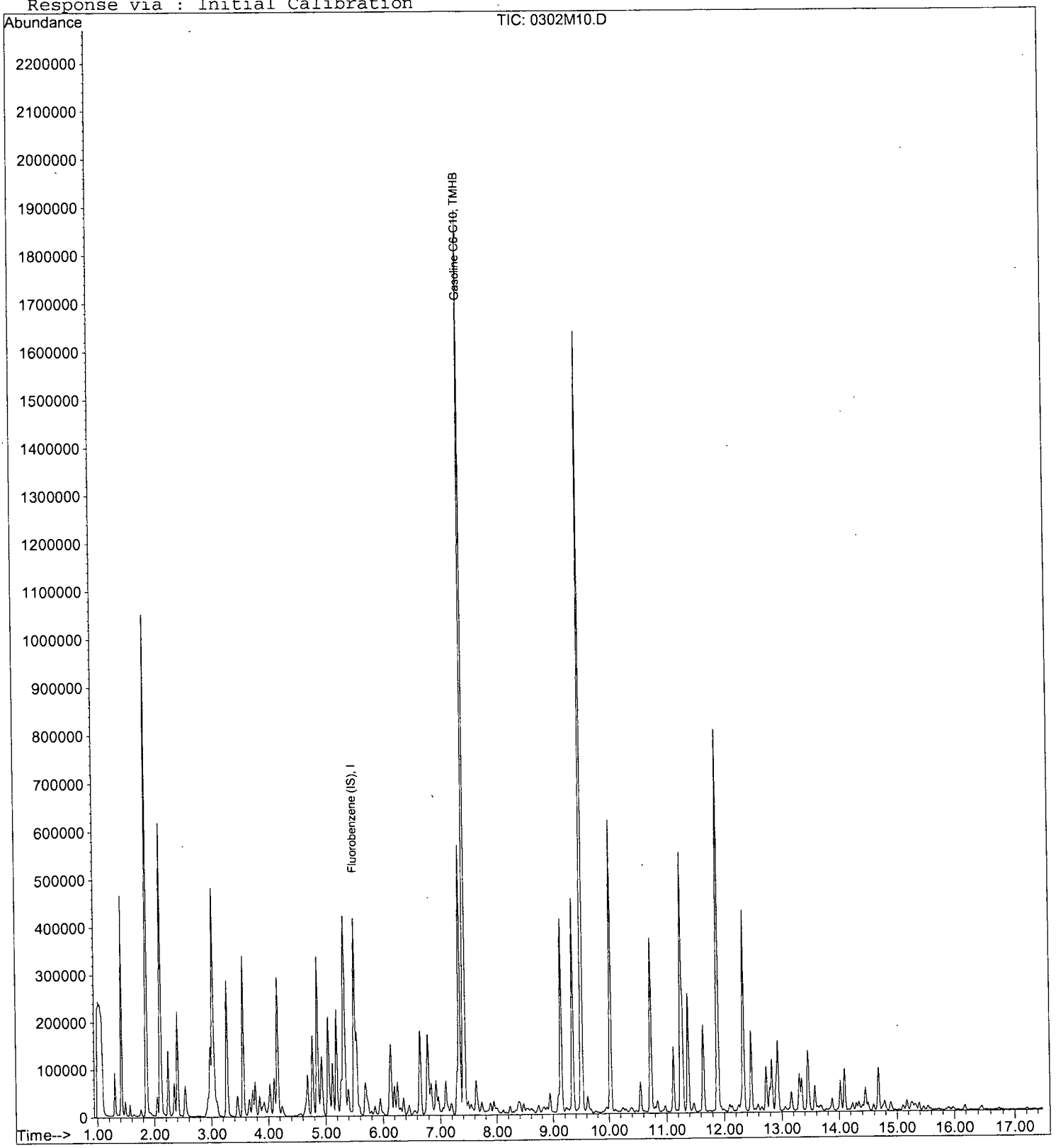
Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M11.D MGAS6302.M Mon Mar 06 11:54:55 2017

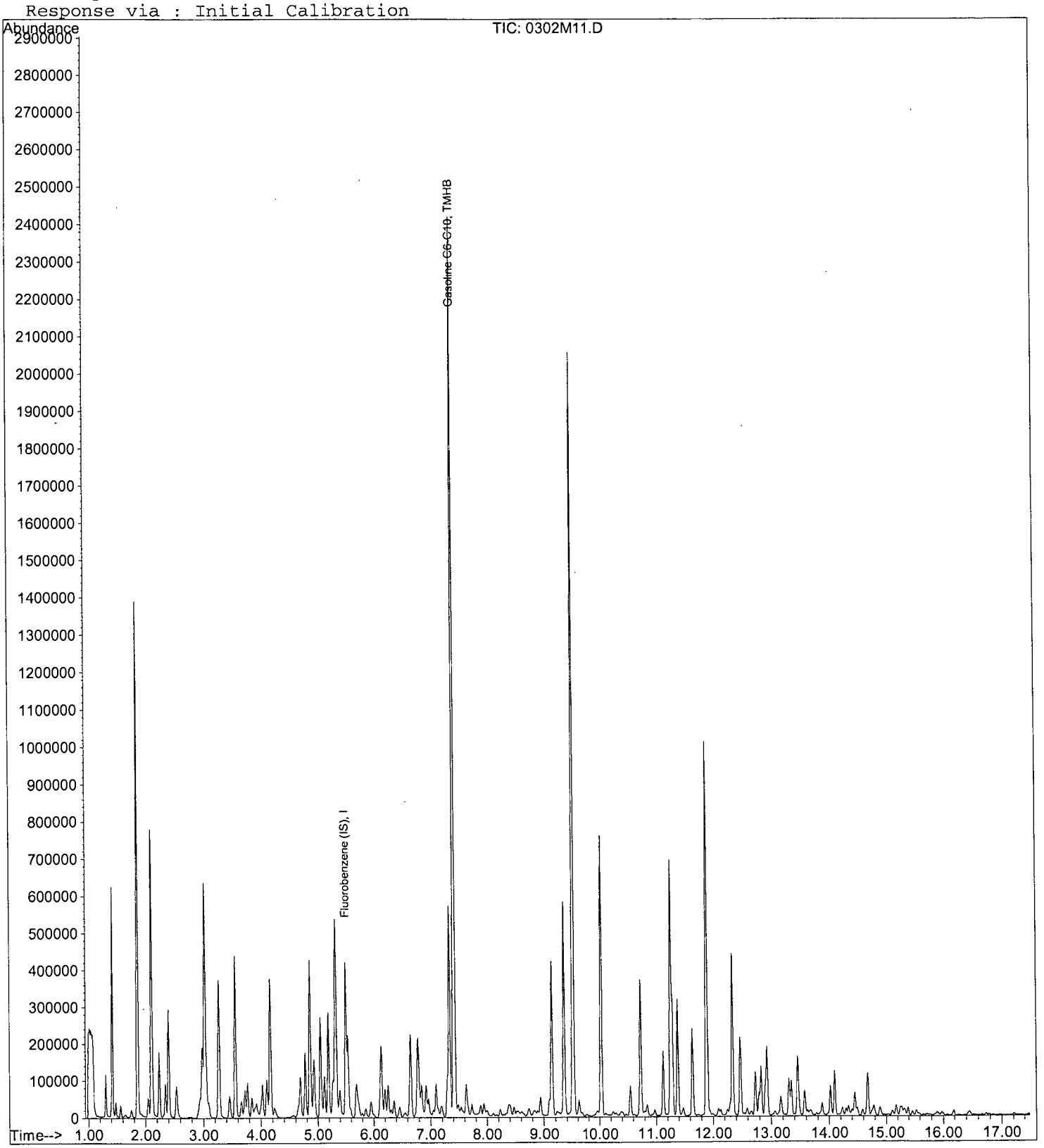
Quantitation Report

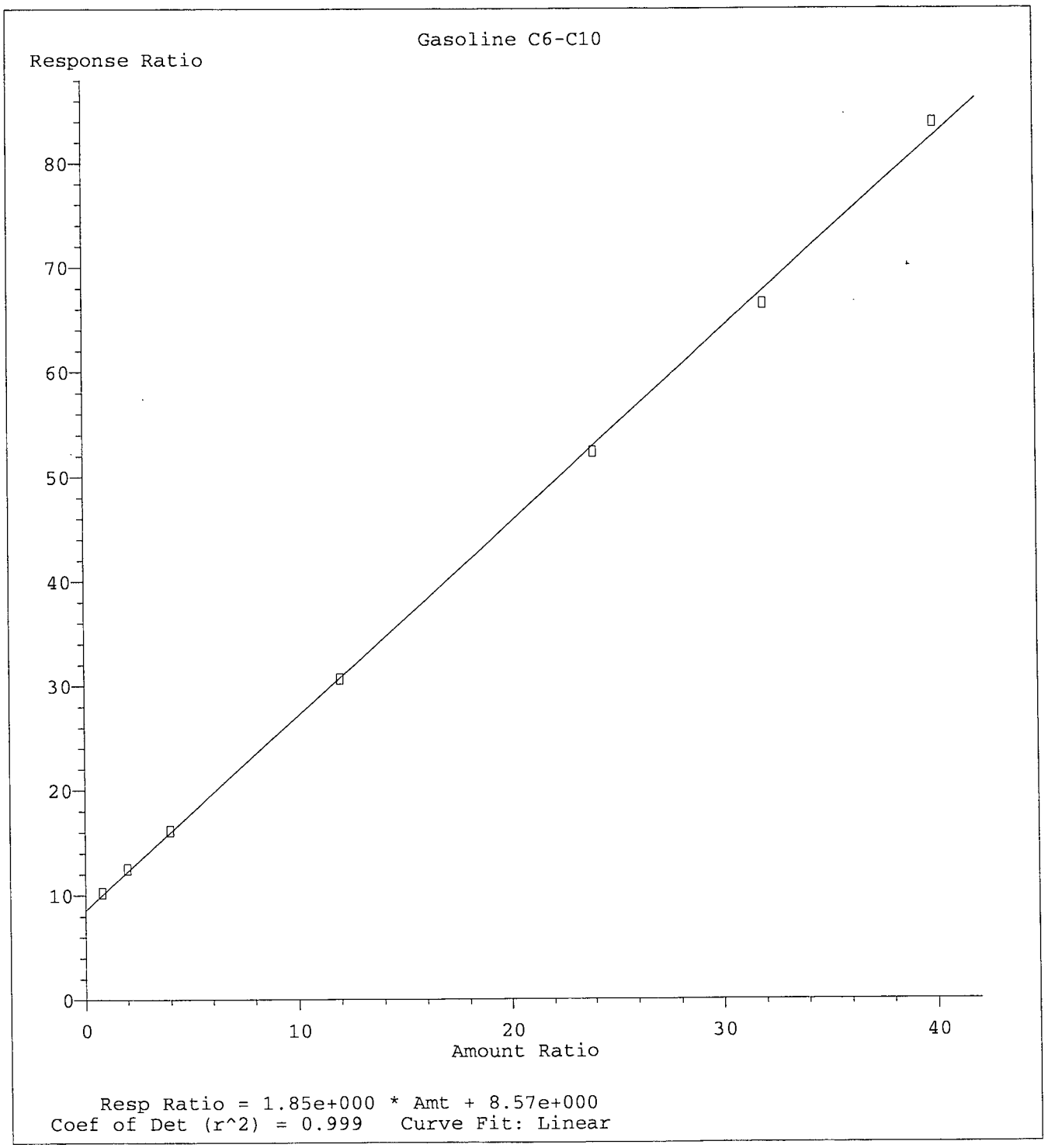
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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15							
16							
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28							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			42.0		

FORM725

APPL 03/06/17 11:55 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

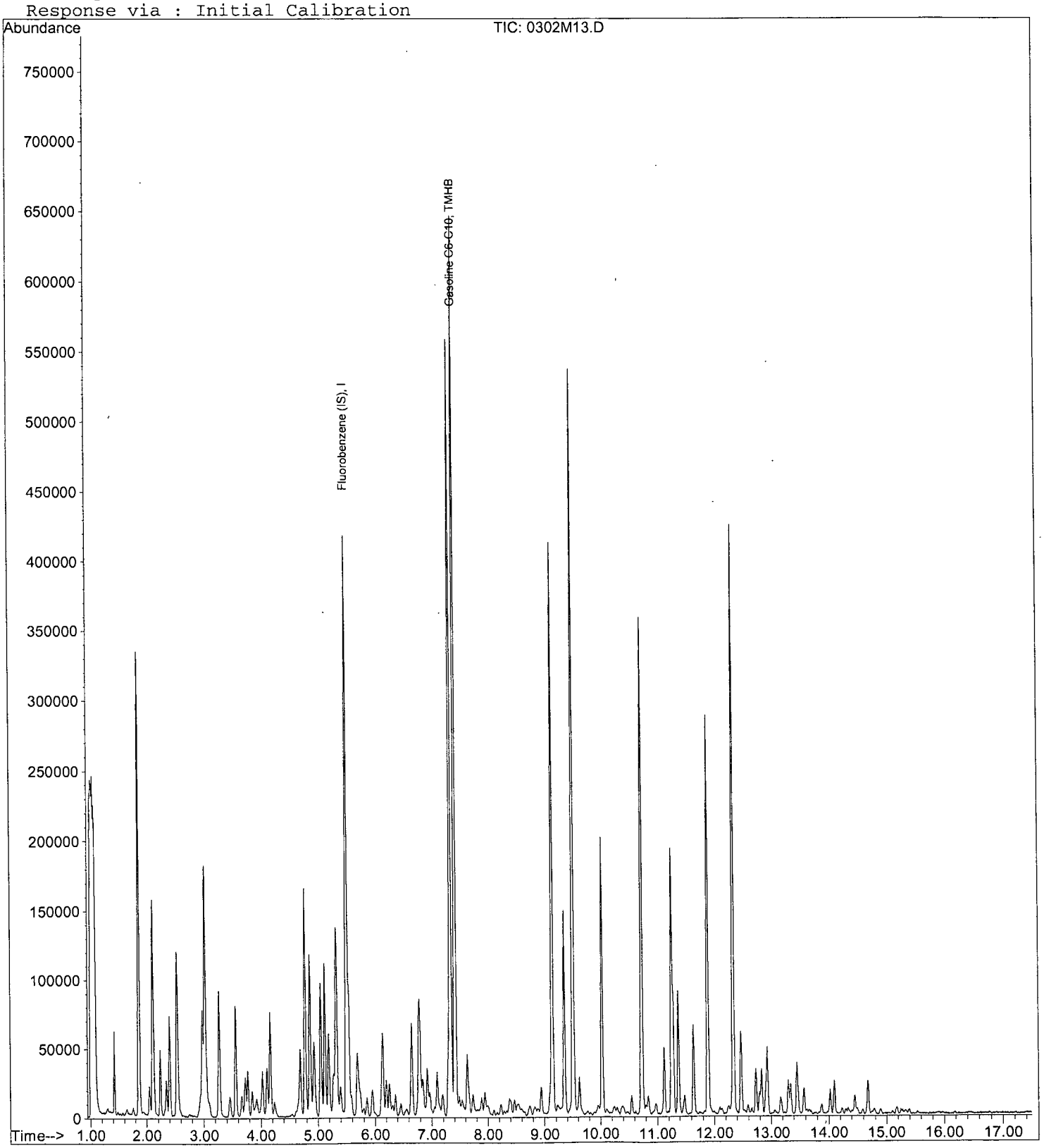
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Algorithm Check for Linear Regression

Data file:	0302M13.D
Analyte:	GasolineC6-C10

Area of target analyte:	13051542
Area of internal standard:	413827
concentration of internal standard:	25
multiplyer:	1
amt:	8.57
response ratio:	1.85

$$\frac{((\text{Area pk/area IS}) - \text{constant term}) * (\text{conc IS} * \text{multiplyer})}{\text{slope}} =$$

310.39

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	Type	r^2	MRF
			0404M08.D	0404M09.D	0404M10 D	0404M11.D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D						
1	I	Fluorobenzene (IS)															
2	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S		
3	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S		
4	I	Chlorobenzene-D5 (IS)															
5	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S		
6	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S		
7	I	1,4-Dichlorobenzene-D (IS)															
8																	
9																	
10																	
11																	
12																	
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14																	
15																	
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33																	
34																	
35																	

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
3) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
5) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
6) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

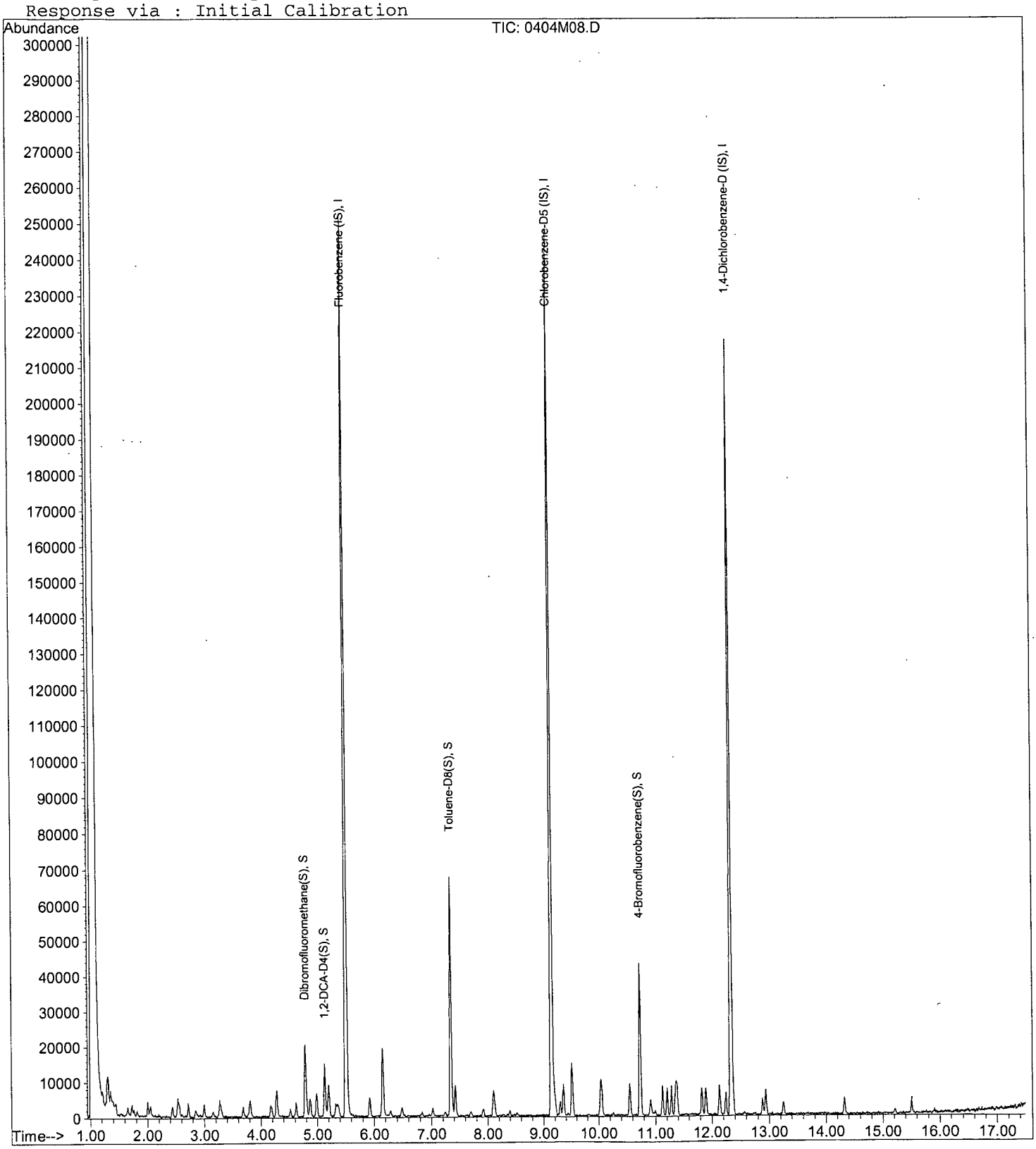
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
3) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
5) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
6) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

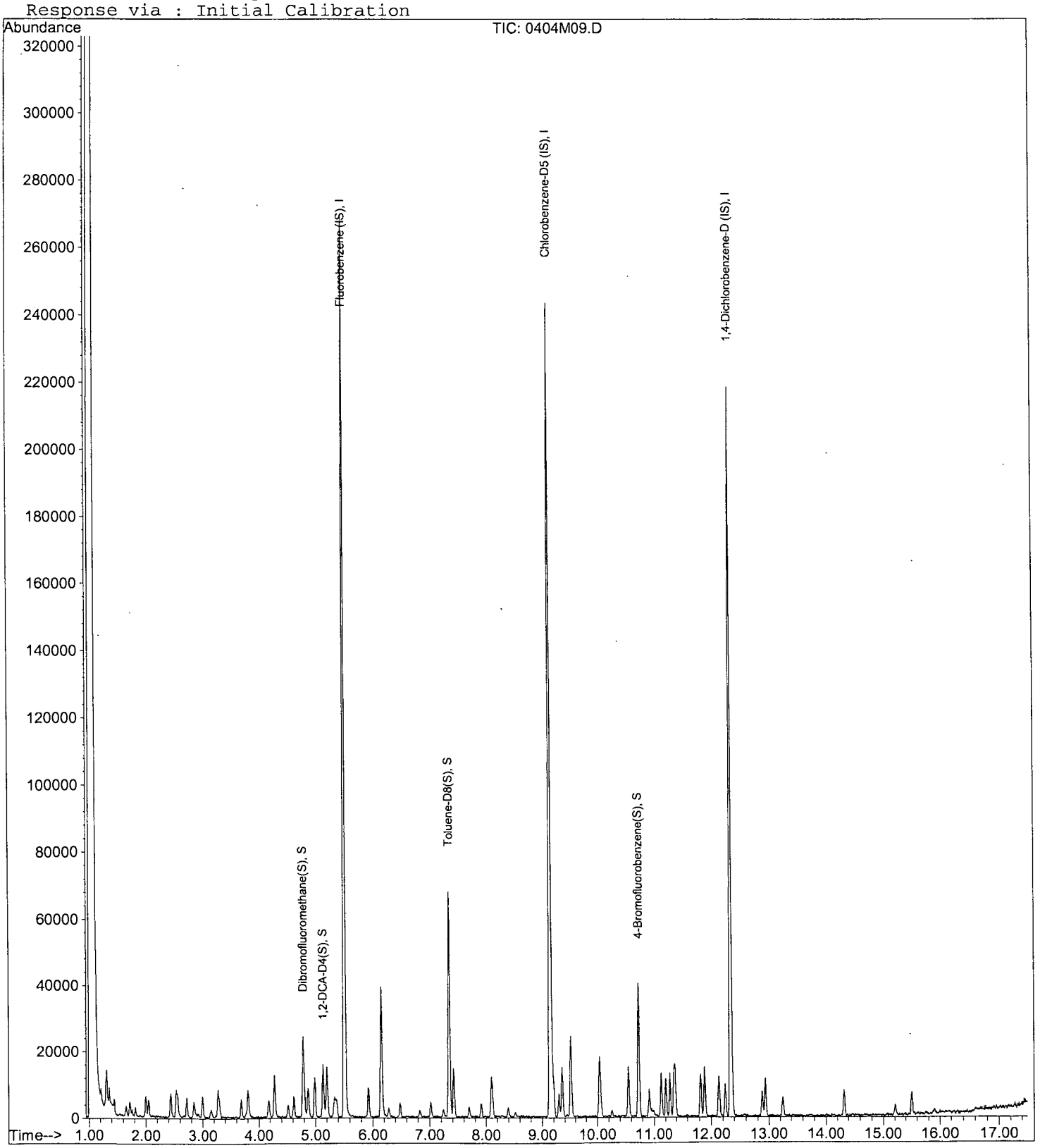
Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
3) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
5) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
6) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

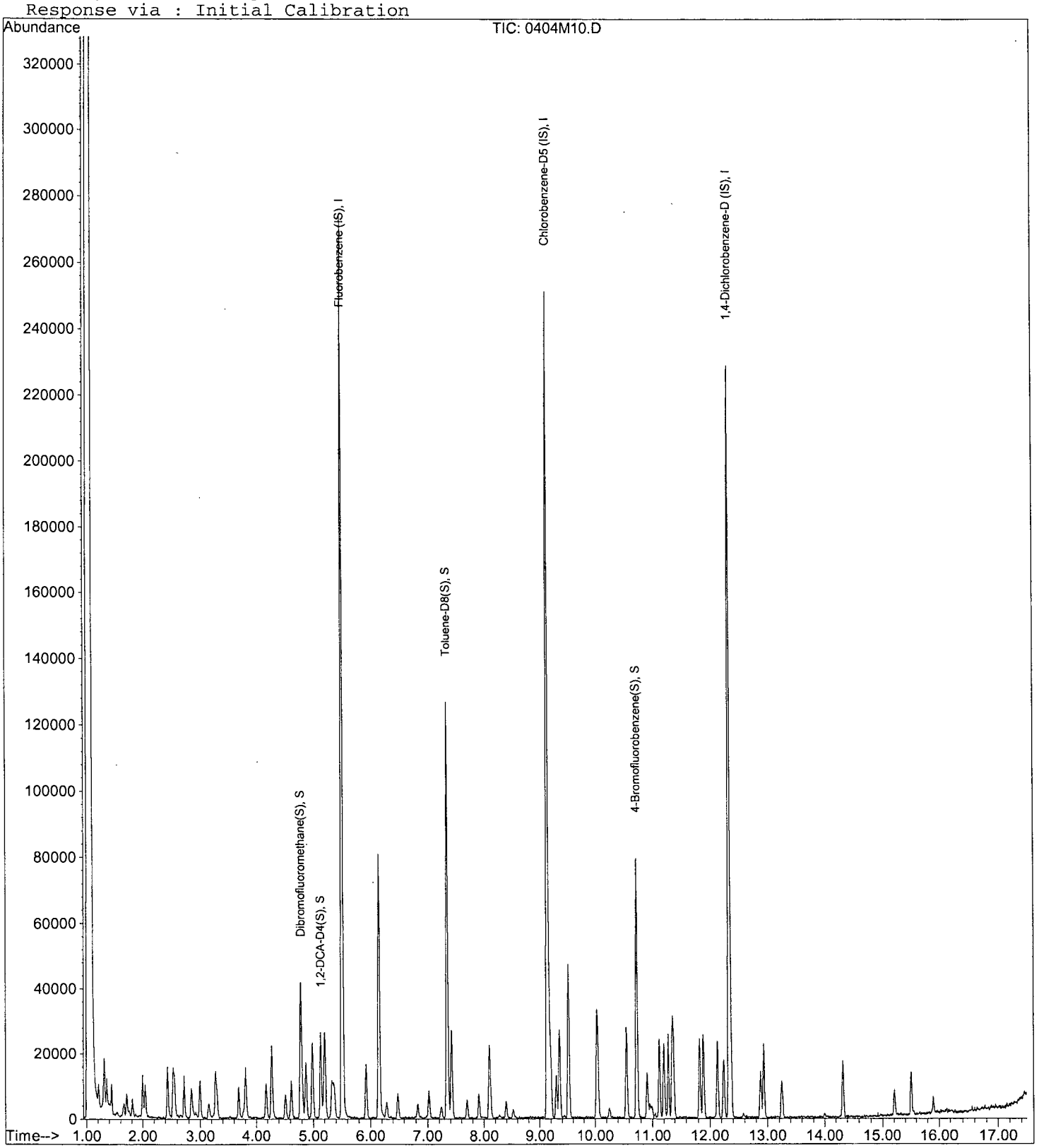
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
3) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
5) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
6) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

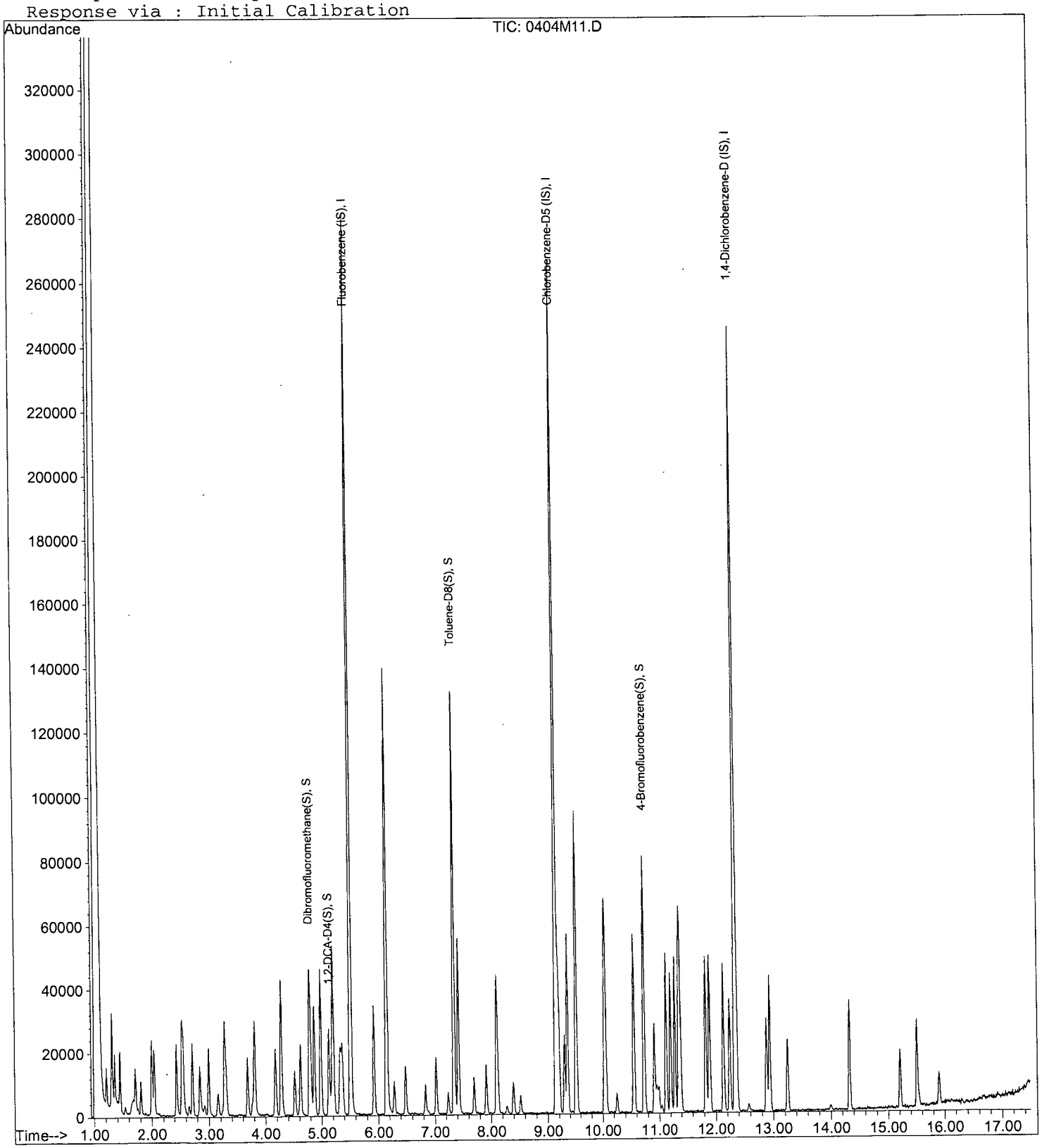
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
3) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
5) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
6) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

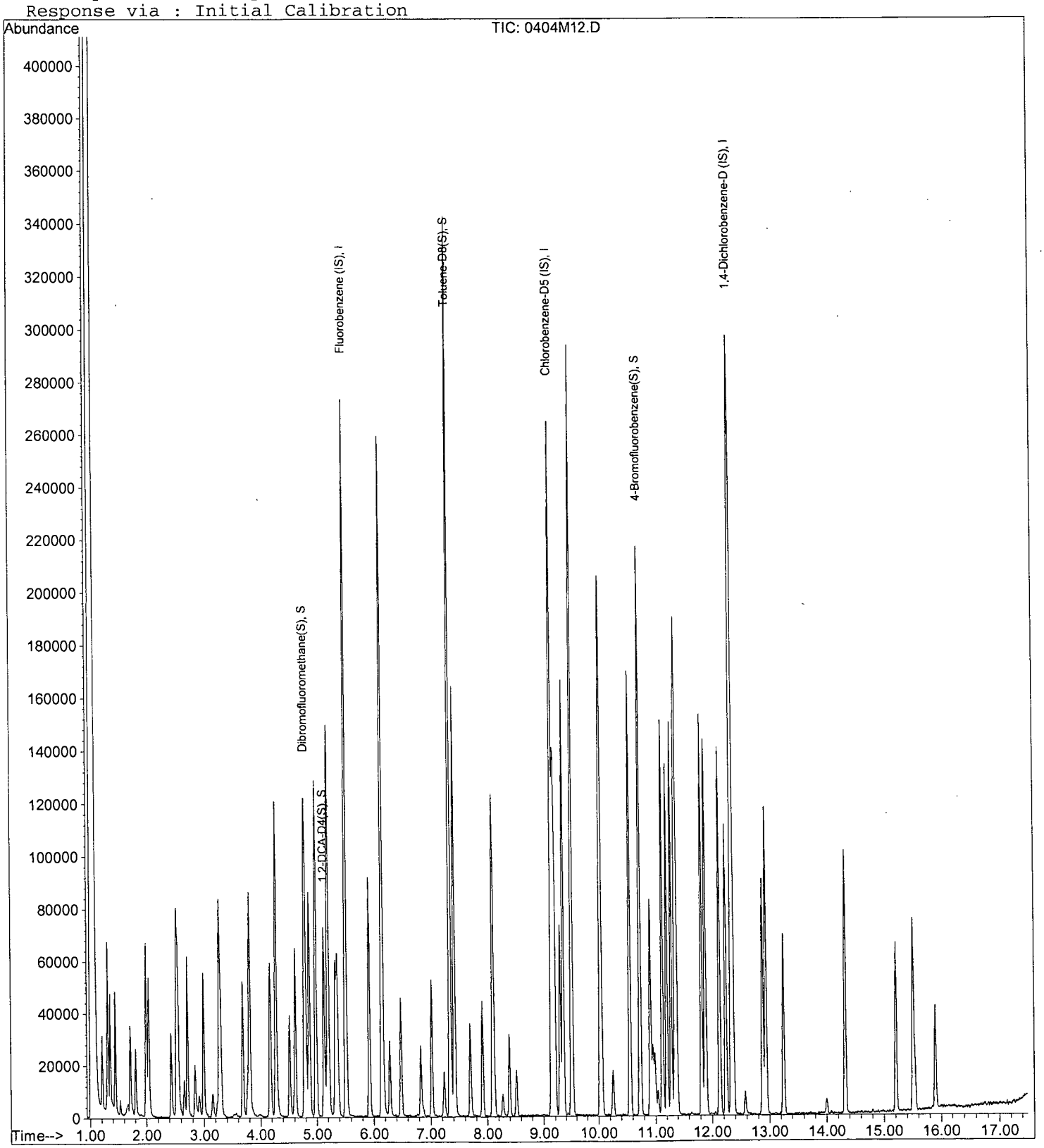
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
3) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
5) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
6) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

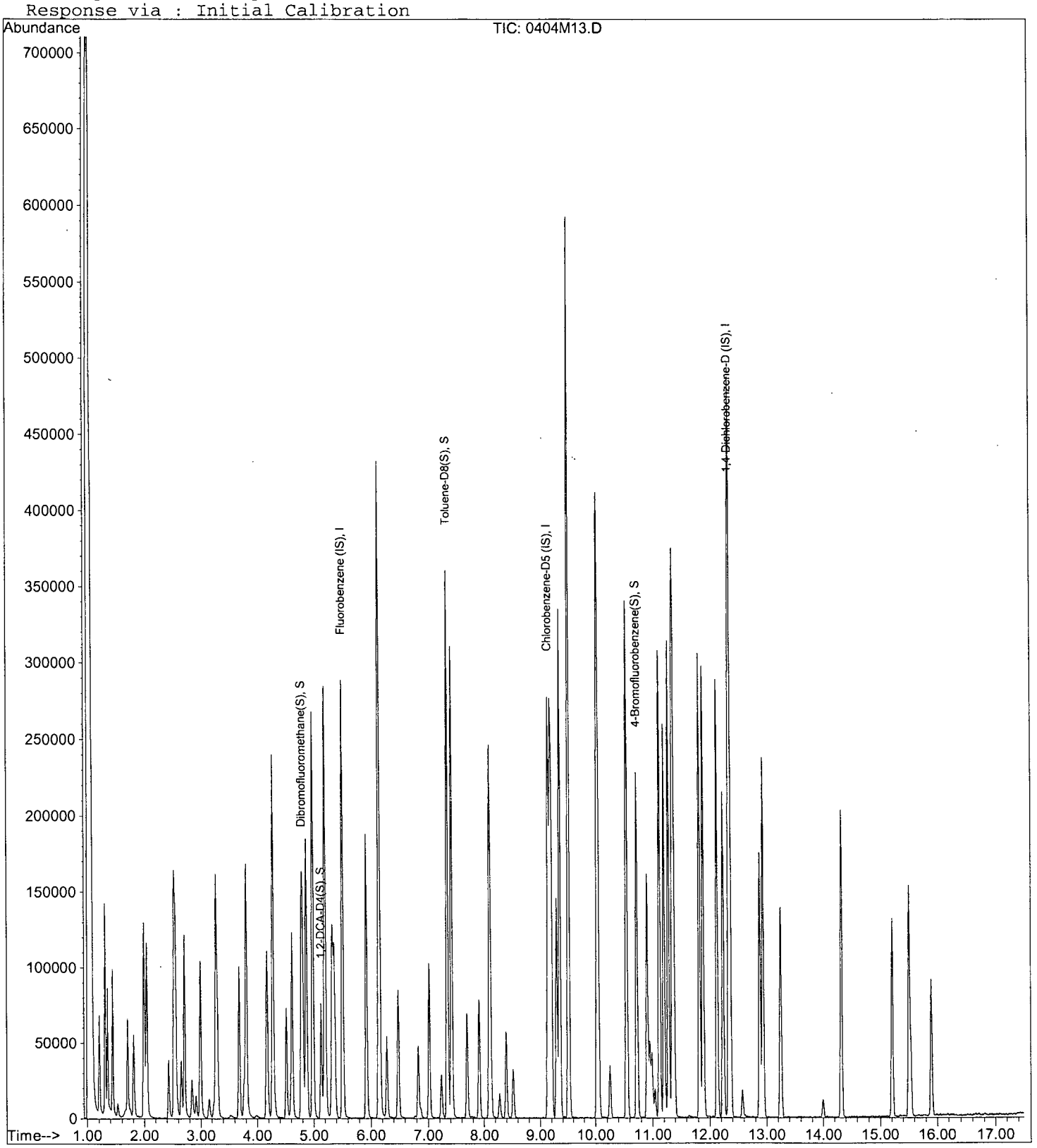
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
3) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
5) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
6) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

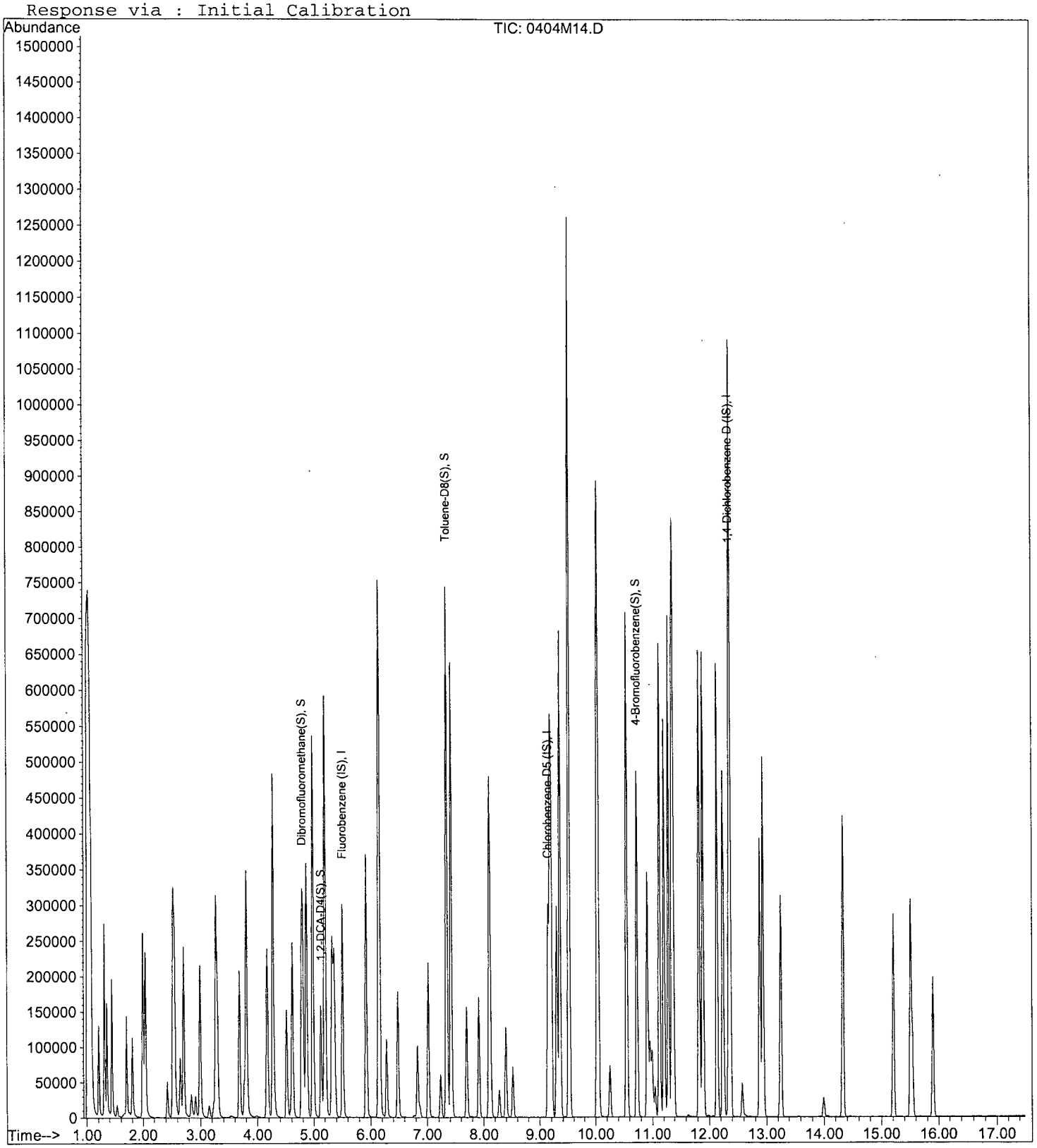
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D Vial: 11
Acq On : 4 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 04/04/17H Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
3) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
5) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
6) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

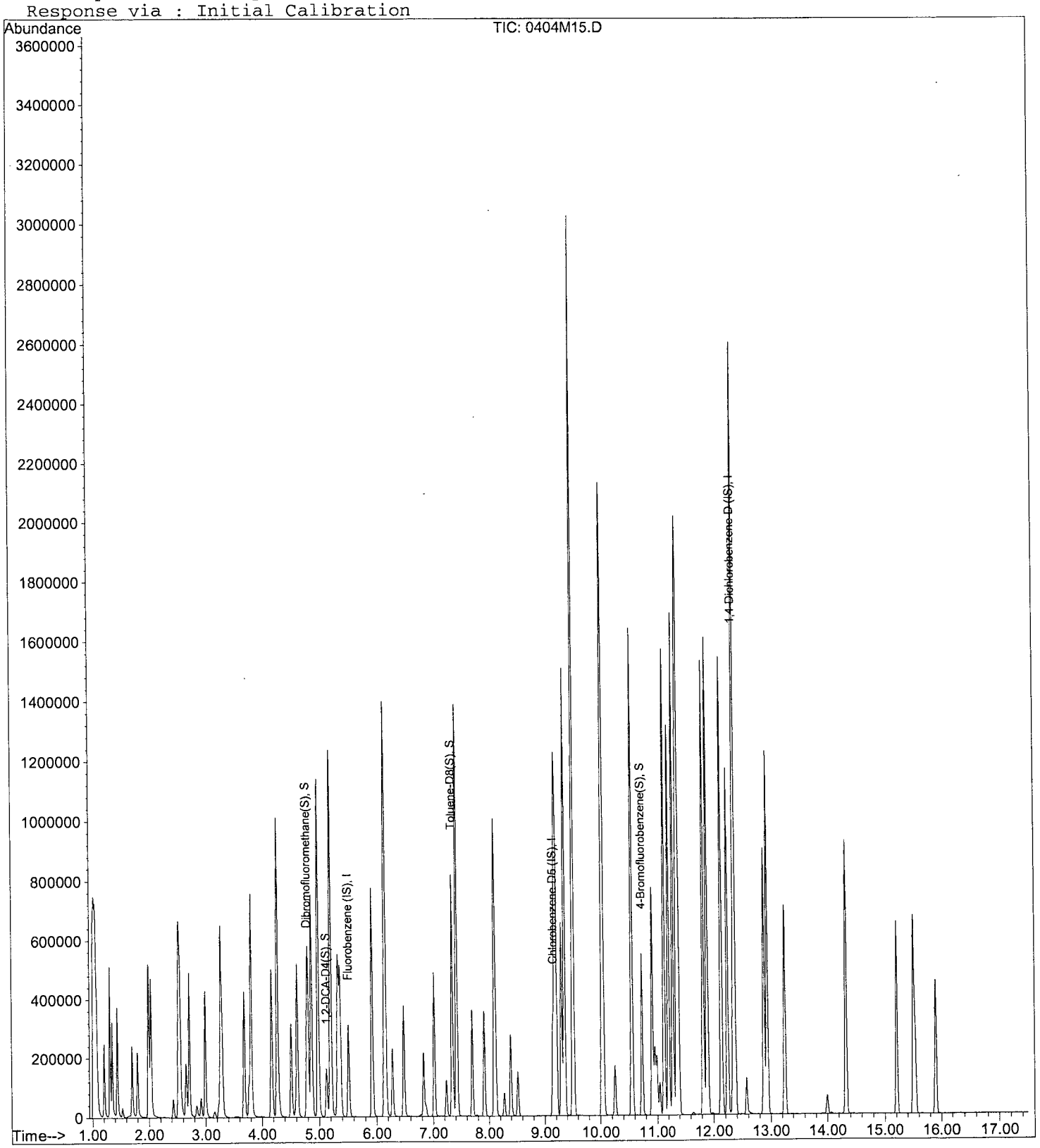
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
3) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
5) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
6) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

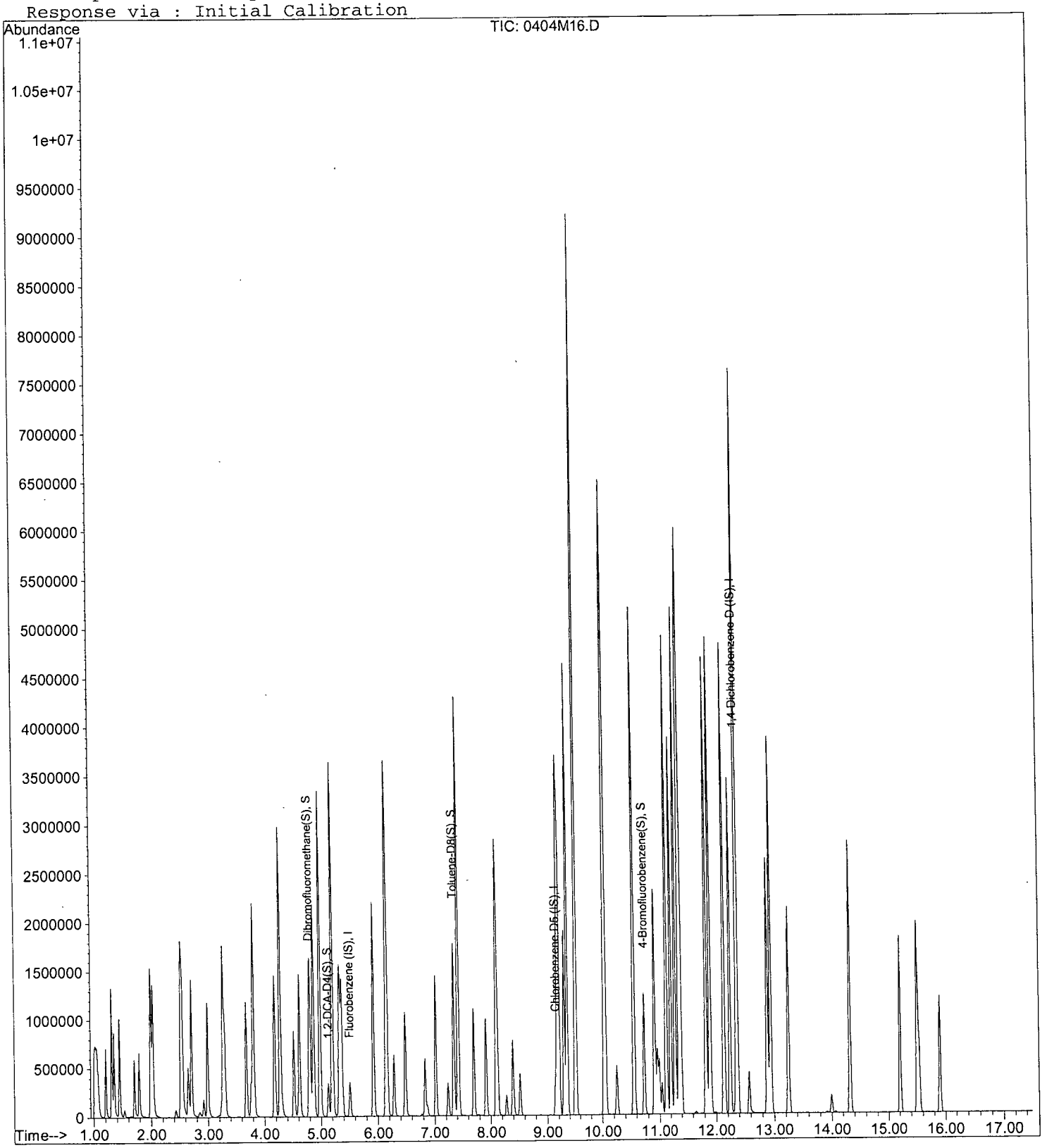
Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 2:06
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M39.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.271	50	TMHBL	16
3							
4							
5							
6							
7							
8							
9							
10							
11							
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36							
37							
38							
39							
40							
		Average			50.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M39.D
Acq On : 8 Apr 17 2:06
Sample : 170407B CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	292420	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7970205m	252.67361 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

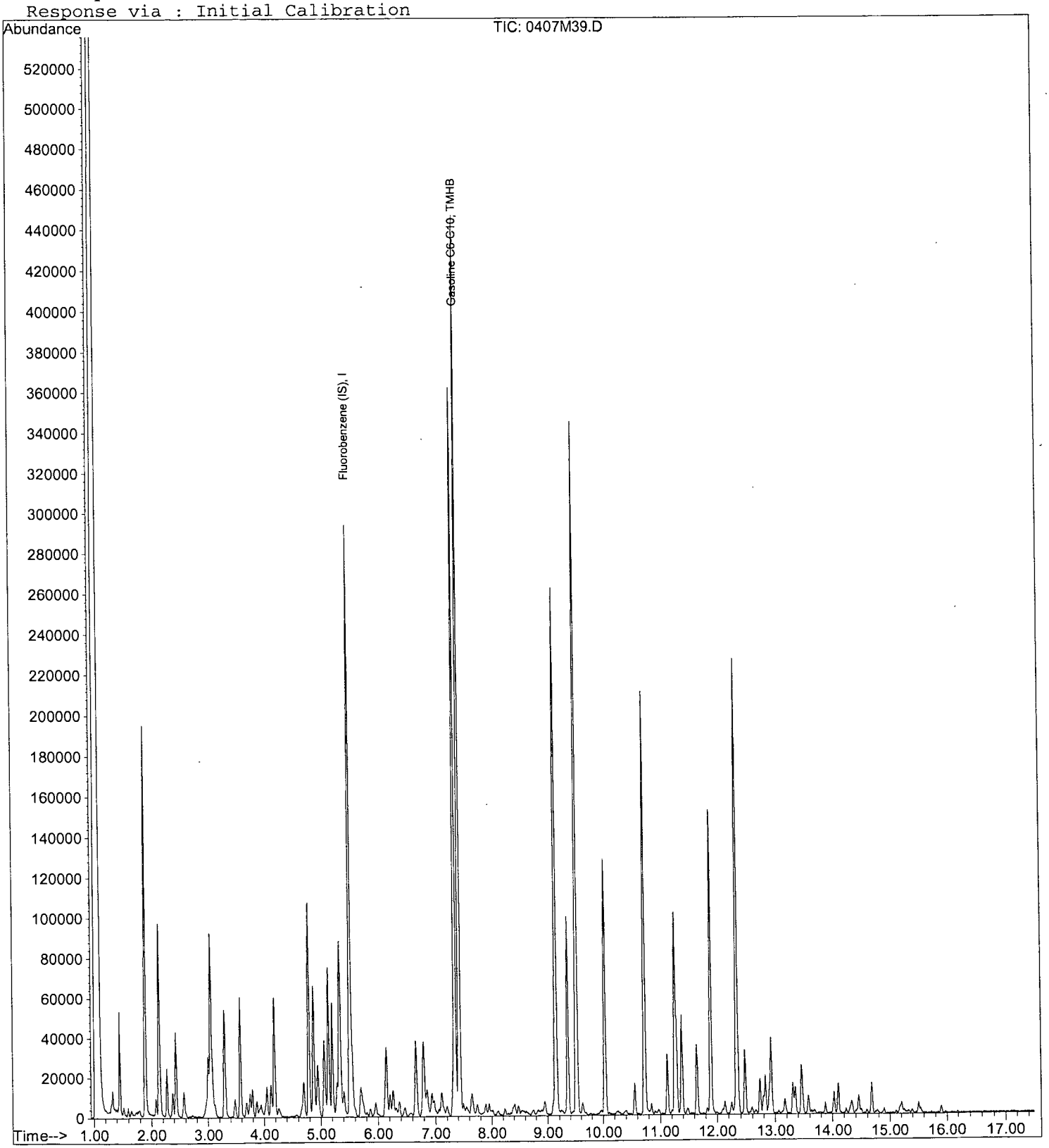
Data File : M:\MAX\DATA\M170404\0407M39.D
Acq On : 8 Apr 17 2:06
Sample : 170407B CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:03 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 2:06
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M39.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2348	0.27	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1857	0.66	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.558	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4344	3.8	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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34							
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37							
38							
39							
40							
		Average			2.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M39.D Vial: 39
Acq On : 8 Apr 17 2:06 Operator: PM,DG,SV,CMM
Sample : 170407B CCV 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266835	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	172894	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73220	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	62660	24.93273 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.732%	
3) 1,2-DCA-D4(S)	5.13	65	49540	25.16417 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.656%	
5) Toluene-D8(S)	7.35	98	269315	26.70399 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.816%	
6) 4-Bromofluorobenzene(S)	10.73	95	75109	24.04507 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 12:28
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0407M61.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.182	52	TMHBL	21
3							
4							
5							
6							
7							
8							
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35							
36							
37							
38							
39							
40							
		Average			52.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M61.D
Acq On : 8 Apr 17 12:28
Sample : Ending CCV 8260 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 61
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:05 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	289754	25.00000	ppb	0.00

System Monitoring Compounds

Target Compounds						Qvalue
2) Gasoline C6-C10	7.42	TIC	7587551m	238.20900	ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

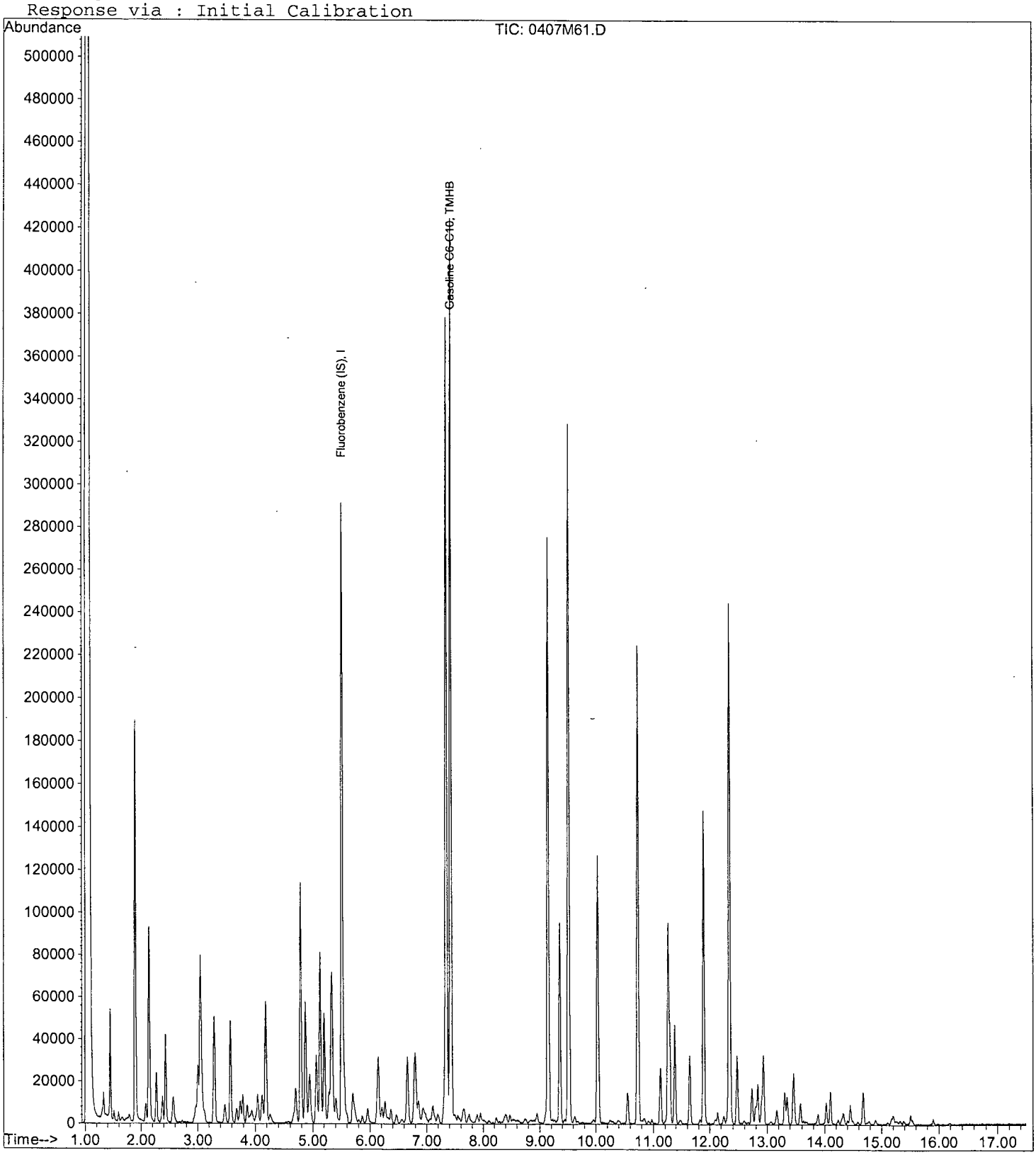
Data File : M:\MAX\DATA\M170404\0407M61.D
Acq On : 8 Apr 17 12:28
Sample : Ending CCV 8260 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 61
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:05 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 12:28
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M61.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2467	4.8	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1965	6.6	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.524	4.5	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4389	2.8	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M61.D Vial: 61
Acq On : 8 Apr 17 12:28 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	267547	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	181338	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	78711	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	66007	26.19463 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.780%	
3) 1,2-DCA-D4(S)	5.13	65	52581	26.63779 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.552%	
5) Toluene-D8(S)	7.35	98	276349	26.12550 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.500%	
6) 4-Bromofluorobenzene(S)	10.73	95	79593	24.29406 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.176%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53259 - 217647**
Batch ID: #GRO86-170407BM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/10/17	04/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	90.5	85-114			%	04/10/17	04/10/17

Quant Method: MGAS6302.
Run #: 0407M44
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 10:50:02 AM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M44.D
Acq On : 8 Apr 17 4:27
Sample : 170407B BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 44
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:06 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	275855	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

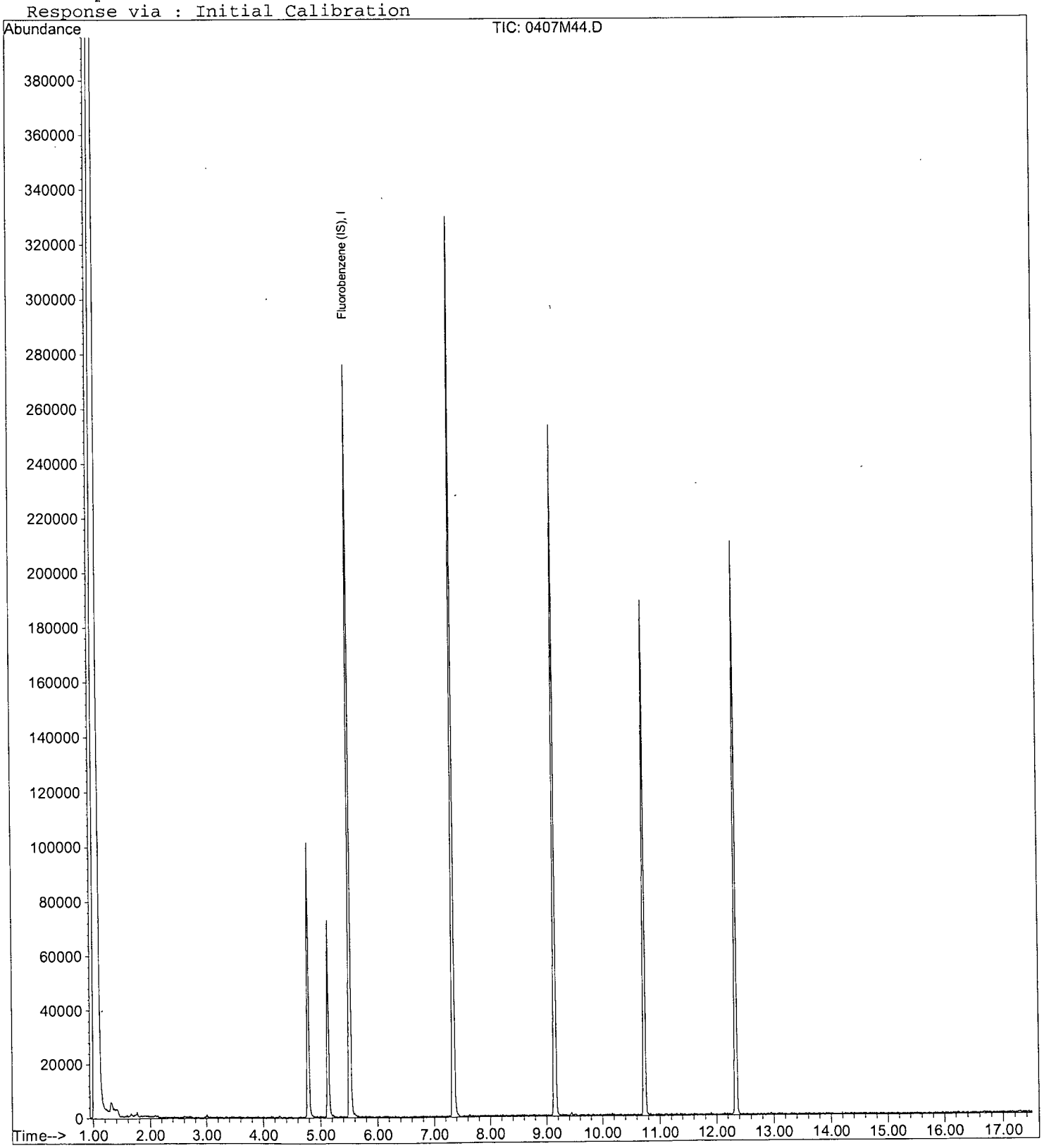
Data File : M:\MAX\DATA\M170404\0407M44.D
Acq On : 8 Apr 17 4:27
Sample : 170407B BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 44
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:06 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M44.D Vial: 44
Acq On : 8 Apr 17 4:27 Operator: PM,DG,SV,CMM
Sample : 170407B BLK-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	256370	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	169566	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	70620	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	61413	25.43404 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.736%	
3) 1,2-DCA-D4(S)	5.13	65	47482	25.10332 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.412%	
5) Toluene-D8(S)	7.35	98	254476	25.72786 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.912%	
6) 4-Bromofluorobenzene(S)	10.73	95	69297	22.61985 ppb	0.00
Spiked Amount 25.000			Recovery	= 90.480%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery
EPA 8260B GRO WATER

APPL ID: **170410W-53259 LCS - 217647**
Batch ID: #GRO86-170407BM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	240	80.0	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.0	96.0	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Max
Run :	0407M41
Initials :	SV

Printed: 04/28/17 10:50:06 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M41.D
Acq On : 8 Apr 17 3:02
Sample : 170407B LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:05 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	272010	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7161343m	240.11966 ppb	100

(#) = qualifier out of range (m) = manual integration

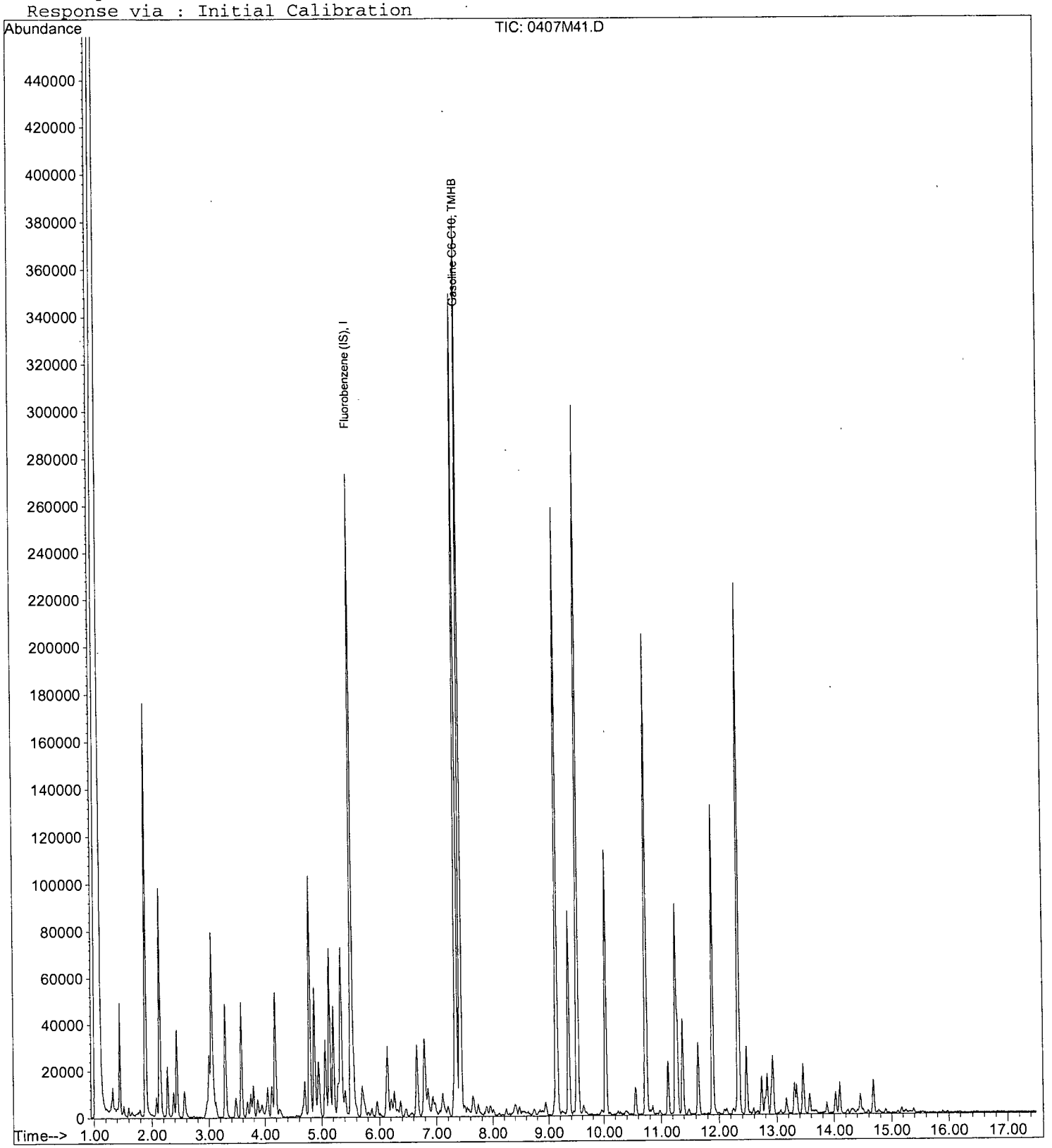
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M41.D
Acq On : 8 Apr 17 3:02
Sample : 170407B LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:05 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M41.D
Acq On : 8 Apr 17 3:02
Sample : 170407B LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 41
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	252891	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	169983	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72765	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	60647	25.46234 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.848%	
3) 1,2-DCA-D4(S)	5.13	65	48241	25.85547 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.420%	
5) Toluene-D8(S)	7.35	98	262232	26.44696 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.788%	
6) 4-Bromofluorobenzene(S)	10.73	95	73667	23.98731 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.948%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp.05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
10	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
11	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
12	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
13	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
14	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
15	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
16	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
17	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
18	39	0407M39.D	1	170407B CCV 300ug/L	10ml IS&S: 2/23/17	8 Apr 17 2:06
19	41	0407M41.D	1	170407B LCS 300ug/L	10ml IS&S: 2/23/17	8 Apr 17 3:02
20	44	0407M44.D	1	170407B BLK-1WM	10ml IS&S: 2/23/17	8 Apr 17 4:27
21	50	0407M50.D	1	AZ53259W01	10ml IS&S: 2/23/17	8 Apr 17 7:17
22	51	0407M51.D	1	AZ53260W01	10ml IS&S: 2/23/17	8 Apr 17 7:45
23	52	0407M52.D	1	AZ53261W01	10ml IS&S: 2/23/17	8 Apr 17 8:14
24	53	0407M53.D	1	AZ53262W01	10ml IS&S: 2/23/17	8 Apr 17 8:42
25	54	0407M54.D	1	AZ53263W01	10ml IS&S: 2/23/17	8 Apr 17 9:10
26	55	0407M55.D	1	AZ53264W01	10ml IS&S: 2/23/17	8 Apr 17 9:38
27	56	0407M56.D	1	AZ53265W01	10ml IS&S: 2/23/17	8 Apr 17 10:07
28	57	0407M57.D	1	AZ53266W01	10ml IS&S: 2/23/17	8 Apr 17 10:35
29	61	0407M61.D	1	Ending CCV 8260 300ug/L 4/7/17	10ml IS&S: 2/23/17	8 Apr 17 12:28

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:04:29 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments:

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:04:19 PM
APPL Standard LCS

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH296
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53259
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method:	RSK0225.M
Run #:	17040830
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040830.D Vial: 29
Acq On : 8 Apr 17 13:15 Operator: lac
Sample : AZ53259W05 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:18 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

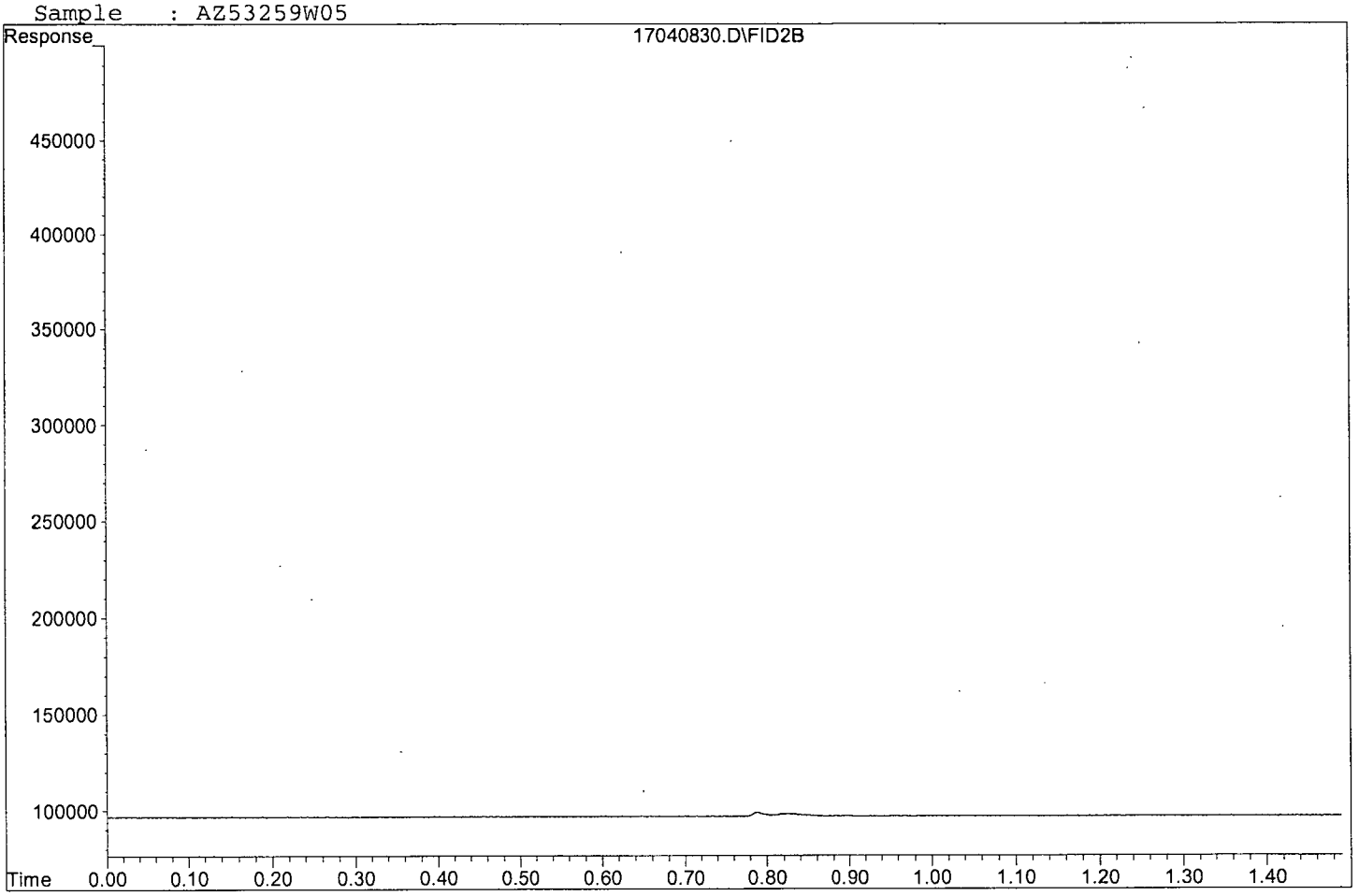
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.87	354	N.D.	ppb
2) ATM Ethane	1.02	357	N.D.	ppb
3) ATM Ethene	1.11	393	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040830.D
Sample : AZ53259W05



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH297
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53260
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method:	RSK0225.M
Run #:	17040831
Instrument:	Rocky
Sequence:	170225
Dilution Factor:	1
Initials:	CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040831.D Vial: 30
Acq On : 8 Apr 17 13:19 Operator: lac
Sample : AZ53260W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:21 2017 Quant Results File: RSK0225.RES

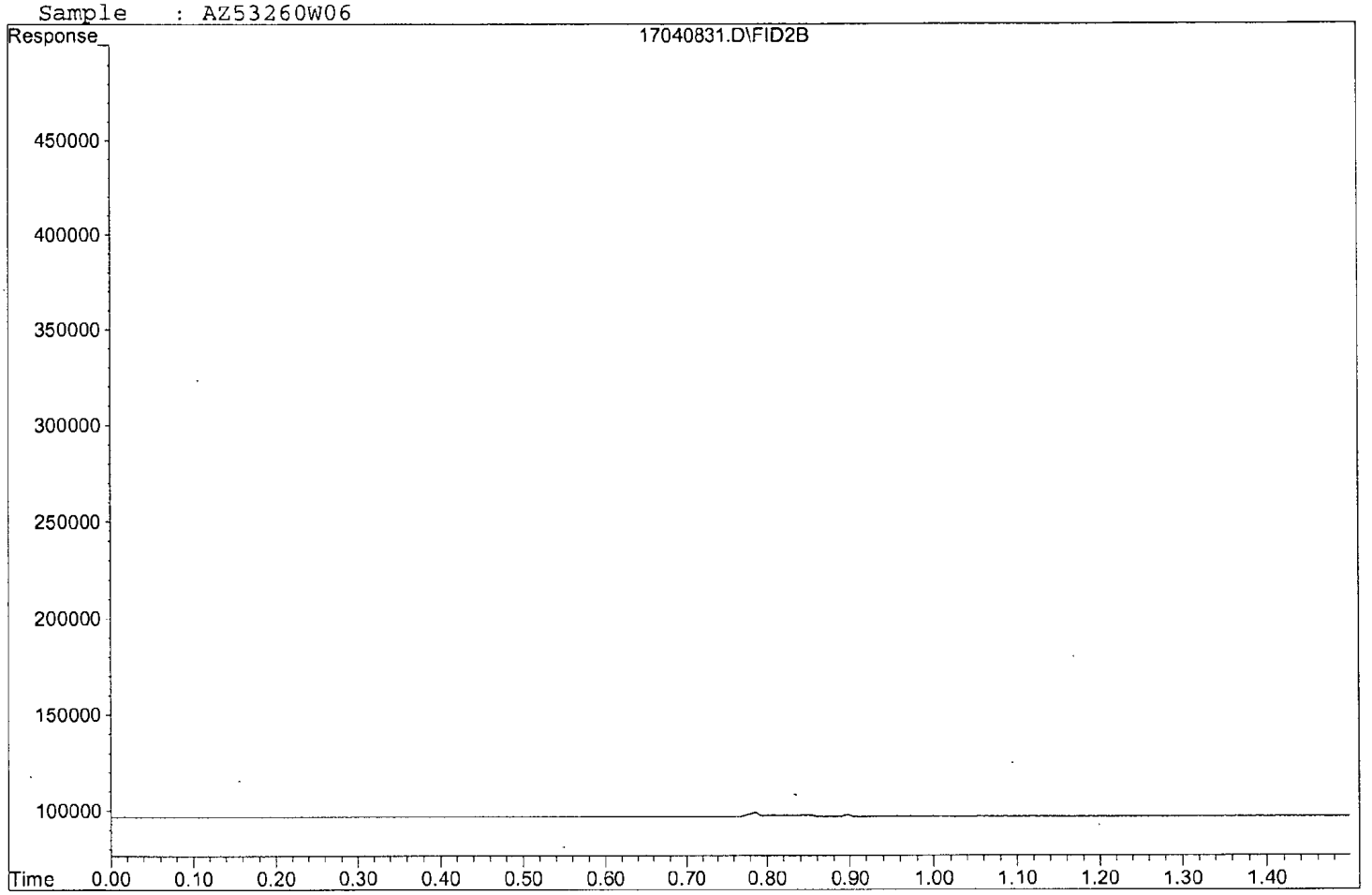
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	838	N.D.	ppb
2) ATM Ethane	1.02	191	N.D.	ppb
3) ATM Ethene	1.12	175	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040831.D
Sample : AZ53260W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH320
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53262
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040832
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040832.D Vial: 31
Acq On : 8 Apr 17 13:22 Operator: lac
Sample : AZ53262W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:24 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

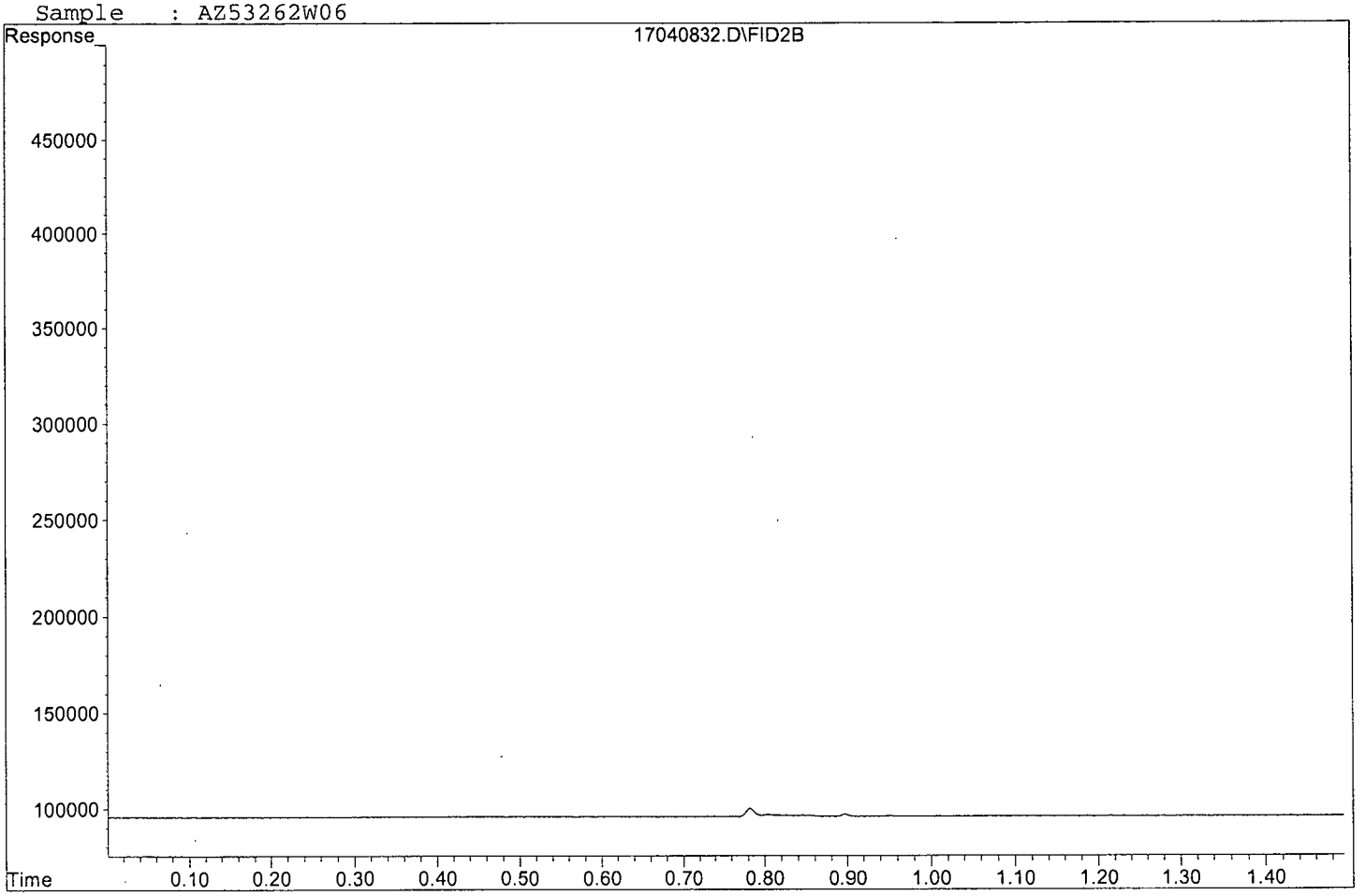
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	762	N.D.	ppb
2) ATM Ethane	1.02	193	N.D.	ppb
3) ATM Ethene	1.11	316	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040832.D
Sample : AZ53262W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH321
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53263
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040833
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040833.D Vial: 32
Acq On : 8 Apr 17 13:26 Operator: lac
Sample : AZ53263W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:28 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

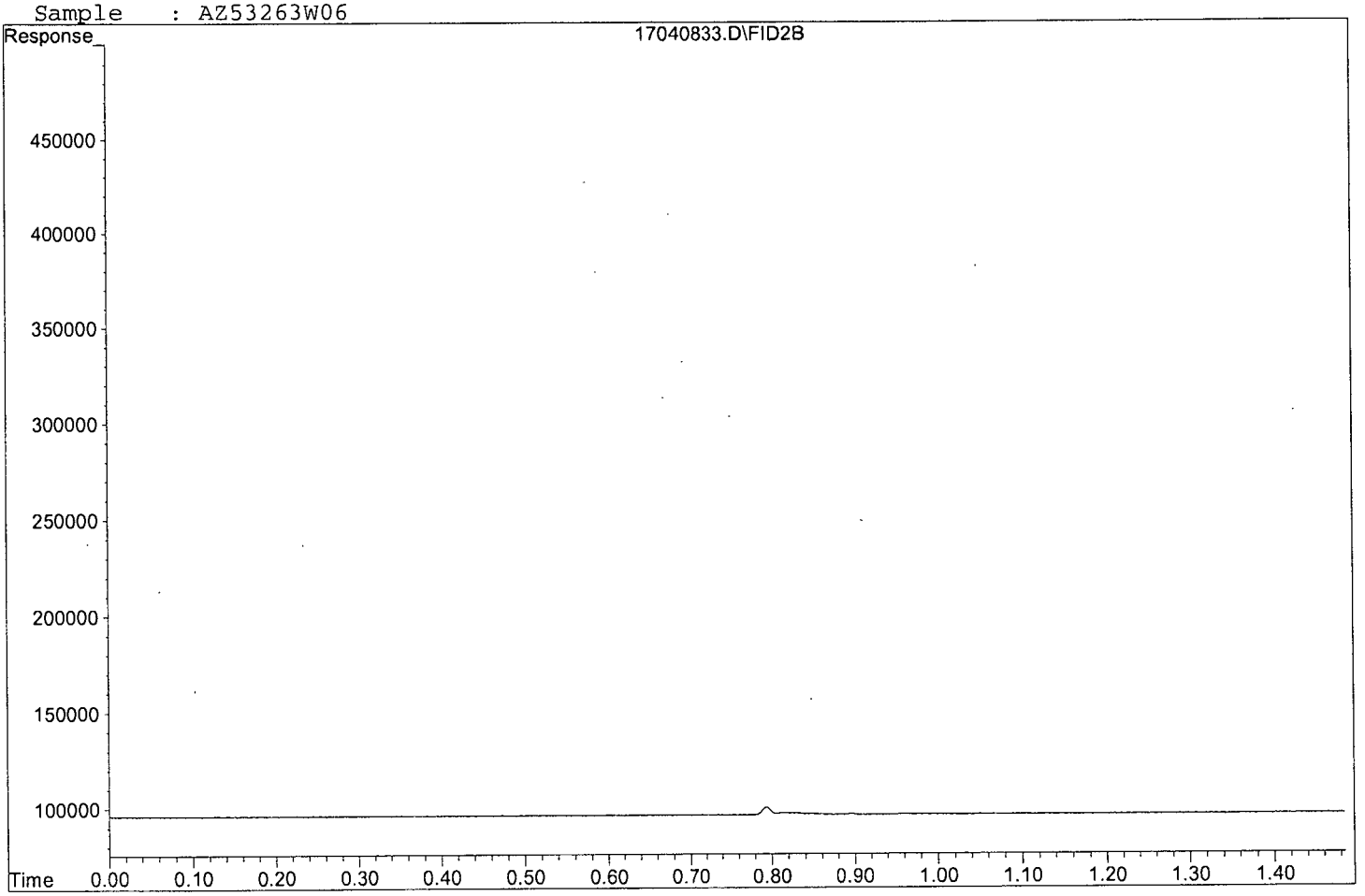
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	615	N.D.	ppb
2) ATM Ethane	1.02	291	N.D.	ppb
3) ATM Ethene	1.11	208	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040833.D
Sample : AZ53263W06



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH301
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53265
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040834
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040834.D Vial: 33
Acq On : 8 Apr 17 13:29 Operator: lac
Sample : AZ53265W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:31 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

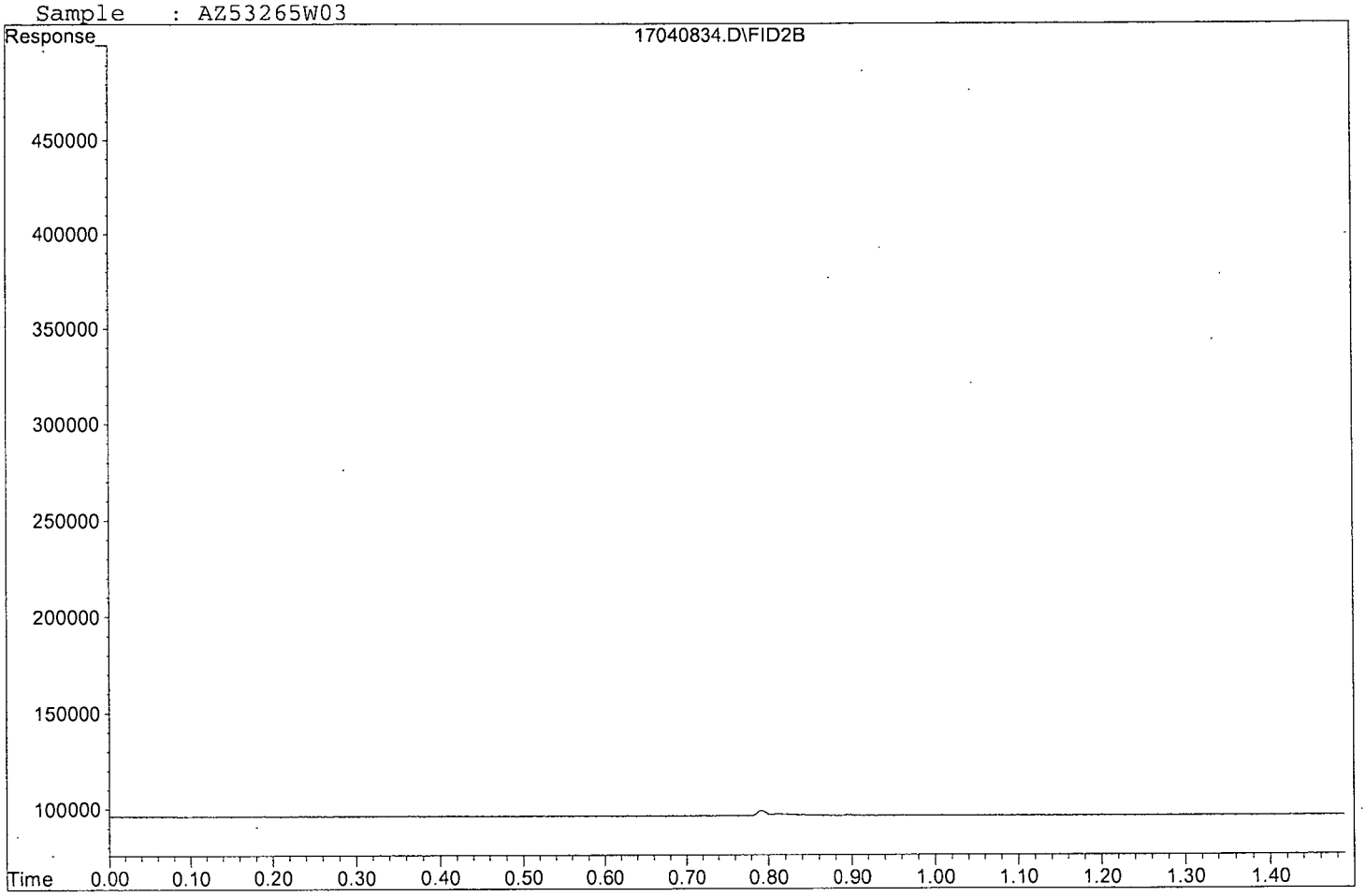
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.85	529	N.D.	ppb
2) ATM Ethane	1.02	222	N.D.	ppb
3) ATM Ethene	1.12	204	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040834.D
Sample : AZ53265W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH303
Sample Collection Date: 04/04/17

ARF: 82611
APPL ID: AZ53266
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040835
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:04:23 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040835.D Vial: 34
Acq On : 8 Apr 17 13:32 Operator: lac
Sample : AZ53266W06 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:34 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

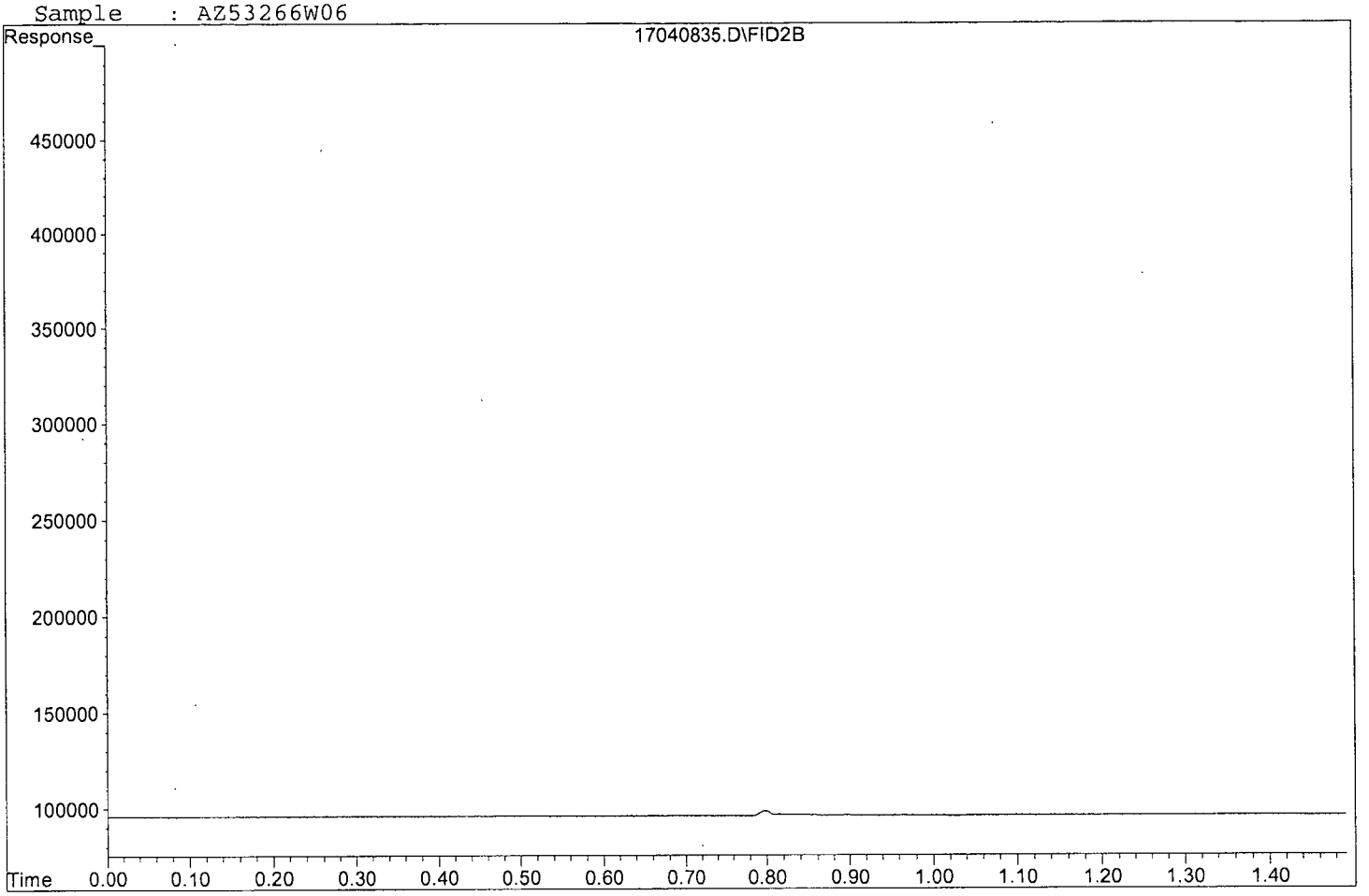
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	768	N.D.	ppb
2) ATM Ethane	1.01	399	N.D.	ppb
3) ATM Ethene	1.11	385	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040835.D
Sample : AZ53266W06



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
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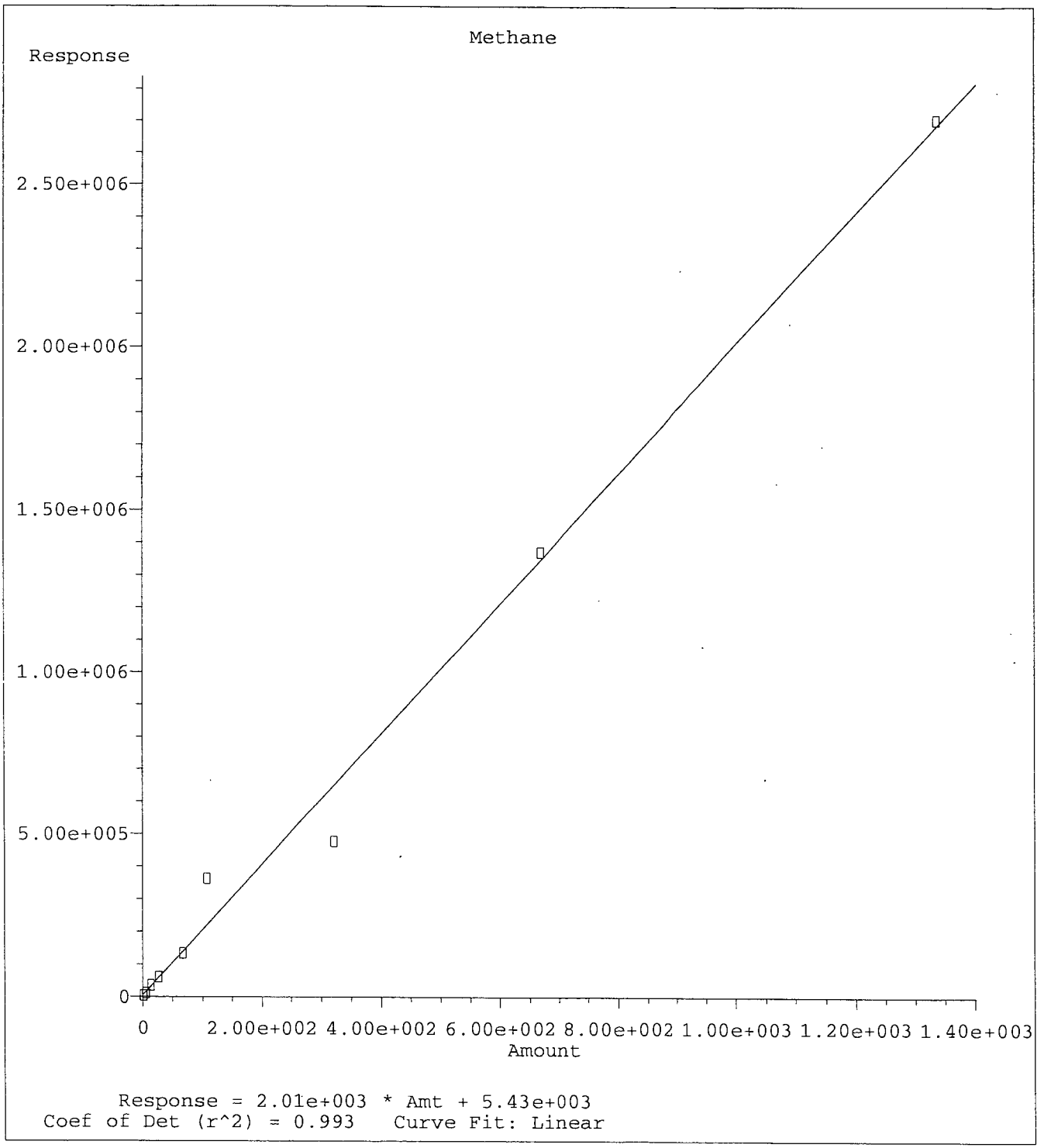
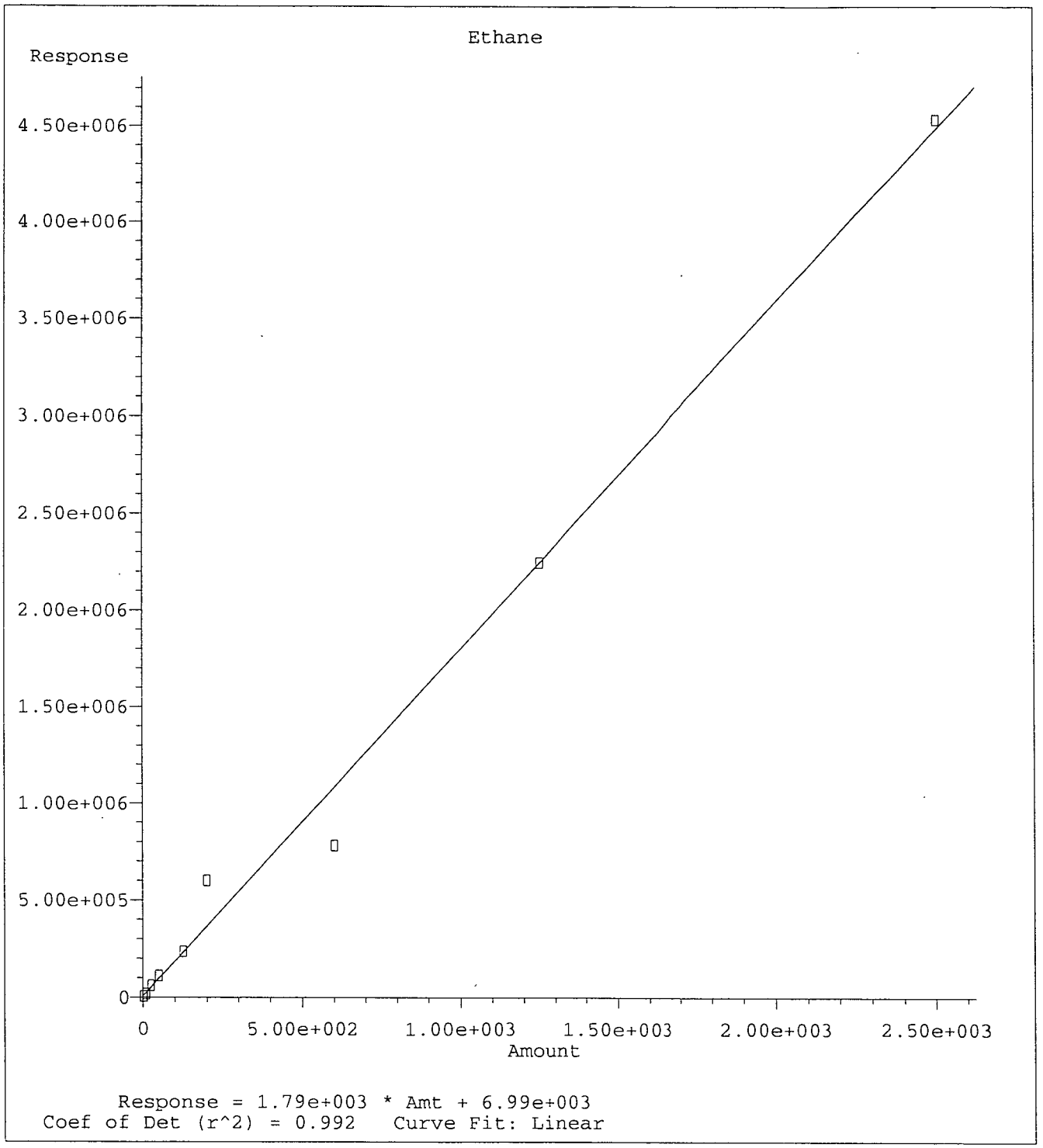
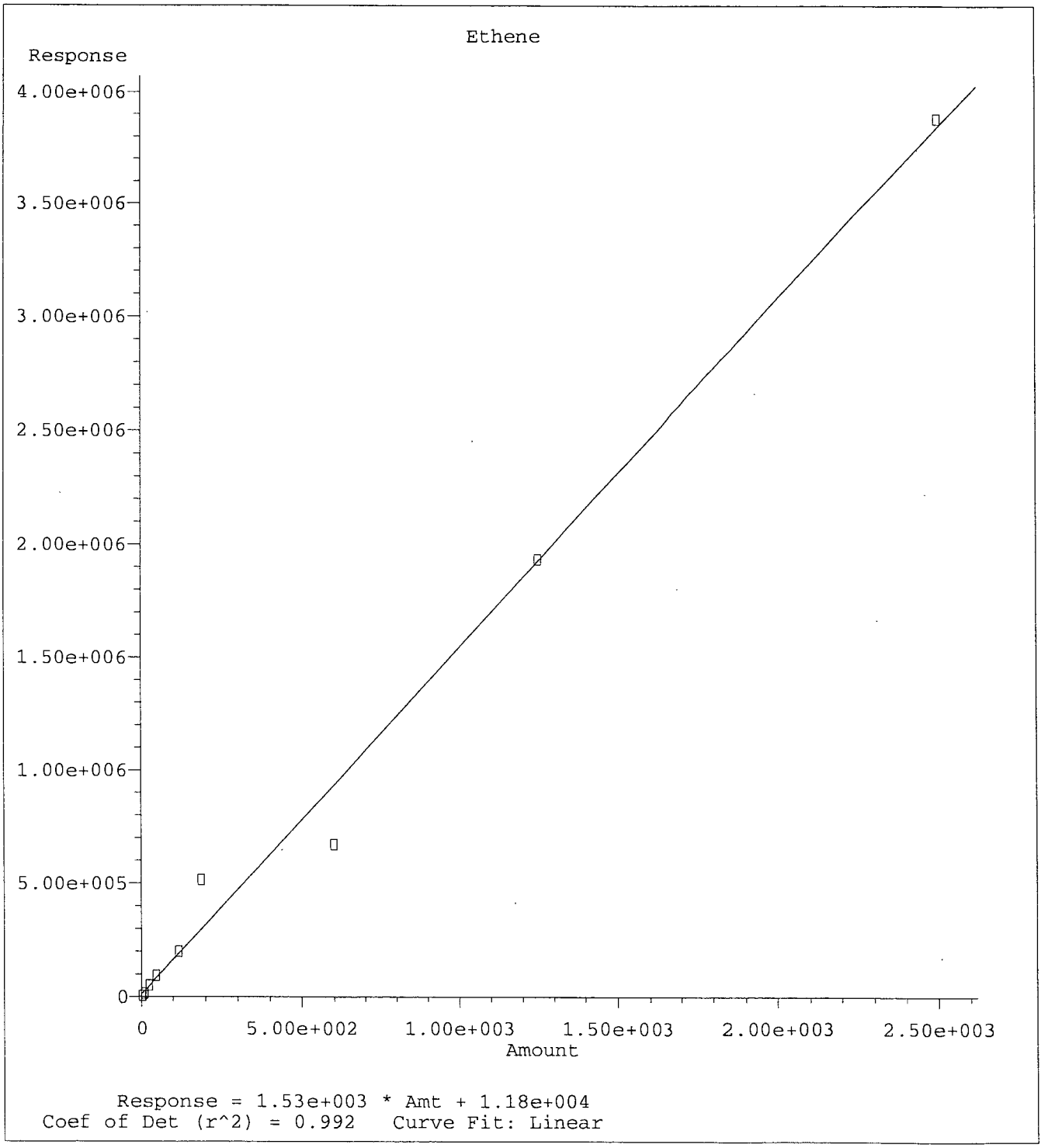
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

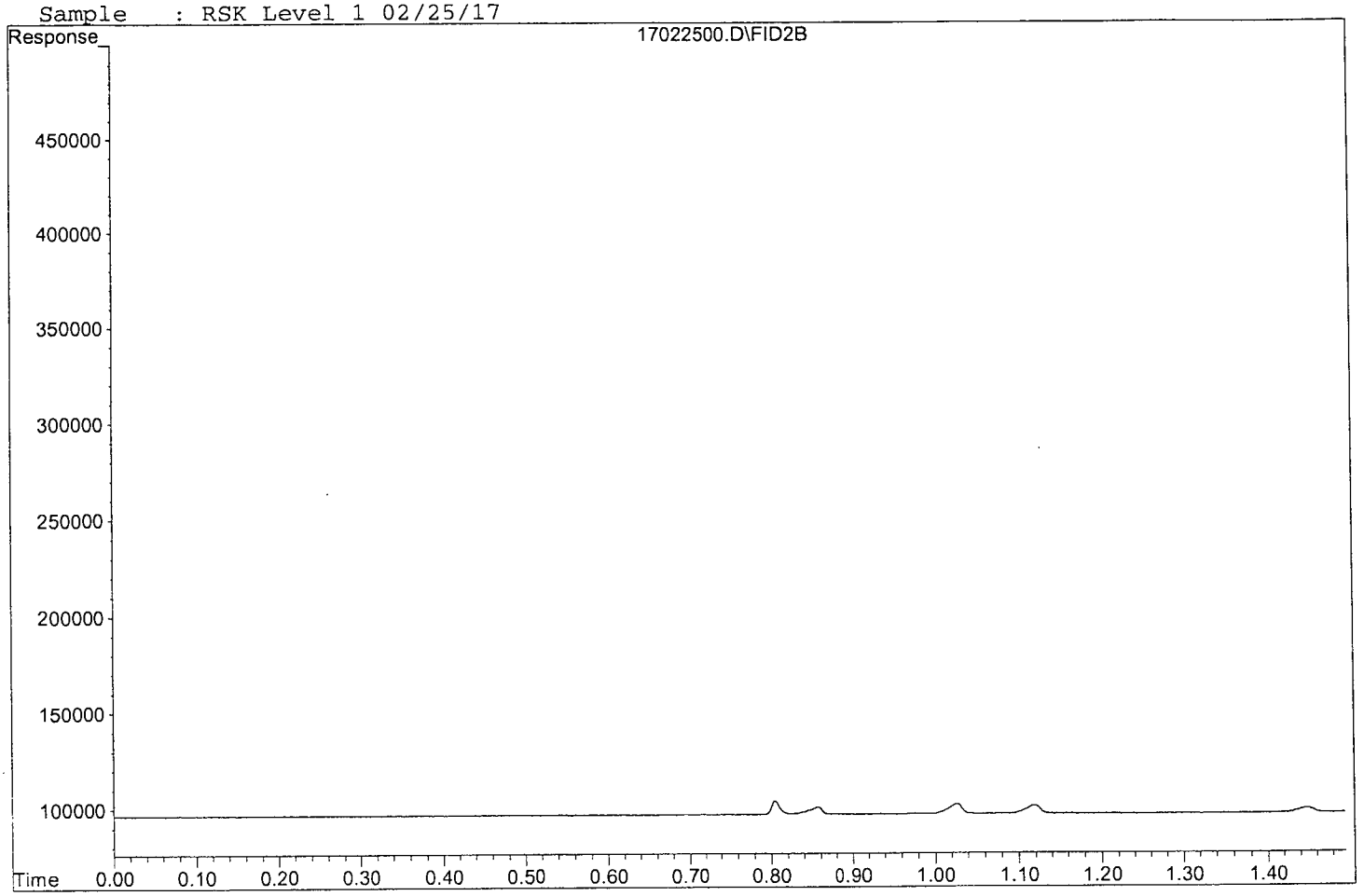
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D
Vial: 2
Acq On : 25 Feb 17 11:11
Operator: lac
Sample : RSK Level 2 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

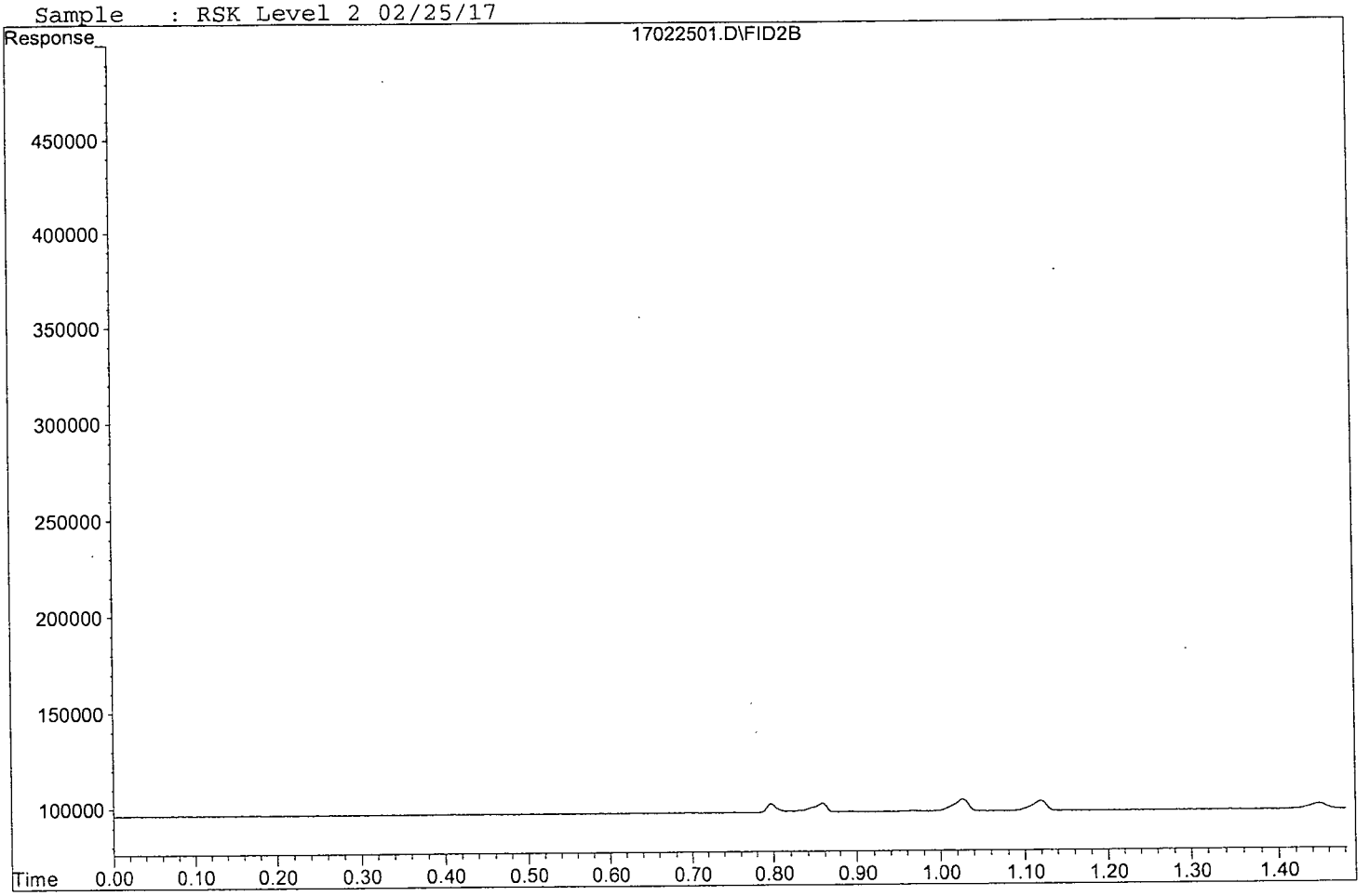
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D
Acq On : 25 Feb 17 11:15
Sample : RSK Level 3 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 3
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

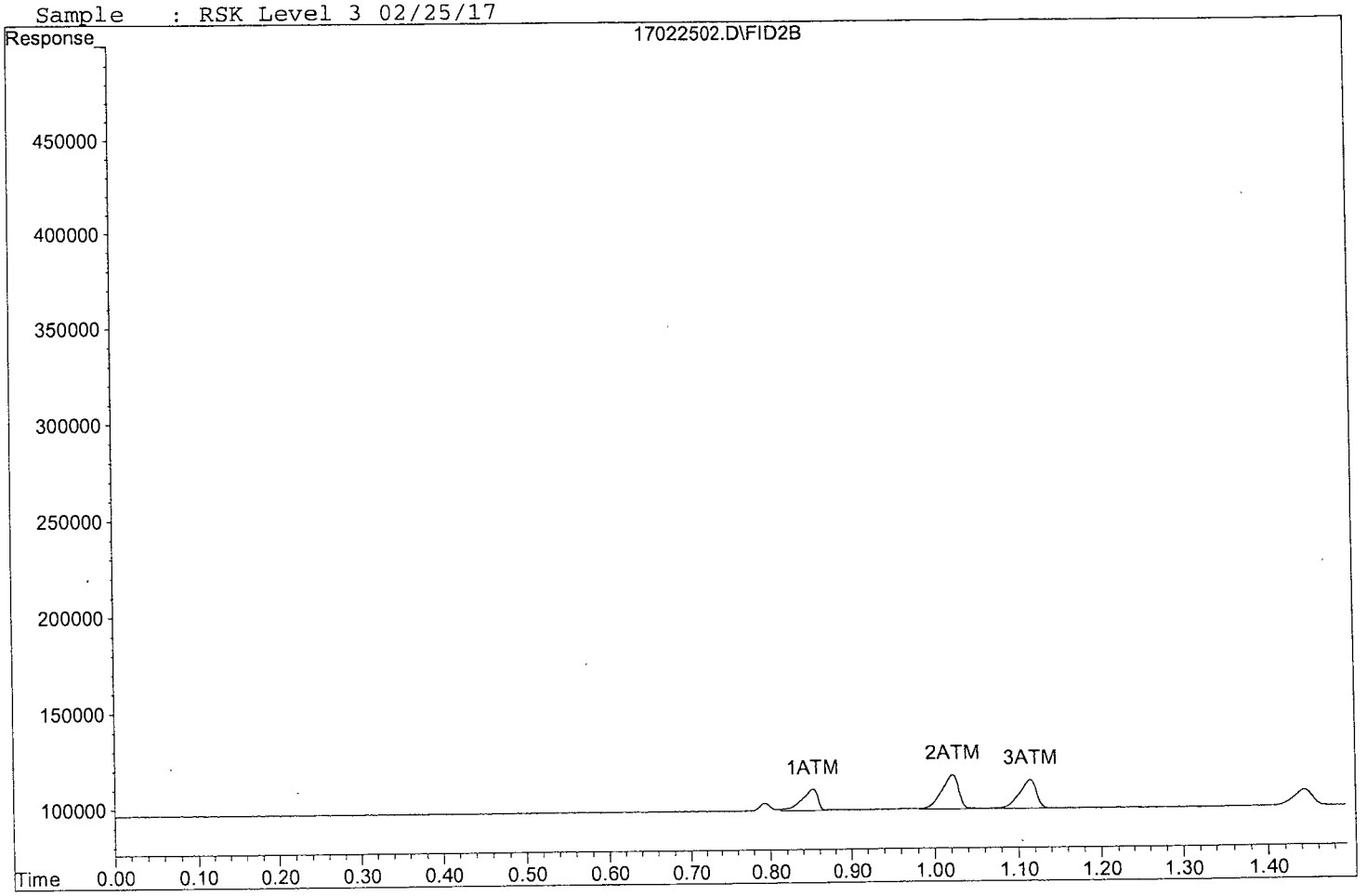
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D
Acq On : 25 Feb 17 11:17
Sample : RSK Level 4 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 4
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

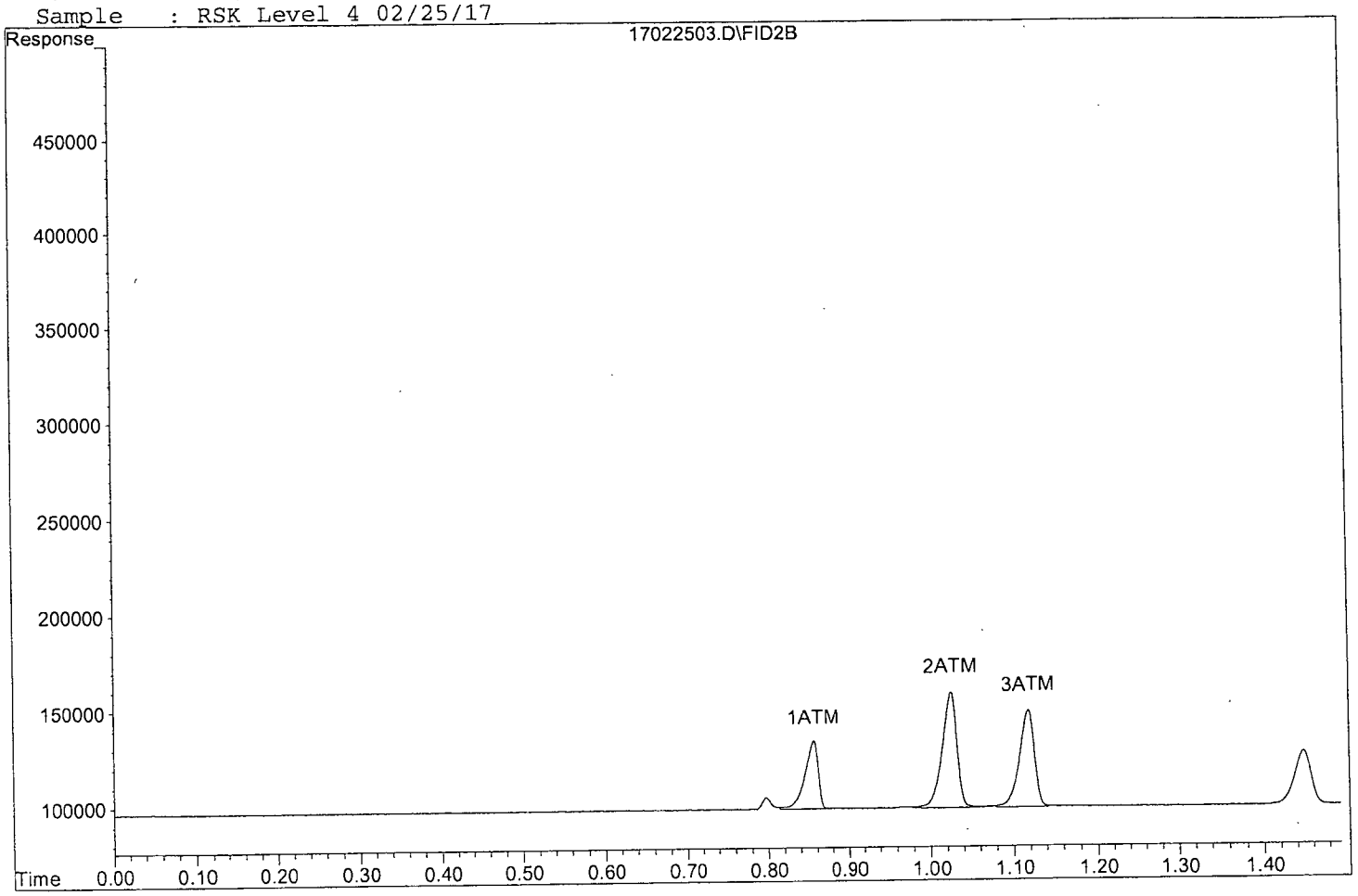
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

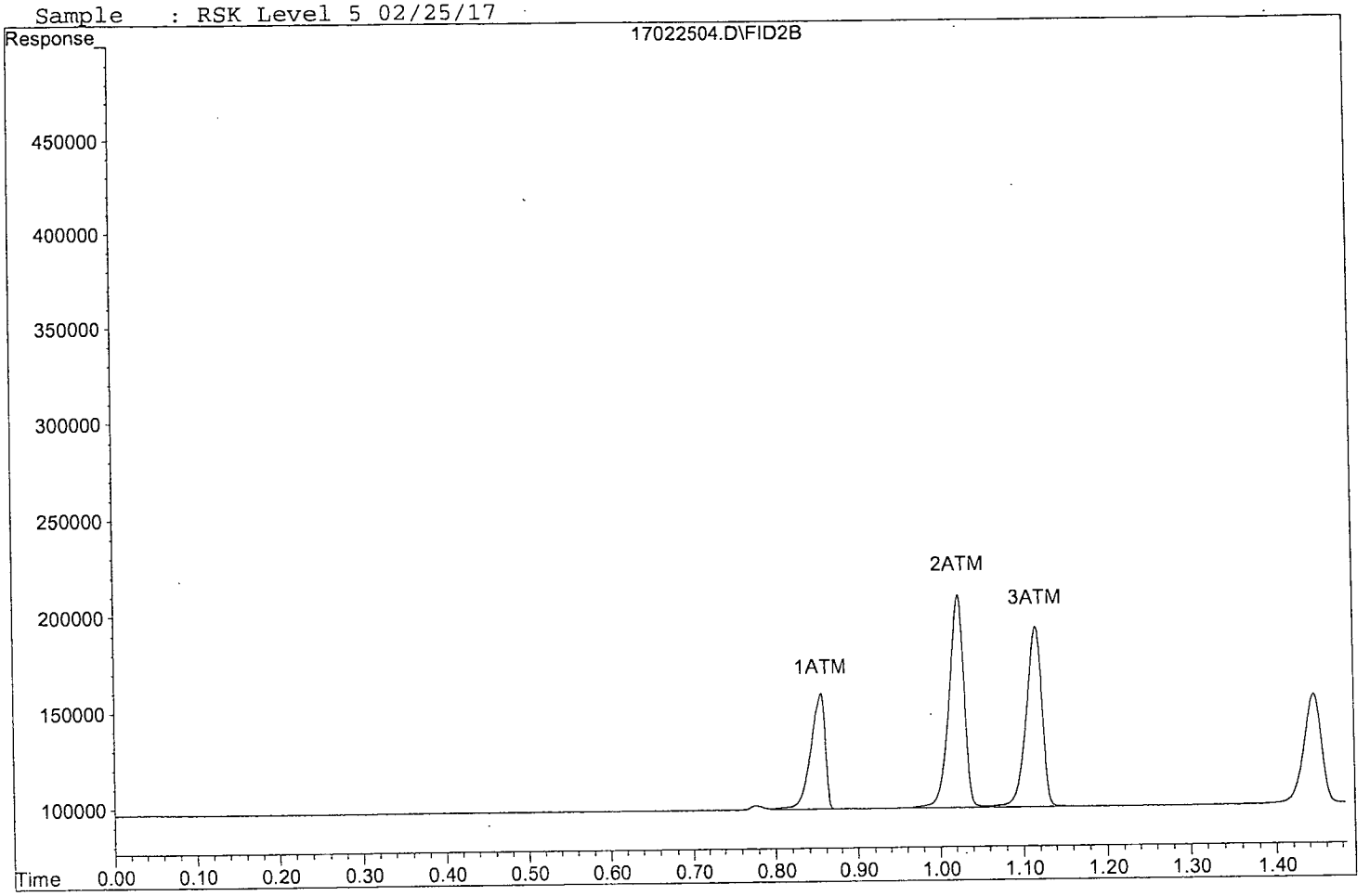
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Acq On : 25 Feb 17 11:23
Sample : RSK Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 6
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

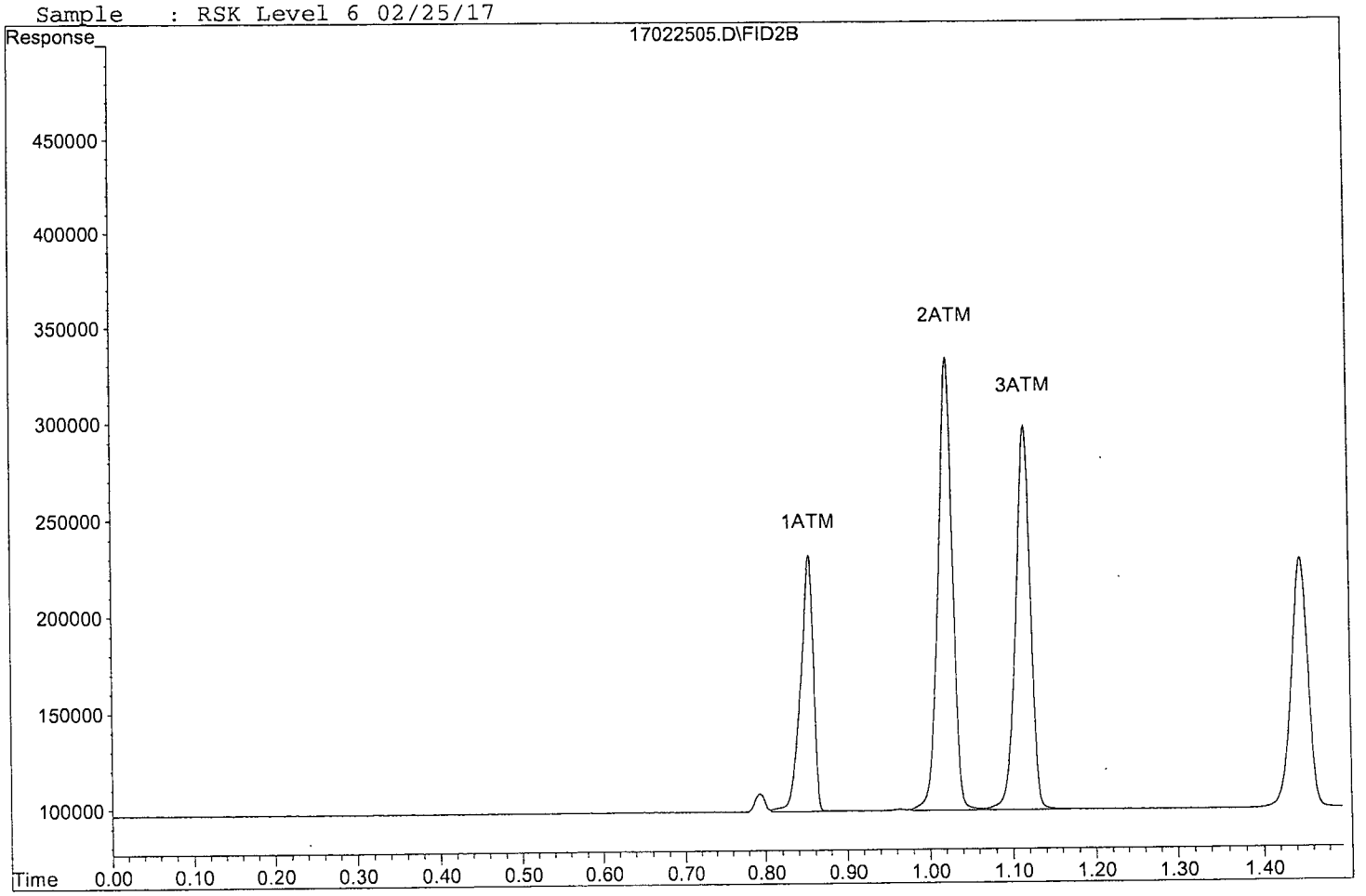
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022505.D RSK0225.M Sat Feb 25 12:50:59 2017

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D Vial: 7
Acq On : 25 Feb 17 11:25 Operator: lac
Sample : RSK Level 7 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

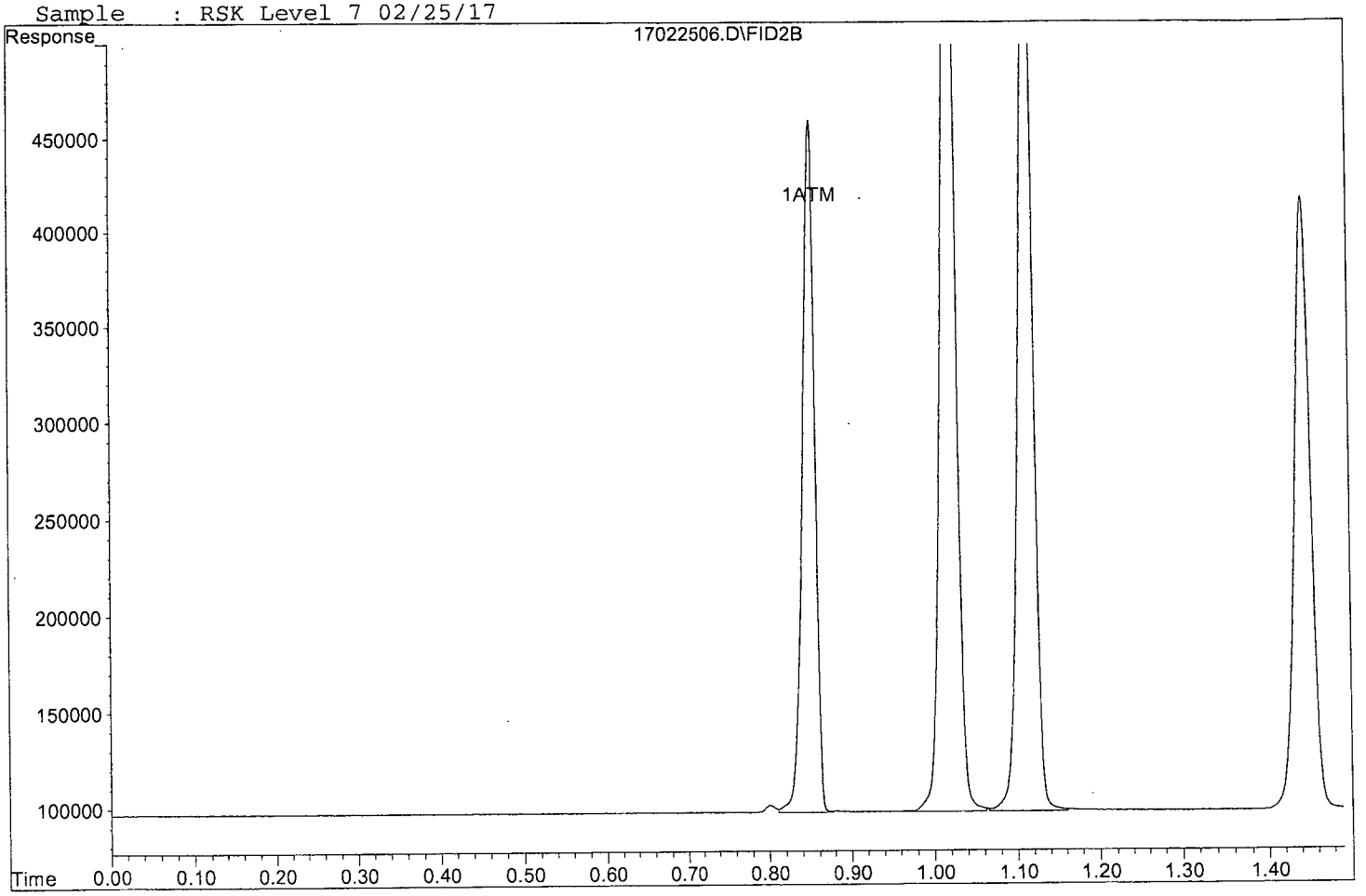
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D
Vial: 8
Acq On : 25 Feb 17 11:27
Operator: lac
Sample : RSK Level 8 02/25/17
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

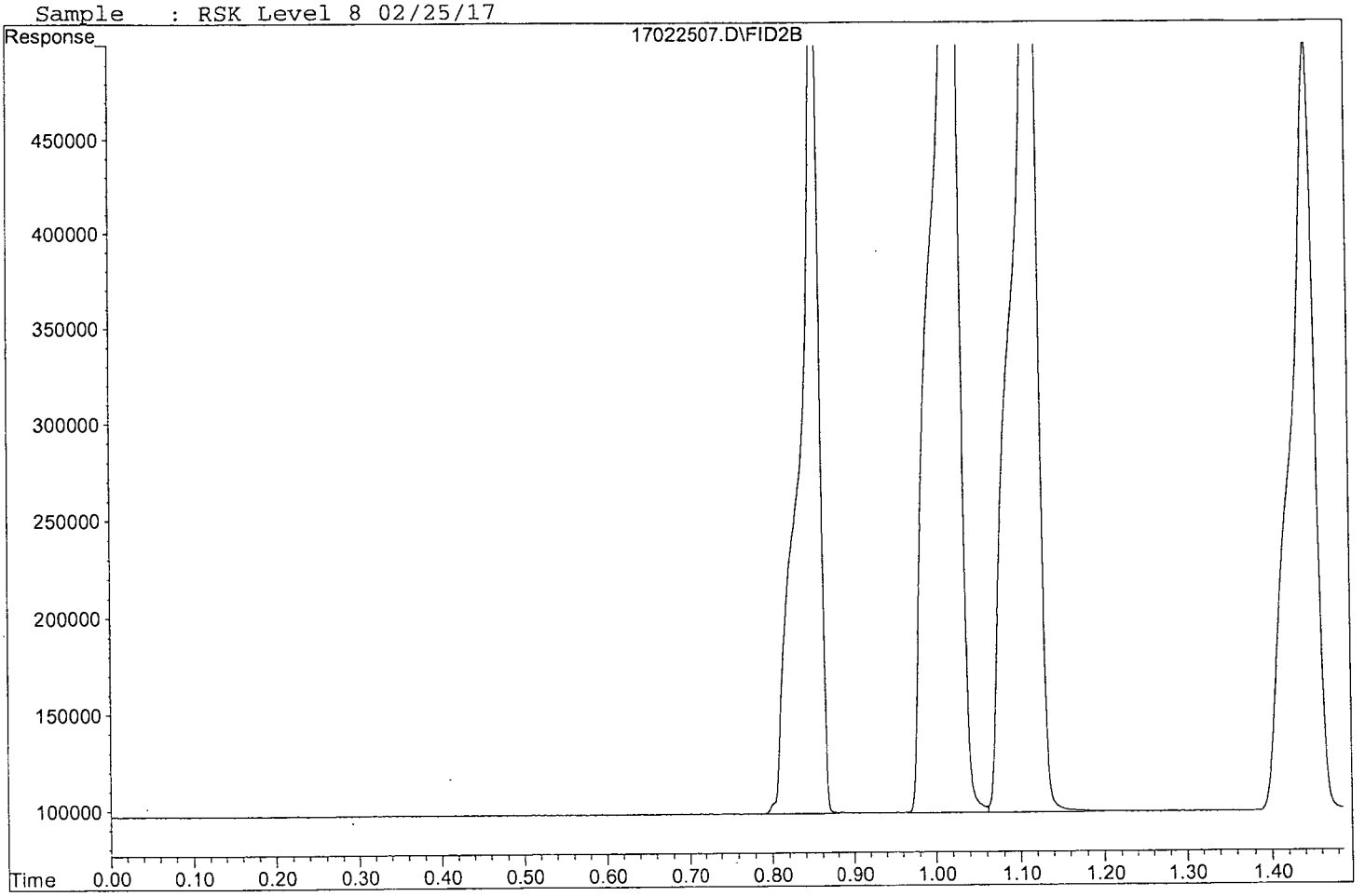
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D
Acq On : 25 Feb 17 11:30
Sample : RSK Level 9 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 9
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

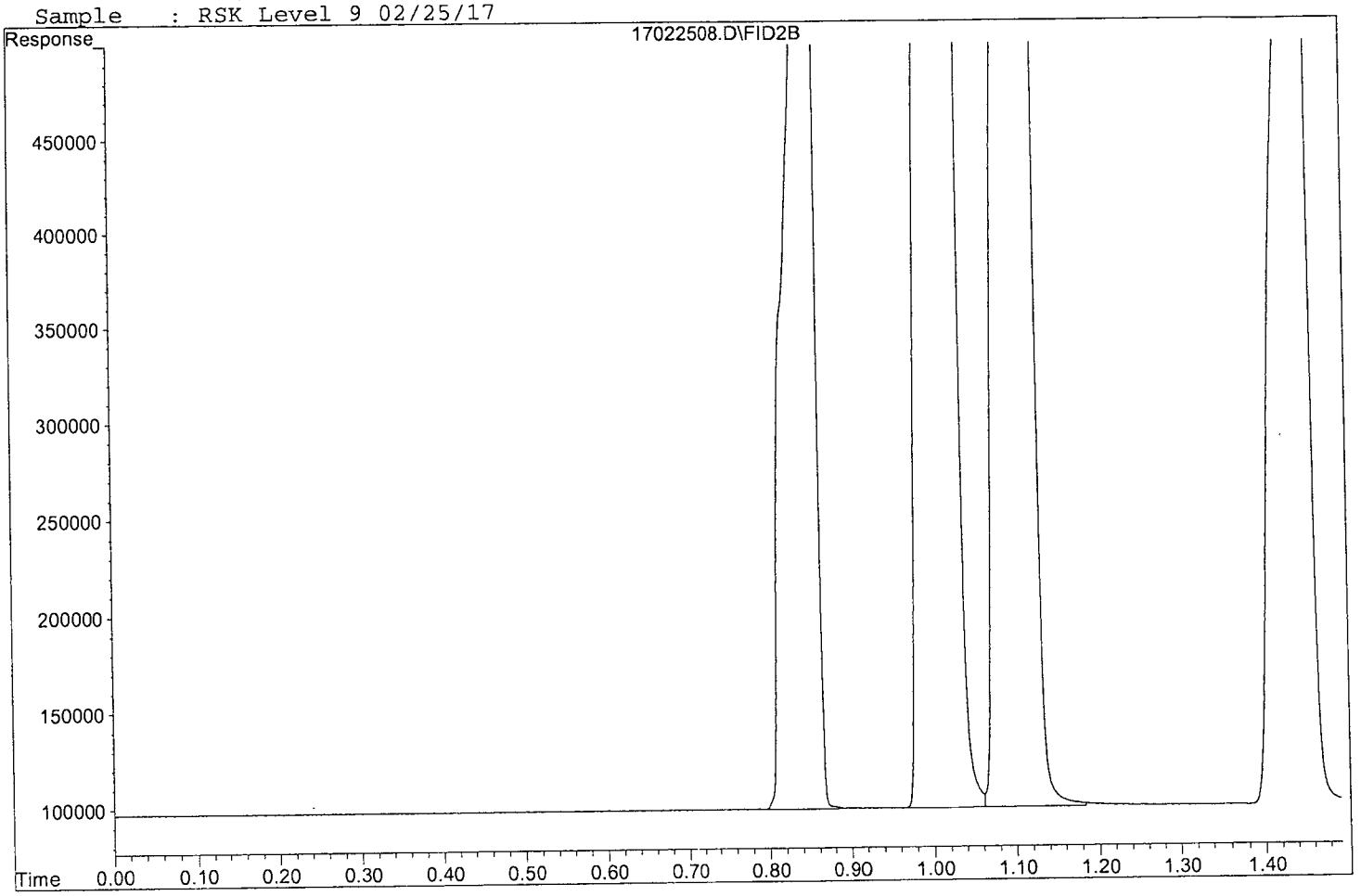
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	1370511	679.760 ppb
2) ATM Ethane	1.03	2246413	1250.978 ppb
3) ATM Ethene	1.12	1934164	1254.226 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D
Acq On : 25 Feb 17 11:32
Sample : RSK Level 10 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 10
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

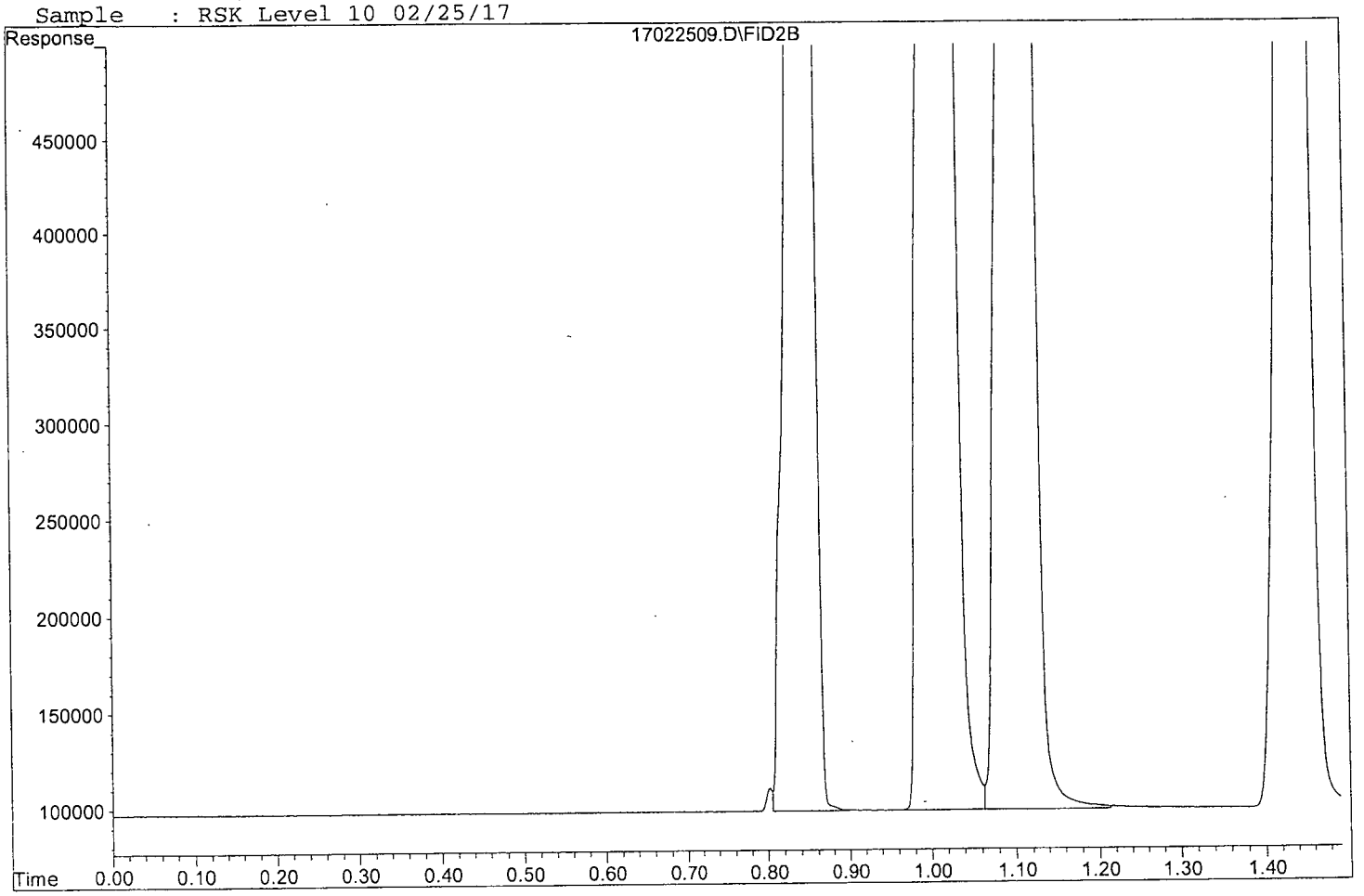
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	2704241	1343.909 ppb
2) ATM Ethane	1.02	4533931	2528.823 ppb
3) ATM Ethene	1.12	3878417	2522.741 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
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38							
39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

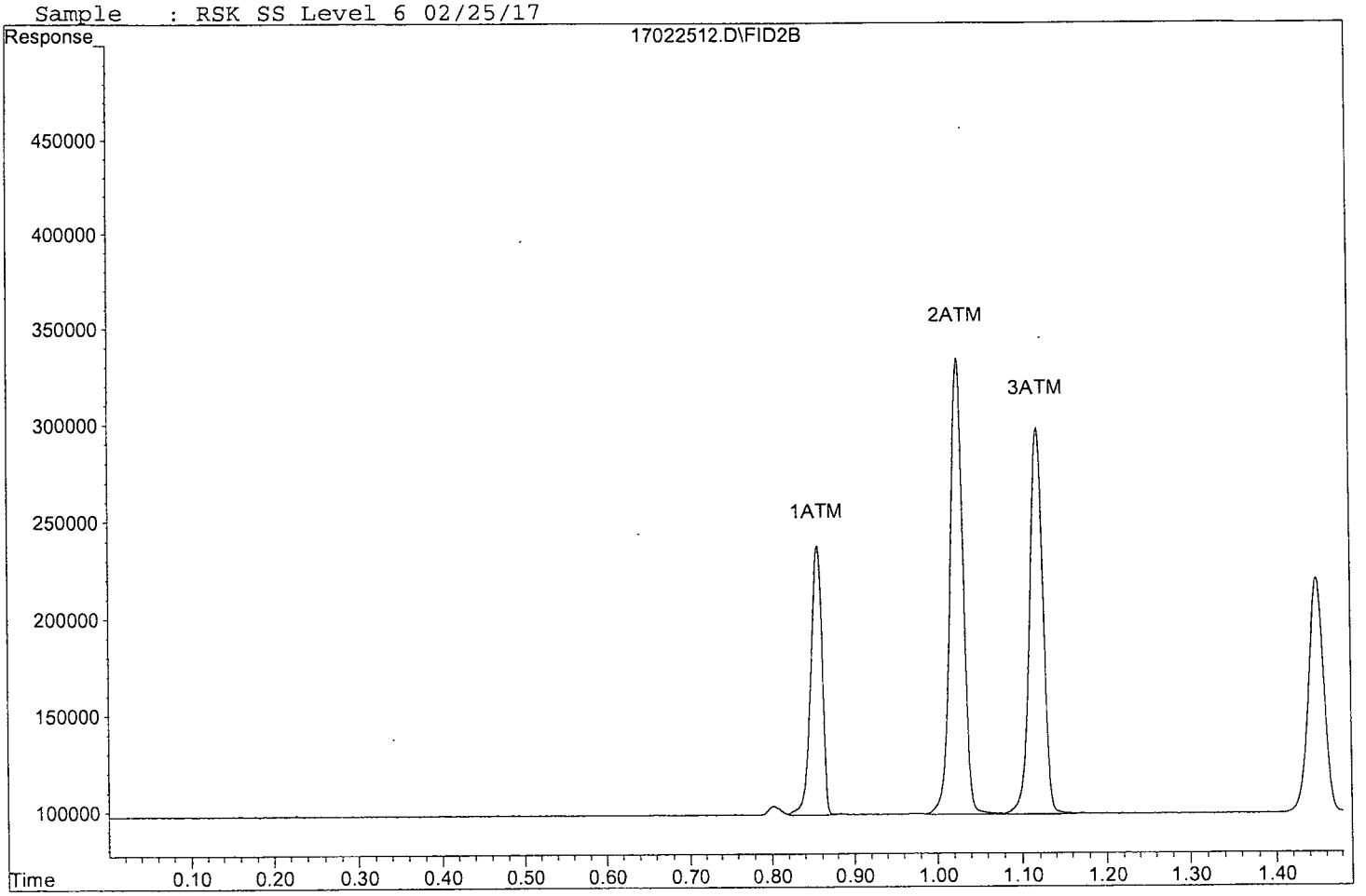
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 10:39
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040805.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2005	21	ATML	0.37
2	ATML	Ethane	2140	1828	15	ATML	2.0
3	ATML	Ethene	1905	1612	15	ATML	4.9
4							
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39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

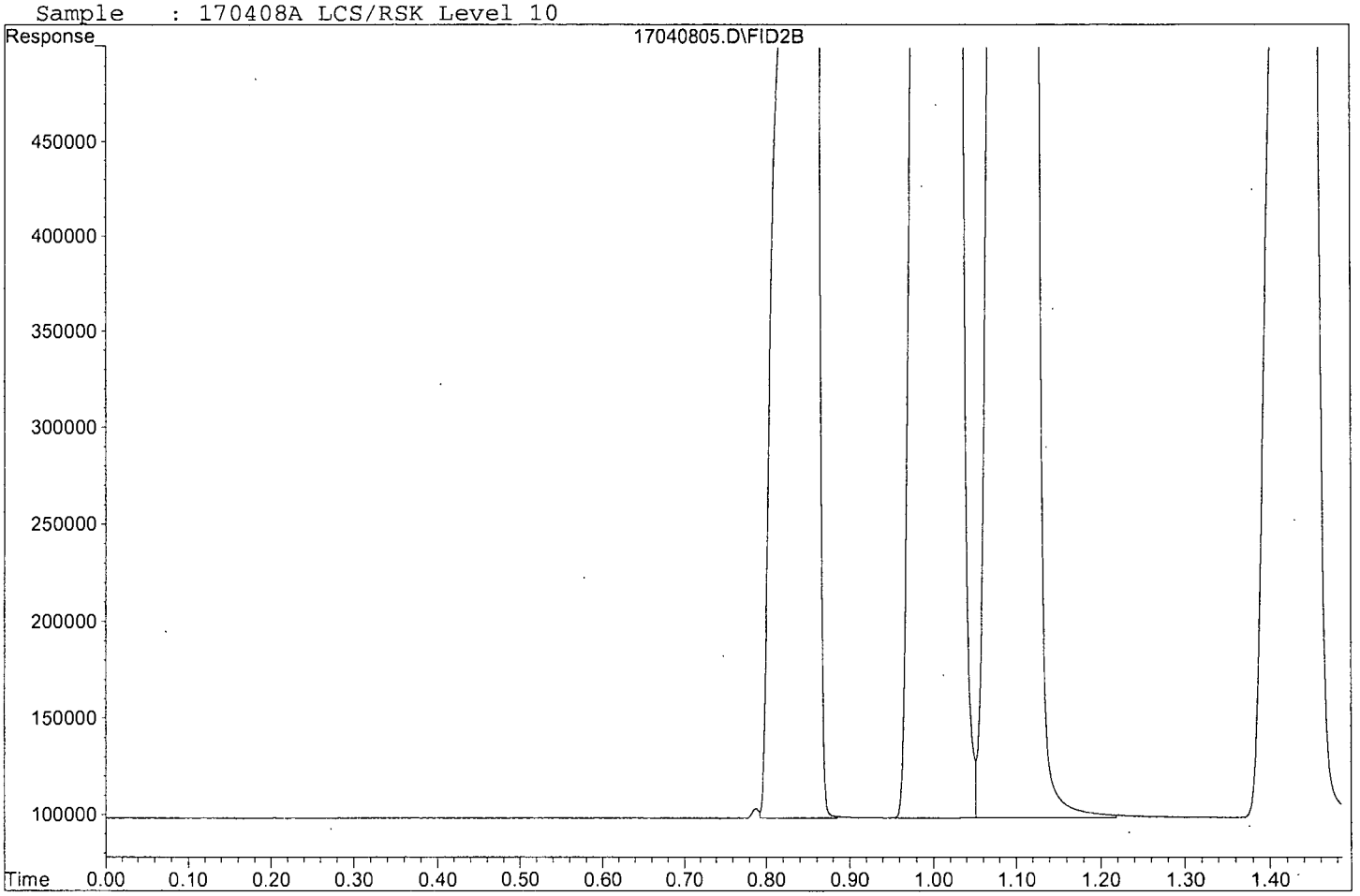
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 13:35
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040836.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2356	6.7	ATML	17
2	ATML	Ethane	2140	2008	6.2	ATML	12
3	ATML	Ethene	1905	1733	9.0	ATML	13
4							
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39							
40							
		Average			7.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040836.D Vial: 35
Acq On : 8 Apr 17 13:35 Operator: lac
Sample : Ending CCV RSK Level 10 04/08/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:37 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

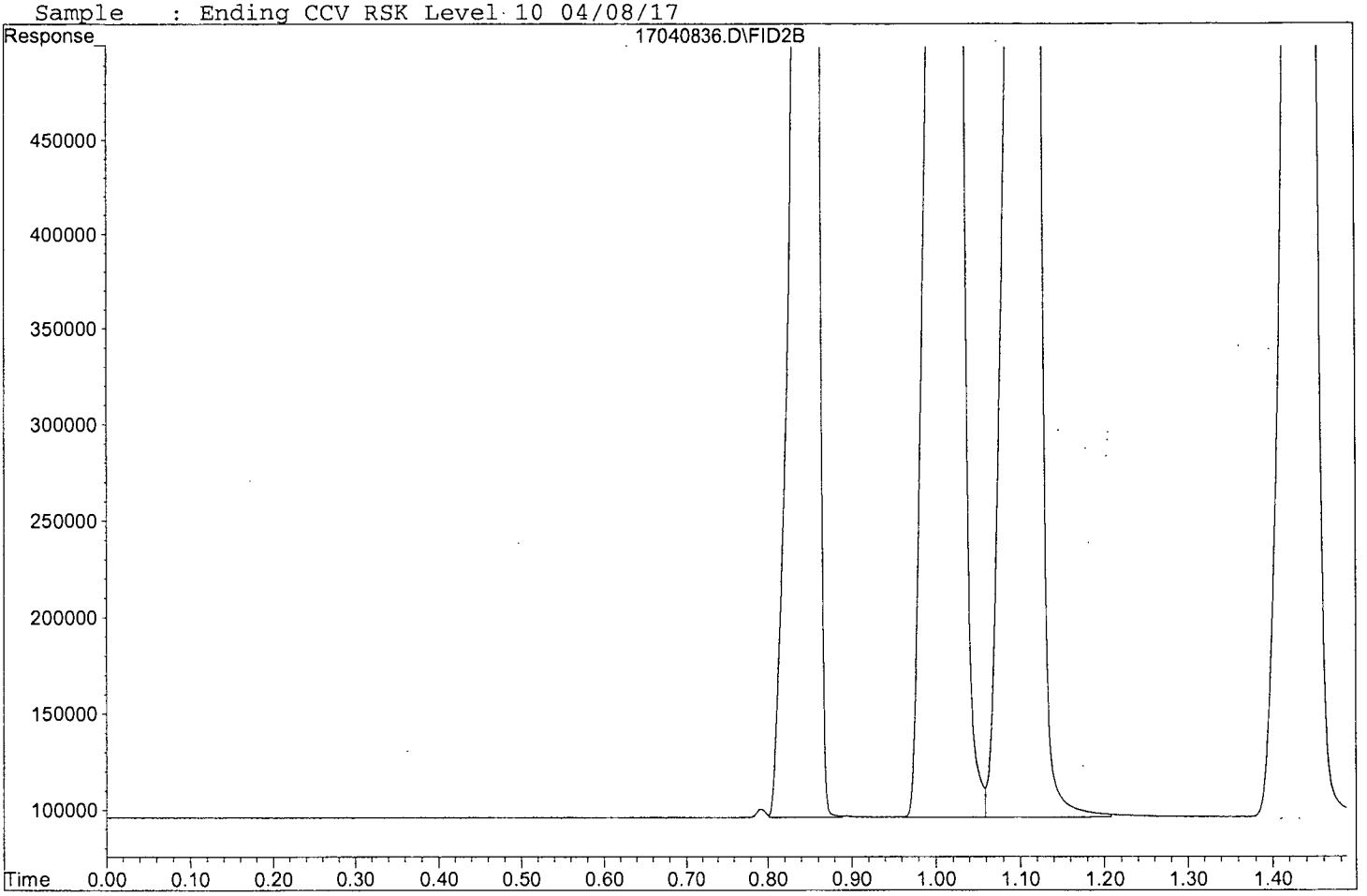
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	3144844	1563.313	ppb
2) ATM Ethane	1.02	5019231	2799.920	ppb
3) ATM Ethene	1.11	4326731	2815.240	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040836.D
Sample : Ending CCV RSK Level 10 04/08/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:04:29 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040806.D Vial: 5
Acq On : 8 Apr 17 10:43 Operator: lac
Sample : 170408A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 11:59 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

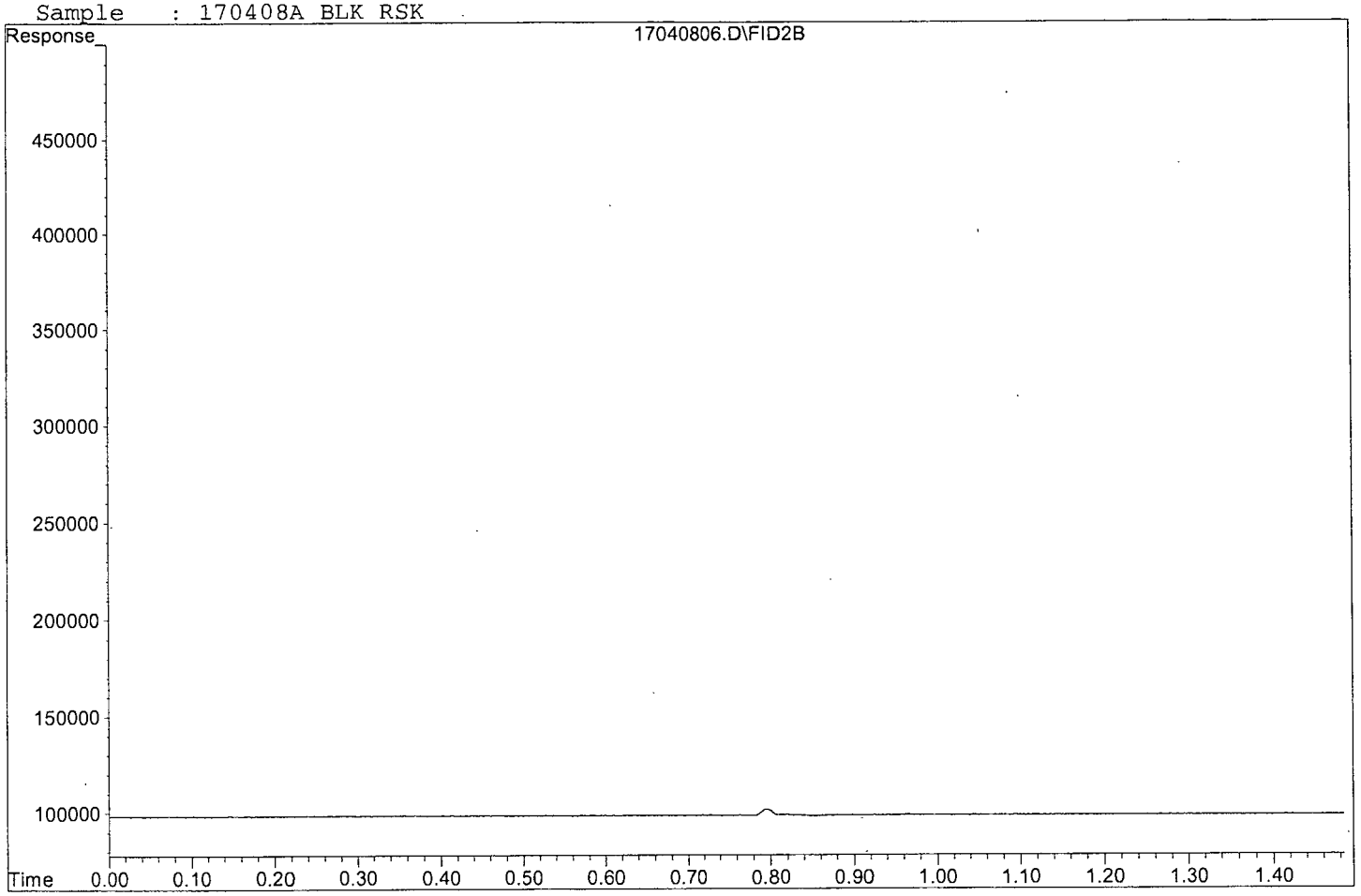
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	154	N.D.	ppb
2) ATM Ethane	1.03	443	N.D.	ppb
3) ATM Ethene	1.12	453	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040806.D
Sample : 170408A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:04:19 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

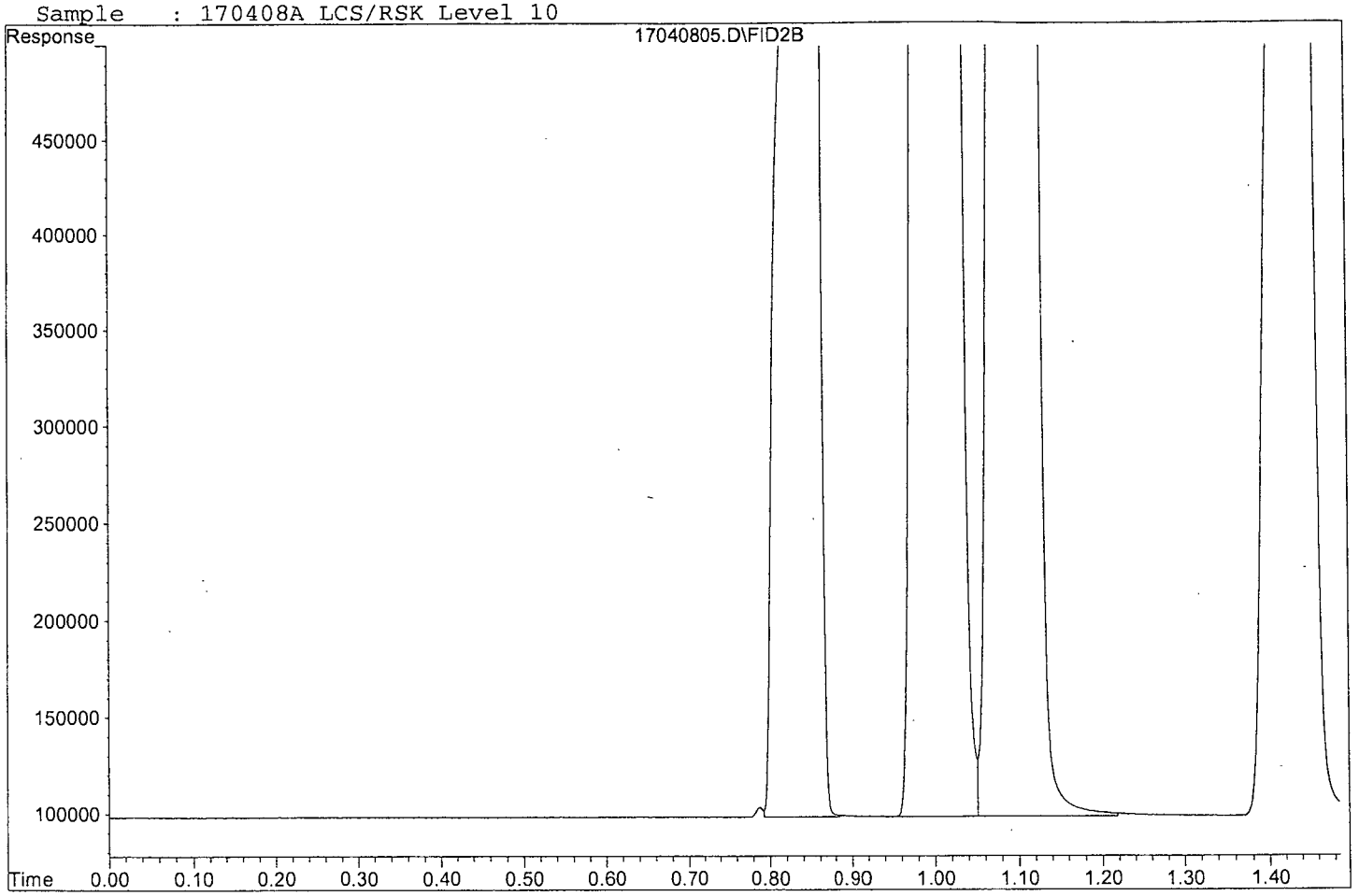
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17

RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410

1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17

Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17

10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water

final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 05/08/17** CMM 04/08/17

2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water

final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	4	17040805.D	1	170408A LCS/RSK Level 10		8 Apr 17 10:39
13	5	17040806.D	1	170408A BLK RSK		8 Apr 17 10:43
14	29	17040830.D	1	AZ53259W05		8 Apr 17 13:15
15	30	17040831.D	1	AZ53260W06		8 Apr 17 13:19
16	31	17040832.D	1	AZ53262W06		8 Apr 17 13:22
17	32	17040833.D	1	AZ53263W06		8 Apr 17 13:26
18	33	17040834.D	1	AZ53265W03		8 Apr 17 13:29
19	34	17040835.D	1	AZ53266W06		8 Apr 17 13:32
20	35	17040836.D	1	Ending CCV RSK Level 10 04/08/17		8 Apr 17 13:35

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/13/17	04/13/17	#300WD-170413A-AZ53260
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/13/17	04/13/17	#300WD-170413A-AZ53260
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/06/17	04/06/17	#35FE-170406A-AZ53263
SM 2320B	BICARBONATE AS	1.8 J	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	TOTAL ALKALINITY	1.8 J	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.86	95.3	80-120	04/06/17	04/06/17	#35FE-170406A-AZ53263

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
SM 2320B	BICARBONATE AS CACO3	250	239	95.6	90-110	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	TOTAL ALKALINITY AS CACO3	250	239	95.6	90-110	04/12/17	04/12/17	#232W-170412A2-AZ53266

Comments: _____

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APPL Standard LCS

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/13/17	04/13/17	#300WD-170413A-AZ53260
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	04/13/17	04/13/17	#300WD-170413A-AZ53260

Comments: _____

Printed: 04/14/17 1:56:28 PM
APPL Standard LCS

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH297

Sample Collection Date: 04/04/17

APPL ID: AZ53260

ARF: 82611

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	175	5.0	1.00	0.40	mg/L	5	04/13/17	04/13/17
EPA 300.0	SULFATE	88.3	5.0	1.00	0.45	mg/L	5	04/13/17	04/13/17
EPA 300.0	NITRATE	3.3	0.5	0.18	0.04	mg/L	1	04/06/17	04/06/17
SM 2320B	BICARBONATE AS CACO3	83.0	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	TOTAL ALKALINITY AS CACO3	83.0	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM3500FeB	FERROUS IRON	0.16 J	1.0	0.32	0.16	mg/L	1	04/06/17	04/06/17

J = Estimated value.

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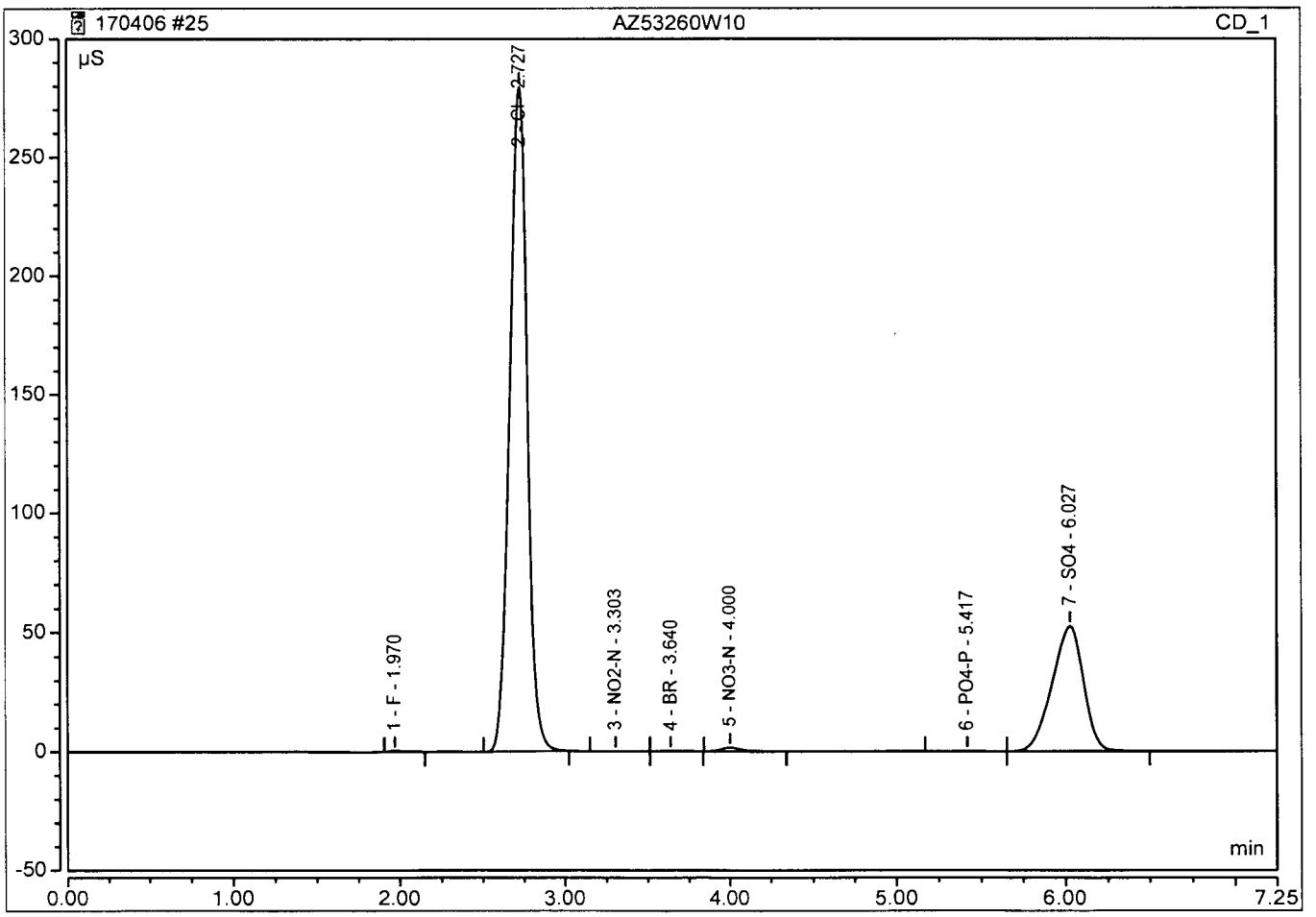
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53260W10**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 15:36**	*Run Time:*	**7.25**

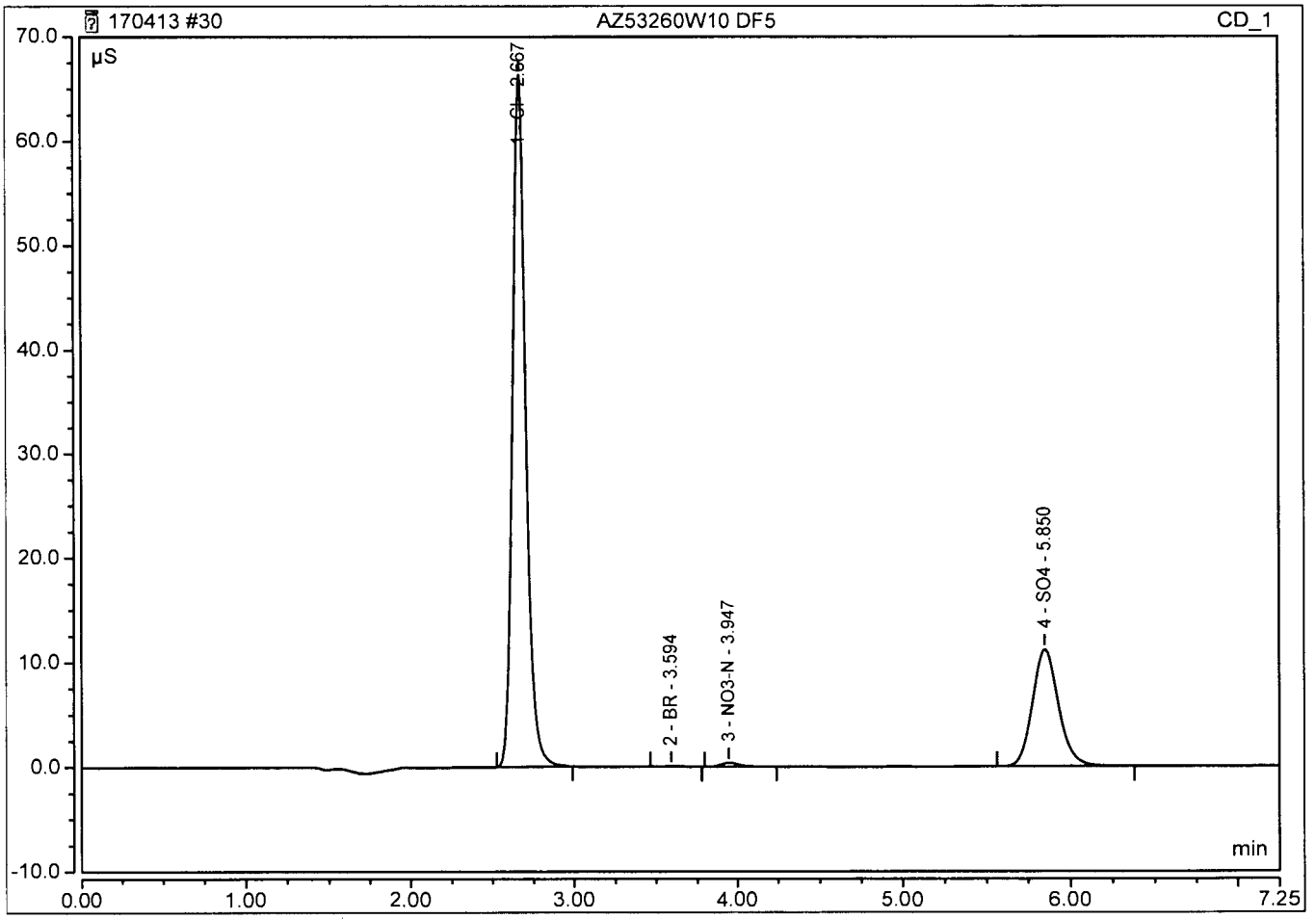
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.031	0.319	0.1987
2	2.73	Cl	BMB	34.114	279.588	190.2469
3	3.30	NO2-N	BMB	0.010	0.048	0.0653
4	3.64	BR	BMB	0.029	0.232	0.6710
5	4.00	NO3-N	BMB	0.232	1.595	0.7356
6	5.42	PO4-P	BMB	0.028	0.119	0.3669
7	6.03	SO4	BMB	11.136	52.505	96.6200
		TOTAL:		45.58	334.41	288.90



Peak Integration Report

Sample Name:	**AZ53260W10 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 12:59**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.67	**Cl**	BMB	6.139	66.358	175.2013
2	3.59	**BR**	BMB	0.007	0.058	1.6091
3	3.95	**NO3-N**	BMB	0.048	0.375	1.2695
4	5.85	**SO4**	BMB	1.984	11.161	88.2953
TOTAL:				8.18	77.95	266.38



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH321

Sample Collection Date: 04/04/17

APPL ID: AZ53263

ARF: 82611

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	1110	50.0	10.00	4.00	mg/L	50	04/13/17	04/13/17
EPA 300.0	SULFATE	350	50.0	10.00	4.50	mg/L	50	04/13/17	04/13/17
EPA 300.0	NITRATE	9.2	2.5	0.90	0.20	mg/L	5	04/06/17	04/06/17
SM 2320B	BICARBONATE AS CACO3	169	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	TOTAL ALKALINITY AS CACO3	169	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/06/17	04/06/17

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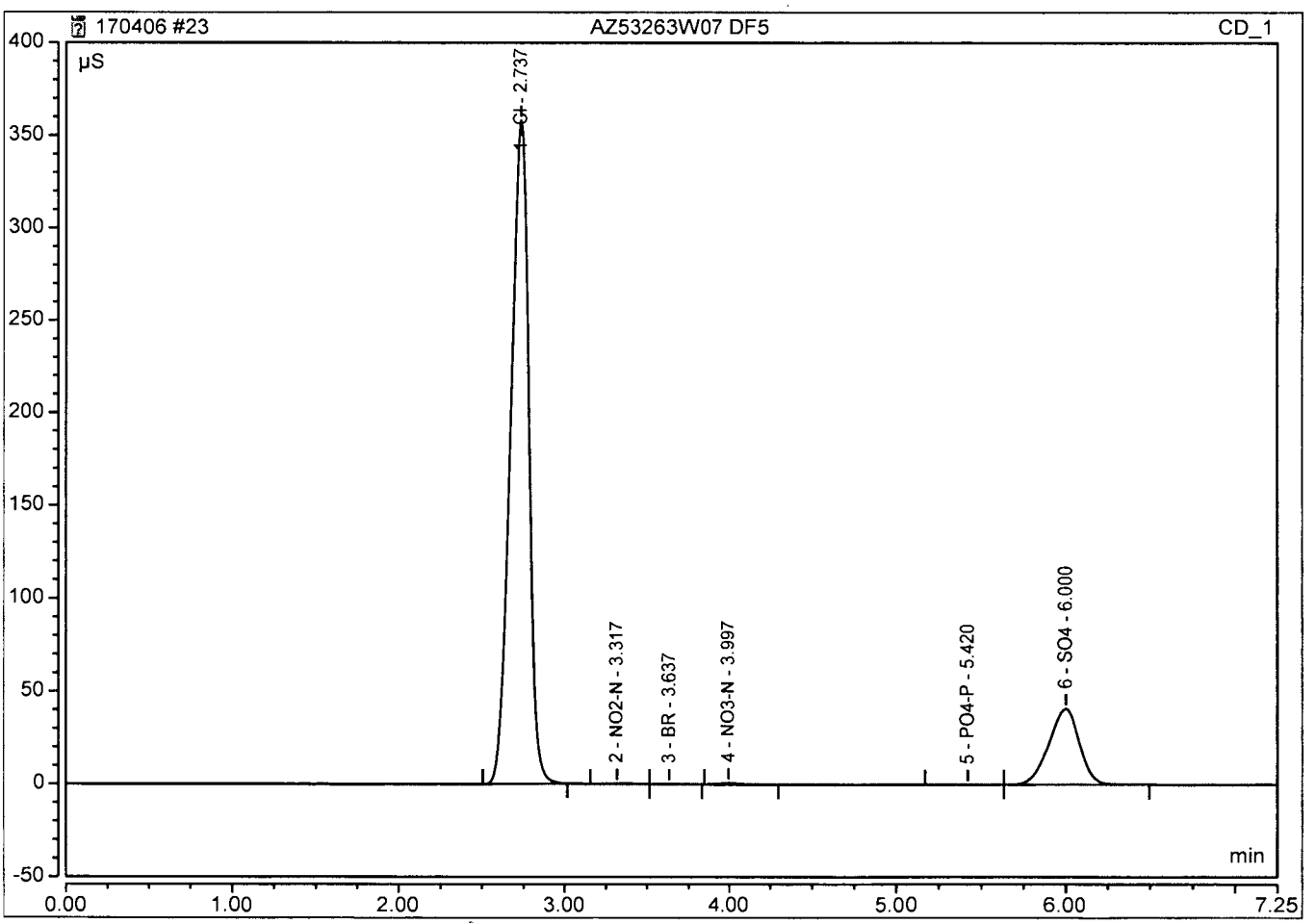
APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53263W07 DF5**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**5.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 15:09**	*Run Time:*	**7.25**

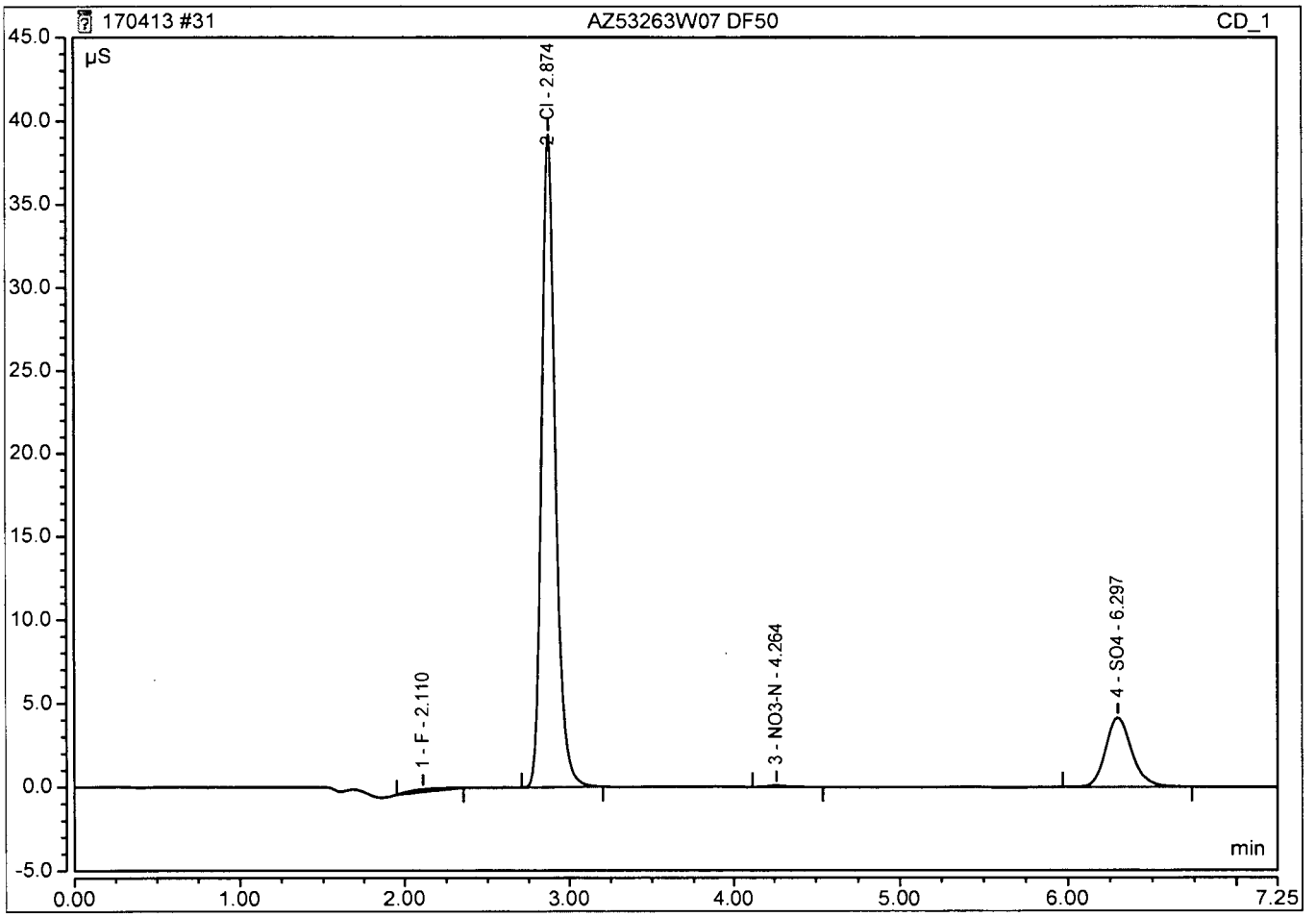
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.74	**Cl**	BMB	45.180	357.788	1258.2085
2	3.32	**NO2-N**	BMB	0.014	0.069	0.3934
3	3.64	**BR**	BMB	0.031	0.254	3.5414
4	4.00	**NO3-N**	BMB	0.110	0.772	2.0857
5	5.42	**PO4-P**	BMB	0.010	0.041	1.1119
6	6.00	**SO4**	BMB	8.511	40.849	369.8753
		TOTAL:		53.86	399.77	1635.22



Peak Integration Report

Sample Name:	**AZ53263W07 DF50**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**50.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 13:12**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB	0.040	0.160	12.1531
2	2.87	Cl	BMB	3.811	39.177	1106.1803
3	4.26	NO3-N	BMB	0.012	0.088	7.9991
4	6.30	SO4	BMB	0.747	4.118	349.6320
		TOTAL:		4.61	43.54	1475.96



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH303

Sample Collection Date: 04/04/17

APPL ID: AZ53266

ARF: 82611

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	47.3	1.0	0.20	0.08	mg/L	1	04/06/17	04/06/17
EPA 300.0	NITRATE	7.2	0.5	0.18	0.04	mg/L	1	04/06/17	04/06/17
EPA 300.0	SULFATE	48.9	1.0	0.20	0.09	mg/L	1	04/06/17	04/06/17
SM 2320B	BICARBONATE AS CACO3	283	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM 2320B	TOTAL ALKALINITY AS CACO3	283	2.0	1.70	0.85	mg/L	1	04/12/17	04/12/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/06/17	04/06/17

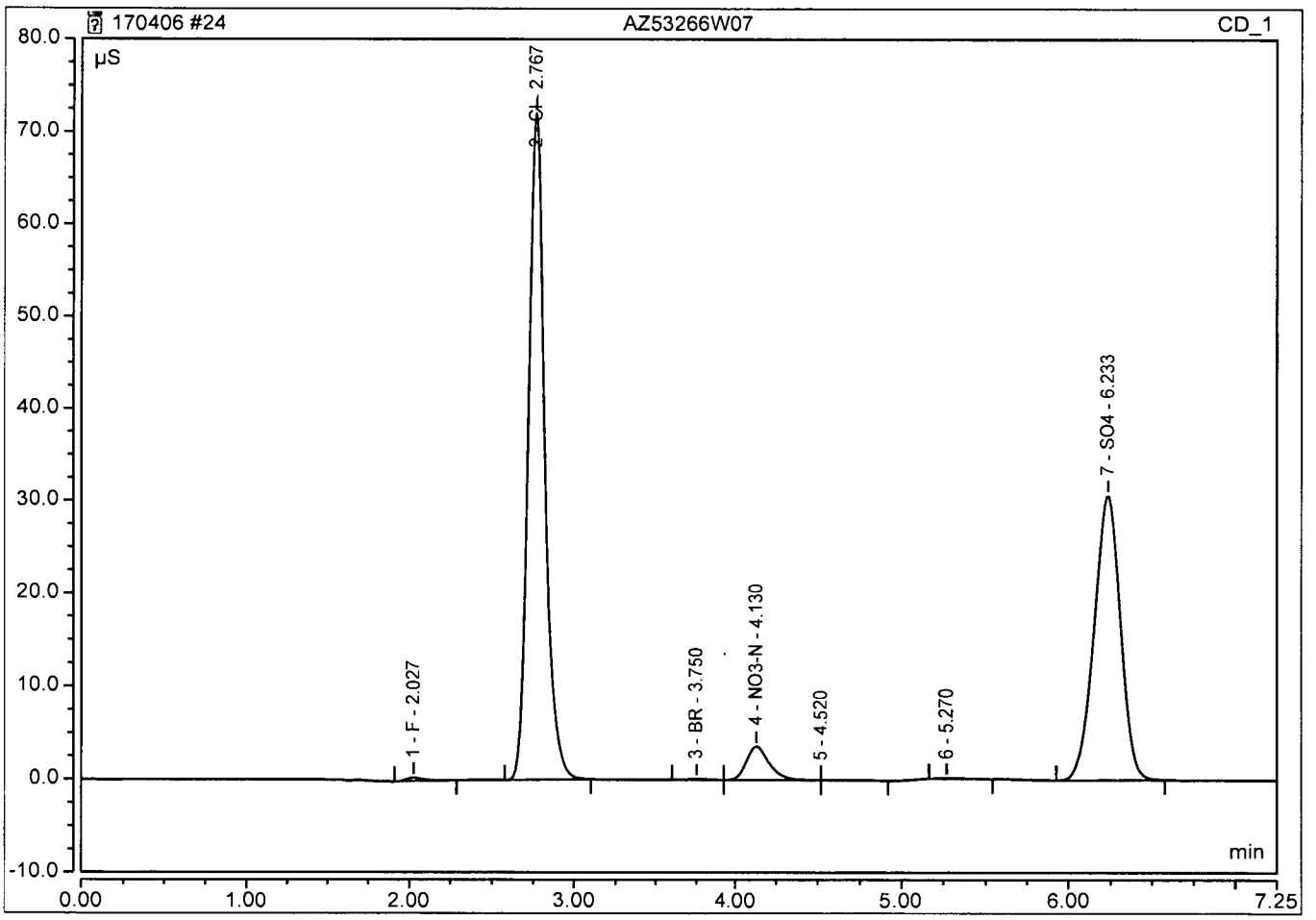
Printed: 04/14/17 1:56:15 PM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53266W07**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 15:23**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.044	0.355	0.2610
2	2.77	Cl	BMB	8.348	71.970	47.2958
3	3.75	BR	BMB	0.010	0.077	0.3781
4	4.13	NO3-N	BMB	0.572	3.609	1.6217
7	6.23	SO4	BMB	5.610	30.662	48.9473
TOTAL:				14.58	106.67	98.50



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82611 SDG: 82611
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 17:55	%R(1)	True CCV1	Found 18:04	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.82318	95.6	4	3.83317	95.8	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82611 SDG: 82611

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 04/06/17 17:56	C	CCB 04/06/17 18:05	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82611 SDG: 82611
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
chloride	20	18.867	94.3							
Nitrate(NO3)	22.1	21.9317	99.2							
sulfate	20	19.6588	98.3							

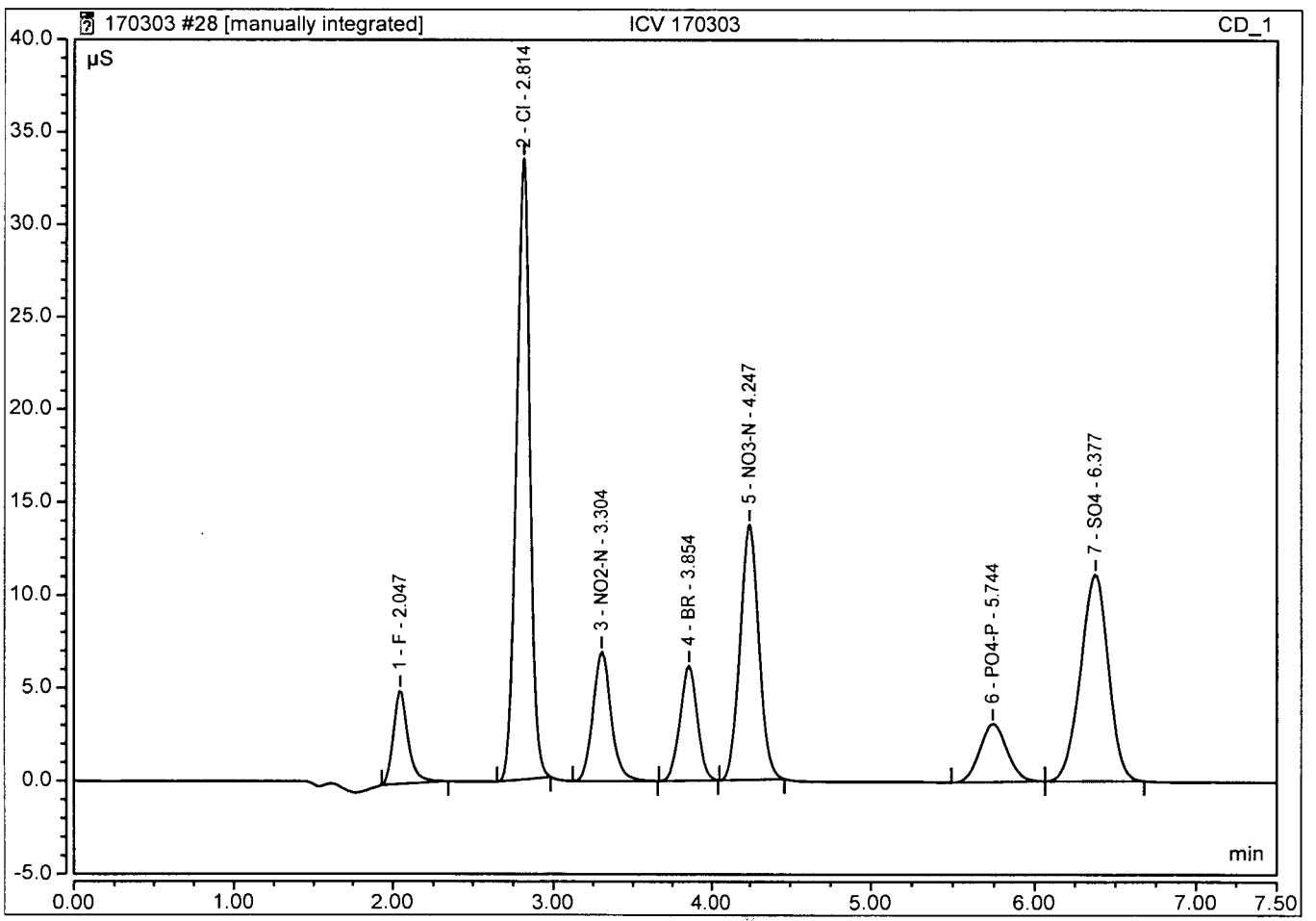
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
		TOTAL:		10.11	79.46	66.64



Algorithm Check

y = .1159x - .0634

x = 19.66 ✓

y = Peak Area
x = Amnt

MM 4/22/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82611 SDG: 82611

Preparation Blank Matrix (soil/water): water

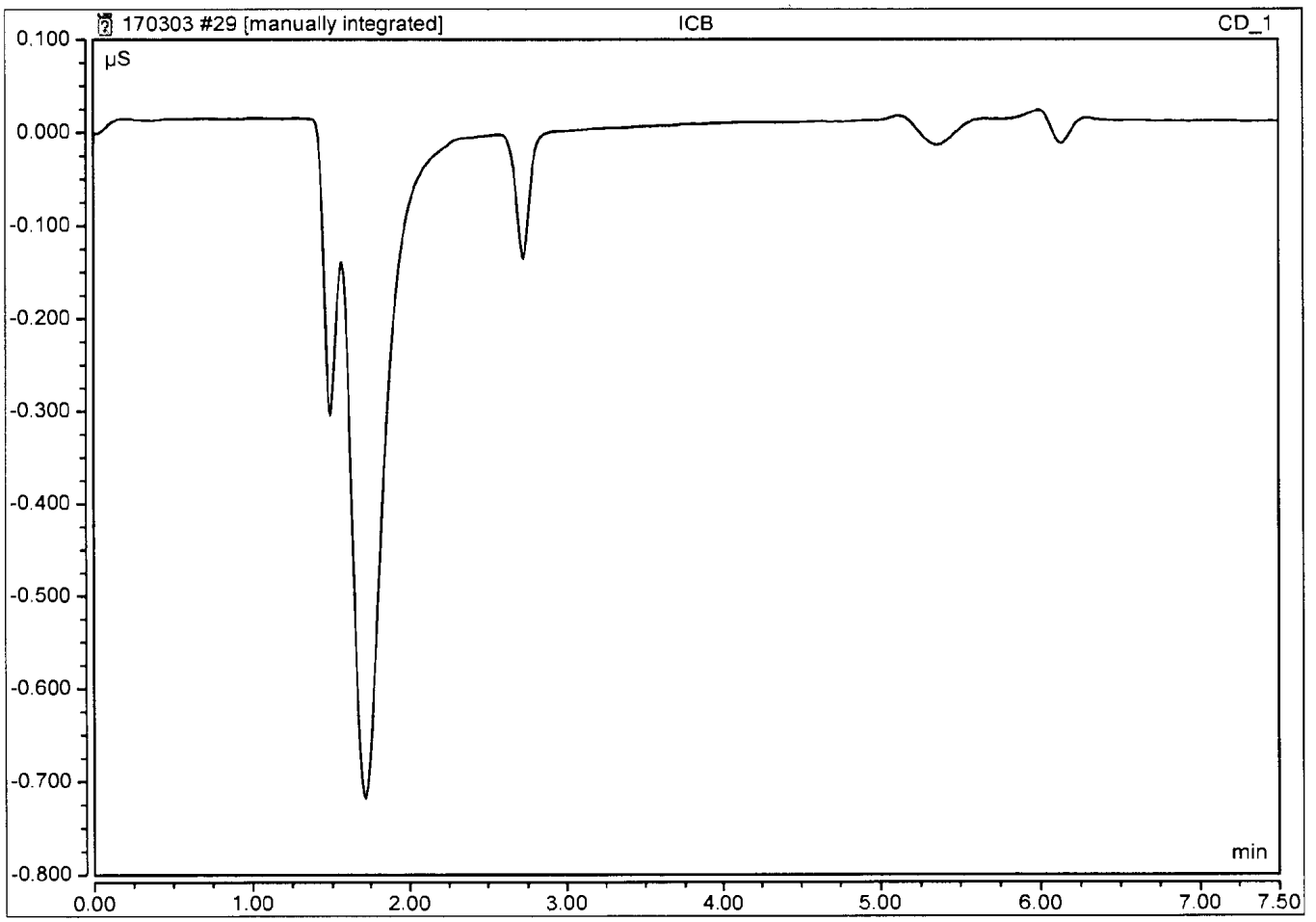
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
chloride	1.000	U									
Nitrate(NO3)	.500	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82611 SDG: 82611
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/06/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:52	%R(1)	True CCV1	Found 16:16	%R(1)	True	Found	%R(1)	
chloride	25	24.3855	97.5	25	24.3543	97.4				
Nitrate(NO3)	22.1	21.6740	98.1	22.1	21.7262	98.3				
sulfate	25	24.3999	97.6	25	24.4574	97.8				

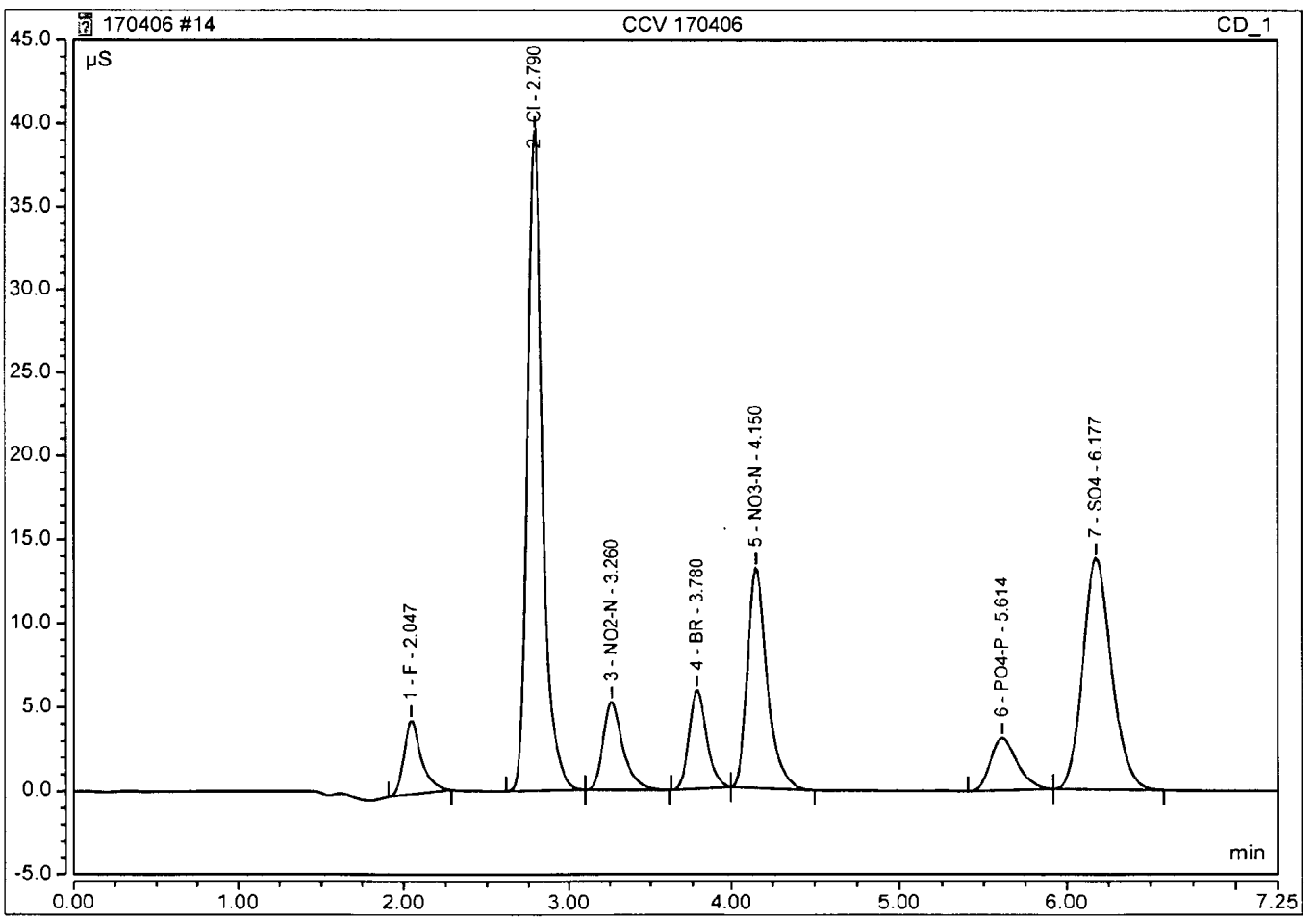
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170406**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 09:52**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.528	4.400	2.6613
2	2.79	Cl	BMB	4.218	39.537	24.3855
3	3.26	NO2-N	BMB	0.744	5.272	2.5686
4	3.78	BR	BMB	0.752	5.902	12.0159
5	4.15	NO3-N	BMB	1.828	13.164	4.8941
6	5.61	PO4-P	BMB	0.584	3.138	4.8272
7	6.18	SO4	BMB	2.765	13.822	24.3999
		TOTAL:		11.42	85.24	75.75

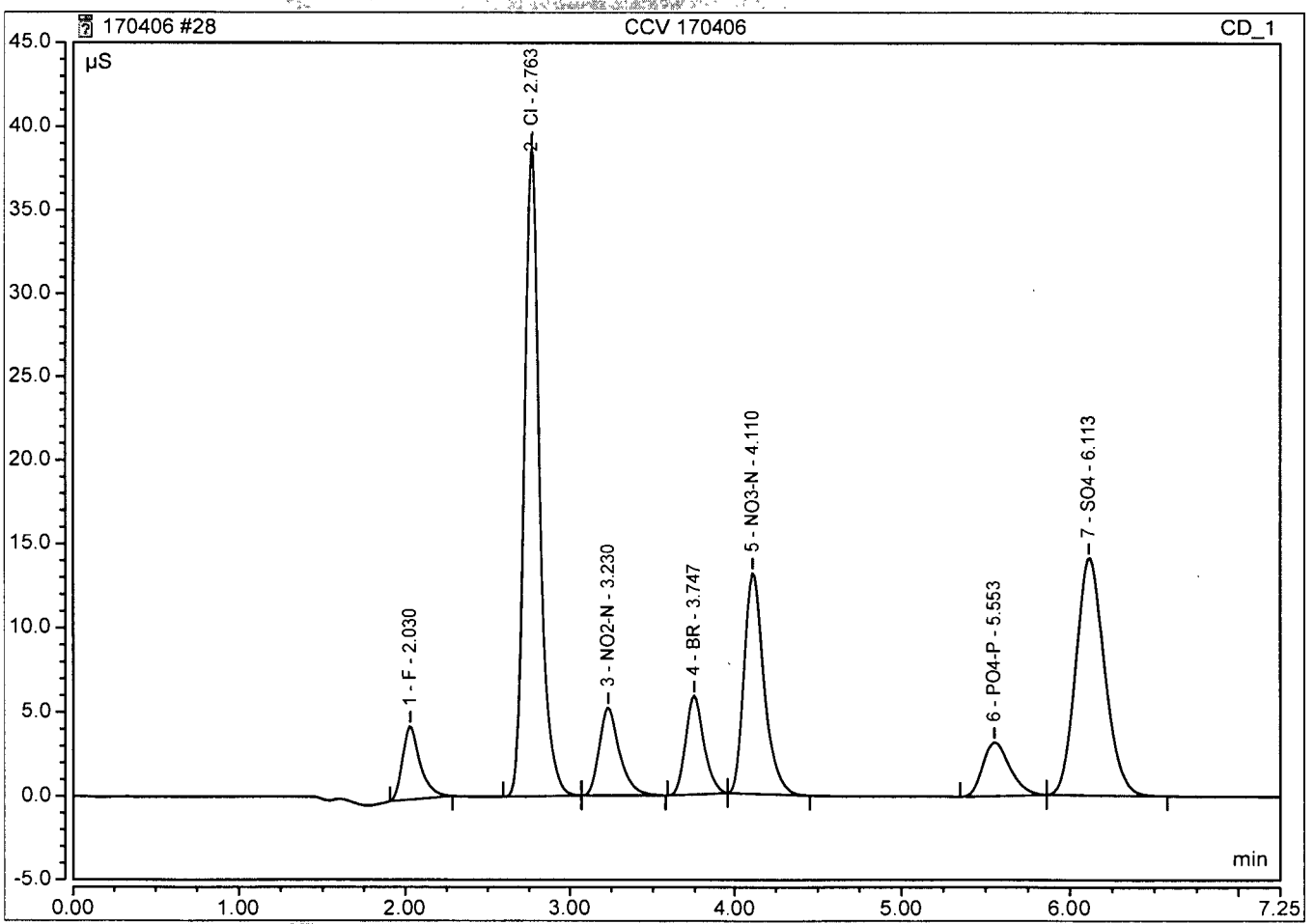


Algorithm Check y=Peak Area
y= .1159x - .0634 x=Amt
x = 24.40 ✓ MM 4/22/17

Peak Integration Report

Sample Name:	**CCV 170406**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 16:16**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.535	4.363	2.6944
2	2.76	Cl	BMB	4.213	38.665	24.3543
3	3.23	NO2-N	BMB	0.745	5.237	2.5721
4	3.75	BR	BMB	0.756	5.866	12.0886
5	4.11	NO3-N	BMB	1.832	13.132	4.9059
6	5.55	PO4-P	BMB	0.593	3.199	4.9003
7	6.11	SO4	BMB	2.772	14.121	24.4574
		TOTAL:		11.45	84.58	75.97



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82611 SDG: 82611

Preparation Blank Matrix (soil/water): water

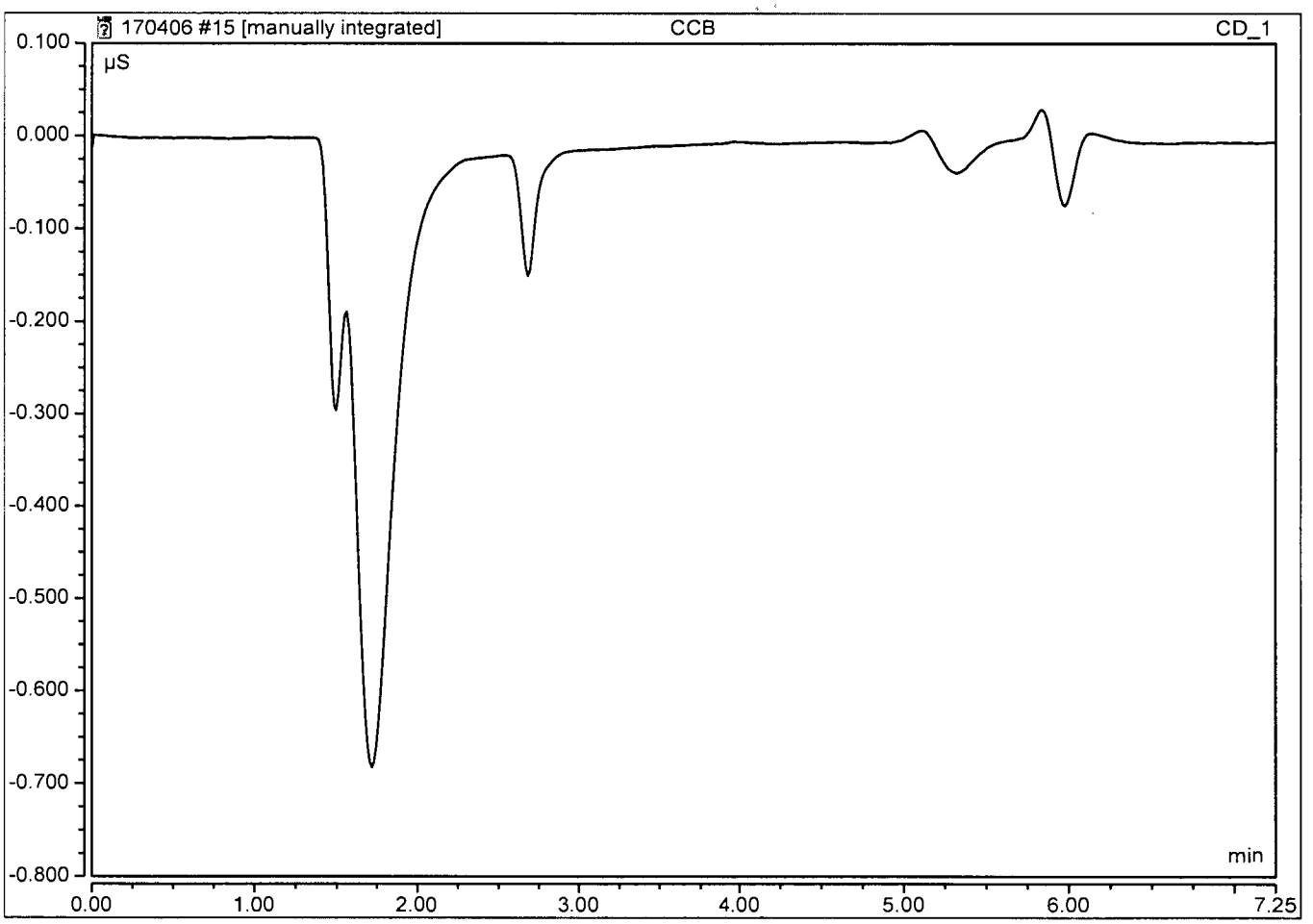
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/06/17 10:05	C	CCB 04/06/17 16:29	C		C		C		C	
chloride	1.000	U	1.000	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:05**	*Run Time:*	**7.25**

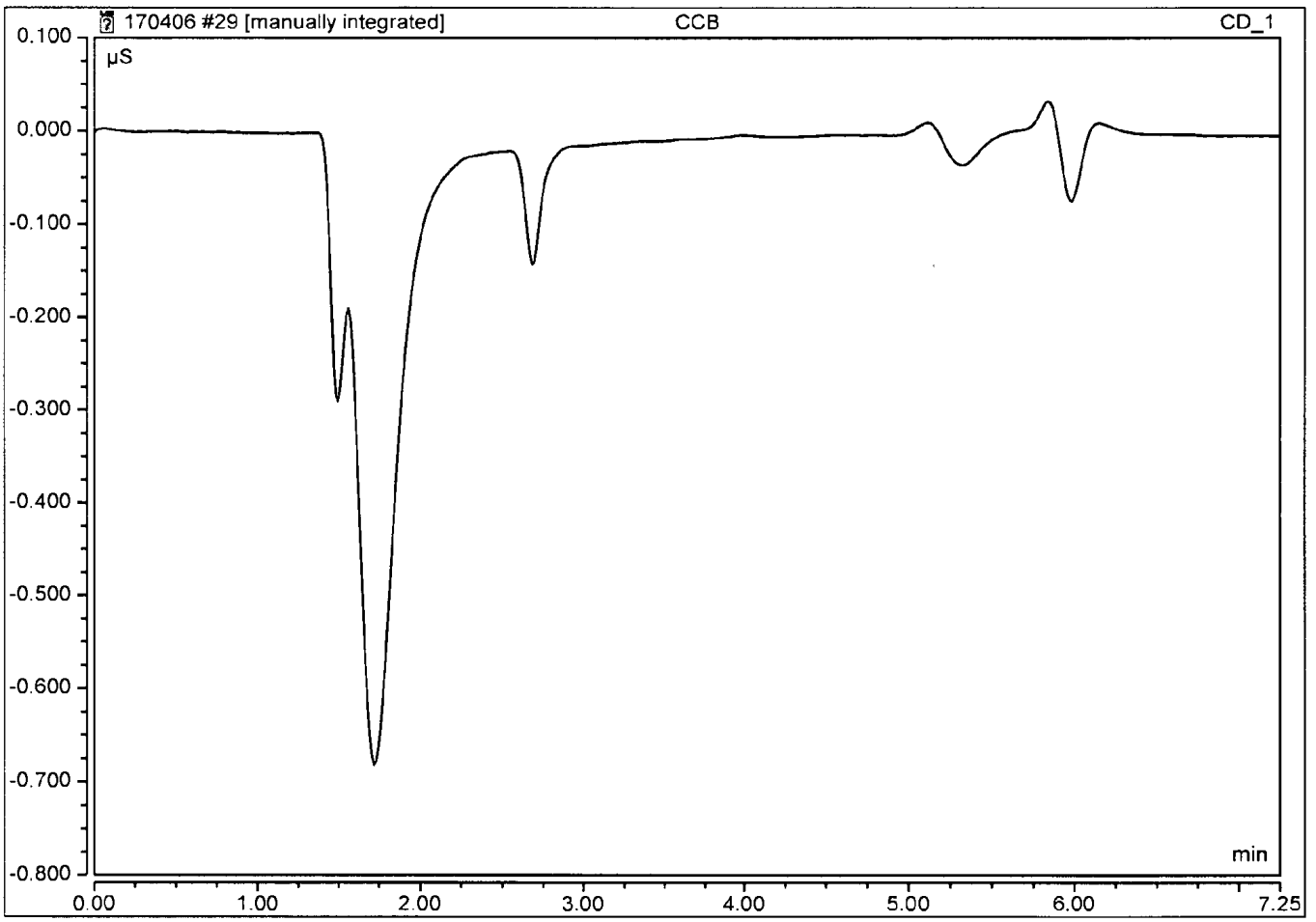
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 16:29**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82611 SDG: 82611
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/13/17

Analyte	Calibration Verification									M
	True CCV1	Found 6:33	%R(1)	True CCV1	Found 11:12	%R(1)	True CCV1	Found 17:15	%R(1)	
chloride	25	24.5718	98.3	25	24.8062	99.2	25	24.9214	99.7	
sulfate	25	25.0855	100	25	25.2991	101	25	25.3909	102	

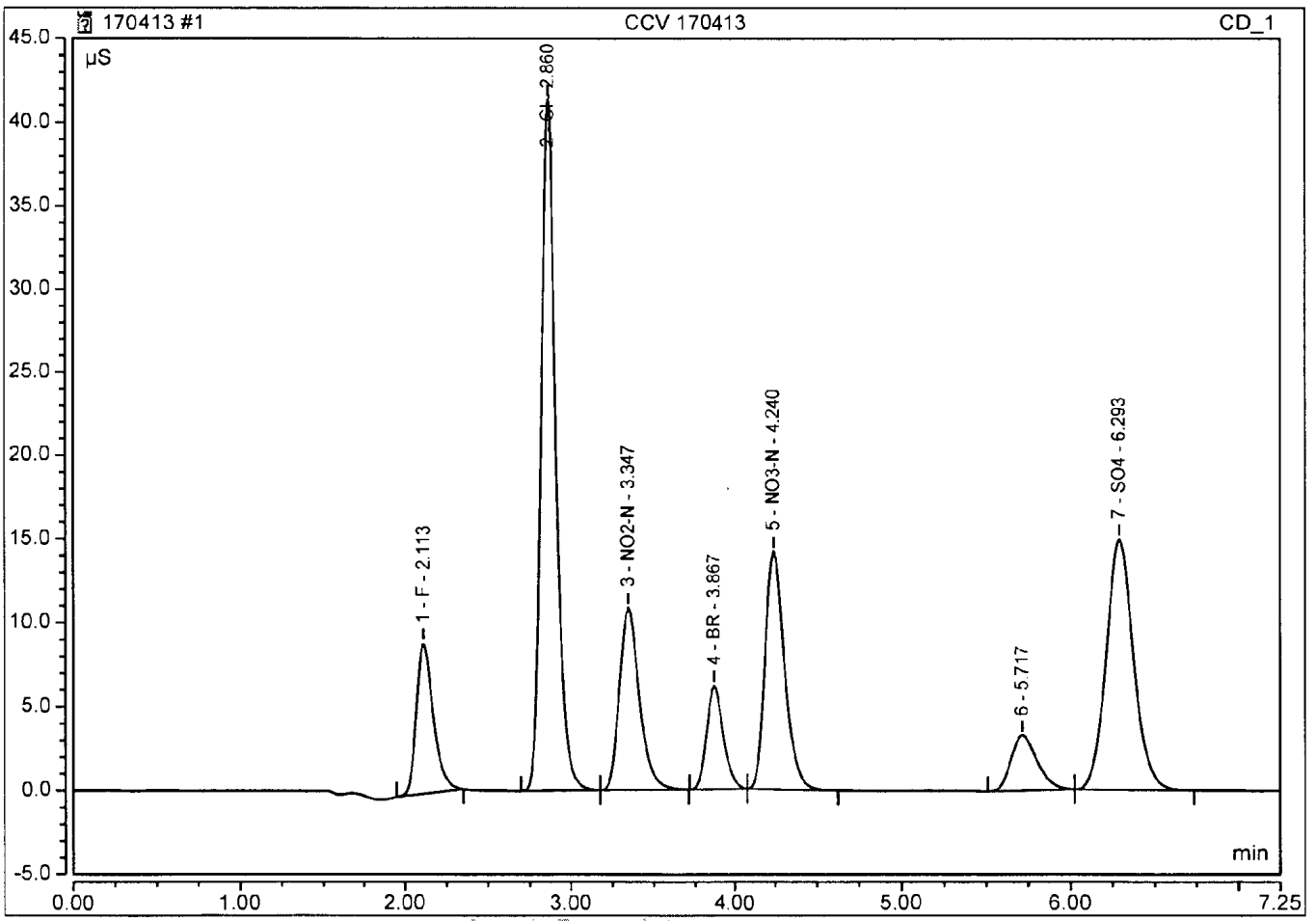
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 06:33**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB	1.056	8.985	5.2771
2	2.86	Cl	BMB	4.252	41.339	24.5718
3	3.35	NO2-N	BMB	1.523	10.843	5.2205
4	3.87	BR	BMB	0.762	6.161	12.1748
5	4.24	NO3-N	BMB	1.887	14.147	5.0491
7	6.29	SO4	BMB	2.844	14.910	25.0855
		TOTAL:		12.32	96.39	77.38



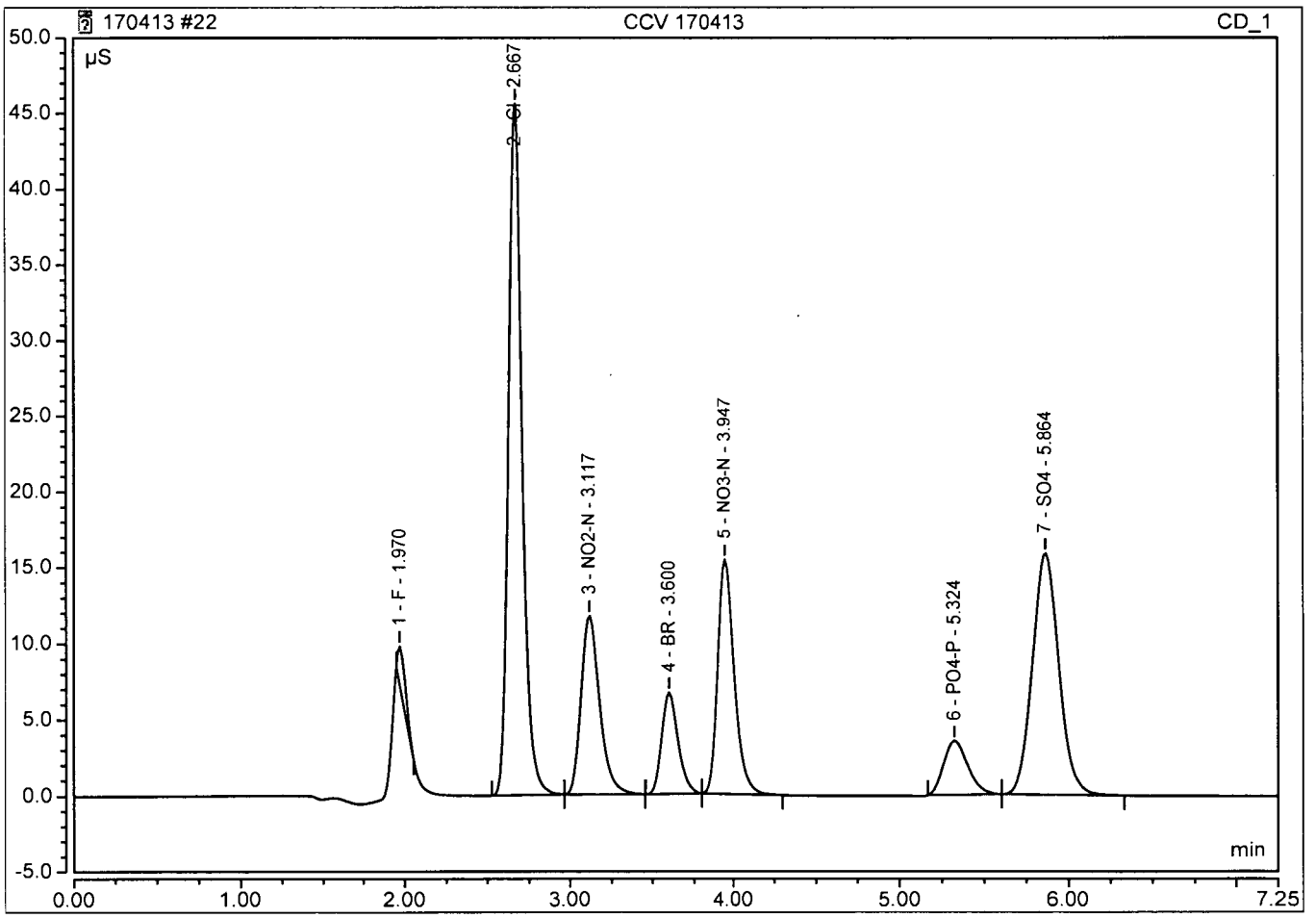
Algorithm Check
y=.1159x -.0634
x= 25.09 ✓

y=Peak Area
x=Amnt
mm 4/22/17

Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 11:12**	*Run Time:*	**7.25**

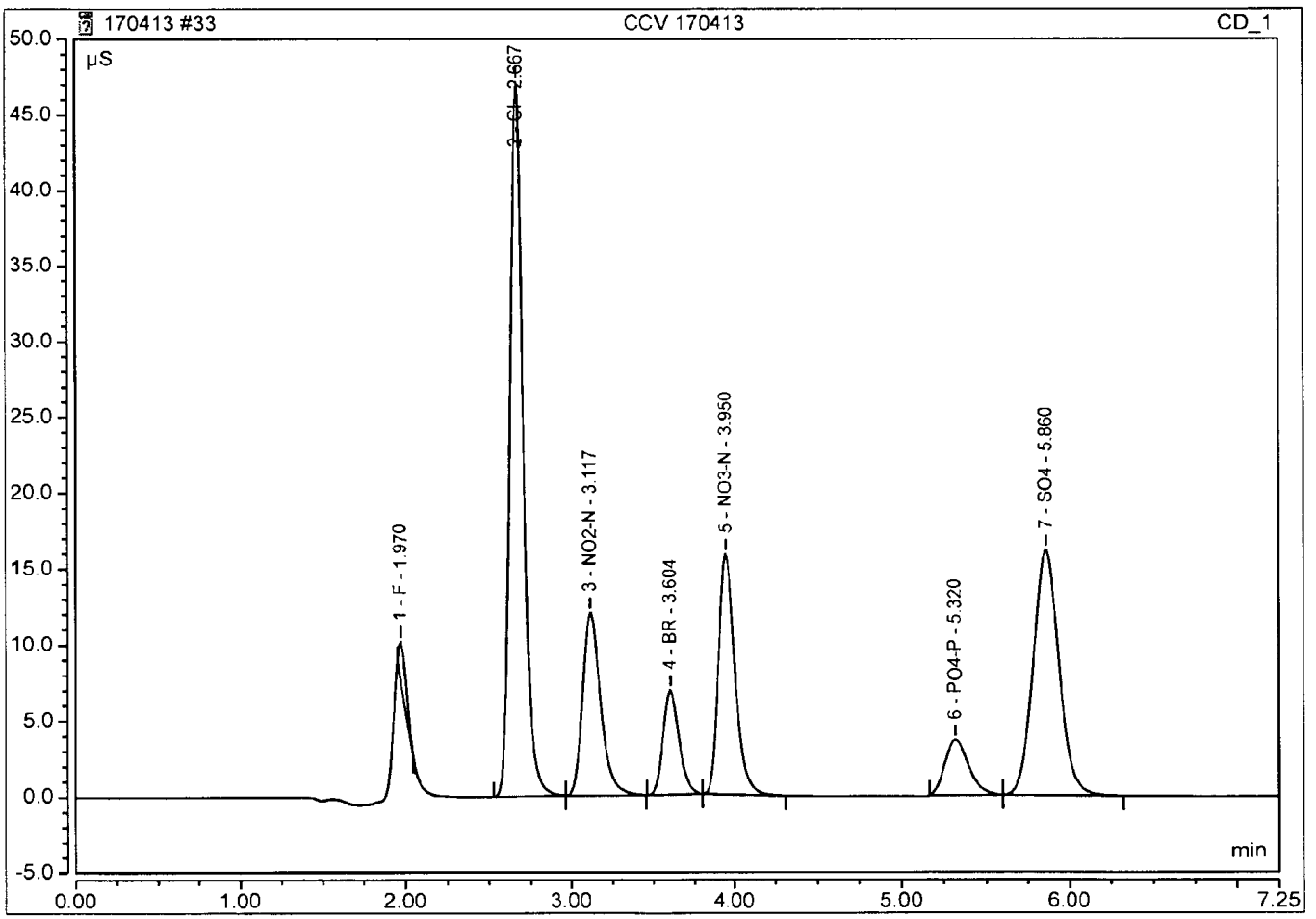
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.147	2.534	0.7751
2	2.67	Cl	BMB	4.294	45.603	24.8062
3	3.12	NO2-N	BMB	1.527	11.776	5.2357
4	3.60	BR	BMB	0.762	6.701	12.1724
5	3.95	NO3-N	BMB	1.900	15.410	5.0826
6	5.32	PO4-P	BMB	0.587	3.564	4.8512
7	5.86	SO4	BMB	2.869	15.879	25.2991
		TOTAL:		12.09	101.47	78.22



Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 17:15**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.145	2.656	0.7628
2	2.67	Cl	BMB	4.315	47.155	24.9214
3	3.12	NO2-N	BMB	1.528	12.042	5.2393
4	3.60	BR	BMB	0.766	6.875	12.2341
5	3.95	NO3-N	BMB	1.912	15.812	5.1137
6	5.32	PO4-P	BMB	0.590	3.642	4.8751
7	5.86	SO4	BMB	2.880	16.148	25.3909
		TOTAL:		12.13	104.33	78.54



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82611 SDG: 82611

Preparation Blank Matrix (soil/water): water

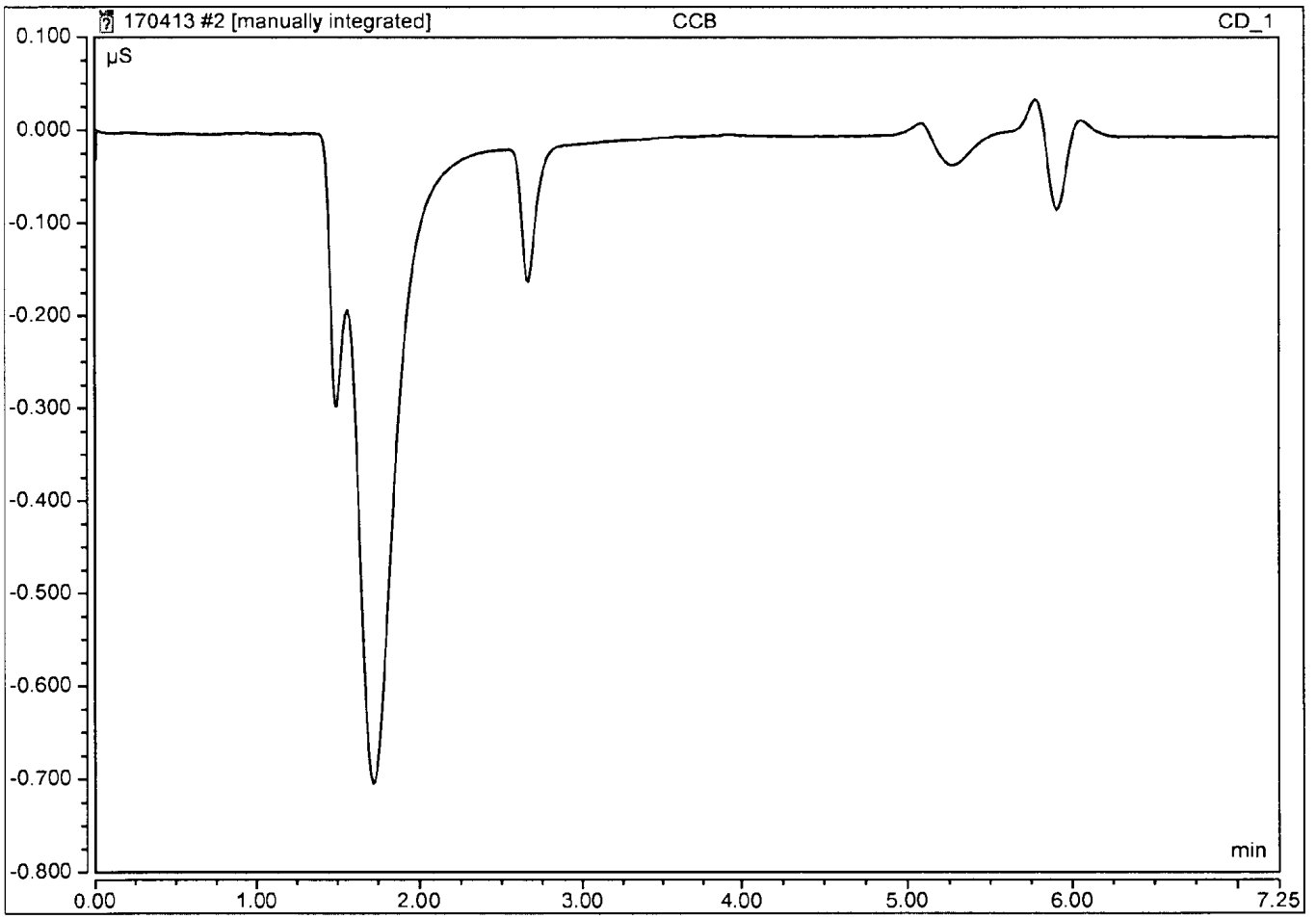
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/13/17 06:46	C	CCB 04/13/17 11:26	C	CCB 04/13/17 17:28	C		C		C	
chloride	1.000	U	1.000	U	1.000	U					
sulfate	1.000	U	1.000	U	1.000	U					

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 06:46**	*Run Time:*	**7.25**

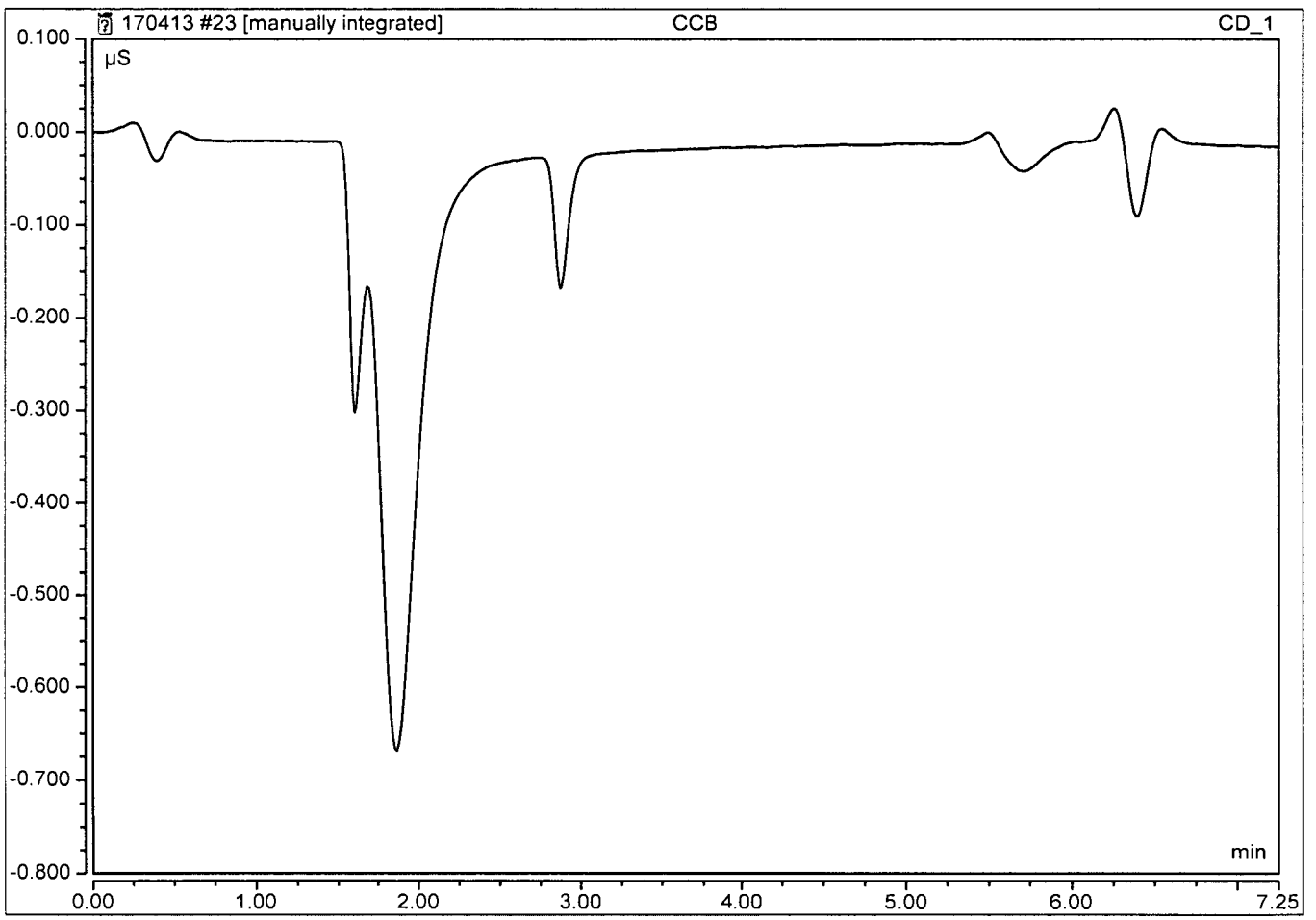
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 11:26**	*Run Time:*	**7.25**

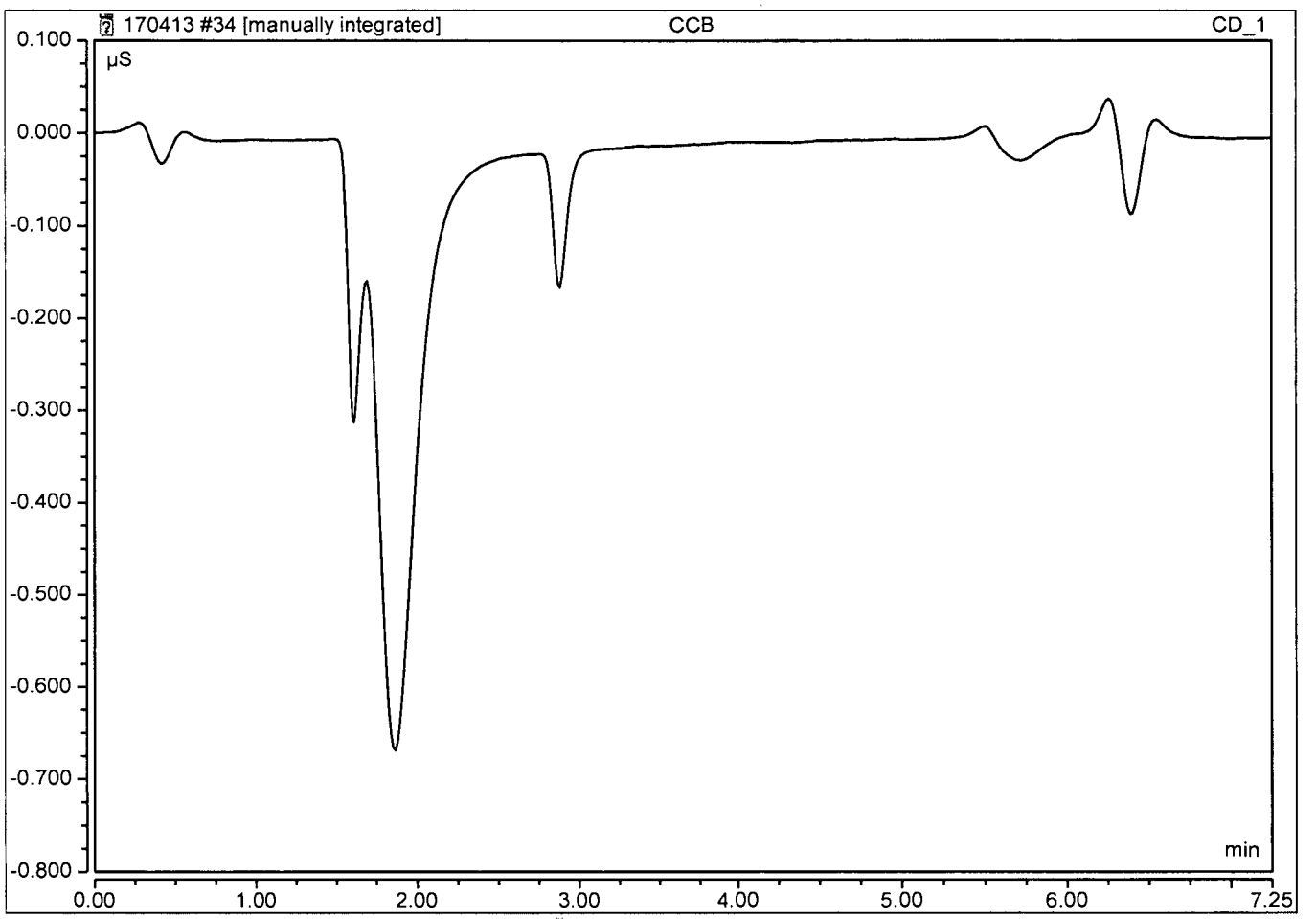
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



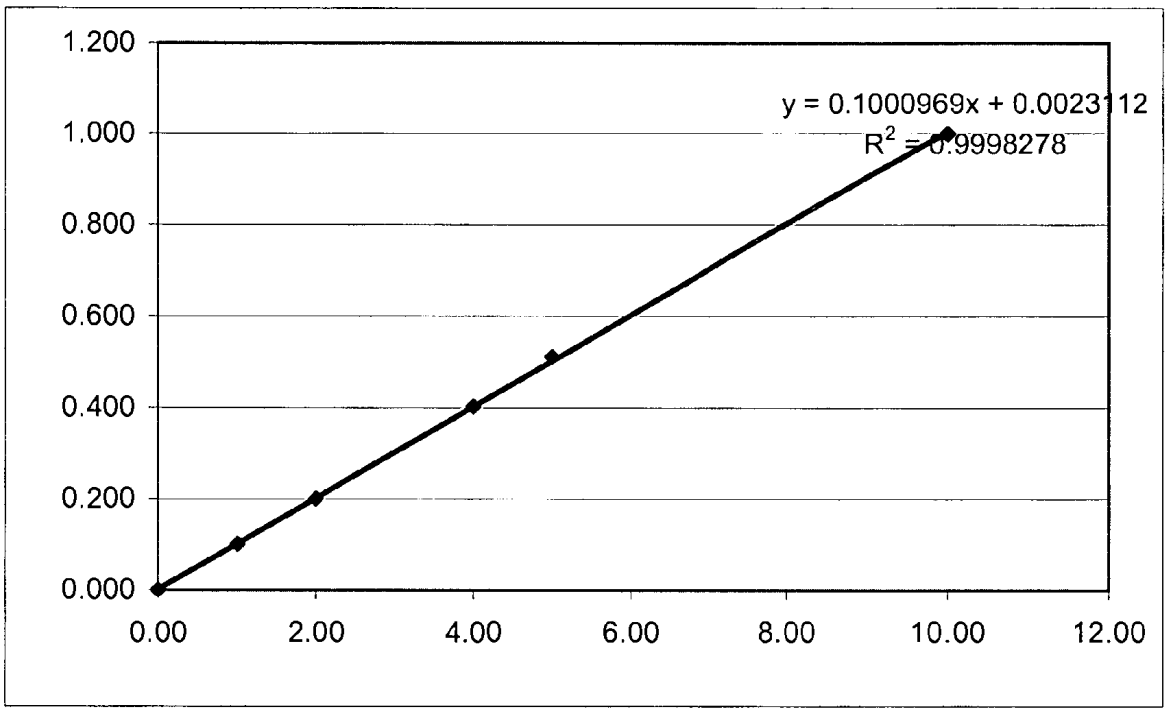
Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 17:28**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



170406A Ferrous Iron



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check 04/06/17 17:57

reading (y)= 0.289

dilution= 1

result (x)= 2.86 ✓

MM 4/22/17

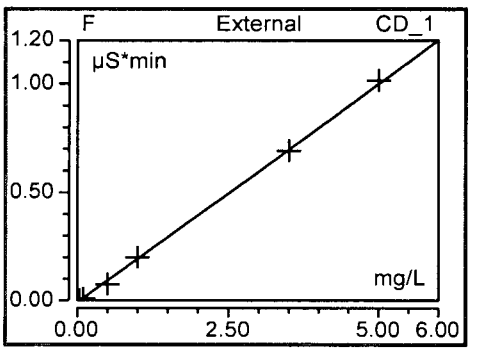
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

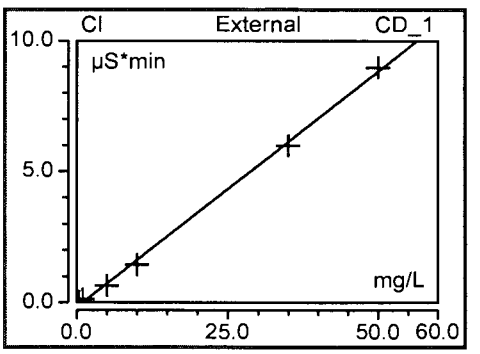
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

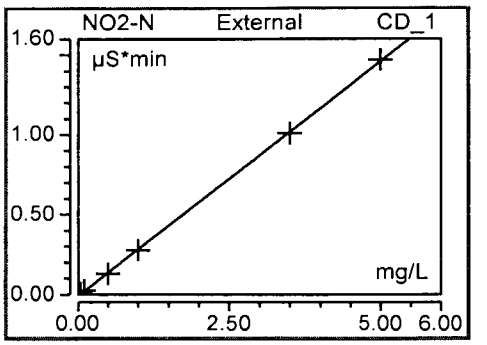
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



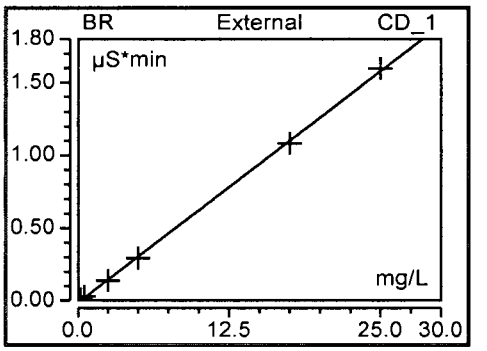
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



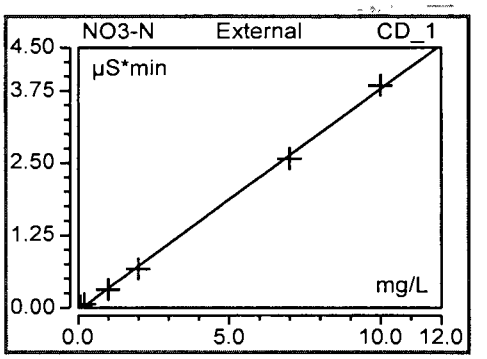
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



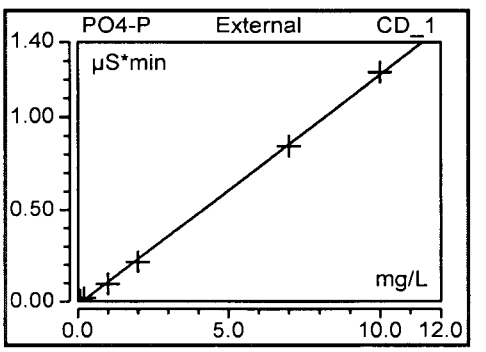
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



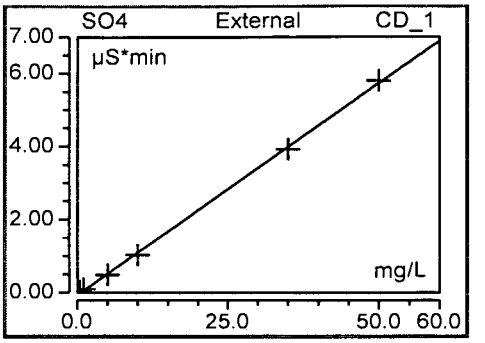
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



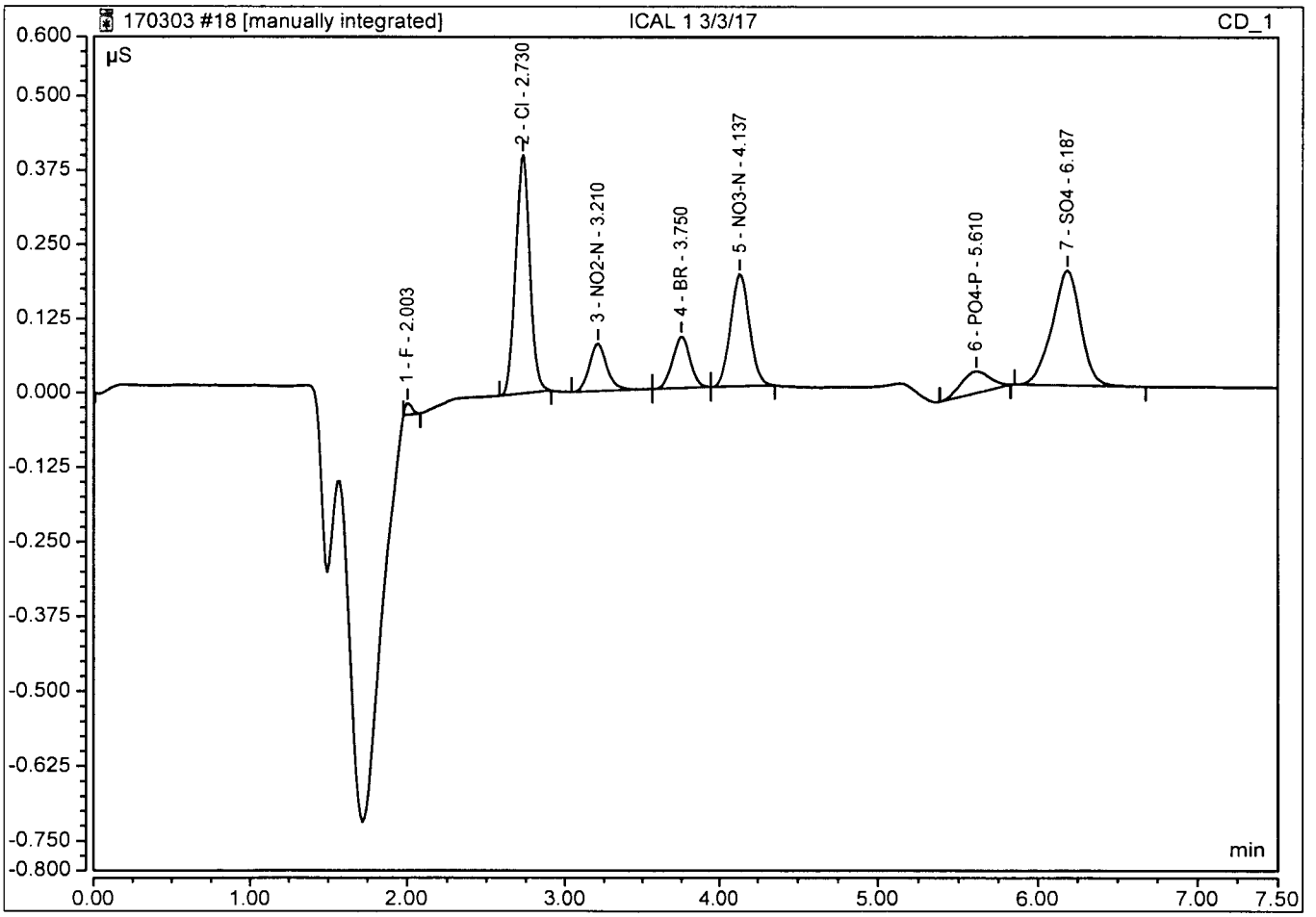
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7.50**

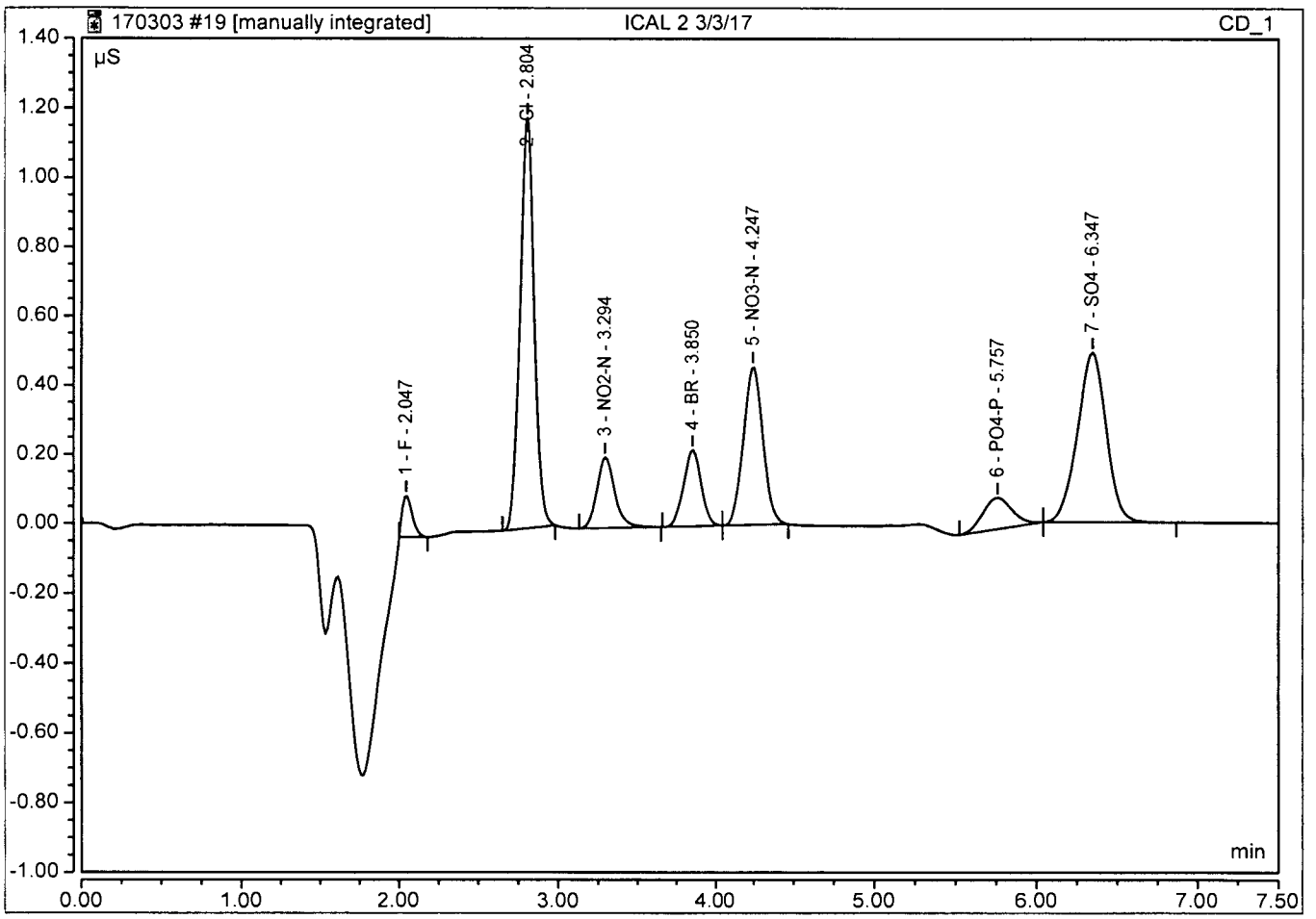
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
TOTAL:				0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

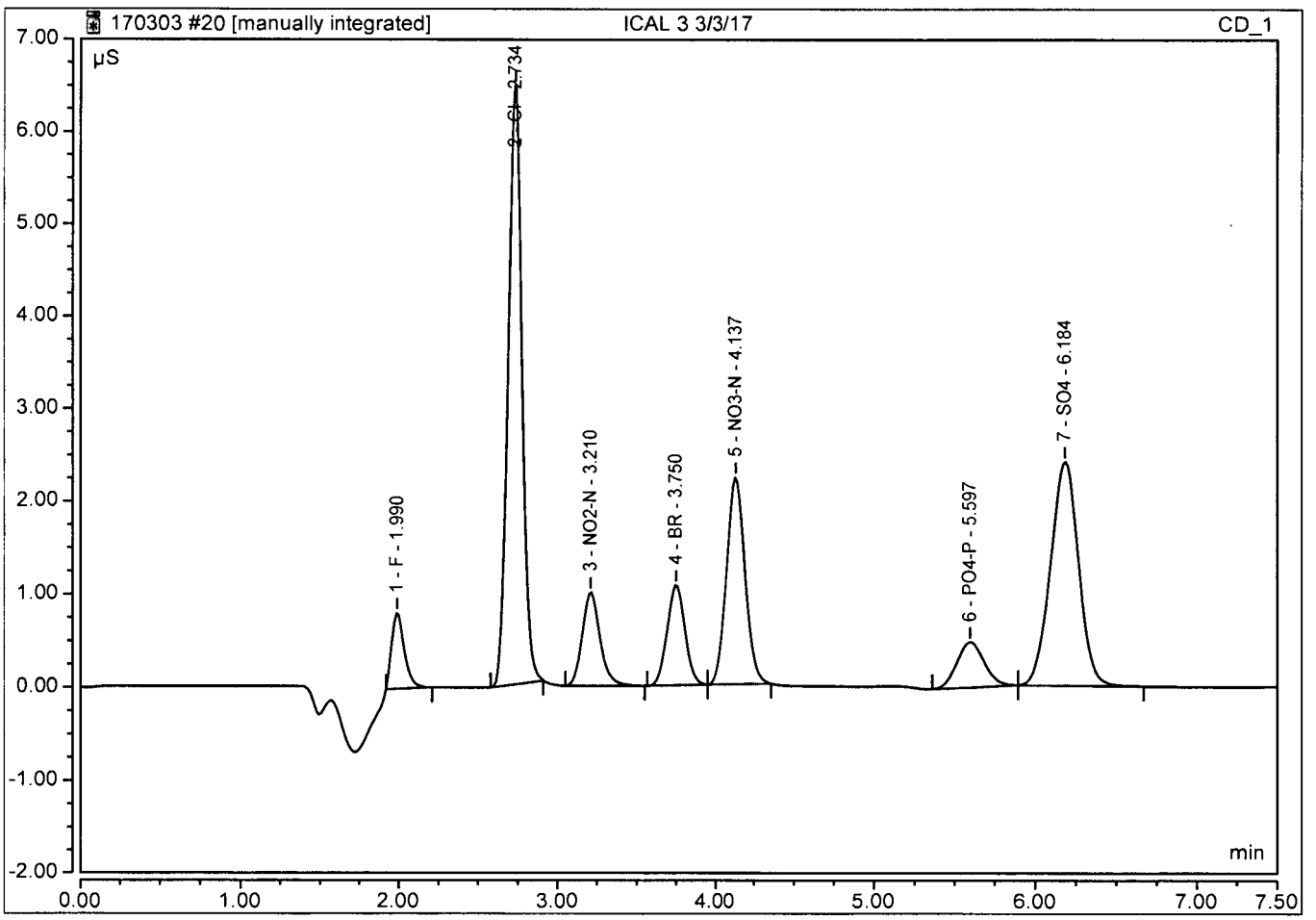
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

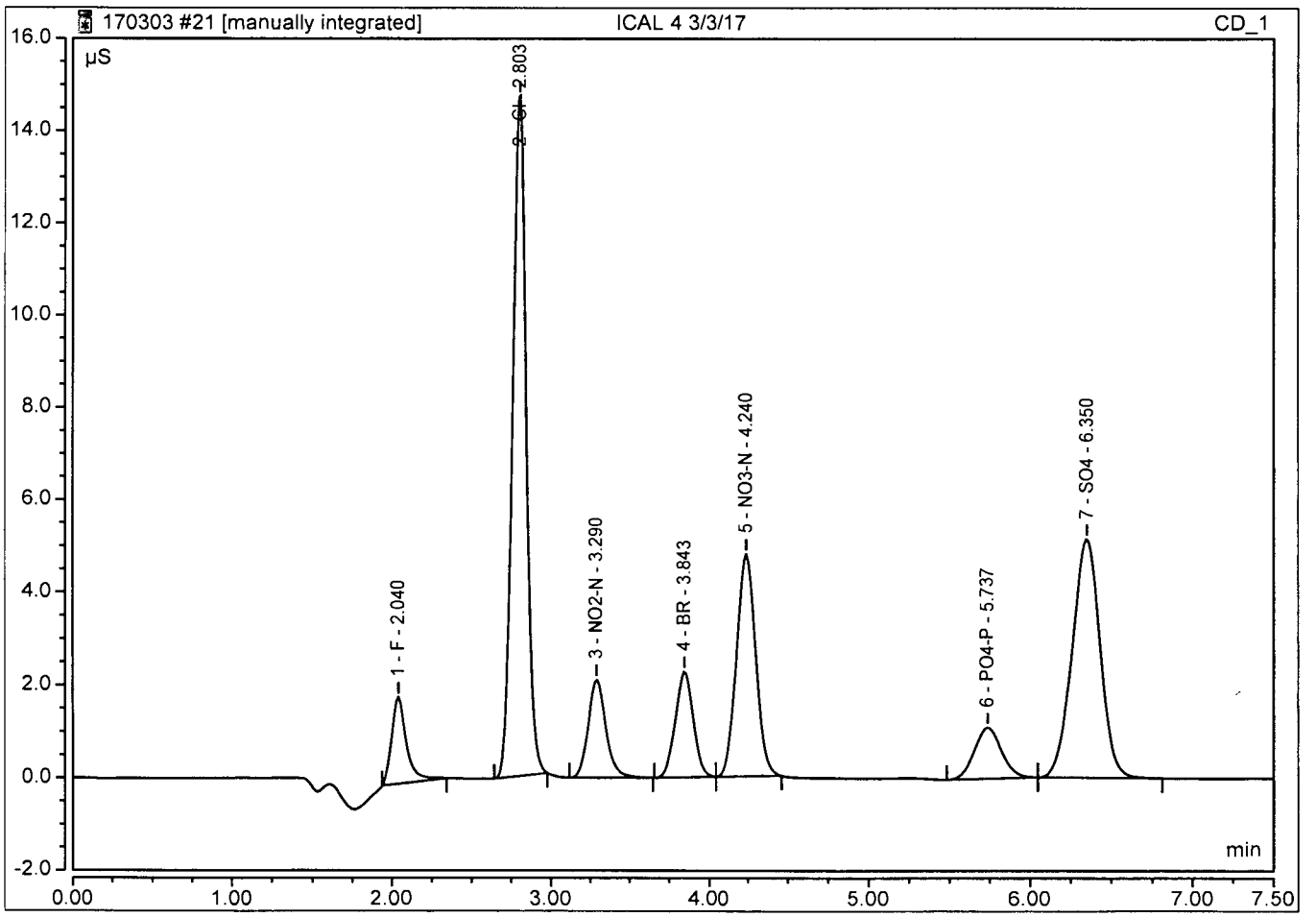
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

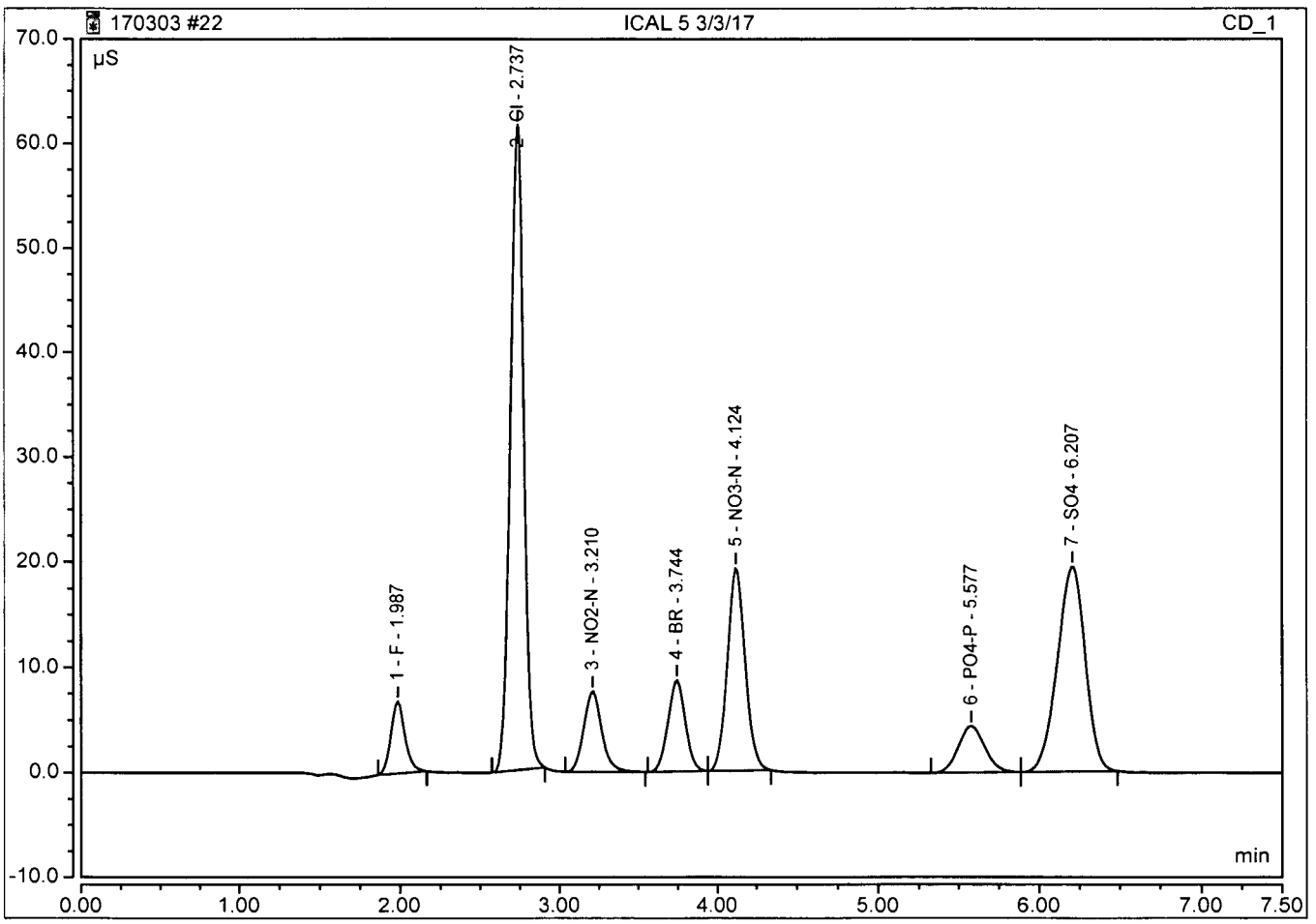
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

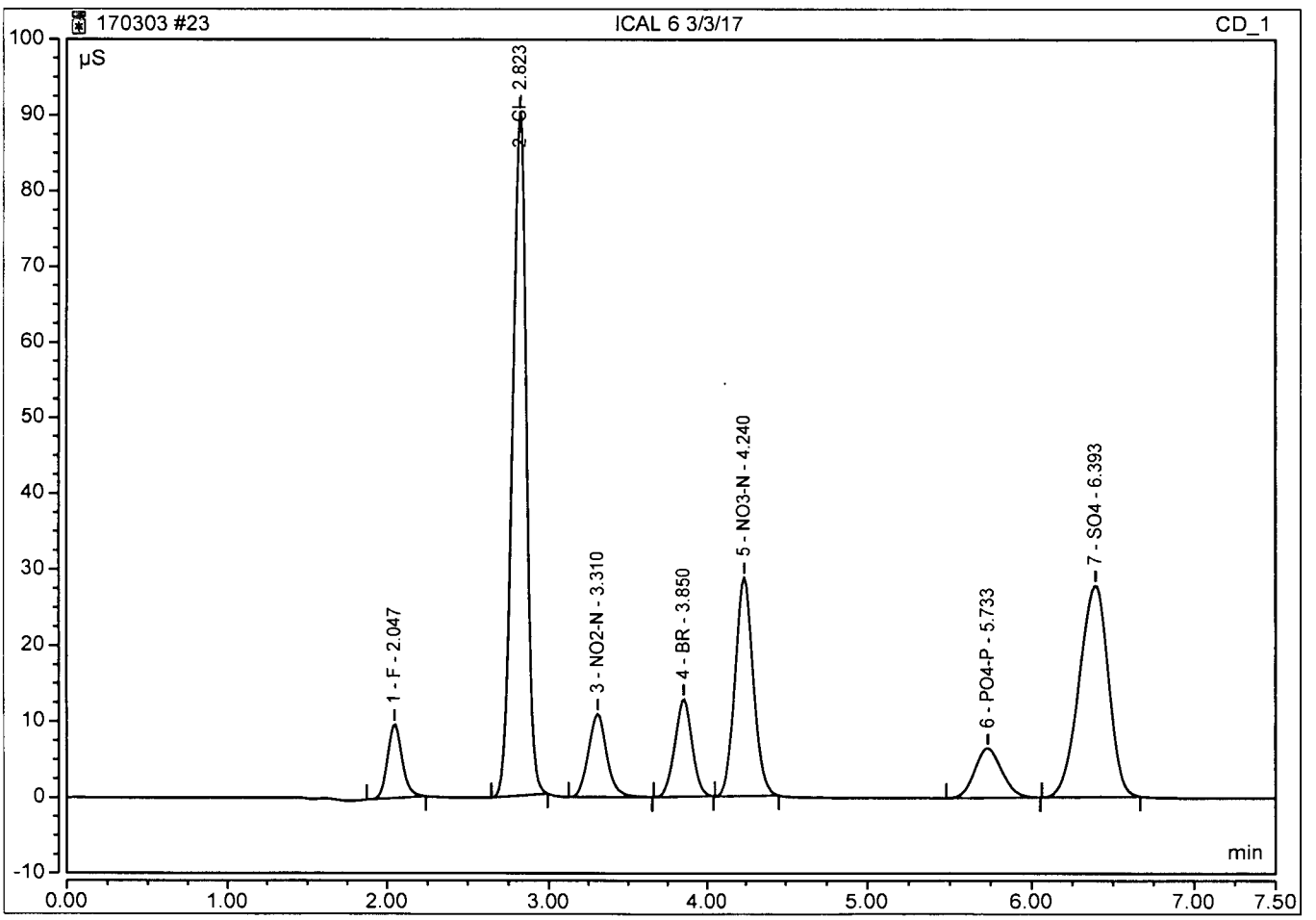
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	**F**	BMB	0.692	6.838	3.4738
2	2.74	**Cl**	BMB	5.983	61.525	34.1745
3	3.21	**NO2-N**	BMB	1.008	7.671	3.4669
4	3.74	**BR**	BMB	1.082	8.696	17.1933
5	4.12	**NO3-N**	BMB	2.570	19.259	6.8294
6	5.58	**PO4-P**	BMB	0.843	4.439	6.9121
7	6.21	**SO4**	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97

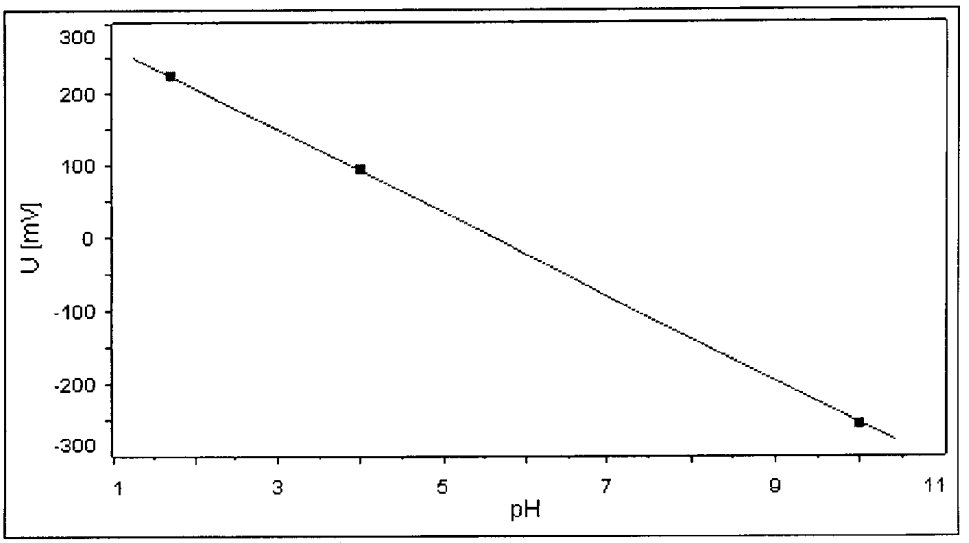


Tiamo Calibration Curve
04/12/17

Calibration curve

Calibration loop pH

CAL LOOP pH



	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	226.1	20.6	22
Buffer 2:	4.000	93.9	20.6	20
Buffer 3:	10.000	-255.9	20.6	20

Slope:	99.5	%
pH	5.595	
Variance:	3.2	

Close

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/13/17	04/13/17	#300WD-170413A-AZ53260
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/13/17	04/13/17	#300WD-170413A-AZ53260
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/06/17	04/06/17	#35FE-170406A-AZ53263
SM 2320B	BICARBONATE AS	1.8 J	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	TOTAL ALKALINITY	1.8 J	2.0	1.70	0.85	mg/L	04/12/17	04/12/17	#232W-170412A2-AZ53266
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/06/17	04/06/17	#300W-170406A-AZ53266

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
SM3500Fe	FERROUS IRON	3.00	2.86	95.3	80-120	04/06/17	04/06/17	#35FE-170406A-AZ53263

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

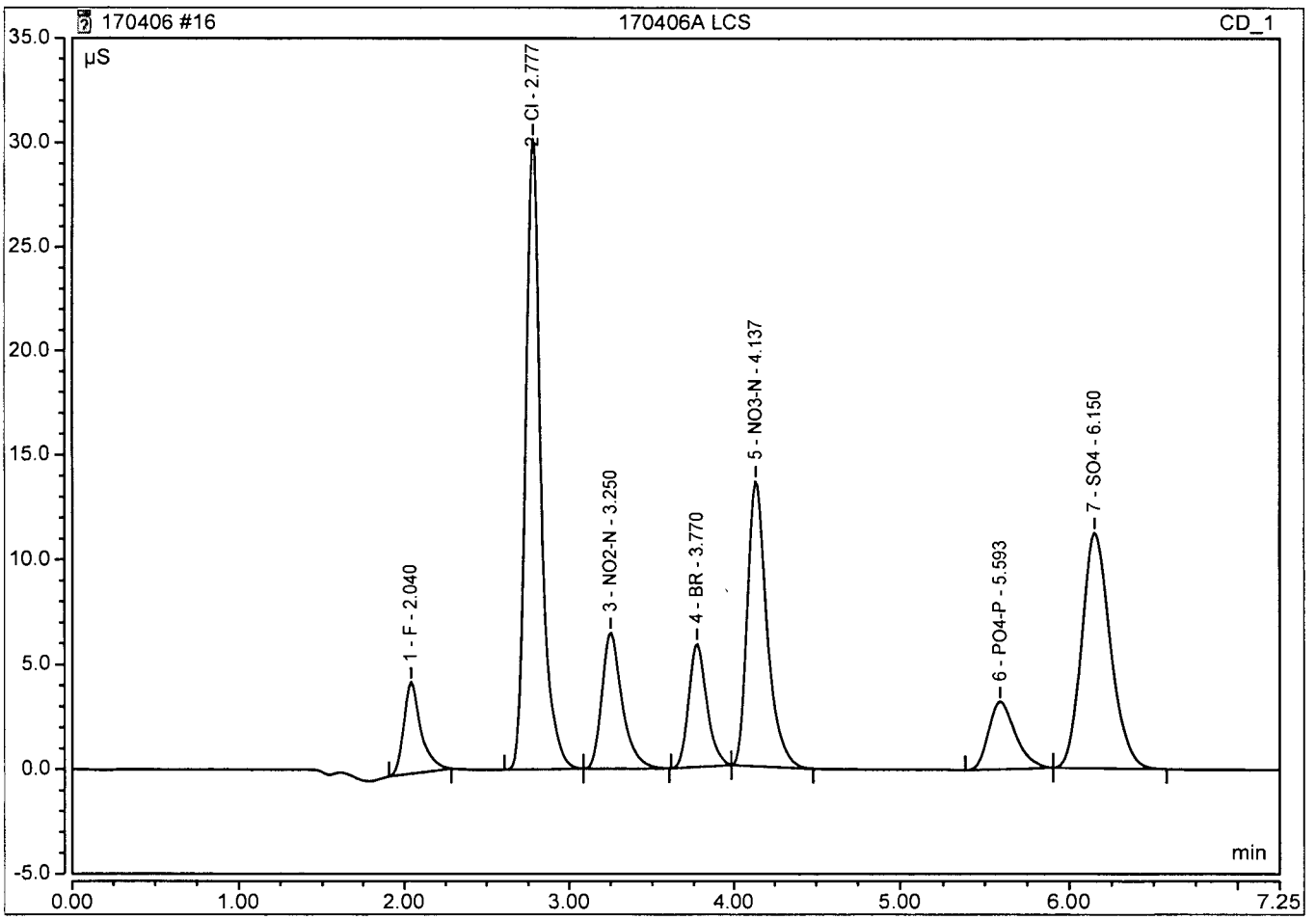
Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
EPA 300.0	SULFATE	20.0	19.7	98.5	90-110	04/06/17	04/06/17	#300W-170406A-AZ53266
SM 2320B	BICARBONATE AS CACO3	250	239	95.6	90-110	04/12/17	04/12/17	#232W-170412A2-AZ53266
SM 2320B	TOTAL ALKALINITY AS CACO3	250	239	95.6	90-110	04/12/17	04/12/17	#232W-170412A2-AZ53266

Comments: _____

Peak Integration Report

Sample Name:	**170406A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:18**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.524	4.360	2.6415
2	2.78	Cl	BMB	3.218	30.173	18.8344
3	3.25	NO2-N	BMB	0.918	6.480	3.1585
4	3.77	BR	BMB	0.747	5.880	11.9389
5	4.14	NO3-N	BMB	1.882	13.606	5.0370
6	5.59	PO4-P	BMB	0.596	3.219	4.9262
7	6.15	SO4	BMB	2.223	11.230	19.7276
		TOTAL:		10.11	74.95	66.26



Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.6	93.0	90-110	04/13/17	04/13/17	#300WD-170413A-AZ53260
EPA 300.0	SULFATE	20.0	19.2	96.0	90-110	04/13/17	04/13/17	#300WD-170413A-AZ53260

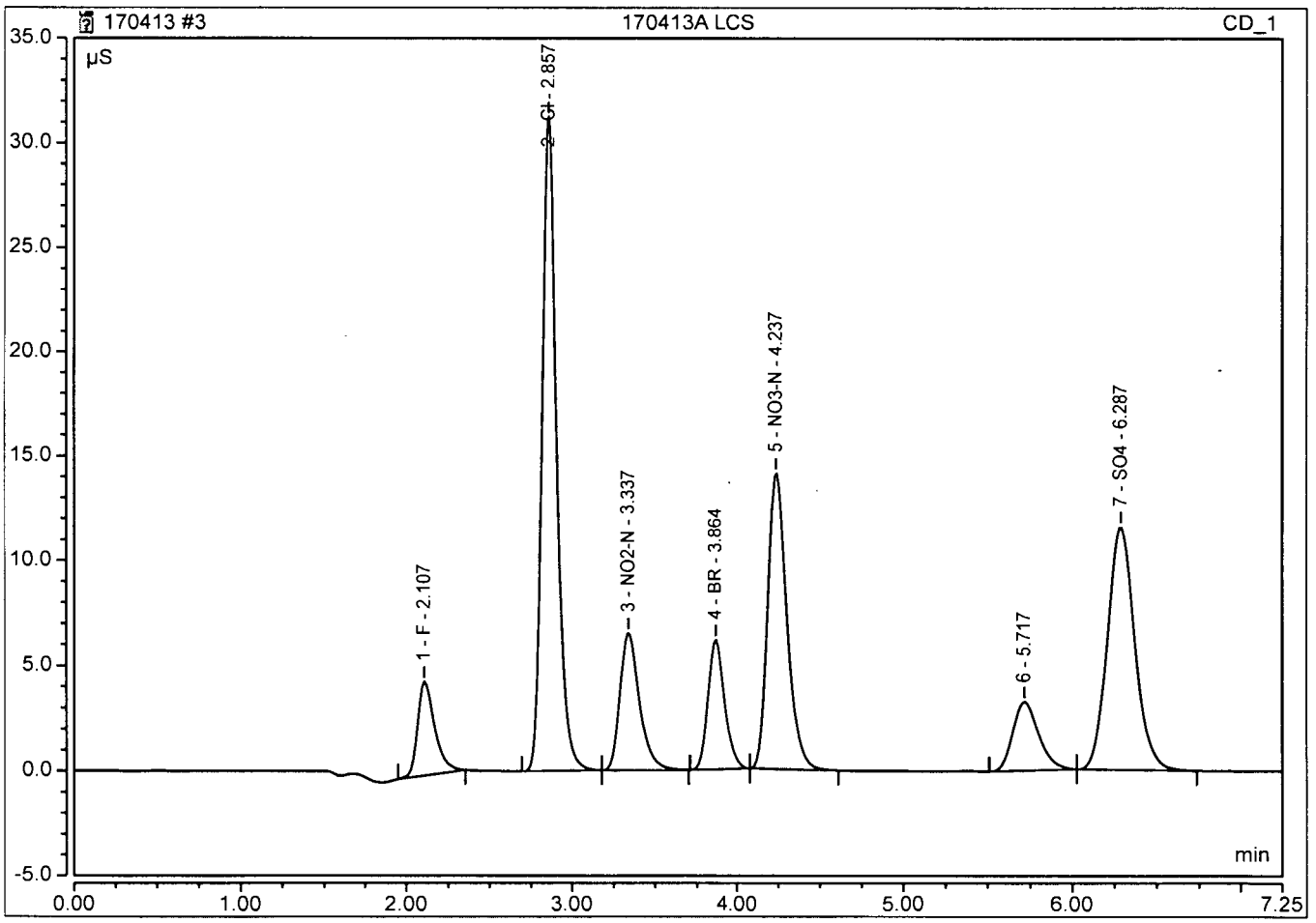
Comments: _____

Printed: 04/14/17 1:56:28 PM
APPL Standard LCS

Peak Integration Report

Sample Name:	**170413A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 06:59**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB	0.529	4.462	2.6642
2	2.86	Cl	BMB	3.172	31.246	18.5839
3	3.34	NO2-N	BMB	0.893	6.522	3.0737
4	3.86	BR	BMB	0.754	6.152	12.0504
5	4.24	NO3-N	BMB	1.862	14.075	4.9827
7	6.29	SO4	BMB	2.165	11.557	19.2274
		TOTAL:		9.37	74.01	60.58



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: MM
Units: mg/L
QCG: 170406A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (4/6/17)
BUFFER (3/23/17)

Analyst Completes
Formula Locked Cells

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%	Row Complete
05/20/16	12:37	0 BB 5/20/16	1	0.000							
05/20/16	12:38	1	1	0.101							
05/20/16	12:39	2	1	0.201							
05/20/16	12:39	4	1	0.403							
05/20/16	12:40	5	1	0.512							
05/20/16	12:40	10	1	0.999							
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%	#NAME?
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02			#NAME?
04/06/17	17:55	CCV 4.0 170406	1	0.385	25mL		3.82	3.823	4.000	95.6%	#NAME?
04/06/17	17:56	CCB 170406	1	0.000	25mL		-0.02	-0.023			#NAME?
04/06/17	17:57	170406A LCS	1	0.289	25mL		2.86	2.864	3.000	95.5%	#NAME?
04/06/17	17:58	170406A LCSD	1	0.291	25mL		2.88	2.884	3.000	96.1%	#NAME?
04/06/17	17:59	AZ53260W11	1	0.018	25mL		0.16	0.157			#REF!
04/06/17	18:00	AZ53266W08	1	0.013	25mL		0.11	0.107			#NAME?
04/06/17	18:01	AZ53263W08	1	0.012	25mL		0.10	0.097			
04/06/17	18:02	AZ53263W08 MS	1	0.301	25mL		2.98	2.984			
04/06/17	18:03	AZ53263W08 MSD	1	0.303	25mL		3.00	3.004			
04/06/17	18:04	CCV 4.0 170406	1	0.386	25mL		3.83	3.833	4.00	95.8%	
04/06/17	18:05	CCB 170406	1	0.001	25mL		-0.01	-0.013			

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ53266W07	2017-04-12 13:20:17 UTC-7	Alkalinity	0.000	6.876	0.00	0.00	283.29	283.29	mg/L	25 mL	0.0206	170412A	AH
AZ53263W07	2017-04-12 13:11:35 UTC-7	Alkalinity	0.000	4.102	0.00	0.00	169.00	169.00	mg/L	25 mL	0.0206	170412A	AH
AZ53260W10	2017-04-12 13:06:10 UTC-7	Alkalinity	0.000	2.014	0.00	0.00	82.98	82.98	mg/L	25 mL	0.0206	170412A	AH
170412A LCS	2017-04-12 11:25:31 UTC-7	Alkalinity	0.000	5.794	0.00	0.00	238.71	238.71	mg/L	25 mL	0.0206	170412A	AH
170412A Blk	2017-04-12 11:22:05 UTC-7	Alkalinity	0.000	0.044	0.00	0.00	1.81	1.81	mg/L	25 mL	0.0206	170412A	AH

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 04/06/17
Exp Date: 04/07/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
			Final Conc F (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Cl (mg/L):	0.4	1	5	10	35	50
			Final Conc NO2-N (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Br (mg/L):	0.2	0.5	2.5	5	17.5	25
			Final Conc NO3-N (mg/L):	0.08	0.2	1	2	7	10
			Final Conc PO4-P (mg/L):	0.08	0.2	1	2	7	10
			Final Conc SO4 (mg/L):	0.4	1	5	10	35	50

Anion Prep

QCG: 170406A | Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170413A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056		ICV LCS MS				
Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1N H_2SO_4 (prep 01/06/17 and 04/03/17)
Final vol 1L w/ DI water
Prep 04/03/17
Exp 01/06/18
AH 04/03/17

Inorganic Spiking Solution

3.5002g $NaHCO_3$ BDH lot#1575C510
Final vol 500mL w/DI water
Prep: 03/14/17
Exp: 09/14/17
AH

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	06 Apr 2017	17:55	CCV 4.0 170406		Upload Temp	1.
2	06 Apr 2017	17:56	CCB 170406		Upload Temp	1.
3	06 Apr 2017	17:57	170406A LCS		Upload Temp	1.
5	06 Apr 2017	17:59	AZ53260W11		Upload Temp	1.
6	06 Apr 2017	18:00	AZ53266W08		Upload Temp	1.
7	06 Apr 2017	18:01	AZ53263W08		Upload Temp	1.
10	06 Apr 2017	18:04	CCV 4.0 170406		Upload Temp	1.
11	06 Apr 2017	18:05	CCB 170406		Upload Temp	1.
12	20 May 2016	12:37	0 BB 5/20/16		Upload Temp	1.
13	20 May 2016	12:38	1		Upload Temp	1.
14	20 May 2016	12:39	2		Upload Temp	1.
15	20 May 2016	12:39	4		Upload Temp	1.
16	20 May 2016	12:40	10		Upload Temp	1.
17	20 May 2016	12:40	5		Upload Temp	1.
18	20 May 2016	12:41	160520A ICV 3.0		Upload Temp	1.
19	20 May 2016	12:42	160520A ICB		Upload Temp	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	06 Apr 2017	09:52	CCV 170406		170406	1.
15	06 Apr 2017	10:05	CCB		170406	1.
16	06 Apr 2017	10:18	170406A LCS		170406	1.
23	06 Apr 2017	15:09	AZ53263W07 DF5		170406	5.
24	06 Apr 2017	15:23	AZ53266W07		170406	1.
25	06 Apr 2017	15:36	AZ53260W10		170406	1.
28	06 Apr 2017	16:16	CCV 170406		170406	1.
29	06 Apr 2017	16:29	CCB		170406	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Apr 2017	06:33	CCV 170413		170413	1.
2	13 Apr 2017	06:46	CCB		170413	1.
3	13 Apr 2017	06:59	170413A LCS		170413	1.
22	13 Apr 2017	11:12	CCV 170413		170413	1.
23	13 Apr 2017	11:26	CCB		170413	1.
30	13 Apr 2017	12:59	AZ53260W10 DF5		170413	5.
31	13 Apr 2017	13:12	AZ53263W07 DF50		170413	50.
33	13 Apr 2017	17:15	CCV 170413		170413	1.
34	13 Apr 2017	17:28	CCB		170413	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	12 Apr 2017	11:22	170412A Blk		170412A_AL	1.
2	12 Apr 2017	11:25	170412A LCS		170412A_AL	1.
15	12 Apr 2017	13:06	AZ53260W10		170412A_AL	1.
16	12 Apr 2017	13:11	AZ53263W07		170412A_AL	1.
17	12 Apr 2017	13:20	AZ53266W07		170412A_AL	1.

908 North Temperance Ave. ∇ Clovis, CA 93611 ∇ Phone 559-275-2175 ∇ Fax 559-275-4422

Certification Number: CA1312
NELAP Certification number: CA00046
DoD-ELAP Certificate number: 4064.01

Data Validatable Report

April 28, 2017

AECOM
1001 Bishop Street, Suite 1600
Honolulu, Hawaii 96813

Attn: Margie Thach

Title: Report of Data: Case 82619

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Contract #: Prime contract # for DoD: NAVY CLEAN N62742-12-D-1829, CTO 0053
Subcontract: 14S-16234-HI16

Dear Ms. Thach:

Four water samples were received April 5, 2017. Written results for the requested analyses are being provided on this April 28, 2017.

Results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

If you have any questions or require further information, please contact your APPL Project Manager, Libby Cheeseborough, libby@applinc.com, at your convenience. Thank you for choosing APPL, Inc.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

for PM

Paula McCartney, Laboratory Director
APPL, Inc.

PM/rp
Enclosure
cc: File

Number of pages in this report: 1198

Data Validation Package

for

60481245 CIV 0053 Red Hill Fuel Storage

APPL SDG 82619

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Case Narrative	5
Sample Management Records	10
Method 8011	24
QC Summary	25
Sample Data	31
Calibration Data	44
Raw Data	69
Method 8015B TPH-E	90
QC Summary	91
Sample Data	97
Calibration Data	107
Raw Data	153
Method 8270D SIM	185
QC Summary	186
Sample Data	198
Calibration Data	208
Raw Data	241
Method 8270D SVOCs	266
QC Summary	267
Sample Data	280

Calibration Data 290

Raw Data 338

Method 8270D SVOCs 368

QC Summary 369

Sample Data 388

Calibration Data 416

Raw Data 464

Method 8270D SVOCs (MEE) 504

QC Summary 505

Sample Data 515

Calibration Data 524

Raw Data 548

Method 8270D 1,4 Dioxane 573

QC Summary 574

Sample Data 585

Calibration Data 595

Raw Data 622

Method 8260C VOCs 648

QC Summary 649

Sample Data 682

Calibration Data 711

Raw Data 835

Method 8260B Gasoline 887

QC Summary 888

Sample Data 894

Calibration Data 911

Raw Data 971

Method RSK-175 Methane 990

QC Summary 991

Sample Data 995

Calibration Data 1002

Raw Data 1036

Method 6010C 1050

QC Summary 1051

Sample Data 1055

Calibration Data 1065

Raw Data 1099

Inorganic Analyses 1112

QC Summary 1113

Sample Data 1117

Calibration Data 1128

Raw Data 1169

CASE NARRATIVE

Case Narrative

ARF: 82619

Project: 60481245 CIV0053 Red Hill Fuel Storage. HI

Sample Receipt Information:

Four water samples were received April 5, 2017, at 3.5°C, 3.5°C, 3.5°C, 4.5°C, 4.5°C, 4.0°C, 4.0°C, 4.0°C, and 4.0°C. The sample group was assigned Analytical Request Form (ARF) number 82619. Sample ERH307 was received more than 24 hours after collection. The non-preserved vials labeled as trip blanks for sample ERH306 were not created in the laboratory. No other exception was noted.

Sample Preparation and Analysis Information:

For the EPA 8011 analysis, the samples were extracted according to the method.

For the EPA 8015B analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SIM analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8270D SVOC analysis, the samples were extracted according to EPA method 3510C. The samples were screened for Tentatively Identified Compounds (TICs).

For the APPL SOP ANA2MEE analysis, the samples were extracted according to EPA method 3535.

For the EPA 8270D 1,4 Dioxane analysis, the samples were extracted according to EPA method 3510C.

For the EPA 8260B VOC and GRO analysis, the samples were purged according to EPA method 5030B. The samples were screened for Tentatively Identified Compounds (TICs).

For the RSK-175 analysis, the samples were allowed to equilibrate for 10 minutes at 40°C and a portion of the headspace was analyzed.

For the EPA 6010C analysis, the samples were digested according to EPA method 3010A.

For the EPA 300.0, SM 2320B, SM 3500FeB, and SM 4500SiD analyses, the samples were prepared according to the methods.

Only the portion of the injection log relative to these samples is included. A full sequence log is available upon request. Measurement uncertainty can be reported upon request.

Analytical Exceptions, Deviations and Abnormalities.

EPA 8015B: In the MS/MSD performed on sample ERH307, oil recovered outside the control limits. Corrective action: the client was notified.

EPA 8270D-SIM: Manual integrations were performed in accordance with APPL's SOP. Benzo (b) fluoranthene and Benzo (k) fluoranthene were manually integrated in one calibration standard. Before and after chromatograms are included in the package.

EPA 8270D: In the MS/MSD, two target analytes recovered below their lower control limit and five RPDs exceeded the 20% limit. Corrective action: the client was notified.

APPL SOP ANA2MEE:

Manual integrations were performed in accordance with APPL's SOP. 2-(2-methoxy)ethanol was manually integrated in the LCS, MS, and MSD. Chromatograms of before and after manual integration are enclosed.

EPA 8260B:

In LCS data file 0412T04.D, tert-Butyl alcohol recovered above the 129% upper control limit at 138%. Sample ERH307 was re-injected for TBA and Acetone. Sample ERH306 was not re-injected due to limited volume.

In Ending CCV data file 0412T27.D, Acetone decreased in sensitivity at 40% and 59% drift.

EPA 8260B GRO:

In the MS/MSD performed on sample ERH307, oil recovered outside the control limits. Corrective action: the client was notified.

RSK 175: In the MS/MSD performed on sample ERH307, methane recovered outside the control limits. Corrective action: the client was notified.

Inorganic Analyses:

The sample was received more than 24 hours after collection. It was analyzed for ferrous iron as soon as possible on the day received.

In the method blank, alkalinity was detected above one-half the LOQ. Corrective action: None, the concentration of alkalinity in the sample exceeds the blank concentration by ten-fold or more.

In the MS/MSD performed on sample ERH307, three analytes recovered outside their control limits. Corrective action: the client was notified.

SDG	Received	Client ID	APPL ID	Collected D:	Collected Ti	Matrix	Method	Method Description
82619	04/05/17	ERH306	AZ53167	04/04/17	07:30 AM	WATER	8011	EPA 8011
82619	04/05/17	ERH306	AZ53167	04/04/17	07:30 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82619	04/05/17	ERH306	AZ53167	04/04/17	07:30 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82619	04/05/17	ERH306	AZ53167	04/04/17	07:30 AM	WATER	EPA 8260C	EPA 8260C WATER
82619	04/05/17	ERH306	AZ53167	04/04/17	07:30 AM	WATER	RSK 175	METHANE BY RSK 175
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	6010C/3010A	EPA 6010C TOTAL
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	8011	EPA 8011
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8260C	EPA 8260C WATER
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	RSK 175	METHANE BY RSK 175
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	SM 2320B	Wetlab 2320B - Water
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	SM 4500-Si D	Silica W
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	SM 4500-Si D	SILICA W - DISSOLVED
82619	04/05/17	ERH307	AZ53168	04/04/17	08:50 AM	WATER	SM3500FeB	Ferrous Iron
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	6010C/3010A	EPA 6010C TOTAL
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	8011	EPA 8011
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	8270D-SIM	EPA 8270D SIM
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8260C	EPA 8260C WATER
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8270D	EPA 8270D WATER
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	SM 4500-Si D	Silica W
82619	04/05/17	ERH314	AZ53169	04/04/17	08:50 AM	WATER	SM 4500-Si D	SILICA W - DISSOLVED
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	6010C/3010A	EPA 6010C DISSOLVED
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	6010C/3010A	EPA 6010C TOTAL
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	8011	EPA 8011
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	8270D-SIM	EPA 8270D SIM
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 300.0	Wetlab 300.0 - Water
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8015B-eLL	EPA 8015B TPH WATER
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8260-GAS	EPA 8260 with GAS
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8260B	EPA 8260B GRO WATER
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8260C	EPA 8260C WATER
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8270D	EPA 8270D MODIFIED WATER
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8270D	EPA 8270D WATER
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	EPA 8270D-14D	EPA 8270D - 1,4-DIOXANE
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	SM 4500-Si D	Silica W
82619	04/05/17	ERH315	AZ53170	04/04/17	07:45 AM	WATER	SM 4500-Si D	SILICA W - DISSOLVED

APPL Inc.
Abbreviations and Flags

FLAG	DESCRIPTION
#	Recovery or RPD outside control limits
*	Recovery or RPD outside control limits
B	Analyte detected in associated method blank
C1	Reason for correction: wrote incorrect response
C2	Reason for correction: calculated incorrectly
C3	Reason for correction: needs to be rechecked
C4	Reason for correction: data not usable
DO	Diluted out
E	Exceeds linear range
F	Estimated value
G1	Includes a wide range of hydrocarbons which does not match our gasoline standard
G10	Includes a match to hydrocarbon profiles within the range of mineral spirits
G11	Includes a match to hydrocarbon profiles within the range of JP-4
G12	Pattern does not match the gasoline standard; the carbon range for this sample is consistent with JP8
G13	Closely resembles the hydrocarbon profile of aviation gasoline
G14	Analyte concentration may be biased due to carry over
G2	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G3	Includes higher boiling hydrocarbons
G4	Includes dominant peak(s) not indicative of petroleum hydrocarbons
G5	Is mainly dominant peak(s) not indicative of petroleum hydrocarbons
G6	Contains recognizable contaminant peak(s) which has been removed from quantitation
G7	Is mainly a match to hydrocarbons within the range of gasoline
G8	Closely resembles the boiling point hydrocarbon profile consistent with weathered gasoline
G9	Includes hydrocarbons within the range of kerosene
J	Estimated value
M	Matrix effect
MI1	Manual integration: integration does not follow baseline
MI2	Manual integration: non-target peak interference
MI3	Manual integration: to split a peak that was integrated as one peak by the computer.
MI4	Manual integration: to integrate a split peak
MI5	Manual integration: the whole peak or part of the peak was not integrated
MI6	Manual integration: computer integrated wrong peak
MI7	Manual integration: other – (See case narrative)
MDL	Method detection limit
ND	Not detected
NT	Non-target
Q	Acceptance criteria not met
T1 I	Includes wide range of hydrocarbons not indicative of diesel
T1 M	Is mainly wide range of hydrocarbons not necessarily indicative of diesel
T2 I	Includes lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T2 M	Is mainly lower boiling hydrocarbons, i.e. mineral spirits, kerosene, stoddard solvent, white gas
T3 I	Includes higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T3 M	Is mainly higher boiling hydrocarbons, i.e. asphaltene, waster oil, motor oil, or weathered diesel fuel
T4 I	Includes dominant peak(s) not indicative of hydrocarbons
T4 M	Is mainly dominant peak(s) not indicative of hydrocarbons
T5	Contains recognizable contaminant peak(s) which has been removed from quantitation
T6	Is mainly a match to hydrocarbons within range of diesel fuel
T7	Closely resembles the boiling point hydrocarbon profile consistent with diesel fuel
T8	Includes a match to hydrocarbon profiles within range of diesel and kerosene fuel
T9 I	Includes non-diesel hydrocarbons within boiling point range of diesel fuel
T9 M	Is mainly non-diesel hydrocarbons within boiling point range of diesel fuel
U	Not detected
Y	Percent difference between primary and confirmation column > 40%

SAMPLE MANAGEMENT RECORDS

CHAIN OF CUSTODY,

ARF, CRF, AND

CLIENT COMMUNICATION

APPL - Analysis Request Form

82619

Client: AECOM
Address: 1001 Bishop Street, Suite 1600
Honolulu, HI 96813
Attn: Margie Thach
Phone: 808-356-5373 Fax: 808-523-8950
Job: 60481245 CIV0053 Red Hill Fuel Storage
PO #: 14S-16234-HI16, PO# 77265
Chain of Custody (Y/N): Y # 040417a-e
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 1 WEEK

Received by: CM
Date Received: 04/05/17 Time: 11:00
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -10
Chest Temp(s): 3X3.5,4X4.0,2X4.5°C
Color: VOA/C-BLK/R-ORGYL
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Libby Cheesebor
QC Report Type: DVP4DOD/EQUIS/HI
Due Date: 04/12/17

Comments:
7 day TAT for Form 1s; 21 day TAT for DVP; F1s, login to Margie.Thach@aecom.com
A: DOD QSM ver 5.0; DOD Forms (LOQ/LOD database/DL) Print ND as LOD w/U Qual.
8260: full list (see attached) + TICs & TPH-G; 8270 SVOCs: full list (see attached) + TICs
8270 SIM: full list; TPH D & O. RSK: Methane only; 8011: EDB only;
$87DMEEW5: 2-MEE (LCS Spk 80ppb); $87DC53W5: report phenol only;
Total metals: Ca,Fe,Pb,Mg,Mn,K,Na; Dissolved Pb only
FR: HC to LDC, 2 labeled CDs to Margie Thach. Before FR is sent, the PM needs to review after Admin Review is complete.
EDD: AECOM EQuIS EDD 2.5.3 to Margie.Thach@aecom.com & jecklund@lab-data.com

Sample Distribution:
GC: 4-$8011, 3-$14HP, 3-$87DC53W5, 3-$87DDOD5W, 3-$87DMEEW5, 3-$DOC53W5, 3-$SIMDOD5W
Extractions: 4-_MWE012, 3-_MWE2MEE, 3-_SEP004, 3-_SEP004S, 3-_SEP011LL
VOA: 4-$86CDOD5W, 4-$GASBL, 4-$GRO86BW, 2-$RSKMETH
Metals: 3-$61CDOD5W, 3-$61CDOD5WD
Wetlab: 1-$232W(HCO3,CO3,ALK), 3-$300W(NO3,BR,CL,F,SO4), 1-$35FE, 3-$SIO2, 3-$SIO2D
Other: 3-_M3010, 3-_M3010F

Charges:

Invoice To:
ACCOUNTS PAYABLE
1001 Bishop Street, Ste 1600
USAPImaging@aecom.com
mary.basano@aecom.com

	Client ID	APPL ID	Sampled	Analyses Requested
1.	ERH306	AZ53167W	04/04/17 07:30	$8011, $86CDOD5W, $GASBL, $GRO86BW, $RSKMETH
2.	ERH307	AZ53168W ms/msd	04/04/17 08:50	$14HP, $232W(HCO3,CO3,ALK), $300W(NO3,BR,CL,F,SO4), $35FE, $61CDOD5W, $61CDOD5WD, $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $RSKMETH, $SIMDOD5W, $SIO2, $SIO2D -- no RSK. Fe3, alk MS/MSD

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

3.	ERH314	AZ53169W	04/04/17 08:50	$14HP, $300W(NO3,BR,CL,F,SO4), $61CDOD5W, $61CDOD5WD, $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W, $SIO2, $SIO2D -- 2-MEE-LCS 80ppb spike
4.	ERH315	AZ53170W	04/04/17 07:45	$14HP, $300W(NO3,BR,CL,F,SO4), $61CDOD5W, $61CDOD5WD, $8011, $86CDOD5W, $87DC53W5, $87DDOD5W, $87DMEEW5, $DOC53W5, $GASBL, $GRO86BW, $SIMDOD5W, $SIO2, $SIO2D -- 2-MEE-LCS 80ppb spike

APPL Sample Receipt Form

ARF# **82619**

Sample	Container Type	Count	pH
AZ53167	13 VOAs - HCL	3	NA
	15 VOAs - NP	5	NA
AZ53168	3 PL 250mL	6	NA
	6 PL 500mL - HNO3	4	1.7
	13 VOAs - HCL	14	NA
	15 VOAs - NP	9	NA
	17 Amber Liter	18	NA
	38 250mL brn poly, HCl prsvd	1	1.7
AZ53169	3 PL 250mL	3	NA
	6 PL 500mL - HNO3	2	1.7
	13 VOAs - HCL	4	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA
AZ53170	3 PL 250mL	3	NA
	6 PL 500mL - HNO3	2	1.7
	13 VOAs - HCL	4	NA
	15 VOAs - NP	3	NA
	17 Amber Liter	6	NA

Sample	Container Type	Count	pH

ARF 82150
SVOC list

	Scratch ↓	
$87DDOD5W	XXX	1,1'-BIPHENYL
$87DDOD5W	XXX	1,2,4,5-TETRACHLOROBENZENE
$87DDOD5W		1,2,4-TRICHLOROBENZENE
$87DDOD5W		1,2-DICHLOROBENZENE
$87DDOD5W		1,3-DICHLOROBENZENE
$87DDOD5W		1,4-DICHLOROBENZENE
$87DDOD5W	XXX	1-METHYLNAPHTHALENE
$87DDOD5W	XXX	2,3,4,6-TETRACHLOROPHENOL
$87DDOD5W		2,4,5-TRICHLOROPHENOL
$87DDOD5W		2,4,6-TRICHLOROPHENOL
$87DDOD5W		2,4-DICHLOROPHENOL
$87DDOD5W		2,4-DIMETHYLPHENOL
$87DDOD5W		2,4-DINITROPHENOL
$87DDOD5W		2,4-DINITROTOLUENE
$87DDOD5W	XXX	2,6-DICHLOROPHENOL
$87DDOD5W		2,6-DINITROTOLUENE
$87DDOD5W		2-CHLORONAPHTHALENE
$87DDOD5W		2-CHLOROPHENOL
$87DDOD5W		2-METHYLNAPHTHALENE
$87DDOD5W		2-METHYLPHENOL
$87DDOD5W		2-NITROANILINE
$87DDOD5W		2-NITROPHENOL
$87DDOD5W		3,3'-DICHLOROBENZIDINE
$87DDOD5W		3-NITROANILINE
$87DDOD5W		3/4-METHYLPHENOL
$87DDOD5W		4,6-DINITRO-2-METHYLPHENOL
$87DDOD5W		4-BROMOPHENYL PHENYL ETHER
$87DDOD5W		4-CHLORO-3-METHYLPHENOL
$87DDOD5W		4-CHLOROANILINE
$87DDOD5W		4-CHLOROPHENYL PHENYL ETHER
$87DDOD5W	XXX	4-METHYLPHENOL
$87DDOD5W		ACENAPHTHENE
$87DDOD5W		ACENAPHTHYLENE
$87DDOD5W	XXX	ACETOPHENONE
$87DDOD5W		ANTHRACENE
$87DDOD5W	XXX	ATRAZINE
$87DDOD5W		BENZ (A) ANTHRACENE
$87DDOD5W		BENZO (A) PYRENE
$87DDOD5W		BENZO (B) FLUORANTHENE
$87DDOD5W		BENZO (G,H,I) PERYLENE
$87DDOD5W		BENZO (K) FLUORANTHENE
$87DDOD5W		BENZYL ALCOHOL
$87DDOD5W		BIS (2-CHLORETHOXY) METHANE
$87DDOD5W		BIS (2-CHLOROETHYL) ETHER
$87DDOD5W	XXX	BIS (2-CHLOROISOPROPYL) ETHER
$87DDOD5W		BIS (2-ETHYLHEXYL) PHTHALATE
$87DDOD5W		BUTYL BENZYL PHTHALATE
$87DDOD5W		CARBAZOLE
$87DDOD6W		CHRYSENE
$87DDOD5W		DI-N-BUTYL PHTHALATE
$87DDOD5W		DI-N-OCTYL PHTHALATE
$87DDOD5W		DIBENZ (A,H) ANTHRACENE

Add TICs

Add:

4-Nitroaniline
4-Nitrophenol

Bis (2-chloro-1-methylethyl) ether

$87DDOD5W		DIBENZOFURAN
$87DDOD5W		DIETHYL PHTHALATE
$87DDOD5W		DIMETHYL PHTHALATE
$87DDOD5W		FLUORANTHENE
$87DDOD5W		FLUORENE
$87DDOD5W		HEXACHLOROBENZENE
$87DDOD5W		HEXACHLOROBUTADIENE
$87DDOD5W		HEXACHLOROETHANE
$87DDOD5W		INDENO (1,2,3-CD) PYRENE
$87DDOD5W		ISOPHORONE
$87DDOD5W		N-NITROSODI-N-PROPYLAMINE
$87DDOD5W	XXX	N-NITROSODIPHENYLAMINE
$87DDOD5W		NAPHTHALENE
$87DDOD5W		NITROBENZENE
$87DDOD5W		PENTACHLOROPHENOL
$87DDOD5W		PHENANTHRENE
$87DDOD5W		PYRENE
$87DDOD5W		SURROGATE: 2,4,6-TRIBROMOPHENOL
$87DDOD5W		SURROGATE: 2-FLUORBIPHENYL (S)
$87DDOD5W		SURROGATE: 2-FLUOROPHENOL (S)
$87DDOD5W		SURROGATE: NITROBENZENE-D5 (S)
$87DDOD5W		SURROGATE: TERPHENYL-D14 (S)
$87DDOD5W		SURROGATE: PHENOL (S)

Add

Diphenylamine

Hexachlorocyclopentadiene

ARF 82150
VOC list

Add TICs

	scratch	
$86CDOD5W		1,1,1,2-TETRACHLOROETHANE
$86CDOD5W		1,1,1-TRICHLOROETHANE
$86CDOD5W		1,1,2,2-TETRACHLOROETHANE
$86CDOD5W		1,1,2-TRICHLOROETHANE
$86CDOD5W		1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH/
$86CDOD5W		1,1-DICHLOROETHANE
$86CDOD5W		1,1-DICHLOROETHENE
$86CDOD5W		1,1-DICHLOROPROPENE
$86CDOD5W		1,2,3-TRICHLOROBENZENE
$86CDOD5W		1,2,3-TRICHLOROPROPANE
$86CDOD5W		1,2,4-TRICHLOROBENZENE
$86CDOD5W		1,2,4-TRIMETHYLBENZENE
$86CDOD5W		1,2-DIBROMO-3-CHLOROPROPANE
$86CDOD5W		1,2-DIBROMOETHANE
$86CDOD5W		1,2-DICHLOROBENZENE
$86CDOD5W		1,2-DICHLOROETHANE
$86CDOD5W	XXX	1,2-DICHLOROETHENE (TOTAL)
$86CDOD5W		1,2-DICHLOROPROPANE
$86CDOD5W		1,3,5-TRIMETHYLBENZENE
$86CDOD5W		1,3-DICHLOROBENZENE
$86CDOD5W		1,3-DICHLOROPROPANE
$86CDOD5W		1,3-DICHLOROPROPENE, TOTAL
$86CDOD5W		1,4-DICHLOROBENZENE
$86CDOD5W		2,2-DICHLOROPROPANE
$86CDOD5W		2-BUTANONE
$86CDOD5W	XXX	2-CHLOROETHYL VINYL ETHER
$86CDOD5W		2-CHLOROTOLUENE
$86CDOD5W		2-HEXANONE
$86CDOD5W		4-CHLOROTOLUENE
$86CDOD5W		4-METHYL-2-PENTANONE
$86CDOD5W		ACETONE
$86CDOD5W	XXX	ACROLEIN
$86CDOD5W	XXX	ACRYLONITRILE
$86CDOD5W		BENZENE
$86CDOD5W		BROMOBENZENE
$86CDOD5W		BROMOCHLOROMETHANE
$86CDOD5W		BROMODICHLOROMETHANE
$86CDOD5W		BROMOFORM
$86CDOD5W		BROMOMETHANE
$86CDOD5W		CARBON DISULFIDE
$86CDOD5W		CARBON TETRACHLORIDE
$86CDOD5W		CHLOROBENZENE
$86CDOD5W		CHLORODIBROMOMETHANE
$86CDOD5W		CHLOROETHANE
$86CDOD5W		CHLOROFORM
$86CDOD5W		CHLOROMETHANE
$86CDOD5W		CIS-1,2-DICHLOROETHENE
$86CDOD5W		CIS-1,3-DICHLOROPROPENE
$86CDOD5W		DIBROMOMETHANE
$86CDOD5W		DICHLORODIFLUOROMETHANE
$86CDOD5W		DI-ISOPROPYL ETHER
$86CDOD5W		ETHYL TERTIARY BUTYL ETHER

$86CDOD5W		ETHYLBENZENE
$86CDOD5W		HEXACHLOROBUTADIENE
$86CDOD5W	XXX	HEXACHLOROETHANE
$86CDOD5W	XXX	IODOMETHANE
$86CDOD5W		ISOPROPYLBENZENE
$86CDOD5W		M,P-XYLENE
$86CDOD5W		METHYL TERT-BUTYL ETHER
$86CDOD5W		METHYLENE CHLORIDE
$86CDOD5W		N-BUTYLBENZENE
$86CDOD5W		N-PROPYLBENZENE
$86CDOD5W		NAPHTHALENE
$86CDOD5W		O-XYLENE
$86CDOD5W		P-ISOPROPYLTOLUENE
$86CDOD5W		SEC-BUTYLBENZENE
$86CDOD5W		STYRENE
$86CDOD5W		TERT-AMYL METHYL ETHER
$86CDOD5W		TERT-BUTYL ALCOHOL
$86CDOD5W		TERT-BUTYLBENZENE
$86CDOD5W		TETRACHLOROETHENE
$86CDOD5W		TOLUENE
$86CDOD5W		TRANS-1,2-DICHLOROETHENE
$86CDOD5W		TRANS-1,3-DICHLOROPROPENE
$86CDOD5W		TRICHLOROETHENE
$86CDOD5W		TRICHLOROFLUOROMETHANE
$86CDOD5W	XXX	VINYL ACETATE
$86CDOD5W		VINYL CHLORIDE
$86CDOD5W		XYLENES (TOTAL)
$86CDOD5W		SURROGATE: 1,2-DICHLOROETHANE-D4
$86CDOD5W		SURROGATE: 4-BROMOFLUOROBENZEN
$86CDOD5W		SURROGATE: DIBROMOFLUOROMETHA
$86CDOD5W		SURROGATE: TOLUENE-D8 (S)

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for CB, MH, GM

Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C VOC full list	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs	8270D SVOC full list	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate,Sulfate,Chloride	SM2320B Alkalinity (total, bicarb., carb)	Total Fe	Total Mn	Total Na	Total K	Comments
ERH 306	Trip Blank	4/4/17	0730	HST	8	✓				X	X	X						X								
ERH 307	RHMW09	4/4/17	0850	HST	36	X				X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	MS/MSD** see other costs
ERH 314	RHMW09	4/4/17	0850	HST	7	X				X	X	X														
ERH 315	Field Blank	4/4/17	0745	HST	7	X				X	X	X														

*Total Ca, Fe, Pb, Mg, Mn, K, Na

** MS/MSD on 8260, 8270, 8011, 8015, 6010, 300.0, SM4500

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shigi AECOM	4/4/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/5/17	11:00	Yang

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611

ELECTRONIC CHAIN OF CUSTODY RECORD

Phone: (559) 275-2175
Fax: (559) 275-4422
C.O.C.

Report to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-5373
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Margie Thach Email: margie.thach@aecom.com

Invoice to: PLEASE PRINT
Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CO, MH, GM
Sampler (Signature): MT for CO, MH, GM
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C-~~BTEX~~, TPH-g	8260C-~~DOA~~ VOC full list	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs full list	8270D ~~Phenol~~ SVOC full list, TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride, Bromide, Fluoride	SM2320B Alkalinity (total, bicarb, carb)	Lab # Total Metals	Lab # Diss. Metals	SM2540D TDS	Cl 1650 Diss. Chloride	
ERH 307	RHMW09	4/4/17	0850	HST	8	✓							X		X	X	X									MS/MSD ** 522 Silver Containers

Matrix

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Karela Shirgi AECOM	4/4/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/5/17	11:00	

* Total Ca, Fe, Pb, Mg, Mn, K, Na
** MS/MSD 8260, 8270, 8011, 8015, 6010, 300.0, SM3500

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT for CB, MH, GM
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:

Analysis Requested/Method Number

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C-~~BTEX~~, TPH-g	8260C ~~BCM VOC full list~~	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs ~~Full list~~	8270D ~~Semi Vol list~~ TICs	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM350D Ferrous Iron	300.0 Nitrate,Sulfate,Chloride, ~~Bromide, Chloride~~	SM2320B Alkalinity (total, bicarb, carb)	Comments
EPH307	RHMW09	4/4/17	0850	HST	8	✓							X		X	X	X					MS/MSD** see other coolers

*Total Ca, Fe, Pb, Mg, Mn, K, Na
** MS/MSD on 8260, 8270, 8011, 8015, 6010, ~~300.0, SM4500~~

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☒ One week ☐ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	4/4/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/5/17	11:00	Yang

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Sampler (Print): CB, MH, GM
Purchase Order Number: 77265
Sampler (Signature): MT JM for CB, MH, GM

Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C-~~BTEX~~, TPH-g	8260C-~~DCE, VC~~ MT 9/07 full list	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs full list	8270D-~~Alkanol~~, HCs SVOC full list	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride Bromide Fluoride	SM2320B Alkalinity (total, bicarb, carb)	Comments: Lab pH Lab DO Dissolved Total Solids Dissolved Solids
ERH314	RHMW09	4/4/17	0850	HST	11	✓					X	X	X		X	X	X			X		X X X X see other cooler

VS

* Total Ca, Fe, Mn, Mg, Na, K, Na

Shuttle Temperature:

Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☐ 24/48 Hrs. ☐ Other

Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	4/4/17	1400					
Relinquished by:	**Date**	**Time**	**Received by:**	**Relinquished by:**	**Date**	**Time**	**Received at lab by:**
					4/5/17	11:00	Yang Son

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

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Company Name: AECOM Phone: 808-356-7249
Address: 1001 Bishop St. Suite 1600
Honolulu, Hawaii 96813 Fax:
Attn: Mary Basano Email: mary.basano@aecom.com

Project Name/Number: CIV 53 / 60481245
Purchase Order Number: 77265
Sampler (Print): CB, MH, GM
Sampler (Signature): MT for CB, MH, GM
Date Shipped: 4/4/17
Carrier: FedEx
Tracking No.:

Analysis Requested/Method Number

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Aq	Sed.	Soil		8260C BTEX, TPH-g	8260C BCA VOC Full List	8011 EDB	8015C TPH-d/o	3630C/8015C TPH-d/o w/ SGT	8270D SIM PAHs Full List	8270D Phenols, TICs SVOC Full List	2-(2-methoxyethoxy)-ethanol	RSK175M Methane	SM3500 Ferrous Iron	300.0 Nitrate, Sulfate, Chloride, Bromide, Fluoride	SM2320B Alkalinity (total, bicarb, carb)	Total Metals Total Lead	Total Metals Total Lead	Dissolved Metals Dissolved Lead	Total Metals Total Silica	Dissolved Metals Dissolved Silica	Comments
ERH315	Field Blank	4/4/17	0745	HST	11	✓							X		X	X	X			X		X	X	X	X		see other order
			KS																								

*Total Ca, Fe, Pb, Mg, Mn, K, Na

Shuttle Temperature:
Turnaround Requested: Check one
☐ Standard 2-3 wk ☑ One week ☑ 24/48 Hrs. ☐ Other
Sample Disposal:
☐ Return to client ☑ Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kaela Shiigi AECOM	4/4/17	1400					

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					4/5/17	11:00	Yang Zu

Note: The first sampled date of the ARF will be used as the COC number unless indicated otherwise.

COOLER RECEIPT FORM **ARF: 82596** + 82619

1) Project: 60481245 CIV0053 Red Hill Fuel Storage Date Received: 04/05/17

2) Coolers: Number of Coolers: 9

3) YES Were custody seals present and intact?
How many? 18 Name/Date on seal? See Below

4) YES Was there a shipping slip? Carrier name: FED EX

5) Type of packing in cooler: X bubble wrap __ popcorn __ foam X plastic bags
X wet ice __ dry ice __ no ice __ other

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use M65283

8) Cooler temp(s): In °C

1: 3.5	2: 3.5	3: 3.5	4: 4.0	5: 4.0	6: 4.0
7: 4.0	8: 4.5	9: 4.5	10:	11:	12:

Chain of custody:

9) YES Was a chain of custody received?

10) YES Were the custody papers complete/signed in the appropriate places?

Sample Labels:

11) YES Were all sample labels complete (sample ID, date/time of sampling, etc.)?

12) YES Did all container labels agree with custody papers?

Sample Containers:

13) YES Were all containers sealed in separate bags?

14) YES Did all containers arrive in good condition:(unbroken, no leakage, no cracked/broken lids)?

15) YES Were correct containers and preservatives used for the tests indicated?

16) YES Was a sufficient amount of sample sent for tests indicated?

17) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea:
Smaller than a pea: AZ53167W01-3,AZ53171W01-3,AZ53173W01-3,AZ53175W01-3,AZ53177W01-3, AZ53179W01-3

CUSTODY SEAL
AECOM (808) 523-8874
Initials RK Date 4/14/17

Preservation Hold time:

18) Yes Was a sufficient amount of holding time remaining to analyze the samples?

19) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

20) Yes Was the pH of acid preserved non-VOA samples < 2?

21) NA Was the pH of sodium hydroxide preserved samples for Cyanide > 12 and Sulfide >9?

22) NO Were unpreserved VOA Vials received?

23) NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate:

Notes/Deficiencies:

Samples ERH306,ERH308,ERH311,and ERH318 are all maked as trip blanks on the COC.All the HCL Voas received for these samples are in fact lab created trip blanks, but all the Non preserved VOAS specified for 8011 on the label are not lab created trip blanks, these voas were made by the client. For samples ERH299, ERH304,ERH308,ERH311,ERH318 we revceived 3 Non preserved VOS witht the analysis requested on the contalner label of 8011 EDB. The COC does not request this analysis for these samples.

Personnel receiving samples: SM Second reviewer: YC
Personnel labeling samples: SM
Project manager notified: SM Date/Time of notification 4-6-17
Name of client notified: Date/Time of notification

Revision: 22, November 5, 2013

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217822**
Batch ID: #8011-170412A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	118	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403092
Instrument: Herbie
Sequence: 170403
Initials: RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 11:19:31 AM

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170412W-53168 LCS - 217822**
Batch ID: #8011-170412A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.286	114	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.293	83.7	70-132

Comments: _____

Primary	SPK
Quant Method :	80110413.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Herbie
Run :	0403094
Initials :	RHA

Printed: 04/13/17 11:19:24 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8011

APPL ID: **170412W-53168 MS - 217822**
Batch ID: #8011-170412A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.273	0.271	109	108	60-140	0.74	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	NA	0.271	0.267	77.4	76.3	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110413.M	80110413.M
Extraction Date :	04/12/17	04/12/17
Analysis Date :	04/12/17	04/12/17
Instrument :	Herbie	Herbie
Run :	0403098	0403099
Initials :	RHA	

Printed: 04/13/17 11:23:06 AM
APPL MSD SCII

8011

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER

SDG No: 82619
Date Analyzed: 04/12/17
Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170412A-BLK	Blank	70-132	118				
170412A-LCS	Lab Control Spike	70-132	83.7				
AZ53167	ERH306	70-132	114				
AZ53168-MS	Matrix Spike	70-132	77.4				
AZ53168-MSD	Matrix SpikeD	70-132	76.3				
AZ53168	ERH307	70-132	132				
AZ53169	ERH314	70-132	116				
AZ53170	ERH315	70-132	118				

Comments: Batch: #8011-170412A

Printed: 04/13/17 11:19:29 AM
Form 2 & 8, Surrogate Recovery Summary

8011

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170412A-BLK

SDG No: 82619
Date Analyzed: 04/12/17
Instrument: Herbie
Time Analyzed: 1926

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170412A-BLK	Blank	0403092	04/12/17 1926
170412A-LCS	Lab Control Spike	0403094	04/12/17 2009
AZ53167	ERH306	0403095	04/12/17 2030
170412A-MS	Matrix Spike	0403098	04/12/17 2133
170412A-MSD	Matrix SpikeD	0403099	04/12/17 2154
AZ53168	ERH307	0403100	04/12/17 2215
AZ53169	ERH314	0403101	04/12/17 2236
AZ53170	ERH315	0403102	04/12/17 2258

Comments: Batch: #8011-170412A

Printed: 04/13/17 11:19:14 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH306
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53167
QCG: #8011-170412A-217822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	114	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403095
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 11:19:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403095.D\ECD1A.CH Vial: 95
Signal #2 : G:\HERBIE\DATA\170403\0403095.D\ECD2B.CH
Acq On : 04-12-17 20:30:18 Operator: RH
Sample : AZ53167W04 2/34.65G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:45 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

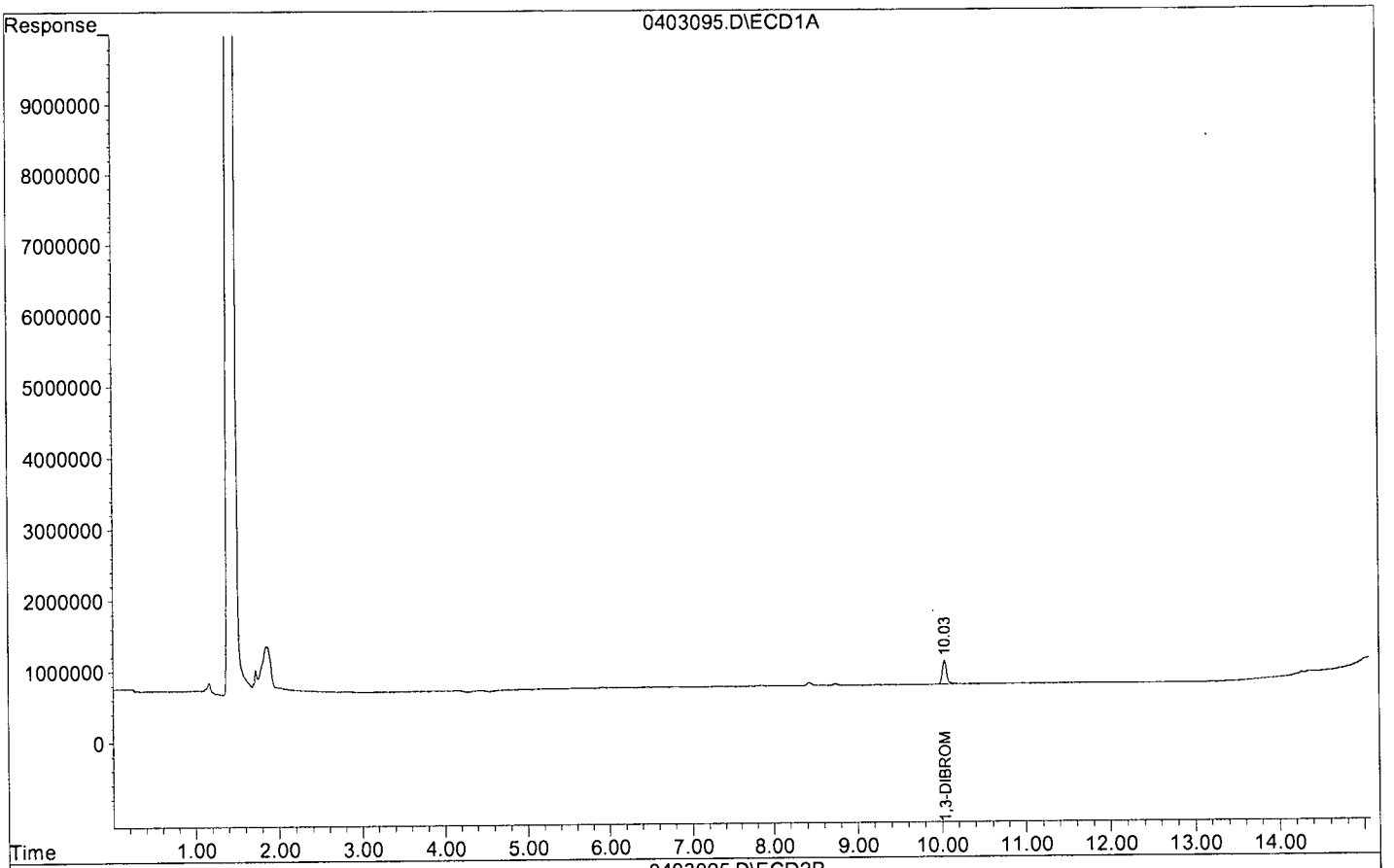
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	338072	624836	0.410	0.402
Spiked Amount 0.354			Recovery	=	115.97%	113.71%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

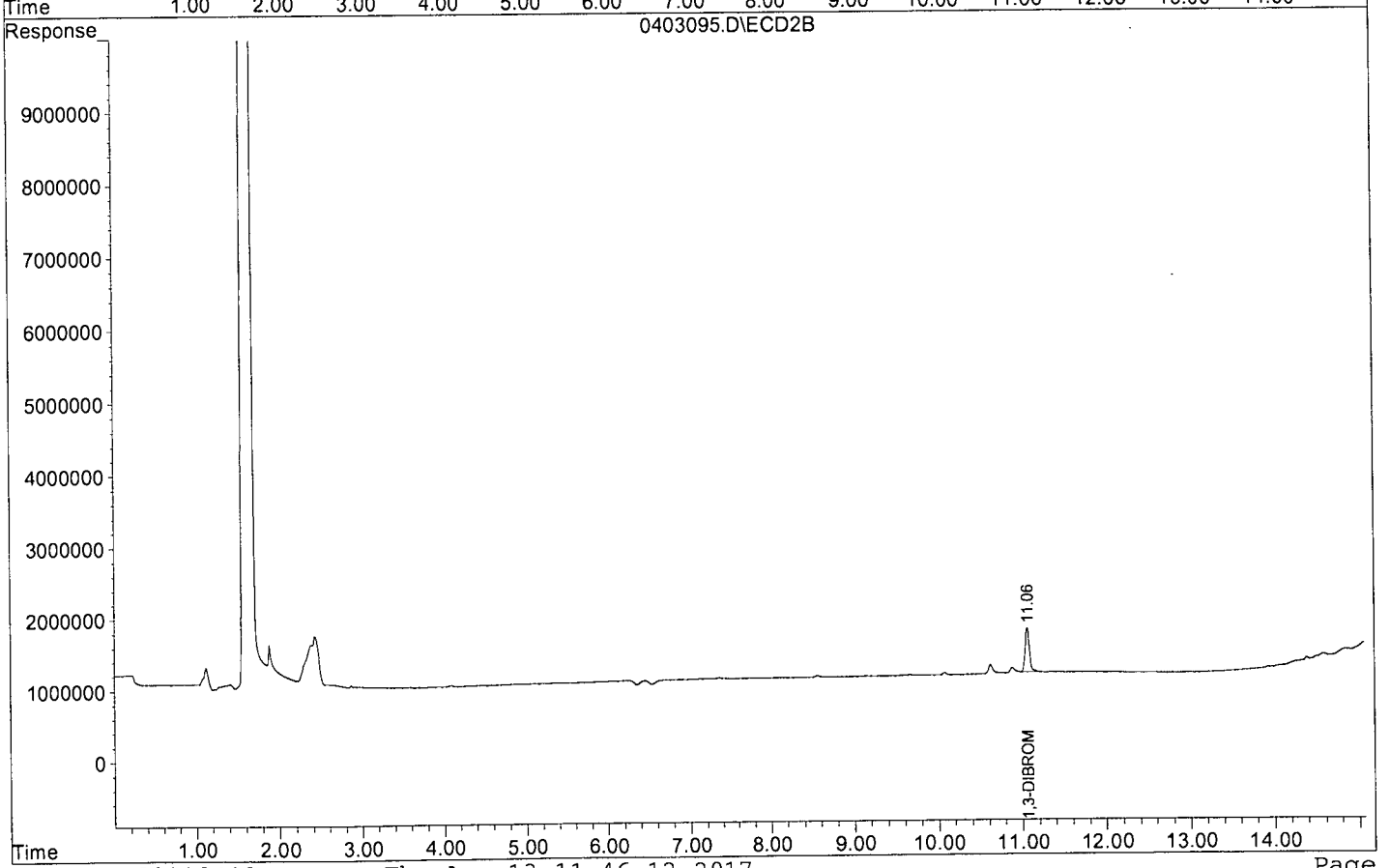
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403095.D
Acq On : 04-12-17 20:30:18
Sample : AZ53167W04 2/34.65G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 95
Operator: RH
Inst : Herbie
Multiplr: 1.01





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #8011-170412A-217822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	132	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403100
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 11:19:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403100.D\ECD1A.CH Vial: 100
Signal #2 : G:\HERBIE\DATA\170403\0403100.D\ECD2B.CH
Acq On : 04-12-17 22:15:55 Operator: RH
Sample : AZ53168W16 2/34.84G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:46 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

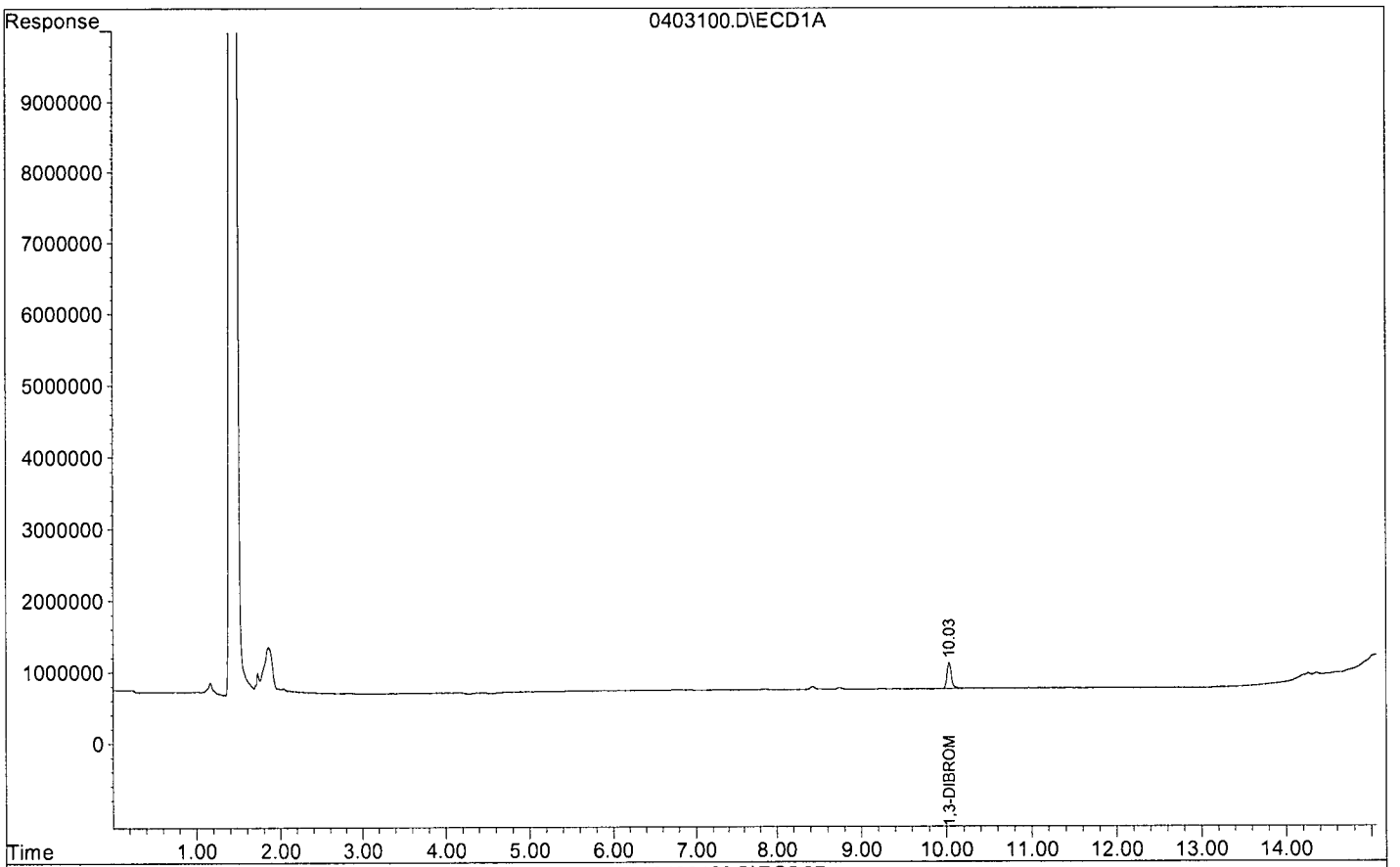
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	364382	724502	0.440	0.463
Spiked Amount 0.352			Recovery	=	125.14%	131.68%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D.	N.D.

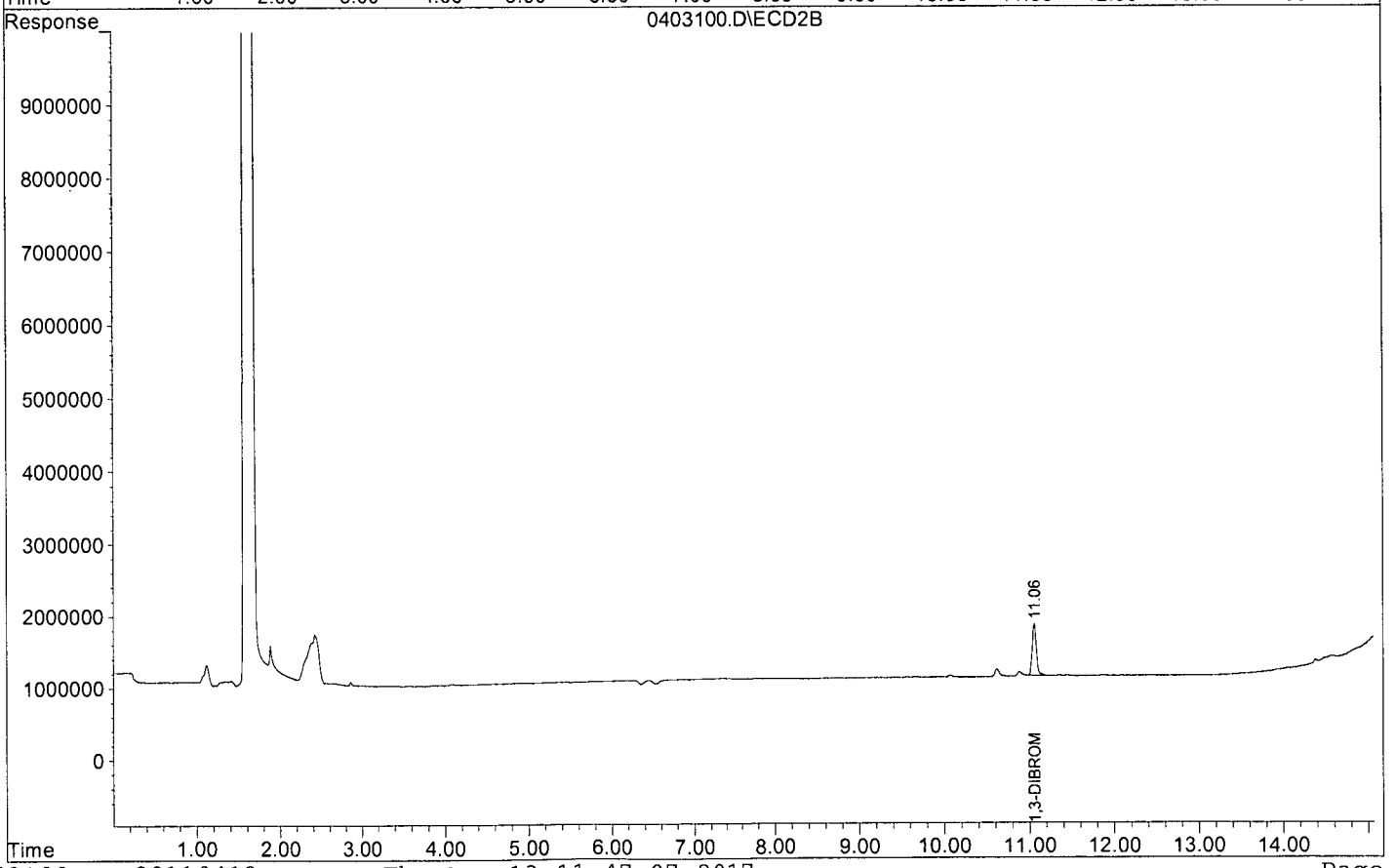
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403100.D
Acq On : 04-12-17 22:15:55
Sample : AZ53168W16 2/34.84G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 100
Operator: RH
Inst : Herbie
Multiplr: 1.00





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #8011-170412A-217822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	116	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403101
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 11:19:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403101.D\ECD1A.CH Vial: 1
Signal #2 : G:\HERBIE\DATA\170403\0403101.D\ECD2B.CH
Acq On : 04-12-17 22:36:55 Operator: RH
Sample : AZ53169W05 2/34.84G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:47 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

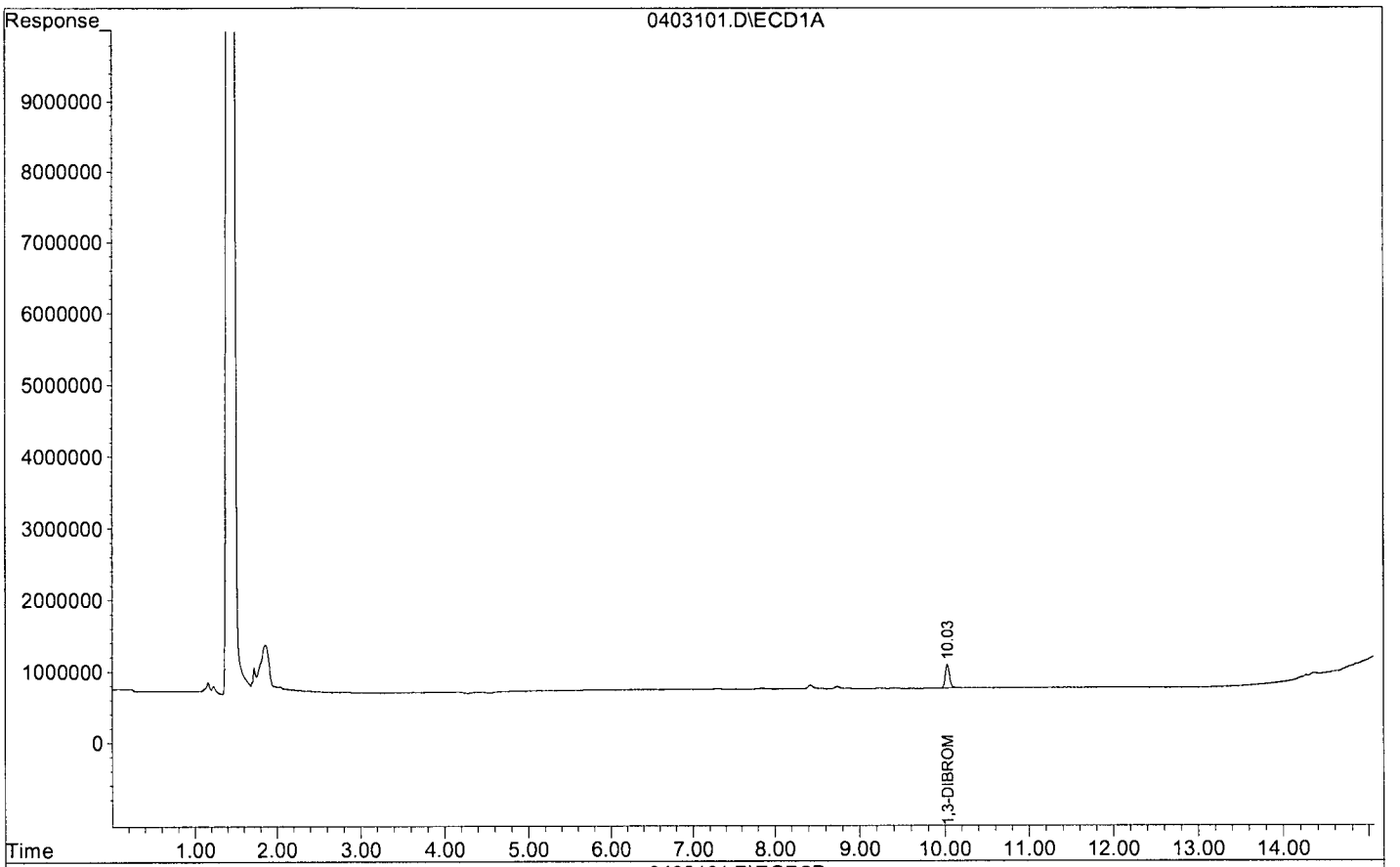
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.05	335219	637036	0.405	0.407
Spiked Amount 0.352			Recovery	=	115.19%	115.75%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D.	N.D.

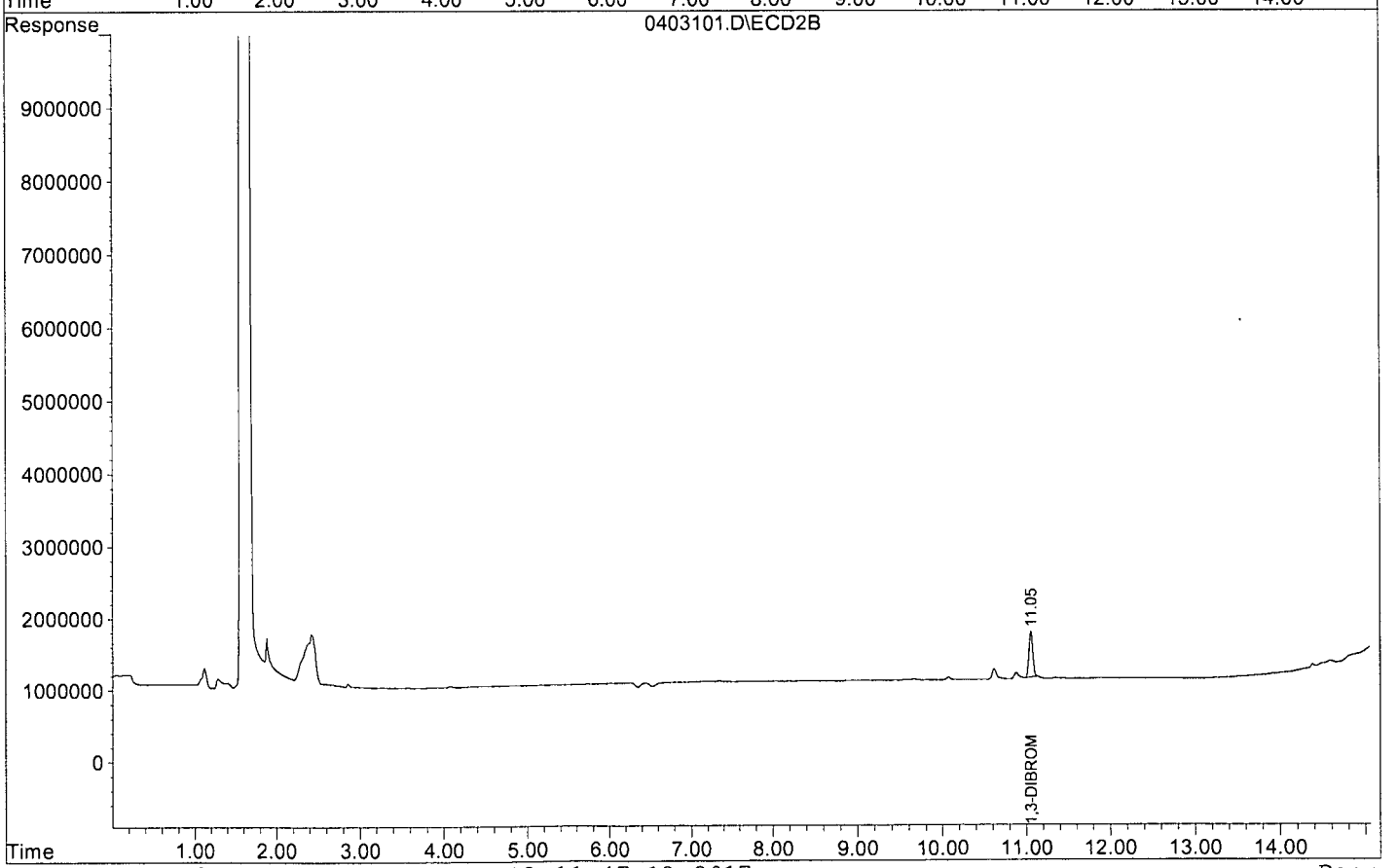
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403101.D
Acq On : 04-12-17 22:36:55
Sample : AZ53169W05 2/34.84G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 1
Operator: RH
Inst : Herbie
Multiplr: 1.00





EPA 8011

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #8011-170412A-217822

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
8011	SURROGATE: 1,3-DIBROMOPROPANE	118	70-132			%	04/12/17	04/12/17

Quant Method: 80110413.M
Run #: 0403102
Instrument: Herbie
Sequence: 170403
Dilution Factor: 1
Initials: RHA

Printed: 04/13/17 11:19:12 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403102.D\ECD1A.CH Vial: 2
Signal #2 : G:\HERBIE\DATA\170403\0403102.D\ECD2B.CH
Acq On : 04-12-17 22:58:01 Operator: RH
Sample : AZ53170W06 2/34.26G Inst : Herbie
Misc : Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:47 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

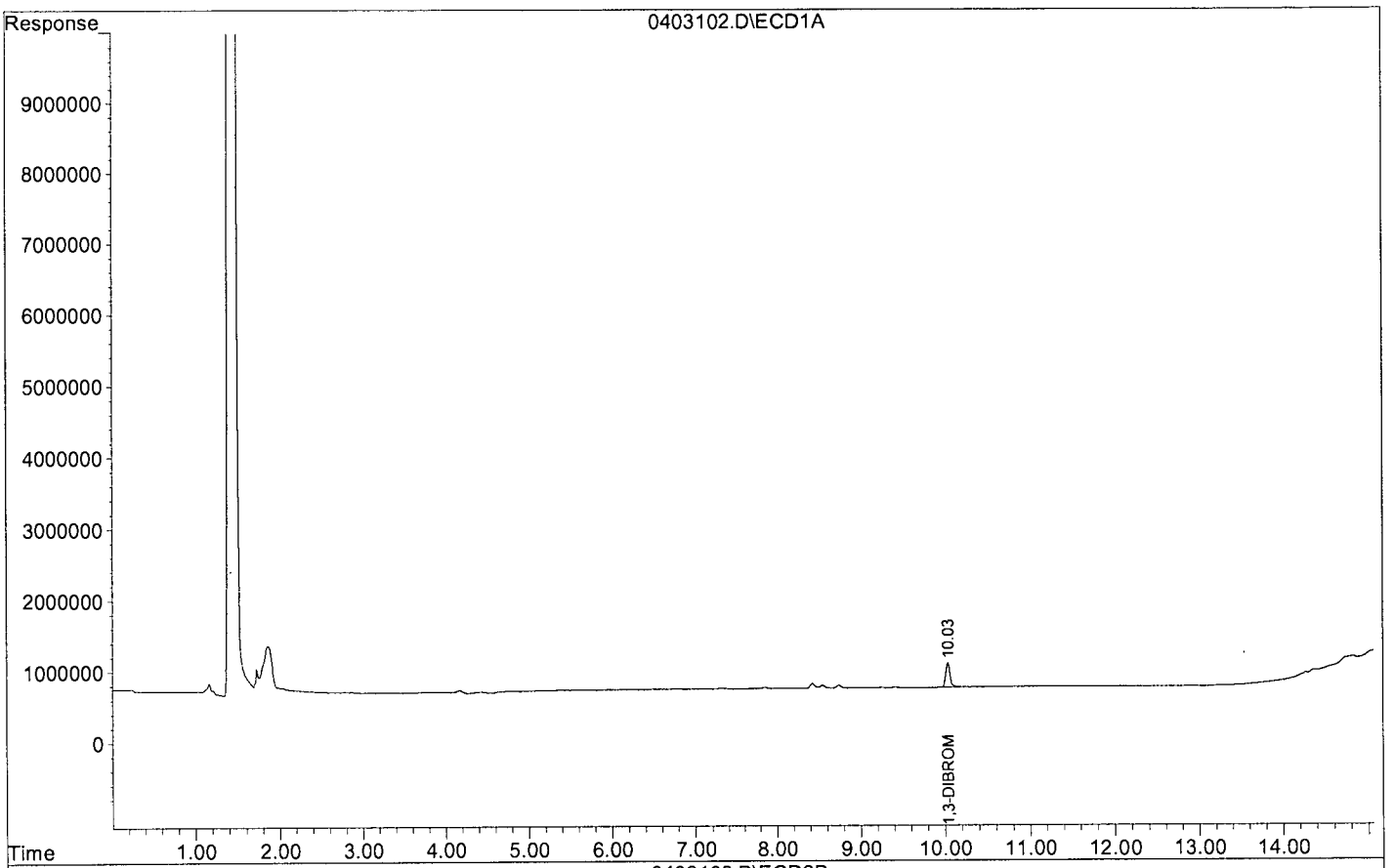
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	344890	648771	0.423	0.422
Spiked Amount 0.358			Recovery	=	118.30%	118.02%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

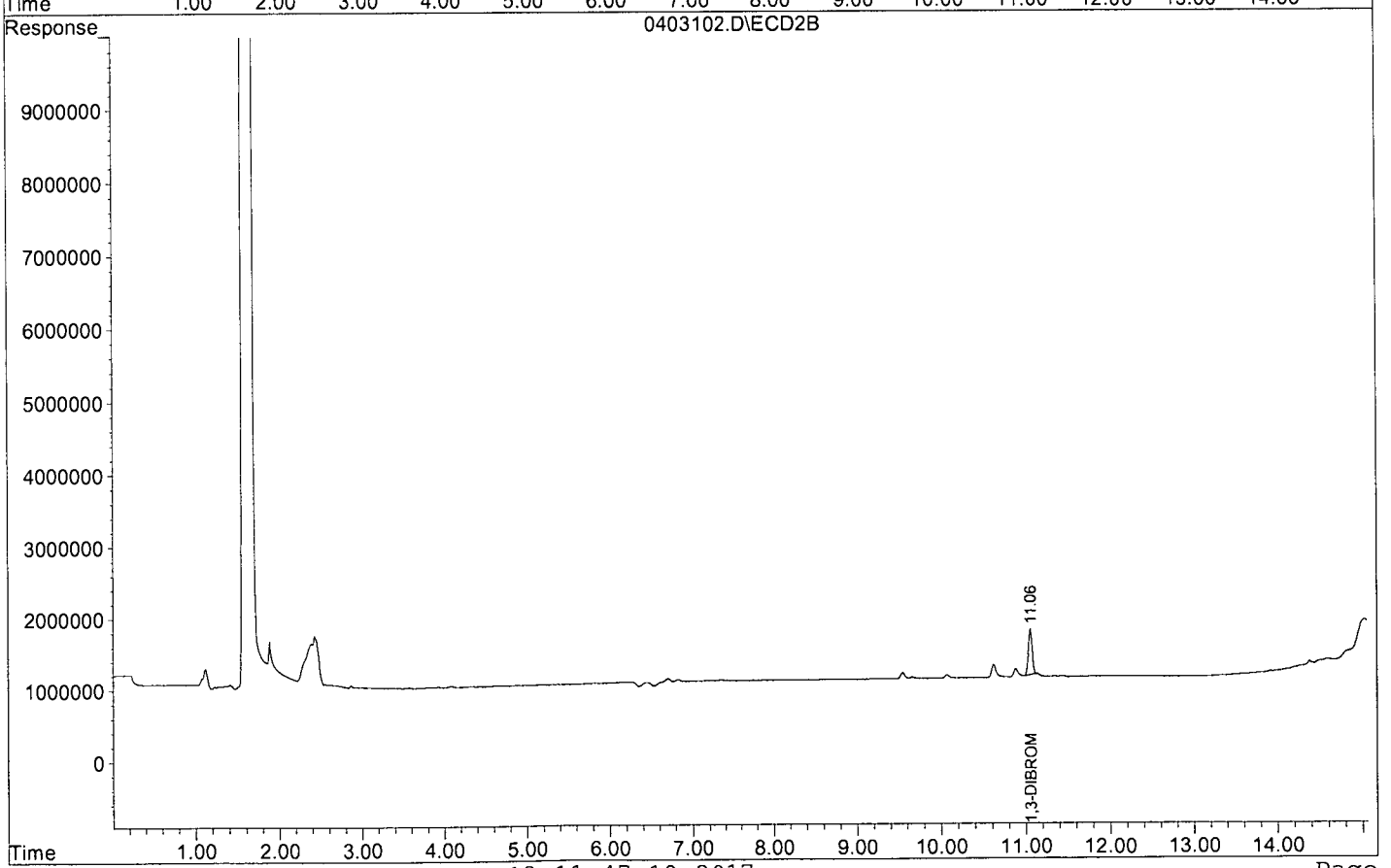
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403102.D
Acq On : 04-12-17 22:58:01
Sample : AZ53170W06 2/34.26G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 2
Operator: RH
Inst : Herbie
Multiplr: 1.02





ORGANICS

Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/12/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0403085.D	0403086.D	0403087.D	0403088.D	0403089.D	0403090.D								
1	TM	EDB	466975	561000	531184	477253	432712	486217					492557	9.4	TM	
2	TML	1,2,3-TCP	199850	117620	123782	110621	104659	113871					128400	28	TML	0.996
3	S	1,3-DIBROMOPROPANE(S)		451880	447436	402284	368245	410339					416037	8.3	S	
4	TM	DBCP	1340050	1427685	1358396	1302800	1247286	1384003					1343370	4.7	TM	
5		Signal #2											0	0		
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1.4315336

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/12/17
Instrument: Herbie

Initials:

		Compound	1	2	3	4	5	6					Avg	%RSD		
			0403085.D	0403086.D	0403087.D	0403088.D	0403089.D	0403090.D								
36	TM	EDB #2	1155150	1315465	1316508	1250995	1137842	1304763					1246787	6.5	TM	
37	TM	1,2,3-TCP #2	219250	240170	229448	210444	200497	231691					221917	6.6	TM	
38	S	1,3-DIBROMOPROPANE(S) #2	678925	822500	821252	804910	752357	833067					785502	7.6	S	
39	TM	DBCP #2	3142125	3792075	3576996	3424829	3417633	3955162					3551470	8.2	TM	
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0.8269624

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:13 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

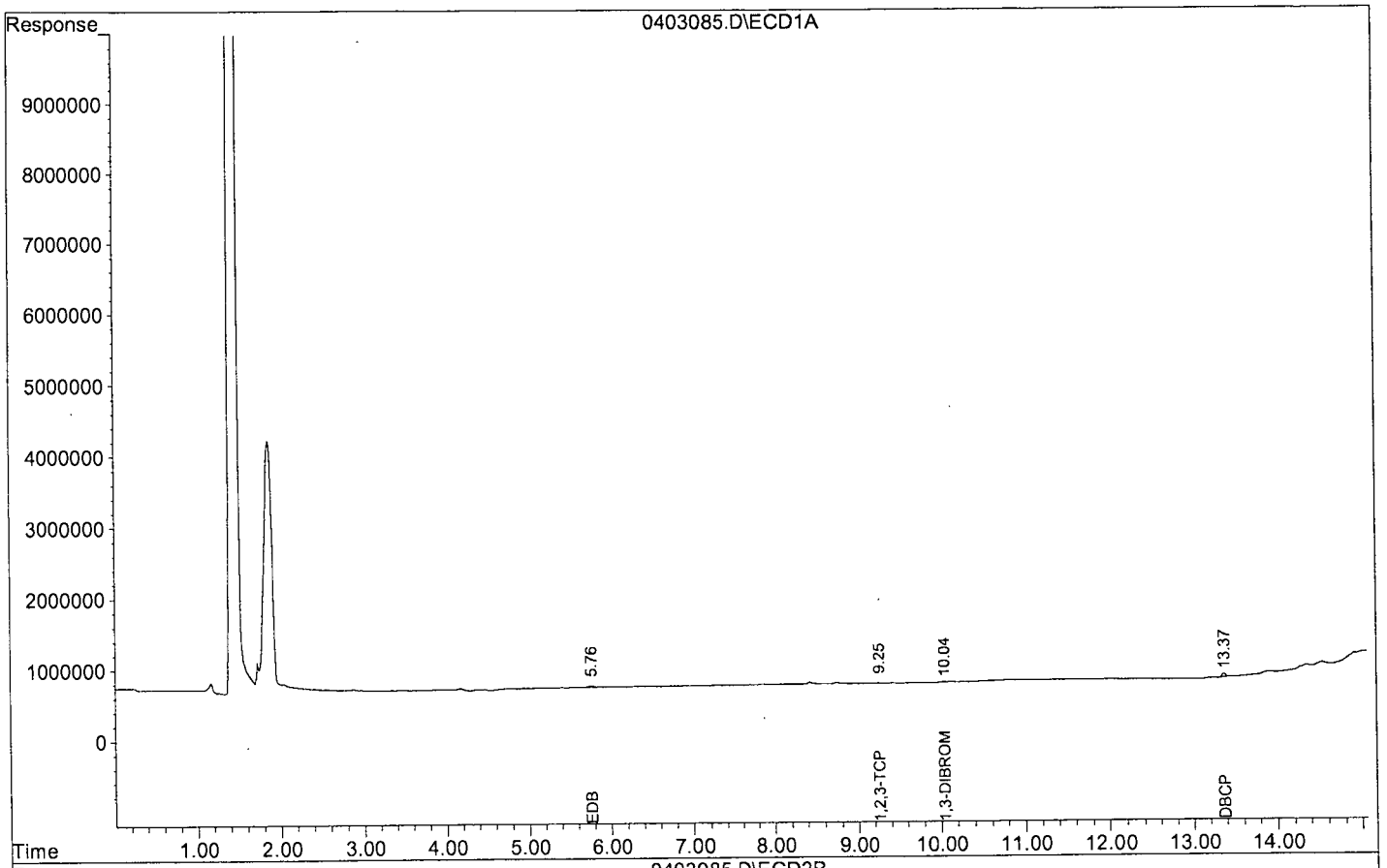
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.04	11.06	13411	27157	0.016	0.018
Spiked Amount 0.350			Recovery	=	4.57%	5.14%
Target Compounds						
1) TM EDB	5.76	7.22	18679	46206	0.016	0.017
2) TM 1,2,3-TCP	9.25	10.47	7994	8770	0.031m	0.020 #
4) TM DBCP	13.37	14.10	53602	125685	0.019	0.020
Target Compounds						

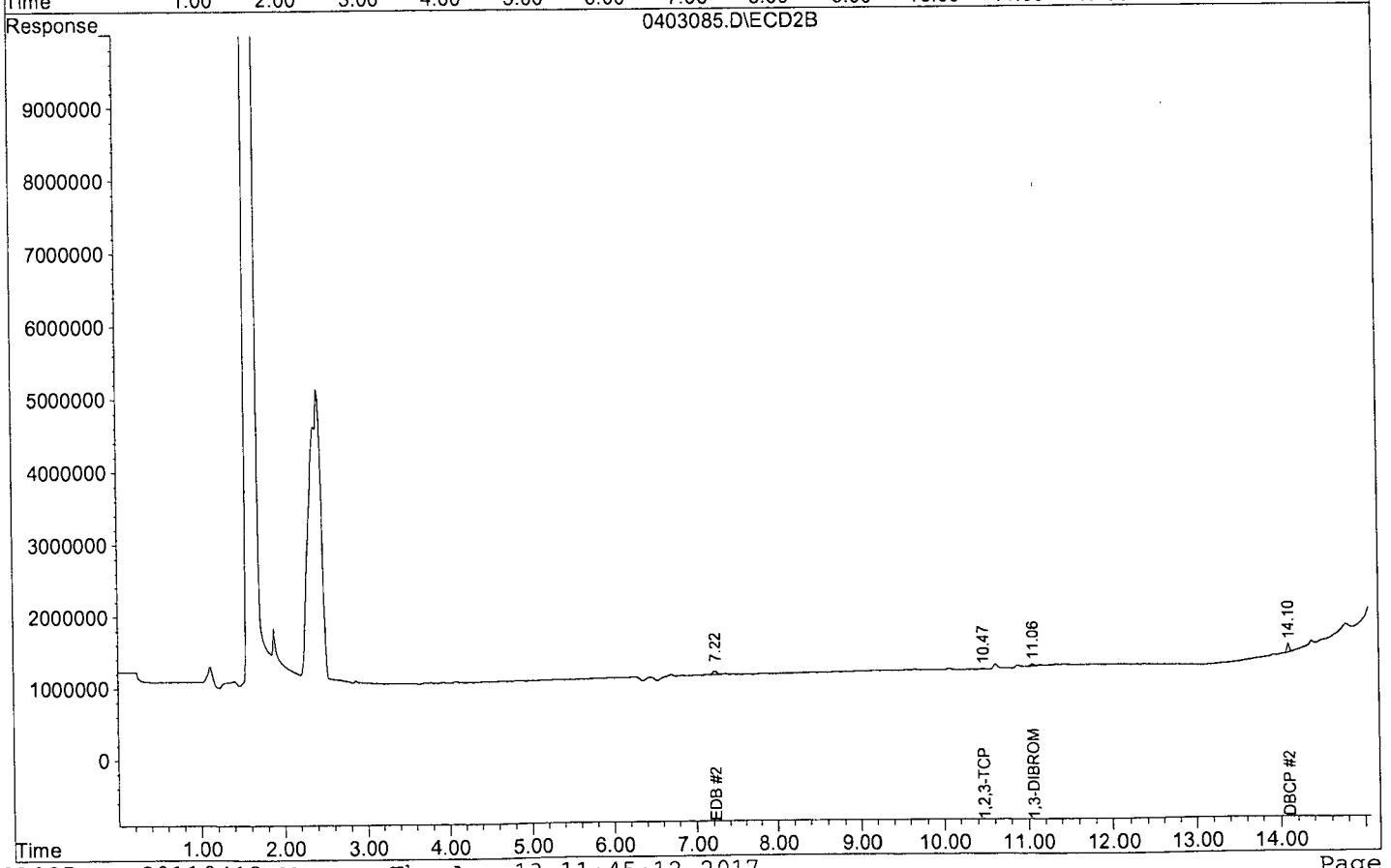
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403085.D
Acq On : 04-12-17 16:57:00
Sample : 8011 1 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 85
Operator: RH
Inst : Herbie
Multiplr: 1.00

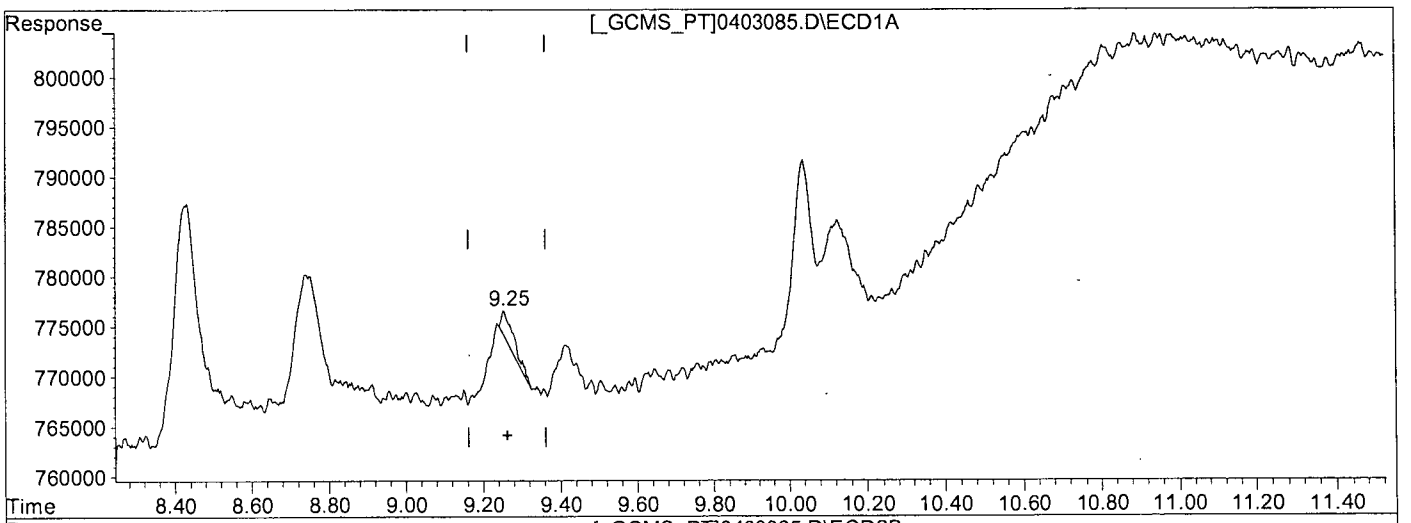


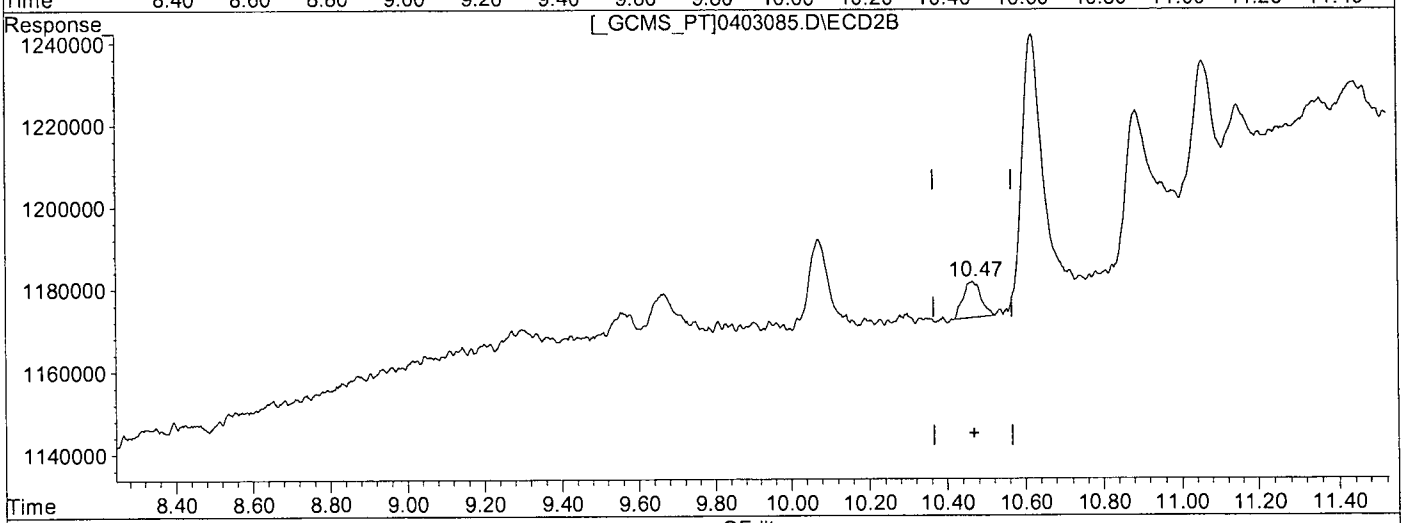


Quantitation Report

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Multiple Level Calibration





(2) 1,2,3-TCP (TM)

9.25min 0.009UG/L

response 2365

(2) 1,2,3-TCP #2 (TM)

10.47min 0.020UG/L

response 8770

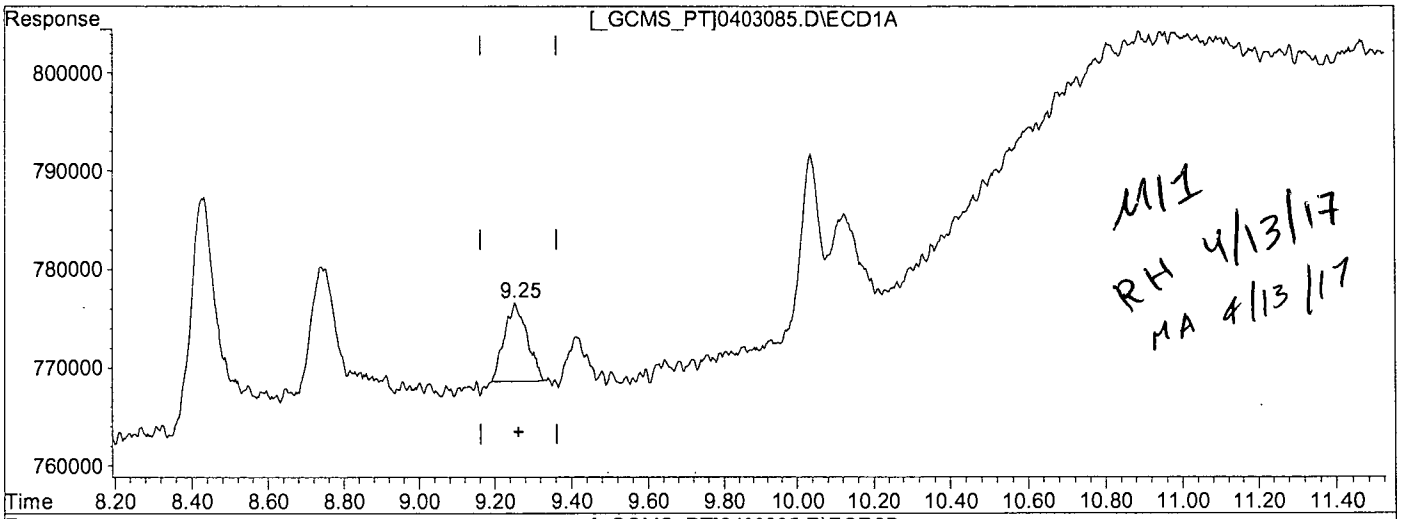
(+) = Expected Retention Time

0403085.D 80110413.M Thu Apr 13 08:38:33 2017

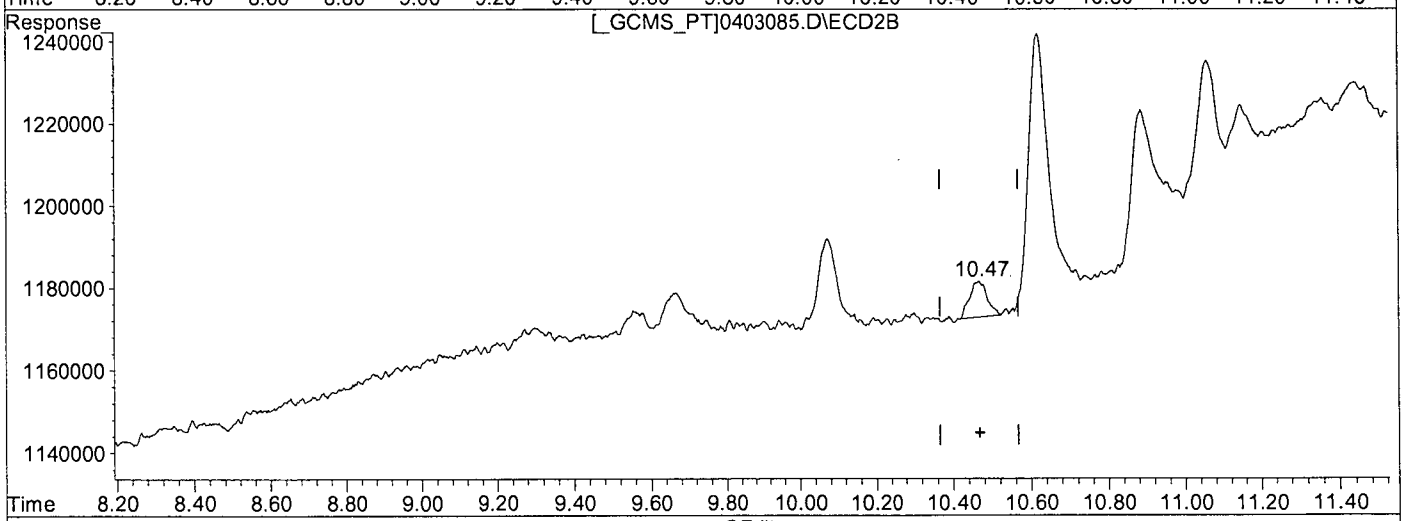
Quantitation Report

Signal #1 : G:\HERBIE\DATA\170403\0403085.D\ECD1A.CH Vial: 85
Signal #2 : G:\HERBIE\DATA\170403\0403085.D\ECD2B.CH
Acq On : 04-12-17 16:57:00 Operator: RH
Sample : 8011 1 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:13 2017 Quant Results File: 80110413.RES

Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Multiple Level Calibration



M1
RH 4/13/17
MA 4/13/17



QEdit

(2) 1,2,3-TCP (TM)

9.25min 0.031UG/L m

response 7994

(2) 1,2,3-TCP #2 (TM)

10.47min 0.020UG/L

response 8770

(+) = Expected Retention Time

0403085.D 80110413.M Thu Apr 13 09:16:53 2017

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403086.D\ECD1A.CH Vial: 86
Signal #2 : G:\HERBIE\DATA\170403\0403086.D\ECD2B.CH
Acq On : 04-12-17 17:18:23 Operator: RH
Sample : 8011 2 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	90376	164500	0.105	0.107
Spiked Amount 0.350			Recovery	=	30.00%	30.57%
Target Compounds						
1) TM EDB	5.76	7.22	112200	263093	0.093	0.098
2) TM 1,2,3-TCP	9.26	10.46	23524	48034	0.091	0.107
4) TM DBCP	13.37	14.10	285537	758415	0.103	0.119

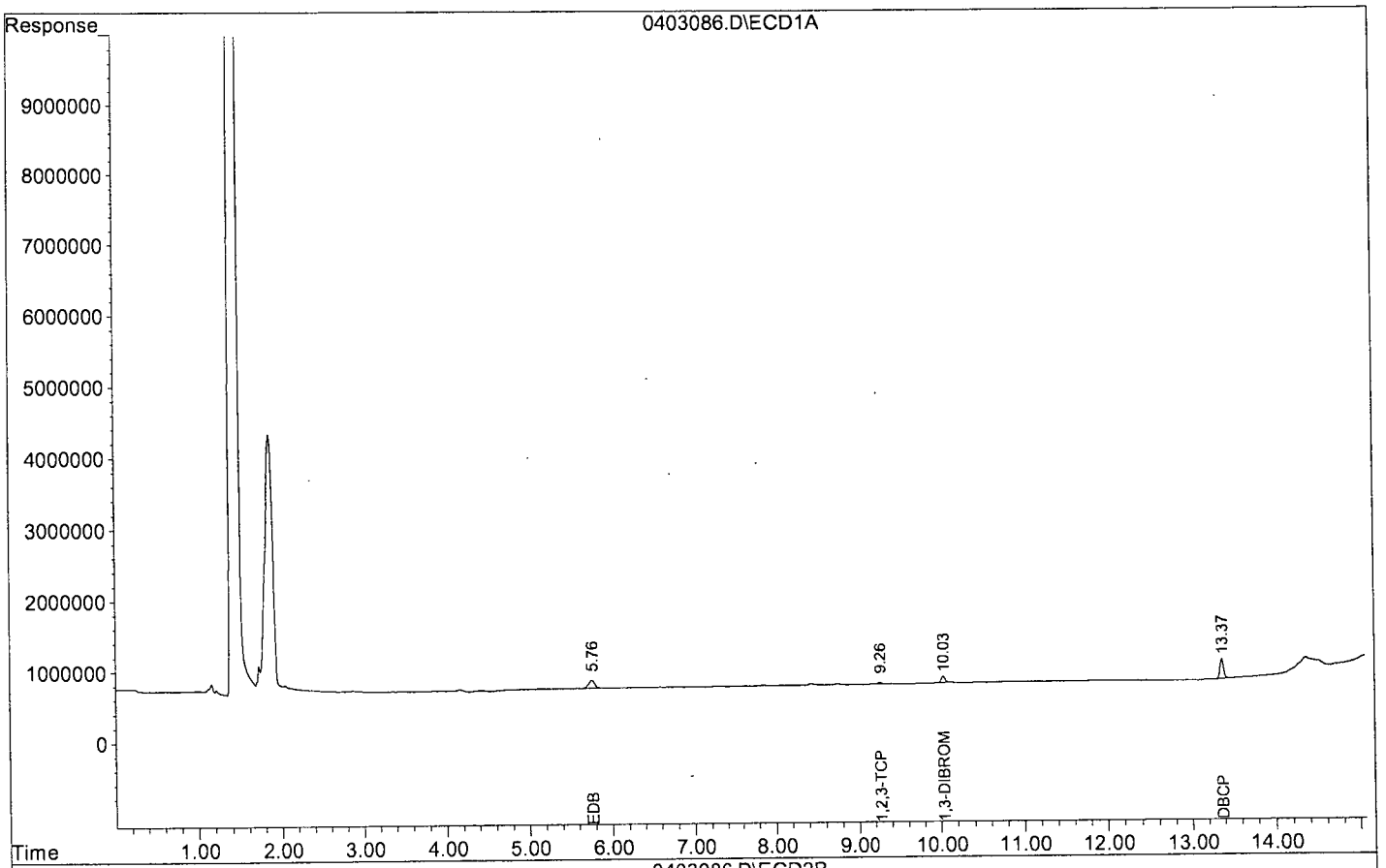
Target Compounds

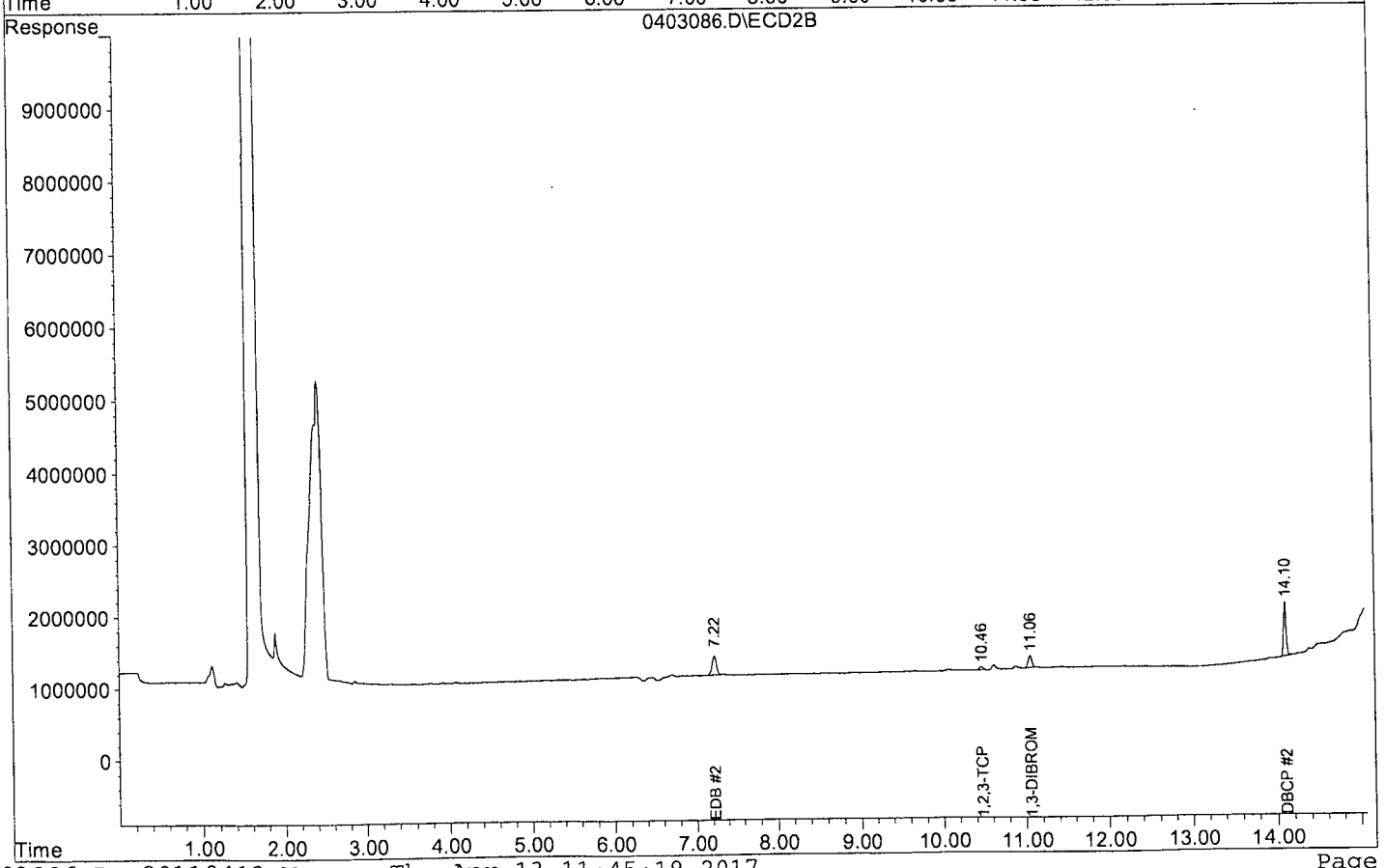
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403086.D
Acq On : 04-12-17 17:18:23
Sample : 8011 2 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 86
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403087.D\ECD1A.CH Vial: 87
Signal #2 : G:\HERBIE\DATA\170403\0403087.D\ECD2B.CH
Acq On : 04-12-17 17:39:50 Operator: RH
Sample : 8011 3 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

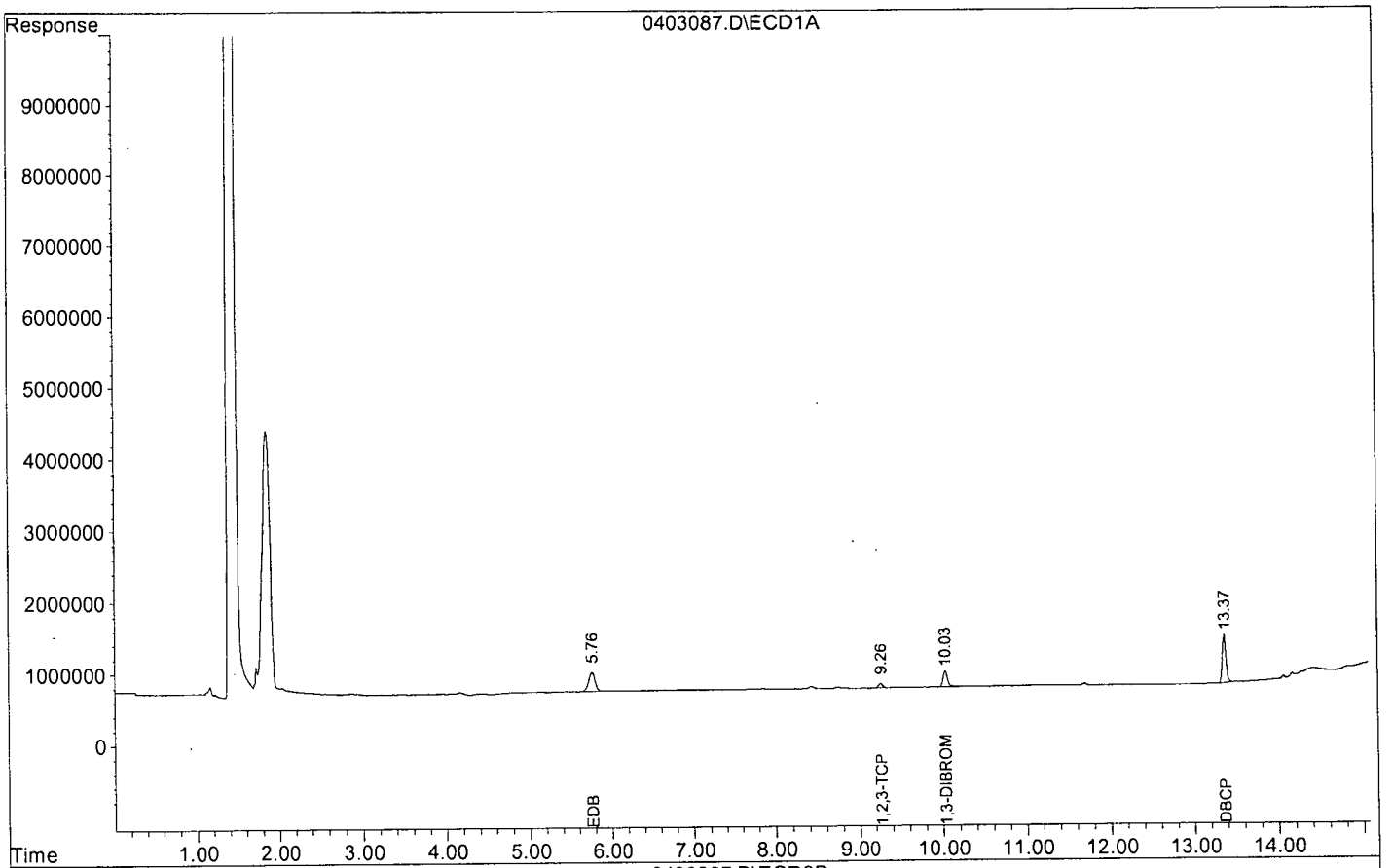
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	223718	410626	0.261	0.267
Spiked Amount 0.350			Recovery	=	74.57%	76.29%
Target Compounds						
1) TM EDB	5.76	7.22	265592	658254	0.221	0.245
2) TM 1,2,3-TCP	9.26	10.47	61891	114724	0.238	0.255
4) TM DBCP	13.37	14.10	679198	1788498	0.245	0.280
Target Compounds						

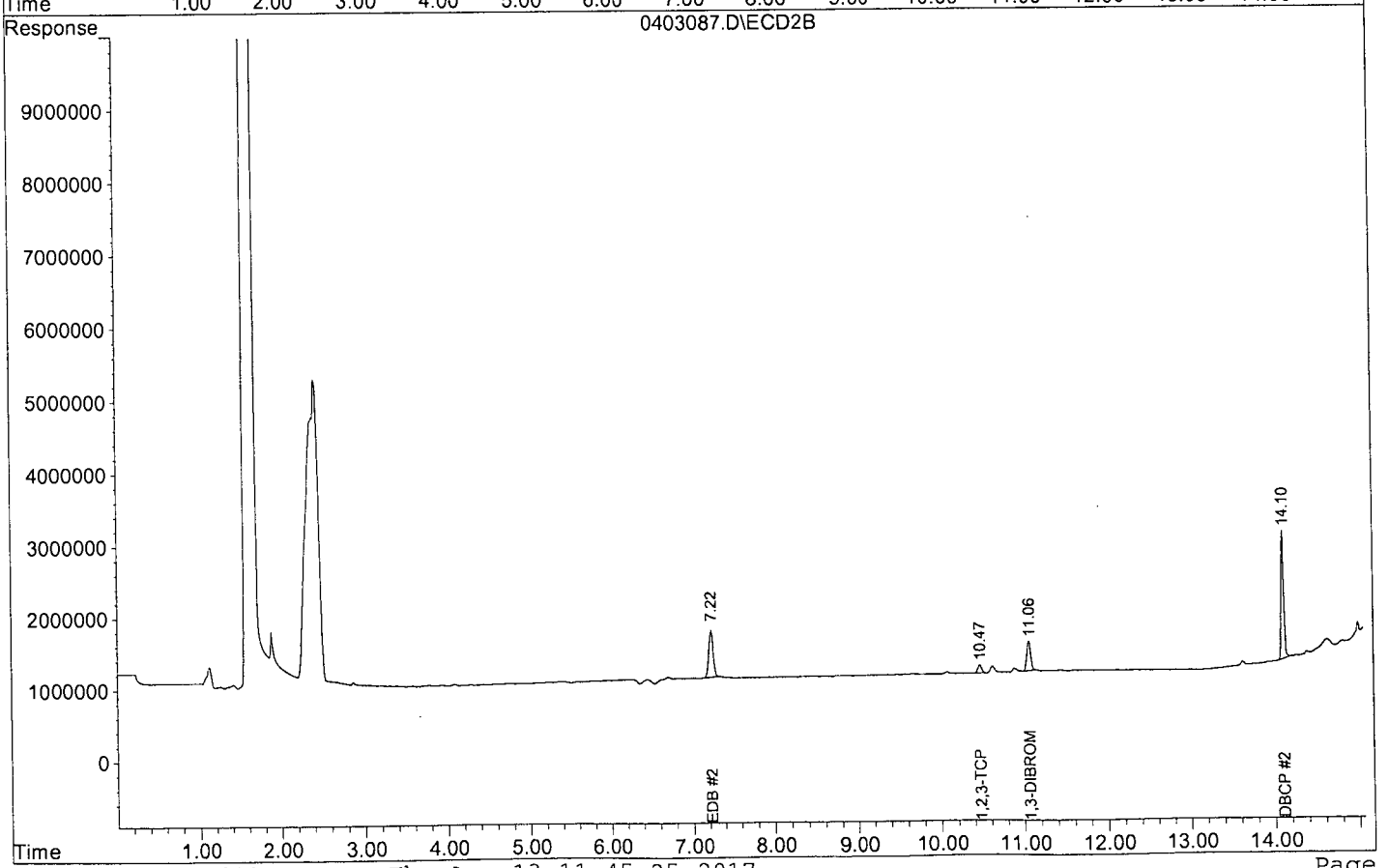
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403087.D
Acq On : 04-12-17 17:39:50
Sample : 8011 3 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 87
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403088.D\ECD1A.CH Vial: 88
Signal #2 : G:\HERBIE\DATA\170403\0403088.D\ECD2B.CH
Acq On : 04-12-17 18:01:10 Operator: RH
Sample : 8011 4 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	402284	804910	0.469	0.524
Spiked Amount 0.350			Recovery	=	134.00%	149.71%
Target Compounds						
1) TM EDB	5.76	7.22	477253	1250995	0.397	0.466
2) TM 1,2,3-TCP	9.26	10.47	110621	210444	0.426	0.468
4) TM DBCP	13.37	14.10	1302800	3424829	0.470	0.535

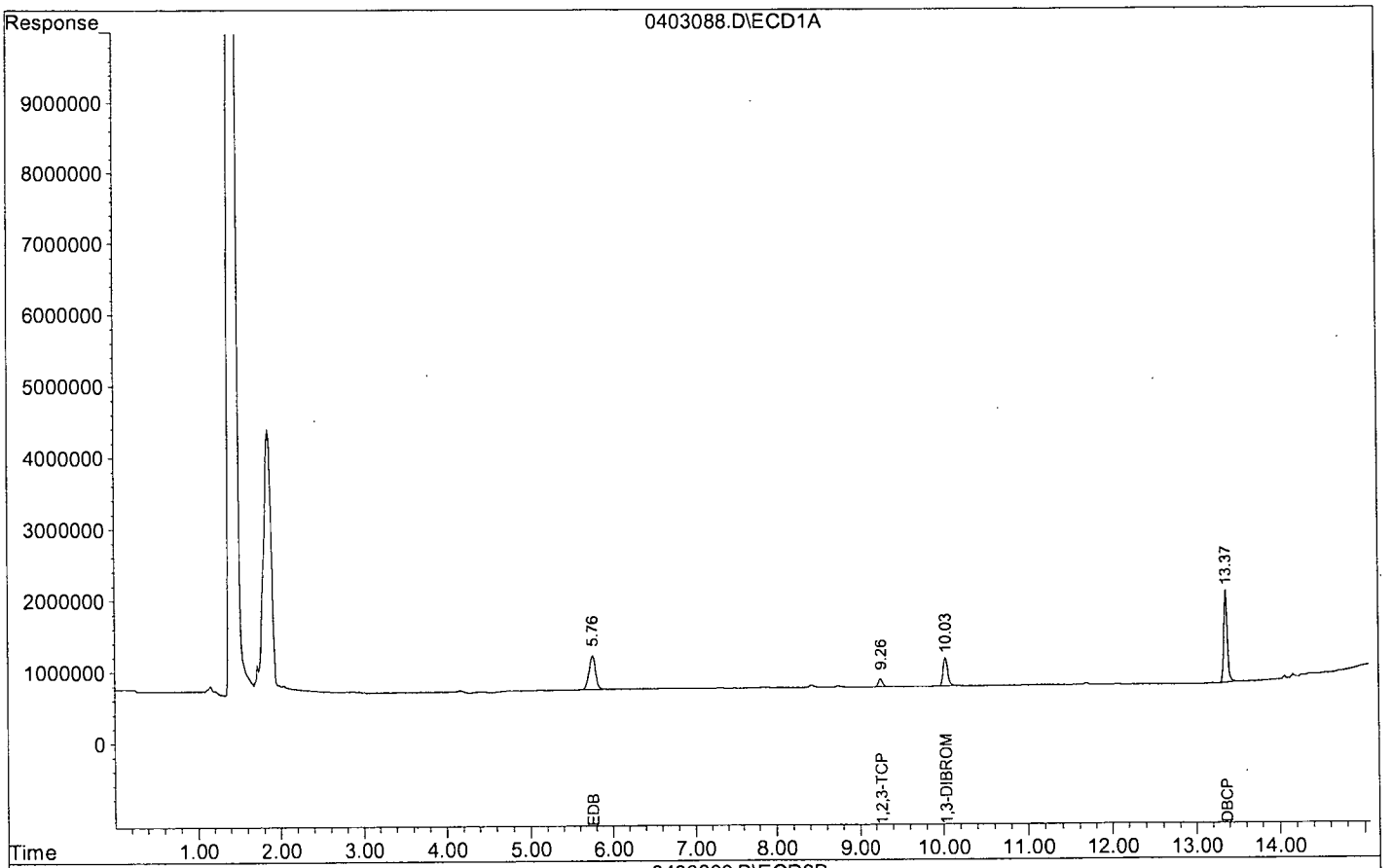
Target Compounds

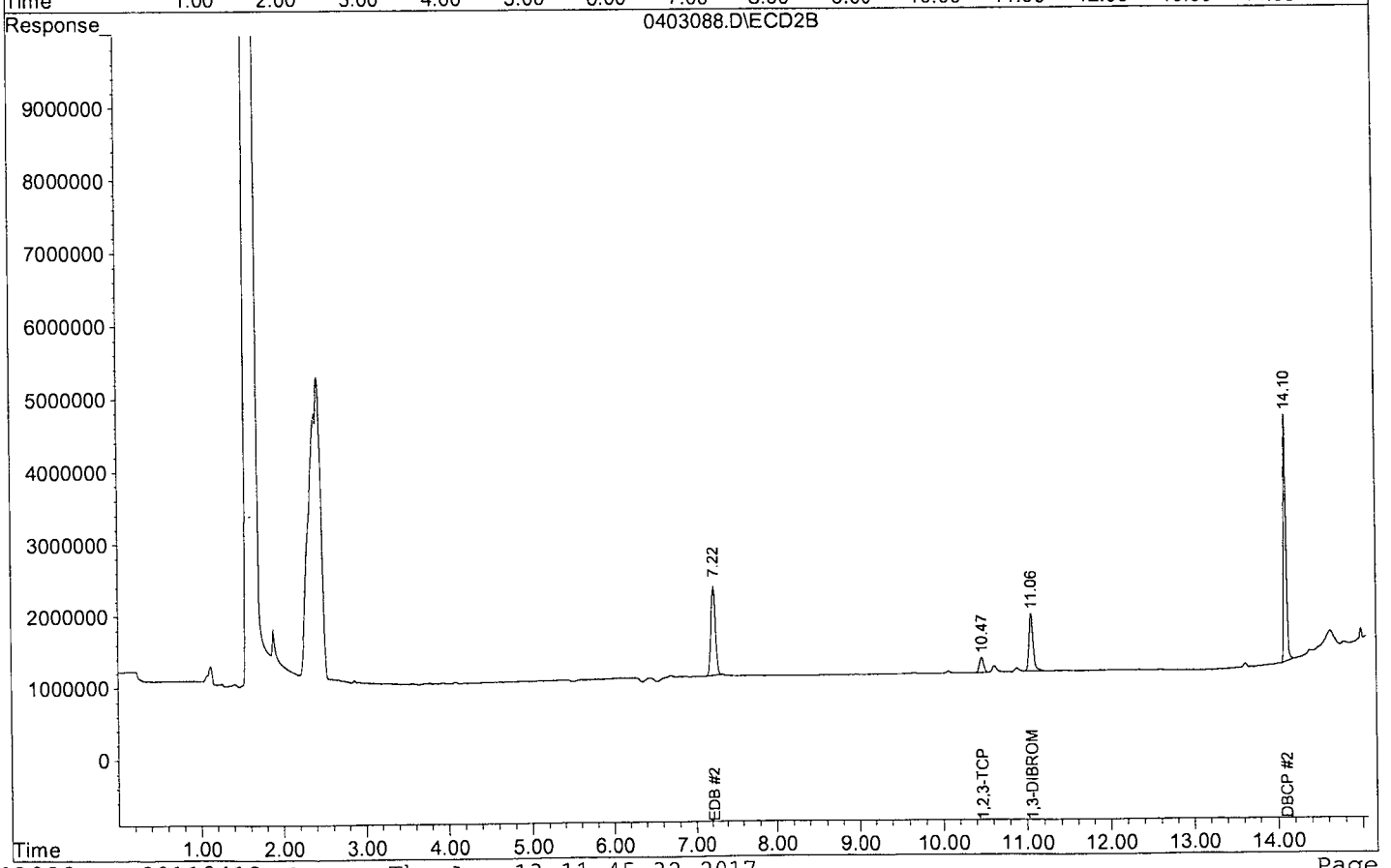
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403088.D
Acq On : 04-12-17 18:01:10
Sample : 8011 4 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 88
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403089.D\ECD1A.CH Vial: 89
Signal #2 : G:\HERBIE\DATA\170403\0403089.D\ECD2B.CH
Acq On : 04-12-17 18:22:32 Operator: RH
Sample : 8011 5 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	552367	1128535	0.644	0.734
Spiked Amount 0.350			Recovery	=	184.00%	209.71%
Target Compounds						
1) TM EDB	5.77	7.22	649068	1706763	0.540	0.636
2) TM 1,2,3-TCP	9.26	10.47	156988	300745	0.605	0.669
4) TM DBCP	13.37	14.10	1870929	5126450	0.675	0.801

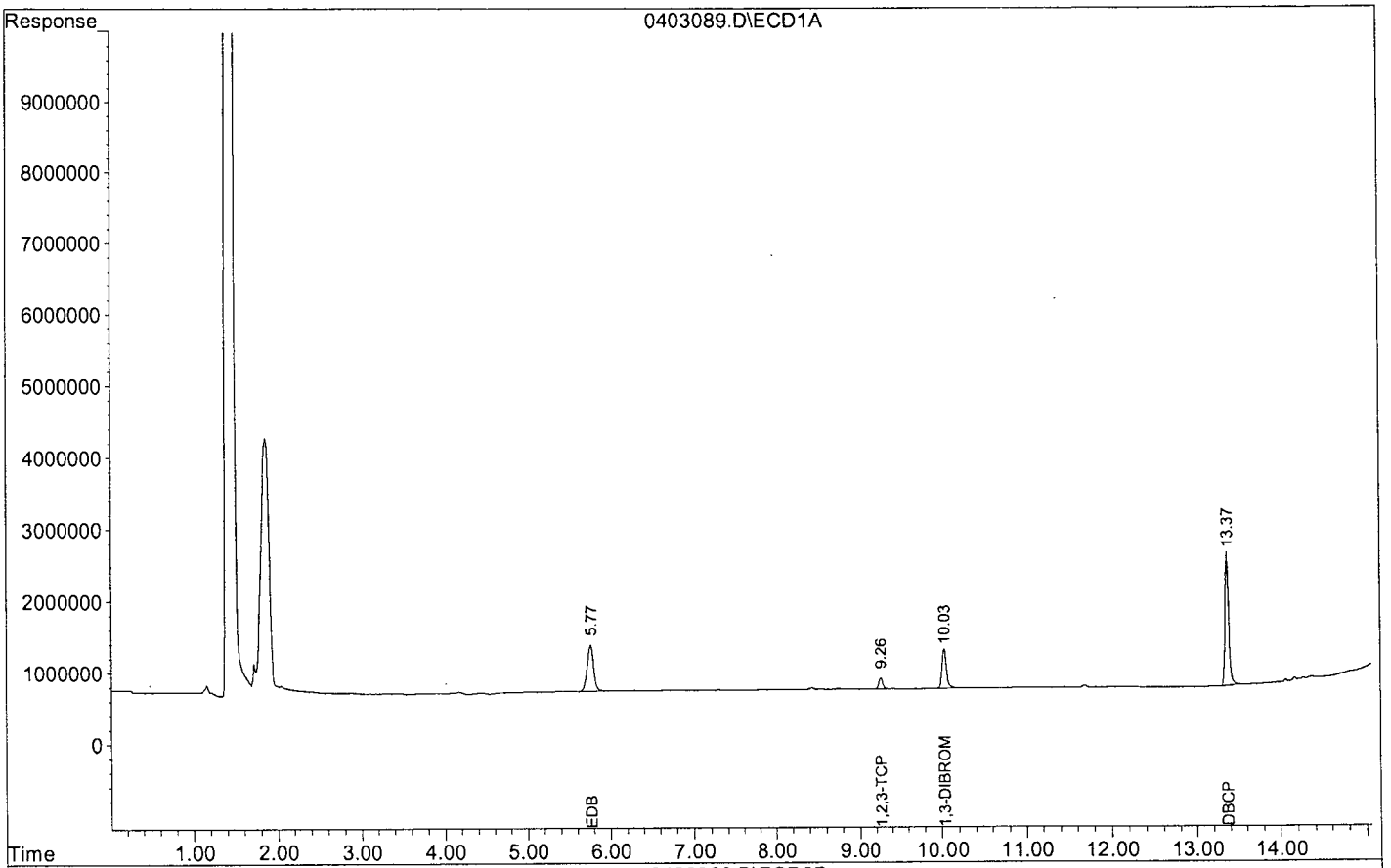
Target Compounds

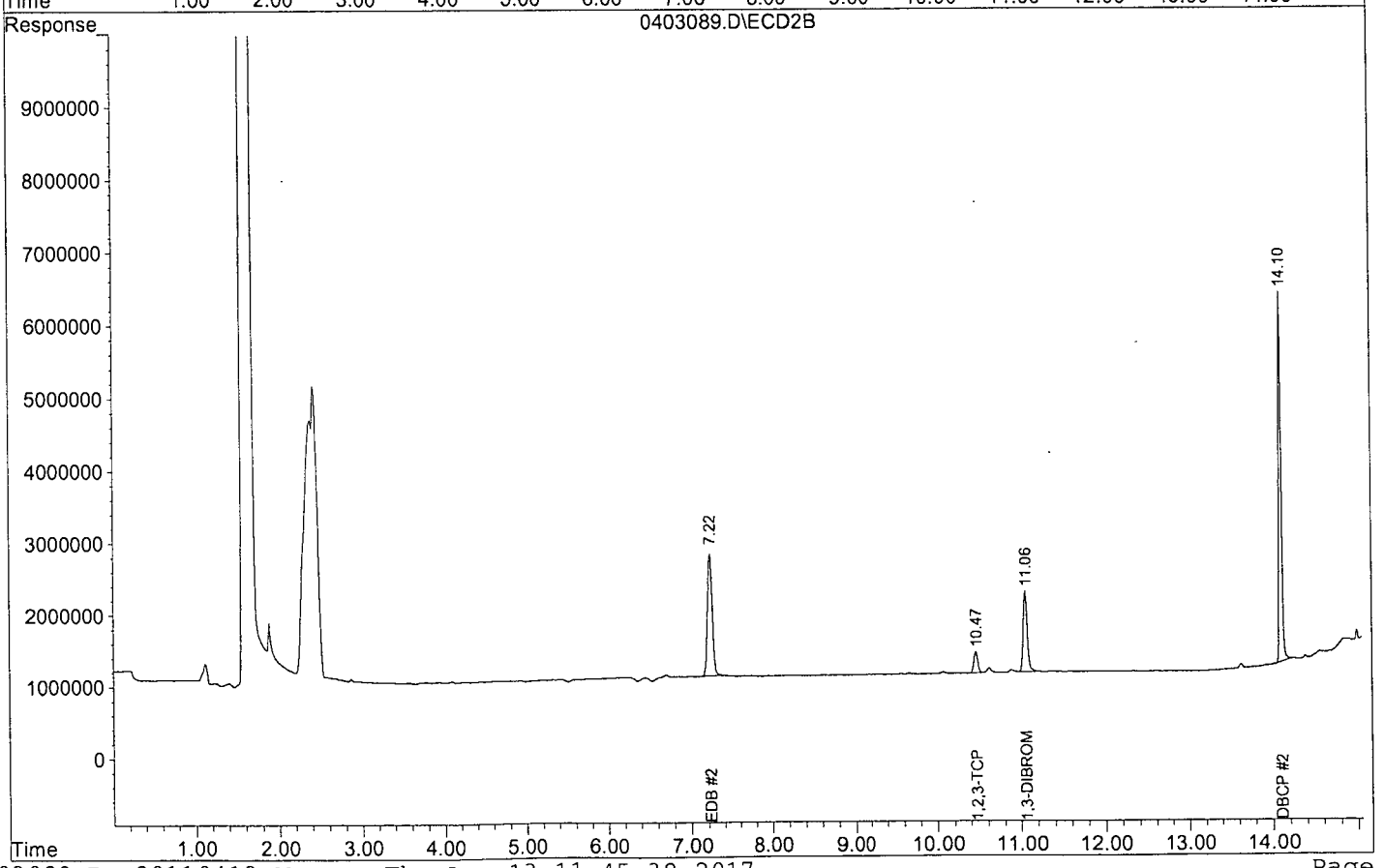
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403089.D
Acq On : 04-12-17 18:22:32
Sample : 8011 5 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 89
Operator: RH
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403090.D\ECD1A.CH Vial: 90
Signal #2 : G:\HERBIE\DATA\170403\0403090.D\ECD2B.CH
Acq On : 04-12-17 18:44:01 Operator: RH
Sample : 8011 6 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 8:38 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 08:37:39 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	820677	1666134	0.957	1.084
Spiked Amount 0.350			Recovery	=	273.43%	309.71%
Target Compounds						
1) TM EDB	5.76	7.22	972434	2609526	0.808	0.973
2) TM 1,2,3-TCP	9.26	10.46	227741	463381	0.877	1.031
4) TM DBCP	13.36	14.10	2768006	7910324	0.999	1.236

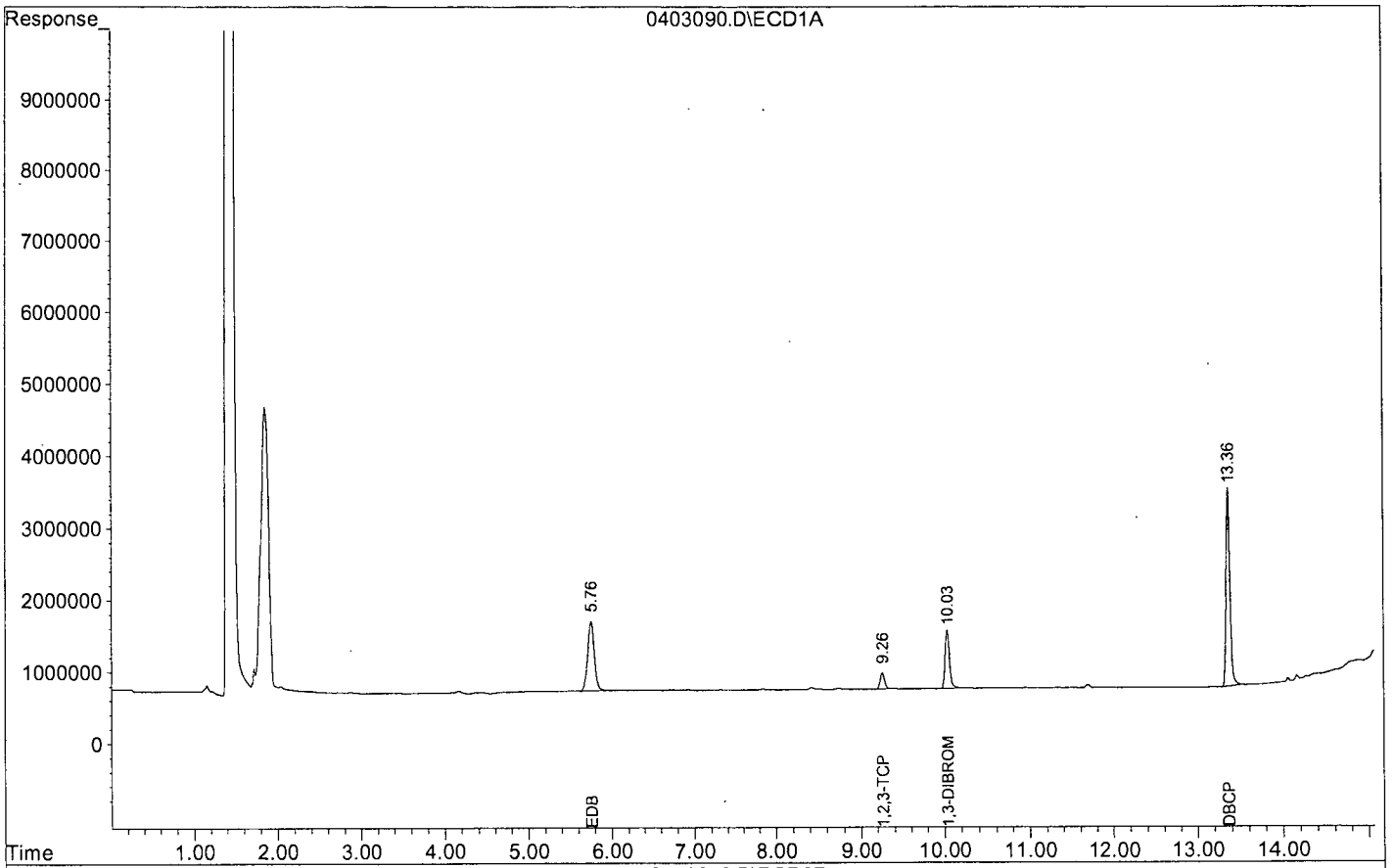
Target Compounds

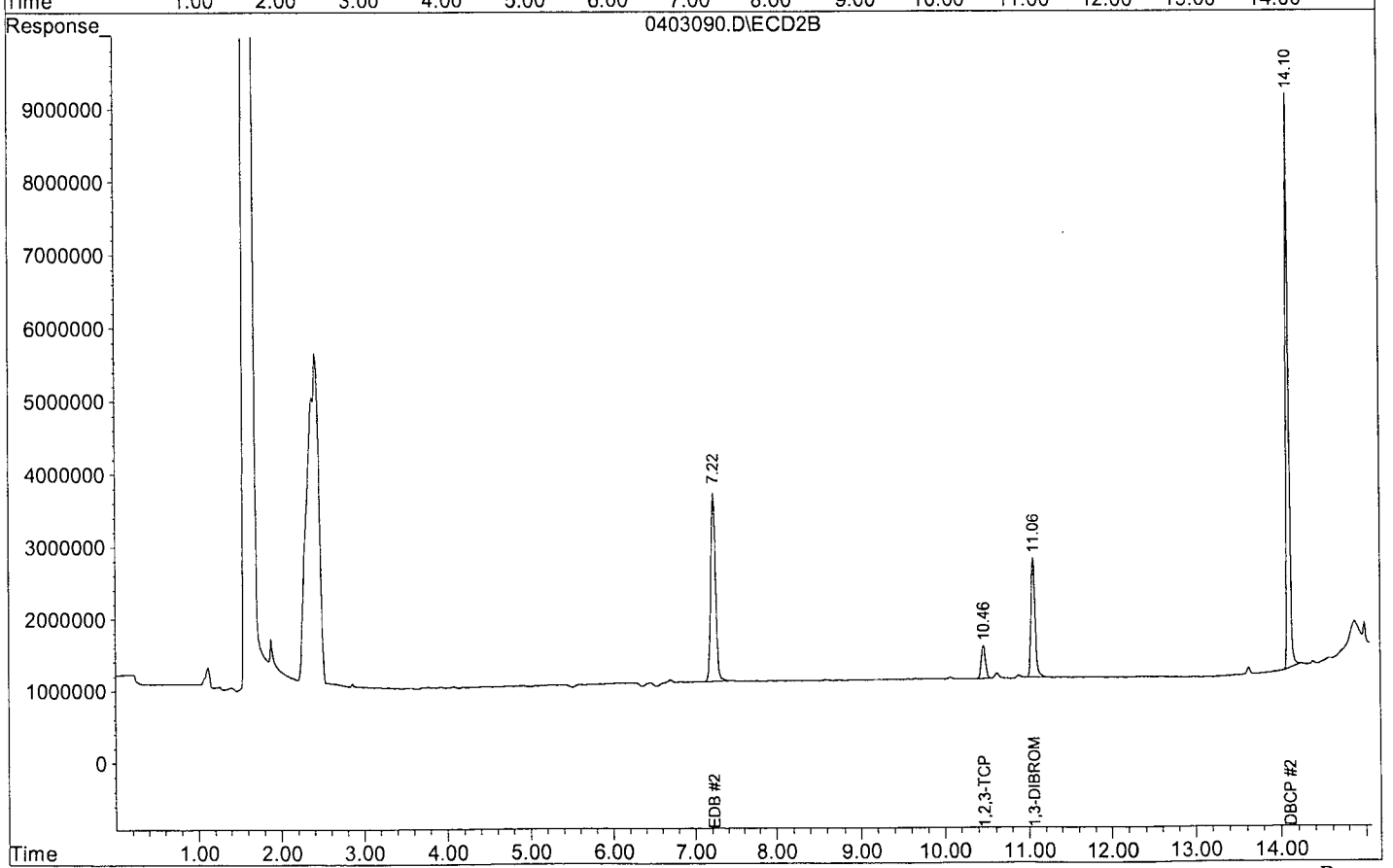
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403090.D
Acq On : 04-12-17 18:44:01
Sample : 8011 6 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 90
Operator: RH
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Herbie
Initial Cal. Date: 04/12/17
Data File: 0403093.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	EDB	492557	588035	19	TM		
2	TML	1,2,3-TCP	128400	144965	13	TML	20	
3	TM	DBCP	1343370	1715580	28	TM		*Not used
4								
5								
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7								
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40								
		Average			20.0			

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/12/17
Instrument: Herbie
Cal. Date: 04/12/17
Data File: 0403093.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1246790	1371570	10	TM	
42	TM	1,2,3-TCP	221917	262490	18	TM	
43	TM	DBCP	3551470	3983490	12	TM	
44							
45							
46							
47							
48							
49							
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79							
80							
		Average			13.3		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403093.D\ECD1A.CH Vial: 93
Signal #2 : G:\HERBIE\DATA\170403\0403093.D\ECD2B.CH
Acq On : 04-12-17 19:47:56 Operator: RH
Sample : 170412A LCS-1 2/35.30G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 9:52 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	336171	663789	0.401	0.419
Spiked Amount 0.347			Recovery	=	115.55%	120.74%
Target Compounds						
1) TM EDB	5.76	7.22	117607	274313	0.118 ✓	0.109
2) TM 1,2,3-TCP	9.26	10.47	28993	52498	0.119	0.117
4) TM DBCP	13.37	14.10	343116	796698	0.127	0.111

Target Compounds

Algorithum check = $\frac{117607 * 0.99}{492557 * 2} = \frac{116430.93}{985114}$

= 0.118 ✓

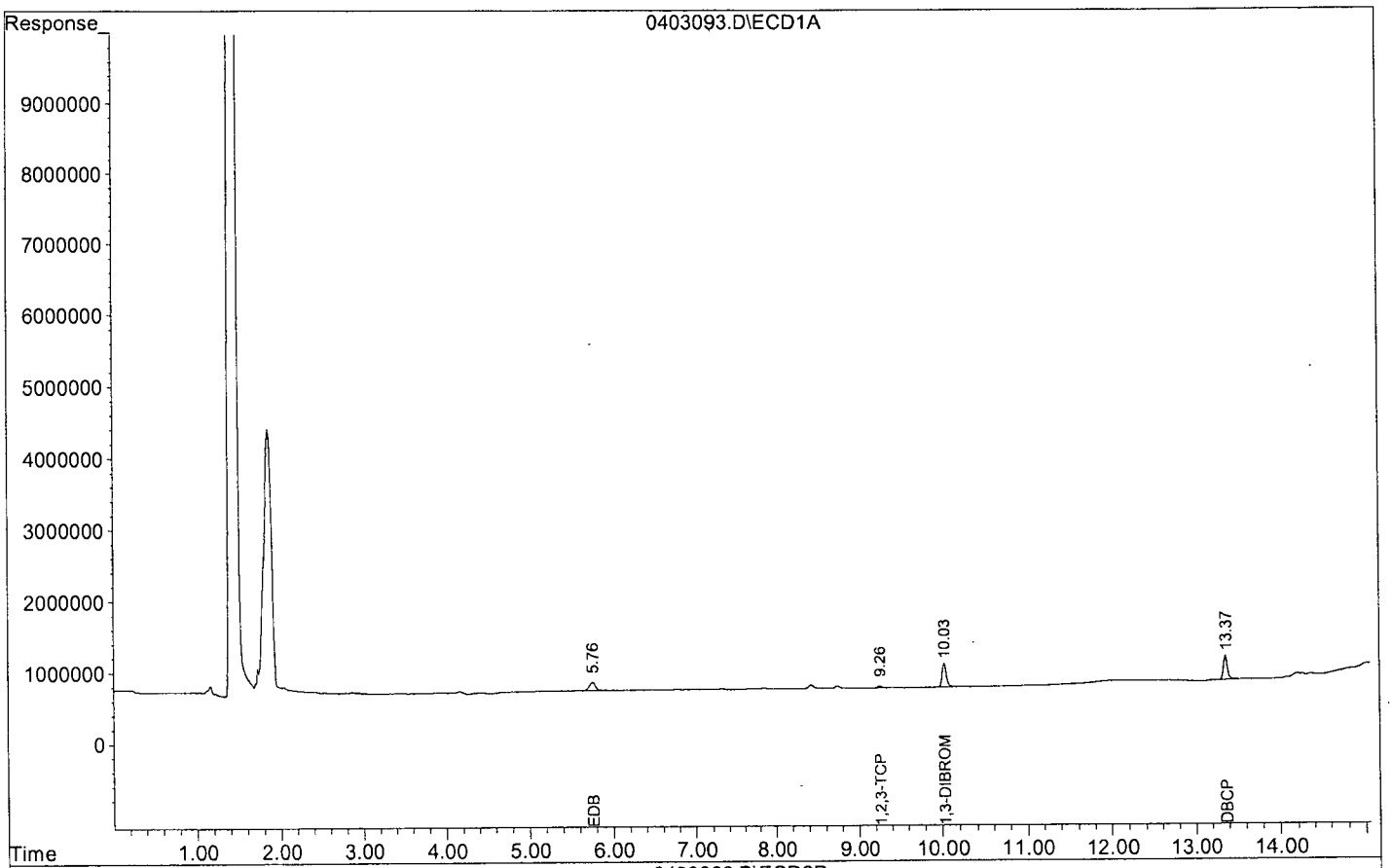
RH 4/13/17

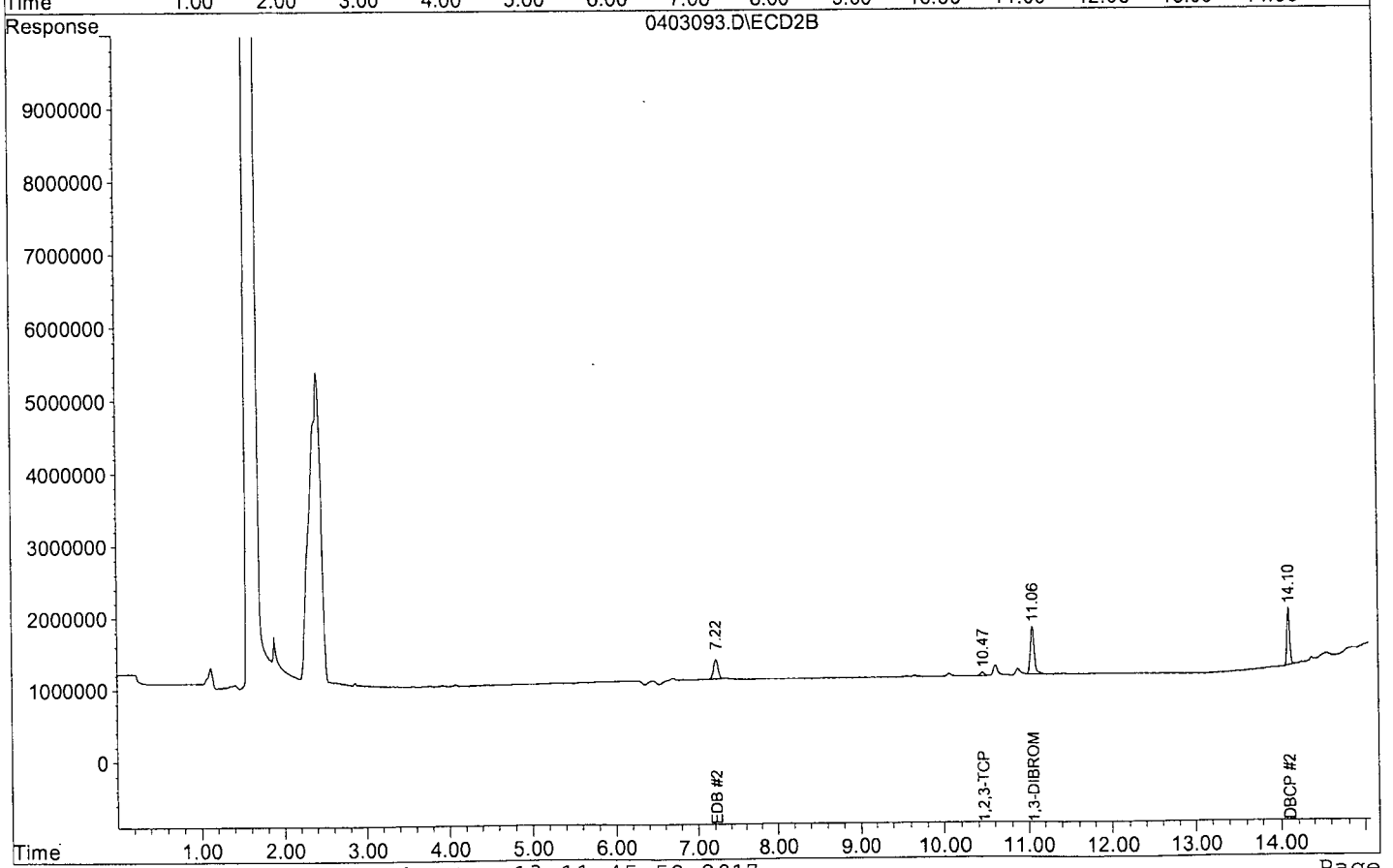
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.
0403093.D 80110413.M Thu Apr 13 11:45:57 2017

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403093.D
Acq On : 04-12-17 19:47:56
Sample : 170412A LCS-1 2/35.30G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 93
Operator: RH
Inst : Herbie
Multiplr: 0.99





DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Herbie
Initial Cal. Date: 04/12/17
Data File: 0403108.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	492557	518036	5.2	TM	
2	TML	1,2,3-TCP	128400	119664	6.8	TML	4.4
3	S	1,3-DIBROMOPROPANE(S)	416037	445916	7.2	S	
4	TM	DBCP	1343370	1360940	1.3	TM	
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37							
38							
39							
40							
		Average			5.1		

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1215

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/13/17
Instrument: Herbie
Cal. Date: 04/12/17
Data File: 0403108.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	EDB	1246790	1283360	2.9	TM	
42	TM	1,2,3-TCP	221917	227240	2.4	TM	
43	S	1,3-DIBROMOPROPANE(S)	785502	800272	1.9	S	
44	TM	DBCP	3551470	3654750	2.9	TM	
45							
46							
47							
48							
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80							
		Average			2.5		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403108.D\ECD1A.CH Vial: 8
Signal #2 : G:\HERBIE\DATA\170403\0403108.D\ECD2B.CH
Acq On : 04-13-17 1:03:19 Operator: RH
Sample : 8011 3 4/12/17 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

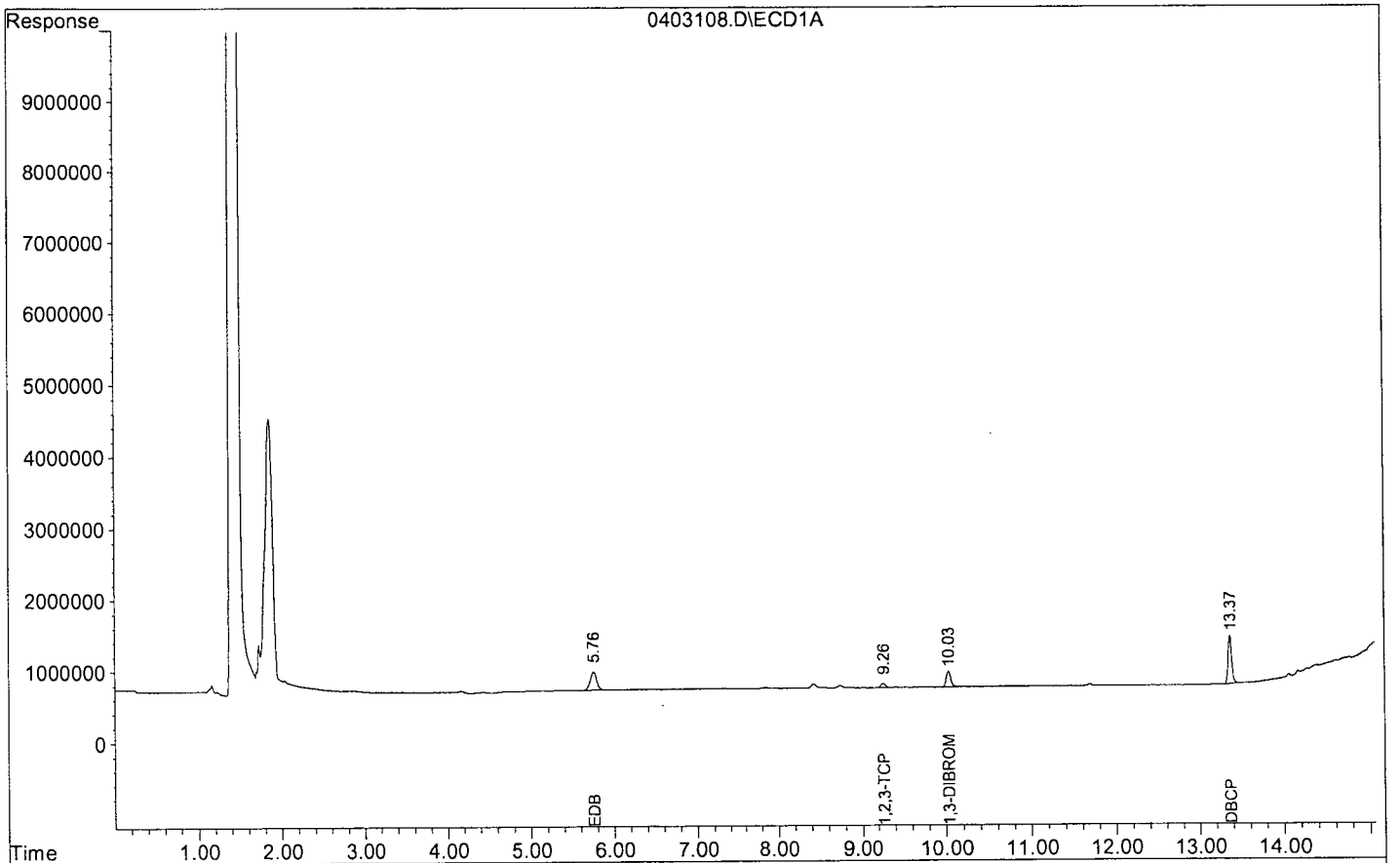
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	222958	400136	0.268	0.255
Spiked Amount 0.350			Recovery	=	76.57%	72.86%
Target Compounds						
1) TM EDB	5.76	7.22	259018	641682	0.263	0.257
2) TM 1,2,3-TCP	9.26	10.47	59832	113620	0.261	0.256
4) TM DBCP	13.37	14.10	680469	1827374	0.253	0.257
Target Compounds						

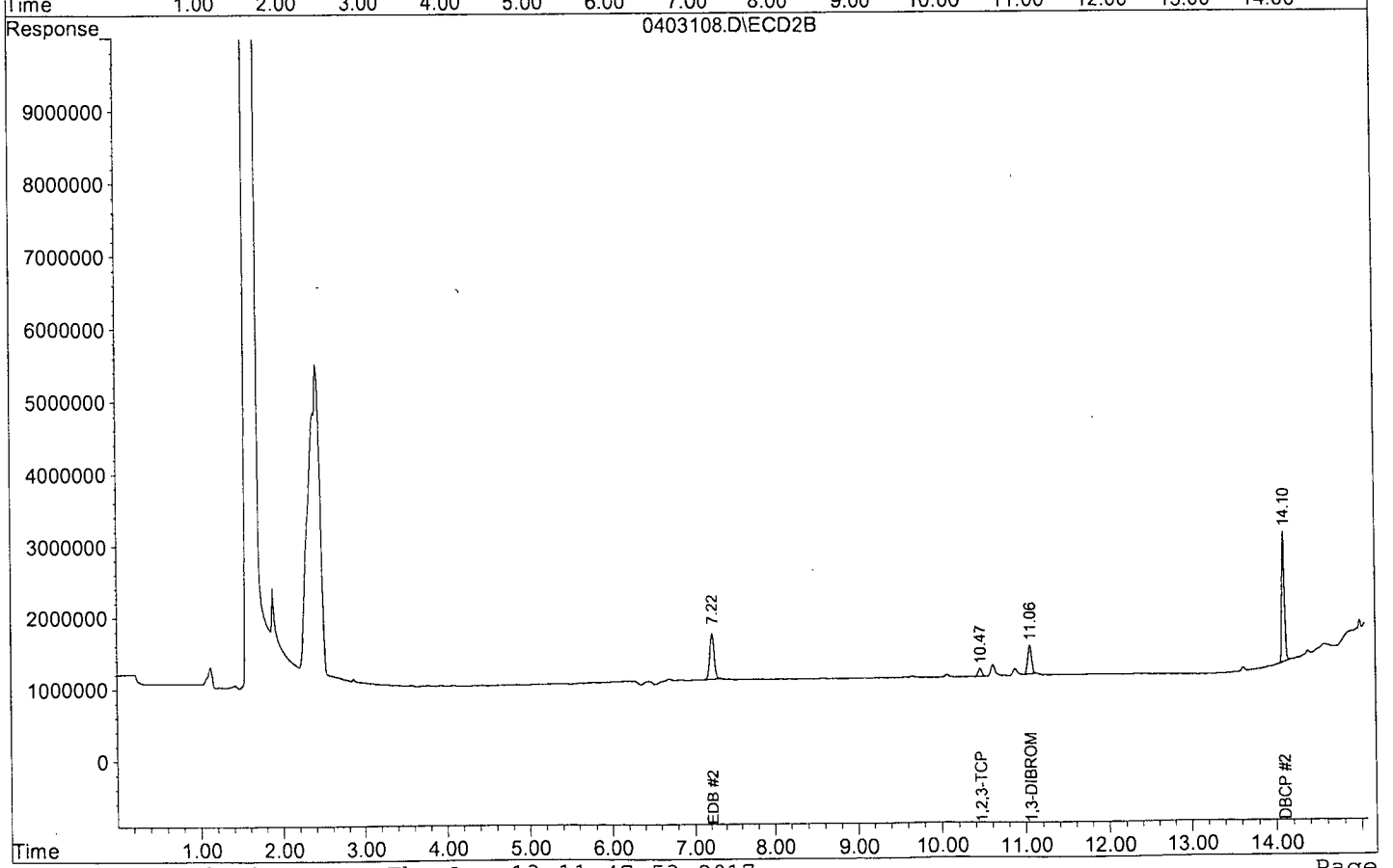
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403108.D
Acq On : 04-13-17 1:03:19
Sample : 8011 3 4/12/17
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 8
Operator: RH
Inst : Herbie
Multiplr: 1.00





ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217822**
Batch ID: #8011-170412A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,3-DIBROMOPRO	118	70-132			%	04/12/17	04/12/17

Quant Method:80110413.M
Run #:0403092
Instrument:Herbie
Sequence:170403
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 11:19:31 AM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403092.D\ECD1A.CH Vial: 92
Signal #2 : G:\HERBIE\DATA\170403\0403092.D\ECD2B.CH
Acq On : 04-12-17 19:26:37 Operator: RH
Sample : 170412A BLK 2/35.40G Inst : Herbie
Misc : Multiplr: 0.99
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:41 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

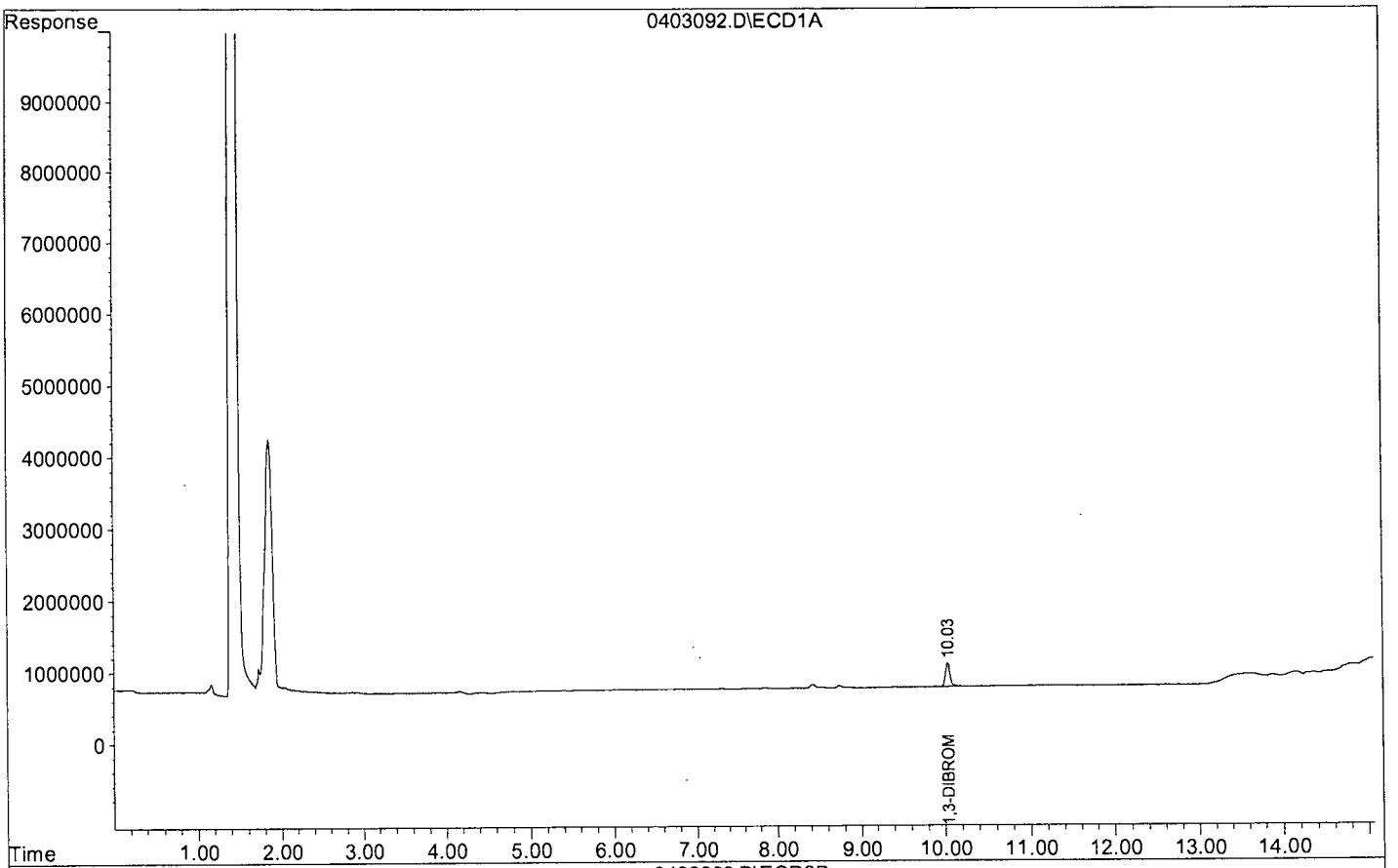
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	336230	646228	0.400	0.407
Spiked Amount 0.346			Recovery	=	115.59%	117.61%
Target Compounds						
Target Compounds						
1) TM EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM 1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM DBCP	0.00	0.00	0	0	N.D. d	N.D. d

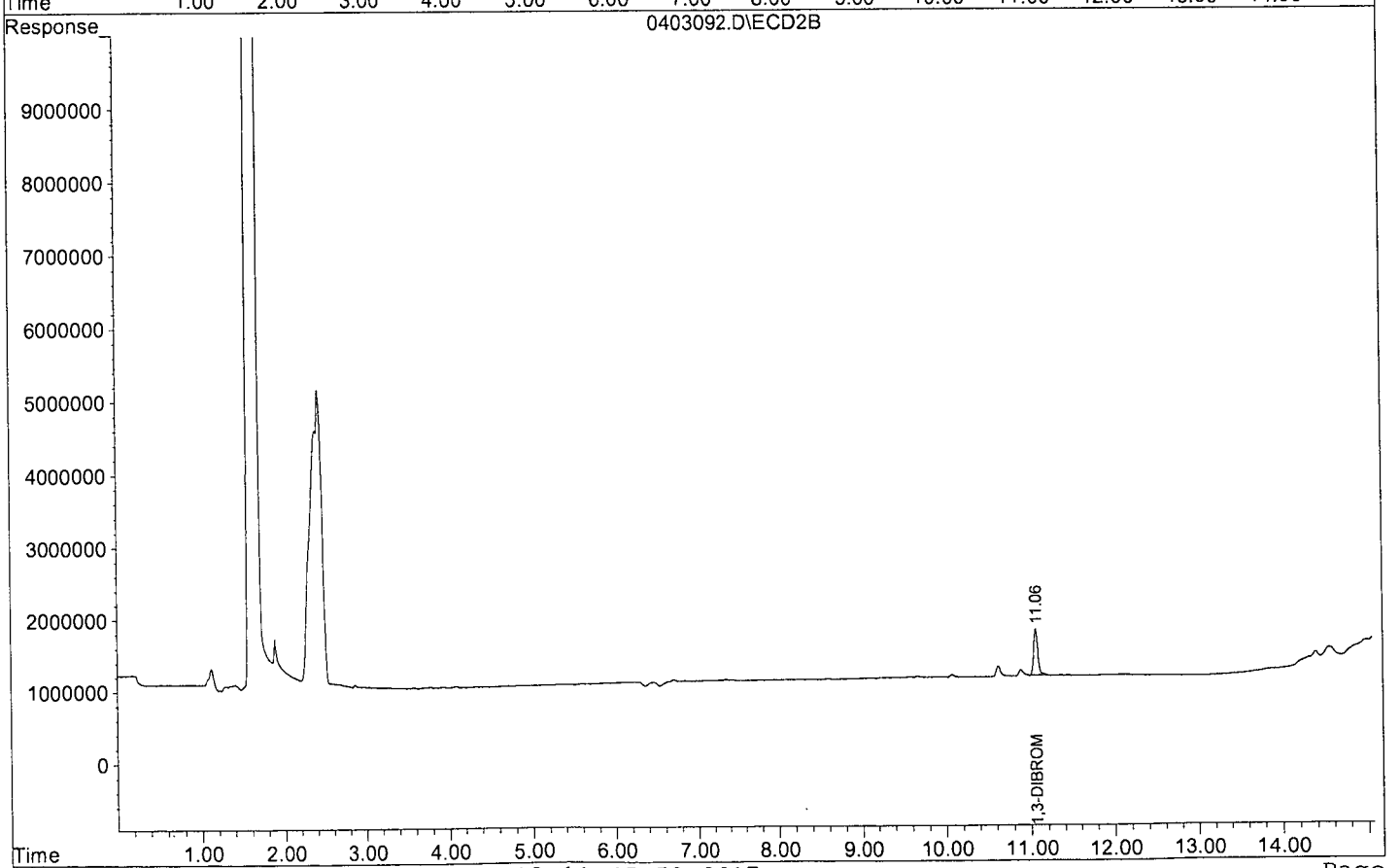
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\170403\0403092.D
Acq On : 04-12-17 19:26:37
Sample : 170412A BLK 2/35.40G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 92
Operator: RH
Inst : Herbie
Multiplr: 0.99





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **170412W-53168 LCS - 217822**
Batch ID: #8011-170412A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
EDB	0.250	0.286	114	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.293	83.7	70-132

Comments: _____

Primary	SPK
Quant Method :	80110413.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Herbie
Run :	0403094
Initials :	RHA

Printed: 04/13/17 11:19:24 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403094.D\ECD1A.CH Vial: 94
Signal #2 : G:\HERBIE\DATA\170403\0403094.D\ECD2B.CH
Acq On : 04-12-17 20:09:07 Operator: RH
Sample : 170412A LCS-2 2/35.17G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

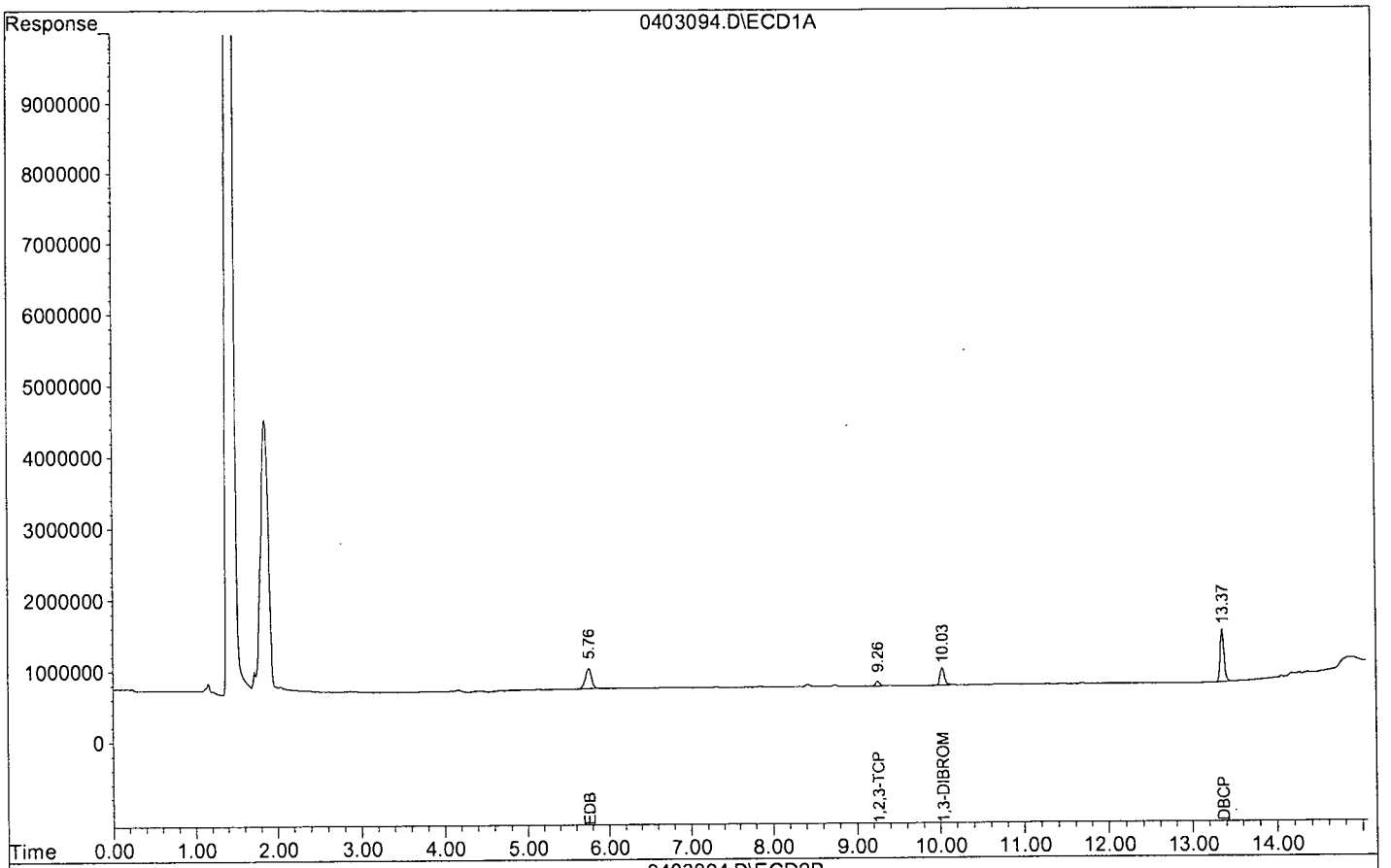
Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	247048	462599	0.295	0.293
Spiked Amount 0.348			Recovery	=	84.70%	84.12%
Target Compounds						
1) TM EDB	5.76	7.22	285166	716949	0.288	0.286
2) TM 1,2,3-TCP	9.26	10.46	65725	123525	0.287	0.277
4) TM DBCP	13.37	14.10	751641	1944432	0.278	0.272
Target Compounds						

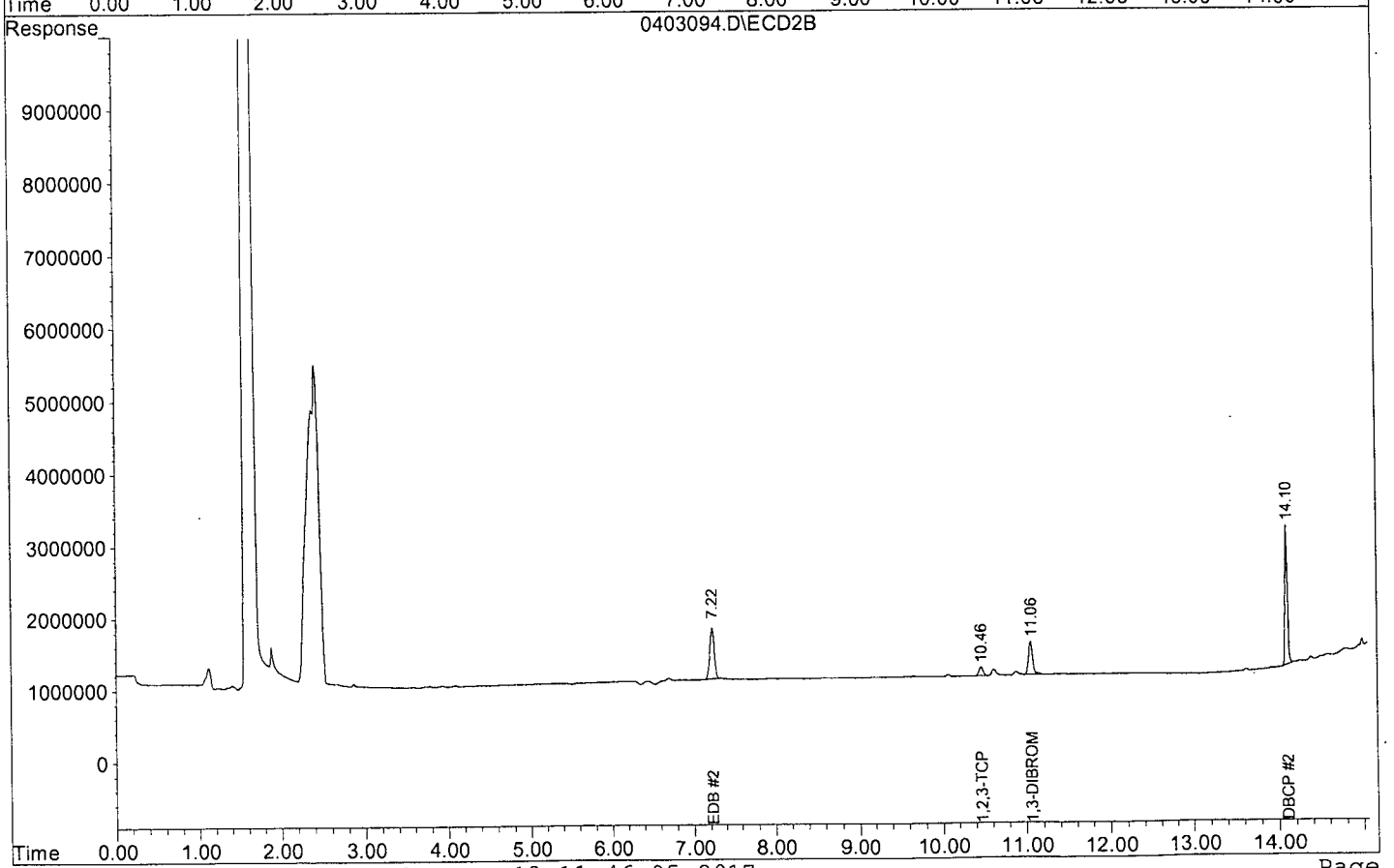
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403094.D
Acq On : 04-12-17 20:09:07
Sample : 170412A LCS-2 2/35.17G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 94
Operator: RH
Inst : Herbie
Multiplr: 1.00





Matrix Spike Recoveries

EPA 8011

APPL ID: **170412W-53168 MS - 217822**
Batch ID: #8011-170412A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
EDB	0.250	ND	0.273	0.271	109	108	60-140	0.74	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	NA	0.271	0.267	77.4	76.3	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80110413.M	80110413.M
Extraction Date :	04/12/17	04/12/17
Analysis Date :	04/12/17	04/12/17
Instrument :	Herbie	Herbie
Run :	0403098	0403099
Initials :	RHA	

Printed: 04/13/17 11:23:06 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403098.D\ECD1A.CH Vial: 98
Signal #2 : G:\HERBIE\DATA\170403\0403098.D\ECD2B.CH
Acq On : 04-12-17 21:33:40 Operator: RH
Sample : AZ53168W19 MS-2 2/34.59G Inst : Herbie
Misc : Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	226563	420745	0.276	0.271
Spiked Amount 0.354			Recovery	=	77.93%	76.52%
Target Compounds						
1) TM EDB	5.76	7.22	269892	672135	0.277	0.273
2) TM 1,2,3-TCP	9.26	10.47	64931	114141	0.288	0.260
4) TM DBCP	13.37	14.10	694772	1859022	0.262	0.265

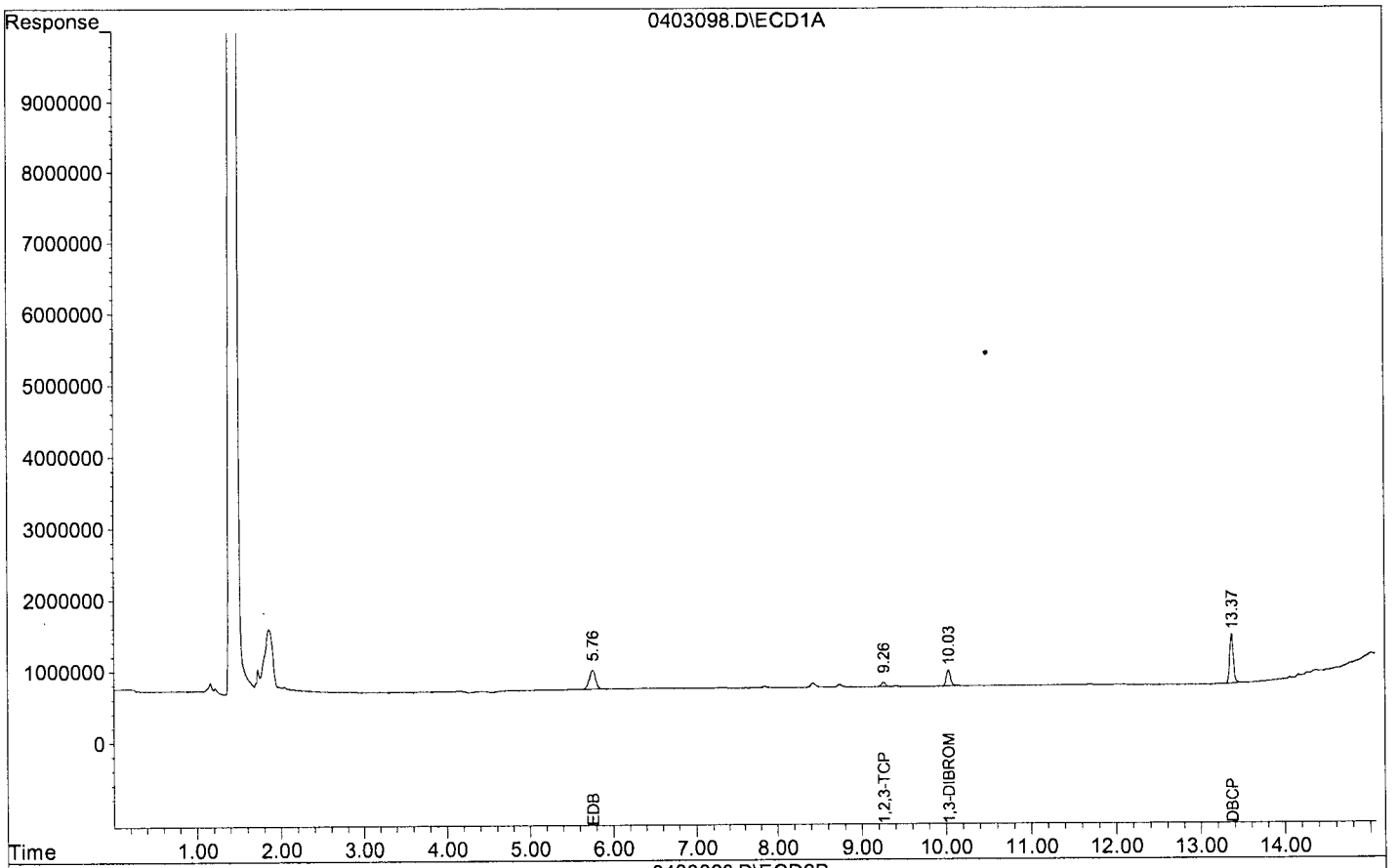
Target Compounds

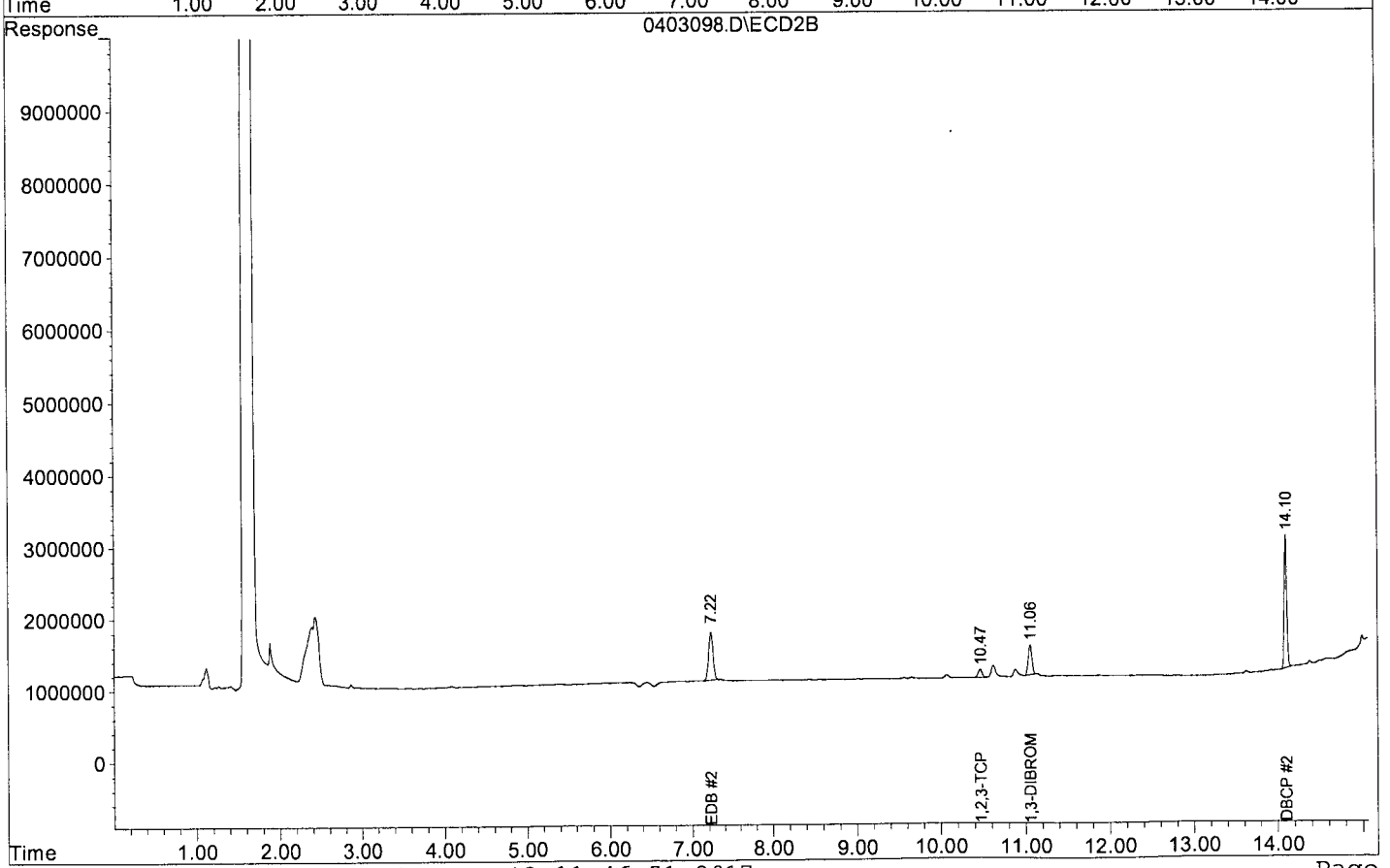
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403098.D
Acq On : 04-12-17 21:33:40
Sample : AZ53168W19 MS-2 2/34.59G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 98
Operator: RH
Inst : Herbie
Multiplr: 1.01





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\170403\0403099.D\ECD1A.CH Vial: 99
Signal #2 : G:\HERBIE\DATA\170403\0403099.D\ECD2B.CH
Acq On : 04-12-17 21:54:50 Operator: RH
Sample : AZ53168W20 MSD-2 2/34.88G Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Apr 13 10:23 2017 Quant Results File: 80110413.RES

Quant Method : G:\HERBIE\DATA\170403\80110413.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Thu Apr 13 09:14:20 2017
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.03	11.06	233509	418345	0.282	0.267
Spiked Amount 0.351			Recovery	=	80.30%	76.02%
Target Compounds						
1) TM EDB	5.76	7.22	270183	672380	0.275	0.271
2) TM 1,2,3-TCP	9.26	10.46	62774	114752	0.276	0.259
4) TM DBCP	13.37	14.10	685721	1792114	0.256	0.253

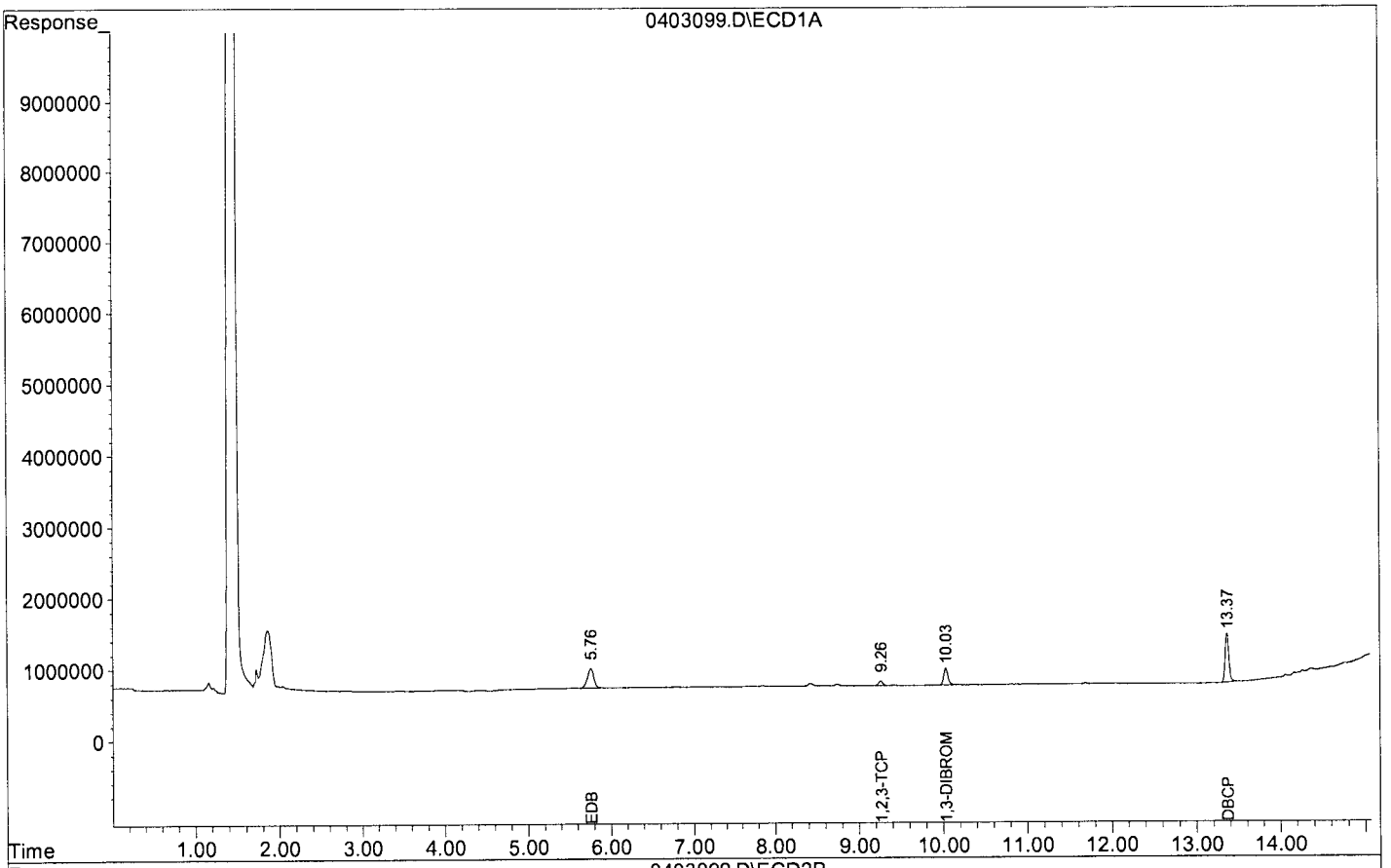
Target Compounds

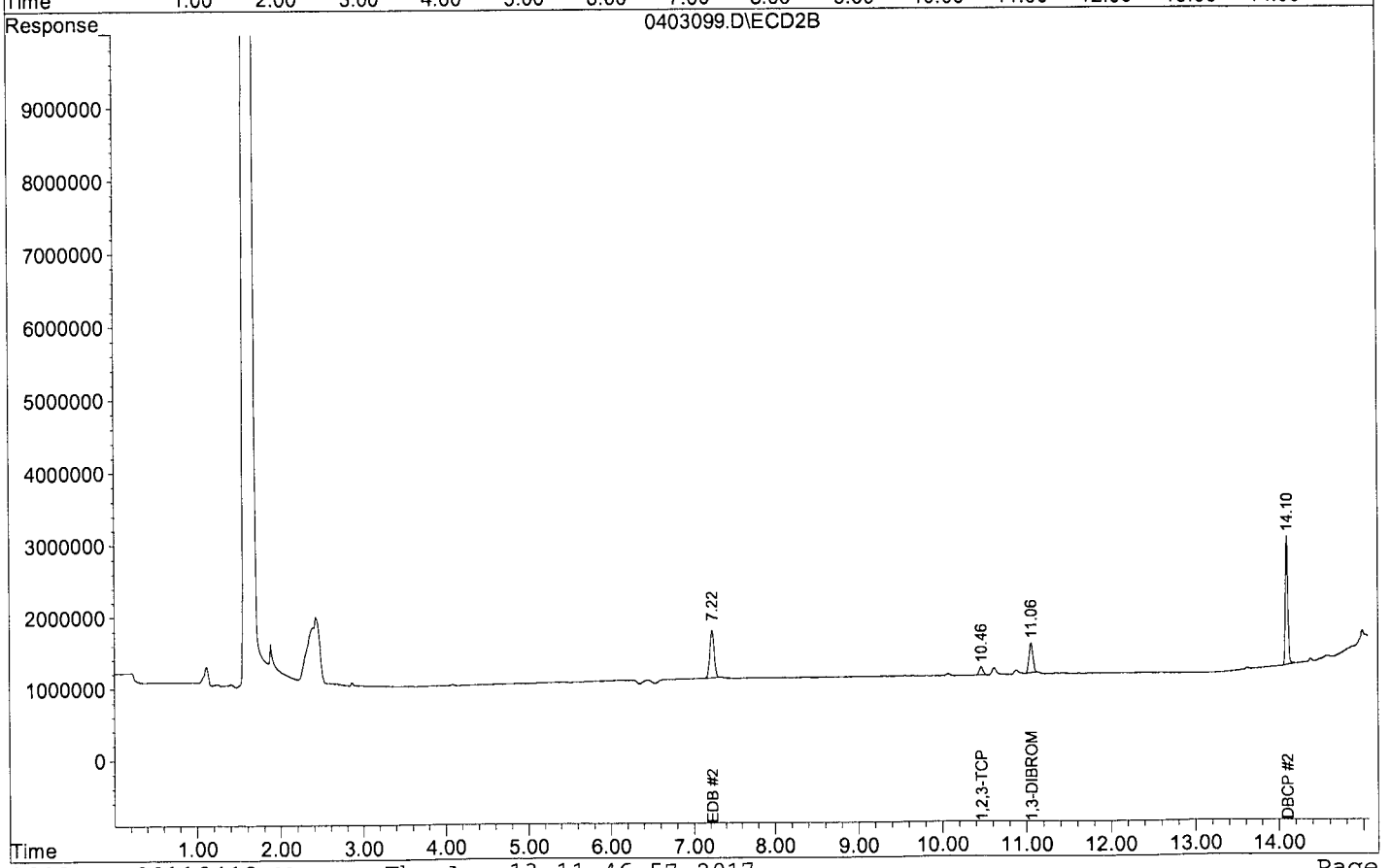
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\170403\0403099.D
Acq On : 04-12-17 21:54:50
Sample : AZ53168W20 MSD-2 2/34.88G
Misc :
Quant Method : G:\HERBIE\DATA\170403\80110413.M

Vial: 99
Operator: RH
Inst : Herbie
Multiplr: 1.00





		504/8011 M STD					
Prep: 04/12/17 Exp: 06/07/17 RH							
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**	
EDB	0.35ug/mL	504/8011 M STD STK	1000uL	10mL	0.035ug/mL	Methanol	
TCP		prep. 04/12/17				010616A	
DBCP		exp: 06/07/17					
1,3 DBP							

504/8011 M STD STOCK							
Prep: 04/12/17-R.H.		exp: 06/07/17					
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**	
EDB	20ug/mL	504/DOHS STOCK	438uL	25mL	0.35ug/mL	Methanol	
TCP		prep. 06/07/16				010616A	
DBCP		exp: 06/07/17					
1,3 DBP	100ug/mL	1,3 DBP STOCK	88uL				
		prep.06/07/16					
		exp. 06/07/17					

504 DOHS STOCK prep: 6/7/16 Exp: 6/7/17 LH						
Compounds	Init. Conc.	Stock SRC	Aliquot	Final Vol.	Final Conc.	Solvent
EDB	1000ug/mL	O2SI	500uL	25mL	20ug/mL	Methanol
TCP	Cat:	130271-08				Lot # 021915C
DBCP	Lot:	270815-36134				
	Op:	06/07/16				
	Exp:	06/07/17				

1,3-DBP STOCK						
Compounds	**Init. Conc.**	**Stock SRC**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
1,3 DBP	1000ug/mL	Absolute	1000uL	10mL	100ug/mL	Methanol
	Cat:	71326				Lot # 021915C
	Lot:	031413-33900				
	Op:	06/07/16				
	Exp:	06/07/17		Prep: 6/7/16 Exp: 6/7/17 LH		

		504/8011 SS				
Prep: 02/10/17 RH Ex: 05/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	0.35ug/mL	504/8011 SS STOCK	1000uL	10mL	0.035ug/mL	Methanol
TCP		prep. 1/18/17				010616A
DBCP		Exp: 05/18/17				

		504/8011 SS STOCK				
Prep: 1/18/17 RH Ex: 05/18/17						
Compound	**Initial Conc.**	**Source**	**Aliquot**	**Final Vol.**	**Final Conc.**	**Solvent**
EDB	200ug/mL	Absolute	44uL	25mL	0.35ug/mL	Methanol
TCP		CAT 30096				010616A
DBCP		Lot 010615-37436				
		open 1/18/17				
		exp 1/18/18				

	504/8011 SURROGATE					
Prep: 1/18/17-R.H. Ex: 5/18/17						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
1,3 DBP	100	1,3 DBP STOCK	35ul	10mL	0.35ug/mL	Methanol
		prep. 6/7/16				010616A
		exp. 6/7/17				

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170412A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 5-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 5-18-17	
Spiked ID 2	504.1 M. STD 4-12-17 exp 6-7-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/12/17 15:10	
Spiked ID 8			Ext. End Time:	04/12/17 16:00	
			GC Requires Extract By:	04/12/17 0:00	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 04/12/17 **Witnessed By:** CFM **Date** 04/12/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170412A Blk				0.035	1 equip	35.40g	2	7	04/12/17 15:10	
2	170412A LCS-1		0.1	1	0.035	1 equip	35.30g	2	7	04/12/17 15:10	
3	170412A LCS-2		0.250	2	NA	NA equip	35.17g	2	7	04/12/17 15:10	
4	AZ53167	AZ53167W04			0.035	1 equip	34.65g	2	7	04/12/17 15:10	82619
5	AZ53168 MS-1	AZ53168W17	0.1	1	0.035	1 equip	34.41g	2	7	04/12/17 15:10	82619
6	AZ53168 MSD-1	AZ53168W18	0.1	1	0.035	1 equip	34.64g	2	7	04/12/17 15:10	82619
7	AZ53168 MS-2	AZ53168W19	0.250	2	NA	NA equip	34.59g	2	7	04/12/17 15:10	82619
8	AZ53168 MSD-2	AZ53168W20	0.250	2	NA	NA equip	34.88g	2	7	04/12/17 15:10	82619
9	AZ53168	AZ53168W16			0.035	1 equip	34.84g	2	7	04/12/17 15:10	82619
10	AZ53169	AZ53169W05			0.035	1 equip	34.84g	2	7	04/12/17 15:10	82619
11	AZ53170	AZ53170W06			0.035	1 equip	34.26g	2	7	04/12/17 15:10	82619
12	AZ53259	AZ53259W06			0.035	1 equip	34.48g	2	7	04/12/17 15:10	82611
13	AZ53260	AZ53260W07			0.035	1 equip	34.68g	2	7	04/12/17 15:10	82611
14	AZ53261	AZ53261W04			0.035	1 equip	35.05g	2	7	04/12/17 15:10	82611
15	M STD 1		0.020	2	NA	NA equip	35.41g	2	7	04/12/17 15:10	
16	M STD 2		0.100	2	NA	NA equip	35.56g	2	7	04/12/17 15:10	

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	dp 966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:20
Refrigerator	Hobert

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,DL
Concentration	----------

Modified	04/12/17 4:12:25 PM

Reviewed By: Ky **Date** 4/12/17

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	170412A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 SS 2-10-17 exp 5-18-17		Surrogate ID 1	504.1 Surrogate 1-18-17 exp 5-18-17
Spiked ID 2	504.1 M. STD 4-12-17 exp 6-7-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/12/17 15:10
Spiked ID 8			Ext. End Time:	04/12/17 16:00
			GC Requires Extract By:	**04/12/17 0:00**

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: KY **Date** 04/12/17 **Witnessed By:** CFM **Date** 04/12/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 3		0.250	2	NA	NA equip	35.54g	2	7	04/12/17 15:10	
18	M STD 4		0.5	2	NA	NA equip	35.53g	2	7	04/12/17 15:10	
19	M STD 5		0.750	2	NA	NA equip	35.33g	2	7	04/12/17 15:10	
20	M STD 6		1	2	NA	NA equip	35.41g	2	7	04/12/17 15:10	

KY 4/12/17

Solvent and Lot#	
NaCL	16I305209
Sod. Thiosulfate	24050
GC2 Hexane	dp 966

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,DL
Concentration	----------

Modified	04/12/17 4:12:25 PM

Reviewed By: KY **Date** 4/12/17

Injection Log

Directory: G:\HERBIE\DATA\170403\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	85	0403085.D	1	8011 1 4/12/17		04-12-17 16:57:00
2	86	0403086.D	1	8011 2 4/12/17		04-12-17 17:18:23
3	87	0403087.D	1	8011 3 4/12/17		04-12-17 17:39:50
4	88	0403088.D	1	8011 4 4/12/17		04-12-17 18:01:10
5	89	0403089.D	1	8011 5 4/12/17		04-12-17 18:22:32
6	90	0403090.D	1	8011 6 4/12/17		04-12-17 18:44:01
7	92	0403092.D	0.9887	170412A BLK 2/35.40G		04-12-17 19:26:37
8	93	0403093.D	0.9915	170412A LCS-1 2/35.30G		04-12-17 19:47:56
9	94	0403094.D	0.99517	170412A LCS-2 2/35.17G		04-12-17 20:09:07
10	95	0403095.D	1.0101	AZ53167W04 2/34.65G		04-12-17 20:30:18
11	98	0403098.D	1.01185	AZ53168W19 MS-2 2/34.59G		04-12-17 21:33:40
12	99	0403099.D	1.00344	AZ53168W20 MSD-2 2/34.88G		04-12-17 21:54:50
13	100	0403100.D	1.00459	AZ53168W16 2/34.84G		04-12-17 22:15:55
14	1	0403101.D	1.00459	AZ53169W05 2/34.84G		04-12-17 22:36:55
15	2	0403102.D	1.0216	AZ53170W06 2/34.26G		04-12-17 22:58:01
16	8	0403108.D	1	8011 3 4/12/17		04-13-17 1:03:19

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411004
Instrument: Apollo
Sequence: 170411
Initials: DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 11:22:22 AM

Laboratory Control Spike Recovery

EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/12/17 11:22:15 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170407W-53168 MS - 217734**
Batch ID: #DOC53-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	580	560	87.0	84.0	36-132	3.5	30
OIL (C24-C40)	667	ND	884	817	133 #	122 #	41-113	7.9	30
SURROGATE: OCTACOSANE (S)	40.0	NA	47.5	48.0	119	120	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	48.8	48.4	122	121	56-125		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	DOC0320.M	DOC0320.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Apollo	Apollo
Run :	411019	411020
Initials :	DPO	

Printed: 04/12/17 11:22:12 AM
APPL MSD SCII

EPA 8015B-eLL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/11/17

Matrix: WATER Instrument: Apollo

APPL ID.	Client Sample No.	SURROGATE: OCTACOSANE (S)			SURROGATE: ORTHO-TERPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	60-142	106		56-125	93.1	
170407A-LCS	Lab Control Spike	60-142	93.5		56-125	93.8	
AZ53168	ERH307	60-142	108		56-125	92.8	
AZ53168-MS	Matrix Spike	60-142	119		56-125	122	
AZ53168-MSD	Matrix SpikeD	60-142	120		56-125	121	
AZ53169	ERH314	60-142	111		56-125	97.5	
AZ53170	ERH315	60-142	113		56-125	95.6	

Comments: Batch: #DOC53-170407A

EPA 8015B-eL

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82619
Date Analyzed: 04/11/17
Instrument: Apollo
Time Analyzed: 1002

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	411004	04/11/17 1002
170407A-LCS	Lab Control Spike	411005	04/11/17 1023
AZ53168	ERH307	411018	04/11/17 1511
170407A-MS	Matrix Spike	411019	04/11/17 1532
170407A-MSD	Matrix SpikeD	411020	04/11/17 1553
AZ53169	ERH314	411023	04/11/17 1656
AZ53170	ERH315	411024	04/11/17 1718

Comments: Batch: #DOC53-170407A

Printed: 04/12/17 11:22:09 AM
Form 4, Blank Summary

ORGANICS

Sample Data

APPL, INC.

EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82619

Sample ID: ERH307

APPL ID: AZ53168

Sample Collection Date: 04/04/17

QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	108	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	92.8	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411018
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:22:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411018.D Vial: 18
Acq On : 4-11-17 15:11:20 Operator: DP
Sample : AZ53168W46 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 17:03 2017 Quant Results File: DOC0320.RES

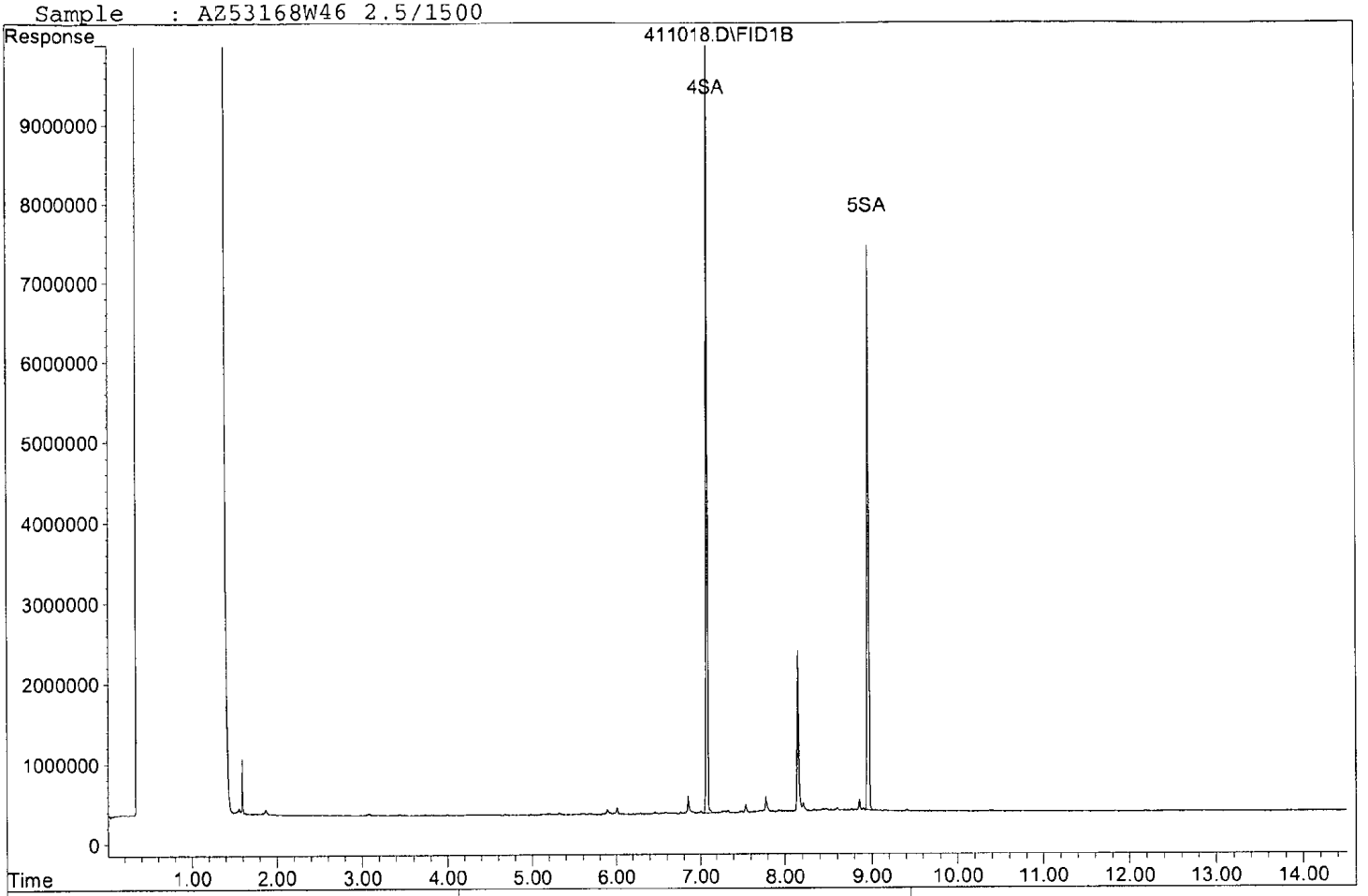
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

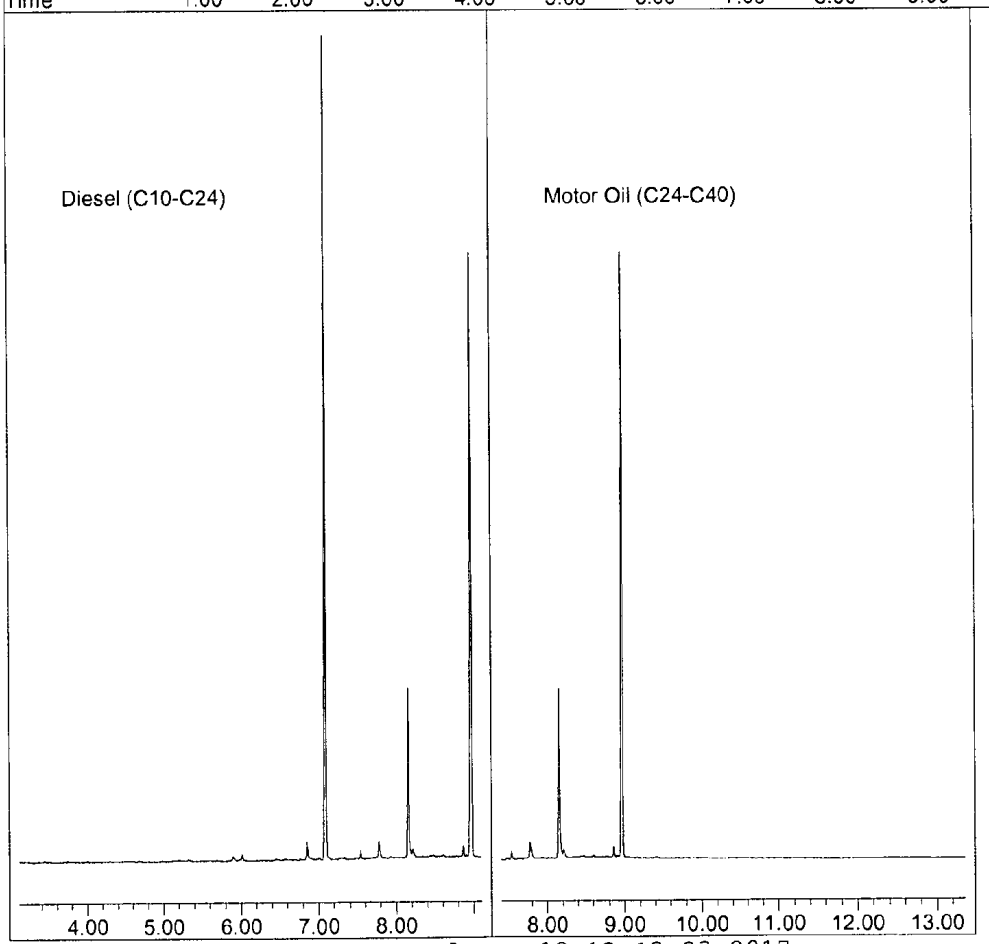
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	102036993	37.107 ppb
Surrogate Spike 40.000		Recovery =	92.77%
5) SA Octacosane(S)	8.97	89399149	43.085 ppb
Surrogate Spike 40.000		Recovery =	107.71%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411018.D
Sample : AZ53168W46 2.5/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	111	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	97.5	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411023
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:22:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411023.D
Acq On : 4-11-17 16:56:59
Sample : AZ53169W14 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 12 10:20 2017 Quant Results File: DOC0320.RES

Vial: 23
Operator: DP
Inst : Apollo
Multiplr: 1.67

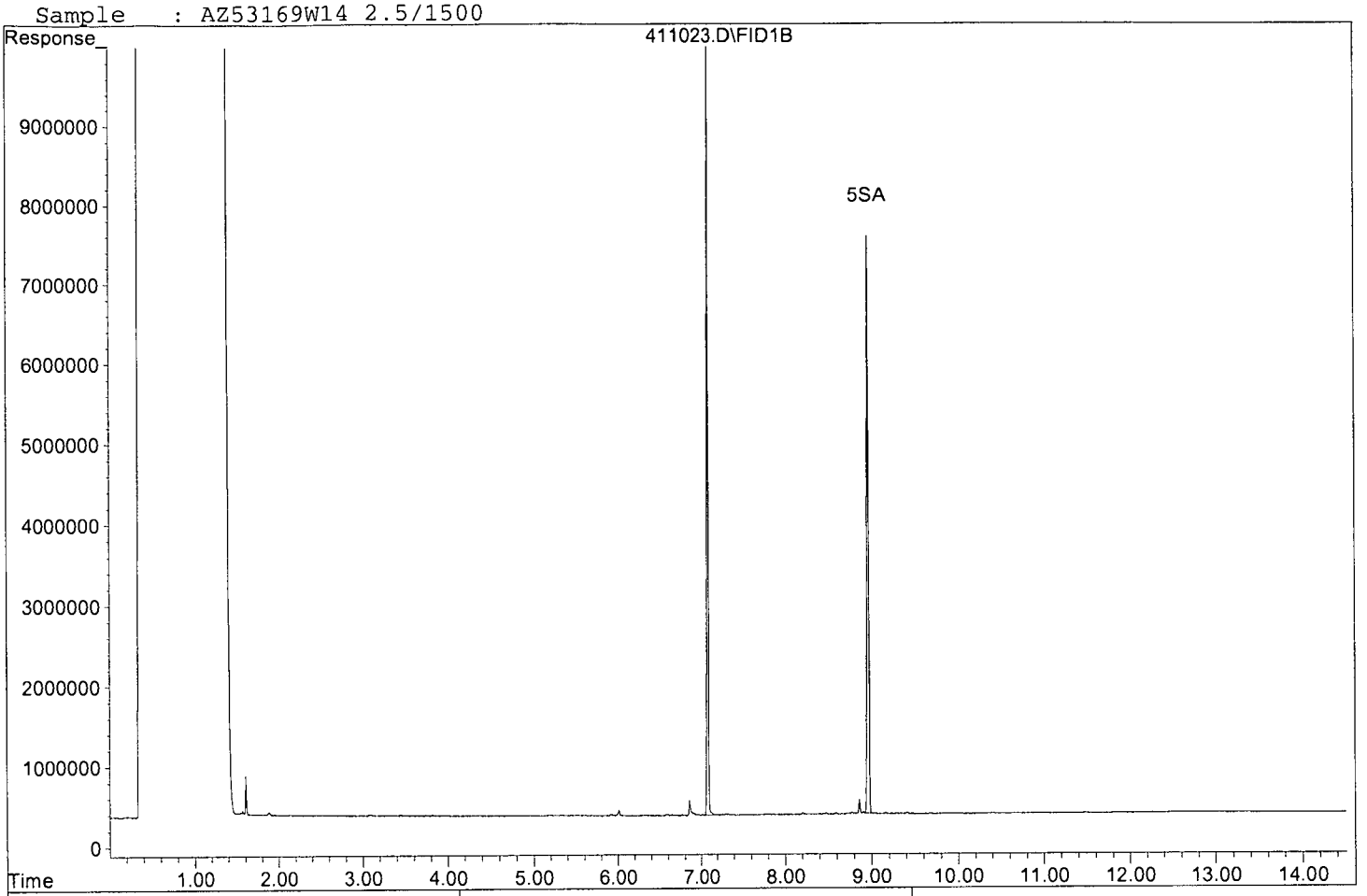
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

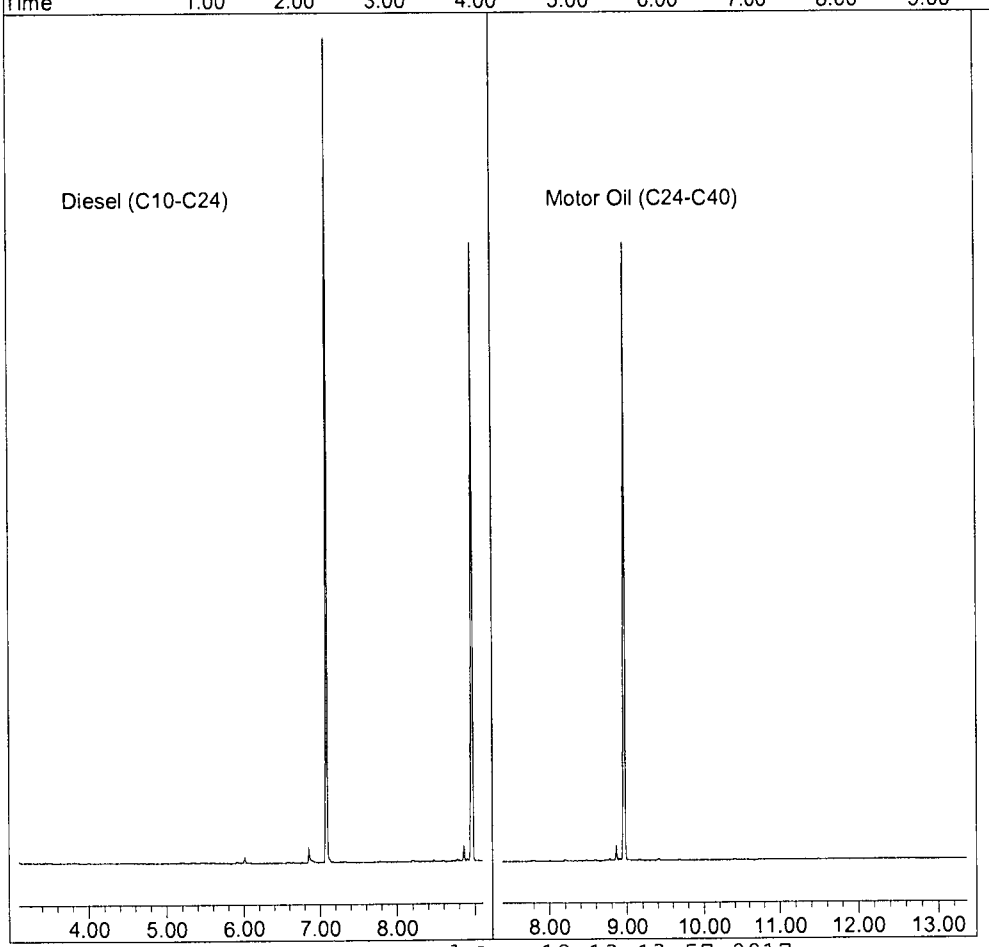
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	107193319	38.982 ppb
Surrogate Spike 40.000		Recovery =	97.46%
5) SA Octacosane(S)	8.97	92409027	44.535 ppb
Surrogate Spike 40.000		Recovery =	111.34%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411023.D
Sample : AZ53169W14 2.5/1500





EPA 8015B TPH WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #DOC53-170407A-217734

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8015B-eL	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
EPA 8015B-eL	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: OCTACOSANE (S)	113	60-142			%	04/07/17	04/11/17
EPA 8015B-eL	SURROGATE: ORTHO-TERPHENYL (S	95.6	56-125			%	04/07/17	04/11/17

Quant Method: DOC0320.M
Run #: 411024
Instrument: Apollo
Sequence: 170411
Dilution Factor: 1
Initials: DPO

Printed: 04/12/17 11:22:06 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411024.D
Vial: 24
Acq On : 4-11-17 17:18:17
Operator: DP
Sample : AZ53170W16 2.5/1500
Inst : Apollo
Misc : water
Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 12 10:21 2017 Quant Results File: DOC0320.RES

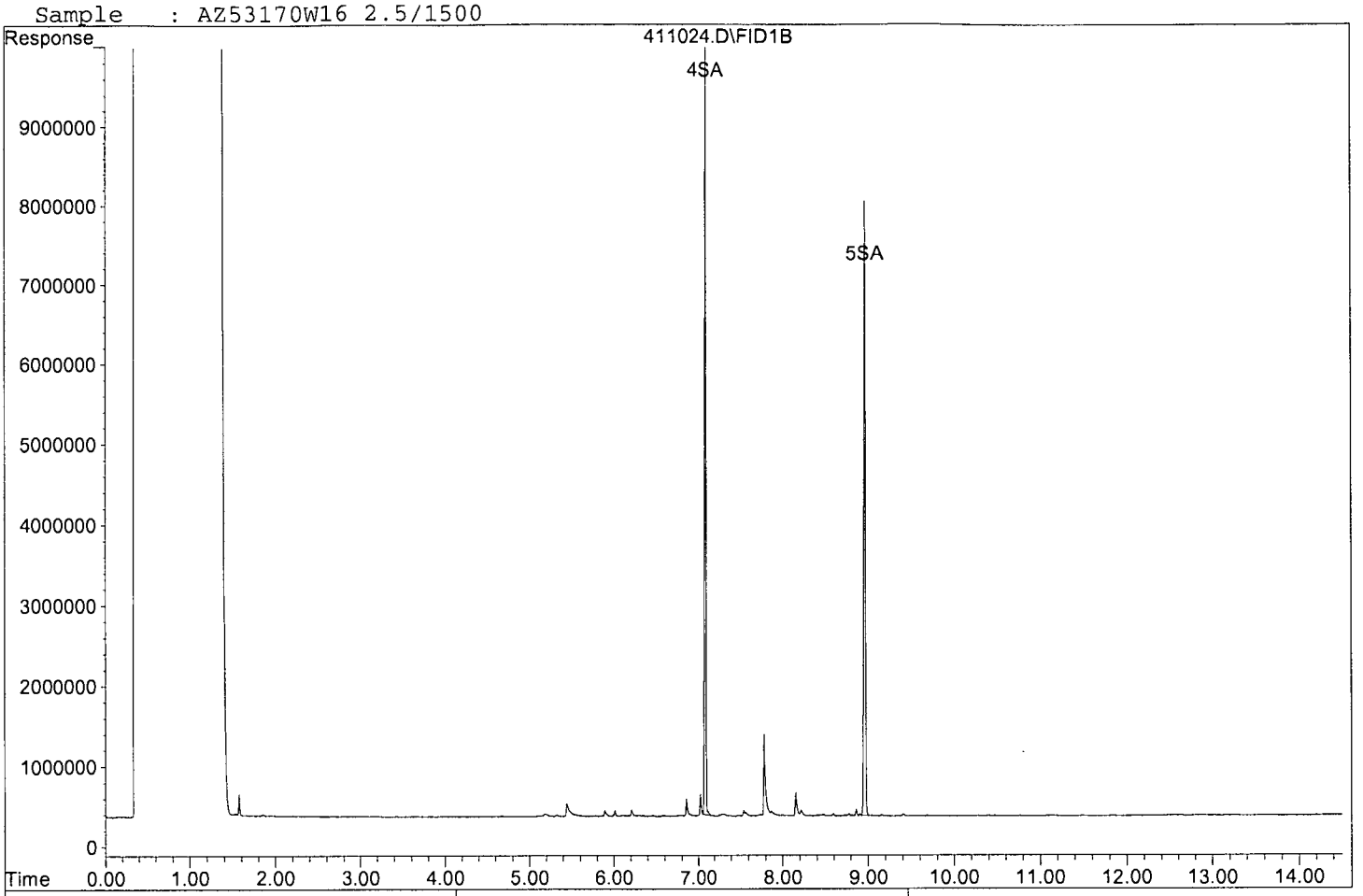
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

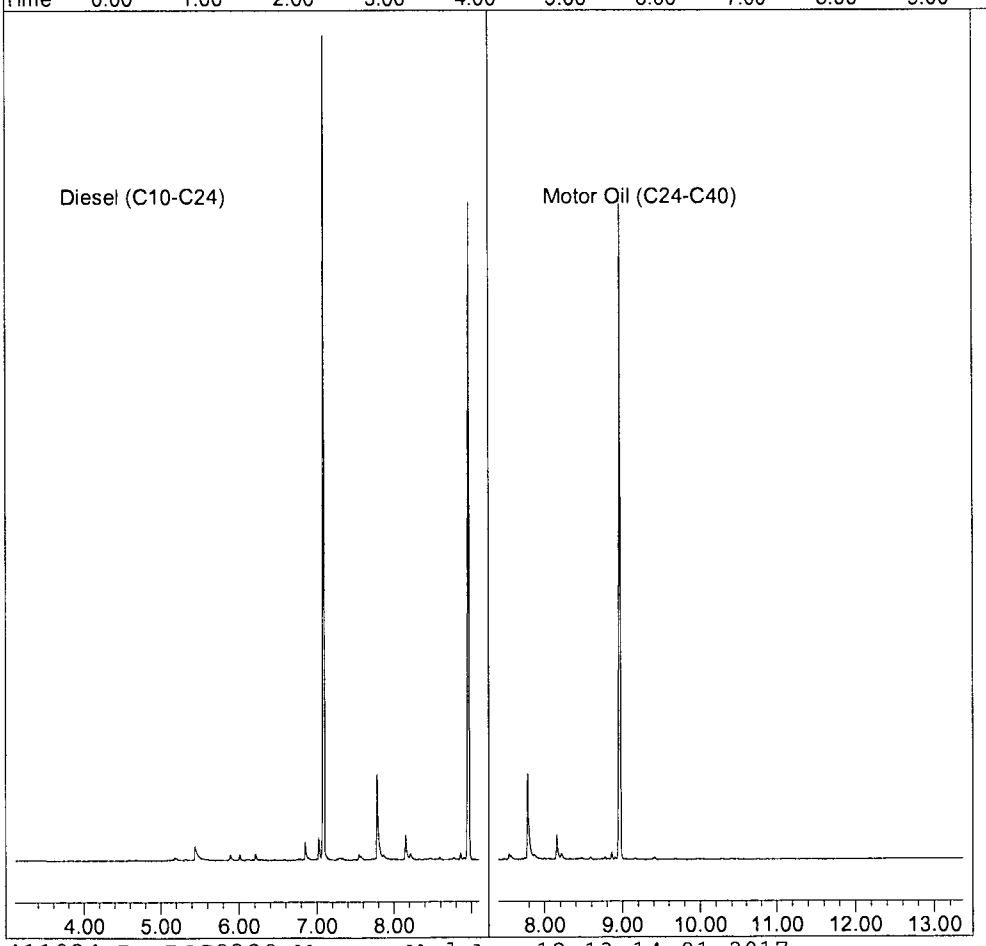
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	105195977	38.255 ppb
Surrogate Spike 40.000		Recovery =	95.64%
5) SA Octacosane(S)	8.97	93612080	45.115 ppb
Surrogate Spike 40.000		Recovery =	112.79%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411024.D
Sample : AZ53170W16 2.5/1500





ORGANICS

Calibration Data

APPL, INC.

TPH Extractables
DOC0320

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/20/17
Instrument: Apollo

Initials:

Diesel:	320016.D	320017.D	320018.D	320019.D	320020 D	320021.D	
Motor Oil:	320023.D	320024.D	320025.D	320026.D	320027.D	320028.D	
Decanoic Acid:	220003 D	220004.D	220005.D	220006.D	220007.D	220008.D	

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	HATM	Diesel (C10-C24)	2540018	1886778	1624943	1628033	1615252	1595966					1815165	20	HATM	
2	HBTM	Motor Oil (C24-C40)	1333385	1248250	1216530	1228953	1179824	1167345					1229048	4.8	HBTM	
3	SCL	Decanoic Acid(S)	584959	772769	1133950	1186103	1200494	1222929					1016867	27	SCL	1.000
4	SA	Ortho-Terphenyl(S)	2396524	2485788	2239469	2213466	2206282	2207643					2291529	5.2	SA	
5	SA	Octacosane(S)	1838724	1898084	1682686	1662435	1654563	1638330					1729137	6.4	SA	
6																
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8																
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1.8134515

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320016.D
Acq On : 3-20-17 15:15:13
Sample : Diesel-1 10ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 16
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

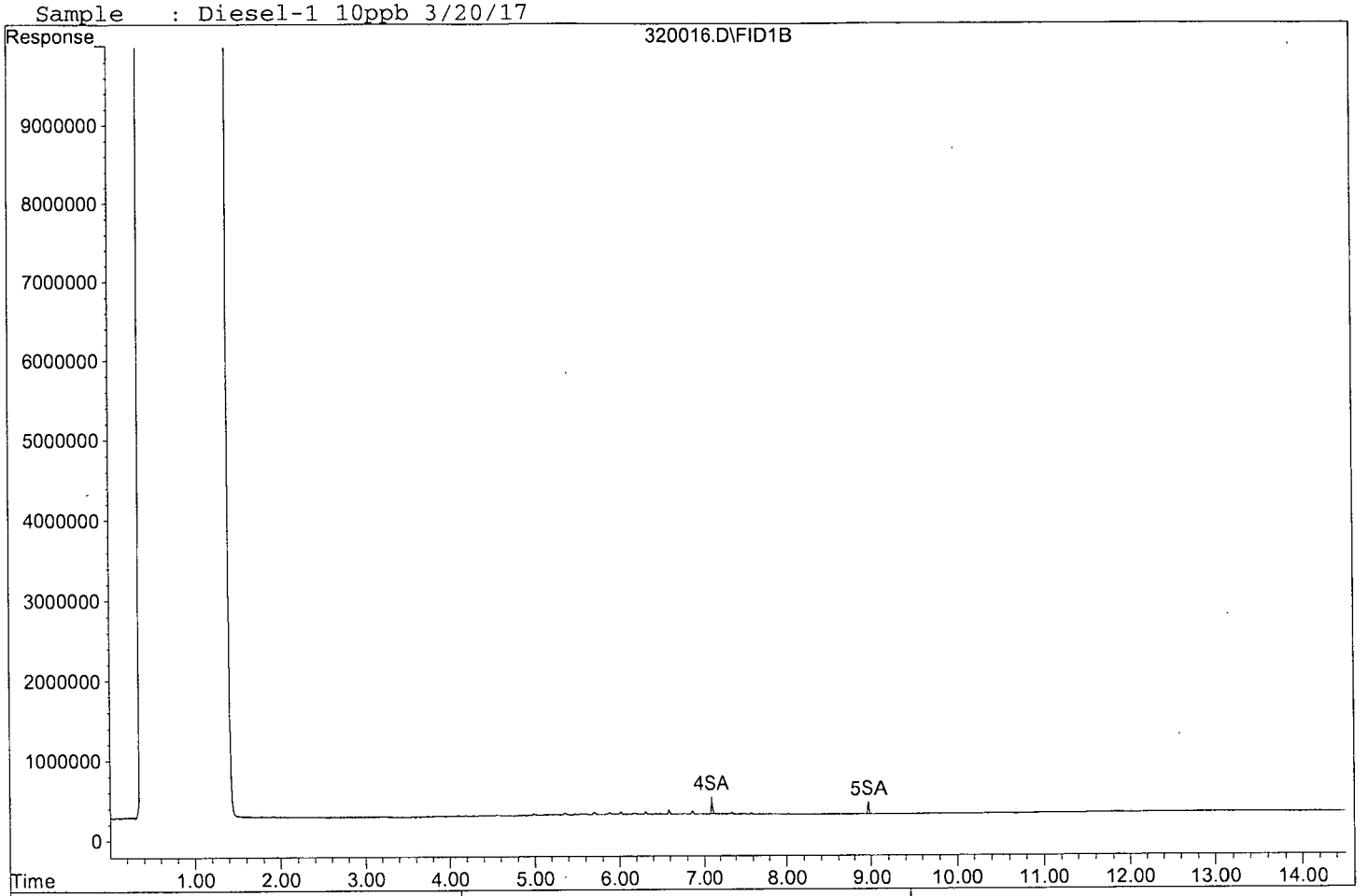
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

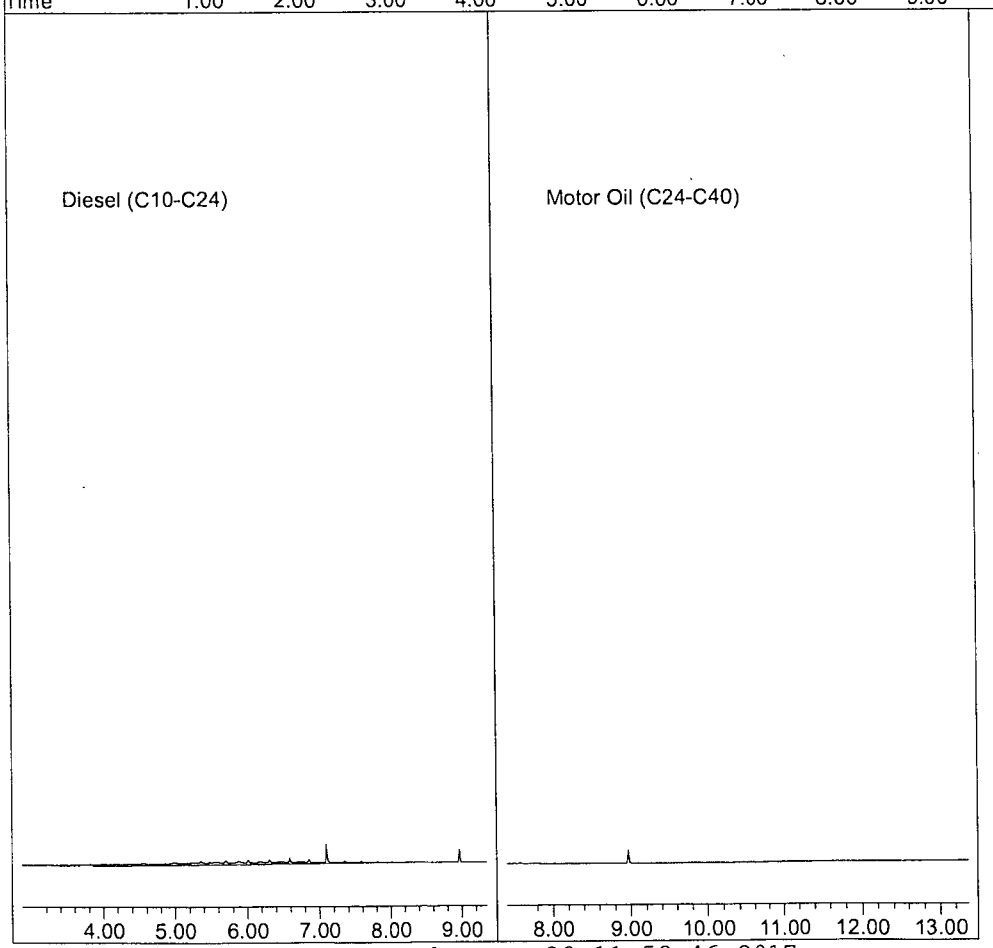
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	2396524	0.523 ppb
Surrogate Spike 30.000		Recovery =	1.74%
5) SA Octacosane(S)	8.97	1838724	0.532 ppb
Surrogate Spike 30.000		Recovery =	1.77%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	50800352	13.993 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320016.D
Sample : Diesel-1 10ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320017.D
Acq On : 3-20-17 15:36:08
Sample : Diesel-2 100ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:58 2017 Quant Results File: DOC0320.RES

Vial: 17
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

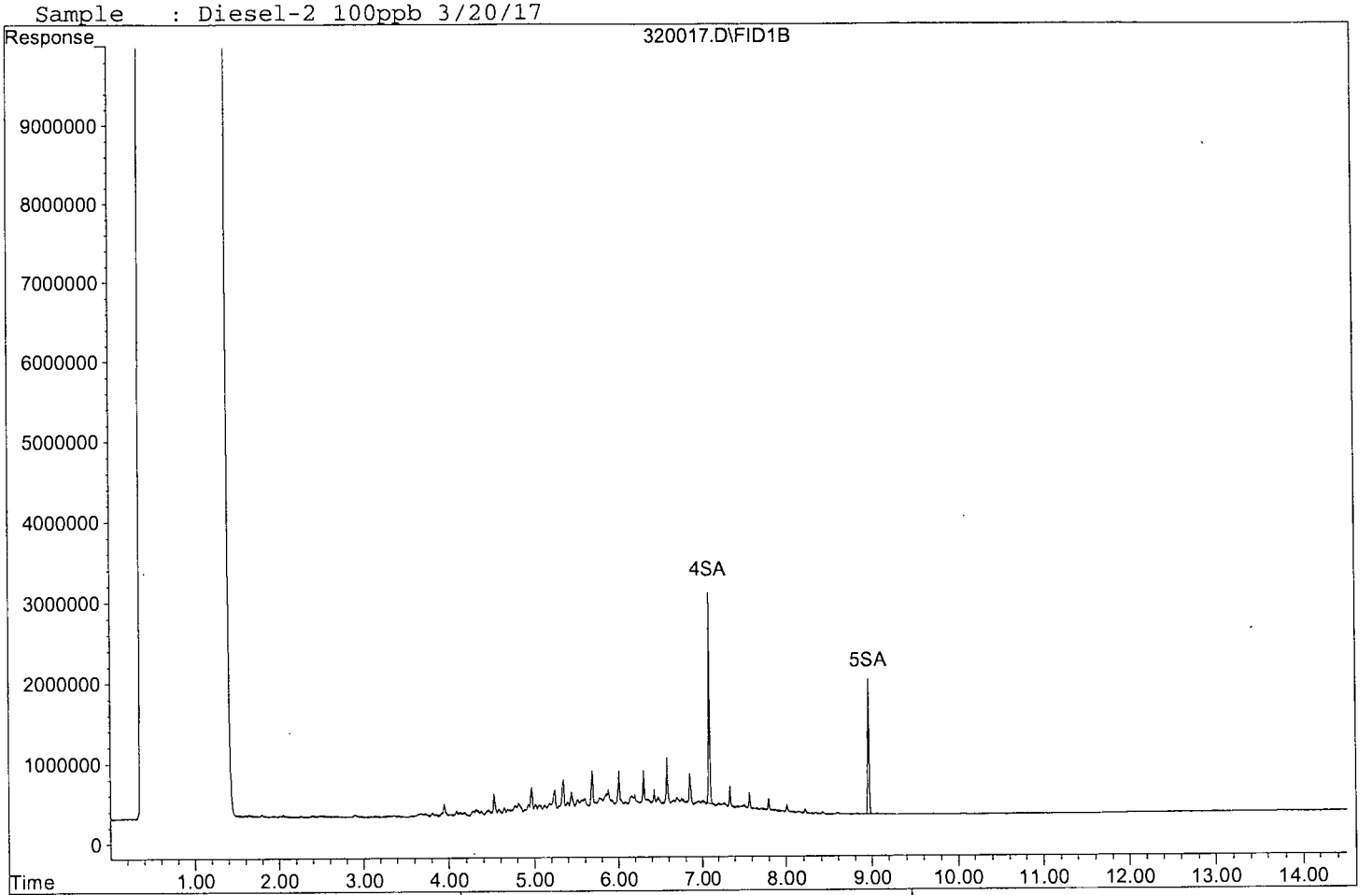
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

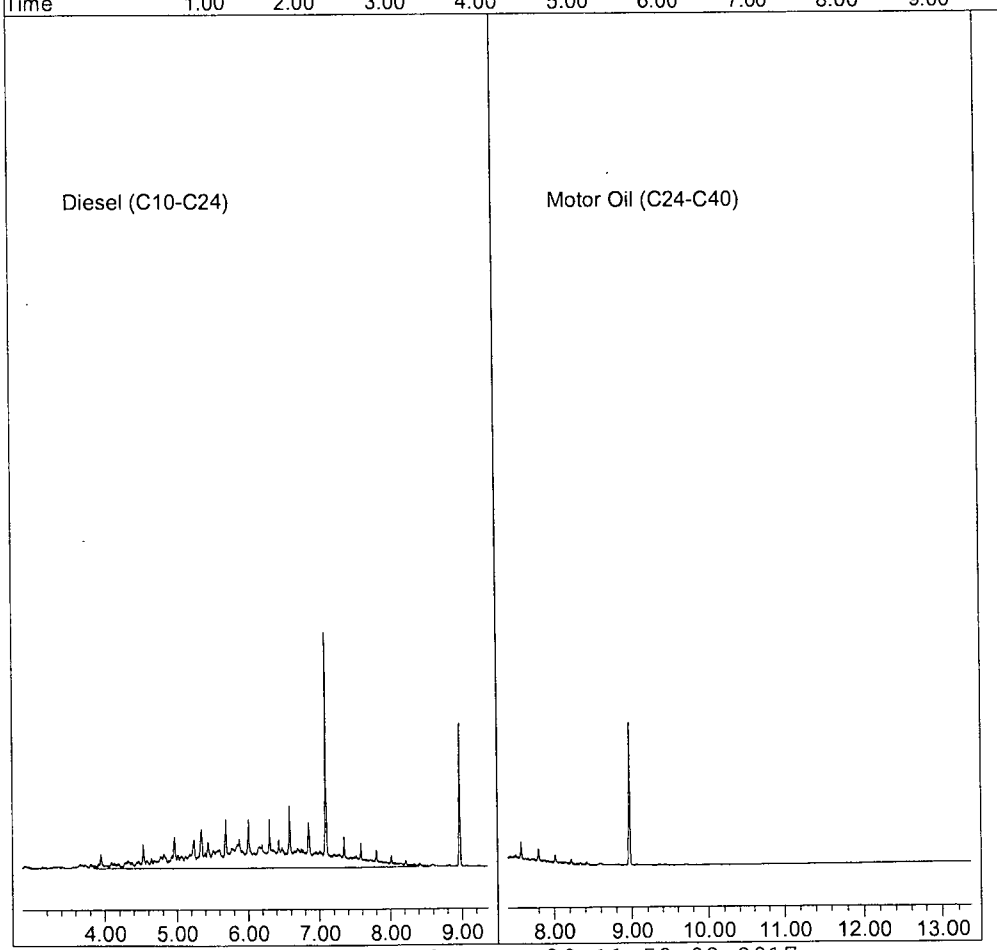
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	24857883	5.424 ppb
Surrogate Spike 30.000		Recovery =	18.08%
5) SA Octacosane(S)	8.97	18980841	5.489 ppb
Surrogate Spike 30.000		Recovery =	18.30%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	377355582	103.945 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320017.D
Sample : Diesel-2 100ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320018.D
Acq On : 3-20-17 15:57:14
Sample : Diesel-3 400ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 18
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

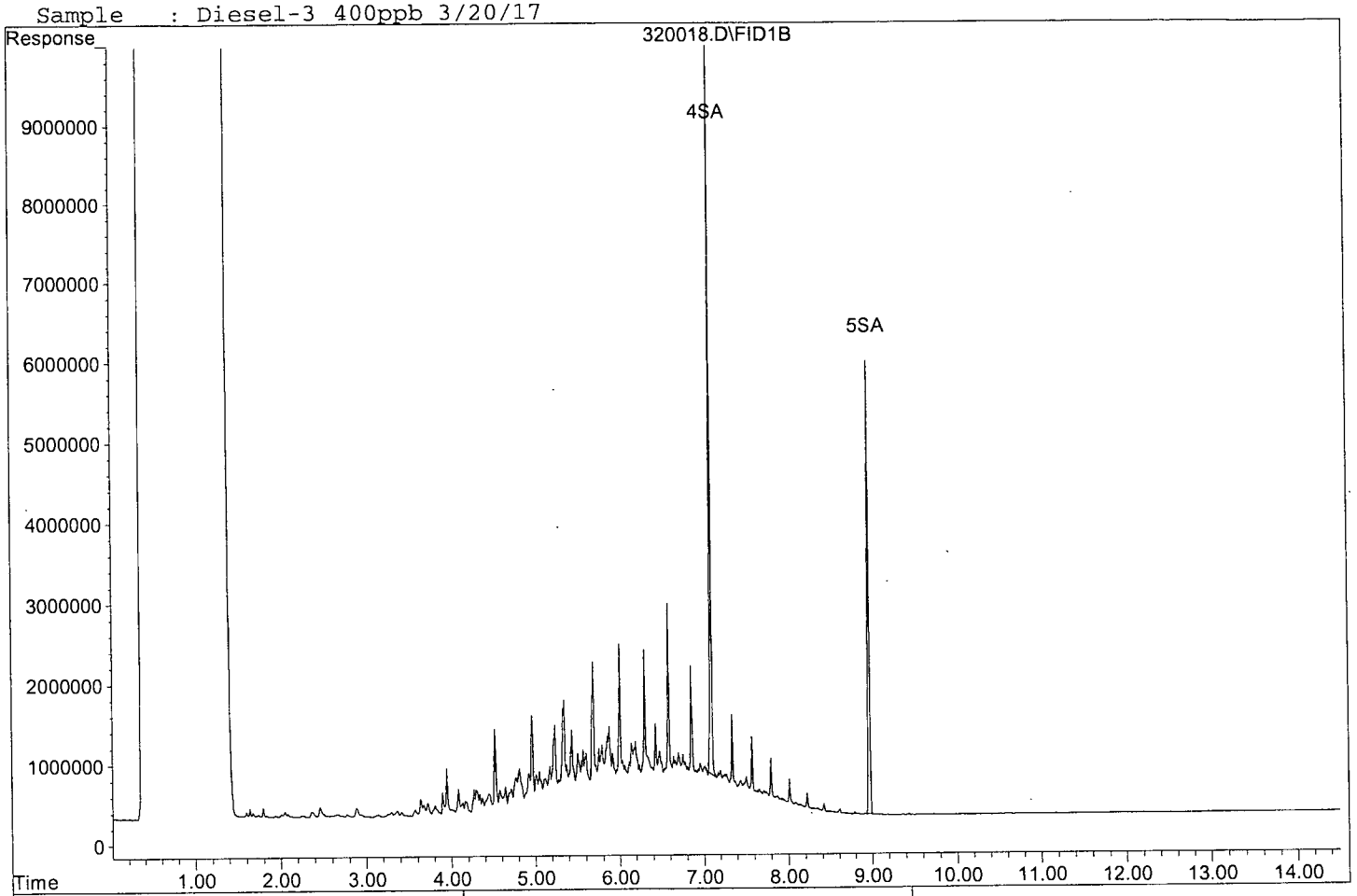
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

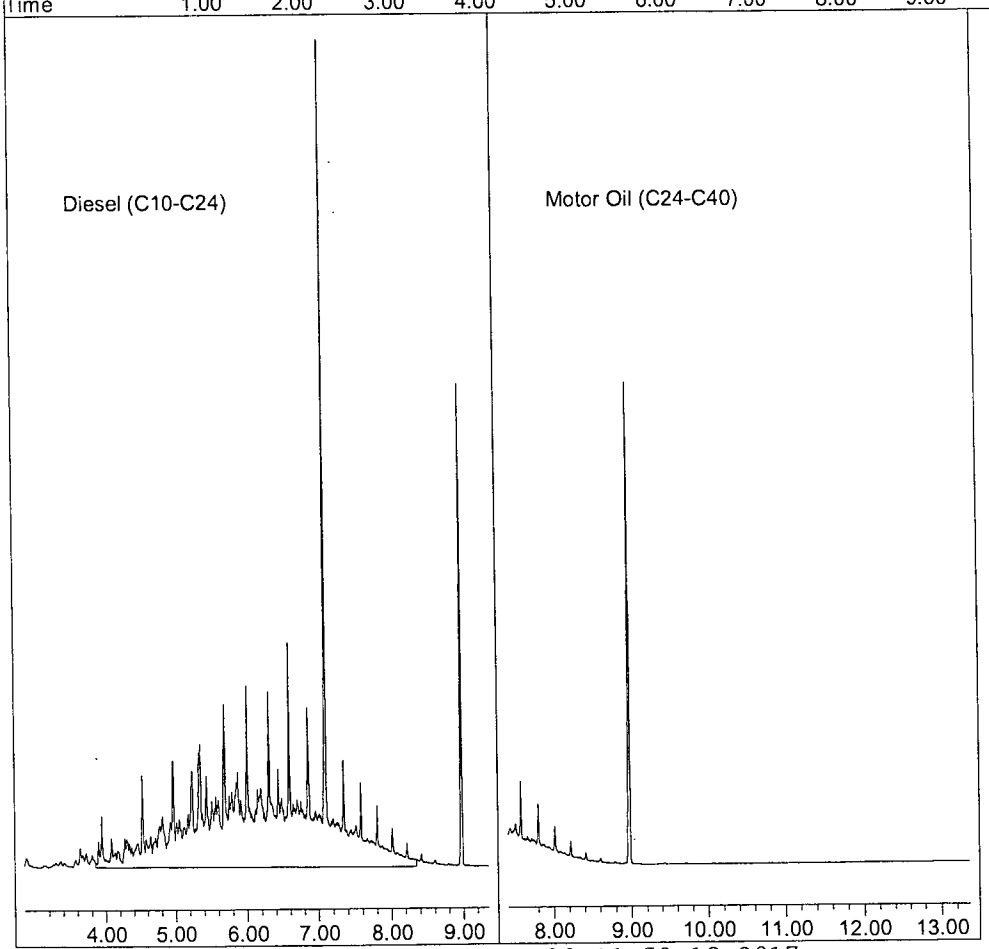
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	89578741	19.546 ppb
Surrogate Spike 30.000		Recovery =	65.15%
5) SA Octacosane(S)	8.98	67307425	19.463 ppb
Surrogate Spike 30.000		Recovery =	64.88%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1299954214	358.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320018.D
Sample : Diesel-3 400ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320019.D
Acq On : 3-20-17 16:18:15
Sample : Diesel-4 600ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 19
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

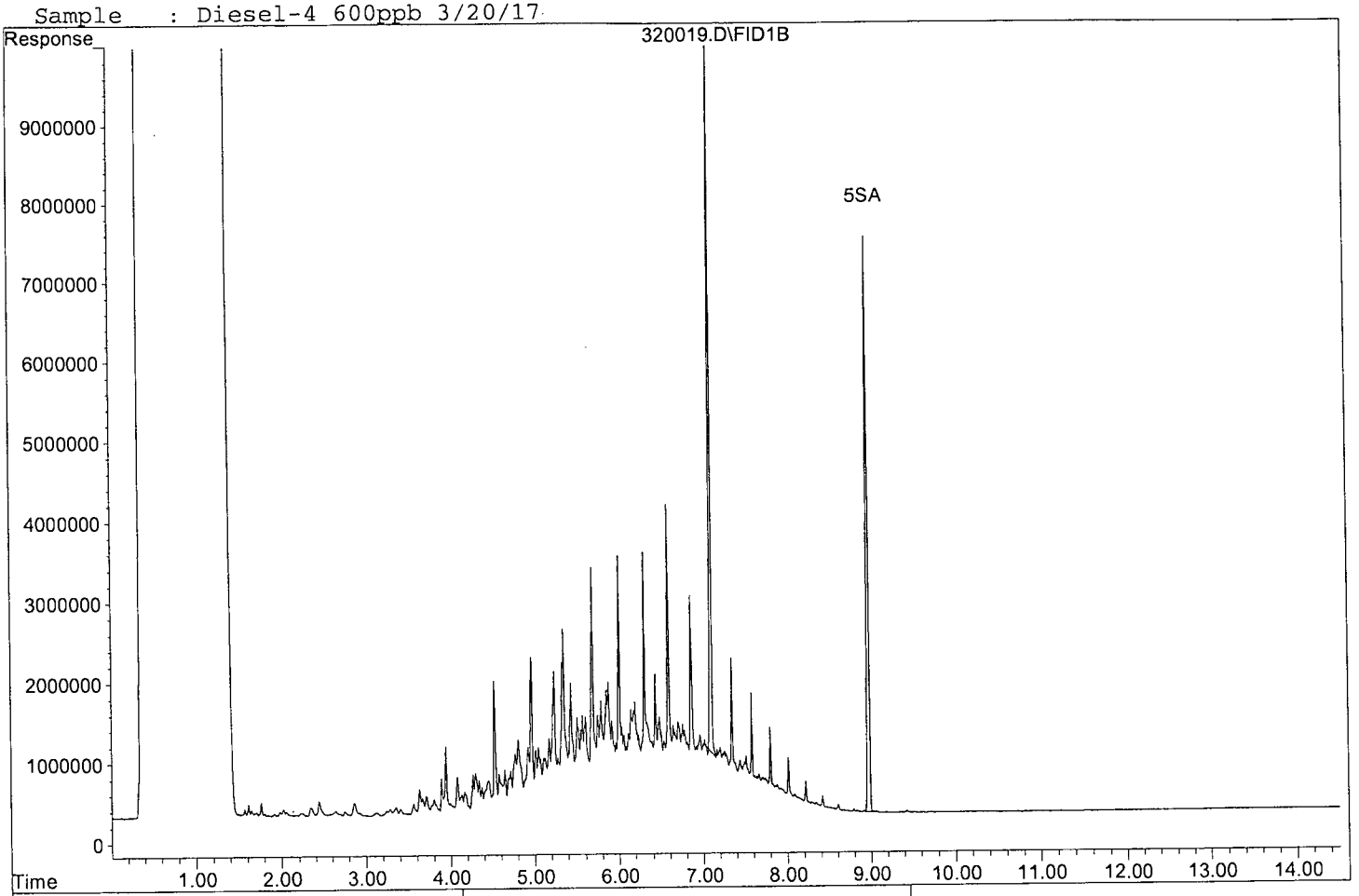
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

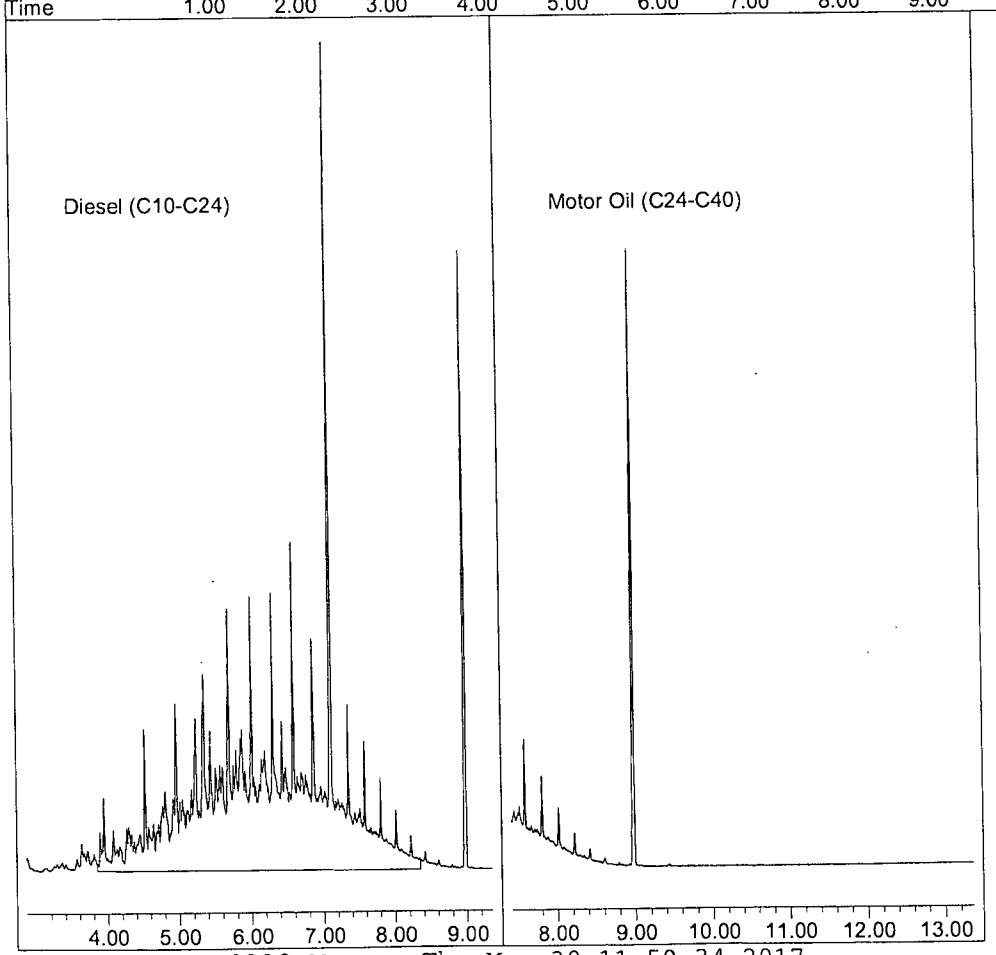
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	132807937	28.978 ppb
Surrogate Spike 30.000		Recovery =	96.59%
5) SA Octacosane(S)	8.98	99746088	28.843 ppb
Surrogate Spike 30.000		Recovery =	96.14%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1953639090	538.144 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320019.D
Sample : Diesel-4 600ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320020.D
Acq On : 3-20-17 16:39:27
Sample : Diesel-5 800ppb 3/20/17
Misc : Mix(A)
IntFile : events.e
Quant Time: Mar 30 11:59 2017 Quant Results File: DOC0320.RES

Vial: 20
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

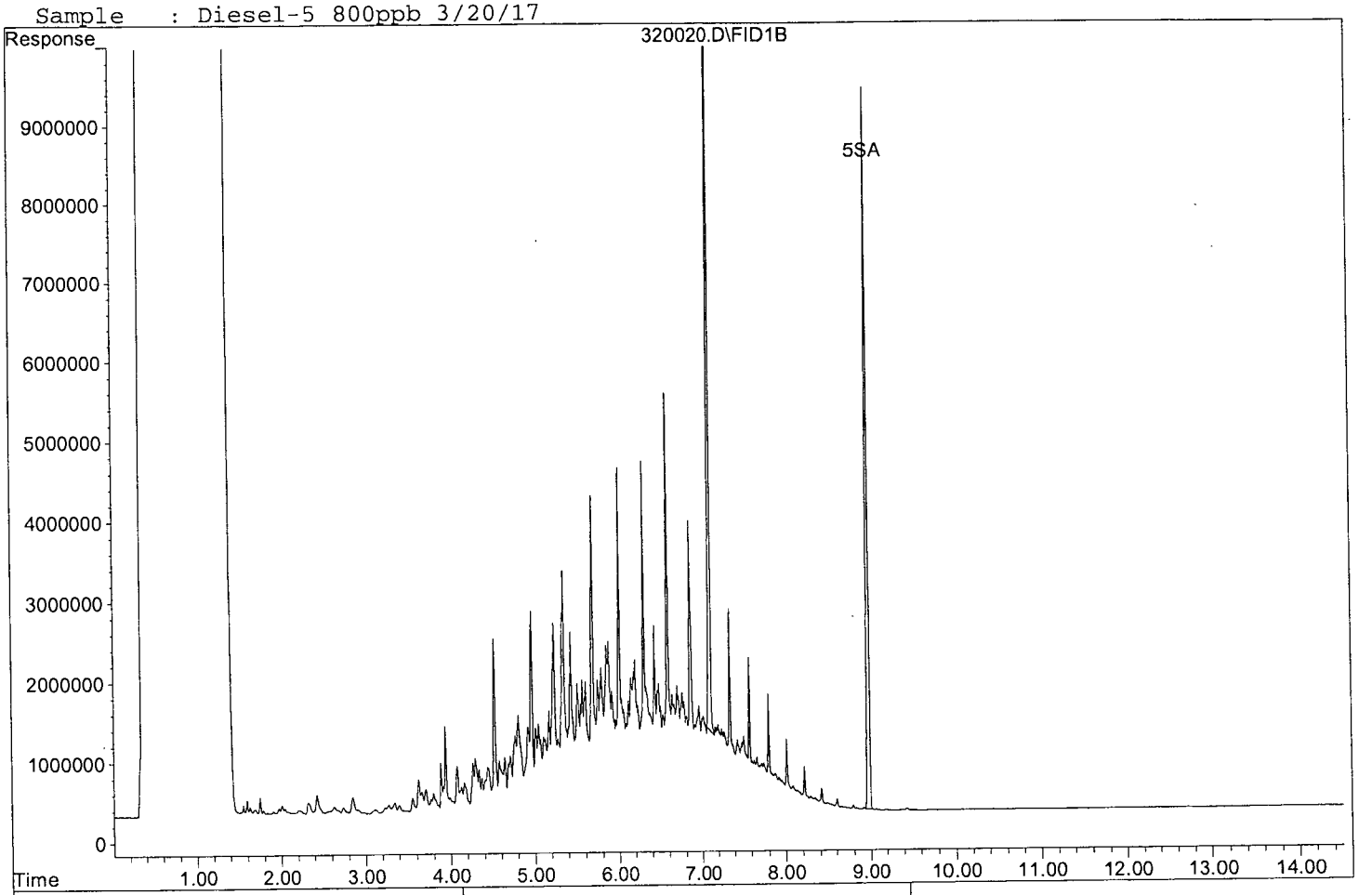
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

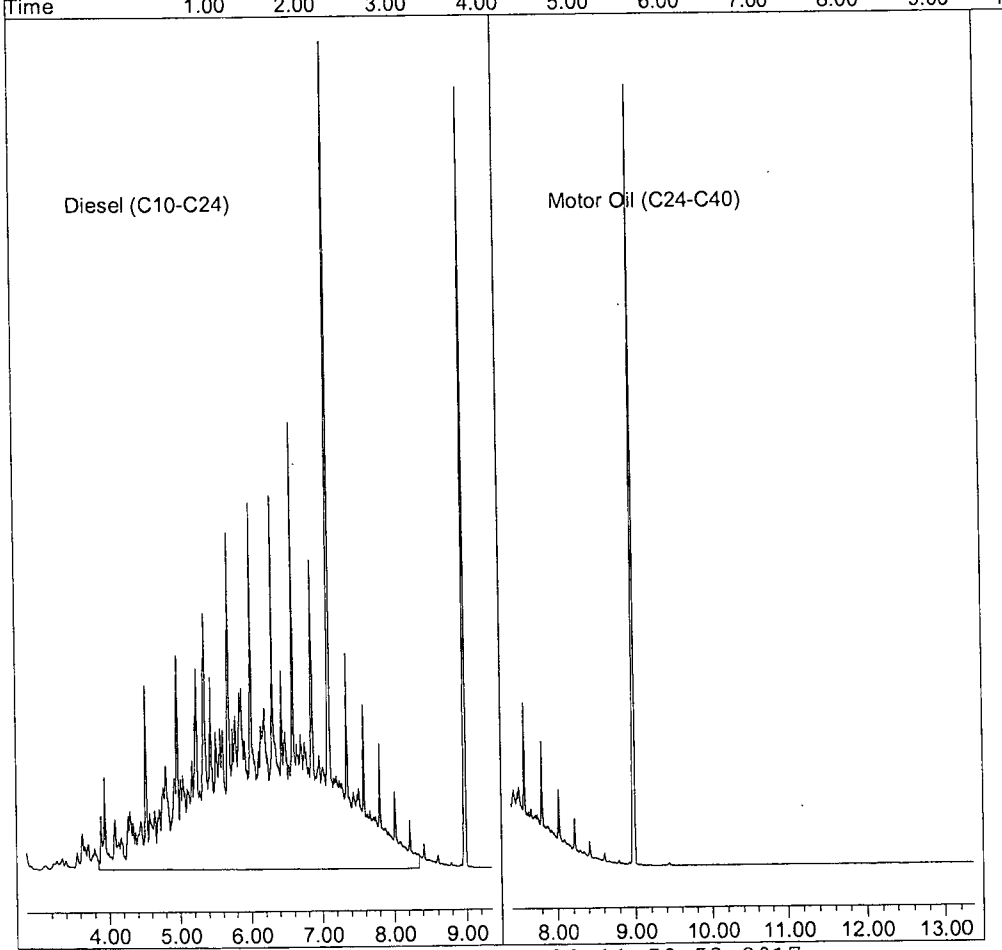
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	176502561	38.512 ppb
Surrogate Spike 30.000		Recovery =	128.37%
5) SA Octacosane(S)	8.99	132365021	38.275 ppb
Surrogate Spike 30.000		Recovery =	127.58%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	2584402595	711.892 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320020.D
Sample : Diesel-5 800ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320021.D Vial: 21
Acq On : 3-20-17 17:00:36 Operator: DP
Sample : Diesel-6 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

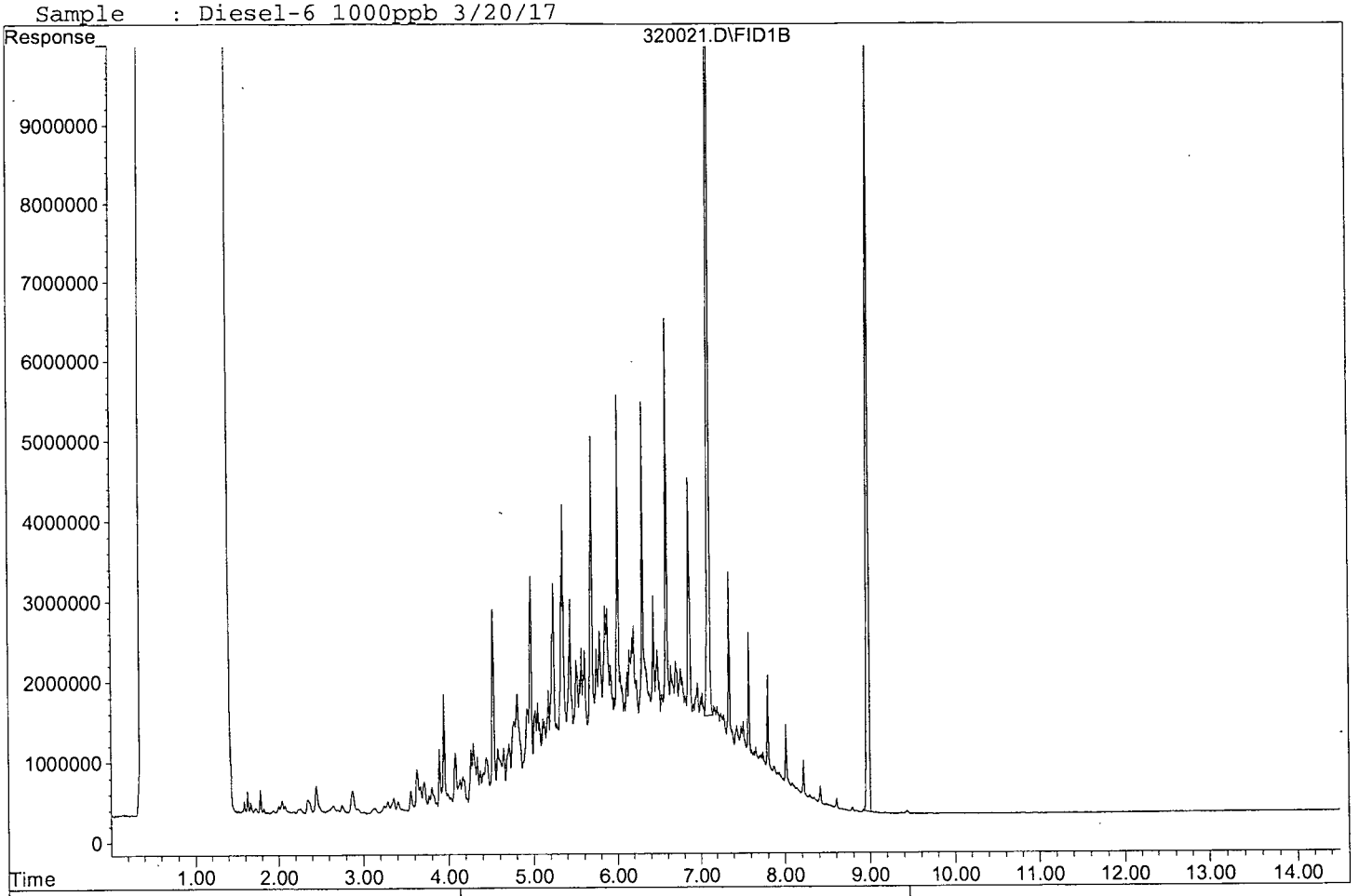
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

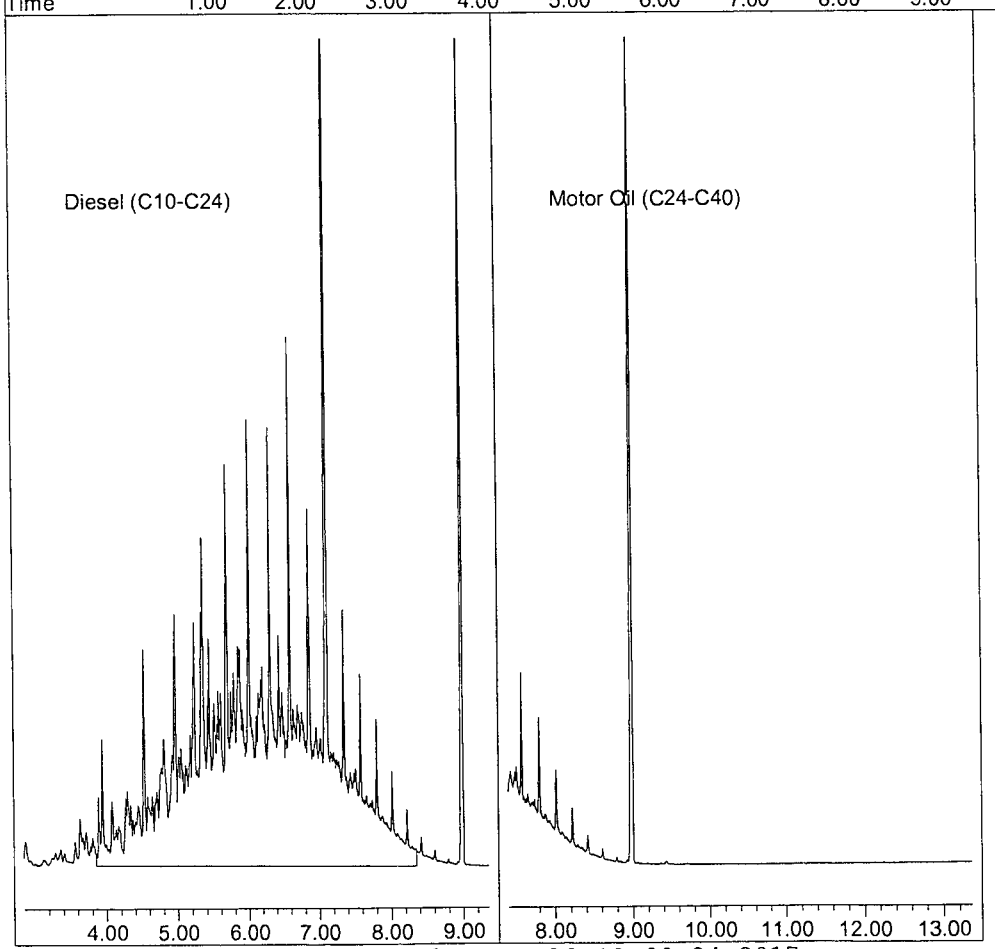
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.11	220764307	48.170 ppb
Surrogate Spike 30.000		Recovery =	160.57%
5) SA Octacosane(S)	8.99	163833005	47.374 ppb
Surrogate Spike 30.000		Recovery =	157.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	3191932577	879.240 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320021.D
Sample : Diesel-6 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320023.D Vial: 23
Acq On : 3-20-17 17:42:35 Operator: DP
Sample : Motor Oil-1 20ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

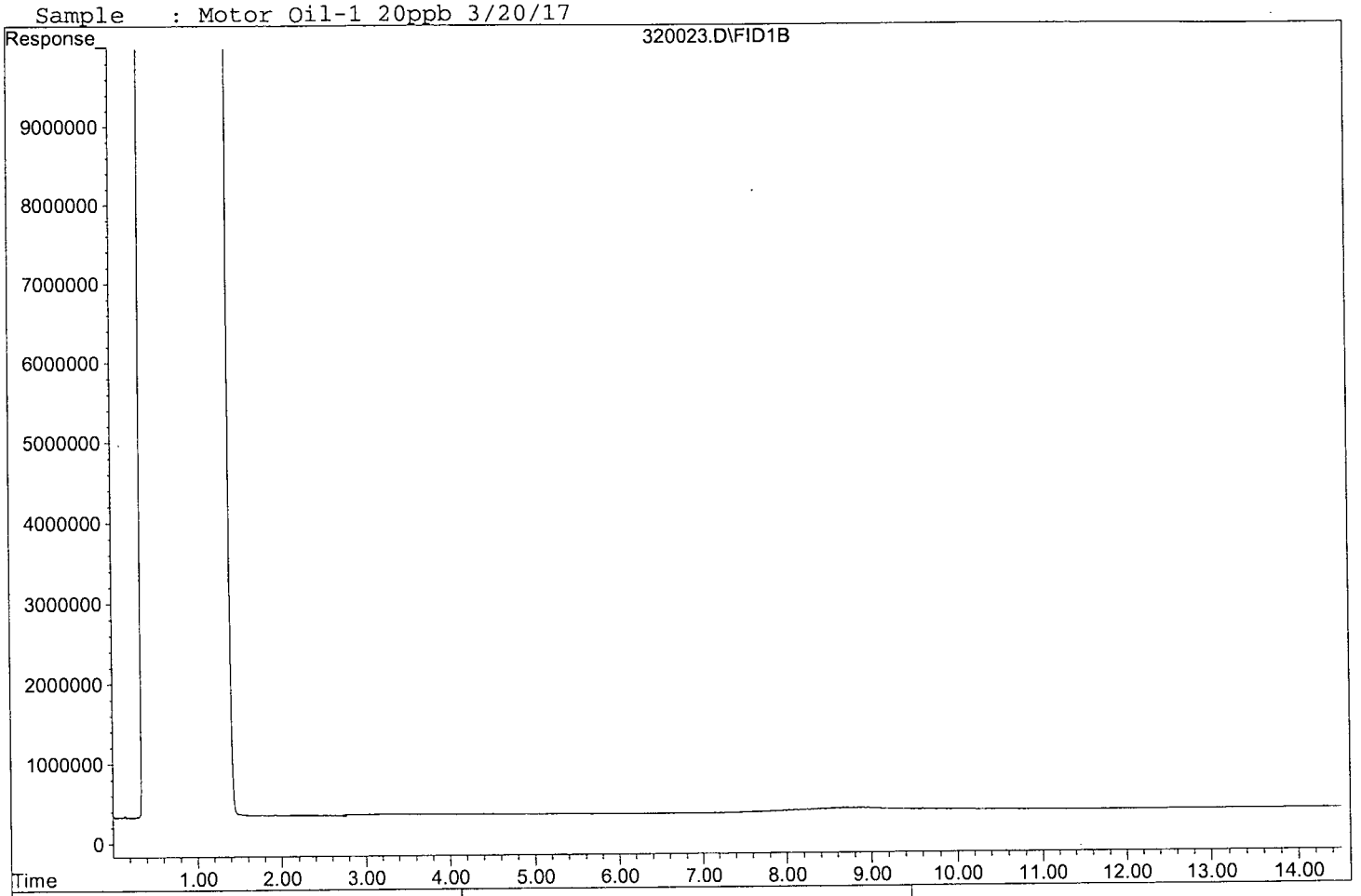
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

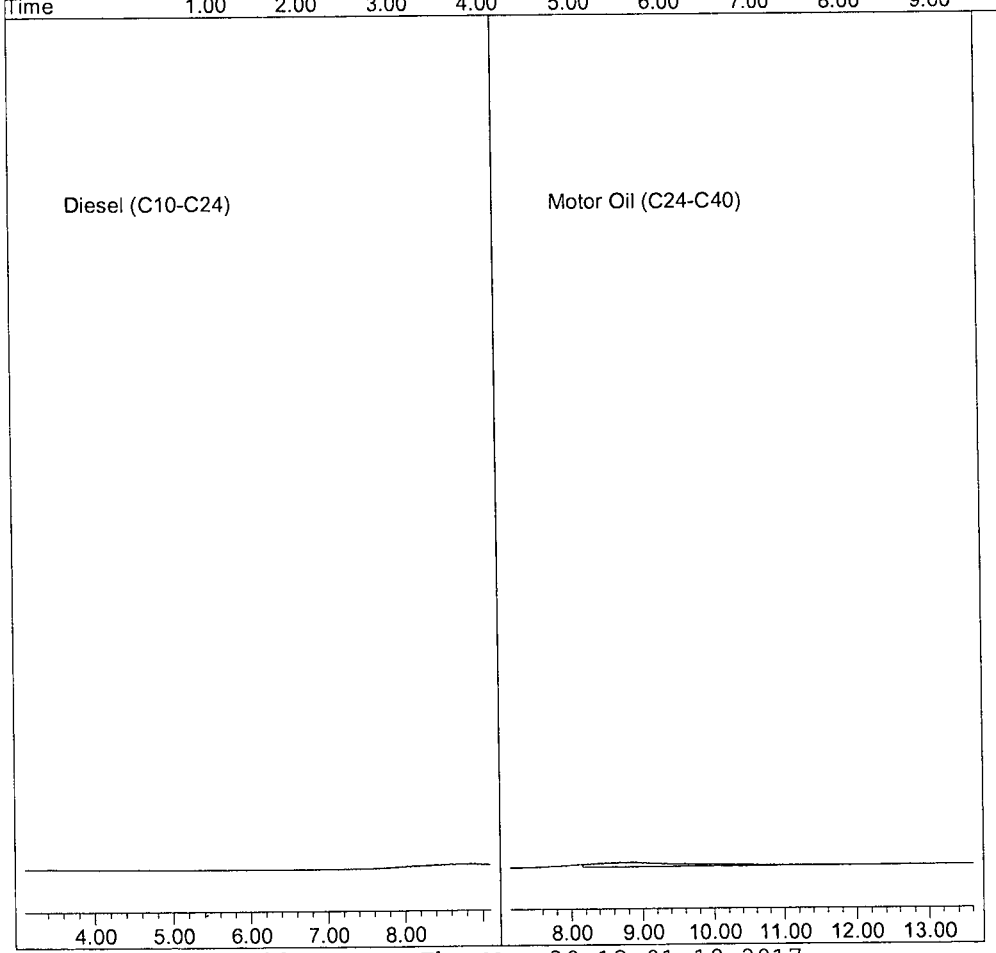
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	53335418	21.698 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320023.D
Sample : Motor Oil-1 20ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320024.D
Acq On : 3-20-17 18:03:37
Sample : Motor Oil-2 50ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 24
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

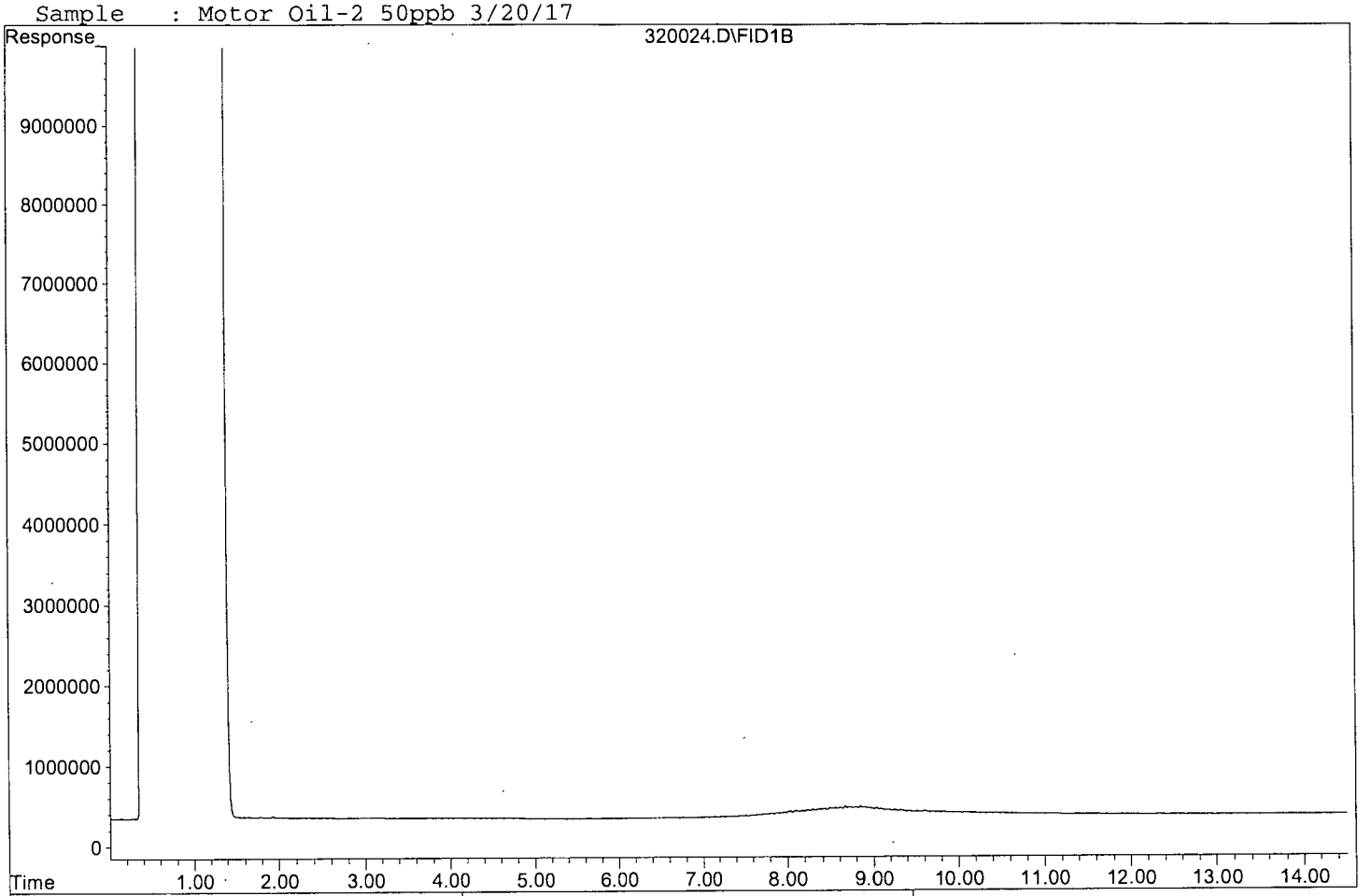
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

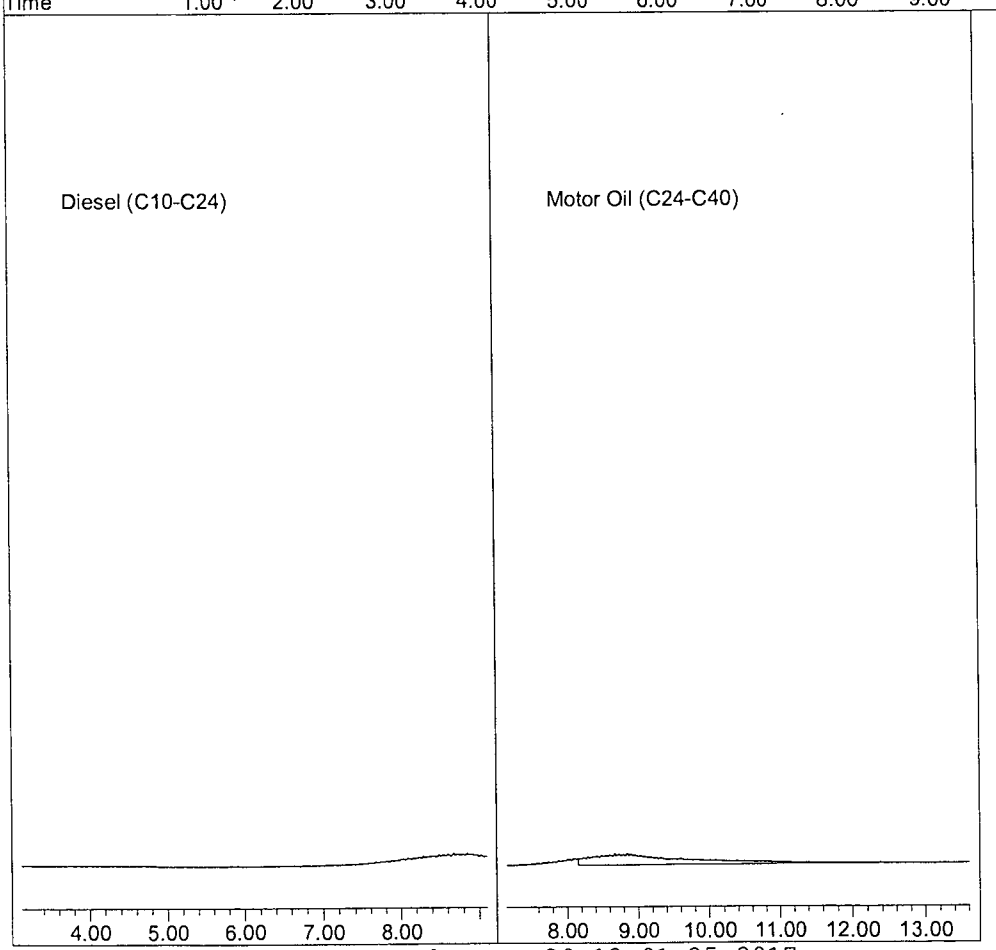
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	124824954	50.781 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320024.D
Sample : Motor Oil-2 50ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320025.D
Acq On : 3-20-17 18:24:46
Sample : Motor Oil-3 250ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 25
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

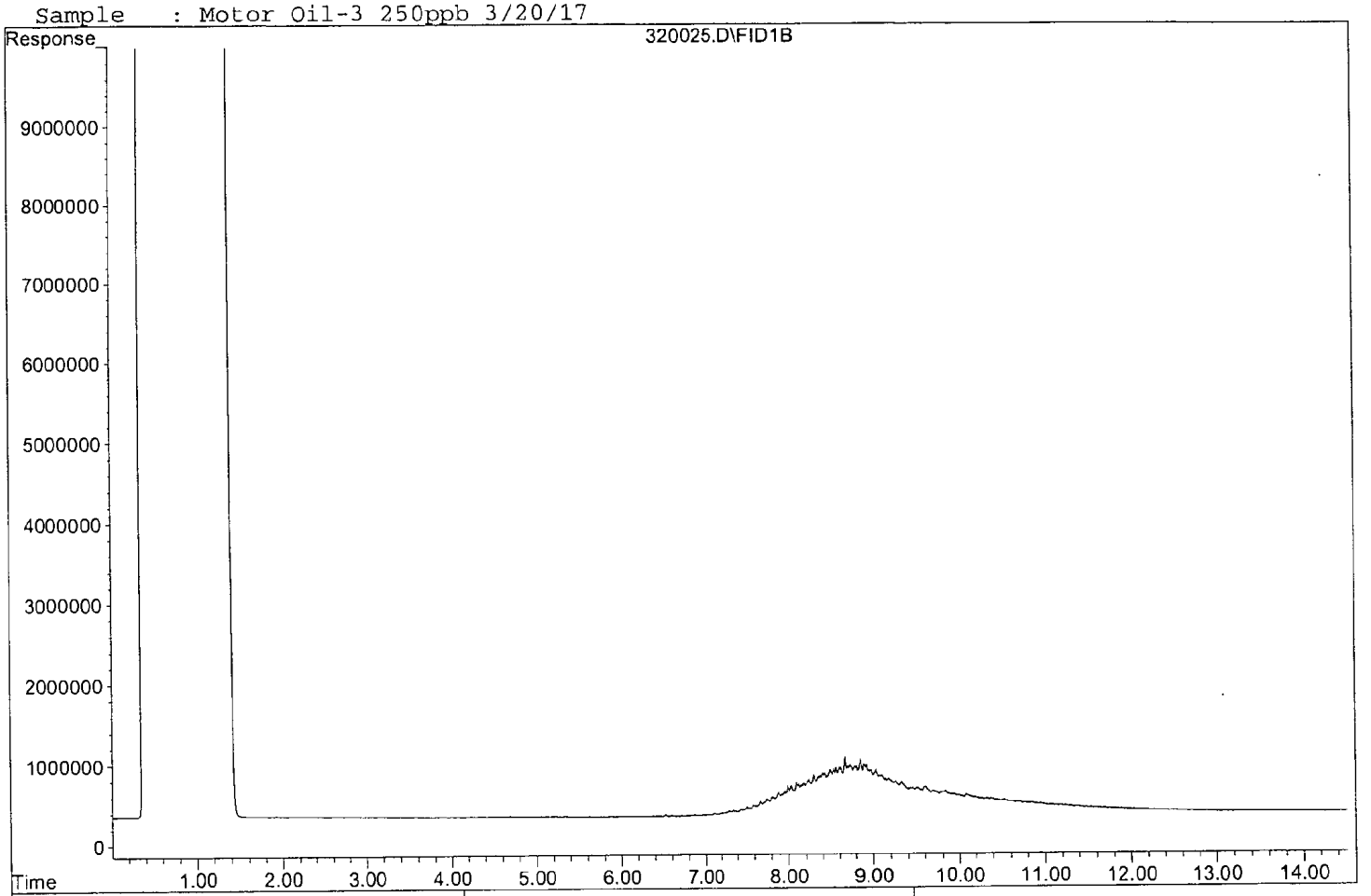
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

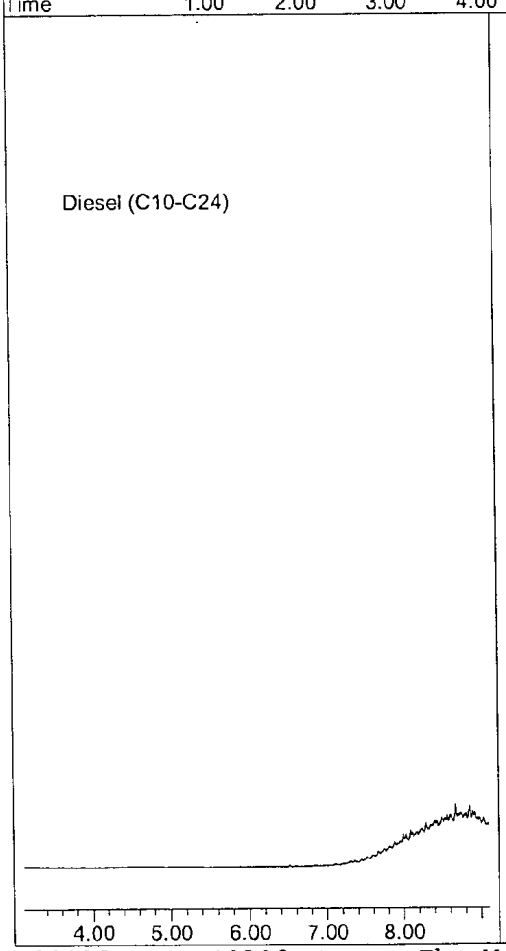
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	608264904	247.454 ppb

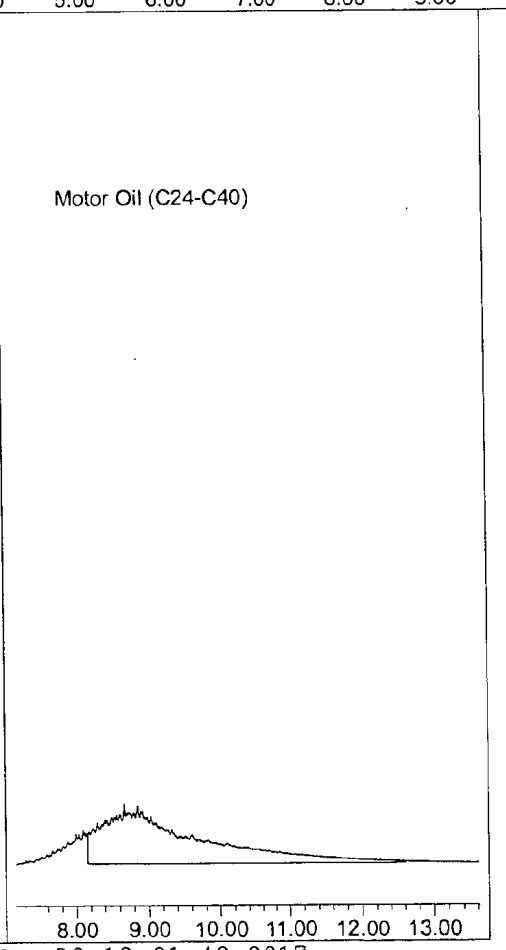
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320025.D
Sample : Motor Oil-3 250ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320026.D
Acq On : 3-20-17 18:45:44
Sample : Motor Oil-4 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:01 2017 Quant Results File: DOC0320.RES

Vial: 26
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

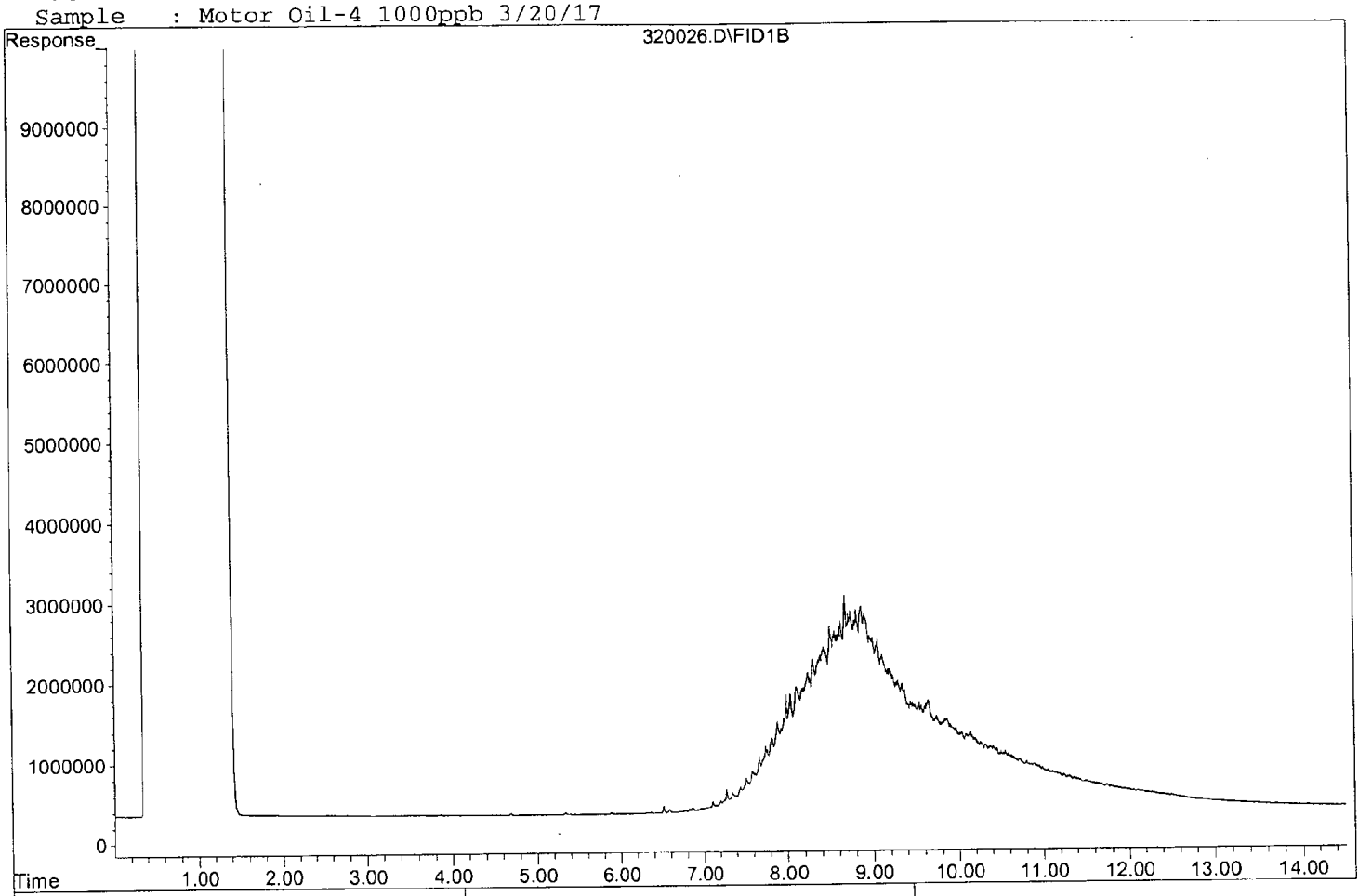
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

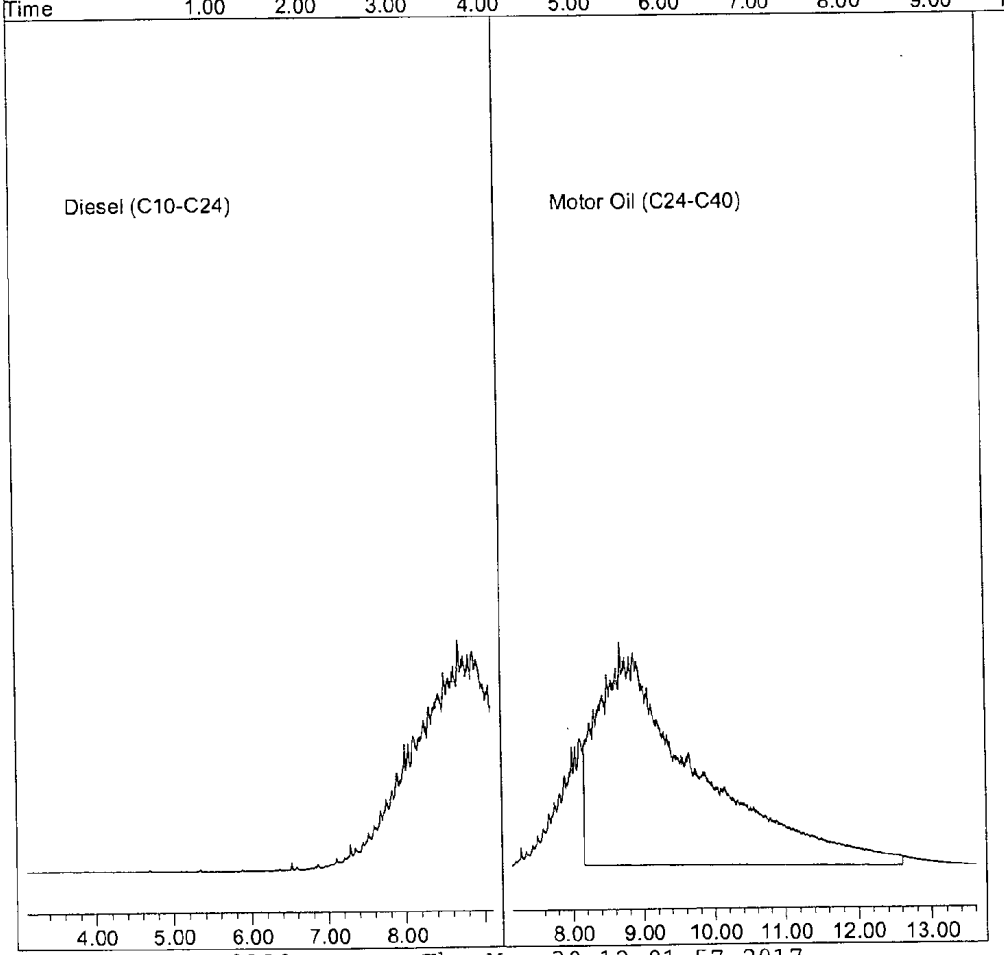
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2457905997	999.923 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320026.D
Sample : Motor Oil-4 1000ppb 3/20/17





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320027.D
Acq On : 3-20-17 19:06:49
Sample : Motor Oil-5 1500ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 27
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

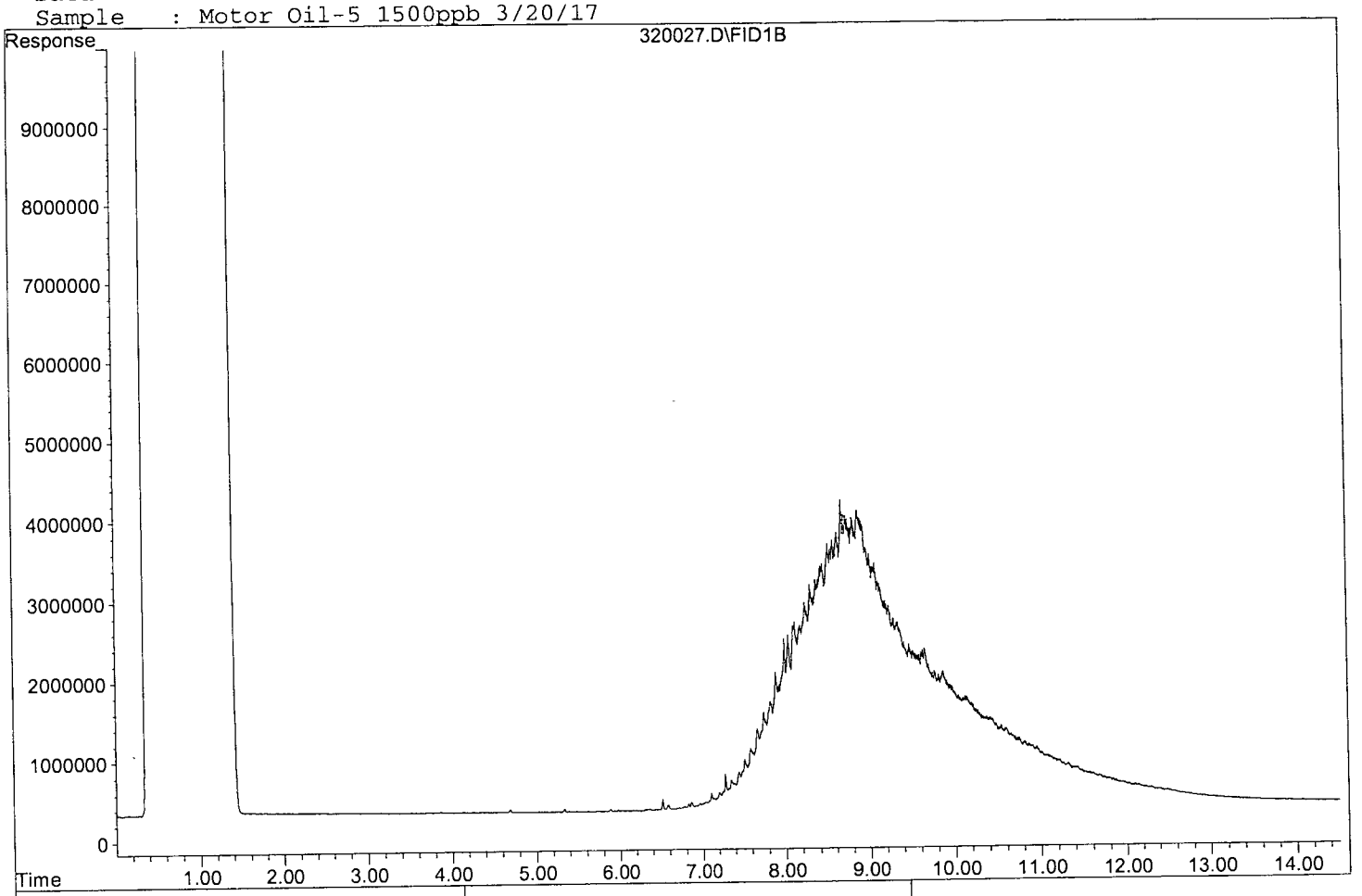
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

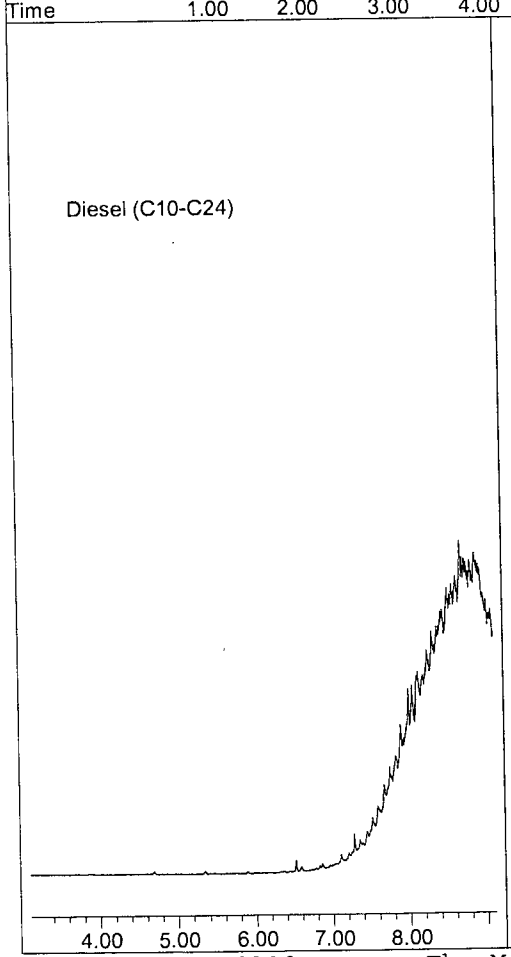
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	3539471418	1439.924 ppb

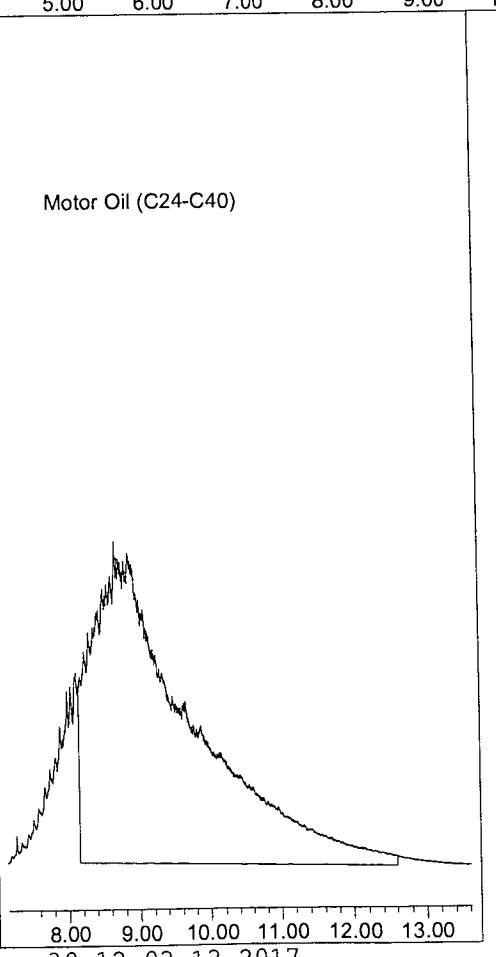
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320027.D
Sample : Motor Oil-5 1500ppb 3/20/17







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320028.D
Acq On : 3-20-17 19:27:55
Sample : Motor Oil-6 2000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Vial: 28
Operator: DP
Inst : Apollo
Multiplr: 1.00

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

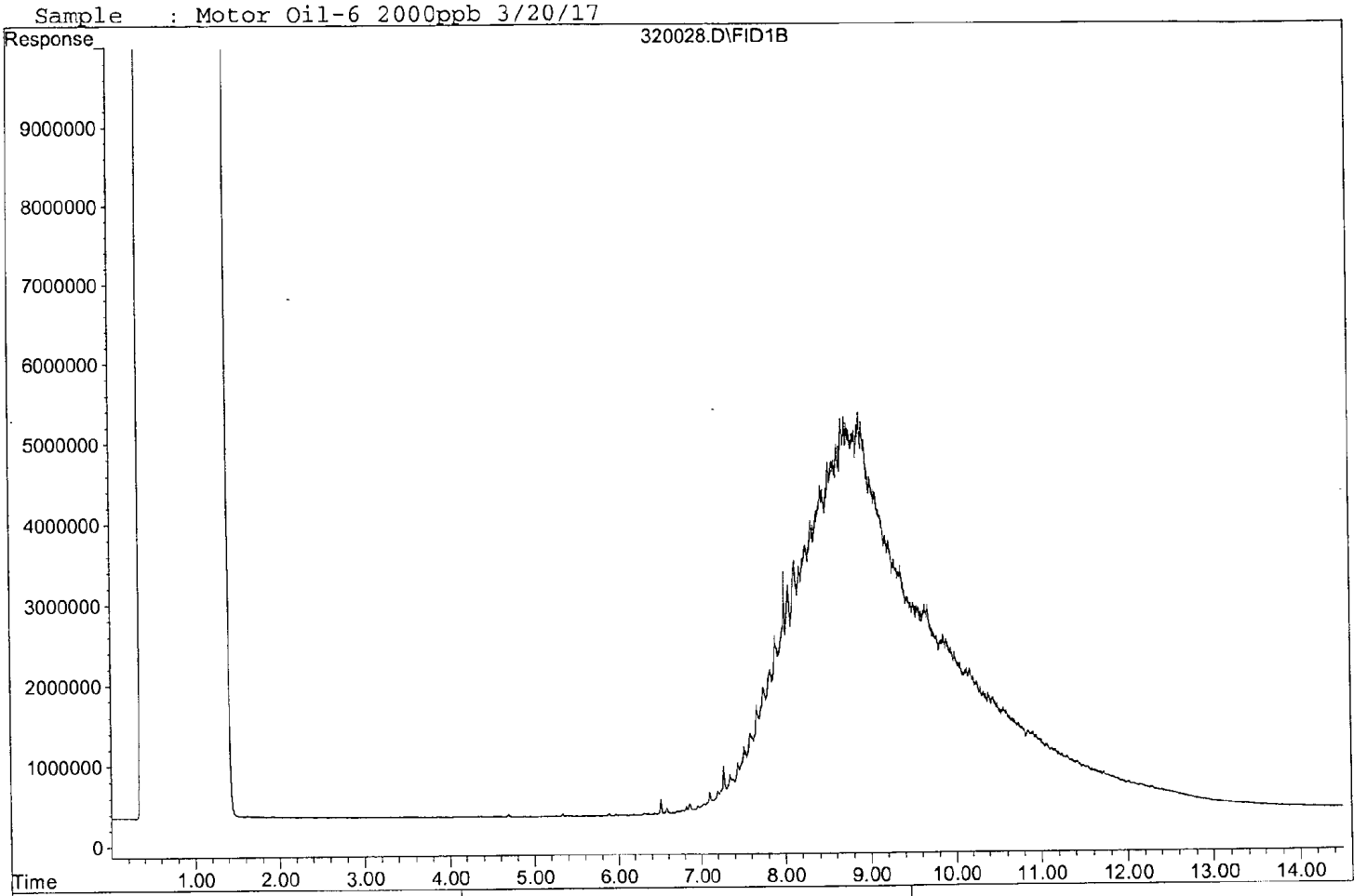
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

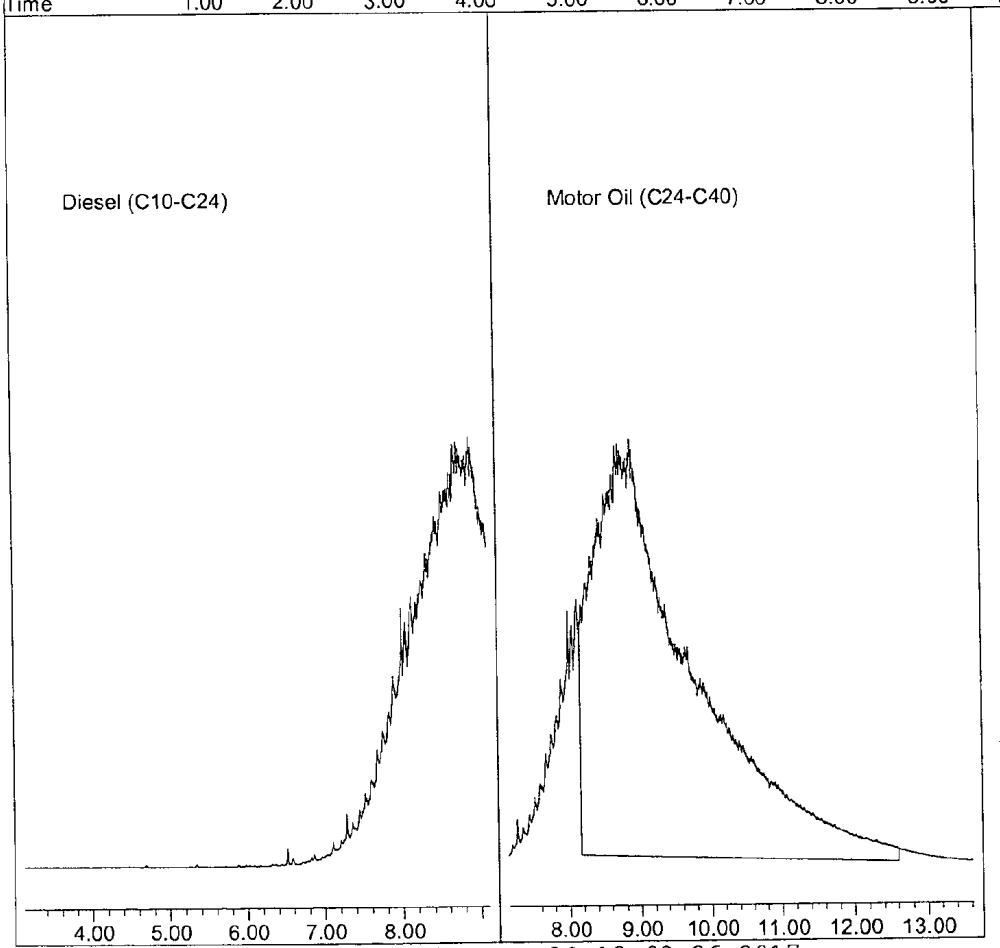
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	4669380911	1899.593 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320028.D
Sample : Motor Oil-6 2000ppb 3/20/17





TPH Extractables
DOC0320

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/20/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 320022.D (Diesel) 320029.D (Motor Oil)

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1884580	3.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1452540	18	HBTM	
3							
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40							
		Average			10.9		

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320022.D Vial: 22
Acq On : 3-20-17 17:21:37 Operator: DP
Sample : Diesel-2nd Src 400ppb 8/1/16 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:00 2017 Quant Results File: DOC0320.RES

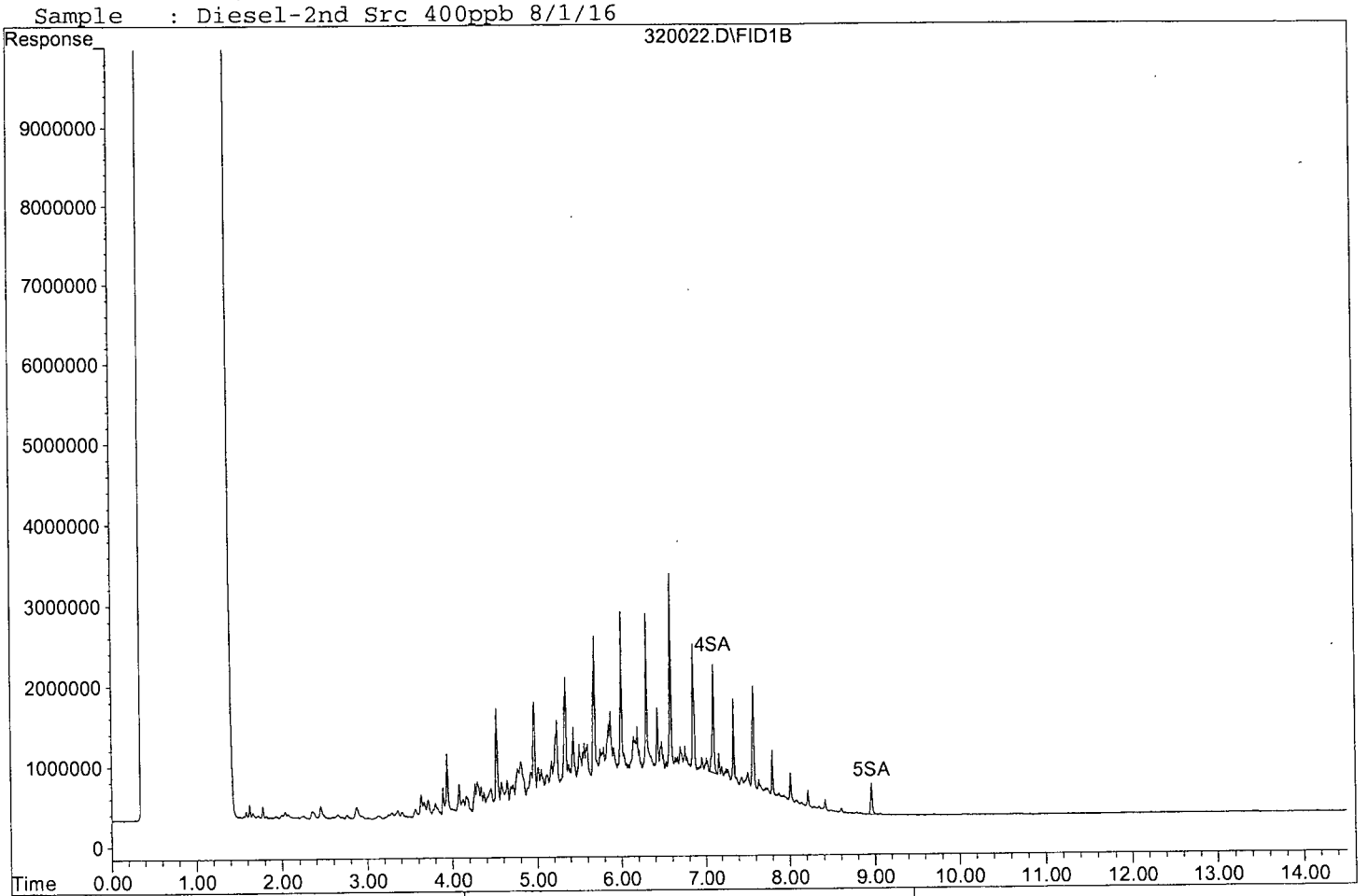
Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

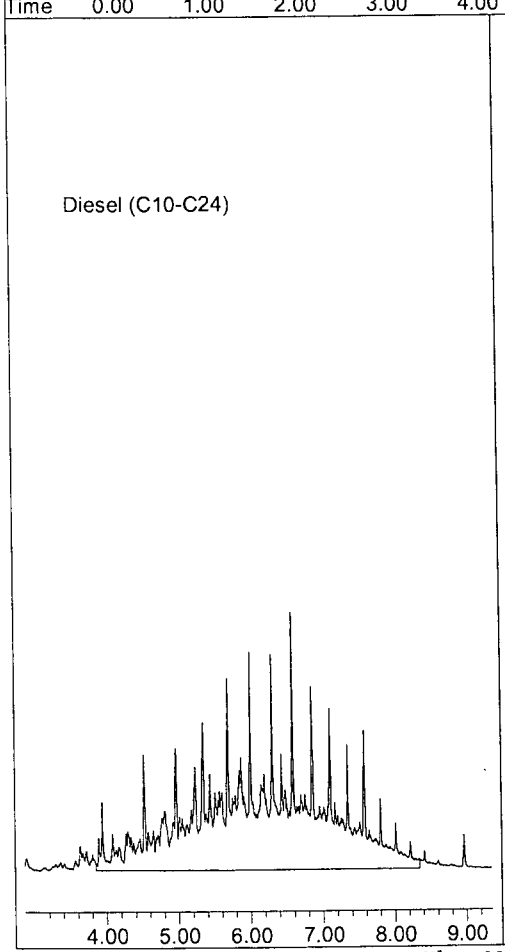
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

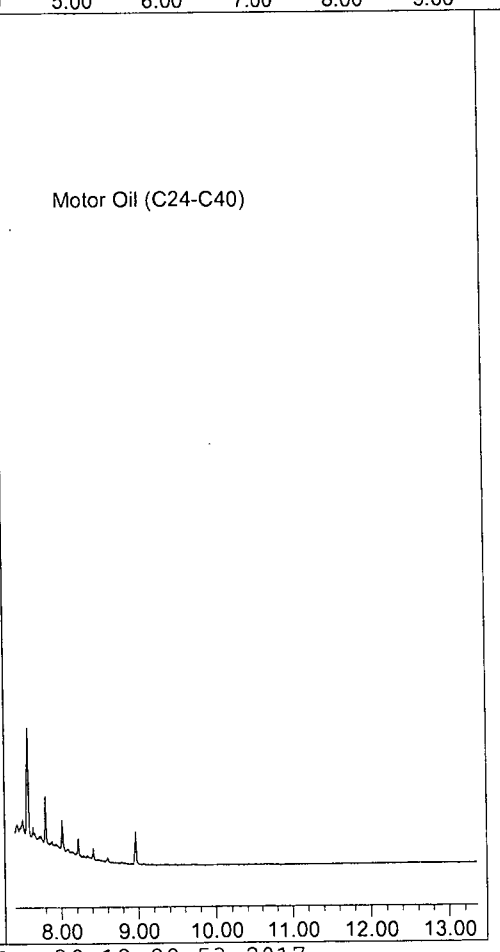
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	18760456	4.093 ppb
Surrogate Spike 30.000		Recovery =	13.64%
5) SA Octacosane(S)	8.97	5160434	1.492 ppb
Surrogate Spike 30.000		Recovery =	4.97%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1507663254	415.297 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170320\320022.D
Sample : Diesel-2nd Src 400ppb 8/1/16







Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170320\320029.D Vial: 29
Acq On : 3-20-17 19:48:56 Operator: DP
Sample : Motor Oil-2nd Src 1000ppb 10/14/16 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 30 12:02 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170320\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Mar 21 09:11:05 2017
Response via : Multiple Level Calibration

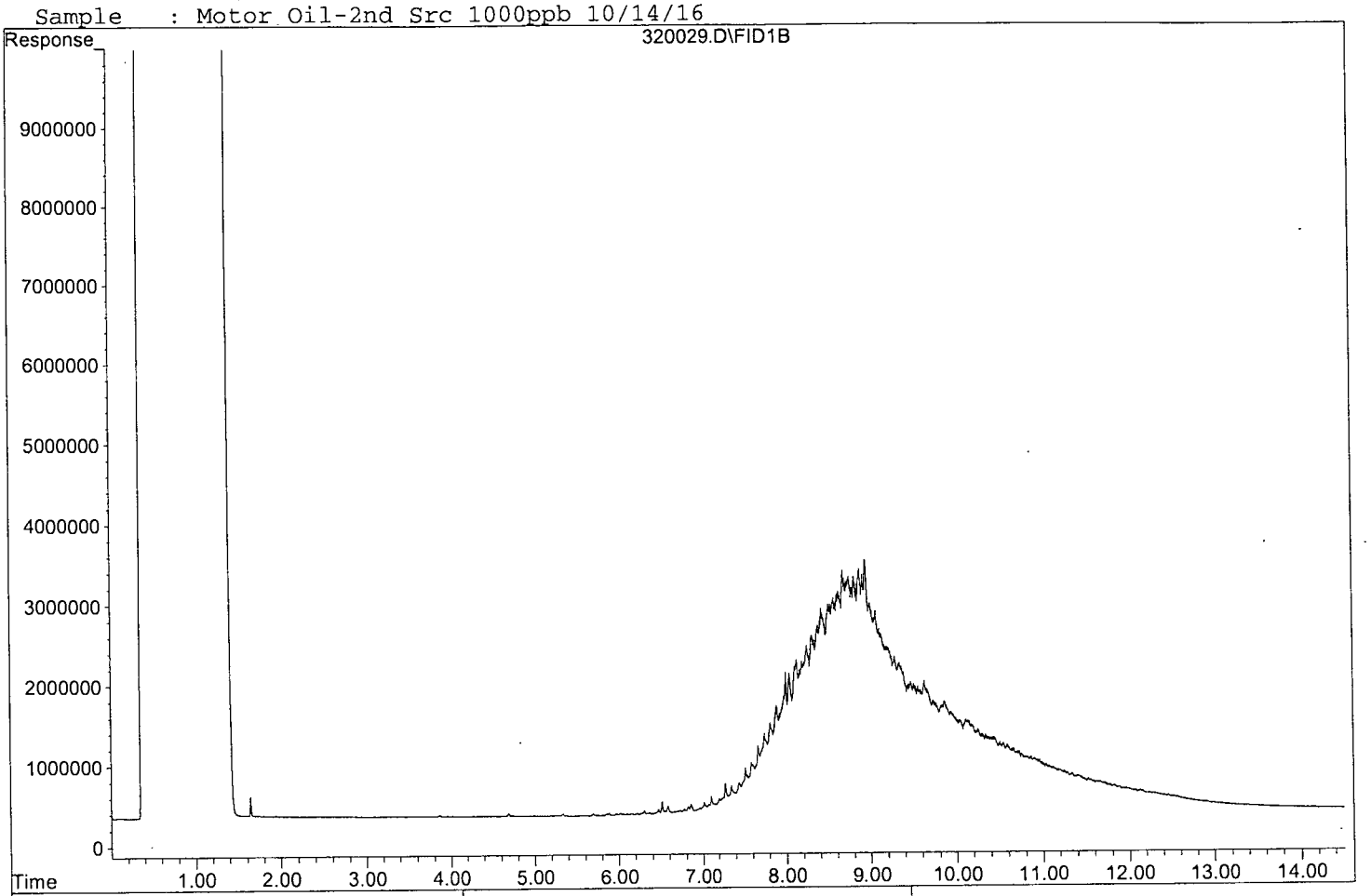
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

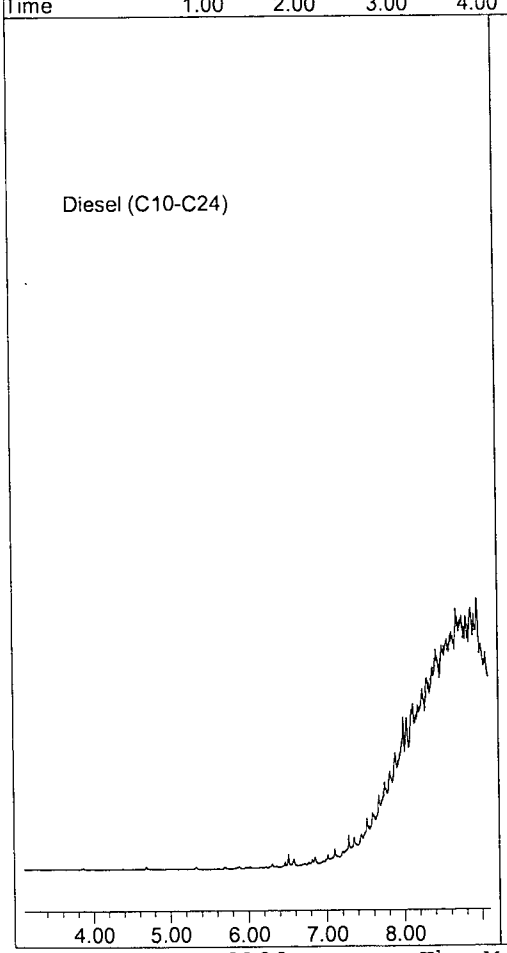
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2905079308	1181.841 ppb

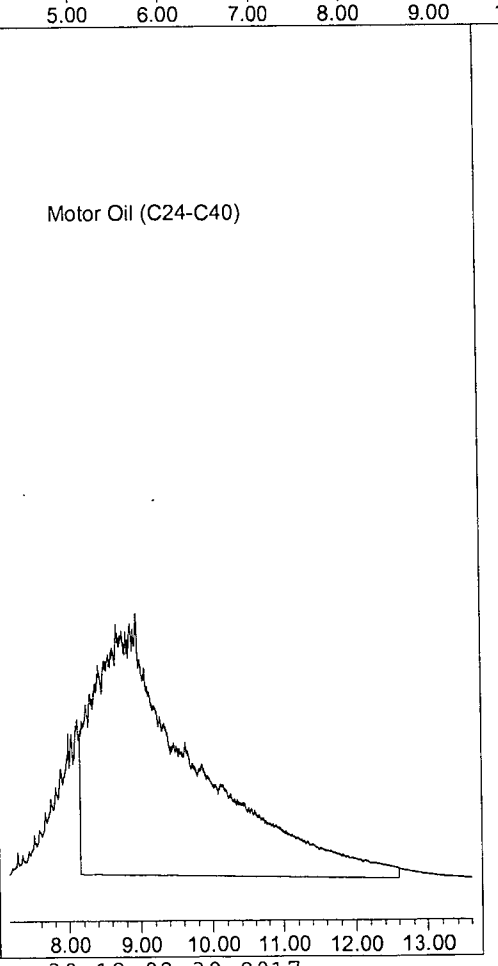
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170320\320029.D
Sample : Motor Oil-2nd Src 1000ppb 10/14/16







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411002-3.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1692060	6.8	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1205340	1.9	HBTM	
3							
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		Average			4.4		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411002.D Vial: 2
Acq On : 4-11-17 9:21:47 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

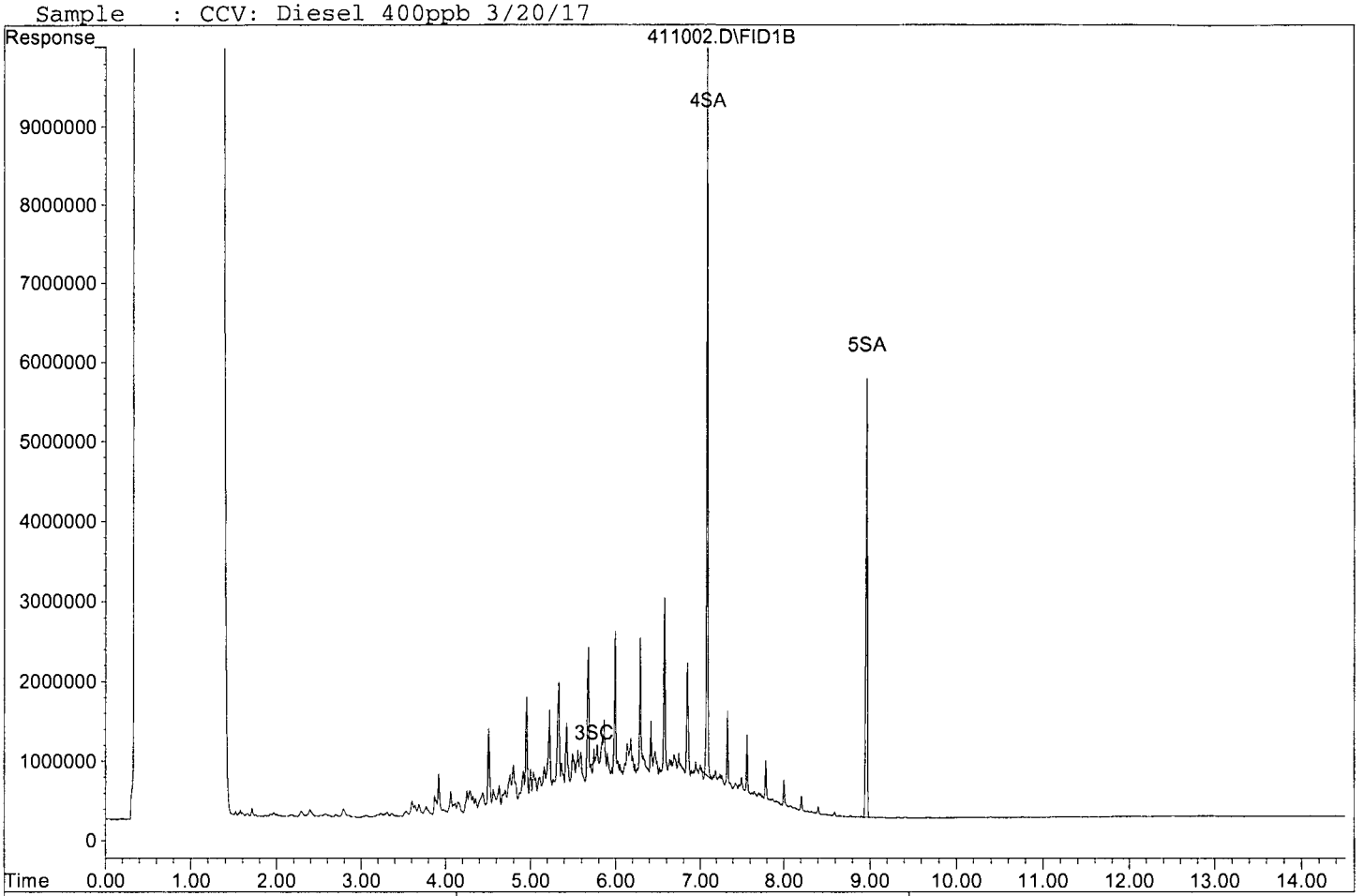
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

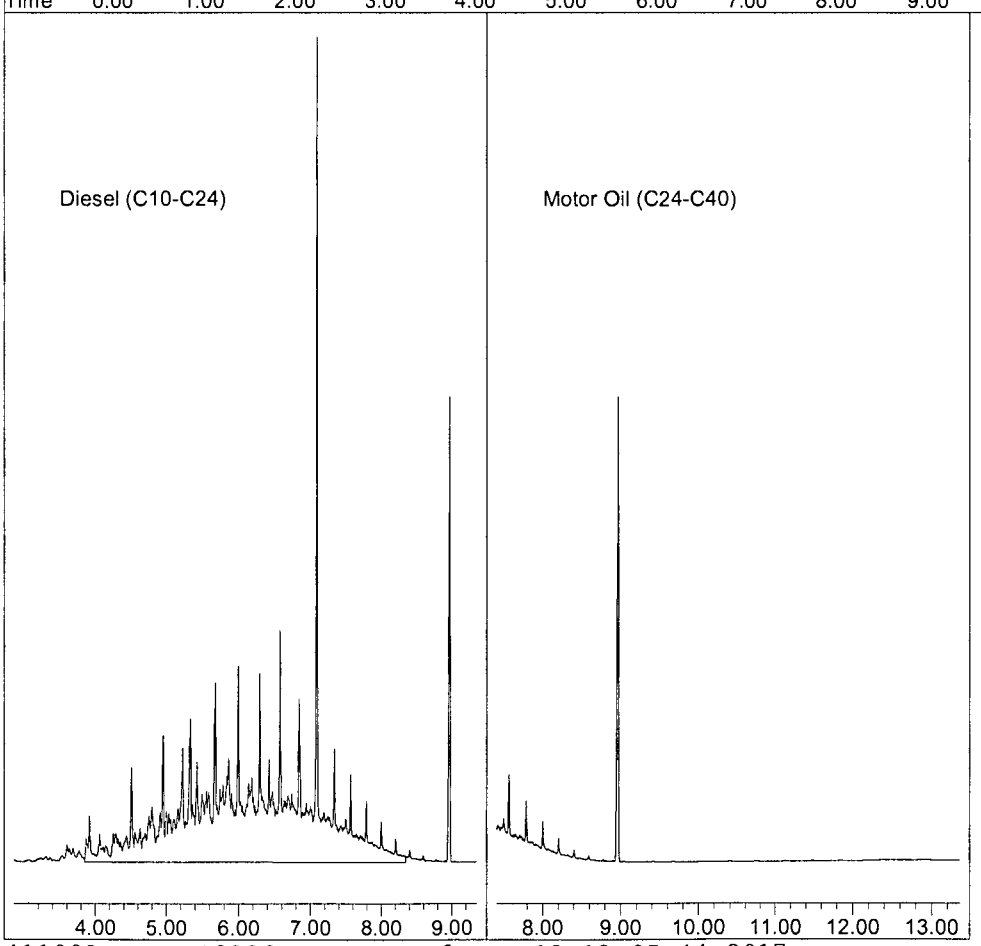
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-56811	2.065 ppb
Surrogate Spike 24.000		Recovery =	8.60%
4) SA Ortho-Terphenyl(S)	7.09	90108655	19.661 ppb
Surrogate Spike 30.000		Recovery =	65.54%
5) SA Octacosane(S)	8.97	65271836	18.874 ppb
Surrogate Spike 30.000		Recovery =	62.91%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1353649106	372.872 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411002.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411003.D
Acq On : 4-11-17 9:42:20
Sample : CCV: MO 1000ppb 3/20/17
Misc : Mix(B)
IntFile : events.e
Quant Time: Apr 11 10:21 2017 Quant Results File: DOC0320.RES

Vial: 3
Operator: DP
Inst : Apollo
Multiplr: 1.00

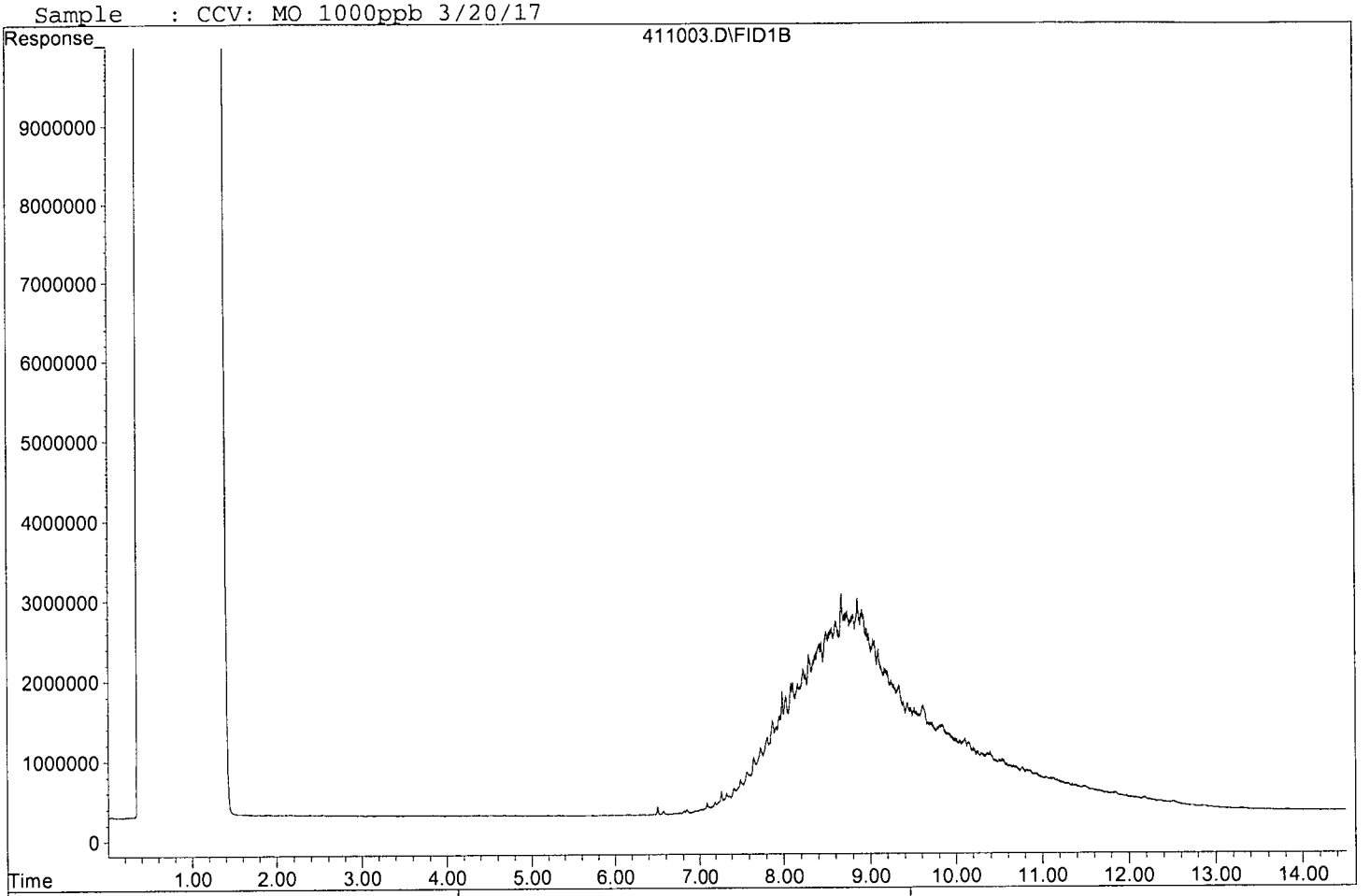
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

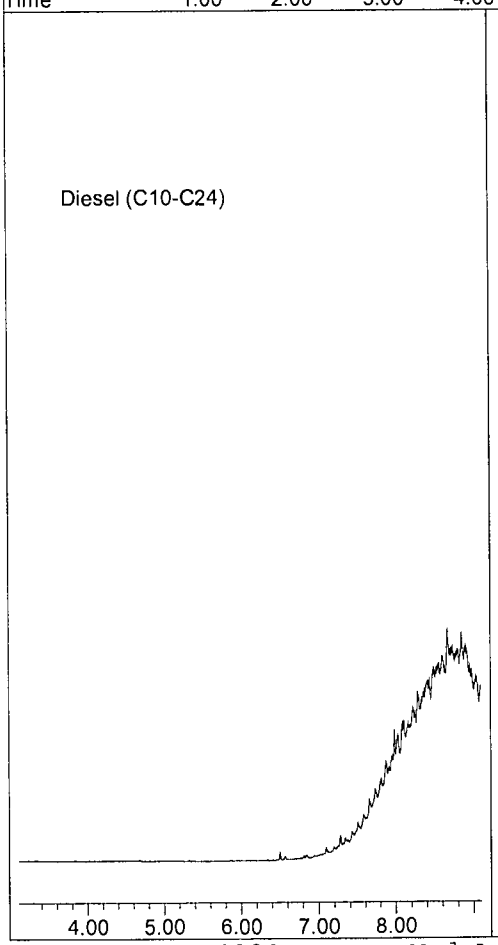
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

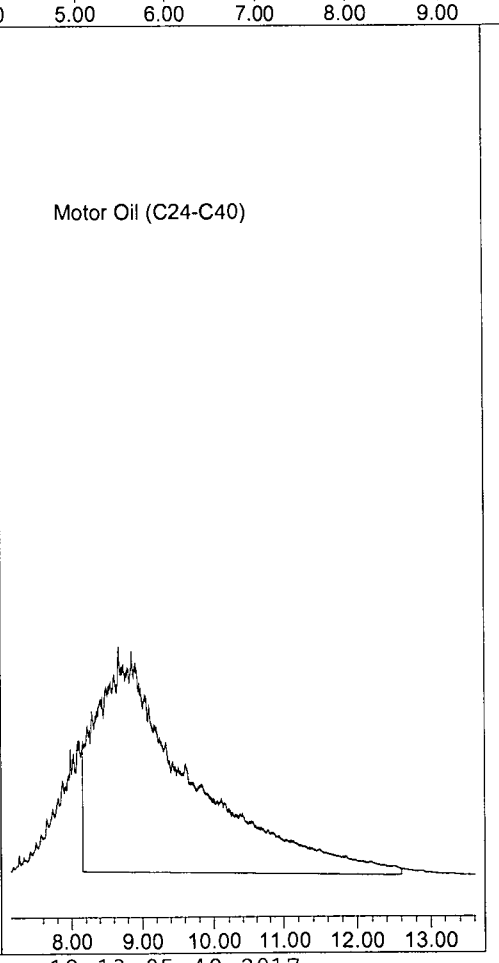
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2410671656	980.707 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411003.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411016-17.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1712120	5.7	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1162680	5.4	HBTM	
3							
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40							
		Average			5.7		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411016.D
Vial: 16
Acq On : 4-11-17 14:29:07
Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17
Inst : Apollo
Misc : Mix(A)
Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 14:45 2017 Quant Results File: DOC0320.RES

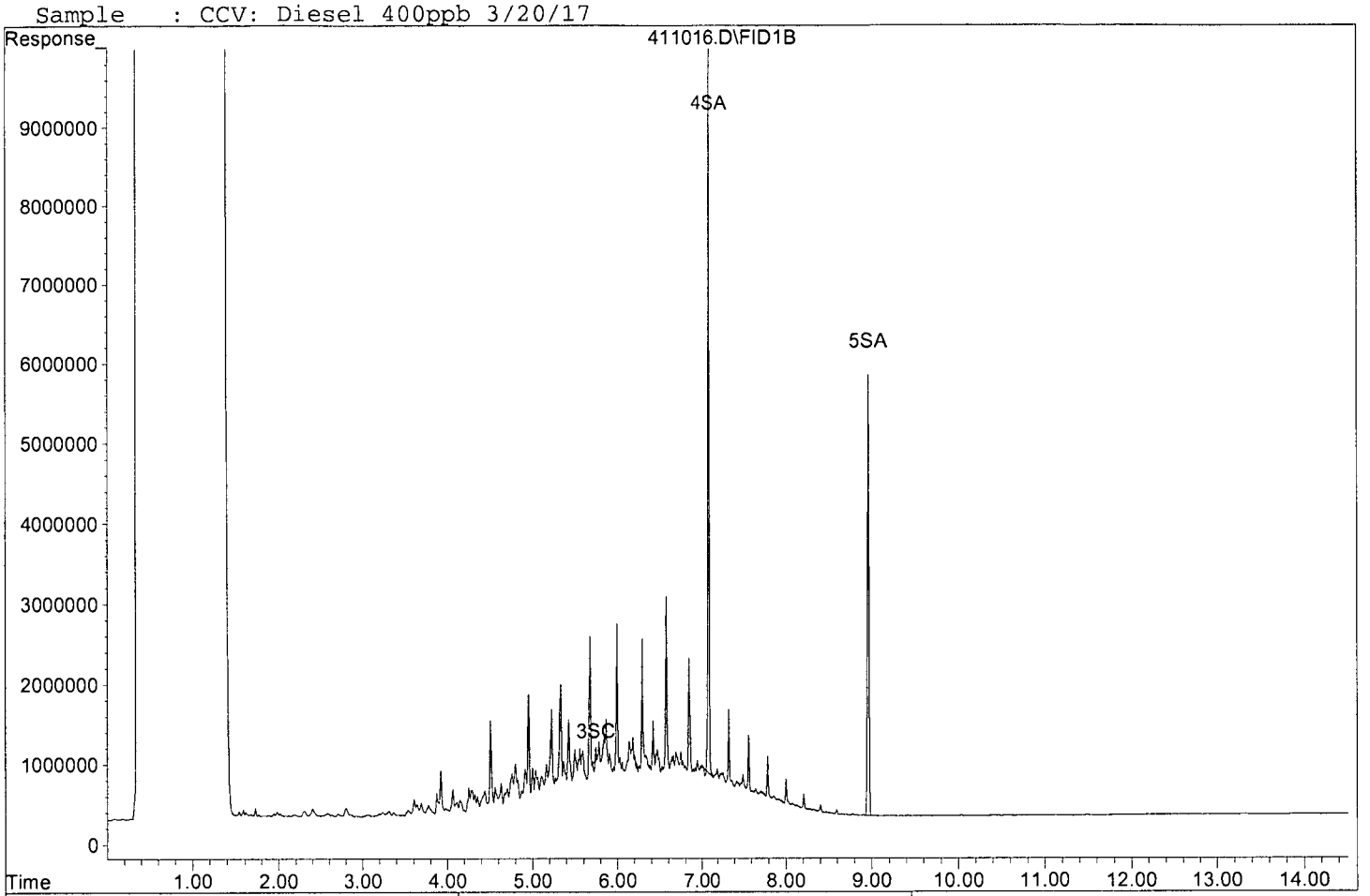
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

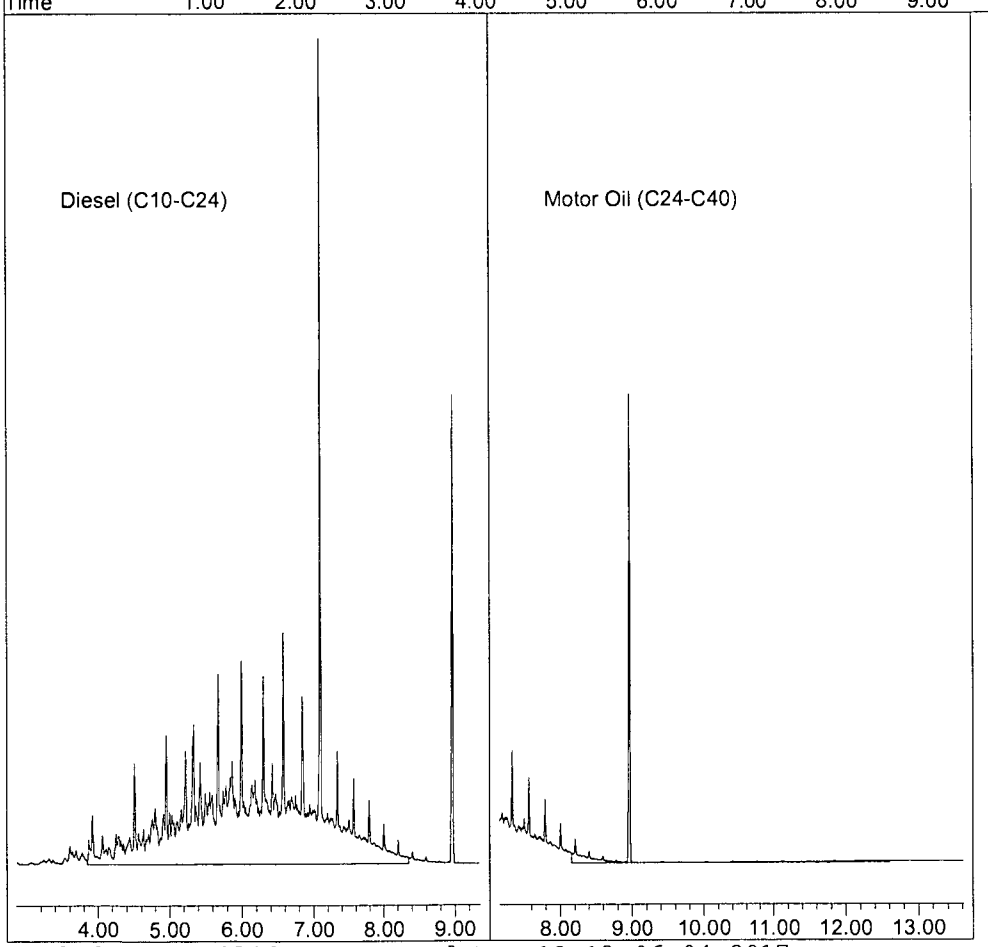
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	-22244	2.078 ppb
Surrogate Spike 24.000		Recovery =	8.66%
4) SA Ortho-Terphenyl(S)	7.09	90230131	19.688 ppb
Surrogate Spike 30.000		Recovery =	65.63%
5) SA Octacosane(S)	8.97	64924495	18.774 ppb
Surrogate Spike 30.000		Recovery =	62.58%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1369694800	377.292 ppb
2) HBTM Motor Oil (C24-C40)	10.38	36048406	14.665 ppb

(f)=RT Delta > 1/2 Window
(m)=manual int.

Data File: G:\APOLLO\DATA\170411\411016.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411017.D Vial: 17
Acq On : 4-11-17 14:50:11 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 11 15:04 2017 Quant Results File: DOC0320.RES

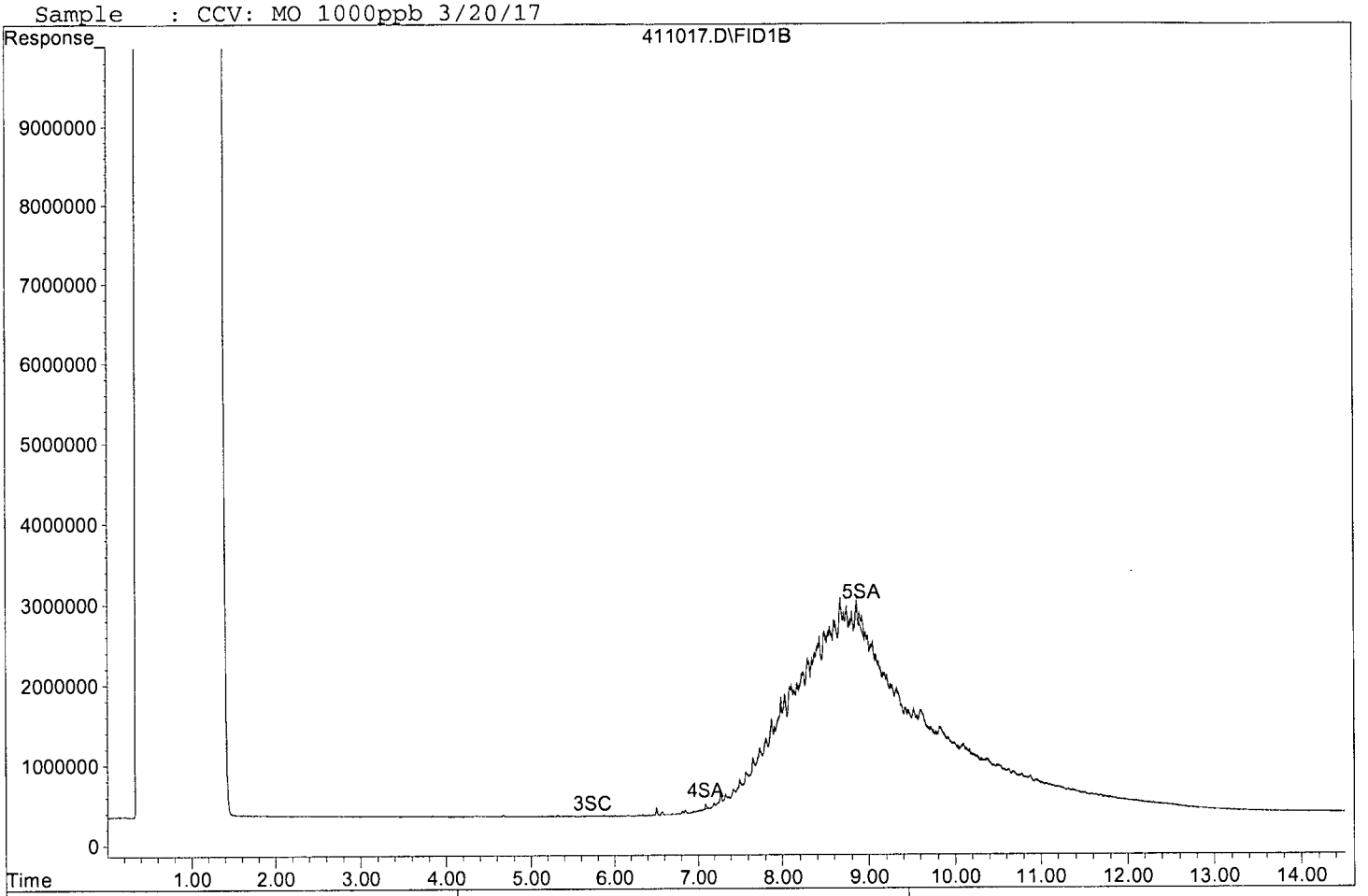
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

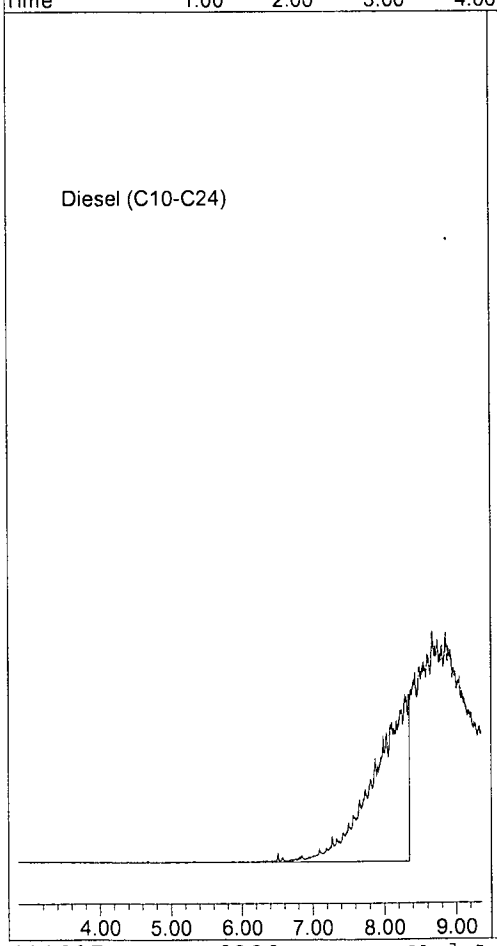
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

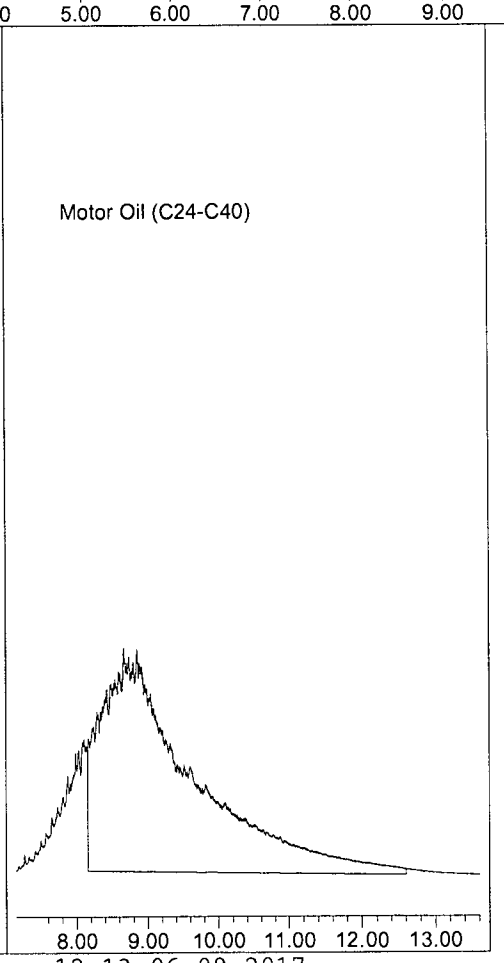
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.74	10529	2.091 ppb
Surrogate Spike 24.000		Recovery =	8.71%
4) SA Ortho-Terphenyl(S)	7.09	672993	0.147 ppb
Surrogate Spike 30.000		Recovery =	0.49%
5) SA Octacosane(S)	8.92	4070534	1.177 ppb
Surrogate Spike 30.000		Recovery =	3.92%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	651621587	179.494 ppb
2) HBTM Motor Oil (C24-C40)	10.38	2325366745	946.003 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411017.D
Sample : CCV: MO 1000ppb 3/20/17







TPH Extractables
DOC0320

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Apollo
Initial Cal. Date: 03/20/17
Data File: 411025,27.D

		Compound	MEAN	CCRF	%D		%Drift
1	HATM	Diesel (C10-C24)	1815160	1579560	13	HATM	
2	HBTM	Motor Oil (C24-C40)	1229050	1152340	6.2	HBTM	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.6		

Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411025.D Vial: 25
Acq On : 4-11-17 17:39:13 Operator: DP
Sample : CCV: Diesel 400ppb 3/20/17 Inst : Apollo
Misc : Mix(A) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:24 2017 Quant Results File: DOC0320.RES

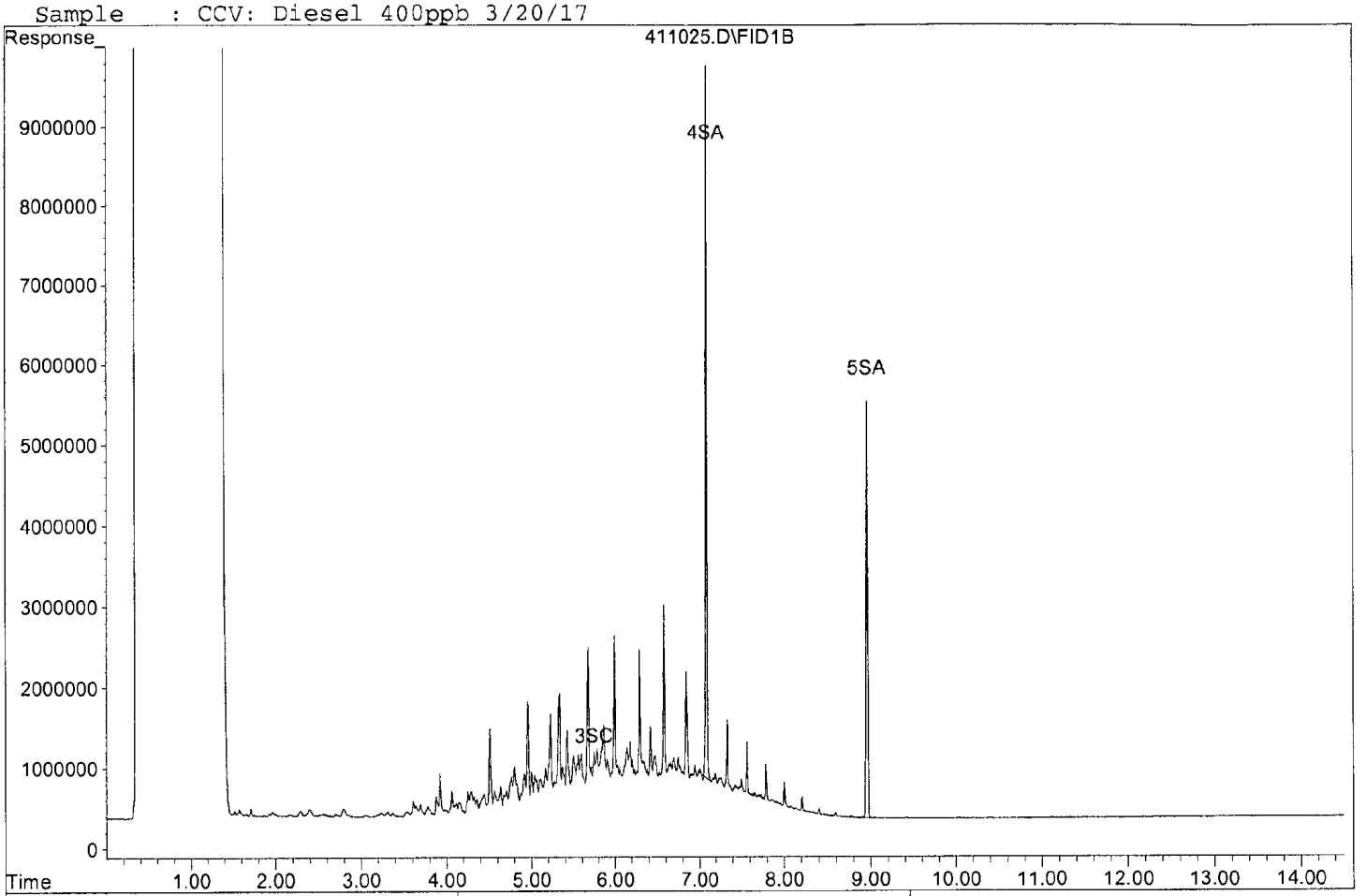
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

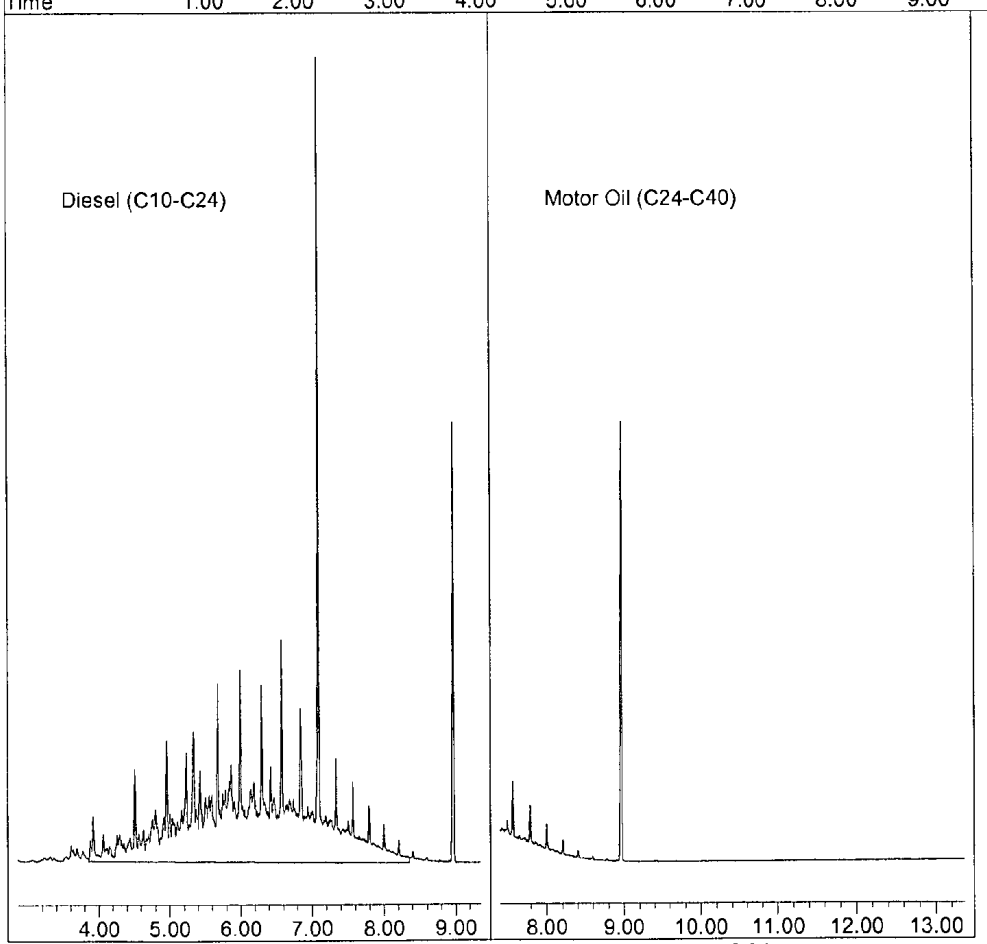
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.75	-91748	2.051 ppb
Surrogate Spike 24.000		Recovery =	8.55%
4) SA Ortho-Terphenyl(S)	7.09	85493581	18.654 ppb
Surrogate Spike 30.000		Recovery =	62.18%
5) SA Octacosane(S)	8.96	60708126	17.554 ppb
Surrogate Spike 30.000		Recovery =	58.51%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1263650886	348.082 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411025.D
Sample : CCV: Diesel 400ppb 3/20/17





Quantitation Report (Not Reviewed)

Data File : G:\APOLLO\DATA\170411\411027.D Vial: 27
Acq On : 4-11-17 18:21:18 Operator: DP
Sample : CCV: MO 1000ppb 3/20/17 Inst : Apollo
Misc : Mix(B) Multiplr: 1.00
IntFile : events.e
Quant Time: Apr 12 10:25 2017 Quant Results File: DOC0320.RES

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

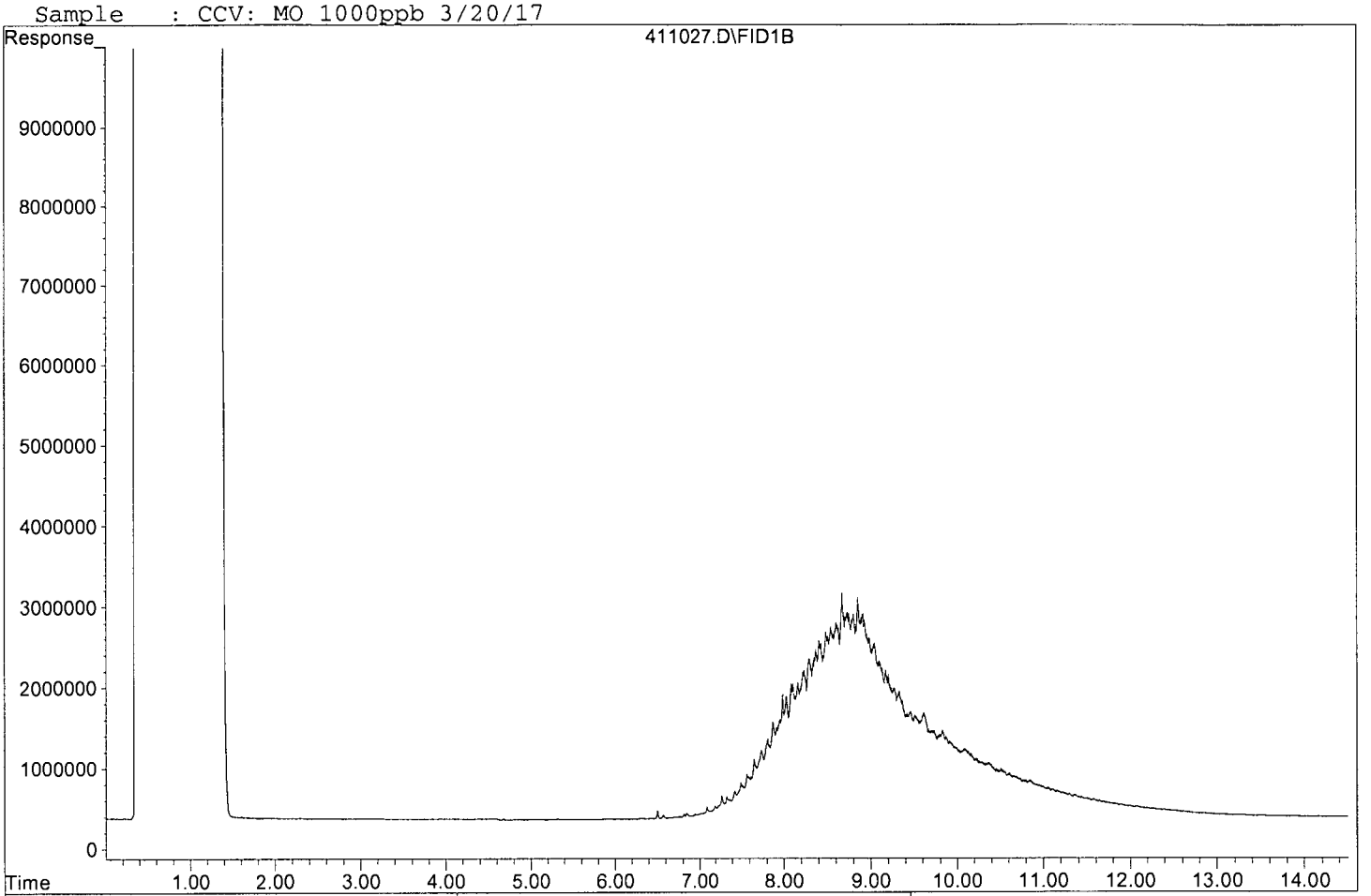
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

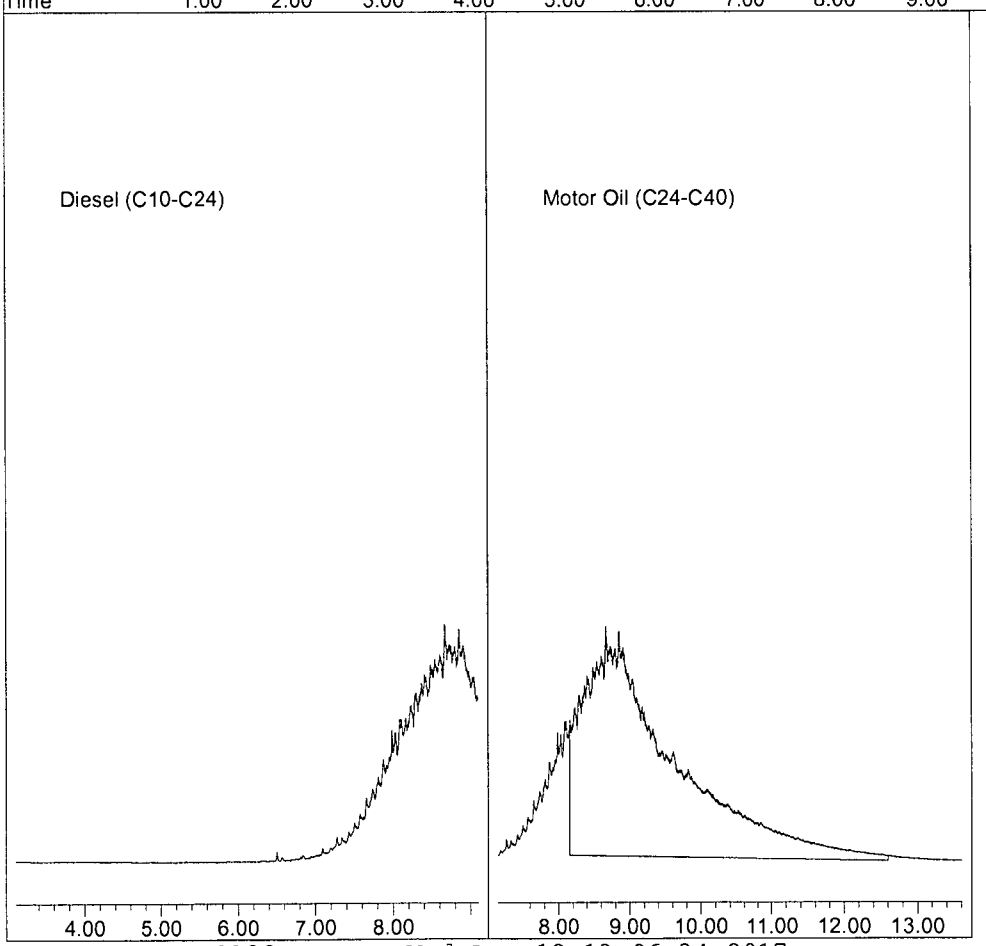
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	2304678306	937.587 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411027.D
Sample : CCV: MO 1000ppb 3/20/17





ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8015B TPH WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217734**
Batch ID: #DOC53-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DIESEL (C10-C24)	25.00 U	40.0	25.00	13.07	ug/L	04/07/17	04/11/17
BLANK	OIL (C24-C40)	40.00 U	40.0	40.00	5.54	ug/L	04/07/17	04/11/17
BLANK	SURROGATE: OCTACOSANE (S)	106	60-142			%	04/07/17	04/11/17
BLANK	SURROGATE: ORTHO-TERPHEN	93.1	56-125			%	04/07/17	04/11/17

Quant Method:DOC0320.M
Run #:411004
Instrument:Apollo
Sequence:170411
Initials:DPO

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 11:22:22 AM

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411004.D
Acq On : 4-11-17 10:02:59
Sample : 170407A BLK 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 12 13:08 2017 Quant Results File: DOC0320.RES

Vial: 4
Operator: DP
Inst : Apollo
Multiplr: 1.67

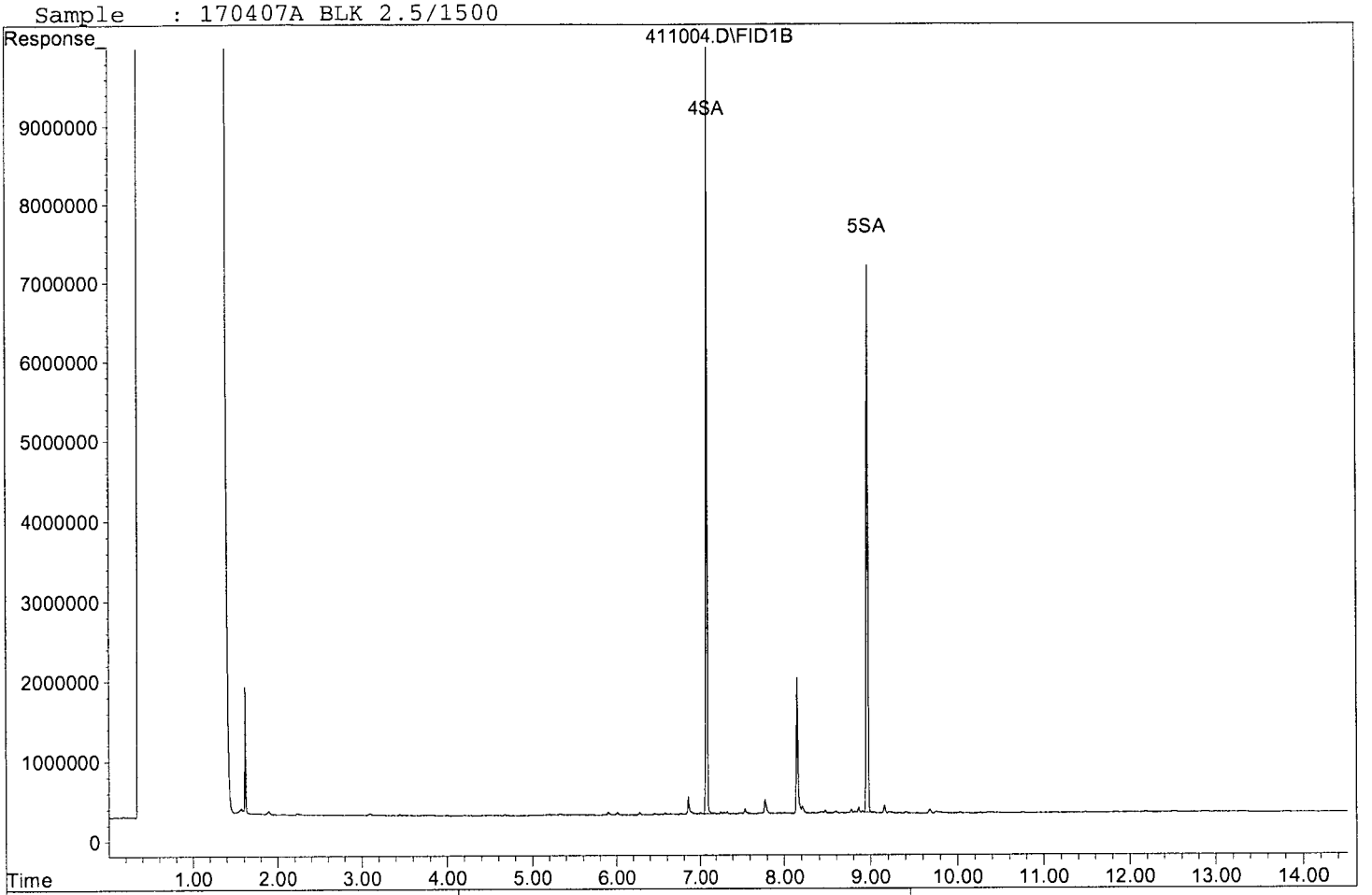
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

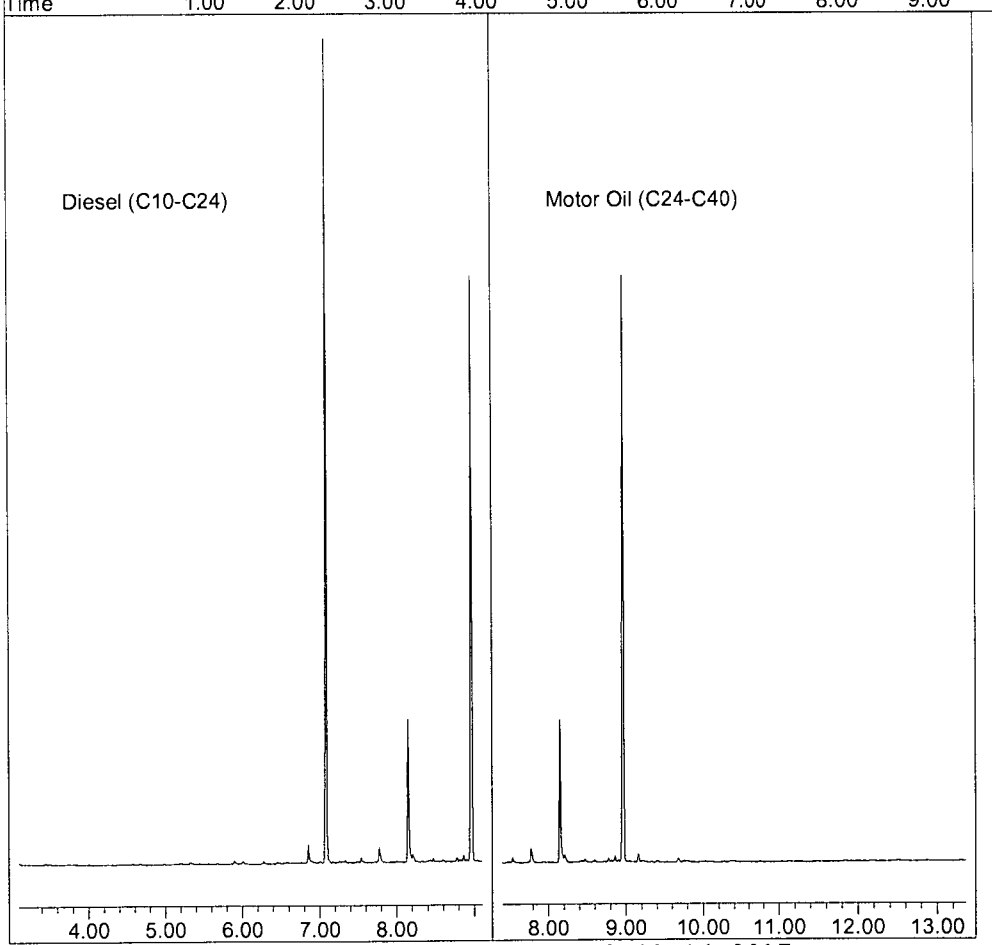
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	102369803	37.228 ppb
Surrogate Spike 40.000		Recovery =	93.07%
5) SA Octacosane(S)	8.97	87971576	42.397 ppb
Surrogate Spike 40.000		Recovery =	105.99%
Target Compounds			

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411004.D
Sample : 170407A BLK 2.5/1500





Laboratory Control Spike Recovery
EPA 8015B TPH WATER

APPL ID: **170407W-53059 LCS - 217734**
Batch ID: #DOC53-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DIESEL (C10-C24)	667	419	62.8	36-132
OIL (C24-C40)	667	737	110	41-113
SURROGATE: OCTACOSANE (S)	40.0	37.4	93.5	60-142
SURROGATE: ORTHO-TERPHENYL (S)	40.0	37.5	93.8	56-125

Comments: _____

Primary	SPK
Quant Method :	DOC0320.M
Extraction Date :	04/07/17
Analysis Date :	04/11/17
Instrument :	Apollo
Run :	411005
Initials :	DPO

Printed: 04/12/17 11:22:15 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411005.D
Acq On : 4-11-17 10:23:44
Sample : 170407A LCS-1 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 14:19 2017 Quant Results File: DOC0320.RES

Vial: 5
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

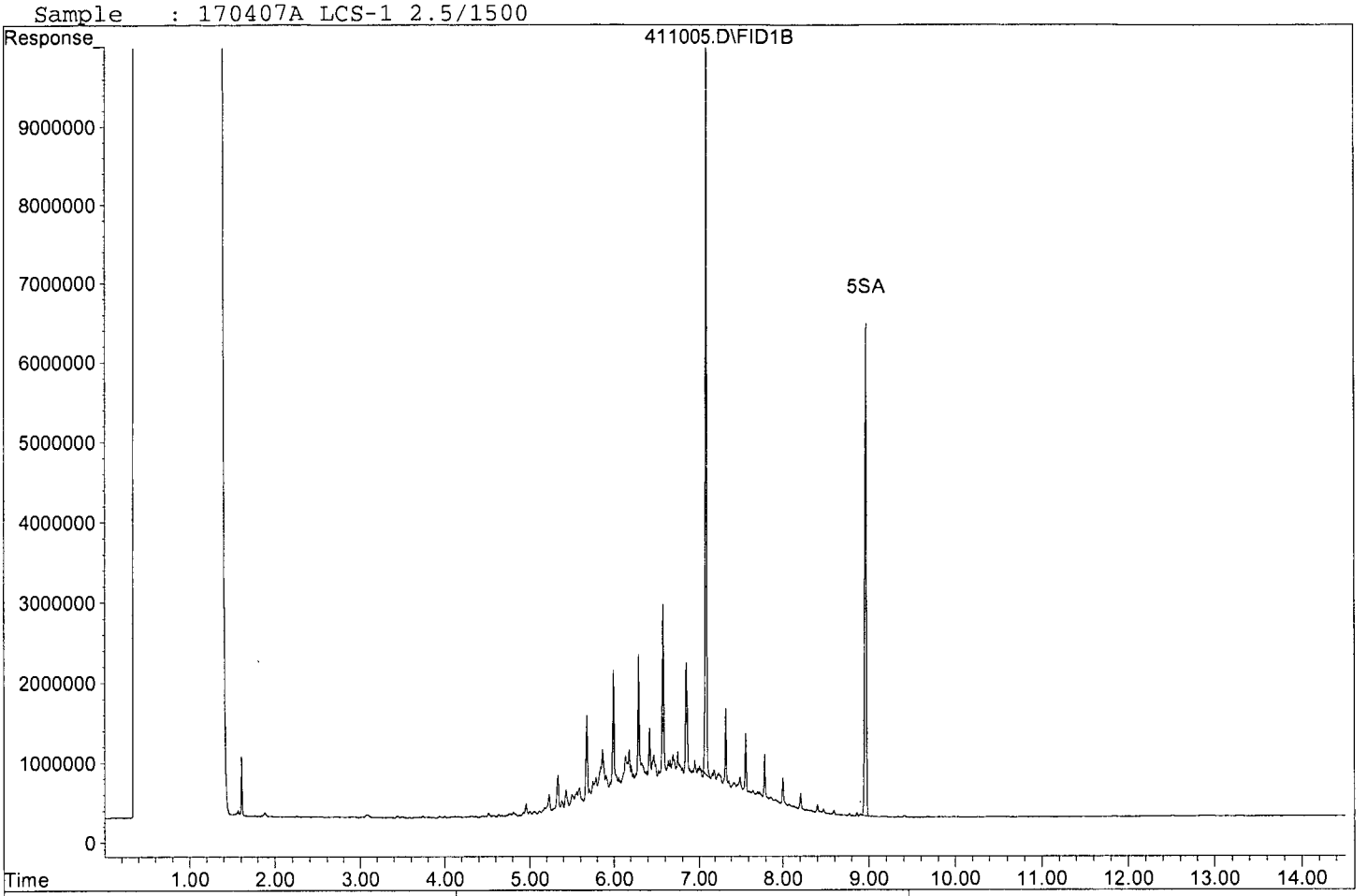
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	103000368	37.457 ppb
Surrogate Spike 40.000		Recovery =	93.64%
5) SA Octacosane(S)	8.97	77584686	37.391 ppb
Surrogate Spike 40.000		Recovery =	93.48%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	912228874	418.801 ppb

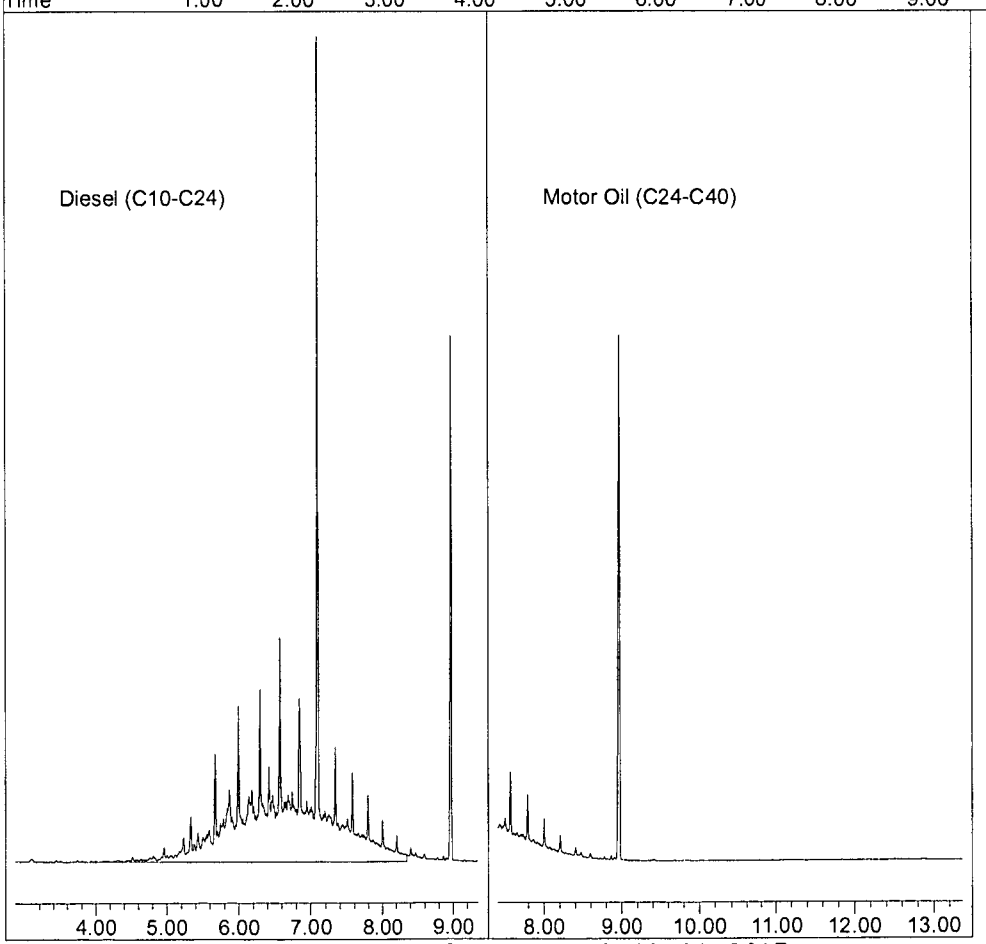
algorithm check Diesel: $\frac{912228874 \times 1.67}{1815165 \times 2} = 419.6373937$

OP 4/12/17

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411005.D
Sample : 170407A LCS-1 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411006.D
Acq On : 4-11-17 10:44:31
Sample : 170407A LCS-2 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 15:48 2017 Quant Results File: DOC0320.RES

Vial: 6
Operator: DP
Inst : Apollo
Multiplr: 1.67

Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

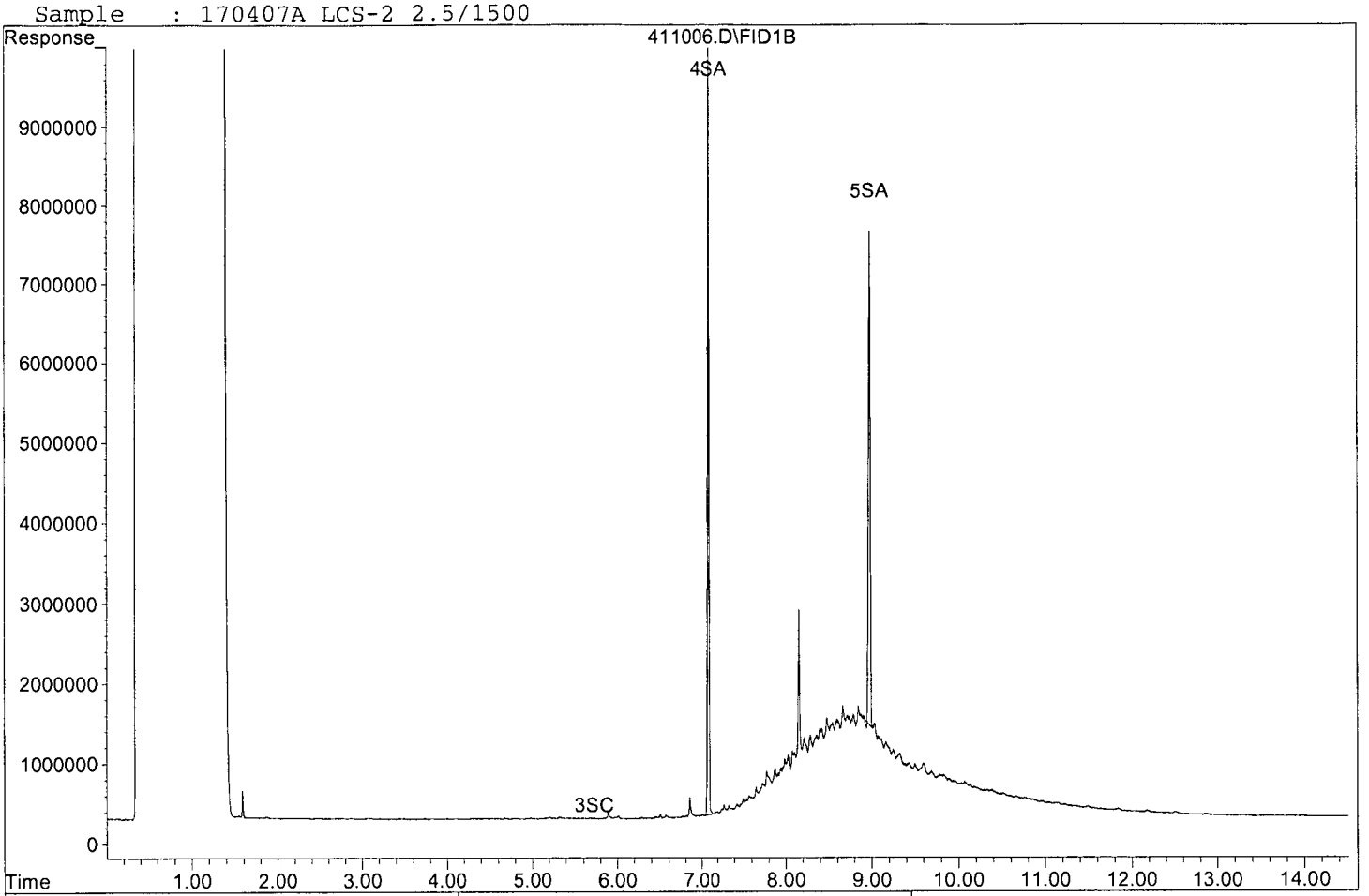
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

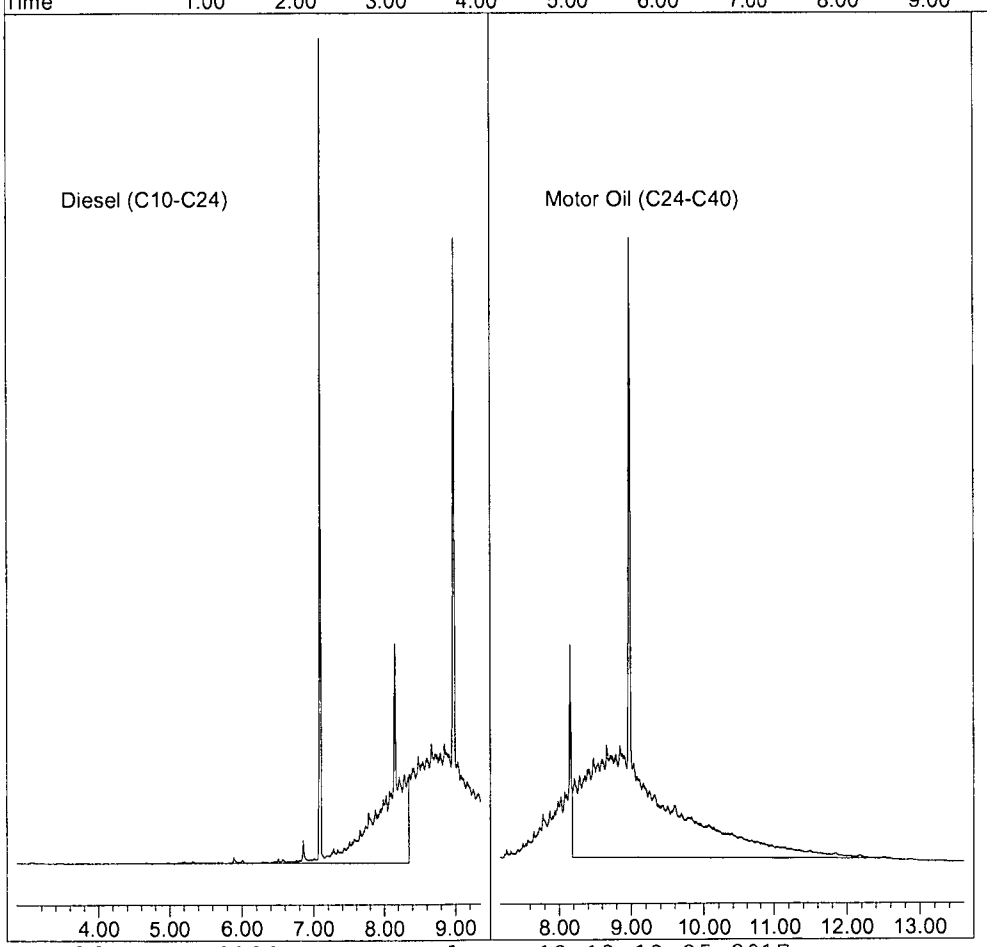
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) SC Decanoic Acid(S)	5.73	121929	3.559 ppb
Surrogate Spike 40.000		Recovery =	8.90%
4) SA Ortho-Terphenyl(S)	7.09	107978907	39.268 ppb
Surrogate Spike 40.000		Recovery =	98.17%
5) SA Octacosane(S)	8.98	89774179	43.265 ppb
Surrogate Spike 40.000		Recovery =	108.16%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	380929492	174.883 ppb
2) HBTM Motor Oil (C24-C40)	10.38	1086250901	736.514 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\APOLLO\DATA\170411\411006.D
Sample : 170407A LCS-2 2.5/1500





Matrix Spike Recoveries

EPA 8015B TPH WATER

APPL ID: **170407W-53168 MS - 217734**
Batch ID: #DOC53-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DIESEL (C10-C24)	667	ND	580	560	87.0	84.0	36-132	3.5	30
OIL (C24-C40)	667	ND	884	817	133 #	122 #	41-113	7.9	30
SURROGATE: OCTACOSANE (S)	40.0	NA	47.5	48.0	119	120	60-142		
SURROGATE: ORTHO-TERPHENYL (S)	40.0	NA	48.8	48.4	122	121	56-125		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	DOC0320.M	DOC0320.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Apollo	Apollo
Run :	411019	411020
Initials :	DPO	

Printed: 04/12/17 11:22:12 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411019.D Vial: 19
Acq On : 4-11-17 15:32:30 Operator: DP
Sample : AZ53168W40 MS-1 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 17:03 2017 Quant Results File: DOC0320.RES

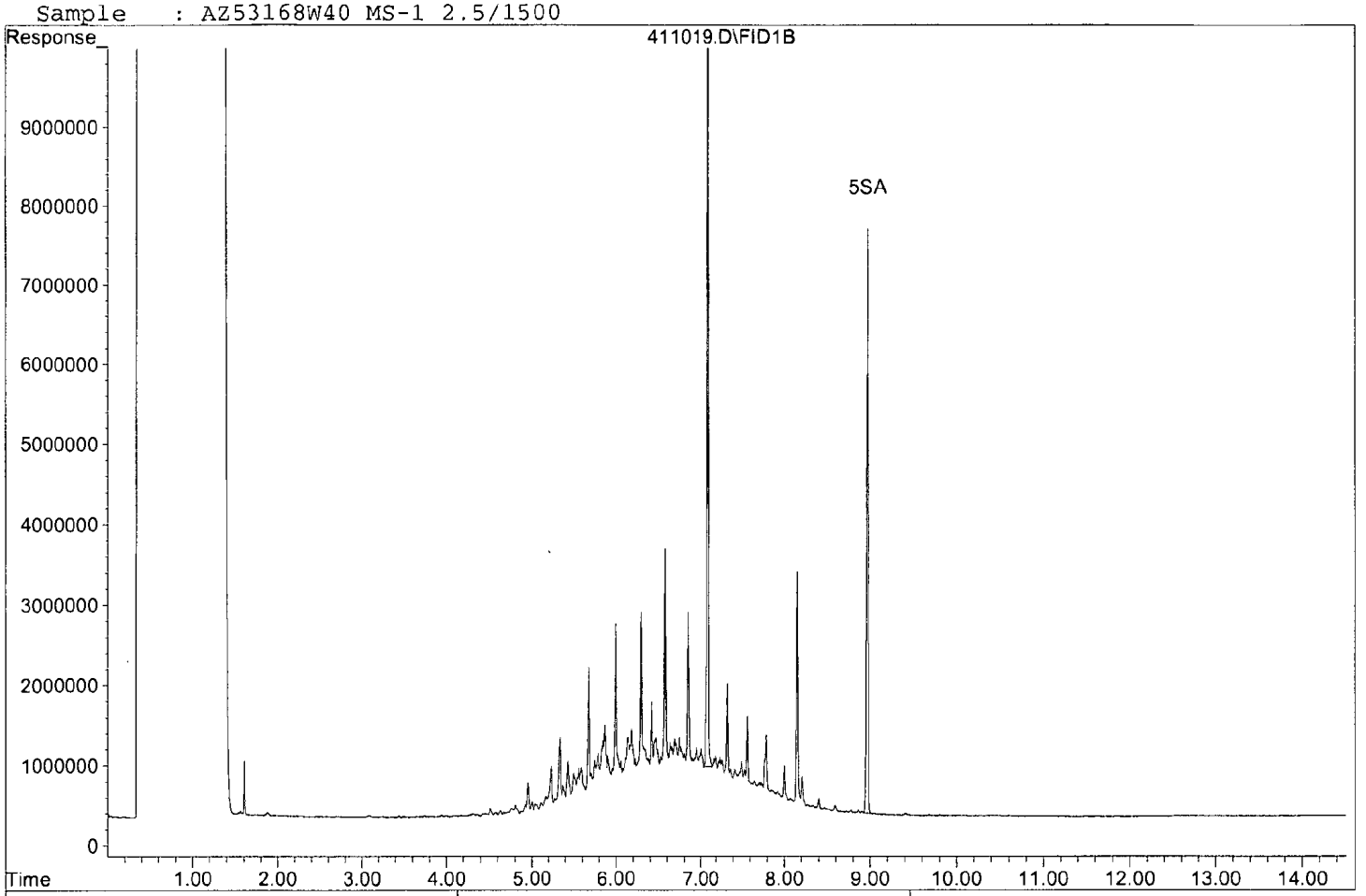
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

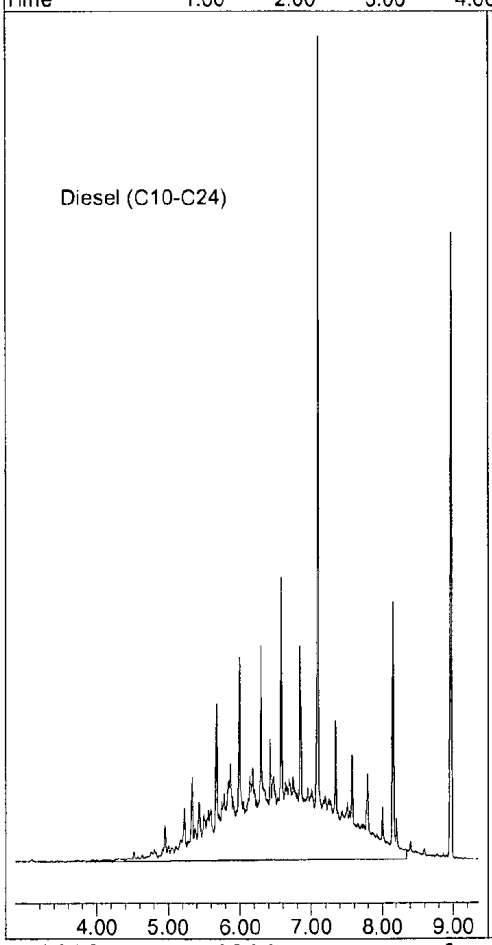
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

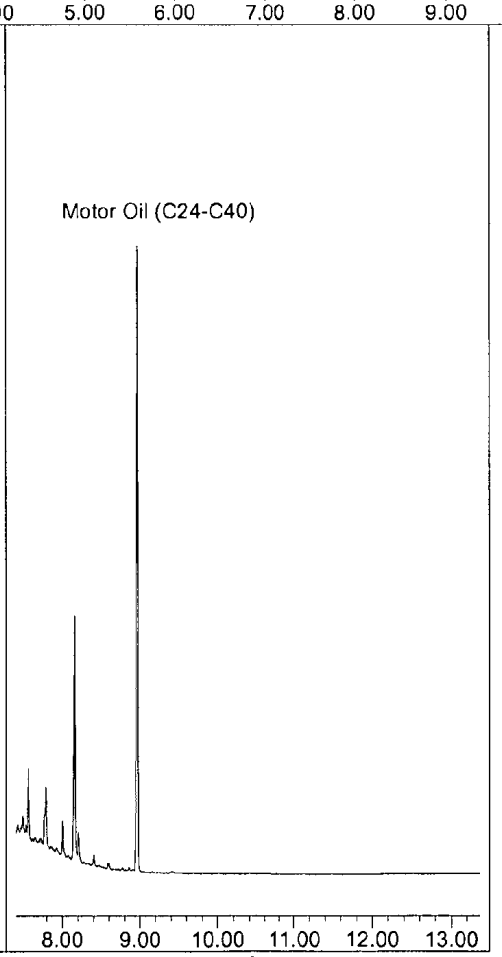
Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	134157691	48.788 ppb
Surrogate Spike 40.000		Recovery =	121.97%
5) SA Octacosane(S)	8.97	98504395	47.473 ppb
Surrogate Spike 40.000		Recovery =	118.68%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1264190791	580.385 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411019.D
Sample : AZ53168W40 MS-1 2.5/1500







Quantitation Report (QT Reviewed)

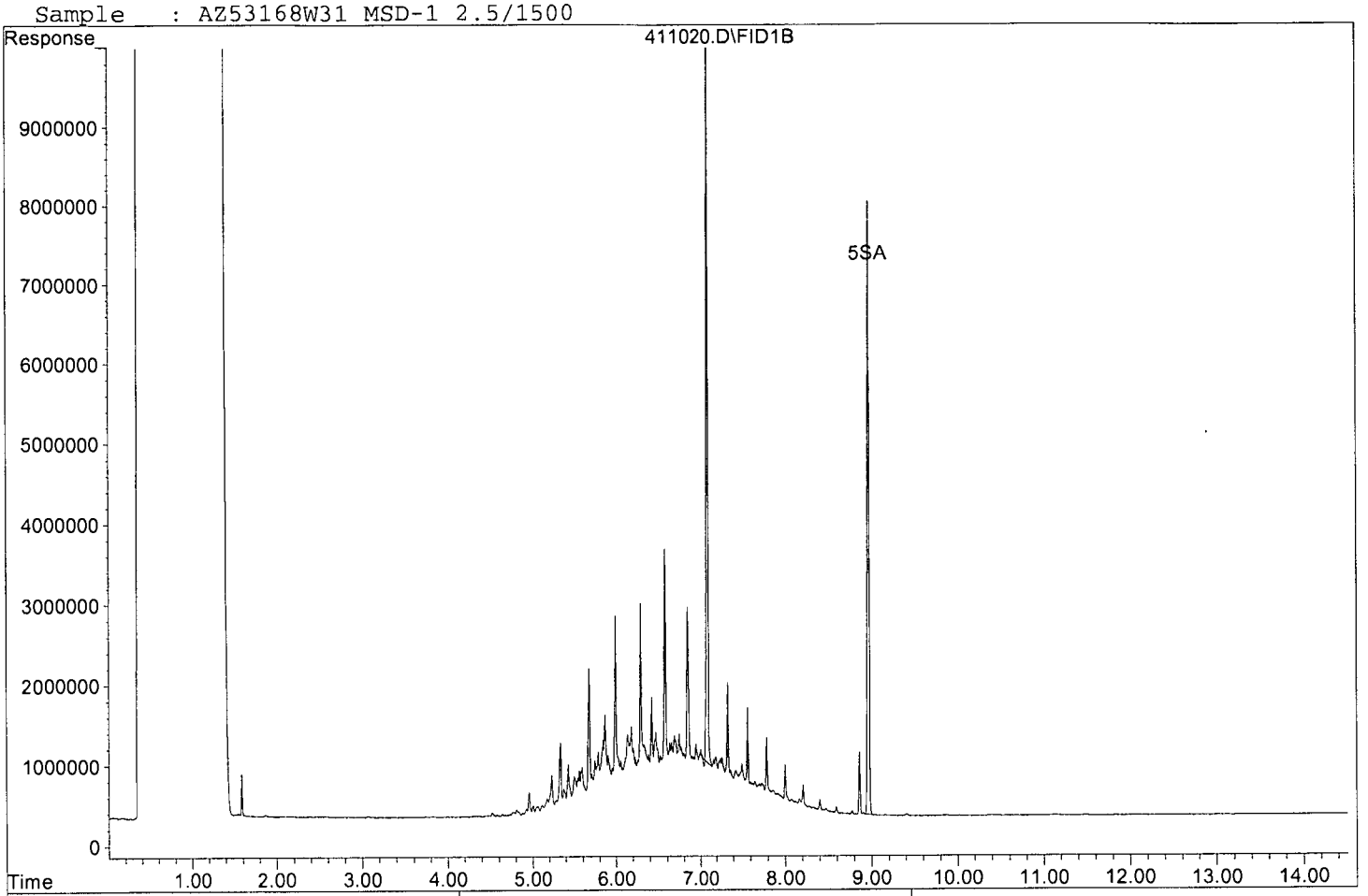
Data File : G:\APOLLO\DATA\170411\411020.D Vial: 20
Acq On : 4-11-17 15:53:47 Operator: DP
Sample : AZ53168W31 MSD-1 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 17:03 2017 Quant Results File: DOC0320.RES

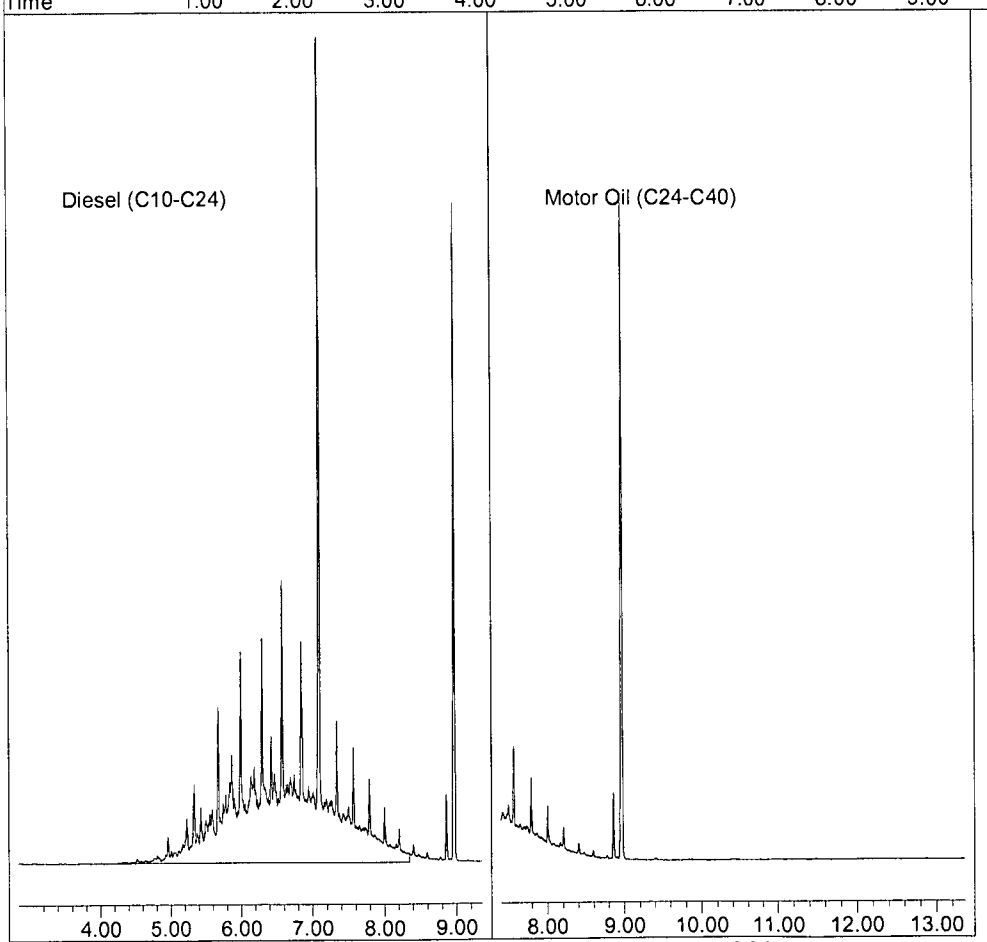
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.10	133039968	48.381 ppb
Surrogate Spike 40.000		Recovery =	120.95%
5) SA Octacosane(S)	8.97	99687393	48.043 ppb
Surrogate Spike 40.000		Recovery =	120.11%
Target Compounds			
1) HATM Diesel (C10-C24)	6.10	1218768712	559.532 ppb

Data File: G:\APOLLO\DATA\170411\411020.D
Sample : AZ53168W31 MSD-1 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411021.D Vial: 21
Acq On : 4-11-17 16:15:02 Operator: DP
Sample : AZ53168W45 MS-2 2.5/1500 Inst : Apollo
Misc : water Multiplr: 1.67
IntFile : events.e
Quant Time: Apr 11 17:04 2017 Quant Results File: DOC0320.RES

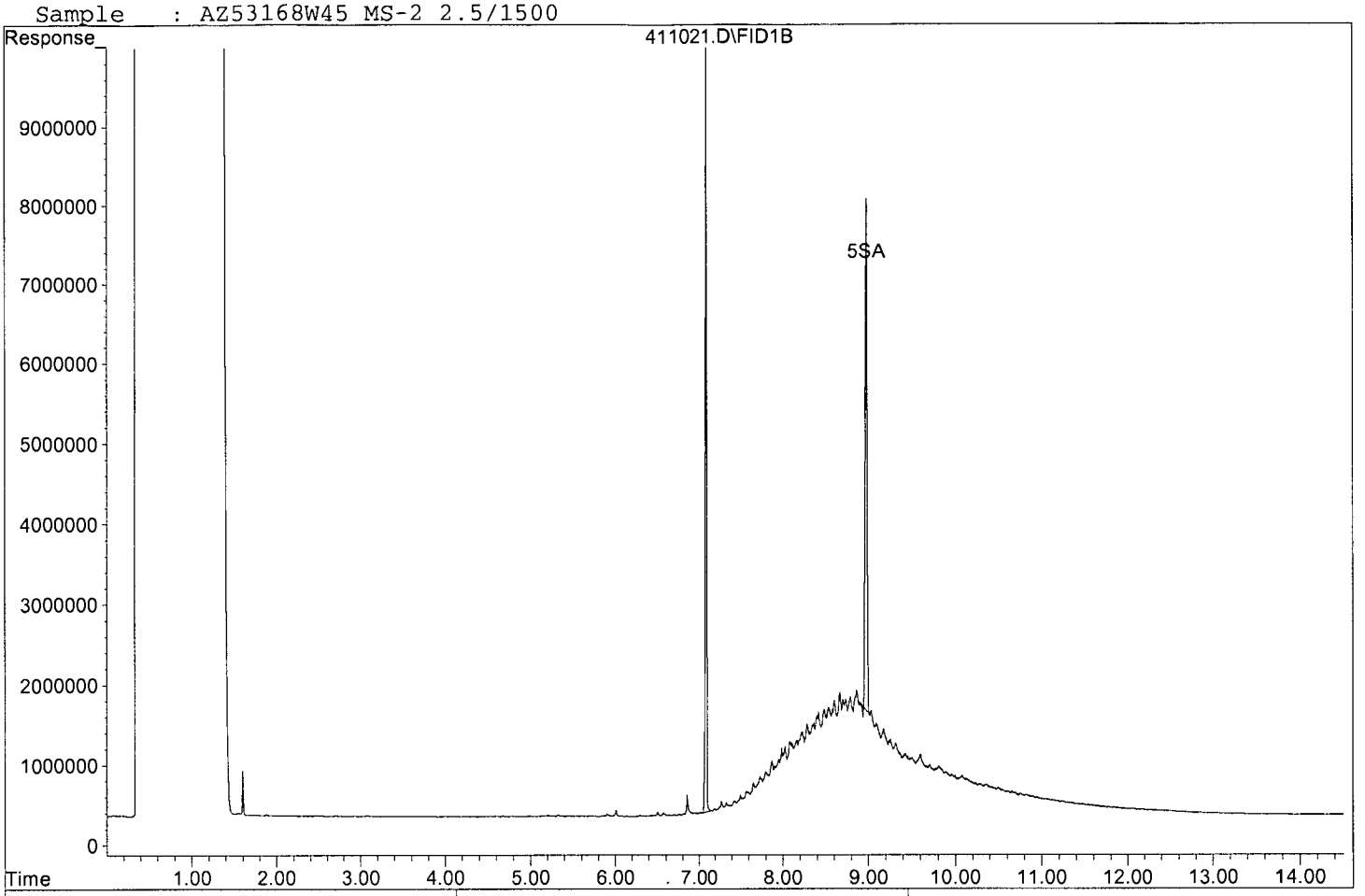
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

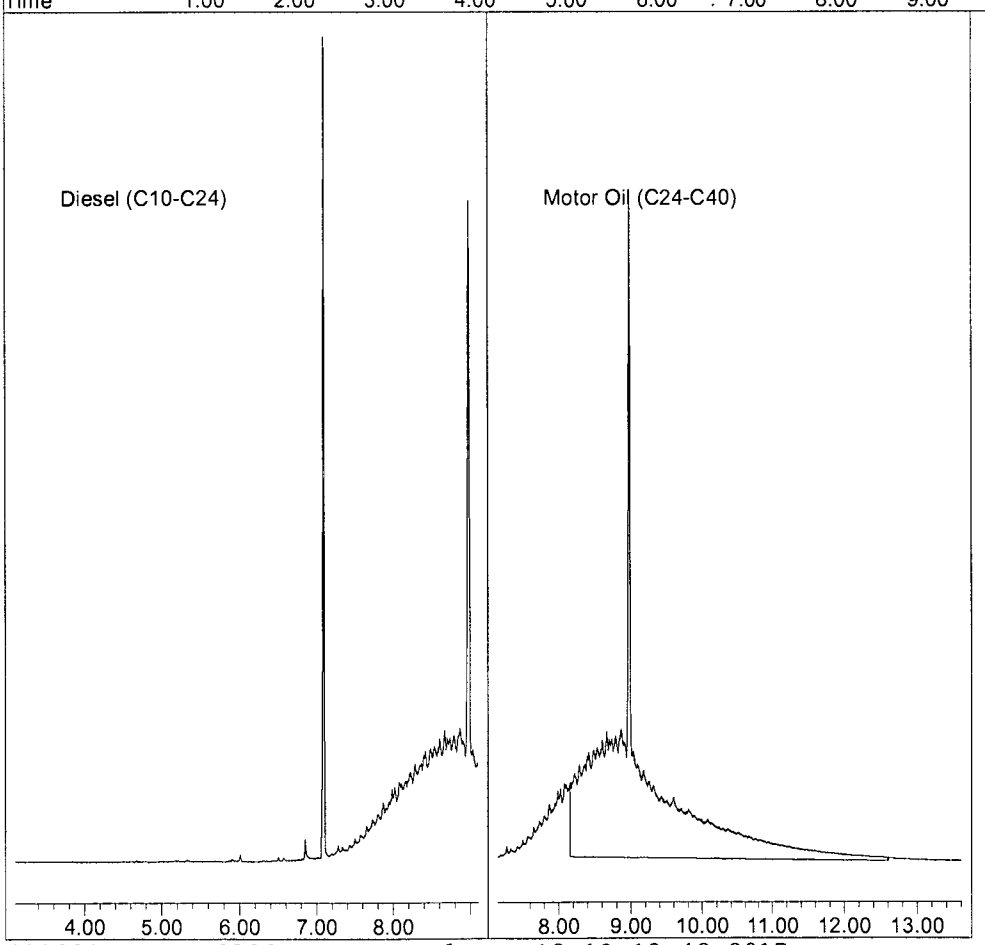
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	121180657	44.068 ppb
Surrogate Spike 40.000		Recovery =	110.17%
5) SA Octacosane(S)	8.98	100062079	48.224 ppb
Surrogate Spike 40.000		Recovery =	120.56%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	1303876177	884.071 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411021.D
Sample : AZ53168W45 MS-2 2.5/1500





Quantitation Report (QT Reviewed)

Data File : G:\APOLLO\DATA\170411\411022.D
Acq On : 4-11-17 16:36:18
Sample : AZ53168W32 MSD-2 2.5/1500
Misc : water
IntFile : events.e
Quant Time: Apr 11 17:04 2017 Quant Results File: DOC0320.RES

Vial: 22
Operator: DP
Inst : Apollo
Multiplr: 1.67

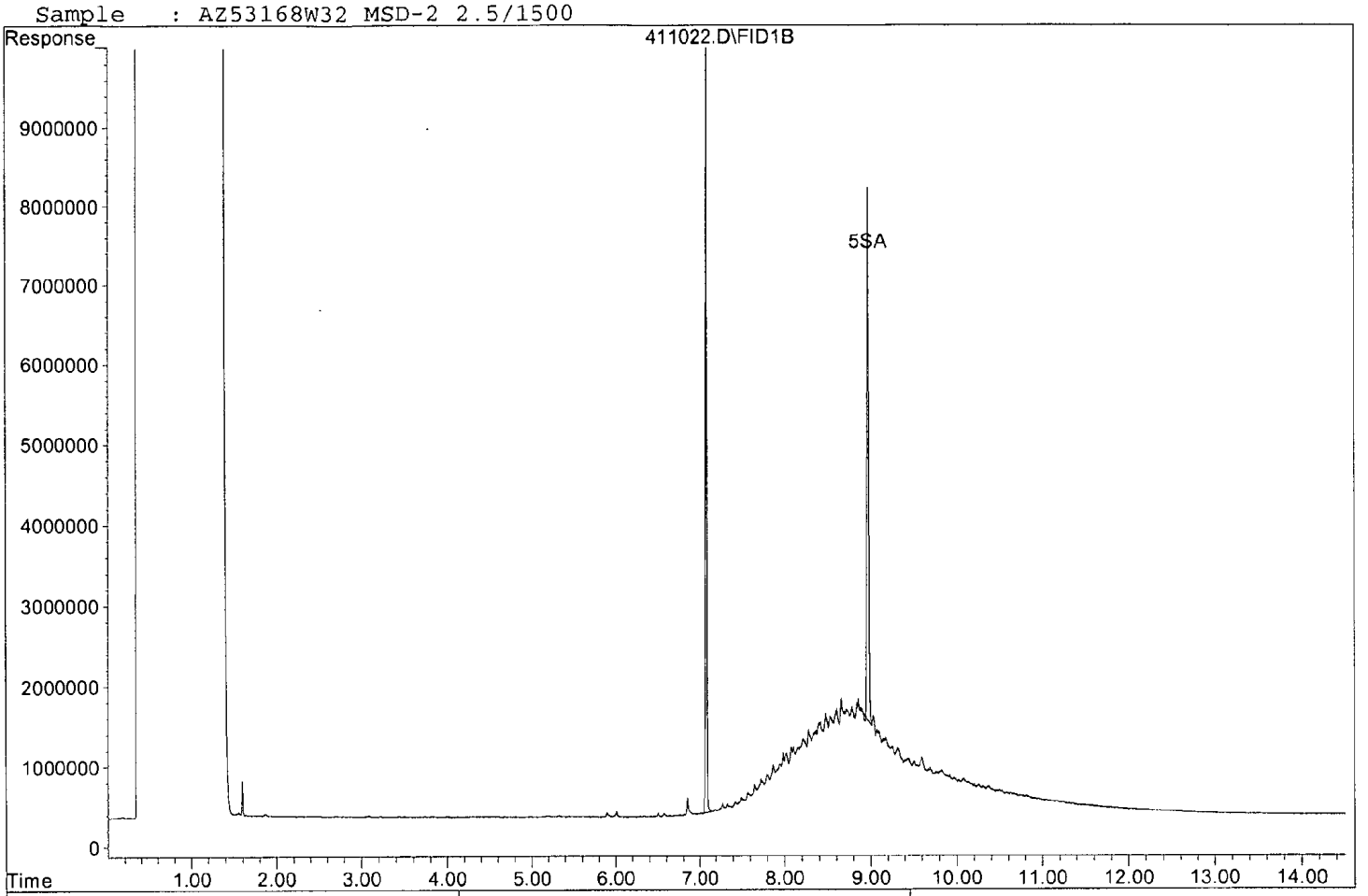
Method : G:\APOLLO\DATA\170411\DOC0320.M (Chemstation Integrator)
Title : 8015 B&C
Last Update : Tue Apr 11 14:17:02 2017
Response via : Multiple Level Calibration

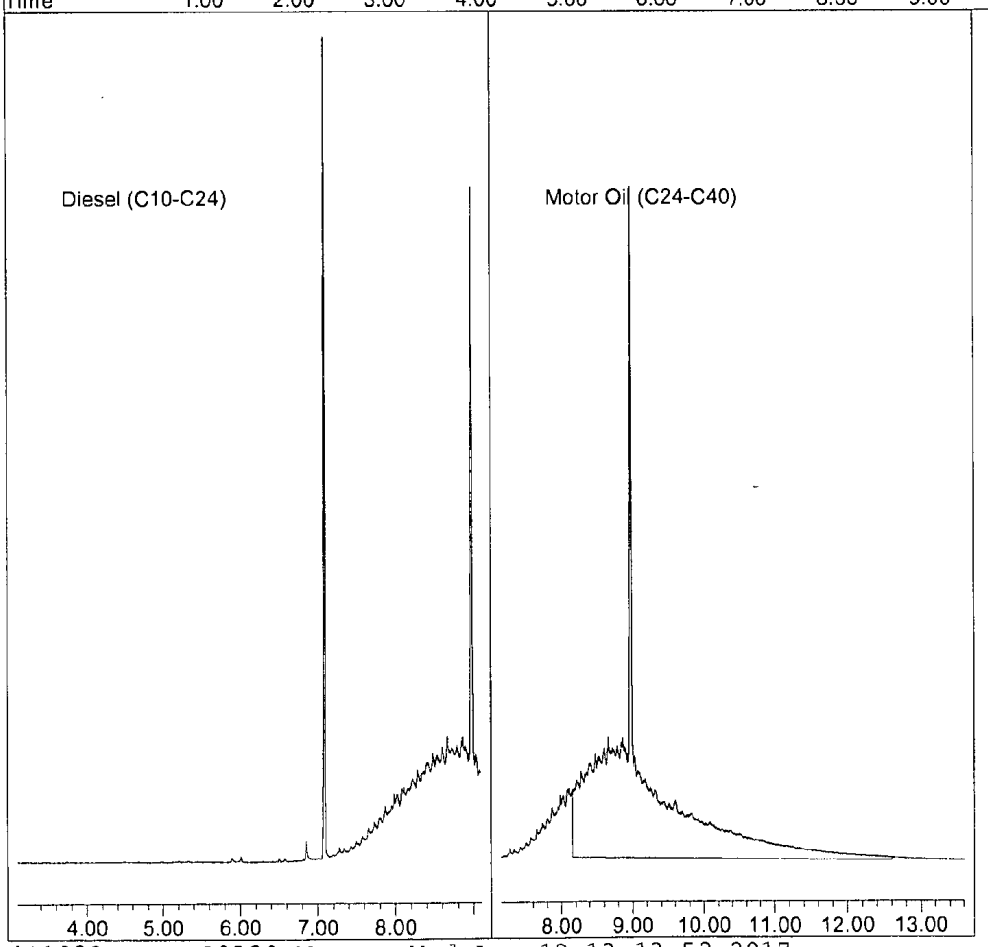
Volume Inj. : 2UL
Signal Phase : DB-5
Signal Info : FID02A

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
4) SA Ortho-Terphenyl(S)	7.09	113554315	41.295 ppb
Surrogate Spike 40.000		Recovery =	103.24%
5) SA Octacosane(S)	8.98	95376512	45.965 ppb
Surrogate Spike 40.000		Recovery =	114.91%
Target Compounds			
2) HBTM Motor Oil (C24-C40)	10.38	1205361792	817.275 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\APOLLO\DATA\170411\411022.D
Sample : AZ53168W32 MSD-2 2.5/1500





DIESEL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL
Diesel Cal STD	1000	280736-37656	03/20/17	03/02/18	10	10	40	60	80	100
MC	N/A	56153			990	90	60	40	20	NA
				Final VOL.	1000	100	100	100	100	100
				ppb	10	100	400	600	800	1000

MOTOR OIL CURVE		prep: 03/20/17-DP		ex: 09/20/17						
STD	**[µg/mL]**	**LOT #**	**DATE**	**EXP. DATE**	**µL**	**µL**	**µL**	**µL**	**µL**	**µL**
Motor Oil STD	2000	239390-34445	02/07/17	11/09/17	10	25	125	50	75	100
MC	N/A	56153			990	975	875	50	25	NA
				Final VOL.	1000	1000	1000	100	100	100
				ppb	20	50	250	1000	1500	2000

Prep: 03/20/17-DP Exp: 03/02/18						
DIESEL CAL STD.						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
DIESEL FUEL #2	50,000 ug/mL	O2SI CAT#011598-03 LOT#280736-37656 OP: 03/20/17 EXP: 03/20/18	500 µL	25 mL	1000ug/mL	MC LOT# 56153
THC Surrogate Mix	600 ug/mL	O2SI CAT#110316-05 LOT#295677-37404-37409 OP: 03/02/17 EXP: 03/02/18 O2SI CAT#110316-05 LOT#266278-37114-37116 OP: 03/02/17 EXP: 03/02/18	2080 µL		50ug/mL	

Prep: 02/07/17-D.P. Ex: 11/09/17						
MOTOR OIL CAL STD						
STD.	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT / LOT#
MOTOR OIL	50,000 ug/mL	O2SI CAT#116390-02 LOT#239390-34445 OP: 02/07/17 EXP: 11/09/17	1mL	25mL	2000ug/mL	MC LOT# 56098

DIESEL SECOND SOURCE prep: 08/01/16-D.P. ex: 08/01/17						
standard	initial conc.	SOURCE DATE	ALIQUOT	FINAL VOL.	FINAL CONC.	SOLVENT LOT
DIESEL SECOND SOURCE	50,000 ug/mL	O2SI CAT#011598-03-SS LOT#244813-34634 OP: 08/28/15 Exp 03/14/19	200uL	10mL	1000ug/mL	MC #56061

MOTOR OIL SECOND SOURCE prep: 10/14/16-D.P. ex: 07/6/17						
standard	**initial conc.**	**SOURCE DATE**	**ALIQUOT**	**FINAL VOL.**	**FINAL CONC.**	**SOLVENT LOT**
MOTOR OIL SECOND SOURCE	50,000 ug/mL	O2SI CAT#116390-02-SS LOT#244814-34637 OP:07/06/16 Exp:07/06/17	200uL	10mL	1000ug/mL	MC #56061

DIESEL CCV 400ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diesel Cal STD	1000 µg/mL	Diesel Cal STD	4000 µL	10 mL	400 µg/ml	MC
	Prep:	03/20/17				56153
	Exp:	03/02/18				

MOTOR OIL CCV 1000ppb						
Prep: 03/20/17-DP Ex: 09/20/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Motor Oil STD	2000 µg/mL	MO Std.	5000 µL	10 mL	1000 µg/ml	MC
	Prep:	02/07/17				56153
	Exp:	11/09/17				

THC Surrogate Mix (O2Si)			
Cat:	Lot:	Op:	Exp:
110316-05	295677-37404	03/02/17-DP	03/02/18
110316-05	295677-37405	03/02/17-DP	03/02/18
110316-05	295677-37406	03/02/17-DP	03/02/18
110316-05	295677-37407	03/02/17-DP	03/02/18
110316-05	295677-37408	03/02/17-DP	03/02/18
110316-05	295677-37409	03/02/17-DP	03/02/18
110316-05	266278-37114	03/02/17-DP	03/02/18
110316-05	266278-37115	03/02/17-DP	03/02/18
110316-05	266278-37116	03/02/17-DP	03/02/18

Diesel Spike	
Cat:	011598-03
Lot:	280736-37657
Op:	03/31/17-DP
Exp:	03/31/18

Motor Oil Spike
Cat: 116390-02
Lot: 239390-34444
Op: 03/13/17-D.P.
Exp: 11/09/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18	
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 11:10	
Spiked ID 8			Ext. End Time:	04/08/17 9:30	
			GC Requires Extract By:	04/11/17 0:00	
			pH1		Water Bath Temp Criteria 35,35,35,3
			pH2		
			pH3		

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	e-wb1				
2	170407A LCS-1		0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	E-WB2				
3	170407A LCS-2		0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	
						equip	E-WB3				
4	AZ53059 MS-1	AZ53059W32	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
5	AZ53059 MSD-1	AZ53059W26	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB1				
6	AZ53059 MS-2	AZ53059W24	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB2				
7	AZ53059 MSD-2	AZ53059W25	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB3				
8	AZ53059	AZ53059W28			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
9	AZ53060	AZ53060W05			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB1				
10	AZ53062	AZ53062W10			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB2				
11	AZ53064	AZ53064W08			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB3				
12	AZ53065	AZ53065W08			0.1	1	1500	2.5	7	04/07/17 11:10	82577 1 week
						equip	E-WB4				
13	AZ53168 MS-1	AZ53168W40	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB1				
14	AZ53168 MSD-1	AZ53168W31	0.020	1	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB2				
15	AZ53168 MS-2	AZ53168W45	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB3				
16	AZ53168 MSD-2	AZ53168W32	0.020	2	0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB4				

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	DP
Date	4/11/17
Time	9:10
Refrigerator	Hobart

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

_SEP011LL

Organic Extraction Worksheet

Method	THC Sep Fun Ext 3510C (LOW LEVEL)	Extraction Set	170407A	Extraction Method	SEP011LL	Units	mL

Spiked ID 1	Diesel Spike 3-31-17 EXP 3-31-18		Surrogate ID 1	THC Surrogate 3-2-17 EXP 3-2-18	
Spiked ID 2	Motor Oil Spike 3-13-17 EXP 11-9-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 11:10	
Spiked ID 8			Ext. End Time:	04/08/17 9:30	
			GC Requires Extract By:	**04/11/17 0:00**	

pH1			Water Bath Temp Criteria	35,35,35,3
pH2				
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53168	AZ53168W46			0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB1				
18	AZ53169	AZ53169W14			0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB2				
19	AZ53170	AZ53170W16			0.1	1	1500	2.5	7	04/07/17 11:10	82619 1 week
						equip	E-WB3				
20	AZ53172	AZ53172W12			0.1	1	1500	2.5	7	04/07/17 11:10	82596 1 week
						equip	E-WB4				
21	AZ53174	AZ53174W09			0.1	1	1500	2.5	7	04/07/17 11:10	82596 1 week
						equip	E-WB1				
22	AZ53176	AZ53176W13			0.1	1	1500	2.5	7	04/07/17 11:10	82596 1 week
						equip	E-WB2				
23	AZ53178	AZ53178W11			0.1	1	1500	2.5	7	04/07/17 11:10	82596 1 week
						equip	E-WB3				
24	AZ53180	AZ53180W11			0.1	1	1500	2.5	7	04/07/17 11:10	82596 1 week
						equip	E-WB4				

KY 4/10/17

Solvent and Lot#	
MC	56258
Na2SO4	16C255214
ph-indicator strips	hc 693124
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	DL

Modified	04/09/17 10:16:28 AM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: G:\APOLLO\DATA\170320\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	16	320016.D	1	Diesel-1 10ppb 3/20/17	Mix(A)	3-20-17 15:15:13
2	17	320017.D	1	Diesel-2 100ppb 3/20/17	Mix(A)	3-20-17 15:36:08
3	18	320018.D	1	Diesel-3 400ppb 3/20/17	Mix(A)	3-20-17 15:57:14
4	19	320019.D	1	Diesel-4 600ppb 3/20/17	Mix(A)	3-20-17 16:18:15
5	20	320020.D	1	Diesel-5 800ppb 3/20/17	Mix(A)	3-20-17 16:39:27
6	21	320021.D	1	Diesel-6 1000ppb 3/20/17	Mix(A)	3-20-17 17:00:36
7	22	320022.D	1	Diesel-2nd Src 400ppb 8/1/16	Mix(A)	3-20-17 17:21:37
8	23	320023.D	1	Motor Oil-1 20ppb 3/20/17	Mix(B)	3-20-17 17:42:35
9	24	320024.D	1	Motor Oil-2 50ppb 3/20/17	Mix(B)	3-20-17 18:03:37
10	25	320025.D	1	Motor Oil-3 250ppb 3/20/17	Mix(B)	3-20-17 18:24:46
11	26	320026.D	1	Motor Oil-4 1000ppb 3/20/17	Mix(B)	3-20-17 18:45:44
12	27	320027.D	1	Motor Oil-5 1500ppb 3/20/17	Mix(B)	3-20-17 19:06:49
13	28	320028.D	1	Motor Oil-6 2000ppb 3/20/17	Mix(B)	3-20-17 19:27:55
14	29	320029.D	1	Motor Oil-2nd Src 1000ppb 10/14/16	Mix(B)	3-20-17 19:48:56
15	2	411002.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 9:21:47
16	3	411003.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 9:42:20
17	4	411004.D	1.66667	170407A BLK 2.5/1500	water	4-11-17 10:02:59
18	5	411005.D	1.66667	170407A LCS-1 2.5/1500	water	4-11-17 10:23:44
19	6	411006.D	1.66667	170407A LCS-2 2.5/1500	water	4-11-17 10:44:31
20	16	411016.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 14:29:07
21	17	411017.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 14:50:11
22	18	411018.D	1.66667	AZ53168W46 2.5/1500	water	4-11-17 15:11:20
23	19	411019.D	1.66667	AZ53168W40 MS-1 2.5/1500	water	4-11-17 15:32:30
24	20	411020.D	1.66667	AZ53168W31 MSD-1 2.5/1500	water	4-11-17 15:53:47
25	21	411021.D	1.66667	AZ53168W45 MS-2 2.5/1500	water	4-11-17 16:15:02
26	22	411022.D	1.66667	AZ53168W32 MSD-2 2.5/1500	water	4-11-17 16:36:18
27	23	411023.D	1.66667	AZ53169W14 2.5/1500	water	4-11-17 16:56:59
28	24	411024.D	1.66667	AZ53170W16 2.5/1500	water	4-11-17 17:18:17
29	25	411025.D	1	CCV: Diesel 400ppb 3/20/17	Mix(A)	4-11-17 17:39:13
30	27	411027.D	1	CCV: MO 1000ppb 3/20/17	Mix(B)	4-11-17 18:21:18

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53168 - 217775**
Batch ID: #SIMDO-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 3:36:13 PM

Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53168 LCS - 217775**
Batch ID: #SIMDO-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
ACENAPHTHENE	5.00	3.71	74.2	48-114
ACENAPHTHYLENE	5.00	3.80	76.0	35-121
ANTHRACENE	5.00	4.54	90.8	53-119
BENZO(A)ANTHRACENE	5.00	4.54	90.8	59-120
BENZO(A)PYRENE	5.00	4.67	93.4	53-120
BENZO(B)FLUORANTHENE	5.00	4.76	95.2	53-126
BENZO(GHI)PERYLENE	5.00	4.43	88.6	44-128
BENZO(K)FLUORANTHENE	5.00	4.17	83.4	54-125
CHRYSENE	5.00	4.80	96.0	57-120
DIBENZ(A,H)ANTHRACENE	5.00	4.74	94.8	44-131
FLUORANTHENE	5.00	4.89	97.8	58-120
FLUORENE	5.00	4.19	83.8	50-118
INDENO(1,2,3-CD)PYRENE	5.00	4.42	88.4	48-130
NAPHTHALENE	5.00	3.15	63.0	43-114
PHENANTHRENE	5.00	4.42	88.4	53-115
PYRENE	5.00	4.75	95.0	53-121
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments:

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	RHA

Printed: 04/12/17 3:36:05 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170410W-53168 MS - 217775**
Batch ID: #SIMDO-170410A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	4.76	ND	2.80	2.56	58.8	53.8	41-115	9.0	20
2-METHYLNAPHTHALENE	4.76	ND	2.69	2.50	56.5	52.5	39-114	7.3	20
ACENAPHTHENE	4.76	ND	3.37	3.04	70.8	63.9	48-114	10.3	20
ACENAPHTHYLENE	4.76	ND	3.49	3.20	73.3	67.2	35-121	8.7	20
ANTHRACENE	4.76	ND	4.10	3.79	86.1	79.6	53-119	7.9	20
BENZO(A)ANTHRACENE	4.76	ND	4.13	3.87	86.8	81.3	59-120	6.5	20
BENZO(A)PYRENE	4.76	ND	4.21	3.88	88.4	81.5	53-120	8.2	20
BENZO(B)FLUORANTHENE	4.76	ND	4.12	3.84	86.6	80.7	53-126	7.0	20
BENZO(GHI)PERYLENE	4.76	ND	3.97	3.71	83.4	77.9	44-128	6.8	20
BENZO(K)FLUORANTHENE	4.76	ND	3.81	3.46	80.0	72.7	54-125	9.6	20
CHRYSENE	4.76	ND	4.26	3.92	89.5	82.4	57-120	8.3	20
DIBENZ(A,H)ANTHRACENE	4.76	ND	4.23	3.97	88.9	83.4	44-131	6.3	20
FLUORANTHENE	4.76	ND	4.45	4.18	93.5	87.8	58-120	6.3	20
FLUORENE	4.76	ND	3.87	3.59	81.3	75.4	50-118	7.5	20
INDENO(1,2,3-CD)PYRENE	4.76	ND	3.94	3.66	82.8	76.9	48-130	7.4	20
NAPHTHALENE	4.76	ND	2.82	2.67	59.2	56.1	43-114	5.5	20
PHENANTHRENE	4.76	ND	4.10	3.77	86.1	79.2	53-115	8.4	20
PYRENE	4.76	ND	4.25	4.00	89.3	84.0	53-121	6.1	20
SURROGATE: 2-FLUORBIPHENYL (S)	4.76	NA	2.51	2.55	52.7	53.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	4.76	NA	3.35	3.23	70.4	67.9	55-111		
SURROGATE: TERPHENYL-D14 (S)	4.76	NA	3.87	3.54	81.3	74.4	58-132		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	L0331P.M	L0331P.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Linus	Linus
Run :	0331L107	0331L108
Initials :	RHA	

Printed: 04/12/17 3:57:00 PM
APPL MSD SCII

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER

SDG No: 82619
Date Analyzed: 04/11/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A-BLK	Blank	53-106	56.0		55-111	71.2	
AZ53168-MS	Matrix Spike	53-106	52.7		55-111	70.4	
AZ53168-MSD	Matrix SpikeD	53-106	53.6		55-111	67.9	
170410A-LCS	Lab Control Spike	53-106	53.4		55-111	71.0	
AZ53168	ERH307	53-106	54.0		55-111	71.7	
AZ53169	ERH314	53-106	56.1		55-111	72.7	
AZ53170	ERH315	53-106	53.0		55-111	75.9	

Comments: Batch: #SIMDO-170410A
* = Recovery outside of Control Limits on QC Sample.

Printed: 04/12/17 3:57:05 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER

SDG No: 82619
Date Analyzed: 04/11/17
Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410A-BLK	Blank	58-132	82.5				
AZ53168-MS	Matrix Spike	58-132	81.3				
AZ53168-MSD	Matrix SpikeD	58-132	74.4				
170410A-LCS	Lab Control Spike	58-132	84.6				
AZ53168	ERH307	58-132	89.1				
AZ53169	ERH314	58-132	91.3				
AZ53170	ERH315	58-132	99.1				

Comments: Batch: #SIMDO-170410A

Printed: 04/12/17 3:57:05 PM
Form 2 & 8, Surrogate Recovery Summary

8270D-SIM

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170410A-BLK

SDG No: 82619
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 1744

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A-BLK	Blank	0331L104	04/11/17 1744
170410A-MS	Matrix Spike	0331L107	04/11/17 1922
170410A-MSD	Matrix SpikeD	0331L108	04/11/17 1954
170410A-LCS	Lab Control Spike	0331L136	04/12/17 1221
AZ53168	ERH307	0331L137	04/12/17 1254
AZ53169	ERH314	0331L138	04/12/17 1327
AZ53170	ERH315	0331L139	04/12/17 1359

Comments: Batch: #SIMDO-170410A

Printed: 04/12/17 3:35:32 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82619
Date Analyzed: 03/31/17
Instrument: Linus
Time Analyzed: 12:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1 SIM 03/31/17	0331L003.D	03/31/17 13:02
2		0.2 SIM 03/31/17	0331L004.D	03/31/17 13:34
3		0.5 SIM 03/31/17	0331L005.D	03/31/17 14:07
4		1.0 SIM 03/31/17	0331L006.D	03/31/17 14:40
5		5.0 SIM 03/31/17	0331L007.D	03/31/17 15:12
6		10 SIM 03/31/17	0331L008.D	03/31/17 15:45
7		50 SIM 03/31/17	0331L009.D	03/31/17 16:17
8		100 SIM 03/31/17	0331L010.D	03/31/17 16:50
9		SS SIM 03/31/17	0331L011.D	03/31/17 17:23
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	50.5
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.7
127	40 - 60% of mass 198	52.7
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	20.9
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	88.1
442	40 - 150% of mass 198	58.2
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82619
Date Analyzed: 04/11/17
Instrument: Linus
Time Analyzed: 16:52

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L103.D	04/11/17 17:08
2	Blank	170410A BLK 1/1000	0331L104.D	04/11/17 17:44
3		AZ53168W34 MS-1 1/10	0331L107.D	04/11/17 19:22
4		AZ53168W33 MSD-1 1/1	0331L108.D	04/11/17 19:54
5		5.0 SIM 04/10/17	0331L124.D	04/12/17 4:00
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.1
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	52.3
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	20.6
365	1 - 100% of mass 198	2.3
441	0.01 - 100% of mass 443	90.6
442	40 - 150% of mass 198	59.1
443	17 - 23% of mass 442	18.4

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 3/29/17

SDG No: 82619
Date Analyzed: 04/12/17
Instrument: Linus
Time Analyzed: 9:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0 SIM 04/10/17	0331L135.D	04/12/17 11:49
2	Lab Control Spike	170410A LCS-1 1/1000	0331L136.D	04/12/17 12:21
3	ERH307	AZ53168W36 1/1050	0331L137.D	04/12/17 12:54
4	ERH314	AZ53169W12 1/1070	0331L138.D	04/12/17 13:27
5	ERH315	AZ53170W12 1/1070	0331L139.D	04/12/17 13:59
6		5.0 SIM 04/10/17	0331L146.D	04/12/17 17:31
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	30 - 60% of mass 198	51.4
68	0 - 2% of mass 69	0.0
69	100 - 100% of mass 69	100.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	52.6
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	21.2
365	1 - 100% of mass 198	2.2
441	0.01 - 100% of mass 443	88.3
442	40 - 150% of mass 198	56.6
443	17 - 23% of mass 442	19.0

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82619
Lab File ID (Standard): 0331L007.D
Date Analyzed: 03/31/17
Instrument ID: Linus
Time Analyzed: 15:12
GC Column: ID:
Heated Purge: (Y/N)

		Napthalene-D8(IS)		Acenaphthene-D10(IS)		Phenanthrene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	31142	5.65	15272	7.70	29598	9.56
	UPPER LIMIT	62284	6.15	30544	8.20	59196	10.06
	LOWER LIMIT	15571	5.15	7636	7.20	14799	9.06
	SAMPLE NO.						
01	5.0 SIM 04/10/17	29022	5.64	14310	7.70	27904	9.56
02	170410A BLK 1/1000	32671	5.65	16047	7.70	31219	9.56
03	AZ53168W34 MS-1 1/1(	30840	5.65	14927	7.70	29214	9.56
04	AZ53168W33 MSD-1 1/	32020	5.65	15574	7.70	30569	9.56
05	5.0 SIM 04/10/17	30996	5.65	14458	7.70	27736	9.56
06	5.0 SIM 04/10/17	29938	5.64	14262	7.70	27140	9.56
07	170410A LCS-1 1/1000	37131	5.65	18196	7.70	35898	9.56
08	AZ53168W36 1/1050	34747	5.65	16907	7.70	32649	9.56
09	AZ53169W12 1/1070	33773	5.65	16446	7.70	31241	9.56
10	AZ53170W12 1/1070	31595	5.65	15457	7.70	29668	9.56
11	5.0 SIM 04/10/17	30201	5.65	14177	7.70	27110	9.56
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82619
Lab File ID (Standard): 0331L007.D
Date Analyzed: 03/31/17
Instrument ID: Linus
Time Analyzed: 15:12
GC Column:
ID:
Heated Purge: (Y/N)

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	34075	16.41	30220	20.19		
	UPPER LIMIT	68150	16.91	60440	20.69		
	LOWER LIMIT	17038	15.91	15110	19.69		
	SAMPLE NO.						
01	5.0 SIM 04/10/17	32422	16.40	28891	20.18		
02	170410A BLK 1/1000	36292	16.41	32676	20.19		
03	AZ53168W34 MS-1 1/1(	34322	16.40	30142	20.18		
04	AZ53168W33 MSD-1 1/	35852	16.40	31257	20.18		
05	5.0 SIM 04/10/17	31492	16.39	27335	20.18		
06	5.0 SIM 04/10/17	30771	16.40	27319	20.18		
07	170410A LCS-1 1/1000	41437	16.39	36371	20.18		
08	AZ53168W36 1/1050	36498	16.41	31915	20.19		
09	AZ53169W12 1/1070	35784	16.41	30896	20.20		
10	AZ53170W12 1/1070	32851	16.42	28862	20.20		
11	5.0 SIM 04/10/17	31144	16.40	27017	20.18		
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #SIMDO-170410A-217775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	54.0	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	71.7	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	89.1	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L137
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/12/17 3:35:26 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L137.D Vial: 37
Acq On : 12 Apr 17 12:54 Operator: MA
Sample : AZ53168W36 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 12 15:12 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	34747	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16907	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	32649	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	36498	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31915	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	18100	3.41466 ppb	0.00
Spiked Amount 4.762			Recovery	= 71.715%	
7) Surrogate Recovery (FBP)	6.92	172	27865	2.56968 ppb	0.00
Spiked Amount 4.762			Recovery	= 53.970%	
17) Surrogate Recovery (TPH)	13.39	244	51892	4.24539 ppb	-0.02
Spiked Amount 4.762			Recovery	= 89.145%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

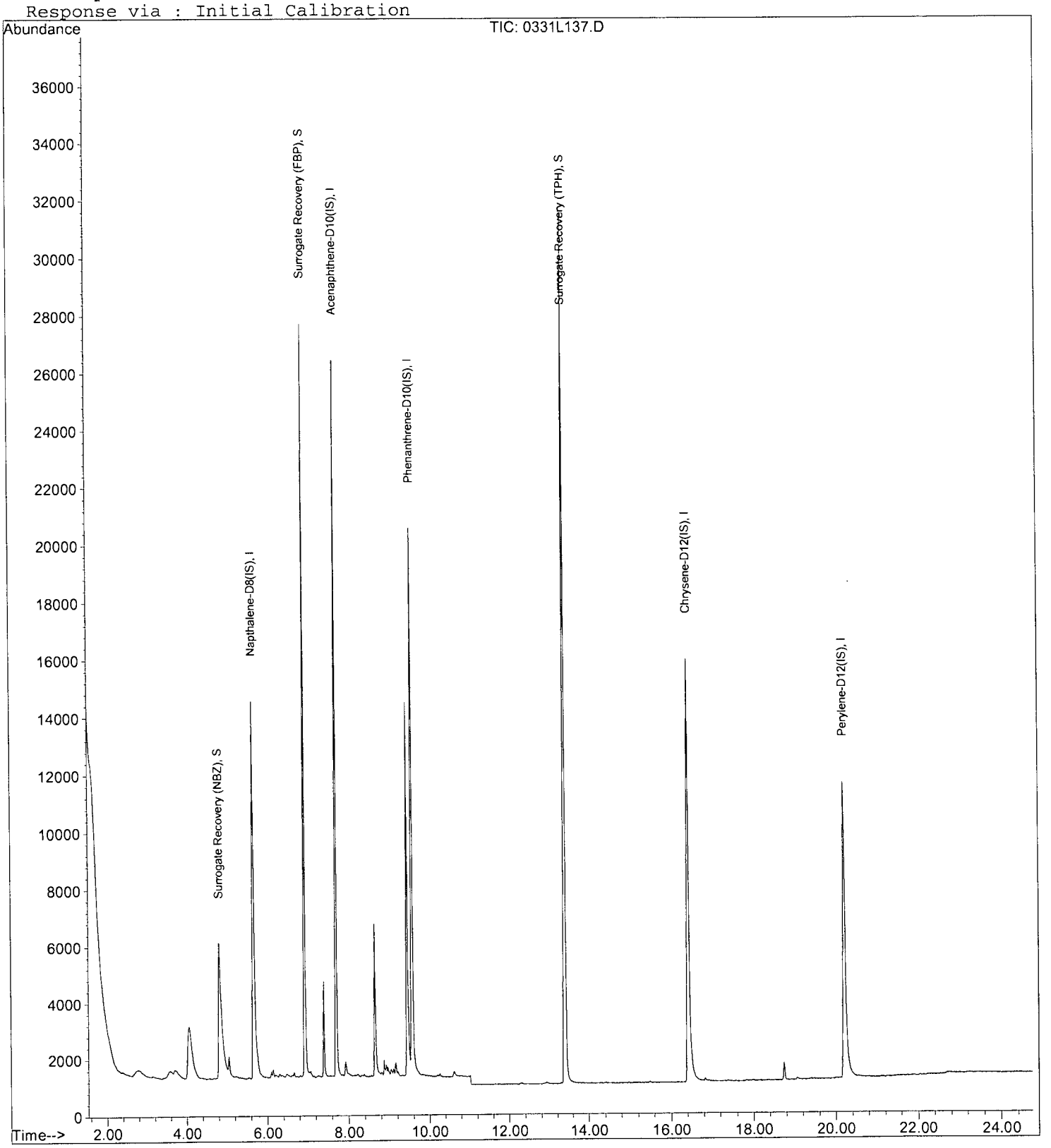
Data File : M:\LINUS\DATA\L170331\0331L137.D
Acq On : 12 Apr 17 12:54
Sample : AZ53168W36 1/1050
Misc : water

Vial: 37
Operator: MA
Inst : Linus
Multiplr: 0.95

Quant Time: Apr 12 15:12 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #SIMDO-170410A-217775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	56.1	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	72.7	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	91.3	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L138
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/12/17 3:35:26 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L138.D Vial: 38
Acq On : 12 Apr 17 13:27 Operator: MA
Sample : AZ53169W12 1/1070 Inst : Linus
Misc : water Multiplr: 0.93

Quant Time: Apr 12 15:13 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	33773	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16446	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31241	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	35784	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	30896	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	17831	3.39623 ppb	0.00
Spiked Amount 4.673			Recovery	= 72.674%	
7) Surrogate Recovery (FBP)	6.92	172	28186	2.62219 ppb	0.00
Spiked Amount 4.673			Recovery	= 56.111%	
17) Surrogate Recovery (TPH)	13.39	244	52126	4.26832 ppb	-0.02
Spiked Amount 4.673			Recovery	= 91.335%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0331L138.D L0331P.M Tue Apr 18 09:43:25 2017

Quantitation Report

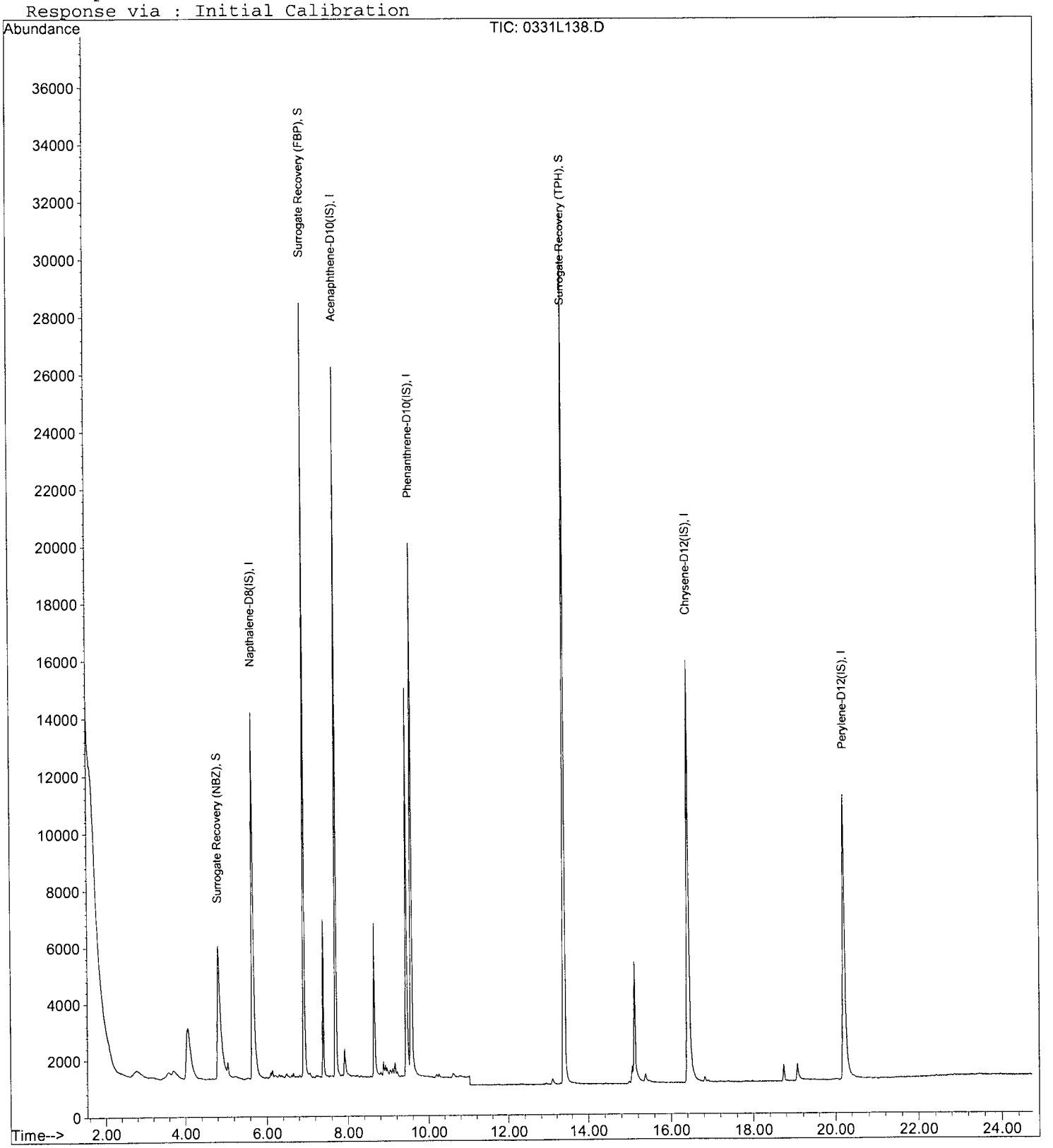
Data File : M:\LINUS\DATA\L170331\0331L138.D
Acq On : 12 Apr 17 13:27
Sample : AZ53169W12 1/1070
Misc : water

Vial: 38
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 12 15:13 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



EPA 8270D SIM

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #SIMDO-170410A-217775

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8270D-SIM	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/12/17
8270D-SIM	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/12/17
8270D-SIM	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/12/17
8270D-SIM	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/12/17
8270D-SIM	SURROGATE: 2-FLUORBIPHENYL (S)	53.0	53-106			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: NITROBENZENE-D5 (S)	75.9	55-111			%	04/10/17	04/12/17
8270D-SIM	SURROGATE: TERPHENYL-D14 (S)	99.1	58-132			%	04/10/17	04/12/17

Quant Method: L0331P.M
Run #: 0331L139
Instrument: Linus
Sequence: L170331
Dilution Factor: 1
Initials: RHA

Printed: 04/12/17 3:35:26 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L139.D
Acq On : 12 Apr 17 13:59
Sample : AZ53170W12 1/1070
Misc : water

Vial: 39
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 12 15:14 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31595	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15457	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29668	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	32851	2.50000 ppb	0.01
21) Perylene-D12(IS)	20.20	264	28862	2.50000 ppb	0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	17419	3.54647 ppb	0.01
Spiked Amount 4.673			Recovery	= 75.884%	
7) Surrogate Recovery (FBP)	6.92	172	25039	2.47847 ppb	0.00
Spiked Amount 4.673			Recovery	= 53.029%	
17) Surrogate Recovery (TPH)	13.39	244	51938	4.63263 ppb	-0.02
Spiked Amount 4.673			Recovery	= 99.146%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

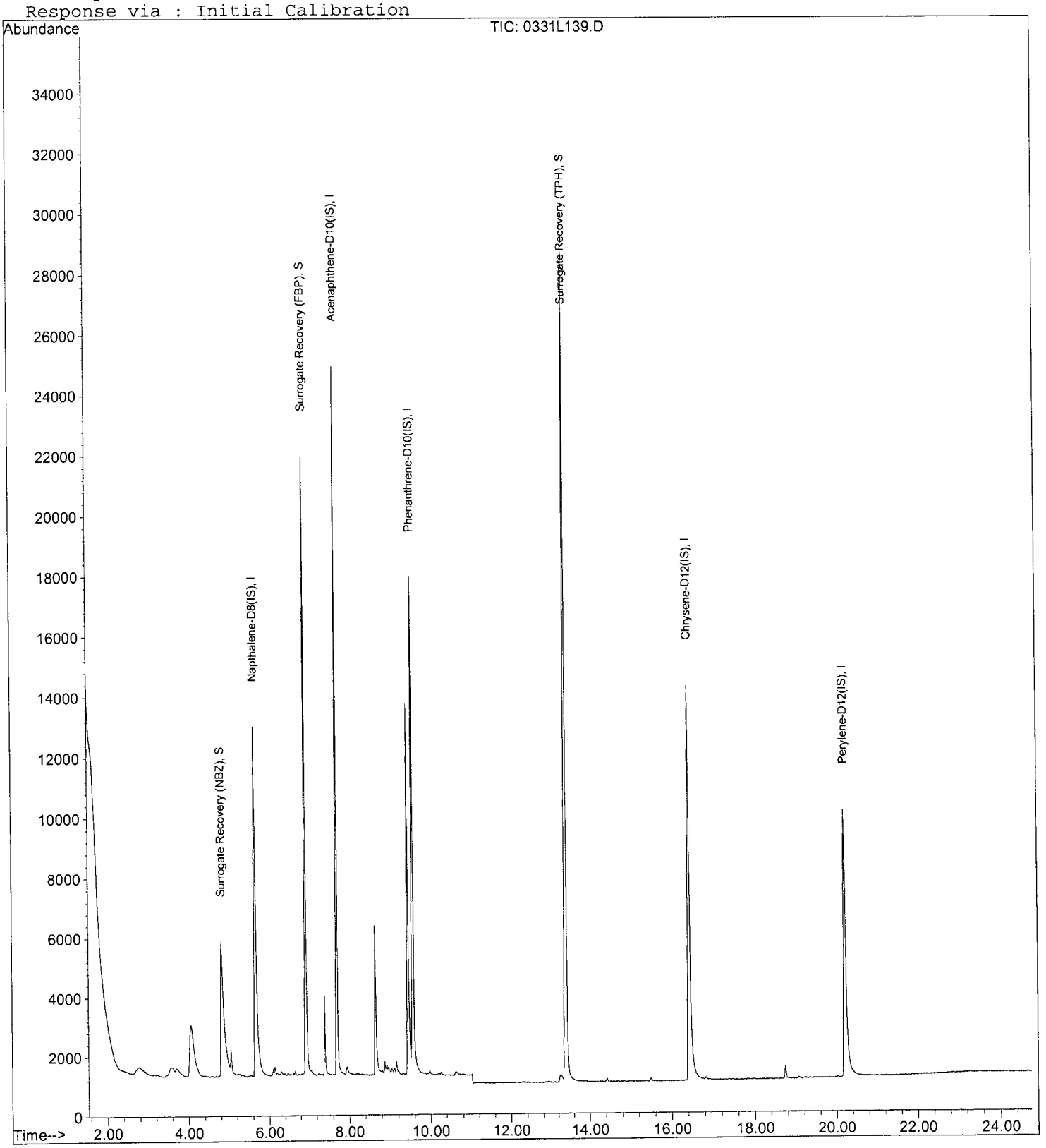
Data File : M:\LINUS\DATA\L170331\0331L139.D
Acq On : 12 Apr 17 13:59
Sample : AZ53170W12 1/1070
Misc : water

Vial: 39
Operator: MA
Inst : Linus
Multiplr: 0.93

Quant Time: Apr 12 15:14 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:
SDG No:
Initial Cal. Date: 03/31/17
Instrument: Linus
Initials:

		Compound	0331L003.D	0331L004 D	0331L005 D	0331L006 D	0331L007.D	0331L008.D	0331L009 D	0331L010 D			Avg	%RSD		
			0.1	0.2	0.5	1	5	10	50	100						
1	I	Napthalene-D8(IS)														
2	S	Surrogate Recovery (NBZ)			0.3171	0.3570	0.3399	0.3817	0.3902	0.3935			0.36	8.4	S	
3	TM	Naphthalene	0.9823	0.9734	0.9727	1.024	1.042	1.069	0.9927	0.9399			1.00	4.2	TM	
4	TM	2-Methylnaphthalene	0.6376	0.5964	0.6088	0.6337	0.6851	0.7033	0.6489	0.5967			0.64	6.2	TM	
5	TM	1-Methylnaphthalene	0.6928	0.6617	0.6701	0.7218	0.7095	0.7229	0.6322	0.5826			0.67	7.2	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)	1.615	1.560	1.569	1.620	1.496	1.660	1.383	1.315			1.5	8.0	S	
8	TM	Acenaphthylene	2.257	1.837	1.884	1.986	2.100	2.229	1.899	1.737			2.0	9.4	TM	
9	*TM	Acenaphthene	1.126	1.137	1.175	1.193	1.237	1.281	1.080	0.9857			1.2	8.0	*TM	
10	TM	Fluorene	1.282	1.262	1.269	1.334	1.415	1.480	1.258	1.142			1.3	8.0	TM	
11	I	Phenanthrene-D10(IS)														
12	TM	Phenanthrene	1.031	0.9551	0.9867	1.028	1.071	1.117	0.9583	0.8886			1.0	7.2	TM	
13	TM	Anthracene	0.8738	0.8806	0.9076	0.9647	1.038	1.101	0.9463	0.8475			0.94	9.2	TM	
14	*TM	Fluoranthene	1.457	1.365	1.426	1.503	1.642	1.778	1.605	1.520			1.5	8.6	*TM	
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.401	1.337	1.345	1.404	1.483	1.565	1.473	1.405			1.4	5.3	TM	
17	S	Surrogate Recovery (TPH)	0.8299	0.8012	0.7860	0.8199	0.7520	0.8454	0.7809	0.7637			0.80	4.1	S	
18	TM	Benz (a) anthracene	1.273	1.132	1.140	1.163	1.219	1.305	1.261	1.225			1.2	5.3	TM	
19	TM	Chrysene	1.254	1.183	1.193	1.238	1.284	1.323	1.225	1.152			1.2	4.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.256	1.153	1.132	1.164	1.148	1.187	1.061	1.010			1.1	6.6	TM	
21	I	Perylene-D12(IS)														
22	TM	Benzo (b) fluoranthene	1.440	1.236	1.225	1.174	1.278	1.381	1.256	1.259			1.3	6.8	TM	
23	TM	Benzo (k) fluoranthene	1.110	0.9547	0.9635	1.065	1.255	1.254	1.184	0.9924			1.1	11	TM	
24	*TM	Benzo (a) pyrene	1.280	1.167	1.175	1.193	1.266	1.340	1.194	1.111			1.2	6.1	*TM	
25	TM	Dibenz (a,h) anthracene	1.057	1.049	1.048	1.070	1.099	1.140	0.9494	0.8876			1.0	7.8	TM	
26	TM	Benzo (g,h,i) perylene	1.326	1.157	1.119	1.096	1.111	1.166	0.9980	0.9049			1.1	11	TM	
27																
28																
29																
30																
31																
32																
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30819	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15850	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31272	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34642	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.18	264	31866	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	152	0.08047 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.600%	
7) Surrogate Recovery (FBP)	6.93	172	512	0.05375 ppb	0.01
Spiked Amount 5.000			Recovery	= 1.080%	
17) Surrogate Recovery (TPH)	13.41	244	575	0.05441 ppb	0.00
Spiked Amount 5.000			Recovery	= 1.080%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	1211	0.09406 ppb		99
4) 2-Methylnaphthalene	6.49	142	786	0.10911 ppb		99
5) 1-Methylnaphthalene	6.60	142	854	0.10961 ppb		99
8) Acenaphthylene	7.54	152	1431	0.11183 ppb		98
9) Acenaphthene	7.74	154	714	0.09447 ppb		99
10) Fluorene	8.35	166	813	0.09717 ppb		96
12) Phenanthrene	9.60	178	1290	0.10241 ppb		98
13) Anthracene	9.68	178	1093	0.09142 ppb		97
14) Fluoranthene	12.22	202	1823	0.08778 ppb		95
16) Pyrene	12.84	202	1942	0.09787 ppb		98
18) Benz (a) anthracene	16.38	228	1764	0.10087 ppb		97
19) Chrysene	16.48	228	1738	-0.64058 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.51	276	1741	0.03994 ppb	#	95
22) Benzo (b) fluoranthene	19.29	252	1836	0.10910 ppb		98
23) Benzo (k) fluoranthene	19.36	252	1415	0.09287 ppb		96
24) Benzo (a) pyrene	20.06	252	1632	0.10355 ppb		98
25) Dibenz (a,h) anthracene	22.55	278	1347	-0.81595 ppb		96
26) Benzo (g,h,i) perylene	23.02	276	1690	-1.01298 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

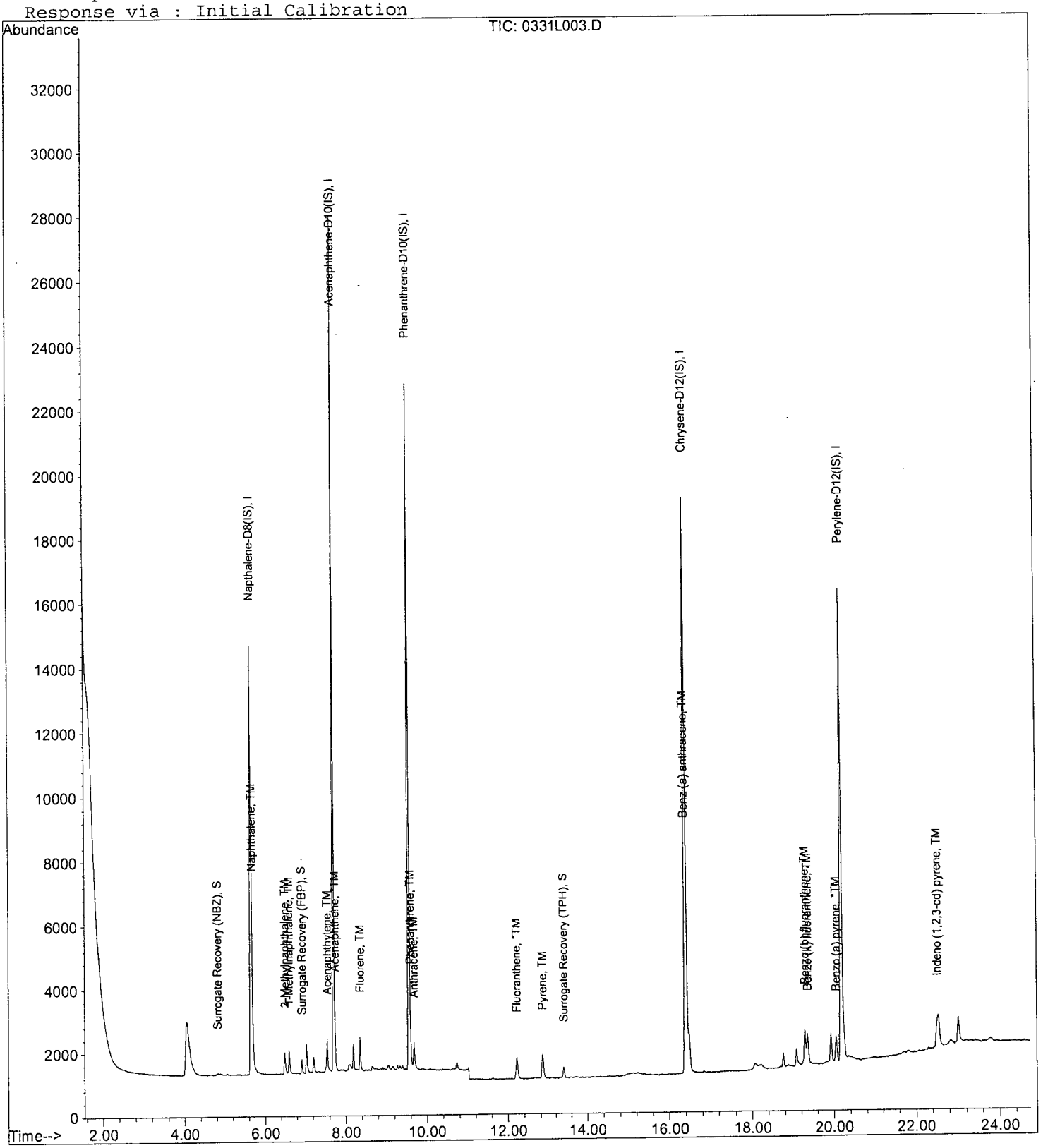
Data File : M:\LINUS\DATA\L170331\0331L003.D
Acq On : 31 Mar 17 13:02
Sample : 0.1 SIM 03/31/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31206	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15822	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31057	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34106	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31187	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	284	0.10721 ppb	0.04
Spiked Amount 5.000			Recovery	= 2.140%	
7) Surrogate Recovery (FBP)	6.93	172	987	0.10380 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.080%	
17) Surrogate Recovery (TPH)	13.42	244	1093	0.10505 ppb	0.01
Spiked Amount 5.000			Recovery	= 2.100%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	2430	0.18640 ppb	100
4) 2-Methylnaphthalene	6.51	142	1489	0.20413 ppb	100
5) 1-Methylnaphthalene	6.62	142	1652	0.20941 ppb	96
8) Acenaphthylene	7.54	152	2325	0.18202 ppb	98
9) Acenaphthene	7.74	154	1439	0.19073 ppb	98
10) Fluorene	8.35	166	1598	0.19132 ppb	97
12) Phenanthrene	9.60	178	2373	0.18969 ppb	99
13) Anthracene	9.69	178	2188	0.18427 ppb	98
14) Fluoranthene	12.22	202	3392	0.16445 ppb	99
16) Pyrene	12.85	202	3647	0.18669 ppb	100
18) Benz (a) anthracene	16.39	228	3088	0.17936 ppb	99
19) Chrysene	16.48	228	3227	-0.53196 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.52	276	3145	0.14877 ppb #	90
22) Benzo (b) fluoranthene	19.29	252	3083	0.18719 ppb	97
23) Benzo (k) fluoranthene	19.36	252	2382	0.15974 ppb	98
24) Benzo (a) pyrene	20.06	252	2911	0.18873 ppb	98
25) Dibenz (a,h) anthracene	22.55	278	2618	-0.68100 ppb	95
26) Benzo (g,h,i) perylene	23.03	276	2887	-0.88501 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

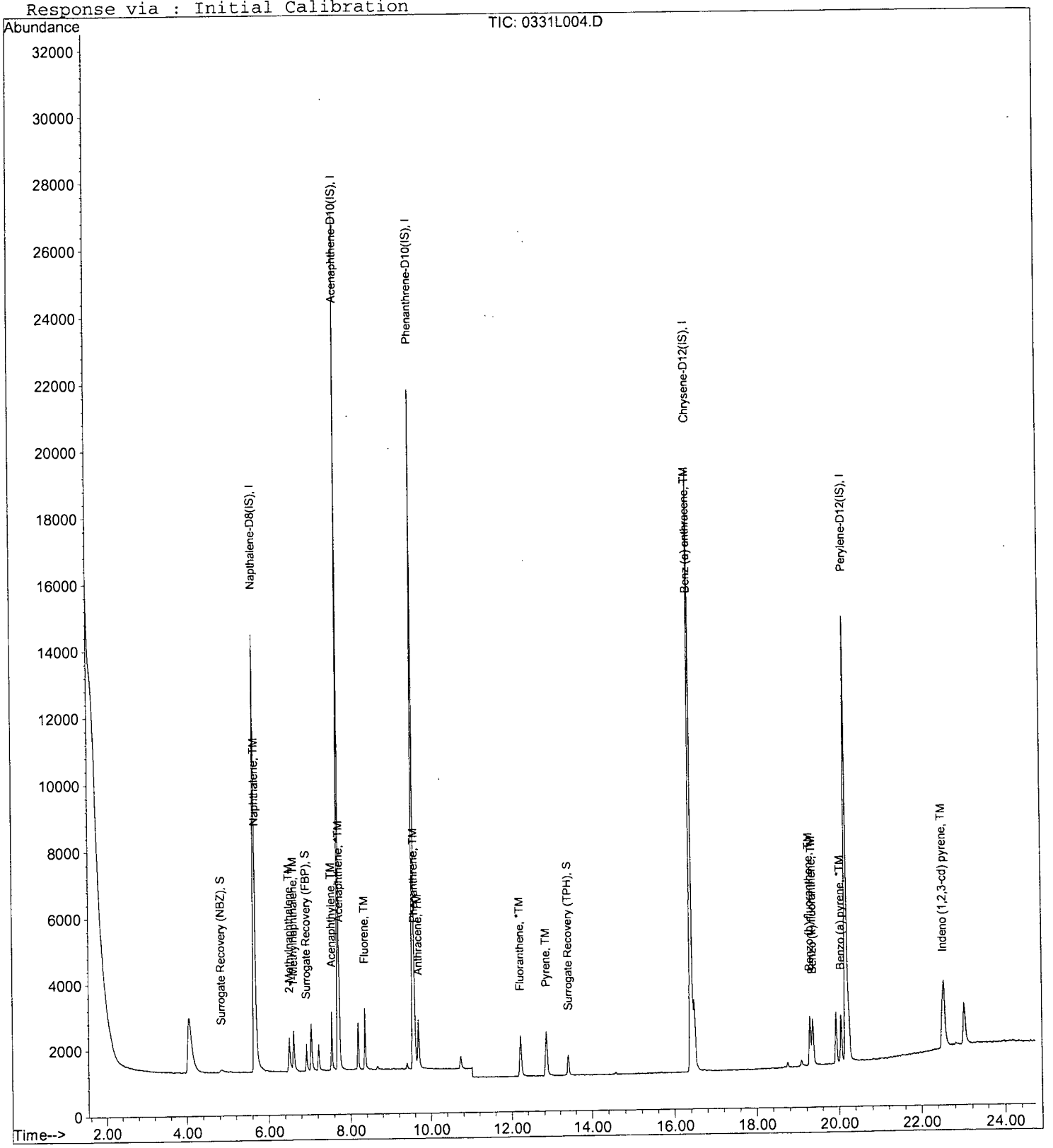
Data File : M:\LINUS\DATA\L170331\0331L004.D
Acq On : 31 Mar 17 13:34
Sample : 0.2 SIM 03/31/17
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30971	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15453	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29694	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	33348	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30098	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	982	0.25224 ppb	0.04
Spiked Amount 5.000			Recovery	= 5.040%	
7) Surrogate Recovery (FBP)	6.93	172	2424	0.26102 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.220%	
17) Surrogate Recovery (TPH)	13.42	244	2621	0.25763 ppb	0.01
Spiked Amount 5.000			Recovery	= 5.160%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	6025	0.46568 ppb	99
4) 2-Methylnaphthalene	6.51	142	3771	0.52090 ppb	99
5) 1-Methylnaphthalene	6.60	142	4151	0.53019 ppb	96
8) Acenaphthylene	7.54	152	5822	0.46668 ppb	99
9) Acenaphthene	7.74	154	3632	0.49289 ppb	100
10) Fluorene	8.35	166	3921	0.48066 ppb	97
12) Phenanthrene	9.60	178	5860	0.48992 ppb	100
13) Anthracene	9.69	178	5390	0.47476 ppb	99
14) Fluoranthene	12.22	202	8468	0.42940 ppb	100
16) Pyrene	12.85	202	8969	0.46955 ppb	100
18) Benz (a) anthracene	16.39	228	7603	0.45164 ppb	97
19) Chrysene	16.48	228	7956	-0.18015 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	7547	0.49664 ppb #	94
22) Benzo (b) fluoranthene	19.29	252	7376	0.46405 ppb	99
23) Benzo (k) fluoranthene	19.36	252	5800	0.40304 ppb	99
24) Benzo (a) pyrene	20.06	252	7073	0.47516 ppb	99
25) Dibenz (a,h) anthracene	22.55	278	6309	-0.27408 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	6737	-0.46016 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

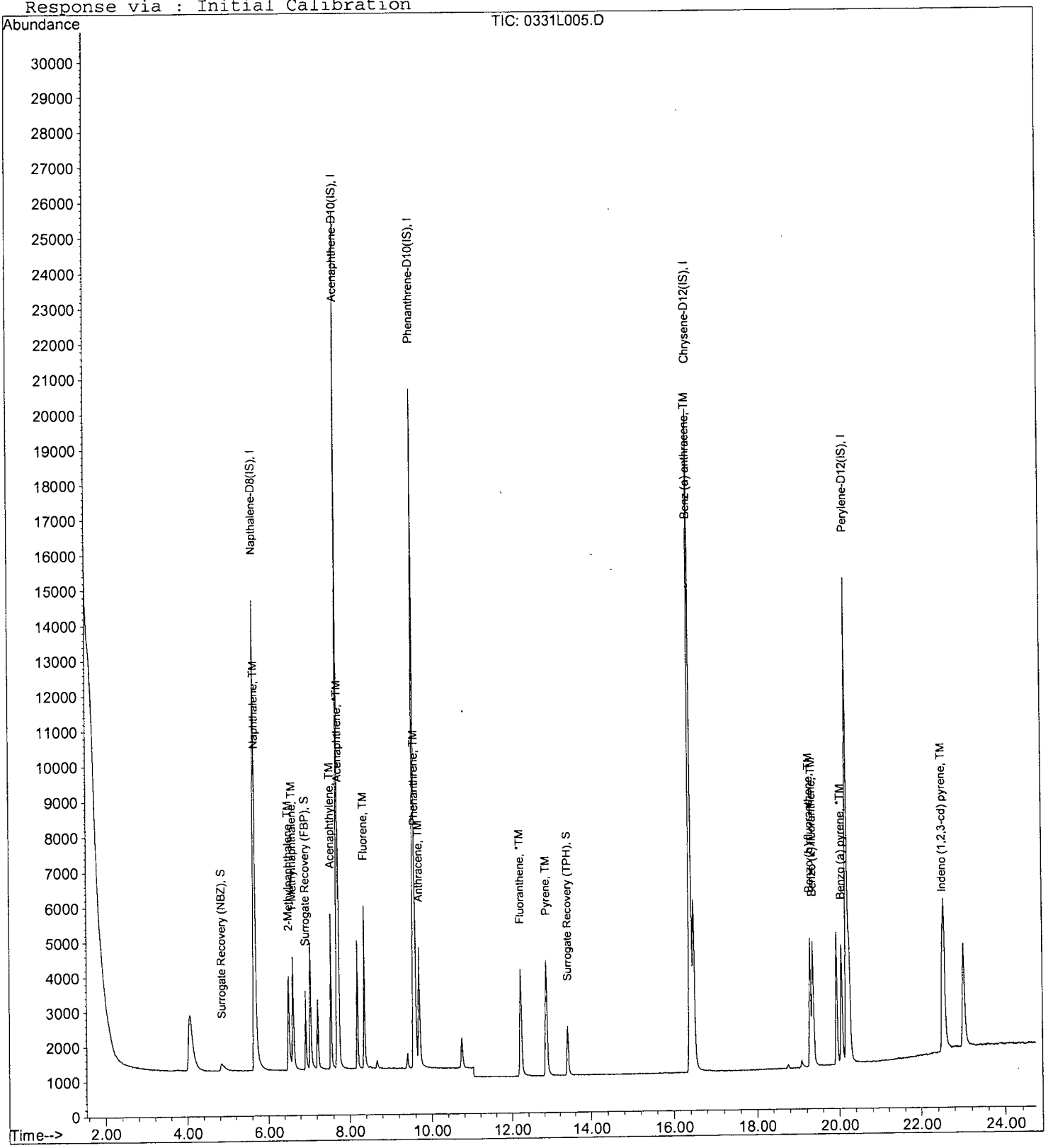
Data File : M:\LINUS\DATA\L170331\0331L005.D
Acq On : 31 Mar 17 14:07
Sample : 0.5 SIM 03/31/17
Misc : water

Vial: 5
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15857	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30567	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34248	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	31363	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.84	82	2261	0.50683 ppb	0.04
Spiked Amount 5.000			Recovery	= 10.140%	
7) Surrogate Recovery (FBP)	6.93	172	5137	0.53906 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.780%	
17) Surrogate Recovery (TPH)	13.42	244	5616	0.53752 ppb	0.01
Spiked Amount 5.000			Recovery	= 10.760%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	12970	0.98031 ppb	100
4) 2-Methylnaphthalene	6.49	142	8028	1.08443 ppb	97
5) 1-Methylnaphthalene	6.60	142	9144	1.14210 ppb	98
8) Acenaphthylene	7.54	152	12599	0.98419 ppb	100
9) Acenaphthene	7.74	154	7564	1.00034 ppb	98
10) Fluorene	8.35	166	8464	1.01114 ppb	98
12) Phenanthrene	9.60	178	12564	1.02040 ppb	99
13) Anthracene	9.69	178	11795	1.00926 ppb	99
14) Fluoranthene	12.22	202	18372	0.90501 ppb	99
16) Pyrene	12.85	202	19232	0.98039 ppb	100
18) Benz (a) anthracene	16.39	228	15931	0.92147 ppb	99
19) Chrysene	16.49	228	16962	0.44717 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.51	276	15952	1.11784 ppb #	96
22) Benzo (b) fluoranthene	19.29	252	14726	0.88910 ppb	99
23) Benzo (k) fluoranthene	19.36	252	13363	0.89114 ppb	99
24) Benzo (a) pyrene	20.06	252	14969	0.96504 ppb	100
25) Dibenz (a,h) anthracene	22.55	278	13425	0.43323 ppb	98
26) Benzo (g,h,i) perylene	23.02	276	13748	0.23414 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

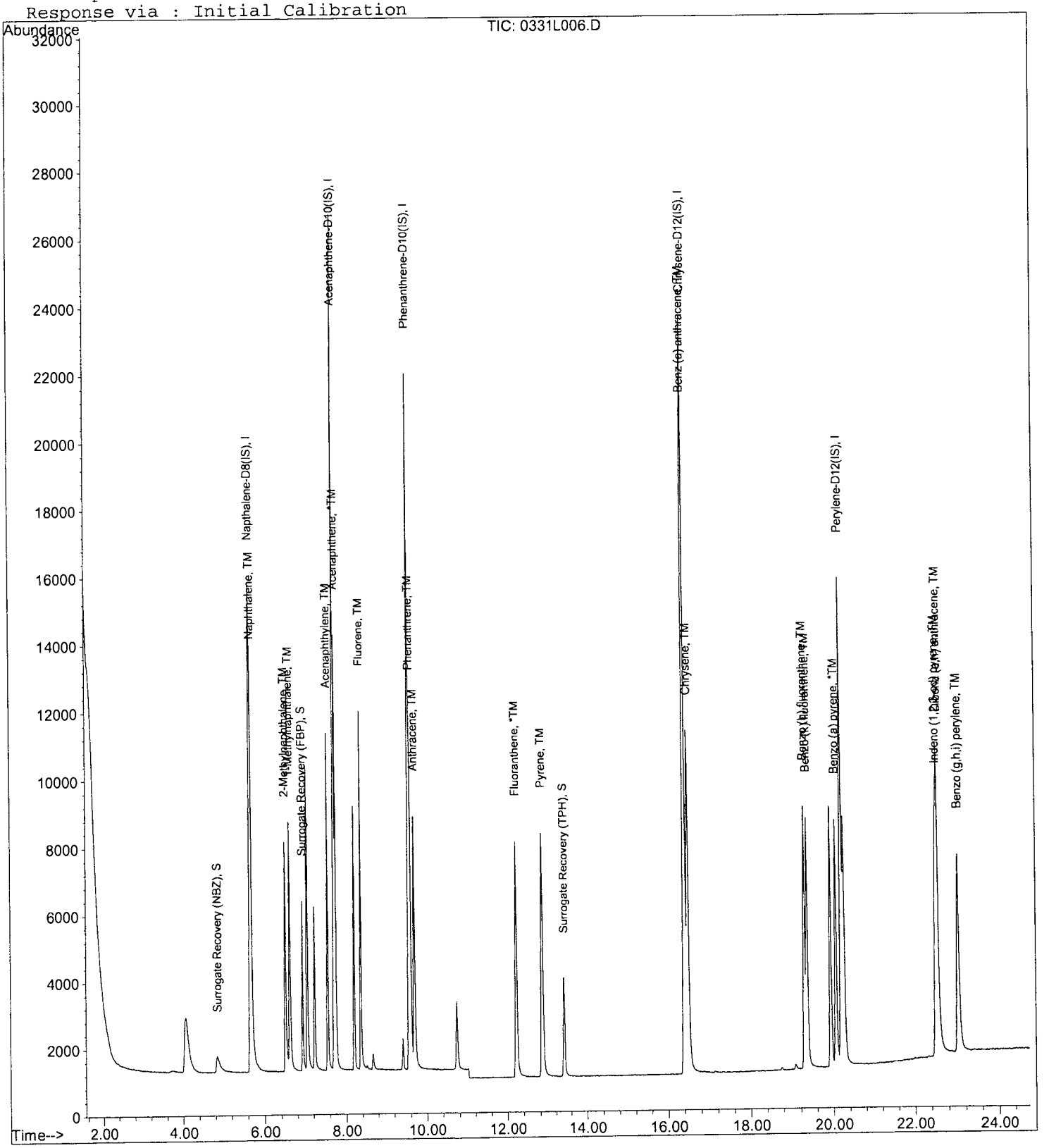
Data File : M:\LINUS\DATA\L170331\0331L006.D
Acq On : 31 Mar 17 14:40
Sample : 1.0 SIM 03/31/17
Misc : water

Vial: 6
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	31142	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15272	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29598	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34075	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30220	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	10584	2.22924 ppb	0.00
Spiked Amount 5.000			Recovery	= 44.580%	
7) Surrogate Recovery (FBP)	6.92	172	22845	2.48912 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.780%	
17) Surrogate Recovery (TPH)	13.41	244	25626	2.46519 ppb	0.00
Spiked Amount 5.000			Recovery	= 49.300%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	64893	4.98810 ppb	100
4) 2-Methylnaphthalene	6.49	142	42672	5.86209 ppb	100
5) 1-Methylnaphthalene	6.60	142	44189	5.61304 ppb	100
8) Acenaphthylene	7.54	152	64128	5.20132 ppb	100
9) Acenaphthene	7.74	154	37785	5.18850 ppb	100
10) Fluorene	8.35	166	43232	5.36247 ppb	100
12) Phenanthrene	9.60	178	63397	5.31744 ppb	100
13) Anthracene	9.68	178	61449	5.43013 ppb	100
14) Fluoranthene	12.21	202	97197	4.94470 ppb	100
16) Pyrene	12.84	202	101070	5.17841 ppb	100
18) Benz (a) anthracene	16.38	228	83073	4.82946 ppb	100
19) Chrysene	16.48	228	87474	5.51036 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	78254	5.86699 ppb #	99
22) Benzo (b) fluoranthene	19.28	252	77257	4.84093 ppb	100
23) Benzo (k) fluoranthene	19.35	252	75828	5.24800 ppb	100
24) Benzo (a) pyrene	20.05	252	76509	5.11903 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	66445	6.16669 ppb	99
26) Benzo (g,h,i) perylene	23.00	276	67126	6.00464 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

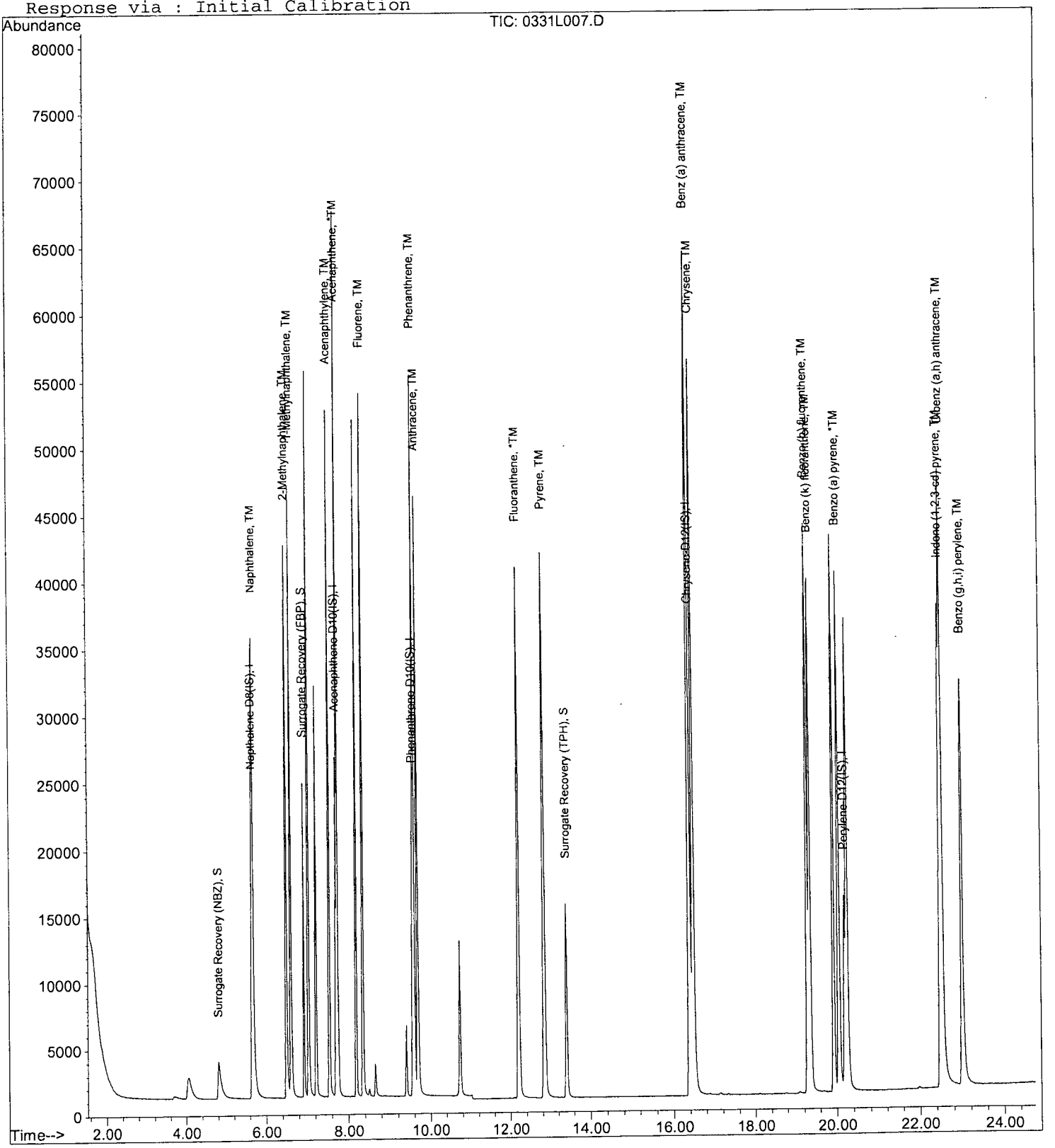
Data File : M:\LINUS\DATA\L170331\0331L007.D
Acq On : 31 Mar 17 15:12
Sample : 5.0 SIM 03/31/17
Misc : water

Vial: 7
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30297	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14519	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	28324	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	33276	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	29132	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	23128	4.94632 ppb	0.00
Spiked Amount 5.000			Recovery	= 98.920%	
7) Surrogate Recovery (FBP)	6.92	172	48197	5.52375 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.480%	
17) Surrogate Recovery (TPH)	13.41	244	56261	5.54218 ppb	0.00
Spiked Amount 5.000			Recovery	= 110.840%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	129576	10.23785 ppb		100
4) 2-Methylnaphthalene	6.49	142	85229	12.03493 ppb		99
5) 1-Methylnaphthalene	6.60	142	87605	11.43825 ppb		100
8) Acenaphthylene	7.54	152	129423	11.04172 ppb		100
9) Acenaphthene	7.74	154	74416	10.74850 ppb		99
10) Fluorene	8.34	166	85956	11.21489 ppb		96
12) Phenanthrene	9.60	178	126583	11.09474 ppb		100
13) Anthracene	9.68	178	124730	11.51793 ppb		99
14) Fluoranthene	12.21	202	201414	10.70742 ppb		99
16) Pyrene	12.83	202	208256	10.92637 ppb		98
18) Benz (a) anthracene	16.38	228	173750	10.34351 ppb		99
19) Chrysene	16.48	228	176113	12.17073 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	158046	12.23041 ppb	#	95
22) Benzo (b) fluoranthene	19.28	252	160957	10.46224 ppb		99
23) Benzo (k) fluoranthene	19.34	252	146148	10.49255 ppb		99
24) Benzo (a) pyrene	20.05	252	156189	10.84051 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	132806	13.80866 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	135904	13.91444 ppb		99

(#) = qualifier out of range (m) = manual integration
0331L008.D L0331P.M Wed Apr 05 13:30:28 2017

Quantitation Report

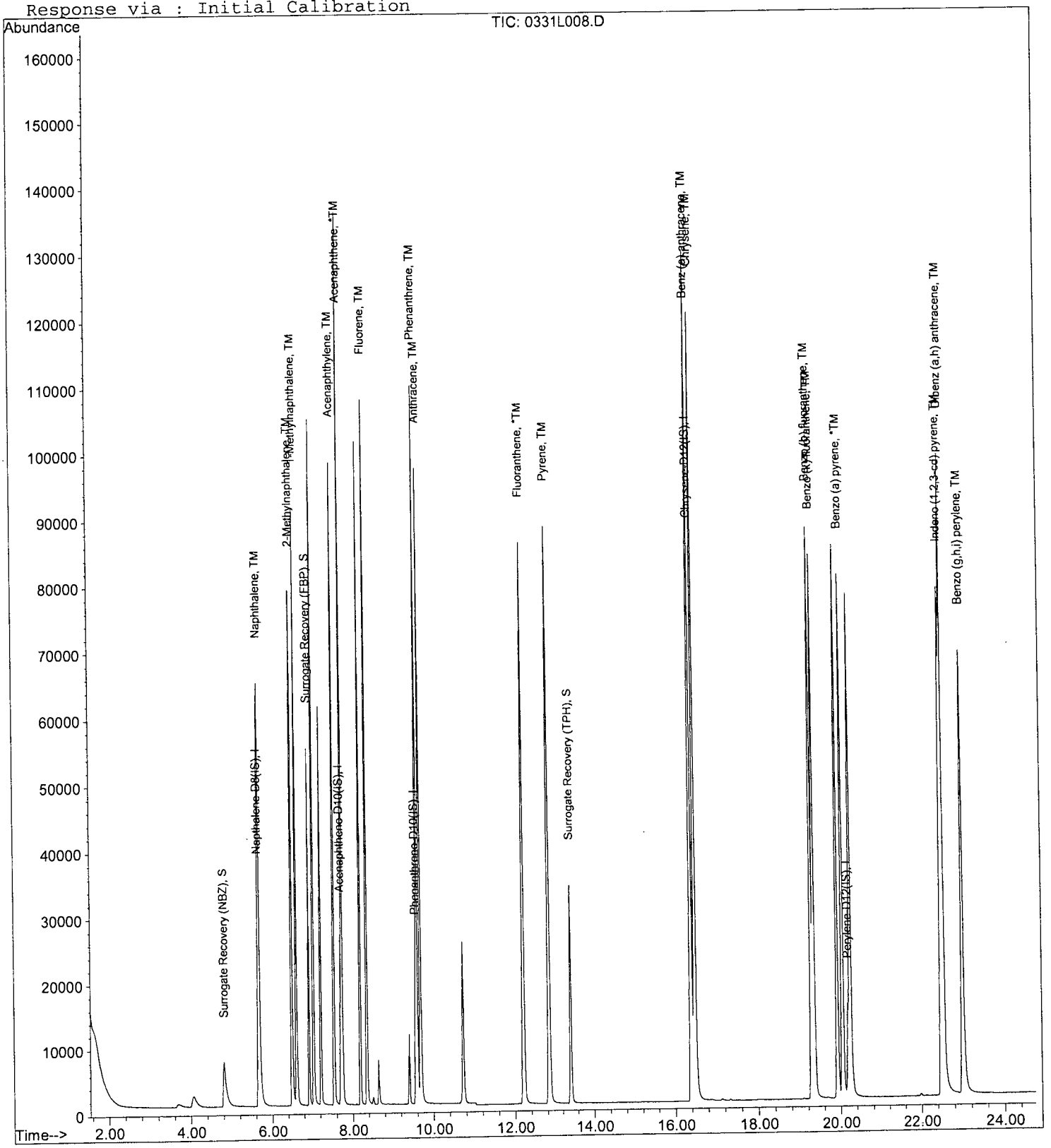
Data File : M:\LINUS\DATA\L170331\0331L008.D
Acq On : 31 Mar 17 15:45
Sample : 10 SIM 03/31/17
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 16:51:07 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28141	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14265	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27995	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.42	240	31505	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.20	264	28838	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	109810	25.08329 ppb	-0.01
Spiked Amount 5.000			Recovery	= 501.660%	
7) Surrogate Recovery (FBP)	6.92	172	197251	23.00904 ppb	0.00
Spiked Amount 5.000			Recovery	= 460.180%	
17) Surrogate Recovery (TPH)	13.41	244	246037	25.59915 ppb	0.00
Spiked Amount 5.000			Recovery	= 511.980%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	558729	47.52754 ppb	100
4) 2-Methylnaphthalene	6.49	142	365210	55.52123 ppb	100
5) 1-Methylnaphthalene	6.60	142	355813	50.01640 ppb	100
8) Acenaphthylene	7.54	152	541881	47.05373 ppb	99
9) Acenaphthene	7.74	154	308193	45.30743 ppb	99
10) Fluorene	8.35	166	358796	47.64653 ppb	99
12) Phenanthrene	9.61	178	536552	47.58036 ppb	100
13) Anthracene	9.69	178	529842	49.50215 ppb	99
14) Fluoranthene	12.22	202	898826	48.34424 ppb	100
16) Pyrene	12.85	202	927839	51.41654 ppb	99
18) Benz (a) anthracene	16.40	228	794644	49.96518 ppb	100
19) Chrysene	16.50	228	771884	59.11134 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.51	276	668242	54.93231 ppb #	92
22) Benzo (b) fluoranthene	19.30	252	724315	47.56063 ppb	99
23) Benzo (k) fluoranthene	19.38	252	682834	49.52318 ppb	100
24) Benzo (a) pyrene	20.08	252	688727	48.28935 ppb	99
25) Dibenz (a,h) anthracene	22.56	278	547597	60.53350 ppb	99
26) Benzo (g,h,i) perylene	23.02	276	575623	63.41962 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

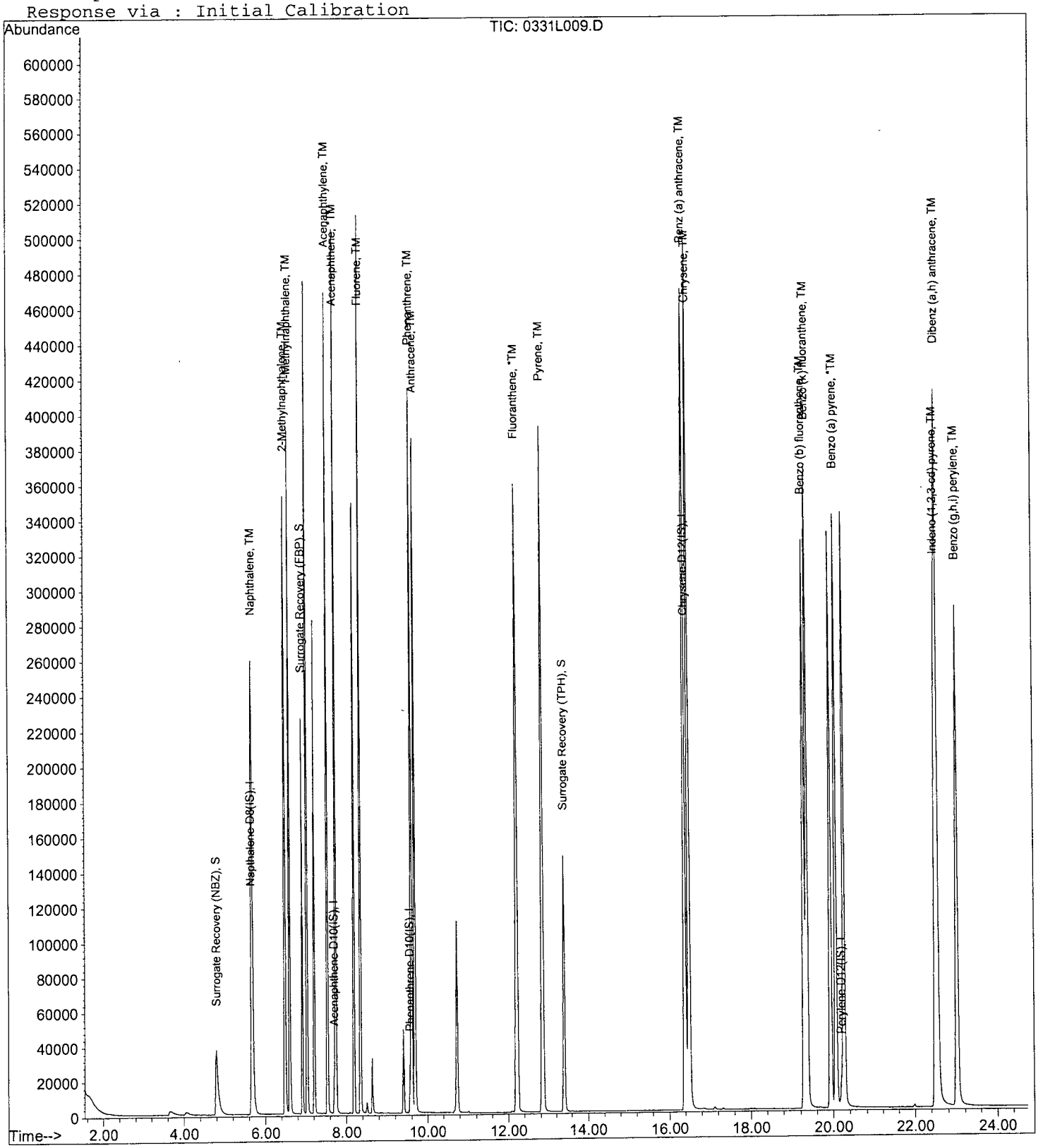
Data File : M:\LINUS\DATA\L170331\0331L009.D
Acq On : 31 Mar 17 16:17
Sample : 50 SIM 03/31/17
Misc : water

Vial: 9
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 16:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	28041	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14359	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.57	188	27580	2.50000 ppb	0.01
15) Chrysene-D12(IS)	16.44	240	30910	2.50000 ppb	0.03
21) Perylene-D12(IS)	20.22	264	28738	2.50000 ppb	0.03
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.79	82	220688	54.26717 ppb	-0.01
Spiked Amount 5.000			Recovery	= 1085.340%	
7) Surrogate Recovery (FBP)	6.92	172	377701	43.22844 ppb	0.00
Spiked Amount 5.000			Recovery	= 864.560%	
17) Surrogate Recovery (TPH)	13.42	244	472131	48.40975 ppb	0.01
Spiked Amount 5.000			Recovery	= 968.200%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	1054173	94.81706 ppb		99
4) 2-Methylnaphthalene	6.49	142	669313	94.77979 ppb		100
5) 1-Methylnaphthalene	6.60	142	653474	87.92922 ppb		98
8) Acenaphthylene	7.54	152	997656	87.84937 ppb		98
9) Acenaphthene	7.75	154	566128	86.03024 ppb		97
10) Fluorene	8.35	166	656159	88.30231 ppb		98
12) Phenanthrene	9.61	178	980324	89.50069 ppb		99
13) Anthracene	9.69	178	934989	90.96741 ppb		99
14) Fluoranthene	12.24	202	1676780	99.91680 ppb		99
16) Pyrene	12.87	202	1736870	100.53519 ppb		97
18) Benz (a) anthracene	16.42	228	1514401	102.83533 ppb		100
19) Chrysene	16.53	228	1424819	94.85049 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.55	276	1249179	87.29937 ppb	#	83
22) Benzo (b) fluoranthene	19.32	252	1447010	99.99166 ppb		98
23) Benzo (k) fluoranthene	19.41	252	1140732	89.21477 ppb		98
24) Benzo (a) pyrene	20.12	252	1276689	92.56173 ppb		99
25) Dibenz (a,h) anthracene	22.60	278	1020340	86.75637 ppb		98
26) Benzo (g,h,i) perylene	23.06	276	1040188	82.82263 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

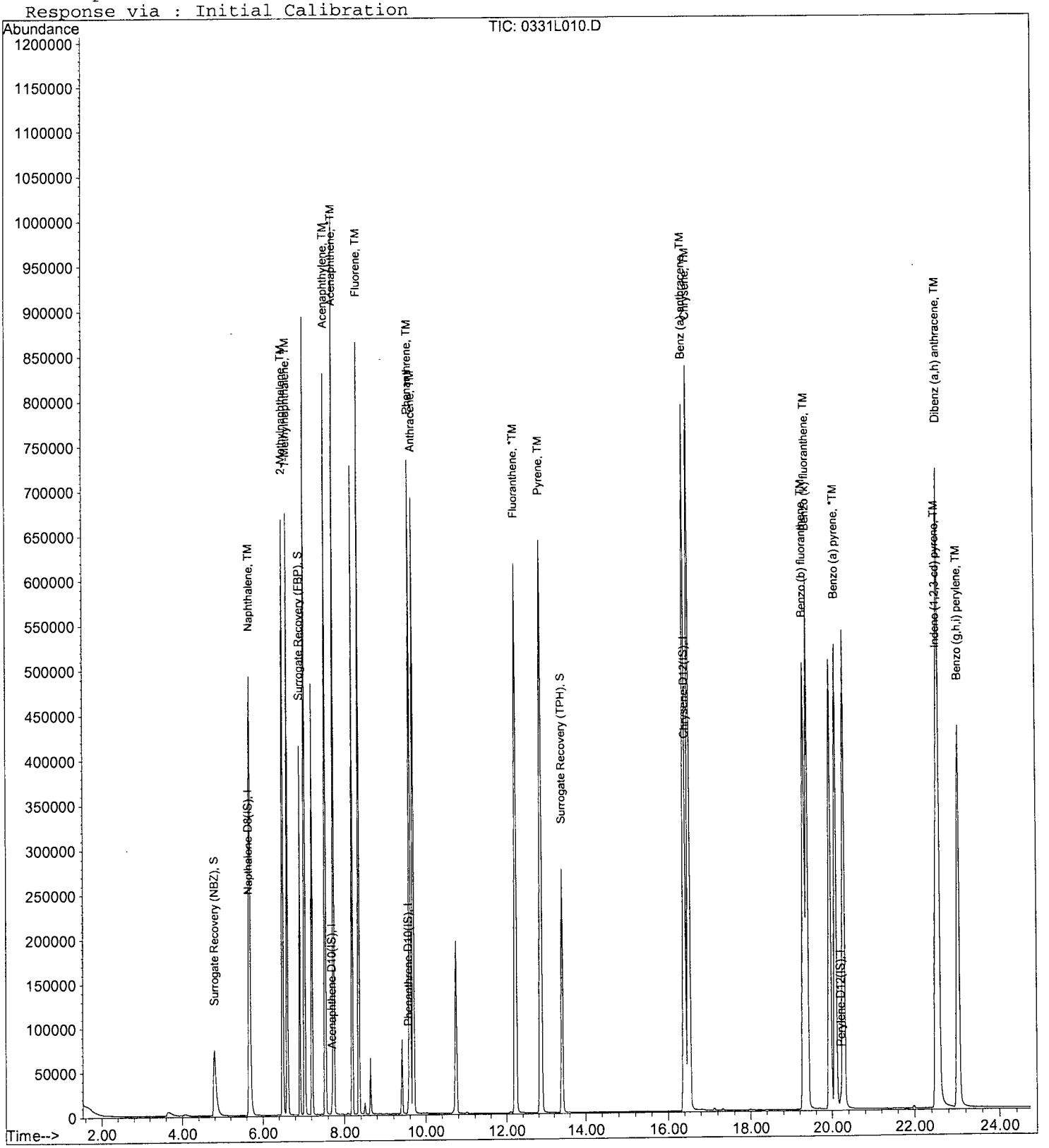
Data File : M:\LINUS\DATA\L170331\0331L010.D
Acq On : 31 Mar 17 16:50
Sample : 100 SIM 03/31/17
Misc : water

Vial: 10
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:21 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 03/31/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	0.9995	1.066	6.6	TM	
2	TM	2-Methylnaphthalene	0.6388	0.6359	0.45	TM	
3	TM	1-Methylnaphthalene	0.6742	0.6504	3.5	TM	
4	TM	Acenaphthylene	1.991	2.115	6.3	TM	
5	*TM	Acenaphthene	1.152	1.262	9.5	*TM	
6	TM	Fluorene	1.305	1.424	9.1	TM	
7	TM	Phenanthrene	1.004	1.074	6.9	TM	
8	TM	Anthracene	0.9449	1.031	9.1	TM	
9	*TM	Fluoranthene	1.537	1.676	9.0	*TM	
10	TM	Pyrene	1.426	1.495	4.8	TM	
11	TM	Benz (a) anthracene	1.215	1.240	2.1	TM	
12	TM	Chrysene	1.232	1.283	4.2	TM	
13	TM	Indeno (1,2,3-cd) pyrene	1.139	1.196	5.0	TM	
14	TM	Benzo (b) fluoranthene	1.281	1.287	0.47	TM	
15	TM	Benzo (k) fluoranthene	1.097	1.234	12	TM	
16	*TM	Benzo (a) pyrene	1.216	1.295	6.5	*TM	
17	TM	Dibenz (a,h) anthracene	1.038	1.126	8.6	TM	
18	TM	Benzo (g,h,i) perylene	1.110	1.108	0.12	TM	
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			5.8		

EPA 8270C SIM
0

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30679	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15350	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30180	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	34850	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	30295	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	4	0.00090 ppb	0.00
Spiked Amount 5.000			Recovery	= 0.020%	
7) Surrogate Recovery (FBP)	6.93	172	14	0.00149 ppb	0.01
Spiked Amount 5.000			Recovery	= 0.020%	
17) Surrogate Recovery (TPH)	13.47	244	30	0.00270 ppb	0.06
Spiked Amount 5.000			Recovery	= 0.060%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	65397	5.33187 ppb	100
4) 2-Methylnaphthalene	6.49	142	39019	4.97734 ppb	99
5) 1-Methylnaphthalene	6.60	142	39907	4.82348 ppb	98
8) Acenaphthylene	7.54	152	64946	5.31253 ppb	100
9) Acenaphthene	7.74	154	38734	5.47664 ppb	99
10) Fluorene	8.35	166	43714	5.45380 ppb	99
12) Phenanthrene	9.60	178	64799	5.34377 ppb	100
13) Anthracene	9.68	178	62241	5.45624 ppb	100
14) Fluoranthene	12.21	202	101168	5.45240 ppb	99
16) Pyrene	12.84	202	104230	5.24166 ppb	100
18) Benz (a) anthracene	16.38	228	86405	5.10258 ppb	99
19) Chrysene	16.48	228	89459	5.21101 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	83349	5.24968 ppb	97
22) Benzo (b) fluoranthene	19.28	252	77988	5.02329 ppb	99
23) Benzo (k) fluoranthene	19.35	252	74793	5.62464 ppb	100
24) Benzo (a) pyrene	20.05	252	78476	5.32658 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	68243	5.42773 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	67157	4.99392 ppb	100

$$\text{Algorithum check} = \frac{65397 * 2.5 * 1}{30679 * 0.9995} = \frac{163492.5}{30663.6605}$$

$$= 5.33179$$

RH 4/6/17

(#) = qualifier out of range (m) = manual integration
0331L011.D L0331P.M Thu Apr 06 17:00:08 2017

Quantitation Report

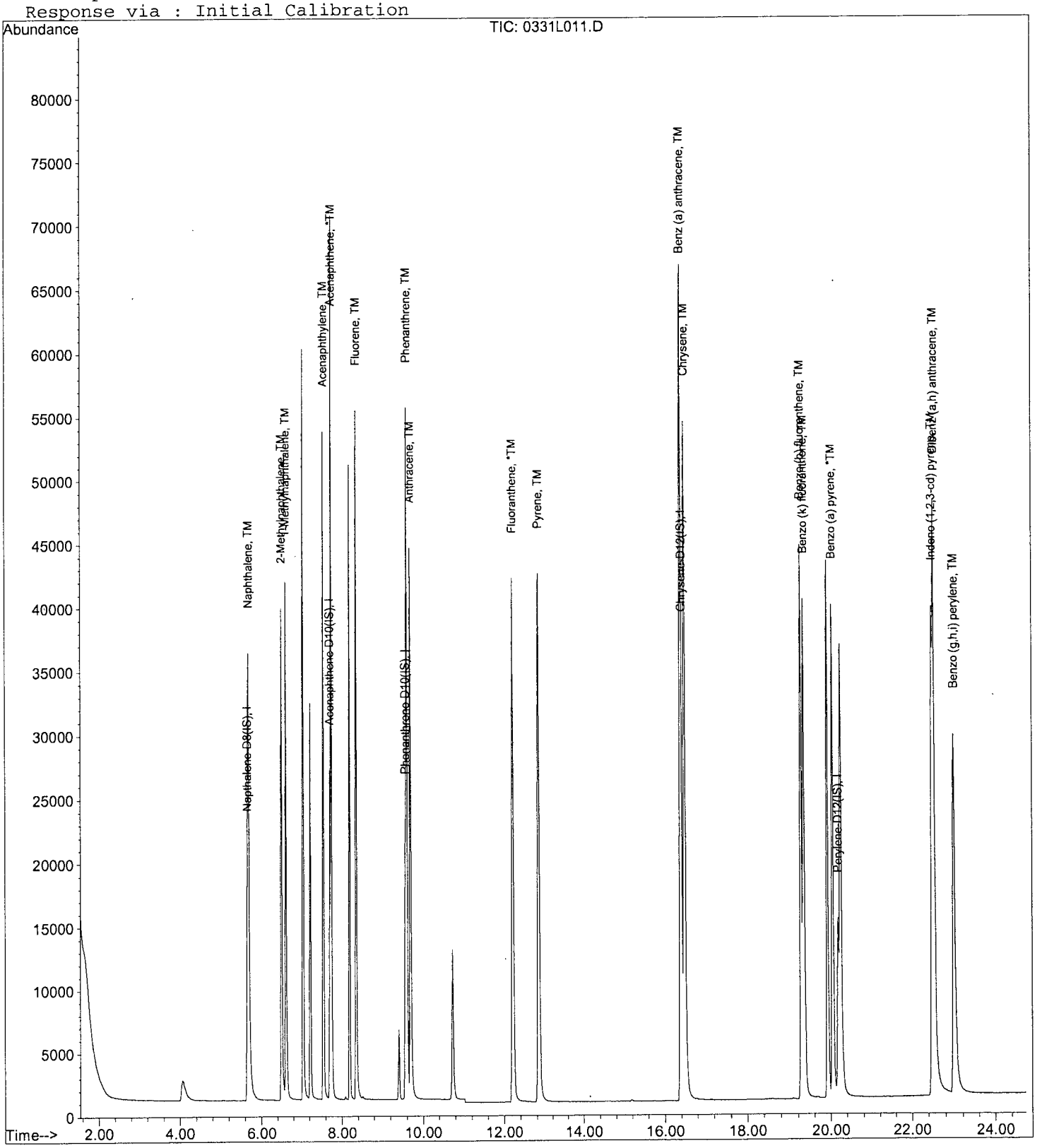
Data File : M:\LINUS\DATA\L170331\0331L011.D
Acq On : 31 Mar 17 17:23
Sample : SS SIM 03/31/17
Misc : water

Vial: 11
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Mar 31 17:48 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/11/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L103.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3412	6.1	S	
3	TM	Naphthalene	0.9995	1.074	7.4	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7151	12	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7312	8.5	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.537	0.62	S	
8	TM	Acenaphthylene	1.991	2.160	8.5	TM	
9	*TM	Acenaphthene	1.152	1.266	9.9	*TM	
10	TM	Fluorene	1.305	1.455	11	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.100	9.5	TM	
13	TM	Anthracene	0.9449	1.067	13	TM	
14	*TM	Fluoranthene	1.537	1.732	13	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.558	9.2	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7670	3.8	S	
18	TM	Benz (a) anthracene	1.215	1.278	5.2	TM	
19	TM	Chrysene	1.232	1.331	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.148	0.76	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.326	3.5	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.077	1.8	TM	
24	*TM	Benzo (a) pyrene	1.216	1.308	7.6	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.104	6.4	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.097	1.2	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L103.D
Acq On : 11 Apr 17 17:08
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 11 17:34 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29022	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14310	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27904	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	32422	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	28891	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9901	2.34816 ppb	0.00
Spiked Amount 5.000			Recovery	= 46.960%	
7) Surrogate Recovery (FBP)	6.92	172	21989	2.51560 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.320%	
17) Surrogate Recovery (TPH)	13.40	244	24867	2.40469 ppb	-0.01
Spiked Amount 5.000			Recovery	= 48.100%	

Target Compounds						Qvalue
3) Naphthalene	5.66	128	62324	5.37144 ppb		99
4) 2-Methylnaphthalene	6.48	142	41508	5.59715 ppb		98
5) 1-Methylnaphthalene	6.60	142	42442	5.42276 ppb		100
8) Acenaphthylene	7.53	152	61832	5.42539 ppb		99
9) Acenaphthene	7.74	154	36229	5.49474 ppb		98
10) Fluorene	8.34	166	41650	5.57395 ppb		98
12) Phenanthrene	9.60	178	61387	5.47531 ppb		100
13) Anthracene	9.68	178	59561	5.64718 ppb		100
14) Fluoranthene	12.20	202	96679	5.63546 ppb		99
16) Pyrene	12.82	202	101051	5.46235 ppb		98
18) Benz (a) anthracene	16.37	228	82898	5.26209 ppb		99
19) Chrysene	16.47	228	86296	5.40321 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	74413	5.03784 ppb	#	90
22) Benzo (b) fluoranthene	19.27	252	76603	5.17386 ppb		99
23) Benzo (k) fluoranthene	19.34	252	62245	4.90847 ppb		98
24) Benzo (a) pyrene	20.05	252	75557	5.37768 ppb		99
25) Dibenz (a,h) anthracene	22.53	278	63770	5.31845 ppb		99
26) Benzo (g,h,i) perylene	22.99	276	63365	4.94092 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

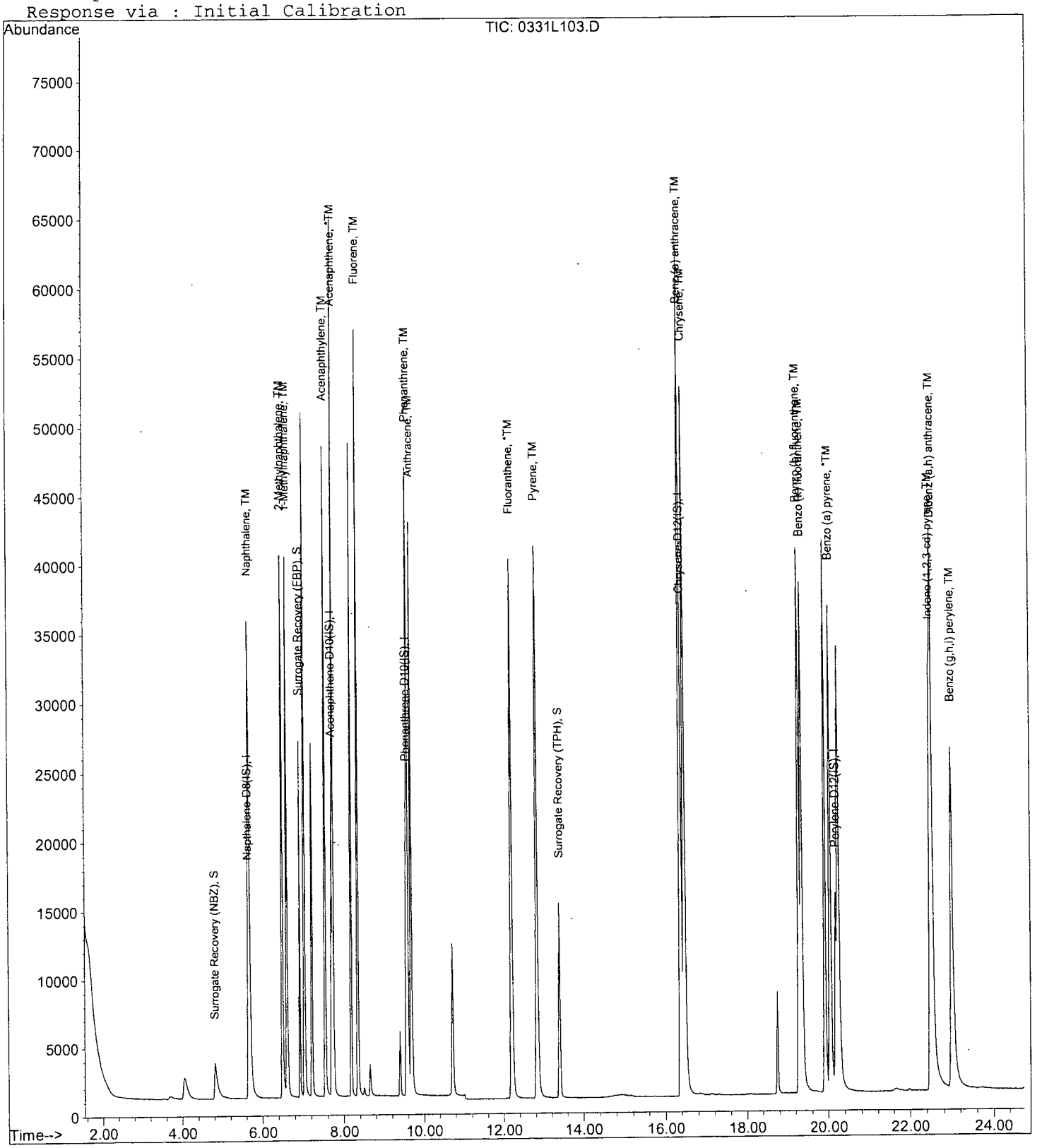
Data File : M:\LINUS\DATA\L170331\0331L103.D
Acq On : 11 Apr 17 17:08
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 3
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 11 17:34 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L124.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3140	14	S	
3	TM	Naphthalene	0.9995	1.101	10	TM	
4	TM	2-Methylnaphthalene	0.6388	0.6962	9.0	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7410	9.9	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.574	3.1	S	
8	TM	Acenaphthylene	1.991	2.220	12	TM	
9	*TM	Acenaphthene	1.152	1.290	12	*TM	
10	TM	Fluorene	1.305	1.464	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.060	12	TM	
14	*TM	Fluoranthene	1.537	1.714	12	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.575	10	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7429	6.8	S	
18	TM	Benz (a) anthracene	1.215	1.206	0.68	TM	
19	TM	Chrysene	1.232	1.348	9.5	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.109	2.7	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.230	4.0	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.087	0.96	TM	
24	*TM	Benzo (a) pyrene	1.216	1.301	7.0	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.092	5.3	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.091	1.7	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.8		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L124.D
Acq On : 12 Apr 17 4:00
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 24
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 8:47 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30996	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14458	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27736	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	31492	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	27335	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9733	2.16131 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.220%	
7) Surrogate Recovery (FBP)	6.92	172	22756	2.57669 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.540%	
17) Surrogate Recovery (TPH)	13.40	244	23395	2.32915 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.580%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	68271	5.50926 ppb	100
4) 2-Methylnaphthalene	6.48	142	43157	5.44889 ppb	97
5) 1-Methylnaphthalene	6.60	142	45935	5.49529 ppb	99
8) Acenaphthylene	7.53	152	64196	5.57515 ppb	99
9) Acenaphthene	7.74	154	37312	5.60107 ppb	99
10) Fluorene	8.34	166	42347	5.60921 ppb	97
12) Phenanthrene	9.60	178	60844	5.45974 ppb	100
13) Anthracene	9.68	178	58821	5.61079 ppb	100
14) Fluoranthene	12.20	202	95091	5.57647 ppb	99
16) Pyrene	12.82	202	99198	5.52054 ppb	97
18) Benz (a) anthracene	16.37	228	75988	4.96591 ppb	99
19) Chrysene	16.47	228	84912	5.47356 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.48	276	69821	4.86655 ppb #	90
22) Benzo (b) fluoranthene	19.27	252	67254	4.80098 ppb	99
23) Benzo (k) fluoranthene	19.34	252	59412	4.95176 ppb	99
24) Benzo (a) pyrene	20.05	252	71133	5.35100 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	59703	5.26270 ppb	98
26) Benzo (g,h,i) perylene	22.99	276	59632	4.91452 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

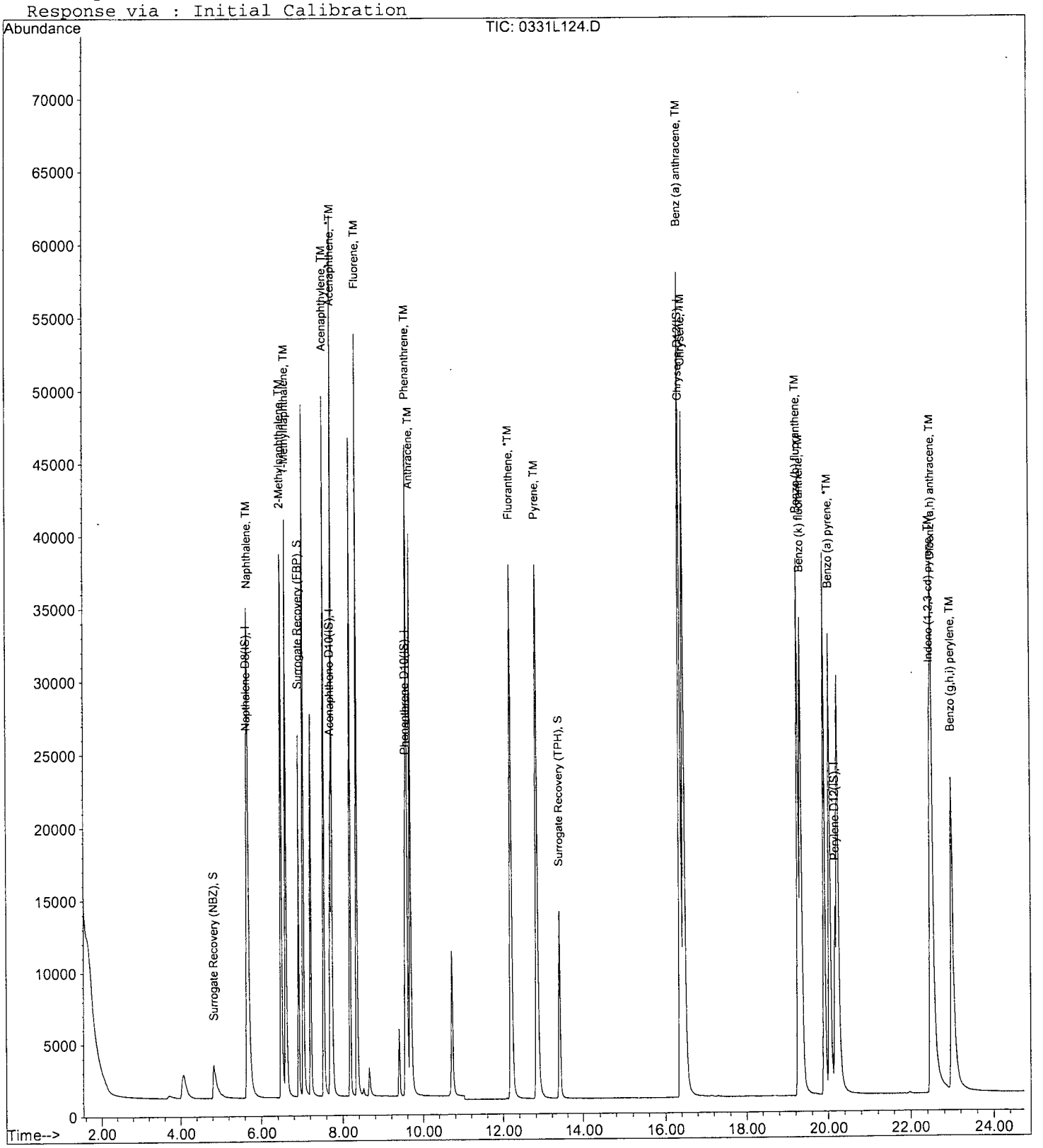
Data File : M:\LINUS\DATA\L170331\0331L124.D
Acq On : 12 Apr 17 4:00
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 24
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 8:47 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L135.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3193	12	S	
3	TM	Naphthalene	0.9995	1.107	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7194	13	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7324	8.6	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.555	1.8	S	
8	TM	Acenaphthylene	1.991	2.229	12	TM	
9	*TM	Acenaphthene	1.152	1.294	12	*TM	
10	TM	Fluorene	1.305	1.439	10	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.082	7.7	TM	
13	TM	Anthracene	0.9449	1.085	15	TM	
14	*TM	Fluoranthene	1.537	1.751	14	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.601	12	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7726	3.1	S	
18	TM	Benz (a) anthracene	1.215	1.313	8.1	TM	
19	TM	Chrysene	1.232	1.335	8.4	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.163	2.1	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.350	5.3	TM	
23	TM	Benzo (k) fluoranthene	1.097	1.045	4.7	TM	
24	*TM	Benzo (a) pyrene	1.216	1.332	9.5	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.100	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.113	0.31	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.4		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.64	136	29938	2.50000 ppb	-0.01
6) Acenaphthene-D10(IS)	7.70	164	14262	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27140	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	30771	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27319	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	9560	2.19791 ppb	0.00
Spiked Amount 5.000			Recovery	= 43.960%	
7) Surrogate Recovery (FBP)	6.92	172	22178	2.54576 ppb	0.00
Spiked Amount 5.000			Recovery	= 50.920%	
17) Surrogate Recovery (TPH)	13.39	244	23775	2.42245 ppb	-0.02
Spiked Amount 5.000			Recovery	= 48.440%	
Target Compounds					Qvalue
3) Naphthalene	5.66	128	66298	5.53912 ppb	100
4) 2-Methylnaphthalene	6.48	142	43076	5.63086 ppb	98
5) 1-Methylnaphthalene	6.59	142	43853	5.43161 ppb	98
8) Acenaphthylene	7.53	152	63588	5.59824 ppb	100
9) Acenaphthene	7.74	154	36903	5.61580 ppb	98
10) Fluorene	8.34	166	41050	5.51214 ppb	98
12) Phenanthrene	9.58	178	58748	5.38743 ppb	99
13) Anthracene	9.67	178	58889	5.74064 ppb	99
14) Fluoranthene	12.20	202	95061	5.69714 ppb	99
16) Pyrene	12.82	202	98550	5.61298 ppb	98
18) Benz (a) anthracene	16.37	228	80815	5.40511 ppb	99
19) Chrysene	16.47	228	82138	5.41881 ppb	100
20) Indeno (1,2,3-cd) pyrene	22.49	276	71565	5.10499 ppb #	93
22) Benzo (b) fluoranthene	19.27	252	73737	5.26686 ppb	99
23) Benzo (k) fluoranthene	19.34	252	57108	4.76252 ppb	99
24) Benzo (a) pyrene	20.05	252	72754	5.47614 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	60126	5.30309 ppb	100
26) Benzo (g,h,i) perylene	22.99	276	60821	5.01545 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

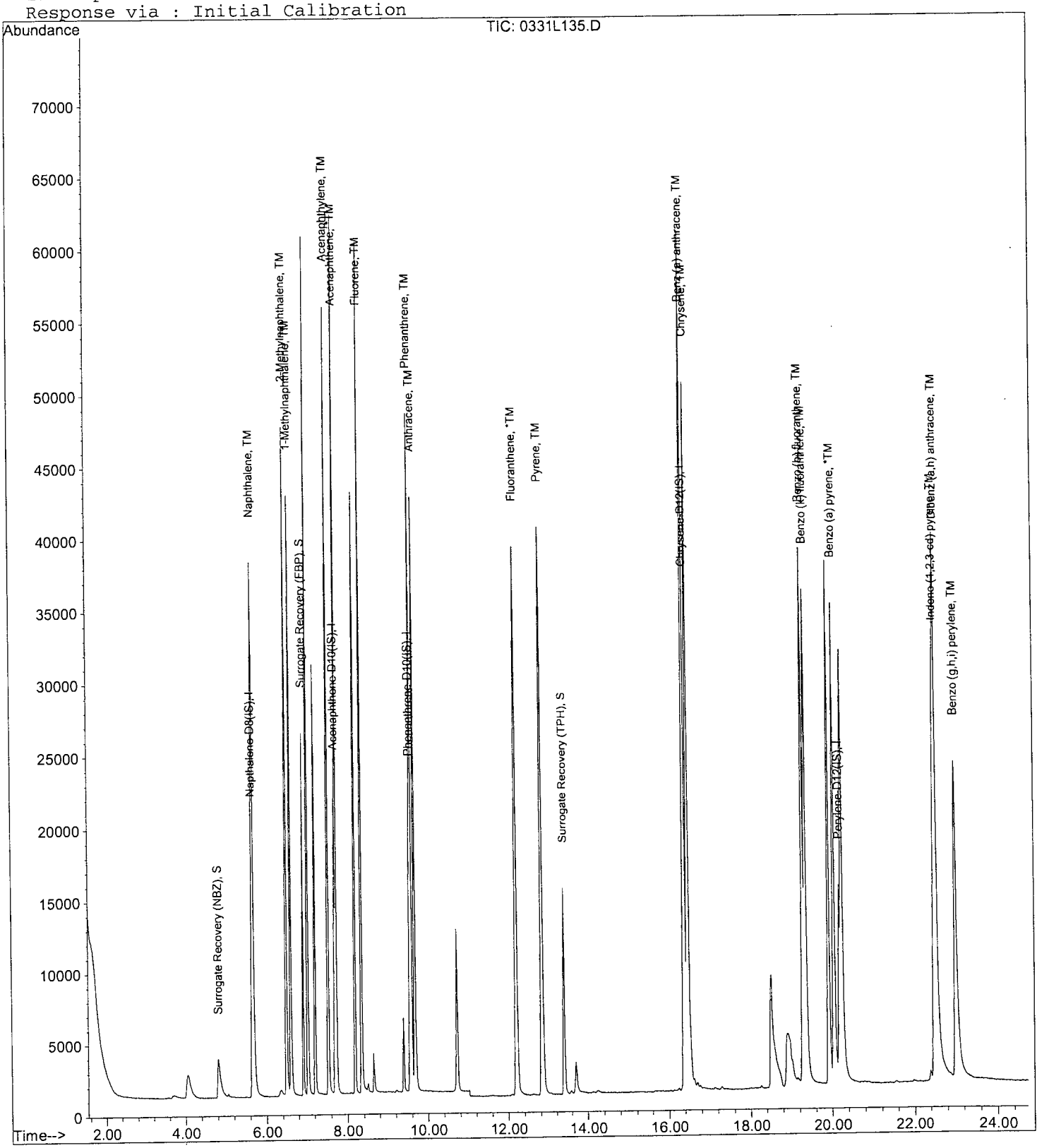
Data File : M:\LINUS\DATA\L170331\0331L135.D
Acq On : 12 Apr 17 11:49
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:14 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Linus
Initial Cal. Date: 03/31/17
Data File: 0331L146.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	S	Surrogate Recovery (NBZ)	0.3632	0.3162	13	S	
3	TM	Naphthalene	0.9995	1.105	11	TM	
4	TM	2-Methylnaphthalene	0.6388	0.7003	9.6	TM	
5	TM	1-Methylnaphthalene	0.6742	0.7455	11	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.527	1.561	2.2	S	
8	TM	Acenaphthylene	1.991	2.211	11	TM	
9	*TM	Acenaphthene	1.152	1.288	12	*TM	
10	TM	Fluorene	1.305	1.456	12	TM	
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TM	Phenanthrene	1.004	1.097	9.2	TM	
13	TM	Anthracene	0.9449	1.062	12	TM	
14	*TM	Fluoranthene	1.537	1.704	11	*TM	
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.426	1.557	9.1	TM	
17	S	Surrogate Recovery (TPH)	0.7974	0.7355	7.8	S	
18	TM	Benz (a) anthracene	1.215	1.214	0.07	TM	
19	TM	Chrysene	1.232	1.332	8.1	TM	
20	TM	Indeno (1,2,3-cd) pyrene	1.139	1.121	1.6	TM	
21	I	Perylene-D12(IS)	ISTD			I	
22	TM	Benzo (b) fluoranthene	1.281	1.281	0.03	TM	
23	TM	Benzo (k) fluoranthene	1.097	0.9463	14	TM	
24	*TM	Benzo (a) pyrene	1.216	1.305	7.3	*TM	
25	TM	Dibenz (a,h) anthracene	1.038	1.101	6.1	TM	
26	TM	Benzo (g,h,i) perylene	1.110	1.094	1.5	TM	
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.1		

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L146.D
Acq On : 12 Apr 17 17:31
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 46
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 17:57 2017

Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30201	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14177	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	27110	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	31144	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	27017	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.83	82	9550	2.17649 ppb	0.02
Spiked Amount 5.000			Recovery	= 43.520%	
7) Surrogate Recovery (FBP)	6.92	172	22135	2.55606 ppb	0.00
Spiked Amount 5.000			Recovery	= 51.120%	
17) Surrogate Recovery (TPH)	13.40	244	22905	2.30585 ppb	-0.01
Spiked Amount 5.000			Recovery	= 46.120%	
Target Compounds					Qvalue
3) Naphthalene	5.67	128	66761	5.52923 ppb	100
4) 2-Methylnaphthalene	6.49	142	42301	5.48140 ppb	99
5) 1-Methylnaphthalene	6.60	142	45029	5.52870 ppb	99
8) Acenaphthylene	7.54	152	62701	5.55325 ppb	99
9) Acenaphthene	7.74	154	36512	5.58961 ppb	99
10) Fluorene	8.35	166	41280	5.57626 ppb	99
12) Phenanthrene	9.60	178	59486	5.46114 ppb	100
13) Anthracene	9.68	178	57587	5.61993 ppb	100
14) Fluoranthene	12.21	202	92402	5.54391 ppb	98
16) Pyrene	12.83	202	96955	5.45600 ppb	98
18) Benz (a) anthracene	16.38	228	75608	4.99629 ppb	99
19) Chrysene	16.47	228	82950	5.40683 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.49	276	69839	4.92220 ppb #	92
22) Benzo (b) fluoranthene	19.27	252	69206	4.99848 ppb	99
23) Benzo (k) fluoranthene	19.34	252	51133	4.31190 ppb	98
24) Benzo (a) pyrene	20.05	252	70494	5.36534 ppb	99
25) Dibenz (a,h) anthracene	22.53	278	59482	5.30493 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	59089	4.92709 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

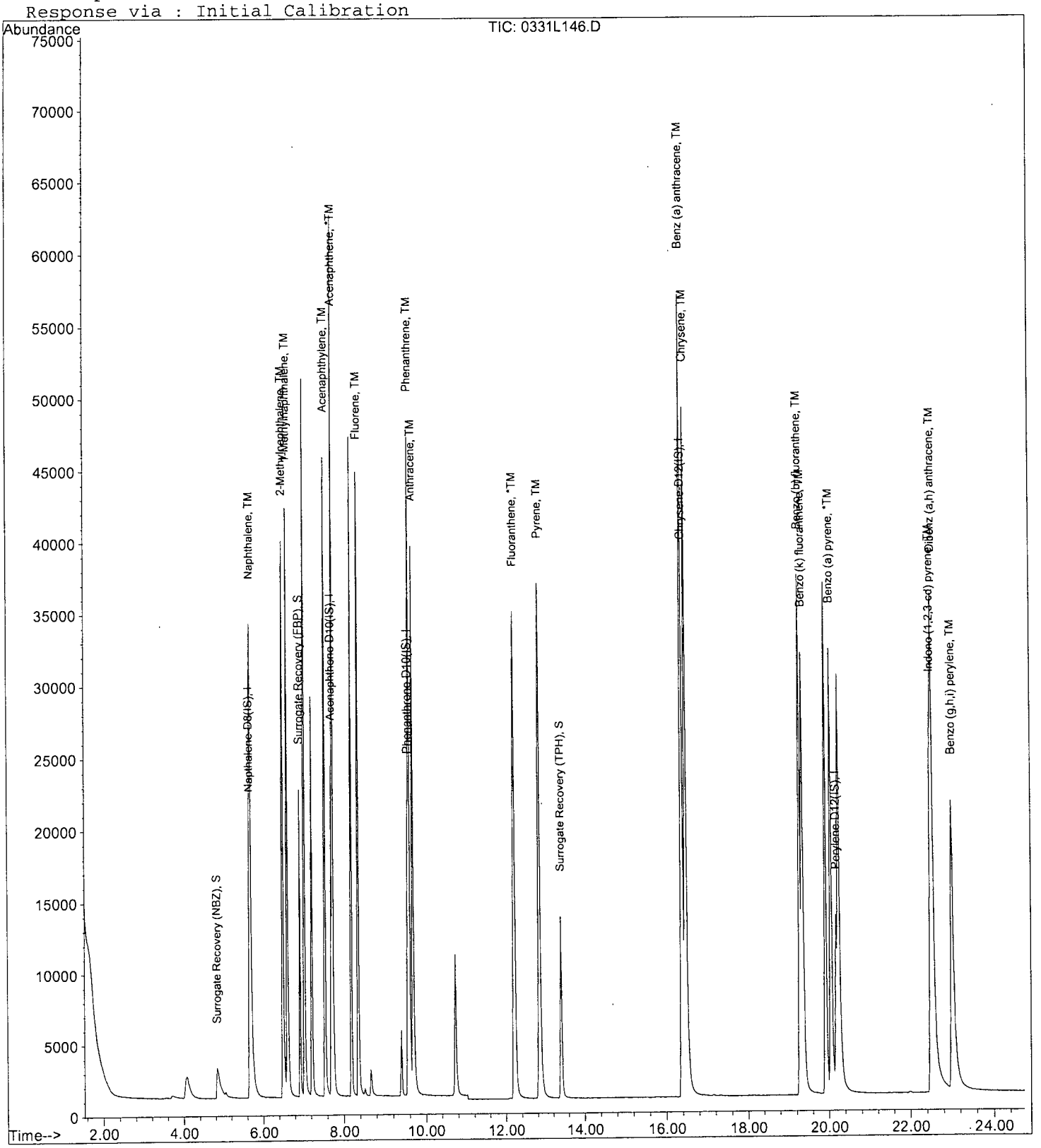
Data File : M:\LINUS\DATA\L170331\0331L146.D
Acq On : 12 Apr 17 17:31
Sample : 5.0 SIM 04/10/17
Misc : water

Vial: 46
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 17:57 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D SIM

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53168 - 217775**
Batch ID: #SIMDO-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	2-METHYLNAPHTHALENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ACENAPHTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ACENAPHTHYLENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	BENZO(A)ANTHRACENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	BENZO(A)PYRENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	BENZO(B)FLUORANTHENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	BENZO(GHI)PERYLENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	BENZO(K)FLUORANTHENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	CHRYSENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	DIBENZ(A,H)ANTHRACENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	FLUORANTHENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	FLUORENE	0.10 U	0.2	0.10	0.06	ug/L	04/10/17	04/11/17
BLANK	INDENO(1,2,3-CD)PYRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	NAPHTHALENE	0.10 U	0.2	0.10	0.05	ug/L	04/10/17	04/11/17
BLANK	PHENANTHRENE	0.10 U	0.2	0.10	0.07	ug/L	04/10/17	04/11/17
BLANK	PYRENE	0.10 U	0.2	0.10	0.08	ug/L	04/10/17	04/11/17
BLANK	SURROGATE: 2-FLUORBIPHENY	56.0	53-106			%	04/10/17	04/11/17
BLANK	SURROGATE: NITROBENZENE-	71.2	55-111			%	04/10/17	04/11/17
BLANK	SURROGATE: TERPHENYL-D14 (	82.5	58-132			%	04/10/17	04/11/17

Quant Method:L0331P.M
Run #:0331L104
Instrument:Linus
Sequence:L170331
Initials:RHA

GC SC-Blank-REG MDLs-DOD
Printed: 04/12/17 3:36:13 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L104.D Vial: 4
Acq On : 11 Apr 17 17:44 Operator: MA
Sample : 170410A BLK 1/1000 Inst : Linus
Misc : water Multiplr: 1.00

Quant Time: Apr 12 15:16 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32671	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	16047	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	31219	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.41	240	36292	2.50000 ppb	0.00
21) Perylene-D12(IS)	20.19	264	32676	2.50000 ppb	0.00
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	16909	3.56230 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.240%	
7) Surrogate Recovery (FBP)	6.92	172	27444	2.79981 ppb	0.00
Spiked Amount 5.000			Recovery	= 56.000%	
17) Surrogate Recovery (TPH)	13.40	244	47727	4.12314 ppb	-0.01
Spiked Amount 5.000			Recovery	= 82.460%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

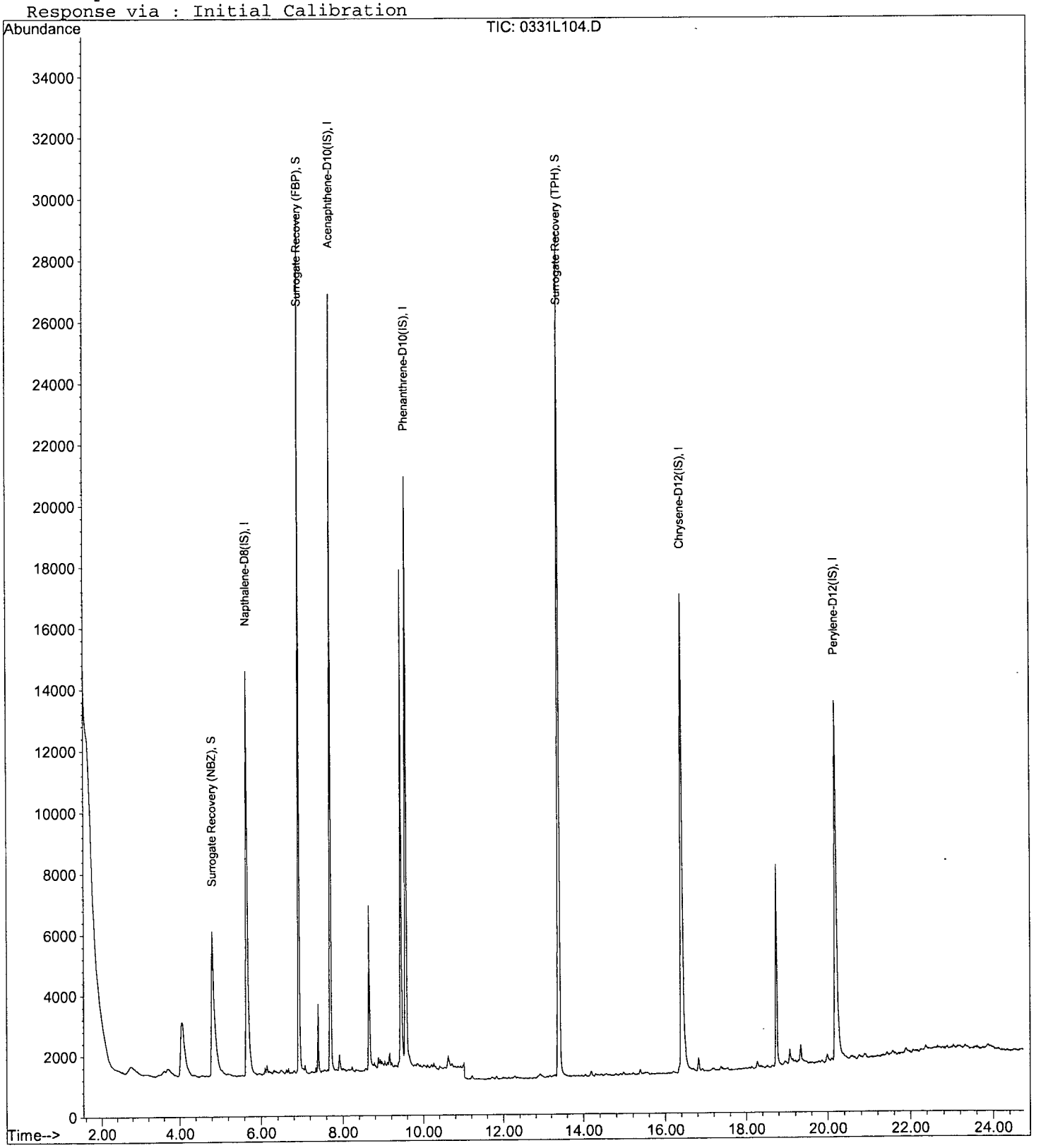
Data File : M:\LINUS\DATA\L170331\0331L104.D
Acq On : 11 Apr 17 17:44
Sample : 170410A BLK 1/1000
Misc : water

Vial: 4
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D SIM

APPL ID: **170410W-53168 LCS - 217775**
Batch ID: #SIMDO-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1-METHYLNAPHTHALENE	5.00	3.16	63.2	41-115
2-METHYLNAPHTHALENE	5.00	3.08	61.6	39-114
ACENAPHTHENE	5.00	3.71	74.2	48-114
ACENAPHTHYLENE	5.00	3.80	76.0	35-121
ANTHRACENE	5.00	4.54	90.8	53-119
BENZO(A)ANTHRACENE	5.00	4.54	90.8	59-120
BENZO(A)PYRENE	5.00	4.67	93.4	53-120
BENZO(B)FLUORANTHENE	5.00	4.76	95.2	53-126
BENZO(GHI)PERYLENE	5.00	4.43	88.6	44-128
BENZO(K)FLUORANTHENE	5.00	4.17	83.4	54-125
CHRYSENE	5.00	4.80	96.0	57-120
DIBENZ(A,H)ANTHRACENE	5.00	4.74	94.8	44-131
FLUORANTHENE	5.00	4.89	97.8	58-120
FLUORENE	5.00	4.19	83.8	50-118
INDENO(1,2,3-CD)PYRENE	5.00	4.42	88.4	48-130
NAPHTHALENE	5.00	3.15	63.0	43-114
PHENANTHRENE	5.00	4.42	88.4	53-115
PYRENE	5.00	4.75	95.0	53-121
SURROGATE: 2-FLUORBIPHENYL (S)	5.00	2.67	53.4	53-106
SURROGATE: NITROBENZENE-D5 (S)	5.00	3.55	71.0	55-111
SURROGATE: TERPHENYL-D14 (S)	5.00	4.23	84.6	58-132

Comments: _____

Primary	SPK
Quant Method :	L0331P.M
Extraction Date :	04/10/17
Analysis Date :	04/12/17
Instrument :	Linus
Run :	0331L136
Initials :	RHA

Printed: 04/12/17 3:36:05 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L136.D
Acq On : 12 Apr 17 12:21
Sample : 170410A LCS-1 1/1000
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:47 2017
Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	37131	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	18196	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	35898	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.39	240	41437	2.50000 ppb	-0.02
21) Perylene-D12(IS)	20.18	264	36371	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	19156	3.55094 ppb	0.00
Spiked Amount 5.000			Recovery	= 71.020%	
7) Surrogate Recovery (FBP)	6.92	172	29714	2.67338 ppb	0.00
Spiked Amount 5.000			Recovery	= 53.460%	
17) Surrogate Recovery (TPH)	13.39	244	55938	4.23247 ppb	-0.02
Spiked Amount 5.000			Recovery	= 84.640%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	46730	3.14791 ppb		99
4) 2-Methylnaphthalene	6.48	142	29191	3.07663 ppb		97
5) 1-Methylnaphthalene	6.60	142	31602	3.15595 ppb		100
8) Acenaphthylene	7.53	152	55118	3.80342 ppb		99
9) Acenaphthene	7.74	154	31113	3.71105 ppb		97
10) Fluorene	8.34	166	39805	4.18937 ppb		97
12) Phenanthrene	9.58	178	63726	4.41819 ppb		99
13) Anthracene	9.68	178	61577	4.53820 ppb		100
14) Fluoranthene	12.20	202	108000	4.89348 ppb		98
16) Pyrene	12.82	202	112206	4.74577 ppb		98
18) Benz (a) anthracene	16.37	228	91432	4.54113 ppb		99
19) Chrysene	16.47	228	98041	4.80309 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.48	276	83464	4.42126 ppb	#	92
22) Benzo (b) fluoranthene	19.27	252	88677	4.75759 ppb		100
23) Benzo (k) fluoranthene	19.34	252	66498	4.16541 ppb		99
24) Benzo (a) pyrene	20.05	252	82599	4.66984 ppb		100
25) Dibenz (a,h) anthracene	22.53	278	71516	4.73783 ppb		100
26) Benzo (g,h,i) perylene	22.99	276	71584	4.43386 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

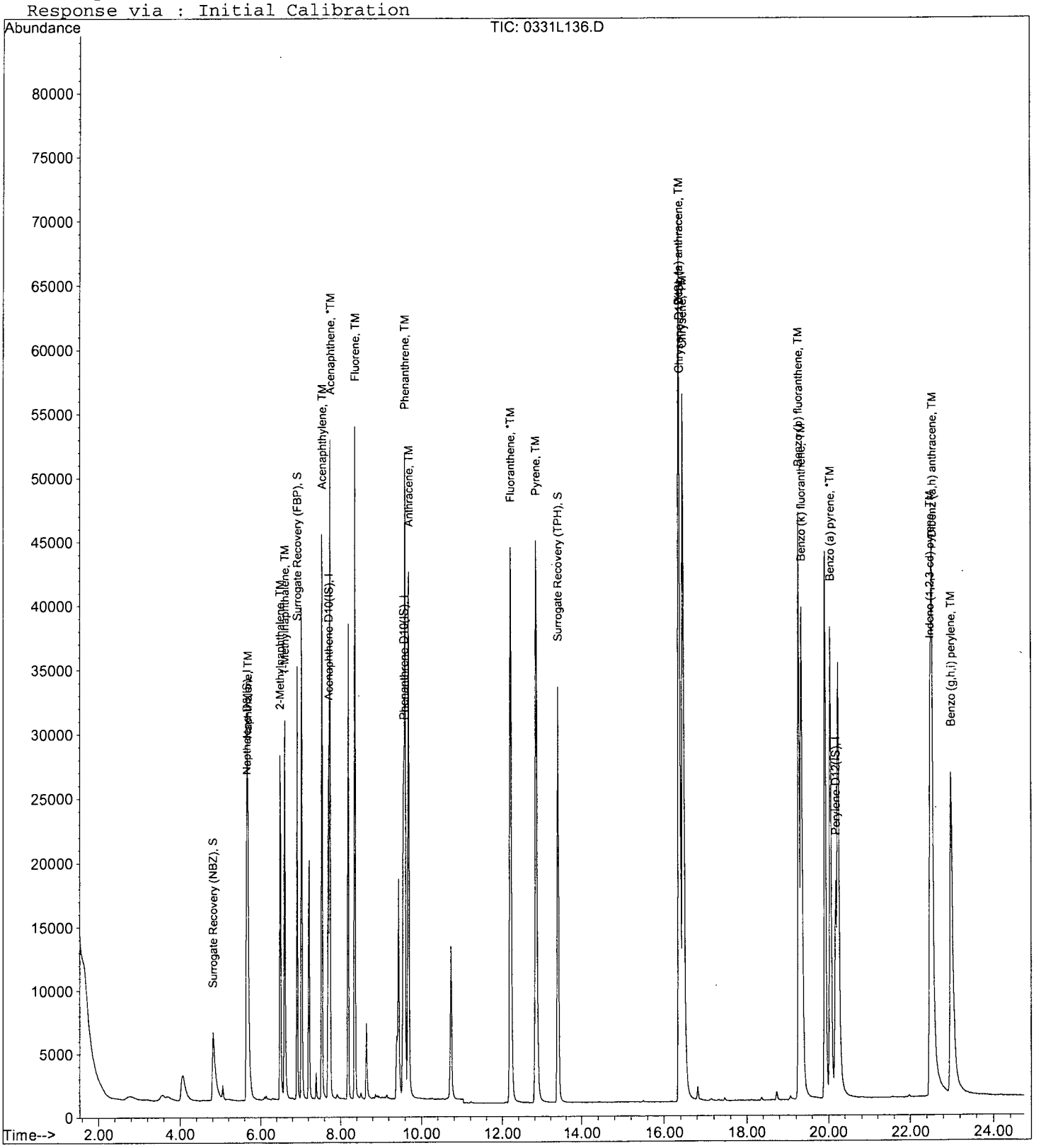
Data File : M:\LINUS\DATA\L170331\0331L136.D
Acq On : 12 Apr 17 12:21
Sample : 170410A LCS-1 1/1000
Misc : water

Vial: 36
Operator: MA
Inst : Linus
Multiplr: 1.00

Quant Time: Apr 12 12:47 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D SIM

APPL ID: **170410W-53168 MS - 217775**
Batch ID: #SIMDO-170410A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1-METHYLNAPHTHALENE	4.76	ND	2.80	2.56	58.8	53.8	41-115	9.0	20
2-METHYLNAPHTHALENE	4.76	ND	2.69	2.50	56.5	52.5	39-114	7.3	20
ACENAPHTHENE	4.76	ND	3.37	3.04	70.8	63.9	48-114	10.3	20
ACENAPHTHYLENE	4.76	ND	3.49	3.20	73.3	67.2	35-121	8.7	20
ANTHRACENE	4.76	ND	4.10	3.79	86.1	79.6	53-119	7.9	20
BENZO(A)ANTHRACENE	4.76	ND	4.13	3.87	86.8	81.3	59-120	6.5	20
BENZO(A)PYRENE	4.76	ND	4.21	3.88	88.4	81.5	53-120	8.2	20
BENZO(B)FLUORANTHENE	4.76	ND	4.12	3.84	86.6	80.7	53-126	7.0	20
BENZO(GHI)PERYLENE	4.76	ND	3.97	3.71	83.4	77.9	44-128	6.8	20
BENZO(K)FLUORANTHENE	4.76	ND	3.81	3.46	80.0	72.7	54-125	9.6	20
CHRYSENE	4.76	ND	4.26	3.92	89.5	82.4	57-120	8.3	20
DIBENZ(A,H)ANTHRACENE	4.76	ND	4.23	3.97	88.9	83.4	44-131	6.3	20
FLUORANTHENE	4.76	ND	4.45	4.18	93.5	87.8	58-120	6.3	20
FLUORENE	4.76	ND	3.87	3.59	81.3	75.4	50-118	7.5	20
INDENO(1,2,3-CD)PYRENE	4.76	ND	3.94	3.66	82.8	76.9	48-130	7.4	20
NAPHTHALENE	4.76	ND	2.82	2.67	59.2	56.1	43-114	5.5	20
PHENANTHRENE	4.76	ND	4.10	3.77	86.1	79.2	53-115	8.4	20
PYRENE	4.76	ND	4.25	4.00	89.3	84.0	53-121	6.1	20
SURROGATE: 2-FLUORBIPHENYL (S)	4.76	NA	2.51	2.55	52.7	53.6	53-106		
SURROGATE: NITROBENZENE-D5 (S)	4.76	NA	3.35	3.23	70.4	67.9	55-111		
SURROGATE: TERPHENYL-D14 (S)	4.76	NA	3.87	3.54	81.3	74.4	58-132		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	L0331P.M	L0331P.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/11/17	04/11/17
Instrument :	Linus	Linus
Run :	0331L107	0331L108
Initials :	RHA	

Printed: 04/12/17 3:57:00 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L107.D Vial: 7
Acq On : 11 Apr 17 19:22 Operator: MA
Sample : AZ53168W34 MS-1 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 12 8:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	30840	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	14927	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	29214	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	34322	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	30142	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.81	82	15745	3.34668 ppb	0.00
Spiked Amount 4.762			Recovery	= 70.287%	
7) Surrogate Recovery (FBP)	6.92	172	24029	2.50985 ppb	0.00
Spiked Amount 4.762			Recovery	= 52.710%	
17) Surrogate Recovery (TPH)	13.40	244	44532	3.87423 ppb	-0.01
Spiked Amount 4.762			Recovery	= 81.354%	

Target Compounds					Qvalue
3) Naphthalene	5.67	128	36474	2.81736 ppb	100
4) 2-Methylnaphthalene	6.49	142	22285	2.69321 ppb	100
5) 1-Methylnaphthalene	6.60	142	24484	2.80369 ppb	100
8) Acenaphthylene	7.54	152	43571	3.49054 ppb	100
9) Acenaphthene	7.74	154	24337	3.37004 ppb	98
10) Fluorene	8.34	166	31703	3.87370 ppb	97
12) Phenanthrene	9.60	178	50567	4.10284 ppb	99
13) Anthracene	9.68	178	47526	4.09908 ppb	100
14) Fluoranthene	12.20	202	83884	4.44798 ppb	99
16) Pyrene	12.83	202	87457	4.25315 ppb	99
18) Benz (a) anthracene	16.37	228	72316	4.12977 ppb	100
19) Chrysene	16.47	228	75571	4.25690 ppb	99
20) Indeno (1,2,3-cd) pyrene	22.49	276	64761	3.94445 ppb #	93
22) Benzo (b) fluoranthene	19.27	252	66764	4.11634 ppb	99
23) Benzo (k) fluoranthene	19.34	252	52865	3.80549 ppb	99
24) Benzo (a) pyrene	20.05	252	64857	4.21384 ppb	100
25) Dibenz (a,h) anthracene	22.53	278	55616	4.23418 ppb	98
26) Benzo (g,h,i) perylene	23.00	276	55744	3.96787 ppb	97

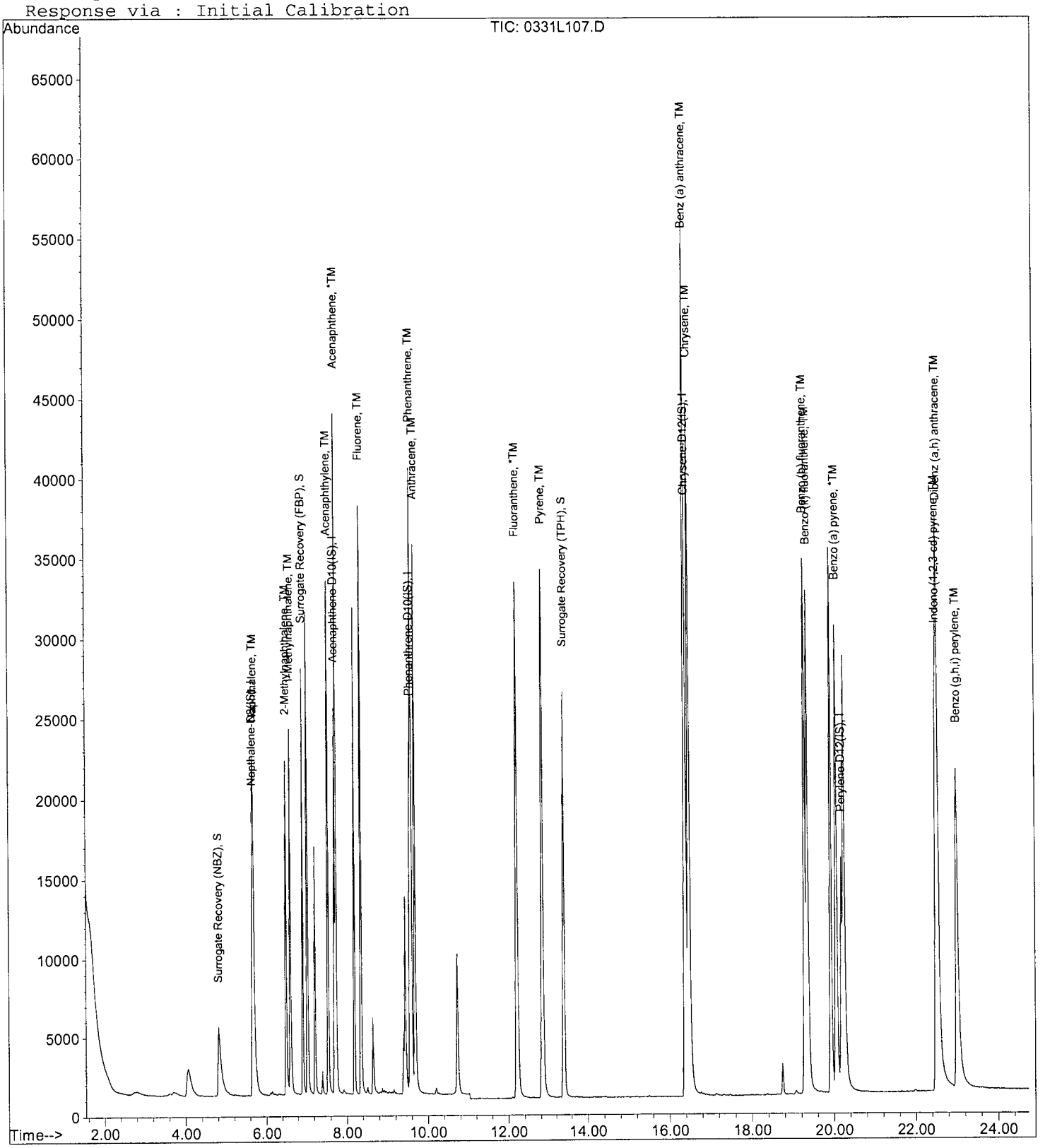
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L170331\0331L107.D Vial: 7
Acq On : 11 Apr 17 19:22 Operator: MA
Sample : AZ53168W34 MS-1 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 12 8:51 2017 Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L170331\0331L108.D Vial: 8
Acq On : 11 Apr 17 19:54 Operator: MA
Sample : AZ53168W33 MSD-1 1/1050 Inst : Linus
Misc : water Multiplr: 0.95

Quant Time: Apr 12 8:51 2017 Quant Results File: L0331P.RES

Quant Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration
DataAcq Meth : SIM_ROB

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	5.65	136	32020	2.50000 ppb	0.00
6) Acenaphthene-D10(IS)	7.70	164	15574	2.50000 ppb	0.00
11) Phenanthrene-D10(IS)	9.56	188	30569	2.50000 ppb	0.00
15) Chrysene-D12(IS)	16.40	240	35852	2.50000 ppb	-0.01
21) Perylene-D12(IS)	20.18	264	31257	2.50000 ppb	-0.01
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	4.82	82	15768	3.22805 ppb	0.01
Spiked Amount 4.762			Recovery	= 67.788%	
7) Surrogate Recovery (FBP)	6.92	172	25460	2.54885 ppb	0.00
Spiked Amount 4.762			Recovery	= 53.529%	
17) Surrogate Recovery (TPH)	13.39	244	42503	3.53991 ppb	-0.02
Spiked Amount 4.762			Recovery	= 74.340%	

Target Compounds						Qvalue
3) Naphthalene	5.67	128	35836	2.66607 ppb		99
4) 2-Methylnaphthalene	6.49	142	21458	2.49770 ppb		100
5) 1-Methylnaphthalene	6.60	142	23251	2.56438 ppb		99
8) Acenaphthylene	7.53	152	41690	3.20110 ppb		99
9) Acenaphthene	7.74	154	22893	3.03839 ppb		98
10) Fluorene	8.34	166	30649	3.58933 ppb		97
12) Phenanthrene	9.60	178	48635	3.77117 ppb		100
13) Anthracene	9.68	178	45986	3.79045 ppb		100
14) Fluoranthene	12.20	202	82574	4.18443 ppb		99
16) Pyrene	12.83	202	85919	4.00004 ppb		100
18) Benz (a) anthracene	16.37	228	70838	3.87273 ppb		100
19) Chrysene	16.47	228	72663	3.91842 ppb		99
20) Indeno (1,2,3-cd) pyrene	22.49	276	62830	3.66353 ppb	#	94
22) Benzo (b) fluoranthene	19.28	252	64618	3.84191 ppb		99
23) Benzo (k) fluoranthene	19.34	252	49838	3.45962 ppb		98
24) Benzo (a) pyrene	20.05	252	61979	3.88320 ppb		99
25) Dibenz (a,h) anthracene	22.53	278	54129	3.97397 ppb		99
26) Benzo (g,h,i) perylene	23.00	276	54050	3.71005 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

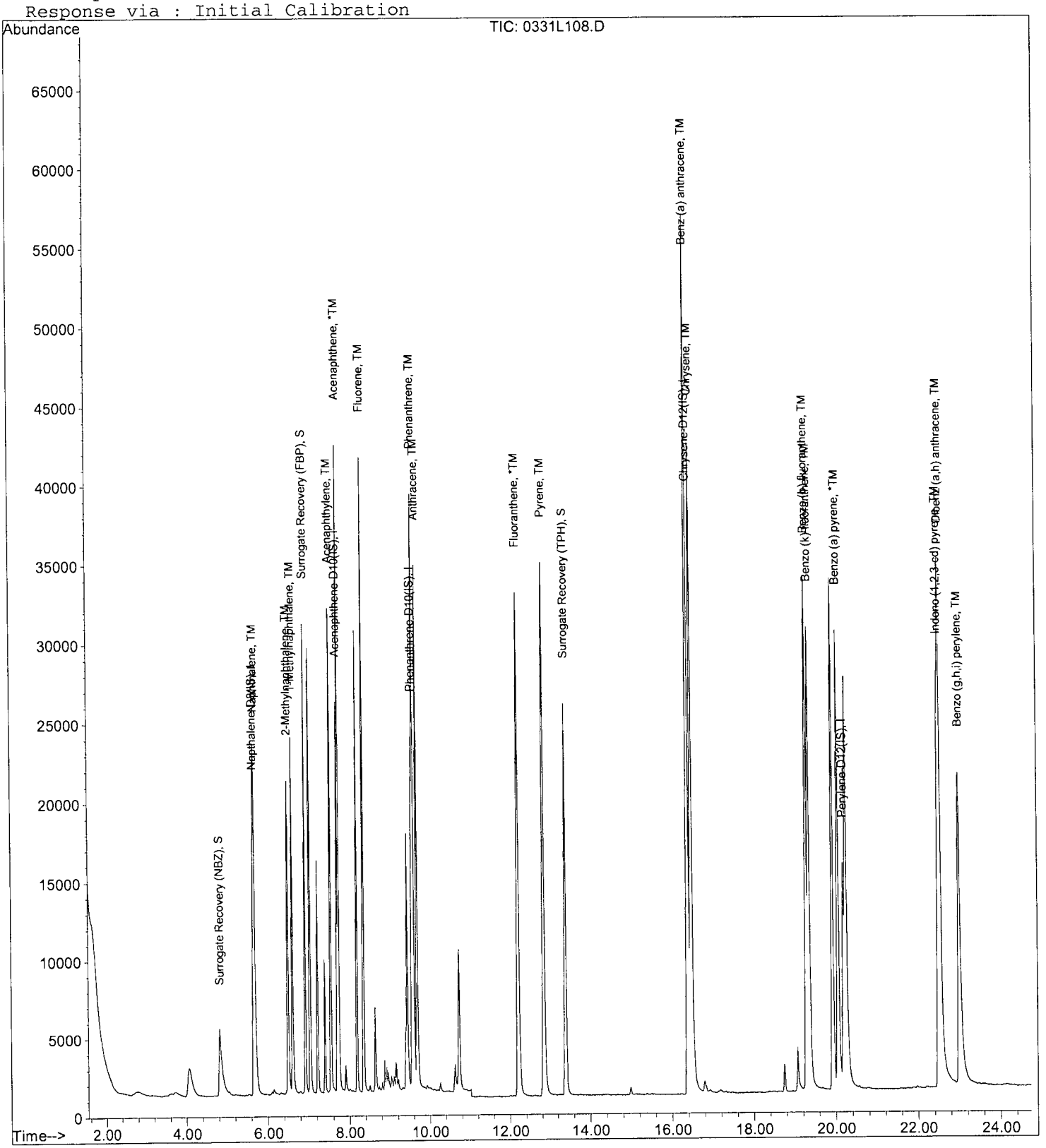
Data File : M:\LINUS\DATA\L170331\0331L108.D
Acq On : 11 Apr 17 19:54
Sample : AZ53168W33 MSD-1 1/1050
Misc : water

Vial: 8
Operator: MA
Inst : Linus
Multiplr: 0.95

Quant Time: Apr 12 8:51 2017

Quant Results File: L0331P.RES

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270
Last Update : Fri Mar 31 17:05:00 2017
Response via : Initial Calibration

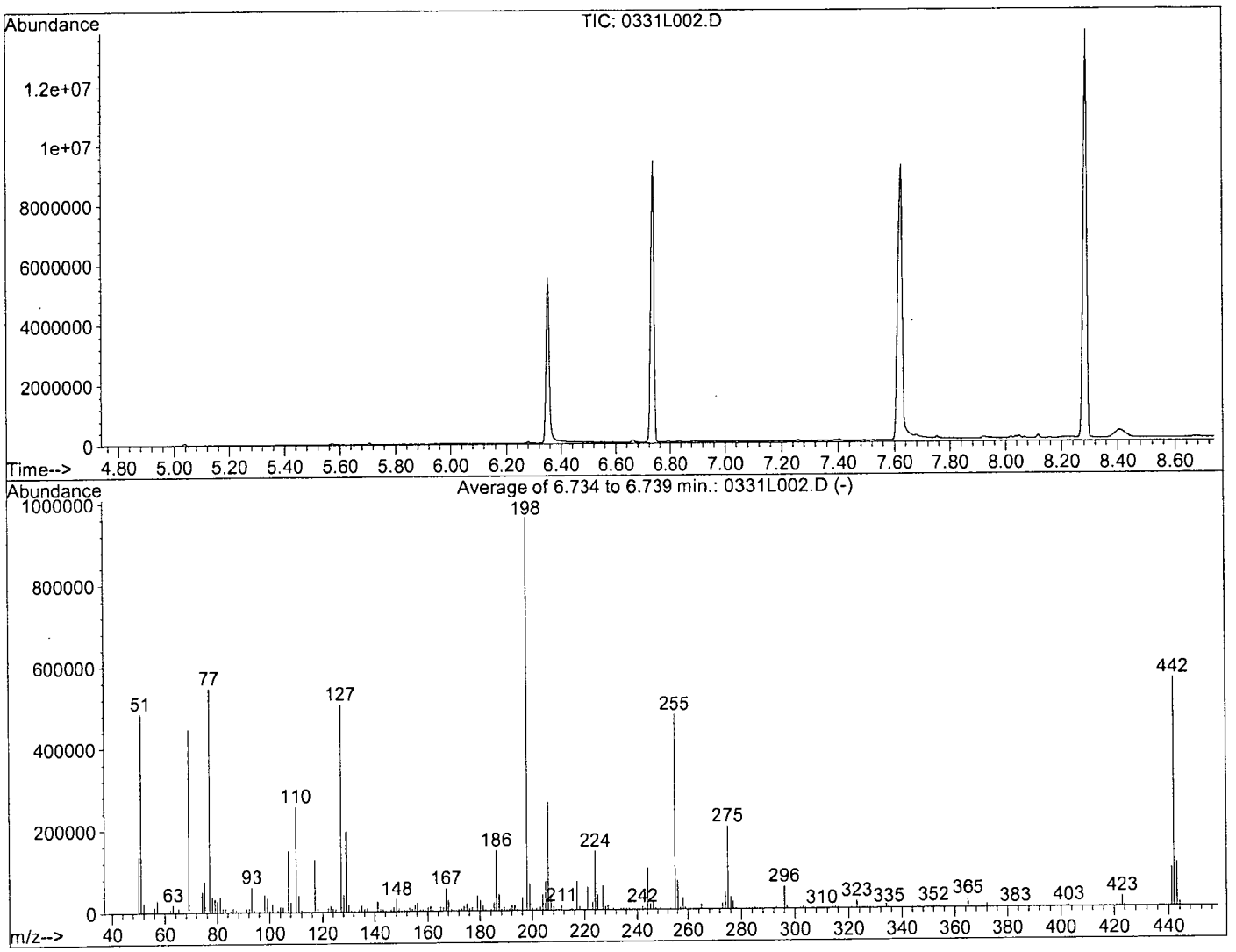


DFTPP

Data File : M:\LINUS\DATA\L170331\0331L002.D
Acq On : 31 Mar 17 12:25
Sample : SV Tune 03/29/17
Misc : water

Vial: 2
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.734 to 6.739 min.

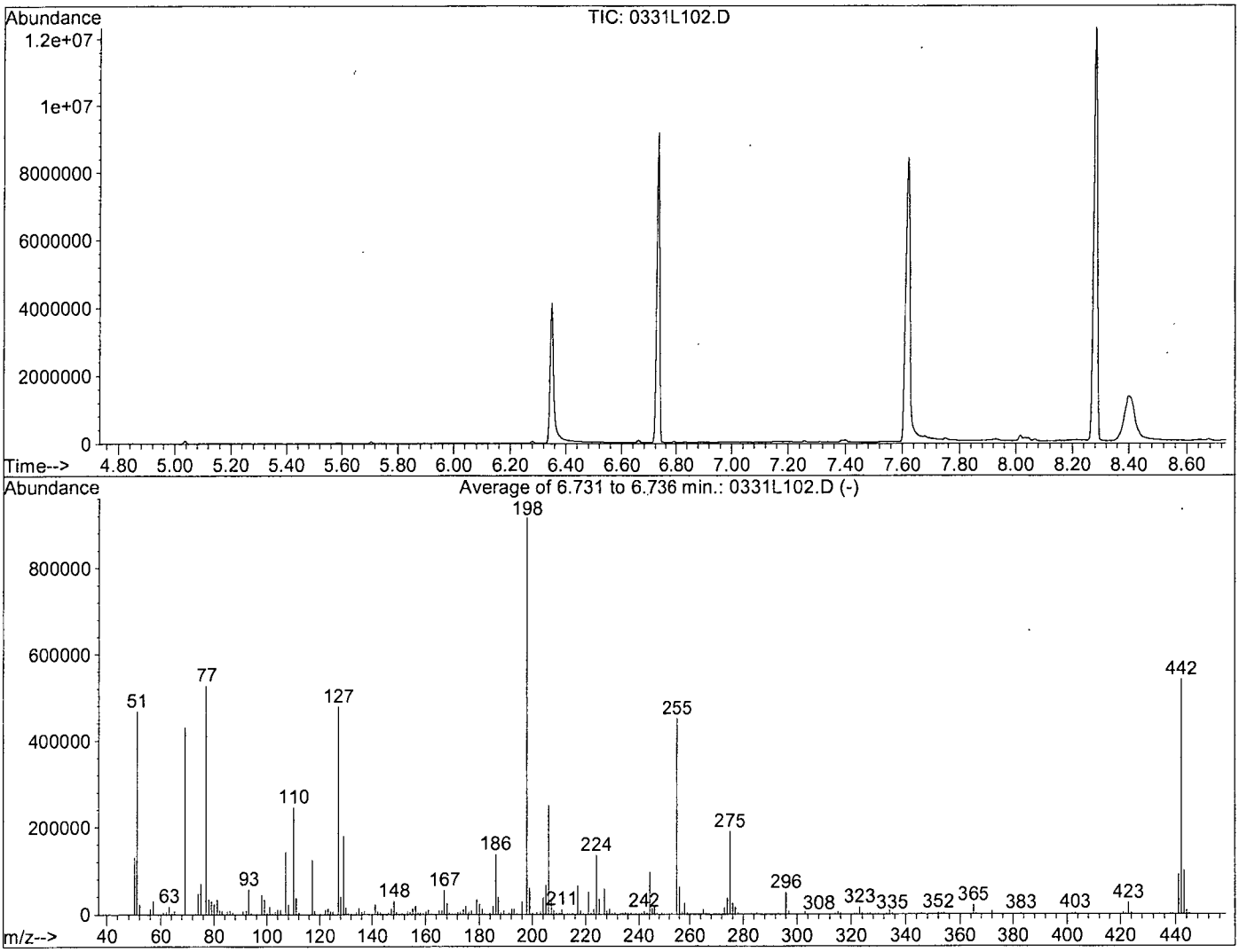
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	50.5	485624	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	448712	PASS
70	69	0.00	2	0.7	2962	PASS
127	198	40	60	52.7	507072	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	961984	PASS
199	198	5	9	6.7	64531	PASS
275	198	10	30	20.9	200832	PASS
365	198	1	100	2.3	21965	PASS
441	443	0.01	100	88.1	94480	PASS
442	198	40	150	58.2	559851	PASS
443	442	17	23	19.2	107229	PASS

0331L002.D DFTPP2.M Wed Apr 05 13:29:00 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L102.D Vial: 2
Acq On : 11 Apr 17 16:52 Operator: MA
Sample : SV Tune 3/29/17 Inst : Linus
Misc : water Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\DFTPP2.M (Chemstation Integrator)
Title :



Spectrum Information: Average of 6.731 to 6.736 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.1	468568	PASS
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	431709	PASS
70	69	0.00	2	0.4	1742	PASS
127	198	40	60	52.3	479445	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	916620	PASS
199	198	5	9	6.4	58976	PASS
275	198	10	30	20.6	189248	PASS
365	198	1	100	2.3	20723	PASS
441	443	0.01	100	90.6	90496	PASS
442	198	40	150	59.1	541483	PASS
443	442	17	23	18.4	99845	PASS

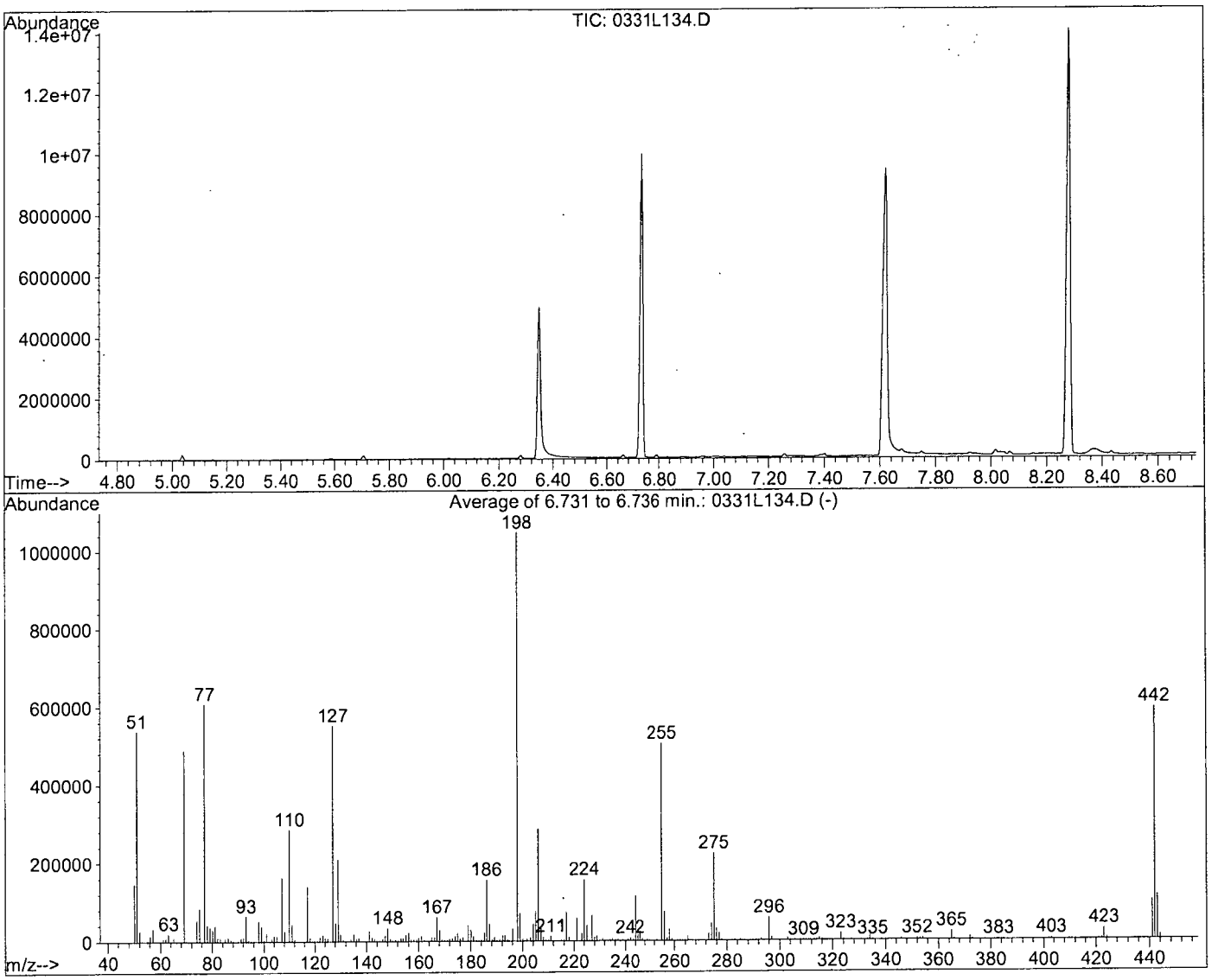
0331L102.D DFTPP2.M Fri Apr 14 14:09:20 2017

DFTPP

Data File : M:\LINUS\DATA\L170331\0331L134.D
Acq On : 12 Apr 17 9:31
Sample : SV Tune 3/29/17
Misc : water

Vial: 30
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L170331\L0331P.M (RTE Integrator)
Title : EPA 8270



AutoFind: Scans 1665, 1666, 1667; Background Corrected with Scan 1654

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	51.4	537909	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	2832	PASS
127	198	40	60	52.6	551488	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	1047509	PASS
199	198	5	9	6.7	70512	PASS
275	198	10	30	21.2	222571	PASS
365	198	1	100	2.2	22539	PASS
441	443	0.01	100	88.3	99301	PASS
442	198	50	150	56.6	593365	PASS
443	442	17	23	19.0	112445	PASS

0331L134.D L0331P.M Wed Apr 12 11:51:16 2017

8270 PAH SIM Standard Curve

PREP DATE:	03/31/17 RH												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	**09/15/17**					**0.1**	**0.2**	**0.5**	**1**	**5**	**10**	**50**	**100**
		Conc.		Date									
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL	µL
O2si	8270 PAH SIM S	200	291544-37181	03/31/17	03/31/18	0	0	0	0	5	5	25	50
	5.0ug/mL	5		03/31/17	09/15/17	0	0	10	20	0	0	0	0
	1.0ug/mL	1		03/31/17	09/15/17	10	20	0	0	0	0	0	0
RESTEK	BNA SURR.	100/200		3/15/17	09/15/17	0	0	0	0	5	5	25	50
EM Science	Methylene Chloride		56061			90	80	90	80	190	90	50	0
Supelco	SV Internal St	2000	XA14020V-36768	10/10/16	10/10/17	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS						
PREP DATE:	03/31/17 RH					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	06/21/17					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	110780-01-SS	200	243842-37537	01/24/17	06/21/17	5
EM Science	Methylene Chloride		56061			195
Supelco	SV Internal Stand	2000	XA14020V-36768	10/10/16	10/10/17	4
				Final Vol.		204

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

PAH SIM STD prep: 03/31/17 -R.H.						
Exp:	03/31/18					
		Conc.				
Supplier	ID #	mg/L	Lot #	Open Date	Exp.Date	µL
o2si	110780-01	200	291544-37181	03/31/17	03/31/18	1000
				Fin Vol.		1000

8270 SIM PAH Internal Standard						
PREP DATE:	10/10/16 RH.					
8270 SIM PAH Internal Standard Mix 125ug/ml						
Exp.DATE:	10/10/17					
		Conc.		Date	Exp.	**125**
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Supelco	SV Internal	2000	XA14020V-36768	10/10/16	10/10/17	350
EM Science	Methylene Chloride		56061			5250
				Final Vol.		5600

SIM SPIKE	
CAT:	110780-01
Lot:	291544-37665
OP: 04/10/17 RH	
EX: 04/10/18	

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9 ~~15-17~~ 2/8/18	
Spiked ID 2			Surrogate ID 2	RH 4/13/17	
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/10/17 18:20	
Spiked ID 8			Ext. End Time:	04/11/17 15:30	
			GC Requires Extract By:	04/12/17 0:00	

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				0.050	1 equip	1000 e-wb7	1	2/1	04/10/17 18:20	
2	170410A LCS-1		0.0250	1	0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	
3	AZ52849	AZ52849W02			0.050	1 equip	1060 E-WB5	1	2/1	04/10/17 18:20	82558 rx
4	AZ53168 MS-1	AZ53168W34	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
5	AZ53168 MSD-1	AZ53168W33	0.0250	1	0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
6	AZ53168	AZ53168W36			0.050	1 equip	1050 E-WB7	1	2/1	04/10/17 18:20	82619
7	AZ53169	AZ53169W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
8	AZ53170	AZ53170W12			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82619
9	AZ53172	AZ53172W09			0.050	1 equip	1070 E-WB7	1	2/1	04/10/17 18:20	82596
10	AZ53174	AZ53174W13			0.050	1 equip	1040 E-WB7	1	2/1	04/10/17 18:20	82596
11	AZ53176	AZ53176W14			0.050	1 equip	1000 E-WB7	1	2/1	04/10/17 18:20	82596
12	AZ53178	AZ53178W12			0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82596
13	AZ53180	AZ53180W12			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82596
14	AZ53192 MS-1	AZ53192W19	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
15	AZ53192 MSD-1	AZ53192W22	0.0250	1	0.050	1 equip	1050 E-WB6	1	2/1	04/10/17 18:20	82598
16	AZ53192	AZ53192W18			0.050	1 equip	1060 E-WB6	1	2/1	04/10/17 18:20	82598

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/11/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: KY **Date** 4/12/17

_SEP004S

Organic Extraction Worksheet

Method	SIM Separatory Funnel Extra 3510C	Extraction Set	170410A	Extraction Method	SEP004S	Units	mL

Spiked ID 1	PAH SIM Spike 4-10-17 exp 4-10-18		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 18:20
Spiked ID 8			Ext. End Time:	04/11/17 15:30
			GC Requires Extract By:	04/12/17 0:00

pH1	2	04/10/17 6:30:00 PM	Water Bath Temp Criteria	72,74,72 °
pH2	14	04/11/17 12:00:00 PM		
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** DL **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53193	AZ53193W08			0.050	1	1050	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
18	AZ53194	AZ53194W06			0.050	1	1040	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
19	AZ53195	AZ53195W06			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
20	AZ53196	AZ53196W11			0.050	1	1060	1	2/1	04/10/17 18:20	82598
						equip	E-WB6				
21	AZ53260	AZ53260W15			0.050	1	1060	1	2/1	04/10/17 18:20	82611
						equip	E-WB6				
22	AZ53261	AZ53261W11			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
23	AZ53263	AZ53263W13			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
24	AZ53264	AZ53264W09			0.050	1	1040	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				
25	AZ53266	AZ53266W13			0.050	1	1050	1	2/1	04/10/17 18:20	82611
						equip	E-WB5				

Ky 4/12/17

Solvent and Lot#	
1+1 SULFURIC ACID	2-27-17
PH STRIP	HC 681919
MC	56258
A. Na2SO4	3-11-17
10N NaOH	3-15-17
B. Na2SO4	16C255214
FILTER PAPER	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY,DL
Extraction	KY,DL
Concentration	KY

Modified	04/12/17 11:08:06 AM

Reviewed By: Ky **Date** 4/12/17

04/12/17 11:08:18 AM

Ext_ID 264 34591

Injection Log

Directory: M:\LINUS\DATA\L170331\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0331L002.D	1	SV Tune 03/29/17	water	31 Mar 17 12:25
2	3	0331L003.D	1	0.1 SIM 03/31/17	water	31 Mar 17 13:02
3	4	0331L004.D	1	0.2 SIM 03/31/17	water	31 Mar 17 13:34
4	5	0331L005.D	1	0.5 SIM 03/31/17	water	31 Mar 17 14:07
5	6	0331L006.D	1	1.0 SIM 03/31/17	water	31 Mar 17 14:40
6	7	0331L007.D	1	5.0 SIM 03/31/17	water	31 Mar 17 15:12
7	8	0331L008.D	1	10 SIM 03/31/17	water	31 Mar 17 15:45
8	9	0331L009.D	1	50 SIM 03/31/17	water	31 Mar 17 16:17
9	10	0331L010.D	1	100 SIM 03/31/17	water	31 Mar 17 16:50
10	11	0331L011.D	1	SS SIM 03/31/17	water	31 Mar 17 17:23
11	2	0331L102.D	1	SV Tune 3/29/17	water	11 Apr 17 16:52
12	3	0331L103.D	1	5.0 SIM 04/10/17	water	11 Apr 17 17:08
13	4	0331L104.D	1	170410A BLK 1/1000	water	11 Apr 17 17:44
14	7	0331L107.D	0.95238	AZ53168W34 MS-1 1/1050	water	11 Apr 17 19:22
15	8	0331L108.D	0.95238	AZ53168W33 MSD-1 1/1050	water	11 Apr 17 19:54
16	24	0331L124.D	1	5.0 SIM 04/10/17	water	12 Apr 17 4:00
17	30	0331L134.D	1	SV Tune 3/29/17	water	12 Apr 17 9:31
18	35	0331L135.D	1	5.0 SIM 04/10/17	water	12 Apr 17 11:49
19	36	0331L136.D	1	170410A LCS-1 1/1000	water	12 Apr 17 12:21
20	37	0331L137.D	0.952381	AZ53168W36 1/1050	water	12 Apr 17 12:54
21	38	0331L138.D	0.934579	AZ53169W12 1/1070	water	12 Apr 17 13:27
22	39	0331L139.D	0.934579	AZ53170W12 1/1070	water	12 Apr 17 13:59
23	46	0331L146.D	1	5.0 SIM 04/10/17	water	12 Apr 17 17:31

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:10:24 AM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	43-140	73.3		44-119	66.9	
170407A-LCS	Lab Control Spike	43-140	67.0		44-119	62.3	
AZ53168-MS	Matrix Spike	43-140	72.5		44-119	52.1	
AZ53168-MSD	Matrix SpikeD	43-140	69.0		44-119	51.0	
AZ53168	ERH307	43-140	62.9		44-119	54.3	
AZ53169	ERH314	43-140	69.1		44-119	61.2	
AZ53170	ERH315	43-140	78.5		44-119	68.2	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 10:10:25 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	19-119	53.1		44-120	71.4	
170407A-LCS	Lab Control Spike	19-119	51.0		44-120	70.2	
AZ53168-MS	Matrix Spike	19-119	41.6		44-120	65.0	
AZ53168-MSD	Matrix SpikeD	19-119	43.7		44-120	65.4	
AZ53168	ERH307	19-119	45.0		44-120	61.4	
AZ53169	ERH314	19-119	54.1		44-120	75.3	
AZ53170	ERH315	19-119	47.1		44-120	67.8	

Comments: Batch: #87DC5-170407A

Printed: 04/11/17 10:10:25 AM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619
Case No: 82619 Date Analyzed: 04/10/17
Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL-D6 (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	10-115	34.4		50-134	78.6	
170407A-LCS	Lab Control Spike	10-115	34.9		50-134	79.1	
AZ53168-MS	Matrix Spike	10-115	28.9		50-134	69.1	
AZ53168-MSD	Matrix SpikeD	10-115	27.6		50-134	67.5	
AZ53168	ERH307	10-115	30.1		50-134	70.2	
AZ53169	ERH314	10-115	36.6		50-134	79.1	
AZ53170	ERH315	10-115	30.5		50-134	74.9	

Comments: Batch: #87DC5-170407A

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments:

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:10:27 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217709**
Batch ID: #87DC5-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	21.0	18.0	42.0	36.0	10-115	15.4	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	145	138	72.5	69.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	83.3	87.4	41.6	43.7	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	57.8	55.3	28.9	27.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.5	69.1	67.5	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Printed: 04/11/17 10:10:43 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 1204

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	0404Y039	04/10/17 1204
170407A-LCS	Lab Control Spike	0404Y040	04/10/17 1234
170407A-MS	Matrix Spike	0404Y049	04/10/17 1709
170407A-MSD	Matrix SpikeD	0404Y050	04/10/17 1739
AZ53168	ERH307	0404Y051	04/10/17 1810
AZ53169	ERH314	0404Y052	04/10/17 1841
AZ53170	ERH315	0404Y053	04/10/17 1911

Comments: Batch: #87DC5-170407A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/05/17
Instrument: Yoda
Time Analyzed: 8:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SS 4-chloroaniline 5	0404Y015.D	04/05/17 10:19
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	24.9
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	85.3
442	50 - 150% of mass 197.95	97.4
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 10:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y038.D	04/10/17 11:15
2	Blank	170407A BLK 1/1000	0404Y039.D	04/10/17 12:04
3	Lab Control Spike	170407A LCS-1 1/1000	0404Y040.D	04/10/17 12:34
4		AZ53168W35 MS-1 1/10	0404Y049.D	04/10/17 17:09
5		AZ53168W47 MSD-1 1/1	0404Y050.D	04/10/17 17:39
6	ERH307	AZ53168W48 1/1020	0404Y051.D	04/10/17 18:10
7	ERH314	AZ53169W13 1/980	0404Y052.D	04/10/17 18:41
8	ERH315	AZ53170W14 1/1050	0404Y053.D	04/10/17 19:11
9		50ug/ml SVOC 03/30/1	0404Y060.D	04/10/17 22:25
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.1
441	0.01 - 100% of mass 443	92.8
442	50 - 150% of mass 197.95	98.6
443	17 - 23% of mass 442	19.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	135139	4.73	551655	6.17	344147	8.19
02	170407A BLK 1/1000	108124	4.73	474326	6.16	271985	8.18
03	170407A LCS-1 1/1000	123700	4.73	522144	6.17	311641	8.18
04	AZ53168W35 MS-1 1/1(	117317	4.73	471004	6.17	278303	8.19
05	AZ53168W47 MSD-1 1/	113246	4.73	497471	6.17	289478	8.19
06	AZ53168W48 1/1020	122756	4.73	543005	6.17	322040	8.18
07	AZ53169W13 1/980	112319	4.74	474751	6.17	317457	8.18
08	AZ53170W14 1/1050	113649	4.73	489153	6.17	265061	8.18
09	50ug/ml SVOC 03/30/17	103117	4.73	454712	6.17	247658	8.19
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	520011	9.90	487207	12.99	454025	14.60
	UPPER LIMIT	1040022	10.40	974414	13.49	908050	15.10
	LOWER LIMIT	260006	9.40	243604	12.49	227013	14.10
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	623714	9.90	612103	12.99	581377	14.60
02	170407A BLK 1/1000	525349	9.90	515905	12.99	445378	14.60
03	170407A LCS-1 1/1000	533639	9.90	489414	12.98	425790	14.60
04	AZ53168W35 MS-1 1/1(	520977	9.91	536739	12.99	537936	14.60
05	AZ53168W47 MSD-1 1/	533732	9.91	584868	12.99	548522	14.60
06	AZ53168W48 1/1020	545503	9.90	521954	12.99	484536	14.60
07	AZ53169W13 1/980	521350	9.90	503735	12.98	509695	14.60
08	AZ53170W14 1/1050	481136	9.91	493640	12.99	472514	14.60
09	50ug/ml SVOC 03/30/17	511779	9.91	468078	12.99	454493	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.9	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.3	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	45.0	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	61.4	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.1	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.2	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y051
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:10:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y051.D Vial: 51
Acq On : 10 Apr 17 18:10 Operator: MA
Sample : AZ53168W48 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:39 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	122756	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	543005	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	322040	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	545503	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	521954	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	484536	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	355122	88.18811 ppb	0.00
Spiked Amount 196.078			Recovery	= 44.976%	
5) Phenol-D6 (S)	4.38	99	297294	58.97864 ppb	0.00
Spiked Amount 196.078			Recovery	= 30.079%	
21) Nitrobenzene-D5(S)	5.37	82	345214	60.20370 ppb	0.00
Spiked Amount 98.039			Recovery	= 61.408%	
45) 2-Fluorobiphenyl(S)	7.42	172	548148	53.22207 ppb	0.00
Spiked Amount 98.039			Recovery	= 54.286%	
63) 2,4,6-Tribromophenol(S)	9.11	330	181493	123.27982 ppb	0.00
Spiked Amount 196.078			Recovery	= 62.873%	
81) Terphenyl-D14(S)	11.77	244	774438	68.80991 ppb	0.00
Spiked Amount 98.039			Recovery	= 70.186%	
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	37293	3.30279 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

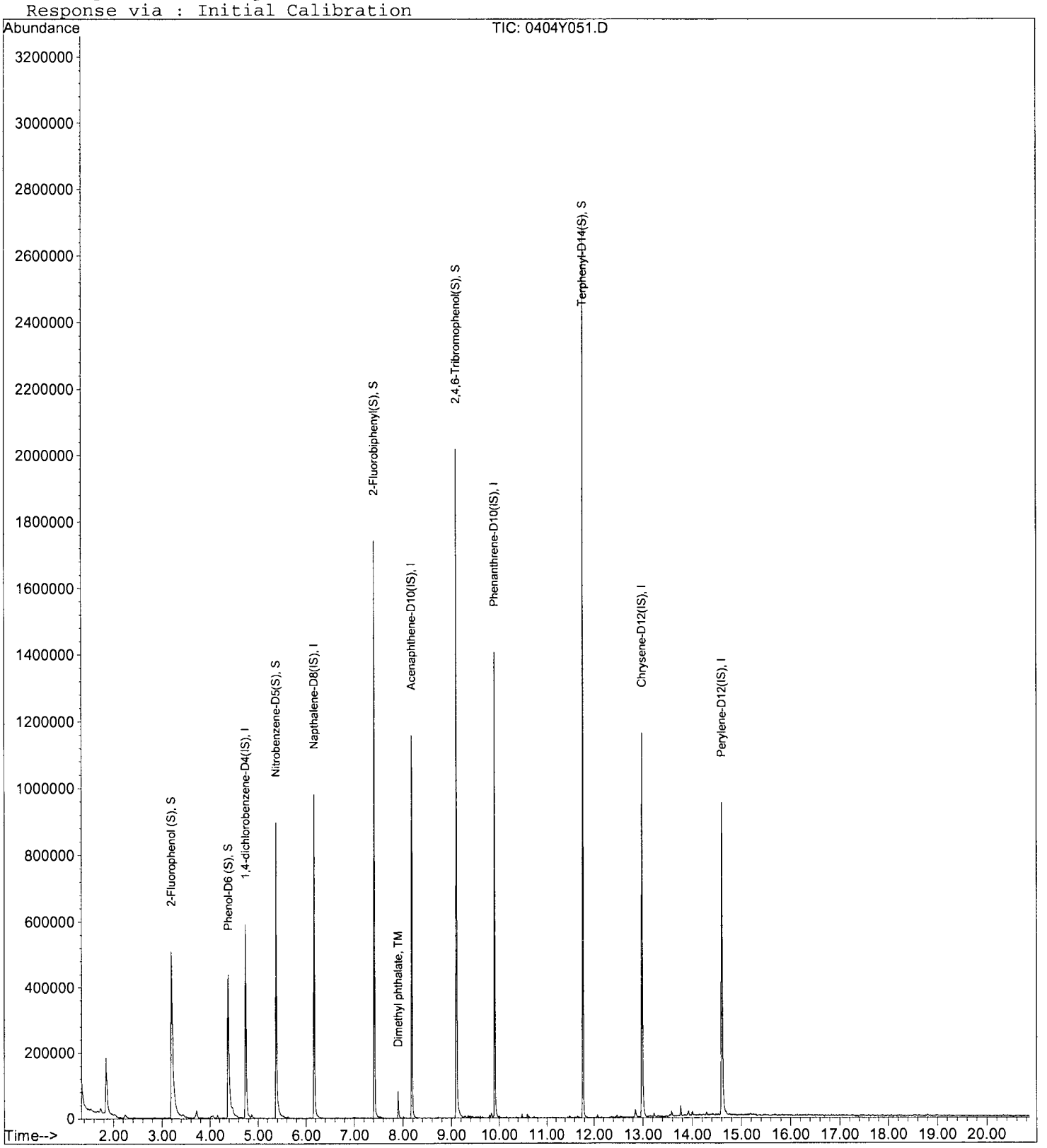
Data File : M:\YODA\DATA\Y170404\0404Y051.D
Acq On : 10 Apr 17 18:10
Sample : AZ53168W48 1/1020
Misc : water

Vial: 51
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	69.1	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	61.2	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	54.1	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	75.3	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	36.6	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	79.1	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y052
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:10:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y052.D Vial: 52
Acq On : 10 Apr 17 18:41 Operator: MA
Sample : AZ53169W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Apr 11 9:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	112319	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	474751	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	317457	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	521350	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	503735	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	509695	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	390860	110.41270 ppb	0.00
Spiked Amount 204.082			Recovery	= 54.102%	
5) Phenol-D6 (S)	4.38	99	330723	74.63428 ppb	0.00
Spiked Amount 204.082			Recovery	= 36.571%	
21) Nitrobenzene-D5(S)	5.37	82	370331	76.88447 ppb	0.00
Spiked Amount 102.041			Recovery	= 75.346%	
45) 2-Fluorobiphenyl(S)	7.41	172	609063	62.43914 ppb	0.00
Spiked Amount 102.041			Recovery	= 61.190%	
63) 2,4,6-Tribromophenol(S)	9.11	330	196608	141.00484 ppb	0.00
Spiked Amount 204.082			Recovery	= 69.092%	
81) Terphenyl-D14(S)	11.78	244	842489	80.72992 ppb	0.00
Spiked Amount 102.041			Recovery	= 79.115%	
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	38364	3.58739 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

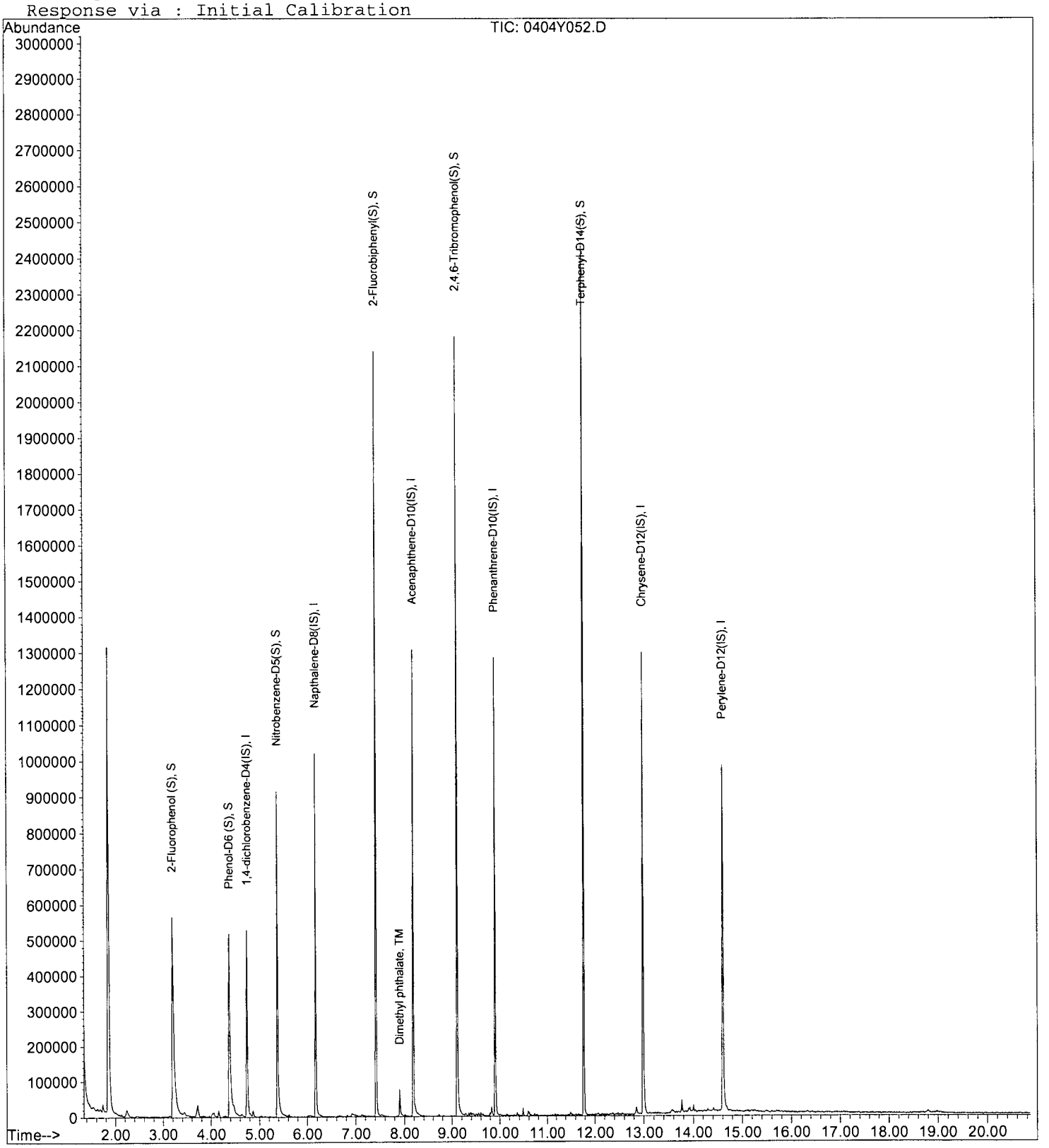
Data File : M:\YODA\DATA\Y170404\0404Y052.D
Acq On : 10 Apr 17 18:41
Sample : AZ53169W13 1/980
Misc : water

Vial: 52
Operator: MA
Inst : Yoda
Multiplr: 1.02

Quant Time: Apr 11 9:43 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #87DC5-170407A-217709

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	78.5	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	68.2	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	47.1	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	67.8	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL-D6 (S)	30.5	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	74.9	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y053
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/11/17 10:10:51 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Apr 11 9:44 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113649	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	489153	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	265061	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	481136	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	493640	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	472514	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	344233	89.69608 ppb	0.00
Spiked Amount 190.476			Recovery = 47.090%		
5) Phenol-D6 (S)	4.37	99	279134	58.10451 ppb	0.00
Spiked Amount 190.476			Recovery = 30.505%		
21) Nitrobenzene-D5(S)	5.38	82	343558	64.61083 ppb	0.00
Spiked Amount 95.238			Recovery = 67.842%		
45) 2-Fluorobiphenyl(S)	7.42	172	566850	64.95873 ppb	0.00
Spiked Amount 95.238			Recovery = 68.207%		
63) 2,4,6-Tribromophenol(S)	9.11	330	186577	149.57727 ppb	0.00
Spiked Amount 190.476			Recovery = 78.528%		
81) Terphenyl-D14(S)	11.77	244	781924	71.36121 ppb	0.00
Spiked Amount 95.238			Recovery = 74.929%		
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	29826	3.11763 ppb	99

(#) = qualifier out of range (m) = manual integration
0404Y053.D Y0404.M Tue Apr 11 12:17:48 2017

Quantitation Report

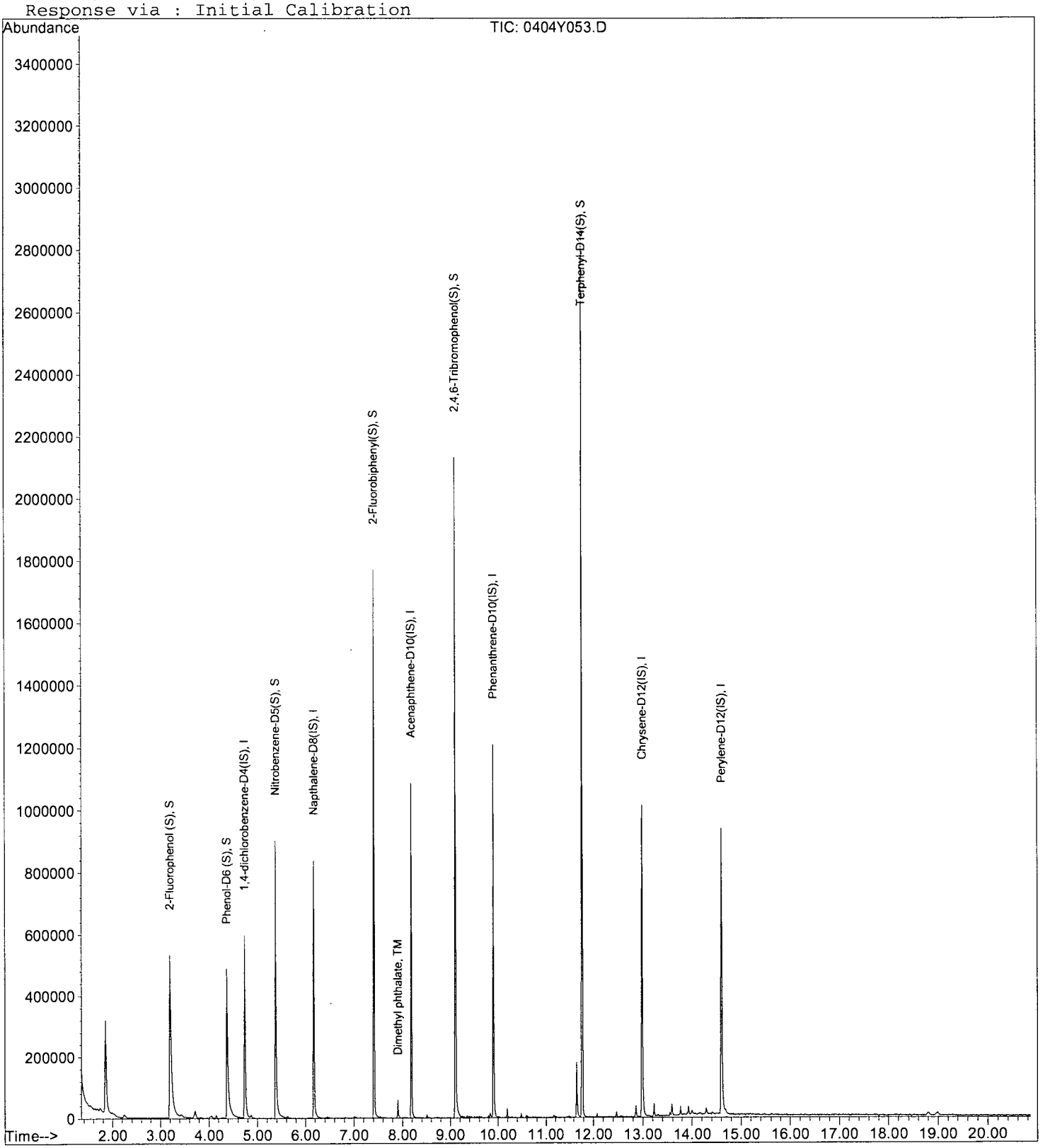
Data File : M:\YODA\DATA\Y170404\0404Y053.D
Acq On : 10 Apr 17 19:11
Sample : AZ53170W14 1/1050
Misc : water

Vial: 53
Operator: MA
Inst : Yoda
Multiplr: 0.95

Quant Time: Apr 11 9:44 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	0404Y003.D 5	0404Y004.D 10	0404Y005 D 20	0404Y006.D 40	0404Y007.D 50	0404Y008.D 60	0404Y009.D 80	0404Y010 D 100			Avg	%RSD		
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	1.045	1.285	1.268	1.575	1.631	1.683	1.470	1.470			1.4	15	TM	
3	TM	Pyridine	1.796	2.658	2.424	2.560	2.828	2.930	2.545	2.495			2.5	14	TM	
4	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.360	1.335			1.3	12	S	
5	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
6	*TM	Phenol	1.801	1.883	1.833	1.932	1.975	1.922	1.859	1.753			1.9	3.9	*TM	
7	TM	Aniline	1.529	1.728	1.678	1.856	1.857	1.872	1.764	1.792			1.8	6.6	TM	
8	TM	Bis (2-chloroethyl) ether	0.8421	0.8703	0.8295	0.8895	0.9148	0.9307	0.9198	0.9200			0.89	4.3	TM	
9	TM	2-Chlorophenol	1.406	1.510	1.413	1.508	1.562	1.499	1.491	1.427			1.5	3.8	TM	
10	TM	1,3-DCB	1.550	1.624	1.506	1.586	1.625	1.587	1.595	1.478			1.6	3.4	TM	
11	*TM	1,4-DCB	1.714	1.602	1.592	1.619	1.635	1.581	1.612	1.502			1.6	3.7	*TM	
12	TM	Benzyl alcohol	0.7857	0.8348	0.8411	0.8997	0.8949	0.8862	0.8669	0.8414			0.86	4.5	TM	
13	TM	1,2-DCB	1.480	1.494	1.416	1.525	1.491	1.467	1.414	1.331			1.5	4.3	TM	
14	TM	2-Methylphenol	1.196	1.233	1.031	1.179	1.115	1.092	1.041	1.012			1.1	7.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.897	2.010	1.820	2.089	1.942	1.898	1.855	1.724			1.9	5.9	TM	
16	TM	Acetophenone	1.913	1.994	1.821	2.023	1.949	1.987	1.892	1.806			1.9	4.2	TM	
17	TM	3&4-Methylphenol	1.398	1.502	1.379	1.482	1.436	1.543	1.353	1.224			1.4	7.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.021	1.160	0.9998	1.082	1.049	1.081	1.035	0.9323			1.0	6.4	**TM	
19	TM	Hexachloroethane	0.6772	0.7176	0.6021	0.6543	0.6888	0.7214	0.6575	0.6174			0.67	6.5	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4472	0.4267			0.41	10	S	
22	TM	Nitrobenzene	0.3795	0.3943	0.3604	0.4194	0.4331	0.4565	0.4411	0.4254			0.41	7.9	TM	
23	TM	Isophorone	0.6040	0.6566	0.5779	0.7183	0.7122	0.6970	0.7512	0.7213			0.68	9.0	TM	
24	*TM	2-Nitrophenol	0.1642	0.1583	0.1805	0.2159	0.2151	0.2137	0.2289	0.2176			0.20	14	*TM	
25	TM	2,4-Dimethylphenol	0.2955	0.3268	0.2911	0.3223	0.3218	0.3222	0.3293	0.3233			0.32	4.6	TM	
26	TML	Benzoic acid	0.0599	0.1923	0.2030	0.2535	0.2882	0.2696	0.2603	0.2648			0.22	33	TML	0.995
27	TM	Bis (2-chloroethoxy) methane	0.3711	0.4153	0.3749	0.3929	0.3975	0.3925	0.4224	0.4046			0.40	4.5	TM	
28	*TM	2,4-Dichlorophenol	0.2644	0.3144	0.2957	0.3116	0.3182	0.3051	0.3225	0.3202			0.31	6.2	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3118	0.3332	0.3280	0.3293	0.3503	0.3240	0.3370	0.3347			0.33	3.3	TM	
30	TM	3,4-Dimethylphenol	0.4791	0.4782	0.4397	0.4546	0.4755	0.4502	0.4544	0.4656			0.46	3.2	TM	
31	TM	Naphthalene	1.058	1.050	0.9898	1.039	1.082	1.007	1.048	1.039			1.0	2.8	TM	
32	TM	4-Chloroaniline	0.3174	0.3739	0.3579	0.4307	0.3744	0.3426	0.3056	0.2838			0.35	13	TM	
33	TM	2,6-Dichlorophenol	0.2766	0.2882	0.2568	0.3089	0.2778	0.2575	0.2417	0.2513			0.27	8.2	TM	
34	TM	Hexachloropropene	0.2086	0.2343	0.2165	0.2765	0.2623	0.2484	0.2392	0.2681			0.24	9.9	TM	
35	*TM	Hexachlorobutadiene	0.1946	0.2175	0.1838	0.2253	0.2080	0.1915	0.1983	0.2066			0.20	6.8	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1388	0.1574	0.1365	0.1800	0.1906	0.1729	0.1839	0.1859			0.17	13	TM	
37	*TM	4-Chloro-3-methylphenol	0.2752	0.3248	0.3439	0.3397	0.3599	0.3336	0.3431	0.3501			0.33	7.7	*TM	
38	TM	2-Methylnaphthalene	0.7247	0.7779	0.7656	0.7255	0.7295	0.6718	0.6912	0.6796			0.72	5.3	TM	
39	TM	1-Methylnaphthalene	0.6894	0.7184	0.7355	0.6902	0.7728	0.6393	0.6634	0.6548			0.70	6.4	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0314	0.0517	0.1265	0.1687	0.2267	0.2083	0.2351	0.2701			0.16	53	**TMQ	0.996
42	TM	1,2,4,5-Tetrachlorobenzene	0.5258	0.5137	0.6284	0.5104	0.5849	0.5024	0.5164	0.5192			0.54	8.3	TM	
43	*TM	2,4,6-Trichlorophenol	0.3273	0.2952	0.3901	0.3551	0.3909	0.3537	0.3596	0.3742			0.36	9.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3419	0.3285	0.3861	0.3639	0.4022	0.3715	0.3814	0.3786			0.37	6.5	TM	
45	S	2-Fluorobiphenyl(S)	1.264	1.213	1.501	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
46	TM	1,1'-Biphenyl	1.507	1.357	1.678	1.453	1.568	1.402	1.378	1.431			1.5	7.3	TM	
47	TM	2-Chloronaphthalene	1.157	1.051	1.291	1.134	1.222	1.092	1.104	1.141			1.1	6.6	TM	
48	TM	2-Nitroaniline	0.3113	0.3404	0.4239	0.3968	0.4472	0.4027	0.4167	0.4471			0.40	12	TM	
49	TM	Dimethyl phthalate	1.297	1.247	1.445	1.317	1.459	1.524	1.329	1.382			1.4	6.8	TM	
50	TM	2,6-DNT	0.2786	0.3184	0.3200	0.3204	0.3425	0.2999	0.3196	0.3305			0.32	6.1	TM	
51	TM	Acenaphthylene	1.706	1.928	1.909	1.781	1.883	1.803	1.763	1.753			1.8	4.5	TM	
52	TM	3-Nitroaniline	0.2875	0.3266	0.3244	0.3437	0.3439	0.3314	0.3213	0.3221			0.33	5.4	TM	
53	*TM	Acenaphthene	1.201	1.171	1.121	1.083	1.149	1.040	1.045	1.055			1.1	5.5	*TM	
54	**TML	2,4-Dinitrophenol	0.0283	0.0648	0.1074	0.1737	0.1820	0.1809	0.2063	0.2123			0.14	48	**TML	0.994
55	**TML	4-Nitrophenol	0.0082	0.0115	0.2352	0.2508	0.2715	0.2585	0.2685	0.3022			0.20	59	**TML	0.993
56	TM	Dibenzofuran	1.546	1.513	1.635	1.598	1.612	1.537	1.471	1.489			1.6	3.8	TM	
57	TM	2,4-DNT	0.3537	0.3907	0.4040	0.4149	0.4605	0.4417	0.4506	0.4555			0.42	8.9	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2728	0.2593	0.2825	0.3282	0.3289	0.3058	0.3079	0.3177			0.30	8.7	TM	
59	TM	Diethyl phthalate	1.379	1.285	1.385	1.405	1.676	1.351	1.359	1.407			1.4	8.3	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6595	0.5956	0.5936	0.6044	0.6316	0.6190	0.5703	0.6313			0.61	4.6	TM	
61	TM	Fluorene	1.295	1.265	1.259	1.243	1.267	1.255	1.148	1.255			1.2	3.5	TM	
62	TM	4-Nitroaniline	0.2925	0.2737	0.3054	0.3184	0.3577	0.3268	0.3217	0.3161			0.31	7.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1697	0.1750	0.1856	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	4.3	S	
64	I	Phenanthrene-D10(IS)														
65	TMQ	4,6-Dinitro-2-methylphenol	0.0849	0.1080	0.1198	0.1237	0.1523	0.1528	0.1465	0.1384			0.13	19	TMQ	0.993
66	TM	Diphenyl amine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	TM	
67	*TM	n-Nitrosodiphenylamine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	*TM	
68	TM	1,2-Diphenylhydrazine	0.7989	0.8600	0.7744	0.7210	1.016	1.039	0.9516	0.9045			0.88	13	TM	
69	TM	4-Bromophenyl phenyl ether	0.2099	0.2197	0.1926	0.1700	0.2029	0.1960	0.1926	0.1838			0.20	7.8	TM	
70	TM	Hexachlorobenzene	0.2146	0.2271	0.1965	0.1743	0.2065	0.1962	0.1937	0.1829			0.20	8.5	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.2052	0.2390	0.2017	0.1909	0.2205	0.2155	0.2139	0.1994			0.21	7.1	TM	
72	*TM	Pentachlorophenol	0.0706	0.0712	0.0748	0.0728	0.0940	0.0949	0.0974	0.0971			0.08	15	*TM	
73	TM	Phenanthrene	1.108	1.109	1.027	1.038	1.050	0.9972	0.9679	0.9311			1.0	6.1	TM	
74	TM	Anthracene	1.150	1.172	1.122	1.082	1.116	1.053	1.017	0.9680			1.1	6.4	TM	
75	TM	Carbazol	1.004	1.041	1.002	0.8660	1.004	0.9371	0.9170	0.8804			0.96	6.8	TM	
76	TM	Di-n-butylphthalate	1.243	1.355	1.269	1.095	1.263	1.350	1.224	1.152			1.2	7.2	TM	
77	*TM	Fluoranthene	1.214	1.295	1.127	1.056	1.195	1.088	1.067	1.020			1.1	8.3	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.3367	0.3742	0.3900	0.3534	0.3898	0.3094	0.3372	0.3363			0.35	8.2	TM	
80	TM	Pyrene	1.296	1.325	1.223	1.266	1.363	1.047	1.178	1.169			1.2	8.3	TM	
81	S	Terphenyl-D14(S)	0.8779	0.9617	0.8691	0.8737	0.9198	0.6825	0.7856	0.7945			0.85	10	S	
82	TM	Butyl benzylphthalate	0.5983	0.6094	0.6081	0.6196	0.6581	0.5111	0.5984	0.5904			0.60	6.9	TM	
83	TM	3,3'-Dichlorobenzidine	0.3893	0.4312	0.4215	0.4078	0.4146	0.3713	0.3454	0.3251			0.39	9.8	TM	
84	TM	Benz (a) anthracene	1.176	1.231	1.158	1.174	1.207	1.106	1.063	1.108			1.2	4.9	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8769	0.9173	0.8300	0.8201	0.8614	0.7254	0.7839	0.9028			0.84	7.6	TM	
86	TM	Chrysene	1.256	1.280	1.107	1.080	1.101	0.9585	1.059	1.188			1.1	9.5	TM	
87	*TM	Di-n-octylphthalate	1.507	1.541	1.481	1.538	1.580	1.319	1.424	1.422			1.5	5.7	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.426	1.474	1.422	1.311	1.362	1.193	1.267	1.265			1.3	7.2	TM	
90	TM	Benzo (k) fluoranthene	1.430	1.533	1.191	1.317	1.324	1.280	1.035	1.024			1.3	14	TM	
91	*TM	Benzo (a) pyrene	1.255	1.371	1.280	1.268	1.296	1.168	1.111	1.115			1.2	7.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.460	1.658	1.503	1.546	1.410	1.307	1.253	1.251			1.4	10	TM	
93	TM	Dibenz (a,h) anthracene	1.236	1.385	1.277	1.283	1.199	1.128	1.057	1.049			1.2	9.8	TM	
94	TM	Benzo (g,h,i) perylene	1.269	1.415	1.214	1.206	1.207	1.121	1.094	1.088			1.2	9.0	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D Vial: 3
Acq On : 4 Apr 17 8:42 Operator: MA
Sample : 5ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	560451	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.25	112	32572	7.80714 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.904%	
5) Phenol-D6 (S)	4.40	99	51987	9.39572 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.698%	
21) Nitrobenzene-D5(S)	5.39	82	23671	4.16878 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.169%	
45) 2-Fluorobiphenyl(S)	7.41	172	50729	4.91846 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.918%	
63) 2,4,6-Tribromophenol(S)	9.11	330	13623	9.13383 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.567%	
81) Terphenyl-D14(S)	11.77	244	61500	5.05821 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.058%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.70	42	17331	5.09847 ppb		72
3) Pyridine	1.70	79	29780	4.54533 ppb		98
6) Phenol	4.42	94	29856	4.71564 ppb		87
7) Aniline	4.41	66	25352	4.22853 ppb	#	67
8) Bis (2-chloroethyl) ether	4.46	63	13961	4.54380 ppb		91
9) 2-Chlorophenol	4.53	128	23302	4.74054 ppb		98
10) 1,3-DCB	4.68	146	25694	4.95679 ppb		95
11) 1,4-DCB	4.75	146	28420	5.31753 ppb		95
12) Benzyl alcohol	4.95	108	13026	4.65457 ppb		78
13) 1,2-DCB	4.93	146	24536	5.04662 ppb		97
14) 2-Methylphenol	5.08	107	19820	5.39228 ppb	#	86
15) Bis (2-chloroisopropyl) et	5.06	45	31444	4.63265 ppb	#	72
16) Acetophenone	5.22	105	31714	4.84771 ppb		84
17) 3&4-Methylphenol	5.26	107	46361	9.73524 ppb		84
18) n-Nitrosodi-n-propylamine	5.21	70	16927	4.68272 ppb		96
19) Hexachloroethane	5.29	117	11226	5.10602 ppb		93
22) Nitrobenzene	5.41	77	26307	4.66103 ppb		94
23) Isophorone	5.66	82	41871	4.46234 ppb		95
24) 2-Nitrophenol	5.77	139	11385	4.28748 ppb		95
25) 2,4-Dimethylphenol	5.84	122	20483	4.81634 ppb		94
26) Benzoic acid	6.01	105	4149	6.18708 ppb		74
27) Bis (2-chloroethoxy) metha	5.92	93	25723	4.75850 ppb		97
28) 2,4-Dichlorophenol	6.08	162	18329	4.53153 ppb		99
29) 1,2,4-Trichlorobenzene	6.11	180	21615	4.81351 ppb		99
30) 3,4-Dimethylphenol	6.19	107	33212	5.19146 ppb		98
31) Naphthalene	6.19	128	73321	5.05690 ppb		99
32) 4-Chloroaniline	6.29	127	22001	4.33900 ppb		97
33) 2,6-Dichlorophenol	6.29	162	19174	5.11220 ppb		97
34) Hexachloropropene	6.29	213	14457	4.42657 ppb		96
35) Hexachlorobutadiene	6.33	225	13492	5.04887 ppb		91
36) Caprolactum	6.68	55	9623	4.13206 ppb	#	89
37) 4-Chloro-3-methylphenol	6.88	107	19078	4.30945 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	50235	5.31781 ppb		95
39) 1-Methylnaphthalene	7.10	142	47789	5.07912 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	1262	7.25654 ppb	#	90
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	21106	4.84238 ppb		94
43) 2,4,6-Trichlorophenol	7.35	196	13139	4.77843 ppb		95
44) 2,4,5-Trichlorophenol	7.42	196	13725	4.57362 ppb		87
46) 1,1'-Biphenyl	7.53	154	60505	5.02407 ppb		96
47) 2-Chloronaphthalene	7.55	162	46461	5.04454 ppb		94
48) 2-Nitroaniline	7.71	65	12496	3.80337 ppb		89
49) Dimethyl phthalate	7.90	163	52080	4.69778 ppb		99
50) 2,6-DNT	7.98	165	11182	4.49905 ppb		99
51) Acenaphthylene	8.02	152	68492	4.62867 ppb		99
52) 3-Nitroaniline	8.20	138	11541	4.31142 ppb	#	80
53) Acenaphthene	8.22	154	48203	5.28946 ppb		91
54) 2,4-Dinitrophenol	8.41	184	1135	9.45965 ppb	#	55
55) 4-Nitrophenol	8.43	65	330	7.48521 ppb		89
56) Dibenzofuran	8.43	168	62053	4.82911 ppb		98
57) 2,4-DNT	8.47	165	14198	4.13294 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.60	232	10952	4.65968 ppb		85
59) Diethyl phthalate	8.70	149	55345	4.86883 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	26474	5.30016 ppb		87
61) Fluorene	8.82	166	51994	5.01403 ppb		97
62) 4-Nitroaniline	8.90	138	11739	4.56716 ppb		98
65) 4,6-Dinitro-2-methylphenol	8.95	198	5915	8.45378 ppb	#	79
66) Diphenyl amine	8.96	169	83104	11.48135 ppb		95
67) n-Nitrosodiphenylamine	8.96	169	83104	11.48135 ppb		95
68) 1,2-Diphenylhydrazine	9.01	77	55687	4.41379 ppb		91
69) 4-Bromophenyl phenyl ether	9.39	248	14634	5.21093 ppb		96
70) Hexachlorobenzene	9.47	284	14960	5.14155 ppb		90
71) Atrazine	9.60	200	7153	2.55096 ppb		93
72) Pentachlorophenol	9.72	266	4924	10.75177 ppb		91
73) Phenanthrene	9.93	178	77253	5.13387 ppb		100
74) Anthracene	9.99	178	80183	5.09924 ppb		97
75) Carbazol	10.20	167	69999	5.02637 ppb		99
76) Di-n-butylphthalate	10.61	149	86649	4.93439 ppb		96
77) Fluoranthene	11.32	202	84637	5.14374 ppb		97
79) Benzidine	11.51	184	23589	3.50897 ppb	#	89
80) Pyrene	11.58	202	90759	5.05780 ppb		100
82) Butyl benzylphthalate	12.34	149	41913	5.01411 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	27270	4.87537 ppb	#	93
84) Benz (a) anthracene	12.97	228	82353	4.90940 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	61432	5.26696 ppb		93
86) Chrysene	13.01	228	87970	5.35759 ppb		97
87) Di-n-octylphthalate	13.73	149	105594	5.27219 ppb		91
89) Benzo (b) fluoranthene	14.16	252	86060	5.72632 ppb		97
90) Benzo (k) fluoranthene	14.19	252	86318	6.11838 ppb	#	97
91) Benzo (a) pyrene	14.54	252	75743	5.45829 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	88144	5.69287 ppb		94
93) Dibenz (a,h) anthracene	16.12	278	74588	5.66377 ppb		95
94) Benzo (g,h,i) perylene	16.56	276	76584	5.86100 ppb		97

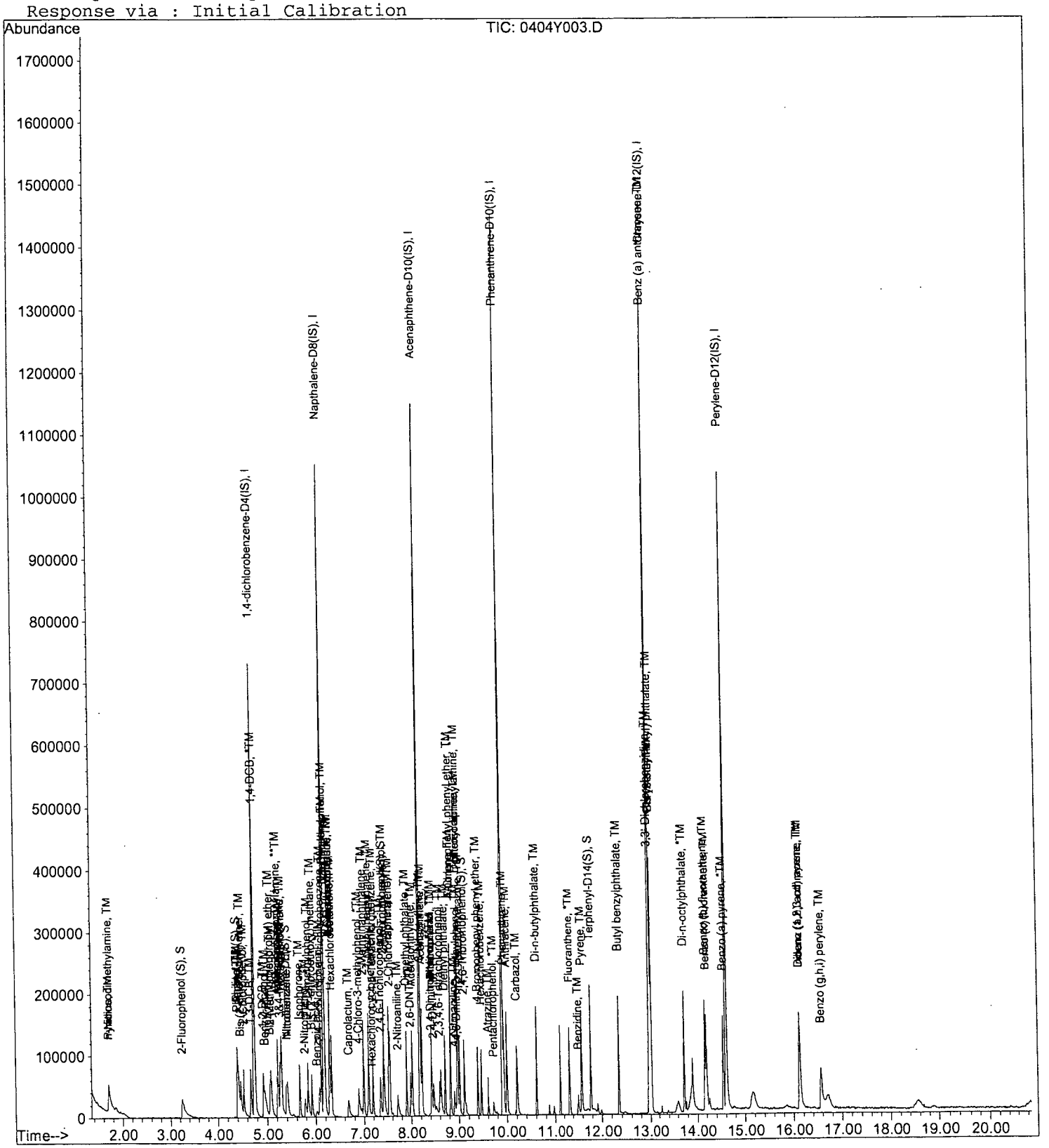
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y003.D Vial: 3
Acq On : 4 Apr 17 8:42 Operator: MA
Sample : 5ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453345	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.22	112	66141	17.45292 ppb	0.03
Spiked Amount 200.000			Recovery = 8.727%		
5) Phenol-D6 (S)	4.38	99	107821	21.45303 ppb	0.00
Spiked Amount 200.000			Recovery = 10.727%		
21) Nitrobenzene-D5(S)	5.38	82	50379	10.03970 ppb	0.00
Spiked Amount 100.000			Recovery = 10.040%		
45) 2-Fluorobiphenyl(S)	7.41	172	99689	9.44241 ppb	0.00
Spiked Amount 100.000			Recovery = 9.442%		
63) 2,4,6-Tribromophenol(S)	9.10	330	28755	18.83458 ppb	-0.01
Spiked Amount 200.000			Recovery = 9.418%		
81) Terphenyl-D14(S)	11.77	244	126985	11.08281 ppb	0.00
Spiked Amount 100.000			Recovery = 11.083%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	38706	12.53558 ppb		95
3) Pyridine	1.69	79	80058	13.45227 ppb		95
6) Phenol	4.40	94	56718	9.86233 ppb		83
7) Aniline	4.39	66	52049	9.55740 ppb	#	46
8) Bis (2-chloroethyl) ether	4.45	63	26211	9.39152 ppb		96
9) 2-Chlorophenol	4.52	128	45469	10.18356 ppb		95
10) 1,3-DCB	4.67	146	48903	10.38615 ppb		97
11) 1,4-DCB	4.75	146	48234	9.93548 ppb		94
12) Benzyl alcohol	4.94	108	25142	9.89050 ppb		90
13) 1,2-DCB	4.93	146	44982	10.18556 ppb		94
14) 2-Methylphenol	5.07	107	37126	11.11979 ppb		85
15) Bis (2-chloroisopropyl) et	5.06	45	60540	9.81937 ppb	#	75
16) Acetophenone	5.21	105	60064	10.10764 ppb		90
17) 3&4-Methylphenol	5.25	107	90453	20.91061 ppb		93
18) n-Nitrosodi-n-propylamine	5.20	70	34949	10.64395 ppb		91
19) Hexachloroethane	5.29	117	21612	10.82186 ppb		99
22) Nitrobenzene	5.40	77	48309	9.68539 ppb		97
23) Isophorone	5.66	82	80440	9.70063 ppb		96
24) 2-Nitrophenol	5.77	139	19400	8.26702 ppb		85
25) 2,4-Dimethylphenol	5.83	122	40033	10.65173 ppb		93
26) Benzoic acid	6.00	105	23566	12.34998 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	50876	10.64976 ppb		96
28) 2,4-Dichlorophenol	6.06	162	38518	10.77576 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	40824	10.28728 ppb		99
30) 3,4-Dimethylphenol	6.17	107	58594	10.36398 ppb		94
31) Naphthalene	6.19	128	128676	10.04227 ppb		99
32) 4-Chloroaniline	6.28	127	45809	10.22297 ppb		96
33) 2,6-Dichlorophenol	6.29	162	35313	10.65390 ppb		95
34) Hexachloropropene	6.29	213	28711	9.94755 ppb		95
35) Hexachlorobutadiene	6.33	225	26642	11.28140 ppb		90
36) Caprolactum	6.68	55	19287	9.37129 ppb	#	84
37) 4-Chloro-3-methylphenol	6.88	107	39794	10.17150 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	95312	11.41701 ppb		97
39) 1-Methylnaphthalene	7.10	142	88020	10.58573 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	4251	9.20910 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	42215	9.46198 ppb		89
43) 2,4,6-Trichlorophenol	7.34	196	24255	8.61760 ppb	#	90
44) 2,4,5-Trichlorophenol	7.41	196	26998	8.78905 ppb	#	88
46) 1,1'-Biphenyl	7.53	154	111525	9.04688 ppb		96
47) 2-Chloronaphthalene	7.54	162	86353	9.15952 ppb		96
48) 2-Nitroaniline	7.70	65	27975	8.31821 ppb		96
49) Dimethyl phthalate	7.90	163	102496	9.03214 ppb		99
50) 2,6-DNT	7.98	165	26161	10.28297 ppb		91
51) Acenaphthylene	8.02	152	158445	10.46063 ppb		97
52) 3-Nitroaniline	8.18	138	26838	9.79466 ppb	#	68
53) Acenaphthene	8.22	154	96196	10.31233 ppb		96
54) 2,4-Dinitrophenol	8.36	184	5322	12.35667 ppb	#	76
55) 4-Nitrophenol	8.43	65	942	7.72684 ppb		70
56) Dibenzofuran	8.43	168	124334	9.45272 ppb		92
57) 2,4-DNT	8.46	165	32109	9.13105 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.59	232	21307	8.85620 ppb	#	84
59) Diethyl phthalate	8.71	149	105599	9.07545 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.83	204	48947	9.57322 ppb		97
61) Fluorene	8.82	166	103917	9.79000 ppb		95
62) 4-Nitroaniline	8.89	138	22492	8.54881 ppb		89
65) 4,6-Dinitro-2-methylphenol	8.94	198	14030	12.45496 ppb	#	77
66) Diphenyl amine	8.96	169	164345	24.37687 ppb		99
67) n-Nitrosodiphenylamine	8.96	169	164345	24.37687 ppb		99
68) 1,2-Diphenylhydrazine	9.00	77	111668	9.50249 ppb	#	93
69) 4-Bromophenyl phenyl ether	9.39	248	28525	10.90507 ppb		90
70) Hexachlorobenzene	9.47	284	29490	10.88147 ppb		93
71) Atrazine	9.61	200	15514	5.94005 ppb		98
72) Pentachlorophenol	9.72	266	9250	14.06147 ppb		93
73) Phenanthrene	9.93	178	143958	10.27107 ppb		97
74) Anthracene	10.00	178	152204	10.39201 ppb		98
75) Carbazol	10.20	167	135199	10.42286 ppb		98
76) Di-n-butylphthalate	10.61	149	175917	10.75544 ppb		98
77) Fluoranthene	11.31	202	168094	10.96785 ppb		98
79) Benzidine	11.50	184	49406	7.79878 ppb		97
80) Pyrene	11.57	202	174947	10.34558 ppb		99
82) Butyl benzylphthalate	12.34	149	80461	10.21426 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	56934	10.80116 ppb		98
84) Benz (a) anthracene	12.98	228	162558	10.28332 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	121121	11.01947 ppb		96
86) Chrysene	13.01	228	168979	10.92054 ppb		97
87) Di-n-octylphthalate	13.73	149	203450	10.77917 ppb		93
89) Benzo (b) fluoranthene	14.16	252	167020	11.83583 ppb		97
90) Benzo (k) fluoranthene	14.19	252	173743	13.11590 ppb		96
91) Benzo (a) pyrene	14.53	252	155337	11.92187 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.10	276	187927	12.92657 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	157013	12.69777 ppb		97
94) Benzo (g,h,i) perylene	16.55	276	160338	13.06849 ppb		98

(#) = qualifier out of range (m) = manual integration

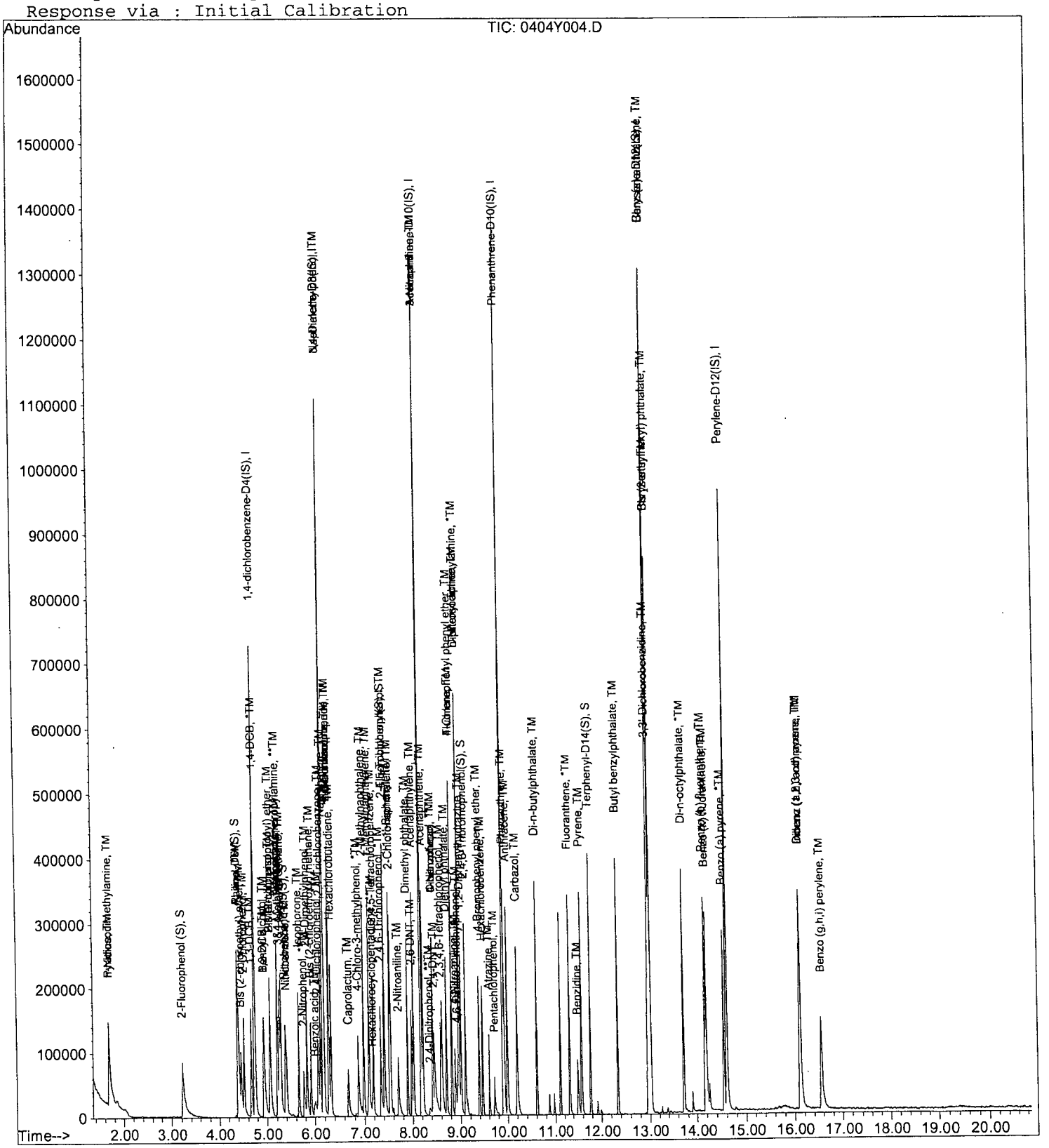
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	298428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	549818	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	169393	42.73841 ppb	0.00
Spiked Amount 200.000			Recovery = 21.369%		
5) Phenol-D6 (S)	4.37	99	208566	39.67842 ppb	0.00
Spiked Amount 200.000			Recovery = 19.839%		
21) Nitrobenzene-D5(S)	5.37	82	98581	17.84081 ppb	0.00
Spiked Amount 100.000			Recovery = 17.841%		
45) 2-Fluorobiphenyl(S)	7.42	172	224034	23.37317 ppb	0.00
Spiked Amount 100.000			Recovery = 23.373%		
63) 2,4,6-Tribromophenol(S)	9.11	330	55378	39.95286 ppb	0.00
Spiked Amount 200.000			Recovery = 19.977%		
81) Terphenyl-D14(S)	11.77	244	238911	20.02978 ppb	0.00
Spiked Amount 100.000			Recovery = 20.030%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	79869	24.73261 ppb		77
3) Pyridine	1.68	79	152689	24.53150 ppb		99
6) Phenol	4.39	94	115486	19.20055 ppb		93
7) Aniline	4.38	66	105732	18.56348 ppb	#	48
8) Bis (2-chloroethyl) ether	4.46	63	52255	17.90217 ppb		97
9) 2-Chlorophenol	4.51	128	88994	19.05770 ppb		97
10) 1,3-DCB	4.67	146	94862	19.26357 ppb		98
11) 1,4-DCB	4.75	146	100312	19.75669 ppb		96
12) Benzyl alcohol	4.93	108	52990	19.93141 ppb		88
13) 1,2-DCB	4.92	146	89212	19.31502 ppb		96
14) 2-Methylphenol	5.07	107	64975	18.60759 ppb		97
15) Bis (2-chloroisopropyl) et	5.06	45	114628	17.77696 ppb		93
16) Acetophenone	5.21	105	114712	18.45737 ppb		95
17) 3&4-Methylphenol	5.24	107	173721	38.39915 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	62983	18.34075 ppb		99
19) Hexachloroethane	5.29	117	37931	18.16046 ppb		88
22) Nitrobenzene	5.39	77	97246	17.70561 ppb		91
23) Isophorone	5.66	82	155940	17.07794 ppb		98
24) 2-Nitrophenol	5.76	139	48695	18.84437 ppb		81
25) 2,4-Dimethylphenol	5.83	122	78533	18.97597 ppb		93
26) Benzoic acid	5.99	105	54785	20.45992 ppb		98
27) Bis (2-chloroethoxy) metha	5.92	93	101147	19.22782 ppb	#	95
28) 2,4-Dichlorophenol	6.05	162	79785	20.27009 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	88504	20.25341 ppb		96
30) 3,4-Dimethylphenol	6.17	107	118646	19.05796 ppb		100
31) Naphthalene	6.19	128	267084	18.92920 ppb		100
32) 4-Chloroaniline	6.28	127	96581	19.57347 ppb		91
33) 2,6-Dichlorophenol	6.28	162	69298	18.98649 ppb		97
34) Hexachloropropene	6.28	213	58405	18.37671 ppb		94
35) Hexachlorobutadiene	6.33	225	49586	19.06801 ppb		98
36) Caprolactum	6.68	55	36825	16.24904 ppb		92
37) 4-Chloro-3-methylphenol	6.87	107	92782	21.53681 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	206580	22.47208 ppb		99
39) 1-Methylnaphthalene	7.10	142	198465	21.67571 ppb		95
41) Hexachlorocyclopentadiene	7.17	237	18881	19.39289 ppb		89
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	93759	23.14709 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	58201	22.77633 ppb		94
44) 2,4,5-Trichlorophenol	7.40	196	57607	20.65635 ppb		93
46) 1,1'-Biphenyl	7.53	154	250392	22.37252 ppb		98
47) 2-Chloronaphthalene	7.55	162	192666	22.50964 ppb		94
48) 2-Nitroaniline	7.70	65	63258	20.71778 ppb		92
49) Dimethyl phthalate	7.90	163	215567	20.92350 ppb		98
50) 2,6-DNT	7.98	165	47745	20.67093 ppb		84
51) Acenaphthylene	8.02	152	284868	20.71528 ppb		99
52) 3-Nitroaniline	8.18	138	48404	19.45756 ppb	#	90
53) Acenaphthene	8.22	154	167252	19.74872 ppb		99
54) 2,4-Dinitrophenol	8.35	184	16024	20.77747 ppb	#	76
55) 4-Nitrophenol	8.46	65	35092	22.80779 ppb	#	69
56) Dibenzofuran	8.42	168	243928	20.42662 ppb		93
57) 2,4-DNT	8.46	165	60284	18.88269 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	42157	19.30024 ppb	#	82
59) Diethyl phthalate	8.72	149	206651	19.56203 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.83	204	88580	19.08251 ppb		93
61) Fluorene	8.82	166	187792	19.48683 ppb		99
62) 4-Nitroaniline	8.88	138	45566	19.07597 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.93	198	33601	20.47925 ppb	#	72
66) Diphenyl amine	8.97	169	294455	40.44815 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	294455	40.44815 ppb		98
68) 1,2-Diphenylhydrazine	9.00	77	217173	17.11483 ppb	#	91
69) 4-Bromophenyl phenyl ether	9.39	248	54016	19.12422 ppb		91
70) Hexachlorobenzene	9.47	284	55116	18.83427 ppb		87
71) Atrazine	9.61	200	28277	10.02670 ppb		98
72) Pentachlorophenol	9.72	266	20964	21.27524 ppb		97
73) Phenanthrene	9.93	178	288003	19.02984 ppb		100
74) Anthracene	10.00	178	314541	19.88882 ppb		98
75) Carbazol	10.20	167	280871	20.05297 ppb		99
76) Di-n-butylphthalate	10.61	149	355756	20.14332 ppb		98
77) Fluoranthene	11.32	202	316006	19.09514 ppb		98
79) Benzidine	11.49	184	107221	16.25808 ppb		98
80) Pyrene	11.58	202	336162	19.09586 ppb		98
82) Butyl benzylphthalate	12.35	149	167175	20.38616 ppb		87
83) 3,3'-Dichlorobenzidine	12.95	252	115875	21.11693 ppb	#	97
84) Benz (a) anthracene	12.97	228	318280	19.34090 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	228182	19.94183 ppb		94
86) Chrysene	13.02	228	304359	18.89470 ppb		98
87) Di-n-octylphthalate	13.73	149	407061	20.71713 ppb		91
89) Benzo (b) fluoranthene	14.16	252	347316	22.84019 ppb		98
90) Benzo (k) fluoranthene	14.18	252	291026	20.38765 ppb	#	93
91) Benzo (a) pyrene	14.54	252	312678	22.26955 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	367037	23.42872 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	311937	23.41011 ppb		96
94) Benzo (g,h,i) perylene	16.53	276	296601	22.43398 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

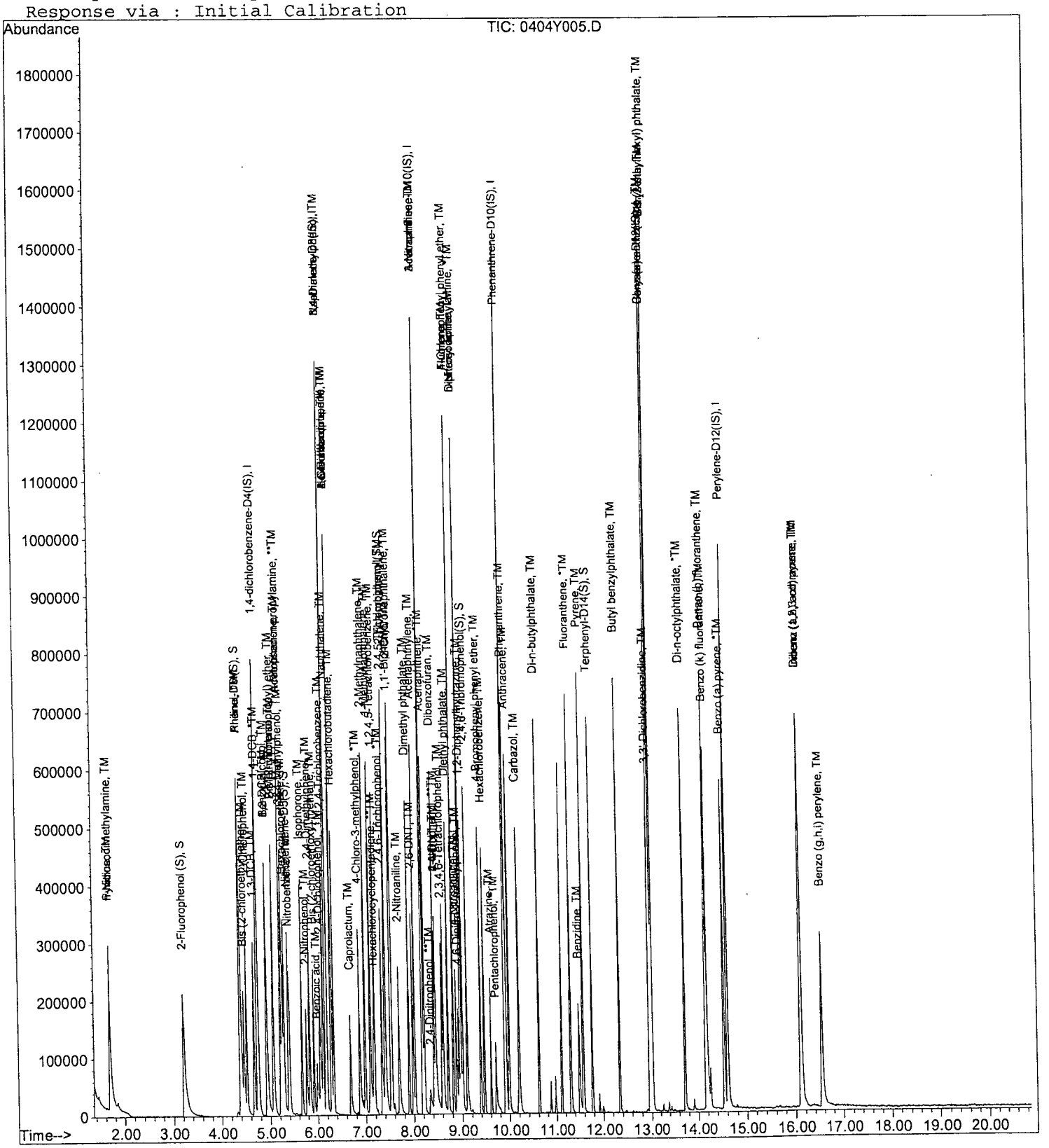
Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	628579	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	523963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	465932	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320573	86.17657 ppb	0.00
Spiked Amount 200.000			Recovery = 43.089%		
5) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery = 41.241%		
21) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery = 40.731%		
45) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery = 37.832%		
63) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery = 39.719%		
81) Terphenyl-D14(S)	11.77	244	457811	41.33170 ppb	0.00
Spiked Amount 100.000			Recovery = 41.332%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	181993	44.09714 ppb		87
3) Pyridine	1.68	79	295812	40.47889 ppb		94
6) Phenol	4.39	94	223274	41.32470 ppb		98
7) Aniline	4.39	66	214533	42.20003 ppb	#	68
8) Bis (2-chloroethyl) ether	4.45	63	102796	39.99583 ppb		98
9) 2-Chlorophenol	4.51	128	174274	40.84481 ppb		97
10) 1,3-DCB	4.67	146	183342	40.45038 ppb		99
11) 1,4-DCB	4.75	146	187041	40.28545 ppb		95
12) Benzyl alcohol	4.93	108	103977	42.02614 ppb		91
13) 1,2-DCB	4.92	146	176184	41.99345 ppb		98
14) 2-Methylphenol	5.07	107	136289	42.40562 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	241370	43.87146 ppb	#	81
16) Acetophenone	5.21	105	233796	42.07638 ppb		96
17) 3&4-Methylphenol	5.24	107	342462	83.80264 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	125020	41.40843 ppb		91
19) Hexachloroethane	5.29	117	75618	39.23828 ppb		98
22) Nitrobenzene	5.40	77	195388	40.54910 ppb		89
23) Isophorone	5.67	82	334663	42.26546 ppb		92
24) 2-Nitrophenol	5.75	139	100565	43.32783 ppb		94
25) 2,4-Dimethylphenol	5.83	122	150159	40.73004 ppb		96
26) Benzoic acid	6.00	105	118121	39.67938 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	183058	39.64952 ppb		98
28) 2,4-Dichlorophenol	6.04	162	145194	40.66855 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	153437	39.79254 ppb		97
30) 3,4-Dimethylphenol	6.17	107	211808	39.34661 ppb		97
31) Naphthalene	6.19	128	483890	39.98567 ppb		97
32) 4-Chloroaniline	6.28	127	200658	49.46503 ppb		96
33) 2,6-Dichlorophenol	6.28	162	143908	45.78639 ppb		98
34) Hexachloropropene	6.29	213	128829	45.28755 ppb		99
35) Hexachlorobutadiene	6.34	225	104984	44.35997 ppb		98
36) Caprolactum	6.71	55	83857	42.79053 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	158251	40.70568 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	338022	40.26630 ppb		100
39) 1-Methylnaphthalene	7.10	142	321558	39.69591 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	49451	37.81444 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	149622	37.97478 ppb		96
43) 2,4,6-Trichlorophenol	7.34	196	104106	39.93022 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	106673	39.42009 ppb		97
46) 1,1'-Biphenyl	7.53	154	425922	39.48711 ppb		99
47) 2-Chloronaphthalene	7.55	162	332344	39.46610 ppb		96
48) 2-Nitroaniline	7.69	65	116307	39.84915 ppb		96
49) Dimethyl phthalate	7.90	163	385967	38.30373 ppb		100
50) 2,6-DNT	7.98	165	93914	40.52446 ppb		96
51) Acenaphthylene	8.02	152	522092	39.23488 ppb		99
52) 3-Nitroaniline	8.18	138	100746	42.28486 ppb	#	94
53) Acenaphthene	8.22	154	317522	39.09987 ppb		97
54) 2,4-Dinitrophenol	8.32	184	50930	39.83730 ppb		99
55) 4-Nitrophenol	8.44	65	73523	39.97019 ppb	#	1
56) Dibenzofuran	8.43	168	468428	41.23133 ppb		93
57) 2,4-DNT	8.45	165	121619	39.37623 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96200	43.69912 ppb		98
59) Diethyl phthalate	8.71	149	411735	39.96824 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	177164	39.42559 ppb		99
61) Fluorene	8.82	166	364463	39.83786 ppb		97
62) 4-Nitroaniline	8.89	138	93322	40.55297 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	77775	35.79645 ppb		98
66) Diphenyl amine	8.97	169	570254	69.37688 ppb		99
67) n-Nitrosodiphenylamine	8.97	169	570254	69.37688 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	453214	32.65837 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	106849	34.70131 ppb		98
70) Hexachlorobenzene	9.47	284	109539	35.02963 ppb		95
71) Atrazine	9.61	200	59999	18.11531 ppb		96
72) Pentachlorophenol	9.72	266	45746	33.83727 ppb		93
73) Phenanthrene	9.93	178	652503	40.37235 ppb		99
74) Anthracene	10.00	178	679999	39.88443 ppb		99
75) Carbazol	10.20	167	544370	36.22000 ppb		98
76) Di-n-butylphthalate	10.61	149	688370	35.21754 ppb		97
77) Fluoranthene	11.31	202	663582	37.28079 ppb		98
79) Benzidine	11.49	184	185177	40.00474 ppb		98
80) Pyrene	11.57	202	663596	41.07719 ppb		100
82) Butyl benzylphthalate	12.34	149	324624	41.36209 ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	213666	42.01149 ppb	#	95
84) Benz (a) anthracene	12.98	228	615316	40.74552 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	429710	39.06551 ppb		97
86) Chrysene	13.01	228	565888	38.27759 ppb		100
87) Di-n-octylphthalate	13.73	149	805906	41.67075 ppb		98
89) Benzo (b) fluoranthene	14.16	252	610637	39.12252 ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	613769	41.59165 ppb		99
91) Benzo (a) pyrene	14.54	252	590583	41.12714 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	720530	43.45250 ppb		99
93) Dibenz (a,h) anthracene	16.11	278	597606	42.69016 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	562005	40.14642 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

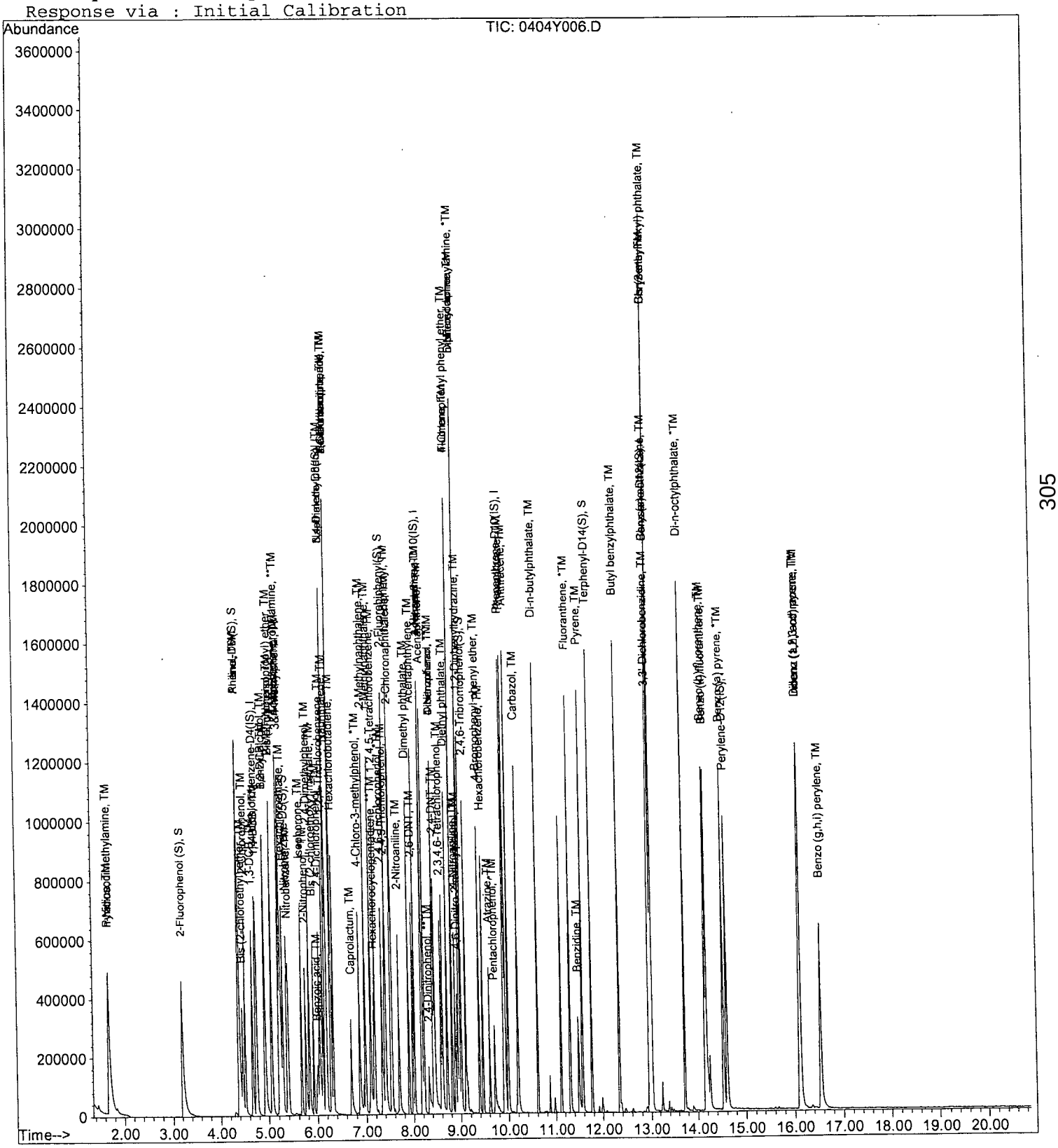
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



305

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D Vial: 7
Acq On : 4 Apr 17 10:45 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 5 9:39 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	487207	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	387773	106.61694 ppb	0.00
Spiked Amount 200.000			Recovery = 53.309%		
5) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery = 51.590%		
21) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery = 51.887%		
45) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery = 51.710%		
63) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery = 53.421%		
81) Terphenyl-D14(S)	11.77	244	560172	54.38831 ppb	0.00
Spiked Amount 100.000			Recovery = 54.388%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	230381	57.09378 ppb	100
3) Pyridine	1.67	79	399462	55.90809 ppb	100
6) Phenol	4.39	94	279005	52.81653 ppb	98
7) Aniline	4.39	66	262310	52.77399 ppb #	65
8) Bis (2-chloroethyl) ether	4.46	63	129206	51.41711 ppb	94
9) 2-Chlorophenol	4.51	128	220570	52.87338 ppb	94
10) 1,3-DCB	4.67	146	229468	51.78085 ppb	99
11) 1,4-DCB	4.75	146	230957	50.87787 ppb	98
12) Benzyl alcohol	4.93	108	126394	52.25105 ppb	95
13) 1,2-DCB	4.92	146	210571	51.33340 ppb	98
14) 2-Methylphenol	5.07	107	157511	50.12564 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	274342	51.00086 ppb	86
16) Acetophenone	5.21	105	275339	50.68220 ppb	97
17) 3&4-Methylphenol	5.24	107	405614	101.51837 ppb	99
18) n-Nitrosodi-n-propylamine	5.22	70	148093	50.16840 ppb	88
19) Hexachloroethane	5.29	117	97282	51.63019 ppb	97
22) Nitrobenzene	5.40	77	237646	52.34247 ppb	91
23) Isophorone	5.67	82	390824	52.38410 ppb	93
24) 2-Nitrophenol	5.76	139	118040	53.97462 ppb	91
25) 2,4-Dimethylphenol	5.83	122	176566	50.82893 ppb	99
26) Benzoic acid	6.02	105	158141	55.08013 ppb	95
27) Bis (2-chloroethoxy) metha	5.92	93	218124	50.14100 ppb	97
28) 2,4-Dichlorophenol	6.04	162	174596	51.90207 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	192201	52.90145 ppb	98
30) 3,4-Dimethylphenol	6.17	107	260929	51.44316 ppb	95
31) Naphthalene	6.19	128	593920	52.08660 ppb	100
32) 4-Chloroaniline	6.28	127	205417	53.74258 ppb	96
33) 2,6-Dichlorophenol	6.28	162	152431	51.47130 ppb	98
34) Hexachloropropene	6.29	213	143938	53.70083 ppb	97
35) Hexachlorobutadiene	6.34	225	114112	51.17287 ppb	99
36) Caprolactum	6.71	55	104604	56.64962 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	197482	53.91087 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	400279	50.60575 ppb		99
39) 1-Methylnaphthalene	7.10	142	424073	55.56066 ppb		97
41) Hexachlorocyclopentadiene	7.17	237	75534	54.68417 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194849	54.39428 ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	130235	54.94256 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	133983	54.45879 ppb		95
46) 1,1'-Biphenyl	7.53	154	522309	53.26084 ppb		99
47) 2-Chloronaphthalene	7.55	162	407139	53.17828 ppb		93
48) 2-Nitroaniline	7.70	65	148995	56.14876 ppb		98
49) Dimethyl phthalate	7.90	163	486000	53.04964 ppb		99
50) 2,6-DNT	7.98	165	114105	54.15603 ppb		96
51) Acenaphthylene	8.02	152	627303	51.85108 ppb		98
52) 3-Nitroaniline	8.18	138	114580	52.89579 ppb		96
53) Acenaphthene	8.22	154	382806	51.84841 ppb		98
54) 2,4-Dinitrophenol	8.33	184	60639	49.13117 ppb		89
55) 4-Nitrophenol	8.43	65	90442	51.14997 ppb	#	1
56) Dibenzofuran	8.43	168	537119	52.00082 ppb		100
57) 2,4-DNT	8.46	165	153397	54.62668 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.60	232	109557	54.73850 ppb		94
59) Diethyl phthalate	8.72	149	558434	59.62443 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	210415	51.50324 ppb		99
61) Fluorene	8.82	166	422140	50.75213 ppb		98
62) 4-Nitroaniline	8.89	138	119160	56.95402 ppb		100
65) 4,6-Dinitro-2-methylphenol	8.94	198	98966	53.86057 ppb		98
66) Diphenyl amine	8.98	169	700937	103.07961 ppb		100
67) n-Nitrosodiphenylamine	8.98	169	700937	103.07961 ppb		100
68) 1,2-Diphenylhydrazine	9.01	77	660457	57.52851 ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	131880	51.77280 ppb		94
70) Hexachlorobenzene	9.47	284	134228	51.88684 ppb		95
71) Atrazine	9.61	200	71675	26.15874 ppb		95
72) Pentachlorophenol	9.72	266	61111	54.63978 ppb		94
73) Phenanthrene	9.93	178	682251	51.02618 ppb		100
74) Anthracene	10.00	178	725098	51.40900 ppb		99
75) Carbazol	10.20	167	652498	52.47843 ppb		99
76) Di-n-butylphthalate	10.61	149	821001	50.77245 ppb		98
77) Fluoranthene	11.32	202	776689	52.74544 ppb		97
79) Benzidine	11.49	184	237369	55.14874 ppb		99
80) Pyrene	11.58	202	830283	55.27264 ppb		99
82) Butyl benzylphthalate	12.35	149	400778	54.91776 ppb		85
83) 3,3'-Dichlorobenzidine	12.96	252	252491	53.39070 ppb	#	94
84) Benz (a) anthracene	12.98	228	735065	52.34733 ppb		100
85) Bis (2-ethylhexyl) phthala	13.01	149	524618	51.29185 ppb		97
86) Chrysene	13.01	228	670581	48.78119 ppb		99
87) Di-n-octylphthalate	13.73	149	962075	53.49867 ppb		99
89) Benzo (b) fluoranthene	14.16	252	773182	50.83563 ppb		100
90) Benzo (k) fluoranthene	14.19	252	751433	52.25577 ppb		100
91) Benzo (a) pyrene	14.54	252	735446	52.55828 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.11	276	799992	49.50980 ppb		99
93) Dibenz (a,h) anthracene	16.12	278	680699	49.90117 ppb		98
94) Benzo (g,h,i) perylene	16.54	276	685004	50.21604 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

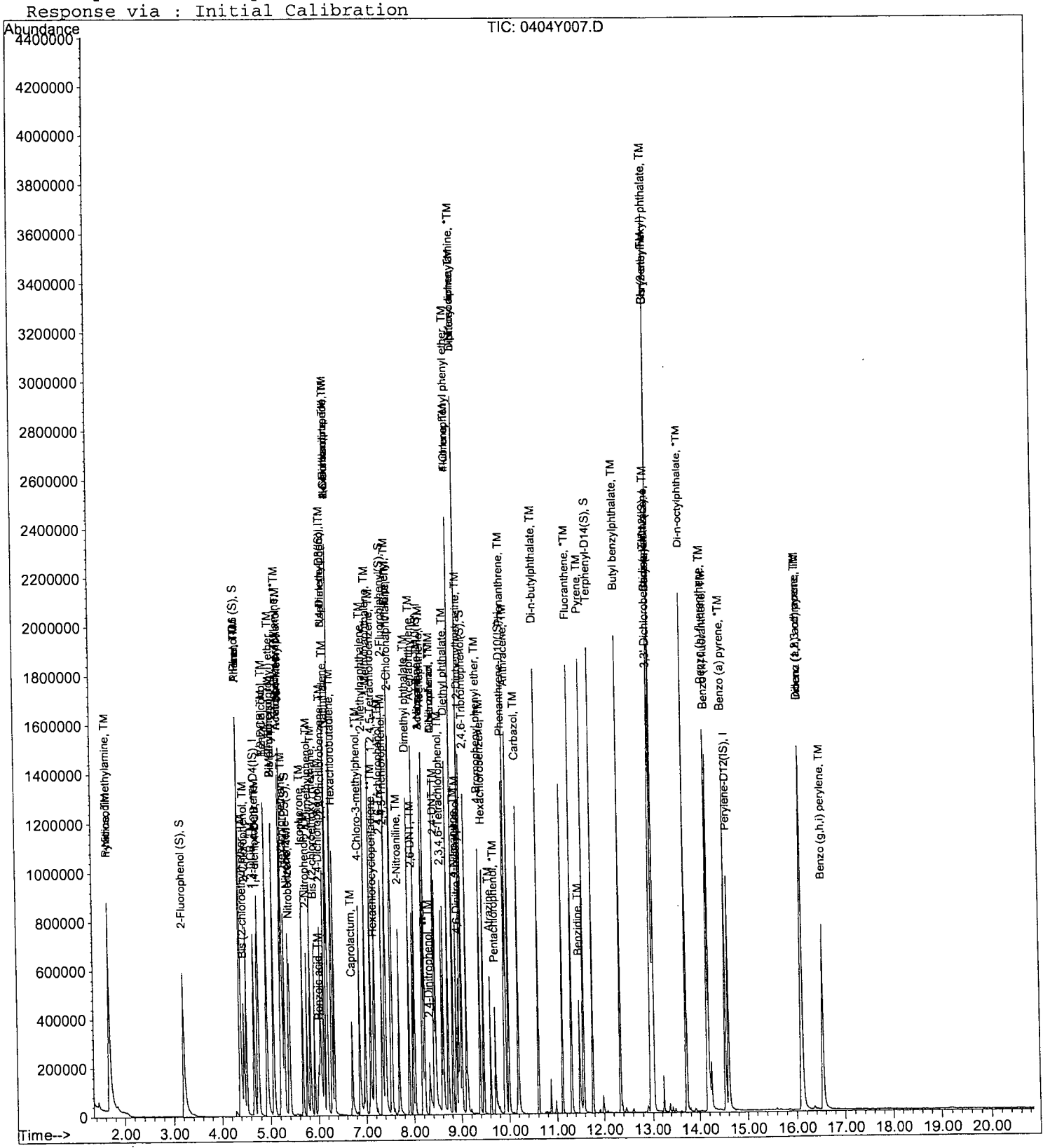
Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	605663	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	460352	134.66185 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.331%	
5) Phenol-D6 (S)	4.38	99	529157	116.71511 ppb	0.00
Spiked Amount 200.000			Recovery	= 58.358%	
21) Nitrobenzene-D5(S)	5.38	82	322467	68.78507 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.785%	
45) 2-Fluorobiphenyl(S)	7.41	172	511226	55.95175 ppb	0.00
Spiked Amount 100.000			Recovery	= 55.952%	
63) 2,4,6-Tribromophenol(S)	9.11	330	148732	112.56723 ppb	0.00
Spiked Amount 200.000			Recovery	= 56.284%	
81) Terphenyl-D14(S)	11.77	244	620058	47.19112 ppb	0.00
Spiked Amount 100.000			Recovery	= 47.191%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	274376	98.50754 ppb		97
3) Pyridine	1.67	79	477572	88.95839 ppb		91
6) Phenol	4.39	94	313290	60.38966 ppb		85
7) Aniline	4.39	66	305086	62.10219 ppb		98
8) Bis (2-chloroethyl) ether	4.46	63	151721	60.26363 ppb		99
9) 2-Chlorophenol	4.51	128	244398	60.67910 ppb		97
10) 1,3-DCB	4.67	146	258719	60.91223 ppb		99
11) 1,4-DCB	4.76	146	257721	58.84950 ppb		97
12) Benzyl alcohol	4.93	108	144466	63.00012 ppb		97
13) 1,2-DCB	4.93	146	239191	60.04107 ppb		96
14) 2-Methylphenol	5.07	107	178042	59.11504 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	309353	55.62279 ppb	#	86
16) Acetophenone	5.21	105	323939	60.43045 ppb		94
17) 3&4-Methylphenol	5.24	107	502945	128.89066 ppb		96
18) n-Nitrosodi-n-propylamine	5.22	70	176281	59.51561 ppb		92
19) Hexachloroethane	5.29	117	117601	65.27926 ppb		95
22) Nitrobenzene	5.40	77	313526	67.28221 ppb		96
23) Isophorone	5.67	82	478661	61.78652 ppb		95
24) 2-Nitrophenol	5.76	139	146767	66.94427 ppb		85
25) 2,4-Dimethylphenol	5.83	122	221248	63.01136 ppb		100
26) Benzoic acid	6.03	105	185135	66.42377 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	269568	60.39944 ppb		98
28) 2,4-Dichlorophenol	6.04	162	209561	62.75271 ppb		98
29) 1,2,4-Trichlorobenzene	6.11	180	222527	60.02132 ppb		97
30) 3,4-Dimethylphenol	6.17	107	309163	58.53268 ppb		98
31) Naphthalene	6.20	128	691459	57.76149 ppb		99
32) 4-Chloroaniline	6.28	127	235314	56.20975 ppb		97
33) 2,6-Dichlorophenol	6.28	162	176823	57.10188 ppb		99
34) Hexachloropropene	6.29	213	170577	63.25950 ppb		98
35) Hexachlorobutadiene	6.34	225	131504	59.60365 ppb		100
36) Caprolactum	6.73	55	118741	61.75516 ppb		94
37) 4-Chloro-3-methylphenol	6.87	107	229130	62.68840 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	461373	59.15545 ppb		99
39) 1-Methylnaphthalene	7.10	142	439052	56.51882 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	88888	58.92802 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	214369	55.51910 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	150923	61.95920 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	158504	59.62323 ppb		96
46) 1,1'-Biphenyl	7.53	154	598175	56.06861 ppb		96
47) 2-Chloronaphthalene	7.55	162	465763	57.08545 ppb		94
48) 2-Nitroaniline	7.69	65	171836	59.03900 ppb		90
49) Dimethyl phthalate	7.91	163	650235	66.20935 ppb		98
50) 2,6-DNT	7.98	165	127991	58.13111 ppb	#	76
51) Acenaphthylene	8.02	152	769268	58.68429 ppb		99
52) 3-Nitroaniline	8.18	138	141422	59.63774 ppb		97
53) Acenaphthene	8.22	154	443857	54.98038 ppb		98
54) 2,4-Dinitrophenol	8.32	184	77194	65.62142 ppb	#	77
55) 4-Nitrophenol	8.43	65	110312	58.32492 ppb		98
56) Dibenzofuran	8.43	168	656032	57.63108 ppb		98
57) 2,4-DNT	8.45	165	188497	61.93888 ppb		80
58) 2,3,4,6-Tetrachlorophenol	8.59	232	130499	62.67540 ppb	#	91
59) Diethyl phthalate	8.72	149	576422	57.24190 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	264152	59.69676 ppb		87
61) Fluorene	8.83	166	535338	58.27593 ppb		100
62) 4-Nitroaniline	8.90	138	139461	61.24851 ppb		94
65) 4,6-Dinitro-2-methylphenol	8.94	198	121902	61.75686 ppb	#	73
66) Diphenyl amine	8.98	169	812993	117.73775 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	812993	117.73775 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	828950	68.87226 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	156418	58.38444 ppb	#	85
70) Hexachlorobenzene	9.47	284	156588	56.41293 ppb	#	87
71) Atrazine	9.61	200	85983	32.14299 ppb		93
72) Pentachlorophenol	9.72	266	75734	59.97312 ppb		92
73) Phenanthrene	9.94	178	795737	55.43154 ppb		98
74) Anthracene	9.99	178	840252	56.01322 ppb		99
75) Carbazol	10.20	167	747777	56.28505 ppb		97
76) Di-n-butylphthalate	10.61	149	1076951	64.28711 ppb		99
77) Fluoranthene	11.32	202	868309	55.31602 ppb		98
79) Benzidine	11.49	184	281110	38.69488 ppb		99
80) Pyrene	11.58	202	950846	49.03302 ppb		100
82) Butyl benzylphthalate	12.34	149	464290	51.39743 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	337315	55.80389 ppb	#	98
84) Benz (a) anthracene	12.97	228	1004775	55.42734 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	659056	52.28702 ppb		96
86) Chrysene	13.02	228	870807	49.07539 ppb		98
87) Di-n-octylphthalate	13.73	149	1198098	55.35418 ppb		95
89) Benzo (b) fluoranthene	14.16	252	836743	57.49001 ppb		96
90) Benzo (k) fluoranthene	14.19	252	897871	65.71654 ppb		99
91) Benzo (a) pyrene	14.54	252	819052	60.94682 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	916818	61.14308 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	790802	62.00544 ppb		98
94) Benzo (g,h,i) perylene	16.55	276	786363	62.14156 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

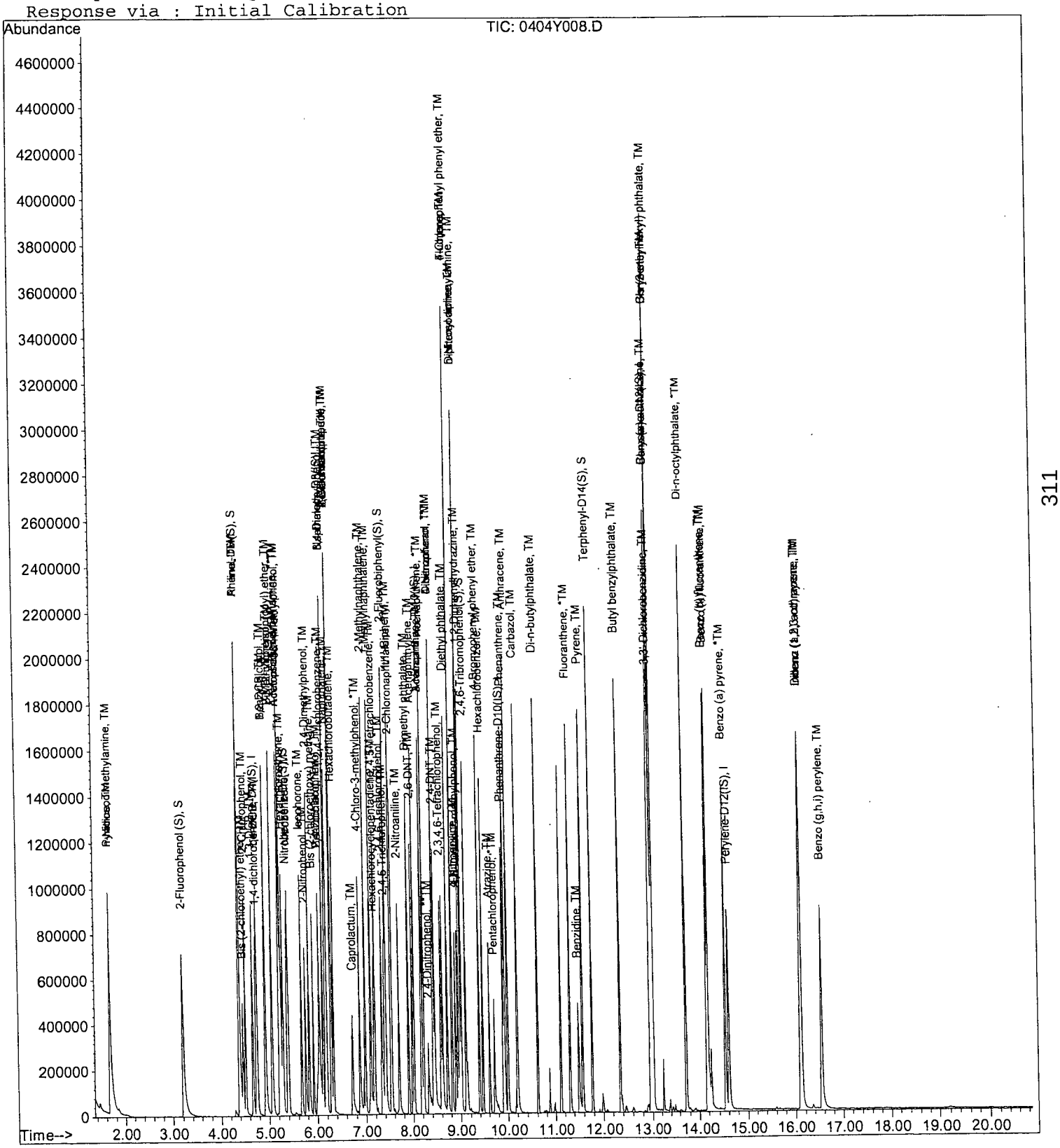
Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D Vial: 9
Acq On : 4 Apr 17 11:47 Operator: MA
Sample : 80ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	478317	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	550572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	696751	172.43633 ppb	-0.05
Spiked Amount 200.000			Recovery = 86.218%		
5) Phenol-D6 (S)	4.38	99	770056	143.24315 ppb	0.00
Spiked Amount 200.000			Recovery = 71.622%		
21) Nitrobenzene-D5(S)	5.38	82	427790	88.18857 ppb	-0.01
Spiked Amount 100.000			Recovery = 88.189%		
45) 2-Fluorobiphenyl(S)	7.42	172	701781	73.36956 ppb	0.00
Spiked Amount 100.000			Recovery = 73.370%		
63) 2,4,6-Tribromophenol(S)	9.11	330	207208	150.14093 ppb	0.00
Spiked Amount 200.000			Recovery = 75.071%		
81) Terphenyl-D14(S)	11.77	244	865042	73.04742 ppb	0.00
Spiked Amount 100.000			Recovery = 73.047%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	376671	123.03008 ppb		97
3) Pyridine	1.67	79	651971	107.05356 ppb		100
6) Phenol	4.40	94	476198	77.16960 ppb		87
7) Aniline	4.40	66	451795	77.12600 ppb	#	47
8) Bis (2-chloroethyl) ether	4.46	63	235655	78.02463 ppb		91
9) 2-Chlorophenol	4.51	128	381956	80.04048 ppb		98
10) 1,3-DCB	4.67	146	408558	81.15844 ppb		98
11) 1,4-DCB	4.75	146	412884	79.81427 ppb		96
12) Benzyl alcohol	4.93	108	222088	81.71037 ppb		97
13) 1,2-DCB	4.92	146	362202	76.81880 ppb		99
14) 2-Methylphenol	5.07	107	266625	74.76167 ppb		99
15) Bis (2-chloroisopropyl) et	5.06	45	475284	71.72089 ppb	#	72
16) Acetophenone	5.21	105	484723	76.27256 ppb		99
17) 3&4-Methylphenol	5.25	107	693145	149.67027 ppb		93
18) n-Nitrosodi-n-propylamine	5.22	70	265133	75.15276 ppb		88
19) Hexachloroethane	5.29	117	168456	79.19358 ppb		92
22) Nitrobenzene	5.40	77	421935	87.14138 ppb		98
23) Isophorone	5.68	82	718627	89.39145 ppb		94
24) 2-Nitrophenol	5.76	139	218946	96.41328 ppb		91
25) 2,4-Dimethylphenol	5.83	122	315055	85.80894 ppb		96
26) Benzoic acid	6.04	105	249059	85.49344 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	404092	86.82209 ppb		100
28) 2,4-Dichlorophenol	6.04	162	308482	88.29283 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	322421	83.51662 ppb		99
30) 3,4-Dimethylphenol	6.17	107	434730	78.64511 ppb		96
31) Naphthalene	6.20	128	1002132	80.13412 ppb		99
32) 4-Chloroaniline	6.28	127	292303	66.53972 ppb	#	89
33) 2,6-Dichlorophenol	6.28	162	231202	71.50220 ppb		99
34) Hexachloropropene	6.29	213	228793	81.52660 ppb		98
35) Hexachlorobutadiene	6.34	225	189667	82.85234 ppb		99
36) Caprolactum	6.75	55	175935	88.47360 ppb		93
37) 4-Chloro-3-methylphenol	6.87	107	328190	86.68683 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	661199	81.38725 ppb		97
39) 1-Methylnaphthalene	7.10	142	634599	79.30174 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	140223	79.25066 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	307926	76.32321 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	214449	84.71239 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	227425	81.90104 ppb		96
46) 1,1'-Biphenyl	7.54	154	821798	73.46236 ppb		97
47) 2-Chloronaphthalene	7.55	162	658556	77.04384 ppb		97
48) 2-Nitroaniline	7.69	65	248474	81.52039 ppb		90
49) Dimethyl phthalate	7.91	163	792632	77.33418 ppb		99
50) 2,6-DNT	7.99	165	190596	83.29714 ppb		84
51) Acenaphthylene	8.03	152	1051484	76.39799 ppb		100
52) 3-Nitroaniline	8.18	138	191583	76.56019 ppb		87
53) Acenaphthene	8.22	154	623269	73.46147 ppb		98
54) 2,4-Dinitrophenol	8.32	184	123017	91.99556 ppb		97
55) 4-Nitrophenol	8.43	65	160124	77.88635 ppb	#	1
56) Dibenzofuran	8.43	168	877383	73.24133 ppb		90
57) 2,4-DNT	8.46	165	268705	84.22212 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	183610	83.94922 ppb		95
59) Diethyl phthalate	8.72	149	810128	78.05649 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	340079	72.88752 ppb	#	81
61) Fluorene	8.83	166	684679	70.60346 ppb		98
62) 4-Nitroaniline	8.90	138	191810	80.57477 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.95	198	168667	77.83187 ppb		89
66) Diphenyl amine	8.98	169	1069838	144.16591 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	1069838	144.16591 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	1095437	84.55404 ppb		89
69) 4-Bromophenyl phenyl ether	9.39	248	221743	76.25014 ppb		87
70) Hexachlorobenzene	9.47	284	223029	73.51979 ppb	#	85
71) Atrazine	9.62	200	123128	42.86350 ppb		99
72) Pentachlorophenol	9.72	266	112127	79.32319 ppb		95
73) Phenanthrene	9.94	178	1114239	70.95247 ppb		100
74) Anthracene	10.00	178	1170794	71.47704 ppb		100
75) Carbazol	10.20	167	1055567	72.79345 ppb		96
76) Di-n-butylphthalate	10.62	149	1409340	76.91220 ppb		99
77) Fluoranthene	11.32	202	1228617	72.06681 ppb		95
79) Benzidine	11.50	184	371271	54.16939 ppb		96
80) Pyrene	11.58	202	1297129	73.46717 ppb		98
82) Butyl benzylphthalate	12.35	149	658870	80.70890 ppb		99
83) 3,3'-Dichlorobenzidine	12.96	252	380319	68.70057 ppb		98
84) Benz (a) anthracene	12.98	228	1171043	70.52182 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	863161	75.17463 ppb		98
86) Chrysene	13.02	228	1165678	71.57285 ppb		99
87) Di-n-octylphthalate	13.74	149	1567502	79.69270 ppb	#	91
89) Benzo (b) fluoranthene	14.16	252	1316574	81.42140 ppb		97
90) Benzo (k) fluoranthene	14.19	252	1074749	72.11789 ppb		99
91) Benzo (a) pyrene	14.54	252	1153969	78.13893 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	1302019	78.64363 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	1098191	77.92212 ppb		99
94) Benzo (g,h,i) perylene	16.55	276	1136914	81.84687 ppb		98

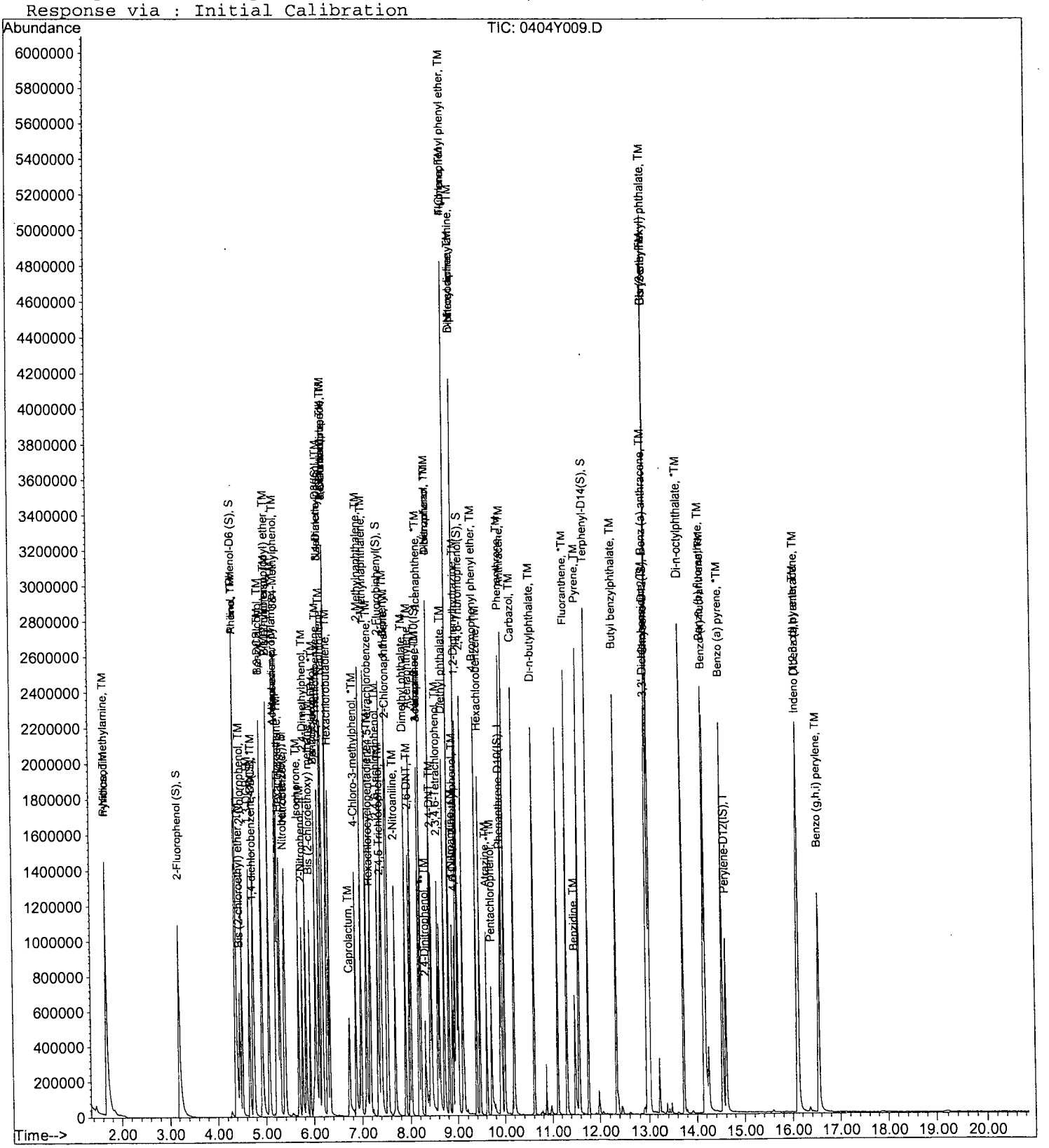
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y009.D Vial: 9
Acq On : 4 Apr 17 11:47 Operator: MA
Sample : 80ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb		0.00
20) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb		0.00
40) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb		0.00
64) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb		0.00
78) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb		0.00
88) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb		0.00
System Monitoring Compounds						
4) 2-Fluorophenol (S)	3.19	112	773437	207.34510 ppb		0.00
Spiked Amount 200.000			Recovery	= 103.673%		
5) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb		0.00
Spiked Amount 200.000			Recovery	= 88.269%		
21) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb		0.00
Spiked Amount 100.000			Recovery	= 103.046%		
45) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb		0.00
Spiked Amount 100.000			Recovery	= 95.429%		
63) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb		0.00
Spiked Amount 200.000			Recovery	= 103.980%		
81) Terphenyl-D14(S)	11.77	244	992665	93.95291 ppb		0.00
Spiked Amount 100.000			Recovery	= 93.953%		
Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	425920	102.91776 ppb		84
3) Pyridine	1.67	79	722710	98.62419 ppb		96
6) Phenol	4.40	94	507951	93.75618 ppb		96
7) Aniline	4.40	66	519276	101.86465 ppb	#	43
8) Bis (2-chloroethyl) ether	4.47	63	266540	103.42071 ppb		91
9) 2-Chlorophenol	4.51	128	413357	96.61313 ppb		97
10) 1,3-DCB	4.67	146	428231	94.22049 ppb		98
11) 1,4-DCB	4.75	146	435065	93.44846 ppb		100
12) Benzyl alcohol	4.93	108	243762	98.25503 ppb		96
13) 1,2-DCB	4.92	146	385653	91.66813 ppb		98
14) 2-Methylphenol	5.07	107	293276	91.00092 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	499480	90.53646 ppb	#	73
16) Acetophenone	5.22	105	523190	93.90038 ppb		96
17) 3&4-Methylphenol	5.25	107	709133	173.05318 ppb		97
18) n-Nitrosodi-n-propylamine	5.23	70	270093	89.21322 ppb		82
19) Hexachloroethane	5.29	117	178857	92.55446 ppb		98
22) Nitrobenzene	5.40	77	465969	102.81631 ppb		98
23) Isophorone	5.68	82	790168	106.10087 ppb		97
24) 2-Nitrophenol	5.76	139	238371	109.19307 ppb		83
25) 2,4-Dimethylphenol	5.83	122	354209	102.15149 ppb		96
26) Benzoic acid	6.06	105	290052	98.62058 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	443197	102.06284 ppb		99
28) 2,4-Dichlorophenol	6.04	162	350824	104.47705 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	366705	101.11372 ppb		100
30) 3,4-Dimethylphenol	6.17	107	510022	100.73386 ppb		93
31) Naphthalene	6.20	128	1137936	99.97633 ppb		99
32) 4-Chloroaniline	6.28	127	310882	81.48149 ppb	#	86
33) 2,6-Dichlorophenol	6.28	162	275295	93.12611 ppb		99
34) Hexachloropropene	6.29	213	293750	109.79048 ppb		99
35) Hexachlorobutadiene	6.34	225	226348	101.68722 ppb		99
36) Caprolactum	6.76	55	203622	110.47263 ppb		95
37) 4-Chloro-3-methylphenol	6.88	107	383540	104.89162 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	744542	94.29910 ppb		100
39) 1-Methylnaphthalene	7.10	142	717308	94.14857 ppb		100
41) Hexachlorocyclopentadiene	7.17	237	179104	100.56951 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	344281	96.56243 ppb		95
43) 2,4,6-Trichlorophenol	7.34	196	248145	105.17845 ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	251054	102.52399 ppb		99
46) 1,1'-Biphenyl	7.54	154	949276	97.25525 ppb		97
47) 2-Chloronaphthalene	7.56	162	756927	99.33119 ppb		97
48) 2-Nitroaniline	7.70	65	296478	112.25379 ppb		87
49) Dimethyl phthalate	7.91	163	916404	100.50165 ppb		100
50) 2,6-DNT	7.99	165	219151	104.50226 ppb		93
51) Acenaphthylene	8.02	152	1162203	96.51672 ppb		99
52) 3-Nitroaniline	8.18	138	213576	99.06149 ppb		84
53) Acenaphthene	8.23	154	699593	95.20116 ppb		99
54) 2,4-Dinitrophenol	8.33	184	140767	99.36552 ppb		95
55) 4-Nitrophenol	8.43	65	200402	104.29026 ppb	#	1
56) Dibenzofuran	8.43	168	987669	96.07076 ppb		89
57) 2,4-DNT	8.47	165	302081	108.08151 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.60	232	210701	105.76926 ppb		94
59) Diethyl phthalate	8.74	149	932756	100.06001 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	418629	102.95022 ppb	#	78
61) Fluorene	8.83	166	832507	100.56011 ppb		98
62) 4-Nitroaniline	8.91	138	209595	100.65025 ppb		91
65) 4,6-Dinitro-2-methylphenol	8.95	198	192473	96.07130 ppb	#	71
66) Diphenyl amine	8.99	169	1289980	177.28553 ppb		98
67) n-Nitrosodiphenylamine	8.99	169	1289980	177.28553 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	1258249	102.42399 ppb		85
69) 4-Bromophenyl phenyl ether	9.39	248	255625	93.78267 ppb	#	83
70) Hexachlorobenzene	9.47	284	254441	91.91740 ppb	#	82
71) Atrazine	9.62	200	138683	47.30085 ppb		97
72) Pentachlorophenol	9.72	266	135103	100.56356 ppb		94
73) Phenanthrene	9.94	178	1295258	90.53191 ppb		99
74) Anthracene	10.00	178	1346540	89.21918 ppb		100
75) Carbazol	10.20	167	1224655	92.04748 ppb		93
76) Di-n-butylphthalate	10.62	149	1602655	92.62347 ppb		99
77) Fluoranthene	11.33	202	1418663	90.03546 ppb	#	94
79) Benzidine	11.49	184	420209	95.17004 ppb		98
80) Pyrene	11.59	202	1460063	94.74995 ppb		98
82) Butyl benzylphthalate	12.36	149	737719	98.54243 ppb		95
83) 3,3'-Dichlorobenzidine	12.96	252	406206	83.73161 ppb		97
84) Benz (a) anthracene	12.98	228	1384031	96.08109 ppb		100
85) Bis (2-ethylhexyl) phthala	13.02	149	1127997	107.50693 ppb		95
86) Chrysene	13.02	228	1484474	105.26818 ppb		100
87) Di-n-octylphthalate	13.74	149	1777361	96.34586 ppb	#	88
89) Benzo (b) fluoranthene	14.17	252	1458987	94.40023 ppb	#	97
90) Benzo (k) fluoranthene	14.20	252	1181491	80.85549 ppb		99
91) Benzo (a) pyrene	14.55	252	1285658	90.41717 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.12	276	1442533	87.85498 ppb		97
93) Dibenz (a,h) anthracene	16.13	278	1210270	87.31182 ppb		96
94) Benzo (g,h,i) perylene	16.56	276	1254551	90.50505 ppb		97

(#) = qualifier out of range (m) = manual integration

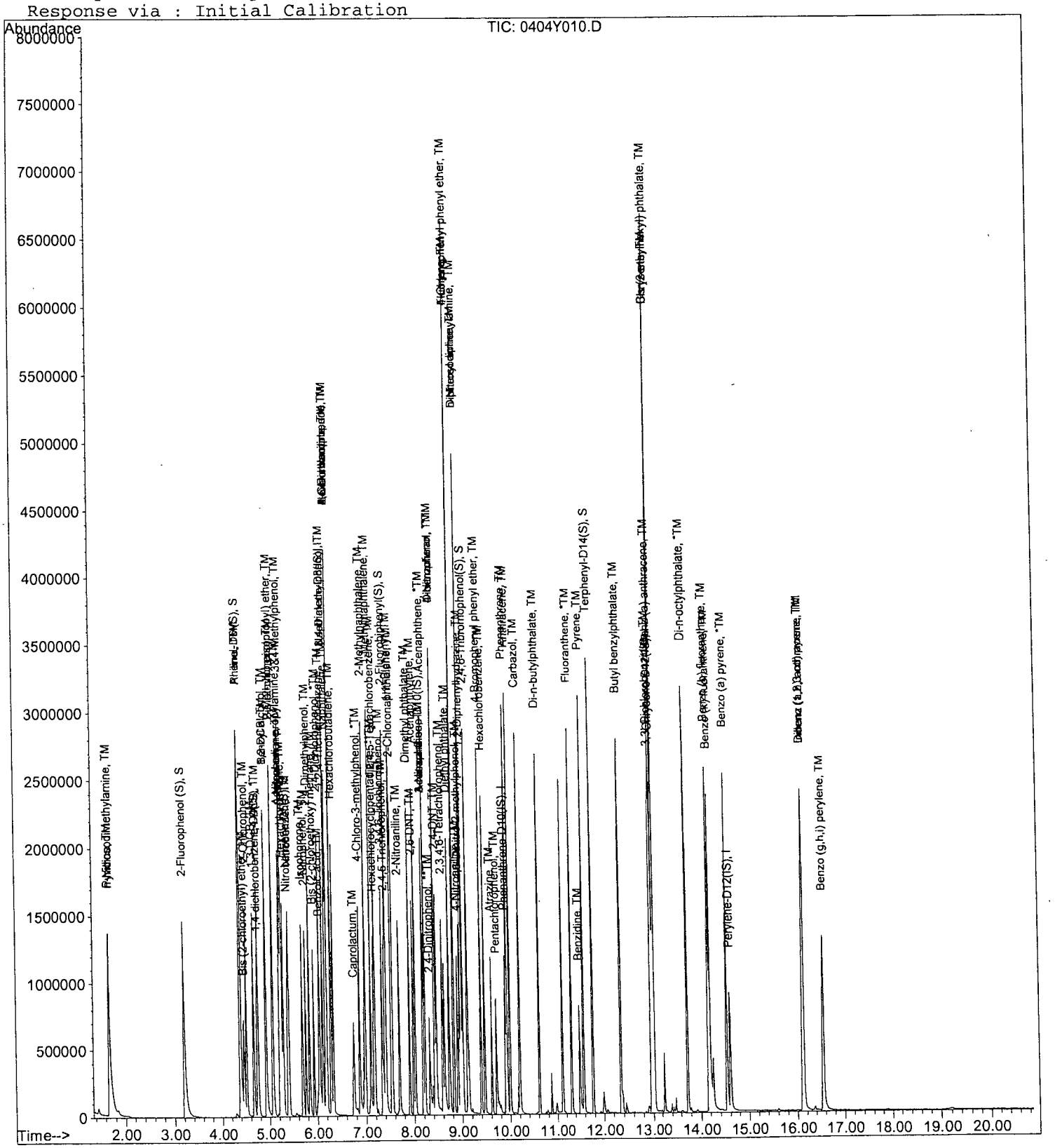
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	n-Nitrosodimethylamine	1.429	1.612	13	TM		
2	TM	Pyridine	2.529	2.957	17	TM		
3	*TM	Phenol	1.870	2.056	9.9	*TM		
4	TM	Aniline	1.760	1.636	7.0	TM		
5	TM	Bis (2-chloroethyl) ether	0.8896	0.8927	0.35	TM		
6	TM	2-Chlorophenol	1.477	1.565	6.0	TM		
7	TM	1,3-DCB	1.569	1.646	4.9	TM		
8	*TM	1,4-DCB	1.607	1.664	3.6	*TM		
9	TM	Benzyl alcohol	0.8564	0.8902	4.0	TM		
10	TM	1,2-DCB	1.452	1.502	3.4	TM		
11	TM	2-Methylphenol	1.112	1.136	2.1	TM		
12	TM	Bis (2-chloroisopropyl) ether	1.904	1.998	4.9	TM		
13	TM	Acetophenone	1.923	1.982	3.1	TM		
14	TM	3&4-Methylphenol	1.414	1.482	4.8	TM		
15	**TM	n-Nitrosodi-n-propylamine	1.045	1.078	3.2	**TM		
16	TM	Hexachloroethane	0.6670	0.6967	4.4	TM		
17	TM	Nitrobenzene	0.4137	0.4409	6.6	TM		
18	TM	Isophorone	0.6798	0.7388	8.7	TM		
19	*TM	2-Nitrophenol	0.1993	0.2258	13	*TM		
20	TM	2,4-Dimethylphenol	0.3165	0.3438	8.6	TM		
21	TML	Benzoic acid	0.2240	0.2805	25	TML	7.4	
22	TM	Bis (2-chloroethoxy) methane	0.3964	0.4144	4.5	TM		
23	*TM	2,4-Dichlorophenol	0.3065	0.3284	7.1	*TM		
24	TM	1,2,4-Trichlorobenzene	0.3311	0.3510	6.0	TM		
25	TM	3,4-Dimethylphenol	0.4622	0.4752	2.8	TM		
26	TM	Naphthalene	1.039	1.067	2.7	TM		
27	TM	4-Chloroaniline	0.3483	0.3509	0.74	TM		A
28	TM	2,6-Dichlorophenol	0.2698	0.2767	2.5	TM		
29	TM	Hexachloropropene	0.2442	0.2524	3.4	TM		
30	*TM	Hexachlorobutadiene	0.2032	0.1992	2.0	*TM		
31	TM	Caprolactum	0.1683	0.1798	6.8	TM		
32	*TM	4-Chloro-3-methylphenol	0.3338	0.3341	0.08	*TM		
33	TM	2-Methylnaphthalene	0.7207	0.6858	4.8	TM		
34	TM	1-Methylnaphthalene	0.6955	0.7068	1.6	TM		
35	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2183	32	**TMQ	6.8	
36	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5492	2.2	TM		
37	*TM	2,4,6-Trichlorophenol	0.3558	0.3563	0.14	*TM		
38	TM	2,4,5-Trichlorophenol	0.3693	0.3804	3.0	TM		
39	TM	1,1'-Biphenyl	1.472	1.422	3.4	TM		
40	TM	2-Chloronaphthalene	1.149	1.112	3.2	TM		
		Average			6.1			

A Reported from 0404Y015

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Nitroaniline	0.3983	0.4157	4.4	TM	
42	TM	Dimethyl phthalate	1.375	1.494	8.7	TM	
43	TM	2,6-DNT	0.3162	0.3525	11	TM	
44	TM	Acenaphthylene	1.816	1.958	7.8	TM	
45	TM	3-Nitroaniline	0.3251	0.3260	0.26	TM	
46	*TM	Acenaphthene	1.108	1.143	3.2	*TM	
47	**TML	2,4-Dinitrophenol	0.1445	0.1640	14	**TML	11
48	**TML	4-Nitrophenol	0.2008	0.2649	32	**TML	0.49
49	TM	Dibenzofuran	1.550	1.713	11	TM	
50	TM	2,4-DNT	0.4215	0.4693	11	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3332	11	TM	
52	TM	Diethyl phthalate	1.406	1.413	0.53	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6132	0.5869	4.3	TM	
54	TM	Fluorene	1.248	1.206	3.4	TM	
55	TM	4-Nitroaniline	0.3140	0.3112	0.90	TM	
56	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1727	35	TMQ	19
57	TM	Diphenyl amine	0.5231	0.5931	13	TM	
58	*TM	n-Nitrosodiphenylamine	0.5231	0.5931	13	*TM	
59	TM	1,2-Diphenylhydrazine	0.8832	0.9113	3.2	TM	
60	TM	4-Bromophenyl phenyl ether	0.1959	0.2267	16	TM	
61	TM	Hexachlorobenzene	0.1990	0.2361	19	TM	
62	TM	Atrazine	0.2108	0.2358	12	TM	
63	*TM	Pentachlorophenol	0.0841	0.0992	18	*TM	
64	TM	Phenanthrene	1.028	1.121	9.0	TM	
65	TM	Anthracene	1.085	1.162	7.1	TM	
66	TM	Carbazol	0.9564	1.038	8.5	TM	
67	TM	Di-n-butylphthalate	1.244	1.345	8.1	TM	
68	*TM	Fluoranthene	1.133	1.218	7.5	*TM	
69	TM	Benzidine	0.3534	0.3818	8.0	TM	
70	TM	Pyrene	1.233	1.318	6.9	TM	
71	TM	Butyl benzylphthalate	0.5992	0.6398	6.8	TM	
72	TM	3,3'-Dichlorobenzidine	0.3883	0.3286	15	TM	
73	TM	Benz (a) anthracene	1.153	1.190	3.3	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8555	1.9	TM	
75	TM	Chrysene	1.129	1.105	2.1	TM	
76	*TM	Di-n-octylphthalate	1.476	1.573	6.6	*TM	
77	TM	Benzo (b) fluoranthene	1.340	1.260	6.0	TM	
78	TM	Benzo (k) fluoranthene	1.267	1.349	6.4	TM	
79	*TM	Benzo (a) pyrene	1.233	1.271	3.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.424	1.700	19	TM	
		Average			9.4		

0
0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.202	1.445	20	TM	
82	TM	Benzo (g,h,i) perylene	1.202	1.417	18	TM	
83							
84							
85							
86							
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106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	452627	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	486812	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.29	82	40784	8.70340 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.703%	
45) 2-Fluorobiphenyl(S)	7.40	172	238	0.02679 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Algorithm = $\frac{241922 \times 40 \times 1}{120035 \times 1.429}$ = 56.4 HA4/5/17

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	241922	56.43464 ppb		96
3) Pyridine	1.67	79	443637	58.44606 ppb		100
6) Phenol	4.39	94	308453	54.97098 ppb		93
7) Aniline	4.39	66	245433	46.48002 ppb	#	70
8) Bis (2-chloroethyl) ether	4.45	63	133941	50.17262 ppb		91
9) 2-Chlorophenol	4.51	128	234860	52.99416 ppb		96
10) 1,3-DCB	4.67	146	247023	52.47020 ppb		98
11) 1,4-DCB	4.75	146	249719	51.78186 ppb		96
12) Benzyl alcohol	4.92	108	133576	51.97868 ppb		97
13) 1,2-DCB	4.92	146	225378	51.71795 ppb		97
14) 2-Methylphenol	5.07	107	170474	51.06643 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	299806	52.46308 ppb		89
16) Acetophenone	5.21	105	297375	51.52529 ppb		99
17) 3&4-Methylphenol	5.24	107	444636	104.75255 ppb		97
18) n-Nitrosodi-n-propylamine	5.21	70	161808	51.59694 ppb		95
19) Hexachloroethane	5.29	117	104538	52.22443 ppb		97
22) Nitrobenzene	5.39	77	249471	53.29065 ppb		100
23) Isophorone	5.67	82	418017	54.33997 ppb		94
24) 2-Nitrophenol	5.75	139	127740	56.64930 ppb		94
25) 2,4-Dimethylphenol	5.83	122	194532	54.31280 ppb		95
26) Benzoic acid	6.01	105	158675	53.68314 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	234458	52.27113 ppb		98
28) 2,4-Dichlorophenol	6.04	162	185791	53.56514 ppb		93
29) 1,2,4-Trichlorobenzene	6.12	180	198600	53.01496 ppb		97
30) 3,4-Dimethylphenol	6.17	107	268885	51.41373 ppb		98
31) Naphthalene	6.19	128	603632	51.34257 ppb		98
32) 4-Chloroaniline	6.28	127	123406	31.31307 ppb		95
33) 2,6-Dichlorophenol	6.28	162	156543	51.26639 ppb		96
34) Hexachloropropene	6.29	213	142819	51.67717 ppb		97
35) Hexachlorobutadiene	6.34	225	112688	49.01098 ppb		98
36) Caprolactum	6.72	55	101712	53.42298 ppb		98
37) 4-Chloro-3-methylphenol	6.87	107	189004	50.04113 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	388003	47.57507 ppb		99
39) 1-Methylnaphthalene	7.10	142	399917	50.81640 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	77313	53.38262 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194514	51.07973 ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	126168	50.06948 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	134723	51.51132 ppb		96
46) 1,1'-Biphenyl	7.53	154	503749	48.32116 ppb		97
47) 2-Chloronaphthalene	7.54	162	393986	48.40777 ppb		95
48) 2-Nitroaniline	7.69	65	147234	52.19384 ppb		97
49) Dimethyl phthalate	7.90	163	529217	54.34038 ppb		100
50) 2,6-DNT	7.98	165	124830	55.73189 ppb		93
51) Acenaphthylene	8.02	152	693256	53.90348 ppb		100
52) 3-Nitroaniline	8.18	138	115439	50.13114 ppb		98
53) Acenaphthene	8.22	154	404948	51.59393 ppb		99
54) 2,4-Dinitrophenol	8.32	184	58078	44.52844 ppb		89
55) 4-Nitrophenol	8.44	65	93819	49.75668 ppb	#	1
56) Dibenzofuran	8.43	168	606686	55.25179 ppb		96
57) 2,4-DNT	8.45	165	166211	55.67887 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	118000	55.45970 ppb		97
59) Diethyl phthalate	8.71	149	500470	50.26586 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	207849	47.85734 ppb		95
61) Fluorene	8.82	166	427114	48.30413 ppb		94
62) 4-Nitroaniline	8.89	138	110209	49.55114 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	105208	59.28300 ppb		98
66) Diphenyl amine	8.97	169	722641	113.38251 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	722641	113.38251 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	555203	51.59231 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	138094	57.83986 ppb		98
70) Hexachlorobenzene	9.47	284	143817	59.31356 ppb		99
71) Atrazine	9.62	200	71826	27.96794 ppb		97
72) Pentachlorophenol	9.72	266	60457	58.99127 ppb		97
73) Phenanthrene	9.93	178	682951	54.49644 ppb		99
74) Anthracene	10.00	178	707886	53.54703 ppb		100
75) Carbazol	10.20	167	632165	54.24525 ppb		96
76) Di-n-butylphthalate	10.61	149	819498	54.07071 ppb		97
77) Fluoranthene	11.31	202	742007	53.76201 ppb		100
79) Benzidine	11.50	184	232343	54.02483 ppb		98
80) Pyrene	11.57	202	802008	53.43367 ppb		98
82) Butyl benzylphthalate	12.34	149	389326	53.39180 ppb	#	75
83) 3,3'-Dichlorobenzidine	12.96	252	199964	42.31787 ppb	#	96
84) Benz (a) anthracene	12.98	228	724356	51.62655 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	520567	50.93708 ppb		96
86) Chrysene	13.01	228	672225	48.94046 ppb		99
87) Di-n-octylphthalate	13.73	149	957326	53.27779 ppb		95
89) Benzo (b) fluoranthene	14.16	252	734897	47.00114 ppb		96
90) Benzo (k) fluoranthene	14.19	252	786807	53.22401 ppb		99
91) Benzo (a) pyrene	14.54	252	741585	51.55214 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	992130	59.72684 ppb		98
93) Dibenz (a,h) anthracene	16.12	278	843126	60.12340 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	826517	58.93816 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

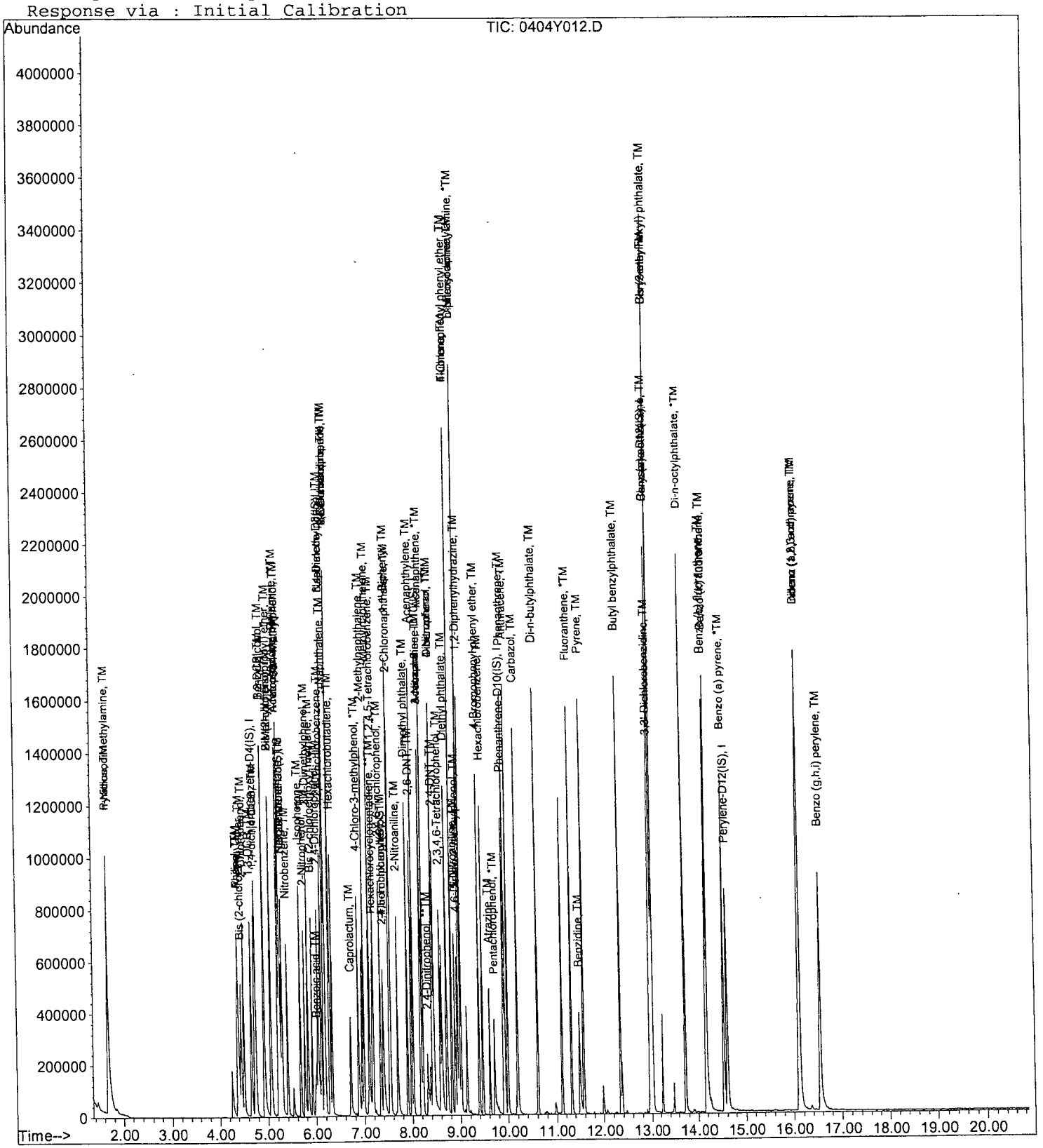
Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y015.D Vial: 15
Acq On : 5 Apr 17 10:19 Operator: MA
Sample : SS 4-chloroaniline 50ug/ml 04/05/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104120	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	448907	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	252014	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	454389	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	452215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453788	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	0.00	82	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
45) 2-Fluorobiphenyl(S)	0.00	172	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
Target Compounds					Qvalue
32) 4-Chloroaniline	6.28	127	196879	50.37010 ppb	94

(#) = qualifier out of range (m) = manual integration
0404Y015.D Y0404.M Wed Apr 05 13:21:29 2017

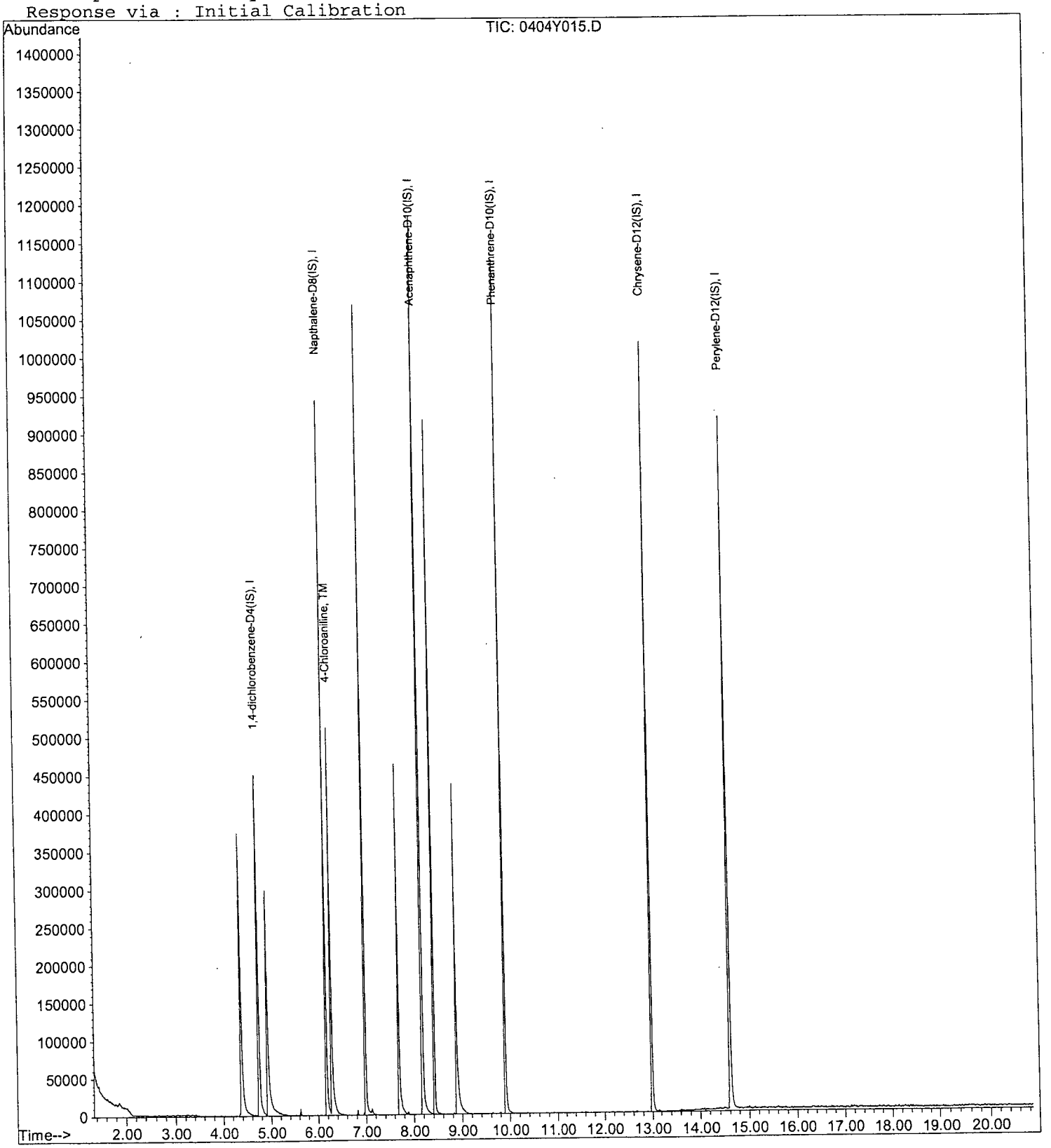
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.444	1.1	TM	
3	S	2-Fluorophenol (S)	1.286	1.314	2.2	S	
4	S	Phenol-D6 (S)	1.610	1.513	6.0	S	
5	*TM	Phenol	1.870	1.846	1.3	*TM	
6	TM	Aniline	1.760	1.749	0.58	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8391	5.7	TM	
8	TM	2-Chlorophenol	1.477	1.452	1.7	TM	
9	TM	1,3-DCB	1.569	1.517	3.3	TM	
10	*TM	1,4-DCB	1.607	1.533	4.6	*TM	
11	TM	Benzyl alcohol	0.8564	0.8407	1.8	TM	
12	TM	1,2-DCB	1.452	1.418	2.4	TM	
13	TM	2-Methylphenol	1.112	1.058	4.9	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.839	3.4	TM	
15	TM	Acetophenone	1.923	1.876	2.5	TM	
16	TM	3&4-Methylphenol	1.414	1.394	1.4	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.024	2.0	**TM	
18	TM	Hexachloroethane	0.6670	0.6624	0.70	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.4013	3.1	S	
21	TM	Nitrobenzene	0.4137	0.4006	3.2	TM	
22	TM	Isophorone	0.6798	0.6643	2.3	TM	
23	*TM	2-Nitrophenol	0.1993	0.2012	0.96	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3084	2.6	TM	
25	TML	Benzoic acid	0.2240	0.2517	12	TML	3.0
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3944	0.49	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3018	1.5	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3232	2.4	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4463	3.4	TM	
30	TM	Naphthalene	1.039	1.011	2.7	TM	
31	TM	4-Chloroaniline	0.3483	0.3353	3.7	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2483	8.0	TM	
33	TM	Hexachloropropene	0.2442	0.2323	4.9	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1891	6.9	*TM	
35	TM	Caprolactum	0.1683	0.1662	1.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3282	1.7	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6912	4.1	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6721	3.4	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2025	23	**TMQ	1.1
		Average			3.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.4857	9.7	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3355	5.7	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3510	5.0	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.151	8.2	S	
45	TM	1,1'-Biphenyl	1.472	1.348	8.4	TM	
46	TM	2-Chloronaphthalene	1.149	1.070	6.9	TM	
47	TM	2-Nitroaniline	0.3983	0.3947	0.89	TM	
48	TM	Dimethyl phthalate	1.375	1.280	6.9	TM	
49	TM	2,6-DNT	0.3162	0.3080	2.6	TM	
50	TM	Acenaphthylene	1.816	1.705	6.1	TM	
51	TM	3-Nitroaniline	0.3251	0.3188	1.9	TM	
52	*TM	Acenaphthene	1.108	1.039	6.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1750	21	**TML	6.1
54	**TML	4-Nitrophenol	0.2008	0.2549	27	**TML	3.7
55	TM	Dibenzofuran	1.550	1.497	3.4	TM	
56	TM	2,4-DNT	0.4215	0.4185	0.70	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2975	0.97	TM	
58	TM	Diethyl phthalate	1.406	1.316	6.4	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5415	12	TM	
60	TM	Fluorene	1.248	1.086	13	TM	
61	TM	4-Nitroaniline	0.3140	0.3097	1.4	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1662	7.3	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1444	13	TMQ	0.90
65	TM	Diphenyl amine	0.5231	0.4912	6.1	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4912	6.1	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9776	11	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1952	0.37	TM	
69	TM	Hexachlorobenzene	0.1990	0.1985	0.25	TM	
70	TM	Atrazine	0.2108	0.2123	0.71	TM	
71	*TM	Pentachlorophenol	0.0841	0.0978	16	*TM	
72	TM	Phenanthrene	1.028	1.010	1.8	TM	
73	TM	Anthracene	1.085	1.072	1.2	TM	
74	TM	Carbazol	0.9564	0.9570	0.06	TM	
75	TM	Di-n-butylphthalate	1.244	1.244	0.02	TM	
76	*TM	Fluoranthene	1.133	1.110	2.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3367	4.7	TM	
79	TM	Pyrene	1.233	1.223	0.82	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8200	3.0	S	
		Average			6.0		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Butyl benzylphthalate	0.5992	0.5990	0.02	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3758	3.2	TM	
83	TM	Benz (a) anthracene	1.153	1.101	4.5	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8403	0.07	TM	
85	TM	Chrysene	1.129	1.071	5.1	TM	
86	*TM	Di-n-octylphthalate	1.476	1.458	1.2	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.237	7.7	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.218	3.8	TM	
90	*TM	Benzo (a) pyrene	1.233	1.174	4.8	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.319	7.3	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.130	6.0	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.134	5.6	TM	
94							
95							
96							
97							
98							
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106							
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108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.1		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	135139	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	551655	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	344147	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	623714	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	612103	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	581377	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	443969	102.15233 ppb	0.00
Spiked Amount 200.000			Recovery = 51.076%		
5) Phenol-D6 (S)	4.37	99	511134	93.95211 ppb	0.00
Spiked Amount 200.000			Recovery = 46.976%		
21) Nitrobenzene-D5(S)	5.37	82	276724	48.45281 ppb	0.00
Spiked Amount 100.000			Recovery = 48.453%		
45) 2-Fluorobiphenyl(S)	7.42	172	495310	45.90268 ppb	0.00
Spiked Amount 100.000			Recovery = 45.903%		
63) 2,4,6-Tribromophenol(S)	9.12	330	142993	92.70728 ppb	0.00
Spiked Amount 200.000			Recovery = 46.354%		
81) Terphenyl-D14(S)	11.77	244	627441	48.48932 ppb	0.00
Spiked Amount 100.000			Recovery = 48.489%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	243901	50.53720 ppb	89
6) Phenol	4.39	94	311905	49.37351 ppb	97
7) Aniline	4.39	66	295507	49.70823 ppb #	60
8) Bis (2-chloroethyl) ether	4.46	63	141746	47.16189 ppb	99
9) 2-Chlorophenol	4.51	128	245199	49.14336 ppb	94
10) 1,3-DCB	4.67	146	256238	48.34439 ppb	100
11) 1,4-DCB	4.75	146	258935	47.69184 ppb	95
12) Benzyl alcohol	4.93	108	142009	49.08400 ppb	87
13) 1,2-DCB	4.92	146	239499	48.81583 ppb	99
14) 2-Methylphenol	5.07	107	178682	47.54286 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	310712	48.29462 ppb	94
16) Acetophenone	5.21	105	316921	48.77465 ppb	97
17) 3&4-Methylphenol	5.24	107	471062	98.57465 ppb	95
18) n-Nitrosodi-n-propylamine	5.22	70	172924	48.97861 ppb	85
19) Hexachloroethane	5.29	117	111888	49.64897 ppb	97
22) Nitrobenzene	5.39	77	276264	48.42038 ppb	99
23) Isophorone	5.67	82	458071	48.85749 ppb	95
24) 2-Nitrophenol	5.75	139	138732	50.47975 ppb	94
25) 2,4-Dimethylphenol	5.83	122	212684	48.72129 ppb	97
26) Benzoic acid	6.02	105	173559	48.49471 ppb	94
27) Bis (2-chloroethoxy) metha	5.92	93	271990	49.75338 ppb	98
28) 2,4-Dichlorophenol	6.04	162	208112	49.22975 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	222837	48.80670 ppb	96
30) 3,4-Dimethylphenol	6.16	107	307747	48.28133 ppb	92
31) Naphthalene	6.19	128	697082	48.64767 ppb	99
32) 4-Chloroaniline	6.28	127	231220	48.13796 ppb	96
33) 2,6-Dichlorophenol	6.28	162	171202	46.00244 ppb	97
34) Hexachloropropene	6.29	213	160197	47.55980 ppb	98
35) Hexachlorobutadiene	6.33	225	130385	46.52820 ppb	100
36) Caprolactum	6.72	55	114589	49.38235 ppb	96
37) 4-Chloro-3-methylphenol	6.87	107	226302	49.16062 ppb	98
38) 2-Methylnaphthalene	6.99	142	476640	47.95211 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	463448	48.31789 ppb		98
41)	Hexachlorocyclopentadiene	7.17	237	87099	50.57414 ppb		99
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	208956	45.17356 ppb		96
43)	2,4,6-Trichlorophenol	7.33	196	144323	47.15102 ppb		98
44)	2,4,5-Trichlorophenol	7.39	196	150982	47.52453 ppb		91
46)	1,1'-Biphenyl	7.53	154	579966	45.79915 ppb		97
47)	2-Chloronaphthalene	7.55	162	460167	46.54590 ppb		94
48)	2-Nitroaniline	7.70	65	169806	49.55596 ppb		95
49)	Dimethyl phthalate	7.90	163	550543	46.53844 ppb		99
50)	2,6-DNT	7.98	165	132516	48.70627 ppb		95
51)	Acenaphthylene	8.02	152	733328	46.94109 ppb		99
52)	3-Nitroaniline	8.18	138	137149	49.03197 ppb	#	98
53)	Acenaphthene	8.22	154	447128	46.89893 ppb		99
54)	2,4-Dinitrophenol	8.33	184	75276	46.97020 ppb		90
55)	4-Nitrophenol	8.43	65	109648	48.14581 ppb	#	1
56)	Dibenzofuran	8.42	168	643889	48.27532 ppb		100
57)	2,4-DNT	8.46	165	180037	49.65055 ppb		96
58)	2,3,4,6-Tetrachlorophenol	8.59	232	127964	49.51252 ppb	#	89
59)	Diethyl phthalate	8.72	149	566121	46.80972 ppb		98
60)	4-Chlorophenyl phenyl ethe	8.83	204	232941	44.15483 ppb		98
61)	Fluorene	8.82	166	467305	43.50835 ppb		97
62)	4-Nitroaniline	8.89	138	133215	49.30845 ppb		88
65)	4,6-Dinitro-2-methylphenol	8.94	198	112554	49.55184 ppb		87
66)	Diphenyl amine	8.98	169	765864	93.90149 ppb		98
67)	n-Nitrosodiphenylamine	8.98	169	765864	93.90149 ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	762145	55.34369 ppb		96
69)	4-Bromophenyl phenyl ether	9.39	248	152201	49.81582 ppb		94
70)	Hexachlorobenzene	9.47	284	154760	49.87695 ppb		92
71)	Atrazine	9.61	200	82740	25.17629 ppb		97
72)	Pentachlorophenol	9.71	266	76275	58.15951 ppb		98
73)	Phenanthrene	9.93	178	787525	49.10664 ppb		100
74)	Anthracene	10.00	178	835787	49.40434 ppb		99
75)	Carbazol	10.20	167	746119	50.03072 ppb		98
76)	Di-n-butylphthalate	10.61	149	969545	49.98958 ppb		98
77)	Fluoranthene	11.32	202	865546	49.00665 ppb		98
79)	Benzidine	11.49	184	257599	47.63704 ppb		98
80)	Pyrene	11.58	202	935839	49.58773 ppb		100
82)	Butyl benzylphthalate	12.35	149	458347	49.99106 ppb		84
83)	3,3'-Dichlorobenzidine	12.96	252	287536	48.39505 ppb	#	94
84)	Benz (a) anthracene	12.98	228	842170	47.73727 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	642952	50.03487 ppb		96
86)	Chrysene	13.01	228	819648	47.45889 ppb		99
87)	Di-n-octylphthalate	13.73	149	1115707	49.38252 ppb		97
89)	Benzo (b) fluoranthene	14.17	252	898867	46.15342 ppb	#	95
90)	Benzo (k) fluoranthene	14.19	252	885368	48.08279 ppb		100
91)	Benzo (a) pyrene	14.54	252	853150	47.61433 ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.11	276	958635	46.33196 ppb		97
93)	Dibenz (a,h) anthracene	16.12	278	821166	47.01198 ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	824440	47.19873 ppb		98

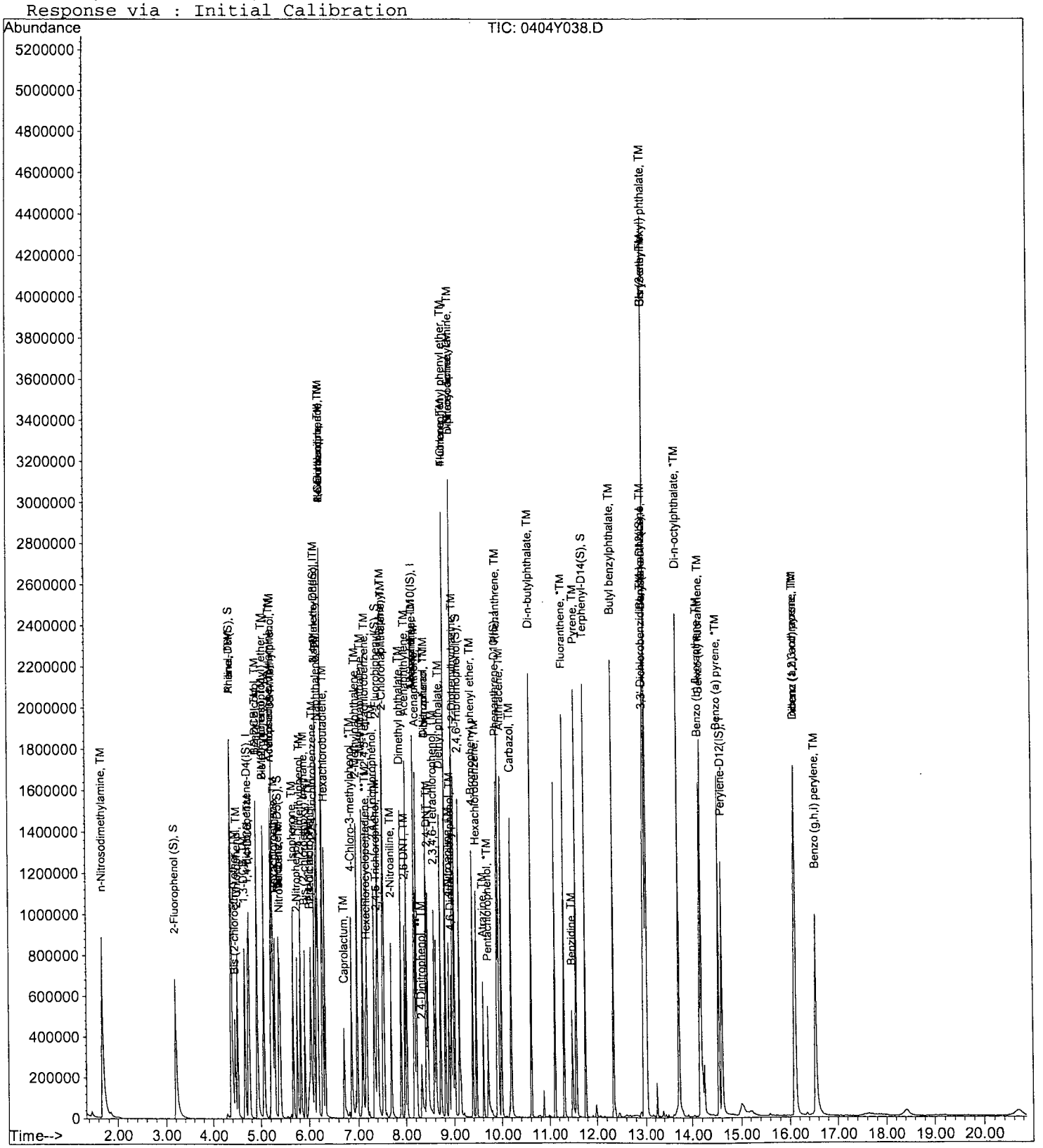
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y038.D Vial: 38
Acq On : 10 Apr 17 11:15 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 10 11:31 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.540	7.8	TM	
3	S	2-Fluorophenol (S)	1.286	1.162	9.6	S	
4	S	Phenol-D6 (S)	1.610	1.517	5.8	S	
5	*TM	Phenol	1.870	1.908	2.0	*TM	
6	TM	Aniline	1.760	1.809	2.8	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8804	1.0	TM	
8	TM	2-Chlorophenol	1.477	1.430	3.2	TM	
9	TM	1,3-DCB	1.569	1.554	0.95	TM	
10	*TM	1,4-DCB	1.607	1.591	1.0	*TM	
11	TM	Benzyl alcohol	0.8564	0.8805	2.8	TM	
12	TM	1,2-DCB	1.452	1.499	3.2	TM	
13	TM	2-Methylphenol	1.112	1.103	0.87	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.927	1.2	TM	
15	TM	Acetophenone	1.923	2.070	7.6	TM	
16	TM	3&4-Methylphenol	1.414	1.564	11	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.124	7.5	**TM	
18	TM	Hexachloroethane	0.6670	0.7095	6.4	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.3987	3.7	S	
21	TM	Nitrobenzene	0.4137	0.4015	3.0	TM	
22	TM	Isophorone	0.6798	0.6748	0.73	TM	
23	*TM	2-Nitrophenol	0.1993	0.2000	0.37	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3157	0.27	TM	
25	TML	Benzoic acid	0.2240	0.2438	8.9	TML	5.9
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3795	4.3	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3109	1.4	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3158	4.6	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4430	4.1	TM	
30	TM	Naphthalene	1.039	1.009	2.9	TM	
31	TM	4-Chloroaniline	0.3483	0.3430	1.5	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2500	7.3	TM	
33	TM	Hexachloropropene	0.2442	0.2229	8.7	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1860	8.5	*TM	
35	TM	Caprolactum	0.1683	0.1590	5.5	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.2974	11	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6296	13	TM	
38	TM	1-Methylnaphthalene	0.6955	0.5881	15	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1630	1.1	**TMQ	13
		Average			4.9		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5001	7.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3314	6.9	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3476	5.9	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.156	7.8	S	
45	TM	1,1'-Biphenyl	1.472	1.401	4.8	TM	
46	TM	2-Chloronaphthalene	1.149	1.107	3.7	TM	
47	TM	2-Nitroaniline	0.3983	0.3961	0.54	TM	
48	TM	Dimethyl phthalate	1.375	1.298	5.6	TM	
49	TM	2,6-DNT	0.3162	0.2945	6.9	TM	
50	TM	Acenaphthylene	1.816	1.689	7.0	TM	
51	TM	3-Nitroaniline	0.3251	0.3180	2.2	TM	
52	*TM	Acenaphthene	1.108	1.062	4.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1529	5.8	**TML	16
54	**TML	4-Nitrophenol	0.2008	0.2561	28	**TML	3.3
55	TM	Dibenzofuran	1.550	1.540	0.66	TM	
56	TM	2,4-DNT	0.4215	0.4251	0.85	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2833	5.7	TM	
58	TM	Diethyl phthalate	1.406	1.351	3.9	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5965	2.7	TM	
60	TM	Fluorene	1.248	1.222	2.1	TM	
61	TM	4-Nitroaniline	0.3140	0.3343	6.5	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1790	0.18	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1281	0.15	TMQ	12
65	TM	Diphenyl amine	0.5231	0.4672	11	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4672	11	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9603	8.7	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1906	2.7	TM	
69	TM	Hexachlorobenzene	0.1990	0.1895	4.8	TM	
70	TM	Atrazine	0.2108	0.2011	4.6	TM	
71	*TM	Pentachlorophenol	0.0841	0.0882	4.9	*TM	
72	TM	Phenanthrene	1.028	0.9692	5.8	TM	
73	TM	Anthracene	1.085	1.031	5.0	TM	
74	TM	Carbazol	0.9564	0.9613	0.51	TM	
75	TM	Di-n-butylphthalate	1.244	1.197	3.8	TM	
76	*TM	Fluoranthene	1.133	1.054	7.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3646	3.2	TM	
79	TM	Pyrene	1.233	1.257	1.9	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8341	1.4	S	
		Average			5.1		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.5904	1.5	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3925	1.1	TM	
83	TM	Benz (a) anthracene	1.153	1.121	2.7	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8246	1.8	TM	
85	TM	Chrysene	1.129	1.076	4.6	TM	
86	*TM	Di-n-octylphthalate	1.476	1.473	0.25	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.202	10	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.221	3.6	TM	
90	*TM	Benzo (a) pyrene	1.233	1.147	7.0	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.323	7.0	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.158	3.7	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.218	1.3	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D Vial: 60
Acq On : 10 Apr 17 22:25 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 11 9:08 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	103117	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	454712	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	247658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	511779	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	468078	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454493	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	299646	90.35549 ppb	0.00
Spiked Amount 200.000			Recovery = 45.178%		
5) Phenol-D6 (S)	4.37	99	391092	94.21090 ppb	0.00
Spiked Amount 200.000			Recovery = 47.106%		
21) Nitrobenzene-D5(S)	5.38	82	226590	48.13312 ppb	0.00
Spiked Amount 100.000			Recovery = 48.133%		
45) 2-Fluorobiphenyl(S)	7.42	172	357986	46.10188 ppb	0.00
Spiked Amount 100.000			Recovery = 46.102%		
63) 2,4,6-Tribromophenol(S)	9.12	330	110800	99.82296 ppb	0.00
Spiked Amount 200.000			Recovery = 49.912%		
81) Terphenyl-D14(S)	11.77	244	488015	49.31882 ppb	0.00
Spiked Amount 100.000			Recovery = 49.319%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	198474	53.89539 ppb	91
6) Phenol	4.39	94	245926	51.01837 ppb	99
7) Aniline	4.39	66	233171	51.40265 ppb #	64
8) Bis (2-chloroethyl) ether	4.46	63	113477	49.48103 ppb	96
9) 2-Chlorophenol	4.51	128	184272	48.40118 ppb	93
10) 1,3-DCB	4.67	146	200286	49.52261 ppb	98
11) 1,4-DCB	4.75	146	205039	49.49259 ppb	100
12) Benzyl alcohol	4.93	108	113498	51.41179 ppb	86
13) 1,2-DCB	4.92	146	193178	51.60182 ppb	98
14) 2-Methylphenol	5.07	107	142137	49.56351 ppb	95
15) Bis (2-chloroisopropyl) et	5.06	45	248335	50.58585 ppb	89
16) Acetophenone	5.21	105	266780	53.80800 ppb	97
17) 3&4-Methylphenol	5.25	107	403266	110.59340 ppb	96
18) n-Nitrosodi-n-propylamine	5.22	70	144858	53.77050 ppb	91
19) Hexachloroethane	5.29	117	91456	53.18502 ppb	97
22) Nitrobenzene	5.40	77	228200	48.52334 ppb	88
23) Isophorone	5.67	82	383565	49.63277 ppb	93
24) 2-Nitrophenol	5.76	139	113683	50.18422 ppb	96
25) 2,4-Dimethylphenol	5.83	122	179433	49.86748 ppb	96
26) Benzoic acid	6.02	105	138574	47.07108 ppb	97
27) Bis (2-chloroethoxy) metha	5.92	93	215717	47.87240 ppb	99
28) 2,4-Dichlorophenol	6.04	162	176690	50.70766 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	179513	47.70009 ppb	97
30) 3,4-Dimethylphenol	6.16	107	251799	47.92593 ppb	95
31) Naphthalene	6.19	128	573501	48.55607 ppb	99
32) 4-Chloroaniline	6.29	127	194954	49.24085 ppb	95
33) 2,6-Dichlorophenol	6.29	162	142119	46.32925 ppb	98
34) Hexachloropropene	6.29	213	126712	45.63884 ppb	97
35) Hexachlorobutadiene	6.33	225	105700	45.76092 ppb	99
36) Caprolactum	6.71	55	90364	47.24495 ppb	99
37) 4-Chloro-3-methylphenol	6.87	107	169057	44.55468 ppb	99
38) 2-Methylnaphthalene	6.99	142	357871	43.67922 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	334267	42.27967	ppb		98
41) Hexachlorocyclopentadiene	7.17	237	50468	43.26972	ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	154829	46.51290	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	102580	46.57039	ppb		93
44) 2,4,5-Trichlorophenol	7.40	196	107593	47.06178	ppb		96
46) 1,1'-Biphenyl	7.53	154	433702	47.59244	ppb		99
47) 2-Chloronaphthalene	7.55	162	342656	48.16327	ppb		94
48) 2-Nitroaniline	7.70	65	122624	49.72903	ppb		92
49) Dimethyl phthalate	7.90	163	401742	47.19103	ppb		100
50) 2,6-DNT	7.98	165	91167	46.56352	ppb		95
51) Acenaphthylene	8.02	152	522884	46.51059	ppb		98
52) 3-Nitroaniline	8.18	138	98437	48.90314	ppb	#	97
53) Acenaphthene	8.23	154	328710	47.91104	ppb		99
54) 2,4-Dinitrophenol	8.33	184	47334	42.06456	ppb	#	73
55) 4-Nitrophenol	8.44	65	79292	48.34620	ppb	#	1
56) Dibenzofuran	8.42	168	476752	49.67047	ppb		99
57) 2,4-DNT	8.46	165	131584	50.42629	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	87715	47.16205	ppb	#	85
59) Diethyl phthalate	8.72	149	418091	48.03848	ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	184671	48.64325	ppb		94
61) Fluorene	8.82	166	378197	48.93075	ppb		97
62) 4-Nitroaniline	8.89	138	103480	53.22508	ppb		92
65) 4,6-Dinitro-2-methylphenol	8.94	198	81953	44.09944	ppb		96
66) Diphenyl amine	8.98	169	597819	89.32923	ppb		98
67) n-Nitrosodiphenylamine	8.98	169	597819	89.32923	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	614353	54.36903	ppb		96
69) 4-Bromophenyl phenyl ether	9.40	248	121926	48.63503	ppb		92
70) Hexachlorobenzene	9.47	284	121247	47.62283	ppb		90
71) Atrazine	9.61	200	64330	23.85573	ppb		98
72) Pentachlorophenol	9.71	266	56442	52.44981	ppb		90
73) Phenanthrene	9.93	178	620021	47.11784	ppb		99
74) Anthracene	10.00	178	659633	47.51983	ppb		99
75) Carbazol	10.20	167	614991	50.25745	ppb		99
76) Di-n-butylphthalate	10.61	149	765613	48.10872	ppb		99
77) Fluoranthene	11.32	202	674201	46.52188	ppb		98
79) Benzidine	11.49	184	213342	51.59210	ppb		98
80) Pyrene	11.58	202	735652	50.97436	ppb		100
82) Butyl benzylphthalate	12.35	149	345429	49.26778	ppb		84
83) 3,3'-Dichlorobenzidine	12.96	252	229671	50.55000	ppb	#	93
84) Benz (a) anthracene	12.98	228	656160	48.63779	ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	482480	49.09981	ppb		99
86) Chrysene	13.02	228	629718	47.68069	ppb		99
87) Di-n-octylphthalate	13.73	149	861726	49.87680	ppb		99
89) Benzo (b) fluoranthene	14.17	252	682610	44.83444	ppb	#	94
90) Benzo (k) fluoranthene	14.19	252	693872	48.20320	ppb		99
91) Benzo (a) pyrene	14.54	252	651562	46.51560	ppb		97
92) Indeno (1,2,3-cd) pyrene	16.11	276	751780	46.47815	ppb		97
93) Dibenz (a,h) anthracene	16.12	278	657813	48.17377	ppb		99
94) Benzo (g,h,i) perylene	16.54	276	691720	50.65616	ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

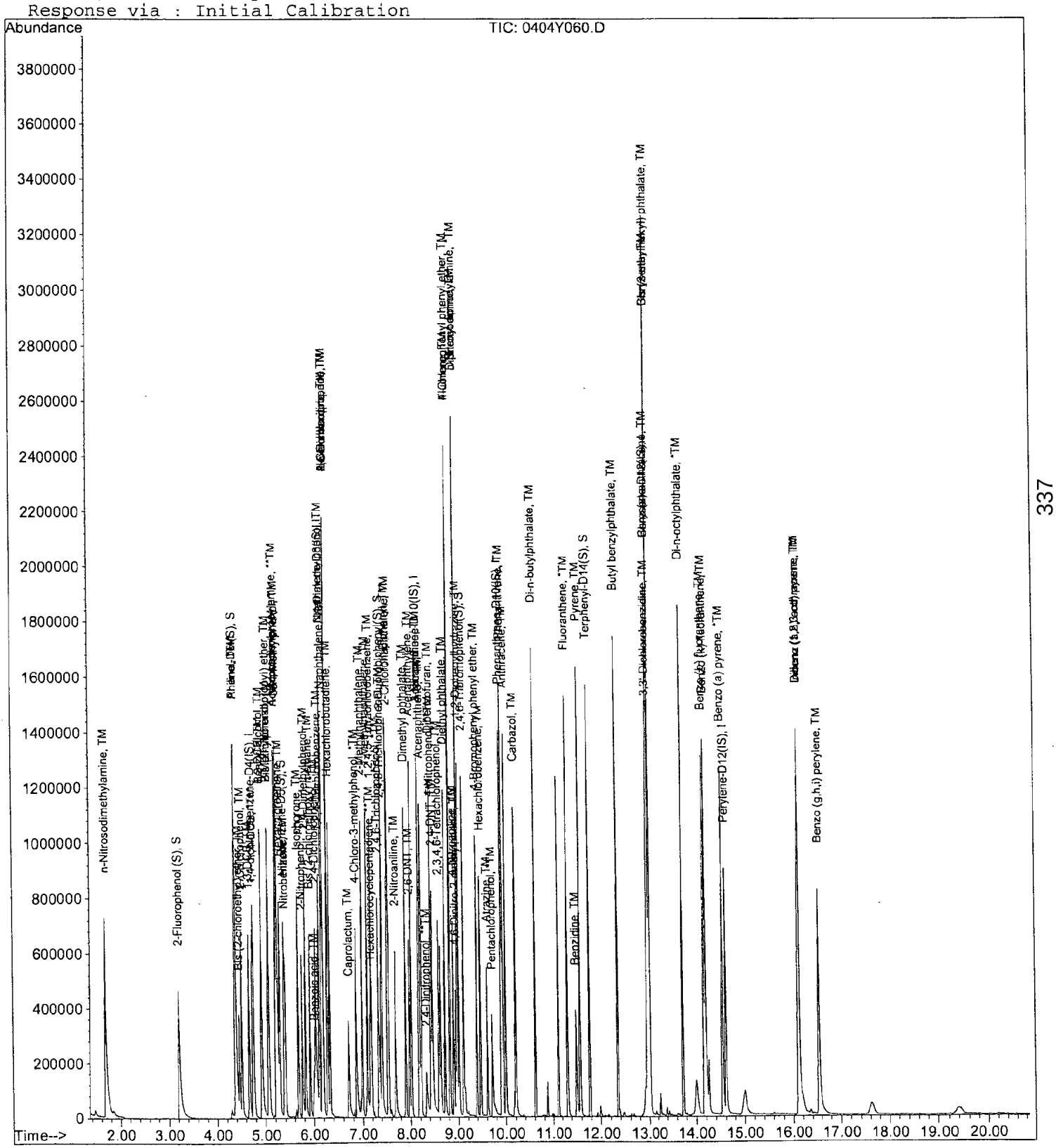
Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53059 - 217709**
Batch ID: #87DC5-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PHENOL	4.00 U	5.0	4.00	1.00	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: PHENOL-D6 (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method:Y0404.M
Run #:0404Y039
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/11/17 10:10:57 AM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108124	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	474326	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	271985	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	525349	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	515905	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	445378	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	369097	106.14383 ppb	0.00
Spiked Amount 200.000			Recovery = 53.072%		
5) Phenol-D6 (S)	4.37	99	299498	68.80568 ppb	0.00
Spiked Amount 200.000			Recovery = 34.403%		
21) Nitrobenzene-D5(S)	5.37	82	350501	71.37598 ppb	0.00
Spiked Amount 100.000			Recovery = 71.376%		
45) 2-Fluorobiphenyl(S)	7.42	172	570376	66.88384 ppb	0.00
Spiked Amount 100.000			Recovery = 66.884%		
63) 2,4,6-Tribromophenol(S)	9.11	330	178811	146.68724 ppb	0.00
Spiked Amount 200.000			Recovery = 73.344%		
81) Terphenyl-D14(S)	11.77	244	856726	78.55429 ppb	0.00
Spiked Amount 100.000			Recovery = 78.554%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

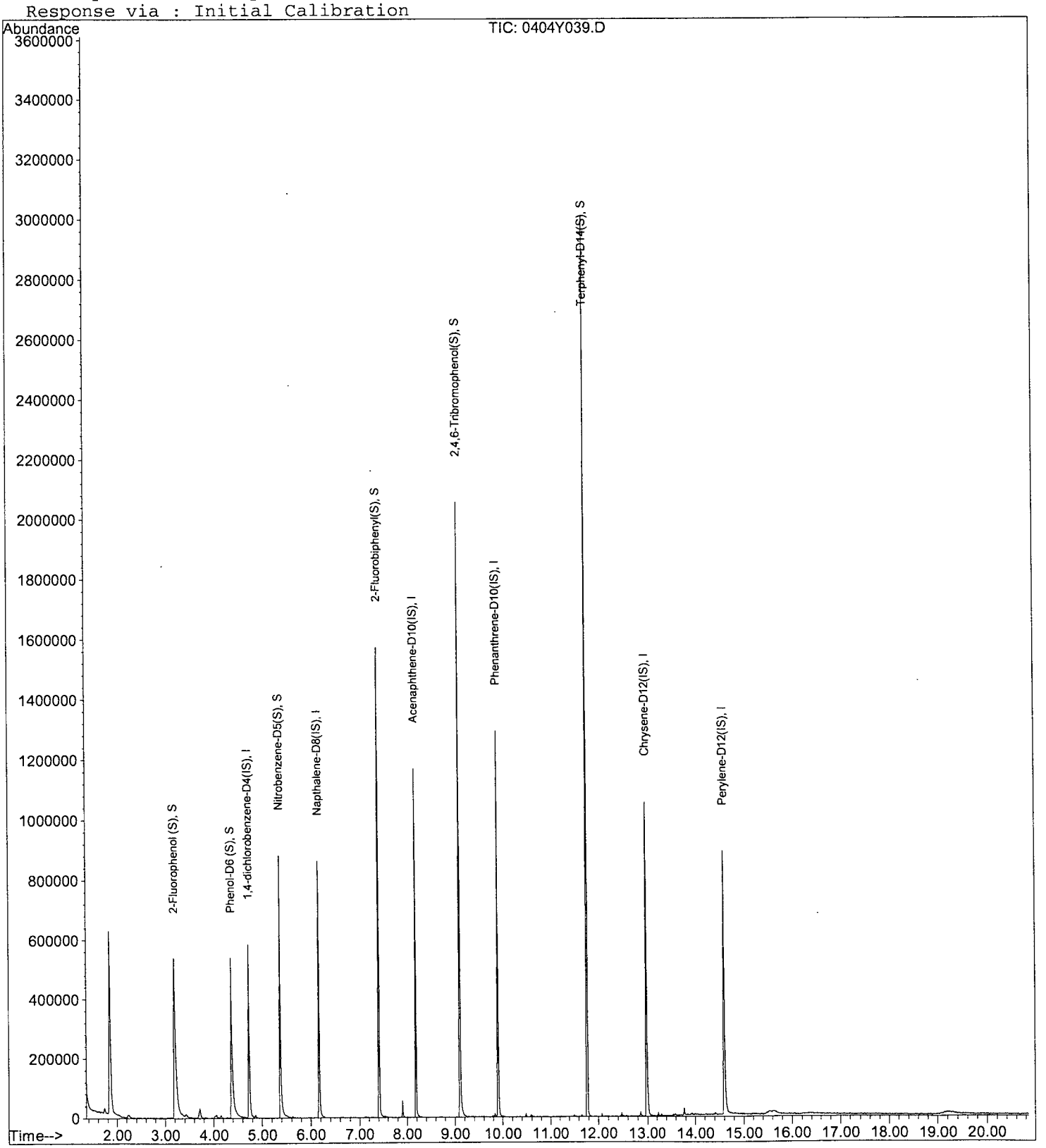
Data File : M:\YODA\DATA\Y170404\0404Y039.D
Acq On : 10 Apr 17 12:04
Sample : 170407A BLK 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 12:41 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53059 LCS - 217709**
Batch ID: #87DC5-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENOL	50.0	23.4	46.8	10-115
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL-D6 (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/11/17 10:10:58 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 13:51 2017
Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	123700	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	522144	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	311641	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	533639	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	489414	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	425790	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	407198	102.35576 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.178%	
5) Phenol-D6 (S)	4.37	99	347548	69.79070 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.896%	
21) Nitrobenzene-D5(S)	5.37	82	379284	70.16394 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.164%	
45) 2-Fluorobiphenyl(S)	7.41	172	608528	62.27746 ppb	0.00
Spiked Amount 100.000			Recovery	= 62.277%	
63) 2,4,6-Tribromophenol(S)	9.11	330	187354	134.13788 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.069%	
81) Terphenyl-D14(S)	11.77	244	818351	79.09717 ppb	0.00
Spiked Amount 100.000			Recovery	= 79.097%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	107502	24.33465 ppb		85
6) Phenol	4.39	94	135034	23.35209 ppb	#	69
7) Aniline	4.38	66	159227	29.26094 ppb	#	66
8) Bis (2-chloroethyl) ether	4.45	63	107060	38.91515 ppb		96
9) 2-Chlorophenol	4.51	128	181685	39.78105 ppb		95
10) 1,3-DCB	4.67	146	126012	25.97320 ppb		97
11) 1,4-DCB	4.76	146	128304	25.81692 ppb		97
12) Benzyl alcohol	4.93	108	94009	35.49805 ppb		85
13) 1,2-DCB	4.93	146	126132	28.08622 ppb		96
14) 2-Methylphenol	5.07	107	118793	34.53078 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	224266	38.08160 ppb	#	76
16) Acetophenone	5.20	105	236218	39.71615 ppb		98
17) 3&4-Methylphenol	5.24	107	298693	68.28467 ppb		99
18) n-Nitrosodi-n-propylamine	5.21	70	124752	38.60199 ppb		95
19) Hexachloroethane	5.29	117	46389	22.48810 ppb		96
22) Nitrobenzene	5.40	77	195229	36.15143 ppb		89
23) Isophorone	5.67	82	345905	38.97916 ppb		92
24) 2-Nitrophenol	5.76	139	97932	37.64805 ppb		89
25) 2,4-Dimethylphenol	5.83	122	127513	30.86141 ppb		95
26) Benzoic acid	5.99	105	45449	15.65022 ppb		91
27) Bis (2-chloroethoxy) metha	5.92	93	196799	38.03381 ppb		96
28) 2,4-Dichlorophenol	6.04	162	150330	37.57106 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	122061	28.24531 ppb		96
30) 3,4-Dimethylphenol	6.17	107	217779	36.09763 ppb		99
31) Naphthalene	6.19	128	447600	33.00240 ppb		99
32) 4-Chloroaniline	6.28	127	211621	46.54771 ppb		97
33) 2,6-Dichlorophenol	6.28	162	135879	38.57462 ppb		97
34) Hexachloropropene	6.29	213	66341	20.80870 ppb		93
35) Hexachlorobutadiene	6.34	225	59208	22.32268 ppb		98
36) Caprolactum	6.69	55	26184	11.92181 ppb		92
37) 4-Chloro-3-methylphenol	6.86	107	166319	38.17228 ppb		92
38) 2-Methylnaphthalene	6.99	142	302873	32.19252 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 13:51 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	302179	33.28499	ppb		100
41) Hexachlorocyclopentadiene	7.16	237	14699	15.91976	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	138125	32.97548	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	109401	39.46992	ppb		95
44) 2,4,5-Trichlorophenol	7.39	196	117375	40.79977	ppb		94
46) 1,1'-Biphenyl	7.53	154	405561	35.36718	ppb		98
47) 2-Chloronaphthalene	7.54	162	316074	35.30564	ppb		96
48) 2-Nitroaniline	7.69	65	123453	39.78633	ppb		95
49) Dimethyl phthalate	7.90	163	472774	44.13301	ppb		100
50) 2,6-DNT	7.98	165	96177	39.03707	ppb		98
51) Acenaphthylene	8.02	152	514589	36.37515	ppb		99
52) 3-Nitroaniline	8.18	138	108646	42.89334	ppb		95
53) Acenaphthene	8.22	154	326703	37.84196	ppb		100
54) 2,4-Dinitrophenol	8.32	184	46027	34.34612	ppb		96
55) 4-Nitrophenol	8.46	65	35050	21.65402	ppb	#	25
56) Dibenzofuran	8.43	168	468141	38.75968	ppb		89
57) 2,4-DNT	8.45	165	136365	41.52930	ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	91152	38.94779	ppb		99
59) Diethyl phthalate	8.71	149	420420	38.38836	ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	172116	36.02823	ppb		97
61) Fluorene	8.82	166	360931	37.10956	ppb		96
62) 4-Nitroaniline	8.89	138	104896	42.87623	ppb		98
65) 4,6-Dinitro-2-methylphenol	8.94	198	82419	42.59059	ppb		95
66) Diphenyl amine	8.97	169	580222	83.14822	ppb		98
67) n-Nitrosodiphenylamine	8.97	169	580222	83.14822	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	546340	46.36940	ppb		99
69) 4-Bromophenyl phenyl ether	9.39	248	110462	42.25719	ppb		95
70) Hexachlorobenzene	9.47	284	111359	41.94734	ppb		96
71) Atrazine	9.60	200	60693	21.58503	ppb		94
72) Pentachlorophenol	9.72	266	51251	45.67502	ppb		91
73) Phenanthrene	9.93	178	566332	41.27480	ppb		99
74) Anthracene	9.99	178	604525	41.76588	ppb		99
75) Carbazol	10.20	167	547431	42.90382	ppb		99
76) Di-n-butylphthalate	10.61	149	721050	43.45250	ppb		98
77) Fluoranthene	11.31	202	633262	41.90696	ppb		99
79) Benzidine	11.50	184	151961	35.14640	ppb		99
80) Pyrene	11.57	202	673116	44.60783	ppb		99
82) Butyl benzylphthalate	12.34	149	325742	44.43445	ppb		83
83) 3,3'-Dichlorobenzidine	12.96	252	209606	44.12255	ppb	#	94
84) Benz (a) anthracene	12.97	228	609989	43.24420	ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	437959	42.62612	ppb		98
86) Chrysene	13.01	228	561553	40.66578	ppb		98
87) Di-n-octylphthalate	13.73	149	796028	44.06559	ppb		99
89) Benzo (b) fluoranthene	14.16	252	607482	42.58966	ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	635964	47.15859	ppb		99
91) Benzo (a) pyrene	14.53	252	589153	44.89549	ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	694182	45.81030	ppb		99
93) Dibenz (a,h) anthracene	16.11	278	601375	47.00947	ppb		99
94) Benzo (g,h,i) perylene	16.54	276	581489	45.45432	ppb		99

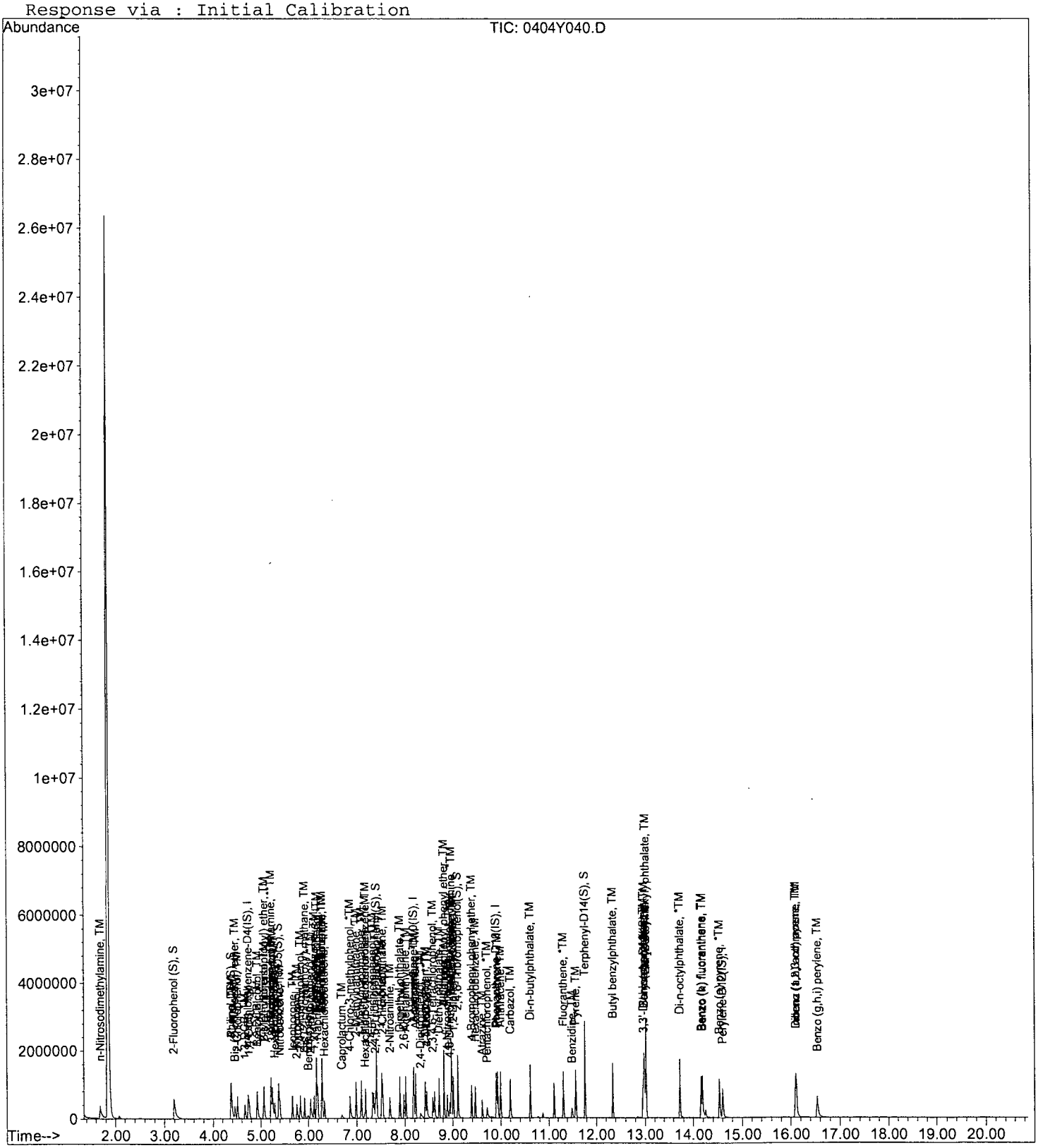
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217709**
Batch ID: #87DC5-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
PHENOL	50.0	ND	21.0	18.0	42.0	36.0	10-115	15.4	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	145	138	72.5	69.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	83.3	87.4	41.6	43.7	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: PHENOL-D6 (S)	200	NA	57.8	55.3	28.9	27.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.5	69.1	67.5	50-134		

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Printed: 04/11/17 10:11:08 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	117317	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	471004	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	278303	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	520977	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	536739	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	537936	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320417	83.25890 ppb	0.00
Spiked Amount 196.078			Recovery	= 42.462%	
5) Phenol-D6 (S)	4.37	99	278388	57.78855 ppb	0.00
Spiked Amount 196.078			Recovery	= 29.472%	
21) Nitrobenzene-D5(S)	5.37	82	323267	64.99445 ppb	0.00
Spiked Amount 98.039			Recovery	= 66.294%	
45) 2-Fluorobiphenyl(S)	7.42	172	463922	52.12328 ppb	0.00
Spiked Amount 98.039			Recovery	= 53.165%	
63) 2,4,6-Tribromophenol(S)	9.12	330	184774	145.23316 ppb	0.00
Spiked Amount 196.078			Recovery	= 74.069%	
81) Terphenyl-D14(S)	11.77	244	799428	69.07385 ppb	0.00
Spiked Amount 98.039			Recovery	= 70.455%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	94127	22.02578 ppb		88
6) Phenol	4.39	94	117293	20.96830 ppb	#	70
7) Aniline	4.38	66	143593	27.27805 ppb	#	61
8) Bis (2-chloroethyl) ether	4.46	63	94803	35.62230 ppb		97
9) 2-Chlorophenol	4.51	128	159087	36.00811 ppb		94
10) 1,3-DCB	4.67	146	64872	13.82227 ppb		97
11) 1,4-DCB	4.76	146	70376	14.63853 ppb		93
12) Benzyl alcohol	4.93	108	89158	34.80197 ppb		86
13) 1,2-DCB	4.93	146	63671	14.65609 ppb		93
14) 2-Methylphenol	5.07	107	107247	32.22621 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	189722	33.30258 ppb		87
16) Acetophenone	5.21	105	209767	36.45859 ppb		98
17) 3&4-Methylphenol	5.24	107	268407	63.43085 ppb		97
18) n-Nitrosodi-n-propylamine	5.22	70	118638	37.94849 ppb		95
19) Hexachloroethane	5.29	117	23821	11.93730 ppb		96
22) Nitrobenzene	5.40	77	172275	34.67120 ppb		92
23) Isophorone	5.66	82	321316	39.35260 ppb		100
24) 2-Nitrophenol	5.76	139	90960	38.00439 ppb		94
25) 2,4-Dimethylphenol	5.83	122	112046	29.47291 ppb		94
26) Benzoic acid	5.99	105	39217	14.80843 ppb		91
27) Bis (2-chloroethoxy) metha	5.92	93	177340	37.24939 ppb		98
28) 2,4-Dichlorophenol	6.04	162	136986	37.20912 ppb		92
29) 1,2,4-Trichlorobenzene	6.12	180	61430	15.44953 ppb		96
30) 3,4-Dimethylphenol	6.16	107	202655	36.50778 ppb		98
31) Naphthalene	6.19	128	269890	21.62757 ppb		98
32) 4-Chloroaniline	6.28	127	205349	49.09051 ppb		93
33) 2,6-Dichlorophenol	6.28	162	135338	41.75750 ppb		95
34) Hexachloropropene	6.29	213	34727	11.83847 ppb		99
35) Hexachlorobutadiene	6.33	225	29446	12.06584 ppb		97
36) Caprolactum	6.69	55	22669	11.21770 ppb		91
37) 4-Chloro-3-methylphenol	6.86	107	159281	39.73157 ppb		95
38) 2-Methylnaphthalene	6.99	142	191136	22.08017 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	189968	22.74207 ppb		97
41) Hexachlorocyclopentadiene	7.17	237	6132	10.43375 ppb	#	93
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	96670	25.33652 ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	102495	40.59608 ppb		96
44) 2,4,5-Trichlorophenol	7.39	196	108252	41.30993 ppb		95
46) 1,1'-Biphenyl	7.53	154	309126	29.59486 ppb		97
47) 2-Chloronaphthalene	7.55	162	224085	27.47923 ppb		97
48) 2-Nitroaniline	7.70	65	131784	46.62635 ppb		88
49) Dimethyl phthalate	7.90	163	507620	52.02177 ppb		99
50) 2,6-DNT	7.98	165	93121	41.49445 ppb		95
51) Acenaphthylene	8.02	152	429627	33.34051 ppb		99
52) 3-Nitroaniline	8.17	138	98965	42.89377 ppb		87
53) Acenaphthene	8.22	154	267228	33.98122 ppb		98
54) 2,4-Dinitrophenol	8.33	184	43909	35.42910 ppb		98
55) 4-Nitrophenol	8.42	65	2920	8.38090 ppb	#	53
56) Dibenzofuran	8.43	168	405766	36.88210 ppb		85
57) 2,4-DNT	8.46	165	130831	43.74202 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	90571	42.48565 ppb	#	89
59) Diethyl phthalate	8.72	149	422123	42.31474 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	164395	37.77868 ppb		98
61) Fluorene	8.82	166	336368	37.96756 ppb		99
62) 4-Nitroaniline	8.89	138	100008	44.87752 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.94	198	77261	40.16427 ppb		97
66) Diphenyl amine	8.98	169	551208	79.32371 ppb		98
67) n-Nitrosodiphenylamine	8.98	169	551208	79.32371 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	516252	44.00064 ppb		97
69) 4-Bromophenyl phenyl ether	9.39	248	114889	44.13620 ppb		91
70) Hexachlorobenzene	9.47	284	109609	41.46236 ppb		93
71) Atrazine	9.61	200	62720	22.40005 ppb		99
72) Pentachlorophenol	9.71	266	53326	47.72481 ppb		96
73) Phenanthrene	9.93	178	583895	42.73438 ppb		100
74) Anthracene	10.00	178	622407	43.18278 ppb		99
75) Carbazol	10.20	167	561035	44.15555 ppb		99
76) Di-n-butylphthalate	10.61	149	773049	46.78269 ppb		98
77) Fluoranthene	11.32	202	712592	47.35572 ppb		99
79) Benzidine	11.50	184	147743	30.54700 ppb		99
80) Pyrene	11.58	202	687181	40.71040 ppb		99
82) Butyl benzylphthalate	12.35	149	371806	45.33937 ppb		83
83) 3,3'-Dichlorobenzidine	12.96	252	215452	40.54342 ppb	#	93
84) Benz (a) anthracene	12.98	228	655301	41.52979 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	460775	40.09075 ppb		96
86) Chrysene	13.02	228	597532	38.68232 ppb		98
87) Di-n-octylphthalate	13.73	149	982416	48.61604 ppb		95
89) Benzo (b) fluoranthene	14.17	252	747128	40.64718 ppb		97
90) Benzo (k) fluoranthene	14.19	252	770284	44.32449 ppb		99
91) Benzo (a) pyrene	14.55	252	737838	43.63151 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	709072	36.31155 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	613734	37.22929 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	603228	36.59146 ppb		98

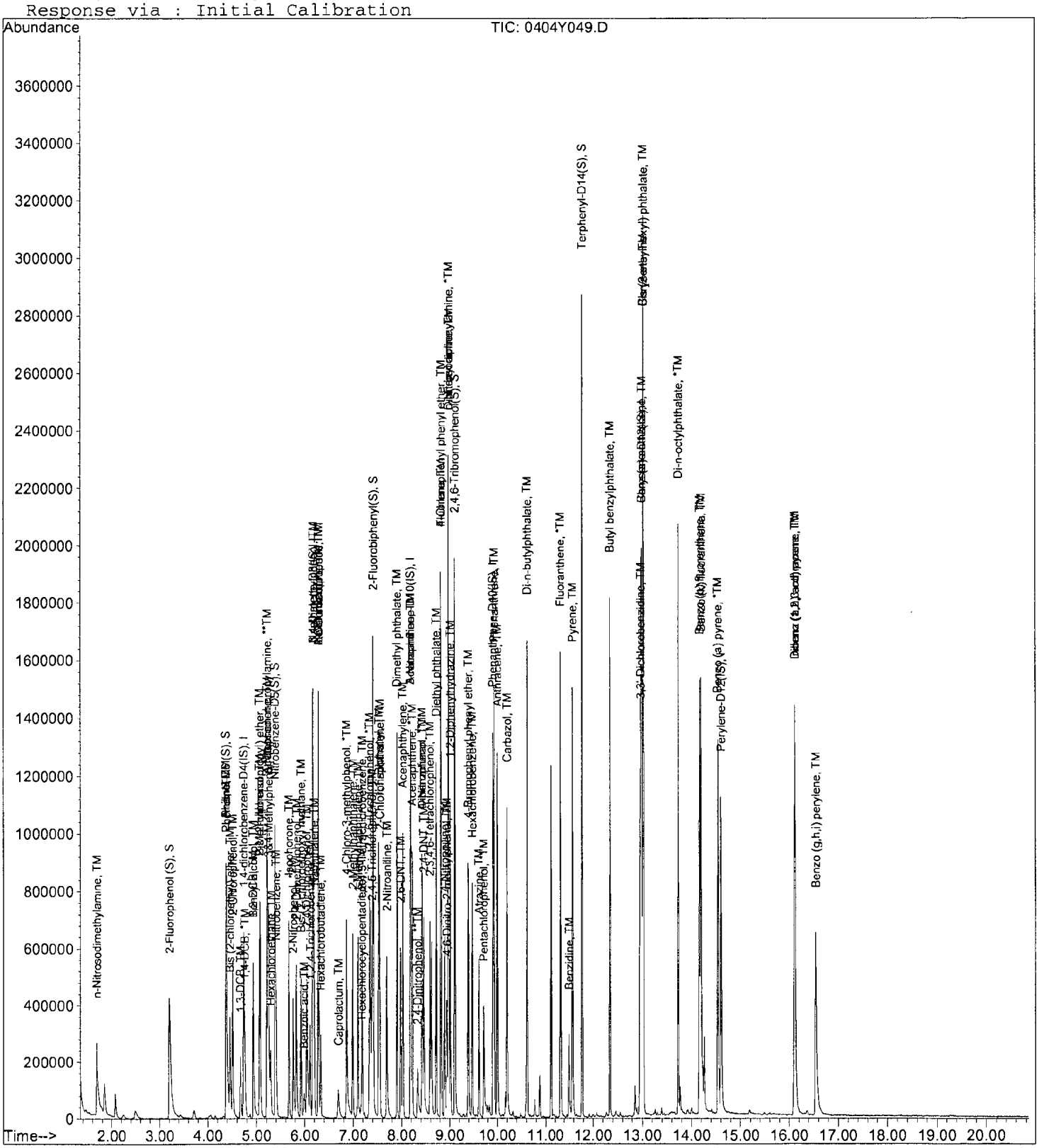
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y050.D Vial: 50
Acq On : 10 Apr 17 17:39 Operator: MA
Sample : AZ53168W47 MSD-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113246	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	497471	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	289478	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	533732	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	584868	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	548522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	324694	87.40323 ppb	0.00
Spiked Amount 196.078			Recovery	= 44.576%	
5) Phenol-D6 (S)	4.37	99	257041	55.27538 ppb	0.00
Spiked Amount 196.078			Recovery	= 28.190%	
21) Nitrobenzene-D5(S)	5.38	82	343584	65.40405 ppb	0.00
Spiked Amount 98.039			Recovery	= 66.712%	
45) 2-Fluorobiphenyl(S)	7.42	172	471726	50.95407 ppb	0.00
Spiked Amount 98.039			Recovery	= 51.973%	
63) 2,4,6-Tribromophenol(S)	9.12	330	183177	138.41979 ppb	0.00
Spiked Amount 196.078			Recovery	= 70.594%	
81) Terphenyl-D14(S)	11.77	244	851338	67.50588 ppb	0.00
Spiked Amount 98.039			Recovery	= 68.856%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	89993	21.81544 ppb		90
6) Phenol	4.39	94	97101	17.98262 ppb	#	70
7) Aniline	4.38	66	126681	24.93042 ppb	#	74
8) Bis (2-chloroethyl) ether	4.46	63	89429	34.81099 ppb		97
9) 2-Chlorophenol	4.51	128	146699	34.39782 ppb		97
10) 1,3-DCB	4.67	146	83861	18.51059 ppb		98
11) 1,4-DCB	4.75	146	78370	16.88732 ppb		94
12) Benzyl alcohol	4.93	108	91921	37.17033 ppb		81
13) 1,2-DCB	4.93	146	82834	19.75255 ppb		96
14) 2-Methylphenol	5.07	107	108833	33.87839 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	198921	36.17253 ppb		85
16) Acetophenone	5.21	105	206076	37.10464 ppb		97
17) 3&4-Methylphenol	5.25	107	267848	65.57422 ppb		95
18) n-Nitrosodi-n-propylamine	5.22	70	116774	38.69501 ppb		94
19) Hexachloroethane	5.29	117	31333	16.26621 ppb		98
22) Nitrobenzene	5.40	77	176776	33.68424 ppb		89
23) Isophorone	5.66	82	340189	39.44738 ppb		100
24) 2-Nitrophenol	5.76	139	88945	35.18533 ppb		94
25) 2,4-Dimethylphenol	5.83	122	111231	27.70189 ppb		96
26) Benzoic acid	5.99	105	37892	13.80476 ppb		92
27) Bis (2-chloroethoxy) metha	5.92	93	187151	37.21872 ppb		97
28) 2,4-Dichlorophenol	6.04	162	135839	34.93450 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	76526	18.22219 ppb		98
30) 3,4-Dimethylphenol	6.16	107	206322	35.19091 ppb		96
31) Naphthalene	6.19	128	316516	24.01449 ppb		99
32) 4-Chloroaniline	6.28	127	191221	43.28101 ppb		93
33) 2,6-Dichlorophenol	6.28	162	130393	38.09130 ppb		94
34) Hexachloropropene	6.29	213	48121	15.53173 ppb		97
35) Hexachlorobutadiene	6.33	225	37942	14.72002 ppb		97
36) Caprolactum	6.69	55	22429	10.50844 ppb		95
37) 4-Chloro-3-methylphenol	6.86	107	159690	37.71432 ppb		94
38) 2-Methylnaphthalene	6.99	142	237448	25.97080 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y050.D
Acq On : 10 Apr 17 17:39
Sample : AZ53168W47 MSD-1 1/1020
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:35 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	215845	24.46518	ppb		99
41) Hexachlorocyclopentadiene	7.17	237	9621	12.78180	ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	107407	27.06389	ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	97006	36.93876	ppb		98
44) 2,4,5-Trichlorophenol	7.39	196	104898	38.48470	ppb		99
46) 1,1'-Biphenyl	7.53	154	344067	31.66840	ppb		98
47) 2-Chloronaphthalene	7.55	162	238116	28.07261	ppb		98
48) 2-Nitroaniline	7.70	65	115443	39.26799	ppb		89
49) Dimethyl phthalate	7.90	163	424081	41.78280	ppb		99
50) 2,6-DNT	7.98	165	88682	37.99095	ppb		88
51) Acenaphthylene	8.02	152	416530	31.07630	ppb		100
52) 3-Nitroaniline	8.18	138	95691	39.87365	ppb	#	96
53) Acenaphthene	8.23	154	273865	33.48080	ppb		97
54) 2,4-Dinitrophenol	8.33	184	49159	37.52765	ppb		98
55) 4-Nitrophenol	8.42	65	2399	8.10311	ppb	#	1
56) Dibenzofuran	8.42	168	416624	36.40714	ppb		96
57) 2,4-DNT	8.46	165	134034	43.08296	ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	90021	40.59749	ppb	#	88
59) Diethyl phthalate	8.72	149	413868	39.88567	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	174176	38.48122	ppb		95
61) Fluorene	8.82	166	359249	38.98486	ppb		95
62) 4-Nitroaniline	8.89	138	106328	45.87162	ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	76915	39.08363	ppb		94
66) Diphenyl amine	8.98	169	538270	75.61066	ppb		98
67) n-Nitrosodiphenylamine	8.98	169	538270	75.61066	ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	514364	42.79205	ppb		97
69) 4-Bromophenyl phenyl ether	9.39	248	113468	42.54859	ppb		92
70) Hexachlorobenzene	9.47	284	112626	41.58549	ppb		91
71) Atrazine	9.61	200	63759	22.22694	ppb		99
72) Pentachlorophenol	9.71	266	55304	48.31223	ppb		94
73) Phenanthrene	9.93	178	581906	41.57103	ppb		99
74) Anthracene	10.00	178	608787	41.22843	ppb		99
75) Carbazol	10.20	167	558374	42.89591	ppb		100
76) Di-n-butylphthalate	10.61	149	716408	42.31886	ppb		98
77) Fluoranthene	11.32	202	752202	48.79343	ppb		100
79) Benzidine	11.50	184	96153	18.24441	ppb		96
80) Pyrene	11.58	202	725377	39.43694	ppb		100
82) Butyl benzylphthalate	12.35	149	360250	40.31516	ppb		85
83) 3,3'-Dichlorobenzidine	12.96	252	255319	44.09185	ppb	#	95
84) Benz (a) anthracene	12.98	228	742967	43.21094	ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	513151	40.97376	ppb		97
86) Chrysene	13.02	228	667781	39.67260	ppb		99
87) Di-n-octylphthalate	13.73	149	944703	42.90272	ppb		97
89) Benzo (b) fluoranthene	14.17	252	729594	38.92720	ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	759480	42.85937	ppb		99
91) Benzo (a) pyrene	14.54	252	685988	39.78252	ppb	#	96
92) Indeno (1,2,3-cd) pyrene	16.11	276	713731	35.84475	ppb		97
93) Dibenz (a,h) anthracene	16.13	278	632011	37.59809	ppb		96
94) Benzo (g,h,i) perylene	16.54	276	585699	34.84250	ppb		99

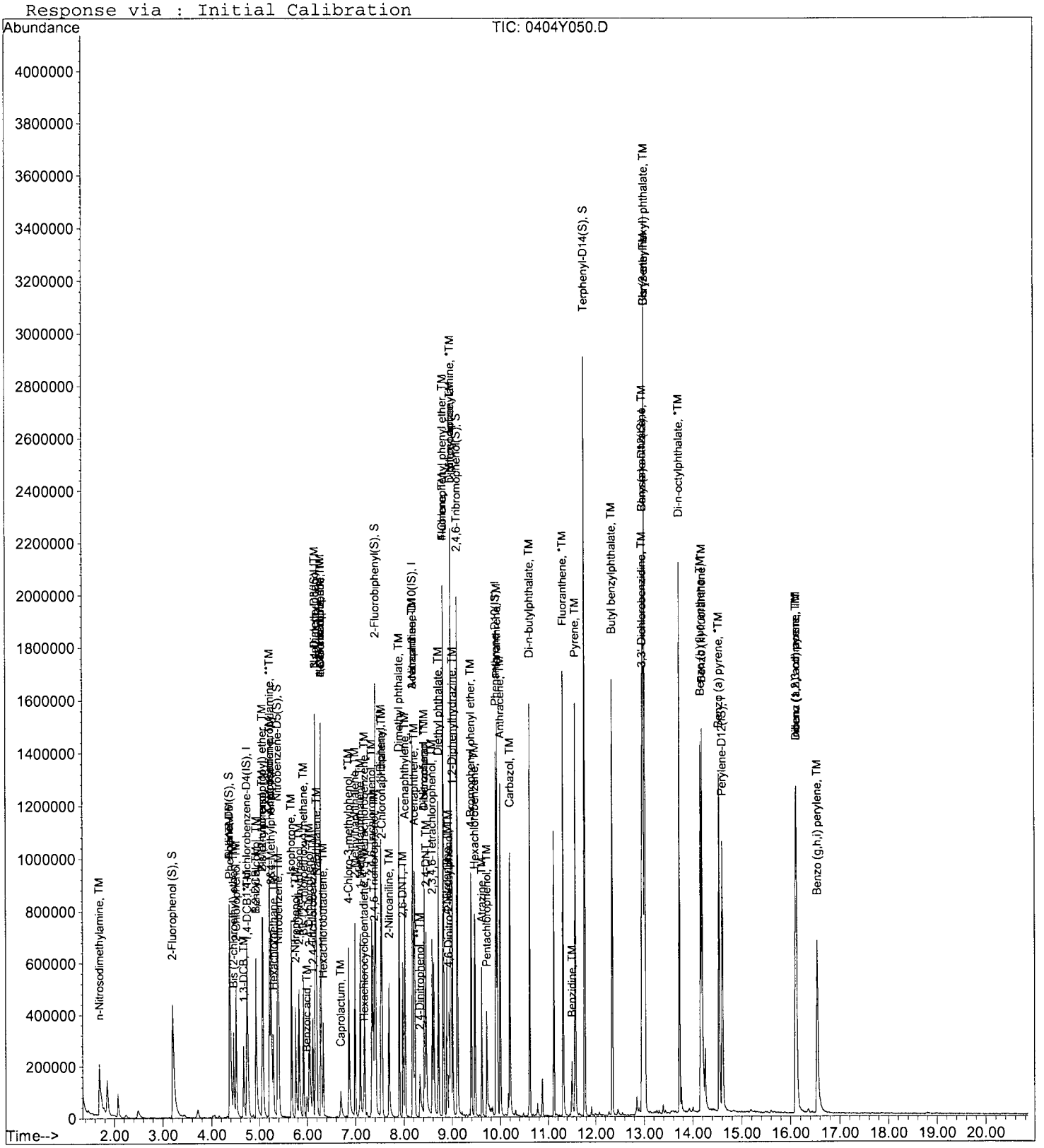
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y050.D Vial: 50
Acq On : 10 Apr 17 17:39 Operator: MA
Sample : AZ53168W47 MSD-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

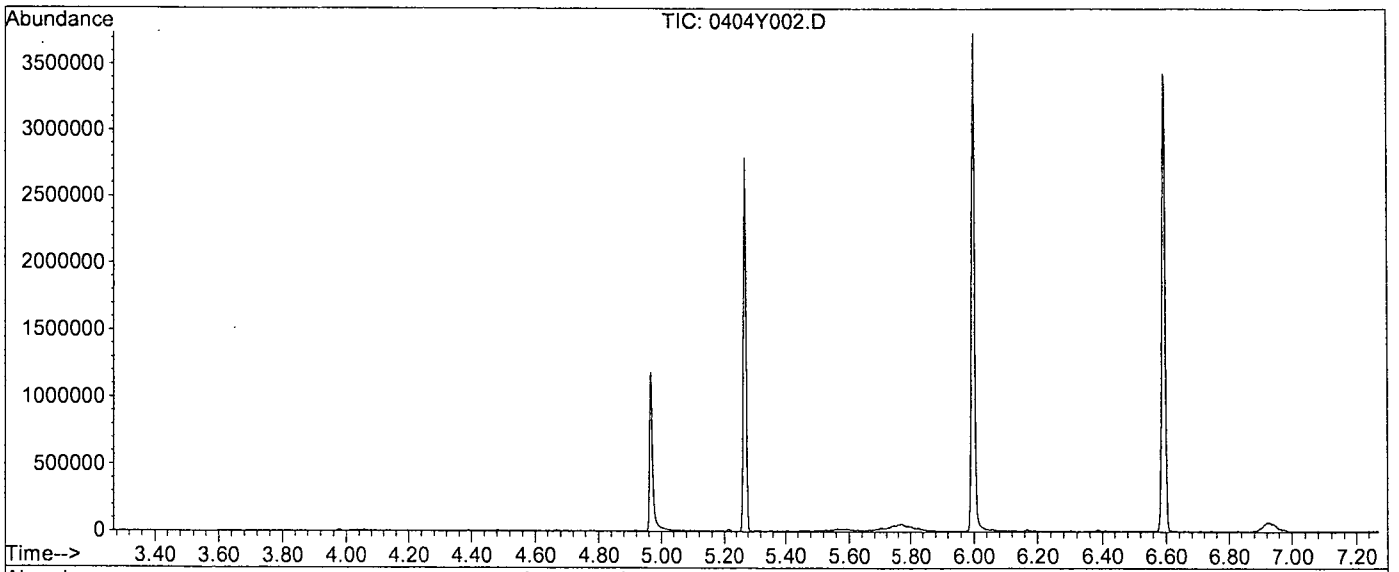


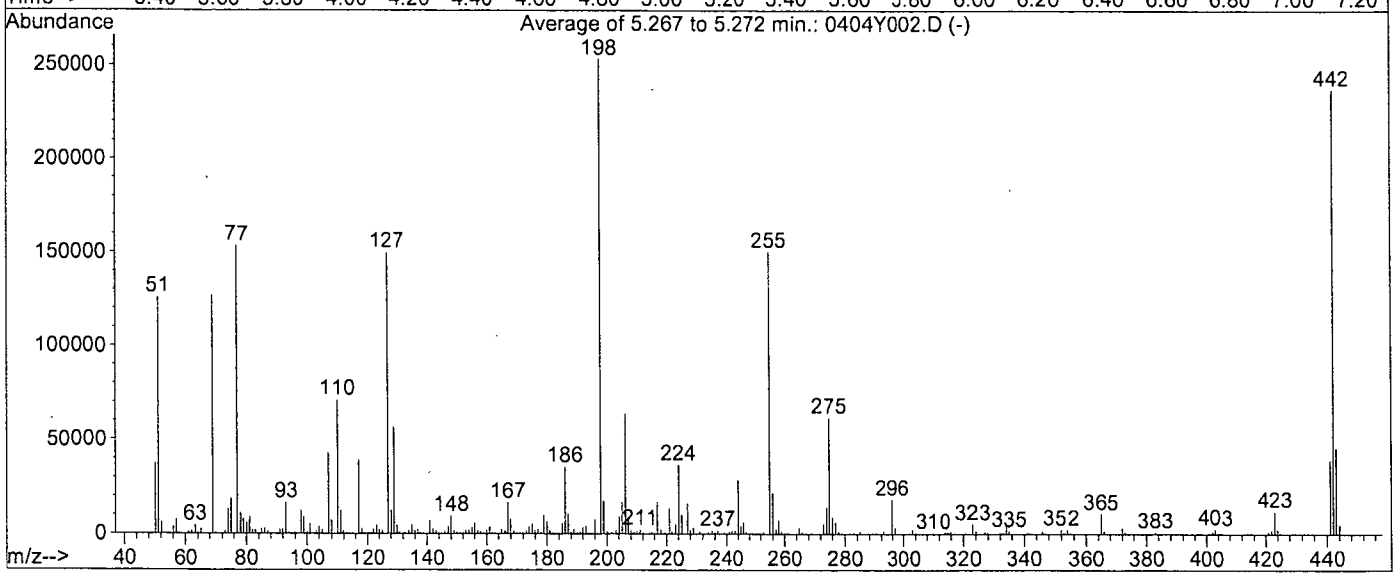
DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D
Acq On : 4 Apr 17 8:25
Sample : SV Tune 03/29/17
Misc :

Vial: 2
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

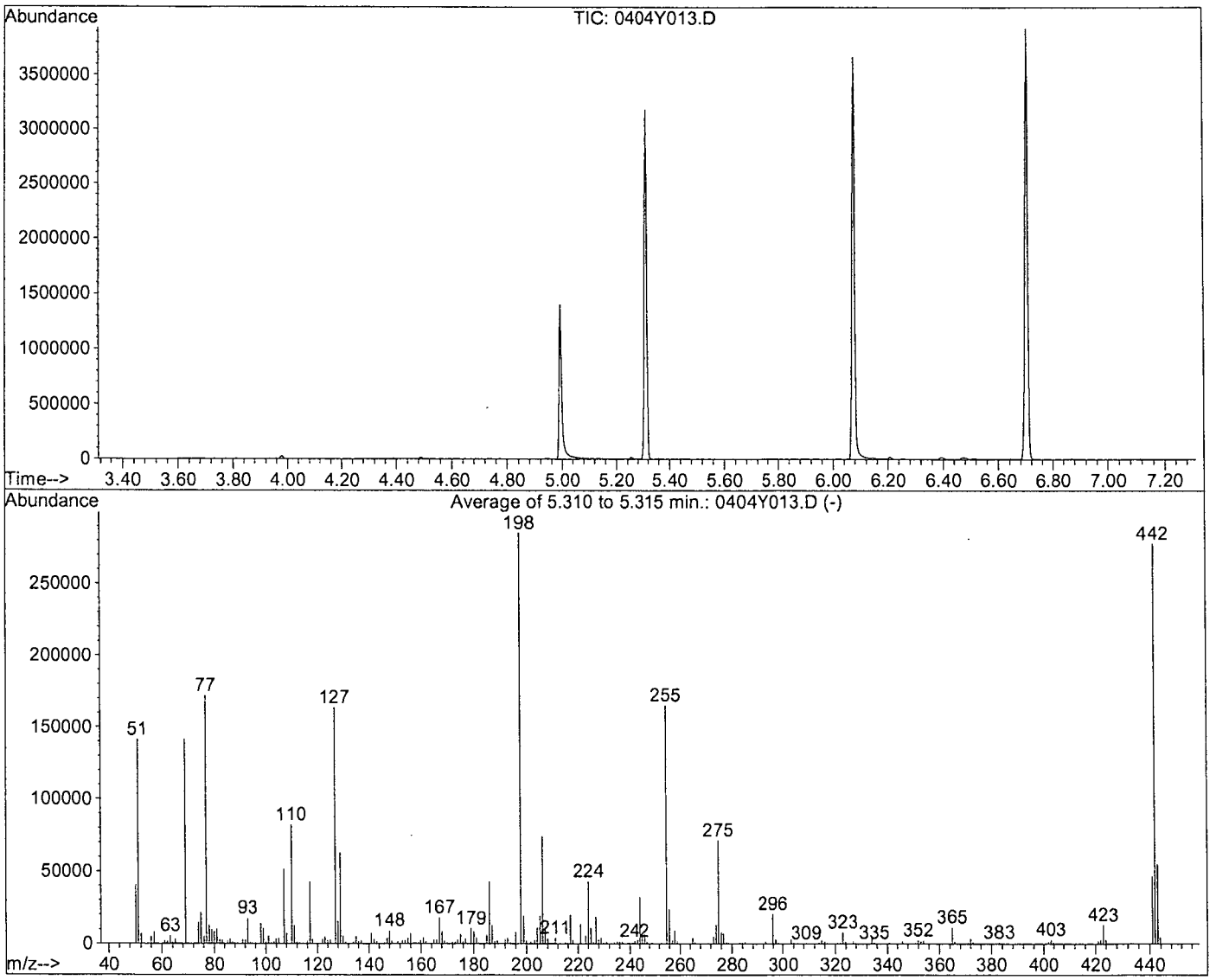
0404Y002.D Y0404.M Tue Apr 04 09:40:31 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y013.D
Acq On : 5 Apr 17 8:30
Sample : SV Tune 03/29/17
Misc :

Vial: 13
Operator: MA
Inst : Yoda
Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 681

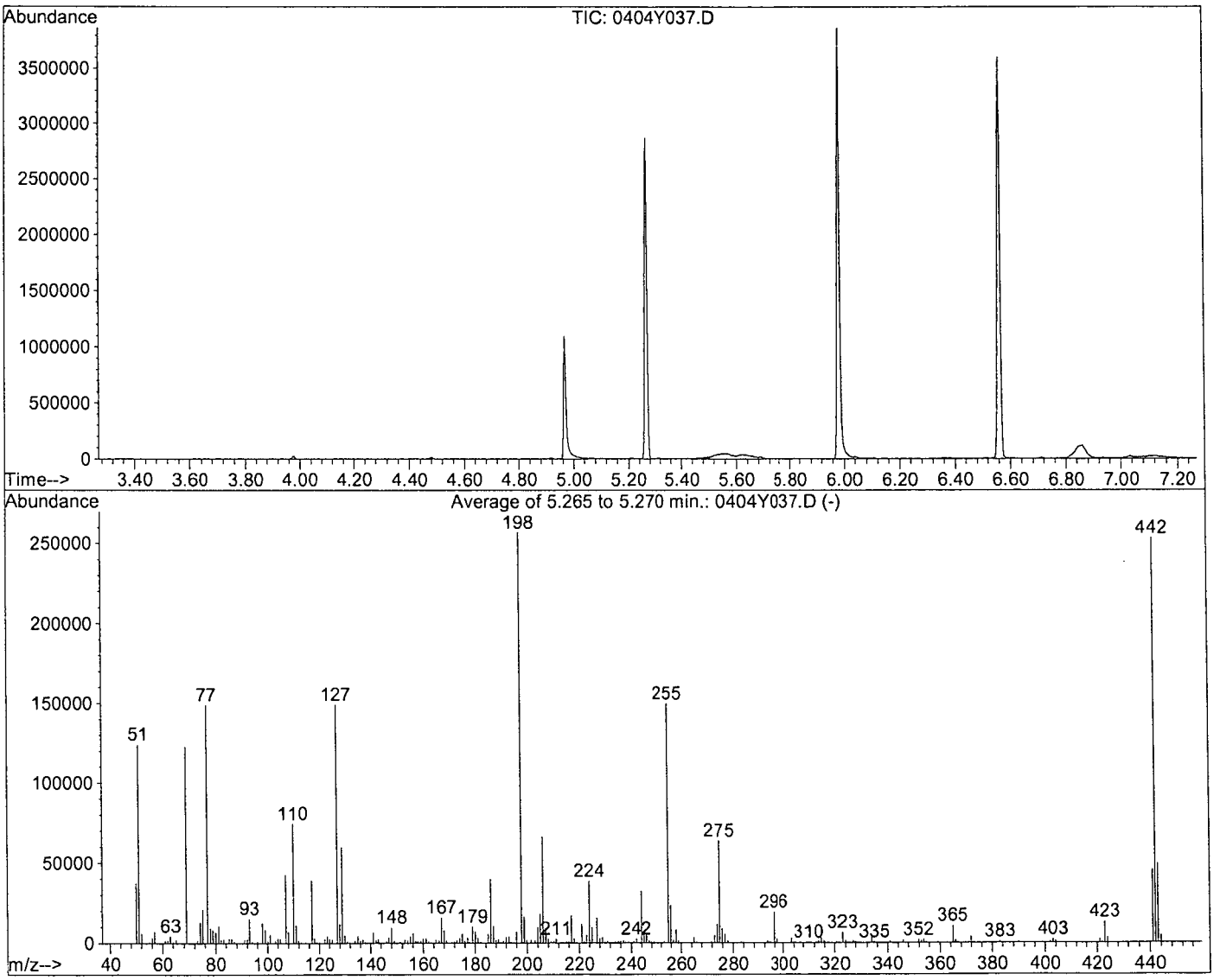
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	141384	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	872	PASS
127	198	40	60	57.4	163810	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	285504	PASS
199	198	5	9	6.7	19091	PASS
275	198	10	30	24.9	71123	PASS
365	198	1	100	3.9	11203	PASS
441	443	0.01	100	85.3	46683	PASS
442	198	50	150	97.4	277995	PASS
443	442	17	23	19.7	54725	PASS

0404Y013.D Y0404.M Wed Apr 05 09:59:19 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y037.D Vial: 37
Acq On : 10 Apr 17 10:59 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 671, 672, 673; Background Corrected with Scan 663

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	124211	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	510	PASS
127	198	40	60	58.1	149200	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	256917	PASS
199	198	5	9	6.4	16355	PASS
275	198	10	30	24.7	63475	PASS
365	198	1	100	4.1	10631	PASS
441	443	0.01	100	92.8	45477	PASS
442	198	50	150	98.6	253248	PASS
443	442	17	23	19.4	49011	PASS

0404Y037.D Y0404.M Mon Apr 10 11:18:03 2017

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
μL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17	Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17	
Spiked ID 2		Surrogate ID 2		
Spiked ID 3		Surrogate ID 3		
Spiked ID 4		Surrogate ID 4		
Spiked ID 5		Surrogate ID 5		
Spiked ID 6		Sufficient Vol for Matrix QC:	YES	
Spiked ID 7		Ext. Start Time:	04/07/17 13:45	
Spiked ID 8		Ext. End Time:	04/08/17 10:00	
		GC Requires Extract By:	**04/11/17 0:00**	

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				1	1 equip	1000 e-wb5	1	2/1	04/07/17 13:45	
2	170407A LCS-1		0.250	1	1	1 equip	1000 E-WB5	1	2/1	04/07/17 13:45	
3	AZ53059 MS-1	AZ53059W22	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
4	AZ53059 MSD-1	AZ53059W27	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
5	AZ53059	AZ53059W21			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
6	AZ53060	AZ53060W10			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
7	AZ53062	AZ53062W09			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
8	AZ53064	AZ53064W05			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
9	AZ53065	AZ53065W09			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
10	AZ53168 MS-1	AZ53168W35	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
11	AZ53168 MSD-1	AZ53168W47	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
12	AZ53168	AZ53168W48			1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
13	AZ53169	AZ53169W13			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
14	AZ53170	AZ53170W14			1	1 equip	1050 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
15	AZ53172	AZ53172W14			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
16	AZ53174	AZ53174W11			1	1 equip	1010 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	4/10/17
Time	12:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY
Modified	04/10/17 2:33:51 PM

Reviewed By: KY 365 **Date** 4/10/17

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 13:45	
Spiked ID 8			Ext. End Time:	04/08/17 10:00	
			GC Requires Extract By:	04/11/17 0:00	

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W11			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
18	AZ53178	AZ53178W09			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
19	AZ53180	AZ53180W09			1	1	1030	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				

KY 4/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY 366 **Date** 4/10/17

Injection Log

Directory: M:\YODA\DATA\Y170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
2	3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
3	4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
4	5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
5	6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
6	7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
7	8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
8	9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
9	10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
10	12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
11	13	0404Y013.D	1	SV Tune 03/29/17		5 Apr 17 8:30
12	15	0404Y015.D	1	SS 4-chloroaniline 50ug/ml 04/05/17		5 Apr 17 10:19
13	37	0404Y037.D	1	SV Tune 03/29/17		10 Apr 17 10:59
14	38	0404Y038.D	1	50ug/ml SVOC 03/30/17		10 Apr 17 11:15
15	39	0404Y039.D	1	170407A BLK 1/1000	water	10 Apr 17 12:04
16	40	0404Y040.D	1	170407A LCS-1 1/1000	water	10 Apr 17 12:34
17	49	0404Y049.D	0.980392	AZ53168W35 MS-1 1/1020	water	10 Apr 17 17:09
18	50	0404Y050.D	0.980392	AZ53168W47 MSD-1 1/1020	water	10 Apr 17 17:39
19	51	0404Y051.D	0.98039	AZ53168W48 1/1020	water	10 Apr 17 18:10
20	52	0404Y052.D	1.02041	AZ53169W13 1/980	water	10 Apr 17 18:41
21	53	0404Y053.D	0.95238	AZ53170W14 1/1050	water	10 Apr 17 19:11
22	60	0404Y060.D	1	50ug/ml SVOC 03/30/17	water	10 Apr 17 22:25

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	04/07/17	04/10/17
BLANK	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	04/07/17	04/10/17
BLANK	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
BLANK	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
BLANK	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	04/07/17	04/10/17
BLANK	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
BLANK	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	04/07/17	04/10/17
BLANK	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	4-BROMOPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	4-CHLOROPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	04/07/17	04/10/17
BLANK	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17

Quant Method:Y0404.M
Run #:0404Y039
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:54:47 PM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLORETHOXY) METHAN	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLOROISOPROPYL) ET	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	04/07/17	04/10/17
BLANK	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	04/07/17	04/10/17
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROCYCLOPENTADIE	9.00 U	10.0	9.00	0.80	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	04/07/17	04/10/17
BLANK	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
BLANK	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:54:47 PM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: PHENOL (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:54:47 PM

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	43-140	73.3		44-119	66.9	
170407A-LCS	Lab Control Spike	43-140	67.0		44-119	62.3	
AZ53168-MS	Matrix Spike	43-140	72.5		44-119	52.1	
AZ53168-MSD	Matrix SpikeD	43-140	69.0		44-119	51.0	
AZ53168	ERH307	43-140	62.9		44-119	54.3	
AZ53169	ERH314	43-140	69.1		44-119	61.2	
AZ53170	ERH315	43-140	78.5		44-119	68.2	

Comments: Batch: #87DDO-170407A

Printed: 04/13/17 2:50:25 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	19-119	53.1		44-120	71.4	
170407A-LCS	Lab Control Spike	19-119	51.0		44-120	70.2	
AZ53168-MS	Matrix Spike	19-119	41.6		44-120	65.0	
AZ53168-MSD	Matrix SpikeD	19-119	43.7		44-120	65.4	
AZ53168	ERH307	19-119	45.0		44-120	61.4	
AZ53169	ERH314	19-119	54.1		44-120	75.3	
AZ53170	ERH315	19-119	47.1		44-120	67.8	

Comments: Batch: #87DDO-170407A

EPA 8270D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619
Case No: 82619 Date Analyzed: 04/10/17
Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	10-115	34.4		50-134	78.6	
170407A-LCS	Lab Control Spike	10-115	34.9		50-134	79.1	
AZ53168-MS	Matrix Spike	10-115	28.9		50-134	69.1	
AZ53168-MSD	Matrix SpikeD	10-115	27.6		50-134	67.5	
AZ53168	ERH307	10-115	30.1		50-134	70.2	
AZ53169	ERH314	10-115	36.6		50-134	79.1	
AZ53170	ERH315	10-115	30.5		50-134	74.9	

Comments: Batch: #87DDO-170407A

Printed: 04/13/17 2:50:25 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2,4-TRICHLOROBENZENE	50.0	28.2	56.4	29-116
1,2-DICHLOROBENZENE	50.0	28.1	56.2	32-111
1,3-DICHLOROBENZENE	50.0	26.0	52.0	28-110
1,4-DICHLOROBENZENE	50.0	25.8	51.6	29-112
2,4,5-TRICHLOROPHENOL	50.0	40.8	81.6	53-123
2,4,6-TRICHLOROPHENOL	50.0	39.5	79.0	50-125
2,4-DICHLOROPHENOL	50.0	37.6	75.2	47-121
2,4-DIMETHYLPHENOL	50.0	30.9	61.8	31-124
2,4-DINITROPHENOL	50.0	34.3	68.6	23-143
2,4-DINITROTOLUENE	50.0	41.5	83.0	57-128
2,6-DINITROTOLUENE	50.0	39.0	78.0	57-124
2-CHLORONAPHTHALENE	50.0	35.3	70.6	40-116
2-CHLOROPHENOL	50.0	39.8	79.6	38-117
2-METHYLNAPHTHALENE	50.0	32.2	64.4	40-121
2-METHYLPHENOL	50.0	34.5	69.0	30-117
2-NITROANILINE	50.0	39.8	79.6	55-127
2-NITROPHENOL	50.0	37.6	75.2	47-123
3,3'-DICHLOROBENZIDINE	50.0	44.1	88.2	27-129
3-NITROANILINE	50.0	42.9	85.8	41-128
3/4-METHYLPHENOL	100	68.3	68.3	29-110
4,6-DINITRO-2-METHYLPHENOL	50.0	42.6	85.2	44-137
4-BROMOPHENYL PHENYL ETHER	50.0	42.3	84.6	55-124
4-CHLORO-3-METHYLPHENOL	50.0	38.2	76.4	52-119
4-CHLOROANILINE	50.0	46.5	93.0	33-117
4-CHLOROPHENYL PHENYL ETHER	50.0	36.0	72.0	53-121
4-NITROANILINE	50.0	42.9	85.8	35-120
4-NITROPHENOL	50.0	21.7	43.4	10-125
ACENAPHTHENE	50.0	37.8	75.6	47-122
ACENAPHTHYLENE	50.0	36.4	72.8	41-130
ANTHRACENE	50.0	41.8	83.6	57-123
BENZ (A) ANTHRACENE	50.0	43.2	86.4	58-125

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Comments:

Printed: 04/13/17 2:40:03 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZO (A) PYRENE	50.0	44.9	89.8	54-128
BENZO (B) FLUORANTHENE	50.0	42.6	85.2	53-131
BENZO (G,H,I) PERYLENE	50.0	45.5	91.0	50-134
BENZO (K) FLUORANTHENE	50.0	47.2	94.4	57-129
BENZYL ALCOHOL	50.0	35.5	71.0	31-112
BIS (2-CHLORETHOXY) METHANE	50.0	38.0	76.0	48-120
BIS (2-CHLOROETHYL) ETHER	50.0	38.9	77.8	43-118
BIS (2-CHLOROISOPROPYL) ETHER	50.0	38.1	76.2	37-130
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	42.6	85.2	55-135
BUTYL BENZYL PHTHALATE	50.0	44.4	88.8	53-134
CARBAZOLE	50.0	42.9	85.8	60-122
CHRYSENE	50.0	40.7	81.4	59-123
DI-N-BUTYL PHTHALATE	50.0	43.5	87.0	59-127
DI-N-OCTYL PHTHALATE	50.0	44.1	88.2	51-140
DIBENZ (A,H) ANTHRACENE	50.0	47.0	94.0	51-134
DIBENZOFURAN	50.0	38.8	77.6	53-118
DIETHYL PHTHALATE	50.0	38.4	76.8	56-125
DIMETHYL PHTHALATE	50.0	44.1	88.2	45-127
DIPHENYLAMINE	100	83.1	83.1	55-111
FLUORANTHENE	50.0	41.9	83.8	57-128
FLUORENE	50.0	37.1	74.2	52-124
HEXACHLOROBENZENE	50.0	41.9	83.8	53-125
HEXACHLOROBUTADIENE	50.0	22.3	44.6	22-124
HEXACHLOROCYCLOPENTADIENE	50.0	15.9	31.8	10-110
HEXACHLOROETHANE	50.0	22.5	45.0	21-115
INDENO (1,2,3-CD) PYRENE	50.0	45.8	91.6	52-134
ISOPHORONE	50.0	39.0	78.0	42-124
N-NITROSODI-N-PROPYLAMINE	50.0	38.6	77.2	49-119
NAPHTHALENE	50.0	33.0	66.0	40-121
NITROBENZENE	50.0	36.2	72.4	45-121
PENTACHLOROPHENOL	50.0	45.7	91.4	35-138

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Comments: _____

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENANTHRENE	50.0	41.3	82.6	59-120
PYRENE	50.0	44.6	89.2	57-126
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments:

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/13/17 2:40:03 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2,4-TRICHLOROBENZENE	50.0	ND	15.4	18.2	30.8	36.4	29-116	16.7	20
1,2-DICHLOROBENZENE	50.0	ND	14.7	19.8	29.4 #	39.6	32-111	29.6 #	20
1,3-DICHLOROBENZENE	50.0	ND	13.8	18.5	27.6 #	37.0	28-110	29.1 #	20
1,4-DICHLOROBENZENE	50.0	ND	14.6	16.9	29.2	33.8	29-112	14.6	20
2,4,5-TRICHLOROPHENOL	50.0	ND	41.3	38.5	82.6	77.0	53-123	7.0	20
2,4,6-TRICHLOROPHENOL	50.0	ND	40.6	36.9	81.2	73.8	50-125	9.5	20
2,4-DICHLOROPHENOL	50.0	ND	37.2	34.9	74.4	69.8	47-121	6.4	20
2,4-DIMETHYLPHENOL	50.0	ND	29.5	27.7	59.0	55.4	31-124	6.3	20
2,4-DINITROPHENOL	50.0	ND	35.4	37.5	70.8	75.0	23-143	5.8	20
2,4-DINITROTOLUENE	50.0	ND	43.7	43.1	87.4	86.2	57-128	1.4	20
2,6-DINITROTOLUENE	50.0	ND	41.5	38.0	83.0	76.0	57-124	8.8	20
2-CHLORONAPHTHALENE	50.0	ND	27.5	28.1	55.0	56.2	40-116	2.2	20
2-CHLOROPHENOL	50.0	ND	36.0	34.4	72.0	68.8	38-117	4.5	20
2-METHYLNAPHTHALENE	50.0	ND	22.1	26.0	44.2	52.0	40-121	16.2	20
2-METHYLPHENOL	50.0	ND	32.2	33.9	64.4	67.8	30-117	5.1	20
2-NITROANILINE	50.0	ND	46.6	39.3	93.2	78.6	55-127	17.0	20
2-NITROPHENOL	50.0	ND	38.0	35.2	76.0	70.4	47-123	7.7	20
3,3'-DICHLOROBENZIDINE	50.0	ND	40.5	44.1	81.0	88.2	27-129	8.5	20
3-NITROANILINE	50.0	ND	42.9	39.9	85.8	79.8	41-128	7.2	20
3/4-METHYLPHENOL	100	ND	63.4	65.6	63.4	65.6	29-110	3.4	20
4,6-DINITRO-2-METHYLPHENOL	50.0	ND	40.2	39.1	80.4	78.2	44-137	2.8	20
4-BROMOPHENYL PHENYL ETHER	50.0	ND	44.1	42.5	88.2	85.0	55-124	3.7	20
4-CHLORO-3-METHYLPHENOL	50.0	ND	39.7	37.7	79.4	75.4	52-119	5.2	20
4-CHLOROANILINE	50.0	ND	49.1	43.3	98.2	86.6	33-117	12.6	20
4-CHLOROPHENYL PHENYL ETHER	50.0	ND	37.8	38.5	75.6	77.0	53-121	1.8	20
4-NITROANILINE	50.0	ND	44.9	45.9	89.8	91.8	35-120	2.2	20
4-NITROPHENOL	50.0	ND	8.38	8.10	16.8	16.2	10-125	3.4	20
ACENAPHTHENE	50.0	ND	34.0	33.5	68.0	67.0	47-122	1.5	20
ACENAPHTHYLENE	50.0	ND	33.3	31.1	66.6	62.2	41-130	6.8	20
ANTHRACENE	50.0	ND	43.2	41.2	86.4	82.4	57-123	4.7	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Comments:

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APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZ (A) ANTHRACENE	50.0	ND	41.5	43.2	83.0	86.4	58-125	4.0	20
BENZO (A) PYRENE	50.0	ND	43.6	39.8	87.2	79.6	54-128	9.1	20
BENZO (B) FLUORANTHENE	50.0	ND	40.6	38.9	81.2	77.8	53-131	4.3	20
BENZO (G,H,I) PERYLENE	50.0	ND	36.6	34.8	73.2	69.6	50-134	5.0	20
BENZO (K) FLUORANTHENE	50.0	ND	44.3	42.9	88.6	85.8	57-129	3.2	20
BENZYL ALCOHOL	50.0	ND	34.8	37.2	69.6	74.4	31-112	6.7	20
BIS (2-CHLORETHOXY) METHANE	50.0	ND	37.2	37.2	74.4	74.4	48-120	0.0	20
BIS (2-CHLOROETHYL) ETHER	50.0	ND	35.6	34.8	71.2	69.6	43-118	2.3	20
BIS (2-CHLOROISOPROPYL) ETHER	50.0	ND	33.3	36.2	66.6	72.4	37-130	8.3	20
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	ND	40.1	41.0	80.2	82.0	55-135	2.2	20
BUTYL BENZYL PHTHALATE	50.0	ND	45.3	40.3	90.6	80.6	53-134	11.7	20
CARBAZOLE	50.0	ND	44.2	42.9	88.4	85.8	60-122	3.0	20
CHRYSENE	50.0	ND	38.7	39.7	77.4	79.4	59-123	2.6	20
DI-N-BUTYL PHTHALATE	50.0	ND	46.8	42.3	93.6	84.6	59-127	10.1	20
DI-N-OCTYL PHTHALATE	50.0	ND	48.6	42.9	97.2	85.8	51-140	12.5	20
DIBENZ (A,H) ANTHRACENE	50.0	ND	37.2	37.6	74.4	75.2	51-134	1.1	20
DIBENZOFURAN	50.0	ND	36.9	36.4	73.8	72.8	53-118	1.4	20
DIETHYL PHTHALATE	50.0	ND	42.3	39.9	84.6	79.8	56-125	5.8	20
DIMETHYL PHTHALATE	50.0	3.3	52.0	41.8	97.4	77.0	45-127	21.7 #	20
DIPHENYLAMINE	100	ND	79.3	75.6	79.3	75.6	55-111	4.8	20
FLUORANTHENE	50.0	ND	47.4	48.8	94.8	97.6	57-128	2.9	20
FLUORENE	50.0	ND	38.0	39.0	76.0	78.0	52-124	2.6	20
HEXACHLOROBENZENE	50.0	ND	41.5	41.6	83.0	83.2	53-125	0.24	20
HEXACHLOROBUTADIENE	50.0	ND	12.1	14.7	24.2	29.4	22-124	19.4	20
HEXACHLOROCYCLOPENTADIENE	50.0	ND	10.4	12.8	20.8	25.6	10-110	20.7 #	20
HEXACHLOROETHANE	50.0	ND	11.9	16.3	23.8	32.6	21-115	31.2 #	20
INDENO (1,2,3-CD) PYRENE	50.0	ND	36.3	35.8	72.6	71.6	52-134	1.4	20
ISOPHORONE	50.0	ND	39.4	39.4	78.8	78.8	42-124	0.0	20
N-NITROSODI-N-PROPYLAMINE	50.0	ND	37.9	38.7	75.8	77.4	49-119	2.1	20
NAPHTHALENE	50.0	ND	21.6	24.0	43.2	48.0	40-121	10.5	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Comments: _____

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APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
NITROBENZENE	50.0	ND	34.7	33.7	69.4	67.4	45-121	2.9	20
PENTACHLOROPHENOL	50.0	ND	47.7	48.3	95.4	96.6	35-138	1.2	20
PHENANTHRENE	50.0	ND	42.7	41.6	85.4	83.2	59-120	2.6	20
PYRENE	50.0	ND	40.7	39.4	81.4	78.8	57-126	3.2	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	145	138	72.5	69.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	83.3	87.4	41.6	43.7	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: PHENOL (S)	200	NA	57.8	55.3	28.9	27.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.5	69.1	67.5	50-134		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

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APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82619
Case No: 82619
Date Analyzed: 04/10/17
Matrix: WATER
Instrument: Yoda
Blank ID: 170407A-BLK
Time Analyzed: 1204

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	0404Y039	04/10/17 1204
170407A-LCS	Lab Control Spike	0404Y040	04/10/17 1234
170407A-MS	Matrix Spike	0404Y049	04/10/17 1709
170407A-MSD	Matrix SpikeD	0404Y050	04/10/17 1739
AZ53168	ERH307	0404Y051	04/10/17 1810
AZ53169	ERH314	0404Y052	04/10/17 1841
AZ53170	ERH315	0404Y053	04/10/17 1911

Comments: Batch: #87DDO-170407A

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/05/17
Instrument: Yoda
Time Analyzed: 8:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		SS 4-chloroaniline 5	0404Y015.D	04/05/17 10:19
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.5
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.6
127	40 - 60% of mass 198	57.4
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.7
275	10 - 30% of mass 198	24.9
365	1 - 100% of mass 198	3.9
441	0.01 - 100% of mass 443	85.3
442	50 - 150% of mass 197.95	97.4
443	17 - 23% of mass 442	19.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 10:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y038.D	04/10/17 11:15
2	Blank	170407A BLK 1/1000	0404Y039.D	04/10/17 12:04
3	Lab Control Spike	170407A LCS-1 1/1000	0404Y040.D	04/10/17 12:34
4		AZ53168W35 MS-1 1/10	0404Y049.D	04/10/17 17:09
5		AZ53168W47 MSD-1 1/1	0404Y050.D	04/10/17 17:39
6	ERH307	AZ53168W48 1/1020	0404Y051.D	04/10/17 18:10
7	ERH314	AZ53169W13 1/980	0404Y052.D	04/10/17 18:41
8	ERH315	AZ53170W14 1/1050	0404Y053.D	04/10/17 19:11
9		50ug/ml SVOC 03/30/1	0404Y060.D	04/10/17 22:25
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.1
441	0.01 - 100% of mass 443	92.8
442	50 - 150% of mass 197.95	98.6
443	17 - 23% of mass 442	19.4

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	135139	4.73	551655	6.17	344147	8.19
02	170407A BLK 1/1000	108124	4.73	474326	6.16	271985	8.18
03	170407A LCS-1 1/1000	123700	4.73	522144	6.17	311641	8.18
04	AZ53168W35 MS-1 1/1(	117317	4.73	471004	6.17	278303	8.19
05	AZ53168W47 MSD-1 1/	113246	4.73	497471	6.17	289478	8.19
06	AZ53168W48 1/1020	122756	4.73	543005	6.17	322040	8.18
07	AZ53169W13 1/980	112319	4.74	474751	6.17	317457	8.18
08	AZ53170W14 1/1050	113649	4.73	489153	6.17	265061	8.18
09	50ug/ml SVOC 03/30/17	103117	4.73	454712	6.17	247658	8.19
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

	Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	520011	9.90	487207	12.99	454025	14.60
UPPER LIMIT	1040022	10.40	974414	13.49	908050	15.10
LOWER LIMIT	260006	9.40	243604	12.49	227013	14.10
SAMPLE NO.						
01 50ug/ml SVOC 03/30/17	623714	9.90	612103	12.99	581377	14.60
02 170407A BLK 1/1000	525349	9.90	515905	12.99	445378	14.60
03 170407A LCS-1 1/1000	533639	9.90	489414	12.98	425790	14.60
04 AZ53168W35 MS-1 1/1(	520977	9.91	536739	12.99	537936	14.60
05 AZ53168W47 MSD-1 1/	533732	9.91	584868	12.99	548522	14.60
06 AZ53168W48 1/1020	545503	9.90	521954	12.99	484536	14.60
07 AZ53169W13 1/980	521350	9.90	503735	12.98	509695	14.60
08 AZ53170W14 1/1050	481136	9.91	493640	12.99	472514	14.60
09 50ug/ml SVOC 03/30/17	511779	9.91	468078	12.99	454493	14.60
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	04/07/17	04/10/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	04/07/17	04/10/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	04/07/17	04/10/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17

J = Estimated value.

Quant Method: Y0404.M
Run #: 0404Y051
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 2:40:24 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	04/07/17	04/10/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	DIMETHYL PHTHALATE	3.3 J	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	62.9	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	54.3	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	45.0	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	61.4	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL (S)	30.1	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	70.2	50-134			%	04/07/17	04/10/17

J = Estimated value.

Quant Method: Y0404.M
Run #: 0404Y051
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 2:40:24 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y051.D Vial: 51
Acq On : 10 Apr 17 18:10 Operator: MA
Sample : AZ53168W48 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:39 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	122756	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	543005	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	322040	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	545503	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	521954	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	484536	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	355122	88.18811 ppb	0.00
Spiked Amount 196.078			Recovery	= 44.976%	
5) Phenol-D6 (S)	4.38	99	297294	58.97864 ppb	0.00
Spiked Amount 196.078			Recovery	= 30.079%	
21) Nitrobenzene-D5(S)	5.37	82	345214	60.20370 ppb	0.00
Spiked Amount 98.039			Recovery	= 61.408%	
45) 2-Fluorobiphenyl(S)	7.42	172	548148	53.22207 ppb	0.00
Spiked Amount 98.039			Recovery	= 54.286%	
63) 2,4,6-Tribromophenol(S)	9.11	330	181493	123.27982 ppb	0.00
Spiked Amount 196.078			Recovery	= 62.873%	
81) Terphenyl-D14(S)	11.77	244	774438	68.80991 ppb	0.00
Spiked Amount 98.039			Recovery	= 70.186%	
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	37293	3.30279 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

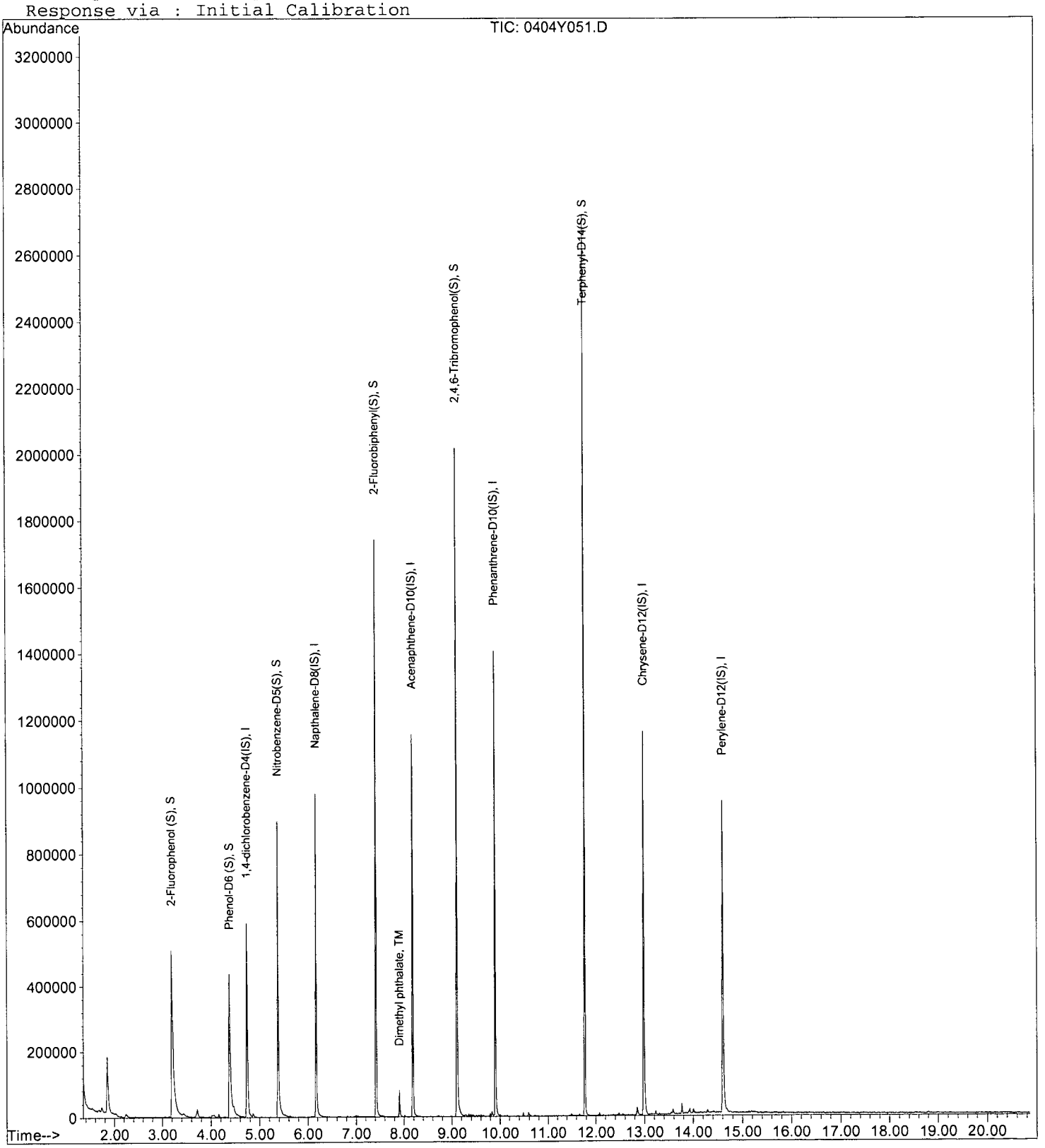
Data File : M:\YODA\DATA\Y170404\0404Y051.D
Acq On : 10 Apr 17 18:10
Sample : AZ53168W48 1/1020
Misc : water

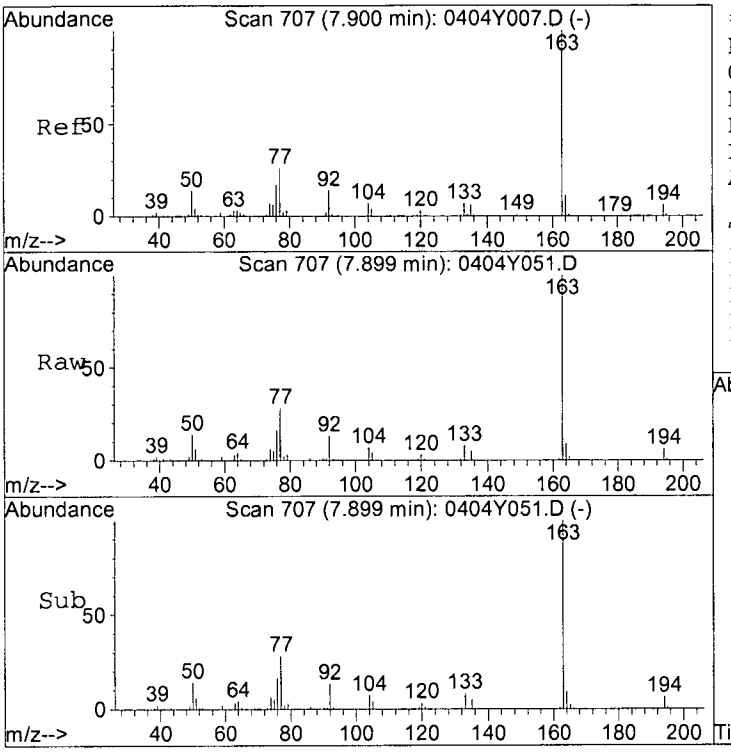
Vial: 51
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

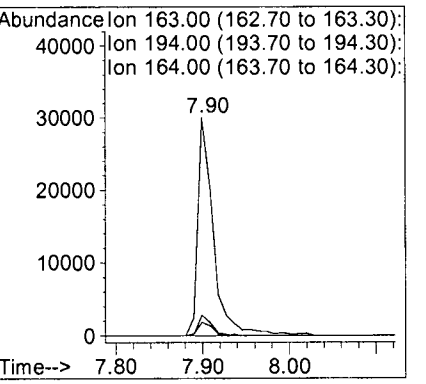




#49
Dimethyl phthalate
Concen: 3.30279 ppb
RT: 7.90 min Scan# 707
Delta R.T. -0.00 min
Lab File: 0404Y051.D
Acq: 10 Apr 17 18:10

Tgt Ion:163 Resp: 37293

Ion	Ratio	Lower	Upper
163	100		
194	6.2	3.9	7.3
164	9.5	7.1	13.1



Tentatively Identified Compound (LSC) summary

Operator ID: MA Date Acquired: 10 Apr 17 18:10
Data File: M:\YODA\DATA\Y170404\0404Y051.D
Name: AZ53168W48 1/1020
Misc: water
Method: M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title: EPA 8270C
Library Searched: M:\DATABASE\WILEY138.L

Present in Blank
Do not report
TA 4/29/17

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Benzene, methyl-	1.85	15.7	ppb	349694	ISTD01	4.73	873156	40.0

0404Y051.D DIX0404.M Fri Apr 28 11:17:41 2017

LSC Area Percent Report

Data File : M:\YODA\DATA\Y170404\0404Y051.D Vial: 51
Acq On : 10 Apr 17 18:10 Operator: MA
Sample : AZ53168W48 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98039
MS Integration Params: LSCINT.P

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.002 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

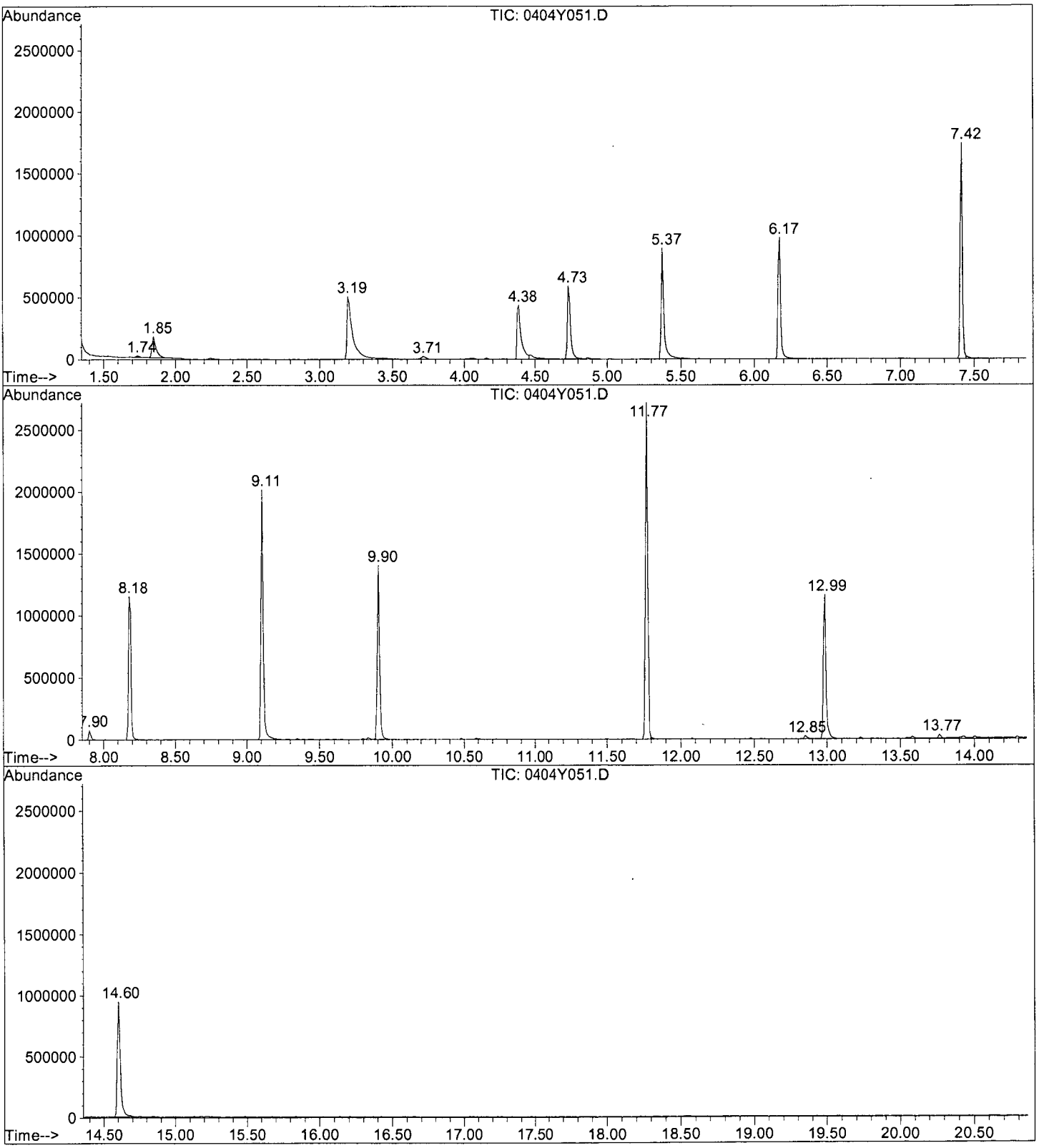
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	raw area	corr. area	corr. % max.	% of total
1	1.735	40	43	48	rVB3	14349	413154	28021	1.01%	0.151%
2	1.847	52	55	66	rVB	170263	1055838	349694	12.59%	1.881%
3	3.193	198	200	218	rBV	507552	2585730	1350181	48.61%	7.264%
4	3.713	251	256	263	rVB	23415	569766	51596	1.86%	0.278%
5	4.381	325	328	336	rBV	435613	1396372	912321	32.85%	4.908%
6	4.734	363	366	379	rBV	589638	1570667	873156	31.44%	4.698%
7	5.374	433	435	449	rBV	896593	2636167	1118654	40.28%	6.019%
8	6.173	518	521	536	rBV	979185	2104498	1233041	44.40%	6.634%
9	7.417	652	655	658	rBV	1742128	2085737	1778953	64.05%	9.571%
10	7.899	705	707	712	rVB	78241	396262	81558	2.94%	0.439%
11	8.178	735	737	748	rBV	1157159	2380568	1411849	50.83%	7.596%
12	9.106	834	837	851	rBV	2017892	3061936	2231599	80.35%	12.007%
13	9.905	921	923	932	rVB	1403678	3313047	1436705	51.73%	7.730%
14	11.771	1121	1124	1127	rBV	2718590	3114427	2777428	100.00%	14.943%
15	12.848	1238	1240	1247	rVB	23198	432743	35901	1.29%	0.193%
16	12.987	1252	1255	1266	rBV	1162256	2320374	1485189	53.47%	7.991%
17	13.767	1336	1339	1342	rBV	31562	297246	34164	1.23%	0.184%
18	14.602	1426	1429	1443	rBV	945770	2324222	1396577	50.28%	7.514%

Sum of corrected areas: 18586587

0404Y051.D DIX0404.M Fri Apr 28 11:17:40 2017

LSC Report - Integrated Chromatogram

File : M:\YODA\DATA\Y170404\0404Y051.D
Operator : MA
Acquired : 10 Apr 17 18:10 using AcqMethod SVOC416
Instrument : Yoda
Sample Name: AZ53168W48 1/1020
Misc Info : water
Vial Number: 51
Quant File :DIX0404.RES (RTE Integrator)



0404Y051.D DIX0404.M Fri Apr 28 11:17:41 2017

Library Search Compound Report

Data File : M:\YODA\DATA\Y170404\0404Y051.D Vial: 51
Acq On : 10 Apr 17 18:10 Operator: MA
Sample : AZ53168W48 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Library : M:\DATABASE\WILEY138.L

****

Peak Number 1 Benzene, methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.85	15.71 ppb	349694	1,4-dichlorobenzene-D4(IS)	4.73

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, methyl-	92	C7H8	000108-88-3	94
2	Benzene, methyl-	92	C7H8	000108-88-3	91
3	BICYCLO-(2,2,1)-HEPTADIENE-(2,5)	92	C7H8	000121-46-0	91
4	Benzene, methyl-	92	C7H8	000108-88-3	91
5	Benzene, methyl-	92	C7H8	000108-88-3	91

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	04/07/17	04/10/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	04/07/17	04/10/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	04/07/17	04/10/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17

J = Estimated value.

Quant Method: Y0404.M
Run #: 0404Y052
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 2:40:24 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	04/07/17	04/10/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	DIMETHYL PHTHALATE	3.6 J	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	69.1	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	61.2	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	54.1	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	75.3	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL (S)	36.6	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	79.1	50-134			%	04/07/17	04/10/17

J = Estimated value.

Quant Method: Y0404.M
Run #: 0404Y052
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 2:40:24 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y052.D Vial: 52
Acq On : 10 Apr 17 18:41 Operator: MA
Sample : AZ53169W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Time: Apr 11 9:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	112319	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	474751	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	317457	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	521350	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	503735	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	509695	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	390860	110.41270 ppb	0.00
Spiked Amount 204.082			Recovery	= 54.102%	
5) Phenol-D6 (S)	4.38	99	330723	74.63428 ppb	0.00
Spiked Amount 204.082			Recovery	= 36.571%	
21) Nitrobenzene-D5(S)	5.37	82	370331	76.88447 ppb	0.00
Spiked Amount 102.041			Recovery	= 75.346%	
45) 2-Fluorobiphenyl(S)	7.41	172	609063	62.43914 ppb	0.00
Spiked Amount 102.041			Recovery	= 61.190%	
63) 2,4,6-Tribromophenol(S)	9.11	330	196608	141.00484 ppb	0.00
Spiked Amount 204.082			Recovery	= 69.092%	
81) Terphenyl-D14(S)	11.78	244	842489	80.72992 ppb	0.00
Spiked Amount 102.041			Recovery	= 79.115%	
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	38364	3.58739 ppb	97

(#) = qualifier out of range (m) = manual integration
0404Y052.D Y0404.M Thu Apr 13 14:23:00 2017

Quantitation Report

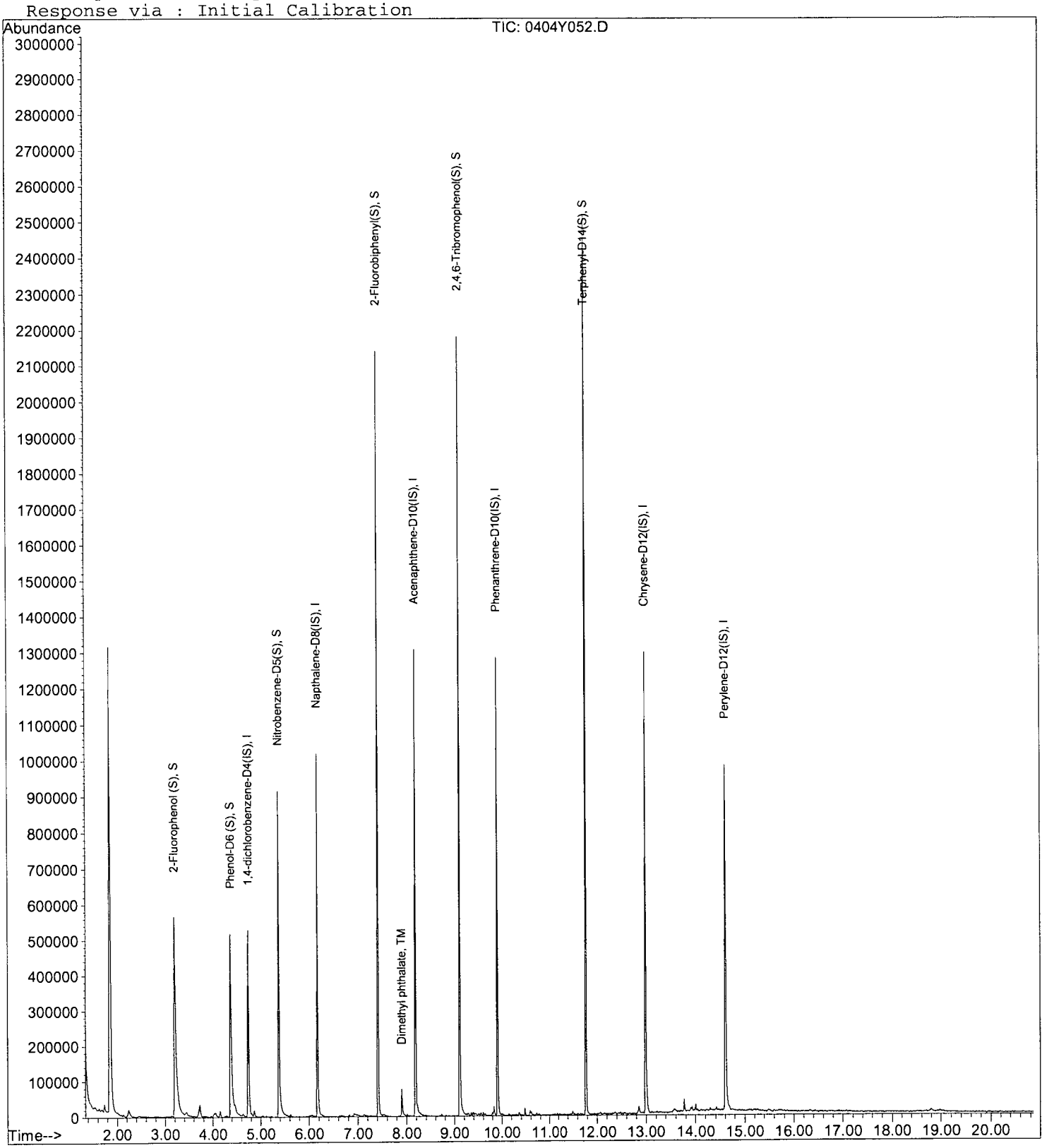
Data File : M:\YODA\DATA\Y170404\0404Y052.D
Acq On : 10 Apr 17 18:41
Sample : AZ53169W13 1/980
Misc : water

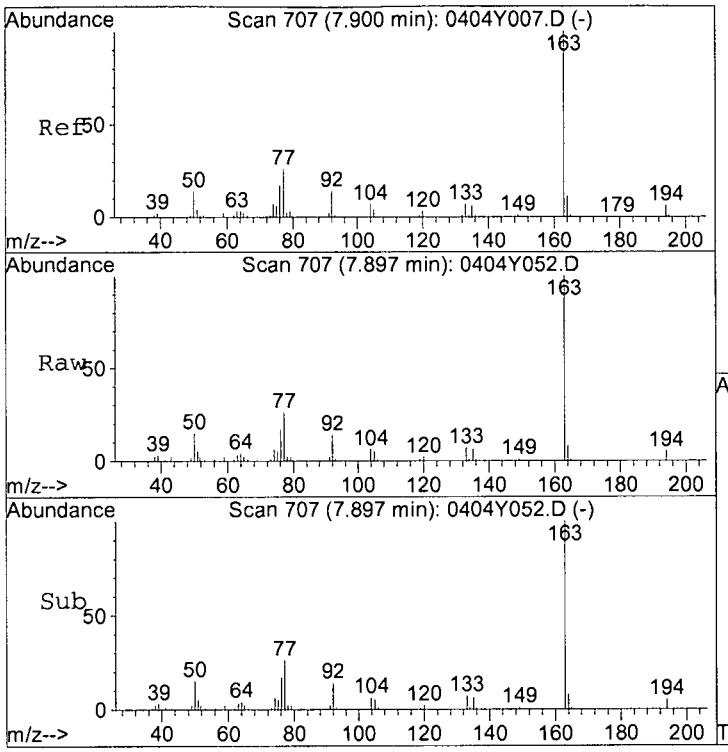
Vial: 52
Operator: MA
Inst : Yoda
Multiplr: 1.02

Quant Time: Apr 11 9:43 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

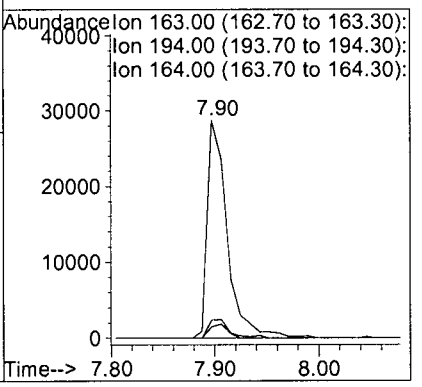




#49
Dimethyl phthalate
Concen: 3.58739 ppb
RT: 7.90 min Scan# 707
Delta R.T. -0.00 min
Lab File: 0404Y052.D
Acq: 10 Apr 17 18:41

Tgt Ion:163 Resp: 38364

Ion	Ratio	Lower	Upper
163	100		
194	5.3	3.9	7.3
164	8.5	7.1	13.1



Tentatively Identified Compound (LSC) summary

Operator ID: MA Date Acquired: 10 Apr 17 18:41
Data File: M:\YODA\DATA\Y170404\0404Y052.D
Name: AZ53169W13 1/980
Misc: water
Method: M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title: EPA 8270C
Library Searched: M:\DATABASE\WILEY138.L

Present in the Blank
do not report
MA 9/28/17

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Benzene, methyl-	1.84	126.8	ppb	2562000	ISTD01	4.74	824986	40.0

0404Y052.D DIX0404.M Fri Apr 28 11:18:02 2017

LSC Area Percent Report

Data File : M:\YODA\DATA\Y170404\0404Y052.D Vial: 52
Acq On : 10 Apr 17 18:41 Operator: MA
Sample : AZ53169W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02041
MS Integration Params: LSCINT.P

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.002 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

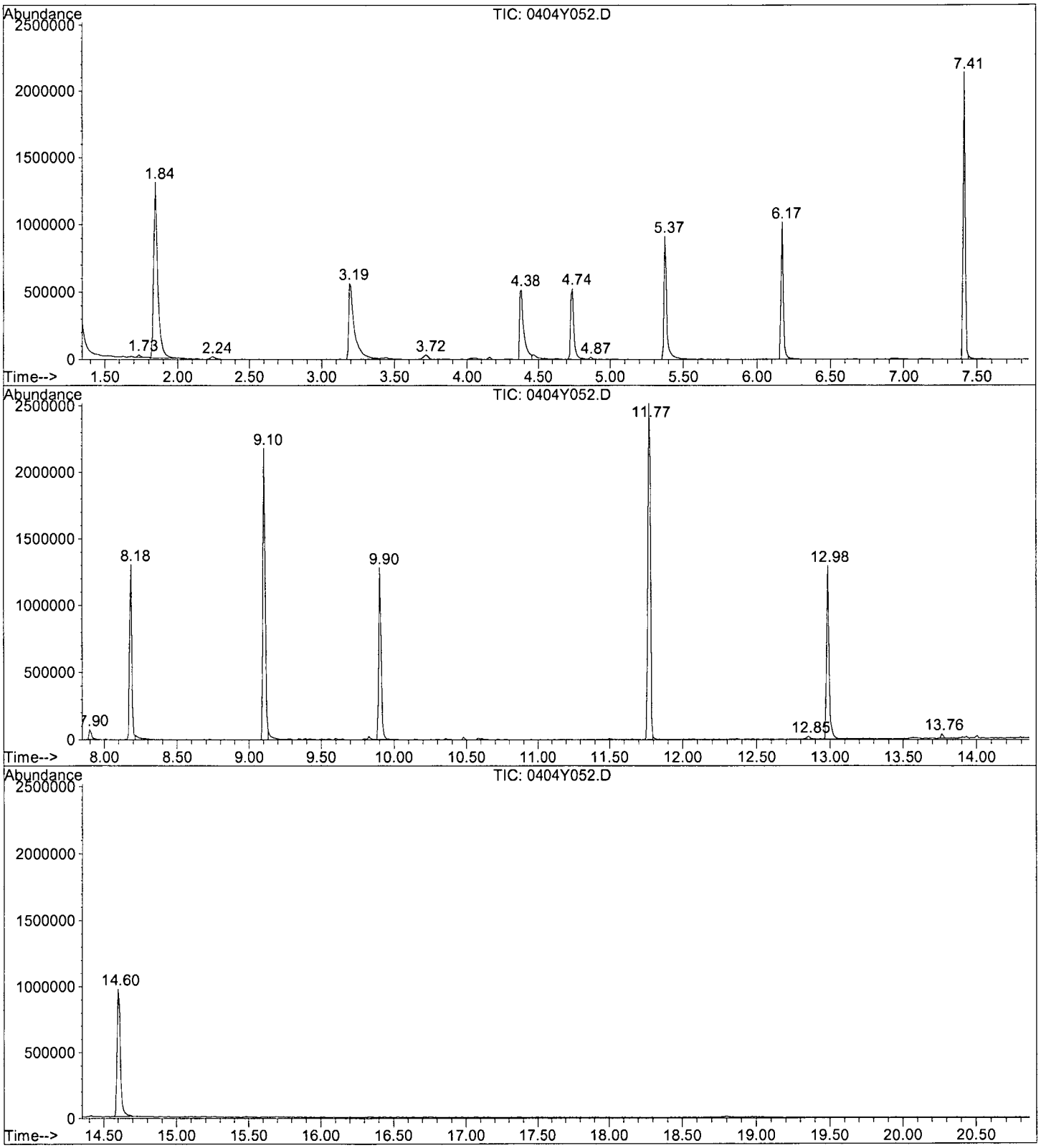
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	raw area	corr. area	corr. % max.	% of total
1	1.733	41	43	48	rVV3	20609	661719	31646	1.04%	0.144%
2	1.844	51	55	71	rVB	1304205	4304059	2562003	84.12%	11.673%
3	2.243	92	98	105	rVB3	18749	1133129	51182	1.68%	0.233%
4	3.190	198	200	222	rBV	563477	3972930	1535128	50.40%	6.995%
5	3.719	250	257	262	rVB3	33119	1076911	81597	2.68%	0.372%
6	4.379	325	328	336	rBV	518422	1998844	1075162	35.30%	4.899%
7	4.741	364	367	378	rVV	525393	2128764	824986	27.09%	3.759%
8	4.871	378	381	388	rVB2	17758	869572	30705	1.01%	0.140%
9	5.372	433	435	453	rBV	914777	3436594	1236049	40.58%	5.632%
10	6.170	518	521	537	rBV	1018813	2702396	1117004	36.68%	5.090%
11	7.414	652	655	658	rBV	2140385	2532641	2022729	66.41%	9.216%
12	7.897	705	707	713	rBV	73605	762367	92136	3.03%	0.420%
13	8.185	735	738	741	rBV	1307311	1980626	1412359	46.37%	6.435%
14	9.104	834	837	840	rBV2	2180389	2880381	2378799	78.11%	10.839%
15	9.902	920	923	933	rBV	1281102	2470791	1386020	45.51%	6.315%
16	11.768	1121	1124	1127	rBV	2516702	3566907	3045605	100.00%	13.877%
17	12.854	1233	1241	1248	rBV2	21510	1300179	53374	1.75%	0.243%
18	12.984	1252	1255	1264	rBV	1293329	2512668	1471297	48.31%	6.704%
19	13.764	1337	1339	1344	rVB	34270	645375	39745	1.30%	0.181%
20	14.600	1426	1429	1440	rVB	970807	2764132	1499682	49.24%	6.833%

Sum of corrected areas: 21947208

0404Y052.D DIX0404.M Fri Apr 28 11:18:01 2017

LSC Report - Integrated Chromatogram

File : M:\YODA\DATA\Y170404\0404Y052.D
Operator : MA
Acquired : 10 Apr 17 18:41 using AcqMethod SVOC416
Instrument : Yoda
Sample Name: AZ53169W13 1/980
Misc Info : water
Vial Number: 52
Quant File :DIX0404.RES (RTE Integrator)



0404Y052.D DIX0404.M Fri Apr 28 11:18:02 2017

Library Search Compound Report

Data File : M:\YODA\DATA\Y170404\0404Y052.D Vial: 52
Acq On : 10 Apr 17 18:41 Operator: MA
Sample : AZ53169W13 1/980 Inst : Yoda
Misc : water Multiplr: 1.02

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Library : M:\DATABASE\WILEY138.L

****

Peak Number 1 Benzene, methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.84	126.76 ppb	2562000	1,4-dichlorobenzene-D4(IS)	4.74

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, methyl-	92	C7H8	000108-88-3	94
2	Benzene, methyl-	92	C7H8	000108-88-3	91
3	BICYCLO-(2,2,1)-HEPTADIENE-(2,5)	92	C7H8	000121-46-0	91
4	1,3,5-Cycloheptatriene	92	C7H8	000544-25-2	91
5	Benzene, methyl-	92	C7H8	000108-88-3	91

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	04/07/17	04/10/17
EPA 8270D	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	04/07/17	04/10/17
EPA 8270D	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	04/07/17	04/10/17
EPA 8270D	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	4-BROMOPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	4-CHLOROPHENYL PHENYL ETHER	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
EPA 8270D	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17

J = Estimated value.
T = Tentatively identified compound.

Quant Method: Y0404.M
Run #: 0404Y053
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 4/28/2017 11:39:20 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8270D WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #87DDO-170407A-217836

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLORETHOXY) METHANE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-CHLOROISOPROPYL) ETHER	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	5.00 U	20.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	04/07/17	04/10/17
EPA 8270D	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	04/07/17	04/10/17
EPA 8270D	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
EPA 8270D	DIMETHYL PHTHALATE	3.1 J	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
EPA 8270D	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROCYCLOPENTADIENE	9.00 U	10.0	9.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	04/07/17	04/10/17
EPA 8270D	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
EPA 8270D	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
EPA 8270D	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
EPA 8270D	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
EPA 8270D	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
EPA 8270D	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
EPA 8270D	PHENOL, 4,4'-(1-METHYLETHYLIDENE	5.5 T	TIC		TIC	ug/L	04/07/17	04/10/17
EPA 8270D	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	78.5	43-140			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	68.2	44-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	47.1	19-119			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	67.8	44-120			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: PHENOL (S)	30.5	10-115			%	04/07/17	04/10/17
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	74.9	50-134			%	04/07/17	04/10/17

J = Estimated value.
T = Tentatively identified compound.

Quant Method: Y0404.M
Run #: 0404Y053
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 4/28/2017 11:39:20 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Apr 11 9:44 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113649	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	489153	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	265061	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	481136	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	493640	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	472514	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	344233	89.69608 ppb	0.00
Spiked Amount 190.476			Recovery	= 47.090%	
5) Phenol-D6 (S)	4.37	99	279134	58.10451 ppb	0.00
Spiked Amount 190.476			Recovery	= 30.505%	
21) Nitrobenzene-D5(S)	5.38	82	343558	64.61083 ppb	0.00
Spiked Amount 95.238			Recovery	= 67.842%	
45) 2-Fluorobiphenyl(S)	7.42	172	566850	64.95873 ppb	0.00
Spiked Amount 95.238			Recovery	= 68.207%	
63) 2,4,6-Tribromophenol(S)	9.11	330	186577	149.57727 ppb	0.00
Spiked Amount 190.476			Recovery	= 78.528%	
81) Terphenyl-D14(S)	11.77	244	781924	71.36121 ppb	0.00
Spiked Amount 95.238			Recovery	= 74.929%	
Target Compounds					Qvalue
49) Dimethyl phthalate	7.90	163	29826	3.11763 ppb	99

(#) = qualifier out of range (m) = manual integration
0404Y053.D Y0404.M Thu Apr 13 14:23:06 2017

Quantitation Report

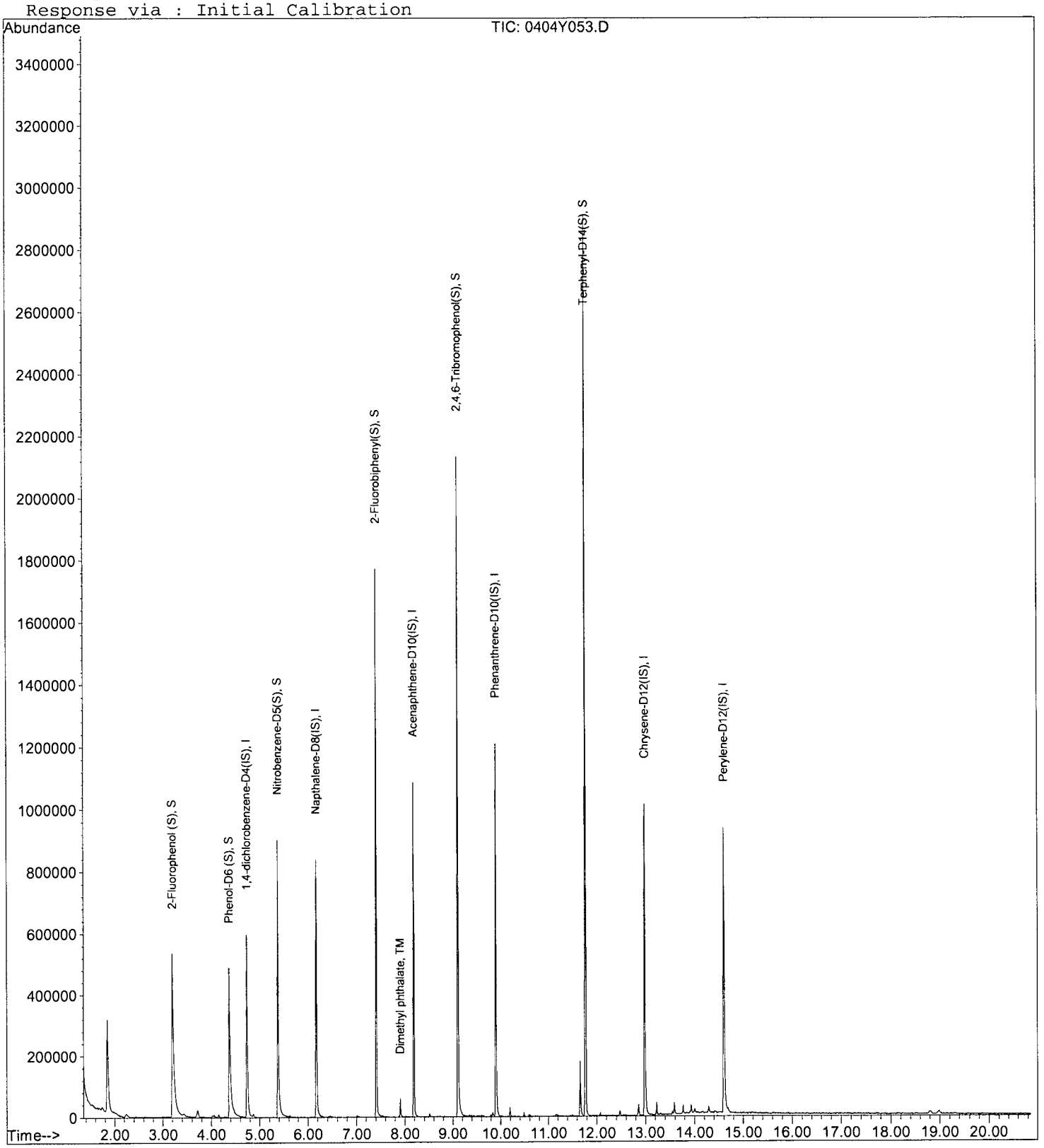
Data File : M:\YODA\DATA\Y170404\0404Y053.D
Acq On : 10 Apr 17 19:11
Sample : AZ53170W14 1/1050
Misc : water

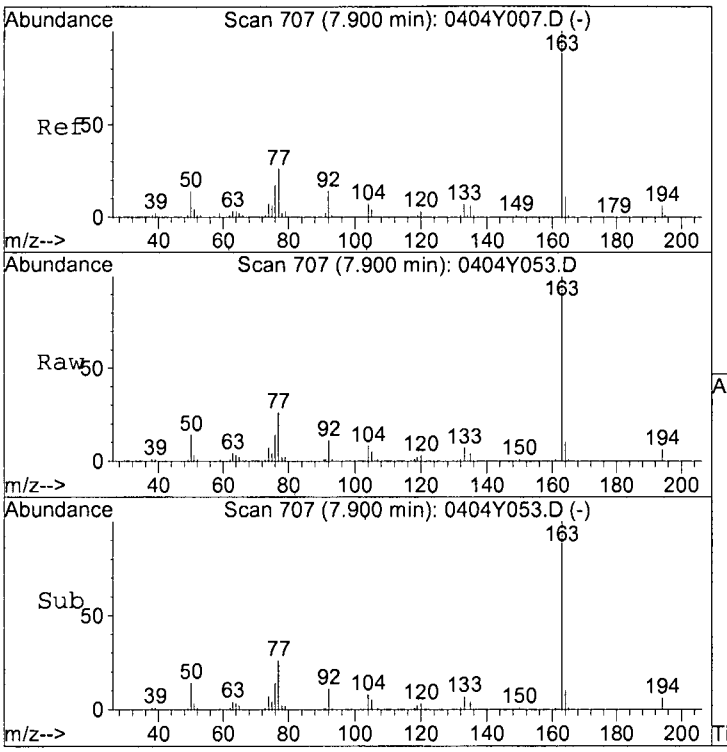
Vial: 53
Operator: MA
Inst : Yoda
Multiplr: 0.95

Quant Time: Apr 11 9:44 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration

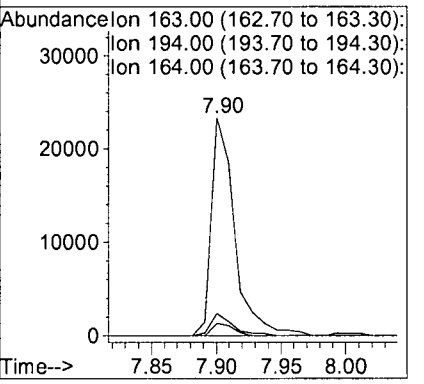




#49
Dimethyl phthalate
Concen: 3.11763 ppb
RT: 7.90 min Scan# 707
Delta R.T. 0.00 min
Lab File: 0404Y053.D
Acq: 10 Apr 17 19:11

Tgt Ion:163 Resp: 29826

Ion	Ratio	Lower	Upper
163	100		
194	5.8	3.9	7.3
164	10.4	7.1	13.1



Tentatively Identified Compound (LSC) summary

Operator ID: MA Date Acquired: 10 Apr 17 19:11
Data File: M:\YODA\DATA\Y170404\0404Y053.D
Name: AZ53170W14 1/1050
Misc: water
Method: M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title: EPA 8270C
Library Searched: M:\DATABASE\WILEY138.L

4/28/17

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Benzene, methyl-	1.85	28.5	ppb	624638	ISTD01	4.73	836238	40.0
Phenol, 4,4'-(1-meth	11.66	5.5	ppb	203394	ISTD05	12.99	1407930	40.0

Present in Blank ND

0404Y053.D DIX0404.M Fri Apr 28 11:18:52 2017

LSC Area Percent Report

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95238
MS Integration Params: LSCINT.P

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.002 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

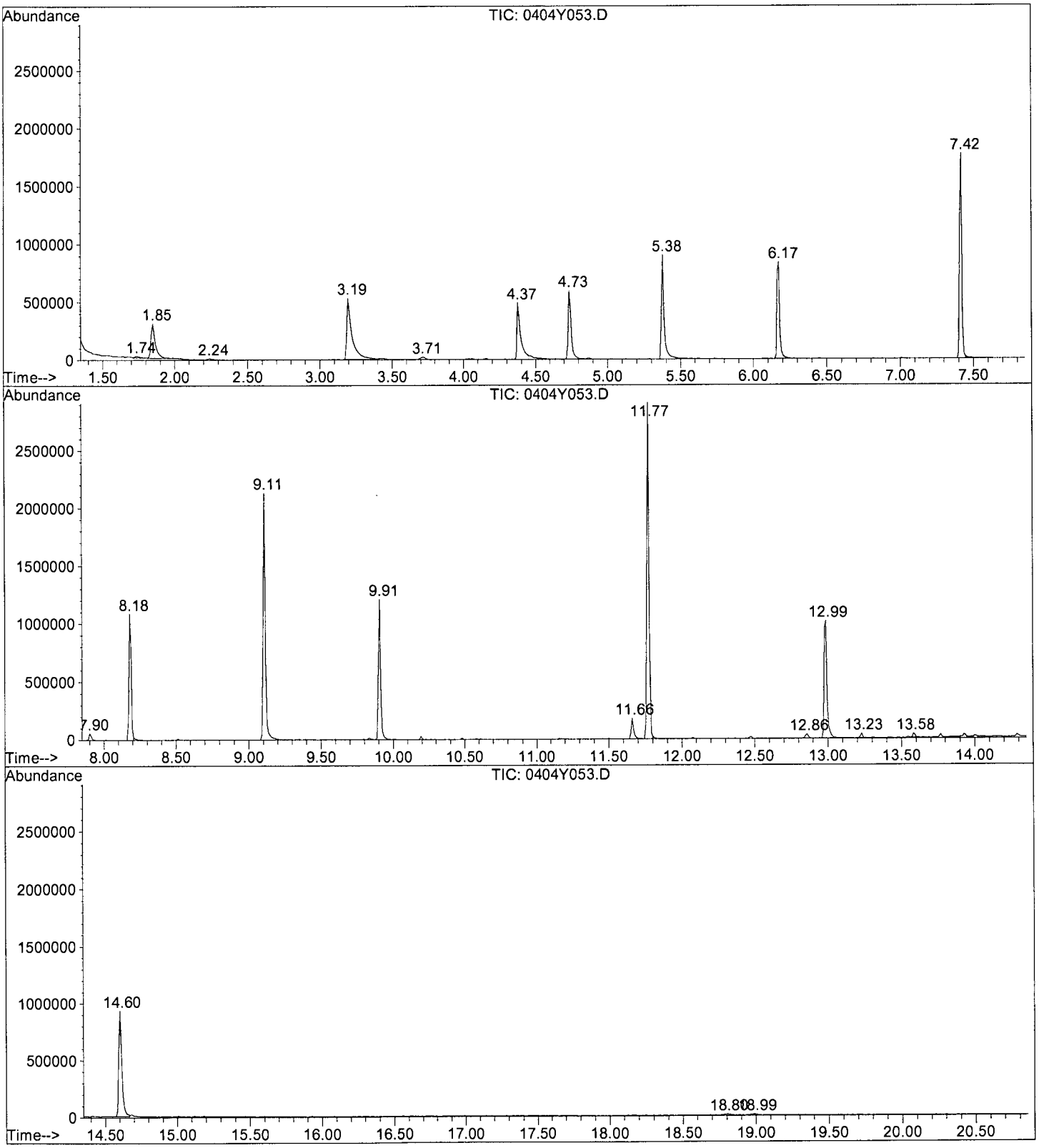
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	raw area	corr. area	corr. % max.	% of total
1	1.736	40	43	50	rVB7	14160	639096	38940	1.34%	0.204%
2	1.847	51	55	68	rVB	302668	1627535	624638	21.56%	3.271%
3	2.237	92	97	106	rVB3	10715	780628	35580	1.23%	0.186%
4	3.194	198	200	223	rBV	532466	3818771	1369564	47.28%	7.172%
5	3.713	251	256	262	rVB5	23219	643578	57193	1.97%	0.300%
6	4.373	325	327	352	rBV	489473	2590238	992510	34.26%	5.198%
7	4.735	363	366	378	rBV	594913	1641175	836238	28.87%	4.379%
8	5.375	433	435	455	rBV	902518	4261382	1154907	39.87%	6.048%
9	6.174	518	521	537	rVB	837707	2300753	1119045	38.63%	5.860%
10	7.418	652	655	658	rBV	1771253	2277737	1872588	64.64%	9.807%
11	7.900	705	707	716	rVB	59223	663817	70809	2.44%	0.371%
12	8.179	734	737	740	rBV	1086235	1508752	1194475	41.23%	6.255%
13	9.107	834	837	851	rBV	2133307	3465747	2364247	81.62%	12.381%
14	9.906	920	923	932	rVB	1207563	1958112	1281543	44.24%	6.711%
15	11.660	1110	1112	1121	rBV	178748	935659	203394	7.02%	1.065%
16	11.771	1121	1124	1127	rBV	2908245	3423395	2896756	100.00%	15.170%
17	12.858	1234	1241	1246	rBV	36718	690467	55664	1.92%	0.292%
18	12.988	1252	1255	1265	rBV	1011856	2391656	1407926	48.60%	7.373%
19	13.229	1278	1281	1283	rBV	40455	307272	38131	1.32%	0.200%
20	13.582	1317	1319	1321	rBV	33879	258579	35977	1.24%	0.188%
21	14.603	1426	1429	1436	rBV	927951	2096015	1375380	47.48%	7.203%
22	18.799	1876	1881	1888	rBV5	9818	686530	34639	1.20%	0.181%
23	18.994	1893	1902	1907	rVB7	10486	789192	34993	1.21%	0.183%

Sum of corrected areas: 19095137

0404Y053.D DIX0404.M Fri Apr 28 11:18:50 2017

LSC Report - Integrated Chromatogram

File : M:\YODA\DATA\Y170404\0404Y053.D
Operator : MA
Acquired : 10 Apr 17 19:11 using AcqMethod SVOC416
Instrument : Yoda
Sample Name: AZ53170W14 1/1050
Misc Info : water
Vial Number: 53
Quant File :DIX0404.RES (RTE Integrator)



0404Y053.D DIX0404.M Fri Apr 28 11:18:51 2017

Library Search Compound Report

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Library : M:\DATABASE\WILEY138.L

****

Peak Number 1 Benzene, methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.85	28.46 ppb	624638	1,4-dichlorobenzene-D4(IS)	4.73

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, methyl-	92	C7H8	000108-88-3	94
2	Benzene, methyl-	92	C7H8	000108-88-3	91
3	BICYCLO-(2,2,1)-HEPTADIENE-(2,5)	92	C7H8	000121-46-0	91
4	Benzene, methyl-	92	C7H8	000108-88-3	91
5	Benzene, methyl-	92	C7H8	000108-88-3	91

Present in Blank do not report DA 4/28/17

****

Peak Number 2 Phenol, 4,4'-(1-methylethylide Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
11.66	5.50 ppb	203394	Chrysene-D12(IS)	12.99

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenol, 4,4'-(1-methylethylidene)bi	228	C15H16O2	000080-05-7	93
2	Phenol, 4,4'-(1-methylethylidene)bi	228	C15H16O2	000080-05-7	90
3	Carbanilic acid, p-phenyl-	213	C13H11NO2	004474-53-7	53
4	Phenol, 4,4'-(1-methylethylidene)bi	228	C15H16O2	000080-05-7	50
5	1-METHYL-7-METHOXY-.BETA.-CARBOLINE	212	C13H11DN2O	029234-70-6	47

ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0404Y003.D	0404Y004.D	0404Y005.D	0404Y006.D	0404Y007.D	0404Y008.D	0404Y009.D	0404Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	n-Nitrosodimethylamine	1.045	1.285	1.268	1.575	1.631	1.683	1.470	1.470			1.4	15	TM	
3	TM	Pyridine	1.796	2.658	2.424	2.560	2.828	2.930	2.545	2.495			2.5	14	TM	
4	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.360	1.335			1.3	12	S	
5	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
6	*TM	Phenol	1.801	1.883	1.833	1.932	1.975	1.922	1.859	1.753			1.9	3.9	*TM	
7	TM	Aniline	1.529	1.728	1.678	1.856	1.857	1.872	1.764	1.792			1.8	6.6	TM	
8	TM	Bis (2-chloroethyl) ether	0.8421	0.8703	0.8295	0.8895	0.9148	0.9307	0.9198	0.9200			0.89	4.3	TM	
9	TM	2-Chlorophenol	1.406	1.510	1.413	1.508	1.562	1.499	1.491	1.427			1.5	3.8	TM	
10	TM	1,3-DCB	1.550	1.624	1.506	1.586	1.625	1.587	1.595	1.478			1.6	3.4	TM	
11	*TM	1,4-DCB	1.714	1.602	1.592	1.619	1.635	1.581	1.612	1.502			1.6	3.7	*TM	
12	TM	Benzyl alcohol	0.7857	0.8348	0.8411	0.8997	0.8949	0.8862	0.8669	0.8414			0.86	4.5	TM	
13	TM	1,2-DCB	1.480	1.494	1.416	1.525	1.491	1.467	1.414	1.331			1.5	4.3	TM	
14	TM	2-Methylphenol	1.196	1.233	1.031	1.179	1.115	1.092	1.041	1.012			1.1	7.4	TM	
15	TM	Bis (2-chloroisopropyl) ether	1.897	2.010	1.820	2.089	1.942	1.898	1.855	1.724			1.9	5.9	TM	
16	TM	Acetophenone	1.913	1.994	1.821	2.023	1.949	1.987	1.892	1.806			1.9	4.2	TM	
17	TM	3&4-Methylphenol	1.398	1.502	1.379	1.482	1.436	1.543	1.353	1.224			1.4	7.1	TM	
18	**TM	n-Nitrosodi-n-propylamine	1.021	1.160	0.9998	1.082	1.049	1.081	1.035	0.9323			1.0	6.4	**TM	
19	TM	Hexachloroethane	0.6772	0.7176	0.6021	0.6543	0.6888	0.7214	0.6575	0.6174			0.67	6.5	TM	
20	I	Napthalene-D8(IS)														
21	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4472	0.4267			0.41	10	S	
22	TM	Nitrobenzene	0.3795	0.3943	0.3604	0.4194	0.4331	0.4565	0.4411	0.4254			0.41	7.9	TM	
23	TM	Isophorone	0.6040	0.6566	0.5779	0.7183	0.7122	0.6970	0.7512	0.7213			0.68	9.0	TM	
24	*TM	2-Nitrophenol	0.1642	0.1583	0.1805	0.2159	0.2151	0.2137	0.2289	0.2176			0.20	14	*TM	
25	TM	2,4-Dimethylphenol	0.2955	0.3268	0.2911	0.3223	0.3218	0.3222	0.3293	0.3233			0.32	4.6	TM	
26	TML	Benzoic acid	0.0599	0.1923	0.2030	0.2535	0.2882	0.2696	0.2603	0.2648			0.22	33	TML	0.995
27	TM	Bis (2-chloroethoxy) methane	0.3711	0.4153	0.3749	0.3929	0.3975	0.3925	0.4224	0.4046			0.40	4.5	TM	
28	*TM	2,4-Dichlorophenol	0.2644	0.3144	0.2957	0.3116	0.3182	0.3051	0.3225	0.3202			0.31	6.2	*TM	
29	TM	1,2,4-Trichlorobenzene	0.3118	0.3332	0.3280	0.3293	0.3503	0.3240	0.3370	0.3347			0.33	3.3	TM	
30	TM	3,4-Dimethylphenol	0.4791	0.4782	0.4397	0.4546	0.4755	0.4502	0.4544	0.4656			0.46	3.2	TM	
31	TM	Naphthalene	1.058	1.050	0.9898	1.039	1.082	1.007	1.048	1.039			1.0	2.8	TM	
32	TM	4-Chloroaniline	0.3174	0.3739	0.3579	0.4307	0.3744	0.3426	0.3056	0.2838			0.35	13	TM	
33	TM	2,6-Dichlorophenol	0.2766	0.2882	0.2568	0.3089	0.2778	0.2575	0.2417	0.2513			0.27	8.2	TM	
34	TM	Hexachloropropene	0.2086	0.2343	0.2165	0.2765	0.2623	0.2484	0.2392	0.2681			0.24	9.9	TM	
35	*TM	Hexachlorobutadiene	0.1946	0.2175	0.1838	0.2253	0.2080	0.1915	0.1983	0.2066			0.20	6.8	*TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
36	TM	Caprolactum	0.1388	0.1574	0.1365	0.1800	0.1906	0.1729	0.1839	0.1859			0.17	13	TM	
37	*TM	4-Chloro-3-methylphenol	0.2752	0.3248	0.3439	0.3397	0.3599	0.3336	0.3431	0.3501			0.33	7.7	*TM	
38	TM	2-Methylnaphthalene	0.7247	0.7779	0.7656	0.7255	0.7295	0.6718	0.6912	0.6796			0.72	5.3	TM	
39	TM	1-Methylnaphthalene	0.6894	0.7184	0.7355	0.6902	0.7728	0.6393	0.6634	0.6548			0.70	6.4	TM	
40	I	Acenaphthene-D10(IS)														
41	**TMQ	Hexachlorocyclopentadiene	0.0314	0.0517	0.1265	0.1687	0.2267	0.2083	0.2351	0.2701			0.16	53	**TMQ	0.996
42	TM	1,2,4,5-Tetrachlorobenzene	0.5258	0.5137	0.6284	0.5104	0.5849	0.5024	0.5164	0.5192			0.54	8.3	TM	
43	*TM	2,4,6-Trichlorophenol	0.3273	0.2952	0.3901	0.3551	0.3909	0.3537	0.3596	0.3742			0.36	9.0	*TM	
44	TM	2,4,5-Trichlorophenol	0.3419	0.3285	0.3861	0.3639	0.4022	0.3715	0.3814	0.3786			0.37	6.5	TM	
45	S	2-Fluorobiphenyl(S)	1.264	1.213	1.501	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
46	TM	1,1'-Biphenyl	1.507	1.357	1.678	1.453	1.568	1.402	1.378	1.431			1.5	7.3	TM	
47	TM	2-Chloronaphthalene	1.157	1.051	1.291	1.134	1.222	1.092	1.104	1.141			1.1	6.6	TM	
48	TM	2-Nitroaniline	0.3113	0.3404	0.4239	0.3968	0.4472	0.4027	0.4167	0.4471			0.40	12	TM	
49	TM	Dimethyl phthalate	1.297	1.247	1.445	1.317	1.459	1.524	1.329	1.382			1.4	6.8	TM	
50	TM	2,6-DNT	0.2786	0.3184	0.3200	0.3204	0.3425	0.2999	0.3196	0.3305			0.32	6.1	TM	
51	TM	Acenaphthylene	1.706	1.928	1.909	1.781	1.883	1.803	1.763	1.753			1.8	4.5	TM	
52	TM	3-Nitroaniline	0.2875	0.3266	0.3244	0.3437	0.3439	0.3314	0.3213	0.3221			0.33	5.4	TM	
53	*TM	Acenaphthene	1.201	1.171	1.121	1.083	1.149	1.040	1.045	1.055			1.1	5.5	*TM	
54	**TML	2,4-Dinitrophenol	0.0283	0.0648	0.1074	0.1737	0.1820	0.1809	0.2063	0.2123			0.14	48	**TML	0.994
55	**TML	4-Nitrophenol	0.0082	0.0115	0.2352	0.2508	0.2715	0.2585	0.2685	0.3022			0.20	59	**TML	0.993
56	TM	Dibenzofuran	1.546	1.513	1.635	1.598	1.612	1.537	1.471	1.489			1.6	3.8	TM	
57	TM	2,4-DNT	0.3537	0.3907	0.4040	0.4149	0.4605	0.4417	0.4506	0.4555			0.42	8.9	TM	
58	TM	2,3,4,6-Tetrachlorophenol	0.2728	0.2593	0.2825	0.3282	0.3289	0.3058	0.3079	0.3177			0.30	8.7	TM	
59	TM	Diethyl phthalate	1.379	1.285	1.385	1.405	1.676	1.351	1.359	1.407			1.4	8.3	TM	
60	TM	4-Chlorophenyl phenyl ether	0.6595	0.5956	0.5936	0.6044	0.6316	0.6190	0.5703	0.6313			0.61	4.6	TM	
61	TM	Fluorene	1.295	1.265	1.259	1.243	1.267	1.255	1.148	1.255			1.2	3.5	TM	
62	TM	4-Nitroaniline	0.2925	0.2737	0.3054	0.3184	0.3577	0.3268	0.3217	0.3161			0.31	7.9	TM	
63	S	2,4,6-Tribromophenol(S)	0.1697	0.1750	0.1856	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	4.3	S	
64	I	Phenanthrene-D10(IS)														
65	TMQ	4,6-Dinitro-2-methylphenol	0.0849	0.1080	0.1198	0.1237	0.1523	0.1528	0.1465	0.1384			0.13	19	TMQ	0.993
66	TM	Diphenyl amine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	TM	
67	*TM	n-Nitrosodiphenylamine	0.5961	0.6328	0.5250	0.4536	0.5392	0.5094	0.4647	0.4637			0.52	12	*TM	
68	TM	1,2-Diphenylhydrazine	0.7989	0.8600	0.7744	0.7210	1.016	1.039	0.9516	0.9045			0.88	13	TM	
69	TM	4-Bromophenyl phenyl ether	0.2099	0.2197	0.1926	0.1700	0.2029	0.1960	0.1926	0.1838			0.20	7.8	TM	
70	TM	Hexachlorobenzene	0.2146	0.2271	0.1965	0.1743	0.2065	0.1962	0.1937	0.1829			0.20	8.5	TM	

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
71	TM	Atrazine	0.2052	0.2390	0.2017	0.1909	0.2205	0.2155	0.2139	0.1994			0.21	7.1	TM	
72	*TM	Pentachlorophenol	0.0706	0.0712	0.0748	0.0728	0.0940	0.0949	0.0974	0.0971			0.08	15	*TM	
73	TM	Phenanthrene	1.108	1.109	1.027	1.038	1.050	0.9972	0.9679	0.9311			1.0	6.1	TM	
74	TM	Anthracene	1.150	1.172	1.122	1.082	1.116	1.053	1.017	0.9680			1.1	6.4	TM	
75	TM	Carbazol	1.004	1.041	1.002	0.8660	1.004	0.9371	0.9170	0.8804			0.96	6.8	TM	
76	TM	Di-n-butylphthalate	1.243	1.355	1.269	1.095	1.263	1.350	1.224	1.152			1.2	7.2	TM	
77	*TM	Fluoranthene	1.214	1.295	1.127	1.056	1.195	1.088	1.067	1.020			1.1	8.3	*TM	
78	I	Chrysene-D12(IS)														
79	TM	Benzidine	0.3367	0.3742	0.3900	0.3534	0.3898	0.3094	0.3372	0.3363			0.35	8.2	TM	
80	TM	Pyrene	1.296	1.325	1.223	1.266	1.363	1.047	1.178	1.169			1.2	8.3	TM	
81	S	Terphenyl-D14(S)	0.8779	0.9617	0.8691	0.8737	0.9198	0.6825	0.7856	0.7945			0.85	10	S	
82	TM	Butyl benzylphthalate	0.5983	0.6094	0.6081	0.6196	0.6581	0.5111	0.5984	0.5904			0.60	6.9	TM	
83	TM	3,3'-Dichlorobenzidine	0.3893	0.4312	0.4215	0.4078	0.4146	0.3713	0.3454	0.3251			0.39	9.8	TM	
84	TM	Benz (a) anthracene	1.176	1.231	1.158	1.174	1.207	1.106	1.063	1.108			1.2	4.9	TM	
85	TM	Bis (2-ethylhexyl) phthalate	0.8769	0.9173	0.8300	0.8201	0.8614	0.7254	0.7839	0.9028			0.84	7.6	TM	
86	TM	Chrysene	1.256	1.280	1.107	1.080	1.101	0.9585	1.059	1.188			1.1	9.5	TM	
87	*TM	Di-n-octylphthalate	1.507	1.541	1.481	1.538	1.580	1.319	1.424	1.422			1.5	5.7	*TM	
88	I	Perylene-D12(IS)														
89	TM	Benzo (b) fluoranthene	1.426	1.474	1.422	1.311	1.362	1.193	1.267	1.265			1.3	7.2	TM	
90	TM	Benzo (k) fluoranthene	1.430	1.533	1.191	1.317	1.324	1.280	1.035	1.024			1.3	14	TM	
91	*TM	Benzo (a) pyrene	1.255	1.371	1.280	1.268	1.296	1.168	1.111	1.115			1.2	7.5	*TM	
92	TM	Indeno (1,2,3-cd) pyrene	1.460	1.658	1.503	1.546	1.410	1.307	1.253	1.251			1.4	10	TM	
93	TM	Dibenz (a,h) anthracene	1.236	1.385	1.277	1.283	1.199	1.128	1.057	1.049			1.2	9.8	TM	
94	TM	Benzo (g,h,i) perylene	1.269	1.415	1.214	1.206	1.207	1.121	1.094	1.088			1.2	9.0	TM	
95																
96																
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	560451	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.25	112	32572	7.80714 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.904%	
5) Phenol-D6 (S)	4.40	99	51987	9.39572 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.698%	
21) Nitrobenzene-D5(S)	5.39	82	23671	4.16878 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.169%	
45) 2-Fluorobiphenyl(S)	7.41	172	50729	4.91846 ppb	0.00
Spiked Amount 100.000			Recovery	= 4.918%	
63) 2,4,6-Tribromophenol(S)	9.11	330	13623	9.13383 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.567%	
81) Terphenyl-D14(S)	11.77	244	61500	5.05821 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.058%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.70	42	17331	5.09847 ppb	72
3) Pyridine	1.70	79	29780	4.54533 ppb	98
6) Phenol	4.42	94	29856	4.71564 ppb	87
7) Aniline	4.41	66	25352	4.22853 ppb #	67
8) Bis (2-chloroethyl) ether	4.46	63	13961	4.54380 ppb	91
9) 2-Chlorophenol	4.53	128	23302	4.74054 ppb	98
10) 1,3-DCB	4.68	146	25694	4.95679 ppb	95
11) 1,4-DCB	4.75	146	28420	5.31753 ppb	95
12) Benzyl alcohol	4.95	108	13026	4.65457 ppb	78
13) 1,2-DCB	4.93	146	24536	5.04662 ppb	97
14) 2-Methylphenol	5.08	107	19820	5.39228 ppb #	86
15) Bis (2-chloroisopropyl) et	5.06	45	31444	4.63265 ppb #	72
16) Acetophenone	5.22	105	31714	4.84771 ppb	84
17) 3&4-Methylphenol	5.26	107	46361	9.73524 ppb	84
18) n-Nitrosodi-n-propylamine	5.21	70	16927	4.68272 ppb	96
19) Hexachloroethane	5.29	117	11226	5.10602 ppb	93
22) Nitrobenzene	5.41	77	26307	4.66103 ppb	94
23) Isophorone	5.66	82	41871	4.46234 ppb	95
24) 2-Nitrophenol	5.77	139	11385	4.28748 ppb	95
25) 2,4-Dimethylphenol	5.84	122	20483	4.81634 ppb	94
26) Benzoic acid	6.01	105	4149	6.18708 ppb	74
27) Bis (2-chloroethoxy) metha	5.92	93	25723	4.75850 ppb	97
28) 2,4-Dichlorophenol	6.08	162	18329	4.53153 ppb	99
29) 1,2,4-Trichlorobenzene	6.11	180	21615	4.81351 ppb	99
30) 3,4-Dimethylphenol	6.19	107	33212	5.19146 ppb	98
31) Naphthalene	6.19	128	73321	5.05690 ppb	99
32) 4-Chloroaniline	6.29	127	22001	4.33900 ppb	97
33) 2,6-Dichlorophenol	6.29	162	19174	5.11220 ppb	97
34) Hexachloropropene	6.29	213	14457	4.42657 ppb	96
35) Hexachlorobutadiene	6.33	225	13492	5.04887 ppb	91
36) Caprolactum	6.68	55	9623	4.13206 ppb #	89
37) 4-Chloro-3-methylphenol	6.88	107	19078	4.30945 ppb	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	50235	5.31781 ppb		95
39) 1-Methylnaphthalene	7.10	142	47789	5.07912 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	1262	7.25654 ppb	#	90
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	21106	4.84238 ppb		94
43) 2,4,6-Trichlorophenol	7.35	196	13139	4.77843 ppb		95
44) 2,4,5-Trichlorophenol	7.42	196	13725	4.57362 ppb		87
46) 1,1'-Biphenyl	7.53	154	60505	5.02407 ppb		96
47) 2-Chloronaphthalene	7.55	162	46461	5.04454 ppb		94
48) 2-Nitroaniline	7.71	65	12496	3.80337 ppb		89
49) Dimethyl phthalate	7.90	163	52080	4.69778 ppb		99
50) 2,6-DNT	7.98	165	11182	4.49905 ppb		99
51) Acenaphthylene	8.02	152	68492	4.62867 ppb		99
52) 3-Nitroaniline	8.20	138	11541	4.31142 ppb	#	80
53) Acenaphthene	8.22	154	48203	5.28946 ppb		91
54) 2,4-Dinitrophenol	8.41	184	1135	9.45965 ppb	#	55
55) 4-Nitrophenol	8.43	65	330	7.48521 ppb		89
56) Dibenzofuran	8.43	168	62053	4.82911 ppb		98
57) 2,4-DNT	8.47	165	14198	4.13294 ppb		85
58) 2,3,4,6-Tetrachlorophenol	8.60	232	10952	4.65968 ppb		85
59) Diethyl phthalate	8.70	149	55345	4.86883 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	26474	5.30016 ppb		87
61) Fluorene	8.82	166	51994	5.01403 ppb		97
62) 4-Nitroaniline	8.90	138	11739	4.56716 ppb		98
65) 4,6-Dinitro-2-methylphenol	8.95	198	5915	8.45378 ppb	#	79
66) Diphenyl amine	8.96	169	83104	11.48135 ppb		95
67) n-Nitrosodiphenylamine	8.96	169	83104	11.48135 ppb		95
68) 1,2-Diphenylhydrazine	9.01	77	55687	4.41379 ppb		91
69) 4-Bromophenyl phenyl ether	9.39	248	14634	5.21093 ppb		96
70) Hexachlorobenzene	9.47	284	14960	5.14155 ppb		90
71) Atrazine	9.60	200	7153	2.55096 ppb		93
72) Pentachlorophenol	9.72	266	4924	10.75177 ppb		91
73) Phenanthrene	9.93	178	77253	5.13387 ppb		100
74) Anthracene	9.99	178	80183	5.09924 ppb		97
75) Carbazol	10.20	167	69999	5.02637 ppb		99
76) Di-n-butylphthalate	10.61	149	86649	4.93439 ppb		96
77) Fluoranthene	11.32	202	84637	5.14374 ppb		97
79) Benzidine	11.51	184	23589	3.50897 ppb	#	89
80) Pyrene	11.58	202	90759	5.05780 ppb		100
82) Butyl benzylphthalate	12.34	149	41913	5.01411 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	27270	4.87537 ppb	#	93
84) Benz (a) anthracene	12.97	228	82353	4.90940 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	61432	5.26696 ppb		93
86) Chrysene	13.01	228	87970	5.35759 ppb		97
87) Di-n-octylphthalate	13.73	149	105594	5.27219 ppb		91
89) Benzo (b) fluoranthene	14.16	252	86060	5.72632 ppb		97
90) Benzo (k) fluoranthene	14.19	252	86318	6.11838 ppb	#	97
91) Benzo (a) pyrene	14.54	252	75743	5.45829 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	88144	5.69287 ppb		94
93) Dibenz (a,h) anthracene	16.12	278	74588	5.66377 ppb		95
94) Benzo (g,h,i) perylene	16.56	276	76584	5.86100 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

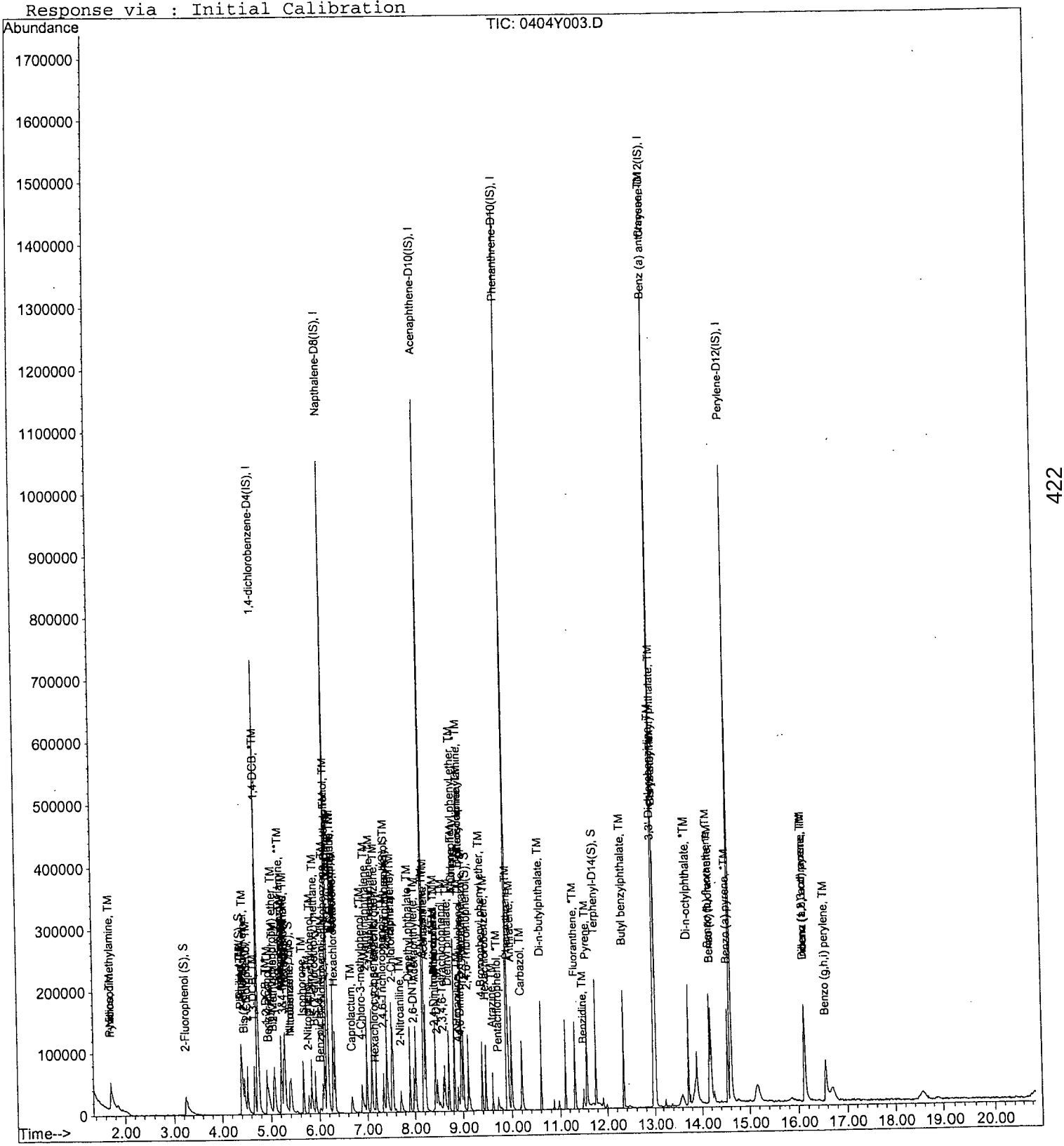
Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



422

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453345	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.22	112	66141	17.45292 ppb	0.03
Spiked Amount 200.000			Recovery	= 8.727%	
5) Phenol-D6 (S)	4.38	99	107821	21.45303 ppb	0.00
Spiked Amount 200.000			Recovery	= 10.727%	
21) Nitrobenzene-D5(S)	5.38	82	50379	10.03970 ppb	0.00
Spiked Amount 100.000			Recovery	= 10.040%	
45) 2-Fluorobiphenyl(S)	7.41	172	99689	9.44241 ppb	0.00
Spiked Amount 100.000			Recovery	= 9.442%	
63) 2,4,6-Tribromophenol(S)	9.10	330	28755	18.83458 ppb	-0.01
Spiked Amount 200.000			Recovery	= 9.418%	
81) Terphenyl-D14(S)	11.77	244	126985	11.08281 ppb	0.00
Spiked Amount 100.000			Recovery	= 11.083%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	38706	12.53558 ppb		95
3) Pyridine	1.69	79	80058	13.45227 ppb		95
6) Phenol	4.40	94	56718	9.86233 ppb		83
7) Aniline	4.39	66	52049	9.55740 ppb	#	46
8) Bis (2-chloroethyl) ether	4.45	63	26211	9.39152 ppb		96
9) 2-Chlorophenol	4.52	128	45469	10.18356 ppb		95
10) 1,3-DCB	4.67	146	48903	10.38615 ppb		97
11) 1,4-DCB	4.75	146	48234	9.93548 ppb		94
12) Benzyl alcohol	4.94	108	25142	9.89050 ppb		90
13) 1,2-DCB	4.93	146	44982	10.18556 ppb		94
14) 2-Methylphenol	5.07	107	37126	11.11979 ppb		85
15) Bis (2-chloroisopropyl) et	5.06	45	60540	9.81937 ppb	#	75
16) Acetophenone	5.21	105	60064	10.10764 ppb		90
17) 3&4-Methylphenol	5.25	107	90453	20.91061 ppb		93
18) n-Nitrosodi-n-propylamine	5.20	70	34949	10.64395 ppb		91
19) Hexachloroethane	5.29	117	21612	10.82186 ppb		99
22) Nitrobenzene	5.40	77	48309	9.68539 ppb		97
23) Isophorone	5.66	82	80440	9.70063 ppb		96
24) 2-Nitrophenol	5.77	139	19400	8.26702 ppb		85
25) 2,4-Dimethylphenol	5.83	122	40033	10.65173 ppb		93
26) Benzoic acid	6.00	105	23566	12.34998 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	50876	10.64976 ppb		96
28) 2,4-Dichlorophenol	6.06	162	38518	10.77576 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	40824	10.28728 ppb		99
30) 3,4-Dimethylphenol	6.17	107	58594	10.36398 ppb		94
31) Naphthalene	6.19	128	128676	10.04227 ppb		99
32) 4-Chloroaniline	6.28	127	45809	10.22297 ppb		96
33) 2,6-Dichlorophenol	6.29	162	35313	10.65390 ppb		95
34) Hexachloropropene	6.29	213	28711	9.94755 ppb		95
35) Hexachlorobutadiene	6.33	225	26642	11.28140 ppb		90
36) Caprolactum	6.68	55	19287	9.37129 ppb	#	84
37) 4-Chloro-3-methylphenol	6.88	107	39794	10.17150 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	95312	11.41701 ppb		97
39) 1-Methylnaphthalene	7.10	142	88020	10.58573 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	4251	9.20910 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	42215	9.46198 ppb		89
43) 2,4,6-Trichlorophenol	7.34	196	24255	8.61760 ppb	#	90
44) 2,4,5-Trichlorophenol	7.41	196	26998	8.78905 ppb	#	88
46) 1,1'-Biphenyl	7.53	154	111525	9.04688 ppb		96
47) 2-Chloronaphthalene	7.54	162	86353	9.15952 ppb		96
48) 2-Nitroaniline	7.70	65	27975	8.31821 ppb		96
49) Dimethyl phthalate	7.90	163	102496	9.03214 ppb		99
50) 2,6-DNT	7.98	165	26161	10.28297 ppb		91
51) Acenaphthylene	8.02	152	158445	10.46063 ppb		97
52) 3-Nitroaniline	8.18	138	26838	9.79466 ppb	#	68
53) Acenaphthene	8.22	154	96196	10.31233 ppb		96
54) 2,4-Dinitrophenol	8.36	184	5322	12.35667 ppb	#	76
55) 4-Nitrophenol	8.43	65	942	7.72684 ppb		70
56) Dibenzofuran	8.43	168	124334	9.45272 ppb		92
57) 2,4-DNT	8.46	165	32109	9.13105 ppb		88
58) 2,3,4,6-Tetrachlorophenol	8.59	232	21307	8.85620 ppb	#	84
59) Diethyl phthalate	8.71	149	105599	9.07545 ppb		96
60) 4-Chlorophenyl phenyl ethe	8.83	204	48947	9.57322 ppb		97
61) Fluorene	8.82	166	103917	9.79000 ppb		95
62) 4-Nitroaniline	8.89	138	22492	8.54881 ppb		89
65) 4,6-Dinitro-2-methylphenol	8.94	198	14030	12.45496 ppb	#	77
66) Diphenyl amine	8.96	169	164345	24.37687 ppb		99
67) n-Nitrosodiphenylamine	8.96	169	164345	24.37687 ppb		99
68) 1,2-Diphenylhydrazine	9.00	77	111668	9.50249 ppb	#	93
69) 4-Bromophenyl phenyl ether	9.39	248	28525	10.90507 ppb		90
70) Hexachlorobenzene	9.47	284	29490	10.88147 ppb		93
71) Atrazine	9.61	200	15514	5.94005 ppb		98
72) Pentachlorophenol	9.72	266	9250	14.06147 ppb		93
73) Phenanthrene	9.93	178	143958	10.27107 ppb		97
74) Anthracene	10.00	178	152204	10.39201 ppb		98
75) Carbazol	10.20	167	135199	10.42286 ppb		98
76) Di-n-butylphthalate	10.61	149	175917	10.75544 ppb		98
77) Fluoranthene	11.31	202	168094	10.96785 ppb		98
79) Benzidine	11.50	184	49406	7.79878 ppb		97
80) Pyrene	11.57	202	174947	10.34558 ppb		99
82) Butyl benzylphthalate	12.34	149	80461	10.21426 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	56934	10.80116 ppb		98
84) Benz (a) anthracene	12.98	228	162558	10.28332 ppb		98
85) Bis (2-ethylhexyl) phthala	13.01	149	121121	11.01947 ppb		96
86) Chrysene	13.01	228	168979	10.92054 ppb		97
87) Di-n-octylphthalate	13.73	149	203450	10.77917 ppb		93
89) Benzo (b) fluoranthene	14.16	252	167020	11.83583 ppb		97
90) Benzo (k) fluoranthene	14.19	252	173743	13.11590 ppb		96
91) Benzo (a) pyrene	14.53	252	155337	11.92187 ppb		97
92) Indeno (1,2,3-cd) pyrene	16.10	276	187927	12.92657 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	157013	12.69777 ppb		97
94) Benzo (g,h,i) perylene	16.55	276	160338	13.06849 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

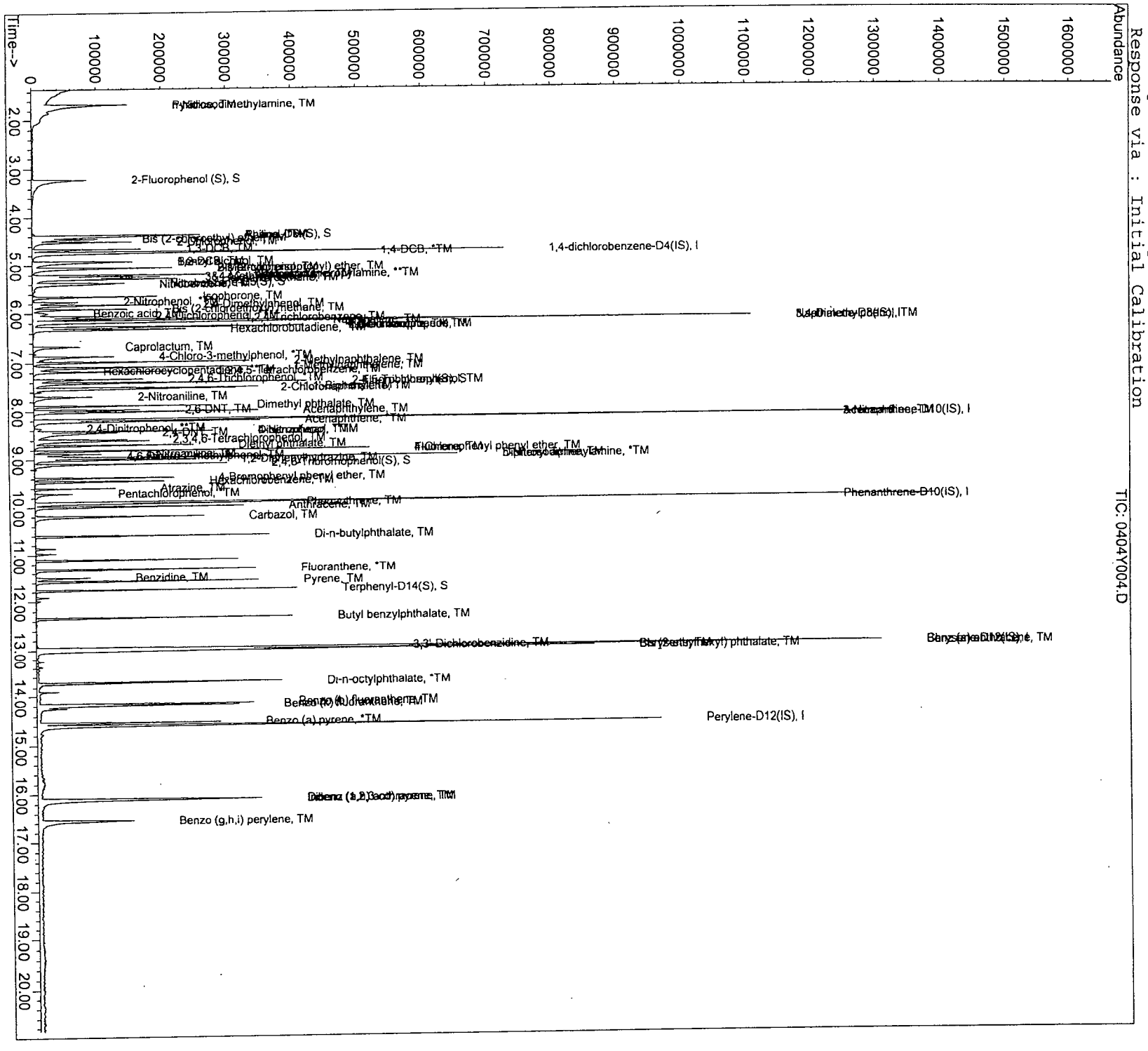
Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	298428	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	549818	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	169393	42.73841 ppb	0.00
Spiked Amount 200.000			Recovery = 21.369%		
5) Phenol-D6 (S)	4.37	99	208566	39.67842 ppb	0.00
Spiked Amount 200.000			Recovery = 19.839%		
21) Nitrobenzene-D5(S)	5.37	82	98581	17.84081 ppb	0.00
Spiked Amount 100.000			Recovery = 17.841%		
45) 2-Fluorobiphenyl(S)	7.42	172	224034	23.37317 ppb	0.00
Spiked Amount 100.000			Recovery = 23.373%		
63) 2,4,6-Tribromophenol(S)	9.11	330	55378	39.95286 ppb	0.00
Spiked Amount 200.000			Recovery = 19.977%		
81) Terphenyl-D14(S)	11.77	244	238911	20.02978 ppb	0.00
Spiked Amount 100.000			Recovery = 20.030%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	79869	24.73261 ppb		77
3) Pyridine	1.68	79	152689	24.53150 ppb		99
6) Phenol	4.39	94	115486	19.20055 ppb		93
7) Aniline	4.38	66	105732	18.56348 ppb	#	48
8) Bis (2-chloroethyl) ether	4.46	63	52255	17.90217 ppb		97
9) 2-Chlorophenol	4.51	128	88994	19.05770 ppb		97
10) 1,3-DCB	4.67	146	94862	19.26357 ppb		98
11) 1,4-DCB	4.75	146	100312	19.75669 ppb		96
12) Benzyl alcohol	4.93	108	52990	19.93141 ppb		88
13) 1,2-DCB	4.92	146	89212	19.31502 ppb		96
14) 2-Methylphenol	5.07	107	64975	18.60759 ppb		97
15) Bis (2-chloroisopropyl) et	5.06	45	114628	17.77696 ppb		93
16) Acetophenone	5.21	105	114712	18.45737 ppb		95
17) 3&4-Methylphenol	5.24	107	173721	38.39915 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	62983	18.34075 ppb		99
19) Hexachloroethane	5.29	117	37931	18.16046 ppb		88
22) Nitrobenzene	5.39	77	97246	17.70561 ppb		91
23) Isophorone	5.66	82	155940	17.07794 ppb		98
24) 2-Nitrophenol	5.76	139	48695	18.84437 ppb		81
25) 2,4-Dimethylphenol	5.83	122	78533	18.97597 ppb		93
26) Benzoic acid	5.99	105	54785	20.45992 ppb		98
27) Bis (2-chloroethoxy) metha	5.92	93	101147	19.22782 ppb	#	95
28) 2,4-Dichlorophenol	6.05	162	79785	20.27009 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	88504	20.25341 ppb		96
30) 3,4-Dimethylphenol	6.17	107	118646	19.05796 ppb		100
31) Naphthalene	6.19	128	267084	18.92920 ppb		100
32) 4-Chloroaniline	6.28	127	96581	19.57347 ppb		91
33) 2,6-Dichlorophenol	6.28	162	69298	18.98649 ppb		97
34) Hexachloropropene	6.28	213	58405	18.37671 ppb		94
35) Hexachlorobutadiene	6.33	225	49586	19.06801 ppb		98
36) Caprolactum	6.68	55	36825	16.24904 ppb		92
37) 4-Chloro-3-methylphenol	6.87	107	92782	21.53681 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	206580	22.47208 ppb		99
39) 1-Methylnaphthalene	7.10	142	198465	21.67571 ppb		95
41) Hexachlorocyclopentadiene	7.17	237	18881	19.39289 ppb		89
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	93759	23.14709 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	58201	22.77633 ppb		94
44) 2,4,5-Trichlorophenol	7.40	196	57607	20.65635 ppb		93
46) 1,1'-Biphenyl	7.53	154	250392	22.37252 ppb		98
47) 2-Chloronaphthalene	7.55	162	192666	22.50964 ppb		94
48) 2-Nitroaniline	7.70	65	63258	20.71778 ppb		92
49) Dimethyl phthalate	7.90	163	215567	20.92350 ppb		98
50) 2,6-DNT	7.98	165	47745	20.67093 ppb		84
51) Acenaphthylene	8.02	152	284868	20.71528 ppb		99
52) 3-Nitroaniline	8.18	138	48404	19.45756 ppb	#	90
53) Acenaphthene	8.22	154	167252	19.74872 ppb		99
54) 2,4-Dinitrophenol	8.35	184	16024	20.77747 ppb	#	76
55) 4-Nitrophenol	8.46	65	35092	22.80779 ppb	#	69
56) Dibenzofuran	8.42	168	243928	20.42662 ppb		93
57) 2,4-DNT	8.46	165	60284	18.88269 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	42157	19.30024 ppb	#	82
59) Diethyl phthalate	8.72	149	206651	19.56203 ppb		97
60) 4-Chlorophenyl phenyl ethe	8.83	204	88580	19.08251 ppb		93
61) Fluorene	8.82	166	187792	19.48683 ppb		99
62) 4-Nitroaniline	8.88	138	45566	19.07597 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.93	198	33601	20.47925 ppb	#	72
66) Diphenyl amine	8.97	169	294455	40.44815 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	294455	40.44815 ppb		98
68) 1,2-Diphenylhydrazine	9.00	77	217173	17.11483 ppb	#	91
69) 4-Bromophenyl phenyl ether	9.39	248	54016	19.12422 ppb		91
70) Hexachlorobenzene	9.47	284	55116	18.83427 ppb		87
71) Atrazine	9.61	200	28277	10.02670 ppb		98
72) Pentachlorophenol	9.72	266	20964	21.27524 ppb		97
73) Phenanthrene	9.93	178	288003	19.02984 ppb		100
74) Anthracene	10.00	178	314541	19.88882 ppb		98
75) Carbazol	10.20	167	280871	20.05297 ppb		99
76) Di-n-butylphthalate	10.61	149	355756	20.14332 ppb		98
77) Fluoranthene	11.32	202	316006	19.09514 ppb		98
79) Benzidine	11.49	184	107221	16.25808 ppb		98
80) Pyrene	11.58	202	336162	19.09586 ppb		98
82) Butyl benzylphthalate	12.35	149	167175	20.38616 ppb		87
83) 3,3'-Dichlorobenzidine	12.95	252	115875	21.11693 ppb	#	97
84) Benz (a) anthracene	12.97	228	318280	19.34090 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	228182	19.94183 ppb		94
86) Chrysene	13.02	228	304359	18.89470 ppb		98
87) Di-n-octylphthalate	13.73	149	407061	20.71713 ppb		91
89) Benzo (b) fluoranthene	14.16	252	347316	22.84019 ppb		98
90) Benzo (k) fluoranthene	14.18	252	291026	20.38765 ppb	#	93
91) Benzo (a) pyrene	14.54	252	312678	22.26955 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	367037	23.42872 ppb		98
93) Dibenz (a,h) anthracene	16.11	278	311937	23.41011 ppb		96
94) Benzo (g,h,i) perylene	16.53	276	296601	22.43398 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

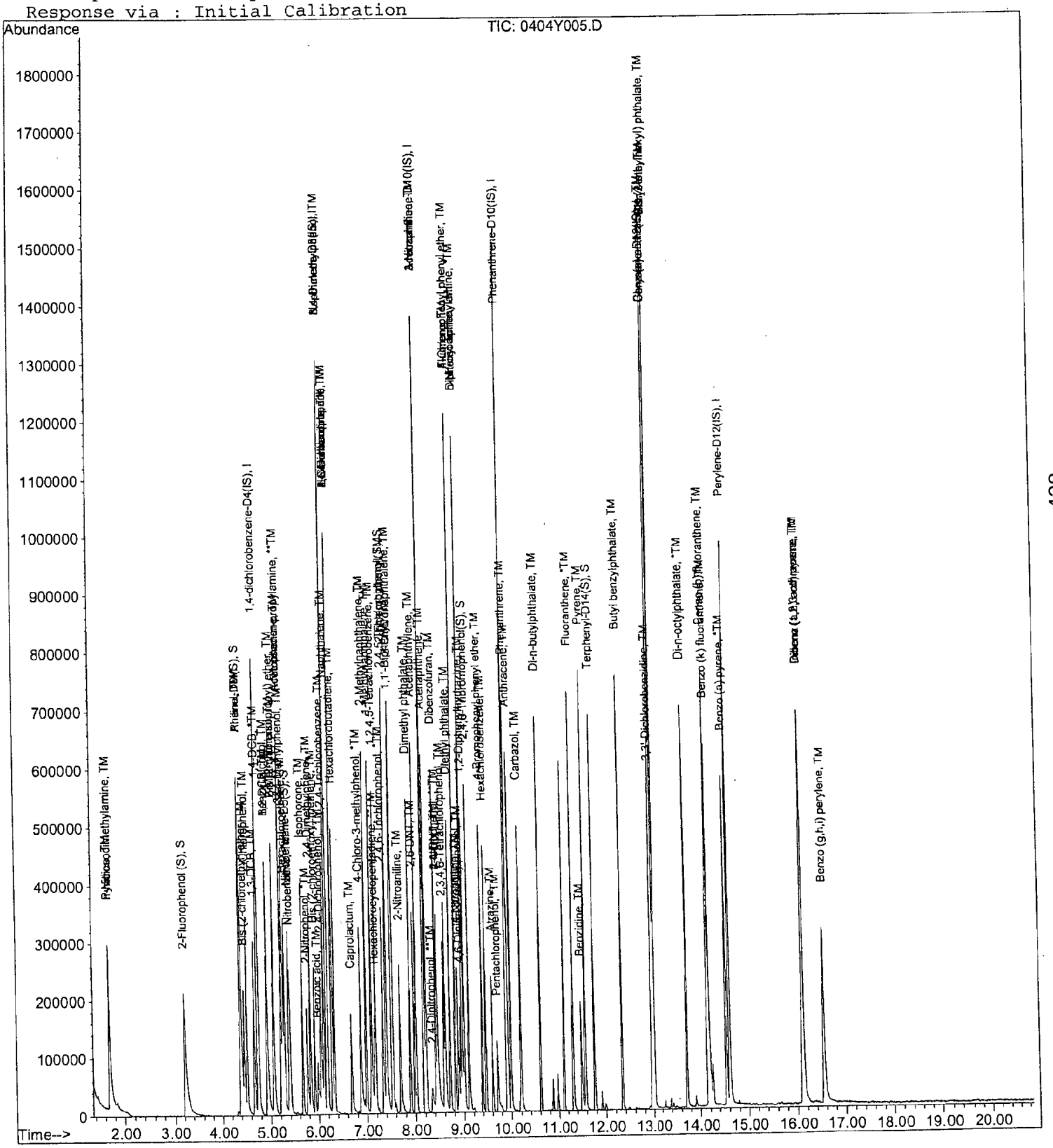
Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



428

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	628579	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	523963	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	465932	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320573	86.17657 ppb	0.00
Spiked Amount 200.000			Recovery =	43.089%	
5) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery =	41.241%	
21) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery =	40.731%	
45) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery =	37.832%	
63) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery =	39.719%	
81) Terphenyl-D14(S)	11.77	244	457811	41.33170 ppb	0.00
Spiked Amount 100.000			Recovery =	41.332%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.67	42	181993	44.09714 ppb		87
3) Pyridine	1.68	79	295812	40.47889 ppb		94
6) Phenol	4.39	94	223274	41.32470 ppb		98
7) Aniline	4.39	66	214533	42.20003 ppb	#	68
8) Bis (2-chloroethyl) ether	4.45	63	102796	39.99583 ppb		98
9) 2-Chlorophenol	4.51	128	174274	40.84481 ppb		97
10) 1,3-DCB	4.67	146	183342	40.45038 ppb		99
11) 1,4-DCB	4.75	146	187041	40.28545 ppb		95
12) Benzyl alcohol	4.93	108	103977	42.02614 ppb		91
13) 1,2-DCB	4.92	146	176184	41.99345 ppb		98
14) 2-Methylphenol	5.07	107	136289	42.40562 ppb		95
15) Bis (2-chloroisopropyl) et	5.06	45	241370	43.87146 ppb	#	81
16) Acetophenone	5.21	105	233796	42.07638 ppb		96
17) 3&4-Methylphenol	5.24	107	342462	83.80264 ppb		98
18) n-Nitrosodi-n-propylamine	5.21	70	125020	41.40843 ppb		91
19) Hexachloroethane	5.29	117	75618	39.23828 ppb		98
22) Nitrobenzene	5.40	77	195388	40.54910 ppb		89
23) Isophorone	5.67	82	334663	42.26546 ppb		92
24) 2-Nitrophenol	5.75	139	100565	43.32783 ppb		94
25) 2,4-Dimethylphenol	5.83	122	150159	40.73004 ppb		96
26) Benzoic acid	6.00	105	118121	39.67938 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	183058	39.64952 ppb		98
28) 2,4-Dichlorophenol	6.04	162	145194	40.66855 ppb		97
29) 1,2,4-Trichlorobenzene	6.12	180	153437	39.79254 ppb		97
30) 3,4-Dimethylphenol	6.17	107	211808	39.34661 ppb		97
31) Naphthalene	6.19	128	483890	39.98567 ppb		97
32) 4-Chloroaniline	6.28	127	200658	49.46503 ppb		96
33) 2,6-Dichlorophenol	6.28	162	143908	45.78639 ppb		98
34) Hexachloropropene	6.29	213	128829	45.28755 ppb		99
35) Hexachlorobutadiene	6.34	225	104984	44.35997 ppb		98
36) Caprolactum	6.71	55	83857	42.79053 ppb		95
37) 4-Chloro-3-methylphenol	6.87	107	158251	40.70568 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	338022	40.26630 ppb		100
39) 1-Methylnaphthalene	7.10	142	321558	39.69591 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	49451	37.81444 ppb		92
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	149622	37.97478 ppb		96
43) 2,4,6-Trichlorophenol	7.34	196	104106	39.93022 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	106673	39.42009 ppb		97
46) 1,1'-Biphenyl	7.53	154	425922	39.48711 ppb		99
47) 2-Chloronaphthalene	7.55	162	332344	39.46610 ppb		96
48) 2-Nitroaniline	7.69	65	116307	39.84915 ppb		96
49) Dimethyl phthalate	7.90	163	385967	38.30373 ppb		100
50) 2,6-DNT	7.98	165	93914	40.52446 ppb		96
51) Acenaphthylene	8.02	152	522092	39.23488 ppb		99
52) 3-Nitroaniline	8.18	138	100746	42.28486 ppb	#	94
53) Acenaphthene	8.22	154	317522	39.09987 ppb		97
54) 2,4-Dinitrophenol	8.32	184	50930	39.83730 ppb		99
55) 4-Nitrophenol	8.44	65	73523	39.97019 ppb	#	1
56) Dibenzofuran	8.43	168	468428	41.23133 ppb		93
57) 2,4-DNT	8.45	165	121619	39.37623 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	96200	43.69912 ppb		98
59) Diethyl phthalate	8.71	149	411735	39.96824 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	177164	39.42559 ppb		99
61) Fluorene	8.82	166	364463	39.83786 ppb		97
62) 4-Nitroaniline	8.89	138	93322	40.55297 ppb		96
65) 4,6-Dinitro-2-methylphenol	8.94	198	77775	35.79645 ppb		98
66) Diphenyl amine	8.97	169	570254	69.37688 ppb		99
67) n-Nitrosodiphenylamine	8.97	169	570254	69.37688 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	453214	32.65837 ppb		98
69) 4-Bromophenyl phenyl ether	9.39	248	106849	34.70131 ppb		98
70) Hexachlorobenzene	9.47	284	109539	35.02963 ppb		95
71) Atrazine	9.61	200	59999	18.11531 ppb		96
72) Pentachlorophenol	9.72	266	45746	33.83727 ppb		93
73) Phenanthrene	9.93	178	652503	40.37235 ppb		99
74) Anthracene	10.00	178	679999	39.88443 ppb		99
75) Carbazol	10.20	167	544370	36.22000 ppb		98
76) Di-n-butylphthalate	10.61	149	688370	35.21754 ppb		97
77) Fluoranthene	11.31	202	663582	37.28079 ppb		98
79) Benzidine	11.49	184	185177	40.00474 ppb		98
80) Pyrene	11.57	202	663596	41.07719 ppb		100
82) Butyl benzylphthalate	12.34	149	324624	41.36209 ppb		80
83) 3,3'-Dichlorobenzidine	12.96	252	213666	42.01149 ppb	#	95
84) Benz (a) anthracene	12.98	228	615316	40.74552 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	429710	39.06551 ppb		97
86) Chrysene	13.01	228	565888	38.27759 ppb		100
87) Di-n-octylphthalate	13.73	149	805906	41.67075 ppb		98
89) Benzo (b) fluoranthene	14.16	252	610637	39.12252 ppb	#	96
90) Benzo (k) fluoranthene	14.19	252	613769	41.59165 ppb		99
91) Benzo (a) pyrene	14.54	252	590583	41.12714 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	720530	43.45250 ppb		99
93) Dibenz (a,h) anthracene	16.11	278	597606	42.69016 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	562005	40.14642 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

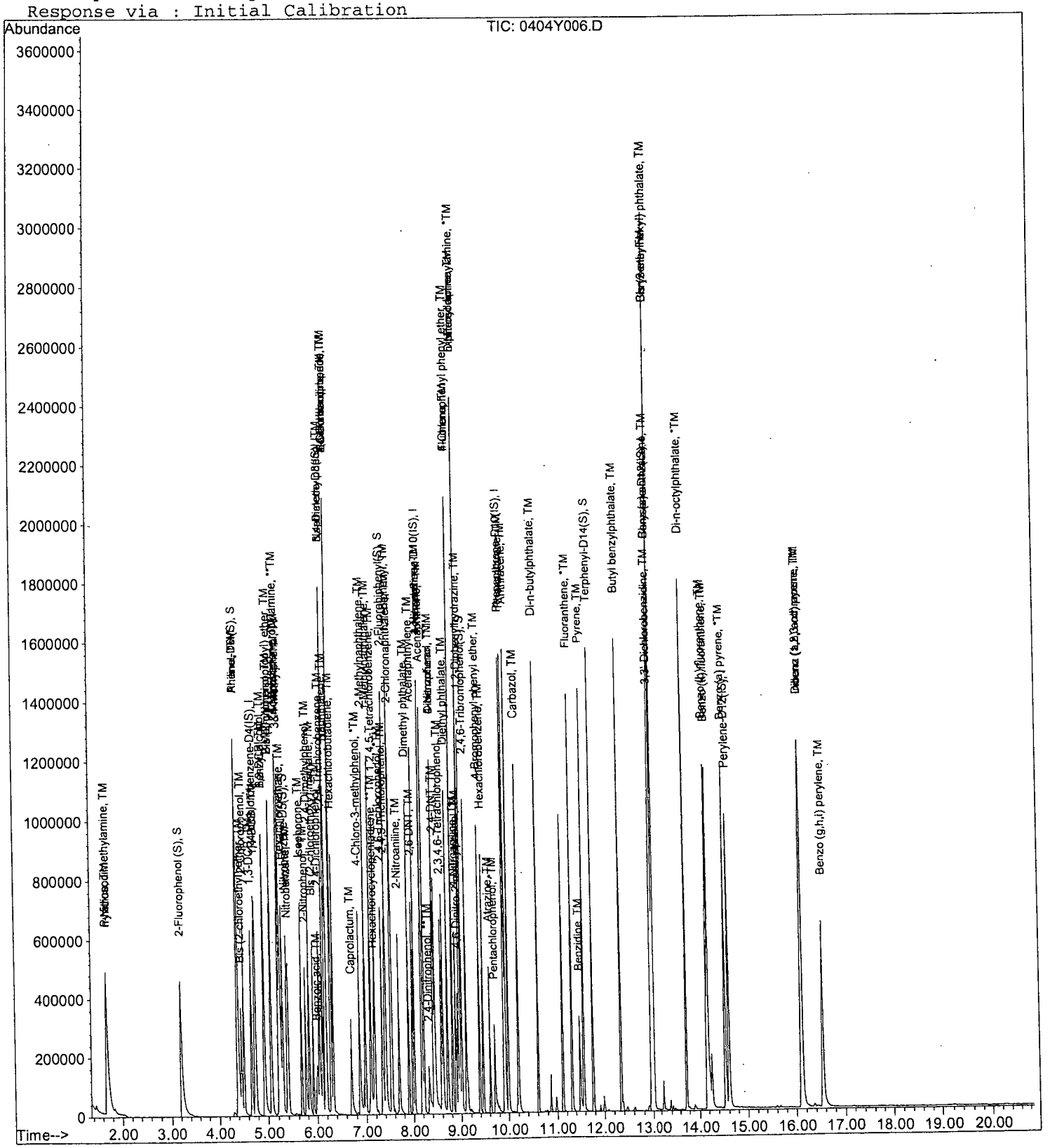
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:38 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	487207	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	387773	106.61694 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.309%	
5) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.590%	
21) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.887%	
45) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery	= 51.710%	
63) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.421%	
81) Terphenyl-D14(S)	11.77	244	560172	54.38831 ppb	0.00
Spiked Amount 100.000			Recovery	= 54.388%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.66	42	230381	57.09378 ppb	100
3) Pyridine	1.67	79	399462	55.90809 ppb	100
6) Phenol	4.39	94	279005	52.81653 ppb	98
7) Aniline	4.39	66	262310	52.77399 ppb #	65
8) Bis (2-chloroethyl) ether	4.46	63	129206	51.41711 ppb	94
9) 2-Chlorophenol	4.51	128	220570	52.87338 ppb	94
10) 1,3-DCB	4.67	146	229468	51.78085 ppb	99
11) 1,4-DCB	4.75	146	230957	50.87787 ppb	98
12) Benzyl alcohol	4.93	108	126394	52.25105 ppb	95
13) 1,2-DCB	4.92	146	210571	51.33340 ppb	98
14) 2-Methylphenol	5.07	107	157511	50.12564 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	274342	51.00086 ppb	86
16) Acetophenone	5.21	105	275339	50.68220 ppb	97
17) 3&4-Methylphenol	5.24	107	405614	101.51837 ppb	99
18) n-Nitrosodi-n-propylamine	5.22	70	148093	50.16840 ppb	88
19) Hexachloroethane	5.29	117	97282	51.63019 ppb	97
22) Nitrobenzene	5.40	77	237646	52.34247 ppb	91
23) Isophorone	5.67	82	390824	52.38410 ppb	93
24) 2-Nitrophenol	5.76	139	118040	53.97462 ppb	91
25) 2,4-Dimethylphenol	5.83	122	176566	50.82893 ppb	99
26) Benzoic acid	6.02	105	158141	55.08013 ppb	95
27) Bis (2-chloroethoxy) metha	5.92	93	218124	50.14100 ppb	97
28) 2,4-Dichlorophenol	6.04	162	174596	51.90207 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	192201	52.90145 ppb	98
30) 3,4-Dimethylphenol	6.17	107	260929	51.44316 ppb	95
31) Naphthalene	6.19	128	593920	52.08660 ppb	100
32) 4-Chloroaniline	6.28	127	205417	53.74258 ppb	96
33) 2,6-Dichlorophenol	6.28	162	152431	51.47130 ppb	98
34) Hexachloropropene	6.29	213	143938	53.70083 ppb	97
35) Hexachlorobutadiene	6.34	225	114112	51.17287 ppb	99
36) Caprolactum	6.71	55	104604	56.64962 ppb	98
37) 4-Chloro-3-methylphenol	6.87	107	197482	53.91087 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:54:27 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	400279	50.60575	ppb		99
39) 1-Methylnaphthalene	7.10	142	424073	55.56066	ppb		97
41) Hexachlorocyclopentadiene	7.17	237	75534	54.68417	ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194849	54.39428	ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	130235	54.94256	ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	133983	54.45879	ppb		95
46) 1,1'-Biphenyl	7.53	154	522309	53.26084	ppb		99
47) 2-Chloronaphthalene	7.55	162	407139	53.17828	ppb		93
48) 2-Nitroaniline	7.70	65	148995	56.14876	ppb		98
49) Dimethyl phthalate	7.90	163	486000	53.04964	ppb		99
50) 2,6-DNT	7.98	165	114105	54.15603	ppb		96
51) Acenaphthylene	8.02	152	627303	51.85108	ppb		98
52) 3-Nitroaniline	8.18	138	114580	52.89579	ppb		96
53) Acenaphthene	8.22	154	382806	51.84841	ppb		98
54) 2,4-Dinitrophenol	8.33	184	60639	49.13117	ppb		89
55) 4-Nitrophenol	8.43	65	90442	51.14997	ppb	#	1
56) Dibenzofuran	8.43	168	537119	52.00082	ppb		100
57) 2,4-DNT	8.46	165	153397	54.62668	ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.60	232	109557	54.73850	ppb		94
59) Diethyl phthalate	8.72	149	558434	59.62443	ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	210415	51.50324	ppb		99
61) Fluorene	8.82	166	422140	50.75213	ppb		98
62) 4-Nitroaniline	8.89	138	119160	56.95402	ppb		100
65) 4,6-Dinitro-2-methylphenol	8.94	198	98966	53.86057	ppb		98
66) Diphenyl amine	8.98	169	700937	103.07961	ppb		100
67) n-Nitrosodiphenylamine	8.98	169	700937	103.07961	ppb		100
68) 1,2-Diphenylhydrazine	9.01	77	660457	57.52851	ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	131880	51.77280	ppb		94
70) Hexachlorobenzene	9.47	284	134228	51.88684	ppb		95
71) Atrazine	9.61	200	71675	26.15874	ppb		95
72) Pentachlorophenol	9.72	266	61111	54.63978	ppb		94
73) Phenanthrene	9.93	178	682251	51.02618	ppb		100
74) Anthracene	10.00	178	725098	51.40900	ppb		99
75) Carbazol	10.20	167	652498	52.47843	ppb		99
76) Di-n-butylphthalate	10.61	149	821001	50.77245	ppb		98
77) Fluoranthene	11.32	202	776689	52.74544	ppb		97
79) Benzidine	11.49	184	237369	55.14874	ppb		99
80) Pyrene	11.58	202	830283	55.27264	ppb		99
82) Butyl benzylphthalate	12.35	149	400778	54.91776	ppb		85
83) 3,3'-Dichlorobenzidine	12.96	252	252491	53.39070	ppb	#	94
84) Benz (a) anthracene	12.98	228	735065	52.34733	ppb		100
85) Bis (2-ethylhexyl) phthala	13.01	149	524618	51.29185	ppb		97
86) Chrysene	13.01	228	670581	48.78119	ppb		99
87) Di-n-octylphthalate	13.73	149	962075	53.49867	ppb		99
89) Benzo (b) fluoranthene	14.16	252	773182	50.83563	ppb		100
90) Benzo (k) fluoranthene	14.19	252	751433	52.25577	ppb		100
91) Benzo (a) pyrene	14.54	252	735446	52.55828	ppb		99
92) Indeno (1,2,3-cd) pyrene	16.11	276	799992	49.50980	ppb		99
93) Dibenz (a,h) anthracene	16.12	278	680699	49.90117	ppb		98
94) Benzo (g,h,i) perylene	16.54	276	685004	50.21604	ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

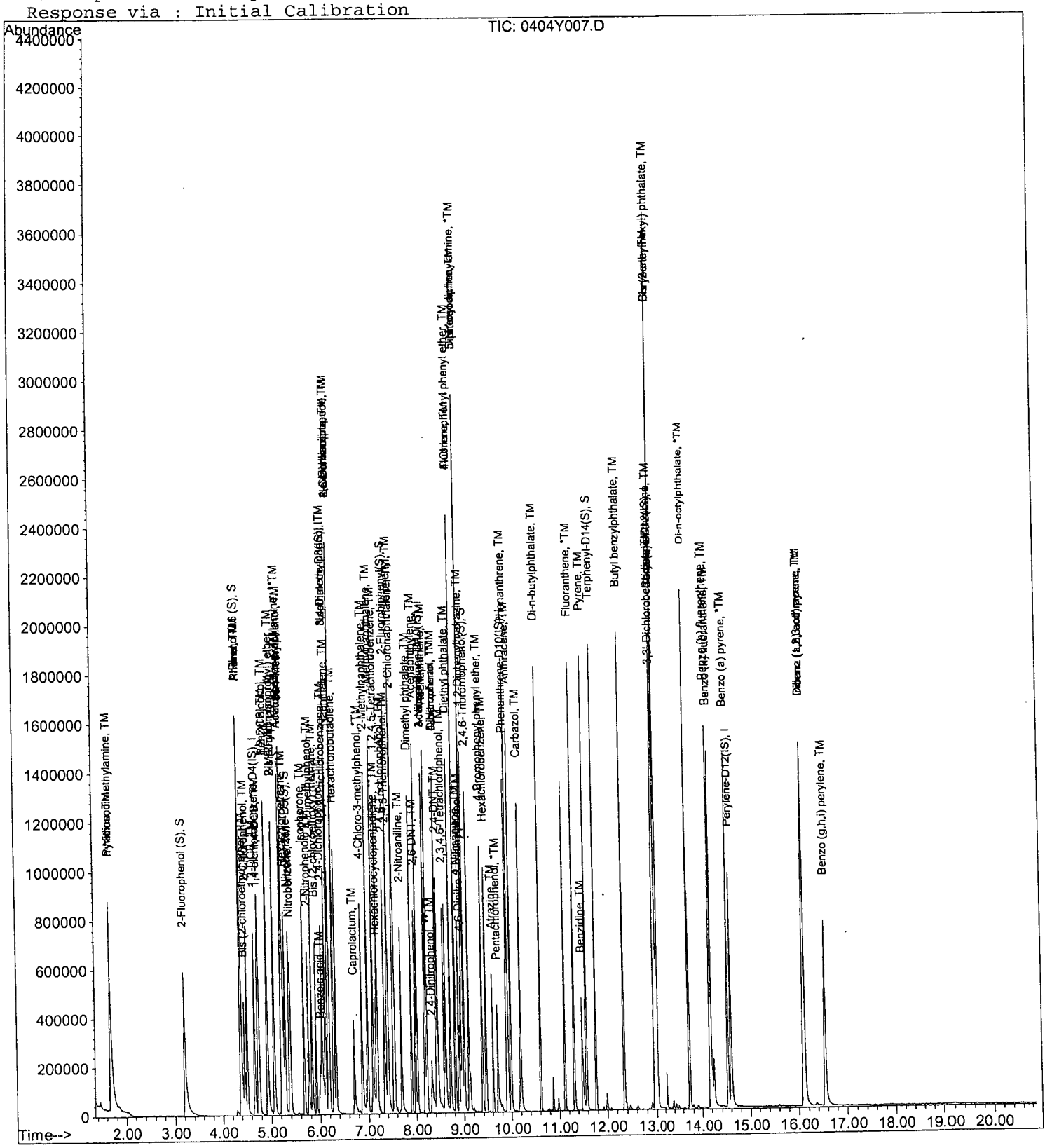
Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 9:39 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	605663	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	460352	134.66185 ppb	0.00
Spiked Amount 200.000			Recovery = 67.331%		
5) Phenol-D6 (S)	4.38	99	529157	116.71511 ppb	0.00
Spiked Amount 200.000			Recovery = 58.358%		
21) Nitrobenzene-D5(S)	5.38	82	322467	68.78507 ppb	0.00
Spiked Amount 100.000			Recovery = 68.785%		
45) 2-Fluorobiphenyl(S)	7.41	172	511226	55.95175 ppb	0.00
Spiked Amount 100.000			Recovery = 55.952%		
63) 2,4,6-Tribromophenol(S)	9.11	330	148732	112.56723 ppb	0.00
Spiked Amount 200.000			Recovery = 56.284%		
81) Terphenyl-D14(S)	11.77	244	620058	47.19112 ppb	0.00
Spiked Amount 100.000			Recovery = 47.191%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	274376	98.50754 ppb		97
3) Pyridine	1.67	79	477572	88.95839 ppb		91
6) Phenol	4.39	94	313290	60.38966 ppb		85
7) Aniline	4.39	66	305086	62.10219 ppb		98
8) Bis (2-chloroethyl) ether	4.46	63	151721	60.26363 ppb		99
9) 2-Chlorophenol	4.51	128	244398	60.67910 ppb		97
10) 1,3-DCB	4.67	146	258719	60.91223 ppb		99
11) 1,4-DCB	4.76	146	257721	58.84950 ppb		97
12) Benzyl alcohol	4.93	108	144466	63.00012 ppb		97
13) 1,2-DCB	4.93	146	239191	60.04107 ppb		96
14) 2-Methylphenol	5.07	107	178042	59.11504 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	309353	55.62279 ppb	#	86
16) Acetophenone	5.21	105	323939	60.43045 ppb		94
17) 3&4-Methylphenol	5.24	107	502945	128.89066 ppb		96
18) n-Nitrosodi-n-propylamine	5.22	70	176281	59.51561 ppb		92
19) Hexachloroethane	5.29	117	117601	65.27926 ppb		95
22) Nitrobenzene	5.40	77	313526	67.28221 ppb		96
23) Isophorone	5.67	82	478661	61.78652 ppb		95
24) 2-Nitrophenol	5.76	139	146767	66.94427 ppb		85
25) 2,4-Dimethylphenol	5.83	122	221248	63.01136 ppb		100
26) Benzoic acid	6.03	105	185135	66.42377 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	269568	60.39944 ppb		98
28) 2,4-Dichlorophenol	6.04	162	209561	62.75271 ppb		98
29) 1,2,4-Trichlorobenzene	6.11	180	222527	60.02132 ppb		97
30) 3,4-Dimethylphenol	6.17	107	309163	58.53268 ppb		98
31) Naphthalene	6.20	128	691459	57.76149 ppb		99
32) 4-Chloroaniline	6.28	127	235314	56.20975 ppb		97
33) 2,6-Dichlorophenol	6.28	162	176823	57.10188 ppb		99
34) Hexachloropropene	6.29	213	170577	63.25950 ppb		98
35) Hexachlorobutadiene	6.34	225	131504	59.60365 ppb		100
36) Caprolactum	6.73	55	118741	61.75516 ppb		94
37) 4-Chloro-3-methylphenol	6.87	107	229130	62.68840 ppb		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:35:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	461373	59.15545 ppb		99
39) 1-Methylnaphthalene	7.10	142	439052	56.51882 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	88888	58.92802 ppb		94
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	214369	55.51910 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	150923	61.95920 ppb		97
44) 2,4,5-Trichlorophenol	7.40	196	158504	59.62323 ppb		96
46) 1,1'-Biphenyl	7.53	154	598175	56.06861 ppb		96
47) 2-Chloronaphthalene	7.55	162	465763	57.08545 ppb		94
48) 2-Nitroaniline	7.69	65	171836	59.03900 ppb		90
49) Dimethyl phthalate	7.91	163	650235	66.20935 ppb		98
50) 2,6-DNT	7.98	165	127991	58.13111 ppb	#	76
51) Acenaphthylene	8.02	152	769268	58.68429 ppb		99
52) 3-Nitroaniline	8.18	138	141422	59.63774 ppb		97
53) Acenaphthene	8.22	154	443857	54.98038 ppb		98
54) 2,4-Dinitrophenol	8.32	184	77194	65.62142 ppb	#	77
55) 4-Nitrophenol	8.43	65	110312	58.32492 ppb		98
56) Dibenzofuran	8.43	168	656032	57.63108 ppb		98
57) 2,4-DNT	8.45	165	188497	61.93888 ppb		80
58) 2,3,4,6-Tetrachlorophenol	8.59	232	130499	62.67540 ppb	#	91
59) Diethyl phthalate	8.72	149	576422	57.24190 ppb		100
60) 4-Chlorophenyl phenyl ethe	8.83	204	264152	59.69676 ppb		87
61) Fluorene	8.83	166	535338	58.27593 ppb		100
62) 4-Nitroaniline	8.90	138	139461	61.24851 ppb		94
65) 4,6-Dinitro-2-methylphenol	8.94	198	121902	61.75686 ppb	#	73
66) Diphenyl amine	8.98	169	812993	117.73775 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	812993	117.73775 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	828950	68.87226 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	156418	58.38444 ppb	#	85
70) Hexachlorobenzene	9.47	284	156588	56.41293 ppb	#	87
71) Atrazine	9.61	200	85983	32.14299 ppb		93
72) Pentachlorophenol	9.72	266	75734	59.97312 ppb		92
73) Phenanthrene	9.94	178	795737	55.43154 ppb		98
74) Anthracene	9.99	178	840252	56.01322 ppb		99
75) Carbazol	10.20	167	747777	56.28505 ppb		97
76) Di-n-butylphthalate	10.61	149	1076951	64.28711 ppb		99
77) Fluoranthene	11.32	202	868309	55.31602 ppb		98
79) Benzidine	11.49	184	281110	38.69488 ppb		99
80) Pyrene	11.58	202	950846	49.03302 ppb		100
82) Butyl benzylphthalate	12.34	149	464290	51.39743 ppb		92
83) 3,3'-Dichlorobenzidine	12.96	252	337315	55.80389 ppb	#	98
84) Benz (a) anthracene	12.97	228	1004775	55.42734 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	659056	52.28702 ppb		96
86) Chrysene	13.02	228	870807	49.07539 ppb		98
87) Di-n-octylphthalate	13.73	149	1198098	55.35418 ppb		95
89) Benzo (b) fluoranthene	14.16	252	836743	57.49001 ppb		96
90) Benzo (k) fluoranthene	14.19	252	897871	65.71654 ppb		99
91) Benzo (a) pyrene	14.54	252	819052	60.94682 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.10	276	916818	61.14308 ppb		97
93) Dibenz (a,h) anthracene	16.11	278	790802	62.00544 ppb		98
94) Benzo (g,h,i) perylene	16.55	276	786363	62.14156 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

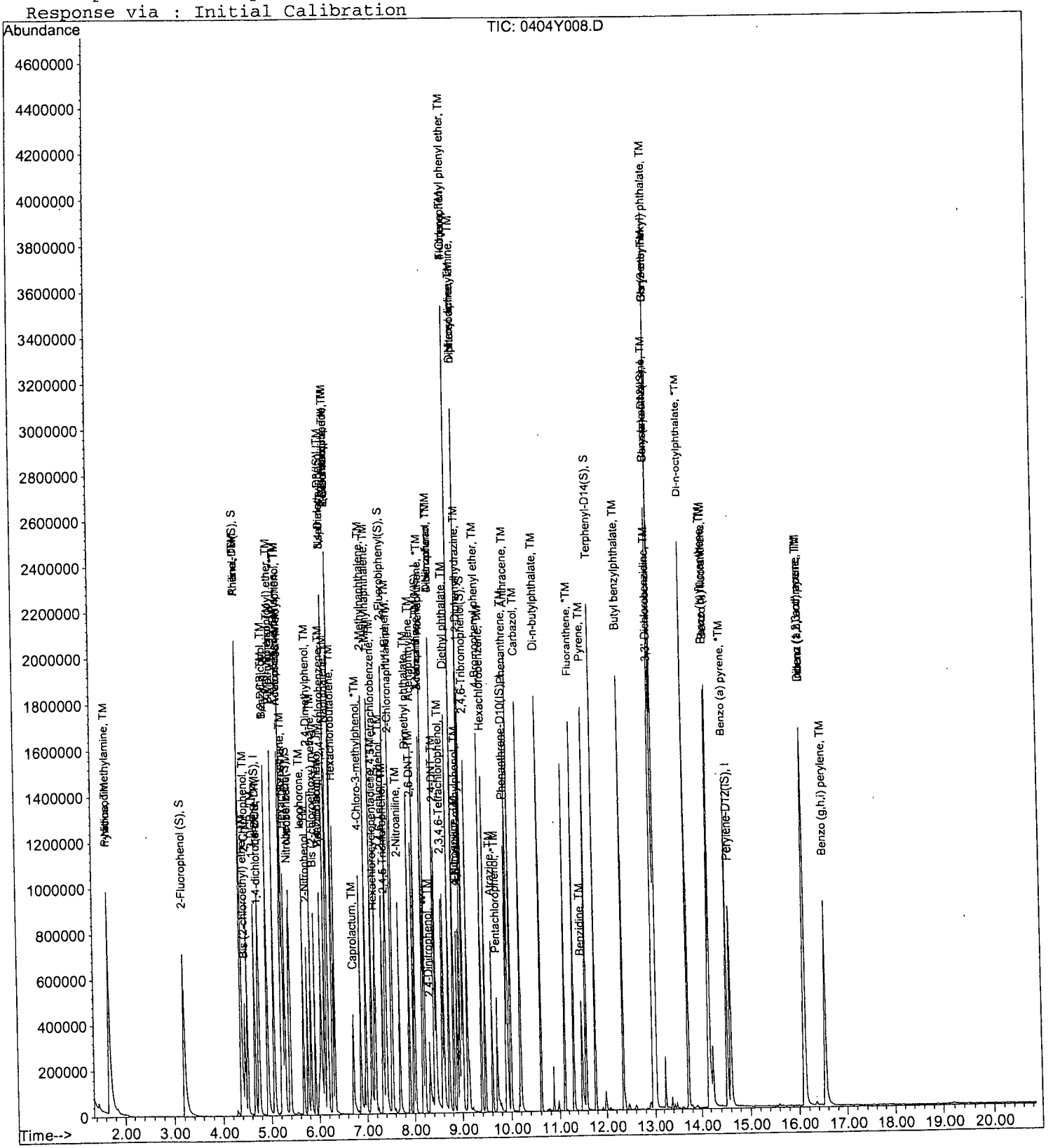
Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 12:36 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	478317	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	550572	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	696751	172.43633 ppb	-0.05
Spiked Amount 200.000			Recovery = 86.218%		
5) Phenol-D6 (S)	4.38	99	770056	143.24315 ppb	0.00
Spiked Amount 200.000			Recovery = 71.622%		
21) Nitrobenzene-D5(S)	5.38	82	427790	88.18857 ppb	-0.01
Spiked Amount 100.000			Recovery = 88.189%		
45) 2-Fluorobiphenyl(S)	7.42	172	701781	73.36956 ppb	0.00
Spiked Amount 100.000			Recovery = 73.370%		
63) 2,4,6-Tribromophenol(S)	9.11	330	207208	150.14093 ppb	0.00
Spiked Amount 200.000			Recovery = 75.071%		
81) Terphenyl-D14(S)	11.77	244	865042	73.04742 ppb	0.00
Spiked Amount 100.000			Recovery = 73.047%		

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	376671	123.03008 ppb		97
3) Pyridine	1.67	79	651971	107.05356 ppb		100
6) Phenol	4.40	94	476198	77.16960 ppb		87
7) Aniline	4.40	66	451795	77.12600 ppb	#	47
8) Bis (2-chloroethyl) ether	4.46	63	235655	78.02463 ppb		91
9) 2-Chlorophenol	4.51	128	381956	80.04048 ppb		98
10) 1,3-DCB	4.67	146	408558	81.15844 ppb		98
11) 1,4-DCB	4.75	146	412884	79.81427 ppb		96
12) Benzyl alcohol	4.93	108	222088	81.71037 ppb		97
13) 1,2-DCB	4.92	146	362202	76.81880 ppb		99
14) 2-Methylphenol	5.07	107	266625	74.76167 ppb		99
15) Bis (2-chloroisopropyl) et	5.06	45	475284	71.72089 ppb	#	72
16) Acetophenone	5.21	105	484723	76.27256 ppb		99
17) 3&4-Methylphenol	5.25	107	693145	149.67027 ppb		93
18) n-Nitrosodi-n-propylamine	5.22	70	265133	75.15276 ppb		88
19) Hexachloroethane	5.29	117	168456	79.19358 ppb		92
22) Nitrobenzene	5.40	77	421935	87.14138 ppb		98
23) Isophorone	5.68	82	718627	89.39145 ppb		94
24) 2-Nitrophenol	5.76	139	218946	96.41328 ppb		91
25) 2,4-Dimethylphenol	5.83	122	315055	85.80894 ppb		96
26) Benzoic acid	6.04	105	249059	85.49344 ppb		99
27) Bis (2-chloroethoxy) metha	5.92	93	404092	86.82209 ppb		100
28) 2,4-Dichlorophenol	6.04	162	308482	88.29283 ppb		96
29) 1,2,4-Trichlorobenzene	6.12	180	322421	83.51662 ppb		99
30) 3,4-Dimethylphenol	6.17	107	434730	78.64511 ppb		96
31) Naphthalene	6.20	128	1002132	80.13412 ppb		99
32) 4-Chloroaniline	6.28	127	292303	66.53972 ppb	#	89
33) 2,6-Dichlorophenol	6.28	162	231202	71.50220 ppb		99
34) Hexachloropropene	6.29	213	228793	81.52660 ppb		98
35) Hexachlorobutadiene	6.34	225	189667	82.85234 ppb		99
36) Caprolactum	6.75	55	175935	88.47360 ppb		93
37) 4-Chloro-3-methylphenol	6.87	107	328190	86.68683 ppb		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 12:34:02 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	661199	81.38725 ppb		97
39) 1-Methylnaphthalene	7.10	142	634599	79.30174 ppb		98
41) Hexachlorocyclopentadiene	7.16	237	140223	79.25066 ppb		97
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	307926	76.32321 ppb		98
43) 2,4,6-Trichlorophenol	7.34	196	214449	84.71239 ppb		99
44) 2,4,5-Trichlorophenol	7.40	196	227425	81.90104 ppb		96
46) 1,1'-Biphenyl	7.54	154	821798	73.46236 ppb		97
47) 2-Chloronaphthalene	7.55	162	658556	77.04384 ppb		97
48) 2-Nitroaniline	7.69	65	248474	81.52039 ppb		90
49) Dimethyl phthalate	7.91	163	792632	77.33418 ppb		99
50) 2,6-DNT	7.99	165	190596	83.29714 ppb		84
51) Acenaphthylene	8.03	152	1051484	76.39799 ppb		100
52) 3-Nitroaniline	8.18	138	191583	76.56019 ppb		87
53) Acenaphthene	8.22	154	623269	73.46147 ppb		98
54) 2,4-Dinitrophenol	8.32	184	123017	91.99556 ppb		97
55) 4-Nitrophenol	8.43	65	160124	77.88635 ppb	#	1
56) Dibenzofuran	8.43	168	877383	73.24133 ppb		90
57) 2,4-DNT	8.46	165	268705	84.22212 ppb		92
58) 2,3,4,6-Tetrachlorophenol	8.59	232	183610	83.94922 ppb		95
59) Diethyl phthalate	8.72	149	810128	78.05649 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	340079	72.88752 ppb	#	81
61) Fluorene	8.83	166	684679	70.60346 ppb		98
62) 4-Nitroaniline	8.90	138	191810	80.57477 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.95	198	168667	77.83187 ppb		89
66) Diphenyl amine	8.98	169	1069838	144.16591 ppb		99
67) n-Nitrosodiphenylamine	8.98	169	1069838	144.16591 ppb		99
68) 1,2-Diphenylhydrazine	9.01	77	1095437	84.55404 ppb		89
69) 4-Bromophenyl phenyl ether	9.39	248	221743	76.25014 ppb		87
70) Hexachlorobenzene	9.47	284	223029	73.51979 ppb	#	85
71) Atrazine	9.62	200	123128	42.86350 ppb		99
72) Pentachlorophenol	9.72	266	112127	79.32319 ppb		95
73) Phenanthrene	9.94	178	1114239	70.95247 ppb		100
74) Anthracene	10.00	178	1170794	71.47704 ppb		100
75) Carbazol	10.20	167	1055567	72.79345 ppb		96
76) Di-n-butylphthalate	10.62	149	1409340	76.91220 ppb		99
77) Fluoranthene	11.32	202	1228617	72.06681 ppb		95
79) Benzidine	11.50	184	371271	54.16939 ppb		96
80) Pyrene	11.58	202	1297129	73.46717 ppb		98
82) Butyl benzylphthalate	12.35	149	658870	80.70890 ppb		99
83) 3,3'-Dichlorobenzidine	12.96	252	380319	68.70057 ppb		98
84) Benz (a) anthracene	12.98	228	1171043	70.52182 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	863161	75.17463 ppb		98
86) Chrysene	13.02	228	1165678	71.57285 ppb		99
87) Di-n-octylphthalate	13.74	149	1567502	79.69270 ppb	#	91
89) Benzo (b) fluoranthene	14.16	252	1316574	81.42140 ppb		97
90) Benzo (k) fluoranthene	14.19	252	1074749	72.11789 ppb		99
91) Benzo (a) pyrene	14.54	252	1153969	78.13893 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	1302019	78.64363 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	1098191	77.92212 ppb		99
94) Benzo (g,h,i) perylene	16.55	276	1136914	81.84687 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

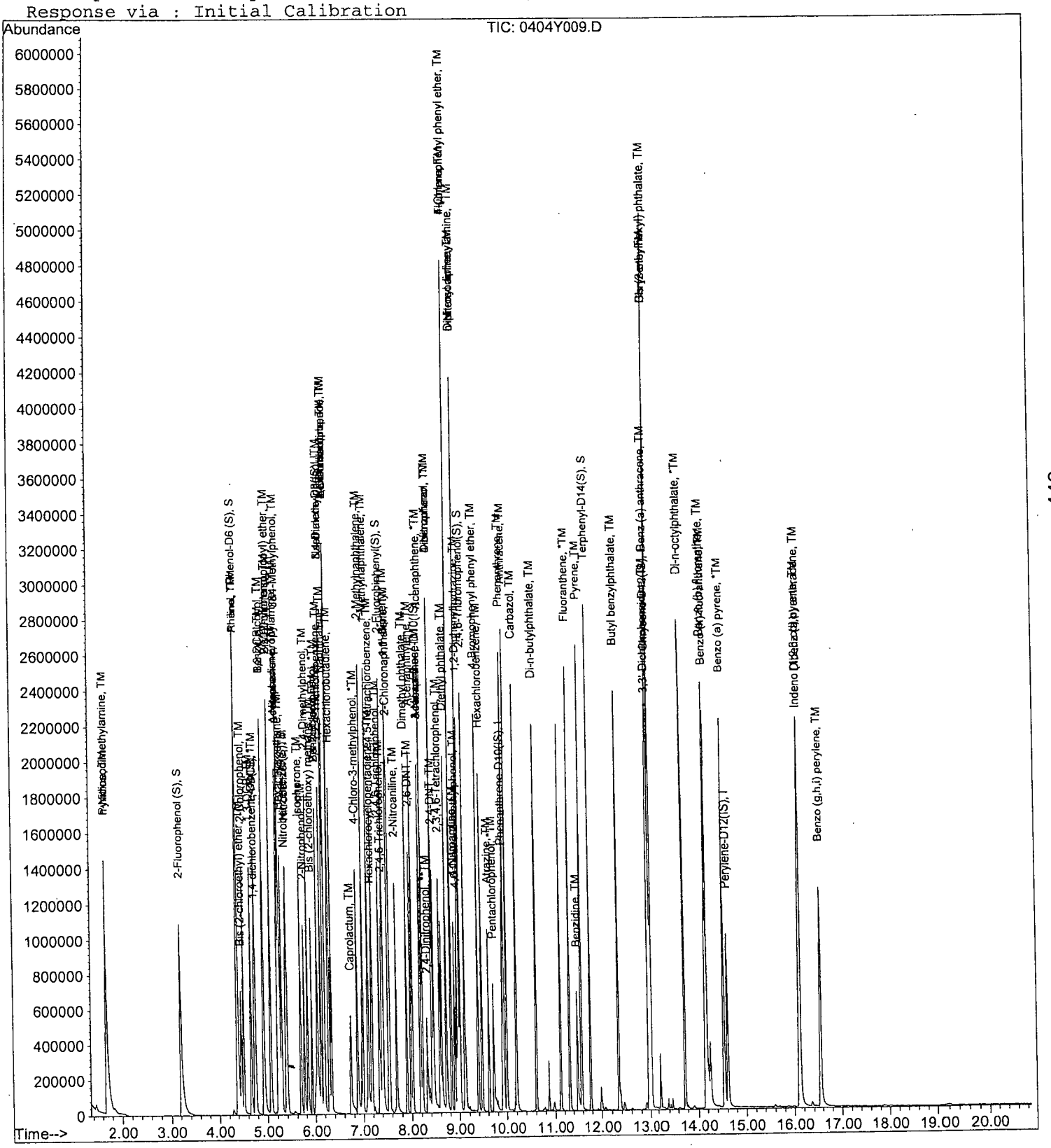
Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:17 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



440

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb	0.00
78) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	773437	207.34510 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.673%	
5) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.269%	
21) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.046%	
45) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb	0.00
Spiked Amount 100.000			Recovery	= 95.429%	
63) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.980%	
81) Terphenyl-D14(S)	11.77	244	992665	93.95291 ppb	0.00
Spiked Amount 100.000			Recovery	= 93.953%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	425920	102.91776 ppb		84
3) Pyridine	1.67	79	722710	98.62419 ppb		96
6) Phenol	4.40	94	507951	93.75618 ppb		96
7) Aniline	4.40	66	519276	101.86465 ppb	#	43
8) Bis (2-chloroethyl) ether	4.47	63	266540	103.42071 ppb		91
9) 2-Chlorophenol	4.51	128	413357	96.61313 ppb		97
10) 1,3-DCB	4.67	146	428231	94.22049 ppb		98
11) 1,4-DCB	4.75	146	435065	93.44846 ppb		100
12) Benzyl alcohol	4.93	108	243762	98.25503 ppb		96
13) 1,2-DCB	4.92	146	385653	91.66813 ppb		98
14) 2-Methylphenol	5.07	107	293276	91.00092 ppb		98
15) Bis (2-chloroisopropyl) et	5.06	45	499480	90.53646 ppb	#	73
16) Acetophenone	5.22	105	523190	93.90038 ppb		96
17) 3&4-Methylphenol	5.25	107	709133	173.05318 ppb		97
18) n-Nitrosodi-n-propylamine	5.23	70	270093	89.21322 ppb		82
19) Hexachloroethane	5.29	117	178857	92.55446 ppb		98
22) Nitrobenzene	5.40	77	465969	102.81631 ppb		98
23) Isophorone	5.68	82	790168	106.10087 ppb		97
24) 2-Nitrophenol	5.76	139	238371	109.19307 ppb		83
25) 2,4-Dimethylphenol	5.83	122	354209	102.15149 ppb		96
26) Benzoic acid	6.06	105	290052	98.62058 ppb		94
27) Bis (2-chloroethoxy) metha	5.92	93	443197	102.06284 ppb		99
28) 2,4-Dichlorophenol	6.04	162	350824	104.47705 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	366705	101.11372 ppb		100
30) 3,4-Dimethylphenol	6.17	107	510022	100.73386 ppb		93
31) Naphthalene	6.20	128	1137936	99.97633 ppb		99
32) 4-Chloroaniline	6.28	127	310882	81.48149 ppb	#	86
33) 2,6-Dichlorophenol	6.28	162	275295	93.12611 ppb		99
34) Hexachloropropene	6.29	213	293750	109.79048 ppb		99
35) Hexachlorobutadiene	6.34	225	226348	101.68722 ppb		99
36) Caprolactum	6.76	55	203622	110.47263 ppb		95
37) 4-Chloro-3-methylphenol	6.88	107	383540	104.89162 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Apr 04 16:17:45 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	744542	94.29910 ppb		100
39) 1-Methylnaphthalene	7.10	142	717308	94.14857 ppb		100
41) Hexachlorocyclopentadiene	7.17	237	179104	100.56951 ppb		98
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	344281	96.56243 ppb		95
43) 2,4,6-Trichlorophenol	7.34	196	248145	105.17845 ppb		98
44) 2,4,5-Trichlorophenol	7.40	196	251054	102.52399 ppb		99
46) 1,1'-Biphenyl	7.54	154	949276	97.25525 ppb		97
47) 2-Chloronaphthalene	7.56	162	756927	99.33119 ppb		97
48) 2-Nitroaniline	7.70	65	296478	112.25379 ppb		87
49) Dimethyl phthalate	7.91	163	916404	100.50165 ppb		100
50) 2,6-DNT	7.99	165	219151	104.50226 ppb		93
51) Acenaphthylene	8.02	152	1162203	96.51672 ppb		99
52) 3-Nitroaniline	8.18	138	213576	99.06149 ppb		84
53) Acenaphthene	8.23	154	699593	95.20116 ppb		99
54) 2,4-Dinitrophenol	8.33	184	140767	99.36552 ppb		95
55) 4-Nitrophenol	8.43	65	200402	104.29026 ppb	#	1
56) Dibenzofuran	8.43	168	987669	96.07076 ppb		89
57) 2,4-DNT	8.47	165	302081	108.08151 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.60	232	210701	105.76926 ppb		94
59) Diethyl phthalate	8.74	149	932756	100.06001 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	418629	102.95022 ppb	#	78
61) Fluorene	8.83	166	832507	100.56011 ppb		98
62) 4-Nitroaniline	8.91	138	209595	100.65025 ppb		91
65) 4,6-Dinitro-2-methylphenol	8.95	198	192473	96.07130 ppb	#	71
66) Diphenyl amine	8.99	169	1289980	177.28553 ppb		98
67) n-Nitrosodiphenylamine	8.99	169	1289980	177.28553 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	1258249	102.42399 ppb		85
69) 4-Bromophenyl phenyl ether	9.39	248	255625	93.78267 ppb	#	83
70) Hexachlorobenzene	9.47	284	254441	91.91740 ppb	#	82
71) Atrazine	9.62	200	138683	47.30085 ppb		97
72) Pentachlorophenol	9.72	266	135103	100.56356 ppb		94
73) Phenanthrene	9.94	178	1295258	90.53191 ppb		99
74) Anthracene	10.00	178	1346540	89.21918 ppb		100
75) Carbazol	10.20	167	1224655	92.04748 ppb		93
76) Di-n-butylphthalate	10.62	149	1602655	92.62347 ppb		99
77) Fluoranthene	11.33	202	1418663	90.03546 ppb	#	94
79) Benzidine	11.49	184	420209	95.17004 ppb		98
80) Pyrene	11.59	202	1460063	94.74995 ppb		98
82) Butyl benzylphthalate	12.36	149	737719	98.54243 ppb		95
83) 3,3'-Dichlorobenzidine	12.96	252	406206	83.73161 ppb		97
84) Benz (a) anthracene	12.98	228	1384031	96.08109 ppb		100
85) Bis (2-ethylhexyl) phthala	13.02	149	1127997	107.50693 ppb		95
86) Chrysene	13.02	228	1484474	105.26818 ppb		100
87) Di-n-octylphthalate	13.74	149	1777361	96.34586 ppb	#	88
89) Benzo (b) fluoranthene	14.17	252	1458987	94.40023 ppb	#	97
90) Benzo (k) fluoranthene	14.20	252	1181491	80.85549 ppb		99
91) Benzo (a) pyrene	14.55	252	1285658	90.41717 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.12	276	1442533	87.85498 ppb		97
93) Dibenz (a,h) anthracene	16.13	278	1210270	87.31182 ppb		96
94) Benzo (g,h,i) perylene	16.56	276	1254551	90.50505 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

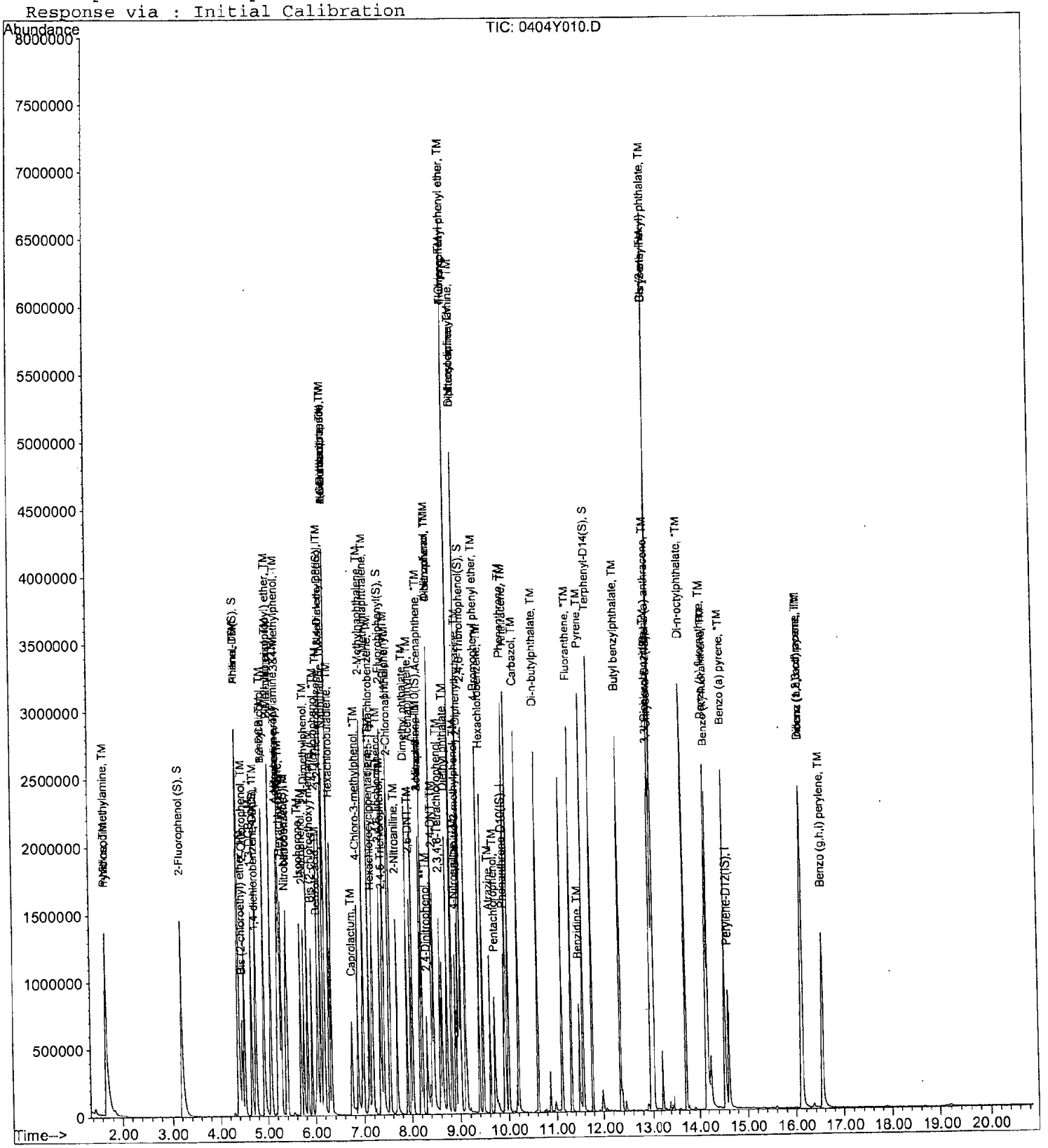
Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 4 16:20 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



443

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	n-Nitrosodimethylamine	1.429	1.612	13	TM		
2	TM	Pyridine	2.529	2.957	17	TM		
3	*TM	Phenol	1.870	2.056	9.9	*TM		
4	TM	Aniline	1.760	1.636	7.0	TM		
5	TM	Bis (2-chloroethyl) ether	0.8896	0.8927	0.35	TM		
6	TM	2-Chlorophenol	1.477	1.565	6.0	TM		
7	TM	1,3-DCB	1.569	1.646	4.9	TM		
8	*TM	1,4-DCB	1.607	1.664	3.6	*TM		
9	TM	Benzyl alcohol	0.8564	0.8902	4.0	TM		
10	TM	1,2-DCB	1.452	1.502	3.4	TM		
11	TM	2-Methylphenol	1.112	1.136	2.1	TM		
12	TM	Bis (2-chloroisopropyl) ether	1.904	1.998	4.9	TM		
13	TM	Acetophenone	1.923	1.982	3.1	TM		
14	TM	3&4-Methylphenol	1.414	1.482	4.8	TM		
15	**TM	n-Nitrosodi-n-propylamine	1.045	1.078	3.2	**TM		
16	TM	Hexachloroethane	0.6670	0.6967	4.4	TM		
17	TM	Nitrobenzene	0.4137	0.4409	6.6	TM		
18	TM	Isophorone	0.6798	0.7388	8.7	TM		
19	*TM	2-Nitrophenol	0.1993	0.2258	13	*TM		
20	TM	2,4-Dimethylphenol	0.3165	0.3438	8.6	TM		
21	TML	Benzoic acid	0.2240	0.2805	25	TML	7.4	
22	TM	Bis (2-chloroethoxy) methane	0.3964	0.4144	4.5	TM		
23	*TM	2,4-Dichlorophenol	0.3065	0.3284	7.1	*TM		
24	TM	1,2,4-Trichlorobenzene	0.3311	0.3510	6.0	TM		
25	TM	3,4-Dimethylphenol	0.4622	0.4752	2.8	TM		
26	TM	Naphthalene	1.039	1.067	2.7	TM		
27	TM	4-Chloroaniline	0.3483	0.3509	0.74	TM		A
28	TM	2,6-Dichlorophenol	0.2698	0.2767	2.5	TM		
29	TM	Hexachloropropene	0.2442	0.2524	3.4	TM		
30	*TM	Hexachlorobutadiene	0.2032	0.1992	2.0	*TM		
31	TM	Caprolactum	0.1683	0.1798	6.8	TM		
32	*TM	4-Chloro-3-methylphenol	0.3338	0.3341	0.08	*TM		
33	TM	2-Methylnaphthalene	0.7207	0.6858	4.8	TM		
34	TM	1-Methylnaphthalene	0.6955	0.7068	1.6	TM		
35	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2183	32	**TMQ	6.8	
36	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5492	2.2	TM		
37	*TM	2,4,6-Trichlorophenol	0.3558	0.3563	0.14	*TM		
38	TM	2,4,5-Trichlorophenol	0.3693	0.3804	3.0	TM		
39	TM	1,1'-Biphenyl	1.472	1.422	3.4	TM		
40	TM	2-Chloronaphthalene	1.149	1.112	3.2	TM		
		Average			6.1			

A Reported from 0404Y015

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0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D	%Drift	
41	TM	2-Nitroaniline	0.3983	0.4157	4.4	TM	
42	TM	Dimethyl phthalate	1.375	1.494	8.7	TM	
43	TM	2,6-DNT	0.3162	0.3525	11	TM	
44	TM	Acenaphthylene	1.816	1.958	7.8	TM	
45	TM	3-Nitroaniline	0.3251	0.3260	0.26	TM	
46	*TM	Acenaphthene	1.108	1.143	3.2	*TM	
47	**TML	2,4-Dinitrophenol	0.1445	0.1640	14	**TML	11
48	**TML	4-Nitrophenol	0.2008	0.2649	32	**TML	0.49
49	TM	Dibenzofuran	1.550	1.713	11	TM	
50	TM	2,4-DNT	0.4215	0.4693	11	TM	
51	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.3332	11	TM	
52	TM	Diethyl phthalate	1.406	1.413	0.53	TM	
53	TM	4-Chlorophenyl phenyl ether	0.6132	0.5869	4.3	TM	
54	TM	Fluorene	1.248	1.206	3.4	TM	
55	TM	4-Nitroaniline	0.3140	0.3112	0.90	TM	
56	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1727	35	TMQ	19
57	TM	Diphenyl amine	0.5231	0.5931	13	TM	
58	*TM	n-Nitrosodiphenylamine	0.5231	0.5931	13	*TM	
59	TM	1,2-Diphenylhydrazine	0.8832	0.9113	3.2	TM	
60	TM	4-Bromophenyl phenyl ether	0.1959	0.2267	16	TM	
61	TM	Hexachlorobenzene	0.1990	0.2361	19	TM	
62	TM	Atrazine	0.2108	0.2358	12	TM	
63	*TM	Pentachlorophenol	0.0841	0.0992	18	*TM	
64	TM	Phenanthrene	1.028	1.121	9.0	TM	
65	TM	Anthracene	1.085	1.162	7.1	TM	
66	TM	Carbazol	0.9564	1.038	8.5	TM	
67	TM	Di-n-butylphthalate	1.244	1.345	8.1	TM	
68	*TM	Fluoranthene	1.133	1.218	7.5	*TM	
69	TM	Benzidine	0.3534	0.3818	8.0	TM	
70	TM	Pyrene	1.233	1.318	6.9	TM	
71	TM	Butyl benzylphthalate	0.5992	0.6398	6.8	TM	
72	TM	3,3'-Dichlorobenzidine	0.3883	0.3286	15	TM	
73	TM	Benz (a) anthracene	1.153	1.190	3.3	TM	
74	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8555	1.9	TM	
75	TM	Chrysene	1.129	1.105	2.1	TM	
76	*TM	Di-n-octylphthalate	1.476	1.573	6.6	*TM	
77	TM	Benzo (b) fluoranthene	1.340	1.260	6.0	TM	
78	TM	Benzo (k) fluoranthene	1.267	1.349	6.4	TM	
79	*TM	Benzo (a) pyrene	1.233	1.271	3.1	*TM	
80	TM	Indeno (1,2,3-cd) pyrene	1.424	1.700	19	TM	
		Average			9.4		

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0

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y012,15.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Dibenz (a,h) anthracene	1.202	1.445	20	TM	
82	TM	Benzo (g,h,i) perylene	1.202	1.417	18	TM	
83							
84							
85							
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112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			19.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	452627	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	486812	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	5.29	82	40784	8.70340 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.703%	
45) 2-Fluorobiphenyl(S)	7.40	172	238	0.02679 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Algorithm = $\frac{241922 \times 40 \times 1}{120035 \times 1.429} = 56.4$ HA 4/5/17

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.66	42	241922	56.43464 ppb		96
3) Pyridine	1.67	79	443637	58.44606 ppb		100
6) Phenol	4.39	94	308453	54.97098 ppb		93
7) Aniline	4.39	66	245433	46.48002 ppb	#	70
8) Bis (2-chloroethyl) ether	4.45	63	133941	50.17262 ppb		91
9) 2-Chlorophenol	4.51	128	234860	52.99416 ppb		96
10) 1,3-DCB	4.67	146	247023	52.47020 ppb		98
11) 1,4-DCB	4.75	146	249719	51.78186 ppb		96
12) Benzyl alcohol	4.92	108	133576	51.97868 ppb		97
13) 1,2-DCB	4.92	146	225378	51.71795 ppb		97
14) 2-Methylphenol	5.07	107	170474	51.06643 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	299806	52.46308 ppb		89
16) Acetophenone	5.21	105	297375	51.52529 ppb		99
17) 3&4-Methylphenol	5.24	107	444636	104.75255 ppb		97
18) n-Nitrosodi-n-propylamine	5.21	70	161808	51.59694 ppb		95
19) Hexachloroethane	5.29	117	104538	52.22443 ppb		97
22) Nitrobenzene	5.39	77	249471	53.29065 ppb		100
23) Isophorone	5.67	82	418017	54.33997 ppb		94
24) 2-Nitrophenol	5.75	139	127740	56.64930 ppb		94
25) 2,4-Dimethylphenol	5.83	122	194532	54.31280 ppb		95
26) Benzoic acid	6.01	105	158675	53.68314 ppb		93
27) Bis (2-chloroethoxy) metha	5.92	93	234458	52.27113 ppb		98
28) 2,4-Dichlorophenol	6.04	162	185791	53.56514 ppb		93
29) 1,2,4-Trichlorobenzene	6.12	180	198600	53.01496 ppb		97
30) 3,4-Dimethylphenol	6.17	107	268885	51.41373 ppb		98
31) Naphthalene	6.19	128	603632	51.34257 ppb		98
32) 4-Chloroaniline	6.28	127	123406	31.31307 ppb		95
33) 2,6-Dichlorophenol	6.28	162	156543	51.26639 ppb		96
34) Hexachloropropene	6.29	213	142819	51.67717 ppb		97
35) Hexachlorobutadiene	6.34	225	112688	49.01098 ppb		98
36) Caprolactum	6.72	55	101712	53.42298 ppb		98
37) 4-Chloro-3-methylphenol	6.87	107	189004	50.04113 ppb		90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38) 2-Methylnaphthalene	6.99	142	388003	47.57507 ppb		99
39) 1-Methylnaphthalene	7.10	142	399917	50.81640 ppb		100
41) Hexachlorocyclopentadiene	7.16	237	77313	53.38262 ppb		96
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	194514	51.07973 ppb		97
43) 2,4,6-Trichlorophenol	7.33	196	126168	50.06948 ppb		96
44) 2,4,5-Trichlorophenol	7.40	196	134723	51.51132 ppb		96
46) 1,1'-Biphenyl	7.53	154	503749	48.32116 ppb		97
47) 2-Chloronaphthalene	7.54	162	393986	48.40777 ppb		95
48) 2-Nitroaniline	7.69	65	147234	52.19384 ppb		97
49) Dimethyl phthalate	7.90	163	529217	54.34038 ppb		100
50) 2,6-DNT	7.98	165	124830	55.73189 ppb		93
51) Acenaphthylene	8.02	152	693256	53.90348 ppb		100
52) 3-Nitroaniline	8.18	138	115439	50.13114 ppb		98
53) Acenaphthene	8.22	154	404948	51.59393 ppb		99
54) 2,4-Dinitrophenol	8.32	184	58078	44.52844 ppb		89
55) 4-Nitrophenol	8.44	65	93819	49.75668 ppb	#	1
56) Dibenzofuran	8.43	168	606686	55.25179 ppb		96
57) 2,4-DNT	8.45	165	166211	55.67887 ppb		95
58) 2,3,4,6-Tetrachlorophenol	8.59	232	118000	55.45970 ppb		97
59) Diethyl phthalate	8.71	149	500470	50.26586 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	207849	47.85734 ppb		95
61) Fluorene	8.82	166	427114	48.30413 ppb		94
62) 4-Nitroaniline	8.89	138	110209	49.55114 ppb		95
65) 4,6-Dinitro-2-methylphenol	8.94	198	105208	59.28300 ppb		98
66) Diphenyl amine	8.97	169	722641	113.38251 ppb		98
67) n-Nitrosodiphenylamine	8.97	169	722641	113.38251 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	555203	51.59231 ppb		95
69) 4-Bromophenyl phenyl ether	9.39	248	138094	57.83986 ppb		98
70) Hexachlorobenzene	9.47	284	143817	59.31356 ppb		99
71) Atrazine	9.62	200	71826	27.96794 ppb		97
72) Pentachlorophenol	9.72	266	60457	58.99127 ppb		97
73) Phenanthrene	9.93	178	682951	54.49644 ppb		99
74) Anthracene	10.00	178	707886	53.54703 ppb		100
75) Carbazol	10.20	167	632165	54.24525 ppb		96
76) Di-n-butylphthalate	10.61	149	819498	54.07071 ppb		97
77) Fluoranthene	11.31	202	742007	53.76201 ppb		100
79) Benzidine	11.50	184	232343	54.02483 ppb		98
80) Pyrene	11.57	202	802008	53.43367 ppb		98
82) Butyl benzylphthalate	12.34	149	389326	53.39180 ppb	#	75
83) 3,3'-Dichlorobenzidine	12.96	252	199964	42.31787 ppb	#	96
84) Benz (a) anthracene	12.98	228	724356	51.62655 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	520567	50.93708 ppb		96
86) Chrysene	13.01	228	672225	48.94046 ppb		99
87) Di-n-octylphthalate	13.73	149	957326	53.27779 ppb		95
89) Benzo (b) fluoranthene	14.16	252	734897	47.00114 ppb		96
90) Benzo (k) fluoranthene	14.19	252	786807	53.22401 ppb		99
91) Benzo (a) pyrene	14.54	252	741585	51.55214 ppb		99
92) Indeno (1,2,3-cd) pyrene	16.10	276	992130	59.72684 ppb		98
93) Dibenz (a,h) anthracene	16.12	278	843126	60.12340 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	826517	58.93816 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

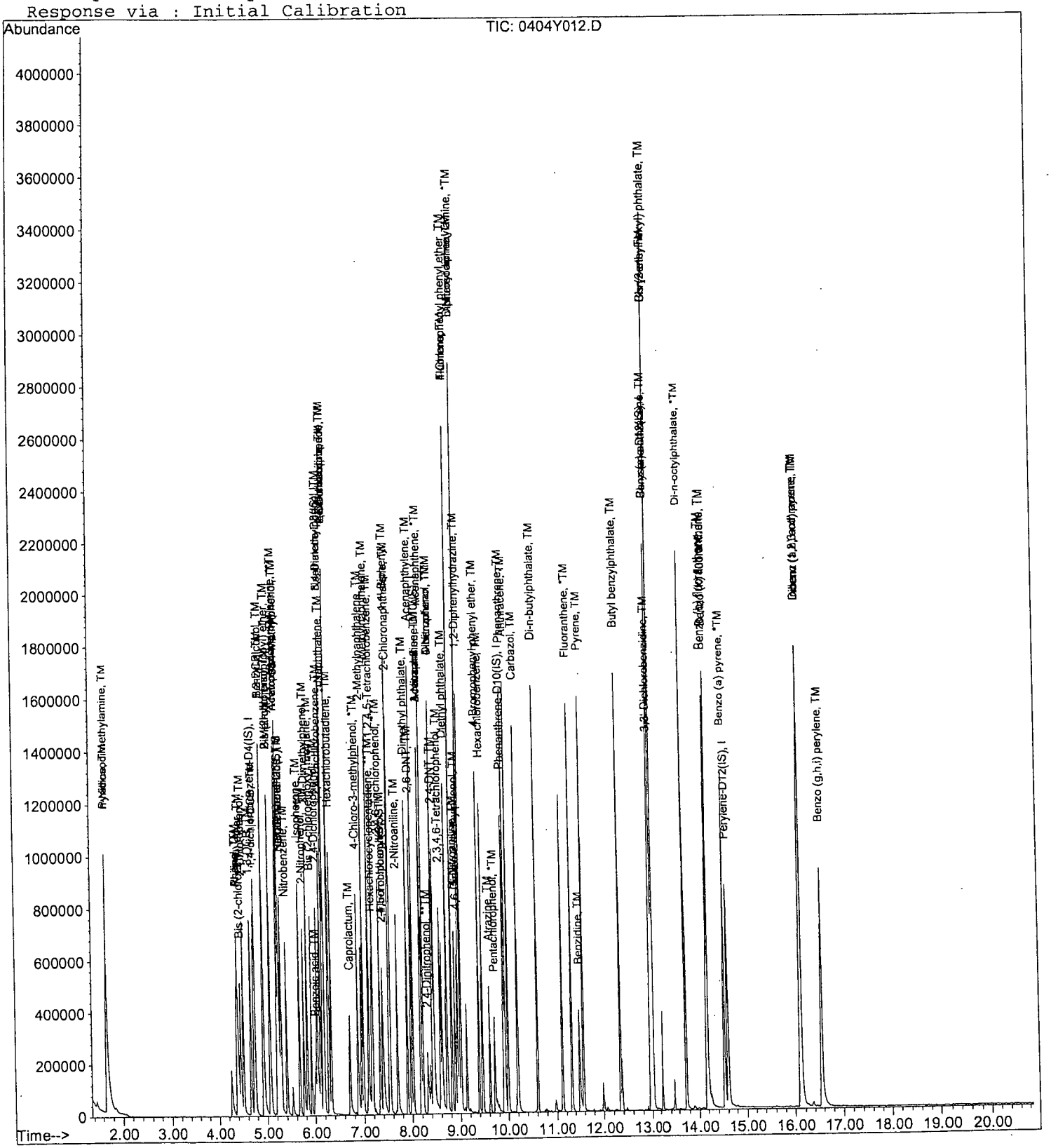
Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 10:50 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	104120	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	448907	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	252014	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	454389	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	452215	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	453788	40.00000 ppb	0.00

System Monitoring Compounds					
4) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
5) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
21) Nitrobenzene-D5(S)	0.00	82	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
45) 2-Fluorobiphenyl(S)	0.00	172	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
63) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
81) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	

Target Compounds					Qvalue
32) 4-Chloroaniline	6.28	127	196879	50.37010 ppb	94

(#) = qualifier out of range (m) = manual integration
0404Y015.D Y0404.M Wed Apr 05 13:21:29 2017

Quantitation Report

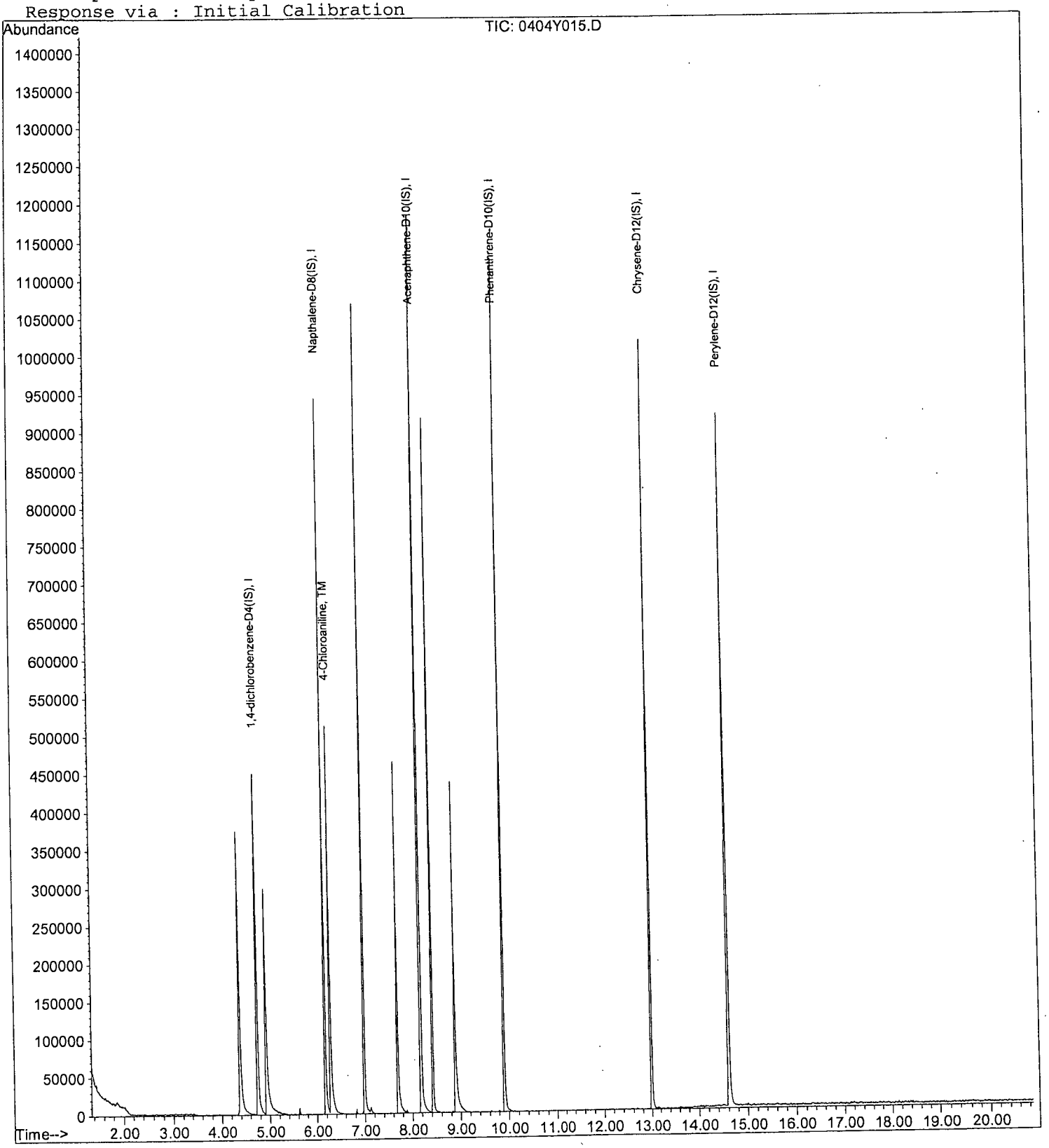
Data File : M:\YODA\DATA\Y170404\0404Y015.D
Acq On : 5 Apr 17 10:19
Sample : SS 4-chloroaniline 50ug/ml 04/05/17
Misc :

Vial: 15
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 5 11:43 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 09:45:00 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.444	1.1	TM	
3	S	2-Fluorophenol (S)	1.286	1.314	2.2	S	
4	S	Phenol-D6 (S)	1.610	1.513	6.0	S	
5	*TM	Phenol	1.870	1.846	1.3	*TM	
6	TM	Aniline	1.760	1.749	0.58	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8391	5.7	TM	
8	TM	2-Chlorophenol	1.477	1.452	1.7	TM	
9	TM	1,3-DCB	1.569	1.517	3.3	TM	
10	*TM	1,4-DCB	1.607	1.533	4.6	*TM	
11	TM	Benzyl alcohol	0.8564	0.8407	1.8	TM	
12	TM	1,2-DCB	1.452	1.418	2.4	TM	
13	TM	2-Methylphenol	1.112	1.058	4.9	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.839	3.4	TM	
15	TM	Acetophenone	1.923	1.876	2.5	TM	
16	TM	3&4-Methylphenol	1.414	1.394	1.4	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.024	2.0	**TM	
18	TM	Hexachloroethane	0.6670	0.6624	0.70	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.4013	3.1	S	
21	TM	Nitrobenzene	0.4137	0.4006	3.2	TM	
22	TM	Isophorone	0.6798	0.6643	2.3	TM	
23	*TM	2-Nitrophenol	0.1993	0.2012	0.96	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3084	2.6	TM	
25	TML	Benzoic acid	0.2240	0.2517	12	TML	3.0
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3944	0.49	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3018	1.5	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3232	2.4	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4463	3.4	TM	
30	TM	Naphthalene	1.039	1.011	2.7	TM	
31	TM	4-Chloroaniline	0.3483	0.3353	3.7	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2483	8.0	TM	
33	TM	Hexachloropropene	0.2442	0.2323	4.9	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1891	6.9	*TM	
35	TM	Caprolactum	0.1683	0.1662	1.2	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.3282	1.7	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6912	4.1	TM	
38	TM	1-Methylnaphthalene	0.6955	0.6721	3.4	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.2025	23	**TMQ	1.1
		Average			3.7		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.4857	9.7	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3355	5.7	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3510	5.0	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.151	8.2	S	
45	TM	1,1'-Biphenyl	1.472	1.348	8.4	TM	
46	TM	2-Chloronaphthalene	1.149	1.070	6.9	TM	
47	TM	2-Nitroaniline	0.3983	0.3947	0.89	TM	
48	TM	Dimethyl phthalate	1.375	1.280	6.9	TM	
49	TM	2,6-DNT	0.3162	0.3080	2.6	TM	
50	TM	Acenaphthylene	1.816	1.705	6.1	TM	
51	TM	3-Nitroaniline	0.3251	0.3188	1.9	TM	
52	*TM	Acenaphthene	1.108	1.039	6.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1750	21	**TML	6.1
54	**TML	4-Nitrophenol	0.2008	0.2549	27	**TML	3.7
55	TM	Dibenzofuran	1.550	1.497	3.4	TM	
56	TM	2,4-DNT	0.4215	0.4185	0.70	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2975	0.97	TM	
58	TM	Diethyl phthalate	1.406	1.316	6.4	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5415	12	TM	
60	TM	Fluorene	1.248	1.086	13	TM	
61	TM	4-Nitroaniline	0.3140	0.3097	1.4	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1662	7.3	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1444	13	TMQ	0.90
65	TM	Diphenyl amine	0.5231	0.4912	6.1	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4912	6.1	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9776	11	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1952	0.37	TM	
69	TM	Hexachlorobenzene	0.1990	0.1985	0.25	TM	
70	TM	Atrazine	0.2108	0.2123	0.71	TM	
71	*TM	Pentachlorophenol	0.0841	0.0978	16	*TM	
72	TM	Phenanthrene	1.028	1.010	1.8	TM	
73	TM	Anthracene	1.085	1.072	1.2	TM	
74	TM	Carbazol	0.9564	0.9570	0.06	TM	
75	TM	Di-n-butylphthalate	1.244	1.244	0.02	TM	
76	*TM	Fluoranthene	1.133	1.110	2.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3367	4.7	TM	
79	TM	Pyrene	1.233	1.223	0.82	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8200	3.0	S	
		Average			6.0		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D	%Drift	
81	TM	Butyl benzylphthalate	0.5992	0.5990	0.02	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3758	3.2	TM	
83	TM	Benz (a) anthracene	1.153	1.101	4.5	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8403	0.07	TM	
85	TM	Chrysene	1.129	1.071	5.1	TM	
86	*TM	Di-n-octylphthalate	1.476	1.458	1.2	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.237	7.7	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.218	3.8	TM	
90	*TM	Benzo (a) pyrene	1.233	1.174	4.8	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.319	7.3	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.130	6.0	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.134	5.6	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
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107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.1		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	135139	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	551655	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	344147	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	623714	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	612103	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	581377	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	443969	102.15233 ppb	0.00
Spiked Amount 200.000			Recovery = 51.076%		
5) Phenol-D6 (S)	4.37	99	511134	93.95211 ppb	0.00
Spiked Amount 200.000			Recovery = 46.976%		
21) Nitrobenzene-D5(S)	5.37	82	276724	48.45281 ppb	0.00
Spiked Amount 100.000			Recovery = 48.453%		
45) 2-Fluorobiphenyl(S)	7.42	172	495310	45.90268 ppb	0.00
Spiked Amount 100.000			Recovery = 45.903%		
63) 2,4,6-Tribromophenol(S)	9.12	330	142993	92.70728 ppb	0.00
Spiked Amount 200.000			Recovery = 46.354%		
81) Terphenyl-D14(S)	11.77	244	627441	48.48932 ppb	0.00
Spiked Amount 100.000			Recovery = 48.489%		

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	243901	50.53720 ppb	89
6) Phenol	4.39	94	311905	49.37351 ppb	97
7) Aniline	4.39	66	295507	49.70823 ppb #	60
8) Bis (2-chloroethyl) ether	4.46	63	141746	47.16189 ppb	99
9) 2-Chlorophenol	4.51	128	245199	49.14336 ppb	94
10) 1,3-DCB	4.67	146	256238	48.34439 ppb	100
11) 1,4-DCB	4.75	146	258935	47.69184 ppb	95
12) Benzyl alcohol	4.93	108	142009	49.08400 ppb	87
13) 1,2-DCB	4.92	146	239499	48.81583 ppb	99
14) 2-Methylphenol	5.07	107	178682	47.54286 ppb	96
15) Bis (2-chloroisopropyl) et	5.06	45	310712	48.29462 ppb	94
16) Acetophenone	5.21	105	316921	48.77465 ppb	97
17) 3&4-Methylphenol	5.24	107	471062	98.57465 ppb	95
18) n-Nitrosodi-n-propylamine	5.22	70	172924	48.97861 ppb	85
19) Hexachloroethane	5.29	117	111888	49.64897 ppb	97
22) Nitrobenzene	5.39	77	276264	48.42038 ppb	99
23) Isophorone	5.67	82	458071	48.85749 ppb	95
24) 2-Nitrophenol	5.75	139	138732	50.47975 ppb	94
25) 2,4-Dimethylphenol	5.83	122	212684	48.72129 ppb	97
26) Benzoic acid	6.02	105	173559	48.49471 ppb	94
27) Bis (2-chloroethoxy) metha	5.92	93	271990	49.75338 ppb	98
28) 2,4-Dichlorophenol	6.04	162	208112	49.22975 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	222837	48.80670 ppb	96
30) 3,4-Dimethylphenol	6.16	107	307747	48.28133 ppb	92
31) Naphthalene	6.19	128	697082	48.64767 ppb	99
32) 4-Chloroaniline	6.28	127	231220	48.13796 ppb	96
33) 2,6-Dichlorophenol	6.28	162	171202	46.00244 ppb	97
34) Hexachloropropene	6.29	213	160197	47.55980 ppb	98
35) Hexachlorobutadiene	6.33	225	130385	46.52820 ppb	100
36) Caprolactum	6.72	55	114589	49.38235 ppb	96
37) 4-Chloro-3-methylphenol	6.87	107	226302	49.16062 ppb	98
38) 2-Methylnaphthalene	6.99	142	476640	47.95211 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 10 11:31 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	463448	48.31789 ppb		98
41) Hexachlorocyclopentadiene	7.17	237	87099	50.57414 ppb		99
42) 1,2,4,5-Tetrachlorobenzene	7.18	216	208956	45.17356 ppb		96
43) 2,4,6-Trichlorophenol	7.33	196	144323	47.15102 ppb		98
44) 2,4,5-Trichlorophenol	7.39	196	150982	47.52453 ppb		91
46) 1,1'-Biphenyl	7.53	154	579966	45.79915 ppb		97
47) 2-Chloronaphthalene	7.55	162	460167	46.54590 ppb		94
48) 2-Nitroaniline	7.70	65	169806	49.55596 ppb		95
49) Dimethyl phthalate	7.90	163	550543	46.53844 ppb		99
50) 2,6-DNT	7.98	165	132516	48.70627 ppb		95
51) Acenaphthylene	8.02	152	733328	46.94109 ppb		99
52) 3-Nitroaniline	8.18	138	137149	49.03197 ppb	#	98
53) Acenaphthene	8.22	154	447128	46.89893 ppb		99
54) 2,4-Dinitrophenol	8.33	184	75276	46.97020 ppb		90
55) 4-Nitrophenol	8.43	65	109648	48.14581 ppb	#	1
56) Dibenzofuran	8.42	168	643889	48.27532 ppb		100
57) 2,4-DNT	8.46	165	180037	49.65055 ppb		96
58) 2,3,4,6-Tetrachlorophenol	8.59	232	127964	49.51252 ppb	#	89
59) Diethyl phthalate	8.72	149	566121	46.80972 ppb		98
60) 4-Chlorophenyl phenyl ethe	8.83	204	232941	44.15483 ppb		98
61) Fluorene	8.82	166	467305	43.50835 ppb		97
62) 4-Nitroaniline	8.89	138	133215	49.30845 ppb		88
65) 4,6-Dinitro-2-methylphenol	8.94	198	112554	49.55184 ppb		87
66) Diphenyl amine	8.98	169	765864	93.90149 ppb		98
67) n-Nitrosodiphenylamine	8.98	169	765864	93.90149 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	762145	55.34369 ppb		96
69) 4-Bromophenyl phenyl ether	9.39	248	152201	49.81582 ppb		94
70) Hexachlorobenzene	9.47	284	154760	49.87695 ppb		92
71) Atrazine	9.61	200	82740	25.17629 ppb		97
72) Pentachlorophenol	9.71	266	76275	58.15951 ppb		98
73) Phenanthrene	9.93	178	787525	49.10664 ppb		100
74) Anthracene	10.00	178	835787	49.40434 ppb		99
75) Carbazol	10.20	167	746119	50.03072 ppb		98
76) Di-n-butylphthalate	10.61	149	969545	49.98958 ppb		98
77) Fluoranthene	11.32	202	865546	49.00665 ppb		98
79) Benzidine	11.49	184	257599	47.63704 ppb		98
80) Pyrene	11.58	202	935839	49.58773 ppb		100
82) Butyl benzylphthalate	12.35	149	458347	49.99106 ppb		84
83) 3,3'-Dichlorobenzidine	12.96	252	287536	48.39505 ppb	#	94
84) Benz (a) anthracene	12.98	228	842170	47.73727 ppb		99
85) Bis (2-ethylhexyl) phthala	13.01	149	642952	50.03487 ppb		96
86) Chrysene	13.01	228	819648	47.45889 ppb		99
87) Di-n-octylphthalate	13.73	149	1115707	49.38252 ppb		97
89) Benzo (b) fluoranthene	14.17	252	898867	46.15342 ppb	#	95
90) Benzo (k) fluoranthene	14.19	252	885368	48.08279 ppb		100
91) Benzo (a) pyrene	14.54	252	853150	47.61433 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	958635	46.33196 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	821166	47.01198 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	824440	47.19873 ppb		98

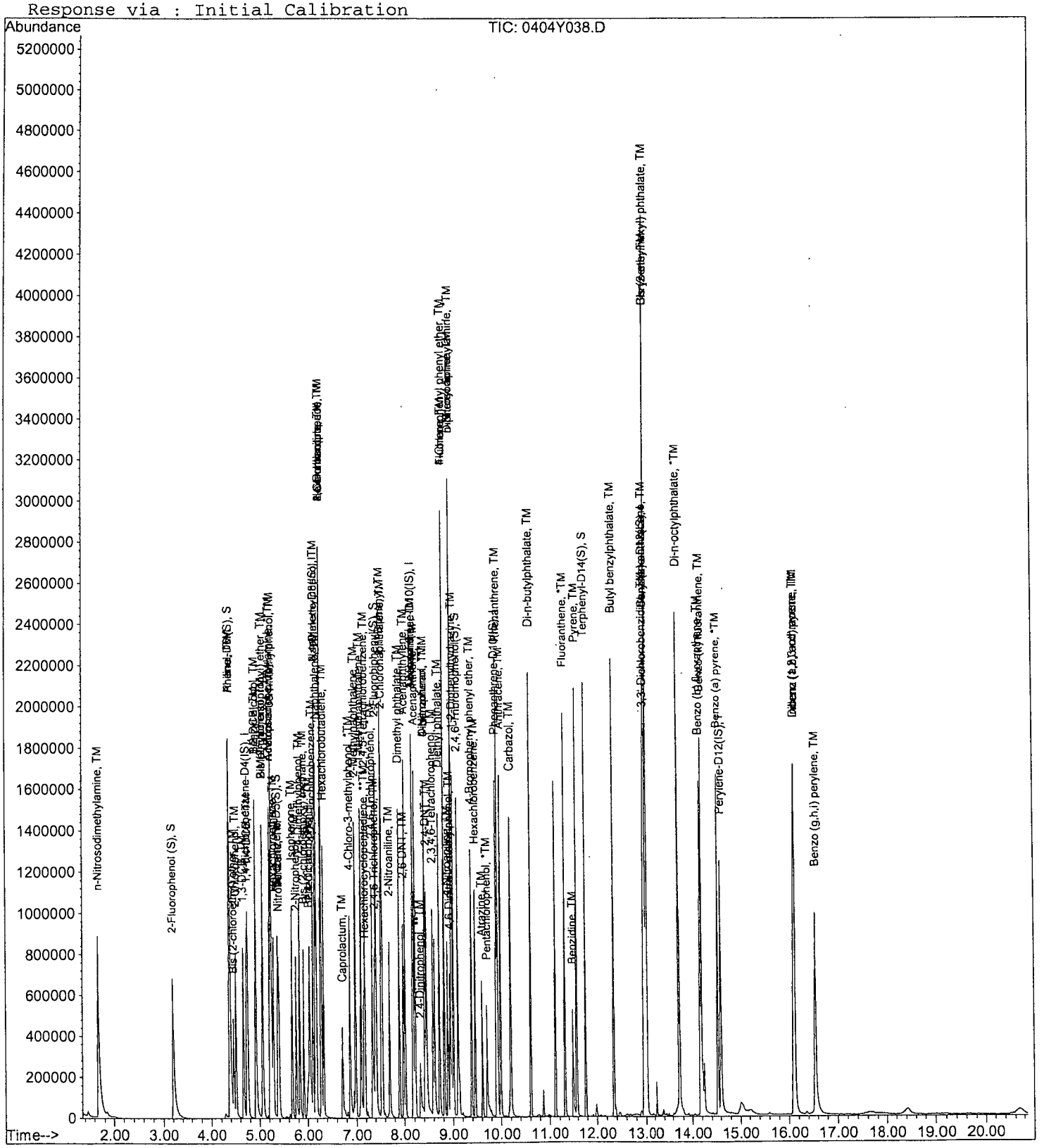
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y038.D Vial: 38
Acq On : 10 Apr 17 11:15 Operator: MA
Sample : 50ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 10 11:31 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	n-Nitrosodimethylamine	1.429	1.540	7.8	TM	
3	S	2-Fluorophenol (S)	1.286	1.162	9.6	S	
4	S	Phenol-D6 (S)	1.610	1.517	5.8	S	
5	*TM	Phenol	1.870	1.908	2.0	*TM	
6	TM	Aniline	1.760	1.809	2.8	TM	
7	TM	Bis (2-chloroethyl) ether	0.8896	0.8804	1.0	TM	
8	TM	2-Chlorophenol	1.477	1.430	3.2	TM	
9	TM	1,3-DCB	1.569	1.554	0.95	TM	
10	*TM	1,4-DCB	1.607	1.591	1.0	*TM	
11	TM	Benzyl alcohol	0.8564	0.8805	2.8	TM	
12	TM	1,2-DCB	1.452	1.499	3.2	TM	
13	TM	2-Methylphenol	1.112	1.103	0.87	TM	
14	TM	Bis (2-chloroisopropyl) ether	1.904	1.927	1.2	TM	
15	TM	Acetophenone	1.923	2.070	7.6	TM	
16	TM	3&4-Methylphenol	1.414	1.564	11	TM	
17	**TM	n-Nitrosodi-n-propylamine	1.045	1.124	7.5	**TM	
18	TM	Hexachloroethane	0.6670	0.7095	6.4	TM	
19	I	Napthalene-D8(IS)	ISTD			I	
20	S	Nitrobenzene-D5(S)	0.4141	0.3987	3.7	S	
21	TM	Nitrobenzene	0.4137	0.4015	3.0	TM	
22	TM	Isophorone	0.6798	0.6748	0.73	TM	
23	*TM	2-Nitrophenol	0.1993	0.2000	0.37	*TM	
24	TM	2,4-Dimethylphenol	0.3165	0.3157	0.27	TM	
25	TML	Benzoic acid	0.2240	0.2438	8.9	TML	5.9
26	TM	Bis (2-chloroethoxy) methane	0.3964	0.3795	4.3	TM	
27	*TM	2,4-Dichlorophenol	0.3065	0.3109	1.4	*TM	
28	TM	1,2,4-Trichlorobenzene	0.3311	0.3158	4.6	TM	
29	TM	3,4-Dimethylphenol	0.4622	0.4430	4.1	TM	
30	TM	Naphthalene	1.039	1.009	2.9	TM	
31	TM	4-Chloroaniline	0.3483	0.3430	1.5	TM	
32	TM	2,6-Dichlorophenol	0.2698	0.2500	7.3	TM	
33	TM	Hexachloropropene	0.2442	0.2229	8.7	TM	
34	*TM	Hexachlorobutadiene	0.2032	0.1860	8.5	*TM	
35	TM	Caprolactum	0.1683	0.1590	5.5	TM	
36	*TM	4-Chloro-3-methylphenol	0.3338	0.2974	11	*TM	
37	TM	2-Methylnaphthalene	0.7207	0.6296	13	TM	
38	TM	1-Methylnaphthalene	0.6955	0.5881	15	TM	
39	I	Acenaphthene-D10(IS)	ISTD			I	
40	**TMQ	Hexachlorocyclopentadiene	0.1648	0.1630	1.1	**TMQ	13
		Average			4.9		

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2,4,5-Tetrachlorobenzene	0.5376	0.5001	7.0	TM	
42	*TM	2,4,6-Trichlorophenol	0.3558	0.3314	6.9	*TM	
43	TM	2,4,5-Trichlorophenol	0.3693	0.3476	5.9	TM	
44	S	2-Fluorobiphenyl(S)	1.254	1.156	7.8	S	
45	TM	1,1'-Biphenyl	1.472	1.401	4.8	TM	
46	TM	2-Chloronaphthalene	1.149	1.107	3.7	TM	
47	TM	2-Nitroaniline	0.3983	0.3961	0.54	TM	
48	TM	Dimethyl phthalate	1.375	1.298	5.6	TM	
49	TM	2,6-DNT	0.3162	0.2945	6.9	TM	
50	TM	Acenaphthylene	1.816	1.689	7.0	TM	
51	TM	3-Nitroaniline	0.3251	0.3180	2.2	TM	
52	*TM	Acenaphthene	1.108	1.062	4.2	*TM	
53	**TML	2,4-Dinitrophenol	0.1445	0.1529	5.8	**TML	16
54	**TML	4-Nitrophenol	0.2008	0.2561	28	**TML	3.3
55	TM	Dibenzofuran	1.550	1.540	0.66	TM	
56	TM	2,4-DNT	0.4215	0.4251	0.85	TM	
57	TM	2,3,4,6-Tetrachlorophenol	0.3004	0.2833	5.7	TM	
58	TM	Diethyl phthalate	1.406	1.351	3.9	TM	
59	TM	4-Chlorophenyl phenyl ether	0.6132	0.5965	2.7	TM	
60	TM	Fluorene	1.248	1.222	2.1	TM	
61	TM	4-Nitroaniline	0.3140	0.3343	6.5	TM	
62	S	2,4,6-Tribromophenol(S)	0.1793	0.1790	0.18	S	
63	I	Phenanthrene-D10(IS)	ISTD			I	
64	TMQ	4,6-Dinitro-2-methylphenol	0.1283	0.1281	0.15	TMQ	12
65	TM	Diphenyl amine	0.5231	0.4672	11	TM	
66	*TM	n-Nitrosodiphenylamine	0.5231	0.4672	11	*TM	
67	TM	1,2-Diphenylhydrazine	0.8832	0.9603	8.7	TM	
68	TM	4-Bromophenyl phenyl ether	0.1959	0.1906	2.7	TM	
69	TM	Hexachlorobenzene	0.1990	0.1895	4.8	TM	
70	TM	Atrazine	0.2108	0.2011	4.6	TM	
71	*TM	Pentachlorophenol	0.0841	0.0882	4.9	*TM	
72	TM	Phenanthrene	1.028	0.9692	5.8	TM	
73	TM	Anthracene	1.085	1.031	5.0	TM	
74	TM	Carbazol	0.9564	0.9613	0.51	TM	
75	TM	Di-n-butylphthalate	1.244	1.197	3.8	TM	
76	*TM	Fluoranthene	1.133	1.054	7.0	*TM	
77	I	Chrysene-D12(IS)	ISTD			I	
78	TM	Benzidine	0.3534	0.3646	3.2	TM	
79	TM	Pyrene	1.233	1.257	1.9	TM	
80	S	Terphenyl-D14(S)	0.8456	0.8341	1.4	S	
		Average			5.1		

459

0
0

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Butyl benzylphthalate	0.5992	0.5904	1.5	TM	
82	TM	3,3'-Dichlorobenzidine	0.3883	0.3925	1.1	TM	
83	TM	Benz (a) anthracene	1.153	1.121	2.7	TM	
84	TM	Bis (2-ethylhexyl) phthalate	0.8397	0.8246	1.8	TM	
85	TM	Chrysene	1.129	1.076	4.6	TM	
86	*TM	Di-n-octylphthalate	1.476	1.473	0.25	*TM	
87	I	Perylene-D12(IS)	ISTD			I	
88	TM	Benzo (b) fluoranthene	1.340	1.202	10	TM	
89	TM	Benzo (k) fluoranthene	1.267	1.221	3.6	TM	
90	*TM	Benzo (a) pyrene	1.233	1.147	7.0	*TM	
91	TM	Indeno (1,2,3-cd) pyrene	1.424	1.323	7.0	TM	
92	TM	Dibenz (a,h) anthracene	1.202	1.158	3.7	TM	
93	TM	Benzo (g,h,i) perylene	1.202	1.218	1.3	TM	
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	103117	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	454712	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	247658	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	511779	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	468078	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	454493	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	299646	90.35549 ppb	0.00
Spiked Amount 200.000			Recovery	= 45.178%	
5) Phenol-D6 (S)	4.37	99	391092	94.21090 ppb	0.00
Spiked Amount 200.000			Recovery	= 47.106%	
21) Nitrobenzene-D5(S)	5.38	82	226590	48.13312 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.133%	
45) 2-Fluorobiphenyl(S)	7.42	172	357986	46.10188 ppb	0.00
Spiked Amount 100.000			Recovery	= 46.102%	
63) 2,4,6-Tribromophenol(S)	9.12	330	110800	99.82296 ppb	0.00
Spiked Amount 200.000			Recovery	= 49.912%	
81) Terphenyl-D14(S)	11.77	244	488015	49.31882 ppb	0.00
Spiked Amount 100.000			Recovery	= 49.319%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.67	42	198474	53.89539 ppb	91
6) Phenol	4.39	94	245926	51.01837 ppb	99
7) Aniline	4.39	66	233171	51.40265 ppb #	64
8) Bis (2-chloroethyl) ether	4.46	63	113477	49.48103 ppb	96
9) 2-Chlorophenol	4.51	128	184272	48.40118 ppb	93
10) 1,3-DCB	4.67	146	200286	49.52261 ppb	98
11) 1,4-DCB	4.75	146	205039	49.49259 ppb	100
12) Benzyl alcohol	4.93	108	113498	51.41179 ppb	86
13) 1,2-DCB	4.92	146	193178	51.60182 ppb	98
14) 2-Methylphenol	5.07	107	142137	49.56351 ppb	95
15) Bis (2-chloroisopropyl) et	5.06	45	248335	50.58585 ppb	89
16) Acetophenone	5.21	105	266780	53.80800 ppb	97
17) 3&4-Methylphenol	5.25	107	403266	110.59340 ppb	96
18) n-Nitrosodi-n-propylamine	5.22	70	144858	53.77050 ppb	91
19) Hexachloroethane	5.29	117	91456	53.18502 ppb	97
22) Nitrobenzene	5.40	77	228200	48.52334 ppb	88
23) Isophorone	5.67	82	383565	49.63277 ppb	93
24) 2-Nitrophenol	5.76	139	113683	50.18422 ppb	96
25) 2,4-Dimethylphenol	5.83	122	179433	49.86748 ppb	96
26) Benzoic acid	6.02	105	138574	47.07108 ppb	97
27) Bis (2-chloroethoxy) metha	5.92	93	215717	47.87240 ppb	99
28) 2,4-Dichlorophenol	6.04	162	176690	50.70766 ppb	93
29) 1,2,4-Trichlorobenzene	6.12	180	179513	47.70009 ppb	97
30) 3,4-Dimethylphenol	6.16	107	251799	47.92593 ppb	95
31) Naphthalene	6.19	128	573501	48.55607 ppb	99
32) 4-Chloroaniline	6.29	127	194954	49.24085 ppb	95
33) 2,6-Dichlorophenol	6.29	162	142119	46.32925 ppb	98
34) Hexachloropropene	6.29	213	126712	45.63884 ppb	97
35) Hexachlorobutadiene	6.33	225	105700	45.76092 ppb	99
36) Caprolactum	6.71	55	90364	47.24495 ppb	99
37) 4-Chloro-3-methylphenol	6.87	107	169057	44.55468 ppb	99
38) 2-Methylnaphthalene	6.99	142	357871	43.67922 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	334267	42.27967 ppb		98
41)	Hexachlorocyclopentadiene	7.17	237	50468	43.26972 ppb		98
42)	1,2,4,5-Tetrachlorobenzene	7.19	216	154829	46.51290 ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	102580	46.57039 ppb		93
44)	2,4,5-Trichlorophenol	7.40	196	107593	47.06178 ppb		96
46)	1,1'-Biphenyl	7.53	154	433702	47.59244 ppb		99
47)	2-Chloronaphthalene	7.55	162	342656	48.16327 ppb		94
48)	2-Nitroaniline	7.70	65	122624	49.72903 ppb		92
49)	Dimethyl phthalate	7.90	163	401742	47.19103 ppb		100
50)	2,6-DNT	7.98	165	91167	46.56352 ppb		95
51)	Acenaphthylene	8.02	152	522884	46.51059 ppb		98
52)	3-Nitroaniline	8.18	138	98437	48.90314 ppb	#	97
53)	Acenaphthene	8.23	154	328710	47.91104 ppb		99
54)	2,4-Dinitrophenol	8.33	184	47334	42.06456 ppb	#	73
55)	4-Nitrophenol	8.44	65	79292	48.34620 ppb	#	1
56)	Dibenzofuran	8.42	168	476752	49.67047 ppb		99
57)	2,4-DNT	8.46	165	131584	50.42629 ppb		96
58)	2,3,4,6-Tetrachlorophenol	8.59	232	87715	47.16205 ppb	#	85
59)	Diethyl phthalate	8.72	149	418091	48.03848 ppb		98
60)	4-Chlorophenyl phenyl ethe	8.83	204	184671	48.64325 ppb		94
61)	Fluorene	8.82	166	378197	48.93075 ppb		97
62)	4-Nitroaniline	8.89	138	103480	53.22508 ppb		92
65)	4,6-Dinitro-2-methylphenol	8.94	198	81953	44.09944 ppb		96
66)	Diphenyl amine	8.98	169	597819	89.32923 ppb		98
67)	n-Nitrosodiphenylamine	8.98	169	597819	89.32923 ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	614353	54.36903 ppb		96
69)	4-Bromophenyl phenyl ether	9.40	248	121926	48.63503 ppb		92
70)	Hexachlorobenzene	9.47	284	121247	47.62283 ppb		90
71)	Atrazine	9.61	200	64330	23.85573 ppb		98
72)	Pentachlorophenol	9.71	266	56442	52.44981 ppb		90
73)	Phenanthrene	9.93	178	620021	47.11784 ppb		99
74)	Anthracene	10.00	178	659633	47.51983 ppb		99
75)	Carbazol	10.20	167	614991	50.25745 ppb		99
76)	Di-n-butylphthalate	10.61	149	765613	48.10872 ppb		99
77)	Fluoranthene	11.32	202	674201	46.52188 ppb		98
79)	Benzidine	11.49	184	213342	51.59210 ppb		98
80)	Pyrene	11.58	202	735652	50.97436 ppb		100
82)	Butyl benzylphthalate	12.35	149	345429	49.26778 ppb		84
83)	3,3'-Dichlorobenzidine	12.96	252	229671	50.55000 ppb	#	93
84)	Benz (a) anthracene	12.98	228	656160	48.63779 ppb		99
85)	Bis (2-ethylhexyl) phthala	13.02	149	482480	49.09981 ppb		99
86)	Chrysene	13.02	228	629718	47.68069 ppb		99
87)	Di-n-octylphthalate	13.73	149	861726	49.87680 ppb		99
89)	Benzo (b) fluoranthene	14.17	252	682610	44.83444 ppb	#	94
90)	Benzo (k) fluoranthene	14.19	252	693872	48.20320 ppb		99
91)	Benzo (a) pyrene	14.54	252	651562	46.51560 ppb		97
92)	Indeno (1,2,3-cd) pyrene	16.11	276	751780	46.47815 ppb		97
93)	Dibenz (a,h) anthracene	16.12	278	657813	48.17377 ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	691720	50.65616 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

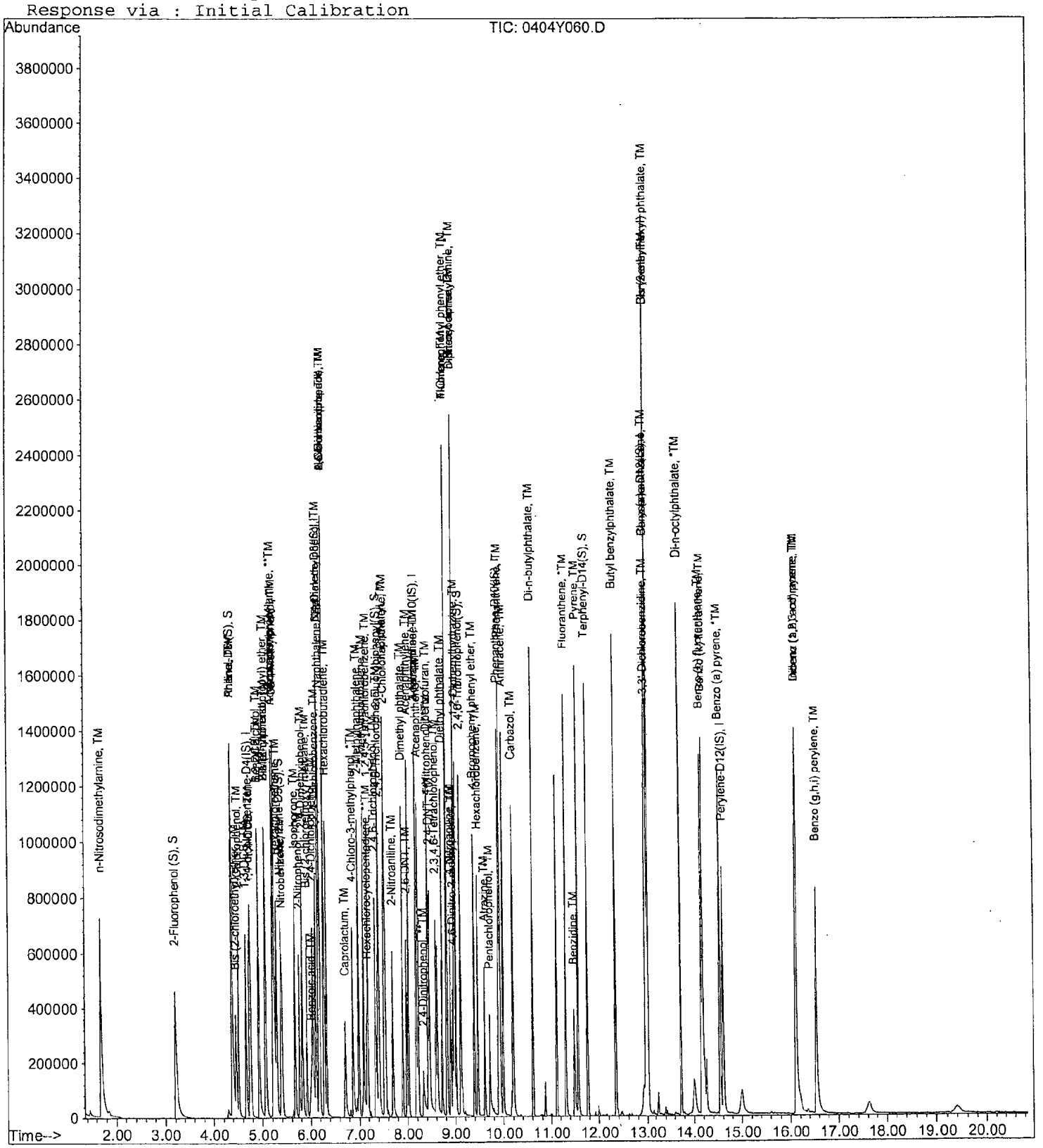
Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 11 9:08 2017

Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



463

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,2,4-TRICHLOROBENZENE	5.00 U	10.0	5.00	1.30	ug/L	04/07/17	04/10/17
BLANK	1,2-DICHLOROBENZENE	5.00 U	10.0	5.00	1.10	ug/L	04/07/17	04/10/17
BLANK	1,3-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
BLANK	1,4-DICHLOROBENZENE	5.00 U	10.0	5.00	1.00	ug/L	04/07/17	04/10/17
BLANK	2,4,5-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	2,4,6-TRICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	2,4-DICHLOROPHENOL	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	2,4-DIMETHYLPHENOL	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	2,4-DINITROPHENOL	5.00 U	20.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	2,4-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	2,6-DINITROTOLUENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	2-CHLORONAPHTHALENE	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	2-CHLOROPHENOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	2-METHYLNAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	2-METHYLPHENOL	5.00 U	10.0	5.00	1.90	ug/L	04/07/17	04/10/17
BLANK	2-NITROANILINE	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	2-NITROPHENOL	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
BLANK	3,3'-DICHLOROBENZIDINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	3-NITROANILINE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	3/4-METHYLPHENOL	5.00 U	10.0	5.00	1.70	ug/L	04/07/17	04/10/17
BLANK	4,6-DINITRO-2-METHYLPHENOL	5.00 U	20.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	4-BROMOPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-CHLORO-3-METHYLPHENOL	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-CHLOROANILINE	5.00 U	10.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	4-CHLOROPHENYL PHENYL ETH	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	4-NITROANILINE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	4-NITROPHENOL	5.00 U	20.0	5.00	0.80	ug/L	04/07/17	04/10/17
BLANK	ACENAPHTHENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	ACENAPHTHYLENE	5.00 U	10.0	5.00	2.30	ug/L	04/07/17	04/10/17
BLANK	ANTHRACENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	BENZ (A) ANTHRACENE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	BENZO (A) PYRENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	BENZO (B) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BENZO (G,H,I) PERYLENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:40:29 PM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BENZO (K) FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BENZYL ALCOHOL	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLORETHOXY) METHAN	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLOROETHYL) ETHER	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	BIS (2-CHLOROISOPROPYL) ET	5.00 U	10.0	5.00	2.00	ug/L	04/07/17	04/10/17
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	5.00 U	20.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	BUTYL BENZYL PHTHALATE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	CARBAZOLE	5.00 U	10.0	5.00	3.30	ug/L	04/07/17	04/10/17
BLANK	CHRYSENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	DI-N-BUTYL PHTHALATE	5.00 U	10.0	5.00	3.20	ug/L	04/07/17	04/10/17
BLANK	DI-N-OCTYL PHTHALATE	5.00 U	10.0	5.00	2.60	ug/L	04/07/17	04/10/17
BLANK	DIBENZ (A,H) ANTHRACENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	DIBENZOFURAN	5.00 U	20.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	DIETHYL PHTHALATE	5.00 U	10.0	5.00	3.00	ug/L	04/07/17	04/10/17
BLANK	DIMETHYL PHTHALATE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	DIPHENYLAMINE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	FLUORANTHENE	5.00 U	10.0	5.00	2.90	ug/L	04/07/17	04/10/17
BLANK	FLUORENE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROBENZENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROBUTADIENE	5.00 U	10.0	5.00	0.90	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROCYCLOPENTADIE	9.00 U	10.0	9.00	0.80	ug/L	04/07/17	04/10/17
BLANK	HEXACHLOROETHANE	5.00 U	10.0	5.00	0.80	ug/L	04/07/17	04/10/17
BLANK	INDENO (1,2,3-CD) PYRENE	5.00 U	10.0	5.00	2.40	ug/L	04/07/17	04/10/17
BLANK	ISOPHORONE	5.00 U	10.0	5.00	2.50	ug/L	04/07/17	04/10/17
BLANK	N-NITROSODI-N-PROPYLAMINE	5.00 U	10.0	5.00	2.20	ug/L	04/07/17	04/10/17
BLANK	NAPHTHALENE	5.00 U	10.0	5.00	1.80	ug/L	04/07/17	04/10/17
BLANK	NITROBENZENE	5.00 U	10.0	5.00	2.10	ug/L	04/07/17	04/10/17
BLANK	PENTACHLOROPHENOL	5.00 U	20.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	PHENANTHRENE	5.00 U	20.0	5.00	2.70	ug/L	04/07/17	04/10/17
BLANK	PYRENE	5.00 U	10.0	5.00	2.80	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2,4,6-TRIBROMOP	73.3	43-140			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUOROPHENO	53.1	19-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17

Quant Method:Y0404.M
Run #:0404Y039
Instrument:Yoda
Sequence:Y170404
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:40:29 PM

Method Blank
EPA 8270D WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217836**
Batch ID: #87DDO-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: PHENOL (S)	34.4	10-115			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.6	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 2:40:29 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108124	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.16	136	474326	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	271985	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	525349	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	515905	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	445378	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.19	112	369097	106.14383 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.072%	
5) Phenol-D6 (S)	4.37	99	299498	68.80568 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.403%	
21) Nitrobenzene-D5(S)	5.37	82	350501	71.37598 ppb	0.00
Spiked Amount 100.000			Recovery	= 71.376%	
45) 2-Fluorobiphenyl(S)	7.42	172	570376	66.88384 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.884%	
63) 2,4,6-Tribromophenol(S)	9.11	330	178811	146.68724 ppb	0.00
Spiked Amount 200.000			Recovery	= 73.344%	
81) Terphenyl-D14(S)	11.77	244	856726	78.55429 ppb	0.00
Spiked Amount 100.000			Recovery	= 78.554%	

Target Compounds Qvalue

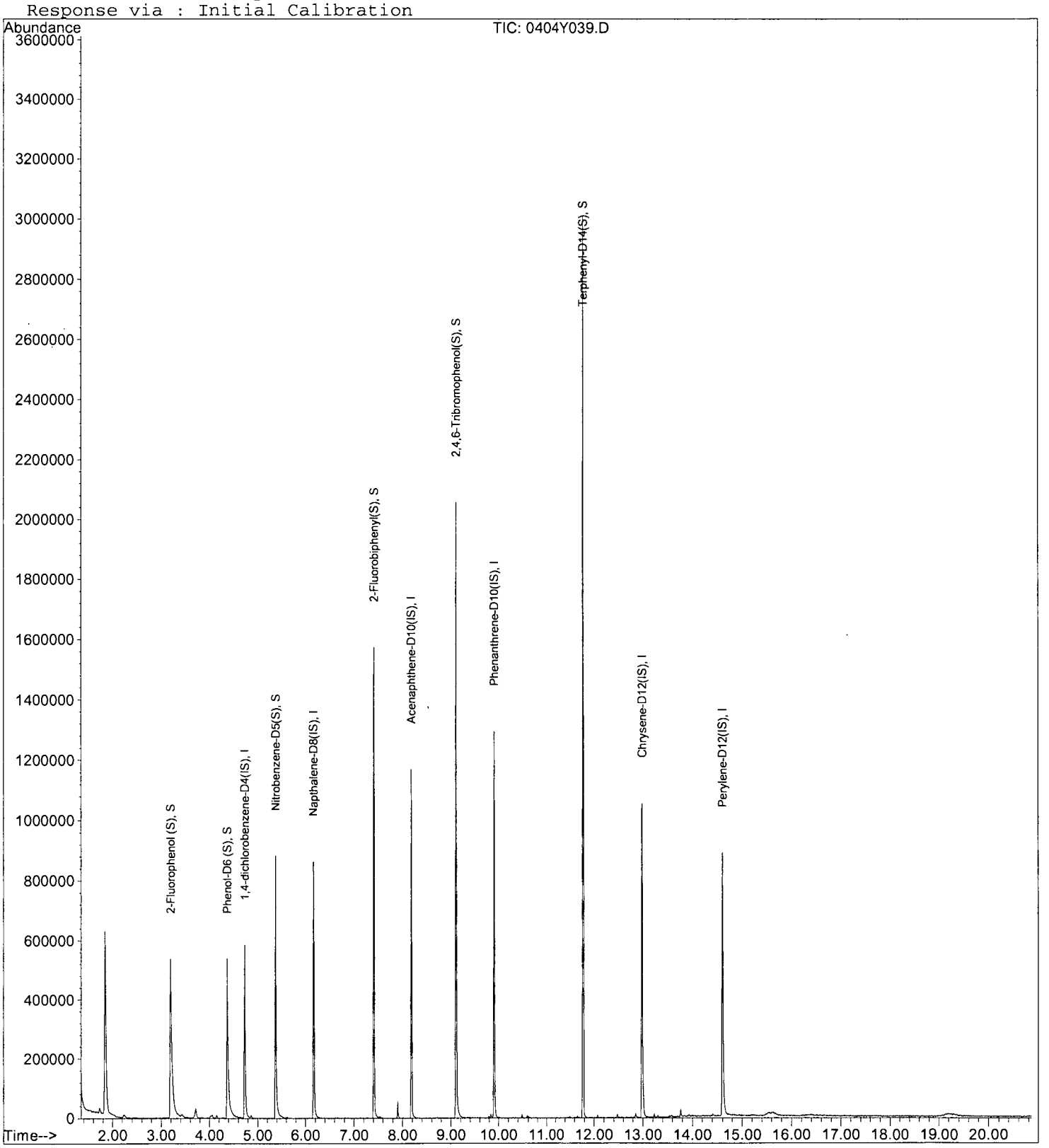
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 12:41 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: MA Date Acquired: 10 Apr 17 12:04
Data File: M:\YODA\DATA\Y170404\0404Y039.D
Name: 170407A BLK 1/1000
Misc: water
Method: M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title: EPA 8270C
Library Searched: M:\DATABASE\WILEY138.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc
Benzene, methyl-	1.84	68.9	ppb	1397480	ISTD01	4.73	811633	40.0

0404Y039.D DIX0404.M Fri Apr 28 11:16:31 2017

LSC Area Percent Report

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00000
MS Integration Params: LSCINT.P

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.002 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Signal : TIC

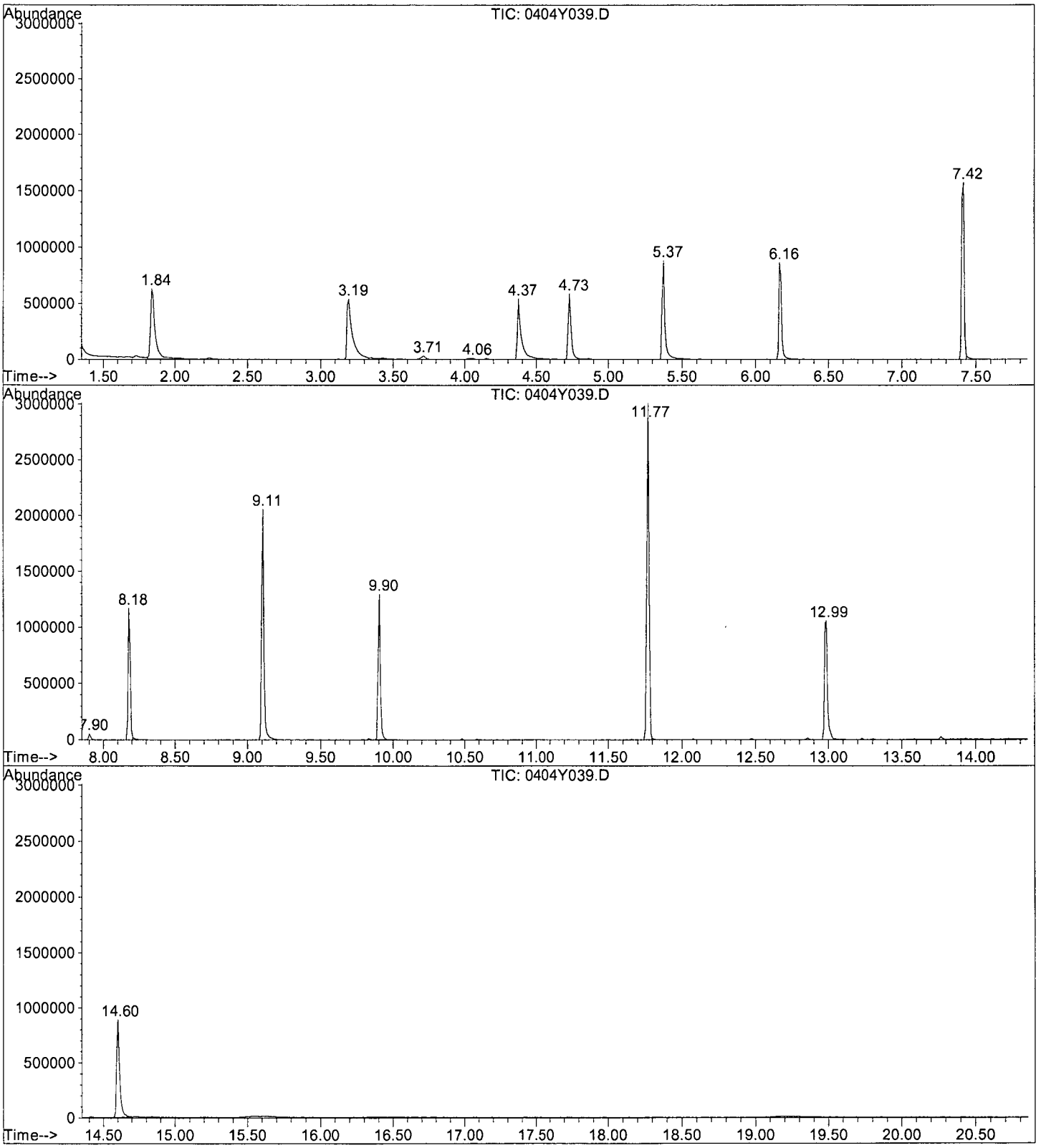
peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	raw area	corr. area	corr. % max.	% of total
1	1.838	51	54	83	rVB	626163	2889214	1397475	45.15%	7.062%
2	3.193	197	200	215	rBV	537970	2197838	1425385	46.05%	7.203%
3	3.713	248	256	263	rVB2	31476	634732	68723	2.22%	0.347%
4	4.056	285	293	296	rBV3	11464	444835	34035	1.10%	0.172%
5	4.372	324	327	342	rBV	539872	1684455	1013630	32.75%	5.123%
6	4.734	363	366	376	rBV	583583	1328557	811633	26.22%	4.102%
7	5.375	432	435	453	rBV	882359	1986455	1179211	38.09%	5.959%
8	6.164	518	520	531	rBV	863668	1872597	1107050	35.76%	5.595%
9	7.417	652	655	657	rBV	1574093	2196042	1877762	60.66%	9.490%
10	7.900	701	707	714	rBB	56288	547784	62409	2.02%	0.315%
11	8.178	734	737	740	rBV	1170113	1459974	1236636	39.95%	6.250%
12	9.107	834	837	853	rBV	2057584	3258823	2288362	73.93%	11.565%
13	9.905	920	923	931	rVB	1292901	1849668	1389916	44.90%	7.024%
14	11.771	1121	1124	1127	rBV	3009644	3476749	3095515	100.00%	15.644%
15	12.987	1252	1255	1263	rBV	1055719	2233135	1503823	48.58%	7.600%
16	14.602	1426	1429	1440	rBV	885432	2039127	1296089	41.87%	6.550%

Sum of corrected areas: 19787654

0404Y039.D DIX0404.M Fri Apr 28 11:16:30 2017

LSC Report - Integrated Chromatogram

File : M:\YODA\DATA\Y170404\0404Y039.D
Operator : MA
Acquired : 10 Apr 17 12:04 using AcqMethod SVOC416
Instrument : Yoda
Sample Name: 170407A BLK 1/1000
Misc Info : water
Vial Number: 39
Quant File :DIX0404.RES (RTE Integrator)



0404Y039.D DIX0404.M Fri Apr 28 11:16:31 2017

Library Search Compound Report

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Library : M:\DATABASE\WILEY138.L

****

Peak Number 1 Benzene, methyl- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.84	68.87 ppb	1397480	1,4-dichlorobenzene-D4(IS)	4.73

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, methyl-	92	C7H8	000108-88-3	94
2	BICYCLO-(2,2,1)-HEPTADIENE-(2,5)	92	C7H8	000121-46-0	91
3	Benzene, methyl-	92	C7H8	000108-88-3	91
4	Benzene, methyl-	92	C7H8	000108-88-3	91
5	Benzene, methyl-	92	C7H8	000108-88-3	91

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,2,4-TRICHLOROBENZENE	50.0	28.2	56.4	29-116
1,2-DICHLOROBENZENE	50.0	28.1	56.2	32-111
1,3-DICHLOROBENZENE	50.0	26.0	52.0	28-110
1,4-DICHLOROBENZENE	50.0	25.8	51.6	29-112
2,4,5-TRICHLOROPHENOL	50.0	40.8	81.6	53-123
2,4,6-TRICHLOROPHENOL	50.0	39.5	79.0	50-125
2,4-DICHLOROPHENOL	50.0	37.6	75.2	47-121
2,4-DIMETHYLPHENOL	50.0	30.9	61.8	31-124
2,4-DINITROPHENOL	50.0	34.3	68.6	23-143
2,4-DINITROTOLUENE	50.0	41.5	83.0	57-128
2,6-DINITROTOLUENE	50.0	39.0	78.0	57-124
2-CHLORONAPHTHALENE	50.0	35.3	70.6	40-116
2-CHLOROPHENOL	50.0	39.8	79.6	38-117
2-METHYLNAPHTHALENE	50.0	32.2	64.4	40-121
2-METHYLPHENOL	50.0	34.5	69.0	30-117
2-NITROANILINE	50.0	39.8	79.6	55-127
2-NITROPHENOL	50.0	37.6	75.2	47-123
3,3'-DICHLOROBENZIDINE	50.0	44.1	88.2	27-129
3-NITROANILINE	50.0	42.9	85.8	41-128
3/4-METHYLPHENOL	100	68.3	68.3	29-110
4,6-DINITRO-2-METHYLPHENOL	50.0	42.6	85.2	44-137
4-BROMOPHENYL PHENYL ETHER	50.0	42.3	84.6	55-124
4-CHLORO-3-METHYLPHENOL	50.0	38.2	76.4	52-119
4-CHLOROANILINE	50.0	46.5	93.0	33-117
4-CHLOROPHENYL PHENYL ETHER	50.0	36.0	72.0	53-121
4-NITROANILINE	50.0	42.9	85.8	35-120
4-NITROPHENOL	50.0	21.7	43.4	10-125
ACENAPHTHENE	50.0	37.8	75.6	47-122
ACENAPHTHYLENE	50.0	36.4	72.8	41-130
ANTHRACENE	50.0	41.8	83.6	57-123
BENZ (A) ANTHRACENE	50.0	43.2	86.4	58-125

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Comments:

Printed: 04/13/17 2:40:30 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BENZO (A) PYRENE	50.0	44.9	89.8	54-128
BENZO (B) FLUORANTHENE	50.0	42.6	85.2	53-131
BENZO (G,H,I) PERYLENE	50.0	45.5	91.0	50-134
BENZO (K) FLUORANTHENE	50.0	47.2	94.4	57-129
BENZYL ALCOHOL	50.0	35.5	71.0	31-112
BIS (2-CHLORETHOXY) METHANE	50.0	38.0	76.0	48-120
BIS (2-CHLOROETHYL) ETHER	50.0	38.9	77.8	43-118
BIS (2-CHLOROISOPROPYL) ETHER	50.0	38.1	76.2	37-130
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	42.6	85.2	55-135
BUTYL BENZYL PHTHALATE	50.0	44.4	88.8	53-134
CARBAZOLE	50.0	42.9	85.8	60-122
CHRYSENE	50.0	40.7	81.4	59-123
DI-N-BUTYL PHTHALATE	50.0	43.5	87.0	59-127
DI-N-OCTYL PHTHALATE	50.0	44.1	88.2	51-140
DIBENZ (A,H) ANTHRACENE	50.0	47.0	94.0	51-134
DIBENZOFURAN	50.0	38.8	77.6	53-118
DIETHYL PHTHALATE	50.0	38.4	76.8	56-125
DIMETHYL PHTHALATE	50.0	44.1	88.2	45-127
DIPHENYLAMINE	100	83.1	83.1	55-111
FLUORANTHENE	50.0	41.9	83.8	57-128
FLUORENE	50.0	37.1	74.2	52-124
HEXACHLOROBENZENE	50.0	41.9	83.8	53-125
HEXACHLOROBUTADIENE	50.0	22.3	44.6	22-124
HEXACHLOROCYCLOPENTADIENE	50.0	15.9	31.8	10-110
HEXACHLOROETHANE	50.0	22.5	45.0	21-115
INDENO (1,2,3-CD) PYRENE	50.0	45.8	91.6	52-134
ISOPHORONE	50.0	39.0	78.0	42-124
N-NITROSODI-N-PROPYLAMINE	50.0	38.6	77.2	49-119
NAPHTHALENE	50.0	33.0	66.0	40-121
NITROBENZENE	50.0	36.2	72.4	45-121
PENTACHLOROPHENOL	50.0	45.7	91.4	35-138

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Comments: _____

Printed: 04/13/17 2:40:30 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8270D WATER

APPL ID: **170407W-53168 LCS - 217836**
Batch ID: #87DDO-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
PHENANTHRENE	50.0	41.3	82.6	59-120
PYRENE	50.0	44.6	89.2	57-126
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	134	67.0	43-140
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: 2-FLUOROPHENOL (S)	200	102	51.0	19-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: PHENOL (S)	200	69.8	34.9	10-115
SURROGATE: TERPHENYL-D14 (S)	100	79.1	79.1	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/13/17 2:40:30 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	123700	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	522144	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.18	164	311641	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.90	188	533639	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.98	240	489414	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	425790	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	407198	102.35576 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.178%	
5) Phenol-D6 (S)	4.37	99	347548	69.79070 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.896%	
21) Nitrobenzene-D5(S)	5.37	82	379284	70.16394 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.164%	
45) 2-Fluorobiphenyl(S)	7.41	172	608528	62.27746 ppb	0.00
Spiked Amount 100.000			Recovery	= 62.277%	
63) 2,4,6-Tribromophenol(S)	9.11	330	187354	134.13788 ppb	0.00
Spiked Amount 200.000			Recovery	= 67.069%	
81) Terphenyl-D14(S)	11.77	244	818351	79.09717 ppb	0.00
Spiked Amount 100.000			Recovery	= 79.097%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	107502	24.33465 ppb		85
6) Phenol	4.39	94	135034	23.35209 ppb	#	69
7) Aniline	4.38	66	159227	29.26094 ppb	#	66
8) Bis (2-chloroethyl) ether	4.45	63	107060	38.91515 ppb		96
9) 2-Chlorophenol	4.51	128	181685	39.78105 ppb		95
10) 1,3-DCB	4.67	146	126012	25.97320 ppb		97
11) 1,4-DCB	4.76	146	128304	25.81692 ppb		97
12) Benzyl alcohol	4.93	108	94009	35.49805 ppb		85
13) 1,2-DCB	4.93	146	126132	28.08622 ppb		96
14) 2-Methylphenol	5.07	107	118793	34.53078 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	224266	38.08160 ppb	#	76
16) Acetophenone	5.20	105	236218	39.71615 ppb		98
17) 3&4-Methylphenol	5.24	107	298693	68.28467 ppb		99
18) n-Nitrosodi-n-propylamine	5.21	70	124752	38.60199 ppb		95
19) Hexachloroethane	5.29	117	46389	22.48810 ppb		96
22) Nitrobenzene	5.40	77	195229	36.15143 ppb		89
23) Isophorone	5.67	82	345905	38.97916 ppb		92
24) 2-Nitrophenol	5.76	139	97932	37.64805 ppb		89
25) 2,4-Dimethylphenol	5.83	122	127513	30.86141 ppb		95
26) Benzoic acid	5.99	105	45449	15.65022 ppb		91
27) Bis (2-chloroethoxy) metha	5.92	93	196799	38.03381 ppb		96
28) 2,4-Dichlorophenol	6.04	162	150330	37.57106 ppb		95
29) 1,2,4-Trichlorobenzene	6.11	180	122061	28.24531 ppb		96
30) 3,4-Dimethylphenol	6.17	107	217779	36.09763 ppb		99
31) Naphthalene	6.19	128	447600	33.00240 ppb		99
32) 4-Chloroaniline	6.28	127	211621	46.54771 ppb		97
33) 2,6-Dichlorophenol	6.28	162	135879	38.57462 ppb		97
34) Hexachloropropene	6.29	213	66341	20.80870 ppb		93
35) Hexachlorobutadiene	6.34	225	59208	22.32268 ppb		98
36) Caprolactum	6.69	55	26184	11.92181 ppb		92
37) 4-Chloro-3-methylphenol	6.86	107	166319	38.17228 ppb		92
38) 2-Methylnaphthalene	6.99	142	302873	32.19252 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	302179	33.28499	ppb		100
41)	Hexachlorocyclopentadiene	7.16	237	14699	15.91976	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.18	216	138125	32.97548	ppb		99
43)	2,4,6-Trichlorophenol	7.33	196	109401	39.46992	ppb		95
44)	2,4,5-Trichlorophenol	7.39	196	117375	40.79977	ppb		94
46)	1,1'-Biphenyl	7.53	154	405561	35.36718	ppb		98
47)	2-Chloronaphthalene	7.54	162	316074	35.30564	ppb		96
48)	2-Nitroaniline	7.69	65	123453	39.78633	ppb		95
49)	Dimethyl phthalate	7.90	163	472774	44.13301	ppb		100
50)	2,6-DNT	7.98	165	96177	39.03707	ppb		98
51)	Acenaphthylene	8.02	152	514589	36.37515	ppb		99
52)	3-Nitroaniline	8.18	138	108646	42.89334	ppb		95
53)	Acenaphthene	8.22	154	326703	37.84196	ppb		100
54)	2,4-Dinitrophenol	8.32	184	46027	34.34612	ppb		96
55)	4-Nitrophenol	8.46	65	35050	21.65402	ppb	#	25
56)	Dibenzofuran	8.43	168	468141	38.75968	ppb		89
57)	2,4-DNT	8.45	165	136365	41.52930	ppb		96
58)	2,3,4,6-Tetrachlorophenol	8.59	232	91152	38.94779	ppb		99
59)	Diethyl phthalate	8.71	149	420420	38.38836	ppb		99
60)	4-Chlorophenyl phenyl ethe	8.83	204	172116	36.02823	ppb		97
61)	Fluorene	8.82	166	360931	37.10956	ppb		96
62)	4-Nitroaniline	8.89	138	104896	42.87623	ppb		98
65)	4,6-Dinitro-2-methylphenol	8.94	198	82419	42.59059	ppb		95
66)	Diphenyl amine	8.97	169	580222	83.14822	ppb		98
67)	n-Nitrosodiphenylamine	8.97	169	580222	83.14822	ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	546340	46.36940	ppb		99
69)	4-Bromophenyl phenyl ether	9.39	248	110462	42.25719	ppb		95
70)	Hexachlorobenzene	9.47	284	111359	41.94734	ppb		96
71)	Atrazine	9.60	200	60693	21.58503	ppb		94
72)	Pentachlorophenol	9.72	266	51251	45.67502	ppb		91
73)	Phenanthrene	9.93	178	566332	41.27480	ppb		99
74)	Anthracene	9.99	178	604525	41.76588	ppb		99
75)	Carbazol	10.20	167	547431	42.90382	ppb		99
76)	Di-n-butylphthalate	10.61	149	721050	43.45250	ppb		98
77)	Fluoranthene	11.31	202	633262	41.90696	ppb		99
79)	Benzidine	11.50	184	151961	35.14640	ppb		99
80)	Pyrene	11.57	202	673116	44.60783	ppb		99
82)	Butyl benzylphthalate	12.34	149	325742	44.43445	ppb		83
83)	3,3'-Dichlorobenzidine	12.96	252	209606	44.12255	ppb	#	94
84)	Benz (a) anthracene	12.97	228	609989	43.24420	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.01	149	437959	42.62612	ppb		98
86)	Chrysene	13.01	228	561553	40.66578	ppb		98
87)	Di-n-octylphthalate	13.73	149	796028	44.06559	ppb		99
89)	Benzo (b) fluoranthene	14.16	252	607482	42.58966	ppb	#	95
90)	Benzo (k) fluoranthene	14.19	252	635964	47.15859	ppb		99
91)	Benzo (a) pyrene	14.53	252	589153	44.89549	ppb		98
92)	Indeno (1,2,3-cd) pyrene	16.10	276	694182	45.81030	ppb		99
93)	Dibenz (a,h) anthracene	16.11	278	601375	47.00947	ppb		99
94)	Benzo (g,h,i) perylene	16.54	276	581489	45.45432	ppb		99

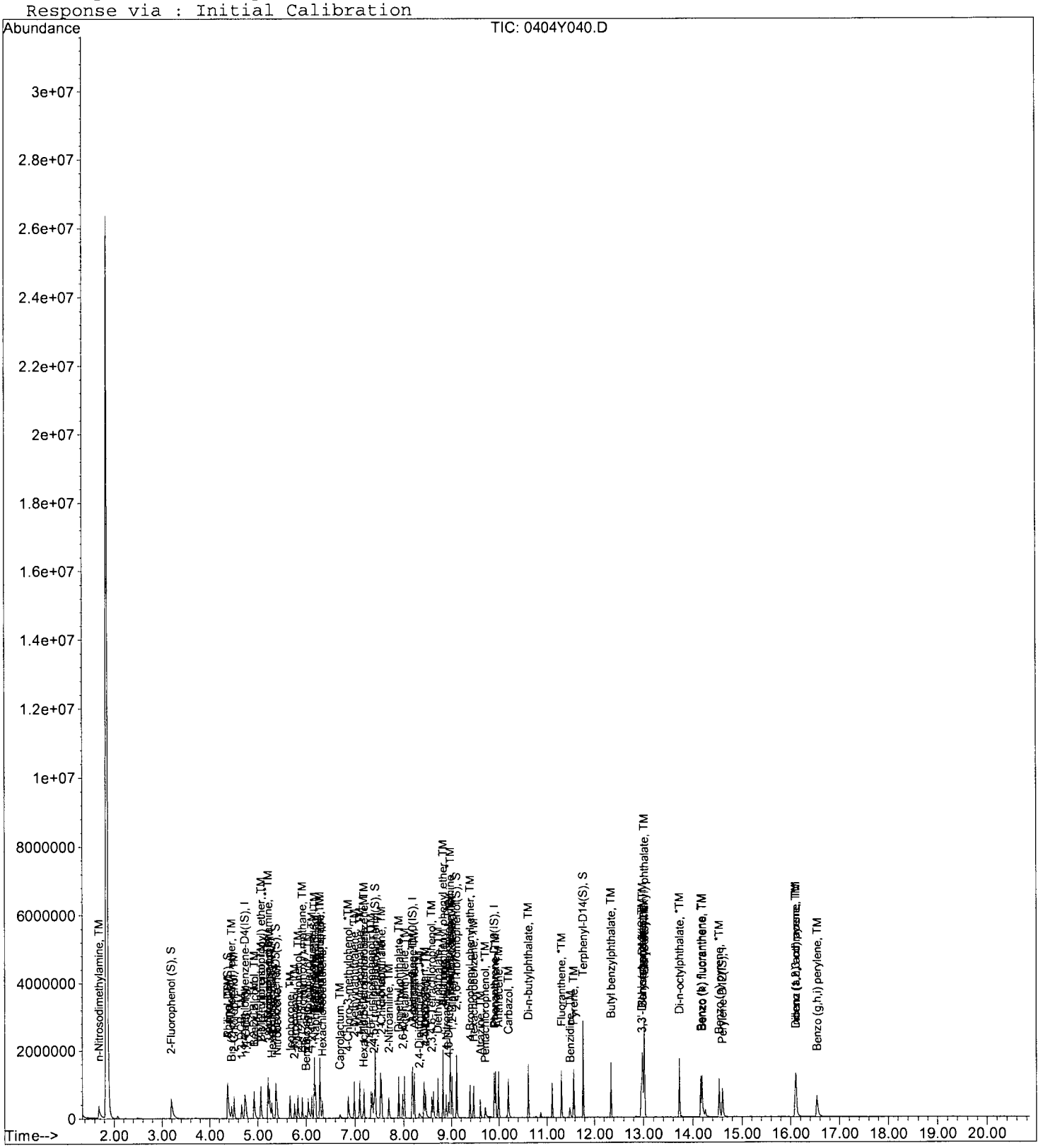
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y040.D Vial: 40
Acq On : 10 Apr 17 12:34 Operator: MA
Sample : 170407A LCS-1 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 10 13:51 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,2,4-TRICHLOROBENZENE	50.0	ND	15.4	18.2	30.8	36.4	29-116	16.7	20
1,2-DICHLOROBENZENE	50.0	ND	14.7	19.8	29.4 #	39.6	32-111	29.6 #	20
1,3-DICHLOROBENZENE	50.0	ND	13.8	18.5	27.6 #	37.0	28-110	29.1 #	20
1,4-DICHLOROBENZENE	50.0	ND	14.6	16.9	29.2	33.8	29-112	14.6	20
2,4,5-TRICHLOROPHENOL	50.0	ND	41.3	38.5	82.6	77.0	53-123	7.0	20
2,4,6-TRICHLOROPHENOL	50.0	ND	40.6	36.9	81.2	73.8	50-125	9.5	20
2,4-DICHLOROPHENOL	50.0	ND	37.2	34.9	74.4	69.8	47-121	6.4	20
2,4-DIMETHYLPHENOL	50.0	ND	29.5	27.7	59.0	55.4	31-124	6.3	20
2,4-DINITROPHENOL	50.0	ND	35.4	37.5	70.8	75.0	23-143	5.8	20
2,4-DINITROTOLUENE	50.0	ND	43.7	43.1	87.4	86.2	57-128	1.4	20
2,6-DINITROTOLUENE	50.0	ND	41.5	38.0	83.0	76.0	57-124	8.8	20
2-CHLORONAPHTHALENE	50.0	ND	27.5	28.1	55.0	56.2	40-116	2.2	20
2-CHLOROPHENOL	50.0	ND	36.0	34.4	72.0	68.8	38-117	4.5	20
2-METHYLNAPHTHALENE	50.0	ND	22.1	26.0	44.2	52.0	40-121	16.2	20
2-METHYLPHENOL	50.0	ND	32.2	33.9	64.4	67.8	30-117	5.1	20
2-NITROANILINE	50.0	ND	46.6	39.3	93.2	78.6	55-127	17.0	20
2-NITROPHENOL	50.0	ND	38.0	35.2	76.0	70.4	47-123	7.7	20
3,3'-DICHLOROBENZIDINE	50.0	ND	40.5	44.1	81.0	88.2	27-129	8.5	20
3-NITROANILINE	50.0	ND	42.9	39.9	85.8	79.8	41-128	7.2	20
3/4-METHYLPHENOL	100	ND	63.4	65.6	63.4	65.6	29-110	3.4	20
4,6-DINITRO-2-METHYLPHENOL	50.0	ND	40.2	39.1	80.4	78.2	44-137	2.8	20
4-BROMOPHENYL PHENYL ETHER	50.0	ND	44.1	42.5	88.2	85.0	55-124	3.7	20
4-CHLORO-3-METHYLPHENOL	50.0	ND	39.7	37.7	79.4	75.4	52-119	5.2	20
4-CHLOROANILINE	50.0	ND	49.1	43.3	98.2	86.6	33-117	12.6	20
4-CHLOROPHENYL PHENYL ETHER	50.0	ND	37.8	38.5	75.6	77.0	53-121	1.8	20
4-NITROANILINE	50.0	ND	44.9	45.9	89.8	91.8	35-120	2.2	20
4-NITROPHENOL	50.0	ND	8.38	8.10	16.8	16.2	10-125	3.4	20
ACENAPHTHENE	50.0	ND	34.0	33.5	68.0	67.0	47-122	1.5	20
ACENAPHTHYLENE	50.0	ND	33.3	31.1	66.6	62.2	41-130	6.8	20
ANTHRACENE	50.0	ND	43.2	41.2	86.4	82.4	57-123	4.7	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Comments:

Printed: 04/13/17 2:54:49 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BENZ (A) ANTHRACENE	50.0	ND	41.5	43.2	83.0	86.4	58-125	4.0	20
BENZO (A) PYRENE	50.0	ND	43.6	39.8	87.2	79.6	54-128	9.1	20
BENZO (B) FLUORANTHENE	50.0	ND	40.6	38.9	81.2	77.8	53-131	4.3	20
BENZO (G,H,I) PERYLENE	50.0	ND	36.6	34.8	73.2	69.6	50-134	5.0	20
BENZO (K) FLUORANTHENE	50.0	ND	44.3	42.9	88.6	85.8	57-129	3.2	20
BENZYL ALCOHOL	50.0	ND	34.8	37.2	69.6	74.4	31-112	6.7	20
BIS (2-CHLORETHOXY) METHANE	50.0	ND	37.2	37.2	74.4	74.4	48-120	0.0	20
BIS (2-CHLOROETHYL) ETHER	50.0	ND	35.6	34.8	71.2	69.6	43-118	2.3	20
BIS (2-CHLOROISOPROPYL) ETHER	50.0	ND	33.3	36.2	66.6	72.4	37-130	8.3	20
BIS (2-ETHYLHEXYL) PHTHALATE	50.0	ND	40.1	41.0	80.2	82.0	55-135	2.2	20
BUTYL BENZYL PHTHALATE	50.0	ND	45.3	40.3	90.6	80.6	53-134	11.7	20
CARBAZOLE	50.0	ND	44.2	42.9	88.4	85.8	60-122	3.0	20
CHRYSENE	50.0	ND	38.7	39.7	77.4	79.4	59-123	2.6	20
DI-N-BUTYL PHTHALATE	50.0	ND	46.8	42.3	93.6	84.6	59-127	10.1	20
DI-N-OCTYL PHTHALATE	50.0	ND	48.6	42.9	97.2	85.8	51-140	12.5	20
DIBENZ (A,H) ANTHRACENE	50.0	ND	37.2	37.6	74.4	75.2	51-134	1.1	20
DIBENZOFURAN	50.0	ND	36.9	36.4	73.8	72.8	53-118	1.4	20
DIETHYL PHTHALATE	50.0	ND	42.3	39.9	84.6	79.8	56-125	5.8	20
DIMETHYL PHTHALATE	50.0	3.3	52.0	41.8	97.4	77.0	45-127	21.7 #	20
DIPHENYLAMINE	100	ND	79.3	75.6	79.3	75.6	55-111	4.8	20
FLUORANTHENE	50.0	ND	47.4	48.8	94.8	97.6	57-128	2.9	20
FLUORENE	50.0	ND	38.0	39.0	76.0	78.0	52-124	2.6	20
HEXACHLOROBENZENE	50.0	ND	41.5	41.6	83.0	83.2	53-125	0.24	20
HEXACHLOROBUTADIENE	50.0	ND	12.1	14.7	24.2	29.4	22-124	19.4	20
HEXACHLOROCYCLOPENTADIENE	50.0	ND	10.4	12.8	20.8	25.6	10-110	20.7 #	20
HEXACHLOROETHANE	50.0	ND	11.9	16.3	23.8	32.6	21-115	31.2 #	20
INDENO (1,2,3-CD) PYRENE	50.0	ND	36.3	35.8	72.6	71.6	52-134	1.4	20
ISOPHORONE	50.0	ND	39.4	39.4	78.8	78.8	42-124	0.0	20
N-NITROSODI-N-PROPYLAMINE	50.0	ND	37.9	38.7	75.8	77.4	49-119	2.1	20
NAPHTHALENE	50.0	ND	21.6	24.0	43.2	48.0	40-121	10.5	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Comments:

Printed: 04/13/17 2:54:49 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8270D WATER

APPL ID: **170407W-53168 MS - 217836**
Batch ID: #87DDO-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
NITROBENZENE	50.0	ND	34.7	33.7	69.4	67.4	45-121	2.9	20
PENTACHLOROPHENOL	50.0	ND	47.7	48.3	95.4	96.6	35-138	1.2	20
PHENANTHRENE	50.0	ND	42.7	41.6	85.4	83.2	59-120	2.6	20
PYRENE	50.0	ND	40.7	39.4	81.4	78.8	57-126	3.2	20
SURROGATE: 2,4,6-TRIBROMOPHENOL	200	NA	145	138	72.5	69.0	43-140		
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: 2-FLUOROPHENOL (S)	200	NA	83.3	87.4	41.6	43.7	19-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: PHENOL (S)	200	NA	57.8	55.3	28.9	27.6	10-115		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.5	69.1	67.5	50-134		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Printed: 04/13/17 2:54:49 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	117317	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	471004	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	278303	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	520977	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	536739	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	537936	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	320417	83.25890 ppb	0.00
Spiked Amount 196.078			Recovery	= 42.462%	
5) Phenol-D6 (S)	4.37	99	278388	57.78855 ppb	0.00
Spiked Amount 196.078			Recovery	= 29.472%	
21) Nitrobenzene-D5(S)	5.37	82	323267	64.99445 ppb	0.00
Spiked Amount 98.039			Recovery	= 66.294%	
45) 2-Fluorobiphenyl(S)	7.42	172	463922	52.12328 ppb	0.00
Spiked Amount 98.039			Recovery	= 53.165%	
63) 2,4,6-Tribromophenol(S)	9.12	330	184774	145.23316 ppb	0.00
Spiked Amount 196.078			Recovery	= 74.069%	
81) Terphenyl-D14(S)	11.77	244	799428	69.07385 ppb	0.00
Spiked Amount 98.039			Recovery	= 70.455%	

Target Compounds					Qvalue
2) n-Nitrosodimethylamine	1.68	42	94127	22.02578 ppb	88
6) Phenol	4.39	94	117293	20.96830 ppb #	70
7) Aniline	4.38	66	143593	27.27805 ppb #	61
8) Bis (2-chloroethyl) ether	4.46	63	94803	35.62230 ppb	97
9) 2-Chlorophenol	4.51	128	159087	36.00811 ppb	94
10) 1,3-DCB	4.67	146	64872	13.82227 ppb	97
11) 1,4-DCB	4.76	146	70376	14.63853 ppb	93
12) Benzyl alcohol	4.93	108	89158	34.80197 ppb	86
13) 1,2-DCB	4.93	146	63671	14.65609 ppb	93
14) 2-Methylphenol	5.07	107	107247	32.22621 ppb	95
15) Bis (2-chloroisopropyl) et	5.06	45	189722	33.30258 ppb	87
16) Acetophenone	5.21	105	209767	36.45859 ppb	98
17) 3&4-Methylphenol	5.24	107	268407	63.43085 ppb	97
18) n-Nitrosodi-n-propylamine	5.22	70	118638	37.94849 ppb	95
19) Hexachloroethane	5.29	117	23821	11.93730 ppb	96
22) Nitrobenzene	5.40	77	172275	34.67120 ppb	92
23) Isophorone	5.66	82	321316	39.35260 ppb	100
24) 2-Nitrophenol	5.76	139	90960	38.00439 ppb	94
25) 2,4-Dimethylphenol	5.83	122	112046	29.47291 ppb	94
26) Benzoic acid	5.99	105	39217	14.80843 ppb	91
27) Bis (2-chloroethoxy) metha	5.92	93	177340	37.24939 ppb	98
28) 2,4-Dichlorophenol	6.04	162	136986	37.20912 ppb	92
29) 1,2,4-Trichlorobenzene	6.12	180	61430	15.44953 ppb	96
30) 3,4-Dimethylphenol	6.16	107	202655	36.50778 ppb	98
31) Naphthalene	6.19	128	269890	21.62757 ppb	98
32) 4-Chloroaniline	6.28	127	205349	49.09051 ppb	93
33) 2,6-Dichlorophenol	6.28	162	135338	41.75750 ppb	95
34) Hexachloropropene	6.29	213	34727	11.83847 ppb	99
35) Hexachlorobutadiene	6.33	225	29446	12.06584 ppb	97
36) Caprolactum	6.69	55	22669	11.21770 ppb	91
37) 4-Chloro-3-methylphenol	6.86	107	159281	39.73157 ppb	95
38) 2-Methylnaphthalene	6.99	142	191136	22.08017 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) 1-Methylnaphthalene	7.10	142	189968	22.74207 ppb		97
41) Hexachlorocyclopentadiene	7.17	237	6132	10.43375 ppb	#	93
42) 1,2,4,5-Tetrachlorobenzene	7.19	216	96670	25.33652 ppb		99
43) 2,4,6-Trichlorophenol	7.33	196	102495	40.59608 ppb		96
44) 2,4,5-Trichlorophenol	7.39	196	108252	41.30993 ppb		95
46) 1,1'-Biphenyl	7.53	154	309126	29.59486 ppb		97
47) 2-Chloronaphthalene	7.55	162	224085	27.47923 ppb		97
48) 2-Nitroaniline	7.70	65	131784	46.62635 ppb		88
49) Dimethyl phthalate	7.90	163	507620	52.02177 ppb		99
50) 2,6-DNT	7.98	165	93121	41.49445 ppb		95
51) Acenaphthylene	8.02	152	429627	33.34051 ppb		99
52) 3-Nitroaniline	8.17	138	98965	42.89377 ppb		87
53) Acenaphthene	8.22	154	267228	33.98122 ppb		98
54) 2,4-Dinitrophenol	8.33	184	43909	35.42910 ppb		98
55) 4-Nitrophenol	8.42	65	2920	8.38090 ppb	#	53
56) Dibenzofuran	8.43	168	405766	36.88210 ppb		85
57) 2,4-DNT	8.46	165	130831	43.74202 ppb		98
58) 2,3,4,6-Tetrachlorophenol	8.59	232	90571	42.48565 ppb	#	89
59) Diethyl phthalate	8.72	149	422123	42.31474 ppb		99
60) 4-Chlorophenyl phenyl ethe	8.83	204	164395	37.77868 ppb		98
61) Fluorene	8.82	166	336368	37.96756 ppb		99
62) 4-Nitroaniline	8.89	138	100008	44.87752 ppb		92
65) 4,6-Dinitro-2-methylphenol	8.94	198	77261	40.16427 ppb		97
66) Diphenyl amine	8.98	169	551208	79.32371 ppb		98
67) n-Nitrosodiphenylamine	8.98	169	551208	79.32371 ppb		98
68) 1,2-Diphenylhydrazine	9.01	77	516252	44.00064 ppb		97
69) 4-Bromophenyl phenyl ether	9.39	248	114889	44.13620 ppb		91
70) Hexachlorobenzene	9.47	284	109609	41.46236 ppb		93
71) Atrazine	9.61	200	62720	22.40005 ppb		99
72) Pentachlorophenol	9.71	266	53326	47.72481 ppb		96
73) Phenanthrene	9.93	178	583895	42.73438 ppb		100
74) Anthracene	10.00	178	622407	43.18278 ppb		99
75) Carbazol	10.20	167	561035	44.15555 ppb		99
76) Di-n-butylphthalate	10.61	149	773049	46.78269 ppb		98
77) Fluoranthene	11.32	202	712592	47.35572 ppb		99
79) Benzidine	11.50	184	147743	30.54700 ppb		99
80) Pyrene	11.58	202	687181	40.71040 ppb		99
82) Butyl benzylphthalate	12.35	149	371806	45.33937 ppb		83
83) 3,3'-Dichlorobenzidine	12.96	252	215452	40.54342 ppb	#	93
84) Benz (a) anthracene	12.98	228	655301	41.52979 ppb		99
85) Bis (2-ethylhexyl) phthala	13.02	149	460775	40.09075 ppb		96
86) Chrysene	13.02	228	597532	38.68232 ppb		98
87) Di-n-octylphthalate	13.73	149	982416	48.61604 ppb		95
89) Benzo (b) fluoranthene	14.17	252	747128	40.64718 ppb		97
90) Benzo (k) fluoranthene	14.19	252	770284	44.32449 ppb		99
91) Benzo (a) pyrene	14.55	252	737838	43.63151 ppb		98
92) Indeno (1,2,3-cd) pyrene	16.11	276	709072	36.31155 ppb		97
93) Dibenz (a,h) anthracene	16.12	278	613734	37.22929 ppb		99
94) Benzo (g,h,i) perylene	16.54	276	603228	36.59146 ppb		98

(#) = qualifier out of range (m) = manual integration

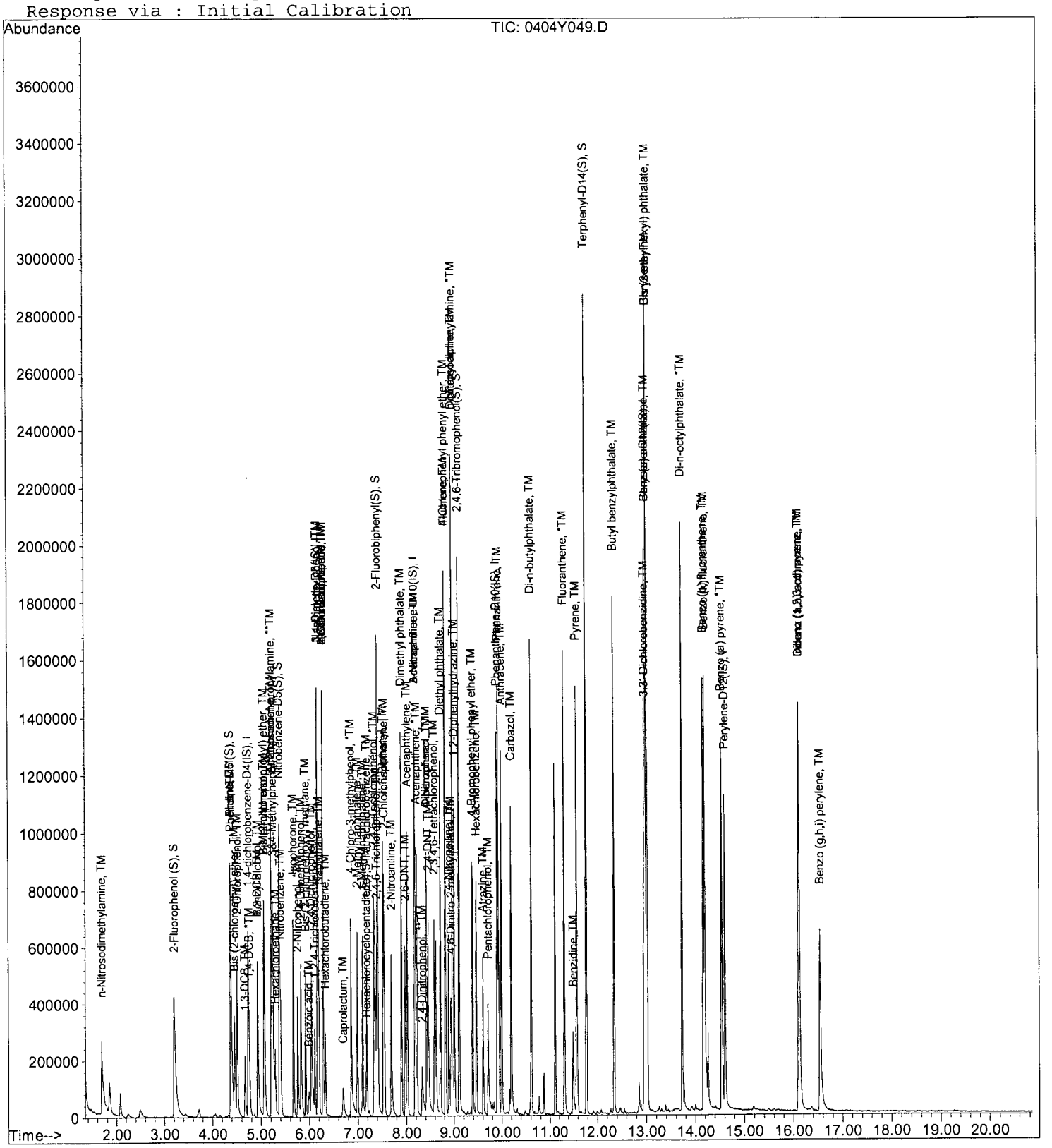
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y049.D
Acq On : 10 Apr 17 17:09
Sample : AZ53168W35 MS-1 1/1020
Misc : water

Vial: 49
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y050.D Vial: 50
Acq On : 10 Apr 17 17:39 Operator: MA
Sample : AZ53168W47 MSD-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113246	40.00000 ppb	0.00
20) Napthalene-D8(IS)	6.17	136	497471	40.00000 ppb	0.00
40) Acenaphthene-D10(IS)	8.19	164	289478	40.00000 ppb	0.00
64) Phenanthrene-D10(IS)	9.91	188	533732	40.00000 ppb	0.00
78) Chrysene-D12(IS)	12.99	240	584868	40.00000 ppb	0.00
88) Perylene-D12(IS)	14.60	264	548522	40.00000 ppb	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (S)	3.20	112	324694	87.40323 ppb	0.00
Spiked Amount 196.078			Recovery	= 44.576%	
5) Phenol-D6 (S)	4.37	99	257041	55.27538 ppb	0.00
Spiked Amount 196.078			Recovery	= 28.190%	
21) Nitrobenzene-D5(S)	5.38	82	343584	65.40405 ppb	0.00
Spiked Amount 98.039			Recovery	= 66.712%	
45) 2-Fluorobiphenyl(S)	7.42	172	471726	50.95407 ppb	0.00
Spiked Amount 98.039			Recovery	= 51.973%	
63) 2,4,6-Tribromophenol(S)	9.12	330	183177	138.41979 ppb	0.00
Spiked Amount 196.078			Recovery	= 70.594%	
81) Terphenyl-D14(S)	11.77	244	851338	67.50588 ppb	0.00
Spiked Amount 98.039			Recovery	= 68.856%	

Target Compounds						Qvalue
2) n-Nitrosodimethylamine	1.68	42	89993	21.81544 ppb		90
6) Phenol	4.39	94	97101	17.98262 ppb	#	70
7) Aniline	4.38	66	126681	24.93042 ppb	#	74
8) Bis (2-chloroethyl) ether	4.46	63	89429	34.81099 ppb		97
9) 2-Chlorophenol	4.51	128	146699	34.39782 ppb		97
10) 1,3-DCB	4.67	146	83861	18.51059 ppb		98
11) 1,4-DCB	4.75	146	78370	16.88732 ppb		94
12) Benzyl alcohol	4.93	108	91921	37.17033 ppb		81
13) 1,2-DCB	4.93	146	82834	19.75255 ppb		96
14) 2-Methylphenol	5.07	107	108833	33.87839 ppb		96
15) Bis (2-chloroisopropyl) et	5.06	45	198921	36.17253 ppb		85
16) Acetophenone	5.21	105	206076	37.10464 ppb		97
17) 3&4-Methylphenol	5.25	107	267848	65.57422 ppb		95
18) n-Nitrosodi-n-propylamine	5.22	70	116774	38.69501 ppb		94
19) Hexachloroethane	5.29	117	31333	16.26621 ppb		98
22) Nitrobenzene	5.40	77	176776	33.68424 ppb		89
23) Isophorone	5.66	82	340189	39.44738 ppb		100
24) 2-Nitrophenol	5.76	139	88945	35.18533 ppb		94
25) 2,4-Dimethylphenol	5.83	122	111231	27.70189 ppb		96
26) Benzoic acid	5.99	105	37892	13.80476 ppb		92
27) Bis (2-chloroethoxy) metha	5.92	93	187151	37.21872 ppb		97
28) 2,4-Dichlorophenol	6.04	162	135839	34.93450 ppb		94
29) 1,2,4-Trichlorobenzene	6.12	180	76526	18.22219 ppb		98
30) 3,4-Dimethylphenol	6.16	107	206322	35.19091 ppb		96
31) Naphthalene	6.19	128	316516	24.01449 ppb		99
32) 4-Chloroaniline	6.28	127	191221	43.28101 ppb		93
33) 2,6-Dichlorophenol	6.28	162	130393	38.09130 ppb		94
34) Hexachloropropene	6.29	213	48121	15.53173 ppb		97
35) Hexachlorobutadiene	6.33	225	37942	14.72002 ppb		97
36) Caprolactum	6.69	55	22429	10.50844 ppb		95
37) 4-Chloro-3-methylphenol	6.86	107	159690	37.71432 ppb		94
38) 2-Methylnaphthalene	6.99	142	237448	25.97080 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y050.D
Acq On : 10 Apr 17 17:39
Sample : AZ53168W47 MSD-1 1/1020
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

Quant Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	1-Methylnaphthalene	7.10	142	215845	24.46518	ppb		99
41)	Hexachlorocyclopentadiene	7.17	237	9621	12.78180	ppb		97
42)	1,2,4,5-Tetrachlorobenzene	7.19	216	107407	27.06389	ppb		97
43)	2,4,6-Trichlorophenol	7.33	196	97006	36.93876	ppb		98
44)	2,4,5-Trichlorophenol	7.39	196	104898	38.48470	ppb		99
46)	1,1'-Biphenyl	7.53	154	344067	31.66840	ppb		98
47)	2-Chloronaphthalene	7.55	162	238116	28.07261	ppb		98
48)	2-Nitroaniline	7.70	65	115443	39.26799	ppb		89
49)	Dimethyl phthalate	7.90	163	424081	41.78280	ppb		99
50)	2,6-DNT	7.98	165	88682	37.99095	ppb		88
51)	Acenaphthylene	8.02	152	416530	31.07630	ppb		100
52)	3-Nitroaniline	8.18	138	95691	39.87365	ppb	#	96
53)	Acenaphthene	8.23	154	273865	33.48080	ppb		97
54)	2,4-Dinitrophenol	8.33	184	49159	37.52765	ppb		98
55)	4-Nitrophenol	8.42	65	2399	8.10311	ppb	#	1
56)	Dibenzofuran	8.42	168	416624	36.40714	ppb		96
57)	2,4-DNT	8.46	165	134034	43.08296	ppb		98
58)	2,3,4,6-Tetrachlorophenol	8.59	232	90021	40.59749	ppb	#	88
59)	Diethyl phthalate	8.72	149	413868	39.88567	ppb		100
60)	4-Chlorophenyl phenyl ethe	8.83	204	174176	38.48122	ppb		95
61)	Fluorene	8.82	166	359249	38.98486	ppb		95
62)	4-Nitroaniline	8.89	138	106328	45.87162	ppb		95
65)	4,6-Dinitro-2-methylphenol	8.94	198	76915	39.08363	ppb		94
66)	Diphenyl amine	8.98	169	538270	75.61066	ppb		98
67)	n-Nitrosodiphenylamine	8.98	169	538270	75.61066	ppb		98
68)	1,2-Diphenylhydrazine	9.01	77	514364	42.79205	ppb		97
69)	4-Bromophenyl phenyl ether	9.39	248	113468	42.54859	ppb		92
70)	Hexachlorobenzene	9.47	284	112626	41.58549	ppb		91
71)	Atrazine	9.61	200	63759	22.22694	ppb		99
72)	Pentachlorophenol	9.71	266	55304	48.31223	ppb		94
73)	Phenanthrene	9.93	178	581906	41.57103	ppb		99
74)	Anthracene	10.00	178	608787	41.22843	ppb		99
75)	Carbazol	10.20	167	558374	42.89591	ppb		100
76)	Di-n-butylphthalate	10.61	149	716408	42.31886	ppb		98
77)	Fluoranthene	11.32	202	752202	48.79343	ppb		100
79)	Benzidine	11.50	184	96153	18.24441	ppb		96
80)	Pyrene	11.58	202	725377	39.43694	ppb		100
82)	Butyl benzylphthalate	12.35	149	360250	40.31516	ppb		85
83)	3,3'-Dichlorobenzidine	12.96	252	255319	44.09185	ppb	#	95
84)	Benz (a) anthracene	12.98	228	742967	43.21094	ppb		99
85)	Bis (2-ethylhexyl) phthala	13.02	149	513151	40.97376	ppb		97
86)	Chrysene	13.02	228	667781	39.67260	ppb		99
87)	Di-n-octylphthalate	13.73	149	944703	42.90272	ppb		97
89)	Benzo (b) fluoranthene	14.17	252	729594	38.92720	ppb	#	96
90)	Benzo (k) fluoranthene	14.19	252	759480	42.85937	ppb		99
91)	Benzo (a) pyrene	14.54	252	685988	39.78252	ppb	#	96
92)	Indeno (1,2,3-cd) pyrene	16.11	276	713731	35.84475	ppb		97
93)	Dibenz (a,h) anthracene	16.13	278	632011	37.59809	ppb		96
94)	Benzo (g,h,i) perylene	16.54	276	585699	34.84250	ppb		99

(#) = qualifier out of range (m) = manual integration

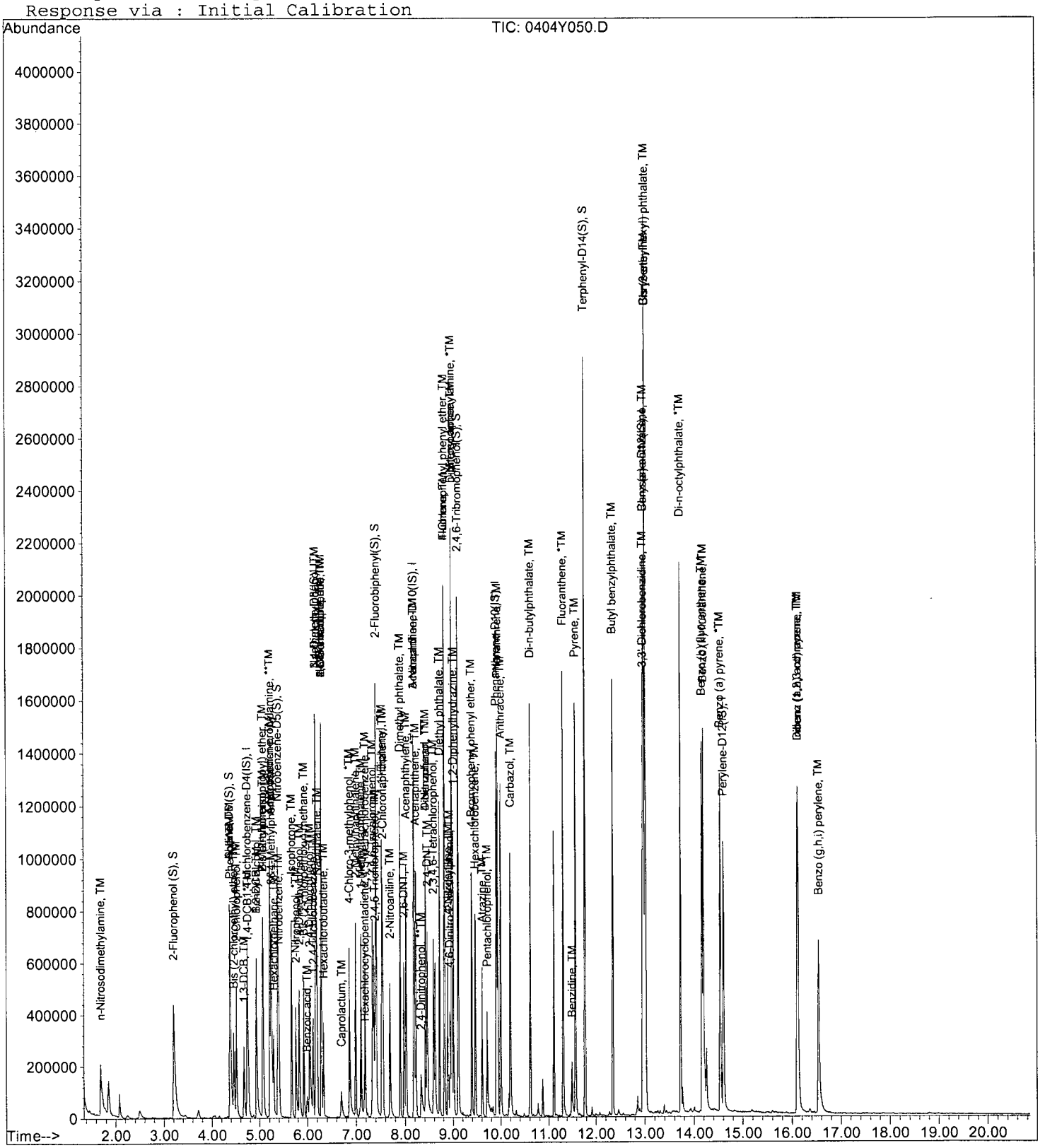
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y050.D
Acq On : 10 Apr 17 17:39
Sample : AZ53168W47 MSD-1 1/1020
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 11 9:35 2017 Quant Results File: Y0404.RES

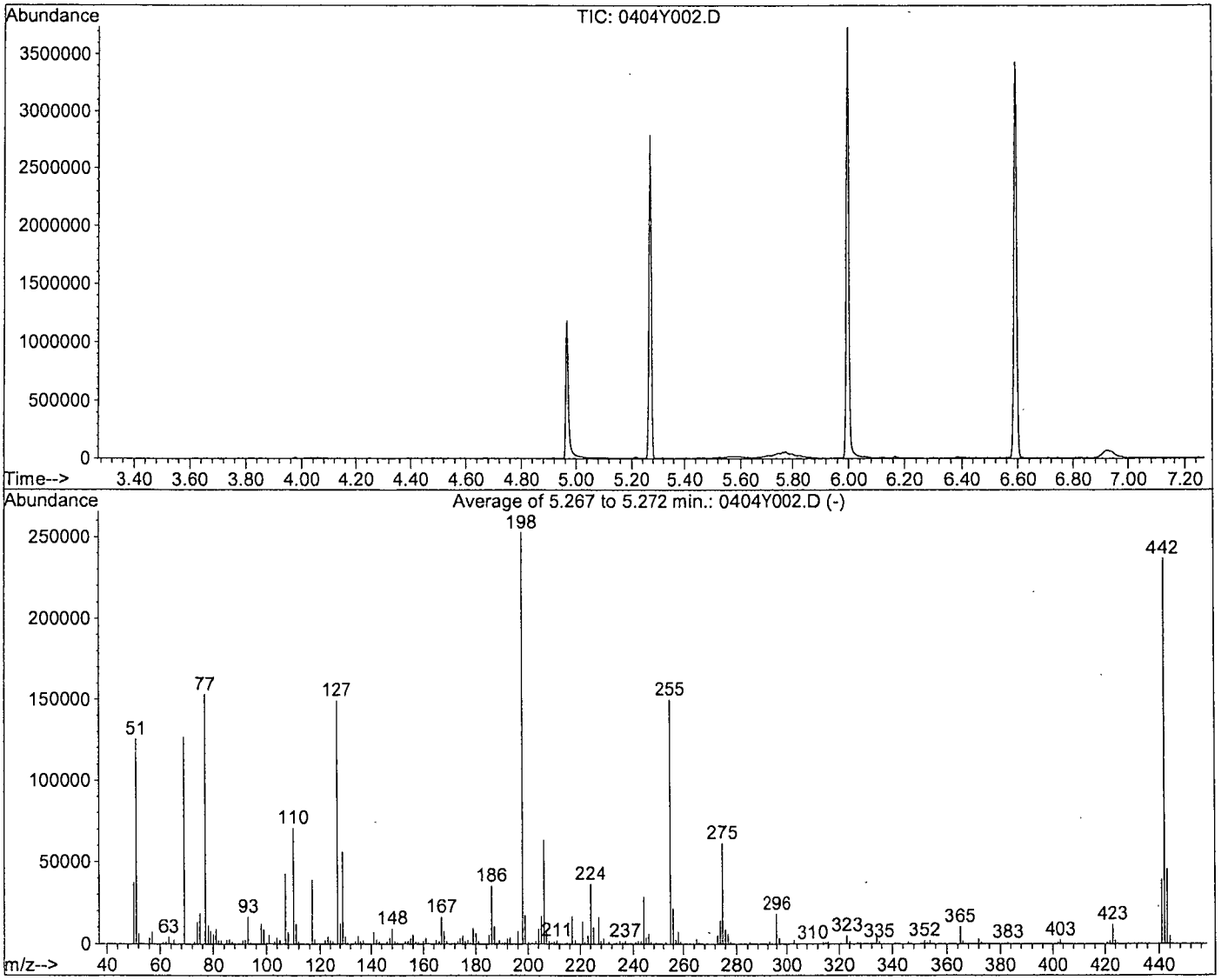
Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Wed Apr 05 14:02:50 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D Vial: 2
Acq On : 4 Apr 17 8:25 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

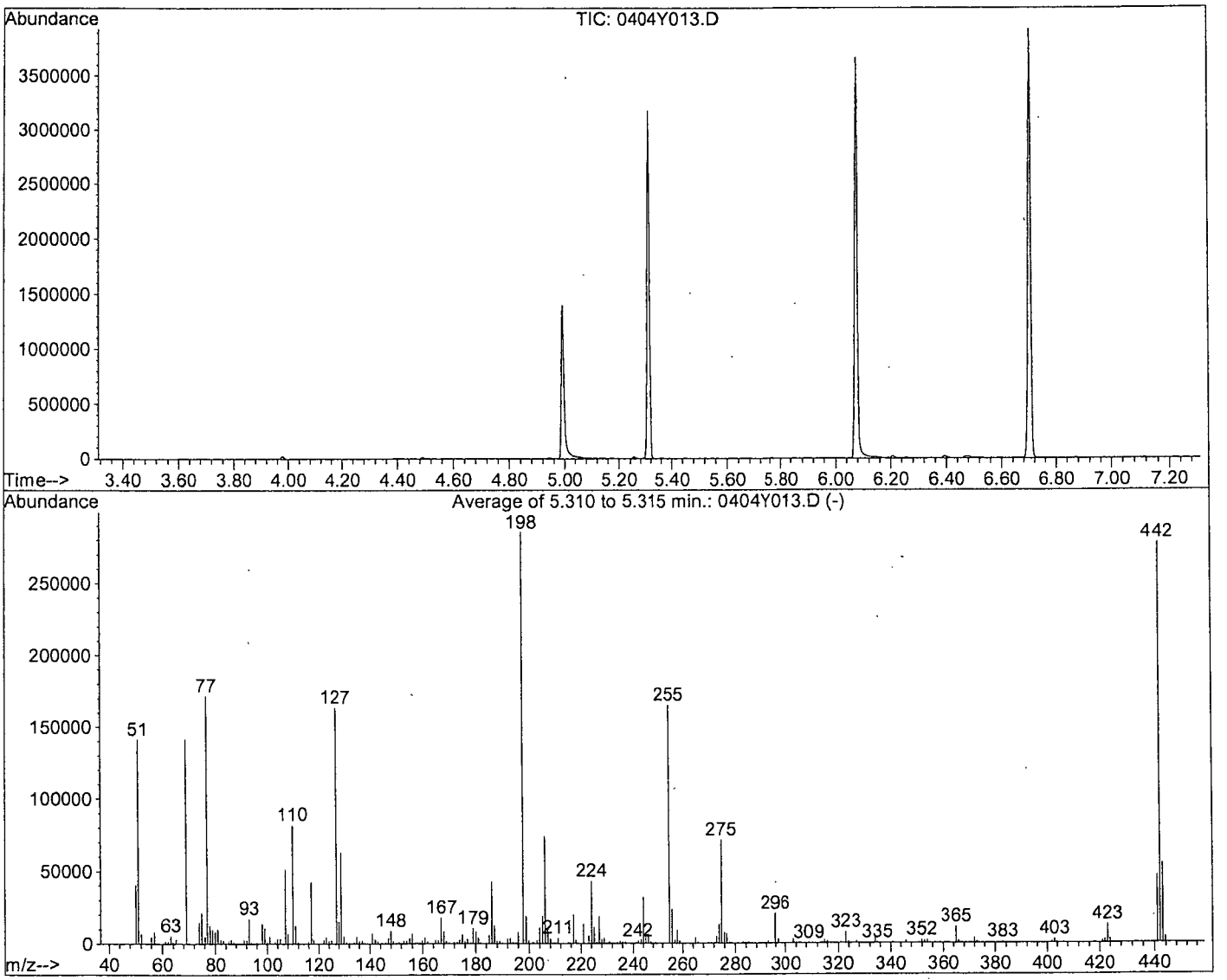
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

0404Y002.D Y0404.M Tue Apr 04 09:40:31 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y013.D Vial: 13
Acq On : 5 Apr 17 8:30 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 689, 690, 691; Background Corrected with Scan 681

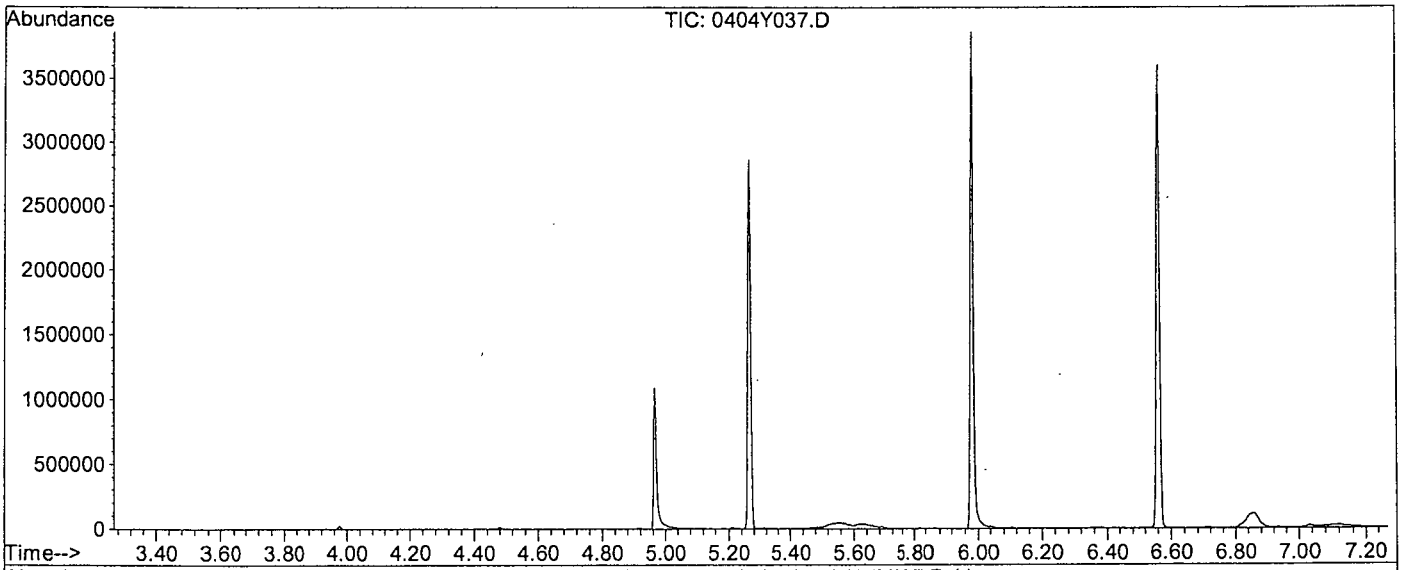
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.5	141384	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.6	872	PASS
127	198	40	60	57.4	163810	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	285504	PASS
199	198	5	9	6.7	19091	PASS
275	198	10	30	24.9	71123	PASS
365	198	1	100	3.9	11203	PASS
441	443	0.01	100	85.3	46683	PASS
442	198	50	150	97.4	277995	PASS
443	442	17	23	19.7	54725	PASS

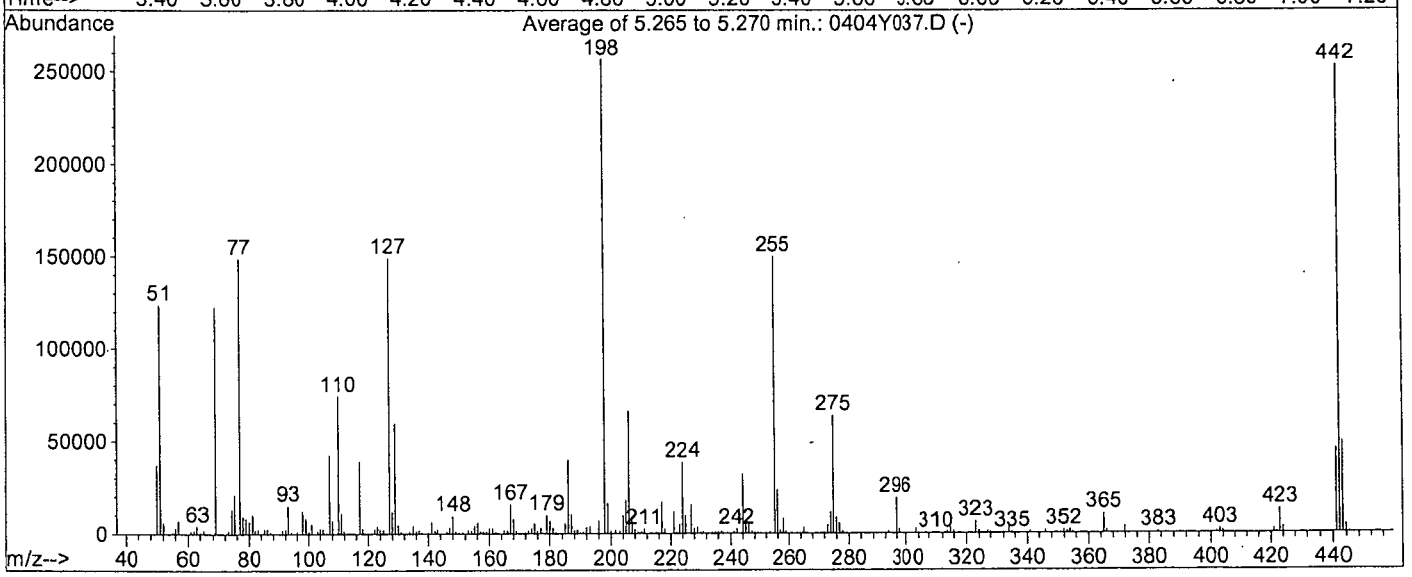
0404Y013.D Y0404.M Wed Apr 05 09:59:19 2017

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y037.D Vial: 37
Acq On : 10 Apr 17 10:59 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 671, 672, 673; Background Corrected with Scan 663

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	124211	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	510	PASS
127	198	40	60	58.1	149200	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	256917	PASS
199	198	5	9	6.4	16355	PASS
275	198	10	30	24.7	63475	PASS
365	198	1	100	4.1	10631	PASS
441	443	0.01	100	92.8	45477	PASS
442	198	50	150	98.6	253248	PASS
443	442	17	23	19.4	49011	PASS

0404Y037.D Y0404.M Mon Apr 10 11:18:03 2017

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
μL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	**04/11/17 0:00**

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				1	1 equip	1000 e-wb5	1	2/1	04/07/17 13:45	
2	170407A LCS-1		0.250	1	1	1 equip	1000 E-WB5	1	2/1	04/07/17 13:45	
3	AZ53059 MS-1	AZ53059W22	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
4	AZ53059 MSD-1	AZ53059W27	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
5	AZ53059	AZ53059W21			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
6	AZ53060	AZ53060W10			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
7	AZ53062	AZ53062W09			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
8	AZ53064	AZ53064W05			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
9	AZ53065	AZ53065W09			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
10	AZ53168 MS-1	AZ53168W35	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
11	AZ53168 MSD-1	AZ53168W47	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
12	AZ53168	AZ53168W48			1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
13	AZ53169	AZ53169W13			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
14	AZ53170	AZ53170W14			1	1 equip	1050 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
15	AZ53172	AZ53172W14			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
16	AZ53174	AZ53174W11			1	1 equip	1010 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	4/10/17
Time	12:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

501

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17
Spiked ID 2			Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/07/17 13:45
Spiked ID 8			Ext. End Time:	04/08/17 10:00
			GC Requires Extract By:	**04/11/17 0:00**

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W11			1	1 equip	1040 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
18	AZ53178	AZ53178W09			1	1 equip	1040 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
19	AZ53180	AZ53180W09			1	1 equip	1030 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

KY 4/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: M:\YODA\DATA\Y170404\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
2	3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
3	4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
4	5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
5	6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
6	7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
7	8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
8	9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
9	10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
10	12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
11	13	0404Y013.D	1	SV Tune 03/29/17		5 Apr 17 8:30
12	15	0404Y015.D	1	SS 4-chloroaniline 50ug/ml 04/05/17		5 Apr 17 10:19
13	37	0404Y037.D	1	SV Tune 03/29/17		10 Apr 17 10:59
14	38	0404Y038.D	1	50ug/ml SVOC 03/30/17		10 Apr 17 11:15
15	39	0404Y039.D	1	170407A BLK 1/1000	water	10 Apr 17 12:04
16	40	0404Y040.D	1	170407A LCS-1 1/1000	water	10 Apr 17 12:34
17	49	0404Y049.D	0.980392	AZ53168W35 MS-1 1/1020	water	10 Apr 17 17:09
18	50	0404Y050.D	0.980392	AZ53168W47 MSD-1 1/1020	water	10 Apr 17 17:39
19	51	0404Y051.D	0.98039	AZ53168W48 1/1020	water	10 Apr 17 18:10
20	52	0404Y052.D	1.02041	AZ53169W13 1/980	water	10 Apr 17 18:41
21	53	0404Y053.D	0.95238	AZ53170W14 1/1050	water	10 Apr 17 19:11
22	60	0404Y060.D	1	50ug/ml SVOC 03/30/17	water	10 Apr 17 22:25

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method:Y0GLYCOL.
Run #:0413Y013
Instrument:Yoda
Sequence:Y170413G
Initials:MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:09:51 AM

Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:09:52 AM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170410W-53168 MS - 217853**
Batch ID: #87DME-170410A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	54.8	48.6	68.5	60.8	30-130	12.0	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/13/17	04/13/17
Instrument :	Yoda	Yoda
Run :	0413Y022	0413Y023
Initials :	MA	

Printed: 04/14/17 11:09:55 AM
APPL MSD SCII

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170410A-BLK

SDG No: 82619
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 1648

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410A-BLK	Blank	0413Y013	04/13/17 1648
170410A-LCS	Lab Control Spike	0413Y014	04/13/17 1718
170410A-MS	Matrix Spike	0413Y022	04/13/17 2119
170410A-MSD	Matrix SpikeD	0413Y023	04/13/17 2149
AZ53168	ERH307	0413Y024	04/13/17 2219
AZ53169	ERH314	0413Y025	04/13/17 2249
AZ53170	ERH315	0413Y026	04/13/17 2319

Comments: Batch: #87DME-170410A

Printed: 04/14/17 11:09:56 AM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 9:41

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml DEG 04/12/17	0413Y003.D	04/13/17 9:57
2		100ug/ml DEG 04/12/	0413Y004.D	04/13/17 10:27
3		200ug/ml DEG 04/12/	0413Y005.D	04/13/17 10:57
4		400ug/ml DEG 04/12/	0413Y006.D	04/13/17 11:27
5		500ug/ml DEG 04/12/	0413Y007.D	04/13/17 11:57
6		600ug/ml DEG 04/12/	0413Y008.D	04/13/17 14:02
7		800ug/ml DEG 04/12/	0413Y009.D	04/13/17 14:32
8		1000ug/ml DEG 04/12	0413Y010.D	04/13/17 15:03
9		SS2 DEG 04/12/17	0413Y011.D	04/13/17 16:03
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	57.7
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	23.7
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	78.5
442	50 - 150% of mass 197.95	92.2
443	17 - 23% of mass 442	21.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82619
Date Analyzed: 04/13/17
Instrument: Yoda
Time Analyzed: 16:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Blank	170410A BLK 2/500	0413Y013.D	04/13/17 16:48
2	Lab Control Spike	170410A LCS-1 2/500	0413Y014.D	04/13/17 17:18
3		AZ53168W42 MS-1 2/50	0413Y022.D	04/13/17 21:19
4		AZ53168W42 MSD-1 2/5	0413Y023.D	04/13/17 21:49
5	ERH307	AZ53168W44 2/500	0413Y024.D	04/13/17 22:19
6	ERH314	AZ53169W16 2/500	0413Y025.D	04/13/17 22:49
7	ERH315	AZ53170W13 2/500	0413Y026.D	04/13/17 23:19
8		500ug/ml DEG 04/12/	0413Y034.D	04/14/17 3:17
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	44.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	55.8
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.5
365	1 - 100% of mass 198	4.3
441	0.01 - 100% of mass 443	82.4
442	50 - 150% of mass 198	107.2
443	17 - 23% of mass 442	20.3

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

		1,4-dichlorobenzene-D4(IS)		Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	122737	4.75	501978	6.17	280837	8.19
	UPPER LIMIT	245474	5.25	1003956	6.67	561674	8.69
	LOWER LIMIT	61369	4.25	250989	5.67	140419	7.69
	SAMPLE NO.						
01	SS2 DEG 04/12/17	162431	4.75	673923	6.17	377854	8.18
02	170410A BLK 2/500	105668	4.76	467112	6.17	267815	8.18
03	170410A LCS-1 2/500	108150	4.75	455829	6.17	255413	8.18
04	AZ53168W42 MS-1 2/5(	108367	4.75	456086	6.17	259911	8.18
05	AZ53168W42 MSD-1 2/	115726	4.76	489380	6.17	276942	8.19
06	AZ53168W44 2/500	94650	4.76	438042	6.17	243114	8.18
07	AZ53169W16 2/500	103432	4.75	472294	6.17	266004	8.18
08	AZ53170W13 2/500	103443	4.76	468424	6.17	269419	8.19
09	500ug/ml DEG 04/12/17	98346	4.75	427367	6.17	247654	8.18
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0413Y007.D Date Analyzed: 04/13/17

Instrument ID: Yoda Time Analyzed: 11:57

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	503114	9.90	470744	12.99	813583	14.60
	UPPER LIMIT	1006228	10.40	941488	13.49	1627166	15.10
	LOWER LIMIT	251557	9.40	235372	12.49	406792	14.10
	SAMPLE NO.						
01	SS2 DEG 04/12/17	682182	9.90	642948	12.98	796953	14.61
02	170410A BLK 2/500	499187	9.90	471654	12.98	418040	14.60
03	170410A LCS-1 2/500	474128	9.90	448616	12.99	413196	14.60
04	AZ53168W42 MS-1 2/50	483498	9.90	474403	12.99	456492	14.60
05	AZ53168W42 MSD-1 2/	476210	9.90	450234	12.98	421679	14.60
06	AZ53168W44 2/500	447772	9.90	418071	12.98	495912	14.60
07	AZ53169W16 2/500	498862	9.90	464501	12.99	416061	14.60
08	AZ53170W13 2/500	492590	9.90	463639	12.98	512950	14.60
09	500ug/ml DEG 04/12/17	446090	9.90	419492	12.98	436159	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y024
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:09:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y024.D
Acq On : 13 Apr 17 22:19
Sample : AZ53168W44 2/500
Misc :

Vial: 24
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	94650	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	438042	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	243114	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	447772	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	418071	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	495912	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

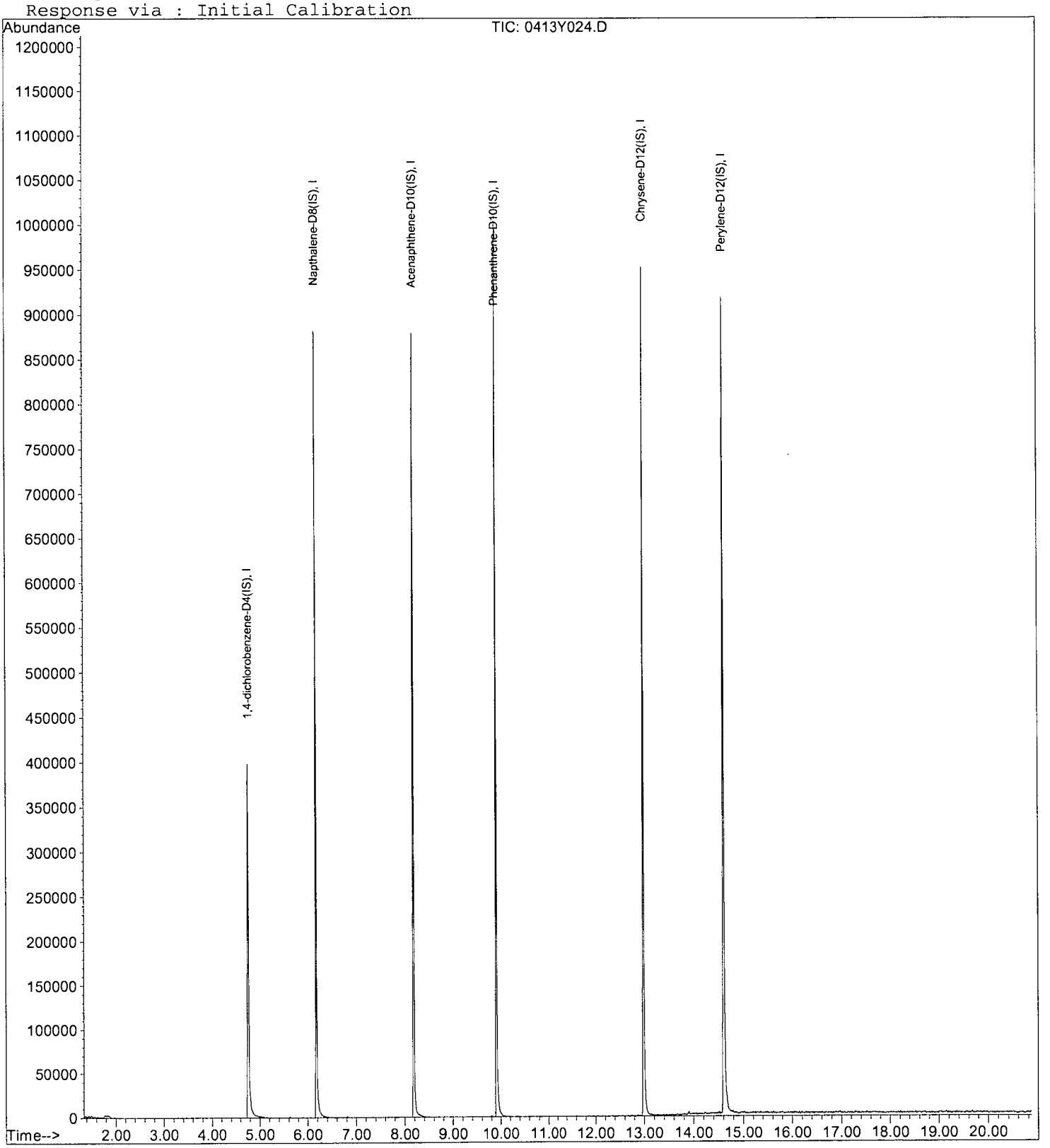
(#) = qualifier out of range (m) = manual integration
0413Y024.D Y0GLYCOL.M Fri Apr 14 09:54:38 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y024.D Vial: 24
Acq On : 13 Apr 17 22:19 Operator: MA
Sample : AZ53168W44 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y025
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:09:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y025.D
Acq On : 13 Apr 17 22:49
Sample : AZ53169W16 2/500
Misc :

Vial: 25
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	103432	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	472294	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	266004	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	498862	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	464501	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	416061	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

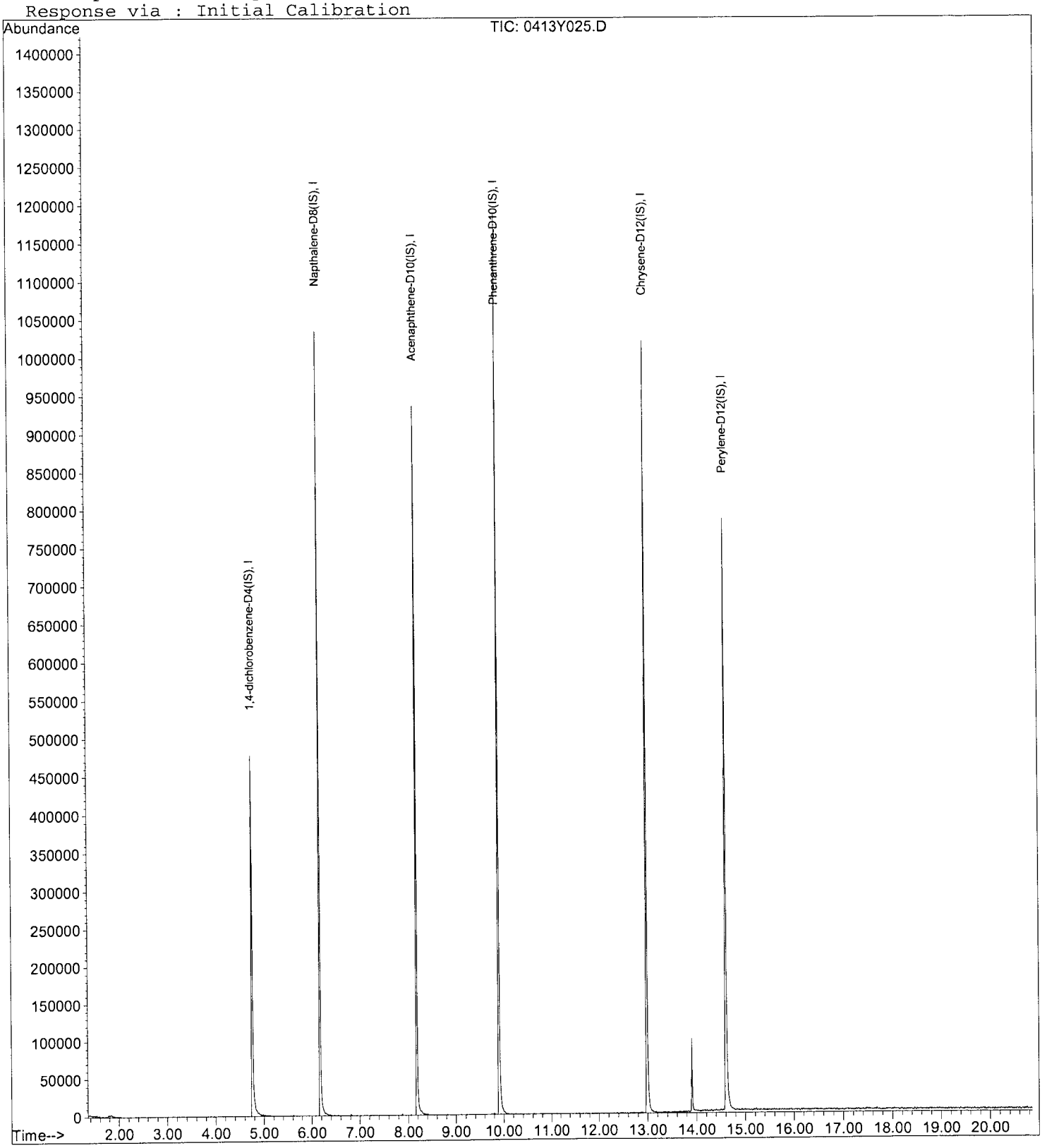
Data File : M:\YODA\DATA\Y170413G\0413Y025.D
Acq On : 13 Apr 17 22:49
Sample : AZ53169W16 2/500
Misc :

Vial: 25
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



EPA 8270D MODIFIED WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #87DME-170410A-217853

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D	2-(2-METHOXYETHOXY)-ETHANOL	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.M
Run #: 0413Y026
Instrument: Yoda
Sequence: Y170413G
Dilution Factor: 1
Initials: MA

Printed: 04/14/17 11:09:58 AM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y026.D
Acq On : 13 Apr 17 23:19
Sample : AZ53170W13 2/500
Misc :

Vial: 26
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	103443	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	468424	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	269419	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	492590	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	463639	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	512950	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

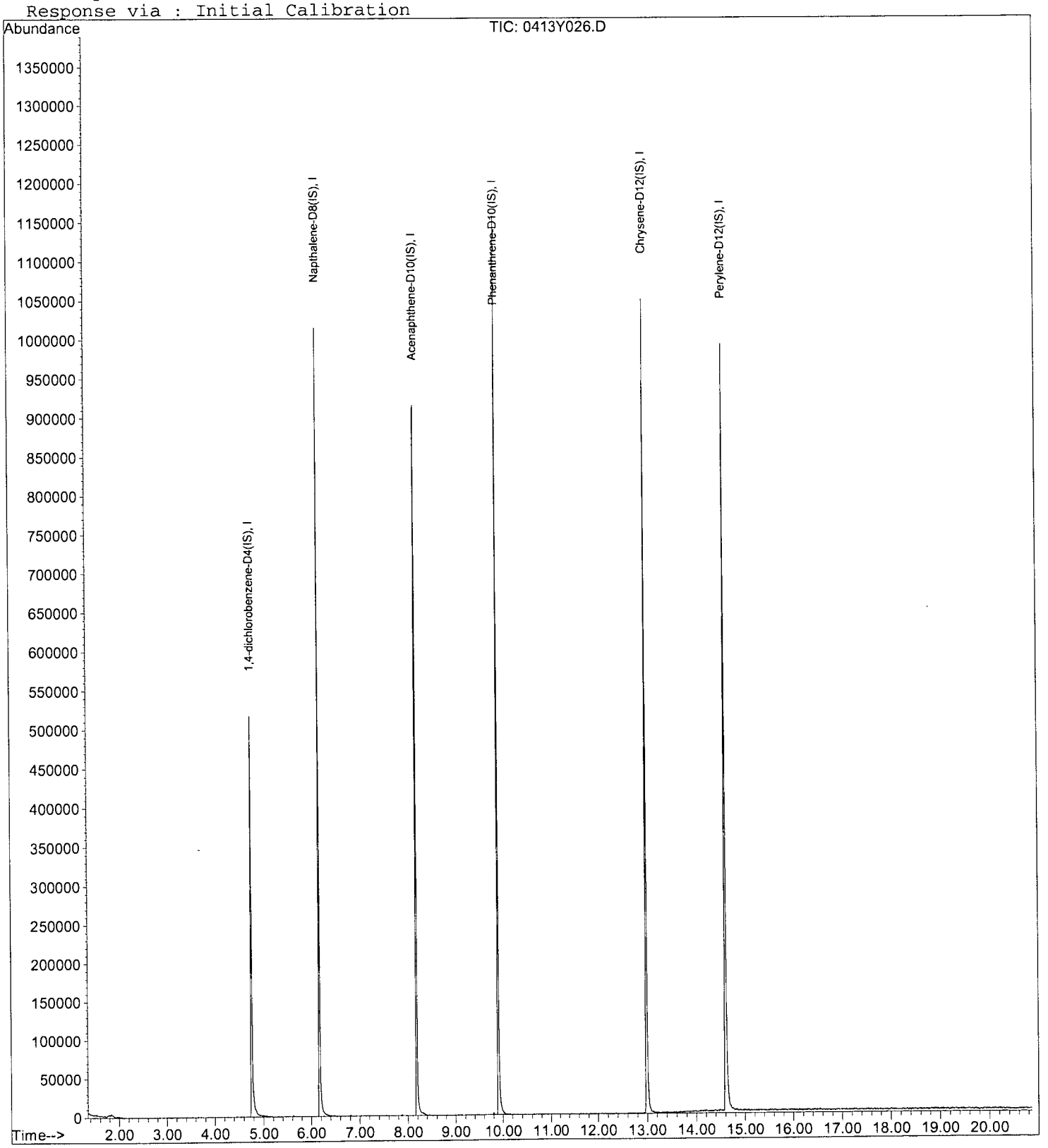
Data File : M:\YODA\DATA\Y170413G\0413Y026.D
Acq On : 13 Apr 17 23:19
Sample : AZ53170W13 2/500
Misc :

Vial: 26
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/13/17
Instrument: Yoda

Initials:

		Compound	1	2	3	4	5	6	7	8			Avg	%RSD		
			0413Y003.D	0413Y004.D	0413Y005.D	0413Y006.D	0413Y007.D	0413Y008.D	0413Y009.D	0413Y010.D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	2-(2-Methoxyethoxy)ethanol		0.1954	0.2196	0.2658	0.2711	0.2521	0.2727	0.2774			0.25	12	TM	
3	I	Napthalene-D8(IS)														
4	I	Acenaphthene-D10(IS)														
5	I	Phenanthrene-D10(IS)														
6	I	Chrysene-D12(IS)														
7	I	Perylene-D12(IS)														
8																
9																
10																
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Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 10:40:51 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	130198	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.16	136	560546	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	331589	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	606984	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	580372	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432171	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.08	45	9334	13.37349 ppb	100

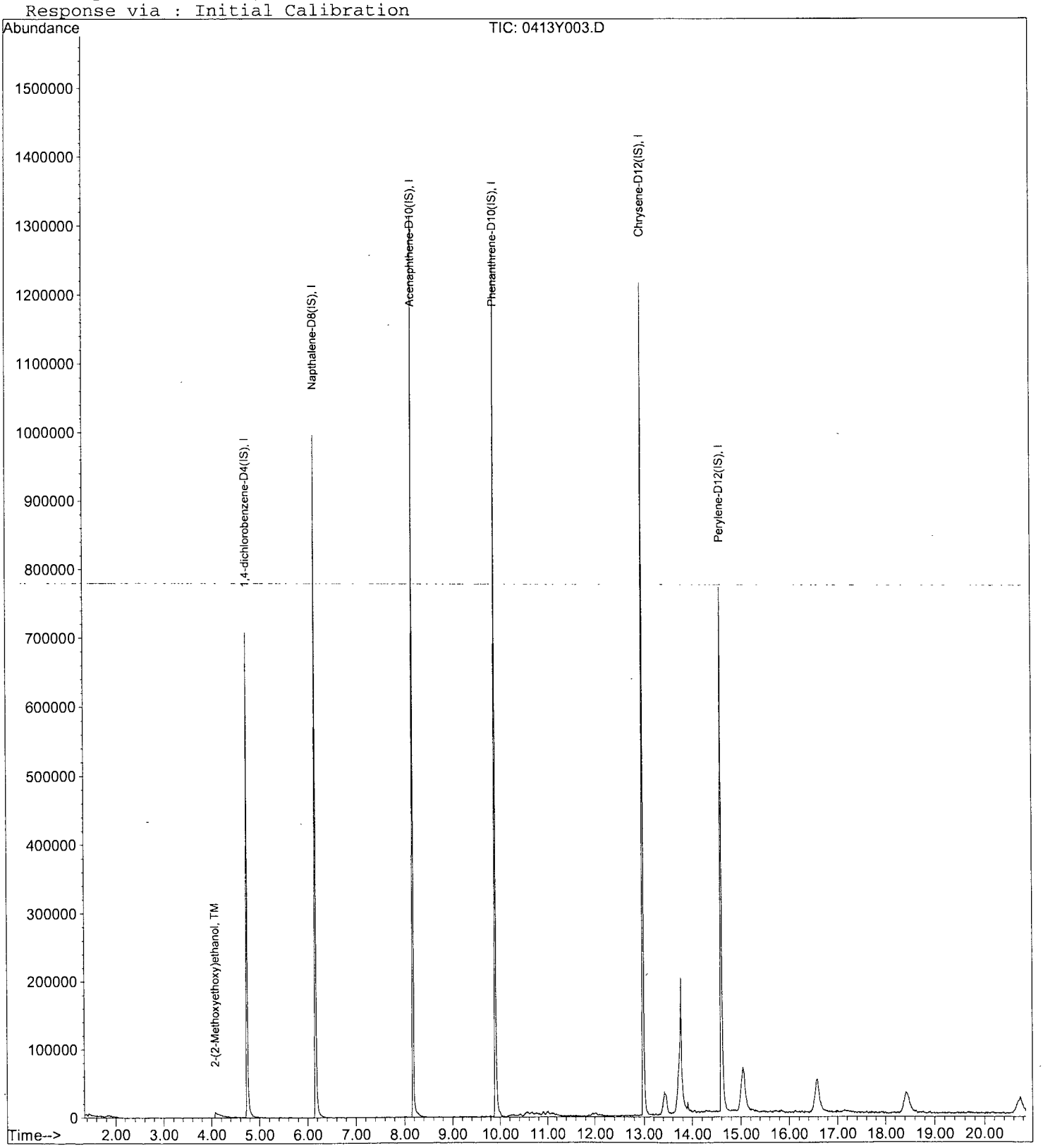
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y003.D Vial: 3
Acq On : 13 Apr 17 9:57 Operator: MA
Sample : 50ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 10:41 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	131544	40.00000	ppb	0.00
3) Napthalene-D8(IS)	6.17	136	575730	40.00000	ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	317779	40.00000	ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	590659	40.00000	ppb	0.00
6) Chrysene-D12(IS)	12.99	240	584988	40.00000	ppb	0.00
7) Perylene-D12(IS)	14.60	264	432757	40.00000	ppb	-0.15

System Monitoring Compounds

Target Compounds						Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.01	45	64256	91.12217	ppb	100

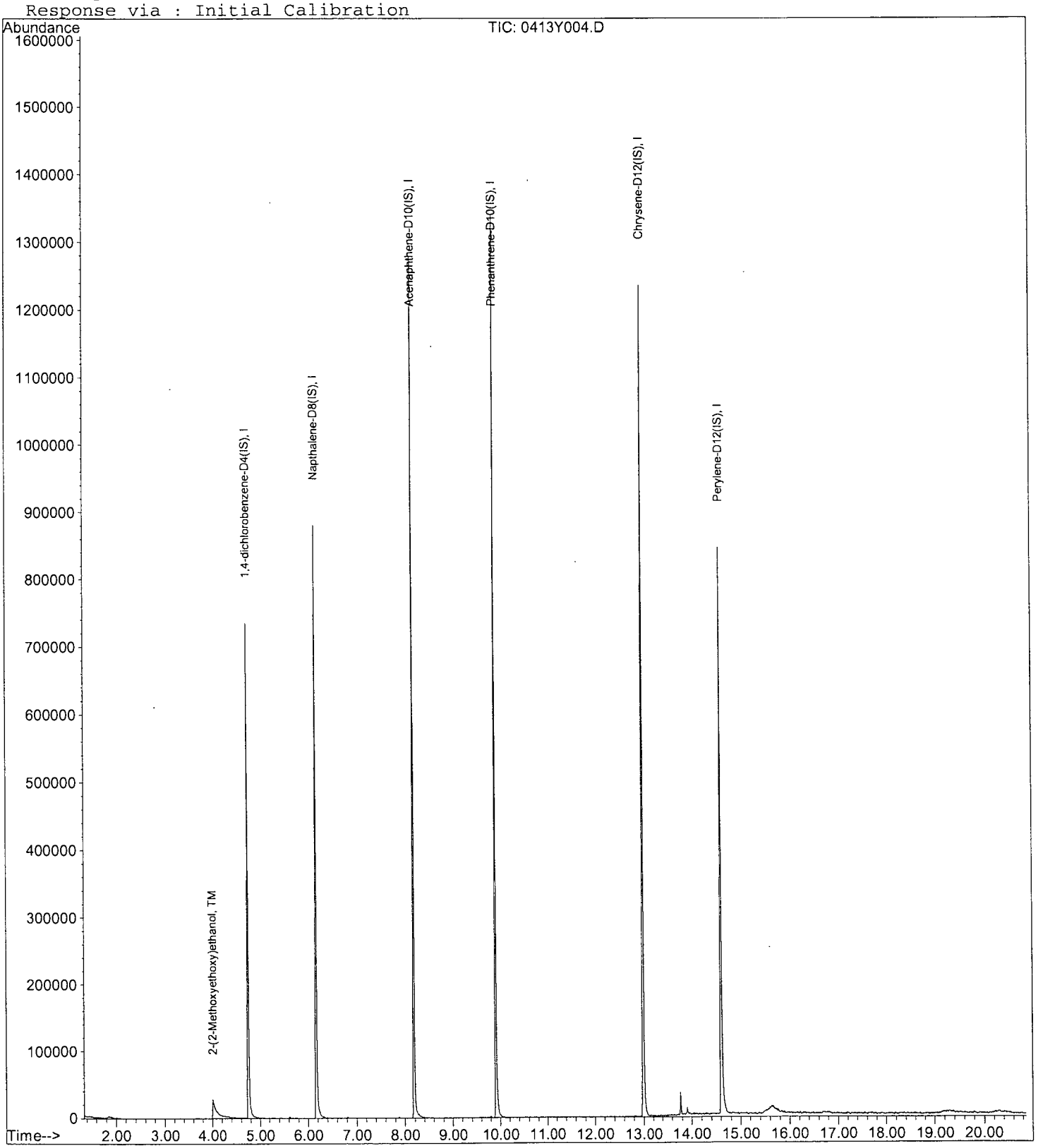
(#) = qualifier out of range (m) = manual integration
0413Y004.D Y0GLYCOL.M Fri Apr 14 07:33:36 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y004.D Vial: 4
Acq On : 13 Apr 17 10:27 Operator: MA
Sample : 100ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:25 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	137332	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	563866	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	327772	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.91	188	620890	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	536915	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	1021814	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.96	45	150783	204.81514 ppb	92

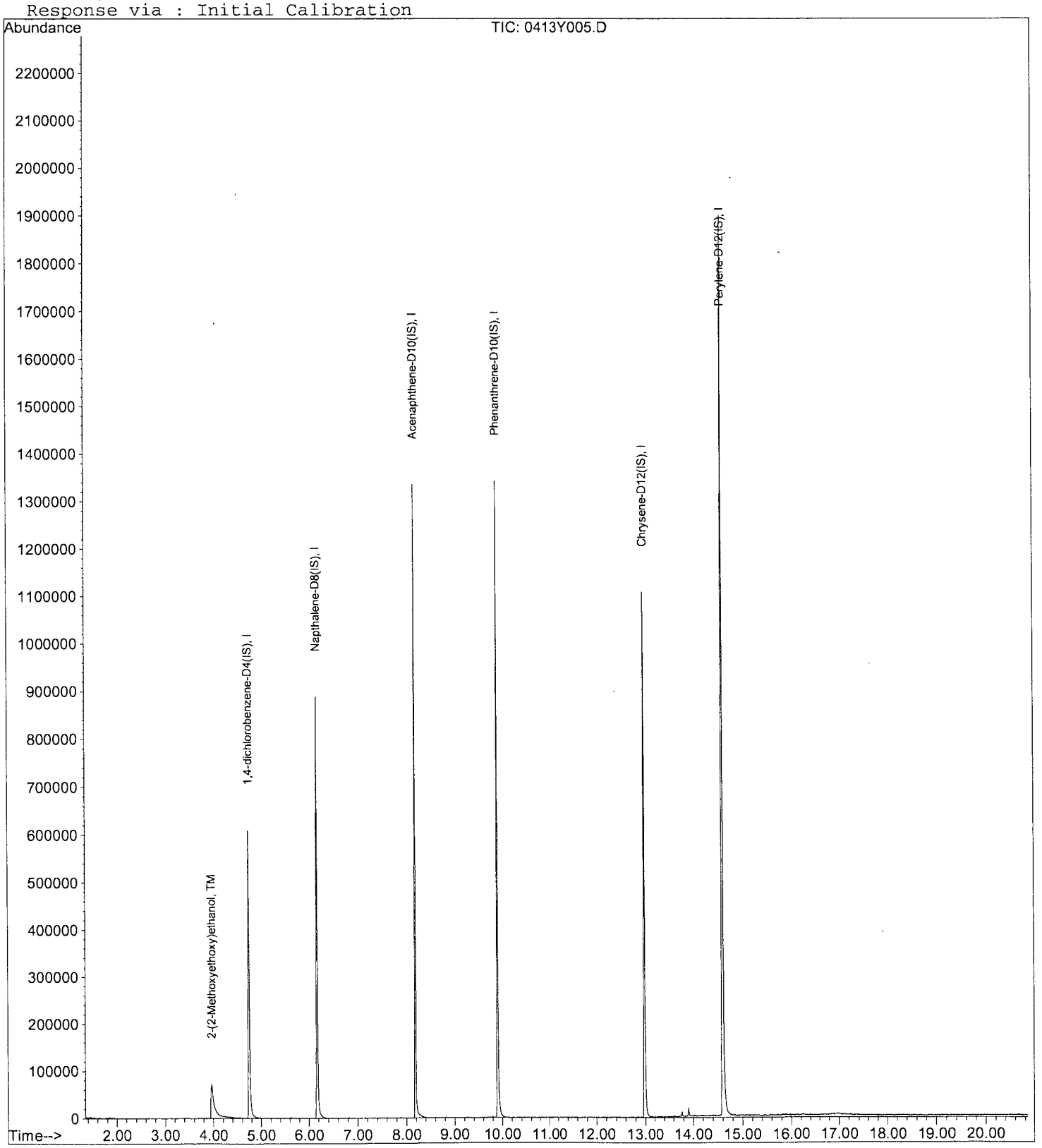
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y005.D Vial: 5
Acq On : 13 Apr 17 10:57 Operator: MA
Sample : 200ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 11:24:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	126427	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	524180	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	276249	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	502431	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	485074	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413502	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	336087	495.89909 ppb	96

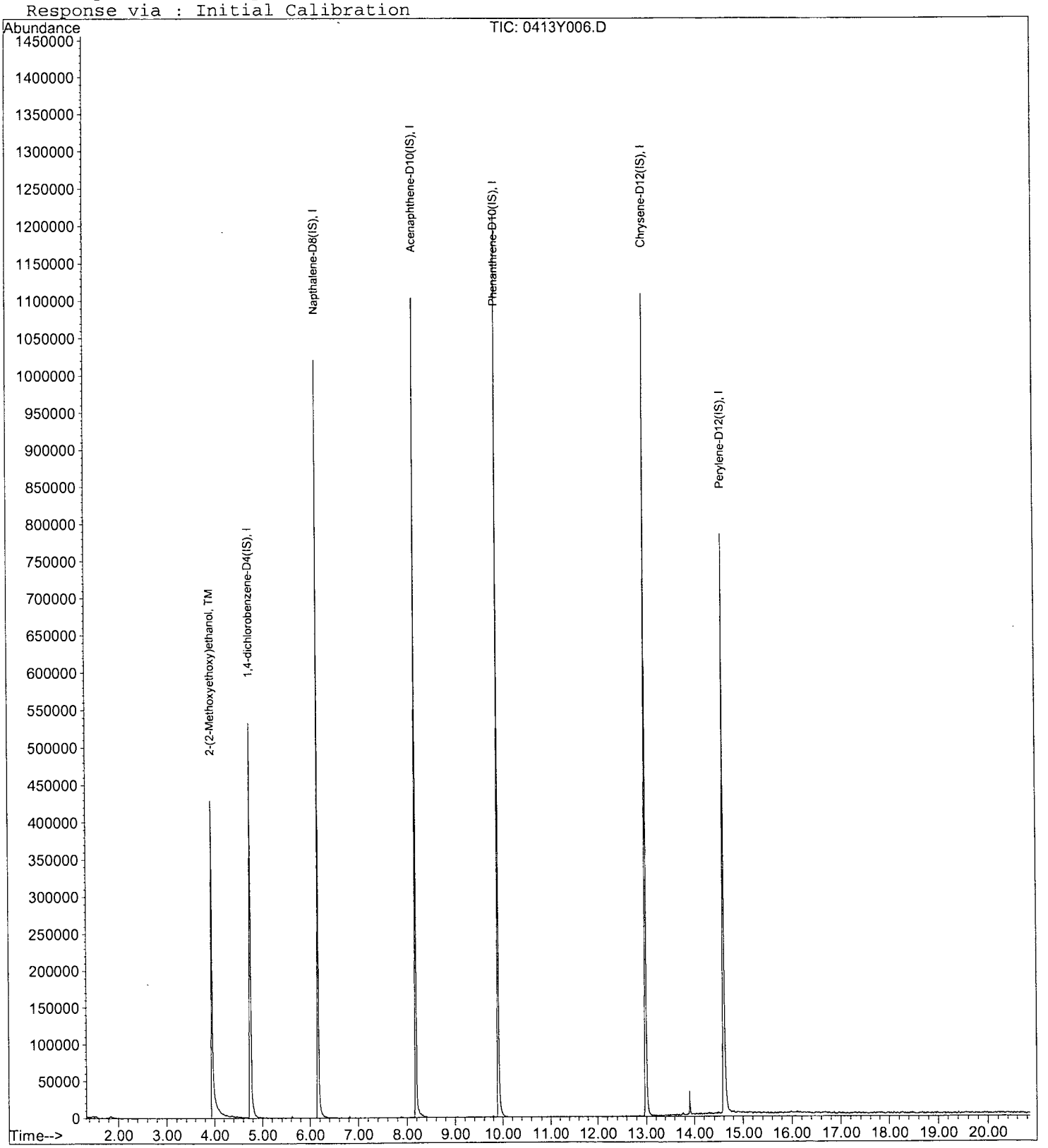
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y006.D Vial: 6
Acq On : 13 Apr 17 11:27 Operator: MA
Sample : 400ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 11:47 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 12:27:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	122737	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	501978	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	280837	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	503114	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	470744	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	813583	40.00000 ppb	-0.15

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	415857	632.04783 ppb	99

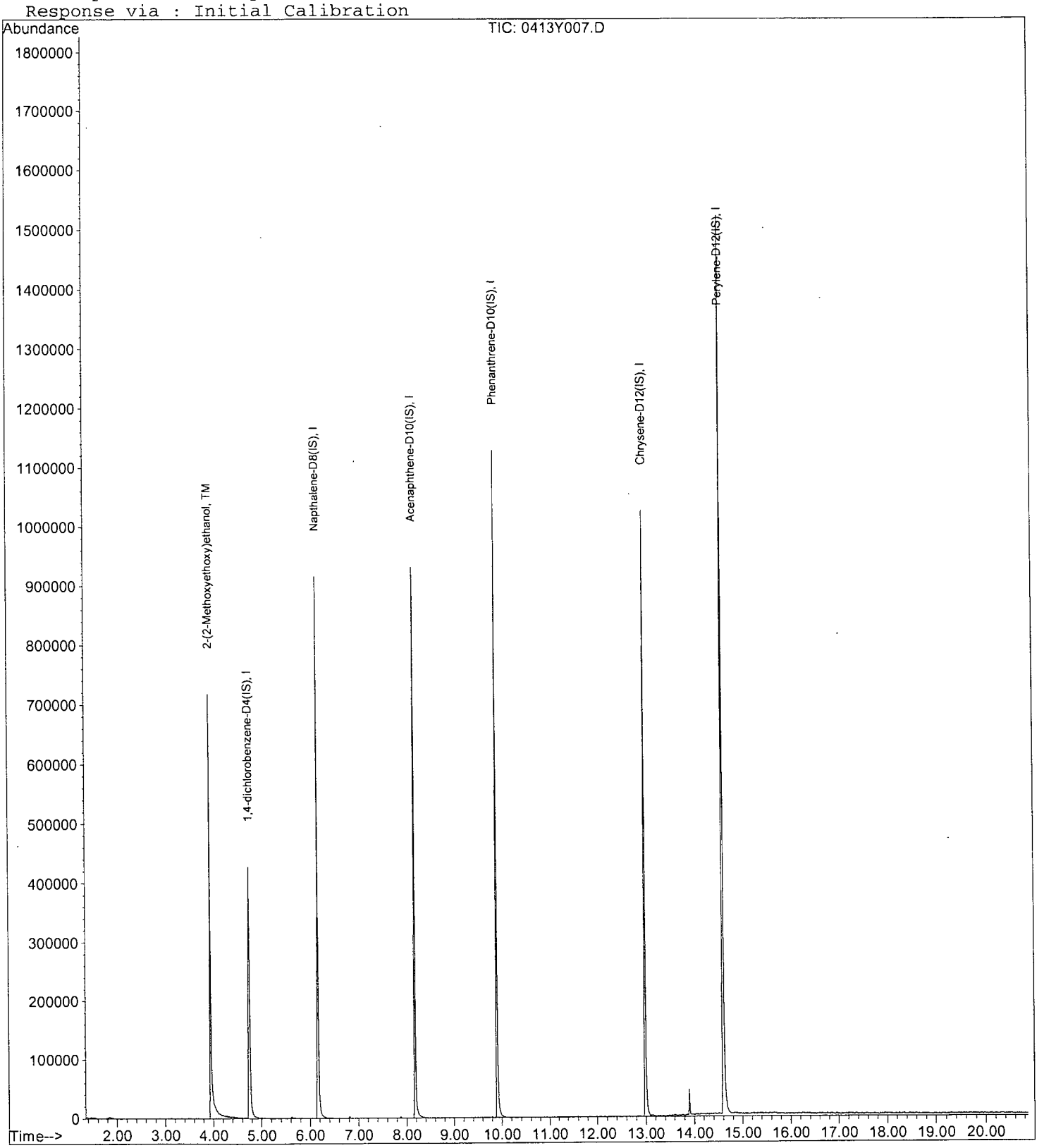
(#) = qualifier out of range (m) = manual integration
0413Y007.D Y0GLYCOL.M Fri Apr 14 07:33:47 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y007.D Vial: 7
Acq On : 13 Apr 17 11:57 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 12:28 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	130873	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	545700	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	307336	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	536034	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	498537	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	432724	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	494979	572.20714 ppb	99

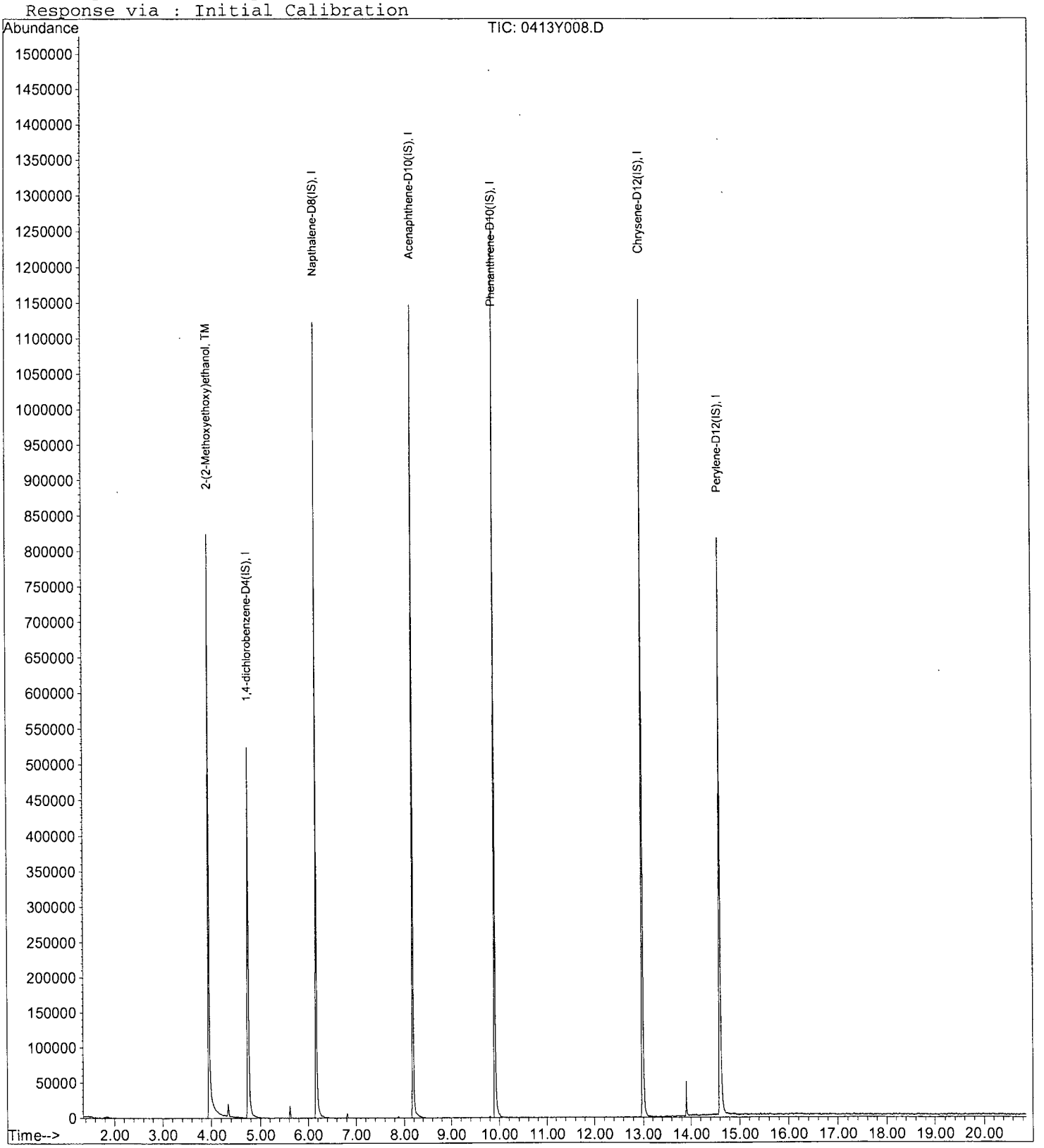
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y008.D Vial: 8
Acq On : 13 Apr 17 14:02 Operator: MA
Sample : 600ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 14:23 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	120849	40.00000 ppb	0.01
3) Napthalene-D8(IS)	6.17	136	516352	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	297058	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	562967	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	508591	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	513774	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.98	45	659049	851.48970 ppb	97

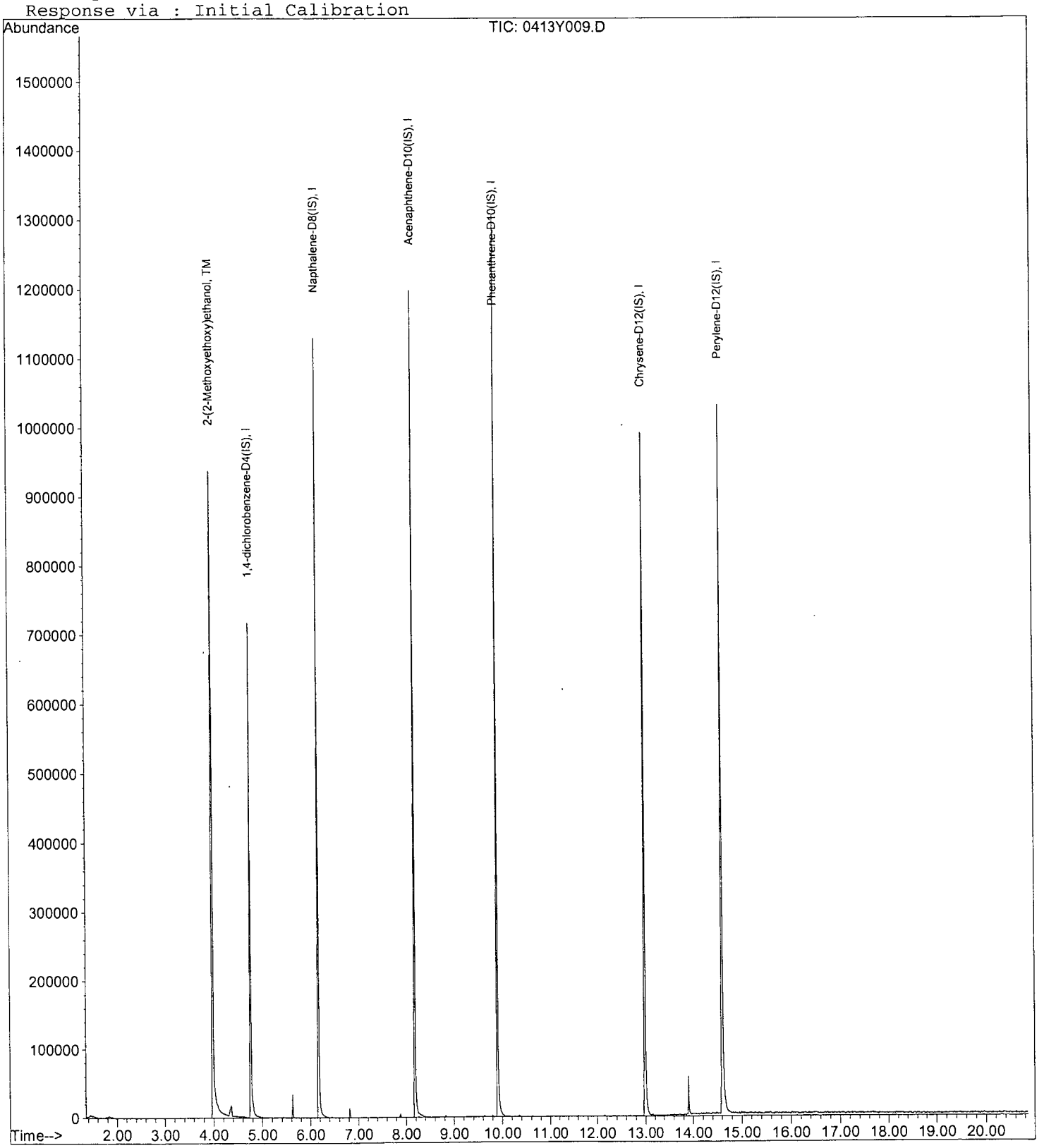
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y009.D Vial: 9
Acq On : 13 Apr 17 14:32 Operator: MA
Sample : 800ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:01 2017 Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 13:46:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	126513	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	529527	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	279610	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	516629	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	475326	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	424586	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.00	45	877318	1095.97475 ppb	99

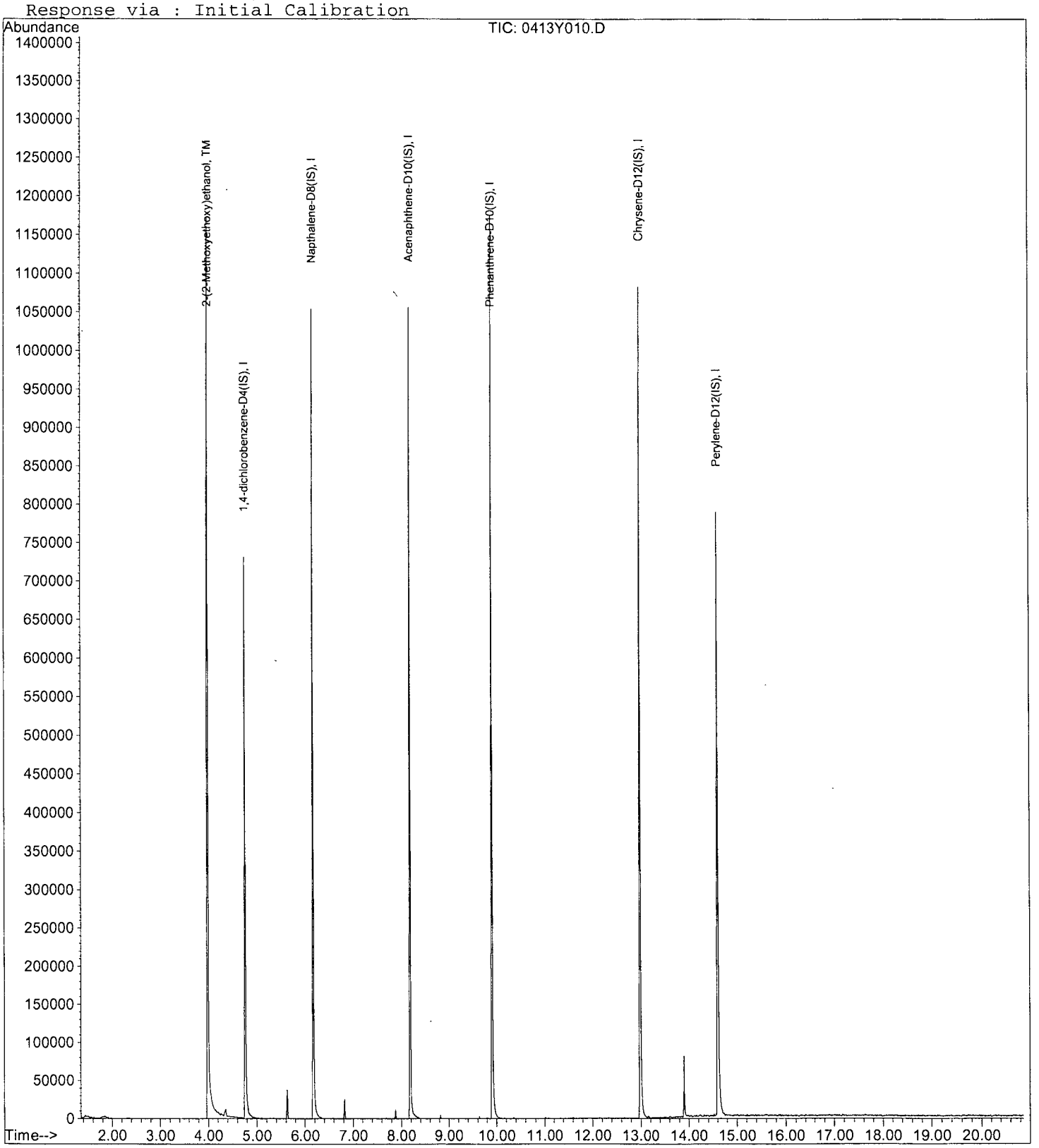
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y010.D Vial: 10
Acq On : 13 Apr 17 15:03 Operator: MA
Sample : 1000ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:17 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2537	1.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			1.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	162431	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	673923	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	377854	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	682182	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	642948	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.61	264	796953	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.95	45	515080	506.19367 ppb	99

Algorithm = $\frac{515080 \times 40 \times 1}{162431 \times 0.2506}$ = 506.2 MA 4/14/17

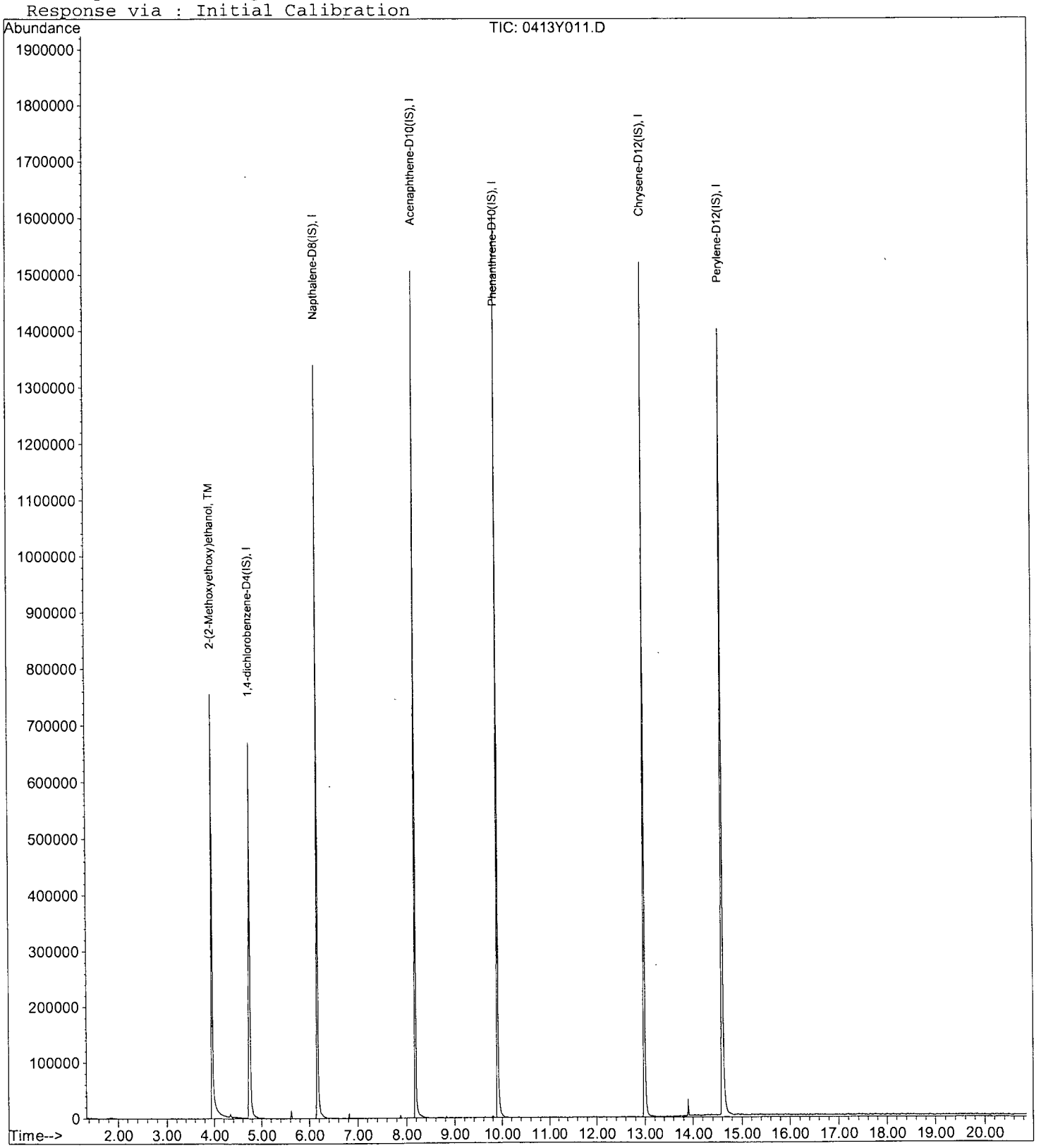
(#) = qualifier out of range (m) = manual integration
0413Y011.D Y0GLYCOL.M Fri Apr 14 07:34:01 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y011.D Vial: 11
Acq On : 13 Apr 17 16:03 Operator: MA
Sample : SS2 DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 16:16 2017 Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:18:55 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Yoda
Initial Cal. Date: 04/13/17
Data File: 0413Y034.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	2-(2-Methoxyethoxy)ethanol	0.2506	0.2681	7.0	TM	
3	I	Napthalene-D8(IS)	ISTD			I	
4	I	Acenaphthene-D10(IS)	ISTD			I	
5	I	Phenanthrene-D10(IS)	ISTD			I	
6	I	Chrysene-D12(IS)	ISTD			I	
7	I	Perylene-D12(IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			7.0		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y034.D Vial: 34
Acq On : 14 Apr 17 3:17 Operator: MA
Sample : 500ug/ml DEG 04/12/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:38 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	98346	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	427367	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	247654	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	446090	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	419492	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	436159	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	3.94	45	329521	534.85657 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

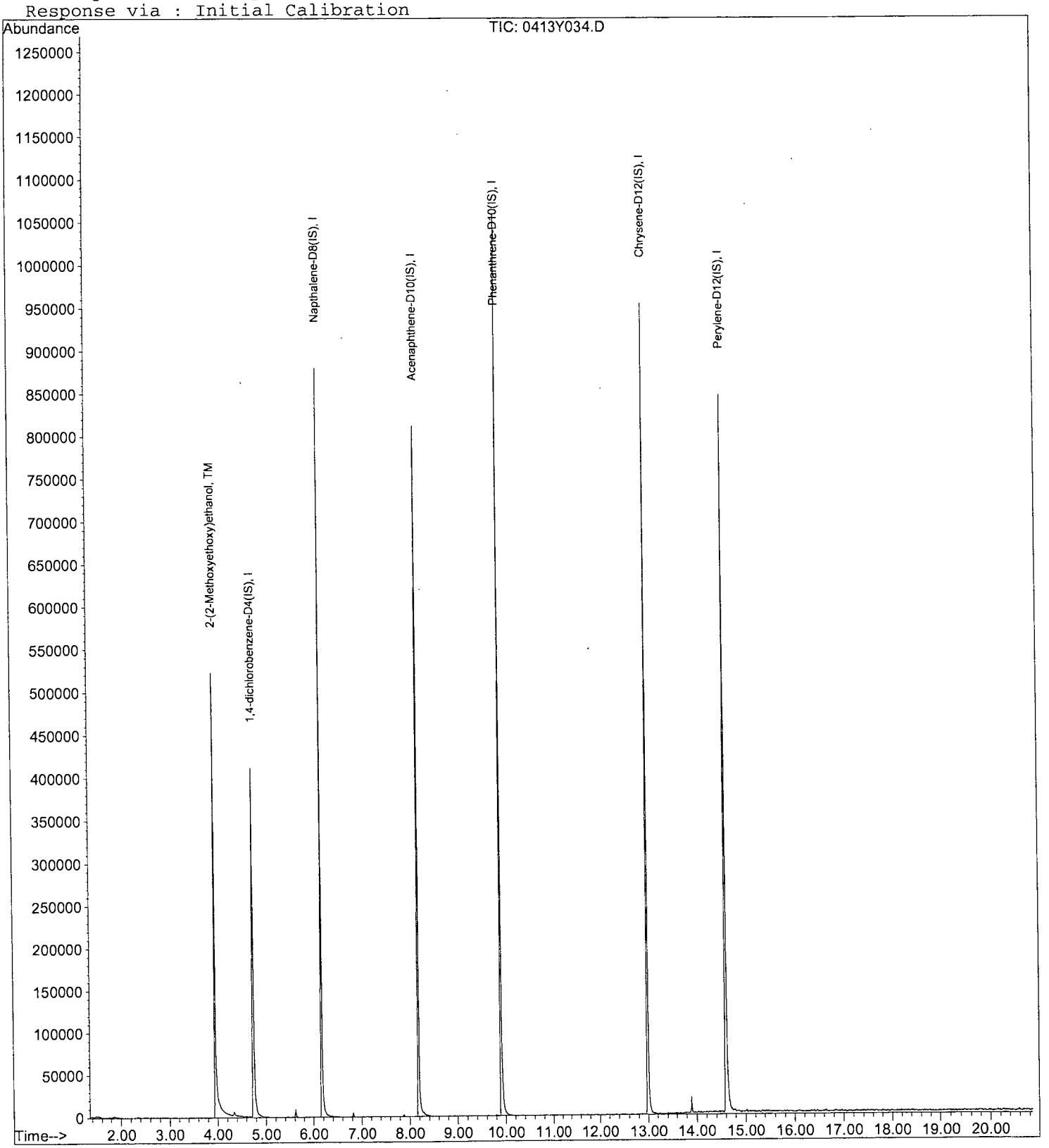
Data File : M:\YODA\DATA\Y170413G\0413Y034.D
Acq On : 14 Apr 17 3:17
Sample : 500ug/ml DEG 04/12/17
Misc :

Vial: 34
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:38 2017

Quant Results File: YOGLYCOL.RES

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D MODIFIED WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53059 - 217853**
Batch ID: #87DME-170410A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-(2-METHOXYETHOXY)-ETHAN	80.0 U	100	80.0	40.0	ug/L	04/10/17	04/13/17

Quant Method: Y0GLYCOL.
Run #: 0413Y013
Instrument: Yoda
Sequence: Y170413G
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/14/17 11:09:59 AM

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y013.D
Acq On : 13 Apr 17 16:48
Sample : 170410A BLK 2/500
Misc :

Vial: 13
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:35:04 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	105668	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	467112	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	267815	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	499187	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	471654	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	418040	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

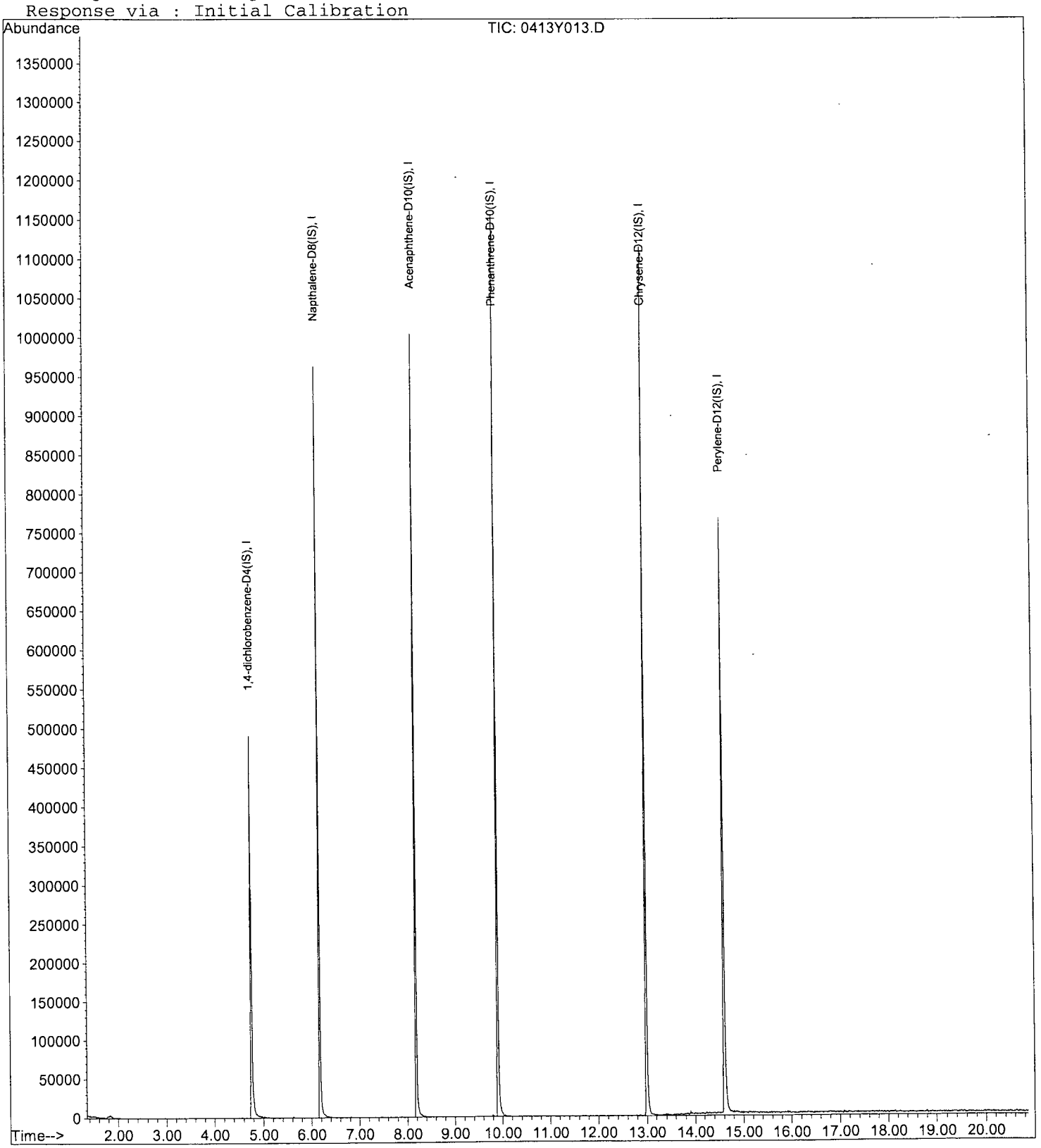
Data File : M:\YODA\DATA\Y170413G\0413Y013.D
Acq On : 13 Apr 17 16:48
Sample : 170410A BLK 2/500
Misc :

Vial: 13
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:46 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D MODIFIED WATER

APPL ID: **170410W-53059 LCS - 217853**
Batch ID: #87DME-170410A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	41.0	51.3	30-130

Comments: _____

Primary	SPK
Quant Method :	Y0GLYCOL.M
Extraction Date :	04/10/17
Analysis Date :	04/13/17
Instrument :	Yoda
Run :	0413Y014
Initials :	MA

Printed: 04/14/17 11:10:00 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y014.D
Acq On : 13 Apr 17 17:18
Sample : 170410A LCS-1 2/500
Misc :

Vial: 14
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:48 2017

Quant Results File: YOGLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108150	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	455829	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	255413	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	474128	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	448616	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	413196	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	27786	41.01195 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

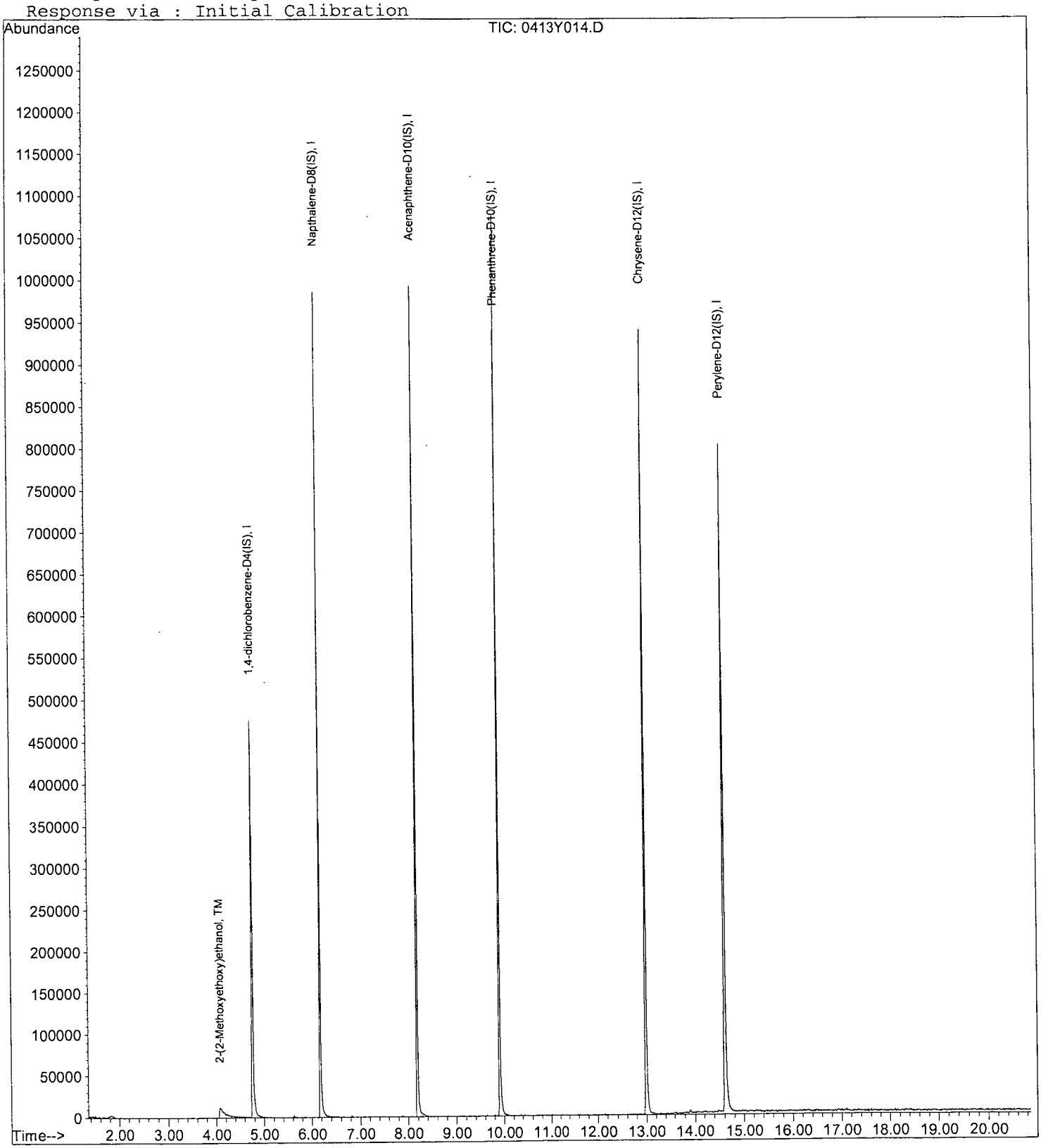
Data File : M:\YODA\DATA\Y170413G\0413Y014.D
Acq On : 13 Apr 17 17:18
Sample : 170410A LCS-1 2/500
Misc :

Vial: 14
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 14 7:48 2017

Quant Results File: Y0GLYCOL.RES

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D MODIFIED WATER

APPL ID: **170410W-53168 MS - 217853**
Batch ID: #87DME-170410A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
2-(2-METHOXYETHOXY)-ETHANOL	80.0	ND	54.8	48.6	68.5	60.8	30-130	12.0	20

Comments: _____

Primary	SPK	DUP
Quant Method :	Y0GLYCOL.M	Y0GLYCOL.M
Extraction Date :	04/10/17	04/10/17
Analysis Date :	04/13/17	04/13/17
Instrument :	Yoda	Yoda
Run :	0413Y022	0413Y023
Initials :	MA	

Printed: 04/14/17 11:10:03 AM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y022.D Vial: 22
Acq On : 13 Apr 17 21:19 Operator: MA
Sample : AZ53168W42 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:51 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.75	152	108367	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	456086	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.18	164	259911	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	483498	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.99	240	474403	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	456492	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.07	45	37223m	54.83089 ppb	95

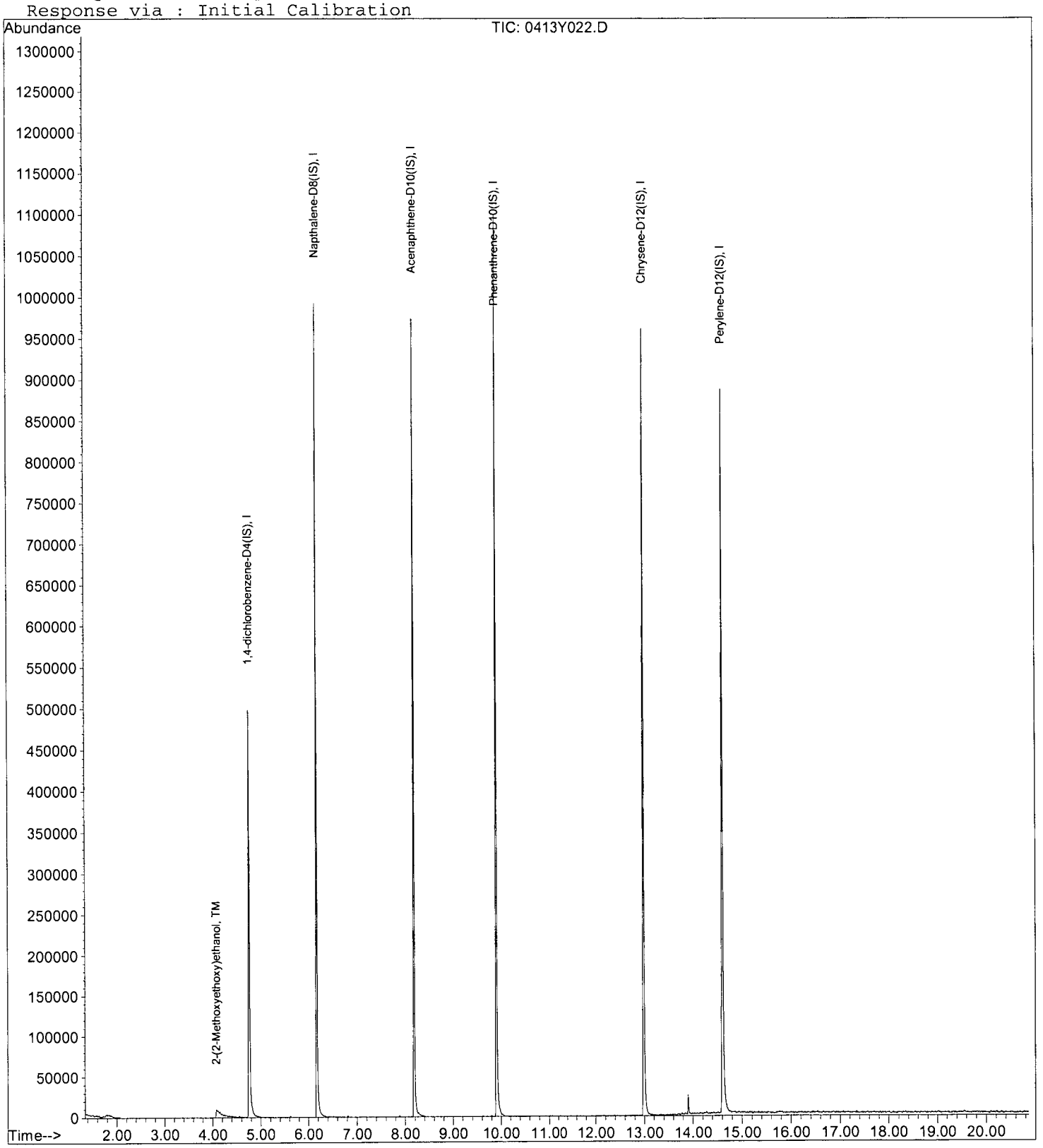
(#) = qualifier out of range (m) = manual integration
0413Y022.D Y0GLYCOL.M Fri Apr 14 09:54:31 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y022.D Vial: 22
Acq On : 13 Apr 17 21:19 Operator: MA
Sample : AZ53168W42 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 7:51 2017 Quant Results File: YOGLYCOL.RES

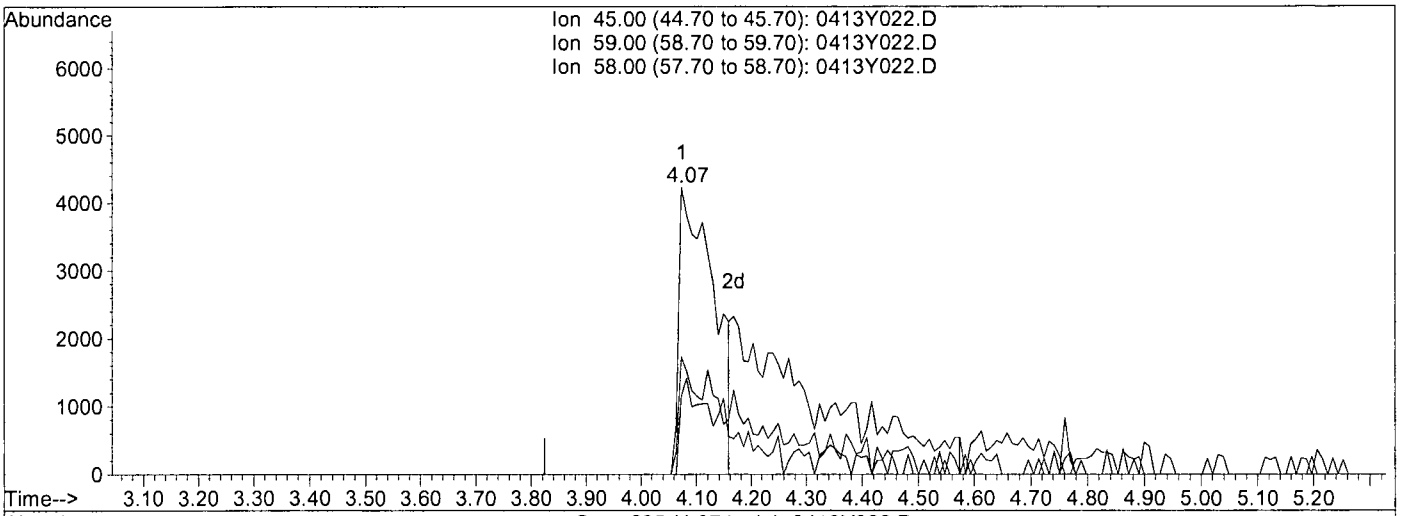
Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

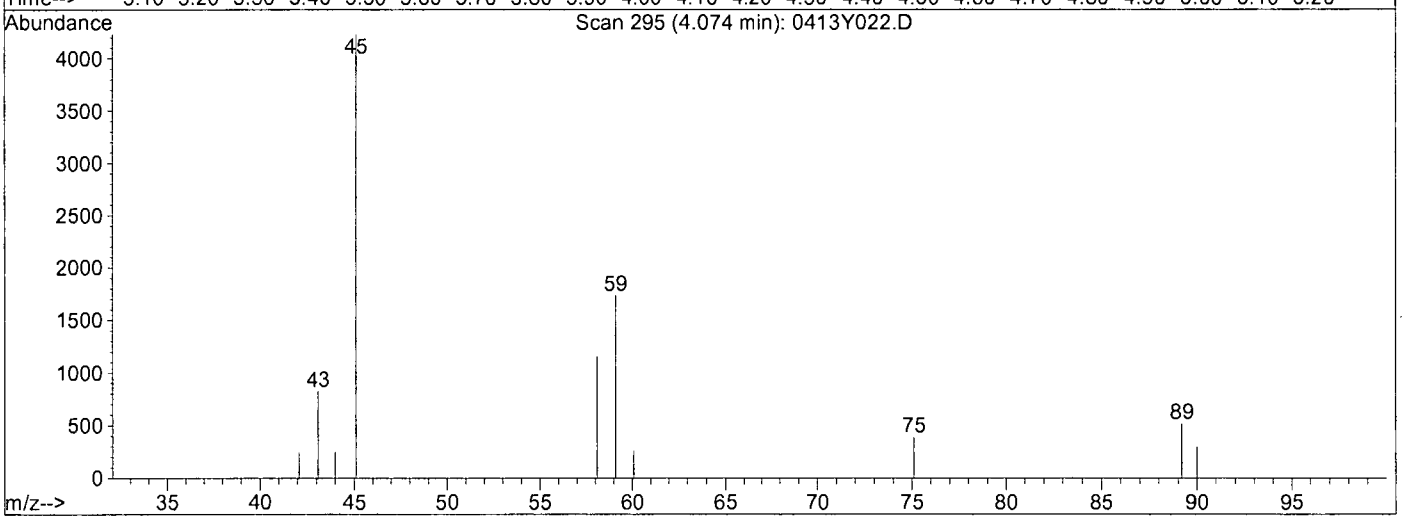


Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y022.D Vial: 22
Acq On : 13 Apr 17 21:19 Operator: MA
Sample : AZ53168W42 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:50 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y022.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.07min 26.4366ppb

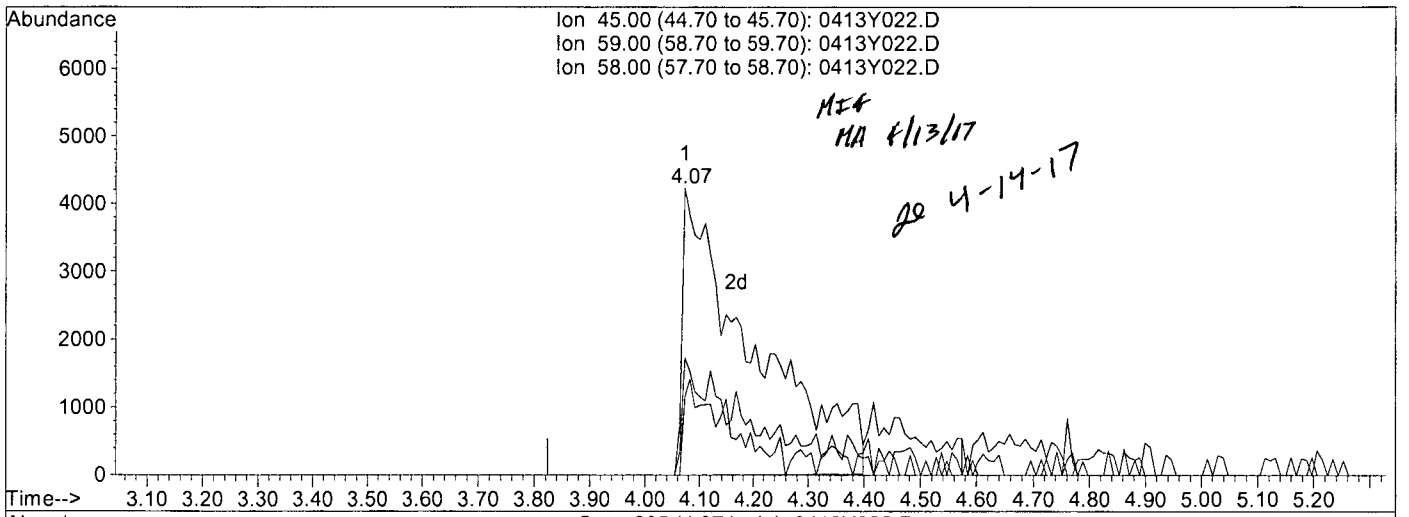
response 17947

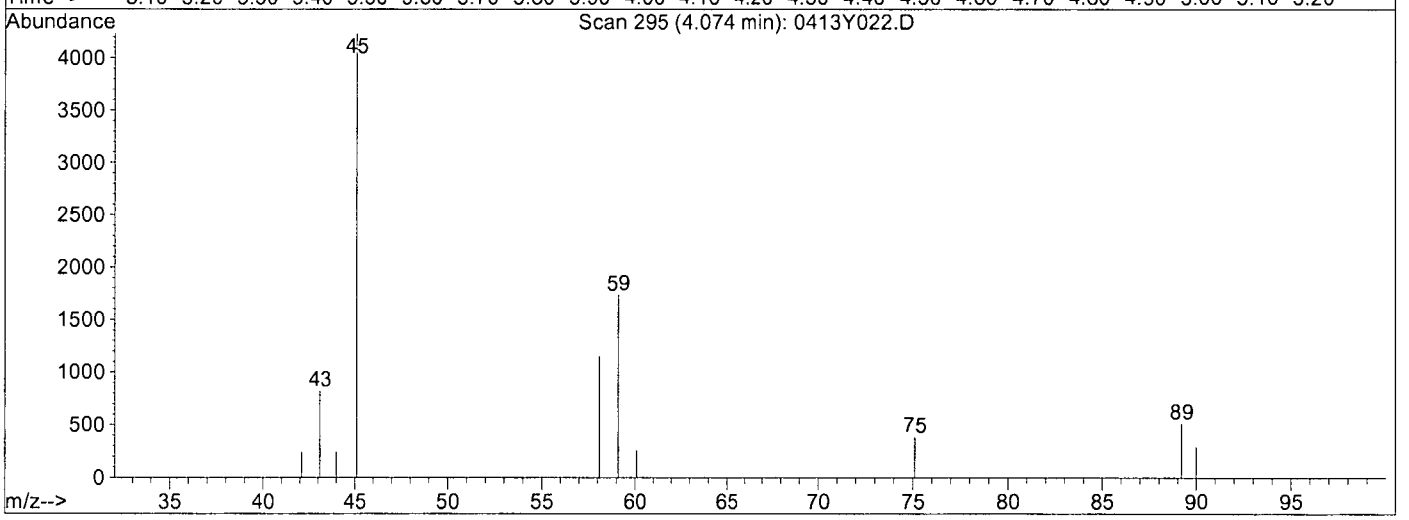
Ion	Exp%	Act%
45.00	100	100
59.00	40.50	40.98
58.00	21.70	27.20
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y022.D Vial: 22
Acq On : 13 Apr 17 21:19 Operator: MA
Sample : AZ53168W42 MS-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:51 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y022.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.07min 54.8309ppb m

response 37223

Ion	Exp%	Act%
45.00	100	100
59.00	40.50	40.98
58.00	21.70	27.20
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170413G\0413Y023.D Vial: 23
Acq On : 13 Apr 17 21:49 Operator: MA
Sample : AZ53168W42 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 8:03 2017 Quant Results File: Y0GLYCOL.RES

Quant Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.76	152	115726	40.00000 ppb	0.00
3) Napthalene-D8(IS)	6.17	136	489380	40.00000 ppb	0.00
4) Acenaphthene-D10(IS)	8.19	164	276942	40.00000 ppb	0.00
5) Phenanthrene-D10(IS)	9.90	188	476210	40.00000 ppb	0.00
6) Chrysene-D12(IS)	12.98	240	450234	40.00000 ppb	0.00
7) Perylene-D12(IS)	14.60	264	421679	40.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) 2-(2-Methoxyethoxy)ethanol	4.11	45	35203m	48.55787 ppb	92

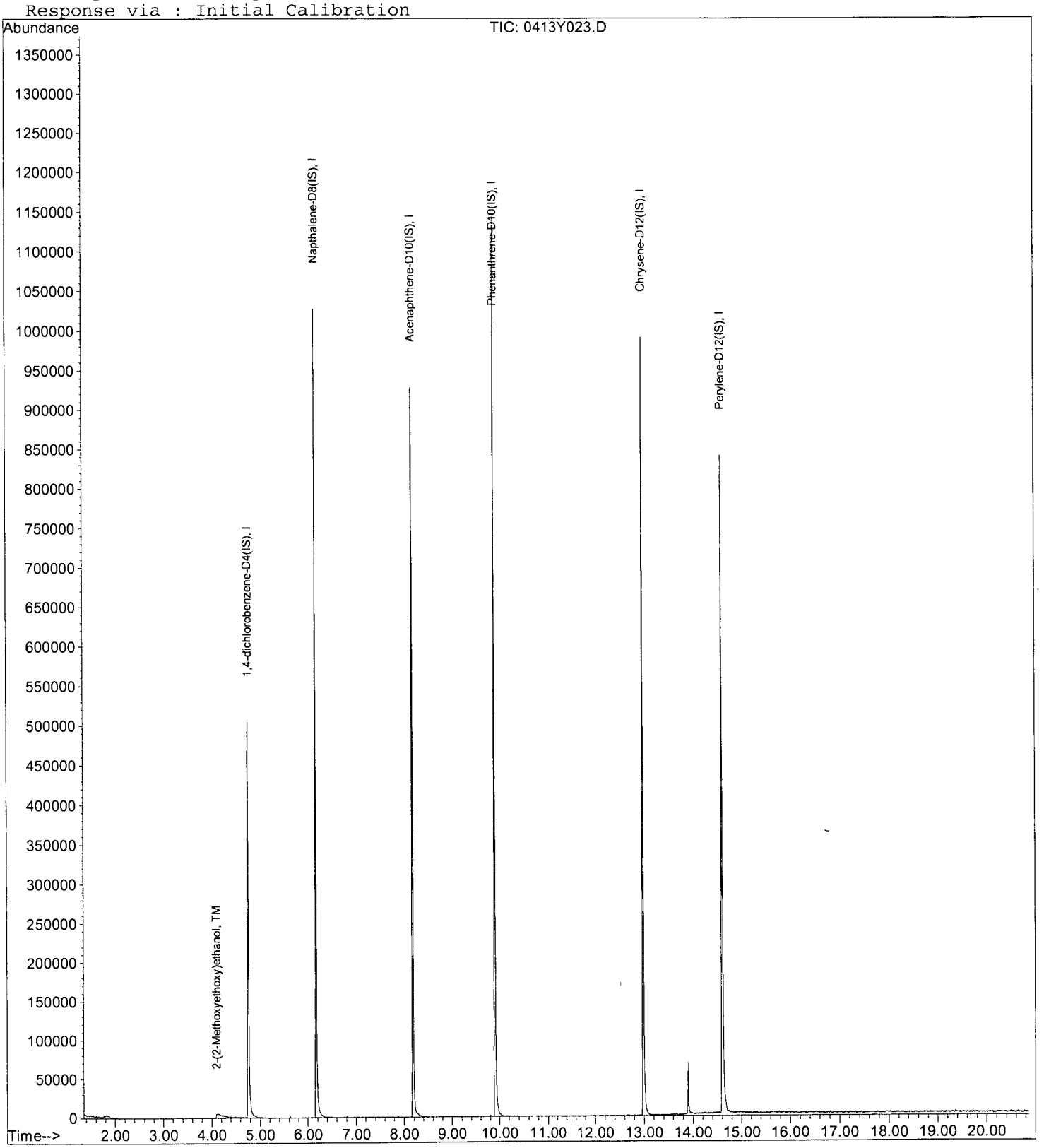
(#) = qualifier out of range (m) = manual integration
0413Y023.D Y0GLYCOL.M Fri Apr 14 09:54:35 2017

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y023.D Vial: 23
Acq On : 13 Apr 17 21:49 Operator: MA
Sample : AZ53168W42 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 14 8:03 2017 Quant Results File: YOGLYCOL.RES

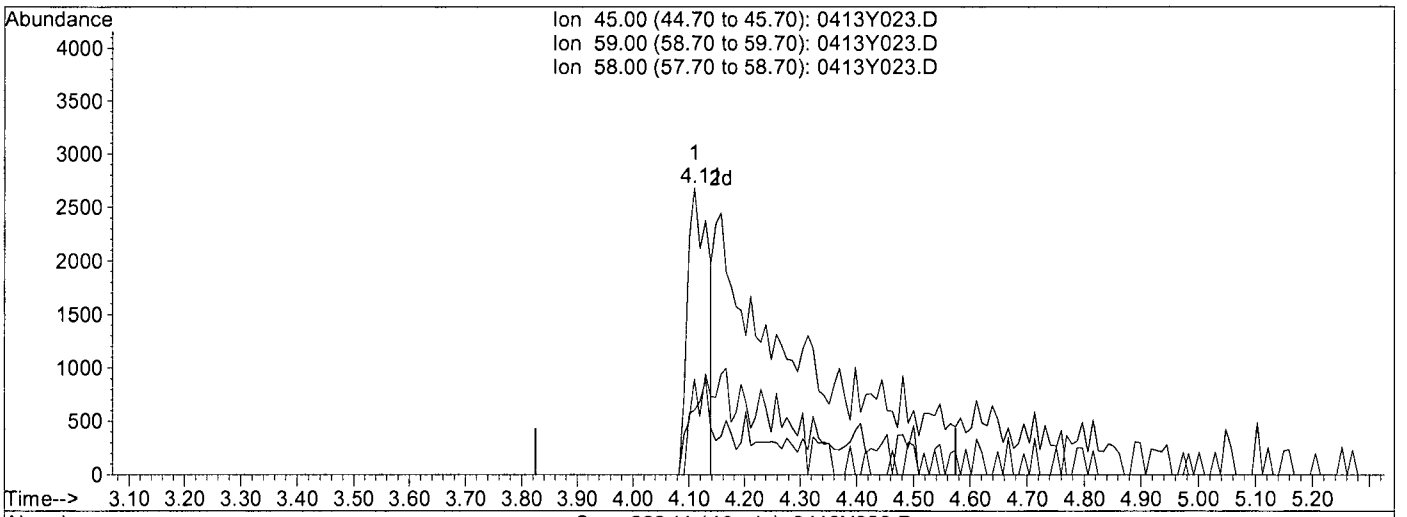
Method : M:\YODA\DATA\Y170413G\YOGLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 08:15:12 2017
Response via : Initial Calibration

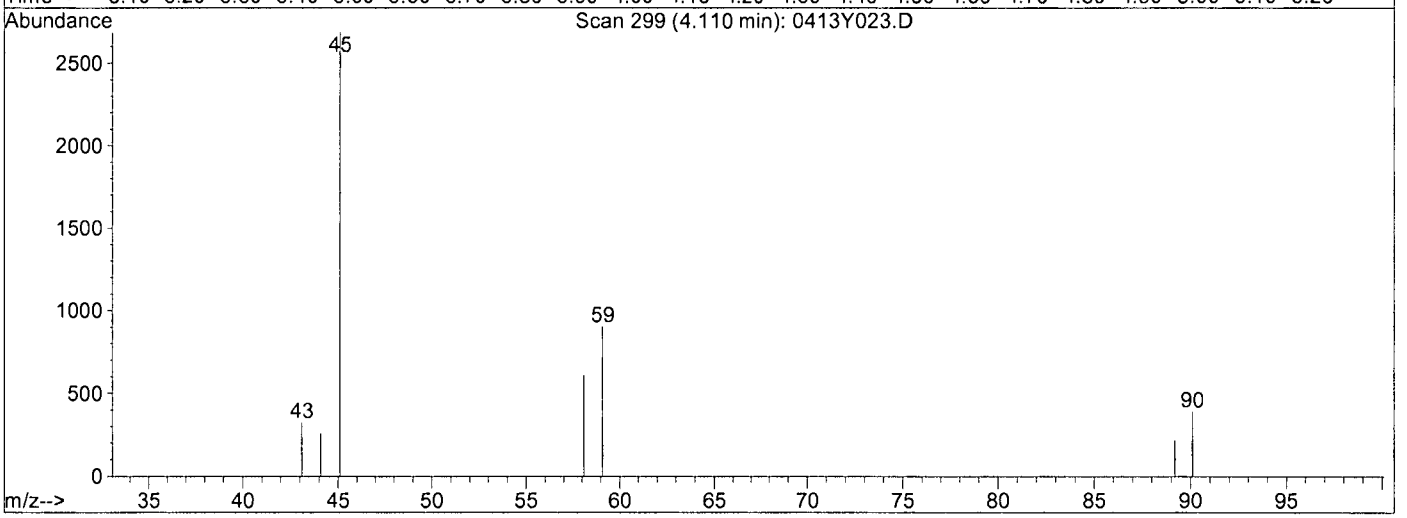


Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y023.D Vial: 23
Acq On : 13 Apr 17 21:49 Operator: MA
Sample : AZ53168W42 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 7:51 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y023.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.11min 9.2956ppb

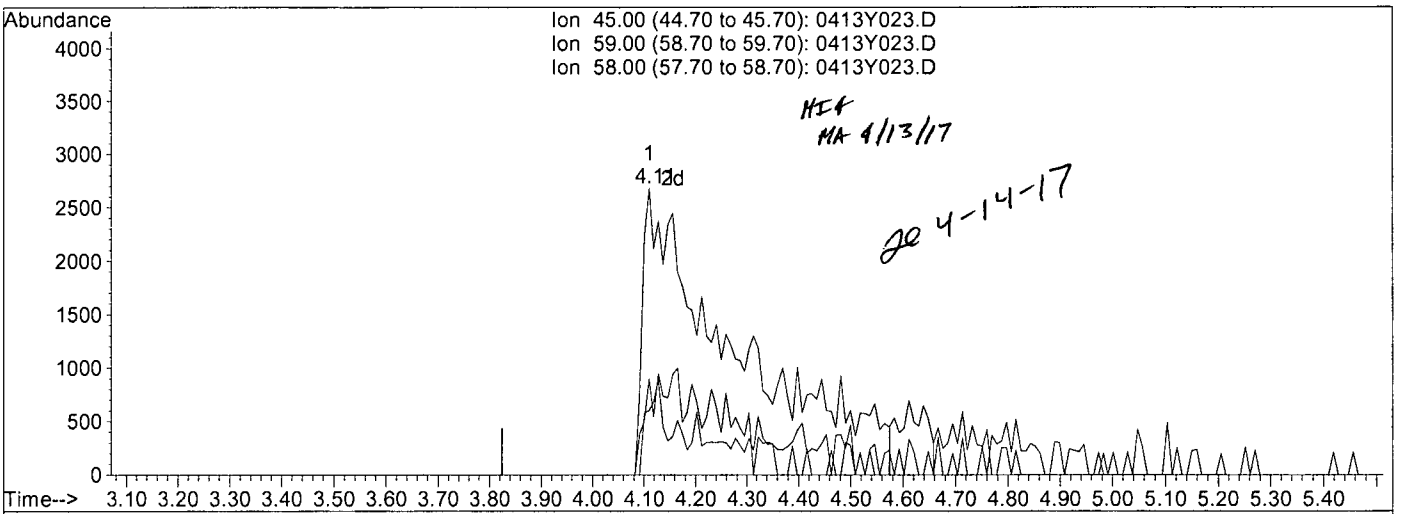
response 6739

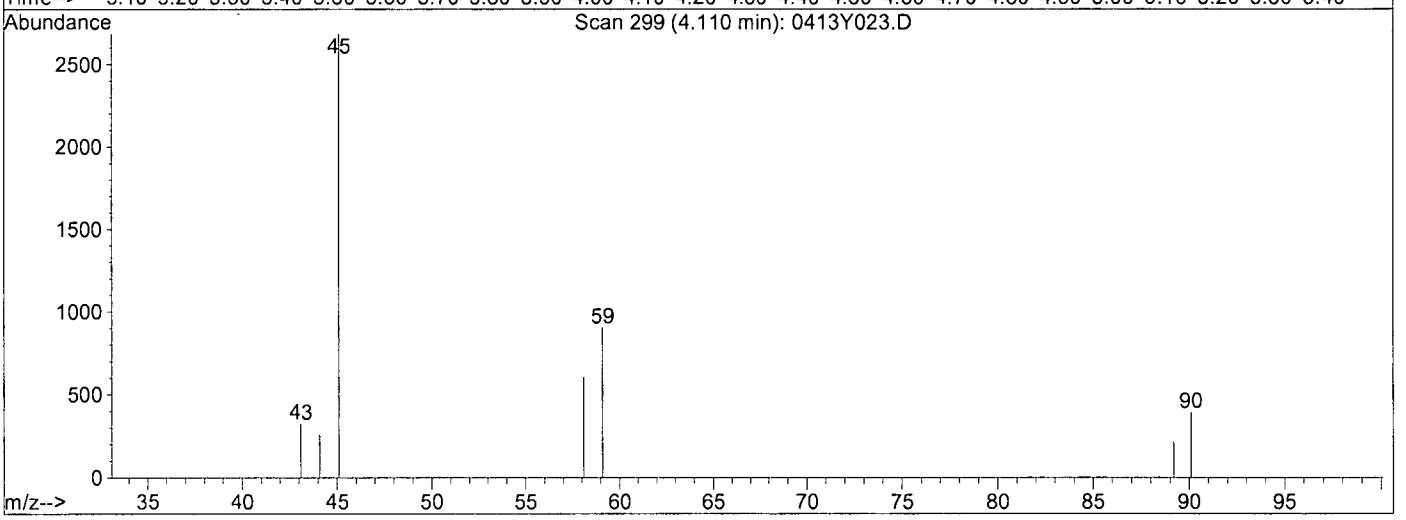
Ion	Exp%	Act%
45.00	100	100
59.00	40.50	33.59
58.00	21.70	22.53
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y170413G\0413Y023.D Vial: 23
Acq On : 13 Apr 17 21:49 Operator: MA
Sample : AZ53168W42 MSD-1 2/500 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Apr 14 8:03 2017 Quant Results File: temp.res

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri Apr 14 07:48:10 2017
Response via : Multiple Level Calibration





TIC: 0413Y023.D

(2) 2-(2-Methoxyethoxy)ethanol (TM)

4.11min 48.5579ppb m

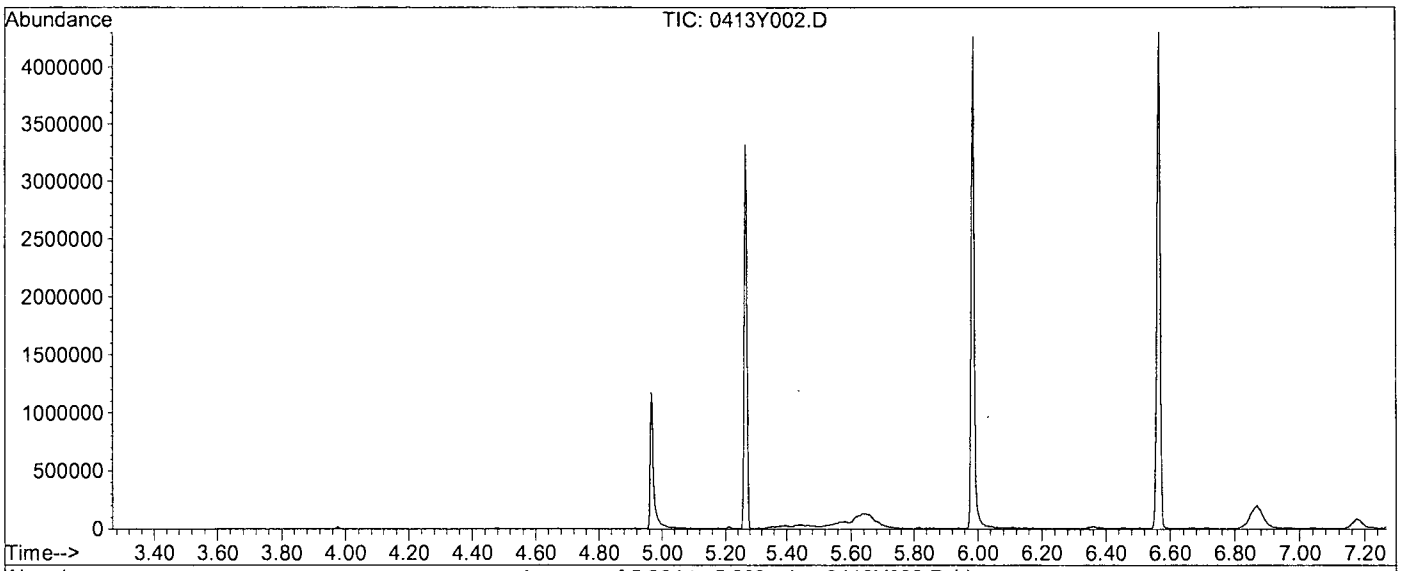
response 35203

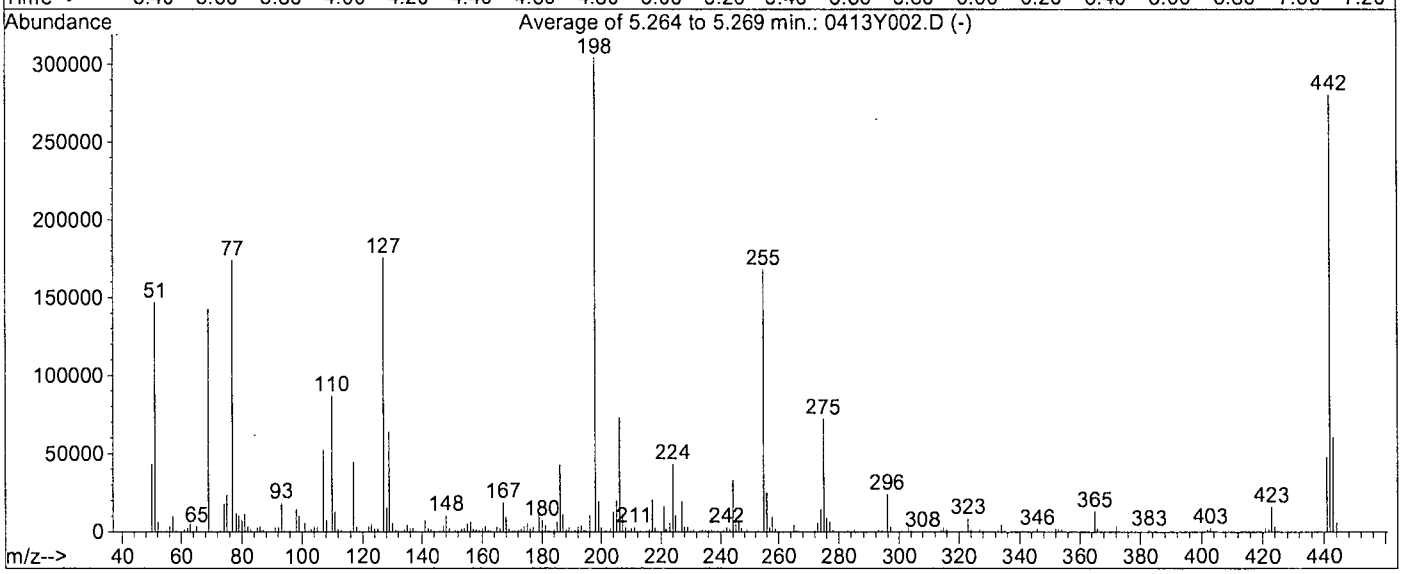
Ion	Exp%	Act%
45.00	100	100
59.00	40.50	33.59
58.00	21.70	22.53
0.00	0.00	0.00

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y002.D Vial: 2
Acq On : 13 Apr 17 9:41 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\Y0GLYCOL.M (RTE Integrator)
Title : EPA 8270C





AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

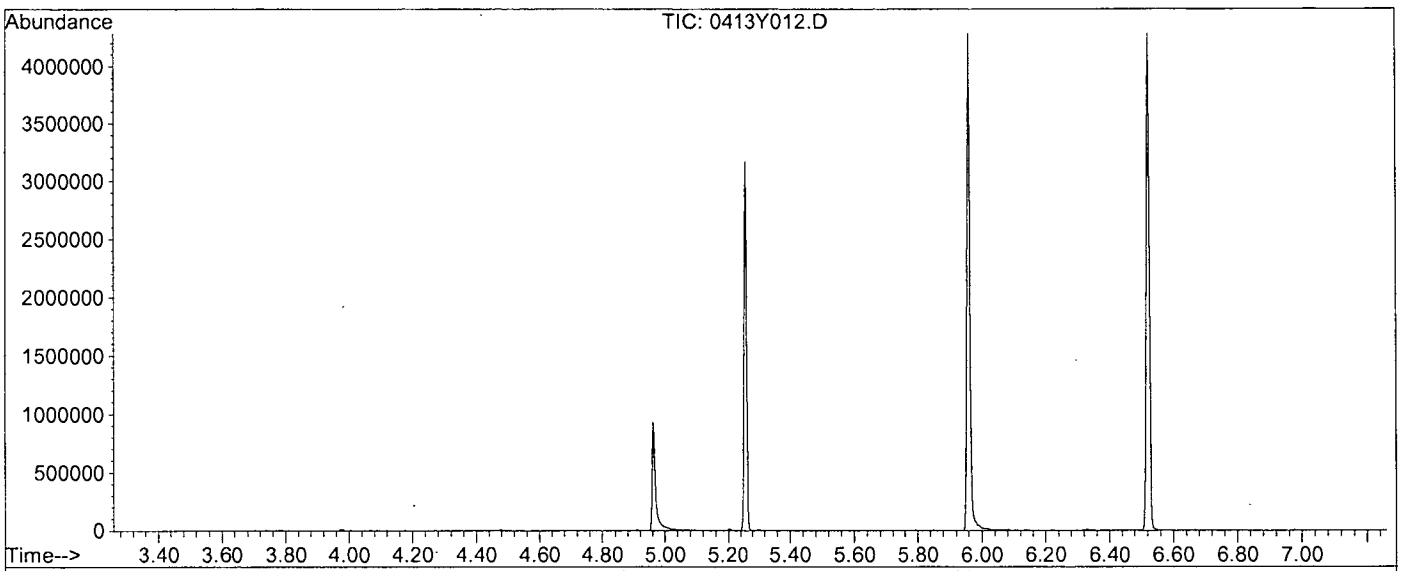
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	147051	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	530	PASS
127	198	40	60	57.7	175637	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	304341	PASS
199	198	5	9	6.4	19568	PASS
275	198	10	30	23.7	72040	PASS
365	198	1	100	4.3	13166	PASS
441	443	0.01	100	78.5	47741	PASS
442	198	50	150	92.2	280597	PASS
443	442	17	23	21.7	60813	PASS

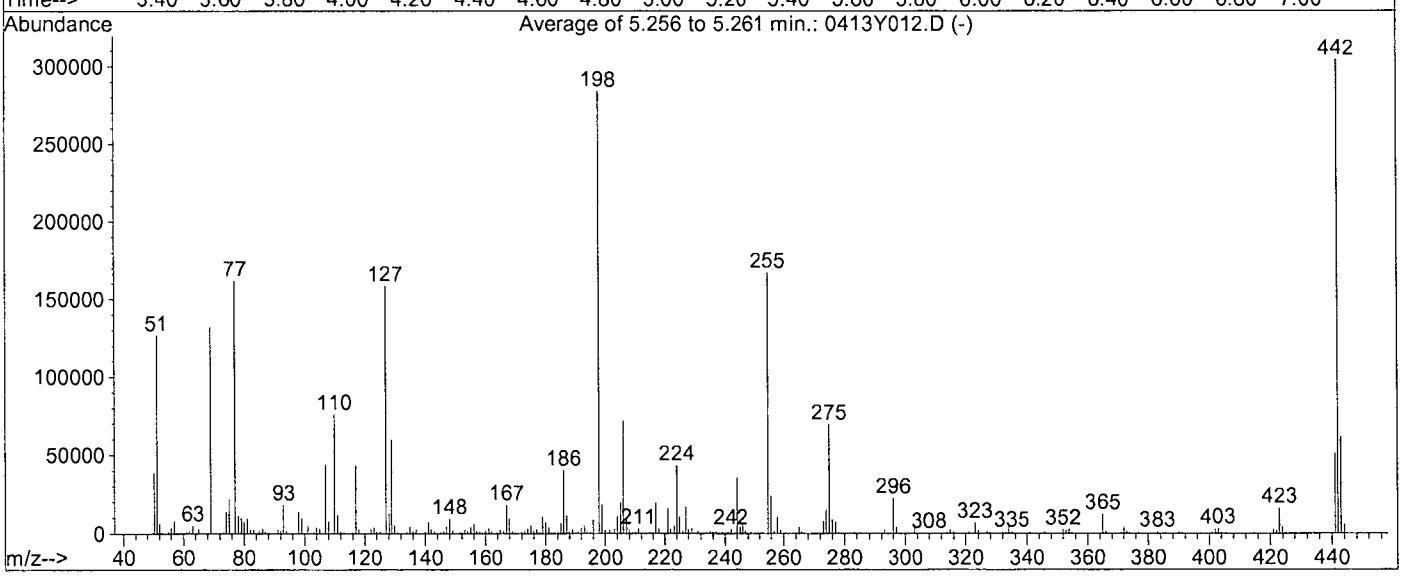
0413Y002.D Y0GLYCOL.M Fri Apr 14 08:11:22 2017

DFTPP

Data File : M:\YODA\DATA\Y170413G\0413Y012.D Vial: 12
Acq On : 13 Apr 17 16:31 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170413G\DFTPP2.M (Chemstation Integrator)
Title :





AutoFind: Scans 668, 669, 670; Background Corrected with Scan 660

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.7	126843	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	623	PASS
127	198	40	60	55.8	158536	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	283925	PASS
199	198	5	9	6.4	18313	PASS
275	198	10	30	24.5	69549	PASS
365	198	1	100	4.3	12094	PASS
441	443	0.01	100	82.4	50832	PASS
442	198	50	150	107.2	304448	PASS
443	442	17	23	20.3	61680	PASS

0413Y012.D DFTPP2.M Fri Apr 14 08:12:37 2017

GED Curve

PREP DATE:	04/12/17 RH									
8270 Standard Curve										
Exp:	02/08/18					**50**	**100**	**200**	**400**	**500**
		Conc.		Date						
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL
	GED MSTD Stock *	2000	VAR	02/09/17	02/18/18	5	5	10	20	50
EM Science	Methanol		010616A			195	95	90	80	150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4	2	2	2	4
				Final Vol.		204	102	102	102	204

* Extracted on 02/09/17

GED Second Source (SS)

PREP DATE:	04/12/17 RH					**500**
Exp:	09/27/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
	GED MSS Stock *	2000	VAR	02/09/17	09/27/17	50
EM Science	Methanol		010616A			150
Supelco	SV Internal Standa	2000	XA14020V-36763	3/23/17	3/23/18	4
				Final Vol.		204

600	**800**	**1000**
µL	µL	µL
30	40	50
70	60	50
2	2	2
102	102	102

Diethylene Glycol						
Prep: 02/08/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
Diethylene glycol monomethyl ether	2000 ug/ml	AcuuStandard Cat# S-72273 Lot# 216101007-37326 and 37327 Op: 02/08/17 EX: 02/08/18	2.0 mL	4 ml	1000 ug/ml	Methanol Lot# 010616A

Given to Extraction to do Diethylene Glycol Method Standard, extracted on 2/9/17

Methoxyethoxyethanol-Neat (MEE) Stock: 9/27/16-R.H. ex: 09/27/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
MEE	Neat 99.5%	HEM SERVIC	0.1154g	10 mL	11540 ug/ml	MC
		Cat: N-12404-1G				
		Lot: 5259000-37082				
		OP: 09/27/16				
		EXP: 09/27/17				

0.087ml were spiked in 500ml of water and extracted on 02/09/17. Final concentration is 2000ug/ml

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1		
Spiked ID 2	MEE 11540ug/Ml 9-27-16 EXP 9-27-17		Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/10/17 13:45	
Spiked ID 8			Ext. End Time:	04/12/17 13:50	
			GC Requires Extract By:	04/11/17 0:00	
			pH1		Water Bath Temp Criteria
			pH2		
			pH3		

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170410A Blk				NA	NA equip	500	2	7	04/10/17 13:45	
2	170410A LCS-1		0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	
3	AZ53059 MS-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
4	AZ53059 MSD-1	AZ53059W23	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82577
5	AZ53059	AZ53059W17			NA	NA equip	500	2	7	04/10/17 13:45	82577
6	AZ53060	AZ53060W07			NA	NA equip	500	2	7	04/10/17 13:45	82577
7	AZ53062	AZ53062W11			NA	NA equip	500	2	7	04/10/17 13:45	82577
8	AZ53064	AZ53064W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
9	AZ53065	AZ53065W06			NA	NA equip	500	2	7	04/10/17 13:45	82577
10	AZ53168 MS-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
11	AZ53168 MSD-1	AZ53168W42	0.040	1	NA	NA equip	500	2	7	04/10/17 13:45	82619
12	AZ53168	AZ53168W44			NA	NA equip	500	2	7	04/10/17 13:45	82619
13	AZ53169	AZ53169W16			NA	NA equip	500	2	7	04/10/17 13:45	82619
14	AZ53170	AZ53170W13			NA	NA equip	500	2	7	04/10/17 13:45	82619
15	AZ53172	AZ53172W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
16	AZ53174	AZ53174W10			NA	NA equip	500	2	7	04/10/17 13:45	82596

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	RH
Date	4/12/17
Time	4:00
Refrigerator	GC-C

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------
Modified	04/10/17 11:39:16 AM

Reviewed By: Ky 570 **Date** 4/12/17

_MWE2MEE

Organic Extraction Worksheet

Method	Solid Phase Extraction of 2MEE in Water	Extraction Set	170410A	Extraction Method	MWE2MEE	Units	mL

Spiked ID 1	Diethylene Glycol 2-8-17 EXP 2-18-18		Surrogate ID 1	
Spiked ID 2	MEE 11540ug/M1 9-27-16 EXP 9-27-17		Surrogate ID 2	
Spiked ID 3			Surrogate ID 3	
Spiked ID 4			Surrogate ID 4	
Spiked ID 5			Surrogate ID 5	
Spiked ID 6			Sufficient Vol for Matrix QC:	YES
Spiked ID 7			Ext. Start Time:	04/10/17 13:45
Spiked ID 8			Ext. End Time:	04/12/17 13:50
			GC Requires Extract By:	**04/11/17 0:00**

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: KY **Date** 04/10/17 **Witnessed By:** CFM **Date** 04/10/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W09			NA	NA equip	500	2	7	04/10/17 13:45	82596
18	AZ53178	AZ53178W10			NA	NA equip	500	2	7	04/10/17 13:45	82596
19	AZ53180	AZ53180W13			NA	NA equip	500	2	7	04/10/17 13:45	82596
20	AZ53260	AZ53260W12			NA	NA equip	500	2	7	04/10/17 13:45	82611
21	AZ53261	AZ53261W10			NA	NA equip	500	2	7	04/10/17 13:45	82611
22	AZ53263	AZ53263W14			NA	NA equip	500	2	7	04/10/17 13:45	82611
23	AZ53264	AZ53264W05			NA	NA equip	500	2	7	04/10/17 13:45	82611
24	AZ53266	AZ53266W09			NA	NA equip	500	2	7	04/10/17 13:45	82611
25	SS		0.087	2	NA	NA equip	500	2	7	04/10/17 13:45	

Ky 4/12/17

Solvent and Lot#	
ENVI-Carb Plus 400MG/1ML	.
Reverible Tube Lot:	8088705
PH Strip	hc 681919
Di Water	4-10-17
Dichloromethane	56258
Methanol	080816a

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	KY
Sample Preparation	KY
Extraction	KY,CFM
Concentration	----------

Modified	04/10/17 11:39:16 AM

Reviewed By: Ky **Date** 4/12/17

Injection Log

Directory: M:\YODA\DATA\Y170413G\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0413Y002.D	1	SV Tune 03/29/17		13 Apr 17 9:41
3	0413Y003.D	1	50ug/ml DEG 04/12/17		13 Apr 17 9:57
4	0413Y004.D	1	100ug/ml DEG 04/12/17		13 Apr 17 10:27
5	0413Y005.D	1	200ug/ml DEG 04/12/17		13 Apr 17 10:57
6	0413Y006.D	1	400ug/ml DEG 04/12/17		13 Apr 17 11:27
7	0413Y007.D	1	500ug/ml DEG 04/12/17		13 Apr 17 11:57
8	0413Y008.D	1	600ug/ml DEG 04/12/17		13 Apr 17 14:02
9	0413Y009.D	1	800ug/ml DEG 04/12/17		13 Apr 17 14:32
10	0413Y010.D	1	1000ug/ml DEG 04/12/17		13 Apr 17 15:03
11	0413Y011.D	1	SS2 DEG 04/12/17		13 Apr 17 16:03
12	0413Y012.D	1	SV Tune 03/29/17		13 Apr 17 16:31
13	0413Y013.D	1	170410A BLK 2/500		13 Apr 17 16:48
14	0413Y014.D	1	170410A LCS-1 2/500		13 Apr 17 17:18
22	0413Y022.D	1	AZ53168W42 MS-1 2/500		13 Apr 17 21:19
23	0413Y023.D	1	AZ53168W42 MSD-1 2/500		13 Apr 17 21:49
24	0413Y024.D	1	AZ53168W44 2/500		13 Apr 17 22:19
25	0413Y025.D	1	AZ53169W16 2/500		13 Apr 17 22:49
26	0413Y026.D	1	AZ53170W13 2/500		13 Apr 17 23:19
34	0413Y034.D	1	500ug/ml DEG 04/12/17		14 Apr 17 3:17

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank

EPA 8270D - 1,4-DIOXANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217838**
Batch ID: #14HP-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.4	50-134			%	04/07/17	04/10/17

Quant Method: DIX0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 4:08:33 PM

EPA 8270D-14D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	44-119	66.9		44-120	71.4	
170407A-LCS	Lab Control Spike	44-119	62.3		44-120	70.2	
AZ53168-MS	Matrix Spike	44-119	52.1		44-120	65.0	
AZ53168-MSD	Matrix SpikeD	44-119	51.0		44-120	65.4	
AZ53168	ERH307	44-119	54.5		44-120	61.4	
AZ53169	ERH314	44-119	61.2		44-120	75.4	
AZ53170	ERH315	44-119	68.2		44-120	67.8	

Comments: Batch: #14HP-170407A

Printed: 04/13/17 4:08:34 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8270D-14D

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407A-BLK	Blank	50-134	78.4				
170407A-LCS	Lab Control Spike	50-134	78.9				
AZ53168-MS	Matrix Spike	50-134	69.1				
AZ53168-MSD	Matrix SpikeD	50-134	67.6				
AZ53168	ERH307	50-134	70.1				
AZ53169	ERH314	50-134	79.0				
AZ53170	ERH315	50-134	74.8				

Comments: Batch: #14HP-170407A

Printed: 04/13/17 4:08:34 PM
Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery
EPA 8270D - 1,4-DIOXANE

APPL ID: **170407W-53168 LCS - 217838**
Batch ID: #14HP-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,4-DIOXANE	5.00	2.51	50.2	40-129
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: TERPHENYL-D14 (S)	100	78.9	78.9	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/13/17 4:08:37 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8270D - 1,4-DIOXANE

APPL ID: **170407W-53168 MS - 217838**
Batch ID: #14HP-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,4-DIOXANE	5.00	ND	2.19	2.47	43.8	49.4	40-129	12.0	30
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.6	69.1	67.6	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Printed: 04/13/17 4:08:54 PM
APPL MSD SCII

EPA 8270D-14

Form 4

Blank Summary

Lab Name: APPL, Inc.
Case No: 82619
Matrix: WATER
Blank ID: 170407A-BLK

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 1204

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407A-BLK	Blank	0404Y039	04/10/17 1204
170407A-LCS	Lab Control Spike	0404Y040	04/10/17 1234
170407A-MS	Matrix Spike	0404Y049	04/10/17 1709
170407A-MSD	Matrix SpikeD	0404Y050	04/10/17 1739
AZ53168	ERH307	0404Y051	04/10/17 1810
AZ53169	ERH314	0404Y052	04/10/17 1841
AZ53170	ERH315	0404Y053	04/10/17 1911

Comments: Batch: #14HP-170407A

Printed: 04/13/17 4:09:02 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No:
Matrix: Water
ID: SV Tune 03/29/17

SDG No:
Date Analyzed: 04/04/17
Instrument: Yoda
Time Analyzed: 8:25

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 03/30/17	0404Y003.D	04/04/17 8:42
2		10ug/ml SVOC 03/30/1	0404Y004.D	04/04/17 9:13
3		20ug/ml SVOC 03/30/1	0404Y005.D	04/04/17 9:43
4		40ug/ml SVOC 03/30/1	0404Y006.D	04/04/17 10:14
5		50ug/ml SVOC 03/30/1	0404Y007.D	04/04/17 10:45
6		60ug/ml SVOC 03/30/1	0404Y008.D	04/04/17 11:16
7		80ug/ml SVOC 03/30/1	0404Y009.D	04/04/17 11:47
8		100ug/ml SVOC 03/30/	0404Y010.D	04/04/17 12:18
9		SS 50ug/ml SVOC 04/0	0404Y012.D	04/04/17 15:38
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	49.7
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.5
127	40 - 60% of mass 198	59.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.9
275	10 - 30% of mass 198	24.4
365	1 - 100% of mass 198	4.2
441	0.01 - 100% of mass 443	86.3
442	50 - 150% of mass 197.95	93.6
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: SV Tune 03/29/17

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Yoda
Time Analyzed: 10:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 03/30/1	0404Y038.D	04/10/17 11:15
2	Blank	170407A BLK 1/1000	0404Y039.D	04/10/17 12:04
3	Lab Control Spike	170407A LCS-1 1/1000	0404Y040.D	04/10/17 12:34
4		AZ53168W35 MS-1 1/10	0404Y049.D	04/10/17 17:09
5		AZ53168W47 MSD-1 1/1	0404Y050.D	04/10/17 17:39
6	ERH307	AZ53168W48 1/1020	0404Y051.D	04/10/17 18:10
7	ERH314	AZ53169W13 1/980	0404Y052.D	04/10/17 18:41
8	ERH315	AZ53170W14 1/1050	0404Y053.D	04/10/17 19:11
9		50ug/ml SVOC 03/30/1	0404Y060.D	04/10/17 22:25
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	48.3
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	58.1
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 197.95	100.0
199	5 - 9% of mass 198	6.4
275	10 - 30% of mass 198	24.7
365	1 - 100% of mass 198	4.1
441	0.01 - 100% of mass 443	92.8
442	50 - 150% of mass 197.95	98.6
443	17 - 23% of mass 442	19.4

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc.
Contract: Review
Lab Code:
SDG No.: 82619
Lab File ID (Standard): 0404Y007.D
Date Analyzed: 4 Apr 17 10:45
Instrument ID: Yoda
Time Analyzed: 4 Apr 17 10:45
GC Column: ID: Heated Purge: (Y/N)

	1,4-dichlorobenzene-D4(IS)			Napthalene-D8(IS)		Acenaphthene-D10(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	112989	4.73	438983	6.17	266513	8.19
	UPPER LIMIT	225978	5.23	877966	6.67	533026	8.69
	LOWER LIMIT	56495	4.23	219492	5.67	133257	7.69
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	135139	4.73	551655	6.17	344147	8.19
02	170407A BLK 1/1000	108124	4.73	474326	6.16	271985	8.18
03	170407A LCS-1 1/1000	123700	4.73	522144	6.17	311786	8.18
04	AZ53168W35 MS-1 1/1(	117317	4.73	471004	6.17	278303	8.19
05	AZ53168W47 MSD-1 1/	113246	4.73	497471	6.17	289478	8.19
06	AZ53168W48 1/1020	122756	4.73	543005	6.17	321052	8.18
07	AZ53169W13 1/980	112319	4.74	474751	6.17	317457	8.18
08	AZ53170W14 1/1050	113649	4.73	489153	6.17	265061	8.18
09	50ug/ml SVOC 03/30/17	103117	4.73	454712	6.17	247811	8.19
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0404Y007.D Date Analyzed: 4 Apr 17 10:45

Instrument ID: Yoda Time Analyzed: 4 Apr 17 10:45

GC Column: ID: Heated Purge: (Y/N)

		Phenanthrene-D10(IS)		Chrysene-D12(IS)		Perylene-D12(IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	520011	9.90	487381	12.99	454025	14.60
	UPPER LIMIT	1040022	10.40	974762	13.49	908050	15.10
	LOWER LIMIT	260006	9.40	243691	12.49	227013	14.10
	SAMPLE NO.						
01	50ug/ml SVOC 03/30/17	623714	9.90	612103	12.99	581377	14.60
02	170407A BLK 1/1000	525349	9.90	515905	12.99	444609	14.60
03	170407A LCS-1 1/1000	533639	9.90	489414	12.98	425790	14.60
04	AZ53168W35 MS-1 1/1(	520977	9.91	536739	12.99	537936	14.60
05	AZ53168W47 MSD-1 1/	533732	9.91	584868	12.99	550669	14.60
06	AZ53168W48 1/1020	545503	9.90	521954	12.99	485195	14.60
07	AZ53169W13 1/980	521350	9.90	503735	12.98	510203	14.60
08	AZ53170W14 1/1050	481136	9.91	494483	12.99	472514	14.60
09	50ug/ml SVOC 03/30/17	511779	9.91	468248	12.99	454493	14.60
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #14HP-170407A-217838

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-14	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: 2-FLUORBIPHENYL (S)	54.5	44-119			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: NITROBENZENE-D5 (S)	61.4	44-120			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: TERPHENYL-D14 (S)	70.1	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y051
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 4:09:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y051.D Vial: 51
Acq On : 10 Apr 17 18:10 Operator: MA
Sample : AZ53168W48 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	122756	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	543005	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	321052	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	545503	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	521954	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	485195	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	355122	88.20740 ppb	0.00
Spiked Amount 196.078			Recovery = 44.986%		
4) Phenol-D6 (S)	4.38	99	297294	58.97864 ppb	0.00
Spiked Amount 196.078			Recovery = 30.079%		
6) Nitrobenzene-D5(S)	5.37	82	345214	60.20694 ppb	0.00
Spiked Amount 98.039			Recovery = 61.411%		
8) 2-Fluorobiphenyl(S)	7.42	172	548148	53.39931 ppb	0.00
Spiked Amount 98.039			Recovery = 54.467%		
9) 2,4,6-Tribromophenol(S)	9.11	330	181859	123.46777 ppb	0.00
Spiked Amount 196.078			Recovery = 62.969%		
12) Terphenyl-D14(S)	11.77	244	774438	68.68038 ppb	0.00
Spiked Amount 98.039			Recovery = 70.054%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404Y051.D DIX0404.M Thu Apr 13 15:55:18 2017

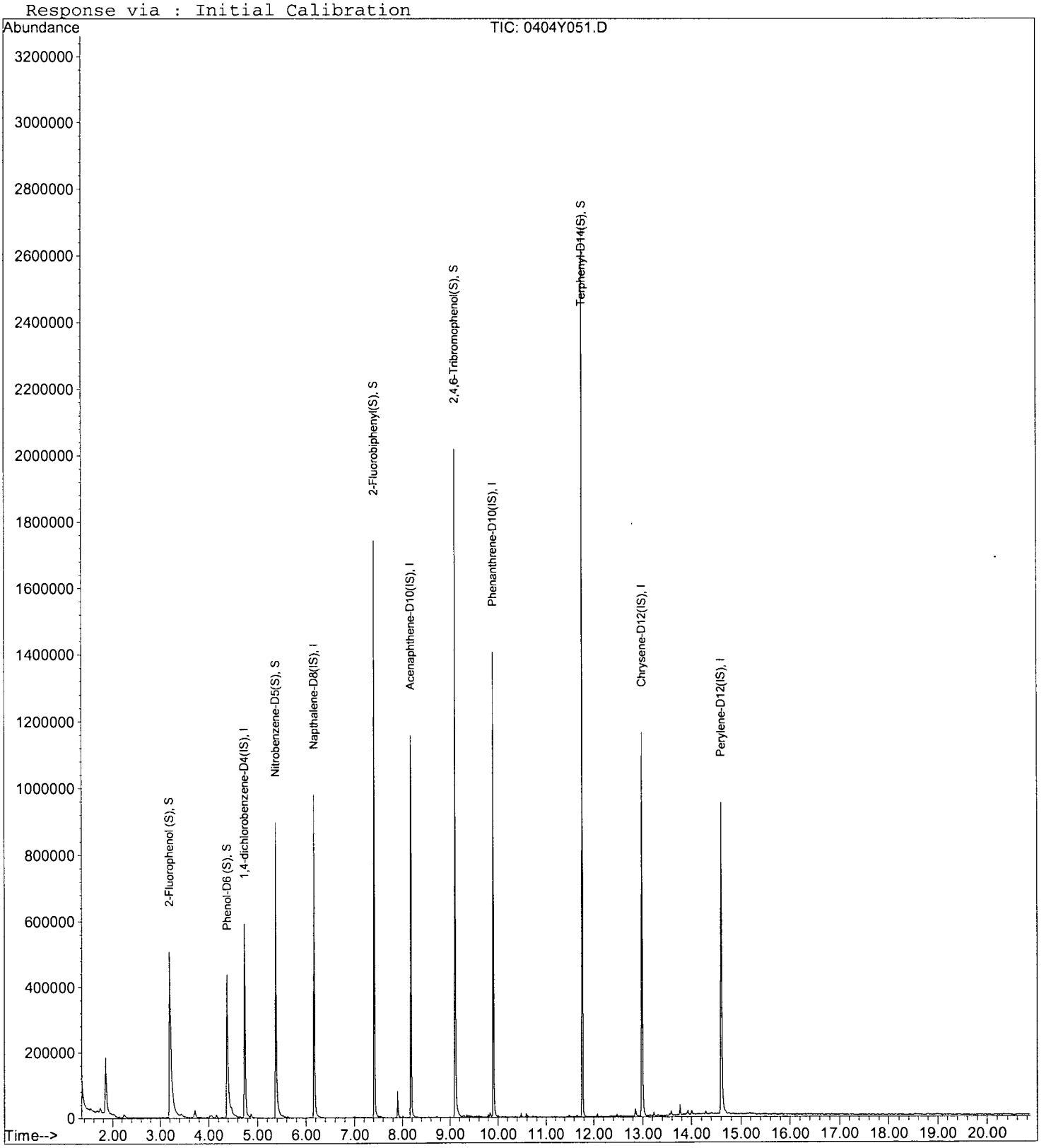
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y051.D
Acq On : 10 Apr 17 18:10
Sample : AZ53168W48 1/1020
Misc : water

Vial: 51
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 13 15:41 2017
Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #14HP-170407A-217838

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-14	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: 2-FLUORBIPHENYL (S)	61.2	44-119			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: NITROBENZENE-D5 (S)	75.4	44-120			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: TERPHENYL-D14 (S)	79.0	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y052
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 4:09:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y052.D
Acq On : 10 Apr 17 18:41
Sample : AZ53169W13 1/980
Misc : water

Vial: 52
Operator: MA
Inst : Yoda
Multiplr: 1.02

Quant Time: Apr 13 15:41 2017
Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.74	152	112319	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	474751	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	317457	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	521350	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	503735	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	510203	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	390860	110.43685 ppb	0.00
Spiked Amount 204.082			Recovery	= 54.114%	
4) Phenol-D6 (S)	4.38	99	330723	74.63428 ppb	0.00
Spiked Amount 204.082			Recovery	= 36.571%	
6) Nitrobenzene-D5(S)	5.37	82	370331	76.88861 ppb	0.00
Spiked Amount 102.041			Recovery	= 75.351%	
8) 2-Fluorobiphenyl(S)	7.41	172	609063	62.45487 ppb	0.00
Spiked Amount 102.041			Recovery	= 61.206%	
9) 2,4,6-Tribromophenol(S)	9.11	330	196608	140.50322 ppb	0.00
Spiked Amount 204.082			Recovery	= 68.846%	
12) Terphenyl-D14(S)	11.78	244	842905	80.61773 ppb	0.00
Spiked Amount 102.041			Recovery	= 79.006%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

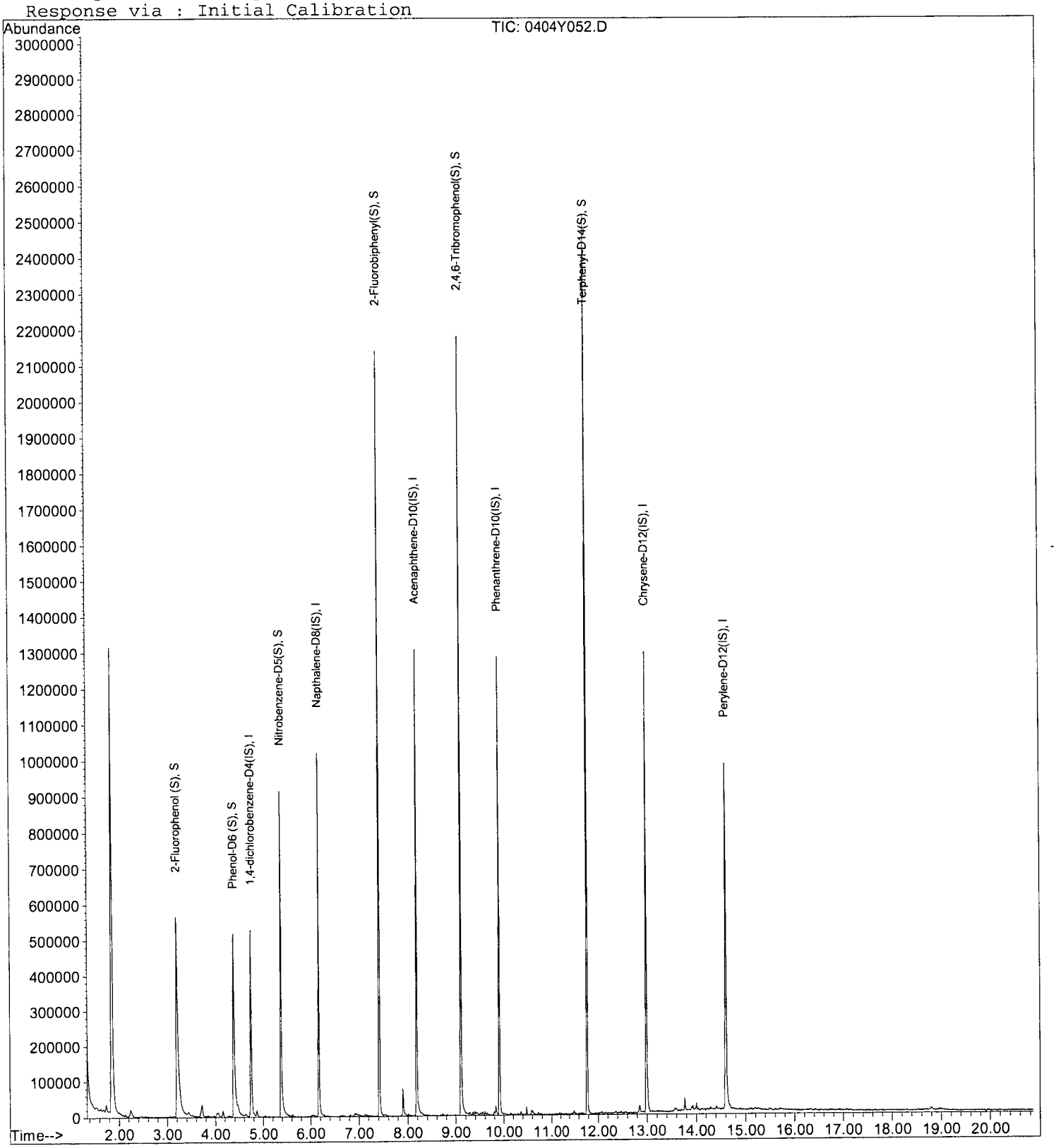
Data File : M:\YODA\DATA\Y170404\0404Y052.D
Acq On : 10 Apr 17 18:41
Sample : AZ53169W13 1/980
Misc : water

Vial: 52
Operator: MA
Inst : Yoda
Multiplr: 1.02

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



EPA 8270D - 1,4-DIOXANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #14HP-170407A-217838

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8270D-14	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: 2-FLUORBIPHENYL (S)	68.2	44-119			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: NITROBENZENE-D5 (S)	67.8	44-120			%	04/07/17	04/10/17
EPA 8270D-14	SURROGATE: TERPHENYL-D14 (S)	74.8	50-134			%	04/07/17	04/10/17

Quant Method: Y0404.M
Run #: 0404Y053
Instrument: Yoda
Sequence: Y170404
Dilution Factor: 1
Initials: MA

Printed: 04/13/17 4:09:03 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113649	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	489153	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	265061	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	481136	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	494483	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	472514	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	344233	89.71570 ppb	0.00
Spiked Amount 190.476			Recovery	= 47.101%	
4) Phenol-D6 (S)	4.37	99	279134	58.10451 ppb	0.00
Spiked Amount 190.476			Recovery	= 30.505%	
6) Nitrobenzene-D5(S)	5.38	82	343558	64.61431 ppb	0.00
Spiked Amount 95.238			Recovery	= 67.845%	
8) 2-Fluorobiphenyl(S)	7.42	172	566850	64.97509 ppb	0.00
Spiked Amount 95.238			Recovery	= 68.224%	
9) 2,4,6-Tribromophenol(S)	9.11	330	186577	149.04515 ppb	0.00
Spiked Amount 190.476			Recovery	= 78.249%	
12) Terphenyl-D14(S)	11.77	244	783658	71.26312 ppb	0.00
Spiked Amount 95.238			Recovery	= 74.826%	

Target Compounds Qvalue

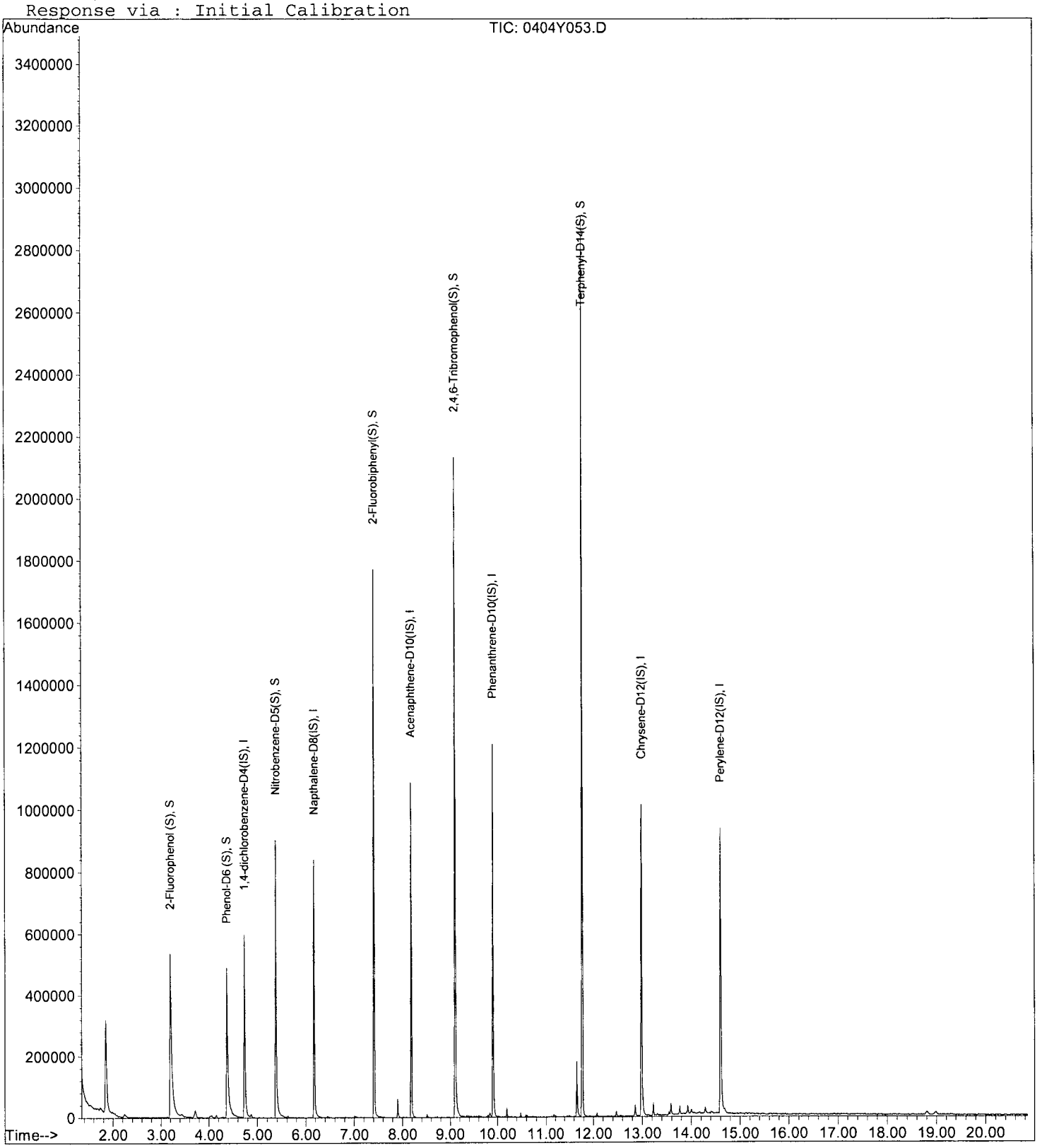
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y053.D Vial: 53
Acq On : 10 Apr 17 19:11 Operator: MA
Sample : AZ53170W14 1/1050 Inst : Yoda
Misc : water Multiplr: 0.95

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



ORGANICS

Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Yoda

Initials:

		Compound	5	10	20	40	50	60	80	100			Avg	%RSD		
			0404Y003.D	0404Y004.D	0404Y005 D	0404Y006.D	0404Y007.D	0404Y008 D	0404Y009.D	0404Y010 D						
1	I	1,4-dichlorobenzene-D4(IS)														
2	TM	1,4-Dioxane	0.6726	0.6833	0.7908	0.7910	0.7989	0.7521	0.6435	0.7405			0.73	8.2	TM	
3	S	2-Fluorophenol (S)	0.9824	1.098	1.344	1.387	1.373	1.412	1.358	1.335			1.3	12	S	
4	S	Phenol-D6 (S)	1.568	1.790	1.655	1.660	1.662	1.623	1.503	1.421			1.6	7.0	S	
5	I	Napthalene-D8(IS)														
6	S	Nitrobenzene-D5(S)	0.3415	0.4112	0.3654	0.4217	0.4297	0.4695	0.4470	0.4267			0.41	10	S	
7	I	Acenaphthene-D10(IS)														
8	S	2-Fluorobiphenyl(S)	1.264	1.213	1.499	1.186	1.297	1.198	1.177	1.197			1.3	8.6	S	
9	S	2,4,6-Tribromophenol(S)	0.1744	0.1757	0.1853	0.1780	0.1915	0.1743	0.1737	0.1864			0.18	3.8	S	
10	I	Phenanthrene-D10(IS)														
11	I	Chrysene-D12(IS)														
12	S	Terphenyl-D14(S)	0.8865	0.9626	0.8702	0.8749	0.9205	0.6824	0.7851	0.7954			0.85	10	S	
13	I	Perylene-D12(IS)														
14																
15																
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35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y003.D Vial: 3
Acq On : 4 Apr 17 8:42 Operator: MA
Sample : 5ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	132626	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	554546	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	321122	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	557637	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	560574	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	482819	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.25	112	32572	7.63646 ppb	0.05
Spiked Amount 200.000			Recovery	= 3.818%	
4) Phenol-D6 (S)	4.40	99	51987	9.73685 ppb	0.03
Spiked Amount 200.000			Recovery	= 4.869%	
6) Nitrobenzene-D5(S)	5.39	82	23671	4.12305 ppb	0.02
Spiked Amount 100.000			Recovery	= 4.123%	
8) 2-Fluorobiphenyl(S)	7.41	172	50729	5.03838 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.038%	
9) 2,4,6-Tribromophenol(S)	9.11	330	14001	9.72819 ppb	0.00
Spiked Amount 200.000			Recovery	= 4.864%	
12) Terphenyl-D14(S)	11.77	244	62116	5.24115 ppb	0.00
Spiked Amount 100.000			Recovery	= 5.241%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	1115	0.42091 ppb	72

(#) = qualifier out of range (m) = manual integration
0404Y003.D DIX0404.M Thu Apr 13 15:54:30 2017

Quantitation Report

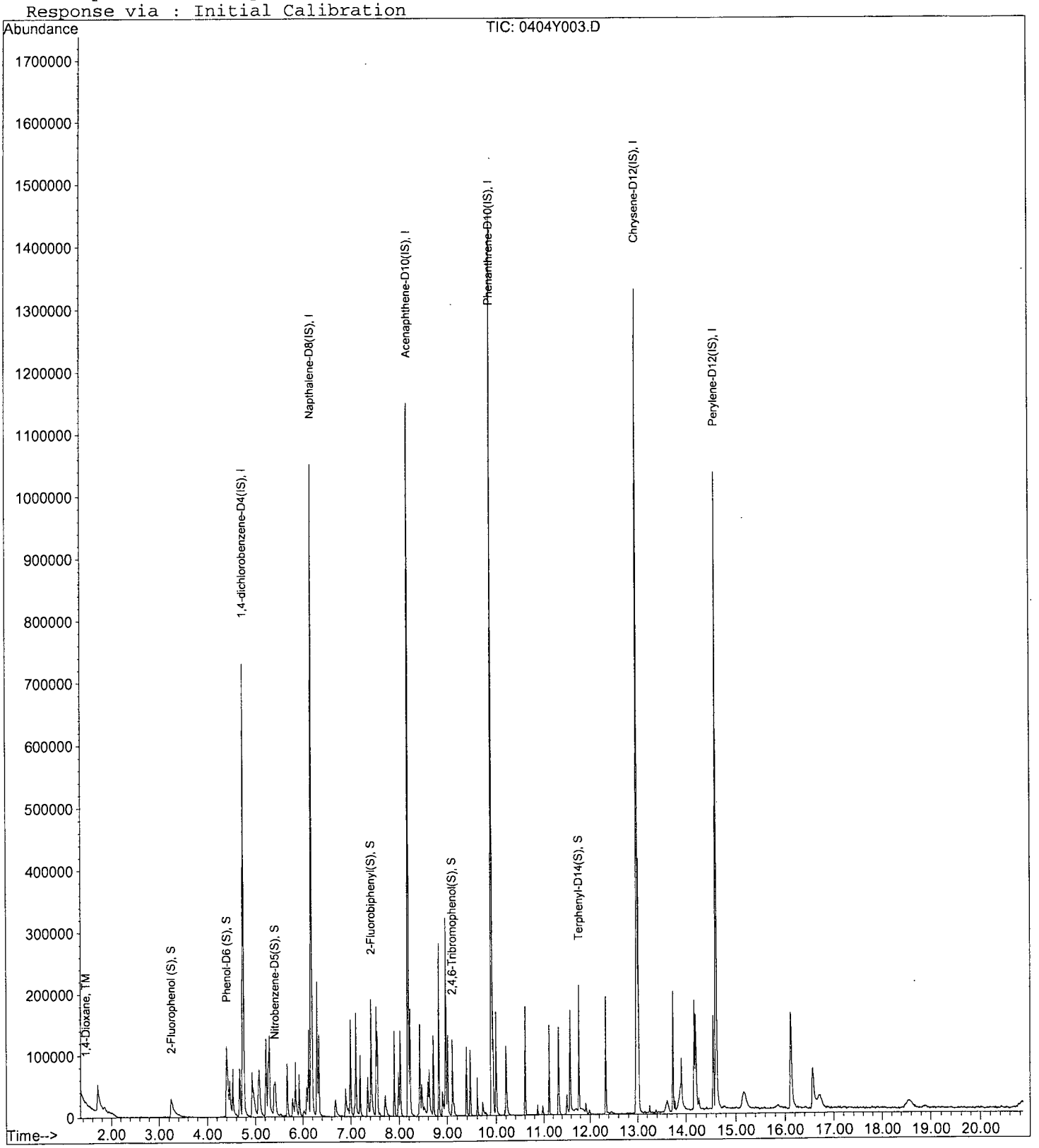
Data File : M:\YODA\DATA\Y170404\0404Y003.D
Acq On : 4 Apr 17 8:42
Sample : 5ug/ml SVOC 03/30/17
Misc :

Vial: 3
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120470	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	490071	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	328706	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	519399	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	528155	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	455283	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.22	112	66141	17.07136 ppb	0.03
Spiked Amount 200.000			Recovery	= 8.536%	
4) Phenol-D6 (S)	4.38	99	107821	22.23192 ppb	0.00
Spiked Amount 200.000			Recovery	= 11.116%	
6) Nitrobenzene-D5(S)	5.38	82	50379	9.92957 ppb	0.00
Spiked Amount 100.000			Recovery	= 9.930%	
8) 2-Fluorobiphenyl(S)	7.41	172	99689	9.67263 ppb	0.00
Spiked Amount 100.000			Recovery	= 9.673%	
9) 2,4,6-Tribromophenol(S)	9.10	330	28874	19.59938 ppb	-0.01
Spiked Amount 200.000			Recovery	= 9.800%	
12) Terphenyl-D14(S)	11.77	244	127101	11.38265 ppb	0.00
Spiked Amount 100.000			Recovery	= 11.383%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	2058	0.85528 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

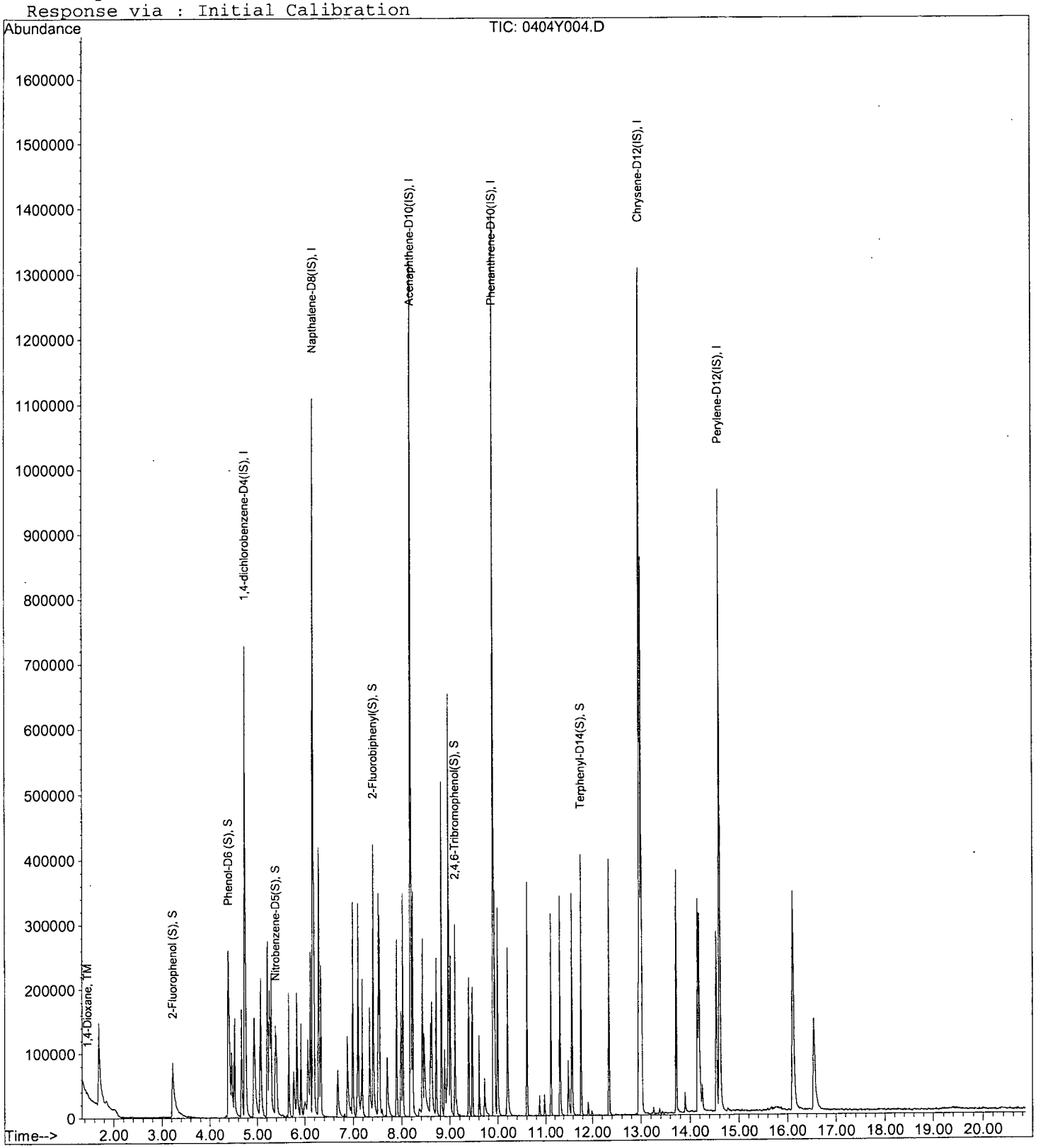
Data File : M:\YODA\DATA\Y170404\0404Y004.D
Acq On : 4 Apr 17 9:13
Sample : 10ug/ml SVOC 03/30/17
Misc :

Vial: 4
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y005.D Vial: 5
Acq On : 4 Apr 17 9:43 Operator: MA
Sample : 20ug/ml SVOC 03/30/17 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	125995	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	539646	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	298931	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	560845	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	549110	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	488522	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	169393	41.80406 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.902%	
4) Phenol-D6 (S)	4.37	99	208566	41.11901 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.560%	
6) Nitrobenzene-D5(S)	5.37	82	98581	17.64509 ppb	0.00
Spiked Amount 100.000			Recovery	= 17.645%	
8) 2-Fluorobiphenyl(S)	7.42	172	224034	23.90275 ppb	0.00
Spiked Amount 100.000			Recovery	= 23.903%	
9) 2,4,6-Tribromophenol(S)	9.11	330	55378	41.33418 ppb	0.00
Spiked Amount 200.000			Recovery	= 20.667%	
12) Terphenyl-D14(S)	11.77	244	238911	20.57940 ppb	0.00
Spiked Amount 100.000			Recovery	= 20.579%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	4982	1.97967 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

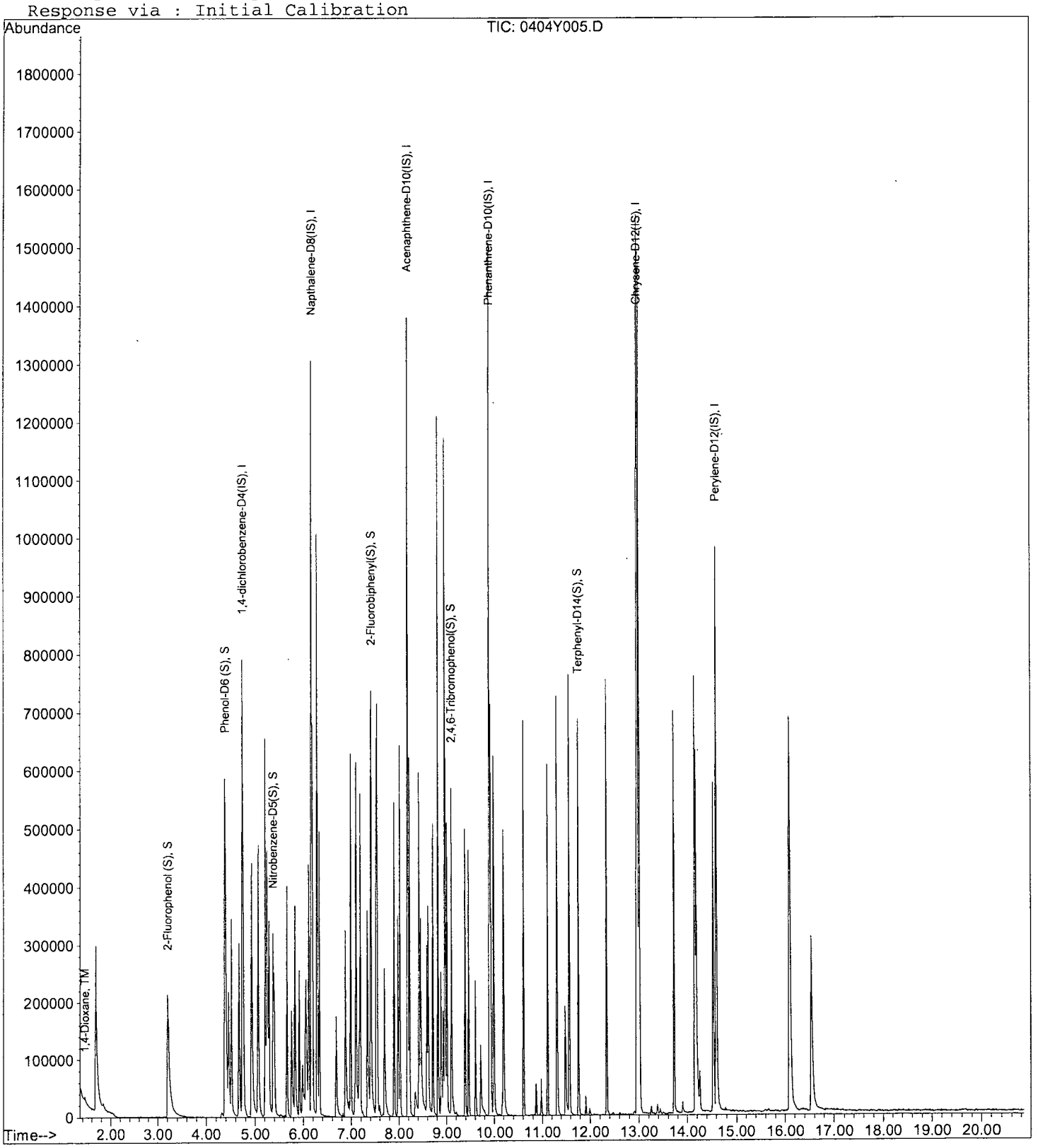
Data File : M:\YODA\DATA\Y170404\0404Y005.D
Acq On : 4 Apr 17 9:43
Sample : 20ug/ml SVOC 03/30/17
Misc :

Vial: 5
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115564	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	465895	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	293139	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	628431	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	523605	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	467665	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	320573	86.25429 ppb	0.00
Spiked Amount 200.000			Recovery	= 43.127%	
4) Phenol-D6 (S)	4.37	99	383732	82.48176 ppb	0.00
Spiked Amount 200.000			Recovery	= 41.241%	
6) Nitrobenzene-D5(S)	5.37	82	196461	40.73128 ppb	0.00
Spiked Amount 100.000			Recovery	= 40.731%	
8) 2-Fluorobiphenyl(S)	7.42	172	347716	37.83171 ppb	0.00
Spiked Amount 100.000			Recovery	= 37.832%	
9) 2,4,6-Tribromophenol(S)	9.11	330	104364	79.43651 ppb	0.00
Spiked Amount 200.000			Recovery	= 39.719%	
12) Terphenyl-D14(S)	11.77	244	458124	41.38425 ppb	0.00
Spiked Amount 100.000			Recovery	= 41.384%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	9141	3.96017 ppb	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

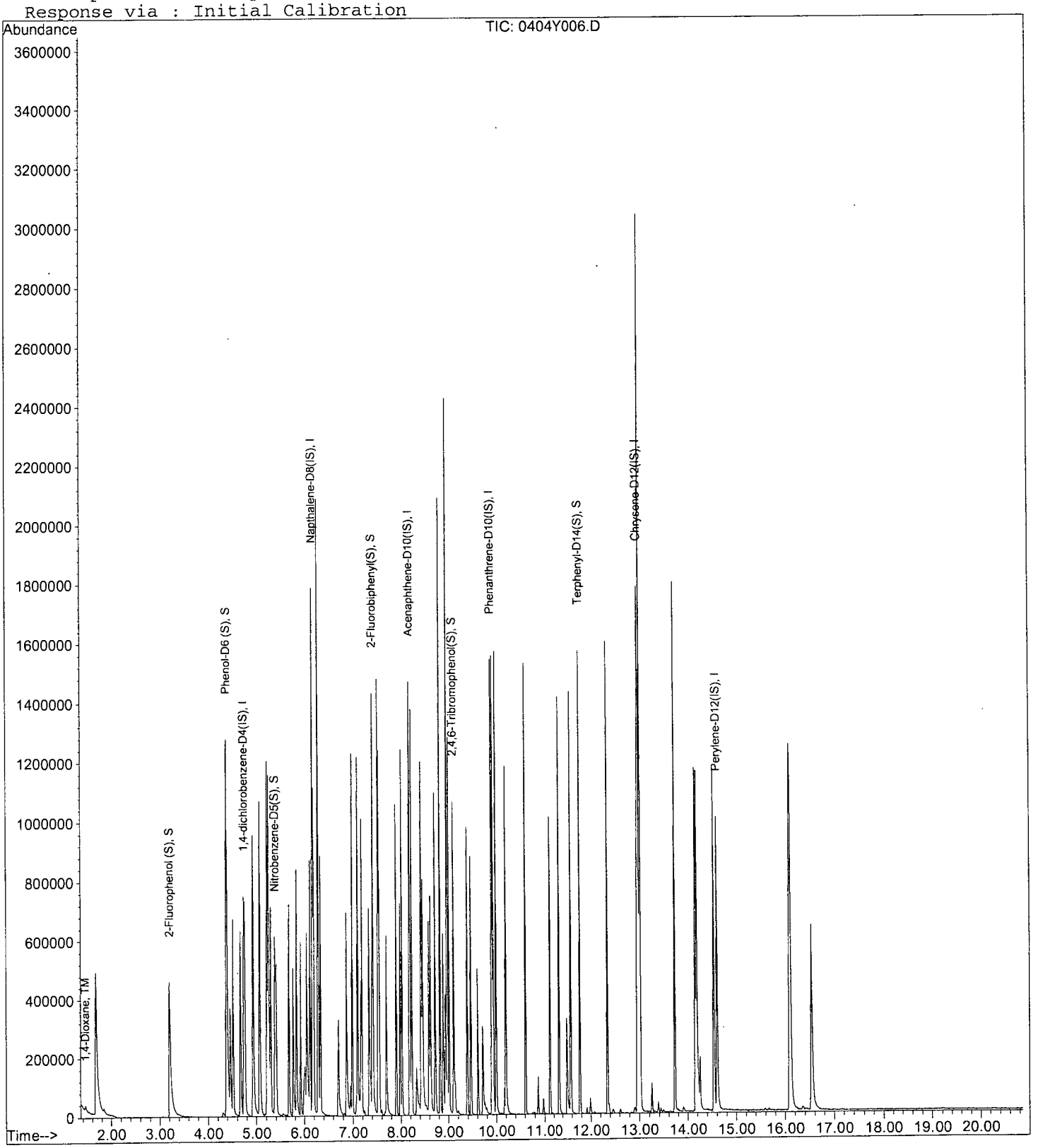
Data File : M:\YODA\DATA\Y170404\0404Y006.D
Acq On : 4 Apr 17 10:14
Sample : 40ug/ml SVOC 03/30/17
Misc :

Vial: 6
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	112989	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	438983	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	266513	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	520011	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	487381	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	454025	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	387773	106.71310 ppb	0.00
Spiked Amount 200.000			Recovery = 53.357%		
4) Phenol-D6 (S)	4.37	99	469328	103.17935 ppb	0.00
Spiked Amount 200.000			Recovery = 51.590%		
6) Nitrobenzene-D5(S)	5.37	82	235812	51.88692 ppb	0.00
Spiked Amount 100.000			Recovery = 51.887%		
8) 2-Fluorobiphenyl(S)	7.42	172	432106	51.71027 ppb	0.00
Spiked Amount 100.000			Recovery = 51.710%		
9) 2,4,6-Tribromophenol(S)	9.12	330	127619	106.84150 ppb	0.00
Spiked Amount 200.000			Recovery = 53.421%		
12) Terphenyl-D14(S)	11.77	244	560769	54.42160 ppb	0.00
Spiked Amount 100.000			Recovery = 54.422%		
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	11284	5.00000 ppb	71

(#) = qualifier out of range (m) = manual integration

Quantitation Report

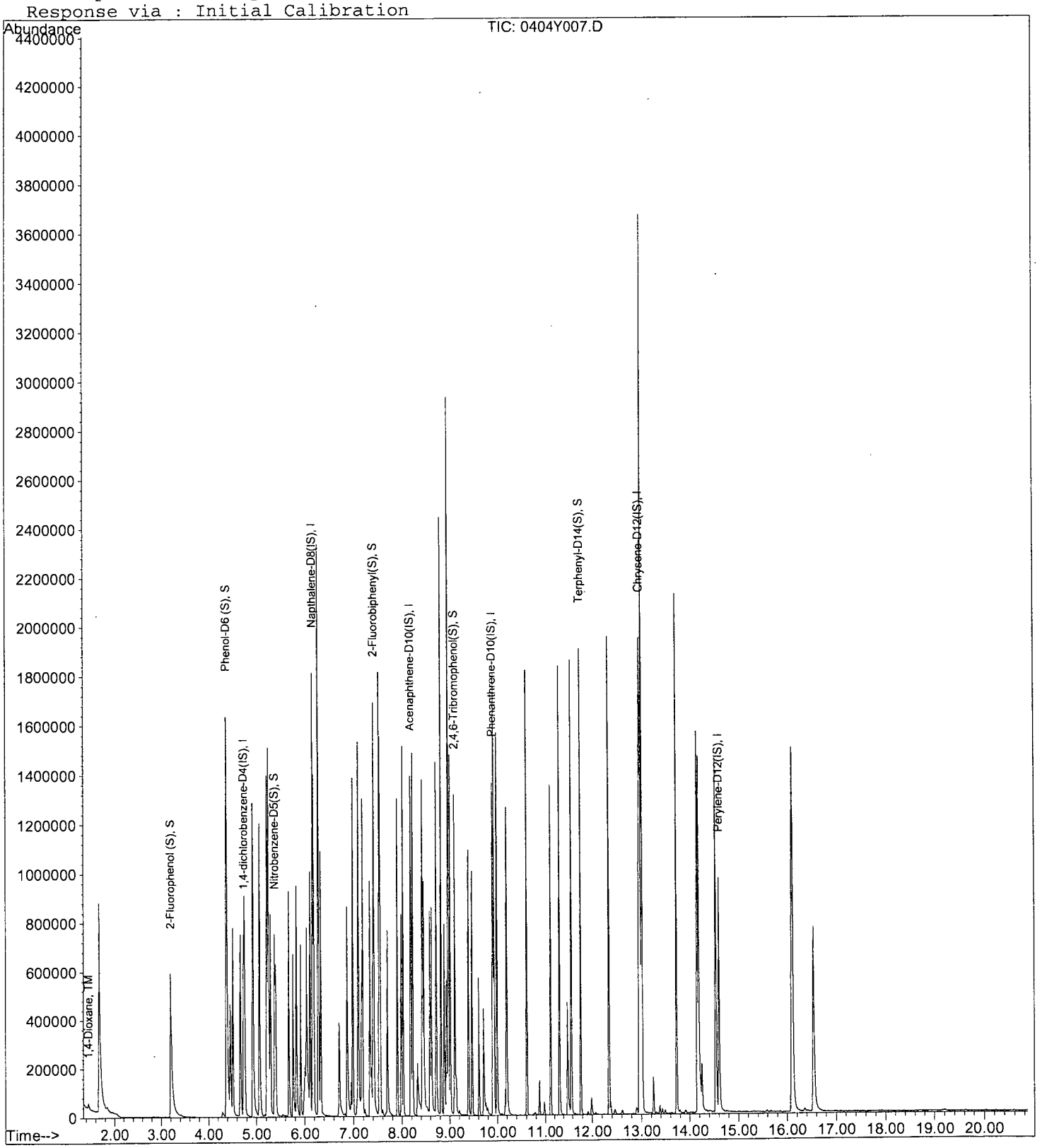
Data File : M:\YODA\DATA\Y170404\0404Y007.D
Acq On : 4 Apr 17 10:45
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 7
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108673	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	457848	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	284474	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	531978	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	605780	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.61	264	467583	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	460352	131.71787 ppb	0.00
Spiked Amount 200.000			Recovery	= 65.859%	
4) Phenol-D6 (S)	4.38	99	529157	120.95264 ppb	0.00
Spiked Amount 200.000			Recovery	= 60.477%	
6) Nitrobenzene-D5(S)	5.38	82	322467	68.03050 ppb	0.00
Spiked Amount 100.000			Recovery	= 68.031%	
8) 2-Fluorobiphenyl(S)	7.41	172	511226	57.31592 ppb	0.00
Spiked Amount 100.000			Recovery	= 57.316%	
9) 2,4,6-Tribromophenol(S)	9.11	330	148732	116.65541 ppb	0.00
Spiked Amount 200.000			Recovery	= 58.328%	
12) Terphenyl-D14(S)	11.77	244	620058	48.41426 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.414%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.44	58	12260	5.64822 ppb #	65

(#) = qualifier out of range (m) = manual integration

Quantitation Report

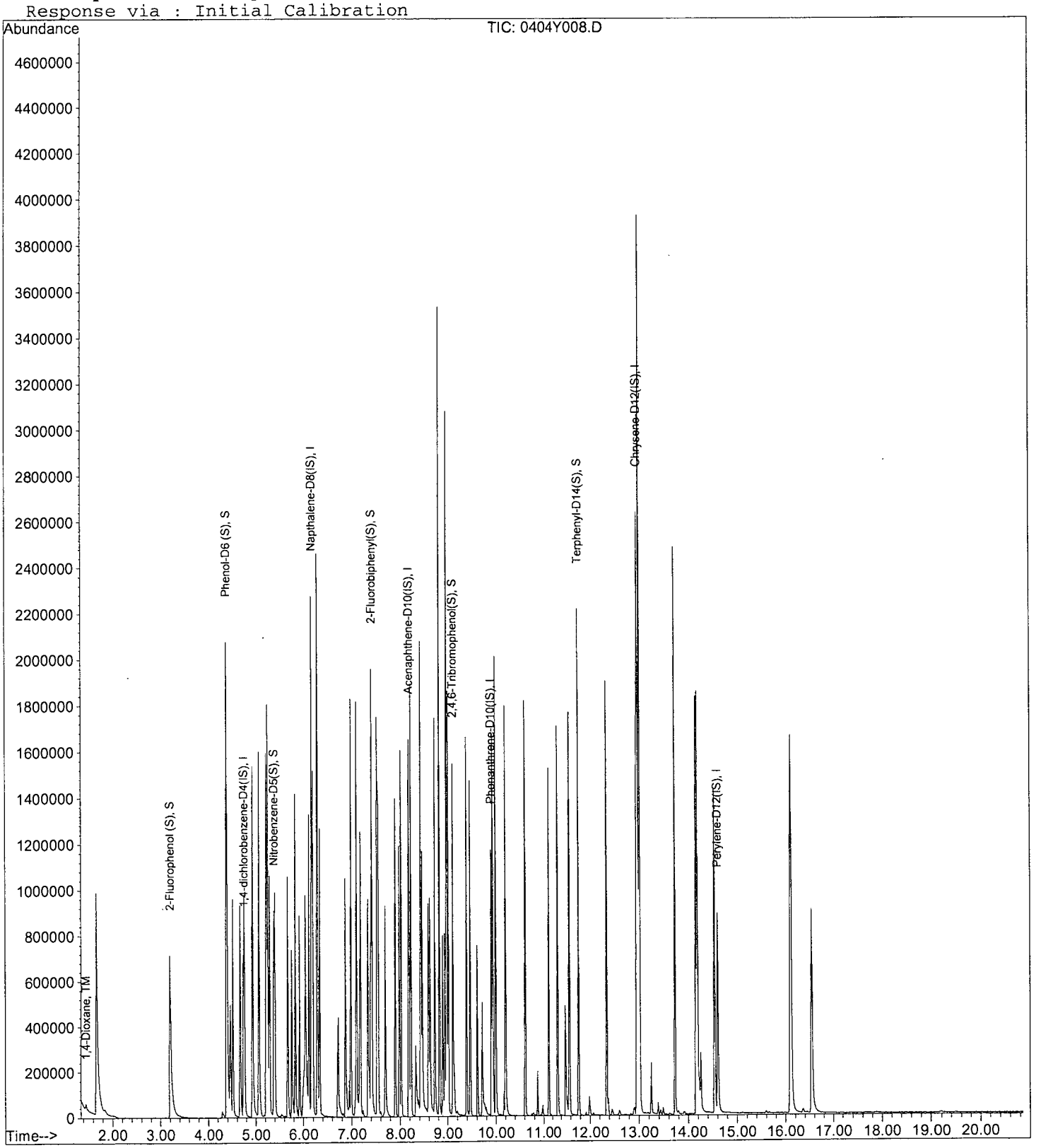
Data File : M:\YODA\DATA\Y170404\0404Y008.D
Acq On : 4 Apr 17 11:16
Sample : 60ug/ml SVOC 03/30/17
Misc :

Vial: 8
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	128095	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	478508	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	298161	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	575567	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	551164	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.61	264	519429	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	695598	168.85055 ppb	0.00
Spiked Amount 200.000			Recovery	= 84.426%	
4) Phenol-D6 (S)	4.38	99	770056	149.32847 ppb	0.00
Spiked Amount 200.000			Recovery	= 74.664%	
6) Nitrobenzene-D5(S)	5.38	82	427790	86.35374 ppb	0.00
Spiked Amount 100.000			Recovery	= 86.354%	
8) 2-Fluorobiphenyl(S)	7.42	172	701781	75.06814 ppb	0.00
Spiked Amount 100.000			Recovery	= 75.068%	
9) 2,4,6-Tribromophenol(S)	9.11	330	207208	155.05963 ppb	0.00
Spiked Amount 200.000			Recovery	= 77.530%	
12) Terphenyl-D14(S)	11.77	244	865389	74.26538 ppb	0.00
Spiked Amount 100.000			Recovery	= 74.265%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	16487	6.44396 ppb	73

(#) = qualifier out of range (m) = manual integration

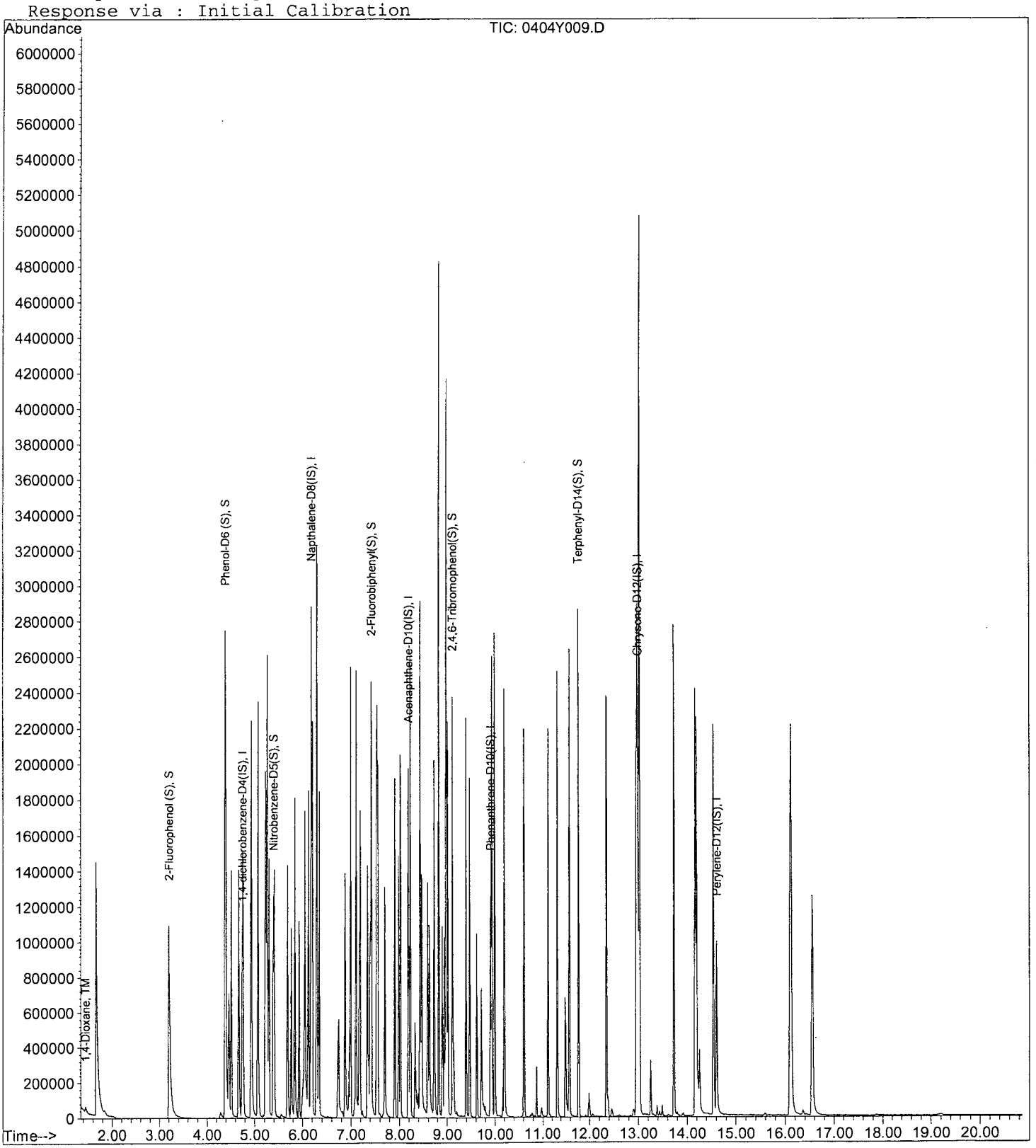
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y009.D
Acq On : 4 Apr 17 11:47
Sample : 80ug/ml SVOC 03/30/17
Misc :

Vial: 9
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:35:53 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	115882	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	438194	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	265264	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	556437	40.00000 ppb	0.00
11) Chrysene-D12(IS)	13.00	240	499793	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.61	264	461365	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	773437	207.53211 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.766%	
4) Phenol-D6 (S)	4.38	99	823569	176.53730 ppb	0.00
Spiked Amount 200.000			Recovery	= 88.269%	
6) Nitrobenzene-D5(S)	5.38	82	467476	103.04635 ppb	0.00
Spiked Amount 100.000			Recovery	= 103.046%	
8) 2-Fluorobiphenyl(S)	7.42	172	793698	95.42933 ppb	0.00
Spiked Amount 100.000			Recovery	= 95.429%	
9) 2,4,6-Tribromophenol(S)	9.12	330	247237	207.95923 ppb	0.00
Spiked Amount 200.000			Recovery	= 103.980%	
12) Terphenyl-D14(S)	11.77	244	993884	94.05923 ppb	0.00
Spiked Amount 100.000			Recovery	= 94.059%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	21454	9.26905 ppb #	58

(#) = qualifier out of range (m) = manual integration
0404Y010.D DIX0404.M Thu Apr 13 15:54:56 2017

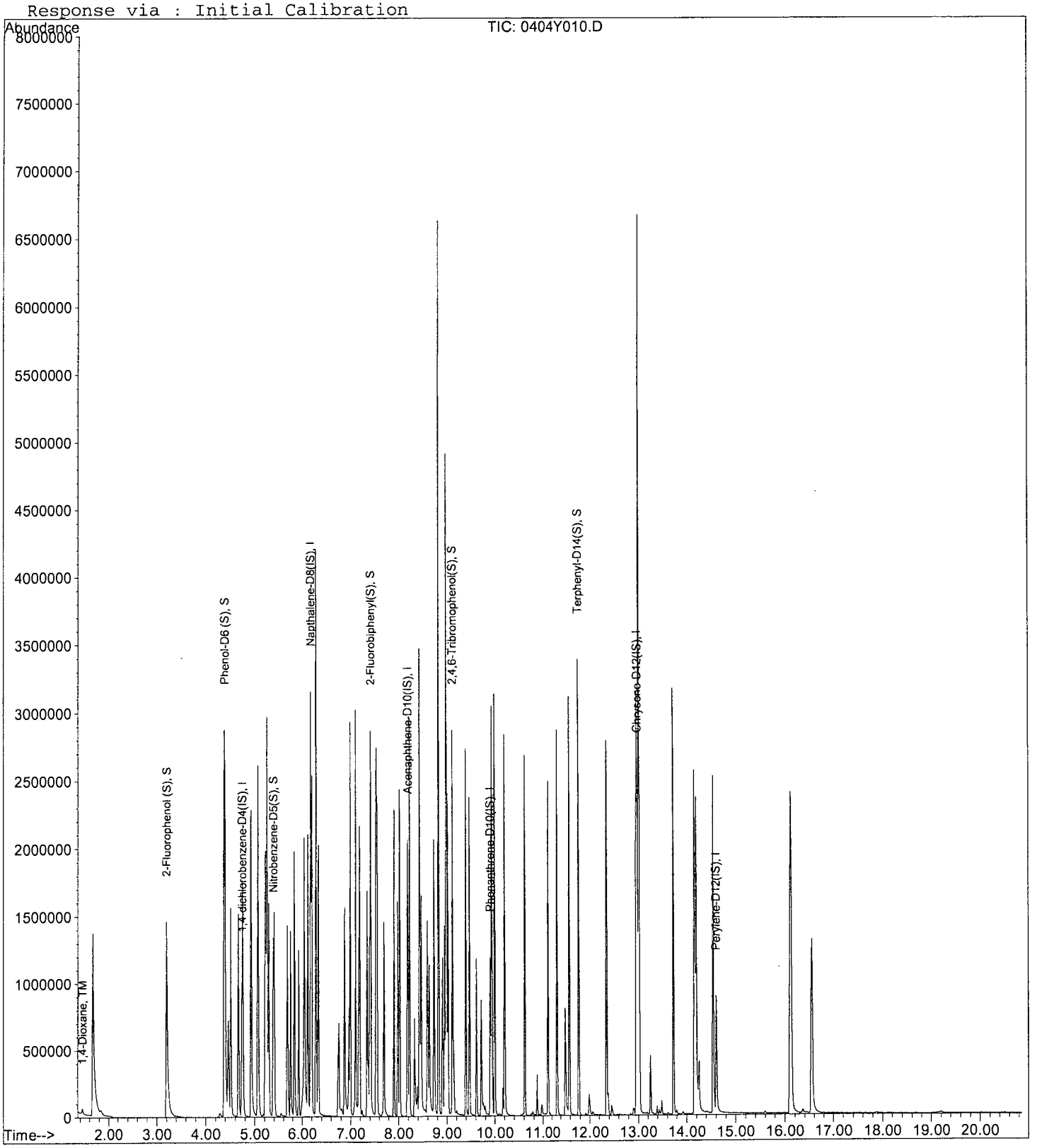
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y010.D
Acq On : 4 Apr 17 12:18
Sample : 100ug/ml SVOC 03/30/17
Misc :

Vial: 10
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:37 2017 Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 4 Apr 17 15:38
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y012.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	1,4-Dioxane	0.7341	0.6742	8.2	TM	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			8.2		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:39 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	120035	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	452742	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	283319	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	487397	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	487265	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	466750	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	0.00	112	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
4) Phenol-D6 (S)	0.00	99	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
6) Nitrobenzene-D5(S)	5.29	82	40784	8.70166 ppb	-0.09
Spiked Amount 100.000			Recovery	= 8.702%	
8) 2-Fluorobiphenyl(S)	7.40	172	238	0.02680 ppb	-0.02
Spiked Amount 100.000			Recovery	= 0.027%	
9) 2,4,6-Tribromophenol(S)	0.00	330	0	0.00000 ppb	
Spiked Amount 200.000			Recovery	= 0.000%	
12) Terphenyl-D14(S)	0.00	244	0	0.00000 ppb	
Spiked Amount 100.000			Recovery	= 0.000%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.45	58	10116	4.59200 ppb #	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

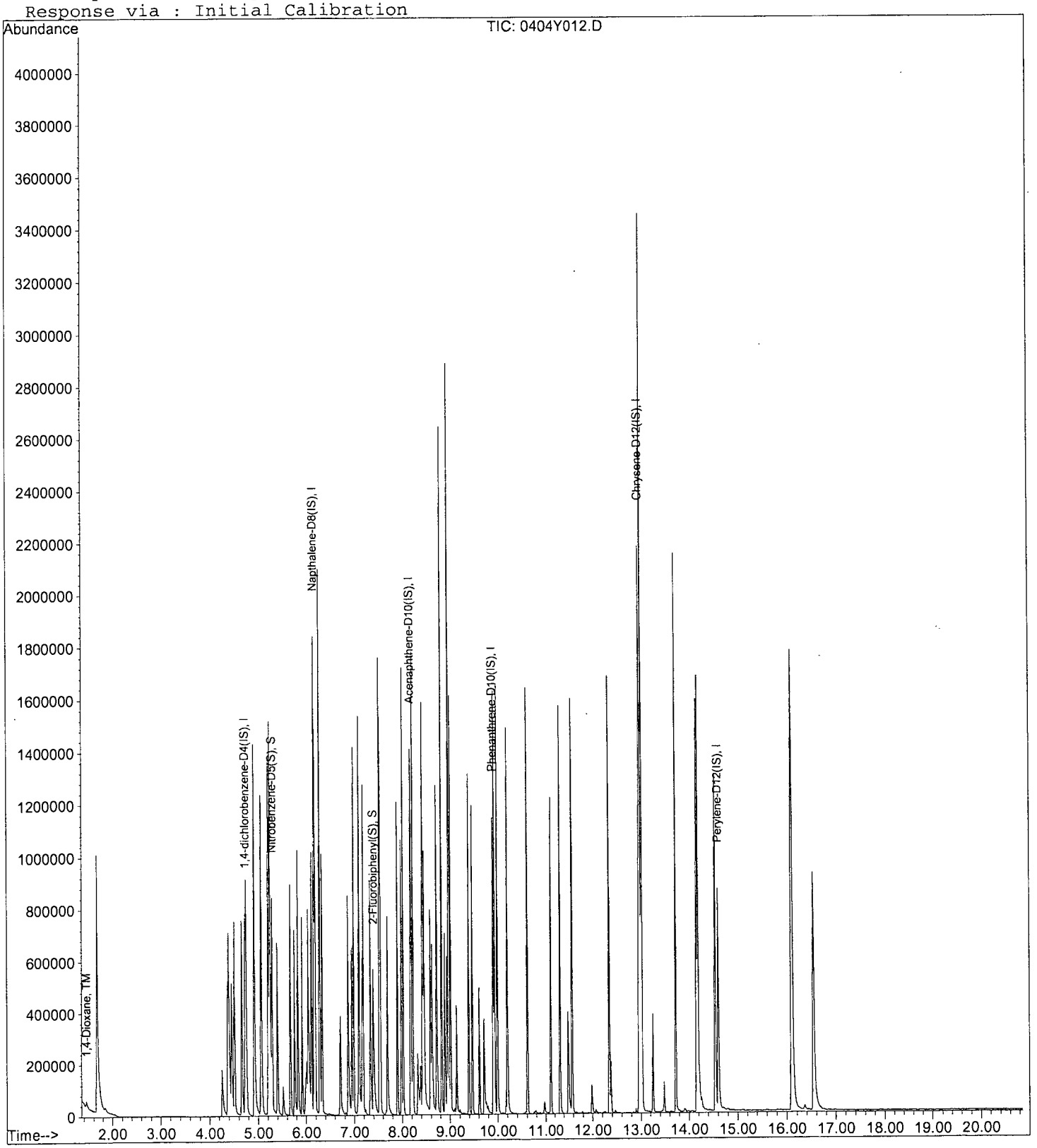
Data File : M:\YODA\DATA\Y170404\0404Y012.D
Acq On : 4 Apr 17 15:38
Sample : SS 50ug/ml SVOC 04/04/17
Misc :

Vial: 12
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:39 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y038.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	1,4-Dioxane	0.7341	0.7364	0.31	TM	
3	S	2-Fluorophenol (S)	1.286	1.314	2.2	S	
4	S	Phenol-D6 (S)	1.610	1.513	6.0	S	
5	I	Napthalene-D8(IS)	ISTD			I	
6	S	Nitrobenzene-D5(S)	0.4141	0.4013	3.1	S	
7	I	Acenaphthene-D10(IS)	ISTD			I	
8	S	2-Fluorobiphenyl(S)	1.254	1.151	8.2	S	
9	S	2,4,6-Tribromophenol(S)	0.1799	0.1662	7.6	S	
10	I	Phenanthrene-D10(IS)	ISTD			I	
11	I	Chrysene-D12(IS)	ISTD			I	
12	S	Terphenyl-D14(S)	0.8472	0.8198	3.2	S	
13	I	Perylene-D12(IS)	ISTD			I	
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.4		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	135139	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	551655	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	344147	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	623714	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	612103	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	581377	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	443969	102.17467 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.088%	
4) Phenol-D6 (S)	4.37	99	511134	93.95211 ppb	0.00
Spiked Amount 200.000			Recovery	= 46.976%	
6) Nitrobenzene-D5(S)	5.37	82	276724	48.45542 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.455%	
8) 2-Fluorobiphenyl(S)	7.42	172	495310	45.91424 ppb	0.00
Spiked Amount 100.000			Recovery	= 45.914%	
9) 2,4,6-Tribromophenol(S)	9.12	330	142993	92.37748 ppb	0.00
Spiked Amount 200.000			Recovery	= 46.189%	
12) Terphenyl-D14(S)	11.77	244	627291	48.38647 ppb	0.00
Spiked Amount 100.000			Recovery	= 48.386%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	12439	5.01541 ppb	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

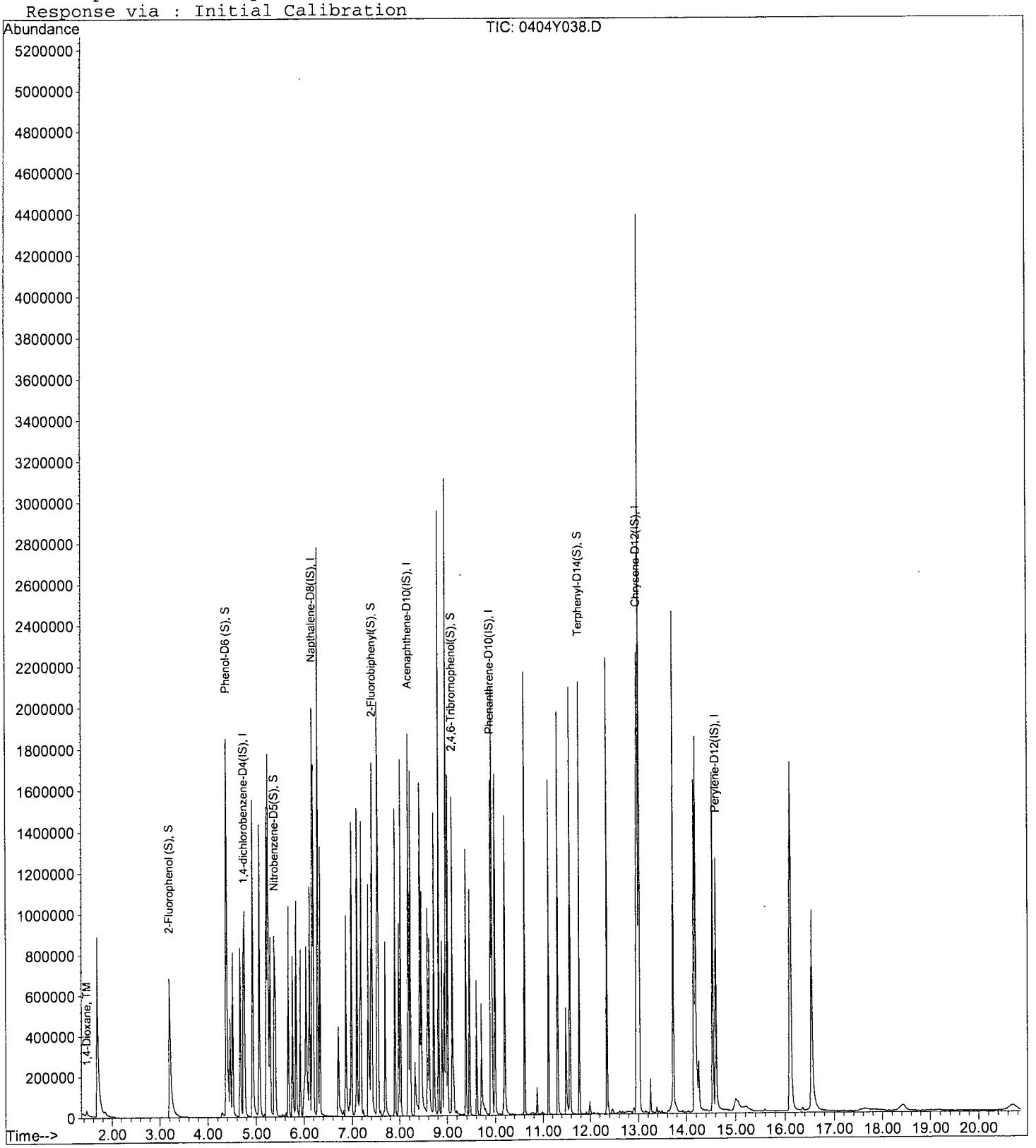
Data File : M:\YODA\DATA\Y170404\0404Y038.D
Acq On : 10 Apr 17 11:15
Sample : 50ug/ml SVOC 03/30/17
Misc :

Vial: 38
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Yoda
Initial Cal. Date: 04/04/17
Data File: 0404Y060.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	TM	1,4-Dioxane	0.7341	0.8044	9.6	TM	
3	S	2-Fluorophenol (S)	1.286	1.162	9.6	S	
4	S	Phenol-D6 (S)	1.610	1.517	5.8	S	
5	I	Napthalene-D8(IS)	ISTD			I	
6	S	Nitrobenzene-D5(S)	0.4141	0.3987	3.7	S	
7	I	Acenaphthene-D10(IS)	ISTD			I	
8	S	2-Fluorobiphenyl(S)	1.254	1.156	7.8	S	
9	S	2,4,6-Tribromophenol(S)	0.1799	0.1788	0.59	S	
10	I	Phenanthrene-D10(IS)	ISTD			I	
11	I	Chrysene-D12(IS)	ISTD			I	
12	S	Terphenyl-D14(S)	0.8472	0.8334	1.6	S	
13	I	Perylene-D12(IS)	ISTD			I	
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	103117	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	454712	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	247811	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	511779	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	468248	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	454493	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	299646	90.37525 ppb	0.00
Spiked Amount 200.000			Recovery = 45.188%		
4) Phenol-D6 (S)	4.37	99	391092	94.21090 ppb	0.00
Spiked Amount 200.000			Recovery = 47.106%		
6) Nitrobenzene-D5(S)	5.38	82	226590	48.13572 ppb	0.00
Spiked Amount 100.000			Recovery = 48.136%		
8) 2-Fluorobiphenyl(S)	7.42	172	357986	46.08502 ppb	0.00
Spiked Amount 100.000			Recovery = 46.085%		
9) 2,4,6-Tribromophenol(S)	9.12	330	110800	99.40643 ppb	0.00
Spiked Amount 200.000			Recovery = 49.703%		
12) Terphenyl-D14(S)	11.77	244	487792	49.18561 ppb	0.00
Spiked Amount 100.000			Recovery = 49.186%		
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	10368	5.47855 ppb	98

(#) = qualifier out of range (m) = manual integration
0404Y060.D DIX0404.M Thu Apr 13 15:55:29 2017

Quantitation Report

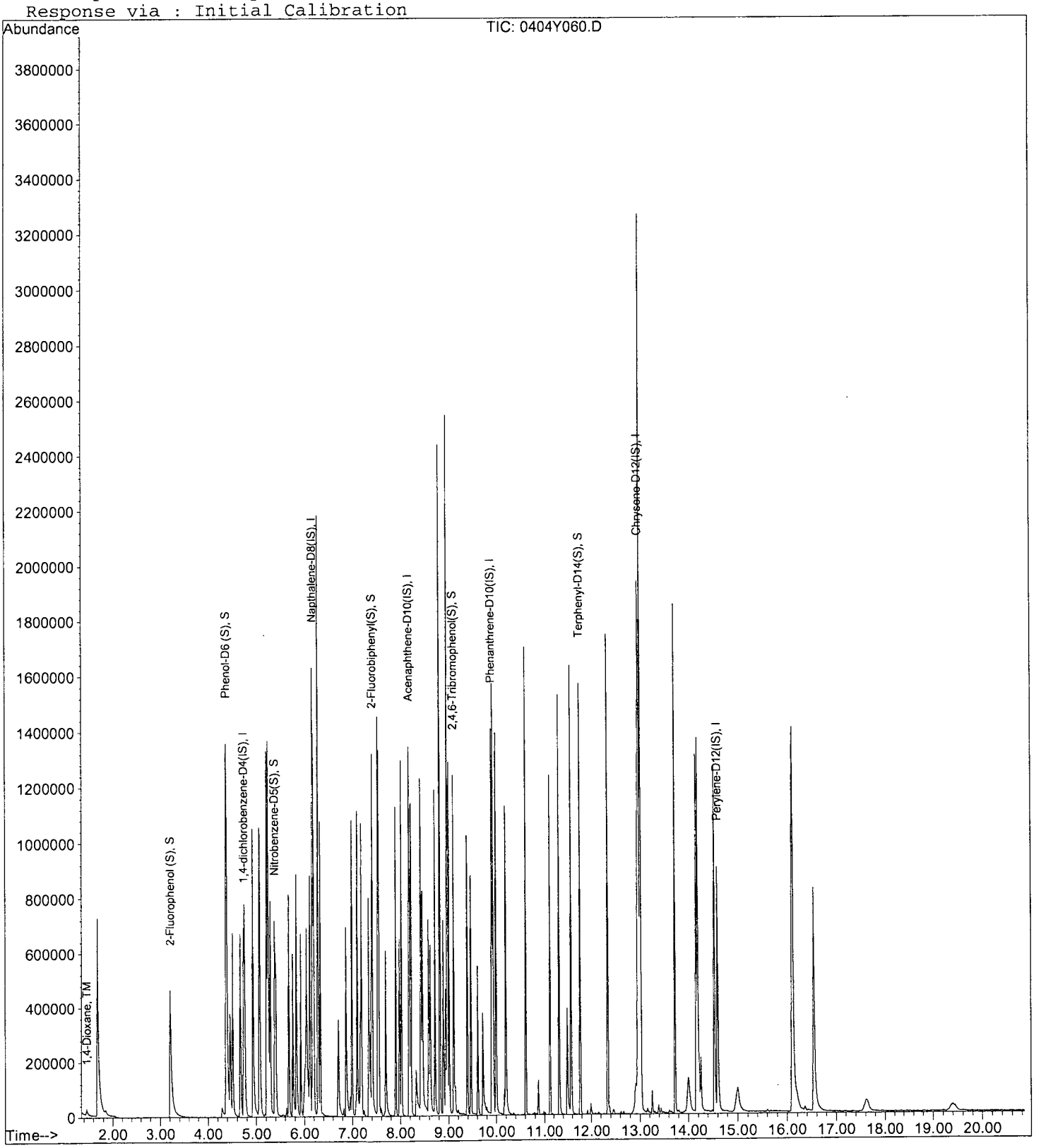
Data File : M:\YODA\DATA\Y170404\0404Y060.D
Acq On : 10 Apr 17 22:25
Sample : 50ug/ml SVOC 03/30/17
Misc : water

Vial: 60
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank

EPA 8270D - 1,4-DIOXANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217838**
Batch ID: #14HP-170407A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,4-DIOXANE	0.50 U	1.0	0.50	0.16	ug/L	04/07/17	04/10/17
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	44-119			%	04/07/17	04/10/17
BLANK	SURROGATE: NITROBENZENE-	71.4	44-120			%	04/07/17	04/10/17
BLANK	SURROGATE: TERPHENYL-D14 (	78.4	50-134			%	04/07/17	04/10/17

Quant Method: DIX0404.M
Run #: 0404Y039
Instrument: Yoda
Sequence: Y170404
Initials: MA

GC SC-Blank-REG MDLs-DOD
Printed: 04/13/17 4:09:09 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y039.D Vial: 39
Acq On : 10 Apr 17 12:04 Operator: MA
Sample : 170407A BLK 1/1000 Inst : Yoda
Misc : water Multiplr: 1.00

Quant Time: Apr 13 15:43 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	108124	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.16	136	474326	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	271985	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	525349	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	515905	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	444609	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.19	112	369097	106.16704 ppb	0.00
Spiked Amount 200.000			Recovery	= 53.084%	
4) Phenol-D6 (S)	4.37	99	299498	68.80568 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.403%	
6) Nitrobenzene-D5(S)	5.37	82	350501	71.37982 ppb	0.00
Spiked Amount 100.000			Recovery	= 71.380%	
8) 2-Fluorobiphenyl(S)	7.42	172	570376	66.90069 ppb	0.00
Spiked Amount 100.000			Recovery	= 66.901%	
9) 2,4,6-Tribromophenol(S)	9.11	330	178966	146.29210 ppb	0.00
Spiked Amount 200.000			Recovery	= 73.146%	
12) Terphenyl-D14(S)	11.77	244	856148	78.35351 ppb	0.00
Spiked Amount 100.000			Recovery	= 78.354%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
0404Y039.D DIX0404.M Thu Apr 13 15:55:07 2017

Quantitation Report

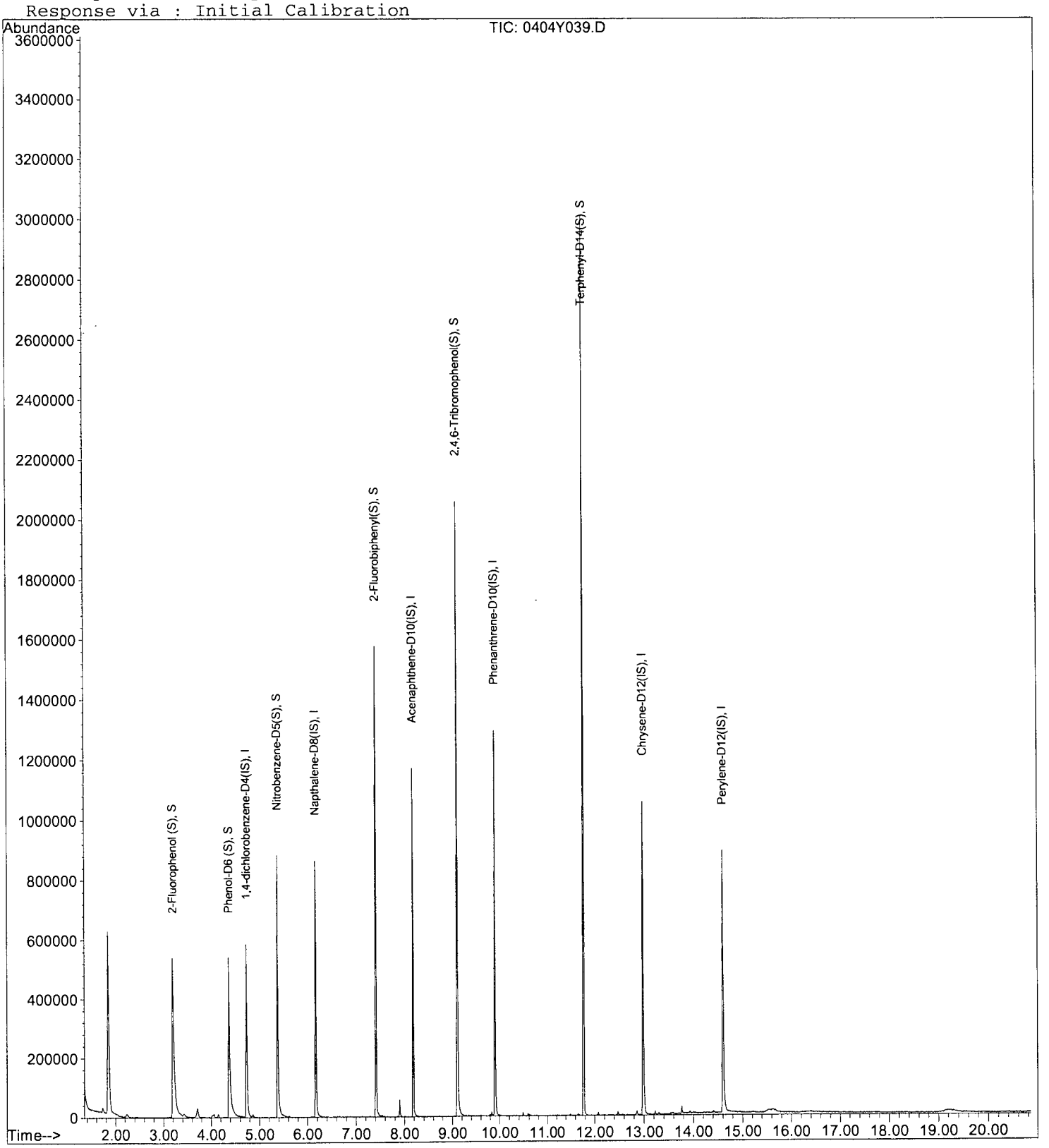
Data File : M:\YODA\DATA\Y170404\0404Y039.D
Acq On : 10 Apr 17 12:04
Sample : 170407A BLK 1/1000
Misc : water

Vial: 39
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:43 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D - 1,4-DIOXANE

APPL ID: **170407W-53168 LCS - 217838**
Batch ID: #14HP-170407A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,4-DIOXANE	5.00	2.51	50.2	40-129
SURROGATE: 2-FLUORBIPHENYL (S)	100	62.3	62.3	44-119
SURROGATE: NITROBENZENE-D5 (S)	100	70.2	70.2	44-120
SURROGATE: TERPHENYL-D14 (S)	100	78.9	78.9	50-134

Comments: _____

Primary	SPK
Quant Method :	Y0404.M
Extraction Date :	04/07/17
Analysis Date :	04/10/17
Instrument :	Yoda
Run :	0404Y040
Initials :	MA

Printed: 04/13/17 4:09:10 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	123700	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	522144	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.18	164	311786	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.90	188	533639	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.98	240	489414	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	425790	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	407198	102.37814 ppb	0.00
Spiked Amount 200.000			Recovery	= 51.189%	
4) Phenol-D6 (S)	4.37	99	347548	69.79070 ppb	0.00
Spiked Amount 200.000			Recovery	= 34.896%	
6) Nitrobenzene-D5(S)	5.37	82	379284	70.16772 ppb	0.00
Spiked Amount 100.000			Recovery	= 70.168%	
8) 2-Fluorobiphenyl(S)	7.41	172	608528	62.26417 ppb	0.00
Spiked Amount 100.000			Recovery	= 62.264%	
9) 2,4,6-Tribromophenol(S)	9.11	330	187354	133.59853 ppb	0.00
Spiked Amount 200.000			Recovery	= 66.799%	
12) Terphenyl-D14(S)	11.77	244	818351	78.94827 ppb	0.00
Spiked Amount 100.000			Recovery	= 78.948%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	5691	2.50680 ppb	88

(#) = qualifier out of range (m) = manual integration

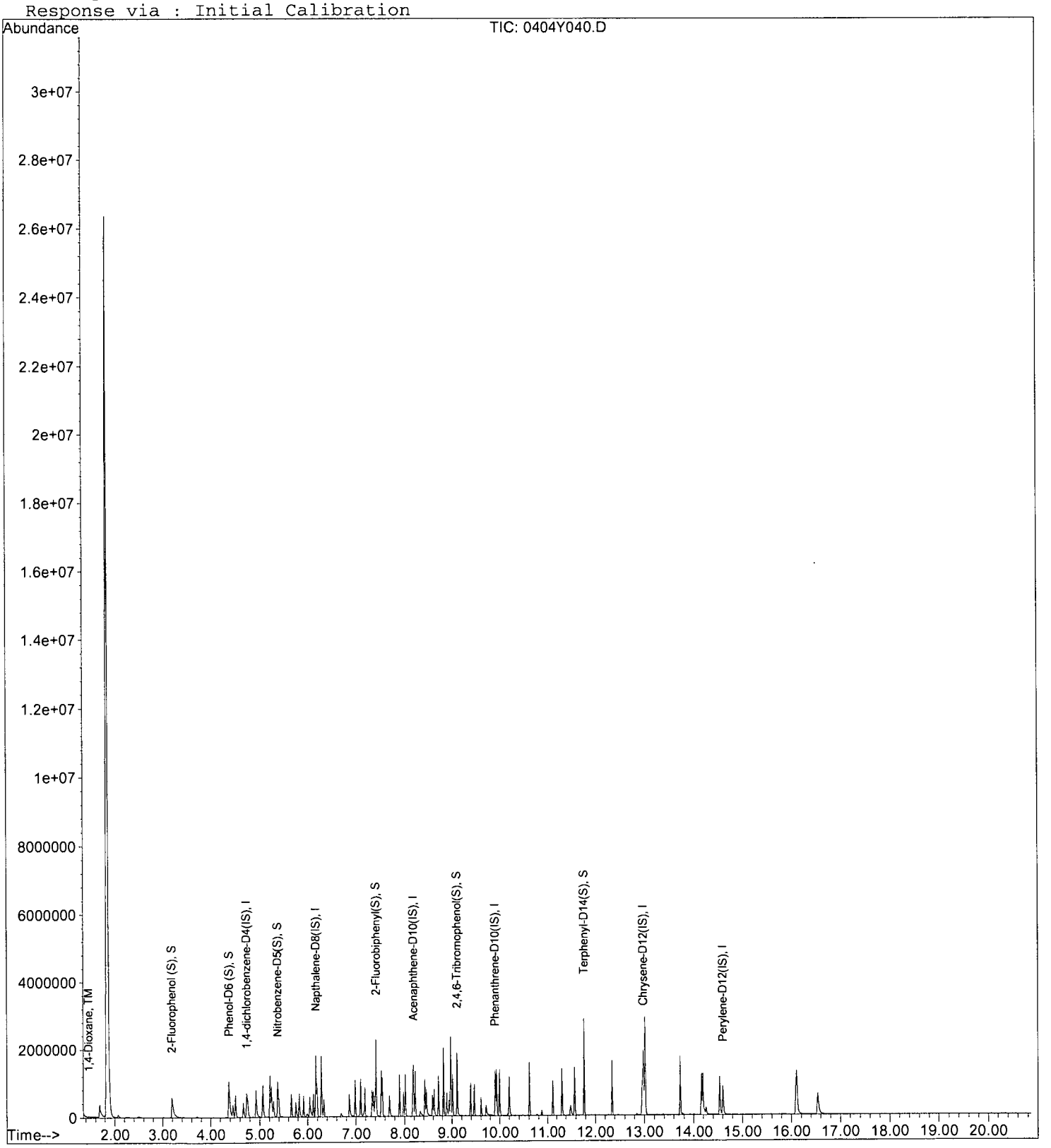
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y040.D
Acq On : 10 Apr 17 12:34
Sample : 170407A LCS-1 1/1000
Misc : water

Vial: 40
Operator: MA
Inst : Yoda
Multiplr: 1.00

Quant Time: Apr 13 15:41 2017
Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8270D - 1,4-DIOXANE

APPL ID: **170407W-53168 MS - 217838**
Batch ID: #14HP-170407A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,4-DIOXANE	5.00	ND	2.19	2.47	43.8	49.4	40-129	12.0	30
SURROGATE: 2-FLUORBIPHENYL (S)	100	NA	52.1	51.0	52.1	51.0	44-119		
SURROGATE: NITROBENZENE-D5 (S)	100	NA	65.0	65.4	65.0	65.4	44-120		
SURROGATE: TERPHENYL-D14 (S)	100	NA	69.1	67.6	69.1	67.6	50-134		

Comments:

Primary	SPK	DUP
Quant Method :	Y0404.M	Y0404.M
Extraction Date :	04/07/17	04/07/17
Analysis Date :	04/10/17	04/10/17
Instrument :	Yoda	Yoda
Run :	0404Y049	0404Y050
Initials :	MA	

Printed: 04/13/17 4:09:21 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y049.D Vial: 49
Acq On : 10 Apr 17 17:09 Operator: MA
Sample : AZ53168W35 MS-1 1/1020 Inst : Yoda
Misc : water Multiplr: 0.98

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	117317	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	471004	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	278303	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	520977	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	536739	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	537936	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	320417	83.27711 ppb	0.00
Spiked Amount 196.078			Recovery	= 42.471%	
4) Phenol-D6 (S)	4.37	99	278388	57.78855 ppb	0.00
Spiked Amount 196.078			Recovery	= 29.472%	
6) Nitrobenzene-D5(S)	5.37	82	323267	64.99795 ppb	0.00
Spiked Amount 98.039			Recovery	= 66.298%	
8) 2-Fluorobiphenyl(S)	7.42	172	463922	52.13641 ppb	0.00
Spiked Amount 98.039			Recovery	= 53.179%	
9) 2,4,6-Tribromophenol(S)	9.12	330	184774	144.71650 ppb	0.00
Spiked Amount 196.078			Recovery	= 73.805%	
12) Terphenyl-D14(S)	11.77	244	800706	69.05403 ppb	0.00
Spiked Amount 98.039			Recovery	= 70.435%	
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	4807	2.18884 ppb	74

(#) = qualifier out of range (m) = manual integration

Quantitation Report

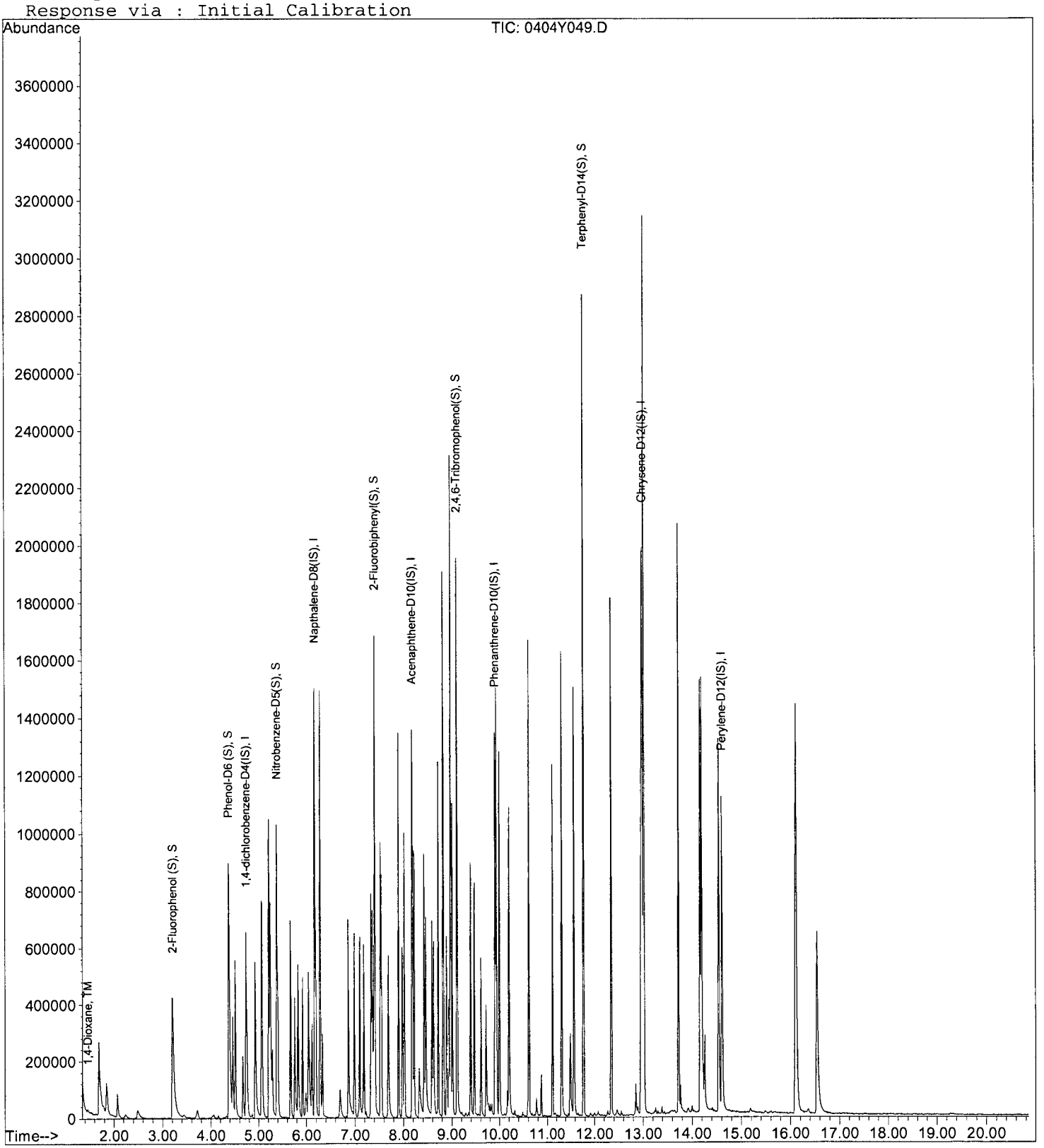
Data File : M:\YODA\DATA\Y170404\0404Y049.D
Acq On : 10 Apr 17 17:09
Sample : AZ53168W35 MS-1 1/1020
Misc : water

Vial: 49
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 13 15:41 2017

Quant Results File: DIX0404.RES

Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y170404\0404Y050.D
Acq On : 10 Apr 17 17:39
Sample : AZ53168W47 MSD-1 1/1020
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

Quant Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration
DataAcq Meth : SVOC416

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-dichlorobenzene-D4(IS)	4.73	152	113246	40.00000 ppb	0.00
5) Napthalene-D8(IS)	6.17	136	497471	40.00000 ppb	0.00
7) Acenaphthene-D10(IS)	8.19	164	289478	40.00000 ppb	0.00
10) Phenanthrene-D10(IS)	9.91	188	533732	40.00000 ppb	0.00
11) Chrysene-D12(IS)	12.99	240	584868	40.00000 ppb	0.00
13) Perylene-D12(IS)	14.60	264	550669	40.00000 ppb	0.00
System Monitoring Compounds					
3) 2-Fluorophenol (S)	3.20	112	324694	87.42235 ppb	0.00
Spiked Amount 196.078			Recovery = 44.585%		
4) Phenol-D6 (S)	4.37	99	257041	55.27538 ppb	0.00
Spiked Amount 196.078			Recovery = 28.190%		
6) Nitrobenzene-D5(S)	5.38	82	343584	65.40757 ppb	0.00
Spiked Amount 98.039			Recovery = 66.716%		
8) 2-Fluorobiphenyl(S)	7.42	172	471726	50.96691 ppb	0.00
Spiked Amount 98.039			Recovery = 51.986%		
9) 2,4,6-Tribromophenol(S)	9.12	330	183177	137.92737 ppb	0.00
Spiked Amount 196.078			Recovery = 70.343%		
12) Terphenyl-D14(S)	11.77	244	853755	67.57009 ppb	0.00
Spiked Amount 98.039			Recovery = 68.921%		
Target Compounds					Qvalue
2) 1,4-Dioxane	1.46	58	5242	2.47272 ppb	100

(#) = qualifier out of range (m) = manual integration
0404Y050.D DIX0404.M Thu Apr 13 15:55:14 2017

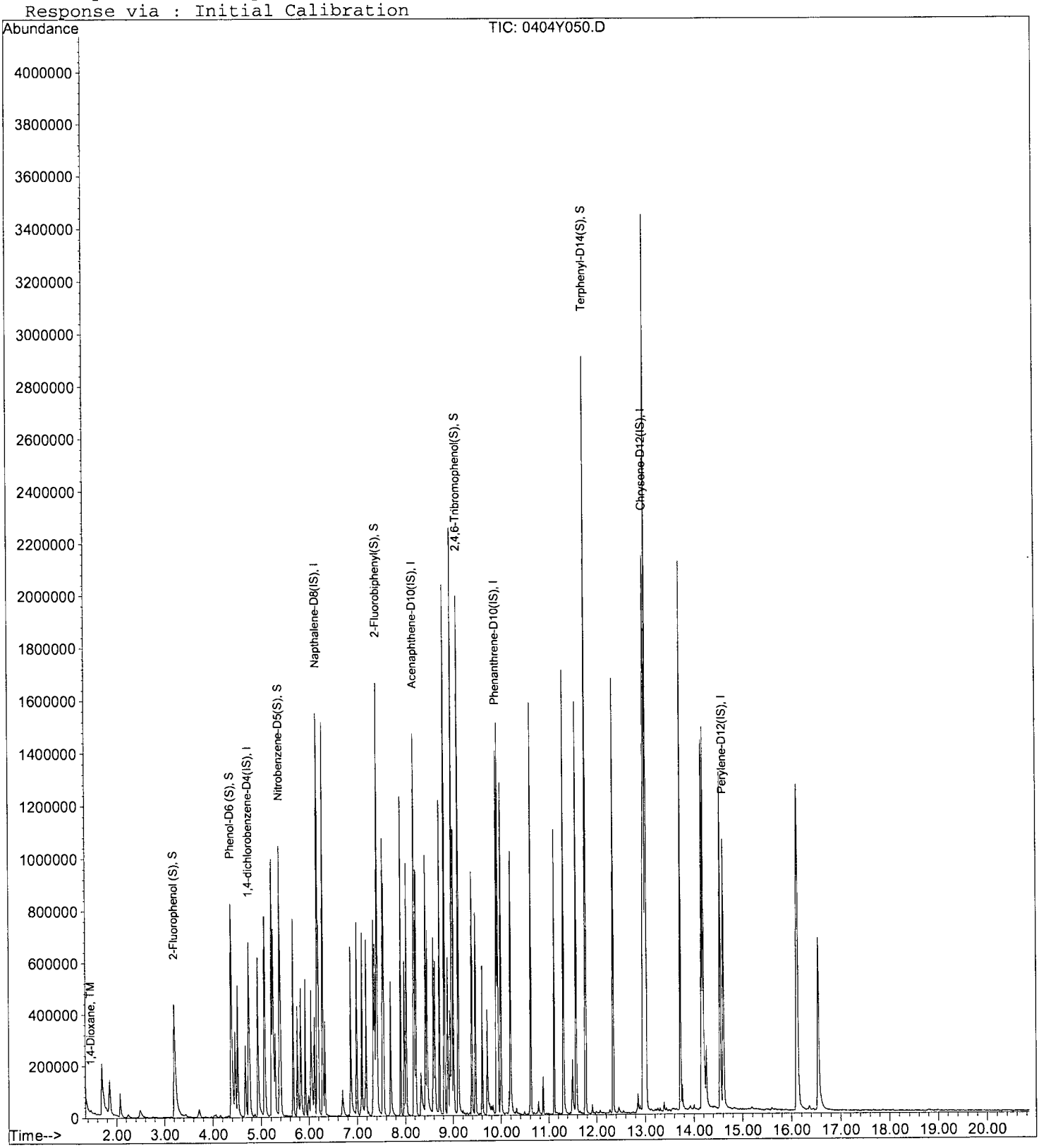
Quantitation Report

Data File : M:\YODA\DATA\Y170404\0404Y050.D
Acq On : 10 Apr 17 17:39
Sample : AZ53168W47 MSD-1 1/1020
Misc : water

Vial: 50
Operator: MA
Inst : Yoda
Multiplr: 0.98

Quant Time: Apr 13 15:41 2017 Quant Results File: DIX0404.RES

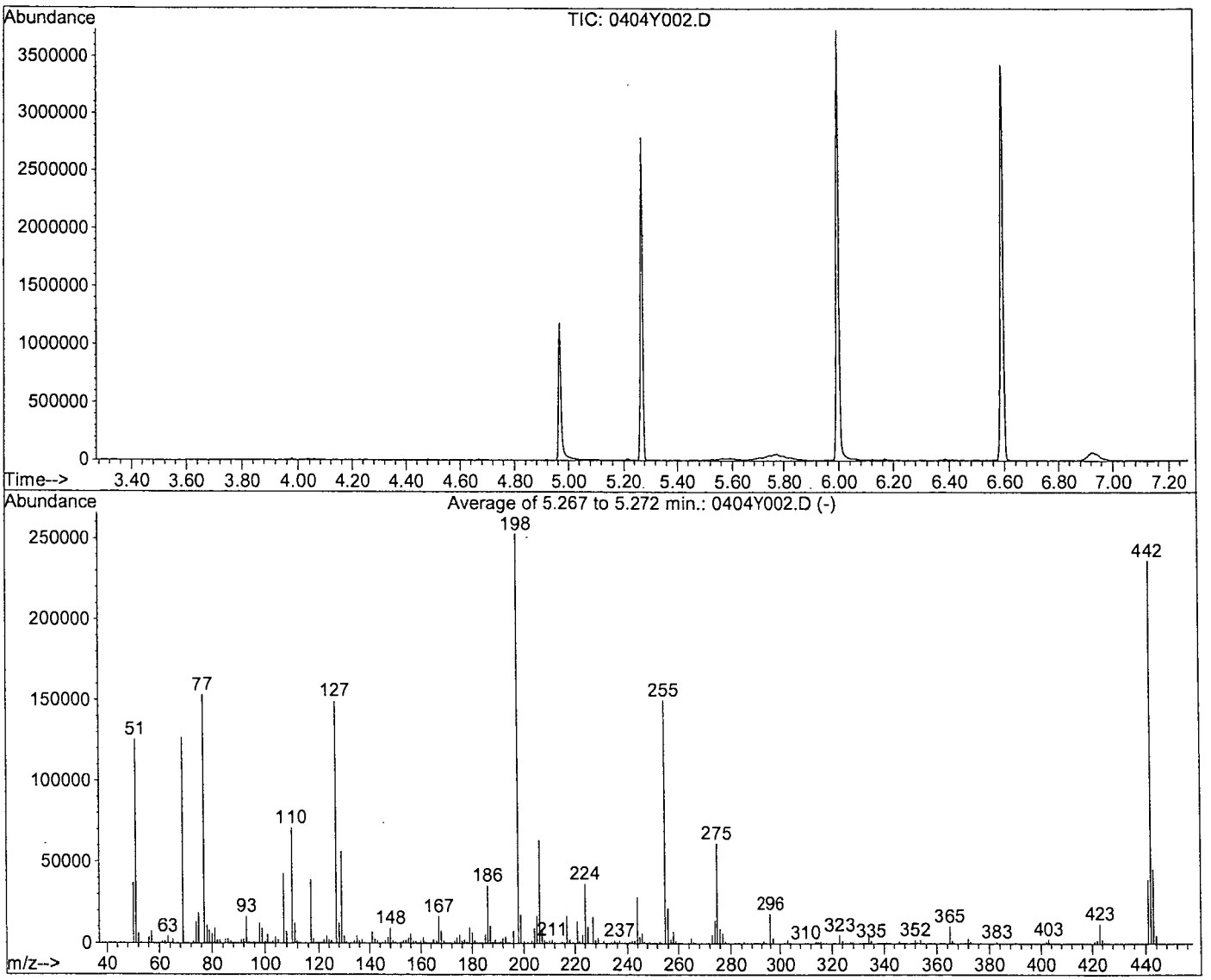
Method : M:\YODA\DATA\Y170404\DIX0404.M (RTE Integrator)
Title : EPA 8270C
Last Update : Thu Apr 13 15:37:52 2017
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y002.D Vial: 2
Acq On : 4 Apr 17 8:25 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



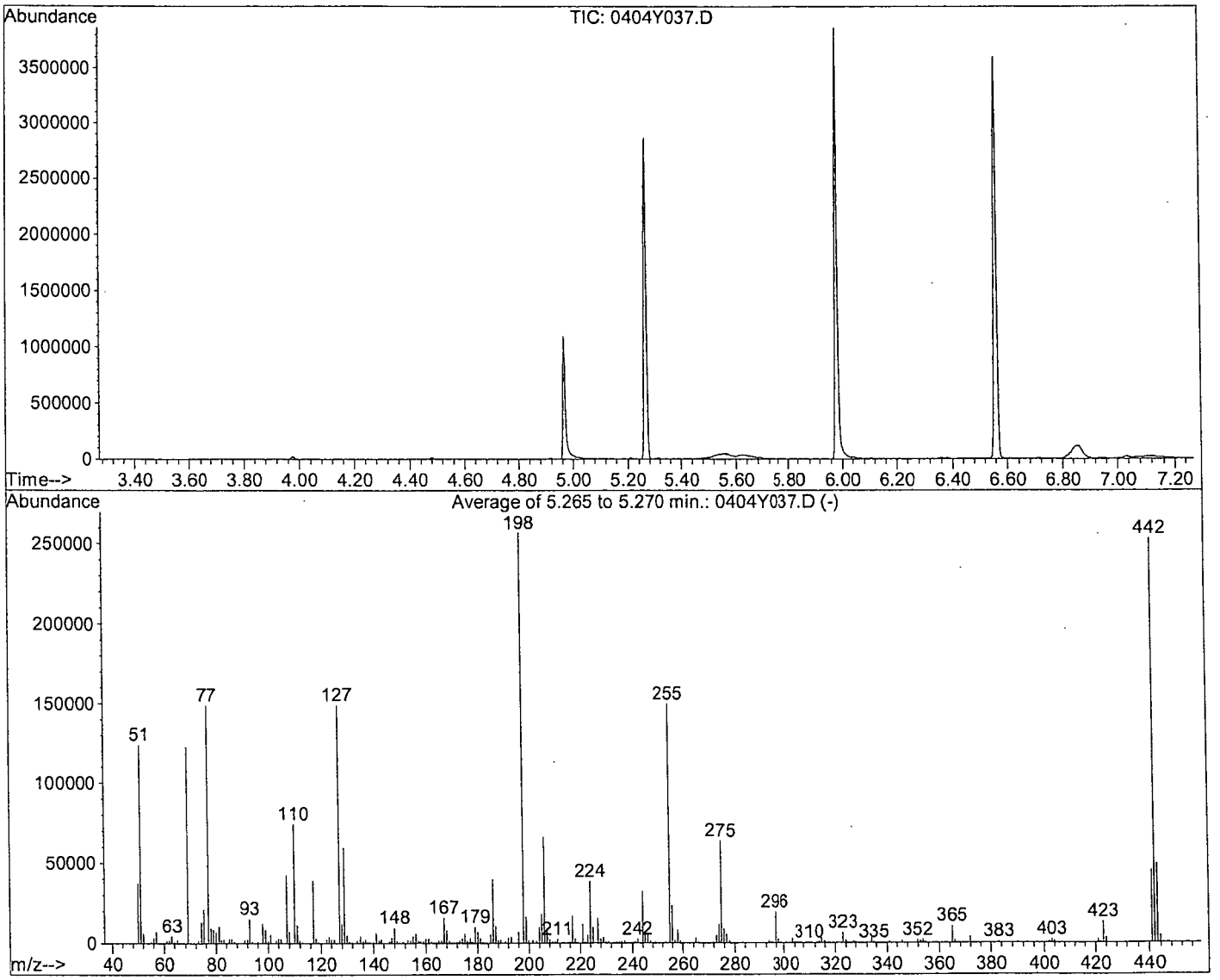
AutoFind: Scans 672, 673, 674; Background Corrected with Scan 664

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	49.7	125739	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.5	640	PASS
127	198	40	60	59.1	149589	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	253141	PASS
199	198	5	9	6.9	17360	PASS
275	198	10	30	24.4	61648	PASS
365	198	1	100	4.2	10616	PASS
441	443	0.01	100	86.3	39251	PASS
442	198	50	150	93.6	236992	PASS
443	442	17	23	19.2	45499	PASS

DFTPP

Data File : M:\YODA\DATA\Y170404\0404Y037.D Vial: 37
Acq On : 10 Apr 17 10:59 Operator: MA
Sample : SV Tune 03/29/17 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y170404\Y0404.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 671, 672, 673; Background Corrected with Scan 663

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	48.3	124211	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.4	510	PASS
127	198	40	60	58.1	149200	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	256917	PASS
199	198	5	9	6.4	16355	PASS
275	198	10	30	24.7	63475	PASS
365	198	1	100	4.1	10631	PASS
441	443	0.01	100	92.8	45477	PASS
442	198	50	150	98.6	253248	PASS
443	442	17	23	19.4	49011	PASS

0404Y037.D Y0404.M Mon Apr 10 11:18:03 2017

Semivolatile (SV) Tuning Solution -R.H.						
PREP DATE:	03/29/17	RH				
Semivolatile (SV) Tune Solution 50ug/ml						
Exp:	12/15/17					
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Ultra Scient	Semivolatile	1000	N081628-37008	12/15/16	12/15/17	200
EM Science	Methylene Chloride		56153			3800
				Final Vol.		4000

8270 Full Scan Standard Curve

PREP DATE:	03/30/17 RH											
8270 Standard Curve												
Exp:	05/30/17					**5**	**10**	**20**	**40**	**50**	**60**	**80**
		Conc.		Date								
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL	µL	µL	µL	µL	µL	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	5	5	10	20	50	30	40
Restek	8270 Surrog	200/400		1/19/17	11/15/17	5	5	10	20	50	30	40
EM Science	Methylene Chloride		56153			190	90	80	60	100	40	20
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4	2	2	2	4	2	2
				Final Vol.		204	102	102	102	204	102	102

8270 Full Scan Calibration Curve Verification (CCV) (3)

PREP DATE:	03/30/17 RH					
8270 Standard Curve						
Exp:	05/30/17					**50**
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
Absolute	8270 Stock	200	VAR	03/22/17	05/30/17	50
Restek	8270 Surrog	200/400		1/19/17	11/15/17	50
EM Science	Methylene Chloride		56153			100
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

100
µL
50
50
0
2
102

8270 SVOC Stock 10mL						
8270 Stock/Spike Standard						
prep:	03/22/2017 RH					
Exp:	05/30/17					
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Absolute	10001	2000	053014-37287	03/22/17	05/30/17	1000
Absolute	10002	2000	062216-37145	03/22/17	03/22/18	1000
Absolute	10004	2000	012516-36679	03/22/17	03/22/18	1000
Absolute	10005	2000	110314-37289	03/22/17	03/22/18	1000
Absolute	10006	2000	081216-37295	03/22/17	03/22/18	1000
Absolute	10007	2000	020515-37297	03/22/17	03/22/18	1000
Absolute	10018	2000	090216-37303	03/22/17	03/22/18	1000
Absolute	70023	1000	042716-37305	03/22/17	03/22/18	1000
Absolute	82705	2000	012516-37309	03/22/17	03/22/18	1000
Absolute	94552	2000	042016-37612	03/22/17	03/22/18	1000
				Final Vol.		10000

8270 Surrog STOCK 200/400ppm						
Prep: 1/19/17 -RH Ex: 11/15/17						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-36875 Op: 11/15/16 EX: 11/15/17	0.4 mL	10 mL	400 ug/mL	MC lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0119223-36871 Op: 1/12/17 EX: 1/12/18	0.4 mL	10 mL	200 ug/mL	MC lot# 96098

8270 Surrog Mix 100/200ppm						
Prep: 03/15/17 -RH Ex: 02/08/18						
STANDARD	INITIAL CONC.	SOURCE DATE	ALIQUOT	FINAL VOL	FINAL CONC.	SOLVENT /LOT#
8270 Acid Surrog Mix	10000 ug/ml	Restek Cat# 33029 Lot# A0118884-37266 Op: 03/15/17 EX: 03/15/18	2.0 mL	100 mL	200 ug/mL	MC Lot# 96098
8270 B/N surrog Mix	5000 µg/mL	Restek Cat# 31086 Lot# A0120687-37270 Op: 02/07/17 EX: 02/08/18	2.0 mL	100 mL	100 ug/mL	MC Lot# 96098

SV Internal Standard Stock Prep: 03/23/17 RH EXP: 03/23/18						
		Conc.				
Supplier	ID #	µg/mL	Lot #	Open Date	Exp.Date	µL
Supleco	CRM48902	2000	XA14020V-36763	03/23/17	03/23/18	1000
					fin vol.	1000

8270 Full Scan Second Source Stock						
	04/04/17					
8270 Second Source Stock						
Exp:	11/11/17					
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
Absolute	10001	2000	021015-36818	04/04/17	02/10/18	1000
Absolute	10002	2000	111114-36463	04/04/17	11/11/17	1000
Absolute	10004	2000	010815-36467	04/04/17	04/04/18	1000
Absolute	10005	2000	032714-36819	04/04/17	04/04/18	1000
Absolute	10006	2000	091115-36822	04/04/17	04/04/18	1000
Absolute	10007	2000	071013-36825	04/04/17	04/04/18	1000
Absolute	10018	2000	020315-36829	04/04/17	04/04/18	1000
Absolute	70023	1000	121615-36831	04/04/17	04/04/18	1000
Absolute	94552	varies	041916-36835	04/04/17	04/04/18	1000
Absolute	82705	2000	031215-36813	04/04/17	03/12/18	1000
				Final Vol.		10000

8270 Full Scan Second Source (SS)						
PREP DATE:	04/04/17					
Exp:	10/04/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock SS	200	VAR	04/04/17	11/11/17	50
EM Science	Methylene Chloride		56153			150
Supelco	SV Internal St	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

4-chloroaniline (SS)						
PREP DATE:	04/05/17					
Exp:	9/1/17	Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	110394-01	2000	235110-35251	07/23/15	9/1/17	5
EM Science	Methylene Chloride		56153			195
Supelco	SV Internal	2000	XA14020V-36763	03/23/17	03/23/18	4
				Final Vol.		204

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 13:45	
Spiked ID 8			Ext. End Time:	04/08/17 10:00	
			GC Requires Extract By:	**04/11/17 0:00**	

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	170407A Blk				1	1 equip	1000 e-wb5	1	2/1	04/07/17 13:45	
2	170407A LCS-1		0.250	1	1	1 equip	1000 E-WB5	1	2/1	04/07/17 13:45	
3	AZ53059 MS-1	AZ53059W22	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
4	AZ53059 MSD-1	AZ53059W27	0.250	1	1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
5	AZ53059	AZ53059W21			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
6	AZ53060	AZ53060W10			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
7	AZ53062	AZ53062W09			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
8	AZ53064	AZ53064W05			1	1 equip	1040 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
9	AZ53065	AZ53065W09			1	1 equip	1070 E-WB5	1	2/1	04/07/17 13:45	82577 1 WEEK
10	AZ53168 MS-1	AZ53168W35	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
11	AZ53168 MSD-1	AZ53168W47	0.250	1	1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
12	AZ53168	AZ53168W48			1	1 equip	1020 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
13	AZ53169	AZ53169W13			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
14	AZ53170	AZ53170W14			1	1 equip	1050 E-WB7	1	2/1	04/07/17 13:45	82619 1 WEEK
15	AZ53172	AZ53172W14			1	1 equip	980 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK
16	AZ53174	AZ53174W11			1	1 equip	1010 E-WB7	1	2/1	04/07/17 13:45	82596 1 WEEK

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	MA
Date	4/10/17
Time	12:00
Refrigerator	6C-C

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY 645 **Date** 4/10/17

_SEP004

Organic Extraction Worksheet

Method	625/8270 Separatory Funnel Extra 3510C	Extraction Set	170407A	Extraction Method	SEP004	Units	mL

Spiked ID 1	8270T Spike 3-22-17 exp 5-30-17		Surrogate ID 1	8270 Surrogate 3-15-17 exp 9-15-17	
Spiked ID 2			Surrogate ID 2		
Spiked ID 3			Surrogate ID 3		
Spiked ID 4			Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	04/07/17 13:45	
Spiked ID 8			Ext. End Time:	04/08/17 10:00	
			GC Requires Extract By:	**04/11/17 0:00**	

pH1	2	04/07/17 1:55:00 PM	Water Bath Temp Criteria	72,75 °C
pH2	14	04/07/17 3:20:00 PM		
pH3				

Spiked By: KY **Date** 04/07/17 **Witnessed By:** DL **Date** 04/07/17

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ53176	AZ53176W11			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
18	AZ53178	AZ53178W09			1	1	1040	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				
19	AZ53180	AZ53180W09			1	1	1030	1	2/1	04/07/17 13:45	82596 1 WEEK
						equip	E-WB7				

KY 4/10/17

Solvent and Lot#	
MC	56258
1+1 Sulfuric Acid	2-28-17
Acidified Na2SO4	3-11-17
B.Na2SO4	16C255214
10N NaOH	2-27-1
ph strips	HC 681919
Filter Paper	400120

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	
Date	
Time	
Refrigerator	

	Technician's Initials
Scanned By	DL
Sample Preparation	DL,KY
Extraction	DL,KY
Concentration	KY

Modified	04/10/17 2:33:51 PM

Reviewed By: KY **Date** 4/10/17

Injection Log

Directory: M:\YODA\DATA\Y170404\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
2	0404Y002.D	1	SV Tune 03/29/17		4 Apr 17 8:25
3	0404Y003.D	1	5ug/ml SVOC 03/30/17		4 Apr 17 8:42
4	0404Y004.D	1	10ug/ml SVOC 03/30/17		4 Apr 17 9:13
5	0404Y005.D	1	20ug/ml SVOC 03/30/17		4 Apr 17 9:43
6	0404Y006.D	1	40ug/ml SVOC 03/30/17		4 Apr 17 10:14
7	0404Y007.D	1	50ug/ml SVOC 03/30/17		4 Apr 17 10:45
8	0404Y008.D	1	60ug/ml SVOC 03/30/17		4 Apr 17 11:16
9	0404Y009.D	1	80ug/ml SVOC 03/30/17		4 Apr 17 11:47
10	0404Y010.D	1	100ug/ml SVOC 03/30/17		4 Apr 17 12:18
12	0404Y012.D	1	SS 50ug/ml SVOC 04/04/17		4 Apr 17 15:38
37	0404Y037.D	1	SV Tune 03/29/17		10 Apr 17 10:59
38	0404Y038.D	1	50ug/ml SVOC 03/30/17		10 Apr 17 11:15
39	0404Y039.D	1	170407A BLK 1/1000	water	10 Apr 17 12:04
40	0404Y040.D	1	170407A LCS-1 1/1000	water	10 Apr 17 12:34
49	0404Y049.D	0.980392	AZ53168W35 MS-1 1/1020	water	10 Apr 17 17:09
50	0404Y050.D	0.980392	AZ53168W47 MSD-1 1/1020	water	10 Apr 17 17:39
51	0404Y051.D	0.98039	AZ53168W48 1/1020	water	10 Apr 17 18:10
52	0404Y052.D	1.02041	AZ53169W13 1/980	water	10 Apr 17 18:41
53	0404Y053.D	0.95238	AZ53170W14 1/1050	water	10 Apr 17 19:11
60	0404Y060.D	1	50ug/ml SVOC 03/30/17	water	10 Apr 17 22:25

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	04/10/17	04/10/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/10/17	04/10/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/10/17	04/10/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	04/10/17	04/10/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/10/17	04/10/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/10/17	04/10/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/10/17	04/10/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/10/17	04/10/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/10/17	04/10/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:13 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/10/17	04/10/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/10/17	04/10/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/10/17	04/10/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/10/17	04/10/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/10/17	04/10/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/10/17	04/10/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/10/17	04/10/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/10/17	04/10/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/10/17	04/10/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/10/17	04/10/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:14 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/10/17	04/10/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/10/17	04/10/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/10/17	04/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	04/10/17	04/10/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	04/10/17	04/10/17
BLANK	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:14 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	04/12/17	04/12/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/12/17	04/12/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/12/17	04/12/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	04/12/17	04/12/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/12/17	04/12/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/12/17	04/12/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/12/17	04/12/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/12/17	04/12/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/12/17	04/12/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:14 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/12/17	04/12/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/12/17	04/12/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/12/17	04/12/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/12/17	04/12/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/12/17	04/12/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/12/17	04/12/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/12/17	04/12/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/12/17	04/12/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/12/17	04/12/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/12/17	04/12/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:14 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/12/17	04/12/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/12/17	04/12/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,2-DICHLOROET	100.0	81-118			%	04/12/17	04/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	04/12/17	04/12/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	04/12/17	04/12/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:14 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170415W-53168 - 218291**
Batch ID: #86CDO-170415AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/15/17	04/15/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/15/17	04/15/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/15/17	04/15/17
BLANK	SURROGATE: 4-BROMOFLUOR	94.8	85-114			%	04/15/17	04/15/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	04/15/17	04/15/17
BLANK	SURROGATE: TOLUENE-D8 (S)	99.9	89-112			%	04/15/17	04/15/17

Quant Method: MALLW.M
Run #: 0415M10
Instrument: Max
Sequence: M170414
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 12:11:51 PM

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410AT-LCS	Lab Control Spike	81-118	99.6		85-114	98.4	
170410AT-BLK	Blank	81-118	103		85-114	100	
AZ53169	ERH314	81-118	103		85-114	101	
AZ53170	ERH315	81-118	102		85-114	99.2	

Comments: Batch: #86CDO-170410AT

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170410AT-LCS	Lab Control Spike	80-119	100		89-112	98.4	
170410AT-BLK	Blank	80-119	103		89-112	104	
AZ53169	ERH314	80-119	102		89-112	104	
AZ53170	ERH315	80-119	102		89-112	100	

Comments: Batch: #86CDO-170410AT

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/12/17

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170412AT-LCS	Lab Control Spike	81-118	98.4		85-114	98.8	
170412AT-BLK	Blank	81-118	100.0		85-114	101	
AZ53167	ERH306	81-118	99.6		85-114	98.3	
AZ53168	ERH307	81-118	99.3		85-114	99.8	
AZ53168-MS	Matrix Spike	81-118	105		85-114	104	
AZ53168-MSD	Matrix SpikeD	81-118	105		85-114	101	

Comments: Batch: #86CDO-170412AT

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/12/17

Matrix: WATER Instrument: Thor

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170412AT-LCS	Lab Control Spike	80-119	98.0		89-112	98.8	
170412AT-BLK	Blank	80-119	101		89-112	103	
AZ53167	ERH306	80-119	98.9		89-112	101	
AZ53168	ERH307	80-119	98.6		89-112	103	
AZ53168-MS	Matrix Spike	80-119	104		89-112	102	
AZ53168-MSD	Matrix SpikeD	80-119	100		89-112	99.6	

Comments: Batch: #86CDO-170412AT

Printed: 04/27/17 1:19:19 PM

Form 2 & 8, Surrogate Recovery Summary

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/15/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170415AM-LCS	Lab Control Spike	81-118	106		85-114	101	
170415AM-BLK	Blank	81-118	103		85-114	94.8	
AZ53168	ERH307	81-118	102		85-114	94.7	

Comments: Batch: #86CDO-170415A

EPA 8260C

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/15/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
170415AM-LCS	Lab Control Spike	80-119	101		89-112	101	
170415AM-BLK	Blank	80-119	103		89-112	99.9	
AZ53168	ERH307	80-119	102		89-112	101	

Comments: Batch: #86CDO-170415A

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.0	100	78-124
1,1,1-TRICHLOROETHANE	10.00	9.49	94.9	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	11.0	110	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.2	102	70-136
1,1,2-TRICHLOROETHANE	10.00	10.2	102	80-119
1,1-DICHLOROETHANE	10.00	9.82	98.2	77-125
1,1-DICHLOROETHENE	10.00	9.78	97.8	71-131
1,1-DICHLOROPROPENE	10.00	9.71	97.1	79-125
1,2,3-TRICHLOROBENZENE	10.00	9.95	99.5	69-129
1,2,3-TRICHLOROPROPANE	10.00	10.3	103	73-122
1,2,4-TRICHLOROBENZENE	10.00	10.0	100	69-130
1,2,4-TRIMETHYLBENZENE	10.00	9.93	99.3	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	11.2	112	62-128
1,2-DIBROMOETHANE	10.00	10.3	103	77-121
1,2-DICHLOROBENZENE	10.00	9.86	98.6	80-119
1,2-DICHLOROETHANE	10.00	9.42	94.2	73-128
1,2-DICHLOROPROPANE	10.00	9.90	99.0	78-122
1,3,5-TRIMETHYLBENZENE	10.00	9.92	99.2	82-120
1,3-DICHLOROBENZENE	10.00	10.0	100	80-119
1,3-DICHLOROPROPANE	10.00	9.99	99.9	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	20.0	100	77-123
1,4-DICHLOROBENZENE	10.00	9.75	97.5	79-118
2,2-DICHLOROPROPANE	10.00	10.0	100	60-139
2-BUTANONE	10.00	11.2	112	56-143
2-CHLOROTOLUENE	10.00	9.85	98.5	79-122
2-HEXANONE	10.00	11.1	111	57-139
4-CHLOROTOLUENE	10.00	9.89	98.9	78-122
4-METHYL-2-PENTANONE	10.00	10.9	109	67-130
ACETONE	10.00	8.39	83.9	39-160
BENZENE	10.00	9.68	96.8	79-120
BROMOBENZENE	10.00	9.99	99.9	80-120

= Recovery is outside QC limits.

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

Comments:

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	10.3	103	78-123
BROMODICHLOROMETHANE	10.00	10.1	101	79-125
BROMOFORM	10.00	10.4	104	66-130
BROMOMETHANE	10.00	9.24	92.4	53-141
CARBON DISULFIDE	10.00	9.49	94.9	64-133
CARBON TETRACHLORIDE	10.00	9.66	96.6	72-136
CHLOROBENZENE	10.00	9.56	95.6	82-118
CHLOROETHANE	10.00	9.67	96.7	60-138
CHLOROFORM	10.00	9.83	98.3	79-124
CHLOROMETHANE	10.00	10.4	104	50-139
CIS-1,2-DICHLOROETHENE	10.00	9.99	99.9	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.1	101	75-124
DI-ISOPROPYL ETHER	10.00	9.78	97.8	67-128
DIBROMOCHLOROMETHANE	10.00	10.2	102	74-126
DIBROMOMETHANE	10.00	10.2	102	79-123
DICHLORODIFLUOROMETHANE	10.00	9.93	99.3	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	9.87	98.7	70-127
ETHYLBENZENE	10.00	9.71	97.1	79-121
HEXACHLOROBUTADIENE	10.00	9.97	99.7	66-134
ISOPROPYLBENZENE	10.00	10.0	100	72-131
M,P-XYLENE	20.0	18.8	94.0	80-121
METHYL TERT-BUTYL ETHER	10.00	10.4	104	71-124
METHYLENE CHLORIDE	10.00	9.71	97.1	74-124
N-BUTYLBENZENE	10.00	9.88	98.8	75-128
N-PROPYLBENZENE	10.00	10.1	101	76-126
NAPHTHALENE	10.00	9.74	97.4	61-128
O-XYLENE	10.00	9.66	96.6	78-122
P-ISOPROPYLTOLUENE	10.00	9.84	98.4	77-127
SEC-BUTYLBENZENE	10.00	9.88	98.8	77-126
STYRENE	10.00	9.29	92.9	78-123
TERT-AMYL METHYL ETHER	10.00	9.92	99.2	68-128

= Recovery is outside QC limits.

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

Comments:

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	173	138 #	68-129
TERT-BUTYLBENZENE	10.00	9.86	98.6	78-124
TETRACHLOROETHENE	10.00	10.4	104	74-129
TOLUENE	10.00	9.49	94.9	80-121
TRANS-1,2-DICHLOROETHENE	10.00	9.90	99.0	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	9.90	99.0	73-127
TRICHLOROETHENE	10.00	9.61	96.1	79-123
TRICHLOROFLUOROMETHANE	10.00	9.89	98.9	65-141
VINYL CHLORIDE	10.00	9.96	99.6	58-137
XYLENES (TOTAL)	30.0	28.5	95.0	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.6	98.4	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.7	98.8	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.5	98.0	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

= Recovery is outside QC limits.

Comments:

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.3	103	78-124
1,1,1-TRICHLOROETHANE	10.00	10.5	105	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	11.1	111	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.8	108	70-136
1,1,2-TRICHLOROETHANE	10.00	10.5	105	80-119
1,1-DICHLOROETHANE	10.00	10.6	106	77-125
1,1-DICHLOROETHENE	10.00	10.5	105	71-131
1,1-DICHLOROPROPENE	10.00	10.5	105	79-125
1,2,3-TRICHLOROBENZENE	10.00	10.8	108	69-129
1,2,3-TRICHLOROPROPANE	10.00	10.8	108	73-122
1,2,4-TRICHLOROBENZENE	10.00	11.2	112	69-130
1,2,4-TRIMETHYLBENZENE	10.00	10.5	105	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.9	109	62-128
1,2-DIBROMOETHANE	10.00	10.4	104	77-121
1,2-DICHLOROBENZENE	10.00	10.5	105	80-119
1,2-DICHLOROETHANE	10.00	10.0	100	73-128
1,2-DICHLOROPROPANE	10.00	10.3	103	78-122
1,3,5-TRIMETHYLBENZENE	10.00	10.7	107	82-120
1,3-DICHLOROBENZENE	10.00	10.6	106	80-119
1,3-DICHLOROPROPANE	10.00	10.2	102	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	21.0	105	77-123
1,4-DICHLOROBENZENE	10.00	10.3	103	79-118
2,2-DICHLOROPROPANE	10.00	11.2	112	60-139
2-BUTANONE	10.00	8.83	88.3	56-143
2-CHLOROTOLUENE	10.00	10.7	107	79-122
2-HEXANONE	10.00	10.9	109	57-139
4-CHLOROTOLUENE	10.00	10.4	104	78-122
4-METHYL-2-PENTANONE	10.00	9.98	99.8	67-130
ACETONE	10.00	9.69	96.9	39-160
BENZENE	10.00	10.1	101	79-120
BROMOBENZENE	10.00	10.3	103	80-120

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

Comments:

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	9.94	99.4	78-123
BROMODICHLOROMETHANE	10.00	10.4	104	79-125
BROMOFORM	10.00	10.7	107	66-130
BROMOMETHANE	10.00	9.28	92.8	53-141
CARBON DISULFIDE	10.00	10.4	104	64-133
CARBON TETRACHLORIDE	10.00	10.4	104	72-136
CHLOROBENZENE	10.00	10.0	100	82-118
CHLOROETHANE	10.00	10.7	107	60-138
CHLOROFORM	10.00	10.3	103	79-124
CHLOROMETHANE	10.00	10.9	109	50-139
CIS-1,2-DICHLOROETHENE	10.00	10.5	105	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.4	104	75-124
DI-ISOPROPYL ETHER	10.00	10.2	102	67-128
DIBROMOCHLOROMETHANE	10.00	10.4	104	74-126
DIBROMOMETHANE	10.00	10.4	104	79-123
DICHLORODIFLUOROMETHANE	10.00	11.3	113	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	10.3	103	70-127
ETHYLBENZENE	10.00	10.2	102	79-121
HEXACHLOROBUTADIENE	10.00	11.0	110	66-134
ISOPROPYLBENZENE	10.00	10.6	106	72-131
M,P-XYLENE	20.0	20.9	105	80-121
METHYL TERT-BUTYL ETHER	10.00	10.7	107	71-124
METHYLENE CHLORIDE	10.00	10.1	101	74-124
N-BUTYLBENZENE	10.00	10.8	108	75-128
N-PROPYLBENZENE	10.00	10.6	106	76-126
NAPHTHALENE	10.00	11.3	113	61-128
O-XYLENE	10.00	9.74	97.4	78-122
P-ISOPROPYLTOLUENE	10.00	10.8	108	77-127
SEC-BUTYLBENZENE	10.00	10.6	106	77-126
STYRENE	10.00	10.0	100	78-123
TERT-AMYL METHYL ETHER	10.00	10.6	106	68-128

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

Comments:

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	142	114	68-129
TERT-BUTYLBENZENE	10.00	10.5	105	78-124
TETRACHLOROETHENE	10.00	10.4	104	74-129
TOLUENE	10.00	10.3	103	80-121
TRANS-1,2-DICHLOROETHENE	10.00	10.4	104	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	10.6	106	73-127
TRICHLOROETHENE	10.00	10.0	100	79-123
TRICHLOROFLUOROMETHANE	10.00	10.8	108	65-141
VINYL CHLORIDE	10.00	10.7	107	58-137
XYLENES (TOTAL)	30.0	30.6	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.0	100	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.6	98.4	89-112

Comments:

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170415W-53168 LCS - 218291**
Batch ID: #86CDO-170415AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
ACETONE	10.00	9.84	98.4	39-160
TERT-BUTYL ALCOHOL	125	147	118	68-129
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.4	106	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.3	101	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.2	101	89-112

Comments:

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/15/17
Analysis Date :	04/15/17
Instrument :	Max
Run :	0415M07
Initials :	SV

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APPL Standard LCS

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	10.2	9.36	102	93.6	78-124	8.6	20
1,1,1-TRICHLOROETHANE	10.00	ND	10.7	9.76	107	97.6	74-131	9.2	20
1,1,2,2-TETRACHLOROETHANE	10.00	ND	10.1	10.3	101	103	71-121	2.0	20
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	ND	10.6	10.5	106	105	70-136	0.95	20
1,1,2-TRICHLOROETHANE	10.00	ND	10.3	9.75	103	97.5	80-119	5.5	20
1,1-DICHLOROETHANE	10.00	ND	10.8	10.1	108	101	77-125	6.7	20
1,1-DICHLOROETHENE	10.00	ND	10.7	9.84	107	98.4	71-131	8.4	20
1,1-DICHLOROPROPENE	10.00	ND	10.7	9.58	107	95.8	79-125	11.0	20
1,2,3-TRICHLOROBENZENE	10.00	ND	9.05	9.56	90.5	95.6	69-129	5.5	20
1,2,3-TRICHLOROPROPANE	10.00	ND	10.2	9.81	102	98.1	73-122	3.9	20
1,2,4-TRICHLOROBENZENE	10.00	ND	9.65	9.84	96.5	98.4	69-130	1.9	20
1,2,4-TRIMETHYLBENZENE	10.00	ND	10.1	10.1	101	101	76-124	0.0	20
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	10.5	10.9	105	109	62-128	3.7	20
1,2-DIBROMOETHANE	10.00	ND	10.3	9.77	103	97.7	77-121	5.3	20
1,2-DICHLOROBENZENE	10.00	ND	10.0	10.0	100	100	80-119	0.0	20
1,2-DICHLOROETHANE	10.00	ND	10.8	9.83	108	98.3	73-128	9.4	20
1,2-DICHLOROPROPANE	10.00	ND	10.4	9.83	104	98.3	78-122	5.6	20
1,3,5-TRIMETHYLBENZENE	10.00	ND	10.4	10.2	104	102	82-120	1.9	20
1,3-DICHLOROBENZENE	10.00	ND	10.0	9.97	100	99.7	80-119	0.30	20
1,3-DICHLOROPROPANE	10.00	ND	10.6	9.62	106	96.2	80-119	9.7	20
1,3-DICHLOROPROPENE, TOTAL	20.0	ND	19.3	18.4	96.5	92.0	77-123	4.8	20
1,4-DICHLOROBENZENE	10.00	ND	10.2	9.93	102	99.3	79-118	2.7	20
2,2-DICHLOROPROPANE	10.00	ND	9.94	9.23	99.4	92.3	60-139	7.4	20
2-BUTANONE	10.00	ND	11.0	9.25	110	92.5	56-143	17.3	20
2-CHLOROTOLUENE	10.00	ND	10.4	10.2	104	102	79-122	1.9	20
2-HEXANONE	10.00	ND	10.0	9.48	100	94.8	57-139	5.3	20
4-CHLOROTOLUENE	10.00	ND	10.2	10.1	102	101	78-122	0.99	20
4-METHYL-2-PENTANONE	10.00	ND	10.6	9.87	106	98.7	67-130	7.1	20
ACETONE	10.00	ND	11.2	8.80	112	88.0	39-160	24.0 #	20
BENZENE	10.00	ND	10.6	9.69	106	96.9	79-120	9.0	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Comments:

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APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BROMOBENZENE	10.00	ND	9.89	9.56	98.9	95.6	80-120	3.4	20
BROMOCHLOROMETHANE	10.00	ND	10.5	9.36	105	93.6	78-123	11.5	20
BROMODICHLOROMETHANE	10.00	ND	10.7	9.74	107	97.4	79-125	9.4	20
BROMOFORM	10.00	ND	9.63	8.71	96.3	87.1	66-130	10.0	20
BROMOMETHANE	10.00	ND	11.3	10.0	113	100	53-141	12.2	20
CARBON DISULFIDE	10.00	ND	10.5	9.62	105	96.2	64-133	8.7	20
CARBON TETRACHLORIDE	10.00	ND	10.9	9.94	109	99.4	72-136	9.2	20
CHLOROBENZENE	10.00	ND	10.2	9.39	102	93.9	82-118	8.3	20
CHLOROETHANE	10.00	ND	10.0	9.64	100	96.4	60-138	3.7	20
CHLOROFORM	10.00	ND	10.7	9.98	107	99.8	79-124	7.0	20
CHLOROMETHANE	10.00	ND	10.7	10.2	107	102	50-139	4.8	20
CIS-1,2-DICHLOROETHENE	10.00	ND	11.4	10.2	114	102	78-123	11.1	20
CIS-1,3-DICHLOROPROPENE	10.00	ND	10.1	9.67	101	96.7	75-124	4.4	20
DI-ISOPROPYL ETHER	10.00	ND	10.7	9.82	107	98.2	67-128	8.6	20
DIBROMOCHLOROMETHANE	10.00	ND	10.0	9.29	100	92.9	74-126	7.4	20
DIBROMOMETHANE	10.00	ND	10.7	9.74	107	97.4	79-123	9.4	20
DICHLORODIFLUOROMETHANE	10.00	ND	11.2	10.8	112	108	32-152	3.6	20
ETHYL TERTIARY BUTYL ETHER	10.00	ND	10.4	9.68	104	96.8	70-127	7.2	20
ETHYLBENZENE	10.00	ND	10.5	9.50	105	95.0	79-121	10.0	20
HEXACHLOROBUTADIENE	10.00	ND	9.42	9.81	94.2	98.1	66-134	4.1	20
ISOPROPYLBENZENE	10.00	ND	10.1	10.0	101	100	72-131	1.00	20
M,P-XYLENE	20.0	ND	20.8	19.1	104	95.5	80-121	8.5	20
METHYL TERT-BUTYL ETHER	10.00	ND	10.4	9.65	104	96.5	71-124	7.5	20
METHYLENE CHLORIDE	10.00	ND	9.89	9.08	98.9	90.8	74-124	8.5	20
N-BUTYLBENZENE	10.00	ND	9.82	9.24	98.2	92.4	75-128	6.1	20
N-PROPYLBENZENE	10.00	ND	10.3	10.3	103	103	76-126	0.0	20
NAPHTHALENE	10.00	ND	8.08	8.59	80.8	85.9	61-128	6.1	20
O-XYLENE	10.00	ND	10.7	9.58	107	95.8	78-122	11.0	20
P-ISOPROPYLTOLUENE	10.00	ND	9.35	9.58	93.5	95.8	77-127	2.4	20
SEC-BUTYLBENZENE	10.00	ND	9.85	9.80	98.5	98.0	77-126	0.51	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Comments:

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APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
STYRENE	10.00	ND	10.2	9.35	102	93.5	78-123	8.7	20
TERT-AMYL METHYL ETHER	10.00	ND	10.1	9.46	101	94.6	68-128	6.5	20
TERT-BUTYL ALCOHOL	125	ND	130	123	104	98.4	68-129	5.5	20
TERT-BUTYLBENZENE	10.00	ND	10.3	10.1	103	101	78-124	2.0	20
TETRACHLOROETHENE	10.00	ND	10.7	9.45	107	94.5	74-129	12.4	20
TOLUENE	10.00	ND	10.4	9.48	104	94.8	80-121	9.3	20
TRANS-1,2-DICHLOROETHENE	10.00	ND	10.8	10.0	108	100	75-124	7.7	20
TRANS-1,3-DICHLOROPROPENE	10.00	ND	9.20	8.73	92.0	87.3	73-127	5.2	20
TRICHLOROETHENE	10.00	ND	10.5	9.54	105	95.4	79-123	9.6	20
TRICHLOROFLUOROMETHANE	10.00	ND	10.5	9.81	105	98.1	65-141	6.8	20
VINYL CHLORIDE	10.00	ND	10.9	10.1	109	101	58-137	7.6	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	26.3	26.2	105	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.9	25.2	104	101	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	26.1	25.0	104	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.4	24.9	102	99.6	89-112		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Printed: 04/27/17 1:19:29 PM
APPL MSD SCII

EPA 8260C

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/10/17

Matrix: WATER Instrument: Thor

Blank ID: 170410AT-BLK Time Analyzed: 1316

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170410AT-LCS	Lab Control Spike	0410T06	04/10/17 1125
170410AT-BLK	Blank	0410T10	04/10/17 1316
AZ53169	ERH314	0410T25	04/10/17 2012
AZ53170	ERH315	0410T26	04/10/17 2040

Comments: Batch: #86CDO-170410AT

EPA 8260C

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/12/17

Matrix: WATER Instrument: Thor

Blank ID: 170412AT-BLK Time Analyzed: 1547

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170412AT-LCS	Lab Control Spike	0412T04	04/12/17 1328
170412AT-BLK	Blank	0412T09	04/12/17 1547
AZ53167	ERH306	0412T10	04/12/17 1615
AZ53168	ERH307	0412T11	04/12/17 1642
170412AT-MS	Matrix Spike	0415M24	04/15/17 1900
170412AT-MSD	Matrix SpikeD	0415M25	04/15/17 1928

Comments: Batch: #86CDO-170412AT

Printed: 04/27/17 1:19:33 PM
Form 4, Blank Summary

EPA 8260C

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/15/17

Matrix: WATER Instrument: Max

Blank ID: 170415AM-BLK Time Analyzed: 1222

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170415AM-LCS	Lab Control Spike	0415M07	04/15/17 1057
170415AM-BLK	Blank	0415M10	04/15/17 1222
AZ53168	ERH307	0415M13	04/15/17 1347

Comments: Batch: #86CDO-170415A

Printed: 04/28/17 12:12:03 PM
Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: 25ug/ml-BFB Std 04/03/17

SDG No: 82619
Date Analyzed: 04/07/17
Instrument: Thor
Time Analyzed: 9:53

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 4/7/	0407T05.D	04/07/17 11:37
2		0.5ug/L VOC STD 4/7/	0407T06.D	04/07/17 12:05
3		1.0ug/L VOC STD 4/7/	0407T07.D	04/07/17 12:32
4		2.0ug/L VOC STD 4/7/	0407T08.D	04/07/17 13:00
5		5.0ug/L VOC STD 4/7/	0407T09.D	04/07/17 13:28
6		10ug/L VOC STD 4/7/1	0407T10.D	04/07/17 13:56
7		20ug/L VOC STD 4/7/1	0407T11.D	04/07/17 14:23
8		40ug/L VOC STD 4/7/1	0407T12.D	04/07/17 14:51
9		100ug/L VOC STD 4/7/	0407T13.D	04/07/17 15:19
10		(SS)10ug/L VOC STD 4	0407T19.D	04/07/17 18:05
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.4
75	30 - 60% of mass 95	45.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.2
173	0 - 2% of mass 174	0.9
174	50 - 100% of mass 95	95.9
175	5 - 9% of mass 174	7.5
176	95 - 101% of mass 174	98.5
177	5 - 9% of mass 176	6.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: 25ug/ml-BFB Std 04/03/17

SDG No: 82619
Date Analyzed: 04/10/17
Instrument: Thor
Time Analyzed: 9:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170410A CCV-1WT 10ug	0410T05.D	04/10/17 10:57
2	Lab Control Spike	170410A LCS-1WT 10ug	0410T06.D	04/10/17 11:25
3	Blank	170410A BLK-1WT	0410T10.D	04/10/17 13:16
4	ERH314	AZ53169W02	0410T25.D	04/10/17 20:12
5	ERH315	AZ53170W02	0410T26.D	04/10/17 20:40
6		Ending CCV 8260 4/10	0410T29.D	04/10/17 22:03
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.6
75	30 - 60% of mass 95	46.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2% of mass 174	0.8
174	50 - 100% of mass 95	96.3
175	5 - 9% of mass 174	7.5
176	95 - 101% of mass 174	97.2
177	5 - 9% of mass 176	6.8

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: 25ug/ml-BFB Std 04/03/17

SDG No: 82619
Date Analyzed: 04/12/17
Instrument: Thor
Time Analyzed: 12:12

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170412A CCV-1WT 10ug	0412T03.D	04/12/17 13:00
2	Lab Control Spike	170412A LCS-1WT 10ug	0412T04.D	04/12/17 13:28
3	Blank	170412A BLK-1WT	0412T09.D	04/12/17 15:47
4	ERH306	AZ53167W02	0412T10.D	04/12/17 16:15
5	ERH307	AZ53168W05	0412T11.D	04/12/17 16:42
6		Ending CCV 8260 4/12	0412T27.D	04/13/17 0:05
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.3
75	30 - 60% of mass 95	45.0
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.9
173	0 - 2% of mass 174	0.9
174	50 - 100% of mass 95	99.2
175	5 - 9% of mass 174	7.0
176	95 - 101% of mass 174	98.9
177	5 - 9% of mass 176	6.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82619
Date Analyzed: 04/14/17
Instrument: Max
Time Analyzed: 9:49

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L VOC STD 4/14	0414M04.D	04/14/17 11:39
2		0.5ug/L VOC STD 4/14	0414M05.D	04/14/17 12:07
3		1.0ug/L VOC STD 4/14	0414M06.D	04/14/17 12:36
4		2.0ug/L VOC STD 4/14	0414M07.D	04/14/17 13:04
5		5.0ug/L VOC STD 4/14	0414M08.D	04/14/17 13:33
6		10ug/L VOC STD 4/14/	0414M09.D	04/14/17 14:01
7		20ug/L VOC STD 4/14/	0414M10.D	04/14/17 14:29
8		40ug/L VOC STD 4/14/	0414M11.D	04/14/17 14:58
9		100ug/L VOC STD 4/14	0414M12.D	04/14/17 15:26
10		(SS)10ug/L VOC STD 4	0414M17.D	04/14/17 17:48
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	15.6
75	30 - 60% of mass 95	44.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2% of mass 174	1.0
174	50 - 100% of mass 95	96.0
175	5 - 9% of mass 174	8.6
176	95.06 - 101% of mass 174	97.9
177	5 - 9% of mass 176	7.9

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 82619
Matrix: Water
ID: 25ug/mL BFB std 4/03/17

SDG No: 82619
Date Analyzed: 04/15/17
Instrument: Max
Time Analyzed: 8:39

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		170415A CCV-1WM	0415M06.D	04/15/17 10:29
2	Lab Control Spike	170415A LCS-1WM	0415M07.D	04/15/17 10:57
3	Blank	170415A BLK-1WM	0415M10.D	04/15/17 12:22
4	ERH307	AZ53168W06	0415M13.D	04/15/17 13:47
5		AZ53168W110710 MS-1W	0415M24.D	04/15/17 19:00
6		AZ53168W110710 MSD-1	0415M25.D	04/15/17 19:28
7		Ending CCV 8260 10ug	0415M28.D	04/15/17 20:54
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.5
75	30 - 60% of mass 95	44.7
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.5
173	0 - 2% of mass 174	1.1
174	50 - 100% of mass 95	96.9
175	5 - 9% of mass 174	7.8
176	95.06 - 101% of mass 174	96.7
177	5 - 9% of mass 176	7.1

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 82619

Lab File ID (Standard): 0414M09.D Date Analyzed: 04/14/17

Instrument ID: Max Time Analyzed: 14:01

GC Column: ID: Heated Purge: (Y/N)

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	318965	5.51	216302	9.14	105721	12.34
	UPPER LIMIT	637930	6.01	432604	9.64	211442	12.84
	LOWER LIMIT	159483	5.01	108151	8.64	52861	11.84
	SAMPLE NO.						
01	(SS)10ug/L VOC STD 4	346068	5.51	232814	9.14	108944	12.34
02	170415A CCV-1WM	351653	5.51	236360	9.14	109561	12.34
03	170415A LCS-1WM	345995	5.51	234002	9.14	112071	12.34
04	170415A BLK-1WM	324514	5.52	217941	9.14	90287	12.34
05	AZ53168W06	320511	5.52	215528	9.14	90952	12.34
06	AZ53168W110710 MS-1	298231	5.51	203546	9.14	99953	12.34
07	AZ53168W110710 MSD	331280	5.52	225816	9.14	103516	12.34
08	Ending CCV 8260 10ug/	352364	5.52	236588	9.14	113174	12.34
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = -50% of internal standard area.
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

ORGANICS

Sample Data

APPL, INC.

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH306
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53167
QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/12/17	04/12/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/12/17	04/12/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/12/17	04/12/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/12/17	04/12/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/12/17	04/12/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T10
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH306
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53167
QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/12/17	04/12/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/12/17	04/12/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/12/17	04/12/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/12/17	04/12/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/12/17	04/12/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/12/17	04/12/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/12/17	04/12/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/12/17	04/12/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/12/17	04/12/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T10
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82619

Sample ID: ERH306

APPL ID: AZ53167

Sample Collection Date: 04/04/17

QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	99.6	81-118			%	04/12/17	04/12/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	98.3	85-114			%	04/12/17	04/12/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	98.9	80-119			%	04/12/17	04/12/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T10
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0412T10.D Vial: 9
Acq On : 12 Apr 17 16:15 Operator: DG,SV, CMM.PM
Sample : AZ53167W02 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 16:50 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	780160	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	692992	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	302144	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	399620	24.72201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.888%	
38) 1,2-DCA-D4(S)	6.00	65	354250	24.89630 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.584%	
58) Toluene-D8(S)	8.11	98	1404363	25.35618 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.424%	
66) 4-Bromofluorobenzene(S)	10.73	95	483113	24.56998 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.280%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

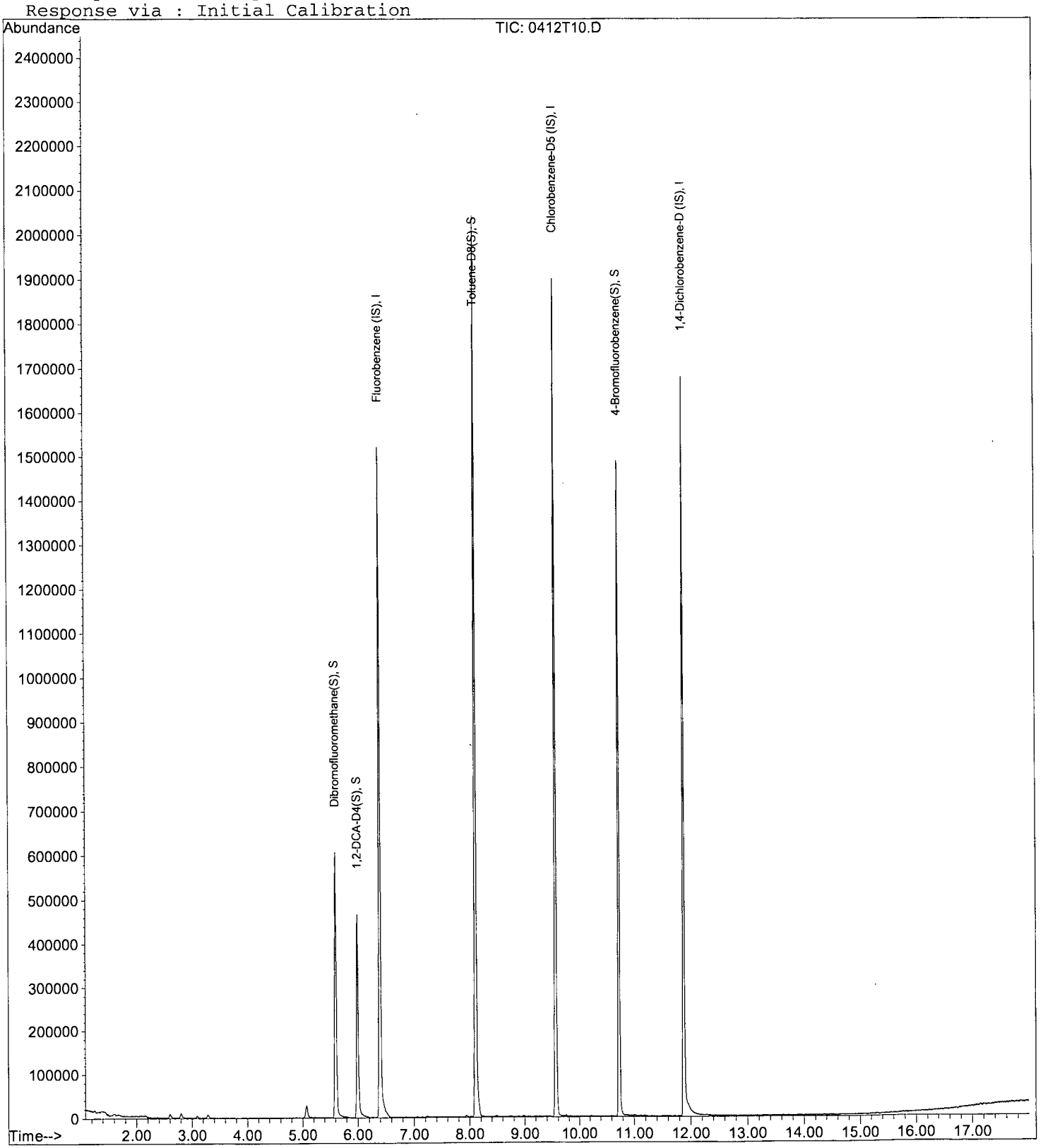
Data File : M:\THOR\DATA\T170407\0412T10.D
Acq On : 12 Apr 17 16:15
Sample : AZ53167W02
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 9
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 16:50 2017

Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Library Search Compound Report

Data File : M:\THOR\DATA\T170407\0412T10.D Vial: 9
Acq On : 12 Apr 17 16:15 Operator: DG,SV, CMM.PM
Sample : AZ53167W02 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Library : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected

****
0412T10.D TALLW.M Fri Apr 28 10:43:38 2017

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/12/17	04/12/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/12/17	04/12/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/12/17	04/12/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/12/17	04/12/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/12/17	04/12/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/12/17	04/12/17
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T11
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/28/17 12:27:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/12/17	04/12/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/12/17	04/12/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/12/17	04/12/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/12/17	04/12/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/12/17	04/12/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/12/17	04/12/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/12/17	04/12/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/12/17	04/12/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/12/17	04/12/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/12/17	04/12/17
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	99.3	81-118			%	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T11
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/28/17 12:27:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #86CDO-170412AT-217781

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	99.8	85-114			%	04/12/17	04/12/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	98.6	80-119			%	04/12/17	04/12/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T11
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/28/17 12:27:08 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0412T11.D
Acq On : 12 Apr 17 16:42
Sample : AZ53168W05
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 10
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 17:02 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	760384	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	669696	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	285440	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	388448	24.65586 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.624%	
38) 1,2-DCA-D4(S)	6.00	65	344315	24.82742 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.308%	
58) Toluene-D8(S)	8.11	98	1376202	25.71208 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.848%	
66) 4-Bromofluorobenzene(S)	10.73	95	474055	24.94798 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.792%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

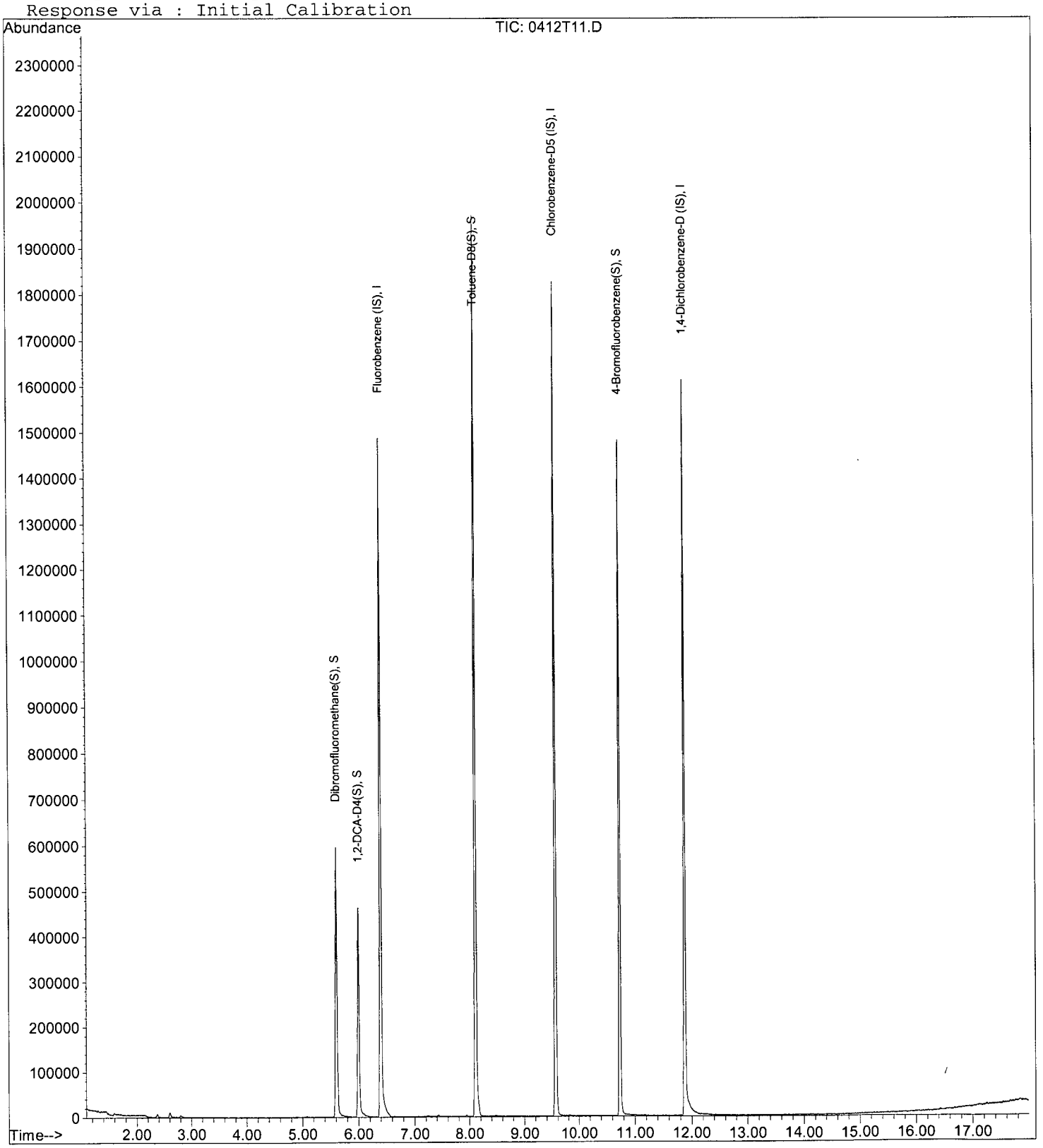
Quantitation Report

Data File : M:\THOR\DATA\T170407\0412T11.D
Acq On : 12 Apr 17 16:42
Sample : AZ53168W05
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 10
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 17:02 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Library Search Compound Report

Data File : M:\THOR\DATA\T170407\0412T11.D Vial: 10
Acq On : 12 Apr 17 16:42 Operator: DG,SV, CMM.PM
Sample : AZ53168W05 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00000
MS Integration Params: LSCINT.P
Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Library : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected

****
0412T11.D TALLW.M Fri Apr 28 10:43:56 2017

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82619

Sample ID: ERH307

APPL ID: AZ53168

Sample Collection Date: 04/04/17

QCG: #86CDO-170415AM-218291

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	ACETONE	1.8 J	10.0	2.00	0.95	ug/L	04/15/17	04/15/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/15/17	04/15/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	04/15/17	04/15/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	94.7	85-114			%	04/15/17	04/15/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/15/17	04/15/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	89-112			%	04/15/17	04/15/17

J = Estimated value.

Quant Method: MALLW.M
Run #: 0415M13
Instrument: Max
Sequence: M170414
Dilution Factor: 1
Initials: SV

Printed: 04/28/17 12:12:07 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170414\0415M13.D
Acq On : 15 Apr 17 13:47
Sample : AZ53168W06
Misc : 10ml IS&S: 2/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 21 11:00 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	320511	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	215528	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	90952	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	79171	25.52167 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.088%	
37) 1,2-DCA-D4(S)	5.13	65	67503	25.54484 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.180%	
57) Toluene-D8(S)	7.35	98	332934	25.20927 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.836%	
65) 4-Bromofluorobenzene(S)	10.73	95	97770	23.67604 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.704%	
Target Compounds					Qvalue
11) Acetone	2.59	43	1466	1.78171 ppb	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

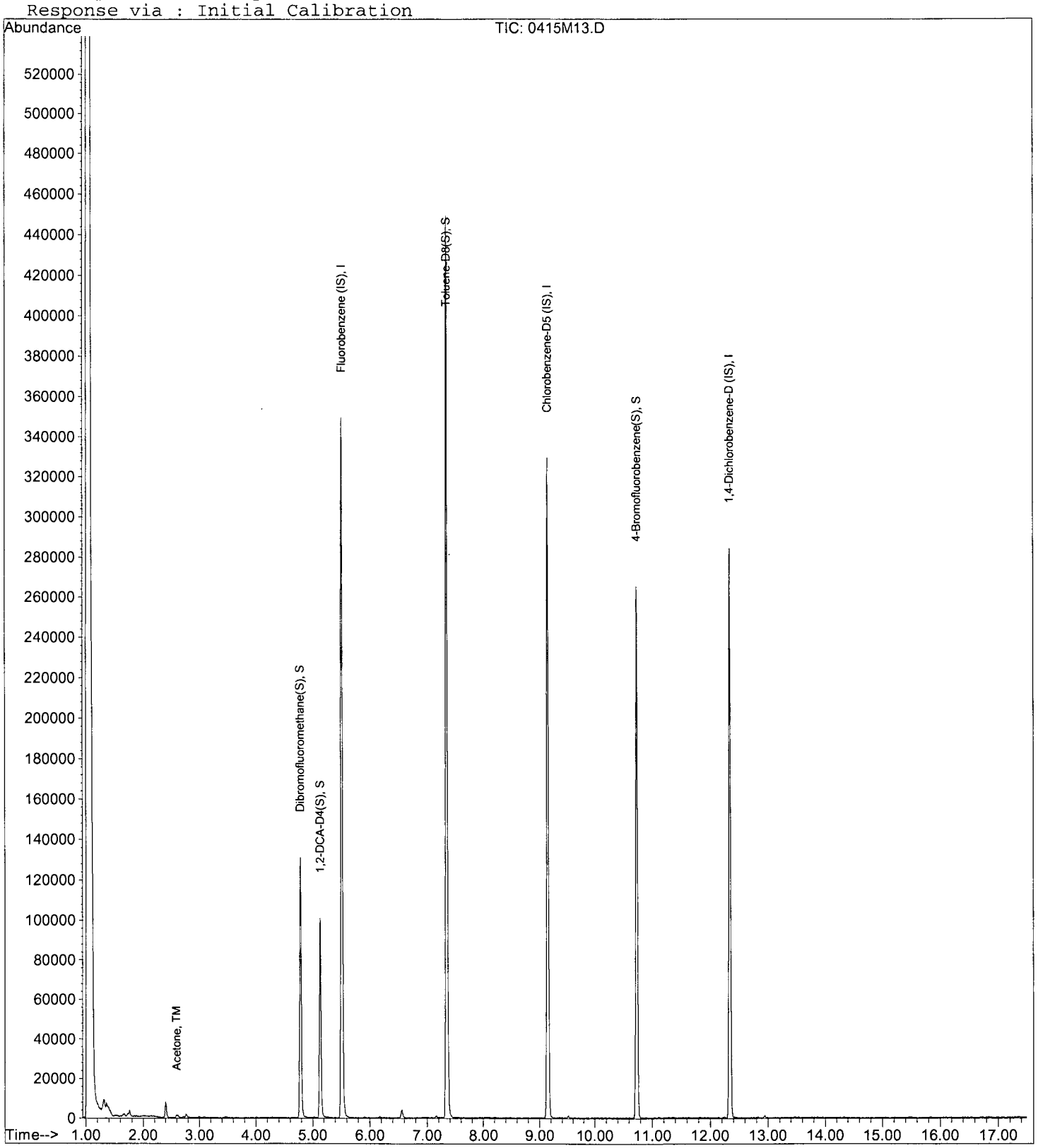
Data File : M:\MAX\DATA\M170414\0415M13.D
Acq On : 15 Apr 17 13:47
Sample : AZ53168W06
Misc : 10ml IS&S: 2/23/17

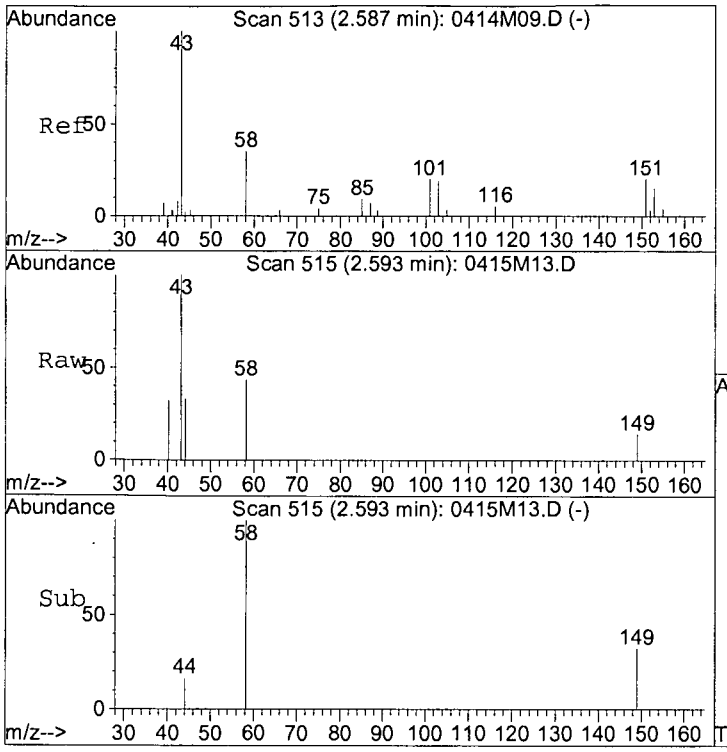
Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 21 11:00 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration

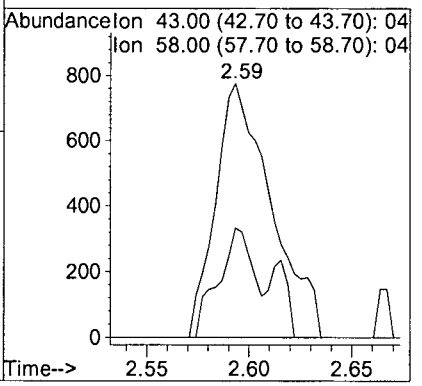




#11
Acetone
Concen: 1.78171 ppb
RT: 2.59 min Scan# 515
Delta R.T. 0.01 min
Lab File: 0415M13.D
Acq: 15 Apr 17 13:47

Tgt Ion: 43 Resp: 1466

Ion	Ratio	Lower	Upper
43	100		
58	42.9	24.3	45.1



EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/10/17	04/10/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/10/17	04/10/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/10/17	04/10/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/10/17	04/10/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/10/17	04/10/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T25
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/10/17	04/10/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/10/17	04/10/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/10/17	04/10/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/10/17	04/10/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/10/17	04/10/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/10/17	04/10/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/10/17	04/10/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T25
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	103	81-118			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	101	85-114			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T25
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:37 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0410T25.D Vial: 24
Acq On : 10 Apr 17 20:12 Operator: DG,SV, CMM.PM
Sample : AZ53169W02 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 15:49 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	762176	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	681856	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	302016	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	404000	25.58270 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.332%	
38) 1,2-DCA-D4(S)	5.99	65	356389	25.63762 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.552%	
58) Toluene-D8(S)	8.11	98	1416263	25.98866 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.956%	
66) 4-Bromofluorobenzene(S)	10.73	95	488939	25.27239 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.088%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

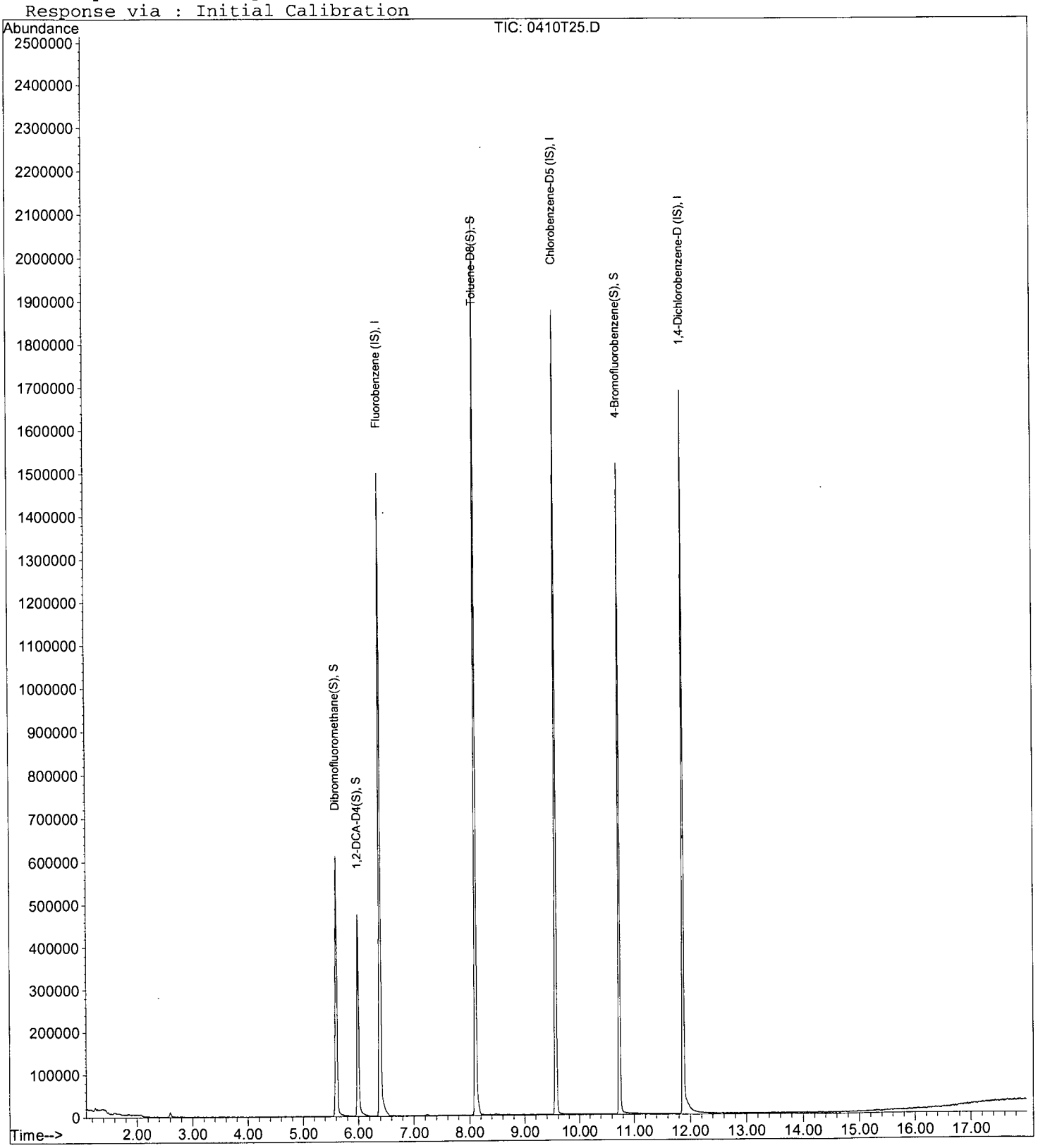
Data File : M:\THOR\DATA\T170407\0410T25.D
Acq On : 10 Apr 17 20:12
Sample : AZ53169W02
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 24
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 15:49 2017

Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Library Search Compound Report

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Data File : M:\THOR\DATA\T170407\0410T25.D              Vial: 24
Acq On    : 10 Apr 17  20:12                        Operator: DG,SV, CMM.PM
Sample    : AZ53169W02                              Inst    : Thor
Misc      : 10mL IS&S: 03/26/17,01/19/17            Multiplr: 1.00


Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
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EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2-TRICHLORO-1,2,2-TRIFLUOROE	0.30 U	1.0	0.30	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/10/17	04/10/17
EPA 8260C	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	1,3-DICHLOROPROPENE, TOTAL	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/10/17	04/10/17
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/10/17	04/10/17
EPA 8260C	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/10/17	04/10/17
EPA 8260C	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/10/17	04/10/17
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/10/17	04/10/17
EPA 8260C	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T26
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

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APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/10/17	04/10/17
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/10/17	04/10/17
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
EPA 8260C	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/10/17	04/10/17
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/10/17	04/10/17
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/10/17	04/10/17
EPA 8260C	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
EPA 8260C	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
EPA 8260C	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/10/17	04/10/17
EPA 8260C	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/10/17	04/10/17
EPA 8260C	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
EPA 8260C	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/10/17	04/10/17
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	TRANS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
EPA 8260C	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/10/17	04/10/17
EPA 8260C	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T26
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

EPA 8260C WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82619

Sample ID: ERH315

APPL ID: AZ53170

Sample Collection Date: 04/04/17

QCG: #86CDO-170410AT-217774

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	102	81-118			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	99.2	85-114			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	102	80-119			%	04/10/17	04/10/17
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	100	89-112			%	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T26
Instrument: Thor
Sequence: T170407
Dilution Factor: 1
Initials: DG

Printed: 04/27/17 1:19:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0410T26.D
Acq On : 10 Apr 17 20:40
Sample : AZ53170W02
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 25
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 15:14 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	775616	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	703360	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	309248	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	409681	25.49290 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.972%	
38) 1,2-DCA-D4(S)	5.99	65	361671	25.56676 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.268%	
58) Toluene-D8(S)	8.11	98	1409480	25.07344 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.292%	
66) 4-Bromofluorobenzene(S)	10.73	95	495178	24.81236 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.248%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

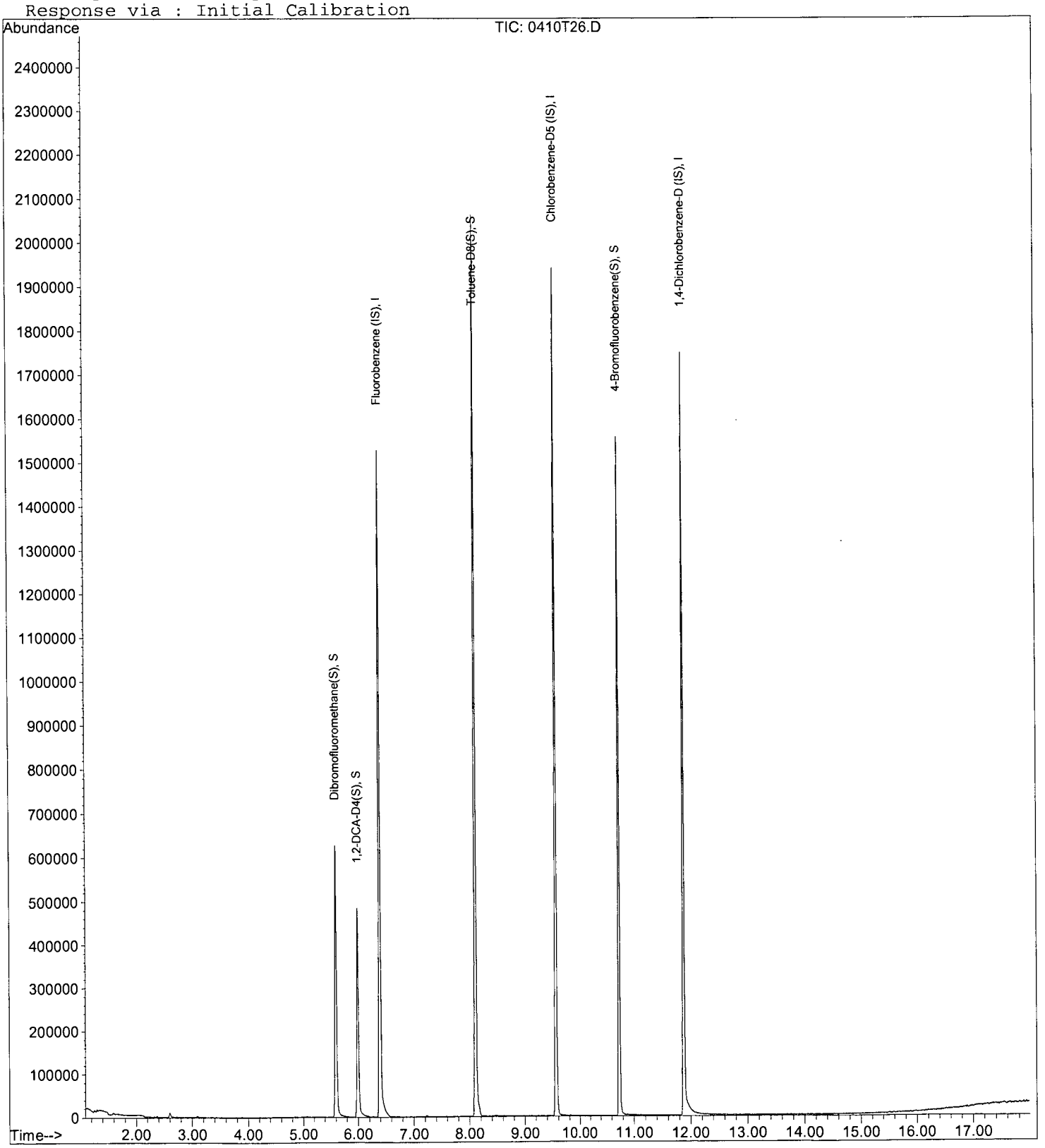
Quantitation Report

Data File : M:\THOR\DATA\T170407\0410T26.D
Acq On : 10 Apr 17 20:40
Sample : AZ53170W02
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 25
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 15:14 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Library Search Compound Report

```
Data File : M:\THOR\DATA\T170407\0410T26.D              Vial: 25
Acq On    : 10 Apr 17  20:40                        Operator: DG,SV, CMM.PM
Sample    : AZ53170W02                              Inst    : Thor
Misc      : 10mL IS&S: 03/26/17,01/19/17            Multiplr: 1.00


Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title        : METHOD 8260B
Library      : M:\DATABASE\WILEY138.L

No Library Search Compounds Detected
**********************************************************************
```

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/07/17
Instrument: Thor

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0407T05.D	0407T06.D	0407T07.D	0407T08.D	0407T09.D	0407T10.D	0407T11.D	0407T12.D	0407T13.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.3286	0.3074	0.3405	0.3580	0.3293	0.3419	0.3379	0.3253		0.33	4.4	TM	
3	TM	Freon 114		0.3166	0.3147	0.2921	0.2904	0.2966	0.2919	0.3048	0.2888		0.30	3.7	TM	
4	TM**	Chloromethane		0.4584	0.4145	0.3949	0.4123	0.3854	0.3729	0.3658	0.3304		0.39	9.7	TM**	
5	TM*	Vinyl chloride		0.5095	0.4821	0.4528	0.5253	0.4827	0.4892	0.4929	0.4770		0.49	4.4	TM*	
6	TM	Bromomethane		0.4071	0.3807	0.3618	0.3707	0.3200	0.3218	0.3110	0.2955		0.35	11	TM	
7	TM	Chloroethane		0.2102	0.2138	0.2067	0.2331	0.2165	0.2174	0.2058	0.1900		0.21	5.8	TM	
8	TM	Dichlorofluoromethane		0.8266	0.8478	0.7731	0.9136	0.8332	0.8271	0.8093	0.7794		0.83	5.3	TM	
9	TM	Trichlorofluoromethane		0.5597	0.5369	0.5263	0.6079	0.5640	0.5678	0.5602	0.5351		0.56	4.6	TM	
10	TM	Acrolein		0.0143	0.0153	0.0158	0.0164	0.0159	0.0167	0.0172	0.0172		0.02	6.1	TM	
11	TML	Acetone				0.3868	0.1878	0.1086	0.0772	0.0613	0.0497		0.15	88	TML	1.000
12	TM	Freon-113		0.3781	0.3819	0.3424	0.3943	0.3796	0.3808	0.3777	0.3595		0.37	4.3	TM	
13	TM*	1,1-DCE		0.5560	0.5148	0.5369	0.5905	0.5471	0.5455	0.5377	0.5141		0.54	4.5	TM*	
14	TM	Acetonitrile		0.0191	0.0155	0.0170	0.0164	0.0155	0.0184	0.0160	0.0166		0.02	7.8	TM	
15	TM	t-Butanol	0.0116	0.0090	0.0086	0.0094	0.0093	0.0091	0.0105	0.0102	0.0103		0.01	9.5	TM	
16	TM	Methyl Acetate		0.2154	0.1814	0.1905	0.1974	0.1675	0.1688	0.1668	0.1667		0.18	9.9	TM	
17	TML	Iodomethane		0.2010	0.2264	0.1949	0.2638	0.2857	0.3704	0.4402			0.28	32	TML	0.991
18	TM	Acrylonitrile		0.0509	0.0596	0.0530	0.0661	0.0620	0.0625	0.0630	0.0594		0.06	8.7	TM	
19	TM	Methylene chloride		0.5043	0.4448	0.4266	0.4676	0.4229	0.4239	0.4135	0.3925		0.44	8.0	TM	
20	TM	Carbon disulfide		0.5668	0.5458	0.5405	0.5817	0.5577	0.5473	0.5643	0.5601		0.56	2.4	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.8254	0.7743	0.7838	0.9514	0.8604	0.8585	0.8521	0.8260		0.84	6.5	TM	
22	TM	Trans-1,2-DCE		0.4206	0.3898	0.4030	0.4327	0.4039	0.4013	0.3984	0.3858		0.40	3.8	TM	
23	TM	Hexane		0.1830	0.1752	0.1726	0.1962	0.1850	0.1760	0.1781	0.1715		0.18	4.5	TM	
24	TM	Diisopropyl Ether		1.035	1.006	0.9815	1.129	1.018	1.023	1.024	1.014		1.0	4.2	TM	
25	TM**	1,1-DCA		0.6992	0.6703	0.6597	0.7617	0.6811	0.6876	0.6812	0.6525		0.69	4.9	TM**	
26	TM	Vinyl Acetate		0.3372	0.3195	0.3166	0.3741	0.3389	0.3411	0.3432	0.3368		0.34	5.2	TM	
27	TM	Ethyl tert Butyl Ether		0.8991	0.8968	0.8964	1.001	0.9098	0.9023	0.9206	0.9093		0.92	3.8	TM	
28	TM	MEK (2-Butanone)			0.0978	0.0848	0.0866	0.0789	0.0824	0.0736	0.0709		0.08	11	TM	
29	TM	Cis-1,2-DCE		0.5982	0.6011	0.5778	0.6595	0.6163	0.6075	0.6058	0.5859		0.61	4.1	TM	
30	TM	2,2-Dichloropropane		0.5227	0.5140	0.5016	0.5727	0.5206	0.5238	0.5245	0.5148		0.52	4.0	TM	
31	TM*	Chloroform		0.7928	0.7163	0.7294	0.8196	0.7564	0.7509	0.7425	0.7079		0.75	5.0	TM*	
32	TM	Bromochloromethane		0.1134	0.1050	0.1034	0.1180	0.1106	0.1100	0.1087	0.1012		0.11	5.1	TM	
33	S	Dibromofluoromethane(S)	0.5749	0.5703	0.4767	0.4772	0.5307	0.5104	0.5211	0.5166	0.4840		0.52	7.1	S	
34	TM	1,1,1-TCA		0.6429	0.5977	0.5810	0.6838	0.6171	0.6259	0.6191	0.6085		0.62	5.0	TM	
35	TM	Cyclohexane		0.3269	0.2873	0.2610	0.3047	0.2751	0.2763	0.2740	0.2621		0.28	7.9	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/07/17
Instrument: Thor

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	1,1-Dichloropropene		0.2772	0.2486	0.2455	0.3061	0.2712	0.2746	0.2794	0.2704		0.27	7.0	TM	
37	TM	2,2,4-Trimethylpentane		1.234	1.126	1.108	1.110	1.138	1.153	1.162	1.130		1.1	3.5	TM	
38	S	1,2-DCA-D4(S)	0.5111	0.5044	0.4262	0.4294	0.4722	0.4496	0.4553	0.4555	0.4000		0.46	7.9	S	
39	TM	Carbon Tetrachloride		0.4386	0.4066	0.4383	0.5271	0.5015	0.5263	0.5329	0.5335		0.49	11	TM	
40	TM	Tert Amyl Methyl Ether		0.8789	0.8592	0.8232	0.9583	0.8687	0.8631	0.8661	0.8596		0.87	4.4	TM	
41	TM	1,2-DCA		0.5301	0.4828	0.4772	0.5546	0.4878	0.4817	0.4755	0.4480		0.49	6.9	TM	
42	TM	Benzene		1.784	1.712	1.591	1.795	1.620	1.618	1.612	1.549		1.7	5.5	TM	
43	TM	TCE		0.4587	0.4557	0.4395	0.5102	0.4624	0.4606	0.4553	0.4475		0.46	4.6	TM	
44	TM	2-Pentanone		0.1350	0.1324	0.1388	0.1427	0.1371	0.1423	0.1424	0.1424		0.14	2.8	TM	
45	TM*	1,2-Dichloropropane		0.4396	0.3955	0.3991	0.4565	0.4166	0.4223	0.4162	0.3986		0.42	5.1	TM*	
46	TM	Bromodichloromethane		0.5251	0.4705	0.4708	0.5707	0.5285	0.5222	0.5369	0.5273		0.52	6.5	TM	
47	TM	Methyl Cyclohexane		0.6129	0.6011	0.6082	0.6559	0.6228	0.6403	0.6419	0.6277		0.63	3.0	TM	
48	TM	Dibromomethane		0.2339	0.2212	0.2313	0.2610	0.2346	0.2351	0.2382	0.2267		0.24	5.0	TM	
49	TML	MIBK (methyl isobutyl ketone)			0.2945	0.3166	0.2960	0.2319	0.2038	0.2066	0.1942		0.25	21	TML	0.999
50	TM	1-Bromo-2-chloroethane		0.4716	0.4590	0.4670	0.5228	0.4800	0.4726	0.4740	0.4549		0.48	4.4	TM	
51	TM	2-Chloroethyl vinyl ether													TM	
52	TM	Cis-1,3-Dichloropropene		0.5118	0.5339	0.4982	0.6082	0.5682	0.5888	0.6068	0.6132		0.57	8.1	TM	
53	TM*	Toluene		1.183	1.123	1.093	1.234	1.126	1.095	1.088	1.105		1.1	4.6	TM*	
54	TM	Trans-1,3-Dichloropropene		0.2163	0.2279	0.2282	0.2724	0.2695	0.2816	0.2992	0.3214		0.26	14	TM	
55	TM	1,1,2-TCA		0.2544	0.2695	0.2746	0.3094	0.2834	0.2821	0.2802	0.2719		0.28	5.6	TM	
56	TM	2-Hexanone		0.0743	0.0575	0.0576	0.0731	0.0696	0.0695	0.0709	0.0719		0.07	9.8	TM	
57	I	Chlorobenzene-D5 (IS)														
58	S	Toluene-D8(S)	2.209	2.157	1.871	1.830	2.036	1.977	2.000	1.968	1.935		2.0	6.2	S	
59	TM	1,2-EDB		0.3242	0.3182	0.2981	0.3657	0.3449	0.3458	0.3483	0.3571		0.34	6.6	TM	
60	TM	Tetrachloroethene		0.6138	0.6397	0.6201	0.6863	0.6520	0.6255	0.6219	0.6290		0.64	3.7	TM	
61	TM	1-Chlorohexane		0.5716	0.6310	0.5732	0.6318	0.5876	0.5946	0.6000	0.6133		0.60	3.9	TM	
62	TM	1,1,1,2-Tetrachloroethane		0.4225	0.4369	0.4070	0.4930	0.4646	0.4677	0.4799	0.5015		0.46	7.4	TM	
63	TM	m&p-Xylene		0.5231	0.5213	0.4956	0.6047	0.5738	0.5674	0.5788	0.5913		0.56	7.0	TM	
64	TM	o-Xylene		0.5959	0.5518	0.5312	0.6065	0.5759	0.5600	0.5847	0.5908		0.57	4.4	TM	
65	TM	Styrene		0.7823	0.8007	0.7583	0.9238	0.9241	0.9163	0.9606	0.9787		0.88	9.8	TM	
66	S	4-Bromofluorobenzene(S)	0.7652	0.7377	0.6485	0.6460	0.7239	0.7131	0.7205	0.7260	0.7033		0.71	5.5	S	
67	TM	1,3-Dichloropropane		0.5644	0.5476	0.5557	0.6291	0.5977	0.5884	0.5848	0.5944		0.58	4.5	TM	
68	TM	Dibromochloromethane		0.3651	0.3676	0.3518	0.4489	0.4275	0.4316	0.4505	0.4820		0.42	12	TM	
69	TM**	Chlorobenzene		1.419	1.370	1.327	1.513	1.392	1.372	1.372	1.399		1.4	3.9	TM**	
70	TM*	Ethylbenzene		2.140	2.218	2.110	2.450	2.305	2.277	2.296	2.327		2.3	4.8	TM*	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/07/17
Instrument: Thor

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	TM**	Bromoform		0.2309	0.2181	0.2149	0.2704	0.2555	0.2602	0.2791	0.2997		0.25	12	TM**	
72	I	1,4-Dichlorobenzene-D (IS)														
73	TM	Isopropylbenzene		4.553	4.331	4.183	4.761	4.385	4.253	4.223	4.155		4.4	4.8	TM	
74	TM**	1,1,2,2-Tetrachloroethane		0.7770	0.8249	0.7450	0.8567	0.7838	0.7483	0.7434	0.7062		0.77	6.3	TM**	
75	TM	1,2,3-Trichloropropane		0.1396	0.1482	0.1362	0.1652	0.1381	0.1367	0.1402	0.1316		0.14	7.4	TM	
76	TM	t-1,4-Dichloro-2-Butene			0.0884	0.1330	0.1430	0.1319	0.1340	0.1189	0.1212		0.12	14	TM	
77	TM	Bromobenzene		1.248	1.248	1.142	1.318	1.201	1.190	1.171	1.141		1.2	5.0	TM	
78	TM	n-Propylbenzene		3.297	3.208	3.150	3.689	3.409	3.277	3.388	3.286		3.3	4.9	TM	
79	TM	4-Ethyltoluene		4.160	4.104	3.957	4.621	4.312	4.226	4.253	4.161		4.2	4.6	TM	
80	TM	2-Chlorotoluene		1.991	1.966	2.043	2.096	2.013	1.927	1.911	1.870		2.0	3.8	TM	
81	TM	1,3,5-Trimethylbenzene		3.755	3.500	3.503	4.006	3.737	3.644	3.623	3.563		3.7	4.6	TM	
82	TM	4-Chlorotoluene		2.262	2.077	2.084	2.431	2.278	2.253	2.276	2.255		2.2	5.1	TM	
83	TM	Tert-Butylbenzene		3.320	3.234	3.075	3.483	3.241	3.168	3.143	3.087		3.2	4.2	TM	
84	TM	1,2,4-Trimethylbenzene		2.205	2.215	2.252	2.572	2.562	2.446	2.491	2.417		2.4	6.3	TM	
85	TM	Sec-Butylbenzene		4.560	4.378	4.278	4.907	4.590	4.485	4.461	4.383		4.5	4.2	TM	
86	TM	p-Isopropyltoluene		3.546	3.580	3.449	4.037	3.838	3.765	3.836	3.790		3.7	5.1	TM	
87	TM	Benzyl Chloride		0.7434	0.5994	0.5658	0.6822	0.6975	0.7338	0.8050	0.8801		0.71	14	TM	
88	TM	1,3-DCB		2.142	2.130	2.037	2.337	2.206	2.165	2.162	2.131		2.2	3.9	TM	
89	TM	1,4-DCB		2.305	2.269	2.175	2.371	2.234	2.166	2.184	2.127		2.2	3.7	TM	
90	TM	n-Butylbenzene		2.741	2.813	2.669	3.245	3.149	3.173	3.287	3.335		3.1	8.7	TM	
91	TM	1,2-DCB		2.013	2.083	1.963	2.215	2.091	2.015	2.041	2.005		2.1	3.8	TM	
92	TM	Hexachloroethane		0.4527	0.4466	0.4167	0.5307	0.5194	0.5224	0.5600	0.5890		0.50	12	TM	
93	TM	1,2-Dibromo-3-chloropropane		0.1160	0.0997	0.0954	0.1338	0.1226	0.1241	0.1371	0.1445		0.12	14	TM	
94	TM	1,2,4-Trichlorobenzene		1.003	1.016	1.071	1.303	1.288	1.307	1.378	1.423		1.2	14	TM	
95	TM	Hexachlorobutadiene		0.7113	0.7217	0.6948	0.8143	0.7564	0.7566	0.7658	0.7769		0.75	5.2	TM	
96	TM	Naphthalene		1.510	1.466	1.436	1.834	1.843	1.926	2.066	2.072		1.8	15	TM	
97	TM	1,2,3-Trichlorobenzene		1.041	0.9877	0.9533	1.172	1.143	1.155	1.210	1.224		1.1	9.3	TM	
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T05.D Vial: 4
Acq On : 7 Apr 17 11:37 Operator: DG,SV, CMM.PM
Sample : 0.3ug/L VOC STD 4/7/17C Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	815744	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	756608	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.87	152	333120	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	93793	5.54928 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.196%	
38) 1,2-DCA-D4(S)	5.99	65	83383	5.60444 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.416%	
58) Toluene-D8(S)	8.11	98	334277	5.52800 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.112%	
66) 4-Bromofluorobenzene(S)	10.73	95	115787	5.39353 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.576%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.15	85	3906	0.35880 ppb	#	86
3) Freon 114	1.26	135	3385	0.34640 ppb		99
4) Chloromethane	1.30	50	4974	0.38904 ppb		86
5) Vinyl chloride	1.39	62	5012	0.31415 ppb		92
6) Bromomethane	1.67	94	4631	0.41011 ppb		91
7) Chloroethane	1.77	64	2292	0.33183 ppb	#	73
8) Dichlorofluoromethane	1.96	67	9294	0.34472 ppb		100
9) Trichlorofluoromethane	2.00	101	6070	0.33384 ppb		97
10) Acrolein	2.42	56	5245	9.98100 ppb		86
11) Acetone	2.59	43	32084	6.69514 ppb		99
12) Freon-113	2.53	101	4308	0.35274 ppb		92
13) 1,1-DCE	2.51	61	5156	0.29109 ppb	#	85
14) Acetonitrile	2.92	41	7519	13.72011 ppb		90
15) t-Butanol	3.32	59	3773	11.83264 ppb	#	87
16) Methyl Acetate	3.00	43	2983	0.50278 ppb	#	79
17) Iodomethane	2.67	142	2374	1.72651 ppb		90
18) Acrylonitrile	3.44	52	525	0.27010 ppb	#	46
19) Methylene chloride	3.09	84	6482	0.45458 ppb		88
20) Carbon disulfide	2.73	76	6384	0.35061 ppb		98
21) Methyl t-butyl ether (MtBE	3.48	73	8915	0.32468 ppb		94
22) Trans-1,2-DCE	3.46	96	3692	0.27976 ppb		99
23) Hexane	3.49	57	2105	0.35897 ppb	#	73
24) Diisopropyl Ether	4.28	45	11019	0.32821 ppb		93
25) 1,1-DCA	4.09	63	7341	0.32764 ppb	#	88
26) Vinyl Acetate	4.29	87	3624	0.32819 ppb		95
27) Ethyl tert Butyl Ether	4.81	59	9937	0.33213 ppb		90
28) MEK (2-Butanone)	5.03	43	1713	0.63904 ppb	#	45
29) Cis-1,2-DCE	4.95	61	6322	0.31946 ppb	#	84
30) 2,2-Dichloropropane	4.95	77	5904	0.34510 ppb		99
31) Chloroform	5.41	83	7886	0.32139 ppb		97
32) Bromochloromethane	5.26	128	1163	0.32764 ppb		78
34) 1,1,1-TCA	5.59	97	6514	0.32095 ppb		95
35) Cyclohexane	5.64	41	3267	0.35324 ppb		83
36) 1,1-Dichloropropene	5.81	75	2748	0.31006 ppb		95
37) 2,2,4-Trimethylpentane	6.18	57	13074	0.34993 ppb		90
39) Carbon Tetrachloride	5.79	117	4472	0.28079 ppb		87
40) Tert Amyl Methyl Ether	6.23	73	9272	0.32582 ppb		97
41) 1,2-DCA	6.09	62	4946	0.30795 ppb		95
42) Benzene	6.05	78	18967	0.35016 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T05.D Vial: 4
Acq On : 7 Apr 17 11:37 Operator: DG,SV, CMM.PM
Sample : 0.3ug/L VOC STD 4/7/17C Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.80	95	4898	0.32545	ppb		88
44)	2-Pentanone	7.05	43	51121	11.25981	ppb		99
45)	1,2-Dichloropropane	7.05	63	4226	0.30981	ppb	#	86
46)	Bromodichloromethane	7.36	83	5519	0.32590	ppb	#	91
47)	Methyl Cyclohexane	7.01	83	7119	0.34833	ppb		99
48)	Dibromomethane	7.17	93	2417	0.31487	ppb		81
49)	MIBK (methyl isobutyl ket	8.03	43	3417	-1.19920	ppb		96
50)	1-Bromo-2-chloroethane	7.67	63	5118	0.33005	ppb		84
52)	Cis-1,3-Dichloropropene	7.84	75	5115	0.27688	ppb		96
53)	Toluene	8.17	91	12281	0.33277	ppb		95
54)	Trans-1,3-Dichloropropene	8.42	75	2301	0.26653	ppb		100
55)	1,1,2-TCA	8.60	83	2760	0.30407	ppb		75
56)	2-Hexanone	8.88	58	767	0.34544	ppb	#	56
59)	1,2-EDB	9.09	107	3144	0.30755	ppb		91
60)	Tetrachloroethene	8.72	166	6439	0.33450	ppb		93
61)	1-Chlorohexane	9.59	91	5334	0.29356	ppb		97
62)	1,1,1,2-Tetrachloroethane	9.68	131	4223	0.30392	ppb		94
63)	m&p-Xylene	9.83	106	9824	0.58277	ppb		85
64)	o-Xylene	10.22	106	5117	0.29425	ppb		97
65)	Styrene	10.23	104	7886	0.29591	ppb		95
67)	1,3-Dichloropropane	8.77	76	5776	0.32749	ppb		97
68)	Dibromochloromethane	8.99	129	3448	0.27412	ppb		92
69)	Chlorobenzene	9.59	112	13223	0.31310	ppb		94
70)	Ethylbenzene	9.71	91	20905	0.30490	ppb		95
71)	Bromoform	10.40	173	2282	0.29735	ppb		100
73)	Isopropylbenzene	10.59	105	20471	0.35274	ppb		94
74)	1,1,2,2-Tetrachloroethane	10.89	83	3988	0.38710	ppb	#	98
75)	1,2,3-Trichloropropane	10.93	110	611	0.32300	ppb		96
76)	t-1,4-Dichloro-2-Butene	10.95	53	737	0.44484	ppb	#	25
77)	Bromobenzene	10.87	156	5511	0.34254	ppb		95
78)	n-Propylbenzene	11.00	91	14371	0.32311	ppb		95
79)	4-Ethyltoluene	11.12	105	18553	0.32960	ppb		99
80)	2-Chlorotoluene	11.07	91	9057	0.34379	ppb		98
81)	1,3,5-Trimethylbenzene	11.18	105	15166	0.31043	ppb		81
82)	4-Chlorotoluene	11.18	91	9417	0.31560	ppb		92
83)	Tert-Butylbenzene	11.50	119	14505	0.33818	ppb		97
84)	1,2,4-Trimethylbenzene	11.55	105	9521	0.29832	ppb		94
85)	Sec-Butylbenzene	11.72	105	20500	0.34148	ppb		98
86)	p-Isopropyltoluene	11.87	119	15680	0.31546	ppb		97
87)	Benzyl Chloride	12.04	91	2818	0.29644	ppb	#	87
88)	1,3-DCB	11.81	146	9936	0.34465	ppb		90
89)	1,4-DCB	11.90	146	10650	0.35859	ppb		85
90)	n-Butylbenzene	12.28	91	12309	0.30272	ppb		97
91)	1,2-DCB	12.27	146	9597	0.35079	ppb		92
92)	Hexachloroethane	12.52	117	2119	0.31511	ppb		97
93)	1,2-Dibromo-3-chloropropan	13.05	157	334	0.20604	ppb	#	79
94)	1,2,4-Trichlorobenzene	13.87	180	4570	0.28026	ppb		79
95)	Hexachlorobutadiene	14.05	225	2921	0.29240	ppb		94
96)	Naphthalene	14.12	128	7074	0.30008	ppb		99
97)	1,2,3-Trichlorobenzene	14.35	180	4322	0.29202	ppb		82

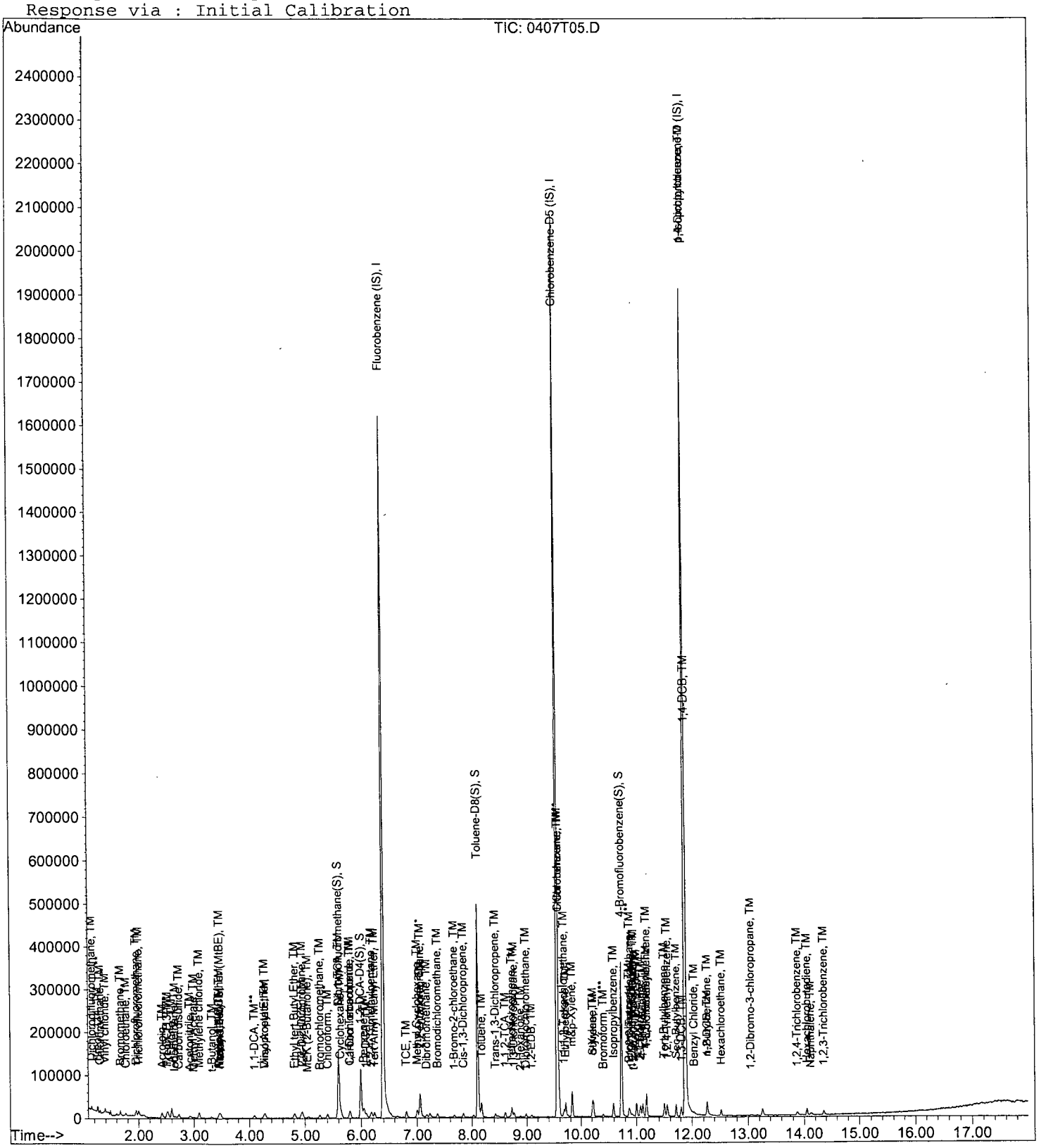
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T05.D Vial: 4
Acq On : 7 Apr 17 11:37 Operator: DG,SV, CMM.PM
Sample : 0.3ug/L VOC STD 4/7/17C Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



717

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T06.D
Acq On : 7 Apr 17 12:05
Sample : 0.5ug/L VOC STD 4/7/17D
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 5
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	807104	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	747648	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	341056	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	92053	5.50464 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.020%	
38) 1,2-DCA-D4(S)	5.99	65	81415	5.53074 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.124%	
58) Toluene-D8(S)	8.11	98	322542	5.39786 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.592%	
66) 4-Bromofluorobenzene(S)	10.73	95	110308	5.19989 ppb	0.00
Spiked Amount 25.000			Recovery	= 20.800%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.15	85	5305	0.49253 ppb		99
3) Freon 114	1.26	135	5110	0.52852 ppb		98
4) Chloromethane	1.30	50	7399	0.58490 ppb		98
5) Vinyl chloride	1.39	62	8224	0.52100 ppb		98
6) Bromomethane	1.67	94	6572	0.58823 ppb		83
7) Chloroethane	1.76	64	3393	0.49649 ppb		93
8) Dichlorofluoromethane	1.95	67	13343	0.50020 ppb		96
9) Trichlorofluoromethane	2.00	101	9034	0.50218 ppb		96
10) Acrolein	2.42	56	11540	22.19518 ppb		98
11) Acetone	2.60	43	27658	3.74346 ppb		97
12) Freon-113	2.53	101	6103	0.50506 ppb		96
13) 1,1-DCE	2.51	61	8975	0.51213 ppb		95
14) Acetonitrile	2.93	41	15393	28.38867 ppb	#	84
15) t-Butanol	3.32	59	7302	23.14520 ppb		98
16) Methyl Acetate	3.00	43	3477	0.59232 ppb	#	77
17) Iodomethane	2.66	142	3245	1.78921 ppb		96
18) Acrylonitrile	3.44	52	822	0.42743 ppb	#	51
19) Methylene chloride	3.09	84	8140	0.57696 ppb		94
20) Carbon disulfide	2.73	76	9149	0.50785 ppb		100
21) Methyl t-butyl ether (MtBE	3.49	73	13323	0.49041 ppb		97
22) Trans-1,2-DCE	3.45	96	6790	0.52002 ppb		98
23) Hexane	3.48	57	2954	0.50914 ppb	#	89
24) Diisopropyl Ether	4.28	45	16710	0.50305 ppb		95
25) 1,1-DCA	4.09	63	11286	0.50911 ppb	#	89
26) Vinyl Acetate	4.28	87	5443	0.49819 ppb		97
27) Ethyl tert Butyl Ether	4.81	59	14514	0.49030 ppb		100
28) MEK (2-Butanone)	5.02	43	2019	0.76126 ppb	#	81
29) Cis-1,2-DCE	4.95	61	9656	0.49315 ppb		97
30) 2,2-Dichloropropane	4.93	77	8437	0.49843 ppb		91
31) Chloroform	5.40	83	12798	0.52716 ppb		99
32) Bromochloromethane	5.27	128	1830	0.52106 ppb		95
34) 1,1,1-TCA	5.59	97	10378	0.51681 ppb		95
35) Cyclohexane	5.65	41	5277	0.57668 ppb		95
36) 1,1-Dichloropropene	5.81	75	4475	0.51032 ppb		95
37) 2,2,4-Trimethylpentane	6.18	57	19913	0.53869 ppb		94
39) Carbon Tetrachloride	5.80	117	7080	0.44930 ppb		93
40) Tert Amyl Methyl Ether	6.24	73	14188	0.50390 ppb		97
41) 1,2-DCA	6.09	62	8557	0.53848 ppb		96
42) Benzene	6.05	78	28790	0.53720 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T06.D
Acq On : 7 Apr 17 12:05
Sample : 0.5ug/L VOC STD 4/7/17D
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 5
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) TCE	6.81	95	7404	0.49723 ppb		89
44) 2-Pentanone	7.05	43	108957	24.25555 ppb		100
45) 1,2-Dichloropropane	7.05	63	7096	0.52578 ppb	#	92
46) Bromodichloromethane	7.36	83	8477	0.50593 ppb		99
47) Methyl Cyclohexane	7.00	83	9893	0.48924 ppb		97
48) Dibromomethane	7.17	93	3775	0.49704 ppb		83
49) MIBK (methyl isobutyl ket	8.03	43	5246	-0.89802 ppb		96
50) 1-Bromo-2-chloroethane	7.67	63	7612	0.49614 ppb		99
52) Cis-1,3-Dichloropropene	7.84	75	8262	0.45202 ppb		96
53) Toluene	8.18	91	19104	0.52320 ppb		97
54) Trans-1,3-Dichloropropene	8.42	75	3491	0.40869 ppb		88
55) 1,1,2-TCA	8.60	83	4106	0.45720 ppb		88
56) 2-Hexanone	8.89	58	1200	0.54624 ppb	#	96
59) 1,2-EDB	9.09	107	4848	0.47992 ppb		99
60) Tetrachloroethene	8.73	166	9178	0.48251 ppb		93
61) 1-Chlorohexane	9.59	91	8547	0.47602 ppb		93
62) 1,1,1,2-Tetrachloroethane	9.67	131	6318	0.46014 ppb		99
63) m&p-Xylene	9.83	106	15643	0.93908 ppb		98
64) o-Xylene	10.22	106	8910	0.51850 ppb		83
65) Styrene	10.23	104	11697	0.44417 ppb		90
67) 1,3-Dichloropropane	8.76	76	8439	0.48421 ppb		90
68) Dibromochloromethane	8.99	129	5460	0.43928 ppb		89
69) Chlorobenzene	9.59	112	21221	0.50850 ppb		98
70) Ethylbenzene	9.71	91	32004	0.47238 ppb		99
71) Bromoform	10.40	173	3453	0.45532 ppb		89
73) Isopropylbenzene	10.59	105	31055	0.52266 ppb		96
74) 1,1,2,2-Tetrachloroethane	10.89	83	5300	0.50247 ppb	#	86
75) 1,2,3-Trichloropropane	10.93	110	952	0.49156 ppb		100
76) t-1,4-Dichloro-2-Butene	10.95	53	590	0.34783 ppb		90
77) Bromobenzene	10.87	156	8515	0.51694 ppb		87
78) n-Propylbenzene	11.00	91	22488	0.49385 ppb		97
79) 4-Ethyltoluene	11.12	105	28377	0.49240 ppb		99
80) 2-Chlorotoluene	11.07	91	13584	0.50363 ppb		96
81) 1,3,5-Trimethylbenzene	11.18	105	25610	0.51201 ppb		96
82) 4-Chlorotoluene	11.18	91	15430	0.50508 ppb		93
83) Tert-Butylbenzene	11.50	119	22647	0.51572 ppb		91
84) 1,2,4-Trimethylbenzene	11.55	105	15043	0.46037 ppb		98
85) Sec-Butylbenzene	11.72	105	31102	0.50603 ppb		99
86) p-Isopropyltoluene	11.86	119	24189	0.47533 ppb		97
87) Benzyl Chloride	12.04	91	5071	0.52103 ppb	#	91
88) 1,3-DCB	11.81	146	14609	0.49495 ppb		98
89) 1,4-DCB	11.90	146	15726	0.51719 ppb	#	88
90) n-Butylbenzene	12.27	91	18695	0.44907 ppb		86
91) 1,2-DCB	12.27	146	13731	0.49022 ppb		97
92) Hexachloroethane	12.52	117	3088	0.44852 ppb		88
93) 1,2-Dibromo-3-chloropropan	13.04	157	791	0.47661 ppb	#	62
94) 1,2,4-Trichlorobenzene	13.88	180	6843	0.40989 ppb		84
95) Hexachlorobutadiene	14.05	225	4852	0.47439 ppb		89
96) Naphthalene	14.12	128	10299	0.42672 ppb	#	87
97) 1,2,3-Trichlorobenzene	14.35	180	7100	0.46856 ppb		94

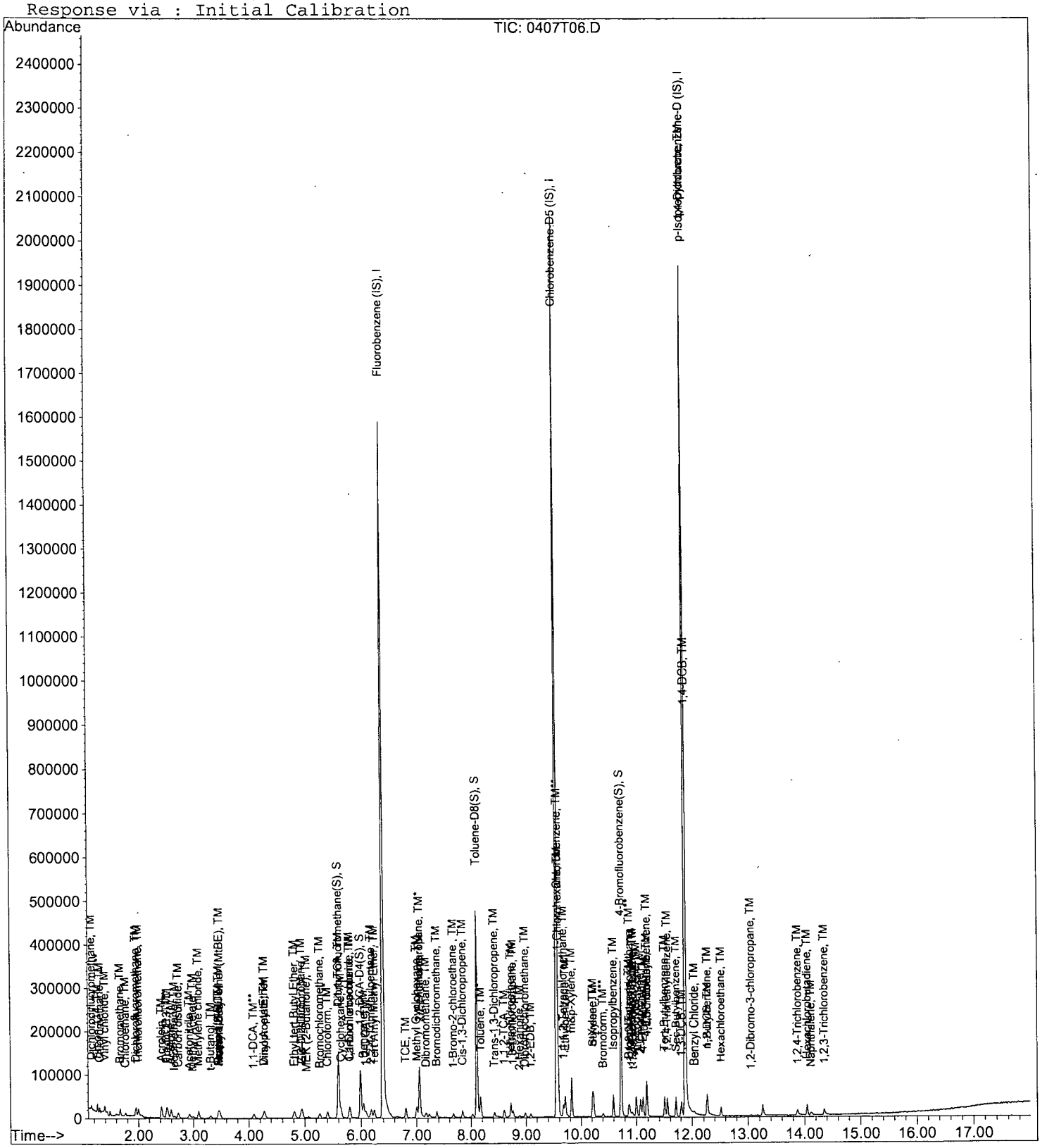
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T06.D Vial: 5
Acq On : 7 Apr 17 12:05 Operator: DG,SV, CMM.PM
Sample : 0.5ug/L VOC STD 4/7/17D Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:58 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T07.D Vial: 6
Acq On : 7 Apr 17 12:32 Operator: DG,SV, CMM.PM
Sample : 1.0ug/L VOC STD 4/7/17E Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	818624	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	739136	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	344576	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	156088	9.20249 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.808%	
38) 1,2-DCA-D4(S)	5.99	65	139566	9.34768 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.392%	
58) Toluene-D8(S)	8.11	98	553066	9.36236 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.448%	
66) 4-Bromofluorobenzene(S)	10.73	95	191720	9.14171 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.568%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.15	85	10067	0.92150 ppb		99
3) Freon 114	1.26	135	10305	1.05084 ppb		100
4) Chloromethane	1.30	50	13574	1.05794 ppb		97
5) Vinyl chloride	1.39	62	15787	0.98605 ppb		98
6) Bromomethane	1.67	94	12466	1.10008 ppb		90
7) Chloroethane	1.77	64	7000	1.00988 ppb		96
8) Dichlorofluoromethane	1.95	67	27761	1.02606 ppb		100
9) Trichlorofluoromethane	2.00	101	17582	0.96359 ppb		88
10) Acrolein	2.42	56	25128	47.64923 ppb		90
11) Acetone	2.59	43	24849	1.46176 ppb		95
12) Freon-113	2.53	101	12505	1.02030 ppb		92
13) 1,1-DCE	2.51	61	16857	0.94835 ppb		94
14) Acetonitrile	2.92	41	25320	46.03949 ppb		95
15) t-Butanol	3.31	59	14134	44.17019 ppb		98
16) Methyl Acetate	3.00	43	5940	0.99766 ppb		89
17) Iodomethane	2.66	142	7413	2.07356 ppb	#	89
18) Acrylonitrile	3.45	52	1952	1.00073 ppb		68
19) Methylene chloride	3.09	84	14564	1.01777 ppb		99
20) Carbon disulfide	2.73	76	17872	0.97809 ppb		98
21) Methyl t-butyl ether (MtBE	3.48	73	25355	0.92017 ppb		99
22) Trans-1,2-DCE	3.45	96	12765	0.96386 ppb		94
23) Hexane	3.48	57	5736	0.97472 ppb	#	90
24) Diisopropyl Ether	4.28	45	32943	0.97778 ppb		94
25) 1,1-DCA	4.09	63	21948	0.97614 ppb		99
26) Vinyl Acetate	4.27	87	10462	0.94411 ppb		97
27) Ethyl tert Butyl Ether	4.81	59	29365	0.97803 ppb		93
28) MEK (2-Butanone)	5.02	43	3202	1.19032 ppb		90
29) Cis-1,2-DCE	4.95	61	19682	0.99106 ppb		98
30) 2,2-Dichloropropane	4.94	77	16830	0.98028 ppb		99
31) Chloroform	5.40	83	23455	0.95254 ppb		98
32) Bromochloromethane	5.27	128	3437	0.96486 ppb		93
34) 1,1,1-TCA	5.59	97	19573	0.96098 ppb		97
35) Cyclohexane	5.65	41	9409	1.01377 ppb		95
36) 1,1-Dichloropropene	5.81	75	8142	0.91543 ppb		96
37) 2,2,4-Trimethylpentane	6.18	57	36862	0.98316 ppb		97
39) Carbon Tetrachloride	5.79	117	13315	0.83308 ppb		95
40) Tert Amyl Methyl Ether	6.24	73	28133	0.98511 ppb		98
41) 1,2-DCA	6.08	62	15810	0.98089 ppb		98
42) Benzene	6.05	78	56044	1.03102 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T07.D Vial: 6
Acq On : 7 Apr 17 12:32 Operator: DG,SV, CMM.PM
Sample : 1.0ug/L VOC STD 4/7/17E Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) TCE	6.81	95	14921	0.98794 ppb		97
44) 2-Pentanone	7.05	43	216830	47.59052 ppb		98
45) 1,2-Dichloropropane	7.05	63	12950	0.94603 ppb	#	95
46) Bromodichloromethane	7.36	83	15406	0.90654 ppb		92
47) Methyl Cyclohexane	7.00	83	19684	0.95973 ppb		91
48) Dibromomethane	7.17	93	7244	0.94037 ppb		97
49) MIBK (methyl isobutyl ket	8.03	43	9643	-0.20991 ppb		96
50) 1-Bromo-2-chloroethane	7.68	63	15029	0.96578 ppb		92
52) Cis-1,3-Dichloropropene	7.84	75	17482	0.94300 ppb		91
53) Toluene	8.17	91	36784	0.99322 ppb		98
54) Trans-1,3-Dichloropropene	8.42	75	7464	0.86151 ppb		92
55) 1,1,2-TCA	8.61	83	8826	0.96894 ppb		96
56) 2-Hexanone	8.88	58	1884	0.84553 ppb	#	69
59) 1,2-EDB	9.09	107	9408	0.94205 ppb		95
60) Tetrachloroethene	8.73	166	18913	1.00575 ppb		96
61) 1-Chlorohexane	9.59	91	18656	1.05100 ppb		97
62) 1,1,1,2-Tetrachloroethane	9.68	131	12916	0.95150 ppb		99
63) m&p-Xylene	9.83	106	30824	1.87174 ppb		97
64) o-Xylene	10.22	106	16315	0.96035 ppb		94
65) Styrene	10.23	104	23672	0.90925 ppb		96
67) 1,3-Dichloropropane	8.76	76	16191	0.93969 ppb		93
68) Dibromochloromethane	8.99	129	10868	0.88444 ppb		97
69) Chlorobenzene	9.58	112	40502	0.98168 ppb		97
70) Ethylbenzene	9.71	91	65570	0.97896 ppb		99
71) Bromoform	10.40	173	6447	0.85991 ppb		96
73) Isopropylbenzene	10.59	105	59693	0.99439 ppb		97
74) 1,1,2,2-Tetrachloroethane	10.89	83	11369	1.06684 ppb		93
75) 1,2,3-Trichloropropane	10.93	110	2043	1.04412 ppb		98
76) t-1,4-Dichloro-2-Butene	10.95	53	1218	0.71073 ppb		94
77) Bromobenzene	10.87	156	17208	1.03401 ppb		92
78) n-Propylbenzene	11.00	91	44215	0.96106 ppb		97
79) 4-Ethyltoluene	11.12	105	56571	0.97160 ppb		96
80) 2-Chlorotoluene	11.07	91	27104	0.99463 ppb		95
81) 1,3,5-Trimethylbenzene	11.18	105	48244	0.95467 ppb		99
82) 4-Chlorotoluene	11.18	91	28624	0.92740 ppb		97
83) Tert-Butylbenzene	11.50	119	44575	1.00470 ppb		96
84) 1,2,4-Trimethylbenzene	11.55	105	30533	0.92488 ppb		95
85) Sec-Butylbenzene	11.72	105	60343	0.97174 ppb		98
86) p-Isopropyltoluene	11.87	119	49341	0.95968 ppb		97
87) Benzyl Chloride	12.04	91	8262	0.84022 ppb		92
88) 1,3-DCB	11.81	146	29354	0.98434 ppb		96
89) 1,4-DCB	11.90	146	31274	1.01801 ppb		96
90) n-Butylbenzene	12.27	91	38765	0.92167 ppb		97
91) 1,2-DCB	12.27	146	28705	1.01435 ppb		98
92) Hexachloroethane	12.52	117	6155	0.88485 ppb	#	78
93) 1,2-Dibromo-3-chloropropan	13.04	157	1374	0.81943 ppb	#	81
94) 1,2,4-Trichlorobenzene	13.87	180	14009	0.83056 ppb		87
95) Hexachlorobutadiene	14.05	225	9947	0.96260 ppb		93
96) Naphthalene	14.11	128	20204	0.82856 ppb		94
97) 1,2,3-Trichlorobenzene	14.35	180	13614	0.88926 ppb		96

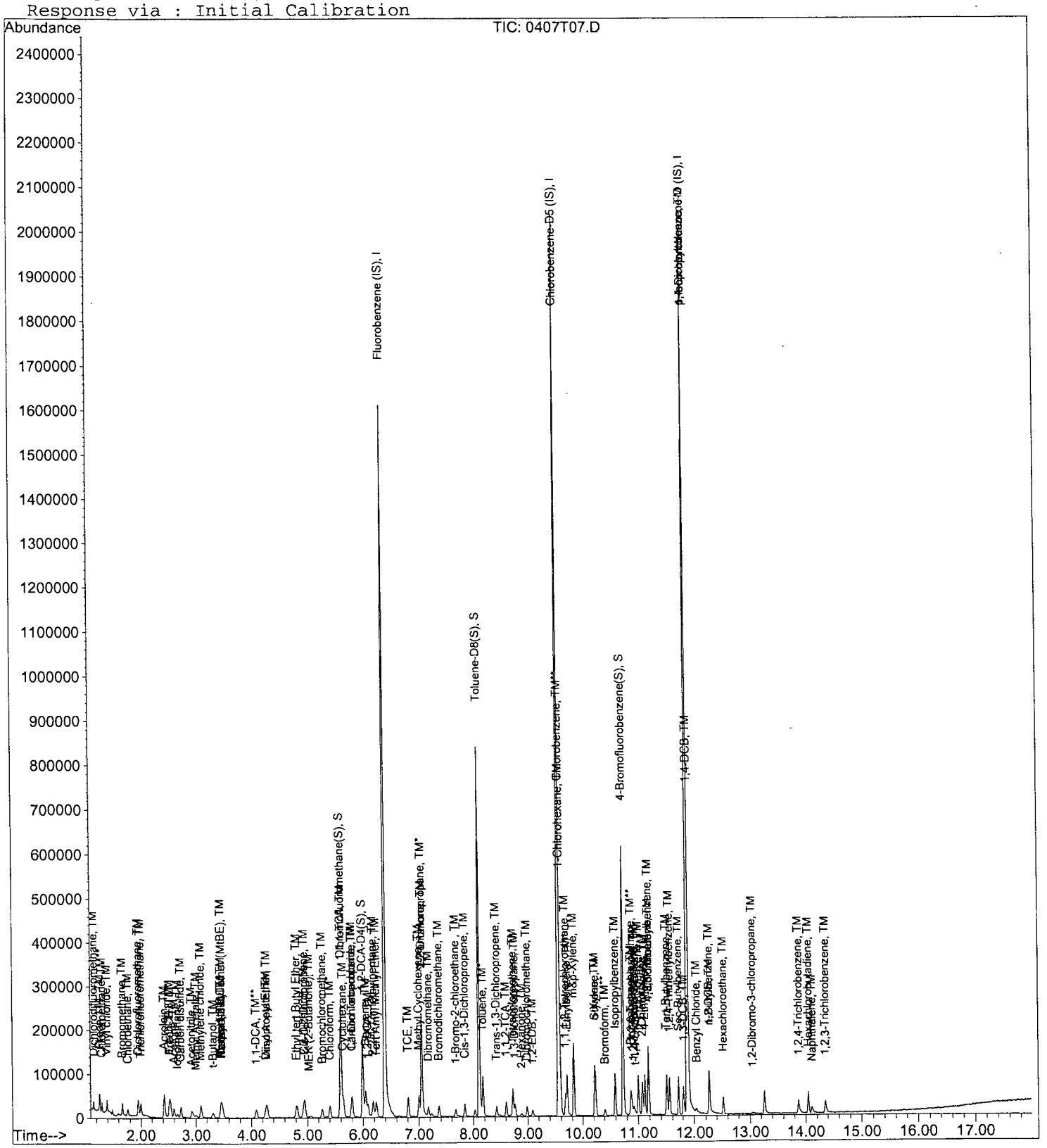
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T07.D Vial: 6
Acq On : 7 Apr 17 12:32 Operator: DG,SV, CMM.PM
Sample : 1.0ug/L VOC STD 4/7/17E Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T08.D Vial: 7
Acq On : 7 Apr 17 13:00 Operator: DG,SV, CMM.PM
Sample : 2.0ug/L VOC STD 4/7/17F Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	825024	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	750912	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	361600	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	157491	9.21318 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.852%	
38) 1,2-DCA-D4(S)	5.99	65	141712	9.41778 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.672%	
58) Toluene-D8(S)	8.11	98	549676	9.15905 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.636%	
66) 4-Bromofluorobenzene(S)	10.73	95	194024	9.10648 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.424%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	22476	2.04142 ppb	98
3) Freon 114	1.26	135	19277	1.95050 ppb	98
4) Chloromethane	1.30	50	26064	2.01564 ppb	98
5) Vinyl chloride	1.39	62	29888	1.85231 ppb	99
6) Bromomethane	1.67	94	23877	2.09071 ppb	91
7) Chloroethane	1.76	64	13642	1.95284 ppb	96
8) Dichlorofluoromethane	1.95	67	51028	1.87138 ppb	96
9) Trichlorofluoromethane	2.00	101	34738	1.88906 ppb	96
10) Acrolein	2.42	56	39144	73.65141 ppb	95
11) Acetone	2.59	43	25530	1.80572 ppb	94
12) Freon-113	2.53	101	22600	1.82966 ppb	97
13) 1,1-DCE	2.51	61	35437	1.97817 ppb	99
14) Acetonitrile	2.92	41	42008	75.79084 ppb	89
15) t-Butanol	3.32	59	23177	71.86862 ppb	92
16) Methyl Acetate	3.00	43	12576	2.09583 ppb	96
17) Iodomethane	2.67	142	12866	2.44286 ppb	97
18) Acrylonitrile	3.45	52	3499	1.77991 ppb	92
19) Methylene chloride	3.09	84	28154	1.95221 ppb	97
20) Carbon disulfide	2.73	76	35672	1.93710 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	51734	1.86295 ppb	98
22) Trans-1,2-DCE	3.46	96	26600	1.99293 ppb	95
23) Hexane	3.48	57	11394	1.92117 ppb #	99
24) Diisopropyl Ether	4.28	45	64782	1.90787 ppb	98
25) 1,1-DCA	4.09	63	43542	1.92151 ppb	96
26) Vinyl Acetate	4.28	87	20899	1.87132 ppb	96
27) Ethyl tert Butyl Ether	4.81	59	59163	1.95519 ppb	93
28) MEK (2-Butanone)	5.03	43	5599	2.06524 ppb	94
29) Cis-1,2-DCE	4.95	61	38133	1.90524 ppb	98
30) 2,2-Dichloropropane	4.94	77	33105	1.91327 ppb	97
31) Chloroform	5.41	83	48140	1.93987 ppb	92
32) Bromochloromethane	5.26	128	6824	1.90082 ppb	97
34) 1,1,1-TCA	5.59	97	38350	1.86828 ppb	99
35) Cyclohexane	5.64	41	17227	1.84172 ppb	92
36) 1,1-Dichloropropene	5.80	75	16201	1.80741 ppb	94
37) 2,2,4-Trimethylpentane	6.18	57	73103	1.93463 ppb	99
39) Carbon Tetrachloride	5.79	117	28927	1.79585 ppb	98
40) Tert Amyl Methyl Ether	6.23	73	54333	1.88778 ppb	97
41) 1,2-DCA	6.08	62	31499	1.93912 ppb	99
42) Benzene	6.05	78	105006	1.91676 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T08.D Vial: 7
Acq On : 7 Apr 17 13:00 Operator: DG,SV, CMM.PM
Sample : 2.0ug/L VOC STD 4/7/17F Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.81	95	29011	1.90596	ppb		94
44)	2-Pentanone	7.05	43	343552	74.81892	ppb		99
45)	1,2-Dichloropropane	7.05	63	26339	1.90920	ppb		98
46)	Bromodichloromethane	7.37	83	31074	1.81431	ppb		98
47)	Methyl Cyclohexane	7.00	83	40145	1.94216	ppb		97
48)	Dibromomethane	7.17	93	15269	1.96675	ppb		89
49)	MIBK (methyl isobutyl ket	8.03	43	20899	1.55628	ppb		92
50)	1-Bromo-2-chloroethane	7.67	63	30822	1.96529	ppb		98
52)	Cis-1,3-Dichloropropene	7.84	75	32885	1.76010	ppb		94
53)	Toluene	8.18	91	72144	1.93288	ppb		97
54)	Trans-1,3-Dichloropropene	8.42	75	15064	1.72524	ppb		96
55)	1,1,2-TCA	8.60	83	18123	1.97416	ppb		98
56)	2-Hexanone	8.88	58	3802	1.69307	ppb	#	79
59)	1,2-EDB	9.08	107	17910	1.76525	ppb		94
60)	Tetrachloroethene	8.73	166	37254	1.95001	ppb		98
61)	1-Chlorohexane	9.59	91	34431	1.90928	ppb		99
62)	1,1,1,2-Tetrachloroethane	9.67	131	24448	1.77280	ppb		98
63)	m&p-Xylene	9.83	106	59544	3.55902	ppb		93
64)	o-Xylene	10.22	106	31912	1.84898	ppb		99
65)	Styrene	10.23	104	45552	1.72223	ppb		96
67)	1,3-Dichloropropane	8.76	76	33385	1.90721	ppb		96
68)	Dibromochloromethane	8.99	129	21131	1.69268	ppb		92
69)	Chlorobenzene	9.58	112	79742	1.90247	ppb		99
70)	Ethylbenzene	9.71	91	126783	1.86318	ppb		97
71)	Bromoform	10.40	173	12907	1.69455	ppb		98
73)	Isopropylbenzene	10.59	105	121008	1.92089	ppb		97
74)	1,1,2,2-Tetrachloroethane	10.89	83	21552	1.92718	ppb		98
75)	1,2,3-Trichloropropane	10.93	110	3940	1.91882	ppb		97
76)	t-1,4-Dichloro-2-Butene	10.95	53	3848	2.13967	ppb		100
77)	Bromobenzene	10.87	156	33026	1.89106	ppb		98
78)	n-Propylbenzene	11.00	91	91136	1.88769	ppb		98
79)	4-Ethyltoluene	11.12	105	114475	1.87353	ppb		99
80)	2-Chlorotoluene	11.07	91	59098	2.06660	ppb		100
81)	1,3,5-Trimethylbenzene	11.18	105	101328	1.91071	ppb		99
82)	4-Chlorotoluene	11.18	91	60279	1.86106	ppb		98
83)	Tert-Butylbenzene	11.50	119	88954	1.91059	ppb		99
84)	1,2,4-Trimethylbenzene	11.55	105	65157	1.88076	ppb		99
85)	Sec-Butylbenzene	11.72	105	123764	1.89922	ppb		99
86)	p-Isopropyltoluene	11.86	119	99774	1.84923	ppb		99
87)	Benzyl Chloride	12.04	91	16367	1.58611	ppb		99
88)	1,3-DCB	11.81	146	58928	1.88303	ppb		93
89)	1,4-DCB	11.90	146	62907	1.95130	ppb		99
90)	n-Butylbenzene	12.27	91	77210	1.74930	ppb		97
91)	1,2-DCB	12.27	146	56776	1.91185	ppb		95
92)	Hexachloroethane	12.52	117	12053	1.65117	ppb		93
93)	1,2-Dibromo-3-chloropropan	13.04	157	2760	1.56852	ppb		91
94)	1,2,4-Trichlorobenzene	13.87	180	30979	1.75021	ppb		94
95)	Hexachlorobutadiene	14.04	225	20099	1.85347	ppb		92
96)	Naphthalene	14.11	128	41527	1.62283	ppb		95
97)	1,2,3-Trichlorobenzene	14.35	180	27578	1.71658	ppb		96

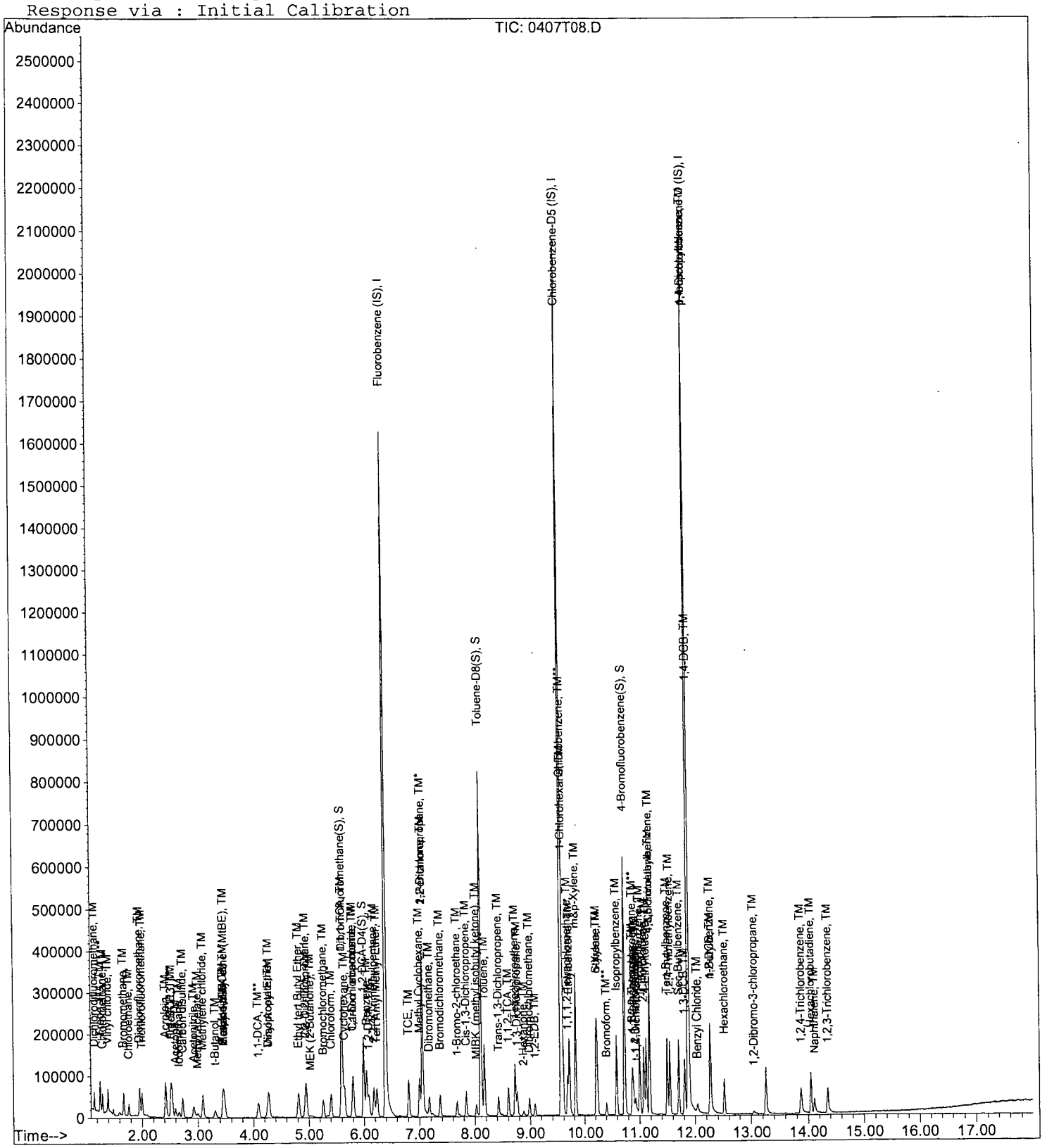
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T08.D Vial: 7
Acq On : 7 Apr 17 13:00 Operator: DG,SV, CMM.PM
Sample : 2.0ug/L VOC STD 4/7/17F Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



726

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T09.D Vial: 8
Acq On : 7 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 5.0ug/L VOC STD 4/7/17G Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	814016	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	746176	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	374144	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	431996	25.61339 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.452%	
38) 1,2-DCA-D4(S)	5.99	65	384364	25.88919 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.556%	
58) Toluene-D8(S)	8.11	98	1518980	25.47085 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.884%	
66) 4-Bromofluorobenzene(S)	10.73	95	540128	25.51172 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.048%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.15	85	58284	5.36532 ppb		96
3) Freon 114	1.26	135	47274	4.84800 ppb		99
4) Chloromethane	1.30	50	67124	5.26118 ppb		100
5) Vinyl chloride	1.39	62	85520	5.37178 ppb		98
6) Bromomethane	1.67	94	60351	5.35590 ppb		98
7) Chloroethane	1.76	64	37952	5.50626 ppb		100
8) Dichlorofluoromethane	1.95	67	148741	5.52864 ppb		98
9) Trichlorofluoromethane	2.00	101	98963	5.45441 ppb		97
10) Acrolein	2.42	56	53509	102.04139 ppb		95
11) Acetone	2.60	43	30573	5.66161 ppb		99
12) Freon-113	2.53	101	64199	5.26774 ppb		99
13) 1,1-DCE	2.51	61	96140	5.43933 ppb		97
14) Acetonitrile	2.92	41	53469	97.77334 ppb		93
15) t-Butanol	3.31	59	30255	95.08519 ppb	#	90
16) Methyl Acetate	3.00	43	32136	5.42800 ppb		94
17) Iodomethane	2.66	142	42941	4.54130 ppb		96
18) Acrylonitrile	3.44	52	10758	5.54649 ppb		90
19) Methylene chloride	3.09	84	76134	5.35055 ppb		97
20) Carbon disulfide	2.73	76	94696	5.21182 ppb		99
21) Methyl t-butyl ether (MtBE	3.48	73	154894	5.65317 ppb		98
22) Trans-1,2-DCE	3.46	96	70442	5.34903 ppb		97
23) Hexane	3.48	57	31945	5.45918 ppb	#	96
24) Diisopropyl Ether	4.28	45	183786	5.48582 ppb		99
25) 1,1-DCA	4.09	63	124004	5.54629 ppb		99
26) Vinyl Acetate	4.28	87	60898	5.52663 ppb		98
27) Ethyl tert Butyl Ether	4.81	59	162998	5.45952 ppb		97
28) MEK (2-Butanone)	5.02	43	14106	5.27350 ppb		98
29) Cis-1,2-DCE	4.95	61	107374	5.43728 ppb		96
30) 2,2-Dichloropropane	4.94	77	93235	5.46129 ppb		98
31) Chloroform	5.40	83	133439	5.44984 ppb		100
32) Bromochloromethane	5.27	128	19216	5.42499 ppb		95
34) 1,1,1-TCA	5.59	97	111319	5.49642 ppb		98
35) Cyclohexane	5.65	41	49610	5.37547 ppb		97
36) 1,1-Dichloropropene	5.81	75	49840	5.63541 ppb		99
37) 2,2,4-Trimethylpentane	6.18	57	180761	4.84843 ppb		98
39) Carbon Tetrachloride	5.79	117	85811	5.39936 ppb		96
40) Tert Amyl Methyl Ether	6.24	73	156011	5.49386 ppb		99
41) 1,2-DCA	6.09	62	90292	5.63367 ppb		98
42) Benzene	6.05	78	292234	5.40653 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T09.D Vial: 8
Acq On : 7 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 5.0ug/L VOC STD 4/7/17G Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.81	95	83056	5.53040	ppb	98
44)	2-Pentanone	7.05	43	464484	102.52348	ppb	97
45)	1,2-Dichloropropane	7.05	63	74324	5.46028	ppb	99
46)	Bromodichloromethane	7.37	83	92911	5.49814	ppb	99
47)	Methyl Cyclohexane	7.00	83	106786	5.23602	ppb	97
48)	Dibromomethane	7.17	93	42486	5.54648	ppb	95
49)	MIBK (methyl isobutyl ket	8.03	43	48191	5.97055	ppb	96
50)	1-Bromo-2-chloroethane	7.67	63	85115	5.50053	ppb	99
52)	Cis-1,3-Dichloropropene	7.84	75	99021	5.37156	ppb	97
53)	Toluene	8.18	91	200960	5.45692	ppb	98
54)	Trans-1,3-Dichloropropene	8.42	75	44352	5.14820	ppb	99
55)	1,1,2-TCA	8.60	83	50369	5.56095	ppb	98
56)	2-Hexanone	8.88	58	11896	5.36906	ppb	91
59)	1,2-EDB	9.09	107	54573	5.41299	ppb	98
60)	Tetrachloroethene	8.73	166	102427	5.39542	ppb	95
61)	1-Chlorohexane	9.59	91	94282	5.26135	ppb	98
62)	1,1,1,2-Tetrachloroethane	9.68	131	73568	5.36850	ppb	98
63)	m&p-Xylene	9.83	106	180480	10.85598	ppb	99
64)	o-Xylene	10.22	106	90512	5.27756	ppb	100
65)	Styrene	10.23	104	137856	5.24515	ppb	97
67)	1,3-Dichloropropane	8.76	76	93886	5.39755	ppb	100
68)	Dibromochloromethane	8.99	129	66996	5.40072	ppb	99
69)	Chlorobenzene	9.58	112	225745	5.41997	ppb	99
70)	Ethylbenzene	9.71	91	365617	5.40715	ppb	98
71)	Bromoform	10.40	173	40358	5.33220	ppb	99
73)	Isopropylbenzene	10.59	105	356229	5.46521	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.89	83	64109	5.54043	ppb	99
75)	1,2,3-Trichloropropane	10.93	110	12359	5.81715	ppb	87
76)	t-1,4-Dichloro-2-Butene	10.95	53	10700	5.75022	ppb	96
77)	Bromobenzene	10.87	156	98597	5.45637	ppb	95
78)	n-Propylbenzene	11.00	91	276032	5.52572	ppb	99
79)	4-Ethyltoluene	11.12	105	345816	5.46996	ppb	100
80)	2-Chlorotoluene	11.07	91	156845	5.30083	ppb	97
81)	1,3,5-Trimethylbenzene	11.18	105	299772	5.46318	ppb	95
82)	4-Chlorotoluene	11.18	91	181886	5.42730	ppb	98
83)	Tert-Butylbenzene	11.50	119	260600	5.40961	ppb	99
84)	1,2,4-Trimethylbenzene	11.55	105	192454	5.36894	ppb	99
85)	Sec-Butylbenzene	11.72	105	367176	5.44559	ppb	100
86)	p-Isopropyltoluene	11.87	119	302102	5.41149	ppb	98
87)	Benzyl Chloride	12.04	91	51050	4.78134	ppb	97
88)	1,3-DCB	11.81	146	174882	5.40095	ppb	99
89)	1,4-DCB	11.90	146	177403	5.31835	ppb	99
90)	n-Butylbenzene	12.27	91	242839	5.31739	ppb	99
91)	1,2-DCB	12.27	146	165778	5.39517	ppb	100
92)	Hexachloroethane	12.52	117	39712	5.25786	ppb	96
93)	1,2-Dibromo-3-chloropropan	13.05	157	10012	5.49911	ppb	94
94)	1,2,4-Trichlorobenzene	13.87	180	97525	5.32510	ppb	97
95)	Hexachlorobutadiene	14.05	225	60930	5.43040	ppb	95
96)	Naphthalene	14.11	128	137264	5.18430	ppb	98
97)	1,2,3-Trichlorobenzene	14.35	180	87689	5.27516	ppb	95

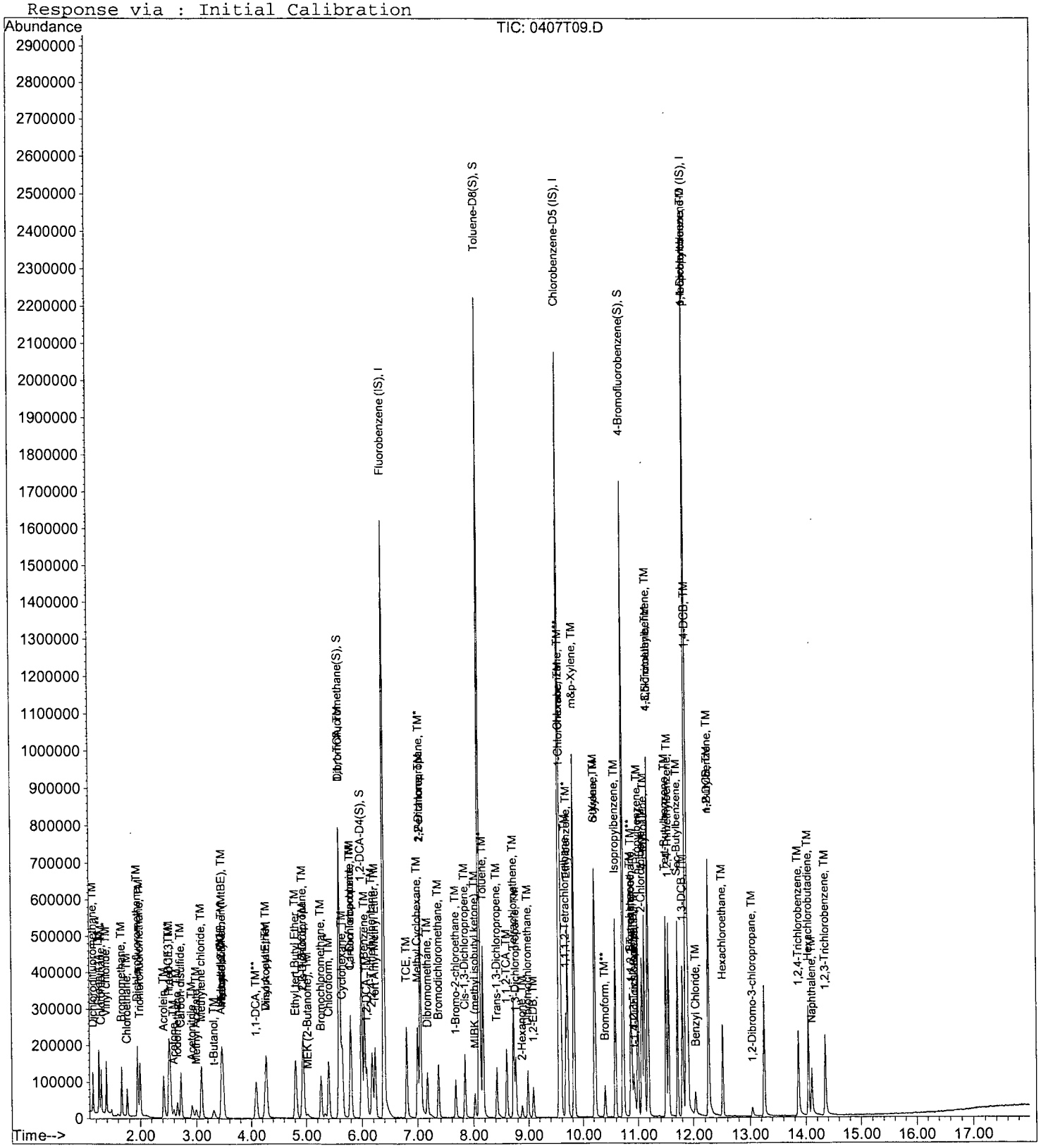
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T09.D Vial: 8
Acq On : 7 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 5.0ug/L VOC STD 4/7/17G Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T10.D Vial: 9
Acq On : 7 Apr 17 13:56 Operator: DG,SV, CMM.PM
Sample : 10ug/L VOC STD 4/7/17H Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	856896	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	772416	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	396160	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	437348	24.63311 ppb	0.00
Spiked Amount 25.000			Recovery = 98.532%		
38) 1,2-DCA-D4(S)	5.99	65	385279	24.65221 ppb	0.00
Spiked Amount 25.000			Recovery = 98.608%		
58) Toluene-D8(S)	8.11	98	1527049	24.73628 ppb	0.00
Spiked Amount 25.000			Recovery = 98.944%		
66) 4-Bromofluorobenzene(S)	10.73	95	550829	25.13332 ppb	0.00
Spiked Amount 25.000			Recovery = 100.532%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	112872	9.87046 ppb	100
3) Freon 114	1.26	135	101673	9.90491 ppb	100
4) Chloromethane	1.30	50	132106	9.83631 ppb	100
5) Vinyl chloride	1.39	62	165440	9.87179 ppb	100
6) Bromomethane	1.67	94	109687	9.24715 ppb	100
7) Chloroethane	1.76	64	74216	10.22879 ppb	100
8) Dichlorofluoromethane	1.95	67	285569	10.08332 ppb	100
9) Trichlorofluoromethane	2.00	101	193324	10.12198 ppb	100
10) Acrolein	2.42	56	68104	123.37494 ppb	100
11) Acetone	2.59	43	37238	9.10061 ppb	99
12) Freon-113	2.53	101	130103	10.14117 ppb	100
13) 1,1-DCE	2.51	61	187509	10.07786 ppb	100
14) Acetonitrile	2.92	41	66436	115.40554 ppb	100
15) t-Butanol	3.31	59	38934	116.23839 ppb	100
16) Methyl Acetate	2.99	43	57416	9.21267 ppb	100
17) Iodomethane	2.67	142	97930	8.01631 ppb	100
18) Acrylonitrile	3.44	52	21263	10.41397 ppb	100
19) Methylene chloride	3.09	84	144961	9.67778 ppb	100
20) Carbon disulfide	2.73	76	191168	9.99489 ppb	100
21) Methyl t-butyl ether (MtBE	3.48	73	294904	10.22453 ppb	100
22) Trans-1,2-DCE	3.45	96	138432	9.98585 ppb	100
23) Hexane	3.48	57	63415	10.29487 ppb #	100
24) Diisopropyl Ether	4.28	45	348991	9.89574 ppb	100
25) 1,1-DCA	4.09	63	233442	9.91861 ppb	100
26) Vinyl Acetate	4.28	87	116150	10.01339 ppb	100
27) Ethyl tert Butyl Ether	4.81	59	311828	9.92184 ppb	100
28) MEK (2-Butanone)	5.02	43	27041	9.60334 ppb	100
29) Cis-1,2-DCE	4.95	61	211238	10.16154 ppb	100
30) 2,2-Dichloropropane	4.94	77	178425	9.92834 ppb	100
31) Chloroform	5.40	83	259265	10.05888 ppb	100
32) Bromochloromethane	5.26	128	37904	10.16543 ppb	100
34) 1,1,1-TCA	5.59	97	211514	9.92098 ppb	100
35) Cyclohexane	5.65	41	94307	9.70725 ppb	100
36) 1,1-Dichloropropene	5.80	75	92944	9.98329 ppb	100
37) 2,2,4-Trimethylpentane	6.18	57	389907	9.93487 ppb	100
39) Carbon Tetrachloride	5.79	117	171878	10.27364 ppb	100
40) Tert Amyl Methyl Ether	6.23	73	297760	9.96079 ppb	100
41) 1,2-DCA	6.08	62	167201	9.91028 ppb	100
42) Benzene	6.05	78	555185	9.75732 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T10.D
Acq On : 7 Apr 17 13:56
Sample : 10ug/L VOC STD 4/7/17H
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 9
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.81	95	158498	10.02568 ppb	100
44) 2-Pentanone	7.05	43	587474	123.18166 ppb	100
45) 1,2-Dichloropropane	7.05	63	142804	9.96623 ppb	100
46) Bromodichloromethane	7.37	83	181138	10.18271 ppb	100
47) Methyl Cyclohexane	7.00	83	213472	9.94336 ppb	100
48) Dibromomethane	7.17	93	80421	9.97346 ppb	100
49) MIBK (methyl isobutyl ket	8.03	43	79488	10.34454 ppb	100
50) 1-Bromo-2-chloroethane	7.67	63	164525	10.10032 ppb	100
52) Cis-1,3-Dichloropropene	7.84	75	194748	10.03578 ppb	100
53) Toluene	8.18	91	385984	9.95662 ppb	100
54) Trans-1,3-Dichloropropene	8.42	75	92384	10.18695 ppb	100
55) 1,1,2-TCA	8.60	83	97128	10.18673 ppb	100
56) 2-Hexanone	8.88	58	23867	10.23294 ppb	100
59) 1,2-EDB	9.09	107	106568	10.21119 ppb	100
60) Tetrachloroethene	8.73	166	201450	10.25105 ppb	100
61) 1-Chlorohexane	9.59	91	181560	9.78765 ppb	100
62) 1,1,1,2-Tetrachloroethane	9.68	131	143554	10.11974 ppb	100
63) m&p-Xylene	9.83	106	354560	20.60249 ppb	100
64) o-Xylene	10.22	106	177920	10.02171 ppb	100
65) Styrene	10.23	104	285504	10.49384 ppb	100
67) 1,3-Dichloropropane	8.76	76	184683	10.25682 ppb	100
68) Dibromochloromethane	8.99	129	132073	10.28505 ppb	100
69) Chlorobenzene	9.59	112	429969	9.97254 ppb	100
70) Ethylbenzene	9.71	91	712023	10.17246 ppb	100
71) Bromoform	10.40	173	78934	10.07468 ppb	100
73) Isopropylbenzene	10.59	105	694867	10.06809 ppb	100
74) 1,1,2,2-Tetrachloroethane	10.89	83	124201	10.13720 ppb	100
75) 1,2,3-Trichloropropane	10.93	110	21888	9.72973 ppb	100
76) t-1,4-Dichloro-2-Butene	10.95	53	20897	10.60603 ppb	100
77) Bromobenzene	10.87	156	190272	9.94450 ppb	100
78) n-Propylbenzene	11.00	91	540213	10.21322 ppb	100
79) 4-Ethyltoluene	11.12	105	683301	10.20750 ppb	100
80) 2-Chlorotoluene	11.07	91	318913	10.17919 ppb	100
81) 1,3,5-Trimethylbenzene	11.18	105	592175	10.19231 ppb	100
82) 4-Chlorotoluene	11.18	91	360965	10.17227 ppb	100
83) Tert-Butylbenzene	11.50	119	513584	10.06866 ppb	100
84) 1,2,4-Trimethylbenzene	11.55	105	406032	10.69770 ppb	100
85) Sec-Butylbenzene	11.72	105	727348	10.18782 ppb	100
86) p-Isopropyltoluene	11.86	119	608196	10.28904 ppb	100
87) Benzyl Chloride	12.04	91	110535	9.77737 ppb	100
88) 1,3-DCB	11.81	146	349520	10.19447 ppb	100
89) 1,4-DCB	11.90	146	354049	10.02414 ppb	100
90) n-Butylbenzene	12.27	91	499081	10.32094 ppb	100
91) 1,2-DCB	12.27	146	331276	10.18208 ppb	100
92) Hexachloroethane	12.52	117	82307	10.29182 ppb	100
93) 1,2-Dibromo-3-chloropropan	13.04	157	19428	10.07785 ppb	100
94) 1,2,4-Trichlorobenzene	13.87	180	204156	10.52791 ppb	100
95) Hexachlorobutadiene	14.05	225	119861	10.08896 ppb	100
96) Naphthalene	14.11	128	292011	10.41599 ppb	100
97) 1,2,3-Trichlorobenzene	14.35	180	181067	10.28721 ppb	100

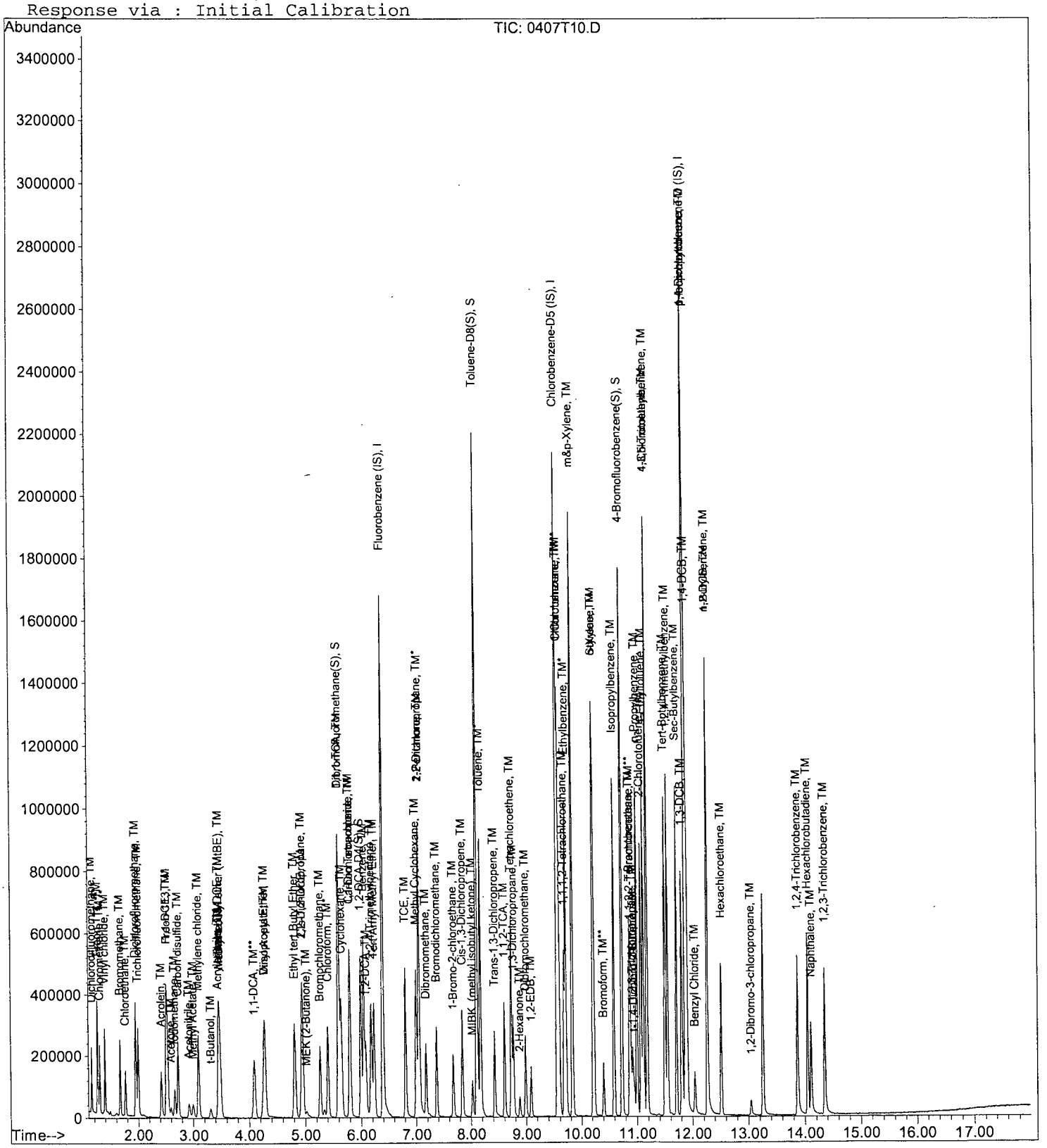
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T10.D Vial: 9
Acq On : 7 Apr 17 13:56 Operator: DG,SV, CMM.PM
Sample : 10ug/L VOC STD 4/7/17H Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



732

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T11.D
Acq On : 7 Apr 17 14:23
Sample : 20ug/L VOC STD 4/7/17I
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 10
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	847040	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	769984	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	405888	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	882727	50.29708 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.188%	
38) 1,2-DCA-D4(S)	5.99	65	771322	49.92758 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.712%	
58) Toluene-D8(S)	8.11	98	3079900	50.04810 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.192%	
66) 4-Bromofluorobenzene(S)	10.73	95	1109564	50.78729 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.148%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	231692	20.49682 ppb	100
3) Freon 114	1.26	135	197773	19.49109 ppb	99
4) Chloromethane	1.30	50	252689	19.03357 ppb	97
5) Vinyl chloride	1.39	62	331520	20.01194 ppb	98
6) Bromomethane	1.67	94	218028	18.59470 ppb	96
7) Chloroethane	1.76	64	147328	20.54169 ppb	100
8) Dichlorofluoromethane	1.96	67	560475	20.02042 ppb	99
9) Trichlorofluoromethane	2.00	101	384728	20.37782 ppb	99
10) Acrolein	2.42	56	84712	155.24709 ppb	96
11) Acetone	2.59	43	52282	19.75019 ppb	98
12) Freon-113	2.53	101	258035	20.34716 ppb	99
13) 1,1-DCE	2.51	61	369675	20.09974 ppb	99
14) Acetonitrile	2.92	41	93301	163.95841 ppb	99
15) t-Butanol	3.32	59	53421	161.34547 ppb	91
16) Methyl Acetate	2.99	43	114384	18.56701 ppb	97
17) Iodomethane	2.66	142	251003	18.29720 ppb	99
18) Acrylonitrile	3.44	52	42370	20.99299 ppb	99
19) Methylene chloride	3.09	84	287220	19.39828 ppb	99
20) Carbon disulfide	2.73	76	370880	19.61646 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	581757	20.40461 ppb	98
22) Trans-1,2-DCE	3.45	96	271932	19.84418 ppb	97
23) Hexane	3.48	57	119278	19.58906 ppb #	99
24) Diisopropyl Ether	4.28	45	693556	19.89480 ppb	99
25) 1,1-DCA	4.09	63	465953	20.02803 ppb	99
26) Vinyl Acetate	4.28	87	231154	20.15987 ppb	100
27) Ethyl tert Butyl Ether	4.81	59	611443	19.68146 ppb	97
28) MEK (2-Butanone)	5.02	43	55826	20.05673 ppb	94
29) Cis-1,2-DCE	4.95	61	411640	20.03223 ppb	97
30) 2,2-Dichloropropane	4.94	77	354952	19.98089 ppb	99
31) Chloroform	5.41	83	508863	19.97243 ppb	100
32) Bromochloromethane	5.26	128	74544	20.22449 ppb	97
34) 1,1,1-TCA	5.59	97	424132	20.12522 ppb	98
35) Cyclohexane	5.65	41	187244	19.49774 ppb	98
36) 1,1-Dichloropropene	5.81	75	186048	20.21629 ppb	98
37) 2,2,4-Trimethylpentane	6.18	57	781366	20.14095 ppb	99
39) Carbon Tetrachloride	5.79	117	356660	21.56666 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	584855	19.79245 ppb	99
41) 1,2-DCA	6.08	62	326404	19.57161 ppb	100
42) Benzene	6.05	78	1096615	19.49716 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T11.D
Acq On : 7 Apr 17 14:23
Sample : 20ug/L VOC STD 4/7/17I
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 10
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.81	95	312093	19.97094 ppb	98
44) 2-Pentanone	7.05	43	723312	153.42893 ppb	100
45) 1,2-Dichloropropane	7.05	63	286174	20.20436 ppb	100
46) Bromodichloromethane	7.36	83	353841	20.12270 ppb	100
47) Methyl Cyclohexane	7.00	83	433893	20.44556 ppb	97
48) Dibromomethane	7.17	93	159314	19.98732 ppb	97
49) MIBK (methyl isobutyl ket	8.03	43	138084	19.50102 ppb	99
50) 1-Bromo-2-chloroethane	7.67	63	320257	19.88961 ppb	99
52) Cis-1,3-Dichloropropene	7.84	75	398985	20.79980 ppb	98
53) Toluene	8.18	91	742208	19.36833 ppb	98
54) Trans-1,3-Dichloropropene	8.42	75	190848	21.28918 ppb	98
55) 1,1,2-TCA	8.60	83	191156	20.28162 ppb	97
56) 2-Hexanone	8.88	58	47071	20.41644 ppb	98
59) 1,2-EDB	9.08	107	212985	20.47236 ppb	99
60) Tetrachloroethene	8.73	166	385302	19.66852 ppb	96
61) 1-Chlorohexane	9.59	91	366296	19.80889 ppb	97
62) 1,1,1,2-Tetrachloroethane	9.68	131	288118	20.37483 ppb	97
63) m&p-Xylene	9.83	106	699072	40.74942 ppb	99
64) o-Xylene	10.22	106	344960	19.49195 ppb	99
65) Styrene	10.23	104	564416	20.81091 ppb	99
67) 1,3-Dichloropropane	8.77	76	362433	20.19218 ppb	97
68) Dibromochloromethane	8.99	129	265837	20.76717 ppb	99
69) Chlorobenzene	9.59	112	845169	19.66444 ppb	99
70) Ethylbenzene	9.71	91	1402885	20.10590 ppb	100
71) Bromoform	10.40	173	160277	20.52144 ppb	99
73) Isopropylbenzene	10.59	105	1381003	19.53011 ppb	99
74) 1,1,2,2-Tetrachloroethane	10.89	83	242978	19.35639 ppb	99
75) 1,2,3-Trichloropropane	10.93	110	44384	19.25687 ppb	96
76) t-1,4-Dichloro-2-Butene	10.95	53	43501	21.54926 ppb	96
77) Bromobenzene	10.87	156	386535	19.71792 ppb	98
78) n-Propylbenzene	11.00	91	1064003	19.63382 ppb	100
79) 4-Ethyltoluene	11.12	105	1372216	20.00756 ppb	99
80) 2-Chlorotoluene	11.07	91	625661	19.49146 ppb	98
81) 1,3,5-Trimethylbenzene	11.18	105	1183403	19.88016 ppb	98
82) 4-Chlorotoluene	11.18	91	731450	20.11878 ppb	98
83) Tert-Butylbenzene	11.50	119	1028673	19.68347 ppb	98
84) 1,2,4-Trimethylbenzene	11.55	105	794370	20.42760 ppb	100
85) Sec-Butylbenzene	11.72	105	1456468	19.91152 ppb	99
86) p-Isopropyltoluene	11.86	119	1222492	20.18559 ppb	99
87) Benzyl Chloride	12.04	91	238278	20.57173 ppb	99
88) 1,3-DCB	11.81	146	702879	20.00957 ppb	98
89) 1,4-DCB	11.90	146	703332	19.43608 ppb	100
90) n-Butylbenzene	12.27	91	1030419	20.79824 ppb	98
91) 1,2-DCB	12.27	146	654396	19.63142 ppb	99
92) Hexachloroethane	12.52	117	169624	20.70175 ppb	98
93) 1,2-Dibromo-3-chloropropan	13.04	157	40305	20.40625 ppb	97
94) 1,2,4-Trichlorobenzene	13.87	180	424349	21.35835 ppb	99
95) Hexachlorobutadiene	14.05	225	245679	20.18371 ppb	99
96) Naphthalene	14.11	128	625526	21.77766 ppb	98
97) 1,2,3-Trichlorobenzene	14.35	180	375185	20.80503 ppb	96

(#) = qualifier out of range (m) = manual integration

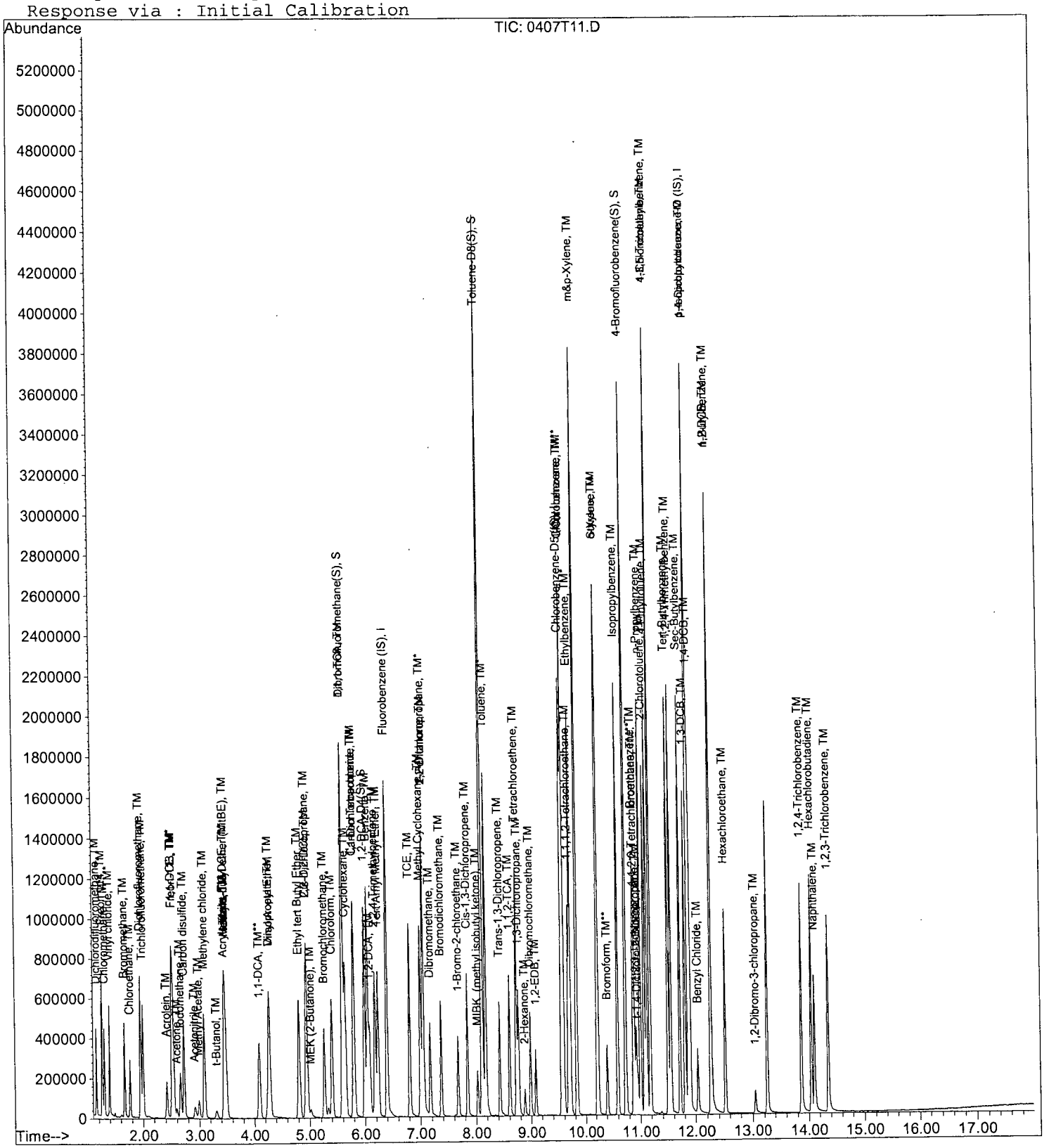
Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T11.D
Acq On : 7 Apr 17 14:23
Sample : 20ug/L VOC STD 4/7/17I
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 10
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T12.D
Acq On : 7 Apr 17 14:51
Sample : 40ug/L VOC STD 4/7/17J
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 11
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	856704	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	775872	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	417600	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	885197	49.86885 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.476%	
38) 1,2-DCA-D4(S)	5.99	65	780455	49.94888 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.796%	
58) Toluene-D8(S)	8.11	98	3054222	49.25420 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.016%	
66) 4-Bromofluorobenzene(S)	10.73	95	1126620	51.17663 ppb	0.00
Spiked Amount 25.000			Recovery	= 204.708%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	463128	40.50883 ppb	100
3) Freon 114	1.26	135	417814	40.71227 ppb	97
4) Chloromethane	1.30	50	501417	37.34274 ppb	97
5) Vinyl chloride	1.39	62	675648	40.32488 ppb	100
6) Bromomethane	1.67	94	426229	35.94124 ppb	97
7) Chloroethane	1.76	64	282058	38.88324 ppb	98
8) Dichlorofluoromethane	1.96	67	1109390	39.18088 ppb	100
9) Trichlorofluoromethane	2.00	101	767874	40.21305 ppb	98
10) Acrolein	2.42	56	102984	186.60420 ppb	96
11) Acetone	2.59	43	84033	40.95194 ppb	96
12) Freon-113	2.53	101	517738	40.36531 ppb	98
13) 1,1-DCE	2.51	61	737081	39.62403 ppb	98
14) Acetonitrile	2.92	41	95761	166.38309 ppb	93
15) t-Butanol	3.32	59	60979	182.09507 ppb	97
16) Methyl Acetate	2.99	43	228689	36.70245 ppb	94
17) Iodomethane	2.66	142	603414	41.33956 ppb	99
18) Acrylonitrile	3.44	52	86315	42.28392 ppb	97
19) Methylene chloride	3.09	84	566786	37.84782 ppb	99
20) Carbon disulfide	2.73	76	773504	40.45041 ppb	100
21) Methyl t-butyl ether (MtBE	3.48	73	1167956	40.50292 ppb	98
22) Trans-1,2-DCE	3.45	96	546126	39.40386 ppb	99
23) Hexane	3.48	57	244167	39.64727 ppb #	98
24) Diisopropyl Ether	4.28	45	1403589	39.80808 ppb	100
25) 1,1-DCA	4.09	63	933794	39.68445 ppb	99
26) Vinyl Acetate	4.28	87	470391	40.56191 ppb	99
27) Ethyl tert Butyl Ether	4.81	59	1261850	40.15895 ppb	98
28) MEK (2-Butanone)	5.02	43	100941	35.85622 ppb	99
29) Cis-1,2-DCE	4.95	61	830326	39.95154 ppb	97
30) 2,2-Dichloropropane	4.94	77	718915	40.01252 ppb	99
31) Chloroform	5.41	83	1017758	39.49550 ppb	98
32) Bromochloromethane	5.26	128	149056	39.98411 ppb	99
34) 1,1,1-TCA	5.59	97	848577	39.81107 ppb	99
35) Cyclohexane	5.65	41	375565	38.66647 ppb	100
36) 1,1-Dichloropropene	5.81	75	382976	41.14539 ppb	97
37) 2,2,4-Trimethylpentane	6.18	57	1593464	40.61073 ppb	99
39) Carbon Tetrachloride	5.79	117	730506	43.67424 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	1187162	39.72231 ppb	99
41) 1,2-DCA	6.08	62	651799	38.64185 ppb	98
42) Benzene	6.05	78	2210226	38.85322 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T12.D Vial: 11
Acq On : 7 Apr 17 14:51 Operator: DG,SV, CMM.PM
Sample : 40ug/L VOC STD 4/7/17J Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	TCE	6.81	95	624150	39.48904	ppb	98
44)	2-Pentanone	7.05	43	853811	179.06738	ppb	99
45)	1,2-Dichloropropane	7.05	63	570441	39.81977	ppb	99
46)	Bromodichloromethane	7.37	83	735916	41.37895	ppb	100
47)	Methyl Cyclohexane	7.00	83	879872	40.99293	ppb	99
48)	Dibromomethane	7.17	93	326446	40.49348	ppb	94
49)	MIBK (methyl isobutyl ket	8.03	43	283169	41.33289	ppb	99
50)	1-Bromo-2-chloroethane	7.67	63	649734	39.89663	ppb	98
52)	Cis-1,3-Dichloropropene	7.84	75	831822	42.87519	ppb	98
53)	Toluene	8.18	91	1490776	38.46380	ppb	98
54)	Trans-1,3-Dichloropropene	8.42	75	410176	45.23919	ppb	100
55)	1,1,2-TCA	8.60	83	384070	40.29009	ppb	98
56)	2-Hexanone	8.88	58	97147	41.66095	ppb	91
59)	1,2-EDB	9.09	107	432321	41.23983	ppb	100
60)	Tetrachloroethene	8.73	166	772034	39.11096	ppb	98
61)	1-Chlorohexane	9.59	91	744790	39.97177	ppb	94
62)	1,1,1,2-Tetrachloroethane	9.68	131	595724	41.80810	ppb	97
63)	m&p-Xylene	9.83	106	1437115	83.13476	ppb	98
64)	o-Xylene	10.22	106	725888	40.70499	ppb	100
65)	Styrene	10.23	104	1192448	43.63377	ppb	100
67)	1,3-Dichloropropane	8.77	76	726006	40.14091	ppb	98
68)	Dibromochloromethane	8.99	129	559256	43.35750	ppb	99
69)	Chlorobenzene	9.58	112	1703617	39.33704	ppb	99
70)	Ethylbenzene	9.71	91	2850605	40.54432	ppb	99
71)	Bromoform	10.40	173	346423	44.01846	ppb	100
73)	Isopropylbenzene	10.59	105	2821324	38.78008	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.89	83	496738	38.46188	ppb	99
75)	1,2,3-Trichloropropane	10.93	110	93664	39.49824	ppb	96
76)	t-1,4-Dichloro-2-Butene	10.95	53	79475	38.26568	ppb	95
77)	Bromobenzene	10.87	156	782245	38.78474	ppb	100
78)	n-Propylbenzene	11.00	91	2263467	40.59587	ppb	100
79)	4-Ethyltoluene	11.12	105	2841620	40.27015	ppb	99
80)	2-Chlorotoluene	11.07	91	1276565	38.65396	ppb	99
81)	1,3,5-Trimethylbenzene	11.18	105	2421058	39.53102	ppb	97
82)	4-Chlorotoluene	11.18	91	1520646	40.65284	ppb	98
83)	Tert-Butylbenzene	11.50	119	2100352	39.06270	ppb	98
84)	1,2,4-Trimethylbenzene	11.55	105	1664338	41.59890	ppb	100
85)	Sec-Butylbenzene	11.72	105	2980717	39.60683	ppb	99
86)	p-Isopropyltoluene	11.86	119	2563252	41.13699	ppb	99
87)	Benzyl Chloride	12.04	91	537901	45.13722	ppb	98
88)	1,3-DCB	11.81	146	1444455	39.96750	ppb	100
89)	1,4-DCB	11.90	146	1459383	39.19794	ppb	99
90)	n-Butylbenzene	12.27	91	2196300	43.08738	ppb	99
91)	1,2-DCB	12.27	146	1363630	39.76064	ppb	99
92)	Hexachloroethane	12.52	117	374166	44.38434	ppb	98
93)	1,2-Dibromo-3-chloropropan	13.04	157	91634	45.09275	ppb	99
94)	1,2,4-Trichlorobenzene	13.87	180	920451	45.02886	ppb	99
95)	Hexachlorobutadiene	14.05	225	511679	40.85793	ppb	99
96)	Naphthalene	14.11	128	1380662	46.71958	ppb	98
97)	1,2,3-Trichlorobenzene	14.35	180	808271	43.56378	ppb	97

(#) = qualifier out of range (m) = manual integration

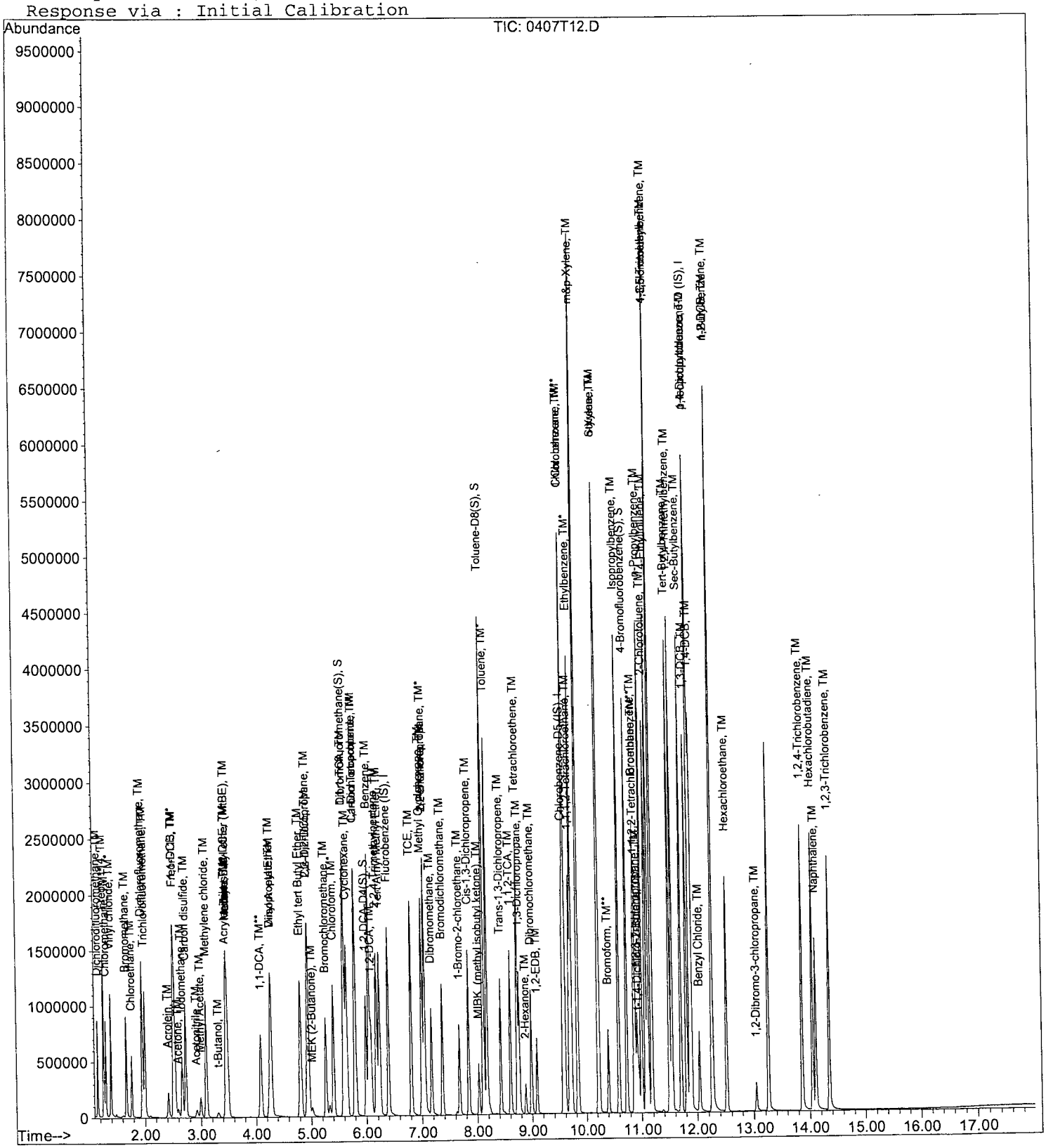
Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T12.D
Acq On : 7 Apr 17 14:51
Sample : 40ug/L VOC STD 4/7/17J
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 11
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T13.D Vial: 12
Acq On : 7 Apr 17 15:19 Operator: DG,SV, CMM.PM
Sample : 100ug/L VOC STD 4/7/17K Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	914816	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	798016	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	438464	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	1771248	93.44711 ppb	0.00
Spiked Amount 25.000			Recovery	= 373.788%	
38) 1,2-DCA-D4(S)	5.99	65	1463656	87.72310 ppb	0.00
Spiked Amount 25.000			Recovery	= 350.892%	
58) Toluene-D8(S)	8.11	98	6176086	96.83546 ppb	0.00
Spiked Amount 25.000			Recovery	= 387.340%	
66) 4-Bromofluorobenzene(S)	10.73	95	2244829	99.14162 ppb	0.00
Spiked Amount 25.000			Recovery	= 396.568%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	1190371	97.50526 ppb	99
3) Freon 114	1.26	135	1056872	96.44101 ppb	99
4) Chloromethane	1.30	50	1209183	84.33274 ppb	98
5) Vinyl chloride	1.39	62	1745408	97.55435 ppb	99
6) Bromomethane	1.66	94	1081385	85.39402 ppb	96
7) Chloroethane	1.76	64	695152	89.74306 ppb	99
8) Dichlorofluoromethane	1.95	67	2851923	94.32456 ppb	99
9) Trichlorofluoromethane	2.00	101	1957940	96.02260 ppb	98
10) Acrolein	2.42	56	125936	213.69709 ppb	96
11) Acetone	2.59	43	181962	99.72993 ppb	98
12) Freon-113	2.53	101	1315660	96.05920 ppb	99
13) 1,1-DCE	2.51	61	1881214	94.70626 ppb	99
14) Acetonitrile	2.92	41	121482	197.66487 ppb	95
15) t-Butanol	3.32	59	75261	210.46743 ppb	98
16) Methyl Acetate	2.99	43	610135	91.70073 ppb	95
17) Iodomethane	2.66	142	1792066	112.19196 ppb	100
18) Acrylonitrile	3.44	52	217330	99.70242 ppb	96
19) Methylene chloride	3.09	84	1436342	89.82074 ppb	98
20) Carbon disulfide	2.72	76	2049536	100.37208 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	3022686	98.16347 ppb	98
22) Trans-1,2-DCE	3.45	96	1411828	95.39480 ppb	99
23) Hexane	3.48	57	627667	95.44489 ppb #	95
24) Diisopropyl Ether	4.28	45	3710499	98.55090 ppb	99
25) 1,1-DCA	4.09	63	2387679	95.02596 ppb	100
26) Vinyl Acetate	4.28	87	1232329	99.51375 ppb	98
27) Ethyl tert Butyl Ether	4.81	59	3327226	99.16397 ppb	98
28) MEK (2-Butanone)	5.02	43	259362	86.27803 ppb	100
29) Cis-1,2-DCE	4.95	61	2143849	96.59977 ppb	97
30) 2,2-Dichloropropane	4.94	77	1883626	98.17707 ppb	98
31) Chloroform	5.41	83	2590235	94.13244 ppb	98
32) Bromochloromethane	5.26	128	370304	93.02366 ppb	99
34) 1,1,1-TCA	5.59	97	2226803	97.83438 ppb	99
35) Cyclohexane	5.65	41	959012	92.46355 ppb	98
36) 1,1-Dichloropropene	5.81	75	989312	99.53595 ppb	96
37) 2,2,4-Trimethylpentane	6.18	57	4134025	98.66627 ppb	98
39) Carbon Tetrachloride	5.79	117	1952130	109.29677 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	3145601	98.56556 ppb	97
41) 1,2-DCA	6.08	62	1639443	91.02016 ppb	99
42) Benzene	6.05	78	5667419	93.29807 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T13.D Vial: 12
Acq On : 7 Apr 17 15:19 Operator: DG,SV, CMM.PM
Sample : 100ug/L VOC STD 4/7/17K Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 12:57:31 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.81	95	1637481	97.01992 ppb	98
44) 2-Pentanone	7.05	43	1042330	204.71846 ppb	99
45) 1,2-Dichloropropane	7.05	63	1458481	95.34234 ppb	100
46) Bromodichloromethane	7.36	83	1929357	101.59231 ppb	99
47) Methyl Cyclohexane	7.00	83	2296749	100.20746 ppb	97
48) Dibromomethane	7.17	93	829717	96.38307 ppb	96
49) MIBK (methyl isobutyl ket	8.03	43	710701	99.50463 ppb	98
50) 1-Bromo-2-chloroethane	7.67	63	1664708	95.72729 ppb	99
52) Cis-1,3-Dichloropropene	7.84	75	2243936	108.31364 ppb	97
53) Toluene	8.18	91	4043055	97.68918 ppb	98
54) Trans-1,3-Dichloropropene	8.42	75	1176064	121.47098 ppb	99
55) 1,1,2-TCA	8.60	83	994895	97.73771 ppb	97
56) 2-Hexanone	8.88	58	262948	105.60068 ppb	98
59) 1,2-EDB	9.09	107	1139860	105.71596 ppb	99
60) Tetrachloroethene	8.73	166	2007657	98.88492 ppb	97
61) 1-Chlorohexane	9.59	91	1957750	102.15398 ppb	92
62) 1,1,1,2-Tetrachloroethane	9.68	131	1600702	109.22053 ppb	99
63) m&p-Xylene	9.83	106	3775214	212.32991 ppb	96
64) o-Xylene	10.22	106	1886004	102.82510 ppb	99
65) Styrene	10.23	104	3124224	111.14859 ppb	99
67) 1,3-Dichloropropane	8.77	76	1897398	101.99619 ppb	97
68) Dibromochloromethane	8.99	129	1538583	115.97196 ppb	99
69) Chlorobenzene	9.59	112	4464183	100.21904 ppb	98
70) Ethylbenzene	9.71	91	7427601	102.71172 ppb	99
71) Bromoform	10.40	173	956562	118.17341 ppb	99
73) Isopropylbenzene	10.59	105	7287185	95.39862 ppb	100
74) 1,1,2,2-Tetrachloroethane	10.89	83	1238659	91.34430 ppb	99
75) 1,2,3-Trichloropropane	10.93	110	230720	92.66524 ppb	97
76) t-1,4-Dichloro-2-Butene	10.95	53	212550	97.46901 ppb	92
77) Bromobenzene	10.87	156	2001923	94.53486 ppb	100
78) n-Propylbenzene	11.00	91	5762520	98.43434 ppb	100
79) 4-Ethyltoluene	11.12	105	7297544	98.49644 ppb	100
80) 2-Chlorotoluene	11.07	91	3279620	94.58040 ppb	97
81) 1,3,5-Trimethylbenzene	11.18	105	6249171	97.18110 ppb	98
82) 4-Chlorotoluene	11.18	91	3954754	100.69520 ppb	98
83) Tert-Butylbenzene	11.50	119	5414214	95.90298 ppb	98
84) 1,2,4-Trimethylbenzene	11.55	105	4238968	100.90832 ppb	100
85) Sec-Butylbenzene	11.72	105	7687995	97.29464 ppb	99
86) p-Isopropyltoluene	11.86	119	6647964	101.61468 ppb	99
87) Benzyl Chloride	12.04	91	1543588	123.36457 ppb	99
88) 1,3-DCB	11.81	146	3737528	98.49495 ppb	99
89) 1,4-DCB	11.90	146	3729802	95.41273 ppb	99
90) n-Butylbenzene	12.27	91	5849000	109.28653 ppb	99
91) 1,2-DCB	12.27	146	3516122	97.64440 ppb	100
92) Hexachloroethane	12.52	117	1033023	116.70837 ppb	98
93) 1,2-Dibromo-3-chloropropan	13.04	157	253446	118.78513 ppb	100
94) 1,2,4-Trichlorobenzene	13.87	180	2496305	116.30931 ppb	99
95) Hexachlorobutadiene	14.05	225	1362607	103.62772 ppb	98
96) Naphthalene	14.11	128	3634233	117.12535 ppb	98
97) 1,2,3-Trichlorobenzene	14.35	180	2147240	110.22387 ppb	98

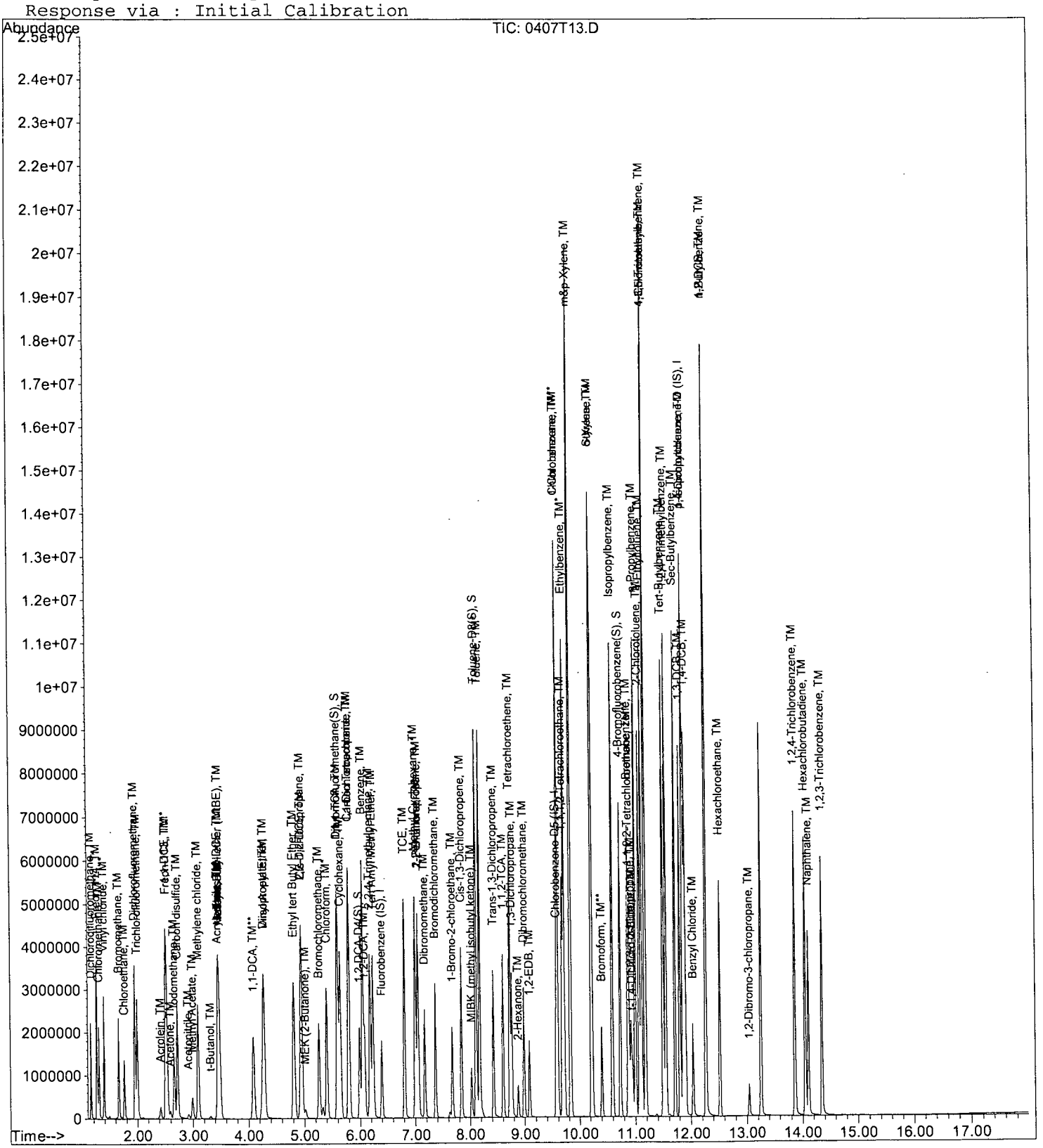
(#) = qualifier out of range (m) = manual integration

Quantitation Report

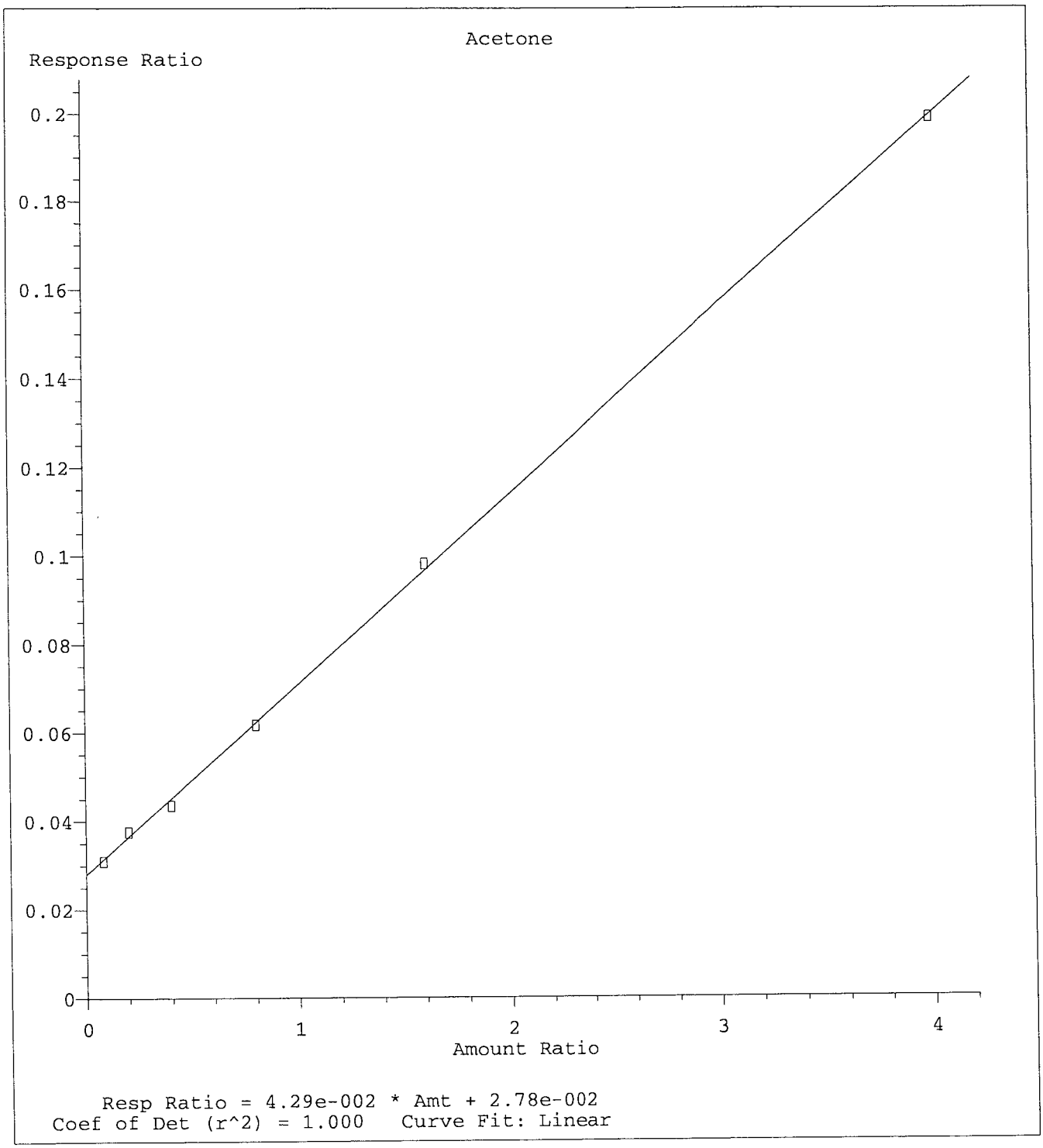
Data File : M:\THOR\DATA\T170407\0407T13.D Vial: 12
Acq On : 7 Apr 17 15:19 Operator: DG,SV, CMM.PM
Sample : 100ug/L VOC STD 4/7/17K Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 12:59 2017 Quant Results File: TALLW.RES

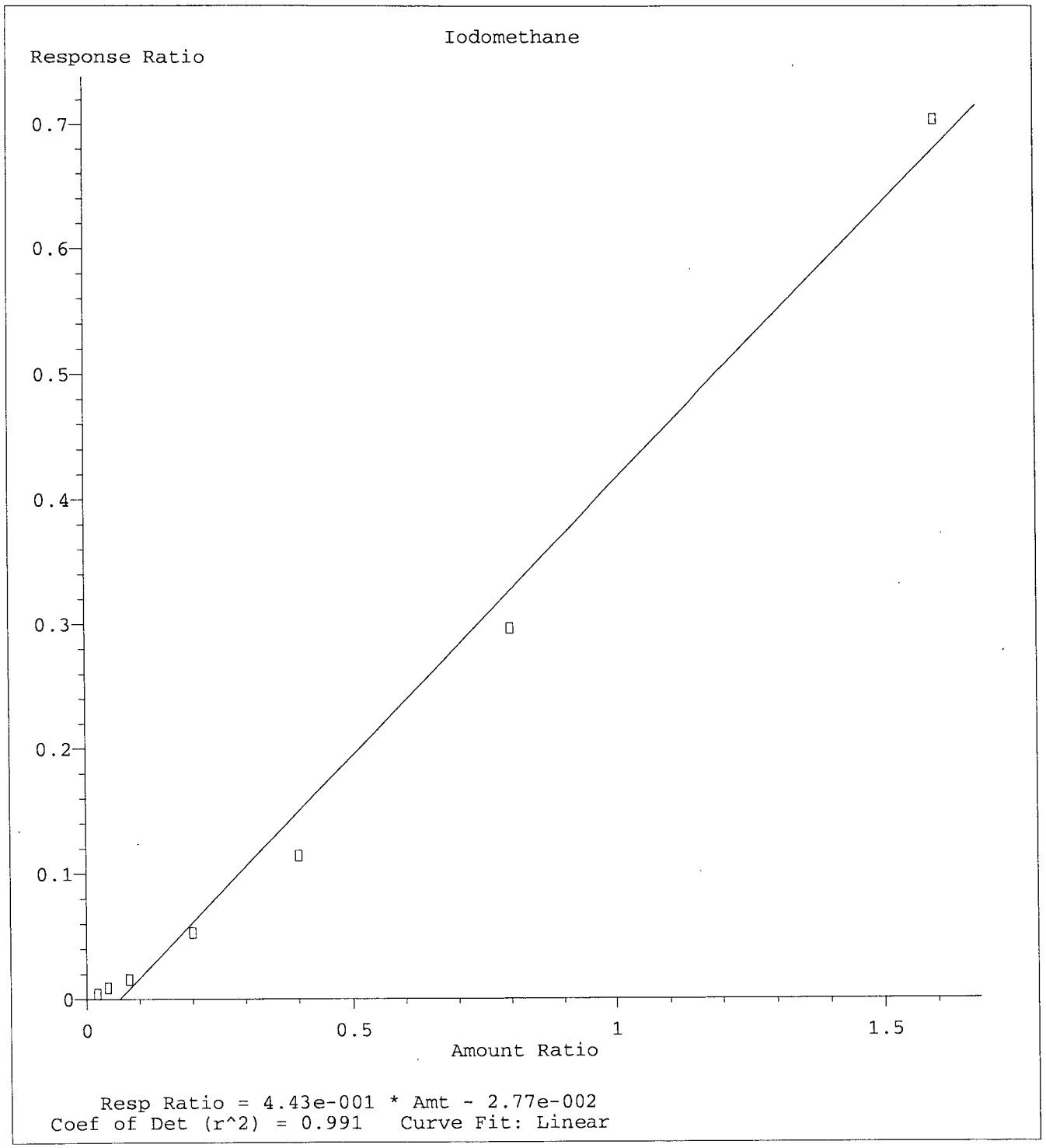
Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



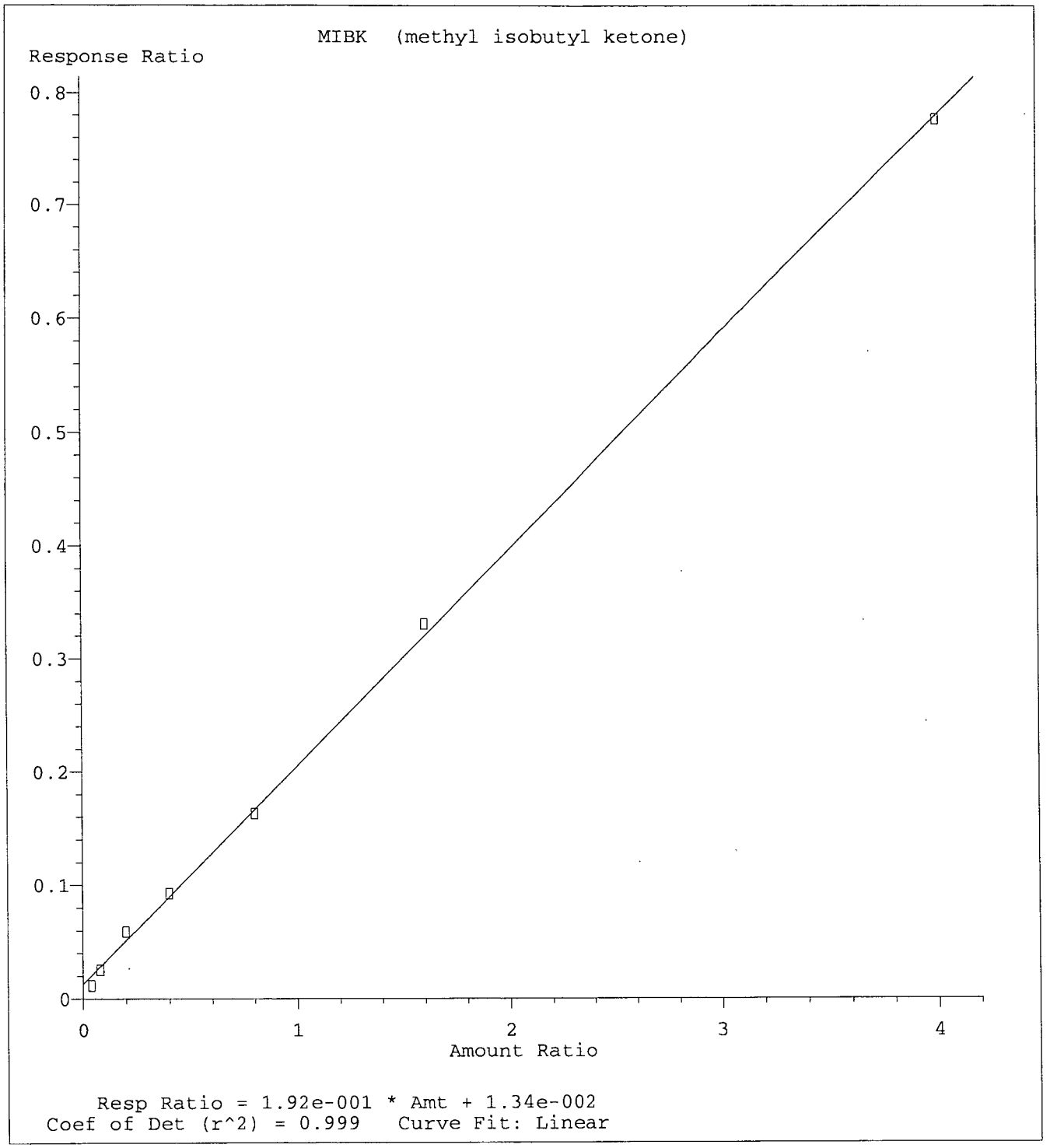
741



Method Name: M:\THOR\DATA\T170407\TALLW.M
Calibration Table Last Updated: Mon Apr 10 08:27:36 2017



Method Name: M:\THOR\DATA\T170407\TALLW.M
Calibration Table Last Updated: Mon Apr 10 08:27:36 2017



Method Name: M:\THOR\DATA\T170407\TALLW.M
Calibration Table Last Updated: Mon Apr 10 08:27:36 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 18:05
Instrument: Thor
Initial Cal. Date: 04/07/17
Data File: 0407T19.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Dichlorodifluoromethane	0.3336	0.3449	3.4	TM	
2	TM	Freon 114	0.2995	0.3068	2.4	TM	
3	TM**	Chloromethane	0.3918	0.3926	0.18	TM**	
4	TM*	Vinyl chloride	0.4889	0.4984	1.9	TM*	
5	TM	Bromomethane	0.3461	0.3605	4.2	TM	
6	TM	Chloroethane	0.2117	0.2331	10	TM	
7	TM	Dichlorofluoromethane	0.8263	0.8554	3.5	TM	
8	TM	Trichlorofluoromethane	0.5572	0.5794	4.0	TM	
9	TM	Acrolein	0.0161	0.0159	1.1	TM	
10	TML	Acetone	0.1452	0.1054	27	TML	17
11	TM	Freon-113	0.3743	0.3880	3.7	TM	
12	TM*	1,1-DCE	0.5428	0.5602	3.2	TM*	
13	TM	Acetonitrile	0.0168	0.0183	9.2	TM	
14	TM	t-Butanol	0.0098	0.0108	10	TM	
15	TM	Methyl Acetate	0.1818	0.1763	3.0	TM	
16	TML	Iodomethane	0.2832	0.3428	21	TML	6.9
17	TM	Acrylonitrile	0.0596	0.0664	12	TM	
18	TM	Methylene chloride	0.4370	0.4406	0.82	TM	
19	TM	Carbon disulfide	0.5580	0.5505	1.3	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.8415	0.8946	6.3	TM	
21	TM	Trans-1,2-DCE	0.4044	0.4123	1.9	TM	
22	TM	Hexane	0.1797	0.1908	6.2	TM	
23	TM	Diisopropyl Ether	1.029	1.062	3.2	TM	
24	TM**	1,1-DCA	0.6867	0.7116	3.6	TM**	
25	TM	Vinyl Acetate	0.3384	0.3498	3.4	TM	
26	TM	Ethyl tert Butyl Ether	0.9169	0.9638	5.1	TM	
27	TM	MEK (2-Butanone)	0.0822	0.0808	1.6	TM	
28	TM	Cis-1,2-DCE	0.6065	0.6277	3.5	TM	
29	TM	2,2-Dichloropropane	0.5243	0.5290	0.89	TM	
30	TM*	Chloroform	0.7520	0.7785	3.5	TM*	
31	TM	Bromochloromethane	0.1088	0.1135	4.3	TM	
32	TM	1,1,1-TCA	0.6220	0.6414	3.1	TM	
33	TM	Cyclohexane	0.2834	0.2794	1.4	TM	
34	TM	1,1-Dichloropropene	0.2716	0.2744	1.0	TM	
35	TM	2,2,4-Trimethylpentane	1.145	1.167	1.9	TM	
36	TM	Carbon Tetrachloride	0.4881	0.5206	6.7	TM	
37	TM	Tert Amyl Methyl Ether	0.8721	0.8945	2.6	TM	
38	TM	1,2-DCA	0.4922	0.5071	3.0	TM	
39	TM	Benzene	1.660	1.689	1.7	TM	
40	TM	TCE	0.4612	0.4874	5.7	TM	
		Average			4.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 18:05
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0407T19.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	2-Pentanone	0.1391	0.1492	7.3	TM	
42	TM*	1,2-Dichloropropane	0.4180	0.4414	5.6	TM*	
43	TM	Bromodichloromethane	0.5190	0.5444	4.9	TM	
44	TM	Methyl Cyclohexane	0.6264	0.6521	4.1	TM	
45	TM	Dibromomethane	0.2353	0.2409	2.4	TM	
46	TML	MIBK (methyl isobutyl ketone)	0.2491	0.2439	2.1	TML	9.7
47	TM	1-Bromo-2-chloroethane	0.4752	0.4846	2.0	TM	
48	TM	2-Chloroethyl vinyl ether	0.0000	0.0073	0.00	TM	
49	TM	Cis-1,3-Dichloropropene	0.5662	0.5866	3.6	TM	
50	TM*	Toluene	1.131	1.148	1.5	TM*	
51	TM	Trans-1,3-Dichloropropene	0.2646	0.2825	6.8	TM	
52	TM	1,1,2-TCA	0.2782	0.2938	5.6	TM	
53	TM	2-Hexanone	0.0680	0.0724	6.5	TM	
54	TM	1,2-EDB	0.3378	0.3507	3.8	TM	
55	TM	Tetrachloroethene	0.6360	0.6556	3.1	TM	
56	TM	1-Chlorohexane	0.6004	0.5932	1.2	TM	
57	TM	1,1,1,2-Tetrachloroethane	0.4591	0.4766	3.8	TM	
58	TM	m&p-Xylene	0.5570	0.5922	6.3	TM	
59	TM	o-Xylene	0.5746	0.5864	2.1	TM	
60	TM	Styrene	0.8806	0.9191	4.4	TM	
61	TM	1,3-Dichloropropane	0.5828	0.6058	4.0	TM	
62	TM	Dibromochloromethane	0.4156	0.4378	5.3	TM	
63	TM**	Chlorobenzene	1.395	1.407	0.82	TM**	
64	TM*	Ethylbenzene	2.265	2.331	2.9	TM*	
65	TM**	Bromoform	0.2536	0.2628	3.6	TM**	
66	TM	Isopropylbenzene	4.355	4.434	1.8	TM	
67	TM**	1,1,2,2-Tetrachloroethane	0.7732	0.7942	2.7	TM**	
68	TM	1,2,3-Trichloropropane	0.1420	0.1491	5.0	TM	
69	TM	t-1,4-Dichloro-2-Butene	0.1243	0.1410	13	TM	
70	TM	Bromobenzene	1.207	1.243	2.9	TM	
71	TM	n-Propylbenzene	3.338	3.379	1.2	TM	
72	TM	4-Ethyltoluene	4.224	4.345	2.9	TM	
73	TM	2-Chlorotoluene	1.977	2.004	1.4	TM	
74	TM	1,3,5-Trimethylbenzene	3.666	3.790	3.4	TM	
75	TM	4-Chlorotoluene	2.239	2.321	3.7	TM	
76	TM	Tert-Butylbenzene	3.219	3.282	1.9	TM	
77	TM	1,2,4-Trimethylbenzene	2.395	2.487	3.8	TM	
78	TM	Sec-Butylbenzene	4.505	4.630	2.8	TM	
79	TM	p-Isopropyltoluene	3.730	3.818	2.3	TM	
80	TM	Benzyl Chloride	0.7134	0.6744	5.5	TM	
		Average			3.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 7 Apr 17 18:05
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0407T19.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3-DCB	2.164	2.211	2.2	TM	
82	TM	1,4-DCB	2.229	2.247	0.81	TM	
83	TM	n-Butylbenzene	3.052	3.160	3.6	TM	
84	TM	1,2-DCB	2.053	2.107	2.6	TM	
85	TM	Hexachloroethane	0.5047	0.5332	5.7	TM	
86	TM	1,2-Dibromo-3-chloropropane	0.1217	0.1381	13	TM	
87	TM	1,2,4-Trichlorobenzene	1.224	1.299	6.1	TM	
88	TM	Hexachlorobutadiene	0.7497	0.7566	0.91	TM	
89	TM	Naphthalene	1.769	1.963	11	TM	
90	TM	1,2,3-Trichlorobenzene	1.111	1.184	6.6	TM	
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120							
		Average			5.3		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T19.D Vial: 18
Acq On : 7 Apr 17 18:05 Operator: DG,SV, CMM.PM
Sample : (SS)10ug/L VOC STD 4/7/17 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 13:06 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	823360	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	744064	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	385344	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	435231	25.51234 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.048%	
38) 1,2-DCA-D4(S)	5.99	65	384528	25.60630 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.424%	
58) Toluene-D8(S)	8.11	98	1509164	25.37809 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.512%	
66) 4-Bromofluorobenzene(S)	10.73	95	543324	25.73552 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.944%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	113580	10.33693 ppb	98
3) Freon 114	1.26	135	101027	10.24285 ppb	99
4) Chloromethane	1.30	50	129284	10.01827 ppb	98
5) Vinyl chloride	1.39	62	164160	10.19438 ppb	99
6) Bromomethane	1.67	94	118723	10.41660 ppb	96
7) Chloroethane	1.76	64	76760	11.01032 ppb	99
8) Dichlorofluoromethane	1.96	67	281721	10.35262 ppb	98
9) Trichlorofluoromethane	2.00	101	190823	10.39798 ppb	99
10) Acrolein	2.42	56	65552	123.58866 ppb	99
11) Acetone	2.59	43	34699	8.33471 ppb	95
12) Freon-113	2.54	101	127780	10.36578 ppb	99
13) 1,1-DCE	2.51	61	184504	10.32025 ppb	99
14) Acetonitrile	2.92	41	75490	136.47433 ppb	96
15) t-Butanol	3.32	59	44353	137.81037 ppb	94
16) Methyl Acetate	3.00	43	58071	9.69729 ppb	95
17) Iodomethane	2.66	142	112887	9.30510 ppb	99
18) Acrylonitrile	3.44	52	21882	11.15365 ppb	92
19) Methylene chloride	3.09	84	145102	10.08175 ppb	96
20) Carbon disulfide	2.73	76	181312	9.86570 ppb	100
21) Methyl t-butyl ether (MtBE	3.48	73	294621	10.63077 ppb	98
22) Trans-1,2-DCE	3.46	96	135790	10.19424 ppb	99
23) Hexane	3.48	57	62832	10.61569 ppb #	97
24) Diisopropyl Ether	4.28	45	349651	10.31827 ppb	99
25) 1,1-DCA	4.09	63	234369	10.36360 ppb	100
26) Vinyl Acetate	4.28	87	115220	10.33780 ppb	97
27) Ethyl tert Butyl Ether	4.81	59	317435	10.51164 ppb	100
28) MEK (2-Butanone)	5.03	43	26612	9.83593 ppb	99
29) Cis-1,2-DCE	4.95	61	206744	10.35044 ppb	96
30) 2,2-Dichloropropane	4.94	77	174219	10.08916 ppb	99
31) Chloroform	5.41	83	256401	10.35294 ppb	99
32) Bromochloromethane	5.27	128	37368	10.42987 ppb	100
34) 1,1,1-TCA	5.59	97	211225	10.31096 ppb	99
35) Cyclohexane	5.65	41	92012	9.85678 ppb	93
36) 1,1-Dichloropropene	5.81	75	90360	10.10106 ppb	95
37) 2,2,4-Trimethylpentane	6.18	57	384374	10.19280 ppb	100
39) Carbon Tetrachloride	5.79	117	171470	10.66672 ppb	95
40) Tert Amyl Methyl Ether	6.23	73	294611	10.25686 ppb	97
41) 1,2-DCA	6.08	62	167012	10.30227 ppb	99
42) Benzene	6.05	78	556186	10.17305 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0407T19.D
Acq On : 7 Apr 17 18:05
Sample : (SS)10ug/L VOC STD 4/7/17
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 18
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 10 13:06 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.81	95	160536	10.56820 ppb	96
44) 2-Pentanone	7.05	43	614419	134.07888 ppb	99
45) 1,2-Dichloropropane	7.05	63	145378	10.55912 ppb	100
46) Bromodichloromethane	7.37	83	179300	10.48993 ppb	99
47) Methyl Cyclohexane	7.00	83	214770	10.41128 ppb	99
48) Dibromomethane	7.17	93	79349	10.24133 ppb	100
49) MIBK (methyl isobutyl ket	8.03	43	80331	10.97040 ppb	94
50) 1-Bromo-2-chloroethane	7.68	63	159600	10.19705 ppb	98
52) Cis-1,3-Dichloropropene	7.84	75	193206	10.36185 ppb	99
53) Toluene	8.18	91	377984	10.14739 ppb	100
54) Trans-1,3-Dichloropropene	8.42	75	93032	10.67623 ppb	99
55) 1,1,2-TCA	8.60	83	96756	10.56104 ppb	100
56) 2-Hexanone	8.88	58	23858	10.64572 ppb	94
59) 1,2-EDB	9.09	107	104367	10.38134 ppb	97
60) Tetrachloroethene	8.73	166	195136	10.30812 ppb	98
61) 1-Chlorohexane	9.59	91	176542	9.87978 ppb	97
62) 1,1,1,2-Tetrachloroethane	9.68	131	141859	10.38131 ppb	99
63) m&p-Xylene	9.83	106	352512	21.26399 ppb	100
64) o-Xylene	10.22	106	174528	10.20523 ppb	97
65) Styrene	10.23	104	273536	10.43705 ppb	97
67) 1,3-Dichloropropane	8.77	76	180312	10.39564 ppb	97
68) Dibromochloromethane	8.99	129	130312	10.53459 ppb	98
69) Chlorobenzene	9.59	112	418747	10.08234 ppb	99
70) Ethylbenzene	9.71	91	693643	10.28747 ppb	100
71) Bromoform	10.40	173	78215	10.36330 ppb	98
73) Isopropylbenzene	10.59	105	683498	10.18134 ppb	99
74) 1,1,2,2-Tetrachloroethane	10.89	83	122414	10.27179 ppb	100
75) 1,2,3-Trichloropropane	10.93	110	22976	10.50005 ppb	94
76) t-1,4-Dichloro-2-Butene	10.95	53	21726	11.33628 ppb	96
77) Bromobenzene	10.87	156	191532	10.29133 ppb	97
78) n-Propylbenzene	11.00	91	520768	10.12194 ppb	99
79) 4-Ethyltoluene	11.12	105	669799	10.28664 ppb	99
80) 2-Chlorotoluene	11.07	91	308860	10.13502 ppb	100
81) 1,3,5-Trimethylbenzene	11.18	105	584147	10.33634 ppb	99
82) 4-Chlorotoluene	11.18	91	357765	10.36508 ppb	98
83) Tert-Butylbenzene	11.50	119	505817	10.19472 ppb	100
84) 1,2,4-Trimethylbenzene	11.55	105	383333	10.38313 ppb	99
85) Sec-Butylbenzene	11.72	105	713656	10.27662 ppb	99
86) p-Isopropyltoluene	11.86	119	588476	10.23486 ppb	99
87) Benzyl Chloride	12.04	91	103948	9.45280 ppb	97
88) 1,3-DCB	11.81	146	340768	10.21818 ppb	98
89) 1,4-DCB	11.90	146	346319	10.08050 ppb	99
90) n-Butylbenzene	12.27	91	487137	10.35670 ppb	98
91) 1,2-DCB	12.27	146	324797	10.26315 ppb	98
92) Hexachloroethane	12.52	117	82189	10.56552 ppb	97
93) 1,2-Dibromo-3-chloropropan	13.04	157	21280	11.34837 ppb	96
94) 1,2,4-Trichlorobenzene	13.87	180	200181	10.61268 ppb	99
95) Hexachlorobutadiene	14.05	225	116615	10.09125 ppb	99
96) Naphthalene	14.11	128	302645	11.09831 ppb	100
97) 1,2,3-Trichlorobenzene	14.35	180	182502	10.65978 ppb	98

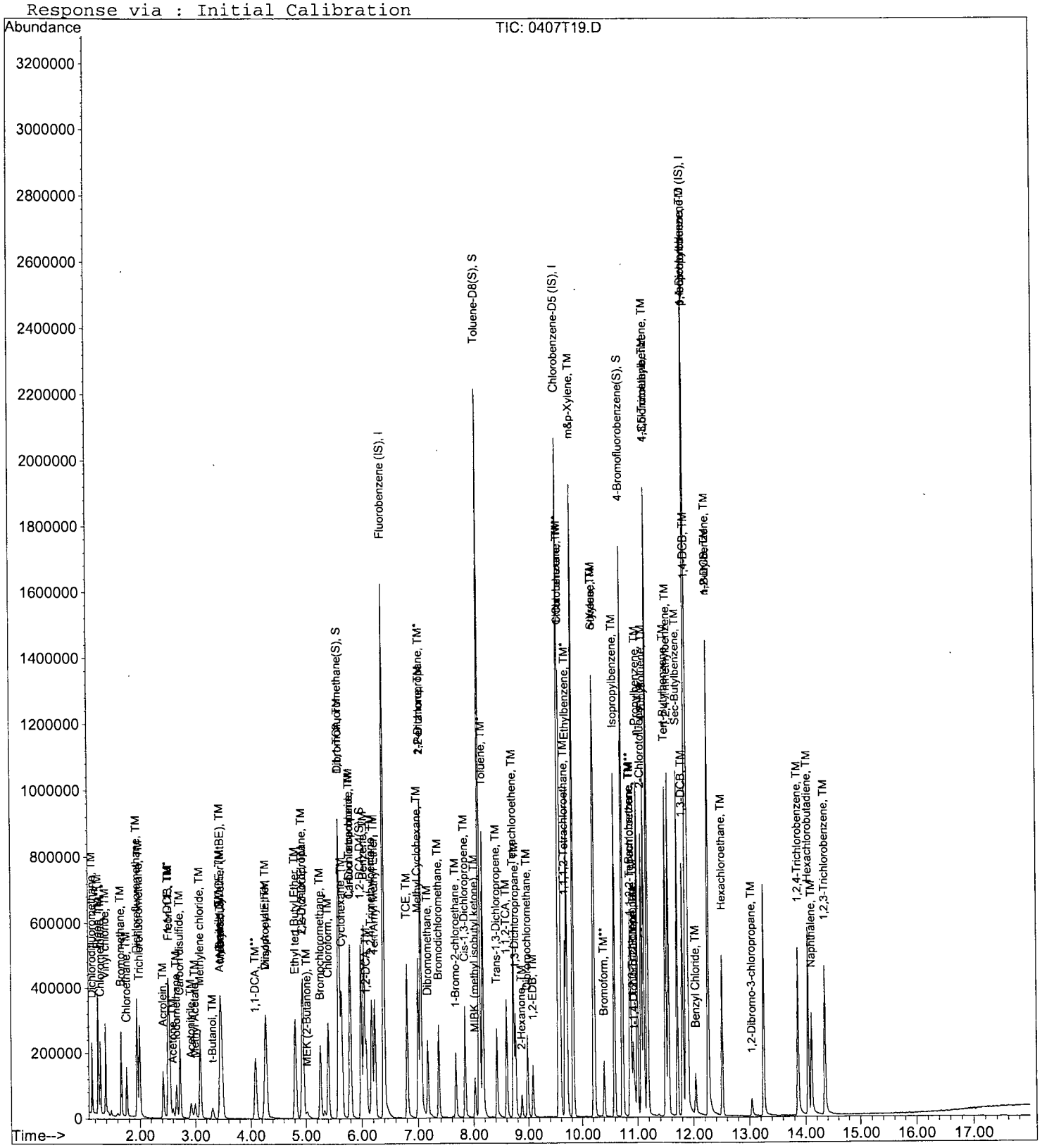
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0407T19.D Vial: 18
Acq On : 7 Apr 17 18:05 Operator: DG,SV, CMM.PM
Sample : (SS)10ug/L VOC STD 4/7/17 Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 10 13:06 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



750

Algorithm Check for Linear Regression

Data file:	0407T19
Analyte:	MIBK
Area of target analyte:	80331
Area of internal standard:	823360
concentration of internal standard:	25
multiplyer:	1
amt:	0.0134
response ratio:	0.192

$$\frac{((\text{Area pk/area IS}) - \text{constant term}) * (\text{conc IS} * \text{multiplyer})}{\text{slope}} =$$

10.96

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Initial Cal. Date: 04/07/17
Data File: 0410T05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3336	0.3398	1.9	TM	
3	TM	Freon 114	0.2995	0.3114	4.0	TM	
4	TM**	Chloromethane	0.3918	0.4258	8.7	TM**	
5	TM*	Vinyl chloride	0.4889	0.5134	5.0	TM*	
6	TM	Bromomethane	0.3461	0.3297	4.7	TM	
7	TM	Chloroethane	0.2117	0.2311	9.2	TM	
8	TM	Dichlorofluoromethane	0.8263	0.8707	5.4	TM	
9	TM	Trichlorofluoromethane	0.5572	0.5870	5.3	TM	
10	TM	Acrolein	0.0161	0.0166	3.1	TM	
11	TML	Acetone	0.1452	0.1195	18	TML	16
12	TM	Freon-113	0.3743	0.3909	4.4	TM	
13	TM*	1,1-DCE	0.5428	0.5700	5.0	TM*	
14	TM	Acetonitrile	0.0168	0.0194	15	TM	
15	TM	t-Butanol	0.0098	0.0106	8.3	TM	
16	TM	Methyl Acetate	0.1818	0.1821	0.16	TM	
17	TML	Iodomethane	0.2832	0.3288	16	TML	10
18	TM	Acrylonitrile	0.0596	0.0666	12	TM	
19	TM	Methylene chloride	0.4370	0.4429	1.3	TM	
20	TM	Carbon disulfide	0.5580	0.5806	4.0	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.8415	0.8958	6.5	TM	
22	TM	Trans-1,2-DCE	0.4044	0.4311	6.6	TM	
23	TM	Hexane	0.1797	0.1877	4.4	TM	
24	TM	Diisopropyl Ether	1.029	1.064	3.4	TM	
25	TM**	1,1-DCA	0.6867	0.7282	6.1	TM**	
26	TM	Vinyl Acetate	0.3384	0.3510	3.7	TM	
27	TM	Ethyl tert Butyl Ether	0.9169	0.9670	5.5	TM	
28	TM	MEK (2-Butanone)	0.0822	0.0874	6.4	TM	
29	TM	Cis-1,2-DCE	0.6065	0.6477	6.8	TM	
30	TM	2,2-Dichloropropane	0.5243	0.5785	10	TM	
31	TM*	Chloroform	0.7520	0.7825	4.1	TM*	
32	TM	Bromochloromethane	0.1088	0.1127	3.6	TM	
33	S	Dibromofluoromethane(S)	0.5180	0.5280	1.9	S	
34	TM	1,1,1-TCA	0.6220	0.6458	3.8	TM	
35	TM	Cyclohexane	0.2834	0.2834	0.01	TM	
36	TM	1,1-Dichloropropene	0.2716	0.2837	4.5	TM	
37	TM	2,2,4-Trimethylpentane	1.145	1.233	7.7	TM	
38	S	1,2-DCA-D4(S)	0.4560	0.4580	0.45	S	
39	TM	Carbon Tetrachloride	0.4881	0.5225	7.0	TM	
40	TM	Tert Amyl Methyl Ether	0.8721	0.9181	5.3	TM	
		Average			5.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0410T05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.4922	0.5057	2.7	TM	
42	TM	Benzene	1.660	1.704	2.6	TM	
43	TM	TCE	0.4612	0.4803	4.1	TM	
44	TM	2-Pentanone	0.1391	0.1503	8.0	TM	
45	TM*	1,2-Dichloropropane	0.4180	0.4422	5.8	TM*	
46	TM	Bromodichloromethane	0.5190	0.5514	6.2	TM	
47	TM	Methyl Cyclohexane	0.6264	0.6503	3.8	TM	
48	TM	Dibromomethane	0.2353	0.2472	5.1	TM	
49	TML	MIBK (methyl isobutyl ketone)	0.2491	0.2291	8.0	TML	2.0
50	TM	1-Bromo-2-chloroethane	0.4752	0.4957	4.3	TM	
51	TM	2-Chloroethyl vinyl ether	0.0000	0.0087	0.00	TM	
52	TM	Cis-1,3-Dichloropropene	0.5662	0.6016	6.3	TM	
53	TM*	Toluene	1.131	1.172	3.6	TM*	
54	TM	Trans-1,3-Dichloropropene	0.2646	0.2798	5.8	TM	
55	TM	1,1,2-TCA	0.2782	0.2863	2.9	TM	
56	TM	2-Hexanone	0.0680	0.0720	5.9	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.998	1.988	0.51	S	
59	TM	1,2-EDB	0.3378	0.3488	3.3	TM	
60	TM	Tetrachloroethene	0.6360	0.6563	3.2	TM	
61	TM	1-Chlorohexane	0.6004	0.6112	1.8	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.4591	0.4806	4.7	TM	
63	TM	m&p-Xylene	0.5570	0.5711	2.5	TM	
64	TM	o-Xylene	0.5746	0.5817	1.2	TM	
65	TM	Styrene	0.8806	0.8921	1.3	TM	
66	S	4-Bromofluorobenzene(S)	0.7093	0.7086	0.11	S	
67	TM	1,3-Dichloropropane	0.5828	0.5899	1.2	TM	
68	TM	Dibromochloromethane	0.4156	0.4419	6.3	TM	
69	TM**	Chlorobenzene	1.395	1.397	0.12	TM**	
70	TM*	Ethylbenzene	2.265	2.363	4.3	TM*	
71	TM**	Bromoform	0.2536	0.2709	6.8	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	4.355	4.652	6.8	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.7732	0.8486	9.8	TM**	
75	TM	1,2,3-Trichloropropane	0.1420	0.1469	3.4	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.1243	0.1460	17	TM	
77	TM	Bromobenzene	1.207	1.283	6.3	TM	
78	TM	n-Propylbenzene	3.338	3.581	7.3	TM	
79	TM	4-Ethyltoluene	4.224	4.569	8.2	TM	
80	TM	2-Chlorotoluene	1.977	2.058	4.1	TM	
		Average			4.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0410T05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.666	3.905	6.5	TM	
82	TM	4-Chlorotoluene	2.239	2.351	5.0	TM	
83	TM	Tert-Butylbenzene	3.219	3.393	5.4	TM	
84	TM	1,2,4-Trimethylbenzene	2.395	2.522	5.3	TM	
85	TM	Sec-Butylbenzene	4.505	4.785	6.2	TM	
86	TM	p-Isopropyltoluene	3.730	4.004	7.3	TM	
87	TM	Benzyl Chloride	0.7134	0.7528	5.5	TM	
88	TM	1,3-DCB	2.164	2.279	5.3	TM	
89	TM	1,4-DCB	2.229	2.339	4.9	TM	
90	TM	n-Butylbenzene	3.052	3.312	8.5	TM	
91	TM	1,2-DCB	2.053	2.178	6.1	TM	
92	TM	Hexachloroethane	0.5047	0.5485	8.7	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1217	0.1358	12	TM	
94	TM	1,2,4-Trichlorobenzene	1.224	1.336	9.2	TM	
95	TM	Hexachlorobutadiene	0.7497	0.8182	9.1	TM	
96	TM	Naphthalene	1.769	1.933	9.2	TM	
97	TM	1,2,3-Trichlorobenzene	1.111	1.196	7.7	TM	
98							
99							
100							
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120							
		Average			7.2		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T05.D Vial: 4
Acq On : 10 Apr 17 10:57 Operator: DG,SV, CMM.PM
Sample : 170410A CCV-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	816832	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	751168	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	371264	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	431291	25.48343 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.932%	
38) 1,2-DCA-D4(S)	5.99	65	374121	25.11239 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.448%	
58) Toluene-D8(S)	8.11	98	1493190	24.87200 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.488%	
66) 4-Bromofluorobenzene(S)	10.73	95	532246	24.97236 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.888%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	111026	10.18524 ppb	100
3) Freon 114	1.26	135	101740	10.39758 ppb	100
4) Chloromethane	1.30	50	139114	10.86616 ppb	97
5) Vinyl chloride	1.39	62	167744	10.50020 ppb	99
6) Bromomethane	1.67	94	107727	9.52736 ppb	97
7) Chloroethane	1.76	64	75513	10.91802 ppb	96
8) Dichlorofluoromethane	1.95	67	284474	10.53733 ppb	99
9) Trichlorofluoromethane	2.00	101	191800	10.53474 ppb	96
10) Acrolein	2.42	56	67808	128.86371 ppb	96
11) Acetone	2.59	43	39051	11.63733 ppb	99
12) Freon-113	2.53	101	127724	10.44405 ppb	98
13) 1,1-DCE	2.51	61	186231	10.50010 ppb	98
14) Acetonitrile	2.92	41	79170	144.27106 ppb	92
15) t-Butanol	3.31	59	43239	135.42273 ppb	94
16) Methyl Acetate	2.99	43	59502	10.01566 ppb	100
17) Iodomethane	2.66	142	107419	8.98893 ppb	99
18) Acrylonitrile	3.44	52	21754	11.17702 ppb	96
19) Methylene chloride	3.09	84	144696	10.13389 ppb	100
20) Carbon disulfide	2.73	76	189696	10.40439 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	292692	10.64557 ppb	99
22) Trans-1,2-DCE	3.45	96	140862	10.65952 ppb	98
23) Hexane	3.48	57	61326	10.44405 ppb #	98
24) Diisopropyl Ether	4.27	45	347551	10.33827 ppb	95
25) 1,1-DCA	4.09	63	237943	10.60572 ppb	99
26) Vinyl Acetate	4.28	87	114681	10.37167 ppb	95
27) Ethyl tert Butyl Ether	4.81	59	315951	10.54611 ppb	98
28) MEK (2-Butanone)	5.02	43	28560	10.64028 ppb	98
29) Cis-1,2-DCE	4.95	61	211611	10.67877 ppb	99
30) 2,2-Dichloropropane	4.94	77	189022	11.03389 ppb	98
31) Chloroform	5.40	83	255680	10.40634 ppb	99
32) Bromochloromethane	5.26	128	36832	10.36242 ppb	96
34) 1,1,1-TCA	5.59	97	211003	10.38244 ppb	100
35) Cyclohexane	5.65	41	92597	9.99872 ppb	95
36) 1,1-Dichloropropene	5.80	75	92704	10.44591 ppb	97
37) 2,2,4-Trimethylpentane	6.18	57	402927	10.77018 ppb	98
39) Carbon Tetrachloride	5.79	117	170721	10.70500 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	299964	10.52669 ppb	98
41) 1,2-DCA	6.08	62	165236	10.27418 ppb	99
42) Benzene	6.04	78	556750	10.26475 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T05.D Vial: 4
Acq On : 10 Apr 17 10:57 Operator: DG,SV, CMM.PM
Sample : 170410A CCV-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	TCE	6.81	95	156928	10.41324	ppb	98
44)	2-Pentanone	7.05	43	613874	135.03054	ppb	100
45)	1,2-Dichloropropane	7.05	63	144474	10.57732	ppb	100
46)	Bromodichloromethane	7.36	83	180160	10.62448	ppb	97
47)	Methyl Cyclohexane	7.00	83	212483	10.38273	ppb	99
48)	Dibromomethane	7.17	93	80764	10.50726	ppb	99
49)	MIBK (methyl isobutyl ket	8.03	43	74843	10.19638	ppb	99
50)	1-Bromo-2-chloroethane	7.67	63	161974	10.43143	ppb	98
52)	Cis-1,3-Dichloropropene	7.84	75	196558	10.62587	ppb	98
53)	Toluene	8.18	91	382912	10.36184	ppb	98
54)	Trans-1,3-Dichloropropene	8.42	75	91424	10.57555	ppb	99
55)	1,1,2-TCA	8.60	83	93543	10.29194	ppb	95
56)	2-Hexanone	8.88	58	23534	10.58507	ppb	83
59)	1,2-EDB	9.09	107	104803	10.32612	ppb	100
60)	Tetrachloroethene	8.73	166	197210	10.31915	ppb	95
61)	1-Chlorohexane	9.59	91	183631	10.17932	ppb	98
62)	1,1,1,2-Tetrachloroethane	9.67	131	144400	10.46732	ppb	98
63)	m&p-Xylene	9.83	106	343168	20.50458	ppb	97
64)	o-Xylene	10.22	106	174784	10.12355	ppb	97
65)	Styrene	10.23	104	268032	10.13032	ppb	97
67)	1,3-Dichloropropane	8.76	76	177257	10.12286	ppb	97
68)	Dibromochloromethane	8.99	129	132775	10.63219	ppb	99
69)	Chlorobenzene	9.58	112	419775	10.01150	ppb	99
70)	Ethylbenzene	9.71	91	709894	10.42892	ppb	99
71)	Bromoform	10.40	173	81396	10.68278	ppb	95
73)	Isopropylbenzene	10.59	105	690799	10.68034	ppb	98
74)	1,1,2,2-Tetrachloroethane	10.89	83	126029	10.97618	ppb	100
75)	1,2,3-Trichloropropane	10.93	110	21808	10.34424	ppb	99
76)	t-1,4-Dichloro-2-Butene	10.95	53	21685	11.74400	ppb	94
77)	Bromobenzene	10.87	156	190527	10.62557	ppb	97
78)	n-Propylbenzene	11.00	91	531809	10.72855	ppb	100
79)	4-Ethyltoluene	11.12	105	678566	10.81651	ppb	98
80)	2-Chlorotoluene	11.07	91	305636	10.40958	ppb	97
81)	1,3,5-Trimethylbenzene	11.18	105	579852	10.64946	ppb	99
82)	4-Chlorotoluene	11.18	91	349116	10.49809	ppb	98
83)	Tert-Butylbenzene	11.50	119	503881	10.54085	ppb	99
84)	1,2,4-Trimethylbenzene	11.55	105	374537	10.52962	ppb	99
85)	Sec-Butylbenzene	11.72	105	710600	10.62068	ppb	100
86)	p-Isopropyltoluene	11.86	119	594648	10.73443	ppb	98
87)	Benzyl Chloride	12.04	91	111793	10.55176	ppb	97
88)	1,3-DCB	11.81	146	338493	10.53490	ppb	98
89)	1,4-DCB	11.90	146	347356	10.49413	ppb	99
90)	n-Butylbenzene	12.27	91	491825	10.85292	ppb	100
91)	1,2-DCB	12.27	146	323428	10.60748	ppb	98
92)	Hexachloroethane	12.52	117	81458	10.86868	ppb	98
93)	1,2-Dibromo-3-chloropropan	13.04	157	20168	11.16325	ppb	97
94)	1,2,4-Trichlorobenzene	13.87	180	198400	10.91716	ppb	99
95)	Hexachlorobutadiene	14.05	225	121504	10.91307	ppb	98
96)	Naphthalene	14.11	128	287019	10.92446	ppb	99
97)	1,2,3-Trichlorobenzene	14.35	180	177618	10.76795	ppb	98

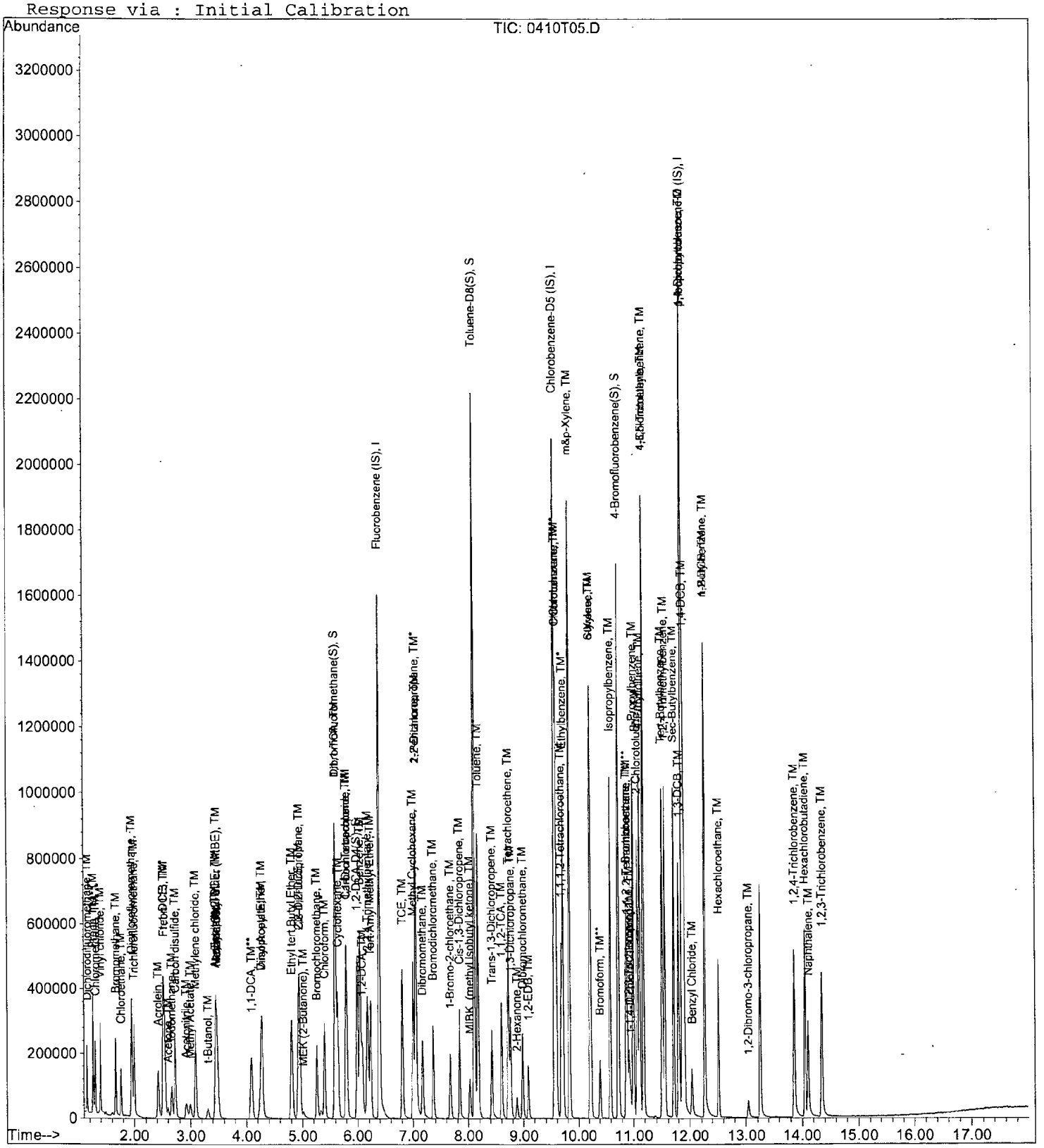
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0410T05.D Vial: 4
Acq On : 10 Apr 17 10:57 Operator: DG,SV, CMM.PM
Sample : 170410A CCV-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



757

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Initial Cal. Date: 04/07/17
Data File: 0410T29.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3336	0.3171	4.9	TM	
3	TM	Freon 114	0.2995	0.2844	5.0	TM	
4	TM**	Chloromethane	0.3918	0.3813	2.7	TM**	
5	TM*	Vinyl chloride	0.4889	0.4808	1.7	TM*	
6	TM	Bromomethane	0.3461	0.2999	13	TM	
7	TM	Chloroethane	0.2117	0.2123	0.31	TM	
8	TM	Dichlorofluoromethane	0.8263	0.8216	0.56	TM	
9	TM	Trichlorofluoromethane	0.5572	0.5434	2.5	TM	
10	TM	Acrolein	0.0161	0.0152	5.4	TM	
11	TML	Acetone	0.1452	0.1039	28	TML	20
12	TM	Freon-113	0.3743	0.3728	0.39	TM	
13	TM*	1,1-DCE	0.5428	0.5393	0.65	TM*	
14	TM	Acetonitrile	0.0168	0.0224	33	TM	
15	TM	t-Butanol	0.0098	0.0145	49	TM	
16	TM	Methyl Acetate	0.1818	0.1740	4.3	TM	
17	TML	Iodomethane	0.2832	0.3117	10	TML	14
18	TM	Acrylonitrile	0.0596	0.0656	10	TM	
19	TM	Methylene chloride	0.4370	0.4184	4.3	TM	
20	TM	Carbon disulfide	0.5580	0.5119	8.3	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.8415	0.8651	2.8	TM	
22	TM	Trans-1,2-DCE	0.4044	0.3968	1.9	TM	
23	TM	Hexane	0.1797	0.1779	0.99	TM	
24	TM	Diisopropyl Ether	1.029	1.029	0.03	TM	
25	TM**	1,1-DCA	0.6867	0.6938	1.0	TM**	
26	TM	Vinyl Acetate	0.3384	0.3360	0.71	TM	
27	TM	Ethyl tert Butyl Ether	0.9169	0.9048	1.3	TM	
28	TM	MEK (2-Butanone)	0.0822	0.0916	12	TM	
29	TM	Cis-1,2-DCE	0.6065	0.5914	2.5	TM	
30	TM	2,2-Dichloropropane	0.5243	0.4205	20	TM	
31	TM*	Chloroform	0.7520	0.7425	1.3	TM*	
32	TM	Bromochloromethane	0.1088	0.1105	1.6	TM	
33	S	Dibromofluoromethane(S)	0.5180	0.5143	0.71	S	
34	TM	1,1,1-TCA	0.6220	0.6048	2.8	TM	
35	TM	Cyclohexane	0.2834	0.2720	4.1	TM	
36	TM	1,1-Dichloropropene	0.2716	0.2679	1.4	TM	
37	TM	2,2,4-Trimethylpentane	1.145	1.008	12	TM	
38	S	1,2-DCA-D4(S)	0.4560	0.4565	0.11	S	
39	TM	Carbon Tetrachloride	0.4881	0.4742	2.8	TM	
40	TM	Tert Amyl Methyl Ether	0.8721	0.8423	3.4	TM	
		Average			6.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0410T29.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.4922	0.4731	3.9	TM	
42	TM	Benzene	1.660	1.611	3.0	TM	
43	TM	TCE	0.4612	0.4602	0.23	TM	
44	TM	2-Pentanone	0.1391	0.1484	6.6	TM	
45	TM*	1,2-Dichloropropane	0.4180	0.4221	0.97	TM*	
46	TM	Bromodichloromethane	0.5190	0.5048	2.7	TM	
47	TM	Methyl Cyclohexane	0.6264	0.6061	3.2	TM	
48	TM	Dibromomethane	0.2353	0.2328	1.0	TM	
49	TML	MIBK (methyl isobutyl ketone)	0.2491	0.2362	5.2	TML	5.7
50	TM	1-Bromo-2-chloroethane	0.4752	0.4739	0.28	TM	
51	TM	2-Chloroethyl vinyl ether	0.0000	0.0078	0.00	TM	
52	TM	Cis-1,3-Dichloropropene	0.5662	0.5290	6.6	TM	
53	TM*	Toluene	1.131	1.106	2.2	TM*	
54	TM	Trans-1,3-Dichloropropene	0.2646	0.2434	8.0	TM	
55	TM	1,1,2-TCA	0.2782	0.2798	0.57	TM	
56	TM	2-Hexanone	0.0680	0.0697	2.4	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.998	2.009	0.56	S	
59	TM	1,2-EDB	0.3378	0.3450	2.1	TM	
60	TM	Tetrachloroethene	0.6360	0.6333	0.43	TM	
61	TM	1-Chlorohexane	0.6004	0.5609	6.6	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.4591	0.4627	0.78	TM	
63	TM	m&p-Xylene	0.5570	0.5444	2.3	TM	
64	TM	o-Xylene	0.5746	0.5649	1.7	TM	
65	TM	Styrene	0.8806	0.8621	2.1	TM	
66	S	4-Bromofluorobenzene(S)	0.7093	0.7106	0.17	S	
67	TM	1,3-Dichloropropane	0.5828	0.5801	0.46	TM	
68	TM	Dibromochloromethane	0.4156	0.4120	0.86	TM	
69	TM**	Chlorobenzene	1.395	1.364	2.3	TM**	
70	TM*	Ethylbenzene	2.265	2.206	2.6	TM*	
71	TM**	Bromoform	0.2536	0.2446	3.5	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	4.355	4.423	1.6	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.7732	0.7885	2.0	TM**	
75	TM	1,2,3-Trichloropropane	0.1420	0.1537	8.2	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.1243	0.0965	22	TM	
77	TM	Bromobenzene	1.207	1.190	1.4	TM	
78	TM	n-Propylbenzene	3.338	3.359	0.62	TM	
79	TM	4-Ethyltoluene	4.224	4.225	0.01	TM	
80	TM	2-Chlorotoluene	1.977	1.991	0.72	TM	
		Average			2.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/10/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0410T29.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.666	3.725	1.6	TM	
82	TM	4-Chlorotoluene	2.239	2.256	0.76	TM	
83	TM	Tert-Butylbenzene	3.219	3.223	0.13	TM	
84	TM	1,2,4-Trimethylbenzene	2.395	2.425	1.3	TM	
85	TM	Sec-Butylbenzene	4.505	4.449	1.3	TM	
86	TM	p-Isopropyltoluene	3.730	3.693	1.00	TM	
87	TM	Benzyl Chloride	0.7134	0.4570	36	TM	
88	TM	1,3-DCB	2.164	2.129	1.6	TM	
89	TM	1,4-DCB	2.229	2.137	4.1	TM	
90	TM	n-Butylbenzene	3.052	2.888	5.4	TM	
91	TM	1,2-DCB	2.053	2.044	0.44	TM	
92	TM	Hexachloroethane	0.5047	0.4948	2.0	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1217	0.1246	2.4	TM	
94	TM	1,2,4-Trichlorobenzene	1.224	1.138	7.0	TM	
95	TM	Hexachlorobutadiene	0.7497	0.7047	6.0	TM	
96	TM	Naphthalene	1.769	1.534	13	TM	
97	TM	1,2,3-Trichlorobenzene	1.111	1.009	9.1	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T29.D Vial: 28
Acq On : 10 Apr 17 22:03 Operator: DG,SV, CMM.PM
Sample : Ending CCV 8260 4/10/17 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:36 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	848256	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	757056	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	367680	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	436280	24.82325 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.292%	
38) 1,2-DCA-D4(S)	5.99	65	387193	25.02703 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.108%	
58) Toluene-D8(S)	8.11	98	1521135	25.14042 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.560%	
66) 4-Bromofluorobenzene(S)	10.73	95	537931	25.04280 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.172%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	107609	9.50607 ppb	98
3) Freon 114	1.26	135	96500	9.49672 ppb	96
4) Chloromethane	1.30	50	129377	9.73124 ppb	99
5) Vinyl chloride	1.39	62	163136	9.83346 ppb	97
6) Bromomethane	1.67	94	101773	8.66735 ppb	99
7) Chloroethane	1.76	64	72048	10.03113 ppb	100
8) Dichlorofluoromethane	1.95	67	278773	9.94362 ppb	98
9) Trichlorofluoromethane	2.00	101	184372	9.75160 ppb	98
10) Acrolein	2.42	56	64616	118.24848 ppb	90
11) Acetone	2.59	43	35240	7.98542 ppb	99
12) Freon-113	2.53	101	126501	9.96084 ppb	99
13) 1,1-DCE	2.51	61	182986	9.93494 ppb	100
14) Acetonitrile	2.92	41	94815	166.38012 ppb	96
15) t-Butanol	3.32	59	61672	185.99864 ppb	98
16) Methyl Acetate	2.99	43	59053	9.57184 ppb	91
17) Iodomethane	2.66	142	105749	8.60262 ppb	98
18) Acrylonitrile	3.43	52	22242	11.00441 ppb	89
19) Methylene chloride	3.09	84	141970	9.57463 ppb	100
20) Carbon disulfide	2.72	76	173696	9.17390 ppb	100
21) Methyl t-butyl ether (MtBE	3.48	73	293528	10.28048 ppb	97
22) Trans-1,2-DCE	3.45	96	134639	9.81117 ppb	98
23) Hexane	3.48	57	60371	9.90053 ppb #	96
24) Diisopropyl Ether	4.28	45	349224	10.00321 ppb	99
25) 1,1-DCA	4.09	63	235399	10.10364 ppb	99
26) Vinyl Acetate	4.28	87	114015	9.92945 ppb	97
27) Ethyl tert Butyl Ether	4.81	59	307010	9.86804 ppb	98
28) MEK (2-Butanone)	5.02	43	31087	11.15269 ppb	98
29) Cis-1,2-DCE	4.95	61	200648	9.75043 ppb	94
30) 2,2-Dichloropropane	4.93	77	142688	8.02065 ppb	97
31) Chloroform	5.40	83	251922	9.87354 ppb	96
32) Bromochloromethane	5.26	128	37496	10.15843 ppb	95
34) 1,1,1-TCA	5.59	97	205216	9.72361 ppb	99
35) Cyclohexane	5.65	41	92276	9.59494 ppb	95
36) 1,1-Dichloropropene	5.80	75	90904	9.86362 ppb	99
37) 2,2,4-Trimethylpentane	6.18	57	341929	8.80113 ppb	99
39) Carbon Tetrachloride	5.79	117	160906	9.71578 ppb	100
40) Tert Amyl Methyl Ether	6.23	73	285791	9.65777 ppb	97
41) 1,2-DCA	6.08	62	160510	9.61059 ppb	98
42) Benzene	6.05	78	546591	9.70413 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T29.D Vial: 28
Acq On : 10 Apr 17 22:03 Operator: DG,SV, CMM.PM
Sample : Ending CCV 8260 4/10/17 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:36 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) TCE	6.81	95	156138	9.97700	ppb	96
44) 2-Pentanone	7.05	43	629201	133.27478	ppb	99
45) 1,2-Dichloropropane	7.05	63	143224	10.09736	ppb	98
46) Bromodichloromethane	7.36	83	171269	9.72599	ppb	99
47) Methyl Cyclohexane	7.00	83	205649	9.67654	ppb	99
48) Dibromomethane	7.17	93	78991	9.89590	ppb	94
49) MIBK (methyl isobutyl ket	8.03	43	80159	10.57077	ppb	99
50) 1-Bromo-2-chloroethane	7.67	63	160797	9.97200	ppb	99
52) Cis-1,3-Dichloropropene	7.84	75	179489	9.34367	ppb	98
53) Toluene	8.18	91	375232	9.77785	ppb	98
54) Trans-1,3-Dichloropropene	8.42	75	82592	9.19997	ppb	96
55) 1,1,2-TCA	8.60	83	94923	10.05688	ppb	99
56) 2-Hexanone	8.88	58	23652	10.24405	ppb	96
59) 1,2-EDB	9.08	107	104461	10.21238	ppb	98
60) Tetrachloroethene	8.73	166	191788	9.95739	ppb	96
61) 1-Chlorohexane	9.59	91	169852	9.34227	ppb	97
62) 1,1,1,2-Tetrachloroethane	9.68	131	140121	10.07815	ppb	97
63) m&p-Xylene	9.83	106	329728	19.54830	ppb	99
64) o-Xylene	10.22	106	171072	9.83148	ppb	96
65) Styrene	10.23	104	261056	9.78992	ppb	99
67) 1,3-Dichloropropane	8.76	76	175668	9.95409	ppb	98
68) Dibromochloromethane	8.99	129	124773	9.91371	ppb	95
69) Chlorobenzene	9.58	112	413071	9.77499	ppb	97
70) Ethylbenzene	9.71	91	667892	9.73557	ppb	100
71) Bromoform	10.40	173	74076	9.64646	ppb	99
73) Isopropylbenzene	10.59	105	650505	10.15540	ppb	99
74) 1,1,2,2-Tetrachloroethane	10.89	83	115972	10.19875	ppb	99
75) 1,2,3-Trichloropropane	10.93	110	22600	10.82440	ppb	92
76) t-1,4-Dichloro-2-Butene	10.95	53	14190	7.75982	ppb	96
77) Bromobenzene	10.87	156	175039	9.85697	ppb	97
78) n-Propylbenzene	11.00	91	493967	10.06227	ppb	99
79) 4-Ethyltoluene	11.12	105	621341	10.00087	ppb	100
80) 2-Chlorotoluene	11.07	91	292878	10.07229	ppb	99
81) 1,3,5-Trimethylbenzene	11.18	105	547779	10.15848	ppb	99
82) 4-Chlorotoluene	11.18	91	331840	10.07586	ppb	97
83) Tert-Butylbenzene	11.50	119	474010	10.01263	ppb	98
84) 1,2,4-Trimethylbenzene	11.55	105	356689	10.12559	ppb	100
85) Sec-Butylbenzene	11.72	105	654280	9.87423	ppb	100
86) p-Isopropyltoluene	11.86	119	543142	9.90023	ppb	98
87) Benzyl Chloride	12.04	91	67216	6.40613	ppb	97
88) 1,3-DCB	11.81	146	313124	9.84033	ppb	99
89) 1,4-DCB	11.90	146	314267	9.58701	ppb	99
90) n-Butylbenzene	12.27	91	424705	9.46316	ppb	98
91) 1,2-DCB	12.27	146	300642	9.95628	ppb	99
92) Hexachloroethane	12.52	117	72771	9.80425	ppb	98
93) 1,2-Dibromo-3-chloropropan	13.05	157	18321	10.23976	ppb	98
94) 1,2,4-Trichlorobenzene	13.87	180	167358	9.29881	ppb	98
95) Hexachlorobutadiene	14.05	225	103648	9.40005	ppb	98
96) Naphthalene	14.11	128	225553	8.66863	ppb	99
97) 1,2,3-Trichlorobenzene	14.35	180	148426	9.08592	ppb	98

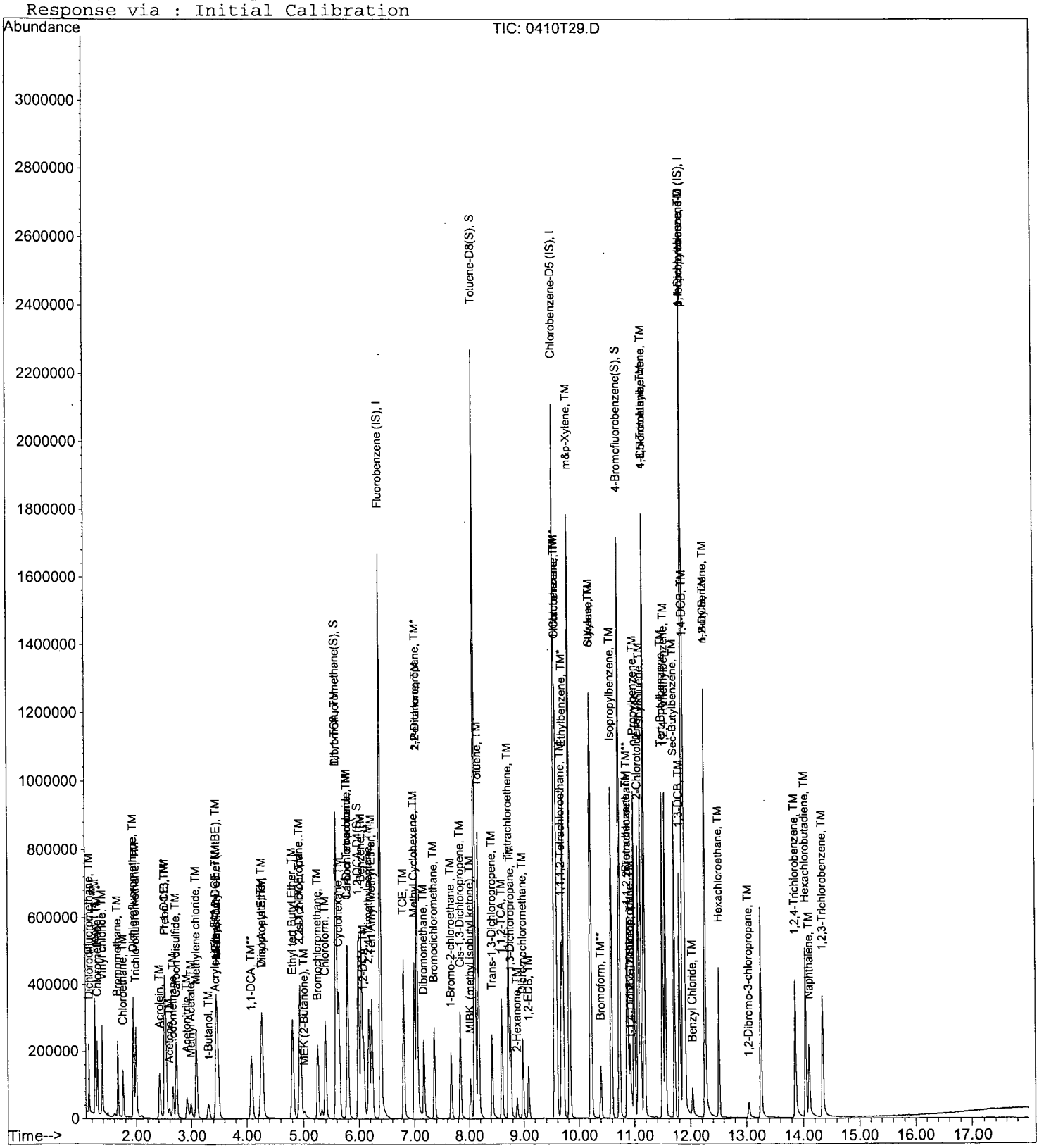
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0410T29.D Vial: 28
Acq On : 10 Apr 17 22:03 Operator: DG,SV, CMM.PM
Sample : Ending CCV 8260 4/10/17 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:36 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/12/17
Instrument: Thor
Initial Cal. Date: 04/07/17
Data File: 0412T03.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3336	0.3382	1.4	TM	
3	TM	Freon 114	0.2995	0.3129	4.5	TM	
4	TM**	Chloromethane	0.3918	0.4097	4.6	TM**	
5	TM*	Vinyl chloride	0.4889	0.4859	0.62	TM*	
6	TM	Bromomethane	0.3461	0.3141	9.2	TM	
7	TM	Chloroethane	0.2117	0.2114	0.14	TM	
8	TM	Dichlorofluoromethane	0.8263	0.8132	1.6	TM	
9	TM	Trichlorofluoromethane	0.5572	0.5594	0.39	TM	
10	TM	Acrolein	0.0161	0.0168	4.3	TM	
11	TML	Acetone	0.1452	0.1130	22	TML	1.1
12	TM	Freon-113	0.3743	0.3808	1.7	TM	
13	TM*	1,1-DCE	0.5428	0.5413	0.28	TM*	
14	TM	Acetonitrile	0.0168	0.0202	20	TM	
15	TM	t-Butanol	0.0098	0.0128	31	TM	nt
16	TM	Methyl Acetate	0.1818	0.1697	6.7	TM	
17	TML	Iodomethane	0.2832	0.3287	16	TML	10
18	TM	Acrylonitrile	0.0596	0.0621	4.3	TM	
19	TM	Methylene chloride	0.4370	0.4148	5.1	TM	
20	TM	Carbon disulfide	0.5580	0.5394	3.3	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.8415	0.8370	0.53	TM	
22	TM	Trans-1,2-DCE	0.4044	0.3984	1.5	TM	
23	TM	Hexane	0.1797	0.1771	1.5	TM	
24	TM	Diisopropyl Ether	1.029	0.9871	4.1	TM	
25	TM**	1,1-DCA	0.6867	0.6785	1.2	TM**	
26	TM	Vinyl Acetate	0.3384	0.3294	2.7	TM	
27	TM	Ethyl tert Butyl Ether	0.9169	0.8757	4.5	TM	
28	TM	MEK (2-Butanone)	0.0822	0.0798	2.9	TM	
29	TM	Cis-1,2-DCE	0.6065	0.5972	1.5	TM	
30	TM	2,2-Dichloropropane	0.5243	0.5367	2.4	TM	
31	TM*	Chloroform	0.7520	0.7310	2.8	TM*	
32	TM	Bromochloromethane	0.1088	0.1055	3.0	TM	
33	S	Dibromofluoromethane(S)	0.5180	0.5067	2.2	S	
34	TM	1,1,1-TCA	0.6220	0.5950	4.3	TM	
35	TM	Cyclohexane	0.2834	0.2676	5.6	TM	
36	TM	1,1-Dichloropropene	0.2716	0.2675	1.5	TM	
37	TM	2,2,4-Trimethylpentane	1.145	1.185	3.5	TM	
38	S	1,2-DCA-D4(S)	0.4560	0.4394	3.6	S	
39	TM	Carbon Tetrachloride	0.4881	0.4641	4.9	TM	
40	TM	Tert Amyl Methyl Ether	0.8721	0.8306	4.8	TM	
		Average			5.0		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/12/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0412T03.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.4922	0.4541	7.7	TM	
42	TM	Benzene	1.660	1.603	3.4	TM	
43	TM	TCE	0.4612	0.4424	4.1	TM	
44	TM	2-Pentanone	0.1391	0.1418	1.9	TM	
45	TM*	1,2-Dichloropropane	0.4180	0.4034	3.5	TM*	
46	TM	Bromodichloromethane	0.5190	0.5090	1.9	TM	
47	TM	Methyl Cyclohexane	0.6264	0.6363	1.6	TM	
48	TM	Dibromomethane	0.2353	0.2339	0.57	TM	
49	TML	MIBK (methyl isobutyl ketone)	0.2491	0.2249	9.7	TML	0.19
50	TM	1-Bromo-2-chloroethane	0.4752	0.4654	2.1	TM	
51	TM	2-Chloroethyl vinyl ether	0.0000	0.0070	0.00	TM	
52	TM	Cis-1,3-Dichloropropene	0.5662	0.5576	1.5	TM	
53	TM*	Toluene	1.131	1.065	5.8	TM*	
54	TM	Trans-1,3-Dichloropropene	0.2646	0.2577	2.6	TM	
55	TM	1,1,2-TCA	0.2782	0.2725	2.0	TM	
56	TM	2-Hexanone	0.0680	0.0687	0.94	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.998	1.932	3.3	S	
59	TM	1,2-EDB	0.3378	0.3291	2.6	TM	
60	TM	Tetrachloroethene	0.6360	0.6606	3.9	TM	
61	TM	1-Chlorohexane	0.6004	0.5758	4.1	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.4591	0.4570	0.45	TM	
63	TM	m&p-Xylene	0.5570	0.5342	4.1	TM	
64	TM	o-Xylene	0.5746	0.5558	3.3	TM	
65	TM	Styrene	0.8806	0.8450	4.0	TM	
66	S	4-Bromofluorobenzene(S)	0.7093	0.6948	2.0	S	
67	TM	1,3-Dichloropropane	0.5828	0.5623	3.5	TM	
68	TM	Dibromochloromethane	0.4156	0.4152	0.09	TM	
69	TM**	Chlorobenzene	1.395	1.326	5.0	TM**	
70	TM*	Ethylbenzene	2.265	2.202	2.8	TM*	
71	TM**	Bromoform	0.2536	0.2420	4.5	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	4.355	4.243	2.6	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.7732	0.7843	1.4	TM**	
75	TM	1,2,3-Trichloropropane	0.1420	0.1335	6.0	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.1243	0.1131	9.0	TM	
77	TM	Bromobenzene	1.207	1.141	5.5	TM	
78	TM	n-Propylbenzene	3.338	3.260	2.3	TM	
79	TM	4-Ethyltoluene	4.224	4.096	3.0	TM	
80	TM	2-Chlorotoluene	1.977	1.886	4.6	TM	
		Average			3.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/12/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0412T03.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.666	3.556	3.0	TM	
82	TM	4-Chlorotoluene	2.239	2.120	5.3	TM	
83	TM	Tert-Butylbenzene	3.219	3.055	5.1	TM	
84	TM	1,2,4-Trimethylbenzene	2.395	2.238	6.5	TM	
85	TM	Sec-Butylbenzene	4.505	4.297	4.6	TM	
86	TM	p-Isopropyltoluene	3.730	3.558	4.6	TM	
87	TM	Benzyl Chloride	0.7134	0.6622	7.2	TM	
88	TM	1,3-DCB	2.164	2.058	4.9	TM	
89	TM	1,4-DCB	2.229	2.054	7.8	TM	
90	TM	n-Butylbenzene	3.052	2.885	5.5	TM	
91	TM	1,2-DCB	2.053	1.937	5.7	TM	
92	TM	Hexachloroethane	0.5047	0.4987	1.2	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1217	0.1199	1.5	TM	
94	TM	1,2,4-Trichlorobenzene	1.224	1.119	8.6	TM	
95	TM	Hexachlorobutadiene	0.7497	0.7026	6.3	TM	
96	TM	Naphthalene	1.769	1.425	19	TM	
97	TM	1,2,3-Trichlorobenzene	1.111	0.9608	14	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.5		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T03.D Vial: 2
Acq On : 12 Apr 17 13:00 Operator: DG,SV, CMM.PM
Sample : 170412A CCV-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 13:23 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	822848	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	740736	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	379456	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	416960	24.45654 ppb	0.00
Spiked Amount 25.000			Recovery = 97.828%		
38) 1,2-DCA-D4(S)	5.99	65	361535	24.09015 ppb	0.00
Spiked Amount 25.000			Recovery = 96.360%		
58) Toluene-D8(S)	8.11	98	1431308	24.17700 ppb	0.00
Spiked Amount 25.000			Recovery = 96.708%		
66) 4-Bromofluorobenzene(S)	10.73	95	514690	24.48875 ppb	0.00
Spiked Amount 25.000			Recovery = 97.956%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	111323	10.13782 ppb	99
3) Freon 114	1.26	135	102978	10.44715 ppb	95
4) Chloromethane	1.30	50	134842	10.45547 ppb	97
5) Vinyl chloride	1.39	62	159936	9.93825 ppb	99
6) Bromomethane	1.67	94	103385	9.07651 ppb	98
7) Chloroethane	1.76	64	69574	9.98578 ppb	98
8) Dichlorofluoromethane	1.96	67	267660	9.84203 ppb	99
9) Trichlorofluoromethane	2.00	101	184116	10.03875 ppb	99
10) Acrolein	2.42	56	69096	130.35141 ppb	94
11) Acetone	2.59	43	37180	10.10787 ppb	96
12) Freon-113	2.53	101	125349	10.17490 ppb	98
13) 1,1-DCE	2.51	61	178162	9.97171 ppb	99
14) Acetonitrile	2.92	41	82973	150.09578 ppb	98
15) t-Butanol	3.31	59	52548	163.37487 ppb #	90
16) Methyl Acetate	2.99	43	55843	9.33103 ppb	92
17) Iodomethane	2.66	142	108182	8.98700 ppb	97
18) Acrylonitrile	3.44	52	20451	10.43073 ppb	97
19) Methylene chloride	3.09	84	136536	9.49249 ppb	99
20) Carbon disulfide	2.73	76	177536	9.66625 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	275494	9.94679 ppb	98
22) Trans-1,2-DCE	3.45	96	131126	9.85022 ppb	98
23) Hexane	3.49	57	58274	9.85173 ppb #	99
24) Diisopropyl Ether	4.28	45	324904	9.59395 ppb	99
25) 1,1-DCA	4.09	63	223326	9.88143 ppb	100
26) Vinyl Acetate	4.28	87	108420	9.73374 ppb	99
27) Ethyl tert Butyl Ether	4.81	59	288220	9.55014 ppb	97
28) MEK (2-Butanone)	5.02	43	26249	9.70780 ppb	99
29) Cis-1,2-DCE	4.95	61	196548	9.84611 ppb	95
30) 2,2-Dichloropropane	4.94	77	176649	10.23625 ppb	98
31) Chloroform	5.41	83	240597	9.72086 ppb	98
32) Bromochloromethane	5.26	128	34720	9.69681 ppb	95
34) 1,1,1-TCA	5.59	97	195839	9.56584 ppb	98
35) Cyclohexane	5.65	41	88080	9.44143 ppb	98
36) 1,1-Dichloropropene	5.80	75	88040	9.84784 ppb	95
37) 2,2,4-Trimethylpentane	6.18	57	390111	10.35137 ppb	98
39) Carbon Tetrachloride	5.79	117	152766	9.50910 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	273390	9.52398 ppb	98
41) 1,2-DCA	6.08	62	149469	9.22585 ppb	96
42) Benzene	6.05	78	527700	9.65803 ppb	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T03.D Vial: 2
Acq On : 12 Apr 17 13:00 Operator: DG,SV, CMM.PM
Sample : 170412A CCV-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 13:23 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.81	95	145598	9.59079	ppb	97
44)	2-Pentanone	7.05	43	583435	127.39676	ppb	99
45)	1,2-Dichloropropane	7.05	63	132776	9.64981	ppb	100
46)	Bromodichloromethane	7.37	83	167523	9.80701	ppb	99
47)	Methyl Cyclohexane	7.00	83	209415	10.15801	ppb	97
48)	Dibromomethane	7.17	93	76990	9.94304	ppb	92
49)	MIBK (methyl isobutyl ket	8.03	43	74034	9.98094	ppb	97
50)	1-Bromo-2-chloroethane	7.67	63	153197	9.79405	ppb	99
52)	Cis-1,3-Dichloropropene	7.84	75	183525	9.84877	ppb	96
53)	Toluene	8.17	91	350592	9.41788	ppb	98
54)	Trans-1,3-Dichloropropene	8.42	75	84808	9.73851	ppb	100
55)	1,1,2-TCA	8.60	83	89698	9.79674	ppb	98
56)	2-Hexanone	8.88	58	22607	10.09378	ppb	94
59)	1,2-EDB	9.09	107	97503	9.74216	ppb	96
60)	Tetrachloroethene	8.73	166	195743	10.38664	ppb	99
61)	1-Chlorohexane	9.59	91	170610	9.59071	ppb	94
62)	1,1,1,2-Tetrachloroethane	9.67	131	135419	9.95455	ppb	97
63)	m&p-Xylene	9.83	106	316544	19.18014	ppb	99
64)	o-Xylene	10.22	106	164672	9.67218	ppb	98
65)	Styrene	10.23	104	250368	9.59597	ppb	100
67)	1,3-Dichloropropane	8.77	76	166607	9.64866	ppb	96
68)	Dibromochloromethane	8.99	129	123030	9.99059	ppb	100
69)	Chlorobenzene	9.58	112	392869	9.50176	ppb	99
70)	Ethylbenzene	9.71	91	652406	9.71936	ppb	100
71)	Bromoform	10.40	173	71718	9.54515	ppb	96
73)	Isopropylbenzene	10.59	105	644016	9.74207	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.89	83	119049	10.14444	ppb	100
75)	1,2,3-Trichloropropane	10.93	110	20264	9.40436	ppb	98
76)	t-1,4-Dichloro-2-Butene	10.95	53	17167	9.09646	ppb	96
77)	Bromobenzene	10.87	156	173195	9.45045	ppb	99
78)	n-Propylbenzene	11.00	91	494843	9.76729	ppb	99
79)	4-Ethyltoluene	11.12	105	621759	9.69702	ppb	100
80)	2-Chlorotoluene	11.07	91	286189	9.53681	ppb	98
81)	1,3,5-Trimethylbenzene	11.18	105	539809	9.70001	ppb	99
82)	4-Chlorotoluene	11.18	91	321819	9.46833	ppb	99
83)	Tert-Butylbenzene	11.50	119	463636	9.48957	ppb	98
84)	1,2,4-Trimethylbenzene	11.55	105	339742	9.34520	ppb	100
85)	Sec-Butylbenzene	11.72	105	652147	9.53661	ppb	100
86)	p-Isopropyltoluene	11.86	119	540116	9.53954	ppb	100
87)	Benzyl Chloride	12.04	91	100506	9.28161	ppb	100
88)	1,3-DCB	11.81	146	312330	9.51077	ppb	99
89)	1,4-DCB	11.90	146	311788	9.21621	ppb	98
90)	n-Butylbenzene	12.27	91	437918	9.45476	ppb	98
91)	1,2-DCB	12.27	146	293958	9.43281	ppb	99
92)	Hexachloroethane	12.52	117	75697	9.88196	ppb	99
93)	1,2-Dibromo-3-chloropropan	13.05	157	18197	9.85483	ppb	96
94)	1,2,4-Trichlorobenzene	13.87	180	169809	9.14219	ppb	96
95)	Hexachlorobutadiene	14.05	225	106635	9.37082	ppb	98
96)	Naphthalene	14.11	128	216241	8.05283	ppb	99
97)	1,2,3-Trichlorobenzene	14.35	180	145830	8.64997	ppb	99

(#) = qualifier out of range (m) = manual integration

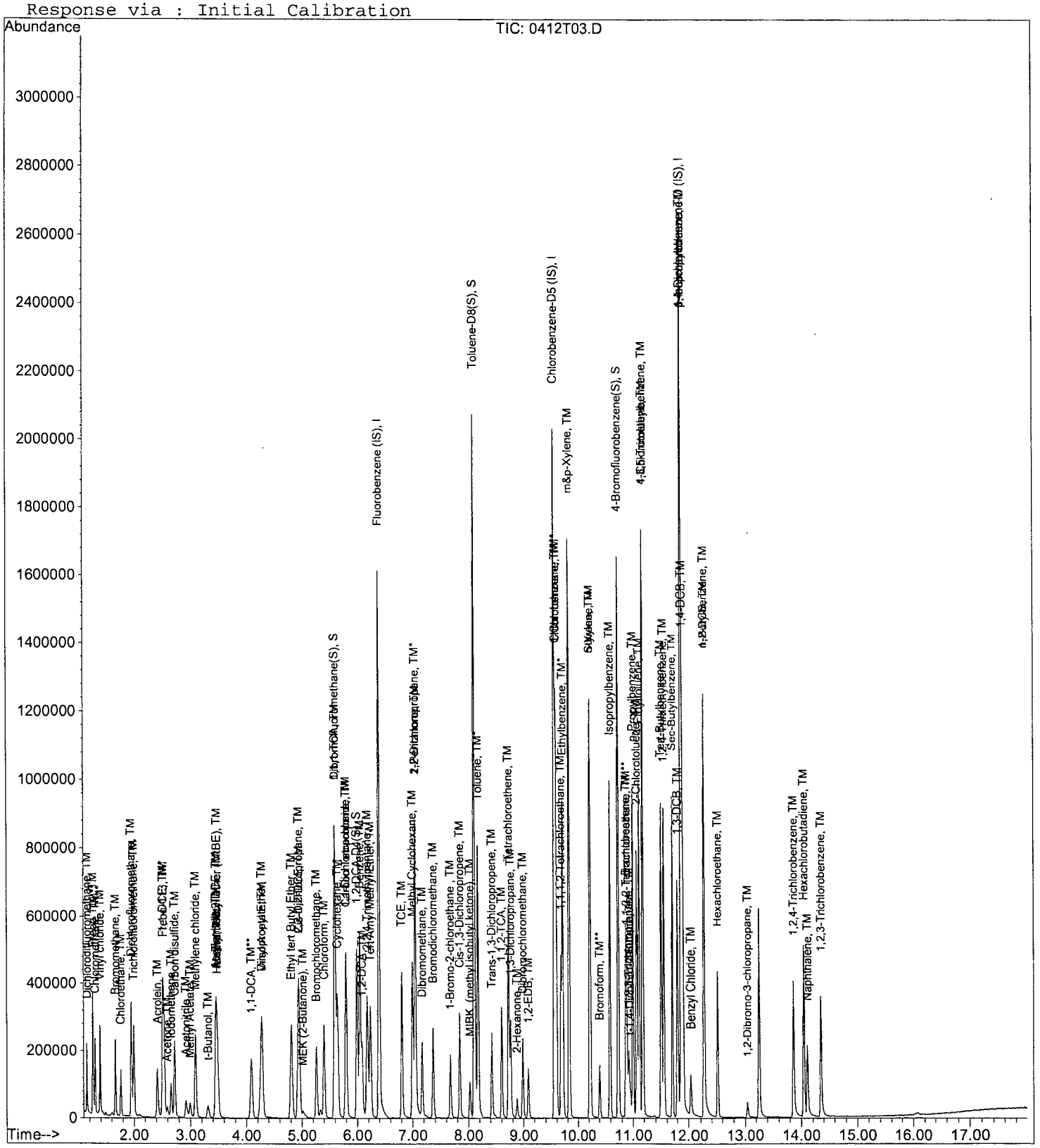
Quantitation Report

Data File : M:\THOR\DATA\T170407\0412T03.D
Acq On : 12 Apr 17 13:00
Sample : 170412A CCV-1WT 10ug/L
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 2
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 13:23 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



769

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/13/17
Instrument: Thor
Initial Cal. Date: 04/07/17
Data File: 0412T27.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.3336	0.3579	7.3	TM		
3	TM	Freon 114	0.2995	0.3201	6.9	TM		
4	TM**	Chloromethane	0.3918	0.4254	8.6	TM**		
5	TM*	Vinyl chloride	0.4889	0.5164	5.6	TM*		
6	TM	Bromomethane	0.3461	0.3220	6.9	TM		
7	TM	Chloroethane	0.2117	0.2240	5.8	TM		
8	TM	Dichlorofluoromethane	0.8263	0.8447	2.2	TM		
9	TM	Trichlorofluoromethane	0.5572	0.5902	5.9	TM		
10	TM	Acrolein	0.0161	0.0177	10	TM		
11	TML	Acetone	0.1452	0.0873	40	TML	59	*
12	TM	Freon-113	0.3743	0.3895	4.0	TM		
13	TM*	1,1-DCE	0.5428	0.5522	1.7	TM*		
14	TM	Acetonitrile	0.0168	0.0213	27	TM		
15	TM	t-Butanol	0.0098	0.0131	34	TM		
16	TM	Methyl Acetate	0.1818	0.1951	7.3	TM		
17	TML	Iodomethane	0.2832	0.3740	32	TML	0.10	
18	TM	Acrylonitrile	0.0596	0.0724	22	TM		
19	TM	Methylene chloride	0.4370	0.4435	1.5	TM		
20	TM	Carbon disulfide	0.5580	0.5360	4.0	TM		
21	TM	Methyl t-butyl ether (MtBE)	0.8415	0.9174	9.0	TM		
22	TM	Trans-1,2-DCE	0.4044	0.4131	2.1	TM		
23	TM	Hexane	0.1797	0.1955	8.8	TM		
24	TM	Diisopropyl Ether	1.029	1.063	3.3	TM		
25	TM**	1,1-DCA	0.6867	0.6996	1.9	TM**		
26	TM	Vinyl Acetate	0.3384	0.3479	2.8	TM		
27	TM	Ethyl tert Butyl Ether	0.9169	0.9389	2.4	TM		
28	TM	MEK (2-Butanone)	0.0822	0.0936	14	TM		
29	TM	Cis-1,2-DCE	0.6065	0.6195	2.1	TM		
30	TM	2,2-Dichloropropane	0.5243	0.4878	7.0	TM		
31	TM*	Chloroform	0.7520	0.7688	2.2	TM*		
32	TM	Bromochloromethane	0.1088	0.1130	3.9	TM		
33	S	Dibromofluoromethane(S)	0.5180	0.5185	0.10	S		
34	TM	1,1,1-TCA	0.6220	0.6198	0.36	TM		
35	TM	Cyclohexane	0.2834	0.2804	1.1	TM		
36	TM	1,1-Dichloropropene	0.2716	0.2713	0.12	TM		
37	TM	2,2,4-Trimethylpentane	1.145	1.128	1.5	TM		
38	S	1,2-DCA-D4(S)	0.4560	0.4459	2.2	S		
39	TM	Carbon Tetrachloride	0.4881	0.4831	1.0	TM		
40	TM	Tert Amyl Methyl Ether	0.8721	0.8906	2.1	TM		
		Average			7.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/13/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0412T27.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.4922	0.4937	0.31	TM	
42	TM	Benzene	1.660	1.662	0.15	TM	
43	TM	TCE	0.4612	0.4733	2.6	TM	
44	TM	2-Pentanone	0.1391	0.1425	2.4	TM	
45	TM*	1,2-Dichloropropane	0.4180	0.4298	2.8	TM*	
46	TM	Bromodichloromethane	0.5190	0.5188	0.05	TM	
47	TM	Methyl Cyclohexane	0.6264	0.6305	0.66	TM	
48	TM	Dibromomethane	0.2353	0.2458	4.5	TM	
49	TML	MIBK (methyl isobutyl ketone)	0.2491	0.2609	4.8	TML	19
50	TM	1-Bromo-2-chloroethane	0.4752	0.5004	5.3	TM	
51	TM	2-Chloroethyl vinyl ether	0.0000	0.0067	0.00	TM	
52	TM	Cis-1,3-Dichloropropene	0.5662	0.5795	2.4	TM	
53	TM*	Toluene	1.131	1.103	2.5	TM*	
54	TM	Trans-1,3-Dichloropropene	0.2646	0.2637	0.33	TM	
55	TM	1,1,2-TCA	0.2782	0.2930	5.3	TM	
56	TM	2-Hexanone	0.0680	0.0774	14	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.998	2.016	0.88	S	
59	TM	1,2-EDB	0.3378	0.3646	7.9	TM	
60	TM	Tetrachloroethene	0.6360	0.7005	10	TM	
61	TM	1-Chlorohexane	0.6004	0.5900	1.7	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.4591	0.4731	3.0	TM	
63	TM	m&p-Xylene	0.5570	0.5611	0.74	TM	
64	TM	o-Xylene	0.5746	0.5708	0.67	TM	
65	TM	Styrene	0.8806	0.8814	0.09	TM	
66	S	4-Bromofluorobenzene(S)	0.7093	0.7176	1.2	S	
67	TM	1,3-Dichloropropane	0.5828	0.6195	6.3	TM	
68	TM	Dibromochloromethane	0.4156	0.4420	6.3	TM	
69	TM**	Chlorobenzene	1.395	1.404	0.60	TM**	
70	TM*	Ethylbenzene	2.265	2.304	1.7	TM*	
71	TM**	Bromoform	0.2536	0.2721	7.3	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	4.355	4.598	5.6	TM	
74	TM**	1,1,2,2-Tetrachloroethane	0.7732	0.8709	13	TM**	
75	TM	1,2,3-Trichloropropane	0.1420	0.1633	15	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.1243	0.1252	0.66	TM	
77	TM	Bromobenzene	1.207	1.264	4.7	TM	
78	TM	n-Propylbenzene	3.338	3.439	3.0	TM	
79	TM	4-Ethyltoluene	4.224	4.318	2.2	TM	
80	TM	2-Chlorotoluene	1.977	2.029	2.6	TM	
		Average			3.8		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/13/17
Instrument: Thor
Cal. Date: 04/07/17
Data File: 0412T27.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.666	3.797	3.6	TM	
82	TM	4-Chlorotoluene	2.239	2.378	6.2	TM	
83	TM	Tert-Butylbenzene	3.219	3.351	4.1	TM	
84	TM	1,2,4-Trimethylbenzene	2.395	2.470	3.1	TM	
85	TM	Sec-Butylbenzene	4.505	4.659	3.4	TM	
86	TM	p-Isopropyltoluene	3.730	3.800	1.9	TM	
87	TM	Benzyl Chloride	0.7134	0.5630	21	TM	
88	TM	1,3-DCB	2.164	2.245	3.8	TM	
89	TM	1,4-DCB	2.229	2.282	2.4	TM	
90	TM	n-Butylbenzene	3.052	3.052	0.01	TM	
91	TM	1,2-DCB	2.053	2.171	5.7	TM	
92	TM	Hexachloroethane	0.5047	0.4948	2.0	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1217	0.1442	19	TM	
94	TM	1,2,4-Trichlorobenzene	1.224	1.247	1.9	TM	
95	TM	Hexachlorobutadiene	0.7497	0.7656	2.1	TM	
96	TM	Naphthalene	1.769	1.830	3.4	TM	
97	TM	1,2,3-Trichlorobenzene	1.111	1.148	3.4	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.1		

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T27.D Vial: 26
Acq On : 13 Apr 17 00:05 Operator: DG,SV, CMM.PM
Sample : Ending CCV 8260 4/12/17 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 13 15:07 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	761856	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	679488	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	337088	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	395011	25.02399 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.096%	
38) 1,2-DCA-D4(S)	5.99	65	339744	24.45049 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.800%	
58) Toluene-D8(S)	8.11	98	1369595	25.21988 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.880%	
66) 4-Bromofluorobenzene(S)	10.73	95	487630	25.29257 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.172%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	109075	10.72832 ppb	98
3) Freon 114	1.26	135	97548	10.68854 ppb	93
4) Chloromethane	1.30	50	129637	10.85660 ppb	97
5) Vinyl chloride	1.39	62	157376	10.56207 ppb	99
6) Bromomethane	1.67	94	98135	9.30533 ppb	95
7) Chloroethane	1.76	64	68272	10.58338 ppb	100
8) Dichlorofluoromethane	1.95	67	257412	10.22296 ppb	99
9) Trichlorofluoromethane	2.00	101	179849	10.59115 ppb	99
10) Acrolein	2.42	56	67496	137.52688 ppb	97
11) Acetone	2.59	43	26615	4.13188 ppb	95
12) Freon-113	2.53	101	118682	10.40497 ppb	99
13) 1,1-DCE	2.51	61	168290	10.17325 ppb	99
14) Acetonitrile	2.92	41	81118	158.48773 ppb	97
15) t-Butanol	3.31	59	49742	167.03175 ppb	92
16) Methyl Acetate	2.99	43	59445	10.72811 ppb	98
17) Iodomethane	2.66	142	113970	10.01046 ppb	98
18) Acrylonitrile	3.44	52	22057	12.15048 ppb	81
19) Methylene chloride	3.09	84	135148	10.14820 ppb	100
20) Carbon disulfide	2.73	76	163328	9.60459 ppb	100
21) Methyl t-butyl ether (MtBE	3.48	73	279577	10.90233 ppb	97
22) Trans-1,2-DCE	3.46	96	125894	10.21430 ppb	99
23) Hexane	3.48	57	59570	10.87707 ppb #	96
24) Diisopropyl Ether	4.28	45	323974	10.33235 ppb	99
25) 1,1-DCA	4.09	63	213210	10.18908 ppb	100
26) Vinyl Acetate	4.28	87	106033	10.28154 ppb	99
27) Ethyl tert Butyl Ether	4.81	59	286138	10.24019 ppb	100
28) MEK (2-Butanone)	5.02	43	28517	11.39091 ppb	94
29) Cis-1,2-DCE	4.95	61	188775	10.21380 ppb	96
30) 2,2-Dichloropropane	4.94	77	148654	9.30364 ppb	96
31) Chloroform	5.40	83	234295	10.22408 ppb	99
32) Bromochloromethane	5.27	128	34440	10.38865 ppb	97
34) 1,1,1-TCA	5.59	97	188869	9.96394 ppb	100
35) Cyclohexane	5.65	41	85450	9.89280 ppb	93
36) 1,1-Dichloropropene	5.80	75	82672	9.98771 ppb	96
37) 2,2,4-Trimethylpentane	6.18	57	343771	9.85203 ppb	98
39) Carbon Tetrachloride	5.79	117	147215	9.89718 ppb	99
40) Tert Amyl Methyl Ether	6.23	73	271412	10.21202 ppb	98
41) 1,2-DCA	6.09	62	150460	10.03051 ppb	97
42) Benzene	6.05	78	506620	10.01453 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T27.D
Acq On : 13 Apr 17 00:05
Sample : Ending CCV 8260 4/12/17 10ug/L
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 26
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 13 15:07 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) TCE	6.81	95	144249	10.26262	ppb	94
44) 2-Pentanone	7.05	43	542711	127.99154	ppb	98
45) 1,2-Dichloropropane	7.05	63	130977	10.28113	ppb	98
46) Bromodichloromethane	7.37	83	158086	9.99545	ppb	98
47) Methyl Cyclohexane	7.00	83	192135	10.06593	ppb	97
48) Dibromomethane	7.17	93	74906	10.44836	ppb	100
49) MIBK (methyl isobutyl ket	8.03	43	79517	11.85766	ppb	96
50) 1-Bromo-2-chloroethane	7.67	63	152488	10.52917	ppb	98
52) Cis-1,3-Dichloropropene	7.84	75	176609	10.23638	ppb	96
53) Toluene	8.18	91	336192	9.75405	ppb	99
54) Trans-1,3-Dichloropropene	8.42	75	80368	9.96748	ppb	99
55) 1,1,2-TCA	8.60	83	89286	10.53244	ppb	98
56) 2-Hexanone	8.88	58	23599	11.38024	ppb	92
59) 1,2-EDB	9.09	107	99096	10.79381	ppb	98
60) Tetrachloroethene	8.73	166	190387	11.01305	ppb	97
61) 1-Chlorohexane	9.59	91	160367	9.82750	ppb	94
62) 1,1,1,2-Tetrachloroethane	9.68	131	128588	10.30443	ppb	99
63) m&p-Xylene	9.83	106	305024	20.14807	ppb	99
64) o-Xylene	10.22	106	155136	9.93342	ppb	97
65) Styrene	10.23	104	239552	10.00902	ppb	100
67) 1,3-Dichloropropane	8.76	76	168373	10.62987	ppb	100
68) Dibromochloromethane	8.99	129	120125	10.63397	ppb	97
69) Chlorobenzene	9.59	112	381547	10.05972	ppb	98
70) Ethylbenzene	9.71	91	626099	10.16820	ppb	99
71) Bromoform	10.40	173	73960	10.73083	ppb	99
73) Isopropylbenzene	10.59	105	619953	10.55679	ppb	100
74) 1,1,2,2-Tetrachloroethane	10.89	83	117422	11.26341	ppb	95
75) 1,2,3-Trichloropropane	10.93	110	22024	11.50584	ppb	99
76) t-1,4-Dichloro-2-Butene	10.95	53	16875	10.06561	ppb	91
77) Bromobenzene	10.87	156	170401	10.46664	ppb	98
78) n-Propylbenzene	11.00	91	463723	10.30347	ppb	99
79) 4-Ethyltoluene	11.12	105	582283	10.22277	ppb	99
80) 2-Chlorotoluene	11.07	91	273529	10.26057	ppb	98
81) 1,3,5-Trimethylbenzene	11.18	105	511938	10.35541	ppb	100
82) 4-Chlorotoluene	11.18	91	320584	10.61749	ppb	99
83) Tert-Butylbenzene	11.50	119	451875	10.41132	ppb	98
84) 1,2,4-Trimethylbenzene	11.55	105	332979	10.31037	ppb	98
85) Sec-Butylbenzene	11.72	105	628192	10.34091	ppb	99
86) p-Isopropyltoluene	11.87	119	512415	10.18780	ppb	99
87) Benzyl Chloride	12.04	91	75917	7.89203	ppb	99
88) 1,3-DCB	11.81	146	302696	10.37592	ppb	99
89) 1,4-DCB	11.90	146	307632	10.23629	ppb	100
90) n-Butylbenzene	12.27	91	411483	10.00063	ppb	99
91) 1,2-DCB	12.27	146	292663	10.57163	ppb	98
92) Hexachloroethane	12.52	117	66715	9.80406	ppb	97
93) 1,2-Dibromo-3-chloropropan	13.05	157	19447	11.85550	ppb	99
94) 1,2,4-Trichlorobenzene	13.87	180	168134	10.18974	ppb	98
95) Hexachlorobutadiene	14.05	225	103224	10.21120	ppb	98
96) Naphthalene	14.11	128	246756	10.34419	ppb	97
97) 1,2,3-Trichlorobenzene	14.35	180	154792	10.33557	ppb	99

(#) = qualifier out of range (m) = manual integration

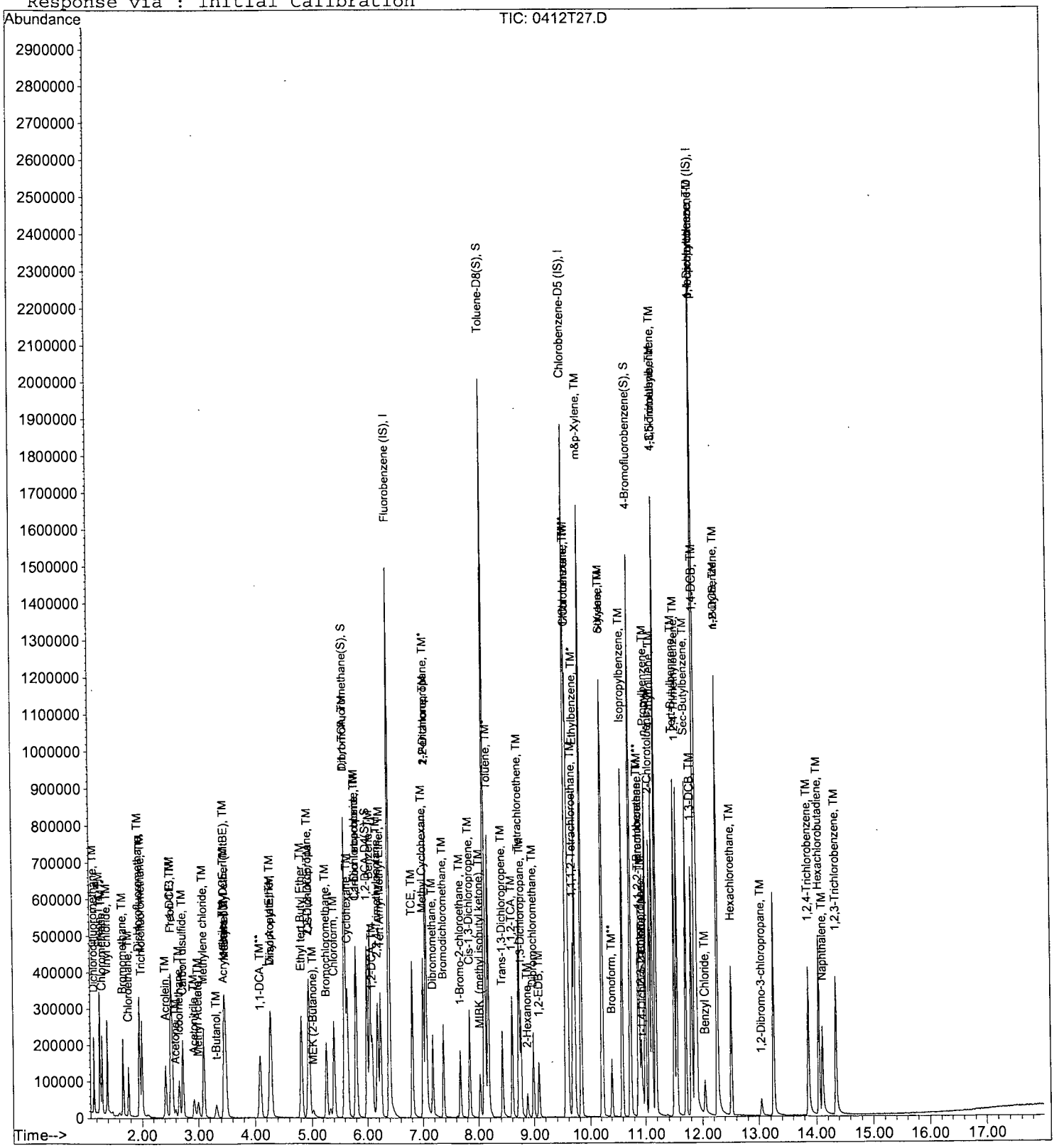
Quantitation Report

Data File : M:\THOR\DATA\T170407\0412T27.D
Acq On : 13 Apr 17 00:05
Sample : Ending CCV 8260 4/12/17 10ug/L
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 26
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 13 15:07 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



775

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/14/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0414M04.D	0414M05.D	0414M06.D	0414M07.D	0414M08.D	0414M09.D	0414M10.D	0414M11.D	0414M12.D					
1	I	Fluorobenzene (IS)														
2	TM	Dichlorodifluoromethane		0.3732	0.3864	0.3417	0.4211	0.3861	0.3733	0.3915	0.3527		0.38	6.5	TM	
3	TM	Freon 114		0.4242	0.4115	0.3896	0.3787	0.4061	0.3645	0.3839	0.3360		0.39	7.3	TM	
4	TM**	Chloromethane		0.5415	0.4724	0.4374	0.4754	0.4422	0.4232	0.4111	0.3783		0.45	11	TM**	
5	TM*	Vinyl chloride		0.6755	0.6818	0.6068	0.7497	0.7041	0.6824	0.6609	0.5783		0.67	8.1	TM*	
6	TML	Bromomethane		0.5686	0.4659	0.4381	0.4458	0.3948	0.3429				0.44	17	TML	0.993
7	TM	Chloroethane		0.4374	0.4061	0.3699	0.4565	0.4116	0.4003	0.3841			0.41	7.3	TM	
8	TM	Dichlorofluoromethane		1.141	1.130	1.088	1.056	1.140	1.061	1.073	1.000		1.1	4.5	TM	
9	TM	Trichlorofluoromethane		0.7546	0.7498	0.7041	0.8340	0.7754	0.7503	0.7067	0.6624		0.74	7.0	TM	
10	TM	Acrolein		0.0366	0.0388	0.0375	0.0374	0.0381	0.0359	0.0362	0.0356		0.04	3.1	TM	
11	TM	Acetone		0.0687	0.0810	0.0605	0.0657	0.0690	0.0592	0.0546	0.0547		0.06	14	TM	
12	TM	Freon-113		0.4397	0.4238	0.3939	0.3919	0.4222	0.3871	0.4116	0.3750		0.41	5.4	TM	
13	TM*	1,1-DCE		0.7455	0.7320	0.7094	0.6830	0.7368	0.7013	0.6909	0.6655		0.71	4.0	TM*	
14	TM	Acetonitrile			0.0242	0.0240	0.0238	0.0234	0.0228	0.0176	0.0254		0.02	11	TM	
15	TM	t-Butanol	0.0105	0.0085	0.0085	0.0084	0.0077	0.0089	0.0088	0.0093	0.0112		0.01	12	TM	
16	TM	Methyl Acetate		0.1640	0.1637	0.1583	0.1572	0.1761	0.1696	0.1707	0.1835		0.17	5.3	TM	
17	TML	Iodomethane		0.0916	0.0808	0.1114	0.2228	0.3475	0.4327	0.4625	0.4789		0.28	62	TML	0.999
18	TM	Acrylonitrile			0.1002	0.0805	0.0727	0.0852	0.0740	0.0771	0.0787		0.08	12	TM	
19	TM	Methylene chloride		0.5301	0.4740	0.4292	0.4045	0.4254	0.4027	0.4058	0.3947		0.43	11	TM	
20	TM	Carbon disulfide		1.487	1.367	1.317	1.282	1.367	1.315	1.310	1.283		1.3	5.0	TM	
21	TM	Methyl t-butyl ether (MtBE)		0.6958	0.6374	0.6445	0.6224	0.6887	0.6889	0.6936	0.7038		0.67	4.7	TM	
22	TM	Trans-1,2-DCE		0.5029	0.4635	0.4592	0.4657	0.5143	0.4890	0.4815	0.4666		0.48	4.2	TM	
23	TM	Diisopropyl Ether		1.406	1.390	1.379	1.366	1.496	1.443	1.490	1.501		1.4	3.9	TM	
24	TM**	1,1-DCA		0.8953	0.8003	0.8181	0.8248	0.9115	0.8482	0.8554	0.8407		0.85	4.5	TM**	
25	TM	Vinyl Acetate		0.2832	0.2452	0.2601	0.2413	0.2720	0.2835	0.3012	0.2653		0.27	7.5	TM	
26	TM	Ethyl tert Butyl Ether		0.7417	0.7650	0.7925	0.7653	0.8626	0.8652	0.8938	0.9371		0.83	8.6	TM	
27	TML	MEK (2-Butanone)			0.1391	0.0850	0.1269	0.1183	0.1112	0.1046	0.0892		0.11	18	TML	0.994
28	TM	Cis-1,2-DCE		0.5186	0.4942	0.4857	0.4814	0.5467	0.5170	0.5178	0.5064		0.51	4.2	TM	
29	TM	2,2-Dichloropropane		0.4969	0.4789	0.5020	0.4669	0.5263	0.5445	0.5907	0.6109		0.53	9.8	TM	
30	TM*	Chloroform		0.8300	0.8137	0.7803	0.7802	0.8565	0.8128	0.8165	0.7971		0.81	3.1	TM*	
31	TM	Bromochloromethane		0.2055	0.1840	0.1738	0.1812	0.1998	0.1915	0.1872	0.1878		0.19	5.4	TM	
32	S	Dibromofluoromethane(S)	0.2746	0.2689	0.2347	0.2326	0.2382	0.2456	0.2348	0.2287	0.2195		0.24	7.6	S	
33	TM	1,1,1-TCA		0.6907	0.6762	0.6499	0.6729	0.7397	0.7272	0.7526	0.7456		0.71	5.5	TM	
34	TM	Cyclohexane		0.5562	0.5063	0.4881	0.4696	0.4985	0.4646	0.4874	0.4595		0.49	6.3	TM	
35	TM	1,1-Dichloropropene		0.7785	0.6870	0.6436	0.6606	0.7080	0.6634	0.6914	0.6662		0.69	6.1	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/14/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
36	TM	2,2,4-Trimethylpentane		1.349	1.260	1.248	1.201	1.256	1.182	1.289	1.172		1.2	4.7	TM	
37	S	1,2-DCA-D4(S)	0.2334	0.2330	0.1909	0.2051	0.2083	0.2101	0.1989	0.1920	0.1834		0.21	8.6	S	
38	TM	Carbon Tetrachloride		0.5395	0.5551	0.5119	0.5341	0.5974	0.5922	0.6249	0.6161		0.57	7.3	TM	
39	TM	Tert Amyl Methyl Ether		0.6432	0.6439	0.6304	0.6403	0.7070	0.7129	0.7685	0.8099		0.69	9.7	TM	
40	TM	1,2-DCA		0.4994	0.4683	0.4294	0.4299	0.4753	0.4552	0.4586	0.4412		0.46	5.2	TM	
41	TM	Benzene		1.984	1.979	1.928	1.897	2.072	1.997	2.049	2.017		2.0	2.9	TM	
42	TM	TCE		0.5182	0.5223	0.5138	0.4862	0.5440	0.5105	0.5328	0.5303		0.52	3.4	TM	
43	TM	2-Pentanone		0.1374	0.1403	0.1398	0.1484	0.1518	0.1521	0.1637	0.1819		0.15	9.8	TM	
44	TM*	1,2-Dichloropropane		0.4803	0.4400	0.4245	0.4458	0.4859	0.4590	0.4659	0.4642		0.46	4.5	TM*	
45	TM	Bromodichloromethane		0.5362	0.5074	0.4906	0.4872	0.5388	0.5268	0.5438	0.5364		0.52	4.3	TM	
46	TM	Methyl Cyclohexane		0.6984	0.7567	0.7076	0.6735	0.7280	0.6861	0.7519	0.7046		0.71	4.2	TM	
47	TM	Dibromomethane		0.1776	0.1590	0.1586	0.1703	0.1780	0.1706	0.1737	0.1715		0.17	4.4	TM	
48	TML	MIBK (methyl isobutyl ketone)		0.2896	0.3158	0.2627	0.2381	0.2243	0.2099	0.2109			0.25	16	TML	1.000
49	TM	1-Bromo-2-chloroethane		0.4758	0.4252	0.4239	0.4087	0.4292	0.4224	0.4469	0.4563		0.44	5.0	TM	
50	TML	2-Chloroethyl vinyl ether						0.0062					0.01		TML	
51	TM	Cis-1,3-Dichloropropene		0.5129	0.5077	0.4770	0.4961	0.5711	0.5705	0.6157	0.6317		0.55	11	TM	
52	TM*	Toluene		2.389	2.278	2.118	2.138	2.354	2.292	2.428	2.430		2.3	5.3	TM*	
53	TML	Trans-1,3-Dichloropropene		0.3198	0.3241	0.2976	0.3218	0.3689	0.3902	0.4340	0.4673		0.37	17	TML	0.999
54	TM	1,1,2-TCA		0.2212	0.2095	0.2033	0.1946	0.2247	0.2154	0.2200	0.2239		0.21	5.0	TM	
55	TM	2-Hexanone		0.1190	0.1040	0.1066	0.1183	0.1204	0.1240	0.1248	0.1362		0.12	8.6	TM	
56	I	Chlorobenzene-D5 (IS)														
57	S	Toluene-D8(S)	1.761	1.609	1.412	1.479	1.569	1.553	1.501	1.503	1.400		1.5	7.2	S	
58	TM	1,2-EDB		0.3025	0.3195	0.3038	0.3215	0.3565	0.3322	0.3527	0.3418		0.33	6.3	TM	
59	TM	Tetrachloroethene		0.8009	0.8018	0.7619	0.7548	0.7601	0.7335	0.7494	0.6968		0.76	4.5	TM	
60	TM	1-Chlorohexane		0.8318	0.7223	0.7422	0.7900	0.8889	0.9039	1.006	0.9862		0.86	12	TM	
61	TM	1,1,1,2-Tetrachloroethane		0.6579	0.5361	0.5602	0.5738	0.6273	0.6245	0.6708	0.6546		0.61	8.2	TM	
62	TM	m&p-Xylene		1.446	1.315	1.360	1.419	1.541	1.522	1.629	1.523		1.5	7.1	TM	
63	TM	o-Xylene		1.273	1.302	1.225	1.299	1.428	1.424	1.519	1.447		1.4	7.5	TM	
64	TM	Styrene		1.812	1.742	1.762	1.949	2.162	2.196	2.409	2.314		2.0	13	TM	
65	S	4-Bromofluorobenzene(S)	0.5427	0.4520	0.4121	0.4556	0.4808	0.4960	0.4921	0.5022	0.4775		0.48	7.7	S	
66	TM	1,3-Dichloropropane		0.6164	0.6608	0.6228	0.6486	0.6916	0.6521	0.6683	0.6459		0.65	3.7	TM	
67	TM	Dibromochloromethane		0.4673	0.4672	0.4549	0.4491	0.4880	0.4724	0.4968	0.4891		0.47	3.6	TM	
68	TM**	Chlorobenzene		2.136	1.991	1.905	1.964	2.079	1.983	2.073	1.999		2.0	3.7	TM**	
69	TM*	Ethylbenzene		3.988	3.661	3.625	3.678	3.909	3.841	4.020	3.848		3.8	4.0	TM*	
70	TM**	Bromoform		0.3260	0.2532	0.2322	0.2514	0.2619	0.2617	0.2928	0.2900		0.27	11	TM**	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/14/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
71	I	1,4-Dichlorobenzene-D (IS)														
72	TM	Isopropylbenzene		8.147	8.080	7.680	7.644	7.978	7.471	7.376	7.205		7.7	4.5	TM	
73	TM**	1,1,2,2-Tetrachloroethane		0.7884	0.8820	0.9061	0.7826	0.7944	0.7582	0.7386	0.7083		0.79	8.5	TM**	
74	TM	1,2,3-Trichloropropane		0.2476	0.2693	0.2386	0.2662	0.2522	0.2259	0.2167	0.2163		0.24	8.6	TM	
75	TM	t-1,4-Dichloro-2-Butene		0.1321	0.1392	0.1299	0.1619	0.1492	0.1487	0.1552	0.1689		0.15	9.4	TM	
76	TM	Bromobenzene		1.845	1.762	1.652	1.737	1.644	1.556	1.509	1.500		1.7	7.6	TM	
77	TM	n-Propylbenzene		8.067	8.129	7.825	8.149	8.405	8.236	8.359	8.153		8.2	2.2	TM	
78	TM	4-Ethyltoluene		6.653	6.770	6.265	6.503	6.953	7.004	7.212	6.972		6.8	4.5	TM	
79	TM	2-Chlorotoluene		5.541	4.639	4.853	4.962	5.082	4.880	4.817	4.620		4.9	5.9	TM	
80	TM	1,3,5-Trimethylbenzene		5.417	5.943	5.782	5.891	6.079	6.022	6.051	5.704		5.9	3.8	TM	
81	TM	4-Chlorotoluene		5.570	5.437	5.214	5.409	5.721	5.561	5.602	5.327		5.5	3.0	TM	
82	TM	Tert-Butylbenzene		5.630	5.191	5.097	5.083	5.395	5.162	5.155	5.005		5.2	3.9	TM	
83	TM	1,2,4-Trimethylbenzene		5.283	5.663	5.598	5.490	5.774	5.727	5.764	5.590		5.6	2.9	TM	
84	TM	Sec-Butylbenzene		7.535	7.107	6.707	6.807	7.076	7.054	7.197	6.959		7.1	3.6	TM	
85	TM	p-Isopropyltoluene		3.444	3.153	3.010	3.031	2.995	3.195	3.269	3.143		3.2	4.8	TM	
86	TML	Benzyl Chloride			0.3576	0.3559	0.4603	0.4187	0.4660	0.5280	0.6635		0.46	23	TML	0.993
87	TM	1,3-DCB		3.096	3.428	3.238	3.171	3.348	3.273	3.266	3.185		3.3	3.2	TM	
88	TM	1,4-DCB		1.623	1.610	1.607	1.600	1.619	1.591	1.609	1.572		1.6	1.0	TM	
89	TM	n-Butylbenzene		3.003	2.911	2.778	2.598	2.577	2.462	2.452	2.489		2.7	8.0	TM	
90	TM	1,2-DCB		2.611	2.784	2.514	2.637	2.699	2.618	2.587	2.593		2.6	3.1	TM	
91	TM	Hexachloroethane		0.6785	0.7054	0.6942	0.8546	0.7976	0.8316	0.8526	0.9072		0.79	11	TM	
92	TML	1,2-Dibromo-3-chloropropane			0.0686	0.0716	0.0775	0.0946	0.0934	0.0989	0.1022		0.09	16	TML	1.000
93	TML	1,2,4-Trichlorobenzene		0.9466	1.076	1.199	1.325	1.500	1.519	1.469	1.404		1.3	16	TML	0.999
94	TM	Hexachlorobutadiene		1.279	1.093	1.076	1.057	1.053	0.9763	0.9404	0.9190		1.0	11	TM	
95	TML	Naphthalene			0.3835	0.6527	0.8805	1.328	1.504	1.582	1.491		1.1	43	TML	0.999
96	TML	1,2,3-Trichlorobenzene		0.3455	0.4853	0.6563	0.7814	0.9868	1.013	1.021	0.9500		0.78	33	TML	0.999
97																
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M04.D
Acq On : 14 Apr 17 11:39
Sample : 0.3ug/L VOC STD 4/14/17A
Misc : 1ul

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	303420	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	199575	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	84120	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	16665	5.67475 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.700%	
37) 1,2-DCA-D4(S)	5.13	65	14161	5.66074 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.644%	
57) Toluene-D8(S)	7.35	98	70296	5.74818 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.992%	
65) 4-Bromofluorobenzene(S)	10.73	95	21660	5.66447 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.656%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	1483	0.32302 ppb		94
3) Freon 114	1.31	85	1708	0.36384 ppb		75
4) Chloromethane	1.36	50	2222	0.40896 ppb	#	80
5) Vinyl chloride	1.45	62	2360	0.29134 ppb		100
6) Bromomethane	1.72	94	2392	-0.20572 ppb		83
7) Chloroethane	1.81	64	1510	0.30388 ppb		97
8) Dichlorofluoromethane	2.00	67	4238	0.32151 ppb		90
9) Trichlorofluoromethane	2.05	101	2764	0.30686 ppb	#	75
10) Acrolein	2.43	56	4989	11.10667 ppb		89
11) Acetone	2.60	43	439	0.56359 ppb	#	40
12) Freon-113	2.56	101	1538	0.31241 ppb		85
13) 1,1-DCE	2.53	61	2820	0.32816 ppb		99
14) Acetonitrile	2.85	41	3258	11.64440 ppb		98
15) t-Butanol	3.15	59	1272	11.52444 ppb	#	83
16) Methyl Acetate	2.93	43	534	0.26206 ppb	#	56
17) Iodomethane	2.65	142	273	1.78103 ppb	#	44
18) Acrylonitrile	3.24	53	255	0.25871 ppb	#	62
19) Methylene chloride	3.00	84	1858	0.35330 ppb		84
20) Carbon disulfide	2.72	76	5398	0.33168 ppb		94
21) Methyl t-butyl ether (MtBE	3.30	73	2544	0.31197 ppb		94
22) Trans-1,2-DCE	3.27	96	1810	0.31048 ppb		88
23) Diisopropyl Ether	3.81	45	5224	0.30018 ppb		97
24) 1,1-DCA	3.69	63	3598	0.34906 ppb	#	84
26) Ethyl tert Butyl Ether	4.18	59	2816	0.28025 ppb		97
27) MEK (2-Butanone)	4.32	43	474	-2.20452 ppb	#	55
28) Cis-1,2-DCE	4.28	96	2008	0.32538 ppb		96
29) 2,2-Dichloropropane	4.28	77	1667	0.26057 ppb	#	79
30) Chloroform	4.62	83	2882	0.29284 ppb		94
31) Bromochloromethane	4.52	128	633	0.27618 ppb	#	76
33) 1,1,1-TCA	4.81	97	2711	0.31601 ppb		88
34) Cyclohexane	4.87	41	2008	0.33678 ppb	#	75
35) 1,1-Dichloropropene	4.99	75	2892	0.34668 ppb		90
36) 2,2,4-Trimethylpentane	5.33	57	4796	0.31752 ppb		93
38) Carbon Tetrachloride	4.98	117	2131	0.30729 ppb	#	80
39) Tert Amyl Methyl Ether	5.37	73	2595	0.30786 ppb	#	96
40) 1,2-DCA	5.21	62	1641	0.29576 ppb	#	92
41) Benzene	5.20	78	8209	0.33981 ppb		94
42) TCE	5.93	95	2102	0.33321 ppb	#	78
43) 2-Pentanone	6.15	43	17600	9.54431 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M04.D
Acq On : 14 Apr 17 11:39
Sample : 0.3ug/L VOC STD 4/14/17A
Misc : 1ul

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloropropane	6.16	63	1753	0.31524	ppb	#	88
45)	Bromodichloromethane	6.49	83	2230	0.35273	ppb		91
46)	Methyl Cyclohexane	6.15	83	3132	0.36175	ppb		89
47)	Dibromomethane	6.28	93	433	0.20997	ppb		92
48)	MIBK (methyl isobutyl ket	7.24	43	803	-0.18170	ppb	#	85
49)	1-Bromo-2-chloroethane	6.84	63	1559	0.29459	ppb	#	75
51)	Cis-1,3-Dichloropropene	7.02	75	1756	0.26410	ppb		95
52)	Toluene	7.42	91	8557	0.30611	ppb		97
53)	Trans-1,3-Dichloropropene	7.70	75	947	1.63062	ppb		84
54)	1,1,2-TCA	7.92	83	901	0.34681	ppb		86
55)	2-Hexanone	8.28	43	286	0.19775	ppb	#	37
58)	1,2-EDB	8.53	107	1049	0.39964	ppb	#	67
59)	Tetrachloroethene	8.10	164	2175	0.35972	ppb	#	77
60)	1-Chlorohexane	9.20	91	2180	0.31796	ppb		97
61)	1,1,1,2-Tetrachloroethane	9.30	131	1262	0.25783	ppb		74
62)	m&p-Xylene	9.52	106	6404	0.54594	ppb		78
63)	o-Xylene	10.03	106	2899	0.26612	ppb		89
64)	Styrene	10.06	104	4440	0.27221	ppb		85
66)	1,3-Dichloropropane	8.12	76	1567	0.30161	ppb		94
67)	Dibromochloromethane	8.40	129	1179	0.31217	ppb		77
68)	Chlorobenzene	9.18	112	4918	0.30555	ppb		85
69)	Ethylbenzene	9.35	91	8897	0.29166	ppb		96
70)	Bromoform	10.26	173	574	0.26519	ppb		95
72)	Isopropylbenzene	10.55	105	8254	0.31867	ppb		96
73)	1,1,2,2-Tetrachloroethane	10.97	83	871	0.32567	ppb	#	73
74)	1,2,3-Trichloropropane	11.00	110	200	0.24601	ppb		91
75)	t-1,4-Dichloro-2-Butene	11.05	53	135	0.27084	ppb	#	35
76)	Bromobenzene	10.91	156	1721	0.30984	ppb		85
77)	n-Propylbenzene	11.12	91	9251	0.33670	ppb	#	84
78)	4-Ethyltoluene	11.29	105	6864	0.30037	ppb		91
79)	2-Chlorotoluene	11.21	91	6014	0.36296	ppb		92
80)	1,3,5-Trimethylbenzene	11.38	105	5779	0.29303	ppb		89
81)	4-Chlorotoluene	11.36	91	6033	0.32717	ppb		97
82)	Tert-Butylbenzene	11.83	119	5281	0.30097	ppb		86
83)	1,2,4-Trimethylbenzene	11.90	105	5824	0.30847	ppb		86
84)	Sec-Butylbenzene	12.14	105	7505	0.31614	ppb		98
85)	p-Isopropyltoluene	12.36	119	3395	0.31982	ppb		93
86)	Benzyl Chloride	12.58	91	292	3.19315	ppb	#	63
87)	1,3-DCB	12.24	146	3987	0.36453	ppb		86
88)	1,4-DCB	12.37	146	1740	0.32241	ppb	#	88
89)	n-Butylbenzene	12.94	91	3359	0.37545	ppb		96
90)	1,2-DCB	12.88	146	2806	0.31704	ppb		89
91)	Hexachloroethane	13.24	117	840	0.31592	ppb	#	64
93)	1,2,4-Trichlorobenzene	15.21	180	643	-0.15572	ppb	#	77
94)	Hexachlorobutadiene	15.51	225	1347	0.38155	ppb		86
95)	Naphthalene	15.53	128	395	1.05185	ppb	#	80

(#) = qualifier out of range (m) = manual integration

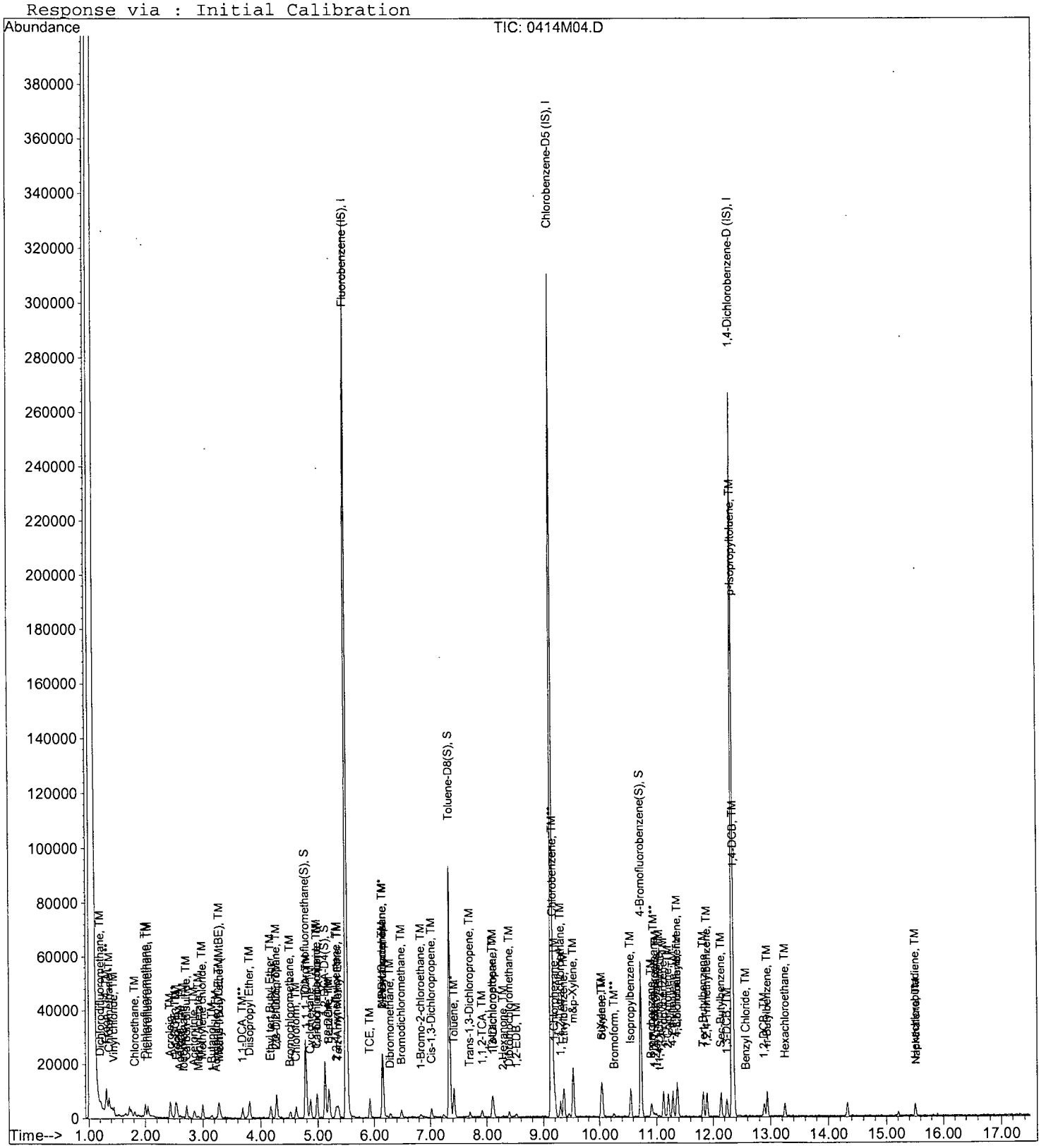
Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M04.D
Acq On : 14 Apr 17 11:39
Sample : 0.3ug/L VOC STD 4/14/17A
Misc : 1ul

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



781

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M05.D
Acq On : 14 Apr 17 12:07
Sample : 0.5ug/L VOC STD 4/14/17B
Misc : 1ul

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	302958	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	202455	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	87840	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	16296	5.55756 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
37) 1,2-DCA-D4(S)	5.13	65	14119	5.65255 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.612%	
57) Toluene-D8(S)	7.35	98	65144	5.25112 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.004%	
65) 4-Bromofluorobenzene(S)	10.73	95	18303	4.71847 ppb	0.00
Spiked Amount 25.000			Recovery	= 18.872%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	2261	0.49323 ppb		94
3) Freon 114	1.31	85	2570	0.54829 ppb		85
4) Chloromethane	1.36	50	3281	0.60478 ppb		96
5) Vinyl chloride	1.45	62	4093	0.50605 ppb		97
7) Chloroethane	1.81	64	2650	0.53412 ppb		100
8) Dichlorofluoromethane	2.00	67	6914	0.52532 ppb		98
9) Trichlorofluoromethane	2.05	101	4572	0.50836 ppb		91
10) Acrolein	2.43	56	11091	24.72880 ppb		90
11) Acetone	2.59	43	416	0.53488 ppb		83
12) Freon-113	2.55	101	2664	0.54195 ppb		90
13) 1,1-DCE	2.53	61	4517	0.52644 ppb		94
14) Acetonitrile	2.85	41	6834	24.46262 ppb		92
15) t-Butanol	3.15	59	2585	23.45606 ppb	#	75
16) Methyl Acetate	2.92	43	994	0.48856 ppb	#	56
17) Iodomethane	2.66	142	555	1.82900 ppb	#	44
18) Acrylonitrile	3.23	53	337	0.34243 ppb	#	75
19) Methylene chloride	3.00	84	3212	0.61170 ppb		94
20) Carbon disulfide	2.71	76	9010	0.55447 ppb		95
21) Methyl t-butyl ether (MtBE	3.30	73	4216	0.51780 ppb		98
22) Trans-1,2-DCE	3.27	96	3047	0.52347 ppb		74
23) Diisopropyl Ether	3.81	45	8517	0.49015 ppb		91
24) 1,1-DCA	3.68	63	5425	0.52711 ppb	#	84
25) Vinyl Acetate	3.77	43	1716	0.52646 ppb		95
26) Ethyl tert Butyl Ether	4.17	59	4494	0.44793 ppb		92
27) MEK (2-Butanone)	4.32	43	662	-2.02920 ppb	#	55
28) Cis-1,2-DCE	4.28	96	3142	0.50991 ppb		93
29) 2,2-Dichloropropane	4.27	77	3011	0.47137 ppb	#	88
30) Chloroform	4.62	83	5029	0.51178 ppb		88
31) Bromochloromethane	4.52	128	1245	0.54403 ppb		79
33) 1,1,1-TCA	4.81	97	4185	0.48857 ppb	#	85
34) Cyclohexane	4.87	41	3370	0.56607 ppb		92
35) 1,1-Dichloropropene	4.99	75	4717	0.56631 ppb	#	83
36) 2,2,4-Trimethylpentane	5.33	57	8172	0.54186 ppb		94
38) Carbon Tetrachloride	4.98	117	3269	0.47210 ppb		99
39) Tert Amyl Methyl Ether	5.37	73	3897	0.46303 ppb	#	85
40) 1,2-DCA	5.21	62	3026	0.54621 ppb		97
41) Benzene	5.20	78	12021	0.49836 ppb		96
42) TCE	5.92	95	3140	0.49852 ppb		89
43) 2-Pentanone	6.15	43	41633	22.61161 ppb		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M05.D
Acq On : 14 Apr 17 12:07
Sample : 0.5ug/L VOC STD 4/14/17B
Misc : 1ul

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	1,2-Dichloropropane	6.16	63	2910	0.52410	ppb	#	90
45)	Bromodichloromethane	6.48	83	3249	0.51469	ppb		100
46)	Methyl Cyclohexane	6.15	83	4232	0.48954	ppb		85
47)	Dibromomethane	6.28	93	1076	0.52256	ppb	#	73
48)	MIBK (methyl isobutyl ket	7.24	43	1755	0.19655	ppb	#	96
49)	1-Bromo-2-chloroethane	6.83	63	2883	0.54560	ppb		96
51)	Cis-1,3-Dichloropropene	7.02	75	3108	0.46815	ppb		92
52)	Toluene	7.42	91	14474	0.51856	ppb		97
53)	Trans-1,3-Dichloropropene	7.71	75	1938	1.80514	ppb		88
54)	1,1,2-TCA	7.92	83	1340	0.51657	ppb		95
55)	2-Hexanone	8.28	43	721	0.49929	ppb	#	84
58)	1,2-EDB	8.52	107	1225	0.46005	ppb		97
59)	Tetrachloroethene	8.10	164	3243	0.52873	ppb		82
60)	1-Chlorohexane	9.20	91	3368	0.48425	ppb		93
61)	1,1,1,2-Tetrachloroethane	9.30	131	2664	0.53652	ppb		90
62)	m&p-Xylene	9.52	106	11710	0.98408	ppb		90
63)	o-Xylene	10.04	106	5153	0.46631	ppb		82
64)	Styrene	10.06	104	7336	0.44336	ppb		95
66)	1,3-Dichloropropane	8.12	76	2496	0.47359	ppb		87
67)	Dibromochloromethane	8.40	129	1892	0.49383	ppb		82
68)	Chlorobenzene	9.18	112	8650	0.52976	ppb		96
69)	Ethylbenzene	9.35	91	16147	0.52179	ppb		95
70)	Bromoform	10.25	173	1320	0.60117	ppb		91
72)	Isopropylbenzene	10.55	105	14312	0.52916	ppb		90
73)	1,1,2,2-Tetrachloroethane	10.96	83	1385	0.49593	ppb	#	59
74)	1,2,3-Trichloropropane	10.99	110	435	0.51242	ppb	#	52
75)	t-1,4-Dichloro-2-Butene	11.05	53	232	0.44572	ppb	#	35
76)	Bromobenzene	10.91	156	3242	0.55895	ppb		96
77)	n-Propylbenzene	11.12	91	14172	0.49397	ppb		98
78)	4-Ethyltoluene	11.29	105	11688	0.48980	ppb		84
79)	2-Chlorotoluene	11.20	91	9734	0.56260	ppb		93
80)	1,3,5-Trimethylbenzene	11.38	105	9517	0.46213	ppb		99
81)	4-Chlorotoluene	11.36	91	9786	0.50823	ppb		95
82)	Tert-Butylbenzene	11.83	119	9891	0.53983	ppb		95
83)	1,2,4-Trimethylbenzene	11.89	105	9281	0.47076	ppb		99
84)	Sec-Butylbenzene	12.14	105	13237	0.53398	ppb		96
85)	p-Isopropyltoluene	12.36	119	6050	0.54579	ppb		95
86)	Benzyl Chloride	12.57	91	811	3.40927	ppb	#	63
87)	1,3-DCB	12.24	146	5439	0.47623	ppb		89
88)	1,4-DCB	12.37	146	2852	0.50607	ppb		97
89)	n-Butylbenzene	12.94	91	5276	0.56475	ppb		95
90)	1,2-DCB	12.88	146	4587	0.49633	ppb		91
91)	Hexachloroethane	13.24	117	1192	0.42933	ppb		96
92)	1,2-Dibromo-3-chloropropan	14.00	75	123	1.33745	ppb	#	1
94)	Hexachlorobutadiene	15.51	225	2247	0.60952	ppb	#	79
95)	Naphthalene	15.55	128	248	0.99168	ppb	#	80
96)	1,2,3-Trichlorobenzene	15.90	180	607	0.12870	ppb	#	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

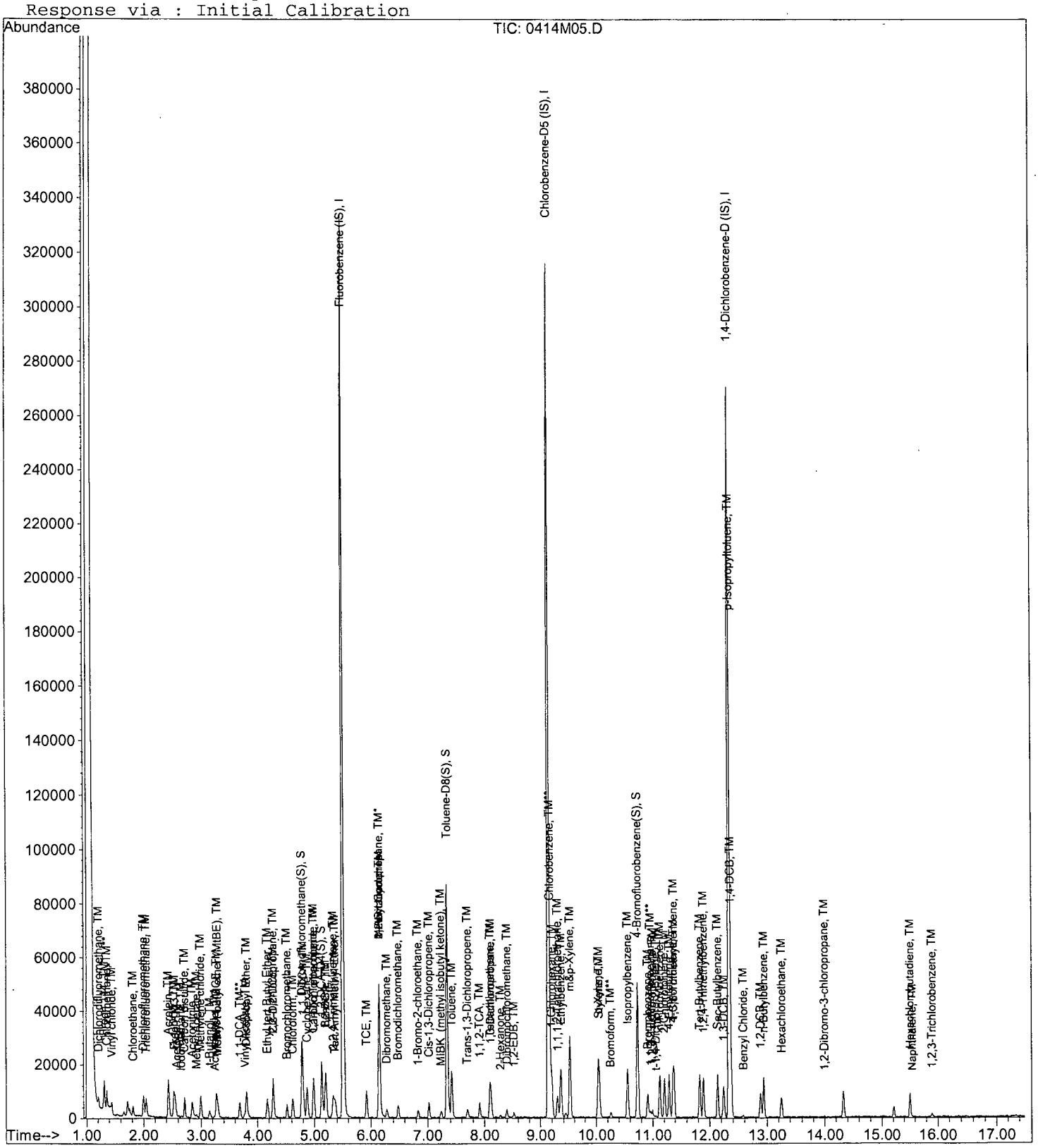
Data File : M:\MAX\DATA\M170414\0414M05.D
Acq On : 14 Apr 17 12:07
Sample : 0.5ug/L VOC STD 4/14/17B
Misc : 1ul

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M06.D
Acq On : 14 Apr 17 12:36
Sample : 1.0ug/L VOC STD 4/14/17C
Misc : 2ul

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	303095	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	206484	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	84949	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	28459	9.70123 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.804%	
37) 1,2-DCA-D4(S)	5.13	65	23140	9.25993 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.040%	
57) Toluene-D8(S)	7.35	98	116619	9.21698 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.868%	
65) 4-Bromofluorobenzene(S)	10.73	95	34040	8.60420 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.416%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	4685	1.02156 ppb		92
3) Freon 114	1.31	85	4989	1.06389 ppb		95
4) Chloromethane	1.36	50	5727	1.05517 ppb		94
5) Vinyl chloride	1.45	62	8266	1.02152 ppb	#	84
6) Bromomethane	1.72	94	5648	0.58660 ppb		98
7) Chloroethane	1.81	64	4924	0.99201 ppb		90
8) Dichlorofluoromethane	2.00	67	13702	1.04060 ppb		97
9) Trichlorofluoromethane	2.05	101	9090	1.01027 ppb		93
10) Acrolein	2.43	56	23540	52.46171 ppb		94
11) Acetone	2.59	43	982	1.26206 ppb		92
12) Freon-113	2.55	101	5138	1.04478 ppb		87
13) 1,1-DCE	2.53	61	8875	1.03388 ppb		92
14) Acetonitrile	2.84	41	14683	52.53472 ppb		97
15) t-Butanol	3.15	59	5149	46.70045 ppb		91
16) Methyl Acetate	2.92	43	1985	0.97520 ppb	#	86
17) Iodomethane	2.66	142	979	1.90093 ppb	#	58
18) Acrylonitrile	3.24	53	1215	1.23401 ppb	#	72
19) Methylene chloride	2.99	84	5747	1.09398 ppb		92
20) Carbon disulfide	2.71	76	16571	1.01931 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	7728	0.94871 ppb		99
22) Trans-1,2-DCE	3.27	96	5619	0.96490 ppb		93
23) Diisopropyl Ether	3.80	45	16856	0.96962 ppb		96
24) 1,1-DCA	3.68	63	9703	0.94235 ppb	#	91
25) Vinyl Acetate	3.77	43	2973	0.91168 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	9275	0.92404 ppb		99
27) MEK (2-Butanone)	4.32	43	1686	-1.07864 ppb	#	85
28) Cis-1,2-DCE	4.28	96	5992	0.97200 ppb		96
29) 2,2-Dichloropropane	4.28	77	5806	0.90851 ppb		96
30) Chloroform	4.62	83	9865	1.00346 ppb		89
31) Bromochloromethane	4.52	128	2231	0.97443 ppb		80
33) 1,1,1-TCA	4.80	97	8198	0.95663 ppb		95
34) Cyclohexane	4.87	41	6138	1.03056 ppb		79
35) 1,1-Dichloropropene	4.99	75	8329	0.99951 ppb		93
36) 2,2,4-Trimethylpentane	5.33	57	15271	1.01211 ppb		95
38) Carbon Tetrachloride	4.99	117	6730	0.97150 ppb		85
39) Tert Amyl Methyl Ether	5.37	73	7807	0.92719 ppb	#	94
40) 1,2-DCA	5.21	62	5677	1.02427 ppb		95
41) Benzene	5.20	78	23990	0.99412 ppb		97
42) TCE	5.92	95	6332	1.00484 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M06.D
Acq On : 14 Apr 17 12:36
Sample : 1.0ug/L VOC STD 4/14/17C
Misc : 2ul

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	85030	46.16041 ppb		96
44) 1,2-Dichloropropane	6.16	63	5334	0.96023 ppb	#	88
45) Bromodichloromethane	6.49	83	6152	0.97413 ppb		97
46) Methyl Cyclohexane	6.15	83	9174	1.06073 ppb		99
47) Dibromomethane	6.29	93	1928	0.93591 ppb		88
48) MIBK (methyl isobutyl ket	7.23	43	3829	1.01887 ppb	#	82
49) 1-Bromo-2-chloroethane	6.83	63	5155	0.97512 ppb		89
51) Cis-1,3-Dichloropropene	7.02	75	6155	0.92669 ppb		94
52) Toluene	7.42	91	27615	0.98892 ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	3929	2.15492 ppb		92
54) 1,1,2-TCA	7.92	83	2540	0.97873 ppb		94
55) 2-Hexanone	8.28	43	1261	0.87285 ppb	#	96
58) 1,2-EDB	8.52	107	2639	0.97174 ppb		83
59) Tetrachloroethene	8.10	164	6622	1.05856 ppb		96
60) 1-Chlorohexane	9.20	91	5966	0.84105 ppb		88
61) 1,1,1,2-Tetrachloroethane	9.30	131	4428	0.87438 ppb		89
62) m&p-Xylene	9.51	106	21720	1.78967 ppb		93
63) o-Xylene	10.04	106	10756	0.95434 ppb		90
64) Styrene	10.06	104	14390	0.85270 ppb		90
66) 1,3-Dichloropropane	8.12	76	5458	1.01538 ppb		94
67) Dibromochloromethane	8.40	129	3859	0.98758 ppb		88
68) Chlorobenzene	9.18	112	16442	0.98733 ppb		98
69) Ethylbenzene	9.35	91	30237	0.95805 ppb		97
70) Bromoform	10.26	173	2091	0.93373 ppb		92
72) Isopropylbenzene	10.55	105	27457	1.04972 ppb		99
73) 1,1,2,2-Tetrachloroethane	10.96	83	2997	1.10966 ppb	#	95
74) 1,2,3-Trichloropropane	11.00	110	915	1.11452 ppb		94
75) t-1,4-Dichloro-2-Butene	11.03	53	473	0.93967 ppb	#	35
76) Bromobenzene	10.91	156	5986	1.06717 ppb		87
77) n-Propylbenzene	11.12	91	27622	0.99554 ppb		98
78) 4-Ethyltoluene	11.29	105	23003	0.99678 ppb		98
79) 2-Chlorotoluene	11.21	91	15764	0.94212 ppb		97
80) 1,3,5-Trimethylbenzene	11.38	105	20195	1.01400 ppb		96
81) 4-Chlorotoluene	11.36	91	18476	0.99219 ppb		99
82) Tert-Butylbenzene	11.83	119	17638	0.99541 ppb		95
83) 1,2,4-Trimethylbenzene	11.90	105	19244	1.00933 ppb		99
84) Sec-Butylbenzene	12.14	105	24149	1.00733 ppb		98
85) p-Isopropyltoluene	12.36	119	10713	0.99935 ppb		98
86) Benzyl Chloride	12.57	91	1215	3.59945 ppb	#	80
87) 1,3-DCB	12.24	146	11649	1.05468 ppb		96
88) 1,4-DCB	12.37	146	5471	1.00383 ppb		96
89) n-Butylbenzene	12.94	91	9892	1.09489 ppb		95
90) 1,2-DCB	12.88	146	9460	1.05843 ppb		91
91) Hexachloroethane	13.25	117	2397	0.89272 ppb		86
92) 1,2-Dibromo-3-chloropropan	14.00	75	233	1.66377 ppb	#	49
93) 1,2,4-Trichlorobenzene	15.21	180	3657	0.47170 ppb		87
94) Hexachlorobutadiene	15.50	225	3713	1.04147 ppb		94
95) Naphthalene	15.54	128	753	1.18582 ppb	#	80
96) 1,2,3-Trichlorobenzene	15.90	180	1649	0.45407 ppb		77

(#) = qualifier out of range (m) = manual integration

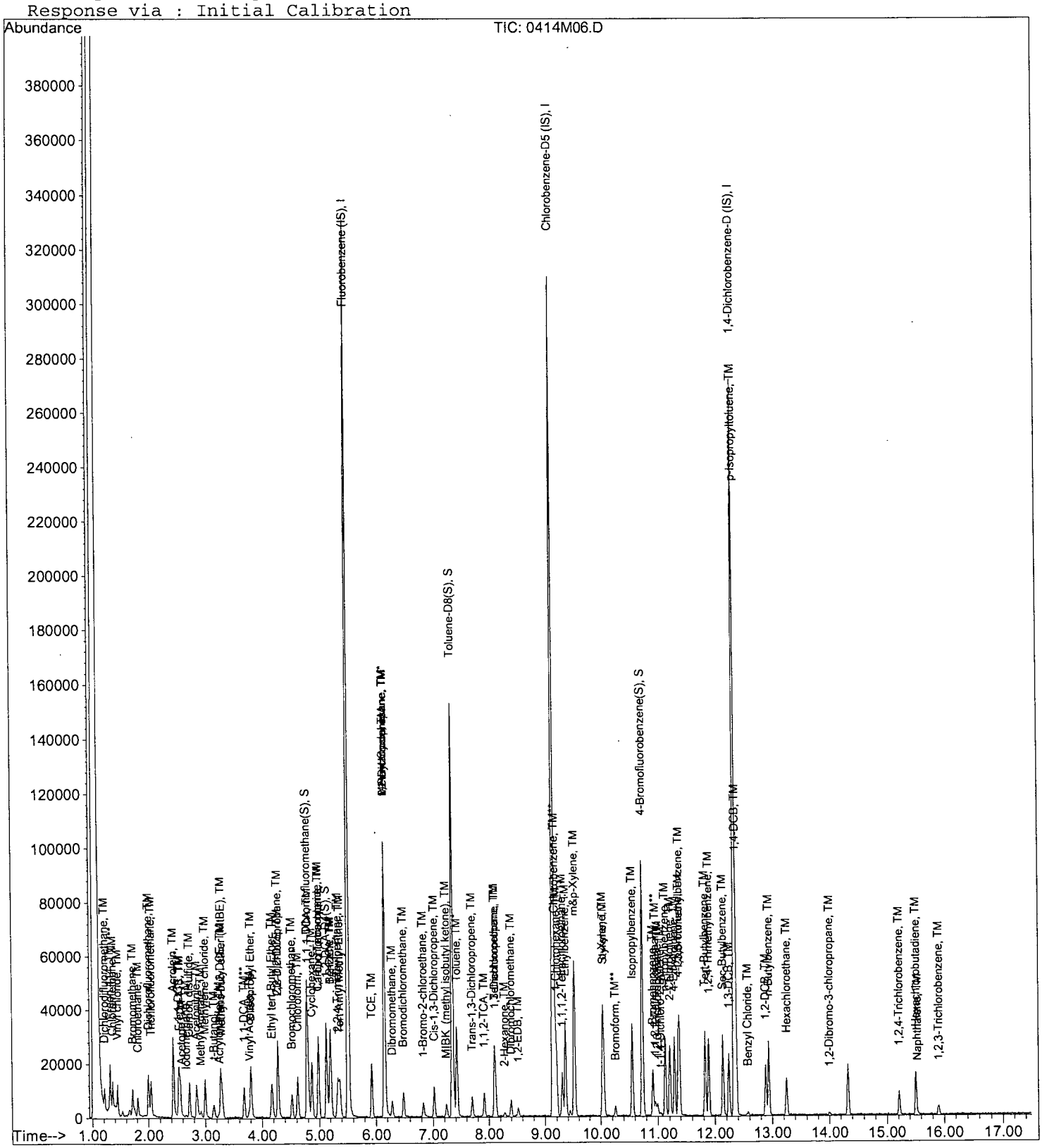
Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M06.D
Acq On : 14 Apr 17 12:36
Sample : 1.0ug/L VOC STD 4/14/17C
Misc : 2ul

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



787

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M07.D
Acq On : 14 Apr 17 13:04
Sample : 2.0ug/L VOC STD 4/14/17D
Misc : 2ul

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326282	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	213736	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	92467	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	30353	9.61157 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.448%	
37) 1,2-DCA-D4(S)	5.13	65	26774	9.95275 ppb	0.00
Spiked Amount 25.000			Recovery	= 39.812%	
57) Toluene-D8(S)	7.35	98	126430	9.65336 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.612%	
65) 4-Bromofluorobenzene(S)	10.73	95	38950	9.51124 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.044%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	8920	1.80678 ppb	95
3) Freon 114	1.31	85	10169	2.01441 ppb	97
4) Chloromethane	1.36	50	11416	1.95388 ppb	95
5) Vinyl chloride	1.45	62	15840	1.81841 ppb	95
6) Bromomethane	1.71	94	11436	1.79633 ppb	100
7) Chloroethane	1.81	64	9656	1.80709 ppb #	80
8) Dichlorofluoromethane	2.00	67	28387	2.00265 ppb	100
9) Trichlorofluoromethane	2.05	101	18378	1.89739 ppb	100
10) Acrolein	2.44	56	36666	75.90758 ppb	98
11) Acetone	2.59	43	1580	1.88630 ppb	91
12) Freon-113	2.55	101	10282	1.94220 ppb	93
13) 1,1-DCE	2.53	61	18517	2.00382 ppb	98
14) Acetonitrile	2.84	41	23516	78.15931 ppb	100
15) t-Butanol	3.15	59	8209	69.16304 ppb	90
16) Methyl Acetate	2.92	43	4131	1.88526 ppb	99
17) Iodomethane	2.66	142	2908	2.19332 ppb	93
18) Acrylonitrile	3.23	53	2102	1.98318 ppb #	96
19) Methylene chloride	2.99	84	11204	1.98119 ppb	94
20) Carbon disulfide	2.71	76	34366	1.96369 ppb	96
21) Methyl t-butyl ether (MtBE	3.30	73	16822	1.91836 ppb	100
22) Trans-1,2-DCE	3.27	96	11985	1.91182 ppb	92
23) Diisopropyl Ether	3.81	45	35986	1.92294 ppb	98
24) 1,1-DCA	3.68	63	21355	1.92660 ppb	97
25) Vinyl Acetate	3.76	43	6789	1.93393 ppb	94
26) Ethyl tert Butyl Ether	4.18	59	20687	1.91453 ppb	98
27) MEK (2-Butanone)	4.31	43	2219	-0.73015 ppb	97
28) Cis-1,2-DCE	4.28	96	12678	1.91042 ppb	91
29) 2,2-Dichloropropane	4.28	77	13103	1.90462 ppb	97
30) Chloroform	4.62	83	20368	1.92459 ppb	97
31) Bromochloromethane	4.52	128	4536	1.84040 ppb	73
33) 1,1,1-TCA	4.80	97	16964	1.83887 ppb	98
34) Cyclohexane	4.87	41	12741	1.98716 ppb	94
35) 1,1-Dichloropropene	4.99	75	16800	1.87278 ppb	94
36) 2,2,4-Trimethylpentane	5.33	57	32586	2.00622 ppb	98
38) Carbon Tetrachloride	4.99	117	13362	1.79177 ppb	99
39) Tert Amyl Methyl Ether	5.37	73	16455	1.81539 ppb #	87
40) 1,2-DCA	5.21	62	11208	1.87848 ppb	94
41) Benzene	5.20	78	50332	1.93749 ppb	98
42) TCE	5.92	95	13412	1.97713 ppb	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M07.D
Acq On : 14 Apr 17 13:04
Sample : 2.0ug/L VOC STD 4/14/17D
Misc : 2ul

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	136877	69.02615	ppb		99
44)	1,2-Dichloropropane	6.16	63	11081	1.85306	ppb	#	95
45)	Bromodichloromethane	6.48	83	12807	1.88379	ppb		100
46)	Methyl Cyclohexane	6.15	83	18470	1.98381	ppb		95
47)	Dibromomethane	6.29	93	4141	1.86732	ppb		95
48)	MIBK (methyl isobutyl ket	7.24	43	6856	2.02625	ppb		96
49)	1-Bromo-2-chloroethane	6.83	63	11065	1.94432	ppb		96
50)	2-Chloroethyl vinyl ether	6.88	106	64	0.78996	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	12451	1.74139	ppb		96
52)	Toluene	7.42	91	55296	1.83948	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	7768	2.73265	ppb		94
54)	1,1,2-TCA	7.92	83	5306	1.89925	ppb		87
55)	2-Hexanone	8.28	43	2782	1.78883	ppb	#	91
58)	1,2-EDB	8.52	107	5195	1.84800	ppb		89
59)	Tetrachloroethene	8.10	164	13027	2.01178	ppb		96
60)	1-Chlorohexane	9.20	91	12690	1.72826	ppb		93
61)	1,1,1,2-Tetrachloroethane	9.30	131	9578	1.82717	ppb		81
62)	m&p-Xylene	9.52	106	46498	3.70132	ppb		98
63)	o-Xylene	10.03	106	20944	1.79523	ppb		90
64)	Styrene	10.05	104	30132	1.72493	ppb		100
66)	1,3-Dichloropropane	8.12	76	10650	1.91405	ppb		95
67)	Dibromochloromethane	8.39	129	7779	1.92323	ppb		95
68)	Chlorobenzene	9.18	112	32573	1.88962	ppb		98
69)	Ethylbenzene	9.35	91	61983	1.89727	ppb		99
70)	Bromoform	10.26	173	3970	1.71264	ppb		89
72)	Isopropylbenzene	10.55	105	56815	1.99552	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.95	83	6703	2.28005	ppb		92
74)	1,2,3-Trichloropropane	10.99	110	1765	1.97508	ppb		92
75)	t-1,4-Dichloro-2-Butene	11.04	53	961	1.75391	ppb		90
76)	Bromobenzene	10.91	156	12224	2.00209	ppb		90
77)	n-Propylbenzene	11.12	91	57888	1.91673	ppb		99
78)	4-Ethyltoluene	11.29	105	46348	1.84510	ppb		91
79)	2-Chlorotoluene	11.20	91	35901	1.97114	ppb		96
80)	1,3,5-Trimethylbenzene	11.38	105	42768	1.97281	ppb		99
81)	4-Chlorotoluene	11.36	91	38568	1.90276	ppb		99
82)	Tert-Butylbenzene	11.83	119	37705	1.95490	ppb		98
83)	1,2,4-Trimethylbenzene	11.90	105	41409	1.99527	ppb		98
84)	Sec-Butylbenzene	12.14	105	49613	1.90125	ppb		97
85)	p-Isopropyltoluene	12.36	119	22264	1.90800	ppb		99
86)	Benzyl Chloride	12.57	91	2633	4.13106	ppb	#	94
87)	1,3-DCB	12.24	146	23950	1.99210	ppb		90
88)	1,4-DCB	12.37	146	11889	2.00407	ppb		95
89)	n-Butylbenzene	12.94	91	20552	2.08983	ppb		99
90)	1,2-DCB	12.88	146	18595	1.91135	ppb		97
91)	Hexachloroethane	13.26	117	5135	1.75694	ppb		83
92)	1,2-Dibromo-3-chloropropan	14.01	75	530	2.39027	ppb	#	77
93)	1,2,4-Trichlorobenzene	15.21	180	8866	1.40797	ppb		93
94)	Hexachlorobutadiene	15.51	225	7956	2.05016	ppb		91
95)	Naphthalene	15.54	128	2662	1.82617	ppb	#	89
96)	1,2,3-Trichlorobenzene	15.90	180	4855	1.31539	ppb		96

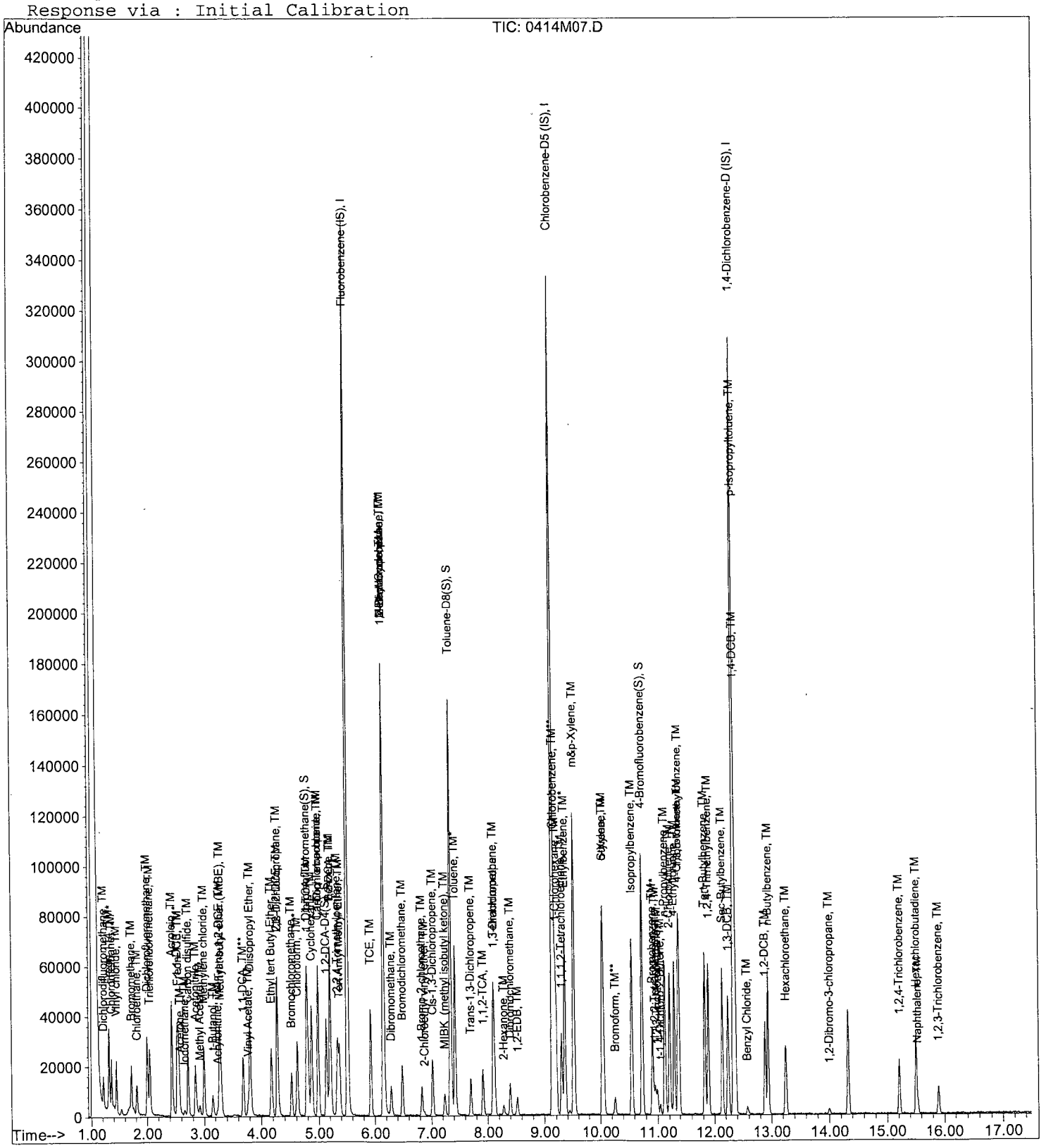
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M07.D Vial: 7
Acq On : 14 Apr 17 13:04 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 4/14/17D Inst : Max
Misc : 2ul Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



790

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M08.D
Acq On : 14 Apr 17 13:33
Sample : 5.0ug/L VOC STD 4/14/17E
Misc : 5ul

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	310752	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	205658	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	94016	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	74012	24.60787 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.432%	
37) 1,2-DCA-D4(S)	5.13	65	64728	25.26396 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.056%	
57) Toluene-D8(S)	7.35	98	322758	25.61163 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.448%	
65) 4-Bromofluorobenzene(S)	10.73	95	98876	25.09299 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.372%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	26173	5.56639 ppb		98
3) Freon 114	1.31	85	23539	4.89595 ppb		95
4) Chloromethane	1.36	50	29544	5.30923 ppb		96
5) Vinyl chloride	1.45	62	46595	5.61637 ppb		94
6) Bromomethane	1.72	94	27706	5.78396 ppb		99
7) Chloroethane	1.81	64	28372	5.57508 ppb		98
8) Dichlorofluoromethane	2.00	67	65604	4.85953 ppb		99
9) Trichlorofluoromethane	2.05	101	51833	5.61880 ppb		96
10) Acrolein	2.43	56	46493	101.06212 ppb		94
11) Acetone	2.58	43	4086	5.12190 ppb		85
12) Freon-113	2.55	101	24355	4.83041 ppb		97
13) 1,1-DCE	2.53	61	42447	4.82297 ppb		99
14) Acetonitrile	2.84	41	29624	103.38086 ppb		95
15) t-Butanol	3.15	59	9631	85.19898 ppb	#	87
16) Methyl Acetate	2.92	43	9771	4.68204 ppb	#	84
17) Iodomethane	2.65	142	13850	4.02798 ppb		99
18) Acrylonitrile	3.23	53	4516	4.47366 ppb		95
19) Methylene chloride	2.99	84	25141	4.66782 ppb		91
20) Carbon disulfide	2.71	76	79670	4.77989 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	38685	4.63207 ppb		98
22) Trans-1,2-DCE	3.27	96	28943	4.84765 ppb		96
23) Diisopropyl Ether	3.81	45	84909	4.76393 ppb		99
24) 1,1-DCA	3.68	63	51260	4.85568 ppb		98
25) Vinyl Acetate	3.77	43	14995	4.48497 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	47566	4.62210 ppb		95
27) MEK (2-Butanone)	4.31	43	7886	4.49795 ppb		96
28) Cis-1,2-DCE	4.28	96	29920	4.73390 ppb		94
29) 2,2-Dichloropropane	4.28	77	29015	4.42833 ppb		97
30) Chloroform	4.62	83	48492	4.81105 ppb		96
31) Bromochloromethane	4.52	128	11260	4.79685 ppb		94
33) 1,1,1-TCA	4.80	97	41818	4.75953 ppb		97
34) Cyclohexane	4.87	41	29185	4.77935 ppb		91
35) 1,1-Dichloropropene	4.99	75	41057	4.80556 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	74627	4.82417 ppb		98
38) Carbon Tetrachloride	4.99	117	33193	4.67344 ppb		98
39) Tert Amyl Methyl Ether	5.37	73	39795	4.60977 ppb		99
40) 1,2-DCA	5.21	62	26720	4.70213 ppb		94
41) Benzene	5.20	78	117895	4.76506 ppb		99
42) TCE	5.92	95	30215	4.67674 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M08.D
Acq On : 14 Apr 17 13:33
Sample : 5.0ug/L VOC STD 4/14/17E
Misc : 5ul

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	184470	97.67605 ppb		99
44) 1,2-Dichloropropane	6.16	63	27704	4.86442 ppb		99
45) Bromodichloromethane	6.49	83	30282	4.67681 ppb		99
46) Methyl Cyclohexane	6.15	83	41861	4.72087 ppb		100
47) Dibromomethane	6.28	93	10583	5.01074 ppb		93
48) MIBK (methyl isobutyl ket	7.23	43	14800	5.22575 ppb		94
49) 1-Bromo-2-chloroethane	6.83	63	25399	4.68610 ppb		99
51) Cis-1,3-Dichloropropene	7.02	75	30834	4.52794 ppb		99
52) Toluene	7.42	91	132898	4.64194 ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	20001	4.89315 ppb		91
54) 1,1,2-TCA	7.92	83	12096	4.54607 ppb		95
55) 2-Hexanone	8.28	43	7350	4.96223 ppb		96
58) 1,2-EDB	8.52	107	13222	4.88817 ppb		99
59) Tetrachloroethene	8.10	164	31048	4.98312 ppb		92
60) 1-Chlorohexane	9.20	91	32494	4.59919 ppb		93
61) 1,1,1,2-Tetrachloroethane	9.30	131	23600	4.67894 ppb		95
62) m&p-Xylene	9.51	106	116736	9.65738 ppb		99
63) o-Xylene	10.03	106	53431	4.75977 ppb		98
64) Styrene	10.05	104	80162	4.76920 ppb		99
66) 1,3-Dichloropropane	8.12	76	26677	4.98280 ppb		96
67) Dibromochloromethane	8.39	129	18472	4.74628 ppb		96
68) Chlorobenzene	9.18	112	80771	4.86973 ppb		98
69) Ethylbenzene	9.35	91	151267	4.81208 ppb		99
70) Bromoform	10.26	173	10341	4.63627 ppb		87
72) Isopropylbenzene	10.55	105	143730	4.96508 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.95	83	14716	4.92324 ppb		93
74) 1,2,3-Trichloropropane	10.99	110	5006	5.50954 ppb		96
75) t-1,4-Dichloro-2-Butene	11.04	53	3044	5.46404 ppb		100
76) Bromobenzene	10.91	156	32665	5.26183 ppb		91
77) n-Propylbenzene	11.12	91	153221	4.98972 ppb		98
78) 4-Ethyltoluene	11.29	105	122270	4.78732 ppb		97
79) 2-Chlorotoluene	11.20	91	93308	5.03865 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	110779	5.02585 ppb		99
81) 4-Chlorotoluene	11.36	91	101713	4.93536 ppb		98
82) Tert-Butylbenzene	11.83	119	95581	4.87396 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	103221	4.89171 ppb		96
84) Sec-Butylbenzene	12.14	105	127986	4.82383 ppb		99
85) p-Isopropyltoluene	12.36	119	56984	4.80301 ppb		97
86) Benzyl Chloride	12.57	91	8655	6.51613 ppb	#	95
87) 1,3-DCB	12.24	146	59621	4.87741 ppb		98
88) 1,4-DCB	12.37	146	30088	4.98822 ppb		99
89) n-Butylbenzene	12.94	91	48856	4.88607 ppb		98
90) 1,2-DCB	12.88	146	49578	5.01208 ppb		98
91) Hexachloroethane	13.25	117	16069	5.40742 ppb		98
92) 1,2-Dibromo-3-chloropropan	14.00	75	1458	4.76650 ppb	#	84
93) 1,2,4-Trichlorobenzene	15.21	180	24909	4.40392 ppb		99
94) Hexachlorobutadiene	15.51	225	19883	5.03918 ppb		92
95) Naphthalene	15.54	128	8114	3.67467 ppb		95
96) 1,2,3-Trichlorobenzene	15.90	180	14692	4.01607 ppb		97

(#) = qualifier out of range (m) = manual integration

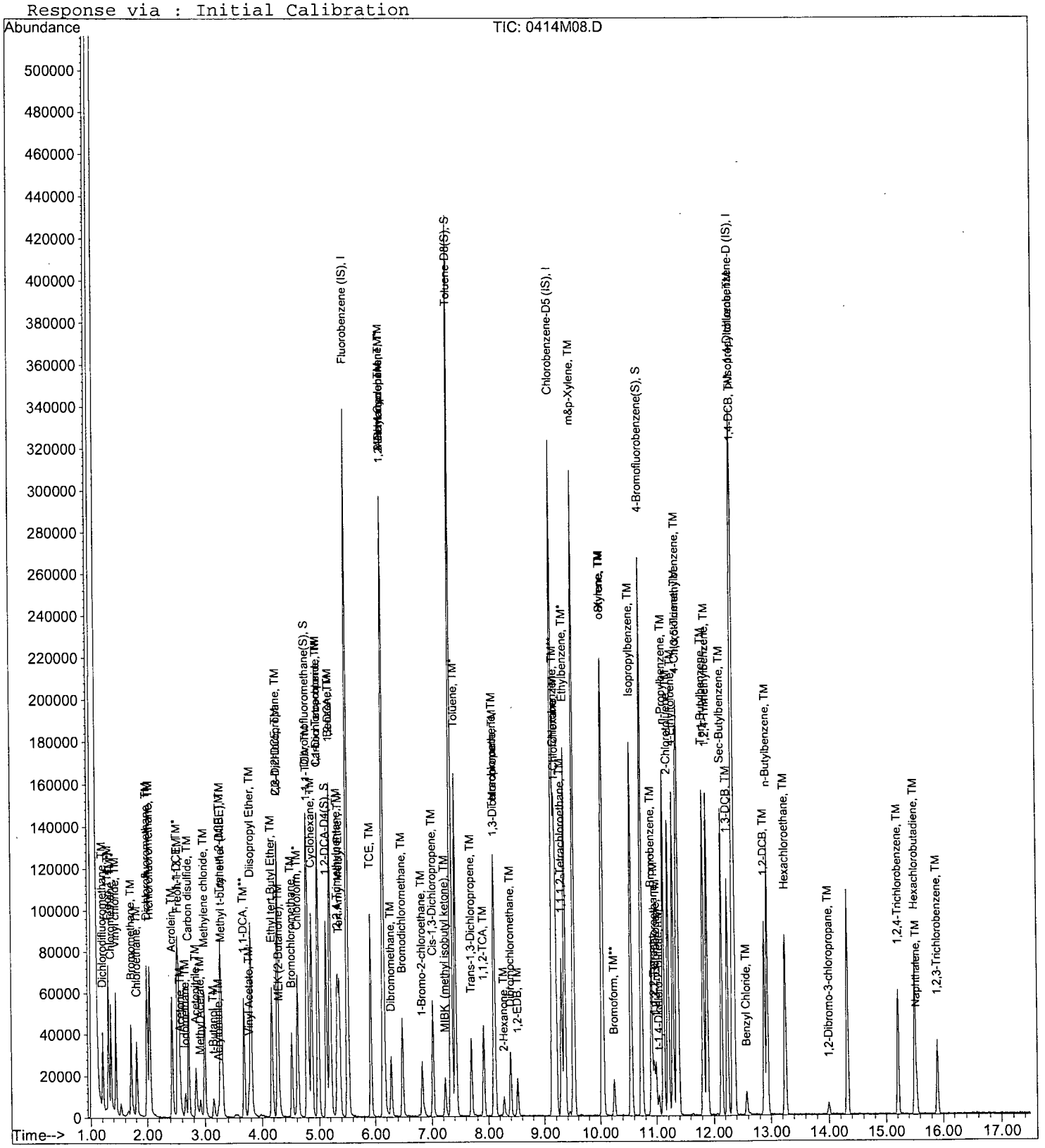
Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M08.D
Acq On : 14 Apr 17 13:33
Sample : 5.0ug/L VOC STD 4/14/17E
Misc : 5ul

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



793

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M09.D Vial: 9
Acq On : 14 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 10ug/L VOC STD 4/14/17F Inst : Max
Misc : 5ul Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	318965	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	216302	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	105721	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	78323	25.37068 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.484%	
37) 1,2-DCA-D4(S)	5.13	65	66999	25.47701 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.908%	
57) Toluene-D8(S)	7.34	98	335913	25.34382 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.376%	
65) 4-Bromofluorobenzene(S)	10.73	95	107276	25.88506 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.540%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	49265	10.20774 ppb	100
3) Freon 114	1.31	85	51808	10.49823 ppb	100
4) Chloromethane	1.36	50	56416	9.87723 ppb	100
5) Vinyl chloride	1.45	62	89832	10.54918 ppb	100
6) Bromomethane	1.71	94	50369	10.85106 ppb	100
7) Chloroethane	1.81	64	52515	10.05345 ppb	100
8) Dichlorofluoromethane	2.00	67	145418	10.49429 ppb	100
9) Trichlorofluoromethane	2.05	101	98926	10.44765 ppb	100
10) Acrolein	2.43	56	60771	128.69691 ppb	100
11) Acetone	2.59	43	8806	10.75430 ppb	100
12) Freon-113	2.55	101	53862	10.40756 ppb	100
13) 1,1-DCE	2.53	61	93999	10.40547 ppb	100
14) Acetonitrile	2.84	41	37324	126.89822 ppb	100
15) t-Butanol	3.15	59	14171	122.13339 ppb	100
16) Methyl Acetate	2.92	43	22462	10.48613 ppb	100
17) Iodomethane	2.65	142	44330	8.88577 ppb	100
18) Acrylonitrile	3.23	53	10874	10.49467 ppb	100
19) Methylene chloride	2.99	84	54275	9.81753 ppb	100
20) Carbon disulfide	2.71	76	174420	10.19507 ppb	100
21) Methyl t-butyl ether (MtBE	3.30	73	87867	10.25012 ppb	100
22) Trans-1,2-DCE	3.27	96	65612	10.70637 ppb	100
23) Diisopropyl Ether	3.81	45	190883	10.43397 ppb	100
24) 1,1-DCA	3.68	63	116289	10.73201 ppb	100
25) Vinyl Acetate	3.77	43	34703	10.11233 ppb	100
26) Ethyl tert Butyl Ether	4.18	59	110053	10.41875 ppb	100
27) MEK (2-Butanone)	4.31	43	15099	10.67846 ppb	100
28) Cis-1,2-DCE	4.28	96	69749	10.75143 ppb	100
29) 2,2-Dichloropropane	4.28	77	67143	9.98364 ppb	100
30) Chloroform	4.62	83	109272	10.56208 ppb	100
31) Bromochloromethane	4.52	128	25496	10.58183 ppb	100
33) 1,1,1-TCA	4.81	97	94376	10.46486 ppb	100
34) Cyclohexane	4.87	41	63599	10.14684 ppb	100
35) 1,1-Dichloropropene	4.99	75	90335	10.30111 ppb	100
36) 2,2,4-Trimethylpentane	5.33	57	160265	10.09338 ppb	100
38) Carbon Tetrachloride	4.99	117	76220	10.45515 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	90200	10.17953 ppb	100
40) 1,2-DCA	5.21	62	60638	10.39619 ppb	100
41) Benzene	5.20	78	264329	10.40852 ppb	100
42) TCE	5.92	95	69412	10.46709 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M09.D
Acq On : 14 Apr 17 14:01
Sample : 10ug/L VOC STD 4/14/17F
Misc : 5ul

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	242157	124.91951	ppb		100
44)	1,2-Dichloropropane	6.16	63	61995	10.60514	ppb		100
45)	Bromodichloromethane	6.49	83	68742	10.34328	ppb		100
46)	Methyl Cyclohexane	6.15	83	92888	10.20570	ppb		100
47)	Dibromomethane	6.29	93	22707	10.47426	ppb		100
48)	MIBK (methyl isobutyl ket	7.23	43	28621	10.28751	ppb		100
49)	1-Bromo-2-chloroethane	6.83	63	54762	9.84341	ppb		100
50)	2-Chloroethyl vinyl ether	6.87	106	792	10.00000	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	72866	10.42477	ppb		100
52)	Toluene	7.42	91	300327	10.21989	ppb		100
53)	Trans-1,3-Dichloropropene	7.70	75	47062	9.32450	ppb		100
54)	1,1,2-TCA	7.91	83	28663	10.49511	ppb		100
55)	2-Hexanone	8.27	43	15367	10.10764	ppb		100
58)	1,2-EDB	8.52	107	30844	10.84189	ppb		100
59)	Tetrachloroethene	8.10	164	65763	10.03539	ppb		100
60)	1-Chlorohexane	9.20	91	76905	10.34947	ppb		100
61)	1,1,1,2-Tetrachloroethane	9.30	131	54271	10.23031	ppb		100
62)	m&p-Xylene	9.51	106	266616	20.97132	ppb		100
63)	o-Xylene	10.03	106	123594	10.46828	ppb		100
64)	Styrene	10.05	104	187016	10.57890	ppb		100
66)	1,3-Dichloropropane	8.12	76	59834	10.62600	ppb		100
67)	Dibromochloromethane	8.39	129	42223	10.31511	ppb		100
68)	Chlorobenzene	9.18	112	179883	10.31157	ppb		100
69)	Ethylbenzene	9.35	91	338252	10.23091	ppb		100
70)	Bromoform	10.25	173	22660	9.65943	ppb		100
72)	Isopropylbenzene	10.55	105	337378	10.36421	ppb		100
73)	1,1,2,2-Tetrachloroethane	10.96	83	33594	9.99455	ppb		100
74)	1,2,3-Trichloropropane	10.99	110	10664	10.43723	ppb		100
75)	t-1,4-Dichloro-2-Butene	11.04	53	6309	10.07094	ppb		100
76)	Bromobenzene	10.91	156	69519	9.95860	ppb		100
77)	n-Propylbenzene	11.12	91	355439	10.29352	ppb		100
78)	4-Ethyltoluene	11.29	105	294036	10.23797	ppb		100
79)	2-Chlorotoluene	11.20	91	214893	10.31948	ppb		100
80)	1,3,5-Trimethylbenzene	11.38	105	257092	10.37245	ppb		100
81)	4-Chlorotoluene	11.36	91	241922	10.43898	ppb		100
82)	Tert-Butylbenzene	11.83	119	228128	10.34498	ppb		100
83)	1,2,4-Trimethylbenzene	11.89	105	244190	10.29108	ppb		100
84)	Sec-Butylbenzene	12.14	105	299223	10.02917	ppb		100
85)	p-Isopropyltoluene	12.36	119	126664	9.49412	ppb		100
86)	Benzyl Chloride	12.57	91	17705	9.34482	ppb		100
87)	1,3-DCB	12.24	146	141575	10.29953	ppb		100
88)	1,4-DCB	12.37	146	68456	10.09262	ppb		100
89)	n-Butylbenzene	12.94	91	108960	9.69057	ppb		100
90)	1,2-DCB	12.88	146	114133	10.26078	ppb		100
91)	Hexachloroethane	13.25	117	33728	10.09329	ppb		100
92)	1,2-Dibromo-3-chloropropan	13.99	75	3999	10.19114	ppb		100
93)	1,2,4-Trichlorobenzene	15.21	180	63420	10.33934	ppb		100
94)	Hexachlorobutadiene	15.51	225	44539	10.03827	ppb		100
95)	Naphthalene	15.54	128	28672	9.61715	ppb		100
96)	1,2,3-Trichlorobenzene	15.90	180	41729	10.22180	ppb		100

(#) = qualifier out of range (m) = manual integration

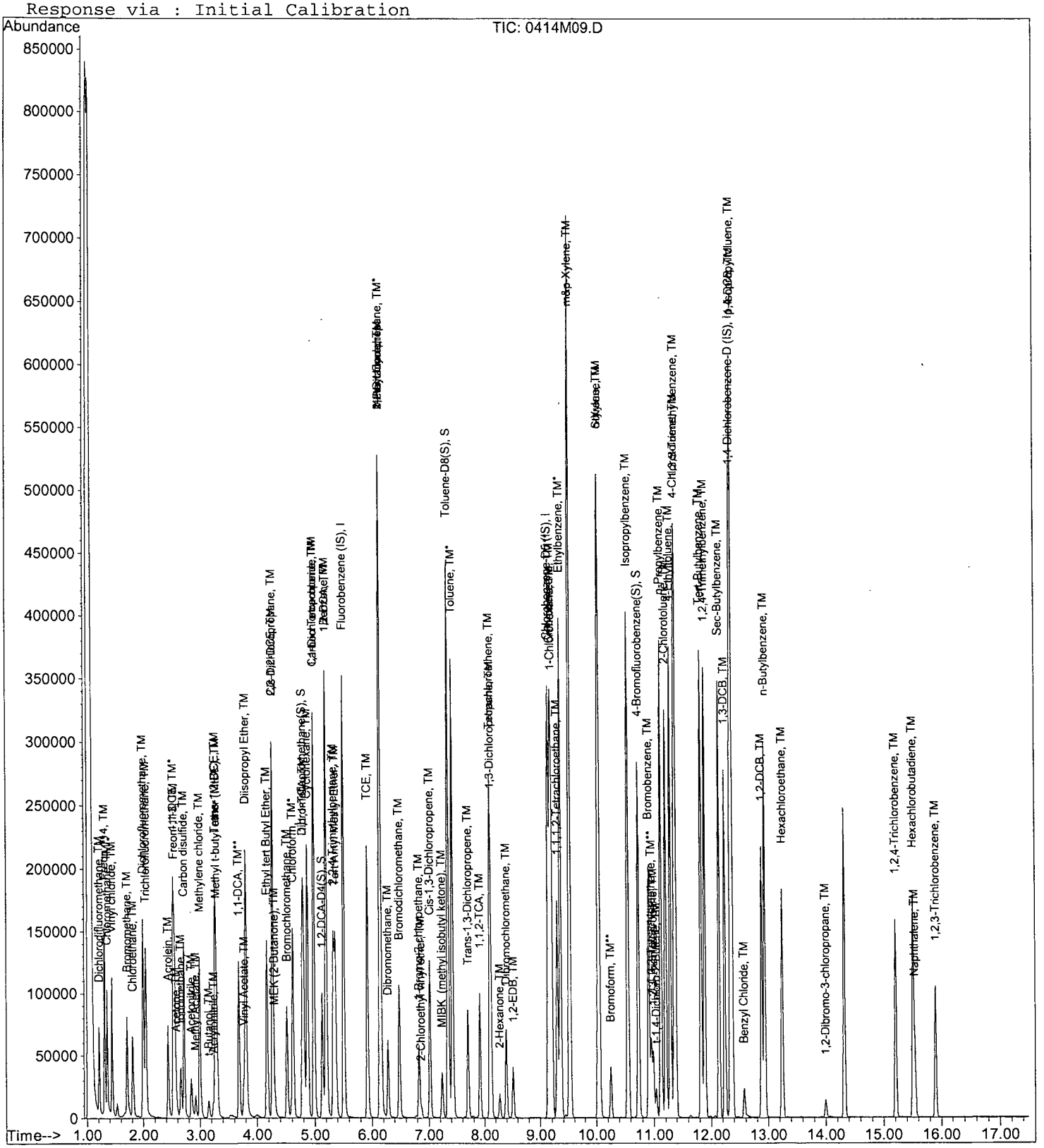
Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M09.D
Acq On : 14 Apr 17 14:01
Sample : 10ug/L VOC STD 4/14/17F
Misc : 5ul

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M10.D
Acq On : 14 Apr 17 14:29
Sample : 20ug/L VOC STD 4/14/17G
Misc : 10ul

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	348005	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	236865	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	121468	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	163454	48.52839 ppb	0.00
Spiked Amount 25.000			Recovery	= 194.112%	
37) 1,2-DCA-D4(S)	5.13	65	138452	48.25440 ppb	0.00
Spiked Amount 25.000			Recovery	= 193.016%	
57) Toluene-D8(S)	7.35	98	711022	48.98781 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.952%	
65) 4-Bromofluorobenzene(S)	10.73	95	233134	51.37028 ppb	0.00
Spiked Amount 25.000			Recovery	= 205.480%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	103938	19.73891 ppb		97
3) Freon 114	1.31	85	101465	18.84487 ppb		100
4) Chloromethane	1.36	50	117833	18.90852 ppb		95
5) Vinyl chloride	1.45	62	189980	20.44810 ppb		97
6) Bromomethane	1.71	94	95469	19.43073 ppb		99
7) Chloroethane	1.81	64	111442	19.55412 ppb		99
8) Dichlorofluoromethane	2.00	67	295510	19.54631 ppb		99
9) Trichlorofluoromethane	2.04	101	208883	20.21942 ppb		97
10) Acrolein	2.43	56	74888	145.35886 ppb		94
11) Acetone	2.59	43	16474	18.43997 ppb		88
12) Freon-113	2.55	101	107767	19.08578 ppb		98
13) 1,1-DCE	2.53	61	195234	19.80850 ppb		98
14) Acetonitrile	2.84	41	47699	148.63947 ppb		96
15) t-Butanol	3.15	59	18436	145.63245 ppb		89
16) Methyl Acetate	2.92	43	47225	20.20674 ppb		100
17) Iodomethane	2.66	142	120459	19.54489 ppb		97
18) Acrylonitrile	3.23	53	20613	18.23384 ppb	#	90
19) Methylene chloride	2.99	84	112115	18.58762 ppb		97
20) Carbon disulfide	2.71	76	366042	19.61023 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	191788	20.50606 ppb		97
22) Trans-1,2-DCE	3.27	96	136151	20.36279 ppb		97
23) Diisopropyl Ether	3.81	45	401690	20.12477 ppb		99
24) 1,1-DCA	3.68	63	236132	19.97353 ppb		99
25) Vinyl Acetate	3.77	43	78927	21.07985 ppb		100
26) Ethyl tert Butyl Ether	4.17	59	240888	20.90193 ppb		99
27) MEK (2-Butanone)	4.31	43	30963	22.39630 ppb		96
28) Cis-1,2-DCE	4.28	96	143936	20.33552 ppb		98
29) 2,2-Dichloropropane	4.28	77	151578	20.65769 ppb		99
30) Chloroform	4.62	83	226286	20.04729 ppb		95
31) Bromochloromethane	4.52	128	53313	20.28054 ppb		93
33) 1,1,1-TCA	4.81	97	202447	20.57505 ppb		98
34) Cyclohexane	4.87	41	129360	18.91638 ppb		96
35) 1,1-Dichloropropene	4.99	75	184681	19.30224 ppb		97
36) 2,2,4-Trimethylpentane	5.33	57	329086	18.99611 ppb		99
38) Carbon Tetrachloride	4.99	117	164876	20.72891 ppb		99
39) Tert Amyl Methyl Ether	5.37	73	198465	20.52876 ppb		95
40) 1,2-DCA	5.21	62	126737	19.91546 ppb		98
41) Benzene	5.20	78	556081	20.06966 ppb		99
42) TCE	5.92	95	142117	19.64243 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M10.D
Acq On : 14 Apr 17 14:29
Sample : 20ug/L VOC STD 4/14/17G
Misc : 10ul

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.15	43	317634	150.18196 ppb	98
44) 1,2-Dichloropropane	6.16	63	127778	20.03426 ppb	98
45) Bromodichloromethane	6.49	83	146650	20.22440 ppb	99
46) Methyl Cyclohexane	6.15	83	191008	19.23500 ppb	99
47) Dibromomethane	6.28	93	47484	20.07559 ppb	96
48) MIBK (methyl isobutyl ket	7.23	43	58434	19.68632 ppb	94
49) 1-Bromo-2-chloroethane	6.83	63	117584	19.37189 ppb	99
51) Cis-1,3-Dichloropropene	7.02	75	158823	20.82632 ppb	98
52) Toluene	7.42	91	637990	19.89863 ppb	99
53) Trans-1,3-Dichloropropene	7.70	75	108638	18.09462 ppb	99
54) 1,1,2-TCA	7.91	83	59958	20.12196 ppb	96
55) 2-Hexanone	8.27	43	34531	20.81745 ppb	97
58) 1,2-EDB	8.52	107	62940	20.20323 ppb	91
59) Tetrachloroethene	8.10	164	138991	19.36864 ppb	95
60) 1-Chlorohexane	9.20	91	171275	21.04830 ppb	100
61) 1,1,1,2-Tetrachloroethane	9.30	131	118332	20.36961 ppb	93
62) m&p-Xylene	9.51	106	576881	41.43673 ppb	98
63) o-Xylene	10.03	106	269768	20.86547 ppb	99
64) Styrene	10.05	104	416211	21.49982 ppb	99
66) 1,3-Dichloropropane	8.12	76	123575	20.04065 ppb	96
67) Dibromochloromethane	8.39	129	89509	19.96876 ppb	100
68) Chlorobenzene	9.18	112	375841	19.67426 ppb	99
69) Ethylbenzene	9.35	91	727748	20.10085 ppb	98
70) Bromoform	10.26	173	49583	19.30118 ppb	99
72) Isopropylbenzene	10.55	105	726036	19.41229 ppb	99
73) 1,1,2,2-Tetrachloroethane	10.96	83	73677	19.07800 ppb	95
74) 1,2,3-Trichloropropane	10.99	110	21956	18.70328 ppb	95
75) t-1,4-Dichloro-2-Butene	11.04	53	14450	20.07597 ppb	93
76) Bromobenzene	10.91	156	151222	18.85425 ppb	99
77) n-Propylbenzene	11.12	91	800357	20.17353 ppb	99
78) 4-Ethyltoluene	11.29	105	680581	20.62493 ppb	99
79) 2-Chlorotoluene	11.20	91	474179	19.81880 ppb	100
80) 1,3,5-Trimethylbenzene	11.38	105	585162	20.54794 ppb	98
81) 4-Chlorotoluene	11.36	91	540393	20.29512 ppb	98
82) Tert-Butylbenzene	11.82	119	501589	19.79697 ppb	96
83) 1,2,4-Trimethylbenzene	11.90	105	556533	20.41377 ppb	100
84) Sec-Butylbenzene	12.14	105	685509	19.99782 ppb	99
85) p-Isopropyltoluene	12.36	119	310464	20.25406 ppb	98
86) Benzyl Chloride	12.57	91	45281	17.04622 ppb	95
87) 1,3-DCB	12.24	146	318021	20.13660 ppb	96
88) 1,4-DCB	12.37	146	154624	19.84123 ppb	100
89) n-Butylbenzene	12.94	91	239232	18.51829 ppb	99
90) 1,2-DCB	12.88	146	254399	19.90600 ppb	96
91) Hexachloroethane	13.25	117	80808	21.04727 ppb	98
92) 1,2-Dibromo-3-chloropropan	14.00	75	9075	19.15648 ppb	93
93) 1,2,4-Trichlorobenzene	15.21	180	147612	21.24404 ppb	97
94) Hexachlorobutadiene	15.51	225	94869	18.60982 ppb	98
95) Naphthalene	15.54	128	73968	20.47193 ppb	96
96) 1,2,3-Trichlorobenzene	15.90	180	98439	21.04114 ppb	97

(#) = qualifier out of range (m) = manual integration

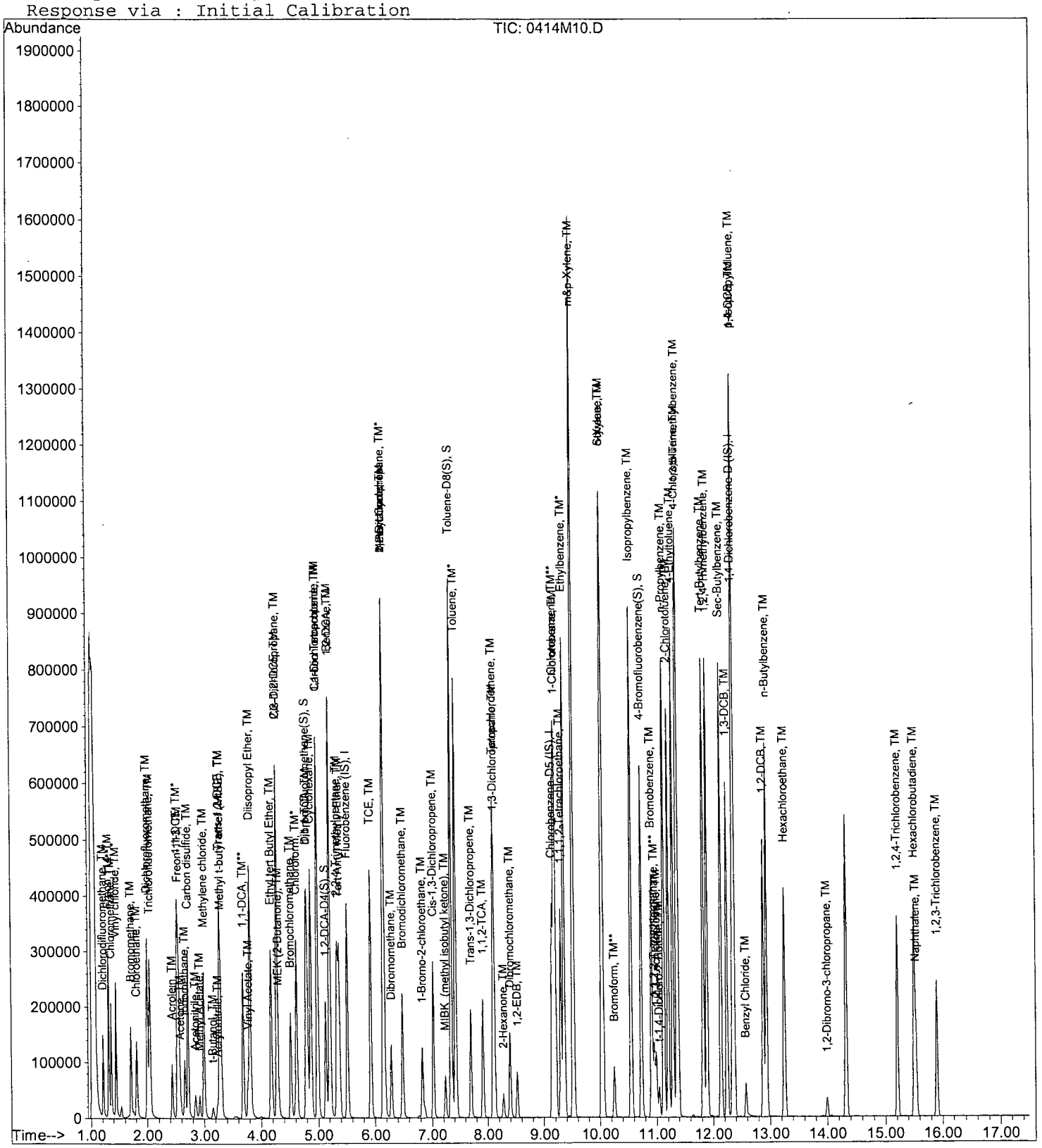
Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M10.D
Acq On : 14 Apr 17 14:29
Sample : 20ug/L VOC STD 4/14/17G
Misc : 10ul

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



799

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M11.D
Acq On : 14 Apr 17 14:58
Sample : 40ug/L VOC STD 4/14/17H
Misc : 10ul

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017
Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	369420	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	254373	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	142162	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	169006	47.26804 ppb	0.00
Spiked Amount 25.000			Recovery	= 189.072%	
37) 1,2-DCA-D4(S)	5.13	65	141852	46.57343 ppb	0.00
Spiked Amount 25.000			Recovery	= 186.292%	
57) Toluene-D8(S)	7.35	98	764615	49.05437 ppb	0.00
Spiked Amount 25.000			Recovery	= 196.216%	
65) 4-Bromofluorobenzene(S)	10.73	95	255489	52.42137 ppb	0.00
Spiked Amount 25.000			Recovery	= 209.684%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	231429	41.40299 ppb		99
3) Freon 114	1.31	85	226905	39.69960 ppb		99
4) Chloromethane	1.35	50	243010	36.73498 ppb		94
5) Vinyl chloride	1.45	62	390633	39.60766 ppb		98
6) Bromomethane	1.71	94	122405	23.63230 ppb		98
7) Chloroethane	1.80	64	227026	37.52581 ppb		100
8) Dichlorofluoromethane	2.00	67	634140	39.51326 ppb		100
9) Trichlorofluoromethane	2.04	101	417699	38.08853 ppb		100
10) Acrolein	2.43	56	93653	171.24427 ppb		91
11) Acetone	2.59	43	32282	34.03977 ppb		96
12) Freon-113	2.55	101	243286	40.58881 ppb		96
13) 1,1-DCE	2.53	61	408375	39.03195 ppb		99
14) Acetonitrile	2.84	41	61425	180.31636 ppb		99
15) t-Butanol	3.16	59	24116	179.45758 ppb	#	86
16) Methyl Acetate	2.92	43	100889	40.66616 ppb		98
17) Iodomethane	2.65	142	273376	39.81096 ppb		99
18) Acrylonitrile	3.23	53	45550	37.95688 ppb		96
19) Methylene chloride	2.99	84	239832	37.45694 ppb		98
20) Carbon disulfide	2.71	76	774477	39.08636 ppb		98
21) Methyl t-butyl ether (MtBE	3.30	73	409952	41.29134 ppb		99
22) Trans-1,2-DCE	3.27	96	284618	40.09996 ppb		97
23) Diisopropyl Ether	3.81	45	880749	41.56782 ppb		98
24) 1,1-DCA	3.68	63	505600	40.28767 ppb		97
25) Vinyl Acetate	3.77	43	178026	44.79096 ppb		99
26) Ethyl tert Butyl Ether	4.18	59	528280	43.18177 ppb		99
27) MEK (2-Butanone)	4.31	43	61844	44.47115 ppb		95
28) Cis-1,2-DCE	4.28	96	306072	40.73565 ppb		98
29) 2,2-Dichloropropane	4.28	77	349137	44.82357 ppb		98
30) Chloroform	4.62	83	482600	40.27638 ppb		96
31) Bromochloromethane	4.52	128	110646	39.65037 ppb		87
33) 1,1,1-TCA	4.80	97	444864	42.59139 ppb		97
34) Cyclohexane	4.87	41	288063	39.68172 ppb		97
35) 1,1-Dichloropropene	4.99	75	408663	40.23611 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	761809	41.42538 ppb		98
38) Carbon Tetrachloride	4.98	117	369346	43.74389 ppb		96
39) Tert Amyl Methyl Ether	5.37	73	454257	44.26347 ppb		92
40) 1,2-DCA	5.21	62	271048	40.12345 ppb		98
41) Benzene	5.20	78	1211187	41.17922 ppb		100
42) TCE	5.92	95	314906	41.00107 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M11.D
Acq On : 14 Apr 17 14:58
Sample : 40ug/L VOC STD 4/14/17H
Misc : 10ul

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	2-Pentanone	6.15	43	423389	188.57992	ppb		99
44)	1,2-Dichloropropane	6.16	63	275354	40.66996	ppb		98
45)	Bromodichloromethane	6.49	83	321448	41.76086	ppb		95
46)	Methyl Cyclohexane	6.15	83	444445	42.16225	ppb		98
47)	Dibromomethane	6.29	93	102697	40.90194	ppb		98
48)	MIBK (methyl isobutyl ket	7.23	43	124632	40.05875	ppb		96
49)	1-Bromo-2-chloroethane	6.83	63	264140	40.99426	ppb		100
50)	2-Chloroethyl vinyl ether	6.87	106	4443	48.43661	ppb	#	100
51)	Cis-1,3-Dichloropropene	7.02	75	363941	44.95677	ppb		97
52)	Toluene	7.42	91	1434874	42.15879	ppb		99
53)	Trans-1,3-Dichloropropene	7.70	75	256522	38.45630	ppb		98
54)	1,1,2-TCA	7.91	83	130006	41.10092	ppb		94
55)	2-Hexanone	8.27	43	73758	41.88829	ppb		94
58)	1,2-EDB	8.52	107	143565	42.91139	ppb		96
59)	Tetrachloroethene	8.10	164	305016	39.57901	ppb		94
60)	1-Chlorohexane	9.20	91	409287	46.83612	ppb		99
61)	1,1,1,2-Tetrachloroethane	9.30	131	273019	43.76261	ppb		95
62)	m&p-Xylene	9.51	106	1326213	88.70384	ppb		99
63)	o-Xylene	10.03	106	618140	44.51992	ppb		97
64)	Styrene	10.05	104	980536	47.16445	ppb		98
66)	1,3-Dichloropropane	8.12	76	271984	41.07282	ppb		97
67)	Dibromochloromethane	8.39	129	202194	42.00322	ppb		97
68)	Chlorobenzene	9.18	112	843769	41.12895	ppb		99
69)	Ethylbenzene	9.35	91	1636327	42.08559	ppb		99
70)	Bromoform	10.26	173	119163	43.19391	ppb		99
72)	Isopropylbenzene	10.55	105	1677706	38.32771	ppb		99
73)	1,1,2,2-Tetrachloroethane	10.96	83	168006	37.17098	ppb		97
74)	1,2,3-Trichloropropane	10.99	110	49293	35.87800	ppb		91
75)	t-1,4-Dichloro-2-Butene	11.04	53	35307	41.91292	ppb		98
76)	Bromobenzene	10.91	156	343325	36.57447	ppb		100
77)	n-Propylbenzene	11.12	91	1901338	40.94829	ppb		100
78)	4-Ethyltoluene	11.29	105	1640464	42.47738	ppb		99
79)	2-Chlorotoluene	11.20	91	1095712	39.12999	ppb		99
80)	1,3,5-Trimethylbenzene	11.38	105	1376281	41.29311	ppb		99
81)	4-Chlorotoluene	11.36	91	1274197	40.88810	ppb		100
82)	Tert-Butylbenzene	11.83	119	1172444	39.53858	ppb		99
83)	1,2,4-Trimethylbenzene	11.90	105	1311023	41.08856	ppb		99
84)	Sec-Butylbenzene	12.14	105	1637113	40.80623	ppb		99
85)	p-Isopropyltoluene	12.36	119	743552	41.44675	ppb		97
86)	Benzyl Chloride	12.57	91	120094	34.75078	ppb		96
87)	1,3-DCB	12.24	146	742816	40.18739	ppb		98
88)	1,4-DCB	12.37	146	365888	40.11606	ppb		99
89)	n-Butylbenzene	12.94	91	557824	36.89412	ppb		97
90)	1,2-DCB	12.88	146	588460	39.34268	ppb		97
91)	Hexachloroethane	13.25	117	193930	43.15834	ppb		98
92)	1,2-Dibromo-3-chloropropan	13.99	75	22505	39.47503	ppb		95
93)	1,2,4-Trichlorobenzene	15.21	180	334218	41.37040	ppb		98
94)	Hexachlorobutadiene	15.51	225	213912	35.85348	ppb		98
95)	Naphthalene	15.54	128	181888	42.02078	ppb		98
96)	1,2,3-Trichlorobenzene	15.90	180	232267	42.47171	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

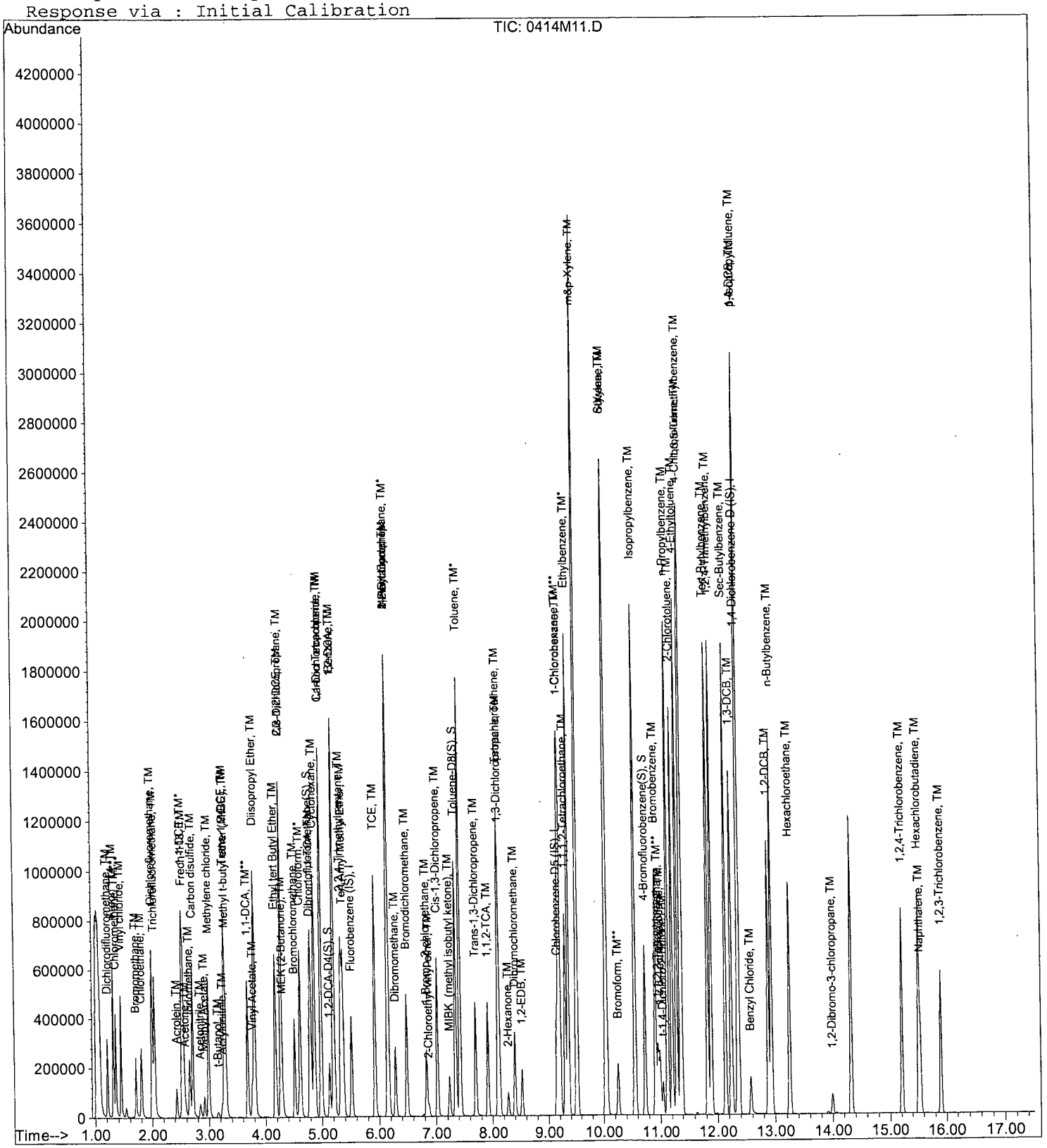
Data File : M:\MAX\DATA\M170414\0414M11.D
Acq On : 14 Apr 17 14:58
Sample : 40ug/L VOC STD 4/14/17H
Misc : 10ul

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration



802

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M12.D
Acq On : 14 Apr 17 15:26
Sample : 100ug/L VOC STD 4/14/17I
Misc : 20ul

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	419119	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	301481	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	165070	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	368000	90.71860 ppb	0.00
Spiked Amount 25.000			Recovery	= 362.876%	
37) 1,2-DCA-D4(S)	5.13	65	307500	88.98789 ppb	0.00
Spiked Amount 25.000			Recovery	= 355.952%	
57) Toluene-D8(S)	7.35	98	1688580	91.40449 ppb	0.00
Spiked Amount 25.000			Recovery	= 365.616%	
65) 4-Bromofluorobenzene(S)	10.73	95	575851	99.69133 ppb	0.00
Spiked Amount 25.000			Recovery	= 398.764%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.21	85	591363	93.25049 ppb	98
3) Freon 114	1.31	85	563223	86.85713 ppb	99
4) Chloromethane	1.35	50	634151	84.49508 ppb	93
5) Vinyl chloride	1.45	62	969439	86.63907 ppb	98
6) Bromomethane	1.70	94	285362	49.39068 ppb	98
7) Chloroethane	1.79	64	347937	50.69185 ppb	100
8) Dichlorofluoromethane	1.99	67	1676858	92.09521 ppb	99
9) Trichlorofluoromethane	2.03	101	1110563	89.26003 ppb	100
10) Acrolein	2.43	56	119344	192.34371 ppb	93
11) Acetone	2.59	43	91695	85.22263 ppb	89
12) Freon-113	2.54	101	628597	92.43672 ppb	97
13) 1,1-DCE	2.52	61	1115747	93.99612 ppb	99
14) Acetonitrile	2.85	41	85271	220.63498 ppb	93
15) t-Butanol	3.21	59	37436	245.54382 ppb	89
16) Methyl Acetate	2.92	43	307658	109.30516 ppb	99
17) Iodomethane	2.65	142	802932	100.30714 ppb	99
18) Acrylonitrile	3.23	53	132008	96.95839 ppb	92
19) Methylene chloride	2.99	84	661708	91.09081 ppb	99
20) Carbon disulfide	2.71	76	2150778	95.67432 ppb	98
21) Methyl t-butyl ether (MtBE	3.30	73	1179885	104.74871 ppb	98
22) Trans-1,2-DCE	3.27	96	782264	97.14443 ppb	95
23) Diisopropyl Ether	3.81	45	2516836	104.69913 ppb	98
24) 1,1-DCA	3.68	63	1409456	98.99190 ppb	98
25) Vinyl Acetate	3.77	43	444820	98.64482 ppb	99
26) Ethyl tert Butyl Ether	4.18	59	1571053	113.19055 ppb	99
27) MEK (2-Butanone)	4.31	43	149529	97.76493 ppb	95
28) Cis-1,2-DCE	4.28	96	848931	99.58788 ppb	95
29) 2,2-Dichloropropane	4.27	77	1024162	115.89436 ppb	96
30) Chloroform	4.62	83	1336296	98.29894 ppb	98
31) Bromochloromethane	4.52	128	314847	99.44756 ppb	89
33) 1,1,1-TCA	4.80	97	1250026	105.48644 ppb	97
34) Cyclohexane	4.87	41	770312	93.53038 ppb	99
35) 1,1-Dichloropropene	4.99	75	1116862	96.92442 ppb	98
36) 2,2,4-Trimethylpentane	5.33	57	1964226	94.14448 ppb	99
38) Carbon Tetrachloride	4.98	117	1032805	107.81655 ppb	99
39) Tert Amyl Methyl Ether	5.37	73	1357737	116.61180 ppb #	88
40) 1,2-DCA	5.21	62	739721	96.51684 ppb	98
41) Benzene	5.20	78	3382279	101.35833 ppb	100
42) TCE	5.92	95	889104	102.03516 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M12.D
Acq On : 14 Apr 17 15:26
Sample : 100ug/L VOC STD 4/14/17I
Misc : 20ul

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	609822	239.40985 ppb		97
44) 1,2-Dichloropropane	6.16	63	778253	101.31791 ppb		98
45) Bromodichloromethane	6.49	83	899191	102.96598 ppb		100
46) Methyl Cyclohexane	6.15	83	1181270	98.77294 ppb		99
47) Dibromomethane	6.28	93	287539	100.94063 ppb		97
48) MIBK (methyl isobutyl ket	7.24	43	353042	100.76598 ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	765019	104.65119 ppb		99
50) 2-Chloroethyl vinyl ether	6.87	106	17908	172.07889 ppb	#	100
51) Cis-1,3-Dichloropropene	7.02	75	1058986	115.30215 ppb		98
52) Toluene	7.43	91	4073513	105.49371 ppb		100
53) Trans-1,3-Dichloropropene	7.70	75	783397	101.03872 ppb		98
54) 1,1,2-TCA	7.92	83	375425	104.61511 ppb		95
55) 2-Hexanone	8.28	43	228310	114.28559 ppb		97
58) 1,2-EDB	8.52	107	412142	103.93981 ppb		98
59) Tetrachloroethene	8.10	164	840322	92.00239 ppb		94
60) 1-Chlorohexane	9.21	91	1189222	114.82250 ppb		98
61) 1,1,1,2-Tetrachloroethane	9.30	131	789399	106.76232 ppb		97
62) m&p-Xylene	9.52	106	3674163	207.34742 ppb		97
63) o-Xylene	10.04	106	1744949	106.03796 ppb		99
64) Styrene	10.06	104	2789938	113.22878 ppb		98
66) 1,3-Dichloropropane	8.12	76	778876	99.24086 ppb		96
67) Dibromochloromethane	8.39	129	589839	103.38533 ppb		98
68) Chlorobenzene	9.18	112	2410266	99.12885 ppb		99
69) Ethylbenzene	9.35	91	4640601	100.70444 ppb		98
70) Bromoform	10.26	173	349698	106.95110 ppb		98
72) Isopropylbenzene	10.55	105	4757056	93.59458 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	467700	89.11729 ppb		95
74) 1,2,3-Trichloropropane	10.99	110	142836	89.53566 ppb		94
75) t-1,4-Dichloro-2-Butene	11.04	53	111547	114.04083 ppb		93
76) Bromobenzene	10.91	156	990313	90.85743 ppb		98
77) n-Propylbenzene	11.13	91	5383300	99.84823 ppb		100
78) 4-Ethyltoluene	11.29	105	4603654	102.66185 ppb		99
79) 2-Chlorotoluene	11.21	91	3050656	93.82573 ppb		99
80) 1,3,5-Trimethylbenzene	11.39	105	3766288	97.31940 ppb		98
81) 4-Chlorotoluene	11.36	91	3517338	97.20528 ppb		99
82) Tert-Butylbenzene	11.83	119	3304953	95.98638 ppb		100
83) 1,2,4-Trimethylbenzene	11.90	105	3690700	99.61730 ppb		100
84) Sec-Butylbenzene	12.14	105	4594785	98.63439 ppb		100
85) p-Isopropyltoluene	12.36	119	2075136	99.61874 ppb		98
86) Benzyl Chloride	12.58	91	438075	102.61154 ppb		95
87) 1,3-DCB	12.25	146	2102985	97.98512 ppb		98
88) 1,4-DCB	12.37	146	1037995	98.01234 ppb		99
89) n-Butylbenzene	12.94	91	1643520	93.61606 ppb		98
90) 1,2-DCB	12.89	146	1712230	98.58808 ppb		98
91) Hexachloroethane	13.25	117	598987	114.80280 ppb		99
92) 1,2-Dibromo-3-chloropropan	13.99	75	67478	100.35681 ppb		93
93) 1,2,4-Trichlorobenzene	15.21	180	926922	99.21830 ppb		99
94) Hexachlorobutadiene	15.51	225	606806	87.59138 ppb		99
95) Naphthalene	15.54	128	504896	99.20347 ppb		97
96) 1,2,3-Trichlorobenzene	15.90	180	627272	98.85111 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

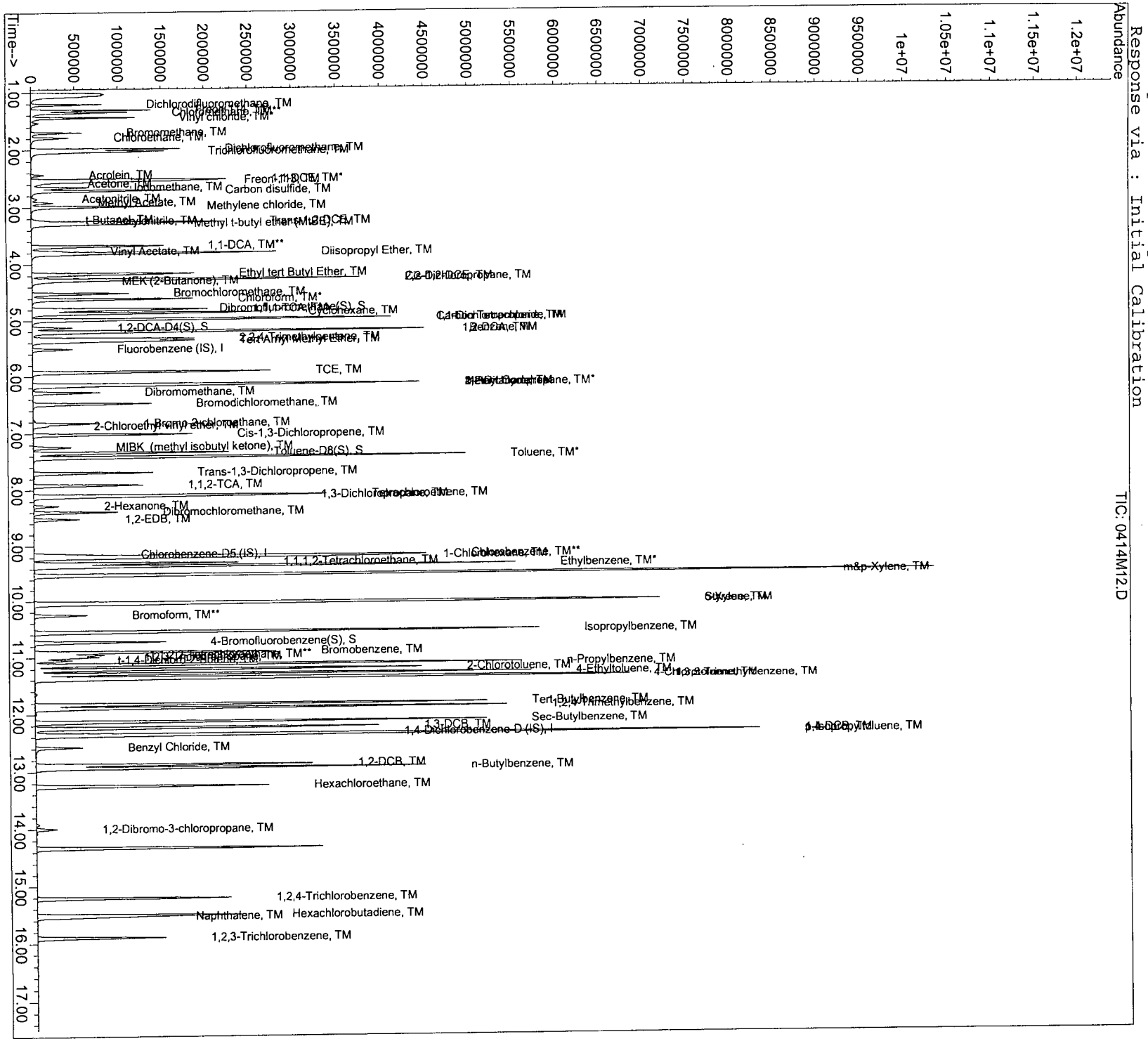
Data File : M:\MAX\DATA\M170414\0414M12.D
Acq On : 14 Apr 17 15:26
Sample : 100ug/L VOC STD 4/14/17I
Misc : 20ul

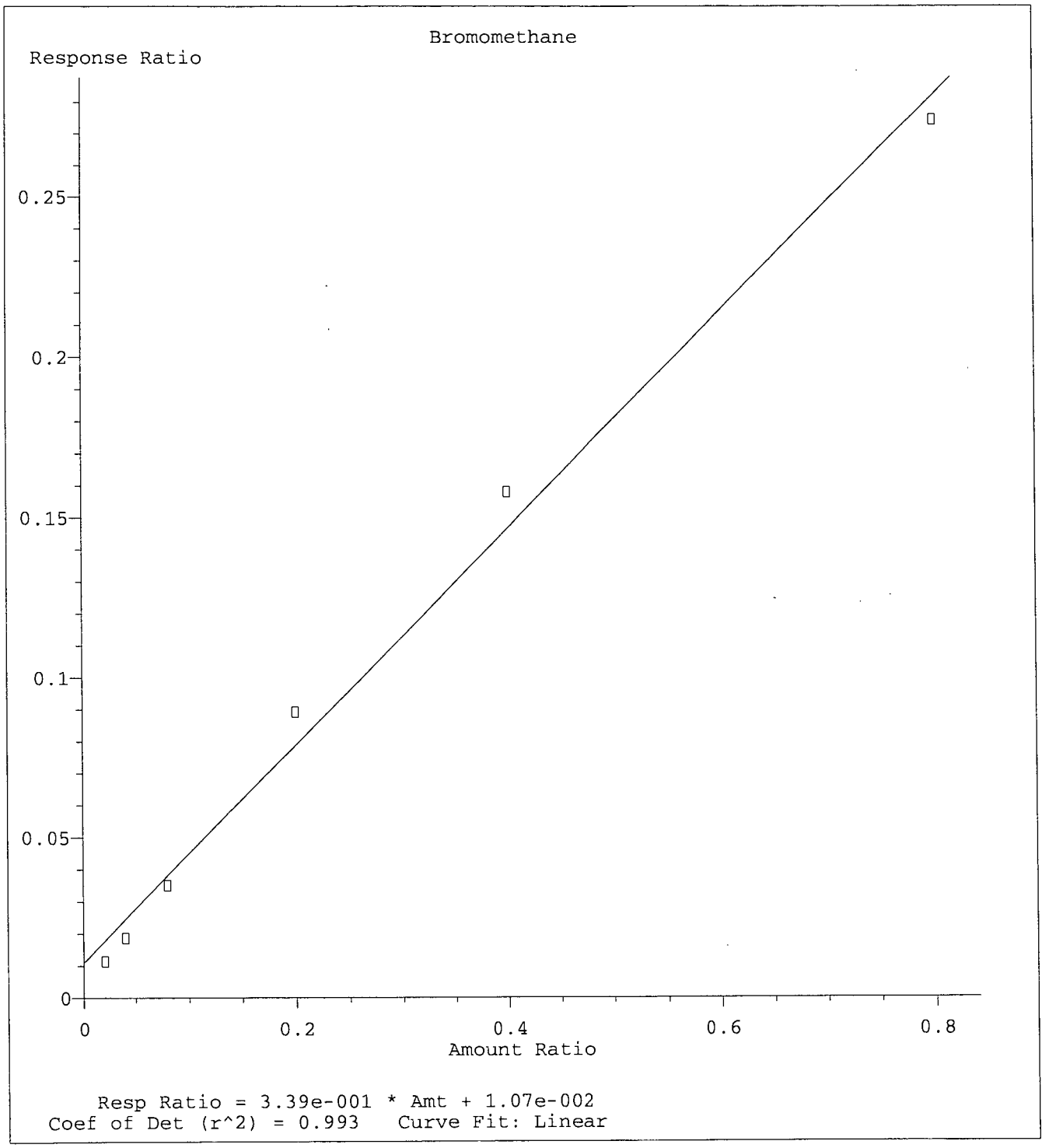
Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:10 2017

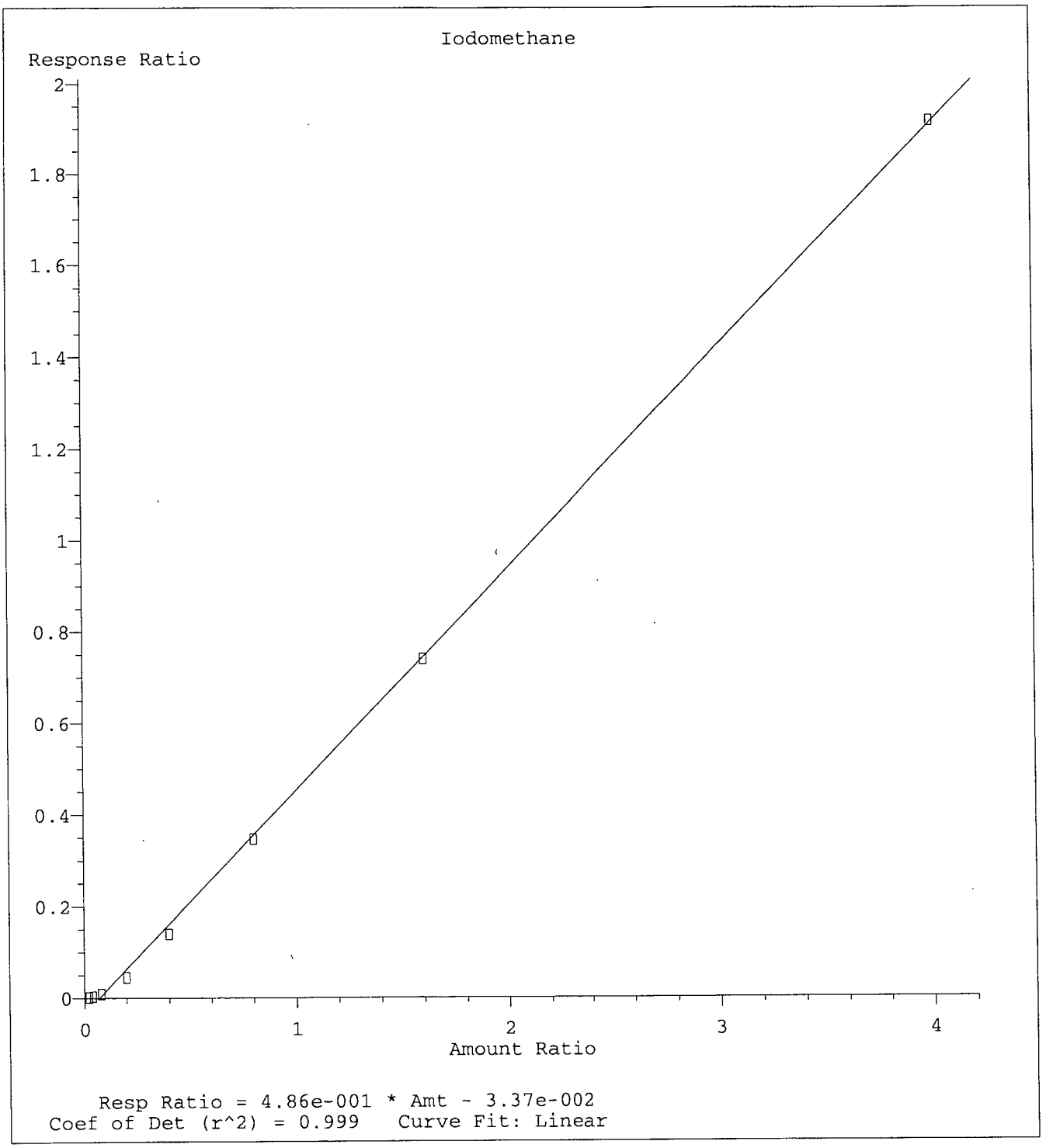
Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration

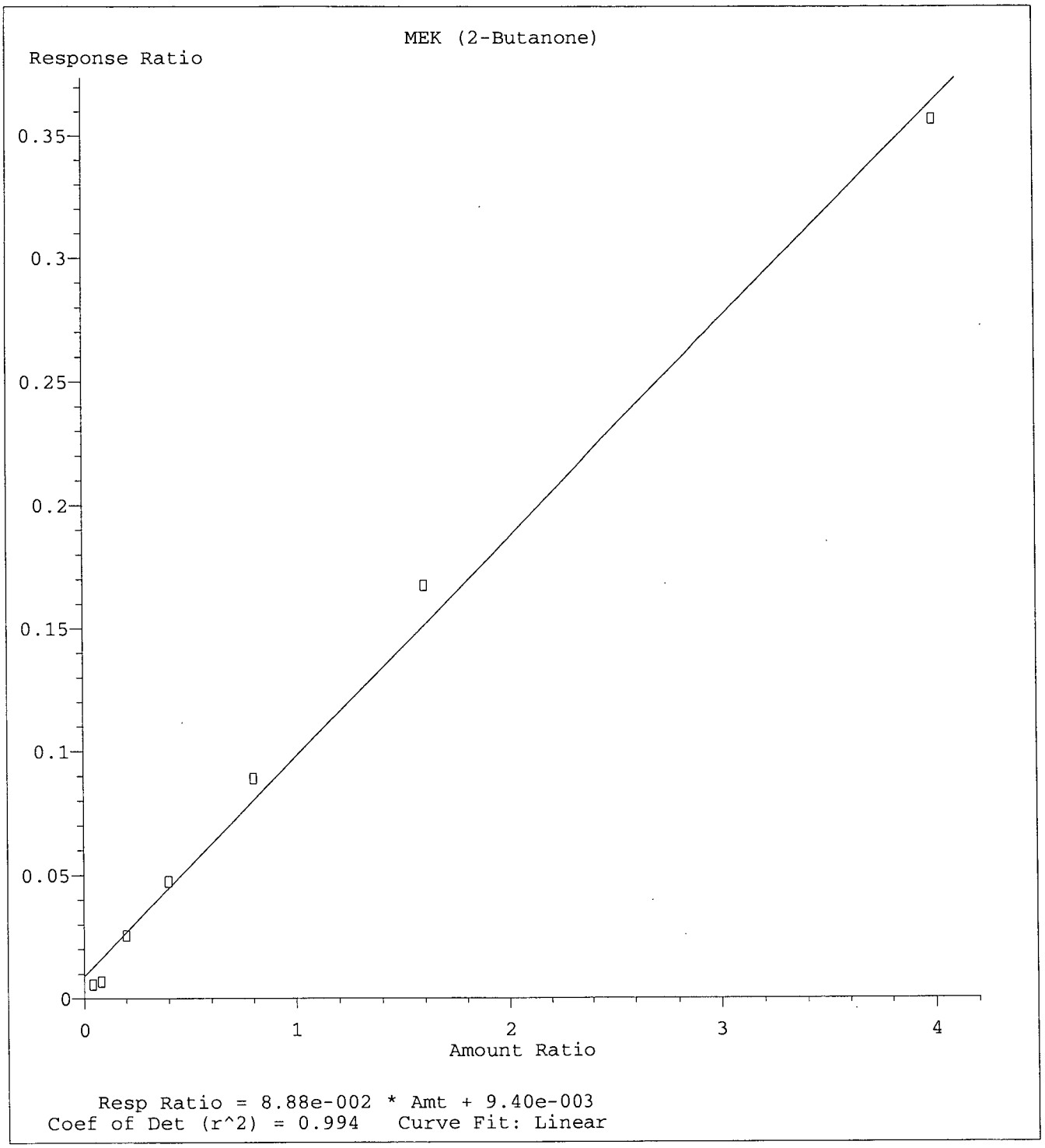




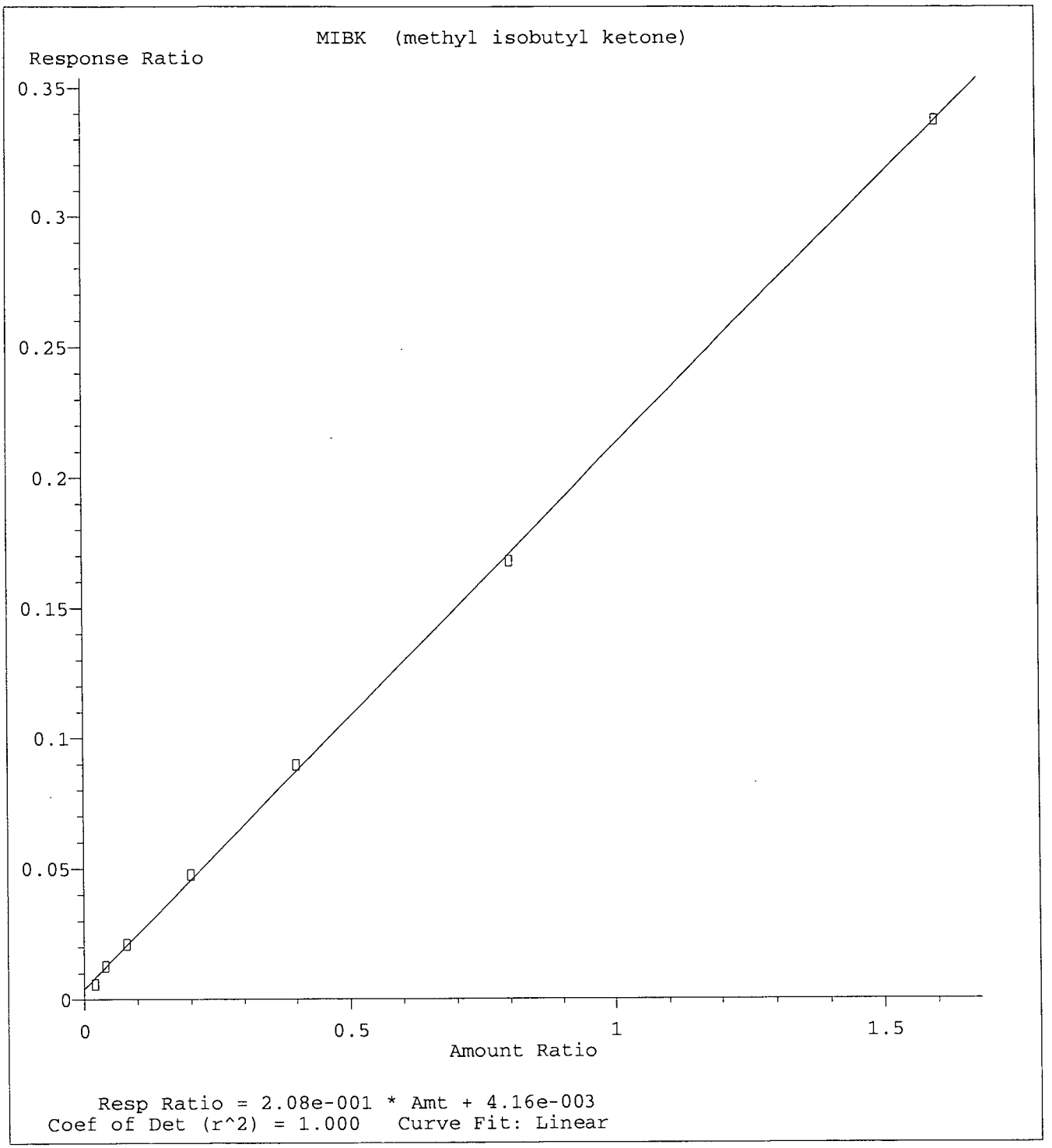
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



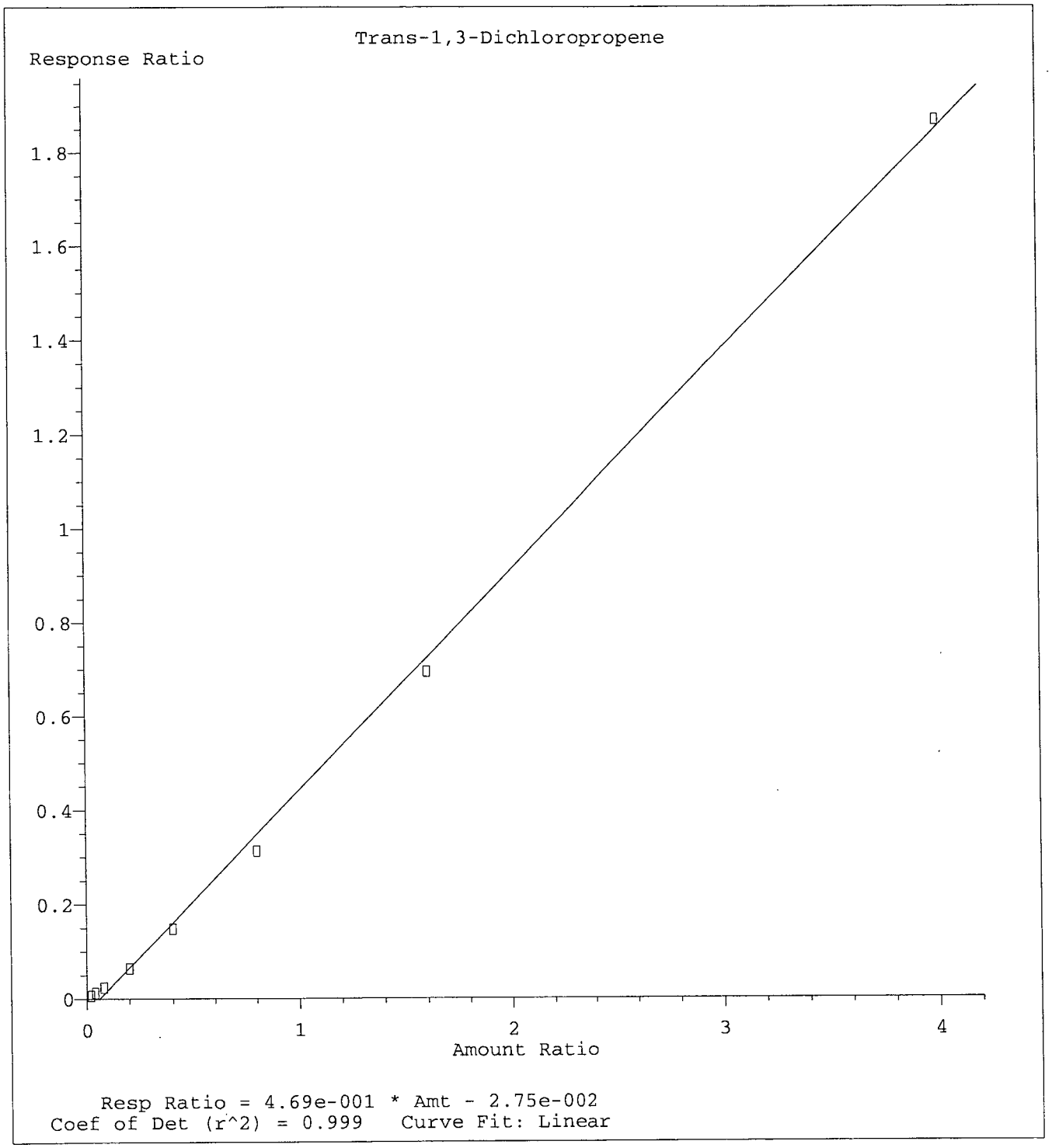
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



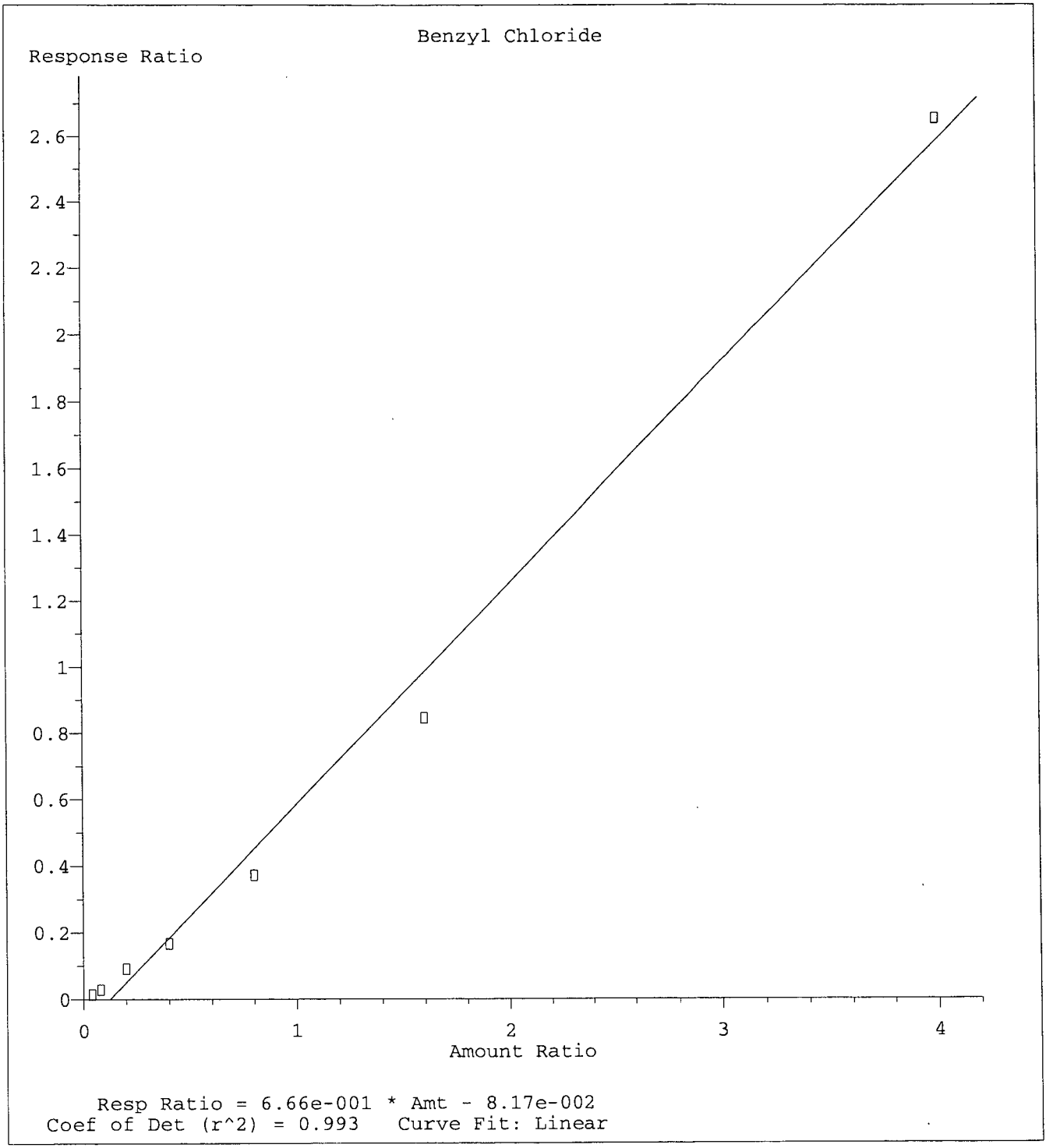
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



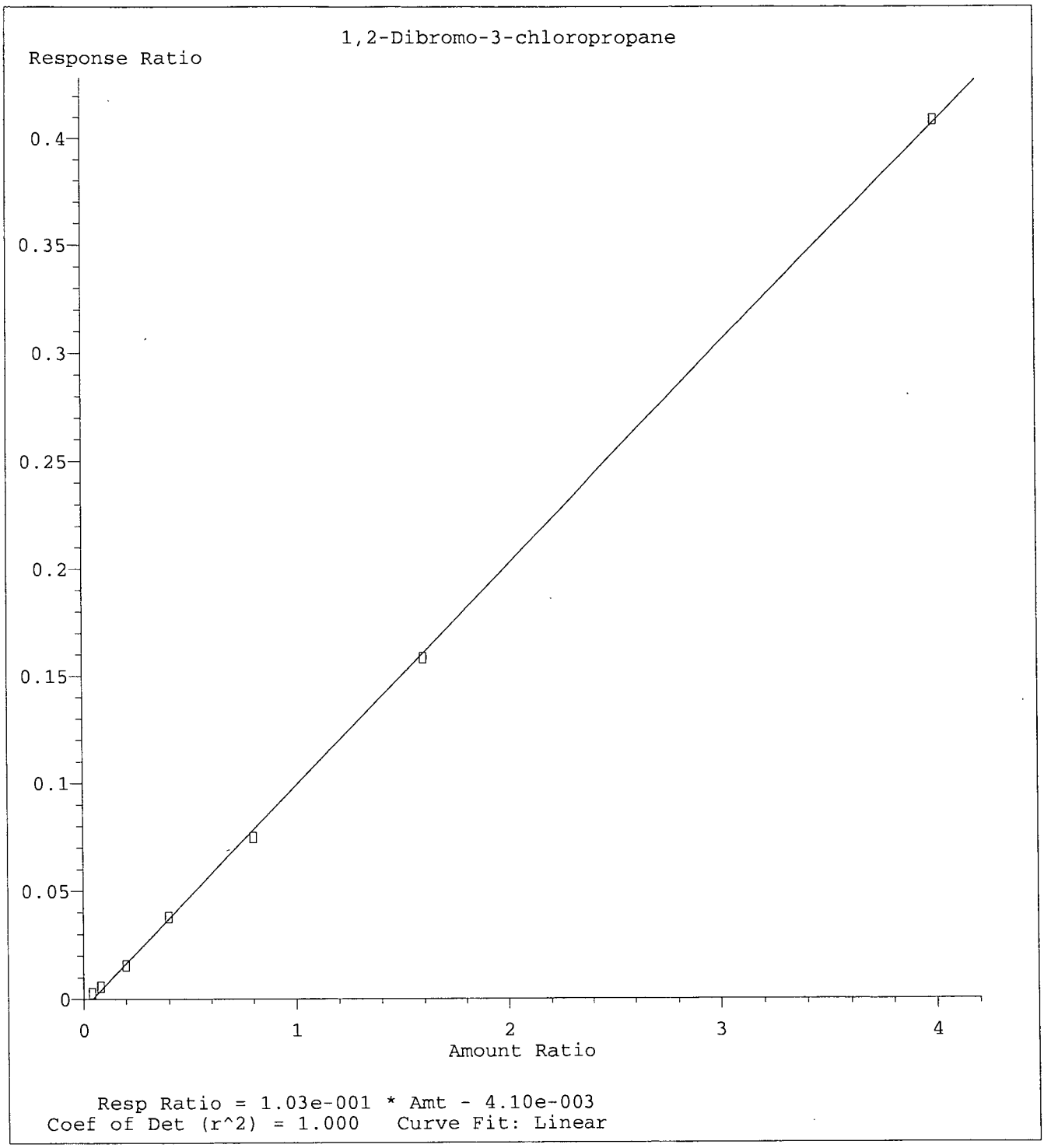
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



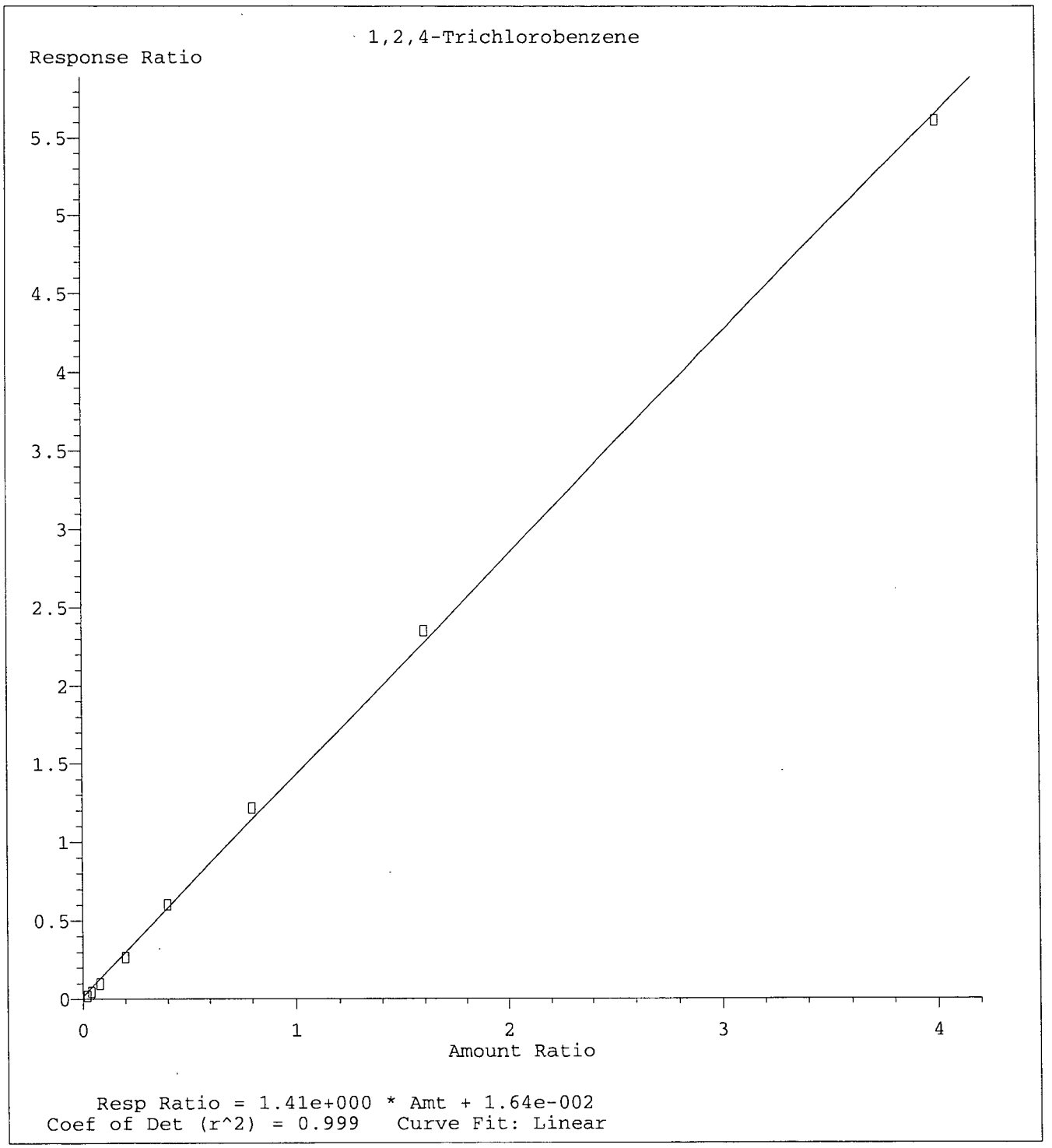
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



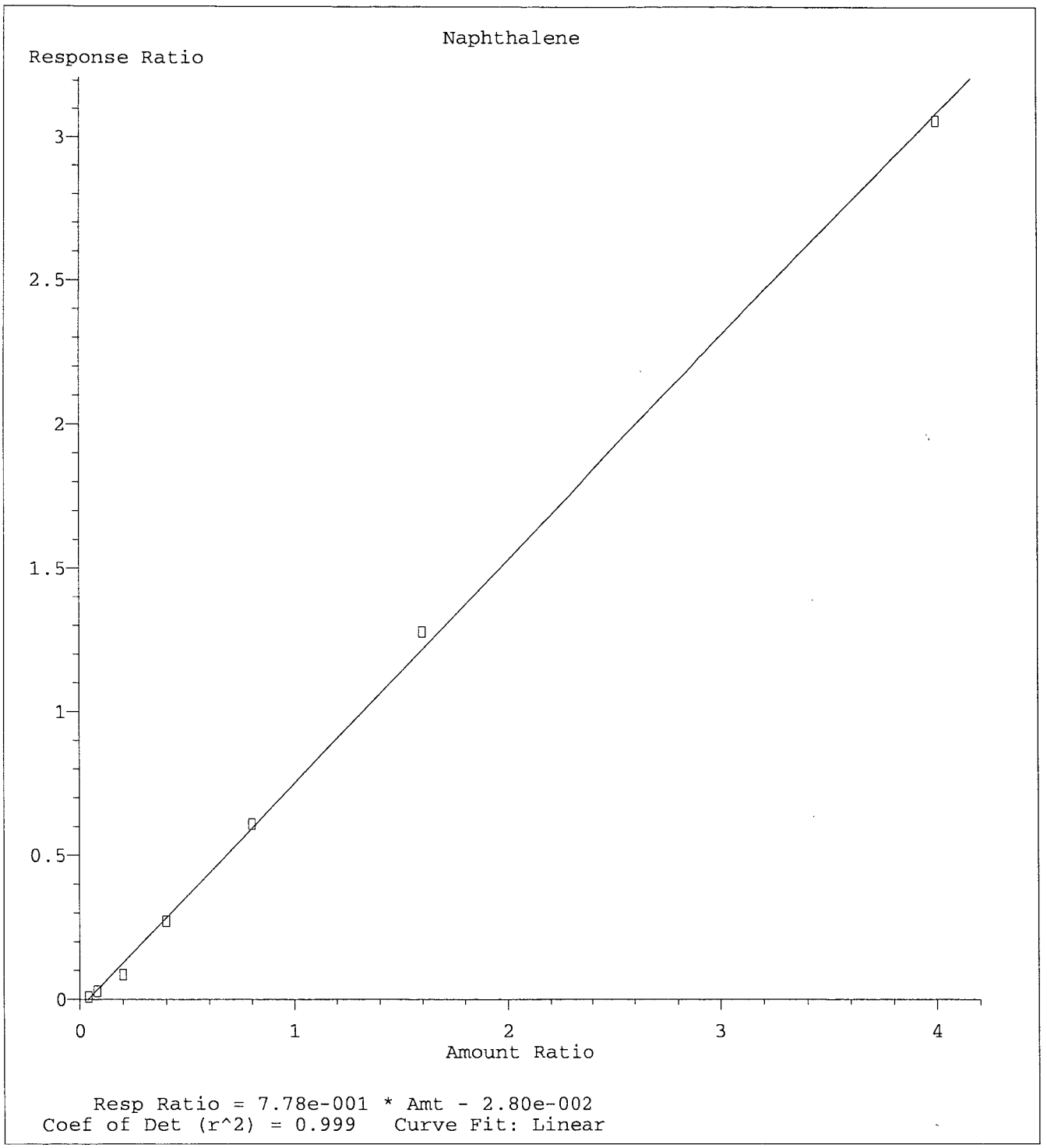
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



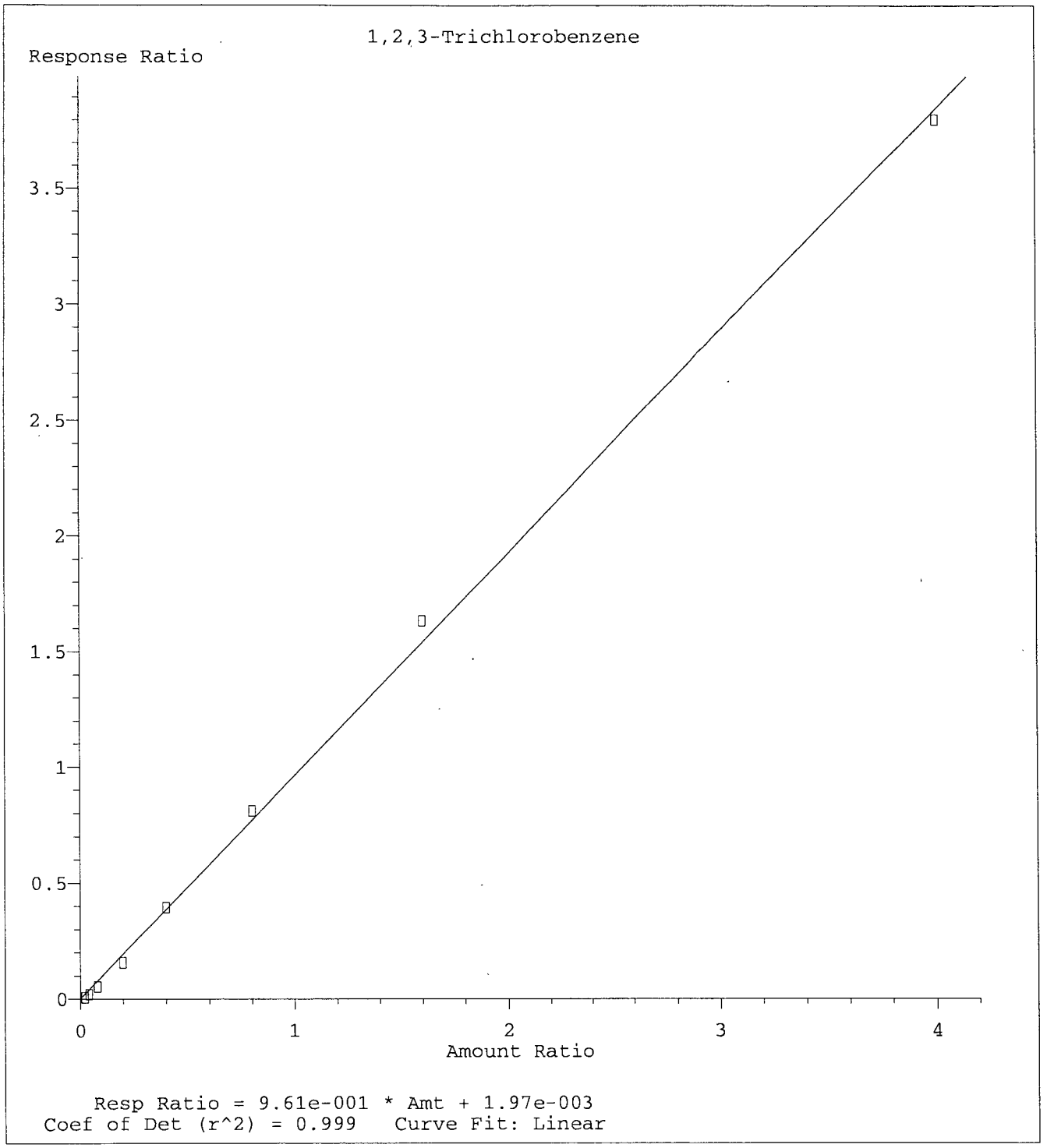
Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017



Method Name: M:\MAX\DATA\M170414\MALLW.M
Calibration Table Last Updated: Sun Apr 16 10:06:28 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/14/17
Instrument: Max
Initial Cal. Date: 04/14/17
Data File: 0414M17.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Dichlorodifluoromethane	0.3783	0.3882	2.6	TM	
2	TM	Freon 114	0.3868	0.3886	0.47	TM	
3	TM**	Chloromethane	0.4477	0.4586	2.4	TM**	
4	TM*	Vinyl chloride	0.6674	0.6985	4.7	TM*	
5	TML	Bromomethane	0.4427	0.4187	5.4	TML	17
6	TM	Chloroethane	0.4094	0.4140	1.1	TM	
7	TM	Dichlorofluoromethane	1.086	1.132	4.2	TM	
8	TM	Trichlorofluoromethane	0.7421	0.7552	1.8	TM	
9	TM	Acrolein	0.0370	0.0333	10.0	TM	
10	TM	Acetone	0.0642	0.0563	12	TM	
11	TM	Freon-113	0.4056	0.4107	1.2	TM	
12	TM*	1,1-DCE	0.7080	0.7301	3.1	TM*	
13	TM	Acetonitrile	0.0231	0.0242	5.2	TM	
14	TM	t-Butanol	0.0091	0.0089	2.1	TM	
15	TM	Methyl Acetate	0.1679	0.1588	5.4	TM	
16	TML	Iodomethane	0.2785	0.2223	20	TML	37 *NT
17	TM	Acrylonitrile	0.0812	0.0725	11	TM	4/18/17
18	TM	Methylene chloride	0.4333	0.4043	6.7	TM	
19	TM	Carbon disulfide	1.341	1.339	0.16	TM	
20	TM	Methyl t-butyl ether (MtBE)	0.6719	0.6662	0.84	TM	
21	TM	Trans-1,2-DCE	0.4803	0.4922	2.5	TM	
22	TM	Diisopropyl Ether	1.434	1.426	0.57	TM	
23	TM**	1,1-DCA	0.8493	0.8749	3.0	TM**	
24	TM	Vinyl Acetate	0.2690	0.2229	17	TM	
25	TM	Ethyl tert Butyl Ether	0.8279	0.8306	0.33	TM	
26	TML	MEK (2-Butanone)	0.1106	0.1085	1.9	TML	4.3
27	TM	Cis-1,2-DCE	0.5085	0.5243	3.1	TM	
28	TM	2,2-Dichloropropane	0.5271	0.5096	3.3	TM	
29	TM*	Chloroform	0.8109	0.8238	1.6	TM*	
30	TM	Bromochloromethane	0.1888	0.1838	2.7	TM	
31	TM	1,1,1-TCA	0.7068	0.7519	6.4	TM	
32	TM	Cyclohexane	0.4913	0.4899	0.27	TM	
33	TM	1,1-Dichloropropene	0.6873	0.6953	1.2	TM	
34	TM	2,2,4-Trimethylpentane	1.245	1.214	2.4	TM	
35	TM	Carbon Tetrachloride	0.5714	0.5932	3.8	TM	
36	TM	Tert Amyl Methyl Ether	0.6945	0.6910	0.51	TM	
37	TM	1,2-DCA	0.4572	0.4385	4.1	TM	
38	TM	Benzene	1.990	2.054	3.2	TM	
39	TM	TCE	0.5198	0.5297	1.9	TM	
40	TM	2-Pentanone	0.1519	0.1422	6.4	TM	
		Average			4.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0414M17.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM*	1,2-Dichloropropane	0.4582	0.4650	1.5	TM*	
42	TM	Bromodichloromethane	0.5209	0.5262	1.0	TM	
43	TM	Methyl Cyclohexane	0.7134	0.7421	4.0	TM	
44	TM	Dibromomethane	0.1699	0.1651	2.8	TM	
45	TML	MIBK (methyl isobutyl ketone)	0.2502	0.2112	16	TML	3.5
46	TM	1-Bromo-2-chloroethane	0.4360	0.4160	4.6	TM	
47	TM	Cis-1,3-Dichloropropene	0.5478	0.5533	1.0	TM	
48	TM*	Toluene	2.303	2.323	0.86	TM*	
49	TML	Trans-1,3-Dichloropropene	0.3655	0.3618	1.0	TML	8.3
50	TM	1,1,2-TCA	0.2141	0.2141	0.00	TM	
51	TM	2-Hexanone	0.1192	0.1150	3.5	TM	
52	TM	1,2-EDB	0.3288	0.3361	2.2	TM	
53	TM	Tetrachloroethene	0.7574	0.7861	3.8	TM	
54	TM	1-Chlorohexane	0.8588	0.8928	4.0	TM	
55	TM	1,1,1,2-Tetrachloroethane	0.6131	0.6090	0.68	TM	
56	TM	m&p-Xylene	1.469	1.483	0.95	TM	
57	TM	o-Xylene	1.365	1.397	2.3	TM	
58	TM	Styrene	2.043	2.047	0.20	TM	
59	TM	1,3-Dichloropropane	0.6508	0.6605	1.5	TM	
60	TM	Dibromochloromethane	0.4731	0.4745	0.30	TM	
61	TM**	Chlorobenzene	2.016	1.997	0.94	TM**	
62	TM*	Ethylbenzene	3.821	3.841	0.52	TM*	
63	TM**	Bromoform	0.2711	0.2449	9.7	TM**	
64	TM	Isopropylbenzene	7.698	7.979	3.7	TM	
65	TM**	1,1,2,2-Tetrachloroethane	0.7948	0.7547	5.1	TM**	
66	TM	1,2,3-Trichloropropane	0.2416	0.2345	3.0	TM	
67	TM	t-1,4-Dichloro-2-Butene	0.1481	0.1400	5.5	TM	
68	TM	Bromobenzene	1.651	1.644	0.40	TM	
69	TM	n-Propylbenzene	8.165	8.538	4.6	TM	
70	TM	4-Ethyltoluene	6.792	7.106	4.6	TM	
71	TM	2-Chlorotoluene	4.924	5.064	2.8	TM	
72	TM	1,3,5-Trimethylbenzene	5.861	6.176	5.4	TM	
73	TM	4-Chlorotoluene	5.480	5.605	2.3	TM	
74	TM	Tert-Butylbenzene	5.215	5.426	4.1	TM	
75	TM	1,2,4-Trimethylbenzene	5.611	5.781	3.0	TM	
76	TM	Sec-Butylbenzene	7.055	7.144	1.3	TM	
77	TM	p-Isopropyltoluene	3.155	3.100	1.7	TM	
78	TML	Benzyl Chloride	0.4643	0.3764	19	TML	13
79	TM	1,3-DCB	3.250	3.287	1.1	TM	
80	TM	1,4-DCB	1.604	1.590	0.85	TM	
		Average			3.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/14/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0414M17.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	n-Butylbenzene	2.659	2.548	4.2	TM	
82	TM	1,2-DCB	2.630	2.630	0.00	TM	
83	TM	Hexachloroethane	0.7902	0.8471	7.2	TM	
84	TML	1,2-Dibromo-3-chloropropane	0.0867	0.0952	9.9	TML	2.6
85	TML	1,2,4-Trichlorobenzene	1.305	1.408	7.9	TML	3.1
86	TM	Hexachlorobutadiene	1.049	1.011	3.7	TM	
87	TML	Naphthalene	1.117	1.192	6.7	TML	14
88	TML	1,2,3-Trichlorobenzene	0.7799	0.8890	14	TML	8.0
89							
90							
91							
92							
93							
94							
95							
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M17.D Vial: 17
Acq On : 14 Apr 17 17:48 Operator: PM,DG,SV,CMM
Sample : (SS)10ug/L VOC STD 4/14/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 19 7:34 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	346068	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	232814	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	108944	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	82707	24.69259 ppb	0.00
Spiked Amount 25.000			Recovery = 98.772%		
37) 1,2-DCA-D4(S)	5.13	65	67910	23.80101 ppb	0.00
Spiked Amount 25.000			Recovery = 95.204%		
57) Toluene-D8(S)	7.35	98	354603	24.85645 ppb	0.00
Spiked Amount 25.000			Recovery = 99.424%		
65) 4-Bromofluorobenzene(S)	10.73	95	112417	25.20171 ppb	0.00
Spiked Amount 25.000			Recovery = 100.808%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.21	85	53741	10.26310 ppb		99
3) Freon 114	1.31	85	53794	10.04696 ppb		100
4) Chloromethane	1.36	50	63488	10.24487 ppb		95
5) Vinyl chloride	1.45	62	96691	10.46539 ppb		100
6) Bromomethane	1.71	94	57966	11.67714 ppb		99
7) Chloroethane	1.81	64	57310	10.11216 ppb		100
8) Dichlorofluoromethane	2.00	67	156660	10.42017 ppb		99
9) Trichlorofluoromethane	2.05	101	104535	10.17540 ppb		100
10) Acrolein	2.43	56	57648	112.52203 ppb		94
11) Acetone	2.59	43	7787	8.76507 ppb		87
12) Freon-113	2.55	101	56850	10.12462 ppb		94
13) 1,1-DCE	2.53	61	101065	10.31148 ppb		99
14) Acetonitrile	2.84	41	41957	131.47808 ppb		91
15) t-Butanol	3.15	59	15402	122.34680 ppb		94
16) Methyl Acetate	2.92	43	21980	9.45749 ppb		97
17) Iodomethane	2.66	142	30776	6.31051 ppb		98
18) Acrylonitrile	3.23	53	10041	8.93178 ppb	#	94
19) Methylene chloride	2.99	84	55968	9.33091 ppb		96
20) Carbon disulfide	2.72	76	185322	9.98396 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	92226	9.91604 ppb		97
22) Trans-1,2-DCE	3.27	96	68136	10.24748 ppb		97
23) Diisopropyl Ether	3.81	45	197356	9.94293 ppb		99
24) 1,1-DCA	3.68	63	121110	10.30158 ppb		97
25) Vinyl Acetate	3.77	43	30857	8.28742 ppb		98
26) Ethyl tert Butyl Ether	4.18	59	114978	10.03252 ppb		99
27) MEK (2-Butanone)	4.31	43	15019	9.57001 ppb		96
28) Cis-1,2-DCE	4.28	96	72575	10.31091 ppb		99
29) 2,2-Dichloropropane	4.28	77	70537	9.66688 ppb		96
30) Chloroform	4.62	83	114033	10.15904 ppb		98
31) Bromochloromethane	4.52	128	25443	9.73282 ppb		85
33) 1,1,1-TCA	4.81	97	104081	10.63714 ppb		98
34) Cyclohexane	4.87	41	67820	9.97286 ppb		97
35) 1,1-Dichloropropene	4.99	75	96253	10.11635 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	168062	9.75548 ppb		99
38) Carbon Tetrachloride	4.99	117	82109	10.38087 ppb		95
39) Tert Amyl Methyl Ether	5.37	73	95647	9.94888 ppb		99
40) 1,2-DCA	5.21	62	60704	9.59242 ppb		98
41) Benzene	5.20	78	284260	10.31672 ppb		100
42) TCE	5.92	95	73329	10.19175 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0414M17.D
Acq On : 14 Apr 17 17:48
Sample : (SS)10ug/L VOC STD 4/14/17
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:34 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.15	43	246134	117.02710 ppb	98
44) 1,2-Dichloropropane	6.16	63	64365	10.14825 ppb	97
45) Bromodichloromethane	6.49	83	72840	10.10154 ppb	100
46) Methyl Cyclohexane	6.15	83	102729	10.40298 ppb	98
47) Dibromomethane	6.28	93	22858	9.71815 ppb	95
48) MIBK (methyl isobutyl ket	7.23	43	29230	9.65424 ppb	98
49) 1-Bromo-2-chloroethane	6.83	63	57592	9.54135 ppb	98
51) Cis-1,3-Dichloropropene	7.02	75	76598	10.10045 ppb	98
52) Toluene	7.42	91	321579	10.08605 ppb	98
53) Trans-1,3-Dichloropropene	7.70	75	50077	9.17303 ppb	99
54) 1,1,2-TCA	7.91	83	29631	9.99985 ppb	95
55) 2-Hexanone	8.27	43	15924	9.65372 ppb	89
58) 1,2-EDB	8.52	107	31299	10.22154 ppb	98
59) Tetrachloroethene	8.10	164	73207	10.37903 ppb	89
60) 1-Chlorohexane	9.20	91	83146	10.39576 ppb	99
61) 1,1,1,2-Tetrachloroethane	9.29	131	56711	9.93207 ppb	92
62) m&p-Xylene	9.51	106	276275	20.18983 ppb	96
63) o-Xylene	10.03	106	130062	10.23481 ppb	98
64) Styrene	10.05	104	190658	10.02001 ppb	98
66) 1,3-Dichloropropane	8.12	76	61510	10.14890 ppb	100
67) Dibromochloromethane	8.39	129	44192	10.03044 ppb	95
68) Chlorobenzene	9.18	112	185991	9.90553 ppb	99
69) Ethylbenzene	9.35	91	357705	10.05195 ppb	99
70) Bromoform	10.26	173	22804	9.03138 ppb	99
72) Isopropylbenzene	10.55	105	347718	10.36584 ppb	99
73) 1,1,2,2-Tetrachloroethane	10.95	83	32887	9.49475 ppb	95
74) 1,2,3-Trichloropropane	10.99	110	10217	9.70391 ppb	95
75) t-1,4-Dichloro-2-Butene	11.04	53	6102	9.45234 ppb	95
76) Bromobenzene	10.91	156	71649	9.96008 ppb	99
77) n-Propylbenzene	11.12	91	372074	10.45649 ppb	100
78) 4-Ethyltoluene	11.29	105	309647	10.46256 ppb	97
79) 2-Chlorotoluene	11.20	91	220662	10.28303 ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	269128	10.53682 ppb	96
81) 4-Chlorotoluene	11.36	91	244235	10.22700 ppb	99
82) Tert-Butylbenzene	11.83	119	236467	10.40590 ppb	95
83) 1,2,4-Trimethylbenzene	11.89	105	251915	10.30255 ppb	97
84) Sec-Butylbenzene	12.14	105	311300	10.12528 ppb	99
85) p-Isopropyltoluene	12.36	119	135104	9.82715 ppb	99
86) Benzyl Chloride	12.57	91	16403	8.71068 ppb	98
87) 1,3-DCB	12.24	146	143226	10.11139 ppb	96
88) 1,4-DCB	12.37	146	69304	9.91536 ppb	99
89) n-Butylbenzene	12.94	91	111024	9.58202 ppb	99
90) 1,2-DCB	12.88	146	114626	10.00024 ppb	97
91) Hexachloroethane	13.25	117	36915	10.72020 ppb	96
92) 1,2-Dibromo-3-chloropropan	14.00	75	4150	10.25603 ppb	94
93) 1,2,4-Trichlorobenzene	15.21	180	61340	9.68651 ppb	98
94) Hexachlorobutadiene	15.51	225	44035	9.63107 ppb	93
95) Naphthalene	15.54	128	51946	8.64208 ppb	95
96) 1,2,3-Trichlorobenzene	15.90	180	38740	9.20382 ppb	98

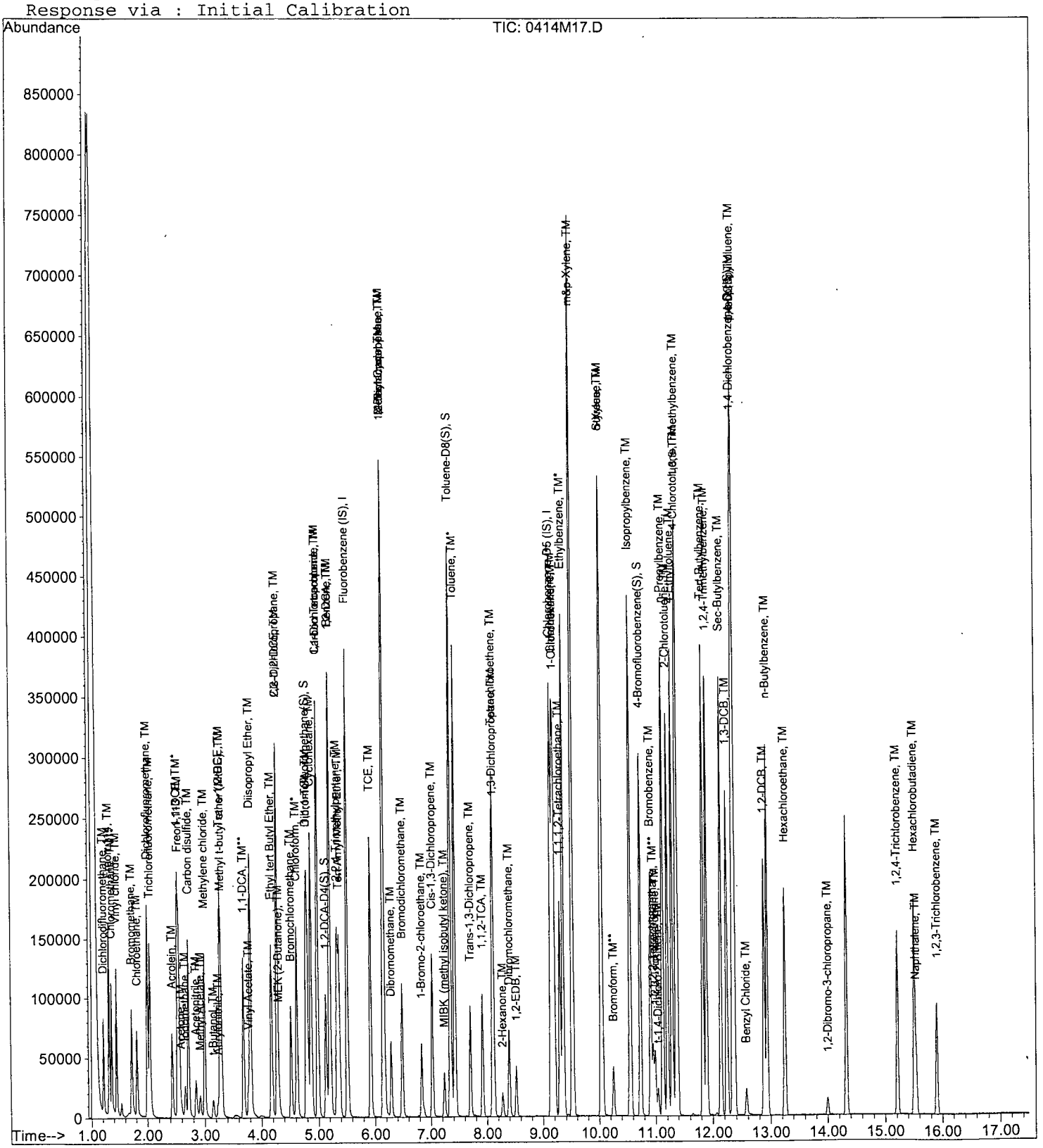
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170414\0414M17.D Vial: 17
Acq On : 14 Apr 17 17:48 Operator: PM,DG,SV,CMM
Sample : (SS)10ug/L VOC STD 4/14/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 19 7:34 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



821

Algorithm Check for Linear Regression

Data file:	0414M17.D
Analyte:	MIBK
Area of target analyte:	29230
Area of internal standard:	346068
concentration of internal standard:	25
multiplyer:	1
amt:	0.00416
response ratio:	0.208

$$\frac{((\text{Area pk/area IS}) - \text{constant term}) * (\text{conc IS} * \text{multiplyer})}{\text{slope}} =$$

9.65

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Initial Cal. Date: 04/14/17
Data File: 0415M06.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3783	0.4195	11	TM	
3	TM	Freon 114	0.3868	0.4256	10	TM	
4	TM**	Chloromethane	0.4477	0.4647	3.8	TM**	
5	TM*	Vinyl chloride	0.6674	0.7258	8.7	TM*	
6	TML	Bromomethane	0.4427	0.3842	13	TML	7.1
7	TM	Chloroethane	0.4094	0.4196	2.5	TM	
8	TM	Dichlorofluoromethane	1.086	1.132	4.2	TM	
9	TM	Trichlorofluoromethane	0.7421	0.7775	4.8	TM	
10	TM	Acrolein	0.0370	0.0369	0.34	TM	
11	TM	Acetone	0.0642	0.0616	4.0	TM	
12	TM	Freon-113	0.4056	0.4347	7.2	TM	
13	TM*	1,1-DCE	0.7080	0.7510	6.1	TM*	
14	TM	Acetonitrile	0.0231	0.0229	0.53	TM	
15	TM	t-Butanol	0.0091	0.0089	2.0	TM	
16	TM	Methyl Acetate	0.1679	0.1708	1.7	TM	
17	TML	Iodomethane	0.2785	0.3682	32	TML	6.9
18	TM	Acrylonitrile	0.0812	0.0758	6.7	TM	
19	TM	Methylene chloride	0.4333	0.4251	1.9	TM	
20	TM	Carbon disulfide	1.341	1.392	3.8	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6719	0.6833	1.7	TM	
22	TM	Trans-1,2-DCE	0.4803	0.5071	5.6	TM	
23	TM	Diisopropyl Ether	1.434	1.468	2.4	TM	
24	TM**	1,1-DCA	0.8493	0.8939	5.3	TM**	
25	TM	Vinyl Acetate	0.2690	0.3050	13	TM	
26	TM	Ethyl tert Butyl Ether	0.8279	0.8586	3.7	TM	
27	TML	MEK (2-Butanone)	0.1106	0.1132	2.3	TML	0.97
28	TM	Cis-1,2-DCE	0.5085	0.5266	3.6	TM	
29	TM	2,2-Dichloropropane	0.5271	0.5886	12	TM	
30	TM*	Chloroform	0.8109	0.8567	5.6	TM*	
31	TM	Bromochloromethane	0.1888	0.1929	2.1	TM	
32	S	Dibromofluoromethane(S)	0.2420	0.2436	0.67	S	
33	TM	1,1,1-TCA	0.7068	0.7701	8.9	TM	
34	TM	Cyclohexane	0.4913	0.5189	5.6	TM	
35	TM	1,1-Dichloropropene	0.6873	0.7085	3.1	TM	
36	TM	2,2,4-Trimethylpentane	1.245	1.376	11	TM	
37	S	1,2-DCA-D4(S)	0.2061	0.2115	2.6	S	
38	TM	Carbon Tetrachloride	0.5714	0.6217	8.8	TM	
39	TM	Tert Amyl Methyl Ether	0.6945	0.6916	0.41	TM	
40	TM	1,2-DCA	0.4572	0.4594	0.50	TM	
		Average			5.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0415M06.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.990	2.093	5.2	TM	
42	TM	TCE	0.5198	0.5343	2.8	TM	
43	TM	2-Pentanone	0.1519	0.1478	2.7	TM	
44	TM*	1,2-Dichloropropane	0.4582	0.4824	5.3	TM*	
45	TM	Bromodichloromethane	0.5209	0.5447	4.6	TM	
46	TM	Methyl Cyclohexane	0.7134	0.7542	5.7	TM	
47	TM	Dibromomethane	0.1699	0.1738	2.3	TM	
48	TML	MIBK (methyl isobutyl ketone)	0.2502	0.2186	13	TML	0.10
49	TM	1-Bromo-2-chloroethane	0.4360	0.4096	6.1	TM	
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5635	2.9	TM	
51	TM*	Toluene	2.303	2.328	1.1	TM*	
52	TML	Trans-1,3-Dichloropropene	0.3655	0.3691	1.00	TML	6.7
53	TM	1,1,2-TCA	0.2141	0.2187	2.2	TM	
54	TM	2-Hexanone	0.1192	0.1206	1.2	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.532	1.529	0.18	S	
57	TM	1,2-EDB	0.3288	0.3427	4.2	TM	
58	TM	Tetrachloroethene	0.7574	0.7941	4.9	TM	
59	TM	1-Chlorohexane	0.8588	0.9356	8.9	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6131	0.6343	3.5	TM	
61	TM	m&p-Xylene	1.469	1.532	4.2	TM	
62	TM	o-Xylene	1.365	1.434	5.1	TM	
63	TM	Styrene	2.043	2.116	3.6	TM	
64	S	4-Bromofluorobenzene(S)	0.4790	0.4793	0.06	S	
65	TM	1,3-Dichloropropane	0.6508	0.6755	3.8	TM	
66	TM	Dibromochloromethane	0.4731	0.4736	0.10	TM	
67	TM**	Chlorobenzene	2.016	2.043	1.3	TM**	
68	TM*	Ethylbenzene	3.821	3.940	3.1	TM*	
69	TM**	Bromoform	0.2711	0.2537	6.4	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.698	8.292	7.7	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7948	0.7998	0.62	TM**	
73	TM	1,2,3-Trichloropropane	0.2416	0.2486	2.9	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1481	0.1592	7.4	TM	
75	TM	Bromobenzene	1.651	1.697	2.8	TM	
76	TM	n-Propylbenzene	8.165	9.116	12	TM	
77	TM	4-Ethyltoluene	6.792	7.515	11	TM	
78	TM	2-Chlorotoluene	4.924	5.304	7.7	TM	
79	TM	1,3,5-Trimethylbenzene	5.861	6.540	12	TM	
80	TM	4-Chlorotoluene	5.480	5.889	7.5	TM	
		Average			4.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0415M06.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.215	5.649	8.3	TM	
82	TM	1,2,4-Trimethylbenzene	5.611	6.109	8.9	TM	
83	TM	Sec-Butylbenzene	7.055	7.588	7.6	TM	
84	TM	p-Isopropyltoluene	3.155	3.388	7.4	TM	
85	TML	Benzyl Chloride	0.4643	0.4788	3.1	TML	2.5
86	TM	1,3-DCB	3.250	3.489	7.3	TM	
87	TM	1,4-DCB	1.604	1.654	3.1	TM	
88	TM	n-Butylbenzene	2.659	2.772	4.3	TM	
89	TM	1,2-DCB	2.630	2.745	4.4	TM	
90	TM	Hexachloroethane	0.7902	0.8598	8.8	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0867	0.0926	6.8	TML	0.00
92	TML	1,2,4-Trichlorobenzene	1.305	1.570	20	TML	8.4
93	TM	Hexachlorobutadiene	1.049	1.137	8.4	TM	
94	TML	Naphthalene	1.117	1.254	12	TML	9.5
95	TML	1,2,3-Trichlorobenzene	0.7799	0.9547	22	TML	1.1
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M06.D Vial: 4
Acq On : 15 Apr 17 10:29 Operator: PM,DG,SV,CMM
Sample : 170415A CCV-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 19 7:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	351653	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	236360	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	109561	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	85661	25.16835 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.672%	
37) 1,2-DCA-D4(S)	5.13	65	74382	25.65527 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.620%	
57) Toluene-D8(S)	7.35	98	361447	24.95609 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.824%	
65) 4-Bromofluorobenzene(S)	10.73	95	113281	25.01441 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.056%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.22	85	59012	11.09074 ppb		97
3) Freon 114	1.32	85	59859	11.00215 ppb		95
4) Chloromethane	1.36	50	65368	10.38071 ppb		94
5) Vinyl chloride	1.45	62	102086	10.87383 ppb		99
6) Bromomethane	1.72	94	54042	10.71376 ppb		98
7) Chloroethane	1.82	64	59019	10.24831 ppb		99
8) Dichlorofluoromethane	2.01	67	159223	10.42244 ppb		98
9) Trichlorofluoromethane	2.05	101	109360	10.47600 ppb		98
10) Acrolein	2.44	56	64855	124.57873 ppb		95
11) Acetone	2.59	43	8663	9.59623 ppb		88
12) Freon-113	2.56	101	61149	10.71728 ppb		98
13) 1,1-DCE	2.53	61	105638	10.60687 ppb		99
14) Acetonitrile	2.84	41	40317	124.33238 ppb		100
15) t-Butanol	3.15	59	15673	122.52219 ppb	#	84
16) Methyl Acetate	2.92	43	24020	10.17111 ppb		98
17) Iodomethane	2.66	142	51795	9.31331 ppb		100
18) Acrylonitrile	3.24	53	10656	9.32830 ppb	#	81
19) Methylene chloride	3.00	84	59796	9.81078 ppb		99
20) Carbon disulfide	2.72	76	195793	10.38054 ppb		98
21) Methyl t-butyl ether (MtBE	3.30	73	96110	10.16952 ppb		98
22) Trans-1,2-DCE	3.27	96	71330	10.55747 ppb		98
23) Diisopropyl Ether	3.81	45	206445	10.23565 ppb		98
24) 1,1-DCA	3.69	63	125742	10.52571 ppb		100
25) Vinyl Acetate	3.77	43	42904	11.33994 ppb		100
26) Ethyl tert Butyl Ether	4.18	59	120775	10.37097 ppb		100
27) MEK (2-Butanone)	4.31	43	15920	10.09712 ppb		98
28) Cis-1,2-DCE	4.28	96	74075	10.35688 ppb		94
29) 2,2-Dichloropropane	4.28	77	82800	11.16727 ppb		100
30) Chloroform	4.62	83	120503	10.56494 ppb		95
31) Bromochloromethane	4.52	128	27130	10.21333 ppb		87
33) 1,1,1-TCA	4.81	97	108318	10.89435 ppb		99
34) Cyclohexane	4.87	41	72989	10.56249 ppb		97
35) 1,1-Dichloropropene	4.99	75	99665	10.30859 ppb		99
36) 2,2,4-Trimethylpentane	5.33	57	193545	11.05626 ppb		99
38) Carbon Tetrachloride	4.99	117	87456	10.88127 ppb		97
39) Tert Amyl Methyl Ether	5.37	73	97287	9.95875 ppb		99
40) 1,2-DCA	5.21	62	64625	10.04983 ppb		96
41) Benzene	5.20	78	294460	10.51718 ppb		98
42) TCE	5.92	95	75154	10.27951 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M06.D
Acq On : 15 Apr 17 10:29
Sample : 170415A CCV-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43) 2-Pentanone	6.15	43	259857	121.58958	ppb		98
44) 1,2-Dichloropropane	6.16	63	67851	10.52797	ppb		99
45) Bromodichloromethane	6.49	83	76619	10.45686	ppb		97
46) Methyl Cyclohexane	6.15	83	106080	10.57171	ppb		99
47) Dibromomethane	6.29	93	24451	10.23031	ppb		98
48) MIBK (methyl isobutyl ket	7.24	43	30743	10.01022	ppb		98
49) 1-Bromo-2-chloroethane	6.83	63	57617	9.39389	ppb		100
51) Cis-1,3-Dichloropropene	7.02	75	79266	10.28625	ppb		99
52) Toluene	7.42	91	327390	10.10522	ppb		98
53) Trans-1,3-Dichloropropene	7.70	75	51918	9.32950	ppb		97
54) 1,1,2-TCA	7.92	83	30767	10.21832	ppb		95
55) 2-Hexanone	8.27	43	16965	10.12147	ppb		98
58) 1,2-EDB	8.52	107	32398	10.42172	ppb		97
59) Tetrachloroethene	8.10	164	75081	10.48502	ppb		91
60) 1-Chlorohexane	9.20	91	88451	10.89313	ppb		98
61) 1,1,1,2-Tetrachloroethane	9.30	131	59971	10.34543	ppb		100
62) m&p-Xylene	9.51	106	289601	20.84617	ppb		98
63) o-Xylene	10.03	106	135602	10.51068	ppb		97
64) Styrene	10.05	104	200080	10.35743	ppb		99
66) 1,3-Dichloropropane	8.12	76	63864	10.37921	ppb		96
67) Dibromochloromethane	8.39	129	44773	10.00985	ppb		96
68) Chlorobenzene	9.18	112	193161	10.13306	ppb		99
69) Ethylbenzene	9.35	91	372512	10.31100	ppb		99
70) Bromoform	10.25	173	23989	9.35815	ppb		97
72) Isopropylbenzene	10.55	105	363385	10.77188	ppb		99
73) 1,1,2,2-Tetrachloroethane	10.95	83	35050	10.06224	ppb		98
74) 1,2,3-Trichloropropane	10.99	110	10895	10.28958	ppb		95
75) t-1,4-Dichloro-2-Butene	11.04	53	6975	10.74382	ppb		100
76) Bromobenzene	10.91	156	74366	10.27956	ppb		97
77) n-Propylbenzene	11.12	91	399485	11.16360	ppb		99
78) 4-Ethyltoluene	11.29	105	329361	11.06600	ppb		99
79) 2-Chlorotoluene	11.20	91	232461	10.77187	ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	286610	11.15808	ppb		100
81) 4-Chlorotoluene	11.36	91	258102	10.74680	ppb		99
82) Tert-Butylbenzene	11.83	119	247583	10.83371	ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	267719	10.88723	ppb		100
84) Sec-Butylbenzene	12.14	105	332552	10.75561	ppb		100
85) p-Isopropyltoluene	12.36	119	148480	10.73927	ppb		97
86) Benzyl Chloride	12.57	91	20984	10.24729	ppb	#	92
87) 1,3-DCB	12.24	146	152914	10.73454	ppb		96
88) 1,4-DCB	12.37	146	72480	10.31136	ppb		99
89) n-Butylbenzene	12.94	91	121480	10.42539	ppb		97
90) 1,2-DCB	12.88	146	120297	10.43588	ppb		98
91) Hexachloroethane	13.25	117	37679	10.88044	ppb		93
92) 1,2-Dibromo-3-chloropropan	14.00	75	4058	9.99979	ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	68797	10.83646	ppb		96
94) Hexachlorobutadiene	15.51	225	49839	10.83909	ppb		97
95) Naphthalene	15.54	128	54956	9.05041	ppb		100
96) 1,2,3-Trichlorobenzene	15.90	180	41837	9.88740	ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

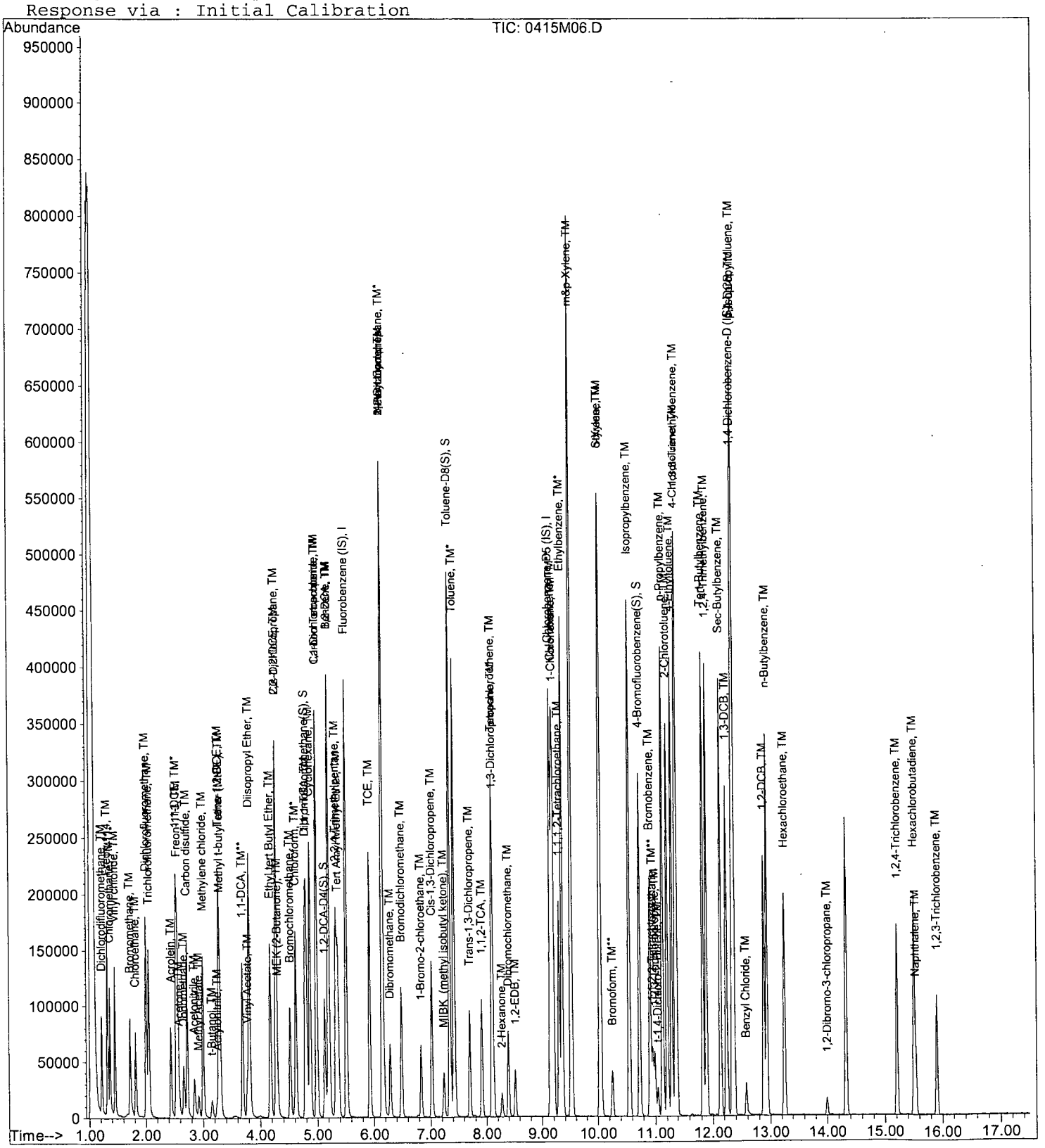
Data File : M:\MAX\DATA\M170414\0415M06.D
Acq On : 15 Apr 17 10:29
Sample : 170415A CCV-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



828

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Initial Cal. Date: 04/14/17
Data File: 0415M28.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.3783	0.4203	11	TM	
3	TM	Freon 114	0.3868	0.4259	10	TM	
4	TM**	Chloromethane	0.4477	0.4902	9.5	TM**	
5	TM*	Vinyl chloride	0.6674	0.7327	9.8	TM*	
6	TML	Bromomethane	0.4427	0.3793	14	TML	5.8
7	TM	Chloroethane	0.4094	0.4169	1.8	TM	
8	TM	Dichlorofluoromethane	1.086	1.148	5.7	TM	
9	TM	Trichlorofluoromethane	0.7421	0.7671	3.4	TM	
10	TM	Acrolein	0.0370	0.0366	1.2	TM	
11	TM	Acetone	0.0642	0.0607	5.5	TM	
12	TM	Freon-113	0.4056	0.4299	6.0	TM	
13	TM*	1,1-DCE	0.7080	0.7516	6.1	TM*	
14	TM	Acetonitrile	0.0231	0.0231	0.24	TM	
15	TM	t-Butanol	0.0091	0.0088	3.6	TM	
16	TM	Methyl Acetate	0.1679	0.1858	11	TM	
17	TML	Iodomethane	0.2785	0.3521	26	TML	10
18	TM	Acrylonitrile	0.0812	0.0833	2.6	TM	
19	TM	Methylene chloride	0.4333	0.4442	2.5	TM	
20	TM	Carbon disulfide	1.341	1.396	4.1	TM	
21	TM	Methyl t-butyl ether (MtBE)	0.6719	0.7379	9.8	TM	
22	TM	Trans-1,2-DCE	0.4803	0.5200	8.3	TM	
23	TM	Diisopropyl Ether	1.434	1.569	9.4	TM	
24	TM**	1,1-DCA	0.8493	0.9316	9.7	TM**	
25	TM	Vinyl Acetate	0.2690	0.2178	19	TM	
26	TM	Ethyl tert Butyl Ether	0.8279	0.9425	14	TM	
27	TML	MEK (2-Butanone)	0.1106	0.1096	0.95	TML	3.1
28	TM	Cis-1,2-DCE	0.5085	0.5483	7.8	TM	
29	TM	2,2-Dichloropropane	0.5271	0.4945	6.2	TM	
30	TM*	Chloroform	0.8109	0.8752	7.9	TM*	
31	TM	Bromochloromethane	0.1888	0.1999	5.8	TM	
32	S	Dibromofluoromethane(S)	0.2420	0.2415	0.18	S	
33	TM	1,1,1-TCA	0.7068	0.7771	9.9	TM	
34	TM	Cyclohexane	0.4913	0.5138	4.6	TM	
35	TM	1,1-Dichloropropene	0.6873	0.6922	0.71	TM	
36	TM	2,2,4-Trimethylpentane	1.245	1.181	5.1	TM	
37	S	1,2-DCA-D4(S)	0.2061	0.2178	5.6	S	
38	TM	Carbon Tetrachloride	0.5714	0.6247	9.3	TM	
39	TM	Tert Amyl Methyl Ether	0.6945	0.7446	7.2	TM	
40	TM	1,2-DCA	0.4572	0.4919	7.6	TM	
		Average			7.3		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0415M28.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	Benzene	1.990	2.147	7.8	TM	
42	TM	TCE	0.5198	0.5721	10	TM	
43	TM	2-Pentanone	0.1519	0.1467	3.5	TM	
44	TM*	1,2-Dichloropropane	0.4582	0.4976	8.6	TM*	
45	TM	Bromodichloromethane	0.5209	0.5675	8.9	TM	
46	TM	Methyl Cyclohexane	0.7134	0.7479	4.8	TM	
47	TM	Dibromomethane	0.1699	0.1834	7.9	TM	
48	TML	MIBK (methyl isobutyl ketone)	0.2502	0.2308	7.8	TML	6.0
49	TM	1-Bromo-2-chloroethane	0.4360	0.4317	0.99	TM	
50	TM	Cis-1,3-Dichloropropene	0.5478	0.5792	5.7	TM	
51	TM*	Toluene	2.303	2.396	4.0	TM*	
52	TML	Trans-1,3-Dichloropropene	0.3655	0.3721	1.8	TML	6.1
53	TM	1,1,2-TCA	0.2141	0.2308	7.8	TM	
54	TM	2-Hexanone	0.1192	0.1192	0.01	TM	
55	I	Chlorobenzene-D5 (IS)	ISTD			I	
56	S	Toluene-D8(S)	1.532	1.502	2.0	S	
57	TM	1,2-EDB	0.3288	0.3617	10.0	TM	
58	TM	Tetrachloroethene	0.7574	0.7895	4.2	TM	
59	TM	1-Chlorohexane	0.8588	0.9119	6.2	TM	
60	TM	1,1,1,2-Tetrachloroethane	0.6131	0.6506	6.1	TM	
61	TM	m&p-Xylene	1.469	1.563	6.4	TM	
62	TM	o-Xylene	1.365	1.455	6.6	TM	
63	TM	Styrene	2.043	2.226	9.0	TM	
64	S	4-Bromofluorobenzene(S)	0.4790	0.4922	2.8	S	
65	TM	1,3-Dichloropropane	0.6508	0.7026	8.0	TM	
66	TM	Dibromochloromethane	0.4731	0.5112	8.1	TM	
67	TM**	Chlorobenzene	2.016	2.096	4.0	TM**	
68	TM*	Ethylbenzene	3.821	3.988	4.4	TM*	
69	TM**	Bromoform	0.2711	0.2707	0.16	TM**	
70	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
71	TM	Isopropylbenzene	7.698	8.142	5.8	TM	
72	TM**	1,1,2,2-Tetrachloroethane	0.7948	0.8358	5.2	TM**	
73	TM	1,2,3-Trichloropropane	0.2416	0.2509	3.9	TM	
74	TM	t-1,4-Dichloro-2-Butene	0.1481	0.1591	7.4	TM	
75	TM	Bromobenzene	1.651	1.732	4.9	TM	
76	TM	n-Propylbenzene	8.165	8.840	8.3	TM	
77	TM	4-Ethyltoluene	6.792	7.331	7.9	TM	
78	TM	2-Chlorotoluene	4.924	5.330	8.2	TM	
79	TM	1,3,5-Trimethylbenzene	5.861	6.351	8.4	TM	
80	TM	4-Chlorotoluene	5.480	5.876	7.2	TM	
		Average			5.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 04/15/17
Instrument: Max
Cal. Date: 04/14/17
Data File: 0415M28.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	Tert-Butylbenzene	5.215	5.551	6.4	TM	
82	TM	1,2,4-Trimethylbenzene	5.611	5.906	5.2	TM	
83	TM	Sec-Butylbenzene	7.055	7.362	4.4	TM	
84	TM	p-Isopropyltoluene	3.155	3.092	2.0	TM	
85	TML	Benzyl Chloride	0.4643	0.3874	17	TML	11
86	TM	1,3-DCB	3.250	3.424	5.3	TM	
87	TM	1,4-DCB	1.604	1.688	5.2	TM	
88	TM	n-Butylbenzene	2.659	2.549	4.1	TM	
89	TM	1,2-DCB	2.630	2.842	8.0	TM	
90	TM	Hexachloroethane	0.7902	0.8492	7.5	TM	
91	TML	1,2-Dibromo-3-chloropropane	0.0867	0.1010	16	TML	8.1
92	TML	1,2,4-Trichlorobenzene	1.305	1.565	20	TML	8.0
93	TM	Hexachlorobutadiene	1.049	1.022	2.6	TM	
94	TML	Naphthalene	1.117	1.420	27	TML	1.4
95	TML	1,2,3-Trichlorobenzene	0.7799	1.032	32	TML	6.9
96							
97							
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			10.8		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M28.D
Acq On : 15 Apr 17 20:54
Sample : Ending CCV 8260 10ug/L 4/15/17
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	352364	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	236588	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	113174	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	85107	24.95512 ppb	0.00
Spiked Amount 25.000			Recovery = 99.820%		
37) 1,2-DCA-D4(S)	5.13	65	76730	26.41173 ppb	0.00
Spiked Amount 25.000			Recovery = 105.648%		
57) Toluene-D8(S)	7.35	98	355324	24.50968 ppb	0.00
Spiked Amount 25.000			Recovery = 98.040%		
65) 4-Bromofluorobenzene(S)	10.73	95	116449	25.68918 ppb	0.00
Spiked Amount 25.000			Recovery = 102.756%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.22	85	59238	11.11075 ppb	96
3) Freon 114	1.32	85	60030	11.01132 ppb	99
4) Chloromethane	1.36	50	69096	10.95059 ppb	97
5) Vinyl chloride	1.45	62	103274	10.97817 ppb	94
6) Bromomethane	1.72	94	53455	10.57600 ppb	99
7) Chloroethane	1.82	64	58754	10.18171 ppb	96
8) Dichlorofluoromethane	2.01	67	161765	10.56747 ppb	98
9) Trichlorofluoromethane	2.06	101	108115	10.33584 ppb	99
10) Acrolein	2.44	56	64413	123.48004 ppb	91
11) Acetone	2.60	43	8552	9.45416 ppb	84
12) Freon-113	2.56	101	60586	10.59718 ppb	97
13) 1,1-DCE	2.54	61	105931	10.61483 ppb	97
14) Acetonitrile	2.85	41	40713	125.30025 ppb	99
15) t-Butanol	3.16	59	15448	120.51959 ppb	89
16) Methyl Acetate	2.93	43	26183	11.06465 ppb	95
17) Iodomethane	2.66	142	49630	8.98188 ppb	99
18) Acrylonitrile	3.24	53	11743	10.25912 ppb	95
19) Methylene chloride	3.00	84	62613	10.25223 ppb	98
20) Carbon disulfide	2.72	76	196731	10.40923 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	104001	10.98228 ppb	100
22) Trans-1,2-DCE	3.28	96	73290	10.82568 ppb	97
23) Diisopropyl Ether	3.81	45	221074	10.93885 ppb	97
24) 1,1-DCA	3.69	63	131311	10.96971 ppb	98
25) Vinyl Acetate	3.78	43	30691	8.09556 ppb	99
26) Ethyl tert Butyl Ether	4.18	59	132839	11.38389 ppb	99
27) MEK (2-Butanone)	4.32	43	15444	9.69122 ppb	100
28) Cis-1,2-DCE	4.28	96	77279	10.78304 ppb	94
29) 2,2-Dichloropropane	4.28	77	69697	9.38110 ppb	97
30) Chloroform	4.62	83	123361	10.79369 ppb	98
31) Bromochloromethane	4.52	128	28172	10.58420 ppb	89
33) 1,1,1-TCA	4.81	97	109529	10.99392 ppb	99
34) Cyclohexane	4.87	41	72416	10.45843 ppb	94
35) 1,1-Dichloropropene	4.99	75	97565	10.07102 ppb	97
36) 2,2,4-Trimethylpentane	5.33	57	166408	9.48688 ppb	98
38) Carbon Tetrachloride	4.99	117	88047	10.93270 ppb	99
39) Tert Amyl Methyl Ether	5.37	73	104954	10.72190 ppb	97
40) 1,2-DCA	5.21	62	69334	10.76037 ppb	98
41) Benzene	5.21	78	302542	10.78404 ppb	100
42) TCE	5.92	95	80635	11.00694 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M28.D
Acq On : 15 Apr 17 20:54
Sample : Ending CCV 8260 10ug/L 4/15/17
Misc : 10ml IS&S: 2/23/17

Vial: 26
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) 2-Pentanone	6.15	43	258450	120.68722 ppb	99
44) 1,2-Dichloropropane	6.16	63	70137	10.86072 ppb	97
45) Bromodichloromethane	6.49	83	79990	10.89490 ppb	100
46) Methyl Cyclohexane	6.15	83	105407	10.48345 ppb	100
47) Dibromomethane	6.29	93	25848	10.79300 ppb	87
48) MIBK (methyl isobutyl ket	7.24	43	32526	10.59733 ppb	94
49) 1-Bromo-2-chloroethane	6.83	63	60853	9.90147 ppb	98
51) Cis-1,3-Dichloropropene	7.02	75	81642	10.57320 ppb	98
52) Toluene	7.42	91	337647	10.40079 ppb	99
53) Trans-1,3-Dichloropropene	7.70	75	52442	9.39285 ppb	100
54) 1,1,2-TCA	7.92	83	32537	10.78436 ppb	96
55) 2-Hexanone	8.27	43	16797	10.00102 ppb	96
58) 1,2-EDB	8.52	107	34226	10.99913 ppb	98
59) Tetrachloroethene	8.10	164	74716	10.42400 ppb	97
60) 1-Chlorohexane	9.20	91	86297	10.61762 ppb	98
61) 1,1,1,2-Tetrachloroethane	9.30	131	61567	10.61052 ppb	95
62) m&p-Xylene	9.51	106	295864	21.27647 ppb	100
63) o-Xylene	10.03	106	137673	10.66092 ppb	96
64) Styrene	10.05	104	210702	10.89678 ppb	100
66) 1,3-Dichloropropane	8.12	76	66493	10.79606 ppb	97
67) Dibromochloromethane	8.39	129	48379	10.80562 ppb	97
68) Chlorobenzene	9.18	112	198365	10.39603 ppb	99
69) Ethylbenzene	9.35	91	377411	10.43653 ppb	98
70) Bromoform	10.26	173	25618	9.98400 ppb	95
72) Isopropylbenzene	10.55	105	368583	10.57716 ppb	98
73) 1,1,2,2-Tetrachloroethane	10.95	83	37838	10.51585 ppb	91
74) 1,2,3-Trichloropropane	10.99	110	11360	10.38624 ppb	100
75) t-1,4-Dichloro-2-Butene	11.04	53	7204	10.74231 ppb	100
76) Bromobenzene	10.91	156	78406	10.49201 ppb	97
77) n-Propylbenzene	11.12	91	400179	10.82599 ppb	98
78) 4-Ethyltoluene	11.29	105	331852	10.79375 ppb	98
79) 2-Chlorotoluene	11.20	91	241290	10.82404 ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	287523	10.83627 ppb	100
81) 4-Chlorotoluene	11.36	91	266004	10.72224 ppb	99
82) Tert-Butylbenzene	11.83	119	251286	10.64472 ppb	98
83) 1,2,4-Trimethylbenzene	11.89	105	267341	10.52478 ppb	99
84) Sec-Butylbenzene	12.14	105	333281	10.43507 ppb	99
85) p-Isopropyltoluene	12.36	119	139968	9.80042 ppb	99
86) Benzyl Chloride	12.57	91	17537	8.87545 ppb	98
87) 1,3-DCB	12.24	146	155005	10.53395 ppb	98
88) 1,4-DCB	12.37	146	76408	10.52315 ppb	99
89) n-Butylbenzene	12.94	91	115376	9.58545 ppb	99
90) 1,2-DCB	12.88	146	128641	10.80347 ppb	96
91) Hexachloroethane	13.25	117	38441	10.74611 ppb	99
92) 1,2-Dibromo-3-chloropropan	13.99	75	4570	10.81200 ppb	96
93) 1,2,4-Trichlorobenzene	15.21	180	70827	10.79908 ppb	98
94) Hexachlorobutadiene	15.51	225	46257	9.73891 ppb	95
95) Naphthalene	15.54	128	64280	10.14377 ppb	95
96) 1,2,3-Trichlorobenzene	15.90	180	46728	10.69490 ppb	100

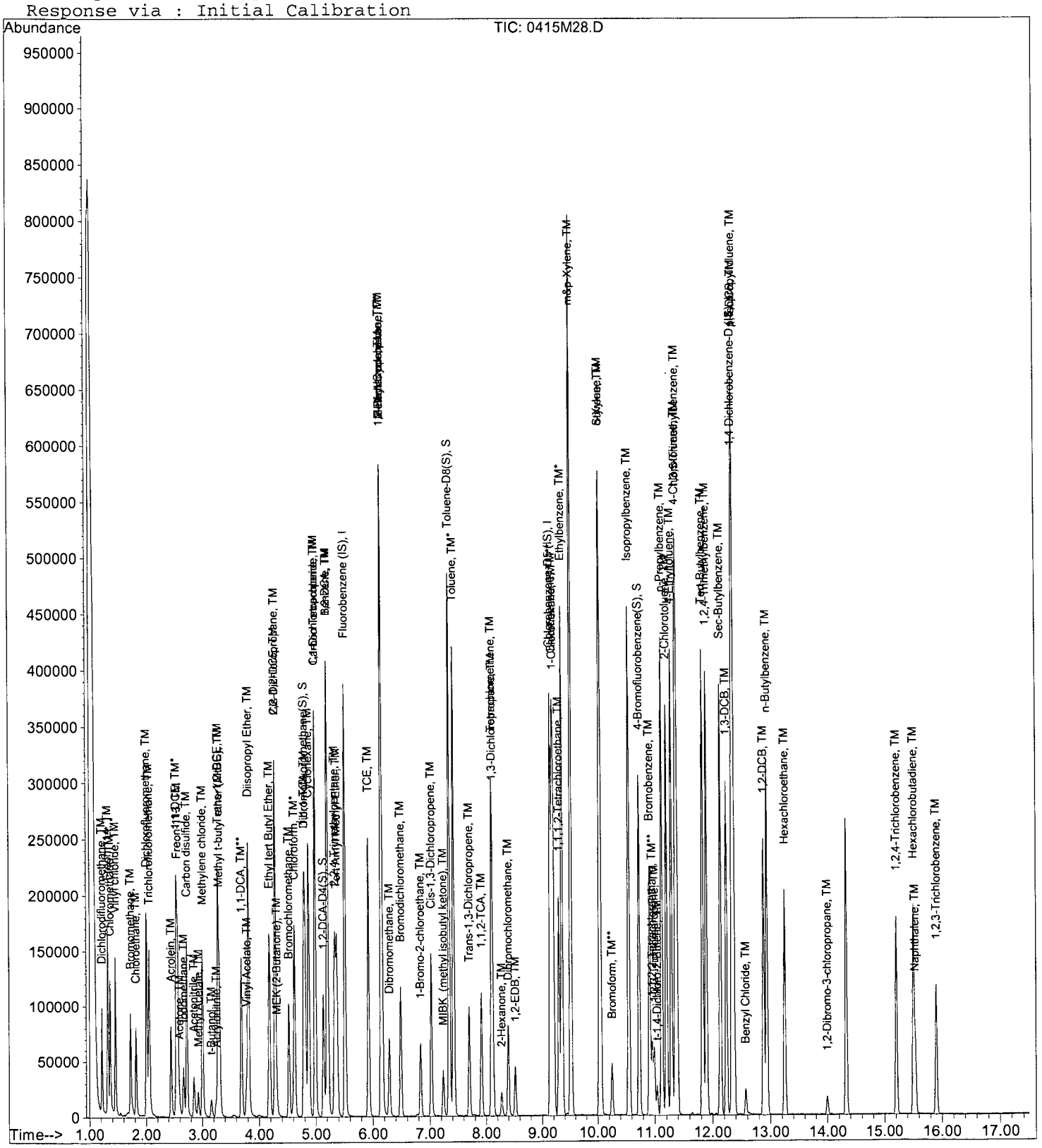
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170414\0415M28.D Vial: 26
Acq On : 15 Apr 17 20:54 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 10ug/L 4/15/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 19 7:35 2017 Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	04/10/17	04/10/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/10/17	04/10/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/10/17	04/10/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/10/17	04/10/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	04/10/17	04/10/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/10/17	04/10/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/10/17	04/10/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/10/17	04/10/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/10/17	04/10/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/10/17	04/10/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:41 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/10/17	04/10/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/10/17	04/10/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/10/17	04/10/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/10/17	04/10/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/10/17	04/10/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/10/17	04/10/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/10/17	04/10/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/10/17	04/10/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/10/17	04/10/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/10/17	04/10/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/10/17	04/10/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/10/17	04/10/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/10/17	04/10/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/10/17	04/10/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/10/17	04/10/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/10/17	04/10/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/10/17	04/10/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/10/17	04/10/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:42 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170410W-53169 - 217774**
Batch ID: #86CDO-170410AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/10/17	04/10/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/10/17	04/10/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/10/17	04/10/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/10/17	04/10/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/10/17	04/10/17
BLANK	SURROGATE: 4-BROMOFLUOR	100	85-114			%	04/10/17	04/10/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	04/10/17	04/10/17
BLANK	SURROGATE: TOLUENE-D8 (S)	104	89-112			%	04/10/17	04/10/17

Quant Method: TALLW.M
Run #: 0410T10
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:42 PM

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0410T10.D
Acq On : 10 Apr 17 13:16
Sample : 170410A BLK-1WT
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 9
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	782400	25.00 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	696256	25.00 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	312384	25.00 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	416448	25.69 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.756%	
38) 1,2-DCA-D4(S)	5.99	65	366806	25.70 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.820%	
58) Toluene-D8(S)	8.11	98	1446626	26.00 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.988%	
66) 4-Bromofluorobenzene(S)	10.73	95	494327	25.02 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.088%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

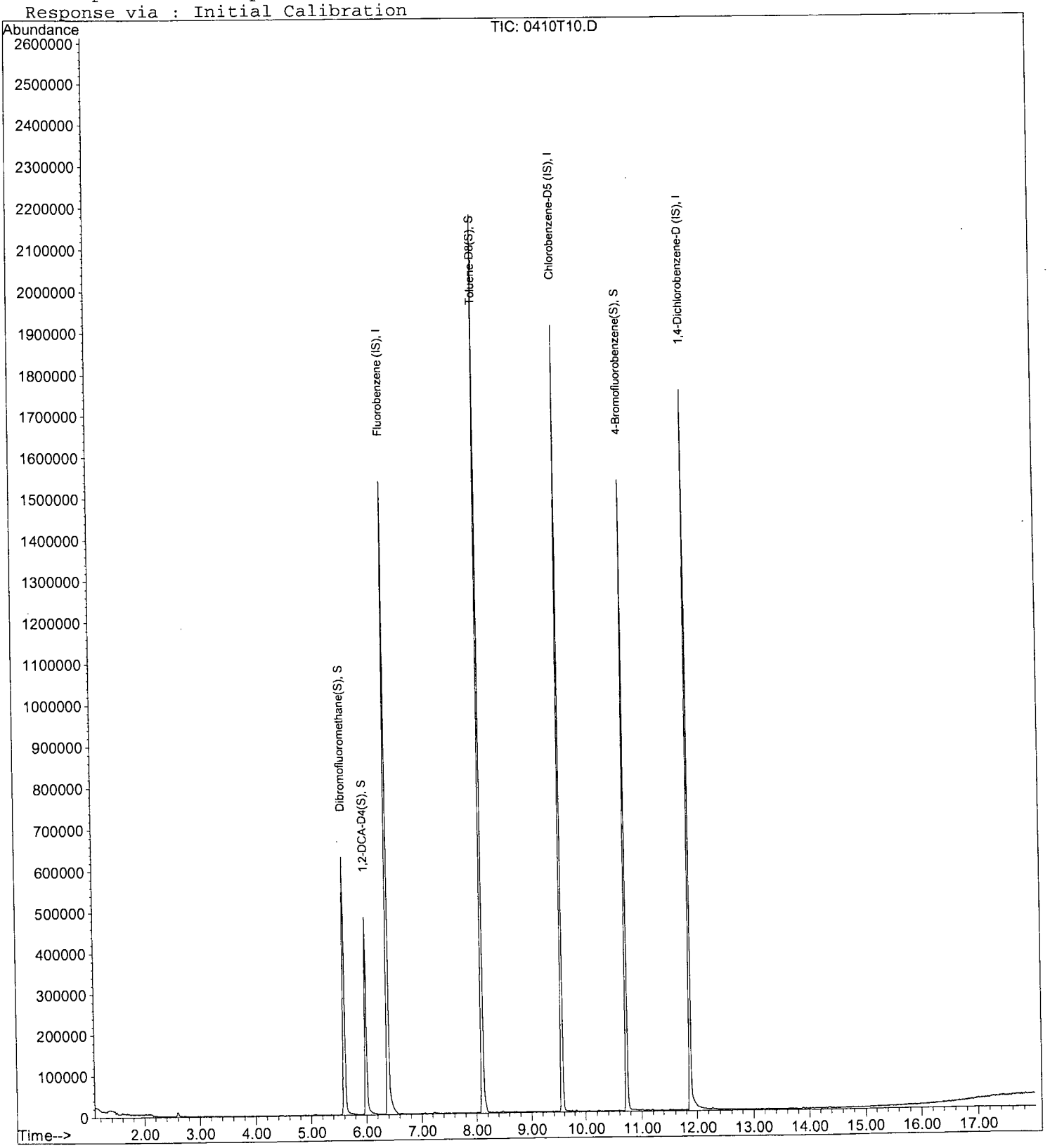
Data File : M:\THOR\DATA\T170407\0410T10.D
Acq On : 10 Apr 17 13:16
Sample : 170410A BLK-1WT
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 9
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 15:16 2017

Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
BLANK	1,1,2-TRICHLORO-1,2,2-TRIFLU	0.30 U	1.0	0.30	0.21	ug/L	04/12/17	04/12/17
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	04/12/17	04/12/17
BLANK	1,1-DICHLOROPROPENE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,2,3-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.29	ug/L	04/12/17	04/12/17
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	04/12/17	04/12/17
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	1,2,4-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	04/12/17	04/12/17
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,3,5-TRIMETHYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	1,3-DICHLOROPROPENE, TOTA	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	2,2-DICHLOROPROPANE	0.50 U	1.0	0.50	0.22	ug/L	04/12/17	04/12/17
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	04/12/17	04/12/17
BLANK	2-CHLOROTOLUENE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	2-HEXANONE	2.00 U	10.0	2.00	0.92	ug/L	04/12/17	04/12/17
BLANK	4-CHLOROTOLUENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	04/12/17	04/12/17
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/12/17	04/12/17
BLANK	BENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	BROMOBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	BROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:42 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	04/12/17	04/12/17
BLANK	CARBON DISULFIDE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	CARBON TETRACHLORIDE	0.30 U	1.0	0.30	0.10	ug/L	04/12/17	04/12/17
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	CHLOROFORM	0.30 U	1.0	0.30	0.07	ug/L	04/12/17	04/12/17
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	04/12/17	04/12/17
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	CIS-1,3-DICHLOROPROPENE	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17
BLANK	DI-ISOPROPYL ETHER	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	DIBROMOMETHANE	0.50 U	1.0	0.50	0.20	ug/L	04/12/17	04/12/17
BLANK	DICHLORODIFLUOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ETHYL TERTIARY BUTYL ETHER	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	04/12/17	04/12/17
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	ISOPROPYLBENZENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	M,P-XYLENE	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	04/12/17	04/12/17
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	04/12/17	04/12/17
BLANK	N-BUTYLBENZENE	0.30 U	1.0	0.30	0.15	ug/L	04/12/17	04/12/17
BLANK	N-PROPYLBENZENE	0.50 U	1.0	0.50	0.21	ug/L	04/12/17	04/12/17
BLANK	NAPHTHALENE	0.50 U	1.0	0.50	0.36	ug/L	04/12/17	04/12/17
BLANK	O-XYLENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	P-ISOPROPYLTOLUENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	SEC-BUTYLBENZENE	0.30 U	1.0	0.30	0.12	ug/L	04/12/17	04/12/17
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	04/12/17	04/12/17
BLANK	TERT-AMYL METHYL ETHER	0.30 U	1.0	0.30	0.14	ug/L	04/12/17	04/12/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/12/17	04/12/17
BLANK	TERT-BUTYLBENZENE	0.30 U	1.0	0.30	0.13	ug/L	04/12/17	04/12/17
BLANK	TETRACHLOROETHENE	0.30 U	1.0	0.30	0.24	ug/L	04/12/17	04/12/17
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	04/12/17	04/12/17
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	TRANS-1,3-DICHLOROPROPEN	0.30 U	1.0	0.30	0.18	ug/L	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:42 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170412W-53168 - 217781**
Batch ID: #86CDO-170412AT

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	04/12/17	04/12/17
BLANK	TRICHLOROFLUOROMETHANE	0.50 U	1.0	0.50	0.24	ug/L	04/12/17	04/12/17
BLANK	VINYL CHLORIDE	0.30 U	1.0	0.30	0.23	ug/L	04/12/17	04/12/17
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	04/12/17	04/12/17
BLANK	SURROGATE: 1,2-DICHLOROET	100.0	81-118			%	04/12/17	04/12/17
BLANK	SURROGATE: 4-BROMOFLUOR	101	85-114			%	04/12/17	04/12/17
BLANK	SURROGATE: DIBROMOFLUOR	101	80-119			%	04/12/17	04/12/17
BLANK	SURROGATE: TOLUENE-D8 (S)	103	89-112			%	04/12/17	04/12/17

Quant Method: TALLW.M
Run #: 0412T09
Instrument: Thor
Sequence: T170407
Initials: DG

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:19:42 PM

Quantitation Report (QT Reviewed)

Data File : M:\THOR\DATA\T170407\0412T09.D Vial: 8
Acq On : 12 Apr 17 15:47 Operator: DG,SV, CMM.PM
Sample : 170412A BLK-1WT Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 16:48 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	756992	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	671168	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	289408	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	395497	25.21577 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.864%	
38) 1,2-DCA-D4(S)	5.99	65	345079	24.99401 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.976%	
58) Toluene-D8(S)	8.11	98	1385097	25.82151 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.288%	
66) 4-Bromofluorobenzene(S)	10.74	95	479934	25.20198 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.808%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

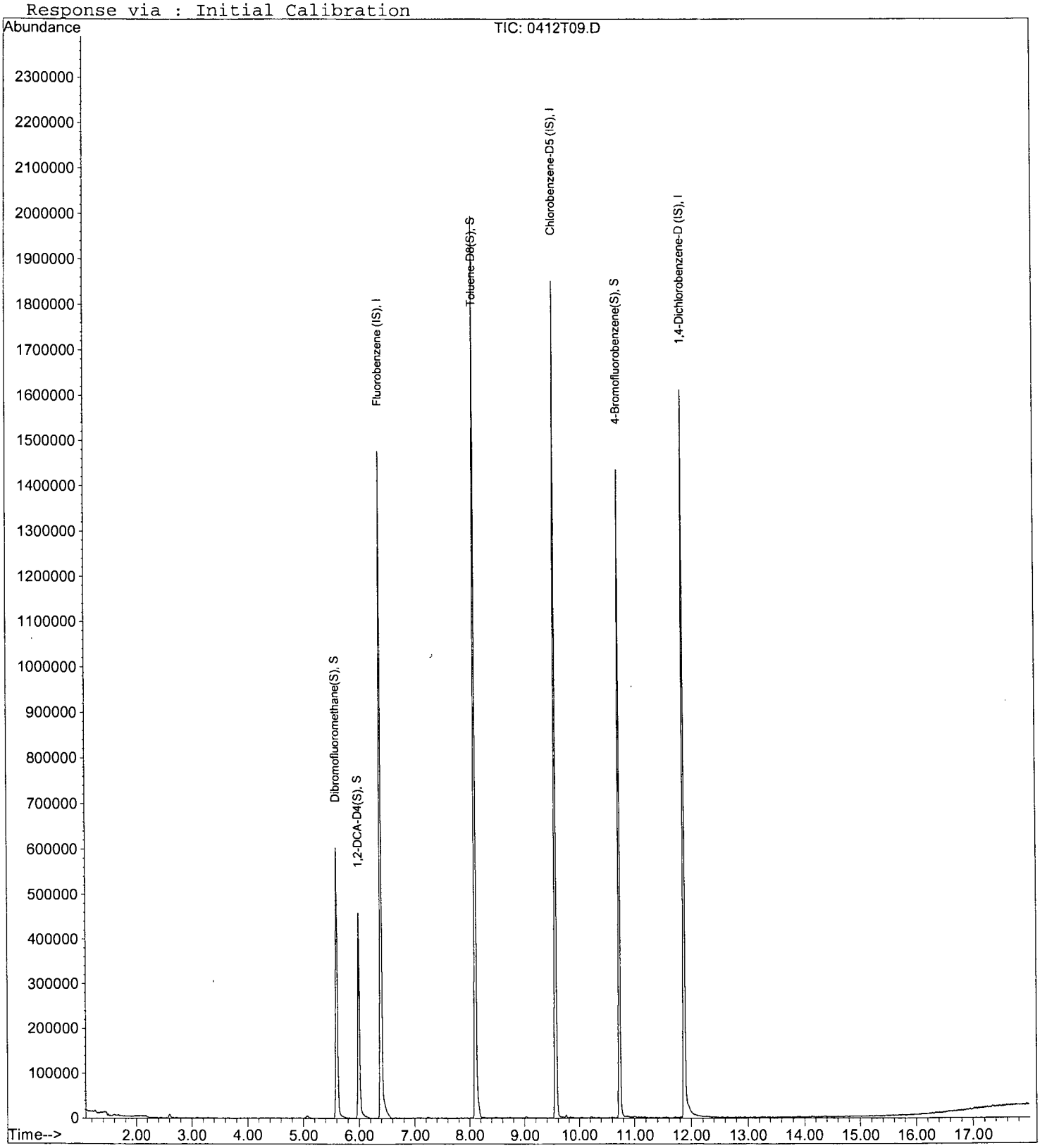
Quantitation Report

Data File : M:\THOR\DATA\T170407\0412T09.D
Acq On : 12 Apr 17 15:47
Sample : 170412A BLK-1WT
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 8
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 12 16:48 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170415W-53168 - 218291**
Batch ID: #86CDO-170415AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	04/15/17	04/15/17
BLANK	TERT-BUTYL ALCOHOL	10.00 U	10.0	10.00	6.70	ug/L	04/15/17	04/15/17
BLANK	SURROGATE: 1,2-DICHLOROET	103	81-118			%	04/15/17	04/15/17
BLANK	SURROGATE: 4-BROMOFLUOR	94.8	85-114			%	04/15/17	04/15/17
BLANK	SURROGATE: DIBROMOFLUOR	103	80-119			%	04/15/17	04/15/17
BLANK	SURROGATE: TOLUENE-D8 (S)	99.9	89-112			%	04/15/17	04/15/17

Quant Method: MALLW.M
Run #: 0415M10
Instrument: Max
Sequence: M170414
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/28/17 12:12:11 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170414\0415M10.D
Acq On : 15 Apr 17 12:22
Sample : 170415A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 9:46 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	324514	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	217941	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	90287	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	80693	25.69143 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.764%	
37) 1,2-DCA-D4(S)	5.13	65	69068	25.81467 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.260%	
57) Toluene-D8(S)	7.35	98	333460	24.96955 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.880%	
65) 4-Bromofluorobenzene(S)	10.73	95	99014	23.71182 ppb	0.00
Spiked Amount 25.000			Recovery	= 94.848%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

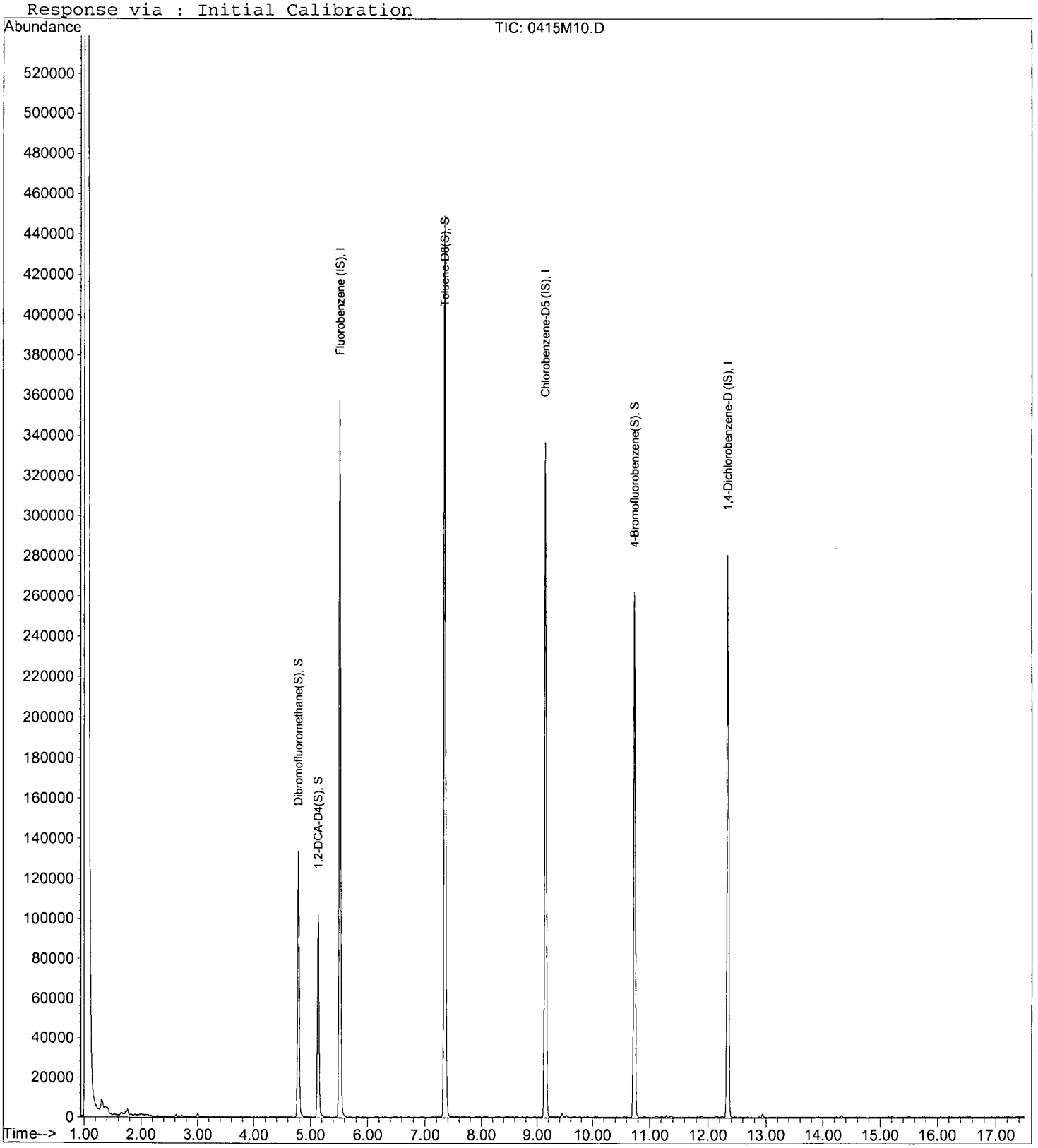
Data File : M:\MAX\DATA\M170414\0415M10.D
Acq On : 15 Apr 17 12:22
Sample : 170415A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 9:46 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.3	103	78-124
1,1,1-TRICHLOROETHANE	10.00	10.5	105	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	11.1	111	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.8	108	70-136
1,1,2-TRICHLOROETHANE	10.00	10.5	105	80-119
1,1-DICHLOROETHANE	10.00	10.6	106	77-125
1,1-DICHLOROETHENE	10.00	10.5	105	71-131
1,1-DICHLOROPROPENE	10.00	10.5	105	79-125
1,2,3-TRICHLOROBENZENE	10.00	10.8	108	69-129
1,2,3-TRICHLOROPROPANE	10.00	10.8	108	73-122
1,2,4-TRICHLOROBENZENE	10.00	11.2	112	69-130
1,2,4-TRIMETHYLBENZENE	10.00	10.5	105	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.9	109	62-128
1,2-DIBROMOETHANE	10.00	10.4	104	77-121
1,2-DICHLOROBENZENE	10.00	10.5	105	80-119
1,2-DICHLOROETHANE	10.00	10.0	100	73-128
1,2-DICHLOROPROPANE	10.00	10.3	103	78-122
1,3,5-TRIMETHYLBENZENE	10.00	10.7	107	82-120
1,3-DICHLOROBENZENE	10.00	10.6	106	80-119
1,3-DICHLOROPROPANE	10.00	10.2	102	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	21.0	105	77-123
1,4-DICHLOROBENZENE	10.00	10.3	103	79-118
2,2-DICHLOROPROPANE	10.00	11.2	112	60-139
2-BUTANONE	10.00	8.83	88.3	56-143
2-CHLOROTOLUENE	10.00	10.7	107	79-122
2-HEXANONE	10.00	10.9	109	57-139
4-CHLOROTOLUENE	10.00	10.4	104	78-122
4-METHYL-2-PENTANONE	10.00	9.98	99.8	67-130
ACETONE	10.00	9.69	96.9	39-160
BENZENE	10.00	10.1	101	79-120
BROMOBENZENE	10.00	10.3	103	80-120

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

Comments: _____

Printed: 04/27/17 1:19:46 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	9.94	99.4	78-123
BROMODICHLOROMETHANE	10.00	10.4	104	79-125
BROMOFORM	10.00	10.7	107	66-130
BROMOMETHANE	10.00	9.28	92.8	53-141
CARBON DISULFIDE	10.00	10.4	104	64-133
CARBON TETRACHLORIDE	10.00	10.4	104	72-136
CHLOROBENZENE	10.00	10.0	100	82-118
CHLOROETHANE	10.00	10.7	107	60-138
CHLOROFORM	10.00	10.3	103	79-124
CHLOROMETHANE	10.00	10.9	109	50-139
CIS-1,2-DICHLOROETHENE	10.00	10.5	105	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.4	104	75-124
DI-ISOPROPYL ETHER	10.00	10.2	102	67-128
DIBROMOCHLOROMETHANE	10.00	10.4	104	74-126
DIBROMOMETHANE	10.00	10.4	104	79-123
DICHLORODIFLUOROMETHANE	10.00	11.3	113	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	10.3	103	70-127
ETHYLBENZENE	10.00	10.2	102	79-121
HEXACHLOROBUTADIENE	10.00	11.0	110	66-134
ISOPROPYLBENZENE	10.00	10.6	106	72-131
M,P-XYLENE	20.0	20.9	105	80-121
METHYL TERT-BUTYL ETHER	10.00	10.7	107	71-124
METHYLENE CHLORIDE	10.00	10.1	101	74-124
N-BUTYLBENZENE	10.00	10.8	108	75-128
N-PROPYLBENZENE	10.00	10.6	106	76-126
NAPHTHALENE	10.00	11.3	113	61-128
O-XYLENE	10.00	9.74	97.4	78-122
P-ISOPROPYLTOLUENE	10.00	10.8	108	77-127
SEC-BUTYLBENZENE	10.00	10.6	106	77-126
STYRENE	10.00	10.0	100	78-123
TERT-AMYL METHYL ETHER	10.00	10.6	106	68-128

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

Comments: _____

Printed: 04/27/17 1:19:46 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170410W-53169 LCS - 217774**
Batch ID: #86CDO-170410AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	142	114	68-129
TERT-BUTYLBENZENE	10.00	10.5	105	78-124
TETRACHLOROETHENE	10.00	10.4	104	74-129
TOLUENE	10.00	10.3	103	80-121
TRANS-1,2-DICHLOROETHENE	10.00	10.4	104	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	10.6	106	73-127
TRICHLOROETHENE	10.00	10.0	100	79-123
TRICHLOROFLUOROMETHANE	10.00	10.8	108	65-141
VINYL CHLORIDE	10.00	10.7	107	58-137
XYLENES (TOTAL)	30.0	30.6	102	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.9	99.6	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.6	98.4	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.0	100	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.6	98.4	89-112

Comments:

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/10/17
Analysis Date :	04/10/17
Instrument :	Thor
Run :	0410T06
Initials :	DG

Printed: 04/27/17 1:19:47 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T06.D Vial: 5
Acq On : 10 Apr 17 11:25 Operator: DG,SV, CMM.PM
Sample : 170410A LCS-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.39	96	809024	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	737344	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.87	152	366208	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	418679	24.97699 ppb	0.00
Spiked Amount 25.000			Recovery = 99.908%		
38) 1,2-DCA-D4(S)	5.99	65	367238	24.88828 ppb	0.00
Spiked Amount 25.000			Recovery = 99.552%		
58) Toluene-D8(S)	8.11	98	1449666	24.59974 ppb	0.00
Spiked Amount 25.000			Recovery = 98.400%		
66) 4-Bromofluorobenzene(S)	10.73	95	515556	24.64280 ppb	0.00
Spiked Amount 25.000			Recovery = 98.572%		

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	121995	11.29952 ppb	99
3) Freon 114	1.26	135	111165	11.47043 ppb	93
4) Chloromethane	1.30	50	138421	10.91638 ppb	97
5) Vinyl chloride	1.39	62	168576	10.65412 ppb	99
6) Bromomethane	1.67	94	103980	9.28473 ppb	99
7) Chloroethane	1.76	64	73024	10.66005 ppb	98
8) Dichlorofluoromethane	1.95	67	279133	10.43928 ppb	97
9) Trichlorofluoromethane	2.00	101	194412	10.78126 ppb	97
10) Acrolein	2.42	56	71280	136.76934 ppb	97
11) Acetone	2.59	43	35969	9.68531 ppb	100
12) Freon-113	2.53	101	131297	10.83983 ppb	98
13) 1,1-DCE	2.51	61	184044	10.47694 ppb	99
14) Acetonitrile	2.92	41	74225	136.56522 ppb	96
15) t-Butanol	3.31	59	44872	141.89356 ppb	91
16) Methyl Acetate	2.99	43	60254	10.24012 ppb	96
17) Iodomethane	2.66	142	112907	9.44370 ppb	98
18) Acrylonitrile	3.44	52	21373	11.08725 ppb	89
19) Methylene chloride	3.09	84	142419	10.07069 ppb	96
20) Carbon disulfide	2.72	76	187648	10.39139 ppb	98
21) Methyl t-butyl ether (MtBE	3.48	73	292629	10.74599 ppb	99
22) Trans-1,2-DCE	3.46	96	136659	10.44127 ppb	98
23) Hexane	3.48	57	61870	10.63839 ppb #	97
24) Diisopropyl Ether	4.28	45	341027	10.24211 ppb	98
25) 1,1-DCA	4.09	63	234585	10.55696 ppb	99
26) Vinyl Acetate	4.28	87	112915	10.31052 ppb	95
27) Ethyl tert Butyl Ether	4.81	59	306331	10.32369 ppb	97
28) MEK (2-Butanone)	5.02	43	23485	8.83399 ppb #	86
29) Cis-1,2-DCE	4.95	61	206927	10.54317 ppb	96
30) 2,2-Dichloropropane	4.94	77	189902	11.19225 ppb	99
31) Chloroform	5.40	83	251558	10.33738 ppb	97
32) Bromochloromethane	5.26	128	34976	9.93522 ppb	95
34) 1,1,1-TCA	5.59	97	210613	10.46326 ppb	99
35) Cyclohexane	5.64	41	93074	10.14722 ppb	96
36) 1,1-Dichloropropene	5.80	75	91976	10.46390 ppb	97
37) 2,2,4-Trimethylpentane	6.18	57	401829	10.84449 ppb	99
39) Carbon Tetrachloride	5.79	117	164043	10.38553 ppb	97
40) Tert Amyl Methyl Ether	6.23	73	297809	10.55193 ppb	99
41) 1,2-DCA	6.08	62	159996	10.04437 ppb	99
42) Benzene	6.04	78	541425	10.07855 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0410T06.D Vial: 5
Acq On : 10 Apr 17 11:25 Operator: DG,SV, CMM.PM
Sample : 170410A LCS-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.81	95	149252	9.99947	ppb	98
44)	2-Pentanone	7.05	43	613318	136.21026	ppb	99
45)	1,2-Dichloropropane	7.05	63	139144	10.28542	ppb	98
46)	Bromodichloromethane	7.37	83	175101	10.42580	ppb	100
47)	Methyl Cyclohexane	7.00	83	218848	10.79696	ppb	99
48)	Dibromomethane	7.17	93	79208	10.40428	ppb	99
49)	MIBK (methyl isobutyl ket	8.03	43	72757	9.97559	ppb	96
50)	1-Bromo-2-chloroethane	7.68	63	156733	10.19132	ppb	100
52)	Cis-1,3-Dichloropropene	7.84	75	190617	10.40415	ppb	98
53)	Toluene	8.18	91	377472	10.31321	ppb	99
54)	Trans-1,3-Dichloropropene	8.42	75	90864	10.61221	ppb	96
55)	1,1,2-TCA	8.60	83	94615	10.51035	ppb	99
56)	2-Hexanone	8.88	58	23949	10.87568	ppb	98
59)	1,2-EDB	9.08	107	103588	10.39776	ppb	96
60)	Tetrachloroethene	8.73	166	194577	10.37226	ppb	98
61)	1-Chlorohexane	9.59	91	183159	10.34351	ppb	98
62)	1,1,1,2-Tetrachloroethane	9.68	131	139518	10.30304	ppb	99
63)	m&p-Xylene	9.83	106	343104	20.88511	ppb	99
64)	o-Xylene	10.22	106	165120	9.74311	ppb	99
65)	Styrene	10.23	104	260608	10.03439	ppb	97
67)	1,3-Dichloropropane	8.76	76	175242	10.19542	ppb	96
68)	Dibromochloromethane	8.99	129	127724	10.41948	ppb	97
69)	Chlorobenzene	9.58	112	412667	10.02650	ppb	99
70)	Ethylbenzene	9.71	91	682270	10.21102	ppb	99
71)	Bromoform	10.40	173	79803	10.67007	ppb	99
73)	Isopropylbenzene	10.59	105	676170	10.59850	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.89	83	125605	11.09029	ppb	98
75)	1,2,3-Trichloropropane	10.93	110	22544	10.84098	ppb	99
76)	t-1,4-Dichloro-2-Butene	10.95	53	21063	11.56463	ppb	93
77)	Bromobenzene	10.87	156	183041	10.34902	ppb	99
78)	n-Propylbenzene	11.00	91	519891	10.63292	ppb	100
79)	4-Ethyltoluene	11.12	105	652236	10.54034	ppb	100
80)	2-Chlorotoluene	11.07	91	310352	10.71614	ppb	97
81)	1,3,5-Trimethylbenzene	11.18	105	577019	10.74374	ppb	97
82)	4-Chlorotoluene	11.18	91	340086	10.36774	ppb	97
83)	Tert-Butylbenzene	11.50	119	495250	10.50334	ppb	97
84)	1,2,4-Trimethylbenzene	11.55	105	368597	10.50569	ppb	99
85)	Sec-Butylbenzene	11.71	105	700497	10.61422	ppb	99
86)	p-Isopropyltoluene	11.86	119	587965	10.76032	ppb	100
87)	Benzyl Chloride	12.04	91	125210	11.98131	ppb	99
88)	1,3-DCB	11.81	146	335029	10.57105	ppb	97
89)	1,4-DCB	11.90	146	337726	10.34406	ppb	100
90)	n-Butylbenzene	12.27	91	483900	10.82547	ppb	98
91)	1,2-DCB	12.27	146	316899	10.53684	ppb	99
92)	Hexachloroethane	12.51	117	84312	11.40480	ppb	96
93)	1,2-Dibromo-3-chloropropan	13.04	157	19490	10.93691	ppb	89
94)	1,2,4-Trichlorobenzene	13.87	180	200660	11.19396	ppb	99
95)	Hexachlorobutadiene	14.05	225	121304	11.04553	ppb	99
96)	Naphthalene	14.11	128	293033	11.30735	ppb	98
97)	1,2,3-Trichlorobenzene	14.35	180	175971	10.81539	ppb	99

(#) = qualifier out of range (m) = manual integration

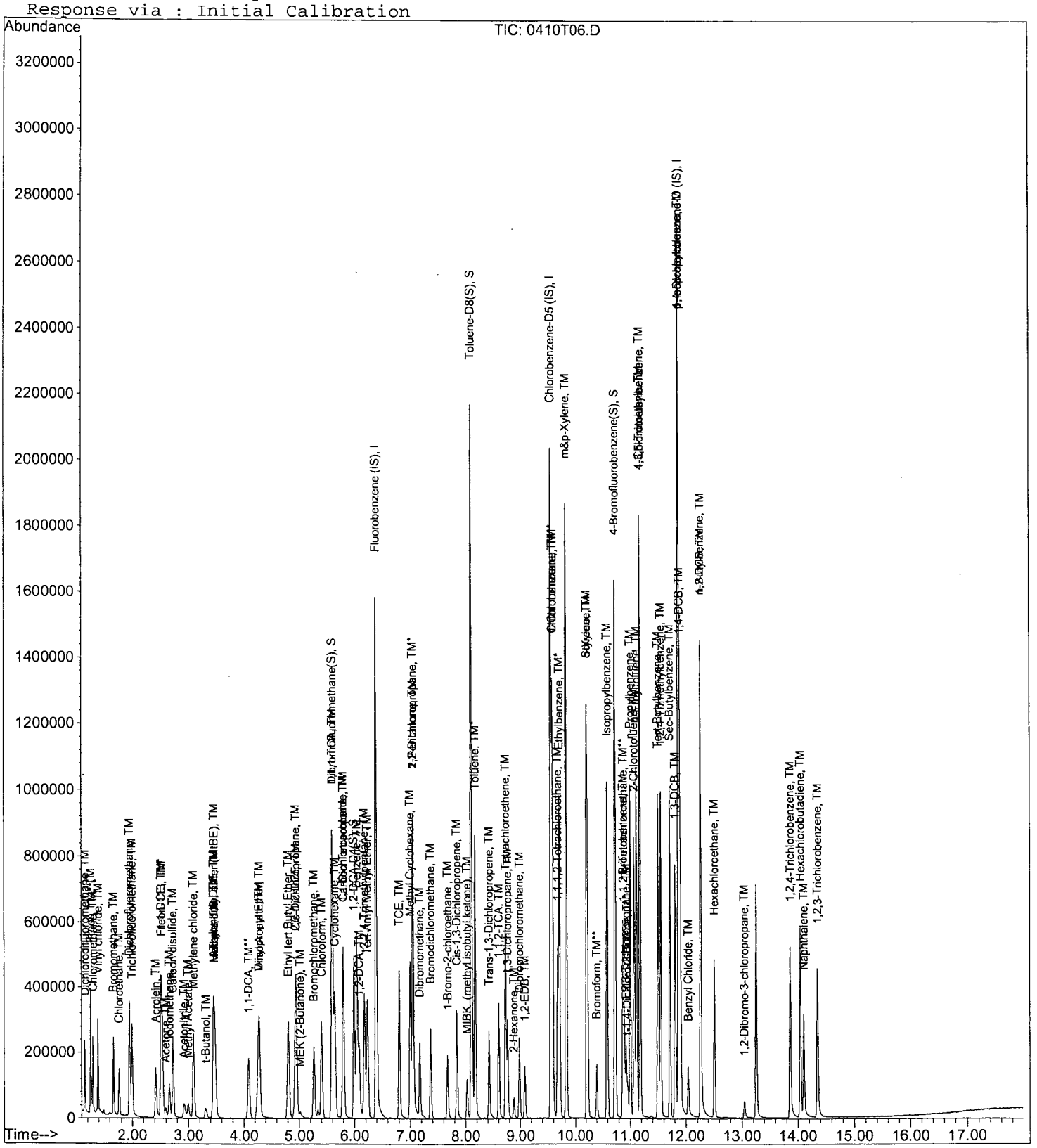
Quantitation Report

Data File : M:\THOR\DATA\T170407\0410T06.D
Acq On : 10 Apr 17 11:25
Sample : 170410A LCS-1WT 10ug/L
Misc : 10mL IS&S: 03/26/17,01/19/17

Vial: 5
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Quant Time: Apr 11 8:35 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



854

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	10.0	100	78-124
1,1,1-TRICHLOROETHANE	10.00	9.49	94.9	74-131
1,1,2,2-TETRACHLOROETHANE	10.00	11.0	110	71-121
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	10.2	102	70-136
1,1,2-TRICHLOROETHANE	10.00	10.2	102	80-119
1,1-DICHLOROETHANE	10.00	9.82	98.2	77-125
1,1-DICHLOROETHENE	10.00	9.78	97.8	71-131
1,1-DICHLOROPROPENE	10.00	9.71	97.1	79-125
1,2,3-TRICHLOROBENZENE	10.00	9.95	99.5	69-129
1,2,3-TRICHLOROPROPANE	10.00	10.3	103	73-122
1,2,4-TRICHLOROBENZENE	10.00	10.0	100	69-130
1,2,4-TRIMETHYLBENZENE	10.00	9.93	99.3	76-124
1,2-DIBROMO-3-CHLOROPROPANE	10.00	11.2	112	62-128
1,2-DIBROMOETHANE	10.00	10.3	103	77-121
1,2-DICHLOROBENZENE	10.00	9.86	98.6	80-119
1,2-DICHLOROETHANE	10.00	9.42	94.2	73-128
1,2-DICHLOROPROPANE	10.00	9.90	99.0	78-122
1,3,5-TRIMETHYLBENZENE	10.00	9.92	99.2	82-120
1,3-DICHLOROBENZENE	10.00	10.0	100	80-119
1,3-DICHLOROPROPANE	10.00	9.99	99.9	80-119
1,3-DICHLOROPROPENE, TOTAL	20.0	20.0	100	77-123
1,4-DICHLOROBENZENE	10.00	9.75	97.5	79-118
2,2-DICHLOROPROPANE	10.00	10.0	100	60-139
2-BUTANONE	10.00	11.2	112	56-143
2-CHLOROTOLUENE	10.00	9.85	98.5	79-122
2-HEXANONE	10.00	11.1	111	57-139
4-CHLOROTOLUENE	10.00	9.89	98.9	78-122
4-METHYL-2-PENTANONE	10.00	10.9	109	67-130
ACETONE	10.00	8.39	83.9	39-160
BENZENE	10.00	9.68	96.8	79-120
BROMOBENZENE	10.00	9.99	99.9	80-120

= Recovery is outside QC limits.

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

Comments:

Printed: 04/27/17 1:19:46 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
BROMOCHLOROMETHANE	10.00	10.3	103	78-123
BROMODICHLOROMETHANE	10.00	10.1	101	79-125
BROMOFORM	10.00	10.4	104	66-130
BROMOMETHANE	10.00	9.24	92.4	53-141
CARBON DISULFIDE	10.00	9.49	94.9	64-133
CARBON TETRACHLORIDE	10.00	9.66	96.6	72-136
CHLOROBENZENE	10.00	9.56	95.6	82-118
CHLOROETHANE	10.00	9.67	96.7	60-138
CHLOROFORM	10.00	9.83	98.3	79-124
CHLOROMETHANE	10.00	10.4	104	50-139
CIS-1,2-DICHLOROETHENE	10.00	9.99	99.9	78-123
CIS-1,3-DICHLOROPROPENE	10.00	10.1	101	75-124
DI-ISOPROPYL ETHER	10.00	9.78	97.8	67-128
DIBROMOCHLOROMETHANE	10.00	10.2	102	74-126
DIBROMOMETHANE	10.00	10.2	102	79-123
DICHLORODIFLUOROMETHANE	10.00	9.93	99.3	32-152
ETHYL TERTIARY BUTYL ETHER	10.00	9.87	98.7	70-127
ETHYLBENZENE	10.00	9.71	97.1	79-121
HEXACHLOROBUTADIENE	10.00	9.97	99.7	66-134
ISOPROPYLBENZENE	10.00	10.0	100	72-131
M,P-XYLENE	20.0	18.8	94.0	80-121
METHYL TERT-BUTYL ETHER	10.00	10.4	104	71-124
METHYLENE CHLORIDE	10.00	9.71	97.1	74-124
N-BUTYLBENZENE	10.00	9.88	98.8	75-128
N-PROPYLBENZENE	10.00	10.1	101	76-126
NAPHTHALENE	10.00	9.74	97.4	61-128
O-XYLENE	10.00	9.66	96.6	78-122
P-ISOPROPYLTOLUENE	10.00	9.84	98.4	77-127
SEC-BUTYLBENZENE	10.00	9.88	98.8	77-126
STYRENE	10.00	9.29	92.9	78-123
TERT-AMYL METHYL ETHER	10.00	9.92	99.2	68-128

= Recovery is outside QC limits.

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

Comments:

Printed: 04/27/17 1:19:46 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170412W-53168 LCS - 217781**
Batch ID: #86CDO-170412AT

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
TERT-BUTYL ALCOHOL	125	173	138 #	68-129
TERT-BUTYLBENZENE	10.00	9.86	98.6	78-124
TETRACHLOROETHENE	10.00	10.4	104	74-129
TOLUENE	10.00	9.49	94.9	80-121
TRANS-1,2-DICHLOROETHENE	10.00	9.90	99.0	75-124
TRANS-1,3-DICHLOROPROPENE	10.00	9.90	99.0	73-127
TRICHLOROETHENE	10.00	9.61	96.1	79-123
TRICHLOROFLUOROMETHANE	10.00	9.89	98.9	65-141
VINYL CHLORIDE	10.00	9.96	99.6	58-137
XYLENES (TOTAL)	30.0	28.5	95.0	79-121
SURROGATE: 1,2-DICHLOROETHANE-	25.0	24.6	98.4	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	24.7	98.8	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	24.5	98.0	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	24.7	98.8	89-112

= Recovery is outside QC limits.

Comments:

Primary	SPK
Quant Method :	TALLW.M
Extraction Date :	04/12/17
Analysis Date :	04/12/17
Instrument :	Thor
Run :	0412T04
Initials :	DG

Printed: 04/27/17 1:19:46 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T04.D Vial: 3
Acq On : 12 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 170412A LCS-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 13:47 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	6.40	96	802240	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.56	117	724608	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.88	152	358720	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.60	111	407412	24.51036 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.040%	
38) 1,2-DCA-D4(S)	5.99	65	360122	24.61240 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.448%	
58) Toluene-D8(S)	8.11	98	1429307	24.68057 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.724%	
66) 4-Bromofluorobenzene(S)	10.73	95	508549	24.73512 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.940%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.15	85	106360	9.93467 ppb	100
3) Freon 114	1.26	135	99387	10.34185 ppb	96
4) Chloromethane	1.30	50	130741	10.39789 ppb	97
5) Vinyl chloride	1.39	62	156224	9.95696 ppb	100
6) Bromomethane	1.67	94	102609	9.23979 ppb	98
7) Chloroethane	1.76	64	65680	9.66905 ppb	98
8) Dichlorofluoromethane	1.95	67	260567	9.82734 ppb	99
9) Trichlorofluoromethane	2.00	101	176852	9.89039 ppb	97
10) Acrolein	2.42	56	69168	133.83921 ppb	94
11) Acetone	2.59	43	33888	8.39217 ppb	97
12) Freon-113	2.53	101	121953	10.15353 ppb	99
13) 1,1-DCE	2.51	61	170286	9.77572 ppb	97
14) Acetonitrile	2.92	41	80489	149.34254 ppb	97
15) t-Butanol	3.32	59	54381	173.41695 ppb	91
16) Methyl Acetate	2.99	43	59101	10.12911 ppb	93
17) Iodomethane	2.66	142	110581	9.34661 ppb	98
18) Acrylonitrile	3.44	52	22172	11.59899 ppb	98
19) Methylene chloride	3.09	84	136218	9.71366 ppb	97
20) Carbon disulfide	2.73	76	169920	9.48924 ppb	99
21) Methyl t-butyl ether (MtBE	3.48	73	281990	10.44287 ppb	98
22) Trans-1,2-DCE	3.46	96	128428	9.89537 ppb	95
23) Hexane	3.48	57	57812	10.02469 ppb #	98
24) Diisopropyl Ether	4.28	45	323029	9.78361 ppb	97
25) 1,1-DCA	4.09	63	216307	9.81672 ppb	98
26) Vinyl Acetate	4.28	87	107345	9.88480 ppb	99
27) Ethyl tert Butyl Ether	4.81	59	290498	9.87289 ppb	100
28) MEK (2-Butanone)	5.02	43	29520	11.19798 ppb	89
29) Cis-1,2-DCE	4.95	61	194334	9.98528 ppb	97
30) 2,2-Dichloropropane	4.94	77	168408	10.00939 ppb	96
31) Chloroform	5.41	83	237106	9.82590 ppb	99
32) Bromochloromethane	5.27	128	35816	10.25986 ppb	94
34) 1,1,1-TCA	5.59	97	189498	9.49388 ppb	99
35) Cyclohexane	5.65	41	85688	9.42098 ppb	92
36) 1,1-Dichloropropene	5.80	75	84648	9.71165 ppb	97
37) 2,2,4-Trimethylpentane	6.18	57	374033	10.17970 ppb	99
39) Carbon Tetrachloride	5.79	117	151314	9.66067 ppb	97
40) Tert Amyl Methyl Ether	6.23	73	277762	9.92485 ppb	99
41) 1,2-DCA	6.08	62	148757	9.41777 ppb	99
42) Benzene	6.05	78	515495	9.67701 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\THOR\DATA\T170407\0412T04.D Vial: 3
Acq On : 12 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 170412A LCS-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 13:47 2017 Quant Results File: TALLW.RES

Quant Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) TCE	6.81	95	142264	9.61190	ppb	96
44) 2-Pentanone	7.05	43	609084	136.41383	ppb	97
45) 1,2-Dichloropropane	7.05	63	132784	9.89829	ppb	98
46) Bromodichloromethane	7.37	83	167622	10.06488	ppb	98
47) Methyl Cyclohexane	7.00	83	202262	10.06306	ppb	96
48) Dibromomethane	7.17	93	77063	10.20813	ppb	95
49) MIBK (methyl isobutyl ket	8.03	43	77839	10.90031	ppb	95
50) 1-Bromo-2-chloroethane	7.68	63	153703	10.07882	ppb	99
52) Cis-1,3-Dichloropropene	7.84	75	183349	10.09208	ppb	96
53) Toluene	8.18	91	344256	9.48523	ppb	99
54) Trans-1,3-Dichloropropene	8.42	75	84064	9.90105	ppb	99
55) 1,1,2-TCA	8.60	83	91449	10.24456	ppb	96
56) 2-Hexanone	8.88	58	24205	11.08489	ppb	99
59) 1,2-EDB	9.09	107	101021	10.31832	ppb	100
60) Tetrachloroethene	8.73	166	191261	10.37470	ppb	98
61) 1-Chlorohexane	9.59	91	164921	9.47725	ppb	96
62) 1,1,1,2-Tetrachloroethane	9.67	131	133279	10.01530	ppb	98
63) m&p-Xylene	9.83	106	303872	18.82213	ppb	99
64) o-Xylene	10.22	106	160960	9.66458	ppb	98
65) Styrene	10.23	104	237056	9.28798	ppb	97
67) 1,3-Dichloropropane	8.77	76	168818	9.99431	ppb	96
68) Dibromochloromethane	8.99	129	122343	10.15593	ppb	99
69) Chlorobenzene	9.59	112	386665	9.55986	ppb	97
70) Ethylbenzene	9.71	91	637299	9.70562	ppb	99
71) Bromoform	10.40	173	76609	10.42305	ppb	99
73) Isopropylbenzene	10.59	105	627621	10.04288	ppb	99
74) 1,1,2,2-Tetrachloroethane	10.89	83	122280	11.02208	ppb	99
75) 1,2,3-Trichloropropane	10.93	110	20984	10.30145	ppb	95
76) t-1,4-Dichloro-2-Butene	10.95	53	19569	10.96863	ppb	99
77) Bromobenzene	10.87	156	173038	9.98768	ppb	99
78) n-Propylbenzene	11.00	91	485455	10.13588	ppb	100
79) 4-Ethyltoluene	11.12	105	599053	9.88297	ppb	100
80) 2-Chlorotoluene	11.07	91	279571	9.85481	ppb	98
81) 1,3,5-Trimethylbenzene	11.18	105	521745	9.91736	ppb	98
82) 4-Chlorotoluene	11.18	91	317836	9.89170	ppb	98
83) Tert-Butylbenzene	11.50	119	455271	9.85701	ppb	99
84) 1,2,4-Trimethylbenzene	11.55	105	341134	9.92591	ppb	99
85) Sec-Butylbenzene	11.72	105	638585	9.87809	ppb	98
86) p-Isopropyltoluene	11.87	119	526867	9.84345	ppb	99
87) Benzyl Chloride	12.04	91	100657	9.83289	ppb	99
88) 1,3-DCB	11.81	146	311024	10.01848	ppb	98
89) 1,4-DCB	11.90	146	311758	9.74802	ppb	98
90) n-Butylbenzene	12.27	91	432484	9.87719	ppb	98
91) 1,2-DCB	12.27	146	290407	9.85755	ppb	98
92) Hexachloroethane	12.52	117	71005	9.80526	ppb	99
93) 1,2-Dibromo-3-chloropropan	13.04	157	19510	11.17667	ppb	94
94) 1,2,4-Trichlorobenzene	13.87	180	175700	10.00615	ppb	96
95) Hexachlorobutadiene	14.05	225	107274	9.97191	ppb	96
96) Naphthalene	14.11	128	247238	9.73939	ppb	99
97) 1,2,3-Trichlorobenzene	14.35	180	158530	9.94683	ppb	99

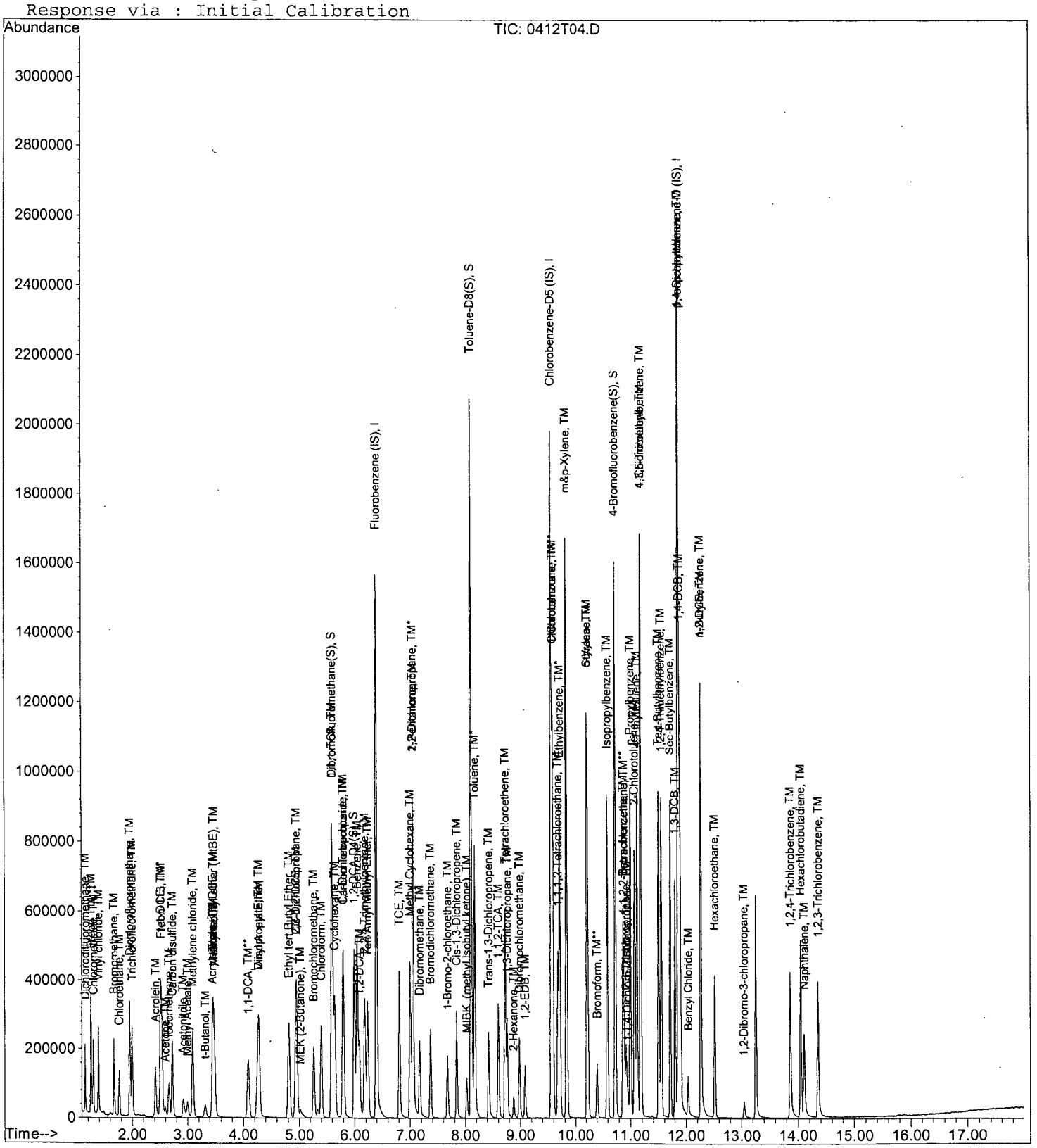
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\THOR\DATA\T170407\0412T04.D Vial: 3
Acq On : 12 Apr 17 13:28 Operator: DG,SV, CMM.PM
Sample : 170412A LCS-1WT 10ug/L Inst : Thor
Misc : 10mL IS&S: 03/26/17,01/19/17 Multiplr: 1.00

Quant Time: Apr 12 13:47 2017 Quant Results File: TALLW.RES

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Apr 10 08:27:36 2017
Response via : Initial Calibration



860

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **170415W-53168 LCS - 218291**
Batch ID: #86CDO-170415AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
ACETONE	10.00	9.84	98.4	39-160
TERT-BUTYL ALCOHOL	125	147	118	68-129
SURROGATE: 1,2-DICHLOROETHANE-	25.0	26.4	106	81-118
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.3	101	85-114
SURROGATE: DIBROMOFLUOROMETH	25.0	25.2	101	80-119
SURROGATE: TOLUENE-D8 (S)	25.0	25.2	101	89-112

Comments: _____

Primary	SPK
Quant Method :	MALLW.M
Extraction Date :	04/15/17
Analysis Date :	04/15/17
Instrument :	Max
Run :	0415M07
Initials :	SV

Printed: 04/28/17 12:12:15 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M07.D
Acq On : 15 Apr 17 10:57
Sample : 170415A LCS-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	345995	25.00000 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	234002	25.00000 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	112071	25.00000 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	84548	25.24756 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.992%	
37) 1,2-DCA-D4(S)	5.13	65	75271	26.38645 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.544%	
57) Toluene-D8(S)	7.35	98	361810	25.23288 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.932%	
65) 4-Bromofluorobenzene(S)	10.73	95	113276	25.26536 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.060%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.22	85	55742	10.64749 ppb		99
3) Freon 114	1.32	85	55184	10.30875 ppb		93
4) Chloromethane	1.36	50	63440	10.23928 ppb		96
5) Vinyl chloride	1.45	62	97084	10.51014 ppb		95
6) Bromomethane	1.72	94	52304	10.53877 ppb		99
7) Chloroethane	1.82	64	55962	9.87639 ppb		98
8) Dichlorofluoromethane	2.01	67	152352	10.13576 ppb		99
9) Trichlorofluoromethane	2.05	101	102499	9.97932 ppb		98
10) Acrolein	2.44	56	65852	128.56238 ppb		95
11) Acetone	2.59	43	8741	9.84097 ppb		87
12) Freon-113	2.55	101	60131	10.71120 ppb		95
13) 1,1-DCE	2.53	61	100729	10.27936 ppb		98
14) Acetonitrile	2.84	41	41571	130.29598 ppb		99
15) t-Butanol	3.16	59	18546	147.35245 ppb		95
16) Methyl Acetate	2.92	43	24805	10.67528 ppb		95
17) Iodomethane	2.66	142	51328	9.36780 ppb		96
18) Acrylonitrile	3.24	53	11031	9.81449 ppb	#	91
19) Methylene chloride	3.00	84	58966	9.83280 ppb		99
20) Carbon disulfide	2.72	76	187338	10.09469 ppb		99
21) Methyl t-butyl ether (MtBE	3.30	73	96239	10.34970 ppb		99
22) Trans-1,2-DCE	3.28	96	68260	10.26830 ppb		98
23) Diisopropyl Ether	3.81	45	210604	10.61261 ppb		98
24) 1,1-DCA	3.69	63	124466	10.58928 ppb		99
25) Vinyl Acetate	3.77	43	43165	11.59549 ppb		96
26) Ethyl tert Butyl Ether	4.18	59	122466	10.68815 ppb		100
27) MEK (2-Butanone)	4.31	43	17042	11.21814 ppb		97
28) Cis-1,2-DCE	4.28	96	74239	10.54954 ppb		96
29) 2,2-Dichloropropane	4.28	77	79673	10.92125 ppb		97
30) Chloroform	4.62	83	117568	10.47618 ppb		94
31) Bromochloromethane	4.52	128	27097	10.36772 ppb		88
33) 1,1,1-TCA	4.81	97	106136	10.84945 ppb		99
34) Cyclohexane	4.87	41	68794	10.11822 ppb		95
35) 1,1-Dichloropropene	4.99	75	99299	10.43869 ppb		98
36) 2,2,4-Trimethylpentane	5.33	57	181772	10.55353 ppb		100
38) Carbon Tetrachloride	4.99	117	83642	10.57692 ppb		96
39) Tert Amyl Methyl Ether	5.37	73	101617	10.57209 ppb		97
40) 1,2-DCA	5.21	62	65086	10.28704 ppb		98
41) Benzene	5.20	78	287431	10.43401 ppb		99
42) TCE	5.92	95	74820	10.40118 ppb		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M07.D
Acq On : 15 Apr 17 10:57
Sample : 170415A LCS-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:32:47 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	267931	127.41760	ppb	100
44) 1,2-Dichloropropane	6.16	63	65130	10.27103	ppb	98
45) Bromodichloromethane	6.49	83	75931	10.53243	ppb	99
46) Methyl Cyclohexane	6.15	83	104635	10.59823	ppb	99
47) Dibromomethane	6.29	93	24473	10.40696	ppb	98
48) MIBK (methyl isobutyl ket	7.23	43	31629	10.48993	ppb	99
49) 1-Bromo-2-chloroethane	6.83	63	57253	9.48719	ppb	99
51) Cis-1,3-Dichloropropene	7.02	75	79258	10.45341	ppb	98
52) Toluene	7.42	91	319457	10.02161	ppb	99
53) Trans-1,3-Dichloropropene	7.70	75	54018	9.78145	ppb	100
54) 1,1,2-TCA	7.91	83	29995	10.12483	ppb	93
55) 2-Hexanone	8.28	43	18282	11.08556	ppb	98
58) 1,2-EDB	8.52	107	31934	10.37597	ppb	99
59) Tetrachloroethene	8.10	164	73669	10.39151	ppb	92
60) 1-Chlorohexane	9.20	91	86553	10.76680	ppb	97
61) 1,1,1,2-Tetrachloroethane	9.30	131	57321	9.98793	ppb	95
62) m&p-Xylene	9.51	106	285122	20.73057	ppb	99
63) o-Xylene	10.03	106	133815	10.47668	ppb	99
64) Styrene	10.05	104	203417	10.63628	ppb	99
66) 1,3-Dichloropropane	8.12	76	63321	10.39466	ppb	95
67) Dibromochloromethane	8.39	129	43934	9.92125	ppb	97
68) Chlorobenzene	9.18	112	190044	10.07000	ppb	97
69) Ethylbenzene	9.35	91	369843	10.34028	ppb	100
70) Bromoform	10.26	173	24557	9.67627	ppb	99
72) Isopropylbenzene	10.55	105	357520	10.36067	ppb	99
73) 1,1,2,2-Tetrachloroethane	10.96	83	37122	10.41840	ppb	98
74) 1,2,3-Trichloropropane	10.99	110	10854	10.02128	ppb	97
75) t-1,4-Dichloro-2-Butene	11.04	53	7348	11.06488	ppb	88
76) Bromobenzene	10.91	156	74764	10.10312	ppb	99
77) n-Propylbenzene	11.12	91	396917	10.84342	ppb	99
78) 4-Ethyltoluene	11.29	105	327850	10.76853	ppb	100
79) 2-Chlorotoluene	11.20	91	234781	10.63571	ppb	99
80) 1,3,5-Trimethylbenzene	11.38	105	279679	10.64439	ppb	97
81) 4-Chlorotoluene	11.36	91	263990	10.74578	ppb	99
82) Tert-Butylbenzene	11.83	119	245507	10.50227	ppb	100
83) 1,2,4-Trimethylbenzene	11.89	105	263218	10.46445	ppb	100
84) Sec-Butylbenzene	12.14	105	327887	10.36722	ppb	100
85) p-Isopropyltoluene	12.36	119	144064	10.18650	ppb	100
86) Benzyl Chloride	12.57	91	22636	10.63931	ppb	98
87) 1,3-DCB	12.24	146	152109	10.43888	ppb	95
88) 1,4-DCB	12.37	146	75736	10.53326	ppb	99
89) n-Butylbenzene	12.94	91	119712	10.04357	ppb	99
90) 1,2-DCB	12.88	146	124198	10.53299	ppb	98
91) Hexachloroethane	13.25	117	37195	10.50013	ppb	97
92) 1,2-Dibromo-3-chloropropan	14.00	75	4496	10.74810	ppb	90
93) 1,2,4-Trichlorobenzene	15.21	180	68605	10.55688	ppb	98
94) Hexachlorobutadiene	15.51	225	48208	10.24957	ppb	97
95) Naphthalene	15.54	128	57581	9.25119	ppb	95
96) 1,2,3-Trichlorobenzene	15.90	180	42650	9.85362	ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

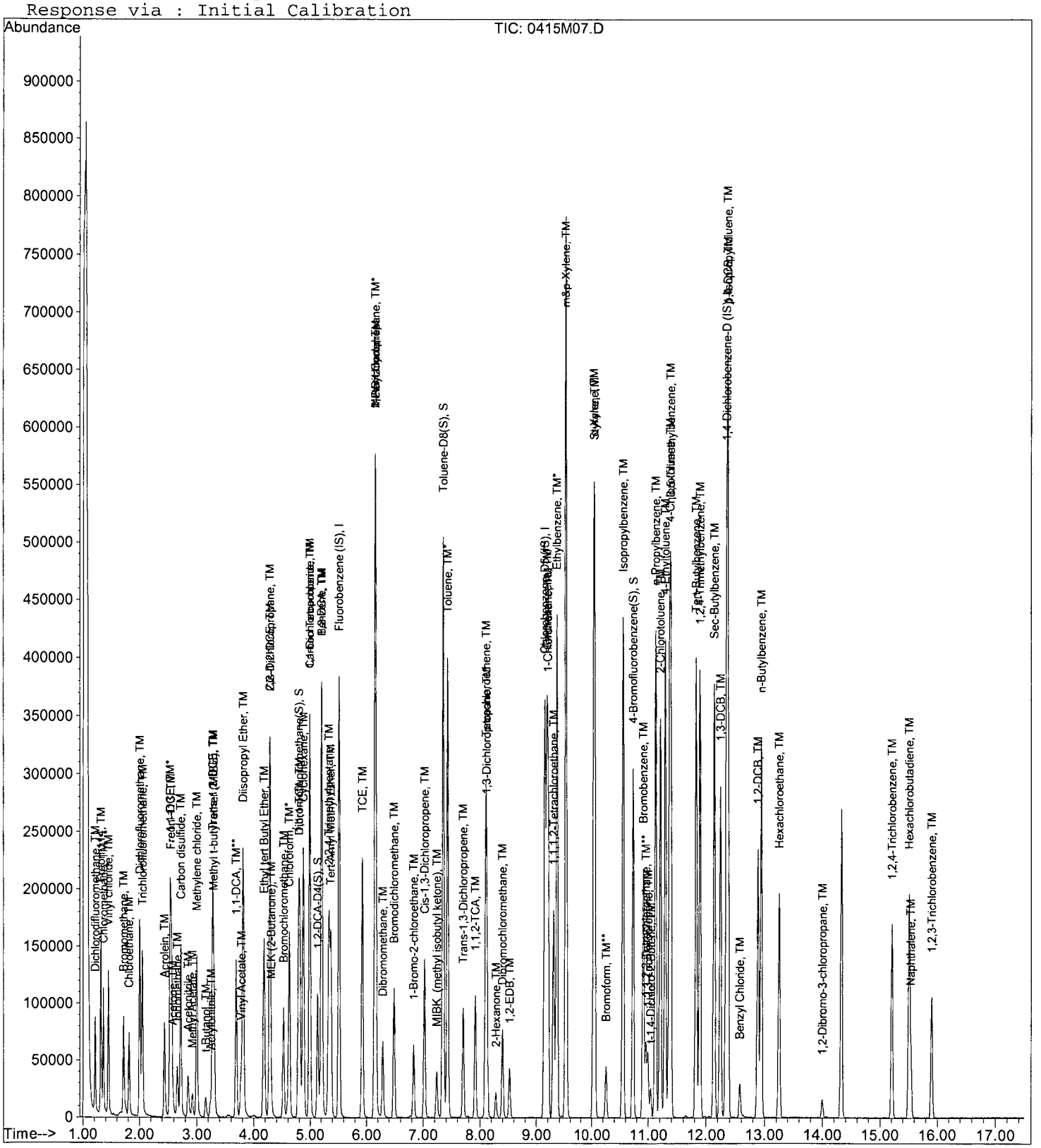
Data File : M:\MAX\DATA\M170414\0415M07.D
Acq On : 15 Apr 17 10:57
Sample : 170415A LCS-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 19 7:35 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	10.2	9.36	102	93.6	78-124	8.6	20
1,1,1-TRICHLOROETHANE	10.00	ND	10.7	9.76	107	97.6	74-131	9.2	20
1,1,2,2-TETRACHLOROETHANE	10.00	ND	10.1	10.3	101	103	71-121	2.0	20
1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	10.00	ND	10.6	10.5	106	105	70-136	0.95	20
1,1,2-TRICHLOROETHANE	10.00	ND	10.3	9.75	103	97.5	80-119	5.5	20
1,1-DICHLOROETHANE	10.00	ND	10.8	10.1	108	101	77-125	6.7	20
1,1-DICHLOROETHENE	10.00	ND	10.7	9.84	107	98.4	71-131	8.4	20
1,1-DICHLOROPROPENE	10.00	ND	10.7	9.58	107	95.8	79-125	11.0	20
1,2,3-TRICHLOROBENZENE	10.00	ND	9.05	9.56	90.5	95.6	69-129	5.5	20
1,2,3-TRICHLOROPROPANE	10.00	ND	10.2	9.81	102	98.1	73-122	3.9	20
1,2,4-TRICHLOROBENZENE	10.00	ND	9.65	9.84	96.5	98.4	69-130	1.9	20
1,2,4-TRIMETHYLBENZENE	10.00	ND	10.1	10.1	101	101	76-124	0.0	20
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	10.5	10.9	105	109	62-128	3.7	20
1,2-DIBROMOETHANE	10.00	ND	10.3	9.77	103	97.7	77-121	5.3	20
1,2-DICHLOROBENZENE	10.00	ND	10.0	10.0	100	100	80-119	0.0	20
1,2-DICHLOROETHANE	10.00	ND	10.8	9.83	108	98.3	73-128	9.4	20
1,2-DICHLOROPROPANE	10.00	ND	10.4	9.83	104	98.3	78-122	5.6	20
1,3,5-TRIMETHYLBENZENE	10.00	ND	10.4	10.2	104	102	82-120	1.9	20
1,3-DICHLOROBENZENE	10.00	ND	10.0	9.97	100	99.7	80-119	0.30	20
1,3-DICHLOROPROPANE	10.00	ND	10.6	9.62	106	96.2	80-119	9.7	20
1,3-DICHLOROPROPENE, TOTAL	20.0	ND	19.3	18.4	96.5	92.0	77-123	4.8	20
1,4-DICHLOROBENZENE	10.00	ND	10.2	9.93	102	99.3	79-118	2.7	20
2,2-DICHLOROPROPANE	10.00	ND	9.94	9.23	99.4	92.3	60-139	7.4	20
2-BUTANONE	10.00	ND	11.0	9.25	110	92.5	56-143	17.3	20
2-CHLOROTOLUENE	10.00	ND	10.4	10.2	104	102	79-122	1.9	20
2-HEXANONE	10.00	ND	10.0	9.48	100	94.8	57-139	5.3	20
4-CHLOROTOLUENE	10.00	ND	10.2	10.1	102	101	78-122	0.99	20
4-METHYL-2-PENTANONE	10.00	ND	10.6	9.87	106	98.7	67-130	7.1	20
ACETONE	10.00	ND	11.2	8.80	112	88.0	39-160	24.0 #	20
BENZENE	10.00	ND	10.6	9.69	106	96.9	79-120	9.0	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Comments:

Printed: 04/27/17 1:19:49 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
BROMOBENZENE	10.00	ND	9.89	9.56	98.9	95.6	80-120	3.4	20
BROMOCHLOROMETHANE	10.00	ND	10.5	9.36	105	93.6	78-123	11.5	20
BROMODICHLOROMETHANE	10.00	ND	10.7	9.74	107	97.4	79-125	9.4	20
BROMOFORM	10.00	ND	9.63	8.71	96.3	87.1	66-130	10.0	20
BROMOMETHANE	10.00	ND	11.3	10.0	113	100	53-141	12.2	20
CARBON DISULFIDE	10.00	ND	10.5	9.62	105	96.2	64-133	8.7	20
CARBON TETRACHLORIDE	10.00	ND	10.9	9.94	109	99.4	72-136	9.2	20
CHLOROBENZENE	10.00	ND	10.2	9.39	102	93.9	82-118	8.3	20
CHLOROETHANE	10.00	ND	10.0	9.64	100	96.4	60-138	3.7	20
CHLOROFORM	10.00	ND	10.7	9.98	107	99.8	79-124	7.0	20
CHLOROMETHANE	10.00	ND	10.7	10.2	107	102	50-139	4.8	20
CIS-1,2-DICHLOROETHENE	10.00	ND	11.4	10.2	114	102	78-123	11.1	20
CIS-1,3-DICHLOROPROPENE	10.00	ND	10.1	9.67	101	96.7	75-124	4.4	20
DI-ISOPROPYL ETHER	10.00	ND	10.7	9.82	107	98.2	67-128	8.6	20
DIBROMOCHLOROMETHANE	10.00	ND	10.0	9.29	100	92.9	74-126	7.4	20
DIBROMOMETHANE	10.00	ND	10.7	9.74	107	97.4	79-123	9.4	20
DICHLORODIFLUOROMETHANE	10.00	ND	11.2	10.8	112	108	32-152	3.6	20
ETHYL TERTIARY BUTYL ETHER	10.00	ND	10.4	9.68	104	96.8	70-127	7.2	20
ETHYLBENZENE	10.00	ND	10.5	9.50	105	95.0	79-121	10.0	20
HEXACHLOROBUTADIENE	10.00	ND	9.42	9.81	94.2	98.1	66-134	4.1	20
ISOPROPYLBENZENE	10.00	ND	10.1	10.0	101	100	72-131	1.00	20
M,P-XYLENE	20.0	ND	20.8	19.1	104	95.5	80-121	8.5	20
METHYL TERT-BUTYL ETHER	10.00	ND	10.4	9.65	104	96.5	71-124	7.5	20
METHYLENE CHLORIDE	10.00	ND	9.89	9.08	98.9	90.8	74-124	8.5	20
N-BUTYLBENZENE	10.00	ND	9.82	9.24	98.2	92.4	75-128	6.1	20
N-PROPYLBENZENE	10.00	ND	10.3	10.3	103	103	76-126	0.0	20
NAPHTHALENE	10.00	ND	8.08	8.59	80.8	85.9	61-128	6.1	20
O-XYLENE	10.00	ND	10.7	9.58	107	95.8	78-122	11.0	20
P-ISOPROPYLTOLUENE	10.00	ND	9.35	9.58	93.5	95.8	77-127	2.4	20
SEC-BUTYLBENZENE	10.00	ND	9.85	9.80	98.5	98.0	77-126	0.51	20

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Comments:

Printed: 04/27/17 1:19:50 PM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **170415W-53168 MS - 217781**
Batch ID: #86CDO-170412AT
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
STYRENE	10.00	ND	10.2	9.35	102	93.5	78-123	8.7	20
TERT-AMYL METHYL ETHER	10.00	ND	10.1	9.46	101	94.6	68-128	6.5	20
TERT-BUTYL ALCOHOL	125	ND	130	123	104	98.4	68-129	5.5	20
TERT-BUTYLBENZENE	10.00	ND	10.3	10.1	103	101	78-124	2.0	20
TETRACHLOROETHENE	10.00	ND	10.7	9.45	107	94.5	74-129	12.4	20
TOLUENE	10.00	ND	10.4	9.48	104	94.8	80-121	9.3	20
TRANS-1,2-DICHLOROETHENE	10.00	ND	10.8	10.0	108	100	75-124	7.7	20
TRANS-1,3-DICHLOROPROPENE	10.00	ND	9.20	8.73	92.0	87.3	73-127	5.2	20
TRICHLOROETHENE	10.00	ND	10.5	9.54	105	95.4	79-123	9.6	20
TRICHLOROFLUOROMETHANE	10.00	ND	10.5	9.81	105	98.1	65-141	6.8	20
VINYL CHLORIDE	10.00	ND	10.9	10.1	109	101	58-137	7.6	20
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	26.3	26.2	105	105	81-118		
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	25.9	25.2	104	101	85-114		
SURROGATE: DIBROMOFLUOROMETH	25.0	NA	26.1	25.0	104	100	80-119		
SURROGATE: TOLUENE-D8 (S)	25.0	NA	25.4	24.9	102	99.6	89-112		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MALLW.M	MALLW.M
Extraction Date :	04/15/17	04/15/17
Analysis Date :	04/15/17	04/15/17
Instrument :	Max	Max
Run :	0415M24	0415M25
Initials :	DG	

Printed: 04/27/17 1:19:50 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M24.D Vial: 22
Acq On : 15 Apr 17 19:00 Operator: PM,DG,SV,CMM
Sample : AZ53168W110710 MS-1WM 10ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 16 10:11 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	298231	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	203546	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	99953	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.78	111	75477	26.15 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.596%	
37) 1,2-DCA-D4(S)	5.13	65	64637	26.29 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.152%	
57) Toluene-D8(S)	7.35	98	316560	25.38 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.520%	
65) 4-Bromofluorobenzene(S)	10.73	95	100955	25.89 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.544%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.22	85	50422	11.17 ppb	98
3) Freon 114	1.32	85	46619	10.10 ppb	99
4) Chloromethane	1.36	50	57246	10.72 ppb	93
5) Vinyl chloride	1.45	62	86898	10.91 ppb	100
6) Bromomethane	1.72	94	49087	11.34 ppb	95
7) Chloroethane	1.82	64	48832	10.00 ppb	98
8) Dichlorofluoromethane	2.01	67	138509	10.69 ppb	99
9) Trichlorofluoromethane	2.05	101	93193	10.53 ppb	98
10) Acrolein	2.44	56	58942	133.50 ppb	91
11) Acetone	2.59	43	8569	11.19 ppb	88
12) Freon-113	2.56	101	51301	10.60 ppb	96
13) 1,1-DCE	2.53	61	90174	10.68 ppb	99
14) Acetonitrile	2.84	41	38010	138.22 ppb	95
15) t-Butanol	3.15	59	14070	129.69 ppb	91
16) Methyl Acetate	2.92	43	19578	9.78 ppb	100
17) Iodomethane	2.66	142	28002	6.57 ppb	94
18) Acrylonitrile	3.24	53	9946	10.27 ppb #	96
19) Methylene chloride	3.00	84	51141	9.89 ppb	96
20) Carbon disulfide	2.72	76	168296	10.52 ppb	97
21) Methyl t-butyl ether (MtBE	3.30	73	83337	10.40 ppb	99
22) Trans-1,2-DCE	3.27	96	61913	10.81 ppb	96
23) Diisopropyl Ether	3.81	45	182200	10.65 ppb	99
24) 1,1-DCA	3.69	63	109194	10.78 ppb	98
25) Vinyl Acetate	3.77	43	32952	10.27 ppb	100
26) Ethyl tert Butyl Ether	4.18	59	102509	10.38 ppb	98
27) MEK (2-Butanone)	4.32	43	14485	11.03 ppb	95
28) Cis-1,2-DCE	4.28	96	68958	11.37 ppb	98
29) 2,2-Dichloropropane	4.28	77	62495	9.94 ppb	100
30) Chloroform	4.62	83	103769	10.73 ppb	97
31) Bromochloromethane	4.52	128	23604	10.48 ppb	85
33) 1,1,1-TCA	4.81	97	90370	10.72 ppb	99
34) Cyclohexane	4.87	41	59061	10.08 ppb	97
35) 1,1-Dichloropropene	4.99	75	87760	10.70 ppb	99
36) 2,2,4-Trimethylpentane	5.33	57	143948	9.70 ppb	98
38) Carbon Tetrachloride	4.99	117	74033	10.86 ppb	98
39) Tert Amyl Methyl Ether	5.37	73	83742	10.11 ppb	96
40) 1,2-DCA	5.21	62	59044	10.83 ppb	100
41) Benzene	5.21	78	250761	10.56 ppb	100
42) TCE	5.92	95	65132	10.50 ppb	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M24.D
Acq On : 15 Apr 17 19:00
Sample : AZ53168W110710 MS-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:11 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	233499	128.83 ppb		99
44) 1,2-Dichloropropane	6.16	63	57111	10.45 ppb	#	96
45) Bromodichloromethane	6.49	83	66249	10.66 ppb		96
46) Methyl Cyclohexane	6.15	83	86782	10.20 ppb		100
47) Dibromomethane	6.29	93	21727	10.72 ppb		99
48) MIBK (methyl isobutyl ket	7.24	43	27628	10.64 ppb		99
49) 1-Bromo-2-chloroethane	6.83	63	50442	9.70 ppb		93
51) Cis-1,3-Dichloropropene	7.02	75	66153	10.12 ppb		98
52) Toluene	7.42	91	285189	10.38 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	43281	9.20 ppb		98
54) 1,1,2-TCA	7.92	83	26185	10.25 ppb		93
55) 2-Hexanone	8.27	43	14276	10.04 ppb		92
58) 1,2-EDB	8.52	107	27545	10.29 ppb		96
59) Tetrachloroethene	8.10	164	65735	10.66 ppb		94
60) 1-Chlorohexane	9.20	91	72730	10.40 ppb		95
61) 1,1,1,2-Tetrachloroethane	9.30	131	50882	10.19 ppb		93
62) m&p-Xylene	9.51	106	248504	20.77 ppb		98
63) o-Xylene	10.03	106	119267	10.73 ppb		99
64) Styrene	10.05	104	170175	10.23 ppb		100
66) 1,3-Dichloropropane	8.12	76	56385	10.64 ppb		98
67) Dibromochloromethane	8.39	129	38570	10.01 ppb		95
68) Chlorobenzene	9.18	112	166644	10.15 ppb		96
69) Ethylbenzene	9.35	91	325526	10.46 ppb		99
70) Bromoform	10.26	173	21251	9.63 ppb		95
72) Isopropylbenzene	10.55	105	311518	10.12 ppb		97
73) 1,1,2,2-Tetrachloroethane	10.96	83	32118	10.11 ppb		95
74) 1,2,3-Trichloropropane	10.99	110	9807	10.15 ppb		93
75) t-1,4-Dichloro-2-Butene	11.04	53	5727	9.67 ppb		84
76) Bromobenzene	10.91	156	65275	9.89 ppb		99
77) n-Propylbenzene	11.12	91	336737	10.31 ppb		99
78) 4-Ethyltoluene	11.29	105	276471	10.18 ppb		99
79) 2-Chlorotoluene	11.20	91	204296	10.38 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	243168	10.38 ppb		99
81) 4-Chlorotoluene	11.36	91	224461	10.24 ppb		100
82) Tert-Butylbenzene	11.83	119	213757	10.25 ppb		99
83) 1,2,4-Trimethylbenzene	11.89	105	226764	10.11 ppb		100
84) Sec-Butylbenzene	12.14	105	277951	9.85 ppb		99
85) p-Isopropyltoluene	12.36	119	117984	9.35 ppb		100
86) Benzyl Chloride	12.57	91	15018	8.70 ppb		97
87) 1,3-DCB	12.24	146	130506	10.04 ppb		97
88) 1,4-DCB	12.37	146	65328	10.19 ppb		99
89) n-Butylbenzene	12.94	91	104424	9.82 ppb		99
90) 1,2-DCB	12.88	146	105466	10.03 ppb		97
91) Hexachloroethane	13.25	117	31105	9.85 ppb		99
92) 1,2-Dibromo-3-chloropropan	14.00	75	3909	10.50 ppb		87
93) 1,2,4-Trichlorobenzene	15.21	180	56099	9.65 ppb		97
94) Hexachlorobutadiene	15.51	225	39505	9.42 ppb		95
95) Naphthalene	15.54	128	22328	8.08 ppb		96
96) 1,2,3-Trichlorobenzene	15.90	180	34942	9.05 ppb		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

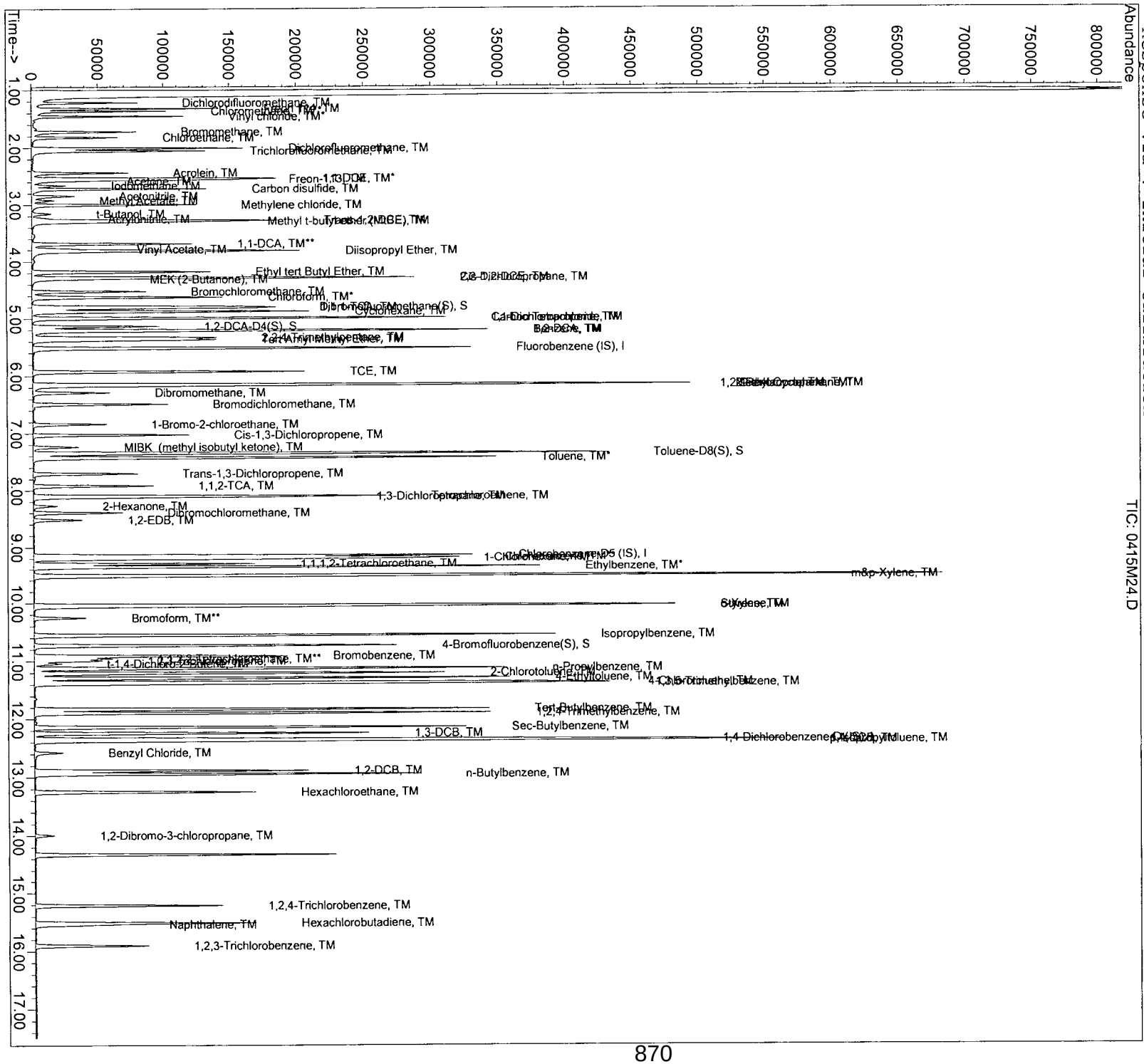
Data File : M:\MAX\DATA\M170414\0415M24.D
Acq On : 15 Apr 17 19:00
Sample : AZ53168W110710 MS-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 22
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:11 2017

Quant Results File: MALLW.RES

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M25.D
Acq On : 15 Apr 17 19:28
Sample : AZ53168W110710 MSD-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:11 2017 Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	331280	25.00 ppb	0.00
56) Chlorobenzene-D5 (IS)	9.14	117	225816	25.00 ppb	0.00
71) 1,4-Dichlorobenzene-D (IS)	12.34	152	103516	25.00 ppb	0.00
System Monitoring Compounds					
32) Dibromofluoromethane(S)	4.79	111	80260	25.03 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.128%	
37) 1,2-DCA-D4(S)	5.14	65	71597	26.21 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.852%	
57) Toluene-D8(S)	7.35	98	344587	24.90 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.612%	
65) 4-Bromofluorobenzene(S)	10.73	95	109067	25.21 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.832%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.22	85	54274	10.83 ppb	100
3) Freon 114	1.32	85	52381	10.22 ppb	97
4) Chloromethane	1.36	50	60696	10.23 ppb	95
5) Vinyl chloride	1.45	62	89609	10.13 ppb	97
6) Bromomethane	1.72	94	48596	10.02 ppb	99
7) Chloroethane	1.82	64	52298	9.64 ppb	97
8) Dichlorofluoromethane	2.01	67	140065	9.73 ppb	100
9) Trichlorofluoromethane	2.06	101	96436	9.81 ppb	99
10) Acrolein	2.44	56	60126	122.60 ppb	98
11) Acetone	2.59	43	7485	8.80 ppb	95
12) Freon-113	2.56	101	56360	10.49 ppb	93
13) 1,1-DCE	2.54	61	92289	9.84 ppb	99
14) Acetonitrile	2.85	41	36947	120.95 ppb	97
15) t-Butanol	3.16	59	14839	123.14 ppb	91
16) Methyl Acetate	2.92	43	20497	9.21 ppb	98
17) Iodomethane	2.66	142	35792	7.29 ppb	96
18) Acrylonitrile	3.24	53	9804	9.11 ppb	97
19) Methylene chloride	3.00	84	52119	9.08 ppb	97
20) Carbon disulfide	2.72	76	170993	9.62 ppb	99
21) Methyl t-butyl ether (MtBE	3.30	73	85873	9.65 ppb	99
22) Trans-1,2-DCE	3.28	96	63941	10.05 ppb	98
23) Diisopropyl Ether	3.81	45	186681	9.82 ppb	99
24) 1,1-DCA	3.69	63	113377	10.07 ppb	98
25) Vinyl Acetate	3.77	43	32981	9.25 ppb	97
26) Ethyl tert Butyl Ether	4.18	59	106201	9.68 ppb	95
27) MEK (2-Butanone)	4.32	43	13998	9.25 ppb #	86
28) Cis-1,2-DCE	4.28	96	68751	10.20 ppb	99
29) 2,2-Dichloropropane	4.28	77	64437	9.23 ppb	99
30) Chloroform	4.62	83	107218	9.98 ppb	98
31) Bromochloromethane	4.52	128	23434	9.36 ppb	89
33) 1,1,1-TCA	4.81	97	91438	9.76 ppb	99
34) Cyclohexane	4.87	41	63970	9.83 ppb	94
35) 1,1-Dichloropropene	4.99	75	87253	9.58 ppb	97
36) 2,2,4-Trimethylpentane	5.33	57	156998	9.52 ppb	100
38) Carbon Tetrachloride	4.99	117	75268	9.94 ppb	100
39) Tert Amyl Methyl Ether	5.37	73	87101	9.46 ppb	98
40) 1,2-DCA	5.21	62	59558	9.83 ppb	98
41) Benzene	5.21	78	255564	9.69 ppb	99
42) TCE	5.92	95	65695	9.54 ppb	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170414\0415M25.D
Acq On : 15 Apr 17 19:28
Sample : AZ53168W110710 MSD-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:11 2017

Quant Results File: MALLW.RES

Quant Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sun Apr 16 10:06:28 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43) 2-Pentanone	6.15	43	238475	118.45 ppb		100
44) 1,2-Dichloropropane	6.16	63	59658	9.83 ppb		98
45) Bromodichloromethane	6.49	83	67246	9.74 ppb		97
46) Methyl Cyclohexane	6.15	83	93720	9.91 ppb		99
47) Dibromomethane	6.29	93	21928	9.74 ppb		97
48) MIBK (methyl isobutyl ket	7.24	43	28580	9.87 ppb		95
49) 1-Bromo-2-chloroethane	6.84	63	51368	8.89 ppb		96
51) Cis-1,3-Dichloropropene	7.02	75	70219	9.67 ppb		99
52) Toluene	7.43	91	289391	9.48 ppb		99
53) Trans-1,3-Dichloropropene	7.70	75	45198	8.73 ppb		96
54) 1,1,2-TCA	7.92	83	27662	9.75 ppb		97
55) 2-Hexanone	8.27	43	14974	9.48 ppb	#	95
58) 1,2-EDB	8.52	107	29022	9.77 ppb		94
59) Tetrachloroethene	8.10	164	64629	9.45 ppb		92
60) 1-Chlorohexane	9.20	91	75603	9.75 ppb		97
61) 1,1,1,2-Tetrachloroethane	9.30	131	51864	9.36 ppb		91
62) m&p-Xylene	9.51	106	252924	19.06 ppb		99
63) o-Xylene	10.03	106	118083	9.58 ppb		91
64) Styrene	10.05	104	172583	9.35 ppb		97
66) 1,3-Dichloropropane	8.12	76	56576	9.62 ppb		98
67) Dibromochloromethane	8.39	129	39718	9.29 ppb		97
68) Chlorobenzene	9.18	112	171062	9.39 ppb		99
69) Ethylbenzene	9.35	91	327975	9.50 ppb		96
70) Bromoform	10.26	173	21328	8.71 ppb		92
72) Isopropylbenzene	10.55	105	320145	10.04 ppb		98
73) 1,1,2,2-Tetrachloroethane	10.96	83	33966	10.32 ppb		91
74) 1,2,3-Trichloropropane	10.99	110	9810	9.81 ppb		90
75) t-1,4-Dichloro-2-Butene	11.04	53	6142	10.01 ppb		98
76) Bromobenzene	10.91	156	65328	9.56 ppb		98
77) n-Propylbenzene	11.12	91	348226	10.30 ppb		98
78) 4-Ethyltoluene	11.29	105	283790	10.09 ppb		100
79) 2-Chlorotoluene	11.20	91	207893	10.20 ppb		99
80) 1,3,5-Trimethylbenzene	11.38	105	247690	10.21 ppb		97
81) 4-Chlorotoluene	11.36	91	229049	10.09 ppb		98
82) Tert-Butylbenzene	11.83	119	217613	10.08 ppb		98
83) 1,2,4-Trimethylbenzene	11.89	105	234468	10.09 ppb		100
84) Sec-Butylbenzene	12.14	105	286430	9.80 ppb		100
85) p-Isopropyltoluene	12.36	119	125184	9.58 ppb		98
86) Benzyl Chloride	12.57	91	16095	8.90 ppb		93
87) 1,3-DCB	12.24	146	134249	9.97 ppb		98
88) 1,4-DCB	12.37	146	65960	9.93 ppb		98
89) n-Butylbenzene	12.94	91	101680	9.24 ppb		98
90) 1,2-DCB	12.88	146	108982	10.01 ppb		95
91) Hexachloroethane	13.25	117	31794	9.72 ppb		98
92) 1,2-Dibromo-3-chloropropan	13.99	75	4208	10.88 ppb		98
93) 1,2,4-Trichlorobenzene	15.21	180	59190	9.84 ppb		100
94) Hexachlorobutadiene	15.51	225	42602	9.81 ppb		95
95) Naphthalene	15.54	128	24760	8.59 ppb		98
96) 1,2,3-Trichlorobenzene	15.90	180	38223	9.56 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

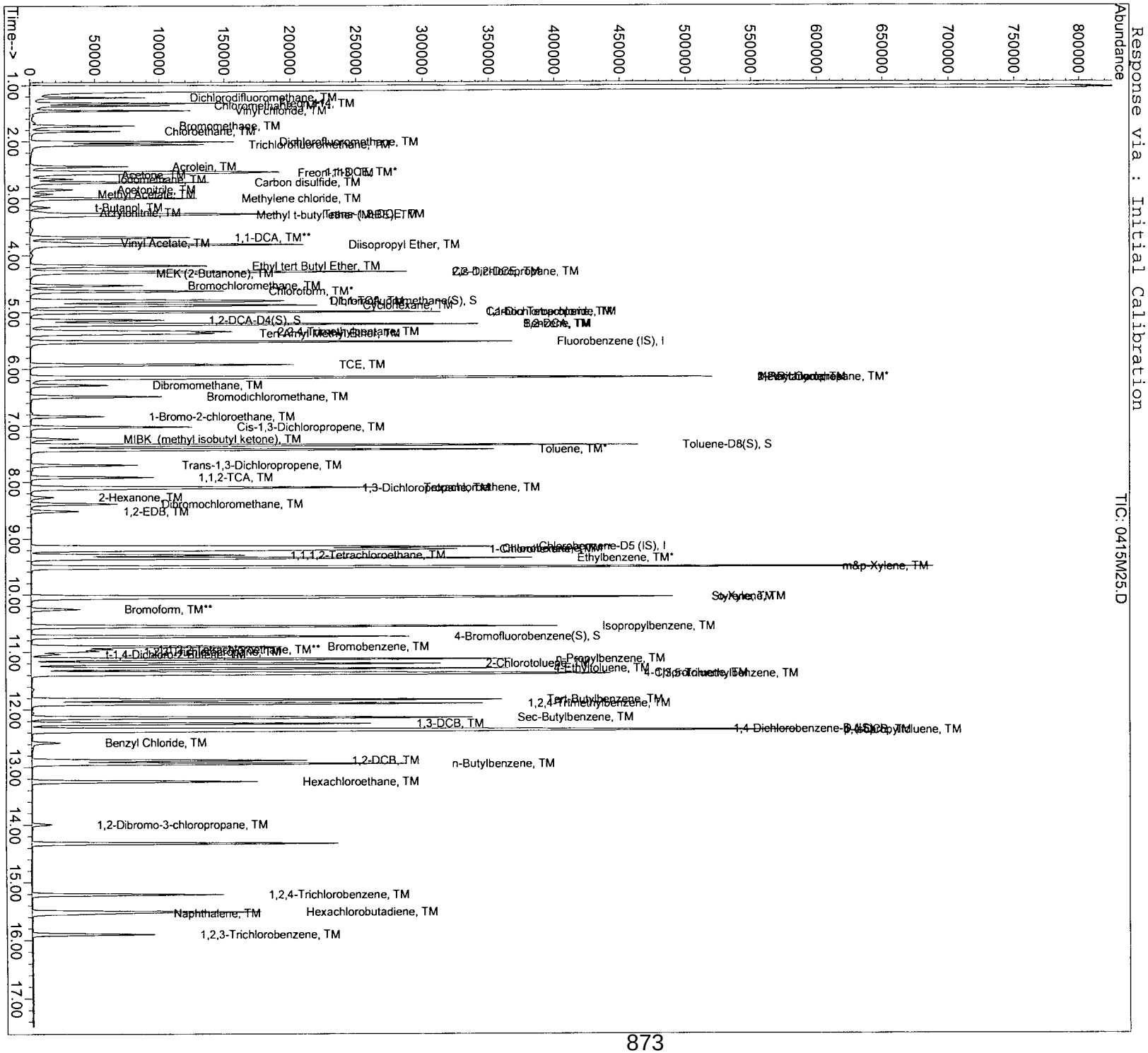
Data File : M:\MAX\DATA\M170414\0415M25.D
Acq On : 15 Apr 17 19:28
Sample : AZ53168W110710 MSD-1WM 10ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 23
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 16 10:11 2017

Quant Results File: MALLW.RES

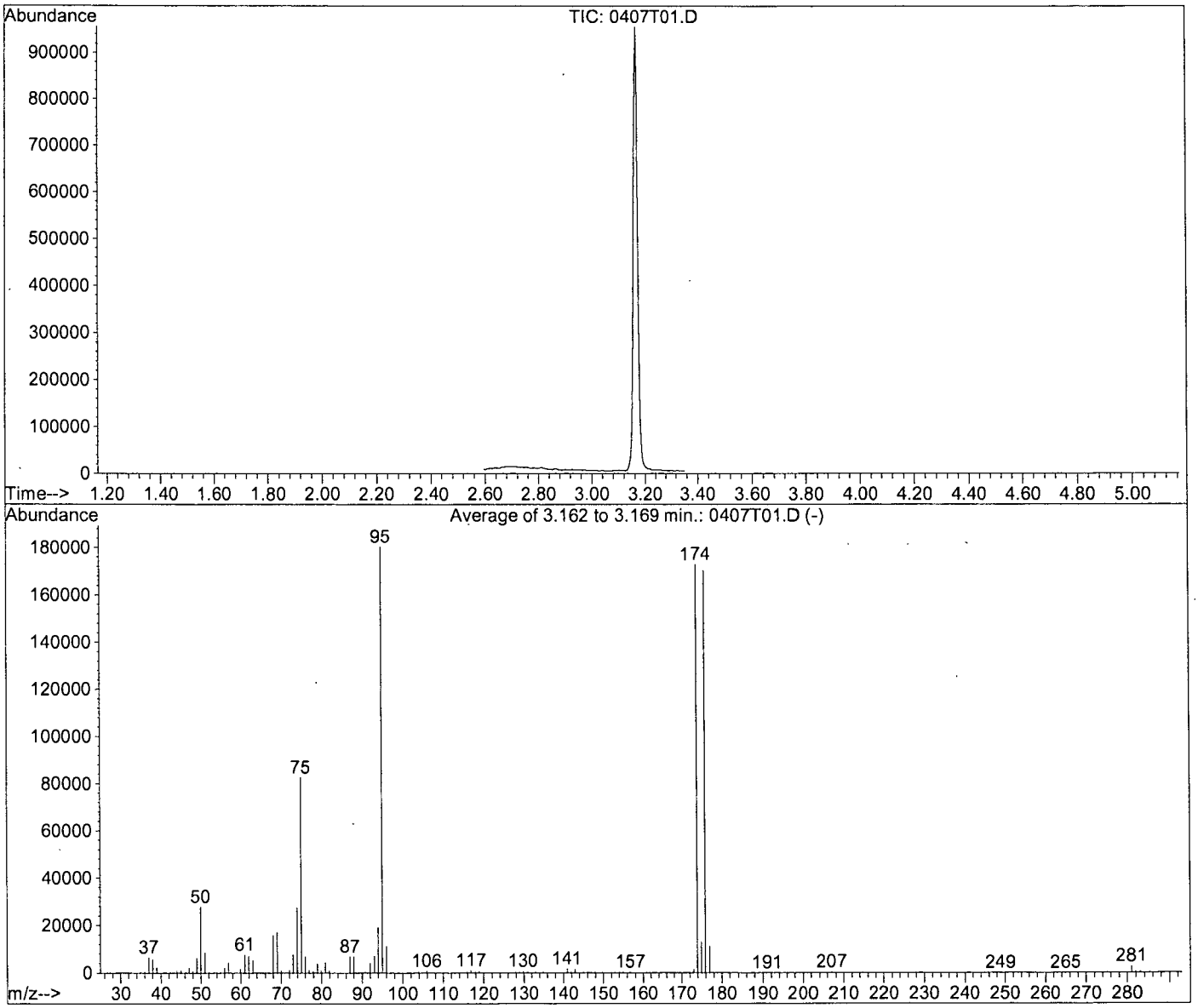
Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 19 07:30:08 2017
Response via : Initial Calibration



BFB

Data File : M:\THOR\DATA\T170407\0407T01.D Vial: 1
Acq On : 7 Apr 17 9:53 Operator: DG,SV, CMM.PM
Sample : 25ug/ml-BFB Std 04/03/17 Inst : Thor
Misc : 2uL Multiplr: 1.00

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 3.162 to 3.169 min.

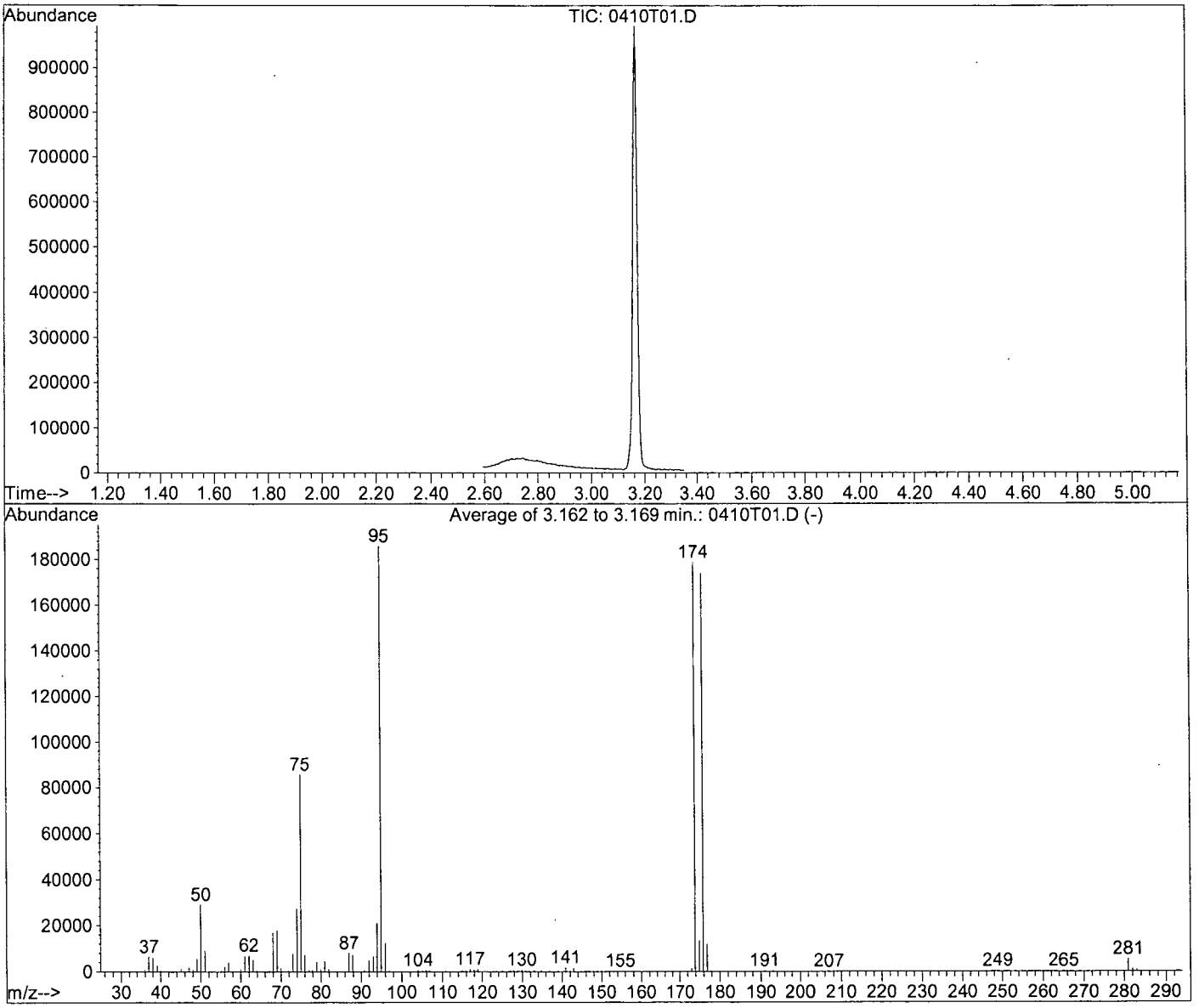
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.4	27773	PASS
75	95	30	60	45.8	82635	PASS
95	95	100	100	100.0	180331	PASS
96	95	5	9	6.2	11230	PASS
173	174	0.00	2	0.9	1498	PASS
174	95	50	100	95.9	173013	PASS
175	174	5	9	7.5	12955	PASS
176	174	95	101	98.5	170411	PASS
177	176	5	9	6.6	11178	PASS

BFB

Data File : M:\THOR\DATA\T170407\0410T01.D
Acq On : 10 Apr 17 9:12
Sample : 25ug/ml-BFB Std 04/03/17
Misc : 2uL

Vial: 1
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 3.162 to 3.169 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.6	29061	PASS
75	95	30	60	46.1	85707	PASS
95	95	100	100	100.0	185835	PASS
96	95	5	9	6.7	12465	PASS
173	174	0.00	2	0.8	1454	PASS
174	95	50	100	96.3	178880	PASS
175	174	5	9	7.5	13431	PASS
176	174	95	101	97.2	173909	PASS
177	176	5	9	6.8	11784	PASS

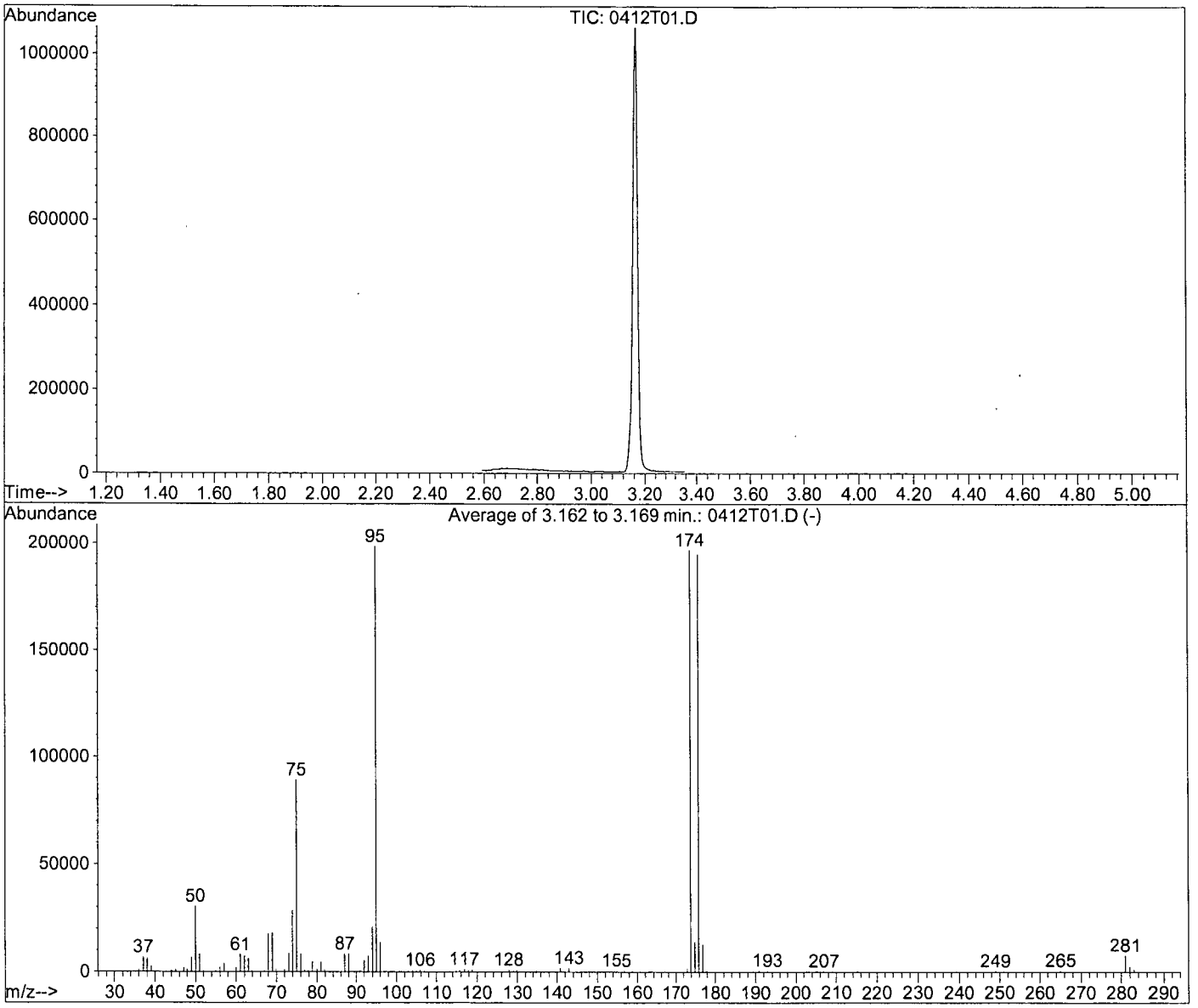
0410T01.D TALLW.M Thu Apr 20 14:51:25 2017

BFB

Data File : M:\THOR\DATA\T170407\0412T01.D
Acq On : 12 Apr 17 12:12
Sample : 25ug/ml-BFB Std 04/03/17
Misc : 2uL

Vial: 1
Operator: DG,SV, CMM.PM
Inst : Thor
Multiplr: 1.00

Method : M:\THOR\DATA\T170407\TALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 3.162 to 3.169 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.3	30293	PASS
75	95	30	60	45.0	89325	PASS
95	95	100	100	100.0	198592	PASS
96	95	5	9	6.9	13721	PASS
173	174	0.00	2	0.9	1688	PASS
174	95	50	100	99.2	196949	PASS
175	174	5	9	7.0	13843	PASS
176	174	95	101	98.9	194880	PASS
177	176	5	9	6.6	12838	PASS

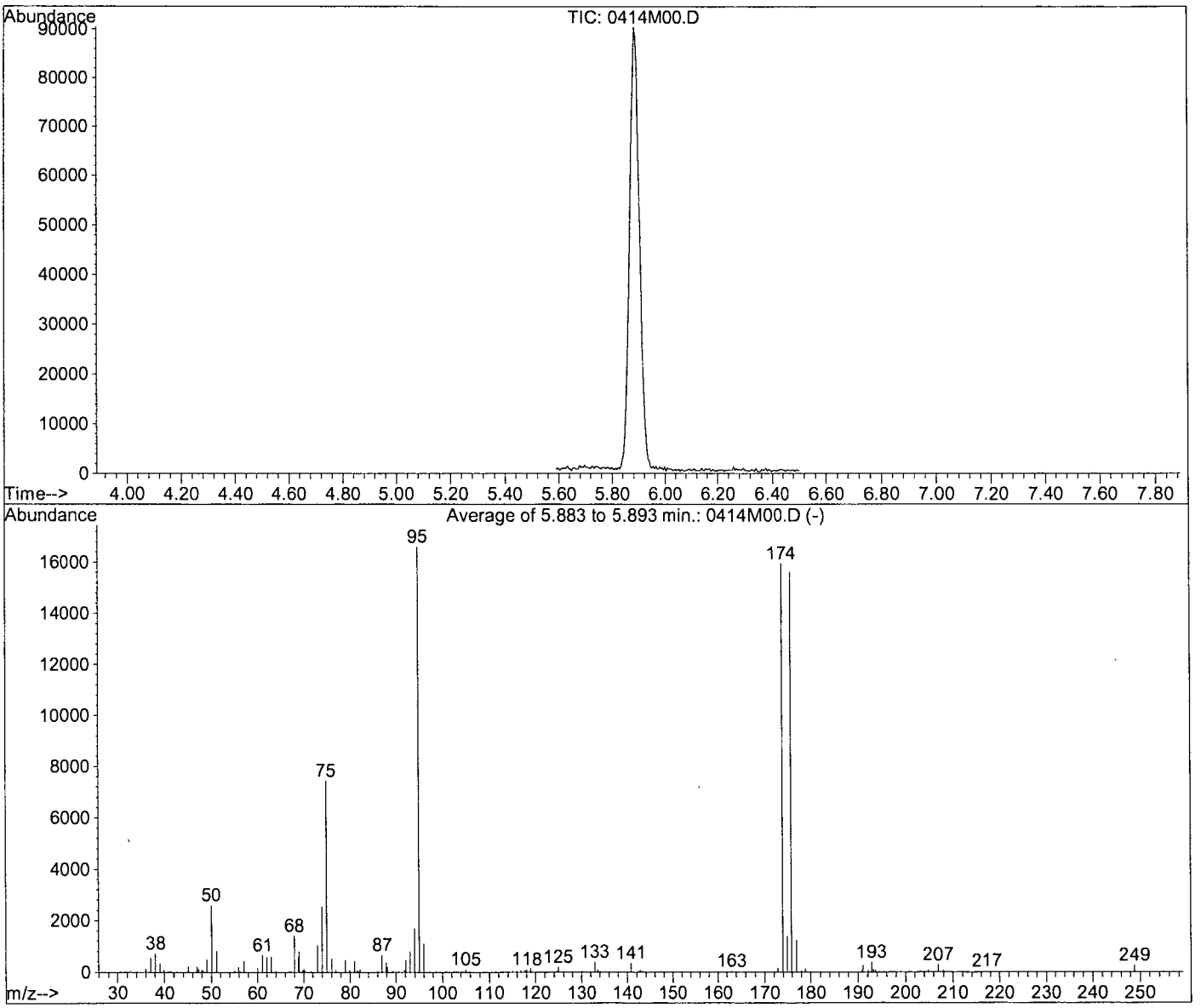
0412T01.D TALLW.M Fri Apr 21 14:44:20 2017

BFB

Data File : M:\MAX\DATA\M170414\0414M00.D
Acq On : 14 Apr 17 9:49
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 5.883 to 5.893 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.6	2584	PASS
75	95	30	60	44.8	7435	PASS
95	95	100	100	100.0	16604	PASS
96	95	5	9	6.6	1096	PASS
173	174	0.00	2	1.0	152	PASS
174	95	50	100	96.0	15948	PASS
175	174	5	9	8.6	1373	PASS
176	174	95	101	97.9	15621	PASS
177	176	5	9	7.9	1233	PASS

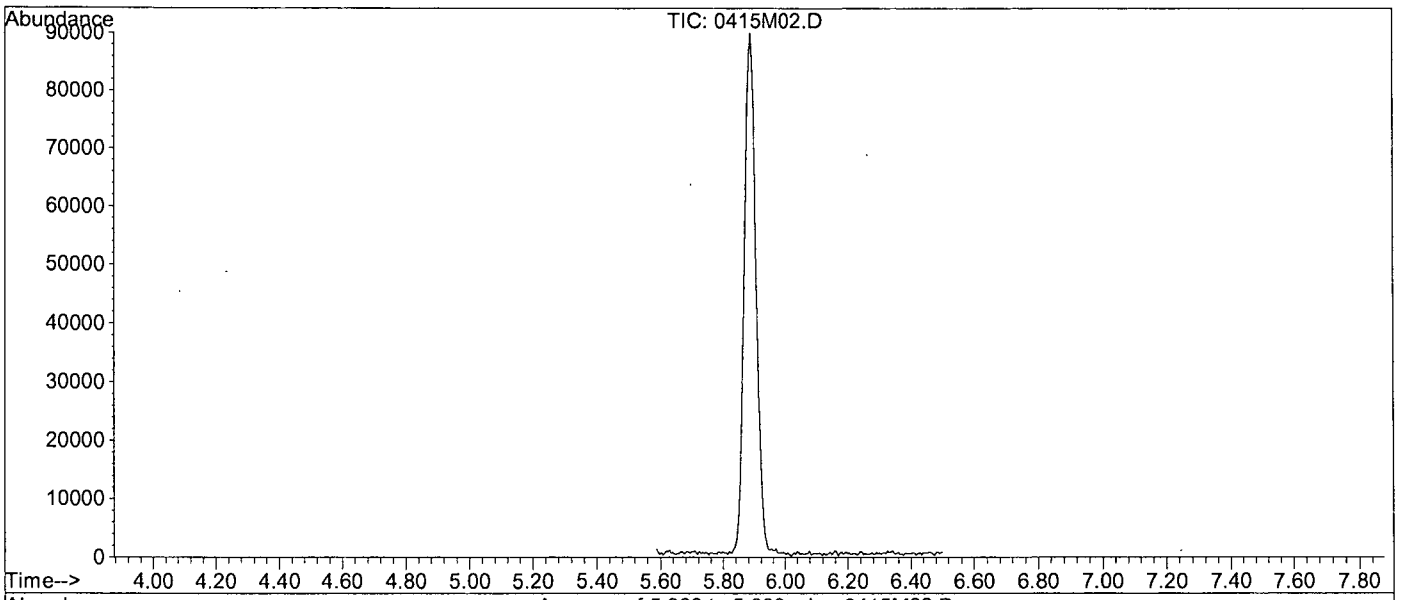
0414M00.D MALLW.M Tue Apr 18 07:26:37 2017

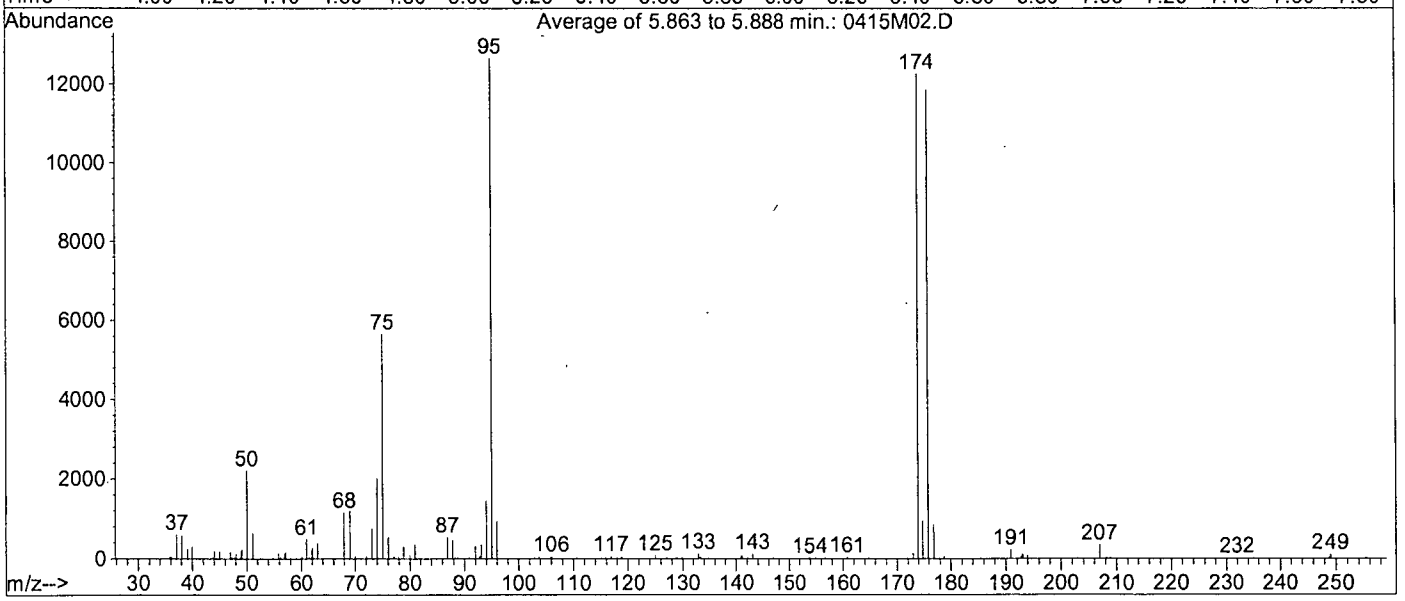
BFB

Data File : M:\MAX\DATA\M170414\0415M02.D
Acq On : 15 Apr 17 8:39
Sample : 25ug/mL BFB std 4/03/17
Misc : 2ul

Vial: 1
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Method : M:\MAX\DATA\M170414\MALLW.M (RTE Integrator)
Title : METHOD 8260B





Spectrum Information: Average of 5.863 to 5.888 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.5	2217	PASS
75	95	30	60	44.7	5655	PASS
95	95	100	100	100.0	12656	PASS
96	95	5	9	7.5	946	PASS
173	174	0.00	2	1.1	137	PASS
174	95	50	100	96.9	12262	PASS
175	174	5	9	7.8	957	PASS
176	174	95	101	96.7	11856	PASS
177	176	5	9	7.1	842	PASS

0415M02.D MALLW.M Wed Apr 19 09:44:44 2017

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-THOR										
Exp Date:	04/08/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		03/28/17AE	03/28/17AF	03/28/17AG	03/28/17AA	03/28/17AC	03/28/17AB	03/28/17AD	03/28/17AH	Final Vol
	Conc.	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	04/28/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/07/17C-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/07/17D-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/07/17E-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/07/17F-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/07/17G-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/07/17H-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/07/17I-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/07/17J-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/07/17K-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX										
Exp Date:	04/15/17	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	TBA	
		04/09/17AE	04/09/17AF	04/09/17AG	04/09/17AA	04/09/17AC	04/09/17AB	04/09/17AD	04/09/17AH	Final Vol
	Conc.	05/09/17	05/09/17	05/09/17	05/09/17	05/09/17	05/09/17	05/09/17	05/09/17	w/P&T H2O
Date/code	µg/L	ul	ul	ul	ul	ul	ul	ul	ul	mL
04/14/17A-DG	0.3	3	3	3	n/a	n/a	n/a	n/a	2	50
04/14/17B-DG	0.5	5	5	5	n/a	n/a	n/a	n/a	5	50
04/14/17C-DG	1	10	10	10	n/a	n/a	n/a	n/a	10	50
04/14/17D-DG	2	20	20	20	n/a	n/a	n/a	n/a	15	50
04/14/17E-DG	5	n/a	n/a	n/a	5	5	5	5	20	50
04/14/17F-DG	10	n/a	n/a	n/a	10	10	10	10	25	50
04/14/17G-DG	20	n/a	n/a	n/a	20	20	20	20	30	50
04/14/17H-DG	40	n/a	n/a	n/a	40	40	40	40	35	50
04/14/17I-DG	100	n/a	n/a	n/a	100	100	100	100	40	50

03/28/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37482	032817A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3500
03/28/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37214	032817G-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3700
03/28/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37202	032817H-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3900
		03/28/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**03/28/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**03/28/17AC**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1600	
		03/28/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**03/28/17AB**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
		03/28/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**03/28/17AD**	Exp:04/28/17	200	
		J&T Brand		31617	31618	1800	
03/28/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	301051-37638	032817J-CMM	41217	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	3400

SECONDARY SOURCE

03/28/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1950
03/28/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37378	032817L-CMM	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37209	032817M-CMM	62117	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1900
03/28/17AK							
50ug/ml VOC Std#6							
Exp:04/28/17							

	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1800
03/28/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	301053-37636	032817R-CMM	41217	50
J&T Brand		Purge & Trap MeOH		56029-00871	31617	31618	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

PRIMARY STANDARD

04/09/17AA							
50ug/ml Vol Work Std #7							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	289972-37483	040917A-CMM	100919	100
02SI	020049-02	HEXACHLOROETHANE	1000	296628-37447	032817B-CMM	71919	200
02SI	020228-02	Benzyl Chloride	1000	279824-36576	032817C-CMM	52418	200
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	3500
04/09/17AB							
50ug/ml Vol Work Std #1							
Exp:04/28/17					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	288264-37215	040917B-CMM	91919	50
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	1950
04/09/17AC							
50ug/ml Vol Work Std #8							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	258033-37171	032817D-CMM	81717	100
02SI	120023-03	VOC'S-54 COMP	2000	271929-36583	032817E-CMM	21518	100
02SI	020232-02	Vinyl Acetate	2000	296738-37440	032817F-CMM	41017	100
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	3700
04/09/17AD							
50ug/ml Vol Work Std #2							
Exp:04/28/17							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	292248-37205	040917C-CMM	110818	100
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	3900
		04/09/17AE					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**04/09/17AA**	Exp:04/28/17	200	
		50ug/ml Vol Work Std #8		**04/09/17AC**	Exp:04/28/17	200	
		J&T Brand		32317	32318	1600	
		04/09/17AF					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**04/09/17AB**	Exp:04/28/17	200	
		J&T Brand		32317	32318	1800	
		04/09/17AG					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**04/09/17AD**	Exp:04/28/17	200	
		J&T Brand		32317	32318	1800	
04/09/17AH							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	296629-37456	032817I-CMM	10918	500
02SI	020229-09-02	Acrolein	10000	304243-37746	040917D-CMM	51417	100
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	3400

SECONDARY SOURCE

04/09/17AI							
50ug/ml VOC Std#4							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120296-01-SS	Custom 8260 Solution	2000	269615-37244	032817K-CMM	60118	50
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	1950
04/09/17AJ							
50ug/ml VOC Std#5							
Exp:04/28/17							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	279826-37379	040917E-CMM	60119	50
02SI	020145-02-02-SS	2-CEVE (SS)	2000	292247-37210	040917F-CMM	111217	50
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	1900
04/09/17AK							

50ug/ml VOC Std#6							
Exp:04/28/17							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	280143-37498	032817N-CMM	112917	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	296740-37443	032817O-CMM	41017	50
02SI	020049-02-SS	HEXACHLOROETHANE (SS)	1000	295337-37386	032817P-CMM	121918	100
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	1800
04/09/17AL							
250ug/ml TBA/IBA/Acetonitrile/Acrolein/2-P							
Exp:04/28/17			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	258040-37231	032817Q-CMM	82218	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	304244-37744	040917G-CMM	51417	50
J&T Brand		Purge & Trap MeOH		56029-00871	32317	32318	1700
8260 water		spiked with		Total Vol			
CCV/LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
Ending CCV		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		10uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
X4 ketones							
LCS	10ug/L Vol Std	10uL of 50ug/ml Std #7		50mL P&T H2O			
		10uL of 50ug/ml Std #8					
		10uL of 50ug/ml Std #1					
		40uL of 50ug/ml Std #2					
		25uL of 250ug/ml Std TBA					
8260 soil		spiked with		Total Vol			
CCV/LCS	50ug/Kg Vol Std	5uL of 50ug/ml Std #7		5mL P&T H2O			
Ending CCV		5uL of 50ug/ml Std #8					
		5uL of 50ug/ml Std #1					
		5uL of 50ug/ml Std #2					
		5uL of 250ug/ml Std TBA					
Matrix spikes are prepared with same standards as ccv (see above) into the sample.							
8260water		spiked with		Total Vol			
SS	10ug/L STD	10uL of 50ug/ml Std #4		50mL P&T H2O			
		10uL of 50ug/ml Std #5					
		10uL of 50ug/ml Std #6					
		25uL of 250ug/ml Std TBA					
8260 SOIL	50ug/Kg STD	5uL of 50ug/ml Std #4		Total Vol			
SS		5uL of 50ug/ml Std #5		5mL P&T H2O			
		5uL of 50ug/ml Std #6					
		5uL of 250ug/ml Std TBA					

Injection Log

Directory: M:\THOR\DATA\T170407\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0407T01.D	1	25ug/ml-BFB Std 04/03/17	2uL	7 Apr 17 9:53
2	4	0407T05.D	1	0.3ug/L VOC STD 4/7/17C	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 11:37
3	5	0407T06.D	1	0.5ug/L VOC STD 4/7/17D	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 12:05
4	6	0407T07.D	1	1.0ug/L VOC STD 4/7/17E	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 12:32
5	7	0407T08.D	1	2.0ug/L VOC STD 4/7/17F	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 13:00
6	8	0407T09.D	1	5.0ug/L VOC STD 4/7/17G	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 13:28
7	9	0407T10.D	1	10ug/L VOC STD 4/7/17H	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 13:56
8	10	0407T11.D	1	20ug/L VOC STD 4/7/17I	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 14:23
9	11	0407T12.D	1	40ug/L VOC STD 4/7/17J	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 14:51
10	12	0407T13.D	1	100ug/L VOC STD 4/7/17K	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 15:19
11	18	0407T19.D	1	(SS)10ug/L VOC STD 4/7/17	10mL IS&S: 03/26/17,01/19/17	7 Apr 17 18:05
12	1	0410T01.D	1	25ug/ml-BFB Std 04/03/17	2uL	10 Apr 17 9:12
13	4	0410T05.D	1	170410A CCV-1WT 10ug/L	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 10:57
14	5	0410T06.D	1	170410A LCS-1WT 10ug/L	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 11:25
15	9	0410T10.D	1	170410A BLK-1WT	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 13:16
16	24	0410T25.D	1	AZ53169W02	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 20:12
17	25	0410T26.D	1	AZ53170W02	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 20:40
18	28	0410T29.D	1	Ending CCV 8260 4/10/17 10ug/L	10mL IS&S: 03/26/17,01/19/17	10 Apr 17 22:03
19	1	0412T01.D	1	25ug/ml-BFB Std 04/03/17	2uL	12 Apr 17 12:12
20	2	0412T03.D	1	170412A CCV-1WT 10ug/L	10mL IS&S: 03/26/17,01/19/17	12 Apr 17 13:00
21	3	0412T04.D	1	170412A LCS-1WT 10ug/L	10mL IS&S: 03/26/17,01/19/17	12 Apr 17 13:28
22	8	0412T09.D	1	170412A BLK-1WT	10mL IS&S: 03/26/17,01/19/17	12 Apr 17 15:47
23	9	0412T10.D	1	AZ53167W02	10mL IS&S: 03/26/17,01/19/17	12 Apr 17 16:15
24	10	0412T11.D	1	AZ53168W05	10mL IS&S: 03/26/17,01/19/17	12 Apr 17 16:42
25	26	0412T27.D	1	Ending CCV 8260 4/12/17 10ug/L	10mL IS&S: 03/26/17,01/19/17	13 Apr 17 00:05

Injection Log

Directory: M:\MAX\DATA\M170414\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0414M00.D	1	25ug/mL BFB std 4/03/17	2ul	14 Apr 17 9:49
2	4	0414M04.D	1	0.3ug/L VOC STD 4/14/17A	1ul	14 Apr 17 11:39
3	5	0414M05.D	1	0.5ug/L VOC STD 4/14/17B	1ul	14 Apr 17 12:07
4	6	0414M06.D	1	1.0ug/L VOC STD 4/14/17C	2ul	14 Apr 17 12:36
5	7	0414M07.D	1	2.0ug/L VOC STD 4/14/17D	2ul	14 Apr 17 13:04
6	8	0414M08.D	1	5.0ug/L VOC STD 4/14/17E	5ul	14 Apr 17 13:33
7	9	0414M09.D	1	10ug/L VOC STD 4/14/17F	5ul	14 Apr 17 14:01
8	10	0414M10.D	1	20ug/L VOC STD 4/14/17G	10ul	14 Apr 17 14:29
9	11	0414M11.D	1	40ug/L VOC STD 4/14/17H	10ul	14 Apr 17 14:58
10	12	0414M12.D	1	100ug/L VOC STD 4/14/17I	20ul	14 Apr 17 15:26
11	17	0414M17.D	1	(SS)10ug/L VOC STD 4/14/17	10ml IS&S: 2/23/17	14 Apr 17 17:48
12	1	0415M02.D	1	25ug/mL BFB std 4/03/17	2ul	15 Apr 17 8:39
13	4	0415M06.D	1	170415A CCV-1WM	10ml IS&S: 2/23/17	15 Apr 17 10:29
14	5	0415M07.D	1	170415A LCS-1WM	10ml IS&S: 2/23/17	15 Apr 17 10:57
15	8	0415M10.D	1	170415A BLK-1WM	10ml IS&S: 2/23/17	15 Apr 17 12:22
16	11	0415M13.D	1	AZ53168W06	10ml IS&S: 2/23/17	15 Apr 17 13:47
17	22	0415M24.D	1	AZ53168W110710 MS-1WM 10ug/L	10ml IS&S: 2/23/17	15 Apr 17 19:00
18	23	0415M25.D	1	AZ53168W110710 MSD-1WM 10ug/L	10ml IS&S: 2/23/17	15 Apr 17 19:28
19	26	0415M28.D	1	Ending CCV 8260 10ug/L 4/15/17	10ml IS&S: 2/23/17	15 Apr 17 20:54

ORGANICS

APPL, INC.

ORGANICS

QC Summary

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217654**
Batch ID: #GRO86-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:21:50 PM

EPA 8260B

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 82619

Case No: 82619 Date Analyzed: 04/07/17

Matrix: WATER Instrument: Max

APPL ID.	Client Sample No.	SURROGATE: 4-BROMOFLUOROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
170407AM-LCS	Lab Control Spike	85-114	101				
170407AM-BLK	Blank	85-114	93.9				
AZ53167	ERH306	85-114	98.9				
AZ53168	ERH307	85-114	95.1				
AZ53169	ERH314	85-114	98.7				
AZ53170	ERH315	85-114	95.3				
AZ53168-MS	Matrix Spike	85-114	96.0				
AZ53168-MSD	Matrix SpikeD	85-114	97.6				

Comments: Batch: #GRO86-170407A

Printed: 04/27/17 1:21:53 PM

Form 2 & 8, Surrogate Recovery Summary

Laboratory Control Spike Recovery

EPA 8260B GRO WATER

APPL ID: **170407W-53168 LCS - 217654**
Batch ID: #GRO86-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	274	91.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.2	101	85-114

Comments:

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M08
Initials :	SV

Printed: 04/27/17 1:22:00 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170408W-53168 MS - 217654**
Batch ID: #GRO86-170407AM
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	227	214	75.7 #	71.3 #	78-122	5.9	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.0	24.4	96.0	97.6	85-114		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Max	Max
Run :	0407M58	0407M59
Initials :	SV	

Printed: 04/27/17 1:22:04 PM
APPL MSD SCII

EPA 8260B

Form 4

Blank Summary

Lab Name: APPL, Inc.
SDG No: 82619
Case No: 82619
Date Analyzed: 04/07/17
Matrix: WATER
Instrument: Max
Blank ID: 170407AM-BLK
Time Analyzed: 1320

APPL ID.	Client Sample No.	File ID.	Date Analyzed
170407AM-LCS	Lab Control Spike	0407M08	04/07/17 1127
170407AM-BLK	Blank	0407M12	04/07/17 1320
AZ53167	ERH306	0407M14	04/07/17 1416
AZ53168	ERH307	0407M15	04/07/17 1445
AZ53169	ERH314	0407M16	04/07/17 1513
AZ53170	ERH315	0407M17	04/07/17 1542
170407AM-MS	Matrix Spike	0407M58	04/08/17 1103
170407AM-MSD	Matrix SpikeD	0407M59	04/08/17 1132

Comments: Batch: #GRO86-170407A

ORGANICS

Sample Data

APPL, INC.

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH306
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53167
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M14
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/27/17 1:22:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M14.D Vial: 14
Acq On : 7 Apr 17 14:16 Operator: PM,DG,SV,CMM
Sample : AZ53167W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:29 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	274324	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

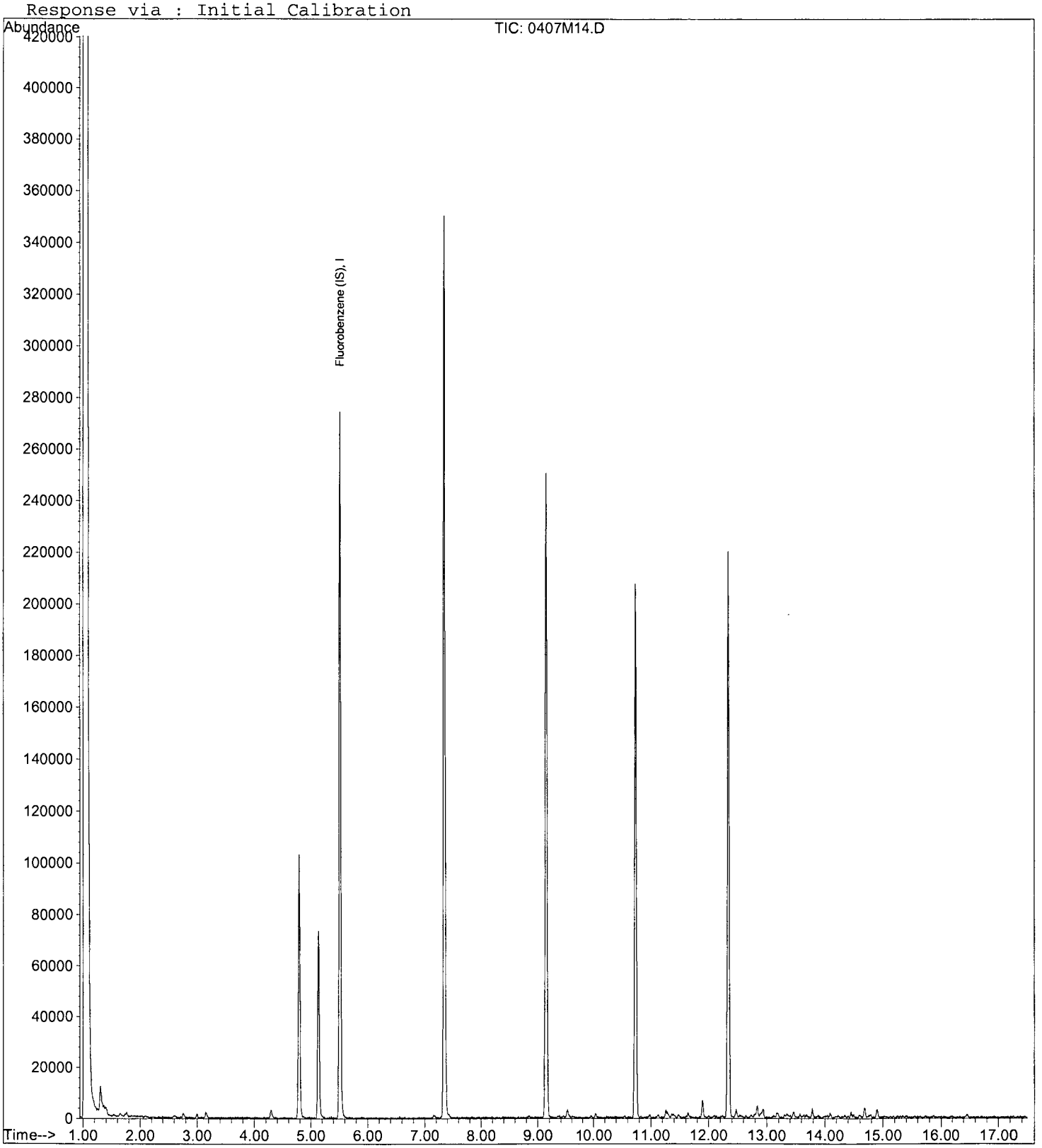
Data File : M:\MAX\DATA\M170404\0407M14.D
Acq On : 7 Apr 17 14:16
Sample : AZ53167W01
Misc : 10ml IS&S: 2/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:29 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M14.D
Acq On : 7 Apr 17 14:16
Sample : AZ53167W01
Misc : 10ml IS&S: 2/23/17

Vial: 14
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	254722	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168310	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73709	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62364	25.99500 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.980%	
3) 1,2-DCA-D4(S)	5.13	65	48844	25.99047 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.960%	
5) Toluene-D8(S)	7.35	98	256667	26.14301 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.572%	
6) 4-Bromofluorobenzene(S)	10.73	95	75189	24.72626 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.904%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

ARF: 82619

Sample ID: ERH307

APPL ID: AZ53168

Sample Collection Date: 04/04/17

QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.1	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M15
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/27/17 1:22:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M15.D
Acq On : 7 Apr 17 14:45
Sample : AZ53168W01
Misc : 10ml IS&S: 2/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:29 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	267887	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

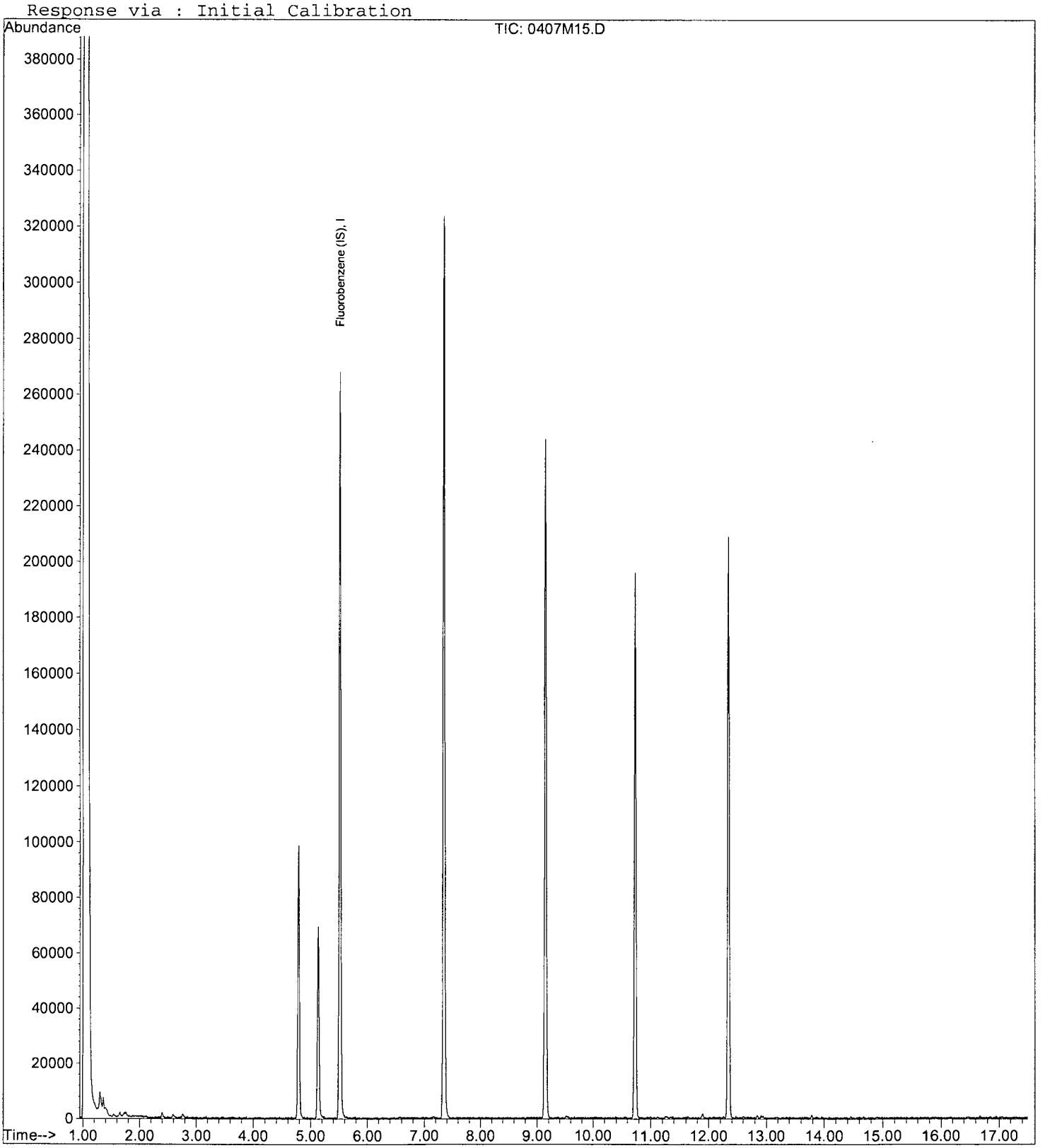
Data File : M:\MAX\DATA\M170404\0407M15.D
Acq On : 7 Apr 17 14:45
Sample : AZ53168W01
Misc : 10ml IS&S: 2/23/17

Vial: 15
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:29 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M15.D Vial: 15
Acq On : 7 Apr 17 14:45 Operator: PM,DG,SV,CMM
Sample : AZ53168W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248469	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	165374	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	69687	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59322	25.34930 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.396%	
3) 1,2-DCA-D4(S)	5.13	65	45348	24.73747 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.948%	
5) Toluene-D8(S)	7.35	98	247219	25.62773 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.512%	
6) 4-Bromofluorobenzene(S)	10.73	95	71016	23.76857 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.076%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	98.7	85-114			%	04/07/17	04/07/17

Quant Method:	MGAS6302.M
Run #:	0407M16
Instrument:	Max
Sequence:	M170404
Dilution Factor:	1
Initials:	SV

Printed: 04/27/17 1:22:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M16.D Vial: 16
Acq On : 7 Apr 17 15:13 Operator: PM,DG,SV,CMM
Sample : AZ53169W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:30 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	258288	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

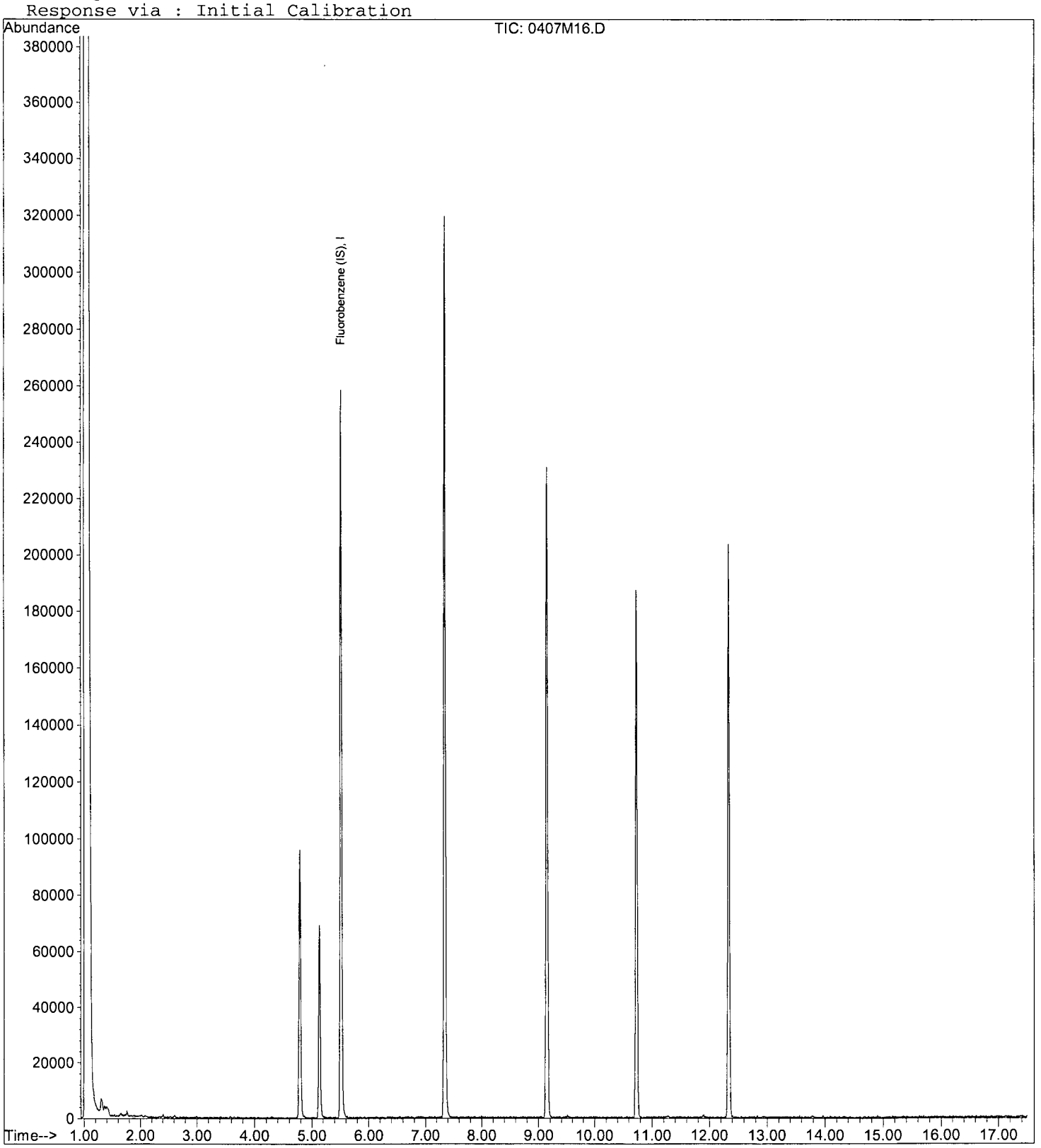
Data File : M:\MAX\DATA\M170404\0407M16.D
Acq On : 7 Apr 17 15:13
Sample : AZ53169W01
Misc : 10ml IS&S: 2/23/17

Vial: 16
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:30 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M16.D Vial: 16
Acq On : 7 Apr 17 15:13 Operator: PM,DG,SV,CMM
Sample : AZ53169W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	239085	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	157126	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	66667	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	59808	26.56007 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.240%	
3) 1,2-DCA-D4(S)	5.13	65	45858	25.99754 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.992%	
5) Toluene-D8(S)	7.35	98	243238	26.53865 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.156%	
6) 4-Bromofluorobenzene(S)	10.73	95	70077	24.68547 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.740%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

EPA 8260B GRO WATER

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170
QCG: #GRO86-170407AM-217654

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260B	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
EPA 8260B	SURROGATE: 4-BROMOFLUOROBEN	95.3	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.M
Run #: 0407M17
Instrument: Max
Sequence: M170404
Dilution Factor: 1
Initials: SV

Printed: 04/27/17 1:22:11 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M17.D Vial: 17
Acq On : 7 Apr 17 15:42 Operator: PM,DG,SV,CMM
Sample : AZ53170W01 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:30 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	250401	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

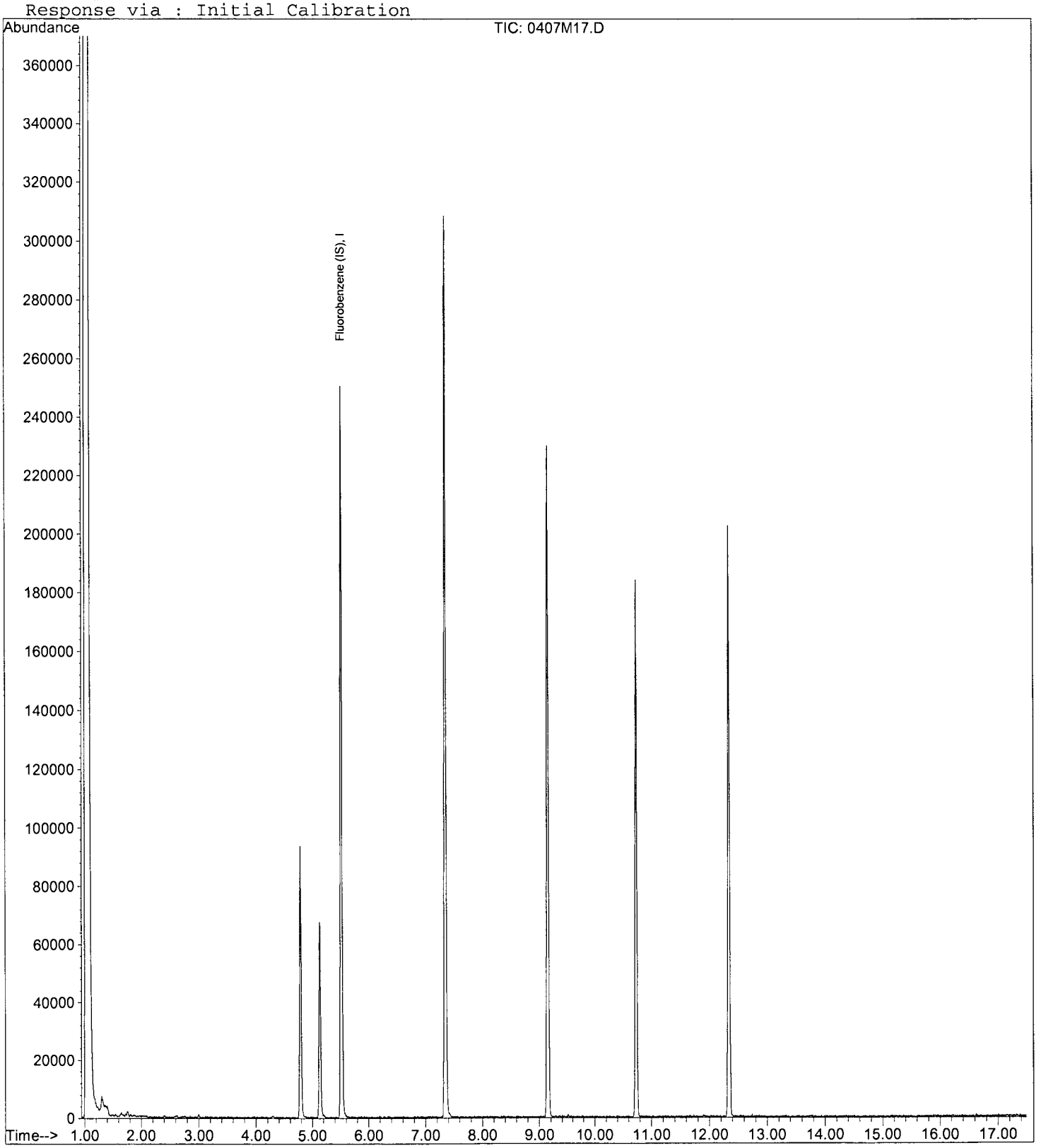
Data File : M:\MAX\DATA\M170404\0407M17.D
Acq On : 7 Apr 17 15:42
Sample : AZ53170W01
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:30 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M17.D
Acq On : 7 Apr 17 15:42
Sample : AZ53170W01
Misc : 10ml IS&S: 2/23/17

Vial: 17
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	227447	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	157080	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	65517	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	56535	26.39122 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.564%	
3) 1,2-DCA-D4(S)	5.13	65	44133	26.29981 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.200%	
5) Toluene-D8(S)	7.35	98	232691	25.39535 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.580%	
6) 4-Bromofluorobenzene(S)	10.73	95	67593	23.81743 ppb	0.00
Spiked Amount 25.000			Recovery	= 95.268%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 03/02/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7				Avg	%RSD		
			0302M05.D	0302M06.D	0302M07.D	0302M08.D	0302M09.D	0302M10.D	0302M11.D							
1	I	Fluorobenzene (IS)														
2	TMHBL	Gasoline C6-C10	12.8	6.250	4.034	2.555	2.182	2.077	2.097				4.6	86	TMHBL	0.999
3																
4																
5																
6																
7																
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9																
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Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M05.D Vial: 5
Acq On : 2 Mar 17 9:26 Operator: PM,DG,SV,CMM
Sample : 20ppb GAS STD 03/02/17A Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	407587	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	4169289m	18.31234 ppb	100

(#) = qualifier out of range (m) = manual integration

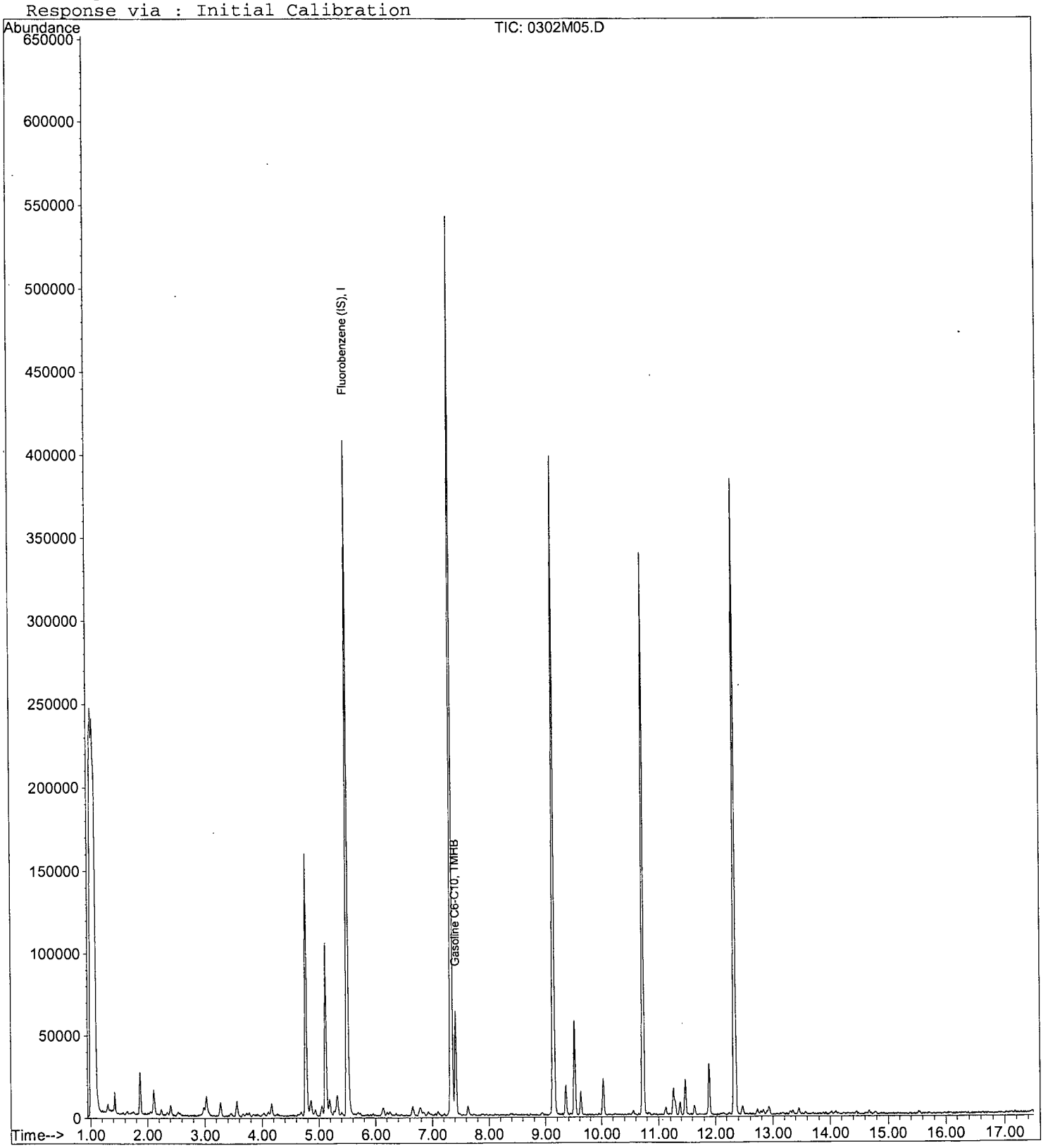
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M05.D
Acq On : 2 Mar 17 9:26
Sample : 20ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:58:27 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413545	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.34	TIC	5168646m	51.25862 ppb	100

(#) = qualifier out of range (m) = manual integration
0302M06.D MGAS6302.M Mon Mar 06 11:54:33 2017

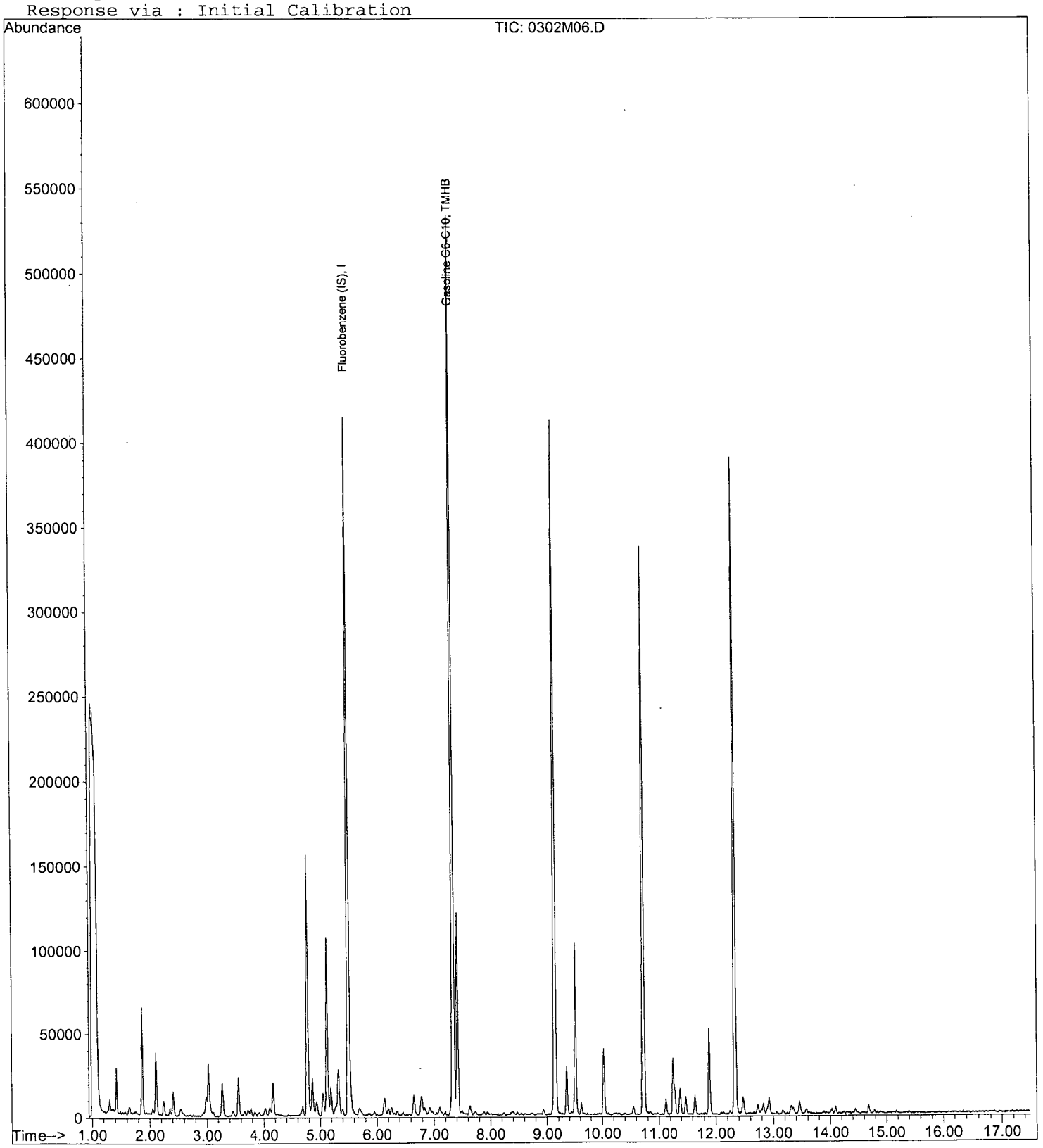
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M06.D
Acq On : 2 Mar 17 9:54
Sample : 50ppb GAS STD 03/02/17B
Misc : IS&S 02/23/17

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:59 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M07.D Vial: 7
Acq On : 2 Mar 17 10:23 Operator: PM,DG,SV,CMM
Sample : 100ppb GAS STD 03/02/17C Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	403009	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6503184m	102.25627 ppb	100

(#) = qualifier out of range (m) = manual integration

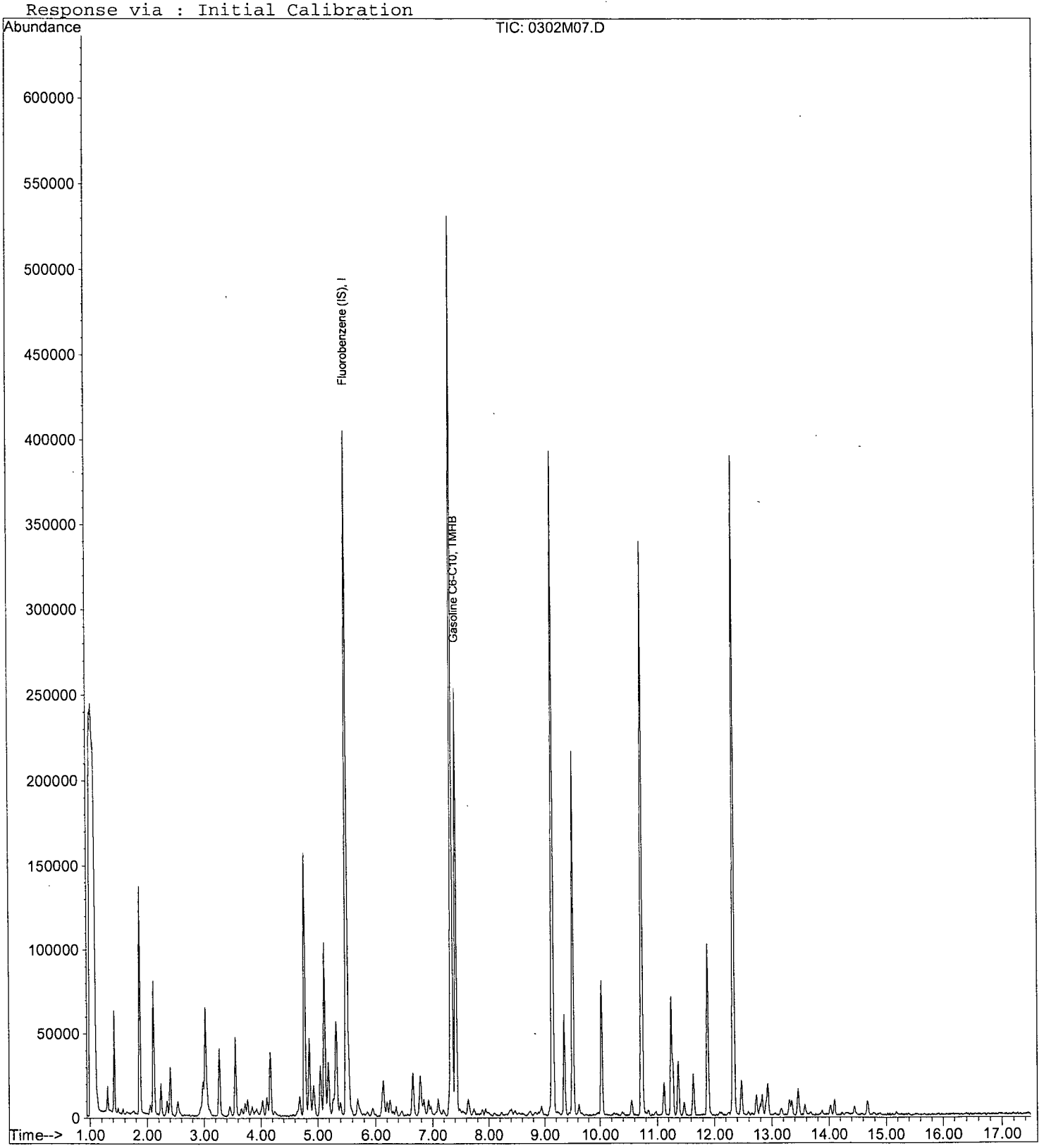
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M07.D
Acq On : 2 Mar 17 10:23
Sample : 100ppb GAS STD 03/02/17C
Misc : IS&S 02/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M08.D Vial: 8
Acq On : 2 Mar 17 10:51 Operator: PM,DG,SV,CMM
Sample : 300ppb GAS STD 03/02/17D Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	409104	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	12543182m	308.63644 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

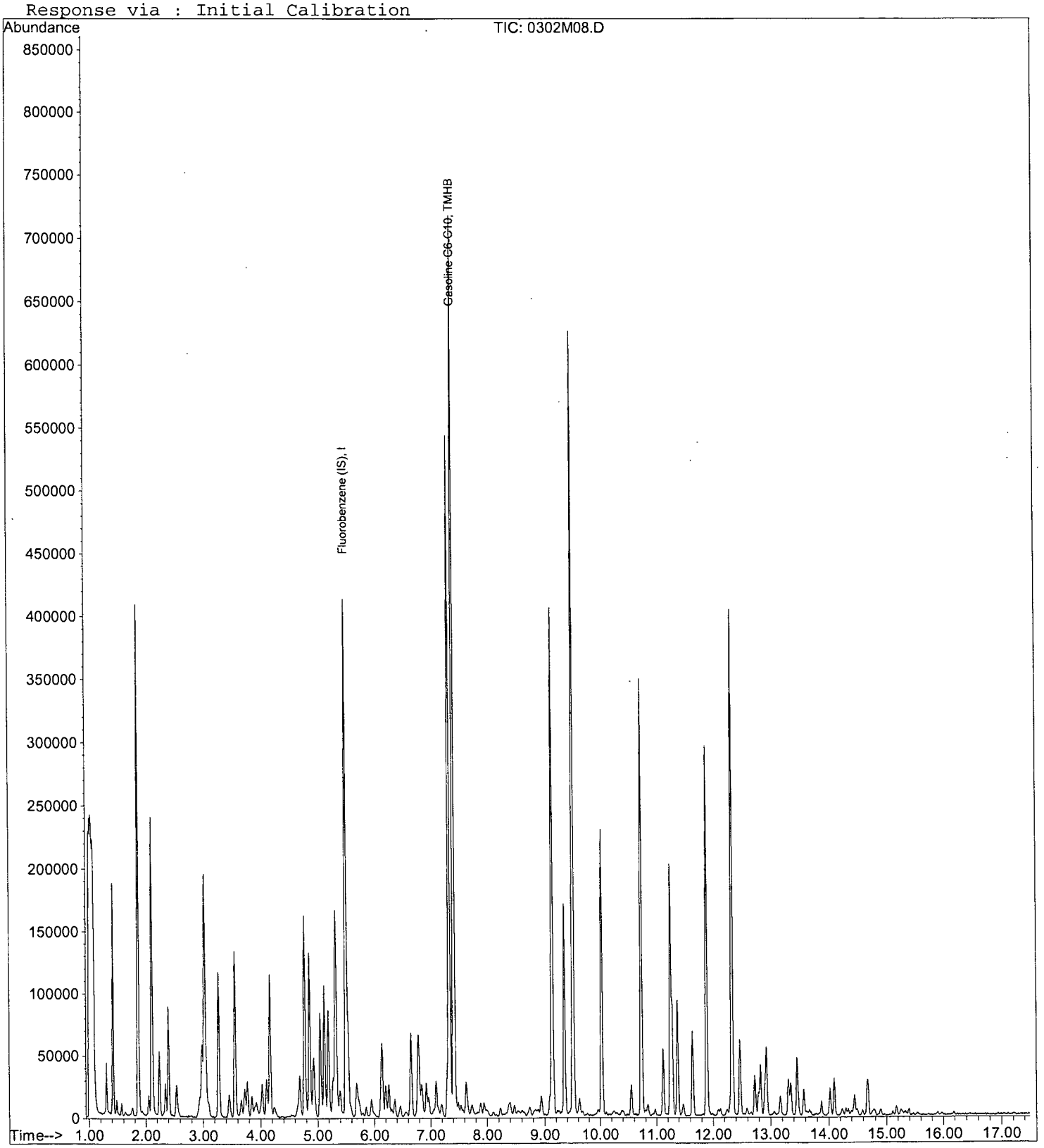
Data File : M:\MAX\DATA\M170301\0302M08.D
Acq On : 2 Mar 17 10:51
Sample : 300ppb GAS STD 03/02/17D
Misc : IS&S 02/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:47 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M09.D Vial: 9
Acq On : 2 Mar 17 11:19 Operator: PM,DG,SV,CMM
Sample : 600ppb GAS STD 03/02/17E Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	404057	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	21154854m	616.93696 ppb	100

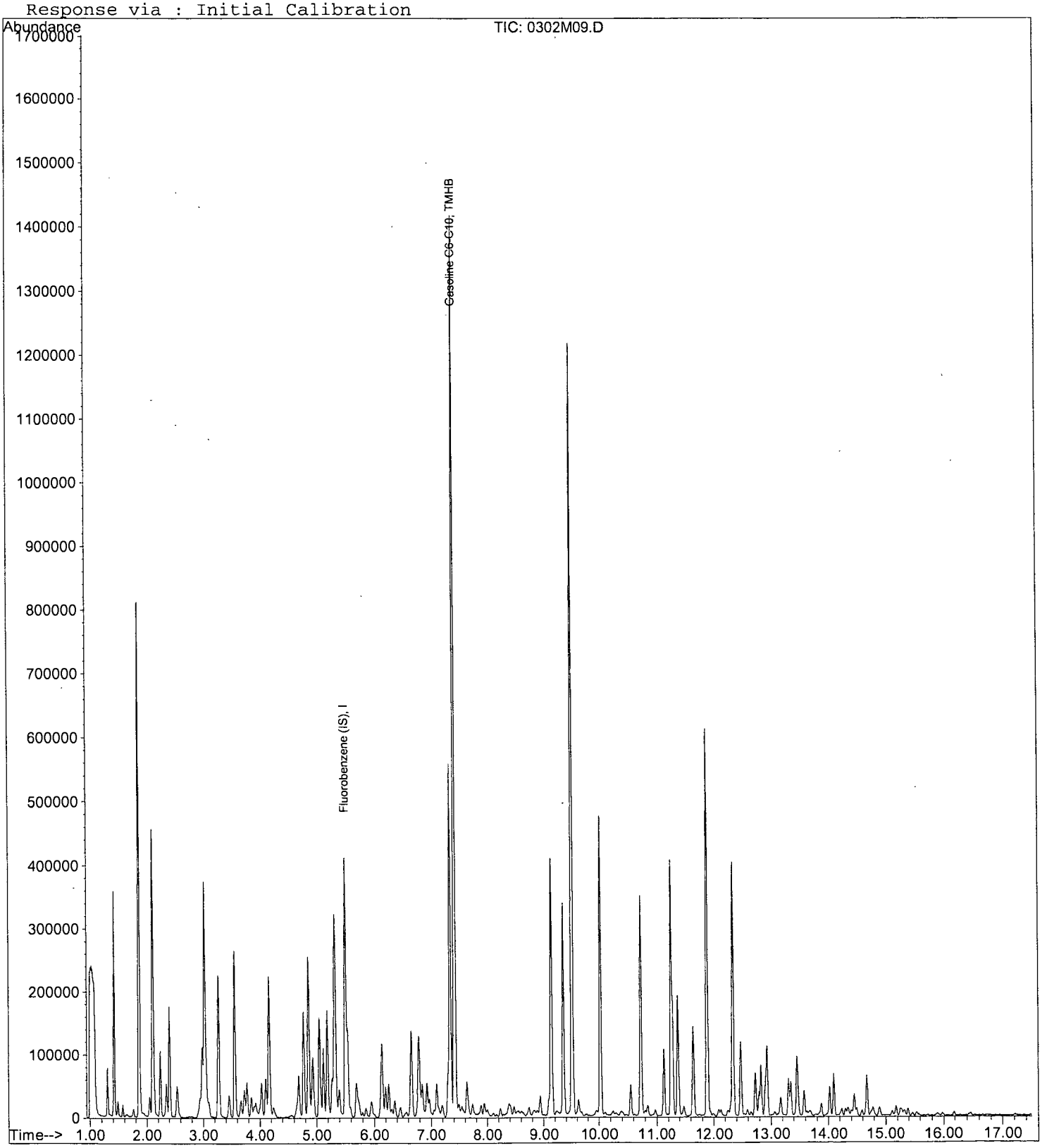
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M09.D Vial: 9
Acq On : 2 Mar 17 11:19 Operator: PM,DG,SV,CMM
Sample : 600ppb GAS STD 03/02/17E Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:47 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M10.D Vial: 10
Acq On : 2 Mar 17 11:47 Operator: PM,DG,SV,CMM
Sample : 800ppb GAS STD 03/02/17F Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 12:45:06 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	408222	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	27132940m	817.44082 ppb	100

(#) = qualifier out of range (m) = manual integration

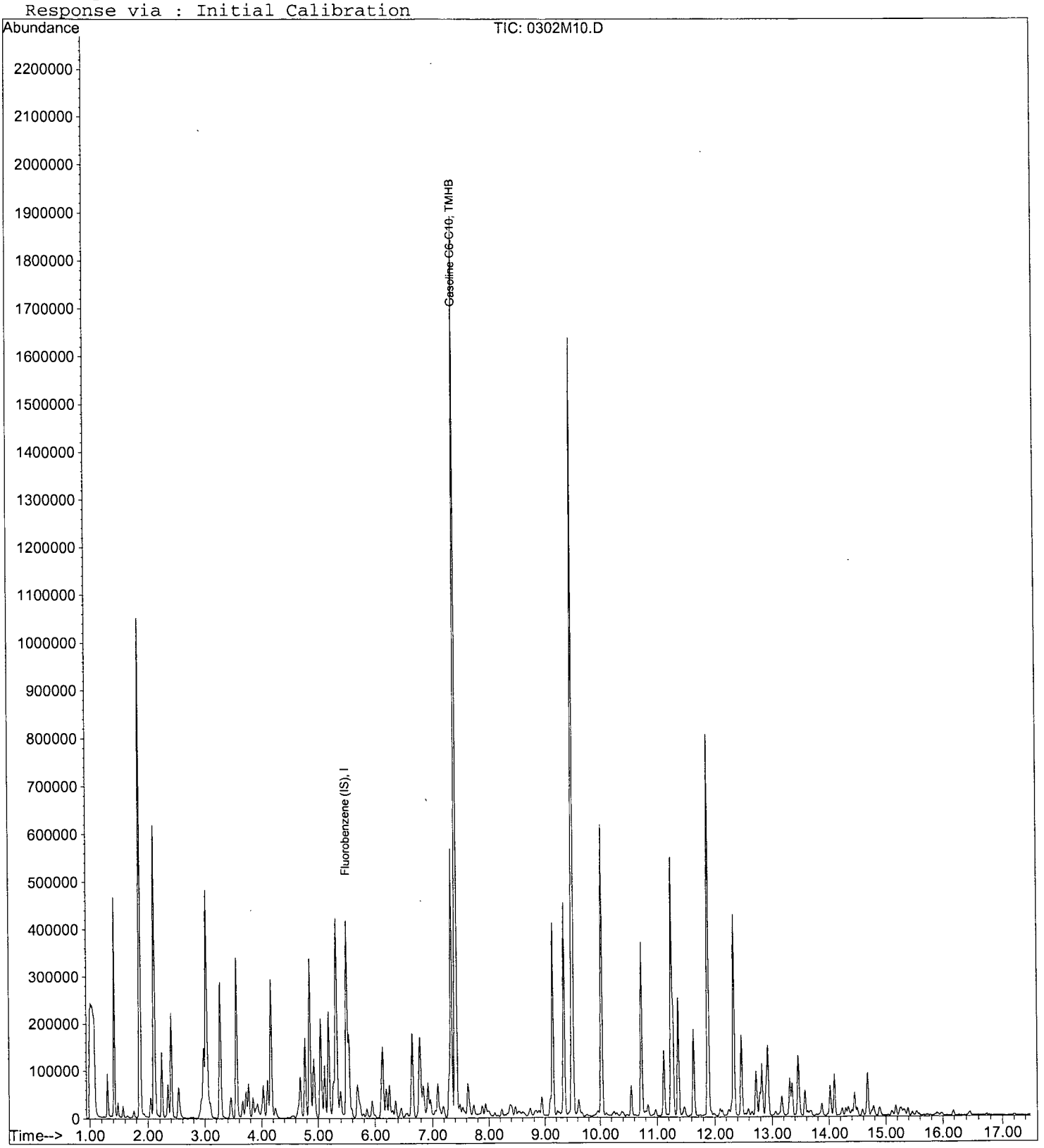
Quantitation Report

Data File : M:\MAX\DATA\M170301\0302M10.D
Acq On : 2 Mar 17 11:47
Sample : 800ppb GAS STD 03/02/17F
Misc : IS&S 02/23/17

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 12:51 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M11.D Vial: 11
Acq On : 2 Mar 17 12:16 Operator: PM,DG,SV,CMM
Sample : 1000ppb GAS STD 03/02/17A Inst : Max
Misc : IS&S 02/23/17 Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:02:53 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	410931	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	34475777m	1011.85717 ppb	100

(#) = qualifier out of range (m) = manual integration

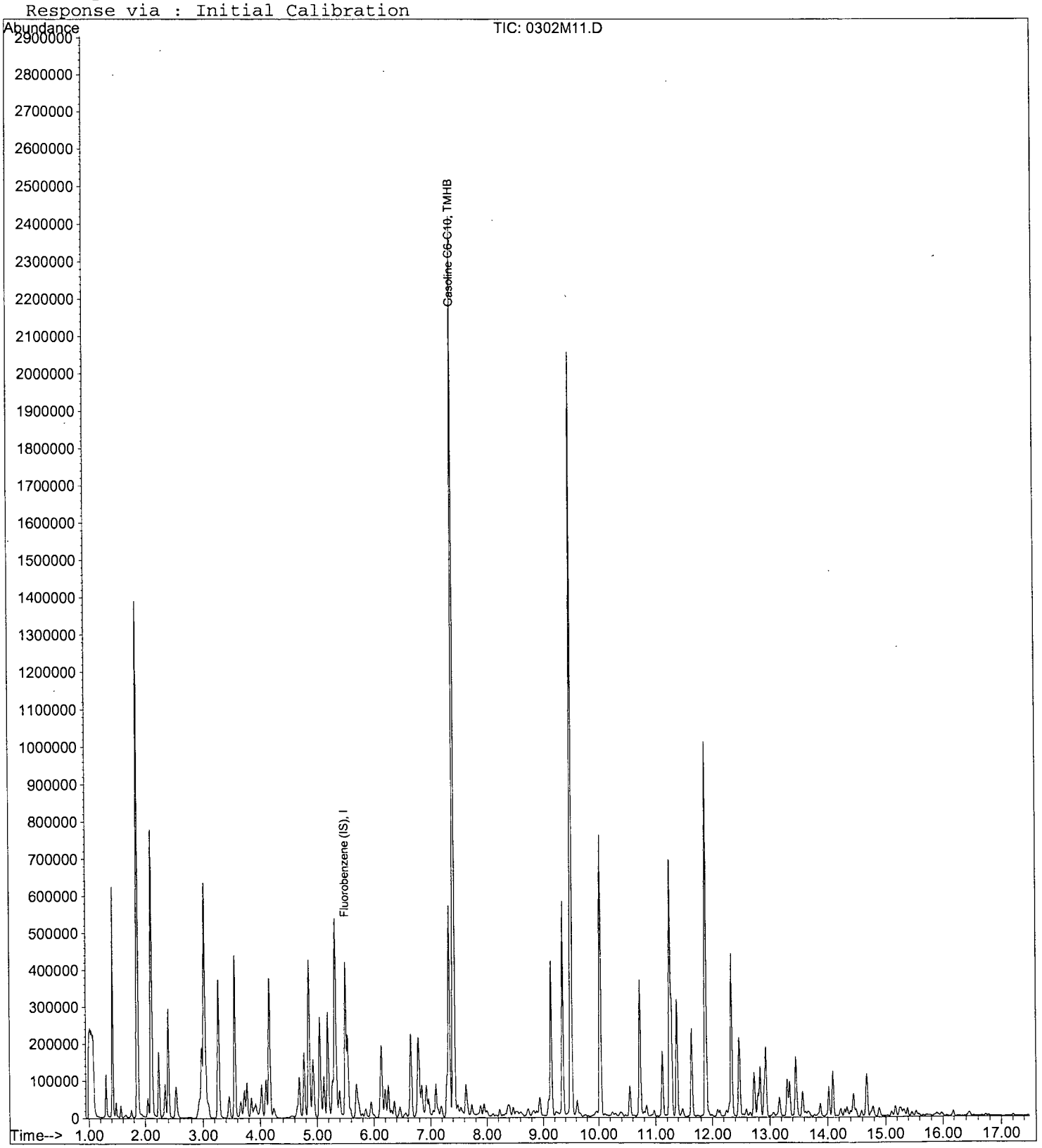
Quantitation Report

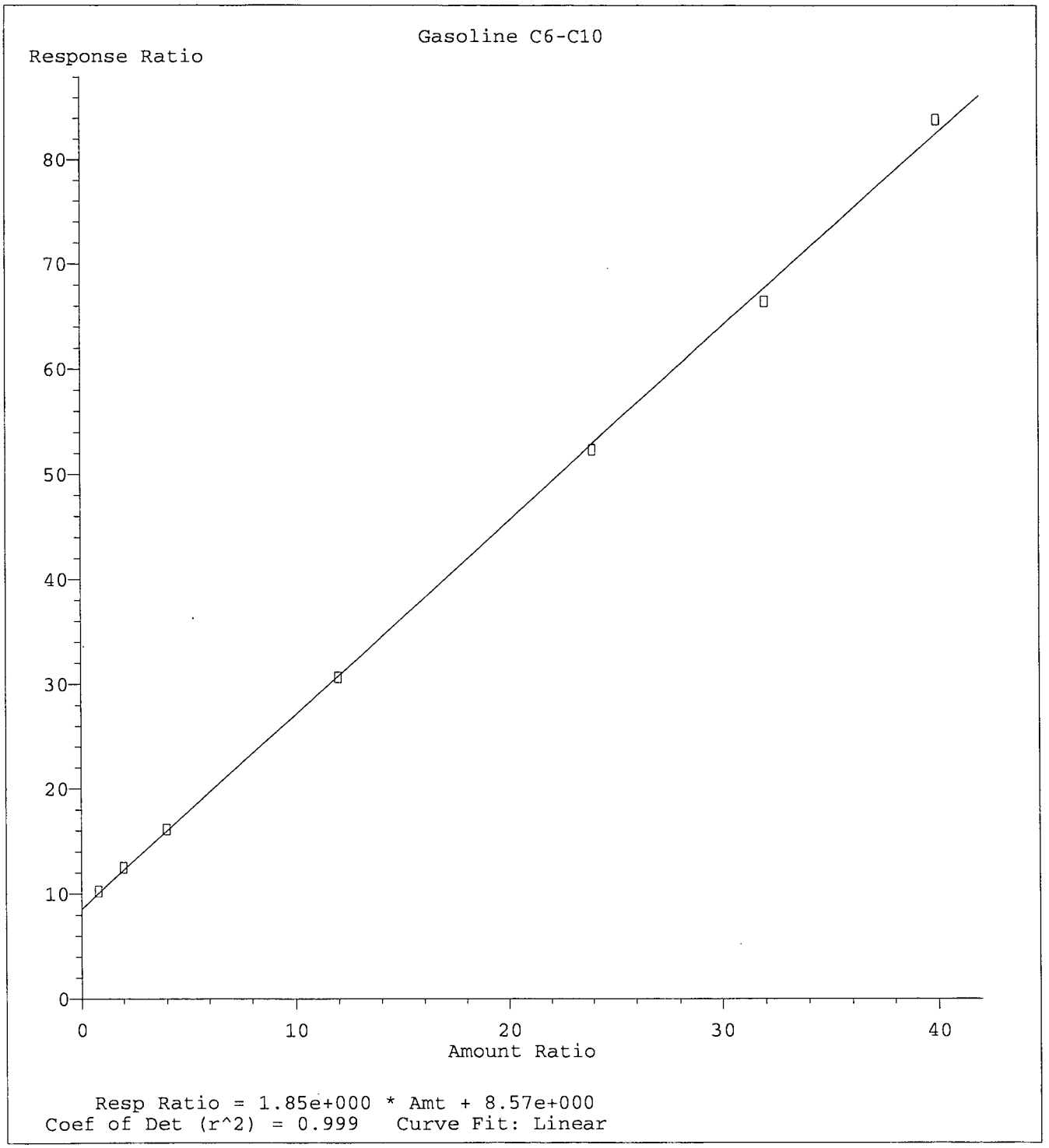
Data File : M:\MAX\DATA\M170301\0302M11.D
Acq On : 2 Mar 17 12:16
Sample : 1000ppb GAS STD 03/02/17A
Misc : IS&S 02/23/17

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration





Method Name: M:\MAX\DATA\M170301\MGAS6302.M
Calibration Table Last Updated: Thu Mar 02 13:05:07 2017

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 2 Mar 17 13:13
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0302M13.D

		Compound	MEAN	CCRF	%D		%Drift
1	TMHB	Gasoline C6-C10	4.569	2.628	42	TMHBL	3.5
2							
3							
4							
5							
6							
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36							
37							
38							
39							
40							
		Average			42.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.50	TIC	413827	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	13051542m	310.57639 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

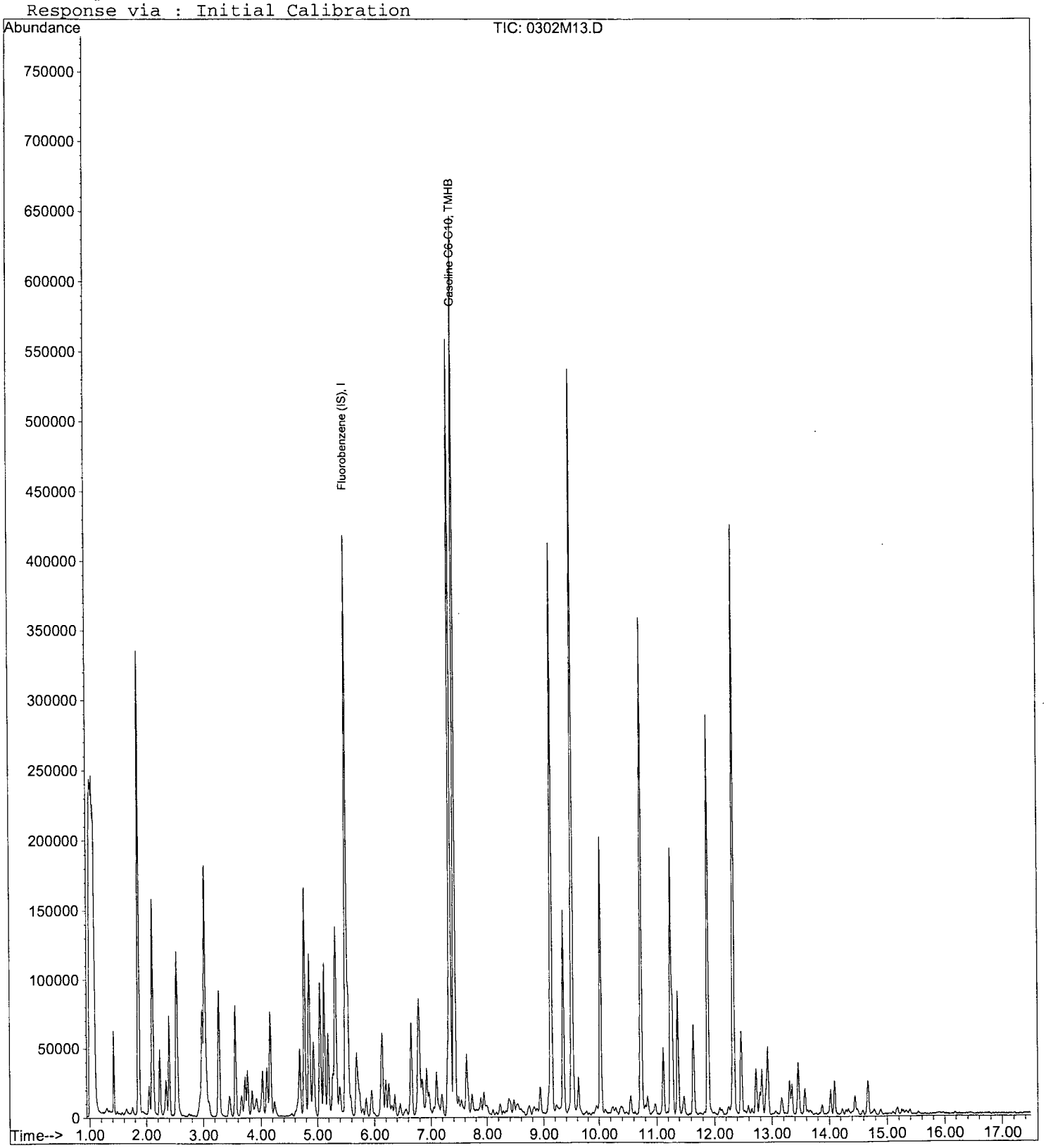
Data File : M:\MAX\DATA\M170301\0302M13.D
Acq On : 2 Mar 17 13:13
Sample : (SS) 300ppb GAS STD 03/02/17
Misc : IS&S 02/23/17

Vial: 13
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Mar 2 13:34 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170301\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Algorithm Check for Linear Regression

Data file:	0302M13.D
Analyte:	GasolineC6-C10

Area of target analyte:	13051542
Area of internal standard:	413827
concentration of internal standard:	25
multiplyer:	1
amt:	8.57
response ratio:	1.85

$$\frac{((\text{Area pk/area IS}) - \text{constant term}) * (\text{conc IS} * \text{multiplyer})}{\text{slope}} =$$

310.39

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 04/04/17
Instrument: Max

Initials:

		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD		
			0404M08.D	0404M09.D	0404M10.D	0404M11 D	0404M12.D	0404M13.D	0404M14.D	0404M15.D	0404M16.D					
1	I	Fluorobenzene (IS)														
2	S	Dibromofluoromethane(S)	0.2552	0.2592	0.2200	0.2206	0.2358	0.2435	0.2336	0.2327	0.2185		0.24	6.3	S	
3	S	1,2-DCA-D4(S)	0.2050	0.2034	0.1596	0.1777	0.1875	0.1870	0.1876	0.1802	0.1719		0.18	7.8	S	
4	I	Chlorobenzene-D5 (IS)														
5	S	Toluene-D8(S)	1.546	1.584	1.378	1.411	1.456	1.444	1.454	1.465	1.387		1.5	4.7	S	
6	S	4-Bromofluorobenzene(S)	0.4764	0.4458	0.4281	0.4148	0.4429	0.4424	0.4543	0.4864	0.4739		0.45	5.2	S	
7	I	1,4-Dichlorobenzene-D (IS)														
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Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M08.D Vial: 4
Acq On : 4 Apr 17 10:42 Operator: PM,DG,SV,CMM
Sample : 0.3ug/L VOC STD 04/04/17A Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	243231	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168097	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73402	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	12416	5.41982 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.680%	
3) 1,2-DCA-D4(S)	5.13	65	9974	5.55802 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.232%	
5) Toluene-D8(S)	7.35	98	51982	5.30138 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.204%	
6) 4-Bromofluorobenzene(S)	10.73	95	16017	5.27394 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.096%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

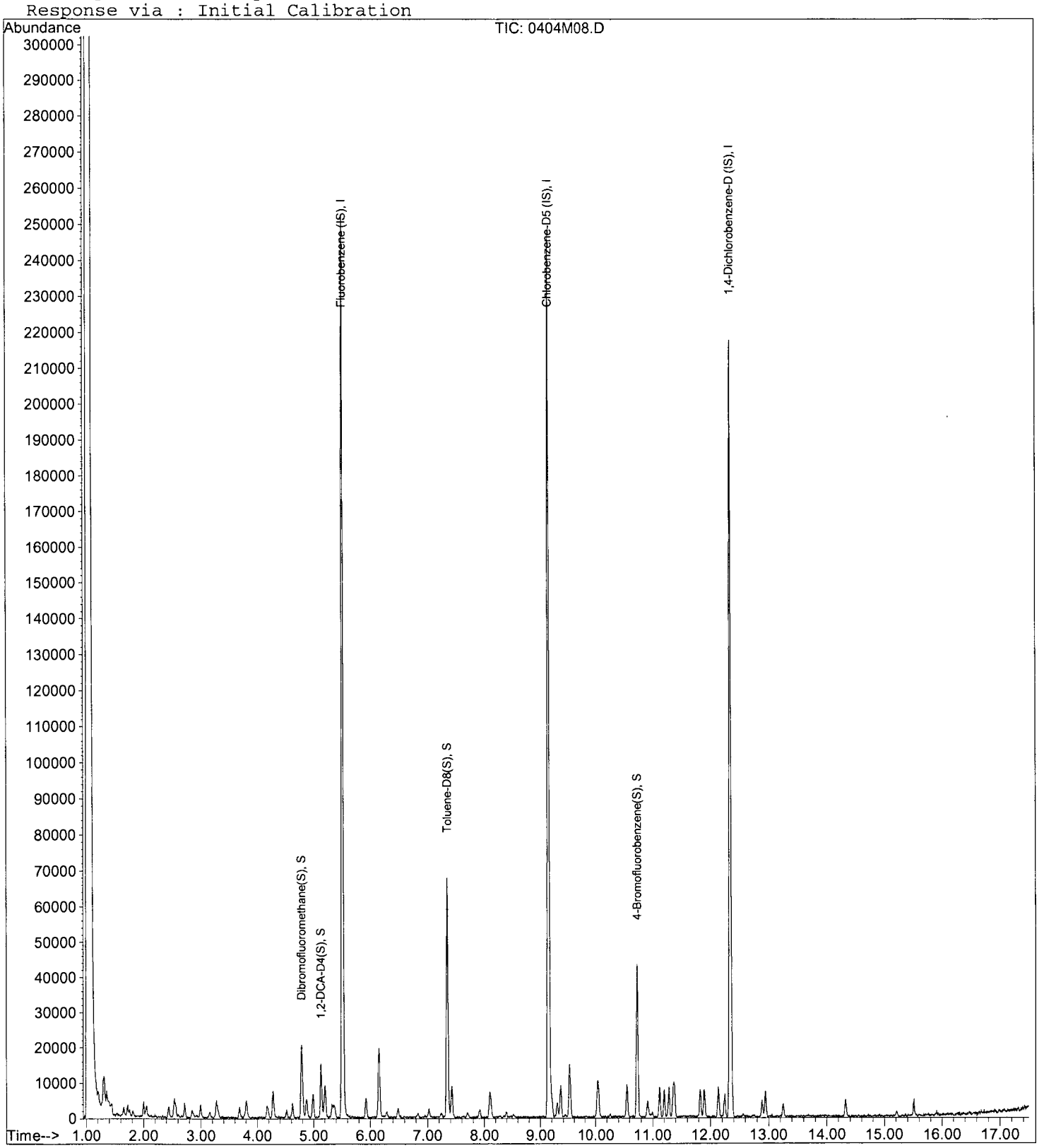
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M08.D
Acq On : 4 Apr 17 10:42
Sample : 0.3ug/L VOC STD 04/04/17A
Misc : 1uL-5ppb

Vial: 4
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M09.D Vial: 5
Acq On : 4 Apr 17 11:11 Operator: PM,DG,SV,CMM
Sample : 0.5ug/L VOC STD 04/04/17B Inst : Max
Misc : 1uL-5ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	251886	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	168056	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72097	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	13058	5.50421 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.016%	
3) 1,2-DCA-D4(S)	5.13	65	10249	5.51502 ppb	0.00
Spiked Amount 25.000			Recovery	= 22.060%	
5) Toluene-D8(S)	7.35	98	53226	5.42957 ppb	0.00
Spiked Amount 25.000			Recovery	= 21.720%	
6) 4-Bromofluorobenzene(S)	10.73	95	14984	4.93501 ppb	0.00
Spiked Amount 25.000			Recovery	= 19.740%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

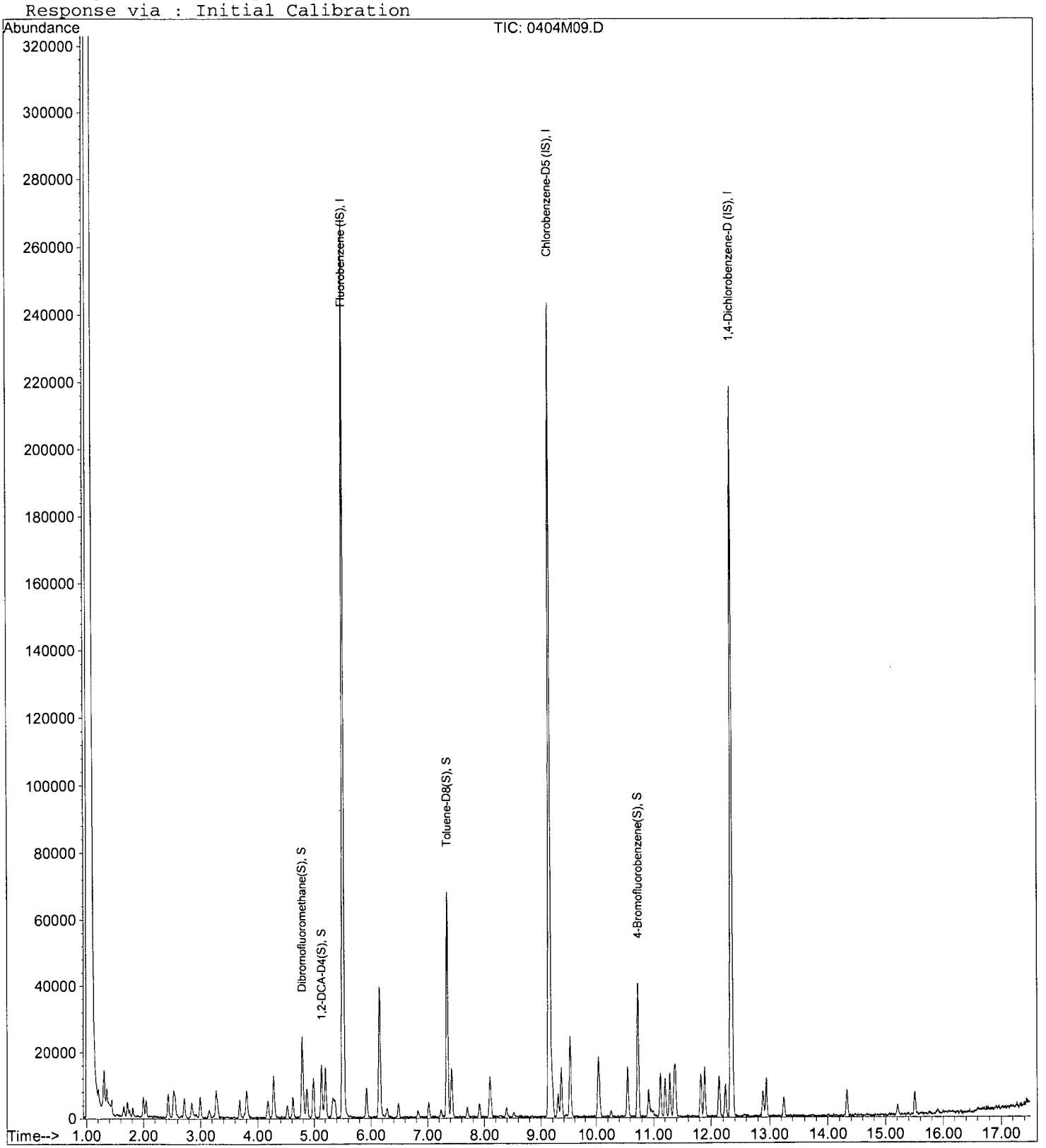
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M09.D
Acq On : 4 Apr 17 11:11
Sample : 0.5ug/L VOC STD 04/04/17B
Misc : 1uL-5ppb

Vial: 5
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M10.D Vial: 6
Acq On : 4 Apr 17 11:39 Operator: PM,DG,SV,CMM
Sample : 1.0ug/L VOC STD 04/04/17C Inst : Max
Misc : 2uL-10ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	257210	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171837	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73925	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	22637	9.34444 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.376%	
3) 1,2-DCA-D4(S)	5.13	65	16418	8.65171 ppb	0.00
Spiked Amount 25.000			Recovery	= 34.608%	
5) Toluene-D8(S)	7.34	98	94697	9.44746 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.788%	
6) 4-Bromofluorobenzene(S)	10.73	95	29428	9.47890 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.916%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

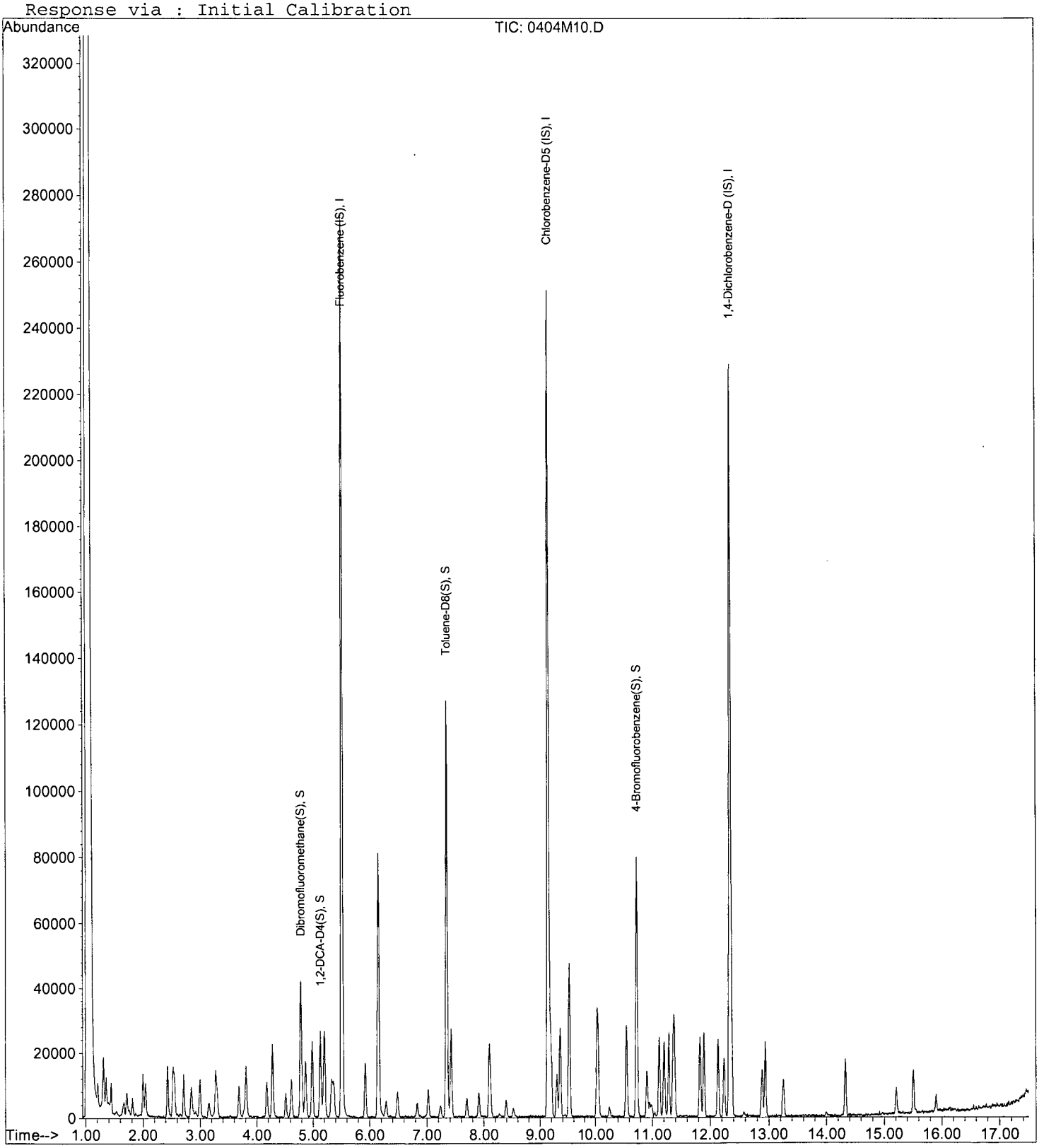
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M10.D
Acq On : 4 Apr 17 11:39
Sample : 1.0ug/L VOC STD 04/04/17C
Misc : 2uL-10ppb

Vial: 6
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M11.D Vial: 7
Acq On : 4 Apr 17 12:07 Operator: PM,DG,SV,CMM
Sample : 2.0ug/L VOC STD 04/04/17D Inst : Max
Misc : 2uL-10ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	260709	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	179676	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	77354	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	23010	9.37093 ppb	0.00
Spiked Amount 25.000			Recovery	= 37.484%	
3) 1,2-DCA-D4(S)	5.13	65	18536	9.63672 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.548%	
5) Toluene-D8(S)	7.34	98	101431	9.67779 ppb	0.00
Spiked Amount 25.000			Recovery	= 38.712%	
6) 4-Bromofluorobenzene(S)	10.73	95	29811	9.18334 ppb	0.00
Spiked Amount 25.000			Recovery	= 36.732%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

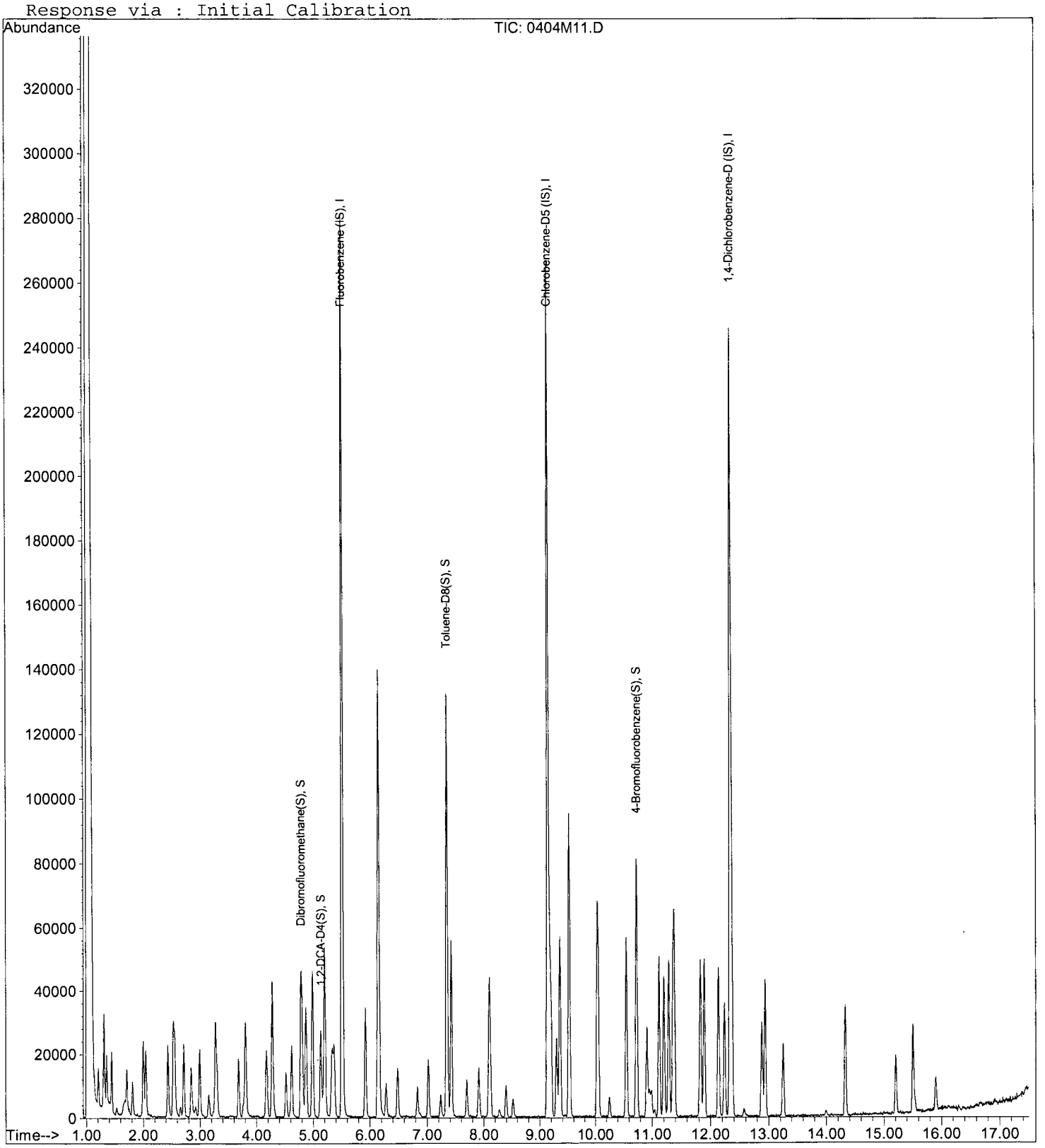
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M11.D
Acq On : 4 Apr 17 12:07
Sample : 2.0ug/L VOC STD 04/04/17D
Misc : 2uL-10ppb

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M12.D Vial: 8
Acq On : 4 Apr 17 12:36 Operator: PM,DG,SV,CMM
Sample : 5.0ug/L VOC STD 04/04/17E Inst : Max
Misc : 5uL-25ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261480	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	176885	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	80684	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61668	25.04054 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.164%	
3) 1,2-DCA-D4(S)	5.13	65	49026	25.41309 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.652%	
5) Toluene-D8(S)	7.34	98	257489	24.95532 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.820%	
6) 4-Bromofluorobenzene(S)	10.73	95	78335	24.51201 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.048%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

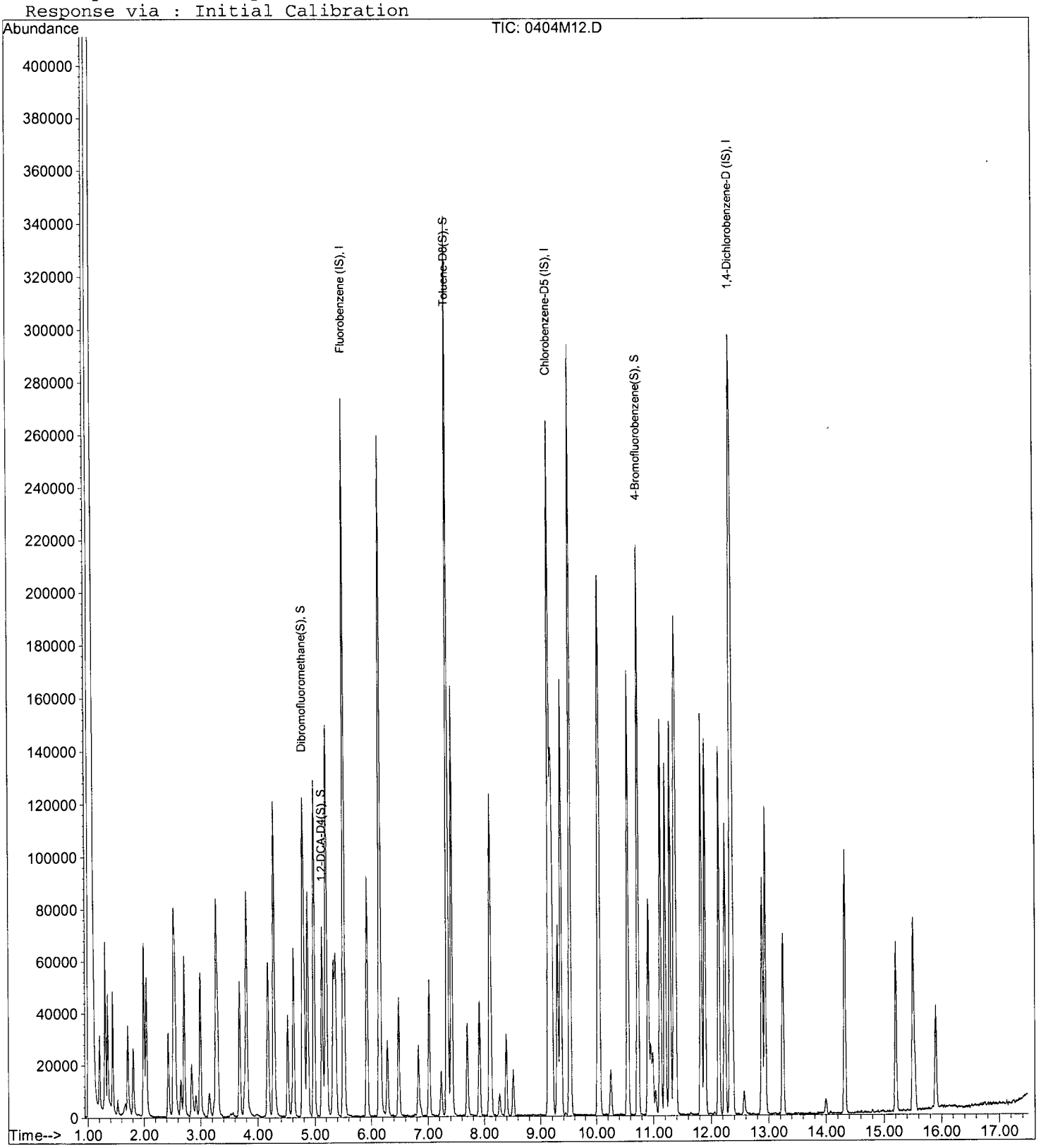
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M12.D
Acq On : 4 Apr 17 12:36
Sample : 5.0ug/L VOC STD 04/04/17E
Misc : 5uL-25ppb

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	266913	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	185947	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	87359	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	64981	25.84872 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.396%	
3) 1,2-DCA-D4(S)	5.13	65	49923	25.35131 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.404%	
5) Toluene-D8(S)	7.34	98	268568	24.76057 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.044%	
6) 4-Bromofluorobenzene(S)	10.73	95	82270	24.48874 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.956%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

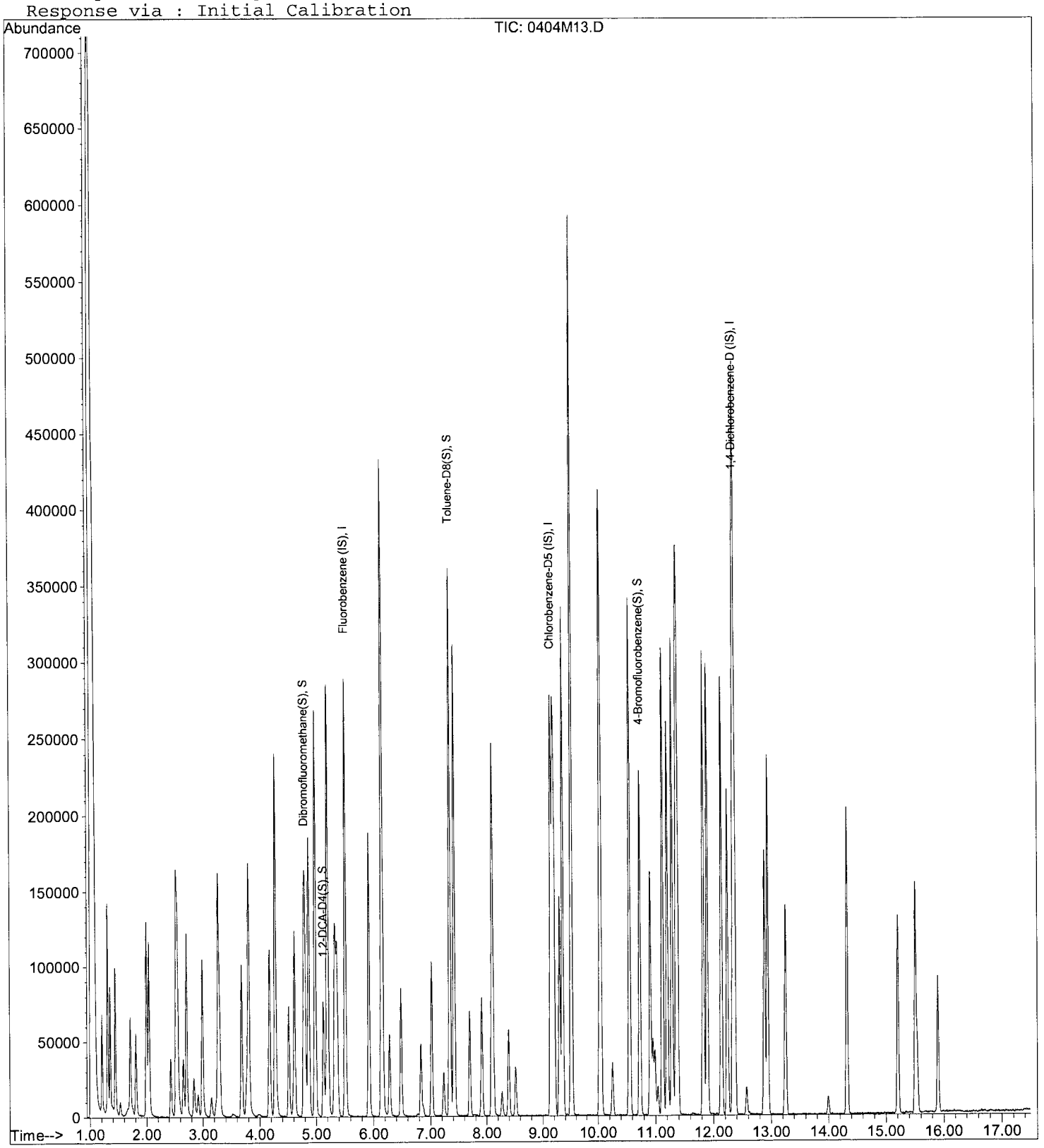
Data File : M:\MAX\DATA\M170404\0404M13.D
Acq On : 4 Apr 17 13:04
Sample : 10ug/L VOC STD 04/04/17F
Misc : 5uL-25ppb

Vial: 9
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M14.D Vial: 10
Acq On : 4 Apr 17 13:33 Operator: PM,DG,SV,CMM
Sample : 20ug/L VOC STD 04/04/17G Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	278546	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	191834	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	99100	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	130136	49.60470 ppb	0.00
Spiked Amount 25.000			Recovery	= 198.420%	
3) 1,2-DCA-D4(S)	5.13	65	104487	50.84342 ppb	0.00
Spiked Amount 25.000			Recovery	= 203.372%	
5) Toluene-D8(S)	7.34	98	557694	49.83861 ppb	0.00
Spiked Amount 25.000			Recovery	= 199.356%	
6) 4-Bromofluorobenzene(S)	10.73	95	174299	50.29020 ppb	0.00
Spiked Amount 25.000			Recovery	= 201.160%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

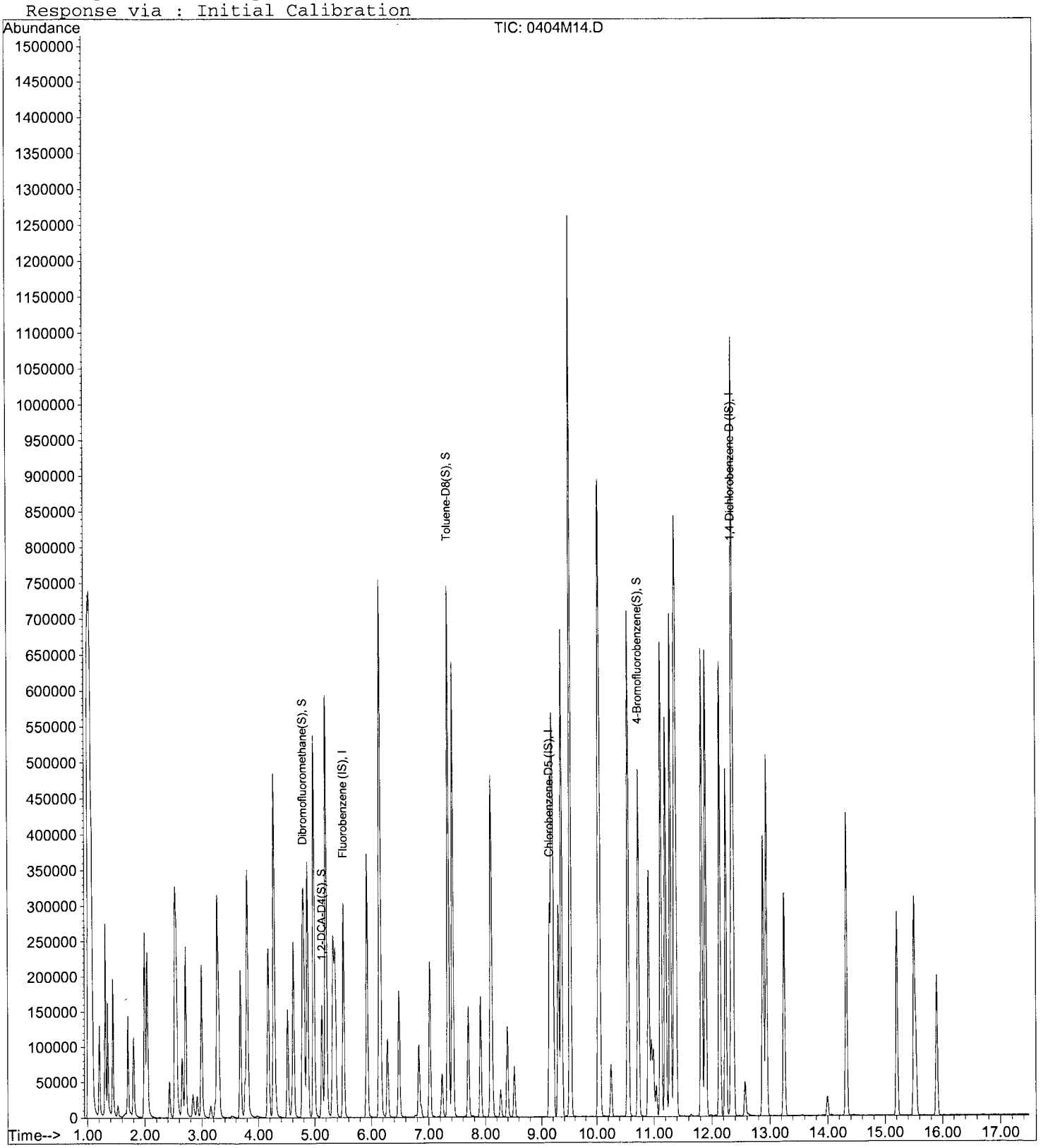
Data File : M:\MAX\DATA\M170404\0404M14.D
Acq On : 4 Apr 17 13:33
Sample : 20ug/L VOC STD 04/04/17G
Misc : 10uL-50ppb

Vial: 10
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017

Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M15.D Vial: 11
Acq On : 4 Apr 17 14:01 Operator: PM,DG,SV,CMM
Sample : 40ug/L VOC STD 04/04/17H Inst : Max
Misc : 10uL-50ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	289921	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	202666	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	118714	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	134910	49.40681 ppb	0.00
Spiked Amount 25.000			Recovery	= 197.628%	
3) 1,2-DCA-D4(S)	5.13	65	104494	48.85186 ppb	0.00
Spiked Amount 25.000			Recovery	= 195.408%	
5) Toluene-D8(S)	7.34	98	593973	50.24367 ppb	0.00
Spiked Amount 25.000			Recovery	= 200.976%	
6) 4-Bromofluorobenzene(S)	10.73	95	197153	53.84390 ppb	0.00
Spiked Amount 25.000			Recovery	= 215.376%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

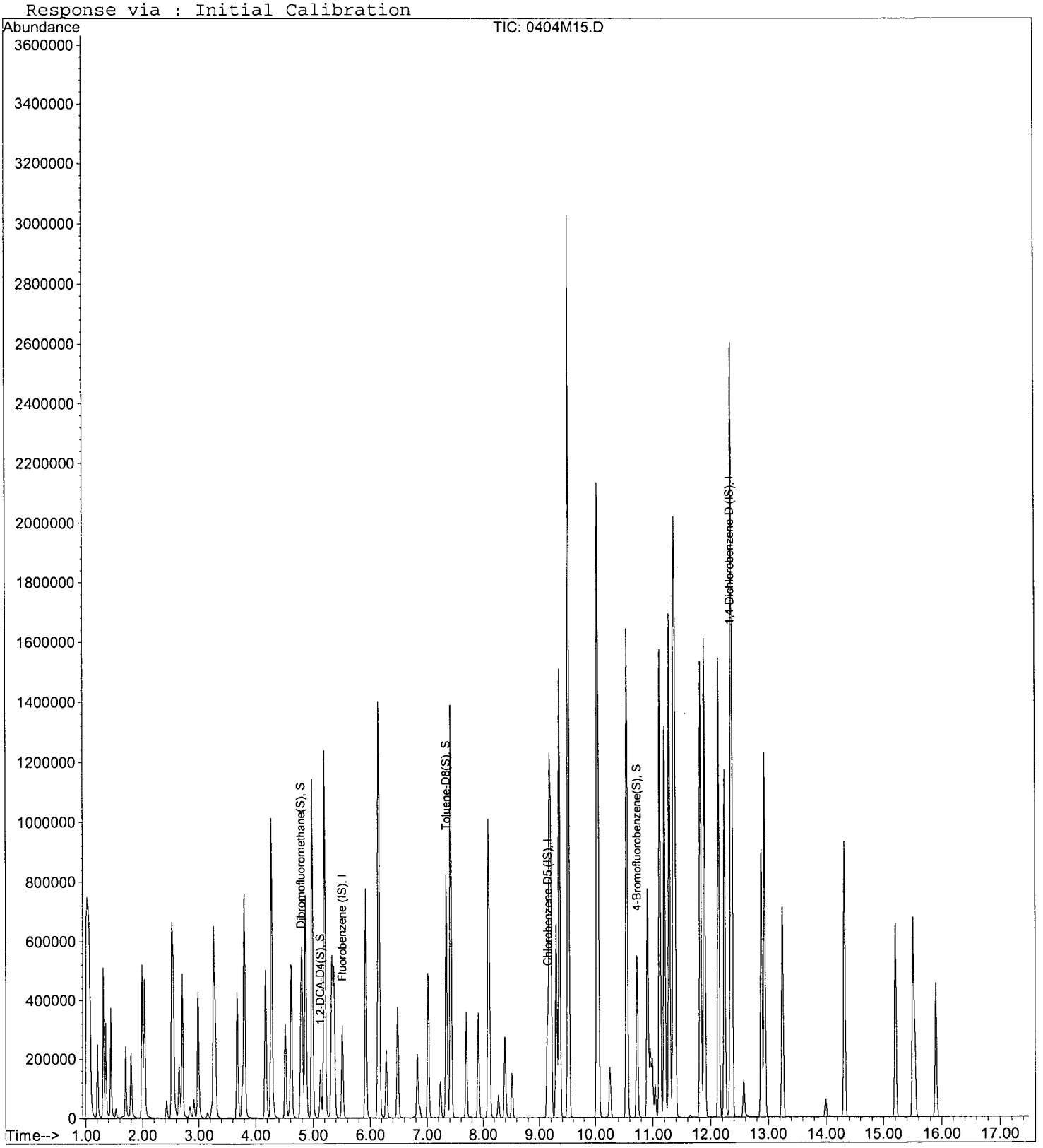
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M15.D
Acq On : 4 Apr 17 14:01
Sample : 40ug/L VOC STD 04/04/17H
Misc : 10uL-50ppb

Vial: 11
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017
Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0404M16.D Vial: 12
Acq On : 4 Apr 17 14:29 Operator: PM,DG,SV,CMM
Sample : 100ug/L VOC STD 04/04/17I Inst : Max
Misc : 20uL-100ppb Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	326975	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	237303	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	138660	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	285741	92.78555 ppb	0.00
Spiked Amount 25.000			Recovery	= 371.144%	
3) 1,2-DCA-D4(S)	5.13	65	224850	93.20684 ppb	0.00
Spiked Amount 25.000			Recovery	= 372.828%	
5) Toluene-D8(S)	7.34	98	1316408	95.10050 ppb	0.00
Spiked Amount 25.000			Recovery	= 380.404%	
6) 4-Bromofluorobenzene(S)	10.73	95	449861	104.92746 ppb	0.00
Spiked Amount 25.000			Recovery	= 419.708%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

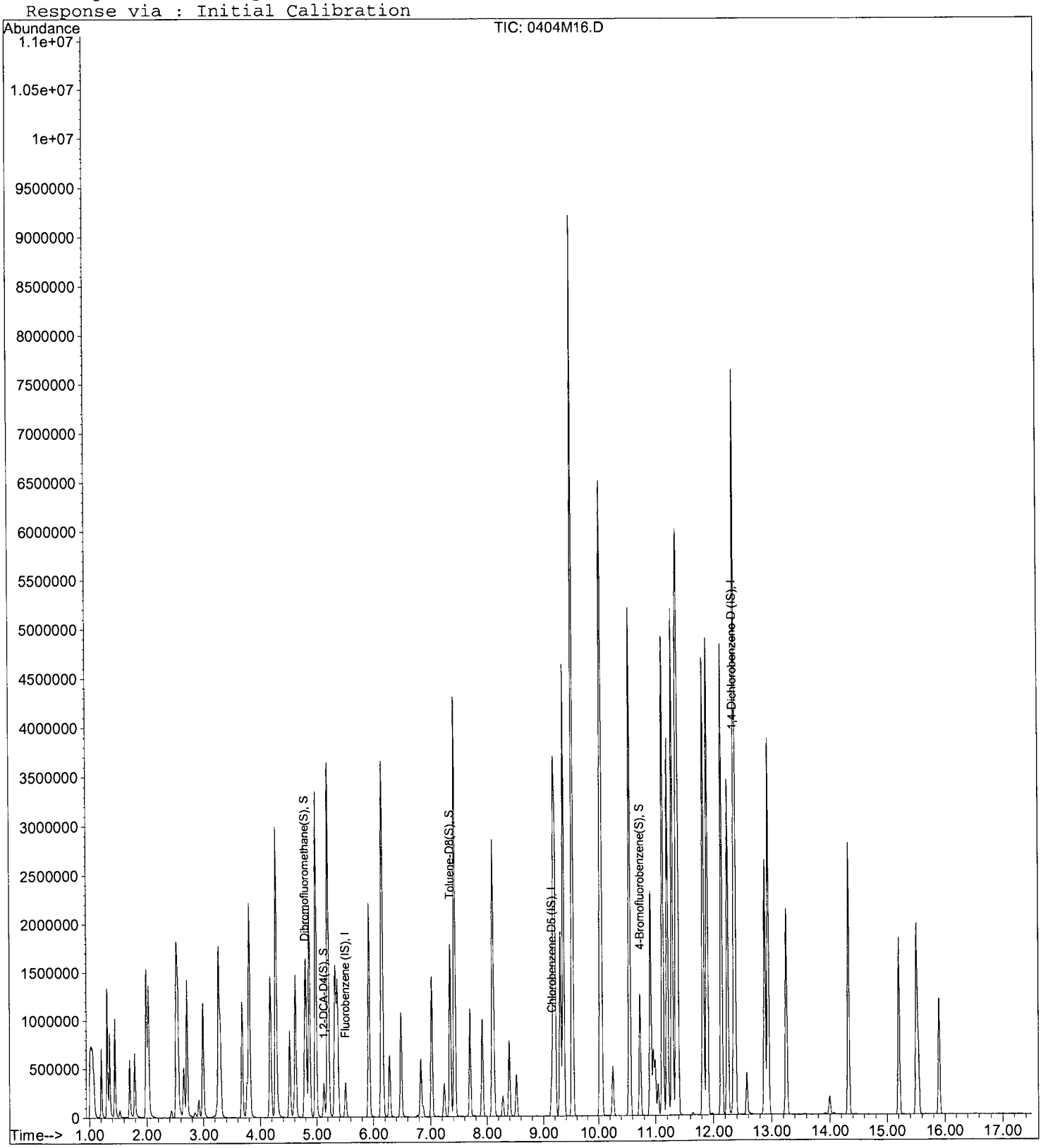
Quantitation Report

Data File : M:\MAX\DATA\M170404\0404M16.D
Acq On : 4 Apr 17 14:29
Sample : 100ug/L VOC STD 04/04/17I
Misc : 20uL-100ppb

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 11 14:46 2017 Quant Results File: MSUR404.RES

Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 10:58
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M07.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.494	45	TMHBL	3.8
3							
4							
5							
6							
7							
8							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			45.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	280473	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8392793m	288.74187 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

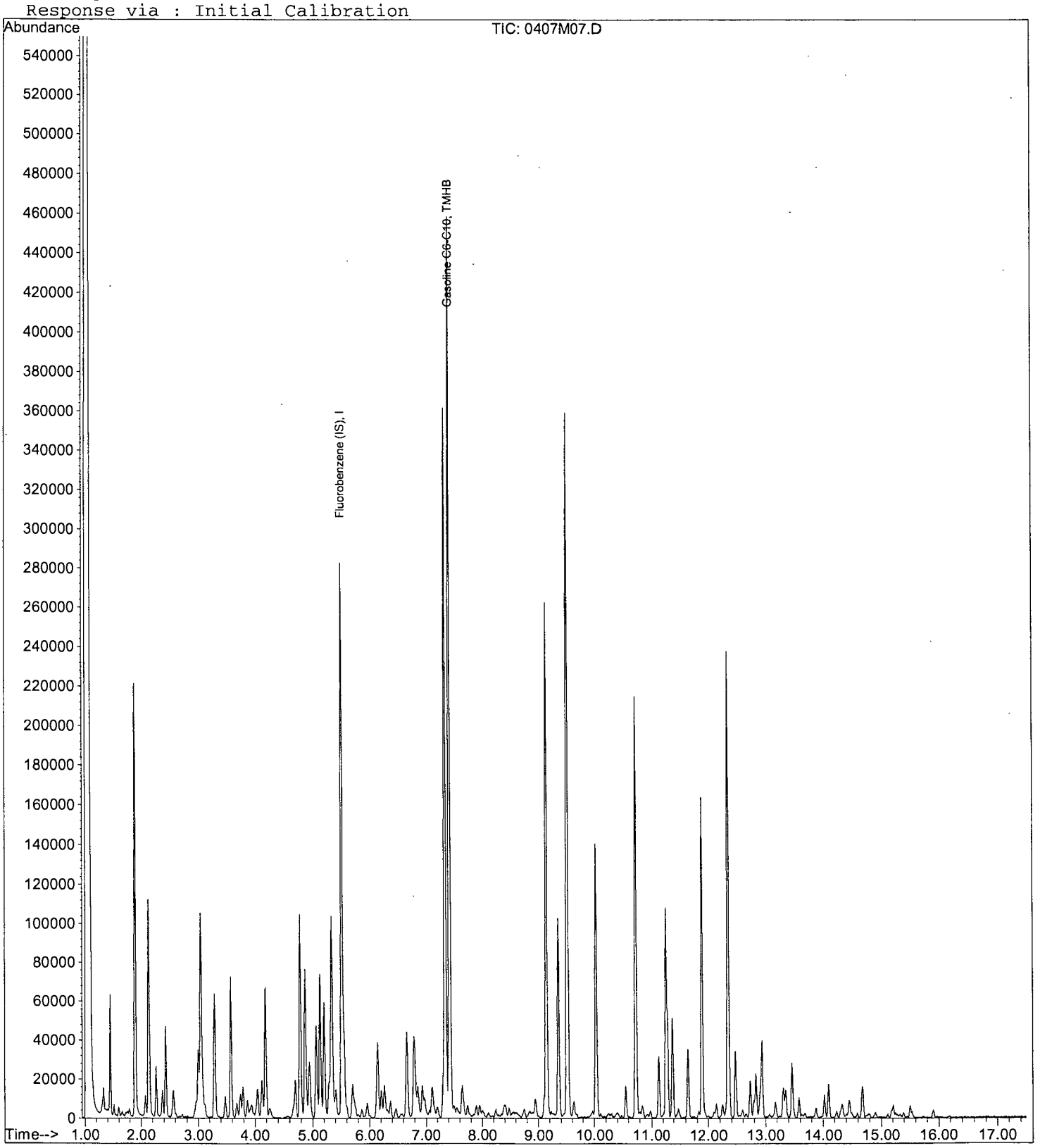
Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 10:58
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M07.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2382	1.2	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1871	1.4	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.518	4.1	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4374	3.2	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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19							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			2.5		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M07.D
Acq On : 7 Apr 17 10:58
Sample : 170407A CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 7
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	261831	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	176286	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	76145	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	62379	25.29529 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.180%	
3) 1,2-DCA-D4(S)	5.13	65	48986	25.35831 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.432%	
5) Toluene-D8(S)	7.35	98	267522	26.01580 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.064%	
6) 4-Bromofluorobenzene(S)	10.73	95	77107	24.20973 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.840%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 22:19
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0407M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.153	53	TMHBL	22
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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28							
29							
30							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			53.0		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M31.D Vial: 31
Acq On : 7 Apr 17 22:19 Operator: PM,DG,SV,CMM
Sample : Ending CCV GAS 300ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:26 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	267741	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	6916407m	233.42645 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

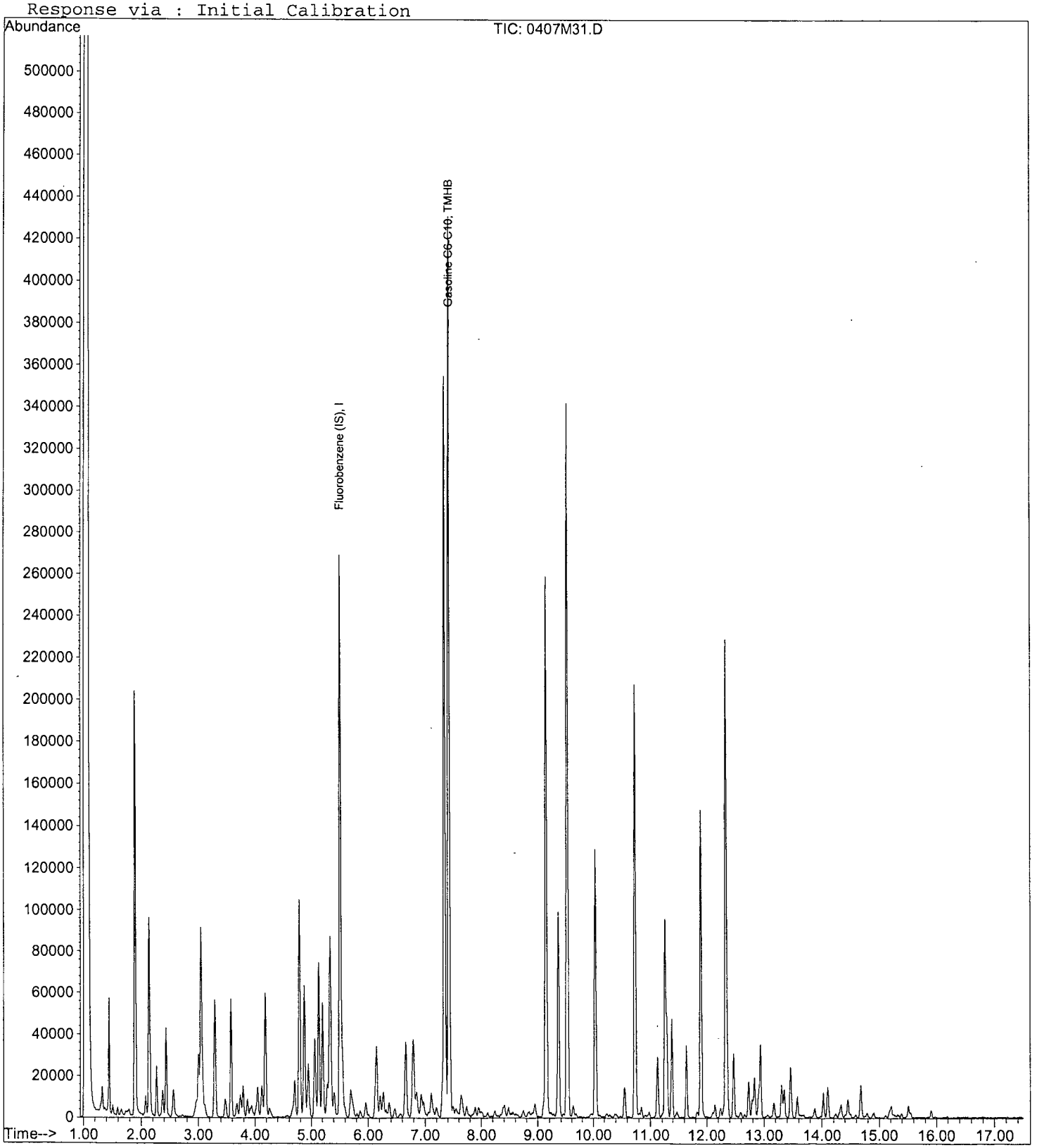
Data File : M:\MAX\DATA\M170404\0407M31.D
Acq On : 7 Apr 17 22:19
Sample : Ending CCV GAS 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:26 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 7 Apr 17 22:19
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M31.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2431	3.2	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1951	5.8	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.526	4.6	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4469	1.0	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
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32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			3.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M31.D
Acq On : 7 Apr 17 22:19
Sample : Ending CCV GAS 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 31
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017

Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248241	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	166645	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	74137	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	60341	25.80841 ppb	0.00
Spiked Amount 25.000			Recovery	= 103.232%	
3) 1,2-DCA-D4(S)	5.13	65	48425	26.44025 ppb	0.00
Spiked Amount 25.000			Recovery	= 105.760%	
5) Toluene-D8(S)	7.35	98	254246	26.15516 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.620%	
6) 4-Bromofluorobenzene(S)	10.73	95	74481	24.73815 ppb	0.00
Spiked Amount 25.000			Recovery	= 98.952%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 2:06
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M39.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.271	50	TMHBL	16
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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15							
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31							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			50.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M39.D Vial: 39
Acq On : 8 Apr 17 2:06 Operator: PM,DG,SV,CMM
Sample : 170407B CCV 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:03 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	292420	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	7970205m	252.67361 ppb	100

(#) = qualifier out of range (m) = manual integration

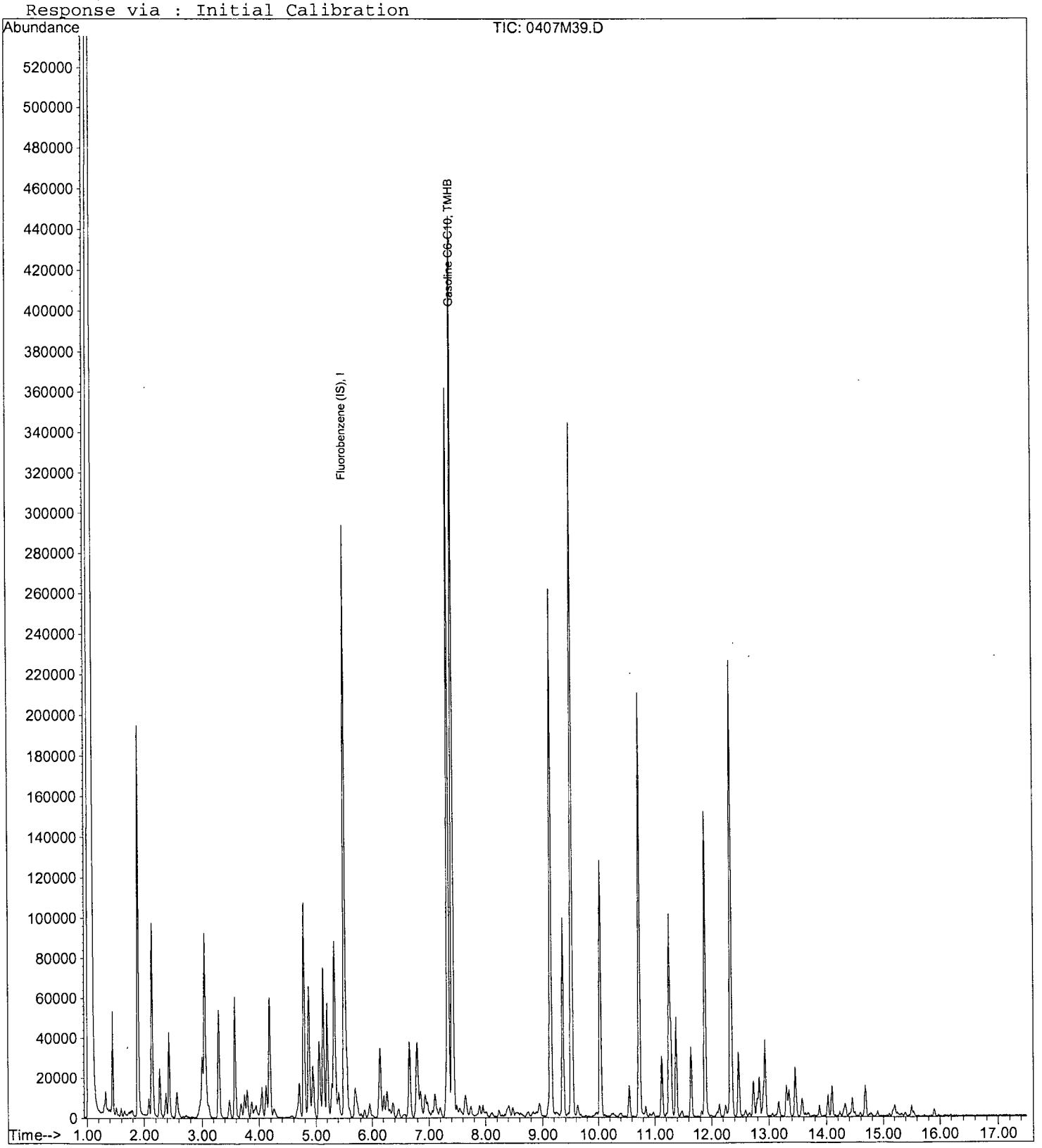
Quantitation Report

Data File : M:\MAX\DATA\M170404\0407M39.D
Acq On : 8 Apr 17 2:06
Sample : 170407B CCV 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 39
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:03 2017 Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 2:06
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M39.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2348	0.27	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1857	0.66	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.558	6.8	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4344	3.8	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
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34							
35							
36							
37							
38							
39							
40							
		Average			2.9		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M39.D Vial: 39
Acq On : 8 Apr 17 2:06 Operator: PM,DG,SV,CMM
Sample : 170407B CCV 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	266835	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	172894	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	73220	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.79	111	62660	24.93273 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.732%	
3) 1,2-DCA-D4(S)	5.13	65	49540	25.16417 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.656%	
5) Toluene-D8(S)	7.35	98	269315	26.70399 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.816%	
6) 4-Bromofluorobenzene(S)	10.73	95	75109	24.04507 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.180%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 12:28
Instrument: Max
Initial Cal. Date: 03/02/17
Data File: 0407M61.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TMHB	Gasoline C6-C10	4.569	2.182	52	TMHBL	21
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			52.0		

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M61.D Vial: 61
Acq On : 8 Apr 17 12:28 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:05 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	289754	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.42	TIC	7587551m	238.20900 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

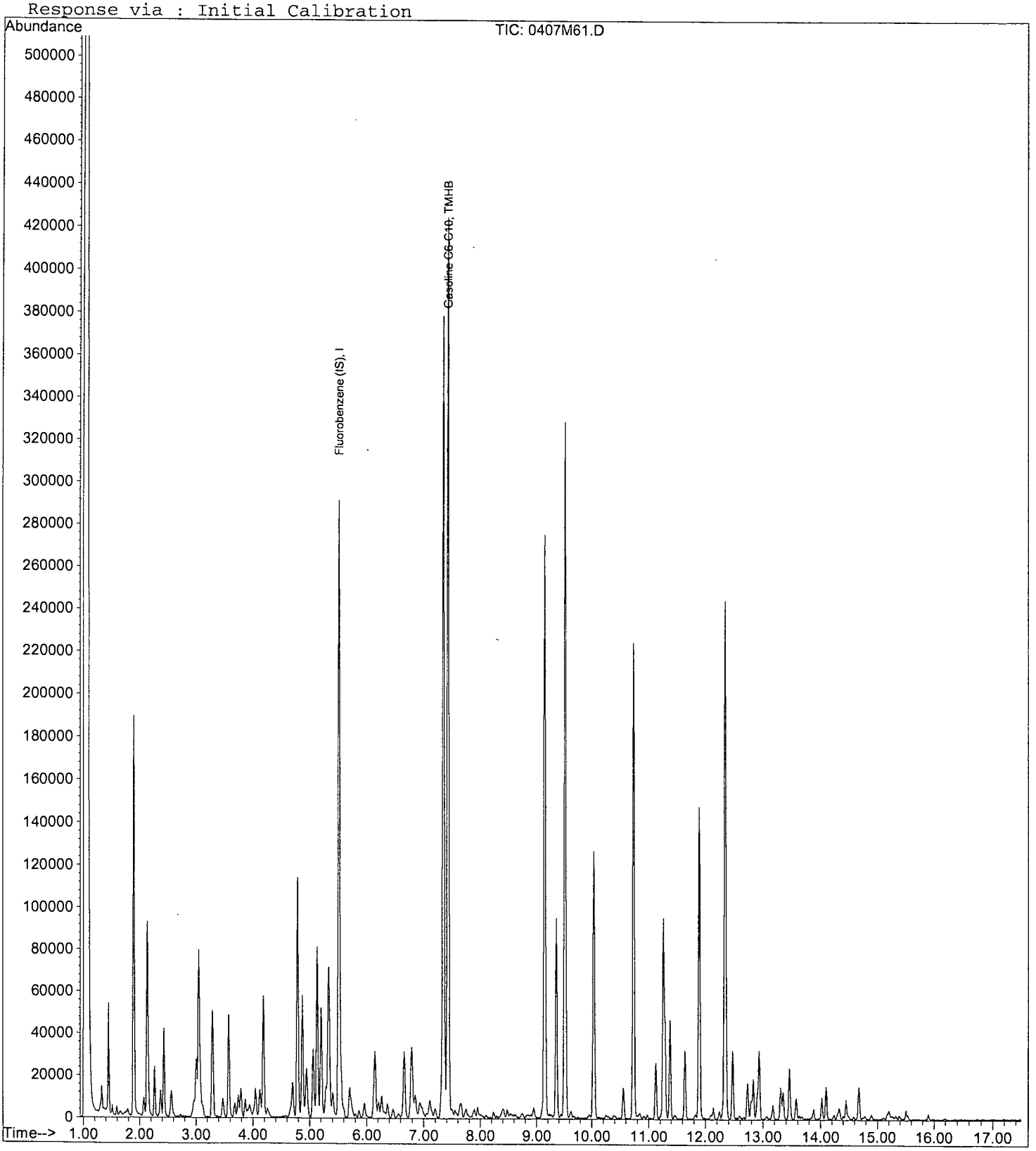
Data File : M:\MAX\DATA\M170404\0407M61.D
Acq On : 8 Apr 17 12:28
Sample : Ending CCV 8260 300ug/L 4/7/17
Misc : 10ml IS&S: 2/23/17

Vial: 61
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:05 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Ending Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 12:28
Instrument: Max
Initial Cal. Date: 04/04/17
Data File: 0407M61.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	S	Dibromofluoromethane(S)	0.2355	0.2467	4.8	S	
3	S	1,2-DCA-D4(S)	0.1844	0.1965	6.6	S	
4	I	Chlorobenzene-D5 (IS)	ISTD			I	
5	S	Toluene-D8(S)	1.458	1.524	4.5	S	
6	S	4-Bromofluorobenzene(S)	0.4517	0.4389	2.8	S	
7	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			4.7		

Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M61.D Vial: 61
Acq On : 8 Apr 17 12:28 Operator: PM,DG,SV,CMM
Sample : Ending CCV 8260 300ug/L 4/7/17 Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	267547	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	181338	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	78711	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	66007	26.19463 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.780%	
3) 1,2-DCA-D4(S)	5.13	65	52581	26.63779 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.552%	
5) Toluene-D8(S)	7.35	98	276349	26.12550 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.500%	
6) 4-Bromofluorobenzene(S)	10.73	95	79593	24.29406 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.176%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

ORGANICS

Raw Data

APPL, INC.

Method Blank
EPA 8260B GRO WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170407W-53168 - 217654**
Batch ID: #GRO86-170407AM

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	GASOLINE RANGE ORGANICS	18.0 U	20	18.0	8.6	ug/L	04/07/17	04/07/17
BLANK	SURROGATE: 4-BROMOFLUOR	93.9	85-114			%	04/07/17	04/07/17

Quant Method: MGAS6302.
Run #: 0407M12
Instrument: Max
Sequence: M170404
Initials: SV

GC SC-Blank-REG MDLs-DOD
Printed: 04/27/17 1:22:16 PM

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:28 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	266951	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

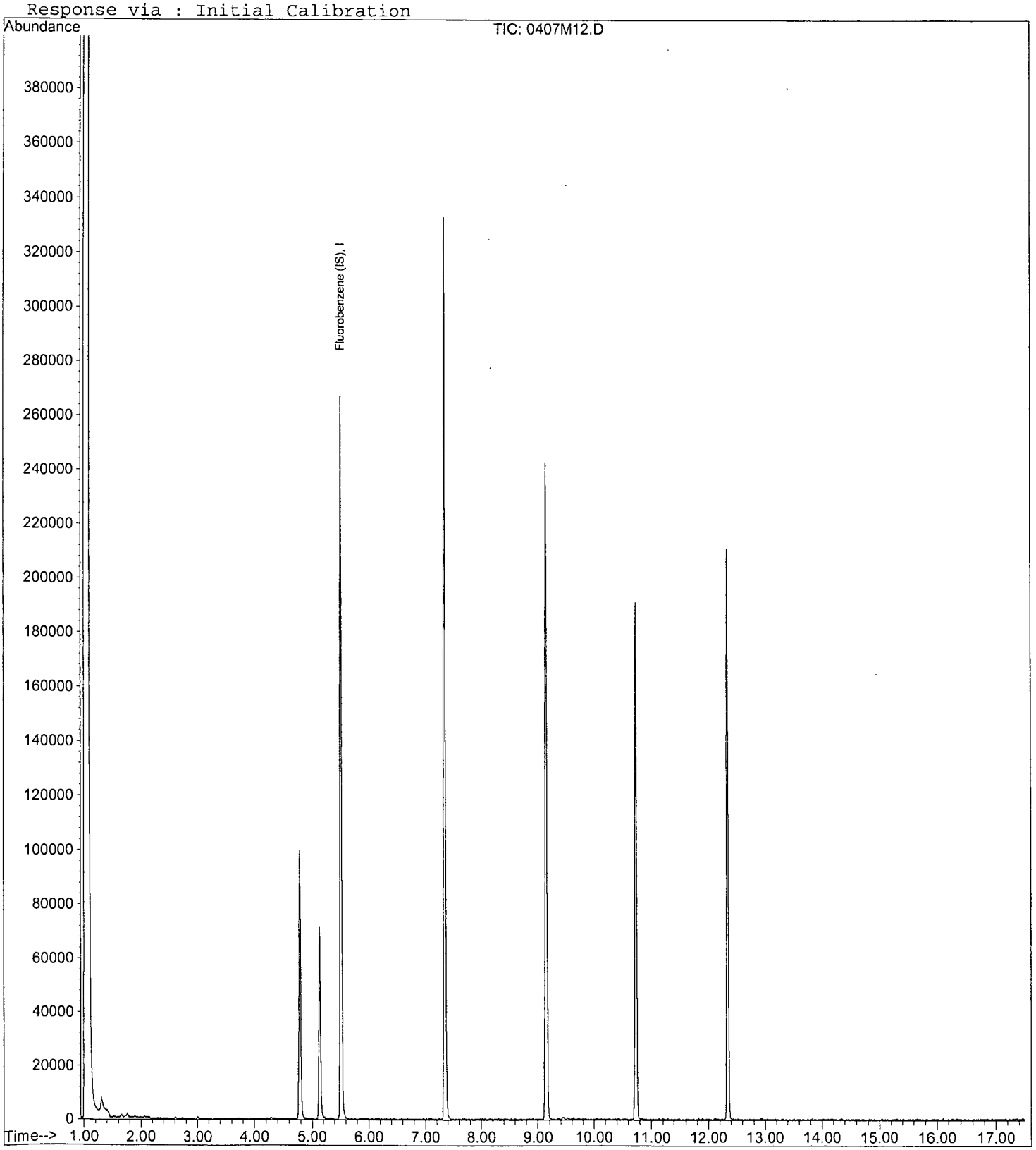
Data File : M:\MAX\DATA\M170404\0407M12.D
Acq On : 7 Apr 17 13:20
Sample : 170407A BLK-1WM
Misc : 10ml IS&S: 2/23/17

Vial: 12
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:28 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M12.D Vial: 12
Acq On : 7 Apr 17 13:20 Operator: PM,DG,SV,CMM
Sample : 170407A BLK-1WM Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	248190	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.15	117	165307	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	68671	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58592	25.06550 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.260%	
3) 1,2-DCA-D4(S)	5.13	65	46713	25.51073 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.044%	
5) Toluene-D8(S)	7.35	98	247016	25.61706 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.468%	
6) 4-Bromofluorobenzene(S)	10.73	95	70080	23.46480 ppb	0.00
Spiked Amount 25.000			Recovery	= 93.860%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Laboratory Control Spike Recovery

EPA 8260B GRO WATER

APPL ID: **170407W-53168 LCS - 217654**
Batch ID: #GRO86-170407AM

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
GASOLINE RANGE ORGANICS	300	274	91.3	78-122
SURROGATE: 4-BROMOFLUOROBENZ	25.0	25.2	101	85-114

Comments: _____

Primary	SPK
Quant Method :	MGAS6302.M
Extraction Date :	04/07/17
Analysis Date :	04/07/17
Instrument :	Max
Run :	0407M08
Initials :	SV

Printed: 04/27/17 1:22:19 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	283930	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	8190634m	274.18932 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

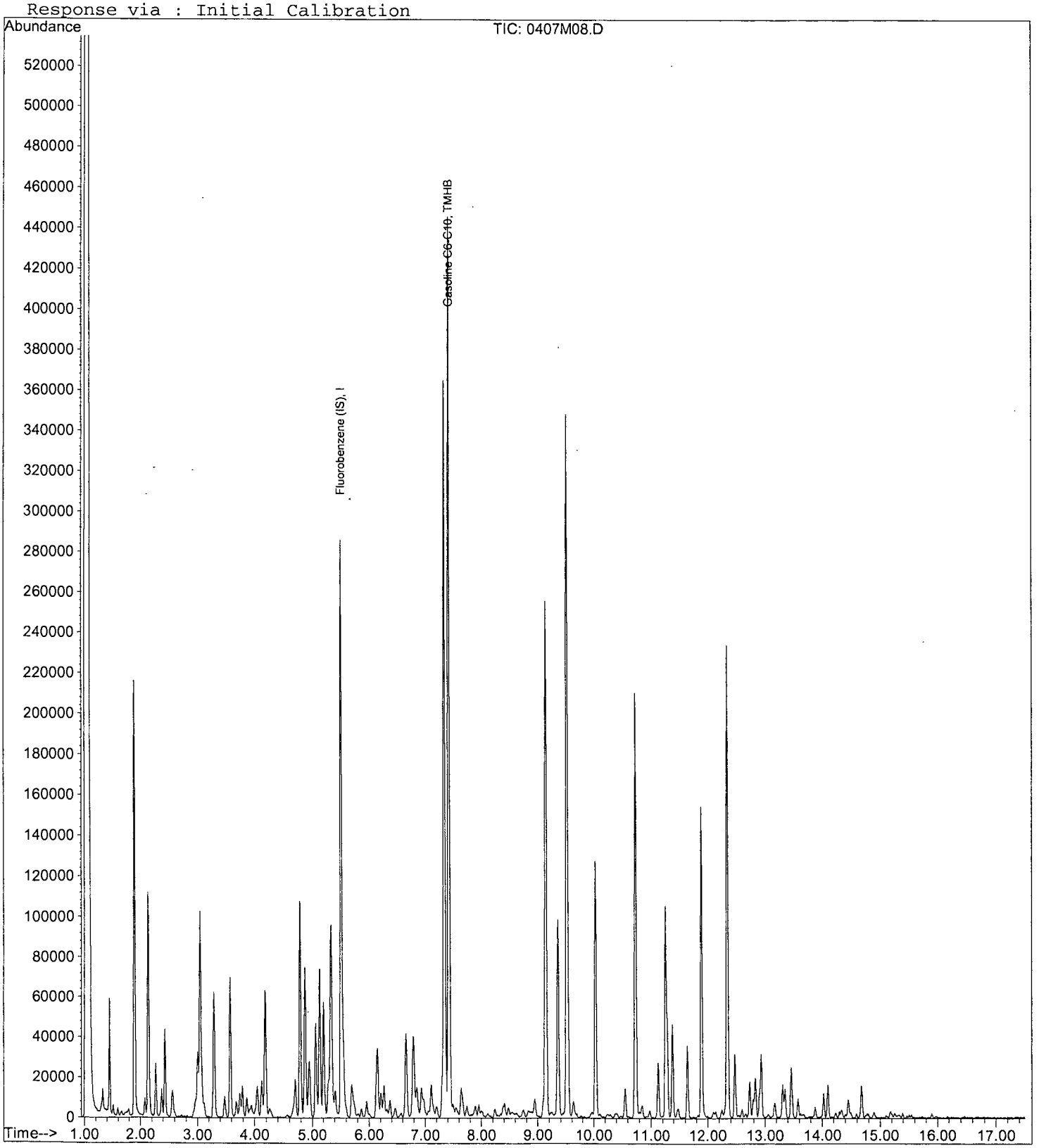
Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:27 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M08.D
Acq On : 7 Apr 17 11:27
Sample : 170407A LCS 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 8
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 10:20 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	96	263175	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	171151	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	75234	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61919	24.98053 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.924%	
3) 1,2-DCA-D4(S)	5.13	65	48557	25.00787 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.032%	
5) Toluene-D8(S)	7.35	98	266607	26.70470 ppb	0.00
Spiked Amount 25.000			Recovery	= 106.820%	
6) 4-Bromofluorobenzene(S)	10.73	95	77968	25.21454 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.860%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Matrix Spike Recoveries

EPA 8260B GRO WATER

APPL ID: **170408W-53168 MS - 217654**
Batch ID: #GRO86-170407AM
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
GASOLINE RANGE ORGANICS	300	ND	227	214	75.7 #	71.3 #	78-122	5.9	20
SURROGATE: 4-BROMOFLUOROBENZ	25.0	NA	24.0	24.4	96.0	97.6	85-114		

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	MGAS6302.M	MGAS6302.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Max	Max
Run :	0407M58	0407M59
Initials :	SV	

Printed: 04/27/17 1:22:23 PM
APPL MSD SCII

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M58.D
Acq On : 8 Apr 17 11:03
Sample : AZ53168W489 MS-1WM 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 58
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:10 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	TIC	271109	25.00000 ppb	0.01

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.43	TIC	6868381m	226.69242 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

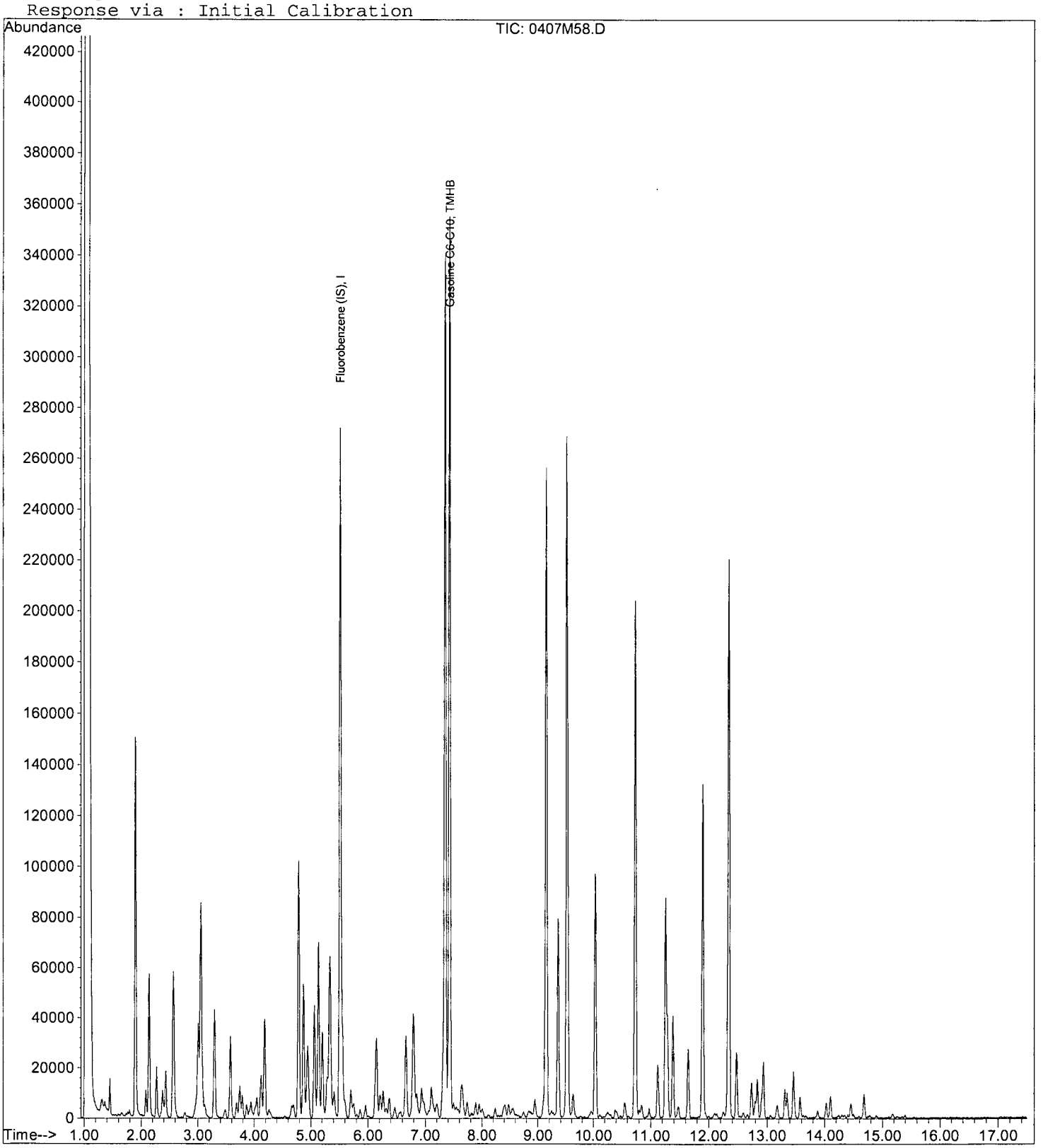
Data File : M:\MAX\DATA\M170404\0407M58.D
Acq On : 8 Apr 17 11:03
Sample : AZ53168W489 MS-1WM 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 58
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:10 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M58.D Vial: 58
Acq On : 8 Apr 17 11:03 Operator: PM,DG,SV,CMM
Sample : AZ53168W489 MS-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	251778	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	169516	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72423	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	58960	24.86349 ppb	0.00
Spiked Amount 25.000			Recovery	= 99.452%	
3) 1,2-DCA-D4(S)	5.13	65	47047	25.32699 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.308%	
5) Toluene-D8(S)	7.35	98	254478	25.73565 ppb	0.00
Spiked Amount 25.000			Recovery	= 102.944%	
6) 4-Bromofluorobenzene(S)	10.73	95	73510	24.00213 ppb	0.00
Spiked Amount 25.000			Recovery	= 96.008%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : M:\MAX\DATA\M170404\0407M59.D Vial: 59
Acq On : 8 Apr 17 11:32 Operator: PM,DG,SV,CMM
Sample : AZ53168W489 MSD-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 9:14 2017 Quant Results File: MGAS6302.RES

Quant Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.51	TIC	280240	25.00000 ppb	0.00

System Monitoring Compounds

Target Compounds					Qvalue
2) Gasoline C6-C10	7.35	TIC	6828366m	213.60125 ppb	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

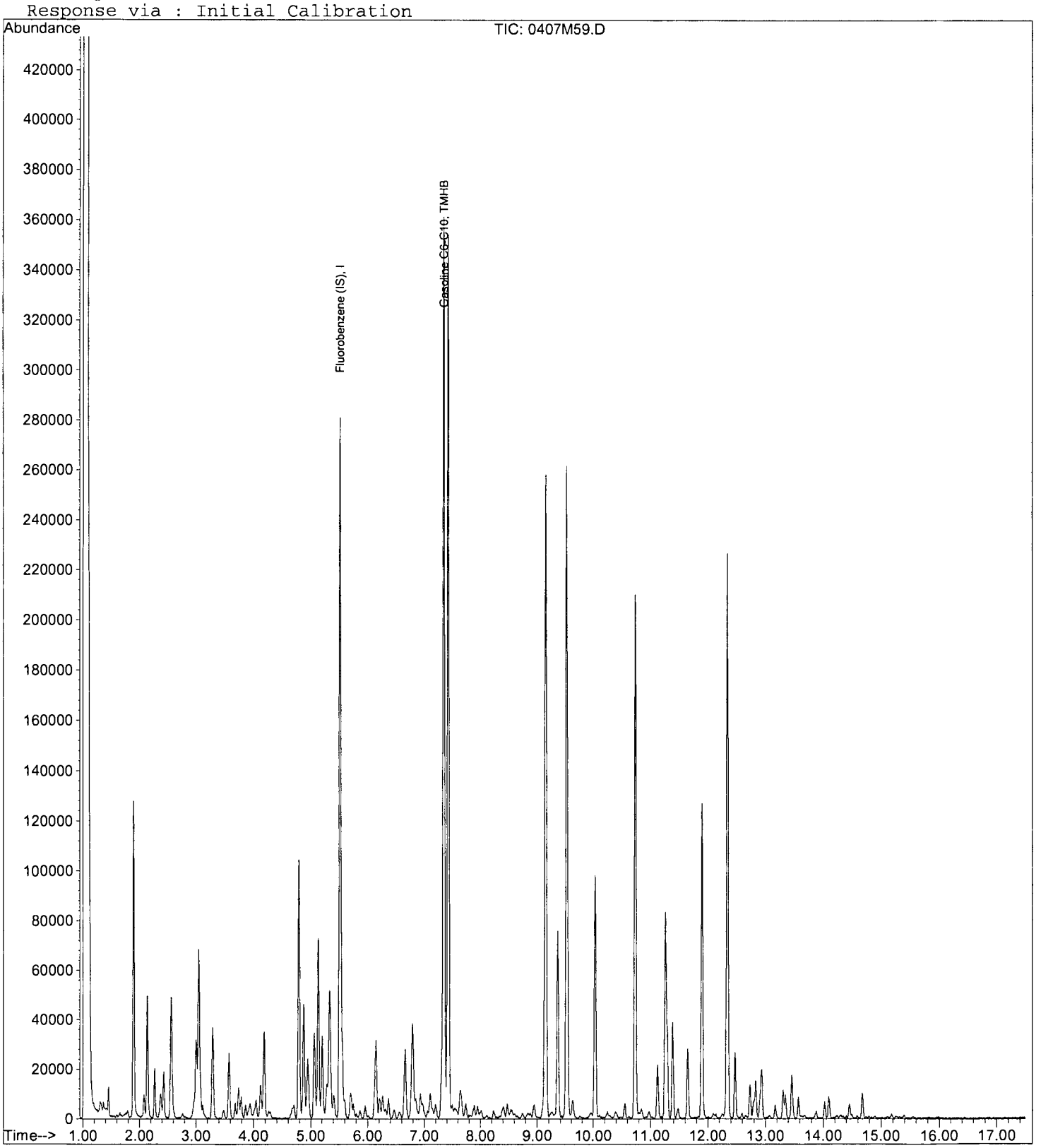
Data File : M:\MAX\DATA\M170404\0407M59.D
Acq On : 8 Apr 17 11:32
Sample : AZ53168W489 MSD-1WM 300ug/L
Misc : 10ml IS&S: 2/23/17

Vial: 59
Operator: PM,DG,SV,CMM
Inst : Max
Multiplr: 1.00

Quant Time: Apr 10 9:14 2017

Quant Results File: MGAS6302.RES

Method : M:\MAX\DATA\M170404\MGAS6302.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Mar 02 13:05:07 2017
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\MAX\DATA\M170404\0407M59.D Vial: 59
Acq On : 8 Apr 17 11:32 Operator: PM,DG,SV,CMM
Sample : AZ53168W489 MSD-1WM 300ug/L Inst : Max
Misc : 10ml IS&S: 2/23/17 Multiplr: 1.00

Quant Time: Apr 10 10:21 2017 Quant Results File: MSUR404.RES

Quant Method : M:\MAX\DATA\M170404\MSUR404.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Wed Apr 05 10:16:57 2017
Response via : Initial Calibration
DataAcq Meth : V8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.52	96	260685	25.00000 ppb	0.00
4) Chlorobenzene-D5 (IS)	9.14	117	172794	25.00000 ppb	0.00
7) 1,4-Dichlorobenzene-D (IS)	12.34	152	72238	25.00000 ppb	0.00
System Monitoring Compounds					
2) Dibromofluoromethane(S)	4.78	111	61791	25.16700 ppb	0.00
Spiked Amount 25.000			Recovery	= 100.668%	
3) 1,2-DCA-D4(S)	5.13	65	48648	25.29405 ppb	0.00
Spiked Amount 25.000			Recovery	= 101.176%	
5) Toluene-D8(S)	7.35	98	264058	26.19788 ppb	0.00
Spiked Amount 25.000			Recovery	= 104.792%	
6) 4-Bromofluorobenzene(S)	10.73	95	76165	24.39725 ppb	0.00
Spiked Amount 25.000			Recovery	= 97.588%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Gasoline Curve Preparation for 100mL Purge (water)-MAX			
Exp Date:	03/03/17	2000ug/ml	
		01/31/AA	Final Volume
	Conc.	Exp.03/31/21	w/ P&T H2O
Date/code	µg/L	uL	mL
03/0217A-DG	20	1	100
03/02/17B-DG	50	2.5	100
03/02/17C-DG	100	5	100
03/02/17D-DG	300	15	100
03/02/17E-DG	600	30	100
03/02/17F-DG	800	40	100
03/02/17G-DG	1000	50	100

Gasoline SECOND SOURCE preparation @300ppb-MAX			
Exp Date:	02/12/17	2000ug/ml	
		12/05/16B	Final Volume
	Conc.	Exp 05-04-18	w/ P&T H2O
Date/code	µg/L	uL	mL
02/11/17	300	15	100

GASOLINE							
01/31/17AA							
Gasoline 2000ug/ml PRIMARY SOURCE					Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
Restek		Unleaded Gasoline	50,000	A0101233-35581	07/09/16ADG	03/31/21	80
OMNISOLV		Purge & Trap MeOH		55344-00863	01/10/17	01/10/18	1920
12/05/16B							
Gasoline 2000ug/ml SECONDARY SOURCE			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	020246-06	Unleaded Gasoline	5,000	250389-36597	12/5/16ADG	05/04/18	800
OMNISOLV		Purge & Trap MeOH		55344-00866	01/10/17	01/10/18	1200

Injection Log

Directory: M:\MAX\DATA\M170301\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0302M05.D	1	20ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 9:26
2	6	0302M06.D	1	50ppb GAS STD 03/02/17B	IS&S 02/23/17	2 Mar 17 9:54
3	7	0302M07.D	1	100ppb GAS STD 03/02/17C	IS&S 02/23/17	2 Mar 17 10:23
4	8	0302M08.D	1	300ppb GAS STD 03/02/17D	IS&S 02/23/17	2 Mar 17 10:51
5	9	0302M09.D	1	600ppb GAS STD 03/02/17E	IS&S 02/23/17	2 Mar 17 11:19
6	10	0302M10.D	1	800ppb GAS STD 03/02/17F	IS&S 02/23/17	2 Mar 17 11:47
7	11	0302M11.D	1	1000ppb GAS STD 03/02/17A	IS&S 02/23/17	2 Mar 17 12:16
8	13	0302M13.D	1	(SS) 300ppb GAS STD 03/02/17	IS&S 02/23/17	2 Mar 17 13:13
9	4	0404M08.D	1	0.3ug/L VOC STD 04/04/17A	1uL-5ppb	4 Apr 17 10:42
10	5	0404M09.D	1	0.5ug/L VOC STD 04/04/17B	1uL-5ppb	4 Apr 17 11:11
11	6	0404M10.D	1	1.0ug/L VOC STD 04/04/17C	2uL-10ppb	4 Apr 17 11:39
12	7	0404M11.D	1	2.0ug/L VOC STD 04/04/17D	2uL-10ppb	4 Apr 17 12:07
13	8	0404M12.D	1	5.0ug/L VOC STD 04/04/17E	5uL-25ppb	4 Apr 17 12:36
14	9	0404M13.D	1	10ug/L VOC STD 04/04/17F	5uL-25ppb	4 Apr 17 13:04
15	10	0404M14.D	1	20ug/L VOC STD 04/04/17G	10uL-50ppb	4 Apr 17 13:33
16	11	0404M15.D	1	40ug/L VOC STD 04/04/17H	10uL-50ppb	4 Apr 17 14:01
17	12	0404M16.D	1	100ug/L VOC STD 04/04/17I	20uL-100ppb	4 Apr 17 14:29
18	7	0407M07.D	1	170407A CCV 300ug/L	10ml IS&S: 2/23/17	7 Apr 17 10:58
19	8	0407M08.D	1	170407A LCS 300ug/L	10ml IS&S: 2/23/17	7 Apr 17 11:27
20	12	0407M12.D	1	170407A BLK-1WM	10ml IS&S: 2/23/17	7 Apr 17 13:20
21	14	0407M14.D	1	AZ53167W01	10ml IS&S: 2/23/17	7 Apr 17 14:16
22	15	0407M15.D	1	AZ53168W01	10ml IS&S: 2/23/17	7 Apr 17 14:45
23	16	0407M16.D	1	AZ53169W01	10ml IS&S: 2/23/17	7 Apr 17 15:13
24	17	0407M17.D	1	AZ53170W01	10ml IS&S: 2/23/17	7 Apr 17 15:42
25	31	0407M31.D	1	Ending CCV GAS 300ug/L 4/7/17	10ml IS&S: 2/23/17	7 Apr 17 22:19
26	39	0407M39.D	1	170407B CCV 300ug/L	10ml IS&S: 2/23/17	8 Apr 17 2:06
27	58	0407M58.D	1	AZ53168W489 MS-1WM 300ug/L	10ml IS&S: 2/23/17	8 Apr 17 11:03
28	59	0407M59.D	1	AZ53168W489 MSD-1WM 300ug/L	10ml IS&S: 2/23/17	8 Apr 17 11:32
29	61	0407M61.D	1	Ending CCV 8260 300ug/L 4/7/17	10ml IS&S: 2/23/17	8 Apr 17 12:28

ORGANICS

APPL, INC.

ORGANICS
QC Summary

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:05:42 PM

Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:05:34 PM
APPL Standard LCS

Matrix Spike Recoveries

METHANE

APPL ID: **170408W-53168 MS - 217625**
Batch ID: #RSKME-170408A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	2130	1840	160 #	138 #	72-125	14.6	30

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Rocky	Rocky
Run :	17040815	17040816
Initials :	CMO	

Printed: 04/28/17 7:19:10 AM
APPL MSD SCII

ORGANICS
Sample Data

APPL, INC.

METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH306
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53167
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040813
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:05:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040813.D Vial: 12
Acq On : 8 Apr 17 12:20 Operator: lac
Sample : AZ53167W03 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:25 2017 Quant Results File: RSK0225.RES

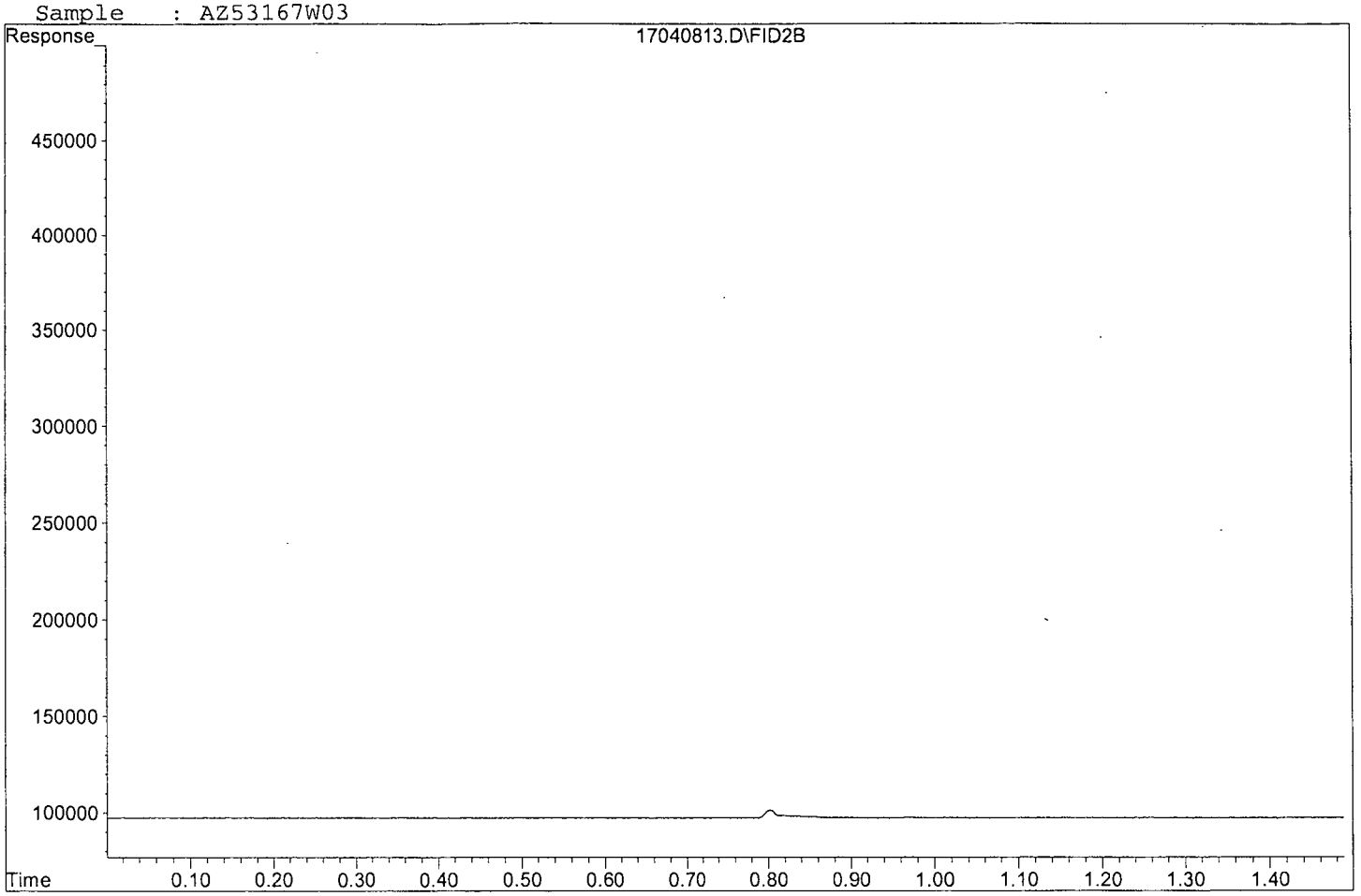
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:25:01 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.80	4199	N.D.	ppb
2) ATM Ethane	1.03	342	N.D.	ppb
3) ATM Ethene	1.13	263	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040813.D
Sample : AZ53167W03



METHANE

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH307
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53168
QCG: #RSKME-170408A-217625

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040814
Instrument: Rocky
Sequence: 170225
Dilution Factor: 1
Initials: CMO

Printed: 04/08/17 2:05:38 PM
APPL-F1-SC-NoMC-REG MDLs-DOD

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040814.D Vial: 13
Acq On : 8 Apr 17 12:24 Operator: lac
Sample : AZ53168W12 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 12:26 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 12:25:01 2017
Response via : Multiple Level Calibration

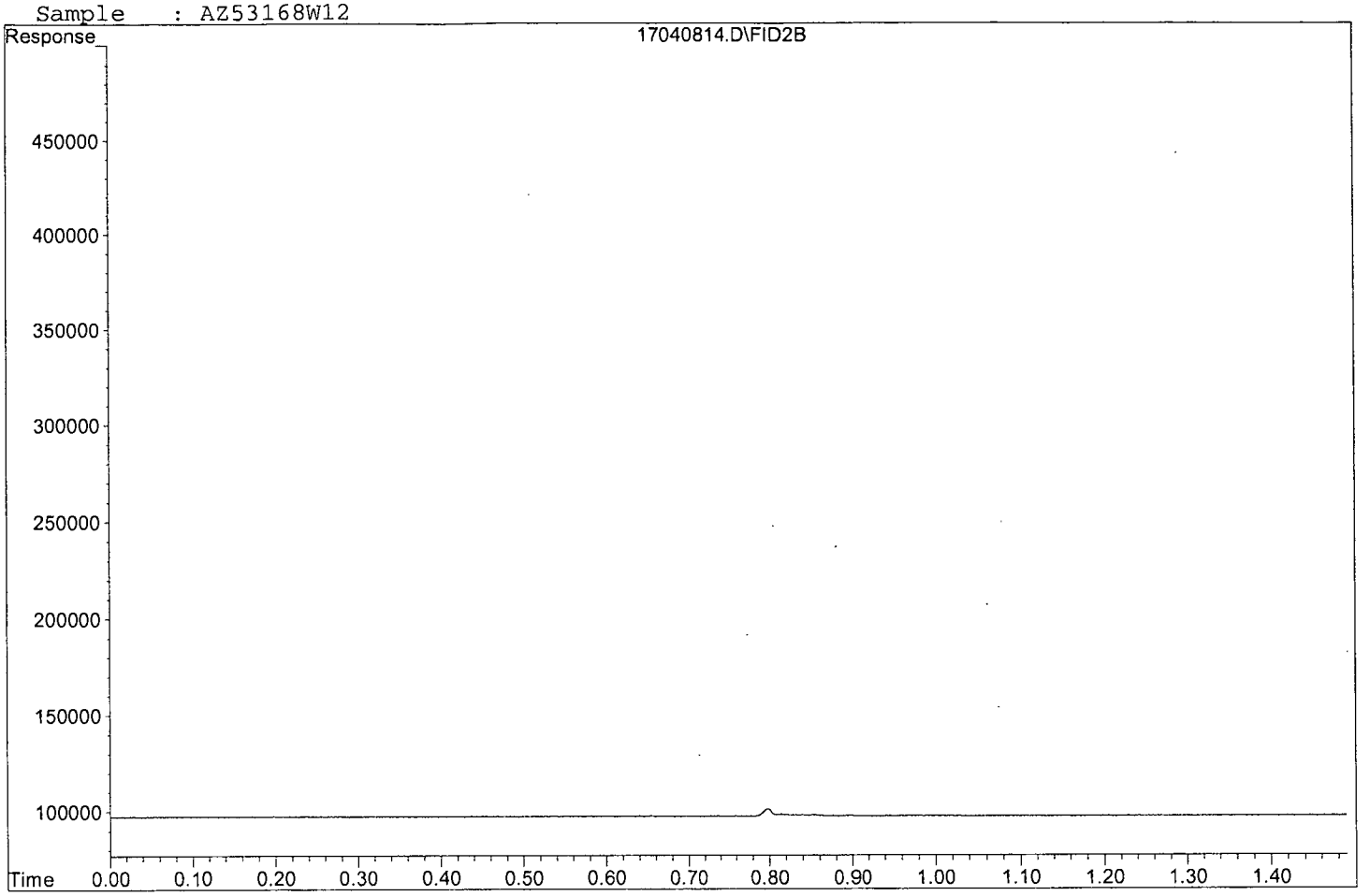
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.80	3923	N.D.	ppb
2) ATM Ethane	1.02	350	N.D.	ppb
3) ATM Ethene	1.12	259	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040814.D
Sample : AZ53168W12



ORGANICS
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Initial Cal. Date: 02/25/17
Instrument: 7890

Initials:

		Compound	1	2	3	4	5	6	7	8	9	10	Avg	%RSD		r
			17022500.D	17022501.D	17022502.D	17022503.D	17022504.D	17022505.D	17022506.D	17022507.D	17022508.D	17022509.D				
1	ATML	Methane	4503	2639	2212	2667	2270	1999	3396	1487	2053	2026	2525	34	ATML	0.996
2	ATML	Ethane	3166	1899	1896	2417	2222	1883	3003	1303	1797	1814	2140	27	ATML	0.996
3	ATML	Ethene	2779	1670	1701	2183	2021	1715	2764	1119	1549	1554	1905	28	ATML	0.996
4																
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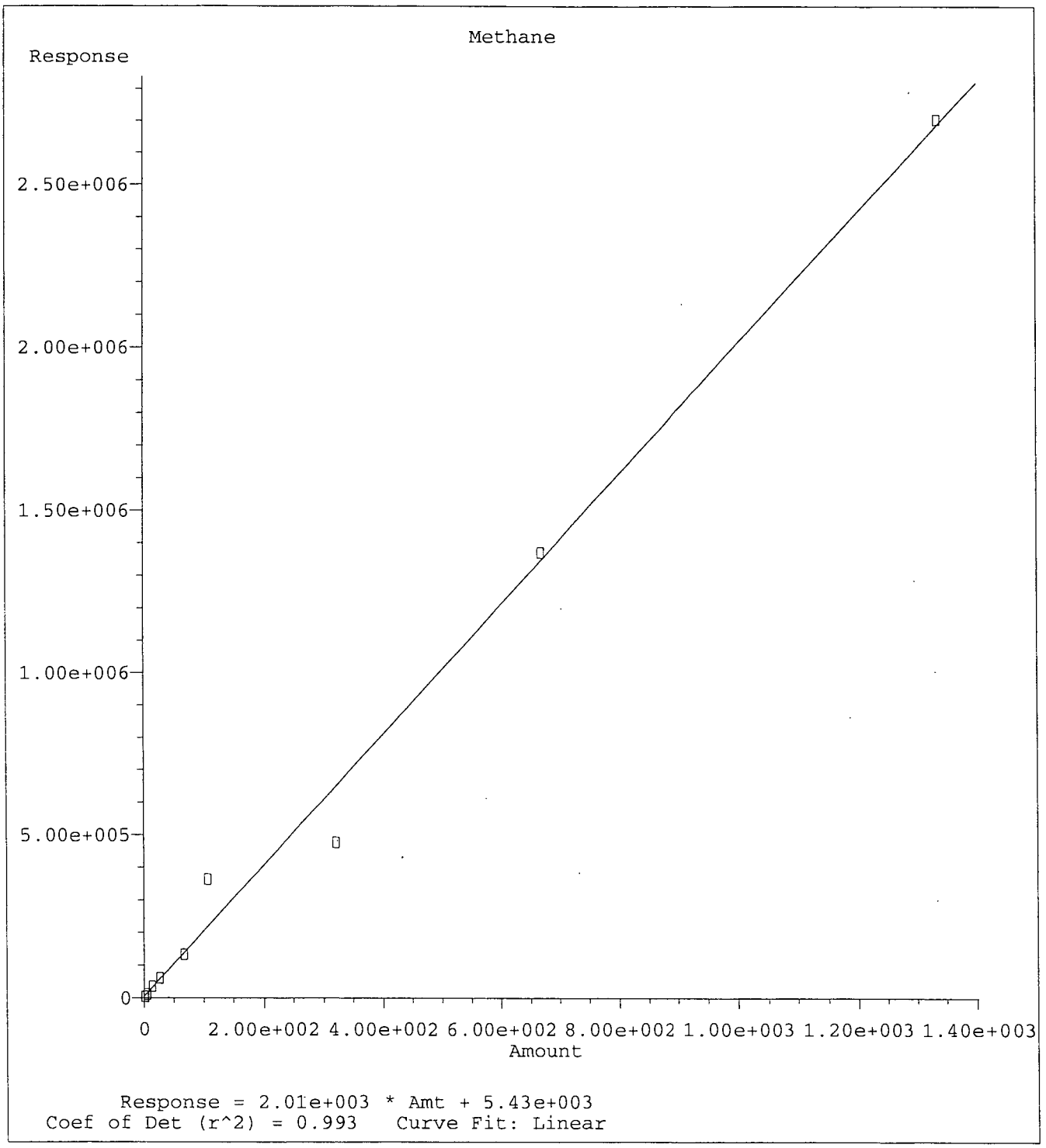
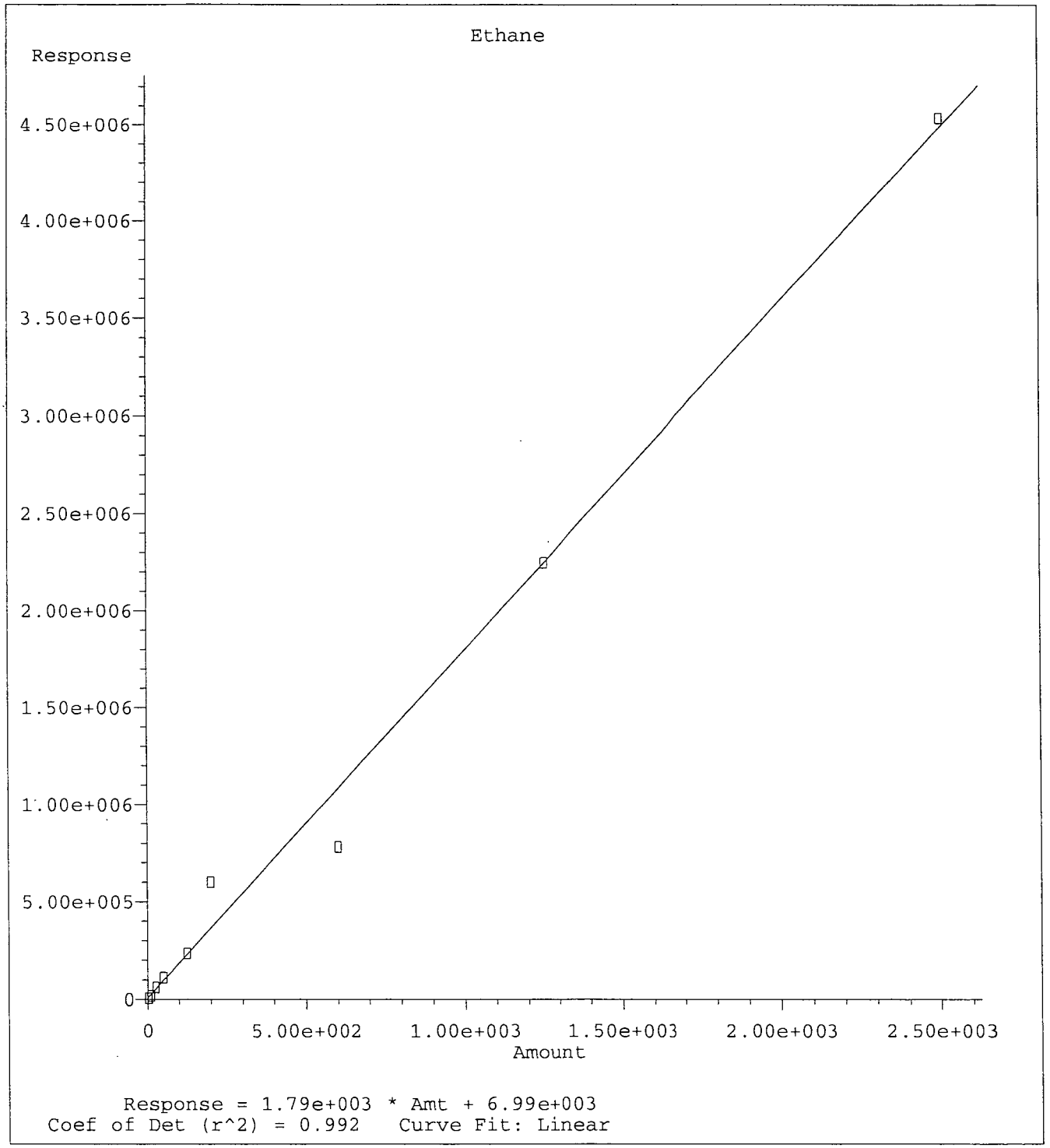
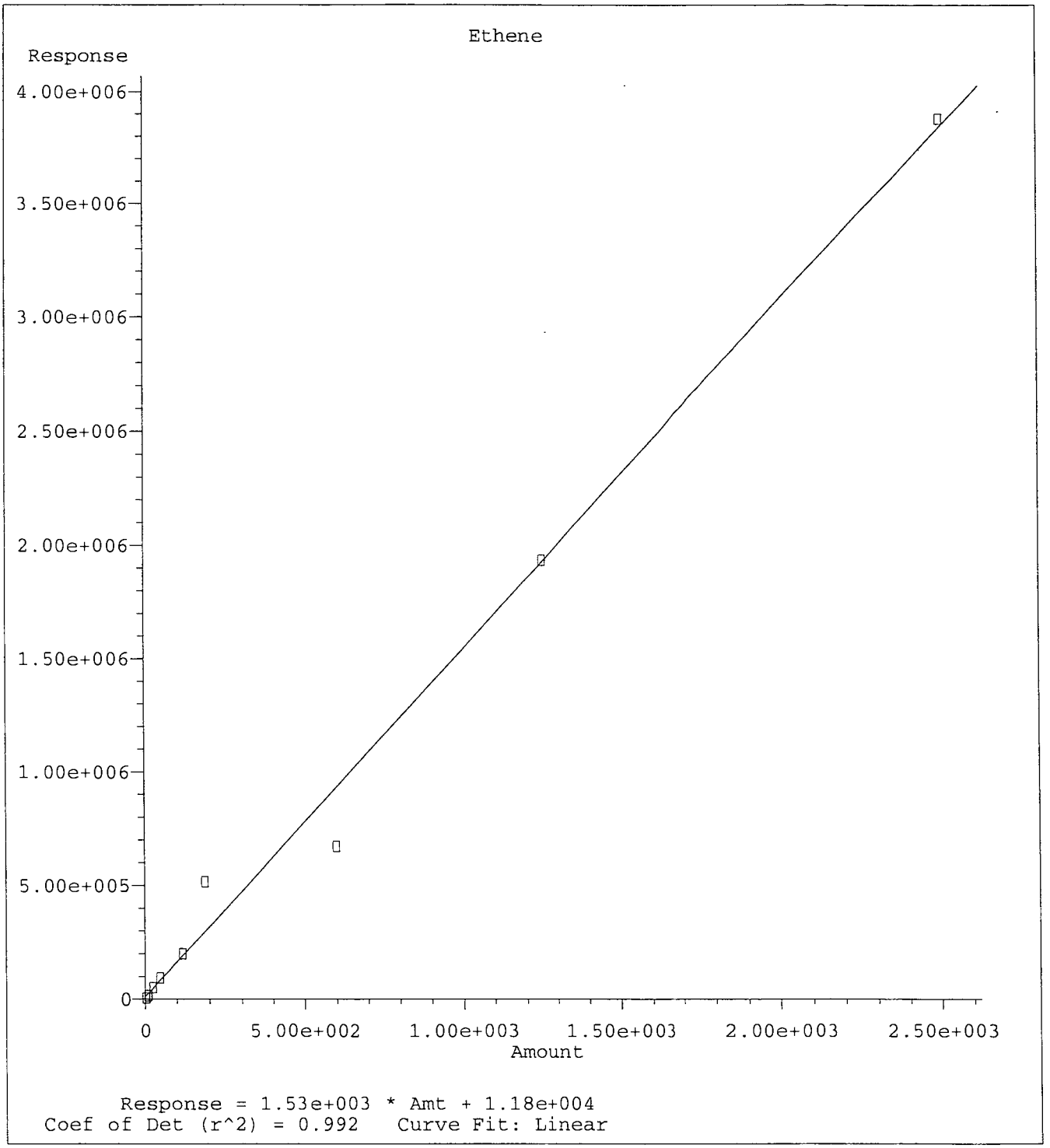
2.5503164



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017



Method Name: G:\ROCKY\DATA\170225R\RSK0225.M
Calibration Table Last Updated: Sat Feb 25 12:35:32 2017

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022500.D Vial: 1
Acq On : 25 Feb 17 11:09 Operator: lac
Sample : RSK Level 1 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

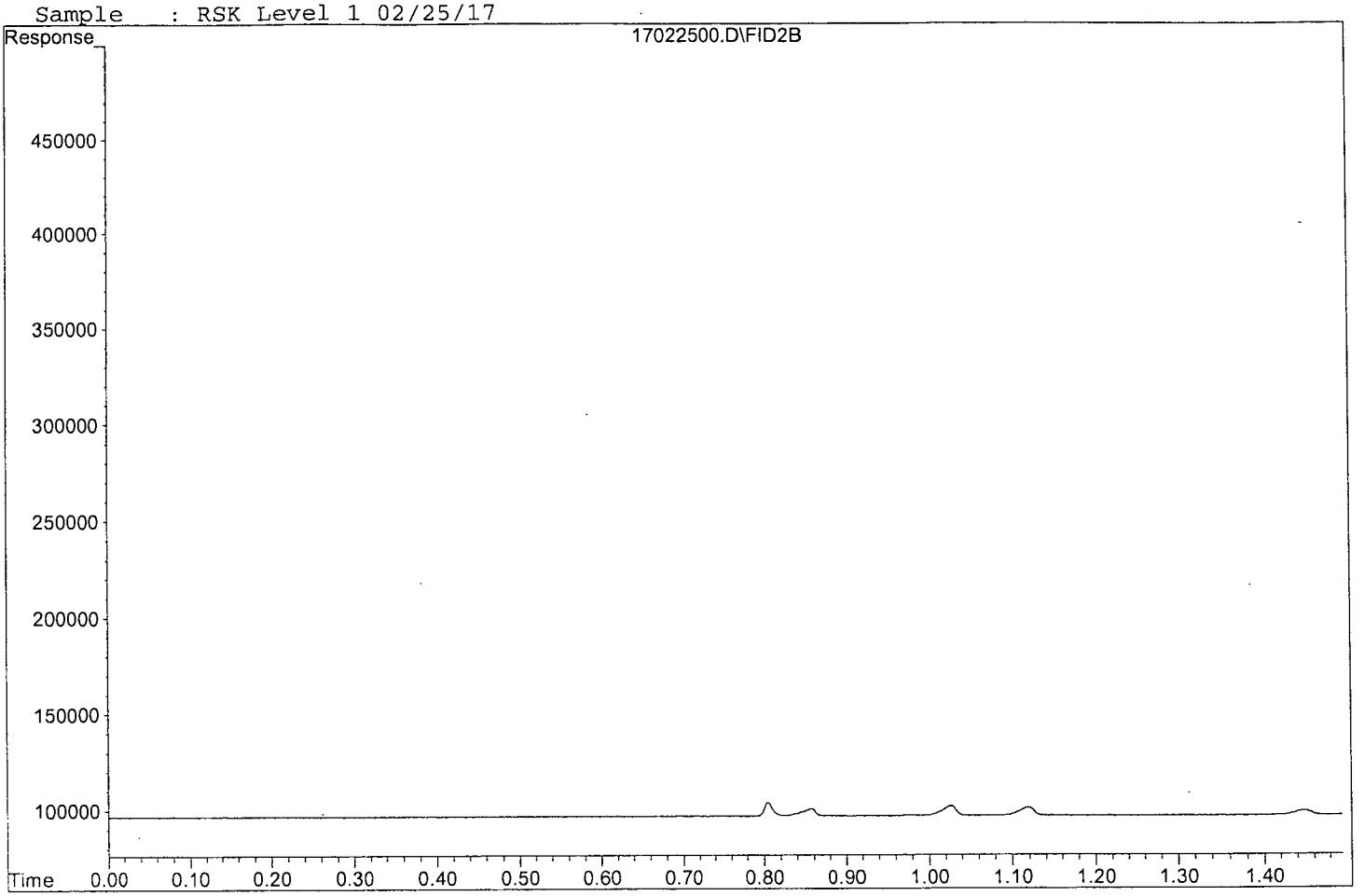
Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4053	N.D.	ppb
2) ATM Ethane	1.03	5383	N.D.	ppb
3) ATM Ethene	1.12	4447	N.D.	ppb

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022500.D
Sample : RSK Level 1 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022501.D Vial: 2
Acq On : 25 Feb 17 11:11 Operator: lac
Sample : RSK Level 2 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

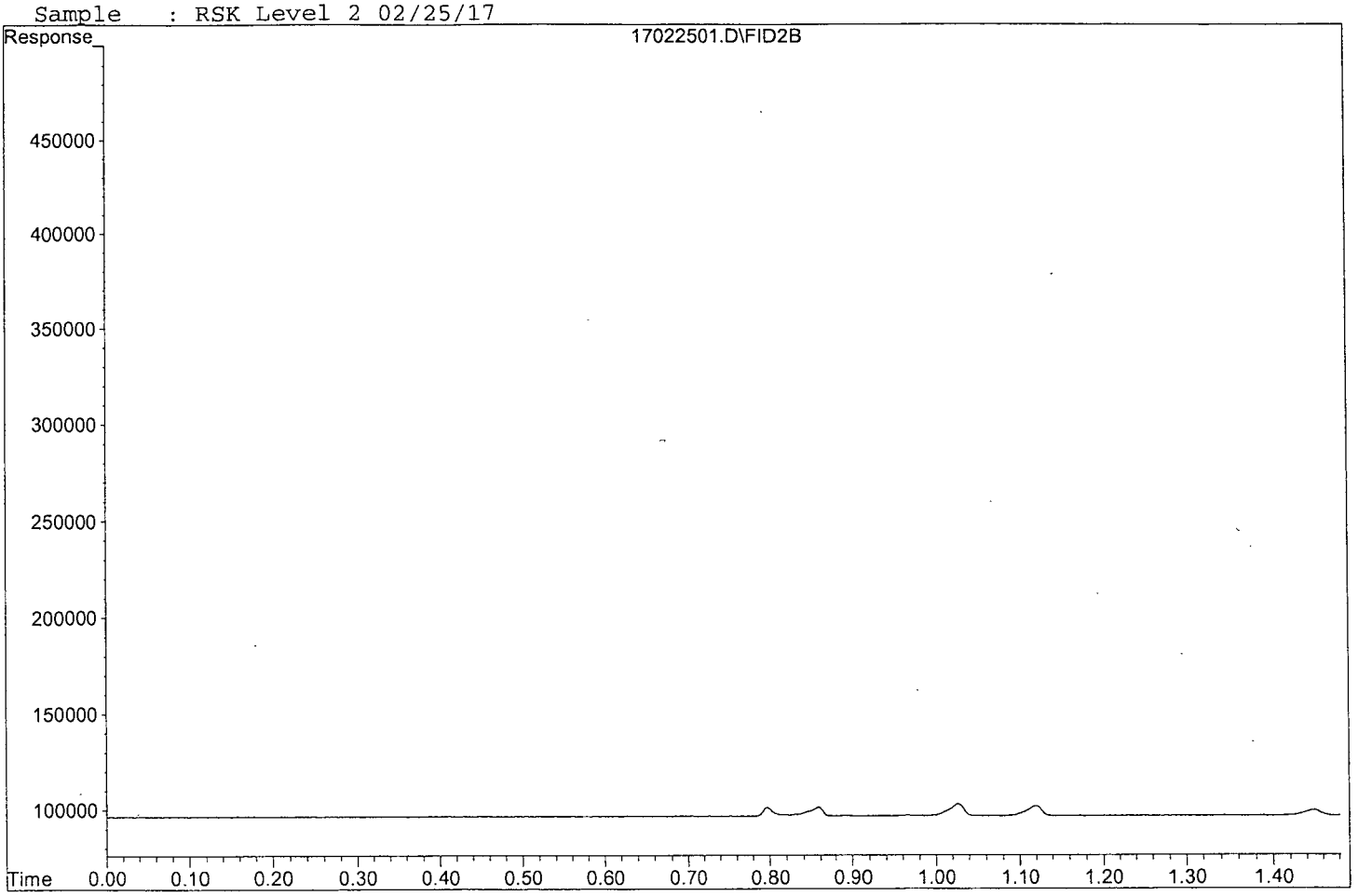
Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	4751	N.D.	ppb
2) ATM Ethane	1.03	6458	N.D.	ppb
3) ATM Ethene	1.12	5344	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

17022501.D RSK0225.M Sat Feb 25 12:50:51 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022501.D
Sample : RSK Level 2 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022502.D Vial: 3
Acq On : 25 Feb 17 11:15 Operator: lac
Sample : RSK Level 3 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	11280	2.913 ppb
2) ATM Ethane	1.02	18008	6.154 ppb
3) ATM Ethene	1.11	15137	2.170 ppb

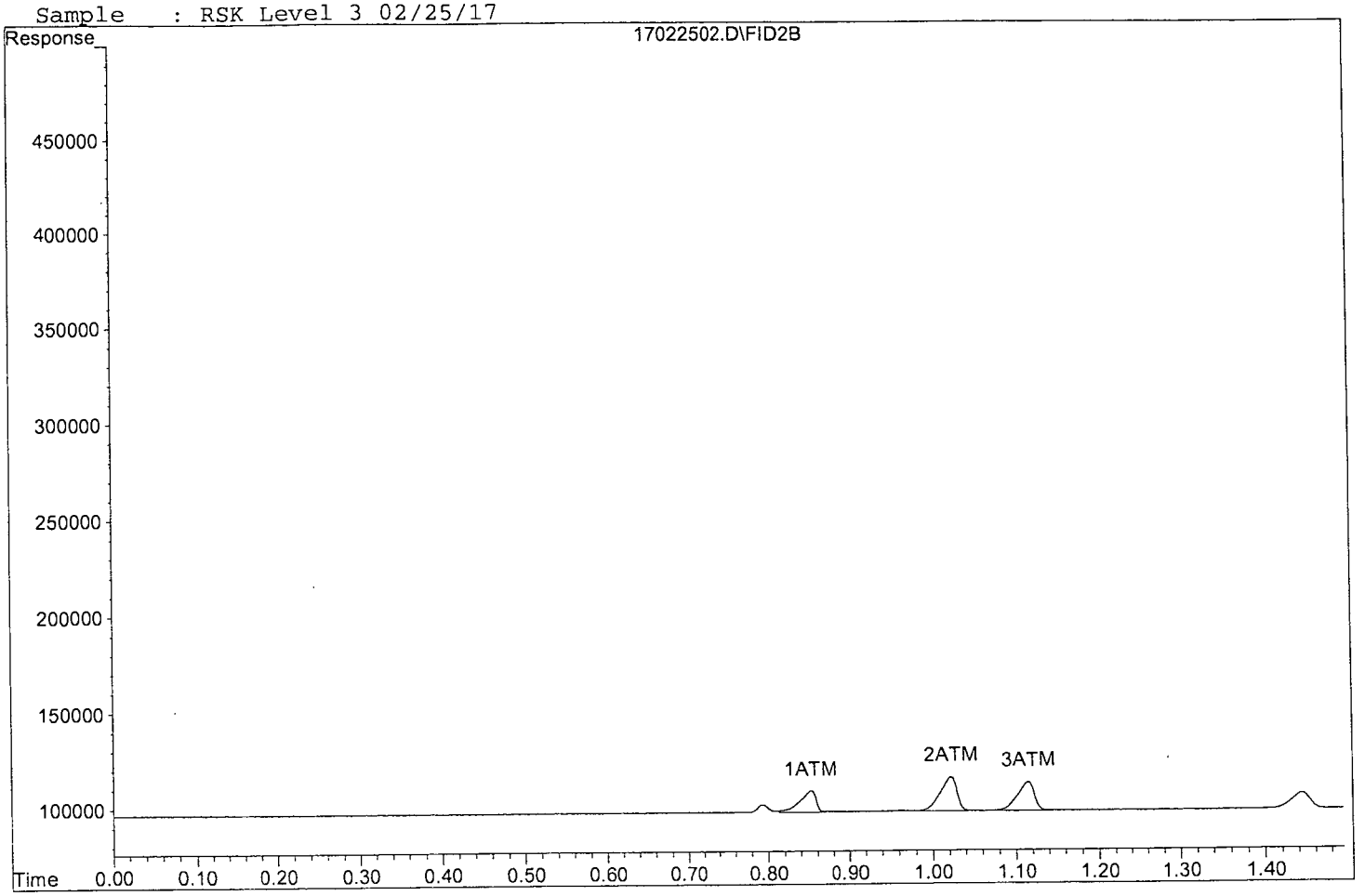
Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

17022502.D RSK0225.M Sat Feb 25 12:50:53 2017 Page 1

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022502.D
Sample : RSK Level 3 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022503.D
Acq On : 25 Feb 17 11:17
Sample : RSK Level 4 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 4
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

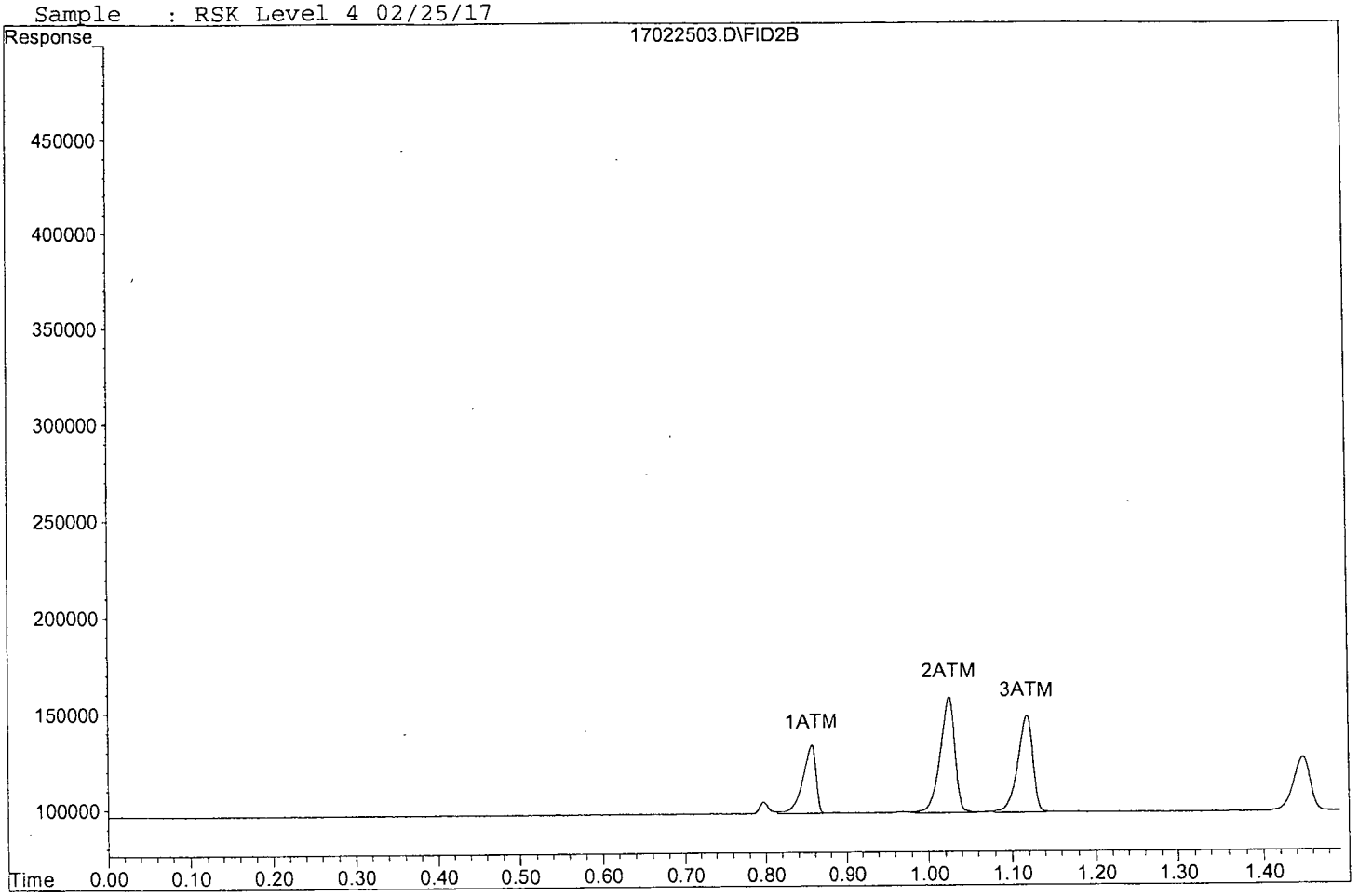
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	35556	15.002 ppb
2) ATM Ethane	1.03	60430	29.851 ppb
3) ATM Ethene	1.12	50855	25.474 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022503.D
Sample : RSK Level 4 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022504.D
Acq On : 25 Feb 17 11:20
Sample : RSK Level 5 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 5
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

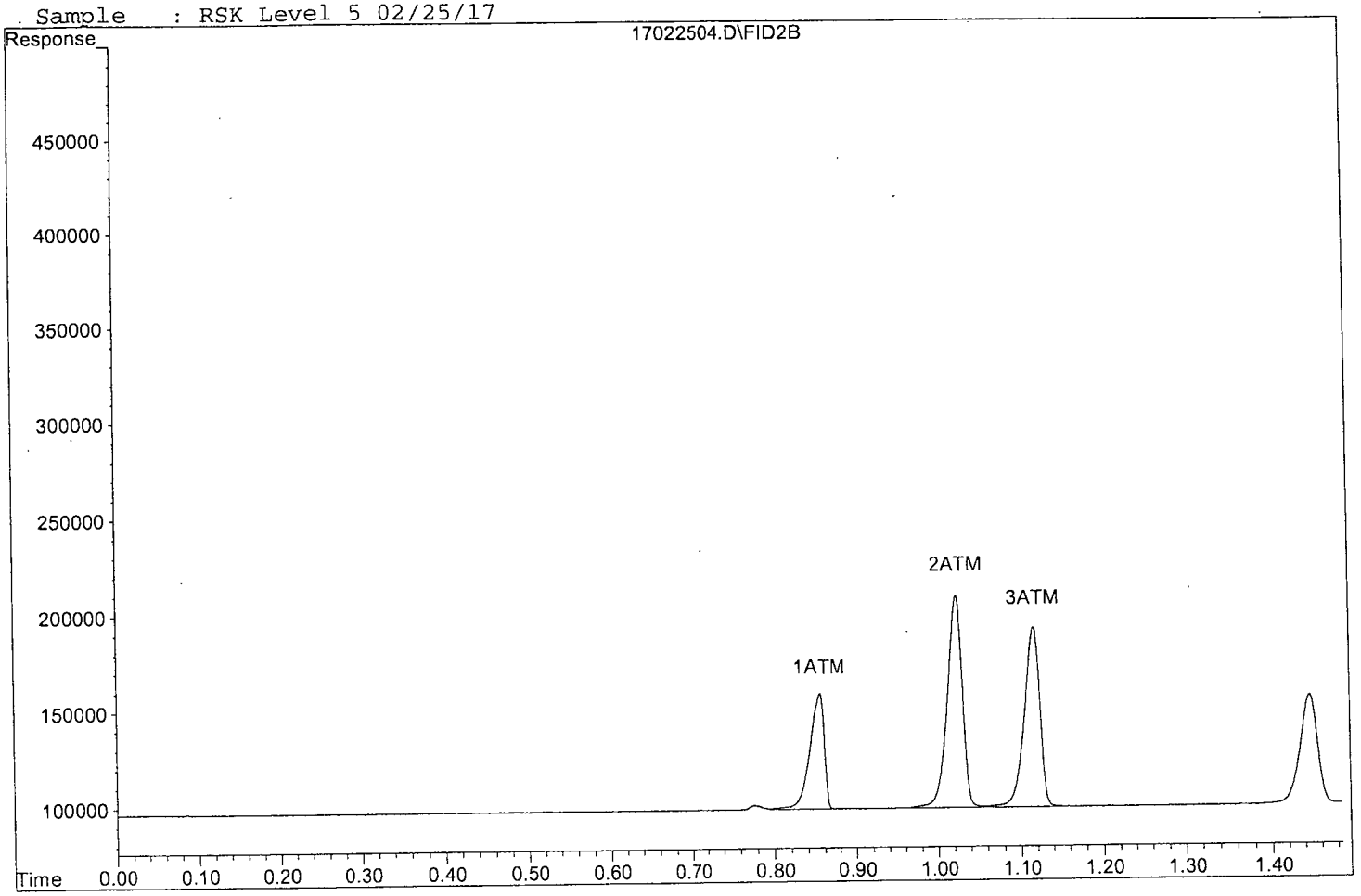
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	60619	27.482 ppb
2) ATM Ethane	1.02	111100	58.156 ppb
3) ATM Ethene	1.12	94184	53.744 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022504.D
Sample : RSK Level 5 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022505.D
Acq On : 25 Feb 17 11:23
Sample : RSK Level 6 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:50 2017 Quant Results File: RSK0225.RES

Vial: 6
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

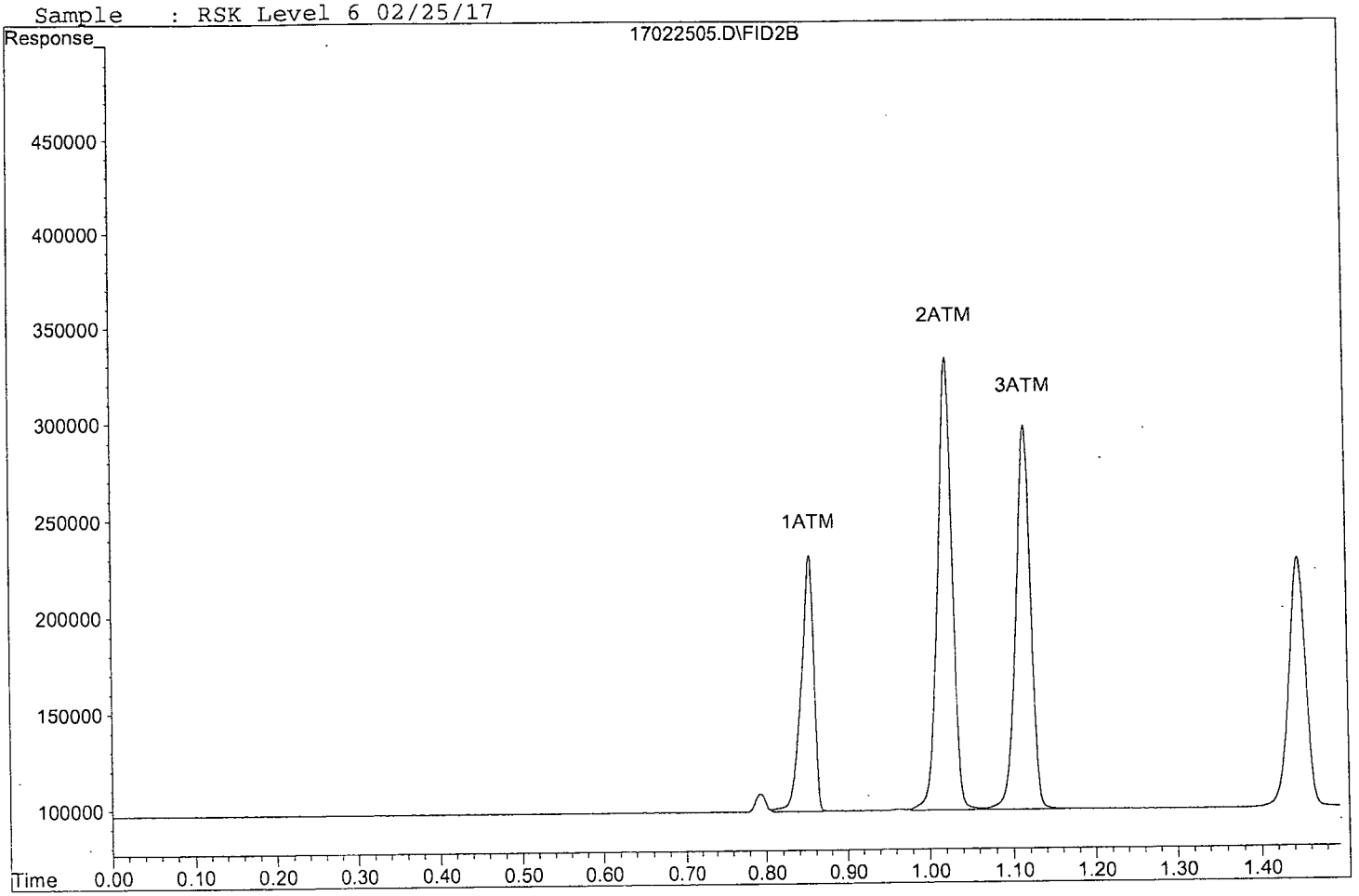
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	133452	63.750 ppb
2) ATM Ethane	1.03	235371	127.576 ppb
3) ATM Ethene	1.12	199827	122.670 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022505.D
Sample : RSK Level 6 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022506.D Vial: 7
Acq On : 25 Feb 17 11:25 Operator: lac
Sample : RSK Level 7 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

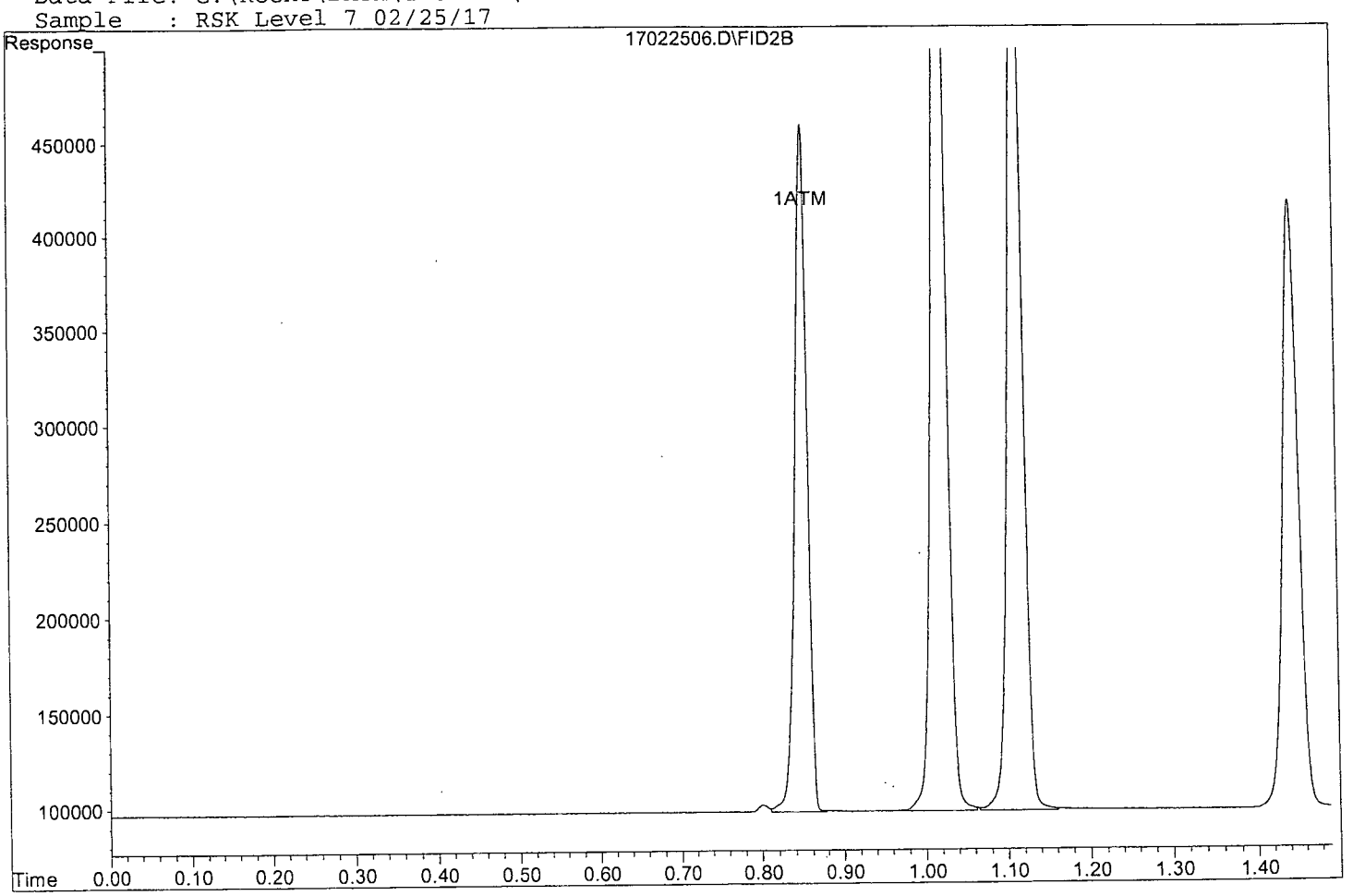
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.85	362708	177.911 ppb
2) ATM Ethane	1.02	600594	331.596 ppb
3) ATM Ethene	1.12	515129	328.387 ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022506.D
Sample : RSK Level 7 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022507.D
Acq On : 25 Feb 17 11:27
Sample : RSK Level 8 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 8
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

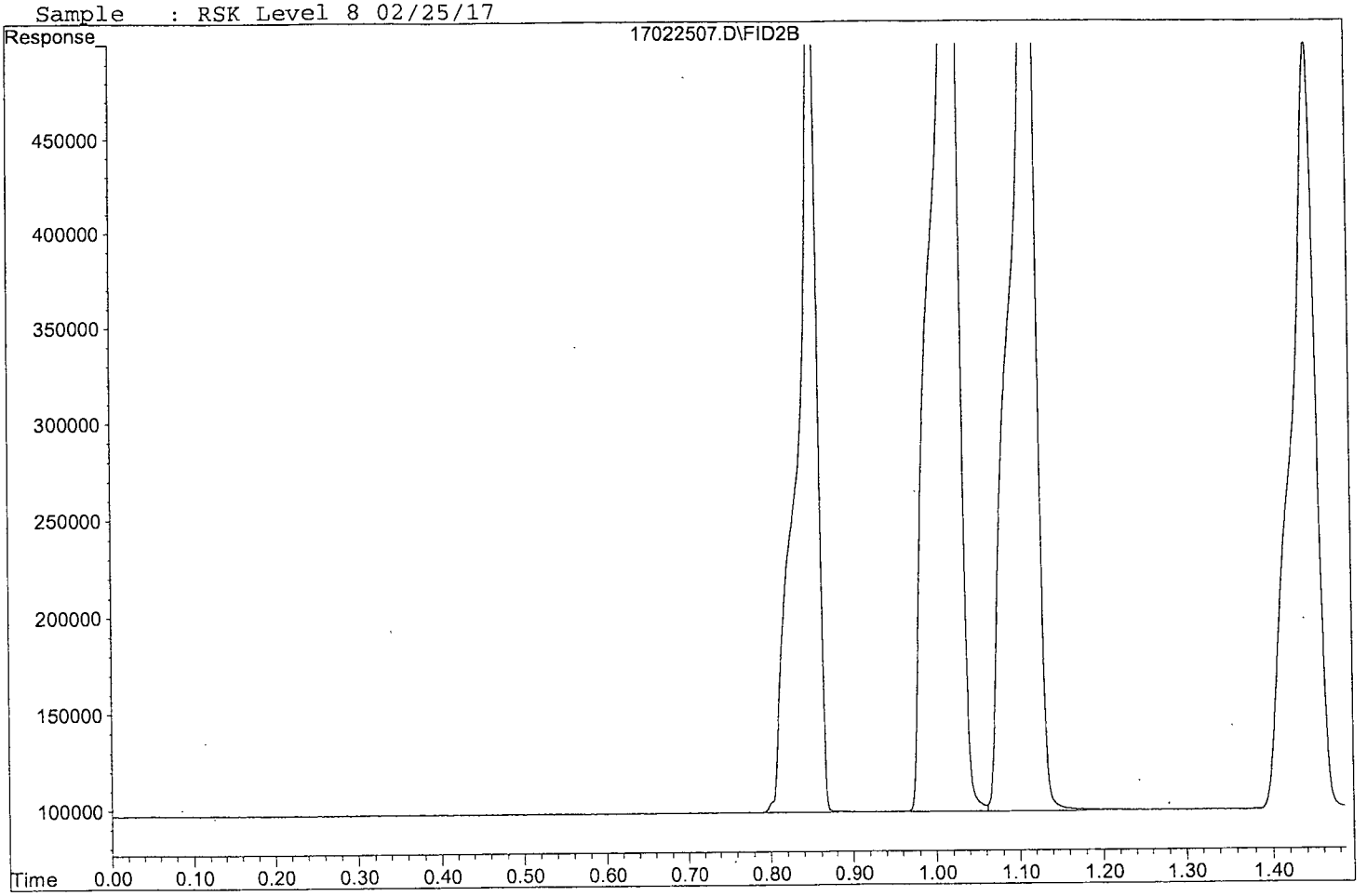
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	476501	234.576 ppb
2) ATM Ethane	1.03	781518	432.663 ppb
3) ATM Ethene	1.12	670275	429.611 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022507.D
Sample : RSK Level 8 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022508.D
Acq On : 25 Feb 17 11:30
Sample : RSK Level 9 02/25/17
Misc :
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Vial: 9
Operator: lac
Inst : 7890
Multiplr: 1.00

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

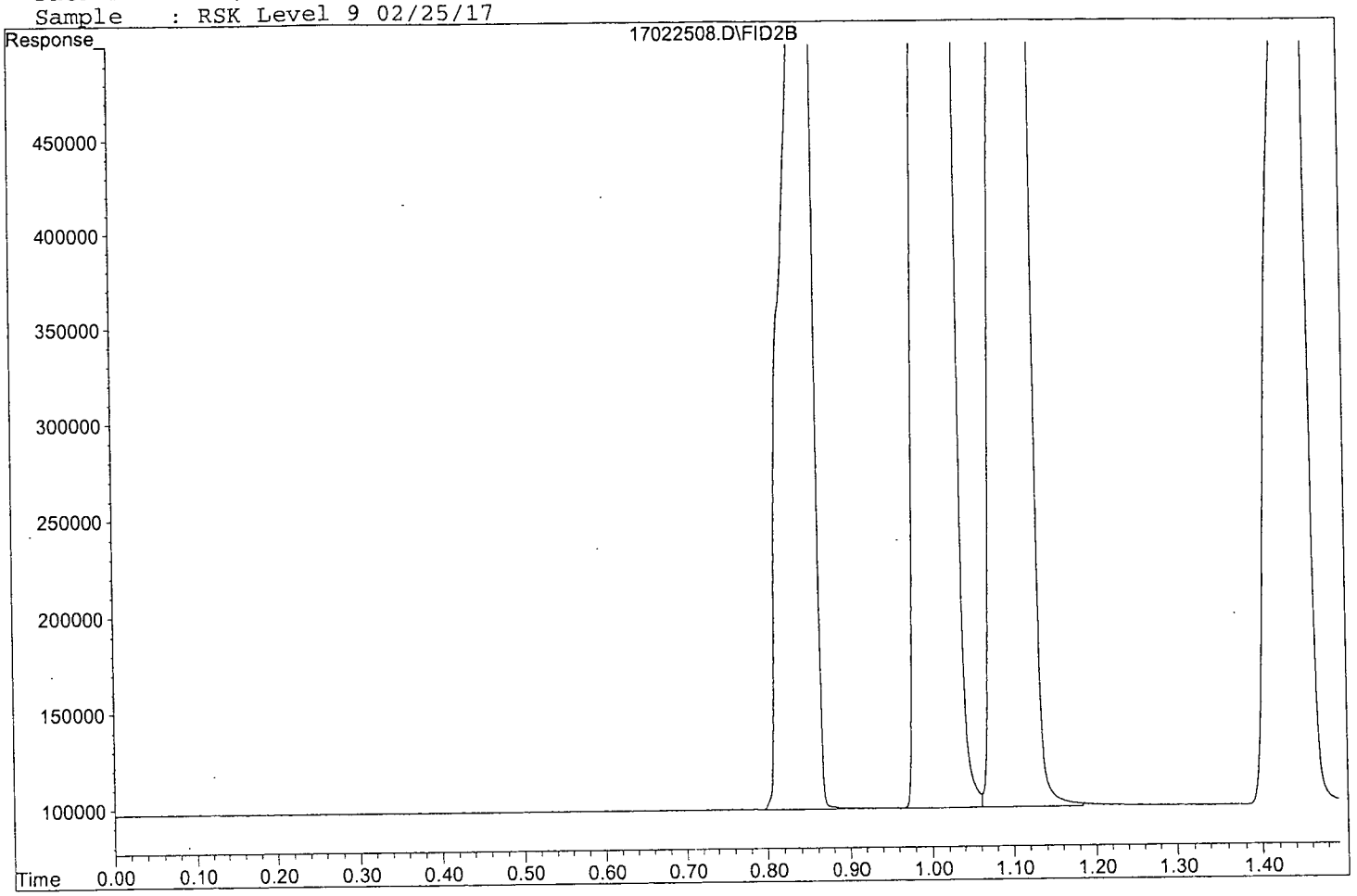
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	1370511	679.760	ppb
2) ATM Ethane	1.03	2246413	1250.978	ppb
3) ATM Ethene	1.12	1934164	1254.226	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022508.D
Sample : RSK Level 9 02/25/17



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022509.D Vial: 10
Acq On : 25 Feb 17 11:32 Operator: lac
Sample : RSK Level 10 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:51 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

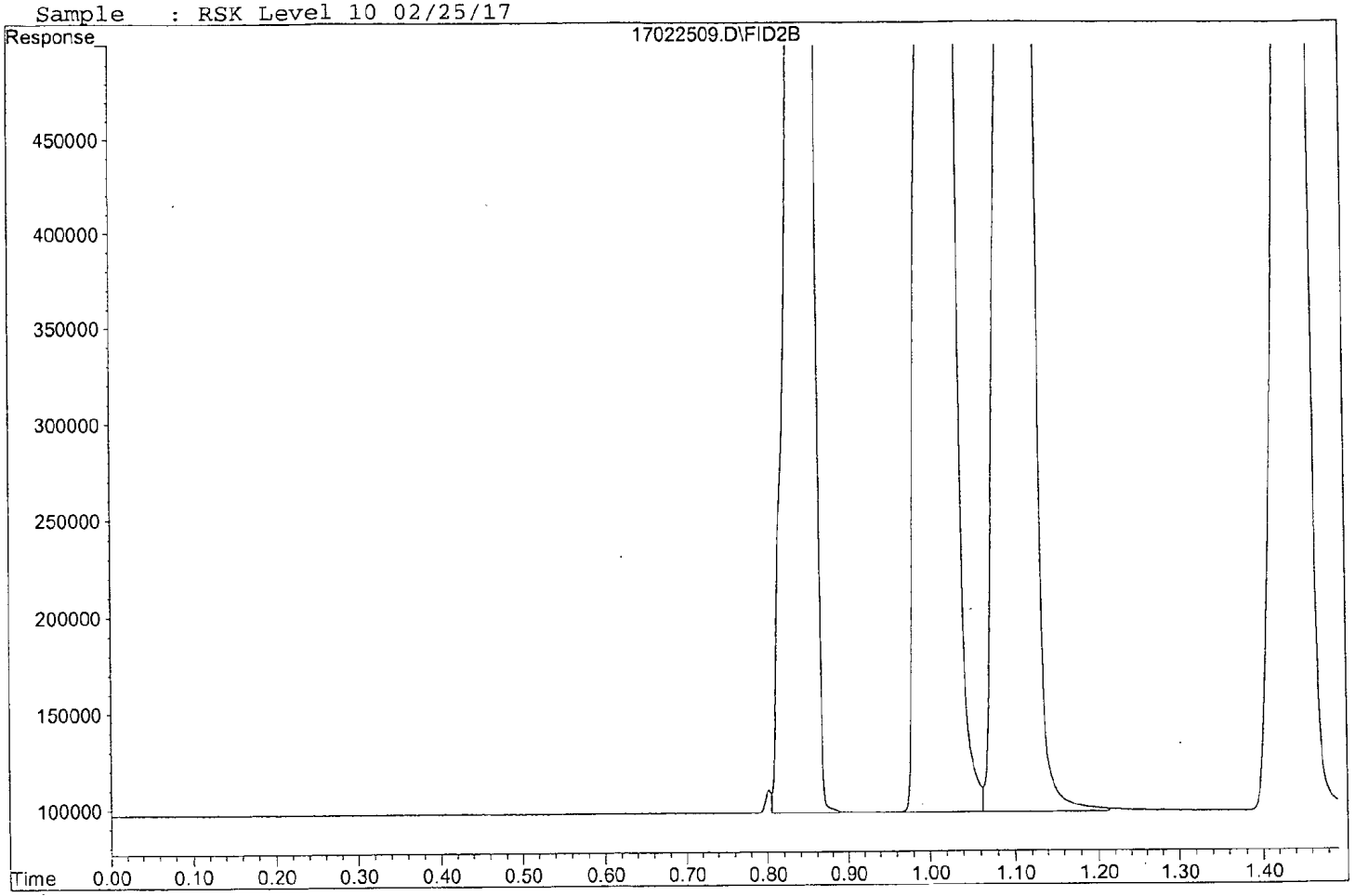
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	2704241	1343.909	ppb
2) ATM Ethane	1.02	4533931	2528.823	ppb
3) ATM Ethene	1.12	3878417	2522.741	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022509.D
Sample : RSK Level 10 02/25/17



Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 02/25/17
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17022512.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2089	17	ATML	0.04
2	ATML	Ethane	2140	1889	12	ATML	2.4
3	ATML	Ethene	1905	1716	9.9	ATML	5.4
4							
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39							
40							
		Average			13.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17022512.D Vial: 13
Acq On : 25 Feb 17 11:41 Operator: lac
Sample : RSK SS Level 6 02/25/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Feb 25 12:36 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Feb 25 12:35:32 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

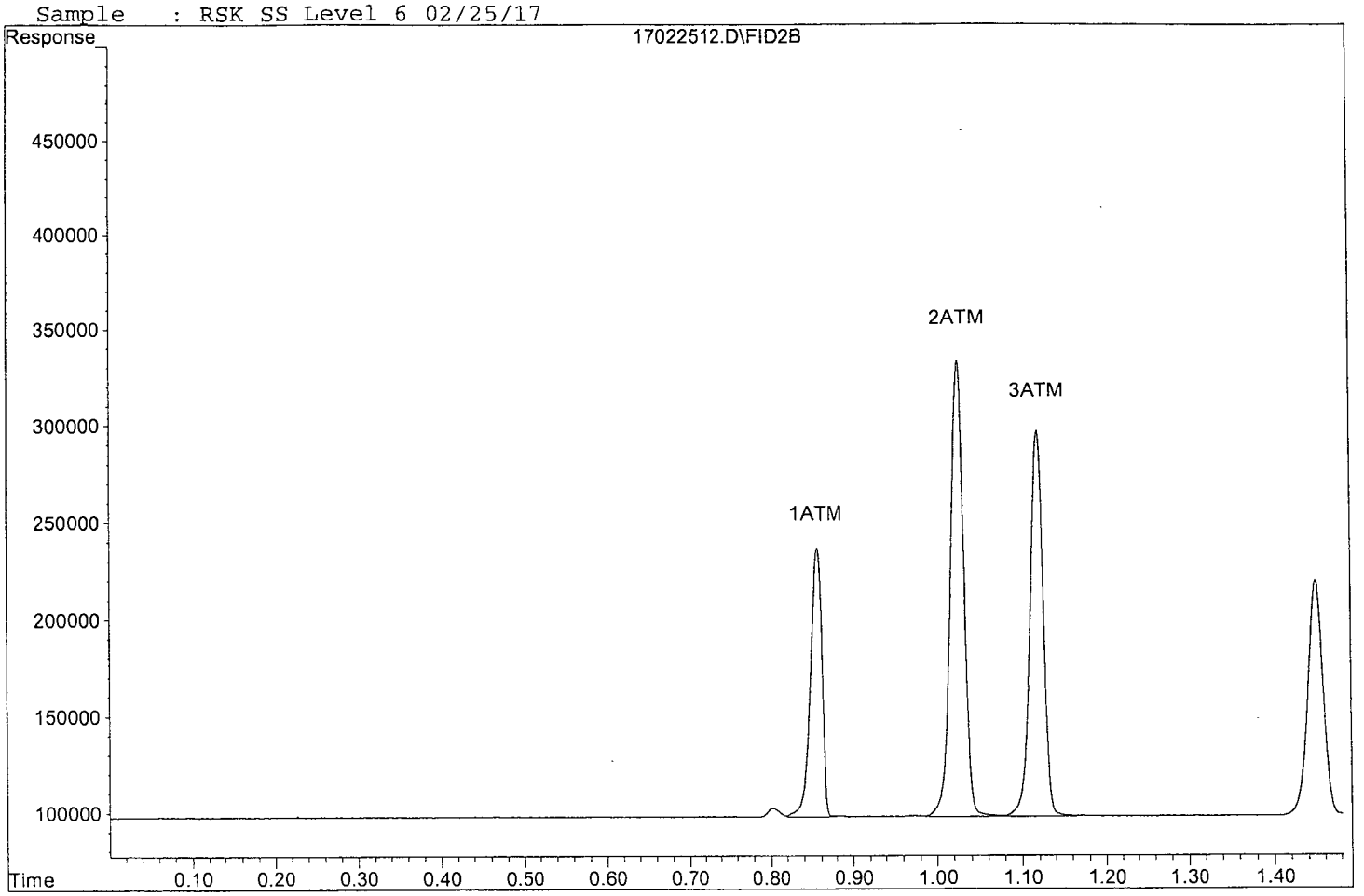
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	0.86	139416	66.720 ppb
2) ATM Ethane	1.03	236100	127.984 ppb
3) ATM Ethene	1.12	199926	122.735 ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17022512.D
Sample : RSK SS Level 6 02/25/17



Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 10:39
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040805.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2005	21	ATML	0.37
2	ATML	Ethane	2140	1828	15	ATML	2.0
3	ATML	Ethene	1905	1612	15	ATML	4.9
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39							
40							
		Average			17.0		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

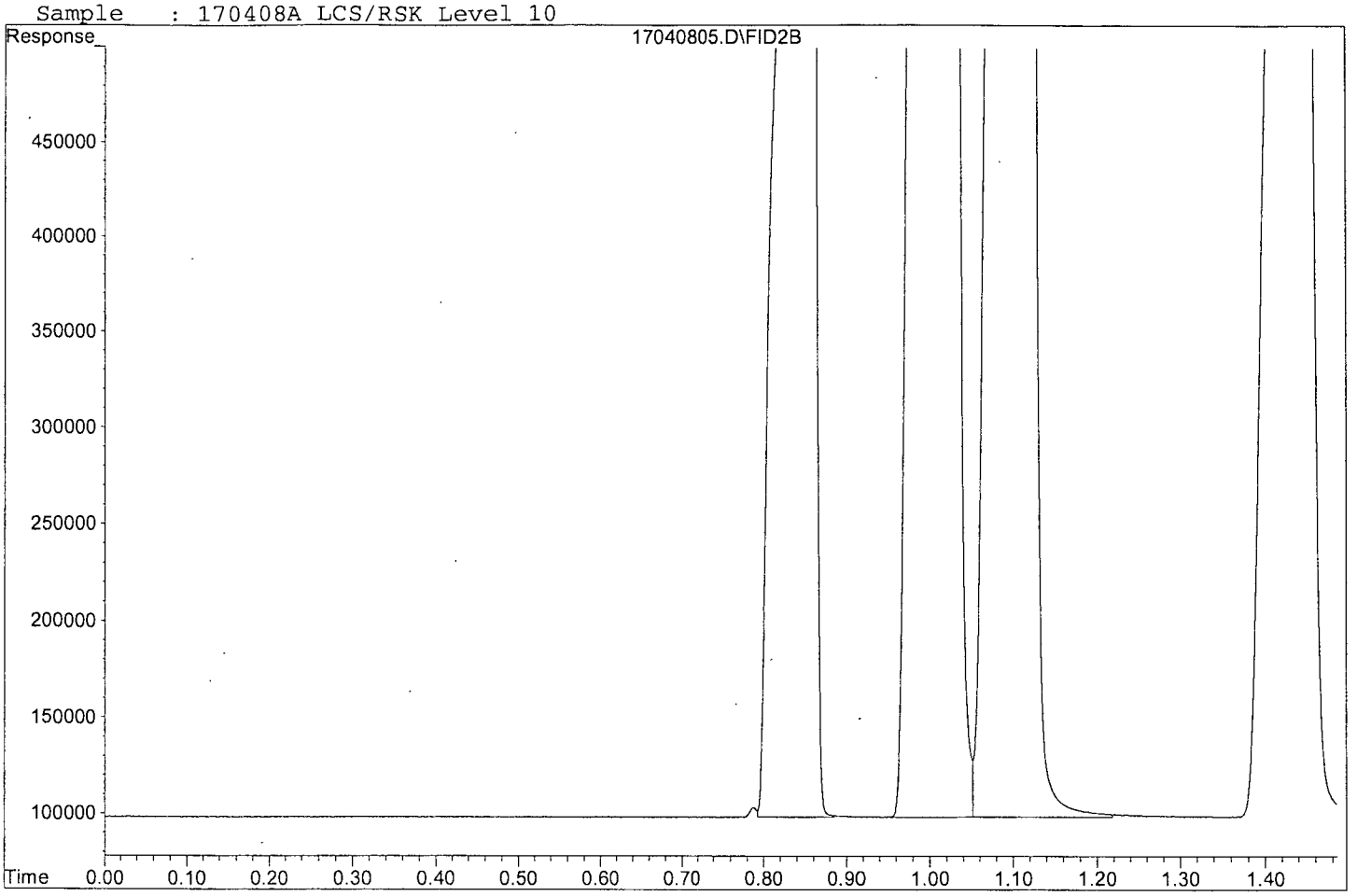
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Form 7

Ending Calibration

Lab Name: APPL, Inc.
Case No:
Matrix:

SDG No:
Date Analyzed: 8 Apr 17 13:35
Instrument: 7890
Initial Cal. Date: 02/25/17
Data File: 17040836.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	2525	2356	6.7	ATML	17
2	ATML	Ethane	2140	2008	6.2	ATML	12
3	ATML	Ethene	1905	1733	9.0	ATML	13
4							
5							
6							
7							
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39							
40							
		Average			7.3		

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040836.D Vial: 35
Acq On : 8 Apr 17 13:35 Operator: lac
Sample : Ending CCV RSK Level 10 04/08/17 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 13:37 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Sat Apr 08 13:11:46 2017
Response via : Multiple Level Calibration

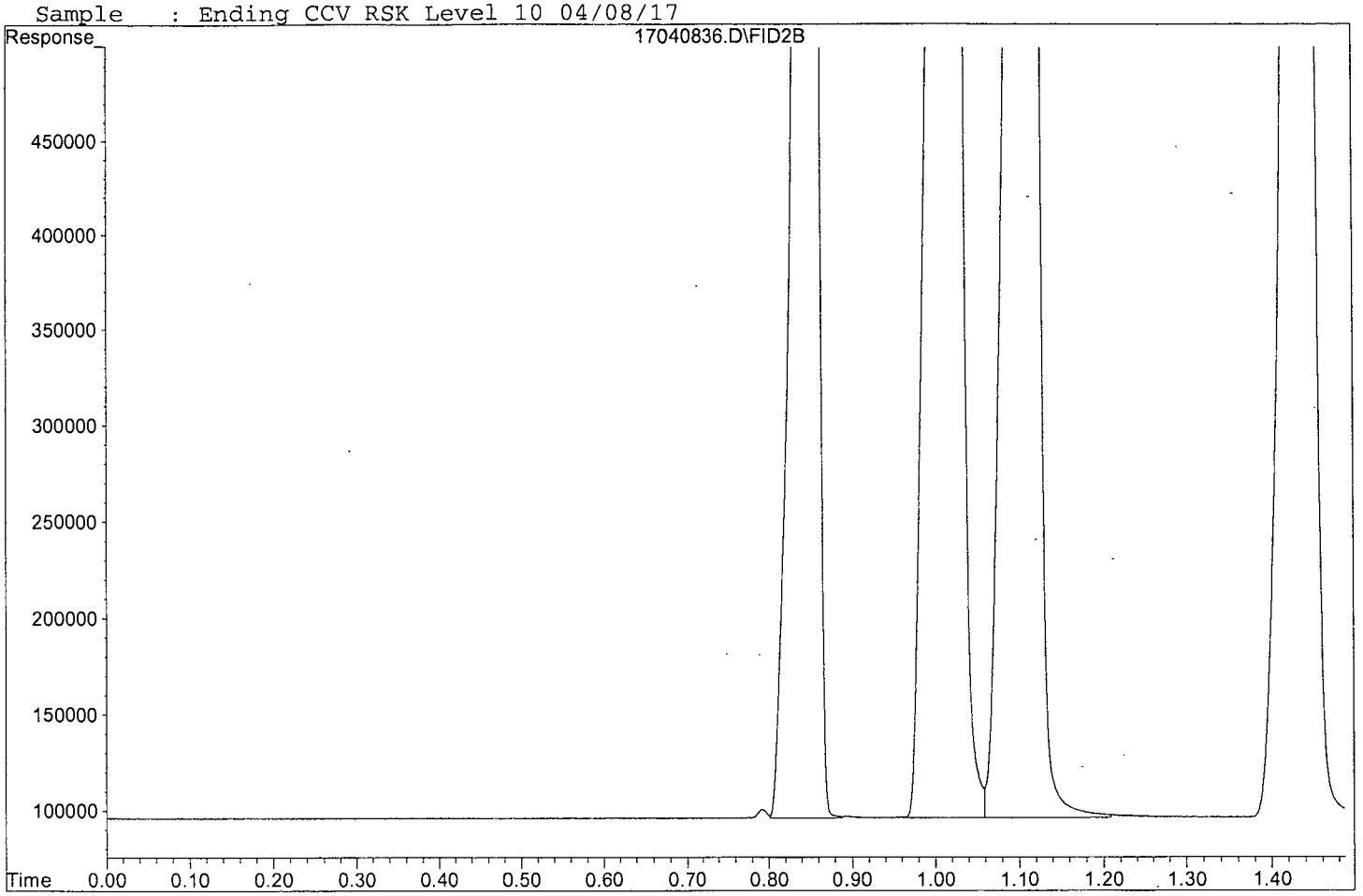
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	3144844	1563.313	ppb
2) ATM Ethane	1.02	5019231	2799.920	ppb
3) ATM Ethene	1.11	4326731	2815.240	ppb

Target Compounds

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040836.D
Sample : Ending CCV RSK Level 10 04/08/17



ORGANICS
Raw Data

APPL, INC.

Method Blank
METHANE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **170408W-53059 - 217625**
Batch ID: #RSKME-170408A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	1.00 U	5.0	1.00	0.25	ug/L	04/08/17	04/08/17

Quant Method: RSK0225.M
Run #: 17040806
Instrument: Rocky
Sequence: 170225
Initials: CMO

GC SC-Blank-REG MDLs-DOD
Printed: 04/08/17 2:05:42 PM

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040806.D Vial: 5
Acq On : 8 Apr 17 10:43 Operator: lac
Sample : 170408A BLK RSK Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 11:59 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

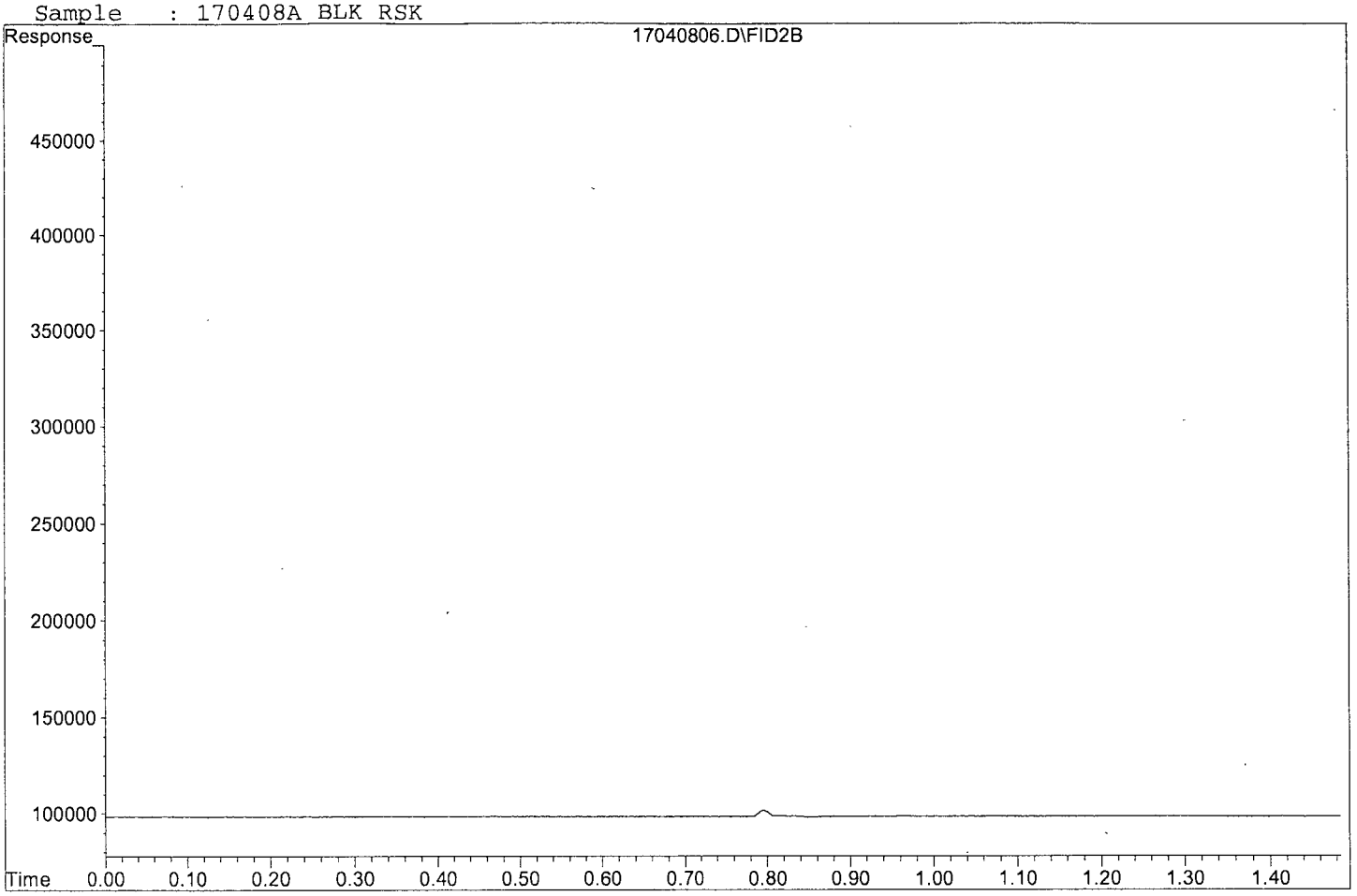
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
Target Compounds				
1) ATM Methane	0.86	154	N.D.	ppb
2) ATM Ethane	1.03	443	N.D.	ppb
3) ATM Ethene	1.12	453	N.D.	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040806.D
Sample : 170408A BLK RSK



Laboratory Control Spike Recovery
METHANE

APPL ID: **170408W-53059 LCS - 217625**
Batch ID: #RSKME-170408A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	1340	1330	99.6	72-125

Comments:

Primary	SPK
Quant Method :	RSK0225.M
Extraction Date :	04/08/17
Analysis Date :	04/08/17
Instrument :	Rocky
Run :	17040805
Initials :	CMO

Printed: 04/08/17 2:05:34 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040805.D Vial: 4
Acq On : 8 Apr 17 10:39 Operator: lac
Sample : 170408A LCS/RSK Level 10 Inst : 7890
Misc : Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 8 10:41 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 09 07:39:22 2017
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

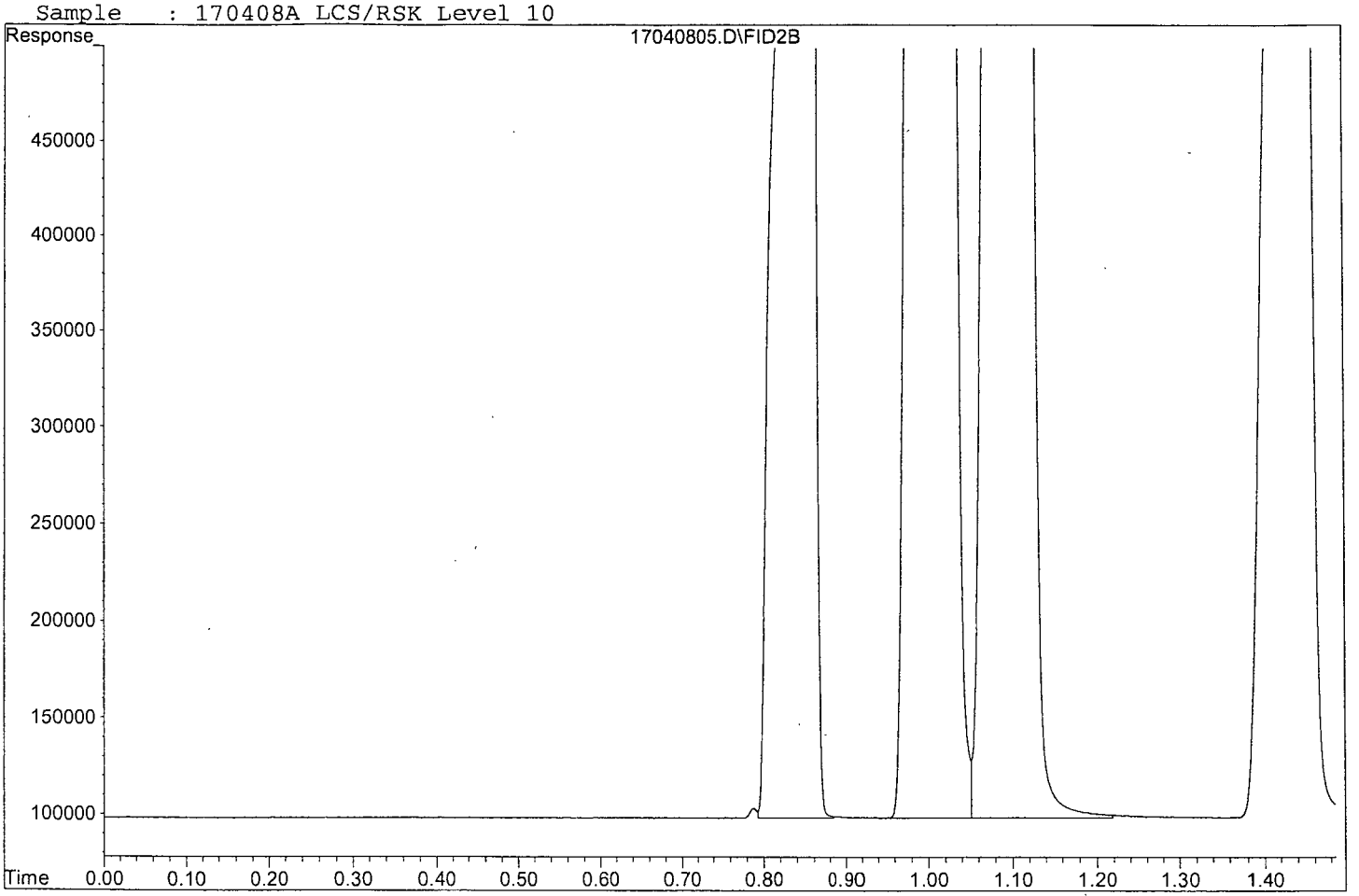
Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	2676513	1330.101	ppb
2) ATM Ethane	1.02	4570204	2549.086	ppb
3) ATM Ethene	1.11	4024212	2617.864	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: G:\ROCKY\DATA\170225R\17040805.D
Sample : 170408A LCS/RSK Level 10



Matrix Spike Recoveries

METHANE

APPL ID: **170408W-53168 MS - 217625**
Batch ID: #RSKME-170408A
Sample ID: AZ53168
Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	1340	ND	2130	1840	160 #	138 #	72-125	14.6	30

= Recovery is outside QC limits.

Comments:

Primary	SPK	DUP
Quant Method :	RSK0225.M	RSK0225.M
Extraction Date :	04/08/17	04/08/17
Analysis Date :	04/08/17	04/08/17
Instrument :	Rocky	Rocky
Run :	17040815	17040816
Initials :	CMO	

Printed: 04/28/17 7:19:10 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040815.D
Vial: 14
Acq On : 8 Apr 17 12:27
Operator: lac
Sample : AZ53168W13 MS Level 10
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 28 7:13 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Apr 28 07:13:27 2017
Response via : Multiple Level Calibration

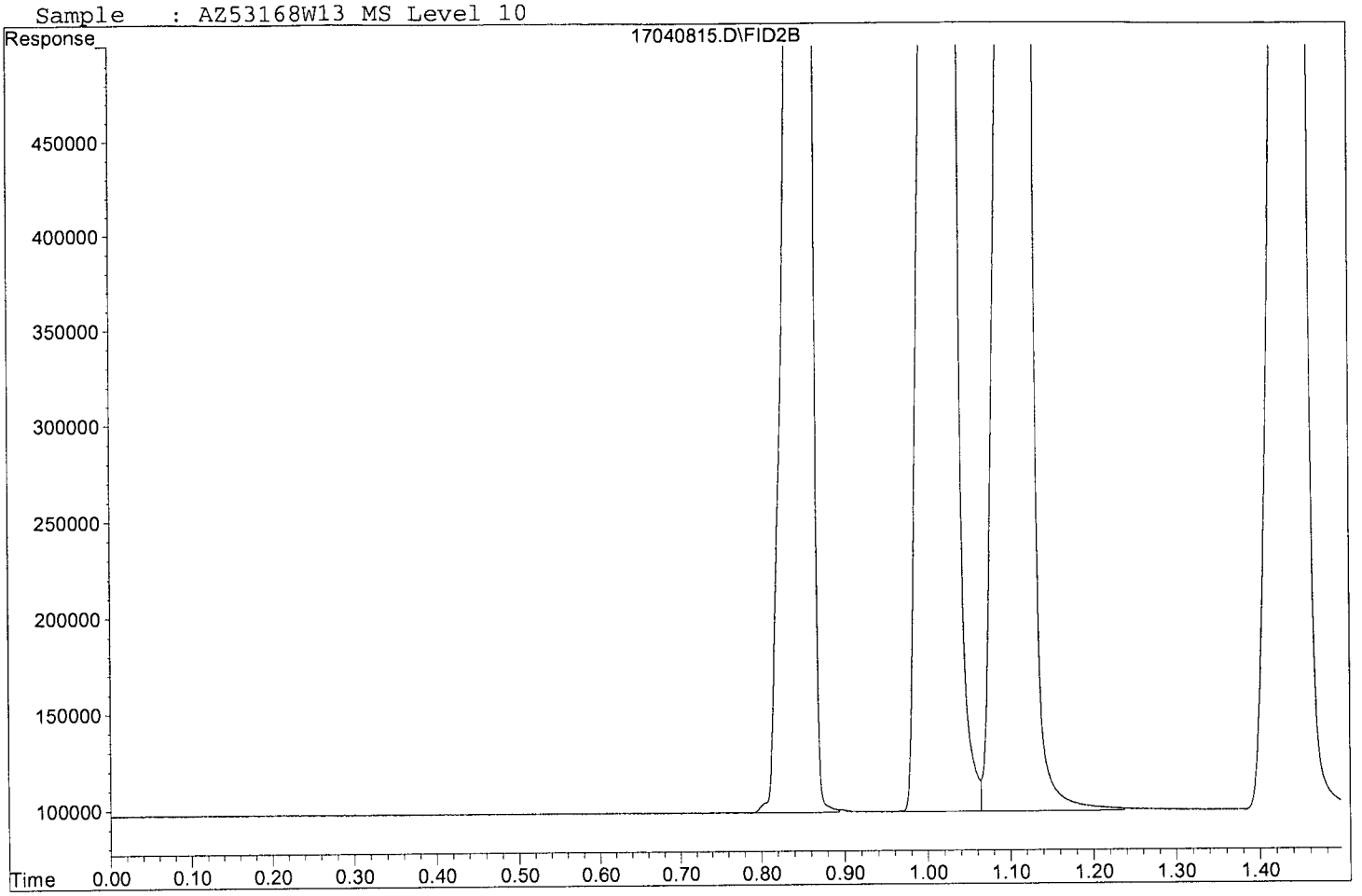
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.86	4283469	2130.306	ppb
2) ATM Ethane	1.02	6869922	3833.747	ppb
3) ATM Ethene	1.12	5766928	3754.887	ppb

Target Compounds

(f)=RT Delta > 1/2 Window
(m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040815.D
Sample : AZ53168W13 MS Level 10



Quantitation Report (Not Reviewed)

Data File : G:\ROCKY\DATA\170225R\17040816.D
Vial: 15
Acq On : 8 Apr 17 12:30
Operator: lac
Sample : AZ53168W14 MSD Level 10
Inst : 7890
Misc :
Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Apr 28 7:14 2017 Quant Results File: RSK0225.RES

Method : G:\ROCKY\DATA\170225R\RSK0225.M (Chemstation Integrator)
Title : RSK 175
Last Update : Fri Apr 28 07:13:27 2017
Response via : Multiple Level Calibration

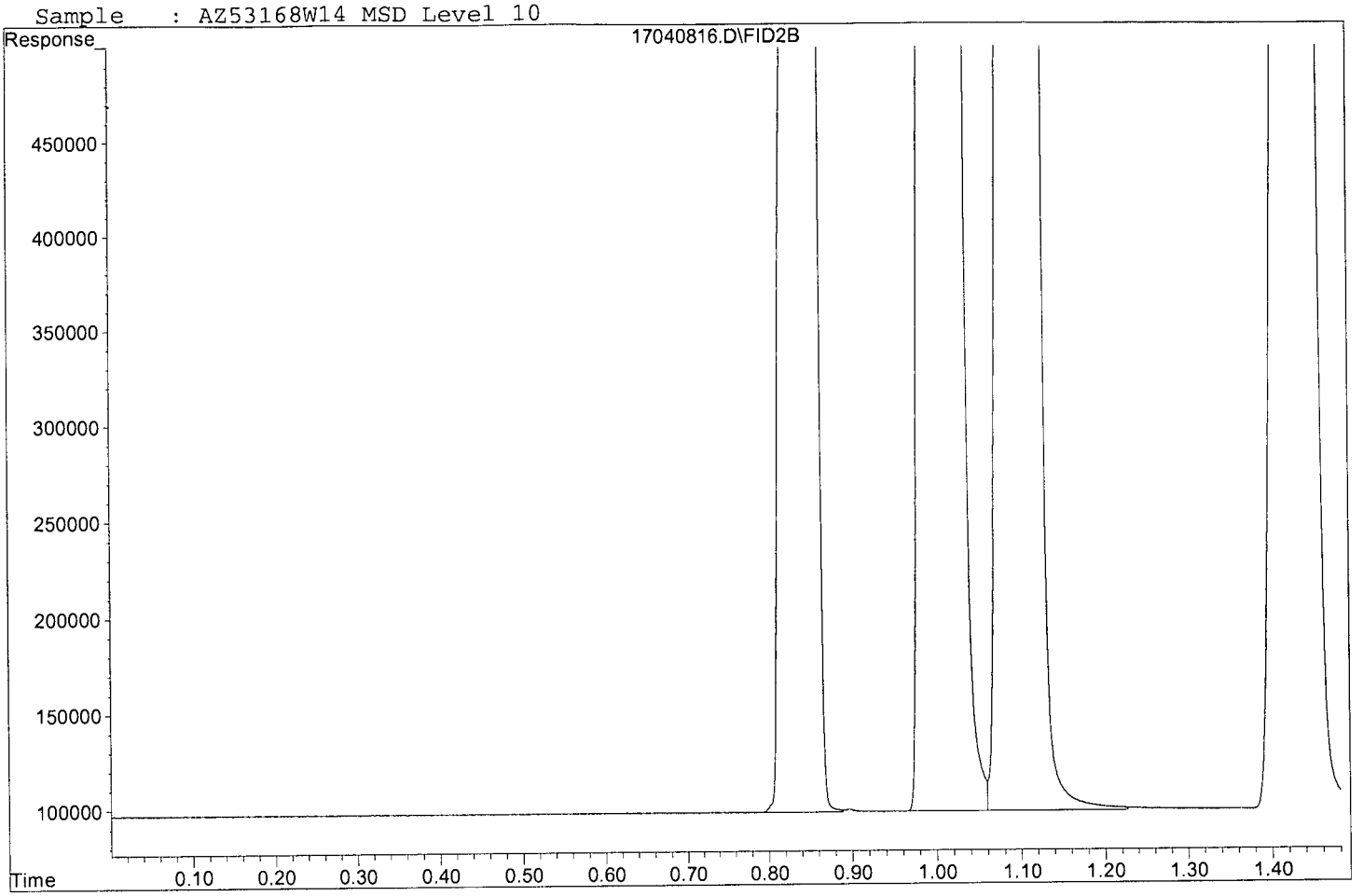
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	0.85	3694396	1836.969	ppb
2) ATM Ethane	1.02	5852660	3265.488	ppb
3) ATM Ethene	1.11	5011606	3262.082	ppb

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: G:\ROCKY\DATA\170225R\17040816.D
Sample : AZ53168W14 MSD Level 10



Primary Source Stock Standard 10,000ppmV **Manufacturer Exp date 7-8-2017** CMM 02/25/17
RSK Gas Mix (Scott Specialty Gas) Cat.# 23452, Lot # 164PLU4SPC05L-34436
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Calibration Stock Standard 100ppmV **Expires 02/25/18** CMM 02/25/17
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of 164PLU4SPC05L-34436 standard.

RSK Calibration Curve **Vial expiration date 03/25/17** CMM 02/25/17

Analye	Conc Std 1 (ug/L)	Conc Std 2 (ug/L)	Conc Std 3 (ug/L)	Conc Std 4 (ug/L)	Conc Std 5 (ug/L)	Conc Std 6 (ug/L)	Conc Std 7 (ug/L)	Conc Std 8 (ug/L)	Conc Std 9 (ug/L)	Conc Std 10 (ug/L)
Methane (MW 16.	0.90	1.80	5.10	13.33	26.70	66.75	106.80	320.4	667.5	1335.0
Ethane (MW 30.0	1.70	3.40	9.50	25.00	50.00	125.00	200.00	600.0	1250.0	2500.0
Ethene (MW 28.0	1.60	3.20	8.90	23.30	46.60	116.50	186.40	599.2	1248.0	2496.0
Stock Source	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Intermediate Calib Std 8/15/16	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436	Primary Source Std #164PLU4SPC05L-34436
Stock Conc (ppr	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	100 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV	10,000 ppmV
Stock Aliquot (m	0.135 mL	0.270 mL	0.760 mL	2.0 mL	4.0 mL	10.0 mL	0.160 mL	0.480 mL	1.00 mL	2.00 mL
Final Volume P&T W	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL	10 mL

Second Source Stock Standard 10,000ppmV **Manufacturer Exp Date 6-19-18** CMM 02/25/17
RSK Gas Mix (Scott Specialty Gas) Cat.# 0104E40028`4, Lot # 170PLU5SPC06L-35410
1% Gas Concentration Moles = 10,000ppmV Methane, Ethane, Ethene

Intermediate Second Source Standard 100ppmV **Expires 02/25/18** CMM 02/25/17
Prepared in a 1 L Tedlar bag. Add 990mL Nitrogen and 10mL of lot# 170PLU5SPC06L-35410 standard.

Second Source / LCS - Level 6 **Expires 03/25/17** CMM 02/25/17
10.0mL of Intermediate SS stock 8/15/16 into 10mL P&T water
final conc:66.7ppb Methane, 125.0ppb Ethane, and 116.5 ppb Ethene

CCV/LCS - Level 10 **Expires 05/08/17** CMM 04/08/17
2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL P&T water
final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

AZ53168 MS/MSD Level 10 CMM 04/08/17
2.00mL of Primary Source Std #164PLU4SPC05L-34436 into 10mL of sample water
final conc: 1335.0 ppb Methane, 2500.0 ppb Ethane, and 2496.0 ppb Ethene

Injection Log

Directory: G:\ROCKY\DATA\170225R\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	17022500.D	1	RSK Level 1 02/25/17		25 Feb 17 11:09
2	2	17022501.D	1	RSK Level 2 02/25/17		25 Feb 17 11:11
3	3	17022502.D	1	RSK Level 3 02/25/17		25 Feb 17 11:15
4	4	17022503.D	1	RSK Level 4 02/25/17		25 Feb 17 11:17
5	5	17022504.D	1	RSK Level 5 02/25/17		25 Feb 17 11:20
6	6	17022505.D	1	RSK Level 6 02/25/17		25 Feb 17 11:23
7	7	17022506.D	1	RSK Level 7 02/25/17		25 Feb 17 11:25
8	8	17022507.D	1	RSK Level 8 02/25/17		25 Feb 17 11:27
9	9	17022508.D	1	RSK Level 9 02/25/17		25 Feb 17 11:30
10	10	17022509.D	1	RSK Level 10 02/25/17		25 Feb 17 11:32
11	13	17022512.D	1	RSK SS Level 6 02/25/17		25 Feb 17 11:41
12	4	17040805.D	1	170408A LCS/RSK Level 10		8 Apr 17 10:39
13	5	17040806.D	1	170408A BLK RSK		8 Apr 17 10:43
14	12	17040813.D	1	AZ53167W03		8 Apr 17 12:20
15	13	17040814.D	1	AZ53168W12		8 Apr 17 12:24
16	14	17040815.D	1	AZ53168W13 MS Level 10		8 Apr 17 12:27
17	15	17040816.D	1	AZ53168W14 MSD Level 10		8 Apr 17 12:30
18	35	17040836.D	1	Ending CCV RSK Level 10 04/08/17		8 Apr 17 13:35

METALS

APPL, INC.

METALS

QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	CALCIUM (CA)	62.5 J	1000	75.0	27.5	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	IRON (FE)	25.0 U	100	25.0	21.0	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	LEAD (PB)	4.00 U	15.0	4.00	1.58	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	MAGNESIUM (MG)	12.9 J	500	30.0	12.9	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	MANGANESE (MN)	4.00 U	10.0	4.00	1.23	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	POTASSIUM (K)	500.0 U	3000	500.0	220.0	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	SODIUM (NA)	500.0 U	5000	500.0	111.1	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	LEAD (PB) (DISSOL	4.00 U	15.0	4.00	1.58	ug/L	04/07/17	04/11/17	#61CDO-170407A1-AZ53168

Metals SC-Blank-REG MDLs
Printed: 04/13/17 8:41:59 AM

Laboratory Control Spike Recoveries

METALS DISSOLVED

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6010C	LEAD (PB) (DISSOLVED)	250	248	246	99.2	98.4	0.8	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A1-AZ531
EPA 6010C	CALCIUM (CA)	25000	27300	26600	109	106	2.6	20	87-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	IRON (FE)	1000	1060	1040	106	104	1.9	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	LEAD (PB)	250	248	246	99.2	98.4	0.8	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	MAGNESIUM (MG)	25000	27100	26600	108	106	1.9	20	85-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	MANGANESE (MN)	250	262	256	105	102	2.3	20	90-114	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	POTASSIUM (K)	5000	5220	5090	104	102	2.5	20	86-114	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	SODIUM (NA)	25000	26100	25700	104	103	1.5	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316

Comments:

Matrix Spike Recoveries

METALS

APPL ID: **170407W-53168 MS - 217752**

Sample ID: AZ53168

Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	LEAD (PB) (DISSOLVE	250	ND	243	242	97.2	96.8	0.4	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	217752	AZ53168
EPA 6010C	CALCIUM (CA)	25000	12900	39500	39800	106	108	0.8	20	87-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	IRON (FE)	1000	2.6	1020	1020	102	102	0.0	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	LEAD (PB)	250	ND	237	237	94.8	94.8	0.0	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	MAGNESIUM (MG)	25000	12000	38600	38800	106	107	0.5	20	85-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	MANGANESE (MN)	250	ND	259	260	104	104	0.4	20	90-114	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	POTASSIUM (K)	5000	1960	7080	7170	102	104	1.3	20	86-114	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	SODIUM (NA)	25000	35900	60700	61200	99.2	101	0.8	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168

Comments: _____

Printed: 04/13/17 8:42:07 AM
APPL MSD SCII

METALS

Sample Data

APPL, INC.

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
ARF: 82619
Sample ID: ERH307
APPL ID: AZ53168
Sample Collection Date: 04/04/17

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	12900	1000	75.0	27.5	ug/L	1	04/07/17	04/11/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17
6010C/3010A	MAGNESIUM (MG)	12000	500	30.0	12.9	ug/L	1	04/07/17	04/11/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	04/07/17	04/11/17
6010C/3010A	POTASSIUM (K)	1960J	3000	500.0	220.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	SODIUM (NA)	35900	5000	500.0	111.1	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17

J = Estimated value.

Printed: 04/13/17 8:41:55 AM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 53
Sample ID: AZ53168W51
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 71
Date Collected: 04/11/17 3:53:28 PM
Data Type: Reprocessed on 04/12/17 8:37:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W51

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1359202.1	102.4	%	0.92				0.89%
Y 371.029 Radial	63894.8	100.5	%	1.34				1.34%
Ag 338.289†	-50.8	-0.783	ug/L	0.8052	-0.783	ug/L	0.8052	102.82%
Al 308.215†	6.5	22.05	ug/L	6.079	22.05	ug/L	6.079	27.57%
As 188.979†	2.9	4.474	ug/L	2.5541	4.474	ug/L	2.5541	57.09%
B†	36.9	31.28	ug/L	4.842	31.28	ug/L	4.842	15.48%
Ba 233.527†	170.1	2.906	ug/L	0.0739	2.906	ug/L	0.0739	2.54%
Be 313.107†	-2.3	-0.016	ug/L	0.0071	-0.016	ug/L	0.0071	43.06%
Ca 315.887†	31755.1	12860	ug/L	436.7	12860	ug/L	436.7	3.40%
Cd 214.440†	-47.4	-1.014	ug/L	0.0870	-1.014	ug/L	0.0870	8.58%
Co 228.616†	1.5	-0.002	ug/L	0.7364	-0.002	ug/L	0.7364	>999.9%
Cr 267.716†	183.8	3.204	ug/L	0.3034	3.204	ug/L	0.3034	9.47%
Cu 327.393†	19.8	0.369	ug/L	0.3068	0.369	ug/L	0.3068	83.05%
Fe 273.955†	16.6	2.559	ug/L	0.4367	2.559	ug/L	0.4367	17.07%
K 766.490†	3342.4	1961	ug/L	81.4	1961	ug/L	81.4	4.15%
Mg 285.213†	52737.8	11950	ug/L	405.9	11950	ug/L	405.9	3.40%
Mn 257.610†	-0.3	-0.620	ug/L	0.5974	-0.620	ug/L	0.5974	96.33%
Mo 202.031†	4.3	0.729	ug/L	0.2839	0.729	ug/L	0.2839	38.94%
Na 589.592†	237923.3	35850	ug/L	1123.0	35850	ug/L	1123.0	3.13%
Ni 231.604†	18.4	0.830	ug/L	0.5149	0.830	ug/L	0.5149	62.07%
P 213.617†	65.4	66.44	ug/L	1.112	66.44	ug/L	1.112	1.67%
Pb 220.353†	-9.9	-2.895	ug/L	1.6470	-2.895	ug/L	1.6470	56.88%
Sb 206.836†	0.9	1.348	ug/L	1.4056	1.348	ug/L	1.4056	104.26%
Se 196.026†	0.4	-0.151	ug/L	13.3768	-0.151	ug/L	13.3768	>999.9%
Sn 189.927†	-41.8	-18.03	ug/L	3.527	-18.03	ug/L	3.527	19.56%
Sr 421.552†	32353.0	81.25	ug/L	2.987	81.25	ug/L	2.987	3.68%
Ti 337.279†	4.8	0.056	ug/L	0.5355	0.056	ug/L	0.5355	963.05%
Tl 190.801†	0.2	0.289	ug/L	2.2235	0.289	ug/L	2.2235	769.54%
V 292.402†	1901.3	16.81	ug/L	0.835	16.81	ug/L	0.835	4.97%
Zn 206.200†	28.7	7.813	ug/L	0.3652	7.813	ug/L	0.3652	4.67%

Sequence No.: 46
Sample ID: AZ53168W52 FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 64
Date Collected: 04/11/17 3:15:30 PM
Data Type: Reprocessed on 04/12/17 8:37:03 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W52 FF

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1352504.2	101.9	%	0.77				0.76%
Y 371.029 Radial	64571.2	101.6	%	1.92				1.89%
Ag 338.289†	-54.6	-0.841	ug/L	0.3195	-0.841	ug/L	0.3195	37.99%
Al 308.215†	4.4	14.85	ug/L	5.391	14.85	ug/L	5.391	36.31%
As 188.979†	1.6	2.481	ug/L	7.5213	2.481	ug/L	7.5213	303.16%
B†	36.9	31.28	ug/L	5.849	31.28	ug/L	5.849	18.70%
Ba 233.527†	165.6	2.829	ug/L	0.0569	2.829	ug/L	0.0569	2.01%
Be 313.107†	0.9	0.006	ug/L	0.0288	0.006	ug/L	0.0288	455.15%
Ca 315.887†	31426.1	12720	ug/L	431.9	12720	ug/L	431.9	3.39%
Cd 214.440†	-47.3	-1.011	ug/L	0.1345	-1.011	ug/L	0.1345	13.31%
Co 228.616†	-4.8	-0.285	ug/L	0.2484	-0.285	ug/L	0.2484	87.29%
Cr 267.716†	165.7	2.880	ug/L	0.2220	2.880	ug/L	0.2220	7.71%
Cu 327.393†	19.3	0.361	ug/L	0.5165	0.361	ug/L	0.5165	143.16%
Fe 273.955†	1.3	0.203	ug/L	0.6331	0.203	ug/L	0.6331	312.29%
K 766.490†	3321.0	1949	ug/L	79.6	1949	ug/L	79.6	4.09%
Mg 285.213†	52246.8	11840	ug/L	390.4	11840	ug/L	390.4	3.30%
Mn 257.610†	-5.4	-1.348	ug/L	0.2451	-1.348	ug/L	0.2451	18.18%
Mo 202.031†	6.8	1.153	ug/L	0.6188	1.153	ug/L	0.6188	53.68%
Na 589.592†	235554.1	35490	ug/L	1008.3	35490	ug/L	1008.3	2.84%
Ni 231.604†	11.8	0.514	ug/L	0.6059	0.514	ug/L	0.6059	117.94%
P 213.617†	67.6	68.64	ug/L	0.931	68.64	ug/L	0.931	1.36%
Pb 220.353†	-7.4	-2.161	ug/L	0.7517	-2.161	ug/L	0.7517	34.79%
Sb 206.836†	-1.7	-2.518	ug/L	1.4751	-2.518	ug/L	1.4751	58.59%
Se 196.026†	-1.8	-4.209	ug/L	19.1057	-4.209	ug/L	19.1057	453.93%
Sn 189.927†	-41.3	-17.80	ug/L	1.711	-17.80	ug/L	1.711	9.61%
Sr 421.552†	31962.3	80.27	ug/L	2.652	80.27	ug/L	2.652	3.30%
Ti 337.279†	0.6	-0.170	ug/L	0.8579	-0.170	ug/L	0.8579	505.06%
Tl 190.801†	-0.1	-0.135	ug/L	1.4979	-0.135	ug/L	1.4979	>999.9%
V 292.402†	1884.4	16.66	ug/L	0.047	16.66	ug/L	0.047	0.28%
Zn 206.200†	13.7	3.743	ug/L	0.5089	3.743	ug/L	0.5089	13.60%

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH314
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53169

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	12400	1000	75.0	27.5	ug/L	1	04/07/17	04/11/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17
6010C/3010A	MAGNESIUM (MG)	11500	500	30.0	12.9	ug/L	1	04/07/17	04/11/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	04/07/17	04/11/17
6010C/3010A	POTASSIUM (K)	1900J	3000	500.0	220.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	SODIUM (NA)	34400	5000	500.0	111.1	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17

J = Estimated value.

Printed: 04/13/17 8:41:55 AM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 58
Sample ID: AZ53169W18
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 76
Date Collected: 04/11/17 4:20:48 PM
Data Type: Reprocessed on 04/12/17 8:37:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53169W18

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1356935.0	102.2	%	0.81				0.79%
Y 371.029 Radial	64008.5	100.7	%	0.57				0.56%
Ag 338.289†	-45.5	-0.701	ug/L	0.6701	-0.701	ug/L	0.6701	95.63%
Al 308.215†	5.5	18.70	ug/L	5.440	18.70	ug/L	5.440	29.09%
As 188.979†	2.3	3.640	ug/L	3.6797	3.640	ug/L	3.6797	101.10%
B†	42.9	36.33	ug/L	5.494	36.33	ug/L	5.494	15.12%
Ba 233.527†	169.4	2.894	ug/L	0.1624	2.894	ug/L	0.1624	5.61%
Be 313.107†	-1.5	-0.010	ug/L	0.0113	-0.010	ug/L	0.0113	107.90%
Ca 315.887†	30542.3	12370	ug/L	131.9	12370	ug/L	131.9	1.07%
Cd 214.440†	-50.8	-1.084	ug/L	0.1125	-1.084	ug/L	0.1125	10.38%
Co 228.616†	-5.8	-0.333	ug/L	0.2360	-0.333	ug/L	0.2360	70.96%
Cr 267.716†	176.2	3.072	ug/L	0.2243	3.072	ug/L	0.2243	7.30%
Cu 327.393†	18.5	0.345	ug/L	0.4785	0.345	ug/L	0.4785	138.66%
Fe 273.955†	17.4	2.695	ug/L	0.4291	2.695	ug/L	0.4291	15.92%
K 766.490†	3236.4	1899	ug/L	47.1	1899	ug/L	47.1	2.48%
Mg 285.213†	50756.2	11510	ug/L	147.0	11510	ug/L	147.0	1.28%
Mn 257.610†	-3.2	-1.021	ug/L	1.0029	-1.021	ug/L	1.0029	98.19%
Mo 202.031†	5.0	0.845	ug/L	1.0341	0.845	ug/L	1.0341	122.40%
Na 589.592†	228563.8	34440	ug/L	327.2	34440	ug/L	327.2	0.95%
Ni 231.604†	9.0	0.379	ug/L	0.2431	0.379	ug/L	0.2431	64.09%
P 213.617†	67.1	68.19	ug/L	1.571	68.19	ug/L	1.571	2.30%
Pb 220.353†	-7.9	-2.314	ug/L	0.4424	-2.314	ug/L	0.4424	19.12%
Sb 206.836†	-0.7	-1.028	ug/L	1.3267	-1.028	ug/L	1.3267	129.05%
Se 196.026†	-3.8	-7.601	ug/L	12.0597	-7.601	ug/L	12.0597	158.66%
Sn 189.927†	-43.0	-18.67	ug/L	2.465	-18.67	ug/L	2.465	13.20%
Sr 421.552†	31109.4	78.13	ug/L	1.154	78.13	ug/L	1.154	1.48%
Ti 337.279†	11.3	0.419	ug/L	0.4161	0.419	ug/L	0.4161	99.30%
Tl 190.801†	0.7	1.211	ug/L	3.0267	1.211	ug/L	3.0267	249.93%
V 292.402†	1814.2	16.04	ug/L	0.560	16.04	ug/L	0.560	3.49%
Zn 206.200†	25.8	7.044	ug/L	0.2522	7.044	ug/L	0.2522	3.58%

Sequence No.: 51
Sample ID: AZ53169W17 FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 69
Date Collected: 04/11/17 3:42:42 PM
Data Type: Reprocessed on 04/12/17 8:37:09 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53169W17 FF

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1342467.4	101.1	%	0.40				0.39%
Y 371.029 Radial	63708.1	100.2	%	1.36				1.36%
Ag 338.289†	-27.7	-0.427	ug/L	0.2909	-0.427	ug/L	0.2909	68.14%
Al 308.215†	7.4	25.13	ug/L	7.923	25.13	ug/L	7.923	31.53%
As 188.979†	3.2	4.909	ug/L	2.8638	4.909	ug/L	2.8638	58.34%
B†	32.9	27.89	ug/L	5.853	27.89	ug/L	5.853	20.99%
Ba 233.527†	159.0	2.714	ug/L	0.0930	2.714	ug/L	0.0930	3.43%
Be 313.107†	-2.8	-0.020	ug/L	0.0129	-0.020	ug/L	0.0129	65.20%
Ca 315.887†	32066.2	12980	ug/L	386.2	12980	ug/L	386.2	2.97%
Cd 214.440†	-55.7	-1.186	ug/L	0.0916	-1.186	ug/L	0.0916	7.72%
Co 228.616†	4.2	0.119	ug/L	0.2455	0.119	ug/L	0.2455	206.33%
Cr 267.716†	278.0	4.891	ug/L	0.3015	4.891	ug/L	0.3015	6.17%
Cu 327.393†	514.7	9.616	ug/L	0.8601	9.616	ug/L	0.8601	8.94%
Fe 273.955†	44.2	6.831	ug/L	0.4447	6.831	ug/L	0.4447	6.51%
K 766.490†	3418.1	2006	ug/L	51.6	2006	ug/L	51.6	2.58%
Mg 285.213†	53319.9	12090	ug/L	333.2	12090	ug/L	333.2	2.76%
Mn 257.610†	-2.8	-0.983	ug/L	0.1708	-0.983	ug/L	0.1708	17.37%
Mo 202.031†	4.0	0.677	ug/L	1.5610	0.677	ug/L	1.5610	230.60%
Na 589.592†	237436.5	35780	ug/L	49.2	35780	ug/L	49.2	0.14%
Ni 231.604†	10.4	0.446	ug/L	0.4872	0.446	ug/L	0.4872	109.18%
P 213.617†	63.7	64.74	ug/L	5.282	64.74	ug/L	5.282	8.16%
Pb 220.353†	-11.6	-3.406	ug/L	0.5236	-3.406	ug/L	0.5236	15.37%
Sb 206.836†	0.8	1.230	ug/L	2.6171	1.230	ug/L	2.6171	212.74%
Se 196.026†	0.2	-0.643	ug/L	8.8651	-0.643	ug/L	8.8651	>999.9%
Sn 189.927†	-39.2	-16.75	ug/L	3.174	-16.75	ug/L	3.174	18.95%
Sr 421.552†	32397.6	81.37	ug/L	0.198	81.37	ug/L	0.198	0.24%
Ti 337.279†	-1.7	-0.300	ug/L	1.0590	-0.300	ug/L	1.0590	352.98%
Tl 190.801†	0.4	0.707	ug/L	0.9156	0.707	ug/L	0.9156	129.59%
V 292.402†	1870.4	16.55	ug/L	0.344	16.55	ug/L	0.344	2.08%
Zn 206.200†	30.5	8.319	ug/L	0.3485	8.319	ug/L	0.3485	4.19%

Metals Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach
Project: 60481245 CIV0053 Red Hill Fuel Storage
Sample ID: ERH315
Sample Collection Date: 04/04/17

ARF: 82619
APPL ID: AZ53170

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6010C/3010A	CALCIUM (CA)	186J	1000	75.0	27.5	ug/L	1	04/07/17	04/11/17
6010C/3010A	IRON (FE)	25.0U	100	25.0	21.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17
6010C/3010A	MAGNESIUM (MG)	45.4J	500	30.0	12.9	ug/L	1	04/07/17	04/11/17
6010C/3010A	MANGANESE (MN)	4.00U	10.0	4.00	1.23	ug/L	1	04/07/17	04/11/17
6010C/3010A	POTASSIUM (K)	500.0U	3000	500.0	220.0	ug/L	1	04/07/17	04/11/17
6010C/3010A	SODIUM (NA)	118J	5000	500.0	111.1	ug/L	1	04/07/17	04/11/17
6010C/3010A	LEAD (PB) (DISSOLVED)	4.00U	15.0	4.00	1.58	ug/L	1	04/07/17	04/11/17

J = Estimated value.

Printed: 04/13/17 8:41:55 AM

APPL-F1-SC-NoMC-REG MDLs

Sequence No.: 59
Sample ID: AZ53170W18
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 77
Date Collected: 04/11/17 4:26:22 PM
Data Type: Reprocessed on 04/12/17 8:37:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53170W18

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1397959.6	105.3	%	1.22				1.16%
Y 371.029 Radial	64416.4	101.3	%	2.38				2.35%
Ag 338.289†	-25.9	-0.399	ug/L	0.3205	-0.399	ug/L	0.3205	80.32%
Al 308.215†	3.5	11.97	ug/L	9.574	11.97	ug/L	9.574	79.95%
As 188.979†	1.7	2.650	ug/L	5.8338	2.650	ug/L	5.8338	220.14%
B†	6.8	5.777	ug/L	1.5990	5.777	ug/L	1.5990	27.68%
Ba 233.527†	5.8	0.098	ug/L	0.1425	0.098	ug/L	0.1425	144.95%
Be 313.107†	-0.1	-0.001	ug/L	0.0108	-0.001	ug/L	0.0108	>999.9%
Ca 315.887†	458.1	185.5	ug/L	8.96	185.5	ug/L	8.96	4.83%
Cd 214.440†	-0.5	-0.011	ug/L	0.0905	-0.011	ug/L	0.0905	822.54%
Co 228.616†	0.9	0.040	ug/L	0.2454	0.040	ug/L	0.2454	614.57%
Cr 267.716†	5.7	0.100	ug/L	0.0905	0.100	ug/L	0.0905	90.60%
Cu 327.393†	29.5	0.551	ug/L	0.3479	0.551	ug/L	0.3479	63.12%
Fe 273.955†	5.6	0.861	ug/L	0.5854	0.861	ug/L	0.5854	68.00%
K 766.490†	27.0	15.86	ug/L	9.538	15.86	ug/L	9.538	60.13%
Mg 285.213†	200.2	45.39	ug/L	0.009	45.39	ug/L	0.009	0.02%
Mn 257.610†	0.9	0.120	ug/L	0.9837	0.120	ug/L	0.9837	816.87%
Mo 202.031†	0.8	0.127	ug/L	0.6759	0.127	ug/L	0.6759	531.59%
Na 589.592†	780.8	117.6	ug/L	20.34	117.6	ug/L	20.34	17.29%
Ni 231.604†	5.0	0.240	ug/L	0.1832	0.240	ug/L	0.1832	76.34%
P 213.617†	2.6	2.597	ug/L	2.3676	2.597	ug/L	2.3676	91.17%
Pb 220.353†	-3.9	-1.141	ug/L	0.7009	-1.141	ug/L	0.7009	61.45%
Sb 206.836†	-1.6	-2.403	ug/L	0.5438	-2.403	ug/L	0.5438	22.63%
Se 196.026†	2.5	4.418	ug/L	8.8063	4.418	ug/L	8.8063	199.34%
Sn 189.927†	-2.0	-0.926	ug/L	2.5189	-0.926	ug/L	2.5189	271.90%
Sr 421.552†	123.7	0.310	ug/L	0.0897	0.310	ug/L	0.0897	28.96%
Ti 337.279†	17.0	0.931	ug/L	0.8639	0.931	ug/L	0.8639	92.75%
Tl 190.801†	0.9	1.521	ug/L	1.1844	1.521	ug/L	1.1844	77.85%
V 292.402†	-46.6	-0.412	ug/L	0.2317	-0.412	ug/L	0.2317	56.26%
Zn 206.200†	15.0	4.088	ug/L	0.1607	4.088	ug/L	0.1607	3.93%

Sequence No.: 52
Sample ID: AZ53170W17 FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 70
Date Collected: 04/11/17 3:48:30 PM
Data Type: Reprocessed on 04/12/17 8:37:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53170W17 FF

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1396696.0	105.2	%	0.08				0.07%
Y 371.029 Radial	66115.1	104.0	%	2.40				2.31%
Ag 338.289†	-34.3	-0.529	ug/L	0.7520	-0.529	ug/L	0.7520	142.07%
Al 308.215†	4.3	14.43	ug/L	1.534	14.43	ug/L	1.534	10.63%
As 188.979†	2.6	3.993	ug/L	1.4608	3.993	ug/L	1.4608	36.58%
B†	14.4	12.24	ug/L	5.407	12.24	ug/L	5.407	44.17%
Ba 233.527†	18.7	0.321	ug/L	0.2323	0.321	ug/L	0.2323	72.38%
Be 313.107†	-1.4	-0.010	ug/L	0.0047	-0.010	ug/L	0.0047	46.29%
Ca 315.887†	239.2	96.87	ug/L	5.988	96.87	ug/L	5.988	6.18%
Cd 214.440†	-0.7	-0.014	ug/L	0.1879	-0.014	ug/L	0.1879	>999.9%
Co 228.616†	-1.5	-0.070	ug/L	0.2901	-0.070	ug/L	0.2901	415.27%
Cr 267.716†	4.2	0.075	ug/L	0.0522	0.075	ug/L	0.0522	70.07%
Cu 327.393†	34.8	0.649	ug/L	0.4033	0.649	ug/L	0.4033	62.12%
Fe 273.955†	9.4	1.452	ug/L	0.3238	1.452	ug/L	0.3238	22.30%
K 766.490†	4.9	2.894	ug/L	18.4908	2.894	ug/L	18.4908	638.94%
Mg 285.213†	170.6	38.67	ug/L	1.496	38.67	ug/L	1.496	3.87%
Mn 257.610†	-1.8	-0.263	ug/L	0.3037	-0.263	ug/L	0.3037	115.45%
Mo 202.031†	-1.7	-0.292	ug/L	0.3786	-0.292	ug/L	0.3786	129.82%
Na 589.592†	910.3	137.2	ug/L	24.20	137.2	ug/L	24.20	17.64%
Ni 231.604†	3.1	0.148	ug/L	0.4350	0.148	ug/L	0.4350	294.80%
P 213.617†	6.5	6.585	ug/L	2.3168	6.585	ug/L	2.3168	35.18%
Pb 220.353†	-5.3	-1.557	ug/L	0.5737	-1.557	ug/L	0.5737	36.85%
Sb 206.836†	-2.6	-3.751	ug/L	0.4604	-3.751	ug/L	0.4604	12.28%
Se 196.026†	2.6	4.690	ug/L	5.6496	4.690	ug/L	5.6496	120.45%
Sn 189.927†	-3.2	-1.529	ug/L	0.5513	-1.529	ug/L	0.5513	36.05%
Sr 421.552†	150.9	0.379	ug/L	0.2633	0.379	ug/L	0.2633	69.50%
Ti 337.279†	11.0	0.603	ug/L	0.4344	0.603	ug/L	0.4344	72.07%
Tl 190.801†	0.4	0.764	ug/L	0.9057	0.764	ug/L	0.9057	118.53%
V 292.402†	-20.2	-0.184	ug/L	0.5152	-0.184	ug/L	0.5152	280.59%
Zn 206.200†	21.3	5.803	ug/L	0.3950	5.803	ug/L	0.3950	6.81%

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:30	%R(1)	True CCV1	Found 11:56	%R(1)	True CCV1	Found 13:15	%R(1)	
Calcium (Ca)	25000	27080	108	50000	50530	101	50000	50480	101	P
Iron (Fe)	25000	26390	106	20000	20090	100	20000	20550	103	P
Potassium (K)	25000	26320	105	20000	19820	99.1	20000	19800	99.0	P
Magnesium (Mg)	25000	27550	110	50000	51040	102	50000	50540	101	P
Manganese (Mn)	1000	967.8	96.8	1000	996	99.6	1000	986	98.6	P
Sodium (Na)	25000	26580	106	25000	24900	99.6	25000	24630	98.5	P
Lead (Pb)	1000	956.7	95.7	1000	1006	101	1000	993.1	99.3	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:30	%R(1)	True CCV2	Found 14:11	%R(1)	True CCV1	Found 15:01	%R(1)	
Calcium (Ca)	25000	27080	108	37500	40430	108	50000	51480	103	P
Iron (Fe)	25000	26390	106	15000	16530	110	20000	20340	102	P
Potassium (K)	25000	26320	105	15000	15730	105	20000	19770	98.8	P
Magnesium (Mg)	25000	27550	110	37500	40730	109	50000	51560	103	P
Manganese (Mn)	1000	967.8	96.8	750	807	108	1000	1016	102	P
Sodium (Na)	25000	26580	106	18750	19670	105	25000	24910	99.6	P
Lead (Pb)	1000	956.7	95.7	750	783.6	104	1000	993.2	99.3	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:30	%R(1)	True CCV2	Found 16:31	%R(1)	True	Found	%R(1)	
Calcium (Ca)	25000	27080	108	37500	38750	103				P
Iron (Fe)	25000	26390	106	15000	15330	102				P
Potassium (K)	25000	26320	105	15000	14910	99.4				P
Magnesium (Mg)	25000	27550	110	37500	38990	104				P
Manganese (Mn)	1000	967.8	96.8	750	754.4	101				P
Sodium (Na)	25000	26580	106	18750	18770	100				P
Lead (Pb)	1000	956.7	95.7	750	726.3	96.8				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 04/11/17

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	11:36		12:02		13:24		14:16		13:29		
Calcium (Ca)	1000.00	U	1000.00	U	27.90	J	1000.00	U	62.50	J	P
Iron (Fe)	100.00	U	100.00	U	100.00	U	100.00	U	100.00	U	P
Potassium (K)	3000.00	U	3000.00	U	3000.00	U	3000.00	U	3000.00	U	P
Magnesium (Mg)	500.00	U	500.00	U	500.00	U	500.00	U	12.90	J	P
Manganese (Mn)	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	P
Sodium (Na)	5000.00	U	5000.00	U	5000.00	U	5000.00	U	5000.00	U	P
Lead (Pb)	15.00	U	15.00	U	15.00	U	15.00	U	15.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 04/11/17

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	11:36		15:07		16:39				13:29		
Calcium (Ca)	1000.00	U	1000.00	U	1000.00	U			62.50	J	P
Iron (Fe)	100.00	U	100.00	U	100.00	U			100.00	U	P
Potassium (K)	3000.00	U	3000.00	U	3000.00	U			3000.00	U	P
Magnesium (Mg)	500.00	U	500.00	U	500.00	U			12.90	J	P
Manganese (Mn)	10.00	U	10.00	U	10.00	U			10.00	U	P
Sodium (Na)	5000.00	U	5000.00	U	5000.00	U			5000.00	U	P
Lead (Pb)	15.00	U	15.00	U	15.00	U			15.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No.: 82619 SDG: 82619
ICP ID Number: Phoebe ICS Source: Environmental Express

Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 11:46	Sol AB 11:51	%R(1)
Aluminum (Al)	200000	200000	196400	190100	95.0
Calcium (Ca)	200000	200000	204700	198400	99.2
Iron (Fe)	200000	200000	188900	187000	93.5
Potassium (K)			9.718	-17.52	
Magnesium (Mg)	200000	200000	200500	195100	97.5
Manganese (Mn)		500	0.91	476.1	95.2
Sodium (Na)			50.3	167.2	
Lead (Pb)		1000	1.105	957.9	95.8

(1) Control Limits: Metals 80-120

A.P.P.L. INC.

LLICV Check

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No: 82619 SDG: 82619

Concentration Units: ug/L

Analysis Date: 04/11/17

Analyte	LLICV								
	True LLICV	Found 11:41	%R(1)	True	Found	%R(1)	True	Found	%R(1)
Calcium (Ca)	100	104.8	105						
Iron (Fe)	50	54.08	108						
Potassium (K)	1000	927.3	92.7						
Magnesium (Mg)	50	52.07	104						
Manganese (Mn)	5	5.06	101						
Sodium (Na)	1000	985.7	98.6						
Lead (Pb)	3	3.579	119						

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
ERH307

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead (Pb)	75-125	265.2		-2.161		250.000	106		

Comments:

04/11/17 15:15 AZ53168W52 FF

04/11/17 15:32 AZ53168W52-A FF

Sequence No.: 49
Sample ID: AZ53168W52-A FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 67
Date Collected: 04/11/17 3:32:06 PM
Data Type: Reprocessed on 04/12/17 8:37:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W52-A FF

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1316526.8	99.19	%	0.424				0.43%
Y 371.029 Radial	62719.4	98.64	%	0.655				0.66%
Ag 338.289†	5480.0	84.46	ug/L	1.862	84.46	ug/L	1.862	2.20%
Al 308.215†	674.3	2276	ug/L	11.1	2276	ug/L	11.1	0.49%
As 188.979†	169.8	260.2	ug/L	8.93	260.2	ug/L	8.93	3.43%
B†	337.1	285.7	ug/L	0.45	285.7	ug/L	0.45	0.16%
Ba 233.527†	16806.7	288.1	ug/L	2.51	288.1	ug/L	2.51	0.87%
Be 313.107†	8198.6	58.55	ug/L	0.431	58.55	ug/L	0.431	0.74%
Ca 315.887†	104711.3	42400	ug/L	890.6	42400	ug/L	890.6	2.10%
Cd 214.440†	2481.9	51.86	ug/L	0.405	51.86	ug/L	0.405	0.78%
Co 228.616†	6329.6	286.2	ug/L	1.85	286.2	ug/L	1.85	0.65%
Cr 267.716†	16269.9	291.6	ug/L	2.61	291.6	ug/L	2.61	0.89%
Cu 327.393†	14968.8	279.7	ug/L	3.14	279.7	ug/L	3.14	1.12%
Fe 273.955†	7355.0	1137	ug/L	11.8	1137	ug/L	11.8	1.04%
K 766.490†	12956.6	7602	ug/L	175.1	7602	ug/L	175.1	2.30%
Mg 285.213†	181438.3	41130	ug/L	860.5	41130	ug/L	860.5	2.09%
Mn 257.610†	2010.9	285.2	ug/L	1.99	285.2	ug/L	1.99	0.70%
Mo 202.031†	1405.6	237.7	ug/L	1.85	237.7	ug/L	1.85	0.78%
Na 589.592†	420194.4	63310	ug/L	1268.4	63310	ug/L	1268.4	2.00%
Ni 231.604†	5847.2	280.9	ug/L	1.64	280.9	ug/L	1.64	0.58%
P 213.617†	2096.7	2130	ug/L	10.9	2130	ug/L	10.9	0.51%
Pb 220.353†	904.3	265.2	ug/L	1.47	265.2	ug/L	1.47	0.55%
Sb 206.836†	155.0	226.6	ug/L	2.50	226.6	ug/L	2.50	1.10%
Se 196.026†	130.9	232.1	ug/L	12.40	232.1	ug/L	12.40	5.34%
Sn 189.927†	436.4	215.0	ug/L	2.44	215.0	ug/L	2.44	1.14%
Sr 421.552†	148314.6	372.7	ug/L	8.34	372.7	ug/L	8.34	2.24%
Ti 337.279†	5147.5	281.2	ug/L	1.48	281.2	ug/L	1.48	0.53%
Tl 190.801†	137.4	243.3	ug/L	3.17	243.3	ug/L	3.17	1.30%
V 292.402†	34541.6	311.8	ug/L	3.72	311.8	ug/L	3.72	1.19%
Zn 206.200†	1906.4	519.7	ug/L	1.24	519.7	ug/L	1.24	0.24%

A.P.P.L. INC.
5B
POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.
ERH307

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No.: 82619 SDG: 82619

Analysis Date: 04/11/17 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Iron (Fe)	75-125	1125		2.559		1000.000	112		
Potassium (K)	75-125	7722		1961		5000.000	115		
Manganese (Mn)	75-125	285.9		-0.62		250.000	114		
Lead (Pb)	75-125	261		-2.895		250.000	104		

Comments:

04/11/17 15:53 AZ53168W51

04/11/17 16:10 AZ53168W51-A

Sequence No.: 56
Sample ID: AZ53168W51-A
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 04/11/17 4:10:15 PM
Data Type: Reprocessed on 04/12/17 8:37:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W51-A

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1333656.4	100.5	%	0.55				0.55%
Y 371.029 Radial	63191.1	99.38	%	1.631				1.64%
Ag 338.289†	5295.2	81.61	ug/L	0.818	81.61	ug/L	0.818	1.00%
Al 308.215†	679.3	2293	ug/L	39.2	2293	ug/L	39.2	1.71%
As 188.979†	162.9	249.6	ug/L	2.15	249.6	ug/L	2.15	0.86%
B†	340.4	288.6	ug/L	3.20	288.6	ug/L	3.20	1.11%
Ba 233.527†	16491.7	282.7	ug/L	1.16	282.7	ug/L	1.16	0.41%
Be 313.107†	8252.9	58.94	ug/L	0.997	58.94	ug/L	0.997	1.69%
Ca 315.887†	106530.2	43130	ug/L	475.1	43130	ug/L	475.1	1.10%
Cd 214.440†	2428.6	50.74	ug/L	0.523	50.74	ug/L	0.523	1.03%
Co 228.616†	6233.1	281.8	ug/L	1.46	281.8	ug/L	1.46	0.52%
Cr 267.716†	15931.1	285.5	ug/L	2.04	285.5	ug/L	2.04	0.71%
Cu 327.393†	14755.5	275.7	ug/L	2.52	275.7	ug/L	2.52	0.92%
Fe 273.955†	7275.8	1125	ug/L	8.5	1125	ug/L	8.5	0.75%
K 766.490†	13160.5	7722	ug/L	80.0	7722	ug/L	80.0	1.04%
Mg 285.213†	184022.6	41720	ug/L	533.2	41720	ug/L	533.2	1.28%
Mn 257.610†	2016.1	285.9	ug/L	4.09	285.9	ug/L	4.09	1.43%
Mo 202.031†	1387.5	234.6	ug/L	2.49	234.6	ug/L	2.49	1.06%
Na 589.592†	429377.3	64690	ug/L	649.8	64690	ug/L	649.8	1.00%
Ni 231.604†	5783.9	277.8	ug/L	2.33	277.8	ug/L	2.33	0.84%
P 213.617†	2054.6	2088	ug/L	12.0	2088	ug/L	12.0	0.57%
Pb 220.353†	890.0	261.0	ug/L	2.18	261.0	ug/L	2.18	0.84%
Sb 206.836†	155.0	226.6	ug/L	1.88	226.6	ug/L	1.88	0.83%
Se 196.026†	140.9	249.9	ug/L	4.29	249.9	ug/L	4.29	1.71%
Sn 189.927†	436.8	215.2	ug/L	4.28	215.2	ug/L	4.28	1.99%
Sr 421.552†	151303.1	380.3	ug/L	3.88	380.3	ug/L	3.88	1.02%
Ti 337.279†	5247.0	286.6	ug/L	5.29	286.6	ug/L	5.29	1.84%
Tl 190.801†	133.3	236.2	ug/L	3.54	236.2	ug/L	3.54	1.50%
V 292.402†	33997.0	306.8	ug/L	2.16	306.8	ug/L	2.16	0.70%
Zn 206.200†	1877.9	512.0	ug/L	2.91	512.0	ug/L	2.91	0.57%

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
ERH307

Lab Name: A.P.P.L. INC.
Contract: AECOM
ARF No.: 82619
SDG: 82619
Matrix: water

Analysis Date: 04/11/17
Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Calcium (Ca)	12860		12350		3.97		
Magnesium (Mg)	11950		11660		2.43		
Sodium (Na)	35850		35610		0.669		

Comments:

04/11/17 15:53 AZ53168W51

04/11/17 16:15 AZ53168W51-1/5

Sequence No.: 57
Sample ID: AZ53168W51-1/5
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 75
Date Collected: 04/11/17 4:15:51 PM
Data Type: Reprocessed on 04/12/17 8:37:17 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W51-1/5

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1371993.8	103.4	%	0.29				0.28%
Y 371.029 Radial	66810.8	105.1	%	8.07				7.68%
Ag 338.289†	-29.5	-0.455	ug/L	1.3556	-2.273	ug/L	6.7780	298.25%
Al 308.215†	2.6	8.707	ug/L	6.0799	43.54	ug/L	30.400	69.83%
As 188.979†	3.8	5.804	ug/L	1.4727	29.02	ug/L	7.363	25.37%
B†	15.9	13.50	ug/L	4.253	67.49	ug/L	21.266	31.51%
Ba 233.527†	31.1	0.530	ug/L	0.0514	2.651	ug/L	0.2568	9.69%
Be 313.107†	0.6	0.004	ug/L	0.0260	0.022	ug/L	0.1302	586.81%
Ca 315.887†	6102.6	2471	ug/L	219.8	12350	ug/L	1099.1	8.90%
Cd 214.440†	-25.6	-0.537	ug/L	0.0731	-2.687	ug/L	0.3657	13.61%
Co 228.616†	1.2	0.041	ug/L	0.1641	0.206	ug/L	0.8206	398.63%
Cr 267.716†	36.7	0.641	ug/L	0.2914	3.203	ug/L	1.4572	45.50%
Cu 327.393†	-11.0	-0.206	ug/L	0.9120	-1.031	ug/L	4.5598	442.30%
Fe 273.955†	1.3	0.198	ug/L	0.4695	0.989	ug/L	2.3474	237.29%
K 766.490†	692.5	406.3	ug/L	47.53	2032	ug/L	237.6	11.70%
Mg 285.213†	10287.4	2332	ug/L	210.7	11660	ug/L	1053.6	9.04%
Mn 257.610†	-1.2	-0.281	ug/L	0.7602	-1.406	ug/L	3.8009	270.41%
Mo 202.031†	7.4	1.256	ug/L	1.0089	6.278	ug/L	5.0447	80.36%
Na 589.592†	47262.4	7122	ug/L	636.3	35610	ug/L	3181.7	8.94%
Ni 231.604†	10.2	0.483	ug/L	0.7096	2.413	ug/L	3.5481	147.06%
P 213.617†	16.0	16.25	ug/L	1.071	81.26	ug/L	5.355	6.59%
Pb 220.353†	-1.3	-0.368	ug/L	0.6466	-1.842	ug/L	3.2332	175.50%
Sb 206.836†	0.4	0.613	ug/L	1.6180	3.067	ug/L	8.0902	263.77%
Se 196.026†	0.8	1.177	ug/L	2.2343	5.884	ug/L	11.1717	189.85%
Sn 189.927†	-10.4	-4.596	ug/L	0.1244	-22.98	ug/L	0.622	2.71%
Sr 421.552†	6339.4	15.92	ug/L	1.356	79.61	ug/L	6.778	8.51%
Ti 337.279†	35.8	1.918	ug/L	3.5751	9.589	ug/L	17.8757	186.43%
Tl 190.801†	-0.1	-0.205	ug/L	2.8262	-1.025	ug/L	14.1312	>999.9%
V 292.402†	384.6	3.414	ug/L	0.7109	17.07	ug/L	3.555	20.83%
Zn 206.200†	12.3	3.355	ug/L	0.2154	16.78	ug/L	1.077	6.42%

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 170411A6010X
Results Library (original): C:\PE\chemist\RESULTS\Results.mdb
Results Data Set (reprocessed):
Results Library (reprocessed):

Sequence No.: 1 Autosampler Location: 1
Sample ID: CalBlk 170411RJS I:PB O:R Date Collected: 04/11/17 11:10:35 AM
Analyst: Data Type: Reprocessed on 04/12/17 8:36:03 AM
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CalBlk 170411RJS I:PB O:R

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1327328.4	16797.29	1.27%	100.0	%
Y 371.029 Radial	63585.0	2259.63	3.55%	100.0	%
Ag 338.289†	231.7	52.95	22.85%	[0.00]	ug/L
Al 308.215†	1.4	1.66	121.96%	[0.00]	ug/L
As 188.979†	-12.8	1.90	14.89%	[0.00]	ug/L
B†	-46.1	2.99	6.49%	[0.00]	ug/L
Ba 233.527†	59.6	6.83	11.46%	[0.00]	ug/L
Be 313.107†	-8.3	2.60	31.38%	[0.00]	ug/L
Ca 315.887†	-28.6	4.43	15.49%	[0.00]	ug/L
Cd 214.440†	9.2	0.66	7.14%	[0.00]	ug/L
Co 228.616†	37.8	2.91	7.69%	[0.00]	ug/L
Cr 267.716†	251.7	10.70	4.25%	[0.00]	ug/L
Cu 327.393†	-328.7	24.80	7.54%	[0.00]	ug/L
Fe 273.955†	-90.0	3.13	3.47%	[0.00]	ug/L
K 766.490†	339.4	34.65	10.21%	[0.00]	ug/L
Mg 285.213†	-27.1	3.28	12.12%	[0.00]	ug/L
Mn 257.610†	-45.3	4.66	10.28%	[0.00]	ug/L
Mo 202.031†	7.8	6.21	79.98%	[0.00]	ug/L
Na 589.592†	73.1	30.14	41.24%	[0.00]	ug/L
Ni 231.604†	-58.6	12.02	20.51%	[0.00]	ug/L
P 213.617†	-21.0	1.04	4.96%	[0.00]	ug/L
Pb 220.353†	0.7	2.36	352.32%	[0.00]	ug/L
Sb 206.836†	-0.7	0.63	92.15%	[0.00]	ug/L
Se 196.026†	3.2	6.32	196.93%	[0.00]	ug/L
Sn 189.927†	12.0	3.59	29.82%	[0.00]	ug/L
Sr 421.552†	606.2	115.92	19.12%	[0.00]	ug/L
Ti 337.279†	-171.5	16.65	9.71%	[0.00]	ug/L
Tl 190.801†	-1.1	1.63	151.23%	[0.00]	ug/L
V 292.402†	-368.4	14.28	3.88%	[0.00]	ug/L
Zn 206.200†	-102.5	1.39	1.35%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 170411RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 04/11/17 11:15:31 AM
Data Type: Reprocessed on 04/12/17 8:36:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 170411RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1333956.2	14112.30	1.06%	100.5	%
Y 371.029 Radial	62876.4	3591.75	5.71%	98.89	%
Ag 338.289†	88.7	13.54	15.27%	[1.00]	ug/L
Al 308.215†	34.1	3.31	9.70%	[100.00]	ug/L
As 188.979†	5.7	2.28	40.05%	[3.50]	ug/L
B†	56.4	4.26	7.55%	[50.00]	ug/L
Ba 233.527†	302.3	2.48	0.82%	[5.00]	ug/L
Be 313.107†	279.7	18.21	6.51%	[2.00]	ug/L
Ca 315.887†	263.5	20.40	7.74%	[100.00]	ug/L
Cd 214.440†	260.2	3.84	1.48%	[5.00]	ug/L
Co 228.616†	119.4	9.43	7.90%	[5.00]	ug/L
Cr 267.716†	301.1	14.47	4.81%	[5.00]	ug/L
Cu 327.393†	291.5	53.57	18.38%	[5.00]	ug/L
Fe 273.955†	359.8	1.89	0.53%	[50.00]	ug/L
K 766.490†	1655.2	192.93	11.66%	[1000.00]	ug/L
Mg 285.213†	237.4	18.06	7.61%	[50]	ug/L
Mn 257.610†	34.4	4.21	12.22%	[5.00]	ug/L
Mo 202.031†	29.1	3.61	12.42%	[5.00]	ug/L
Na 589.592†	6615.1	384.93	5.82%	[1000.00]	ug/L
Ni 231.604†	109.3	2.68	2.45%	[5.00]	ug/L
P 213.617†	23.0	1.44	6.28%	[25.00]	ug/L
Pb 220.353†	9.5	2.03	21.37%	[3.00]	ug/L
Sb 206.836†	3.8	1.17	30.86%	[5.00]	ug/L
Se 196.026†	3.3	3.15	94.98%	[5.00]	ug/L
Sn 189.927†	11.3	5.76	51.18%	[5.00]	ug/L
Sr 421.552†	1946.9	193.54	9.94%	[5.00]	ug/L
Ti 337.279†	95.1	15.61	16.42%	[5.00]	ug/L
Tl 190.801†	2.8	1.15	40.69%	[5.00]	ug/L
V 292.402†	545.6	54.58	10.00%	[5.00]	ug/L
Zn 206.200†	80.8	1.24	1.54%	[20.00]	ug/L

Sequence No.: 3
Sample ID: STD 2 170411RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 04/11/17 11:20:29 AM
Data Type: Reprocessed on 04/12/17 8:36:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 170411RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1288462.0	15633.95	1.21%	97.07	%
Y 371.029 Radial	61748.9	1603.99	2.60%	97.11	%
Ag 338.289†	32584.7	823.13	2.53%	[500.0]	ug/L
Al 308.215†	5927.9	173.54	2.93%	[20000.00]	ug/L
As 188.979†	655.3	6.52	1.00%	[1000.00]	ug/L
B†	1180.2	43.18	3.66%	[1000.00]	ug/L
Ba 233.527†	59745.1	1218.24	2.04%	[1000.00]	ug/L
Be 313.107†	143220.7	8519.11	5.95%	[1000.00]	ug/L
Ca 315.887†	125550.8	7168.49	5.71%	[50000]	ug/L
Cd 214.440†	49190.5	929.98	1.89%	[1000.00]	ug/L
Co 228.616†	22474.3	433.74	1.93%	[1000.00]	ug/L
Cr 267.716†	57182.2	1219.50	2.13%	[1000.00]	ug/L
Cu 327.393†	53707.9	1143.71	2.13%	[1000.00]	ug/L
Fe 273.955†	131287.7	1490.57	1.14%	[20000]	ug/L
K 766.490†	34109.6	2057.40	6.03%	[20000]	ug/L
Mg 285.213†	227205.7	12627.68	5.56%	[50000]	ug/L
Mn 257.610†	7048.9	209.80	2.98%	[1000.00]	ug/L
Mo 202.031†	5994.7	61.37	1.02%	[1000.00]	ug/L
Na 589.592†	168048.2	9909.44	5.90%	[25000]	ug/L
Ni 231.604†	21165.7	507.77	2.40%	[1000.00]	ug/L
P 213.617†	4926.5	60.08	1.22%	[5000]	ug/L
Pb 220.353†	3470.4	40.47	1.17%	[1000.00]	ug/L
Sb 206.836†	689.6	7.67	1.11%	[1000.00]	ug/L
Se 196.026†	564.8	8.20	1.45%	[1000.00]	ug/L
Sn 189.927†	2098.1	28.77	1.37%	[1000.00]	ug/L
Sr 421.552†	402685.1	23292.76	5.78%	[1000.00]	ug/L
Ti 337.279†	18804.8	553.71	2.94%	[1000.00]	ug/L
Tl 190.801†	582.7	4.83	0.83%	[1000.00]	ug/L
V 292.402†	114388.9	2316.19	2.02%	[1000.00]	ug/L
Zn 206.200†	3752.5	59.83	1.59%	[1000.00]	ug/L

Sequence No.: 4
Sample ID: STD 3 170411RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 04/11/17 11:25:27 AM
Data Type: Reprocessed on 04/12/17 8:36:08 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 170411RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	1253186.2	10194.05	0.81%	94.41	%
Y 371.029 Radial	60763.5	2020.35	3.32%	95.56	%
Ag 338.289†	64815.2	60.35	0.09%	[1000.00]	ug/L
Al 308.215†	11849.0	381.51	3.22%	[40000.00]	ug/L
As 188.979†	1311.3	17.61	1.34%	[2000.00]	ug/L
B†	2359.2	86.17	3.65%	[2000.00]	ug/L
Ba 233.527†	116035.3	212.75	0.18%	[2000.00]	ug/L
Be 313.107†	278451.1	18418.36	6.61%	[2000.00]	ug/L
Ca 315.887†	245900.1	15146.52	6.16%	[100000.0]	ug/L
Cd 214.440†	95235.5	576.38	0.61%	[2000.00]	ug/L
Co 228.616†	43942.5	144.78	0.33%	[2000.00]	ug/L
Cr 267.716†	110880.2	328.27	0.30%	[2000.00]	ug/L
Cu 327.393†	106961.1	125.05	0.12%	[2000.00]	ug/L
Fe 273.955†	257785.3	329.23	0.13%	[40000]	ug/L
K 766.490†	68162.4	4035.13	5.92%	[40000]	ug/L
Mg 285.213†	437814.3	26805.88	6.12%	[100000]	ug/L
Mn 257.610†	13987.3	440.40	3.15%	[2000.00]	ug/L
Mo 202.031†	11799.6	97.15	0.82%	[2000.00]	ug/L
Na 589.592†	330722.4	19670.36	5.95%	[50000]	ug/L
Ni 231.604†	41326.7	94.33	0.23%	[2000.00]	ug/L
P 213.617†	9839.1	74.53	0.76%	[10000]	ug/L
Pb 220.353†	6790.4	52.01	0.77%	[2000.00]	ug/L
Sb 206.836†	1365.5	13.26	0.97%	[2000.00]	ug/L
Se 196.026†	1115.2	9.27	0.83%	[2000.00]	ug/L
Sn 189.927†	4181.5	42.37	1.01%	[2000.00]	ug/L
Sr 421.552†	792631.1	49598.34	6.26%	[2000.00]	ug/L
Ti 337.279†	36255.4	2319.87	6.40%	[2000.00]	ug/L
Tl 190.801†	1120.0	7.36	0.66%	[2000.00]	ug/L
V 292.402†	224724.4	524.72	0.23%	[2000.00]	ug/L
Zn 206.200†	7293.4	44.03	0.60%	[2000.00]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	64.89	0.00000	0.999998	
Al 308.215	3	Lin Thru 0	0.0	0.2963	0.00000	1.000000	
As 188.979	3	Lin Thru 0	0.0	0.6556	0.00000	0.999997	
B	3	Lin Thru 0	0.0	1.180	0.00000	1.000000	
Ba 233.527	3	Lin Thru 0	0.0	58.36	0.00000	0.999930	
Be 313.107	3	Lin Thru 0	0.0	140.0	0.00000	0.999935	
Ca 315.887	3	Lin Thru 0	0.0	2.469	0.00000	0.999965	
Cd 214.440	3	Lin Thru 0	0.0	47.93	0.00000	0.999914	
Co 228.616	3	Lin Thru 0	0.0	22.07	0.00000	0.999958	
Cr 267.716	3	Lin Thru 0	0.0	55.79	0.00000	0.999922	
Cu 327.393	3	Lin Thru 0	0.0	53.53	0.00000	0.999999	
Fe 273.955	3	Lin Thru 0	0.0	6.469	0.00000	0.999973	
K 766.490	3	Lin Thru 0	0.0	1.704	0.00000	1.000000	
Mg 285.213	3	Lin Thru 0	0.0	4.411	0.00000	0.999887	
Mn 257.610	3	Lin Thru 0	0.0	7.005	0.00000	0.999995	
Mo 202.031	3	Lin Thru 0	0.0	5.919	0.00000	0.999979	
Na 589.592	3	Lin Thru 0	0.0	6.636	0.00000	0.999979	
Ni 231.604	3	Lin Thru 0	0.0	20.76	0.00000	0.999953	
P 213.617	3	Lin Thru 0	0.0	0.9842	0.00000	1.000000	
Pb 220.353	3	Lin Thru 0	0.0	3.410	0.00000	0.999961	
Sb 206.836	3	Lin Thru 0	0.0	0.6841	0.00000	0.999992	
Se 196.026	3	Lin Thru 0	0.0	0.5591	0.00000	0.999987	
Sn 189.927	3	Lin Thru 0	0.0	2.092	0.00000	0.999999	
Sr 421.552	3	Lin Thru 0	0.0	397.6	0.00000	0.999979	

Ti 337.279	3	Lin Thru 0	0.0	18.26	0.00000	0.999890
Tl 190.801	3	Lin Thru 0	0.0	0.5645	0.00000	0.999871
V 292.402	3	Lin Thru 0	0.0	112.8	0.00000	0.999974
Zn 206.200	3	Lin Thru 0	0.0	3.668	0.00000	0.999933

Sequence No.: 5
Sample ID: ICV 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 04/11/17 11:30:53 AM
Data Type: Reprocessed on 04/12/17 8:36:10 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1334374.8	100.5	%	0.70				0.70%
Y 371.029 Radial	62275.5	97.94	%	2.839				2.90%
Ag 338.289†	30853.9	475.5	ug/L	5.60	475.5	ug/L	5.60	1.18%
QC value within limits for Ag 338.289 Recovery = 95.10%								
Al 308.215†	7793.4	26310	ug/L	763.1	26310	ug/L	763.1	2.90%
QC value within limits for Al 308.215 Recovery = 105.22%								
As 188.979†	609.8	939.7	ug/L	6.50	939.7	ug/L	6.50	0.69%
QC value within limits for As 188.979 Recovery = 93.97%								
B†	1178.7	999.1	ug/L	32.15	999.1	ug/L	32.15	3.22%
QC value within limits for B Recovery = 99.91%								
Ba 233.527†	56241.0	963.0	ug/L	10.17	963.0	ug/L	10.17	1.06%
QC value within limits for Ba 233.527 Recovery = 96.30%								
Be 313.107†	136644.0	975.9	ug/L	40.09	975.9	ug/L	40.09	4.11%
QC value within limits for Be 313.107 Recovery = 97.59%								
Ca 315.887†	66909.4	27080	ug/L	1092.6	27080	ug/L	1092.6	4.03%
QC value within limits for Ca 315.887 Recovery = 108.34%								
Cd 214.440†	46417.5	967.9	ug/L	8.02	967.9	ug/L	8.02	0.83%
QC value within limits for Cd 214.440 Recovery = 96.79%								
Co 228.616†	21403.1	966.2	ug/L	8.47	966.2	ug/L	8.47	0.88%
QC value within limits for Co 228.616 Recovery = 96.62%								
Cr 267.716†	53540.4	960.5	ug/L	9.03	960.5	ug/L	9.03	0.94%
QC value within limits for Cr 267.716 Recovery = 96.05%								
Cu 327.393†	50449.3	942.5	ug/L	11.10	942.5	ug/L	11.10	1.18%
QC value within limits for Cu 327.393 Recovery = 94.25%								
Fe 273.955†	170699.9	26390	ug/L	132.5	26390	ug/L	132.5	0.50%
QC value within limits for Fe 273.955 Recovery = 105.56%								
K 766.490†	44849.8	26320	ug/L	920.7	26320	ug/L	920.7	3.50%
QC value within limits for K 766.490 Recovery = 105.26%								
Mg 285.213†	121402.4	27550	ug/L	1105.9	27550	ug/L	1105.9	4.01%
QC value greater than the upper limit for Mg 285.213 Recovery = 110.20%								
Mn 257.610†	6777.5	967.8	ug/L	25.86	967.8	ug/L	25.86	2.67%
QC value within limits for Mn 257.610 Recovery = 96.78%								
Mo 202.031†	5459.9	925.2	ug/L	9.96	925.2	ug/L	9.96	1.08%
QC value within limits for Mo 202.031 Recovery = 92.52%								
Na 589.592†	176443.3	26580	ug/L	996.6	26580	ug/L	996.6	3.75%
QC value within limits for Na 589.592 Recovery = 106.31%								
Ni 231.604†	20265.3	973.2	ug/L	7.90	973.2	ug/L	7.90	0.81%
QC value within limits for Ni 231.604 Recovery = 97.32%								
P 213.617†	4584.2	4658	ug/L	49.7	4658	ug/L	49.7	1.07%
QC value within limits for P 213.617 Recovery = 93.16%								
Pb 220.353†	3262.6	956.7	ug/L	11.16	956.7	ug/L	11.16	1.17%
QC value within limits for Pb 220.353 Recovery = 95.67%								
Sb 206.836†	636.7	930.7	ug/L	11.68	930.7	ug/L	11.68	1.25%
QC value within limits for Sb 206.836 Recovery = 93.07%								
Se 196.026†	522.3	944.6	ug/L	10.42	944.6	ug/L	10.42	1.10%
QC value within limits for Se 196.026 Recovery = 94.46%								
Sn 189.927†	1063.3	515.8	ug/L	5.14	515.8	ug/L	5.14	1.00%
QC value within limits for Sn 189.927 Recovery = 103.16%								
Sr 421.552†	385210.3	968.9	ug/L	37.85	968.9	ug/L	37.85	3.91%
QC value within limits for Sr 421.552 Recovery = 96.89%								
Ti 337.279†	17997.4	984.9	ug/L	24.84	984.9	ug/L	24.84	2.52%
QC value within limits for Ti 337.279 Recovery = 98.49%								
Tl 190.801†	545.6	966.5	ug/L	16.55	966.5	ug/L	16.55	1.71%
QC value within limits for Tl 190.801 Recovery = 96.65%								
V 292.402†	106620.0	961.5	ug/L	8.71	961.5	ug/L	8.71	0.91%
QC value within limits for V 292.402 Recovery = 96.15%								
Zn 206.200†	3558.3	970.1	ug/L	10.87	970.1	ug/L	10.87	1.12%
QC value within limits for Zn 206.200 Recovery = 97.01%								

QC Failed. Continue with analysis.

Sequence No.: 6
Sample ID: ICB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 11:36:10 AM
Data Type: Reprocessed on 04/12/17 8:36:11 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1371676.1	103.3	%	1.51				1.46%
Y 371.029 Radial	63771.0	100.3	%	1.57				1.56%
Ag 338.289†	31.7	0.489	ug/L	0.1701	0.489	ug/L	0.1701	34.80%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.3	4.254	ug/L	12.1387	4.254	ug/L	12.1387	285.37%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.8	1.227	ug/L	6.0631	1.227	ug/L	6.0631	494.23%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	22.9	19.38	ug/L	5.233	19.38	ug/L	5.233	27.00%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	8.3	0.142	ug/L	0.0805	0.142	ug/L	0.0805	56.77%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	6.7	0.048	ug/L	0.0113	0.048	ug/L	0.0113	23.62%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	11.3	4.568	ug/L	2.5878	4.568	ug/L	2.5878	56.66%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	8.0	0.168	ug/L	0.0572	0.168	ug/L	0.0572	33.98%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-5.9	-0.269	ug/L	0.4098	-0.269	ug/L	0.4098	152.19%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.0	0.161	ug/L	0.1002	0.161	ug/L	0.1002	62.42%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	37.3	0.698	ug/L	0.3552	0.698	ug/L	0.3552	50.91%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	15.1	2.327	ug/L	0.7538	2.327	ug/L	0.7538	32.40%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	9.4	5.502	ug/L	54.1359	5.502	ug/L	54.1359	983.89%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	4.7	1.068	ug/L	1.1536	1.068	ug/L	1.1536	108.02%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-3.3	-0.466	ug/L	0.3975	-0.466	ug/L	0.3975	85.38%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	7.9	1.335	ug/L	0.1385	1.335	ug/L	0.1385	10.37%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	163.1	24.58	ug/L	4.999	24.58	ug/L	4.999	20.34%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-6.0	-0.288	ug/L	0.2858	-0.288	ug/L	0.2858	99.08%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	2.4	2.467	ug/L	3.4123	2.467	ug/L	3.4123	138.32%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	2.0	0.588	ug/L	0.5944	0.588	ug/L	0.5944	101.18%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.2	-0.347	ug/L	2.4609	-0.347	ug/L	2.4609	709.45%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.0	1.753	ug/L	5.1889	1.753	ug/L	5.1889	295.93%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	9.1	4.350	ug/L	0.9581	4.350	ug/L	0.9581	22.02%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	78.7	0.198	ug/L	0.1515	0.198	ug/L	0.1515	76.52%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	30.5	1.672	ug/L	3.7247	1.672	ug/L	3.7247	222.84%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	1.1	1.947	ug/L	2.6321	1.947	ug/L	2.6321	135.16%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-48.7	-0.414	ug/L	0.6741	-0.414	ug/L	0.6741	162.98%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	2.1	0.574	ug/L	0.1355	0.574	ug/L	0.1355	23.62%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 7
Sample ID: LLICV 170411RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 04/11/17 11:41:06 AM
Data Type: Reprocessed on 04/12/17 8:36:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: LLICV 170411RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1373896.3	103.5	%	0.65				0.63%
Y 371.029 Radial	66098.8	104.0	%	6.12				5.89%
Ag 338.289†	93.8	1.445	ug/L	0.3067	1.445	ug/L	0.3067	21.22%
QC value greater than the upper limit for Ag 338.289 Recovery = 144.55%								
Al 308.215†	28.6	96.53	ug/L	9.892	96.53	ug/L	9.892	10.25%
QC value within limits for Al 308.215 Recovery = 96.53%								
As 188.979†	4.1	6.225	ug/L	5.4628	6.225	ug/L	5.4628	87.76%
QC value greater than the upper limit for As 188.979 Recovery = 177.84%								
B†	75.9	64.37	ug/L	3.581	64.37	ug/L	3.581	5.56%
QC value greater than the upper limit for B Recovery = 128.75%								
Ba 233.527†	289.3	4.957	ug/L	0.1115	4.957	ug/L	0.1115	2.25%
QC value within limits for Ba 233.527 Recovery = 99.13%								
Be 313.107†	266.7	1.905	ug/L	0.0999	1.905	ug/L	0.0999	5.24%
QC value within limits for Be 313.107 Recovery = 95.25%								
Ca 315.887†	259.2	104.8	ug/L	4.02	104.8	ug/L	4.02	3.84%
QC value within limits for Ca 315.887 Recovery = 104.82%								
Cd 214.440†	247.4	5.163	ug/L	0.0638	5.163	ug/L	0.0638	1.24%
QC value within limits for Cd 214.440 Recovery = 103.26%								
Co 228.616†	113.5	5.134	ug/L	0.1522	5.134	ug/L	0.1522	2.96%
QC value within limits for Co 228.616 Recovery = 102.69%								
Cr 267.716†	287.9	5.164	ug/L	0.1855	5.164	ug/L	0.1855	3.59%
QC value within limits for Cr 267.716 Recovery = 103.28%								
Cu 327.393†	280.4	5.239	ug/L	0.0684	5.239	ug/L	0.0684	1.31%
QC value within limits for Cu 327.393 Recovery = 104.78%								
Fe 273.955†	349.8	54.08	ug/L	0.327	54.08	ug/L	0.327	0.60%
QC value within limits for Fe 273.955 Recovery = 108.16%								
K 766.490†	1580.4	927.3	ug/L	101.60	927.3	ug/L	101.60	10.96%
QC value within limits for K 766.490 Recovery = 92.73%								
Mg 285.213†	229.6	52.07	ug/L	3.735	52.07	ug/L	3.735	7.17%
QC value within limits for Mg 285.213 Recovery = 104.15%								
Mn 257.610†	35.4	5.060	ug/L	0.4806	5.060	ug/L	0.4806	9.50%
QC value within limits for Mn 257.610 Recovery = 101.20%								
Mo 202.031†	33.6	5.683	ug/L	1.4768	5.683	ug/L	1.4768	25.99%
QC value within limits for Mo 202.031 Recovery = 113.66%								
Na 589.592†	6543.8	985.7	ug/L	81.03	985.7	ug/L	81.03	8.22%
QC value within limits for Na 589.592 Recovery = 98.57%								
Ni 231.604†	114.0	5.478	ug/L	0.3632	5.478	ug/L	0.3632	6.63%
QC value within limits for Ni 231.604 Recovery = 109.55%								
P 213.617†	21.0	21.37	ug/L	1.187	21.37	ug/L	1.187	5.56%
QC value within limits for P 213.617 Recovery = 85.46%								
Pb 220.353†	12.2	3.579	ug/L	0.7686	3.579	ug/L	0.7686	21.47%
QC value within limits for Pb 220.353 Recovery = 119.31%								
Sb 206.836†	1.2	1.814	ug/L	0.9218	1.814	ug/L	0.9218	50.82%
QC value less than the lower limit for Sb 206.836 Recovery = 36.28%								
Se 196.026†	0.4	0.657	ug/L	2.4366	0.657	ug/L	2.4366	370.65%
QC value less than the lower limit for Se 196.026 Recovery = 13.15%								
Sn 189.927†	11.7	5.636	ug/L	0.8113	5.636	ug/L	0.8113	14.39%
QC value within limits for Sn 189.927 Recovery = 112.73%								
Sr 421.552†	1823.9	4.588	ug/L	0.3373	4.588	ug/L	0.3373	7.35%
QC value within limits for Sr 421.552 Recovery = 91.76%								
Ti 337.279†	105.1	5.752	ug/L	0.7211	5.752	ug/L	0.7211	12.54%
QC value within limits for Ti 337.279 Recovery = 115.04%								
Tl 190.801†	3.6	6.371	ug/L	2.9296	6.371	ug/L	2.9296	45.98%
QC value greater than the upper limit for Tl 190.801 Recovery = 127.42%								
V 292.402†	519.3	4.715	ug/L	0.6193	4.715	ug/L	0.6193	13.13%
QC value within limits for V 292.402 Recovery = 94.31%								
Zn 206.200†	78.4	21.38	ug/L	0.182	21.38	ug/L	0.182	0.85%
QC value within limits for Zn 206.200 Recovery = 106.90%								

QC Failed. Continue with analysis.

Sequence No.: 8
Sample ID: ICSA 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 04/11/17 11:46:03 AM
Data Type: Reprocessed on 04/12/17 8:36:14 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1231518.3	92.78	%	0.694				0.75%
Y 371.029 Radial	60244.2	94.75	%	0.528				0.56%
Ag 338.289†	106.9	1.647	ug/L	1.8534	1.647	ug/L	1.8534	112.55%
QC value greater than the upper limit for Ag 338.289 Recovery = Not calculated								
Al 308.215†	58179.6	196400	ug/L	4718.4	196400	ug/L	4718.4	2.40%
QC value within limits for Al 308.215 Recovery = 98.19%								
As 188.979†	-20.4	17.84	ug/L	8.426	17.84	ug/L	8.426	47.22%
QC value greater than the upper limit for As 188.979 Recovery = Not calculated								
B†	94.8	80.33	ug/L	1.608	80.33	ug/L	1.608	2.00%
QC value greater than the upper limit for B Recovery = Not calculated								
Ba 233.527†	769.8	3.662	ug/L	0.1349	3.662	ug/L	0.1349	3.68%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	5.3	0.038	ug/L	0.0108	0.038	ug/L	0.0108	28.49%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	505477.6	204700	ug/L	4716.0	204700	ug/L	4716.0	2.30%
QC value within limits for Ca 315.887 Recovery = 102.33%								
Cd 214.440†	442.7	0.643	ug/L	0.3682	0.643	ug/L	0.3682	57.24%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	444.7	-1.387	ug/L	0.2745	-1.387	ug/L	0.2745	19.79%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	18.8	-1.045	ug/L	0.3699	-1.045	ug/L	0.3699	35.39%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	20.0	0.373	ug/L	0.0568	0.373	ug/L	0.0568	15.24%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	1222191.4	188900	ug/L	697.7	188900	ug/L	697.7	0.37%
QC value within limits for Fe 273.955 Recovery = 94.47%								
K 766.490†	16.6	9.718	ug/L	26.1986	9.718	ug/L	26.1986	269.60%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	883431.9	200500	ug/L	4256.3	200500	ug/L	4256.3	2.12%
QC value within limits for Mg 285.213 Recovery = 100.24%								
Mn 257.610†	-0.6	0.910	ug/L	1.1720	0.910	ug/L	1.1720	128.84%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-84.7	0.396	ug/L	0.4576	0.396	ug/L	0.4576	115.52%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	218.0	50.30	ug/L	4.401	50.30	ug/L	4.401	8.75%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	133.1	0.100	ug/L	0.1506	0.100	ug/L	0.1506	150.12%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	7.2	7.338	ug/L	6.3731	7.338	ug/L	6.3731	86.85%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	3.8	1.105	ug/L	1.1582	1.105	ug/L	1.1582	104.83%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	5.7	8.389	ug/L	2.9544	8.389	ug/L	2.9544	35.22%
QC value greater than the upper limit for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-48.9	-4.317	ug/L	10.3092	-4.317	ug/L	10.3092	238.78%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-159.2	-33.98	ug/L	2.234	-33.98	ug/L	2.234	6.57%
QC value less than the lower limit for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	796.9	1.762	ug/L	0.0366	1.762	ug/L	0.0366	2.08%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	25.7	-2.177	ug/L	1.2383	-2.177	ug/L	1.2383	56.88%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	1.4	2.436	ug/L	6.1631	2.436	ug/L	6.1631	253.01%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	4285.4	0.371	ug/L	0.7646	0.371	ug/L	0.7646	206.04%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-72.5	-19.78	ug/L	0.182	-19.78	ug/L	0.182	0.92%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 9
Sample ID: ICSAB 170411RJS I:PB O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 04/11/17 11:51:29 AM
Data Type: Reprocessed on 04/12/17 8:36:15 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 170411RJS I:PB O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1229551.4	92.63	%	0.350				0.38%
Y 371.029 Radial	60319.5	94.86	%	3.214				3.39%
Ag 338.289†	66472.7	1024	ug/L	15.5	1024	ug/L	15.5	1.51%
QC value within limits for Ag 338.289 Recovery = 102.45%								
Al 308.215†	56316.7	190100	ug/L	11167.1	190100	ug/L	11167.1	5.87%
QC value within limits for Al 308.215 Recovery = 95.05%								
As 188.979†	294.3	495.4	ug/L	8.32	495.4	ug/L	8.32	1.68%
QC value within limits for As 188.979 Recovery = 99.07%								
B†	177.6	150.5	ug/L	4.21	150.5	ug/L	4.21	2.80%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	29444.8	495.5	ug/L	7.29	495.5	ug/L	7.29	1.47%
QC value within limits for Ba 233.527 Recovery = 99.10%								
Be 313.107†	68495.1	489.2	ug/L	30.23	489.2	ug/L	30.23	6.18%
QC value within limits for Be 313.107 Recovery = 97.83%								
Ca 315.887†	490108.9	198400	ug/L	11842.2	198400	ug/L	11842.2	5.97%
QC value within limits for Ca 315.887 Recovery = 99.22%								
Cd 214.440†	46206.8	955.7	ug/L	15.14	955.7	ug/L	15.14	1.58%
QC value within limits for Cd 214.440 Recovery = 95.57%								
Co 228.616†	11458.2	498.7	ug/L	3.16	498.7	ug/L	3.16	0.63%
QC value within limits for Co 228.616 Recovery = 99.74%								
Cr 267.716†	27161.1	486.1	ug/L	7.62	486.1	ug/L	7.62	1.57%
QC value within limits for Cr 267.716 Recovery = 97.21%								
Cu 327.393†	27327.8	510.6	ug/L	8.94	510.6	ug/L	8.94	1.75%
QC value within limits for Cu 327.393 Recovery = 102.11%								
Fe 273.955†	1209411.2	187000	ug/L	213.3	187000	ug/L	213.3	0.11%
QC value within limits for Fe 273.955 Recovery = 93.48%								
K 766.490†	-29.9	-17.52	ug/L	1.688	-17.52	ug/L	1.688	9.63%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	859686.7	195100	ug/L	11316.0	195100	ug/L	11316.0	5.80%
QC value within limits for Mg 285.213 Recovery = 97.55%								
Mn 257.610†	3326.3	476.1	ug/L	17.65	476.1	ug/L	17.65	3.71%
QC value within limits for Mn 257.610 Recovery = 95.22%								
Mo 202.031†	2704.6	471.9	ug/L	3.83	471.9	ug/L	3.83	0.81%
QC value within limits for Mo 202.031 Recovery = 94.38%								
Na 589.592†	1002.3	167.2	ug/L	1.62	167.2	ug/L	1.62	0.97%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	19957.5	954.0	ug/L	18.05	954.0	ug/L	18.05	1.89%
QC value within limits for Ni 231.604 Recovery = 95.40%								
P 213.617†	-4.2	-4.293	ug/L	4.1240	-4.293	ug/L	4.1240	96.06%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	3266.7	957.9	ug/L	5.55	957.9	ug/L	5.55	0.58%
QC value within limits for Pb 220.353 Recovery = 95.79%								
Sb 206.836†	328.1	479.6	ug/L	3.76	479.6	ug/L	3.76	0.78%
QC value within limits for Sb 206.836 Recovery = 95.92%								
Se 196.026†	222.3	480.0	ug/L	18.76	480.0	ug/L	18.76	3.91%
QC value within limits for Se 196.026 Recovery = 96.01%								
Sn 189.927†	-166.3	-37.90	ug/L	2.222	-37.90	ug/L	2.222	5.86%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	825.3	1.863	ug/L	0.0419	1.863	ug/L	0.0419	2.25%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	27.1	-1.958	ug/L	0.4985	-1.958	ug/L	0.4985	25.46%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	271.5	480.9	ug/L	4.95	480.9	ug/L	4.95	1.03%
QC value within limits for Tl 190.801 Recovery = 96.17%								
V 292.402†	59298.8	499.9	ug/L	8.26	499.9	ug/L	8.26	1.65%
QC value within limits for V 292.402 Recovery = 99.98%								
Zn 206.200†	3443.9	938.9	ug/L	5.53	938.9	ug/L	5.53	0.59%
QC value within limits for Zn 206.200 Recovery = 93.89%								

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCV1 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 04/11/17 11:56:58 AM
Data Type: Reprocessed on 04/12/17 8:36:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1304902.2	98.31	%	1.015				1.03%
Y 371.029 Radial	63107.9	99.25	%	3.914				3.94%
Ag 338.289†	32556.5	501.7	ug/L	5.04	501.7	ug/L	5.04	1.00%
QC value within limits for Ag 338.289 Recovery = 100.35%								
Al 308.215†	5839.7	19710	ug/L	980.5	19710	ug/L	980.5	4.97%
QC value within limits for Al 308.215 Recovery = 98.56%								
As 188.979†	640.7	984.9	ug/L	1.01	984.9	ug/L	1.01	0.10%
QC value within limits for As 188.979 Recovery = 98.49%								
B†	1154.5	978.7	ug/L	55.36	978.7	ug/L	55.36	5.66%
QC value within limits for B Recovery = 97.87%								
Ba 233.527†	59891.8	1026	ug/L	16.1	1026	ug/L	16.1	1.57%
QC value within limits for Ba 233.527 Recovery = 102.59%								
Be 313.107†	140085.7	1000	ug/L	63.0	1000	ug/L	63.0	6.30%
QC value within limits for Be 313.107 Recovery = 100.04%								
Ca 315.887†	124801.0	50530	ug/L	3239.2	50530	ug/L	3239.2	6.41%
QC value within limits for Ca 315.887 Recovery = 101.06%								
Cd 214.440†	48745.8	1017	ug/L	17.0	1017	ug/L	17.0	1.67%
QC value within limits for Cd 214.440 Recovery = 101.67%								
Co 228.616†	22484.0	1016	ug/L	15.7	1016	ug/L	15.7	1.55%
QC value within limits for Co 228.616 Recovery = 101.58%								
Cr 267.716†	57307.4	1028	ug/L	13.7	1028	ug/L	13.7	1.34%
QC value within limits for Cr 267.716 Recovery = 102.79%								
Cu 327.393†	53829.3	1006	ug/L	12.4	1006	ug/L	12.4	1.23%
QC value within limits for Cu 327.393 Recovery = 100.57%								
Fe 273.955†	129957.3	20090	ug/L	42.4	20090	ug/L	42.4	0.21%
QC value within limits for Fe 273.955 Recovery = 100.45%								
K 766.490†	33771.5	19820	ug/L	1285.2	19820	ug/L	1285.2	6.49%
QC value within limits for K 766.490 Recovery = 99.08%								
Mg 285.213†	225076.1	51040	ug/L	3233.2	51040	ug/L	3233.2	6.33%
QC value within limits for Mg 285.213 Recovery = 102.09%								
Mn 257.610†	6984.6	996.0	ug/L	47.26	996.0	ug/L	47.26	4.74%
QC value within limits for Mn 257.610 Recovery = 99.60%								
Mo 202.031†	5809.5	983.7	ug/L	6.85	983.7	ug/L	6.85	0.70%
QC value within limits for Mo 202.031 Recovery = 98.37%								
Na 589.592†	165343.0	24900	ug/L	1572.4	24900	ug/L	1572.4	6.31%
QC value within limits for Na 589.592 Recovery = 99.61%								
Ni 231.604†	21093.2	1013	ug/L	13.3	1013	ug/L	13.3	1.31%
QC value within limits for Ni 231.604 Recovery = 101.32%								
P 213.617†	4855.2	4933	ug/L	29.1	4933	ug/L	29.1	0.59%
QC value within limits for P 213.617 Recovery = 98.66%								
Pb 220.353†	3432.3	1006	ug/L	10.5	1006	ug/L	10.5	1.04%
QC value within limits for Pb 220.353 Recovery = 100.65%								
Sb 206.836†	668.5	977.1	ug/L	11.16	977.1	ug/L	11.16	1.14%
QC value within limits for Sb 206.836 Recovery = 97.71%								
Se 196.026†	554.1	998.0	ug/L	22.18	998.0	ug/L	22.18	2.22%
QC value within limits for Se 196.026 Recovery = 99.80%								
Sn 189.927†	2035.3	982.7	ug/L	10.79	982.7	ug/L	10.79	1.10%
QC value within limits for Sn 189.927 Recovery = 98.27%								
Sr 421.552†	396306.4	996.6	ug/L	62.91	996.6	ug/L	62.91	6.31%
QC value within limits for Sr 421.552 Recovery = 99.66%								
Ti 337.279†	18602.2	1018	ug/L	49.3	1018	ug/L	49.3	4.84%
QC value within limits for Ti 337.279 Recovery = 101.78%								
Tl 190.801†	548.9	972.4	ug/L	1.03	972.4	ug/L	1.03	0.11%
QC value within limits for Tl 190.801 Recovery = 97.24%								
V 292.402†	114647.8	1035	ug/L	14.3	1035	ug/L	14.3	1.39%
QC value within limits for V 292.402 Recovery = 103.53%								
Zn 206.200†	3657.5	997.2	ug/L	4.97	997.2	ug/L	4.97	0.50%
QC value within limits for Zn 206.200 Recovery = 99.72%								

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 12:02:27 PM
Data Type: Reprocessed on 04/12/17 8:36:17 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1376361.7	103.7	%	1.82				1.76%
Y 371.029 Radial	65631.4	103.2	%	4.85				4.70%
Ag 338.289†	-12.7	-0.196	ug/L	1.5327	-0.196	ug/L	1.5327	782.75%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.1	3.775	ug/L	6.3502	3.775	ug/L	6.3502	168.22%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.5	0.704	ug/L	11.0440	0.704	ug/L	11.0440	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	14.4	12.19	ug/L	4.715	12.19	ug/L	4.715	38.67%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	3.5	0.059	ug/L	0.1572	0.059	ug/L	0.1572	268.50%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.7	0.033	ug/L	0.0274	0.033	ug/L	0.0274	82.20%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	27.9	11.29	ug/L	5.567	11.29	ug/L	5.567	49.32%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	7.2	0.150	ug/L	0.1558	0.150	ug/L	0.1558	103.81%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-7.8	-0.357	ug/L	0.4001	-0.357	ug/L	0.4001	112.16%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-7.1	-0.128	ug/L	0.2137	-0.128	ug/L	0.2137	167.03%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	45.4	0.848	ug/L	0.4575	0.848	ug/L	0.4575	53.96%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	22.9	3.533	ug/L	0.2396	3.533	ug/L	0.2396	6.78%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-5.5	-3.203	ug/L	18.7678	-3.203	ug/L	18.7678	585.89%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	17.9	4.063	ug/L	0.5678	4.063	ug/L	0.5678	13.97%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-0.2	-0.024	ug/L	0.0597	-0.024	ug/L	0.0597	244.93%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.7	0.632	ug/L	0.6090	0.632	ug/L	0.6090	96.29%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	101.8	15.34	ug/L	23.395	15.34	ug/L	23.395	152.46%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	5.6	0.269	ug/L	0.3607	0.269	ug/L	0.3607	133.90%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	0.4	0.399	ug/L	2.7383	0.399	ug/L	2.7383	686.96%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	4.6	1.335	ug/L	0.3785	1.335	ug/L	0.3785	28.34%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.7	-1.083	ug/L	2.8439	-1.083	ug/L	2.8439	262.55%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-1.9	-3.416	ug/L	9.6155	-3.416	ug/L	9.6155	281.51%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	4.2	2.006	ug/L	1.0151	2.006	ug/L	1.0151	50.61%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	7.6	0.019	ug/L	0.1602	0.019	ug/L	0.1602	841.79%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	35.4	1.937	ug/L	1.1699	1.937	ug/L	1.1699	60.41%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	2.4	4.246	ug/L	6.2933	4.246	ug/L	6.2933	148.21%
QC value greater than the upper limit for Tl 190.801 Recovery = Not calculated								
V 292.402†	-60.2	-0.528	ug/L	0.3421	-0.528	ug/L	0.3421	64.77%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	3.0	0.826	ug/L	0.7141	0.826	ug/L	0.7141	86.45%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 24
Sample ID: CCV1 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 04/11/17 1:15:57 PM
Data Type: Reprocessed on 04/12/17 8:36:34 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1308836.5	98.61	%	0.801				0.81%
Y 371.029 Radial	66539.9	104.6	%	5.75				5.50%
Ag 338.289†	33201.1	511.7	ug/L	3.95	511.7	ug/L	3.95	0.77%
QC value within limits for Ag 338.289 Recovery = 102.34%								
Al 308.215†	5801.8	19580	ug/L	1022.6	19580	ug/L	1022.6	5.22%
QC value within limits for Al 308.215 Recovery = 97.92%								
As 188.979†	606.7	933.4	ug/L	5.75	933.4	ug/L	5.75	0.62%
QC value within limits for As 188.979 Recovery = 93.34%								
B†	1107.4	938.7	ug/L	47.21	938.7	ug/L	47.21	5.03%
QC value within limits for B Recovery = 93.87%								
Ba 233.527†	59468.9	1019	ug/L	7.3	1019	ug/L	7.3	0.71%
QC value within limits for Ba 233.527 Recovery = 101.87%								
Be 313.107†	142753.2	1019	ug/L	88.2	1019	ug/L	88.2	8.65%
QC value within limits for Be 313.107 Recovery = 101.95%								
Ca 315.887†	124671.9	50480	ug/L	4253.6	50480	ug/L	4253.6	8.43%
QC value within limits for Ca 315.887 Recovery = 100.95%								
Cd 214.440†	46283.8	965.3	ug/L	6.58	965.3	ug/L	6.58	0.68%
QC value within limits for Cd 214.440 Recovery = 96.53%								
Co 228.616†	22237.9	1005	ug/L	6.3	1005	ug/L	6.3	0.63%
QC value within limits for Co 228.616 Recovery = 100.45%								
Cr 267.716†	57554.7	1032	ug/L	8.7	1032	ug/L	8.7	0.84%
QC value within limits for Cr 267.716 Recovery = 103.23%								
Cu 327.393†	54669.4	1021	ug/L	8.6	1021	ug/L	8.6	0.84%
QC value within limits for Cu 327.393 Recovery = 102.14%								
Fe 273.955†	132932.4	20550	ug/L	62.2	20550	ug/L	62.2	0.30%
QC value within limits for Fe 273.955 Recovery = 102.75%								
K 766.490†	33739.2	19800	ug/L	1566.1	19800	ug/L	1566.1	7.91%
QC value within limits for K 766.490 Recovery = 98.98%								
Mg 285.213†	222842.6	50540	ug/L	4269.1	50540	ug/L	4269.1	8.45%
QC value within limits for Mg 285.213 Recovery = 101.08%								
Mn 257.610†	6914.2	986.0	ug/L	51.36	986.0	ug/L	51.36	5.21%
QC value within limits for Mn 257.610 Recovery = 98.60%								
Mo 202.031†	5446.1	922.3	ug/L	7.13	922.3	ug/L	7.13	0.77%
QC value within limits for Mo 202.031 Recovery = 92.23%								
Na 589.592†	163505.6	24630	ug/L	1976.7	24630	ug/L	1976.7	8.03%
QC value within limits for Na 589.592 Recovery = 98.50%								
Ni 231.604†	20952.4	1006	ug/L	5.2	1006	ug/L	5.2	0.51%
QC value within limits for Ni 231.604 Recovery = 100.64%								
P 213.617†	4701.1	4777	ug/L	36.2	4777	ug/L	36.2	0.76%
QC value within limits for P 213.617 Recovery = 95.53%								
Pb 220.353†	3386.6	993.1	ug/L	8.19	993.1	ug/L	8.19	0.83%
QC value within limits for Pb 220.353 Recovery = 99.31%								
Sb 206.836†	632.0	923.8	ug/L	6.75	923.8	ug/L	6.75	0.73%
QC value within limits for Sb 206.836 Recovery = 92.38%								
Se 196.026†	515.3	928.7	ug/L	15.84	928.7	ug/L	15.84	1.71%
QC value within limits for Se 196.026 Recovery = 92.87%								
Sn 189.927†	1900.7	918.4	ug/L	6.71	918.4	ug/L	6.71	0.73%
QC value within limits for Sn 189.927 Recovery = 91.84%								
Sr 421.552†	394043.8	990.9	ug/L	84.32	990.9	ug/L	84.32	8.51%
QC value within limits for Sr 421.552 Recovery = 99.09%								
Ti 337.279†	18378.0	1005	ug/L	54.1	1005	ug/L	54.1	5.38%
QC value within limits for Ti 337.279 Recovery = 100.55%								
Tl 190.801†	533.9	945.8	ug/L	13.15	945.8	ug/L	13.15	1.39%
QC value within limits for Tl 190.801 Recovery = 94.58%								
V 292.402†	115380.7	1041	ug/L	9.2	1041	ug/L	9.2	0.88%
QC value within limits for V 292.402 Recovery = 104.09%								
Zn 206.200†	3482.3	949.4	ug/L	7.41	949.4	ug/L	7.41	0.78%
QC value within limits for Zn 206.200 Recovery = 94.94%								

All analyte(s) passed QC.

Sequence No.: 25
Sample ID: CCB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 1:24:46 PM
Data Type: Reprocessed on 04/12/17 8:36:35 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1373094.1	103.4	%	0.83				0.80%
Y 371.029 Radial	66761.1	105.0	%	3.44				3.27%
Ag 338.289†	48.9	0.754	ug/L	0.4886	0.754	ug/L	0.4886	64.77%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	2.0	6.667	ug/L	5.4562	6.667	ug/L	5.4562	81.84%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	2.8	4.205	ug/L	3.1770	4.205	ug/L	3.1770	75.55%
QC value greater than the upper limit for As 188.979 Recovery = Not calculated								
B†	6.8	5.778	ug/L	3.6299	5.778	ug/L	3.6299	62.83%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-0.3	-0.005	ug/L	0.0426	-0.005	ug/L	0.0426	844.60%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	1.1	0.008	ug/L	0.0203	0.008	ug/L	0.0203	260.30%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	69.0	27.93	ug/L	5.281	27.93	ug/L	5.281	18.91%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	2.6	0.054	ug/L	0.1995	0.054	ug/L	0.1995	369.61%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-2.5	-0.115	ug/L	0.3243	-0.115	ug/L	0.3243	282.41%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-4.1	-0.072	ug/L	0.0648	-0.072	ug/L	0.0648	89.73%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	44.2	0.826	ug/L	0.1396	0.826	ug/L	0.1396	16.89%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	30.0	4.636	ug/L	0.8992	4.636	ug/L	0.8992	19.40%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-16.7	-9.824	ug/L	19.7472	-9.824	ug/L	19.7472	201.02%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	19.2	4.359	ug/L	0.5076	4.359	ug/L	0.5076	11.64%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-0.6	-0.084	ug/L	0.5019	-0.084	ug/L	0.5019	594.61%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.2	0.550	ug/L	0.5921	0.550	ug/L	0.5921	107.73%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	214.3	32.29	ug/L	8.910	32.29	ug/L	8.910	27.60%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	7.8	0.377	ug/L	0.5028	0.377	ug/L	0.5028	133.31%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	3.7	3.809	ug/L	2.6439	3.809	ug/L	2.6439	69.40%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	2.9	0.842	ug/L	0.7937	0.842	ug/L	0.7937	94.29%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.0	-1.482	ug/L	2.4952	-1.482	ug/L	2.4952	168.32%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-2.2	-3.854	ug/L	6.9419	-3.854	ug/L	6.9419	180.10%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-0.5	-0.252	ug/L	2.1829	-0.252	ug/L	2.1829	865.42%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	72.9	0.183	ug/L	0.0155	0.183	ug/L	0.0155	8.48%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	10.3	0.566	ug/L	1.2466	0.566	ug/L	1.2466	220.10%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-1.4	-2.556	ug/L	2.2571	-2.556	ug/L	2.2571	88.32%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	48.5	0.435	ug/L	0.2367	0.435	ug/L	0.2367	54.37%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	9.0	2.456	ug/L	0.1427	2.456	ug/L	0.1427	5.81%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 34
Sample ID: CCV2 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 04/11/17 2:11:05 PM
Data Type: Reprocessed on 04/12/17 8:36:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1311381.1	98.80	%	0.566				0.57%
Y 371.029 Radial	63742.2	100.2	%	1.39				1.38%
Ag 338.289†	26230.6	404.3	ug/L	4.85	404.3	ug/L	4.85	1.20%
QC value within limits for Ag 338.289 Recovery = 107.80%								
Al 308.215†	4734.8	15980	ug/L	295.6	15980	ug/L	295.6	1.85%
QC value within limits for Al 308.215 Recovery = 106.55%								
As 188.979†	473.2	728.4	ug/L	4.09	728.4	ug/L	4.09	0.56%
QC value within limits for As 188.979 Recovery = 97.12%								
B†	915.2	775.8	ug/L	17.70	775.8	ug/L	17.70	2.28%
QC value within limits for B Recovery = 103.44%								
Ba 233.527†	47266.5	809.7	ug/L	7.80	809.7	ug/L	7.80	0.96%
QC value within limits for Ba 233.527 Recovery = 107.95%								
Be 313.107†	114311.2	816.4	ug/L	34.34	816.4	ug/L	34.34	4.21%
QC value within limits for Be 313.107 Recovery = 108.85%								
Ca 315.887†	99850.3	40430	ug/L	1658.4	40430	ug/L	1658.4	4.10%
QC value within limits for Ca 315.887 Recovery = 107.81%								
Cd 214.440†	36694.7	765.3	ug/L	5.07	765.3	ug/L	5.07	0.66%
QC value within limits for Cd 214.440 Recovery = 102.04%								
Co 228.616†	17714.9	800.1	ug/L	8.32	800.1	ug/L	8.32	1.04%
QC value within limits for Co 228.616 Recovery = 106.68%								
Cr 267.716†	45602.0	817.9	ug/L	8.19	817.9	ug/L	8.19	1.00%
QC value within limits for Cr 267.716 Recovery = 109.05%								
Cu 327.393†	43377.5	810.4	ug/L	11.55	810.4	ug/L	11.55	1.43%
QC value within limits for Cu 327.393 Recovery = 108.05%								
Fe 273.955†	106897.4	16530	ug/L	177.1	16530	ug/L	177.1	1.07%
QC value within limits for Fe 273.955 Recovery = 110.17%								
K 766.490†	26810.4	15730	ug/L	633.3	15730	ug/L	633.3	4.03%
QC value within limits for K 766.490 Recovery = 104.87%								
Mg 285.213†	179602.5	40730	ug/L	1646.8	40730	ug/L	1646.8	4.04%
QC value within limits for Mg 285.213 Recovery = 108.62%								
Mn 257.610†	5659.2	807.0	ug/L	14.05	807.0	ug/L	14.05	1.74%
QC value within limits for Mn 257.610 Recovery = 107.60%								
Mo 202.031†	4244.1	718.8	ug/L	5.77	718.8	ug/L	5.77	0.80%
QC value within limits for Mo 202.031 Recovery = 95.84%								
Na 589.592†	130619.8	19670	ug/L	733.2	19670	ug/L	733.2	3.73%
QC value within limits for Na 589.592 Recovery = 104.92%								
Ni 231.604†	16777.1	805.9	ug/L	6.80	805.9	ug/L	6.80	0.84%
QC value within limits for Ni 231.604 Recovery = 107.45%								
P 213.617†	3670.1	3729	ug/L	32.4	3729	ug/L	32.4	0.87%
QC value within limits for P 213.617 Recovery = 99.44%								
Pb 220.353†	2672.3	783.6	ug/L	3.50	783.6	ug/L	3.50	0.45%
QC value within limits for Pb 220.353 Recovery = 104.48%								
Sb 206.836†	490.9	717.6	ug/L	6.62	717.6	ug/L	6.62	0.92%
QC value within limits for Sb 206.836 Recovery = 95.68%								
Se 196.026†	402.9	726.4	ug/L	6.60	726.4	ug/L	6.60	0.91%
QC value within limits for Se 196.026 Recovery = 96.85%								
Sn 189.927†	1476.2	713.6	ug/L	7.84	713.6	ug/L	7.84	1.10%
QC value within limits for Sn 189.927 Recovery = 95.14%								
Sr 421.552†	313680.2	788.8	ug/L	33.41	788.8	ug/L	33.41	4.24%
QC value within limits for Sr 421.552 Recovery = 105.18%								
Ti 337.279†	15033.0	822.5	ug/L	14.67	822.5	ug/L	14.67	1.78%
QC value within limits for Ti 337.279 Recovery = 109.66%								
Tl 190.801†	415.1	735.3	ug/L	7.54	735.3	ug/L	7.54	1.03%
QC value within limits for Tl 190.801 Recovery = 98.04%								
V 292.402†	91468.1	825.0	ug/L	7.97	825.0	ug/L	7.97	0.97%
QC value within limits for V 292.402 Recovery = 110.00%								
Zn 206.200†	2733.3	745.2	ug/L	5.00	745.2	ug/L	5.00	0.67%
QC value within limits for Zn 206.200 Recovery = 99.36%								

All analyte(s) passed QC.

Sequence No.: 35
Sample ID: CCB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 2:16:04 PM
Data Type: Reprocessed on 04/12/17 8:36:49 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1367747.6	103.0	%	1.15				1.11%
Y 371.029 Radial	65315.1	102.7	%	2.75				2.68%
Ag 338.289†	-16.8	-0.259	ug/L	0.5226	-0.259	ug/L	0.5226	201.61%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	0.5	1.629	ug/L	10.8308	1.629	ug/L	10.8308	664.94%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.3	0.541	ug/L	6.1311	0.541	ug/L	6.1311	>999.9%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	4.3	3.654	ug/L	5.7789	3.654	ug/L	5.7789	158.16%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	3.9	0.066	ug/L	0.0635	0.066	ug/L	0.0635	96.65%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	1.6	0.012	ug/L	0.0355	0.012	ug/L	0.0355	305.96%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	31.8	12.86	ug/L	5.317	12.86	ug/L	5.317	41.35%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-1.7	-0.036	ug/L	0.1061	-0.036	ug/L	0.1061	296.99%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	8.5	0.382	ug/L	0.1101	0.382	ug/L	0.1101	28.81%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	3.5	0.063	ug/L	0.0935	0.063	ug/L	0.0935	147.36%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	50.1	0.937	ug/L	0.9813	0.937	ug/L	0.9813	104.76%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	15.7	2.420	ug/L	0.3144	2.420	ug/L	0.3144	12.99%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-23.2	-13.60	ug/L	43.658	-13.60	ug/L	43.658	320.93%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	15.4	3.497	ug/L	0.9223	3.497	ug/L	0.9223	26.37%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-1.2	-0.175	ug/L	0.2858	-0.175	ug/L	0.2858	162.86%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.7	0.631	ug/L	0.5625	0.631	ug/L	0.5625	89.11%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	172.6	26.02	ug/L	13.006	26.02	ug/L	13.006	49.99%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	13.5	0.648	ug/L	0.2245	0.648	ug/L	0.2245	34.63%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	2.7	2.709	ug/L	2.7673	2.709	ug/L	2.7673	102.14%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	1.5	0.446	ug/L	0.4522	0.446	ug/L	0.4522	101.35%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.8	-1.176	ug/L	0.9355	-1.176	ug/L	0.9355	79.54%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.4	0.749	ug/L	8.5569	0.749	ug/L	8.5569	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	2.4	1.167	ug/L	1.7559	1.167	ug/L	1.7559	150.45%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	41.5	0.104	ug/L	0.3017	0.104	ug/L	0.3017	289.60%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	32.2	1.762	ug/L	1.3831	1.762	ug/L	1.3831	78.49%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	0.3	0.589	ug/L	1.0831	0.589	ug/L	1.0831	183.73%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	6.1	0.061	ug/L	0.3200	0.061	ug/L	0.3200	520.94%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	5.5	1.489	ug/L	0.4072	1.489	ug/L	0.4072	27.35%
QC value within limits for Zn 206.200 Recovery = Not calculated								

All analyte(s) passed QC.

Sequence No.: 44
Sample ID: CCV1 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 04/11/17 3:01:50 PM
Data Type: Reprocessed on 04/12/17 8:37:01 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1297346.9	97.74	%	0.344				0.35%
Y 371.029 Radial	64827.1	102.0	%	5.75				5.64%
Ag 338.289†	33162.3	511.1	ug/L	6.25	511.1	ug/L	6.25	1.22%
QC value within limits for Ag 338.289 Recovery = 102.22%								
Al 308.215†	5940.5	20050	ug/L	1130.7	20050	ug/L	1130.7	5.64%
QC value within limits for Al 308.215 Recovery = 100.26%								
As 188.979†	605.4	931.5	ug/L	5.19	931.5	ug/L	5.19	0.56%
QC value within limits for As 188.979 Recovery = 93.15%								
B†	1162.1	985.0	ug/L	59.47	985.0	ug/L	59.47	6.04%
QC value within limits for B Recovery = 98.50%								
Ba 233.527†	60538.9	1037	ug/L	12.4	1037	ug/L	12.4	1.19%
QC value within limits for Ba 233.527 Recovery = 103.71%								
Be 313.107†	143640.2	1026	ug/L	83.8	1026	ug/L	83.8	8.17%
QC value within limits for Be 313.107 Recovery = 102.58%								
Ca 315.887†	127155.0	51480	ug/L	3964.3	51480	ug/L	3964.3	7.70%
QC value within limits for Ca 315.887 Recovery = 102.96%								
Cd 214.440†	47422.3	989.1	ug/L	10.15	989.1	ug/L	10.15	1.03%
QC value within limits for Cd 214.440 Recovery = 98.91%								
Co 228.616†	22608.0	1021	ug/L	10.6	1021	ug/L	10.6	1.03%
QC value within limits for Co 228.616 Recovery = 102.12%								
Cr 267.716†	58759.0	1054	ug/L	13.3	1054	ug/L	13.3	1.26%
QC value within limits for Cr 267.716 Recovery = 105.39%								
Cu 327.393†	54924.1	1026	ug/L	13.7	1026	ug/L	13.7	1.34%
QC value within limits for Cu 327.393 Recovery = 102.61%								
Fe 273.955†	131570.4	20340	ug/L	141.0	20340	ug/L	141.0	0.69%
QC value within limits for Fe 273.955 Recovery = 101.70%								
K 766.490†	33687.9	19770	ug/L	1529.8	19770	ug/L	1529.8	7.74%
QC value within limits for K 766.490 Recovery = 98.83%								
Mg 285.213†	227340.1	51560	ug/L	4036.9	51560	ug/L	4036.9	7.83%
QC value within limits for Mg 285.213 Recovery = 103.12%								
Mn 257.610†	7127.8	1016	ug/L	55.2	1016	ug/L	55.2	5.43%
QC value within limits for Mn 257.610 Recovery = 101.64%								
Mo 202.031†	5463.4	925.2	ug/L	6.68	925.2	ug/L	6.68	0.72%
QC value within limits for Mo 202.031 Recovery = 92.52%								
Na 589.592†	165385.4	24910	ug/L	1965.3	24910	ug/L	1965.3	7.89%
QC value within limits for Na 589.592 Recovery = 99.63%								
Ni 231.604†	21466.3	1031	ug/L	13.6	1031	ug/L	13.6	1.32%
QC value within limits for Ni 231.604 Recovery = 103.11%								
P 213.617†	4754.0	4830	ug/L	23.3	4830	ug/L	23.3	0.48%
QC value within limits for P 213.617 Recovery = 96.61%								
Pb 220.353†	3387.1	993.2	ug/L	4.35	993.2	ug/L	4.35	0.44%
QC value within limits for Pb 220.353 Recovery = 99.32%								
Sb 206.836†	628.2	918.2	ug/L	1.95	918.2	ug/L	1.95	0.21%
QC value within limits for Sb 206.836 Recovery = 91.82%								
Se 196.026†	526.6	948.9	ug/L	12.91	948.9	ug/L	12.91	1.36%
QC value within limits for Se 196.026 Recovery = 94.89%								
Sn 189.927†	1929.0	932.0	ug/L	2.04	932.0	ug/L	2.04	0.22%
QC value within limits for Sn 189.927 Recovery = 93.20%								
Sr 421.552†	396346.5	996.7	ug/L	79.18	996.7	ug/L	79.18	7.94%
QC value within limits for Sr 421.552 Recovery = 99.67%								
Ti 337.279†	18815.0	1029	ug/L	57.4	1029	ug/L	57.4	5.58%
QC value within limits for Ti 337.279 Recovery = 102.94%								
Tl 190.801†	509.1	901.7	ug/L	3.95	901.7	ug/L	3.95	0.44%
QC value within limits for Tl 190.801 Recovery = 90.17%								
V 292.402†	117855.9	1063	ug/L	13.2	1063	ug/L	13.2	1.24%
QC value within limits for V 292.402 Recovery = 106.32%								
Zn 206.200†	3488.4	951.1	ug/L	5.38	951.1	ug/L	5.38	0.57%
QC value within limits for Zn 206.200 Recovery = 95.11%								

All analyte(s) passed QC.

Sequence No.: 45
Sample ID: CCB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 3:07:17 PM
Data Type: Reprocessed on 04/12/17 8:37:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1380313.1	104.0	%	1.07				1.03%
Y 371.029 Radial	64901.8	102.1	%	2.11				2.06%
Ag 338.289†	-44.5	-0.686	ug/L	0.6422	-0.686	ug/L	0.6422	93.60%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.0	3.427	ug/L	5.3775	3.427	ug/L	5.3775	156.89%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	-0.7	-1.147	ug/L	3.1867	-1.147	ug/L	3.1867	277.78%
QC value within limits for As 188.979 Recovery = Not calculated								
B†	11.5	9.773	ug/L	1.8495	9.773	ug/L	1.8495	18.92%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	6.2	0.105	ug/L	0.1052	0.105	ug/L	0.1052	100.16%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	4.1	0.030	ug/L	0.0062	0.030	ug/L	0.0062	20.78%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	20.8	8.404	ug/L	5.3249	8.404	ug/L	5.3249	63.36%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-2.6	-0.054	ug/L	0.1567	-0.054	ug/L	0.1567	292.51%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	-2.5	-0.107	ug/L	0.0566	-0.107	ug/L	0.0566	52.70%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	1.5	0.027	ug/L	0.4149	0.027	ug/L	0.4149	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	36.5	0.682	ug/L	0.3176	0.682	ug/L	0.3176	46.59%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	11.2	1.725	ug/L	0.5453	1.725	ug/L	0.5453	31.62%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	50.5	29.64	ug/L	37.222	29.64	ug/L	37.222	125.60%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	8.2	1.869	ug/L	1.1469	1.869	ug/L	1.1469	61.35%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	-0.6	-0.088	ug/L	0.3020	-0.088	ug/L	0.3020	344.11%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	8.6	1.454	ug/L	0.5481	1.454	ug/L	0.5481	37.71%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	224.0	33.74	ug/L	19.647	33.74	ug/L	19.647	58.24%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	11.4	0.546	ug/L	0.2717	0.546	ug/L	0.2717	49.80%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	2.6	2.674	ug/L	2.2329	2.674	ug/L	2.2329	83.50%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-0.2	-0.046	ug/L	0.5259	-0.046	ug/L	0.5259	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-0.6	-0.880	ug/L	2.4740	-0.880	ug/L	2.4740	281.07%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-2.9	-5.186	ug/L	4.2331	-5.186	ug/L	4.2331	81.62%
QC value less than the lower limit for Se 196.026 Recovery = Not calculated								
Sn 189.927†	3.7	1.787	ug/L	1.0794	1.787	ug/L	1.0794	60.39%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	33.0	0.083	ug/L	0.1124	0.083	ug/L	0.1124	135.57%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-18.9	-1.038	ug/L	1.3006	-1.038	ug/L	1.3006	125.32%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	2.6	4.534	ug/L	1.4024	4.534	ug/L	1.4024	30.93%
QC value greater than the upper limit for Tl 190.801 Recovery = Not calculated								
V 292.402†	2.5	0.044	ug/L	1.1824	0.044	ug/L	1.1824	>999.9%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	7.1	1.942	ug/L	0.4065	1.942	ug/L	0.4065	20.93%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 60
Sample ID: CCV2 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 04/11/17 4:31:24 PM
Data Type: Reprocessed on 04/12/17 8:37:21 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1320389.1	99.48	%	1.672				1.68%
Y 371.029 Radial	65128.5	102.4	%	4.48				4.38%
Ag 338.289†	24236.4	373.5	ug/L	11.03	373.5	ug/L	11.03	2.95%
QC value within limits for Ag 338.289 Recovery = 99.61%								
Al 308.215†	4396.0	14840	ug/L	704.1	14840	ug/L	704.1	4.74%
QC value within limits for Al 308.215 Recovery = 98.92%								
As 188.979†	439.5	676.6	ug/L	6.69	676.6	ug/L	6.69	0.99%
QC value within limits for As 188.979 Recovery = 90.21%								
B†	859.5	728.5	ug/L	36.55	728.5	ug/L	36.55	5.02%
QC value within limits for B Recovery = 97.14%								
Ba 233.527†	44541.1	763.0	ug/L	19.55	763.0	ug/L	19.55	2.56%
QC value within limits for Ba 233.527 Recovery = 101.73%								
Be 313.107†	107607.4	768.5	ug/L	39.95	768.5	ug/L	39.95	5.20%
QC value within limits for Be 313.107 Recovery = 102.47%								
Ca 315.887†	95706.2	38750	ug/L	1971.2	38750	ug/L	1971.2	5.09%
QC value within limits for Ca 315.887 Recovery = 103.33%								
Cd 214.440†	34397.7	717.4	ug/L	19.83	717.4	ug/L	19.83	2.76%
QC value within limits for Cd 214.440 Recovery = 95.65%								
Co 228.616†	16695.5	754.0	ug/L	19.52	754.0	ug/L	19.52	2.59%
QC value within limits for Co 228.616 Recovery = 100.54%								
Cr 267.716†	43199.0	774.8	ug/L	20.51	774.8	ug/L	20.51	2.65%
QC value within limits for Cr 267.716 Recovery = 103.31%								
Cu 327.393†	40438.9	755.5	ug/L	21.38	755.5	ug/L	21.38	2.83%
QC value within limits for Cu 327.393 Recovery = 100.73%								
Fe 273.955†	99142.6	15330	ug/L	404.2	15330	ug/L	404.2	2.64%
QC value within limits for Fe 273.955 Recovery = 102.18%								
K 766.490†	25411.7	14910	ug/L	774.5	14910	ug/L	774.5	5.19%
QC value within limits for K 766.490 Recovery = 99.40%								
Mg 285.213†	171936.4	38990	ug/L	2045.8	38990	ug/L	2045.8	5.25%
QC value within limits for Mg 285.213 Recovery = 103.98%								
Mn 257.610†	5290.3	754.4	ug/L	36.25	754.4	ug/L	36.25	4.81%
QC value within limits for Mn 257.610 Recovery = 100.58%								
Mo 202.031†	3914.6	663.0	ug/L	13.01	663.0	ug/L	13.01	1.96%
QC value less than the lower limit for Mo 202.031 Recovery = 88.40%								
Na 589.592†	124630.1	18770	ug/L	925.5	18770	ug/L	925.5	4.93%
QC value within limits for Na 589.592 Recovery = 100.11%								
Ni 231.604†	15847.9	761.3	ug/L	21.48	761.3	ug/L	21.48	2.82%
QC value within limits for Ni 231.604 Recovery = 101.50%								
P 213.617†	3417.7	3473	ug/L	56.0	3473	ug/L	56.0	1.61%
QC value within limits for P 213.617 Recovery = 92.60%								
Pb 220.353†	2476.8	726.3	ug/L	14.45	726.3	ug/L	14.45	1.99%
QC value within limits for Pb 220.353 Recovery = 96.84%								
Sb 206.836†	450.2	658.0	ug/L	9.88	658.0	ug/L	9.88	1.50%
QC value less than the lower limit for Sb 206.836 Recovery = 87.74%								
Se 196.026†	376.9	679.3	ug/L	24.01	679.3	ug/L	24.01	3.53%
QC value within limits for Se 196.026 Recovery = 90.57%								
Sn 189.927†	1371.8	663.2	ug/L	16.07	663.2	ug/L	16.07	2.42%
QC value less than the lower limit for Sn 189.927 Recovery = 88.43%								
Sr 421.552†	298861.0	751.6	ug/L	38.31	751.6	ug/L	38.31	5.10%
QC value within limits for Sr 421.552 Recovery = 100.21%								
Ti 337.279†	14011.2	766.6	ug/L	37.76	766.6	ug/L	37.76	4.93%
QC value within limits for Ti 337.279 Recovery = 102.21%								
Tl 190.801†	367.6	651.1	ug/L	10.13	651.1	ug/L	10.13	1.56%
QC value less than the lower limit for Tl 190.801 Recovery = 86.81%								
V 292.402†	86624.9	781.1	ug/L	19.97	781.1	ug/L	19.97	2.56%
QC value within limits for V 292.402 Recovery = 104.15%								
Zn 206.200†	2522.6	687.7	ug/L	10.55	687.7	ug/L	10.55	1.53%
QC value within limits for Zn 206.200 Recovery = 91.70%								

QC Failed. Continue with analysis.

Sequence No.: 61
Sample ID: CCB 170411RJS I:PB O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 04/11/17 4:39:39 PM
Data Type: Reprocessed on 04/12/17 8:37:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 170411RJS I:PB O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1406481.0	106.0	%	0.67				0.63%
Y 371.029 Radial	67590.3	106.3	%	3.40				3.20%
Ag 338.289†	-122.9	-1.894	ug/L	0.8307	-1.894	ug/L	0.8307	43.85%
QC value less than the lower limit for Ag 338.289 Recovery = Not calculated								
Al 308.215†	0.7	2.346	ug/L	7.2748	2.346	ug/L	7.2748	310.04%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	4.9	7.484	ug/L	8.2216	7.484	ug/L	8.2216	109.86%
QC value greater than the upper limit for As 188.979 Recovery = Not calculated								
B†	8.2	6.966	ug/L	5.0347	6.966	ug/L	5.0347	72.28%
QC value within limits for B Recovery = Not calculated								
Ba 233.527†	-5.3	-0.092	ug/L	0.0361	-0.092	ug/L	0.0361	39.10%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	3.0	0.021	ug/L	0.0195	0.021	ug/L	0.0195	91.71%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	9.3	3.775	ug/L	2.9306	3.775	ug/L	2.9306	77.63%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	8.1	0.170	ug/L	0.0961	0.170	ug/L	0.0961	56.54%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	1.9	0.088	ug/L	0.6206	0.088	ug/L	0.6206	707.48%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	6.1	0.108	ug/L	0.0992	0.108	ug/L	0.0992	92.27%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	14.1	0.263	ug/L	0.4416	0.263	ug/L	0.4416	167.74%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	17.1	2.639	ug/L	0.7335	2.639	ug/L	0.7335	27.79%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	-0.2	-0.143	ug/L	3.0124	-0.143	ug/L	3.0124	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	13.6	3.095	ug/L	1.3440	3.095	ug/L	1.3440	43.42%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	1.9	0.274	ug/L	0.2877	0.274	ug/L	0.2877	104.83%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	8.1	1.374	ug/L	0.6206	1.374	ug/L	0.6206	45.16%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	231.1	34.82	ug/L	5.802	34.82	ug/L	5.802	16.66%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	4.5	0.216	ug/L	0.2948	0.216	ug/L	0.2948	136.38%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	5.1	5.171	ug/L	1.9658	5.171	ug/L	1.9658	38.01%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	1.0	0.286	ug/L	1.5014	0.286	ug/L	1.5014	525.16%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.7	-2.412	ug/L	3.4061	-2.412	ug/L	3.4061	141.19%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-0.2	-0.353	ug/L	1.9785	-0.353	ug/L	1.9785	560.55%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-2.3	-1.091	ug/L	0.2765	-1.091	ug/L	0.2765	25.36%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	121.5	0.305	ug/L	0.2928	0.305	ug/L	0.2928	95.86%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	25.7	1.410	ug/L	1.3253	1.410	ug/L	1.3253	94.01%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	0.6	1.042	ug/L	1.9098	1.042	ug/L	1.9098	183.23%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-41.6	-0.350	ug/L	0.2155	-0.350	ug/L	0.2155	61.57%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	11.1	3.015	ug/L	0.1686	3.015	ug/L	0.1686	5.59%
QC value within limits for Zn 206.200 Recovery = Not calculated								

QC Failed. Continue with analysis.

METALS

Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6010C	CALCIUM (CA)	62.5 J	1000	75.0	27.5	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	IRON (FE)	25.0 U	100	25.0	21.0	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	LEAD (PB)	4.00 U	15.0	4.00	1.58	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	MAGNESIUM (MG)	12.9 J	500	30.0	12.9	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	MANGANESE (MN)	4.00 U	10.0	4.00	1.23	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	POTASSIUM (K)	500.0 U	3000	500.0	220.0	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	SODIUM (NA)	500.0 U	5000	500.0	111.1	ug/L	04/07/17	04/11/17	#61CDO-170407A-AZ53168
6010C	LEAD (PB) (DISSOL	4.00 U	15.0	4.00	1.58	ug/L	04/07/17	04/11/17	#61CDO-170407A1-AZ53168

Metals SC-Blank-REG MDLs
Printed: 04/13/17 8:41:59 AM

Sequence No.: 26
Sample ID: 170407A-3010-BLK
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 04/11/17 1:29:39 PM
Data Type: Reprocessed on 04/12/17 8:36:36 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: 170407A-3010-BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1385692.8	104.4	%	0.31				0.30%
Y 371.029 Radial	66889.2	105.2	%	1.72				1.63%
Ag 338.289†	-2.3	-0.035	ug/L	0.8445	-0.035	ug/L	0.8445	>999.9%
Al 308.215†	4.9	16.62	ug/L	4.120	16.62	ug/L	4.120	24.79%
As 188.979†	1.1	1.722	ug/L	0.8404	1.722	ug/L	0.8404	48.79%
B†	4.0	3.425	ug/L	3.7356	3.425	ug/L	3.7356	109.08%
Ba 233.527†	-2.9	-0.051	ug/L	0.1173	-0.051	ug/L	0.1173	228.78%
Be 313.107†	0.2	0.001	ug/L	0.0203	0.001	ug/L	0.0203	>999.9%
Ca 315.887†	154.3	62.46	ug/L	4.465	62.46	ug/L	4.465	7.15%
Cd 214.440†	4.5	0.093	ug/L	0.1414	0.093	ug/L	0.1414	151.40%
Co 228.616†	1.2	0.051	ug/L	0.0836	0.051	ug/L	0.0836	162.74%
Cr 267.716†	5.6	0.099	ug/L	0.2529	0.099	ug/L	0.2529	254.68%
Cu 327.393†	44.8	0.838	ug/L	0.2058	0.838	ug/L	0.2058	24.57%
Fe 273.955†	125.9	19.46	ug/L	0.465	19.46	ug/L	0.465	2.39%
K 766.490†	-11.6	-6.807	ug/L	14.0295	-6.807	ug/L	14.0295	206.12%
Mg 285.213†	57.0	12.95	ug/L	1.044	12.95	ug/L	1.044	8.06%
Mn 257.610†	1.4	0.200	ug/L	0.4839	0.200	ug/L	0.4839	241.44%
Mo 202.031†	4.5	0.762	ug/L	0.5605	0.762	ug/L	0.5605	73.53%
Na 589.592†	262.0	39.48	ug/L	22.105	39.48	ug/L	22.105	55.99%
Ni 231.604†	6.9	0.331	ug/L	0.2820	0.331	ug/L	0.2820	85.23%
P 213.617†	1.8	1.784	ug/L	2.3548	1.784	ug/L	2.3548	132.02%
Pb 220.353†	1.0	0.287	ug/L	0.6056	0.287	ug/L	0.6056	211.07%
Sb 206.836†	1.7	2.510	ug/L	1.3407	2.510	ug/L	1.3407	53.42%
Se 196.026†	4.3	7.680	ug/L	2.5115	7.680	ug/L	2.5115	32.70%
Sn 189.927†	3.7	1.782	ug/L	0.4337	1.782	ug/L	0.4337	24.34%
Sr 421.552†	-8.4	-0.021	ug/L	0.1325	-0.021	ug/L	0.1325	617.19%
Ti 337.279†	13.4	0.732	ug/L	2.4226	0.732	ug/L	2.4226	330.75%
Tl 190.801†	1.6	2.819	ug/L	1.7809	2.819	ug/L	1.7809	63.17%
V 292.402†	-63.2	-0.553	ug/L	0.4709	-0.553	ug/L	0.4709	85.16%
Zn 206.200†	16.5	4.487	ug/L	0.2683	4.487	ug/L	0.2683	5.98%

Laboratory Control Spike Recoveries

METALS DISSOLVED

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 6010C	LEAD (PB) (DISSOLVED)	250	248	246	99.2	98.4	0.8	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A1-AZ531
EPA 6010C	CALCIUM (CA)	25000	27300	26600	109	106	2.6	20	87-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	IRON (FE)	1000	1060	1040	106	104	1.9	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	LEAD (PB)	250	248	246	99.2	98.4	0.8	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	MAGNESIUM (MG)	25000	27100	26600	108	106	1.9	20	85-113	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	MANGANESE (MN)	250	262	256	105	102	2.3	20	90-114	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	POTASSIUM (K)	5000	5220	5090	104	102	2.5	20	86-114	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316
EPA 6010C	SODIUM (NA)	25000	26100	25700	104	103	1.5	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	#61CDO-170407A-AZ5316

Comments: _____

Sequence No.: 27
Sample ID: 170407A-3010-LCS
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 04/11/17 1:34:47 PM
Data Type: Reprocessed on 04/12/17 8:36:37 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: 170407A-3010-LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1347833.0	101.5	%	1.41				1.39%
Y 371.029 Radial	64647.9	101.7	%	2.41				2.37%
Ag 338.289†	6489.9	100.0	ug/L	1.23	100.0	ug/L	1.23	1.23%
Al 308.215†	611.6	2064	ug/L	48.7	2064	ug/L	48.7	2.36%
As 188.979†	150.5	230.6	ug/L	1.63	230.6	ug/L	1.63	0.71%
B†	296.4	251.2	ug/L	4.82	251.2	ug/L	4.82	1.92%
Ba 233.527†	14732.2	252.5	ug/L	4.62	252.5	ug/L	4.62	1.83%
Be 313.107†	7621.0	54.43	ug/L	1.230	54.43	ug/L	1.230	2.26%
Ca 315.887†	67482.3	27320	ug/L	181.3	27320	ug/L	181.3	0.66%
Cd 214.440†	2277.4	47.61	ug/L	0.634	47.61	ug/L	0.634	1.33%
Co 228.616†	5767.8	260.9	ug/L	3.56	260.9	ug/L	3.56	1.36%
Cr 267.716†	14704.0	263.6	ug/L	5.80	263.6	ug/L	5.80	2.20%
Cu 327.393†	13685.8	255.7	ug/L	5.71	255.7	ug/L	5.71	2.23%
Fe 273.955†	6838.4	1057	ug/L	21.1	1057	ug/L	21.1	2.00%
K 766.490†	8889.5	5216	ug/L	50.5	5216	ug/L	50.5	0.97%
Mg 285.213†	119673.5	27130	ug/L	185.1	27130	ug/L	185.1	0.68%
Mn 257.610†	1842.6	261.9	ug/L	6.65	261.9	ug/L	6.65	2.54%
Mo 202.031†	1373.9	232.3	ug/L	2.60	232.3	ug/L	2.60	1.12%
Na 589.592†	173295.7	26110	ug/L	143.3	26110	ug/L	143.3	0.55%
Ni 231.604†	5421.3	260.5	ug/L	3.21	260.5	ug/L	3.21	1.23%
P 213.617†	1861.7	1892	ug/L	22.4	1892	ug/L	22.4	1.19%
Pb 220.353†	845.0	247.8	ug/L	2.83	247.8	ug/L	2.83	1.14%
Sb 206.836†	154.1	225.3	ug/L	4.80	225.3	ug/L	4.80	2.13%
Se 196.026†	121.7	216.7	ug/L	11.71	216.7	ug/L	11.71	5.40%
Sn 189.927†	432.2	210.7	ug/L	5.06	210.7	ug/L	5.06	2.40%
Sr 421.552†	103840.4	261.0	ug/L	1.35	261.0	ug/L	1.35	0.52%
Ti 337.279†	4892.9	267.5	ug/L	5.98	267.5	ug/L	5.98	2.23%
Tl 190.801†	136.9	242.4	ug/L	5.77	242.4	ug/L	5.77	2.38%
V 292.402†	29550.7	267.3	ug/L	4.50	267.3	ug/L	4.50	1.68%
Zn 206.200†	1749.9	477.1	ug/L	4.59	477.1	ug/L	4.59	0.96%

Sequence No.: 28
Sample ID: 170407A-3010-LCSD
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 04/11/17 1:40:30 PM
Data Type: Reprocessed on 04/12/17 8:36:39 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: 170407A-3010-LCSD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1351240.4	101.8	%	0.76				0.74%
Y 371.029 Radial	65311.1	102.7	%	2.25				2.19%
Ag 338.289†	6430.2	99.10	ug/L	1.465	99.10	ug/L	1.465	1.48%
Al 308.215†	603.7	2038	ug/L	44.6	2038	ug/L	44.6	2.19%
As 188.979†	149.7	229.4	ug/L	4.58	229.4	ug/L	4.58	1.99%
B†	292.5	248.0	ug/L	2.98	248.0	ug/L	2.98	1.20%
Ba 233.527†	14573.0	249.8	ug/L	3.32	249.8	ug/L	3.32	1.33%
Be 313.107†	7469.3	53.34	ug/L	1.147	53.34	ug/L	1.147	2.15%
Ca 315.887†	65749.0	26620	ug/L	818.6	26620	ug/L	818.6	3.08%
Cd 214.440†	2269.9	47.45	ug/L	0.270	47.45	ug/L	0.270	0.57%
Co 228.616†	5748.9	260.1	ug/L	1.79	260.1	ug/L	1.79	0.69%
Cr 267.716†	14481.2	259.6	ug/L	2.97	259.6	ug/L	2.97	1.15%
Cu 327.393†	13631.2	254.7	ug/L	3.51	254.7	ug/L	3.51	1.38%
Fe 273.955†	6710.4	1037	ug/L	10.9	1037	ug/L	10.9	1.06%
K 766.490†	8679.8	5093	ug/L	161.9	5093	ug/L	161.9	3.18%
Mg 285.213†	117190.9	26570	ug/L	888.3	26570	ug/L	888.3	3.34%
Mn 257.610†	1803.0	256.2	ug/L	6.18	256.2	ug/L	6.18	2.41%
Mo 202.031†	1369.3	231.5	ug/L	2.63	231.5	ug/L	2.63	1.14%
Na 589.592†	170500.4	25690	ug/L	753.2	25690	ug/L	753.2	2.93%
Ni 231.604†	5389.9	259.0	ug/L	1.64	259.0	ug/L	1.64	0.63%
P 213.617†	1853.4	1883	ug/L	15.3	1883	ug/L	15.3	0.81%
Pb 220.353†	839.0	246.0	ug/L	2.52	246.0	ug/L	2.52	1.02%
Sb 206.836†	152.9	223.5	ug/L	3.34	223.5	ug/L	3.34	1.49%
Se 196.026†	125.6	223.6	ug/L	14.63	223.6	ug/L	14.63	6.54%
Sn 189.927†	423.2	206.3	ug/L	0.98	206.3	ug/L	0.98	0.47%
Sr 421.552†	101754.9	255.8	ug/L	8.15	255.8	ug/L	8.15	3.18%
Ti 337.279†	4815.1	263.2	ug/L	5.68	263.2	ug/L	5.68	2.16%
Tl 190.801†	137.2	242.9	ug/L	4.81	242.9	ug/L	4.81	1.98%
V 292.402†	29204.8	264.2	ug/L	3.83	264.2	ug/L	3.83	1.45%
Zn 206.200†	1726.2	470.6	ug/L	3.28	470.6	ug/L	3.28	0.70%

Matrix Spike Recoveries

METALS

APPL ID: **170407W-53168 MS - 217752**

Sample ID: AZ53168

Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6010C	LEAD (PB) (DISSOLVE	250	ND	243	242	97.2	96.8	0.4	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	217752	AZ53168
EPA 6010C	CALCIUM (CA)	25000	12900	39500	39800	106	108	0.8	20	87-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	IRON (FE)	1000	2.6	1020	1020	102	102	0.0	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	LEAD (PB)	250	ND	237	237	94.8	94.8	0.0	20	86-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	MAGNESIUM (MG)	25000	12000	38600	38800	106	107	0.5	20	85-113	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	MANGANESE (MN)	250	ND	259	260	104	104	0.4	20	90-114	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	POTASSIUM (K)	5000	1960	7080	7170	102	104	1.3	20	86-114	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168
EPA 6010C	SODIUM (NA)	25000	35900	60700	61200	99.2	101	0.8	20	87-115	04/07/17	04/11/17	04/07/17	04/11/17	217750	AZ53168

Comments: _____

Printed: 04/13/17 8:42:07 AM
APPL MSD SCII

Sequence No.: 54
Sample ID: AZ53168W51 MS
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 72
Date Collected: 04/11/17 3:59:00 PM
Data Type: Reprocessed on 04/12/17 8:37:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W51 MS

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1320736.2	99.50	%	0.244				0.25%
Y 371.029 Radial	62584.6	98.43	%	2.375				2.41%
Ag 338.289†	6382.1	98.36	ug/L	0.964	98.36	ug/L	0.964	0.98%
Al 308.215†	614.6	2074	ug/L	44.8	2074	ug/L	44.8	2.16%
As 188.979†	147.8	226.5	ug/L	3.57	226.5	ug/L	3.57	1.58%
B†	341.1	289.1	ug/L	1.07	289.1	ug/L	1.07	0.37%
Ba 233.527†	14987.4	256.9	ug/L	0.62	256.9	ug/L	0.62	0.24%
Be 313.107†	7569.3	54.06	ug/L	1.393	54.06	ug/L	1.393	2.58%
Ca 315.887†	97635.7	39530	ug/L	823.9	39530	ug/L	823.9	2.08%
Cd 214.440†	2207.1	46.12	ug/L	0.100	46.12	ug/L	0.100	0.22%
Co 228.616†	5641.3	255.1	ug/L	0.14	255.1	ug/L	0.14	0.05%
Cr 267.716†	14580.5	261.3	ug/L	1.79	261.3	ug/L	1.79	0.68%
Cu 327.393†	13495.3	252.1	ug/L	2.60	252.1	ug/L	2.60	1.03%
Fe 273.955†	6578.4	1017	ug/L	6.2	1017	ug/L	6.2	0.61%
K 766.490†	12062.3	7078	ug/L	120.8	7078	ug/L	120.8	1.71%
Mg 285.213†	170449.2	38640	ug/L	770.5	38640	ug/L	770.5	1.99%
Mn 257.610†	1826.5	259.0	ug/L	6.79	259.0	ug/L	6.79	2.62%
Mo 202.031†	1317.5	222.8	ug/L	0.72	222.8	ug/L	0.72	0.32%
Na 589.592†	402993.0	60720	ug/L	1170.2	60720	ug/L	1170.2	1.93%
Ni 231.604†	5269.9	253.1	ug/L	0.54	253.1	ug/L	0.54	0.21%
P 213.617†	1872.8	1903	ug/L	1.8	1903	ug/L	1.8	0.09%
Pb 220.353†	808.2	237.0	ug/L	1.14	237.0	ug/L	1.14	0.48%
Sb 206.836†	149.4	218.4	ug/L	2.15	218.4	ug/L	2.15	0.99%
Se 196.026†	119.0	211.0	ug/L	8.70	211.0	ug/L	8.70	4.12%
Sn 189.927†	412.5	203.1	ug/L	2.57	203.1	ug/L	2.57	1.26%
Sr 421.552†	135320.0	340.1	ug/L	6.39	340.1	ug/L	6.39	1:88%
Ti 337.279†	4911.7	268.3	ug/L	6.61	268.3	ug/L	6.61	2.46%
Tl 190.801†	125.6	222.6	ug/L	2.07	222.6	ug/L	2.07	0.93%
V 292.402†	31140.3	281.2	ug/L	0.33	281.2	ug/L	0.33	0.12%
Zn 206.200†	1699.4	463.3	ug/L	0.10	463.3	ug/L	0.10	0.02%

Sequence No.: 55
Sample ID: AZ53168W51 MSD
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 73
Date Collected: 04/11/17 4:04:37 PM
Data Type: Reprocessed on 04/12/17 8:37:14 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W51 MSD

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1335573.7	100.6	%	0.34				0.34%
Y 371.029 Radial	62972.6	99.04	%	0.505				0.51%
Ag 338.289†	6346.4	97.81	ug/L	0.850	97.81	ug/L	0.850	0.87%
Al 308.215†	616.2	2080	ug/L	6.9	2080	ug/L	6.9	0.33%
As 188.979†	146.6	224.8	ug/L	4.34	224.8	ug/L	4.34	1.93%
B†	345.5	292.9	ug/L	4.21	292.9	ug/L	4.21	1.44%
Ba 233.527†	14910.3	255.6	ug/L	1.63	255.6	ug/L	1.63	0.64%
Be 313.107†	7576.1	54.11	ug/L	0.156	54.11	ug/L	0.156	0.29%
Ca 315.887†	98294.2	39800	ug/L	346.1	39800	ug/L	346.1	0.87%
Cd 214.440†	2200.5	45.98	ug/L	0.113	45.98	ug/L	0.113	0.25%
Co 228.616†	5634.6	254.8	ug/L	1.27	254.8	ug/L	1.27	0.50%
Cr 267.716†	14577.9	261.2	ug/L	1.47	261.2	ug/L	1.47	0.56%
Cu 327.393†	13457.5	251.4	ug/L	2.84	251.4	ug/L	2.84	1.13%
Fe 273.955†	6605.7	1021	ug/L	4.7	1021	ug/L	4.7	0.46%
K 766.490†	12220.6	7170	ug/L	28.7	7170	ug/L	28.7	0.40%
Mg 285.213†	171020.8	38770	ug/L	344.7	38770	ug/L	344.7	0.89%
Mn 257.610†	1836.6	260.4	ug/L	1.26	260.4	ug/L	1.26	0.48%
Mo 202.031†	1318.9	223.0	ug/L	0.80	223.0	ug/L	0.80	0.36%
Na 589.592†	405958.9	61170	ug/L	422.0	61170	ug/L	422.0	0.69%
Ni 231.604†	5268.0	253.1	ug/L	0.66	253.1	ug/L	0.66	0.26%
P 213.617†	1870.8	1901	ug/L	1.8	1901	ug/L	1.8	0.10%
Pb 220.353†	806.5	236.5	ug/L	1.08	236.5	ug/L	1.08	0.46%
Sb 206.836†	145.8	213.1	ug/L	3.22	213.1	ug/L	3.22	1.51%
Se 196.026†	120.6	213.9	ug/L	9.96	213.9	ug/L	9.96	4.65%
Sn 189.927†	413.2	203.5	ug/L	3.50	203.5	ug/L	3.50	1.72%
Sr 421.552†	136398.2	342.8	ug/L	3.01	342.8	ug/L	3.01	0.88%
Ti 337.279†	4932.8	269.5	ug/L	0.44	269.5	ug/L	0.44	0.16%
Tl 190.801†	125.8	222.9	ug/L	7.47	222.9	ug/L	7.47	3.35%
V 292.402†	30993.1	279.8	ug/L	2.54	279.8	ug/L	2.54	0.91%
Zn 206.200†	1687.7	460.1	ug/L	0.48	460.1	ug/L	0.48	0.10%

Sequence No.: 47
Sample ID: AZ53168W52 MS FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 04/11/17 3:20:59 PM
Data Type: Reprocessed on 04/12/17 8:37:04 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W52 MS FF

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	1318687.6	99.35	%	0.298				0.30%
Y 371.029 Radial	63214.9	99.42	%	0.607				0.61%
Ag 338.289†	6464.7	99.63	ug/L	2.427	99.63	ug/L	2.427	2.44%
Al 308.215†	615.8	2078	ug/L	35.7	2078	ug/L	35.7	1.72%
As 188.979†	153.1	234.7	ug/L	4.60	234.7	ug/L	4.60	1.96%
B†	343.2	291.0	ug/L	7.97	291.0	ug/L	7.97	2.74%
Ba 233.527†	15366.0	263.4	ug/L	0.40	263.4	ug/L	0.40	0.15%
Be 313.107†	7549.2	53.91	ug/L	0.645	53.91	ug/L	0.645	1.20%
Ca 315.887†	99563.0	40310	ug/L	590.4	40310	ug/L	590.4	1.46%
Cd 214.440†	2291.2	47.88	ug/L	0.118	47.88	ug/L	0.118	0.25%
Co 228.616†	5807.0	262.6	ug/L	1.16	262.6	ug/L	1.16	0.44%
Cr 267.716†	15148.4	271.5	ug/L	0.19	271.5	ug/L	0.19	0.07%
Cu 327.393†	13802.8	257.9	ug/L	0.45	257.9	ug/L	0.45	0.17%
Fe 273.955†	6831.5	1056	ug/L	9.5	1056	ug/L	9.5	0.90%
K 766.490†	12381.7	7265	ug/L	124.7	7265	ug/L	124.7	1.72%
Mg 285.213†	173393.4	39310	ug/L	601.0	39310	ug/L	601.0	1.53%
Mn 257.610†	1833.3	259.9	ug/L	2.39	259.9	ug/L	2.39	0.92%
Mo 202.031†	1375.7	232.6	ug/L	1.94	232.6	ug/L	1.94	0.83%
Na 589.592†	413205.2	62260	ug/L	798.6	62260	ug/L	798.6	1.28%
Ni 231.604†	5436.3	261.1	ug/L	1.82	261.1	ug/L	1.82	0.70%
P 213.617†	1930.2	1961	ug/L	6.8	1961	ug/L	6.8	0.35%
Pb 220.353†	829.4	243.2	ug/L	1.58	243.2	ug/L	1.58	0.65%
Sb 206.836†	155.5	227.3	ug/L	3.45	227.3	ug/L	3.45	1.52%
Se 196.026†	133.3	236.5	ug/L	3.37	236.5	ug/L	3.37	1.43%
Sn 189.927†	432.8	213.0	ug/L	4.45	213.0	ug/L	4.45	2.09%
Sr 421.552†	138244.6	347.4	ug/L	5.32	347.4	ug/L	5.32	1.53%
Ti 337.279†	4936.1	269.6	ug/L	3.13	269.6	ug/L	3.13	1.16%
Tl 190.801†	131.1	232.2	ug/L	4.39	232.2	ug/L	4.39	1.89%
V 292.402†	31978.5	288.8	ug/L	0.79	288.8	ug/L	0.79	0.27%
Zn 206.200†	1751.1	477.4	ug/L	3.20	477.4	ug/L	3.20	0.67%

Sequence No.: 48
Sample ID: AZ53168W52 MSD FF
Analyst: RJS
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:

Autosampler Location: 66
Date Collected: 04/11/17 3:26:35 PM
Data Type: Reprocessed on 04/12/17 8:37:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: AZ53168W52 MSD FF

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	1312894.2	98.91	%	0.501				0.51%
Y 371.029 Radial	62727.1	98.65	%	1.502				1.52%
Ag 338.289†	6448.3	99.38	ug/L	1.439	99.38	ug/L	1.439	1.45%
Al 308.215†	620.4	2094	ug/L	22.4	2094	ug/L	22.4	1.07%
As 188.979†	155.3	238.0	ug/L	7.83	238.0	ug/L	7.83	3.29%
B†	347.9	294.9	ug/L	4.59	294.9	ug/L	4.59	1.56%
Ba 233.527†	15167.3	260.0	ug/L	1.26	260.0	ug/L	1.26	0.49%
Be 313.107†	7620.1	54.42	ug/L	0.804	54.42	ug/L	0.804	1.48%
Ca 315.887†	98067.2	39710	ug/L	1242.4	39710	ug/L	1242.4	3.13%
Cd 214.440†	2267.8	47.39	ug/L	0.267	47.39	ug/L	0.267	0.56%
Co 228.616†	5782.3	261.5	ug/L	1.12	261.5	ug/L	1.12	0.43%
Cr 267.716†	14810.2	265.4	ug/L	1.04	265.4	ug/L	1.04	0.39%
Cu 327.393†	13633.4	254.7	ug/L	2.33	254.7	ug/L	2.33	0.91%
Fe 273.955†	6647.4	1028	ug/L	5.8	1028	ug/L	5.8	0.57%
K 766.490†	12148.6	7128	ug/L	202.7	7128	ug/L	202.7	2.84%
Mg 285.213†	170891.3	38740	ug/L	1173.4	38740	ug/L	1173.4	3.03%
Mn 257.610†	1842.2	261.2	ug/L	3.89	261.2	ug/L	3.89	1.49%
Mo 202.031†	1362.9	230.5	ug/L	2.27	230.5	ug/L	2.27	0.99%
Na 589.592†	406463.6	61240	ug/L	1790.1	61240	ug/L	1790.1	2.92%
Ni 231.604†	5394.9	259.2	ug/L	1.41	259.2	ug/L	1.41	0.54%
P 213.617†	1923.6	1954	ug/L	12.5	1954	ug/L	12.5	0.64%
Pb 220.353†	826.1	242.3	ug/L	2.14	242.3	ug/L	2.14	0.88%
Sb 206.836†	155.8	227.8	ug/L	3.91	227.8	ug/L	3.91	1.72%
Se 196.026†	125.9	223.2	ug/L	4.14	223.2	ug/L	4.14	1.86%
Sn 189.927†	425.3	209.3	ug/L	3.60	209.3	ug/L	3.60	1.72%
Sr 421.552†	136209.1	342.3	ug/L	11.02	342.3	ug/L	11.02	3.22%
Ti 337.279†	4965.0	271.2	ug/L	4.46	271.2	ug/L	4.46	1.64%
Tl 190.801†	130.0	230.3	ug/L	3.11	230.3	ug/L	3.11	1.35%
V 292.402†	31445.2	284.0	ug/L	0.67	284.0	ug/L	0.67	0.23%
Zn 206.200†	1763.3	480.7	ug/L	2.84	480.7	ug/L	2.84	0.59%

1%HNO3 / 5%HCl BLK		PREPPED BY: RIS		
AMOUNT	REAGENT	MANUFACTURER	LOT	PREP DATE
100 mL	HCL	BDH	4116110	04/11/17
20 mL	HNO3	EMD	56315	04/11/17
Prepared in 2000 ml DI Water				
STD 1 / LDL 6010B/6010C				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
0.5 mL	6010 LDL	O2SI	101811-37555	02/01/18
Prepared in 50 ml 1%HNO3/5%HCl				
STD 3 / HDL 6010B/6010C				
1ML	CCV-A	Environmental Express	1704016-37595	02/13/18
1ML	CCV-B	Environmental Express	1704017-37597	02/13/18
1ML	CCV-C	Environmental Express	1704018-37596	02/13/18
Prepared in 100 ml 1%HNO3 / 5%HCl				
STD 2 / CCV1 6010B/6010C/6010C				
AMOUNT	STD	PREP DATE	EXP DATE	
25mL	STD 3	TODAY	1 week	
25mL	1%HNO3/5%HCl	TODAY	1 week	
CCV2 6010B/6010C				
AMOUNT	STD	PREP DATE	EXP DATE	
15mL	STD 3	TODAY	1 week	
25mL	1%HNO3/5%HCl	TODAY	1 week	

6010B/6010C ICSA				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
1mL	Al	CPI	1104017-37641	09/01/18
1mL	Ca	CPI	1104021-37642	09/01/18
1mL	Mg	CPI	1104023-37640	09/01/18
1mL	Fe	O2SI	1102618-37598	08/07/18
Prepared in 50 ml 1%HNO3/5%HCl				
6010B/6010C ICSAB				
1mL	Al	CPI	1104017-37641	09/01/18
1mL	Ca	CPI	1104021-37642	09/01/18
1mL	Mg	CPI	1104023-37640	09/01/18
1mL	Fe	O2SI	1102618-37598	08/07/18
0.5mL	INT SPECIAL MIX	O2SI	1097850-37132	04/23/18
Prepared in 50 ml 1%HNO3/5%HCl				
6010B/6010C ICV				
0.5ML	QCS ICV A	CPI	16G076-36927	01/17/18
0.5ML	QCS ICV B	CPI	16G077-36928	01/17/18
Prepared in 50ml 1%HNO3/5%HCl				
6010B/6010C Internal Standard				
AMOUNT	STD	MANUFACTURER		
2mL	Yttrium	O2SI	1101566-37556	07/20/18
Prepared in 2L 1%HNO3 / 5%HCl			PREP DATE: 02/20/17	

6010 Injection Log

Directory: K:\ICAP PHOEBE\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	11 Apr 2017	11:10	CalBlk 170411RJS I:PB O:R		170411A6010	1.
2	11 Apr 2017	11:15	STD 1 170411RJS I:PB O:RJ		170411A6010	1.
3	11 Apr 2017	11:20	STD 2 170411RJS I:PB O:RJ		170411A6010	1.
4	11 Apr 2017	11:25	STD 3 170411RJS I:PB O:RJ		170411A6010	1.
5	11 Apr 2017	11:30	ICV 170411RJS I:PB O:RJS		170411A6010	1.
6	11 Apr 2017	11:36	ICB 170411RJS I:PB O:RJS		170411A6010	1.
7	11 Apr 2017	11:41	LLICV 170411RJS I:PB O:RJ		170411A6010	1.
8	11 Apr 2017	11:46	ICSA 170411RJS I:PB O:RJS		170411A6010	1.
9	11 Apr 2017	11:51	ICSAB 170411RJS I:PB O:RJ		170411A6010	1.
10	11 Apr 2017	11:56	CCV1 170411RJS I:PB O:RJS		170411A6010	1.
11	11 Apr 2017	12:02	CCB 170411RJS I:PB O:RJS		170411A6010	1.
24	11 Apr 2017	13:15	CCV1 170411RJS I:PB O:RJS		170411A6010	1.
25	11 Apr 2017	13:24	CCB 170411RJS I:PB O:RJS		170411A6010	1.
26	11 Apr 2017	13:29	170407A-3010-BLK		170411A6010	1.
27	11 Apr 2017	13:34	170407A-3010-LCS		170411A6010	1.
28	11 Apr 2017	13:40	170407A-3010-LCSD		170411A6010	1.
34	11 Apr 2017	14:11	CCV2 170411RJS I:PB O:RJS		170411A6010	1.
35	11 Apr 2017	14:16	CCB 170411RJS I:PB O:RJS		170411A6010	1.
44	11 Apr 2017	15:01	CCV1 170411RJS I:PB O:RJS		170411A6010	1.
45	11 Apr 2017	15:07	CCB 170411RJS I:PB O:RJS		170411A6010	1.
46	11 Apr 2017	15:15	AZ53168W52 FF		170411A6010	1.
47	11 Apr 2017	15:20	AZ53168W52 MS FF		170411A6010	1.
48	11 Apr 2017	15:26	AZ53168W52 MSD FF		170411A6010	1.
49	11 Apr 2017	15:32	AZ53168W52-A FF		170411A6010	1.
51	11 Apr 2017	15:42	AZ53169W17 FF		170411A6010	1.
52	11 Apr 2017	15:48	AZ53170W17 FF		170411A6010	1.
53	11 Apr 2017	15:53	AZ53168W51		170411A6010	1.
54	11 Apr 2017	15:59	AZ53168W51 MS		170411A6010	1.
55	11 Apr 2017	16:04	AZ53168W51 MSD		170411A6010	1.
56	11 Apr 2017	16:10	AZ53168W51-A		170411A6010	1.
57	11 Apr 2017	16:15	AZ53168W51-1/5		170411A6010	5.
58	11 Apr 2017	16:20	AZ53169W18		170411A6010	1.
59	11 Apr 2017	16:26	AZ53170W18		170411A6010	1.
60	11 Apr 2017	16:31	CCV2 170411RJS I:PB O:RJS		170411A6010	1.
61	11 Apr 2017	16:39	CCB 170411RJS I:PB O:RJS		170411A6010	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	BROMIDE	0.16 U	0.5	0.16	0.05	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	FLUORIDE	0.09 U	0.1	0.09	0.08	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	#300WD-170406A-AZ53168
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/05/17	04/05/17	#35FE-170405A-AZ53168
SM 4500-S	SILICA W	0.80 U	1.0	0.80	0.53	mg/L	04/12/17	04/12/17	#SIO2-170412A-AZ53168
SM 4500-S	DISSOLVED SILICA	0.80 U	1.0	0.80	0.53	mg/L	04/12/17	04/12/17	#SIO2D-170412A-AZ53168

Wetlab SC-Blank-REG MDLs
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Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300WD-170406A-AZ53168
EPA 300.0	BROMIDE	12.5	11.9	95.2	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	FLUORIDE	2.50	2.66	106	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	SULFATE	20.0	19.8	99.0	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 4500-Si	SILICA W	4.00	3.87	96.8	80-120	04/12/17	04/12/17	#SIO2-170412A-AZ53168
SM 4500-Si	DISSOLVED SILICA	4.00	3.87	96.8	80-120	04/12/17	04/12/17	#SIO2D-170412A-AZ53168
SM3500Fe	FERROUS IRON	3.00	2.72	90.7	80-120	04/05/17	04/05/17	#35FE-170405A-AZ53168

Comments: _____

Printed: 04/13/17 8:40:26 AM
APPL Standard LCS

Matrix Spike Recoveries

WETLAB

APPL ID: **170413W-53168 MS - 217803**

Sample ID: AZ53168

Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 300.0	CHLORIDE	40.0	52.3	97.2	98.2	112 #	115 #	1.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217803	AZ53168
EPA 300.0	BROMIDE	12.5	0.37	12.4	12.4	96.2	96.2	0.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	FLUORIDE	2.50	0.10	2.91	2.53	112 #	97.2	14.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	NITRATE	22.1	2.5	24.3	24.1	98.6	97.7	0.83	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	SULFATE	20.0	9.9	30.3	29.7	102	99.0	2.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
SM 2320B	BICARBONATE AS CA	250	67.5	307	309	95.8	96.6	0.65	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53168
SM 2320B	TOTAL ALKALINITY AS	250	67.5	307	309	95.8	96.6	0.65	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53168
SM 4500-Si	SILICA W	20.0	44.0	63.8	64.2	99.0	101	0.63	20	80-120	04/12/17	04/12/17	04/12/17	04/12/17	217777	AZ53168
SM 4500-Si	DISSOLVED SILICA	20.0	47.2	63.8	62.9	83.0	78.5 #	1.4	20	80-120	04/12/17	04/12/17	04/12/17	04/12/17	217778	AZ53168
SM3500Fe	FERROUS IRON	3.00	0.067	2.67	2.76	86.8	89.8	3.3	20	80-120	04/05/17	04/05/17	04/05/17	04/05/17	217724	AZ53168

= Recovery is outside QC limits.

Comments:

Printed: 04/22/17 1:39:57 PM
APPL MSD SCII

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH307

Sample Collection Date: 04/04/17

APPL ID: AZ53168

ARF: 82619

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	52.3	2.0	0.40	0.16	mg/L	2	04/06/17	04/06/17
EPA 300.0	BROMIDE	0.37 J	0.5	0.16	0.05	mg/L	1	04/05/17	04/05/17
EPA 300.0	FLUORIDE	0.10	0.1	0.09	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
EPA 300.0	SULFATE	9.9	1.0	0.20	0.09	mg/L	1	04/05/17	04/05/17
SM 2320B	BICARBONATE AS CACO3	67.5	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	CARBONATE AS CACO3	1.70 U	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 2320B	TOTAL ALKALINITY AS CACO3	67.5	2.0	1.70	0.85	mg/L	1	04/07/17	04/07/17
SM 4500-Si D	SILICA W	44.0	5.0	4.00	2.65	mg/L	5	04/12/17	04/12/17
SM 4500-Si D	DISSOLVED SILICA	47.2	5.0	4.00	2.65	mg/L	5	04/12/17	04/12/17
SM3500FeB	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	1	04/05/17	04/05/17

J = Estimated value.

Printed: 04/13/17 8:40:15 AM

APPL-F1-SC-NoMC-REG MDLs

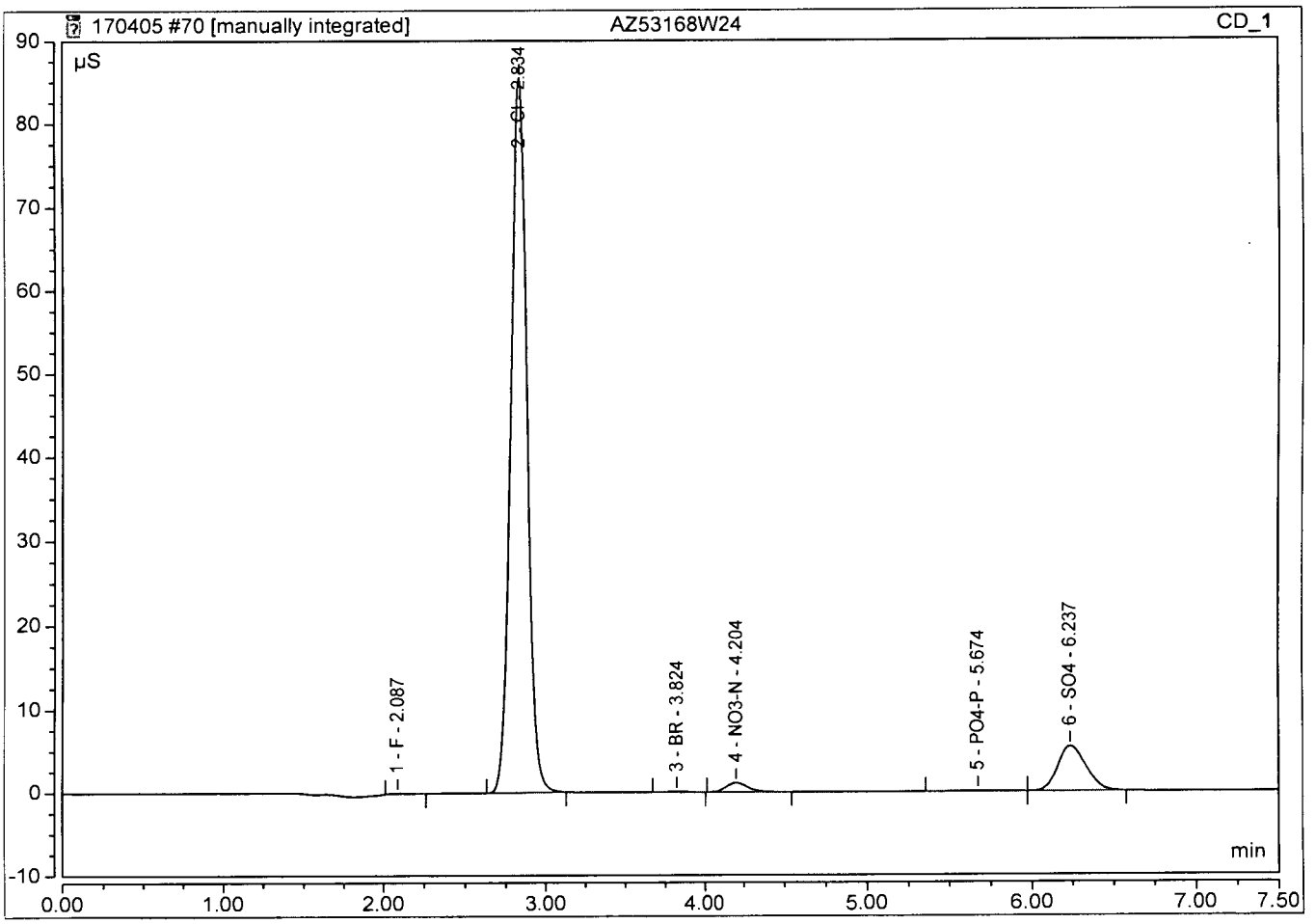
mi mm 4/13/17

Peak Integration Report

PW

Sample Name:	**AZ53168W24**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 21:49**	*Run Time:*	**7.50**

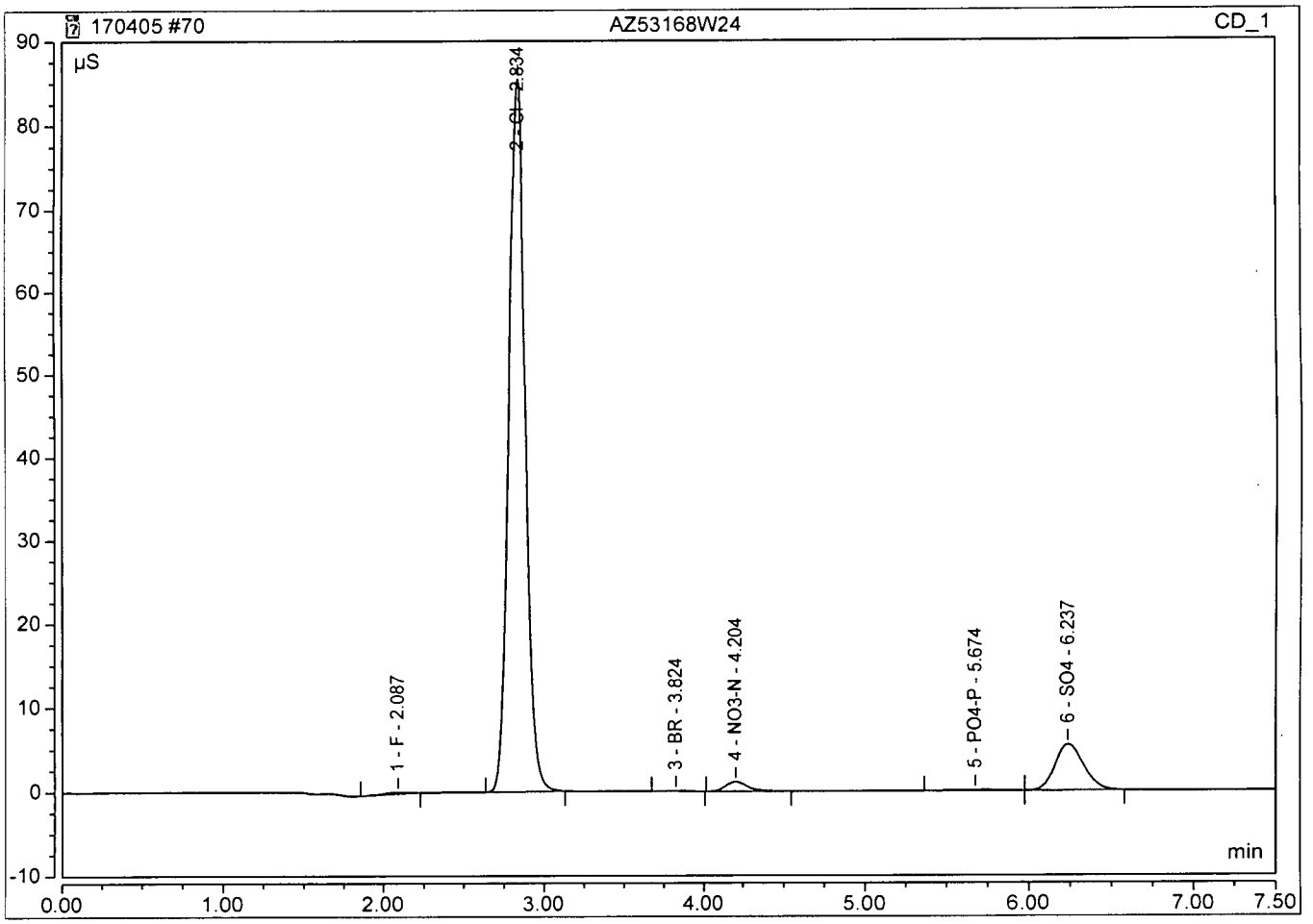
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.09	F	BMB*	0.012	0.109	0.1048
2	2.83	Cl	BMB	9.972	85.443	56.3086
3	3.82	BR	BMB	0.010	0.075	0.3740
4	4.20	NO3-N	BMB	0.171	1.122	0.5752
5	5.67	PO4-P	BMB	0.025	0.080	0.3359
6	6.24	SO4	BMB	1.080	5.433	9.8633
		TOTAL:		11.27	92.26	67.56



Peak Integration Report

Sample Name:	**AZ53168W24**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 21:49**	*Run Time:*	**7.50**

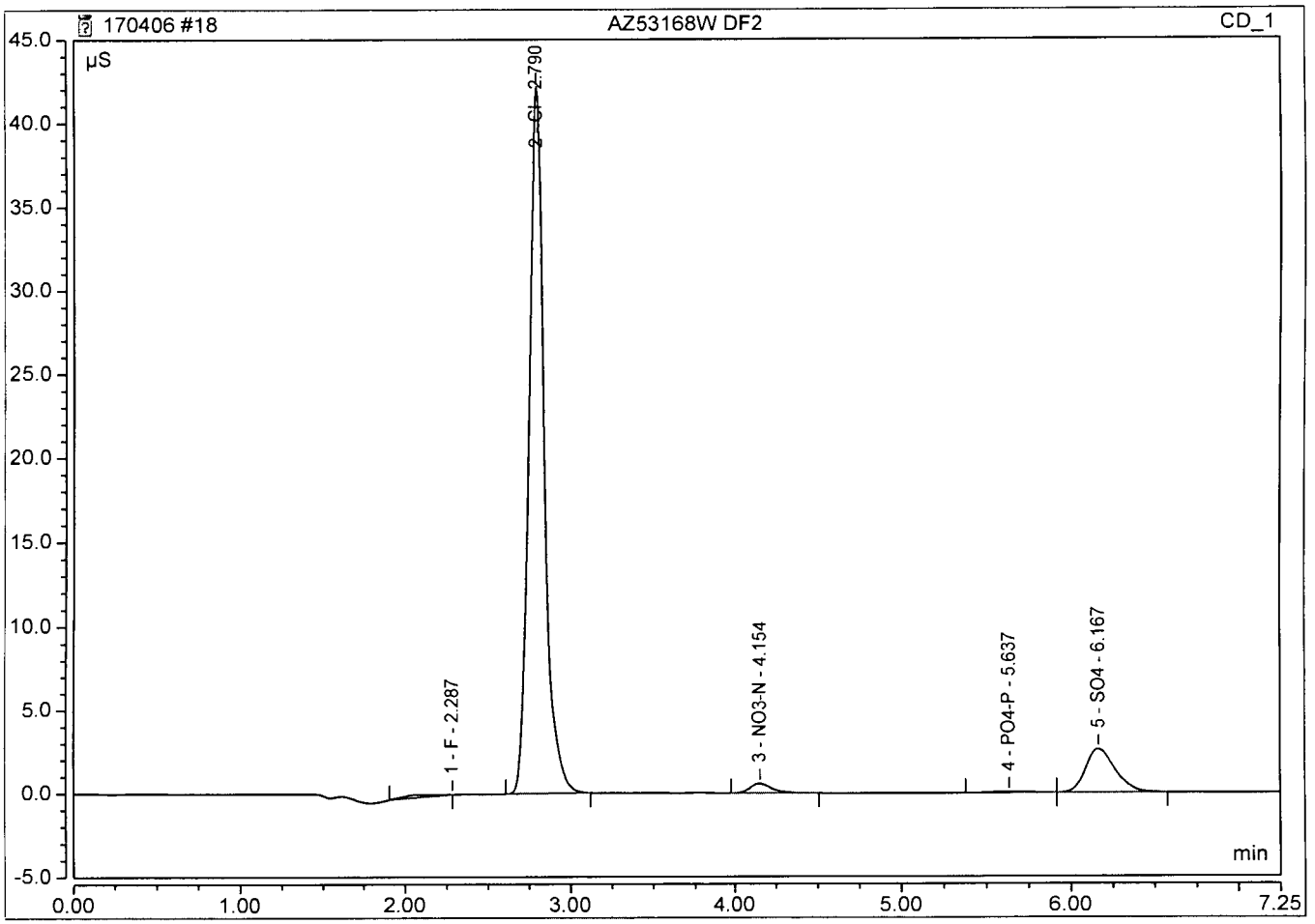
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.09	F	BMB	0.034	0.198	0.2157
2	2.83	Cl	BMB	9.972	85.443	56.3086
3	3.82	BR	BMB	0.010	0.075	0.3740
4	4.20	NO3-N	BMB	0.171	1.122	0.5752
5	5.67	PO4-P	BMB	0.025	0.080	0.3359
6	6.24	SO4	BMB	1.080	5.433	9.8633
TOTAL:				11.29	92.35	67.67



Peak Integration Report

Sample Name:	**AZ53168W DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:45**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.29	F	BMB	0.033	0.000	0.4179
2	2.79	Cl	BMB	4.536	42.150	52.2942
3	4.15	NO3-N	BMB	0.084	0.572	0.6970
4	5.64	PO4-P	BMB	0.011	0.041	0.4501
5	6.17	SO4	BMB	0.526	2.591	10.1655
TOTAL:				5.19	45.35	64.02



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH314

APPL ID: AZ53169

Sample Collection Date: 04/04/17

ARF: 82619

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	CHLORIDE	52.5	2.0	0.40	0.16	mg/L	2	04/06/17	04/06/17
EPA 300.0	BROMIDE	0.38 J	0.5	0.16	0.05	mg/L	1	04/05/17	04/05/17
EPA 300.0	FLUORIDE	0.099 J	0.1	0.09	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	NITRATE	2.5	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
EPA 300.0	SULFATE	10.0	1.0	0.20	0.09	mg/L	1	04/05/17	04/05/17
SM 4500-Si D	SILICA W	51.9	5.0	4.00	2.65	mg/L	5	04/12/17	04/12/17
SM 4500-Si D	DISSOLVED SILICA	46.9	5.0	4.00	2.65	mg/L	5	04/12/17	04/12/17

J = Estimated value.

Printed: 04/13/17 8:40:15 AM

APPL-F1-SC-NoMC-REG MDLs

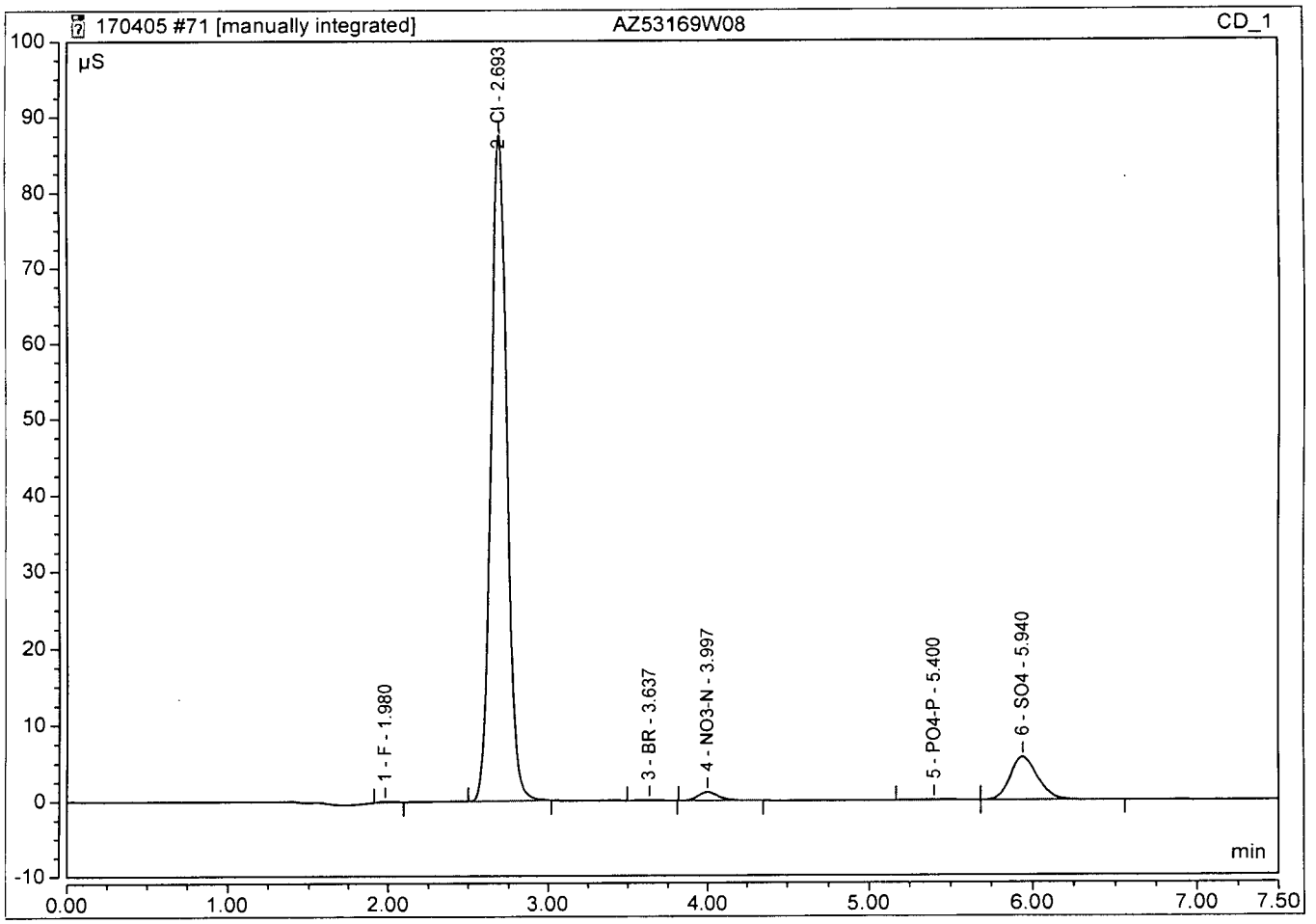
M1 mm 4/13/17

Peak Integration Report

PW

Sample Name:	**AZ53169W08**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:03**	*Run Time:*	**7.50**

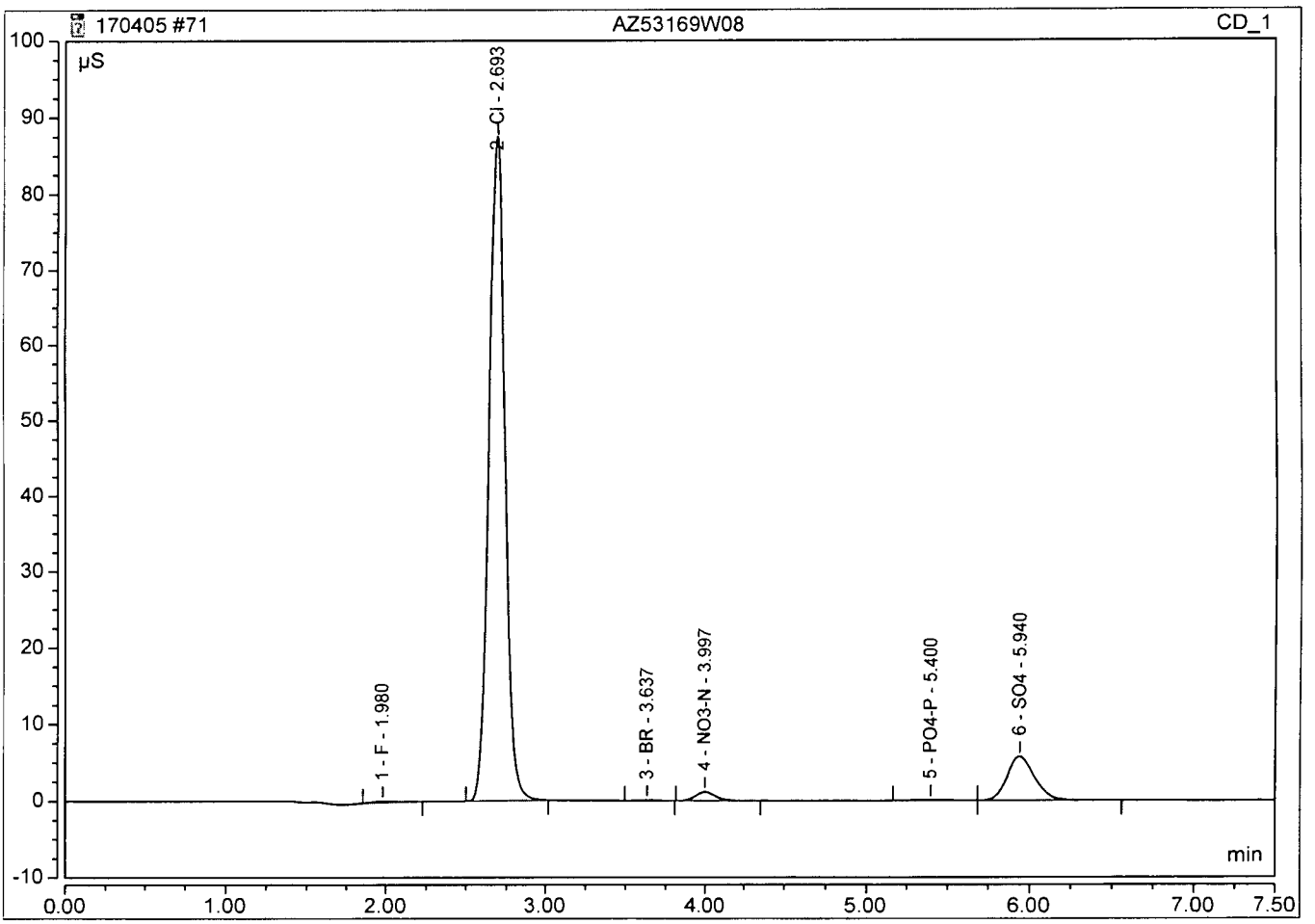
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	F	BMB*	0.011	0.110	0.0987
2	2.69	Cl	BMB	10.008	87.490	56.5079
3	3.64	BR	BMB	0.010	0.078	0.3760
4	4.00	NO3-N	BMB	0.170	1.145	0.5718
5	5.40	PO4-P	BMB	0.020	0.076	0.3030
6	5.94	SO4	BMB	1.097	5.698	10.0148
		TOTAL:		11.32	94.60	67.87



Peak Integration Report

Sample Name:	**AZ53169W08**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:03**	*Run Time:*	**7.50**

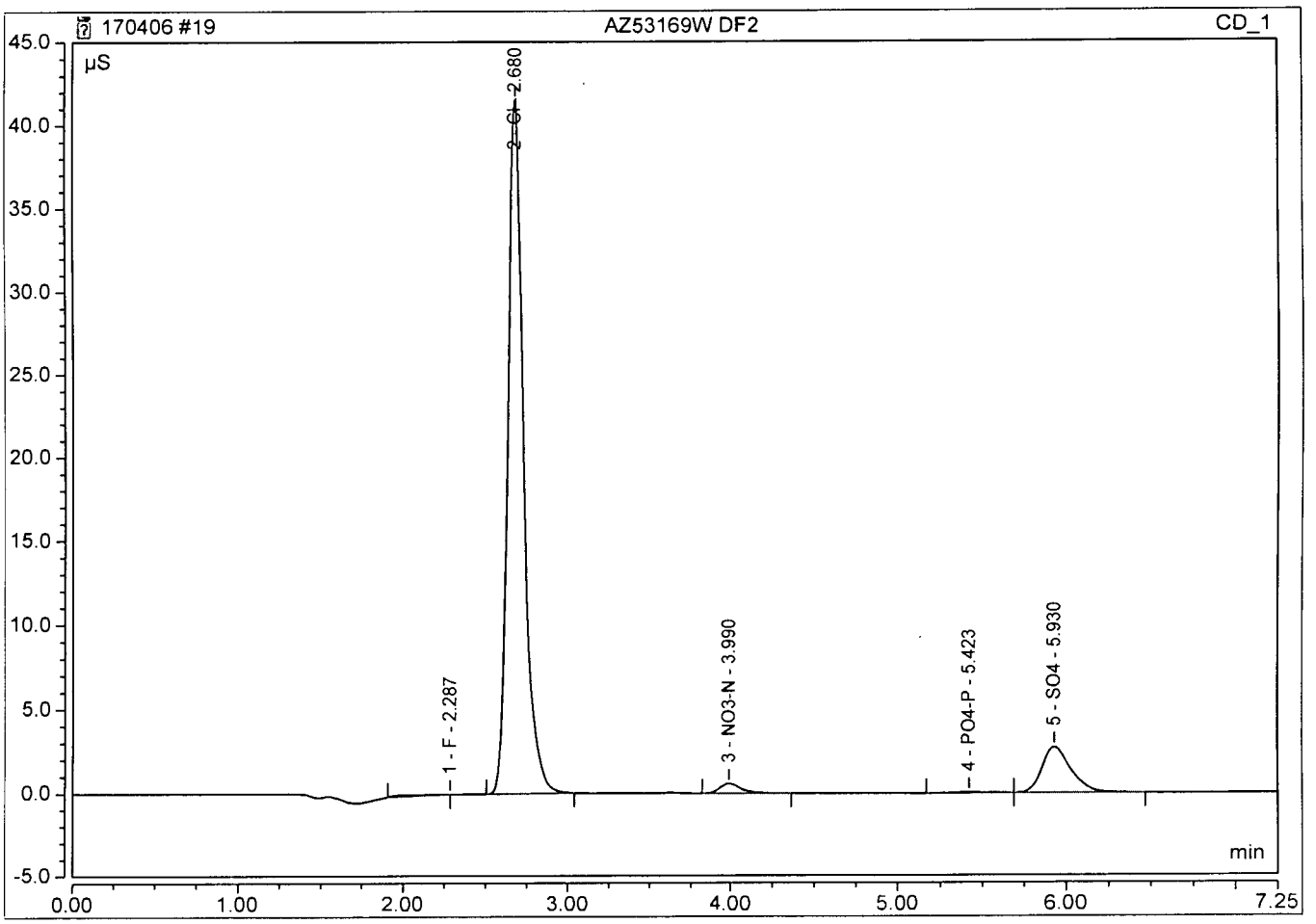
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.98	**F**	BMB	0.030	0.192	0.1951
2	2.69	**Cl**	BMB	10.008	87.490	56.5079
3	3.64	**BR**	BMB	0.010	0.078	0.3760
4	4.00	**NO3-N**	BMB	0.170	1.145	0.5718
5	5.40	**PO4-P**	BMB	0.020	0.076	0.3030
6	5.94	**SO4**	BMB	1.097	5.698	10.0148
TOTAL:				11.34	94.68	67.97



Peak Integration Report

Sample Name:	**AZ53169W DF2**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:58**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.29	F	BMB	0.016	0.000	0.2525
2	2.68	Cl	BMB	4.550	41.531	52.4545
3	3.99	NO3-N	BMB	0.085	0.576	0.6999
4	5.42	PO4-P	BMB	0.010	0.038	0.4328
5	5.93	SO4	BMB	0.532	2.683	10.2789
TOTAL:				5.19	44.83	64.12



Wet Lab Analysis

AECOM
1001 Bishop Street, Suite 1600
Honolulu, HI 96813

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Margie Thach

Project: 60481245 CIV0053 Red Hill Fuel Storage

Sample ID: ERH315

APPL ID: AZ53170

Sample Collection Date: 04/04/17

ARF: 82619

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 300.0	BROMIDE	0.16 U	0.5	0.16	0.05	mg/L	1	04/05/17	04/05/17
EPA 300.0	CHLORIDE	1.0	1.0	0.20	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	FLUORIDE	0.09 U	0.1	0.09	0.08	mg/L	1	04/05/17	04/05/17
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	1	04/05/17	04/05/17
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	1	04/05/17	04/05/17
SM 4500-Si D	SILICA W	0.80 U	1.0	0.80	0.53	mg/L	1	04/12/17	04/12/17
SM 4500-Si D	DISSOLVED SILICA	0.80 U	1.0	0.80	0.53	mg/L	1	04/12/17	04/12/17

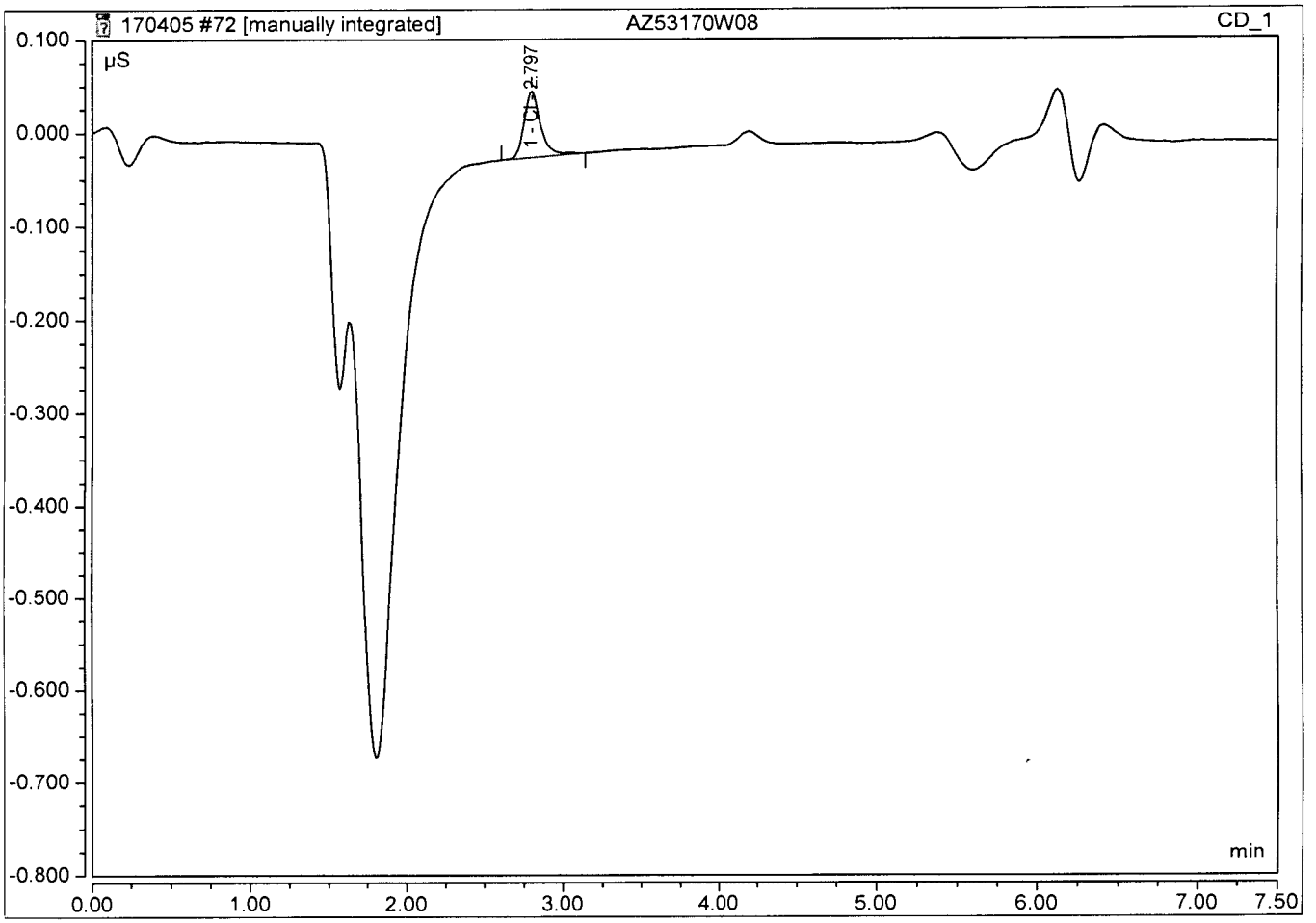
Printed: 04/13/17 8:40:15 AM

APPL-F1-SC-NoMC-REG MDLs

Peak Integration Report

Sample Name:	**AZ53170W08**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:16**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.80	Cl	BMB	0.009	0.071	1.0310
		TOTAL:		0.01	0.07	1.03



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 05/20/16

Analyte	Calibration Verification									M
	True ICV	Found 12:41	%R(1)	True CCV1	Found 17:24	%R(1)	True CCV1	Found 17:56	%R(1)	
Ferrous Iron	3	3.01396	100	4	3.74325	93.6	4	3.72327	93.1	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 05/20/16 12:42	C	CCB 04/05/17 17:26	C	CCB 04/05/17 17:57	C		C		C	
Ferrous Iron	1.000	U	1.000	U	1.000	U					

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 03/03/17

Analyte	Calibration Verification									M
	True ICV	Found 16:51	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.36	98.9							
chloride	20	18.867	94.3							
fluoride	2.5	2.6632	107							
Nitrate(NO3)	22.1	21.9317	99.2							
sulfate	20	19.6588	98.3							

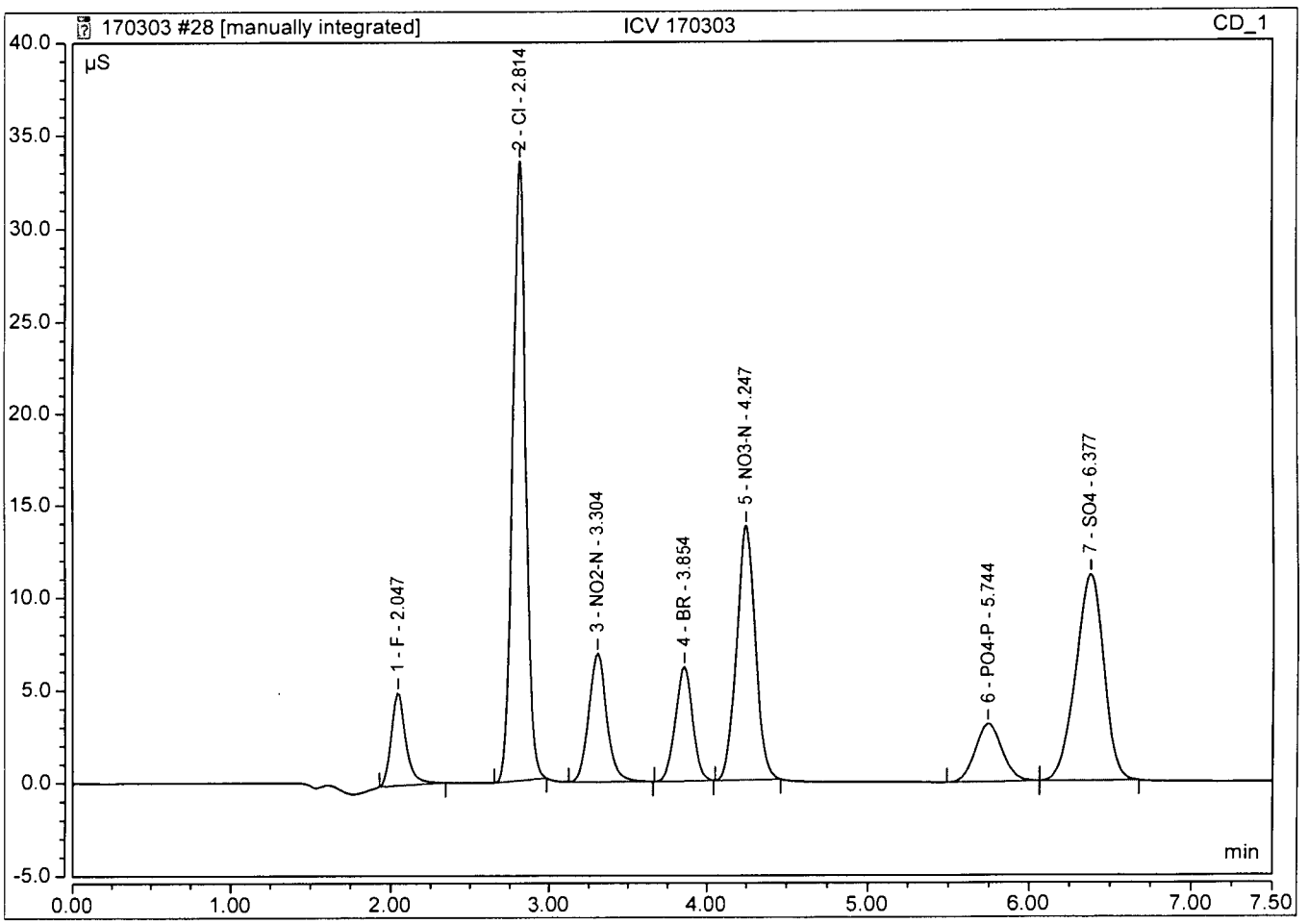
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**ICV 170303**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 16:51**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.529	5.021	2.6632
2	2.81	Cl	BMB	3.224	33.469	18.8670
3	3.30	NO2-N	BMB	0.917	6.933	3.1556
4	3.85	BR	BMB	0.774	6.155	12.3600
5	4.25	NO3-N	BMB	1.850	13.679	4.9523
6	5.74	PO4-P	BMB	0.603	3.120	4.9842
7	6.38	SO4	BMB	2.215	11.085	19.6588
TOTAL:				10.11	79.46	66.64



Algorithm Check

y = .1159x - .0634

x = 19.66 ✓

y = Peak Area
x = Amt

MM 4/22/17

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

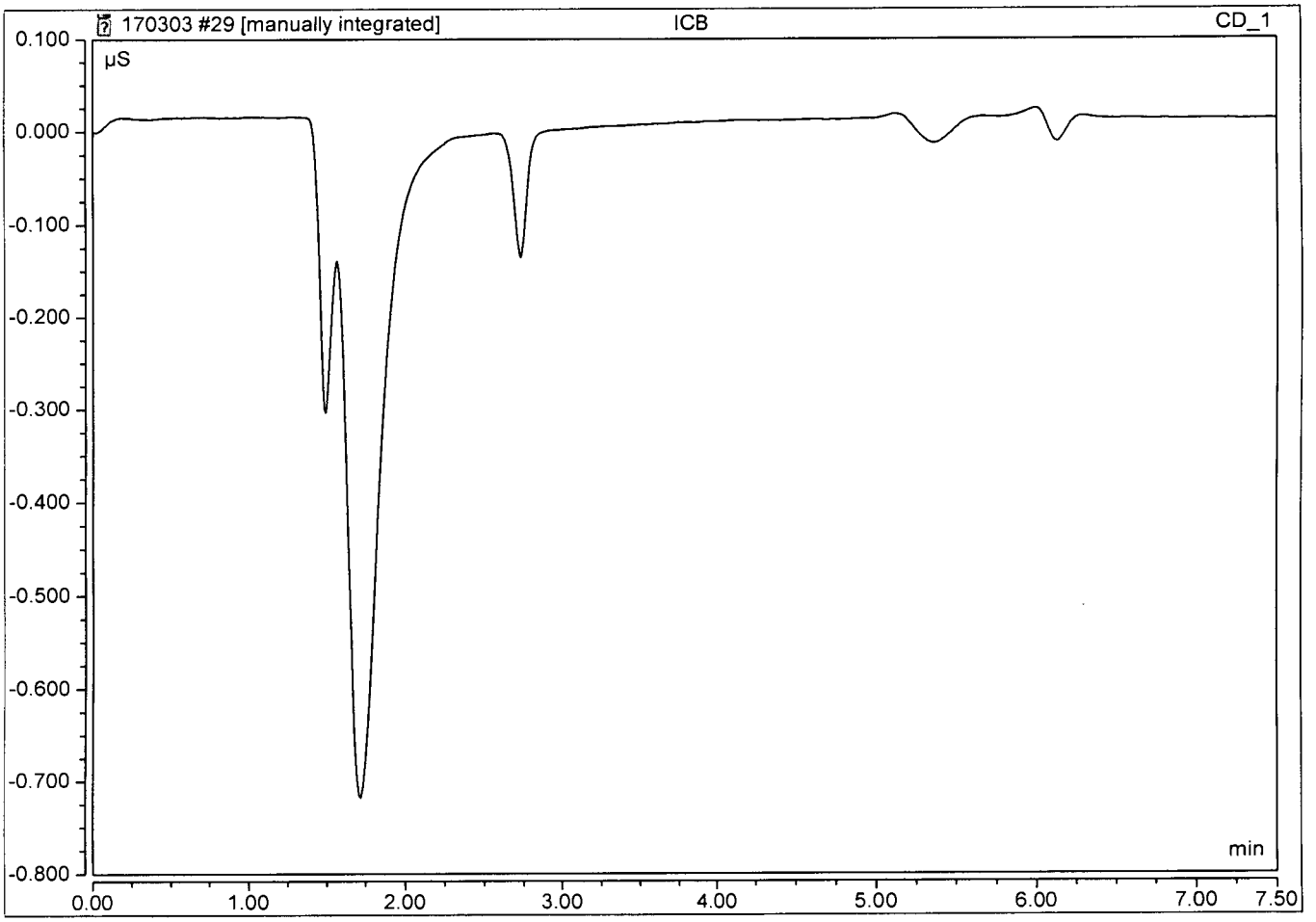
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 03/03/17 17:04	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	.100	U									
Nitrate(NO3)	.500	U									
sulfate	1.000	U									

Peak Integration Report

Sample Name:	**ICB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 17:04**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/05/17

Analyte	Calibration Verification									M
	True CCV1	Found 19:47	%R(1)	True CCV1	Found 22:57	%R(1)	True	Found	%R(1)	
bromide	12.5	12.0377	96.3	12.5	12.0692	96.6				
chloride	25	24.2251	96.9	25	24.2938	97.2				
fluoride	2.5	2.6476	106	2.5	2.6419	106				
Nitrate(NO3)	22.1	21.7005	98.2	22.1	21.7612	98.5				
sulfate	25	24.495	98.0	25	24.5196	98.1				

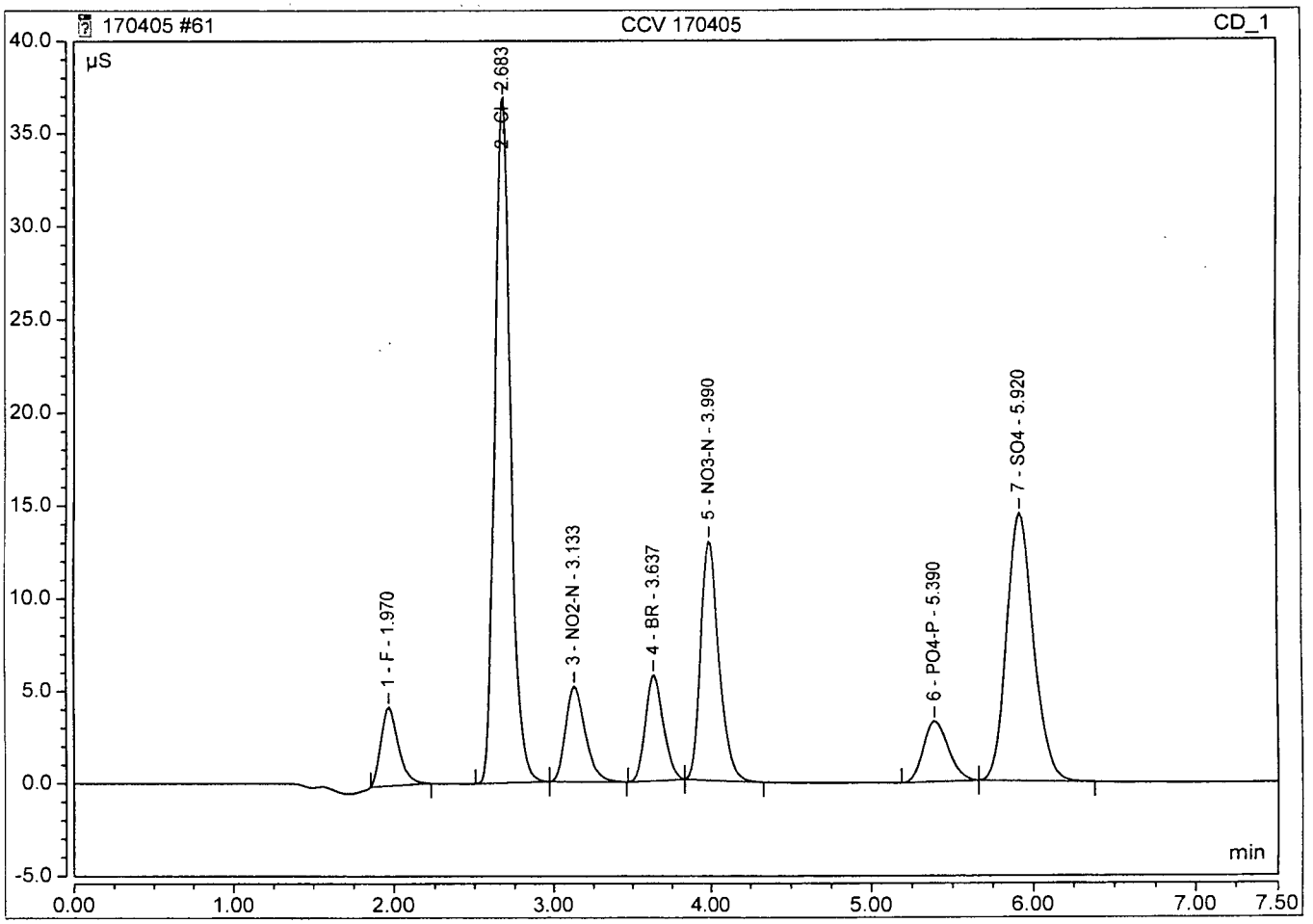
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 19:47**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.526	4.260	2.6476
2	2.68	Cl	BMB	4.189	36.875	24.2251
3	3.13	NO2-N	BMB	0.737	5.162	2.5445
4	3.64	BR	BMB	0.753	5.728	12.0377
5	3.99	NO3-N	BMB	1.830	12.953	4.9001
6	5.39	PO4-P	BMB	0.584	3.258	4.8322
7	5.92	SO4	BMB	2.776	14.490	24.4950
		TOTAL:		11.40	82.73	75.68



Algorithm Check

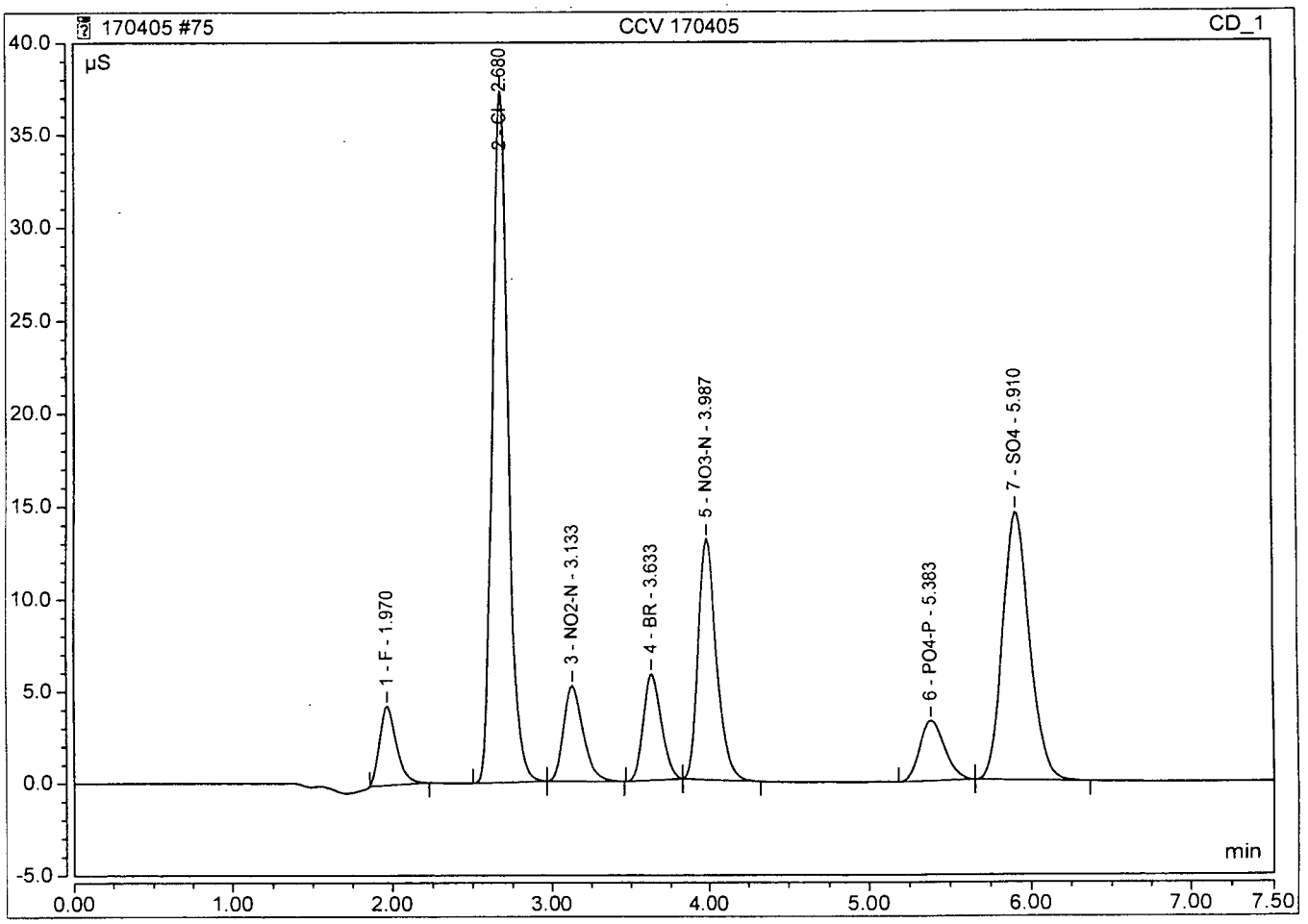
y = .1159x - .0634 y = Peak Area x = Amt

x = 24.50 ✓ mm 4/12/17

Peak Integration Report

Sample Name:	**CCV 170405**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 22:57**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.524	4.308	2.6418
2	2.68	Cl	BMB	4.202	37.298	24.2938
3	3.13	NO2-N	BMB	0.739	5.203	2.5489
4	3.63	BR	BMB	0.755	5.780	12.0692
5	3.99	NO3-N	BMB	1.835	13.076	4.9138
6	5.38	PO4-P	BMB	0.584	3.270	4.8312
7	5.91	SO4	BMB	2.779	14.556	24.5196
		TOTAL:		11.42	83.49	75.82



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

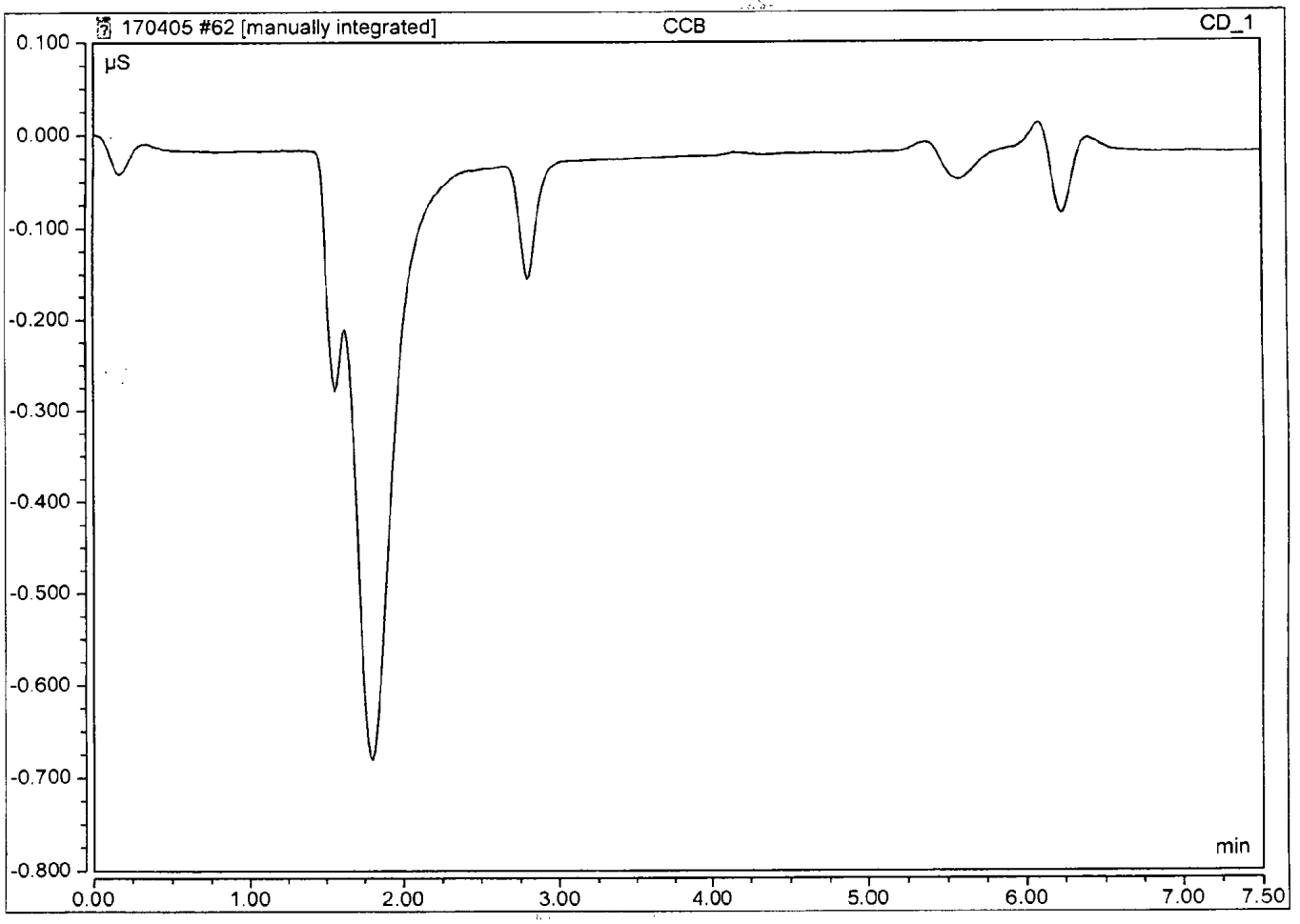
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/05/17 20:01	C	CCB 04/05/17 23:11	C		C		C		C	
bromide	.500	U	.500	U							
chloride	1.000	U	1.000	U							
fluoride	.100	U	.100	U							
Nitrate(NO3)	.500	U	.500	U							
sulfate	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	05-Apr-2017 / 20:01	*Run Time:*	7.50

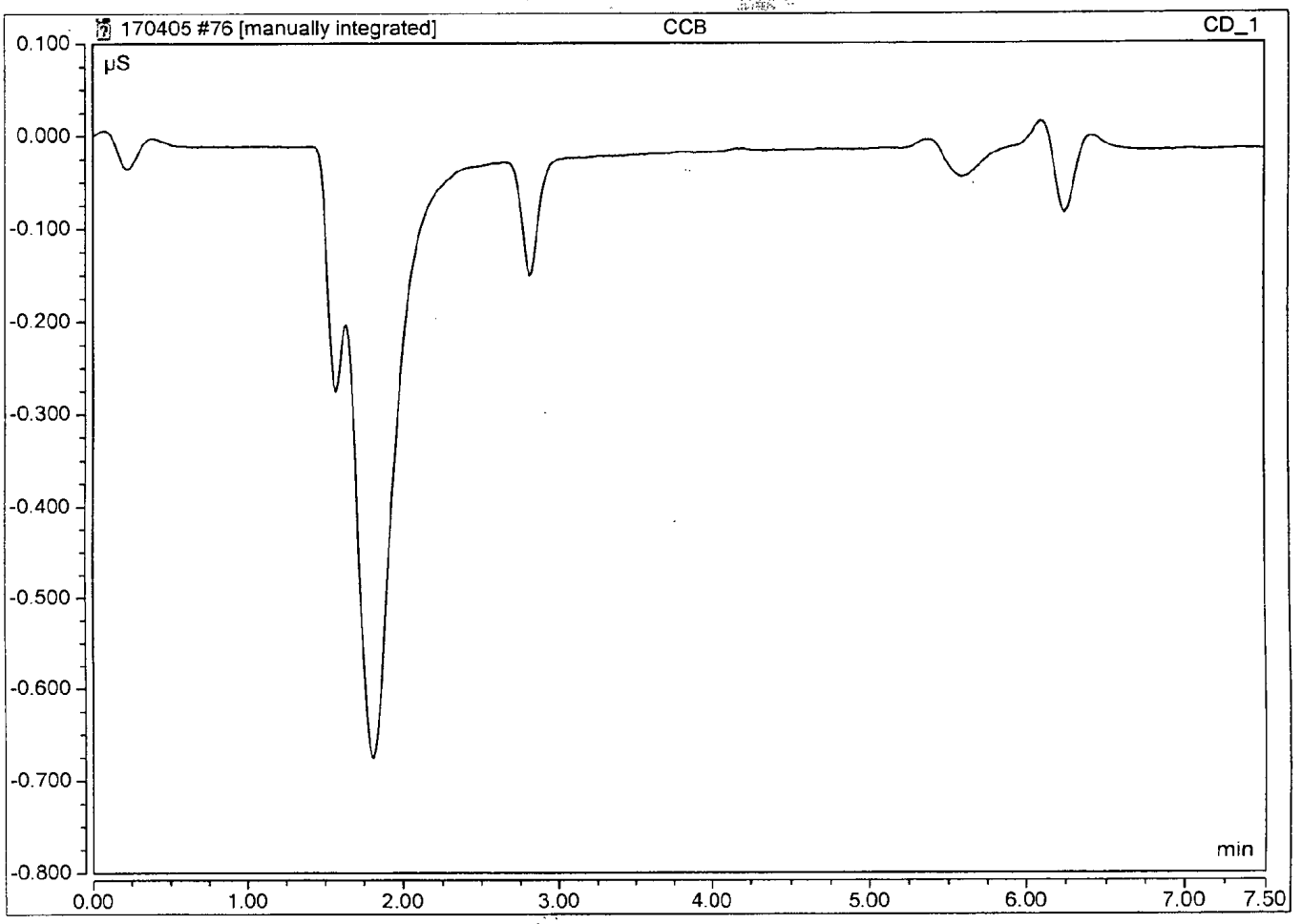
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	CCB	*Inj. Vol.:*	25.00
Injection Type:	Unknown	*Dilution Factor:*	1.0000
Program:	Analytical Processing Method 170303 ND	*Operator:*	chemist_wetlab
Inj. Date / Time:	05-Apr-2017 / 23:11	*Run Time:*	7.50

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/06/17

Analyte	Calibration Verification									M
	True CCV1	Found 9:52	%R(1)	True CCV1	Found 16:16	%R(1)	True	Found	%R(1)	
chloride	25	24.3855	97.5	25	24.3543	97.4				

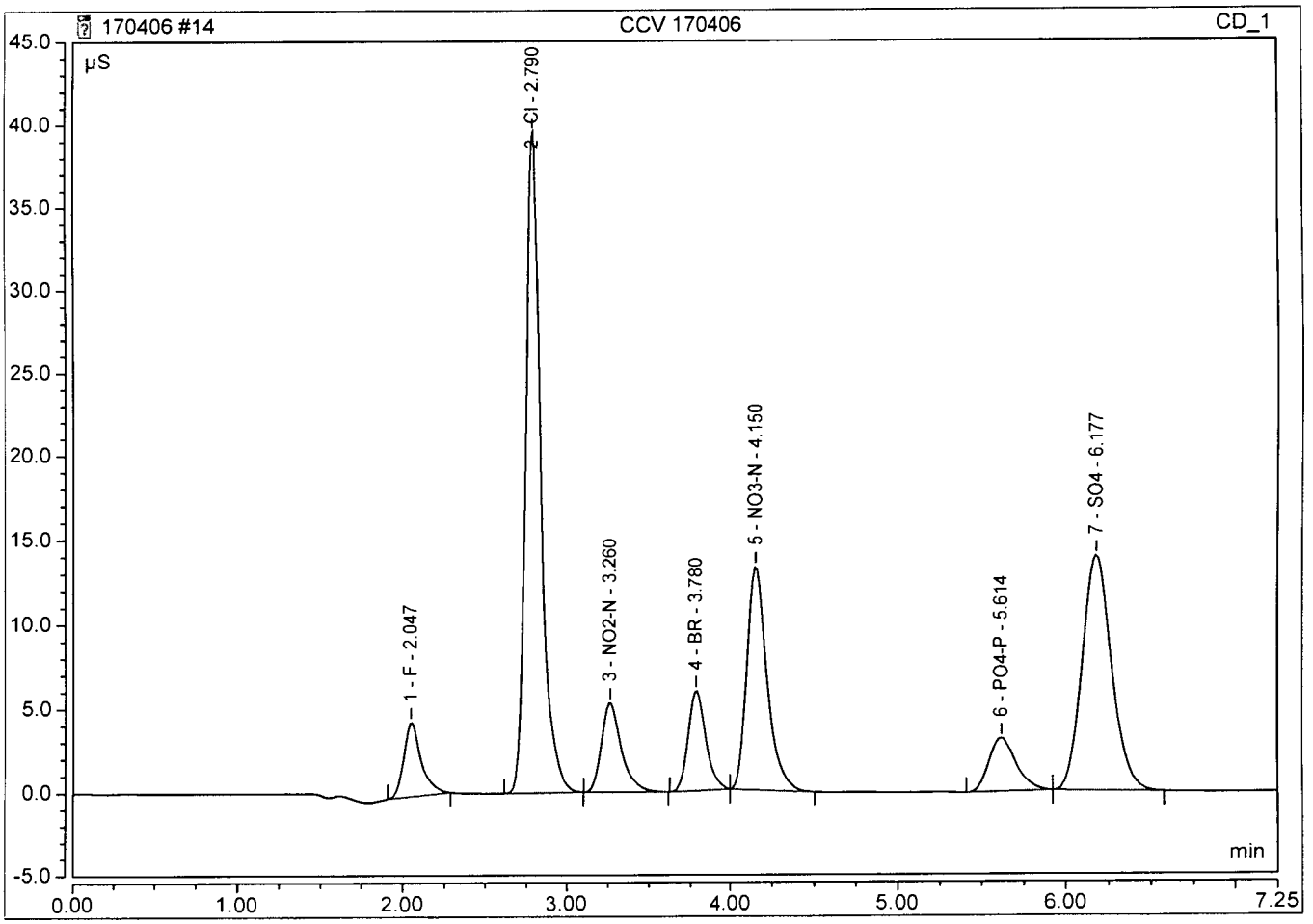
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170406**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 09:52**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	0.528	4.400	2.6613
2	2.79	Cl	BMB	4.218	39.537	24.3855
3	3.26	NO2-N	BMB	0.744	5.272	2.5686
4	3.78	BR	BMB	0.752	5.902	12.0159
5	4.15	NO3-N	BMB	1.828	13.164	4.8941
6	5.61	PO4-P	BMB	0.584	3.138	4.8272
7	6.18	SO4	BMB	2.765	13.822	24.3999
		TOTAL:		11.42	85.24	75.75



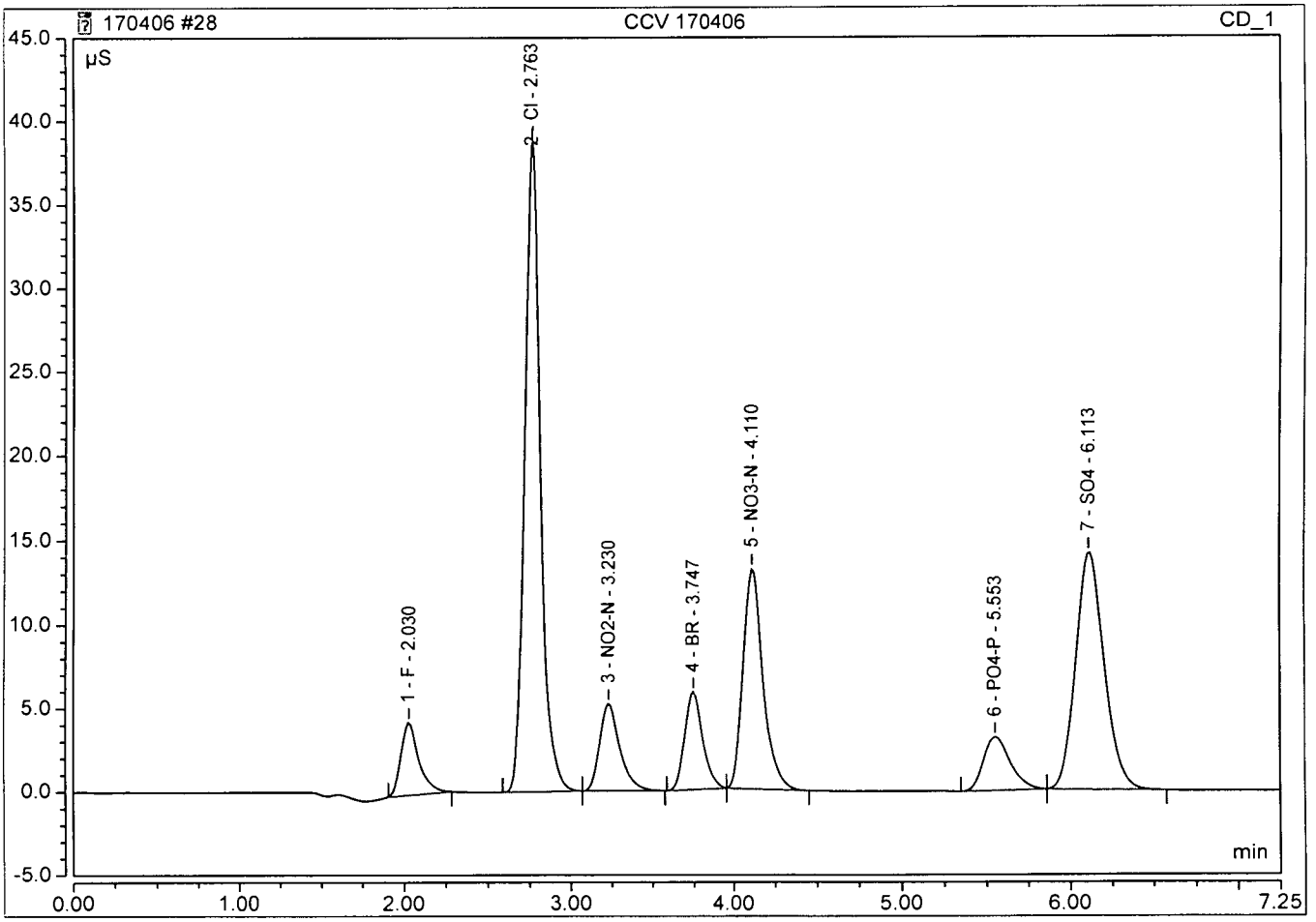
Algorithm Check
y: .1159x - .0634
x = 24.40 ✓

y = Peak Area
x = Amt
mm 4/22/17

Peak Integration Report

Sample Name:	**CCV 170406**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 16:16**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.03	F	BMB	0.535	4.363	2.6944
2	2.76	Cl	BMB	4.213	38.665	24.3543
3	3.23	NO2-N	BMB	0.745	5.237	2.5721
4	3.75	BR	BMB	0.756	5.866	12.0886
5	4.11	NO3-N	BMB	1.832	13.132	4.9059
6	5.55	PO4-P	BMB	0.593	3.199	4.9003
7	6.11	SO4	BMB	2.772	14.121	24.4574
		TOTAL:		11.45	84.58	75.97



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

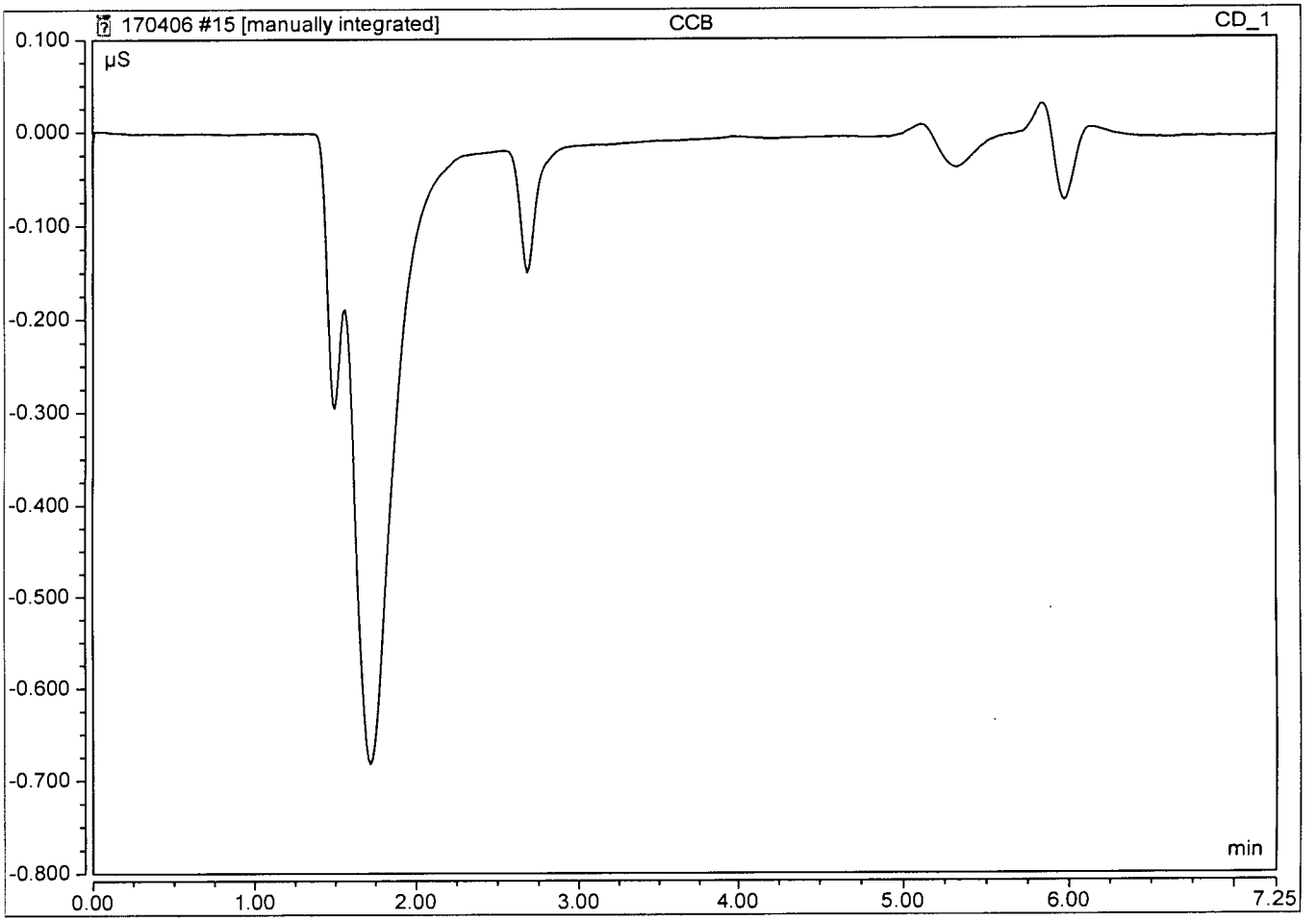
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/06/17 10:05	C	CCB 04/06/17 16:29	C		C		C		C	
chloride	1.000	U	1.000	U							

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:05**	*Run Time:*	**7.25**

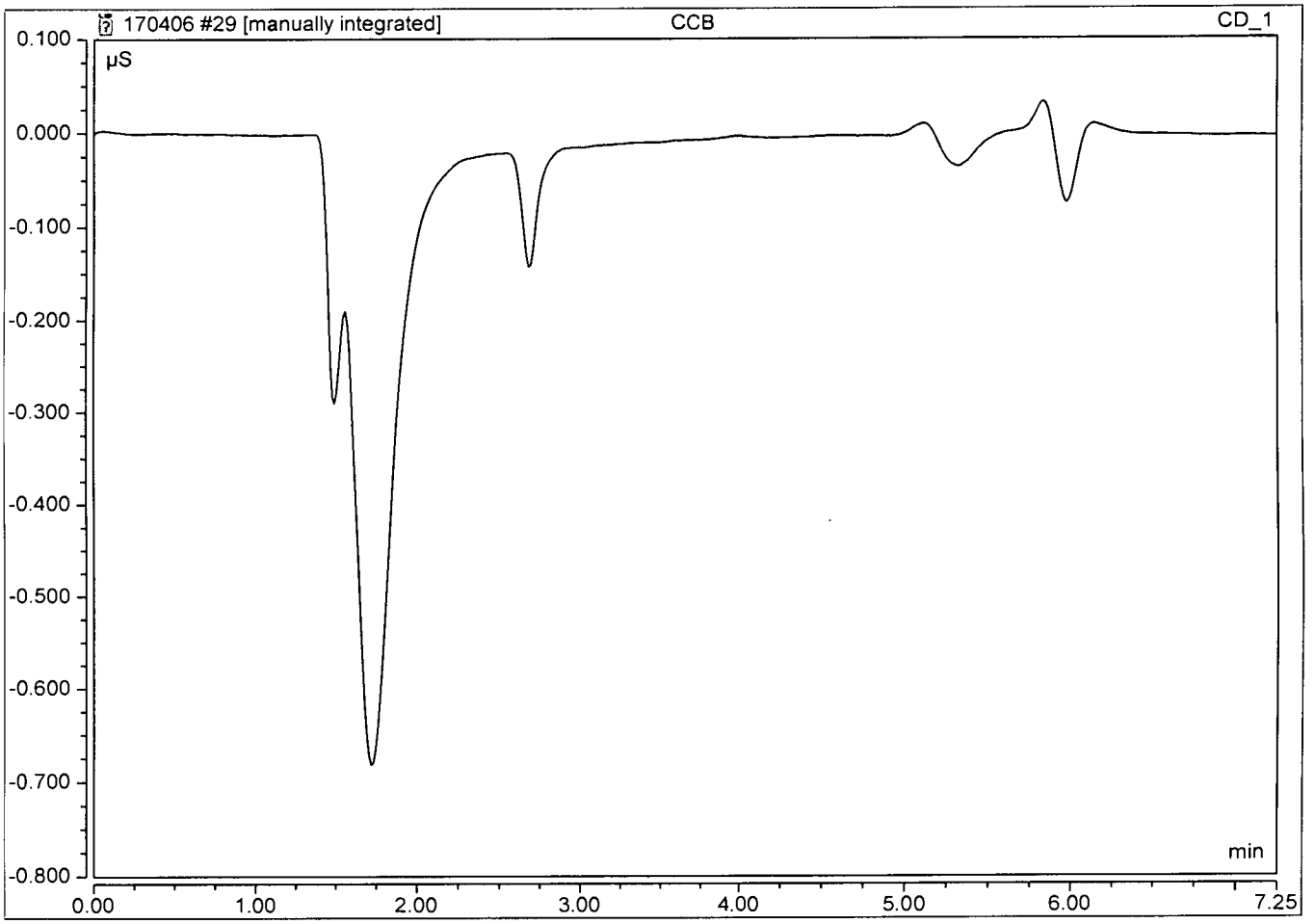
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 16:29**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/13/17

Analyte	Calibration Verification									M
	True CCV1	Found 6:33	%R(1)	True CCV1	Found 11:12	%R(1)	True CCV1	Found 17:15	%R(1)	
bromide	12.5	12.1748	97.4	12.5	12.1724	97.4	12.5	12.2341	97.9	
chloride	25	24.5718	98.3	25	24.8062	99.2	25	24.9214	99.7	
fluoride	5	4.8689	97.4	5	5.4775	110	5	5.5031	110	
Nitrate(NO3)	22.1	22.3604	101	22.1	22.5088	102	22.1	22.6465	102	
sulfate	25	25.0855	100	25	25.2991	101	25	25.3909	102	

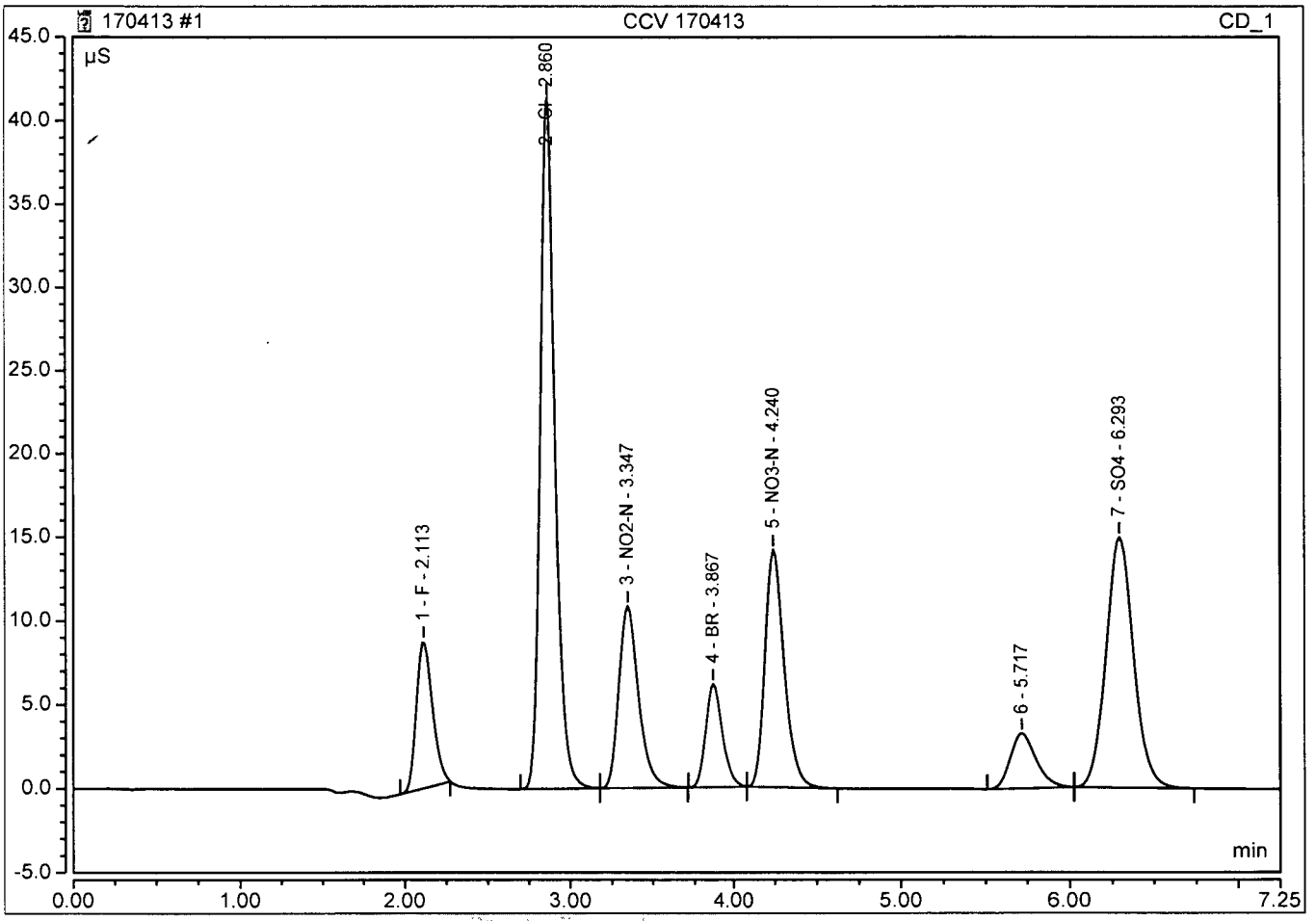
(1) Control Limits: 90-110

ILM02.0

Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 06:33**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.11	F	BMB	0.974	8.769	4.8689
2	2.86	Cl	BMB	4.252	41.339	24.5718
3	3.35	NO2-N	BMB	1.523	10.843	5.2205
4	3.87	BR	BMB	0.762	6.161	12.1748
5	4.24	NO3-N	BMB	1.887	14.147	5.0491
7	6.29	SO4	BMB	2.844	14.910	25.0855
		TOTAL:		12.24	96.17	76.97



Algorithm Check
y = .1159x - .0634
x = 25.09 ✓

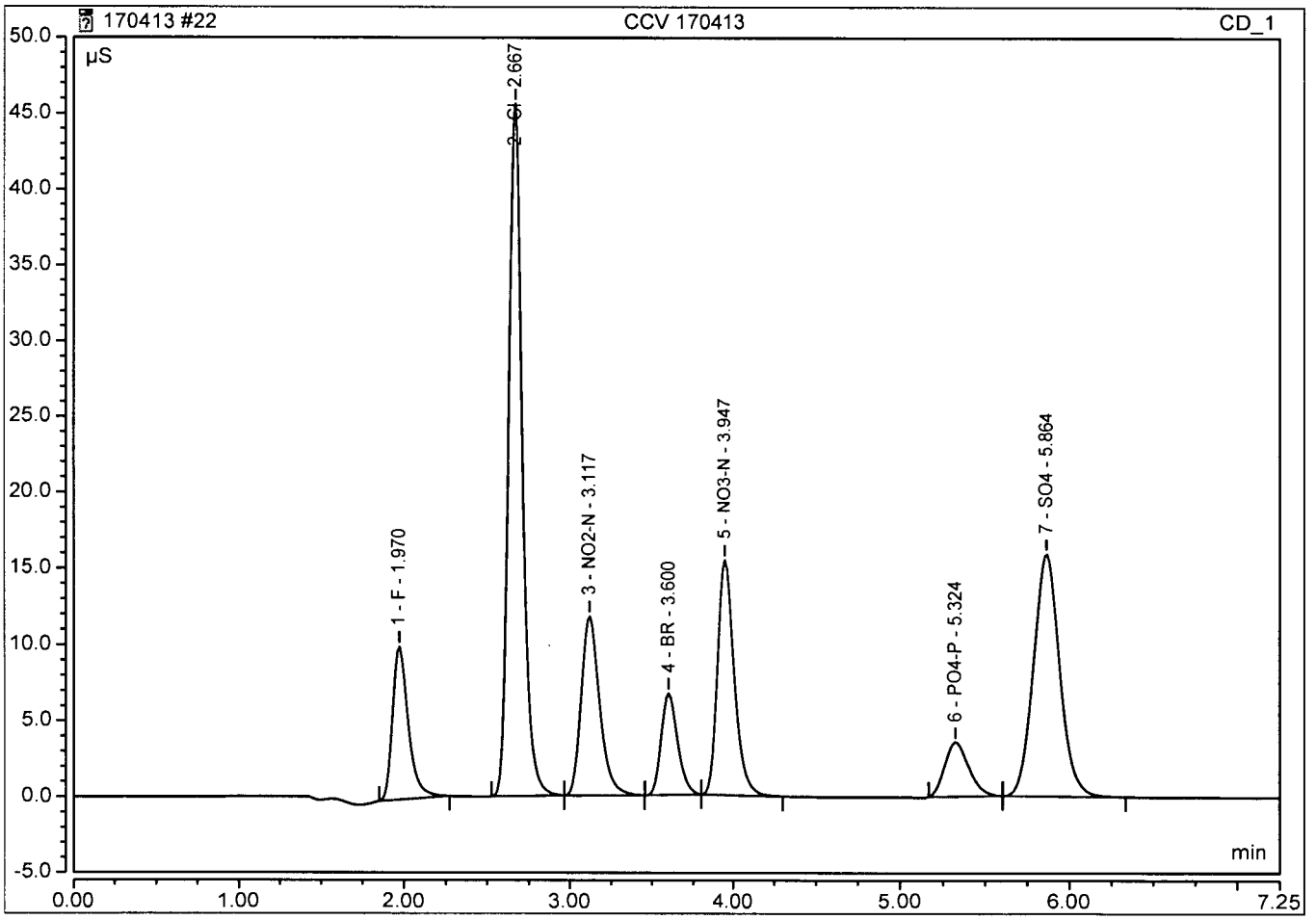
y = Peak Area
x = Amnt

MM 4/22/17

Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 11:12**	*Run Time:*	**7.25**

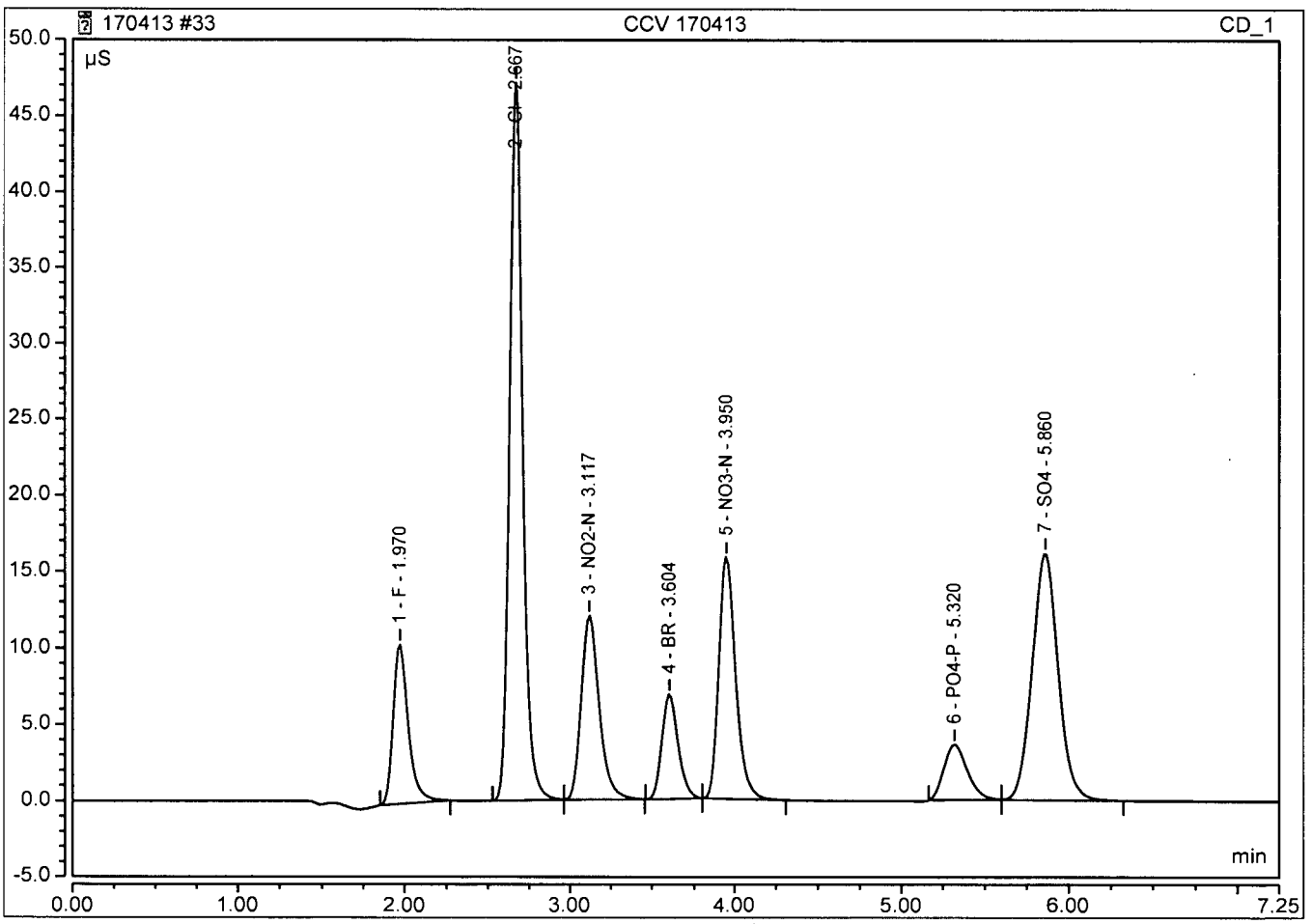
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	1.097	10.077	5.4775
2	2.67	Cl	BMB	4.294	45.603	24.8062
3	3.12	NO2-N	BMB	1.527	11.776	5.2357
4	3.60	BR	BMB	0.762	6.701	12.1724
5	3.95	NO3-N	BMB	1.900	15.410	5.0826
6	5.32	PO4-P	BMB	0.587	3.564	4.8512
7	5.86	SO4	BMB	2.869	15.879	25.2991
		TOTAL:		13.04	109.01	82.92



Peak Integration Report

Sample Name:	**CCV 170413**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 17:15**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	**F**	BMB	1.102	10.467	5.5031
2	2.67	**Cl**	BMB	4.315	47.155	24.9214
3	3.12	**NO2-N**	BMB	1.528	12.042	5.2393
4	3.60	**BR**	BMB	0.766	6.875	12.2341
5	3.95	**NO3-N**	BMB	1.912	15.812	5.1137
6	5.32	**PO4-P**	BMB	0.590	3.642	4.8751
7	5.86	**SO4**	BMB	2.880	16.148	25.3909
		TOTAL:		13.09	112.14	83.28



A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

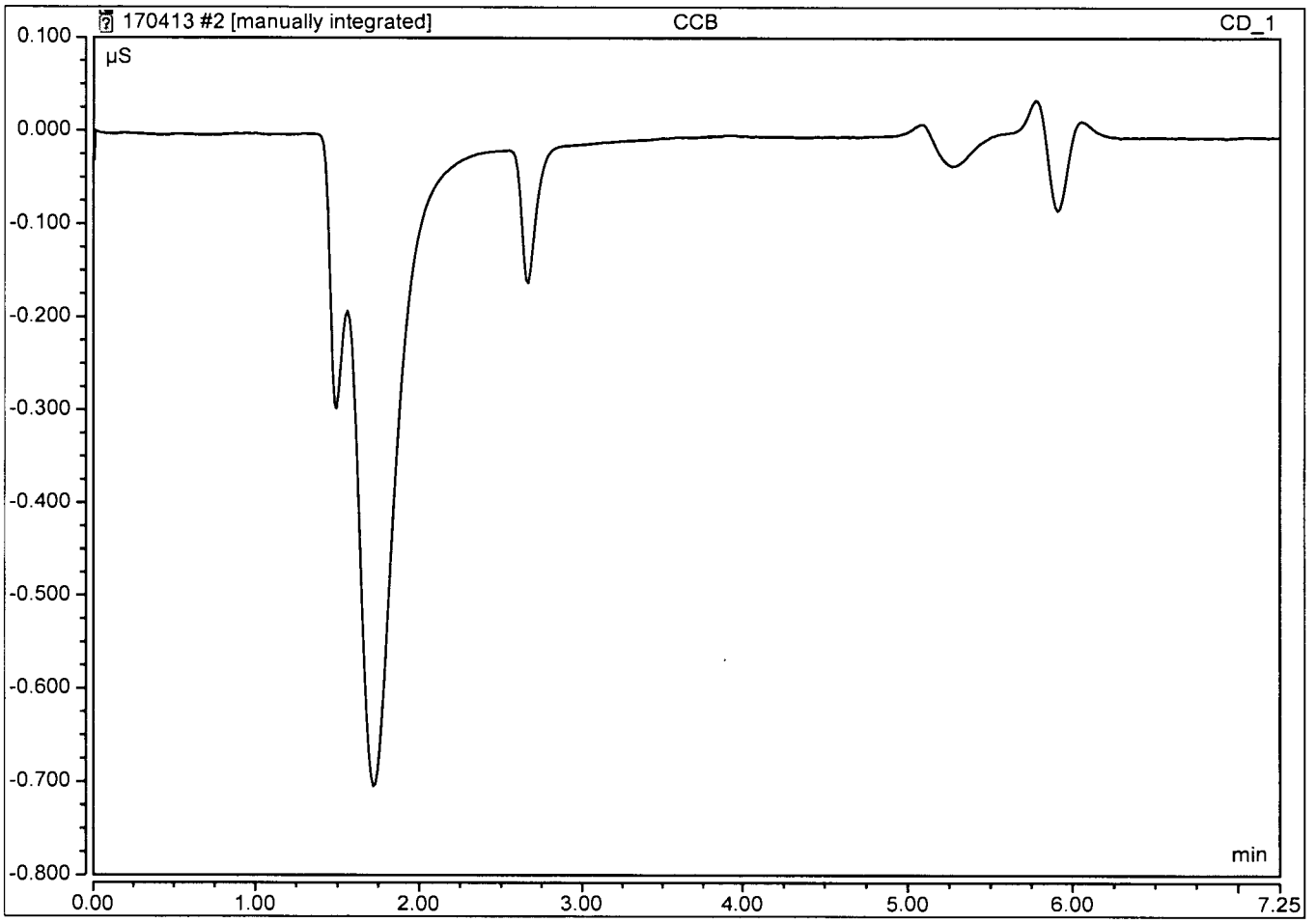
Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 04/13/17 06:46	C	CCB 04/13/17 11:26	C	CCB 04/13/17 17:28	C		C		C	
bromide	.500	U	.500	U	.500	U					
chloride	1.000	U	1.000	U	1.000	U					
fluoride	.100	U	.100	U	.100	U					
Nitrate(NO3)	.500	U	.500	U	.500	U					
sulfate	1.000	U	1.000	U	1.000	U					

Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 06:46**	*Run Time:*	**7.25**

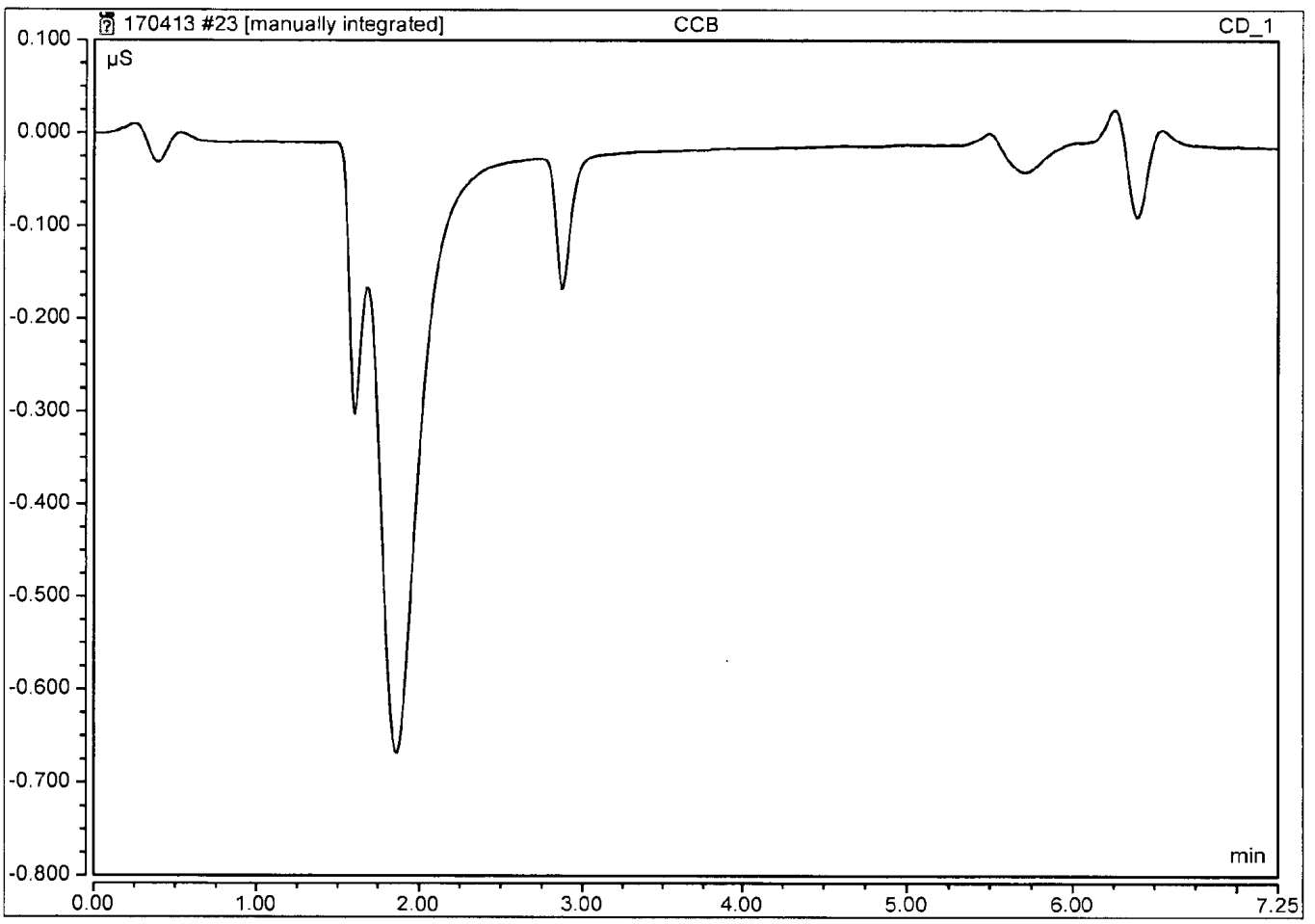
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 11:26**	*Run Time:*	**7.25**

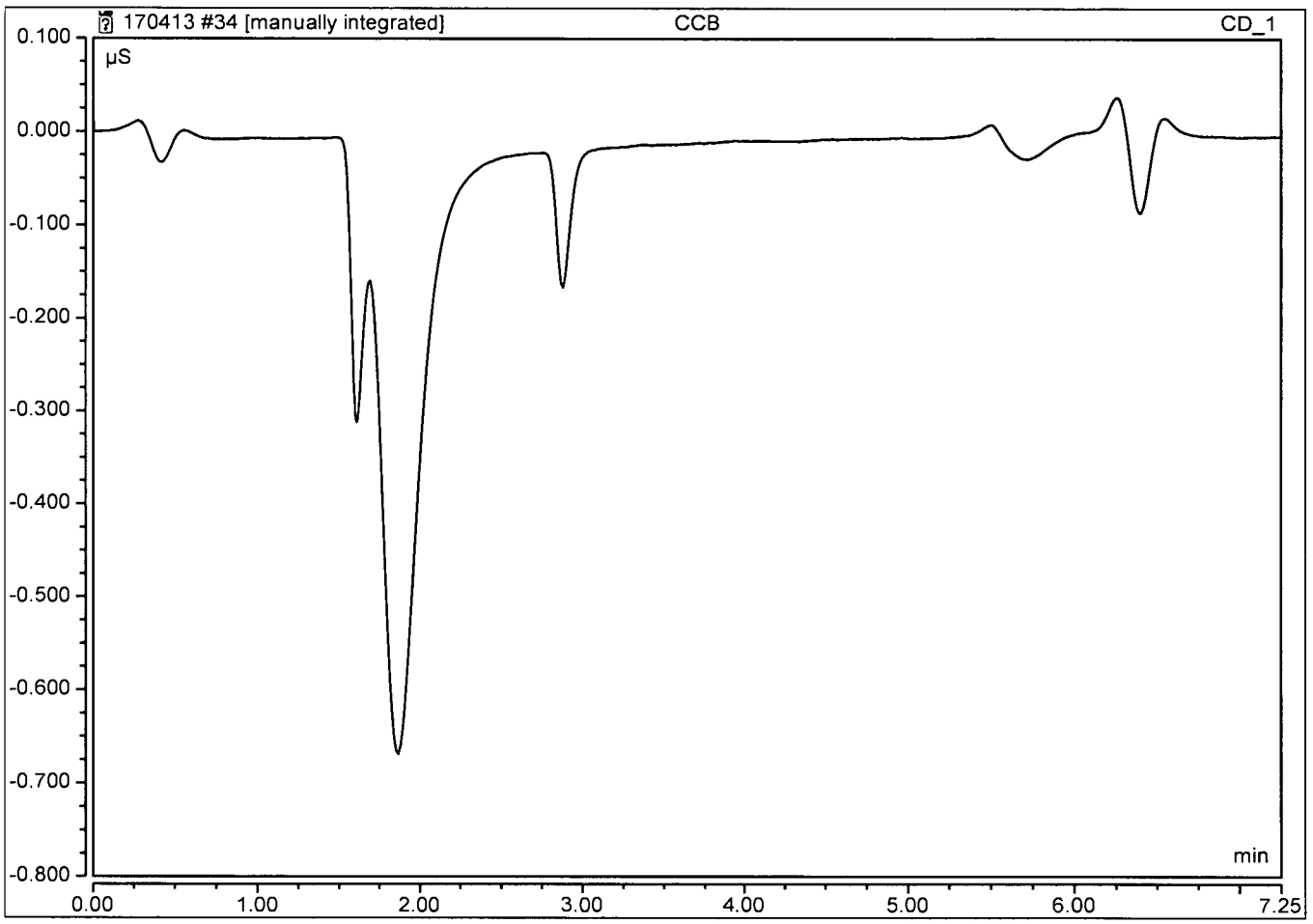
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
			TOTAL:	0.00	0.00	0.00



Peak Integration Report

Sample Name:	**CCB**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 17:28**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0.00	0.00	0.00



A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: AECOM
ARF No: 82619 SDG: 82619
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 04/12/17

Analyte	Calibration Verification									M
	True ICV	Found 13:11	%R(1)	True CCV1	Found 13:13	%R(1)	True CCV2	Found 15:30	%R(1)	
Silica	4	4.05145	101	10	9.65713	96.6	4	3.73753	93.4	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: AECOM

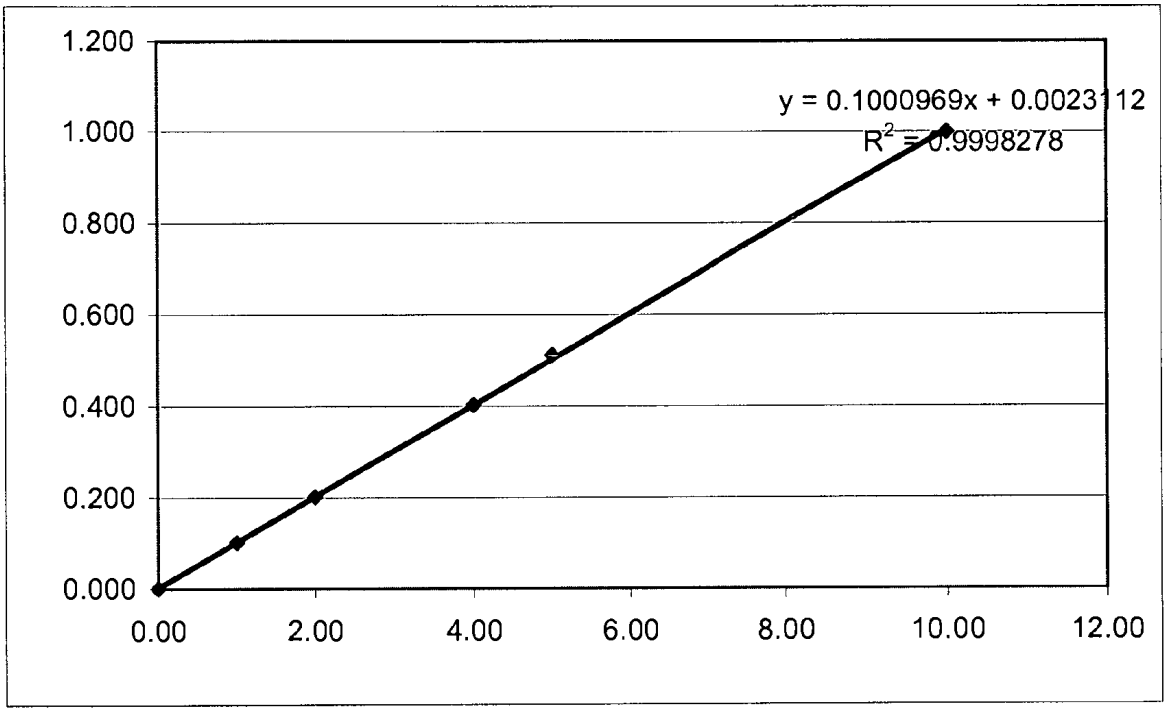
ARF No.: 82619 SDG: 82619

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 04/12/17 13:12	C	CCB 04/12/17 13:14	C	CCB 04/12/17 15:31	C		C		C	
Silica	1.000	U	1.000	U	1.000	U					

170405A Ferrous Iron



X	Y
0.00	0.000
1.00	0.101
2.00	0.201
4.00	0.403
5.00	0.512
10.00	0.999

Algorithm Check 04/05/17 17:28

reading (y)= 0.275

dilution= 1

result (x)= 2.72 ✓

~~AB~~ mm 4/22/17

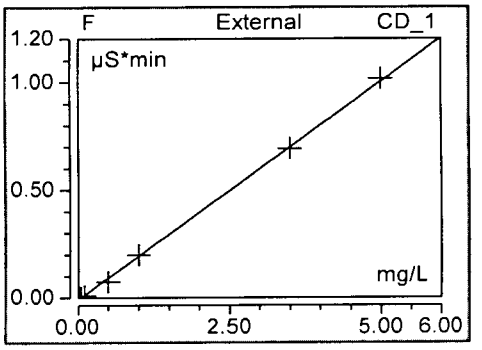
Calibration Batch Report

Sequence:	**170303**	*Injection Volume:*	**25.00**
Instrument Method:	**Program 1**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.5**

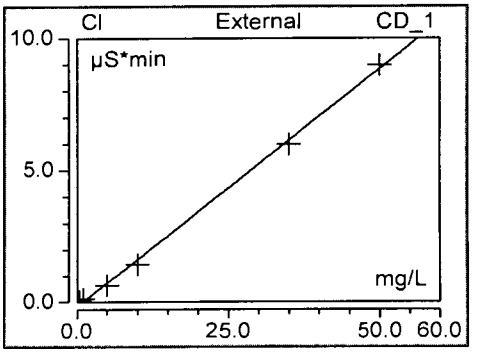
Calibration Summary

Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
F	Area	WithOffset,	6.000	-0.009	0.202	0.000	99.7747
Cl	Area	in, WithOffse	6.000	-0.177	0.180	0.000	99.8306
NO2-N	Area	in, WithOffse	6.000	-0.010	0.294	0.000	99.9787
BR	Area	in, WithOffse	6.000	-0.014	0.064	0.000	99.9477
NO3-N	Area	in, WithOffse	6.000	-0.050	0.384	0.000	99.8863
PO4-P	Area	in, WithOffse	6.000	-0.017	0.124	0.000	99.9247
SO4	Area	in, WithOffse	6.000	-0.063	0.116	0.000	99.9292
		AVERAGE:		-0.0486	0.1948	0.0000	99.8960

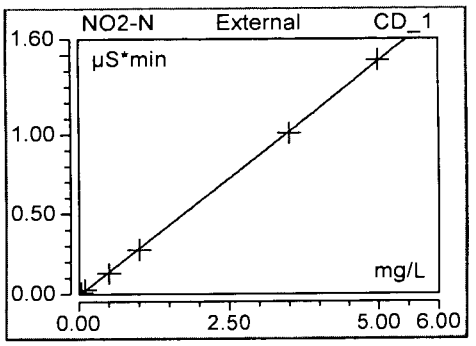
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	F	F	F	F
ICAL 1 3/3/17	2.003	0.0010	0.020	0.050
ICAL 2 3/3/17	2.047	0.0086	0.119	0.088
ICAL 3 3/3/17	1.990	0.0749	0.816	0.416
ICAL 4 3/3/17	2.040	0.2002	1.871	1.036
ICAL 5 3/3/17	1.987	0.6924	6.838	3.474
ICAL 6 3/3/17	2.047	1.0159	9.723	5.076
Average	2.019			
Rel. Std. Dev.	1.417 %			



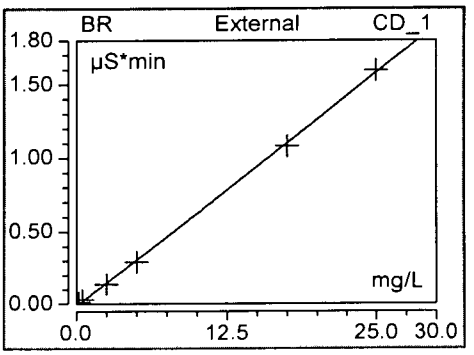
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	Cl	Cl	Cl	Cl
ICAL 1 3/3/17	2.730	0.0416	0.402	1.214
ICAL 2 3/3/17	2.804	0.1213	1.185	1.656
ICAL 3 3/3/17	2.734	0.6442	6.468	4.557
ICAL 4 3/3/17	2.803	1.4441	14.708	8.995
ICAL 5 3/3/17	2.737	5.9826	61.525	34.175
ICAL 6 3/3/17	2.823	8.9799	90.169	50.804
Average	2.772			
Rel. Std. Dev.	1.538 %			



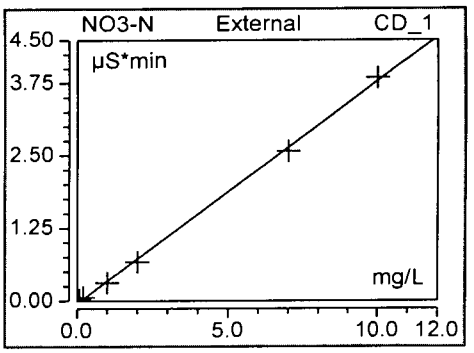
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO2-N	NO2-N	NO2-N	NO2-N
ICAL 1 3/3/17	3.210	0.0104	0.080	0.068
ICAL 2 3/3/17	3.294	0.0268	0.204	0.124
ICAL 3 3/3/17	3.210	0.1304	1.007	0.477
ICAL 4 3/3/17	3.290	0.2765	2.113	0.974
ICAL 5 3/3/17	3.210	1.0081	7.671	3.467
ICAL 6 3/3/17	3.310	1.4668	10.920	5.030
Average	3.254			
Rel. Std. Dev.	1.491 %			



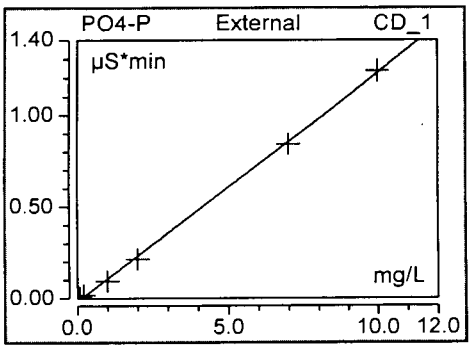
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	BR	BR	BR	BR
ICAL 1 3/3/17	3.750	0.0112	0.087	0.395
ICAL 2 3/3/17	3.850	0.0284	0.220	0.665
ICAL 3 3/3/17	3.750	0.1378	1.078	2.381
ICAL 4 3/3/17	3.843	0.2922	2.279	4.805
ICAL 5 3/3/17	3.744	1.0816	8.696	17.193
ICAL 6 3/3/17	3.850	1.5957	12.820	25.261
Average	3.798			
Rel. Std. Dev.	1.444 %			



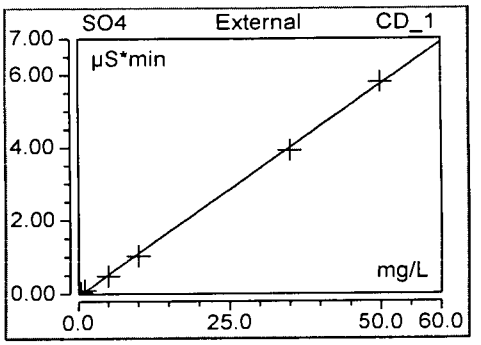
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	NO3-N	NO3-N	NO3-N	NO3-N
ICAL 1 3/3/17	4.137	0.0266	0.189	0.199
ICAL 2 3/3/17	4.247	0.0649	0.457	0.299
ICAL 3 3/3/17	4.137	0.3101	2.224	0.938
ICAL 4 3/3/17	4.240	0.6658	4.786	1.865
ICAL 5 3/3/17	4.124	2.5699	19.259	6.829
ICAL 6 3/3/17	4.240	3.8434	28.713	10.150
Average	4.187			
Rel. Std. Dev.	1.444 %			



Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	PO4-P	PO4-P	PO4-P	PO4-P
ICAL 1 3/3/17	5.610	0.0077	0.036	0.201
ICAL 2 3/3/17	5.757	0.0191	0.090	0.293
ICAL 3 3/3/17	5.597	0.0958	0.487	0.908
ICAL 4 3/3/17	5.737	0.2158	1.095	1.872
ICAL 5 3/3/17	5.577	0.8431	4.439	6.912
ICAL 6 3/3/17	5.733	1.2392	6.488	10.093
Average	5.668			
Rel. Std. Dev.	1.446 %			



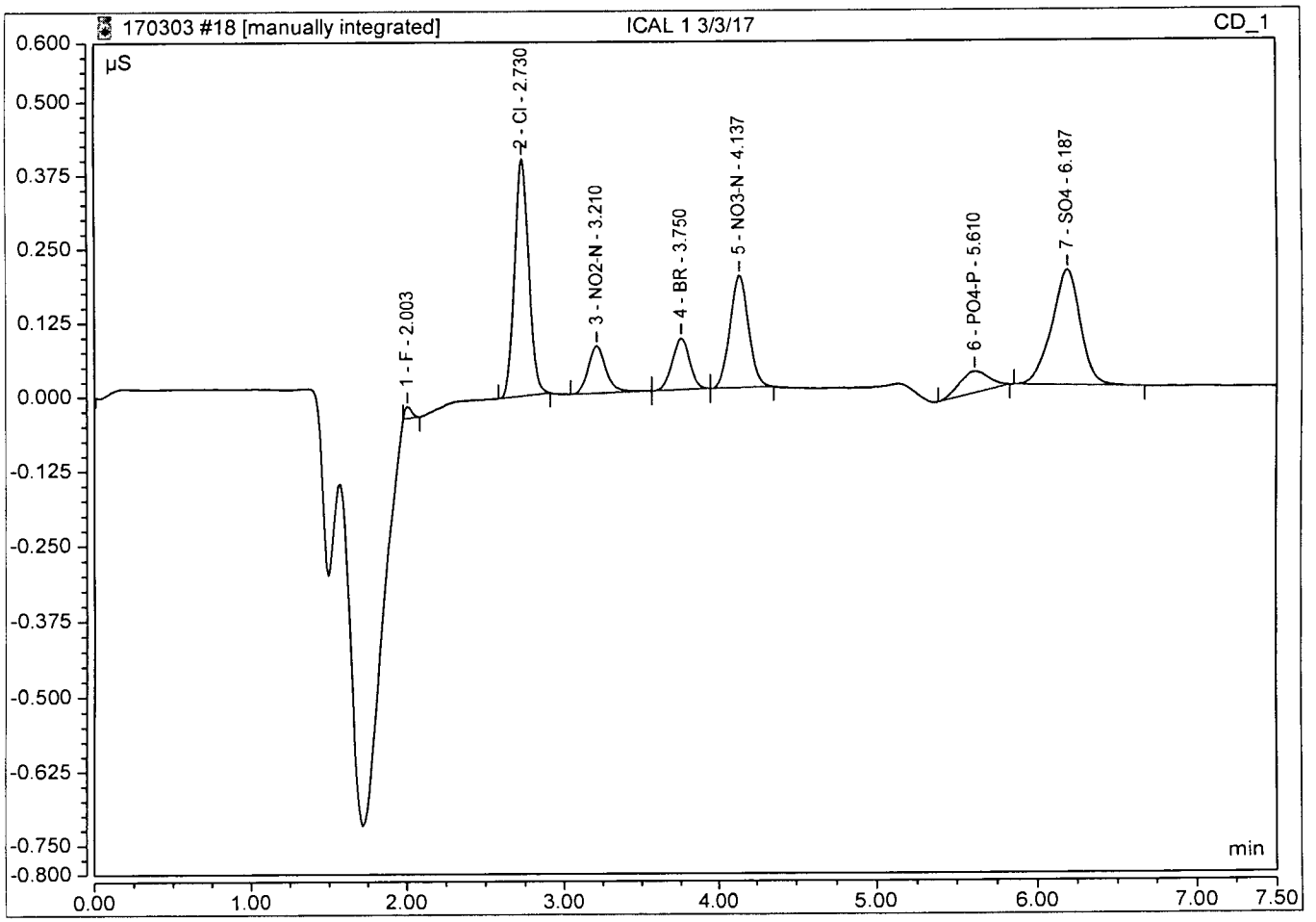
Injection Name	Ret.Time min CD_1	Area µS*min CD_1	Height µS CD_1	Amount mg/L CD_1
	SO4	SO4	SO4	SO4
ICAL 1 3/3/17	6.187	0.0407	0.194	0.898
ICAL 2 3/3/17	6.347	0.1006	0.489	1.414
ICAL 3 3/3/17	6.184	0.4827	2.411	4.711
ICAL 4 3/3/17	6.350	1.0296	5.138	9.429
ICAL 5 3/3/17	6.207	3.9228	19.485	34.389
ICAL 6 3/3/17	6.393	5.7970	27.783	50.558
Average	6.278			
Rel. Std. Dev.	1.521 %			



Peak Integration Report

Sample Name:	**ICAL 1 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:10**	*Run Time:*	**7.50**

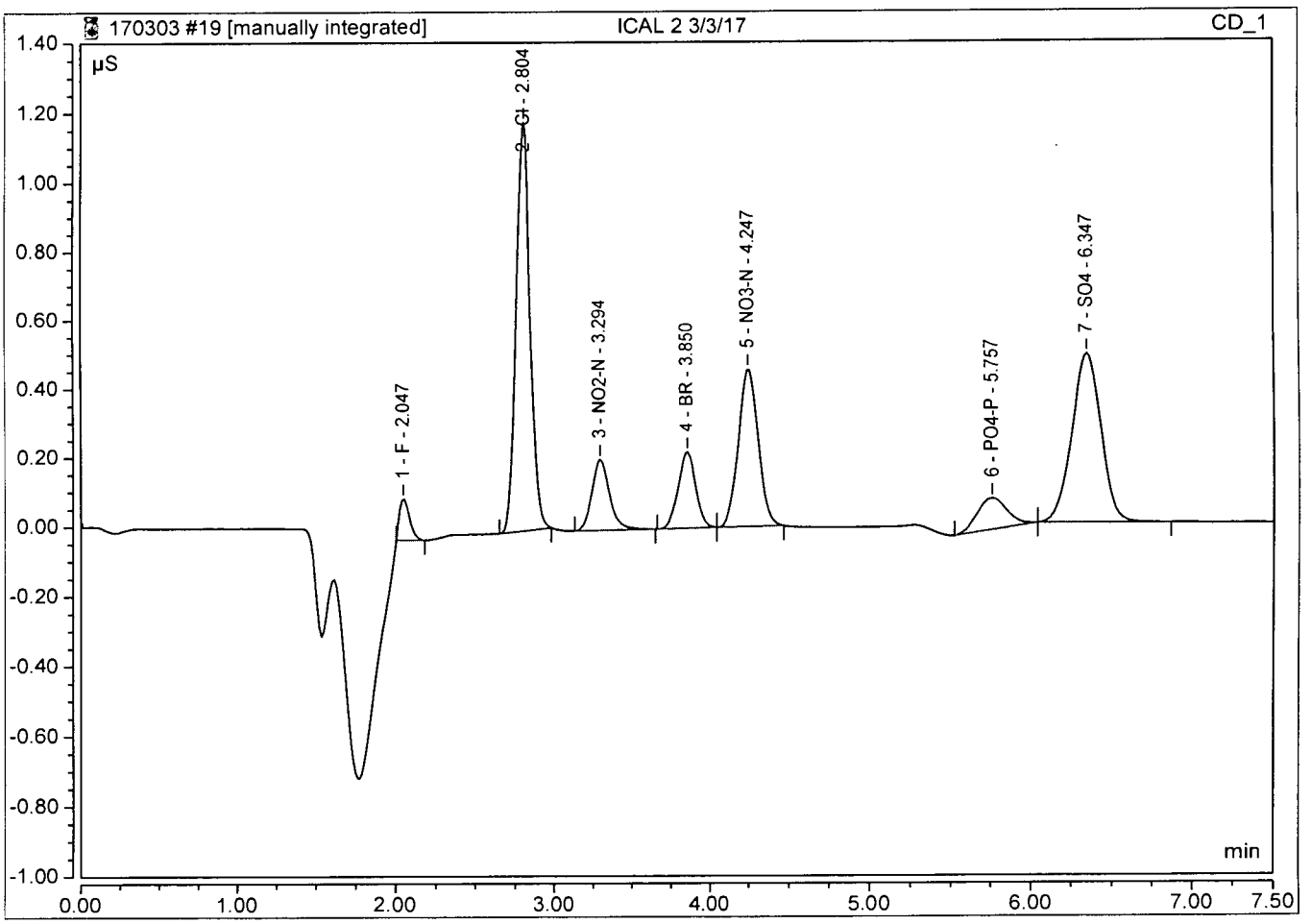
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.00	F	BMB*	0.001	0.020	0.0499
2	2.73	Cl	BMB	0.042	0.402	1.2140
3	3.21	NO2-N	BMB	0.010	0.080	0.0681
4	3.75	BR	BMB	0.011	0.087	0.3950
5	4.14	NO3-N	BMB	0.027	0.189	0.1989
6	5.61	PO4-P	BMB*	0.008	0.036	0.2012
7	6.19	SO4	BMB	0.041	0.194	0.8980
		TOTAL:		0.14	1.01	3.03



Peak Integration Report

Sample Name:	**ICAL 2 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:23**	*Run Time:*	**7.50**

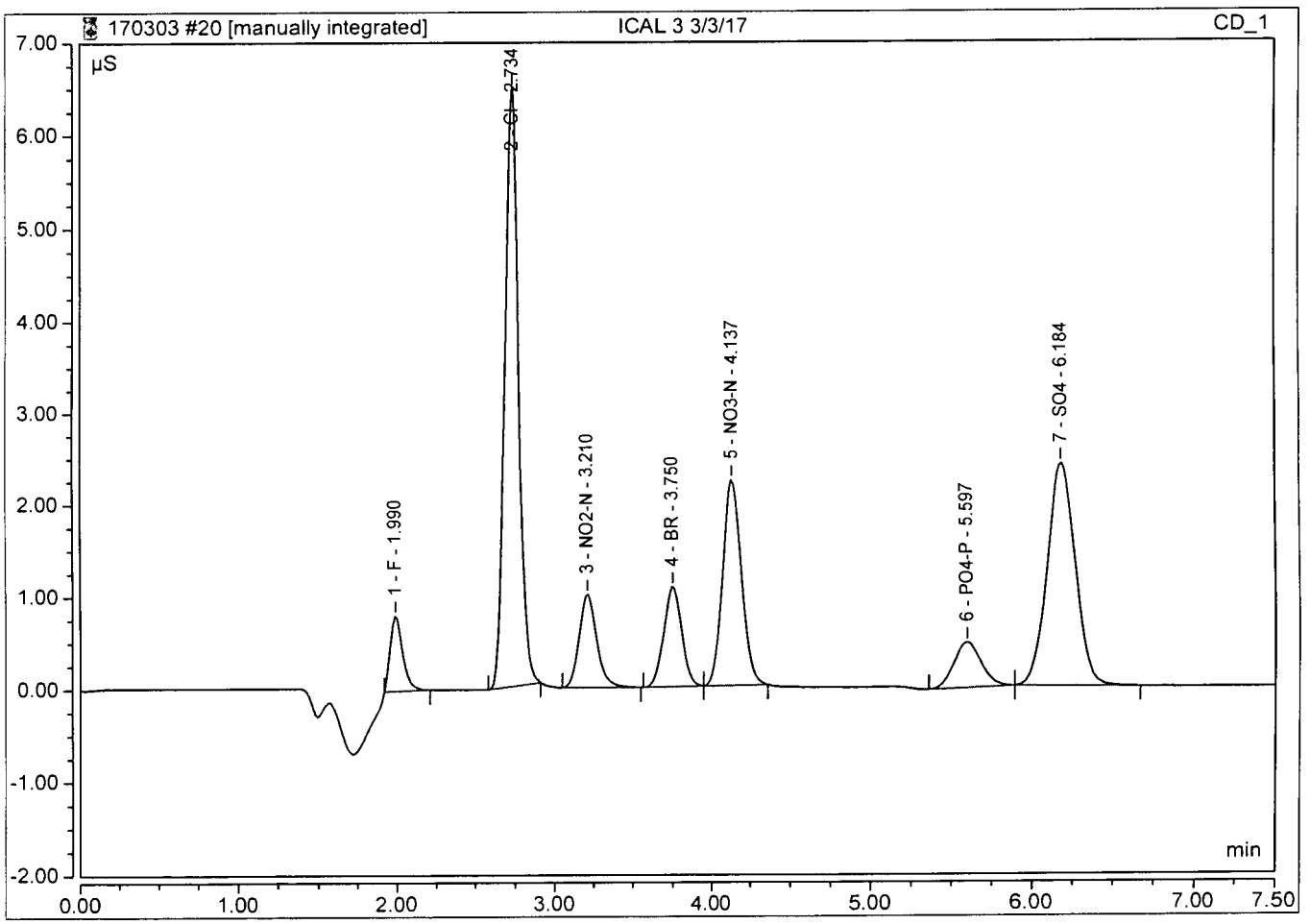
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB*	0.009	0.119	0.0876
2	2.80	Cl	BMB	0.121	1.185	1.6559
3	3.29	NO2-N	BMB	0.027	0.204	0.1239
4	3.85	BR	BMB	0.028	0.220	0.6650
5	4.25	NO3-N	BMB	0.065	0.457	0.2987
6	5.76	PO4-P	BMB	0.019	0.090	0.2926
7	6.35	SO4	BMB	0.101	0.489	1.4143
		TOTAL:		0.37	2.76	4.54



Peak Integration Report

Sample Name:	**ICAL 3 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:37**	*Run Time:*	**7.50**

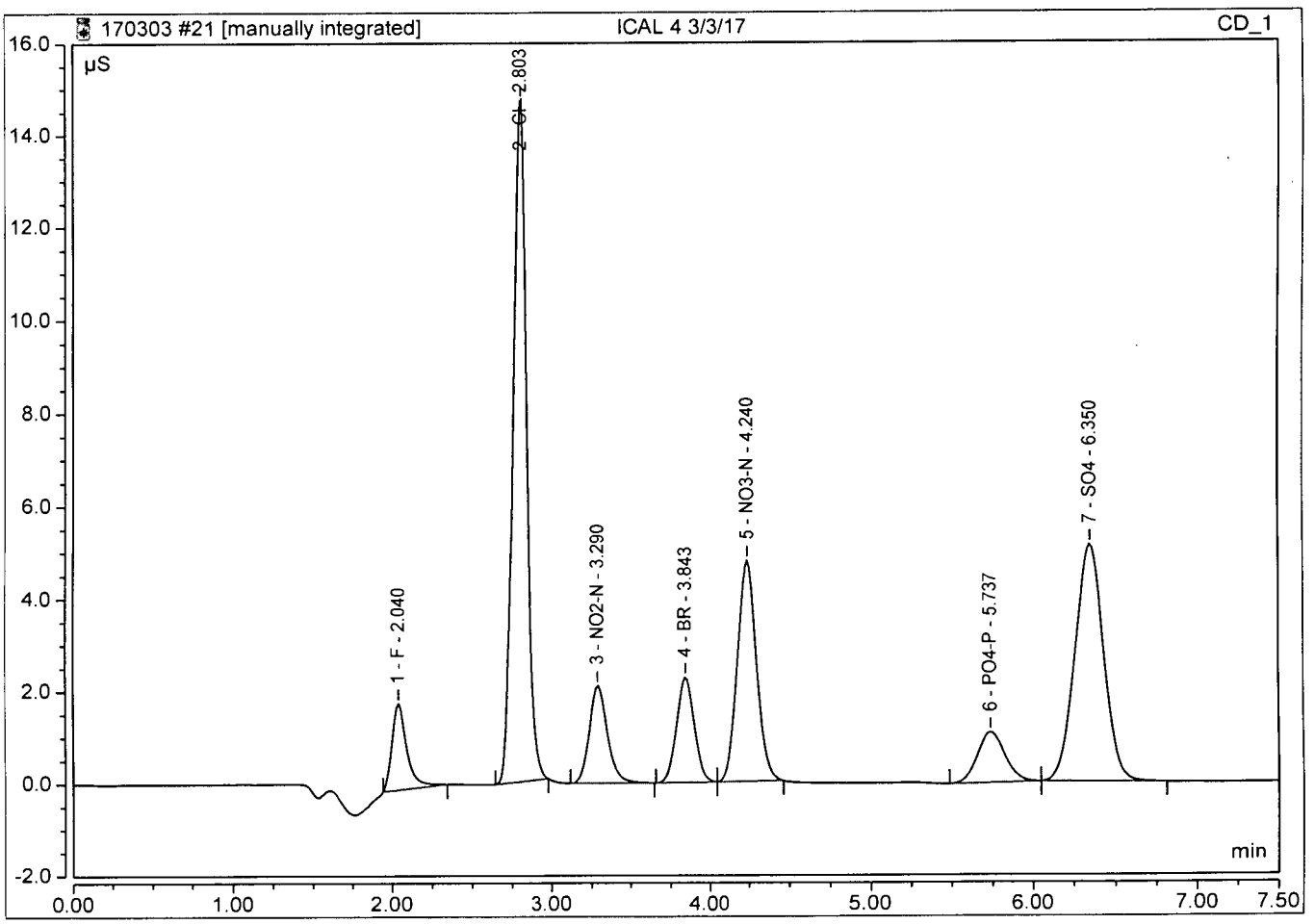
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB*	0.075	0.816	0.4160
2	2.73	Cl	BMB	0.644	6.468	4.5572
3	3.21	NO2-N	BMB	0.130	1.007	0.4766
4	3.75	BR	BMB	0.138	1.078	2.3810
5	4.14	NO3-N	BMB	0.310	2.224	0.9380
6	5.60	PO4-P	BMB	0.096	0.487	0.9084
7	6.18	SO4	BMB	0.483	2.411	4.7108
		TOTAL:		1.88	14.49	14.39



Peak Integration Report

Sample Name:	**ICAL 4 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 14:50**	*Run Time:*	**7.50**

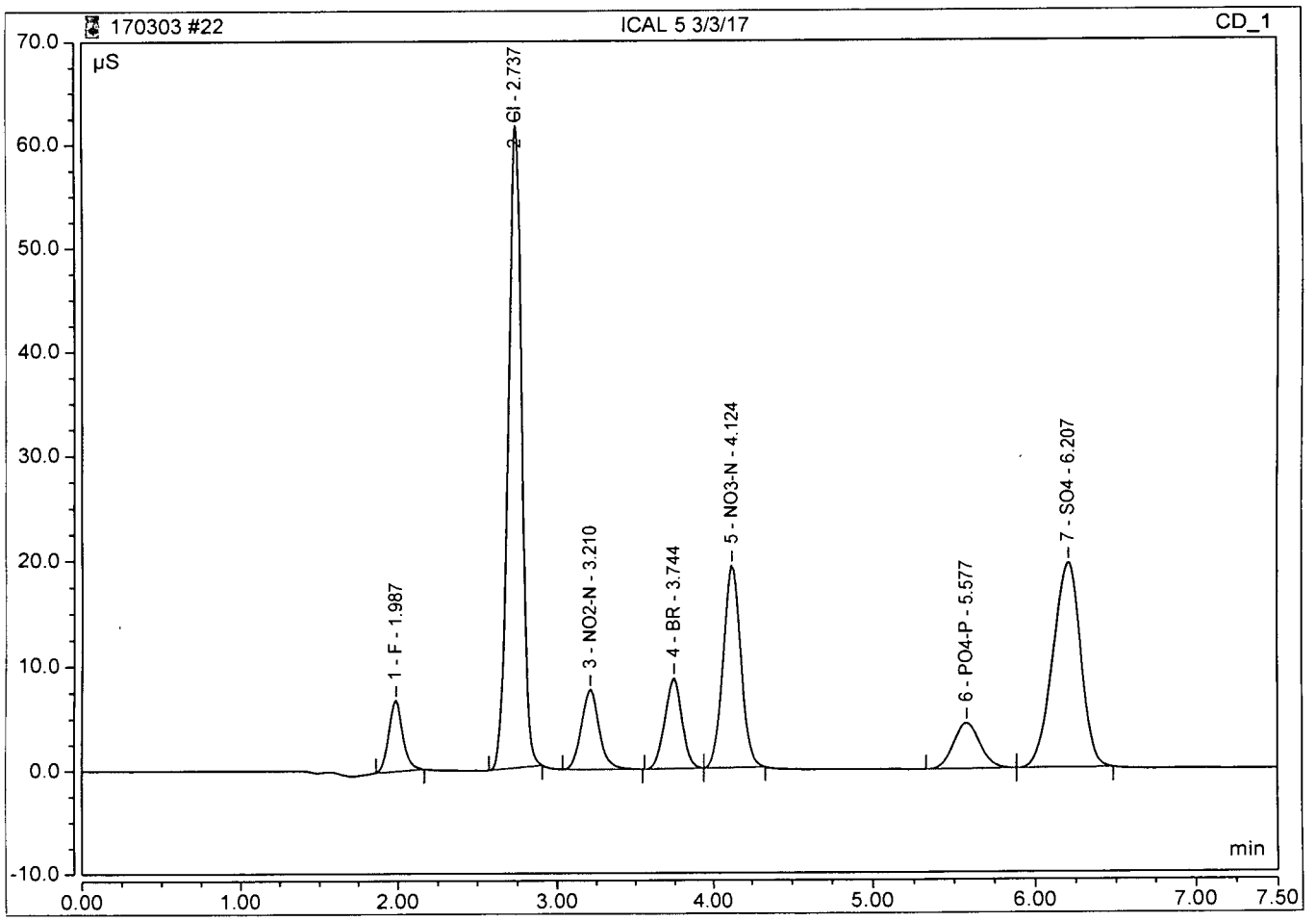
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB*	0.200	1.871	1.0362
2	2.80	Cl	BMB	1.444	14.708	8.9948
3	3.29	NO2-N	BMB	0.276	2.113	0.9744
4	3.84	BR	BMB	0.292	2.279	4.8050
5	4.24	NO3-N	BMB	0.666	4.786	1.8654
6	5.74	PO4-P	BMB	0.216	1.095	1.8722
7	6.35	SO4	BMB	1.030	5.138	9.4293
		TOTAL:		4.12	31.99	28.98



Peak Integration Report

Sample Name:	**ICAL 5 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:04**	*Run Time:*	**7.50**

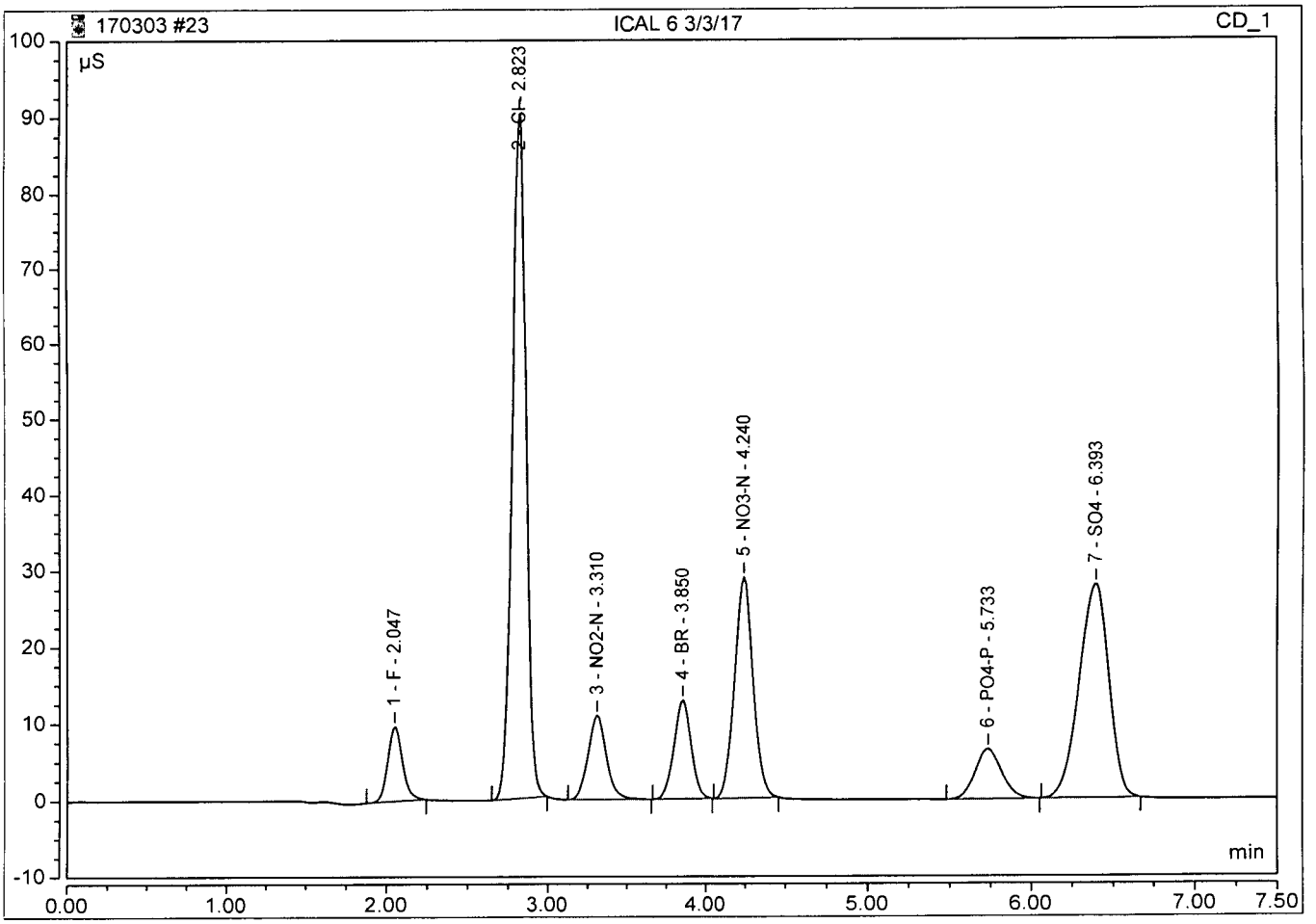
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.99	F	BMB	0.692	6.838	3.4738
2	2.74	Cl	BMB	5.983	61.525	34.1745
3	3.21	NO2-N	BMB	1.008	7.671	3.4669
4	3.74	BR	BMB	1.082	8.696	17.1933
5	4.12	NO3-N	BMB	2.570	19.259	6.8294
6	5.58	PO4-P	BMB	0.843	4.439	6.9121
7	6.21	SO4	BMB	3.923	19.485	34.3893
		TOTAL:		16.10	127.91	106.44



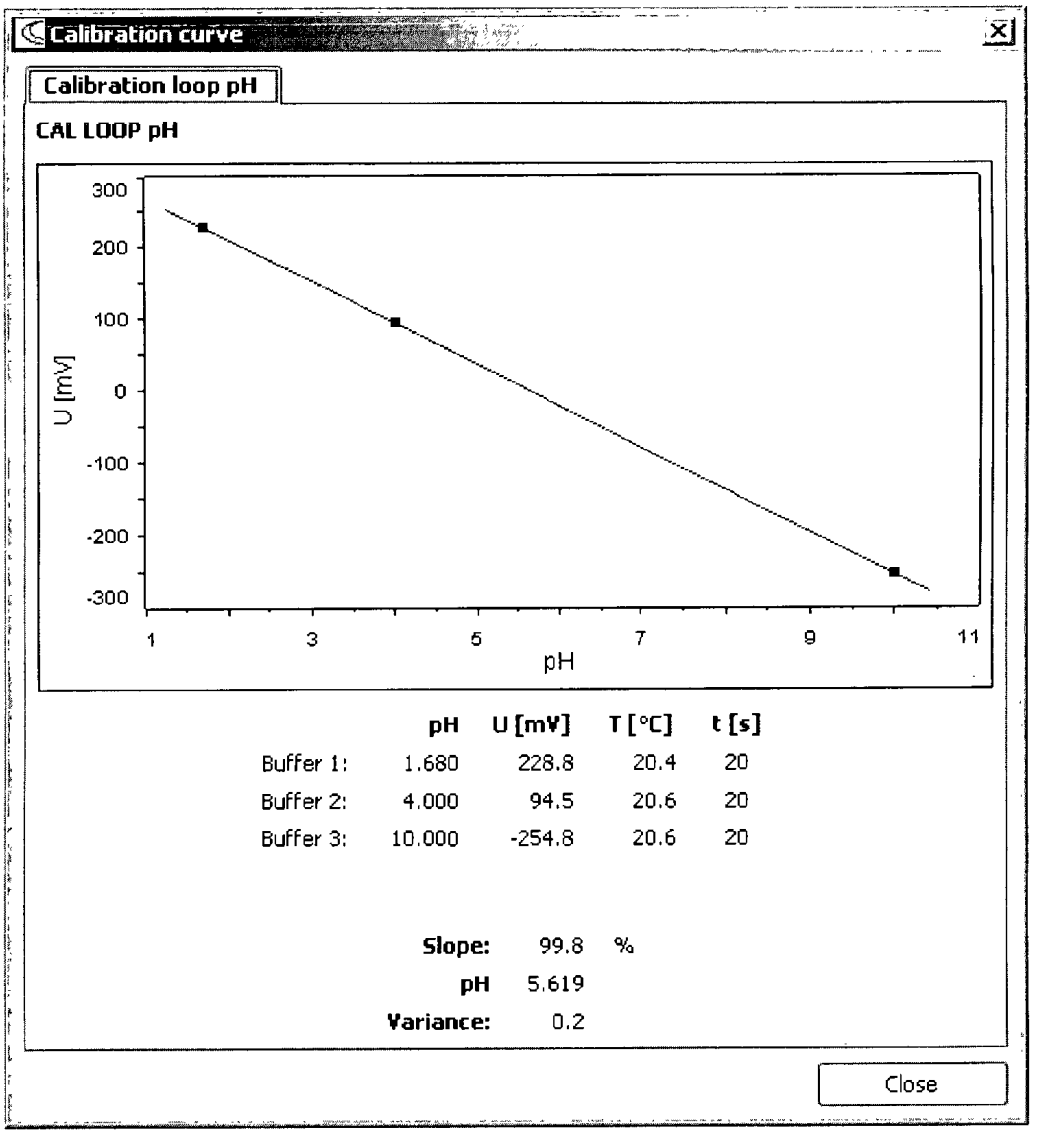
Peak Integration Report

Sample Name:	**ICAL 6 3/3/17**	*Inj. Vol.:*	**25.00**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**03-Mar-2017 / 15:17**	*Run Time:*	**7.50**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.05	F	BMB	1.016	9.723	5.0764
2	2.82	Cl	BMB	8.980	90.169	50.8035
3	3.31	NO2-N	BMB	1.467	10.920	5.0299
4	3.85	BR	BMB	1.596	12.820	25.2608
5	4.24	NO3-N	BMB	3.843	28.713	10.1496
6	5.73	PO4-P	BMB	1.239	6.488	10.0934
7	6.39	SO4	BMB	5.797	27.783	50.5583
		TOTAL:		23.94	186.62	156.97



Tiamo Calibration Curve
04/07/17



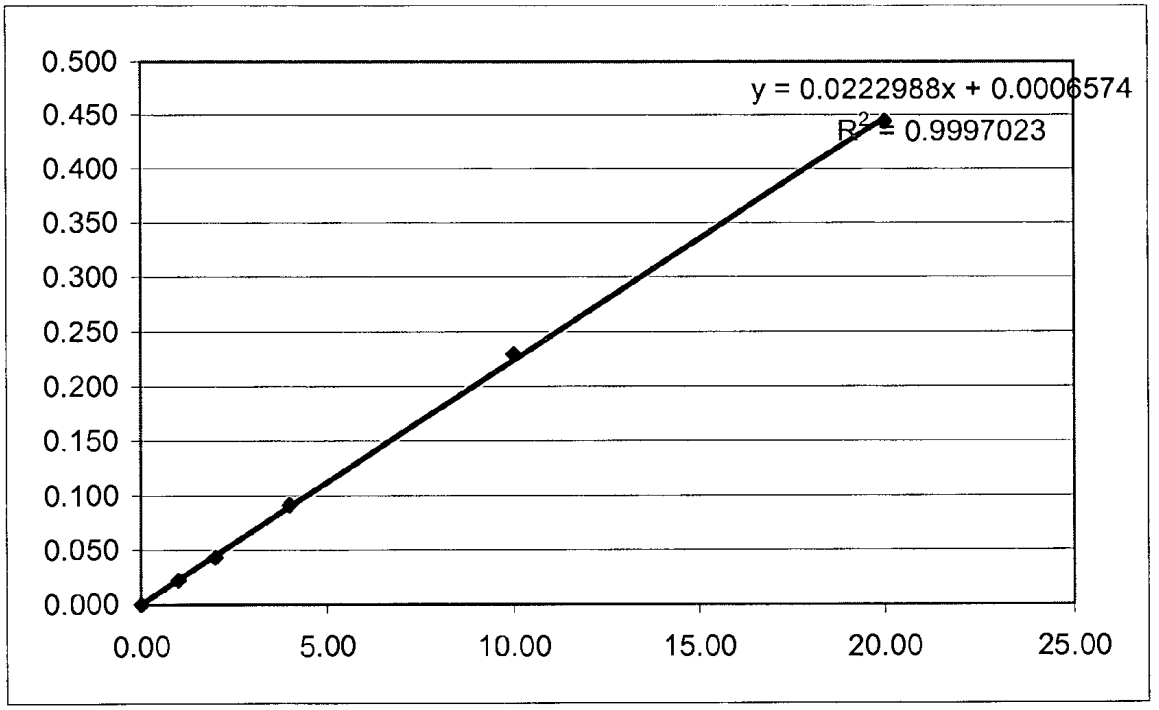
	pH	U [mV]	T [°C]	t [s]
Buffer 1:	1.680	228.8	20.4	20
Buffer 2:	4.000	94.5	20.6	20
Buffer 3:	10.000	-254.8	20.6	20

Slope:	99.8	%
pH	5.619	
Variance:	0.2	

Close

Silica

04/12/17



X	Y
0.00	0.000
1.00	0.022
2.00	0.043
4.00	0.091
10.00	0.229
20.00	0.444

ALGORITHM CHECK

y= 0.087 04/12/17 13:16

dilution= 1

x*dil.= 3.872

mm 4/22/17

INORGANIC ANALYSIS
Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	BICARBONATE AS	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	CARBONATE AS CA	1.70 U	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY	1.9 J	2.0	1.70	0.85	mg/L	04/07/17	04/07/17	#232W-170407A1-AZ53059
EPA 300.0	BROMIDE	0.16 U	0.5	0.16	0.05	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	FLUORIDE	0.09 U	0.1	0.09	0.08	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	NITRATE	0.18 U	0.5	0.18	0.04	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	SULFATE	0.20 U	1.0	0.20	0.09	mg/L	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	0.20 U	1.0	0.20	0.08	mg/L	04/06/17	04/06/17	#300WD-170406A-AZ53168
SM3500Fe	FERROUS IRON	0.32 U	1.0	0.32	0.16	mg/L	04/05/17	04/05/17	#35FE-170405A-AZ53168
SM 4500-S	SILICA W	0.80 U	1.0	0.80	0.53	mg/L	04/12/17	04/12/17	#SIO2-170412A-AZ53168
SM 4500-S	DISSOLVED SILICA	0.80 U	1.0	0.80	0.53	mg/L	04/12/17	04/12/17	#SIO2D-170412A-AZ53168

Wetlab SC-Blank-REG MDLs
Printed: 04/13/17 8:40:22 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 300.0	CHLORIDE	20.0	18.8	94.0	90-110	04/06/17	04/06/17	#300WD-170406A-AZ53168
EPA 300.0	BROMIDE	12.5	11.9	95.2	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	CHLORIDE	20.0	18.7	93.5	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	FLUORIDE	2.50	2.66	106	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	NITRATE	22.1	22.3	101	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
EPA 300.0	SULFATE	20.0	19.8	99.0	90-110	04/05/17	04/05/17	#300W-170405C-AZ53168
SM 2320B	BICARBONATE AS CACO3	250	242	96.8	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 2320B	TOTAL ALKALINITY AS CACO3	250	252	101	90-110	04/07/17	04/07/17	#232W-170407A1-AZ53059
SM 4500-Si	SILICA W	4.00	3.87	96.8	80-120	04/12/17	04/12/17	#SIO2-170412A-AZ53168
SM 4500-Si	DISSOLVED SILICA	4.00	3.87	96.8	80-120	04/12/17	04/12/17	#SIO2D-170412A-AZ53168
SM3500Fe	FERROUS IRON	3.00	2.72	90.7	80-120	04/05/17	04/05/17	#35FE-170405A-AZ53168

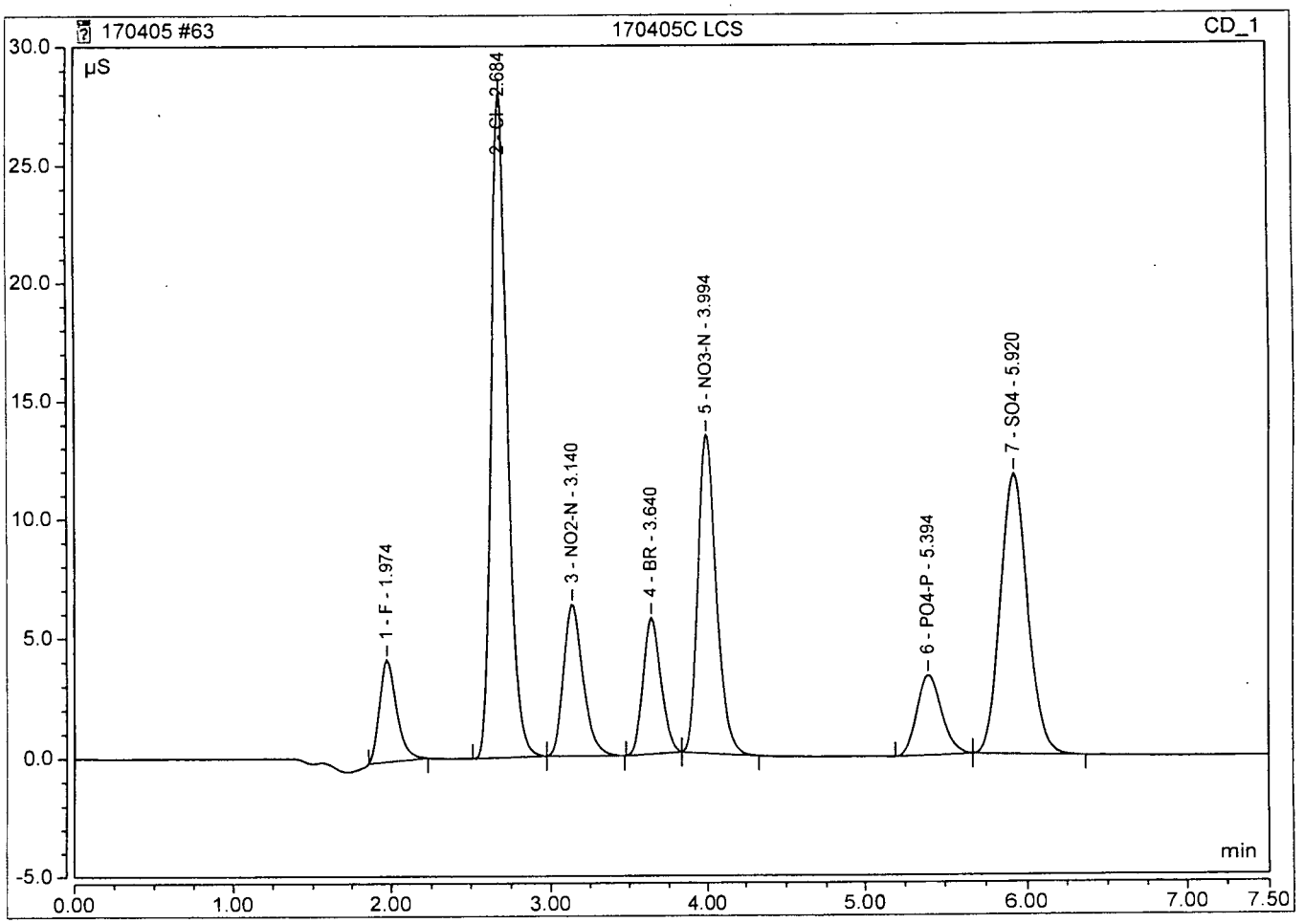
Comments: _____

Printed: 04/13/17 8:40:26 AM
APPL Standard LCS

Peak Integration Report

Sample Name:	**170405C LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**05-Apr-2017 / 20:15**	*Run Time:*	**7.50**

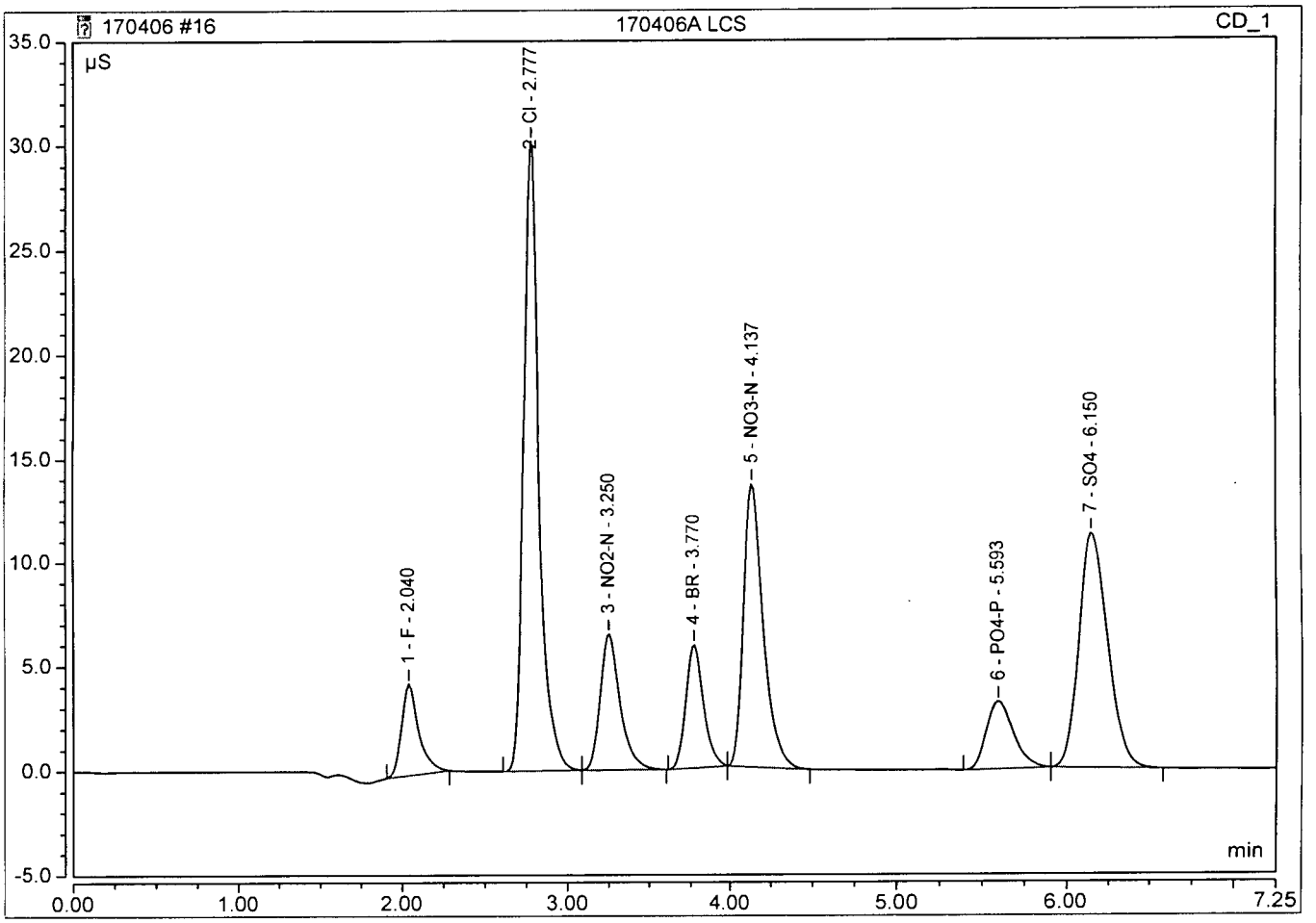
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.528	4.250	2.6582
2	2.68	Cl	BMB	3.199	28.026	18.7315
3	3.14	NO2-N	BMB	0.910	6.327	3.1337
4	3.64	BR	BMB	0.746	5.683	11.9286
5	3.99	NO3-N	BMB	1.885	13.335	5.0428
6	5.39	PO4-P	BMB	0.596	3.319	4.9301
7	5.92	SO4	BMB	2.231	11.722	19.7976
		TOTAL:		10.10	72.66	66.22



Peak Integration Report

Sample Name:	**170406A LCS**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**06-Apr-2017 / 10:18**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.04	F	BMB	0.524	4.360	2.6415
2	2.78	Cl	BMB	3.218	30.173	18.8344
3	3.25	NO2-N	BMB	0.918	6.480	3.1585
4	3.77	BR	BMB	0.747	5.880	11.9389
5	4.14	NO3-N	BMB	1.882	13.606	5.0370
6	5.59	PO4-P	BMB	0.596	3.219	4.9262
7	6.15	SO4	BMB	2.223	11.230	19.7276
		TOTAL:		10.11	74.95	66.26



Matrix Spike Recoveries

WETLAB

APPL ID: **170413W-53168 MS - 217803**

Sample ID: AZ53168

Client ID: ERH307

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 300.0	CHLORIDE	40.0	52.3	97.2	98.2	112 #	115 #	1.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217803	AZ53168
EPA 300.0	BROMIDE	12.5	0.37	12.4	12.4	96.2	96.2	0.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	FLUORIDE	2.50	0.10	2.91	2.53	112 #	97.2	14.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	NITRATE	22.1	2.5	24.3	24.1	98.6	97.7	0.83	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
EPA 300.0	SULFATE	20.0	9.9	30.3	29.7	102	99.0	2.0	20	90-110	04/13/17	04/13/17	04/13/17	04/13/17	217802	AZ53168
SM 2320B	BICARBONATE AS CA	250	67.5	307	309	95.8	96.6	0.65	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53168
SM 2320B	TOTAL ALKALINITY AS	250	67.5	307	309	95.8	96.6	0.65	20	90-110	04/07/17	04/07/17	04/07/17	04/07/17	217672	AZ53168
SM 4500-Si	SILICA W	20.0	44.0	63.8	64.2	99.0	101	0.63	20	80-120	04/12/17	04/12/17	04/12/17	04/12/17	217777	AZ53168
SM 4500-Si	DISSOLVED SILICA	20.0	47.2	63.8	62.9	83.0	78.5 #	1.4	20	80-120	04/12/17	04/12/17	04/12/17	04/12/17	217778	AZ53168
SM3500Fe	FERROUS IRON	3.00	0.067	2.67	2.76	86.8	89.8	3.3	20	80-120	04/05/17	04/05/17	04/05/17	04/05/17	217724	AZ53168

= Recovery is outside QC limits.

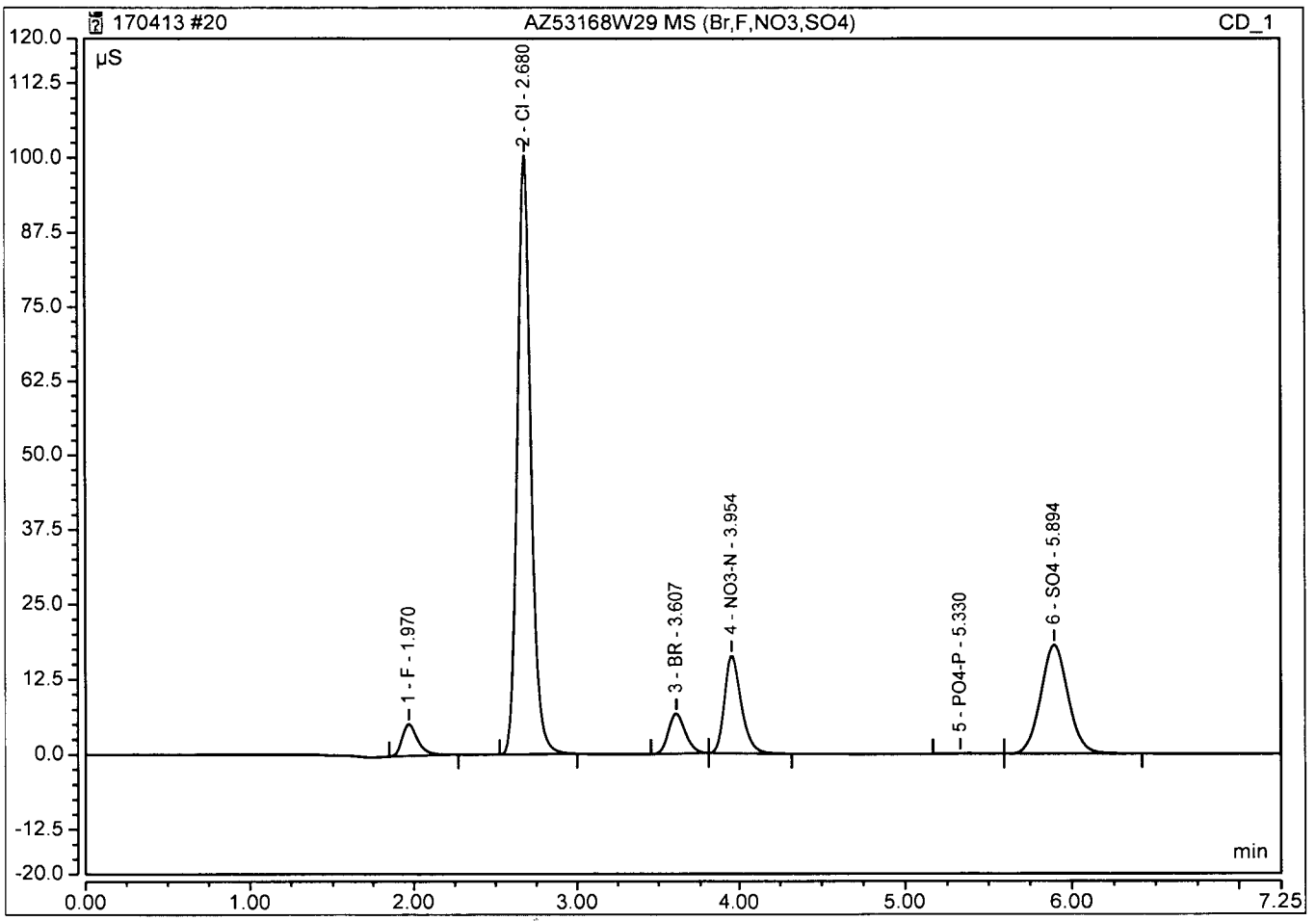
Comments:

Printed: 04/22/17 1:39:57 PM
APPL MSD SCII

Peak Integration Report

Sample Name:	**AZ53168W29 MS (Br,F,NO3,SO4)**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 10:46**	*Run Time:*	**7.25**

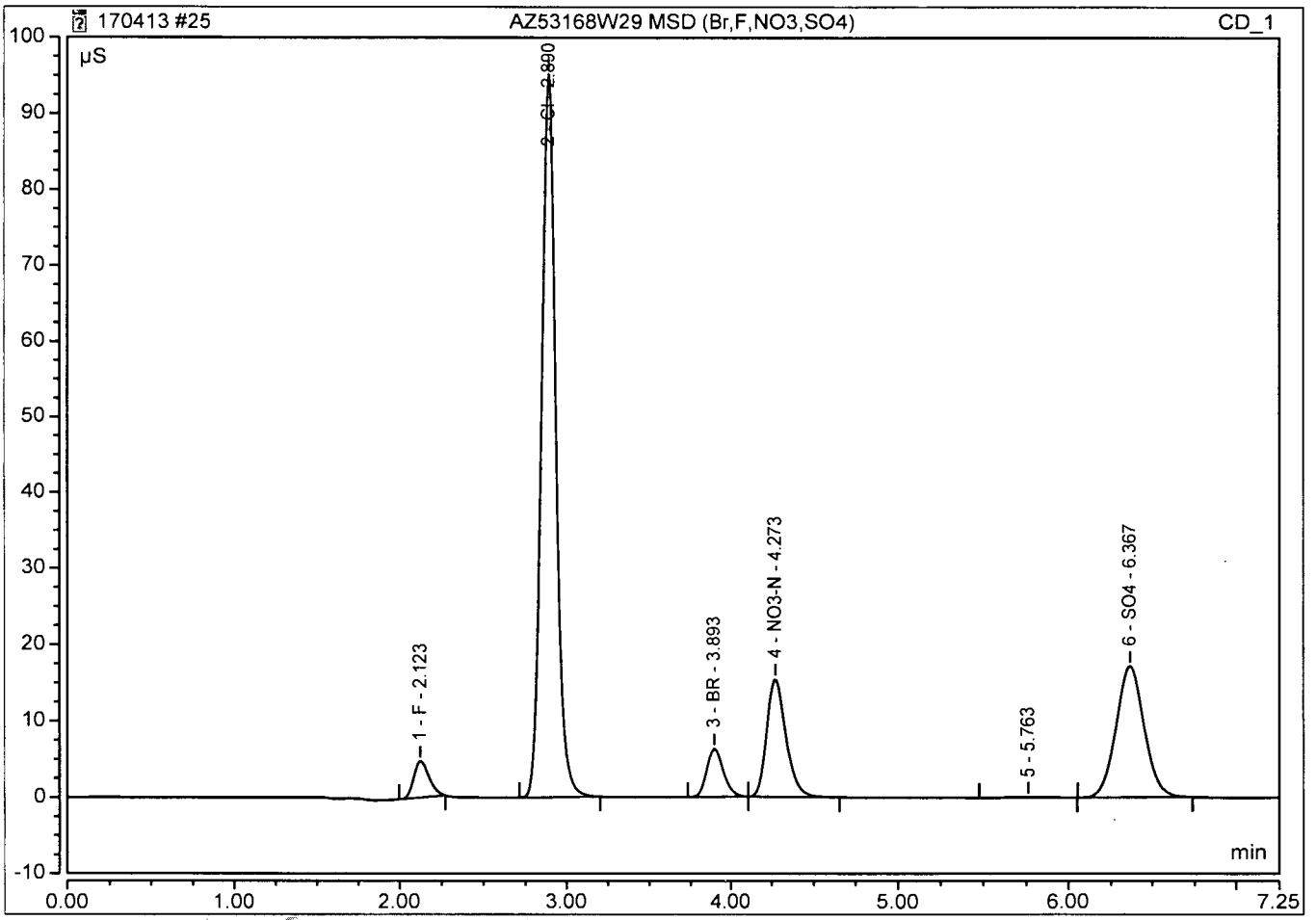
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	1.97	F	BMB	0.579	5.294	2.9121
2	2.68	Cl	BMB	9.627	100.330	54.3926
3	3.61	BR	BMB	0.775	6.661	12.3786
4	3.95	NO3-N	BMB	2.052	16.293	5.4789
5	5.33	PO4-P	BMB	0.015	0.066	0.2577
6	5.89	SO4	BMB	3.447	18.146	30.2819
		TOTAL:		16.49	146.79	105.70



Peak Integration Report

Sample Name:	**AZ53168W29 MSD (Br,F,NO3,SO4)**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 11:52**	*Run Time:*	**7.25**

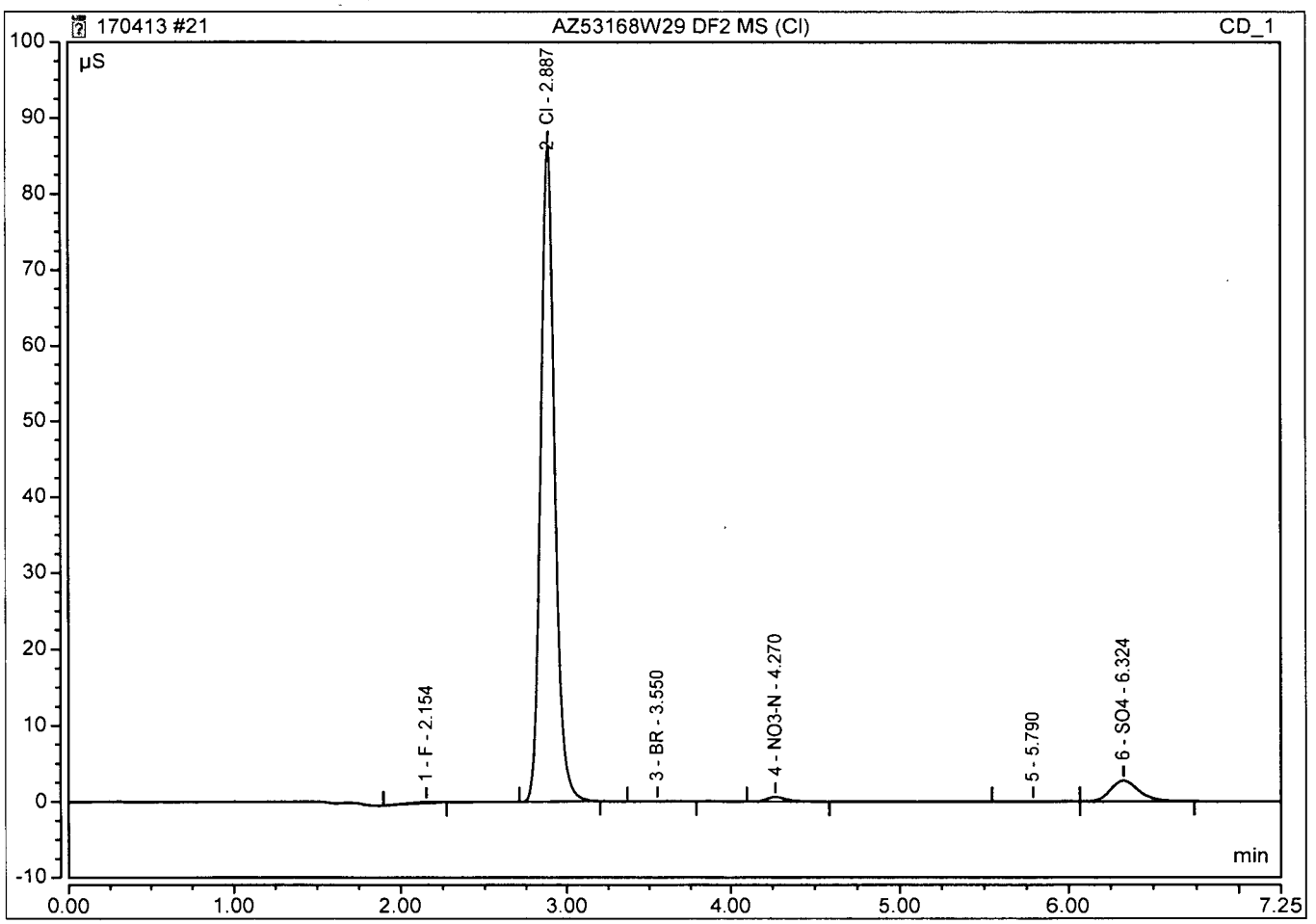
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.12	F	BMB	0.503	4.767	2.5343
2	2.89	Cl	BMB	9.557	95.151	54.0077
3	3.89	BR	BMB	0.776	6.333	12.3911
4	4.27	NO3-N	BMB	2.040	15.419	5.4478
6	6.37	SO4	BMB	3.382	17.170	29.7255
		TOTAL:		16.26	138.84	104.11



Peak Integration Report

Sample Name:	**AZ53168W29 DF2 MS (Cl)**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 10:59**	*Run Time:*	**7.25**

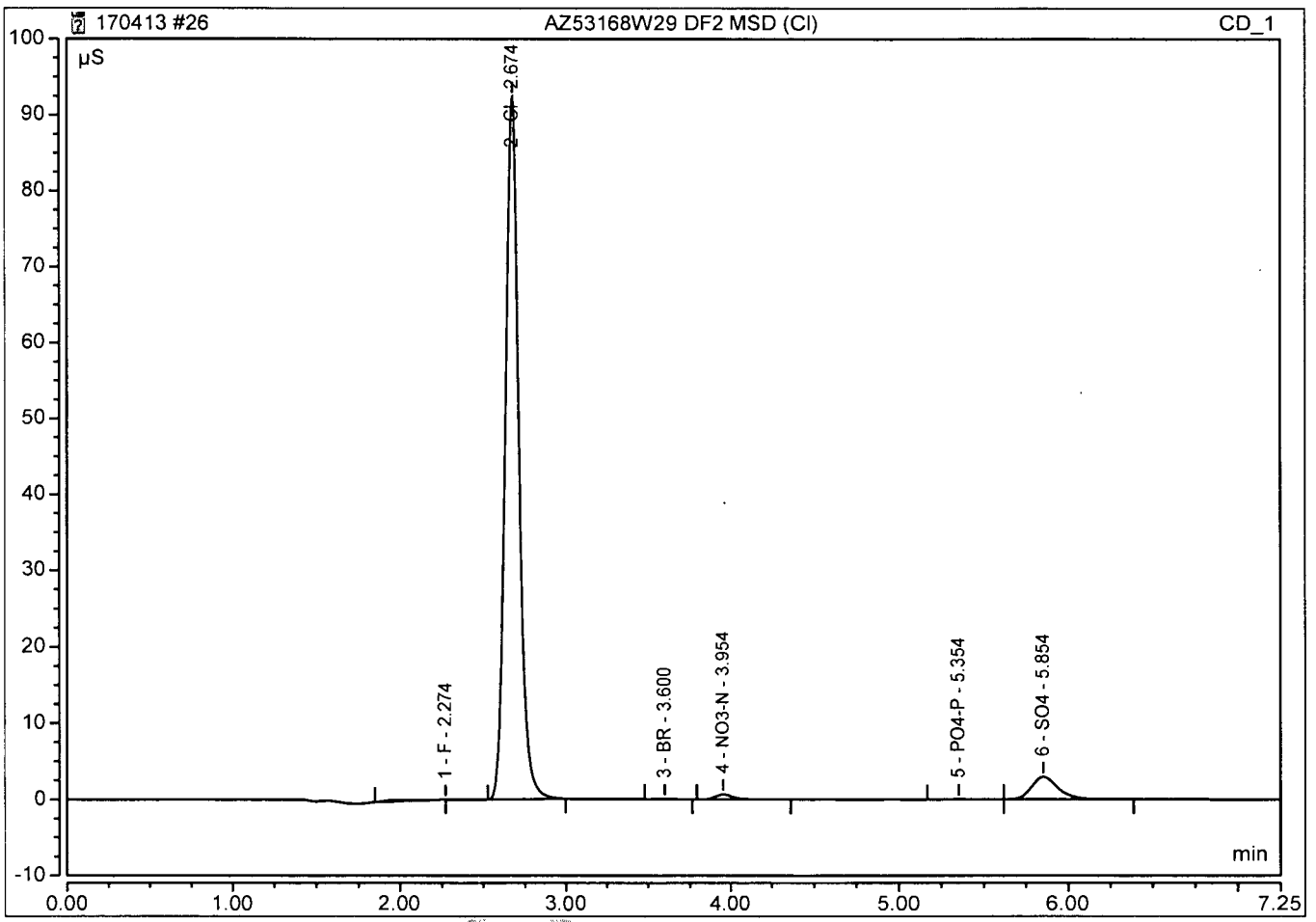
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.15	F	BMB	0.034	0.150	0.4294
2	2.89	Cl	BMB	8.583	86.269	97.2050
3	3.55	BR	BMB	0.007	0.029	0.6497
4	4.27	NO3-N	BMB	0.084	0.610	0.6952
6	6.32	SO4	BMB	0.524	2.743	10.1271
TOTAL:				9.23	89.80	109.11



Peak Integration Report

Sample Name:	**AZ53168W29 DF2 MSD (Cl)**	*Inj. Vol.:*	**25.00**
Injection Type:	**Unknown**	*Dilution Factor:*	**2.0000**
Program:	**Analytical Processing Method 170303 ND**	*Operator:*	**chemist_wetlab**
Inj. Date / Time:	**13-Apr-2017 / 12:05**	*Run Time:*	**7.25**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount mg/L
1	2.27	F	BMB	0.039	0.000	0.4722
2	2.67	Cl	BMB	8.676	92.384	98.2310
3	3.60	BR	BMB	0.005	0.046	0.5984
4	3.95	NO3-N	BMB	0.085	0.652	0.7015
5	5.35	PO4-P	BMB	0.011	0.048	0.4543
6	5.85	SO4	BMB	0.532	2.927	10.2682
		TOTAL:		9.35	96.06	110.73



SPECTROPHOTOMETRIC ANALYSIS (Ferrous Iron)

Method: SM3500Fe
Analyte: Ferrous Iron
Analyst: PW
Units: mg/L
QCG: 170405A
Notes:
Final Volume: 50mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 510nm
R-Squared: 0.99983
Reagent (lot#): COLORIZING REAGENT (4/4/17)
BUFFER (3/23/17)

Analyst Completes
Formula Locked Cells

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%	Row Complete
05/20/16	12:37	0 BB 5/20/16	1	0.000							
05/20/16	12:38	1	1	0.101							
05/20/16	12:39	2	1	0.201							
05/20/16	12:39	4	1	0.403							
05/20/16	12:40	5	1	0.512							
05/20/16	12:40	10	1	0.999							
05/20/16	12:41	160520A ICV 3.0	1	0.304	25mL		3.01	3.01	3.000	100.5%	#NAME?
05/20/16	12:42	160520A ICB	1	0.000	25mL		-0.02	-0.02			#NAME?
04/05/17	17:24	CCV 4.0 170405	1	0.377	25mL		3.74	3.743	4.000	93.6%	#NAME?
04/05/17	17:26	CCB 170405	1	-0.010	25mL		-0.12	-0.123			#NAME?
04/05/17	17:28	170405A LCS	1	0.275	25mL		2.72	2.724	3.000	90.8%	#NAME?
04/05/17	17:30	170405A LCSD	1	0.576	25mL		5.73	5.731	6.000	95.5%	#NAME?
04/05/17	17:34	AZ53168W30	1	0.009	25mL		0.07	0.067			#REF!
04/05/17	17:35	AZ53168W30 MS	1	0.270	25mL		2.67	2.674			#NAME?
04/05/17	17:37	AZ53168W30 MSD	1	0.279	25mL		2.76	2.764			
04/05/17	17:39	AZ53172W08	1	0.284	25mL		2.81	2.814			
04/05/17	17:44	AZ53174W08	1	0.072	25mL		0.70	0.696			
04/05/17	17:51	AZ53176W08	1	0.019	25mL		0.17	0.167			
04/05/17	17:52	AZ53178W08	1	0.011	25mL		0.09	0.087			
04/05/17	17:54	AZ53180W08	1	0.004	25mL		0.02	0.017			
04/05/17	17:56	CCV 4.0 170405	1	0.375	25mL		3.72	3.723	4.00	93.1%	
04/05/17	17:57	CCB 170405	1	-0.009	25mL		-0.11	-0.113			

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ53168W29 MSD	2017-04-07 16:46:17 UTC-7	Alkalinity	0.000	7.358	0.00	0.00	309.04	309.04	mg/L	25 mL	0.0210	170407A	AH
AZ53168W29 MS	2017-04-07 16:31:51 UTC-7	Alkalinity	0.000	7.304	0.00	0.00	306.77	306.77	mg/L	25 mL	0.0210	170407A	AH
AZ53168W29	2017-04-07 16:26:59 UTC-7	Alkalinity	0.000	1.606	0.00	0.00	67.45	67.45	mg/L	25 mL	0.0210	170407A	AH
170407A LCS	2017-04-07 14:39:21 UTC-7	Alkalinity	0.116	5.998	0.00	9.74	242.17	251.92	mg/L	25 mL	0.0210	170407A	AH
170407A Blk	2017-04-07 14:35:57 UTC-7	Alkalinity	0.000	0.044	0.00	0.00	1.85	1.85	mg/L	25 mL	0.0210	170407A	AH

SPECTROPHOTOMETRIC ANALYSIS (Silica)

Method: SM4500SiD
Analyte: Silica
Analyst: FJR
Units: mg/L
QCG: 170412A
Notes:
Final Volume: 25mL

Instrument: GENESYS 10UV
Raw Spec: abs. @ 410nm
R-Squared: 0.9997
Reagent (lot#): 1+1 HCL prep 11-15-16
Ammonium Molybdate prep 11-15-16
Oxalic Acid prep 11-15-16

Date	Time	APPL ID	DF	Raw Result	SubSample Amt	Raw BLK	Calc Conc	Result	QC True	QC%	Row Complete
04/12/17	13:05	0 4/12/17 FJR		0.000							
04/12/17	13:06	1		0.022							
04/12/17	13:07	2		0.043							
04/12/17	13:08	4		0.091							
04/12/17	13:09	10		0.229							
04/12/17	13:10	20		0.444							
04/12/17	13:11	170412 ICV 4	1	0.091	25mL		4.05	4.05	4.00	101.3%	*Yes*
04/12/17	13:12	ICB	1	-0.006	25mL		-0.30	-0.30			Yes
04/12/17	13:13	CCV1 10 170412	1	0.216	25mL		9.66	9.66	10.00	96.6%	Yes
04/12/17	13:14	CCB	1	-0.007	25mL		-0.34	-0.34			Yes
04/12/17	13:15	170412A BLK	1	-0.007	25mL		-0.34	-0.34			Yes
04/12/17	13:16	170412A 4 LCS	1	0.087	25mL		3.87	3.87	4.00	96.8%	Yes
04/12/17	13:17	170412A 4 LCSD	1	0.088	25mL		3.92	3.92	4.00	97.9%	Yes
04/12/17	13:18	AZ53168W24 TOTAL DF5	5	0.197	25ml		8.81	44.03			Yes
04/12/17	13:21	AZ53168W24 DUP TOTAL DF5	5	0.194	25ml		8.67	43.35			Yes
04/12/17	13:22	AZ53169W09 TOTAL DF5	5	0.232	25ml		10.37	51.87			Yes
04/12/17	13:23	AZ53170W08 TOTAL DF5	5	0.013	25ml		0.55	2.77			Yes
04/12/17	13:24	AZ53168W27 DISSOLVE DF5	5	0.211	25ml		9.43	47.16			Yes
04/12/17	13:25	AZ53168W27 DUP DISSOLVE DF5	5	0.208	25ml;		9.30	46.49			Yes
04/12/17	13:26	AZ53169W08 DISSOLVE DF5	5	0.210	25ml		9.39	46.94			Yes
04/12/17	13:27	AZ53170W09 DISSOLVE DF5	5	0.014	25ml		0.60	2.99			Yes
04/12/17	15:24	AZ53168W24 MS TOTAL DF5	5	0.285	25ml		12.75	63.76			Yes
04/12/17	15:25	AZ53168W24 MSD TOTAL DF5	5	0.287	25ml		12.84	64.21			Yes
04/12/17	15:26	AZ53168W27 MS DISSOLVE DF5	5	0.285			12.75	63.76			Yes
04/12/17	15:27	AZ53168W27 MSD DISSOLVE DF5	5	0.281			12.57	62.86			Yes
04/12/17	15:28	AZ53170W08 TOTAL	1	0.003			0.11	0.11			Yes
04/12/17	15:29	AZ53170W09 DISSOLVED	1	0.001			0.02	0.02			Yes
04/12/17	15:30	CCV2 4 170214	1	0.084			3.74	3.74	4.000	93.4%	Yes
04/12/17	15:31	CCB	1	-0.006			-0.30	-0.30			Yes

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

Curve Prep

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

METHOD 3500FeBc								
				ICAL #1	ICAL#2	ICAL #3 (CCV)	ICAL #4	ICAL #5
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL
Fe CCV Stock	200	5/20/16	5/20/17	0.25	0.5	1	1.25	2.5
Brought up w/ DI Water to final volume of (mL):				50	50	50	50	50
	Final Conc Fe (mg/L):			1	2	4	5	10
Standards are then carried through the sample prep procedure according to the SOP								

ICV (3.0 mg/L): 0.75 mL of ICV Stock (prep: 05/20/16) brought up to 50 mL with DI then carried through the sample prep procedure

Ferrous Iron Standard Prep

Stock Standard Prep:

Prep Date: 5/20/16
Exp Date: 5/20/17
Prep'd By: BB

CCV Stock (200 mg/L): 0.3502 g $Fe(NH_4)2(SO_4)_2*6H_2O$ EMD Lot #2013050298 up to 250 mL with DI

ICV Stock (200 mg/L): 0.3500 g $Fe(NH_4)2(SO_4)_2*6H_2O$ JT Baker Lot #0000068681 up to 250 mL with DI

QC Prep

Prep Date: 04/05/17
Exp Date: 04/06/17
Prep'd By: MM

CCV (4.0 mg/L): 0.500 mL of CCV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

LCS (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL DI then carried through sample prep procedure

MS/MSD (3.0 mg/L): 0.375 mL of ICV Stock (prep: 5/20/16) into 25 mL sample then carried through sample prep procedure

METHOD 300 / 9056		ANION STOCK					PW 03/03/17
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)	
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5	
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.25	50	
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.125	5	
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.625	25	
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.25	10	
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.25	10	
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.25	50	
Brought up with milipore water to Final Volume of:						25	

METHOD 300 / 9056		ANION ICV / LCS/MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Brought up with milipore water to Final Volume of:					25	

METHOD 300 / 9056			ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL #3	ICAL #4	ICAL #5	ICAL #6
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	7	10
Brought up w/ Milipore Water to final volume of (mL):				50	100	100	10	10	na
			Final Conc F (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Cl (mg/L):	0.4	1	5	10	35	50
			Final Conc NO2-N (mg/L):	0.04	0.1	0.5	1	3.5	5
			Final Conc Br (mg/L):	0.2	0.5	2.5	5	17.5	25
			Final Conc NO3-N (mg/L):	0.08	0.2	1	2	7	10
			Final Conc PO4-P (mg/L):	0.08	0.2	1	2	7	10
			Final Conc SO4 (mg/L):	0.4	1	5	10	35	50

Anion Prep

QCG: 170405A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056 — **ICV LCS MS**

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170406A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.0625	2.5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056 — **ICV LCS MS**

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Anion Prep

QCG: 170413A Analyst: PW

CCV

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
O2SI	F-	1,000	1085520-36282	07/24/17	0.125	5
O2SI	Cl-	5,000	1100539-37414	06/23/18	0.125	25
O2SI	NO2-N	1,000	1088548-36281	09/26/17	0.0625	2.5
Ultra Scientific	Br-	1,000	CP-3274-35926	08/31/20	0.3125	12.5
O2SI	NO3-N	1,000	1103559-37617	08/25/18	0.125	5
O2SI	PO4-P	1,000	1097292-37123	04/14/18	0.125	5
Ultra Scientific	SO4	5,000	CP-1469-36296	04/30/18	0.125	25
Brought up with milipore water to final volume of:					25	

METHOD 300 / 9056 — **ICV LCS MS**

Supplier		Conc. (mg/L)	Lot #	Expires	Volume (mL)	Final Conc (mg/L)
CPI	F-	1,000	16B115-36204	09/03/17	0.0625	2.50
CPI	Cl-	1,000	16I148-37395	06/27/18	0.500	20.00
CPI	NO2-N	304	15J001-36257	09/24/17	0.250	3.04
CPI	Br-	1,000	16H087-37320	06/15/18	0.3125	12.50
CPI	NO3-N	1,000	16e022-36783	12/30/17	0.125	5.00
CPI	PO4-P	1,000	15B116-36258	09/24/17	0.125	5.00
CPI	SO4	1,000	16H088-37185	05/02/18	0.500	20.00
Final Volume of Sample:					25	

Inorganic Spiking Solution

3.5002g $NaHCO_3$ BDH lot#1575C510
Final vol 500mL w/DI water
Prep: 03/14/17
Exp: 09/14/17
AH

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1N H_2SO_4 (prep 01/06/17 and 04/03/17)
Final vol 1L w/ DI water
Prep 04/03/17
Exp 01/06/18
AH 04/03/17

Silica Standard Prep

Spike Amount (uL)*	Final Volume (mL)	Final Concentration (ppm)
25	25	1
50	25	2
100 (CCV2)	25	4
250 (CCV1)	25	10
500	25	20

*Curve Spiked with 1000 ppm SiO_2 o2si lot 1098096-37186 (exp: 4/29/18)

ICV/LCS = 4ppm SiO_2
100 uL of 1000 ppm SiO_2 Ultra Scientific Lot P01064-32895 (exp: 11/30/19) brought up to 25mL with DI

MS = 4ppm SiO_2
100 uL of 1000 ppm SiO_2 Ultra Scientific Lot P01064-32895 (exp: 11/30/19) brought up to 25mL with sample

Prep: 4/12/17
Exp: 4/13/17
Initials: FJR

SM3500 Injection Log

Directory: I:\Spec Sheets\Ferrous Iron (Fe2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Apr 2017	17:24	CCV 4.0 170405		Upload Temp	1.
2	05 Apr 2017	17:26	CCB 170405		Upload Temp	1.
3	05 Apr 2017	17:28	170405A LCS		Upload Temp	1.
5	05 Apr 2017	17:34	AZ53168W30		Upload Temp	1.
6	05 Apr 2017	17:35	AZ53168W30 MS		Upload Temp	1.
7	05 Apr 2017	17:37	AZ53168W30 MSD		Upload Temp	1.
13	05 Apr 2017	17:56	CCV 4.0 170405		Upload Temp	1.
14	05 Apr 2017	17:57	CCB 170405		Upload Temp	1.
15	20 May 2016	12:37	0 BB 5/20/16		Upload Temp	1.
16	20 May 2016	12:38	1		Upload Temp	1.
17	20 May 2016	12:39	4		Upload Temp	1.
18	20 May 2016	12:39	2		Upload Temp	1.
19	20 May 2016	12:40	5		Upload Temp	1.
20	20 May 2016	12:40	10		Upload Temp	1.
21	20 May 2016	12:41	160520A ICV 3.0		Upload Temp	1.
22	20 May 2016	12:42	160520A ICB		Upload Temp	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
18	03 Mar 2017	14:10	ICAL 1 3/3/17		170303	1.
19	03 Mar 2017	14:23	ICAL 2 3/3/17		170303	1.
20	03 Mar 2017	14:37	ICAL 3 3/3/17		170303	1.
21	03 Mar 2017	14:50	ICAL 4 3/3/17		170303	1.
22	03 Mar 2017	15:04	ICAL 5 3/3/17		170303	1.
23	03 Mar 2017	15:17	ICAL 6 3/3/17		170303	1.
28	03 Mar 2017	16:51	ICV 170303		170303	1.
29	03 Mar 2017	17:04	ICB		170303	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
61	05 Apr 2017	19:47	CCV 170405		170405	1.
62	05 Apr 2017	20:01	CCB		170405	1.
63	05 Apr 2017	20:15	170405C LCS		170405	1.
70	05 Apr 2017	21:49	AZ53168W24		170405	1.
71	05 Apr 2017	22:03	AZ53169W08		170405	1.
72	05 Apr 2017	22:16	AZ53170W08		170405	1.
75	05 Apr 2017	22:57	CCV 170405		170405	1.
76	05 Apr 2017	23:11	CCB		170405	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
14	06 Apr 2017	09:52	CCV 170406		170406	1.
15	06 Apr 2017	10:05	CCB		170406	1.
16	06 Apr 2017	10:18	170406A LCS		170406	1.
18	06 Apr 2017	10:45	AZ53168W DF2		170406	2.
19	06 Apr 2017	10:58	AZ53169W DF2		170406	2.
28	06 Apr 2017	16:16	CCV 170406		170406	1.
29	06 Apr 2017	16:29	CCB		170406	1.

300/9056A Injection Log

Directory: I:\Dionex\Charlie\Anions\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	13 Apr 2017	06:33	CCV 170413		170413	1.
2	13 Apr 2017	06:46	CCB		170413	1.
20	13 Apr 2017	10:46	AZ53168W29 MS (Br,F,NO3,SO4)		170413	1.
21	13 Apr 2017	10:59	AZ53168W29 DF2 MS (Cl)		170413	2.
22	13 Apr 2017	11:12	CCV 170413		170413	1.
23	13 Apr 2017	11:26	CCB		170413	1.
25	13 Apr 2017	11:52	AZ53168W29 MSD (Br,F,NO3,SO4)		170413	1.
26	13 Apr 2017	12:05	AZ53168W29 DF2 MSD (Cl)		170413	2.
33	13 Apr 2017	17:15	CCV 170413		170413	1.
34	13 Apr 2017	17:28	CCB		170413	1.

370.1/SM4500 Injection Log

Directory: I:\Spec Sheets\Silica (SiO2)\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	12 Apr 2017	13:05	0 4/12/17 FJR		170411A	1.
2	12 Apr 2017	13:06	1		170411A	1.
3	12 Apr 2017	13:07	2		170411A	1.
4	12 Apr 2017	13:08	4		170411A	1.
5	12 Apr 2017	13:09	10		170411A	1.
6	12 Apr 2017	13:10	20		170411A	1.
7	12 Apr 2017	13:11	170412 ICV 4		170411A	1.
8	12 Apr 2017	13:12	ICB		170411A	1.
9	12 Apr 2017	13:13	CCV1 10 170412		170411A	1.
10	12 Apr 2017	13:14	CCB		170411A	1.
11	12 Apr 2017	13:15	170412A BLK		170411A	1.
12	12 Apr 2017	13:16	170412A 4 LCS		170411A	1.
14	12 Apr 2017	13:18	AZ53168W24 TOTAL DF5		170411A	5.
16	12 Apr 2017	13:22	AZ53169W09 TOTAL DF5		170411A	5.
18	12 Apr 2017	13:24	AZ53168W27 DISSOLVE DF5		170411A	5.
20	12 Apr 2017	13:26	AZ53169W08 DISSOLVE DF5		170411A	5.
22	12 Apr 2017	15:24	AZ53168W24 MS TOTAL DF5		170411A	5.
23	12 Apr 2017	15:25	AZ53168W24 MSD TOTAL DF5		170411A	5.
24	12 Apr 2017	15:26	AZ53168W27 MS DISSOLVE DF5		170411A	5.
25	12 Apr 2017	15:27	AZ53168W27 MSD DISSOLVE DF5		170411A	5.
26	12 Apr 2017	15:28	AZ53170W08 TOTAL		170411A	1.
27	12 Apr 2017	15:29	AZ53170W09 DISSOLVED		170411A	1.
28	12 Apr 2017	15:30	CCV2 4 170214		170411A	1.
29	12 Apr 2017	15:31	CCB		170411A	1.

310/SM2320B Injection Log

Directory: I:\Tiamo\EXPORT\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	07 Apr 2017	14:35	170407A Blk		170407A_AL	1.
2	07 Apr 2017	14:39	170407A LCS		170407A_AL	1.
13	07 Apr 2017	16:26	AZ53168W29		170407A_AL	1.
14	07 Apr 2017	16:31	AZ53168W29 MS		170407A_AL	1.
15	07 Apr 2017	16:46	AZ53168W29 MSD		170407A_AL	1.

Appendix C.3:
Data Validation Reports

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LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

March 13, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on February 24, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38165:

SDG #	Fraction
82117, 82121 82130, 82146	Volatiles, Phenol, Polynuclear Aromatic Hydrocarbons, 2-(2-Methoxyethoxy)-ethanol, Wet Chemistry, TPH as Gasoline, TPH as Extractables, Ethylene Dibromide, Methane

The data validation was performed under Level C & D validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, August 2016
- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i, Revision 01, November 2016
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC

Attachment 1

EDD 90/10

LDC #38165 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	BTEX 1,2-DCA (8260B)		3 PAHs (8270D -SIM)		Phenol (8270D)		2,2-MEE (8270D-M)		TPH-G (8260B)		TPH-E (8015B)		EDB (8011)		Methane (175)		Alk. (2320B)		Cl, NO_3,SO_4 (300.0)		Fe II (3500-Fe B)									
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	82117	02/24/17	03/17/17	5	0	3	0	3	0	3	0	5	0	3	0	-	-	2	0	1	0	1	0	1	0								
B	82121	02/24/17	03/17/17	10	0	5	0	5	0	5	0	9	0	5	0	2	0	6	0	3	0	3	0	3	0								
B	82121	02/24/17	03/17/17	3	0	2	0	2	0	2	0	3	0	2	0	1	0	2	0	1	0	1	0	1	0								
C	82130	02/24/17	03/17/17	7	0	4	0	4	0	4	0	7	0	4	0	-	-	6	0	3	0	3	0	3	0								
D	82146	02/24/17	03/17/17	8	0	3	0	3	0	3	0	6	0	3	0	-	-	6	0	3	0	3	0	3	0								
Total	T/SC			33	0	17	0	17	0	17	0	30	0	17	0	3	0	22	0	11	0	11	0	11	0	0	0	0	0	0	0	0	189

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38165ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH207	AZ49655	Water	02/06/17
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17
ERH246	AZ49659	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH207 and ERH246 were identified as trip blanks. No contaminants were found.

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A1
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration /closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1,5 EB = 3,4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH207 TB	AZ49655	Water	02/06/17
2	ERH208	AZ49656	Water	02/06/17
3	ERH244 EB	AZ49657	Water	02/03/17
4	ERH245 EB	AZ49658	Water	02/03/17
5	ERH246 TB	AZ49659	Water	02/03/17
6				
7				
8				
9				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A2a
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: P
2nd Reviewer: TC

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration /closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2, 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	LS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH208	AZ49656	Water	02/06/17
2	ERH244 EB	AZ49657	Water	02/03/17
3	ERH245 EB	AZ49658	Water	02/03/17
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Notes:

	170209A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methlynaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A2b
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / D	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / D	% RSD ≤ 15, r^2 ICV ≤ 20
IV.	Continuing calibration / closing cal	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2, 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH208	AZ49656	Water	02/06/17
2	ERH244	AZ49657	Water	02/03/17
3	ERH245	AZ49658	Water	02/03/17
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Notes:

TTT, W, S only

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A2c
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D ~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 2, 3
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH208	AZ49656	Water	02/06/17
2	ERH244	AZ49657	Water	02/03/17
3	ERH245	AZ49658	Water	02/03/17
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Notes:

	170209A						

LDC #: 38165A2 C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
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			( )	
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH208	AZ49656	Water	02/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Bicarbonate alkalinity Total alkalinity	1.7 mg/L 1.7 mg/L	All samples in SDG 82117
ICB/CCB	Bicarbonate alkalinity Total alkalinity	8.5 mg/L 8.5 mg/L	All samples in SDG 82117

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A6
SDG #: 82117
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3-7-17
Page: 1 of 1
Reviewer: MG
2nd Reviewer: M

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	client specified
VII.	Duplicate sample analysis	N	" "
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH208	AZ49656	Water	02/06/17
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15	PBW			

Notes:

LDC #: 38165A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Fe^{+2}
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 38165A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** all (>5x)

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qual's.										
Bicarbonate Alkalnity	1.7	8.5												
Total Alkalinity	1.7	8.5												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH207	AZ49655	Water	02/06/17
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17
ERH246	AZ49659	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH207 and ERH246 were identified as trip blanks. No contaminants were found.

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A7
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: R

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r^2 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 5 EB = 3, 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH207 TB	AZ49655	Water	02/06/17
2	ERH208	AZ49656	Water	02/06/17
3	ERH244 EB	AZ49657	Water	02/03/17
4	ERH245 EB	AZ49658	Water	02/03/17
5	ERH246 TB	AZ49659	Water	02/03/17
6				
7				
8				
9				

Notes:

	170208AM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH208	AZ49656	Water	02/06/17
ERH244	AZ49657	Water	02/03/17
ERH245	AZ49658	Water	02/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH244 and ERH245 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH244	02/03/17	Diesel (C10-C24)	20 ug/L	No associated samples in this SDG
ERH245	02/03/17	Diesel (C10-C24)	42 ug/L	No associated samples in this SDG

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A8
SDG #: 82117
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	
IV.	Laboratory Blanks	A	
V.	Field blanks	SW	EB = 2, 3
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	LCS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 −	ERH208	AZ49656	Water	02/06/17
2 +	ERH244 EB	AZ49657	Water	02/03/17
3 +	ERH245 EB	AZ49658	Water	02/03/17
4				
5				
6				
7				
8				
9				
10				
11				

Notes:

	170209 A						

LDC #: 38165A8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/3/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB
Associated Samples: None

Compound	Blank ID	Blank ID	Sample Identification							
	2									
Diesel	20									
(C10-C24)										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/3/17
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB
Associated Samples: None

Compound	Blank ID	Blank ID	Sample Identification							
	3									
↓	42									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82117

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH207	AZ49655	Water	02/06/17
ERH208	AZ49656	Water	02/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH207 were identified as a trip blank. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82117

No Sample Data Qualified in this SDG

LDC #: 38165A51

SDG #: 82117

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/3/17

Page: 1 of 1

Reviewer: FM

2nd Reviewer: JC

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r^2 ICV ≥ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Matrix spike/Matrix spike duplicates	N	MS
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH207 TB	AZ49655	Water	02/06/17
2	ERH208	AZ49656	Water	02/06/17
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

Notes:

	M0210A						

Red Hill Bulk Storage Facility, CTO 0053 - SDG 82117
LDC 38165

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH208	AZ49656	1	ALKALINITY, AS CACO3	2/6/2017 8:50:00 AM	2/11/2017 1:00:00 PM	C	79.3	MG_L		2.0	1.70		
ERH208	AZ49656	1	ALKALINITY, BICARBONATE	2/6/2017 8:50:00 AM	2/11/2017 1:00:00 PM	C	79.3	MG_L		2.0	1.70		
ERH208	AZ49656	1	ALKALINITY, CARBONATE	2/6/2017 8:50:00 AM	2/11/2017 1:00:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH208	AZ49656	2	CHLORIDE	2/6/2017 8:50:00 AM	2/7/2017 3:28:00 PM	C	84.1	MG_L	D	2.0	0.40		
ERH208	AZ49656	1	NITRATE	2/6/2017 8:50:00 AM	2/7/2017 2:19:00 PM	C	2.5	MG_L		0.5	0.18		
ERH208	AZ49656	1	SULFATE	2/6/2017 8:50:00 AM	2/7/2017 2:19:00 PM	C	10.3	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH208	AZ49656	1	IRON, FERROUS	2/6/2017 8:50:00 AM	2/7/2017 2:36:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH208	AZ49656	1	TPH-DIESEL RANGE	2/6/2017 8:50:00 AM	2/13/2017 10:13:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH208	AZ49656	1	TPH-OIL RANGE	2/6/2017 8:50:00 AM	2/13/2017 10:13:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH244	AZ49657	1	TPH-DIESEL RANGE	2/3/2017 7:55:00 AM	2/13/2017 10:33:00 PM	C	20	UG_L	JT4M	40.0	25.00	J	
ERH244	AZ49657	1	TPH-OIL RANGE	2/3/2017 7:55:00 AM	2/13/2017 10:33:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH245	AZ49658	1	TPH-DIESEL RANGE	2/3/2017 8:15:00 AM	2/13/2017 10:53:00 PM	C	42	UG_L	T3M	40.0	25.00		
ERH245	AZ49658	1	TPH-OIL RANGE	2/3/2017 8:15:00 AM	2/13/2017 10:53:00 PM	C	110	UG_L		40.0	40.00		
METHOD: **8260B**													
ERH207	AZ49655	1	BENZENE	2/6/2017 8:15:00 AM	2/8/2017 2:09:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH207	AZ49655	1	ETHYLBENZENE	2/6/2017 8:15:00 AM	2/8/2017 2:09:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH207	AZ49655	1	TOLUENE	2/6/2017 8:15:00 AM	2/8/2017 2:09:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH207	AZ49655	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 8:15:00 AM	2/8/2017 2:08:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH207	AZ49655	1	XYLENES, TOTAL	2/6/2017 8:15:00 AM	2/8/2017 2:09:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH208	AZ49656	1	BENZENE	2/6/2017 8:50:00 AM	2/8/2017 2:43:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH208	AZ49656	1	ETHYLBENZENE	2/6/2017 8:50:00 AM	2/8/2017 2:43:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH208	AZ49656	1	TOLUENE	2/6/2017 8:50:00 AM	2/8/2017 2:43:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH208	AZ49656	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 8:50:00 AM	2/8/2017 2:42:00 PM	C	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH208	AZ49656	1	XYLENES, TOTAL	2/6/2017 8:50:00 AM	2/8/2017 2:43:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH244	AZ49657	1	BENZENE	2/3/2017 7:55:00 AM	2/8/2017 3:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH244	AZ49657	1	ETHYLBENZENE	2/3/2017 7:55:00 AM	2/8/2017 3:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH244	AZ49657	1	TOLUENE	2/3/2017 7:55:00 AM	2/8/2017 3:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH244	AZ49657	1	TPH-GASOLINE RANGE C6-C10	2/3/2017 7:55:00 AM	2/8/2017 3:11:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH244	AZ49657	1	XYLENES, TOTAL	2/3/2017 7:55:00 AM	2/8/2017 3:12:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH245	AZ49658	1	BENZENE	2/3/2017 8:15:00 AM	2/8/2017 3:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH245	AZ49658	1	ETHYLBENZENE	2/3/2017 8:15:00 AM	2/8/2017 3:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH245	AZ49658	1	TOLUENE	2/3/2017 8:15:00 AM	2/8/2017 3:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH245	AZ49658	1	TPH-GASOLINE RANGE C6-C10	2/3/2017 8:15:00 AM	2/8/2017 3:39:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH245	AZ49658	1	XYLENES, TOTAL	2/3/2017 8:15:00 AM	2/8/2017 3:40:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH246	AZ49659	1	BENZENE	2/3/2017 7:50:00 AM	2/8/2017 4:08:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH246	AZ49659	1	ETHYLBENZENE	2/3/2017 7:50:00 AM	2/8/2017 4:08:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH246	AZ49659	1	TOLUENE	2/3/2017 7:50:00 AM	2/8/2017 4:08:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH246	AZ49659	1	TPH-GASOLINE RANGE C6-C10	2/3/2017 7:50:00 AM	2/8/2017 4:07:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH246	AZ49659	1	XYLENES, TOTAL	2/3/2017 7:50:00 AM	2/8/2017 4:08:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH208	AZ49656	1	2-(2-METHOXYETHOXY)-ETHANOL	2/6/2017 8:50:00 AM	2/14/2017 12:05:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH208	AZ49656	1	PHENOL	2/6/2017 8:50:00 AM	2/13/2017 2:26:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH244	AZ49657	1	2-(2-METHOXYETHOXY)-ETHANOL	2/3/2017 7:55:00 AM	2/14/2017 12:35:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH244	AZ49657	1	PHENOL	2/3/2017 7:55:00 AM	2/13/2017 2:56:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH245	AZ49658	1	2-(2-METHOXYETHOXY)-ETHANOL	2/3/2017 8:15:00 AM	2/14/2017 1:05:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH245	AZ49658	1	PHENOL	2/3/2017 8:15:00 AM	2/13/2017 3:26:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH208	AZ49656	1	1-METHYLNAPHTHALENE	2/6/2017 8:50:00 AM	2/15/2017 2:44:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH208	AZ49656	1	2-METHYLNAPHTHALENE	2/6/2017 8:50:00 AM	2/15/2017 2:44:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH208	AZ49656	1	NAPHTHALENE	2/6/2017 8:50:00 AM	2/15/2017 2:44:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH244	AZ49657	1	1-METHYLNAPHTHALENE	2/3/2017 7:55:00 AM	2/15/2017 4:55:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH244	AZ49657	1	2-METHYLNAPHTHALENE	2/3/2017 7:55:00 AM	2/15/2017 4:55:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH244	AZ49657	1	NAPHTHALENE	2/3/2017 7:55:00 AM	2/15/2017 4:55:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH245	AZ49658	1	1-METHYLNAPHTHALENE	2/3/2017 8:15:00 AM	2/15/2017 3:49:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH245	AZ49658	1	2-METHYLNAPHTHALENE	2/3/2017 8:15:00 AM	2/15/2017 3:49:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH245	AZ49658	1	NAPHTHALENE	2/3/2017 8:15:00 AM	2/15/2017 3:49:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH207	AZ49655	1	METHANE	2/6/2017 8:15:00 AM	2/10/2017 8:53:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH208	AZ49656	1	METHANE	2/6/2017 8:50:00 AM	2/10/2017 8:56:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH204	AZ49675	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH232	AZ49677	Water	02/06/17
ERH211	AZ49678	Water	02/07/17
ERH212**	AZ49679**	Water	02/07/17
ERH235	AZ49680	Water	02/07/17
ERH213	AZ49681	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH219	AZ49684	Water	02/06/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and 1,2-Dichloroethane by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH204, ERH211, ERH213, and ERH219 were identified as trip blanks. No contaminants were found.

Samples ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found.

Samples ERH232 and ERH235 were identified as ambient blanks. No contaminants were found.

Sample ERH228 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B1
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 2
Reviewer: FD
2nd Reviewer: R

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)
+ 1, 2 - Dichloroethane

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH229 (82130) TB = 2, 5, 8, 11
VII.	Surrogate spikes	A	= ERH245 (82117) AB = 4, 7
VIII.	Matrix spike/Matrix spike duplicates	A	FB = 10
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 3 12, 13
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID		Lab ID	Matrix	Date
1 2	ERH205**	D	AZ49674**	Water	02/06/17
2 1	ERH204	TB	AZ49675**	Water	02/06/17
3 1	ERH206**	D	AZ49676**	Water	02/06/17
4 1	ERH232	AB	AZ49677**	Water	02/06/17
5 1	ERH211	TB	AZ49678	Water	02/07/17
6 1	ERH212**	~~D~~ T	AZ49679	Water	02/07/17
7 1	ERH235	D+ AB	AZ49680	Water	02/07/17
8 1	ERH213	TB	AZ49681	Water	02/07/17
9 1	ERH214	R	AZ49682	Water	02/07/17
10 1	ERH228	FB	AZ49683	Water	02/07/17
11 1	ERH219	TB + 1, 2 DCA	AZ49684	Water	02/06/17
12 1	ERH220	D2 + 1, 2 DCA	AZ49685	Water	02/06/17
13 1	ERH221	D2 + 1, 2 DCA	AZ49686	Water	02/06/17

LDC #: 38165B1
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 2 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

	Client ID	Lab ID	Matrix	Date
14	ERH205MS	AZ49674MS	Water	02/06/17
15	↓ MSD	↓ MSD	↓	↓
16				
17				
18				
19				

Notes:

1	170209AM1						
2	170211AM						

LDC #: 38165B1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38165B1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: M

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38165B)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	1/27/2017	V (IS 1)	2.38	2.38	2.0530	2.0530	2.1	2.1
			EE (IS 2)	4.44	4.44	3.7520	3.7520	8.1	8.1

LDC #: 38165B)

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0209M06 CW	2/9/17	V (IS1)	2.0530	2.126	2.126	3.6	3.6
			EE (IS2)	3.7520	3.889	3.889	3.7	3.7
			(IS3)					
			(IS4)					
			(IS5)					
2	0211M19 CCV	2/1/17	V (IS1)	↓	2.201	2.201	7.2	7.2
			EE (IS2)		4.085	4.085	8.9	8.9
			(IS3)					
			(IS4)					
			(IS5)					
3			(IS1)					
			(IS2)					
			(IS3)					
			(IS4)					
			(IS5)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B 1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	24.73755	99.0	99.0	0
1,2-Dichloroethane-d4		23.85769	95.4	95.4	
Toluene-d8		25.51853	102	102	
Bromofluorobenzene		24.52947	98.1	98.1	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38165 B)

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration, SA = Spike added, SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 14 & 15

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene											
Trichloroethene											
Benzene	10.0	10.0	ND	9.42	9.17	94.2	94.2	91.7	91.7	2.7	2.7
Toluene	↓	↓	ND	9.21	9.02	92.1	92.1	90.2	90.2	2.1	2.1
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B)

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170211AM LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	10.0	NA	10.7	NA	107	107				
Toluene	↓	↓	10.5	↓	105	105	NA			
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170211AM LCS: ✓

Conc. = $\frac{266669 \ (25.0)}{302885 \ (2.0530)}$

= 10.7 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Phenol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH212	AZ49679	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B2a
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: R

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration /closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH229 (82130) FB = 5 = ERH245 (82117)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	
X.	Field duplicates	ND	D = 1,2 D = 6,7
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205** D	AZ49674**	Water	02/06/17
2	ERH206** D	AZ49676**	Water	02/06/17
3	ERH212	AZ49679	Water	02/07/17
4	ERH214	AZ49682	Water	02/07/17
5	ERH228 FB	AZ49683	Water	02/07/17
6	ERH220 D1	AZ49685	Water	02/06/17
7	ERH221 D1	AZ49686	Water	02/06/17
8	ERH205MS	AZ49674MS	Water	02/06/17
9	ERH205MSD	AZ49674MSD	Water	02/06/17
10				
11				
12	170209A			
13				

LDC #: 38165B2a

VALIDATION FINDINGS CHECKLIST

Reviewer: PA
2nd Reviewer: PA

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?		✓		
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38165B2a

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38165B2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	1/23/2017	A	1.948	1.948	1.927	1.927	5.20	5.20
	Yoda								

LDC #: 38165B2q

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0123Y137 CCV	2/13/17	Δ (1st IS)	1.927	2.086	2.086	8.3	8.3
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	93.458	52.89081	56.6	56.6	0
2-Fluorobiphenyl	↓	49.97753	53.5	53.5	↓
Terphenyl-d14	↓	60.57926	64.8	64.8	↓
Phenol-d5	186.916	53.36989	28.6	28.6	↓
2-Fluorophenol	↓	86.55352	46.3	46.3	↓
2,4,6-Tribromophenol	↓	115.38351	61.7	61.7	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38165B2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 8 + 9

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol	50	50	ND	19.5	19.1	39.0	39.0	38.2	38.2	2.1	2.1
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B29

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: DY

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170209A LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	50.0	NA	18.3	NA	36.6	36.6	NA	—		
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170209A - LCS

Conc. = $\frac{147625\ (40.0)\ (1)}{167743\ (1.927)\ (100)}$

= 18.3 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH212	AZ49679	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methlynaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B2b
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH229 (82130) FB=5 = ERH215 (~~82130~~ 82117) F7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1,2 D = 6,7
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205** D	AZ49674**	Water	02/06/17
2	ERH206** D	AZ49676**	Water	02/06/17
3	ERH212	AZ49679	Water	02/07/17
4	ERH214	AZ49682	Water	02/07/17
5	ERH228 FB	AZ49683	Water	02/07/17
6	ERH220 D	AZ49685	Water	02/06/17
7	ERH221 D	AZ49686	Water	02/06/17
8	ERH205MS	AZ49674MS	Water	02/06/17
9	ERH205MSD	AZ49674MSD	Water	02/06/17
10				
11	170209A1			
12				
13				

TTT, W + S only

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38165 B2b

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: FP
2nd Reviewer: A

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38165 B2b

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: E
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38165B26

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL Linus	2/14/2017	S (IS1)	1.145	1.145	1.026	1.026	5.60	5.60

LDC #: 38165B26

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0214L030	2/15/17	S (1st IS)	1.026	1.061	1.061	3.4	3.4
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B26

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	4.673	3.38393	72.4	72.4	0
2-Fluorobiphenyl	↓	3.12875	67.0	67.0	↓
Terphenyl-d14	↓	4.46322	95.5	95.5	↓
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38165 B2b

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration, SA = Spike added, SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 8 + 9

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene											
S	5.0	5.0	ND	3.61	3.40	72.2	72.2	68.0	68.0	6.0	6.0

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B2b

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170209A1 LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
S	5.0	NA	3.57	NA	71.4	71.4	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B25

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170209A1-LCS S

Conc. = $\frac{35131 \quad (2.5)}{23944 \quad (1.026)}$

= 3.57 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH212	AZ49679	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the MS/MSD and LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH205MS/MSD (ERH205**)	2-(2-Methoxyethoxy)-ethanol	25.1 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B2c
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D ~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	GC/MS Instrument performance check	Δ	
III.	Initial calibration/ICV	A / Δ	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CW	Δ	
V.	Laboratory Blanks	Δ	
VI.	Field blanks	ND	EB = ERH229 (82130)
VII.	Surrogate spikes	SW	= ERH245 (82117) FB = 5
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2 6, 7
XI.	Internal standards	Δ	
XII.	Compound quantitation RL/LOQ/LODs	Δ	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	Δ	Not reviewed for Level C validation.
XV.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205** D	AZ49674**	Water	02/06/17
2	ERH206** D	AZ49676**	Water	02/06/17
3	ERH212	AZ49679	Water	02/07/17
4	ERH214	AZ49682	Water	02/07/17
5	ERH228 FB	AZ49683	Water	02/07/17
6	ERH220 D1	AZ49685	Water	02/06/17
7	ERH221 D1	AZ49686	Water	02/06/17
8	ERH205MS	AZ49674MS	Water	02/06/17
9	ERH205MSD	AZ49674MSD	Water	02/06/17
10				
11				
12	170209 A			
13				

LDC #: 38165B2C

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: B
2nd Reviewer: C

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?			✓	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38165 B2C

VALIDATION FINDINGS CHECKLIST

Reviewer: FD
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	NA	✓		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	NA	✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38165 B2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
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			( )	
			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

LDC #: 38165B2C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? [illegible] E

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	8 + 9	*	( )	( )	25.1 (20)	1	J dit / A ND
			( )	( )	( )		
			( )	( )			
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
	*	2-(2-Methoxyethoxy)-Ethanol	( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 38165 B2C

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: GCMS 8270C D

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 400 std)	Recalculated (RRF400 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	12/20/2016	2-(2-Methoxyethoxy) Ethanol	0.2253	0.2253	0.2144	0.2144	9.90	9.90
	Yoda								

LDC #: 38165 B2 c

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	1220Y093 aev	2/14/17	2-(2-MEE) (1st IS)	0.2144	0.2536	0.2536	18	18
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B2C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 8 + 9

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
[redacted]	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene											
2-(2-MEE)	80.0	80.0	ND	35.9	27.9	44.9	44.9	34.9	34.9	25.1	25.1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B2C

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170209A LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
2-(2-MEE)	80.0	NA	86.8	NA	109	109	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B2C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170209A LCS 2-(2-MEE)

Conc. = $\frac{75065 \quad (40)}{161275 \quad (0.2144)}$

=

86.8 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Wet Chemistry

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH212	AZ49679	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH220	AZ49685	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH205**	Nitrate	49.83 hours	48 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Bicarbonate alkalinity Total alkalinity	1.7 mg/L 1.7 mg/L	All samples in SDG 82121
ICB/CCB	Bicarbonate alkalinity Total alkalinity	8.5 mg/L 8.5 mg/L	All samples in SDG 82121

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82121

Sample	Analyte	Flag	A or P	Reason (Code)
ERH205**	Nitrate	J (all detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B6
SDG #: 82121
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3-7-17
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level C validation.
XI	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205**	AZ49674**	Water	02/06/17
2	ERH212	AZ49679	Water	02/07/17
3	ERH214	AZ49682	Water	02/07/17
4	ERH220	AZ49685	Water	02/06/17
5	ERH205MS	AZ49674MS	Water	02/06/17
6	ERH205MSD	AZ49674MSD	Water	02/06/17
7				
8				
9				
10				
11				
12				
13				
14				
15	PBW			

Notes:

LDC #: 38165B6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 38165B6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: TC

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 38165B6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: M

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1→4	W	pH TDS (Cl) F (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ ClO4 (Fe+2)
QC 5,6	↓	pH TDS Cl F NO3 NO2 SO4 PO4 (ALK) CN- NH3 TKN TOC CR6+ ClO4 (Fe+2)
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____

Comments: _____

LDC #: 38165 B6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: MG
2nd reviewer: M

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:		300.0					
Parameters:		NO3					
Technical holding time:		48 hr					
Sample ID	**Sampling date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Qualifier**
1	09:50 2-6-17	11:40 2-8-17	(49.83 hr)				J/UJ/P (H)(det
			49.83				

LDC #: 38165B6

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** all (>5x)

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qual's.										
Bicarbonate Alkalnity	1.7	8.5												
Total Alkalinity	1.7	8.5												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 38165B6

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of Fe^{+2} was recalculated. Calibration date: 2-8-17

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte	Standard ID	Conc. Found (units)	Abs. True (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	Ferrous Iron	Blank	0 (mg/L)	0.000	r^2=0.9998278	r^2=0.9998278	Y
		Standard 1	1 ( )	0.101			
		Standard 2	2 ( )	0.201			
		Standard 3	4 ( )	0.403			
		Standard 4	5 ( )	0.512			
		Standard 5	10 ( )	0.999			
		Standard 6	–	–			
		Standard 7	–	–			
Calibration verification	Cl	1113 CCV	24.792 (mg/L)	25 (mg/L)	99.2	99.2	
Calibration verification	NO_3	1113 CCV	22.227 (mg/L)	22.1 (mg/L)	101	101	
Calibration verification	SO_4	1113 CCV	24.264 (mg/L)	25 (mg/L)	97.1	97.1	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: KC

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
1207 LCS	Laboratory control sample	Cl	18.72 (mg/L)	20.0 (mg/L)	93.6	93.5	Y
1218 5	Matrix spike sample	Fe^{+2}	(SSR-SR) 2.997 (mg/L)	3.00 (mg/L)	99.9	99.8	↓
1311 / 1325 5/6	Duplicate sample	Total Alk.	308.6 (mg/L)	306.8 (mg/L)	0.58	0.65	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 38165B6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

METHOD: Inorganics, Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, Cl reported with a positive detect were recalculated and verified using the following equation:

Concentration = $y = mx + b$
where
$m = 0.182$
$b = -0.094$
dil = 5x

Recalculation:

$$3.240 = 0.182\left(\frac{x}{5}\right) - 0.094$$

$$91.593 \text{ mg/L} = x$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	Cl	91.8	91.6	Y
		Bicarbonate Alk.	63.1	63.1	↓

Note: method SM3500Fe B is N.D. for Level D sample

RECALC.6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH204	AZ49675	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH232	AZ49677	Water	02/06/17
ERH211	AZ49678	Water	02/07/17
ERH212**	AZ49679**	Water	02/07/17
ERH213	AZ49681	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH219	AZ49684	Water	02/06/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH204, ERH211**, ERH213, and ERH219 were identified as trip blanks. No contaminants were found.

Samples ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 was identified as a field blank. No contaminants were found.

Sample ERH232 was identified as an ambient blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B7
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 2
Reviewer: EJ
2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r^2 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH229 (82130) TB = 2, 5, 7, 10
VII.	Surrogate spikes	A	= ERH245 (82117) AB = 4 FB = 9
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 3 11, 12
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205** D	AZ49674**	Water	02/06/17
2	ERH204 TB	AZ49675**	Water	02/06/17
3	ERH206** D	AZ49676**	Water	02/06/17
4	ERH232 AB	AZ49677	Water	02/06/17
5	ERH211 TB	AZ49678	Water	02/07/17
6	ERH212 **	AZ49679	Water	02/07/17
7	ERH213 TB	AZ49681	Water	02/07/17
8	ERH214	AZ49682	Water	02/07/17
9	ERH228 FB	AZ49683	Water	02/07/17
10	ERH219 TB	AZ49684	Water	02/06/17
11	ERH220 D,	AZ49685	Water	02/06/17
12	ERH221 D,	AZ49686	Water	02/06/17
13	ERH205MS	AZ49674MS	Water	02/06/17

LDC #: 38165B7

SDG #: 82121

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C/D

Date: 3/4/17

Page: 2 of 2

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

	Client ID	Lab ID	Matrix	Date
14	ERH205MSD	AZ49674MSD	Water	02/06/17
15				
16				
17				
18				
19				

Notes:

	170209AM						
	170211 AM						

LDC #: 38165B7

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: TC

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38165B7

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: K

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#: 38165B7
SDG#: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
2/11/2017	GCMS max	Gasoline Range Organics	1	9.185208435	0.8
			2	11.49207804	2
			3	16.01973661	4
			4	31.95935346	12
			5	57.83328654	24
			6	75.64906856	32
			7	93.27825228	40

Regression Output		*Reported*
Constant	*7.087886*	*7.090000*
Std Err of Y Est		
R Squared	*0.999752*	*1.000000*
Degrees of Freedom		
X Coefficient(s)	*2.141131*	*2.140000*
Std Err of Coef.		
Correlation Coefficient	*0.999876*	
Coefficient of Determination (r^2)	*0.999752*	*1.000000*

LDC#: 38165B7
SDG#: See cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
1/12/2017	GCMS max	Gasoline Range Organics	1	10.50456662	0.8
			2	12.15502692	2
			3	15.33295612	4
			4	26.69864099	12
			5	43.77055804	24
			6	56.31106762	32
			7	70.10922396	40

Regression Output		*Reported*
Constant	*8.995521*	*9.480000*
Std Err of Y Est		
R Squared	*0.998945*	*1.000000*
Degrees of Freedom		
X Coefficient(s)	*1.497503*	*1.490000*
Std Err of Coef.		
Correlation Coefficient	*0.999472*	
Coefficient of Determination (r^2)	*0.998945*	*1.000000*

LDC #: 38165B7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: ET
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0209M09 CCV	2/9/17	gasoline C_6-C_{10} (IS1)	300	294.89	294.89	1.7	1.7
			(IS2)					
			(IS3)					
			(IS4)					
			(IS5)					
2	0211M21 CCV	2/11/17	↓ (IS1)	300	288.1765	288.1765	3.9	3.9
			(IS2)					
			(IS3)					
			(IS4)					
			(IS5)					
3			(IS1)					
			(IS2)					
			(IS3)					
			(IS4)					
			(IS5)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene	25.0	24.52947	98.1	98.116	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38165B7

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration, SA = Spike added, SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 13 + 14

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
GRO ~~1,1-Dichloroethene~~	300	300	ND	259	261	86.3	86.3	87.0	87.0	0.77	0.77
Trichloroethene											
Benzene											
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B7

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170211AM

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Gasoline Range organics										
~~1,1-Dichloroethene~~	300	NA	288	NA	96.0	96.0	NA	—		
Trichloroethene										
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 17021IAM LCS - GRU

Conc. = $\frac{\left(\frac{9674370}{304524} - 7.09\right)(25.0)}{2.1400}$

= 288.0 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH206**	AZ49676**	Water	02/06/17
ERH212	AZ49679	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH228	AZ49683	Water	02/07/17
ERH220	AZ49685	Water	02/06/17
ERH221	AZ49686	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH229 (from SDG 82130) and ERH245 (from SDG 82117) were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH245	02/03/17	Diesel (C10-C24)	42 ug/L	ERH214

Sample ERH228 was identified as a field blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH205** and ERH206** and samples ERH220 and ERH221 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ERH220	ERH221	
Diesel (C10-C24)	26J	25J	4 (≤50)
Oil (C24-C40)	31J	28J	10 (≤50)

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B8
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	%RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	SW	EB = *ERH229 (82130)
VI.	Surrogate spikes	A	= ERH245 (82117)
VII.	Matrix spike/Matrix spike duplicates	A	*FB = 5
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = *1,2 D = 6,7
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XI.	Target compound identification	A	Not reviewed for Level C validation.
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID		Lab ID	Matrix	Date
1	ERH205**	D	AZ49674**	Water	02/06/17
2	ERH206**	D	AZ49676**	Water	02/06/17
3	ERH212		AZ49679	Water	02/07/17
4	ERH214		AZ49682	Water	02/07/17
5	ERH228	FB	AZ49683	Water	02/07/17
6	ERH220	D1	AZ49685	Water	02/06/17
7	ERH221	D1	AZ49686	Water	02/06/17
8	ERH205MS		AZ49674MS	Water	02/06/17
9	ERH205MSD		AZ49674MSD	Water	02/06/17
10					
11					
12					

Notes:

	170209A						

LDC #: 38165B8

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: K

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 38165B8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: TC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38165B8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 7
Reviewer: FT
2nd Reviewer: R

METHOD: ✓ **GC** __ **HPLC**

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

EB = ERH245
SDG 82117

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/27/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB

Associated Samples: 4 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	EB									
Diesel (C10-C24)	42									
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 38165B8

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer:
2nd Reviewer:

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicatet pairs?

Compound	Concentration (ug/L)		RPD (<50%)
	6	7	
Diesel (C10-C24)	26J	25J	4
Oil (C24-C40)	31J	28J	10

V:\FIELD DUPLICATES\38165B8.wpd

LDC #: 38165B8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=400)	Recalculated (CF4 std=400)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/7/2017	Diesel C10-C24)	1638880	1638880	1633526	1633526	1.3	1.3
	Apollo								

LDC #: 38165B8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: FT

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	CCV 213018	2/13/17	Diesel (C10 - C24)	1633530	1678500	1678500	2.8	2.8
2	CCV 213043	2/13/17	↓	↓	1647670	1647670	0.87	0.87
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: [illegible]

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
octacosane	/	40.0	34.714	86.8	86.8	0
o-Terphenyl	/	↓	30.345	75.9	75.9	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38165 B8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: ✓ GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100

Where SSC = Spiked sample concentration; SC = Sample concentration; SA = Spike added; MS = Matrix spike; MSD = Matrix spike duplicate

MS/MSD samples: 8 + 9

Compound		Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
		MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)											
Diesel (C10-C24)	(8015)	667	667	ND	471	469	70.6	70.6	703	70.3	0.43	0.43
Benzene	(8021B)											
Methane	(RSK-175)											
2,4-D	(8151)											
Dinoseb	(8151)											
Naphthalene	(8310)											
Anthracene	(8310)											
HMX	(8330)											
2,4,6-Trinitrotoluene	(8330)											
Phorate	(8141A)											
Malathion	(8141A)											
Formaldehyde	(8315A)											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: DC

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170209A LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (C10-24) (8015)	667	NA	479	NA	71.8	71.8	NA	—		
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170209A LCS Compound Name Diesel C10-C24

Concentration = 1173956102 (2) (1000) / 1633526 (2) (1500) =

479 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH219	AZ49684	Water	02/06/17
ERH220**	AZ49685**	Water	02/06/17
ERH221	AZ49686	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH219 was identified as a trip blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH220** and ERH221 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B10
SDG #: 82121
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/4/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC Ethylene Dibromide (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	Initial calibration/ICV	A / Δ	%RSD / ICV ≤ 20
III.	Continuing calibration	Δ	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Surrogate spikes	Δ	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2, 3
X.	Compound quantitation RL/LOQ/LODs	Δ	Not reviewed for Level C validation.
XI.	Target compound identification	Δ	Not reviewed for Level C validation.
XII.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH219 TB	AZ49684**	Water	02/06/17
2	ERH220 ** D	AZ49685	Water	02/06/17
3	ERH221 D	AZ49686	Water	02/06/17
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

	170210A						

LDC #: 38165 B1U

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: TC

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
III. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38165 B1D

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: TC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38165BJ0

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=0.5)	Recalculated (CF4 std=0.5)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	2/13/2017	EDB (DB-35MS)	619165	619165	674796	674796	13	13
	Herbie		EDB (DB-XLB)	1504976	1504976	1623388	1623388	14	14

LDC #: 38165B10

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound		Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	011130 ICV	2/13/17	EDB	DB-35MS	674796	662385	662385	1.8	1.8
			↓	DB-XLB	1623390	1472370	1472370	9.3	9.3
2									
3									
4									

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B10

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: DC

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1,3-Dibromopropane	DB 35MS	0.353	0.345	97.6	97.7	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38165B10

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170210A LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										
EDB	0.250	NA	0.253	NA	101	101				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B1U

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 190210A-LCS Compound Name EDB

Concentration = 336928 (1.01) / 674796 (2) =

= 0.252 ng/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Methane

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82121

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH205**	AZ49674**	Water	02/06/17
ERH204	AZ49675	Water	02/06/17
ERH211	AZ49678	Water	02/07/17
ERH212**	AZ49679**	Water	02/07/17
ERH213	AZ49681	Water	02/07/17
ERH214	AZ49682	Water	02/07/17
ERH219	AZ49684	Water	02/06/17
ERH220	AZ49685	Water	02/06/17
ERH205MS	AZ49674MS	Water	02/06/17
ERH205MSD	AZ49674MSD	Water	02/06/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH204, ERH211, ERH213, and ERH219 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

X. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82121

No Sample Data Qualified in this SDG

LDC #: 38165B51

SDG #: 82121

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C/D

Date: 3/4/17

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r² ICV ≤ 20
III.	Continuing calibration	A	CW ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 2, 3, 5, 7
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
X.	Target compound identification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH205**	AZ49674**	Water	02/06/17
2	ERH204** TB	AZ49675**	Water	02/06/17
3	ERH211** TB	AZ49678**	Water	02/07/17
4	ERH212 **	AZ49679	Water	02/07/17
5	ERH213 TB	AZ49681	Water	02/07/17
6	ERH214 **	AZ49682	Water	02/07/17
7	ERH219 TB	AZ49684	Water	02/06/17
8	ERH220	AZ49685	Water	02/06/17
9	ERH205MS	AZ49674MS	Water	02/06/17
10	ERH205MSD	AZ49674MSD	Water	02/06/17
11				
12				
13				

Notes:

	170210 A						

LDC #: 38165B5)

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: KC

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?	✓			
Were the RT windows properly established?	✓			
III. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 38165B5)

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: TC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38165B51
SDG#: all cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: PD
2nd Reviewer: M

Method: RSK 175

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
9/1/2016	Ints 7890	Methane	1	6703	0.9
			2	10209	1.8
			3	15515	5.1
			4	45792	13.33
			5	28664	26.7
			6	67137	66.75
			7	126422	106.8
			8	421052	320.4
			9	723824	667.5
			10	1454283	1335

Regression Output		*Reported*
Constant	*14373.549641*	*14400.00*
Std Err of Y Est		
R Squared	*0.997596*	*0.998000*
Degrees of Freedom		
X Coefficient(s)	*1083.161249*	*1083.00*
Std Err of Coef.		
Correlation Coefficient	*0.998797*	
Coefficient of Determination (r^2)	*0.997596*	*0.998000*

LDC #: 38165B5)

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	17021002 CCV	2/10/17	Methane	1335	1067	1067	20	20
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165 B5 1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100

Where SSC = Spiked sample concentration; SC = Sample concentration; SA = Spike added; MS = Matrix spike; MSD = Matrix spike duplicate

MS/MSD samples: 9 + 10

Compound		Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
		MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)											
Diesel	(8015)											
Benzene	(8021B)											
Methane	(RSK-175)	1340	1340	ND	1300	1290	97.4	97.0	96.6	96.5	0.77	0.77
2,4-D	(8151)				(1298.646)	(1293.622)						
Dinoseb	(8151)											
Naphthalene	(8310)											
Anthracene	(8310)											
HMX	(8330)											
2,4,6-Trinitrotoluene	(8330)											
Phorate	(8141A)											
Malathion	(8141A)											
Formaldehyde	(8315A)											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B51

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170210A LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)										
Benzene	(8021B)										
Methane	(RSK-175)	1340	NA	1070	NA	80.1	80.0	NA	—	—	
2,4-D	(8151)			(1067.61)							
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38165B5

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170210A-ICS Compound Name Methane

Concentration = (1170768 − 14400) / 1083.0 =

1067.74 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH205	AZ49674	1	ALKALINITY, AS CACO3	2/6/2017 9:50:00 AM	2/11/2017 1:06:00 PM	D	63.1	MG_L		2.0	1.70		
ERH205	AZ49674	1	ALKALINITY, BICARBONATE	2/6/2017 9:50:00 AM	2/11/2017 1:06:00 PM	D	63.1	MG_L		2.0	1.70		
ERH205	AZ49674	1	ALKALINITY, CARBONATE	2/6/2017 9:50:00 AM	2/11/2017 1:06:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
ERH212	AZ49679	1	ALKALINITY, AS CACO3	2/7/2017 10:20:00 AM	2/11/2017 1:39:00 PM	C	107	MG_L		2.0	1.70		
ERH212	AZ49679	1	ALKALINITY, BICARBONATE	2/7/2017 10:20:00 AM	2/11/2017 1:39:00 PM	C	107	MG_L		2.0	1.70		
ERH212	AZ49679	1	ALKALINITY, CARBONATE	2/7/2017 10:20:00 AM	2/11/2017 1:39:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH214	AZ49682	1	ALKALINITY, AS CACO3	2/7/2017 10:45:00 AM	2/11/2017 1:45:00 PM	C	50.7	MG_L		2.0	1.70		
ERH214	AZ49682	1	ALKALINITY, BICARBONATE	2/7/2017 10:45:00 AM	2/11/2017 1:45:00 PM	C	50.7	MG_L		2.0	1.70		
ERH214	AZ49682	1	ALKALINITY, CARBONATE	2/7/2017 10:45:00 AM	2/11/2017 1:45:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH220	AZ49685	1	ALKALINITY, AS CACO3	2/6/2017 12:45:00 PM	2/11/2017 1:50:00 PM	C	77.9	MG_L		2.0	1.70		
ERH220	AZ49685	1	ALKALINITY, BICARBONATE	2/6/2017 12:45:00 PM	2/11/2017 1:50:00 PM	C	77.9	MG_L		2.0	1.70		
ERH220	AZ49685	1	ALKALINITY, CARBONATE	2/6/2017 12:45:00 PM	2/11/2017 1:50:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH205	AZ49674	5	CHLORIDE	2/6/2017 9:50:00 AM	2/8/2017 2:33:00 PM	D	91.8	MG_L	D	5.0	1.00		
ERH205	AZ49674	1	NITRATE	2/6/2017 9:50:00 AM	2/8/2017 11:40:00 AM	D	2.5	MG_L		0.5	0.18	J	h
ERH205	AZ49674	1	SULFATE	2/6/2017 9:50:00 AM	2/8/2017 11:40:00 AM	D	14.8	MG_L		1.0	0.20		
ERH212	AZ49679	5	CHLORIDE	2/7/2017 10:20:00 AM	2/8/2017 3:27:00 PM	C	162	MG_L	D	5.0	1.00		
ERH212	AZ49679	1	NITRATE	2/7/2017 10:20:00 AM	2/8/2017 3:00:00 PM	C	4.2	MG_L		0.5	0.18		
ERH212	AZ49679	1	SULFATE	2/7/2017 10:20:00 AM	2/8/2017 3:00:00 PM	C	49.0	MG_L		1.0	0.20		
ERH214	AZ49682	5	CHLORIDE	2/7/2017 10:45:00 AM	2/8/2017 3:41:00 PM	C	91.1	MG_L	D	5.0	1.00		
ERH214	AZ49682	1	NITRATE	2/7/2017 10:45:00 AM	2/8/2017 3:14:00 PM	C	1.2	MG_L		0.5	0.18		
ERH214	AZ49682	1	SULFATE	2/7/2017 10:45:00 AM	2/8/2017 3:14:00 PM	C	28.6	MG_L		1.0	0.20		
ERH220	AZ49685	5	CHLORIDE	2/6/2017 12:45:00 PM	2/8/2017 2:46:00 PM	C	169	MG_L	D	5.0	1.00		
ERH220	AZ49685	1	NITRATE	2/6/2017 12:45:00 PM	2/8/2017 11:54:00 AM	C	2.3	MG_L		0.5	0.18		
ERH220	AZ49685	5	SULFATE	2/6/2017 12:45:00 PM	2/8/2017 2:46:00 PM	C	79.8	MG_L	D	5.0	1.00		
METHOD: **3500_FE_B**													

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **3500_FE_B**													
ERH205	AZ49674	1	IRON, FERROUS	2/6/2017 9:50:00 AM	2/8/2017 12:14:00 PM	D	0.32	MG_L	U	1.0	0.32	U	
ERH212	AZ49679	1	IRON, FERROUS	2/7/2017 10:20:00 AM	2/8/2017 12:15:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH214	AZ49682	1	IRON, FERROUS	2/7/2017 10:45:00 AM	2/8/2017 12:16:00 PM	C	1.8	MG_L		1.0	0.32		
ERH220	AZ49685	1	IRON, FERROUS	2/6/2017 12:45:00 PM	2/8/2017 12:17:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8011**													
ERH219	AZ49684	1	1,2-DIBROMOETHANE	2/6/2017 11:40:00 AM	2/13/2017 6:27:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH220	AZ49685	1	1,2-DIBROMOETHANE	2/6/2017 12:45:00 PM	2/13/2017 6:47:00 PM	D	0.020	UG_L	U	0.02	0.020	U	
ERH221	AZ49686	1	1,2-DIBROMOETHANE	2/6/2017 12:45:00 PM	2/13/2017 7:08:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH205	AZ49674	1	TPH-DIESEL RANGE	2/6/2017 9:50:00 AM	2/13/2017 11:54:00 PM	D	25.00	UG_L	U	40.0	25.00	U	
ERH205	AZ49674	1	TPH-OIL RANGE	2/6/2017 9:50:00 AM	2/13/2017 11:54:00 PM	D	40.00	UG_L	U	40.0	40.00	U	
ERH206	AZ49676	1	TPH-DIESEL RANGE	2/6/2017 9:50:00 AM	2/14/2017 1:36:00 AM	D	25.00	UG_L	U	40.0	25.00	U	
ERH206	AZ49676	1	TPH-OIL RANGE	2/6/2017 9:50:00 AM	2/14/2017 1:36:00 AM	D	40.00	UG_L	U	40.0	40.00	U	
ERH212	AZ49679	1	TPH-DIESEL RANGE	2/7/2017 10:20:00 AM	2/14/2017 1:57:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH212	AZ49679	1	TPH-OIL RANGE	2/7/2017 10:20:00 AM	2/14/2017 1:57:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH214	AZ49682	1	TPH-DIESEL RANGE	2/7/2017 10:45:00 AM	2/14/2017 2:17:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH214	AZ49682	1	TPH-OIL RANGE	2/7/2017 10:45:00 AM	2/14/2017 2:17:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH228	AZ49683	1	TPH-DIESEL RANGE	2/7/2017 9:15:00 AM	2/14/2017 2:37:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH228	AZ49683	1	TPH-OIL RANGE	2/7/2017 9:15:00 AM	2/14/2017 2:37:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH220	AZ49685	1	TPH-DIESEL RANGE	2/6/2017 12:45:00 PM	2/14/2017 2:58:00 AM	C	26	UG_L	JT3M	40.0	25.00	J	
ERH220	AZ49685	1	TPH-OIL RANGE	2/6/2017 12:45:00 PM	2/14/2017 2:58:00 AM	C	31	UG_L	J	40.0	40.00	J	
ERH221	AZ49686	1	TPH-DIESEL RANGE	2/6/2017 12:45:00 PM	2/14/2017 3:18:00 AM	C	25	UG_L	JT3M	40.0	25.00	J	
ERH221	AZ49686	1	TPH-OIL RANGE	2/6/2017 12:45:00 PM	2/14/2017 3:18:00 AM	C	28	UG_L	J	40.0	40.00	J	
METHOD: **8260B**													
ERH205	AZ49674	1	BENZENE	2/6/2017 9:50:00 AM	2/11/2017 10:17:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH205	AZ49674	1	ETHYLBENZENE	2/6/2017 9:50:00 AM	2/11/2017 10:17:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH205	AZ49674	1	TOLUENE	2/6/2017 9:50:00 AM	2/11/2017 10:17:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH205	AZ49674	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 9:50:00 AM	2/11/2017 10:18:00 PM	D	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH205	AZ49674	1	XYLENES, TOTAL	2/6/2017 9:50:00 AM	2/11/2017 10:17:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH204	AZ49675	1	BENZENE	2/6/2017 9:35:00 AM	2/9/2017 12:47:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH204	AZ49675	1	ETHYLBENZENE	2/6/2017 9:35:00 AM	2/9/2017 12:47:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH204	AZ49675	1	TOLUENE	2/6/2017 9:35:00 AM	2/9/2017 12:47:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH204	AZ49675	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 9:35:00 AM	2/9/2017 12:48:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH204	AZ49675	1	XYLENES, TOTAL	2/6/2017 9:35:00 AM	2/9/2017 12:47:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH206	AZ49676	1	BENZENE	2/6/2017 9:50:00 AM	2/9/2017 2:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH206	AZ49676	1	ETHYLBENZENE	2/6/2017 9:50:00 AM	2/9/2017 2:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH206	AZ49676	1	TOLUENE	2/6/2017 9:50:00 AM	2/9/2017 2:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH206	AZ49676	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 9:50:00 AM	2/9/2017 2:41:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH206	AZ49676	1	XYLENES, TOTAL	2/6/2017 9:50:00 AM	2/9/2017 2:42:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH232	AZ49677	1	BENZENE	2/6/2017 11:50:00 AM	2/9/2017 3:10:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH232	AZ49677	1	ETHYLBENZENE	2/6/2017 11:50:00 AM	2/9/2017 3:10:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH232	AZ49677	1	TOLUENE	2/6/2017 11:50:00 AM	2/9/2017 3:10:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH232	AZ49677	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 11:50:00 AM	2/9/2017 3:09:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH232	AZ49677	1	XYLENES, TOTAL	2/6/2017 11:50:00 AM	2/9/2017 3:10:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH211	AZ49678	1	BENZENE	2/7/2017 9:35:00 AM	2/9/2017 1:17:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH211	AZ49678	1	ETHYLBENZENE	2/7/2017 9:35:00 AM	2/9/2017 1:17:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH211	AZ49678	1	TOLUENE	2/7/2017 9:35:00 AM	2/9/2017 1:17:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH211	AZ49678	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 9:35:00 AM	2/9/2017 1:16:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH211	AZ49678	1	XYLENES, TOTAL	2/7/2017 9:35:00 AM	2/9/2017 1:17:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH212	AZ49679	1	BENZENE	2/7/2017 10:20:00 AM	2/9/2017 3:39:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH212	AZ49679	1	ETHYLBENZENE	2/7/2017 10:20:00 AM	2/9/2017 3:39:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH212	AZ49679	1	TOLUENE	2/7/2017 10:20:00 AM	2/9/2017 3:39:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH212	AZ49679	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 10:20:00 AM	2/9/2017 3:38:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH212	AZ49679	1	XYLENES, TOTAL	2/7/2017 10:20:00 AM	2/9/2017 3:39:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH235	AZ49680	1	BENZENE	2/7/2017 10:20:00 AM	2/9/2017 4:06:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH235	AZ49680	1	ETHYLBENZENE	2/7/2017 10:20:00 AM	2/9/2017 4:06:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH235	AZ49680	1	TOLUENE	2/7/2017 10:20:00 AM	2/9/2017 4:06:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH235	AZ49680	1	XYLENES, TOTAL	2/7/2017 10:20:00 AM	2/9/2017 4:06:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH213	AZ49681	1	BENZENE	2/7/2017 9:00:00 AM	2/9/2017 1:45:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH213	AZ49681	1	ETHYLBENZENE	2/7/2017 9:00:00 AM	2/9/2017 1:45:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH213	AZ49681	1	TOLUENE	2/7/2017 9:00:00 AM	2/9/2017 1:45:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH213	AZ49681	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 9:00:00 AM	2/9/2017 1:44:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH213	AZ49681	1	XYLENES, TOTAL	2/7/2017 9:00:00 AM	2/9/2017 1:45:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH214	AZ49682	1	BENZENE	2/7/2017 10:45:00 AM	2/9/2017 4:35:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH214	AZ49682	1	ETHYLBENZENE	2/7/2017 10:45:00 AM	2/9/2017 4:35:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH214	AZ49682	1	TOLUENE	2/7/2017 10:45:00 AM	2/9/2017 4:35:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH214	AZ49682	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 10:45:00 AM	2/9/2017 4:36:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH214	AZ49682	1	XYLENES, TOTAL	2/7/2017 10:45:00 AM	2/9/2017 4:35:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH228	AZ49683	1	BENZENE	2/7/2017 9:15:00 AM	2/9/2017 5:04:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH228	AZ49683	1	ETHYLBENZENE	2/7/2017 9:15:00 AM	2/9/2017 5:04:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH228	AZ49683	1	TOLUENE	2/7/2017 9:15:00 AM	2/9/2017 5:04:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH228	AZ49683	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 9:15:00 AM	2/9/2017 5:03:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH228	AZ49683	1	XYLENES, TOTAL	2/7/2017 9:15:00 AM	2/9/2017 5:04:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH219	AZ49684	1	1,2-DICHLOROETHANE	2/6/2017 11:40:00 AM	2/9/2017 2:13:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH219	AZ49684	1	BENZENE	2/6/2017 11:40:00 AM	2/9/2017 2:13:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH219	AZ49684	1	ETHYLBENZENE	2/6/2017 11:40:00 AM	2/9/2017 2:13:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH219	AZ49684	1	TOLUENE	2/6/2017 11:40:00 AM	2/9/2017 2:13:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH219	AZ49684	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 11:40:00 AM	2/9/2017 2:12:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH219	AZ49684	1	XYLENES, TOTAL	2/6/2017 11:40:00 AM	2/9/2017 2:13:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH220	AZ49685	1	1,2-DICHLOROETHANE	2/6/2017 12:45:00 PM	2/9/2017 5:31:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH220	AZ49685	1	BENZENE	2/6/2017 12:45:00 PM	2/9/2017 5:31:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH220	AZ49685	1	ETHYLBENZENE	2/6/2017 12:45:00 PM	2/9/2017 5:31:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH220	AZ49685	1	TOLUENE	2/6/2017 12:45:00 PM	2/9/2017 5:31:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH220	AZ49685	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 12:45:00 PM	2/9/2017 5:32:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH220	AZ49685	1	XYLENES, TOTAL	2/6/2017 12:45:00 PM	2/9/2017 5:31:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH221	AZ49686	1	1,2-DICHLOROETHANE	2/6/2017 12:45:00 PM	2/9/2017 6:01:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH221	AZ49686	1	BENZENE	2/6/2017 12:45:00 PM	2/9/2017 6:01:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH221	AZ49686	1	ETHYLBENZENE	2/6/2017 12:45:00 PM	2/9/2017 6:01:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH221	AZ49686	1	TOLUENE	2/6/2017 12:45:00 PM	2/9/2017 6:01:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH221	AZ49686	1	TPH-GASOLINE RANGE C6-C10	2/6/2017 12:45:00 PM	2/9/2017 6:00:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH221	AZ49686	1	XYLENES, TOTAL	2/6/2017 12:45:00 PM	2/9/2017 6:01:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH205	AZ49674	1	2-(2-METHOXYETHOXY)-ETHANOL	2/6/2017 9:50:00 AM	2/14/2017 2:36:00 PM	D	80.0	UG_L	U	100	80.0	U	
ERH205	AZ49674	1	PHENOL	2/6/2017 9:50:00 AM	2/13/2017 4:57:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH206	AZ49676	1	2-(2-METHOXYETHOXY)-ETHANOL	2/6/2017 9:50:00 AM	2/14/2017 3:06:00 PM	D	80.0	UG_L	U	100	80.0	U	
ERH206	AZ49676	1	PHENOL	2/6/2017 9:50:00 AM	2/13/2017 5:27:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH212	AZ49679	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 10:20:00 AM	2/14/2017 3:37:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH212	AZ49679	1	PHENOL	2/7/2017 10:20:00 AM	2/13/2017 5:57:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH214	AZ49682	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 10:45:00 AM	2/14/2017 4:07:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH214	AZ49682	1	PHENOL	2/7/2017 10:45:00 AM	2/13/2017 6:27:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH228	AZ49683	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 9:15:00 AM	2/14/2017 4:37:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH228	AZ49683	1	PHENOL	2/7/2017 9:15:00 AM	2/13/2017 6:57:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH220	AZ49685	1	2-(2-METHOXYETHOXY)-ETHANOL	2/6/2017 12:45:00 PM	2/14/2017 5:08:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH220	AZ49685	1	PHENOL	2/6/2017 12:45:00 PM	2/13/2017 7:27:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH221	AZ49686	1	2-(2-METHOXYETHOXY)-ETHANOL	2/6/2017 12:45:00 PM	2/14/2017 5:38:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH221	AZ49686	1	PHENOL	2/6/2017 12:45:00 PM	2/13/2017 7:57:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH205	AZ49674	1	1-METHYLNAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:00:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH205	AZ49674	1	2-METHYLNAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:00:00 PM	D	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH205	AZ49674	1	NAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:00:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH206	AZ49676	1	1-METHYLNAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:33:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH206	AZ49676	1	2-METHYLNAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:33:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH206	AZ49676	1	NAPHTHALENE	2/6/2017 9:50:00 AM	2/15/2017 6:33:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH212	AZ49679	1	1-METHYLNAPHTHALENE	2/7/2017 10:20:00 AM	2/15/2017 7:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH212	AZ49679	1	2-METHYLNAPHTHALENE	2/7/2017 10:20:00 AM	2/15/2017 7:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH212	AZ49679	1	NAPHTHALENE	2/7/2017 10:20:00 AM	2/15/2017 7:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH214	AZ49682	1	1-METHYLNAPHTHALENE	2/7/2017 10:45:00 AM	2/16/2017 4:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH214	AZ49682	1	2-METHYLNAPHTHALENE	2/7/2017 10:45:00 AM	2/16/2017 4:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH214	AZ49682	1	NAPHTHALENE	2/7/2017 10:45:00 AM	2/16/2017 4:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH228	AZ49683	1	1-METHYLNAPHTHALENE	2/7/2017 9:15:00 AM	2/16/2017 1:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH228	AZ49683	1	2-METHYLNAPHTHALENE	2/7/2017 9:15:00 AM	2/16/2017 1:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH228	AZ49683	1	NAPHTHALENE	2/7/2017 9:15:00 AM	2/16/2017 1:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH220	AZ49685	1	1-METHYLNAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 1:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH220	AZ49685	1	2-METHYLNAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 1:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH220	AZ49685	1	NAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 1:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH221	AZ49686	1	1-METHYLNAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 2:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH221	AZ49686	1	2-METHYLNAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 2:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH221	AZ49686	1	NAPHTHALENE	2/6/2017 12:45:00 PM	2/16/2017 2:06:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH205	AZ49674	1	METHANE	2/6/2017 9:50:00 AM	2/10/2017 9:00:00 AM	D	1.00	UG_L	U	5.0	1.00	U	
ERH204	AZ49675	1	METHANE	2/6/2017 9:35:00 AM	2/10/2017 9:26:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH211	AZ49678	1	METHANE	2/7/2017 9:35:00 AM	2/10/2017 9:29:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH212	AZ49679	1	METHANE	2/7/2017 10:20:00 AM	2/10/2017 9:32:00 AM	D	1.00	UG_L	U	5.0	1.00	U	
ERH213	AZ49681	1	METHANE	2/7/2017 9:00:00 AM	2/10/2017 9:36:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH214	AZ49682	1	METHANE	2/7/2017 10:45:00 AM	2/10/2017 9:40:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH219	AZ49684	1	METHANE	2/6/2017 11:40:00 AM	2/10/2017 9:43:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **RSK-175**													
ERH220	AZ49685	1	METHANE	2/6/2017 12:45:00 PM	2/10/2017 9:46:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH209	AZ49738	Water	02/08/17
ERH218	AZ49739	Water	02/08/17
ERH215	AZ49740	Water	02/07/17
ERH216	AZ49741	Water	02/07/17
ERH217	AZ49742	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH209, ERH215, and ERH217 were identified as trip blanks. No contaminants were found.

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C1
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 3, 5 EB = 7 ~~FB = ERH229~~
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH209 TB	AZ49738	Water	02/08/17
2	ERH218	AZ49739	Water	02/08/17
3	ERH215 TB	AZ49740	Water	02/07/17
4	ERH216	AZ49741	Water	02/07/17
5	ERH217 TB	AZ49742	Water	02/07/17
6	ERH210	AZ49743	Water	02/07/17
7	ERH229 EB	AZ49744	Water	02/07/17
8				
9				

Notes:

	170209AM						
	170213AM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH218	AZ49739	Water	02/08/17
ERH216	AZ49741	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C2a

SDG #: 82130

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/4/17

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4 ~~FB = ERH228 (82121)~~
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH218	AZ49739	Water	02/08/17
2	ERH216	AZ49741	Water	02/07/17
3	ERH210	AZ49743	Water	02/07/17
4	ERH229 EB	AZ49744	Water	02/07/17
5				
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7				
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Notes:

	170214A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH218	AZ49739	Water	02/08/17
ERH216	AZ49741	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C2b
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM) (TTT, W, S)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / Δ	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration / closing CCV	Δ	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4 ~~FB = ERH228 (82121)~~
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH218	AZ49739	Water	02/08/17
2	ERH216	AZ49741	Water	02/07/17
3	ERH210	AZ49743	Water	02/07/17
4	ERH229 EB	AZ49744	Water	02/07/17
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Notes:

	170213 Δ						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH218	AZ49739	Water	02/08/17
ERH216	AZ49741	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C2c
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D ~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	GC/MS Instrument performance check	Δ	
III.	Initial calibration/ICV	A / Δ	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	Δ	CCV ≤ 20
V.	Laboratory Blanks	Δ	
VI.	Field blanks	ND	EB = 4 ~~FB = ERH228 (82121)~~
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	Δ	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH218	AZ49739	Water	02/08/17
2	ERH216	AZ49741	Water	02/07/17
3	ERH210	AZ49743	Water	02/07/17
4	ERH229 EB	AZ49744	Water	02/07/17
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Notes:

	170209Δ						

LDC #: 38165 c2c

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
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			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH218	AZ49739	Water	02/08/17
ERH216	AZ49741	Water	02/07/17
ERH210	AZ49743	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Bicarbonate alkalinity Total alkalinity	1.9 mg/L 1.9 mg/L	All samples in SDG 82130
ICB/CCB	Bicarbonate alkalinity Total alkalinity	9.5 mg/L 9.5 mg/L	All samples in SDG 82130

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C6
SDG #: 82130
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3-7-17
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	client specified
VII.	Duplicate sample analysis	N	" "
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI	Overall assessment of data		

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH218	AZ49739	Water	02/08/17
2	ERH216	AZ49741	Water	02/07/17
3	ERH210	AZ49743	Water	02/07/17
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14	PBW1			
15	PBW2			

Notes:

LDC #: 38165C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: R

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1→3	W	pH TDS (Cl) F (NO3) NO2 (SO4) PO4 (ALK) CN- NH3 TKN TOC CR6+ ClO4 (Fe+2) ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____
		pH TDS Cl F NO3 NO2 SO4 PO4 ALK CN- NH3 TKN TOC CR6+ ClO4 ____ ____

Comments:

LDC #: 38165C6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** all (>5x)

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qual's.										
Bicarbonate Alkalnity	1.9	9.5												
Total Alkalinity	1.9	9.5												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH209	AZ49738	Water	02/08/17
ERH218	AZ49739	Water	02/08/17
ERH215	AZ49740	Water	02/07/17
ERH216	AZ49741	Water	02/07/17
ERH217	AZ49742	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH209, ERH215, and ERH217 were identified as trip blanks. No contaminants were found.

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C7
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1,3,5 EB = 7 ~~FB = 9~~
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH209 TB	AZ49738	Water	02/08/17
2	ERH218	AZ49739	Water	02/08/17
3	ERH215 TB	AZ49740	Water	02/07/17
4	ERH216	AZ49741	Water	02/07/17
5	ERH217 TB	AZ49742	Water	02/07/17
6	ERH210	AZ49743	Water	02/07/17
7	ERH229 EB	AZ49744	Water	02/07/17
8				
9				

Notes:

	170209AM						
	170213AM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH218	AZ49739	Water	02/08/17
ERH216	AZ49741	Water	02/07/17
ERH210	AZ49743	Water	02/07/17
ERH229	AZ49744	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH229 was identified as an equipment blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C8
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/Δ	
II.	Initial calibration/ICV	A/Δ	% RSD / ICV ≤ 20
III.	Continuing calibration	Δ	CCV ≤ 20
IV.	Laboratory Blanks	Δ	
V.	Field blanks	ND	EB = 4 ~~FB = ERH228 (SB121)~~ D
VI.	Surrogate spikes	Δ	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1 −	ERH218	AZ49739	Water	02/08/17
2 +	ERH216	AZ49741	Water	02/07/17
3 −	ERH210	AZ49743	Water	02/07/17
4 −	ERH229 EB	AZ49744	Water	02/07/17
5				
6				
7				
8				
9				
10				
11				

Notes:

	170214A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82130

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH209	AZ49738	Water	02/08/17
ERH218	AZ49739	Water	02/08/17
ERH215	AZ49740	Water	02/07/17
ERH216	AZ49741	Water	02/07/17
ERH217	AZ49742	Water	02/07/17
ERH210	AZ49743	Water	02/07/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H Holding times were exceeded.

S Surrogate recovery was outside QC limits.

C Calibration %RSD, r, r^2 or %D were noncompliant.

R Calibration RRF was <0.05.

B Presumed contamination from preparation (method blank).

L Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.

Q MS/MSD recovery was poor.

E MS/MSD or Duplicate RPD was high.

I Internal standard performance was unsatisfactory.

M Instrument Performance Check (BFB or DFTPP) was noncompliant.

T Presumed contamination from trip blank.

F Presumed contamination from FB or ER.

D The analysis with this flag should not be used because another more technically sound analysis is available.

P Instrument performance for pesticides was poor.

V Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH209, ERH215, and ERH217 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82130

No Sample Data Qualified in this SDG

LDC #: 38165C51
SDG #: 82130
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/5/17
Page: 1 of 1
Reviewer: PD
2nd Reviewer: M

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1, 3, 5
VI.	Matrix spike/Matrix spike duplicates	N	CS
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH209 TB	AZ49738	Water	02/08/17
2	ERH218	AZ49739	Water	02/08/17
3	ERH215 TB	AZ49740	Water	02/07/17
4	ERH216	AZ49741	Water	02/07/17
5	ERH217 TB	AZ49742	Water	02/07/17
6	ERH210	AZ49743	Water	02/07/17
7				
8				
9				
10				
11				
12				
13				

Notes:

	170212A						

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH218	AZ49739	1	ALKALINITY, AS CACO3	2/8/2017 8:35:00 AM	2/15/2017 10:48:00 AM	C	113	MG_L		2.0	1.70		
ERH218	AZ49739	1	ALKALINITY, BICARBONATE	2/8/2017 8:35:00 AM	2/15/2017 10:48:00 AM	C	113	MG_L		2.0	1.70		
ERH218	AZ49739	1	ALKALINITY, CARBONATE	2/8/2017 8:35:00 AM	2/15/2017 10:48:00 AM	C	1.70	MG_L	U	2.0	1.70	U	
ERH216	AZ49741	1	ALKALINITY, AS CACO3	2/7/2017 1:55:00 PM	2/15/2017 10:55:00 AM	C	193	MG_L		2.0	1.70		
ERH216	AZ49741	1	ALKALINITY, BICARBONATE	2/7/2017 1:55:00 PM	2/15/2017 10:55:00 AM	C	193	MG_L		2.0	1.70		
ERH216	AZ49741	1	ALKALINITY, CARBONATE	2/7/2017 1:55:00 PM	2/15/2017 10:55:00 AM	C	1.70	MG_L	U	2.0	1.70	U	
ERH210	AZ49743	1	ALKALINITY, AS CACO3	2/7/2017 3:25:00 PM	2/15/2017 11:06:00 AM	C	113	MG_L		2.0	1.70		
ERH210	AZ49743	1	ALKALINITY, BICARBONATE	2/7/2017 3:25:00 PM	2/15/2017 11:06:00 AM	C	113	MG_L		2.0	1.70		
ERH210	AZ49743	1	ALKALINITY, CARBONATE	2/7/2017 3:25:00 PM	2/15/2017 11:06:00 AM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH218	AZ49739	10	CHLORIDE	2/8/2017 8:35:00 AM	2/10/2017 10:39:00 AM	C	408	MG_L		10.0	2.00		
ERH218	AZ49739	2	NITRATE	2/8/2017 8:35:00 AM	2/9/2017 5:02:00 PM	C	3.7	MG_L		1.0	0.36		
ERH218	AZ49739	2	SULFATE	2/8/2017 8:35:00 AM	2/9/2017 5:02:00 PM	C	63.0	MG_L		2.0	0.40		
ERH216	AZ49741	1	CHLORIDE	2/7/2017 1:55:00 PM	2/9/2017 12:45:00 PM	C	39.9	MG_L		1.0	0.20		
ERH216	AZ49741	1	NITRATE	2/7/2017 1:55:00 PM	2/9/2017 12:45:00 PM	C	0.44	MG_L	J	0.5	0.18	J	
ERH216	AZ49741	1	SULFATE	2/7/2017 1:55:00 PM	2/9/2017 12:45:00 PM	C	1.0	MG_L		1.0	0.20		
ERH210	AZ49743	10	CHLORIDE	2/7/2017 3:25:00 PM	2/10/2017 10:53:00 AM	C	468	MG_L		10.0	2.00		
ERH210	AZ49743	2	NITRATE	2/7/2017 3:25:00 PM	2/9/2017 12:58:00 PM	C	3.0	MG_L		1.0	0.36		
ERH210	AZ49743	2	SULFATE	2/7/2017 3:25:00 PM	2/9/2017 12:58:00 PM	C	95.2	MG_L		2.0	0.40		
METHOD: **3500_FE_B**													
ERH218	AZ49739	1	IRON, FERROUS	2/8/2017 8:35:00 AM	2/9/2017 2:20:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH216	AZ49741	1	IRON, FERROUS	2/7/2017 1:55:00 PM	2/9/2017 2:21:00 PM	C	2.9	MG_L		1.0	0.32		
ERH210	AZ49743	1	IRON, FERROUS	2/7/2017 3:25:00 PM	2/9/2017 2:22:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH218	AZ49739	1	TPH-DIESEL RANGE	2/8/2017 8:35:00 AM	2/16/2017 12:42:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH218	AZ49739	1	TPH-OIL RANGE	2/8/2017 8:35:00 AM	2/16/2017 12:42:00 PM	C	40.00	UG_L	U	40.0	40.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8015B_E**													
ERH216	AZ49741	1	TPH-DIESEL RANGE	2/7/2017 1:55:00 PM	2/16/2017 1:03:00 PM	C	1000	UG_L	T6	40.0	25.00		
ERH216	AZ49741	1	TPH-OIL RANGE	2/7/2017 1:55:00 PM	2/16/2017 1:03:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH210	AZ49743	1	TPH-DIESEL RANGE	2/7/2017 3:25:00 PM	2/16/2017 1:23:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH210	AZ49743	1	TPH-OIL RANGE	2/7/2017 3:25:00 PM	2/16/2017 1:23:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH229	AZ49744	1	TPH-DIESEL RANGE	2/7/2017 12:45:00 PM	2/16/2017 1:44:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH229	AZ49744	1	TPH-OIL RANGE	2/7/2017 12:45:00 PM	2/16/2017 1:44:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH209	AZ49738	1	BENZENE	2/8/2017 7:15:00 AM	2/9/2017 6:29:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH209	AZ49738	1	ETHYLBENZENE	2/8/2017 7:15:00 AM	2/9/2017 6:29:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH209	AZ49738	1	TOLUENE	2/8/2017 7:15:00 AM	2/9/2017 6:29:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH209	AZ49738	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 7:15:00 AM	2/9/2017 6:28:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH209	AZ49738	1	XYLENES, TOTAL	2/8/2017 7:15:00 AM	2/9/2017 6:29:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH218	AZ49739	1	BENZENE	2/8/2017 8:35:00 AM	2/9/2017 6:57:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH218	AZ49739	1	ETHYLBENZENE	2/8/2017 8:35:00 AM	2/9/2017 6:57:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH218	AZ49739	1	TOLUENE	2/8/2017 8:35:00 AM	2/9/2017 6:57:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH218	AZ49739	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 8:35:00 AM	2/9/2017 6:58:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH218	AZ49739	1	XYLENES, TOTAL	2/8/2017 8:35:00 AM	2/9/2017 6:57:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH215	AZ49740	1	BENZENE	2/7/2017 1:10:00 PM	2/9/2017 7:26:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH215	AZ49740	1	ETHYLBENZENE	2/7/2017 1:10:00 PM	2/9/2017 7:26:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH215	AZ49740	1	TOLUENE	2/7/2017 1:10:00 PM	2/9/2017 7:26:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH215	AZ49740	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 1:10:00 PM	2/9/2017 7:25:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH215	AZ49740	1	XYLENES, TOTAL	2/7/2017 1:10:00 PM	2/9/2017 7:26:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH216	AZ49741	1	BENZENE	2/7/2017 1:55:00 PM	2/13/2017 5:32:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH216	AZ49741	1	ETHYLBENZENE	2/7/2017 1:55:00 PM	2/13/2017 5:32:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH216	AZ49741	1	TOLUENE	2/7/2017 1:55:00 PM	2/13/2017 5:32:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH216	AZ49741	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 1:55:00 PM	2/13/2017 5:31:00 PM	C	65	UG_L	G3D	20	18.0		
ERH216	AZ49741	1	XYLENES, TOTAL	2/7/2017 1:55:00 PM	2/13/2017 5:32:00 PM	C	0.23	UG_L	J	2.0	0.30	J	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH217	AZ49742	1	BENZENE	2/7/2017 12:35:00 PM	2/13/2017 4:05:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH217	AZ49742	1	ETHYLBENZENE	2/7/2017 12:35:00 PM	2/13/2017 4:05:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH217	AZ49742	1	TOLUENE	2/7/2017 12:35:00 PM	2/13/2017 4:05:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH217	AZ49742	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 12:35:00 PM	2/13/2017 4:06:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH217	AZ49742	1	XYLENES, TOTAL	2/7/2017 12:35:00 PM	2/13/2017 4:05:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH210	AZ49743	1	BENZENE	2/7/2017 3:25:00 PM	2/13/2017 4:34:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH210	AZ49743	1	ETHYLBENZENE	2/7/2017 3:25:00 PM	2/13/2017 4:34:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH210	AZ49743	1	TOLUENE	2/7/2017 3:25:00 PM	2/13/2017 4:34:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH210	AZ49743	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 3:25:00 PM	2/13/2017 4:35:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH210	AZ49743	1	XYLENES, TOTAL	2/7/2017 3:25:00 PM	2/13/2017 4:34:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH229	AZ49744	1	BENZENE	2/7/2017 12:45:00 PM	2/13/2017 5:03:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH229	AZ49744	1	ETHYLBENZENE	2/7/2017 12:45:00 PM	2/13/2017 5:03:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH229	AZ49744	1	TOLUENE	2/7/2017 12:45:00 PM	2/13/2017 5:03:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH229	AZ49744	1	TPH-GASOLINE RANGE C6-C10	2/7/2017 12:45:00 PM	2/13/2017 5:02:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH229	AZ49744	1	XYLENES, TOTAL	2/7/2017 12:45:00 PM	2/13/2017 5:03:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH218	AZ49739	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 8:35:00 AM	2/14/2017 6:08:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH218	AZ49739	1	PHENOL	2/8/2017 8:35:00 AM	2/15/2017 1:03:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH216	AZ49741	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 1:55:00 PM	2/14/2017 6:38:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH216	AZ49741	1	PHENOL	2/7/2017 1:55:00 PM	2/15/2017 1:34:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH210	AZ49743	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 3:25:00 PM	2/14/2017 7:08:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH210	AZ49743	1	PHENOL	2/7/2017 3:25:00 PM	2/15/2017 2:04:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH229	AZ49744	1	2-(2-METHOXYETHOXY)-ETHANOL	2/7/2017 12:45:00 PM	2/14/2017 7:38:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH229	AZ49744	1	PHENOL	2/7/2017 12:45:00 PM	2/15/2017 2:35:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH218	AZ49739	1	1-METHYLNAPHTHALENE	2/8/2017 8:35:00 AM	2/16/2017 9:16:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH218	AZ49739	1	2-METHYLNAPHTHALENE	2/8/2017 8:35:00 AM	2/16/2017 9:16:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH218	AZ49739	1	NAPHTHALENE	2/8/2017 8:35:00 AM	2/16/2017 9:16:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH216	AZ49741	1	1-METHYLNAPHTHALENE	2/7/2017 1:55:00 PM	2/16/2017 9:49:00 PM	C	22	UG_L		0.2	0.10		
ERH216	AZ49741	1	2-METHYLNAPHTHALENE	2/7/2017 1:55:00 PM	2/16/2017 9:49:00 PM	C	16	UG_L		0.2	0.10		
ERH216	AZ49741	1	NAPHTHALENE	2/7/2017 1:55:00 PM	2/16/2017 9:49:00 PM	C	57	UG_L		0.2	0.10		
ERH210	AZ49743	1	1-METHYLNAPHTHALENE	2/7/2017 3:25:00 PM	2/16/2017 10:21:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH210	AZ49743	1	2-METHYLNAPHTHALENE	2/7/2017 3:25:00 PM	2/16/2017 10:21:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH210	AZ49743	1	NAPHTHALENE	2/7/2017 3:25:00 PM	2/16/2017 10:21:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH229	AZ49744	1	1-METHYLNAPHTHALENE	2/7/2017 12:45:00 PM	2/16/2017 10:54:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH229	AZ49744	1	2-METHYLNAPHTHALENE	2/7/2017 12:45:00 PM	2/16/2017 10:54:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH229	AZ49744	1	NAPHTHALENE	2/7/2017 12:45:00 PM	2/16/2017 10:54:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH209	AZ49738	1	METHANE	2/8/2017 7:15:00 AM	2/12/2017 10:29:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH218	AZ49739	1	METHANE	2/8/2017 8:35:00 AM	2/12/2017 10:35:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH215	AZ49740	1	METHANE	2/7/2017 1:10:00 PM	2/12/2017 10:39:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH216	AZ49741	50	METHANE	2/7/2017 1:55:00 PM	2/12/2017 10:49:00 AM	C	16000	UG_L		250.0	50.00		
ERH217	AZ49742	1	METHANE	2/7/2017 12:35:00 PM	2/12/2017 10:54:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH210	AZ49743	1	METHANE	2/7/2017 3:25:00 PM	2/12/2017 10:59:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH230	AZ49856	Water	02/08/17
ERH231	AZ49857	Water	02/08/17
ERH243	AZ49858	Water	02/08/17
ERH226	AZ49859	Water	02/09/17
ERH227	AZ49860	Water	02/09/17
ERH222	AZ49861	Water	02/08/17
ERH223	AZ49862	Water	02/08/17
ERH240	AZ49863	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH230, ERH226, and ERH222 were identified as trip blanks. No contaminants were found.

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

Samples ERH243 and ERH240 were identified as ambient blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D1
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A + A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH229 (82130) TB = 1,4,6 AB = 3, ~~5~~
VII.	Surrogate spikes	A	= ERH245, ERH244 (82117)
VIII.	Matrix spike/Matrix spike duplicates	N	cs FB = ERH228 (82121)
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

AB = Ambient Blank

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH230 TB	AZ49856	Water	02/08/17
2	ERH231	AZ49857	Water	02/08/17
3	ERH243 AB	AZ49858	Water	02/08/17
4	ERH226 TB	AZ49859	Water	02/09/17
5	ERH227	AZ49860	Water	02/09/17
6	ERH222 TB	AZ49861	Water	02/08/17
7	ERH223	AZ49862	Water	02/08/17
8	ERH240 AB	AZ49863	Water	02/08/17
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12	170213BM			
13				

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH231	AZ49857	Water	02/08/17
ERH227	AZ49860	Water	02/09/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D2a
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH245, ERH244 (82117)
VII.	Surrogate spikes	A	↓ = ERH229 (82130) FB = ERH228 (82121)
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH231	AZ49857	Water	02/08/17
2	ERH227	AZ49860	Water	02/09/17
3	ERH223	AZ49862	Water	02/08/17
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Notes:

	170214A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH231	AZ49857	Water	02/08/17
ERH227	AZ49860	Water	02/09/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methlynaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D2b
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: A

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH245, ERH244 (82146 17)
VII.	Surrogate spikes	A	= ERH229 (82130) FB = ERH228 (82121)
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH231	AZ49857	Water	02/08/17
2	ERH227	AZ49860	Water	02/09/17
3	ERH223	AZ49862	Water	02/08/17
4				
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Notes:

	170213A						

TTT, W, S only

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH231	AZ49857	Water	02/08/17
ERH227	AZ49860	Water	02/09/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D2c
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/6/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D ~~SIM~~ Modified)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH245, ERH244 (82146)
VII.	Surrogate spikes	SW	↓ = ERH229 (82130) FB = ERH228 (82121)
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH231	AZ49857	Water	02/08/17
2	ERH227	AZ49860	Water	02/09/17
3	ERH223	AZ49862	Water	02/08/17
4				
5				
6				
7				
8				
9				

Notes:

	170214A						

LDC #: 38165D2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH231	AZ49857	Water	02/08/17
ERH227	AZ49860	Water	02/09/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH223	Nitrate	52.18 hours	48 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Bicarbonate alkalinity Total alkalinity	1.9 mg/L 1.9 mg/L	All samples in SDG 82146
ICB/CCB	Bicarbonate alkalinity Total alkalinity	9.5 mg/L 9.5 mg/L	All samples in SDG 82146

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82146

Sample	Analyte	Flag	A or P	Reason (Code)
ERH223	Nitrate	J (all detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D6

SDG #: 82146

Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3-7-17

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	client specified
VII.	Duplicate sample analysis	N	" "
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH231	AZ49857	Water	02/08/17
2	ERH227	AZ49860	Water	02/09/17
3	ERH223	AZ49862	Water	02/08/17
4				
5				
6				
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9				
10				
11				
12				
13				
14	PBW1			
15	PBW2			

Notes:

LDC #: 38165D6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1 → 3	W	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Fe^{+2}
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4

Comments:

LDC #: 38165D6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: MG
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:		300.0					
Parameters:		NO3					
Technical holding time:		48 hr					
Sample ID	**Sampling date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Qualifier**
3	10:10 2-8-17	14:21 2-10-17	(52.18 hr.)				J/UJ/P (H)(det.

HT.6

LDC #: 38165D6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer: AC

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** all (>5x)

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qual's.										
Bicarbonate Alkalnity	1.9	9.5												
Total Alkalinity	1.9	9.5												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 6, 2017

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH230	AZ49856	Water	02/08/17
ERH231	AZ49857	Water	02/08/17
ERH226	AZ49859	Water	02/09/17
ERH227	AZ49860	Water	02/09/17
ERH222	AZ49861	Water	02/08/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Gasoline by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH230, ERH226, and ERH222 were identified as trip blanks. No contaminants were found.

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117) were identified as equipment blanks. No contaminants were found.

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Gasoline - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D7
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	GC/MS Instrument performance check	Δ	
III.	Initial calibration/ICV	Δ / Δ	r 2 ICV ≤ 20
IV.	Continuing calibration	Δ	CCV ≤ 20
V.	Laboratory Blanks	Δ	EB = ERH229 (82130)
VI.	Field blanks	ND	EB = ERH245, ERH244 (82117) TB = 1, 3, 5, FB = ERH228 (82121)
VII.	Surrogate spikes	Δ	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	Δ	LCS
X.	Field duplicates	N	
XI.	Internal standards	Δ	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH230	AZ49856	Water	02/08/17
2	ERH231	AZ49857	Water	02/08/17
3	ERH226	AZ49859	Water	02/09/17
4	ERH227	AZ49860	Water	02/09/17
5	ERH222	AZ49861	Water	02/08/17
6	ERH223	AZ49862	Water	02/08/17
7				
8				
9				

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 7, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH231	AZ49857	Water	02/08/17
ERH227	AZ49860	Water	02/09/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH229 (from SDG 82130), ERH244, and ERH245 (both from SDG 82117), and were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH244	02/03/17	Diesel (C10-C24)	20 ug/L	ERH223
ERH245	02/03/17	Diesel (C10-C24)	42 ug/L	ERH227

Sample ERH228 (from SDG 82121) was identified as a field blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
ERH227	Diesel (C10-C24)	23 ug/L	23U ug/L

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to equipment blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82146

Sample	Compound	Modified Final Concentration	A or P	Code
ERH227	Diesel (C10-C24)	23U ug/L	A	F

LDC #: 38165D8
SDG #: 82146
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD ≤ 20 ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	SW	EB = ERH245, ERH244 (82146 17)
VI.	Surrogate spikes	A	↓ * = ERH229 (82130) FB = ERH228 (82121)
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
+ 1	ERH231	AZ49857	Water	02/08/17
2	ERH227	AZ49860	Water	02/09/17
3	ERH223	AZ49862	Water	02/08/17
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

	170214 A						

LDC #: 38165D8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

EB = ERH244 Code = F

METHOD: ✓ **GC** __ **HPLC**

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/3/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB

Associated Samples: 3 75X

Compound	Blank ID	Blank ID	Sample Identification							
	EB									
Diesel	20									
(C_{10}-C_{24})										
CRQL										

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/3/17
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB

EB- ERH245

Associated Samples: 2

Compound	Blank ID	Blank ID	Sample Identification							
	3		2							
↓	42		23/4 25							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 10, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82146

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH230	AZ49856	Water	02/08/17
ERH231	AZ49857	Water	02/08/17
ERH226	AZ49859	Water	02/09/17
ERH227	AZ49860	Water	02/09/17
ERH222	AZ49861	Water	02/08/17
ERH223	AZ49862	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH230, ERH226, and ERH222 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82146

No Sample Data Qualified in this SDG

LDC #: 38165D51 **VALIDATION COMPLETENESS WORKSHEET** Date: 3/3/17
SDG #: 82146 Level C Page: 1 of 1
Laboratory: APPL, Labs Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1, 3, 5
VI.	Matrix spike/Matrix spike duplicates	N	MS
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH230 TB	AZ49856	Water	02/08/17
2	ERH231	AZ49857	Water	02/08/17
3	ERH226 TB	AZ49859	Water	02/09/17
4	ERH227	AZ49860	Water	02/09/17
5	ERH222 TB	AZ49861	Water	02/08/17
6	ERH223	AZ49862	Water	02/08/17
7				
8				
9				
10				
11				
12				
13				

Notes:

	170212A						

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH231	AZ49857	1	ALKALINITY, AS CACO3	2/8/2017 2:40:00 PM	2/15/2017 12:44:00 PM	C	281	MG_L		2.0	1.70		
ERH231	AZ49857	1	ALKALINITY, BICARBONATE	2/8/2017 2:40:00 PM	2/15/2017 12:44:00 PM	C	281	MG_L		2.0	1.70		
ERH231	AZ49857	1	ALKALINITY, CARBONATE	2/8/2017 2:40:00 PM	2/15/2017 12:44:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH227	AZ49860	1	ALKALINITY, AS CACO3	2/9/2017 9:50:00 AM	2/15/2017 1:00:00 PM	C	174	MG_L		2.0	1.70		
ERH227	AZ49860	1	ALKALINITY, BICARBONATE	2/9/2017 9:50:00 AM	2/15/2017 1:00:00 PM	C	174	MG_L		2.0	1.70		
ERH227	AZ49860	1	ALKALINITY, CARBONATE	2/9/2017 9:50:00 AM	2/15/2017 1:00:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH223	AZ49862	1	ALKALINITY, AS CACO3	2/8/2017 10:10:00 AM	2/15/2017 1:09:00 PM	C	92.0	MG_L		2.0	1.70		
ERH223	AZ49862	1	ALKALINITY, BICARBONATE	2/8/2017 10:10:00 AM	2/15/2017 1:09:00 PM	C	92.0	MG_L		2.0	1.70		
ERH223	AZ49862	1	ALKALINITY, CARBONATE	2/8/2017 10:10:00 AM	2/15/2017 1:09:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH231	AZ49857	1	CHLORIDE	2/8/2017 2:40:00 PM	2/10/2017 1:53:00 PM	C	47.5	MG_L		1.0	0.20		
ERH231	AZ49857	1	NITRATE	2/8/2017 2:40:00 PM	2/10/2017 1:53:00 PM	C	6.7	MG_L		0.5	0.18		
ERH231	AZ49857	1	SULFATE	2/8/2017 2:40:00 PM	2/10/2017 1:53:00 PM	C	45.4	MG_L		1.0	0.20		
ERH227	AZ49860	50	CHLORIDE	2/9/2017 9:50:00 AM	2/16/2017 12:59:00 PM	C	1040	MG_L	D	50.0	10.00		
ERH227	AZ49860	5	NITRATE	2/9/2017 9:50:00 AM	2/10/2017 2:07:00 PM	C	7.9	MG_L		2.5	0.90		
ERH227	AZ49860	10	SULFATE	2/9/2017 9:50:00 AM	2/16/2017 12:46:00 PM	C	337	MG_L		10.0	2.00		
ERH223	AZ49862	1	CHLORIDE	2/8/2017 10:10:00 AM	2/10/2017 2:21:00 PM	C	40.9	MG_L		1.0	0.20		
ERH223	AZ49862	1	NITRATE	2/8/2017 10:10:00 AM	2/10/2017 2:21:00 PM	C	0.44	MG_L	J	0.5	0.18	J	h
ERH223	AZ49862	1	SULFATE	2/8/2017 10:10:00 AM	2/10/2017 2:21:00 PM	C	4.6	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH231	AZ49857	1	IRON, FERROUS	2/8/2017 2:40:00 PM	2/10/2017 2:07:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH227	AZ49860	1	IRON, FERROUS	2/9/2017 9:50:00 AM	2/10/2017 2:08:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH223	AZ49862	1	IRON, FERROUS	2/8/2017 10:10:00 AM	2/10/2017 2:09:00 PM	C	0.50	MG_L	J	1.0	0.32	J	
METHOD: **8015B_E**													
ERH231	AZ49857	1	TPH-DIESEL RANGE	2/8/2017 2:40:00 PM	2/16/2017 4:28:00 PM	C	67	UG_L	T3M	40.0	25.00		
ERH231	AZ49857	1	TPH-OIL RANGE	2/8/2017 2:40:00 PM	2/16/2017 4:28:00 PM	C	71	UG_L		40.0	40.00		

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8015B_E**													
ERH227	AZ49860	1	TPH-DIESEL RANGE	2/9/2017 9:50:00 AM	2/16/2017 4:49:00 PM	C		UG_L	JT4M	40.0	23	U	f
ERH227	AZ49860	1	TPH-OIL RANGE	2/9/2017 9:50:00 AM	2/16/2017 4:49:00 PM	C	44	UG_L		40.0	40.00		
ERH223	AZ49862	1	TPH-DIESEL RANGE	2/8/2017 10:10:00 AM	2/16/2017 5:09:00 PM	C	150	UG_L	T6	40.0	25.00		
ERH223	AZ49862	1	TPH-OIL RANGE	2/8/2017 10:10:00 AM	2/16/2017 5:09:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH230	AZ49856	1	BENZENE	2/8/2017 2:10:00 PM	2/14/2017 4:50:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH230	AZ49856	1	ETHYLBENZENE	2/8/2017 2:10:00 PM	2/14/2017 4:50:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH230	AZ49856	1	TOLUENE	2/8/2017 2:10:00 PM	2/14/2017 4:50:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH230	AZ49856	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 2:10:00 PM	2/14/2017 4:49:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH230	AZ49856	1	XYLENES, TOTAL	2/8/2017 2:10:00 PM	2/14/2017 4:50:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH231	AZ49857	1	BENZENE	2/8/2017 2:40:00 PM	2/14/2017 5:19:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH231	AZ49857	1	ETHYLBENZENE	2/8/2017 2:40:00 PM	2/14/2017 5:19:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH231	AZ49857	1	TOLUENE	2/8/2017 2:40:00 PM	2/14/2017 5:19:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH231	AZ49857	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 2:40:00 PM	2/14/2017 5:18:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH231	AZ49857	1	XYLENES, TOTAL	2/8/2017 2:40:00 PM	2/14/2017 5:19:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH243	AZ49858	1	BENZENE	2/8/2017 3:10:00 PM	2/14/2017 5:46:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH243	AZ49858	1	ETHYLBENZENE	2/8/2017 3:10:00 PM	2/14/2017 5:46:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH243	AZ49858	1	TOLUENE	2/8/2017 3:10:00 PM	2/14/2017 5:46:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH243	AZ49858	1	XYLENES, TOTAL	2/8/2017 3:10:00 PM	2/14/2017 5:46:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH226	AZ49859	1	BENZENE	2/9/2017 8:15:00 AM	2/14/2017 6:15:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH226	AZ49859	1	ETHYLBENZENE	2/9/2017 8:15:00 AM	2/14/2017 6:15:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH226	AZ49859	1	TOLUENE	2/9/2017 8:15:00 AM	2/14/2017 6:15:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH226	AZ49859	1	TPH-GASOLINE RANGE C6-C10	2/9/2017 8:15:00 AM	2/14/2017 6:14:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH226	AZ49859	1	XYLENES, TOTAL	2/9/2017 8:15:00 AM	2/14/2017 6:15:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH227	AZ49860	1	BENZENE	2/9/2017 9:50:00 AM	2/14/2017 6:43:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH227	AZ49860	1	ETHYLBENZENE	2/9/2017 9:50:00 AM	2/14/2017 6:43:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH227	AZ49860	1	TOLUENE	2/9/2017 9:50:00 AM	2/14/2017 6:43:00 AM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH227	AZ49860	1	TPH-GASOLINE RANGE C6-C10	2/9/2017 9:50:00 AM	2/14/2017 6:42:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH227	AZ49860	1	XYLENES, TOTAL	2/9/2017 9:50:00 AM	2/14/2017 6:43:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH222	AZ49861	1	BENZENE	2/8/2017 8:45:00 AM	2/14/2017 7:12:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH222	AZ49861	1	ETHYLBENZENE	2/8/2017 8:45:00 AM	2/14/2017 7:12:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH222	AZ49861	1	TOLUENE	2/8/2017 8:45:00 AM	2/14/2017 7:12:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH222	AZ49861	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 8:45:00 AM	2/14/2017 7:11:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH222	AZ49861	1	XYLENES, TOTAL	2/8/2017 8:45:00 AM	2/14/2017 7:12:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH223	AZ49862	1	BENZENE	2/8/2017 10:10:00 AM	2/14/2017 7:40:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH223	AZ49862	1	ETHYLBENZENE	2/8/2017 10:10:00 AM	2/14/2017 7:40:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH223	AZ49862	1	TOLUENE	2/8/2017 10:10:00 AM	2/14/2017 7:40:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH223	AZ49862	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 10:10:00 AM	2/14/2017 7:39:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH223	AZ49862	1	XYLENES, TOTAL	2/8/2017 10:10:00 AM	2/14/2017 7:40:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH240	AZ49863	1	BENZENE	2/8/2017 9:15:00 AM	2/14/2017 8:07:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH240	AZ49863	1	ETHYLBENZENE	2/8/2017 9:15:00 AM	2/14/2017 8:07:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH240	AZ49863	1	TOLUENE	2/8/2017 9:15:00 AM	2/14/2017 8:07:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH240	AZ49863	1	XYLENES, TOTAL	2/8/2017 9:15:00 AM	2/14/2017 8:07:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH231	AZ49857	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 2:40:00 PM	2/16/2017 3:55:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH231	AZ49857	1	PHENOL	2/8/2017 2:40:00 PM	2/15/2017 5:38:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH227	AZ49860	1	2-(2-METHOXYETHOXY)-ETHANOL	2/9/2017 9:50:00 AM	2/16/2017 4:25:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH227	AZ49860	1	PHENOL	2/9/2017 9:50:00 AM	2/15/2017 6:09:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH223	AZ49862	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 10:10:00 AM	2/16/2017 4:55:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH223	AZ49862	1	PHENOL	2/8/2017 10:10:00 AM	2/15/2017 6:39:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH231	AZ49857	1	1-METHYLNAPHTHALENE	2/8/2017 2:40:00 PM	2/17/2017 3:49:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH231	AZ49857	1	2-METHYLNAPHTHALENE	2/8/2017 2:40:00 PM	2/17/2017 3:49:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH231	AZ49857	1	NAPHTHALENE	2/8/2017 2:40:00 PM	2/17/2017 3:49:00 AM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH227	AZ49860	1	1-METHYLNAPHTHALENE	2/9/2017 9:50:00 AM	2/17/2017 4:22:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH227	AZ49860	1	2-METHYLNAPHTHALENE	2/9/2017 9:50:00 AM	2/17/2017 4:22:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH227	AZ49860	1	NAPHTHALENE	2/9/2017 9:50:00 AM	2/17/2017 4:22:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH223	AZ49862	1	1-METHYLNAPHTHALENE	2/8/2017 10:10:00 AM	2/17/2017 4:55:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH223	AZ49862	1	2-METHYLNAPHTHALENE	2/8/2017 10:10:00 AM	2/17/2017 4:55:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH223	AZ49862	1	NAPHTHALENE	2/8/2017 10:10:00 AM	2/17/2017 4:55:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH230	AZ49856	1	METHANE	2/8/2017 2:10:00 PM	2/12/2017 11:02:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH231	AZ49857	1	METHANE	2/8/2017 2:40:00 PM	2/12/2017 11:06:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH226	AZ49859	1	METHANE	2/9/2017 8:15:00 AM	2/12/2017 11:11:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH227	AZ49860	1	METHANE	2/9/2017 9:50:00 AM	2/12/2017 11:14:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH222	AZ49861	1	METHANE	2/8/2017 8:45:00 AM	2/12/2017 11:19:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH223	AZ49862	1	METHANE	2/8/2017 10:10:00 AM	2/12/2017 11:23:00 AM	C	1300	UG_L		5.0	1.00		

The attached zipped file contains one file:

File	Format	Description
1) Readme_RedHill_031317.docx	MS Word 2007	A "Readme" file (this document).
2) 82117-82121-82130-82146_RH_COPC_dva.xlsx	MS Excel 2007	A spreadsheet for the following SDGs:
38165A		82117
38165B		82121
38165C		82130
38165D		82146

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during verification.

Please contact Stella Cuenco or Judy Ecklund at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

March 22, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed is the final validation report for the fraction listed below. This SDG was received on March 2, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38192:

SDG #	Fraction
82150	Volatiles, Semivolatiles, 2-(2-Methoxyethoxy)-ethanol, Metals & Dissolved Lead, Wet Chemistry, Gasoline Range Organics, TPH as Extractables, Ethylene Dibromide, Methane

The data validation was performed under Level C & D validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, August 2016
- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i, Revision 01, November 2016
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC

Attachment 1

EDD 90/10

LDC #38192 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)		SVOA (8270D)		PAHs (8270D -SIM)		2,2-MEE (8270D-M)		Metals (6010C)		Dissolved Pb (6010C)		TPH-G (8260B)		TPH-E (8015B)		EDB (8011)		Methane (175)		Alk. (2320B)		Br, Fl, Cl, NO_3,SO_4 (300.0)		Fe II (3500-Fe B)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	82150	03/02/17	03/23/17	3	0	2	0	3	0	3	0	2	0	2	0	4	0	3	0	4	0	2	0	0	0	0	0	0	0				
A	82150	03/02/17	03/23/17	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0				
Total	J/SC			4	0	3	0	3	0	3	0	3	0	3	0	4	0	3	0	4	0	2	0	1	0	1	0	1	0	0	0	0	35

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38192ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH224	AZ49852	Water	02/08/17
ERH225**	AZ49853**	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH224 was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH224	02/08/17	1,2,4-Trimethylbenzene m,p-Xylenes Toluene Xylenes, total	0.22 ug/L 0.31 ug/L 0.21 ug/L 0.31 ug/L	ERH225** ERH247 ERH248

Sample ERH248 was identified as a field blank. No contaminants were found.

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH225MS/MSD (ERH225**)	tert-Butyl alcohol	134 (68-129)	134 (68-129)	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH225MS/MSD (ERH225**)	2-Butanone	37.5 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH225** and ERH247 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A1
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/14/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	SW	TB = 1 * FB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID		Lab ID	Matrix	Date
1	ERH224**	TB	AZ49852**	Water	02/08/17
2	ERH225 **	D	AZ49853	Water	02/08/17
3	ERH247	D	AZ49854	Water	02/08/17
4	ERH248	FB	AZ49855	Water	02/08/17
5	ERH225MS		AZ49853MS	Water	02/08/17
6	ERH225MSD		AZ49853MSD	Water	02/08/17
7					
8					
9					

Notes:

	170214 AM						

LDC #: 38192A1

VALIDATION FINDINGS CHECKLIST

Reviewer: FD
2nd Reviewer: R

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% 15% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38192A1

VALIDATION FINDINGS CHECKLIST

Reviewer: RC
2nd Reviewer: RC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38192A /

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/8/17
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: TB Associated Samples: 2-04 (ND)

Compound	Blank ID	Sample Identification								
	1									
DDD	0.22									
RRR	0.31									
CC	0.21									
GG	0.31									

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 38192A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

Code = %R = Q
%RPD = E

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	5 + 6	M	( )	( )	37.5 (20)	2	Jdet/A ND
		ZZZ	134 (68-129)	134 (68-129)	( )	↓	↓ ↓
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 38192A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	1/27/2017	V	2.380	2.380	2.0530	2.0530	2.1	2.1
			EE	4.440	4.440	3.7520	3.7520	8.1	8.1
			JJJ	3.104	3.104	2.6510	2.6510	7.2	7.2

LDC #: 38192A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 0214M02	2/14/17	V (1st internal standard)	2.0530	2.174	2.174	5.9	5.9
			EE (2nd internal standard)	3.7520	3.972	3.972	5.9	5.9
			JJ (3rd internal standard)	2.6510	2.668	2.668	0.67	0.67
			(4th internal standard)					
2	CCV 0215M04	2/15/17	V (1st internal standard)		2.173	2.173	5.9	5.9
			EE (2nd internal standard)		3.851	3.851	2.6	2.6
			JJ (3rd internal standard)		2.759	2.759	4.1	4.1
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A /

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: AC

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100,

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	26.23324	105	105	0
1,2-Dichloroethane-d4	↓	25.39335	102	102	↓
Toluene-d8	↓	25.15566	101	101	↓
Bromofluorobenzene	↓	24.57672	98.3	98.3	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38192A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: D

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 5 + 6

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	10.0	10.0	ND	9.44	9.28	94.4	94.4	92.8	92.8	1.7	1.7
Trichloroethene	↓	↓	↓	9.24	9.05	92.4	92.4	90.5	90.5	2.1	2.1
Benzene				9.47	9.43	94.7	94.7	94.3	94.3	0.42	0.42
Toluene				9.47	9.48	94.7	94.7	94.8	94.8	0.11	0.11
Chlorobenzene				9.23	9.12	92.3	92.3	91.2	91.2	1.2	1.2

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170214AM LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10.0	NA	10.4	NA	104	104				
Trichloroethene	↓	↓	10.5	↓	105	105				
Benzene	↓	↓	10.6	↓	106	106				
Toluene	↓	↓	10.5	↓	105	105				
Chlorobenzene	↓	↓	10.2	↓	102	102	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: n

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170214AM-LCS V

Conc. = $\frac{242879 \ (25.0)}{279267 \ (2.0530)}$

= 10.59 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Semivolatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225**	AZ49853**	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH248 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH225MS/MSD (ERH225**)	1,2,4-Trichlorobenzene 1,3-Dichlorobenzene Hexachlorobutadiene Hexachloroethane	21.5 (≤20) 20.9 (≤20) 26.0 (≤20) 25.5 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH225** and ERH247 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A2a
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/14/17
Page: 1 of 1
Reviewer: R
2nd Reviewer: R

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15, 12 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH225 ** D	AZ49853	Water	02/08/17
2	ERH247 D	AZ49854	Water	02/08/17
3	ERH248**	AZ49855**	Water	02/08/17
4	ERH225MS	AZ49853MS	Water	02/08/17
5	ERH225MSD	AZ49853MSD	Water	02/08/17
6				
7				
8				

Notes:

	170210A						

LDC #: 38192A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: TL

Method: SVOA (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check (Not required)				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) ≥ 0.05?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent differences (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 38192A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: EJ
2nd Reviewer: M

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

Code - E

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	4 & 5	R	( )	( )	21.5 (20)	#1	Jdet/A ND
		D	( )	( )	20.9 ( )		
		U	( )	( )	26.0		
		K	( )	( )	25.5 ( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: at

METHOD: GCMS 8270~~C~~ D

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	1/23/2017	A	1.948	1.948	1.927	1.927	5.20	5.20
			S	1.055	1.055	1.046	1.046	2.60	2.60
			GG	1.131	1.131	1.138	1.138	4.10	4.10
			UU	1.102	1.102	1.091	1.091	3.50	3.50
			EEE	0.824	0.824	0.834	0.834	6.30	6.30
			III	1.165	1.165	1.137	1.137	4.10	4.10

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0123Y163	2/15/17	Δ (1st IS)	1.927	2.016	2.016	4.6	4.6
			S (2nd IS)	1.046	1.104	1.104	5.6	5.6
			GG (3rd IS)	1.138	1.161	1.161	2.0	2.0
			UU (4th IS)	1.091	1.079	1.079	1.2	1.2
			EEE (5th IS)	0.834	0.8925	0.8925	7.0	7.0
			III (6th IS)	1.137	1.179	1.179	3.6	3.6
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: N

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	93.458	63.59871	68.1	68.1	0
2-Fluorobiphenyl	↓	61.16448	65.4	65.4	↓
Terphenyl-d14	↓	67.28254	72.0	72.0	↓
Phenol-d5	186.916	41.31203	22.1	22.1	↓
2-Fluorophenol	186.916	70.66274	37.8	37.8	↓
2,4,6-Tribromophenol	↓	134.1489	71.8	71.8	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration, SA = Spike added, SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 4 + 5

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol	50.0	50.0	ND	18.7	13.6	31.4	31.4	27.2	27.2	14.3	14.3
N-Nitroso-di-n-propylamine				39.8	35.3	79.6	79.6	70.6	70.6	12.0	12.0
4-Chloro-3-methylphenol				42.4	36.4	84.8	84.8	72.8	72.8	15.2	15.2
~~Acenaphthene~~ Pentachlorophenol				44.5	41.9	89.0	89.0	83.8	83.8	6.0	6.0
~~Pentachlorophenol~~ Acenaphthene				39.4	34.0	78.8	78.8	68.0	68.0	14.7	14.7
Pyrene				43.8	38.0	87.6	87.6	76.0	76.0	14.2	14.2
1,4-Dioxane	5.0	5.0	ND	2.94	2.46	58.8	58.8	49.2	49.2	17.8	17.8

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170214A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	50.0	NA	18.1	18.1	36.2	36.2				
N-Nitroso-di-n-propylamine			43.0	43.0	86.0	86.0				
4-Chloro-3-methylphenol			44.6	44.6	89.2	89.2				
Acenaphthene			39.0	39.0	78.0	78.0				
Pentachlorophenol			51.7	51.7	103	103				
Pyrene			46.2	46.2	92.4	92.4				
1,4-Dioxane	5.0		3.00	3.00	60.0	60.0	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170214A-LCS A

$$\text{Conc.} = \frac{143744\ (40.0)\ (1)\ (1000)}{165304\ (1.927)\ (100)} = 18.1\ \text{ug/L}$$

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225	AZ49853	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH248 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH225 and ERH247 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A2b
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/14/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15, r^2 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1,2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH225	D	AZ49853	Water	02/08/17
2	ERH247	D	AZ49854	Water	02/08/17
3	ERH248	FB	AZ49855	Water	02/08/17
4	ERH225MS		AZ49853MS	Water	02/08/17
5	ERH225MSD		AZ49853MSD	Water	02/08/17
6					
7					
8					
9					

Notes:

170213A1

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225	AZ49853	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH248 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the MS/MSD and LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the semivolatile analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH225 and ERH247 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A2c
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/14/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15, ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	ccv ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH225 D	AZ49853	Water	02/08/17
2	ERH247 D	AZ49854	Water	02/08/17
3	ERH248 FB	AZ49855	Water	02/08/17
4	ERH225MS	AZ49853MS	Water	02/08/17
5	ERH225MSD	AZ49853MSD	Water	02/08/17
6				
7				
8				
9				

Notes:

-	170214 A						

LDC #: 38192A2c

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS, MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the semivoa analysis.		Text
			( )	
			( )	
			( )	
			( )	
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			( )	
			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Metals & Dissolved Lead

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225**	AZ49853**	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Calcium, Iron, Lead, Magnesium, Manganese, Potassium, Sodium, and Dissolved Lead by Environmental Protection Agency (EPA) SW 846 Method 6010C

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	493 ug/L	All samples in SDG 82150
ICB/CCB	Sodium	284.00 ug/L	All samples in SDG 82150

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
ERH248	Sodium	410 ug/L	410U ug/L

V. Field Blanks

Sample ERH248 was identified as a field blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
ERH248	02/08/17	Calcium Magnesium Sodium	62.8 ug/L 35.7 ug/L 410 ug/L	ERH225** ERH247

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH225** and ERH247 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)
	ERH225**	ERH247	
Calcium	12800	13400	5 (≤50)
Magnesium	11800	12400	5 (≤50)
Potassium	2060	2200	7 (≤50)

Analyte	Concentration (ug/L)		RPD (Limits)
	ERH225**	ERH247	
Sodium	35700	36700	3 (≤50)

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Metals & Dissolved Lead - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Metals & Dissolved Lead - Laboratory Blank Data Qualification Summary - SDG 82150

Sample	Analyte	Modified Final Concentration	A or P	Code
ERH248	Sodium	410U ug/L	A	B

Red Hill Bulk Storage Facility, CTO 0053
Metals & Dissolved Lead - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A4b
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3-13-17
Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals & Dissolved Lead (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	SW	FB = 3
VI.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	A	SD: 1
IX.	Laboratory control samples	A	LCS
X.	Field Duplicates	SW	D = 1+2
XI.	Sample Result Verification	A	Not reviewed for Level C validation.
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH225 **	AZ49853 **	Water	02/08/17
2	ERH247	AZ49854	Water	02/08/17
3	ERH248 **	AZ49855 **	Water	02/08/17
4	ERH225MS	AZ49853MS	Water	02/08/17
5	ERH225MSD	AZ49853MSD	Water	02/08/17
6				
7				
8				
9				
10				
11				
12				
13				
14	PBW			

Notes:

LDC #: 38192A4b

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Metals (EPA SW 846 Method 6010/7000/6020)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?			✓	
Were %RSD of isotopes in the tuning solution ≤5%?			✓	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were all initial calibration correlation coefficients > 0.995?	✓			
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were < 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

LDC #: 38192A46

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: M

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 38192A4b

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Page: 1 of 1
Reviewer: MG
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→3	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, dis. Pb
OC 4.5	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, dis Pb
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN, dis. Pb
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-, ____
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN^-,

Comments: Mercury by CVAA if performed

LDC #: 38192A4b
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6010C)
Sample Concentration units, unless otherwise noted: ug/L

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: NA
Associated Samples: all Qual: U (B)

Reviewer: MG
2nd Reviewer: a

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3									
Na		493	284.00	2460	410									

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 38192A4b

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW846 6010C)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 2/8/17 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: _____ Associated Samples: 1,2 (>5x)

Analyte	Blank ID	Sample Identification										
	3	Action Level	No Qual's.									
Ca	62.8	314										
Mg	35.7	178										
Na	410	2050										314

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 38192A4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 6010C)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ug/L)		RPD (≤50)	
	1	2		
Calcium	12800	13400	5	
Magnesium	11800	12400	5	
Potassium	2060	2200	7	
Sodium	35700	36700	3	

V:\FIELD DUPLICATES\FD_inorganic\38192A4b.WPD

LDC #: 38192A4b

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
1145 ICV	ICP (Initial calibration)	Pb	978.7	1000	97.9	97.9	Y
	ICP/MS (Initial calibration)						↓
	CVAA (Initial calibration)						↓
1612 CCV3	ICP (Continuing calibration)	Mg	40320	37500	108	108	↓
	ICP/MS (Continuing calibration)						
	CVAA (Continuing calibration)						
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A46

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1210 ICSAB	ICP interference check	Pb	954.8 (µg/L)	1000 (µg/L)	95.5	95.5	Y
1540 LCS	Laboratory control sample	Na	25830 (µg/L)	25000 (µg/L)	103	103	↓
1628 4	Matrix spike	Mn	(SSR-SR) 258.6 (µg/L)	250 (µg/L)	103	104	↓
1628 / 1633 4 / 5	Duplicate	K	7236 (µg/L)	7507 (µg/L)	3.7	3.7	↓
1622 / 1645 1	ICP serial dilution	Mg	11830 (µg/L)	11850 (µg/L)	0.169	0.169	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A46

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Ca were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(12810\ \mu g/L)(0.050\ L)}{0.050\ L} = 12810\ \mu g/L$$

#	Sample ID	Analyte	Reported Concentration (µg/L)	Calculated Concentration (µg/L)	Acceptable (Y/N)
1	1	Ca	12800	12800	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Wet Chemistry

Validation Level: Level D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225	AZ49853	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Bromide, Fluoride, Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level D data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH225	Nitrate	49.17 hours	48 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Bicarbonate alkalinity Total alkalinity	1.9 mg/L 1.9 mg/L	All samples in SDG 82150

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82150

Sample	Analyte	Flag	A or P	Reason (Code)
ERH225	Nitrate	J (all detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A6
SDG #: 82150
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level D

Date: 3-13-17
Page: 1 of 1
Reviewer: MG
2nd Reviewer: VC

METHOD: (Analyte) Alkalinity (SM2320B), Bromide, Fluoride, Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH225	AZ49853	Water	02/08/17
2	ERH225MS	AZ49853MS	Water	02/08/17
3	ERH225MSD	AZ49853MSD	Water	02/08/17
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15	PBW			

Notes:

LDC #: 38192A6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method see cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 38192A6

VALIDATION FINDINGS CHECKLIST

Reviewer: MG
2nd Reviewer: VC

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: MG
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Matrix	Parameter
1	W	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 Br Fe^{+2}
QC 2.3	↓	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ Fe^{+2}
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____
		pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ClO_4 ____ ____

Comments:

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: MG
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
(Y) N N/A Were all samples preserved as applicable to each method ?
(Y) N N/A Were all cooler temperatures within validation criteria?

Method:		300.0					
Parameters:		NO_3					
Technical holding time:		48 hr					
Sample ID	**Sampling date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Analysis date**	**Qualifier**
1	12:30 2-8-17	13:40 2-10-17	(49.17 hr.)				J/UJ/P (H)(de

HT.6

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** all (>5x)

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qual's.										
Bicarbonate Alkalinity	1.9		9.5											
Total Alkalinity	1.9		9.5											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: DC

METHOD: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of F was recalculated. Calibration date: 10-20-16

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of Analysis	Analyte	Standard ID	Conc. Found (units)	Area True (units)	Recalculated r or %R	Reported r or %R	Acceptable (Y/N)
Initial calibration	F	Blank	–	–	r^2=0.999986	r^2=0.999840	Y
		Standard 1	0.05 (mg/L)	0.0012			
		Standard 2	0.10 ( )	0.0123			
		Standard 3	0.50 ( )	0.1000			
		Standard 4	1.00 ( )	0.2174			
		Standard 5	3.50 ( )	0.7826			
		Standard 6	5.00 ( )	1.1183			
		Standard 7	–	–			
Calibration verification	Fe^{+2}	1400 CCV1	3.963 ~~0.394~~ (mg/L)	4 (mg/L)	99.1	99.1	
Calibration verification	Cl	1138 CCV1	25.22 (mg/L)	25 (mg/L)	101	101	
Calibration verification	SO_4	0918 CCV1	24.34 (mg/L)	25 (mg/L)	97.4	97.4	

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Inorganics, Method see cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

%R = Found / True x 100 Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

RPD = |S-D| / (S+D)/2 x 100 Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
0945 LCS	Laboratory control sample	Br	12.86 (mg/L)	12.5 (mg/L)	103	103	Y
1405 2	Matrix spike sample	Ferrous Iron	(SSR-SR) 3.02 (mg/L)	3.00 (mg/L)	101	100	↓
2/3	Duplicate sample	Total Alk.	305.3 (mg/L)	306.0 (mg/L)	0.23	0.33	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: DL

METHOD: Inorganics, Method see cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for #1, Cl reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = mx + b$
where
$m = 0.182$
$b = -0.094$
$dil = 2x$

Recalculation:

$$4.690 = 0.182\left(\frac{x}{2}\right) - 0.094$$

$$52.571 \text{ mg/L} = x$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	Cl	52.7	52.6	Y
		Bicarb. Alk	66.1	66.1	↓

Note: method SM3500-Fe B is N.D. for sample #1

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH224	AZ49852	Water	02/08/17
ERH225**	AZ49853**	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH224 was identified as a trip blank. No contaminants were found.

Sample ERH248 was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH225** and ERH247 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A7
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 3/14/17
Page: 1 of 1
Reviewer: F
2nd Reviewer: TC

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r^2 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1 FB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	
XIII.	Target compound identification	A	
XIV.	System performance	A	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Level D

	Client ID		Lab ID	Matrix	Date
1	ERH224	TB	AZ49852	Water	02/08/17
2	ERH225 **	D	AZ49853	Water	02/08/17
3	ERH247	D	AZ49854	Water	02/08/17
4	ERH248	FB	AZ49855	Water	02/08/17
5	ERH225MS		AZ49853MS	Water	02/08/17
6	ERH225MSD		AZ49853MSD	Water	02/08/17
7					
8					
9					

Notes:

	170214AM						

LDC #: 38192A7

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FT
2nd Reviewer: MC

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38192A7

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#: 38192A7
SDG#: See cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: PJ
2nd Reviewer: AC

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
2/11/2017	GCMS max	Gasoline Range Organics	1	9.185208435	0.8
			2	11.49207804	2
			3	16.01973661	4
			4	31.95935346	12
			5	57.83328654	24
			6	75.64906856	32
			7	93.27825228	40

Regression Output		*Reported*
Constant	*7.087886*	*7.090000*
Std Err of Y Est		
R Squared	*0.999752*	*1.000000*
Degrees of Freedom		
X Coefficient(s)	*2.141131*	*2.140000*
Std Err of Coef.		
Correlation Coefficient	*0.999876*	
Coefficient of Determination (r^2)	*0.999752*	*1.000000*

LDC #: 38192A7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0214M05	2/14/17	gasoline Range organics (1st internal standard)	300	302.3791	302.3791	0.79	0.79
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
2	0214M27	2/14/17	↓ (1st internal standard)	300	284.902	284.902	5.0	5.0
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: E

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene	25.0	24.57672	98.3	98.308	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38192A7

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 5 + 6

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
GRO ~~1,1 Dichloroethene~~	300	300	ND	279	286	93.0	93.0	95.3	95.3	2.5	2.5
Trichloroethene											
Benzene											
Toluene											
~~Chlorobenzene~~											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A7

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: AC

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170214AM - VC5

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
Gasoline Range Organics ~~1,1-Dichloroethene~~	300	NA	302	NA	101	101	NA			
Trichloroethene										
Benzene										
Toluene										
~~Chlorobenzene~~										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170214A - LCS GRO

Conc. = $\frac{\left[\left(\frac{9553308}{289624}\right) - 7.09\right] 25.0}{2.141131}$

= 302379 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH225	AZ49853	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

Introduction

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The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

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U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

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A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

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S	Surrogate recovery was outside QC limits.
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B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH248 was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH225 and ERH247 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A8
SDG #: 82150
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/14/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	FB = 3
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 1,2
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH225 D	AZ49853	Water	02/08/17
2	ERH247 D	AZ49854	Water	02/08/17
3	ERH248 FB	AZ49855	Water	02/08/17
4	ERH225MS	AZ49853MS	Water	02/08/17
5	ERH225MSD	AZ49853MSD	Water	02/08/17
6				
7				
8				
9				
10				
11				

Notes:

	170214 A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH224	AZ49852	Water	02/08/17
ERH225	AZ49853	Water	02/08/17
ERH247	AZ49854	Water	02/08/17
ERH248	AZ49855	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH224 was identified as a trip blank. No contaminants were found.

Sample ERH248 was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH225 and ERH247 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A10
SDG #: 82150
Laboratory: APPL,Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/14/17
Page: 1 of 1
Reviewer: FD
2nd Reviewer: TC

METHOD: GC Ethylene Dibromide (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1 FB = 4
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2, 3
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH224 TB	AZ49852	Water	02/08/17
2	ERH225 D	AZ49853	Water	02/08/17
3	ERH247 D	AZ49854	Water	02/08/17
4	ERH248 FB	AZ49855	Water	02/08/17
5	ERH225MS	AZ49853MS	Water	02/08/17
6	ERH225MSD	AZ49853MSD	Water	02/08/17
7				
8				
9				
10				
11				
12				

Notes:

170216A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: March 15, 2017

Parameters: Methane

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82150

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH224	AZ49852	Water	02/08/17
ERH225**	AZ49853**	Water	02/08/17
ERH225MS	AZ49853MS	Water	02/08/17
ERH225MSD	AZ49853MSD	Water	02/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH224 was identified as a trip blank. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

X. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82150

No Sample Data Qualified in this SDG

LDC #: 38192A51
SDG #: 82150
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET

Level C/D

Date: 3/14/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: TC

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r^2 ICV ≤ 20
III.	Continuing calibration	A	CW ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	A	
X.	Target compound identification	A	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** level D

	Client ID	Lab ID	Matrix	Date
1	ERH224 TB	AZ49852	Water	02/08/17
2	ERH225 **	AZ49853	Water	02/08/17
3	ERH225MS	AZ49853MS	Water	02/08/17
4	ERH225MSD	AZ49853MSD	Water	02/08/17
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

170212A

LDC #: 38192A5

VALIDATION FINDINGS CHECKLIST

Reviewer: F7
2nd Reviewer: AC

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%? F7	✓		✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?	✓		✓	F7
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 38192A5 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38192A51
SDG#: per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FS
2nd Reviewer: AC

Method: RSK 175

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
9/1/2016	Ints 7890	Methane	1	6703	0.9
			2	10209	1.8
			3	15515	5.1
			4	45792	13.33
			5	28664	26.7
			6	67137	66.75
			7	126422	106.8
			8	421052	320.4
			9	723824	667.5
			10	1454283	1335

Regression Output		*Reported*
Constant	*14373.549641*	*14400.00*
Std Err of Y Est		
R Squared	*0.997596*	*0.998000*
Degrees of Freedom		
X Coefficient(s)	*1083.161249*	*1083.00*
Std Err of Coef.		
Correlation Coefficient	*0.998797*	
Coefficient of Determination (r^2)	*0.997596*	*0.998000*

LDC #: 38192A51

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	1702 1200 CCV	2/12/17	Methane	1335	1272.254	1272.254	4.7	4.7
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192451

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100

Where SSC = Spiked sample concentration; SC = Sample concentration; SA = Spike added; MS = Matrix spike; MSD = Matrix spike duplicate

MS/MSD samples: 3 + 4

Compound		Spike Added (ug/L)		Sample Conc. (ug/L)	Spike Sample Concentration (ug/L)		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
		MS	MSD	--	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)											
Diesel	(8015)											
Benzene	(8021B)											
Methane	(RSK-175)	1340	1340	ND	1110	1190	83.1	83.1	89.1	89.1	7.0	7.0
2,4-D	(8151)											
Dinoseb	(8151)											
Naphthalene	(8310)											
Anthracene	(8310)											
HMX	(8330)											
2,4,6-Trinitrotoluene	(8330)											
Phorate	(8141A)											
Malathion	(8141A)											
Formaldehyde	(8315A)											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192A5 1

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170212A - LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)										
Benzene	(8021B)										
Methane	(RSK-175)	1340	NA	1270	NA	95.1	95.1	NA			
2,4-D	(8151)										
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38192451

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170212A-LCS Compound Name Methane

Concentration = (1392430 − 14400) / 1083.0 =

= 1270 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH225	AZ49853	1	ALKALINITY, AS CACO3	2/8/2017 12:30:00 PM	2/15/2017 12:08:00 PM	D	66.1	MG_L		2.0	1.70		
ERH225	AZ49853	1	ALKALINITY, BICARBONATE	2/8/2017 12:30:00 PM	2/15/2017 12:08:00 PM	D	66.1	MG_L		2.0	1.70		
ERH225	AZ49853	1	ALKALINITY, CARBONATE	2/8/2017 12:30:00 PM	2/15/2017 12:08:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH225	AZ49853	1	BROMIDE	2/8/2017 12:30:00 PM	2/10/2017 1:40:00 PM	D	0.30	MG_L	J	0.5	0.16	J	
ERH225	AZ49853	2	CHLORIDE	2/8/2017 12:30:00 PM	2/16/2017 12:32:00 PM	D	52.7	MG_L		2.0	0.40		
ERH225	AZ49853	1	FLUORIDE	2/8/2017 12:30:00 PM	2/10/2017 1:40:00 PM	D	0.14	MG_L		0.1	0.09		
ERH225	AZ49853	1	NITRATE	2/8/2017 12:30:00 PM	2/10/2017 1:40:00 PM	D	2.3	MG_L		0.5	0.18	J	h
ERH225	AZ49853	1	SULFATE	2/8/2017 12:30:00 PM	2/10/2017 1:40:00 PM	D	9.4	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH225	AZ49853	1	IRON, FERROUS	2/8/2017 12:30:00 PM	2/10/2017 2:04:00 PM	D	0.32	MG_L	U	1.0	0.32	U	
METHOD: **6010C**													
ERH225	AZ49853	1	CALCIUM	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	12800	UG_L		1000	75.0		
ERH225	AZ49853	1	IRON	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	25.0	UG_L	U	100	25.0	U	
ERH225	AZ49853	1	LEAD	2/8/2017 12:30:00 PM	2/14/2017 5:11:00 PM	D	4.00	UG_L	U	15.0	4.00	U	
ERH225	AZ49853	1	LEAD	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	4.00	UG_L	U	15.0	4.00	U	
ERH225	AZ49853	1	MAGNESIUM	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	11800	UG_L		500	30.0		
ERH225	AZ49853	1	MANGANESE	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	4.00	UG_L	U	10.0	4.00	U	
ERH225	AZ49853	1	POTASSIUM	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	2060	UG_L	J	3000	500.0	J	
ERH225	AZ49853	1	SODIUM	2/8/2017 12:30:00 PM	2/14/2017 4:22:00 PM	D	35700	UG_L		5000	500.0		
ERH247	AZ49854	1	CALCIUM	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	13400	UG_L		1000	75.0		
ERH247	AZ49854	1	IRON	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	25.0	UG_L	U	100	25.0	U	
ERH247	AZ49854	1	LEAD	2/8/2017 12:30:00 PM	2/14/2017 5:38:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH247	AZ49854	1	LEAD	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH247	AZ49854	1	MAGNESIUM	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	12400	UG_L		500	30.0		
ERH247	AZ49854	1	MANGANESE	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	4.00	UG_L	U	10.0	4.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **6010C**													
ERH247	AZ49854	1	POTASSIUM	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	2200	UG_L	J	3000	500.0	J	
ERH247	AZ49854	1	SODIUM	2/8/2017 12:30:00 PM	2/14/2017 4:50:00 PM	C	36700	UG_L		5000	500.0		
ERH248	AZ49855	1	CALCIUM	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	62.8	UG_L	J	1000	75.0	J	
ERH248	AZ49855	1	IRON	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	25.0	UG_L	U	100	25.0	U	
ERH248	AZ49855	1	LEAD	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH248	AZ49855	1	LEAD	2/8/2017 2:50:00 PM	2/14/2017 5:44:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH248	AZ49855	1	MAGNESIUM	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	35.7	UG_L	J	500	30.0	J	
ERH248	AZ49855	1	MANGANESE	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	4.00	UG_L	U	10.0	4.00	U	
ERH248	AZ49855	1	POTASSIUM	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C	500.0	UG_L	U	3000	500.0	U	
ERH248	AZ49855	1	SODIUM	2/8/2017 2:50:00 PM	2/14/2017 4:55:00 PM	C		UG_L	J	5000	410	U	b
METHOD: **8011**													
ERH224	AZ49852	1	1,2-DIBROMOETHANE	2/8/2017 11:00:00 AM	2/17/2017 12:18:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH225	AZ49853	1	1,2-DIBROMOETHANE	2/8/2017 12:30:00 PM	2/17/2017 12:39:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH247	AZ49854	1	1,2-DIBROMOETHANE	2/8/2017 12:30:00 PM	2/17/2017 2:23:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH248	AZ49855	1	1,2-DIBROMOETHANE	2/8/2017 2:50:00 PM	2/17/2017 2:44:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH225	AZ49853	1	TPH-DIESEL RANGE	2/8/2017 12:30:00 PM	2/16/2017 2:04:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH225	AZ49853	1	TPH-OIL RANGE	2/8/2017 12:30:00 PM	2/16/2017 2:04:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH247	AZ49854	1	TPH-DIESEL RANGE	2/8/2017 12:30:00 PM	2/16/2017 3:47:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH247	AZ49854	1	TPH-OIL RANGE	2/8/2017 12:30:00 PM	2/16/2017 3:47:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH248	AZ49855	1	TPH-DIESEL RANGE	2/8/2017 2:50:00 PM	2/16/2017 4:07:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH248	AZ49855	1	TPH-OIL RANGE	2/8/2017 2:50:00 PM	2/16/2017 4:07:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH224	AZ49852	1	1,1,1,2-TETRACHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,1,1-TRICHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,1,2,2-TETRACHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,1,2-TRICHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

METHOD: **8260B**

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
ERH224	AZ49852	1	1,1-DICHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,1-DICHLOROETHENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	1,1-DICHLOROPROPENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	1,2,3-TRICHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	1,2,3-TRICHLOROPROPANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH224	AZ49852	1	1,2,4-TRICHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	1,2,4-TRIMETHYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.22	UG_L	J	1.0	0.30	J	
ERH224	AZ49852	1	1,2-DIBROMO-3-CHLOROPROPANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH224	AZ49852	1	1,2-DIBROMOETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	1,2-DICHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,2-DICHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,2-DICHLOROPROPANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,3,5-TRIMETHYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,3-DICHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,3-DICHLOROPROPANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,3-DICHLOROPROPENE, TOTAL	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	1,4-DICHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	2,2-DICHLOROPROPANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	2-BUTANONE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH224	AZ49852	1	2-CHLOROTOLUENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	2-HEXANONE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH224	AZ49852	1	4-CHLOROTOLUENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	4-ISOPROPYLTOLUENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	4-METHYL-2-PENTANONE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH224	AZ49852	1	ACETONE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH224	AZ49852	1	BENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	BROMOBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH224	AZ49852	1	BROMOCHLOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	BROMODICHLOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	BROMOFORM	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	BROMOMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH224	AZ49852	1	CARBON DISULFIDE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	CARBON TETRACHLORIDE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	CHLOROBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	CHLOROETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	CHLOROFORM	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	CHLOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	CIS-1,2-DICHLOROETHENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	CIS-1,3-DICHLOROPROPENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	DIBROMOCHLOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	DIBROMOMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	DICHLORODIFLUOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	ETHYL TERT-BUTYL ETHER	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	ETHYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	HEXACHLOROBUTADIENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	ISOPROPYL ETHER	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	ISOPROPYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	METHYL TERT-BUTYL ETHER	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH224	AZ49852	1	METHYLENE CHLORIDE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH224	AZ49852	1	M-XYLENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.31	UG_L	J	2.0	0.30	J	
ERH224	AZ49852	1	NAPHTHALENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	N-BUTYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	O-XYLENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	PROPYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH224	AZ49852	1	SEC-BUTYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	STYRENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	T-AMYL METHYL ETHER	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TERT-BUTANOL	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	10.00	UG_L	U	10.0	10.00	U	
ERH224	AZ49852	1	TERT-BUTYLBENZENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TETRACHLOROETHENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TOLUENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.21	UG_L	J	1.0	0.30	J	
ERH224	AZ49852	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH224	AZ49852	1	TRANS-1,2-DICHLOROETHENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TRANS-1,3-DICHLOROPROPENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TRICHLOROETHENE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	TRICHLOROFLUOROMETHANE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH224	AZ49852	1	VINYL CHLORIDE	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH224	AZ49852	1	XYLENES, TOTAL	2/8/2017 11:00:00 AM	2/14/2017 8:14:00 PM	C	0.31	UG_L	J	2.0	0.30	J	
ERH225	AZ49853	1	1,1,1,2-TETRACHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,1,1-TRICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,1,2,2-TETRACHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,1,2-TRICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,1-DICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,1-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,1-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,2,3-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,2,3-TRICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	1.00	UG_L	U	2.0	1.00	U	
ERH225	AZ49853	1	1,2,4-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,2,4-TRIMETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,2-DIBROMO-3-CHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	1.00	UG_L	U	2.0	1.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH225	AZ49853	1	1,2-DIBROMOETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	1,2-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,2-DICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,2-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,3,5-TRIMETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,3-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,3-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,3-DICHLOROPROPENE, TOTAL	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	1,4-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	2,2-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	2-BUTANONE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	2.00	UG_L	U	10.0	2.00	U	
ERH225	AZ49853	1	2-CHLOROTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	2-HEXANONE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	2.00	UG_L	U	10.0	2.00	U	
ERH225	AZ49853	1	4-CHLOROTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	4-ISOPROPYLTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	4-METHYL-2-PENTANONE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	ACETONE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	2.00	UG_L	U	10.0	2.00	U	
ERH225	AZ49853	1	BENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	BROMOBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	BROMOCHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	BROMODICHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	BROMOFORM	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	BROMOMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	2.0	0.50	U	
ERH225	AZ49853	1	CARBON DISULFIDE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	CARBON TETRACHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	CHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	CHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH225	AZ49853	1	CHLOROFORM	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	CHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	CIS-1,2-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	CIS-1,3-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	DIBROMOCHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	DIBROMOMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	DICHLORODIFLUOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	ETHYL TERT-BUTYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	ETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	HEXACHLOROBUTADIENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	ISOPROPYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	ISOPROPYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	METHYL TERT-BUTYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.52	UG_L	U	1.0	0.52	U	
ERH225	AZ49853	1	METHYLENE CHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	1.00	UG_L	U	5.0	1.00	U	
ERH225	AZ49853	1	M-XYLENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH225	AZ49853	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	N-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	O-XYLENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	PROPYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	SEC-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	STYRENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	T-AMYL METHYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TERT-BUTANOL	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	10.00	UG_L	U	10.0	10.00	U	
ERH225	AZ49853	1	TERT-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TETRACHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TOLUENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH225	AZ49853	1	TRANS-1,2-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TRANS-1,3-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TRICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	TRICHLOROFLUOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	VINYL CHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH225	AZ49853	1	XYLENES, TOTAL	2/8/2017 12:30:00 PM	2/14/2017 8:43:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH247	AZ49854	1	1,1,1,2-TETRACHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,1,1-TRICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,1,2,2-TETRACHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,1,2-TRICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,1-DICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,1-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,1-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,2,3-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,2,3-TRICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH247	AZ49854	1	1,2,4-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,2,4-TRIMETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,2-DIBROMO-3-CHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH247	AZ49854	1	1,2-DIBROMOETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	1,2-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,2-DICHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,2-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,3,5-TRIMETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,3-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,3-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	1,3-DICHLOROPROPENE, TOTAL	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH247	AZ49854	1	1,4-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	2,2-DICHLOROPROPANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	2-BUTANONE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH247	AZ49854	1	2-CHLOROTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	2-HEXANONE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH247	AZ49854	1	4-CHLOROTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	4-ISOPROPYLTOLUENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	4-METHYL-2-PENTANONE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	ACETONE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH247	AZ49854	1	BENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	BROMOBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	BROMOCHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	BROMODICHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	BROMOFORM	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	BROMOMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH247	AZ49854	1	CARBON DISULFIDE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	CARBON TETRACHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	CHLOROBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	CHLOROETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	CHLOROFORM	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	CHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	CIS-1,2-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	CIS-1,3-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	DIBROMOCHLOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	DIBROMOMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	DICHLORODIFLUOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	ETHYL TERT-BUTYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH247	AZ49854	1	ETHYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	HEXACHLOROBUTADIENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	ISOPROPYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	ISOPROPYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	METHYL TERT-BUTYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH247	AZ49854	1	METHYLENE CHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH247	AZ49854	1	M-XYLENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH247	AZ49854	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	N-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	O-XYLENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	PROPYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	SEC-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	STYRENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	T-AMYL METHYL ETHER	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TERT-BUTANOL	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	10.00	UG_L	U	10.0	10.00	U	
ERH247	AZ49854	1	TERT-BUTYLBENZENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TETRACHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TOLUENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH247	AZ49854	1	TRANS-1,2-DICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TRANS-1,3-DICHLOROPROPENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TRICHLOROETHENE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	TRICHLOROFLUOROMETHANE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	VINYL CHLORIDE	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH247	AZ49854	1	XYLENES, TOTAL	2/8/2017 12:30:00 PM	2/14/2017 9:11:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH248	AZ49855	1	1,1,1,2-TETRACHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,1,1-TRICHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH248	AZ49855	1	1,1,2,2-TETRACHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,1,2-TRICHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,1-DICHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,1-DICHLOROETHENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,1-DICHLOROPROPENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,2,3-TRICHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,2,3-TRICHLOROPROPANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH248	AZ49855	1	1,2,4-TRICHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,2,4-TRIMETHYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,2-DIBROMO-3-CHLOROPROPANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH248	AZ49855	1	1,2-DIBROMOETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	1,2-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,2-DICHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,2-DICHLOROPROPANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,3,5-TRIMETHYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,3-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,3-DICHLOROPROPANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,3-DICHLOROPROPENE, TOTAL	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	1,4-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	2,2-DICHLOROPROPANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	2-BUTANONE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH248	AZ49855	1	2-CHLOROTOLUENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	2-HEXANONE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH248	AZ49855	1	4-CHLOROTOLUENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	4-ISOPROPYLTOLUENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	4-METHYL-2-PENTANONE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH248	AZ49855	1	ACETONE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH248	AZ49855	1	BENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	BROMOBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	BROMOCHLOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	BROMODICHLOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	BROMOFORM	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	BROMOMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH248	AZ49855	1	CARBON DISULFIDE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	CARBON TETRACHLORIDE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	CHLOROBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	CHLOROETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	CHLOROFORM	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	CHLOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	CIS-1,2-DICHLOROETHENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	CIS-1,3-DICHLOROPROPENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	DIBROMOCHLOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	DIBROMOMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	DICHLORODIFLUOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	ETHYL TERT-BUTYL ETHER	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	ETHYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	HEXACHLOROBUTADIENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	ISOPROPYL ETHER	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	ISOPROPYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	METHYL TERT-BUTYL ETHER	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH248	AZ49855	1	METHYLENE CHLORIDE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH248	AZ49855	1	M-XYLENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH248	AZ49855	1	NAPHTHALENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH248	AZ49855	1	N-BUTYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	O-XYLENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	PROPYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	SEC-BUTYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	STYRENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	T-AMYL METHYL ETHER	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TERT-BUTANOL	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	10.00	UG_L	U	10.0	10.00	U	
ERH248	AZ49855	1	TERT-BUTYLBENZENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TETRACHLOROETHENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TOLUENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TPH-GASOLINE RANGE C6-C10	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH248	AZ49855	1	TRANS-1,2-DICHLOROETHENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TRANS-1,3-DICHLOROPROPENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TRICHLOROETHENE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	TRICHLOROFLUOROMETHANE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	VINYL CHLORIDE	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH248	AZ49855	1	XYLENES, TOTAL	2/8/2017 2:50:00 PM	2/14/2017 9:39:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH225	AZ49853	1	1,2,4-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	1,2-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	1,3-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	1,4-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	1,4-DIOXANE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH225	AZ49853	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 12:30:00 PM	2/16/2017 2:25:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH225	AZ49853	1	2,2'-OXYBIS(1-CHLOROPROPANE)	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2,4,5-TRICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2,4,6-TRICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH225	AZ49853	1	2,4-DICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2,4-DIMETHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2,4-DINITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	2,4-DINITROTOLUENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	2,6-DINITROTOLUENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	2-CHLORONAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2-CHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	2-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	2-NITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	3- AND 4-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	3,3-DICHLOROBENZIDINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	3-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4,6-DINITRO-2-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	4-BROMOPHENYL-PHENYLETHER	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4-CHLORO-3-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4-CHLOROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4-CHLOROPHENYL-PHENYLETHER	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	4-NITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	ACENAPHTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	ACENAPHTHYLENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BENZO[A]ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BENZO[A]PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BENZO[B]FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH225	AZ49853	1	BENZO[G,H,I]PERYLENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BENZO[K]FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BENZYL ALCOHOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BIS(2-CHLOROETHOXY)METHANE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BIS(2-CHLOROETHYL)ETHER	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	BIS(2-ETHYLHEXYL)PHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	BUTYLBENZYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	CARBAZOLE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	CHRYSENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DIBENZOFURAN	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	DIETHYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DIMETHYL PHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DI-N-BUTYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DI-N-OCTYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	DIPHENYLAMINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	FLUORENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	HEXACHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	HEXACHLOROBUTADIENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	HEXACHLOROCYCLOPENTADIENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	9.00	UG_L	U	10.0	9.00	U	
ERH225	AZ49853	1	HEXACHLOROETHANE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	ISOPHORONE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	NITROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH225	AZ49853	1	N-NITROSODINPROPYLAMINE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH225	AZ49853	1	PENTACHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	PHENANTHRENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH225	AZ49853	1	PHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH225	AZ49853	1	PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:07:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	1,2,4-TRICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	1,2-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	1,3-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	1,4-DICHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	1,4-DIOXANE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH247	AZ49854	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 12:30:00 PM	2/16/2017 2:55:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH247	AZ49854	1	2,2'-OXYBIS(1-CHLOROPROPANE)	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2,4,5-TRICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2,4,6-TRICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2,4-DICHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2,4-DIMETHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2,4-DINITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	2,4-DINITROTOLUENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	2,6-DINITROTOLUENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	2-CHLORONAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2-CHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	2-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	2-NITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	3- AND 4-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	3,3-DICHLOROBENZIDINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	3-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH247	AZ49854	1	4,6-DINITRO-2-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	4-BROMOPHENYL-PHENYLETHER	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	4-CHLORO-3-METHYLPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	4-CHLOROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	4-CHLOROPHENYL-PHENYLETHER	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	4-NITROANILINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	4-NITROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	ACENAPHTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	ACENAPHTHYLENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZO[A]ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZO[A]PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZO[B]FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZO[G,H,I]PERYLENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZO[K]FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BENZYL ALCOHOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BIS(2-CHLOROETHOXY)METHANE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BIS(2-CHLOROETHYL)ETHER	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	BIS(2-ETHYLHEXYL)PHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	BUTYLBENZYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	CARBAZOLE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	CHRYSENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	DIBENZOFURAN	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	DIETHYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	DIMETHYL PHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	DI-N-BUTYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH247	AZ49854	1	DI-N-OCTYLPHTHALATE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	DIPHENYLAMINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	FLUORANTHENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	FLUORENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	HEXACHLOROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	HEXACHLOROBUTADIENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	HEXACHLOROCYCLOPENTADIENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	9.00	UG_L	U	10.0	9.00	U	
ERH247	AZ49854	1	HEXACHLOROETHANE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	ISOPHORONE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	NITROBENZENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	N-NITROSODINPROPYLAMINE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH247	AZ49854	1	PENTACHLOROPHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	PHENANTHRENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH247	AZ49854	1	PHENOL	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH247	AZ49854	1	PYRENE	2/8/2017 12:30:00 PM	2/15/2017 4:38:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	1,2,4-TRICHLOROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	1,2-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	1,3-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	1,4-DICHLOROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	1,4-DIOXANE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH248	AZ49855	1	2-(2-METHOXYETHOXY)-ETHANOL	2/8/2017 2:50:00 PM	2/16/2017 3:25:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH248	AZ49855	1	2,2'-OXYBIS(1-CHLOROPROPANE)	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2,4,5-TRICHLOROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2,4,6-TRICHLOROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2,4-DICHLOROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH248	AZ49855	1	2,4-DIMETHYLPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2,4-DINITROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	2,4-DINITROTOLUENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	2,6-DINITROTOLUENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	2-CHLORONAPHTHALENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2-CHLOROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2-METHYLNAPHTHALENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2-METHYLPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	2-NITROANILINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	2-NITROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	3- AND 4-METHYLPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	3,3-DICHLOROBENZIDINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	3-NITROANILINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4,6-DINITRO-2-METHYLPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	4-BROMOPHENYL-PHENYLETHER	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4-CHLORO-3-METHYLPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4-CHLOROANILINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4-CHLOROPHENYL-PHENYLETHER	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4-NITROANILINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	4-NITROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	ACENAPHTHENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	ACENAPHTHYLENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	ANTHRACENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BENZO[A]ANTHRACENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BENZO[A]PYRENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BENZO[B]FLUORANTHENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BENZO[G,H,I]PERYLENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH248	AZ49855	1	BENZO[K]FLUORANTHENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BENZYL ALCOHOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BIS(2-CHLOROETHOXY)METHANE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BIS(2-CHLOROETHYL)ETHER	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	BIS(2-ETHYLHEXYL)PHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	BUTYLBENZYLPHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	CARBAZOLE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	CHRYSENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DIBENZOFURAN	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	DIETHYLPHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DIMETHYL PHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DI-N-BUTYLPHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DI-N-OCTYLPHTHALATE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	DIPHENYLAMINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	FLUORANTHENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	FLUORENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	HEXACHLOROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	HEXACHLOROBUTADIENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	HEXACHLOROCYCLOPENTADIENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	9.00	UG_L	U	10.0	9.00	U	
ERH248	AZ49855	1	HEXACHLOROETHANE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	ISOPHORONE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	NAPHTHALENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	NITROBENZENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	N-NITROSODINPROPYLAMINE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH248	AZ49855	1	PENTACHLOROPHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH248	AZ49855	1	PHENANTHRENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH248	AZ49855	1	PHENOL	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH248	AZ49855	1	PYRENE	2/8/2017 2:50:00 PM	2/15/2017 5:08:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
METHOD: **8270D_SIM**													
ERH225	AZ49853	1	1-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	2-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	ACENAPHTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	ACENAPHTHYLENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	BENZO[A]ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	BENZO[A]PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	BENZO[B]FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	BENZO[G,H,I]PERYLENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	BENZO[K]FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	CHRYSENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	FLUORENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	PHENANTHRENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH225	AZ49853	1	PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:11:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	1-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	2-METHYLNAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	ACENAPHTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	ACENAPHTHYLENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH247	AZ49854	1	BENZO[A]ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	BENZO[A]PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	BENZO[B]FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	BENZO[G,H,I]PERYLENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	BENZO[K]FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	CHRYSENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	FLUORANTHENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	FLUORENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	NAPHTHALENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	PHENANTHRENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH247	AZ49854	1	PYRENE	2/8/2017 12:30:00 PM	2/17/2017 2:44:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	1-METHYLNAPHTHALENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	2-METHYLNAPHTHALENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	ACENAPHTHENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	ACENAPHTHYLENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	ANTHRACENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	BENZO[A]ANTHRACENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	BENZO[A]PYRENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	BENZO[B]FLUORANTHENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	BENZO[G,H,I]PERYLENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	BENZO[K]FLUORANTHENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	CHRYSENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	DIBENZ[A,H]ANTHRACENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	FLUORANTHENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	FLUORENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH248	AZ49855	1	INDENO[1,2,3-CD]PYRENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	NAPHTHALENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	PHENANTHRENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH248	AZ49855	1	PYRENE	2/8/2017 2:50:00 PM	2/17/2017 3:16:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH224	AZ49852	1	METHANE	2/8/2017 11:00:00 AM	2/12/2017 11:28:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH225	AZ49853	1	METHANE	2/8/2017 12:30:00 PM	2/12/2017 11:31:00 AM	D	1.00	UG_L	U	5.0	1.00	U	

03/22/17

The attached zipped file contains one file:

File	Format	Description
1) Readme_RedHill_032217.docx	MS Word 2007	A "Readme" file (this document).
2) 82150_RH_COPC_RHMW09_dva_rev01.xlsx 38192A	MS Excel 2007	A spreadsheet for the following SDGs: 82150

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during verification.

Please contact Stella Cuenco or Judy Ecklund at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LABORATORY DATA CONSULTANTS, INC.
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AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

March 31, 2017

SUBJECT: **Data Quality Assessment Report**
February 2017
Investigation and Remediation of Releases and
Groundwater Protection and Evaluation
Red Hill Bulk Fuel Storage Facility
Joint Base Pearl Harbor-Hickam
Oahu, Hawaii
CTO 0053

Dear Ms. Thach,

Enclosed is the Data Quality Assessment Report, February 2017, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Oahu, Hawaii, CTO 0053

We appreciate this opportunity to support AECOM in the performance of this project.

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

DATA QUALITY ASSESSMENT REPORT

FEBRUARY 2017
INVESTIGATION AND REMEDIATION OF RELEASES AND GROUNDWATER PROTECTION AND EVALUATION

RED HILL BULK FUEL STORAGE FACILITY
JOINT BASE PEARL HARBOR-HICKAM
OAHU, HAWAII

CTO 0053

March 31, 2017

Table of Contents

Section	Title	Page No.
1.0	INTRODUCTION	1
2.0	VOLATILE ORGANIC COMPOUNDS	6
2.1	Precision and Accuracy	6
2.2	Representativeness	7
2.3	Comparability	7
2.4	Completeness	8
2.5	Sensitivity	8
3.0	SEMIVOLATILE ORGANIC COMPOUNDS	8
3.1	Precision and Accuracy	8
3.2	Representativeness	9
3.3	Comparability	9
3.4	Completeness	9
3.5	Sensitivity	9
4.0	POLYNUCLEAR AROMATIC HYDROCARBONS	10
4.1	Precision and Accuracy	10
4.2	Representativeness	11
4.3	Comparability	11
4.4	Completeness	11
4.5	Sensitivity	11
5.0	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE	11
5.1	Precision and Accuracy	11
5.2	Representativeness	12
5.3	Comparability	13
5.4	Completeness	13
5.5	Sensitivity	13
6.0	TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES	13
6.1	Precision and Accuracy	13
6.2	Representativeness	14
6.3	Comparability	14
6.4	Completeness	14
6.5	Sensitivity	14
7.0	ETHYLENE DIBROMIDE	15
7.1	Precision and Accuracy	15
7.2	Representativeness	15
7.3	Comparability	16
7.4	Completeness	16
7.5	Sensitivity	16

8.0 METHANE 16

8.1 Precision and Accuracy 16
8.2 Representativeness 17
8.3 Comparability 17
8.4 Completeness 17
8.5 Sensitivity 17

9.0 METALS 17

9.1 Precision and Accuracy 18
9.2 Representativeness 18
9.3 Comparability 19
9.4 Completeness 19
9.5 Sensitivity 19

10.0 WET CHEMISTRY 19

10.1 Precision and Accuracy 19
10.2 Representativeness 20
10.3 Comparability 20
10.4 Completeness 20
10.5 Sensitivity 20

11.0 VARIANCES IN ANALYTICAL PERFORMANCE 21

12.0 SUMMARY OF PARCCS CRITERIA 21

12.1 Precision and Accuracy 21
12.2 Representativeness 21
12.3 Comparability 21
12.4 Completeness 21
12.5 Sensitivity 22

GLOSSARY

ASTM	American Society for Testing and Materials
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes, total
COPC	Compounds of Potential Concern
CTO	Contract Task Order
DCA	1,2-Dichloroethane
DQAR	Data Quality Assessment Report
DOD	Department of Defense
DL	Detection Limit
EB	Equipment Blank
EDB	Ethylene Dibromide
FB	Field Blank
FD	Field Duplicate
LCS	Laboratory Control Sample
LDC	Laboratory Data Consultants, Inc
LOD	Limit of Detection
LOQ	Limit of Quantitation
MEE	2-(2-Methoxyethoxy)-ethanol
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NAVFAC	Naval Facilities Engineering Command
PAH	Polynuclear Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
PQO	Project Quality Objectives
PT	Proficiency Testing sample
QA/QC	Quality Assurance/Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
RM	Reference Material
RRF	Relative Response Factor
SDG	Sample Delivery Group
SGCU	Silica Gel Clean-Up
SIM	Selected Ion Monitoring
TB	Trip Blank
TPH	Total Petroleum Hydrocarbons
%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
mg/L	Milligrams per Liter
ug/L	Micrograms per Liter

1.0 INTRODUCTION

An investigation and remediation of petroleum product releases and protection and evaluation of groundwater were conducted on February 2017 at the Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam in Oahu, Hawaii. This part of the investigation included the collection and analyses of 37 environmental and quality control (QC) samples. The analyses were performed by the following methods:

Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) SW-846 Method 8260B
Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by EPA SW-846 Method 8260B
1,2-Dichloroethane (1,2-DCA) by EPA SW-846 Method 8260B
Semivolatile Organic Compounds (SVOC) by EPA SW-846 Method 8270D
Phenol by EPA SW-846 Method 8270D
2-(2-Methoxyethoxy)-ethanol (MEE) by EPA SW-846 Method 8270D Modified
Polynuclear Aromatic Hydrocarbons (PAH) by EPA SW-846 Method 8270D-Selected Ion Monitoring (SIM) mode
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW-846 Method 8260B
TPH as Extractables by EPA SW-846 Method 8015B
Ethylene Dibromide (EDB) by EPA SW-846 Method 8011
Methane by Method RSK 175
Metals by EPA SW-846 Method 6010C

Wet Chemistry:
Alkalinity by Standard Method 2320B
Bromide, Fluoride, Chloride, Nitrate and Sulfate (Anions) by EPA Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

Analytical services were provided by APPL, Inc. whom performed analyses on the water samples. The samples were grouped into sample delivery groups (SDGs) as received by each laboratory. The environmental samples are associated with quality assurance (QA) and QC samples designed to document the data quality of the entire SDG or a sub-group of samples within a SDG. Table I is a cross-reference table listing each sample, analysis, SDG, collection date, laboratory sample number, matrix, and validation level.

Approximately ten percent of the analytical data were validated according to Naval Facilities Engineering Command (NAVFAC) Pacific Level D data validation procedures and ninety percent of the analytical data were validated according to NAVFAC Pacific Level C data validation procedures. The analytical data were evaluated for QA/QC based on the *NAVFAC Pacific Environmental Restoration (ER) Program Data Validation Procedures (DON 2015)* and the *Department of Defense Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (DoD 2013).*

This data quality assessment report (DQAR) summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project quality objectives (PQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

The DQAR evaluates and summarizes the results of QA/QC data validation for the entire sampling program. Each analytical fraction has a separate section for each of the PARCCS criteria. These sections interpret specific QC deviations and their effects on both individual data points and the analyses as a

whole. Section 12 presents a summary of the PARCCS criteria by comparing quantitative parameters with acceptability criteria defined in the PQOs. Qualitative PARCCS criteria are also summarized in this section.

Precision and Accuracy of Environmental Data

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which affect the overall quality of a measurement. Errors in sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given media.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: method blanks, laboratory control samples/ laboratory control sample duplicates (LCS/LCSD), laboratory duplicates (DUP), matrix spike/matrix spike duplicates (MS/MSD), ambient blanks (AB), equipment blanks (EB), field blanks (FB), trip blanks (TB) and field duplicates (FD).

Before conducting the PARCCS evaluation, the analytical data were validated according to the NAVFAC procedures and DoD QSM. Samples not meeting the NAVFAC procedures and DoD QSM acceptance criteria were qualified with a flag, an abbreviation indicating a deficiency with the data. The following are flags used in data validation.

J — Estimated The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.

R — Rejected The data is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria. Either resampling or reanalysis is necessary to determine the presence or absence of the rejected analyte.

U — Nondetected Analyses were performed for the compound or analyte, but it was not detected. The "U" designation is also applied to suspected blank contamination. The "U" flag is used to qualify any result detected in an environmental sample at a concentration less than 5 times the concentration in any associated blank.

UJ — Estimated/Nondetected Analyses were performed for the compound or analyte, but it was not detected and the limit of detection (LOD) is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, internal standard, or other spike recovery.

Once the data are reviewed and qualified according to the NAVFAC procedures and DoD QSM, the data set is then evaluated using PARCCS criteria. PARCCS criteria provide an evaluation of overall data usability. The following is a discussion of PARCCS criteria as related to the PQOs.

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from the reported

concentrations. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where:
D1 = the reported concentration for primary sample analyses
D2 = the reported concentrations for duplicate analyses

Precision is primarily assessed by calculating a RPD from the reported concentrations of the spiked compounds for each sample in the MS/MSD pair. In the absence of a MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. An additional measure of sampling precision may be obtained by collecting and analyzing field duplicate samples, which are compared using the RPD result as the evaluation criteria.

MS and MSD samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A LCS is similar to a MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. Non-aqueous LCSs are prepared using solid media approved by the American Society for Testing and Materials (ASTM) for their homogeneity. The LCS measures laboratory efficiency in recovering target analytes from either a solid or aqueous matrix in the absence of matrix interferences.

For inorganic analysis, one primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate and calculates RPDs to assess laboratory precision.

Laboratory and field precision are further evaluated by calculating RPDs for field duplicate pairs. The sampler collects two field samples at the same location and under identically controlled conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the numerical QC limit in MS/MSD samples, LCS/LCSDs, or FDs indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicates, results maybe reported in either the primary or duplicate samples at levels below the limit of quantitation (LOQ) or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate sets do not suggest a significant impact on the data quality.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Surrogate spikes are either isotopically labeled compounds or compounds that are not typically detected in the samples. Surrogate spikes are added to every blank, environmental sample, MS/MSD, LCS/LCSD and standard, for all applicable organic

analyses. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses. Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

Where:
A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS, and surrogate compounds added to environmental samples is evaluated against the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or LODs reported for environmental samples.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population and is evaluated by reviewing the QC results of blank samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, ambient blanks, equipment blanks, field blanks, and trip blanks.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

For inorganic analyses, initial and continuing calibration blanks (ICB/CCB) consist of acidified laboratory grade water, which are injected at the beginning and at a regular frequency during each 12 - hour sample analysis run. These blanks estimate residual contaminants from the previous sample or standards analysis and measure baseline shifts that commonly occur in emission and absorption spectroscopy.

Trip blanks are used to identify possible volatile organic contamination introduced into the sample during transport. A trip blank is a sample volatile organics analysis vial filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid. It is transported to the site, stored with the sample containers, and returned unopened to the laboratory for analysis. Trip blanks were collected and analyzed for VOC, TPH as gasoline, EDB, and methane.

Ambient blanks are source water blanks collected by pouring store-bought distilled water directly into sampling containers on field. Ambient blanks are expected to capture any contamination in the ambient conditions at the potable water sampling location. Ambient blanks were collected and analyzed for BTEX and TPH as gasoline.

Equipment blanks consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure. Equipment blanks were collected and analyzed for BTEX, phenol, MEE, TPH as gasoline, and TPH as extractables.

Field blanks consist of analyte-free source water stored at the sample collection site. The water is collected from each source water used during each sampling event. Field blanks were collected and analyzed for all methods.

Contaminants found in both the environmental sample and a blank sample are assumed to be laboratory artifacts if the concentration in the environmental sample is less than 5 times the blank value for contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation.

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical procedures, the data are considered comparable. Comparability can only be compared with confidence when precision, accuracy, and representativeness are known.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the PQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

Where:
%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the project planning document, with the number determined above.

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. This capability is established during the planning phase to meet the PQOs. It is important that calibration requirements, detection limits (DLs), and project-specific LODs and LOQs presented in the work plan are achieved and that target analytes can be detected at concentrations necessary to support the PQOs. In addition, sample results are compared to method blank and field blank results to identify potential effects of laboratory background and field procedures on sensitivity.

The following sections present a review of QC data for each analytical method. The details regarding the qualification of results are provided in the data validation reports.

2.0 VOLATILE ORGANIC COMPOUNDS

A total of 33 water samples were analyzed for BTEX only, 3 water samples were analyzed for 1,2-DCA only, and 4 water samples were analyzed for VOC by EPA SW-846 Method 8260B. All VOC data were assessed to be valid since none of the 423 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

2.1 Precision and Accuracy

2.1.1 Instrument Calibration

Initial and continuing calibration results provide a means of evaluating accuracy within a particular SDG. Relative response factor (RRF), percent relative standard deviation (%RSD), and percent difference (%D) are the three major parameters used to measure the effectiveness of instrument calibration. RRF is a measure of the relative spectral response of an analyte compared to its internal standard. %RSD is an expression of the linearity of instrument response. %D is a comparison of a continuing calibration instrumental response with its initial response. %RSD and %D exceedances suggest routine instrumental anomalies, which typically impact all sample results for the affected compounds.

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

2.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

2.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

2.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

2.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

2.1.6 Field Duplicate Samples

No VOC were detected in the field duplicate samples ERH205 and ERH206, samples ERH220 and ERH221, and samples ERH225 and ERH247.

2.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

2.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

2.2 Representativeness

2.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

2.2.2 Blanks

Method blanks, ambient blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation. The corrective action consisted of amending the laboratory reported results based on the following criteria.

> Results Below or Above the LOQ If a sample result for the blank contaminant was less than the LOQ or greater than the sample LOQ and less than 5 times the blank value for contaminants, the sample result for the blank contaminant was amended as a non-detect at the concentration reported in the sample results.
>
> No Action If a sample result for the blank contaminant was greater than 5 times the blank value for contaminants, the result was not amended.

2.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

2.2.2.2 Trip Blanks

No data were qualified due to low level VOC in one trip blank.

2.2.2.3 Ambient, Equipment and Field Blanks

No contaminants were detected in the ambient, equipment, and field blanks for this analysis.

2.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

2.4 Completeness

The completeness level attained VOC field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

2.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

3.0 SEMIVOLATILE ORGANIC COMPOUNDS

A total of 17 water samples were analyzed for phenol only, and 3 water samples were analyzed for SVOC by EPA SW-846 Method 8270D, and 20 water samples were analyzed for MEE by EPA SW-846 Method 8270D modified. All SVOC data were assessed to be valid since none of the 235 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

3.1 Precision and Accuracy

3.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

3.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria for SVOC analysis.

3.1.3 MS/MSD Samples

All MS/MSD %Rs were within the acceptance criteria.

No data were qualified in sample ERH225 due to high MS/MSD RPDs since the associated SVOC results were not detected.

3.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

3.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

3.1.6 Field Duplicate Samples

No SVOC were detected in the field duplicate samples ERH205 and ERH206, samples ERH220 and ERH221, and samples ERH225 and ERH247.

3.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

3.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

3.2 Representativeness

3.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

3.2.2 Blanks

Method blanks, equipment blanks and field blanks were collected and analyzed to evaluate representativeness.

3.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

3.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment blanks and field blanks for this analysis.

3.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

3.4 Completeness

The completeness level attained for SVOC field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

3.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

4.0 POLYNUCLEAR AROMATIC HYDROCARBONS

A total of 17 water samples were analyzed for 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene only and 3 samples were analyzed for PAH by EPA SW-846 Method 8270D-SIM. All PAH data were assessed to be valid since none of the 105 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

4.1 Precision and Accuracy

4.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

4.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

4.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

4.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

4.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

4.1.6 Field Duplicate Samples

No PAH were detected in the field duplicate samples ERH205 and ERH206, samples ERH220 and ERH221, and samples ERH225 and ERH247.

4.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

4.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

4.2 Representativeness

4.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

4.2.2 Blanks

Method blanks, equipment blanks, and field blanks were collected and analyzed to evaluate representativeness.

4.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

4.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

4.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

4.4 Completeness

The completeness level attained for PAH field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

4.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

5.0 TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

A total of 34 water samples were analyzed for TPH as gasoline by EPA SW-846 Method 8260B. All TPH as gasoline data were assessed to be valid since none of the 34 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

5.1 Precision and Accuracy

5.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

5.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

5.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

5.1.4 LCS

All LCS %Rs were within the acceptance criteria.

5.1.5 Field Duplicate Samples

No TPH as gasoline was detected in the field duplicate samples ERH205 and ERH206, samples ERH220 and ERH221, and samples ERH225 and ERH247.

5.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

5.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

5.2 Representativeness

5.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

5.2.2 Blanks

Method blanks, ambient blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness.

5.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

5.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

5.2.2.3 Ambient, Equipment and Field Blanks

No contaminants were detected in the ambient, equipment, and field blanks for this analysis.

5.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

5.4 Completeness

The completeness level attained for TPH as gasoline field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

5.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

6.0 TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES

A total of 20 water samples were analyzed for diesel and oil by EPA SW-846 Method 8015B. All TPH as extractable data were assessed to be valid since none of the 40 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

6.1 Precision and Accuracy

6.1.1 Instrument Calibration

The %RSDs met the acceptance criteria of 20 percent in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

6.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

6.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

6.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

6.1.5 Field Duplicate Samples

No TPH as extractables were detected in the field duplicate samples ERH205 and ERH206 and samples ERH225 and ERH247.

All RPDs for diesel and oil were within the acceptance criteria for field duplicate samples ERH220 and ERH221.

6.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

6.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

6.2 Representativeness

6.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

6.2.2 Blanks

Method blanks, equipment blanks and field blanks were collected and analyzed to evaluate representativeness.

6.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

6.2.2.2 Equipment and Field Blanks

Due to contamination in the associated equipment blank, the diesel result in sample ERH227 was qualified as not detected (U).

No contaminants were detected in the field blanks for this analysis.

6.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

6.4 Completeness

The completeness level attained for TPH as extractable field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

6.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

7.0 ETHYLENE DIBROMIDE

A total of 7 water samples were analyzed for EDB by EPA SW-846 Method 8011. All EDB data were assessed to be valid since none of the 7 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

7.1 Precision and Accuracy

7.1.1 Instrument Calibration

The %RSDs in the initial calibration and the %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

7.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

7.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

7.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

7.1.5 Field Duplicate Samples

No EDB was detected in the field duplicate samples ERH220 and ERH221 and samples ERH225 and ERH247.

7.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

7.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

7.2 Representativeness

7.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

7.2.2 Blanks

Method blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness.

7.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

7.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

7.2.2.3 Field Blanks

No contaminants were detected in the field blank for this analysis.

7.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

7.4 Completeness

The completeness level attained for EDB field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

7.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

8.0 METHANE

A total of 24 water samples were analyzed for methane by EPA Method RSK 175. All methane data were assessed to be valid since none of the 24 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

8.1 Precision and Accuracy

8.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

8.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

8.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

8.1.4 Proficiency Testing Samples

PT samples were not performed for the sampling event.

8.1.5 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

8.2 Representativeness

8.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

8.2.2 Blanks

Method blanks and trip blanks were collected and analyzed to evaluate representativeness.

8.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

8.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

8.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

8.4 Completeness

The completeness level attained for methane field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

8.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

9.0 METALS

A total of 3 water samples were analyzed for calcium, iron, lead, magnesium, manganese, potassium, sodium, and dissolved lead by EPA SW-846 Method 6010C. All metals data were assessed to be valid since none of the 24 total results were rejected due to holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the DQOs.

9.1 Precision and Accuracy

9.1.1 Instrument Calibration

Initial and continuing calibration verification results provide a means of evaluating accuracy within a particular SDG. Correlation coefficient (r) and percent recovery (%R) are the two major parameters used to measure the effectiveness of instrument calibration. The correlation coefficient indicates the linearity of the calibration curve. %R is used to verify the ongoing calibration acceptability of the analytical system. The most critical of the two calibration parameters, r, has the potential to affect data accuracy across a SDG when it is outside the acceptable QC limits. %R exceedances suggest more routine instrumental anomalies, which typically impact all sample results for the affected analytes.

The correlation coefficients in the initial calibrations and percent recoveries in the continuing calibration verifications were within the acceptance criteria of $\geq$ 0.995 and 90-110 percent, respectively.

9.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

9.1.3 LCS

All LCS %Rs were within the acceptance criteria.

9.1.4 Field Duplicate Samples

All RPDs for metals were within the acceptance criteria for field duplicate samples ERH225 and ERH247.

9.1.5 ICP Serial Dilution

All serial dilution %Ds were within the acceptance criteria.

9.1.6 ICP Interference Check Sample

All ICP interference check %Rs were within the acceptance criteria.

9.1.7 Proficiency Testing Samples

PT samples were not performed for the sampling event.

9.1.8 Sample Result Verification

All sample results were found to be acceptable.

9.2 Representativeness

9.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

9.2.2 Blanks

Method blanks, ICB/CCBs, and field blanks were analyzed to evaluate representativeness.

9.2.2.1 Method and Calibration Blanks

As a result of method and calibration blank contamination, the sodium result in sample ERH248 was qualified as non-detected (U).

9.2.2.2 Field Blanks

No data were qualified due to metal contamination in one field blank.

9.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target compounds detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

9.4 Completeness

The completeness level attained for metal field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

9.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory LODs and LOQs met the specified requirements described in the work plan.

10.0 WET CHEMISTRY

A total of 12 water samples were analyzed for alkalinity by Standard Method 2320B, anions by EPA Method 300.0, ferrous iron by Standard Method 3500 Fe B. All wet chemistry data were assessed to be valid since none of the 86 total results were rejected due to holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

10.1 Precision and Accuracy

10.1.1 Instrument Calibration

The correlation coefficients in the initial calibrations and percent recoveries in the initial and continuing calibration verifications were within the acceptance criteria of $\geq$ 0.995 and 90-110 percent, respectively.

10.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

10.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

10.1.4 Field Duplicate Samples

Field duplicates were not collected for these analyses.

10.1.5 Proficiency Testing Samples

PT samples were not performed for the sampling event.

10.1.6 Sample Result Verification

All sample results were found to be acceptable.

10.2 Representativeness

10.2.1 Holding Times

The evaluation of holding times to verify compliance with all wet chemistry methods was conducted. All water samples met the 28-day analysis holding time criteria for bromide, chloride, fluoride and sulfate, the 14-day analysis holding time criteria for alkalinity, and the 7-day analysis holding time criteria for ferrous iron.

Due to holding time exceedance, the nitrate results for samples ERH205, ERH223, ERH225 were qualified as detected estimated (J). The analysis holding time criteria is 48 hours.

10.2.2 Blanks

Method blanks were analyzed to evaluate representativeness.

10.2.2.1 Method Blanks

No data were qualified due to low level alkalinity in method blanks.

10.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

10.4 Completeness

The completeness level attained for wet chemistry field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

10.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

11.0 VARIANCES IN ANALYTICAL PERFORMANCE

The laboratory used standard analytical methods for all of the analyses throughout the project. No systematic variances in analytical performance were noted in the case narratives.

12.0 SUMMARY OF PARCCS CRITERIA

The validation reports present the PARCCS results for all SDGs. Each PARCCS criterion is discussed in detail in the following sections.

12.1 Precision and Accuracy

Precision and accuracy were evaluated using data quality indicators such as calibration, surrogates, MS/MSD, LCS, FD, and internal standards. The precision and accuracy of the data set were considered acceptable.

12.2 Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All holding times were met with the exception noted in Section 10.2.1. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after qualification for holding time.

12.3 Comparability

Sampling frequency requirements were met in obtaining field duplicates and necessary field blanks. The laboratory used standard analytical methods for their analyses. The analytical results were reported in correct standard units. The overall comparability is considered acceptable.

12.4 Completeness

Of the 978 total results reported, none of the results were rejected. The completeness for all SDGs is as follows:

Parameter	Total Analytes	No. of Rejects	% Completeness
VOC	423	0	100
SVOC	235	0	100
PAH	105	0	100
TPHG	34	0	100
TPHE	40	0	100
EDB	7	0	100
Methane	24	0	100
Metals	24	0	100
Wet chemistry	86	0	100
Total	**978**	**0**	**100**

The completeness percentage based on rejected data met the 90 percent PQO goal.

12.5 Sensitivity

Sensitivity was achieved by the laboratory to support the PQOs. Calibration concentrations, DLs, LODs and LOQs met the project requirements and low level contamination in the method, equipment and trip blanks did not affect sensitivity.

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	BTEX (8260B)	1,2-DCA (8260B)	VOC (8260B)	Phenol (8270D)	SVOC (8270D)	MEE (8270D Mod)	PAH (3) (8270D-SIM)	PAH (8270D-SIM)	TPHG (8260B)
82117	ERH207	AZ49655	Water	TB	2/6/2017	Level C	X								X
82117	ERH208	AZ49656	Water		2/6/2017	Level C	X			X		X	X		X
82117	ERH244	AZ49657	Water	EB	2/3/2017	Level C	X			X		X	X		X
82117	ERH245	AZ49658	Water	EB	2/3/2017	Level C	X			X		X	X		X
82117	ERH246	AZ49659	Water	TB	2/3/2017	Level C	X								X
82121	ERH205	AZ49674	Water	FD1	2/6/2017	Level D	X			X		X	X		X
82121	ERH204	AZ49675	Water	TB	2/6/2017	Level C	X								X
82121	ERH206	AZ49676	Water	FD1	2/6/2017	Level D	X			X		X	X		X
82121	ERH232	AZ49677	Water	AB	2/6/2017	Level C	X								X
82121	ERH211	AZ49678	Water	TB	2/6/2017	Level C	X								X
82121	ERH212	AZ49679	Water		2/6/2017	Level D	X								X
82121	ERH212	AZ49679	Water		2/6/2017	Level C				X		X	X		
82121	ERH235	AZ49680	Water	AB	2/6/2017	Level C	X								
82121	ERH213	AZ49681	Water	TB	2/6/2017	Level C	X								X
82121	ERH214	AZ49682	Water		2/6/2017	Level C	X			X		X	X		X
82121	ERH228	AZ49683	Water	FB	2/6/2017	Level C	X			X		X	X		X
82121	ERH219	AZ49684	Water	TB	2/6/2017	Level C	X	X							X
82121	ERH220	AZ49685	Water	FD2	2/6/2017	Level C	X	X		X		X	X		X
82121	ERH220	AZ49685	Water	FD2	2/6/2017	Level D									
82121	ERH221	AZ49686	Water	FD2	2/6/2017	Level C	X	X		X		X	X		X
82130	ERH209	AZ49738	Water	TB	2/8/2017	Level C	X								X
82130	ERH218	AZ49739	Water		2/8/2017	Level C	X			X		X	X		X
82130	ERH215	AZ49740	Water	TB	2/7/2017	Level C	X								X
82130	ERH216	AZ49741	Water		2/7/2017	Level C	X			X		X	X		X
82130	ERH217	AZ49742	Water	TB	2/7/2017	Level C	X								X
82130	ERH210	AZ49743	Water		2/7/2017	Level C	X			X		X	X		X
82130	ERH229	AZ49744	Water	EB	2/7/2017	Level C	X			X		X	X		X
82146	ERH230	AZ49856	Water	TB	2/8/2017	Level C	X								X
82146	ERH231	AZ49857	Water		2/8/2017	Level C	X			X		X	X		X
82146	ERH243	AZ49858	Water	AB	2/8/2017	Level C	X								
82146	ERH226	AZ49859	Water	TB	2/9/2017	Level C	X								X
82146	ERH227	AZ49860	Water		2/9/2017	Level C	X			X		X	X		X
82146	ERH222	AZ49861	Water	TB	2/8/2017	Level C	X								X
82146	ERH223	AZ49862	Water		2/8/2017	Level C	X			X		X	X		X
82146	ERH240	AZ49863	Water	AB	2/8/2017	Level C	X								
82150	ERH224	AZ49852	Water	TB	2/8/2017	Level C			X						X
82150	ERH225	AZ49853	Water	FD3	2/8/2017	Level C						X		X	
82150	ERH225	AZ49853	Water	FD3	2/8/2017	Level D			X		X				X
82150	ERH247	AZ49854	Water	FD3	2/8/2017	Level C			X		X	X		X	X

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	BTEX (8260B)	1,2-DCA (8260B)	VOC (8260B)	Phenol (8270D)	SVOC (8270D)	MEE (8270D Mod)	PAH (3) (8270D-SIM)	PAH (8270D-SIM)	TPHG (8260B)
82150	ERH248	AZ49855	Water	FB	2/8/2017	Level C			X		X	X		X	X

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	TPHE (8015B)	EDB (8011)	Methane (RSK175)	Metals (6010C)	Diss Pb (6010C)	Alkalinity (2320B)	Anions (300.0)	Fe II (3500 FeB)
82117	ERH207	AZ49655	Water	TB	2/6/2017	Level C			X					
82117	ERH208	AZ49656	Water		2/6/2017	Level C	X		X			X	X	X
82117	ERH244	AZ49657	Water	EB	2/3/2017	Level C	X							
82117	ERH245	AZ49658	Water	EB	2/3/2017	Level C	X							
82117	ERH246	AZ49659	Water	TB	2/3/2017	Level C								
82121	ERH205	AZ49674	Water	FD1	2/6/2017	Level D	X		X			X	X	X
82121	ERH204	AZ49675	Water	TB	2/6/2017	Level C			X					
82121	ERH206	AZ49676	Water	FD1	2/6/2017	Level D	X							
82121	ERH232	AZ49677	Water	AB	2/6/2017	Level C								
82121	ERH211	AZ49678	Water	TB	2/6/2017	Level C			X					
82121	ERH212	AZ49679	Water		2/6/2017	Level D			X					
82121	ERH212	AZ49679	Water		2/6/2017	Level C	X					X	X	X
82121	ERH235	AZ49680	Water	AB	2/6/2017	Level C								
82121	ERH213	AZ49681	Water	TB	2/6/2017	Level C			X					
82121	ERH214	AZ49682	Water		2/6/2017	Level C	X		X			X	X	X
82121	ERH228	AZ49683	Water	FB	2/6/2017	Level C	X							
82121	ERH219	AZ49684	Water	TB	2/6/2017	Level C		X	X					
82121	ERH220	AZ49685	Water	FD2	2/6/2017	Level C	X		X			X	X	X
82121	ERH220	AZ49685	Water	FD2	2/6/2017	Level D		X						
82121	ERH221	AZ49686	Water	FD2	2/6/2017	Level C	X	X						
82130	ERH209	AZ49738	Water	TB	2/8/2017	Level C			X					
82130	ERH218	AZ49739	Water		2/8/2017	Level C	X		X			X	X	X
82130	ERH215	AZ49740	Water	TB	2/7/2017	Level C			X					
82130	ERH216	AZ49741	Water		2/7/2017	Level C	X		X			X	X	X
82130	ERH217	AZ49742	Water	TB	2/7/2017	Level C			X					
82130	ERH210	AZ49743	Water		2/7/2017	Level C	X		X			X	X	X
82130	ERH229	AZ49744	Water	EB	2/7/2017	Level C	X							
82146	ERH230	AZ49856	Water	TB	2/8/2017	Level C			X					
82146	ERH231	AZ49857	Water		2/8/2017	Level C	X		X			X	X	X
82146	ERH243	AZ49858	Water	AB	2/8/2017	Level C								
82146	ERH226	AZ49859	Water	TB	2/9/2017	Level C			X					
82146	ERH227	AZ49860	Water		2/9/2017	Level C	X		X			X	X	X
82146	ERH222	AZ49861	Water	TB	2/8/2017	Level C			X					
82146	ERH223	AZ49862	Water		2/8/2017	Level C	X		X			X	X	X
82146	ERH240	AZ49863	Water	AB	2/8/2017	Level C								
82150	ERH224	AZ49852	Water	TB	2/8/2017	Level C		X	X					
82150	ERH225	AZ49853	Water	FD3	2/8/2017	Level C	X	X						
82150	ERH225	AZ49853	Water	FD3	2/8/2017	Level D			X	X	X	X	X	X
82150	ERH247	AZ49854	Water	FD3	2/8/2017	Level C	X	X		X	X			

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	TPHE (8015B)	EDB (8011)	Methane (RSK175)	Metals (6010C)	Diss Pb (6010C)	Alkalinity (2320B)	Anions (300.0)	Fe II (3500 FeB)
82150	ERH248	AZ49855	Water	FB	2/8/2017	Level C	X	X		X	X			

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

April 6, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on March 22, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38310:

SDG #	Fraction
82337	Volatiles, Semivolatiles, 2-(2-Methoxyethoxy)-ethanol, Wet Chemistry, Gasoline Range Organics, TPH as Extractables, Methane

The data validation was performed under Level C validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, August 2016
- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i, Revision 01, November 2016
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC

Attachment 1

EDD 90/10

LDC #38310 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	BTEX (8260B)		3 PAHs (8270D -SIM)		Phenol (8270D)		2,2-MEE (8270D-M)		TPH-G (8260B)		TPH-E (8015B)		Methane (175)		Alk. (2320B)		Cl, NO_3,SO_4 (300.0)		Fe II (3500-Fe B)											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	82337	03/22/17	04/12/17	5	0	3	0	3	0	3	0	5	0	3	0	2	0	1	0	1	0	1	0										
Total	T/SC			5	0	3	0	3	0	3	0	5	0	3	0	2	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	27

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38310ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH252	AZ51052	Water	03/03/17
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH259	AZ51055	Water	03/06/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH252 and ERH259 were identified as trip blanks. No contaminants were found.

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A1
SDG #: 82337
Laboratory: APPL, ~~Labs~~ Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 3/29/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: K

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4 EB = 2, 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH252	TB	AZ51052	Water	03/03/17
2	ERH253	EB	AZ51053	Water	03/03/17
3	ERH254	EB	AZ51054	Water	03/03/17
4	ERH259	TB	AZ51055	Water	03/06/17
5	ERH260		AZ51056	Water	03/06/17
6					
7					
8					
9					

Notes:

	170308						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A2a

SDG #: 82337

Laboratory: APPL, ~~Labs~~ Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 1, 2
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH253 EB	AZ51053	Water	03/03/17
2	ERH254 EB	AZ51054	Water	03/03/17
3	ERH260	AZ51056	Water	03/06/17
4				
5				
6				
7				
8				
9				

Notes:

	170309A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A2b

SDG #: 82337

Laboratory: APPL, ~~Labs~~ Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 1,2
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH253 EB	AZ51053	Water	03/03/17
2	ERH254 EB	AZ51054	Water	03/03/17
3	ERH260	AZ51056	Water	03/06/17
4				
5				
6				
7				
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Notes:

	170309B						

TTT, W, S only

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A2c

SDG #: 82337

Laboratory: APPL, ~~Labs~~ Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer: EJ

2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~ Mod

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 1, 2
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	N	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH253 EB	AZ51053	Water	03/03/17
2	ERH254 EB	AZ51054	Water	03/03/17
3	ERH260	AZ51056	Water	03/06/17
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8				
9				

Notes:

	170310A						

LDC #: 38310A2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity Bicarbonate alkalinity	2.1 mg/L 2.1 mg/L	All samples in SDG 82337

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A6

SDG #: 82337

Laboratory: APPL Labs Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 4/3/17

Page: 1 of 1

Reviewer: a

2nd Reviewer: A

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A ~~SW~~	A
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	CS
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH260	AZ51056	Water	03/06/17
2				
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11				
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13				
14				
15				

Notes:

LDC #: 38310A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Fe++
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38310A6

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: G
2nd Reviewer: AC

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No qual (>5x)									
Total Alkalinity	2.1		10.5										
Bicarbonate Alkalinity	2.1		10.5										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH252	AZ51052	Water	03/03/17
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH259	AZ51055	Water	03/06/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH252 and ERH259 were identified as trip blanks. No contaminants were found.

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A7

SDG #: 82337

Laboratory: APPL, Labs Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer: EJ

2nd Reviewer: C

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4 EB = 2, 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH252 TB	AZ51052	Water	03/03/17
2	ERH253 EB	AZ51053	Water	03/03/17
3	ERH254 EB	AZ51054	Water	03/03/17
4	ERH259 TB	AZ51055	Water	03/06/17
5	ERH260	AZ51056	Water	03/06/17
6				
7				
8				
9				

Notes:

	M0308AM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH253	AZ51053	Water	03/03/17
ERH254	AZ51054	Water	03/03/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH253 and ERH254 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH254	03/03/17	Oil (C24-C40)	47 ug/L	No associated samples in this SDG

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A8

SDG #: 82337

Laboratory: APPL, ~~Labs~~ Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	*
V.	Field blanks	SW	EB = 1, 2
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH253 EB	AZ51053	Water	03/03/17
2	ERH254 EB	AZ51054	Water	03/03/17
3	ERH260	AZ51056	Water	03/06/17
4				
5				
6				
7				
8				
9				
10				
11				

Notes:

	170310A						

LDC #: 38310A8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ **GC** __ **HPLC**
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 03/31/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB
Associated Samples: None

Compound	Blank ID	Blank ID	Sample Identification							
	2									
Oil (C24-C40)	47									
CRQL										

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other:_____
Associated Samples:_____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 4, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82337

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH259	AZ51055	Water	03/06/17
ERH260	AZ51056	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH259 was identified as a trip blank. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82337

No Sample Data Qualified in this SDG

LDC #: 38310A51

SDG #: 82337

Laboratory: APPL, ~~Labs~~ Inc

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 3/29/17

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Matrix spike/Matrix spike duplicates	N	CS
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	A	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH259 TB	AZ51055	Water	03/06/17
2	ERH260	AZ51056	Water	03/06/17
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

Notes:

	170389A						

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH260	AZ51056	1	ALKALINITY, AS CACO3	3/6/2017 8:35:00 AM	3/13/2017 4:29:00 PM	C	78.4	MG_L		2.0	1.70		
ERH260	AZ51056	1	ALKALINITY, BICARBONATE	3/6/2017 8:35:00 AM	3/13/2017 4:29:00 PM	C	78.4	MG_L		2.0	1.70		
ERH260	AZ51056	1	ALKALINITY, CARBONATE	3/6/2017 8:35:00 AM	3/13/2017 4:29:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH260	AZ51056	5	CHLORIDE	3/6/2017 8:35:00 AM	3/7/2017 2:46:00 PM	C	75.9	MG_L	D	5.0	1.00		
ERH260	AZ51056	1	NITRATE	3/6/2017 8:35:00 AM	3/7/2017 1:25:00 PM	C	2.7	MG_L		0.5	0.18		
ERH260	AZ51056	1	SULFATE	3/6/2017 8:35:00 AM	3/7/2017 1:25:00 PM	C	10.7	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH260	AZ51056	1	IRON, FERROUS	3/6/2017 8:35:00 AM	3/8/2017 5:17:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH253	AZ51053	1	TPH-DIESEL RANGE	3/3/2017 11:20:00 AM	3/14/2017 3:52:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH253	AZ51053	1	TPH-OIL RANGE	3/3/2017 11:20:00 AM	3/14/2017 3:52:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH254	AZ51054	1	TPH-DIESEL RANGE	3/3/2017 10:35:00 AM	3/14/2017 4:13:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH254	AZ51054	1	TPH-OIL RANGE	3/3/2017 10:35:00 AM	3/14/2017 4:13:00 AM	C	47	UG_L	T3M	40.0	40.00		
ERH260	AZ51056	1	TPH-DIESEL RANGE	3/6/2017 8:35:00 AM	3/14/2017 4:34:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH260	AZ51056	1	TPH-OIL RANGE	3/6/2017 8:35:00 AM	3/14/2017 4:34:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH252	AZ51052	1	BENZENE	3/3/2017 10:10:00 AM	3/9/2017 1:15:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH252	AZ51052	1	ETHYLBENZENE	3/3/2017 10:10:00 AM	3/9/2017 1:15:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH252	AZ51052	1	TOLUENE	3/3/2017 10:10:00 AM	3/9/2017 1:15:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH252	AZ51052	1	TPH-GASOLINE RANGE C6-C10	3/3/2017 10:10:00 AM	3/9/2017 1:14:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH252	AZ51052	1	XYLENES, TOTAL	3/3/2017 10:10:00 AM	3/9/2017 1:15:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH253	AZ51053	1	BENZENE	3/3/2017 11:20:00 AM	3/9/2017 1:44:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH253	AZ51053	1	ETHYLBENZENE	3/3/2017 11:20:00 AM	3/9/2017 1:44:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH253	AZ51053	1	TOLUENE	3/3/2017 11:20:00 AM	3/9/2017 1:44:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH253	AZ51053	1	TPH-GASOLINE RANGE C6-C10	3/3/2017 11:20:00 AM	3/9/2017 1:43:00 AM	C	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH253	AZ51053	1	XYLENES, TOTAL	3/3/2017 11:20:00 AM	3/9/2017 1:44:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH254	AZ51054	1	BENZENE	3/3/2017 10:35:00 AM	3/9/2017 2:12:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH254	AZ51054	1	ETHYLBENZENE	3/3/2017 10:35:00 AM	3/9/2017 2:12:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH254	AZ51054	1	TOLUENE	3/3/2017 10:35:00 AM	3/9/2017 2:12:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH254	AZ51054	1	TPH-GASOLINE RANGE C6-C10	3/3/2017 10:35:00 AM	3/9/2017 2:11:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH254	AZ51054	1	XYLENES, TOTAL	3/3/2017 10:35:00 AM	3/9/2017 2:12:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH259	AZ51055	1	BENZENE	3/6/2017 8:00:00 AM	3/9/2017 2:40:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH259	AZ51055	1	ETHYLBENZENE	3/6/2017 8:00:00 AM	3/9/2017 2:40:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH259	AZ51055	1	TOLUENE	3/6/2017 8:00:00 AM	3/9/2017 2:40:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH259	AZ51055	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 8:00:00 AM	3/9/2017 2:39:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH259	AZ51055	1	XYLENES, TOTAL	3/6/2017 8:00:00 AM	3/9/2017 2:40:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH260	AZ51056	1	BENZENE	3/6/2017 8:35:00 AM	3/9/2017 3:08:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH260	AZ51056	1	ETHYLBENZENE	3/6/2017 8:35:00 AM	3/9/2017 3:08:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH260	AZ51056	1	TOLUENE	3/6/2017 8:35:00 AM	3/9/2017 3:08:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH260	AZ51056	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 8:35:00 AM	3/9/2017 3:07:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH260	AZ51056	1	XYLENES, TOTAL	3/6/2017 8:35:00 AM	3/9/2017 3:08:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH253	AZ51053	1	2-(2-METHOXYETHOXY)-ETHANOL	3/3/2017 11:20:00 AM	3/13/2017 12:06:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH253	AZ51053	1	PHENOL	3/3/2017 11:20:00 AM	3/10/2017 4:51:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH254	AZ51054	1	2-(2-METHOXYETHOXY)-ETHANOL	3/3/2017 10:35:00 AM	3/13/2017 1:20:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH254	AZ51054	1	PHENOL	3/3/2017 10:35:00 AM	3/10/2017 5:21:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH260	AZ51056	1	2-(2-METHOXYETHOXY)-ETHANOL	3/6/2017 8:35:00 AM	3/13/2017 1:51:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH260	AZ51056	1	PHENOL	3/6/2017 8:35:00 AM	3/14/2017 9:02:00 AM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH253	AZ51053	1	1-METHYLNAPHTHALENE	3/3/2017 11:20:00 AM	3/13/2017 8:23:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH253	AZ51053	1	2-METHYLNAPHTHALENE	3/3/2017 11:20:00 AM	3/13/2017 8:23:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH253	AZ51053	1	NAPHTHALENE	3/3/2017 11:20:00 AM	3/13/2017 8:23:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH254	AZ51054	1	1-METHYLNAPHTHALENE	3/3/2017 10:35:00 AM	3/13/2017 8:56:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH254	AZ51054	1	2-METHYLNAPHTHALENE	3/3/2017 10:35:00 AM	3/13/2017 8:56:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH254	AZ51054	1	NAPHTHALENE	3/3/2017 10:35:00 AM	3/13/2017 8:56:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH260	AZ51056	1	1-METHYLNAPHTHALENE	3/6/2017 8:35:00 AM	3/13/2017 9:29:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH260	AZ51056	1	2-METHYLNAPHTHALENE	3/6/2017 8:35:00 AM	3/13/2017 9:29:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH260	AZ51056	1	NAPHTHALENE	3/6/2017 8:35:00 AM	3/13/2017 9:29:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH259	AZ51055	1	METHANE	3/6/2017 8:00:00 AM	3/9/2017 8:18:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH260	AZ51056	1	METHANE	3/6/2017 8:35:00 AM	3/9/2017 8:23:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

04/05/17

The attached zipped file contains one file:

File	Format	Description
1) Readme_RedHill_040517.docx	MS Word 2007	A "Readme" file (this document).
2) 82337_RH_COPC_dva.xlsx	MS Excel 2007	A spreadsheet for the following SDGs: 82337

38310A

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during verification.

Please contact Stella Cuenco or Judy Ecklund at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

April 18, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on March 29, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38368:

SDG #	**Fraction**
82351, 82369	Volatiles, Phenol, Polynuclear Aromatic Hydrocarbons, 2-(2-Methoxyethoxy)-ethanol, Wet Chemistry, Gasoline Range Organics, TPH as Extractables, Ethylene Dibromide, Methane

The data validation was performed under Level C validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, August 2016
- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i, Revision 01, November 2016
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC

Attachment 1

EDD 90/10

LDC #38368 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)		SVOA (8270D)		PAHs (8270D -SIM)		2,2-MEE (8270D-M)		TPH-G (8260B)		TPH-E (8015B)		EDB (8011)		Methane (175)		Alk. (2320B)		Cl, NO_3,SO_4 (300.0)		Fe II (3500-Fe B)									
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
B	82351	03/29/17	04/19/17	12	0	6	0	6	0	6	0	10	0	6	0	3	0	8	0	4	0	4	0	4	0								
C	82369	03/29/17	04/19/17	7	0	4	0	4	0	4	0	7	0	4	0	1	0	6	0	3	0	3	0	3	0								
C	82369	03/29/17	04/19/17	2	0	1	0	1	0	1	0	2	0	1	0	1	0	2	0	1	0	1	0	1	0								
Total	T/SC			21	0	11	0	11	0	11	0	19	0	11	0	5	0	16	0	8	0	8	0	8	0	0	0	0	0	0	0	0	129

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38368ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH255	AZ51130	Water	03/06/17
ERH256	AZ51131	Water	03/06/17
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH261	AZ51134	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH266	AZ51137	Water	03/07/17
ERH267	AZ51138	Water	03/07/17
ERH268	AZ51139	Water	03/07/17
ERH269	AZ51140	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17
ERH262MS	AZ51135MS	Water	03/06/17
ERH262MSD	AZ51135MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and 1,2-Dichloroethane by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH255, ERH261, ERH266, and ERH269 were identified as trip blanks. No contaminants were found.

Samples ERH256 and ERH267 were identified as ambient blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B1
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/9/17
Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)
BTEX + 1,2-Dichloroethane

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	SW	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration/closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 5, 8, 17 EB = 2, 9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 3, 4 6, 7
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1 1	ERH255	TB	AZ51130	Water	03/06/17
2 1	ERH256	EB	AZ51131	Water	03/06/17
3 2	ERH257	D	AZ51132	Water	03/06/17
4 1	ERH258	D	AZ51133	Water	03/06/17
5 1	ERH261	TB	AZ51134	Water	03/06/17
6 1	ERH262	D1	AZ51135	Water	03/06/17
7 1	ERH263	D1	AZ51136	Water	03/06/17
8 1	ERH266	TB	AZ51137	Water	03/07/17
9 1	ERH267	EB	AZ51138	Water	03/07/17
10 2	ERH268		AZ51139	Water	03/07/17
11 2	ERH269	TB	AZ51140	Water	03/07/17
12 2	ERH270		AZ51141	Water	03/07/17
13 2	ERH257MS		AZ51132MS	Water	03/06/17

LDC #: 38368B1
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/9/17

Reviewer: FJ
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

	Client ID	Lab ID	Matrix	Date
14 2	ERH257MSD	AZ51132MSD	Water	03/06/17
15 2	ERH262MS	AZ51135MS	Water	03/06/17
16 2	ERH262MSD	AZ51135MSD	Water	03/06/17
17				
18				
19				
20				
21				

Notes:

	170309AM1						
	170310AM						

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38368B /

VALIDATION FINDINGS WORKSHEET
GC/MS Performance Check

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were the BFB performance results reviewed and found to be within the EPA Functional Guideline criteria?

Y N N/A Were all samples analyzed within the 12 hour clock criteria?

#	Laboratory ID	12 Hour Clock (Time/date)	Finding	Associated Samples	Qualifications
	14	38 mins outside 12 HR clock			text

m/z	ION ABUNDANCE CRITERIA
50	15 - 40.0% of m/z 95
75	30.0 - 60.0% of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174

m/z	ION ABUNDANCE CRITERIA
174	Greater than 50.0% of m/z 95
175	5.0 - 9.0% of mass 174
176	Greater than 95.0% but <101% of m/z 174
177	5.0 - 9.0% of m/z 176

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 18, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH268	AZ51139	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B2a

SDG #: 82351

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 4/09/17

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	ccv ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D= 1,2 3,4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH257	AZ51132	Water	03/06/17
2	ERH258	AZ51133	Water	03/06/17
3	ERH262	AZ51135	Water	03/06/17
4	ERH263	AZ51136	Water	03/06/17
5	ERH268	AZ51139	Water	03/07/17
6	ERH270	AZ51141	Water	03/07/17
7	ERH257MS	AZ51132MS	Water	03/06/17
8	ERH257MSD	AZ51132MSD	Water	03/06/17
9				
10				
11	170309A			
12				
13				

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH268	AZ51139	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B2b
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	
X.	Field duplicates	ND	D = 1,2 D1 = 3,4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH257 D	AZ51132	Water	03/06/17
2	ERH258 D	AZ51133	Water	03/06/17
3	ERH262 D1	AZ51135	Water	03/06/17
4	ERH263 D1	AZ51136	Water	03/06/17
5	ERH268	AZ51139	Water	03/07/17
6	ERH270	AZ51141	Water	03/07/17
7	ERH257MS	AZ51132MS	Water	03/06/17
8	ERH257MSD	AZ51132MSD	Water	03/06/17
9				
10				
11	170309B			
12				
13				

TTT, W, S only

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH268	AZ51139	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B2c
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/09/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: PR

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1,2 3,4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH257	AZ51132	Water	03/06/17
2	ERH258	AZ51133	Water	03/06/17
3	ERH262	AZ51135	Water	03/06/17
4	ERH263	AZ51136	Water	03/06/17
5	ERH268	AZ51139	Water	03/07/17
6	ERH270	AZ51141	Water	03/07/17
7	ERH257MS	AZ51132MS	Water	03/06/17
8	ERH257MSD	AZ51132MSD	Water	03/06/17
9				
10				
11	170310 A			
12				
13				

LDC #: 34368B2 C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH257	AZ51132	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH268	AZ51139	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH257	Nitrate	51.80 hours	48 hours	J (all detects)	P
ERH262	Nitrate	49.87 hours	48 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	2.1 mg/L	All samples in SDG 82351

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82351

Sample	Analyte	Flag	A or P	Reason (Code)
ERH257 ERH262	Nitrate	J (all detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B6
SDG #: 82351
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/10/17
Page: 1 of 1
Reviewer: JB
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	(5, 6)
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH257	AZ51132	Water	03/06/17
2	ERH262	AZ51135	Water	03/06/17
3	ERH268	AZ51139	Water	03/07/17
4	ERH270	AZ51141	Water	03/07/17
5	ERH257MS Alk, Fe	AZ51132MS	Water	03/06/17
6	ERH257MSD ↓	AZ51132MSD	Water	03/06/17
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 38368B4

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: KP

All circled methods are applicable to each sample.

Sample ID	Parameter
1-4	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
5,6	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38368B6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JB
2nd reviewer: RK

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		SM3500-Fe-D			EPA 300.0		
Parameters:		Ferrous Iron			Nitrate		
Technical holding time:		48 Hours			48 Hours		
Sample ID	Sampling date/ time	Analysis date/time	Total Time	Qualifier	Analysis date/time	Total Time	Qualifier
1	3/6/17 (9:50)	3/8/17 (17:06)	55.27	No qual ~~J/UJ/P~~ (ND)	3/8/17 (13:38)	51.80	J/UJ/P (Det)
2	3/6/17 (12:00)	3/8/17 (17:24)	53.40	~~J/UJ/P~~ (ND)	3/8/17 (13:52)	49.87	J/UJ/P (Det)
				(QAPP: 7 days)			

LDC #: 38368B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer: KK

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qualifiers										
Alkalinity, Total	2.1		10.5											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH255	AZ51130	Water	03/06/17
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH261	AZ51134	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH266	AZ51137	Water	03/07/17
ERH268	AZ51139	Water	03/07/17
ERH269	AZ51140	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17
ERH262MS	AZ51135MS	Water	03/06/17
ERH262MSD	AZ51135MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH255, ERH261, ERH266, and ERH269 were identified as trip blanks. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B7

SDG #: 82351

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 4/9/17

Page: 1 of 2

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4, 7, 9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3 5, 6
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH255	TB	AZ51130	Water	03/06/17
2	ERH257	~~AB~~ D	AZ51132	Water	03/06/17
3	ERH258	D	AZ51133	Water	03/06/17
4	ERH261	TB	AZ51134	Water	03/06/17
5	ERH262	D	AZ51135	Water	03/06/17
6	ERH263	D	AZ51136	Water	03/06/17
7	ERH266	TB	AZ51137	Water	03/07/17
8	ERH268		AZ51139	Water	03/07/17
9	ERH269	TB	AZ51140	Water	03/07/17
10	ERH270		AZ51141	Water	03/07/17
11	ERH257MS		AZ51132MS	Water	03/06/17
12	ERH257MSD		AZ51132MSD	Water	03/06/17
13	ERH262MS		AZ51135MS	Water	03/06/17

LDC #: 38368B7

SDG #: 82351

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C

Date: 4/9/17

Page: 2 of 2

Reviewer: F7

2nd Reviewer: KR

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

	Client ID	Lab ID	Matrix	Date
14	ERH262MSD	AZ51135MSD	Water	03/06/17
15				
16				
17				
18				
19				

Notes:

	170309AM						
	170310AM						
	F7						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH257	AZ51132	Water	03/06/17
ERH258	AZ51133	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH268	AZ51139	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH257 and ERH258 and samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ERH262	ERH263	
Diesel (C10-C24)	27J	25J	8 (≤50)
Oil (C24-C40)	23J	25J	8 (≤50)

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B8
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/9/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	N	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D=*1,2 3,4
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; *ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH257	D	AZ51132	Water	03/06/17
2	ERH258	D	AZ51133	Water	03/06/17
3	ERH262	D_1	AZ51135	Water	03/06/17
4	ERH263	D_1	AZ51136	Water	03/06/17
5	ERH268		AZ51139	Water	03/07/17
6	ERH270		AZ51141	Water	03/07/17
7	ERH257MS		AZ51132MS	Water	03/06/17
8	ERH257MSD		AZ51132MSD	Water	03/06/17
9					
10					
11					
12					

Notes:

	170310A1						

LDC#: 38368B8

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: EJ
2nd Reviewer: KA

METHOD: GC Extractables (EPA SW 846 Method 8015B)

Compound	Concentration (ug/L)		RPD ≤ 50
	3	4	
Diesel (C10-C24)	27J	25J	8
Oil (C24-C40)	23J	25J	8

V:\FIELD DUPLICATES\36368B8.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH261	AZ51134	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH263	AZ51136	Water	03/06/17
ERH262MS	AZ51135MS	Water	03/06/17
ERH262MSD	AZ51135MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH261 was identified as a trip blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH262 and ERH263 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B10
SDG #: 82351
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 4/09/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC Ethylene Dibromide (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	
III.	Continuing calibration	A	
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2, 3
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH261 TB	AZ51134	Water	03/06/17
2	ERH262 D	AZ51135	Water	03/06/17
3	ERH263 D	AZ51136	Water	03/06/17
4	ERH262MS	AZ51135MS	Water	03/06/17
5	ERH262MSD	AZ51135MSD	Water	03/06/17
6				
7				
8				
9				
10				
11				
12				

Notes:

	170311A1						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82351

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH255	AZ51130	Water	03/06/17
ERH257	AZ51132	Water	03/06/17
ERH261	AZ51134	Water	03/06/17
ERH262	AZ51135	Water	03/06/17
ERH266	AZ51137	Water	03/07/17
ERH268	AZ51139	Water	03/07/17
ERH269	AZ51140	Water	03/07/17
ERH270	AZ51141	Water	03/07/17
ERH257MS	AZ51132MS	Water	03/06/17
ERH257MSD	AZ51132MSD	Water	03/06/17
ERH262MS	AZ51135MS	Water	03/06/17
ERH262MSD	AZ51135MSD	Water	03/06/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH255, ERH261, ERH266, and ERH269 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82351

No Sample Data Qualified in this SDG

LDC #: 38368B51
SDG #: 82351
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 7/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	
III.	Continuing calibration	A	% RSD / ICV ≤ 20
IV.	Laboratory Blanks	A	CCV ≤ 20
V.	Field blanks	ND	TB = 1, 3, 5, 7
VI.	Matrix spike/Matrix spike duplicates	A	
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH255 TB	AZ51130	Water	03/06/17
2	ERH257	AZ51132	Water	03/06/17
3	ERH261 TB	AZ51134	Water	03/06/17
4	ERH262	AZ51135	Water	03/06/17
5	ERH266 TB	AZ51137	Water	03/07/17
6	ERH268	AZ51139	Water	03/07/17
7	ERH269 TB	AZ51140	Water	03/07/17
8	ERH270	AZ51141	Water	03/07/17
9	ERH257MS	AZ51132MS	Water	03/06/17
10	ERH257MSD	AZ51132MSD	Water	03/06/17
11	ERH262MS	AZ51135MS	Water	03/06/17
12	ERH262MSD	AZ51135MSD	Water	03/06/17
13				
14				
15				

Notes:

	170310A						
	170317A						

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH257	AZ51132	1	ALKALINITY, AS CACO3	3/6/2017 9:50:00 AM	3/13/2017 4:34:00 PM	C	61.2	MG_L		2.0	1.70		
ERH257	AZ51132	1	ALKALINITY, BICARBONATE	3/6/2017 9:50:00 AM	3/13/2017 4:34:00 PM	C	61.2	MG_L		2.0	1.70		
ERH257	AZ51132	1	ALKALINITY, CARBONATE	3/6/2017 9:50:00 AM	3/13/2017 4:34:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH262	AZ51135	1	ALKALINITY, AS CACO3	3/6/2017 12:00:00 PM	3/13/2017 5:09:00 PM	C	80.8	MG_L		2.0	1.70		
ERH262	AZ51135	1	ALKALINITY, BICARBONATE	3/6/2017 12:00:00 PM	3/13/2017 5:09:00 PM	C	80.8	MG_L		2.0	1.70		
ERH262	AZ51135	1	ALKALINITY, CARBONATE	3/6/2017 12:00:00 PM	3/13/2017 5:09:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH268	AZ51139	1	ALKALINITY, AS CACO3	3/7/2017 10:30:00 AM	3/13/2017 5:15:00 PM	C	289	MG_L		2.0	1.70		
ERH268	AZ51139	1	ALKALINITY, BICARBONATE	3/7/2017 10:30:00 AM	3/13/2017 5:15:00 PM	C	289	MG_L		2.0	1.70		
ERH268	AZ51139	1	ALKALINITY, CARBONATE	3/7/2017 10:30:00 AM	3/13/2017 5:15:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH270	AZ51141	1	ALKALINITY, AS CACO3	3/7/2017 8:20:00 AM	3/13/2017 5:29:00 PM	C	118	MG_L		2.0	1.70		
ERH270	AZ51141	1	ALKALINITY, BICARBONATE	3/7/2017 8:20:00 AM	3/13/2017 5:29:00 PM	C	118	MG_L		2.0	1.70		
ERH270	AZ51141	1	ALKALINITY, CARBONATE	3/7/2017 8:20:00 AM	3/13/2017 5:29:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH257	AZ51132	5	CHLORIDE	3/6/2017 9:50:00 AM	3/14/2017 10:48:00 AM	C	91.8	MG_L		5.0	1.00		
ERH257	AZ51132	1	NITRATE	3/6/2017 9:50:00 AM	3/8/2017 1:38:00 PM	C	2.8	MG_L		0.5	0.18	J	h
ERH257	AZ51132	1	SULFATE	3/6/2017 9:50:00 AM	3/8/2017 1:38:00 PM	C	15.6	MG_L		1.0	0.20		
ERH262	AZ51135	5	CHLORIDE	3/6/2017 12:00:00 PM	3/14/2017 11:02:00 AM	C	159	MG_L		5.0	1.00		
ERH262	AZ51135	1	NITRATE	3/6/2017 12:00:00 PM	3/8/2017 1:52:00 PM	C	2.7	MG_L		0.5	0.18	J	h
ERH262	AZ51135	5	SULFATE	3/6/2017 12:00:00 PM	3/14/2017 11:02:00 AM	C	80.1	MG_L		5.0	1.00		
ERH268	AZ51139	1	CHLORIDE	3/7/2017 10:30:00 AM	3/8/2017 2:32:00 PM	C	47.2	MG_L		1.0	0.20		
ERH268	AZ51139	1	NITRATE	3/7/2017 10:30:00 AM	3/8/2017 2:32:00 PM	C	7.4	MG_L		0.5	0.18		
ERH268	AZ51139	1	SULFATE	3/7/2017 10:30:00 AM	3/8/2017 2:32:00 PM	C	46.8	MG_L		1.0	0.20		
ERH270	AZ51141	10	CHLORIDE	3/7/2017 8:20:00 AM	3/14/2017 1:15:00 PM	C	454	MG_L		10.0	2.00		
ERH270	AZ51141	2	NITRATE	3/7/2017 8:20:00 AM	3/8/2017 2:05:00 PM	C	4.4	MG_L		1.0	0.36		
ERH270	AZ51141	2	SULFATE	3/7/2017 8:20:00 AM	3/8/2017 2:05:00 PM	C	68.8	MG_L		2.0	0.40		
METHOD: **3500_FE_B**													

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **3500_FE_B**													
ERH257	AZ51132	1	IRON, FERROUS	3/6/2017 9:50:00 AM	3/8/2017 5:06:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH262	AZ51135	1	IRON, FERROUS	3/6/2017 12:00:00 PM	3/8/2017 5:24:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH268	AZ51139	1	IRON, FERROUS	3/7/2017 10:30:00 AM	3/8/2017 5:25:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH270	AZ51141	1	IRON, FERROUS	3/7/2017 8:20:00 AM	3/8/2017 5:26:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8011**													
ERH261	AZ51134	1	1,2-DIBROMOETHANE	3/6/2017 10:45:00 AM	3/13/2017 1:30:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH262	AZ51135	1	1,2-DIBROMOETHANE	3/6/2017 12:00:00 PM	3/13/2017 3:15:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH263	AZ51136	1	1,2-DIBROMOETHANE	3/6/2017 12:00:00 PM	3/13/2017 3:36:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH257	AZ51132	1	TPH-DIESEL RANGE	3/6/2017 9:50:00 AM	3/16/2017 2:30:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH257	AZ51132	1	TPH-OIL RANGE	3/6/2017 9:50:00 AM	3/16/2017 2:30:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH258	AZ51133	1	TPH-DIESEL RANGE	3/6/2017 9:50:00 AM	3/16/2017 2:51:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH258	AZ51133	1	TPH-OIL RANGE	3/6/2017 9:50:00 AM	3/16/2017 2:51:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH262	AZ51135	1	TPH-DIESEL RANGE	3/6/2017 12:00:00 PM	3/16/2017 3:11:00 AM	C	27	UG_L	JT3M	40.0	25.00	J	
ERH262	AZ51135	1	TPH-OIL RANGE	3/6/2017 12:00:00 PM	3/16/2017 3:11:00 AM	C	23	UG_L	J	40.0	40.00	J	
ERH263	AZ51136	1	TPH-DIESEL RANGE	3/6/2017 12:00:00 PM	3/16/2017 3:32:00 AM	C	25	UG_L	JT3M	40.0	25.00	J	
ERH263	AZ51136	1	TPH-OIL RANGE	3/6/2017 12:00:00 PM	3/16/2017 3:32:00 AM	C	25	UG_L	J	40.0	40.00	J	
ERH268	AZ51139	1	TPH-DIESEL RANGE	3/7/2017 10:30:00 AM	3/16/2017 4:55:00 AM	C	55	UG_L	T3M	40.0	25.00		
ERH268	AZ51139	1	TPH-OIL RANGE	3/7/2017 10:30:00 AM	3/16/2017 4:55:00 AM	C	41	UG_L		40.0	40.00		
ERH270	AZ51141	1	TPH-DIESEL RANGE	3/7/2017 8:20:00 AM	3/16/2017 5:15:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH270	AZ51141	1	TPH-OIL RANGE	3/7/2017 8:20:00 AM	3/16/2017 5:15:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH255	AZ51130	1	BENZENE	3/6/2017 9:30:00 AM	3/9/2017 2:24:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH255	AZ51130	1	ETHYLBENZENE	3/6/2017 9:30:00 AM	3/9/2017 2:24:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH255	AZ51130	1	TOLUENE	3/6/2017 9:30:00 AM	3/9/2017 2:24:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH255	AZ51130	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 9:30:00 AM	3/9/2017 2:23:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH255	AZ51130	1	XYLENES, TOTAL	3/6/2017 9:30:00 AM	3/9/2017 2:24:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH256	AZ51131	1	BENZENE	3/6/2017 11:45:00 AM	3/9/2017 2:51:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH256	AZ51131	1	ETHYLBENZENE	3/6/2017 11:45:00 AM	3/9/2017 2:51:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH256	AZ51131	1	TOLUENE	3/6/2017 11:45:00 AM	3/9/2017 2:51:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH256	AZ51131	1	XYLENES, TOTAL	3/6/2017 11:45:00 AM	3/9/2017 2:51:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH257	AZ51132	1	BENZENE	3/6/2017 9:50:00 AM	3/10/2017 4:56:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH257	AZ51132	1	ETHYLBENZENE	3/6/2017 9:50:00 AM	3/10/2017 4:56:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH257	AZ51132	1	TOLUENE	3/6/2017 9:50:00 AM	3/10/2017 4:56:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH257	AZ51132	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 9:50:00 AM	3/10/2017 4:57:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH257	AZ51132	1	XYLENES, TOTAL	3/6/2017 9:50:00 AM	3/10/2017 4:56:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH258	AZ51133	1	BENZENE	3/6/2017 9:50:00 AM	3/9/2017 3:48:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH258	AZ51133	1	ETHYLBENZENE	3/6/2017 9:50:00 AM	3/9/2017 3:48:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH258	AZ51133	1	TOLUENE	3/6/2017 9:50:00 AM	3/9/2017 3:48:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH258	AZ51133	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 9:50:00 AM	3/9/2017 3:49:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH258	AZ51133	1	XYLENES, TOTAL	3/6/2017 9:50:00 AM	3/9/2017 3:48:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH261	AZ51134	1	1,2-DICHLOROETHANE	3/6/2017 10:45:00 AM	3/9/2017 4:18:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH261	AZ51134	1	BENZENE	3/6/2017 10:45:00 AM	3/9/2017 4:18:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH261	AZ51134	1	ETHYLBENZENE	3/6/2017 10:45:00 AM	3/9/2017 4:18:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH261	AZ51134	1	TOLUENE	3/6/2017 10:45:00 AM	3/9/2017 4:18:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH261	AZ51134	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 10:45:00 AM	3/9/2017 4:17:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH261	AZ51134	1	XYLENES, TOTAL	3/6/2017 10:45:00 AM	3/9/2017 4:18:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH262	AZ51135	1	1,2-DICHLOROETHANE	3/6/2017 12:00:00 PM	3/9/2017 3:20:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH262	AZ51135	1	BENZENE	3/6/2017 12:00:00 PM	3/9/2017 3:20:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH262	AZ51135	1	ETHYLBENZENE	3/6/2017 12:00:00 PM	3/9/2017 3:20:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH262	AZ51135	1	TOLUENE	3/6/2017 12:00:00 PM	3/9/2017 3:20:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH262	AZ51135	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 12:00:00 PM	3/9/2017 3:21:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH262	AZ51135	1	XYLENES, TOTAL	3/6/2017 12:00:00 PM	3/9/2017 3:20:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH263	AZ51136	1	1,2-DICHLOROETHANE	3/6/2017 12:00:00 PM	3/9/2017 4:45:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH263	AZ51136	1	BENZENE	3/6/2017 12:00:00 PM	3/9/2017 4:45:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH263	AZ51136	1	ETHYLBENZENE	3/6/2017 12:00:00 PM	3/9/2017 4:45:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH263	AZ51136	1	TOLUENE	3/6/2017 12:00:00 PM	3/9/2017 4:45:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH263	AZ51136	1	TPH-GASOLINE RANGE C6-C10	3/6/2017 12:00:00 PM	3/9/2017 4:46:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH263	AZ51136	1	XYLENES, TOTAL	3/6/2017 12:00:00 PM	3/9/2017 4:45:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH266	AZ51137	1	BENZENE	3/7/2017 9:20:00 AM	3/9/2017 5:13:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH266	AZ51137	1	ETHYLBENZENE	3/7/2017 9:20:00 AM	3/9/2017 5:13:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH266	AZ51137	1	TOLUENE	3/7/2017 9:20:00 AM	3/9/2017 5:13:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH266	AZ51137	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 9:20:00 AM	3/9/2017 5:14:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH266	AZ51137	1	XYLENES, TOTAL	3/7/2017 9:20:00 AM	3/9/2017 5:13:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH267	AZ51138	1	BENZENE	3/7/2017 10:30:00 AM	3/9/2017 5:42:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH267	AZ51138	1	ETHYLBENZENE	3/7/2017 10:30:00 AM	3/9/2017 5:42:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH267	AZ51138	1	TOLUENE	3/7/2017 10:30:00 AM	3/9/2017 5:42:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH267	AZ51138	1	XYLENES, TOTAL	3/7/2017 10:30:00 AM	3/9/2017 5:42:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH268	AZ51139	1	BENZENE	3/7/2017 10:30:00 AM	3/10/2017 3:30:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH268	AZ51139	1	ETHYLBENZENE	3/7/2017 10:30:00 AM	3/10/2017 3:30:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH268	AZ51139	1	TOLUENE	3/7/2017 10:30:00 AM	3/10/2017 3:30:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH268	AZ51139	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 10:30:00 AM	3/10/2017 6:09:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH268	AZ51139	1	XYLENES, TOTAL	3/7/2017 10:30:00 AM	3/10/2017 3:30:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH269	AZ51140	1	BENZENE	3/7/2017 7:30:00 AM	3/10/2017 3:59:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH269	AZ51140	1	ETHYLBENZENE	3/7/2017 7:30:00 AM	3/10/2017 3:59:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH269	AZ51140	1	TOLUENE	3/7/2017 7:30:00 AM	3/10/2017 3:59:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH269	AZ51140	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 7:30:00 AM	3/10/2017 4:00:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH269	AZ51140	1	XYLENES, TOTAL	3/7/2017 7:30:00 AM	3/10/2017 3:59:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH270	AZ51141	1	BENZENE	3/7/2017 8:20:00 AM	3/10/2017 4:28:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH270	AZ51141	1	ETHYLBENZENE	3/7/2017 8:20:00 AM	3/10/2017 4:28:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH270	AZ51141	1	TOLUENE	3/7/2017 8:20:00 AM	3/10/2017 4:28:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH270	AZ51141	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 8:20:00 AM	3/10/2017 4:27:00 PM	C	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH270	AZ51141	1	XYLENES, TOTAL	3/7/2017 8:20:00 AM	3/10/2017 4:28:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH257	AZ51132	1	2-(2-METHOXYETHOXY)-ETHANOL	3/6/2017 9:50:00 AM	3/13/2017 3:23:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH257	AZ51132	1	PHENOL	3/6/2017 9:50:00 AM	3/10/2017 6:22:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH258	AZ51133	1	2-(2-METHOXYETHOXY)-ETHANOL	3/6/2017 9:50:00 AM	3/13/2017 3:54:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH258	AZ51133	1	PHENOL	3/6/2017 9:50:00 AM	3/10/2017 7:53:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH262	AZ51135	1	2-(2-METHOXYETHOXY)-ETHANOL	3/6/2017 12:00:00 PM	3/13/2017 4:25:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH262	AZ51135	1	PHENOL	3/6/2017 12:00:00 PM	3/10/2017 8:23:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH263	AZ51136	1	2-(2-METHOXYETHOXY)-ETHANOL	3/6/2017 12:00:00 PM	3/13/2017 4:56:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH263	AZ51136	1	PHENOL	3/6/2017 12:00:00 PM	3/10/2017 8:53:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH268	AZ51139	1	2-(2-METHOXYETHOXY)-ETHANOL	3/7/2017 10:30:00 AM	3/13/2017 11:35:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH268	AZ51139	1	PHENOL	3/7/2017 10:30:00 AM	3/10/2017 9:23:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH270	AZ51141	1	2-(2-METHOXYETHOXY)-ETHANOL	3/7/2017 8:20:00 AM	3/13/2017 5:27:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH270	AZ51141	1	PHENOL	3/7/2017 8:20:00 AM	3/14/2017 9:32:00 AM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH257	AZ51132	1	1-METHYLNAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:01:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH257	AZ51132	1	2-METHYLNAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:01:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH257	AZ51132	1	NAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:01:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH258	AZ51133	1	1-METHYLNAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:33:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH258	AZ51133	1	2-METHYLNAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:33:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH258	AZ51133	1	NAPHTHALENE	3/6/2017 9:50:00 AM	3/13/2017 4:33:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH262	AZ51135	1	1-METHYLNAPHTHALENE	3/6/2017 12:00:00 PM	3/14/2017 11:48:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH262	AZ51135	1	2-METHYLNAPHTHALENE	3/6/2017 12:00:00 PM	3/14/2017 11:48:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH262	AZ51135	1	NAPHTHALENE	3/6/2017 12:00:00 PM	3/14/2017 11:48:00 AM	C	0.10	UG_L	U	0.2	0.10	U	
ERH263	AZ51136	1	1-METHYLNAPHTHALENE	3/6/2017 12:00:00 PM	3/13/2017 5:39:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH263	AZ51136	1	2-METHYLNAPHTHALENE	3/6/2017 12:00:00 PM	3/13/2017 5:39:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH263	AZ51136	1	NAPHTHALENE	3/6/2017 12:00:00 PM	3/13/2017 5:39:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH268	AZ51139	1	1-METHYLNAPHTHALENE	3/7/2017 10:30:00 AM	3/13/2017 6:12:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH268	AZ51139	1	2-METHYLNAPHTHALENE	3/7/2017 10:30:00 AM	3/13/2017 6:12:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH268	AZ51139	1	NAPHTHALENE	3/7/2017 10:30:00 AM	3/13/2017 6:12:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH270	AZ51141	1	1-METHYLNAPHTHALENE	3/7/2017 8:20:00 AM	3/13/2017 6:45:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH270	AZ51141	1	2-METHYLNAPHTHALENE	3/7/2017 8:20:00 AM	3/13/2017 6:45:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH270	AZ51141	1	NAPHTHALENE	3/7/2017 8:20:00 AM	3/13/2017 6:45:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH255	AZ51130	1	METHANE	3/6/2017 9:30:00 AM	3/10/2017 8:24:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH257	AZ51132	1	METHANE	3/6/2017 9:50:00 AM	3/17/2017 9:10:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH261	AZ51134	1	METHANE	3/6/2017 10:45:00 AM	3/10/2017 8:30:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH262	AZ51135	1	METHANE	3/6/2017 12:00:00 PM	3/10/2017 8:34:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH266	AZ51137	1	METHANE	3/7/2017 9:20:00 AM	3/10/2017 8:48:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH268	AZ51139	1	METHANE	3/7/2017 10:30:00 AM	3/10/2017 8:51:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH269	AZ51140	1	METHANE	3/7/2017 7:30:00 AM	3/10/2017 8:55:00 AM	C	1.00	UG_L	U	5.0	1.00	U	
ERH270	AZ51141	1	METHANE	3/7/2017 8:20:00 AM	3/10/2017 8:58:00 AM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH264	AZ51356	Water	03/07/17
ERH265**	AZ51357**	Water	03/07/17
ERH271	AZ51358	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH279	AZ51361	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH283	AZ51363	Water	03/07/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) and 1,2-Dichloroethane by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH264, ERH271, ERH279, and ERH283 were identified as trip blanks. No contaminants were found.

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found.

Sample ERH281 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C1
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)
BTEX + 1,2 - Dichloroethane

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration/closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 3, 6, 8 FB = 5 EB = ERH254 (82337)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS FB = ERH282
IX.	Laboratory control samples	A	LCS (82389)
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID		Lab ID	Matrix	Date
1 1	ERH264	TB	AZ51356	Water	03/07/17
2 4	ERH265**		AZ51357**	Water	03/07/17
3 2	ERH271	TB	AZ51358	Water	03/07/17
4 2	ERH272**		AZ51359**	Water	03/07/17
5 2	ERH281	FB	AZ51360	Water	03/08/17
6 2	ERH279	TB	AZ51361	Water	03/08/17
7 2	ERH280		AZ51362	Water	03/08/17
8 3	ERH283	TB	AZ51363	Water	03/07/17
9 3	ERH284		AZ51364	Water	03/07/17
10 1	170311 AM				
11 2	170312 AM				
12 3	170313 AM				
13 4	170314 AM				

LDC #: 38368C1

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FT
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓		~~✓~~	FT
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	~~✓~~		✓	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?				
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) < 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38368C1

VALIDATION FINDINGS CHECKLIST

Reviewer: FP
2nd Reviewer: MM

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38368C1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	3/8/2017	V	2.020	2.020	1.9760	1.9760	3.7	3.7
			EE	3.770	3.770	3.6380	3.6380	4.4	4.4

LDC #: 38368C1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0311M02	3/11/17	V (1st internal standard)	1.9760	1.950	1.950	1.3	1.3
			EE (2nd internal standard)	3.6380	3.739	3.739	2.8	2.8
			(3rd internal standard)					
			(4th internal standard)					
2	0312M04	3/12/17	V (1st internal standard)	1.976	1.901	1.901	3.8	3.8
			EE (2nd internal standard)	3.638	3.581	3.581	1.6	1.6
			(3rd internal standard)					
			(4th internal standard)					
3	0314M03	3/14/17	V (1st internal standard)	1.976	2.010	2.010	1.7	1.7
			BE (2nd internal standard)	3.638	3.772	3.772	3.7	3.7
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: KV

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	25.65617	103	103	0
1,2-Dichloroethane-d4		25.04371	100	100	
Toluene-d8		24.61658	98.5	98.5	
Bromofluorobenzene		24.54636	98.2	98.2	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38368C /

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170312A M LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	10.0	NA	9.83	NA	101	101				
Toluene	10.0	↓	9.74	↓	97.4	97.4	NA			
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170312AM1-ICS: ✓

Conc. = $\frac{244030\ (25.0)}{313917\ (1.9760)}$

= 9.83 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Phenol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH265	AZ51357	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found.

Sample ERH281 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C2a
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of
Reviewer:
2nd Reviewer:

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3 EB = ERH254 (82337) EB = ERH282 (82389)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH265	AZ51357	Water	03/07/17
2	ERH272**	AZ51359**	Water	03/07/17
3	ERH281 FB	AZ51360	Water	03/08/17
4	ERH280	AZ51362	Water	03/08/17
5	ERH284	AZ51364	Water	03/07/17
6				
7				
8				
9				

Notes:

170311A

LDC #: 38368 C2a

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer: FR

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38368C2a

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38368C2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	1/23/2017	A	1.948	1.948	1.927	1.927	5.20	5.20

LDC #: 38368C2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0123/287	3/14/17	Phenol (1st IS)	1.927	2.002	2.002	3.9	3.9
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368Cda

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	93.458	68.95355	73.8	73.8	0
2-Fluorobiphenyl	↓	61.17637	65.5	65.5	↓
Terphenyl-d14	↓	61.90402	66.2	66.2	↓
Phenol-d5	186.916	58.13395	31.1	31.1	↓
2-Fluorophenol	↓	94.04814	50.3	50.3	↓
2,4,6-Tribromophenol	↓	126.88461	67.9	67.9	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38368c2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT
2nd Reviewer: EK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170311A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	50.0	NA	19.0	NA	38.0	38.0	NA			
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C2e

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170311A-LCS : Phenol

Conc. = $\frac{132306\ (40.0)\ (1)\ (1000)}{144538\ (1.927)\ (1000)}$

= 19.0 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH265	AZ51357	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methlynaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found.

Sample ERH281 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C2b
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	ccv ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3 EB = ERH254 (82337)
VII.	Surrogate spikes	A	EB = ERH282 (82389)
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH265	AZ51357	Water	03/07/17
2	ERH272**	AZ51359**	Water	03/07/17
3	ERH281	AZ51360	Water	03/08/17
4	ERH280	AZ51362	Water	03/08/17
5	ERH284	AZ51364	Water	03/07/17
6				
7				
8				
9				

Notes:

170311A

TTT, W, + S only

LDC #: 38368 C2b

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38368 c2b

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38368 C26

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF5 std)	Recalculated (RRF5std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	3/16/2017	S	1.110	1.110	1.044	1.044	9.10	9.10
	Linus								

LDC #: 38368 C2b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: FK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0316L011 CCV	3/16/17	S (1st IS)	1.044	1.054	1.054	0.90	0.90
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368 Qb

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	5.0	2.91075	58.2	58.2	0
2-Fluorobiphenyl	↓	3.17603	63.5	63.5	↓
Terphenyl-d14		3.80350	76.1	76.1	
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38368C2b

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170311A-LCS

Compound	Spike Added (ug/L)		Spike Concentration (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
S	5.0	NA	3.10	NA	62.0	62.0	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 383682b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170311A-LCS S

$$\text{Conc.} = \frac{50379\ (2.5)\ (1)\ (1000)}{38852\ (1.044\ )(1000)}$$

=

3.10 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH265	AZ51357	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found.

Sample ERH281 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the MS/MSD and LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C2c
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D ~~SIM~~ Modified)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3 EB = ERH254 (82337) EB = ERH282 (82389)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH265	AZ51357	Water	03/07/17
2	ERH272**	AZ51359**	Water	03/07/17
3	ERH281 FB	AZ51360	Water	03/08/17
4	ERH280	AZ51362	Water	03/08/17
5	ERH284	AZ51364	Water	03/07/17
6				
7				
8				
9				

Notes:

	170310A						

LDC #: 38368C2c

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer: AF

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?		✓		
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?			✓	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38368 C2C

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38368C2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
			( )	
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			( )	
			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

LDC #: 38368C2c

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KE

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 400 std)	Recalculated (RRF400 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	12/20/2016	2-(2-Methoxyethoxy) Ethanol	0.2253	0.2253	0.2144	0.2144	9.90	9.90
	Yoda								

LDC #: 38368 C2C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)		Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	tOA CCV 1220Y135	3/13/17	2,2-(MEE)	(1st IS)	0.2144	0.2415	0.2415	13	13
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					
2	CCV 1220Y150	3/13/17	↓	(1st IS)	↓	0.2074	0.2074	3.3	3.3
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					
3				(1st IS)					
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368c2c

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170310A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
2-(2-MEE)	80.0	NA	35.1	NA	43.9	43.9	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368 C2C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170310A - 1 C5 2,2,-MEE

Conc. = $\frac{25618\ (40.0)\ 2}{136004\ (0.2144)}$

=

35.14 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Wet Chemistry

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH265	AZ51357	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH280	AZ51362	Water	03/08/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	2.1 mg/L	All samples in SDG 82369

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C6
SDG #: 82369
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/11/17
Page: 1 of 1
Reviewer: VB
2nd Reviewer: PM

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	C.S.
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH265	AZ51357	Water	03/07/17
2	ERH272**	AZ51359**	Water	03/07/17
3	ERH280	AZ51362	Water	03/08/17
4	ERH284	AZ51364	Water	03/07/17
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 38346C6

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: KP

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓	✓ JB		
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 38308C4

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: MK

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 38368C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1-4	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38368C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JB
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:	SM3500-Fe-D	
Parameters:	Ferrous Iron	
Technical holding time:	48 Hours	

Sample ID	Sampling date/ time	Analysis date/time	Total Time	Qualifier	Analysis date/time	Total Time	Qualifier
1	3/7/17 (13:30)	3/9/17 (13:45)	48.25	J/UJ/P (Det)			
2	3/7/17 (11:25)	3/9/17 (13:40)	50.25	J/UJ/P (ND)			

LDC #: 38368C6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer: KK

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qualifiers										
Alkalinity, Total	2.1		10.5											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 38368C6

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: VB
2nd Reviewer: KK

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of NO_3 was recalculated. Calibration date: 3/3/17

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	NO_3	s1	0.08	0.0266	99.9431%	99.8863%	Y
		s2	0.2	0.0649			
		s3	1	0.3101			
		s4	2	0.6658			
		s5	7	2.5699			
		s6	10	3.8434			
Calibration verification	Ferrous Fe	ICV	FOUND 3.014 mg/L	TRUE: 3 mg/L	100%	100%	Y
3/9 Calibration verification	SO_4	CCV	FOUND 24.077 mg/L	TRUE 25 mg/L	96.3%	96.4%	Y
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: JB
2nd Reviewer: KK

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Total Alkalinity	251.24 mg/L	250 mg/L	100%	100%	Y
	Matrix spike sample		(SSR-SR)				
	Duplicate sample						

Comments:

TOTCLC.6

LDC #: 38368C6

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JB
2nd reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for SO_4 reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = mx + b$
$m = 0.116$
$b = -0.063$
$y = 1.068$

Recalculation:

$SO_4 = 1.068 = 0.116x + -0.063$
$x = 9.75$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	2	Cl^-	51.3	51.4	Y
	2	NO_3	2.5	2.5	Y
	2	SO_4	9.8	9.8	Y
	2	Total Alkalinity	67.4	67.4	Y
	2	Bicarb as $CaCO_3$	67.4	67.4	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH264	AZ51356	Water	03/07/17
ERH265**	AZ51357**	Water	03/07/17
ERH271	AZ51358	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH279	AZ51361	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH283	AZ51363	Water	03/07/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH264, ERH271, ERH279, and ERH283 were identified as trip blanks. No contaminants were found.

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found.

Sample ERH281 was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C7
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: PK

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	FT
III.	Initial calibration/ICV	A A	~~%RS~~ r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	FB = ERH254 (82337)
VI.	Field blanks	ND	TB = 1, 3, 6, 8 FB = 5 EB = ERH282 (82389)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1 1	ERH264 TB	AZ51356	Water	03/07/17
2 1	ERH265**	AZ51357**	Water	03/07/17
3 2	ERH271 TB	AZ51358	Water	03/07/17
4 2	ERH272**	AZ51359**	Water	03/07/17
5 2	ERH281 FB	AZ51360	Water	03/08/17
6 2	ERH279 TB	AZ51361	Water	03/08/17
7 2	ERH280	AZ51362	Water	03/08/17
8 3	ERH283 TB	AZ51363	Water	03/07/17
9 3	ERH284	AZ51364	Water	03/07/17
10				
11 1	170311AM			
12	170312AM			
13	170313AM			

LDC #: 38368 C7

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: MC

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?	✓			
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
V. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38368C7

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38368C7
SDG#: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: EK

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
3/2/2017	GCMS max	Gasoline Range Organics	1	10.22920015	0.8
			2	12.49838833	2
			3	16.13657263	4
			4	30.66013043	12
			5	52.35611312	24
			6	66.46613852	32
			7	83.89675396	40

Regression Output		*Reported*
Constant	*8.566959*	*8.570000*
Std Err of Y Est		
R Squared	*0.999220*	*0.999000*
Degrees of Freedom		
X Coefficient(s)	*1.849082*	*1.850000*
Std Err of Coef.		
Correlation Coefficient	*0.999610*	
Coefficient of Determination (r^2)	*0.999220*	*0.999000*

LDC #: 3836807

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	0311M05 CCV	3/11/17	Gasoline C6-C10	300.0	274.43	274.43	8.5	8.5
2	0312M06 CCV	3/12/17	↓	300.0	254.515	254.51	15	15
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: KK

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
4BFB	—	25.0	28.40573	114	114	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38368C7

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170311AM LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										
GRO	300	NA	280	NA	93.3	93.3	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #2 Compound Name GRU

Concentration = $\left[\left[\left(\frac{2393388}{171747}\right) - 8.57\right][25.0]\right] \div 1.86$ =

= 73 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH265	AZ51357	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH281	AZ51360	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH254 (from SDG 82337) and ERH282 (from SDG 82389) were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH254	03/03/17	Oil (C24-C40)	47 ug/L	ERH280

Sample ERH281 was identified as a field blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH281	03/08/17	Oil (C24-C40)	40 ug/L	No associated samples in this SDG

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C8
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: FM
2nd Reviewer: EK

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	SW	EB = 3 EB = ERH254 (82337)
VI.	Surrogate spikes	A	*EB = ERH282 (82389)
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XI.	Target compound identification	A	Not reviewed for Level C validation.
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1 +	ERH265	AZ51357	Water	03/07/17
2 −	ERH272**	AZ51359**	Water	03/07/17
3 +	ERH281 FB	AZ51360	Water	03/08/17
4 −	ERH280	AZ51362	Water	03/08/17
5 −	ERH284	AZ51364	Water	03/07/17
6				
7				
8				
9				
10				
11				
12				

Notes:

	170310A1						

LDC #: 38368 CX

VALIDATION FINDINGS CHECKLIST

Reviewer: EZ
2nd Reviewer: MC

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38368C8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38368C8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?
Blank units: ug/L Associated sample units: _____
Sampling date: 3/8/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: FB
Associated Samples: none

Compound	Blank ID	Blank ID	Sample Identification							
	3									
Oil (C24-C40)	40									
CRQL										

Blank units: ug/L Associated sample units: ug/L
Sampling date: 3/3/17
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank
Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB
EB = ERH254
Associated Samples: 4 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	EB									
↓	47									
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 38368C8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=400)	Recalculated (CF4 std=400)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/3/2017	Diesel C10-C24)	1638880	1638880	1633526	1633526	1.3	1.3
	Apollo								

LDC #: 38368C8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	315018 CCV	3/15/17	Diesel (C10-C24)	1633530	1661350	1661350	1.7	1.7
2	315038 CCV	3/16/17	↓	↓	1678820	1678820	2.8	2.8
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: KK

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
octacosane	/	40.0	36.517	91.3	91.3	0
o-Terphenyl		↓	33.208	83.0	83.0	0

Sample ID:

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38368C8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: FK

METHOD: ___ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170310A1-LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										
Diesel (C_{10} - C_{24})	667	NA	379	NA	56.8	56.8	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368 C8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: EK

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170310A1-ICS Compound Name Diesel (C_{10} - C_{24})

Concentration = (92860885 2)(2)(1000) / (1633526)(1500)(2) =

= 379 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH271	AZ51358	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH271 was identified as a trip blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C10
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Ethylene Dibromide (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD/ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XI.	Target compound identification	A	Not reviewed for Level C validation.
XII	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH271 TB	AZ51358	Water	03/07/17
2	ERH272**	AZ51359**	Water	03/07/17
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

	170311A1						

LDC #: 38368C10

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: DR

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38368C1U

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38368C10

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: EK

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=0.5)	Recalculated (CF4 std=0.5)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/13/2017	EDB (DB-35MS)	531332	531332	601384	601384	16	16
	Herbie		EDB (DB-XLB)	1229074	1229074	1341557	1341557	12	12

LDC #: 38368 c10

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	03090058	3/13/17	5DB DB 35MS	601384	578765	578765	3.8	3.8
			↓ DB XLB	1341560	1191680	1191680	11	11
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C10

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: EK

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 2

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1,3- Dibromopropane	DB-35MS	0.348	0.332	95.5	95.5	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38368 CO

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170311A1 - LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										
EDB	0.250	ND	0.229	NA	91.6	91.6	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368c10

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170311A1-LCS Compound Name EDB

Concentration = 275838 / 601384 (2) =

= 0.229 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 10, 2017

Parameters: Methane

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82369

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH264	AZ51356	Water	03/07/17
ERH265**	AZ51357**	Water	03/07/17
ERH271	AZ51358	Water	03/07/17
ERH272**	AZ51359**	Water	03/07/17
ERH279	AZ51361	Water	03/08/17
ERH280	AZ51362	Water	03/08/17
ERH283	AZ51363	Water	03/07/17
ERH284	AZ51364	Water	03/07/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH264, ERH271, ERH279, and ERH283 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

X. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82369

No Sample Data Qualified in this SDG

LDC #: 38368C51
SDG #: 82369
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / Δ	
II.	Initial calibration/ICV	A / Δ	%RSD / ICV ≤ 20
III.	Continuing calibration	Δ	CCV ≤ 20
IV.	Laboratory Blanks	Δ	
V.	Field blanks	ND	TB = 1, 3, 5, 7 ~~EB = ERH201~~ FT
VI.	Matrix spike/Matrix spike duplicates	N	CS
VII.	Laboratory control samples	Δ	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	Δ	Not reviewed for Level C validation.
X.	Target compound identification	Δ	Not reviewed for Level C validation.
XI.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH264 TB	AZ51356	Water	03/07/17
2	ERH265**	AZ51357**	Water	03/07/17
3	ERH271 TB	AZ51358	Water	03/07/17
4	ERH272**	AZ51359**	Water	03/07/17
5	ERH279 TB	AZ51361	Water	03/08/17
6	ERH280	AZ51362	Water	03/08/17
7	ERH283 TB	AZ51363	Water	03/07/17
8	ERH284	AZ51364	Water	03/07/17
9				
10				
11				
12				
13				

Notes:

	170311A						

LDC #: 38368C5 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?	✓			
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?				
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water. FT	✓		✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38368d5 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38368C5
SDG#: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

Method: RSK 175

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
2/25/2017	Ints 7890	Methane	1	4053	0.9
			2	4751	1.8
			3	11280	5.1
			4	35556	13.33
			5	60619	26.7
			6	133452	66.75
			7	362708	106.8
			8	476501	320.4
			9	1370511	667.5
			10	2704241	1335

Regression Output		*Reported*
Constant	*5429.866476*	*5430.00*
Std Err of Y Est		
R Squared	*0.992598*	*0.993000*
Degrees of Freedom		
X Coefficient(s)	*2008.180442*	*2010.00*
Std Err of Coef.		
Correlation Coefficient	*0.996292*	
Coefficient of Determination (r^2)	*0.992598*	*0.993000*

022517 methane

LDC #: 38368C5/

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: EK

METHOD: GC — HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	17031100	03/11/17	Methane	667.5	636	636.943	4.6	4.6
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C5/

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: M0311A LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)										
Benzene	(8021B)										
Methane	(RSK-175)	668	NA	637	NA	95.4	95.4	NA			
2,4-D	(8151)										
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38368C5 /

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #2 Compound Name Methane

Concentration = $\frac{(236135 - 5.43 \times 10^3)(50)}{(2.01 \times 10^3)}$ =

= 5739 ng/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH265	AZ51357	1	ALKALINITY, AS CACO3	3/7/2017 1:30:00 PM	3/13/2017 5:37:00 PM	C	204	MG_L		2.0	1.70		
ERH265	AZ51357	1	ALKALINITY, BICARBONATE	3/7/2017 1:30:00 PM	3/13/2017 5:37:00 PM	C	204	MG_L		2.0	1.70		
ERH265	AZ51357	1	ALKALINITY, CARBONATE	3/7/2017 1:30:00 PM	3/13/2017 5:37:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH272	AZ51359	1	ALKALINITY, AS CACO3	3/7/2017 11:25:00 AM	3/13/2017 5:48:00 PM	D	67.4	MG_L		2.0	1.70		
ERH272	AZ51359	1	ALKALINITY, BICARBONATE	3/7/2017 11:25:00 AM	3/13/2017 5:48:00 PM	D	67.4	MG_L		2.0	1.70		
ERH272	AZ51359	1	ALKALINITY, CARBONATE	3/7/2017 11:25:00 AM	3/13/2017 5:48:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
ERH280	AZ51362	1	ALKALINITY, AS CACO3	3/8/2017 10:15:00 AM	3/13/2017 5:53:00 PM	C	49.0	MG_L		2.0	1.70		
ERH280	AZ51362	1	ALKALINITY, BICARBONATE	3/8/2017 10:15:00 AM	3/13/2017 5:53:00 PM	C	49.0	MG_L		2.0	1.70		
ERH280	AZ51362	1	ALKALINITY, CARBONATE	3/8/2017 10:15:00 AM	3/13/2017 5:53:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH284	AZ51364	1	ALKALINITY, AS CACO3	3/7/2017 2:50:00 PM	3/13/2017 5:58:00 PM	C	112	MG_L		2.0	1.70		
ERH284	AZ51364	1	ALKALINITY, BICARBONATE	3/7/2017 2:50:00 PM	3/13/2017 5:58:00 PM	C	112	MG_L		2.0	1.70		
ERH284	AZ51364	1	ALKALINITY, CARBONATE	3/7/2017 2:50:00 PM	3/13/2017 5:58:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH265	AZ51357	1	CHLORIDE	3/7/2017 1:30:00 PM	3/9/2017 11:37:00 AM	C	39.4	MG_L		1.0	0.20		
ERH265	AZ51357	1	NITRATE	3/7/2017 1:30:00 PM	3/9/2017 11:37:00 AM	C	0.60	MG_L		0.5	0.18		
ERH265	AZ51357	1	SULFATE	3/7/2017 1:30:00 PM	3/9/2017 11:37:00 AM	C	1.1	MG_L		1.0	0.20		
ERH272	AZ51359	2	CHLORIDE	3/7/2017 11:25:00 AM	3/13/2017 5:02:00 PM	D	51.3	MG_L		2.0	0.40		
ERH272	AZ51359	1	NITRATE	3/7/2017 11:25:00 AM	3/9/2017 11:24:00 AM	D	2.5	MG_L		0.5	0.18		
ERH272	AZ51359	1	SULFATE	3/7/2017 11:25:00 AM	3/9/2017 11:24:00 AM	D	9.8	MG_L		1.0	0.20		
ERH280	AZ51362	5	CHLORIDE	3/8/2017 10:15:00 AM	3/13/2017 5:16:00 PM	C	86.2	MG_L		5.0	1.00		
ERH280	AZ51362	1	NITRATE	3/8/2017 10:15:00 AM	3/9/2017 12:04:00 PM	C	1.4	MG_L		0.5	0.18		
ERH280	AZ51362	1	SULFATE	3/8/2017 10:15:00 AM	3/9/2017 12:04:00 PM	C	30.7	MG_L		1.0	0.20		
ERH284	AZ51364	10	CHLORIDE	3/7/2017 2:50:00 PM	3/14/2017 11:29:00 AM	C	413	MG_L		10.0	2.00		
ERH284	AZ51364	1	NITRATE	3/7/2017 2:50:00 PM	3/9/2017 11:51:00 AM	C	3.5	MG_L		0.5	0.18		
ERH284	AZ51364	10	SULFATE	3/7/2017 2:50:00 PM	3/14/2017 11:29:00 AM	C	92.0	MG_L		10.0	2.00		
METHOD: **3500_FE_B**													

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **3500_FE_B**													
ERH265	AZ51357	1	IRON, FERROUS	3/7/2017 1:30:00 PM	3/9/2017 1:45:00 PM	C	3.0	MG_L		1.0	0.32		
ERH272	AZ51359	1	IRON, FERROUS	3/7/2017 11:25:00 AM	3/9/2017 1:40:00 PM	D	0.32	MG_L	U	1.0	0.32	U	
ERH280	AZ51362	1	IRON, FERROUS	3/8/2017 10:15:00 AM	3/9/2017 1:49:00 PM	C	0.53	MG_L	J	1.0	0.32	J	
ERH284	AZ51364	1	IRON, FERROUS	3/7/2017 2:50:00 PM	3/9/2017 1:48:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8011**													
ERH271	AZ51358	1	1,2-DIBROMOETHANE	3/7/2017 10:15:00 AM	3/13/2017 4:19:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH272	AZ51359	1	1,2-DIBROMOETHANE	3/7/2017 11:25:00 AM	3/13/2017 4:40:00 PM	D	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH265	AZ51357	1	TPH-DIESEL RANGE	3/7/2017 1:30:00 PM	3/16/2017 5:36:00 AM	C	1200	UG_L	T6	40.0	25.00		
ERH265	AZ51357	1	TPH-OIL RANGE	3/7/2017 1:30:00 PM	3/16/2017 5:36:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH272	AZ51359	1	TPH-DIESEL RANGE	3/7/2017 11:25:00 AM	3/16/2017 5:57:00 AM	D	25.00	UG_L	U	40.0	25.00	U	
ERH272	AZ51359	1	TPH-OIL RANGE	3/7/2017 11:25:00 AM	3/16/2017 5:57:00 AM	D	40.00	UG_L	U	40.0	40.00	U	
ERH281	AZ51360	1	TPH-DIESEL RANGE	3/8/2017 9:35:00 AM	3/16/2017 6:17:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH281	AZ51360	1	TPH-OIL RANGE	3/8/2017 9:35:00 AM	3/16/2017 6:17:00 AM	C	40	UG_L	T3M	40.0	40.00		
ERH280	AZ51362	1	TPH-DIESEL RANGE	3/8/2017 10:15:00 AM	3/16/2017 6:38:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH280	AZ51362	1	TPH-OIL RANGE	3/8/2017 10:15:00 AM	3/16/2017 6:38:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH284	AZ51364	1	TPH-DIESEL RANGE	3/7/2017 2:50:00 PM	3/16/2017 6:59:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH284	AZ51364	1	TPH-OIL RANGE	3/7/2017 2:50:00 PM	3/16/2017 6:59:00 AM	C	47	UG_L	T3M	40.0	40.00		
METHOD: **8260B**													
ERH264	AZ51356	1	BENZENE	3/7/2017 1:15:00 PM	3/11/2017 6:49:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH264	AZ51356	1	ETHYLBENZENE	3/7/2017 1:15:00 PM	3/11/2017 6:49:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH264	AZ51356	1	TOLUENE	3/7/2017 1:15:00 PM	3/11/2017 6:49:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH264	AZ51356	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 1:15:00 PM	3/11/2017 6:48:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH264	AZ51356	1	XYLENES, TOTAL	3/7/2017 1:15:00 PM	3/11/2017 6:49:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH265	AZ51357	1	BENZENE	3/7/2017 1:30:00 PM	3/14/2017 1:35:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH265	AZ51357	1	ETHYLBENZENE	3/7/2017 1:30:00 PM	3/14/2017 1:35:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH265	AZ51357	1	TOLUENE	3/7/2017 1:30:00 PM	3/14/2017 1:35:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH265	AZ51357	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 1:30:00 PM	3/12/2017 9:40:00 AM	D	73	UG_L	G1D	20	18.0		

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH265	AZ51357	1	XYLENES, TOTAL	3/7/2017 1:30:00 PM	3/14/2017 1:35:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH271	AZ51358	1	1,2-DICHLOROETHANE	3/7/2017 10:15:00 AM	3/12/2017 5:46:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH271	AZ51358	1	BENZENE	3/7/2017 10:15:00 AM	3/12/2017 5:46:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH271	AZ51358	1	ETHYLBENZENE	3/7/2017 10:15:00 AM	3/12/2017 5:46:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH271	AZ51358	1	TOLUENE	3/7/2017 10:15:00 AM	3/12/2017 5:46:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH271	AZ51358	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 10:15:00 AM	3/12/2017 5:47:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH271	AZ51358	1	XYLENES, TOTAL	3/7/2017 10:15:00 AM	3/12/2017 5:46:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH272	AZ51359	1	1,2-DICHLOROETHANE	3/7/2017 11:25:00 AM	3/12/2017 6:15:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH272	AZ51359	1	BENZENE	3/7/2017 11:25:00 AM	3/12/2017 6:15:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH272	AZ51359	1	ETHYLBENZENE	3/7/2017 11:25:00 AM	3/12/2017 6:15:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH272	AZ51359	1	TOLUENE	3/7/2017 11:25:00 AM	3/12/2017 6:15:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH272	AZ51359	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 11:25:00 AM	3/12/2017 6:14:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH272	AZ51359	1	XYLENES, TOTAL	3/7/2017 11:25:00 AM	3/12/2017 6:15:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH281	AZ51360	1	BENZENE	3/8/2017 9:35:00 AM	3/12/2017 6:44:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH281	AZ51360	1	ETHYLBENZENE	3/8/2017 9:35:00 AM	3/12/2017 6:44:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH281	AZ51360	1	TOLUENE	3/8/2017 9:35:00 AM	3/12/2017 6:44:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH281	AZ51360	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 9:35:00 AM	3/12/2017 6:43:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH281	AZ51360	1	XYLENES, TOTAL	3/8/2017 9:35:00 AM	3/12/2017 6:44:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH279	AZ51361	1	BENZENE	3/8/2017 9:00:00 AM	3/12/2017 7:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH279	AZ51361	1	ETHYLBENZENE	3/8/2017 9:00:00 AM	3/12/2017 7:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH279	AZ51361	1	TOLUENE	3/8/2017 9:00:00 AM	3/12/2017 7:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH279	AZ51361	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 9:00:00 AM	3/12/2017 7:12:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH279	AZ51361	1	XYLENES, TOTAL	3/8/2017 9:00:00 AM	3/12/2017 7:11:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH280	AZ51362	1	BENZENE	3/8/2017 10:15:00 AM	3/12/2017 7:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH280	AZ51362	1	ETHYLBENZENE	3/8/2017 10:15:00 AM	3/12/2017 7:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH280	AZ51362	1	TOLUENE	3/8/2017 10:15:00 AM	3/12/2017 7:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH280	AZ51362	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 10:15:00 AM	3/12/2017 7:41:00 PM	C	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH280	AZ51362	1	XYLENES, TOTAL	3/8/2017 10:15:00 AM	3/12/2017 7:40:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH283	AZ51363	1	BENZENE	3/7/2017 1:45:00 PM	3/13/2017 3:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH283	AZ51363	1	ETHYLBENZENE	3/7/2017 1:45:00 PM	3/13/2017 3:00:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH283	AZ51363	1	TOLUENE	3/7/2017 1:45:00 PM	3/13/2017 3:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH283	AZ51363	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 1:45:00 PM	3/13/2017 3:01:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH283	AZ51363	1	XYLENES, TOTAL	3/7/2017 1:45:00 PM	3/13/2017 3:00:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH284	AZ51364	1	BENZENE	3/7/2017 2:50:00 PM	3/13/2017 3:30:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH284	AZ51364	1	ETHYLBENZENE	3/7/2017 2:50:00 PM	3/13/2017 3:30:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH284	AZ51364	1	TOLUENE	3/7/2017 2:50:00 PM	3/13/2017 3:30:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH284	AZ51364	1	TPH-GASOLINE RANGE C6-C10	3/7/2017 2:50:00 PM	3/13/2017 3:29:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH284	AZ51364	1	XYLENES, TOTAL	3/7/2017 2:50:00 PM	3/13/2017 3:30:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH265	AZ51357	1	2-(2-METHOXYETHOXY)-ETHANOL	3/7/2017 1:30:00 PM	3/13/2017 6:42:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH265	AZ51357	1	PHENOL	3/7/2017 1:30:00 PM	3/14/2017 11:04:00 AM	C	4.00	UG_L	U	5.0	4.00	U	
ERH272	AZ51359	1	2-(2-METHOXYETHOXY)-ETHANOL	3/7/2017 11:25:00 AM	3/13/2017 7:12:00 PM	D	80.0	UG_L	U	100	80.0	U	
ERH272	AZ51359	1	PHENOL	3/7/2017 11:25:00 AM	3/14/2017 11:35:00 AM	D	4.00	UG_L	U	5.0	4.00	U	
ERH281	AZ51360	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 9:35:00 AM	3/13/2017 7:43:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH281	AZ51360	1	PHENOL	3/8/2017 9:35:00 AM	3/14/2017 12:06:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH280	AZ51362	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 10:15:00 AM	3/13/2017 8:13:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH280	AZ51362	1	PHENOL	3/8/2017 10:15:00 AM	3/14/2017 12:37:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH284	AZ51364	1	2-(2-METHOXYETHOXY)-ETHANOL	3/7/2017 2:50:00 PM	3/13/2017 8:44:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH284	AZ51364	1	PHENOL	3/7/2017 2:50:00 PM	3/14/2017 1:08:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH265	AZ51357	1	1-METHYLNAPHTHALENE	3/7/2017 1:30:00 PM	3/16/2017 7:04:00 PM	C	22	UG_L		0.2	0.10		
ERH265	AZ51357	1	2-METHYLNAPHTHALENE	3/7/2017 1:30:00 PM	3/16/2017 7:04:00 PM	C	17	UG_L		0.2	0.10		
ERH265	AZ51357	1	NAPHTHALENE	3/7/2017 1:30:00 PM	3/16/2017 7:04:00 PM	C	49	UG_L		0.2	0.10		
ERH272	AZ51359	1	1-METHYLNAPHTHALENE	3/7/2017 11:25:00 AM	3/16/2017 7:37:00 PM	D	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH272	AZ51359	1	2-METHYLNAPHTHALENE	3/7/2017 11:25:00 AM	3/16/2017 7:37:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH272	AZ51359	1	NAPHTHALENE	3/7/2017 11:25:00 AM	3/16/2017 7:37:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH281	AZ51360	1	1-METHYLNAPHTHALENE	3/8/2017 9:35:00 AM	3/16/2017 8:09:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH281	AZ51360	1	2-METHYLNAPHTHALENE	3/8/2017 9:35:00 AM	3/16/2017 8:09:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH281	AZ51360	1	NAPHTHALENE	3/8/2017 9:35:00 AM	3/16/2017 8:09:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH280	AZ51362	1	1-METHYLNAPHTHALENE	3/8/2017 10:15:00 AM	3/16/2017 8:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH280	AZ51362	1	2-METHYLNAPHTHALENE	3/8/2017 10:15:00 AM	3/16/2017 8:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH280	AZ51362	1	NAPHTHALENE	3/8/2017 10:15:00 AM	3/16/2017 8:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH284	AZ51364	1	1-METHYLNAPHTHALENE	3/7/2017 2:50:00 PM	3/16/2017 9:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH284	AZ51364	1	2-METHYLNAPHTHALENE	3/7/2017 2:50:00 PM	3/16/2017 9:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH284	AZ51364	1	NAPHTHALENE	3/7/2017 2:50:00 PM	3/16/2017 9:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH264	AZ51356	1	METHANE	3/7/2017 1:15:00 PM	3/11/2017 12:53:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH265	AZ51357	50	METHANE	3/7/2017 1:30:00 PM	3/11/2017 1:00:00 PM	D	5700	UG_L		250.0	50.00		
ERH271	AZ51358	1	METHANE	3/7/2017 10:15:00 AM	3/11/2017 1:04:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH272	AZ51359	1	METHANE	3/7/2017 11:25:00 AM	3/11/2017 1:08:00 PM	D	1.00	UG_L	U	5.0	1.00	U	
ERH279	AZ51361	1	METHANE	3/8/2017 9:00:00 AM	3/11/2017 1:15:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH280	AZ51362	1	METHANE	3/8/2017 10:15:00 AM	3/11/2017 1:19:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH283	AZ51363	1	METHANE	3/7/2017 1:45:00 PM	3/11/2017 1:22:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH284	AZ51364	1	METHANE	3/7/2017 2:50:00 PM	3/11/2017 1:25:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

April 18, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed are the final validation reports for the fractions listed below. This SDG was received on April 4, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38391:

SDG #	Fraction
82389	Volatiles, Phenol, Polynuclear Aromatic Hydrocarbons, 2-(2-Methoxyethoxy)-ethanol, Wet Chemistry, Gasoline Range Organics, TPH as Extractables, Methane

The data validation was performed under Level C & D validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, August 2016
- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i, Revision 01, November 2016
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC

Attachment 1

EDD 90/10

LDC #38391 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)		Phenol (8270D)		PAHs (8270D -SIM)		2,2-MEE (8270D-M)		TPH-G (8260B)		TPH-E (8015B)		Methane (175)		Alk. (2320B)		Cl, NO_3,SO_4 (300.0)		Fe II (3500-Fe B)											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	82389	04/04/17	04/25/17	8	0	3	0	3	0	3	0	5	0	3	0	5	0	2	0	2	0	2	0										
A	82389	04/04/17	04/25/17	1	0	1	0	1	0	1	0	2	0	1	0	1	0	1	0	1	0	1	0										
Total	T/SC			9	0	4	0	4	0	4	0	7	0	4	0	6	0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	0	47

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38391ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH273	AZ51528	Water	03/08/17
ERH274	AZ51529	Water	03/08/17
ERH275**	AZ51530**	Water	03/08/17
ERH276	AZ51531	Water	03/08/17
ERH277	AZ51532	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH285	AZ51534	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH273, ERH276, and ERH285 were identified as trip blanks. No contaminants were found.

Sample ERH282 was identified as an equipment blank. No contaminants were found.

Samples ERH274 and ERH277 were identified as ambient blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A1
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: EF
2nd Reviewer: MC

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4, 7 AB = 2, 5 EB = 9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH273 TB	AZ51528	Water	03/08/17
2	ERH274 AB	AZ51529	Water	03/08/17
3	ERH275**	AZ51530**	Water	03/08/17
4	ERH276 TB	AZ51531	Water	03/08/17
5	ERH277 AB	AZ51532	Water	03/08/17
6	ERH278	AZ51533	Water	03/08/17
7	ERH285 TB	AZ51534	Water	03/08/17
8	ERH286	AZ51535	Water	03/08/17
9	ERH282 EB	AZ51536	Water	03/08/17
10				
11				
12	170311AM			
13				

LDC #: 38391A1

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38391A 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: KK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38391A 1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: RK

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	3/8/2017	V	2.020	2.020	1.9760	1.9760	3.7	3.7
			EE	3.770	3.770	3.6380	3.6380	4.4	4.4

LDC #: 3839/A /

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0311M02	3/11/17	Y (1st internal standard)	1.9760	1.950	1.950	1.3	1.3
			EE (2nd internal standard)	3.6380	3.739	3.739	2.8	2.8
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 3

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	26.42547	106	106	0
1,2-Dichloroethane-d4	↓	25.44896	102	102	↓
Toluene-d8		24.95011	99.8	99.8	
Bromofluorobenzene		25.11049	100	100	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 3839/A/

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: EE

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170311AM - LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	10.0	NA	9.56	NA	95.6	95.6				
Toluene	↓	↓	9.60	↓	96.0	96.0	NA			
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170311A M- ICS ✓

Conc. = $\frac{(229470)(25.0)}{(303692)(1.9760)}$

= 9.56

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Phenol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH275**	AZ51530**	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH282 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A2a

SDG #: 82389

Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET

Level C/D

Date: 4/10/17

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH275**	AZ51530**	Water	03/08/17
2	ERH278	AZ51533	Water	03/08/17
3	ERH286	AZ51535	Water	03/08/17
4	ERH282	AZ51536	Water	03/08/17
5				
6				
7				
8				
9				

Notes:

	170311A						

LDC #: 38391 A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration	✓			
Did the laboratory perform a 5 point calibration prior to sample analysis?				
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of > 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38391 A2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FD
2nd Reviewer: MR

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38391A2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GCMS 8270~~C~~D

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	1/23/2017	A	1.948	1.948	1.927	1.927	5.20	5.20

LDC #: 3839/A2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	01234287	3/14/17	A (1st IS)	1.927	2.002	2.002	3.9	3.9
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: KK

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: H

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100.0	63.49670	63.5	63.5	0
2-Fluorobiphenyl	↓	57.05717	57.1	57.1	↓
Terphenyl-d14	↓	61.28034	61.3	61.3	↓
Phenol-d5	200.0	58.26141	29.1	29.1	↓
2-Fluorophenol	↓	91.86350	45.9	45.9	↓
2,4,6-Tribromophenol	↓	119.57207	59.8	59.8	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 3839 /A2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: M0311A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	50.0	NA	19.0	NA	38.0	38.0	NA			
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391 A2

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 17031A Les : A

Conc. = $\frac{132306 \quad (40.0)(1)(1000)}{144538 \quad (1.927)(1000)}$

= 19.0 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH275**	AZ51530**	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methlynaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH282 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A2b
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/10/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: VK

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH275**	AZ51530**	Water	03/08/17
2	ERH278	AZ51533	Water	03/08/17
3	ERH286	AZ51535	Water	03/08/17
4	ERH282 EB	AZ51536	Water	03/08/17
5				
6				
7				
8				
9				

Notes:

	170311 A						

TPT, W, S only

LDC #: 38391 A2b

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: KK

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38391A2b

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: KPL

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 3839/A26

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF5 std)	Recalculated (RRF5std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	3/16/2017	S	1.110	1.110	1.044	1.044	9.10	9.10
	Linus								

LDC #: 3839/A06

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	03161035	3/17/17	S (1st IS)	1.044	1.081	1.081	3.5	3.5
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2	03161011	3/16/17	S (1st IS)	1.044	1.054	1.054	0.90	0.90
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/426

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	5.0	2.88961	57.8	57.8	0
2-Fluorobiphenyl	↓	3.20247	64.0	64.0	↓
Terphenyl-d14		4.26918	85.4	85.4	
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 3839/A2b

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170311A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
S	5.0	NA	3.10	NA	62.0	62.0	NA	—	—	

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391 A26

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. M0311A-LCS S

Conc. = $\frac{50379\ (2.5)(1)(1000)}{38852\ (1.044)(1000)}$

= 3.10 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH275**	AZ51530**	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH282 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the MS/MSD and LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A2c
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/10/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~ Modified)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH275**	AZ51530**	Water	03/08/17
2	ERH278	AZ51533	Water	03/08/17
3	ERH286	AZ51535	Water	03/08/17
4	ERH282	AZ51536	Water	03/08/17
5				
6				
7				
8				
9				

Notes:

	170310A						

LDC #: 38391 A2C

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓		✓	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38391A2c

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: PK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38391A2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
			( )	
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			( )	
			( )	
			( )	
			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

LDC #: 3839/A2c

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GCMS 8270~~C~~D

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 400 std)	Recalculated (RRF400 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	12/20/2016	2-(2-Methoxyethoxy) Ethanol	0.2253	0.2253	0.2144	0.2144	9.90	9.90
	Yoda								

LDC #: 3839/A2C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)		Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	1220Y135 CCV	3/13/17	2,2-MEE	(1st IS)	0.2144	0.2415	0.2415	13	13
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					
2	1220Y150 CCV	3/13/17	↓	(1st IS)	↓	0.2074	0.2074	3.3	3.3
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					
3				(1st IS)					
				(2nd IS)					
				(3rd IS)					
				(4th IS)					
				(5th IS)					
				(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A2c

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: KK

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170310A LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
2,2-MEE	80.0	NA	35.1	NA	43.9	43.9	NA	—	—	

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A2C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170310A-LCS 2,2-MEE

$$\text{Conc.} = \frac{25618\ (40.0)}{136004\ (0.2144)}$$

=

35.1 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Wet Chemistry

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH275**	AZ51530**	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH286	AZ51535	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH275**	Nitrate	49.77 hours	48 hours	UJ (all non-detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	2.1 mg/L	All samples in SDG 82389

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding time, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82389

Sample	Analyte	Flag	A or P	Reason (Code)
ERH275**	Nitrate	UJ (all non-detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A6
SDG #: 82389
Laboratory: APPL Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/11/17
Page: 1 of 1
Reviewer: JB
2nd Reviewer: [illegible]

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A /SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	C.S.
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH275**	AZ51530**	Water	03/08/17
2	ERH278	AZ51533	Water	03/08/17
3	ERH286	AZ51535	Water	03/08/17
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

.DC #: 38391Ae

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: [illegible]

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.		✓		
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

.DC #: 38391A6

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 38391A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1-3	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38391A6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JB
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time.
Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		SM3500-Fe-D			EPA 300.0		
Parameters:		Ferrous Iron			Nitrate		
Technical holding time:		48 Hours			48 Hours		
Sample ID	Sampling date/ time	Analysis date/time	Total Time	Qualifier	Analysis date/time	Total Time	Qualifier
1	3/8/17 (11:20)	3/10/17 (17:55)	54.58	No qual ~~J/UJ/P (Det)~~	3/10/17 (13:06)	49.77	J/UJ/P (ND)
2	3/8/17 (15:10)	3/10/17 (17:57)	50.78	~~J/UJ/P (ND)~~			
3	3/8/17 (15:05)	3/10/17 (17:59)	50.90	~~J/UJ/P (ND)~~			
				(QAPP: 7 days)			

LDC #: 38391A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer: PK

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qualifiers										
Alkalinity, Total	2.1		10.5											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 3839144

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: VB
2nd Reviewer: KK

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of NO_3 was recalculated. Calibration date: 3/31/17

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	NO_3	s1	0.08	0.0266	99.9431%	99.8863%	Y
		s2	0.2	0.0649			
		s3	1	0.3101			
		s4	2	0.6658			
		s5	7	2.5699			
		s6	10	3.8434			
Calibration verification	SO_4^-	ICV	FOUND: 19.637 mg/L	TRUE: 20 mg/L	98.2%	98.3%	Y
3/14 Calibration verification	Cl^-	CCV	FOUND: 23.855 mg/L	TRUE: 25 mg/L	95.4%	95.3%	Y
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: JB
2nd Reviewer: KK

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Ferrous Fe	2.844mg/L	3.00mg/L	94.8%	94.7%	Y
	Matrix spike sample		(SSR-SR)				
	Duplicate sample						

Comments:

TOTCLC.6

LDC #: 38391A4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JB
2nd reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Ferrous Fe reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = 0.1000969x + 0.0023112$

$x = 0.054$

Recalculation:

Ferrous Fe = $0.054 = 0.100096x + 0.0023112$

$x = 0.5163$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	Cl-	39.9	40.0	Y
	1	SO4	5.1	5.1	Y
	1	Bicarbonate as CaCO3	92.7	92.7	Y
	1	Total Alkalinity	92.7	92.7	Y
	1	Ferrous Fe	0.52	0.52	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH273	AZ51528	Water	03/08/17
ERH275**	AZ51530**	Water	03/08/17
ERH276	AZ51531	Water	03/08/17
ERH278**	AZ51533**	Water	03/08/17
ERH285	AZ51534	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH273, ERH276, and ERH285 were identified as trip blanks. No contaminants were found.

Sample ERH282 was identified as an equipment blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A7
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	~~%RSD~~ r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 7 TB = 1,3,5,7
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH273 TB	AZ51528	Water	03/08/17
2	ERH275**	AZ51530**	Water	03/08/17
3	ERH276 TB	AZ51531	Water	03/08/17
4	ERH278**	AZ51533**	Water	03/08/17
5	ERH285 TB	AZ51534	Water	03/08/17
6	ERH286	AZ51535	Water	03/08/17
7	ERH282 EB	AZ51536	Water	03/08/17
8				
9				

Notes:

170311AM

LDC #: 38391 A7

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38391A7

VALIDATION FINDINGS CHECKLIST

Reviewer: FA
2nd Reviewer: KK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 3839/A7
SDG#: all cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: PD
2nd Reviewer: KK

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
3/2/2017	GCMS max	Gasoline Range Organics	1	10.22920015	0.8
			2	12.49838833	2
			3	16.13657263	4
			4	30.66013043	12
			5	52.35611312	24
			6	66.46613852	32
			7	83.89675396	40

Regression Output		*Reported*
Constant	*8.566959*	*8.570000*
Std Err of Y Est		
R Squared	*0.999220*	*0.999000*
Degrees of Freedom		
X Coefficient(s)	*1.849082*	*1.850000*
Std Err of Coef.		
Correlation Coefficient	*0.999610*	
Coefficient of Determination (r^2)	*0.999220*	*0.999000*

LDC #: 3839/A7

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0311M05	3/11/17	gasoline (1st internal standard)	300.0	274.43	274.43	8.5	8.5
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene	25.0	25.11049	100	100	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 3839/A7

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170311AM - LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
GRO ~~1,1-Dichloroethene~~	300	NA	280	NA	93.3	93.3	NA			
~~Trichloroethene~~										
~~Benzene~~										
~~Toluene~~										
~~Chlorobenzene~~										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170311AM - LCS GRO

Conc. = $\frac{\left(\frac{9472880}{323410} - 8.57\right)(25.0)}{1.850}$

= 280 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH275**	AZ51530**	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH254 (from SDG 82337) and ERH282 were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH254	03/03/17	Oil (C24-C40)	47 ug/L	ERH286

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A8
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	% RSD/ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks SW	ND	EB = 4, ERH254 (82337)
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XI.	Target compound identification	A	Not reviewed for Level C validation.
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH275**	AZ51530**	Water	03/08/17
2	ERH278	AZ51533	Water	03/08/17
3	ERH286	AZ51535	Water	03/08/17
4	ERH282 EB	AZ51536	Water	03/08/17
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

	170310A1						

LDC #: 38391A8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓	✓	FT	
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38391A8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: KK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38391A8

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: ✓ **GC** __ **HPLC**

Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 3/3/17
Field blank type: (circle one) Field Blank / Trip Blank / Atmospheric Blank / Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: EB

Associated Samples: 3 (ND)

Compound	Blank ID	Blank ID	Sample Identification							
	ERH254									
Oil (C24-C40)	47									
CRQL										

Blank units: _____ **Associated sample units:** _____
Sampling date: _____
Field blank type: (circle one) Field Blank / Trip Blank/ Atmospheric Blank/ Ambient Blank Rinsate / Equipment Rinsate / Equipment Blank / Source Blank / Other: _____

Associated Samples: _____

Compound	Blank ID	Blank ID	Sample Identification							
CRQL										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with compound concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 3839/A8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: RK

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=400)	Recalculated (CF4 std=400)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/3/2017	Diesel C10-C24)	1638880	1638880	1633526	1633526	1.3	1.3
	Apollo								

LDC #: 3839/A8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	315018 CCV	3/15/17	Diesel C10-C24	1633530	1661350	1661350	1.7	1.7
2	315038 CCV	3/16/17	↓	↓	1678820	1678820	2.8	2.8
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: KK

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
octacosane	✓	40.0	35.369	88.4	88.4	0
o-Terphenyl	✓	↓	33.068	82.7	82.7	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38391A8

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KR

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170310A1- LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)	667	NA	379	NA	56.8	56.8	NA	—	—	
Benzene	(8021B)										
Methane	(RSK-175)										
2,4-D	(8151)										
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: ✓ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Diesel C10-C24

Concentration = (20452224)(2)(1000) / (16335260)(1500)(2) =

= 83 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: April 11, 2017

Parameters: Methane

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH273	AZ51528	Water	03/08/17
ERH275**	AZ51530**	Water	03/08/17
ERH276	AZ51531	Water	03/08/17
ERH278	AZ51533	Water	03/08/17
ERH285	AZ51534	Water	03/08/17
ERH286	AZ51535	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH273, ERH276, and ERH285 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

X. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A51
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	~~%RSD~~ r2 ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1, 3, 5
VI.	Matrix spike/Matrix spike duplicates	N	CS
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
X.	Target compound identification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH273 TB	AZ51528	Water	03/08/17
2	ERH275**	AZ51530**	Water	03/08/17
3	ERH276 TB	AZ51531	Water	03/08/17
4	ERH278	AZ51533	Water	03/08/17
5	ERH285 TB	AZ51534	Water	03/08/17
6	ERH286	AZ51535	Water	03/08/17
7				
8				
9				
10				
11				
12				
13				

Notes:

170311A

LDC #: 38391A5)

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FT
2nd Reviewer: KA

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?	✓			
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	

LDC #: 38391A5 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: MK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38391 A51
SDG#: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FJ
2nd Reviewer: KK

Method: RSK 175

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
2/25/2017	Ints 7890	Methane	1	4053	0.9
			2	4751	1.8
			3	11280	5.1
			4	35556	13.33
			5	60619	26.7
			6	133452	66.75
			7	362708	106.8
			8	476501	320.4
			9	1370511	667.5
			10	2704241	1335

Regression Output		*Reported*
Constant	*5429.866476*	*5430.00*
Std Err of Y Est		
R Squared	*0.992598*	*0.993000*
Degrees of Freedom		
X Coefficient(s)	*2008.180442*	*2010.00*
Std Err of Coef.		
Correlation Coefficient	*0.996292*	
Coefficient of Determination (r^2)	*0.992598*	*0.993000*

022517 methane

LDC #: 3839/A5/

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	17031100 CCV	3/11/17	Methane	667.5	636.943	636.943	4.6	4.6
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/A5/

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: KK

METHOD: ___ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(((SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170311A - LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)										
Benzene	(8021B)										
Methane	(RSK-175)	668	NA	637	NA	95.4	95.4	NA	—	—	
2,4-D	(8151)										
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/A5/

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #2 Compound Name Methane

Concentration = $\frac{(952893 - 5.43 \times 10^3)}{(2.01 \times 10^3)}$ =

= 471 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH275	AZ51530	1	ALKALINITY, AS CACO3	3/8/2017 11:20:00 AM	3/13/2017 7:21:00 PM	D	92.7	MG_L		2.0	1.70		
ERH275	AZ51530	1	ALKALINITY, BICARBONATE	3/8/2017 11:20:00 AM	3/13/2017 7:21:00 PM	D	92.7	MG_L		2.0	1.70		
ERH275	AZ51530	1	ALKALINITY, CARBONATE	3/8/2017 11:20:00 AM	3/13/2017 7:21:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
ERH278	AZ51533	1	ALKALINITY, AS CACO3	3/8/2017 3:10:00 PM	3/13/2017 7:27:00 PM	C	103	MG_L		2.0	1.70		
ERH278	AZ51533	1	ALKALINITY, BICARBONATE	3/8/2017 3:10:00 PM	3/13/2017 7:27:00 PM	C	103	MG_L		2.0	1.70		
ERH278	AZ51533	1	ALKALINITY, CARBONATE	3/8/2017 3:10:00 PM	3/13/2017 7:27:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH286	AZ51535	1	ALKALINITY, AS CACO3	3/8/2017 3:05:00 PM	3/13/2017 7:34:00 PM	C	165	MG_L		2.0	1.70		
ERH286	AZ51535	1	ALKALINITY, BICARBONATE	3/8/2017 3:05:00 PM	3/13/2017 7:34:00 PM	C	165	MG_L		2.0	1.70		
ERH286	AZ51535	1	ALKALINITY, CARBONATE	3/8/2017 3:05:00 PM	3/13/2017 7:34:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH275	AZ51530	1	CHLORIDE	3/8/2017 11:20:00 AM	3/10/2017 1:06:00 PM	D	39.9	MG_L		1.0	0.20		
ERH275	AZ51530	1	NITRATE	3/8/2017 11:20:00 AM	3/10/2017 1:06:00 PM	D	0.18	MG_L	U	0.5	0.18	UJ	h
ERH275	AZ51530	1	SULFATE	3/8/2017 11:20:00 AM	3/10/2017 1:06:00 PM	D	5.1	MG_L		1.0	0.20		
ERH278	AZ51533	5	CHLORIDE	3/8/2017 3:10:00 PM	3/14/2017 1:56:00 PM	C	161	MG_L		5.0	1.00		
ERH278	AZ51533	1	NITRATE	3/8/2017 3:10:00 PM	3/10/2017 2:01:00 PM	C	4.5	MG_L		0.5	0.18		
ERH278	AZ51533	5	SULFATE	3/8/2017 3:10:00 PM	3/14/2017 1:56:00 PM	C	49.6	MG_L		5.0	1.00		
ERH286	AZ51535	50	CHLORIDE	3/8/2017 3:05:00 PM	3/14/2017 1:42:00 PM	C	1000	MG_L		50.0	10.00		
ERH286	AZ51535	5	NITRATE	3/8/2017 3:05:00 PM	3/10/2017 2:14:00 PM	C	9.1	MG_L		2.5	0.90		
ERH286	AZ51535	50	SULFATE	3/8/2017 3:05:00 PM	3/14/2017 1:42:00 PM	C	333	MG_L		50.0	10.00		
METHOD: **3500_FE_B**													
ERH275	AZ51530	1	IRON, FERROUS	3/8/2017 11:20:00 AM	3/10/2017 5:55:00 PM	D	0.52	MG_L	J	1.0	0.32	J	
ERH278	AZ51533	1	IRON, FERROUS	3/8/2017 3:10:00 PM	3/10/2017 5:57:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH286	AZ51535	1	IRON, FERROUS	3/8/2017 3:05:00 PM	3/10/2017 5:59:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH275	AZ51530	1	TPH-DIESEL RANGE	3/8/2017 11:20:00 AM	3/16/2017 7:19:00 AM	D	83	UG_L	T6	40.0	25.00		
ERH275	AZ51530	1	TPH-OIL RANGE	3/8/2017 11:20:00 AM	3/16/2017 7:19:00 AM	D	40.00	UG_L	U	40.0	40.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8015B_E**													
ERH278	AZ51533	1	TPH-DIESEL RANGE	3/8/2017 3:10:00 PM	3/16/2017 7:40:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH278	AZ51533	1	TPH-OIL RANGE	3/8/2017 3:10:00 PM	3/16/2017 7:40:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH286	AZ51535	1	TPH-DIESEL RANGE	3/8/2017 3:05:00 PM	3/16/2017 8:00:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH286	AZ51535	1	TPH-OIL RANGE	3/8/2017 3:05:00 PM	3/16/2017 8:00:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH282	AZ51536	1	TPH-DIESEL RANGE	3/8/2017 12:10:00 PM	3/16/2017 9:23:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH282	AZ51536	1	TPH-OIL RANGE	3/8/2017 12:10:00 PM	3/16/2017 9:23:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH273	AZ51528	1	BENZENE	3/8/2017 10:10:00 AM	3/11/2017 2:33:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH273	AZ51528	1	ETHYLBENZENE	3/8/2017 10:10:00 AM	3/11/2017 2:33:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH273	AZ51528	1	TOLUENE	3/8/2017 10:10:00 AM	3/11/2017 2:33:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH273	AZ51528	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 10:10:00 AM	3/11/2017 2:32:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH273	AZ51528	1	XYLENES, TOTAL	3/8/2017 10:10:00 AM	3/11/2017 2:33:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH274	AZ51529	1	BENZENE	3/8/2017 12:05:00 PM	3/11/2017 3:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH274	AZ51529	1	ETHYLBENZENE	3/8/2017 12:05:00 PM	3/11/2017 3:00:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH274	AZ51529	1	TOLUENE	3/8/2017 12:05:00 PM	3/11/2017 3:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH274	AZ51529	1	XYLENES, TOTAL	3/8/2017 12:05:00 PM	3/11/2017 3:00:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH275	AZ51530	1	BENZENE	3/8/2017 11:20:00 AM	3/11/2017 3:29:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH275	AZ51530	1	ETHYLBENZENE	3/8/2017 11:20:00 AM	3/11/2017 3:29:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH275	AZ51530	1	TOLUENE	3/8/2017 11:20:00 AM	3/11/2017 3:29:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH275	AZ51530	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 11:20:00 AM	3/11/2017 3:30:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH275	AZ51530	1	XYLENES, TOTAL	3/8/2017 11:20:00 AM	3/11/2017 3:29:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH276	AZ51531	1	BENZENE	3/8/2017 3:00:00 PM	3/11/2017 3:58:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH276	AZ51531	1	ETHYLBENZENE	3/8/2017 3:00:00 PM	3/11/2017 3:58:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH276	AZ51531	1	TOLUENE	3/8/2017 3:00:00 PM	3/11/2017 3:58:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH276	AZ51531	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 3:00:00 PM	3/11/2017 3:57:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH276	AZ51531	1	XYLENES, TOTAL	3/8/2017 3:00:00 PM	3/11/2017 3:58:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH277	AZ51532	1	BENZENE	3/8/2017 3:35:00 PM	3/11/2017 4:26:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH277	AZ51532	1	ETHYLBENZENE	3/8/2017 3:35:00 PM	3/11/2017 4:26:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH277	AZ51532	1	TOLUENE	3/8/2017 3:35:00 PM	3/11/2017 4:26:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH277	AZ51532	1	XYLENES, TOTAL	3/8/2017 3:35:00 PM	3/11/2017 4:26:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH278	AZ51533	1	BENZENE	3/8/2017 3:10:00 PM	3/11/2017 4:55:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH278	AZ51533	1	ETHYLBENZENE	3/8/2017 3:10:00 PM	3/11/2017 4:55:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH278	AZ51533	1	TOLUENE	3/8/2017 3:10:00 PM	3/11/2017 4:55:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH278	AZ51533	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 3:10:00 PM	3/11/2017 4:54:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH278	AZ51533	1	XYLENES, TOTAL	3/8/2017 3:10:00 PM	3/11/2017 4:55:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH285	AZ51534	1	BENZENE	3/8/2017 11:55:00 AM	3/11/2017 5:22:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH285	AZ51534	1	ETHYLBENZENE	3/8/2017 11:55:00 AM	3/11/2017 5:22:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH285	AZ51534	1	TOLUENE	3/8/2017 11:55:00 AM	3/11/2017 5:22:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH285	AZ51534	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 11:55:00 AM	3/11/2017 5:23:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH285	AZ51534	1	XYLENES, TOTAL	3/8/2017 11:55:00 AM	3/11/2017 5:22:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH286	AZ51535	1	BENZENE	3/8/2017 3:05:00 PM	3/11/2017 5:51:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH286	AZ51535	1	ETHYLBENZENE	3/8/2017 3:05:00 PM	3/11/2017 5:51:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH286	AZ51535	1	TOLUENE	3/8/2017 3:05:00 PM	3/11/2017 5:51:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH286	AZ51535	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 3:05:00 PM	3/11/2017 5:52:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH286	AZ51535	1	XYLENES, TOTAL	3/8/2017 3:05:00 PM	3/11/2017 5:51:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH282	AZ51536	1	BENZENE	3/8/2017 12:10:00 PM	3/11/2017 6:20:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH282	AZ51536	1	ETHYLBENZENE	3/8/2017 12:10:00 PM	3/11/2017 6:20:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH282	AZ51536	1	TOLUENE	3/8/2017 12:10:00 PM	3/11/2017 6:20:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH282	AZ51536	1	TPH-GASOLINE RANGE C6-C10	3/8/2017 12:10:00 PM	3/11/2017 6:19:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH282	AZ51536	1	XYLENES, TOTAL	3/8/2017 12:10:00 PM	3/11/2017 6:20:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH275	AZ51530	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 11:20:00 AM	3/13/2017 9:14:00 PM	D	80.0	UG_L	U	100	80.0	U	
ERH275	AZ51530	1	PHENOL	3/8/2017 11:20:00 AM	3/14/2017 1:39:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH278	AZ51533	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 3:10:00 PM	3/13/2017 9:44:00 PM	C	80.0	UG_L	U	100	80.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH278	AZ51533	1	PHENOL	3/8/2017 3:10:00 PM	3/14/2017 2:10:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH286	AZ51535	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 3:05:00 PM	3/13/2017 10:14:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH286	AZ51535	1	PHENOL	3/8/2017 3:05:00 PM	3/14/2017 2:41:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH282	AZ51536	1	2-(2-METHOXYETHOXY)-ETHANOL	3/8/2017 12:10:00 PM	3/13/2017 10:44:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH282	AZ51536	1	PHENOL	3/8/2017 12:10:00 PM	3/14/2017 3:12:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH275	AZ51530	1	1-METHYLNAPHTHALENE	3/8/2017 11:20:00 AM	3/16/2017 9:47:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH275	AZ51530	1	2-METHYLNAPHTHALENE	3/8/2017 11:20:00 AM	3/16/2017 9:47:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH275	AZ51530	1	NAPHTHALENE	3/8/2017 11:20:00 AM	3/16/2017 9:47:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH278	AZ51533	1	1-METHYLNAPHTHALENE	3/8/2017 3:10:00 PM	3/16/2017 10:20:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH278	AZ51533	1	2-METHYLNAPHTHALENE	3/8/2017 3:10:00 PM	3/16/2017 10:20:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH278	AZ51533	1	NAPHTHALENE	3/8/2017 3:10:00 PM	3/16/2017 10:20:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH286	AZ51535	1	1-METHYLNAPHTHALENE	3/8/2017 3:05:00 PM	3/16/2017 10:52:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH286	AZ51535	1	2-METHYLNAPHTHALENE	3/8/2017 3:05:00 PM	3/16/2017 10:52:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH286	AZ51535	1	NAPHTHALENE	3/8/2017 3:05:00 PM	3/16/2017 10:52:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH282	AZ51536	1	1-METHYLNAPHTHALENE	3/8/2017 12:10:00 PM	3/17/2017 12:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH282	AZ51536	1	2-METHYLNAPHTHALENE	3/8/2017 12:10:00 PM	3/17/2017 12:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH282	AZ51536	1	NAPHTHALENE	3/8/2017 12:10:00 PM	3/17/2017 12:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH273	AZ51528	1	METHANE	3/8/2017 10:10:00 AM	3/11/2017 1:28:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH275	AZ51530	1	METHANE	3/8/2017 11:20:00 AM	3/11/2017 1:32:00 PM	D	470	UG_L		5.0	1.00		
ERH276	AZ51531	1	METHANE	3/8/2017 3:00:00 PM	3/11/2017 1:36:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH278	AZ51533	1	METHANE	3/8/2017 3:10:00 PM	3/11/2017 1:40:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH285	AZ51534	1	METHANE	3/8/2017 11:55:00 AM	3/11/2017 1:43:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH286	AZ51535	1	METHANE	3/8/2017 3:05:00 PM	3/11/2017 1:46:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

LDC #: 38391

EDD POPULATION COMPLETENESS WORKSHEET

Date: 4/17
Page: 1 of 1
2nd Reviewer: BA

The LDC job number listed above was entered by DE.

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	Y	client
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	Y	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	+	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	—	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	-Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

May 4, 2017

SUBJECT: Revised Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously submitted report with the enclosed revised report.

LDC Project #38391:

SDG #	**Fraction**
82389	Volatiles

- Revision: ERH278 re-validated as a Level D sample

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 1, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82389

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH273	AZ51528	Water	03/08/17
ERH274	AZ51529	Water	03/08/17
ERH275**	AZ51530**	Water	03/08/17
ERH276	AZ51531	Water	03/08/17
ERH277	AZ51532	Water	03/08/17
ERH278**	AZ51533**	Water	03/08/17
ERH285	AZ51534	Water	03/08/17
ERH286	AZ51535	Water	03/08/17
ERH282	AZ51536	Water	03/08/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Monitoring Well Installation Work Plan, Red Hill Bulk Fuel Storage Facility Joint Base Pearl Harbor-Hickam (JBPHH), O'ahu, Hawai'i (August 2016), Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, JBPHH, O'ahu, Hawai'i (Revision 01, November 2016), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH273, ERH276, and ERH285 were identified as trip blanks. No contaminants were found.

Sample ERH282 was identified as an equipment blank. No contaminants were found.

Samples ERH274 and ERH277 were identified as ambient blanks. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82389

No Sample Data Qualified in this SDG

LDC #: 38391A1
SDG #: 82389
Laboratory: APPL, Labs

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 4/9/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4, 7 AB = 2, 5 EB = 9
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH273 TB	AZ51528	Water	03/08/17
2	ERH274 AB	AZ51529	Water	03/08/17
3	ERH275**	AZ51530**	Water	03/08/17
4	ERH276 TB	AZ51531	Water	03/08/17
5	ERH277 AB	AZ51532	Water	03/08/17
6	ERH278	AZ51533	Water	03/08/17
7	ERH285 TB	AZ51534	Water	03/08/17
8	ERH286	AZ51535	Water	03/08/17
9	ERH282 EB	AZ51536	Water	03/08/17
10				
11				
12	170311AM			
13				

LDC #: 38391A1

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38391A 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: KK

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38391A 1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	3/8/2017	V	2.020	2.020	1.9760	1.9760	3.7	3.7
			EE	3.770	3.770	3.6380	3.6380	4.4	4.4

LDC #: 3839/A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	0311M02	3/11/17	Y (1st internal standard)	1.9760	1.950	1.950	1.3	1.3
			EE (2nd internal standard)	3.6380	3.739	3.739	2.8	2.8
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/A1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 3

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	26.42547	106	106	0
1,2-Dichloroethane-d4	↓	25.44896	102	102	↓
Toluene-d8	↓	24.95011	99.8	99.8	↓
Bromofluorobenzene	↓	25.11049	100	100	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 3839/A/

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: EE

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170311AM - LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	10.0	NA	9.56	NA	95.6	95.6				
Toluene	↓	↓	9.60	↓	96.0	96.0	NA			
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391A

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: KK

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170311A M- ICS ✓

Conc. = $\frac{(229470)(25.0)}{(303692)(1.9760)}$

= 9.56

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

May 4, 2017

SUBJECT: **Data Quality Assessment Report**
March 2017
Investigation and Remediation of Releases and
Groundwater Protection and Evaluation
Red Hill Bulk Fuel Storage Facility
Joint Base Pearl Harbor-Hickam
Oahu, Hawaii
CTO 0053

Dear Ms. Thach,

Enclosed is the Data Quality Assessment Report, March 2017, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Oahu, Hawaii, CTO 0053

We appreciate this opportunity to support AECOM in the performance of this project.

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

DATA QUALITY ASSESSMENT REPORT

MARCH 2017
INVESTIGATION AND REMEDIATION OF RELEASES AND GROUNDWATER PROTECTION AND EVALUATION

RED HILL BULK FUEL STORAGE FACILITY
JOINT BASE PEARL HARBOR-HICKAM
OAHU, HAWAII

CTO 0053

May 4, 2017

Table of Contents

Section	Title	Page No.
1.0	INTRODUCTION	1
2.0	BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, TOTAL AND 1,2-DICHLOROETHANE	6
2.1	Precision and Accuracy	6
2.2	Representativeness	7
2.3	Comparability	7
2.4	Completeness	8
2.5	Sensitivity	8
3.0	PHENOL AND 2-(2-METHOXYETHOXY)-ETHANOL	8
3.1	Precision and Accuracy	8
3.2	Representativeness	9
3.3	Comparability	9
3.4	Completeness	9
3.5	Sensitivity	9
4.0	POLYNUCLEAR AROMATIC HYDROCARBONS	9
4.1	Precision and Accuracy	10
4.2	Representativeness	10
4.3	Comparability	11
4.4	Completeness	11
4.5	Sensitivity	11
5.0	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE	11
5.1	Precision and Accuracy	11
5.2	Representativeness	12
5.3	Comparability	12
5.4	Completeness	12
5.5	Sensitivity	13
6.0	TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES	13
6.1	Precision and Accuracy	13
6.2	Representativeness	13
6.3	Comparability	14
6.4	Completeness	14
6.5	Sensitivity	14
7.0	ETHYLENE DIBROMIDE	14
7.1	Precision and Accuracy	14
7.2	Representativeness	15
7.3	Comparability	15
7.4	Completeness	15
7.5	Sensitivity	15

8.0 METHANE 16

8.1 Precision and Accuracy 16
8.2 Representativeness 16
8.3 Comparability 17
8.4 Completeness 17
8.5 Sensitivity 17

9.0 WET CHEMISTRY 17

9.1 Precision and Accuracy 17
9.2 Representativeness 18
9.3 Comparability 18
9.4 Completeness 18
9.5 Sensitivity 18

10.0 VARIANCES IN ANALYTICAL PERFORMANCE 18

11.0 SUMMARY OF PARCCS CRITERIA 18

11.1 Precision and Accuracy 19
11.2 Representativeness 19
11.3 Comparability 19
11.4 Completeness 19
11.5 Sensitivity 19

GLOSSARY

ASTM	American Society for Testing and Materials
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes, total
COPC	Compounds of Potential Concern
CTO	Contract Task Order
DCA	1,2-Dichloroethane
DQAR	Data Quality Assessment Report
DOD	Department of Defense
DL	Detection Limit
EB	Equipment Blank
EDB	Ethylene Dibromide
FB	Field Blank
FD	Field Duplicate
LCS	Laboratory Control Sample
LDC	Laboratory Data Consultants, Inc
LOD	Limit of Detection
LOQ	Limit of Quantitation
MEE	2-(2-Methoxyethoxy)-ethanol
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NAVFAC	Naval Facilities Engineering Command
PAH	Polynuclear Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
PQO	Project Quality Objectives
PT	Proficiency Testing sample
QA/QC	Quality Assurance/Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
RM	Reference Material
RRF	Relative Response Factor
SDG	Sample Delivery Group
SGCU	Silica Gel Clean-Up
SIM	Selected Ion Monitoring
TB	Trip Blank
TPH	Total Petroleum Hydrocarbons
%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
mg/L	Milligrams per Liter
ug/L	Micrograms per Liter

1.0 INTRODUCTION

An investigation and remediation of petroleum product releases and protection and evaluation of groundwater were conducted on March 2017 at the Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam in Oahu, Hawaii. This part of the investigation included the collection and analyses of 35 environmental and quality control (QC) samples. The analyses were performed by the following methods:

Benzene, Toluene, Ethylbenzene, Xylenes, Total (BTEX) and 1,2-Dichloroethane (1,2-DCA) by Environmental Protection Agency (EPA) SW-846 Method 8260B
Phenol by EPA SW-846 Method 8270D
2-(2-Methoxyethoxy)-ethanol (MEE) by EPA SW-846 Method 8270D Modified
Polynuclear Aromatic Hydrocarbons (PAH) by EPA SW-846 Method 8270D-Selected Ion Monitoring (SIM) mode
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW-846 Method 8260B
TPH as Extractables by EPA SW-846 Method 8015B
Ethylene Dibromide (EDB) by EPA SW-846 Method 8011
Methane by Method RSK 175

Wet Chemistry:
Alkalinity by Standard Method 2320B
Chloride, Nitrate and Sulfate (Anions) by EPA Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

Analytical services were provided by APPL, Inc. whom performed analyses on the water samples. The samples were grouped into sample delivery groups (SDGs) as received by each laboratory. The environmental samples are associated with quality assurance (QA) and QC samples designed to document the data quality of the entire SDG or a sub-group of samples within a SDG. Table I is a cross-reference table listing each sample, analysis, SDG, collection date, laboratory sample number, matrix, and validation level.

Approximately ten percent of the analytical data were validated according to Naval Facilities Engineering Command (NAVFAC) Pacific Level D data validation procedures and ninety percent of the analytical data were validated according to NAVFAC Pacific Level C data validation procedures. The analytical data were evaluated for QA/QC based on the *NAVFAC Pacific Environmental Restoration (ER) Program Data Validation Procedures (DON 2015)* and the *Department of Defense Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (DoD 2013).*

This data quality assessment report (DQAR) summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project quality objectives (PQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

The DQAR evaluates and summarizes the results of QA/QC data validation for the entire sampling program. Each analytical fraction has a separate section for each of the PARCCS criteria. These sections interpret specific QC deviations and their effects on both individual data points and the analyses as a whole. Section 11 presents a summary of the PARCCS criteria by comparing quantitative parameters with acceptability criteria defined in the PQOs. Qualitative PARCCS criteria are also summarized in this section.

Precision and Accuracy of Environmental Data

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which affect the overall quality of a measurement. Errors in sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given media.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: method blanks, laboratory control samples/ laboratory control sample duplicates (LCS/LCSD), laboratory duplicates (DUP), matrix spike/matrix spike duplicates (MS/MSD), ambient blanks (AB), equipment blanks (EB), field blanks (FB), trip blanks (TB) and field duplicates (FD).

Before conducting the PARCCS evaluation, the analytical data were validated according to the NAVFAC procedures and DoD QSM. Samples not meeting the NAVFAC procedures and DoD QSM acceptance criteria were qualified with a flag, an abbreviation indicating a deficiency with the data. The following are flags used in data validation.

J — Estimated The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.

R — Rejected The data is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria. Either resampling or reanalysis is necessary to determine the presence or absence of the rejected analyte.

U — Nondetected Analyses were performed for the compound or analyte, but it was not detected. The "U" designation is also applied to suspected blank contamination. The "U" flag is used to qualify any result detected in an environmental sample at a concentration less than 5 times the concentration in any associated blank.

UJ — Estimated/Nondetected Analyses were performed for the compound or analyte, but it was not detected and the limit of detection (LOD) is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, internal standard, or other spike recovery.

Once the data are reviewed and qualified according to the NAVFAC procedures and DoD QSM, the data set is then evaluated using PARCCS criteria. PARCCS criteria provide an evaluation of overall data usability. The following is a discussion of PARCCS criteria as related to the PQOs.

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from the reported concentrations. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where:
D1 = the reported concentration for primary sample analyses
D2 = the reported concentrations for duplicate analyses

Precision is primarily assessed by calculating a RPD from the reported concentrations of the spiked compounds for each sample in the MS/MSD pair. In the absence of a MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. An additional measure of sampling precision may be obtained by collecting and analyzing field duplicate samples, which are compared using the RPD result as the evaluation criteria.

MS and MSD samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A LCS is similar to a MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. Non-aqueous LCSs are prepared using solid media approved by the American Society for Testing and Materials (ASTM) for their homogeneity. The LCS measures laboratory efficiency in recovering target analytes from either a solid or aqueous matrix in the absence of matrix interferences.

For inorganic analysis, one primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate and calculates RPDs to assess laboratory precision.

Laboratory and field precision are further evaluated by calculating RPDs for field duplicate pairs. The sampler collects two field samples at the same location and under identically controlled conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the numerical QC limit in MS/MSD samples, LCS/LCSDs, or FDs indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicates, results maybe reported in either the primary or duplicate samples at levels below the limit of quantitation (LOQ) or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate sets do not suggest a significant impact on the data quality.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Surrogate spikes are either isotopically labeled compounds or compounds that are not typically detected in the samples. Surrogate spikes are added to every blank, environmental sample, MS/MSD, LCS/LCSD and standard, for all applicable organic analyses. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses. Percent recovery (%R) is calculated using the following equation:

$$\%R = (A-B)/C \times 100$$

Where:
A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS, and surrogate compounds added to environmental samples is evaluated against the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or LODs reported for environmental samples.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population and is evaluated by reviewing the QC results of blank samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, ambient blanks, equipment blanks, field blanks, and trip blanks.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

For inorganic analyses, initial and continuing calibration blanks (ICB/CCB) consist of acidified laboratory grade water, which are injected at the beginning and at a regular frequency during each 12 - hour sample analysis run. These blanks estimate residual contaminants from the previous sample or standards analysis and measure baseline shifts that commonly occur in emission and absorption spectroscopy.

Trip blanks are used to identify possible volatile organic contamination introduced into the sample during transport. A trip blank is a sample volatile organics analysis vial filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid. It is transported to the site, stored with the sample containers, and returned unopened to the laboratory for analysis. Trip blanks were collected and analyzed for BTEX, 1,2-DCA, TPH as gasoline, EDB, and methane.

Ambient blanks are source water blanks collected by pouring store-bought distilled water directly into sampling containers on field. Ambient blanks are expected to capture any contamination in the ambient conditions at the potable water sampling location. Ambient blanks were collected and analyzed for BTEX and 1,2-DCA.

Equipment blanks consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure. Equipment blanks were collected and analyzed for BTEX, phenol, MEE, PAH, and TPH.

Field blanks consist of analyte-free source water stored at the sample collection site. The water is collected from each source water used during each sampling event. Field blanks were collected and analyzed for BTEX, 1,2-DCA, phenol, MEE, PAH, and TPH.

Contaminants found in both the environmental sample and a blank sample are assumed to be laboratory artifacts if the concentration in the environmental sample is less than 5 times the blank value for contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation.

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical procedures, the data are considered comparable. Comparability can only be compared with confidence when precision, accuracy, and representativeness are known.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the PQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

Where:
%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the project planning document, with the number determined above.

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. This capability is established during the planning phase to meet the PQOs. It is important that calibration requirements, detection limits (DLs), and project-specific LODs and LOQs presented in the work plan are achieved and that target analytes can be detected at concentrations necessary to support the PQOs. In addition, sample results are compared to method blank and field blank results to identify potential effects of laboratory background and field procedures on sensitivity.

The following sections present a review of QC data for each analytical method. The details regarding the qualification of results are provided in the data validation reports.

2.0 BENZENE, TOLUENE, ETHYLBENZENE, XYLENES, TOTAL AND 1,2-DICHLOROETHANE

A total of 35 water samples were analyzed for BTEX and five water samples were analyzed for 1,2-DCA by EPA SW-846 Method 8260B. All VOC data were assessed to be valid since none of the 145 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

2.1 Precision and Accuracy

2.1.1 Instrument Calibration

Initial and continuing calibration results provide a means of evaluating accuracy within a particular SDG. Relative response factor (RRF), percent relative standard deviation (%RSD), and percent difference (%D) are the three major parameters used to measure the effectiveness of instrument calibration. RRF is a measure of the relative spectral response of an analyte compared to its internal standard. %RSD is an expression of the linearity of instrument response. %D is a comparison of a continuing calibration instrumental response with its initial response. %RSD and %D exceedances suggest routine instrumental anomalies, which typically impact all sample results for the affected compounds.

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

2.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

2.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

2.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

2.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

2.1.6 Field Duplicate Samples

No BTEX and 1,2-DCA were detected in the field duplicate samples ERH257 and ERH258 and samples ERH262 and ERH263.

2.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

2.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

2.2 Representativeness

2.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

2.2.2 Blanks

Method blanks, ambient blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation. The corrective action consisted of amending the laboratory reported results based on the following criteria.

> Results Below or Above the LOQ If a sample result for the blank contaminant was less than the LOQ or greater than the sample LOQ and less than 5 times the blank value for contaminants, the sample result for the blank contaminant was amended as a non-detect at the concentration reported in the sample results.
>
> No Action If a sample result for the blank contaminant was greater than 5 times the blank value for contaminants, the result was not amended.

2.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

2.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

2.2.2.3 Ambient, Equipment and Field Blanks

No contaminants were detected in the ambient, equipment, and field blanks for this analysis.

2.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

2.4 Completeness

The completeness level attained BTEX and 1,2-DCA field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

2.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

3.0 PHENOL AND 2-(2-METHOXYETHOXY)-ETHANOL

A total of 18 water samples were analyzed for phenol by EPA SW-846 Method 8270D and MEE by EPA SW-846 Method 8270D modified. All phenol and MEE data were assessed to be valid since none of the 36 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

3.1 Precision and Accuracy

3.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

3.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

3.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

3.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

3.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

3.1.6 Field Duplicate Samples

No phenol and MEE were detected in the field duplicate samples ERH257 and ERH258 and samples ERH262 and ERH263.

3.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

3.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

3.2 Representativeness

3.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

3.2.2 Blanks

Method blanks, equipment blanks and field blanks were collected and analyzed to evaluate representativeness.

3.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

3.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

3.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

3.4 Completeness

The completeness level attained for phenol and MEE field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

3.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

4.0 POLYNUCLEAR AROMATIC HYDROCARBONS

A total of 18 water samples were analyzed for 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene by EPA SW-846 Method 8270D-SIM. All PAH data were assessed to be valid since none of the 54 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

4.1 Precision and Accuracy

4.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

4.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

4.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

4.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

4.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

4.1.6 Field Duplicate Samples

No PAH were detected in the field duplicate samples ERH257 and ERH258 and samples ERH262 and ERH263.

4.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

4.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

4.2 Representativeness

4.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

4.2.2 Blanks

Method blanks, equipment blanks, and field blanks were collected and analyzed to evaluate representativeness.

4.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

4.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

4.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

4.4 Completeness

The completeness level attained for PAH field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

4.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

5.0 TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

A total of 31 water samples were analyzed for TPH as gasoline by EPA SW-846 Method 8260B. All TPH as gasoline data were assessed to be valid since none of the 31 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

5.1 Precision and Accuracy

5.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

5.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

5.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

5.1.4 LCS

All LCS %Rs were within the acceptance criteria.

5.1.5 Field Duplicate Samples

No TPH as gasoline was detected in the field duplicate samples ERH257 and ERH258 and samples ERH262 and ERH263.

5.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

5.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

5.2 Representativeness

5.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

5.2.2 Blanks

Method blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness.

5.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

5.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

5.2.2.3 Equipment and Field Blanks

No contaminants were detected in the equipment, and field blanks for this analysis.

5.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

5.4 Completeness

The completeness level attained for TPH as gasoline field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

5.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

6.0 TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES

A total of 18 water samples were analyzed for diesel and oil by EPA SW-846 Method 8015B. All TPH as extractable data were assessed to be valid since none of the 36 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

6.1 Precision and Accuracy

6.1.1 Instrument Calibration

The %RSDs met the acceptance criteria of 20 percent in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

6.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

6.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

6.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

6.1.5 Field Duplicate Samples

No TPH as extractables were detected in the field duplicate samples ERH257 and ERH258. RPDs for diesel and oil were within the acceptance criteria for field duplicate samples ERH262 and ERH263.

6.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

6.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

6.2 Representativeness

6.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

6.2.2 Blanks

Method blanks, equipment blanks and field blanks were collected and analyzed to evaluate representativeness.

6.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

6.2.2.2 Equipment and Field Blanks

No data were qualified due to contaminants detected in the equipment and field blanks for this analysis.

6.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

6.4 Completeness

The completeness level attained for TPH as extractable field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

6.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

7.0 ETHYLENE DIBROMIDE

A total of five water samples were analyzed for EDB by EPA SW-846 Method 8011. All EDB data were assessed to be valid since none of the five total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

7.1 Precision and Accuracy

7.1.1 Instrument Calibration

The %RSDs in the initial calibration and the %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

7.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

7.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

7.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

7.1.5 Field Duplicate Samples

No EDB was detected in the field duplicate samples ERH262 and ERH263.

7.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

7.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

7.2 Representativeness

7.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

7.2.2 Blanks

Method blanks and trip blanks were collected and analyzed to evaluate representativeness.

7.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

7.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

7.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

7.4 Completeness

The completeness level attained for EDB field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

7.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

8.0 METHANE

A total of 24 water samples were analyzed for methane by EPA Method RSK 175. All methane data were assessed to be valid since none of the 24 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

8.1 Precision and Accuracy

8.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

8.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

8.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

8.1.4 Field Duplicate Samples

Field duplicates were not collected for this analysis.

8.1.5 Proficiency Testing Samples

PT samples were not performed for the sampling event.

8.1.6 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

8.2 Representativeness

8.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

8.2.2 Blanks

Method blanks and trip blanks were collected and analyzed to evaluate representativeness.

8.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

8.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

8.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

8.4 Completeness

The completeness level attained for methane field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

8.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

9.0 WET CHEMISTRY

A total of 12 water samples were analyzed for alkalinity by Standard Method 2320B, anions by EPA Method 300.0 and ferrous iron by Standard Method 3500 Fe B. All wet chemistry data were assessed to be valid since none of the 84 total results were rejected due to holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

9.1 Precision and Accuracy

9.1.1 Instrument Calibration

The correlation coefficients in the initial calibrations and percent recoveries in the initial and continuing calibration verifications were within the acceptance criteria of $\geq$ 0.995 and 90-110 percent, respectively.

9.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

9.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

9.1.4 Field Duplicate Samples

Field duplicates were not collected for this analysis.

9.1.5 Proficiency Testing Samples

PT samples were not performed for the sampling event.

9.1.6 Sample Result Verification

All sample results were found to be acceptable.

9.2 Representativeness

9.2.1 Holding Times

The evaluation of holding times to verify compliance with all wet chemistry methods was conducted. All water samples met the 28-day analysis holding time criteria for bromide, chloride, fluoride and sulfate, the 14-day analysis holding time criteria for alkalinity, and the 7-day analysis holding time criteria for ferrous iron.

Due to holding time exceedance, the nitrate results for samples ERH275, ERH257 and ERH262 were qualified as detected estimated (J) or nondetected estimated (UJ). The analysis holding time criteria is 48 hours.

9.2.2 Blanks

Method blanks were analyzed to evaluate representativeness.

9.2.2.1 Method Blanks

No data were qualified due to low level alkalinity in method blanks.

9.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

9.4 Completeness

The completeness level attained for wet chemistry field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

9.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

10.0 VARIANCES IN ANALYTICAL PERFORMANCE

The laboratory used standard analytical methods for all of the analyses throughout the project. No systematic variances in analytical performance were noted in the case narratives.

11.0 SUMMARY OF PARCCS CRITERIA

The validation reports present the PARCCS results for all SDGs. Each PARCCS criterion is discussed in detail in the following sections.

11.1 Precision and Accuracy

Precision and accuracy were evaluated using data quality indicators such as calibration, surrogates, MS/MSD, LCS, FD, and internal standards. The precision and accuracy of the data set were considered acceptable.

11.2 Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All holding times were met with the exception noted in Section 10.2.1. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after qualification for holding time.

11.3 Comparability

Sampling frequency requirements were met in obtaining field duplicates and necessary field blanks. The laboratory used standard analytical methods for their analyses. The analytical results were reported in correct standard units. The overall comparability is considered acceptable.

11.4 Completeness

Of the 415 total results reported, none of the results were rejected. The completeness for all SDGs is as follows:

Parameter	Total Analytes	No. of Rejects	% Completeness
VOC	145	0	100
Phenol	18	0	100
MEE	18	0	100
PAH	54	0	100
TPHG	31	0	100
TPHE	36	0	100
EDB	5	0	100
Methane	24	0	100
Wet chemistry	84	0	100
Total	**415**	**0**	**100**

The completeness percentage based on rejected data met the 90 percent PQO goal.

11.5 Sensitivity

Sensitivity was achieved by the laboratory to support the PQOs. Calibration concentrations, DLs, LODs and LOQs met the project requirements and low level contamination in the method, equipment and field blanks did not affect sensitivity.

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	BTEX (8260B)	1,2-DCA (8260B)	Phenol (8270D)	MEE (8270D Mod)	PAH (3) (8270D-SIM)	TPHG (8260B)	TPHE (8015B)	EDB (8011)
82337	ERH252	AZ51052	Water	TB	3/3/2017	Level C	X					X		
82337	ERH253	AZ51053	Water	EB	3/3/2017	Level C	X		X	X	X	X	X	
82337	ERH254	AZ51054	Water	EB	3/3/2017	Level C	X		X	X	X	X	X	
82337	ERH259	AZ51055	Water	TB	3/6/2017	Level C	X					X		
82337	ERH260	AZ51056	Water		3/6/2017	Level C	X		X	X	X	X	X	
82351	ERH255	AZ51130	Water	TB	3/6/2017	Level C	X					X		
82351	ERH256	AZ51131	Water	AB	3/6/2017	Level C	X							
82351	ERH257	AZ51132	Water	FD1	3/6/2017	Level C	X		X	X	X	X	X	
82351	ERH258	AZ51133	Water	FD1	3/6/2017	Level C	X		X	X	X	X	X	
82351	ERH261	AZ51134	Water	TB	3/6/2017	Level C	X	X				X		X
82351	ERH262	AZ51135	Water	FD2	3/6/2017	Level C	X	X	X	X	X	X	X	X
82351	ERH263	AZ51136	Water	FD2	3/6/2017	Level C	X	X	X	X	X	X	X	X
82351	ERH266	AZ51137	Water	TB	3/7/2017	Level C	X					X		
82351	ERH267	AZ51138	Water	AB	3/7/2017	Level C	X							
82351	ERH268	AZ51139	Water		3/7/2017	Level C	X		X	X	X	X	X	
82351	ERH269	AZ51140	Water	TB	3/7/2017	Level C	X					X		
82351	ERH270	AZ51141	Water		3/7/2017	Level C	X		X	X	X	X	X	
82369	ERH264	AZ51356	Water	TB	3/7/2017	Level C	X					X		
82369	ERH265	AZ51357	Water		3/7/2017	Level C			X	X	X		X	
82369	ERH265	AZ51357	Water		3/7/2017	Level D	X					X		
82369	ERH271	AZ51358	Water	TB	3/7/2017	Level C	X	X				X		X
82369	ERH272	AZ51359	Water		3/7/2017	Level D	X	X	X	X	X	X	X	X
82369	ERH281	AZ51360	Water	FB	3/8/2017	Level C	X		X	X	X	X	X	
82369	ERH279	AZ51361	Water	TB	3/8/2017	Level C	X					X		
82369	ERH280	AZ51362	Water		3/8/2017	Level C	X		X	X	X	X	X	
82369	ERH283	AZ51363	Water	TB	3/7/2017	Level C	X					X		
82369	ERH284	AZ51364	Water		3/7/2017	Level C	X		X	X	X	X	X	
82389	ERH273	AZ51528	Water	TB	3/8/2017	Level C	X					X		
82389	ERH274	AZ51529	Water	AB	3/8/2017	Level C	X							
82389	ERH275	AZ51530	Water		3/8/2017	Level D	X		X	X	X	X	X	
82389	ERH276	AZ51531	Water	TB	3/8/2017	Level C	X					X		
82389	ERH277	AZ51532	Water	AB	3/8/2017	Level C	X							
82389	ERH278	AZ51533	Water		3/8/2017	Level C			X	X	X		X	
82389	ERH278	AZ51533	Water		3/8/2017	Level D	X					X		
82389	ERH285	AZ51534	Water	TB	3/8/2017	Level C	X					X		
82389	ERH286	AZ51535	Water		3/8/2017	Level C	X		X	X	X	X	X	
82389	ERH282	AZ51536	Water	EB	3/8/2017	Level C	X		X	X	X	X	X	

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	Methane (RSK175)	Alkalinity (2320B)	Anions (300.0)	Fe II (3500 FeB)
82337	ERH252	AZ51052	Water	TB	3/3/2017	Level C				
82337	ERH253	AZ51053	Water	EB	3/3/2017	Level C				
82337	ERH254	AZ51054	Water	EB	3/3/2017	Level C				
82337	ERH259	AZ51055	Water	TB	3/6/2017	Level C	X			
82337	ERH260	AZ51056	Water		3/6/2017	Level C	X	X	X	X
82351	ERH255	AZ51130	Water	TB	3/6/2017	Level C	X			
82351	ERH256	AZ51131	Water	AB	3/6/2017	Level C				
82351	ERH257	AZ51132	Water	FD1	3/6/2017	Level C	X	X	X	X
82351	ERH258	AZ51133	Water	FD1	3/6/2017	Level C				
82351	ERH261	AZ51134	Water	TB	3/6/2017	Level C	X			
82351	ERH262	AZ51135	Water	FD2	3/6/2017	Level C	X	X	X	X
82351	ERH263	AZ51136	Water	FD2	3/6/2017	Level C				
82351	ERH266	AZ51137	Water	TB	3/7/2017	Level C	X			
82351	ERH267	AZ51138	Water	AB	3/7/2017	Level C				
82351	ERH268	AZ51139	Water		3/7/2017	Level C	X	X	X	X
82351	ERH269	AZ51140	Water	TB	3/7/2017	Level C	X			
82351	ERH270	AZ51141	Water		3/7/2017	Level C	X	X	X	X
82369	ERH264	AZ51356	Water	TB	3/7/2017	Level C	X			
82369	ERH265	AZ51357	Water		3/7/2017	Level C		X	X	X
82369	ERH265	AZ51357	Water		3/7/2017	Level D	X			
82369	ERH271	AZ51358	Water	TB	3/7/2017	Level C	X			
82369	ERH272	AZ51359	Water		3/7/2017	Level D	X	X	X	X
82369	ERH281	AZ51360	Water	FB	3/8/2017	Level C				
82369	ERH279	AZ51361	Water	TB	3/8/2017	Level C	X			
82369	ERH280	AZ51362	Water		3/8/2017	Level C	X	X	X	X
82369	ERH283	AZ51363	Water	TB	3/7/2017	Level C	X			
82369	ERH284	AZ51364	Water		3/7/2017	Level C	X	X	X	X
82389	ERH273	AZ51528	Water	TB	3/8/2017	Level C	X			
82389	ERH274	AZ51529	Water	AB	3/8/2017	Level C				
82389	ERH275	AZ51530	Water		3/8/2017	Level D	X	X	X	X
82389	ERH276	AZ51531	Water	TB	3/8/2017	Level C	X			
82389	ERH277	AZ51532	Water	AB	3/8/2017	Level C				
82389	ERH278	AZ51533	Water		3/8/2017	Level C	X	X	X	X
82389	ERH278	AZ51533	Water		3/8/2017	Level D				
82389	ERH285	AZ51534	Water	TB	3/8/2017	Level C	X			
82389	ERH286	AZ51535	Water		3/8/2017	Level C	X	X	X	X
82389	ERH282	AZ51536	Water	EB	3/8/2017	Level C				

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

May 9, 2017

SUBJECT: Red Hill Bulk Storage Facility, CTO 0053, Data Validation

Dear Ms. Thach,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on April 28th & May 2nd, 2017. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #38574:

SDG #	**Fraction**
82577, 82596 82611, 82619	Volatiles, Semivolatiles, Metals, Wet Chemistry Gasoline Range Organics, TPH as Extractables, Ethylene Dibromide, Methane

The data validation was performed under Level C & D validation guidelines. The analyses were validated using the following documents and variances, as applicable to each method:

- Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, Revision 02, January 2017
- Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i, Revision 01, April 2017
- Project Procedures Manual Naval Facilities Engineering Command, Environmental Restoration Program, NAVFAC Pacific, DON 2015
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

HC (RV1 - C & D added / Level D selection has been amended) Attachment 1

EDD 90/10

LDC #38574 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260C)		SVOA (8270D)		BTEX (8260B)		3 PAHs (8270D -SIM)		PAHs (8270D -SIM)		Phenol (8270D)		2,2-MEE (8270D-M)		TPH-G (8260B)		TPH-E (8015B)		EDB (8011)		Methane (175)		7 Metals (6010C)		Diss. Pb (6010C)					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S				
A	82577	04/28/17	05/10/17	-	-	-	-	8	0	5	0	-	-	5	0	5	0	8	0	5	0	-	-	4	0	-	-	-	-				
B	82596	04/28/17	05/10/17	-	-	-	-	7	0	3	0	-	-	3	0	3	0	7	0	3	0	-	-	7	0	-	-	-	-				
B	82596	04/28/17	05/10/17	-	-	-	-	3	0	2	0	-	-	2	0	2	0	3	0	2	0	-	-	3	0	-	-	-	-				
C	82611	05/02/17	05/10/17	-	-	-	-	8	0	5	0	-	-	5	0	5	0	8	0	5	0	3	0	6	0	-	-	-	-				
D	82619	05/02/17	05/10/17	3	0	2	0	-	-	-	-	2	0	-	-	3	0	4	0	3	0	3	0	2	0	2	0	2	0				
D	82619	05/02/17	05/10/17	1	0	1	0	-	-	-	-	1	0	-	-	0	0	0	0	0	0	1	0	0	0	1	0	1	0				
Total	J/SC			4	0	3	0	26	0	15	0	3	0	15	0	18	0	30	0	18	0	7	0	22	0	3	0	3	0	0	0	0	167

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

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HC

Attachment 1

EDD 90/10

LDC #38574 (AECOM-Honolulu, HI / Red Hill Bulk Storage Facility, CTO 0053)

LDC	SDG#	DATE REC'D	(3) DATE DUE	Alk. (2320B)		Cl,SO_4,NO_3 Br, Fl (300.0)		Fe II (3500-Fe B)		Silica & D. Silica (4500-Si D)																									
Matrix:	Water/Soil			W	S	W	S	W	S	W	S																								
A	82577	04/28/17	05/10/17	2	0	2	0	2	0	-	-																								
B	82596	04/28/17	05/10/17	3	0	3	0	3	0	-	-																								
B	82596	04/28/17	05/10/17	2	0	2	0	2	0	-	-																								
C	82611	05/02/17	05/10/17	3	0	3	0	3	0	-	-																								
D	82619	05/02/17	05/10/17	1	0	3	0	1	0	2	0																								
D	82619	05/02/17	05/10/17	0	0	0	0	0	0	1	0																								
Total	J/SC			11	0	13	0	11	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38

Shaded cells indicate Level D validation (all other cells are Level C validation). These sample counts do not include MS/MSD, and DUPs

L:\AECOM\Red Hill\38574ST-053.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH290	AZ53058	Water	04/03/17
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH294	AZ53061	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH287	AZ53063	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH290, ERH294, and ERH287 were identified as trip blanks. No contaminants were found.

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A1
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: AC

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	TB = 1, 4, 6 EB = 7, 8
VI.	Field blanks	ND	↓ ↓
VII.	Surrogate spikes	A	FB = ERH289 (82611)
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH290 TB	AZ53058	Water	04/03/17
2	ERH292 D	AZ53059	Water	04/03/17
3	ERH293 D	AZ53060	Water	04/03/17
4	ERH294 TB	AZ53061	Water	04/03/17
5	ERH295	AZ53062	Water	04/03/17
6	ERH287 TB	AZ53063	Water	04/03/17
7	ERH288 EB	AZ53064	Water	04/03/17
8	ERH316 EB	AZ53065	Water	04/03/17
9	ERH292MS	AZ53059MS	Water	04/03/17
10	ERH292MSD	AZ53059MSD	Water	04/03/17
11				
12	170406AM			
13				

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

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The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A2a
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CW	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4, 5 FB = ERH289 (82611)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH292 D	AZ53059	Water	04/03/17
2	ERH293 D	AZ53060	Water	04/03/17
3	ERH295	AZ53062	Water	04/03/17
4	ERH288 EB	AZ53064	Water	04/03/17
5	ERH316 EB	AZ53065	Water	04/03/17
6	ERH292MS	AZ53059MS	Water	04/03/17
7	ERH292MSD	AZ53059MSD	Water	04/03/17
8				
9				

Notes:

	170407A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds,

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A2b
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: B
2nd Reviewer: R

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration/closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4, 5 FB = ERH289 (X261)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH292 D	AZ53059	Water	04/03/17
2	ERH293 D	AZ53060	Water	04/03/17
3	ERH295	AZ53062	Water	04/03/17
4	ERH288 EB	AZ53064	Water	04/03/17
5	ERH316 EB	AZ53065	Water	04/03/17
6	ERH292MS	AZ53059MS	Water	04/03/17
7	ERH292MSD	AZ53059MSD	Water	04/03/17
8				
9				

Notes:

170406A

TTT, W, S only

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A2c
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: R
2nd Reviewer: R

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~ (Modified))

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	%RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = 4, 5 FB = ERH289 (82611)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH292 D	AZ53059	Water	04/03/17
2	ERH293 D	AZ53060	Water	04/03/17
3	ERH295	AZ53062	Water	04/03/17
4	ERH288 EB	AZ53064	Water	04/03/17
5	ERH316 EB	AZ53065	Water	04/03/17
6	ERH292MS	AZ53059MS	Water	04/03/17
7	ERH292MSD	AZ53059MSD	Water	04/03/17
8				
9				

Notes:

170410A

LDC #: 38574A2C

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
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			( )	
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH292	AZ53059	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500 Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	1.9 mg/L	All samples in SDG 82577

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A6
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: JB
2nd Reviewer: RE

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH292	AZ53059	Water	04/03/17
2	ERH295	AZ53062	Water	04/03/17
3	ERH292MS	AZ53059MS	Water	04/03/17
4	ERH292MSD	AZ53059MSD	Water	04/03/17
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

DC #: 38574A6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: [illegible]

ll circled methods are applicable to each sample.

Sample ID	Parameter
1,2	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
DC	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
3,4	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38574A6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer: M

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All Waters

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qualifiers									
Total Alkalinity	1.9												

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH290	AZ53058	Water	04/03/17
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH294	AZ53061	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH287	AZ53063	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH290, ERH294, and ERH287 were identified as trip blanks. No contaminants were found.

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Compound Quantitation

Raw data were not reviewed for Level C validation.

XII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIII. System Performance

Raw data were not reviewed for Level C validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A7
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² ICV ≤ 20
IV.	Continuing calibration	A	CW ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 4, 6 EB = 7, 8
VII.	Surrogate spikes	A	FB = ERH289 (8261)
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH290 TB	AZ53058	Water	04/03/17
2	ERH292 D	AZ53059	Water	04/03/17
3	ERH293 D	AZ53060	Water	04/03/17
4	ERH294 TB	AZ53061	Water	04/03/17
5	ERH295	AZ53062	Water	04/03/17
6	ERH287 TB	AZ53063	Water	04/03/17
7	ERH288 EB	AZ53064	Water	04/03/17
8	ERH316 EB	AZ53065	Water	04/03/17
9	ERH292MS	AZ53059MS	Water	04/03/17
10	ERH292MSD	AZ53059MSD	Water	04/03/17
11				
12	170406AM			
13				

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH292	AZ53059	Water	04/03/17
ERH293	AZ53060	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH288	AZ53064	Water	04/03/17
ERH316	AZ53065	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH288 and ERH316 were identified as equipment blanks. No contaminants were found.

Sample ERH289 (from SDG 82611) was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH292 and ERH293 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A8
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	EB = 4, 5 FB = ERH289 (82611)
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 1,2
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH292 D	AZ53059	Water	04/03/17
2	ERH293 D	AZ53060	Water	04/03/17
3	ERH295	AZ53062	Water	04/03/17
4	ERH288 EB	AZ53064	Water	04/03/17
5	ERH316 EB	AZ53065	Water	04/03/17
6	ERH292MS	AZ53059MS	Water	04/03/17
7	ERH292MSD	AZ53059MSD	Water	04/03/17
8				
9				
10				
11				
12				

Notes:

	170407A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82577

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH290	AZ53058	Water	04/03/17
ERH292	AZ53059	Water	04/03/17
ERH294	AZ53061	Water	04/03/17
ERH295	AZ53062	Water	04/03/17
ERH292MS	AZ53059MS	Water	04/03/17
ERH292MSD	AZ53059MSD	Water	04/03/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH290 and ERH294 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH292MS/MSD (ERH292)	Methane	150 (73-125)	154 (73-125)	NA	-

Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82577

No Sample Data Qualified in this SDG

LDC #: 38574A51
SDG #: 82577
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	T
V.	Field blanks	ND	TB = 1,3
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH290 TB	AZ53058	Water	04/03/17
2	ERH292	AZ53059	Water	04/03/17
3	ERH294 TB	AZ53061	Water	04/03/17
4	ERH295	AZ53062	Water	04/03/17
5	ERH292MS	AZ53059MS	Water	04/03/17
6	ERH292MSD	AZ53059MSD	Water	04/03/17
7				
8				
9				
10				
11				
12				

Notes:

	170408A						

LDC #: 38574A51

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

code = Q

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	5 + 6	Methane	150 (73-125)	154 (73-125)	( )	2	Jdw/A ND
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

Red Hill Bulk Storage Facility, CTO 0053 - SDG 82577
LDC 38574

AECOM

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH292	AZ53059	1	ALKALINITY, AS CACO3	4/3/2017 10:00:00 AM	4/7/2017 3:09:00 PM	C	61.5	MG_L		2.0	1.70		
ERH292	AZ53059	1	ALKALINITY, BICARBONATE	4/3/2017 10:00:00 AM	4/7/2017 3:09:00 PM	C	61.5	MG_L		2.0	1.70		
ERH292	AZ53059	1	ALKALINITY, CARBONATE	4/3/2017 10:00:00 AM	4/7/2017 3:09:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH295	AZ53062	1	ALKALINITY, AS CACO3	4/3/2017 10:05:00 AM	4/7/2017 3:43:00 PM	C	77.7	MG_L		2.0	1.70		
ERH295	AZ53062	1	ALKALINITY, BICARBONATE	4/3/2017 10:05:00 AM	4/7/2017 3:43:00 PM	C	77.7	MG_L		2.0	1.70		
ERH295	AZ53062	1	ALKALINITY, CARBONATE	4/3/2017 10:05:00 AM	4/7/2017 3:43:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH292	AZ53059	5	CHLORIDE	4/3/2017 10:00:00 AM	4/10/2017 2:26:00 PM	C	96.2	MG_L		5.0	1.00		
ERH292	AZ53059	1	NITRATE	4/3/2017 10:00:00 AM	4/4/2017 5:23:00 PM	C	2.8	MG_L		0.5	0.18		
ERH292	AZ53059	1	SULFATE	4/3/2017 10:00:00 AM	4/4/2017 5:23:00 PM	C	16.2	MG_L		1.0	0.20		
ERH295	AZ53062	2	CHLORIDE	4/3/2017 10:05:00 AM	4/10/2017 2:39:00 PM	C	83.6	MG_L		2.0	0.40		
ERH295	AZ53062	1	NITRATE	4/3/2017 10:05:00 AM	4/4/2017 5:37:00 PM	C	2.7	MG_L		0.5	0.18		
ERH295	AZ53062	1	SULFATE	4/3/2017 10:05:00 AM	4/4/2017 5:37:00 PM	C	11.0	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH292	AZ53059	1	IRON, FERROUS	4/3/2017 10:00:00 AM	4/4/2017 5:59:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH295	AZ53062	1	IRON, FERROUS	4/3/2017 10:05:00 AM	4/4/2017 6:02:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH292	AZ53059	1	TPH-DIESEL RANGE	4/3/2017 10:00:00 AM	4/11/2017 11:05:00 AM	C	25.00	UG_L	U	40.0	25.00	U	
ERH292	AZ53059	1	TPH-OIL RANGE	4/3/2017 10:00:00 AM	4/11/2017 11:05:00 AM	C	40.00	UG_L	U	40.0	40.00	U	
ERH293	AZ53060	1	TPH-DIESEL RANGE	4/3/2017 10:00:00 AM	4/11/2017 12:50:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH293	AZ53060	1	TPH-OIL RANGE	4/3/2017 10:00:00 AM	4/11/2017 12:50:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH295	AZ53062	1	TPH-DIESEL RANGE	4/3/2017 10:05:00 AM	4/11/2017 1:11:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH295	AZ53062	1	TPH-OIL RANGE	4/3/2017 10:05:00 AM	4/11/2017 1:11:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH288	AZ53064	1	TPH-DIESEL RANGE	4/3/2017 8:30:00 AM	4/11/2017 1:32:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH288	AZ53064	1	TPH-OIL RANGE	4/3/2017 8:30:00 AM	4/11/2017 1:32:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH316	AZ53065	1	TPH-DIESEL RANGE	4/3/2017 9:25:00 AM	4/11/2017 1:53:00 PM	C	25.00	UG_L	U	40.0	25.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8015B_E**													
ERH316	AZ53065	1	TPH-OIL RANGE	4/3/2017 9:25:00 AM	4/11/2017 1:53:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH290	AZ53058	1	BENZENE	4/3/2017 9:45:00 AM	4/6/2017 4:19:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH290	AZ53058	1	ETHYLBENZENE	4/3/2017 9:45:00 AM	4/6/2017 4:19:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH290	AZ53058	1	TOLUENE	4/3/2017 9:45:00 AM	4/6/2017 4:19:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH290	AZ53058	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 9:45:00 AM	4/6/2017 4:18:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH290	AZ53058	1	XYLENES, TOTAL	4/3/2017 9:45:00 AM	4/6/2017 4:19:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH292	AZ53059	1	BENZENE	4/3/2017 10:00:00 AM	4/6/2017 5:44:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH292	AZ53059	1	ETHYLBENZENE	4/3/2017 10:00:00 AM	4/6/2017 5:44:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH292	AZ53059	1	TOLUENE	4/3/2017 10:00:00 AM	4/6/2017 5:44:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH292	AZ53059	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 10:00:00 AM	4/6/2017 5:45:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH292	AZ53059	1	XYLENES, TOTAL	4/3/2017 10:00:00 AM	4/6/2017 5:44:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH293	AZ53060	1	BENZENE	4/3/2017 10:00:00 AM	4/6/2017 6:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH293	AZ53060	1	ETHYLBENZENE	4/3/2017 10:00:00 AM	4/6/2017 6:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH293	AZ53060	1	TOLUENE	4/3/2017 10:00:00 AM	4/6/2017 6:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH293	AZ53060	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 10:00:00 AM	4/6/2017 6:13:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH293	AZ53060	1	XYLENES, TOTAL	4/3/2017 10:00:00 AM	4/6/2017 6:12:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH294	AZ53061	1	BENZENE	4/3/2017 9:55:00 AM	4/6/2017 4:48:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH294	AZ53061	1	ETHYLBENZENE	4/3/2017 9:55:00 AM	4/6/2017 4:48:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH294	AZ53061	1	TOLUENE	4/3/2017 9:55:00 AM	4/6/2017 4:48:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH294	AZ53061	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 9:55:00 AM	4/6/2017 4:47:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH294	AZ53061	1	XYLENES, TOTAL	4/3/2017 9:55:00 AM	4/6/2017 4:48:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH295	AZ53062	1	BENZENE	4/3/2017 10:05:00 AM	4/6/2017 6:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH295	AZ53062	1	ETHYLBENZENE	4/3/2017 10:05:00 AM	4/6/2017 6:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH295	AZ53062	1	TOLUENE	4/3/2017 10:05:00 AM	4/6/2017 6:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH295	AZ53062	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 10:05:00 AM	4/6/2017 6:41:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH295	AZ53062	1	XYLENES, TOTAL	4/3/2017 10:05:00 AM	4/6/2017 6:40:00 PM	C	0.30	UG_L	U	2.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH287	AZ53063	1	BENZENE	4/3/2017 8:10:00 AM	4/6/2017 5:16:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH287	AZ53063	1	ETHYLBENZENE	4/3/2017 8:10:00 AM	4/6/2017 5:16:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH287	AZ53063	1	TOLUENE	4/3/2017 8:10:00 AM	4/6/2017 5:16:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH287	AZ53063	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 8:10:00 AM	4/6/2017 5:15:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH287	AZ53063	1	XYLENES, TOTAL	4/3/2017 8:10:00 AM	4/6/2017 5:16:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH288	AZ53064	1	BENZENE	4/3/2017 8:30:00 AM	4/6/2017 7:09:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH288	AZ53064	1	ETHYLBENZENE	4/3/2017 8:30:00 AM	4/6/2017 7:09:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH288	AZ53064	1	TOLUENE	4/3/2017 8:30:00 AM	4/6/2017 7:09:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH288	AZ53064	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 8:30:00 AM	4/6/2017 7:10:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH288	AZ53064	1	XYLENES, TOTAL	4/3/2017 8:30:00 AM	4/6/2017 7:09:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH316	AZ53065	1	BENZENE	4/3/2017 9:25:00 AM	4/6/2017 7:37:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH316	AZ53065	1	ETHYLBENZENE	4/3/2017 9:25:00 AM	4/6/2017 7:37:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH316	AZ53065	1	TOLUENE	4/3/2017 9:25:00 AM	4/6/2017 7:37:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH316	AZ53065	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 9:25:00 AM	4/6/2017 7:38:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH316	AZ53065	1	XYLENES, TOTAL	4/3/2017 9:25:00 AM	4/6/2017 7:37:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH292	AZ53059	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 10:00:00 AM	4/13/2017 6:48:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH292	AZ53059	1	PHENOL	4/3/2017 10:00:00 AM	4/10/2017 2:05:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH293	AZ53060	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 10:00:00 AM	4/13/2017 7:18:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH293	AZ53060	1	PHENOL	4/3/2017 10:00:00 AM	4/10/2017 2:36:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH295	AZ53062	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 10:05:00 AM	4/13/2017 7:49:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH295	AZ53062	1	PHENOL	4/3/2017 10:05:00 AM	4/10/2017 3:06:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH288	AZ53064	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 8:30:00 AM	4/13/2017 8:19:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH288	AZ53064	1	PHENOL	4/3/2017 8:30:00 AM	4/11/2017 10:40:00 AM	C	4.00	UG_L	U	5.0	4.00	U	
ERH316	AZ53065	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 9:25:00 AM	4/13/2017 8:49:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH316	AZ53065	1	PHENOL	4/3/2017 9:25:00 AM	4/10/2017 4:08:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH292	AZ53059	1	1-METHYLNAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 2:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH292	AZ53059	1	2-METHYLNAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 2:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH292	AZ53059	1	NAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 2:57:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH293	AZ53060	1	1-METHYLNAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 3:30:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH293	AZ53060	1	2-METHYLNAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 3:30:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH293	AZ53060	1	NAPHTHALENE	4/3/2017 10:00:00 AM	4/7/2017 3:30:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH295	AZ53062	1	1-METHYLNAPHTHALENE	4/3/2017 10:05:00 AM	4/7/2017 4:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH295	AZ53062	1	2-METHYLNAPHTHALENE	4/3/2017 10:05:00 AM	4/7/2017 4:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH295	AZ53062	1	NAPHTHALENE	4/3/2017 10:05:00 AM	4/7/2017 4:02:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH288	AZ53064	1	1-METHYLNAPHTHALENE	4/3/2017 8:30:00 AM	4/7/2017 4:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH288	AZ53064	1	2-METHYLNAPHTHALENE	4/3/2017 8:30:00 AM	4/7/2017 4:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH288	AZ53064	1	NAPHTHALENE	4/3/2017 8:30:00 AM	4/7/2017 4:35:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH316	AZ53065	1	1-METHYLNAPHTHALENE	4/3/2017 9:25:00 AM	4/7/2017 5:07:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH316	AZ53065	1	2-METHYLNAPHTHALENE	4/3/2017 9:25:00 AM	4/7/2017 5:07:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH316	AZ53065	1	NAPHTHALENE	4/3/2017 9:25:00 AM	4/7/2017 5:07:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH290	AZ53058	1	METHANE	4/3/2017 9:45:00 AM	4/8/2017 12:00:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH292	AZ53059	1	METHANE	4/3/2017 10:00:00 AM	4/8/2017 12:04:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH294	AZ53061	1	METHANE	4/3/2017 9:55:00 AM	4/8/2017 12:14:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH295	AZ53062	1	METHANE	4/3/2017 10:05:00 AM	4/8/2017 12:17:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH299	AZ53171	Water	04/04/17
ERH300**	AZ53172**	Water	04/04/17
ERH308	AZ53173	Water	04/03/17
ERH310**	AZ53174**	Water	04/03/17
ERH311	AZ53175	Water	04/03/17
ERH313**	AZ53176**	Water	04/03/17
ERH318	AZ53177	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH304	AZ53179	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH299, ERH308, ERH311, ERH318, and ERH304 were identified as trip blanks. No contaminants were found.

Sample ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B1
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 7
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	%RSD ≤15 ICV ≤20
IV.	Continuing calibration / closing CCV	A	CCV ≤20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 3, 5, 7, 9 EB = ERH288 (82577)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH299 TB	AZ53171	Water	04/04/17
2	ERH300**	AZ53172**	Water	04/04/17
3	ERH308 TB	AZ53173	Water	04/03/17
4	ERH310**	AZ53174**	Water	04/03/17
5	ERH311 TB	AZ53175	Water	04/03/17
6	ERH313 **	AZ53176	Water	04/03/17
7	ERH318 TB	AZ53177	Water	04/03/17
8	ERH319	AZ53178	Water	04/03/17
9	ERH304 TB	AZ53179	Water	04/03/17
10	ERH305	AZ53180	Water	04/03/17
11				
12	170407A M			
13				

LDC #: 38574B1

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: FR
2nd Reviewer: KC

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% 15% and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38574B

VALIDATION FINDINGS CHECKLIST

Reviewer: FR
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38574B1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL max	4/4/2017	V	2.206	2.206	2.0320	2.0320	5.0	5.0
			EE	4.005	4.005	3.7320	3.7320	3.7	3.7

LDC #: 38574B1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv 0933	4/7/17	Y (1st internal standard)	2.0320	1.962	1.962	3.5	3.5
			EE (2nd internal standard)	3.7320	3.701	3.701	0.84	0.84
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: T

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	26.284	105	105	0
1,2-Dichloroethane-d4		26.304	105	105	
Toluene-d8		25.2115D	101	101	
Bromofluorobenzene		24.0531	96.2	96.2	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 38574B1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: a

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170407AM LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	10.0	NA	9.57	NA	95.7	95.7				
Toluene	↓	↓	9.62	↓	96.2	96.2	NA			
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 385 74B

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: AL

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 170407AM-KC3 ✓

Conc. = $\frac{198681\ (25.0)}{255372\ (2.0320)}$

= 9.57 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Phenol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH300**	AZ53172**	Water	04/04/17
ERH310**	AZ53174**	Water	04/03/17
ERH313	AZ53176	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B2a
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH288 (82577)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	ERH292 MS/D
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH300**	AZ53172**	Water	04/04/17
2	ERH310 **	AZ53174	Water	04/03/17
3	ERH313	AZ53176	Water	04/03/17
4	ERH319	AZ53178	Water	04/03/17
5	ERH305	AZ53180	Water	04/03/17
6				
7				
8				
9				

Notes:

	170407A						

LDC #: 38574B2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer: AL

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?	✓			
IIb. Intial Calibration Verification				
Was an initial calibration verification standard analyzed after each ICAL for each instrument?	✓			
Were all percent difference (%D) ≤20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 38574B2a

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: AL

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1. N-Nitrosodiethylamine
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1. N-Nitrosodi-n-butylamine
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1. N-Nitrosomethylethylamine
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1. N-Nitrosomorpholine
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1. N-Nitrosopyrrolidine
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1. Phenacetin
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1. 2-Acetylaminofluorene
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1. Pronamide
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1. Methyl methanesulfonate
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1. Ethyl methanesulfonate
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1. o,o',o''-Triethylphosphorothioate
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1. n-Phenylene diamine
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1. 1,4-Naphthoquinone
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1. N-Nitro-o-toluidine
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1. 1,3,5-Trinitrobenzene
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1. Pentachlorobenzene
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1. 4-Aminobiphenyl
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1. 2-Naphthylamine
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU.. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5-Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.. 2-Picoline	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX. 3-Methylcholanthrene	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY. a,a-Dimethylphenethylamine	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ. Hexachloropropene	Z1.

LDC #: 38574B2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: M

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	4/4/2017	A	1.932	1.932	1.870	1.870	3.90	3.90
	Yoda								

LDC #: 38574B2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 11:15	4/10/17	Phenol (1st IS)	1.870	1.846	1.846	1.3	1.3
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 85742B2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	102.041	71.962	70.5	70.5	0
2-Fluorobiphenyl	↓	71.125	69.7	69.7	↓
Terphenyl-d14	↓	81.582	80.2	80.2	↓
Phenol-d5	204.082	78.1675	38.3	38.3	↓
2-Fluorophenol	204.082	100.567	49.3	49.3	↓
2,4,6-Tribromophenol	↓	158.612	77.7	77.7	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38574B2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: DC

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170407A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	60.0	NA	23.4	NA	46.8	46.8	NA	—	—	
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170407A-LCS phenol

Conc. = $\frac{135034\ (40.0)\ (1)\ (1000)}{123700\ (1.870)\ (1000)}$

=

23.4

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH300**	AZ53172**	Water	04/04/17
ERH310**	AZ53174**	Water	04/03/17
ERH313	AZ53176	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

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Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

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R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

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V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. Surrogate recoveries (%R) were not within QC limits for samples ERH300** and ERH310**. Using professional judgment, no data were qualified when one surrogate %R was outside the QC limits and the %R was greater than or equal to 10%.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B2b
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH288 (82577)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH300**	AZ53172**	Water	04/04/17
2	ERH310 **	AZ53174	Water	04/03/17
3	ERH313	AZ53176	Water	04/03/17
4	ERH319	AZ53178	Water	04/03/17
5	ERH305	AZ53180	Water	04/03/17
6				
7				
8				

Notes:

	170410A1						

TTT, W, S only

LDC #: 38574B2b

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: AL

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% 15% and relative response factors (RRF) ≥ 0.05?	✓			
IIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each ICAL for each instrument?	✓			
Were all percent difference (%D) ≤20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) < 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate %R within QC limits?	~~✓~~	✓		
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 38574B2b

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: AL

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1. N-Nitrosodiethylamine
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1. N-Nitrosodi-n-butylamine
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1. N-Nitrosomethylethylamine
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1. N-Nitrosomorpholine
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1. N-Nitrosopyrrolidine
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1. Phenacetin
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1. 2-Acetylaminofluorene
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1. Pronamide
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1. Methyl methanesulfonate
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1. Ethyl methanesulfonate
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1. o,o',o''-Triethylphosphorothioate
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1. n-Phenylene diamine
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1. 1,4-Naphthoquinone
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1. N-Nitro-o-toluidine
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1. 1,3,5-Trinitrobenzene
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1. Pentachlorobenzene
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1. 4-Aminobiphenyl
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1. 2-Naphthylamine
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU.. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5-Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.. 2-Picoline	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX. 3-Methylcholanthrene	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY. a,a-Dimethylphenethylamine	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ. Hexachloropropene	Z1.

LDC #: 38574B2b

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
	1	FBP	50.3 (53-106)	no qual
			( )	
			( )	
	2	↓	49.3 (↓)	↓
			( )	
			( )	
			( )

LDC #: 38574B2b

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL Linus	3/31/2017	S	1.042	1.042	0.9995	0.9995	4.20	4.20

LDC #: 38574B2b

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 1708	4/11/17	S (1st IS)	~~1.042~~ F7	1.074	1.074	7.4	7.4
			(2nd IS)	0.9995				
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2	CCV 1149	4/12/17	S (1st IS)	0.9995	1.107	1.107	11	11
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B2b

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: TL

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	4.673	4.49107	96.1	96.1	0
2-Fluorobiphenyl	↓	2.3496	50.3	50.3	↓
Terphenyl-d14		4.5937	98.3	98.3	
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38574B26

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170410A1

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
Naphthalene	5.0	NA	3.15	NA	63.0	63.0	NA →			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B26

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: FT

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, S:

$$\text{Conc.} = \frac{(615812)(2.5)(1)(1000)}{(27482)(0.9995)(1070)}$$

=

52 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH300**	AZ53172**	Water	04/04/17
ERH310**	AZ53174**	Water	04/03/17
ERH313	AZ53176	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the MS/MSD and LCS percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B2c
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	ND	
VI.	Field blanks	ND	EB = ERH288 (82577)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	ERH292MS/D
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH300**	AZ53172**	Water	04/04/17
2	ERH310 **	AZ53174	Water	04/03/17
3	ERH313	AZ53176	Water	04/03/17
4	ERH319	AZ53178	Water	04/03/17
5	ERH305	AZ53180	Water	04/03/17
6				
7				
8				

Notes:

	170410A						

LDC #: 38574B2C

VALIDATION FINDINGS CHECKLIST

Reviewer: FM
2nd Reviewer:

Method: Semivolatiles (EPA SW 846 Method 8270C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?.	✓			
II. GC/MS instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% (15%) and relative response factors (RRF) ≥ 0.05?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each ICAL for each instrument?	✓			
Were all percent difference (%D) ≤20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate %R within QC limits?			✓	
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10 percent, was a reanalysis performed to confirm %R?			✓	

LDC #: 38574B2c

VALIDATION FINDINGS CHECKLIST

Reviewer: PJ
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1. N-Nitrosodiethylamine
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1. N-Nitrosodi-n-butylamine
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1. N-Nitrosomethylethylamine
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1. N-Nitrosomorpholine
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1. N-Nitrosopyrrolidine
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1. Phenacetin
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1. 2-Acetylaminofluorene
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1. Pronamide
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1. Methyl methanesulfonate
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1. Ethyl methanesulfonate
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1. o,o',o''-Triethylphosphorothioate
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1. n-Phenylene diamine
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1. 1,4-Naphthoquinone
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1. N-Nitro-o-toluidine
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1. 1,3,5-Trinitrobenzene
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1. Pentachlorobenzene
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1. 4-Aminobiphenyl
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1. 2-Naphthylamine
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU.. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5-Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.. 2-Picoline	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX. 3-Methylcholanthrene	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY. a,a-Dimethylphenethylamine	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ. Hexachloropropene	Z1.

LDC #: 38574B2c

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
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			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

LDC #: 38574B2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 400 std)	Recalculated (RRF400 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL	4/13/2017	2-(2-Methoxyethoxy) Ethanol	0.2658	0.2658	0.2506	0.2506	12.00	12.00
	Yoda								

LDC #: 38574B2C

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ICV	4/13/17	2-(2-MEE) (1st IS)	0.2506	0.2537	0.2537	1.2	1.2
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B 2c

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170410A -LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										
2-(2-MEE)	80.0	NA	41.0	NA	51.3	51.3	NA	—		

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B20

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: TC

METHOD: GC/MS BNA (EPA SW 846 Method 8270C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170410A-LCS 2-(2-MEE)

Conc. = $\frac{27786 \ (40.0)}{108150 \ (0.2506)}$

=

41.0 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 8, 2017

Parameters: Wet Chemistry

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH300**	AZ53172**	Water	04/04/17
ERH310**	AZ53174**	Water	04/03/17
ERH313	AZ53176	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500-Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	1.9 mg/L	All water samples in SDG 82596
PB (prep blank)	Chloride	1.1 mg/L	ERH310**
ICB/CCB	Chloride	1.060 mg/L	ERH310**

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B6
SDG #: 82596
Laboratory: APPL Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/4/17
Page: 1 of 1
Reviewer: UB
2nd Reviewer: A

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	O.S.
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH300* *	AZ53172**	Water	04/04/17
2	ERH310** *	AZ53174	Water	04/03/17
3	ERH313	AZ53176	Water	04/03/17
4	ERH319	AZ53178	Water	04/03/17
5	ERH305	AZ53180	Water	04/03/17
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

LDC #: 38574B6

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: A

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.			✓	
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.			✓	
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 38574B6

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

DC #: 3857486

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: A

ll circled methods are applicable to each sample.

Sample ID	Parameter
1-5	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38574B6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All Waters

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qualifiers									
Total Alkalinity	1.9												

Conc. units: mg/L **Associated Samples:** 2

Analyte	Blank ID	Blank ID	Blank Action Limit										
	PB	ICB/CCB (mg/L)		No Qualifiers									
Chloride	1.1	1.060	5.5										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 38574B1e

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: VB
2nd Reviewer: [illegible]

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Fe (Ferrous) was recalculated. Calibration date: 5/20/16

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Ferrous Fe	s1	0	0	0.9999139	0.9998278	Y
		s2	1	0.101			
		s3	2	0.201			
		s4	4	0.403			
		s5	5	0.512			
		s6	10	0.999			
Calibration verification	ICV	SO_4	19.6379 mg/L	20 mg/L	98.2%	98.3%	Y
Calibration verification	CCV1	NO_3	21.660 mg/L	22.1 mg/L	98.0%	98.2%	Y
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Alkalinity	251.916 mg/L	250 mg/L	101%	101%	Y
	Matrix spike sample		(SSR-SR)				
	Duplicate sample						

Comments:

LDC #: 38574B4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JB
2nd reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Cl^- reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = mx + b$
$y = 7.012$
$m = 0.180$
$b = -0.177$

Recalculation:

$Cl^- = 7.012 = 0.180x + -0.177$
$x = 39.9388$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	Cl^-	39.9	39.9	Y
	1	Ferrous Fe	2.8	2.8	Y
	1	SO_4	1.1	1.1	Y
	1	Total Alkalinity	206	206	Y
	2	Cl^-	40.1	40.2	Y
	2	SO_4^-	5.0	5.0	Y
	2	Alk^-	91.3	91.3	Y
	2	Ferrous Fe	0.70	0.70	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH299	AZ53171	Water	04/04/17
ERH300**	AZ53172**	Water	04/04/17
ERH308	AZ53173	Water	04/03/17
ERH310**	AZ53174**	Water	04/03/17
ERH311	AZ53175	Water	04/03/17
ERH313**	AZ53176**	Water	04/03/17
ERH318	AZ53177	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH304	AZ53179	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH299, ERH308, ERH311, ERH318, and ERH304 were identified as trip blanks. No contaminants were found.

Sample ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B7
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 1
Reviewer:
2nd Reviewer: RA

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	ICV ≤ 20
III.	Initial calibration/ICV	A/A	CCV ≤ 20
IV.	Continuing calibration	A	
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1, 3, 5, 7, 9 EB = ERH288 (82577)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH299 TB	AZ53171	Water	04/04/17
2	ERH300**	AZ53172**	Water	04/04/17
3	ERH308 TB	AZ53173	Water	04/03/17
4	ERH310**	AZ53174**	Water	04/03/17
5	ERH311 TB	AZ53175	Water	04/03/17
6	ERH313 **	AZ53176	Water	04/03/17
7	ERH318 TB	AZ53177	Water	04/03/17
8	ERH319	AZ53178	Water	04/03/17
9	ERH304 TB	AZ53179	Water	04/03/17
10	ERH305	AZ53180	Water	04/03/17
11				
12	170407AM			
13				

LDC #: 38574B7

VALIDATION FINDINGS CHECKLIST

Reviewer: R
2nd Reviewer: R

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	~~✓~~	PM	✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓		~~✓~~	
Were all percent relative standard deviations (%RSD) ≤ 30%/15% and relative response factors (RRF) ≥ 0.05?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?			✓	
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) ≥ 0.05?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	

LDC #: 38574137

VALIDATION FINDINGS CHECKLIST

Reviewer: PR
2nd Reviewer: JC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC#: 38574B7
SDG#: per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: GRO (8260B)

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
3/2/2017	GCMS max	Gasoline Range Organics	1	10.22920015	0.8
			2	12.49838833	2
			3	16.13657263	4
			4	30.66013043	12
			5	52.35611312	24
			6	66.46613852	32
			7	83.89675396	40

Regression Output		*Reported*
Constant	*8.566959*	*8.570000*
Std Err of Y Est		
R Squared	*0.999220*	*0.999000*
Degrees of Freedom		
X Coefficient(s)	*1.849082*	*1.850000*
Std Err of Coef.		
Correlation Coefficient	*0.999610*	
Coefficient of Determination (r^2)	*0.999220*	*0.999000*

LDC #: 38574137

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 1058	4/7/17	GRO C_6-C_{10} (1st internal standard)	300	288.742	288.742	3.8	3.8
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
2			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
3			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B7

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: TC

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene	25.0	26.5/366	106	106	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 385748 7

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170407AM LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
GRO ~~1,1-Dichloroethene~~	300	NA	274	NA	91.3	91.3	NA	—		
Trichloroethene										
Benzene										
Toluene										
~~Chlorobenzene~~										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B7

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #2, GRO

Conc. = $\left(\frac{3064993 - 8.57\times10^{0}}{2399782 \quad 1.85\times10^{0}}\right)(x5.0)$

= 57 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 4, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH300**	AZ53172**	Water	04/04/17
ERH310**	AZ53174**	Water	04/03/17
ERH313	AZ53176	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH288 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

38574B8

LDC #: ~~38391B8~~

SDG #: 82596

Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C/D

Date: 5/3/17

Page: 1 of 1

Reviewer:

2nd Reviewer:

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	EB = ERH288 (82577)
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	ERH292 MS/D
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XI.	Target compound identification	A	Not reviewed for Level C validation.
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH300**	AZ53172**	Water	04/04/17
2	ERH310 * *	AZ53174	Water	04/03/17
3	ERH313	AZ53176	Water	04/03/17
4	ERH319	AZ53178	Water	04/03/17
5	ERH305	AZ53180	Water	04/03/17
6				
7				
8				
9				
10				
11				
12				

Notes:

	170407A						

LDC #: 38391B8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
III. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.			✓	
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓		✓	FT
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 38391 B8

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38391B8

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=400)	Recalculated (CF4 std=400)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	3/20/2017	Diesel C10-C24)	1624943	1624943	1815165	1815165	20.0	20.0
	Apollo								

LDC #: 38391B8

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	CCV 0921	4/11/17	Diesel (C10-C24)	1815160	1692060	1692060	6.8	6.8
2	CCV 1739	4/11/17	↓	↓	1579560	1579560	13	13
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38391B8

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer:

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
octacosane		50.0	53.920	135	135	0
o-terphenyl		↓	48.896	122	122	0

Sample ID: _____

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C`	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38391B5

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 176407A _ LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)	667	NA	419	NA	62.8	62.8	NA			
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 3839/B8

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: _____

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Diesel C10-C24

Concentration = $\frac{2049451791\ (2.5)\ (1000)}{1815165\ (1500)\ (2)}$ = 940 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments: _____

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 9, 2017

Parameters: Methane

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82596

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH299	AZ53171	Water	04/04/17
ERH300**	AZ53172**	Water	04/04/17
ERH308	AZ53173	Water	04/03/17
ERH310**	AZ53174**	Water	04/03/17
ERH311	AZ53175	Water	04/03/17
ERH313**	AZ53176**	Water	04/03/17
ERH318	AZ53177	Water	04/03/17
ERH319	AZ53178	Water	04/03/17
ERH304	AZ53179	Water	04/03/17
ERH305	AZ53180	Water	04/03/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH299, ERH308, ERH311, ERH318, and ERH304 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were not within QC limits. No data were qualified since there were no associated samples in this SDG. Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

X. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82596

No Sample Data Qualified in this SDG

LDC #: 38574B51
SDG #: 82596
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/3/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: AC

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1, 3, 5, 7, 9
VI.	Matrix spike/Matrix spike duplicates	SW	ERH292 MS/D (%R, No Assoc. Sample)
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
X.	Target compound identification	A	Not reviewed for Level C validation.
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH299 TB	AZ53171	Water	04/04/17
2	ERH300**	AZ53172**	Water	04/04/17
3	ERH308 TB	AZ53173	Water	04/03/17
4	ERH310**	AZ53174**	Water	04/03/17
5	ERH311 TB	AZ53175	Water	04/03/17
6	ERH313 **	AZ53176	Water	04/03/17
7	ERH318 TB	AZ53177	Water	04/03/17
8	ERH319	AZ53178	Water	04/03/17
9	ERH304 TB	AZ53179	Water	04/03/17
10	ERH305	AZ53180	Water	04/03/17
11				
12				
13				

Notes:

	170408A						

LDC #: 38574B5 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT

2nd Reviewer: AC

Method: ✓ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
III. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
IV. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?			✓	
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	~~NA~~		✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?	N		✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓	✓		
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	~~NA~~	✓		

FT

LDC #: 38574B51

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: AC

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC#: 38574B51
SDG#: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FZ
2nd Reviewer: R

Method: RSK 175

Calibration Date	System	Compound	Standard	(Y) Response	(X) Concentration
2/25/2017	Ints 7890	Methane	1	4053	0.9
			2	4751	1.8
			3	11280	5.1
			4	35556	13.33
			5	60619	26.7
			6	133452	66.75
			7	362708	106.8
			8	476501	320.4
			9	1370511	667.5
			10	2704241	1335

Regression Output		*Reported*
Constant	*5429.866476*	*5430.00*
Std Err of Y Est		
R Squared	*0.992598*	*0.993000*
Degrees of Freedom		
X Coefficient(s)	*2008.180442*	*2010.00*
Std Err of Coef.		
Correlation Coefficient	*0.996292*	
Coefficient of Determination (r^2)	*0.992598*	*0.993000*

LDC #: 38574B51

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	ccv 10309	4/8/17	Methane	1335	1330.101	1330.101	0.37	0.37
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B5

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170408A – LCS

Compound		Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
		LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)										
Diesel	(8015)										
Benzene	(8021B)										
Methane	(RSK-175)	1340	NA	1330	NA	99.6	99.6	NA			
2,4-D	(8151)										
Dinoseb	(8151)										
Naphthalene	(8310)										
Anthracene	(8310)										
HMX	(8330)										
2,4,6-Trinitrotoluene	(8330)										
Phorate	(8141A)										
Malathion	(8141A)										
Formaldehyde	(8315A)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574B51

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #7 Compound Name Methane

Concentration = $\frac{(605481 - 5.43 \times 10^3)(20)}{(2.01 \times 10^3)}$ =

= 6000 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH300	AZ53172	1	ALKALINITY, AS CACO3	4/4/2017 9:55:00 AM	4/7/2017 3:49:00 PM	D	206	MG_L		2.0	1.70		
ERH300	AZ53172	1	ALKALINITY, BICARBONATE	4/4/2017 9:55:00 AM	4/7/2017 3:49:00 PM	D	206	MG_L		2.0	1.70		
ERH300	AZ53172	1	ALKALINITY, CARBONATE	4/4/2017 9:55:00 AM	4/7/2017 3:49:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
ERH310	AZ53174	1	ALKALINITY, AS CACO3	4/3/2017 5:05:00 PM	4/7/2017 4:01:00 PM	D	91.3	MG_L		2.0	1.70		
ERH310	AZ53174	1	ALKALINITY, BICARBONATE	4/3/2017 5:05:00 PM	4/7/2017 4:01:00 PM	D	91.3	MG_L		2.0	1.70		
ERH310	AZ53174	1	ALKALINITY, CARBONATE	4/3/2017 5:05:00 PM	4/7/2017 4:01:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
ERH313	AZ53176	1	ALKALINITY, AS CACO3	4/3/2017 1:45:00 PM	4/7/2017 4:07:00 PM	C	101	MG_L		2.0	1.70		
ERH313	AZ53176	1	ALKALINITY, BICARBONATE	4/3/2017 1:45:00 PM	4/7/2017 4:07:00 PM	C	101	MG_L		2.0	1.70		
ERH313	AZ53176	1	ALKALINITY, CARBONATE	4/3/2017 1:45:00 PM	4/7/2017 4:07:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH319	AZ53178	1	ALKALINITY, AS CACO3	4/3/2017 12:15:00 PM	4/7/2017 4:13:00 PM	C	115	MG_L		2.0	1.70		
ERH319	AZ53178	1	ALKALINITY, BICARBONATE	4/3/2017 12:15:00 PM	4/7/2017 4:13:00 PM	C	115	MG_L		2.0	1.70		
ERH319	AZ53178	1	ALKALINITY, CARBONATE	4/3/2017 12:15:00 PM	4/7/2017 4:13:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH305	AZ53180	1	ALKALINITY, AS CACO3	4/3/2017 2:40:00 PM	4/7/2017 4:20:00 PM	C	118	MG_L		2.0	1.70		
ERH305	AZ53180	1	ALKALINITY, BICARBONATE	4/3/2017 2:40:00 PM	4/7/2017 4:20:00 PM	C	118	MG_L		2.0	1.70		
ERH305	AZ53180	1	ALKALINITY, CARBONATE	4/3/2017 2:40:00 PM	4/7/2017 4:20:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH300	AZ53172	1	CHLORIDE	4/4/2017 9:55:00 AM	4/5/2017 10:30:00 PM	D	39.9	MG_L		1.0	0.20		
ERH300	AZ53172	1	NITRATE	4/4/2017 9:55:00 AM	4/5/2017 10:30:00 PM	D	0.18	MG_L	U	0.5	0.18	U	
ERH300	AZ53172	1	SULFATE	4/4/2017 9:55:00 AM	4/5/2017 10:30:00 PM	D	1.1	MG_L		1.0	0.20		
ERH310	AZ53174	1	CHLORIDE	4/3/2017 5:05:00 PM	4/5/2017 4:10:00 PM	D	40.1	MG_L		1.0	0.20		
ERH310	AZ53174	1	NITRATE	4/3/2017 5:05:00 PM	4/5/2017 4:10:00 PM	D	0.18	MG_L	U	0.5	0.18	U	
ERH310	AZ53174	1	SULFATE	4/3/2017 5:05:00 PM	4/5/2017 4:10:00 PM	D	5.0	MG_L		1.0	0.20		
ERH313	AZ53176	5	CHLORIDE	4/3/2017 1:45:00 PM	4/6/2017 11:12:00 AM	C	148	MG_L		5.0	1.00		
ERH313	AZ53176	1	NITRATE	4/3/2017 1:45:00 PM	4/5/2017 3:30:00 PM	C	4.5	MG_L		0.5	0.18		
ERH313	AZ53176	5	SULFATE	4/3/2017 1:45:00 PM	4/6/2017 11:12:00 AM	C	44.1	MG_L		5.0	1.00		

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **300.0**													
ERH319	AZ53178	20	CHLORIDE	4/3/2017 12:15:00 PM	4/6/2017 11:25:00 AM	C	505	MG_L		20.0	4.00		
ERH319	AZ53178	2	NITRATE	4/3/2017 12:15:00 PM	4/5/2017 4:24:00 PM	C	3.6	MG_L		1.0	0.36		
ERH319	AZ53178	20	SULFATE	4/3/2017 12:15:00 PM	4/6/2017 11:25:00 AM	C	120	MG_L		20.0	4.00		
ERH305	AZ53180	10	CHLORIDE	4/3/2017 2:40:00 PM	4/6/2017 11:38:00 AM	C	473	MG_L		10.0	2.00		
ERH305	AZ53180	2	NITRATE	4/3/2017 2:40:00 PM	4/5/2017 3:03:00 PM	C	5.1	MG_L		1.0	0.36		
ERH305	AZ53180	2	SULFATE	4/3/2017 2:40:00 PM	4/5/2017 3:03:00 PM	C	75.3	MG_L		2.0	0.40		
METHOD: **3500_FE_B**													
ERH300	AZ53172	1	IRON, FERROUS	4/4/2017 9:55:00 AM	4/5/2017 5:39:00 PM	D	2.8	MG_L		1.0	0.32		
ERH310	AZ53174	1	IRON, FERROUS	4/3/2017 5:05:00 PM	4/5/2017 5:44:00 PM	D	0.70	MG_L	J	1.0	0.32	J	
ERH313	AZ53176	1	IRON, FERROUS	4/3/2017 1:45:00 PM	4/5/2017 5:51:00 PM	C	0.17	MG_L	J	1.0	0.32	J	
ERH319	AZ53178	1	IRON, FERROUS	4/3/2017 12:15:00 PM	4/5/2017 5:52:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH305	AZ53180	1	IRON, FERROUS	4/3/2017 2:40:00 PM	4/5/2017 5:54:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8015B_E**													
ERH300	AZ53172	1	TPH-DIESEL RANGE	4/4/2017 9:55:00 AM	4/11/2017 6:42:00 PM	D	940	UG_L	T6	40.0	25.00		
ERH300	AZ53172	1	TPH-OIL RANGE	4/4/2017 9:55:00 AM	4/11/2017 6:42:00 PM	D	84	UG_L		40.0	40.00		
ERH310	AZ53174	1	TPH-DIESEL RANGE	4/3/2017 5:05:00 PM	4/11/2017 7:03:00 PM	D	97	UG_L	T6	40.0	25.00		
ERH310	AZ53174	1	TPH-OIL RANGE	4/3/2017 5:05:00 PM	4/11/2017 7:03:00 PM	D	40.00	UG_L	U	40.0	40.00	U	
ERH313	AZ53176	1	TPH-DIESEL RANGE	4/3/2017 1:45:00 PM	4/11/2017 7:24:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH313	AZ53176	1	TPH-OIL RANGE	4/3/2017 1:45:00 PM	4/11/2017 7:24:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH319	AZ53178	1	TPH-DIESEL RANGE	4/3/2017 12:15:00 PM	4/11/2017 7:45:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH319	AZ53178	1	TPH-OIL RANGE	4/3/2017 12:15:00 PM	4/11/2017 7:45:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH305	AZ53180	1	TPH-DIESEL RANGE	4/3/2017 2:40:00 PM	4/11/2017 8:06:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH305	AZ53180	1	TPH-OIL RANGE	4/3/2017 2:40:00 PM	4/11/2017 8:06:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH299	AZ53171	1	BENZENE	4/4/2017 9:20:00 AM	4/7/2017 4:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH299	AZ53171	1	ETHYLBENZENE	4/4/2017 9:20:00 AM	4/7/2017 4:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH299	AZ53171	1	TOLUENE	4/4/2017 9:20:00 AM	4/7/2017 4:11:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH299	AZ53171	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 9:20:00 AM	4/7/2017 4:10:00 PM	C	18.0	UG_L	U	20	18.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH299	AZ53171	1	XYLENES, TOTAL	4/4/2017 9:20:00 AM	4/7/2017 4:11:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH300	AZ53172	1	BENZENE	4/4/2017 9:55:00 AM	4/7/2017 4:38:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH300	AZ53172	1	ETHYLBENZENE	4/4/2017 9:55:00 AM	4/7/2017 4:38:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH300	AZ53172	1	TOLUENE	4/4/2017 9:55:00 AM	4/7/2017 4:38:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH300	AZ53172	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 9:55:00 AM	4/7/2017 4:39:00 PM	D	57	UG_L	G1D	20	18.0		
ERH300	AZ53172	1	XYLENES, TOTAL	4/4/2017 9:55:00 AM	4/7/2017 4:38:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH308	AZ53173	1	BENZENE	4/3/2017 3:25:00 PM	4/7/2017 5:07:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH308	AZ53173	1	ETHYLBENZENE	4/3/2017 3:25:00 PM	4/7/2017 5:07:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH308	AZ53173	1	TOLUENE	4/3/2017 3:25:00 PM	4/7/2017 5:07:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH308	AZ53173	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 3:25:00 PM	4/7/2017 5:08:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH308	AZ53173	1	XYLENES, TOTAL	4/3/2017 3:25:00 PM	4/7/2017 5:07:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH310	AZ53174	1	BENZENE	4/3/2017 5:05:00 PM	4/7/2017 5:35:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH310	AZ53174	1	ETHYLBENZENE	4/3/2017 5:05:00 PM	4/7/2017 5:35:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH310	AZ53174	1	TOLUENE	4/3/2017 5:05:00 PM	4/7/2017 5:35:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH310	AZ53174	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 5:05:00 PM	4/7/2017 5:36:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH310	AZ53174	1	XYLENES, TOTAL	4/3/2017 5:05:00 PM	4/7/2017 5:35:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH311	AZ53175	1	BENZENE	4/3/2017 1:15:00 PM	4/7/2017 6:05:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH311	AZ53175	1	ETHYLBENZENE	4/3/2017 1:15:00 PM	4/7/2017 6:05:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH311	AZ53175	1	TOLUENE	4/3/2017 1:15:00 PM	4/7/2017 6:05:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH311	AZ53175	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 1:15:00 PM	4/7/2017 6:04:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH311	AZ53175	1	XYLENES, TOTAL	4/3/2017 1:15:00 PM	4/7/2017 6:05:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH313	AZ53176	1	BENZENE	4/3/2017 1:45:00 PM	4/7/2017 6:32:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH313	AZ53176	1	ETHYLBENZENE	4/3/2017 1:45:00 PM	4/7/2017 6:32:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH313	AZ53176	1	TOLUENE	4/3/2017 1:45:00 PM	4/7/2017 6:32:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH313	AZ53176	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 1:45:00 PM	4/7/2017 6:33:00 PM	D	18.0	UG_L	U	20	18.0	U	
ERH313	AZ53176	1	XYLENES, TOTAL	4/3/2017 1:45:00 PM	4/7/2017 6:32:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH318	AZ53177	1	BENZENE	4/3/2017 11:15:00 AM	4/7/2017 7:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH318	AZ53177	1	ETHYLBENZENE	4/3/2017 11:15:00 AM	4/7/2017 7:00:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH318	AZ53177	1	TOLUENE	4/3/2017 11:15:00 AM	4/7/2017 7:00:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH318	AZ53177	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 11:15:00 AM	4/7/2017 7:01:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH318	AZ53177	1	XYLENES, TOTAL	4/3/2017 11:15:00 AM	4/7/2017 7:00:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH319	AZ53178	1	BENZENE	4/3/2017 12:15:00 PM	4/7/2017 7:29:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH319	AZ53178	1	ETHYLBENZENE	4/3/2017 12:15:00 PM	4/7/2017 7:29:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH319	AZ53178	1	TOLUENE	4/3/2017 12:15:00 PM	4/7/2017 7:29:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH319	AZ53178	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 12:15:00 PM	4/7/2017 7:30:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH319	AZ53178	1	XYLENES, TOTAL	4/3/2017 12:15:00 PM	4/7/2017 7:29:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH304	AZ53179	1	BENZENE	4/3/2017 1:45:00 PM	4/7/2017 7:57:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH304	AZ53179	1	ETHYLBENZENE	4/3/2017 1:45:00 PM	4/7/2017 7:57:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH304	AZ53179	1	TOLUENE	4/3/2017 1:45:00 PM	4/7/2017 7:57:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH304	AZ53179	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 1:45:00 PM	4/7/2017 7:58:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH304	AZ53179	1	XYLENES, TOTAL	4/3/2017 1:45:00 PM	4/7/2017 7:57:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH305	AZ53180	1	BENZENE	4/3/2017 2:40:00 PM	4/7/2017 8:27:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH305	AZ53180	1	ETHYLBENZENE	4/3/2017 2:40:00 PM	4/7/2017 8:27:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH305	AZ53180	1	TOLUENE	4/3/2017 2:40:00 PM	4/7/2017 8:27:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH305	AZ53180	1	TPH-GASOLINE RANGE C6-C10	4/3/2017 2:40:00 PM	4/7/2017 8:26:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH305	AZ53180	1	XYLENES, TOTAL	4/3/2017 2:40:00 PM	4/7/2017 8:27:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH300	AZ53172	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 9:55:00 AM	4/13/2017 11:48:00 PM	D	80.0	UG_L	U	100	80.0	U	
ERH300	AZ53172	1	PHENOL	4/4/2017 9:55:00 AM	4/10/2017 7:41:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH310	AZ53174	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 5:05:00 PM	4/14/2017 12:18:00 AM	D	80.0	UG_L	U	100	80.0	U	
ERH310	AZ53174	1	PHENOL	4/3/2017 5:05:00 PM	4/10/2017 8:11:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH313	AZ53176	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 1:45:00 PM	4/14/2017 12:48:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH313	AZ53176	1	PHENOL	4/3/2017 1:45:00 PM	4/10/2017 8:41:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH319	AZ53178	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 12:15:00 PM	4/14/2017 1:18:00 AM	C	80.0	UG_L	U	100	80.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH319	AZ53178	1	PHENOL	4/3/2017 12:15:00 PM	4/10/2017 9:11:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH305	AZ53180	1	2-(2-METHOXYETHOXY)-ETHANOL	4/3/2017 2:40:00 PM	4/14/2017 1:48:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH305	AZ53180	1	PHENOL	4/3/2017 2:40:00 PM	4/10/2017 9:41:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH300	AZ53172	1	1-METHYLNAPHTHALENE	4/4/2017 9:55:00 AM	4/12/2017 2:32:00 PM	D	20	UG_L		0.2	0.10		
ERH300	AZ53172	1	2-METHYLNAPHTHALENE	4/4/2017 9:55:00 AM	4/12/2017 2:32:00 PM	D	17	UG_L		0.2	0.10		
ERH300	AZ53172	1	NAPHTHALENE	4/4/2017 9:55:00 AM	4/12/2017 2:32:00 PM	D	52	UG_L		0.2	0.10		
ERH310	AZ53174	1	1-METHYLNAPHTHALENE	4/3/2017 5:05:00 PM	4/12/2017 3:05:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH310	AZ53174	1	2-METHYLNAPHTHALENE	4/3/2017 5:05:00 PM	4/12/2017 3:05:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH310	AZ53174	1	NAPHTHALENE	4/3/2017 5:05:00 PM	4/12/2017 3:05:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH313	AZ53176	1	1-METHYLNAPHTHALENE	4/3/2017 1:45:00 PM	4/12/2017 3:38:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH313	AZ53176	1	2-METHYLNAPHTHALENE	4/3/2017 1:45:00 PM	4/12/2017 3:38:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH313	AZ53176	1	NAPHTHALENE	4/3/2017 1:45:00 PM	4/12/2017 3:38:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH319	AZ53178	1	1-METHYLNAPHTHALENE	4/3/2017 12:15:00 PM	4/12/2017 4:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH319	AZ53178	1	2-METHYLNAPHTHALENE	4/3/2017 12:15:00 PM	4/12/2017 4:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH319	AZ53178	1	NAPHTHALENE	4/3/2017 12:15:00 PM	4/12/2017 4:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH305	AZ53180	1	1-METHYLNAPHTHALENE	4/3/2017 2:40:00 PM	4/12/2017 4:43:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH305	AZ53180	1	2-METHYLNAPHTHALENE	4/3/2017 2:40:00 PM	4/12/2017 4:43:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH305	AZ53180	1	NAPHTHALENE	4/3/2017 2:40:00 PM	4/12/2017 4:43:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH299	AZ53171	1	METHANE	4/4/2017 9:20:00 AM	4/8/2017 12:33:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH300	AZ53172	20	METHANE	4/4/2017 9:55:00 AM	4/8/2017 12:40:00 PM	D	6000	UG_L		100.0	20.00		
ERH308	AZ53173	1	METHANE	4/3/2017 3:25:00 PM	4/8/2017 12:43:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH310	AZ53174	1	METHANE	4/3/2017 5:05:00 PM	4/8/2017 12:46:00 PM	D	500	UG_L		5.0	1.00		
ERH311	AZ53175	1	METHANE	4/3/2017 1:15:00 PM	4/8/2017 12:49:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH313	AZ53176	1	METHANE	4/3/2017 1:45:00 PM	4/8/2017 12:52:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH318	AZ53177	1	METHANE	4/3/2017 11:15:00 AM	4/8/2017 12:55:00 PM	D	1.00	UG_L	U	5.0	1.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **RSK-175**													
ERH319	AZ53178	1	METHANE	4/3/2017 12:15:00 PM	4/8/2017 12:58:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH304	AZ53179	1	METHANE	4/3/2017 1:45:00 PM	4/8/2017 1:01:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH305	AZ53180	1	METHANE	4/3/2017 2:40:00 PM	4/8/2017 1:04:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 5, 2017

Parameters: Volatiles

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH296	AZ53259	Water	04/04/17
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH320	AZ53262	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH301	AZ53265	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) which are Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and 1,2-Dichloroethane by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples ERH296, ERH320, and ERH301 were identified as trip blanks. No contaminants were found.

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C1
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C/~~D~~

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (BTEX) (EPA SW 846 Method 8260B)
+ 1,2-Dichloroethane

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = ERH316 (X2577) TB = 1,4,7 FB = 6
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for Level C validation
XIII.	Target compound identification	N	Not reviewed for Level C validation
XIV.	System performance	N	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID			Lab ID	Matrix	Date
1	ERH296**	TB	+ DCA	AZ53259**	Water	04/04/17
2	ERH297	D	+ DCA	AZ53260	Water	04/04/17
3	ERH298**	D	+ DCA	AZ53261**	Water	04/04/17
4	ERH320	TB		AZ53262	Water	04/04/17
5	ERH321**			AZ53263**	Water	04/04/17
6	ERH289	FB		AZ53264	Water	04/04/17
7	ERH301	TB		AZ53265	Water	04/04/17
8	ERH303			AZ53266	Water	04/04/17
9						
10						

Notes:

	170407BM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Phenol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Phenol by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

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A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Phenol - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C2a
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Phenol (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB = ERH316 (82577) FB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH297	D	AZ53260	Water	04/04/17
2	ERH298	D	AZ53261	Water	04/04/17
3	ERH321		AZ53263	Water	04/04/17
4	ERH289	FB	AZ53264	Water	04/04/17
5	ERH303		AZ53266	Water	04/04/17
6					
7					
8					
9					

Notes:

	170411B						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 5, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) which are 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds,

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C2b
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: AC

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)
TTT, W, S only

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	%RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration /closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB=4 EB=ERH316 (8257)
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	ERH307 MS/D
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D=1,2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH297	AZ53260	Water	04/04/17
2	ERH298	AZ53261	Water	04/04/17
3	ERH321	AZ53263	Water	04/04/17
4	ERH289	AZ53264	Water	04/04/17
5	ERH303	AZ53266	Water	04/04/17
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8				

Notes:

170410A1

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C2c
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 4 EB = ERH316 (225 ml)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	A	ERH307 MS/D
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1,2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH297	D	AZ53260	Water	04/04/17
2	ERH298	D	AZ53261	Water	04/04/17
3	ERH321		AZ53263	Water	04/04/17
4	ERH289	FB	AZ53264	Water	04/04/17
5	ERH303		AZ53266	Water	04/04/17
6					
7					
8					

Notes:

170410A

LDC #: 38574C2c

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: MC

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
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(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Wet Chemistry

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH297	AZ53260	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, and Sulfate by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500-Fe B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met with the following exceptions:

Sample	Analyte	Total Time From Sample Collection Until Analysis	Required Holding Time From Sample Collection Until Analysis	Flag	A or P
ERH321	Nitrate	49.57 hours	48 hours	J (all detects)	P
ERH303	Nitrate	51.47 hours	48 hours	J (all detects)	P

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	1.8 mg/L	All samples in SDG 82611

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Sample Result Verification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to technical holding times, data were qualified as estimated in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82611

Sample	Analyte	Flag	A or P	Reason (Code)
ERH321 ERH303	Nitrate	J (all detects)	P	Technical holding times (H)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C6
SDG #: 82611
Laboratory: APPL Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: VB
2nd Reviewer: R

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate (EPA Method 300.0), Ferrous Iron (SM3500-Fe B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/SW	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N.	C.S.
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	N	
X.	Sample result verification	N	
XI	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH297	AZ53260	Water	04/04/17
2	ERH321	AZ53263	Water	04/04/17
3	ERH303	AZ53266	Water	04/04/17
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

DC #: 38574C6

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer: A

I circled methods are applicable to each sample.

Sample ID	Parameter
1-3	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38547C6

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JB
2nd reviewer: [illegible]

All circled dates have exceeded the technical holding time. Reason Code H

Y N N/A Were all samples preserved as applicable to each method ?
Y N N/A Were all cooler temperatures within validation criteria?

Method:		**EPA 300.0**					
Parameters:		**Nitrate**					
Technical holding time:		**48 hours**					
Sample ID	**Sampling date**	**Analysis date**	**Total Time**	**Qualifier**	**Analysis date**	**Total Time**	**Qualifier**
2	4/4/17 13:35	4/6/17 15:09	49.57	J/UJ/P (Det)			
3	4/4/17 11:55	4/6/17 15:23	51.47	J/UJ/P (Det)			

LDC #: 38574C6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** All Waters

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qualifiers										
Total Alkalinity	1.8													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH296	AZ53259	Water	04/04/17
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH320	AZ53262	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH301	AZ53265	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH296, ERH320, and ERH301 were identified as trip blanks. No contaminants were found.

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Compound Quantitation

Raw data were not reviewed for Level C validation.

XII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIII. System Performance

Raw data were not reviewed for Level C validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C7
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	Δ/Δ	
II.	GC/MS Instrument performance check	Δ	
III.	Initial calibration/ICV	Δ/Δ	r^2 ICV ≤ 20
IV.	Continuing calibration	Δ	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 6, ERH316 (82577) = EB
VII.	Surrogate spikes	Δ	TB = 1, 4, 7
VIII.	Matrix spike/Matrix spike duplicates	N	MS
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	Δ	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	Δ	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	ERH296	TB	AZ53259	Water	04/04/17
2	ERH297	D	AZ53260	Water	04/04/17
3	ERH298	D	AZ53261	Water	04/04/17
4	ERH320	TB	AZ53262	Water	04/04/17
5	ERH321		AZ53263	Water	04/04/17
6	ERH289	FB	AZ53264	Water	04/04/17
7	ERH301	TB	AZ53265	Water	04/04/17
8	ERH303		AZ53266	Water	04/04/17
9					
10					

Notes:

	170407BM						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH289	AZ53264	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH316 (from SDG 82577) was identified as an equipment blank. No contaminants were found.

Sample ERH289 was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C8
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: EJ
2nd Reviewer: KC

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	% RSD/ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	FB= 4, ERH316 (SB) (82577)
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	CS
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 1,2
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH297 D	AZ53260	Water	04/04/17
2	ERH298 D	AZ53261	Water	04/04/17
3	ERH321	AZ53263	Water	04/04/17
4	ERH289 FB	AZ53264	Water	04/04/17
5	ERH303	AZ53266	Water	04/04/17
6				
7				
8				
9				
10				
11				
12				

Notes:

	170411A						

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH296	AZ53259	Water	04/04/17
ERH297	AZ53260	Water	04/04/17
ERH298	AZ53261	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH296 was identified as a trip blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH297 and ERH298 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C10
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC EDB ~~& DBCP~~ (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	ERH307 MS/D
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2, 3
X.	Compound quantitation RL/LOQ/LODs	N	
XI.	Target compound identification	N	
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH296 TB	AZ53259	Water	04/04/17
2	ERH297 D	AZ53260	Water	04/04/17
3	ERH298 D	AZ53261	Water	04/04/17
4				
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11				

Notes:

170412A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82611

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH296	AZ53259	Water	04/04/17
ERH297	AZ53260	Water	04/04/17
ERH320	AZ53262	Water	04/04/17
ERH321	AZ53263	Water	04/04/17
ERH301	AZ53265	Water	04/04/17
ERH303	AZ53266	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Samples ERH296, ERH320, and ERH301 were identified as trip blanks. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were not within QC limits. No data were qualified since there were no associated samples in this SDG. Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82611

No Sample Data Qualified in this SDG

LDC #: 38574C51
SDG #: 82611
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 6f 1
Reviewer: FZ
2nd Reviewer: R

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	r² ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1, 3, 5
VI.	Matrix spike/Matrix spike duplicates	SW	ERH307 MS/D (% R no Assoc sample)
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH296 TB	AZ53259	Water	04/04/17
2	ERH297	AZ53260	Water	04/04/17
3	ERH320 TB	AZ53262	Water	04/04/17
4	ERH321	AZ53263	Water	04/04/17
5	ERH301 TB	AZ53265	Water	04/04/17
6	ERH303	AZ53266	Water	04/04/17
7				
8				
9				
10				
11				
12				

Notes:

	170408A						

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH297	AZ53260	1	ALKALINITY, AS CACO3	4/4/2017 4:35:00 PM	4/12/2017 1:06:00 PM	C	83.0	MG_L		2.0	1.70		
ERH297	AZ53260	1	ALKALINITY, BICARBONATE	4/4/2017 4:35:00 PM	4/12/2017 1:06:00 PM	C	83.0	MG_L		2.0	1.70		
ERH297	AZ53260	1	ALKALINITY, CARBONATE	4/4/2017 4:35:00 PM	4/12/2017 1:06:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH321	AZ53263	1	ALKALINITY, AS CACO3	4/4/2017 1:35:00 PM	4/12/2017 1:11:00 PM	C	169	MG_L		2.0	1.70		
ERH321	AZ53263	1	ALKALINITY, BICARBONATE	4/4/2017 1:35:00 PM	4/12/2017 1:11:00 PM	C	169	MG_L		2.0	1.70		
ERH321	AZ53263	1	ALKALINITY, CARBONATE	4/4/2017 1:35:00 PM	4/12/2017 1:11:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
ERH303	AZ53266	1	ALKALINITY, AS CACO3	4/4/2017 11:55:00 AM	4/12/2017 1:20:00 PM	C	283	MG_L		2.0	1.70		
ERH303	AZ53266	1	ALKALINITY, BICARBONATE	4/4/2017 11:55:00 AM	4/12/2017 1:20:00 PM	C	283	MG_L		2.0	1.70		
ERH303	AZ53266	1	ALKALINITY, CARBONATE	4/4/2017 11:55:00 AM	4/12/2017 1:20:00 PM	C	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH297	AZ53260	5	CHLORIDE	4/4/2017 4:35:00 PM	4/13/2017 12:59:00 PM	C	175	MG_L		5.0	1.00		
ERH297	AZ53260	1	NITRATE	4/4/2017 4:35:00 PM	4/6/2017 3:36:00 PM	C	3.3	MG_L		0.5	0.18		
ERH297	AZ53260	5	SULFATE	4/4/2017 4:35:00 PM	4/13/2017 12:59:00 PM	C	88.3	MG_L		5.0	1.00		
ERH321	AZ53263	50	CHLORIDE	4/4/2017 1:35:00 PM	4/13/2017 1:12:00 PM	C	1110	MG_L		50.0	10.00		
ERH321	AZ53263	5	NITRATE	4/4/2017 1:35:00 PM	4/6/2017 3:09:00 PM	C	9.2	MG_L		2.5	0.90	J	h
ERH321	AZ53263	50	SULFATE	4/4/2017 1:35:00 PM	4/13/2017 1:12:00 PM	C	350	MG_L		50.0	10.00		
ERH303	AZ53266	1	CHLORIDE	4/4/2017 11:55:00 AM	4/6/2017 3:23:00 PM	C	47.3	MG_L		1.0	0.20		
ERH303	AZ53266	1	NITRATE	4/4/2017 11:55:00 AM	4/6/2017 3:23:00 PM	C	7.2	MG_L		0.5	0.18	J	h
ERH303	AZ53266	1	SULFATE	4/4/2017 11:55:00 AM	4/6/2017 3:23:00 PM	C	48.9	MG_L		1.0	0.20		
METHOD: **3500_FE_B**													
ERH297	AZ53260	1	IRON, FERROUS	4/4/2017 4:35:00 PM	4/6/2017 5:59:00 PM	C	0.16	MG_L	J	1.0	0.32	J	
ERH321	AZ53263	1	IRON, FERROUS	4/4/2017 1:35:00 PM	4/6/2017 6:01:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
ERH303	AZ53266	1	IRON, FERROUS	4/4/2017 11:55:00 AM	4/6/2017 6:00:00 PM	C	0.32	MG_L	U	1.0	0.32	U	
METHOD: **8011**													
ERH296	AZ53259	1	1,2-DIBROMOETHANE	4/4/2017 3:35:00 PM	4/12/2017 11:18:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH297	AZ53260	1	1,2-DIBROMOETHANE	4/4/2017 4:35:00 PM	4/12/2017 11:39:00 PM	C	0.020	UG_L	U	0.02	0.020	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8011**													
ERH298	AZ53261	1	1,2-DIBROMOETHANE	4/4/2017 4:35:00 PM	4/13/2017	C	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH297	AZ53260	1	TPH-DIESEL RANGE	4/4/2017 4:35:00 PM	4/18/2017 2:12:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH297	AZ53260	1	TPH-OIL RANGE	4/4/2017 4:35:00 PM	4/18/2017 2:12:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH298	AZ53261	1	TPH-DIESEL RANGE	4/4/2017 4:35:00 PM	4/18/2017 2:33:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH298	AZ53261	1	TPH-OIL RANGE	4/4/2017 4:35:00 PM	4/18/2017 2:33:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH321	AZ53263	1	TPH-DIESEL RANGE	4/4/2017 1:35:00 PM	4/18/2017 2:53:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH321	AZ53263	1	TPH-OIL RANGE	4/4/2017 1:35:00 PM	4/18/2017 2:53:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH289	AZ53264	1	TPH-DIESEL RANGE	4/4/2017 12:45:00 PM	4/18/2017 3:14:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH289	AZ53264	1	TPH-OIL RANGE	4/4/2017 12:45:00 PM	4/18/2017 3:14:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH303	AZ53266	1	TPH-DIESEL RANGE	4/4/2017 11:55:00 AM	4/18/2017 3:36:00 PM	C	47	UG_L	T3M	40.0	25.00		
ERH303	AZ53266	1	TPH-OIL RANGE	4/4/2017 11:55:00 AM	4/18/2017 3:36:00 PM	C	47	UG_L		40.0	40.00		
METHOD: **8260B**													
ERH296	AZ53259	1	1,2-DICHLOROETHANE	4/4/2017 3:35:00 PM	4/8/2017 7:18:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH296	AZ53259	1	BENZENE	4/4/2017 3:35:00 PM	4/8/2017 7:18:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH296	AZ53259	1	ETHYLBENZENE	4/4/2017 3:35:00 PM	4/8/2017 7:18:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH296	AZ53259	1	TOLUENE	4/4/2017 3:35:00 PM	4/8/2017 7:18:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH296	AZ53259	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 3:35:00 PM	4/8/2017 7:17:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH296	AZ53259	1	XYLENES, TOTAL	4/4/2017 3:35:00 PM	4/8/2017 7:18:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH297	AZ53260	1	1,2-DICHLOROETHANE	4/4/2017 4:35:00 PM	4/8/2017 7:45:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH297	AZ53260	1	BENZENE	4/4/2017 4:35:00 PM	4/8/2017 7:45:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH297	AZ53260	1	ETHYLBENZENE	4/4/2017 4:35:00 PM	4/8/2017 7:45:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH297	AZ53260	1	TOLUENE	4/4/2017 4:35:00 PM	4/8/2017 7:45:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH297	AZ53260	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 4:35:00 PM	4/8/2017 7:46:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH297	AZ53260	1	XYLENES, TOTAL	4/4/2017 4:35:00 PM	4/8/2017 7:45:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH298	AZ53261	1	1,2-DICHLOROETHANE	4/4/2017 4:35:00 PM	4/8/2017 8:14:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH298	AZ53261	1	BENZENE	4/4/2017 4:35:00 PM	4/8/2017 8:14:00 AM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH298	AZ53261	1	ETHYLBENZENE	4/4/2017 4:35:00 PM	4/8/2017 8:14:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH298	AZ53261	1	TOLUENE	4/4/2017 4:35:00 PM	4/8/2017 8:14:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH298	AZ53261	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 4:35:00 PM	4/8/2017 8:15:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH298	AZ53261	1	XYLENES, TOTAL	4/4/2017 4:35:00 PM	4/8/2017 8:14:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH320	AZ53262	1	BENZENE	4/4/2017 12:25:00 PM	4/8/2017 8:42:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH320	AZ53262	1	ETHYLBENZENE	4/4/2017 12:25:00 PM	4/8/2017 8:42:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH320	AZ53262	1	TOLUENE	4/4/2017 12:25:00 PM	4/8/2017 8:42:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH320	AZ53262	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 12:25:00 PM	4/8/2017 8:43:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH320	AZ53262	1	XYLENES, TOTAL	4/4/2017 12:25:00 PM	4/8/2017 8:42:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH321	AZ53263	1	BENZENE	4/4/2017 1:35:00 PM	4/8/2017 9:11:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH321	AZ53263	1	ETHYLBENZENE	4/4/2017 1:35:00 PM	4/8/2017 9:11:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH321	AZ53263	1	TOLUENE	4/4/2017 1:35:00 PM	4/8/2017 9:11:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH321	AZ53263	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 1:35:00 PM	4/8/2017 9:10:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH321	AZ53263	1	XYLENES, TOTAL	4/4/2017 1:35:00 PM	4/8/2017 9:11:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH289	AZ53264	1	BENZENE	4/4/2017 12:45:00 PM	4/8/2017 9:39:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH289	AZ53264	1	ETHYLBENZENE	4/4/2017 12:45:00 PM	4/8/2017 9:39:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH289	AZ53264	1	TOLUENE	4/4/2017 12:45:00 PM	4/8/2017 9:39:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH289	AZ53264	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 12:45:00 PM	4/8/2017 9:38:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH289	AZ53264	1	XYLENES, TOTAL	4/4/2017 12:45:00 PM	4/8/2017 9:39:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH301	AZ53265	1	BENZENE	4/4/2017 11:45:00 AM	4/8/2017 10:07:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH301	AZ53265	1	ETHYLBENZENE	4/4/2017 11:45:00 AM	4/8/2017 10:07:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH301	AZ53265	1	TOLUENE	4/4/2017 11:45:00 AM	4/8/2017 10:07:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH301	AZ53265	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 11:45:00 AM	4/8/2017 10:08:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH301	AZ53265	1	XYLENES, TOTAL	4/4/2017 11:45:00 AM	4/8/2017 10:07:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
ERH303	AZ53266	1	BENZENE	4/4/2017 11:55:00 AM	4/8/2017 10:35:00 AM	C	0.30	UG_L	U	1.0	0.30	U	
ERH303	AZ53266	1	ETHYLBENZENE	4/4/2017 11:55:00 AM	4/8/2017 10:35:00 AM	C	0.50	UG_L	U	1.0	0.50	U	
ERH303	AZ53266	1	TOLUENE	4/4/2017 11:55:00 AM	4/8/2017 10:35:00 AM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH303	AZ53266	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 11:55:00 AM	4/8/2017 10:36:00 AM	C	18.0	UG_L	U	20	18.0	U	
ERH303	AZ53266	1	XYLENES, TOTAL	4/4/2017 11:55:00 AM	4/8/2017 10:35:00 AM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH297	AZ53260	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 4:35:00 PM	4/14/2017 8:39:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH297	AZ53260	1	PHENOL	4/4/2017 4:35:00 PM	4/14/2017 2:17:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH298	AZ53261	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 4:35:00 PM	4/14/2017 9:09:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH298	AZ53261	1	PHENOL	4/4/2017 4:35:00 PM	4/14/2017 2:48:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH321	AZ53263	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 1:35:00 PM	4/14/2017 9:39:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH321	AZ53263	1	PHENOL	4/4/2017 1:35:00 PM	4/14/2017 3:18:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH289	AZ53264	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 12:45:00 PM	4/14/2017 10:09:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH289	AZ53264	1	PHENOL	4/4/2017 12:45:00 PM	4/14/2017 3:48:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH303	AZ53266	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 11:55:00 AM	4/14/2017 10:39:00 AM	C	80.0	UG_L	U	100	80.0	U	
ERH303	AZ53266	1	PHENOL	4/4/2017 11:55:00 AM	4/14/2017 4:19:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
METHOD: **8270D_SIM**													
ERH297	AZ53260	1	1-METHYLNAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH297	AZ53260	1	2-METHYLNAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH297	AZ53260	1	NAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:04:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH298	AZ53261	1	1-METHYLNAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:37:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH298	AZ53261	1	2-METHYLNAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:37:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH298	AZ53261	1	NAPHTHALENE	4/4/2017 4:35:00 PM	4/12/2017 6:37:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH321	AZ53263	1	1-METHYLNAPHTHALENE	4/4/2017 1:35:00 PM	4/12/2017 7:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH321	AZ53263	1	2-METHYLNAPHTHALENE	4/4/2017 1:35:00 PM	4/12/2017 7:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH321	AZ53263	1	NAPHTHALENE	4/4/2017 1:35:00 PM	4/12/2017 7:10:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH289	AZ53264	1	1-METHYLNAPHTHALENE	4/4/2017 12:45:00 PM	4/12/2017 7:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH289	AZ53264	1	2-METHYLNAPHTHALENE	4/4/2017 12:45:00 PM	4/12/2017 7:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH289	AZ53264	1	NAPHTHALENE	4/4/2017 12:45:00 PM	4/12/2017 7:42:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH303	AZ53266	1	1-METHYLNAPHTHALENE	4/4/2017 11:55:00 AM	4/12/2017 8:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH303	AZ53266	1	2-METHYLNAPHTHALENE	4/4/2017 11:55:00 AM	4/12/2017 8:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH303	AZ53266	1	NAPHTHALENE	4/4/2017 11:55:00 AM	4/12/2017 8:15:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH296	AZ53259	1	METHANE	4/4/2017 3:35:00 PM	4/8/2017 1:15:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH297	AZ53260	1	METHANE	4/4/2017 4:35:00 PM	4/8/2017 1:19:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH320	AZ53262	1	METHANE	4/4/2017 12:25:00 PM	4/8/2017 1:22:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH321	AZ53263	1	METHANE	4/4/2017 1:35:00 PM	4/8/2017 1:26:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH301	AZ53265	1	METHANE	4/4/2017 11:45:00 AM	4/8/2017 1:29:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH303	AZ53266	1	METHANE	4/4/2017 11:55:00 AM	4/8/2017 1:32:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 7, 2017

Parameters: Volatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH306	AZ53167	Water	04/04/17
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
04/07/17	tert-Butyl alcohol	0.0098 (≥0.05)	ERH306 ERH314 ERH315	UJ (all non-detects)	A
04/14/17	tert-Butyl alcohol	0.0091 (≥0.05)	ERH307**	UJ (all non-detects)	A

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
04/15/17	tert-Butyl alcohol	0.0089 (≥0.05)	ERH307**	UJ (all non-detects)	A

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH306 was identified as a trip blank. No contaminants were found.

Sample ERH315 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH307MS/MSD (ERH307**)	Acetone	24.0 (≤20)	J (all detects)	A

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	%R (Limits)	Flag	A or P
170412AT-LCS (ERH306)	tert-Butyl alcohol	138 (68-129)	NA	-

X. Field Duplicates

Samples ERH307** and ERH314 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ERH307**	ERH314	
Acetone	1.8J	2.00U	200 (≤50)

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to initial calibration RRF, continuing calibration RRF, and MS/MSD RPD, data were qualified as estimated in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Data Qualification Summary - SDG 82619

Sample	Compound	Flag	A or P	Reason (Code)
ERH306 ERH314 ERH315 ERH307**	tert-Butyl alcohol	UJ (all non-detects)	A	Initial calibration (RRF) (R)
ERH307**	tert-Butyl alcohol	UJ (all non-detects)	A	Continuing calibration (RRF) (R)
ERH307**	Acetone	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (E)

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Volatiles - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D1
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/6/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW / A	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration	SW	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1 FB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	
X.	Field duplicates	SW	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1 N	ERH306 TB	AZ53167	Water	04/04/17
2 N	3= F1 ERH307** D	AZ53168**	Water	04/04/17
3 1	ERH314 D	AZ53169	Water	04/04/17
4 1	ERH315 FB	AZ53170	Water	04/04/17
5 2	ERH307MS	AZ53168MS	Water	04/04/17
6 2	ERH307MSD	AZ53168MSD	Water	04/04/17
7				
8				
9				

Notes:

1	170410 AT						
2	170412 AT						
	170415 AM						

long list

LDC #: 38574D 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: K

Method: Volatiles (EPA SW 846 Method 8260C)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?		✓		
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20%?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?		✓		
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.				
VI. Field blanks		✓		
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			

LDC #: 38574D 1

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: R

Validation Area	Yes	No	NA	Findings/Comments
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?		✓		
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methyl cyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: FT
2nd Reviewer: AC

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤20 %RSD and ≥0.05 RRF ?

R
Code - ~~C~~ m

#	Date	Standard ID	Compound	Finding %RSD (Limit: 20%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	4/7/17	ICAL - Thor	ZZZ		0.0098	1, 3, 4, 5, 6, 170410AT, 170412AT,	J/UJ/A ND
	4/14/17	ICAL - Max	ZZZ		0.0091	2, 170415AM	J/UJ/A ND

INICAL.wpd

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤20 %D and ≥0.05 RRF ?

R
Code = Q
M

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	4/15/17	CCV-0415M06	ZZZ		0.0089	2,170415AM	J/UJ/A ND

.LDC #: 385740 1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: FT
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits? Code = E

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	5+6	F	( )	( )	24.0 (20)	2	Jdet / A Det
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		

LDC #: 385740 /

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a LCS required?
Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

code = L

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	170412AT-	ZZZ	138 (68-129)	( )	( )	1, 170410AT	Jdet /P ND
	LCS		( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: FT
2nd reviewer: M

METHOD: GC/MS VOA (EPA Method 8260C)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤ 50 %)
	2	3	
F	1.8 J	2.00 U	200

Compound	Concentration ( )		RPD (≤ %)

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GCMS 8260B

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL Thor	4/7/2017	C	0.5253	0.5253	0.4889	0.4889	4.4	4.4
			AA	0.6863	0.6863	0.6360	0.6360	3.7	3.7
			BB	0.8567	0.8567	0.7732	0.7732	6.3	6.3

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (5 std)	Recalculated RRF (5 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL-MAX	4/14/17	F (1st internal standard)	0.0657	0.0657	0.0642	~~[illegible]~~	14	14
			(2nd internal standard)				0.0642		
			(3rd internal standard)						
			(4th internal standard)						
2			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
3			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						
4			(1st internal standard)						
			(2nd internal standard)						
			(3rd internal standard)						
			(4th internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: AC

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 0410T05	4/10/17	C (1st internal standard)	0.4889	0.5134	0.5134	5.0	5.0
			AΔ (2nd internal standard)	0.6360	0.6563	0.6563	3.2	3.2
			BB (3rd internal standard)	0.7732	0.8486	0.8486	9.8	9.8
			(4th internal standard)					
2	CCV 0412T03	4/12/17	C (1st internal standard)		0.4859	0.4859	0.62	0.62
			AΔ (2nd internal standard)		0.6606	0.6606	3.9	3.9
			BB (3rd internal standard)		0.7843	0.7843	1.4	1.4
			(4th internal standard)					
3	CCV 0415M06	4/15/17	F (1st internal standard)	0.0642	0.0616	0.0616	4.0	4.0
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					
4			(1st internal standard)					
			(2nd internal standard)					
			(3rd internal standard)					
			(4th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #2

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	25.0	25.52167	102	102	0
1,2-Dichloroethane-d4	↓	25.54484	102	102	↓
Toluene-d8	↓	25.20927	101	101	↓
Bromofluorobenzene	↓	23.67604	94.7	94.7	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 385740/

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: K

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 5 & 6

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	10.0	10.0	ND	10.7	9.84	107	107	98.4	98.4	8.4	8.4
Trichloroethene				10.5	9.54	105	105	95.4	95.4	9.6	9.6
Benzene				10.6	9.69	106	106	96.9	96.9	9.0	9.0
Toluene				10.4	9.48	104	104	94.8	94.8	9.3	9.3
Chlorobenzene				10.2	9.39	102	102	93.9	93.9	8.3	8.3

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 170412AT

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10.0	NA	9.78	NA	97.8	97.8				
Trichloroethene			9.61		96.1	96.1				
Benzene			9.68		96.8	96.8				
Toluene			9.49		94.9	94.9				
Chlorobenzene			9.56		95.6	95.6	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #2, F:

Conc. = $\frac{1466 \ (25)}{320511 \ (0.0642)}$

= 1.8 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 7, 2017

Parameters: Semivolatiles

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH315 was identified as a field blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
ERH315	04/04/17	Dimethylphthalate	3.1 ug/L	ERH307**

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
ERH307**	Dimethylphthalate	3.3 ug/L	3.3U ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH307MS/MSD (ERH307**)	1,2-Dichlorobenzene	-	29.4 (32-111)	UJ (all non-detects)	A
ERH307MS/MSD (ERH307**)	1,3-Dichlorobenzene	-	27.6 (28-110)	NA	-

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH307MS/MSD (ERH307**)	Dimethylphthalate	21.7 (≤20)	J (all detects)	A

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
ERH307MS/MSD (ERH307**)	1,2-Dichlorobenzene 1,3-Dichlorobenzene Hexachlorocyclopentadiene Hexachloroethane	29.6 (≤20) 29.1 (≤20) 20.7 (≤20) 31.2 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH307** and ERH314 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)
	ERH307**	ERH314	
Dimethylphthalate	3.3J	3.6J	9 (≤50)

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R and RPD, data were qualified as estimated in one sample.

Due to field blank contamination, data were qualified as not detected in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Data Qualification Summary - SDG 82619

Sample	Compound	Flag	A or P	Reason (Code)
ERH307**	1,2-Dichlorobenzene	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)
ERH307**	Dimethylphthalate	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD) (E)

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Semivolatiles - Field Blank Data Qualification Summary - SDG 82619

Sample	Compound	Modified Final Concentration	A or P	Code
ERH307**	Dimethylphthalate	3.3U ug/L	A	F

LDC #: 38574D2a
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/6/17
Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	% RSD ≤ 15, r² ICV ≤ 20
IV.	Continuing calibration / closing ccv	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks SW	~~ND~~	FB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	SW	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation.
XIII.	Target compound identification	A	Not reviewed for Level C validation.
XIV.	System performance	A	Not reviewed for Level C validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH307** D	AZ53168**	Water	04/04/17
2	ERH314 D	AZ53169	Water	04/04/17
3	ERH315 FB	AZ53170	Water	04/04/17
4	ERH307MS	AZ53168MS	Water	04/04/17
5	ERH307MSD	AZ53168MSD	Water	04/04/17
6				
7				
8				
9				

Notes:

	170407A						

LDC #: 38574 D2a

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Semivolatiles (EPA SW 846 Method 8270D)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) < 20% or percent recoveries ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?	✓			
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38574 D2a

VALIDATION FINDINGS CHECKLIST

Reviewer: FR
2nd Reviewer: FR

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38574 D2a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: X

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

code - B

Blank extraction date: 4/7/17 **Blank analysis date:** 4/10/17
Conc. units: ug/L Associated Samples: All

	Compound	Blank ID								
		170407A	1	2	3					
TIC	Benzene, methyl-	68.9 (1.84)	15.7 (1.85)	126.8 (1.84)	28.5 (1.85)					
			Although TIC above was detected in the							
			samples, they were not reported by							
			the lab since results were ≤ 10X MB result							

Blank extraction date:_____ **Blank analysis date:**_____
Conc. units:_____ Associated Samples:

Compound	Blank ID								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 38574 p2a

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: FT
2nd Reviewer: X

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Code = F

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 4/4/17
Field blank type: (circle one) Field Blank / Rinsate / Other: F B Associated Samples: 1

Compound	Blank ID	Sample Identification								
	3		1							
CC	3.1		3.3U							

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	4 + 5	F	( )	29.4 (32-111)	( )	#1	J/UJ/A and ND (Q)
		D	( )	27.6 (28-110)	( )		Jdw/A
		F	( )	( )	29.6 (20)		(E)
		D	( )	( )	29.1 ( )		
		CC	( )	( )	21.7 ( )		Det
		X	( )	( )	20.7 ( )		ND
		K	( )	( )	31.2 ( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: FD
2nd reviewer: AL

METHOD: GC/MS BNA (EPA SW 846 Method 8270~~C~~D)

Y N N/A Were field duplicate pairs identified in this SDG?
Y N N/A Were target compounds identified in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤ 50 %)
	1	2	
CC	3.3 J	3.6 J	9

Compound	Concentration ( )		RPD (≤ %)

Compound	Concentration ( )		RPD (≤ %)

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: DK

METHOD: GCMS 8270C

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:
Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF 40 std)	Recalculated (RRF40 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL YODA	4/4/2017	F	1.525	1.525	1.452	1.452	4.3	4.3
			S	1.039	1.039	1.039	1.039	2.8	2.8
			GG	1.083	1.083	1.108	1.108	5.5	5.5
			SS	0.174	0.174	0.199	0.199	8.5	8.5
			ZZ	1.266	1.266	1.233	1.233	8.3	8.3
			III	1.268	1.268	1.233	1.233	7.5	7.5

LDC #: 38574 D2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: M

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 0404Y038	4/10/17	F (1st IS)	1.452	1.418	1.418	2.4	2.4
			S (2nd IS)	1.039	1.011	1.011	2.7	2.7
			GG (3rd IS)	1.108	1.039	1.039	6.2	6.2
			SS (4th IS)	0.199	0.1985	0.1985	0.25	0.25
			ZZ (5th IS)	1.233	1.223	1.223	0.82	0.82
			III (6th IS)	1.233	1.174	1.174	4.8	4.8
2			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	98.0399	60.20370	61.4	61.4	0
2-Fluorobiphenyl		53.22207	54.3	54.3	
Terphenyl-d14		68.80991	70.2	70.2	
Phenol-d5	196.078	58.97864	30.1	30.1	
2-Fluorophenol		88.18811	45.0	45.0	
2,4,6-Tribromophenol		123.27982	62.9	62.9	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 4+5

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
[redacted]	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol F7	~~50~~ NA	~~50~~ NA	NA								
N-Nitroso-di-n-propylamine	50	50		37.9	38.7	75.8	75.8	77.4	77.4	2.1	2.1
4-Chloro-3-methylphenol				39.7	37.7	79.4	79.4	75.4	75.4	5.2	5.2
Acenaphthene				34.0	33.5	68.0	68.0	67.0	67.0	1.5	1.5
Pentachlorophenol				47.7	48.3	95.4	95.4	96.6	96.6	1.2	1.2
Pyrene				40.7	39.4	81.4	81.4	78.8	78.8	3.2	3.2

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574002a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: AC

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170407A - LCS

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	~~50.0~~ NA	NA								
N-Nitroso-di-n-propylamine	50		38.6	NA	77.2	77.2				
4-Chloro-3-methylphenol			38.2		76.4	76.4				
Acenaphthene			37.8		75.6	75.6				
Pentachlorophenol			45.7		91.4	91.4				
Pyrene			44.6		89.2	89.2	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: MC

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. #1, Dimethyl Phthalate

Conc. = $\frac{37293\ (40)\ (1)}{322040\ (1.375)\ (1020)}$

= 3.3 ng/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 5, 2017

Parameters: Polynuclear Aromatic Hydrocarbons

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Polynuclear Aromatic Hydrocarbons (PAHs) by Environmental Protection Agency (EPA) SW 846 Method 8270D in Selected Ion Monitoring (SIM) mode

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0% for all compounds.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH315 was identified as a field blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH307** and ERH314 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XIV. System Performance

The system performance was acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D2cb
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/4/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Polynuclear Aromatic Hydrocarbons (EPA SW 846 Method 8270D-SIM)
(Full list PAH)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A /A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A /A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration/closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1,2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XIII.	Target compound identification	A	Not reviewed for Level C validation
XIV.	System performance	A	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH307** D	AZ53168**	Water	04/04/17
2	ERH314 D	AZ53169**	Water	04/04/17
3	ERH315 FB	AZ53170	Water	04/04/17
4	ERH307MS	AZ53168MS	Water	04/04/17
5	ERH307MSD	AZ53168MSD	Water	04/04/17
6				
7				
8				

Notes:

Full list

LDC #: 38574D2c

VALIDATION FINDINGS CHECKLIST

Reviewer: FZ
2nd Reviewer: AC

Method: Semivolatiles (EPA SW 846 Method 8270D) SIM

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
II. GC/MS Instrument performance check				
Were the DFTPP performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
IIIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 15% and relative response factors (RRF) within method criteria?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?			✓	
IIIb. Initial Calibration Verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries ?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) ≤ 20% and relative response factors (RRF) within method criteria?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Field blanks				
Were field blanks were identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VII. Surrogate spikes				
Were all surrogate percent recovery (%R) within QC limits?	✓			
If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any percent recoveries (%R) was less than 10%, was a reanalysis performed to confirm %R ?			✓	

LDC #: 38574D2C

VALIDATION FINDINGS CHECKLIST

Reviewer: EJ
2nd Reviewer: M

Validation Area	Yes	No	NA	Findings/Comments
VIII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
IX. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
X. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
XI. Internal standards				
Were internal standard area counts within -50% to +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XII. Compound quantitation				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 2,6-Dinitrotoluene	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4 Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiphene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. 2,3,4,6-Tetrachlorophenol	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV. 1,2,4,5 -Tetrachlorobenzene	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 38574D2c

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: RC

METHOD: GCMS 8270~~C~~ D

The calibration factors (RRFF), average RRFF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

RRF = (Ax)(Cis)/(Ais)(Cx)
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

Where:

Ax = Area of compound
Cx = Concentration of compound
S = Standard deviation of the RRFs
X = Mean of the RRFs
Ais = Area of associated internal standard
Cis = Concentration of internal Standard

#	Standard ID	Calibration Date	Compound	Reported (RRF5 std)	Recalculated (RRF 5 std)	Reported AverageRRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
	ICAL Linus	3/31/2017	S	1.042	1.042	0.9995	0.9995	4.2	4.2
			GG	1.237	1.237	1.152	1.152	8.0	8.0
			UU	1.071	1.071	1.004	1.004	7.2	7.2
			ZZ	1.483	1.483	1.426	1.426	5.3	5.3
			III	1.111	1.111	1.216	1.216	11.0	11.0

LDC #: 38574D2c

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: FT
2nd Reviewer: R

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	03314103	4/11/17	S (1st IS)	0.9995	1.074	1.074	7.4	7.4
			GG (2nd IS)	1.152	1.266	1.266	9.9	9.9
			UU (3rd IS)	1.004	1.100	1.100	9.5	9.5
			ZZ (4th IS)	1.426	1.558	1.558	9.2	9.2
			III (5th IS)	1.216	1.308	1.308	7.6	7.6
			(6th IS)					
2	03314135	4/12/17	(1st IS)		1.107	1.107	11	11
			(2nd IS)		1.294	1.294	12	12
			(3rd IS)		1.082	1.082	7.7	7.7
			(4th IS)		1.601	1.601	12	12
			(5th IS)		1.332	1.332	9.5	9.5
			(6th IS)					
3			(1st IS)					
			(2nd IS)					
			(3rd IS)					
			(4th IS)					
			(5th IS)					
			(6th IS)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D2c

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: FT
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	4.762	3.41466	71.7	71.7	0
2-Fluorobiphenyl	↓	2.56968	54.0	54.0	↓
Terphenyl-d14		4.24539	89.0	89.0	
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 38574D2C

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 4 + 5

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene	4.76	4.76	ND	3.37	3.04	70.8	70.8	63.9	63.9	10.3	10.3
Pentachlorophenol											
Pyrene	4.76	4.76	ND	4.25	4.00	89.3	89.3	84.0	84.0	6.1	6.1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D2C

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: FT

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: 170410A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene	5.0	NA	3.71	NA	74.2	74.2				
Pentachlorophenol										
Pyrene	5.0	↓	4.75	↓	95.0	95.0	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D2C

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: FT
2nd reviewer: R

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 170410A-LCS

Conc. = $\frac{31113\ (2.5)\ (1)}{18196\ (1.152)\ (1000)}$

= 3.71 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: 2-(2-Methoxyethoxy)-ethanol

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307	AZ53168	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

2-(2-Methoxyethoxy)-ethanol by Environmental Protection Agency (EPA) SW 846 Method 8270D Modified

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 15.0%.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0%.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample ERH315 was identified a field blank. No contaminants were found.

VII. Surrogates

Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the semivolatile analysis.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples ERH307 and ERH314 were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Level C validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIV. System Performance

Raw data were not reviewed for Level C validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method with the exception noted in Section VII. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
2-(2-Methoxyethoxy)-ethanol - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D2d c
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level C/~~D~~

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS 2-(2-Methoxyethoxy)-Ethanol (EPA SW 846 Method 8270D-~~SIM~~) Modified

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A LA	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	% RSD ≤ 15 ICV ≤ 20
IV.	Continuing calibration /closing CCV	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	FB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 1, 2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for Level C validation
XIII.	Target compound identification	N	Not reviewed for Level C validation
XIV.	System performance	N	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID		Lab ID	Matrix	Date
1	ERH307	D	AZ53168**	Water	04/04/17
2	ERH314	D	AZ53169**	Water	04/04/17
3	ERH315	FB	AZ53170	Water	04/04/17
4	ERH307MS		AZ53168MS	Water	04/04/17
5	ERH307MSD		AZ53168MSD	Water	04/04/17
6					
7					
8					

Notes:

170410A

LDC #: 38574D2d

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Sample ID	Surrogate	%R (Limits)	Qualifications
		Surrogates were not added to all samples as required by the method. Using professional judgment, no data were qualified, since the LCS/MS/MSD percent recoveries were within QC limits. Additionally, all surrogate percent recoveries were within QC limits in the phenol analysis.		Text
			( )	
			( )	
			( )	
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			( )	
			( )	

(NBZ) = Nitrobenzene - d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl - d14
(2FP) = 2-Fluorophenol
(TBP) = 2,4,6 -Tribromophenol
(2CP) = 2-Chlorophenol - d4

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 8, 2017

Parameters: Metals

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307F**	AZ53168F**	Water	04/04/17
ERH314F	AZ53169F	Water	04/04/17
ERH315F	AZ53170F	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17
ERH307FMS	AZ53168FMS	Water	04/04/17
ERH307FMSD	AZ53168FMSD	Water	04/04/17

Samples appended with "F" were analyzed for Dissolved Lead
**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Calcium, Iron, Lead, Magnesium, Manganese, Potassium, and Sodium by Environmental Protection Agency (EPA) SW 846 Method 6010C

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the method.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Magnesium	62.5 ug/L 12.9 ug/L	All samples in SDG 82619

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Samples ERH315 and ERH315F were identified as field blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
ERH315	04/04/17	Calcium Magnesium Sodium	186 ug/L 45.4 ug/L 118 ug/L	ERH307**

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples ERH307** and ERH314 and samples ERH307F** and ERH314F were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)
	ERH307**	ERH314	
Calcium	12900	12400	4 (≤50)
Magnesium	12000	11500	4 (≤50)
Potassium	1960	1900	3 (≤50)
Sodium	35900	34400	4 (≤50)

XI. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Metals - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Metals - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Metals - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D4b
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/5/17
Page: 1 of 1
Reviewer: JB
2nd Reviewer: AV

METHOD: ~~Dissolved~~ Metals (EPA SW 846 Method 6010C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	SW	FB=3,8
VI.	Matrix Spike/Matrix Spike Duplicates	A	
VII.	Duplicate sample analysis	N	
VIII.	Serial Dilution	A	
IX.	Laboratory control samples	A	LCS/D
X.	Field Duplicates	SW	(1,2) (6,7)
XI.	Sample Result Verification	A	Not reviewed for Level C validation.
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH307**	AZ53168**	Water	04/04/17
2	ERH314	AZ53169	Water	04/04/17
3	ERH315	AZ53170	Water	04/04/17
4	ERH307MS	AZ53168MS	Water	04/04/17
5	ERH307MSD	AZ53168MSD	Water	04/04/17
6	ERH307F**	AZ53168F		
7	ERH314F	AZ53169F		
8	ERH315F	AZ53170F		
9	ERH307FMS	AZ53168FMS		
10	ERH307FMSD	AZ53168FMSD		
11				
12				
13				
14				

Notes:

LDC #: 38574D46

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: A

Method: Metals (EPA SW 846 Method 6010/6020/7000)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. ICP/MS Tune				
Were all isotopes in the tuning solution mass resolution within 0.1 amu?			✓	
Were %RSD of isotopes in the tuning solution ≤5%?			✓	
III. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury) QC limits?	✓			
Were the low standard checks within 70-130%	✓			
Were all initial calibration correlation coefficients within limits as specified by the method?			✓	
IV. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
V. ICP Interference Check Sample				
Were ICP interference check samples performed daily?	✓			
Were the AB solution percent recoveries (%R) with the 80-120% QC limits?	✓			
VI. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL.	✓			
VII. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils?	✓			

DC #: 38574D45.

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VIII. Internal Standards (EPA SW 846 Method 6020/EPA 200.8)				
Were all the percent recoveries (%R) within the 30-120% (6020)/60-125% (200.8) of the intensity of the internal standard in the associated initial calibration?			✓	
If the %Rs were outside the criteria, was a reanalysis performed?			✓	
IX. ICP Serial Dilution				
Was an ICP serial dilution analyzed if analyte concentrations were > 50X the MDL (ICP)/>100X the MDL(ICP/MS)?	✓			
Were all percent differences (%Ds) < 10%?	✓			
Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data.		✓		
X. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XII. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
XIII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

LDC #: 38574D45.

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: JB
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1-3	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
6-8	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U, *Dis
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
OC		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
4,5	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
9,10	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U, *Dis
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, U,

Comments: Mercury by CVAA if performed

LDC #: 38574D4b

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: JB
2nd Reviewer: KJ

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000)
Sample Concentration units, unless otherwise noted: ug/L

Soil preparation factor applied: NA
Associated Samples: ug/L

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (mg/L)	Action Level									
Ca		62.5											
Mg		12.9											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".

Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 38574D4b

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: VB
2nd Reviewer: ↑

METHOD: Trace Metals (EPA SW846 6010B/7000)

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 4/4/17 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: 1

Analyte	Blank ID	Sample Identification										
	3	Action Limit										
Ca	186											
Mg	45.4											
Na	118											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 38574D4b
SDG#: See Cover

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: 3
2nd Reviewer: A

METHOD: Metals (EPA Method 6010B/7000)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Analyte	Concentration (ug/L)		RPD	
	1	2		
Calcium	12900	12400	4	
Magnesium	12000	11500	4	
Potassium	1960	1900	3	
Sodium	35900	34400	4	

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LDC #: 38574D46

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
ICV	ICP (Initial calibration)	K	26320 ug/L	25000 ug/L	106%	106%	Y
	ICP/MS (Initial calibration)						
	CVAA (Initial calibration)						
CCV	ICP (Continuing calibration) 14:17	Pb	783.6 ug/L	750 ug/L	104%	104%	Y
	ICP/MS (Continuing calibration)						
	CVAA (Continuing calibration)						

Comments:

LDC #: 38574D45
SDG #: 82619

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: JB
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA CLP SOW ILM02.1)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (ug/L)
SDR = Serial Dilution Result (ug/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
ICSAB	ICP interference check	Al	190100 ug/L	200000 ug/L	95.1%	95.0%	Y
LCS	Laboratory control sample	Fe	1057 ug/L	1000 ug/L	106%	106%	Y
MS	Matrix spike	Mn	SR=ND (SSR-SR) 259.0 ug/L	250 ug/L	104%	104%	Y
MSD	Duplicate	Mn	260.4 ug/L	Found: 259.0 ug/L	0.5% RPD	0.4% RPD	Y
SD	ICP serial dilution	Ca	2471 ug/L x 5 = 12355 ug/L	Initial: 12860 ug/L	3.93% D	3.97% D	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D46
SDG #: B2619

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JB
2nd reviewer: [illegible]

METHOD: Trace metals (EPA CLP SOW ILM02.1)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Ca were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

From Raw Data: 12860 ug/L

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	1	Ca	12900	12900	Y
	1	Mg	12000	12000	Y
	1	K	1960	1960	Y
	1	Na	35900	35900	Y

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 8, 2017

Parameters: Wet Chemistry

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

**Indicates sample underwent Level D validation for Silica and Dissolved Silica only

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Alkalinity by Standard Method 2320B
Chloride, Nitrate, Sulfate, Fluoride, and Bromide by Environmental Protection Agency (EPA) Method 300.0
Ferrous Iron by Standard Method 3500-Fe B
Silica and Dissolved Silica by Standard Method 4500-Si D

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	The sequence or number of standards used for the calibration was incorrect.
C	Correlation coefficient is <0.995.
R	%R for calibration is not within control limits.
B	Presumed contamination from preparation (method) blank or calibration blank.
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD or difference was high.
I	ICP ICS results were unsatisfactory.
A	ICP Serial Dilution %D were not within control limits.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Post Digestion Spike recovery was not within control limits.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Initial Calibration

All criteria for the initial calibration of each method were met.

III. Continuing Calibration

Continuing calibration frequency and analysis criteria were met for each method when applicable.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Total alkalinity	1.9 mg/L	ERH307**

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated laboratory blanks.

V. Field Blanks

Sample ERH315 was identified as a field blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
ERH315	04/04/17	Chloride	1.0 mg/L	ERH307**

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH307MS/MSD (ERH307**)	Chloride Fluoride	112 (90-110) 112 (90-110)	115 (90-110) -	J (all detects) J (all detects)	A
ERH307MS/MSD (ERH307**)	Dissolved silica	-	78.5 (80-120)	J (all detects)	A

Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH307** and ERH314 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/L)		RPD (Limits)
	ERH307**	ERH314	
Chloride	52.3	52.5	0 (≤50)
Bromide	0.37J	0.38J	3 (≤50)
Fluoride	0.10	0.099J	1 (≤50)
Nitrate	2.5	2.5	0 (≤50)
Sulfate	9.9	10.0	1 (≤50)
Silica	44.0	51.9	16 (≤50)

Analyte	Concentration (mg/L)		RPD (Limits)
	ERH307**	ERH314	
Dissolved silica	47.2	46.9	1 (≤50)

X. Sample Result Verification

All sample result verifications were acceptable for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Data Qualification Summary - SDG 82619

Sample	Analyte	Flag	A or P	Reason (Code)
ERH307**	Chloride Fluoride Dissolved silica	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Wet Chemistry - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D6
SDG #: 82619
Laboratory: APPL Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/4/17
Page: 1 of 1
Reviewer: JB
2nd Reviewer:

METHOD: (Analyte) Alkalinity (SM2320B), Chloride, Nitrate, Sulfate, Fluoride, Bromide (EPA Method 300.0), Ferrous Iron (SM3500-Fe B), Silica & Dissolved Silica (SM4500-Si D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II	Initial calibration	A	
III.	Calibration verification	A	
IV	Laboratory Blanks	SW	
V	Field blanks	SW	FB = 3
VI.	Matrix Spike/Matrix Spike Duplicates	SW	
VII.	Duplicate sample analysis	N	
VIII.	Laboratory control samples	A	LCS/LCSD
IX.	Field duplicates	SW	(1,2)
X.	Sample result verification	N	Not reviewed for Level C validation
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH307**	AZ53168**	Water	04/04/17
2	ERH314**	AZ53169**	Water	04/04/17
3	ERH315	AZ53170	Water	04/04/17
4	ERH307MS	AZ53168MS	Water	04/04/17
5	ERH307MSD	AZ53168MSD	Water	04/04/17
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:
ok + ~~level D for Silica, Dissolved Silica Analysis.~~ R

LDC #: 38574D4

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer:

Method: Inorganics (EPA Method See Cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.		✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 38574D4

VALIDATION FINDINGS CHECKLIST

Reviewer: JB
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target analytes were detected in the field duplicates.	✓			
X. Field blanks				
Field blanks were identified in this SDG.	✓			
Target analytes were detected in the field blanks.	✓			

DC #: 38574D4

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Reviewer: JB
2nd reviewer:

ll circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Br^- Si Diss Si Ferrous Fe
2, 3	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Br^- Si Diss Si
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
QC	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
3, 4	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4 Br^- Si Diss Si Ferrous Fe
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4
	pH TDS Cl F NO_3 NO_2 SO_4 O-PO_4 Alk CN NH_3 TKN TOC Cr6+ ClO_4

Comments:

LDC #: 38574D6

VALIDATION FINDINGS WORKSHEET
Blanks

Reviewer: JB
2nd Reviewer:

METHOD: Inorganics, Method See Cover

Conc. units: mg/L **Associated Samples:** 1

Analyte	Blank ID	Blank ID	Blank Action Limit											
	PB	ICB/CCB (mg/L)		No Qualifiers										
Total Alkalinity	1.9													

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

LDC #: 38574D6

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JB
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover
Blank units: mg/L **Associated sample units:** mg/L
Sampling date: 4/4/17 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: FB Associated Samples: 1, ~~24~~

Analyte	Blank ID	Action Limit	Sample Identification							
	3									
Chloride	1.0	5								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 38574D6

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JB
2nd Reviewer:

METHOD: Inorganics, EPA Method See Cover

Use Reason Code Q

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
	4, 5	Water	Chloride	112 (90 - 110)	115 (90 -110)		1	Jdet/A (Det)
	4, 5	Water	Fluoride	112 (90 - 110)			1	Jdet/A (Det)
	4, 5	Water	Diss Si		78.5 (80 - 120)		1	J/UJ/A (Det)

Comments:

LDC#: 38574D6

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JB
2nd Reviewer: _____

Inorganics, Method 300.0

Analyte	Concentration (mg/L)		RPD (≤ 50)	
	1	2		
Chloride	52.3	52.5	0	
Bromide	0.37 J	0.38 J	3	
Fluoride	0.10	0.099 J	1	
Nitrate	2.5	2.5	0	
Sulfate	9.9	10.0	1	
Silica	44.0	51.9	16	
Dissolved Silica	47.2	46.9	1	

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LDC #: 38574D4

Validation Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: VB
2nd Reviewer:

Method: Inorganics, Method See Cover

The correlation coefficient (r) for the calibration of Silica was recalculated. Calibration date: 4/12/17

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	Conc. (ug/L)	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Silica	s1	0	0	0.9998512	0.9997023	Y
		s2	1	0.022			
		s3	2	0.043			
		s4	4	0.091			
		s5	10	0.229			
		s6	20	0.444			
Calibration verification	Silica	ICV	FOUND: 4.051 mg/L	TRUE: 4 mg/L	101%	101%	Y
Calibration verification	Silica	CCV	FOUND: 3.737 mg/L	TRUE: 4 mg/L	93.4%	93.4%	Y
Calibration verification							

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D6

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: JB
2nd Reviewer: _____

METHOD: Inorganics, Method See Cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	Silica (Dissolved)	3.872mg/L	4.00mg/L	96.8%	96.8%	Y
MS	Matrix spike sample	Silica	SR=44 (SSR-SR) 12.751 x 5 = 63.755-44 = 19.755mg/L	20.0mg/L	98.8%	99.0%	Y
MSD	Duplicate sample	Silica	12.841 x 5 = 64.205mg/L	FOUND: 63.755mg/L	0.703 RPD	0.63RPD	Y

Comments: _____

LDC #: 38574D4

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: JB
2nd reviewer: _____

METHOD: Inorganics, Method See Cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for Silica (Total) reported with a positive detect were recalculated and verified using the following equation:

Concentration =

$y = mx + b$
$y = 0.197$
$m = 0.0222988$
$b = 0.0006574$

Recalculation:

Silica Total = $0.197 = 0.0222988x + 0.0006574$
$x = 8.805 \times 5$ (DF) $= 44.025$ mg/L

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
	1	Silica	44.0	44.0	Y
	1	Dissolved Silica	47.2	47.2	Y

Note: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Gasoline Range Organics

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH306	AZ53167	Water	04/04/17
ERH307	AZ53168	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Gasoline Range Organics by Environmental Protection Agency (EPA) SW 846 Method 8260B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH306 was identified as a trip blank. No contaminants were found.

Sample ERH315 was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH307MS/MSD (ERH307)	Gasoline range organics	75.7 (78-122)	71.3 (78-122)	UJ (all non-detects)	A

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH307 and ERH314 were identified as field duplicates. No results were detected in any of the samples.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Compound Quantitation

Raw data were not reviewed for Level C validation.

XII. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XIII. System Performance

Raw data were not reviewed for Level C validation.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to MS/MSD %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Data Qualification Summary - SDG 82619

Sample	Compound	Flag	A or P	Reason (Code)
ERH307	Gasoline range organics	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R) (Q)

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D7
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/04/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Gasoline Range Organics (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A/A	r² ICV ≤ 20
IV.	Continuing calibration	A	CCV ≤ 20
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 1 FB = 4
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS
X.	Field duplicates	ND	D = 2, 3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for Level C validation
XIII.	Target compound identification	N	Not reviewed for Level C validation
XIV.	System performance	N	Not reviewed for Level C validation
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Level D validation

	Client ID	Lab ID	Matrix	Date
1	ERH306 TB	AZ53167	Water	04/04/17
2	ERH307 D	AZ53168**	Water	04/04/17
3	ERH314 D	AZ53169**	Water	04/04/17
4	ERH315 FB	AZ53170**	Water	04/04/17
5	ERH307MS	AZ53168MS	Water	04/04/17
6	ERH307MSD	AZ53168MSD	Water	04/04/17
7				
8				
9				

Notes:

170407AM

LDC #: 38574 D7

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

code = Q

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	5 + 6	gasoline Range Organics	75.7 (78-122)	71.3 (78-122)	( )	2	J/UJ/A ND
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 5, 2017

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH307	AZ53168	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Total Petroleum Hydrocarbons (TPH) as Extractables by Environmental Protection Agency (EPA) SW 846 Method 8015B

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered not detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

III. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH315 was identified a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH307MS/MSD (ERH307)	Oil (C24-C40)	133 (41-113)	122 (41-113)	NA	-

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH307 and ERH314 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

Raw data were not reviewed for Level C validation.

XI. Target Compound Identifications

Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Total Petroleum Hydrocarbons as Extractables - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D8
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC TPH as Extractables (EPA SW 846 Method 8015B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A/A	
II.	Initial calibration/ICV	A/A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	FB = 3
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 1,2
X.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for Level C validation
XI.	Target compound identification	N	Not reviewed for Level C validation
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID	Lab ID	Matrix	Date
1	ERH307 D	AZ53168**	Water	04/04/17
2	ERH314 D	AZ53169**	Water	04/04/17
3	ERH315 FB	AZ53170	Water	04/04/17
4	ERH307MS	AZ53168MS	Water	04/04/17
5	ERH307MSD	AZ53168MSD	Water	04/04/17
6				
7				
8				
9				
10				
11				
12				

Notes:

170407A

LDC #: 38574D8

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed? code = Q
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	4+5	Oil (C24-C40)	133 (41-113)	122 (41-113)	( )	1	Jdet/A ND
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Ethylene Dibromide

Validation Level: Level C & D

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH306	AZ53167	Water	04/04/17
ERH307**	AZ53168**	Water	04/04/17
ERH314	AZ53169	Water	04/04/17
ERH315	AZ53170	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

**Indicates sample underwent Level D validation

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Ethylene Dibromide by Environmental Protection Agency (EPA) SW 846 Method 8011

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results. Samples appended with a double asterisk on the cover page were subjected to Level D data validation, which is comprised of the QC summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0%.

Retention time windows were established as required by the method for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

Retention times of all compounds in the calibration standards were within the established retention time windows for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH306 was identified as a trip blank. No contaminants were found.

Sample ERH315 was identified as a field blank. No contaminants were found.

VI. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples ERH307** and ERH314 were identified as field duplicates. No results were detected in any of the samples.

X. Compound Quantitation

All compound quantitations met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XI. Target Compound Identification

All target compound identifications met validation criteria for samples which underwent Level D validation. Raw data were not reviewed for Level C validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Ethylene Dibromide - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D10
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET
Level C/D

Date: 5/4/17
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC EDB ~~& DBCP~~ (EPA SW 846 Method 8011)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	Initial calibration/ICV	A / A	% RSD / ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1 FB = 4
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	ND	D = 2, 3
X.	Compound quantitation RL/LOQ/LODs	A	Not reviewed for Level C validation
XI.	Target compound identification	A	Not reviewed for Level C validation
XII.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample was underwent Level D review

	Client ID		Lab ID	Matrix	Date
1	ERH306	TB	AZ53167	Water	04/04/17
2	ERH307**	D	AZ53168**	Water	04/04/17
3	ERH314	D	AZ53169	Water	04/04/17
4	ERH315	FB	AZ53170	Water	04/04/17
5	ERH307MS		AZ53168MS	Water	04/04/17
6	ERH307MSD		AZ53168MSD	Water	04/04/17
7					
8					
9					
10					
11					

Notes:

170412 A

LDC #: 38574D10

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: [illegible]

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Was cooler temperature criteria met?	✓			
IIa. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?	✓			
Was a curve fit used for evaluation? If yes, did the initial calibration meet the curve fit acceptance criteria of ≥0.990?			✓	
Were the RT windows properly established?	✓			
IIb. Initial calibration verification				
Was an initial calibration verification standard analyzed after each initial calibration for each instrument?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
III. Continuing calibration				
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ 20% or percent recoveries (%R) 80-120%?	✓			
Were all the retention times within the acceptance windows?	✓			
IV. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
V. Field Blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		
VI. Surrogate spikes				
Were all surrogate percent recovery (%R) within the QC limits?	✓			
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			

LDC #: 38574D10

VALIDATION FINDINGS CHECKLIST

Reviewer: FT
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?		✓		
X. Compound quantitation				
Were compound quantitation and RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XI. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			

LDC #: 38574D10

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC X HPLC _____

The calibration factors (CF), average CF, and relative standard deviation (%RSD) were recalculated for compounds identified below using the following calculations:

CF = A/C
average CF = sum of the CF/number of standards
%RSD = 100 * (S/X)

Where:
A = Area of compound
C = Concentration of compound
S = Standard deviation of calibration factors
X = Mean of calibration factors

#	Standard ID	Calibration Date	Compound	Reported (CF4 std=0.5)	Recalculated (CF4 std=0.5)	Reported Average CF (Initial)	Recalculated Average CF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/12/2017	EDB (DB-35MS)	477253	477253	492557	492557	9.4	9.4
	Herbie		EDB (DB-XLB)	1250995	1250995	1246787	1246787	6.5	6.5

LDC #: 38574D1D

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: GC ✓ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF -CF)/ave.CF

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(ICAL)/ CCV Conc.	Reported CF/ Conc. CCV	Recalculated CF/ Conc. CCV	Reported %D	Recalculated %D
1	ICV 0403093	4/12/17	EDB DB-35MS	492557	588035	588035	19	19
			DB-XLB	1246790	1371570	1371570	10	10
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D10

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: FT
2nd reviewer: AL

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: # 2

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	
1,3-Dibromopropane	DB-XLB	0.352	0.463	132	132	0

Sample ID: ___

Surrogate	Column/Detector	Surrogate Spiked	Surrogate Found	Percent Recovery	Percent Recovery	Percent Difference
				Reported	Recalculated	

	Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound		Surrogate Compound
A	Chlorobenzene (CBZ)	G	Octacosane	M	Benzo(e)Pyrene	S	1-Chloro-3-Nitrobenzene	Y	Tetrachloro-m- xylene
B	4-Bromofluorobenzene (BFB)	H	Ortho-Terphenyl	N	Terphenyl-D14	T	3,4-Dinitrotoluene	Z	2-Bromonaphthalene
C	a,a,a-Trifluorotoluene	I	Fluorobenzene (FBZ)	O	Decachlorobiphenyl (DCB)	U	Tripentyltin	AA	Chloro-octadecane
D	Bromochlorobenene	J	n-Triacontane	P	1-methylnaphthalene	V	Tri-n-propyltin	BB	2,4-Dichlorophenylacetic acid
E	1,4-Dichlorobutane	K	Hexacosane	Q	Dichlorophenyl Acetic Acid (DCAA)	W	Tributyl Phosphate	CC	2,5-Dibromotoluene
F	1,4-Difluorobenzene (DFB)	L	Bromobenzene	R	4-Nitrophenol	X	Triphenyl Phosphate		

LDC #: 38574DD

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: FT
2nd Reviewer: A

METHOD: ✓ GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

RPD =(({SSCMS - SSCMSD} * 2) / (SSCMS + SSCMSD))*100

Where SSC = Spiked sample concentration; SC = Sample concentration; SA = Spike added; MS = Matrix spike; MSD = Matrix spike duplicate

MS/MSD samples: 5 + 6

Compound		Spike Added ( )		Sample Conc. ( )	Spike Sample Concentration ( )		Matrix spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
		MS	MSD	---	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline	(8015)											
Diesel	(8015)											
Benzene	(8021B)											
Methane	(RSK-175)											
2,4-D	(8151)											
Dinoseb	(8151)											
Naphthalene	(8310)											
Anthracene	(8310)											
HMX	(8330)											
2,4,6-Trinitrotoluene	(8330)											
Phorate	(8141A)											
Malathion	(8141A)											
Formaldehyde	(8315A)											
EDB		0.250	0.250	NO	0.273	0.271	109	109	108	108	0.74	0.74

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574D10

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC ___ HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC/SA)
RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

Where SSC = Spiked sample concentration
LCS = Laboratory Control Sample
SA = Spike added
LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: 170412A-LCS

Compound	Spike Added (ug/L)		Spike Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)										
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										
Phorate (8141A)										
Malathion (8141A)										
Formaldehyde (8315A)										
EDB	0.250	NA	0.286	NA	114	114	NA			

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 38574DW

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. 170412A-LCS Compound Name EDB

Concentration = 716949 / 1246787 (2) =

= 0.286 ug/L

#	Sample ID	Compound	Reported Concentrations ( )	Recalculated Results Concentrations ( )	Qualifications

Comments:

SAMPCLC_r1.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Red Hill Bulk Storage Facility, CTO 0053

LDC Report Date: May 6, 2017

Parameters: Methane

Validation Level: Level C

Laboratory: APPL, Inc.

Sample Delivery Group (SDG): 82619

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
ERH306	AZ53167	Water	04/04/17
ERH307	AZ53168	Water	04/04/17
ERH307MS	AZ53168MS	Water	04/04/17
ERH307MSD	AZ53168MSD	Water	04/04/17

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Work Plan/Scope of Work, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 02, January 2017), Sampling and Analysis Plan, Investigation and Remediation of Release and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, O'ahu, Hawai'i (Revision 01, April 2017), the Project Procedures Manual, U.S. Naval Facilities Engineering Command (NAVFAC) Environmental Restoration (ER) Program, NAVFAC Pacific (DON 2015), and the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Methane by Method RSK-175

All sample results were subjected to Level C data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Qualification Code Reference

H	Holding times were exceeded.
S	Surrogate recovery was outside QC limits.
C	Calibration %RSD, r, r^2 or %D were noncompliant.
R	Calibration RRF was <0.05.
B	Presumed contamination from preparation (method blank).
L	Laboratory Control Sample/Laboratory Control Sample Duplicate %R or RPD was not within control limits.
Q	MS/MSD recovery was poor.
E	MS/MSD or Duplicate RPD was high.
I	Internal standard performance was unsatisfactory.
M	Instrument Performance Check (BFB or DFTPP) was noncompliant.
T	Presumed contamination from trip blank.
F	Presumed contamination from FB or ER.
D	The analysis with this flag should not be used because another more technically sound analysis is available.
P	Instrument performance for pesticides was poor.
V	Unusual problems found with the data not defined elsewhere. Description of the problem can be found in the validation report.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0%.

III. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 20.0%.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

V. Field Blanks

Sample ERH3064 was identified as a trip blank. No contaminants were found.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
ERH307MS/MSD (ERH307)	Methane	160 (73-125)	138 (73-125)	NA	-

Relative percent differences (RPD) were within QC limits.

VII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

VIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Compound Quantitation

Raw data were not reviewed for Level C validation.

X. Target Compound Identification

Raw data were not reviewed for Level C validation.

XI. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Red Hill Bulk Storage Facility, CTO 0053
Methane - Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Laboratory Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

Red Hill Bulk Storage Facility, CTO 0053
Methane - Field Blank Data Qualification Summary - SDG 82619

No Sample Data Qualified in this SDG

LDC #: 38574D51
SDG #: 82619
Laboratory: APPL, Inc.

VALIDATION COMPLETENESS WORKSHEET

Level ~~D~~ C

Date: 5/4/17
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Methane (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A A	
II.	Initial calibration/ICV	A A	r^2 ICV ≤ 20
III.	Continuing calibration	A	CCV ≤ 20
IV.	Laboratory Blanks	A	
V.	Field blanks	ND	TB = 1
VI.	Matrix spike/Matrix spike duplicates	SW	
VII.	Laboratory control samples	A	LCS
VIII.	Field duplicates	N	
IX.	Compound quantitation RL/LOQ/LODs	N	
X.	Target compound identification	N	
XI.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	ERH306 TB	AZ53167	Water	04/04/17
2	ERH307	AZ53168	Water	04/04/17
3	ERH307MS	AZ53168MS	Water	04/04/17
4	ERH307MSD	AZ53168MSD	Water	04/04/17
5				
6				
7				
8				
9				
10				
11				
12				

Notes:

	170408 A						

LDC #: 38574D5)

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: FT
2nd Reviewer: M

METHOD: ✓ GC ___ HPLC

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG?
Y N N/A Was an MS/MSD analyzed every 20 samples for each matrix or whenever a sample extraction was performed?
Y N N/A Were the MS/MSD percent recoveries (%R) and relative percent differences (RPD) within QC limits?

code = Q

#	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	3+4	Methane	160 (73-125)	138 (73-125)	( )	2	J all /A ND
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
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			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		
			( )	( )	( )		

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **2320B**													
ERH307	AZ53168	1	ALKALINITY, AS CACO3	4/4/2017 8:50:00 AM	4/7/2017 4:26:00 PM	D	67.5	MG_L		2.0	1.70		
ERH307	AZ53168	1	ALKALINITY, BICARBONATE	4/4/2017 8:50:00 AM	4/7/2017 4:26:00 PM	D	67.5	MG_L		2.0	1.70		
ERH307	AZ53168	1	ALKALINITY, CARBONATE	4/4/2017 8:50:00 AM	4/7/2017 4:26:00 PM	D	1.70	MG_L	U	2.0	1.70	U	
METHOD: **300.0**													
ERH307	AZ53168	1	BROMIDE	4/4/2017 8:50:00 AM	4/5/2017 9:49:00 PM	D	0.37	MG_L	J	0.5	0.16	J	
ERH307	AZ53168	2	CHLORIDE	4/4/2017 8:50:00 AM	4/6/2017 10:45:00 AM	D	52.3	MG_L		2.0	0.40	J	q
ERH307	AZ53168	1	FLUORIDE	4/4/2017 8:50:00 AM	4/5/2017 9:49:00 PM	D	0.10	MG_L		0.1	0.09	J	q
ERH307	AZ53168	1	NITRATE	4/4/2017 8:50:00 AM	4/5/2017 9:49:00 PM	D	2.5	MG_L		0.5	0.18		
ERH307	AZ53168	1	SULFATE	4/4/2017 8:50:00 AM	4/5/2017 9:49:00 PM	D	9.9	MG_L		1.0	0.20		
ERH314	AZ53169	1	BROMIDE	4/4/2017 8:50:00 AM	4/5/2017 10:03:00 PM	C	0.38	MG_L	J	0.5	0.16	J	
ERH314	AZ53169	2	CHLORIDE	4/4/2017 8:50:00 AM	4/6/2017 10:58:00 AM	C	52.5	MG_L		2.0	0.40		
ERH314	AZ53169	1	FLUORIDE	4/4/2017 8:50:00 AM	4/5/2017 10:03:00 PM	C	0.099	MG_L	J	0.1	0.09	J	
ERH314	AZ53169	1	NITRATE	4/4/2017 8:50:00 AM	4/5/2017 10:03:00 PM	C	2.5	MG_L		0.5	0.18		
ERH314	AZ53169	1	SULFATE	4/4/2017 8:50:00 AM	4/5/2017 10:03:00 PM	C	10.0	MG_L		1.0	0.20		
ERH315	AZ53170	1	BROMIDE	4/4/2017 7:45:00 AM	4/5/2017 10:16:00 PM	C	0.16	MG_L	U	0.5	0.16	U	
ERH315	AZ53170	1	CHLORIDE	4/4/2017 7:45:00 AM	4/5/2017 10:16:00 PM	C	1.0	MG_L		1.0	0.20		
ERH315	AZ53170	1	FLUORIDE	4/4/2017 7:45:00 AM	4/5/2017 10:16:00 PM	C	0.09	MG_L	U	0.1	0.09	U	
ERH315	AZ53170	1	NITRATE	4/4/2017 7:45:00 AM	4/5/2017 10:16:00 PM	C	0.18	MG_L	U	0.5	0.18	U	
ERH315	AZ53170	1	SULFATE	4/4/2017 7:45:00 AM	4/5/2017 10:16:00 PM	C	0.20	MG_L	U	1.0	0.20	U	
METHOD: **3500_FE_B**													
ERH307	AZ53168	1	IRON, FERROUS	4/4/2017 8:50:00 AM	4/5/2017 5:34:00 PM	D	0.32	MG_L	U	1.0	0.32	U	
METHOD: **4500_SI_D**													
ERH307	AZ53168	5	SILICA	4/4/2017 8:50:00 AM	4/12/2017 1:18:00 PM	D	44.0	MG_L		5.0	4.00		
ERH307	AZ53168	5	SILICA	4/4/2017 8:50:00 AM	4/12/2017 1:24:00 PM	D	47.2	MG_L		5.0	4.00	J	q
ERH314	AZ53169	5	SILICA	4/4/2017 8:50:00 AM	4/12/2017 1:22:00 PM	C	51.9	MG_L		5.0	4.00		
ERH314	AZ53169	5	SILICA	4/4/2017 8:50:00 AM	4/12/2017 1:26:00 PM	C	46.9	MG_L		5.0	4.00		

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **4500_SI_D**													
ERH315	AZ53170	1	SILICA	4/4/2017 7:45:00 AM	4/12/2017 3:29:00 PM	C	0.80	MG_L	U	1.0	0.80	U	
ERH315	AZ53170	1	SILICA	4/4/2017 7:45:00 AM	4/12/2017 3:28:00 PM	C	0.80	MG_L	U	1.0	0.80	U	
METHOD: **6010C**													
ERH307	AZ53168	1	CALCIUM	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	12900	UG_L		1000	75.0		
ERH307	AZ53168	1	IRON	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	25.0	UG_L	U	100	25.0	U	
ERH307	AZ53168	1	LEAD	4/4/2017 8:50:00 AM	4/11/2017 3:15:00 PM	D	4.00	UG_L	U	15.0	4.00	U	
ERH307	AZ53168	1	LEAD	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	4.00	UG_L	U	15.0	4.00	U	
ERH307	AZ53168	1	MAGNESIUM	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	12000	UG_L		500	30.0		
ERH307	AZ53168	1	MANGANESE	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	4.00	UG_L	U	10.0	4.00	U	
ERH307	AZ53168	1	POTASSIUM	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	1960	UG_L	J	3000	500.0	J	
ERH307	AZ53168	1	SODIUM	4/4/2017 8:50:00 AM	4/11/2017 3:53:00 PM	D	35900	UG_L		5000	500.0		
ERH314	AZ53169	1	CALCIUM	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	12400	UG_L		1000	75.0		
ERH314	AZ53169	1	IRON	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	25.0	UG_L	U	100	25.0	U	
ERH314	AZ53169	1	LEAD	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH314	AZ53169	1	LEAD	4/4/2017 8:50:00 AM	4/11/2017 3:42:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH314	AZ53169	1	MAGNESIUM	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	11500	UG_L		500	30.0		
ERH314	AZ53169	1	MANGANESE	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	4.00	UG_L	U	10.0	4.00	U	
ERH314	AZ53169	1	POTASSIUM	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	1900	UG_L	J	3000	500.0	J	
ERH314	AZ53169	1	SODIUM	4/4/2017 8:50:00 AM	4/11/2017 4:20:00 PM	C	34400	UG_L		5000	500.0		
ERH315	AZ53170	1	CALCIUM	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	186	UG_L	J	1000	75.0	J	
ERH315	AZ53170	1	IRON	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	25.0	UG_L	U	100	25.0	U	
ERH315	AZ53170	1	LEAD	4/4/2017 7:45:00 AM	4/11/2017 3:48:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH315	AZ53170	1	LEAD	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	4.00	UG_L	U	15.0	4.00	U	
ERH315	AZ53170	1	MAGNESIUM	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	45.4	UG_L	J	500	30.0	J	
ERH315	AZ53170	1	MANGANESE	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	4.00	UG_L	U	10.0	4.00	U	
ERH315	AZ53170	1	POTASSIUM	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	500.0	UG_L	U	3000	500.0	U	
ERH315	AZ53170	1	SODIUM	4/4/2017 7:45:00 AM	4/11/2017 4:26:00 PM	C	118	UG_L	J	5000	500.0	J	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8011**													
ERH306	AZ53167	1	1,2-DIBROMOETHANE	4/4/2017 7:30:00 AM	4/12/2017 8:30:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH307	AZ53168	1	1,2-DIBROMOETHANE	4/4/2017 8:50:00 AM	4/12/2017 10:15:00 PM	D	0.020	UG_L	U	0.02	0.020	U	
ERH314	AZ53169	1	1,2-DIBROMOETHANE	4/4/2017 8:50:00 AM	4/12/2017 10:36:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
ERH315	AZ53170	1	1,2-DIBROMOETHANE	4/4/2017 7:45:00 AM	4/12/2017 10:58:00 PM	C	0.020	UG_L	U	0.02	0.020	U	
METHOD: **8015B_E**													
ERH307	AZ53168	1	TPH-DIESEL RANGE	4/4/2017 8:50:00 AM	4/11/2017 3:11:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH307	AZ53168	1	TPH-OIL RANGE	4/4/2017 8:50:00 AM	4/11/2017 3:11:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH314	AZ53169	1	TPH-DIESEL RANGE	4/4/2017 8:50:00 AM	4/11/2017 4:56:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH314	AZ53169	1	TPH-OIL RANGE	4/4/2017 8:50:00 AM	4/11/2017 4:56:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
ERH315	AZ53170	1	TPH-DIESEL RANGE	4/4/2017 7:45:00 AM	4/11/2017 5:18:00 PM	C	25.00	UG_L	U	40.0	25.00	U	
ERH315	AZ53170	1	TPH-OIL RANGE	4/4/2017 7:45:00 AM	4/11/2017 5:18:00 PM	C	40.00	UG_L	U	40.0	40.00	U	
METHOD: **8260B**													
ERH306	AZ53167	1	1,1,1,2-TETRACHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,1,1-TRICHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,1,2,2-TETRACHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,1,2-TRICHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,1-DICHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,1-DICHLOROETHENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,1-DICHLOROPROPENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,2,3-TRICHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,2,3-TRICHLOROPROPANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH306	AZ53167	1	1,2,4-TRICHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,2,4-TRIMETHYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,2-DIBROMO-3-CHLOROPROPANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH306	AZ53167	1	1,2-DIBROMOETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	1,2-DICHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH306	AZ53167	1	1,2-DICHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,2-DICHLOROPROPANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,3,5-TRIMETHYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,3-DICHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,3-DICHLOROPROPANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,3-DICHLOROPROPENE, TOTAL	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	1,4-DICHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	2,2-DICHLOROPROPANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	2-BUTANONE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH306	AZ53167	1	2-CHLOROTOLUENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	2-HEXANONE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH306	AZ53167	1	4-CHLOROTOLUENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	4-ISOPROPYLTOLUENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	4-METHYL-2-PENTANONE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH306	AZ53167	1	ACETONE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH306	AZ53167	1	BENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	BROMOBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	BROMOCHLOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	BROMODICHLOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	BROMOFORM	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	BROMOMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH306	AZ53167	1	CARBON DISULFIDE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	CARBON TETRACHLORIDE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	CHLOROBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	CHLOROETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	CHLOROFORM	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	CHLOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH306	AZ53167	1	CIS-1,2-DICHLOROETHENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	CIS-1,3-DICHLOROPROPENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	DIBROMOCHLOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	DIBROMOMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	DICHLORODIFLUOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	ETHYL TERT-BUTYL ETHER	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	ETHYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	HEXACHLOROBUTADIENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	ISOPROPYL ETHER	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	ISOPROPYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	METHYL TERT-BUTYL ETHER	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH306	AZ53167	1	METHYLENE CHLORIDE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH306	AZ53167	1	M-XYLENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH306	AZ53167	1	NAPHTHALENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	N-BUTYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	O-XYLENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	PROPYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	SEC-BUTYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	STYRENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	T-AMYL METHYL ETHER	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TERT-BUTANOL	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	10.00	UG_L	U	10.0	10.00	UJ	r
ERH306	AZ53167	1	TERT-BUTYLBENZENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TETRACHLOROETHENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TOLUENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 7:30:00 AM	4/7/2017 2:16:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH306	AZ53167	1	TRANS-1,2-DICHLOROETHENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TRANS-1,3-DICHLOROPROPENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH306	AZ53167	1	TRICHLOROETHENE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	TRICHLOROFLUOROMETHANE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH306	AZ53167	1	VINYL CHLORIDE	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH306	AZ53167	1	XYLENES, TOTAL	4/4/2017 7:30:00 AM	4/12/2017 4:15:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH307	AZ53168	1	1,1,1,2-TETRACHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,1,1-TRICHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,1,2,2-TETRACHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,1,2-TRICHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,1-DICHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,1-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,1-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,2,3-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,2,3-TRICHLOROPROPANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	1.00	UG_L	U	2.0	1.00	U	
ERH307	AZ53168	1	1,2,4-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,2,4-TRIMETHYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,2-DIBROMO-3-CHLOROPROPANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	1.00	UG_L	U	2.0	1.00	U	
ERH307	AZ53168	1	1,2-DIBROMOETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	1,2-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,2-DICHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,2-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,3,5-TRIMETHYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,3-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,3-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,3-DICHLOROPROPENE, TOTAL	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	1,4-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	2,2-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH307	AZ53168	1	2-BUTANONE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	2.00	UG_L	U	10.0	2.00	U	
ERH307	AZ53168	1	2-CHLOROTOLUENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	2-HEXANONE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	2.00	UG_L	U	10.0	2.00	U	
ERH307	AZ53168	1	4-CHLOROTOLUENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	4-ISOPROPYLTOLUENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	4-METHYL-2-PENTANONE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	ACETONE	4/4/2017 8:50:00 AM	4/15/2017 1:47:00 PM	D	1.8	UG_L	J	10.0	2.00	J	e
ERH307	AZ53168	1	BENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	BROMOBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	BROMOCHLOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	BROMODICHLOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	BROMOFORM	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	BROMOMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	2.0	0.50	U	
ERH307	AZ53168	1	CARBON DISULFIDE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	CARBON TETRACHLORIDE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	CHLOROBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	CHLOROETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	CHLOROFORM	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	CHLOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	CIS-1,2-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	CIS-1,3-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	DIBROMOCHLOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	DIBROMOMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	DICHLORODIFLUOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	ETHYL TERT-BUTYL ETHER	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	ETHYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	HEXACHLOROBUTADIENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH307	AZ53168	1	ISOPROPYL ETHER	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	ISOPROPYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	METHYL TERT-BUTYL ETHER	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.52	UG_L	U	1.0	0.52	U	
ERH307	AZ53168	1	METHYLENE CHLORIDE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	1.00	UG_L	U	5.0	1.00	U	
ERH307	AZ53168	1	M-XYLENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH307	AZ53168	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	N-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	O-XYLENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	PROPYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	SEC-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	STYRENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	T-AMYL METHYL ETHER	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TERT-BUTANOL	4/4/2017 8:50:00 AM	4/15/2017 1:47:00 PM	D	10.00	UG_L	U	10.0	10.00	UJ	r
ERH307	AZ53168	1	TERT-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TETRACHLOROETHENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TOLUENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 8:50:00 AM	4/7/2017 2:45:00 PM	C	18.0	UG_L	U	20	18.0	UJ	q
ERH307	AZ53168	1	TRANS-1,2-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TRANS-1,3-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TRICHLOROETHENE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	TRICHLOROFLUOROMETHANE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	VINYL CHLORIDE	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	1.0	0.30	U	
ERH307	AZ53168	1	XYLENES, TOTAL	4/4/2017 8:50:00 AM	4/12/2017 4:42:00 PM	D	0.30	UG_L	U	2.0	0.30	U	
ERH314	AZ53169	1	1,1,1,2-TETRACHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,1,1-TRICHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,1,2,2-TETRACHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH314	AZ53169	1	1,1,2-TRICHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,1-DICHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,1-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,1-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,2,3-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,2,3-TRICHLOROPROPANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH314	AZ53169	1	1,2,4-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,2,4-TRIMETHYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,2-DIBROMO-3-CHLOROPROPANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH314	AZ53169	1	1,2-DIBROMOETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	1,2-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,2-DICHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,2-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,3,5-TRIMETHYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,3-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,3-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,3-DICHLOROPROPENE, TOTAL	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	1,4-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	2,2-DICHLOROPROPANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	2-BUTANONE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH314	AZ53169	1	2-CHLOROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	2-HEXANONE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH314	AZ53169	1	4-CHLOROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	4-ISOPROPYLTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	4-METHYL-2-PENTANONE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	ACETONE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH314	AZ53169	1	BENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH314	AZ53169	1	BROMOBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	BROMOCHLOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	BROMODICHLOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	BROMOFORM	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	BROMOMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH314	AZ53169	1	CARBON DISULFIDE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	CARBON TETRACHLORIDE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	CHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	CHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	CHLOROFORM	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	CHLOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	CIS-1,2-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	CIS-1,3-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	DIBROMOCHLOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	DIBROMOMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	DICHLORODIFLUOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	ETHYL TERT-BUTYL ETHER	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	ETHYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	HEXACHLOROBUTADIENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	ISOPROPYL ETHER	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	ISOPROPYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	METHYL TERT-BUTYL ETHER	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH314	AZ53169	1	METHYLENE CHLORIDE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH314	AZ53169	1	M-XYLENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH314	AZ53169	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	N-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	O-XYLENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH314	AZ53169	1	PROPYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	SEC-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	STYRENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	T-AMYL METHYL ETHER	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TERT-BUTANOL	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	10.00	UG_L	U	10.0	10.00	UJ	r
ERH314	AZ53169	1	TERT-BUTYLBENZENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TETRACHLOROETHENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TOLUENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 8:50:00 AM	4/7/2017 3:13:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH314	AZ53169	1	TRANS-1,2-DICHLOROETHENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TRANS-1,3-DICHLOROPROPENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TRICHLOROETHENE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	TRICHLOROFLUOROMETHANE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	VINYL CHLORIDE	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH314	AZ53169	1	XYLENES, TOTAL	4/4/2017 8:50:00 AM	4/10/2017 8:12:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH315	AZ53170	1	1,1,1,2-TETRACHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,1,1-TRICHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,1,2,2-TETRACHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,1,2-TRICHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,1-DICHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,1-DICHLOROETHENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,1-DICHLOROPROPENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,2,3-TRICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,2,3-TRICHLOROPROPANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH315	AZ53170	1	1,2,4-TRICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,2,4-TRIMETHYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH315	AZ53170	1	1,2-DIBROMO-3-CHLOROPROPANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	1.00	UG_L	U	2.0	1.00	U	
ERH315	AZ53170	1	1,2-DIBROMOETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	1,2-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,2-DICHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,2-DICHLOROPROPANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,3,5-TRIMETHYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,3-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,3-DICHLOROPROPANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,3-DICHLOROPROPENE, TOTAL	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	1,4-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	2,2-DICHLOROPROPANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	2-BUTANONE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH315	AZ53170	1	2-CHLOROTOLUENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	2-HEXANONE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH315	AZ53170	1	4-CHLOROTOLUENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	4-ISOPROPYLTOLUENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	4-METHYL-2-PENTANONE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	ACETONE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	2.00	UG_L	U	10.0	2.00	U	
ERH315	AZ53170	1	BENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	BROMOBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	BROMOCHLOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	BROMODICHLOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	BROMOFORM	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	BROMOMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	2.0	0.50	U	
ERH315	AZ53170	1	CARBON DISULFIDE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	CARBON TETRACHLORIDE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	CHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	

METHOD: **8260B**

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
ERH315	AZ53170	1	CHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	CHLOROFORM	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	CHLOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	CIS-1,2-DICHLOROETHENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	CIS-1,3-DICHLOROPROPENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	DIBROMOCHLOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	DIBROMOMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	DICHLORODIFLUOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	ETHYL TERT-BUTYL ETHER	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	ETHYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	HEXACHLOROBUTADIENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	ISOPROPYL ETHER	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	ISOPROPYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	METHYL TERT-BUTYL ETHER	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.52	UG_L	U	1.0	0.52	U	
ERH315	AZ53170	1	METHYLENE CHLORIDE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH315	AZ53170	1	M-XYLENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
ERH315	AZ53170	1	NAPHTHALENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	N-BUTYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	O-XYLENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	PROPYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	SEC-BUTYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	STYRENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	T-AMYL METHYL ETHER	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TERT-BUTANOL	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	10.00	UG_L	U	10.0	10.00	UJ	r
ERH315	AZ53170	1	TERT-BUTYLBENZENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TETRACHLOROETHENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TOLUENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8260B**													
ERH315	AZ53170	1	TPH-GASOLINE RANGE C6-C10	4/4/2017 7:45:00 AM	4/7/2017 3:42:00 PM	C	18.0	UG_L	U	20	18.0	U	
ERH315	AZ53170	1	TRANS-1,2-DICHLOROETHENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TRANS-1,3-DICHLOROPROPENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TRICHLOROETHENE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	TRICHLOROFLUOROMETHANE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	VINYL CHLORIDE	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	1.0	0.30	U	
ERH315	AZ53170	1	XYLENES, TOTAL	4/4/2017 7:45:00 AM	4/10/2017 8:40:00 PM	C	0.30	UG_L	U	2.0	0.30	U	
METHOD: **8270D**													
ERH307	AZ53168	1	1,2,4-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	1,2-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	UJ	q
ERH307	AZ53168	1	1,3-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	1,4-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	1,4-DIOXANE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	0.50	UG_L	U	1.0	0.50	U	
ERH307	AZ53168	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 8:50:00 AM	4/13/2017 10:19:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH307	AZ53168	1	2,2'-OXYBIS(1-CHLOROPROPANE)	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2,4,5-TRICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2,4,6-TRICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2,4-DICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2,4-DIMETHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2,4-DINITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	2,4-DINITROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	2,6-DINITROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	2-CHLORONAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2-CHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	2-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH307	AZ53168	1	2-NITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	3- AND 4-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	3,3-DICHLOROBENZIDINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	3-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4,6-DINITRO-2-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	4-BROMOPHENYL-PHENYLETHER	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4-CHLORO-3-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4-CHLOROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4-CHLOROPHENYL-PHENYLETHER	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	4-NITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	ACENAPHTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	ACENAPHTHYLENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZO[A]ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZO[A]PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZO[B]FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZO[G,H,I]PERYLENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZO[K]FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BENZYL ALCOHOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BIS(2-CHLOROETHOXY)METHANE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BIS(2-CHLOROETHYL)ETHER	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	BIS(2-ETHYLHEXYL)PHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	BUTYLBENZYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	CARBAZOLE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	CHRYSENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH307	AZ53168	1	DIBENZOFURAN	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	DIETHYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	DIMETHYL PHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D		UG_L	J	10.0	3.3	UJ	f,e
ERH307	AZ53168	1	DI-N-BUTYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	DI-N-OCTYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	DIPHENYLAMINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	FLUORENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	HEXACHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	HEXACHLOROBUTADIENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	HEXACHLOROCYCLOPENTADIENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	9.00	UG_L	U	10.0	9.00	U	
ERH307	AZ53168	1	HEXACHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	ISOPHORONE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	NITROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	N-NITROSODINPROPYLAMINE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH307	AZ53168	1	PENTACHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	PHENANTHRENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	20.0	5.00	U	
ERH307	AZ53168	1	PHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	4.00	UG_L	U	5.0	4.00	U	
ERH307	AZ53168	1	PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:10:00 PM	D	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	1,2,4-TRICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	1,2-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	1,3-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	1,4-DICHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	1,4-DIOXANE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH314	AZ53169	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 8:50:00 AM	4/13/2017 10:49:00 PM	C	80.0	UG_L	U	100	80.0	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH314	AZ53169	1	2,2'-OXYBIS(1-CHLOROPROPANE)	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2,4,5-TRICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2,4,6-TRICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2,4-DICHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2,4-DIMETHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2,4-DINITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	2,4-DINITROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	2,6-DINITROTOLUENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	2-CHLORONAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2-CHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	2-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	2-NITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	3- AND 4-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	3,3-DICHLOROBENZIDINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	3-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4,6-DINITRO-2-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	4-BROMOPHENYL-PHENYLETHER	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4-CHLORO-3-METHYLPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4-CHLOROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4-CHLOROPHENYL-PHENYLETHER	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4-NITROANILINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	4-NITROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	ACENAPHTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	ACENAPHTHYLENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH314	AZ53169	1	BENZO[A]ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BENZO[A]PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BENZO[B]FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BENZO[G,H,I]PERYLENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BENZO[K]FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BENZYL ALCOHOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BIS(2-CHLOROETHOXY)METHANE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BIS(2-CHLOROETHYL)ETHER	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	BIS(2-ETHYLHEXYL)PHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	BUTYLBENZYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	CARBAZOLE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	CHRYSENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	DIBENZOFURAN	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	DIETHYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	DIMETHYL PHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	3.6	UG_L	J	10.0	5.00	J	
ERH314	AZ53169	1	DI-N-BUTYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	DI-N-OCTYLPHTHALATE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	DIPHENYLAMINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	FLUORANTHENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	FLUORENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	HEXACHLOROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	HEXACHLOROBUTADIENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	HEXACHLOROCYCLOPENTADIENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	9.00	UG_L	U	10.0	9.00	U	
ERH314	AZ53169	1	HEXACHLOROETHANE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	ISOPHORONE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH314	AZ53169	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	NITROBENZENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	N-NITROSODINPROPYLAMINE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH314	AZ53169	1	PENTACHLOROPHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	PHENANTHRENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH314	AZ53169	1	PHENOL	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH314	AZ53169	1	PYRENE	4/4/2017 8:50:00 AM	4/10/2017 6:41:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	1,2,4-TRICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	1,2-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	1,3-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	1,4-DICHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	1,4-DIOXANE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	0.50	UG_L	U	1.0	0.50	U	
ERH315	AZ53170	1	2-(2-METHOXYETHOXY)-ETHANOL	4/4/2017 7:45:00 AM	4/13/2017 11:19:00 PM	C	80.0	UG_L	U	100	80.0	U	
ERH315	AZ53170	1	2,2'-OXYBIS(1-CHLOROPROPANE)	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2,4,5-TRICHLOROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2,4,6-TRICHLOROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2,4-DICHLOROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2,4-DIMETHYLPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2,4-DINITROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	2,4-DINITROTOLUENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	2,6-DINITROTOLUENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	2-CHLORONAPHTHALENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2-CHLOROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2-METHYLNAPHTHALENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2-METHYLPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	2-NITROANILINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	2-NITROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH315	AZ53170	1	3- AND 4-METHYLPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	3,3-DICHLOROBENZIDINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	3-NITROANILINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4,6-DINITRO-2-METHYLPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	4-BROMOPHENYL-PHENYLETHER	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4-CHLORO-3-METHYLPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4-CHLOROANILINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4-CHLOROPHENYL-PHENYLETHER	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4-NITROANILINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	4-NITROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	ACENAPHTHENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	ACENAPHTHYLENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	ANTHRACENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZO[A]ANTHRACENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZO[A]PYRENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZO[B]FLUORANTHENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZO[G,H,I]PERYLENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZO[K]FLUORANTHENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BENZYL ALCOHOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BIS(2-CHLOROETHOXY)METHANE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BIS(2-CHLOROETHYL)ETHER	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	BIS(2-ETHYLHEXYL)PHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	BISPHENOL A	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.5	UG_L	T	0	0	T	
ERH315	AZ53170	1	BUTYLBENZYLPHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	CARBAZOLE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	CHRYSENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D**													
ERH315	AZ53170	1	DIBENZOFURAN	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	DIETHYLPHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	DIMETHYL PHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	3.1	UG_L	J	10.0	5.00	J	
ERH315	AZ53170	1	DI-N-BUTYLPHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	DI-N-OCTYLPHTHALATE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	DIPHENYLAMINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	FLUORANTHENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	FLUORENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	HEXACHLOROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	HEXACHLOROBUTADIENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	HEXACHLOROCYCLOPENTADIENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	9.00	UG_L	U	10.0	9.00	U	
ERH315	AZ53170	1	HEXACHLOROETHANE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	ISOPHORONE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	NAPHTHALENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	NITROBENZENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	N-NITROSODINPROPYLAMINE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
ERH315	AZ53170	1	PENTACHLOROPHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	PHENANTHRENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	20.0	5.00	U	
ERH315	AZ53170	1	PHENOL	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	4.00	UG_L	U	5.0	4.00	U	
ERH315	AZ53170	1	PYRENE	4/4/2017 7:45:00 AM	4/10/2017 7:11:00 PM	C	5.00	UG_L	U	10.0	5.00	U	
METHOD: **8270D_SIM**													
ERH307	AZ53168	1	1-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	2-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	ACENAPHTHENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	ACENAPHTHYLENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH307	AZ53168	1	BENZO[A]ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	BENZO[A]PYRENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	BENZO[B]FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	BENZO[G,H,I]PERYLENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	BENZO[K]FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	CHRYSENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	FLUORENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	PHENANTHRENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH307	AZ53168	1	PYRENE	4/4/2017 8:50:00 AM	4/12/2017 12:54:00 PM	D	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	1-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	2-METHYLNAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	ACENAPHTHENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	ACENAPHTHYLENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	BENZO[A]ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	BENZO[A]PYRENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	BENZO[B]FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	BENZO[G,H,I]PERYLENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	BENZO[K]FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	CHRYSENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	FLUORANTHENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	FLUORENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	

EPA_NO	LAB_ID	DF	ANALYTE	COLL_DATE	ANAL_DATE	QCLev	RESULT	UNITS	LAB_Q	LOQ	LOD	REV	Q_C
METHOD: **8270D_SIM**													
ERH314	AZ53169	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	NAPHTHALENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	PHENANTHRENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH314	AZ53169	1	PYRENE	4/4/2017 8:50:00 AM	4/12/2017 1:27:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	1-METHYLNAPHTHALENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	2-METHYLNAPHTHALENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	ACENAPHTHENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	ACENAPHTHYLENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	ANTHRACENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	BENZO[A]ANTHRACENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	BENZO[A]PYRENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	BENZO[B]FLUORANTHENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	BENZO[G,H,I]PERYLENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	BENZO[K]FLUORANTHENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	CHRYSENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	DIBENZ[A,H]ANTHRACENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	FLUORANTHENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	FLUORENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	INDENO[1,2,3-CD]PYRENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	NAPHTHALENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	PHENANTHRENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
ERH315	AZ53170	1	PYRENE	4/4/2017 7:45:00 AM	4/12/2017 1:59:00 PM	C	0.10	UG_L	U	0.2	0.10	U	
METHOD: **RSK-175**													
ERH306	AZ53167	1	METHANE	4/4/2017 7:30:00 AM	4/8/2017 12:20:00 PM	C	1.00	UG_L	U	5.0	1.00	U	
ERH307	AZ53168	1	METHANE	4/4/2017 8:50:00 AM	4/8/2017 12:24:00 PM	C	1.00	UG_L	U	5.0	1.00	U	

LDC #: 38574

EDD POPULATION COMPLETENESS WORKSHEET

Date: 5/9/17
Page: 1 of 1
2nd Reviewer:

The LDC job number listed above was entered by JE.

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	Y	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	Y	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	Y	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	Y/Y	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	Y	
IIIf.	- Were multiple results reported due to dilutions/reanalysis? If so, were results qualified appropriately?	+	
IIIg.	-Are there any discrepancies between the data packet and the EDD?	N	

Notes: *see discrepancy sheet

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

AECOM
1001 Bishop Street Suite 1600
Honolulu, HI 96813
ATTN: Ms. Margie Thach

May 18, 2017

SUBJECT: **Data Quality Assessment Report**
April 2017
Investigation and Remediation of Releases
and Groundwater Protection and Evaluation
Red Hill Bulk Fuel Storage Facility
Joint Base Pearl Harbor-Hickam
Oahu, Hawaii
CTO 0053

Dear Ms. Thach,

Enclosed is the Data Quality Assessment Report, April 2017, Investigation and Remediation of Releases and Groundwater Protection and Evaluation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Oahu, Hawaii, CTO 0053

We appreciate this opportunity to support AECOM in the performance of this project.

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco
Operations Manager/Senior Chemist

DATA QUALITY ASSESSMENT REPORT

APRIL 2017
INVESTIGATION AND REMEDIATION OF RELEASES AND GROUNDWATER PROTECTION AND EVALUATION

RED HILL BULK FUEL STORAGE FACILITY
JOINT BASE PEARL HARBOR-HICKAM
OAHU, HAWAII

CTO 0053

May 18, 2017

Table of Contents

Section	Title	Page No.
1.0	INTRODUCTION	1
2.0	VOLATILE ORGANIC COMPOUNDS	6
2.1	Precision and Accuracy	6
2.2	Representativeness	7
2.3	Comparability	8
2.4	Completeness	8
2.5	Sensitivity	8
3.0	SEMIVOLATILE ORGANIC COMPOUNDS	8
3.1	Precision and Accuracy	8
3.2	Representativeness	9
3.3	Comparability	9
3.4	Completeness	9
3.5	Sensitivity	9
4.0	PHENOL AND 2-(2-METHOXYETHOXY)-ETHANOL	10
4.1	Precision and Accuracy	10
4.2	Representativeness	11
4.3	Comparability	11
4.4	Completeness	11
4.5	Sensitivity	11
5.0	POLYNUCLEAR AROMATIC HYDROCARBONS	11
5.1	Precision and Accuracy	11
5.2	Representativeness	12
5.3	Comparability	13
5.4	Completeness	13
5.5	Sensitivity	13
6.0	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE	13
6.1	Precision and Accuracy	13
6.2	Representativeness	14
6.3	Comparability	14
6.4	Completeness	14
6.5	Sensitivity	14
7.0	TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES	15
7.1	Precision and Accuracy	15
7.2	Representativeness	15
7.3	Comparability	16
7.4	Completeness	16
7.5	Sensitivity	16

8.0 ETHYLENE DIBROMIDE 16

8.1 Precision and Accuracy 16
8.2 Representativeness 17
8.3 Comparability 17
8.4 Completeness 17
8.5 Sensitivity 18

9.0 METHANE 18

9.1 Precision and Accuracy 18
9.2 Representativeness 18
9.3 Comparability 19
9.4 Completeness 19
9.5 Sensitivity 19

10.0 METALS 19

10.1 Precision and Accuracy 19
10.2 Representativeness 20
10.3 Comparability 21
10.4 Completeness 21
10.5 Sensitivity 21

11.0 WET CHEMISTRY 21

11.1 Precision and Accuracy 21
11.2 Representativeness 22
11.3 Comparability 22
11.4 Completeness 23
11.5 Sensitivity 23

12.0 VARIANCES IN ANALYTICAL PERFORMANCE 23

13.0 SUMMARY OF PARCCS CRITERIA 23

13.1 Precision and Accuracy 23
13.2 Representativeness 23
13.3 Comparability 23
13.4 Completeness 24
13.5 Sensitivity 24

GLOSSARY

ASTM	American Society for Testing and Materials
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes, total
COPC	Compounds of Potential Concern
CTO	Contract Task Order
DCA	1,2-Dichloroethane
DQAR	Data Quality Assessment Report
DOD	Department of Defense
DL	Detection Limit
EB	Equipment Blank
EDB	Ethylene Dibromide
FB	Field Blank
FD	Field Duplicate
LCS	Laboratory Control Sample
LDC	Laboratory Data Consultants, Inc
LOD	Limit of Detection
LOQ	Limit of Quantitation
MEE	2-(2-Methoxyethoxy)-ethanol
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NAVFAC	Naval Facilities Engineering Command
PAH	Polynuclear Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, Sensitivity
PQO	Project Quality Objectives
PT	Proficiency Testing sample
QA/QC	Quality Assurance/Quality Control
QSM	Quality Systems Manual
RPD	Relative Percent Difference
RM	Reference Material
RRF	Relative Response Factor
SDG	Sample Delivery Group
SIM	Selected Ion Monitoring
SVOC	Semivolatile Organic Compounds
TB	Trip Blank
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compounds
%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
mg/L	Milligrams per Liter
ug/L	Micrograms per Liter

1.0 INTRODUCTION

An investigation and remediation of petroleum product releases and protection and evaluation of groundwater were conducted on April 2017 at the Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam in Oahu, Hawaii. This part of the investigation included the collection and analyses of 30 environmental and quality control (QC) samples. The analyses were performed by the following methods:

Volatile Organic Compounds (VOC) by Environmental Protection Agency (EPA) SW-846 Method 8260B
Benzene, Toluene, Ethylbenzene, Xylenes, Total (BTEX) and 1,2-Dichloroethane (1,2-DCA) by EPA SW-846 Method 8260B
Semivolatile Organic Compounds (SVOC) by EPA SW 846 Method 8270D
Phenol by EPA SW-846 Method 8270D
2-(2-Methoxyethoxy)-ethanol (MEE) by EPA SW-846 Method 8270D Modified
Polynuclear Aromatic Hydrocarbons (PAH) by EPA SW-846 Method 8270D-Selected Ion Monitoring (SIM) mode
Total Petroleum Hydrocarbons (TPH) as Gasoline by EPA SW-846 Method 8260B
TPH as Extractables by EPA SW-846 Method 8015B
Ethylene Dibromide (EDB) by EPA SW-846 Method 8011
Methane by Method RSK 175
Metals by EPA SW 846 Method 6010C

Wet Chemistry:
Alkalinity by Standard Method 2320B
Chloride, Nitrate Sulfate, Fluoride, and Bromide (Anions) by EPA Method 300.0
Ferrous Iron by Standard Method 3500 Fe B
Silica and Dissolved Silica by Standard Method 4500-Si D

Analytical services were provided by APPL, Inc. whom performed analyses on the water samples. The samples were grouped into sample delivery groups (SDGs) as received by each laboratory. The environmental samples are associated with quality assurance (QA) and QC samples designed to document the data quality of the entire SDG or a sub-group of samples within a SDG. Table I is a cross-reference table listing each sample, analysis, SDG, collection date, laboratory sample number, matrix, and validation level.

Approximately ten percent of the analytical data were validated according to Naval Facilities Engineering Command (NAVFAC) Pacific Level D data validation procedures and ninety percent of the analytical data were validated according to NAVFAC Pacific Level C data validation procedures. The analytical data were evaluated for QA/QC based on the *NAVFAC Pacific Environmental Restoration (ER) Program Data Validation Procedures (DON 2015)* and the *Department of Defense Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (DoD 2013).*

This data quality assessment report (DQAR) summarizes the QA/QC evaluation of the data according to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) relative to the project quality objectives (PQOs). This report provides a quantitative and qualitative assessment of the data and identifies potential sources of error, uncertainty, and bias that may affect the overall usability.

The DQAR evaluates and summarizes the results of QA/QC data validation for the entire sampling program. Each analytical fraction has a separate section for each of the PARCCS criteria. These sections interpret specific QC deviations and their effects on both individual data points and the analyses as a

whole. Section 13 presents a summary of the PARCCS criteria by comparing quantitative parameters with acceptability criteria defined in the PQOs. Qualitative PARCCS criteria are also summarized in this section.

Precision and Accuracy of Environmental Data

Environmental data quality depends on sample collection procedures, analytical methods and instrumentation, documentation, and sample matrix properties. Both sampling procedures and laboratory analyses contain potential sources of uncertainty, error, and/or bias, which affect the overall quality of a measurement. Errors in sample data may result from incomplete equipment decontamination, inappropriate sampling techniques, sample heterogeneity, improper filtering, and improper preservation. The accuracy of analytical results is dependent on selecting appropriate analytical methods, maintaining equipment properly, and complying with QC requirements. The sample matrix also is an important factor in the ability to obtain precise and accurate results within a given media.

Environmental and laboratory QA/QC samples assess the effects of sampling procedures and evaluate laboratory contamination, laboratory performance, and matrix effects. QA/QC samples include: method blanks, laboratory control samples/ laboratory control sample duplicates (LCS/LCSD), laboratory duplicates (DUP), matrix spike/matrix spike duplicates (MS/MSD), equipment blanks (EB), field blanks (FB), trip blanks (TB) and field duplicates (FD).

Before conducting the PARCCS evaluation, the analytical data were validated according to the NAVFAC procedures and DoD QSM. Samples not meeting the NAVFAC procedures and DoD QSM acceptance criteria were qualified with a flag, an abbreviation indicating a deficiency with the data. The following are flags used in data validation.

J — Estimated The associated numerical value is an estimated quantity. The analyte was detected but the reported value may not be accurate or precise. The "J" qualification indicates the data fell outside the QC limits, but the exceedance was not sufficient to cause rejection of the data.

R — Rejected The data is unusable (the compound or analyte may or may not be present). Use of the "R" qualifier indicates a significant variance from functional guideline acceptance criteria. Either resampling or reanalysis is necessary to determine the presence or absence of the rejected analyte.

U — Nondetected Analyses were performed for the compound or analyte, but it was not detected. The "U" designation is also applied to suspected blank contamination. The "U" flag is used to qualify any result detected in an environmental sample at a concentration less than 5 times the concentration in any associated blank.

UJ — Estimated/Nondetected Analyses were performed for the compound or analyte, but it was not detected and the limit of detection (LOD) is an estimated quantity due to poor accuracy or precision. This qualification is also used to flag possible false negative results in the case where low bias in the analytical system is indicated by low calibration response, surrogate, internal standard, or other spike recovery.

Once the data are reviewed and qualified according to the NAVFAC procedures and DoD QSM, the data set is then evaluated using PARCCS criteria. PARCCS criteria provide an evaluation of overall data usability. The following is a discussion of PARCCS criteria as related to the PQOs.

Precision is a measure of the agreement or reproducibility of analytical results under a given set of conditions. It is a quantity that cannot be measured directly but is calculated from the reported

concentrations. Precision is expressed as the relative percent difference (RPD):

$$RPD = (D1-D2)/\{1/2(D1+D2)\} \times 100$$

Where:
D1 = the reported concentration for primary sample analyses
D2 = the reported concentrations for duplicate analyses

Precision is primarily assessed by calculating a RPD from the reported concentrations of the spiked compounds for each sample in the MS/MSD pair. In the absence of a MS/MSD pair, a laboratory duplicate or LCS/LCSD pair can be analyzed as an alternative means of assessing precision. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. An additional measure of sampling precision may be obtained by collecting and analyzing field duplicate samples, which are compared using the RPD result as the evaluation criteria.

MS and MSD samples are field samples spiked by the laboratory with target analytes prior to preparation and analysis. These samples measure the overall efficiency of the analytical method in recovering target analytes from an environmental matrix. A LCS is similar to a MS/MSD sample in that the LCS is spiked with the same target analytes prior to preparation and analysis. However, the LCS is prepared using a controlled interference-free matrix instead of a field sample aliquot. Laboratory reagent water is used to prepare aqueous LCS. Non-aqueous LCSs are prepared using solid media approved by the American Society for Testing and Materials (ASTM) for their homogeneity. The LCS measures laboratory efficiency in recovering target analytes from either a solid or aqueous matrix in the absence of matrix interferences.

For inorganic analysis, one primary sample is analyzed and accompanied by an unspiked laboratory duplicate. The data reviewer compares the reported results of the primary analysis and the laboratory duplicate and calculates RPDs to assess laboratory precision.

Laboratory and field precision are further evaluated by calculating RPDs for field duplicate pairs. The sampler collects two field samples at the same location and under identically controlled conditions. The laboratory then analyzes the samples under identical conditions.

An RPD outside the numerical QC limit in MS/MSD samples, LCS/LCSDs, or FDs indicates imprecision. Imprecision is the variance in the consistency with which the laboratory arrives at a particular reported result. Thus, the actual analyte concentration may be higher or lower than the reported result.

Possible causes of poor precision include sample matrix interference, improper sample collection or handling, inconsistent sample preparation, and poor instrument stability. In some duplicates, results maybe reported in either the primary or duplicate samples at levels below the limit of quantitation (LOQ) or non-detected. Since these values are considered to be estimates, RPD exceedances from these duplicate sets do not suggest a significant impact on the data quality.

Accuracy is a measure of the agreement of an experimental determination and the true value of the parameter being measured. It is used to identify bias in a given measurement system. Recoveries outside acceptable QC limits may be caused by factors such as instrumentation, analyst error, or matrix interference. Accuracy is assessed through the analysis of MS, MSD, LCS, and samples containing surrogate spikes. In some cases, samples from multiple SDGs were within one QC batch and therefore are associated with the same laboratory QC samples. Surrogate spikes are either isotopically labeled compounds or compounds that are not typically detected in the samples. Surrogate spikes are added to every blank, environmental sample, MS/MSD, LCS/LCSD and standard, for all applicable organic

analyses. Accuracy of inorganic analyses is determined using the percent recoveries of MS and LCS analyses. Percent recovery (%R) is calculated using the following equation:

$\%R = (A–B)/C \times 100$
Where:
A = measured concentration in the spiked sample
B = measured concentration of the spike compound in the unspiked sample
C = concentration of the spike

The percent recovery of each analyte spiked in MS/MSD samples, LCS, and surrogate compounds added to environmental samples is evaluated against the acceptance criteria specified by the previously noted documents. Spike recoveries outside the acceptable QC accuracy limits provide an indication of bias, where the reported data may overestimate or underestimate the actual concentration of compounds detected or LODs reported for environmental samples.

Representativeness is a qualitative parameter that expresses the degree to which the sample data are characteristic of a population and is evaluated by reviewing the QC results of blank samples and holding times. Positive detects of compounds in the blank samples identify compounds that may have been introduced into the samples during sample collection, transport, preparation, or analysis. The QA/QC blanks collected and analyzed are method blanks, ambient blanks, equipment blanks, field blanks, and trip blanks.

A method blank is a laboratory grade water or solid matrix that contains the method reagents and has undergone the same preparation and analysis as the environmental samples. The method blank provides a measure of the combined contamination derived from the laboratory source water, glassware, instruments, reagents, and sample preparation steps. Method blanks are prepared for each sample of a similar matrix extracted by the same method at a similar concentration level.

For inorganic analyses, initial and continuing calibration blanks (ICB/CCB) consist of acidified laboratory grade water, which are injected at the beginning and at a regular frequency during each 12 - hour sample analysis run. These blanks estimate residual contaminants from the previous sample or standards analysis and measure baseline shifts that commonly occur in emission and absorption spectroscopy.

Trip blanks are used to identify possible volatile organic contamination introduced into the sample during transport. A trip blank is a sample volatile organics analysis vial filled in the laboratory with reagent-grade water and preserved to a pH less than 2 with hydrochloric acid. It is transported to the site, stored with the sample containers, and returned unopened to the laboratory for analysis. Trip blanks were collected and analyzed for VOC, TPH as gasoline, EDB, and methane.

Equipment blanks consist of analyte-free water poured over or through the sample collection equipment. The water is collected in a sample container for laboratory analysis. These blanks are collected after the sampling equipment is decontaminated and measure efficiency of the decontamination procedure. Equipment blanks were collected and analyzed for BTEX, phenol, MEE, PAH, and TPH.

Field blanks consist of analyte-free source water stored at the sample collection site. The water is collected from each source water used during each sampling event. Field blanks were collected and analyzed for VOC, SVOC, phenol, MEE, PAH, TPH, EDB, metals, anions, silica, and dissolved silica.

Contaminants found in both the environmental sample and a blank sample are assumed to be laboratory artifacts if the concentration in the environmental sample is less than 5 times the blank value for

contaminants.

Holding times are evaluated to assure that the sample integrity is intact for accurate sample preparation and analysis. Holding times will be specific for each method and matrix analyzed. Holding time exceedances can cause loss of sample constituents due to biodegradation, precipitation, volatilization, and chemical degradation.

Comparability is a qualitative expression of the confidence with which one data set may be compared to another. It provides an assessment of the equivalence of the analytical results to data obtained from other analyses. It is important that data sets be comparable if they are used in conjunction with other data sets. The factors affecting comparability include the following: sample collection and handling techniques, matrix type, and analytical method. If these aspects of sampling and analysis are carried out according to standard analytical procedures, the data are considered comparable. Comparability can only be compared with confidence when precision, accuracy, and representativeness are known.

Completeness is defined as the percentage of acceptable sample results compared to the total number of sample results. Completeness is evaluated to determine if an acceptable amount of usable data were obtained so that a valid scientific site assessment can be completed. Completeness equals the total number of sample results for each fraction minus the total number of rejected sample results divided by the total number of sample results multiplied by 100. As specified in the PQOs, the goal for completeness for target analytes in each analytical fraction is 90 percent.

Percent completeness is calculated using the following equation:

$$\%C = (T - R)/T \times 100$$

Where:
%C = percent completeness
T = total number of sample results
R = total number of rejected sample results

Completeness is also determined by comparing the planned number of samples per method and matrix as specified in the project planning document, with the number determined above.

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. This capability is established during the planning phase to meet the PQOs. It is important that calibration requirements, detection limits (DLs), and project-specific LODs and LOQs presented in the work plan are achieved and that target analytes can be detected at concentrations necessary to support the PQOs. In addition, sample results are compared to method blank and field blank results to identify potential effects of laboratory background and field procedures on sensitivity.

The following sections present a review of QC data for each analytical method. The details regarding the qualification of results are provided in the data validation reports.

2.0 VOLATILE ORGANIC COMPOUNDS

A total of twenty-six water samples were analyzed for BTEX, three water samples were analyzed for 1,2-DCA, and four water samples were analyzed for VOC by EPA SW-846 Method 8260B. All VOC data were assessed to be valid since none of the 395 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

2.1 Precision and Accuracy

2.1.1 Instrument Calibration

Initial and continuing calibration results provide a means of evaluating accuracy within a particular SDG. Relative response factor (RRF), percent relative standard deviation (%RSD), and percent difference (%D) are the three major parameters used to measure the effectiveness of instrument calibration. RRF is a measure of the relative spectral response of an analyte compared to its internal standard. %RSD is an expression of the linearity of instrument response. %D is a comparison of a continuing calibration instrumental response with its initial response. %RSD and %D exceedances suggest routine instrumental anomalies, which typically impact all sample results for the affected compounds.

Due to RRFs outside the acceptance criteria of ≥ 0.05 in the initial and continuing calibrations, the results for tert-butyl alcohol were qualified as non-detected estimated (UJ) in samples ERH306, ERH314, ERH315, and ERH307.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

2.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

2.1.3 MS/MSD Samples

All MS/MSD %Rs were within the acceptance criteria.

Due to MS/MSD RPD outside the acceptance criteria, the acetone result in sample ERH307 was qualified as detected estimated (J).

2.1.4 LCS Samples

No data were qualified due to a high LCS %R since the associated VOC result was not detected.

2.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

2.1.6 Field Duplicate Samples

No BTEX and 1,2-DCA were detected in the field duplicate samples ERH292 and ERH293. Acetone RPD was outside acceptance criteria for field duplicate samples ERH297 and ERH298. Sample data were not qualified on the basis of field duplicate imprecision.

2.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

2.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

2.2 Representativeness

2.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

2.2.2 Blanks

Method blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness. The concentration for an individual target compound in any of the types of QA/QC blanks was used for data qualification.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation. The corrective action consisted of amending the laboratory reported results based on the following criteria.

> Results Below or Above the LOQ If a sample result for the blank contaminant was less than the LOQ or greater than the sample LOQ and less than 5 times the blank value for contaminants, the sample result for the blank contaminant was amended as a non-detect at the concentration reported in the sample results.
>
> No Action If a sample result for the blank contaminant was greater than 5 times the blank value for contaminants, the result was not amended.

2.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

2.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

2.2.2.3 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

2.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

2.4 Completeness

The completeness level attained for VOC field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

2.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

3.0 SEMIVOLATILE ORGANIC COMPOUNDS

A total of three water samples were analyzed for SVOCs by EPA SW-846 Method 8270D. All SVOC data were assessed to be valid since none of the 199 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

3.1 Precision and Accuracy

3.1.1 Instrument Calibration

The RRFs met the acceptance criteria of ≥ 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

3.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

3.1.3 MS/MSD Samples

Due to a low MSD %R, the 1,2-dichlorobenzene result for sample ERH307 was qualified as nondetected estimated (UJ).

Due to a high MS/MSD RPD, the dimethylphthalate result for sample ERH307 was qualified qualified as detected estimated (J).

3.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

3.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

3.1.6 Field Duplicate Samples

Dimethylphthalate RPD was outside acceptance criteria for field duplicate samples ERH307 and ERH314. Sample data were not qualified on the basis of field duplicate imprecision.

3.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

3.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

3.2 Representativeness

3.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

3.2.2 Blanks

Method blanks and field blanks were collected and analyzed to evaluate representativeness.

3.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

3.2.2.2 Field Blanks

The dimethylphthalate result in sample ERH307 was qualified as nondetected (U) due to contamination in the field blank.

3.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

3.4 Completeness

The completeness level attained for phenol and MEE field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

3.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable.

All laboratory DLs and LOQs met the specified requirements described in the work plan.

4.0 PHENOL AND 2-(2-METHOXYETHOXY)-ETHANOL

A total of fifteen water samples were analyzed for phenol by EPA SW-846 Method 8270D and eighteen water samples were analyzed for MEE by EPA SW-846 Method 8270D modified. All phenol and MEE data were assessed to be valid since none of the 33 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

4.1 Precision and Accuracy

4.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

4.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

4.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

4.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

4.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

4.1.6 Field Duplicate Samples

No phenol and MEE were detected in the field duplicate samples ERH292 and ERH293, samples ERH297 and ERH298, and samples ERH307 and ERH314.

4.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

4.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

4.2 Representativeness

4.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

4.2.2 Blanks

Method blanks, equipment blanks and field blanks were collected and analyzed to evaluate representativeness.

4.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

4.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

4.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

4.4 Completeness

The completeness level attained for phenol and MEE field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

4.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

5.0 POLYNUCLEAR AROMATIC HYDROCARBONS

A total of fifteen water samples were analyzed for 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene and three water samples were analyzed for several PAHs by EPA SW-846 Method 8270D-SIM. All PAH data were assessed to be valid since none of the 99 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

5.1 Precision and Accuracy

5.1.1 Instrument Calibration

The RRFs met the acceptance criteria of 0.05 in the initial and continuing calibrations.

The %RSDs met the acceptance criteria of 15 percent in the initial calibration. The %Ds in the continuing

calibration verifications and closing continuing calibration verifications met the acceptance criteria of 20 and 50 percent, respectively.

The %Ds in the initial calibration verification were within the acceptance criteria of 20 percent.

5.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

5.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

5.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

5.1.5 Internal Standards

All internal standard areas and retention times were within the acceptance criteria.

5.1.6 Field Duplicate Samples

No PAH were detected in the field duplicate samples ERH292 and ERH293, samples ERH297 and ERH298, and samples ERH307 and ERH314.

5.1.7 Proficiency Testing Samples

Proficiency testing (PT) samples were not performed for the sampling event.

5.1.8 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

5.2 Representativeness

5.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

5.2.2 Blanks

Method blanks, equipment blanks, and field blanks were collected and analyzed to evaluate representativeness.

5.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

5.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

5.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

5.4 Completeness

The completeness level attained for PAH field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

5.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

6.0 TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

A total of 30 water samples were analyzed for TPH as gasoline by EPA SW-846 Method 8260B. All TPH as gasoline data were assessed to be valid since none of the 30 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

6.1 Precision and Accuracy

6.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

6.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

6.1.3 MS/MSD Samples

Due to low MS/MSD %Rs, the TPH as gasoline result in sample ERH307 was qualified as nondetected estimated (UJ).

All MS/MSD RPDs were within the acceptance criteria.

6.1.4 LCS

All LCS %Rs were within the acceptance criteria.

6.1.5 Field Duplicate Samples

No TPH as gasoline was detected in the field duplicate samples ERH292 and ERH293, samples ERH297 and ERH298, and samples ERH307 and ERH314.

6.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

6.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

6.2 Representativeness

6.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

6.2.2 Blanks

Method blanks, equipment blanks, field blanks and trip blanks were collected and analyzed to evaluate representativeness.

6.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

6.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

6.2.2.3 Equipment and Field Blanks

No contaminants were detected in the equipment, and field blanks for this analysis.

6.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

6.4 Completeness

The completeness level attained for TPH as gasoline field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

6.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable.

All laboratory DLs and LOQs met the specified requirements described in the work plan.

7.0 TOTAL PETROLEUM HYDROCARBONS AS EXTRACTABLES

A total of eighteen water samples were analyzed for diesel and oil by EPA SW-846 Method 8015B. All TPH as extractable data were assessed to be valid since none of the 36 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

7.1 Precision and Accuracy

7.1.1 Instrument Calibration

The %RSDs met the acceptance criteria of 20 percent in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

7.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

7.1.3 MS/MSD Samples

No data were qualified due to high MS/MSD %Rs since the associated oil (C24-C40) result was not detected.

All MS/MSD RPDs were within the acceptance criteria.

7.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

7.1.5 Field Duplicate Samples

No TPH as extractables were detected in the field duplicate samples ERH292 and ERH293, samples ERH297 and ERH298, and samples ERH307 and ERH314.

7.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

7.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable

7.2 Representativeness

7.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

7.2.2 Blanks

Method blanks, equipment blanks, and field blanks were collected and analyzed to evaluate representativeness.

7.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

7.2.2.2 Equipment and Field Blanks

No contaminants were detected in the equipment and field blanks for this analysis.

7.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

7.4 Completeness

The completeness level attained for TPH as extractable field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

7.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

8.0 ETHYLENE DIBROMIDE

A total of seven water samples were analyzed for EDB by EPA SW-846 Method 8011. All EDB data were assessed to be valid since none of the seven total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

8.1 Precision and Accuracy

8.1.1 Instrument Calibration

The %RSDs in the initial calibration and the %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

8.1.2 Surrogates

All surrogate %Rs were within the acceptance criteria.

8.1.3 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

8.1.4 LCS Samples

All LCS %Rs were within the acceptance criteria.

8.1.5 Field Duplicate Samples

No EDB was detected in the field duplicate samples ERH297 and ERH298 and samples ERH307 and ERH314.

8.1.6 Proficiency Testing Samples

PT samples were not performed for the sampling event.

8.1.7 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

8.2 Representativeness

8.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

8.2.2 Blanks

Method blanks, trip blanks, and field blanks were collected and analyzed to evaluate representativeness.

8.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

8.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

8.2.2.2 Field Blanks

No contaminants were detected in the field blanks for this analysis.

8.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

8.4 Completeness

The completeness level attained for EDB field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

8.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

9.0 METHANE

A total of 22 water samples were analyzed for methane by EPA Method RSK 175. All methane data were assessed to be valid since none of the 22 total results were rejected based on holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

9.1 Precision and Accuracy

9.1.1 Instrument Calibration

The coefficient of determination (r^2) was $\geq$ 0.990 in the initial calibration. The %Ds in the initial and continuing calibration verifications met the acceptance criteria of 20 percent.

9.1.2 MS/MSD Samples

No data were qualified due to high MS/MSD %Rs since the associated methane results were not detected.

All MS/MSD RPDs were within the acceptance criteria.

9.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

9.1.4 Field Duplicate Samples

Field duplicates were not collected for this analysis.

9.1.5 Proficiency Testing Samples

PT samples were not performed for the sampling event.

9.1.6 Compound Quantitation and Target Identification

All compound quantitation and target compound identification were found to be acceptable.

9.2 Representativeness

9.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

9.2.2 Blanks

Method blanks and trip blanks were collected and analyzed to evaluate representativeness.

9.2.2.1 Method Blanks

No contaminants were detected in the method blanks for this analysis.

9.2.2.2 Trip Blanks

No contaminants were detected in the trip blanks for this analysis.

9.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. The comparability of the data is regarded as acceptable.

9.4 Completeness

The completeness level attained for methane field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

9.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

10.0 METALS

A total of 3 water samples were analyzed for total calcium, iron, lead, magnesium, manganese, potassium, and sodium and dissolved lead by EPA SW-846 Methods 6010C. All metals data were assessed to be valid since none of the 24 total results were rejected due to holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCC criteria and evaluated based on the PQOs.

10.1 Precision and Accuracy

10.1.1 Instrument Calibration

Initial and continuing calibration verification results provide a means of evaluating accuracy within a particular SDG. Correlation coefficient (r) and percent recovery (%R) are the two major parameters used to measure the effectiveness of instrument calibration. The correlation coefficient indicates the linearity of the calibration curve. %R is used to verify the ongoing calibration acceptability of the analytical system. The most critical of the two calibration parameters, r, has the potential to affect data accuracy across a SDG when it is outside the acceptable QC limits. %R exceedances suggest more routine instrumental anomalies, which typically impact all sample results for the affected analytes.

The correlation coefficients in the initial calibrations were within the acceptance criteria of ≥ 0.995. The %Rs in the continuing calibration verifications met the method acceptance criteria of 90-110 percent.

10.1.2 MS/MSD Samples

All MS/MSD %Rs and RPDs were within the acceptance criteria.

10.1.3 ICP Serial Dilution

All ICP serial dilution %Ds were within the acceptance criteria.

10.1.4 LCS/LCSD Samples

All LCS/LCSD %Rs and RPDs were within the acceptance criteria.

10.1.5 ICP Interference Check Sample

All ICP interference check %Rs were within the acceptance criteria.

10.1.6 Field Duplicate Samples

No dissolved lead was detected in the field duplicate samples ERH307 and ERH314. The RPDs for total metals were within the acceptance criteria for field duplicate samples ERH307 and ERH314.

10.1.7 Proficiency Testing Samples

PT samples were not performed for the sampling event.

10.1.8 Sample Result Verification

All sample results were found to be acceptable.

10.2 Representativeness

10.2.1 Holding Times

The evaluation of holding times to verify compliance with the method was conducted. All holding times were met.

10.2.2 Blanks

Method blanks, calibration blanks, and field blanks were analyzed to evaluate representativeness. The concentration for an individual target analyte in any of the QA/QC blanks was used for data qualification.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation. The corrective action consisted of amending the laboratory reported results based on the following criteria.

> Results Below or Above the LOQ If a sample result for the blank contaminant was less than the LOQ or greater than the sample LOQ and less 5 times the method blank value or the highest applicable calibration blank value, the sample result for the blank contaminant was amended as a non-detect at the concentration reported in the sample results.
>
> No Action If a sample result for the blank contaminant was greater than 5 times the method blank value or the highest applicable calibration blank value, the result was not amended.

10.2.2.1 Method and Calibration Blanks

No data were qualified as a result of calcium and magnesium contamination in the method blank. No contaminants were detected in the calibration blanks for this analysis.

10.2.2.2 Field Blanks

No data were qualified as a result of calcium, magnesium, and sodium contamination in the field blank for this analysis.

10.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target compounds detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

10.4 Completeness

The completeness level attained for metal field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

10.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the QAPP.

11.0 WET CHEMISTRY

A total of 11 water samples were analyzed for alkalinity by Standard Method 2320B, 13 water samples were analyzed for anions by EPA Method 300.0, 11 water samples were analyzed for ferrous iron by Standard Method 3500 Fe B, and 3 water samples were analyzed for silica and dissolved silica by Standard Method 4500-Si D. All wet chemistry data were assessed to be valid since none of the 95 total results were rejected due to holding time or QC exceedances. This section discusses the QA/QC supporting documentation as defined by the PARCCS criteria and evaluated based on the PQOs.

11.1 Precision and Accuracy

11.1.1 Instrument Calibration

The correlation coefficients in the initial calibrations and percent recoveries in the initial and continuing calibration verifications were within the acceptance criteria of $\geq$ 0.995 and 90-110 percent, respectively.

11.1.2 MS/MSD Samples

Due to high MS/MSD %Rs, the chloride and fluoride results in sample ERH307 were qualified as detected estimated (J).

Due to low MSD %R, the dissolved silica result in sample ERH307 was qualified as detected estimated (J).

All MS/MSD RPDs were within the acceptance criteria.

11.1.3 LCS Samples

All LCS %Rs were within the acceptance criteria.

11.1.4 Field Duplicate Samples

The RPDs for anions, silica, and dissolved silica were within the acceptance criteria for field duplicate samples ERH307 and ERH314.

11.1.5 Proficiency Testing Samples

PT samples were not performed for the sampling event.

11.1.6 Sample Result Verification

All sample results were found to be acceptable.

11.2 Representativeness

11.2.1 Holding Times

The evaluation of holding times to verify compliance with all wet chemistry methods was conducted. All water samples met the 28-day analysis holding time criteria for bromide, chloride, fluoride and sulfate, the 14-day analysis holding time criteria for alkalinity, and the 7-day analysis holding time criteria for ferrous iron.

Due to holding time exceedance, the nitrate results for samples ERH321 and ERH303 were qualified as detected estimated (J). The analysis holding time criteria is 48 hours.

11.2.2 Blanks

Method blanks and field blanks were analyzed to evaluate representativeness.

11.2.2.1 Method Blanks

No data were qualified due to low level alkalinity and chloride in method blanks.

11.2.2.1 Field Blanks

No data were qualified due to detected chloride in field blanks.

11.3 Comparability

The laboratory used standard analytical methods for all of the analyses. In all cases, the DLs and LODs attained were below the specified LOQs. Target analytes detected below the LOQs flagged (J) by the laboratory should be considered estimated. The comparability of the data is regarded as acceptable.

11.4 Completeness

The completeness level attained for wet chemistry field samples was 100 percent. This percentage was calculated as the total number of accepted sample results divided by the total number of sample results multiplied by 100.

11.5 Sensitivity

The calibration was evaluated for instrument sensitivity and was determined to be technically acceptable. All laboratory DLs and LOQs met the specified requirements described in the work plan.

12.0 VARIANCES IN ANALYTICAL PERFORMANCE

The laboratory used standard analytical methods for all of the analyses throughout the project. No systematic variances in analytical performance were noted in the case narratives.

13.0 SUMMARY OF PARCCS CRITERIA

The validation reports present the PARCCS results for all SDGs. Each PARCCS criterion is discussed in detail in the following sections.

13.1 Precision and Accuracy

Bias cannot be determined for associated VOC results when initial and continuing calibration verification RRFs are outside of the acceptance criteria.

Bias cannot be determined for associated SVOC results when MS/MSD RPDs are outside of the acceptance criteria.

High MS/MSD %Rs indicates that the associated chloride and fluoride results may be biased high for the associated samples.

Low MS/MSD %Rs indicates that the associated SVOC, TPH as gasoline, and dissolved silica results may be bias low for the associated samples.

Precision and accuracy were evaluated using data quality indicators such as calibration, surrogates, MS/MSD, LCS, FD, and internal standards. The precision and accuracy of the data set were considered acceptable after integration of qualification of estimated results as noted above.

13.2 Representativeness

All samples for each method and matrix were evaluated for holding time compliance. All holding times were met with the exception noted in Section 11.2.1. All samples were associated with a method blank in each individual SDG. The representativeness of the project data is considered acceptable after qualification for holding time.

13.3 Comparability

Sampling frequency requirements were met in obtaining field duplicates and necessary field blanks. The laboratory used standard analytical methods for their analyses. The analytical results were reported in correct standard units. The overall comparability is considered acceptable.

13.4 Completeness

Of the 940 total results reported, none of the results were rejected. The completeness for all SDGs is as follows:

Parameter	Total Analytes	No. of Rejects	% Completeness
VOC	395	0	100
SVOC	199	0	100
Phenol	15	0	100
MEE	18	0	100
PAH	99	0	100
TPHG	30	0	100
TPHE	36	0	100
EDB	7	0	100
Methane	22	0	100
Metals	24	0	100
Wet chemistry	95	0	100
Total	**940**	**0**	**100**

The completeness percentage based on rejected data met the 90 percent PQO goal.

13.5 Sensitivity

Sensitivity was achieved by the laboratory to support the PQOs. Calibration concentrations, DLs, LODs and LOQs met the project requirements and low level contamination in the method, equipment and field blanks did not affect sensitivity.

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	VOC (8260C)	SVOC (8270D)	BTEX (8260B)	1,2-DCA (8260B)	Phenol (8270D)	MEE (8270D Mod)	PAH (3) (8270D-SIM)
82577	ERH290	AZ53058	Water	TB	4/3/2017	Level C			X				
82577	ERH292	AZ53059	Water	FD1	4/3/2017	Level C			X		X	X	X
82577	ERH293	AZ53060	Water	FD1	4/3/2017	Level C			X		X	X	X
82577	ERH294	AZ53061	Water	TB	4/3/2017	Level C			X				
82577	ERH295	AZ53062	Water		4/3/2017	Level C			X		X	X	X
82577	ERH287	AZ53063	Water	TB	4/3/2017	Level C			X				
82577	ERH288	AZ53064	Water	EB	4/3/2017	Level C			X		X	X	X
82577	ERH316	AZ53065	Water	EB	4/3/2017	Level C			X		X	X	X
82596	ERH299	AZ53171	Water	TB	4/4/2017	Level C			X				
82596	ERH300	AZ53172	Water		4/4/2017	Level D			X		X	X	X
82596	ERH308	AZ53173	Water	TB	4/3/2017	Level C			X				
82596	ERH310	AZ53174	Water		4/3/2017	Level D			X		X	X	X
82596	ERH311	AZ53175	Water	TB	4/3/2017	Level C			X				
82596	ERH313	AZ53176	Water		4/3/2017	Level C					X	X	X
82596	ERH313	AZ53176	Water		4/3/2017	Level D			X				
82596	ERH318	AZ53177	Water	TB	4/3/2017	Level C			X				
82596	ERH319	AZ53178	Water		4/3/2017	Level C			X		X	X	X
82596	ERH304	AZ53179	Water	TB	4/3/2017	Level C			X				
82596	ERH305	AZ53180	Water		4/3/2017	Level C			X		X	X	X
82611	ERH296	AZ53259	Water	TB	4/4/2017	Level C			X	X			
82611	ERH297	AZ53260	Water	FD2	4/4/2017	Level C			X	X	X	X	X
82611	ERH298	AZ53261	Water	FD2	4/4/2017	Level C			X	X	X	X	X
82611	ERH320	AZ53262	Water	TB	4/4/2017	Level C			X				
82611	ERH321	AZ53263	Water		4/4/2017	Level C			X		X	X	X
82611	ERH289	AZ53264	Water	FB	4/4/2017	Level C			X		X	X	X
82611	ERH301	AZ53265	Water	TB	4/4/2017	Level C			X				
82611	ERH303	AZ53266	Water		4/4/2017	Level C			X		X	X	X
82619	ERH306	AZ53167	Water	TB	4/4/2017	Level C	X						
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level C						X	
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level D	X	X					
82619	ERH314	AZ53169	Water	FD3	4/4/2017	Level C	X	X				X	
82619	ERH315	AZ53170	Water	FB	4/4/2017	Level C	X	X				X	

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	PAH (8270D-SIM)	TPHG (8260B)	TPHE (8015B)	EDB (8011)	Methane (RSK175)	Metals (6010C)	Diss. Lead (6010C)
82577	ERH290	AZ53058	Water	TB	4/3/2017	Level C		X			X		
82577	ERH292	AZ53059	Water	FD1	4/3/2017	Level C		X	X		X		
82577	ERH293	AZ53060	Water	FD1	4/3/2017	Level C		X	X				
82577	ERH294	AZ53061	Water	TB	4/3/2017	Level C		X			X		
82577	ERH295	AZ53062	Water		4/3/2017	Level C		X	X		X		
82577	ERH287	AZ53063	Water	TB	4/3/2017	Level C		X					
82577	ERH288	AZ53064	Water	EB	4/3/2017	Level C		X	X				
82577	ERH316	AZ53065	Water	EB	4/3/2017	Level C		X	X				
82596	ERH299	AZ53171	Water	TB	4/4/2017	Level C		X			X		
82596	ERH300	AZ53172	Water		4/4/2017	Level D		X	X		X		
82596	ERH308	AZ53173	Water	TB	4/3/2017	Level C		X			X		
82596	ERH310	AZ53174	Water		4/3/2017	Level D		X	X		X		
82596	ERH311	AZ53175	Water	TB	4/3/2017	Level C		X			X		
82596	ERH313	AZ53176	Water		4/3/2017	Level C							
82596	ERH313	AZ53176	Water		4/3/2017	Level D		X	X		X		
82596	ERH318	AZ53177	Water	TB	4/3/2017	Level C		X			X		
82596	ERH319	AZ53178	Water		4/3/2017	Level C		X	X		X		
82596	ERH304	AZ53179	Water	TB	4/3/2017	Level C		X			X		
82596	ERH305	AZ53180	Water		4/3/2017	Level C		X	X		X		
82611	ERH296	AZ53259	Water	TB	4/4/2017	Level C		X		X	X		
82611	ERH297	AZ53260	Water	FD2	4/4/2017	Level C		X	X	X	X		
82611	ERH298	AZ53261	Water	FD2	4/4/2017	Level C		X	X	X			
82611	ERH320	AZ53262	Water	TB	4/4/2017	Level C		X			X		
82611	ERH321	AZ53263	Water		4/4/2017	Level C		X	X		X		
82611	ERH289	AZ53264	Water	FB	4/4/2017	Level C		X	X				
82611	ERH301	AZ53265	Water	TB	4/4/2017	Level C		X			X		
82611	ERH303	AZ53266	Water		4/4/2017	Level C		X	X		X		
82619	ERH306	AZ53167	Water	TB	4/4/2017	Level C		X		X	X		
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level C		X	X		X		
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level D	X			X		X	X
82619	ERH314	AZ53169	Water	FD3	4/4/2017	Level C	X	X	X	X		X	X
82619	ERH315	AZ53170	Water	FB	4/4/2017	Level C	X	X	X	X		X	X

Table I. Validation Sample Table

SDG	Client Sample ID	Lab Sample ID	Matrix	QC Type	Sample Date	Validation Level	Alkalinity (2320B)	Anions (300.0)	Fe II (3500 FeB)	Silica/Diss. Silica (4500-Si D)
82577	ERH290	AZ53058	Water	TB	4/3/2017	Level C				
82577	ERH292	AZ53059	Water	FD1	4/3/2017	Level C	X	X	X	
82577	ERH293	AZ53060	Water	FD1	4/3/2017	Level C				
82577	ERH294	AZ53061	Water	TB	4/3/2017	Level C				
82577	ERH295	AZ53062	Water		4/3/2017	Level C	X	X	X	
82577	ERH287	AZ53063	Water	TB	4/3/2017	Level C				
82577	ERH288	AZ53064	Water	EB	4/3/2017	Level C				
82577	ERH316	AZ53065	Water	EB	4/3/2017	Level C				
82596	ERH299	AZ53171	Water	TB	4/4/2017	Level C				
82596	ERH300	AZ53172	Water		4/4/2017	Level D	X	X	X	
82596	ERH308	AZ53173	Water	TB	4/3/2017	Level C				
82596	ERH310	AZ53174	Water		4/3/2017	Level D	X	X	X	
82596	ERH311	AZ53175	Water	TB	4/3/2017	Level C				
82596	ERH313	AZ53176	Water		4/3/2017	Level C				
82596	ERH313	AZ53176	Water		4/3/2017	Level D	X	X	X	
82596	ERH318	AZ53177	Water	TB	4/3/2017	Level C				
82596	ERH319	AZ53178	Water		4/3/2017	Level C	X	X	X	
82596	ERH304	AZ53179	Water	TB	4/3/2017	Level C				
82596	ERH305	AZ53180	Water		4/3/2017	Level C	X	X	X	
82611	ERH296	AZ53259	Water	TB	4/4/2017	Level C				
82611	ERH297	AZ53260	Water	FD2	4/4/2017	Level C	X	X	X	
82611	ERH298	AZ53261	Water	FD2	4/4/2017	Level C				
82611	ERH320	AZ53262	Water	TB	4/4/2017	Level C				
82611	ERH321	AZ53263	Water		4/4/2017	Level C	X	X	X	
82611	ERH289	AZ53264	Water	FB	4/4/2017	Level C				
82611	ERH301	AZ53265	Water	TB	4/4/2017	Level C				
82611	ERH303	AZ53266	Water		4/4/2017	Level C	X	X	X	
82619	ERH306	AZ53167	Water	TB	4/4/2017	Level C				
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level C	X	X	X	
82619	ERH307	AZ53168	Water	FD3	4/4/2017	Level D				X
82619	ERH314	AZ53169	Water	FD3	4/4/2017	Level C		X		X
82619	ERH315	AZ53170	Water	FB	4/4/2017	Level C		X		X

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Appendix C.4:
Fact Sheet – Detection and Quantitation

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Fact Sheet: Detection and Quantitation — What Project Managers and Data Users Need to Know

As a Project Manager or decision-maker, you may use environmental data to accomplish one or more of the following tasks:

- Determine whether a chemical substance is present in an environmental sample at or above some threshold value or action level;
- Verify that a pollutant concentration remains below a permit limit;
- Evaluate potential risks to human health or the environment;
- Monitor changes in concentrations of contaminants; or
- Determine the effectiveness of remediation activities.

Making correct decisions in these cases often depends on the ability of an analytical method to detect and measure extremely low concentrations of a substance.

This fact sheet has been prepared to: 1) provide Project Managers and data users with basic information about detection and quantitation concepts; and 2) acquaint the reader with detection and quantitation terminology and requirements contained in the *DoD Quality Systems Manual for Environmental Laboratories (DoD QSM)*, Version 4.1. This information should help clarify the uncertainty associated with reporting low-concentration data. It should also help project teams understand the importance of selecting analytical methods that are sensitive enough for their intended uses, i.e., capable of generating reliable data (data of known precision and bias) at the project-specific decision levels.

Measures of Sensitivity — Basic Concepts

The following terms are used to describe the routine sensitivity of analytical procedures:

- DL – Detection Limit
- LOD – Limit of Detection
- LOQ – Limit of Quantitation

All measures of sensitivity are specific to the analyte, sample matrix, test method, instrumentation, and analyst/laboratory performance. Therefore, analytical performance must be demonstrated for each variable (e.g., it is possible that two "identical" instruments from the same manufacturer may exhibit different sensitivities).

The Detection Limit (DL) is the smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence. In other words, if a substance is detected at or above the DL, it can be reliably stated (with 99% confidence) that the analyte is present (there is a 1% chance that the analyte is not present (a false positive)). Note that for reporting purposes, any result at or above the DL must also meet qualitative identification criteria required by the test method. Although a result at or above the DL indicates that the analyte is present, the absence of a result at or above the DL is inconclusive (i.e., one cannot confidently state whether the analyte is present or absent), because the false negative rate at the DL is 50%.

The Limit of Detection (LOD) is the smallest amount or concentration of a substance that must be present in a sample in order to be detected at a 99% confidence level. In other words, if a sample has a true concentration at the LOD, there is a minimum probability of 99% of reporting a "detection" (a measured value $\geq$ DL) and a 1% chance of reporting a non-detect (a false negative).

The failure to obtain a "detection" should be reported as "<LOD," because the false negative rate at the LOD is 1%. Reporting the sample result as "<DL" is inappropriate because, as stated above, the false negative rate at the DL is 50%.

The Limit of Quantitation (LOQ) is the lowest concentration of a substance that produces a quantitative result within specified limits of precision and bias. The LOQ is typically larger than the LOD (but may be equal to the LOD, depending upon the acceptance limits for precision and bias); therefore, the following is true:

$$DL < LOD \leq LOQ$$

Quantitative results can only be achieved at or above the LOQ. Measurements between the DL and the LOQ assure the *presence* of the analyte with confidence, but their numeric values are estimates.

Types of Procedures for Estimating Sensitivity

Numerical estimates of the DL, LOD, or LOQ for a specific analyte, matrix, and method can be calculated using various statistical procedures, which involve spiking reagent water or other specific matrix with low concentrations of the analyte of interest. At this time, unfortunately, universally accepted statistical procedures do not exist.

The estimator that has been most commonly used by environmental laboratories is the EPA Method Detection Limit (MDL), which is an approximation of the DL. EPA has defined the MDL as the "minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, and is determined from analysis of a sample in a given matrix containing the analyte."[1] Calculating the MDL at 99% confidence means there is a 1% probability that a sample having a result at or above the MDL is a false positive. The EPA MDL was designed to protect against false positives.

Uses and Limitations of the MDL

When performed correctly and consistently, MDLs determined using the EPA procedure can be useful for comparing different laboratories' performance using the same methods, or the performance of different methods within the same laboratory. Laboratories typically determine the MDL in reagent water, resulting in a "best-case" MDL, which provides limited information about method performance on real-world samples.

The EPA MDL procedure has been criticized as a poor estimator of the DL for the following reasons:

1. It is a single laboratory, short-term estimator that fails to account for analytical bias, changing instrument conditions, or analyst skill.
2. It assumes uniform variance across all possible spike concentrations, failing to account for the fact that variance increases at higher concentrations.
3. It assumes that measured values at the spike concentration are normally distributed. By using this procedure and spiking at very low concentrations, laboratories have been able to calculate MDLs that cannot be achieved in practice.

DoD QSM Requirements

For the reasons discussed in the previous paragraph, the DoD QSM requires that laboratories verify measures of method sensitivity, in terms of the LOD and LOQ, at least quarterly. Requirements for the LOD and the LOQ are contained in DoD QSM Boxes D-13 and D-14, respectively, which follow:

[1] 40 Code of Federal Regulations (CFR) Part 136, Appendix B, rev. 1.11.

Box D-13

Limit of Detection (LOD): Determination and Verification (Requirement)

A laboratory shall establish a detection limit (DL) using a scientifically valid and documented procedure for each suite of analyte-matrix-method, including surrogates. The detection limit shall be used to determine the LOD for each analyte and matrix as well as for all preparatory and cleanup methods routinely used on samples, as follows:

After each detection limit determination, the laboratory must immediately establish the LOD by spiking a quality system matrix at approximately two to three times the detection limit (for a single-analyte standard) or one to four times the detection limit (for a multi-analyte standard). This spike concentration establishes the LOD. It is specific to each combination of analyte, matrix, method (including sample preparation), and instrument configuration. The LOD must be verified quarterly. The following requirements apply to the initial detection limit/LOD determinations and to the quarterly LOD verifications.

- The apparent signal to noise ratio at the LOD must be at least three and the results must meet all method requirements for analyte identification (e.g., ion abundance, second-column confirmation, or pattern recognition.) For data systems that do not provide a measure of noise, the signal produced by the verification sample must produce a result that is at least three standard deviations greater than the mean method blank concentrations.
- If a laboratory uses multiple instruments for a given method the LOD must be verified on each.
- If the LOD verification fails, then the laboratory must repeat the detection limit determination and LOD verification at a higher concentration or perform and pass two consecutive LOD verifications at a higher concentration and set the LOD at the higher concentration.
- The laboratory shall maintain documentation for all detection limit determinations and LOD verifications.

Box D-14

Limit of Quantitation (LOQ): Establishment and Verification of LOQ (Requirement)

For DoD projects, the LOQ must be set within the calibration range prior to sample analysis. At a minimum, the LOQ must be verified quarterly.

The laboratory procedure for establishing the LOQ must empirically demonstrate precision and bias at the LOQ. The LOQ and associated precision and bias must meet client requirements and must be reported. If the method is modified, precision and bias at the new LOQ must be demonstrated and reported.

Establishing Project-Specific Requirements for Method Sensitivity

Project teams should establish their project-specific requirements for method sensitivity in terms of a Reporting Limit (RL) for each analyte and matrix. As defined in the DoD QSM, the RL is the lowest concentration value specified by the client that meets project requirements for reporting quantitative data with known precision and bias for a specific analyte in a specific matrix. The LOQ cannot be greater than the RL, if precision and bias of the RL and LOQ are the same. If the LOQ for a particular analytical method or laboratory cannot meet the RL, then a project team has three options:

1. Improve analyst performance or modify the method to achieve a lower LOQ.
2. Select a different method with an LOQ less than or equal to the RL.
3. Raise the RL.

Please note that precision and bias must be taken into consideration when assessing the LOQ versus the RL. Also note that data below the RL can be reported; however they are estimated values if less than the LOQ.

Reporting and Flagging Analytical Data

Although data reporting and flagging requirements are project-specific, all reported LOD and LOQ shall be adjusted for the size of sample aliquots, concentration/dilution factors, and percent solids. In addition, the following example (based on Box 47 of DoD QSM Version 4.1) illustrates the proper use of the "U" and "J" data qualifier flags for non-detect and estimated analytical results, respectively.

U – Analyte was not detected and is reported as less than the LOD or as defined by the client. The LOD has been adjusted for any dilution or concentration of the sample (* see Example, below).

J – The reported result is an estimated value (e.g., matrix interference was observed or the analyte was detected at a concentration outside the quantitation range, see Box 33).

Example: DL = 2, LOD = 4, LOQ = 20, and RL = 30 with the precision and bias of the LOQ meeting those of the RL and all samples are undiluted.

Sample #1:	Analytical result: Non-detect	Reported result: <4 U
Sample #2:	Analytical result: 3	Reported result: 3 J
Sample #3:	Analytical result: 10	Reported result: 10 J
Sample #4:	Analytical result: 20	Reported result: 20
Sample #5:	Analytical result: 30	Reported result: 30

Understanding and Documenting Uncertainty for Low-Concentration Data

As mentioned above, detection and quantitation limits are laboratory specific. Following are some steps Project Managers can take to document measurement uncertainty for low concentration data.

- As part of the laboratory selection process, provide the laboratory with project-specific RLs, including precision and bias, for each analyte and matrix. Ask the laboratory to provide its DL, LOD, and LOQ with associated precision and bias for each target analyte, in each matrix of concern (e.g., reagent water, clean sand, etc.), and verify that these values meet project-specific RLs. Request laboratory SOPs for establishing the DL and for establishing and verifying the LOD and LOQ.
- Ask the laboratory to verify the LOD by processing an LOD verification check sample with each batch of samples. This is a quality control sample that is spiked at a concentration at or slightly above the LOD to evaluate whether the analyte of interest is in fact "detectable" in the matrix of interest. To confidently report non-detects, set the reporting for non-detects to less than the LOD.
- If the project involves the collection of unusual or difficult matrices, or if the project-specific RL is near the LOQ, ask the laboratory to verify the LOQ in the project-specific matrix by analyzing a minimum of four replicate samples with known concentrations at the LOQ.
- Review the raw data (e.g., chromatograms) for low-concentration data. If a result is reported above the DL, make sure that the signal-to-noise ratio is at least 3.
- Compare sample results with blank results. If sample results (including chromatograms) cannot be distinguished from blank results, then they are not meaningful.